MAD MAY 2015

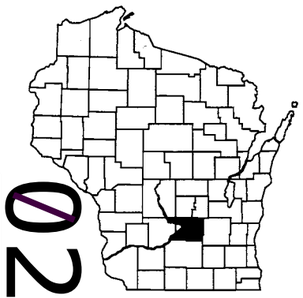
PROJECT ID: 1111-05-62

WITH:

COUNTY: COLUMBIA COUNTY

ORDER OF SHEETS

TOTAL SHEETS = 84



02

N

DESIGN DESIGNATION

A.A.D.T.	2014	= 21,300
A.A.D.T.	2034	= 27,700
D.H.V.		= 6.8
D.D.		= 59/41
T.		= 7.9
DESIGN SPEED		= 70 MPH
ESALS		= 6,776,626

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SUN PRAIRIE - BEAVER DAM

(MAPLE AVENUE BRIDGE B-11-0083)

USH 151

COLUMBIA COUNTY

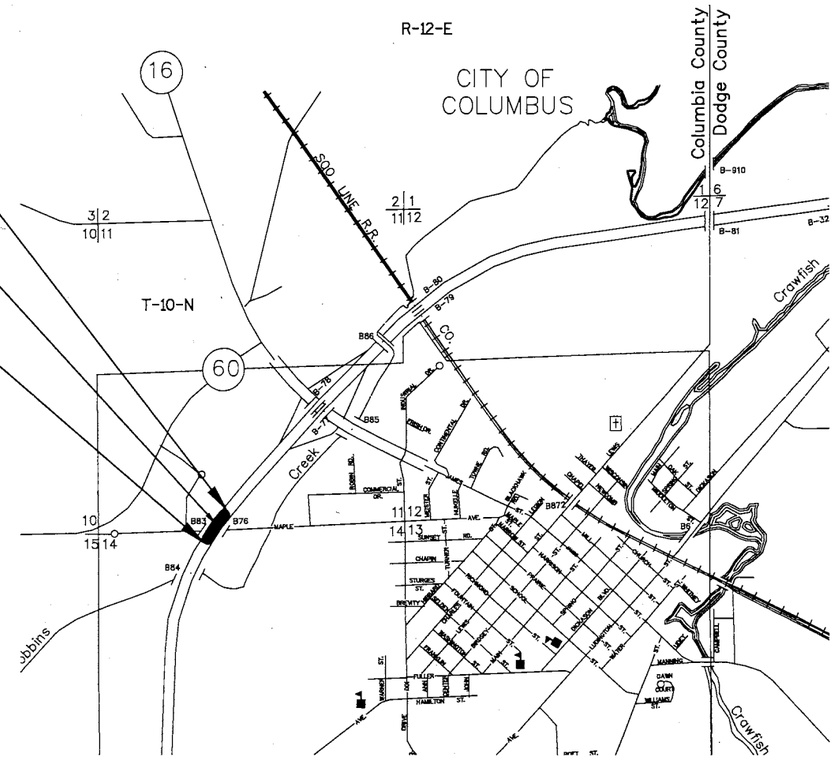
STATE PROJECT NUMBER
1111-05-62

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1111-05-62	WISC 2015279	1

END PROJECT
STA. 1421+00

STRUCTURE B-11-83
STA. 1410+54.91

BEGIN PROJECT
STA. 1404+60
X: 648718.9367
Y: 322053.8141



LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.310 MI

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JOHN MORAN
Designer	DELLA KOENIG
Project Manager	ROBERT LEX
Regional Examiner	
Regional Supervisor	KURT JOHNSON

APPROVED FOR THE DEPARTMENT

DATE 04/21/2014 Kurt A Johnson (Signature)

