NWL

PROJECT ID: 7281-00-70
WITH: 7281-00-71

COUNTY: TREMPEALEAU

18

FEB 2017

ORDER OF SHEETS

TOTAL SHEETS = 50

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T ETTRICK, LEQUE LANE

N FORK BEAVER CREEK B-61-0226

LOCAL STREET
TREMPEALEAU COUNTY

STATE PROJECT NUMBER
7281-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7281-00-70	WISC 2017032	1

N

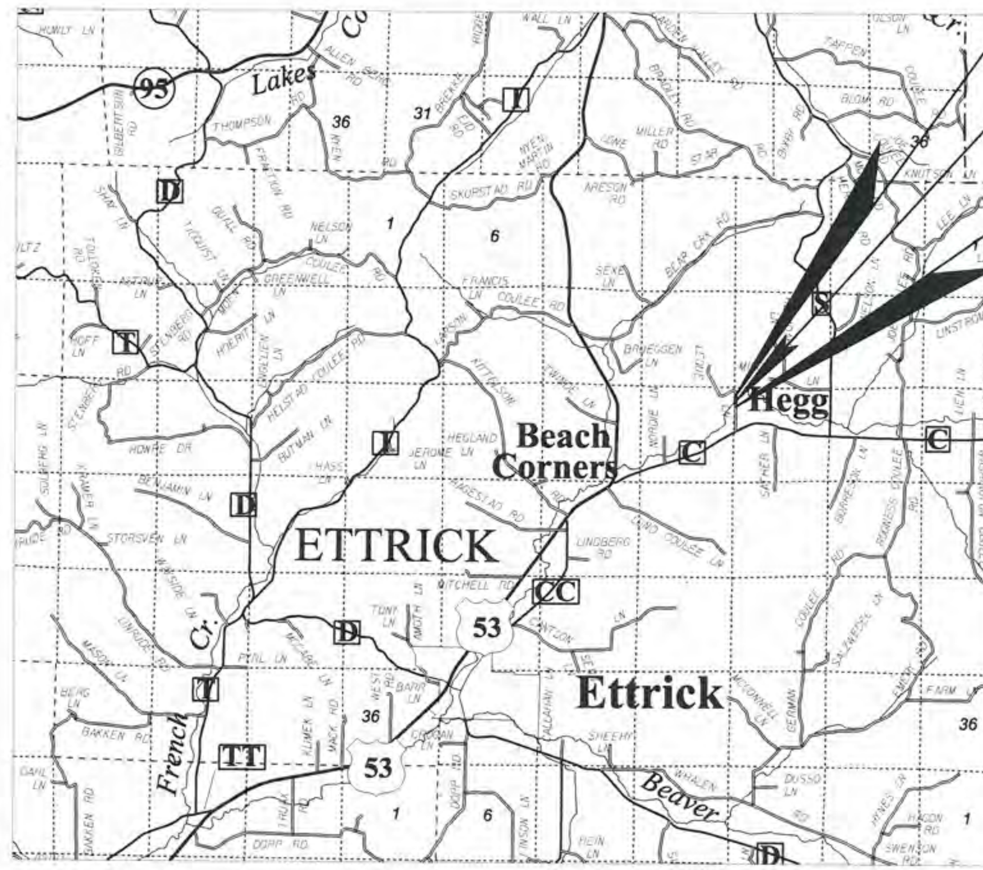
END PROJECT 7281-00-70
STA. 11+50.00
Y = 383,937.829
X = 883,361.762

STRUCTURE B-61-226
STA. 9+95.00

BEGIN PROJECT 7281-00-70
STA. 8+50.00
Y = 383,637.863
X = 883,366.357

T-21-N

T-20-N



R-8-W

R-7-W

LAYOUT
SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, TREMPEALEAU COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION

A.A.D.T.	(2016)	=	20
A.A.D.T.	(2036)	=	30
D.H.V.	(2036)	=	3
D.D.		=	50/50
T.		=	7%
DESIGN SPEED		=	25 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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

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

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

ACCEPTED FOR
TOWN of ETTRICK
DATE: 9-12-16 (Signature & Title of Official)

ACCEPTED FOR
COUNTY of TREMPEALEAU
DATE: 9/12/16 (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY
Mead & Hunt

WISCONSIN
JAY P. WHEATON
E-36779
LA CROSSE, WI
PROFESSIONAL ENGINEER

DATE: 9/23/2016 (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Management Consultant	KNIGHT E/A, INC.

APPROVED FOR THE DEPARTMENT
DATE: 9/22/16 (Management Consultant Signature)

E

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAVEMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

THE EXACT LOCATION OF EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

BEARINGS SHOWN ON THE PLANS ARE GRID BEARING TO NEAREST SECOND.

THE VERTICAL SAWCUT SHALL BE MADE THROUGH THE EXISTING PAVEMENT AT REMOVAL LIMITS.

4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1 3/4-INCH UPPER LAYER AND A 2 1/4-INCH LOWER LAYER.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL. SILT FENCE IN WETLAND AREAS SHALL BE PLACED AT THE SLOPE INTERCEPT TO PREVENT DISTURBANCE OF WETLANDS.

SHRINKAGE IS ESTIMATED AT 25%.

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

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

DISTURBED AREA WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND MULCH.

UPON REMOVAL OF THE TEMPORARY STRUCTURE, APPLY SEEDING MIXTURE NO. 60 TO AFFECTED WETLAND AREAS.

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC
AGG	AGGREGATE
ASPH	ASPHALTIC
BM	BENCH MARK
BOC	BACK OF CURB
C&G	CURB AND GUTTER
CE	COMMERCIAL ENTRANCE
CL	CENTERLINE
COR	CORNER
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EL	ELEVATION
EX	EXISTING
EXC	EXCAVATION
FT	FOOT
FTG	FOOTING
HYD	HYDRANT
INV	INVERT
LB	POUND
LF	LINEAR FOOT
LHF	LEFT-HAND FORWARD
LS	LUMP SUM
LT	LEFT
Mgal	MEGAGALLON
M/L	MAINLINE
NO	NUMBER
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
QTY	QUANTITY
RHF	RIGHT-HAND FORWARD
RT	RIGHT
R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
SF	SQUARE FOOT
SHLDR	SHOULDER
SS	STORM SEWER
STA	STATION
SY	SQUARE YARD
T	TRUCKS (PERCENT OF)
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
UG	UNDERGROUND CABLE
VAR	VARIABLE
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

DNR

WISCONSIN DEPARTMENT OF NATURAL RESOURSES
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PHONE: (608) 785-9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

DESIGN CONSULTANT

Mead & Hunt

MEAD & HUNT, INC.
750 NORTH THIRD STREET
LA CROSSE, WI 54601
ATTN: JAY P. WHEATON, P.E.
PHONE: (608) 784-6040
MOBILE: (608) 386-0212
EMAIL: JAY.WHEATON@MEADHUNT.COM

ORDER OF SECTION 2 SHEETS

UTILITIES

** RIVERLAND ENERGY
625 WEST MAIN STREET
P.O. BOX 277
ARCADIA, WI 54612-0277
ATTN: ROB SOSALLA
PHONE: (608) 863-2377
EMAIL: RSOSALLA@RIVERLANDENERGY.COM

** CENTURYLINK
333 NORTH FRONT STREET
LA CROSSE, WI 54601
ATTN: TOM MURRAY
PHONE: (608) 780-0895
EMAIL: TOM.I.MURRAY@CENTURYLINK.COM

TREMPEALEAU COUNTY

TREMPEALEAU COUNTY HIGHWAY COMMISSIONER
N36258 CTH QQ
P.O. BOX 97
WHITEHALL, WI 54773
ATTN: DAVE LYGA
PHONE: (715) 538-4799
EMAIL: TCHWY@TRIWEST.NET

** THESE ARE MEMBERS OF DIGGERS HOTLINE

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

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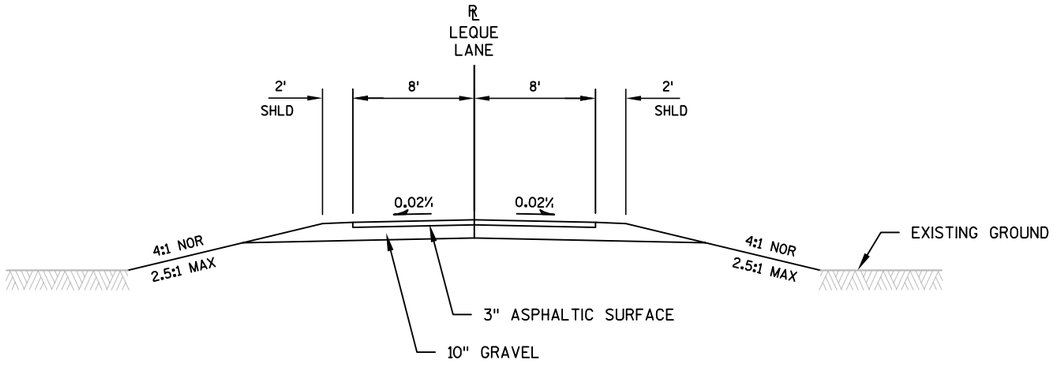
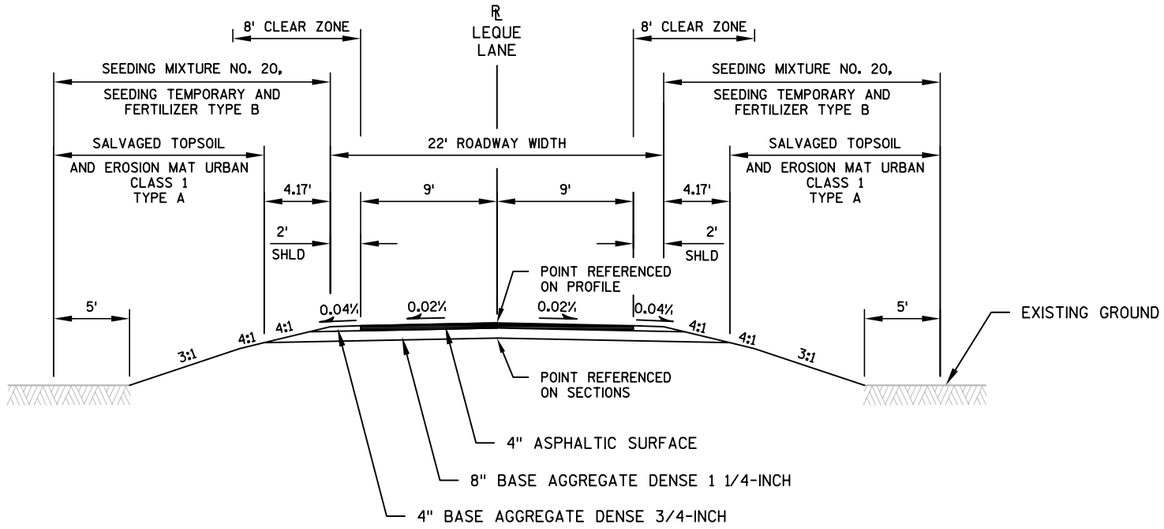


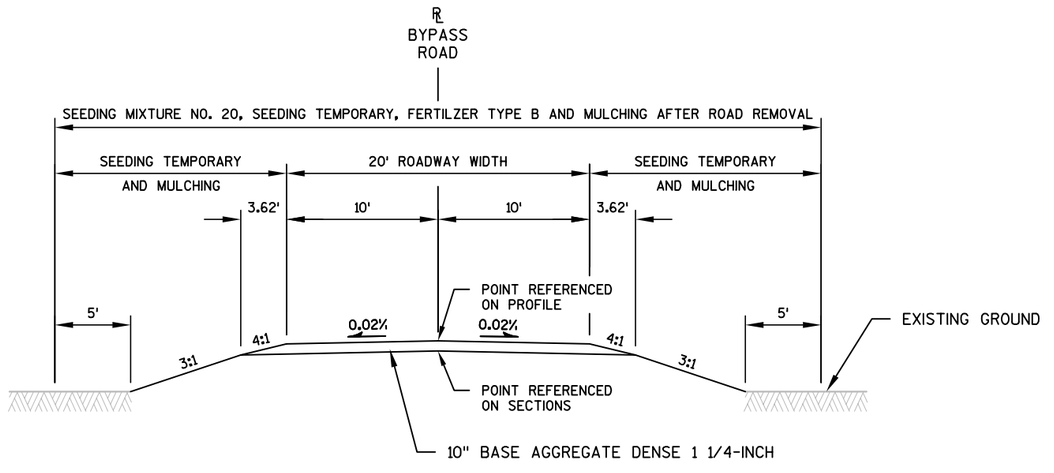
EXISTING TYPICAL SECTION

STA 8+50.00 TO STA 9+76.00
STA 10+22.50 TO STA 11+50.00



PROPOSED TYPICAL SECTION

STA 8+50.00 TO STA 9+63.56
STA 10+26.44 TO STA 11+50.00



PROPOSED TYPICAL SECTION TEMPORARY BYPASS ROAD

STA 17+92.52'B' TO STA 21+98.44'B'

PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	TYPICAL SECTIONS	SHEET 3	E

7281-00-70

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	3.000	3.000
0020	201.0205	Grubbing	STA	3.000	3.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 9+99	LS	1.000	1.000
0050	205.0100	Excavation Common	CY	1,314.000	1,314.000
0060	206.1000	Excavation for Structures Bridges (structure) 01. B-61-226	LS	1.000	1.000
0080	208.0100	Borrow	CY	1,272.000	1,272.000
0090	210.1500	Backfill Structure Type A	TON	180.000	180.000
0100	213.0100	Finishing Roadway (project) 01. 7281-00-70	EACH	1.000	1.000
0120	305.0110	Base Aggregate Dense 3/4-Inch	TON	38.000	38.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	745.000	745.000
0140	415.0080	Concrete Pavement 8-Inch	SY	22.000	22.000
0150	415.0410	Concrete Pavement Approach Slab	SY	82.000	82.000
0160	455.0605	Tack Coat	GAL	32.000	32.000
0170	465.0105	Asphaltic Surface	TON	100.000	100.000
0180	502.0100	Concrete Masonry Bridges	CY	179.000	179.000
0190	502.3200	Protective Surface Treatment	SY	238.000	238.000
0200	505.0400	Bar Steel Reinforcement HS Structures	LB	5,130.000	5,130.000
0210	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,730.000	23,730.000
0220	513.4061	Railing Tubular Type M (structure) 01. B-61-226	LF	171.000	171.000
0240	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0250	526.0100	Temporary Structure (station) 01. 20+00	LS	1.000	1.000
0270	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	1,195.000	1,195.000
0280	606.0300	Riprap Heavy	CY	210.000	210.000
0290	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	120.000	120.000
0300	619.1000	Mobilization	EACH	0.500	0.500
0310	625.0500	Salvaged Topsoil	SY	1,220.000	1,220.000
0320	627.0200	Mulching	SY	2,055.000	2,055.000
0330	628.1504	Silt Fence	LF	800.000	800.000
0340	628.1520	Silt Fence Maintenance	LF	1,600.000	1,600.000
0350	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0360	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0370	628.2006	Erosion Mat Urban Class I Type A	SY	1,220.000	1,220.000
0380	628.6005	Turbidity Barriers	SY	425.000	425.000
0390	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0400	629.0210	Fertilizer Type B	CWT	2.000	2.000
0410	630.0120	Seeding Mixture No. 20	LB	85.000	85.000
0430	630.0200	Seeding Temporary	LB	69.000	69.000
0440	633.1100	Delineators Temporary	EACH	30.000	30.000

7281-00-70

Line	Item	Item Description	Unit	Total	Qty
0450	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0460	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0470	638.2602	Removing Signs Type II	EACH	4.000	4.000
0480	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0490	642.5001	Field Office Type B	EACH	0.500	0.500
0500	643.0100	Traffic Control (project) 01. 7281-00-70	EACH	1.000	1.000
0520	643.0300	Traffic Control Drums	DAY	2,100.000	2,100.000
0530	643.0420	Traffic Control Barricades Type III	DAY	280.000	280.000
0540	643.0705	Traffic Control Warning Lights Type A	DAY	560.000	560.000
0550	643.0715	Traffic Control Warning Lights Type C	DAY	1,400.000	1,400.000
0560	643.0900	Traffic Control Signs	DAY	1,820.000	1,820.000
0570	645.0120	Geotextile Type HR	SY	430.000	430.000
0580	650.4500	Construction Staking Subgrade	LF	595.000	595.000
0590	650.5000	Construction Staking Base	LF	595.000	595.000
0600	650.6500	Construction Staking Structure Layout (structure) 01. B-61-226	LS	1.000	1.000
0620	650.9910	Construction Staking Supplemental Control (project) 01. 7281-00-70	LS	1.000	1.000
0640	650.9920	Construction Staking Slope Stakes	LF	595.000	595.000
0650	690.0150	Sawing Asphalt	LF	32.000	32.000
0660	715.0502	Incentive Strength Concrete Structures	DOL	1,074.000	1,074.000
0670	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0680	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	WASTE	208.0100 BORROW
17+92.52'B' - 21+98.44'B'	TEMPORARY BYPASS ROAD (CONSTRUCT)	3	0	3	1021	1276	-1272	-	1,272
8+50 - 11+50	M/L	208	31	177	103	129	48	48	-
17+92.52'B' - 21+98.44'B'	TEMPORARY BYPASS ROAD (REMOVE)	1,103	0	1,103	0	0	-1103	1,103	-
		1,314					**TOTAL**	**1,151**	**1,272**

(1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED
(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	12+00	M/L	3	3
			TOTAL	**3**	**3**

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4 INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON
8+50	-	9+63.56	M/L	18	160
10+26.44	-	11+50	M/L	20	175
17+92.52'B'	-	21+98.44"B'	TEMPORARY BYPASS ROAD	-	410
			TOTAL	**38**	**745**

CONCRETE PAVEMENT

STATION	TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
9+43.36	-	9+63.56	M/L	11	41
10+26.44	-	10+46.64	M/L	11	41
			TOTAL	**22**	**82**

ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+50	-	9+53.75	M/L	15	47
10+36.25	-	11+50	M/L	17	53
			TOTAL	**32**	**100**

TACK COAT ESTIMATED AT 0.07 GAL/SY

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	REMARKS
8+50	-	9+63.56	M/L, LT & RT	340	-	340	0.3	12	7	
10+26.44	-	11+50	M/L, LT & RT	380	-	380	0.4	13	8	
17+92.52'B'	-	21+98.44'B'	TEMPORARY BYPASS ROAD	-	885	-	-	-	25	CONSTRUCT TEMPORARY BYPASS ROAD
17+92.52'B'	-	21+98.44'B'	TEMPORARY BYPASS ROAD	-	1,170	-	0.8	35	16	REMOVE TEMPORARY BYPASS ROAD
			BORROW SITES	500	-	500	0.5	25	13	
			TOTAL	**1,220**	**2,055**	**1,220**	**2.0**	**85**	**69**	

MOBILIZATION

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT			M/L	0.125
0020	PROJECT			M/L	0.375
				TOTAL	**0.500**

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
8+50	-	9+63.56	M/L, LT & RT	330	660
10+26.44	-	11+50	M/L, LT & RT	310	620
UNDISTRIBUTED			VARIOUS	160	320
			TOTAL	**800**	**1,600**

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+85	M/L	200
10+15	M/L	225
	TOTAL	**425**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

EROSION CONTROL SUMMARY

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
8+50	-	9+63.56	M/L, LT & RT	-	-	-
10+26.44	-	11+50	M/L, LT & RT	-	-	-
UNDISTRIBUTED			VARIOUS	4	2	20
			TOTAL	**4**	**2**	**20**

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+46	M/L, LT	1	3	-	-	W5-52L
9+61	M/L, RT	1	3	-	-	W5-52R
9+68	M/L, LT	-	-	1	1	
9+81	M/L, RT	-	-	1	1	
10+20	M/L, LT	-	-	1	1	
10+31	M/L, RT	-	-	1	1	
10+29	M/L, LT	1	3	-	-	W5-52R
10+44	M/L, RT	1	3	-	-	W5-52L
	TOTAL	**4**	**12**	**4**	**4**	

TRAFFIC CONTROL ITEMS

	633.1100 DELINEATORS TEMPORARY EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
	30	2100	280	560	1,400	1,820	70 DAYS
TOTAL	**30**	**2,100**	**280**	**560**	**1,400**	**1,820**	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-61-0226) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+50	-	9+63.56	M/L	114	114	-	-	114
0010	10+26.44	-	11+50	M/L	124	124	-	-	124
0010	17+92.52'B'	-	19+75'B'	TEMPORARY BYPASS ROAD	183	183	-	-	183
0010	20+25'B'		21+98.44'B'	TEMPORARY BYPASS ROAD	174	174	-	-	174
0020	9+95			M/L	-	-	1	-	-
0010	PROJECT			M/L	-	-	-	1	-
				TOTAL	**595**	**595**	**1**	**1**	**595**

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT LF
8+50	M/L	16
11+50	M/L	16
	TOTAL	**32**

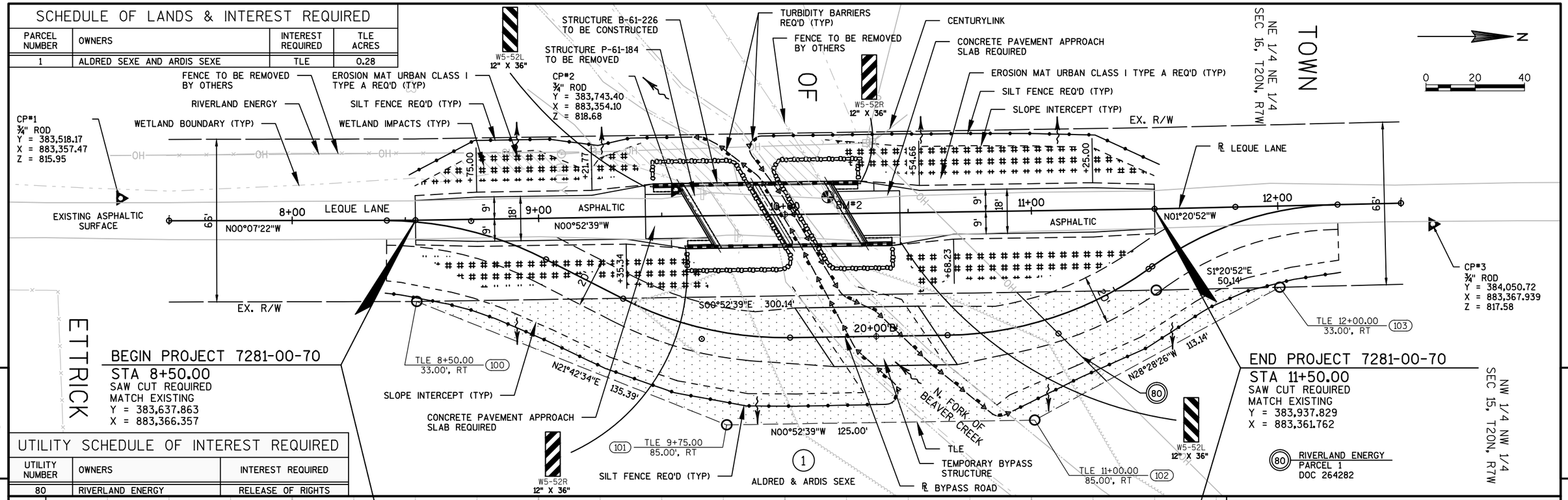
NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

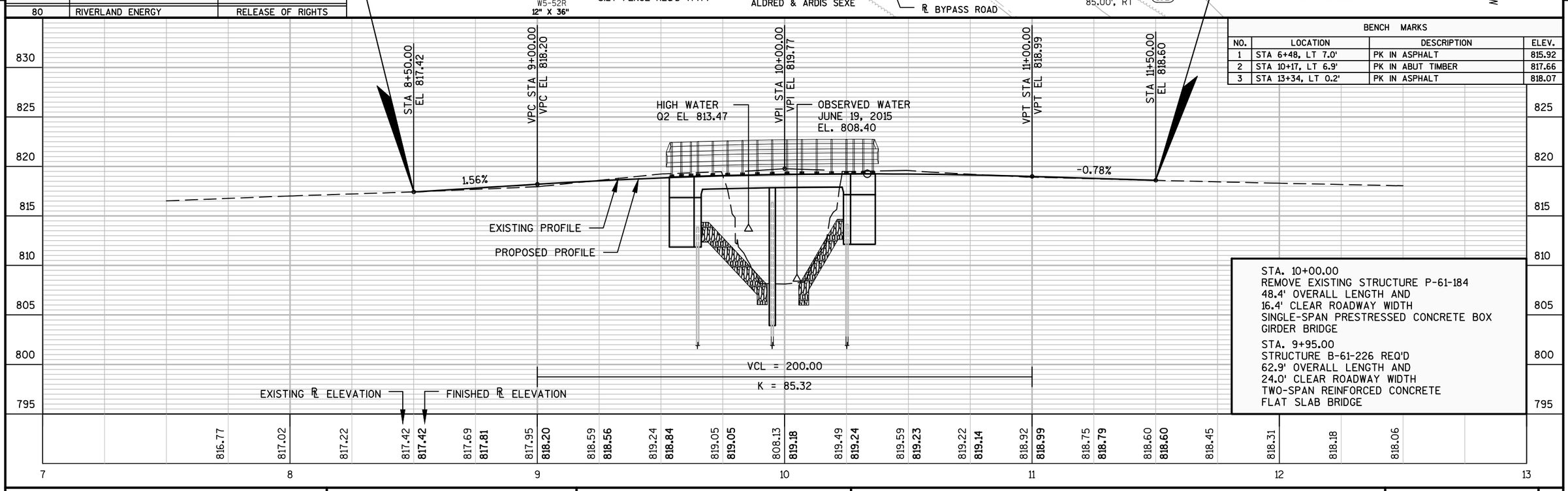
SCHEDULE OF LANDS & INTEREST REQUIRED

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	TLE ACRES
1	ALDRED SEXE AND ARDIS SEXE	TLE	0.28

UTILITY SCHEDULE OF INTEREST REQUIRED

UTILITY NUMBER	OWNERS	INTEREST REQUIRED
80	RIVERLAND ENERGY	RELEASE OF RIGHTS





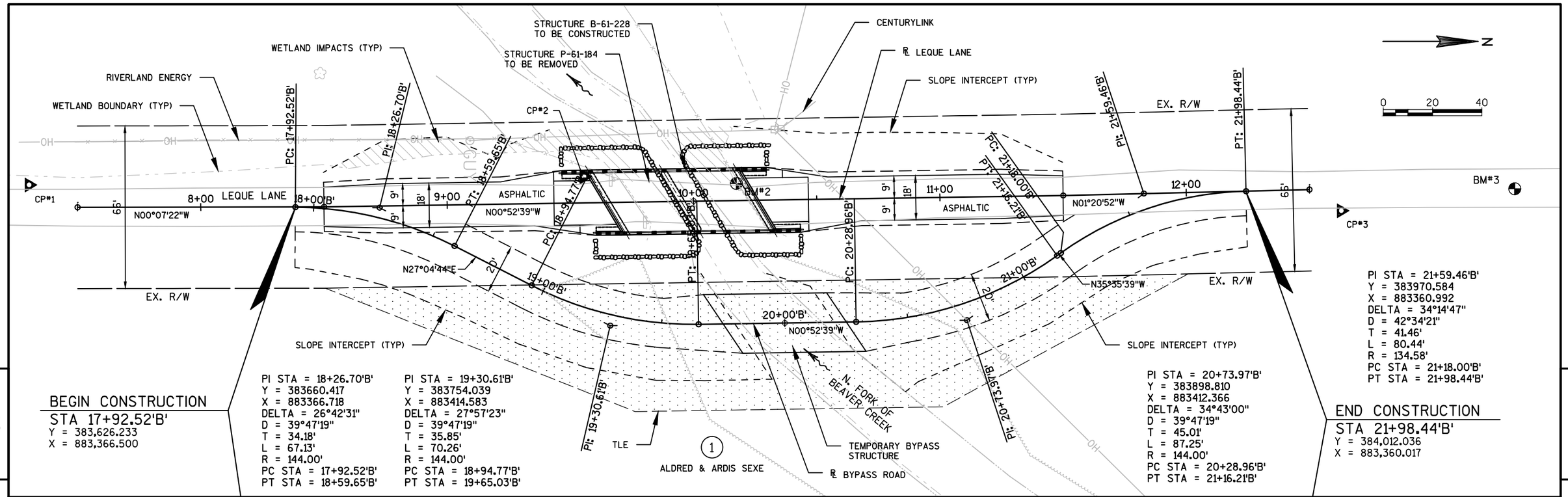
BENCH MARKS

NO.	LOCATION	DESCRIPTION	ELEV.
1	STA 6+48, LT 7.0'	PK IN ASPHALT	815.92
2	STA 10+17, LT 6.9'	PK IN ABUT TIMBER	817.66
3	STA 13+34, LT 0.2'	PK IN ASPHALT	818.07

STA. 10+00.00
REMOVE EXISTING STRUCTURE P-61-184
48.4' OVERALL LENGTH AND
16.4' CLEAR ROADWAY WIDTH
SINGLE-SPAN PRESTRESSED CONCRETE BOX GIRDER BRIDGE

STA. 9+95.00
STRUCTURE B-61-226 REQ'D
62.9' OVERALL LENGTH AND
24.0' CLEAR ROADWAY WIDTH
TWO-SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE

PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	PLAN AND PROFILE: LEQUE LANE	SHEET 8	E



BEGIN CONSTRUCTION
STA 17+92.52'B'
Y = 383,626.233
X = 883,366.500

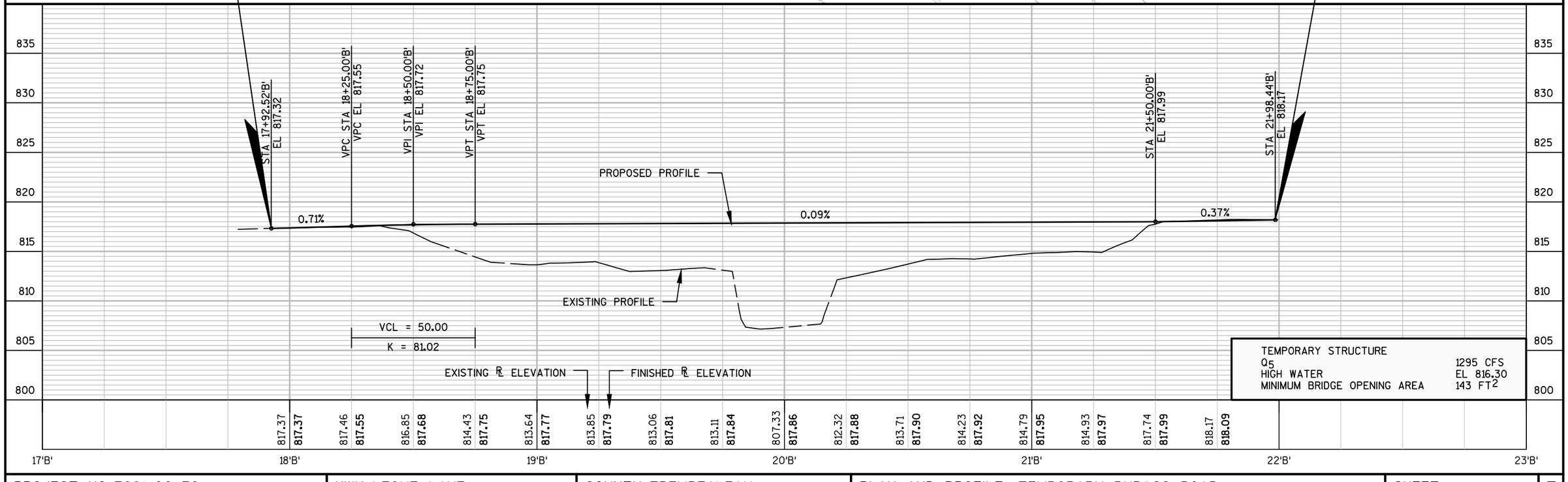
PI STA = 18+26.70'B'
Y = 383660.417
X = 883366.718
DELTA = 26°42'31"
D = 39°47'19"
T = 34.18'
L = 67.13'
R = 144.00'
PC STA = 17+92.52'B'
PT STA = 18+59.65'B'

PI STA = 19+30.61'B'
Y = 383754.039
X = 883414.583
DELTA = 27°57'23"
D = 39°47'19"
T = 35.85'
L = 70.26'
R = 144.00'
PC STA = 18+94.77'B'
PT STA = 19+65.03'B'

PI STA = 20+73.97'B'
Y = 383898.810
X = 883412.366
DELTA = 34°43'00"
D = 39°47'19"
T = 45.01'
L = 87.25'
R = 144.00'
PC STA = 20+28.96'B'
PT STA = 21+16.21'B'

PI STA = 21+59.46'B'
Y = 383970.584
X = 883360.992
DELTA = 34°14'47"
D = 42°34'21"
T = 41.46'
L = 80.44'
R = 134.58'
PC STA = 21+18.00'B'
PT STA = 21+98.44'B'

END CONSTRUCTION
STA 21+98.44'B'
Y = 384,012.036
X = 883,360.017

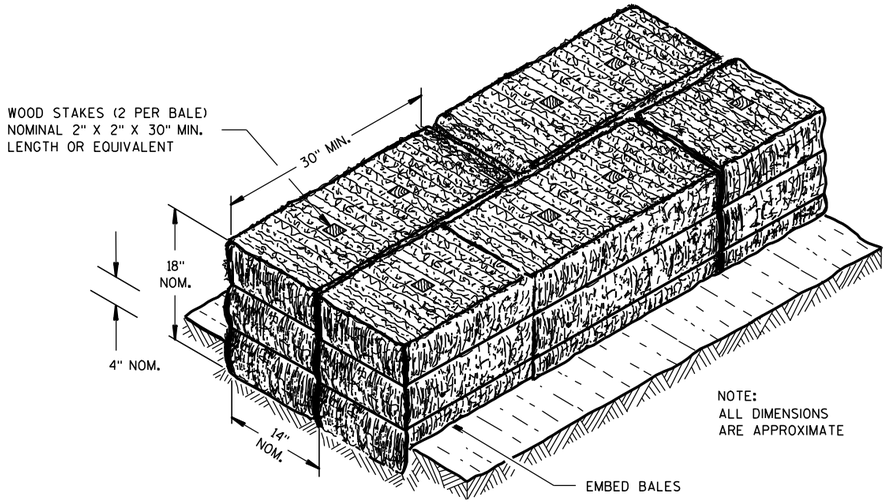


TEMPORARY STRUCTURE
Q_5 1295 CFS
HIGH WATER EL 816.30
MINIMUM BRIDGE OPENING AREA 143 FT^2

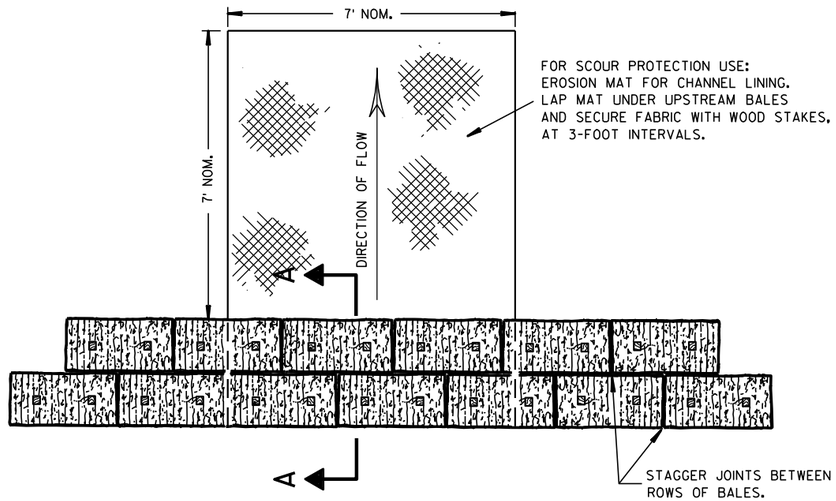
PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	PLAN AND PROFILE: TEMPORARY BYPASS ROAD	SHEET 9	E

Standard Detail Drawing List

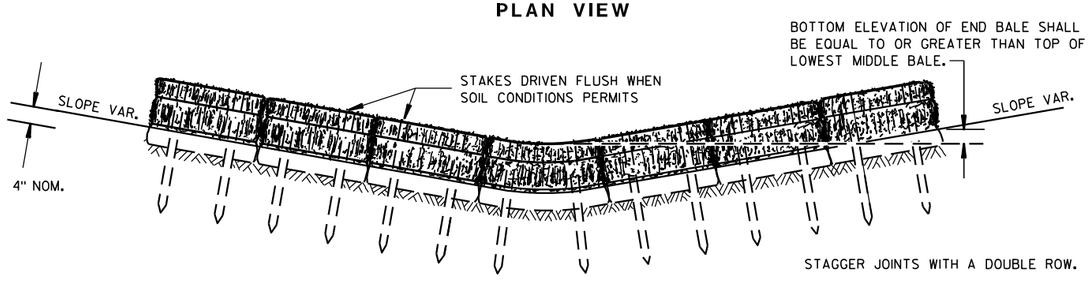
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15A02-09	DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY



SECTION A-A



PLAN VIEW



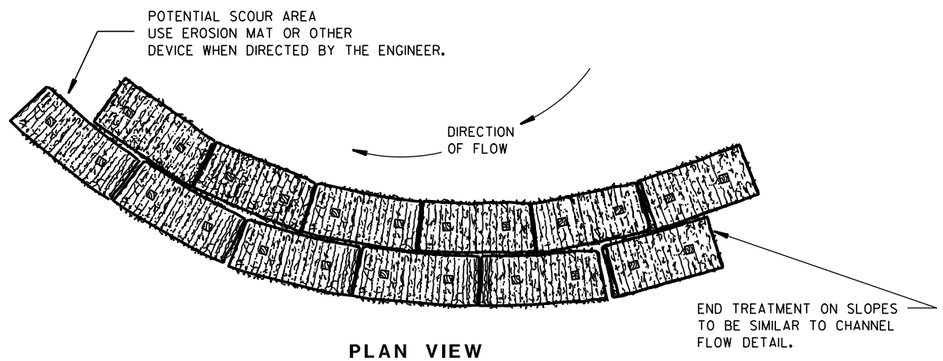
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

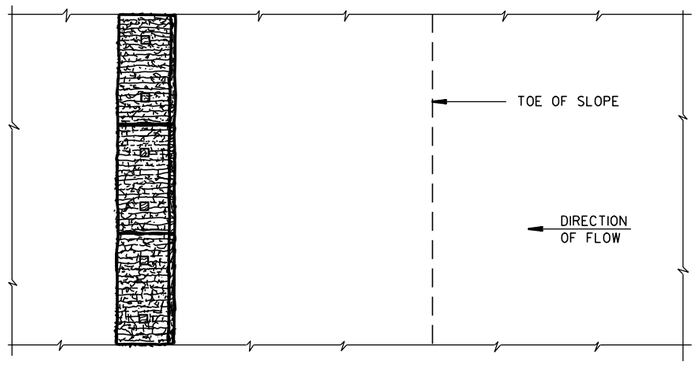
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

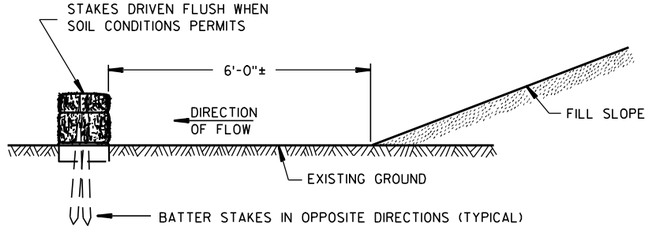


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

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S.D.D. 8 E 8-3

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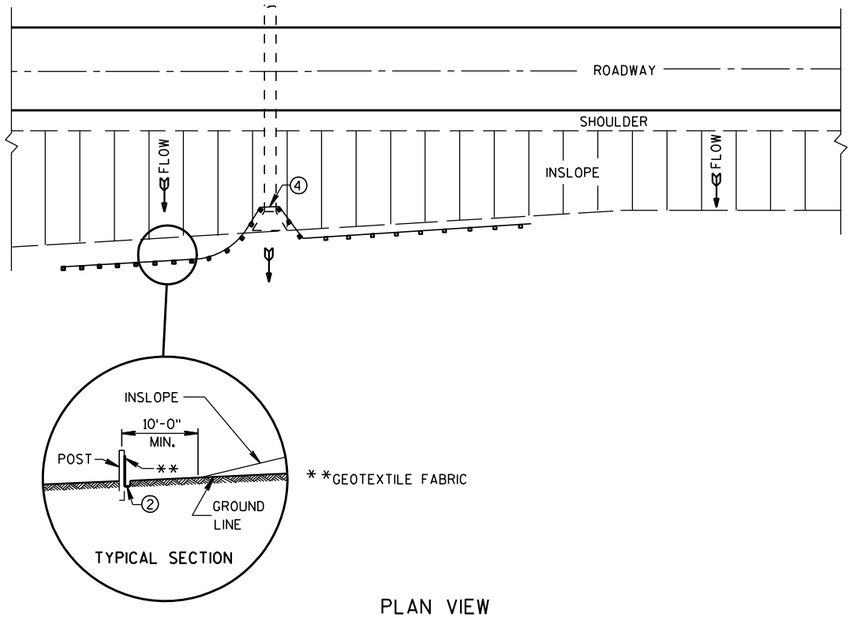
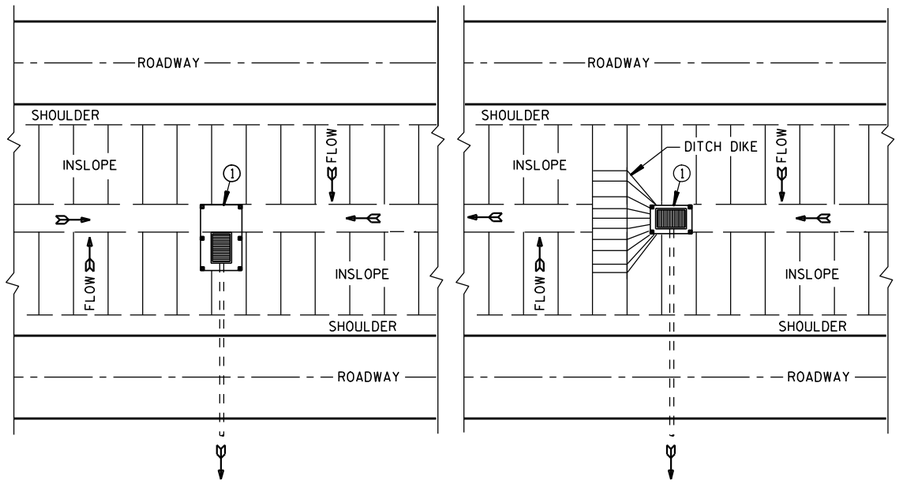
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

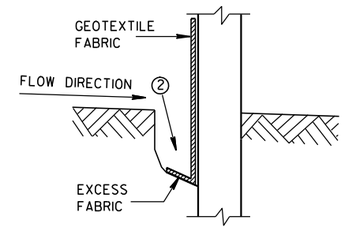
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

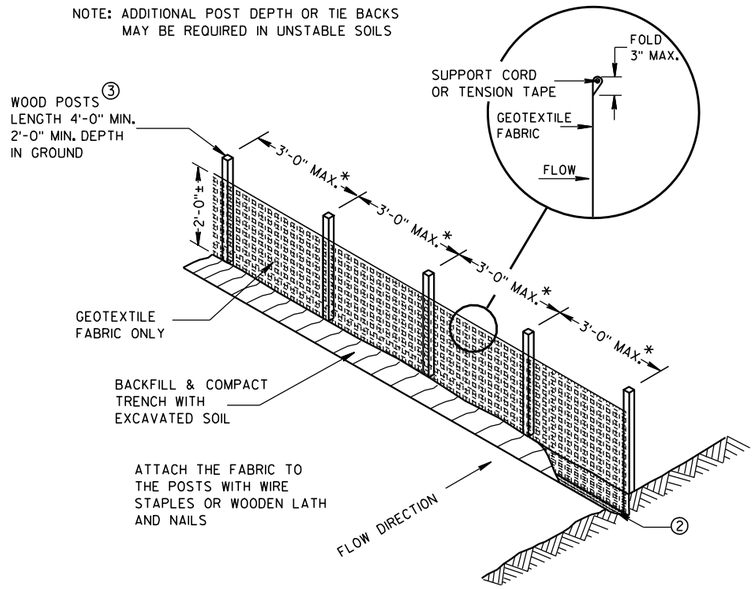
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

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

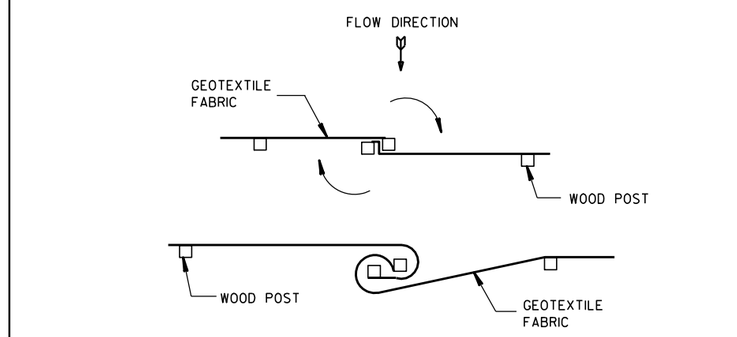


TRENCH DETAIL

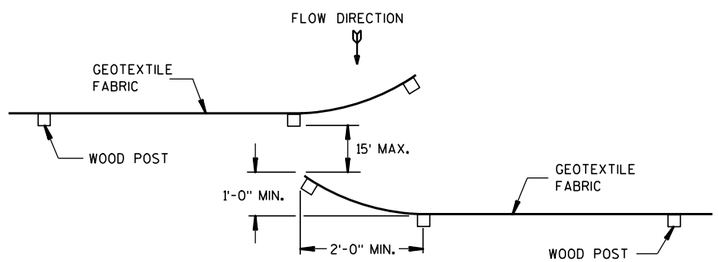


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

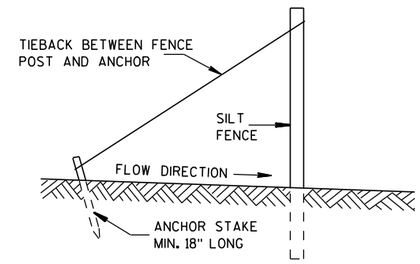


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 8 E 9-6

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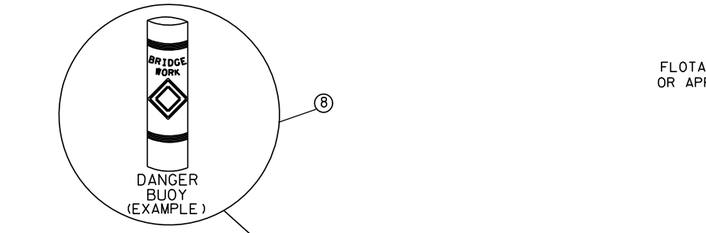
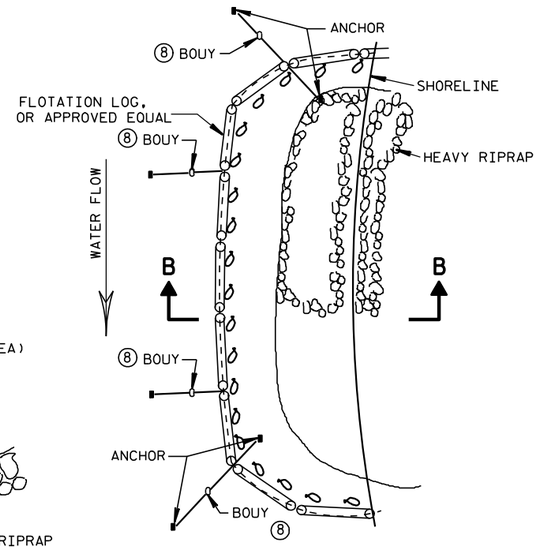
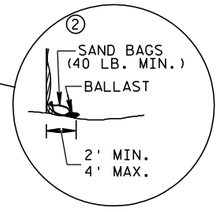
S.D.D. 8 E 9-6

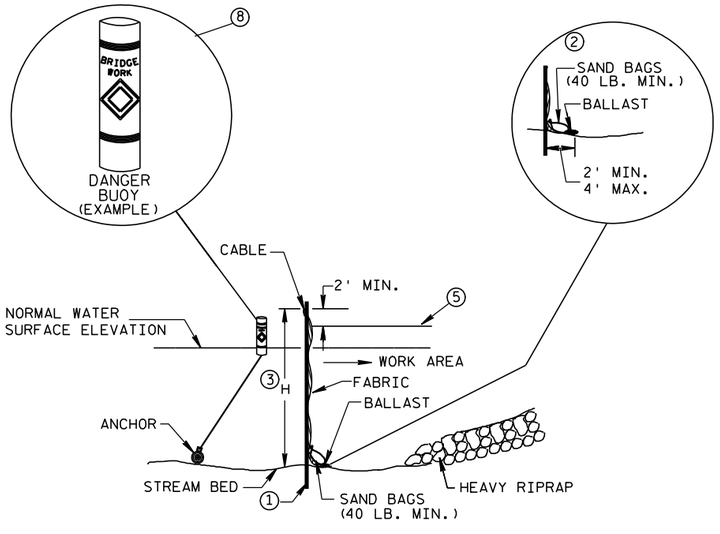


SECTION B-B

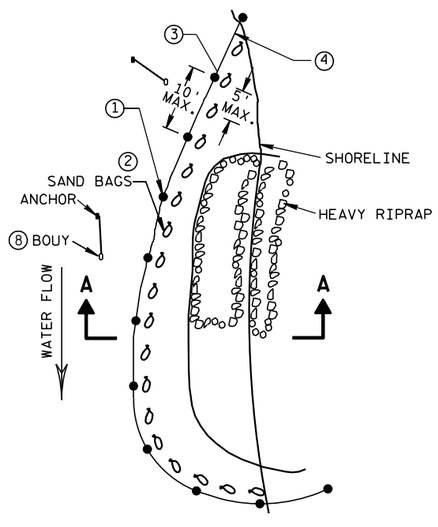




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

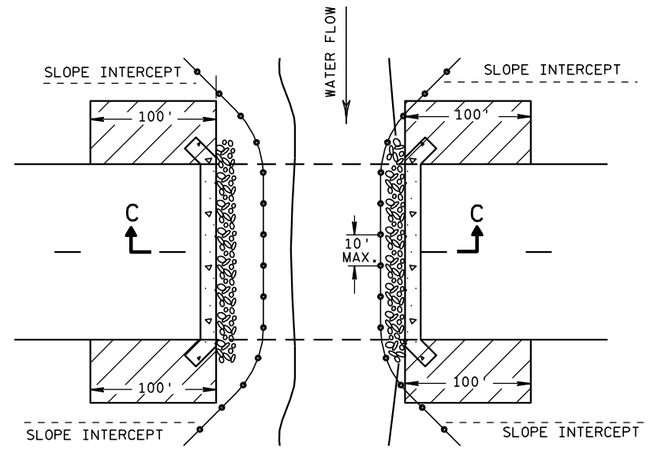
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

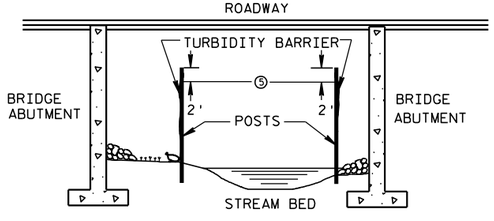
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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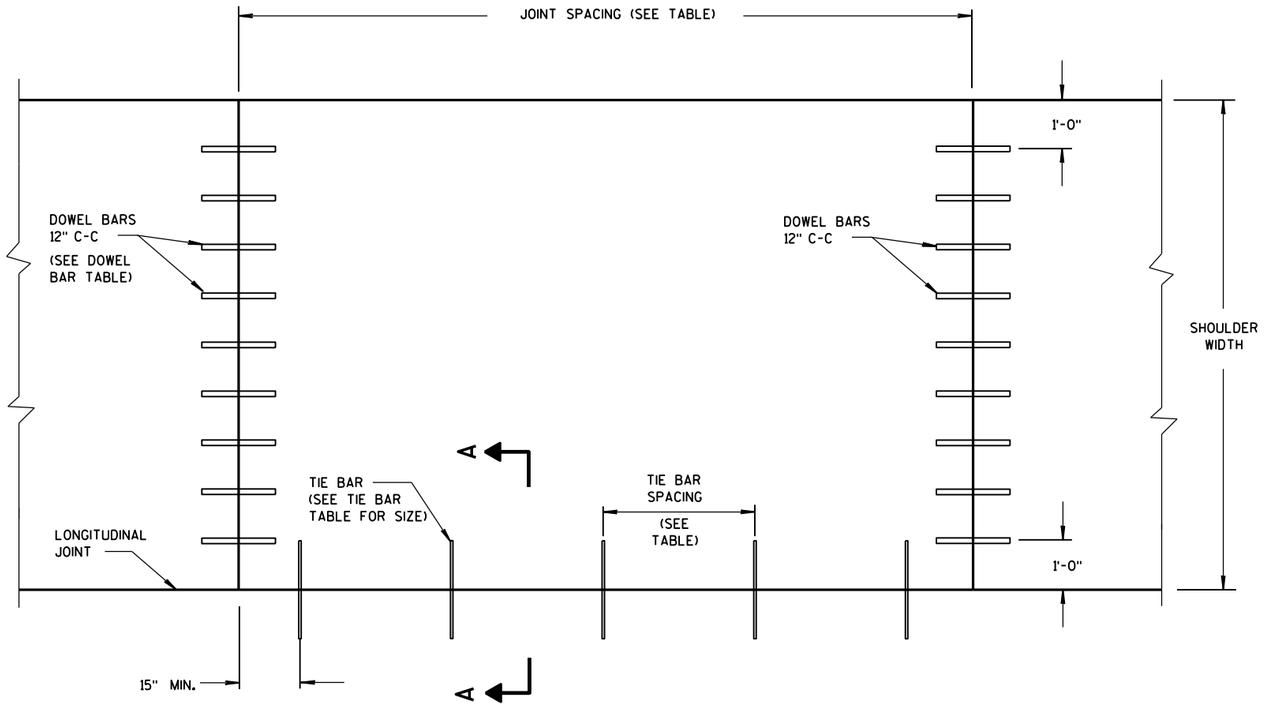
S.D.D. 8 E 11-2



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

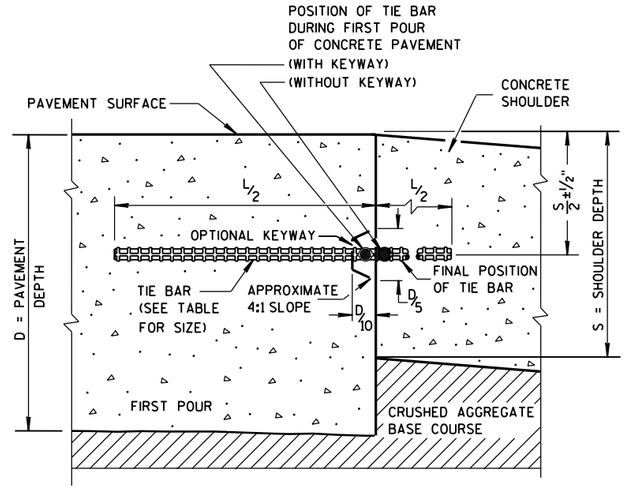
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	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" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEF
FHWA

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S.D.D. 13 A 3-6

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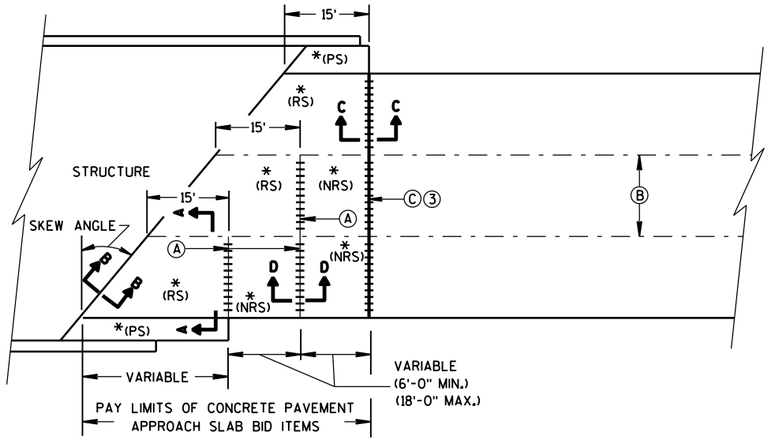
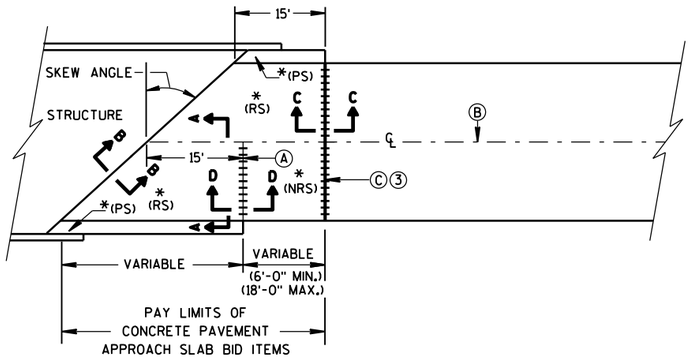
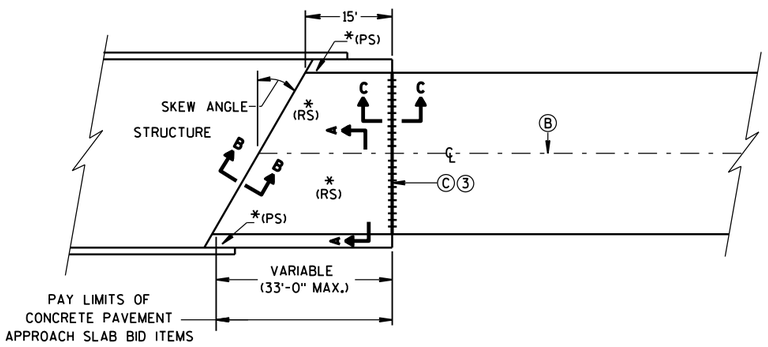
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

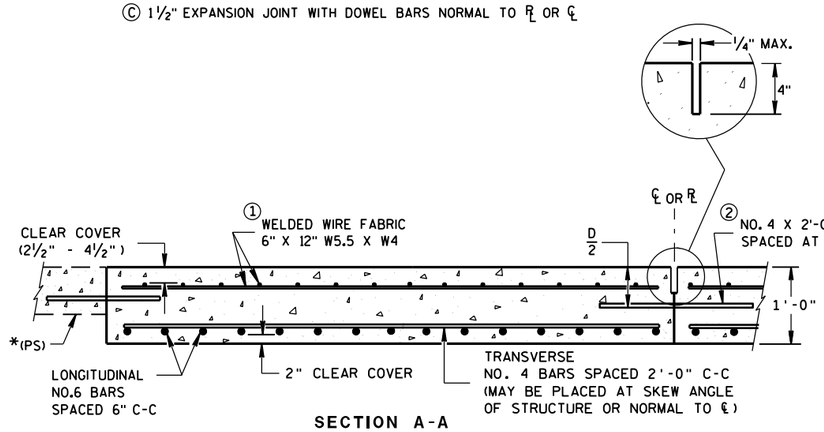
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

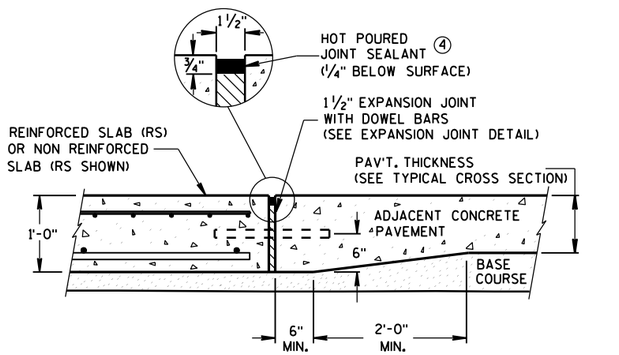
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

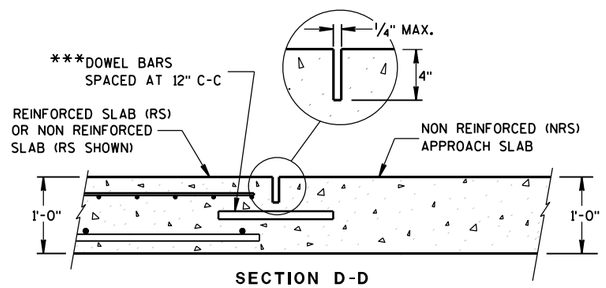
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

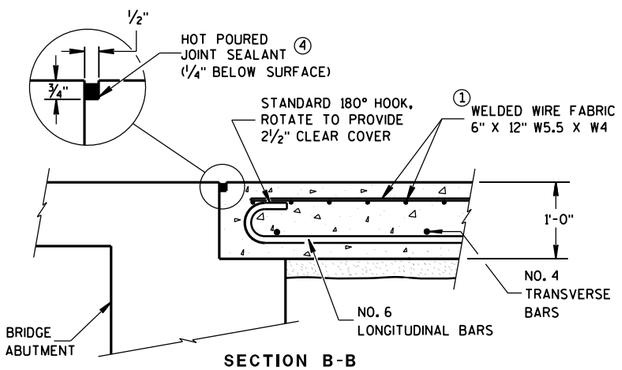
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

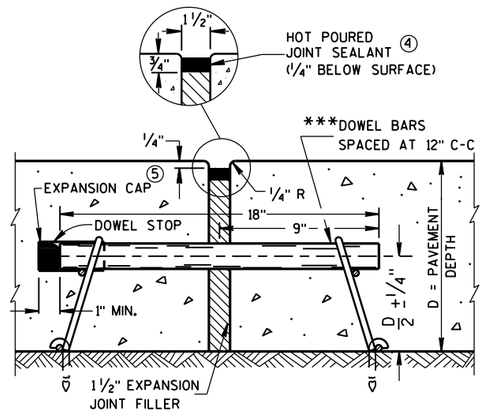
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



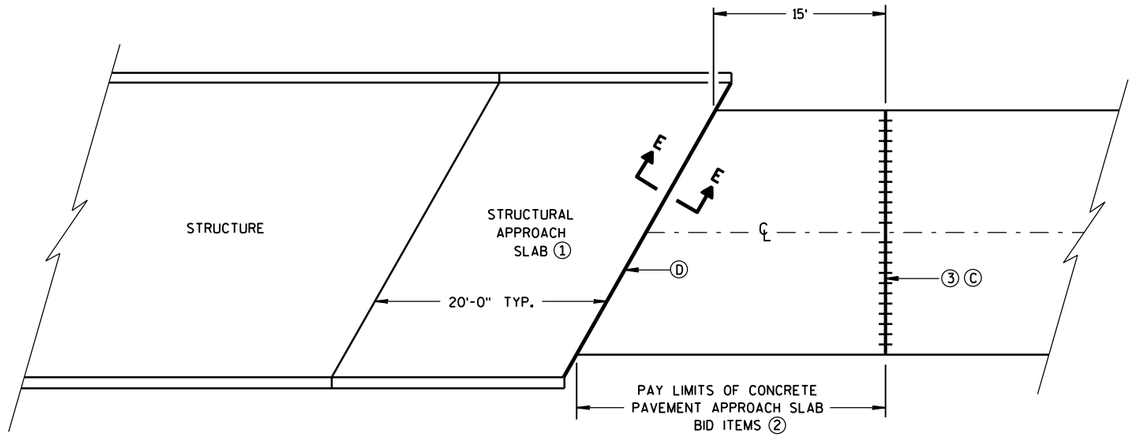
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

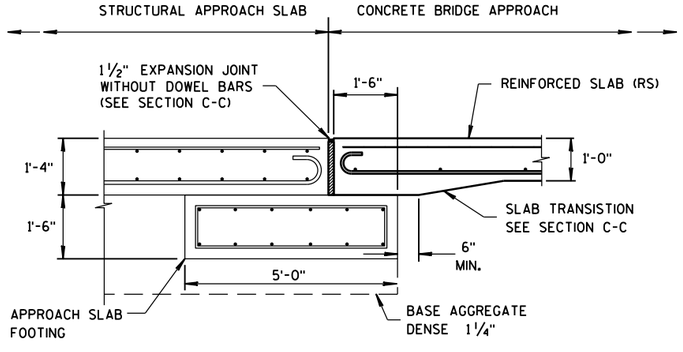
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

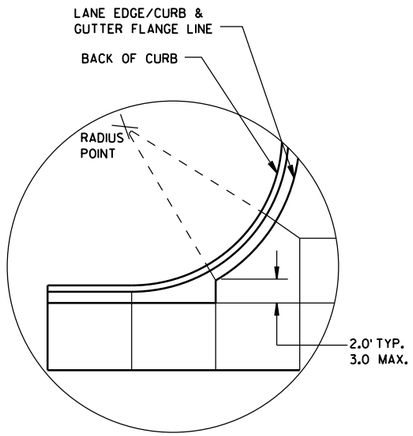
June, 2015
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPEF

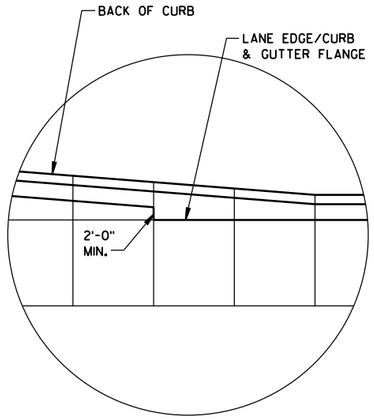
FHWA

6

S.D.D. 13 B 2-8b



DETAIL "A"



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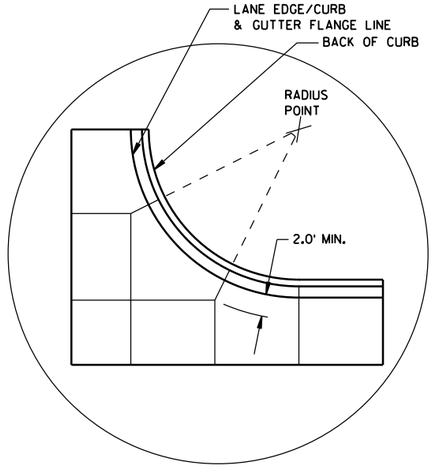

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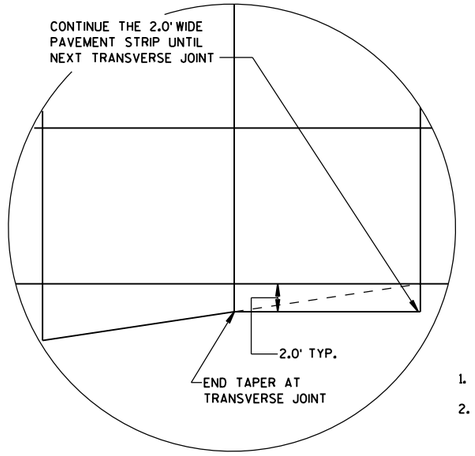


DETAIL "D"

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.

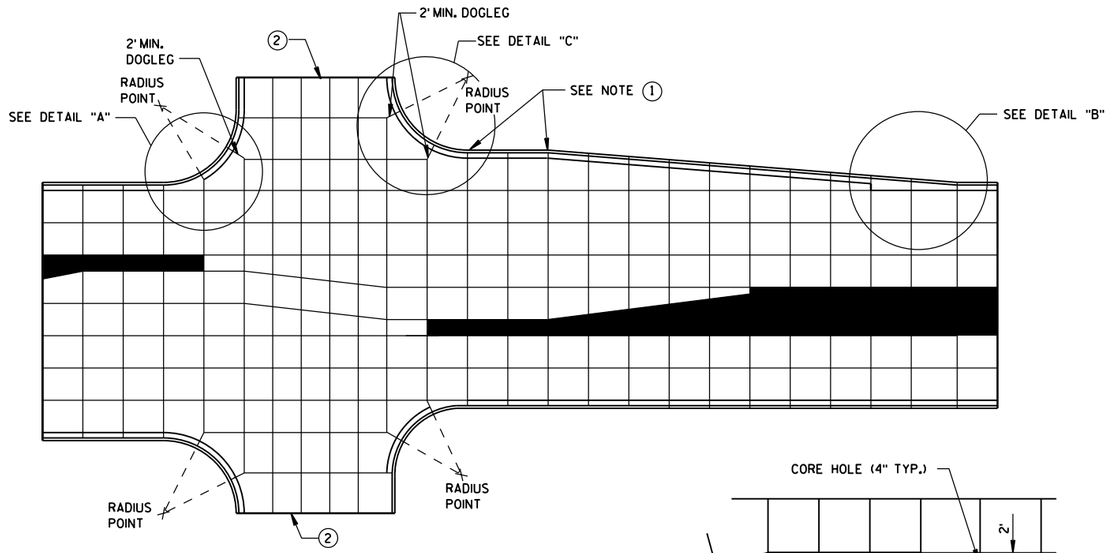
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

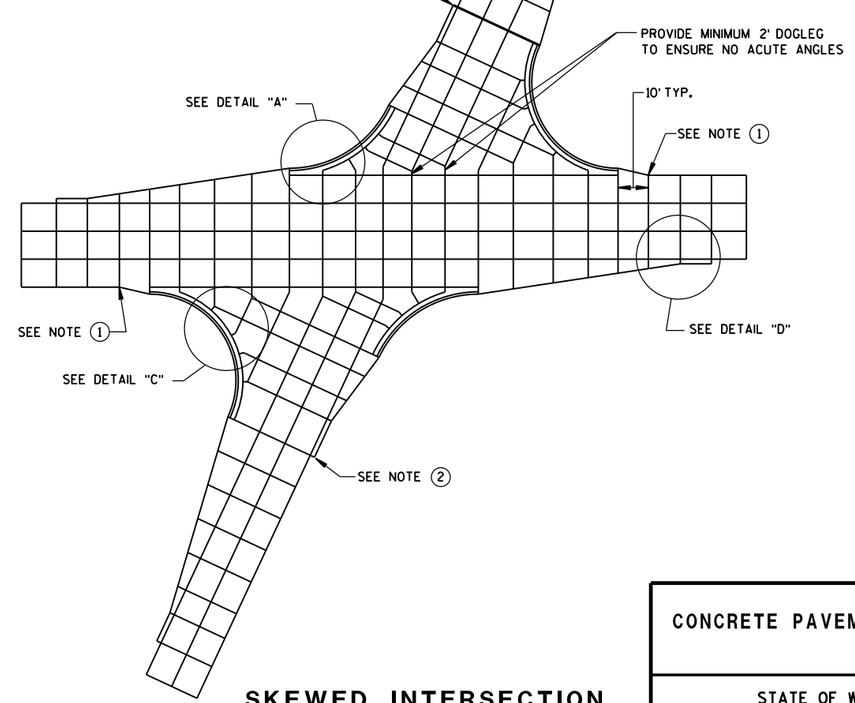
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



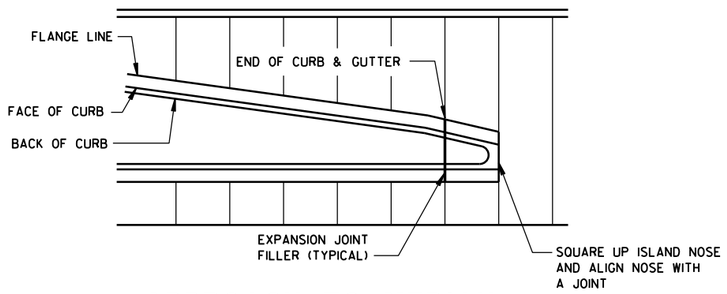
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

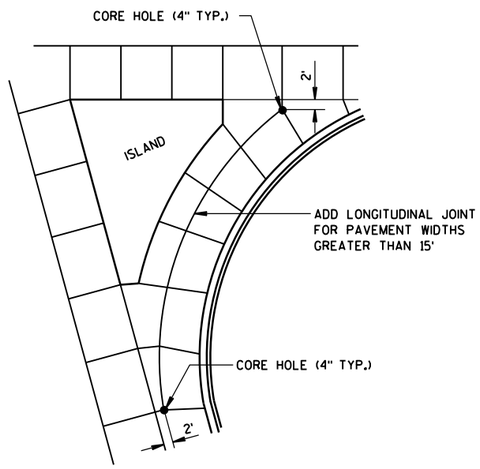
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

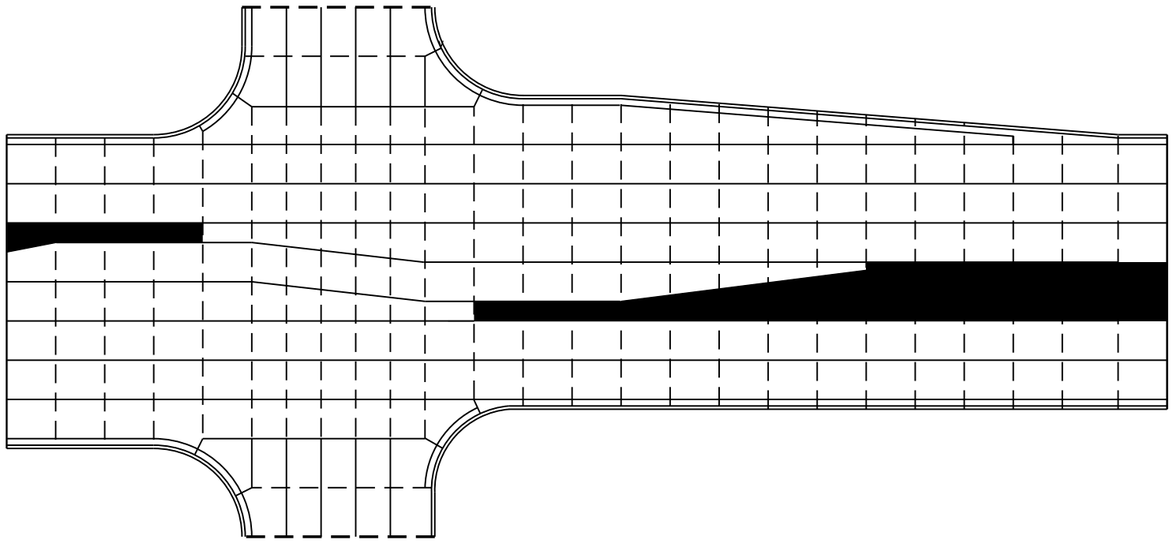
6
S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

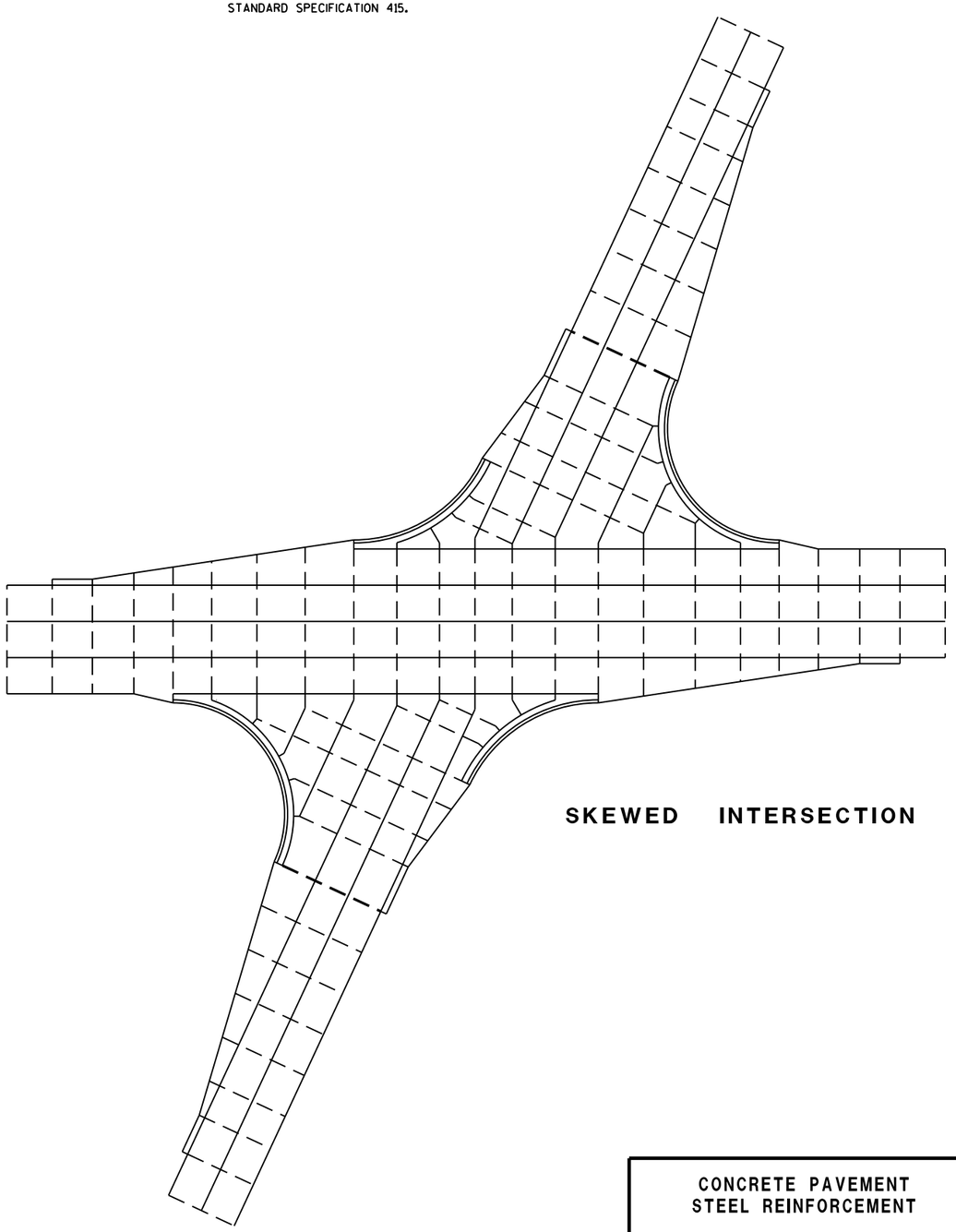
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

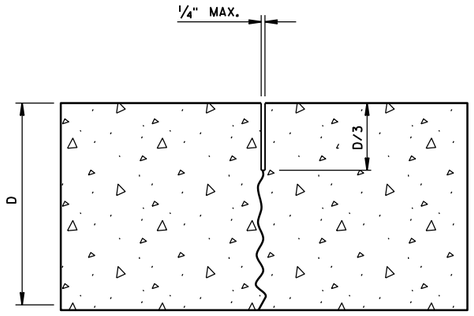
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

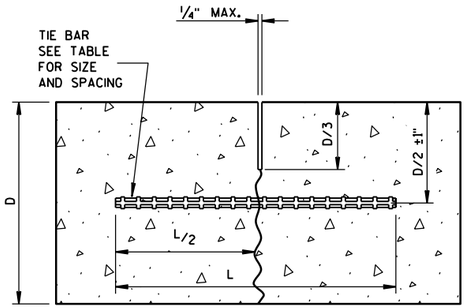
S.D.D. 13 C 18-3b

6

S.D.D. 13 C 18-3b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

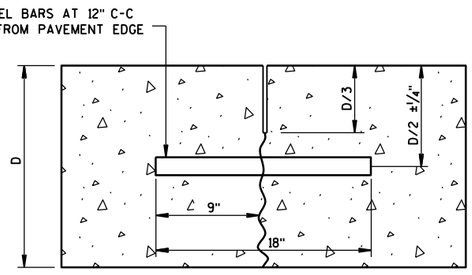
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

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

GENERAL NOTES

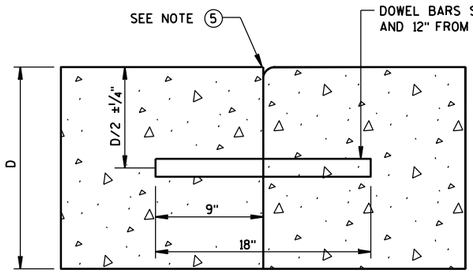
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 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-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



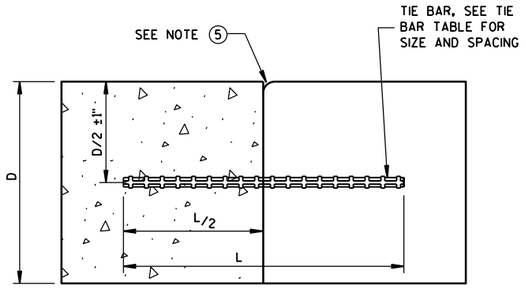
DOWELED-TRANSVERSE

CONTRACTION JOINTS

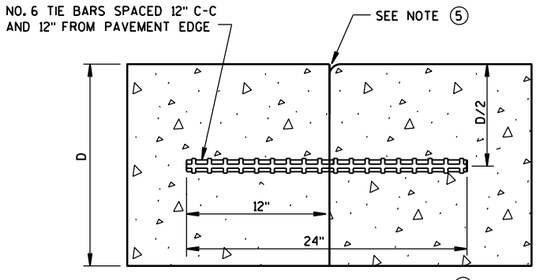
SEE NOTE (2)



DOWELED TRANSVERSE (3)

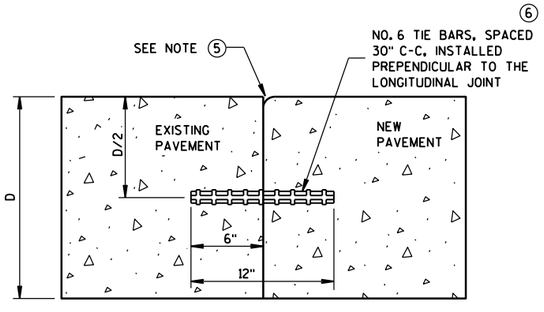


TIED LONGITUDINAL



TIED TRANSVERSE (3)

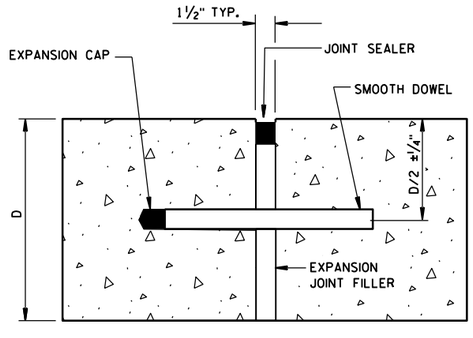
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

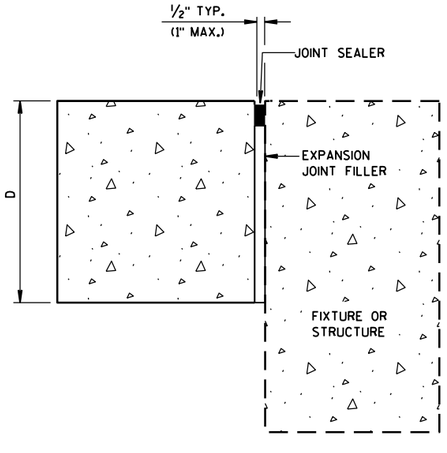
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

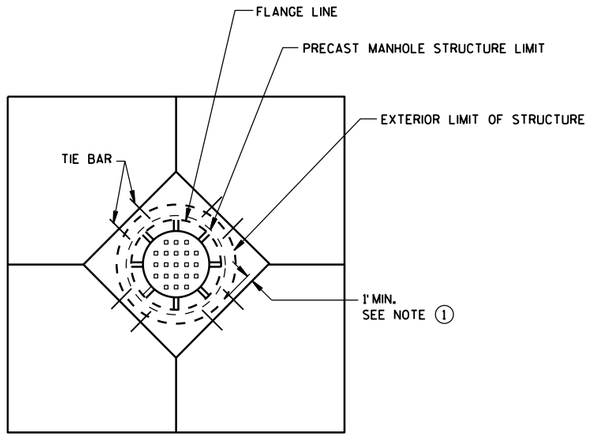
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

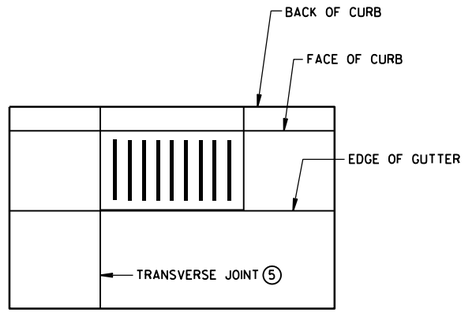
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

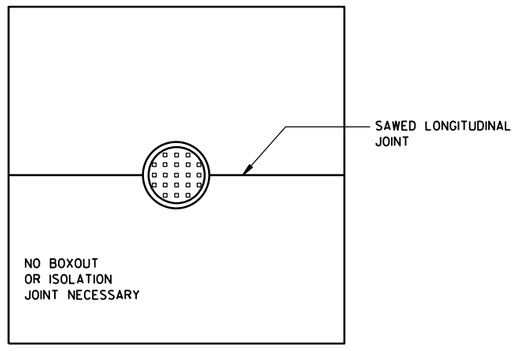
S.D.D. 13 C 18-3c



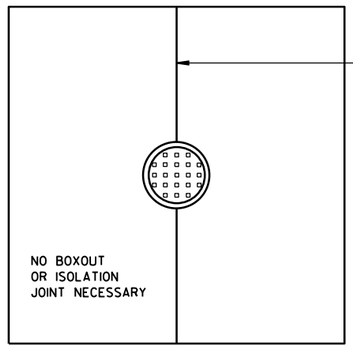
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



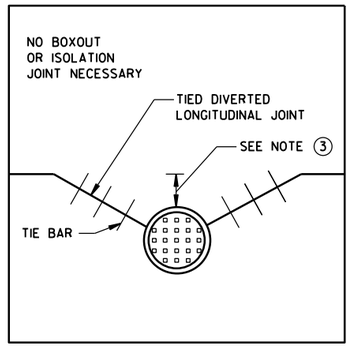
INLET WITH TRANSVERSE JOINT



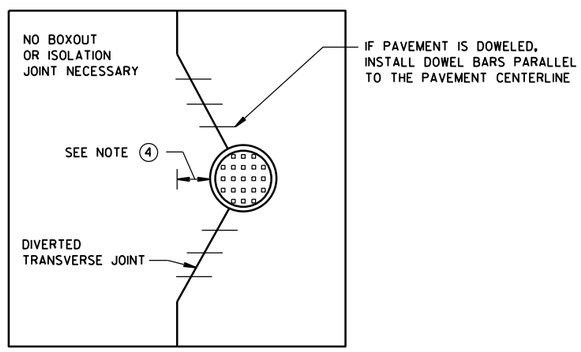
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION 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 LONGITUDIAL 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 REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 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 REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

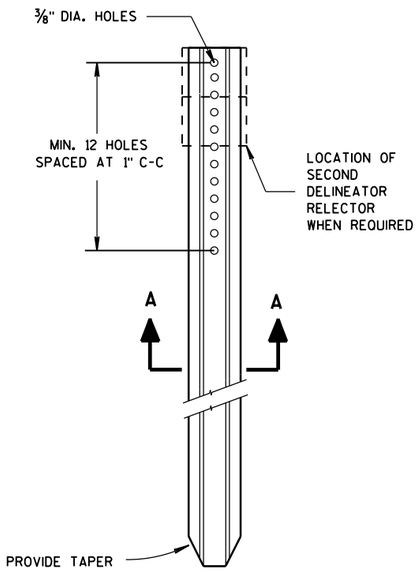
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

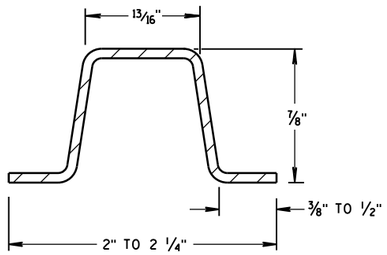
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

S.D.D. 13 C 18-3d

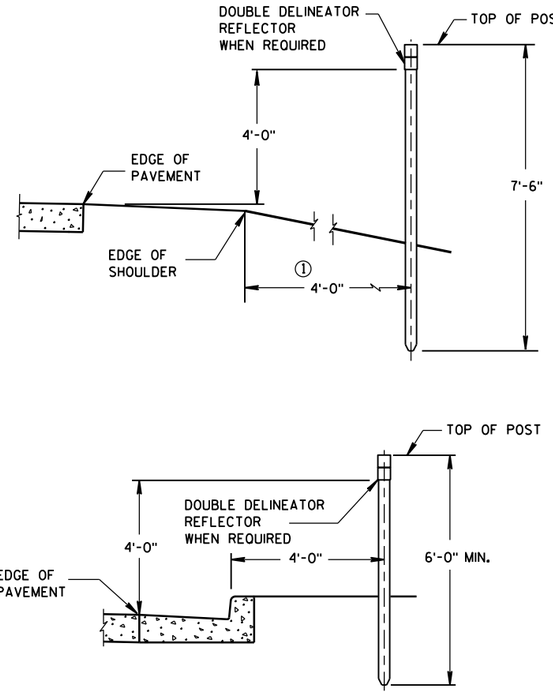


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

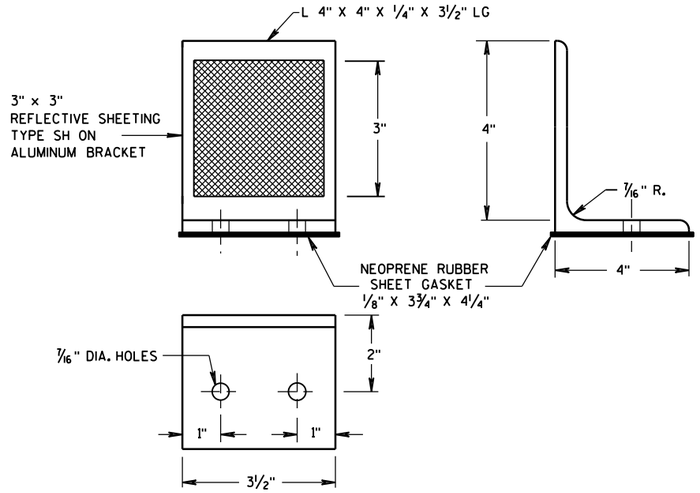


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

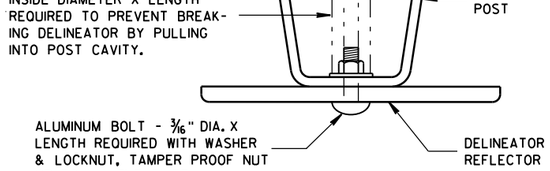
GENERAL NOTES

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

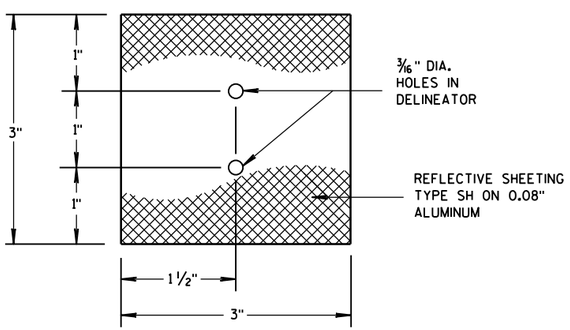
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



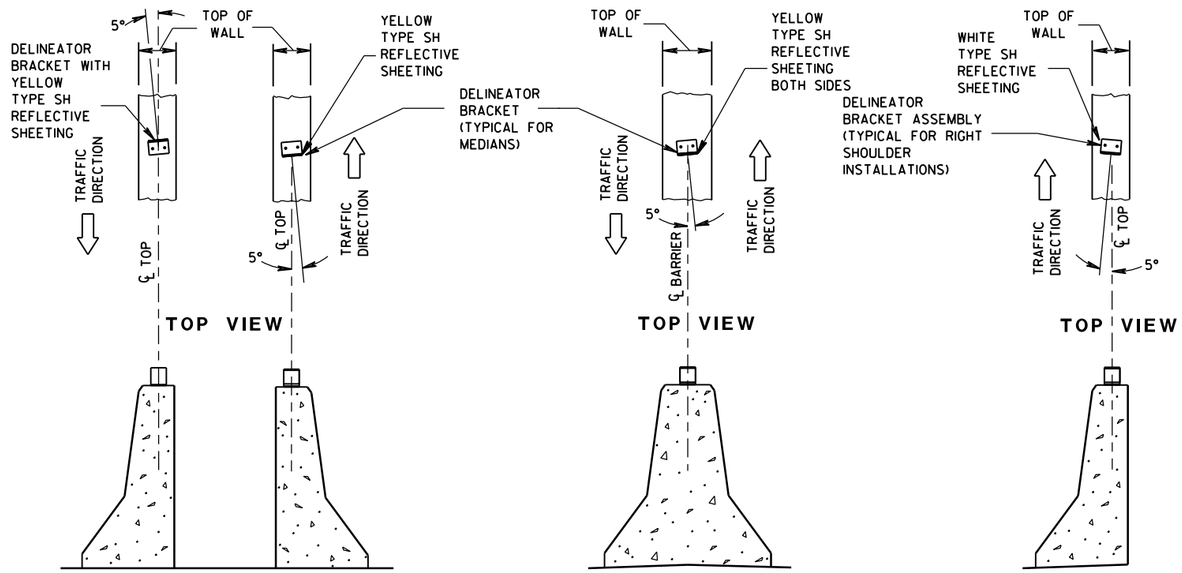
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR REFLECTOR

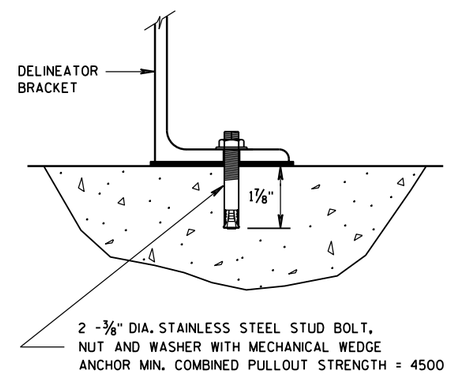


3"x 3" DELINEATOR REFLECTOR



DOUBLE BARRIERS IN MEDIAN | **MEDIAN BARRIER** | **BARRIER LOCATED TO RT. OF TRAFFIC FLOW**

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

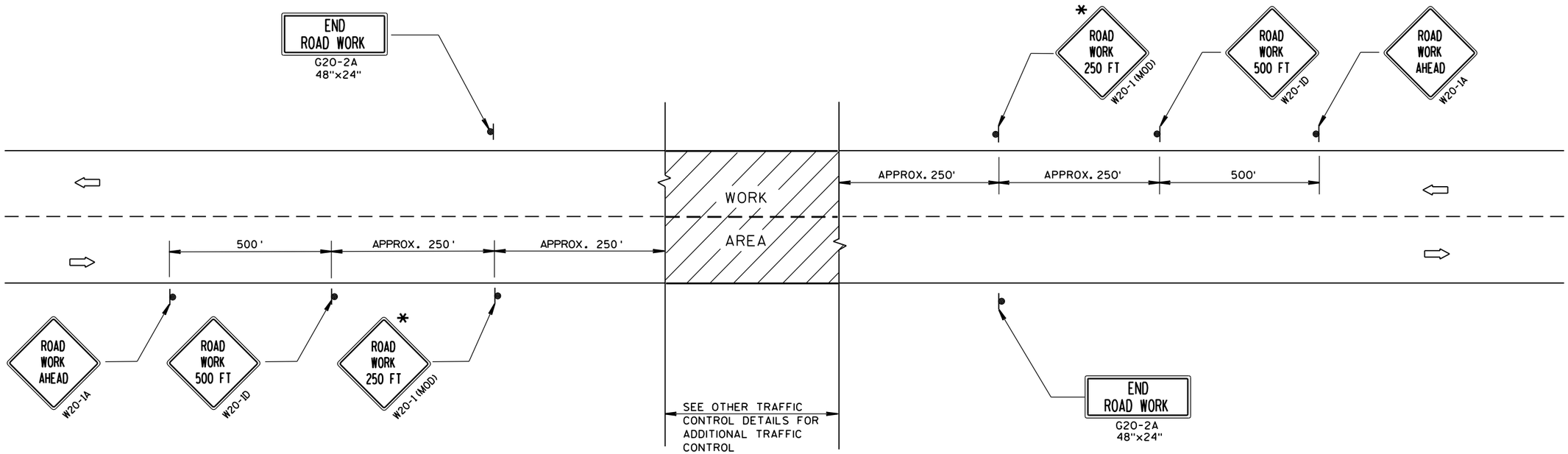
APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible] ENGINEER
FHWA

6

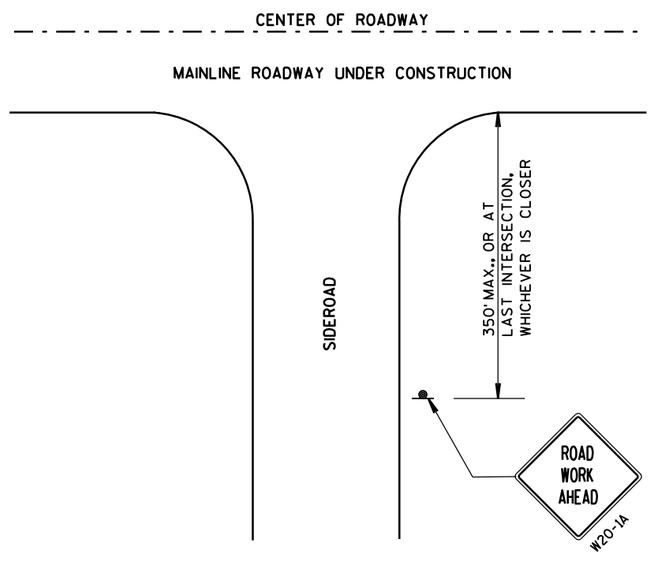
S.D.D. 15 A 2-9

6

S.D.D. 15 A 2-9



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 5-3

S	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

END ROAD WORK
G20-2A
48"x24"

NO PASSING ZONE
W14-3
48"x36"

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

1000' 500' 400' 500' 200' 50' 50' 25' TYP.

W01-6 48"x24" ✳✳✳

R11-2 48"x30" ROAD CLOSED

TYPE III BARRICADE

FOR BRIDGE OR CULVERT REPLACEMENTS SUBSTITUTE
BRIDGE OUT
R11-2B
48"x30"

ROAD CLOSURE OR BRIDGE/CULVERT REPLACEMENT

BUFFER SPACE (SEE TABLE)

WORK AREA

BUFFER SPACE (SEE TABLE)

TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

W05-52L 12"x36"

W05-52R 12"x36"

25' TYP.

OR

W01-3L
W01-4L
W013-1
XX M.P.H.
24"x24"

ROAD WORK 1000 FT
W20-1C

ROAD WORK AHEAD
W20-1A

END TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

50' 50' 400' 200' 500' 500' 1000'

END TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINES. (USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT)

TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW CENTERLINE AND 2-WAY YELLOW RAISED PAVEMENT MARKERS AT 25' SPACING. USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT.

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

ROAD WORK AHEAD
W20-1A

ROAD WORK 1000 FT
W20-1C

OR

W01-4R
W01-3R
W013-1
XX M.P.H.
24"x24"

W01-6 48"x24"

W01-6 48"x24" ✳✳✳

W05-52R 12"x36"

W05-52L 12"x36"

OR

W01-4L
W01-3L
W013-1
XX M.P.H.
24"x24"

NO PASSING ZONE
W14-3
48"x36"

END ROAD WORK
G20-2A
48"x24"

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

✳ IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

✳✳ WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

✳✳✳ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY-BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR, (WHITE) (SINGLE DELINEATOR)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- WORK AREA

TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

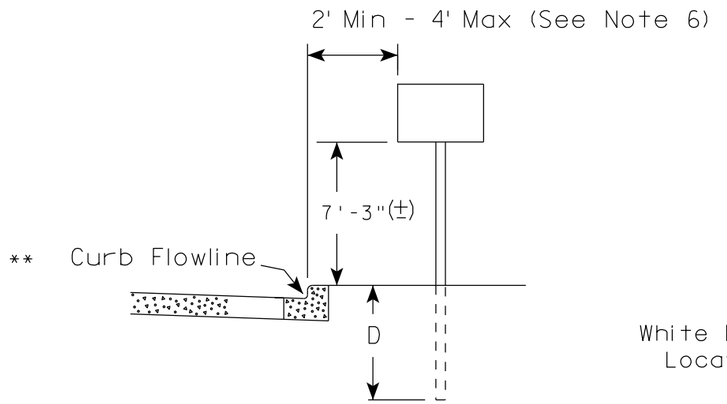
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER — FHWA

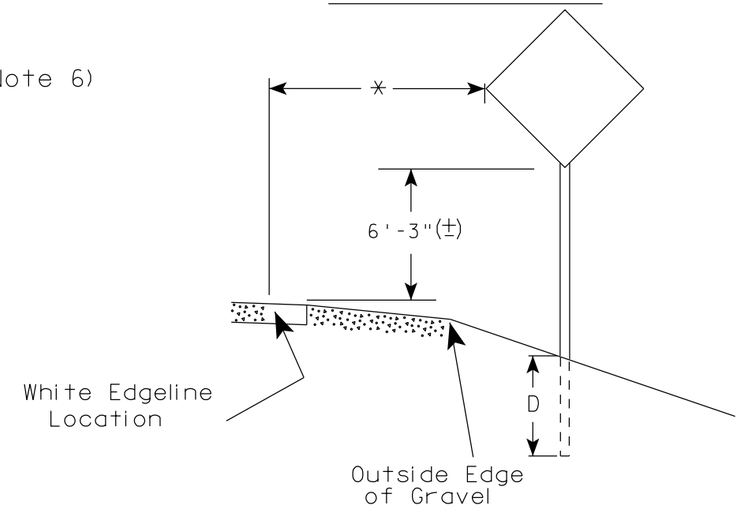
6

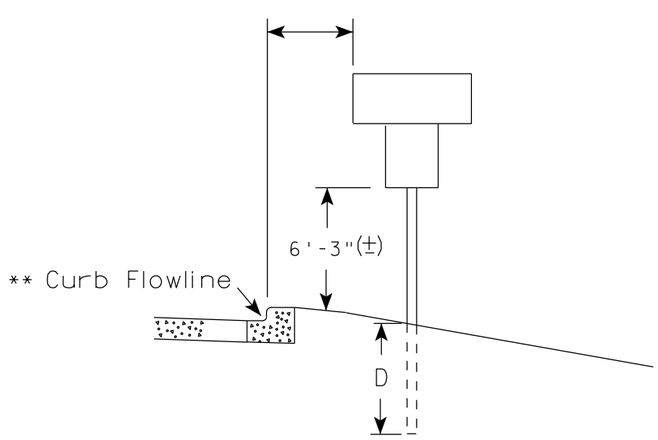
S.D.D. 15 D 31-3

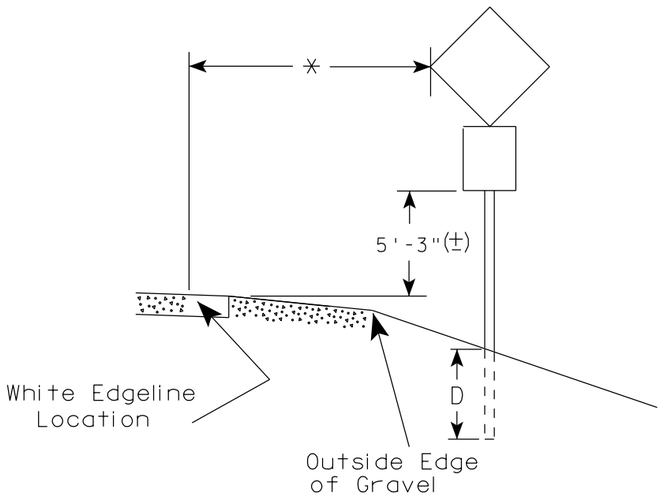
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

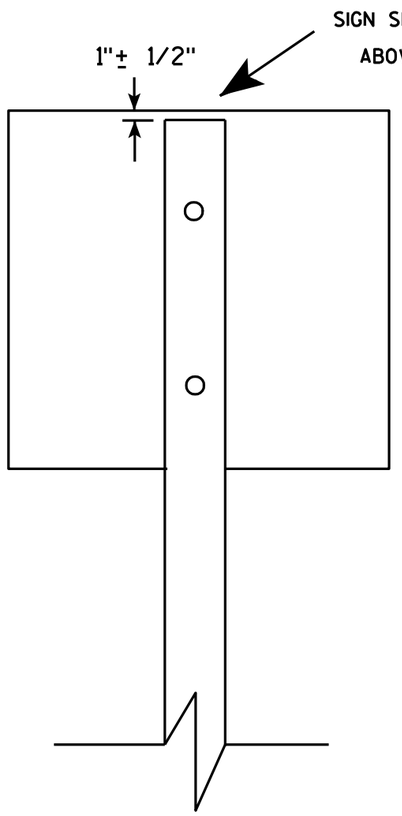
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

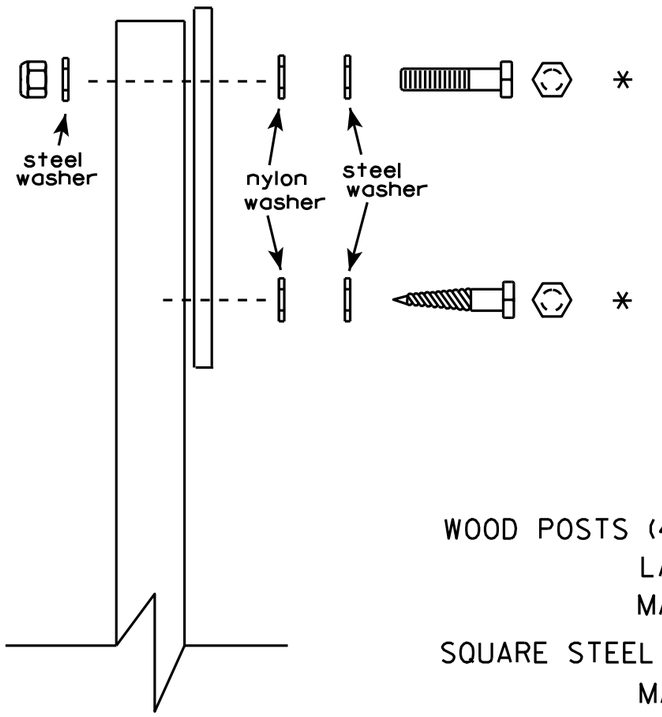
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





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

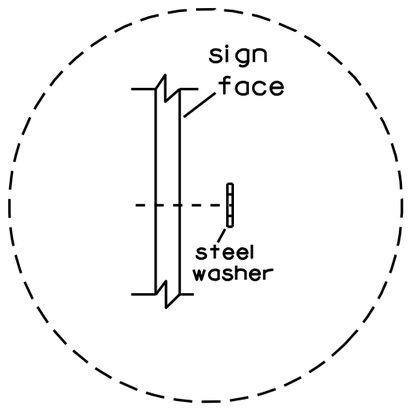
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

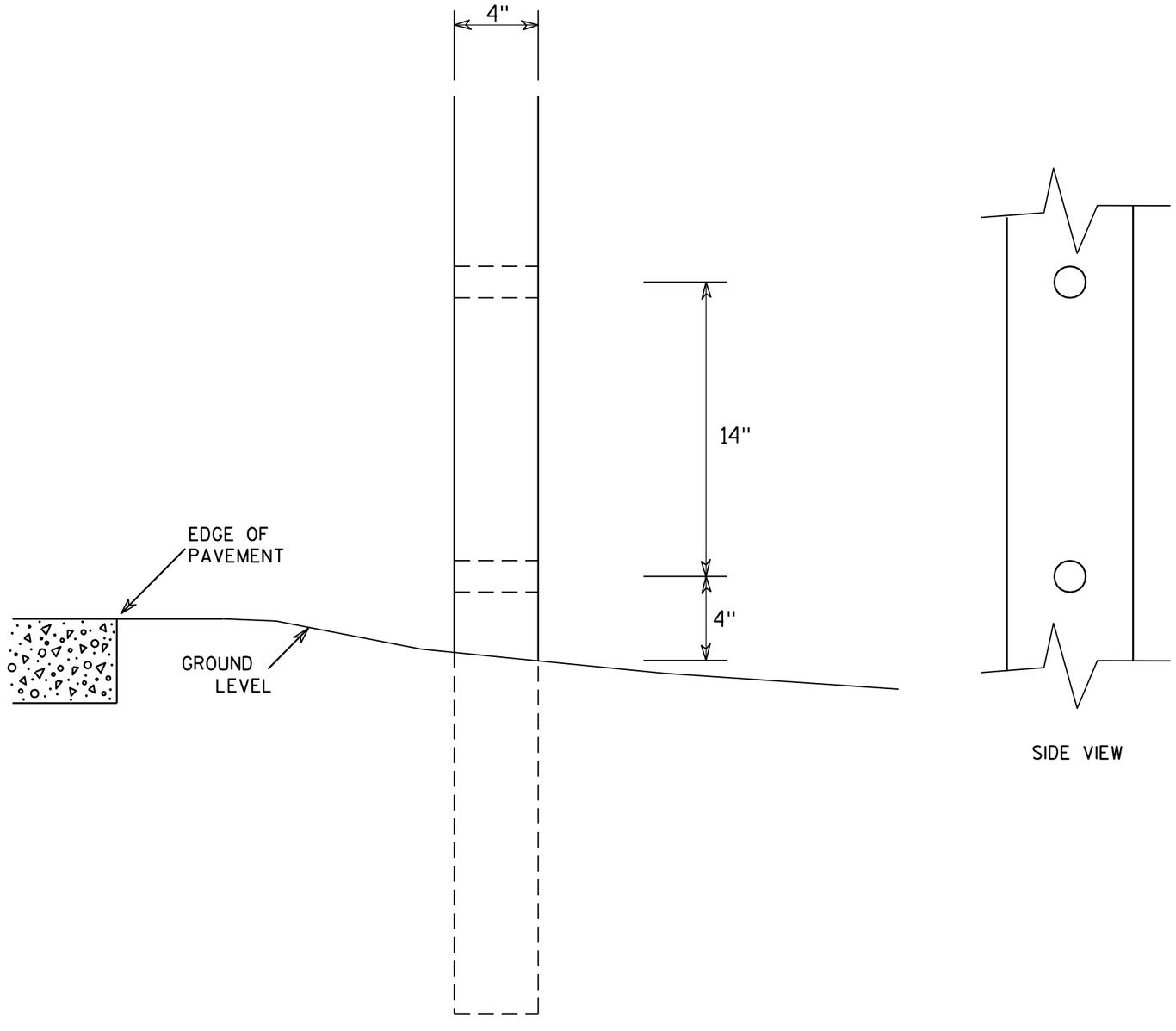
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 25 E



SIDE VIEW

GENERAL NOTES

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

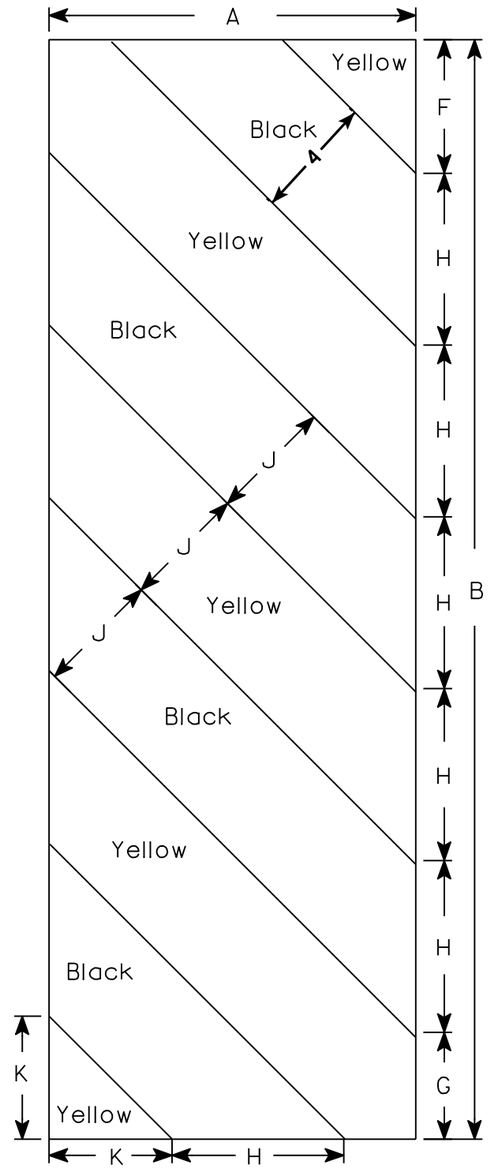
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

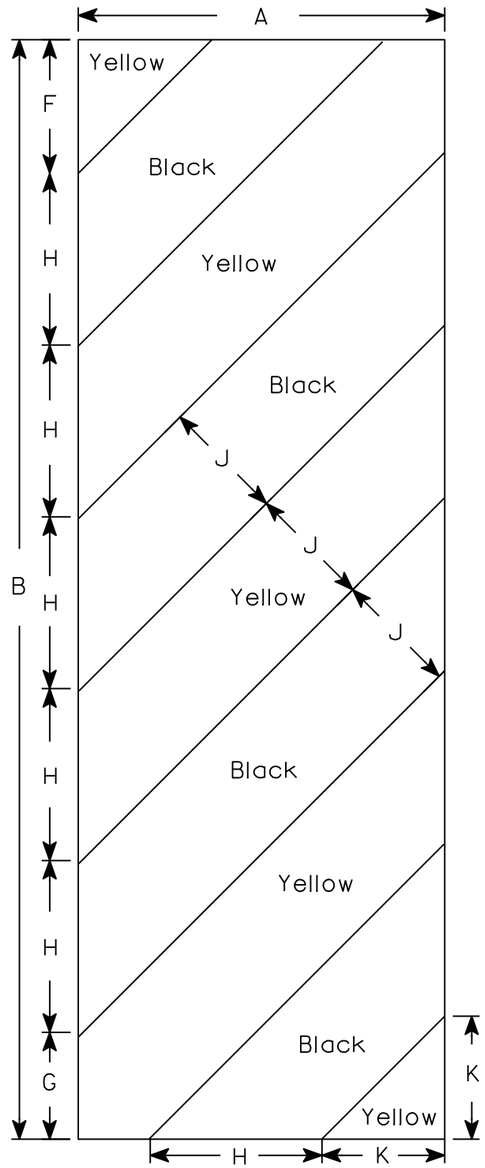
APPROVED Chester J Spang
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 26	E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

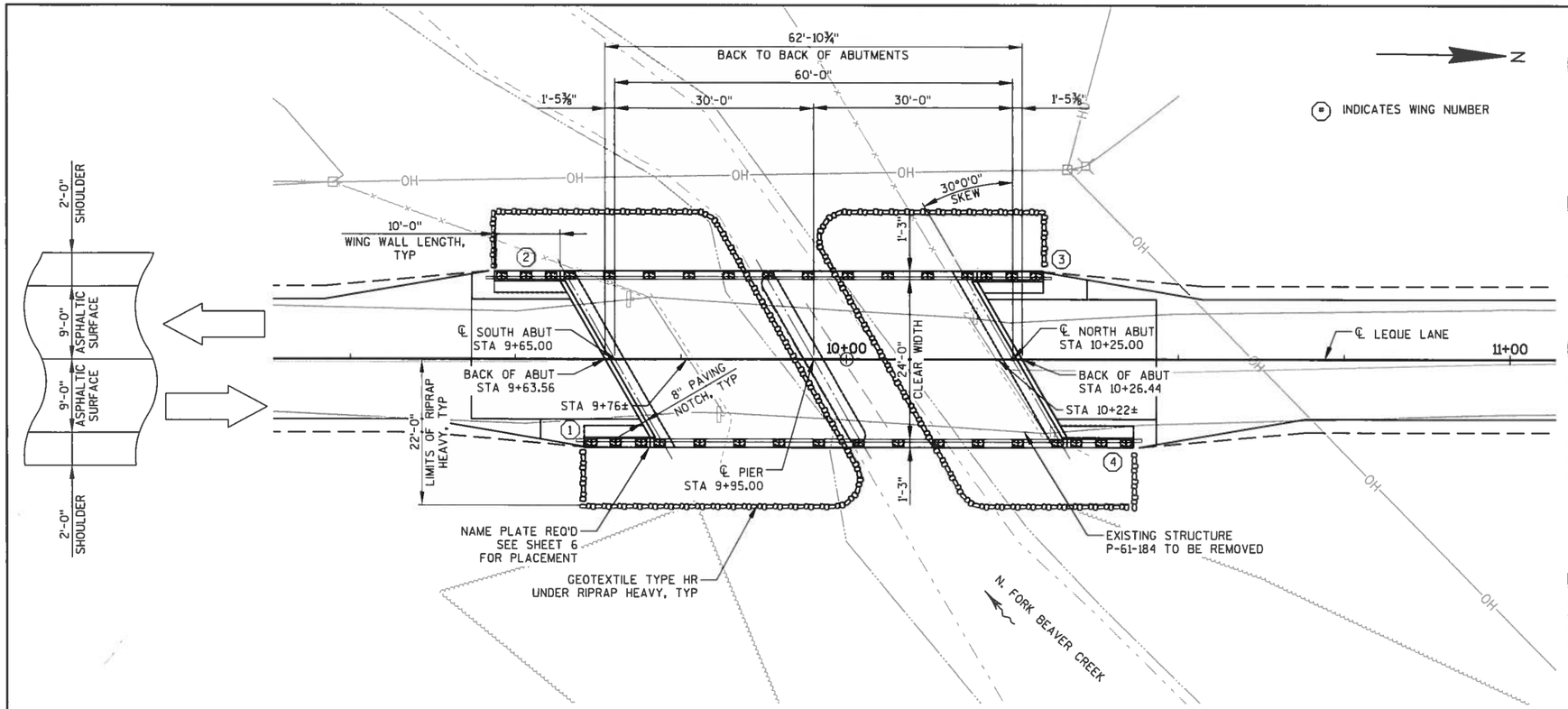
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

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

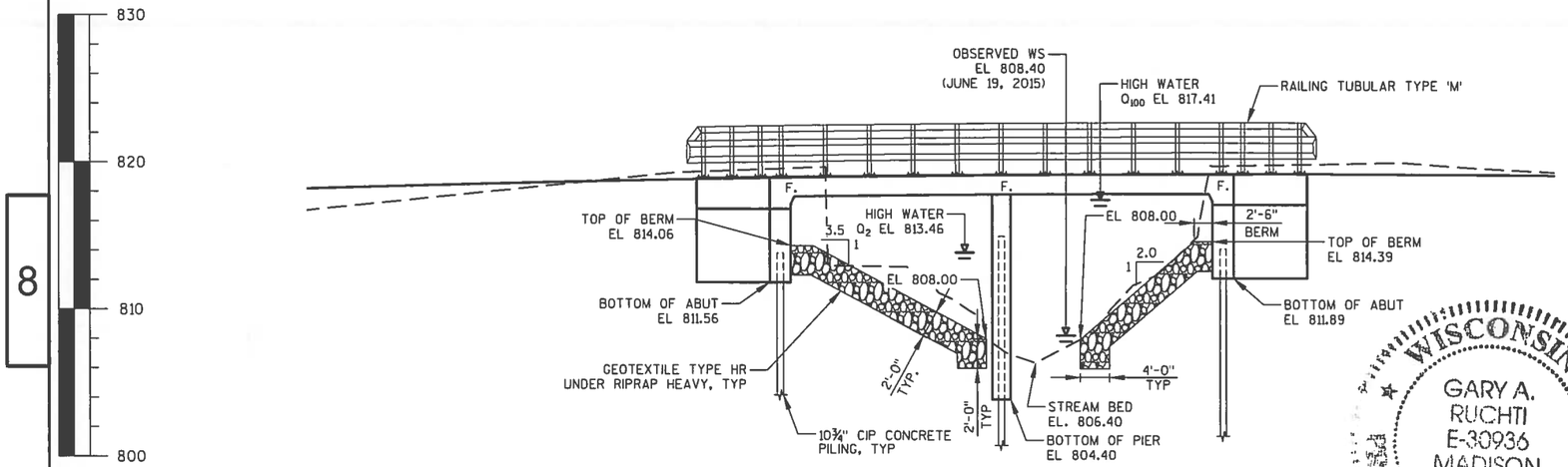
STATE PROJECT NUMBER

7281-00-70



PLAN B-61-226

(TWO SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE)



ELEVATION

(NORMAL TO ℄ OF STREAM)

DESIGN DATA:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	1.13
OPERATING RATING FACTOR	1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY SUPERSTRUCTURE	f'c = 4,000 psi
ALL OTHER	f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60 ksi

TRAFFIC DATA:

ADT (2016) = 20

ADT (2036) = 30

DESIGN SPEED = 25 MPH

FOUNDATION DATA:

ABUTMENTS SUPPORTED ON 10¾" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 90* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 80' LONG AT THE SOUTH ABUTMENT AND 55' LONG AT THE NORTH ABUTMENT.