E

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment
AGG	Aggregate
AH	Ahead
∠	Angle
AADT	Annual Average Daily Traffic
ASPH	Asphaltic
BK	Back
BM	Bench Mark
BR	Bridge
CL	Center Line
Δ	Central Angle or Delta
CONC	Concrete
CO	County
D	Degree of Curve
DHV	Design Hour Volume
E	East
X	East Grid Coordinate
EB	Eastbound
ELEV	Elevation
ESALS	Equivalent Single Axle Loads
EXC	Excavation
EXIST	Existing
FERT	Fertilize
FG	Finished Grade
FAB	Flashing Arrow Board
FL	Flow Line
FT	Foot
CWT	Hundredweight
IN DIA	Inch Diameter
I	Intersection Angle
JT	Joint
LT	Left
L	Length of Curve
LF	Linear Foot
LS	Lump Sum
MAINT	Maintenance
ML	Match Line
MATL	Material
MB	Message Board
NC	Normal Crown
N	North
Y	North Grid Coordinate
NB	Northbound
PAVT	Pavement
PERM	Permanent
PC	Point of Curvature
PI	Point of Intersection
PT	Point of Tangency
PCC	Portland Cement Concrete
LB	Pound
PSI	Pounds Per Square Inch
PROJ	Project
R	Radius
RL	Reference Line
REBAR	Reinforcement Bar
REINF	Reinforcing or Reinforcement
REL	Relocate (d)
RT	Right
R/W	Right-of-Way
RDWY	Roadway
SALV	Salvaged
SHLDR	Shoulder
S	South
SB	Southbound
SPECS	Specifications
SF	Square Feet
SY	Square Yard
STD	Standard
SDD	Standard Detail Drawings
STH	State Trunk Highways
STA	Station
STR	Structure or Structural
SE	Superelevation
SURF	Surface
T	Tangent
TEMP	Temporary
TPM	Temporary Pavement Marking
TPMRT	Temporary Pavement Marking, Removable Tape
T	Ton
T or TN	Town
TYP	Typical
UG	Underground
USH	United States Highway
VERT	Vertical
VC	Vertical Curve
VPC	Vertical Point of Curve
VPI	Vertical Point of Intersection
VPT	Vertical Point of Tangency
W	Water
WM	Water Main
W	West
WB	Westbound
YD	Yard

GENERAL NOTES

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

THE LOCATIONS OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGER'S HOTLINE AND/OR A DIRECT CALL TO THE INDIVIDUAL UTILITY COMPANIES, WHICH HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGER'S HOTLINE.

HMA PAVEMENT TYPE E-.3 PG 58-28, SHALL BE PLACED IN ONE LAYER.

HMA WEIGHT CALCULATIONS ARE BASED ON 110 LB/SY/IN.

PRIOR TO PLACEMENT OF BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

LOCATION, NUMBER AND SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES, AS SHOWN IN THE PLANS, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGE TOPSOILED, FERTILIZED AND SEEDED OR EROSION MATTING AS DIRECTED BY THE ENGINEER.

EROSION CONTROL ITEMS SHOWN ON PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL CONFIRM THE LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. AT THAT TIME, THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION CONTROL ITEM INCIDENTAL TO THE COST OF THE RESPECTIVE BID ITEM.

PLAN ELEVATION REFERENCED TO WCCS NAD83

DETAILS OF CONSTRUCTION NOT SHOWN SHALL BE IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

FINISHING ROADWAY SHALL INCLUDE CLEANOUT OF ALL EXISTING DRAINAGE STRUCTURES INSTALLED UNDER THIS CONTRACT, AS DIRECTED BY THE ENGINEER.

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

UTILITES

ATC MANAGEMENT, INC. - ELECTRICITY
MIKE OLSEN
801 O'KEEFE RD
P.O. BOX 6113
DE PERE, WI 54115-6113
(920) 338-6582
MOLSEN@ATCLLC.COM

ATC MANAGEMENT, INC. - ELECTRICITY
FIELD CONTACT:
ALEX METZ
ATC MANAGEMENT, INC. - ELECTRIC
5303 FEN OAK DR
MADISON, WI 53718
(608) 877-7105
AMETZ@ATCLLC.COM

WALTER WELK
70 E DIVISION ST
FOND DU LAC, WI 54935
(920) 929-1016
WW5363@ATT.COM

AT&T WISCONSIN - COMMUNICATION LINE
FIELD CONTACT:
CHUCK BARTELT
AT&T WISCONSIN - COMMUNICATION LINE
70 E DIVISION ST
FOND DU LAC, WI 54935
(920) 929-0013
(920) 410-5104 MOBILE

COLUMBUS WATER & LIGHT DEPT - ELECTRIC & WATER
ERIC ANTHON
950 MAPLE AVE
P.O. BOX 228
COLUMBUS, WI 53925-0228
(920) 763-3471
EANTHON@COLUMBUSWATERANDLIGHT.COM