PIER SUPPORTED ON 10¾" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 65' LONG.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100}	2,680 cfs
Q_{100} BRIDGE	1,998 cfs
Q_{100} ROAD	682 cfs
STREAM VELOCITY	8.00 fps
HIGH WATER	EL. 817.41
WATERWAY AREA	250 ft²
DRAINAGE AREA	31.9 mi²
SCOUR CRITICAL CODE	5
OVERTOPPING ELEV	EL 816.58
OVERTOPPING FLOW	1663 CFS
OVERTOPPING FREQUENCY	20 YEARS

2 YEAR FREQUENCY

Q_2	695 cfs
HIGH WATER	EL. 813.71

TEMPORARY STRUCTURE

Q_5	1295 cfs
HIGH WATER	EL. 816.30
MINIMUM BRIDGE OPENING AREA	143 FT²

LIST OF DRAWINGS:

WISCONSIN GARY A. RUCHTI E-30936 MADISON WI PROFESSIONAL ENGINEER

Gary A. Ruchti 6/17/16

BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489

CONSULTANT CONTACT
GARY RUCHTI, P.E.
TELEPHONE: (608) 273-6380

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/18/16
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-61-226

LEQUE LANE OVER N. FORK BEAVER CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
TREMPEALEAU	ETTRICK

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
RCP	GAR	JAK	GAR

GENERAL PLAN

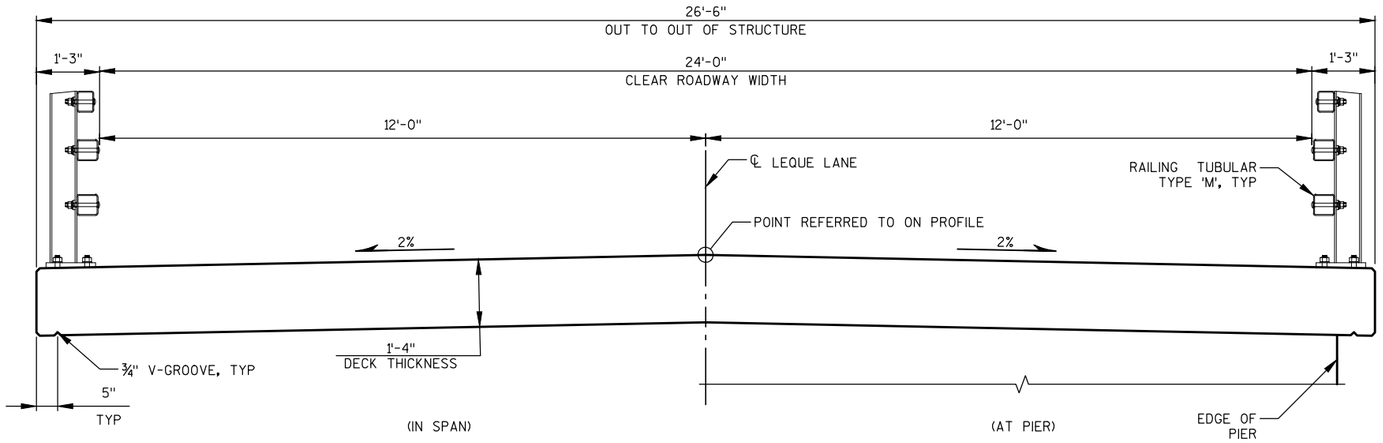
SHEET 1 OF 12

28

8

8

STATE PROJECT NUMBER
7281-00-70



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

BENCH MARKS★

NO.	STATION	DESCRIPTION	ELEV.
1	6+48, LT	PK IN ASPHALT, LT 7.0'	815.92
2	10+17, LT	PK IN ABUT TIMBER	817.66
3	13+34, LT	PK IN ASPHALT, LT 0.2'	818.07

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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 SHEET 1 AND IN THE ABUTMENT DETAILS.

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

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

PROTECTIVE SURFACE TREATMENT TO BE PLACED FULL WIDTH ON TOP SURFACE, SIDES AND OUTSIDE 1'-0" ON BOTTOM OF CONCRETE SLAB DECK.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE EXISTING STRUCTURE, TO BE REMOVED, IS A 48.4-FOOT TWO-SPAN STEEL DECK GIRDER BRIDGE, WITH A 16.4-FOOT CLEAR BRIDGE WIDTH (P-61-0184).

THE UPPER LIMIT FOR "EXCAVATION OF STRUCTURES BRIDGES B-61-226" SHALL BE THE EXISTING GROUNDLINE.

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	N ABUT	PIER	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 9+99	LS	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-61-226	LS	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	90	90	---	---	180
502.0100	CONCRETE MASONRY BRIDGES	CY	29	29	35	86	179
502.3200	PROTECTIVE SURFACE TREATMENT	SY	12	12	---	214	238
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1720	1720	1690	---	5130
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1360	1360	---	21010	23730
513.4061	RAILING TUBULAR TYPE M B-61-226	LF	---	---	---	---	171
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	9	---	---	18
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	400	275	520	---	1195
606.0300	RIPRAP HEAVY	CY	120	90	---	---	210
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	60	60	---	---	120
645.0120	GEOTEXTILE TYPE HR	SY	240	190	---	---	430
	NON BID ITEMS						
	FILLER	SIZE					1/2" & 3/4"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

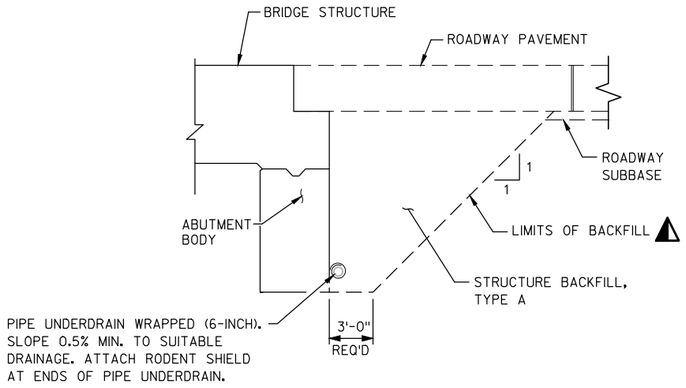
DRAWN BY JAK | PLANS CK'D. GAR

CROSS SECTION, GENERAL NOTES, AND QUANTITIES

SHEET 29 OF 12

FILE NAME : X:±2005800±150565.01±TECH±CAD±72810070±DESIGN±STRUCTURE±080102_TS.DWG PLOT DATE : 8/12/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

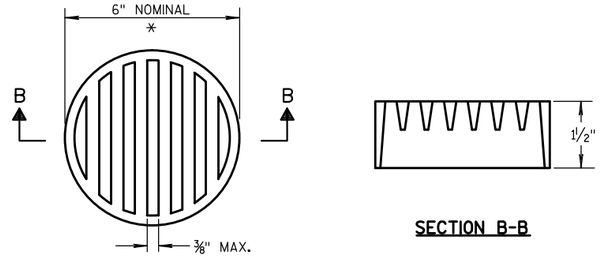
STATE PROJECT NUMBER
7281-00-70



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL

(TYPICAL AT BOTH ABUTMENTS)

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.



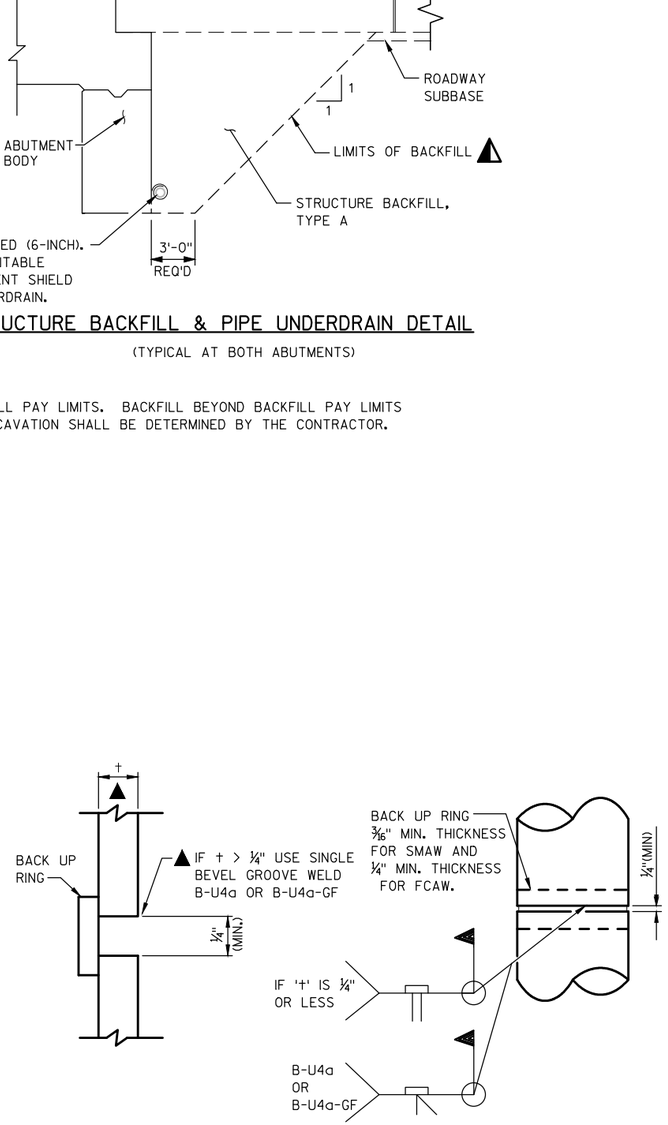
SECTION B-B

RODENT SHIELD DETAIL

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

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

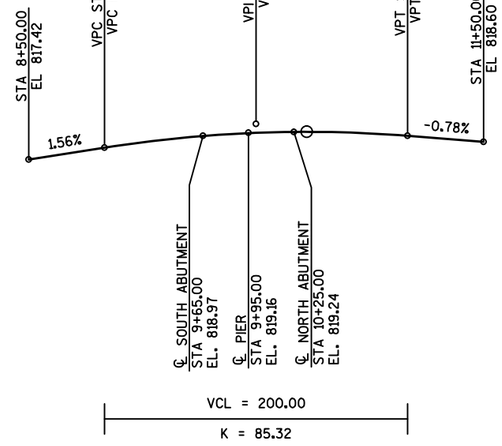
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



C.I.P. PILE WELD DETAIL

CAST-IN-PLACE 'PIPE PILE'

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



PROFILE GRADE LINE, ℄ LEQUE LANE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

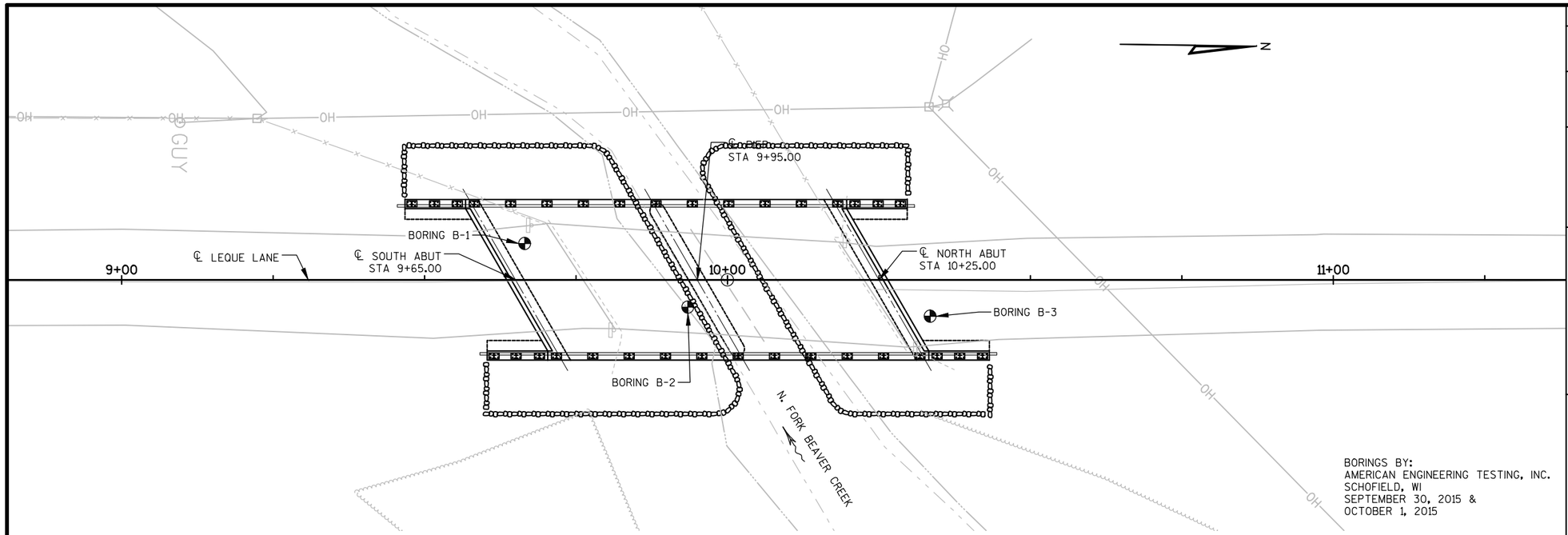
DRAWN BY JAK | PLANS CK'D. GAR

GENERAL DETAILS

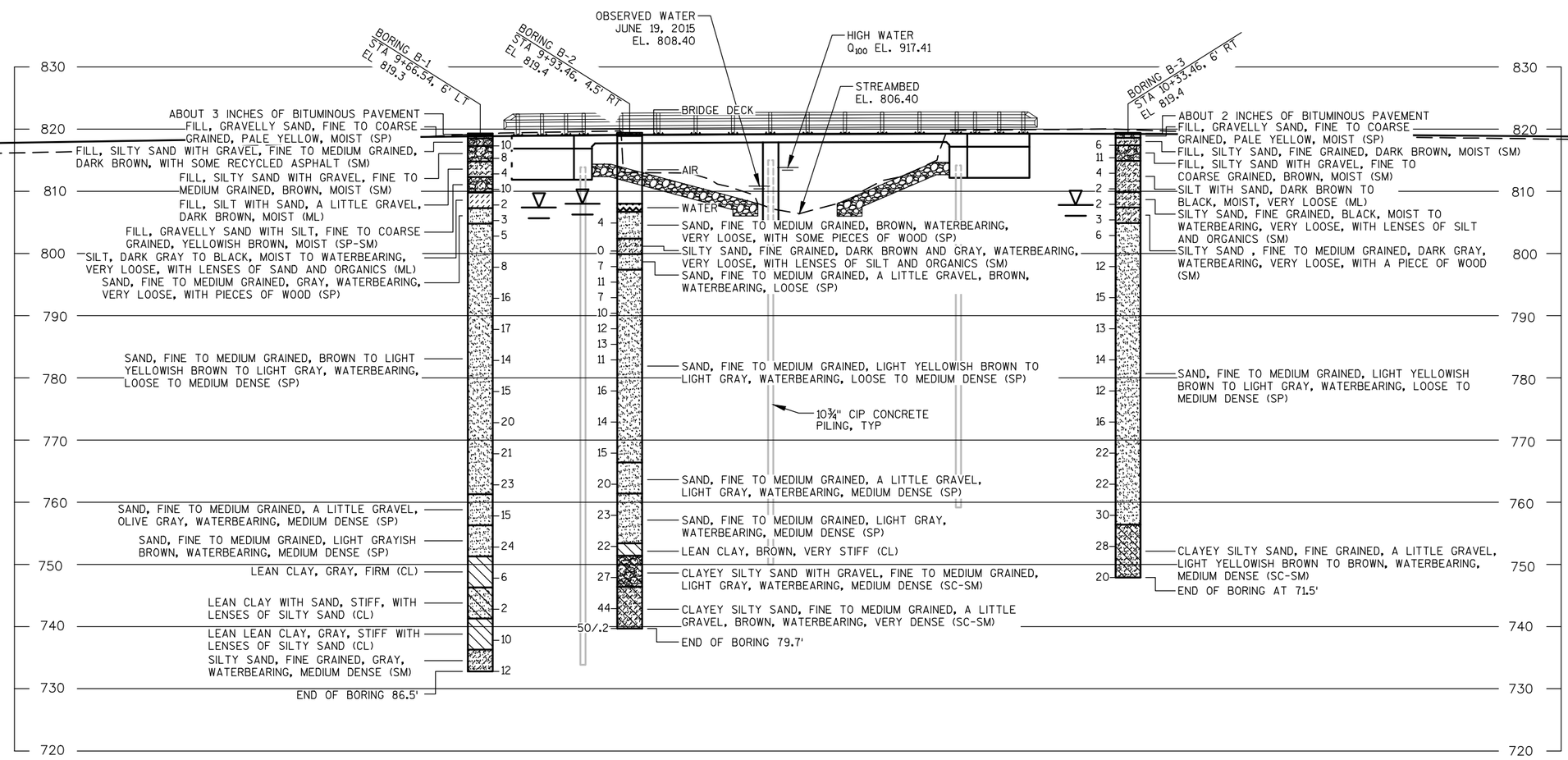
SHEET 30 OF 12

8

8



BORINGS BY:
AMERICAN ENGINEERING TESTING, INC.
SCHOFIELD, WI
SEPTEMBER 30, 2015 &
OCTOBER 1, 2015



STATE PROJECT NUMBER

7281-00-70

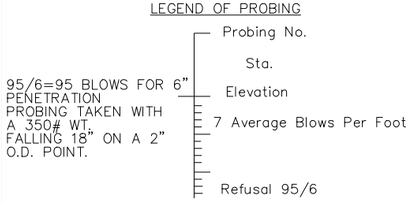
ABBREVIATIONS

F— Fine M—Medium C— Coarse
Ws—Weathered So—Sound

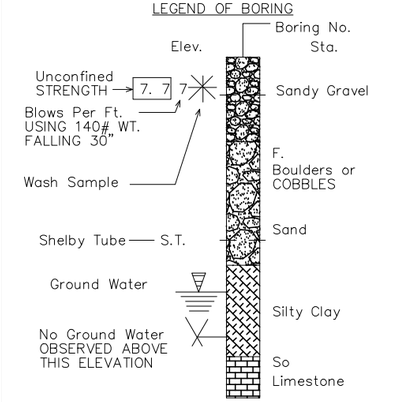
MATERIAL SYMBOLS

Asphalt, Concrete, Gravel, Silt, Organic Soil, Clay, Sand, Air, Water

LEGEND OF PROBING



LEGEND OF BORING



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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

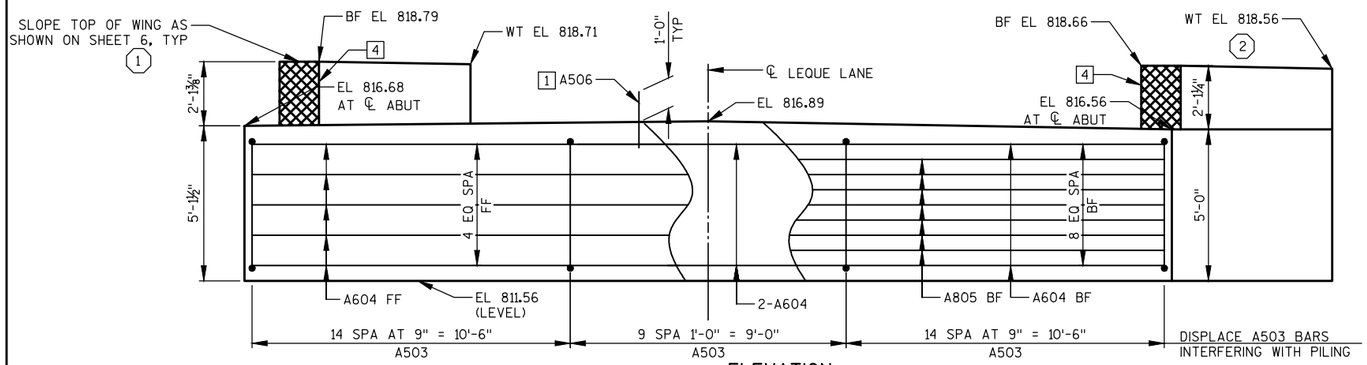
DRAWN BY JAK | PLANS CK'D. GAR

SUBSURFACE EXPLORATION

SHEET 31 OF 12

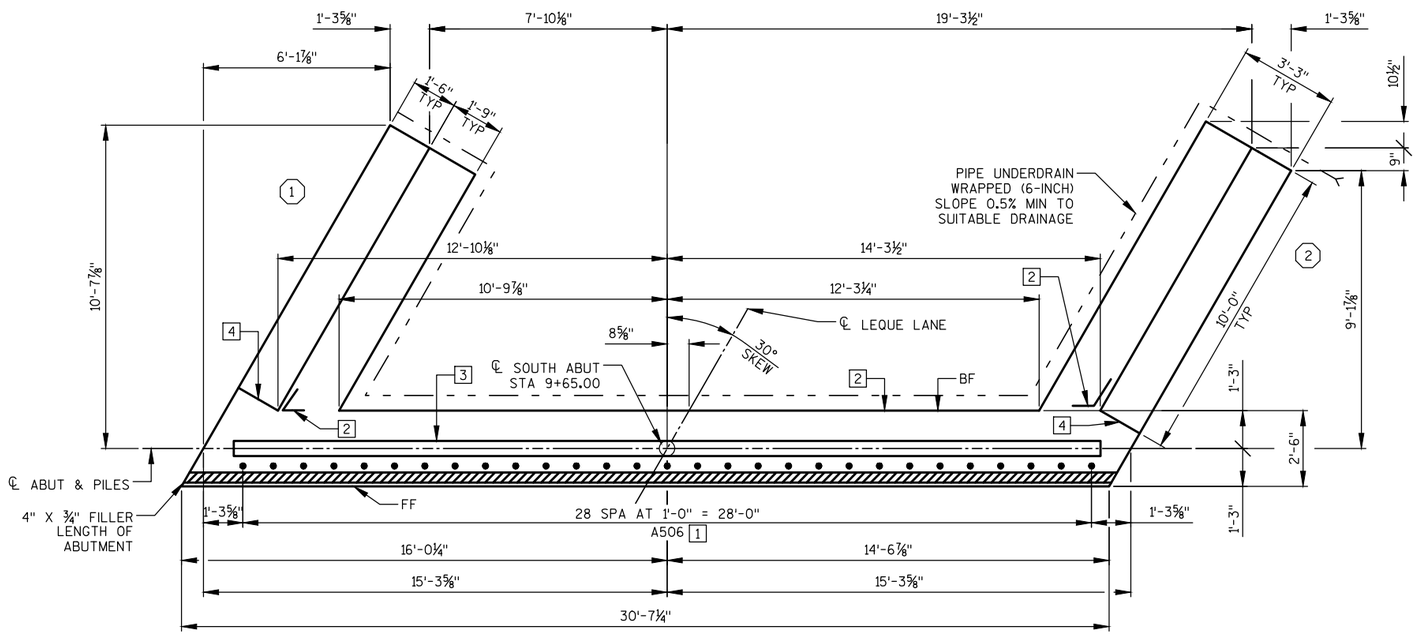
8

8

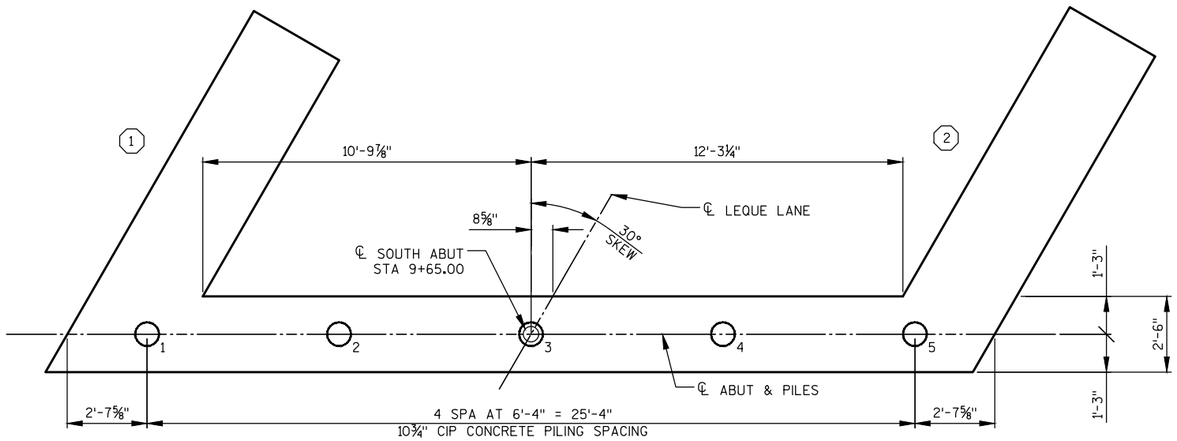


ELEVATION

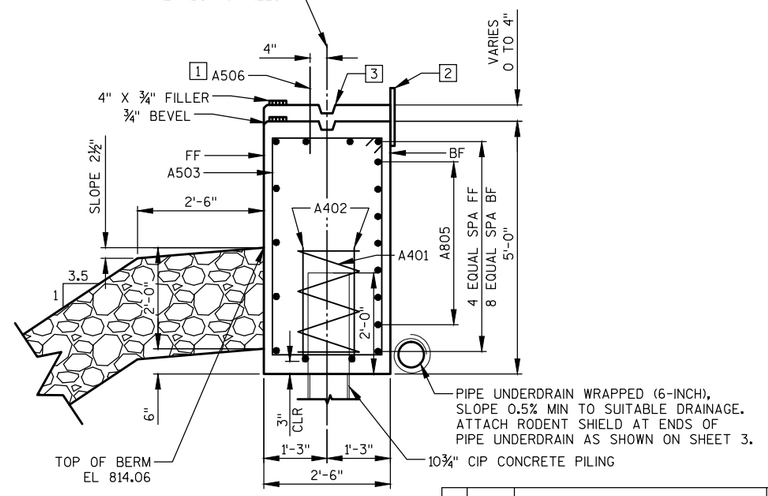
(SOUTH ABUTMENT LOOKING SOUTH)



PLAN



PILE PLAN



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

NOTES

FOR PILE SPLICE SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 811.56 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10¾" CIP CONCRETE PILING WITH REQUIRED DRIVING RESISTANCE OF 90 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 80' LONG.

1 A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

2 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

3 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

4 ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER

STATE PROJECT NUMBER
7281-00-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

DRAWN BY JAK | PLANS CK'D. GAR

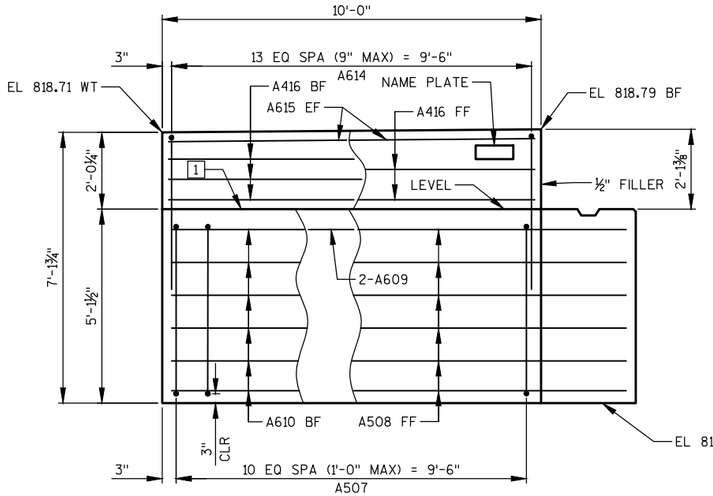
SOUTH ABUTMENT

SHEET 5 OF 12
32

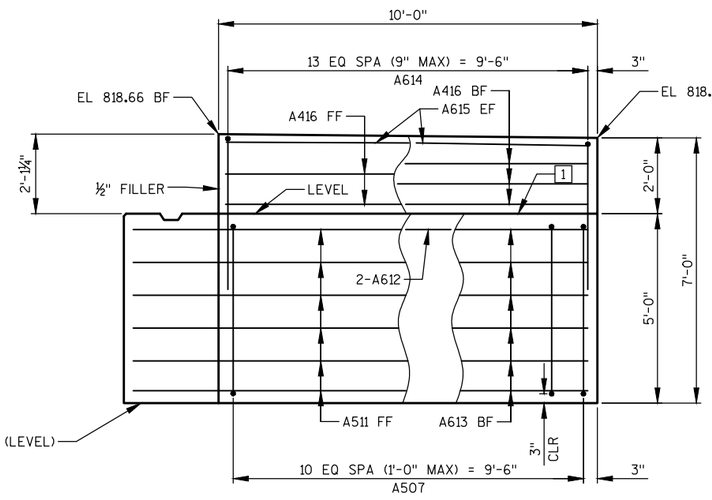
8

STATE PROJECT NUMBER

7281-00-70



WING 1 ELEVATION



WING 2 ELEVATION

BILL OF BARS
SOUTH ABUTMENT

COATED= 1360 LBS.
UNCOATED= 1720 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
A401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
A402		10	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
A503		38	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
A604		11	30 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
A805		7	30 - 2			ABUTMENT BODY - BF	HORIZ
A506	29		2 - 0			ABUTMENT BODY - DOWELS	VERT
A507	22		15 - 4	X		WING WALL - BODY	VERT
A508	6		13 - 2			WING WALL 1 - FF OF BODY	HORIZ
A609	2		12 - 2			WING WALL 1 - TOP OF BODY	HORIZ
A610	6		11 - 2			WING WALL 1 - BF OF BODY	HORIZ
A511	6		11 - 9			WING WALL 2 - FF OF BODY	HORIZ
A612	2		12 - 4			WING WALL 2 - TOP OF BODY	HORIZ
A613	6		12 - 11			WING WALL 2 - BF OF BODY	HORIZ
A614	28		8 - 10	X		WING WALL - TOP	VERT
A615	4		9 - 7			WING WALL - TOP	HORIZ
A416	10		9 - 7			WING WALL - TOP	HORIZ

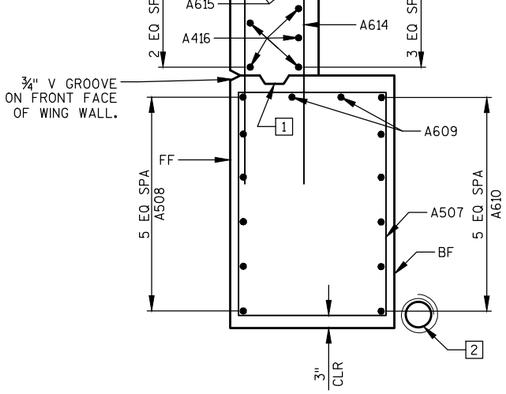
FF - FRONT FACE
BF - BACK FACE

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

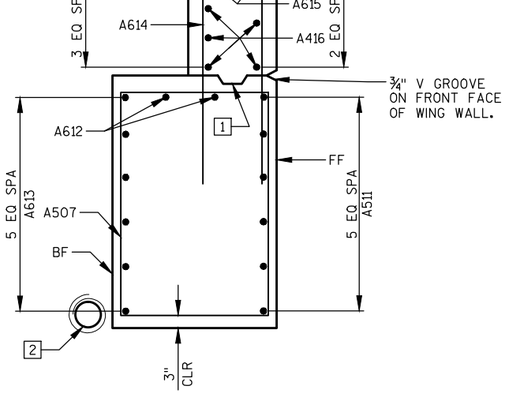
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

[1] OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

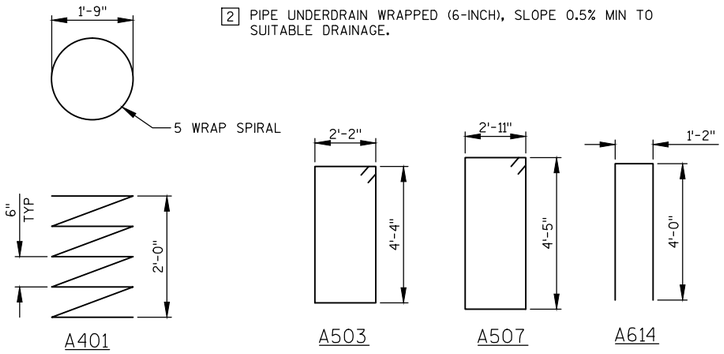
[2] PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.

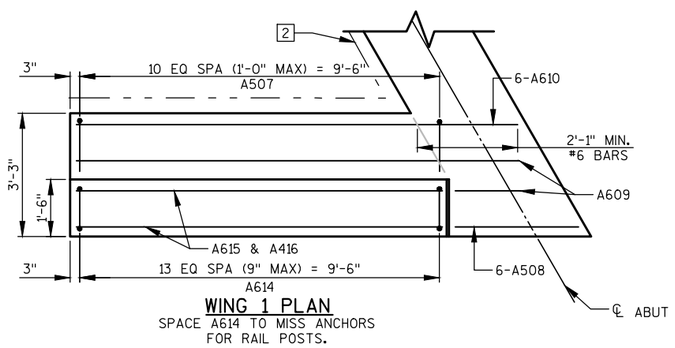


WING 1 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

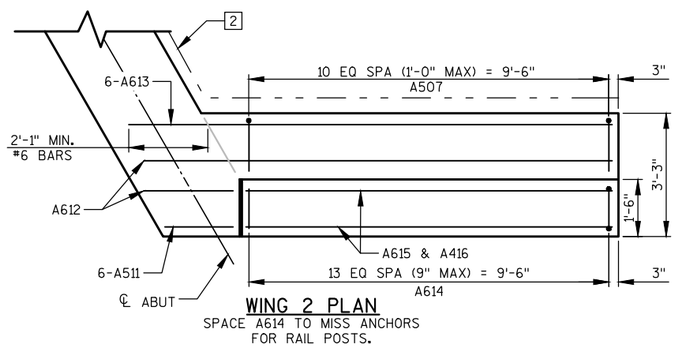


WING 2 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

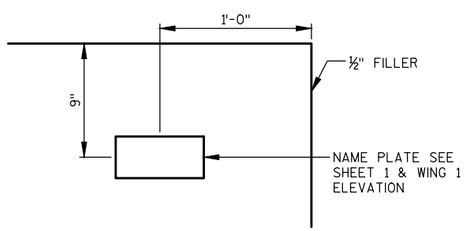




WING 1 PLAN
SPACE A614 TO MISS ANCHORS FOR RAIL POSTS.



WING 2 PLAN
SPACE A614 TO MISS ANCHORS FOR RAIL POSTS.



NAME PLATE LOCATION
ON WING 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

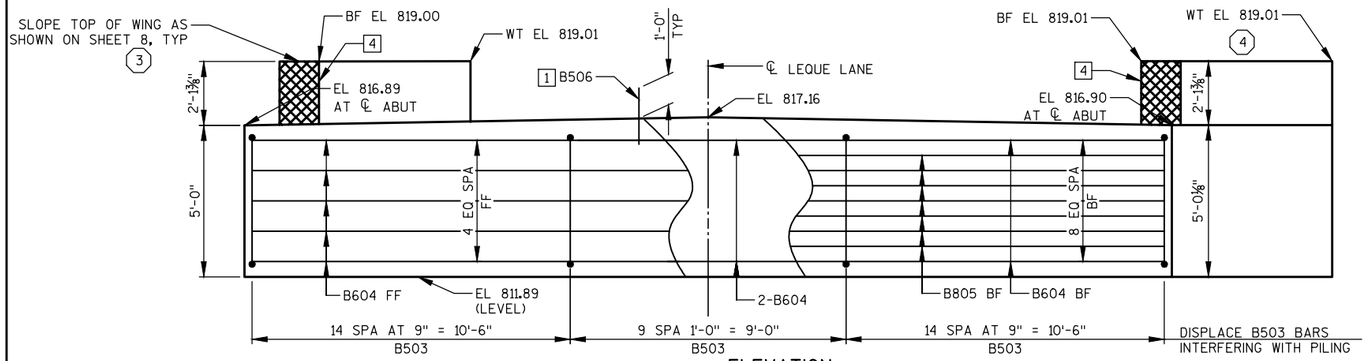
DRAWN BY JAK | PLANS CK'D. GAR

SOUTH ABUTMENT DETAILS

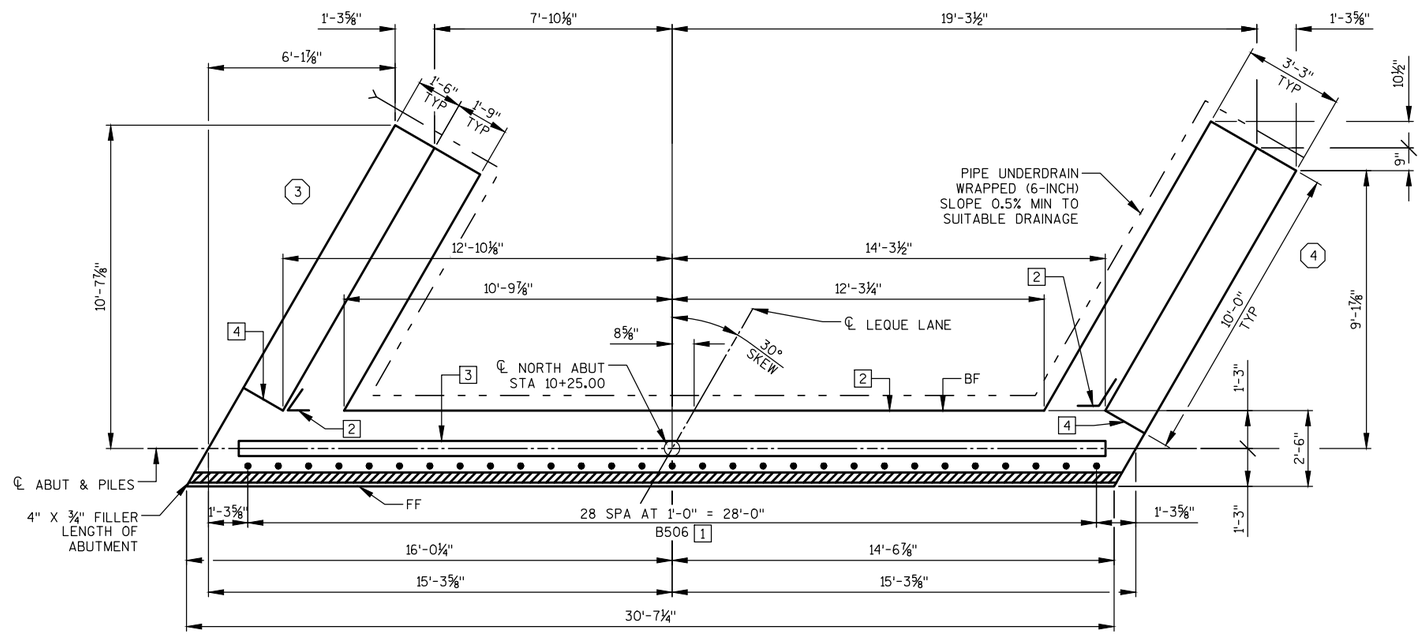
SHEET 8 OF 12
33

8

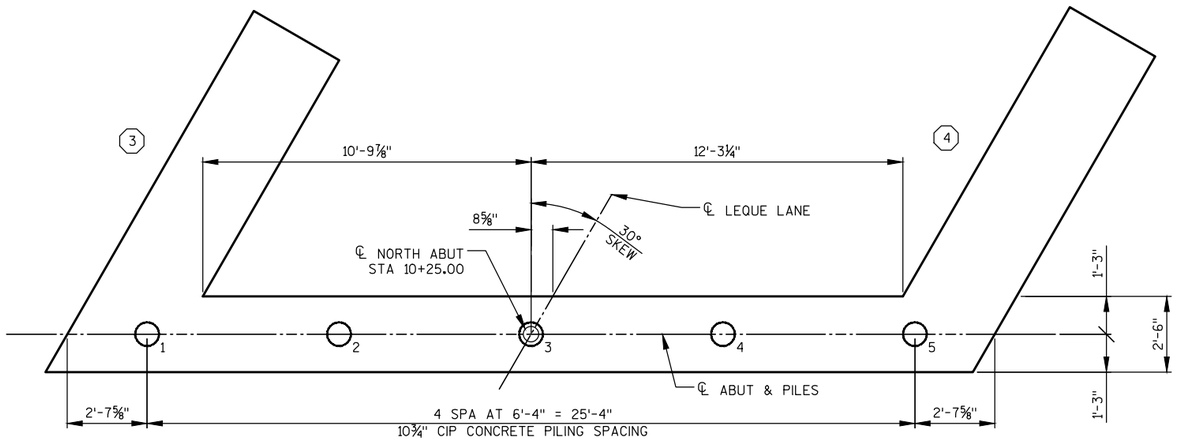
8



ELEVATION
(NORTH ABUTMENT LOOKING NORTH)



PLAN



PILE PLAN

NOTES

FOR PILE SPLICE SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 811.89 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10¾" CIP CONCRETE PILING WITH REQUIRED DRIVING RESISTANCE OF 90 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 55' LONG.

1. B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED. BUT BEFORE INITIAL SET HAS TAKEN PLACE.

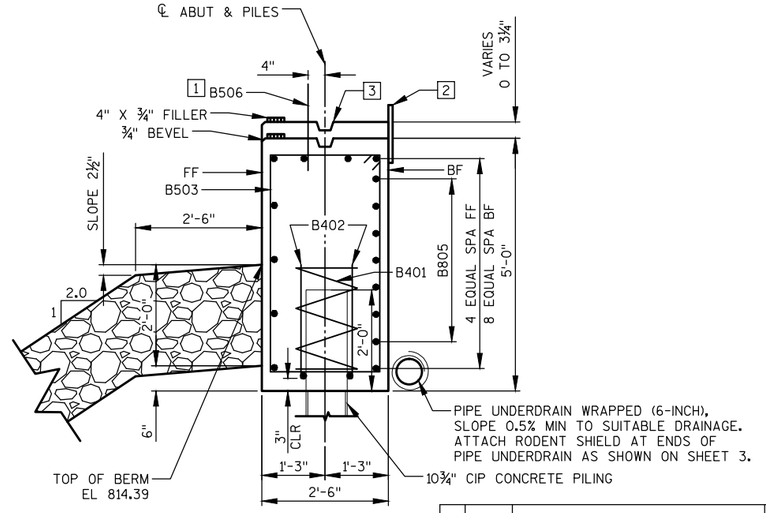
2. 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

4. ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NUMBER
7281-00-70

STRUCTURE B-61-226

DRAWN BY JAK | PLANS CK'D. GAR

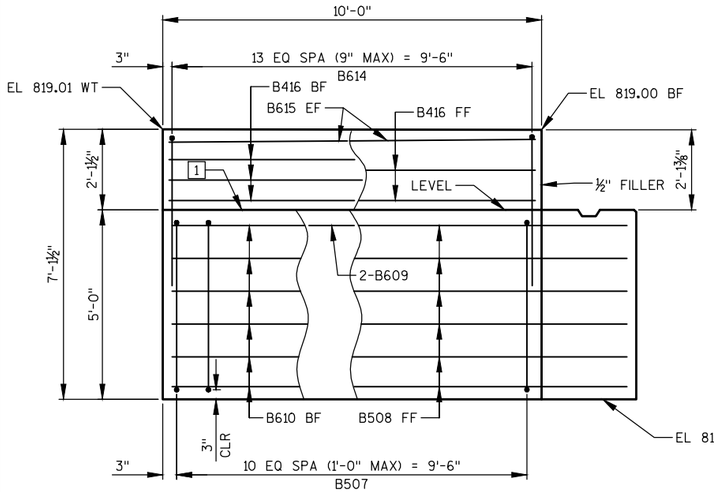
NORTH ABUTMENT

SHEET 7 OF 12
34

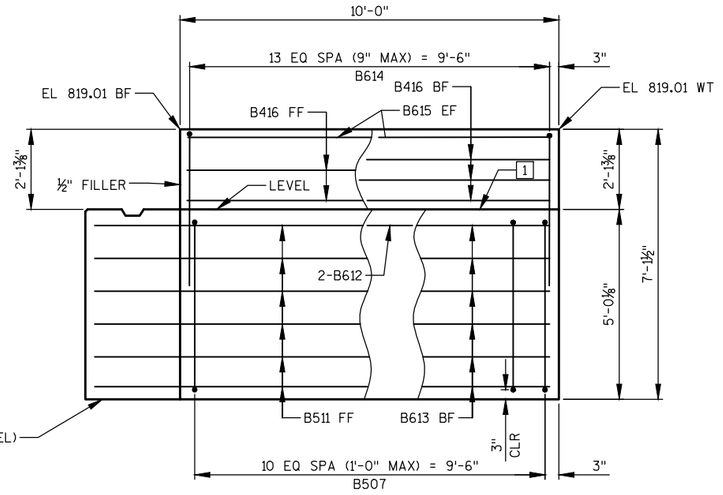
8

STATE PROJECT NUMBER

7281-00-70



WING 3 ELEVATION



WING 4 ELEVATION

BILL OF BARS
NORTH ABUTMENT

COATED= 1360 LBS.
UNCOATED= 1720 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
B401		5	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
B402		10	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
B503		38	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
B604		11	30 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
B805		7	30 - 2			ABUTMENT BODY - BF	HORIZ
B506	29		2 - 0			ABUTMENT BODY - DOWELS	VERT
B507	22		15 - 4	X		WING WALL - BODY	VERT
B508	6		13 - 2			WING WALL 3 - FF OF BODY	HORIZ
B609	2		12 - 2			WING WALL 3 - TOP OF BODY	HORIZ
B610	6		11 - 2			WING WALL 3 - BF OF BODY	HORIZ
B511	6		11 - 9			WING WALL 4 - FF OF BODY	HORIZ
B612	2		12 - 4			WING WALL 4 - TOP OF BODY	HORIZ
B613	6		12 - 11			WING WALL 4 - BF OF BODY	HORIZ
B614	28		8 - 10	X		WING WALL - TOP	VERT
B615	4		9 - 7			WING WALL - TOP	HORIZ
B416	10		9 - 7			WING WALL - TOP	HORIZ

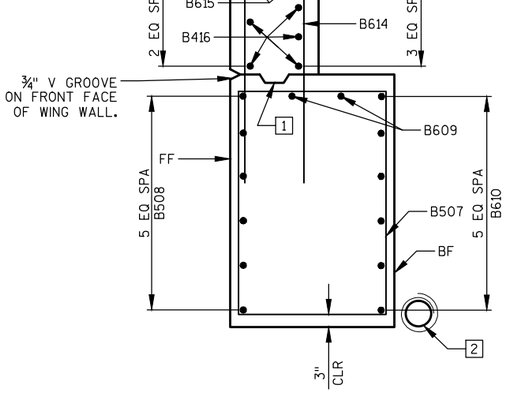
FF - FRONT FACE
BF - BACK FACE

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

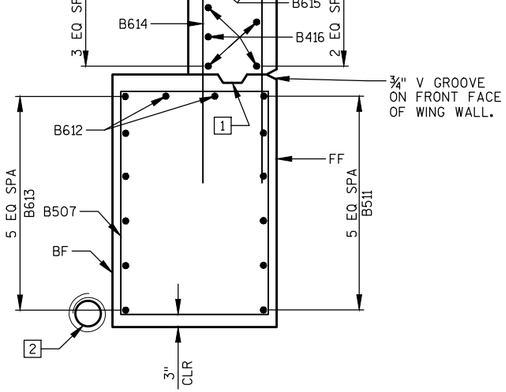
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

1 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

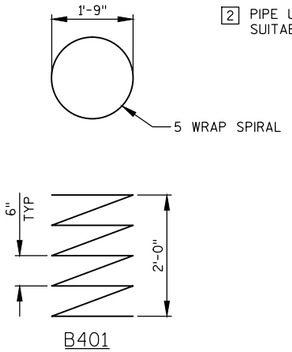
2 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.



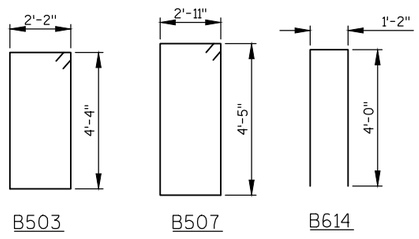
WING 3 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS



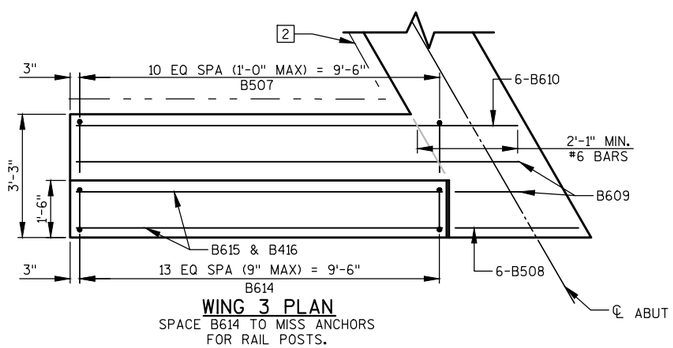
WING 4 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS



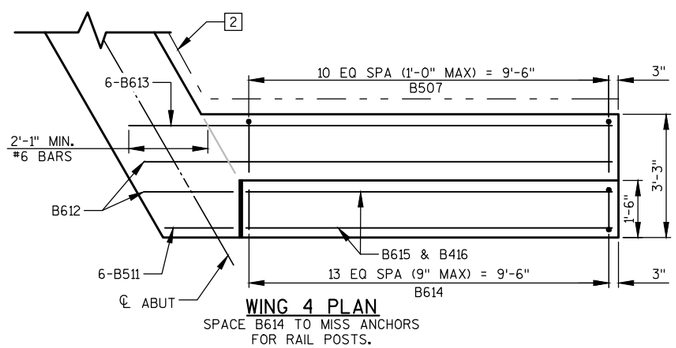
B401



B503 B507 B614



WING 3 PLAN
SPACE B614 TO MISS ANCHORS FOR RAIL POSTS.