WE ENERGIES - GAS/PETROLEUM
LATROY BRUMFIELD
333 W EVERETT ST. A299
MILWAUKEE, WI 53203
(414) 221-5617
(414) 975-9053 MOBILE
LATROY.BRUMFIELD@WE-ENERGIES.COM

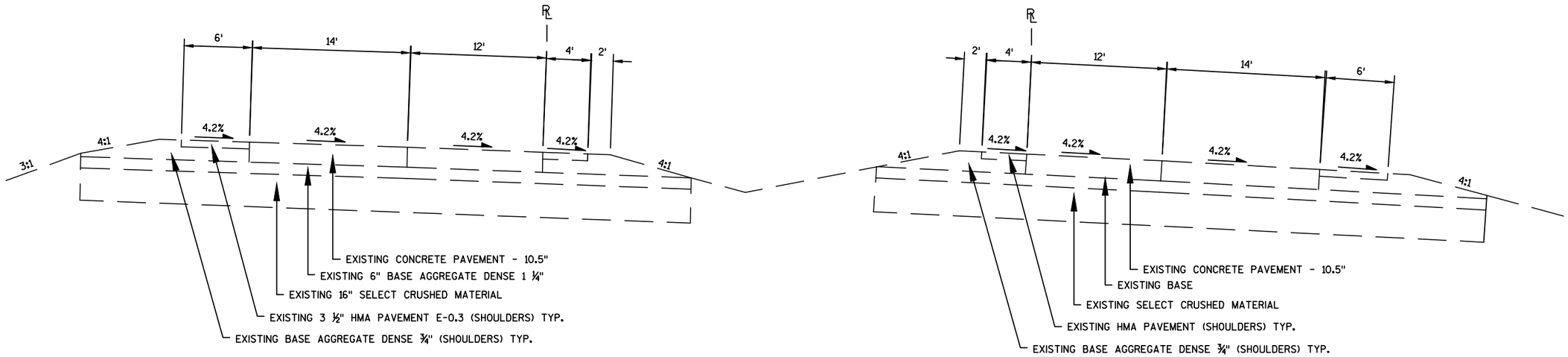
WE ENERGIES - GAS/PETROLEUM
FIELD CONTACT:
RICHARD WROBLEWSKI
500 S 116 STREET
WEST ALLIS, WI 53214
(414) 944-5767
(414) 588-5435
RICHARD.WROBLEWSKI@WE-ENERGIES.COM

WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATION LINE
DONALD SCHELL
433 W. ST. PAUL AVE STE 300
MILWAUKEE, WI 53203-3007
(414) 227-2148
DONALD.SCHELL@DOT.WI.GOV

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ERIC HEGGELUND
3911 FISH HATCHERY ROAD
MADISON, WI 53711
(608) 275-3301

WISCONSIN DEPARTMENT OF TRANSPORTATION -SW REGION
ROBERT LEX
2101 WRIGHT ST
MADISON, WI 53704
(608) 246-5622

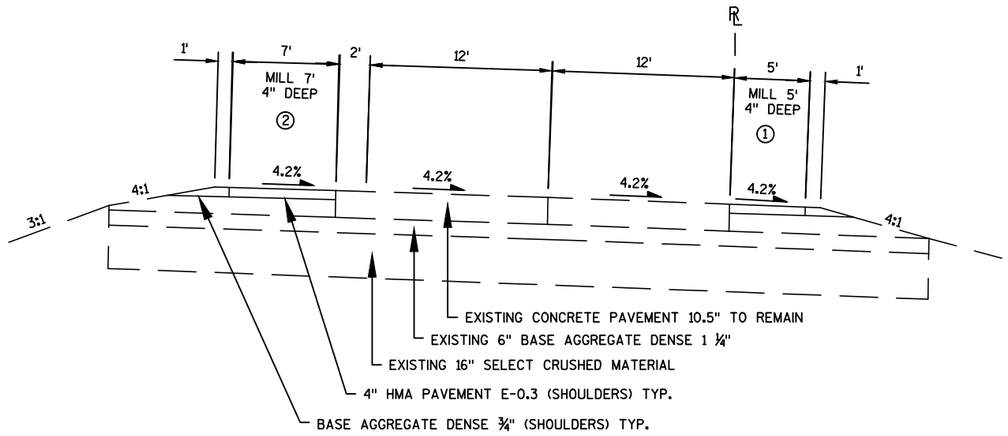
WISCONSIN DEPARTMENT OF TRANSPORTATION - SW REGION
DELLA KOENIG
2101 WRIGHT ST
MADISON, WI 53704
(608) 246-7963



EXISTING TYPICAL SECTION

USH 151 SB AND NB
STA. 1404+60 - STA. 1421+00

PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	PLAN: TYPICAL SECTIONS	SHEET 3	E



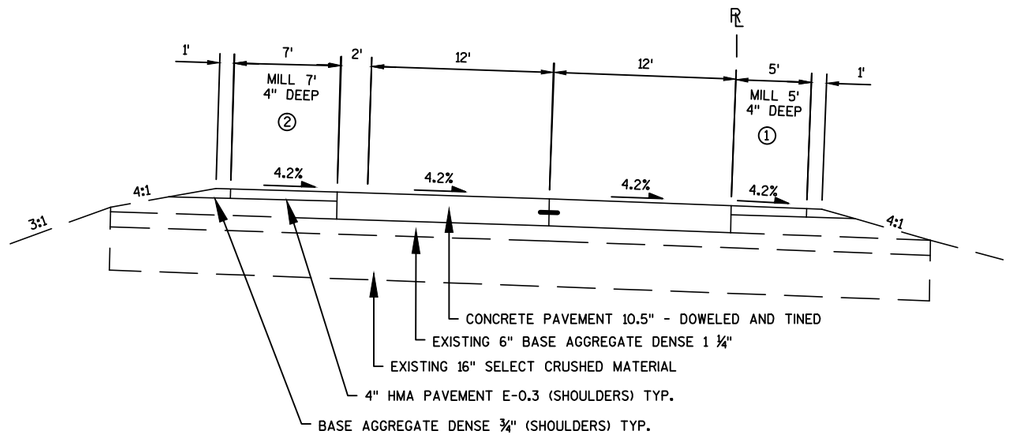
NOTES:

① FULL WIDTH PAVED SHOULDER 6' AT BEAMGUARD.

② FULL WIDTH PAVED SHOULDER 8' AT BEAMGUARD.

PROPOSED TYPICAL SECTION

USH 151 SB
STA. 1404+60 - STA. 1409+00
STA. 1414+50 - STA. 1421+00



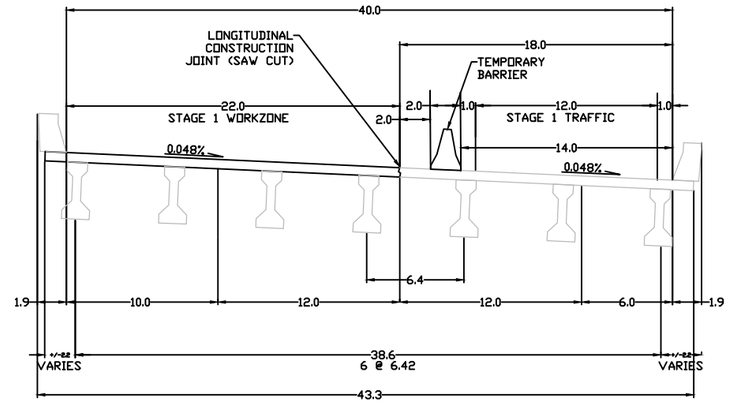
PROPOSED TYPICAL SECTION

USH 151 SB
STA. 1409+00 - STA. 1410+56
STA. 1412+37 - STA. 1414+50

PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	PLAN: TYPICAL SECTIONS	SHEET 4	E

2

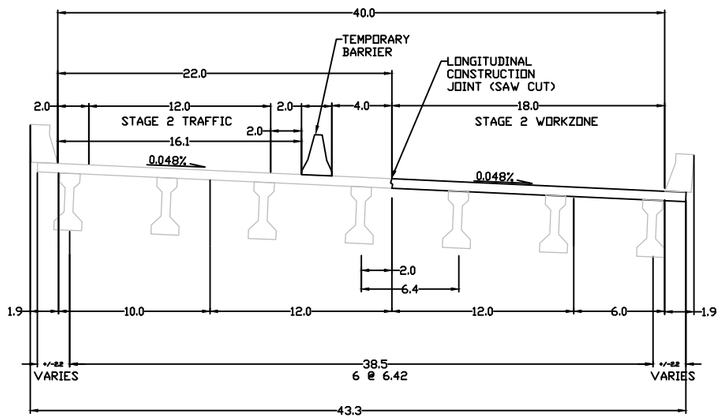
N



STAGE 1

USH 151 SOUTHBOUND LANE B-11-83

CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



STAGE 2

USH 151 SOUTHBOUND LANE B-11-83

CROSS SECTION THRU ROADWAY
(LOOKING NORTH)