WING 4 PLAN
SPACE B614 TO MISS ANCHORS FOR RAIL POSTS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

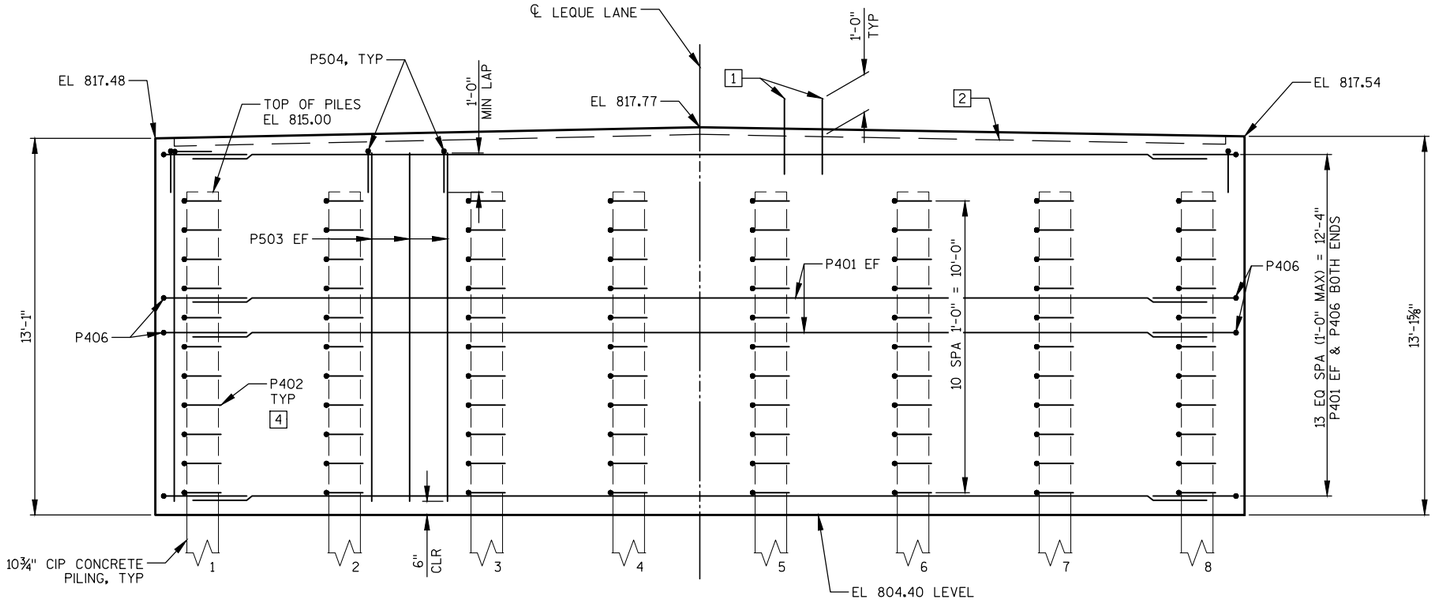
DRAWN BY JAK | PLANS CK'D. GAR

NORTH ABUTMENT DETAILS

SHEET 8 OF 12
35

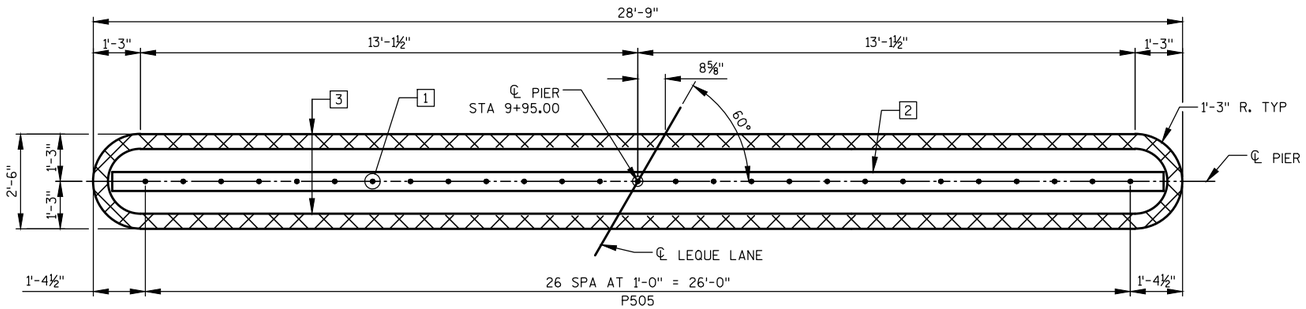
FILE NAME : X:±2005800±150565.01±TECH±CAD±72810070±DESIGN±STRUCTURE±080107_NA.DWG PLOT DATE : 8/1/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
7281-00-70

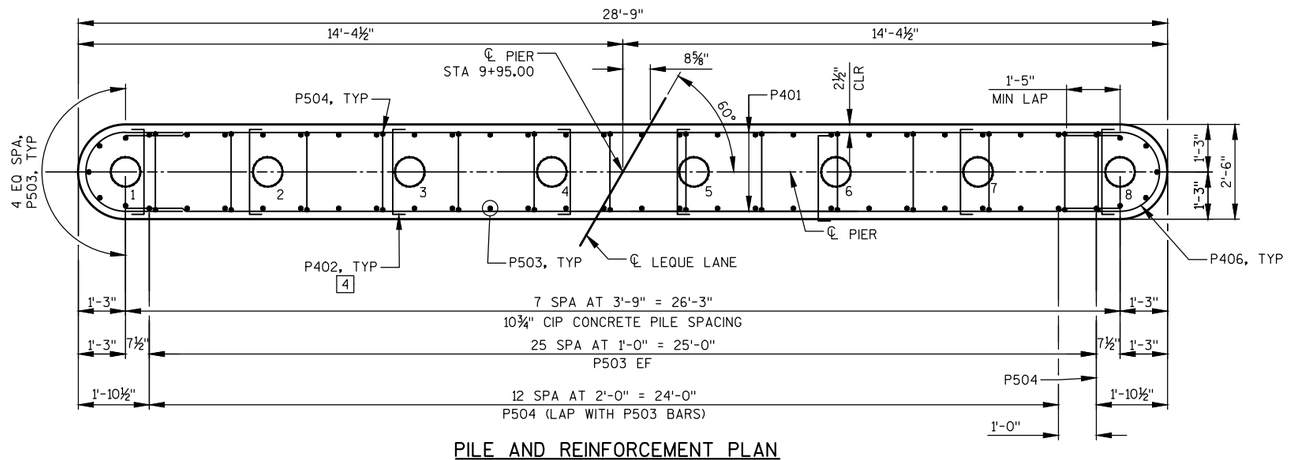


ELEVATION

(LOOKING NORTH)



PLAN



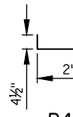
PILE AND REINFORCEMENT PLAN

BILL OF BARS
PIER

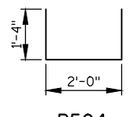
COATED= 0 LBS.
UNCOATED= 1690 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
P401		28	26 - 3			SHAFT	HORIZ
P402		88	2 - 8	X		SHAFT AT PILES	HORIZ
P503		62	12 - 5			SHAFT	VERT
P504		14	4 - 5	X		SHAFT AT TOP	VERT
P505		27	2 - 0			SHAFT DOWELS	VERT
P406		28	6 - 1	X		SHAFT AT ENDS	HORIZ

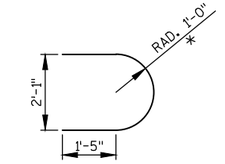
BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



P402

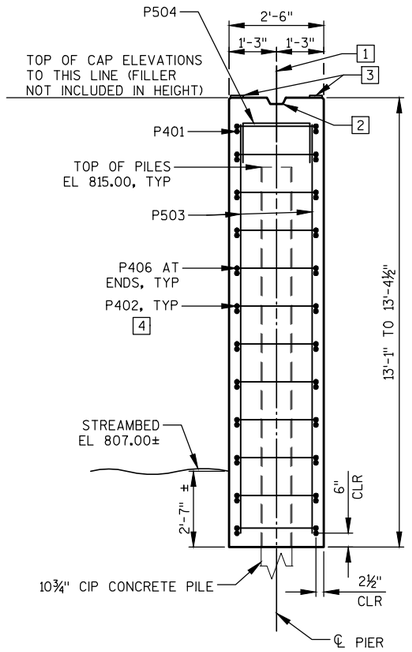


P504



* MEASURED ON INSIDE OF BAR

P406



TYPICAL SECTION THRU PIER

NOTES

PIERS TO BE SUPPORTED ON 10¾" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 65'-0" LONG.

FOR PILE SPLICE DETAILS SEE SHEET 3

1. P505 BARS MAY BE PLACED AFTER CONCRETE IS PLACED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.
2. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 6" FROM PIER ENDS.
3. 4" X ¾" FILLER LENGTH OF PIER.
4. P402 PLACED ADJACENT TO EACH PILE AT 1'-0" VERTICAL CENTERS.

EF - EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

DRAWN BY JAK | PLANS CK'D. GAR

PIER DETAILS

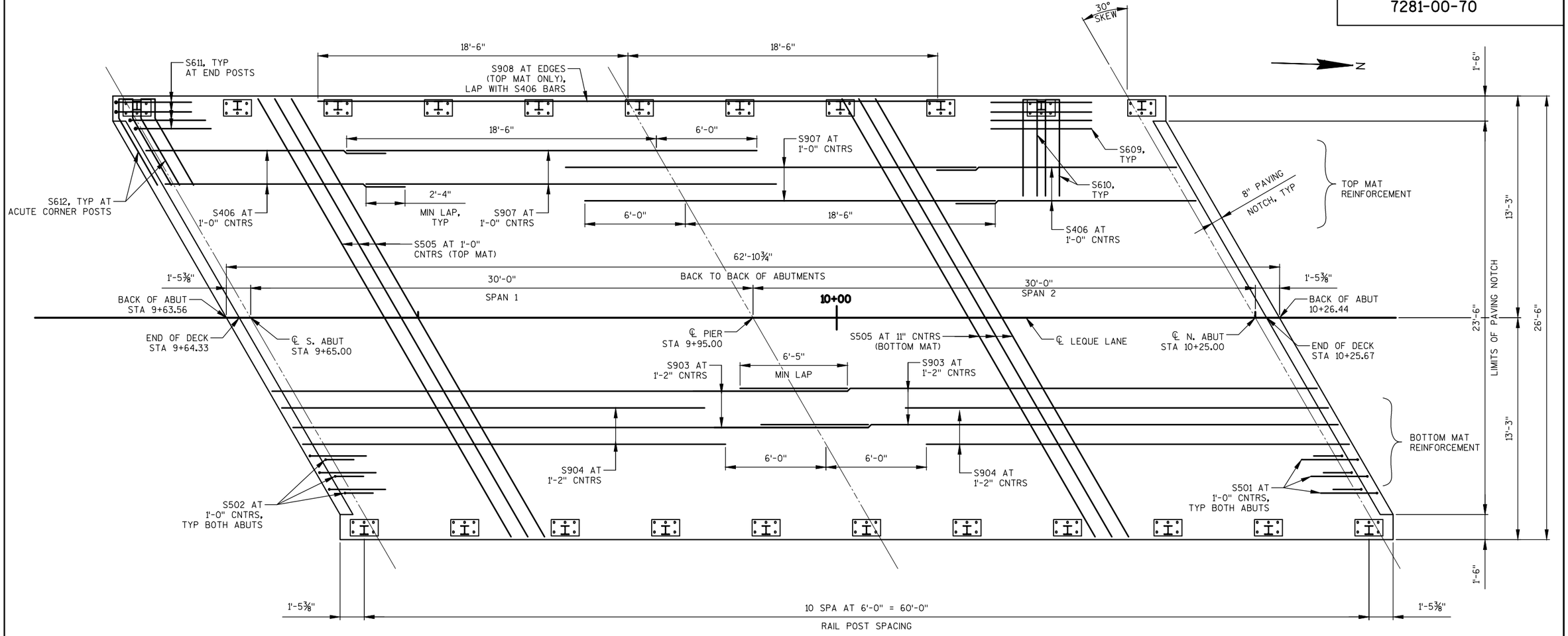
SHEET 8 OF 12
36

8

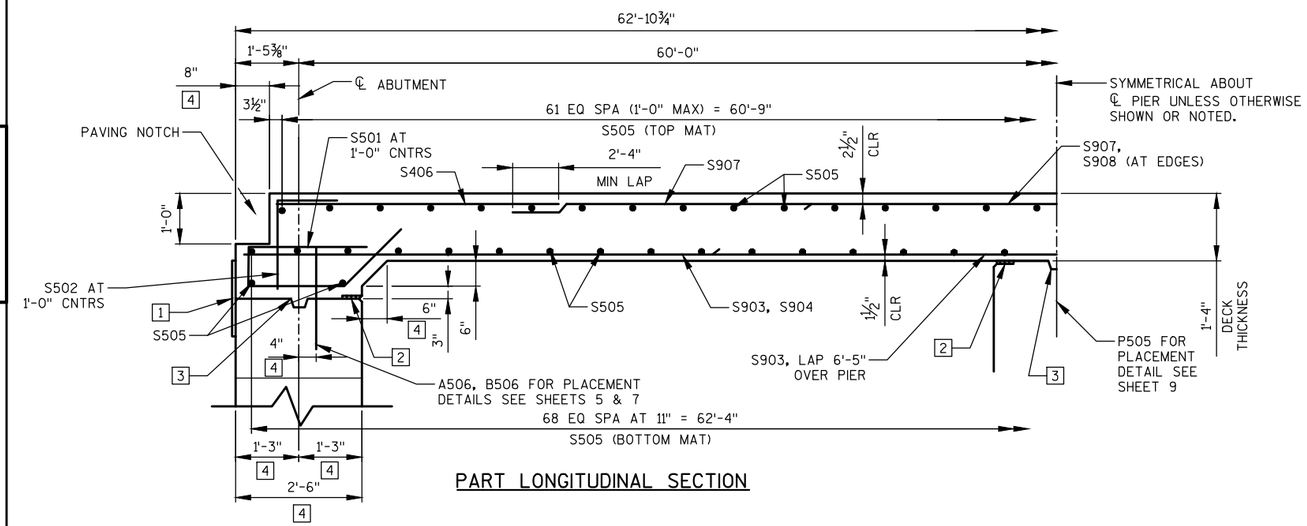
8

FILE NAME : X:±2005800±150565.01±TECH±CAD±72810070±DESIGN±STRUCTURE±080109_PI.DWG PLOT DATE : 8/1/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
7281-00-70



PLAN



PART LONGITUDINAL SECTION

NOTES

1. 18" RUBBERIZED MEMBRANE WATERPROOFING
2. 4" X ¾" FILLER
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY
4. DIMENSION IS TAKEN NORMAL TO ℄ OF SUBSTRUCTURE UNIT

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

DRAWN BY JAK | PLANS CK'D. GAR

SUPERSTRUCTURE

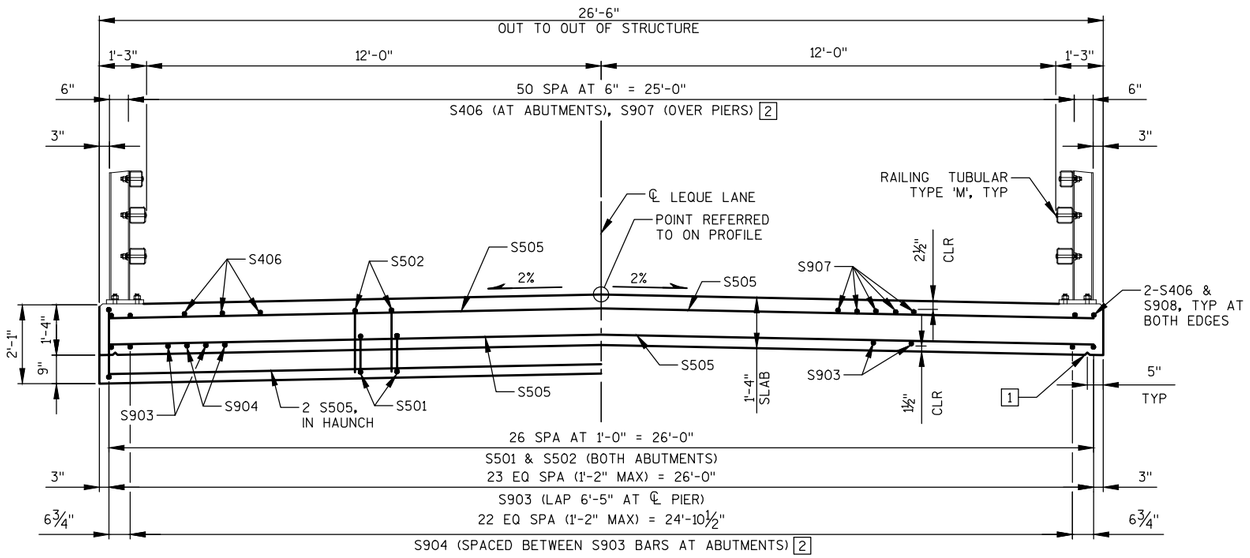
SHEET 37 OF 12

8

8

FILE NAME : X:±2005800±150565.01±TECH±CAD±72810070±DESIGN±STRUCTURE±080110_SS.DWG PLOT DATE : 8/1/2016 PLOT BY : ---- PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
7281-00-70

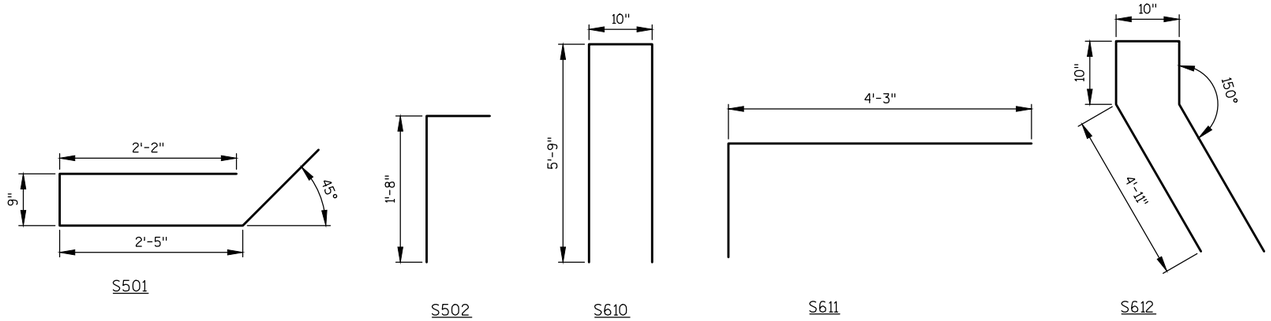


AT ABUTMENTS

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

AT PIER



BILL OF BARS
SUPERSTRUCTURE

COATED= 21010 LBS.
UNCOATED= 0 LBS.

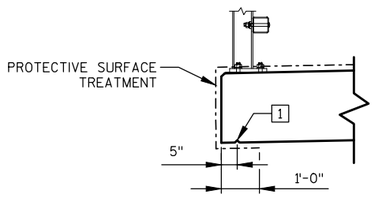
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
S501	54		7 - 2	X		SLAB - ABUTMENT TIES	LONGIT
S502	54		3 - 1	X		SLAB - ABUTMENT TIES	LONGIT
S903	48		34 - 6			SLAB - BOTTOM	LONGIT
S904	46		25 - 3			SLAB - BOTTOM	LONGIT
S505	135		30 - 2			SLAB - TOP & BOTTOM	TRANS
S406	55		14 - 4			SLAB - TOP	LONGIT
S907	51		24 - 6			SLAB - TOP	LONGIT
S908	2		37 - 0			SLAB - TOP AT EDGES	LONGIT
S609	72		6 - 0			RAILING ANCHORS	LONGIT
S610	40		12 - 0	X		RAILING ANCHORS	TRANS
S611	16		5 - 8	X		RAILING ANCHORS AT CORNERS	LONGIT
S612	4		12 - 0	X		RAILING ANCHORS AT ACUTE CORNERS	TRANS

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

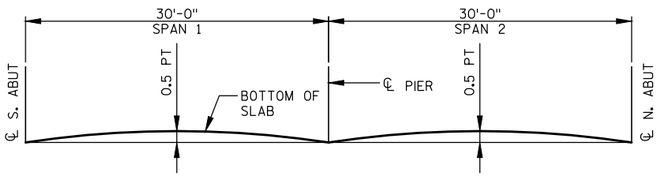
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

TOP OF DECK ELEVATIONS

SPAN PT.	WEST EDGE STATION	WEST EDGE ELEVATION	CENTERLINE/CROWN STATION	CENTERLINE/CROWN ELEVATION	EAST EDGE STATION	EAST EDGE ELEVATION
S. ABUT.	9 + 57.35	818.64	9 + 65.00	818.97	9 + 72.65	818.77
0.1	9 + 60.35	818.67	9 + 68.00	819.00	9 + 75.65	818.79
0.2	9 + 63.35	818.69	9 + 71.00	819.02	9 + 78.65	818.81
0.3	9 + 66.35	818.72	9 + 74.00	819.04	9 + 81.65	818.83
0.4	9 + 69.35	818.74	9 + 77.00	819.06	9 + 84.65	818.84
0.5	9 + 72.35	818.76	9 + 80.00	819.08	9 + 87.65	818.86
0.6	9 + 75.35	818.78	9 + 83.00	819.10	9 + 90.65	818.88
0.7	9 + 78.35	818.80	9 + 86.00	819.12	9 + 93.65	818.89
0.8	9 + 81.35	818.82	9 + 89.00	819.13	9 + 96.65	818.90
0.9	9 + 84.35	818.84	9 + 92.00	819.15	9 + 99.65	818.92
PIER	9 + 87.35	818.86	9 + 95.00	819.16	10 + 02.65	818.93
0.1	9 + 90.35	818.87	9 + 98.00	819.17	10 + 05.65	818.94
0.2	9 + 93.35	818.89	10 + 01.00	819.19	10 + 08.65	818.95
0.3	9 + 96.35	818.90	10 + 04.00	819.20	10 + 11.65	818.96
0.4	9 + 99.35	818.91	10 + 07.00	819.21	10 + 14.65	818.96
0.5	10 + 02.35	818.93	10 + 10.00	819.22	10 + 17.65	818.97
0.6	10 + 05.35	818.94	10 + 13.00	819.22	10 + 20.65	818.97
0.7	10 + 08.35	818.95	10 + 16.00	819.23	10 + 23.65	818.98
0.8	10 + 11.35	818.95	10 + 19.00	819.24	10 + 26.65	818.98
0.9	10 + 14.35	818.96	10 + 22.00	819.24	10 + 29.65	818.98
N. ABUT.	10 + 17.35	818.97	10 + 25.00	819.24	10 + 32.65	818.98



PROTECTIVE SURFACE TREATMENT DETAIL



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN (USING VALUES IN TABLE) TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

SPAN (PT)	CAMBER (IN)
℄ S ABUT	0
0.1	⅛
0.2	¼
0.3	⅜
0.4	⅜
0.5	⅜
0.6	¼
0.7	¼
0.8	⅛
0.9	0
℄ PIER	0
0.1	0
0.2	⅛
0.3	¼
0.4	¼
0.5	⅜
0.6	⅜
0.7	⅜
0.8	¼
0.9	⅛
℄ N ABUT	0

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

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG END OF DECK AND ℄.

1 ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. V-GROOVES ARE REQUIRED.

2 ALTERNATE BAR PLACEMENT AS SHOWN IN THE PLAN VIEW ON SHEET 10.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

DRAWN BY JAK | PLANS CK'D. GAR

SUPERSTRUCTURE DETAILS

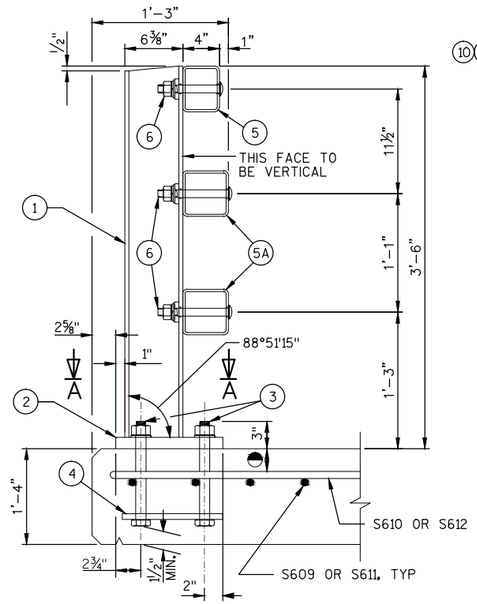
SHEET 11 OF 12
38

8

8

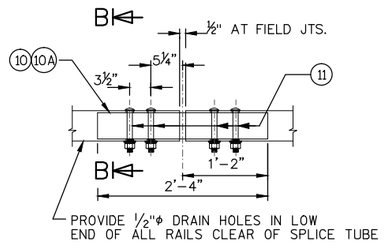
STATE PROJECT NUMBER

7281-00-70

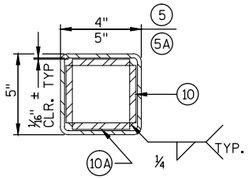


SECTION THRU RAILING ON DECK

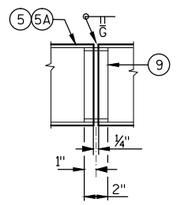
◓ PLACE BELOW TOP MAT OF SLAB REINF.



FIELD ERECTION JOINT DETAIL

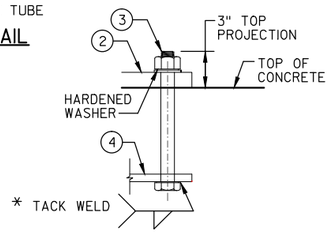


SECTION B-B



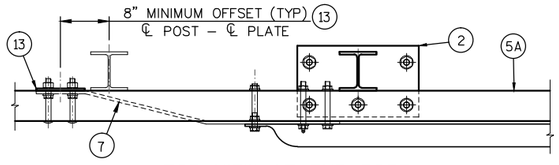
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



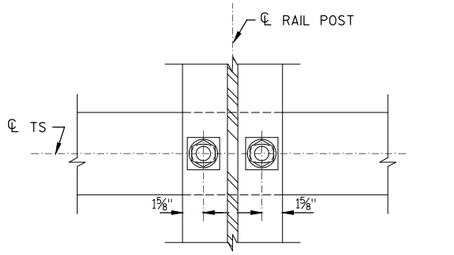
ANCHOR BOLTS

* FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTABILITY.

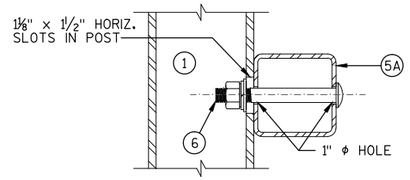


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



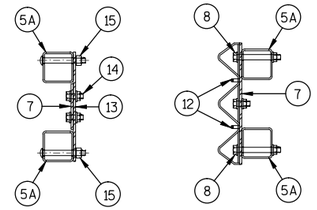
SECTION THRU POST WEB



SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS

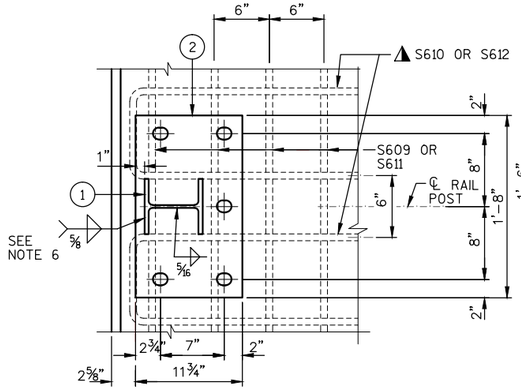


LEGEND

1. W6 x 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" x 11¾" x 1'-8" WITH 1⅝" X 1⅞" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN WINGS AND 10¾" LONG IN SLAB. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1³⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ⅜" X 1⅝" X 1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 -⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝"X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1⅝ " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1⅝ " X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" ϕ HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

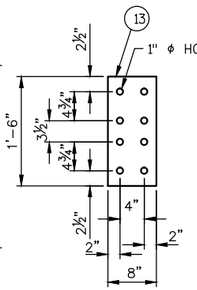
GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-61-226" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅓ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



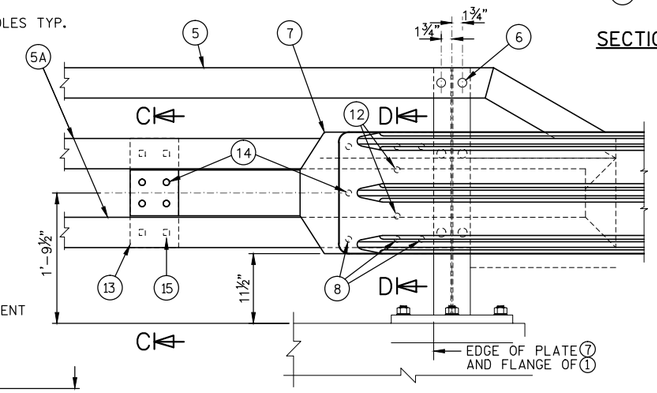
SECTION A-A

▲ TIE TO TOP MAT OF STEEL.



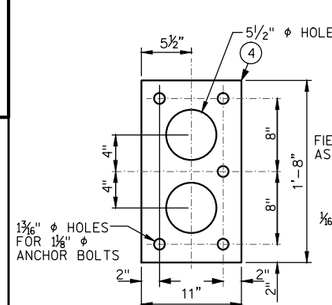
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



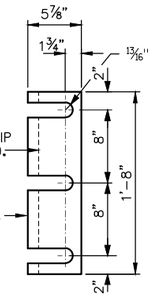
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

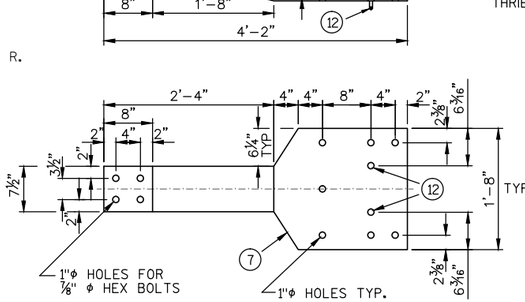


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

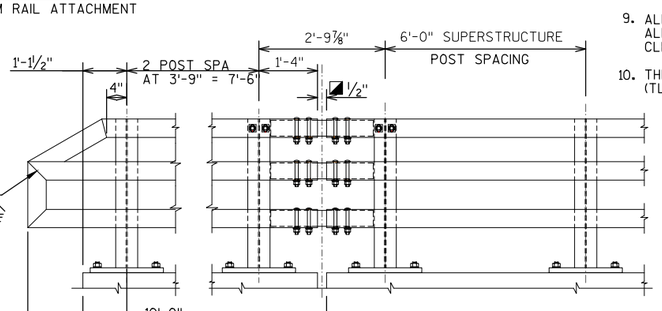


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

◪ ½" JOINT FILLER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-226

DRAWN BY JAK | PLANS CK'D. GAR

TUBULAR STEEL RAILING TYPE 'M'

SHEET 12 OF 12
39

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\DESIGN\STRUCTURE\080112_RL.DWG PLOT DATE : 8/1/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
8+50	20	4	0	0	0	0	0	0	0
8+75	17	4	12	17	3	5	17	7	8
9+00	20	4	5	17	3	8	34	16	12
9+25	30	4	3	23	4	4	57	21	27
9+56	40	4	0	40	6	2	98	23	59
9+56	0	0	0	0	0	0	98	23	59
10+34	0	0	0	0	0	0	98	23	59
10+34	46	4	10	0	3	0	98	23	55
10+75	28	4	20	56	4	23	154	51	79
11+00	17	4	35	21	3	25	175	83	66
11+25	18	4	23	16	3	27	191	116	46
11+50	19	4	0	17	3	10	208	129	48
			Column Total	208	31	103			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

No Marsh or EBS is anticipated.

STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
17+93	1	0	6	0	0	0	0	0	0
18+00	1	0	9	0	0	2	0	3	-2
18+50	1	0	55	2	0	59	2	76	-74
19+00	0	0	97	1	0	140	3	251	-248
19+50	0	0	155	0	0	233	3	542	-539
19+75	0	0	155	0	0	143	3	721	-718
19+75	0	0	0	0	0	0	3	721	-718
20+25	0	0	0	0	0	0	3	721	-718
20+25	0	0	134	0	0	0	3	721	-718
20+50	0	0	134	0	0	124	3	877	-874
21+00	0	0	86	0	0	204	3	1131	-1129
21+50	1	0	39	1	0	116	3	1276	-1272
21+98	1	0	13	0	0	0	3	1276	-1272
			Column Total	3	0	1021			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

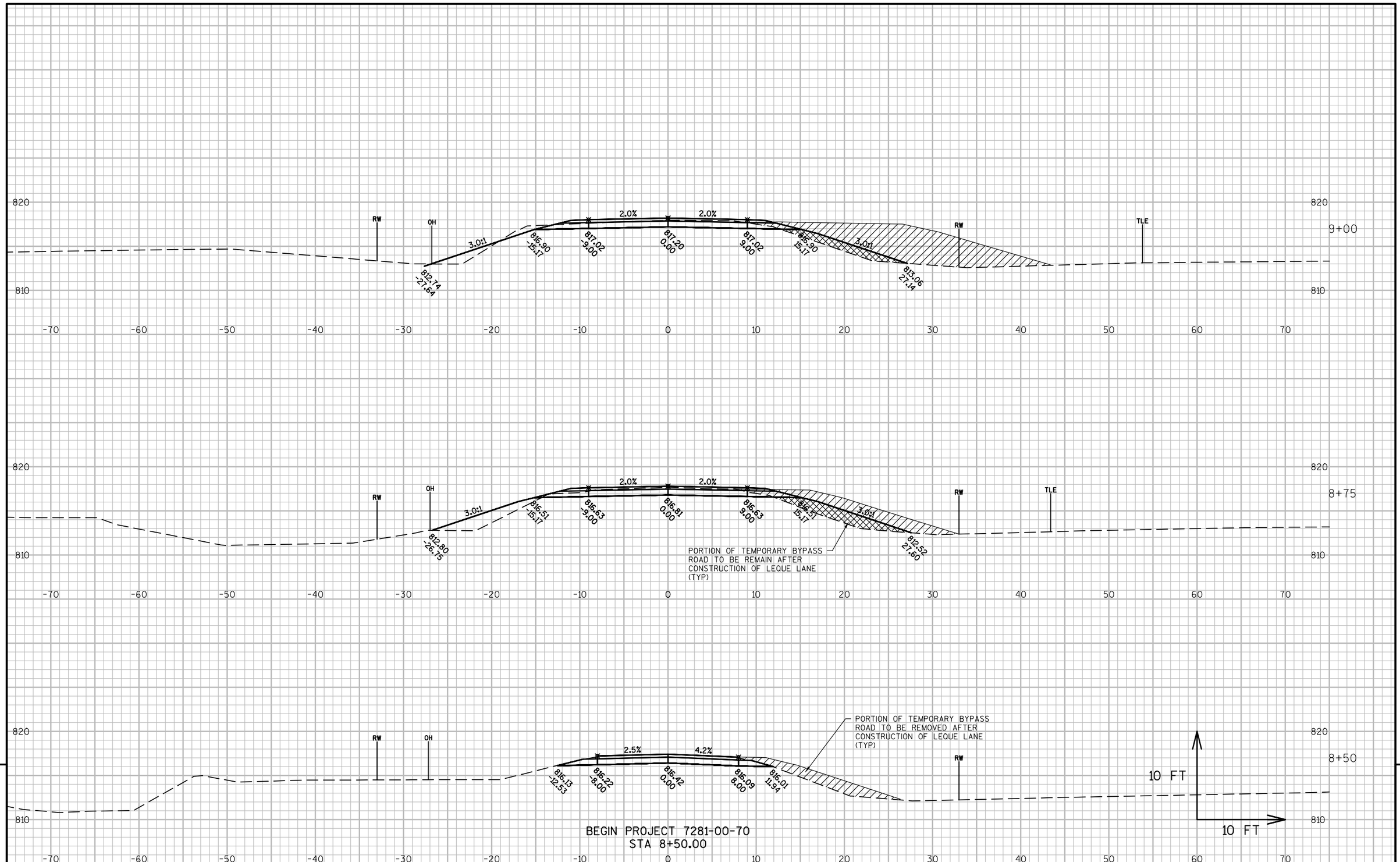
No Marsh or EBS is anticipated.

9

9

PROJECT NO: 781-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	EARTHWORK SUMMARY	SHEET NO: 40	E

FILE NE : PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ ORG DATE : ORIGINATOR : PLOT SCALE :



PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: LEQUE LANE	SHEET 41	E

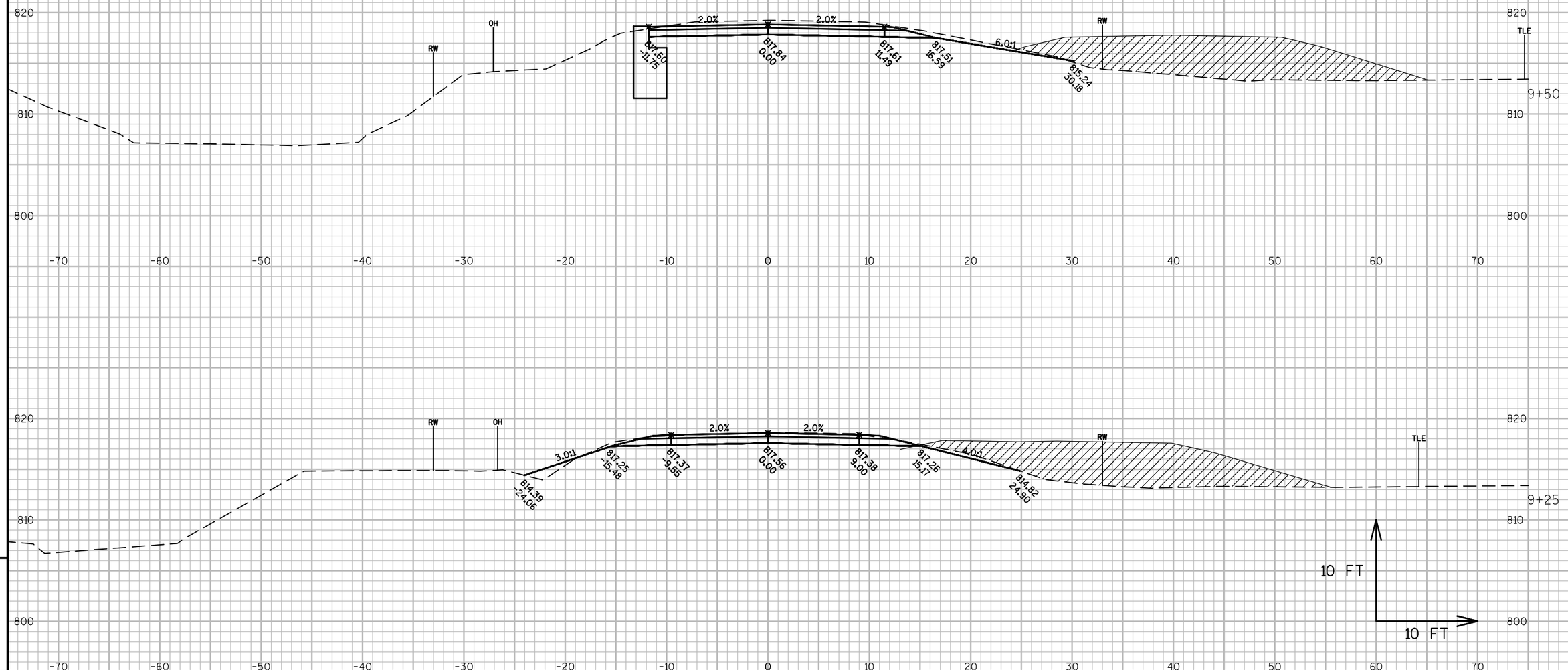
FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090201_XS

PLOT DATE : 8/29/2016 9:55 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

CONSTRUCT STRUCTURE
B-61-226
STA 9+95.00

BEGIN DECK STA 9+63.56



9

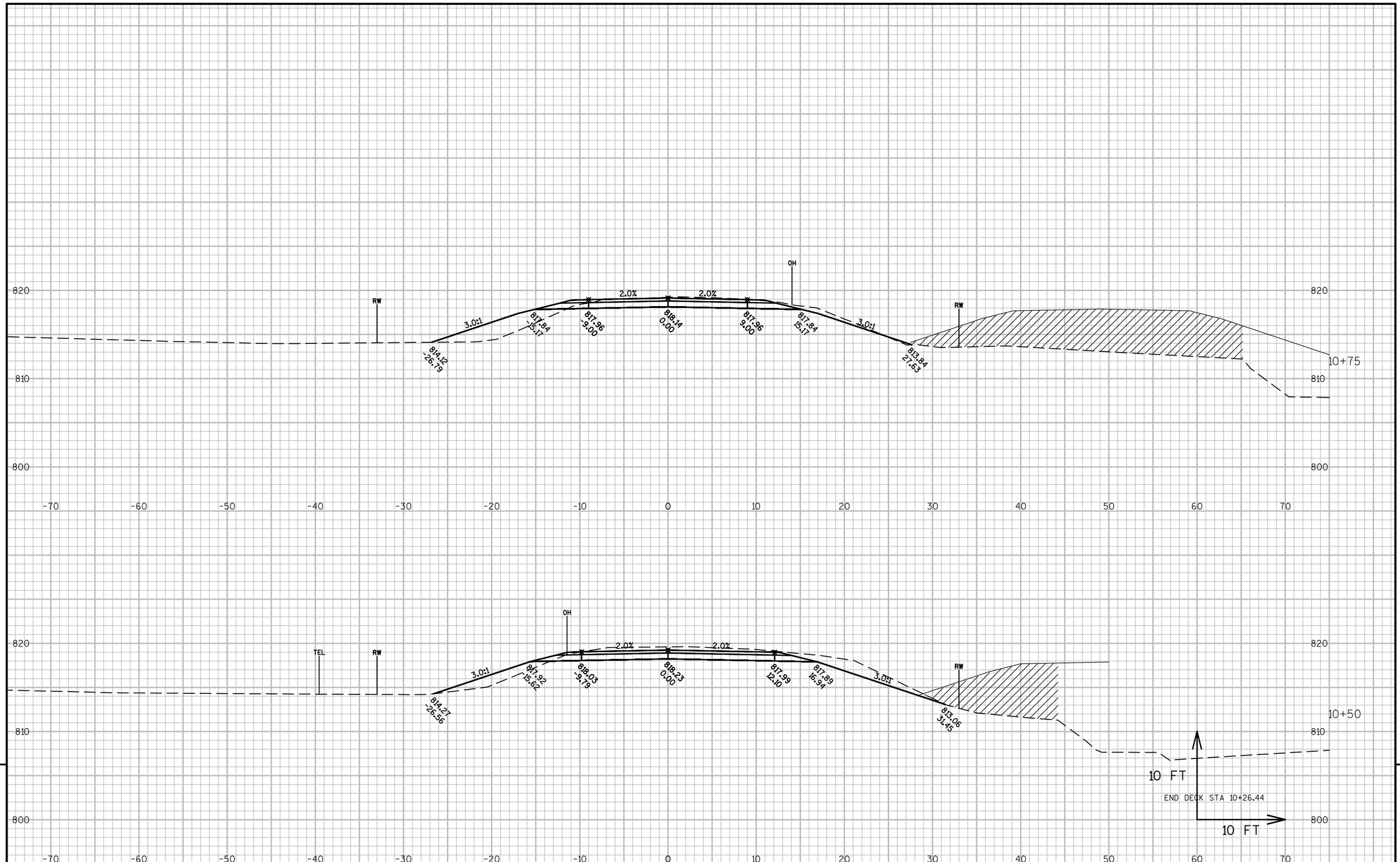
9

PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: LEQUE LANE	SHEET 42	E

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090202_XS

PLOT DATE : 8/29/2016 9:56 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



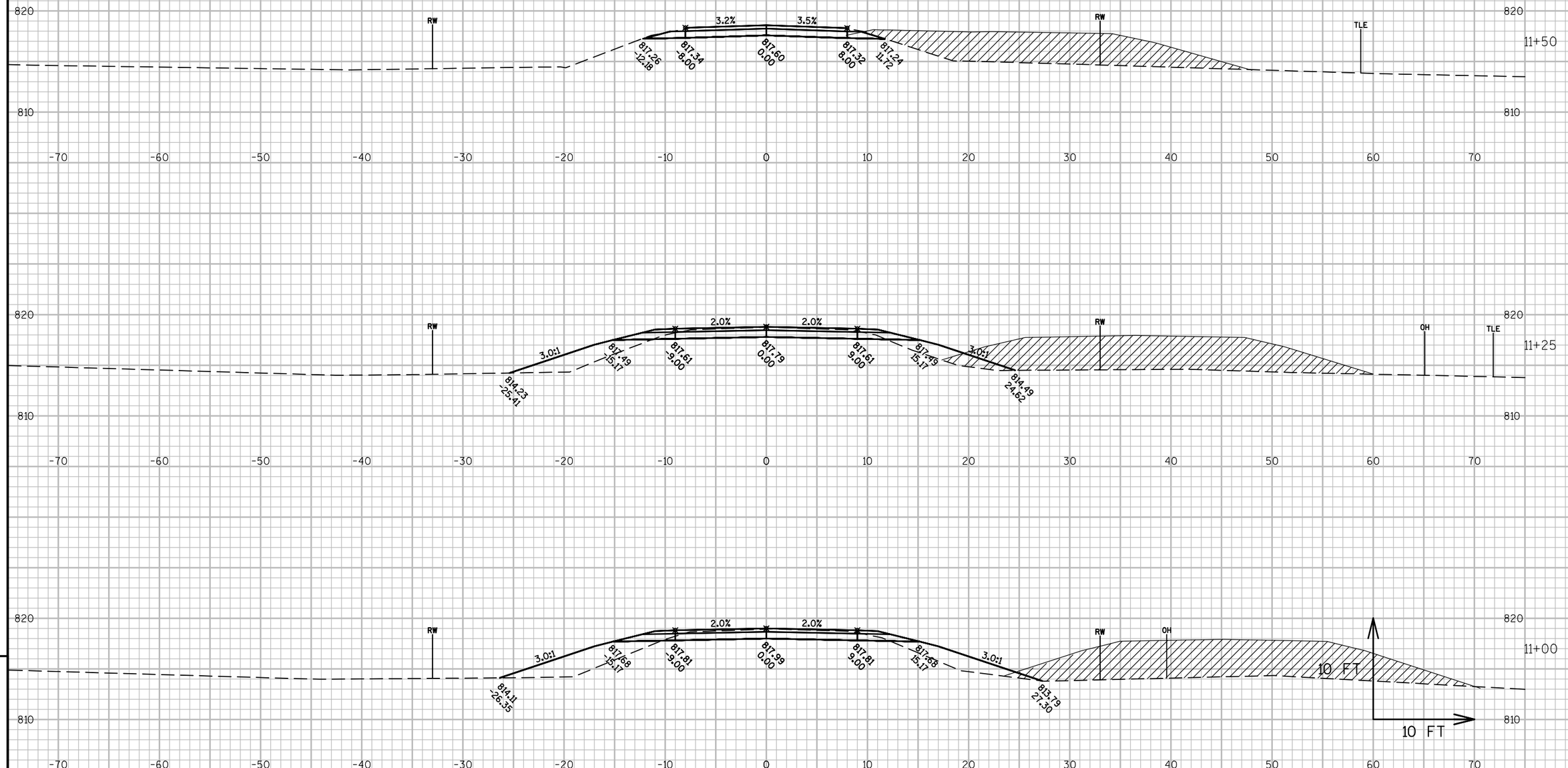
PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: LEQUE LANE	SHEET 43	E

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090203_XS

PLOT DATE : 8/29/2016 9:56 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

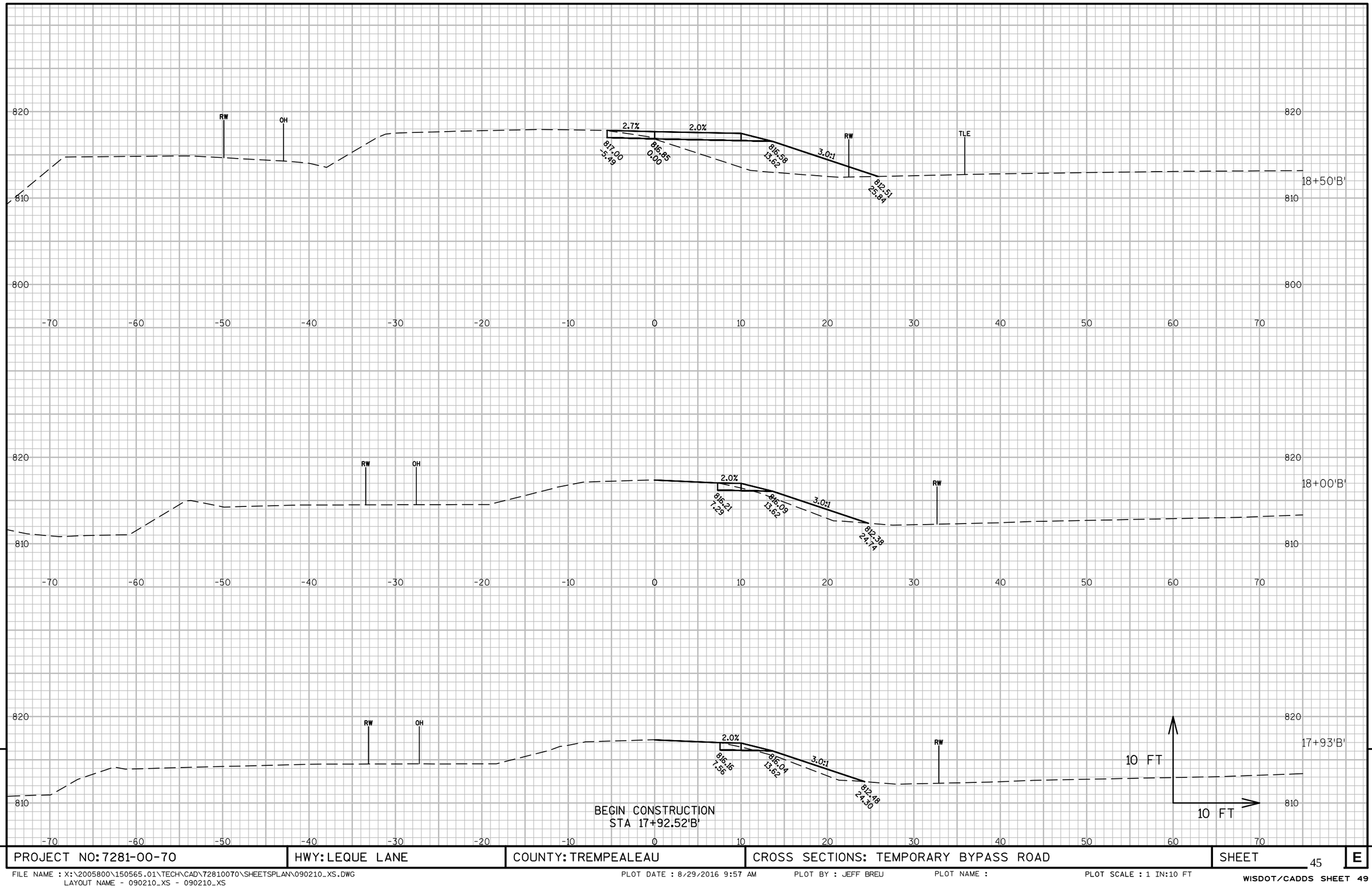
END PROJECT 7281-00-70
STA 11+50.00



PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: LEQUE LANE	SHEET 44	E

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090204_XS
PLOT DATE : 8/29/2016 9:56 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

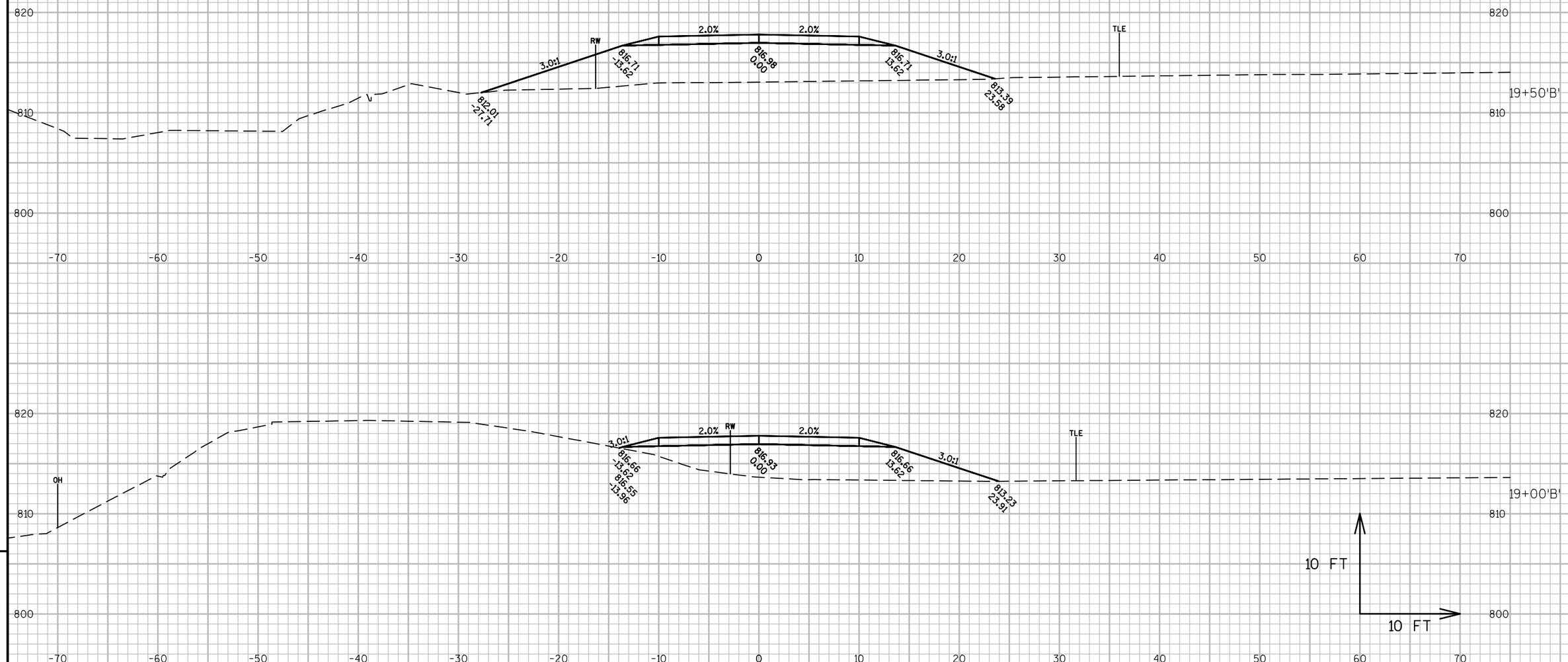
9

PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 45	E

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090210_XS.DWG
LAYOUT NAME - 090210_XS - 090210_XS

PLOT DATE : 8/29/2016 9:57 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

CONSTRUCT TEMPORARY
BYPASS STRUCTURE
STA 20+00.00'B'

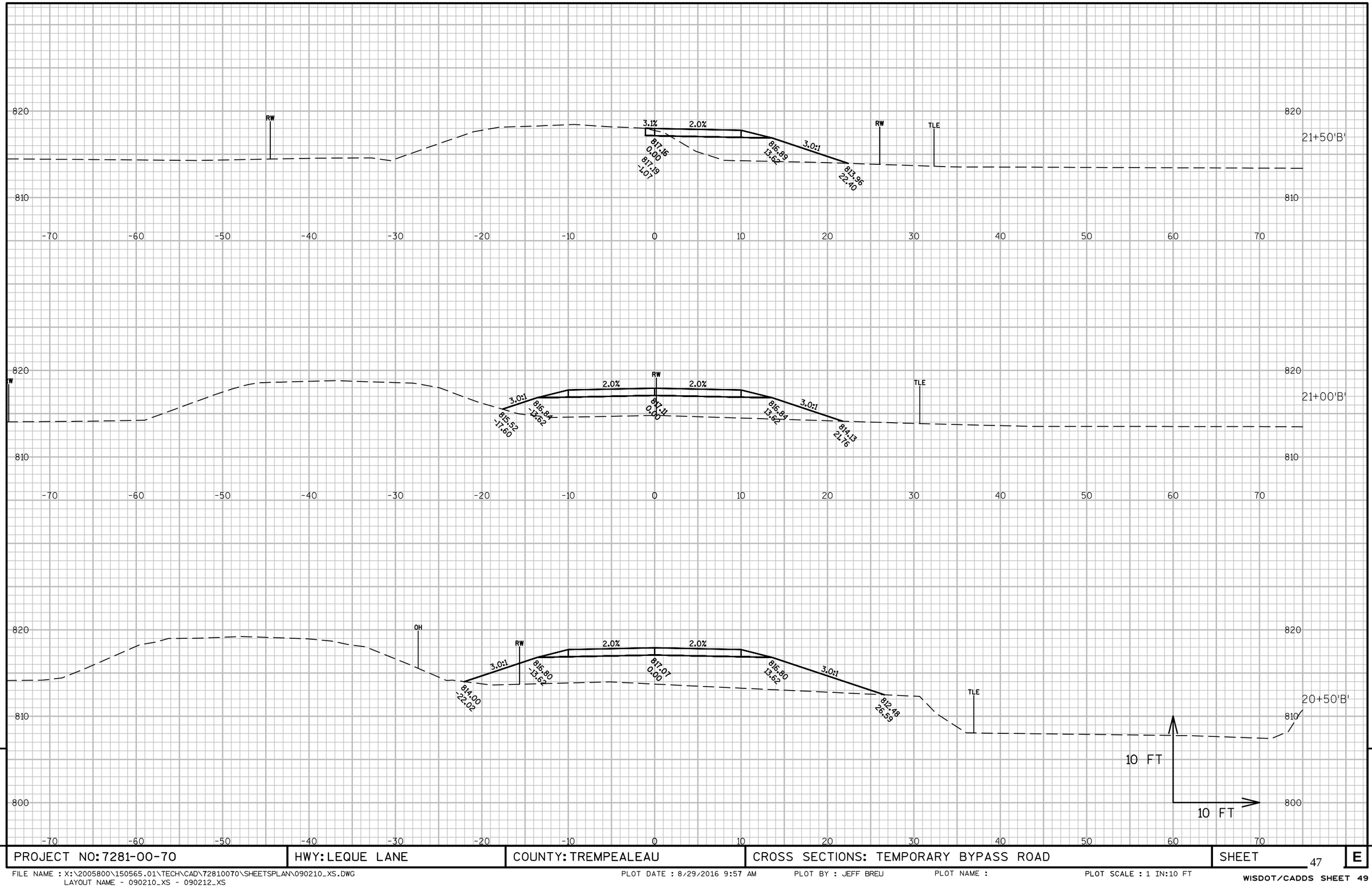


PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 46	E

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090210_XS.DWG
LAYOUT NAME - 090210_XS - 090211_XS

PLOT DATE : 8/29/2016 9:57 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

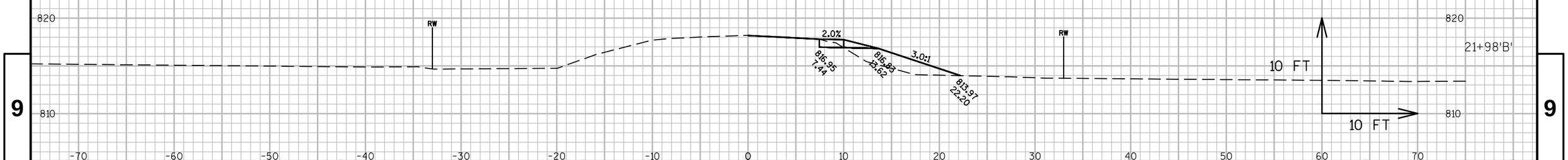
PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 47	E

FILE NAME : X:\2005800\150565.01\TECH\CAD\72810070\SHEETSPLAN\090210_XS.DWG
LAYOUT NAME - 090210_XS - 090212_XS

PLOT DATE : 8/29/2016 9:57 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA 21+98.44'B'



9 9

PROJECT NO: 7281-00-70	HWY: LEQUE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 48	E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

NWL

FEB 2017

PROJECT ID: 7281-00-71

WITH: 7281-00-70

COUNTY: TREMPEALEAU

ORDER OF SHEETS

TOTAL SHEETS = 48

18

N

DESIGN DESIGNATION

A.A.D.T.	(2016)	= 20
A.A.D.T.	(2036)	= 30
D.H.V.	(2036)	= 3
D.D.		= 50/50
T.		= 7%
DESIGN SPEED		= 25 MPH
ESALS		= N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T ETTRICK, NORDIE LANE

N FORK BEAVER CREEK B-61-0227

LOCAL STREET

TREMPEALEAU COUNTY

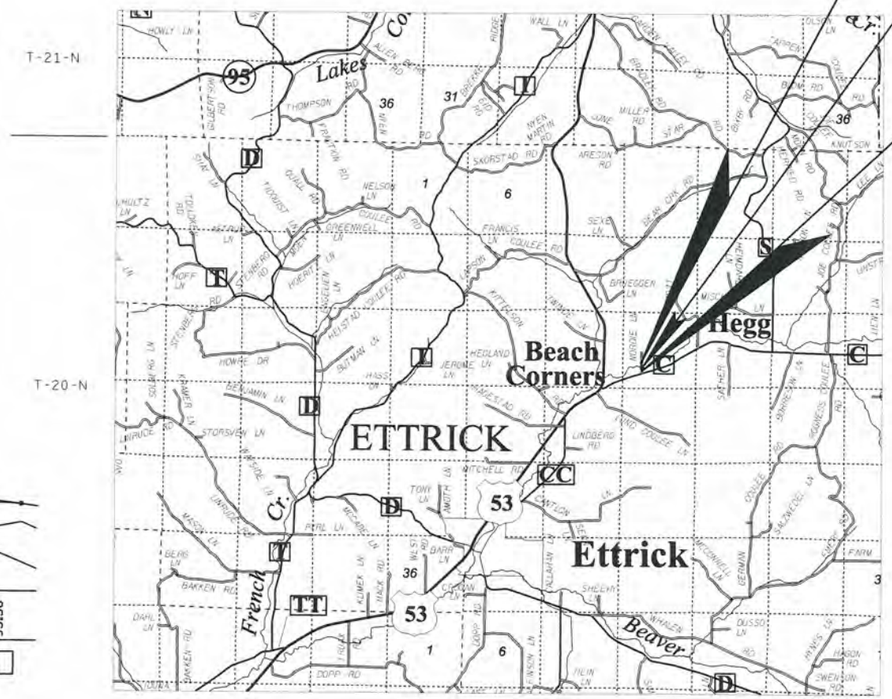
STATE PROJECT NUMBER
7281-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7281-00-71	WISC 2017033	1

END PROJECT 7281-00-71
STA. 11+50.00
Y = 380,797.747
X = 879,536.555

STRUCTURE B-61-227
STA. 10+00.00

BEGIN PROJECT 7281-00-71
STA. 8+50.00
Y = 380,497.890
X = 879,545.852



LAYOUT
SCALE 0 1.0 MI

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, TREMPEALEAU COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR

TOWN of ETTRICK

DATE: 9-12-16 (Signature & Title of Official) Town Chairman

ACCEPTED FOR

COUNTY of TREMPEALEAU

DATE: 9/12/16 (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

Mead & Hunt

WISCONSIN JAY P. WHEATON E-35779 LA CROSSE, WI PROFESSIONAL ENGINEER

DATE: 9/22/2016 (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MEAD & HUNT
Designer	MEAD & HUNT
Management Consultant	KNIGHT E/A, INC.