2

N

END MGS BEAM GUARD WITH EAT
STA: 12+30.0

BP: 11+45.32

REMOVE AND REPLACE EXISTING BEAM GUARD

END MGS BEAM GUARD WITH EAT
STA: 16+25.0

EP: 17+17.84

21.0'

19.0'

19.0'

21.0'

11+45 12+00 13+00 14+00 15+00 16+00 17+00 17+18

MAPLE AVE

MAPLE AVE

END MGS BEAM GUARD WITH EAT
STA: 12+15.6

END MGS BEAM GUARD WITH EAT
STA: 16+11.0

USH 151

1410

SIGN

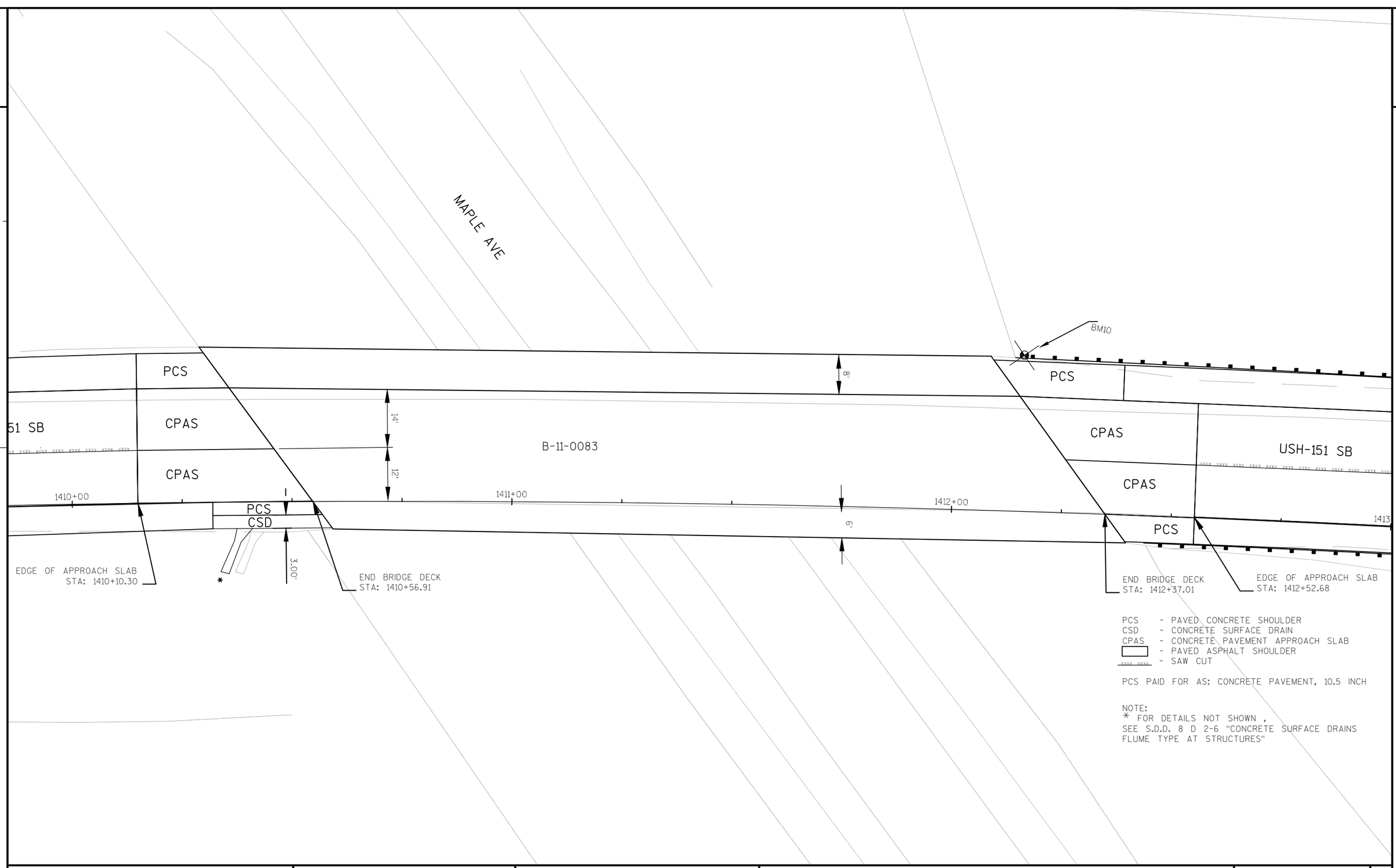
FILLER CAPS

G.P.

PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	CONSTRUCTION DETAIL - MAPLE AVENUE	SHEET 6	E

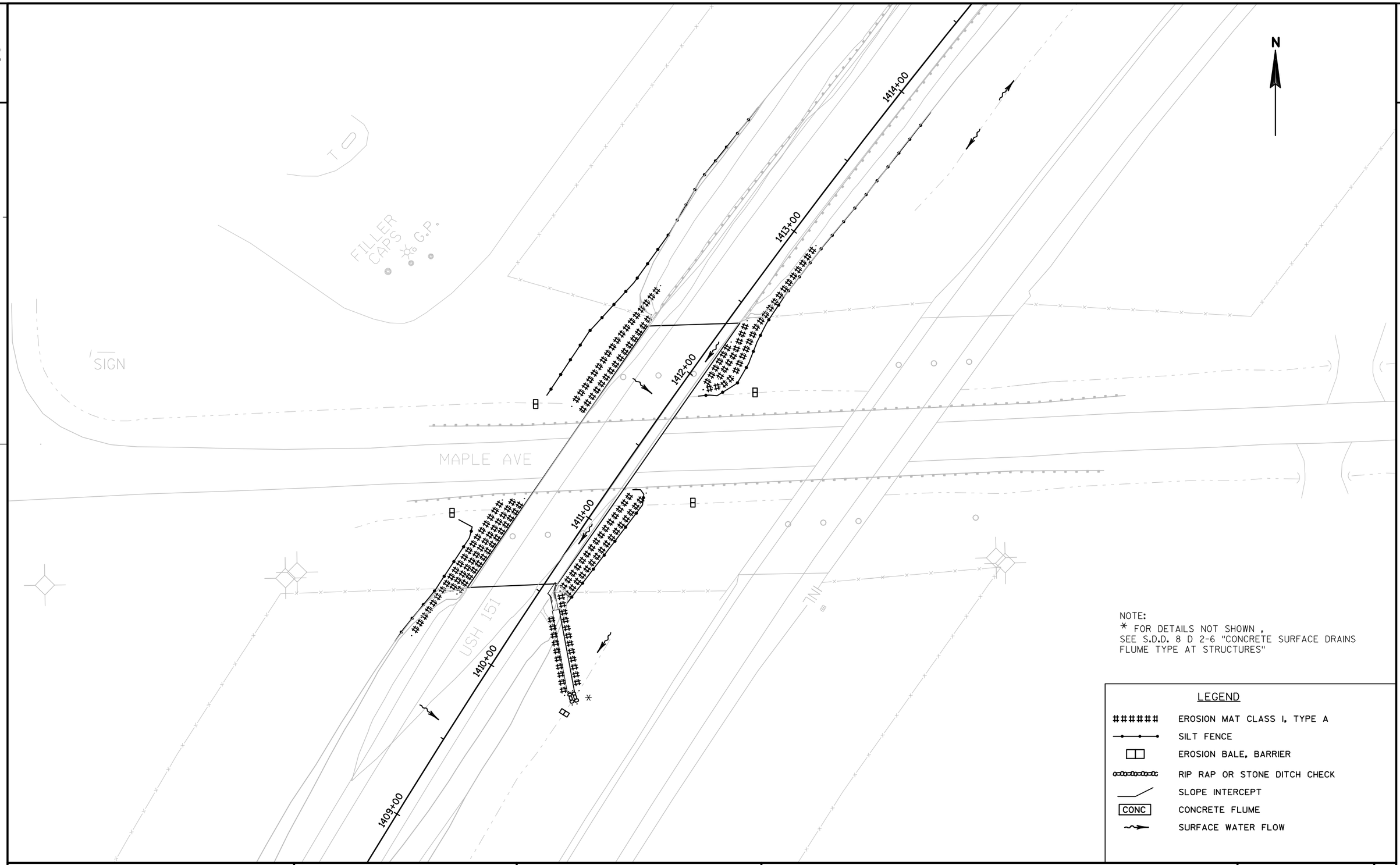
FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\021002_CD.DWG PLOT DATE : 4/21/2014 9:40 AM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:50 FT