APPROVED FOR THE DEPARTMENT

DATE: 9/22/16 (Management Consultant Signature)

E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\010101-TI.DWG
LAYOUT NAME - 010101-TI - 010101_TI

PLOT DATE : 9/8/2016 2:50 PM

PLOT BY : JEFF BREU

PLOT NAME :

WISDOT/CADDS SHEET 15

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLANS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAVEMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

THE EXACT LOCATION OF EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

BEARINGS SHOWN ON THE PLANS ARE GRID BEARING TO NEAREST SECOND.

THE VERTICAL SAWCUT SHALL BE MADE THROUGH THE EXISTING PAVEMENT AT REMOVAL LIMITS.

4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1 3/4-INCH UPPER LAYER AND A 2 1/4-INCH LOWER LAYER.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL. SILT FENCE IN WETLAND AREAS SHALL BE PLACED AT THE SLOPE INTERCEPT TO PREVENT DISTURBANCE OF WETLANDS.

SHRINKAGE IS ESTIMATED AT 25%.

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

TEMPORARY STORAGE OF ANY EXCAVATED MATERIALS WILL NOT BE PERMITTED IN THE WETLANDS.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

DISTURBED AREA WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND MULCH.

UPON REMOVAL OF THE TEMPORARY BYPASS ROAD AND STRUCTURE, APPLY SEEDING MIXTURE NO. 60 TO AFFECTED WETLAND AREAS.

ORDER OF SECTION 2 SHEETS

UTILITIES

** RIVERLAND ENERGY
625 WEST MAIN STREET
P.O. BOX 277
ARCADIA, WI 54612-0277
ATTN: ROB SOSALLA
PHONE: (608) 863-2377
EMAIL: RSOSALLA@RIVERLANDENERGY.COM

** CENTURYLINK
333 NORTH FRONT STREET
LA CROSSE, WI 54601
ATTN: TOM MURRAY
PHONE: (608) 780-0895
EMAIL: TOM.I.MURRAY@CENTURYLINK.COM

** THESE ARE MEMBERS OF DIGGERS HOTLINE

STANDARD ABBREVIATIONS

ADT	AVERAGE DAILY TRAFFIC
AGG	AGGREGATE
ASPH	ASPHALTIC
BM	BENCH MARK
BOC	BACK OF CURB
C&G	CURB AND GUTTER
CE	COMMERCIAL ENTRANCE
CL	CENTERLINE
COR	CORNER
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
DHV	DESIGN HOURLY VOLUME
DWY	DRIVEWAY
EL	ELEVATION
EX	EXISTING
EXC	EXCAVATION
FT	FOOT
FTG	FOOTING
HYD	HYDRANT
INV	INVERT
LB	POUND
LF	LINEAR FOOT
LHF	LEFT-HAND FORWARD
LS	LUMP SUM
LT	LEFT
Mgal	MEGAGALLON
M/L	MAINLINE
NO	NUMBER
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PP	POWER POLE
QTY	QUANTITY
RHF	RIGHT-HAND FORWARD
RT	RIGHT
R/L	REFERENCE LINE
R/W	RIGHT-OF-WAY
SF	SQUARE FOOT
SHLDR	SHOULDER
SS	STORM SEWER
STA	STATION
SY	SQUARE YARD
T	TRUCKS (PERCENT OF)
TEL	TELEPHONE
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
UG	UNDERGROUND CABLE
VAR	VARIABLE
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

DNR

WISCONSIN DEPARTMENT OF NATURAL RESOURSES
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PHONE: (608) 785-9115
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

DESIGN CONSULTANT

Mead & Hunt

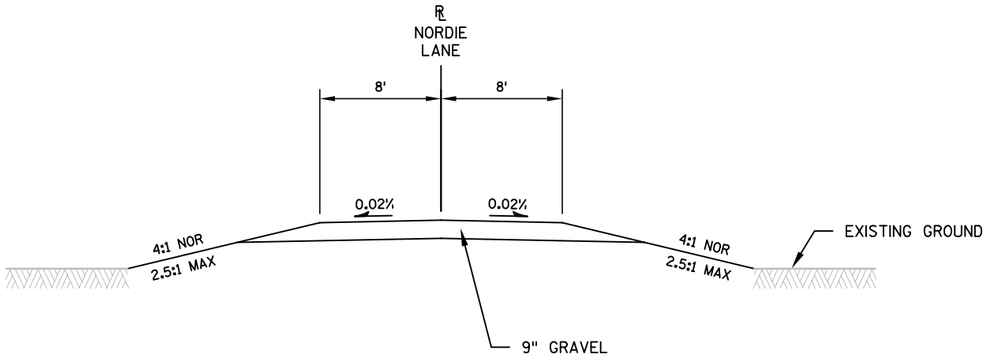
MEAD & HUNT, INC.
750 NORTH THIRD STREET
LA CROSSE, WI 54601
ATTN: JAY P. WHEATON, P.E.
PHONE: (608) 784-6040
MOBILE: (608) 386-0212
EMAIL: JAY.WHEATON@MEADHUNT.COM

TREMPEALEAU COUNTY

TREMPEALEAU COUNTY HIGHWAY COMMISSIONER
N36258 CTH QQ
P.O. BOX 97
WHITEHALL, WI 54773
ATTN: DAVE LYGA
PHONE: (715) 538-4799
EMAIL: TCHWY@TRIWEST.NET

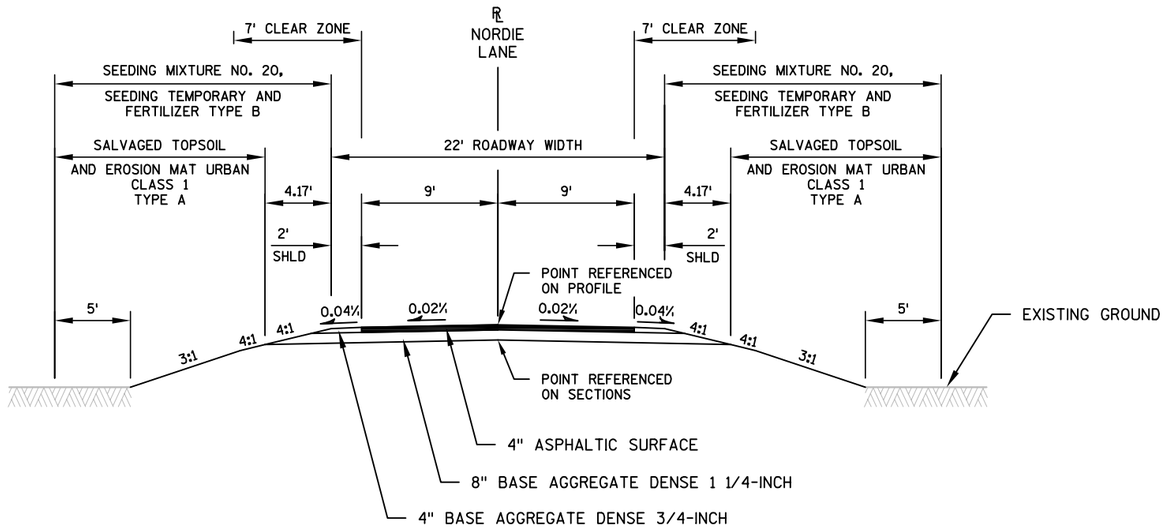
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

2



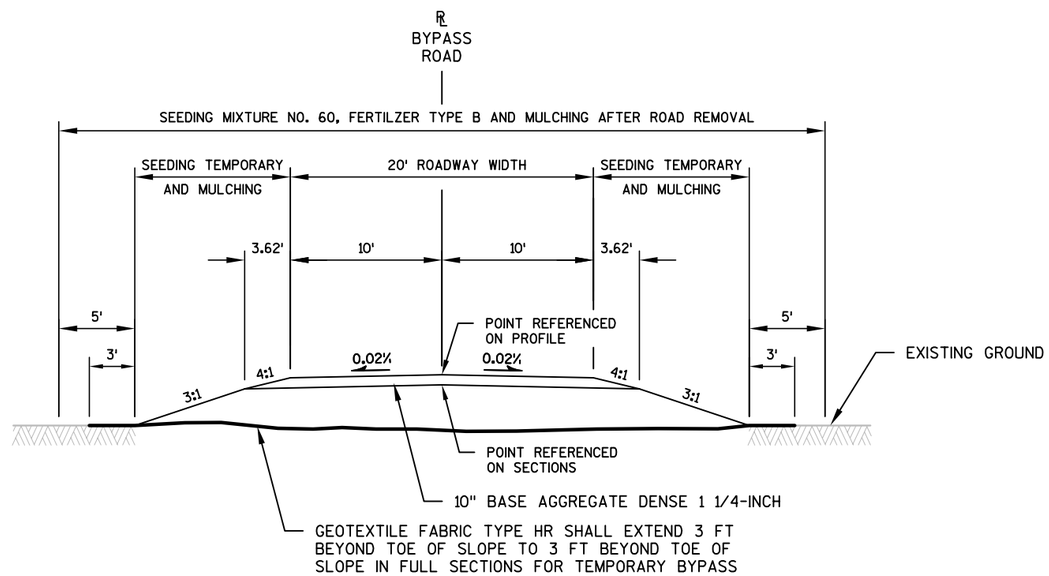
EXISTING TYPICAL SECTION

STA 8+50.00TO STA 9+76.00
STA 10+24.00 TO STA 11+50.00



PROPOSED TYPICAL SECTION

STA 8+50.00 TO STA 9+68.75
STA 10+31.25 TO STA 11+50.00



PROPOSED TYPICAL SECTION TEMPORARY BYPASS ROAD

STA 18+07.46'B' TO STA 21+94.31'B'

PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	TYPICAL SECTIONS	SHEET 3	E

7281-00-71

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	2.000	2.000
0020	201.0205	Grubbing	STA	2.000	2.000
0040	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 02. 10+00	LS	1.000	1.000
0050	205.0100	Excavation Common	CY	1,072.000	1,072.000
0070	206.1000	Excavation for Structures Bridges (structure) 02. B-61-227	LS	1.000	1.000
0080	208.0100	Borrow	CY	1,110.000	1,110.000
0090	210.1500	Backfill Structure Type A	TON	150.000	150.000
0110	213.0100	Finishing Roadway (project) 02. 7281-00-71	EACH	1.000	1.000
0120	305.0110	Base Aggregate Dense 3/4-Inch	TON	38.000	38.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	725.000	725.000
0160	455.0605	Tack Coat	GAL	38.000	38.000
0170	465.0105	Asphaltic Surface	TON	120.000	120.000
0180	502.0100	Concrete Masonry Bridges	CY	167.000	167.000
0190	502.3200	Protective Surface Treatment	SY	240.000	240.000
0200	505.0400	Bar Steel Reinforcement HS Structures	LB	4,280.000	4,280.000
0210	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	22,990.000	22,990.000
0230	513.4061	Railing Tubular Type M (structure) 02. B-61-227	LF	170.000	170.000
0240	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0260	526.0100	Temporary Structure (station) 02. 20+00	LS	1.000	1.000
0270	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	880.000	880.000
0280	606.0300	Riprap Heavy	CY	130.000	130.000
0290	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	114.000	114.000
0300	619.1000	Mobilization	EACH	0.500	0.500
0310	625.0500	Salvaged Topsoil	SY	1,100.000	1,100.000
0320	627.0200	Mulching	SY	1,550.000	1,550.000
0330	628.1504	Silt Fence	LF	600.000	600.000
0340	628.1520	Silt Fence Maintenance	LF	1,200.000	1,200.000
0350	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0360	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0370	628.2006	Erosion Mat Urban Class I Type A	SY	1,100.000	1,100.000
0380	628.6005	Turbidity Barriers	SY	320.000	320.000
0390	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0400	629.0210	Fertilizer Type B	CWT	1.900	1.900
0410	630.0120	Seeding Mixture No. 20	LB	49.000	49.000
0420	630.0160	Seeding Mixture No. 60	LB	15.000	15.000
0430	630.0200	Seeding Temporary	LB	42.000	42.000
0440	633.1100	Delineators Temporary	EACH	30.000	30.000
0450	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000

7281-00-71

Line	Item	Item Description	Unit	Total	Qty
0460	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0470	638.2602	Removing Signs Type II	EACH	4.000	4.000
0480	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0490	642.5001	Field Office Type B	EACH	0.500	0.500
0510	643.0100	Traffic Control (project) 02. 7281-00-71	EACH	1.000	1.000
0520	643.0300	Traffic Control Drums	DAY	2,100.000	2,100.000
0530	643.0420	Traffic Control Barricades Type III	DAY	280.000	280.000
0540	643.0705	Traffic Control Warning Lights Type A	DAY	560.000	560.000
0550	643.0715	Traffic Control Warning Lights Type C	DAY	1,400.000	1,400.000
0560	643.0900	Traffic Control Signs	DAY	1,820.000	1,820.000
0570	645.0120	Geotextile Type HR	SY	1,350.000	1,350.000
0580	650.4500	Construction Staking Subgrade	LF	586.000	586.000
0590	650.5000	Construction Staking Base	LF	586.000	586.000
0610	650.6500	Construction Staking Structure Layout (structure) 02. B-61-227	LS	1.000	1.000
0630	650.9910	Construction Staking Supplemental Control (project) 02. 7281-00-71	LS	1.000	1.000
0640	650.9920	Construction Staking Slope Stakes	LF	586.000	586.000
0660	715.0502	Incentive Strength Concrete Structures	DOL	1,002.000	1,002.000
0670	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0680	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000

3

3

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION CUT (1)	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (FACTOR 1.25)	MASS ORDINATE +/- (3)	WASTE	208.0100 BORROW
18+07.46'B' - 21+94.31'B'	TEMPORARY BYPASS ROAD (CONSTRUCTION)	4	0	4	845	1056	-1052	-	1,052
8+50 - 11+50'	M/L	163	0	163	177	221	-58	-	58
18+07.46'B' - 21+94.31'B'	TEMPORARY BYPASS ROAD (REMOVE)	905	0	905	0	0	905	905	-
		1,072				**TOTAL**		**905**	**1,110**

(1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED
(2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
(3) THE MASS ORDINATE + OR - QUANTITY CALCULATED. PLUS QUANTITY INDICATES AS EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL.

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00	-	11+00	M/L	2	2
			TOTAL	**2**	**2**

BASE AGGREGATE DENSE

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4 INCH TON	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON
8+50	-	9+68.75	M/L	19	165
10+31.25	-	11+50	M/L	19	165
18+07.46'B'	-	21+94.31"B'	TEMPORARY BYPASS ROAD	-	395
			TOTAL	**38**	**725**

ASPHALT SUMMARY

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+50	-	9+68.75	M/L	19	60
10+31.25	-	11+50	M/L	19	60
			TOTAL	**38**	**120**

TACK COAT ESTIMATED AT 0.07 GAL/SY

LANDSCAPING ITEMS

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB	REMARKS
8+50	-	9+68.75	M/L, LT & RT	275	-	275	0.3	11	-	6	
10+31.25	-	11+50	M/L, LT & RT	325	-	325	0.4	13	-	6	
18+07.46'B'	-	21+94.31'B'	TEMPORARY BYPASS ROAD	-	625	-	-	-	-	17	CONSTRUCT TEMPORARY BYPASS ROAD
18+07.46'B'	-	21+94.31'B'	TEMPORARY BYPASS ROAD	-	925	-	0.7	-	15	-	REMOVE TEMPORARY BYPASS ROAD
			BORROW SITES	500	-	500	0.5	25	-	13	
			TOTAL	**1,100**	**1,550**	**1,100**	**1.9**	**49**	**15**	**42**	

SILT FENCE

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
8+50	-	9+68.75	M/L, LT & RT	300	600
10+31.25	-	11+50	M/L, LT & RT	180	360
UNDISTRIBUTED			VARIOUS	120	240
			TOTAL	**600**	**1,200**

TURBIDITY BARRIERS

STATION	LOCATION	628.6005 TURBIDITY BARRIERS SY
9+85	M/L	150
9+95	M/L	170
	TOTAL	**320**

MOBILIZATION

CATEGORY	STATION	TO	STATION	LOCATION	619.1000 MOBILIZATION EACH
0010	PROJECT			M/L	0.125
0020	PROJECT			M/L	0.375
				TOTAL	**0.500**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

3

EROSION CONTROL SUMMARY

STATION	TO	STATION	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7504 TEMPORARY DITCH CHECKS LF
8+50	-	9+63.56	M/L, LT & RT	-	-	10
10+26.44	-	11+50	M/L, LT & RT	-	-	30
UNDISTRIBUTED			VARIOUS	4	2	10
			TOTAL	**4**	**2**	**50**

SIGNING

STATION	LOCATION	634.0614 POSTS WOOD 4x6-INCH x 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
9+58	M/L, LT	1	3	-	-	W5-52L
9+58	M/L, RT	1	3	-	-	W5-52R
9+74	M/L, LT	-	-	1	1	
9+74	M/L, RT	-	-	1	1	
10+27	M/L, LT	-	-	1	1	
10+27	M/L, RT	-	-	1	1	
10+42	M/L, LT	1	3	-	-	W5-52R
10+42	M/L, RT	1	3	-	-	W5-52L
	TOTAL	**4**	**12**	**4**	**4**	

TRAFFIC CONTROL ITEMS

	633.1100 DELINEATORS TEMPORARY EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
	30	2100	280	560	1,400	1,820	70 DAYS
TOTAL	**30**	**2,100**	**280**	**560**	**1,400**	**1,820**	

GEOTEXTILE FABRIC

STATION	TO	STATION	LOCATION	645.0120 GEOTEXTILE FABRIC TYPE HR LF
10+07.45'B'	-	21+94.31'B'	TEMPORARY BYPASS RD	1050
			TOTAL	**1,050**

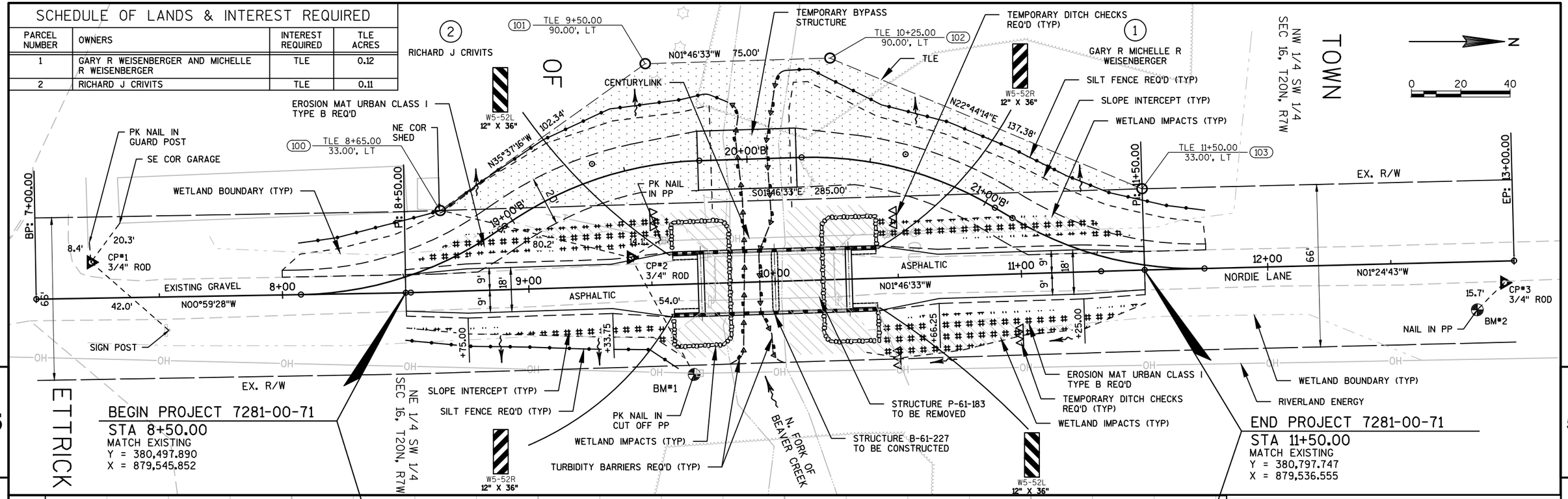
CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-61-0227) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	8+50	-	9+68.75	M/L	119	119	-	-	119
0010	10+31.25	-	11+50	M/L	119	119	-	-	119
0010	18+07.46'B'	-	19+80'B'	TEMPORARY BYPASS ROAD	173	173	-	-	173
0010	20+20'B'		21+94.31'B'	TEMPORARY BYPASS ROAD	175	175	-	-	175
0020	10+00			M/L	-	-	1	-	-
0010	PROJECT			M/L	-	-	-	1	-
				TOTAL	**586**	**586**	**1**	**1**	**586**

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS NOTED AS 0020.

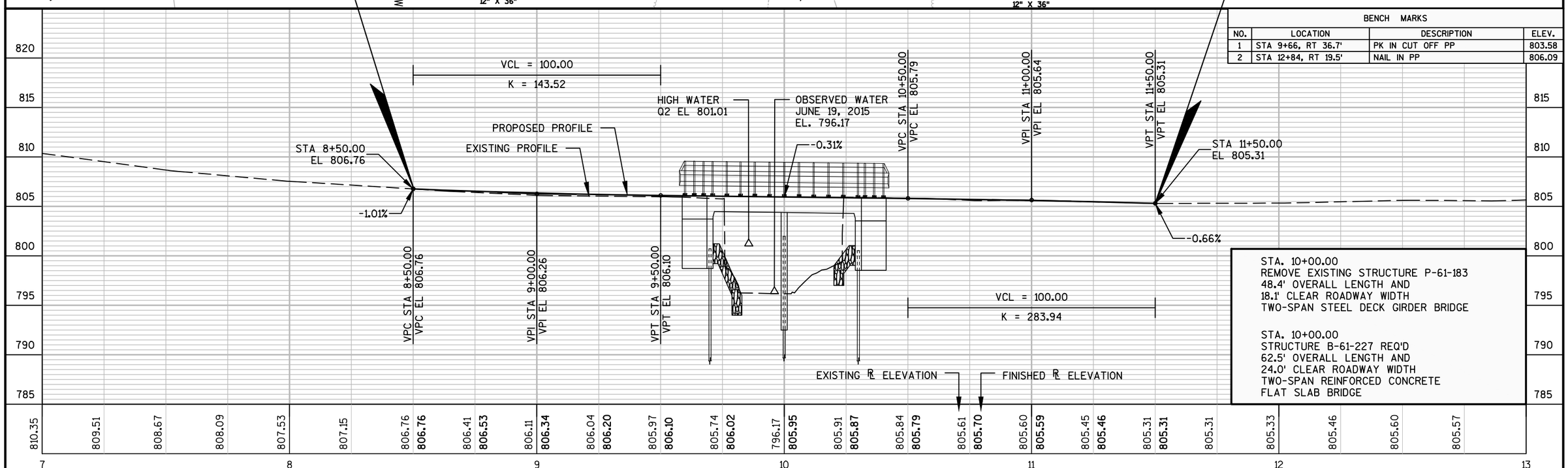
SCHEDULE OF LANDS & INTEREST REQUIRED

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	TLE ACRES
1	GARY R WEISENBERGER AND MICHELLE R WEISENBERGER	TLE	0.12
2	RICHARD J CRIVITS	TLE	0.11



BENCH MARKS

NO.	LOCATION	DESCRIPTION	ELEV.
1	STA 9+66, RT 36.7'	PK IN CUT OFF PP	803.58
2	STA 12+84, RT 19.5'	NAIL IN PP	806.09



STA. 10+00.00
REMOVE EXISTING STRUCTURE P-61-183
48.4' OVERALL LENGTH AND
18.1' CLEAR ROADWAY WIDTH
TWO-SPAN STEEL DECK GIRDER BRIDGE

STA. 10+00.00
STRUCTURE B-61-227 REQ'D
62.5' OVERALL LENGTH AND
24.0' CLEAR ROADWAY WIDTH
TWO-SPAN REINFORCED CONCRETE
FLAT SLAB BRIDGE

PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	PLAN AND PROFILE: NORDIE LANE	SHEET 8	E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_01
PLOT DATE : 8/29/2016 10:54 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : **********
WISDOT/CADDS SHEET 44

PI STA = 18+52.03'B'
Y = 380499.925
X = 879545.788
DELTA = 34°24'08"
D = 39°47'19"
T = 44.58'
L = 86.46'
R = 144.00'
PC STA = 18+07.46'B'
PT STA = 18+93.92'B'

PI STA = 19+39.58'B'
Y = 380573.458
X = 879493.485
DELTA = 33°38'54"
D = 39°47'19"
T = 43.54'
L = 84.57'
R = 144.00'
PC STA = 18+96.04'B'
PT STA = 19+80.60'B'

PI STA = 20+64.39'B'
Y = 380700.729
X = 879489.539
DELTA = 32°42'58"
D = 39°47'19"
T = 42.27'
L = 82.22'
R = 144.00'
PC STA = 20+22.13'B'
PT STA = 21+04.35'B'

PI STA = 21+54.59'B'
Y = 380780.077
X = 879537.103
DELTA = 32°30'10"
D = 39°47'19"
T = 41.98'
L = 81.69'
R = 144.00'
PC STA = 21+12.62'B'
PT STA = 21+94.31'B'

2 RICHARD J CRIVITS

1 GARY R MICHELLE R WEISENBERGER

TEMPORARY BYPASS STRUCTURE

TLE

SLOPE INTERCEPT (TYP)

CENTURYLINK

NORDIE LANE

CP*1

CP*2

CP*3

BM*1

BM*2

N35°25'27"W

N30°56'25"E

N00°59'28"W

N01°46'33"W

N01°24'43"W

ASPHALTIC

EX. R/W

66'

9'

18'

8+00

9+00

10+00

11+00

12+00

20+00'B'

21+00'B'

PC: 18+07.46'B'

PT: 18+93.92'B'

PC: 18+96.04'B'

PI: 19+39.58'B'

PT: 19+80.60'B'

PC: 20+22.13'B'

PI: 20+64.39'B'

PT: 21+04.35'B'

PC: 21+12.62'B'

PT: 21+94.31'B'

PI: 18+52.03'B'

PI: 21+54.59'B'

+75.00

+34.75

+65.25

+25.00

STRUCTURE P-61-183 TO BE REMOVED

STRUCTURE B-61-227 TO BE CONSTRUCTED

RIVERLAND ENERGY

N. FORK OF BEAVER CREEK

SLOPE INTERCEPT (TYP)

N

BEGIN CONSTRUCTION
STA 18+07.46'B'
Y = 380,455.354
X = 879,546.584

END CONSTRUCTION
STA 21+94.31'B'
Y = 380,822.037
X = 879,535.958

5

5

VCL = 100.00
K = 51.79

VCL = 50.00
K = 135.67

STA 18+07.46'B'
EL 807.42

STA 21+94.31'B'
EL 805.31

PROPOSED PROFILE

-2.20%

-0.27%

0.10%

EXISTING PROFILE

EXISTING ℄ ELEVATION

FINISHED ℄ ELEVATION

VPC STA 18+25.00'B'
VPC EL 807.03

VPI STA 18+75.00'B'
VPI EL 805.93

VPT STA 19+25.00'B'
VPT EL 805.79

VPC STA 21+00.00'B'
VPC EL 805.31

VPI STA 21+25.00'B'
VPI EL 805.25

VPT STA 21+50.00'B'
VPT EL 805.27

807.53				
807.12	**807.03**	806.59	**806.54**	803.03	**806.17**	802.06	**805.92**	801.81	**805.79**	801.71	**805.72**	801.95	**805.66**	795.47	**805.59**	800.04	**805.52**	801.73	**805.45**	802.29	**805.38**	801.85	**805.31**	802.38	**805.27**	805.29	**805.27**	805.27	**805.29**

820 815 810 805 800 795 790 785

17'B' 18'B' 19'B' 20'B' 21'B' 22'B' 23'B'

TEMPORARY STRUCTURE
Q_5 1351 CFS
HIGH WATER EL 802.78
MINIMUM BRIDGE OPENING AREA 187 FT²

PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	PLAN AND PROFILE: TEMPORARY BYPASS ROAD	SHEET 9	E

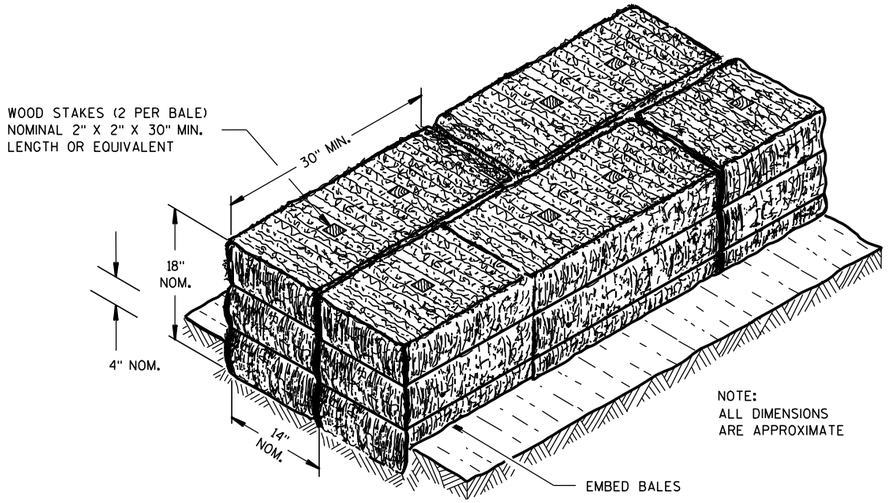
FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\050102_PP.DWG
LAYOUT NAME - 050101_02

PLOT DATE : 9/8/2016 3:37 PM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : **********

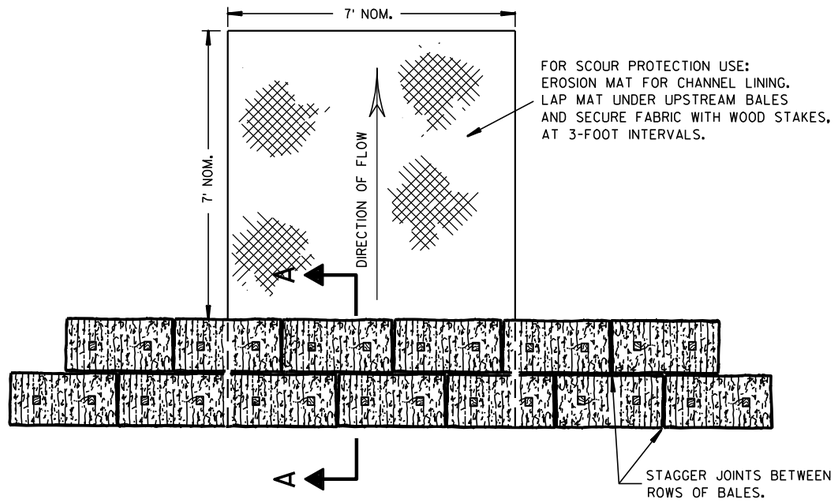
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

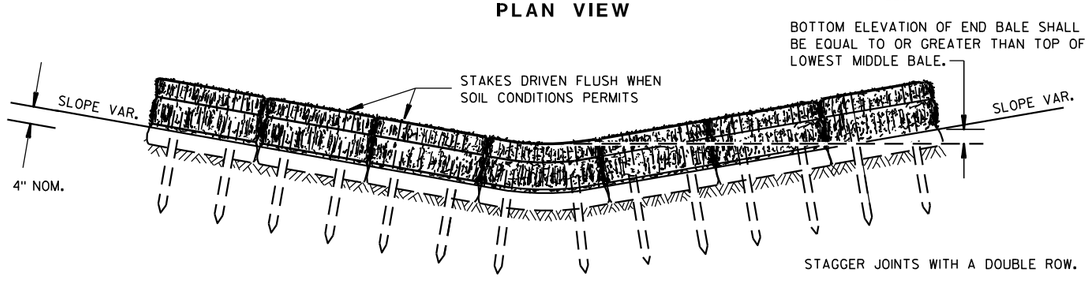
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15A02-09	DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15D31-03	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY



SECTION A-A



PLAN VIEW



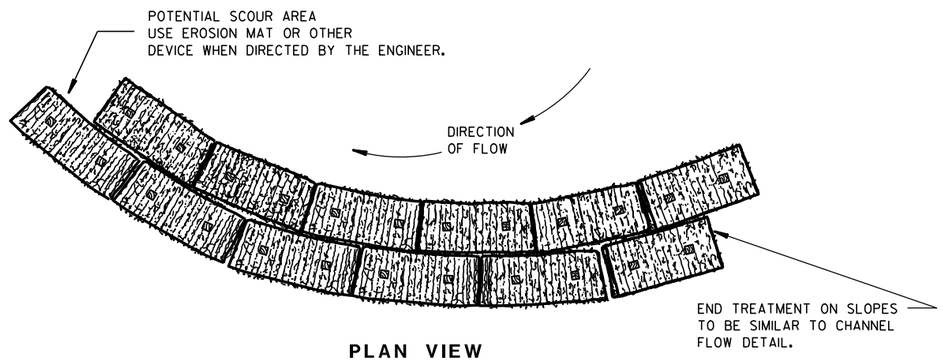
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

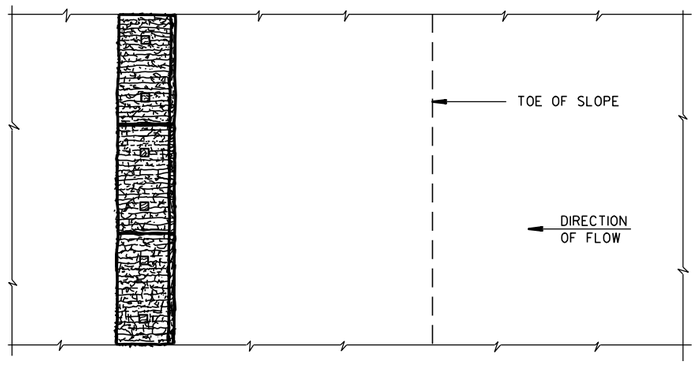
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

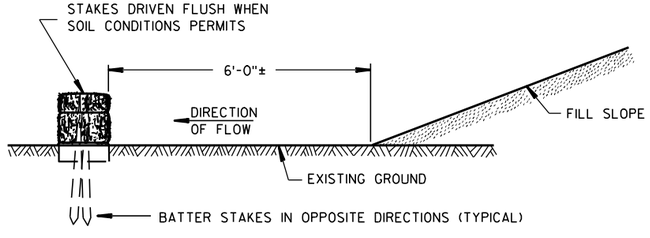


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

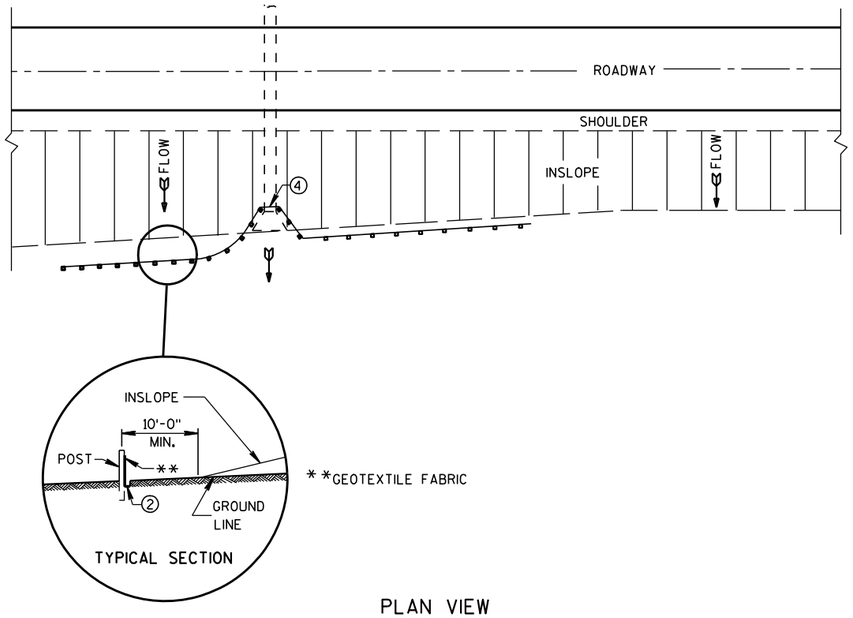
FHWA

6

S.D.D. 8 E 8-3

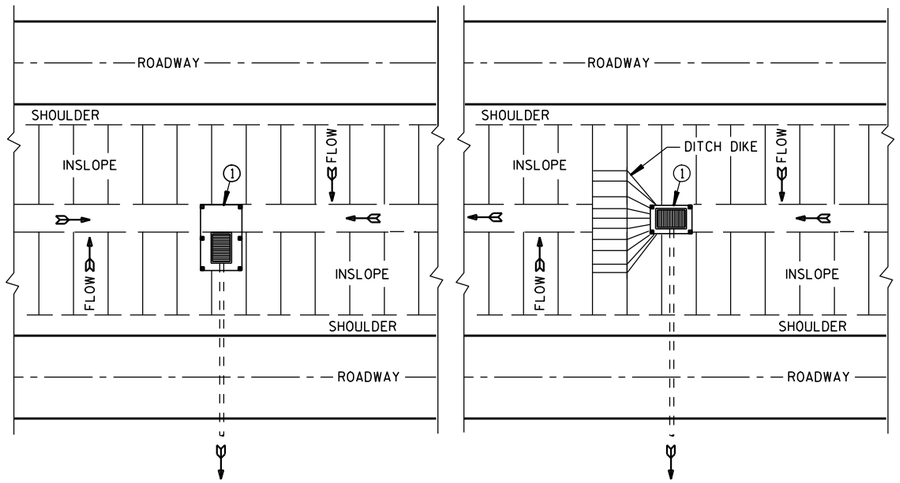
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

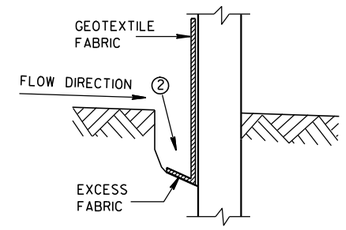
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

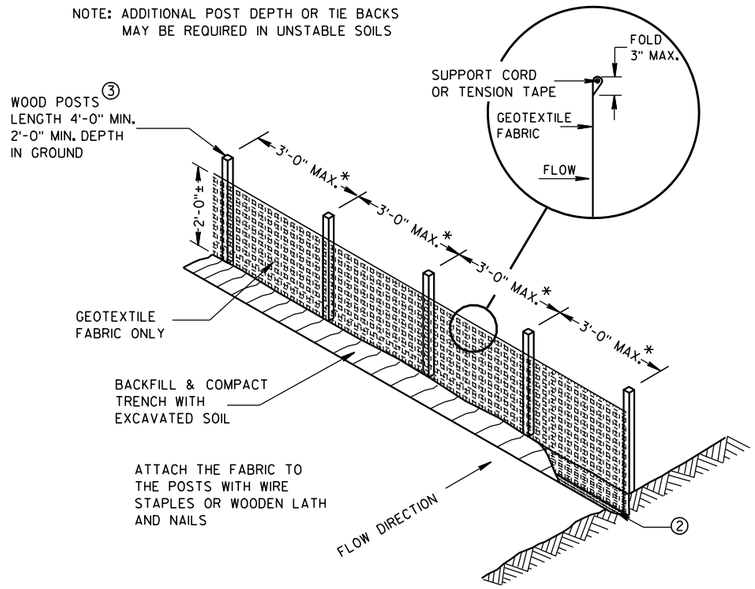
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

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

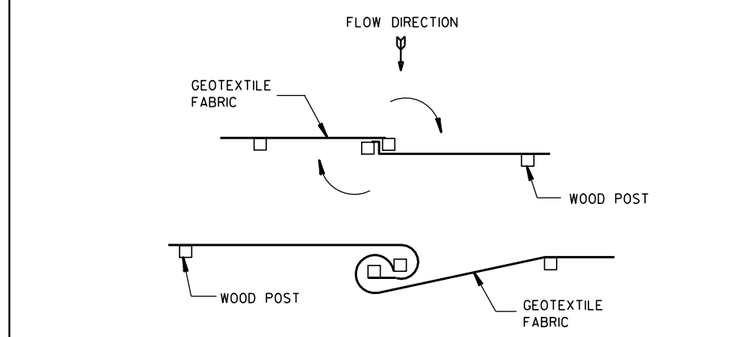


TRENCH DETAIL

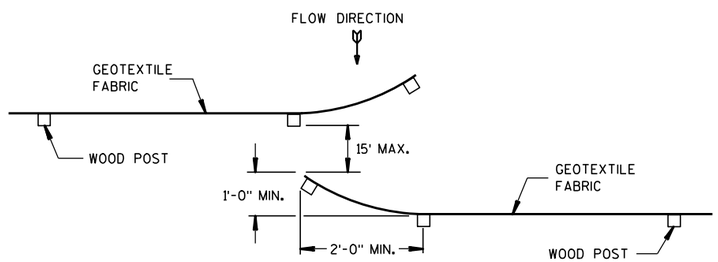


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

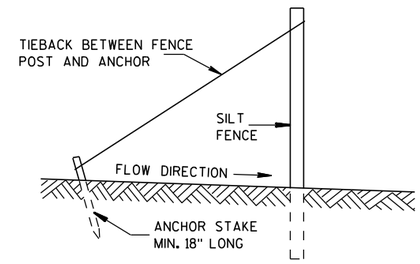


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

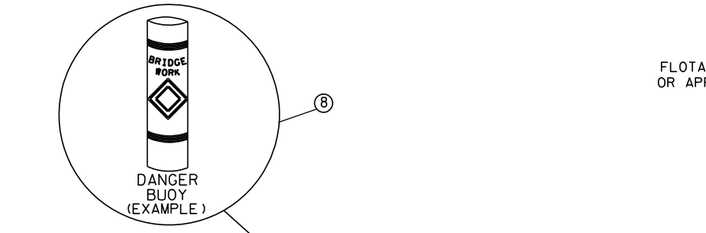
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

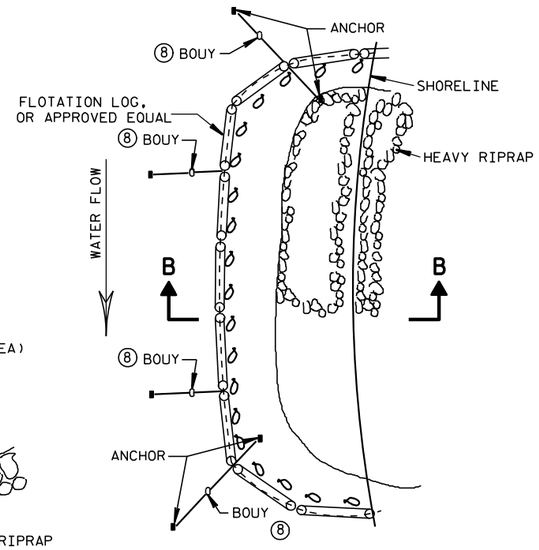
S.D.D. 8 E 9-6

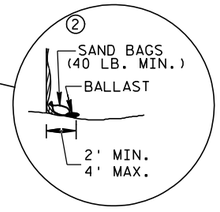
6

S.D.D. 8 E 9-6

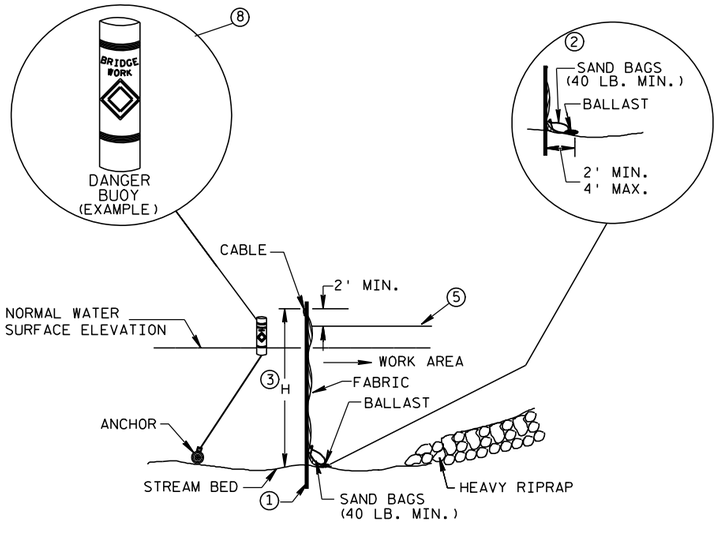


SECTION B-B

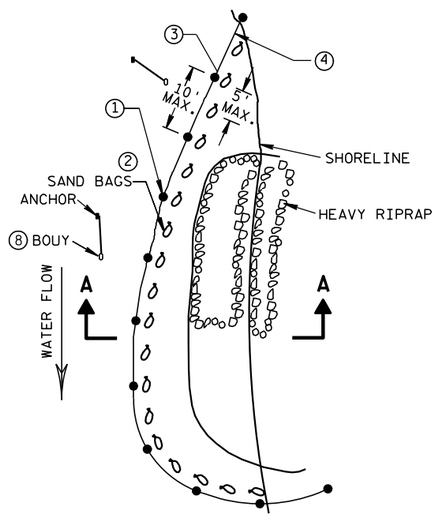




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

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

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

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

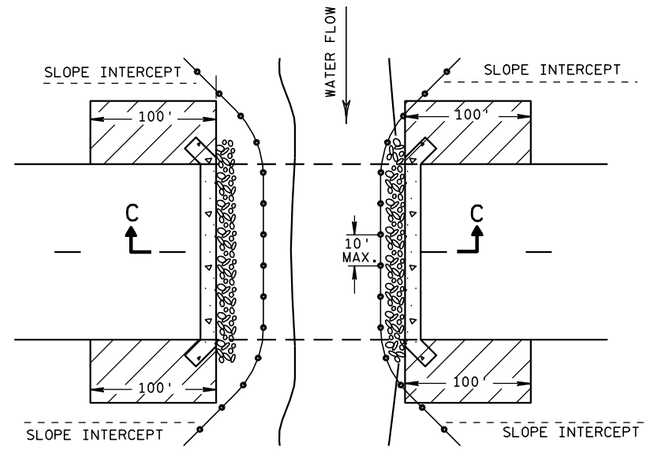
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

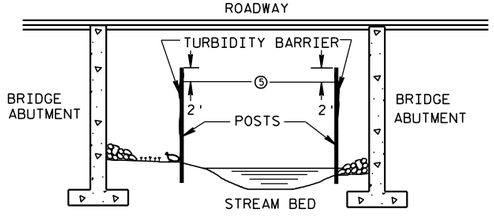
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

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



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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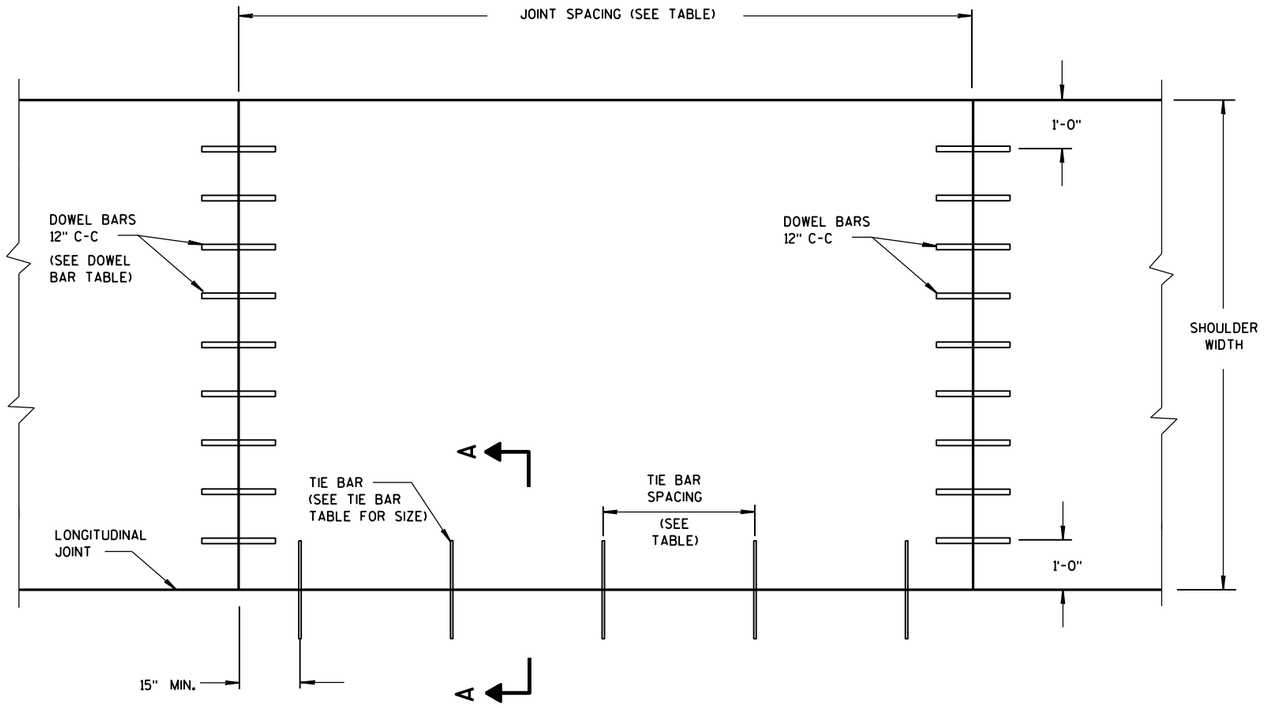
S.D.D. 8 E 11-2



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

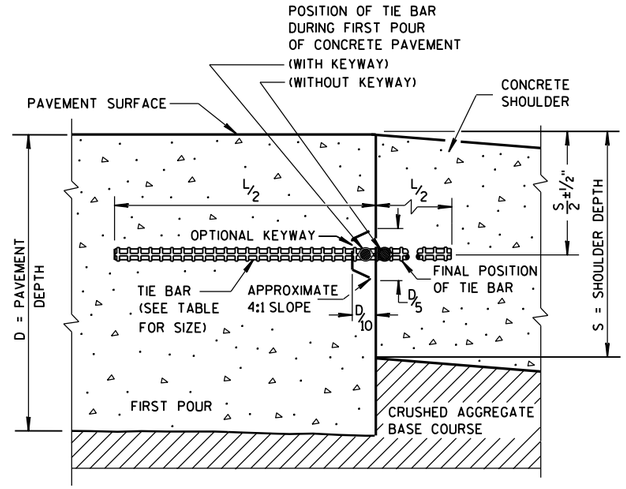
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	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" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEF
FHWA

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S.D.D. 13 A 3-6

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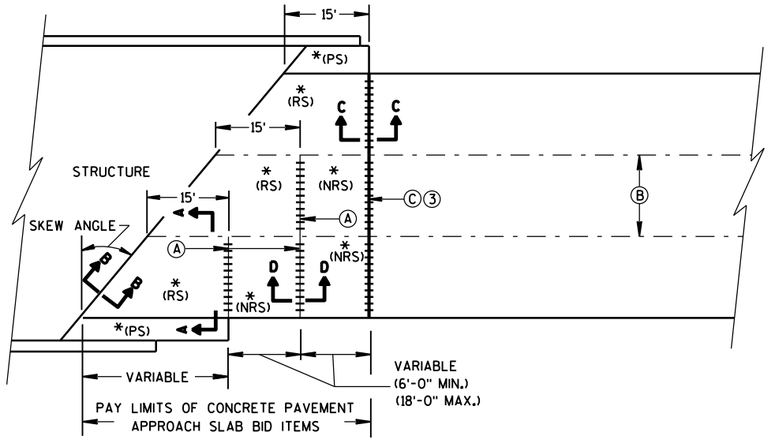
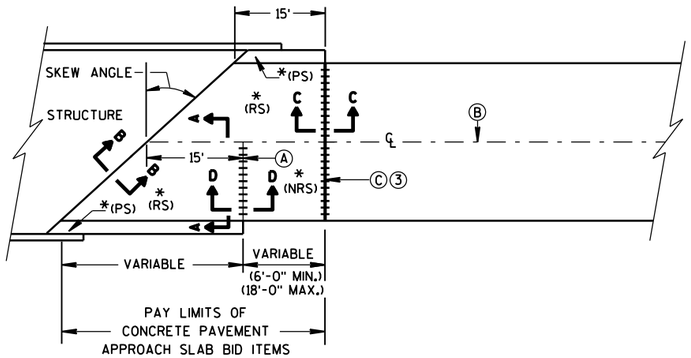
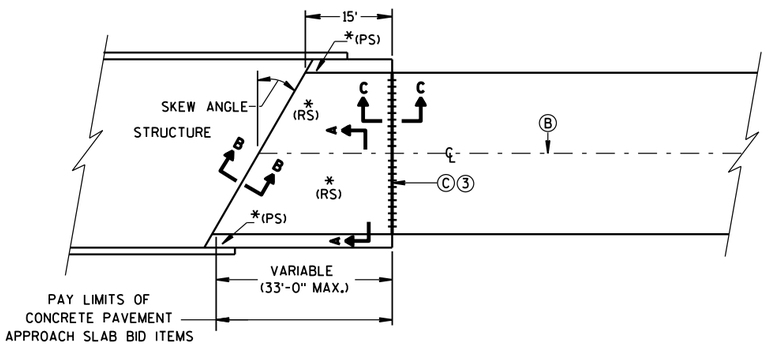
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

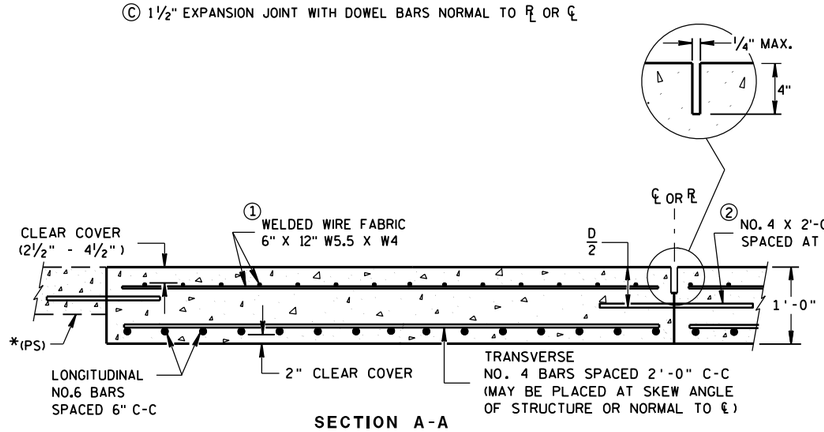
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

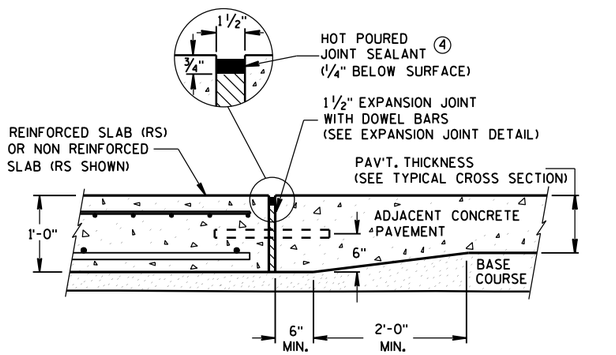
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

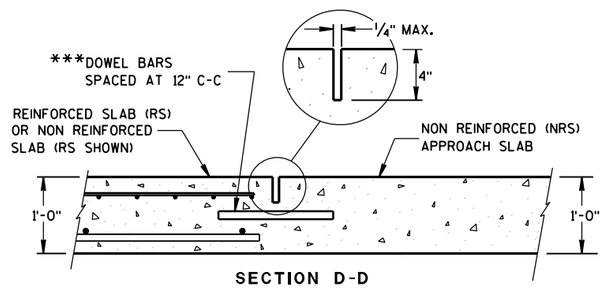
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

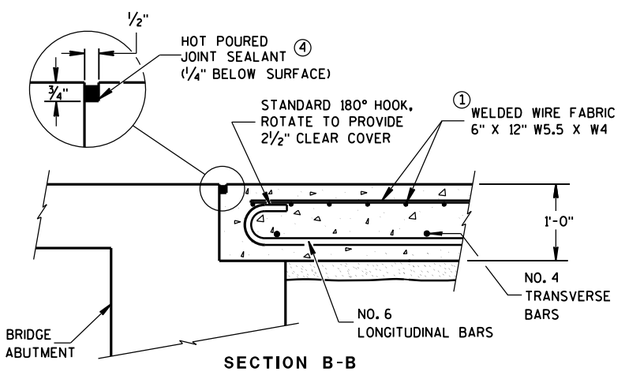
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

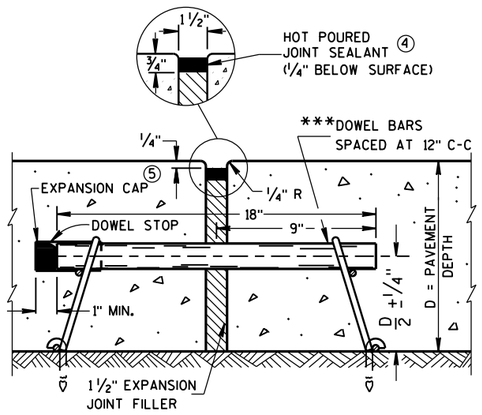
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT
APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

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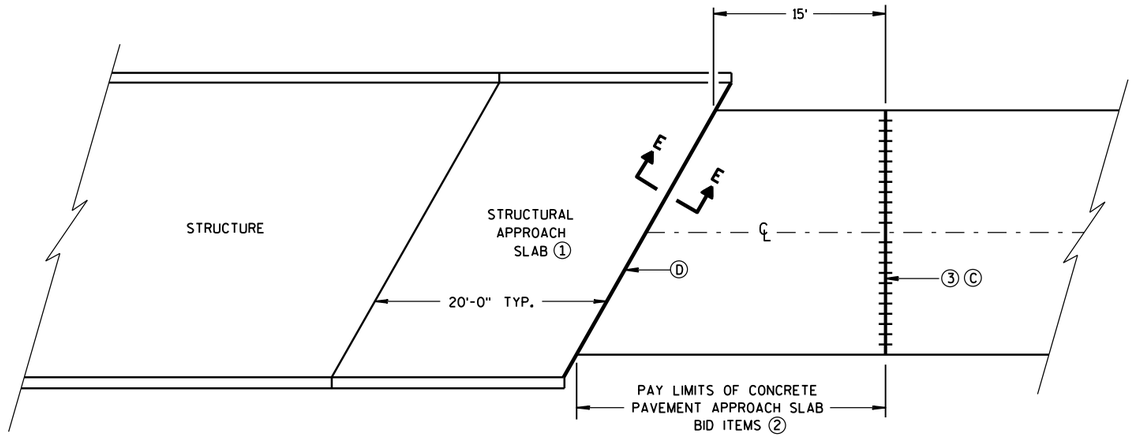
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

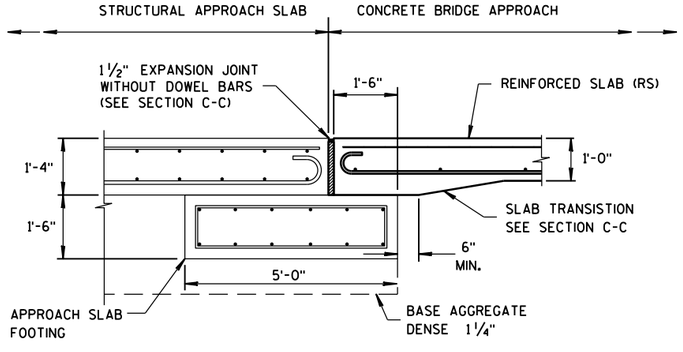
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPEF

FHWA

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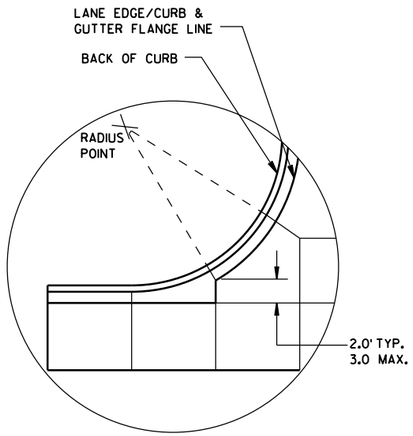
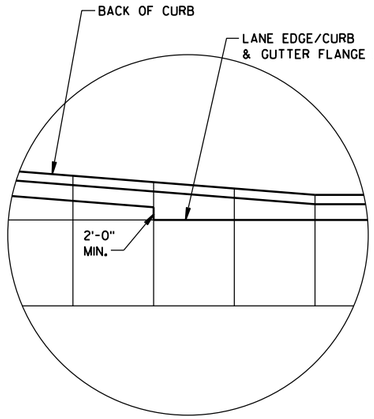
S.D.D. 13 B 2-8b



DETAIL "A"



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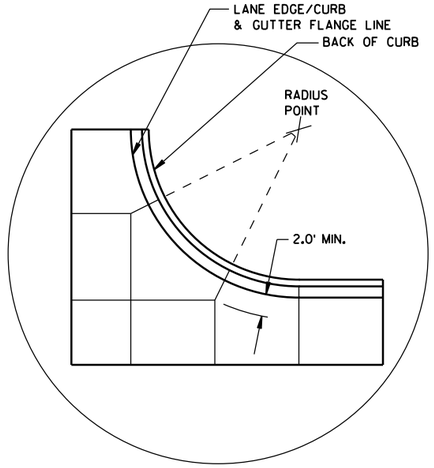

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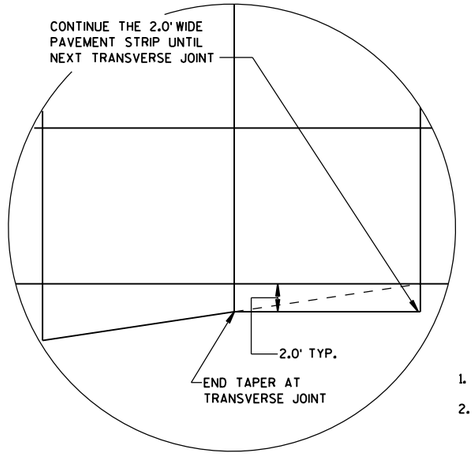


DETAIL "D"

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.

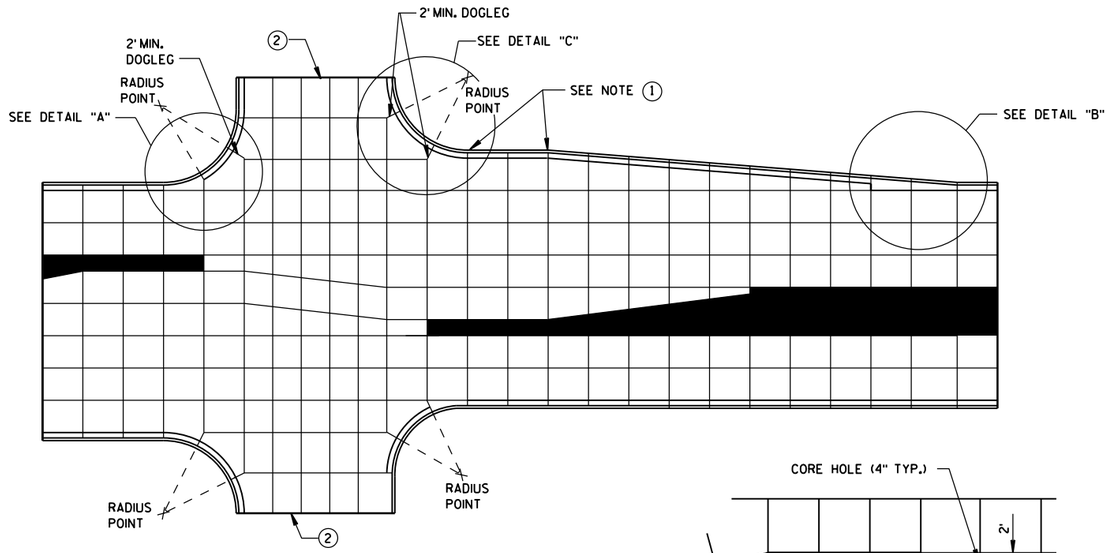
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

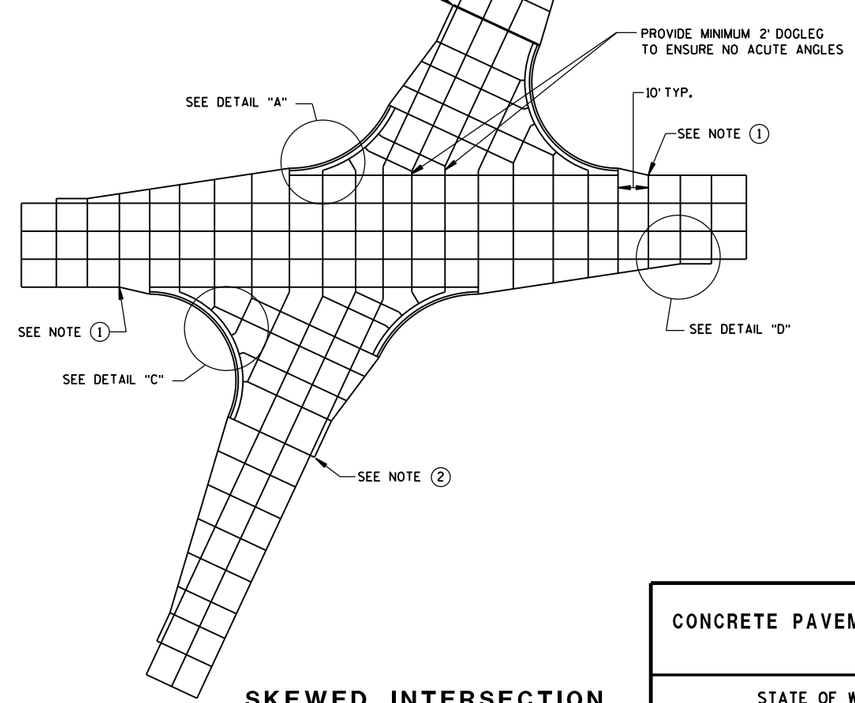
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



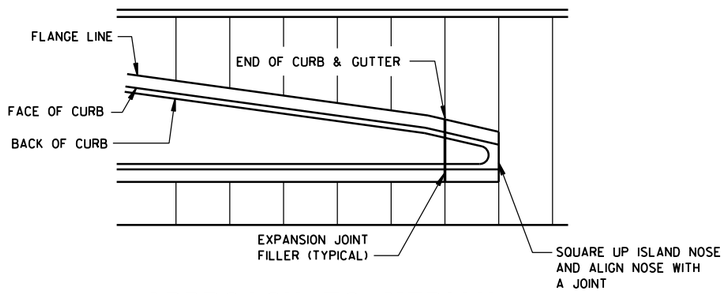
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

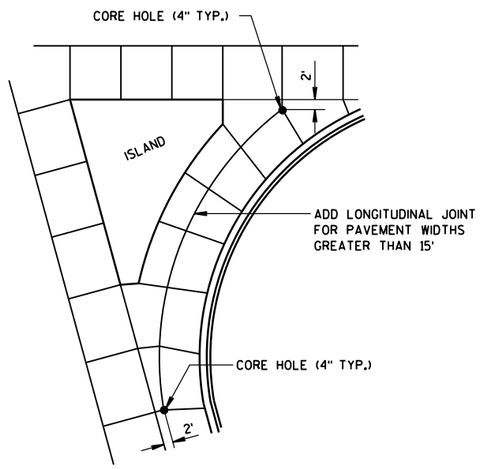
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

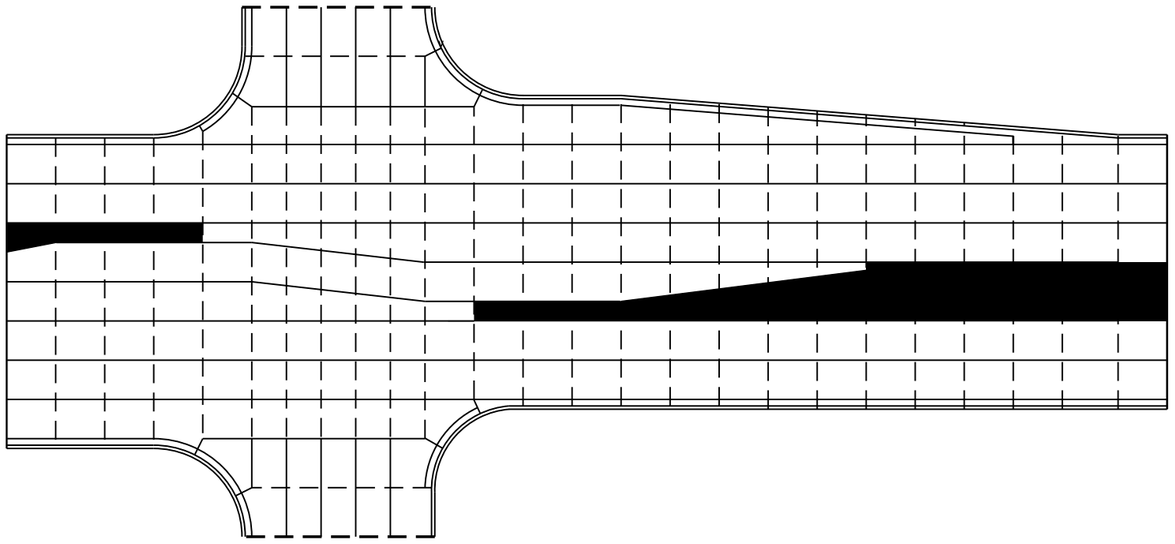
6
S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

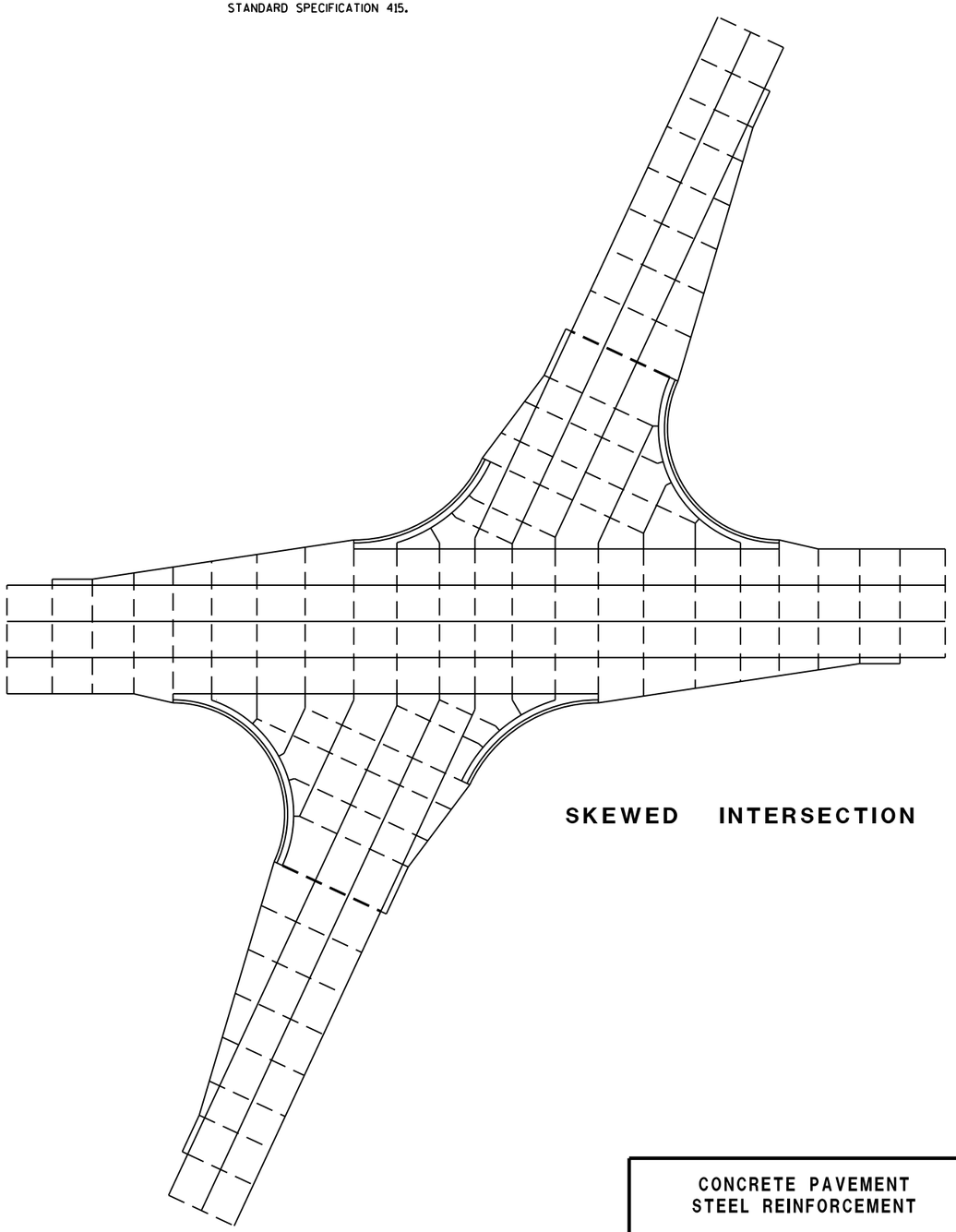
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 C 18-3b

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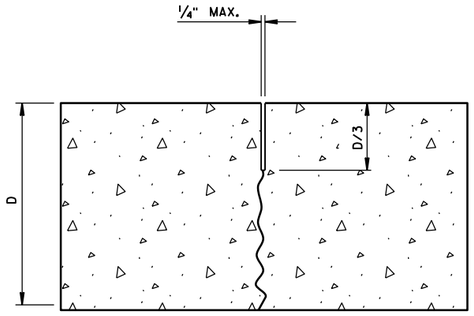
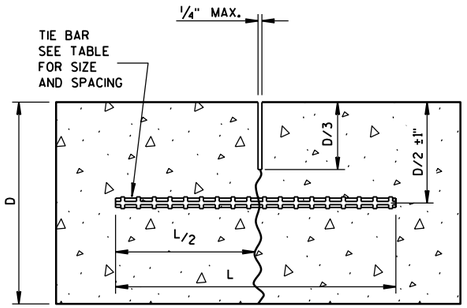
S.D.D. 13 C 18-3b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

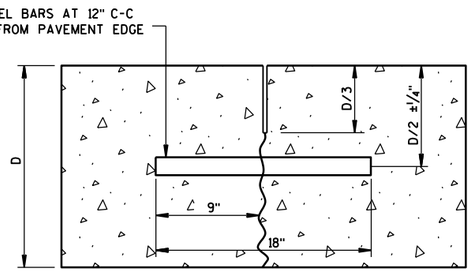
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

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

GENERAL NOTES

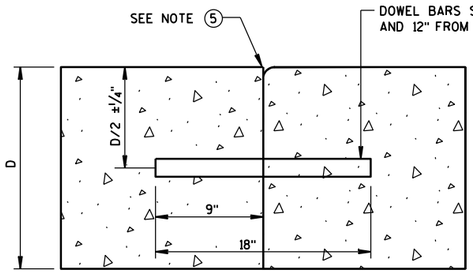
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 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-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



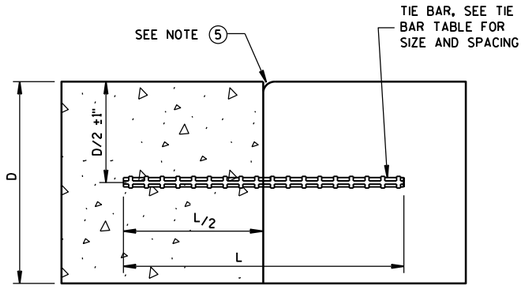
DOWELED-TRANSVERSE

CONTRACTION JOINTS

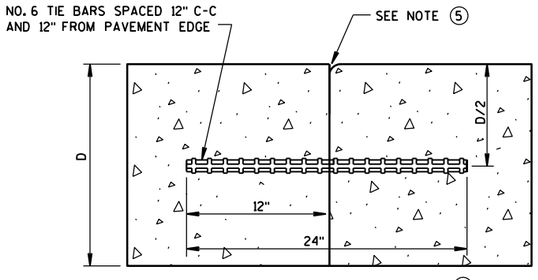
SEE NOTE (2)



DOWELED TRANSVERSE (3)

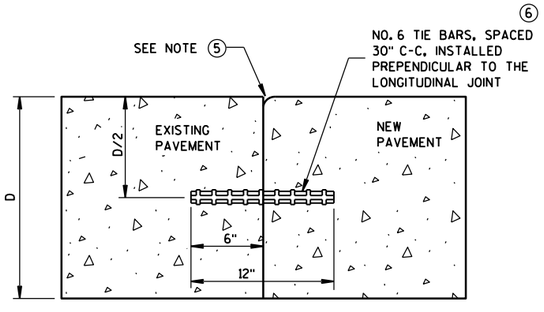


TIED LONGITUDINAL



TIED TRANSVERSE (3)

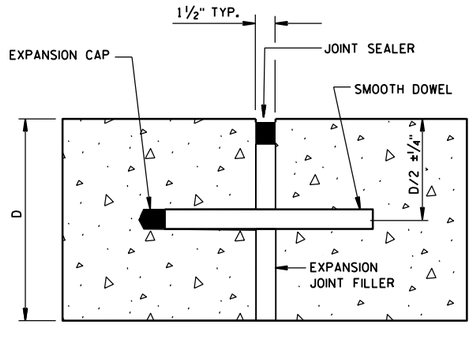
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

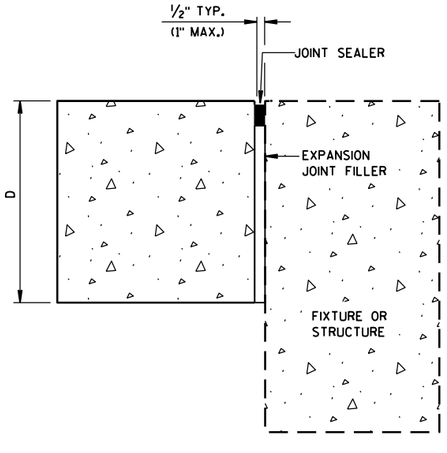
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

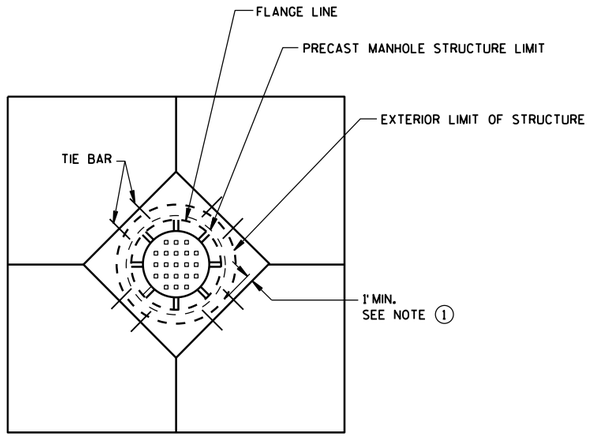
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

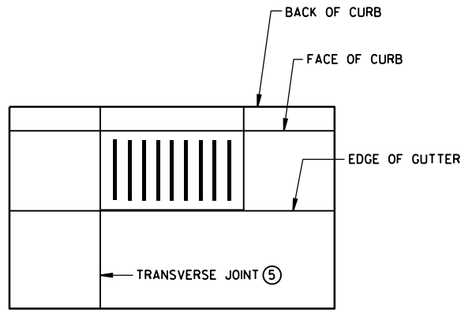
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

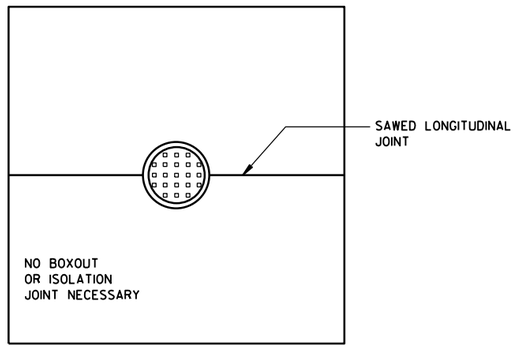
S.D.D. 13 C 18-3c



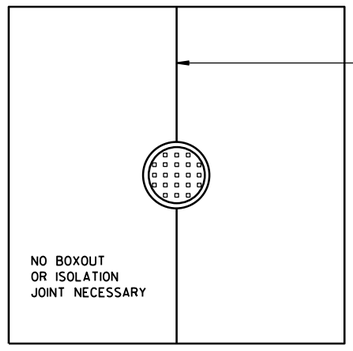
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



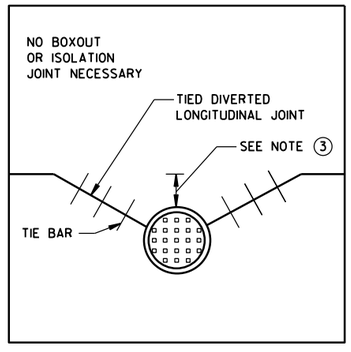
INLET WITH TRANSVERSE JOINT



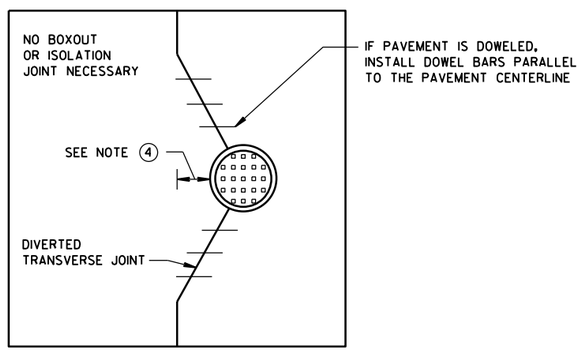
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION 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 LONGITUDIAL 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 REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 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 REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

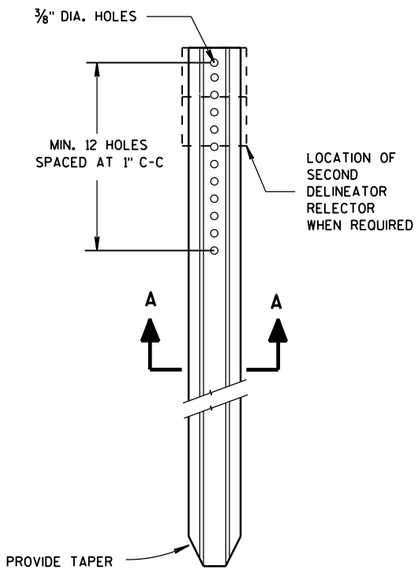
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

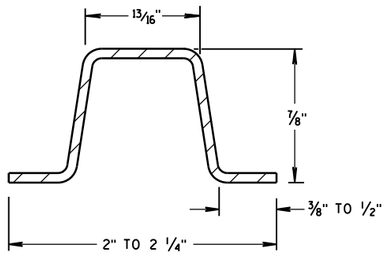
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

S.D.D. 13 C 18-3d

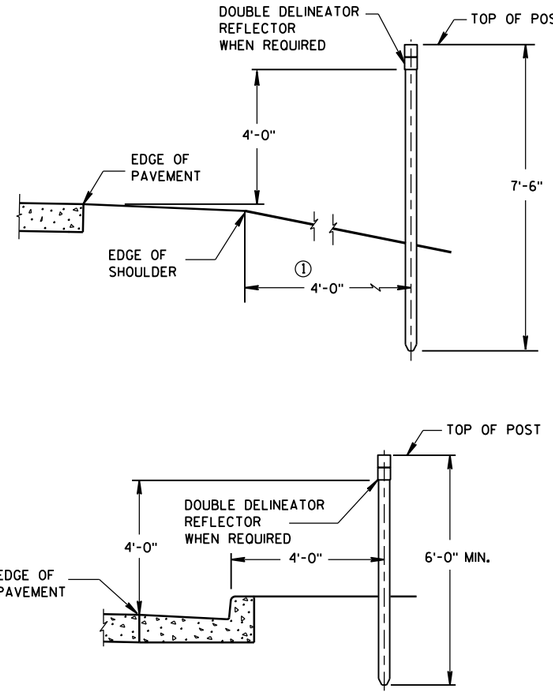


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

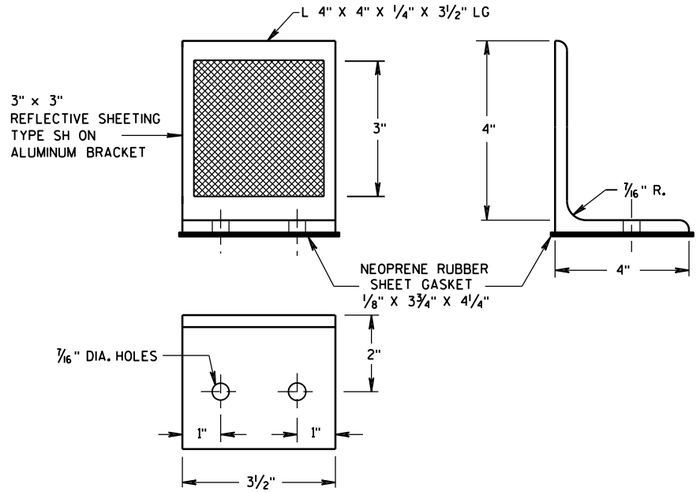


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

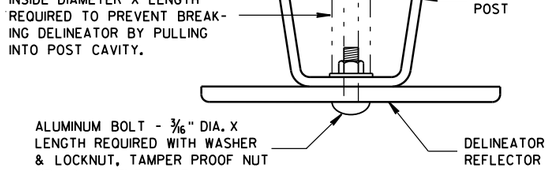
GENERAL NOTES

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

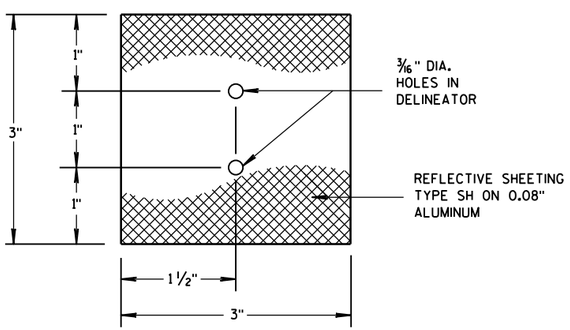
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



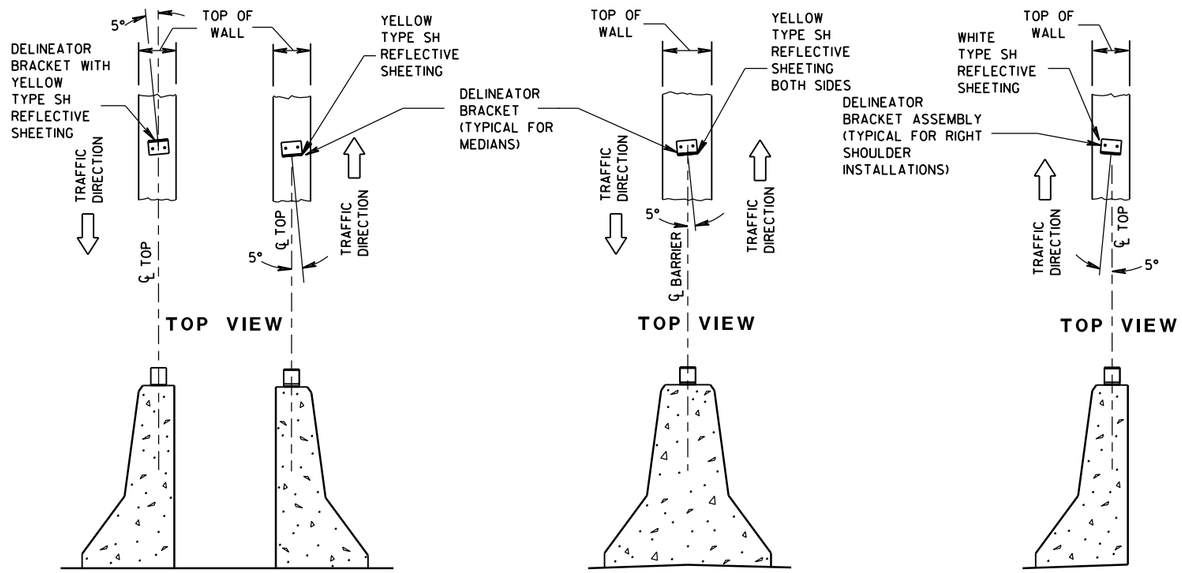
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR REFLECTOR

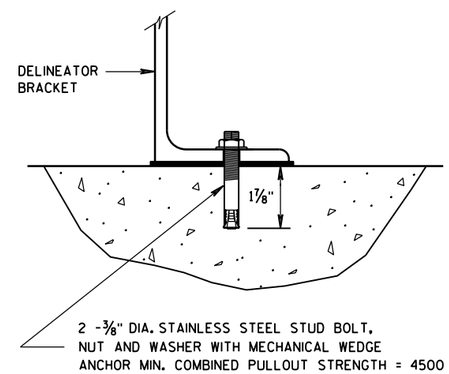


3"x 3" DELINEATOR REFLECTOR



DOUBLE BARRIERS IN MEDIAN | **MEDIAN BARRIER** | **BARRIER LOCATED TO RT. OF TRAFFIC FLOW**

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

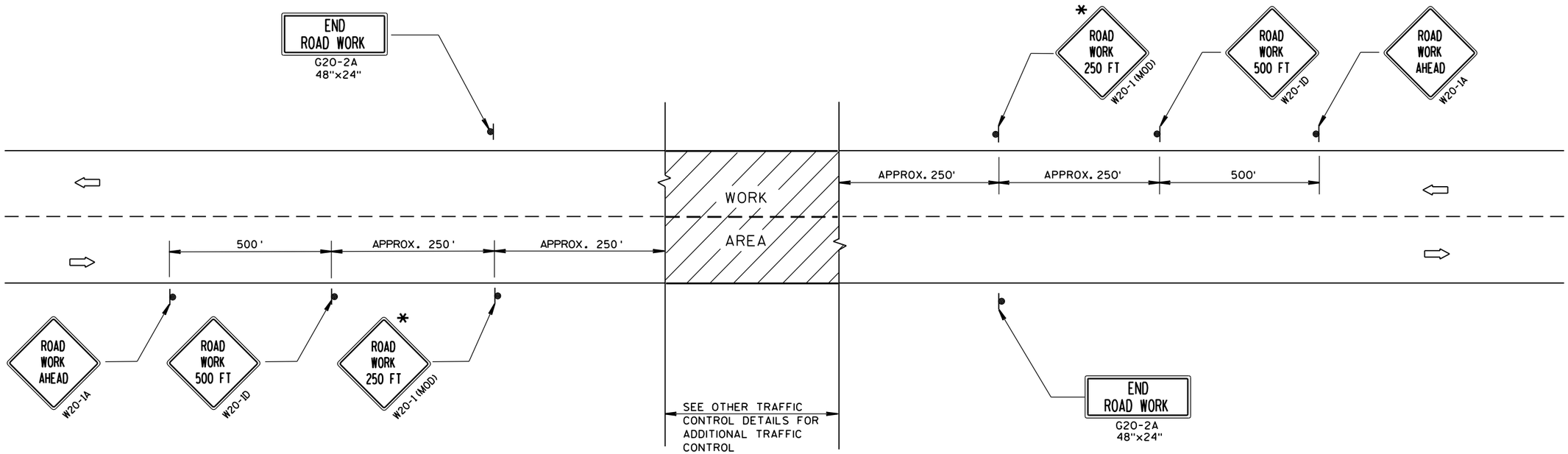
APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible] ENGINEER
FHWA

6

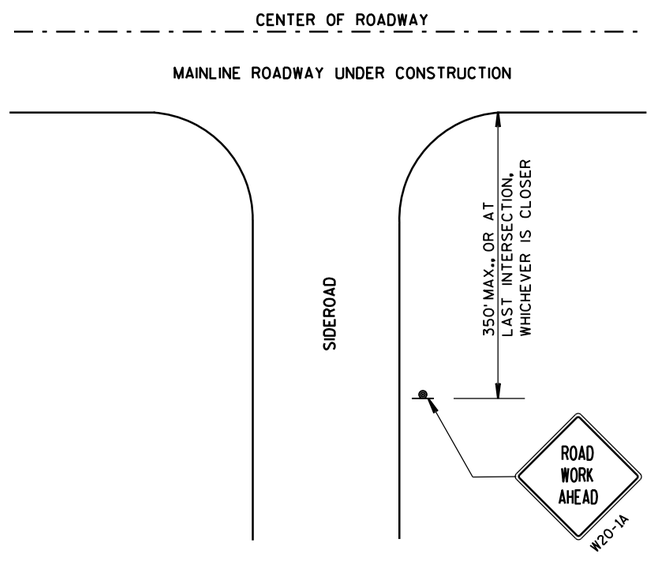
S.D.D. 15 A 2-9

6

S.D.D. 15 A 2-9



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 5-3

S	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

END ROAD WORK
G20-2A
48"x24"

NO PASSING ZONE
W14-3
48"x36"

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

1000' 500' 400' 500' 200' 50' 50' 25' TYP.

W01-6 48"x24" ✳✳✳

R11-2 48"x30" ROAD CLOSED

TYPE III BARRICADE

FOR BRIDGE OR CULVERT REPLACEMENTS SUBSTITUTE
BRIDGE OUT
R11-2B
48"x30"

ROAD CLOSURE OR BRIDGE/CULVERT REPLACEMENT

BUFFER SPACE (SEE TABLE)

WORK AREA

BUFFER SPACE (SEE TABLE)

TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT WHEN INCLUDED IN THE CONTRACT. FOR LAYOUT, SEE DETAILS ELSEWHERE IN THE PLAN.

W05-52L 12"x36"

W05-52R 12"x36"

25' TYP.

OR

W01-3L
W01-4L
W013-1
XX M.P.H.
24"x24"

ROAD WORK 1000 FT
W20-1C

ROAD WORK AHEAD
W20-1A

END TEMPORARY PAVEMENT MARKING, 4-INCH SOLID YELLOW CENTERLINE ✳✳

50' 50' 400' 200' 500' 500' 1000'

END TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINES. (USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT)

TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW CENTERLINE AND 2-WAY YELLOW RAISED PAVEMENT MARKERS AT 25' SPACING. USE REMOVABLE TAPE WHERE TEMPORARY MARKING CROSSES PERMANENT PAVEMENT.

BEGIN TEMPORARY PAVEMENT MARKING, 4-INCH WHITE EDGELINE

ROAD WORK AHEAD
W20-1A

ROAD WORK 1000 FT
W20-1C

OR

W01-4R
W01-3R
W013-1
XX M.P.H.
24"x24"

W01-6 48"x24"

W01-6 48"x24" ✳✳✳

W05-52R 12"x36"

W05-52L 12"x36"

OR

W01-4L
W01-3L
W013-1
XX M.P.H.
24"x24"

NO PASSING ZONE
W14-3
48"x36"

END ROAD WORK
G20-2A
48"x24"

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

✳ IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

✳✳ WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

✳✳✳ OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY-BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- TEMPORARY DELINEATOR, (WHITE) (SINGLE DELINEATOR)
- TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT
- WORK AREA

TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

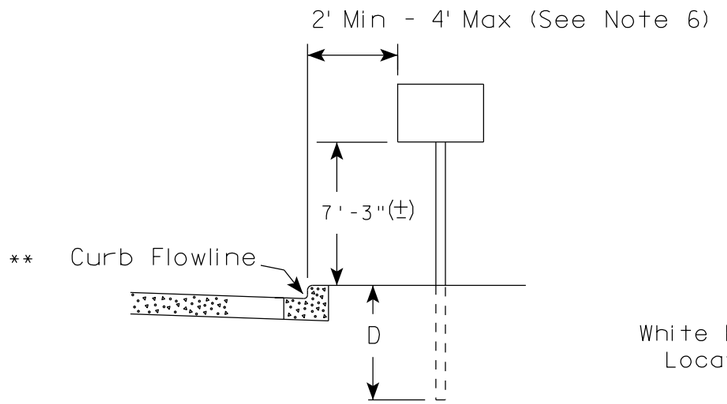
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER — FHWA

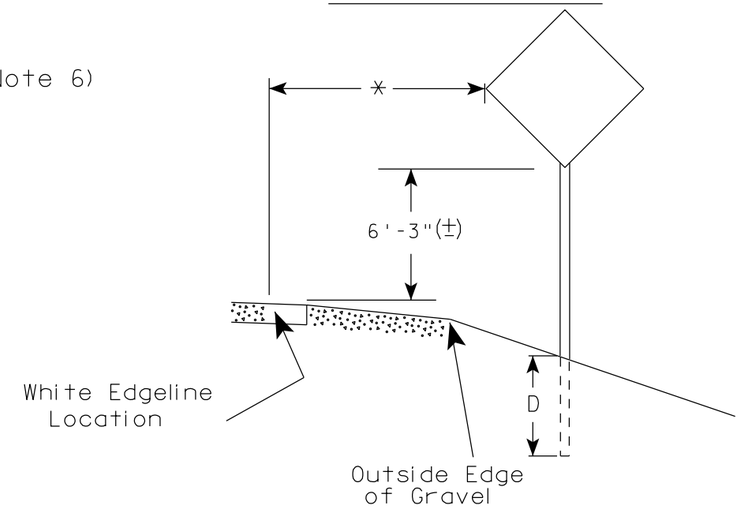
6

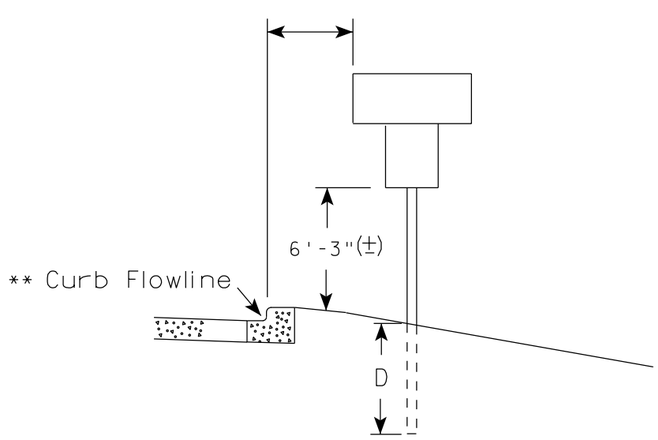
S.D.D. 15 D 31-3

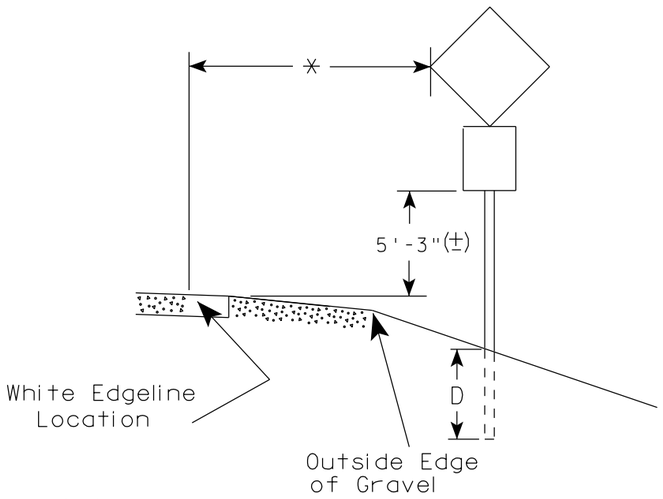
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

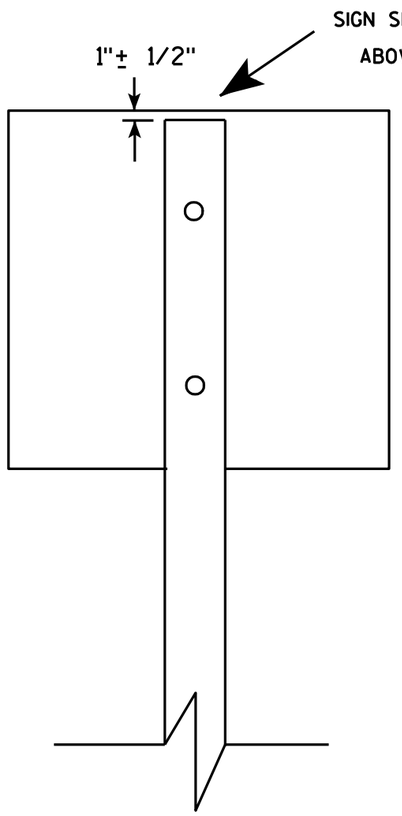
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

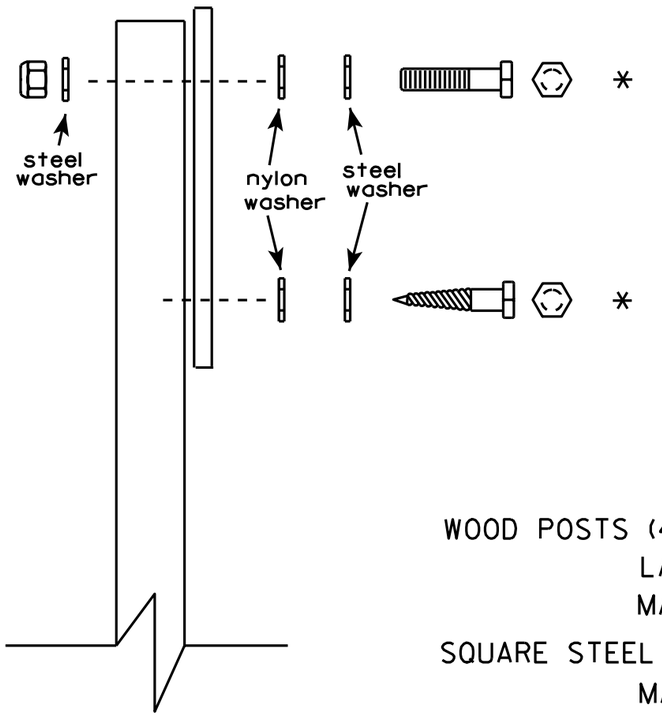
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E





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

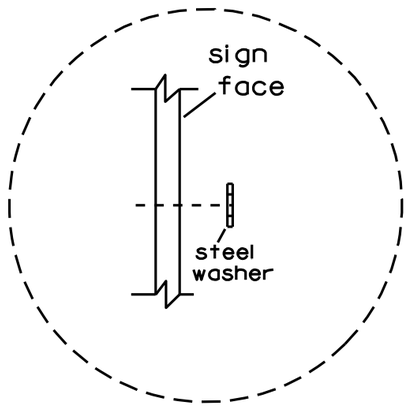
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

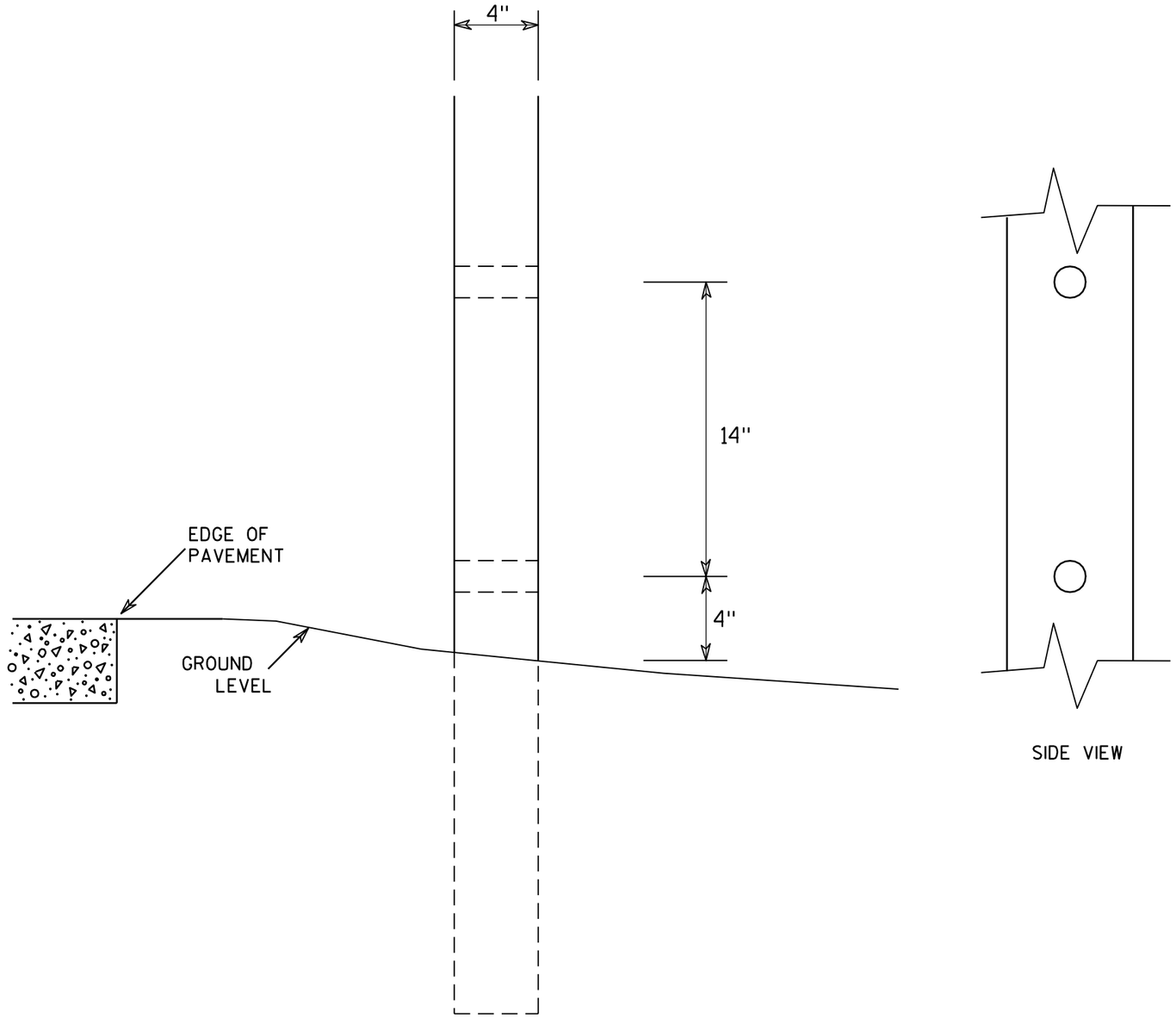
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 25 E



SIDE VIEW

GENERAL NOTES

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

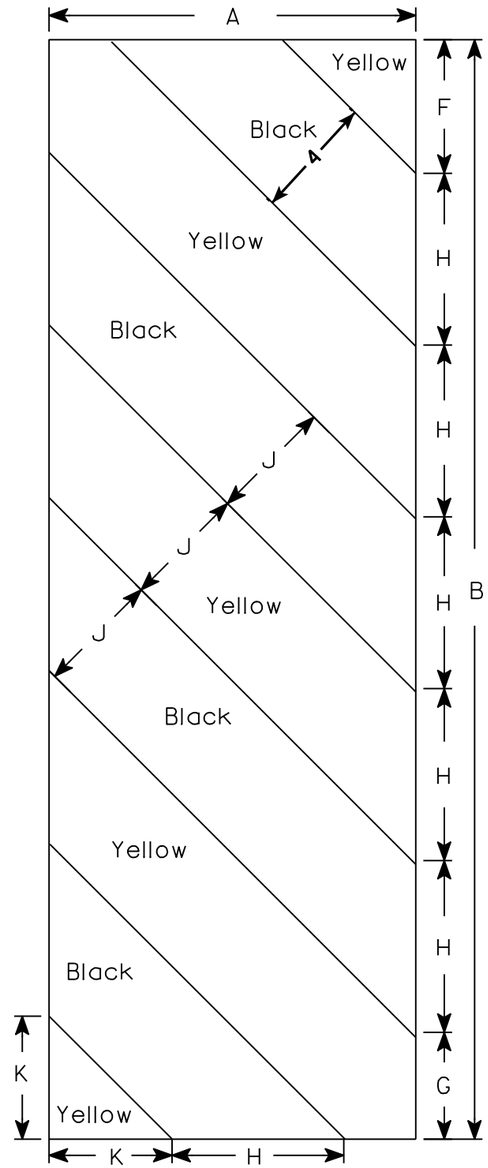
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

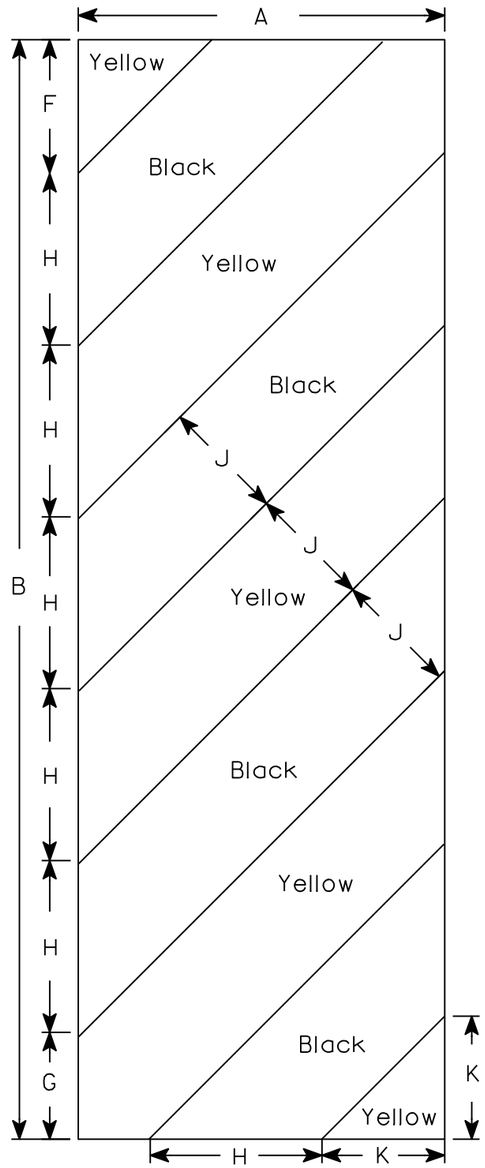
APPROVED Chester J Spang
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 26	E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

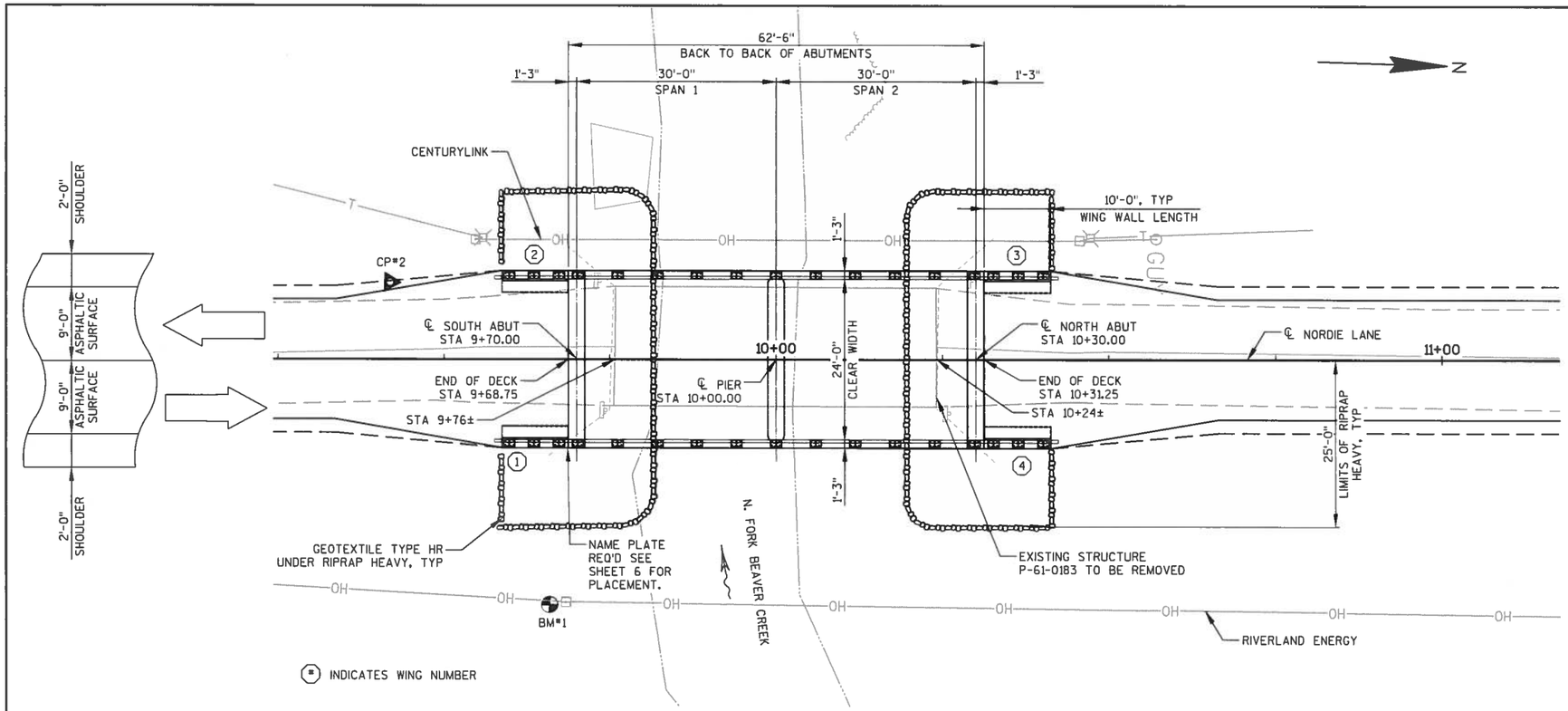
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

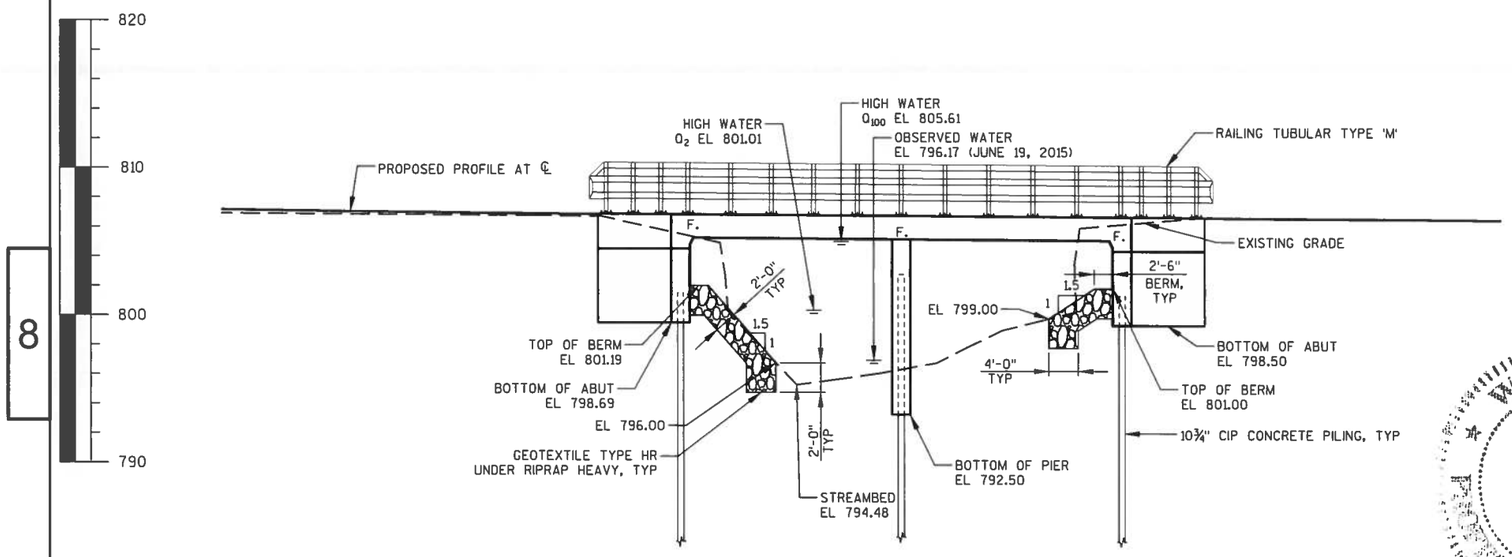
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 27 | E

STATE PROJECT NUMBER
7281-00-71



PLAN B-61-227

(TWO SPAN REINFORCED CONCRETE FLAT SLAB BRIDGE)



ELEVATION

(NORMAL TO ℄ OF STREAM)

DESIGN DATA:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	1.13
OPERATING RATING FACTOR	1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	250 KIPS

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

MATERIAL PROPERTIES:

CONCRETE MASONRY SUPERSTRUCTURE	f'c = 4,000 psi
ALL OTHER	f'c = 3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60 ksi

TRAFFIC DATA:

ADT (2016) = 20

ADT (2036) = 30

DESIGN SPEED = 25 MPH

FOUNDATION DATA:

ABUTMENTS AND PIER SUPPORTED ON 10¾" CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 55' LONG AT THE SOUTH ABUTMENT AND 60' LONG AT THE PIER AND NORTH ABUTMENT.

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

HYDRAULIC DATA:

100 YEAR FREQUENCY

Q_{100}	2,730 cfs
Q_{100} BRIDGE	2,623 cfs
Q_{100} ROAD	107 cfs
STREAM VELOCITY	7.03 fps
HIGH WATER	EL. 805.61
WATERWAY AREA	373 ft^2
DRAINAGE AREA	33.1 mi^2
SCOUR CRITICAL CODE	5
OVERTOPPING ELEV	EL. 805.32
OVERTOPPING FLOW	2620 cfs
OVERTOPPING FREQUENCY	95 YEARS

2 YEAR FREQUENCY

Q_2	725 cfs
HIGH WATER	EL. 800.80

TEMPORARY STRUCTURE

Q_5	1351 cfs
HIGH WATER	EL. 802.78
MINIMUM BRIDGE OPENING AREA	187 FT^2

LIST OF DRAWINGS:

WISCONSIN
GARY A. RUCHTI
E-30936
MADISON
WI
PROFESSIONAL ENGINEER
8/17/16

BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
GARY RUCHTI, P.E.
TELEPHONE: (608) 273-6380

NO.	DATE	REVISION	BY

Mead & Hunt, Inc.
2440 Deming Way
Middleton, WI 53562
608.273.6380
www.meadhunt.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 08/18/16
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-61-227

NORDIE LANE OVER N. FORK BEAVER CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
TREMPEALEAU	ETTRICK

DESIGN SPEC
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
RCP	GAR	JAK	GAR

GENERAL PLAN

SHEET 1 OF 12

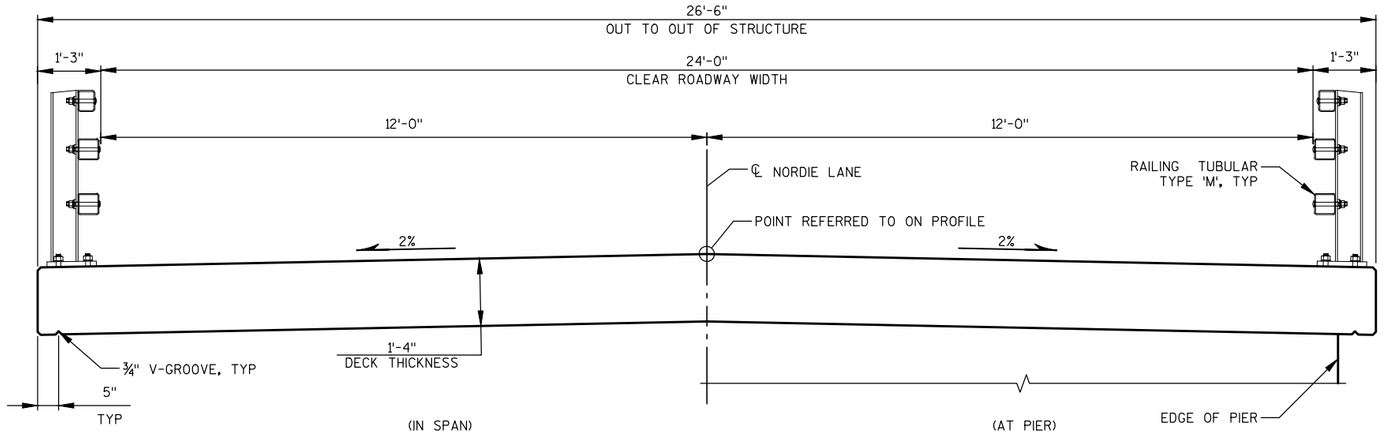
28

8

8

FILE NAME : X:\2005800\150564.01\TECH\CAD\7281007\DESIGN\STRUCTURE\080101.GP.DWG PLOT DATE : 8/12/2016 PLOT BY : ---- PLOT SCALE :1:1

STATE PROJECT NUMBER
7281-00-71



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

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 SHEET 1 AND IN THE ABUTMENT DETAILS.

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

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

PROTECTIVE SURFACE TREATMENT TO BE PLACED FULL WIDTH ON TOP SURFACE, SIDES AND OUTSIDE 1'-0" ON BOTTOM OF CONCRETE SLAB DECK.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

THE EXISTING STRUCTURE, TO BE REMOVED, IS A 48.4-FOOT TWO-SPAN STEEL DECK GIRDER BRIDGE, WITH A 18.1-FOOT CLEAR BRIDGE WIDTH (P-61-0183).

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-61-227" SHALL BE THE EXISTING GROUNDLINE.

BENCH MARKS★

NO.	STATION	DESCRIPTION	ELEV.
1	9+66 RT	PK IN CUT OFF PP	803.58'
2	12+84 RT	NAIL IN PP	806.09'

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	S ABUT	N ABUT	PIER	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-61-227	LS	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	75	75	---	---	150
502.0100	CONCRETE MASONRY BRIDGES	CY	27	27	27	86	167
502.3200	PROTECTIVE SURFACE TREATMENT	SY	12	11	---	217	240
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1480	1480	1320	---	4280
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1340	1340	---	20310	22990
513.4061	RAILING TUBULAR TYPE M B-61-227	LF	---	---	---	---	170
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8	8	---	---	16
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	220	240	420	---	880
606.0300	RIPRAP HEAVY	CY	75	55	---	---	130
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	57	57	---	---	114
645.0120	GEOTEXTILE TYPE HR	SY	170	130	---	---	300
	NON BID ITEMS						
	FILLER	SIZE					1/2" & 3/4"

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

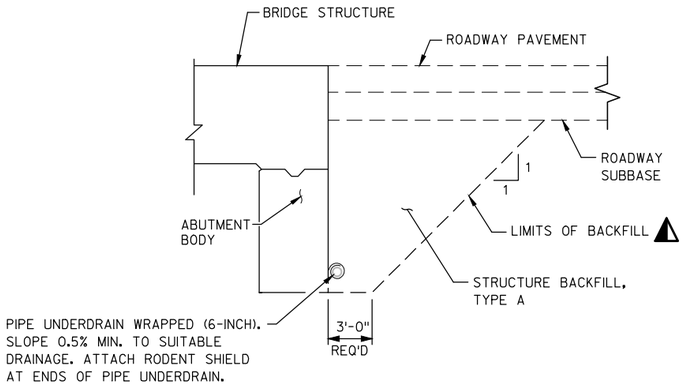
DRAWN BY JAK | PLANS CK'D. GAR

CROSS SECTION, GENERAL NOTES, AND QUANTITIES

SHEET 2 OF 12
29

FILE NAME : X:±2005800±150564.01±TECH±CAD±72810071±DESIGN±STRUCTURE±080102_TS.DWG PLOT DATE : 8/12/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

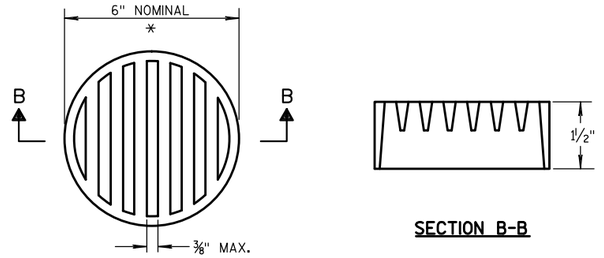
STATE PROJECT NUMBER
7281-00-71



STRUCTURE BACKFILL & PIPE UNDERDRAIN DETAIL

(TYPICAL AT BOTH ABUTMENTS)

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.



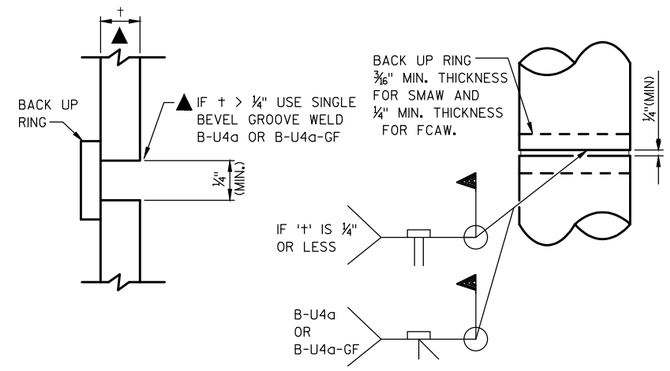
SECTION B-B

RODENT SHIELD DETAIL

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

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

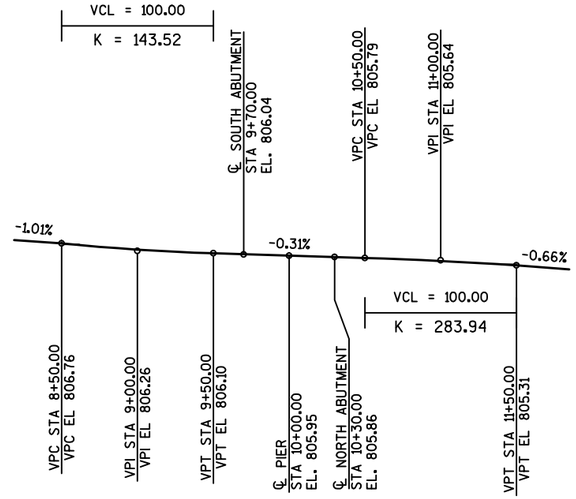
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X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



C.I.P. PILE WELD DETAIL

CAST-IN-PLACE 'PIPE PILE'

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



PROFILE GRADE LINE, ℄ NORDIE LANE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

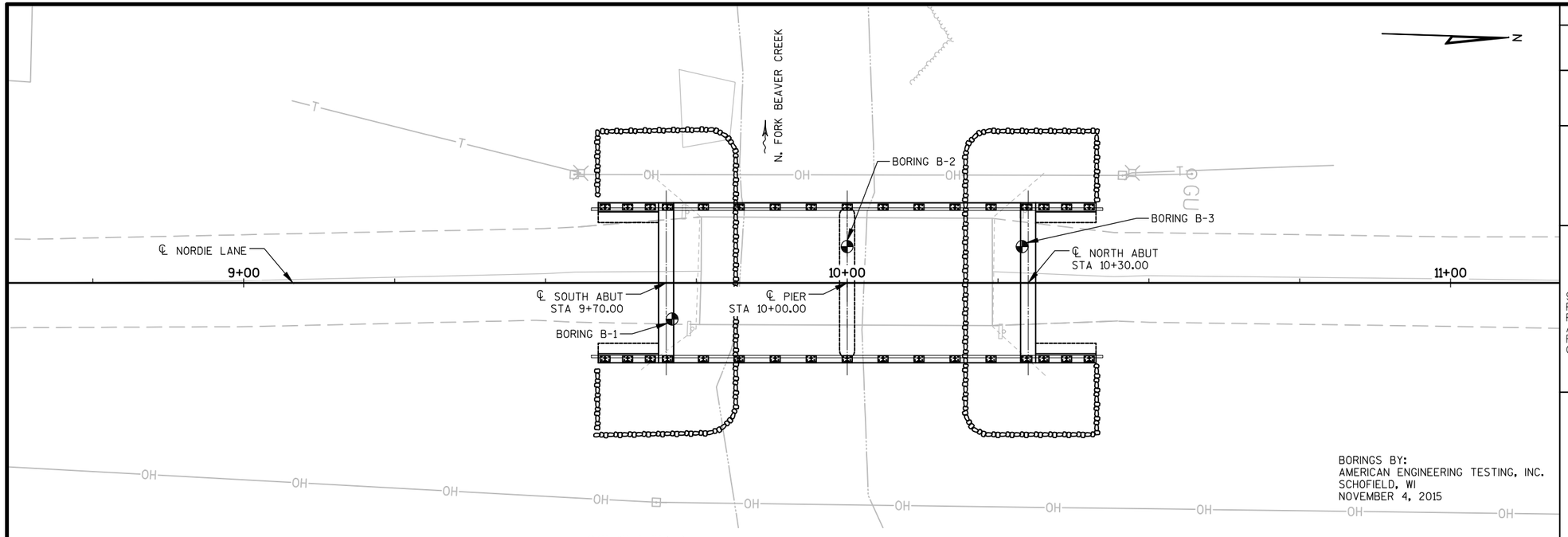
DRAWN BY JAK | PLANS CK'D. GAR

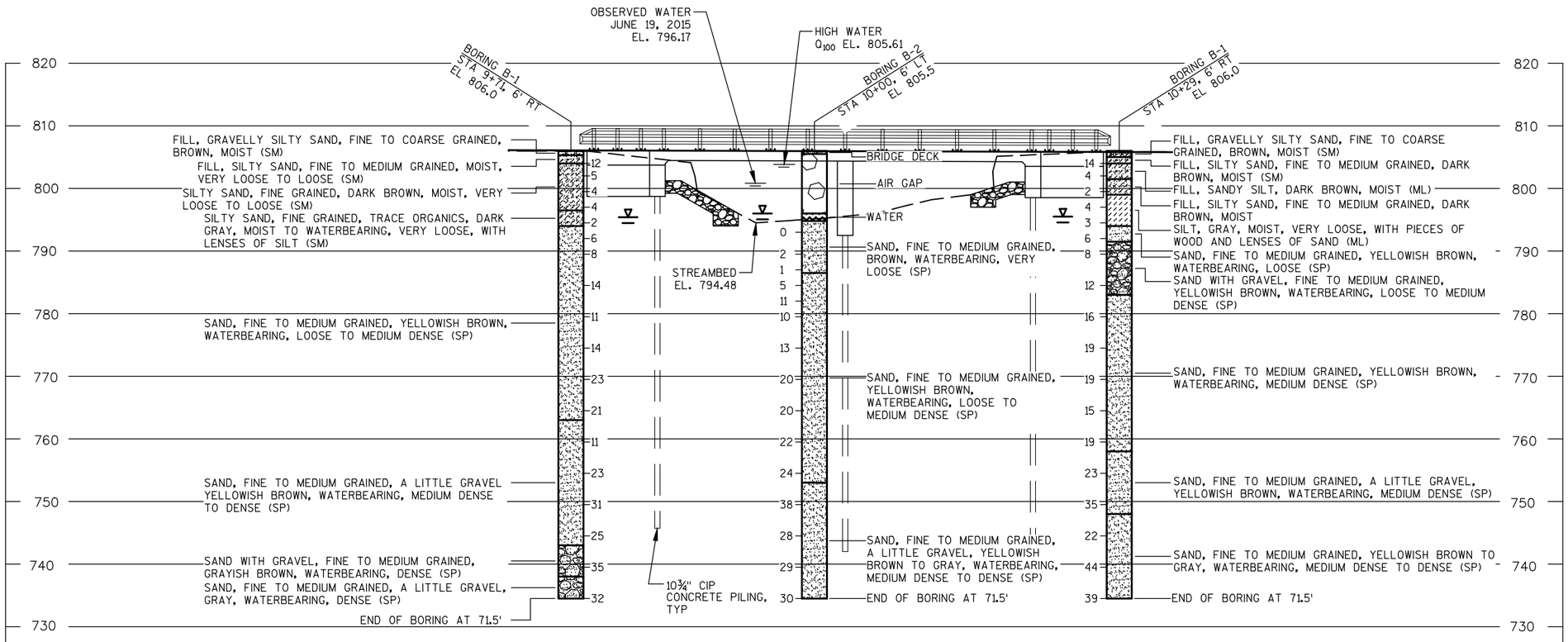
GENERAL DETAILS

SHEET 30 OF 12

8

8





STATE PROJECT NUMBER

7281–00–71

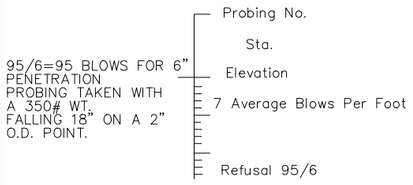
ABBREVIATIONS

F— Fine M—Medium C— Coarse
Ws—Weathered So —Sound

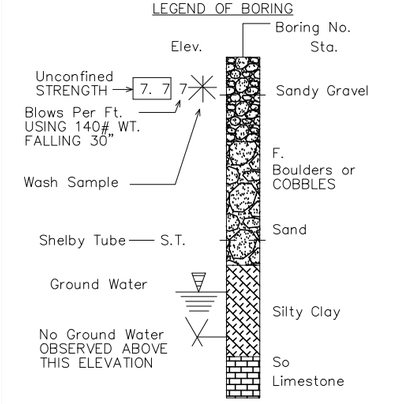
MATERIAL SYMBOLS

Asphalt, Concrete, Gravel, Silt, Organic Soil, Clay, Sand, Air, Water

LEGEND OF PROBING



LEGEND OF BORING



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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–61–227

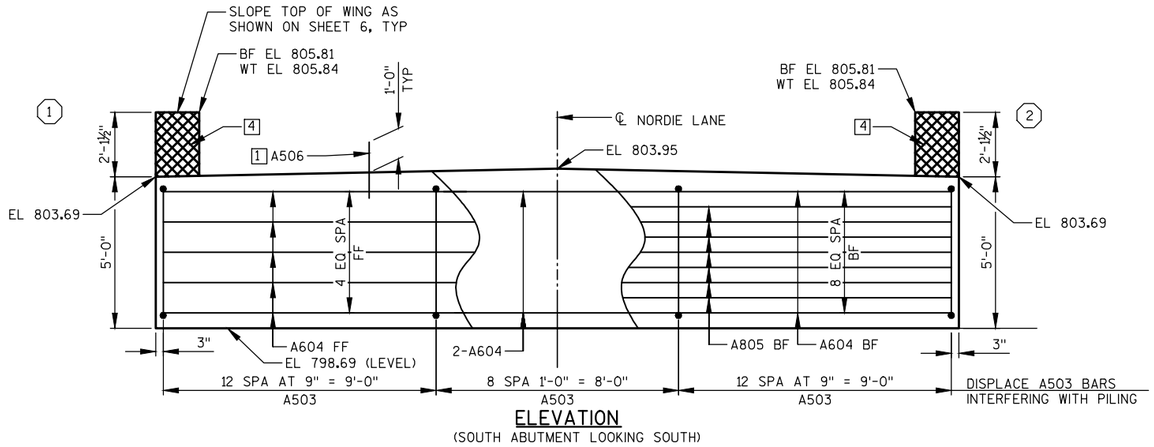
DRAWN BY JAK | PLANS CK'D. GAR

SUBSURFACE EXPLORATION

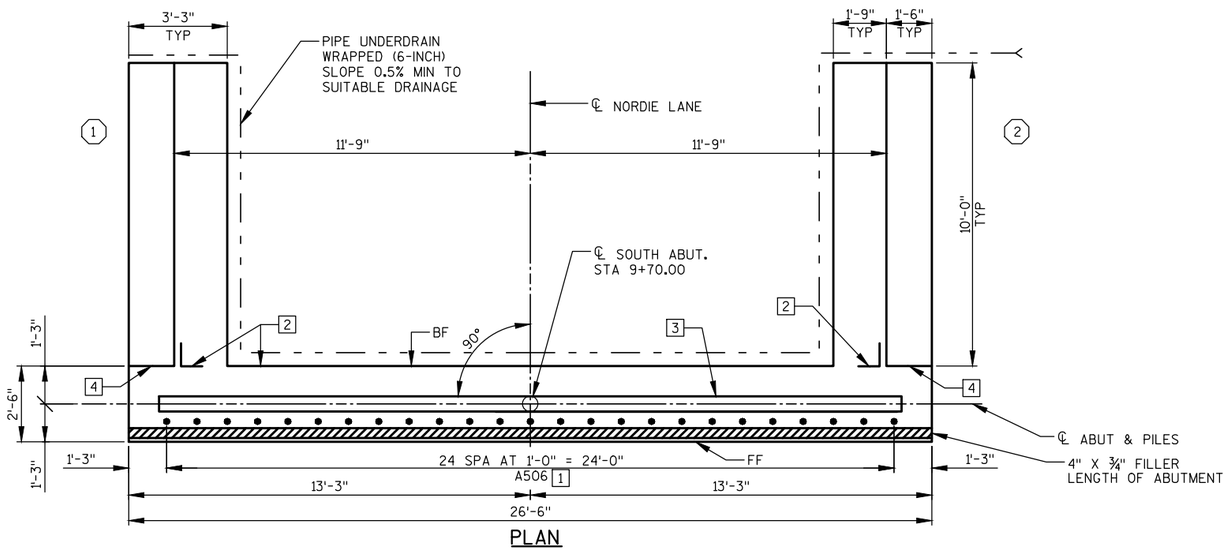
SHEET 31 OF 12

8

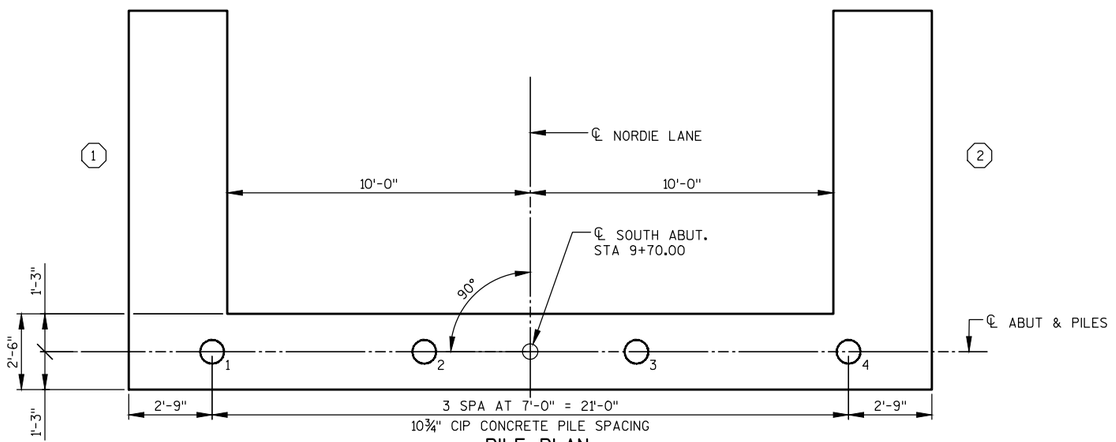
8



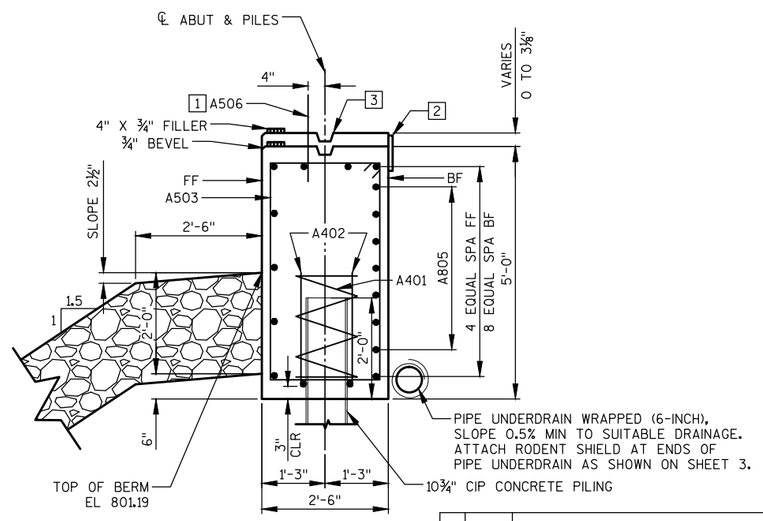
ELEVATION
(SOUTH ABUTMENT LOOKING SOUTH)



PLAN



PILE PLAN



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE A604 BARS.

NOTES

FOR PILE SPLICE SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 798.69 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10¾" CIP CONCRETE PILING WITH REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 55' LONG.

[1] A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

[2] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

[3] KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

[4] ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER

STATE PROJECT NUMBER
7281-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

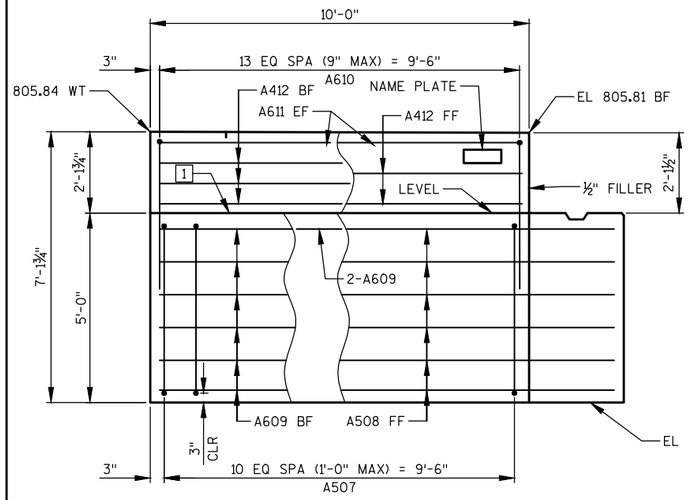
DRAWN BY JAK | PLANS CK'D. GAR

SOUTH ABUTMENT

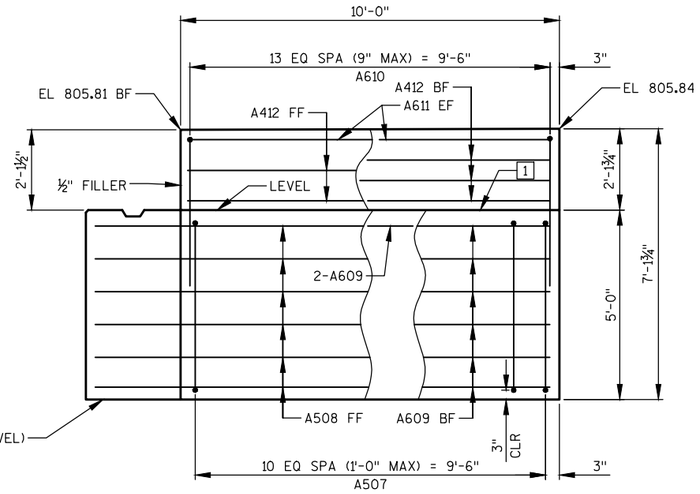
SHEET 8 OF 12
32

8

8



WING 1 ELEVATION



WING 2 ELEVATION

STATE PROJECT NUMBER

7281-00-71

BILL OF BARS
SOUTH ABUTMENT

COATED= 1340 LBS.
UNCOATED= 1480 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
A401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
A402		8	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
A503		33	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
A604		11	26 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
A805		7	26 - 2			ABUTMENT BODY - BF	HORIZ
A506	25		2 - 0			ABUTMENT BODY - DOWELS	VERT
A507	22		15 - 4	X		WING WALL - BODY	VERT
A508	12		12 - 2			WING WALL - FF OF BODY	HORIZ
A609	16		11 - 11			WING WALL - BODY	HORIZ
A610	28		8 - 10	X		WING WALL - TOP	VERT
A611	4		9 - 7			WING WALL - TOP	HORIZ
A412	10		9 - 7			WING WALL - TOP	HORIZ

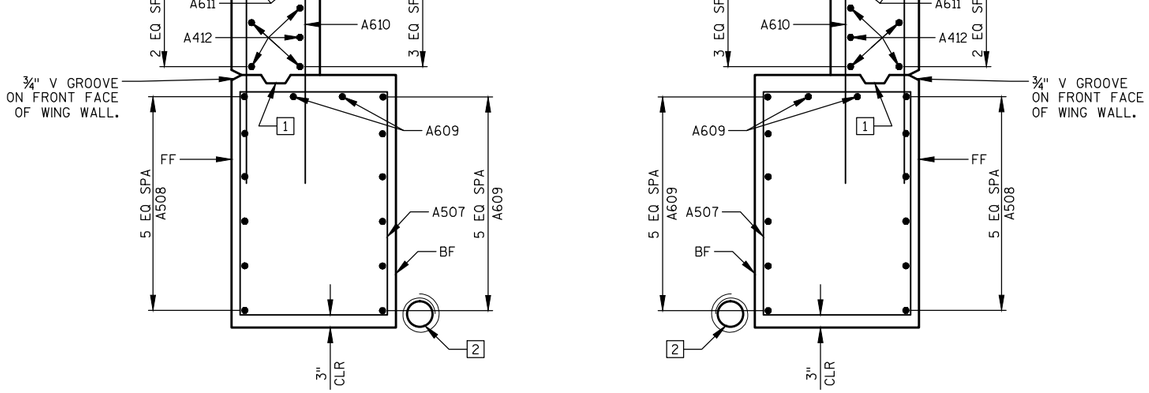
FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE
WT - WING TIP

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

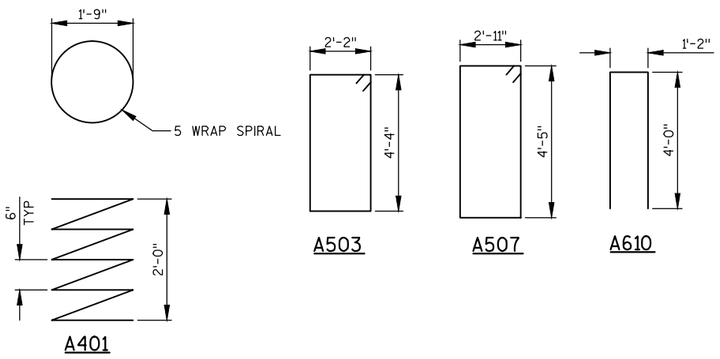
1 OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

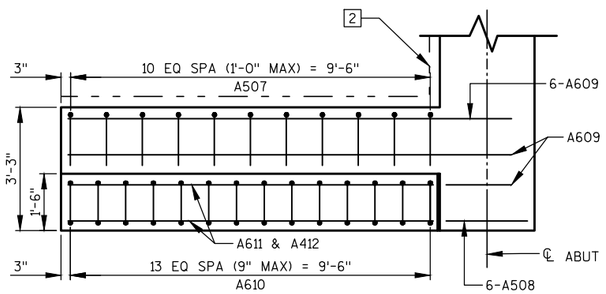
2 PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.



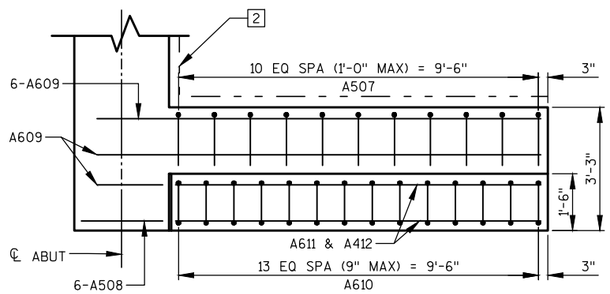
WING 1 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

WING 2 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

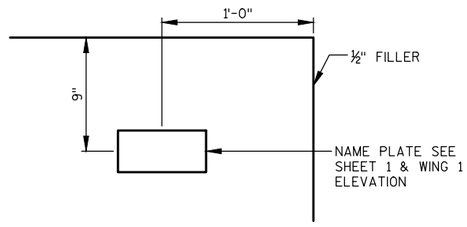




WING 1 PLAN
SPACE A610 TO MISS ANCHORS FOR RAIL POSTS.



WING 2 PLAN
SPACE A610 TO MISS ANCHORS FOR RAIL POSTS.



NAME PLATE LOCATION
ON WING 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

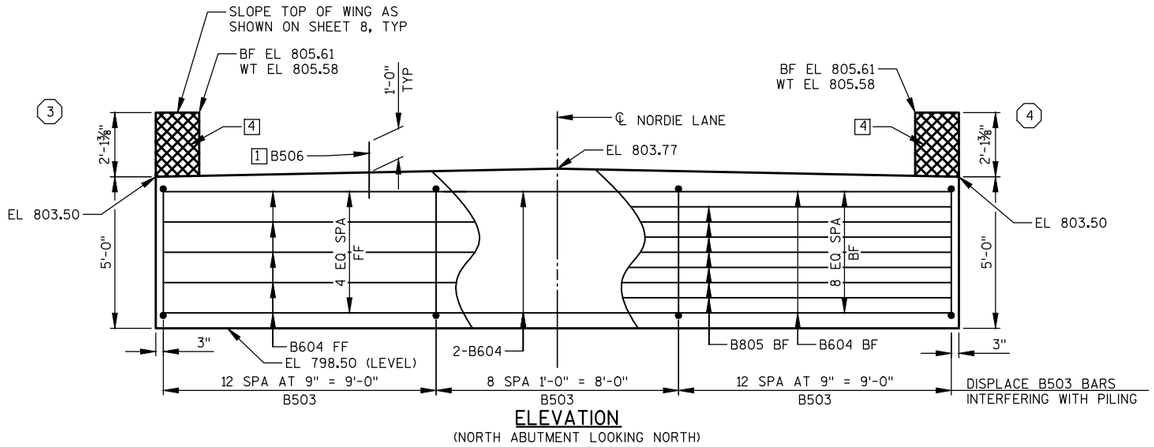
DRAWN BY JAK | PLANS CK'D. GAR

SOUTH ABUTMENT DETAILS

SHEET 8 OF 12
33

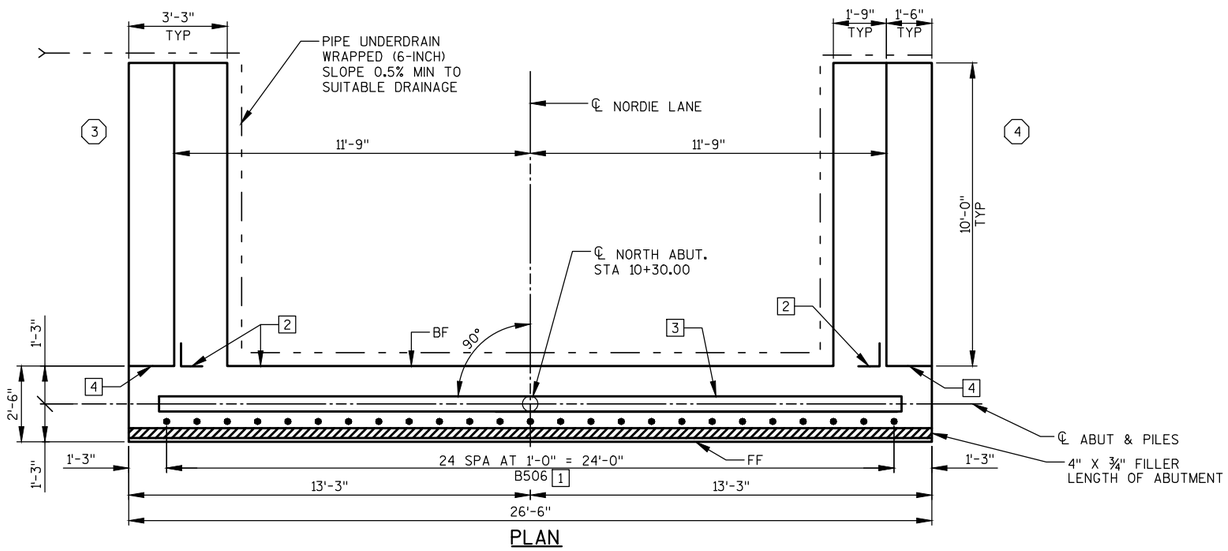
8

8

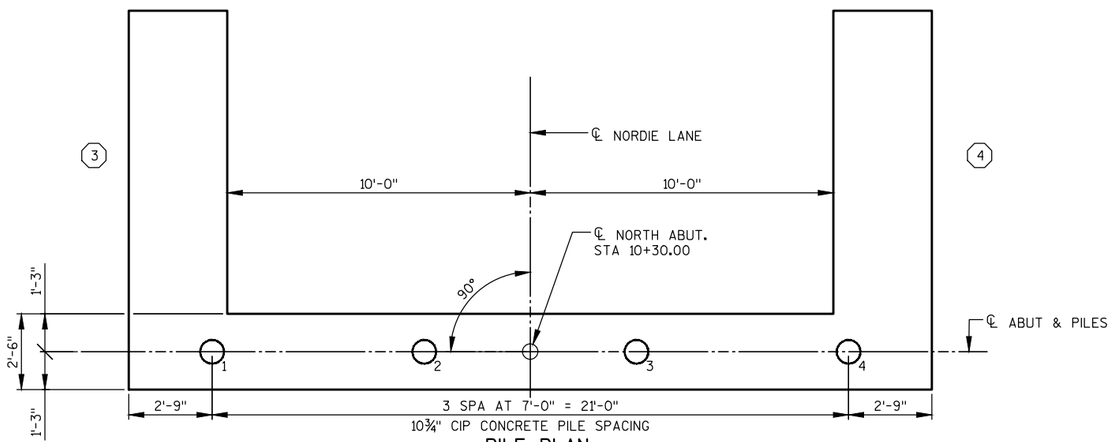


ELEVATION

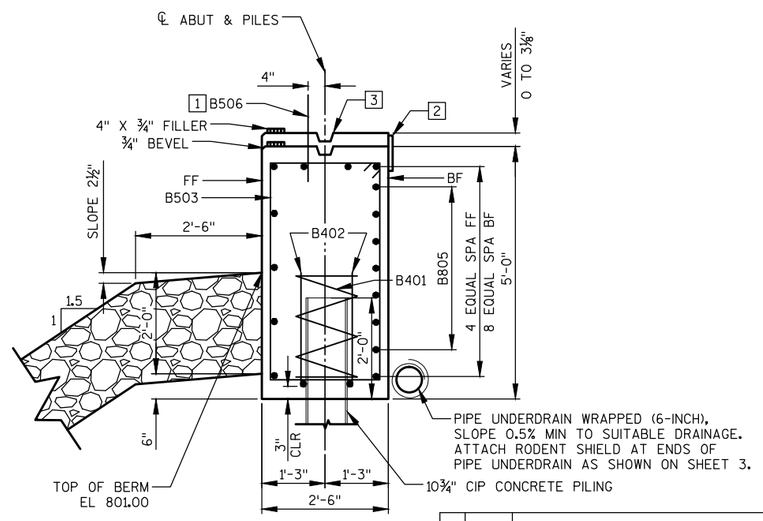
(NORTH ABUTMENT LOOKING NORTH)



PLAN



PILE PLAN



SECTION THRU ABUTMENT BODY

ALL HORIZONTAL BARS NOT LABELED ARE B604 BARS.

NOTES

FOR PILE SPLICE SEE SHEET 3

FILL/EXCAVATE TO BOTTOM OF ABUTMENT EL 798.50 BEFORE DRIVING PILING.

SEE SHEET 3 FOR STRUCTURE BACKFILL AND PIPE UNDERDRAIN DETAIL.

ABUTMENT SUPPORTED ON 10¾" CIP CONCRETE PILING WITH REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 60' LONG.

[1] B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

[2] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE. EXTEND FROM BRIDGE SEAT TO TOP OF WING.

[3] KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 1'-0" FROM ABUTMENT ENDS.

[4] ½" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

FF - FRONT FACE
BF - BACK FACE
WT - WING TIP

(#) INDICATES WING NUMBER

STATE PROJECT NUMBER
7281-00-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

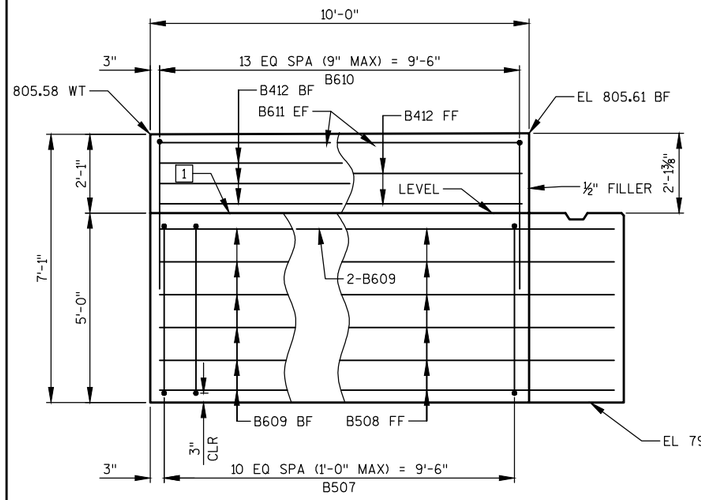
DRAWN BY JAK | PLANS CK'D. GAR

NORTH ABUTMENT

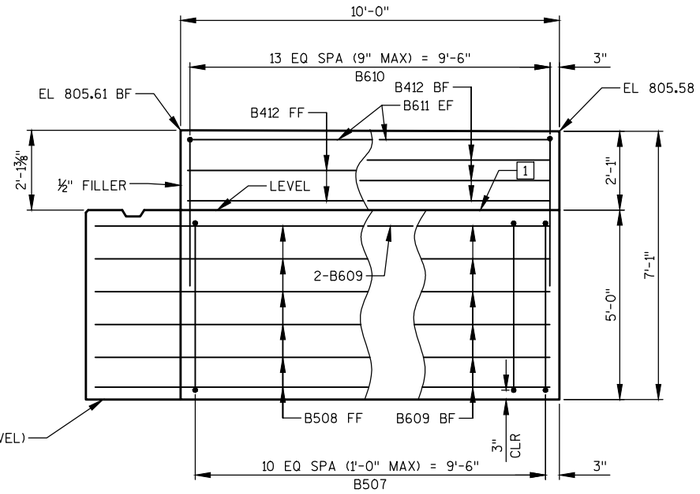
SHEET 7 OF 12
34

8

8



WING 3 ELEVATION



WING 4 ELEVATION

BILL OF BARS
NORTH ABUTMENT

COATED= 1340 LBS.
UNCOATED= 1480 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
B401		4	28 - 0	X		ABUTMENT BODY - 1 PER PILE	SPIRAL
B402		8	2 - 3			ABUTMENT BODY - 2 PER PILE	VERT
B503		33	13 - 8	X		ABUTMENT BODY - STIRRUPS	VERT
B604		11	26 - 2			ABUTMENT BODY - FF, TOP, BTM	HORIZ
B805		7	26 - 2			ABUTMENT BODY - BF	HORIZ
B506	25		2 - 0			ABUTMENT BODY - DOWELS	VERT
B507	22		15 - 4	X		WING WALL - BODY	VERT
B508	12		12 - 2			WING WALL - FF OF BODY	HORIZ
B609	16		11 - 11			WING WALL - BODY	HORIZ
B610	28		8 - 10	X		WING WALL - TOP	VERT
B611	4		9 - 7			WING WALL - TOP	HORIZ
B412	10		9 - 7			WING WALL - TOP	HORIZ

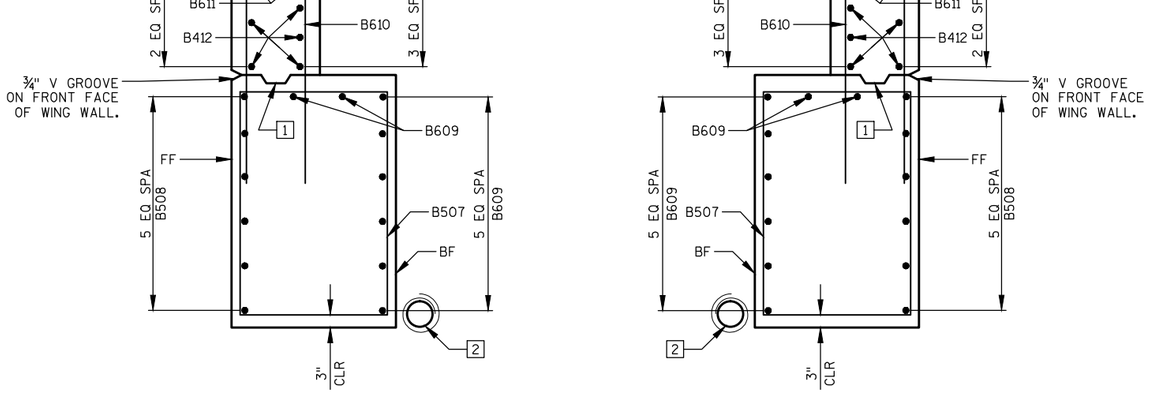
FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE
WT - WING TIP

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

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

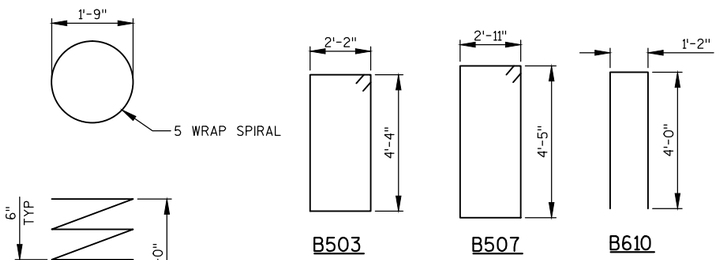
[1] OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY, WITH MEMBRANE ON BACK FACE.

[2] PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN TO SUITABLE DRAINAGE.

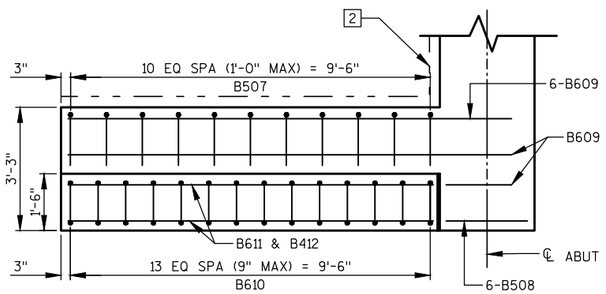


WING 3 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS

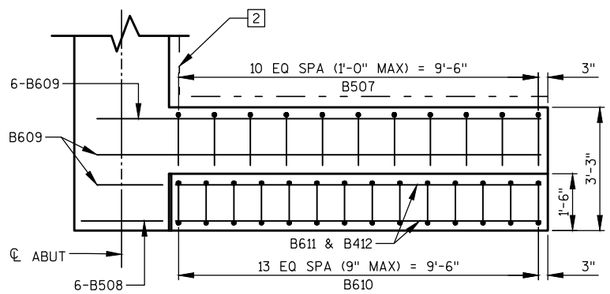
WING 4 SECTION
SEE SHEET 12 FOR RAIL POST ANCHORS



B401 B503 B507 B610



WING 3 PLAN
SPACE B610 TO MISS ANCHORS FOR RAIL POSTS.



WING 4 PLAN
SPACE B610 TO MISS ANCHORS FOR RAIL POSTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

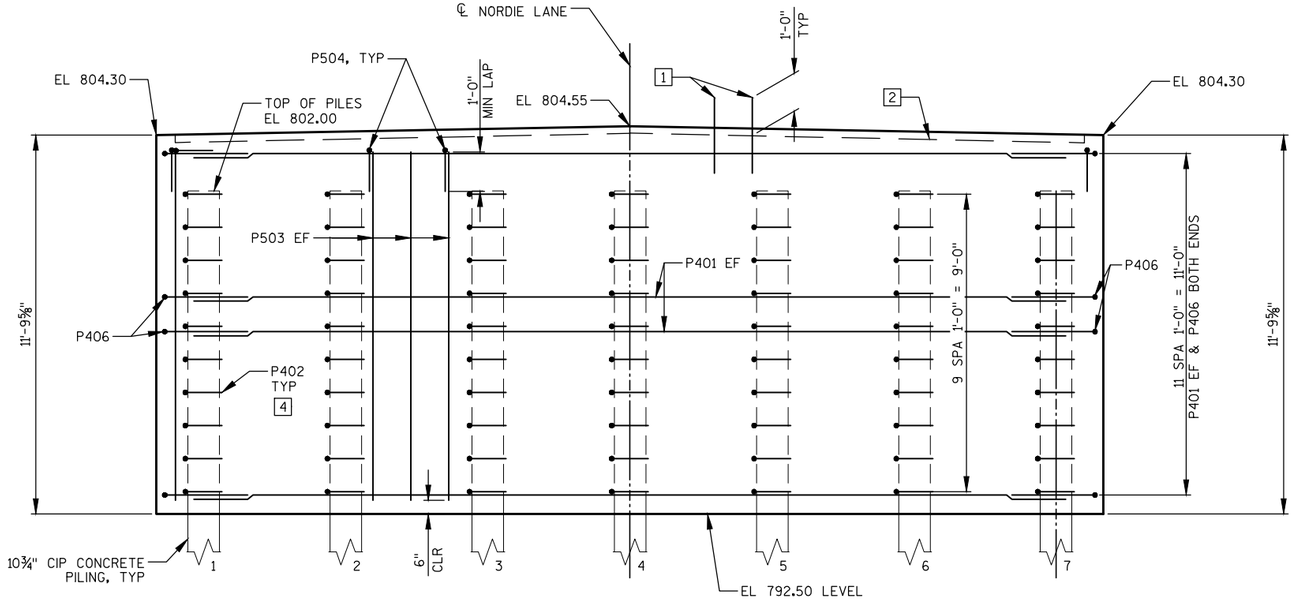
DRAWN BY JAK | PLANS CK'D. GAR

NORTH ABUTMENT DETAILS

SHEET 8 OF 12
35

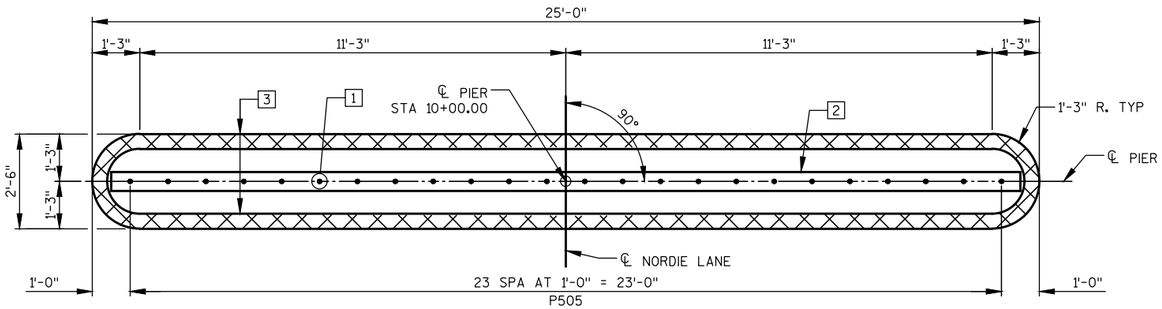
8

STATE PROJECT NUMBER
7281–00–71

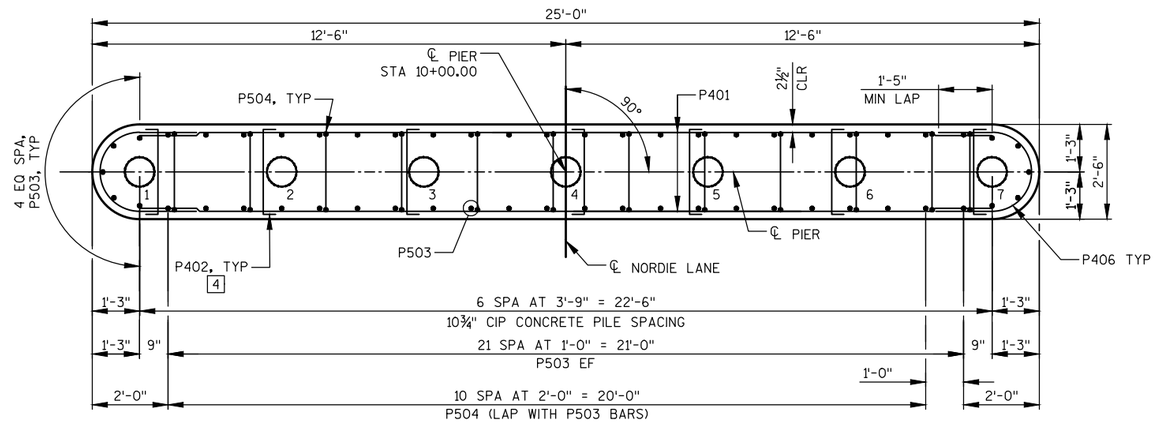


ELEVATION

(LOOKING NORTH)



PLAN



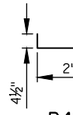
PILE AND REINFORCEMENT PLAN

BILL OF BARS
PIER

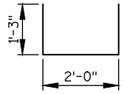
COATED= 0 LBS.
UNCOATED= 1320 LBS.

MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION
P401		24	22 - 6			SHAFT HORIZ
P402		70	2 - 8	X		SHAFT - TIES HORIZ
P503		54	11 - 1			SHAFT VERT
P504		12	4 - 3	X		SHAFT AT TOP VERT
P505		24	2 - 0			SHAFT DOWELS VERT
P406		24	6 - 1	X		SHAFT AT ENDS HORIZ

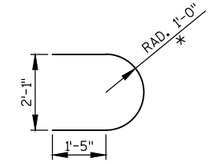
BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



P402

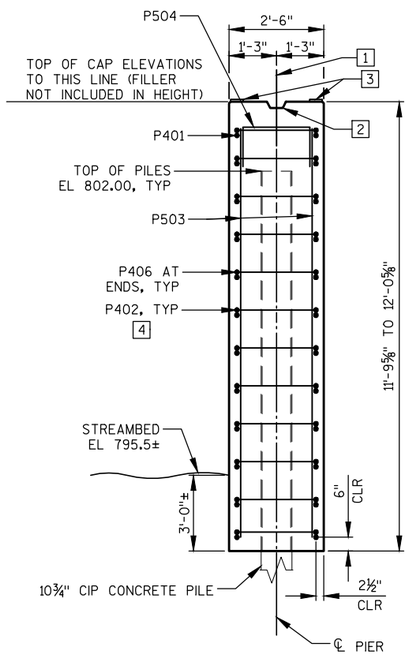


P504



* MEASURED ON INSIDE OF BAR

P406



TYPICAL SECTION THRU PIER

NOTES

PIERS TO BE SUPPORTED ON 10¾" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 60'-0" LONG.

FOR PILE SPLICE DETAILS SEE SHEET 3

1 P505 BARS MAY BE PLACED AFTER CONCRETE IS PLACED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

2 KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY. TERMINATE 6" FROM PIER ENDS.

3 4" X ¾" FILLER LENGTH OF PIER.

4 P402 PLACED ADJACENT TO EACH PILE AT 1'-0" VERTICAL CENTERS.

EF - EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–61–227

DRAWN BY JAK | PLANS CK'D. GAR

PIER DETAILS

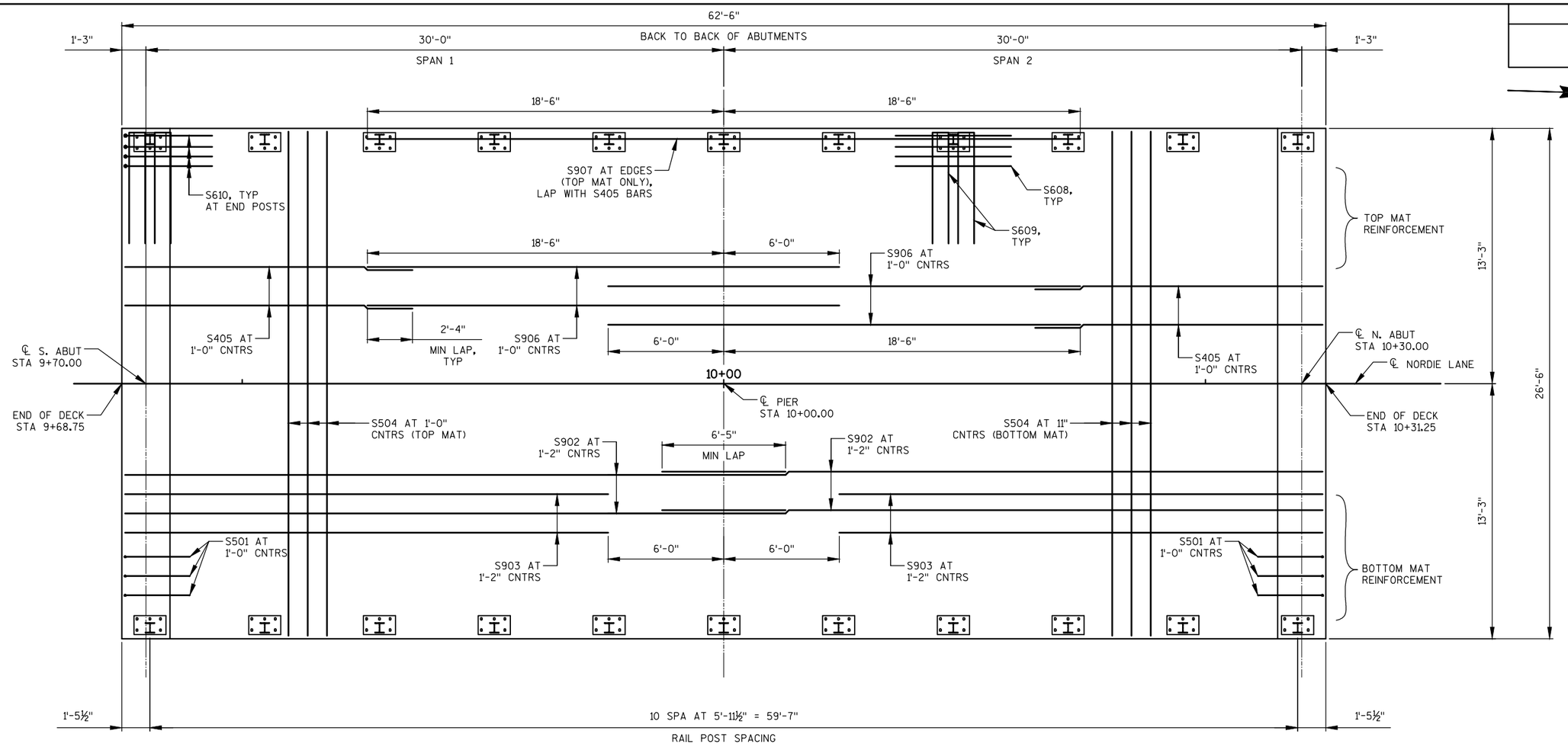
SHEET 8 OF 12
36

8

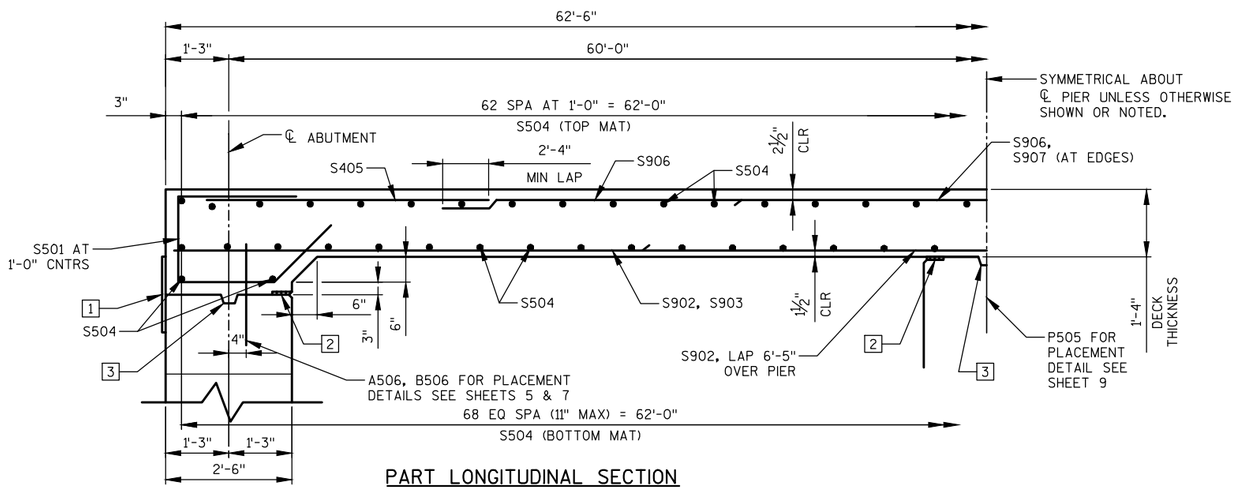
8

FILE NAME : X:±2005800±150564.01±TECH±CAD±72810071±DESIGN±STRUCTURE±080109_PI.DWG PLOT DATE : 8/1/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

STATE PROJECT NUMBER
7281-00-71



PLAN



PART LONGITUDINAL SECTION

NOTES

1. 18" RUBBERIZED MEMBRANE WATERPROOFING
2. 4" X ¾" FILLER
3. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

DRAWN BY JAK | PLANS CK'D. GAR

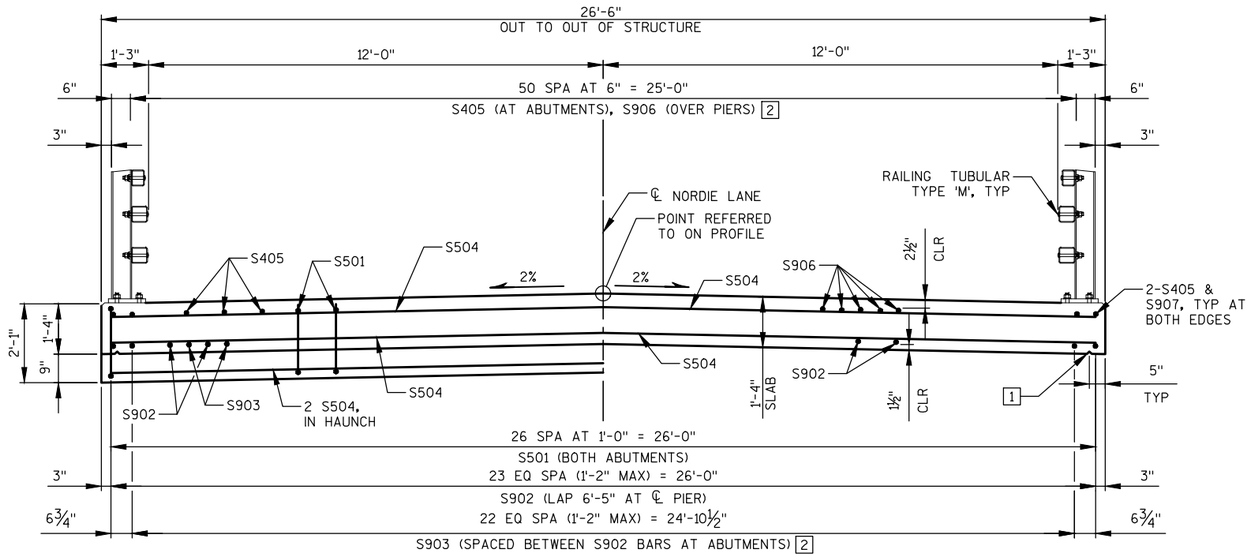
SUPERSTRUCTURE

SHEET 10 OF 12
37

8

8

STATE PROJECT NUMBER
7281-00-71



AT ABUTMENTS

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

AT PIER

BILL OF BARS
SUPERSTRUCTURE

COATED= 20310 LBS.
UNCOATED= 0 LBS.

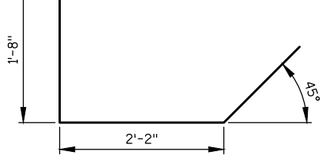
MARK	NUMBER COATED	NUMBER UNCOATED	LENGTH FT - IN	BENT	BAR SERIES	LOCATION	
S501	54		7 - 10	X		SLAB - ABUTMENT TIES	LONGIT
S902	48		34 - 4			SLAB - BOTTOM	LONGIT
S903	46		25 - 1			SLAB - BOTTOM	LONGIT
S504	136		26 - 2			SLAB - TOP & BOTTOM	TRANS
S405	55		14 - 11			SLAB - TOP	LONGIT
S906	51		24 - 6			SLAB - TOP	LONGIT
S907	2		37 - 0			SLAB - TOP AT EDGES	LONGIT
S608	72		6 - 0			RAILING ANCHORS	LONGIT
S609	44		12 - 0	X		RAILING ANCHORS	TRANS
S610	16		5 - 8	X		RAILING ANCHORS AT CORNERS	TRANS

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS.

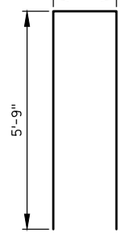
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

TOP OF DECK ELEVATIONS

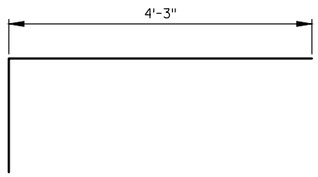
SPAN PT.	WEST EDGE STATION	WEST EDGE ELEVATION	CENTERLINE/CROWN STATION	CENTERLINE/CROWN ELEVATION	EAST EDGE STATION	EAST EDGE ELEVATION
S. ABUT.	9 + 70.00	805.78	9 + 70.00	806.04	9 + 70.00	805.78
0.1	9 + 73.00	805.77	9 + 73.00	806.03	9 + 73.00	805.77
0.2	9 + 76.00	805.76	9 + 76.00	806.02	9 + 76.00	805.76
0.3	9 + 79.00	805.75	9 + 79.00	806.01	9 + 79.00	805.75
0.4	9 + 82.00	805.74	9 + 82.00	806.00	9 + 82.00	805.74
0.5	9 + 85.00	805.73	9 + 85.00	805.99	9 + 85.00	805.73
0.6	9 + 88.00	805.72	9 + 88.00	805.98	9 + 88.00	805.72
0.7	9 + 91.00	805.72	9 + 91.00	805.98	9 + 91.00	805.72
0.8	9 + 94.00	805.70	9 + 94.00	805.96	9 + 94.00	805.70
0.9	9 + 97.00	805.69	9 + 97.00	805.95	9 + 97.00	805.69
PIER	10 + 00.00	805.69	10 + 00.00	805.95	10 + 00.00	805.69
0.1	10 + 03.00	805.68	10 + 03.00	805.94	10 + 03.00	805.68
0.2	10 + 06.00	805.67	10 + 06.00	805.93	10 + 06.00	805.67
0.3	10 + 09.00	805.66	10 + 09.00	805.92	10 + 09.00	805.66
0.4	10 + 12.00	805.65	10 + 12.00	805.91	10 + 12.00	805.65
0.5	10 + 15.00	805.64	10 + 15.00	805.90	10 + 15.00	805.64
0.6	10 + 18.00	805.63	10 + 18.00	805.89	10 + 18.00	805.63
0.7	10 + 21.00	805.62	10 + 21.00	805.88	10 + 21.00	805.62
0.8	10 + 24.00	805.61	10 + 24.00	805.87	10 + 24.00	805.61
0.9	10 + 27.00	805.60	10 + 27.00	805.86	10 + 27.00	805.60
N. ABUT.	10 + 30.00	805.59	10 + 30.00	805.85	10 + 30.00	805.59



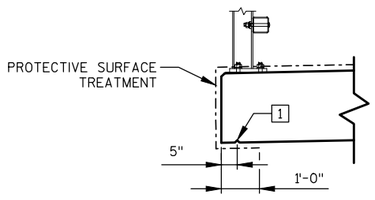
S501



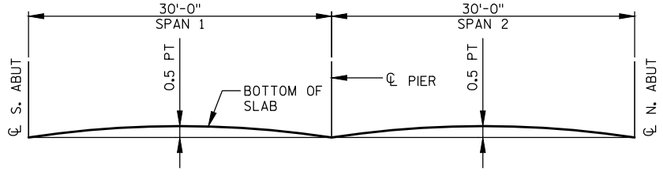
S609



S610



PROTECTIVE SURFACE TREATMENT DETAIL



CAMBER DIAGRAM

CAMBER SPAN AS SHOWN (USING VALUES IN TABLE) TO PROVIDE FOR DEAD LOAD DEFLECTION & FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

SPAN (PT)	CAMBER (IN)
℄ S ABUT	0
0.1	⅛
0.2	¼
0.3	⅜
0.4	⅜
0.5	⅜
0.6	¼
0.7	¼
0.8	⅛
0.9	0
℄ PIER	0
0.1	0
0.2	⅛
0.3	¼
0.4	¼
0.5	⅜
0.6	⅜
0.7	⅜
0.8	¼
0.9	⅛
℄ N ABUT	0

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

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT 5/0 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG END OF DECK AND ℄.

1 ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. V-GROOVES ARE REQUIRED.

2 ALTERNATE BAR PLACEMENT AS SHOWN IN THE PLAN VIEW ON SHEET 10.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-61-227

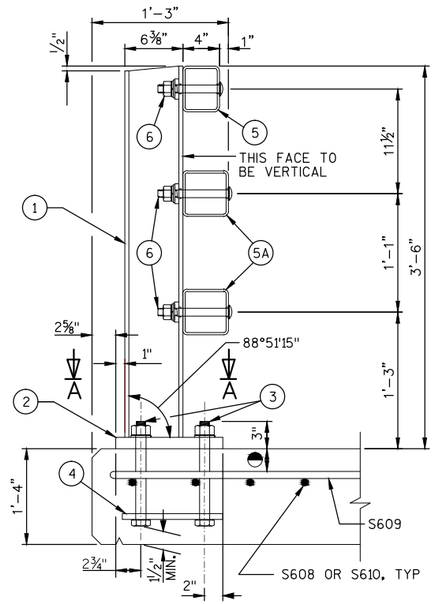
DRAWN BY JAK | PLANS CK'D. GAR

SUPERSTRUCTURE DETAILS

SHEET 11 OF 12
38

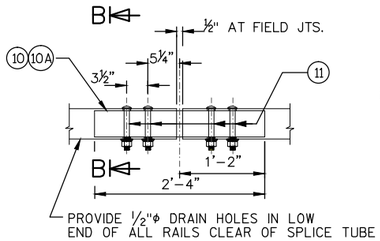
8

FILE NAME : X:±2005800±150564.01±TECH±CAD±72810071±DESIGN±STRUCTURE±080110_SS.DWG PLOT DATE : 8/1/2016 PLOT BY : MATTHEW BUCKLI PLOT SCALE : 1" = 1'

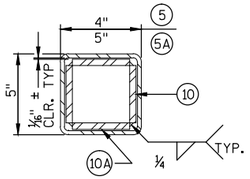


SECTION THRU RAILING ON DECK

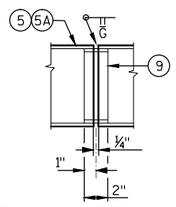
◓ PLACE BELOW TOP MAT OF SLAB REINF.



FIELD ERECTION JOINT DETAIL

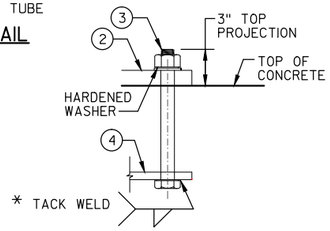


SECTION B-B



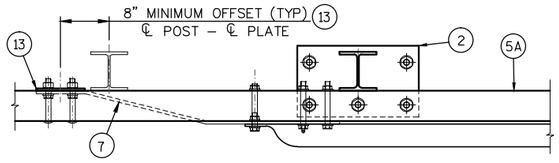
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



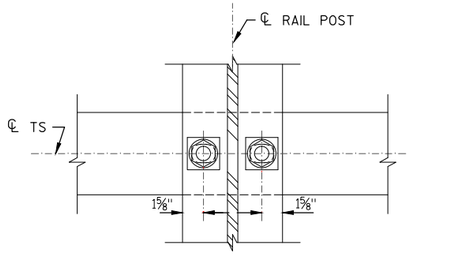
ANCHOR BOLTS

* FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTABILITY.

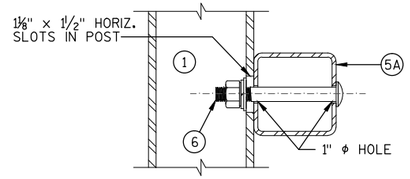


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



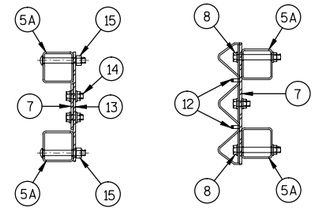
SECTION THRU POST WEB



SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C

SECTION D-D

LEGEND

① W6 × 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1¼" × 11¾" × 1'-8" WITH 1⅜" X 1⅜" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN WINGS AND 10¾" LONG IN SLAB. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

④ ⅝" × 11" × 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1³⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 3

⑤ TS 5 × 4 × 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑤A TS 5 × 5 × 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ⅜" X 1⅜" X 1⅜" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

⑦ ½" THK. BACK-UP PLATE WITH 2 -⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

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

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

⑩ ⅜" X 3⅝"X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

⑪ ⅞" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15⁄16 " X 1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 15⁄16 " X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

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

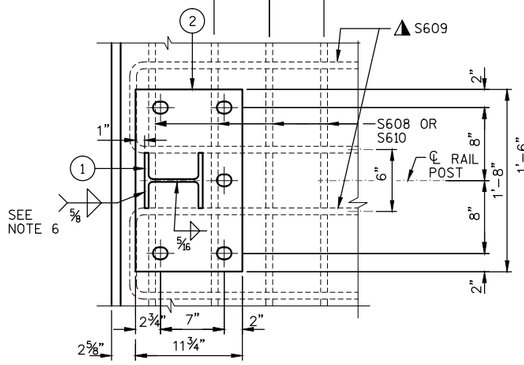
⑬ ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

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

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

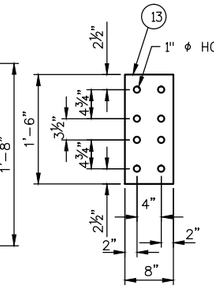
GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-61-227" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



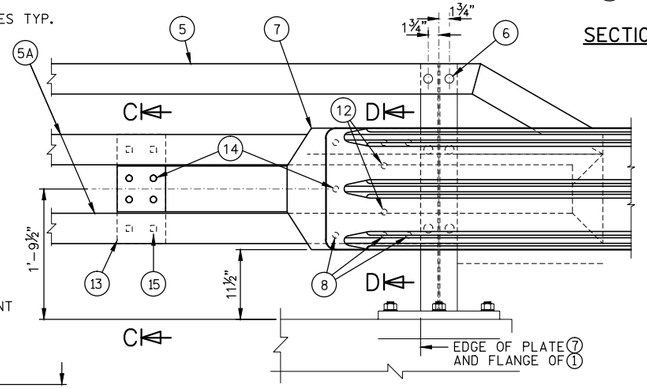
SECTION A-A

▲ TIE TO TOP MAT OF STEEL.



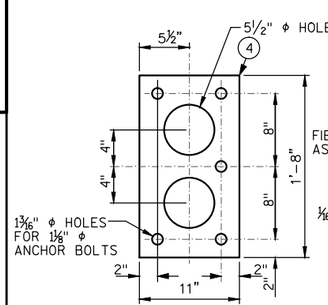
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT



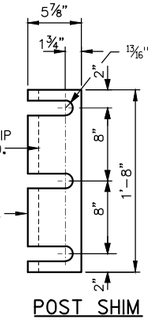
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT

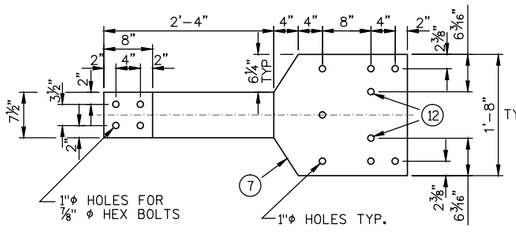


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

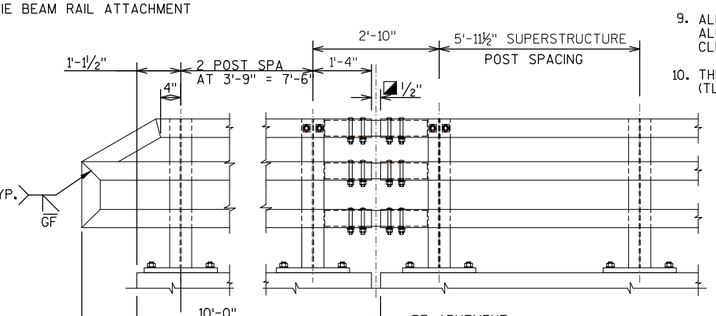


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

◪ ½" JOINT FILLER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STATE PROJECT NUMBER
7281-00-71

STRUCTURE B-61-227

DRAWN BY JAK | PLANS CK'D. GAR

TUBULAR STEEL RAILING TYPE 'M'

SHEET 12 OF 12
39

8

8

STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
8+50	20	0	0	0	0	0	0	0	0
8+75	19	0	1	18	0	0	18	0	17
9+00	17	0	4	16	0	2	34	3	31
9+25	19	0	12	17	0	8	51	13	38
9+50	21	0	11	18	0	11	69	27	43
9+60	21	0	0	8	0	2	77	29	48
9+60	0	0	0	0	0	0	77	29	48
10+40	0	0	47	0	0	69	77	116	-39
10+40	21	0	47	0	0	0	77	116	-39
10+50	21	0	47	8	0	17	84	138	-53
10+75	20	0	39	19	0	40	103	187	-84
11+00	22	0	5	19	0	20	122	213	-90
11+25	22	0	2	20	0	3	143	217	-74
11+50	22	0	5	20	0	3	163	221	-58
			Column Total	163	0	177			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

No Marsh or EBS is anticipated.

STATION	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Mass Ordinate Note 4
18+07	1	0	2	0	0	0	0	0	0
18+50	1	0	19	1	0	16	1	20	-19
19+00	0	0	92	1	0	102	2	148	-146
19+50	0	0	117	0	0	193	2	389	-387
19+80	0	0	117	0	0	130	2	551	-549
19+80	0	0	0	0	0	0	2	551	-549
20+20	0	0	0	0	0	0	2	551	-549
20+20	0	0	98	0	0	0	2	551	-549
20+50	0	0	98	0	0	108	2	687	-685
21+00	0	0	86	0	0	170	2	899	-897
21+50	1	0	24	1	0	102	3	1026	-1024
21+94	1	0	5	1	0	24	4	1056	-1052
			Column Total	4	0	845			

Notes:
1 - Cut (Salvaged/Unusable Pavement Material is Included)
2 - Salvaged/Unusable Pavement Material (This does not show up in cross sections.)
3 - Fill (Does not include Unuseable Pavement volume.)
4 - The Mass Ordinate + or - quantity calculated. Plus quantity indicates as excess of material. Minus indicates a shortage of

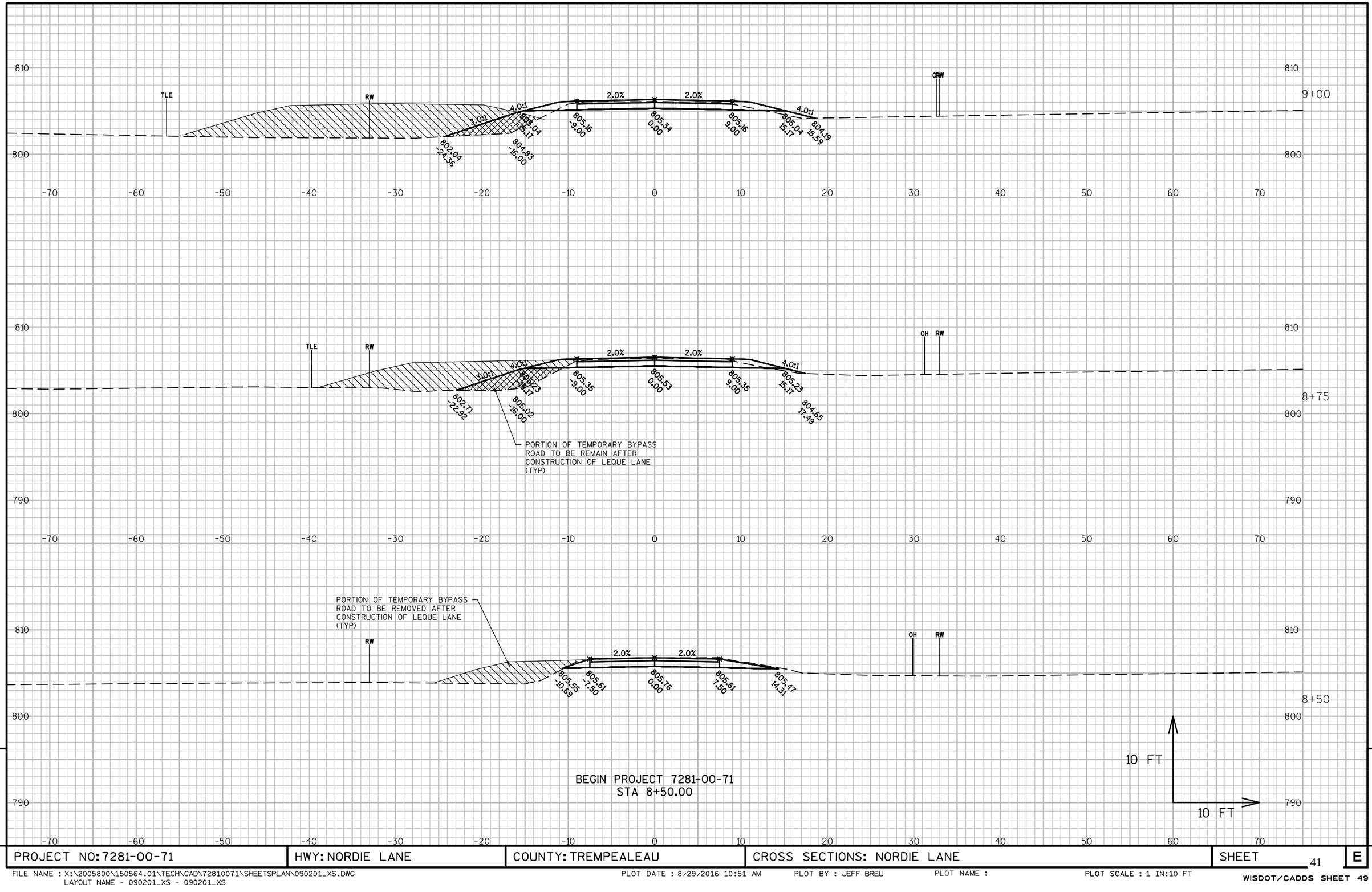
No Marsh or EBS is anticipated.

9

9

PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	EARTHWORK SUMMARY	SHEET NO: 40	E

FILE NE : PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ ORG DATE : ORIGINATOR : PLOT SCALE :



9

9

PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: NORDIE LANE	SHEET 41	E

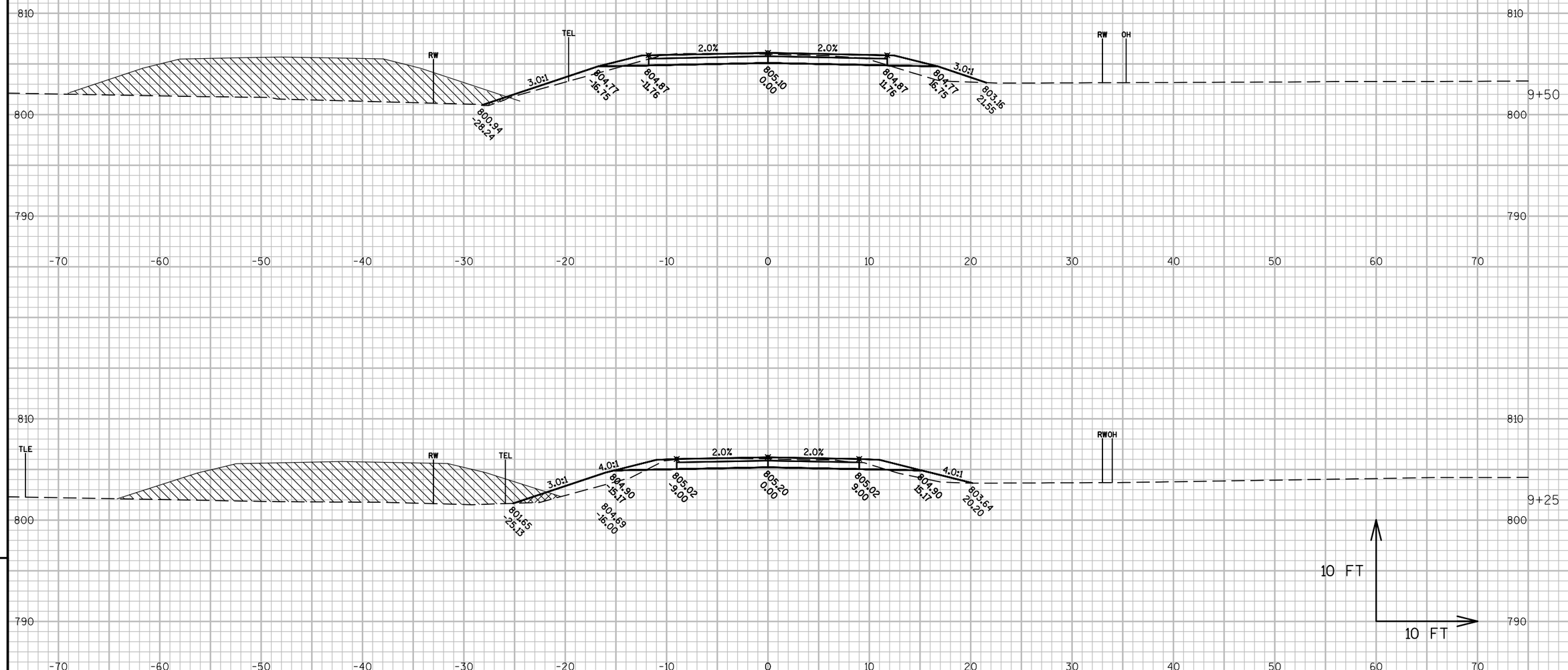
FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090201_XS

PLOT DATE : 8/29/2016 10:51 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

CONSTRUCT
STRUCTURE B-61-227
STA 10+00.00

BEGIN DECK STA 9+68.75

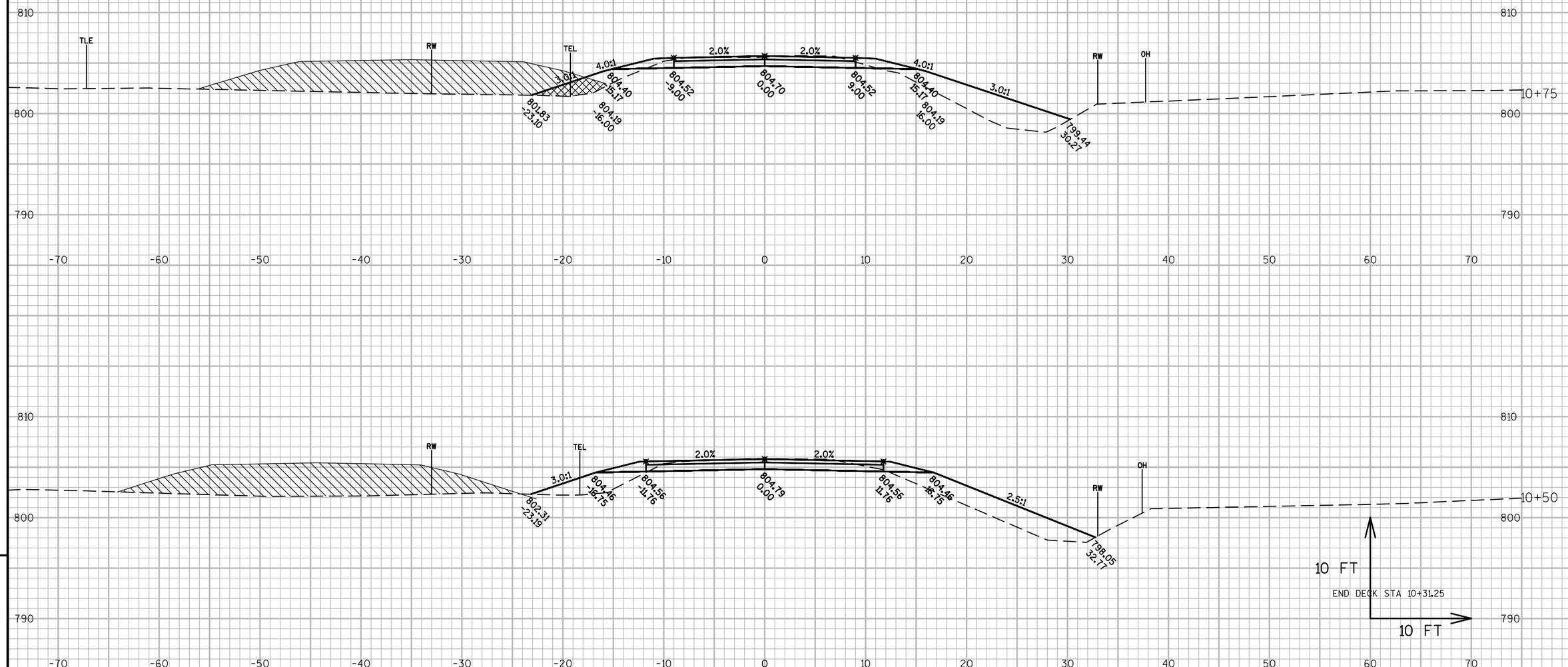


PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: NORDIE LANE	SHEET 42	E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090202_XS

PLOT DATE : 8/29/2016 10:51 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



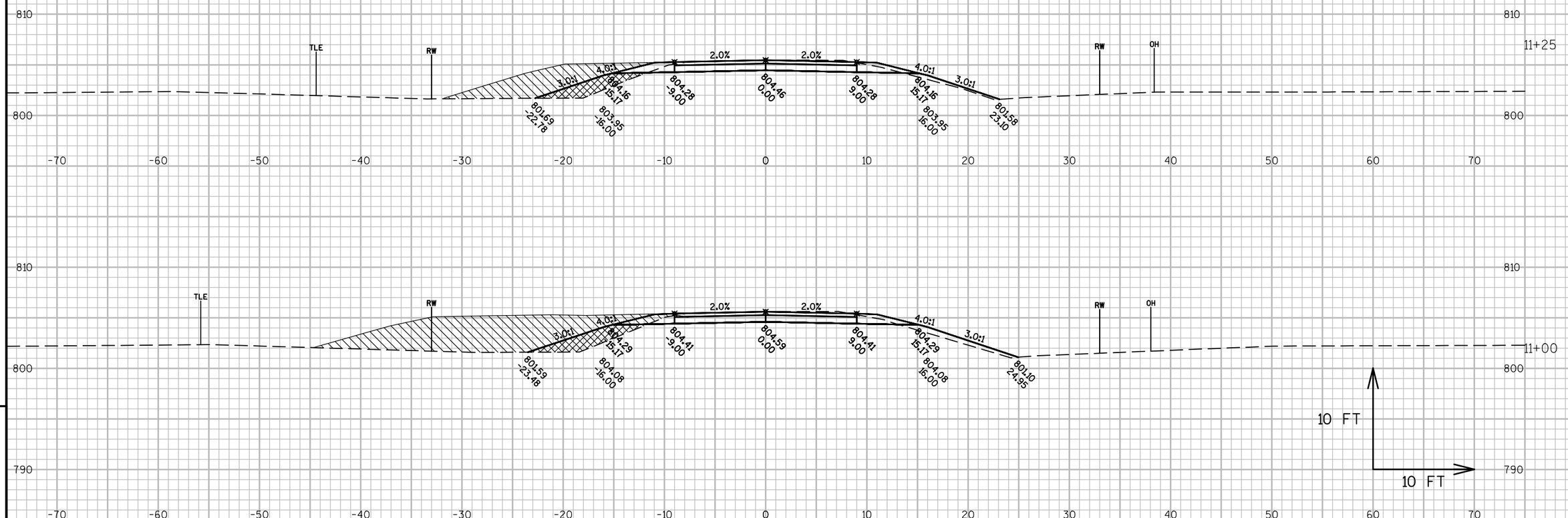
PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: NORDIE LANE	SHEET 43	E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090203_XS

PLOT DATE : 8/29/2016 10:51 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

END PROJECT 7281-00-71
STA 11+50.00



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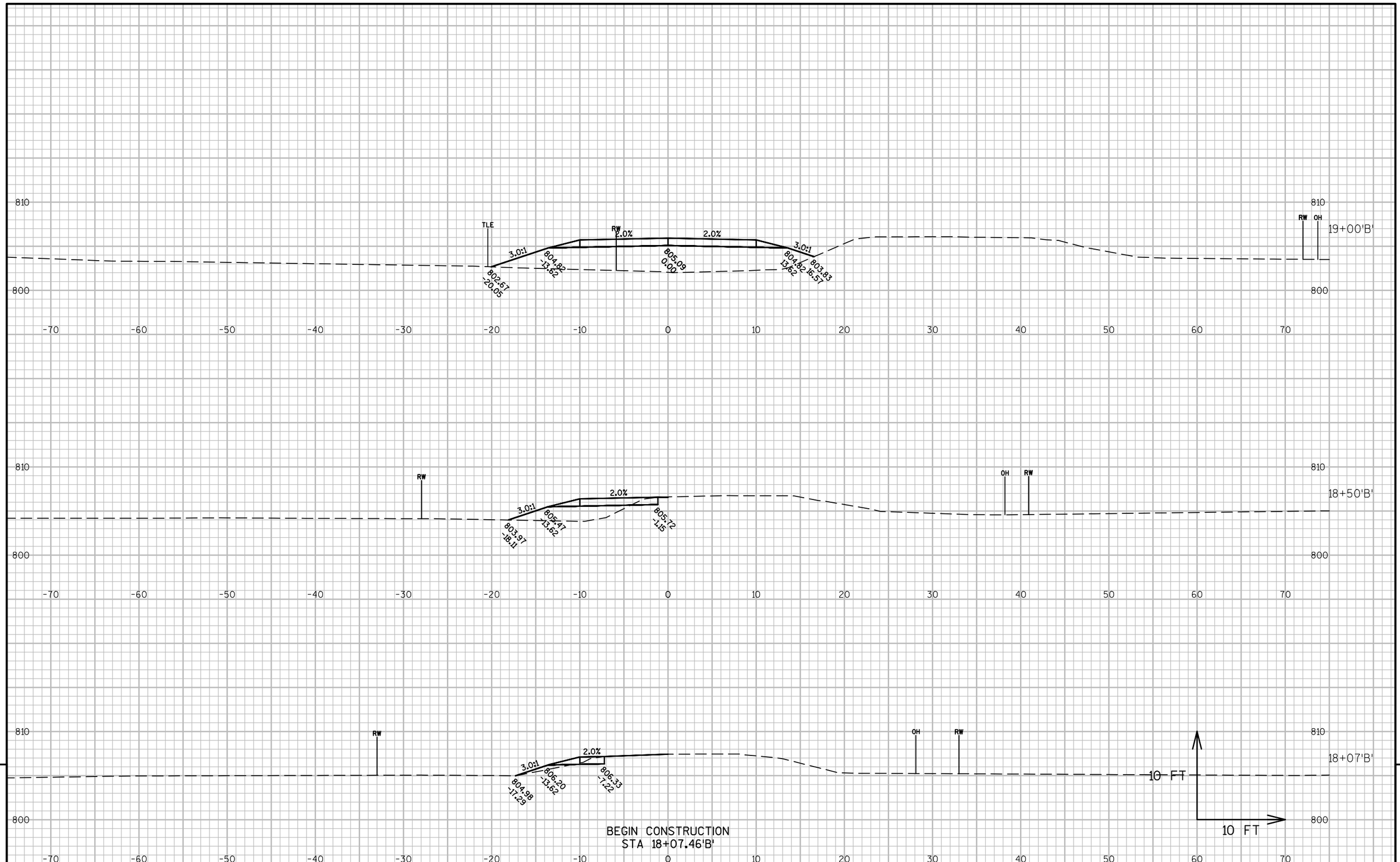
PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: NORDIE LANE	SHEET 44	E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_XS - 090204_XS

PLOT DATE : 8/29/2016 10:51 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

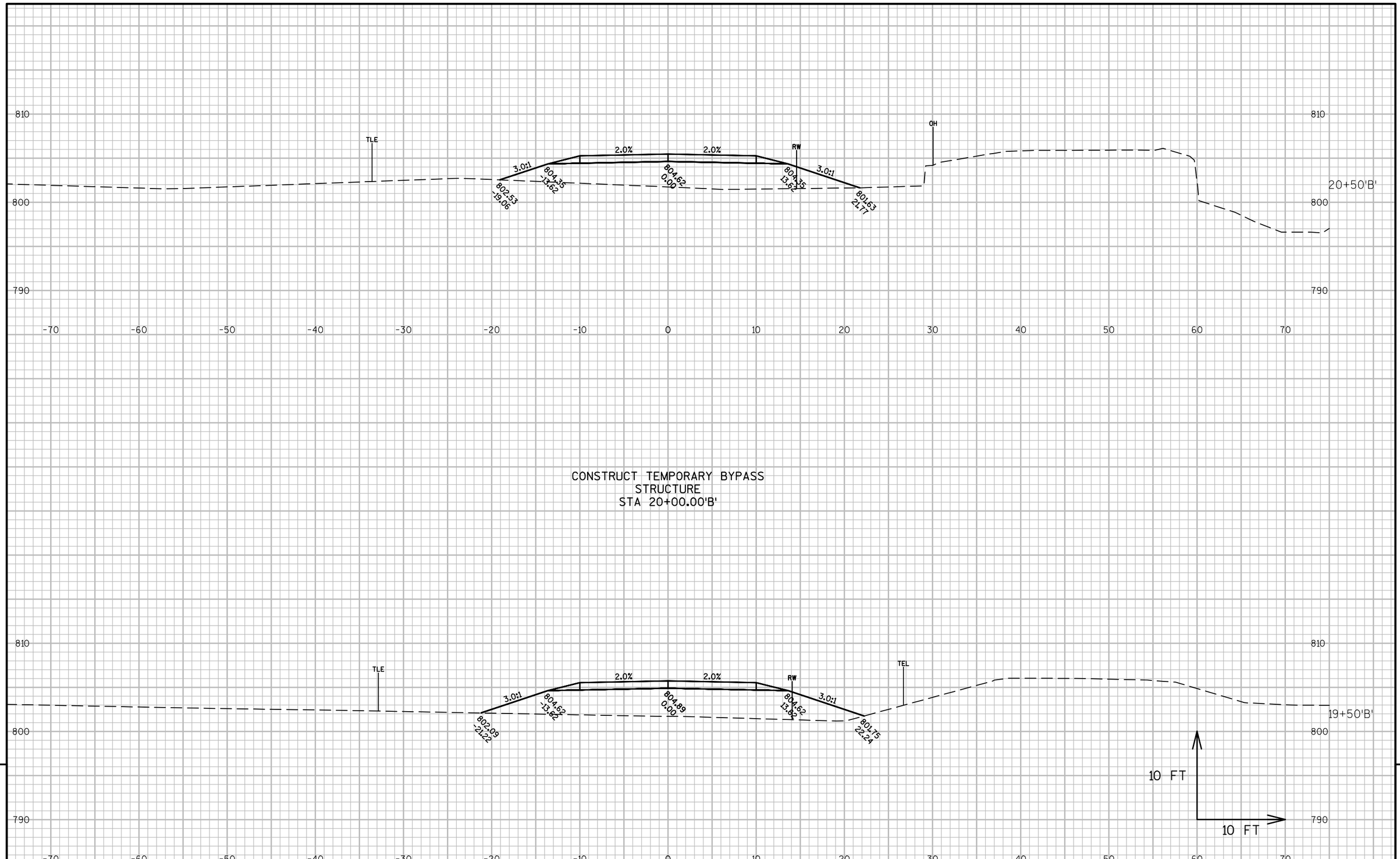


PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 45	E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\090251_XS.DWG
LAYOUT NAME - 090251_XS - 090251_XS

PLOT DATE : 8/29/2016 10:45 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 46	E

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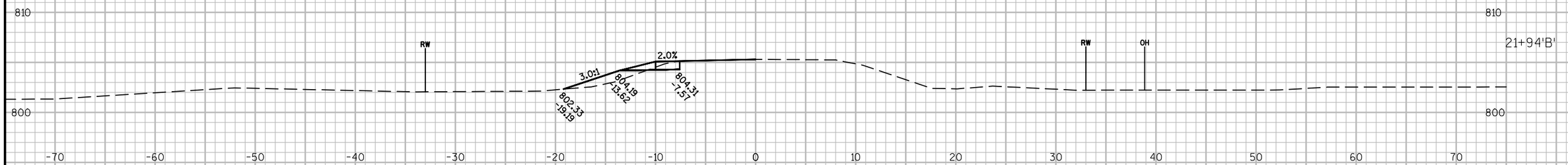
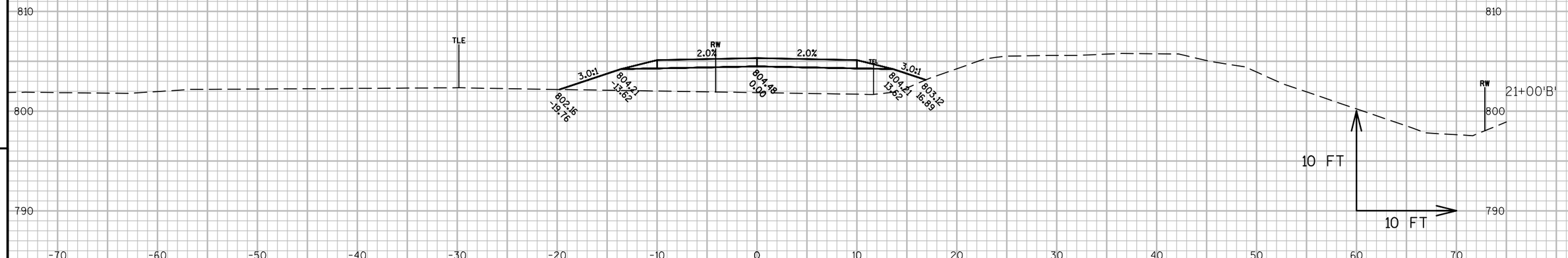
LAYOUT NAME - 090251_XS - 090252_XS

PLOT DATE : 8/29/2016 10:45 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

END CONSTRUCTION
STA 21+94.31'B'





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9

PROJECT NO: 7281-00-71	HWY: NORDIE LANE	COUNTY: TREMPEALEAU	CROSS SECTIONS: TEMPORARY BYPASS ROAD	SHEET 47	E

FILE NAME : X:\2005800\150564.01\TECH\CAD\72810071\SHEETSPLAN\090251_XS.DWG
LAYOUT NAME - 090251_XS - 090253_XS

PLOT DATE : 8/29/2016 10:45 AM PLOT BY : JEFF BREU PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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