2



PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	CONSTRUCTION DETAIL- BRIDGE APPROACHES	SHEET 7	E

2



NOTE:
* FOR DETAILS NOT SHOWN , SEE S.D.D. 8 D 2-6 "CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES"

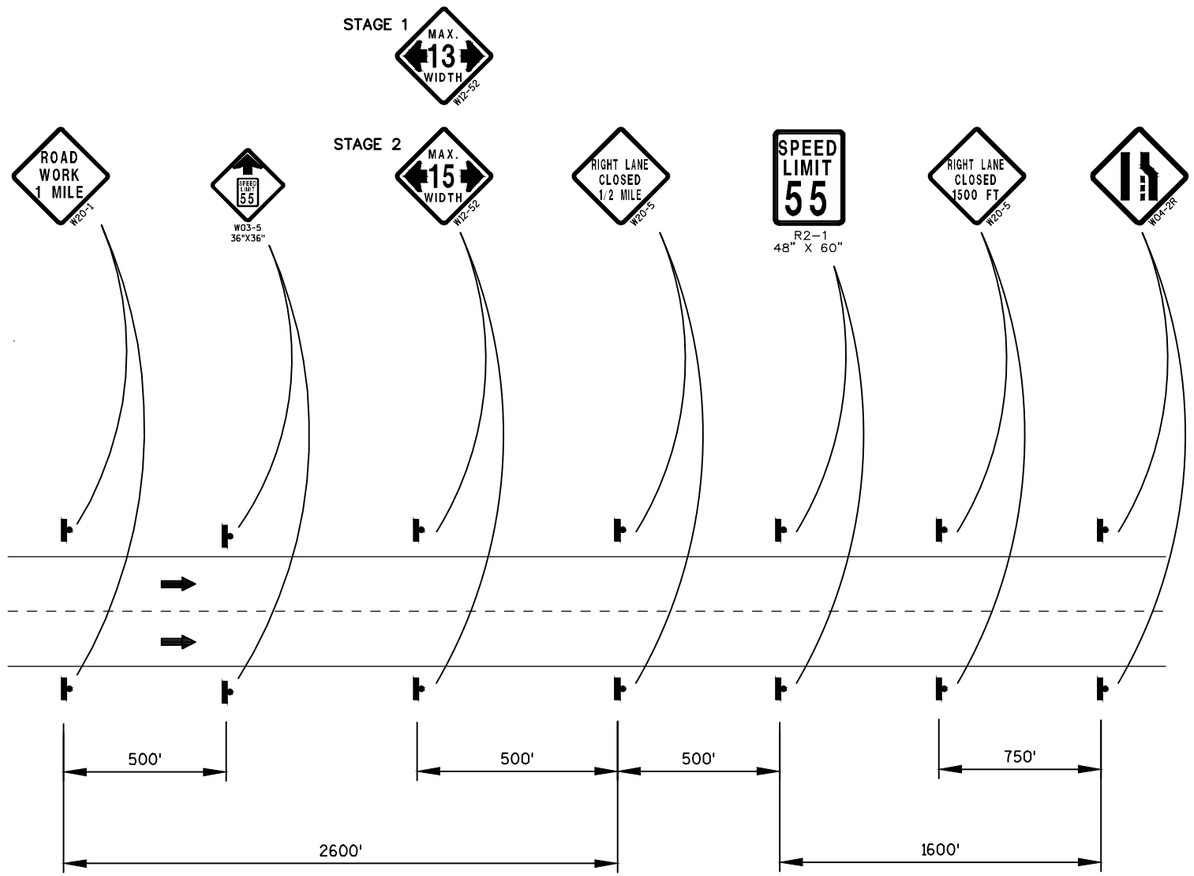
LEGEND

######	EROSION MAT CLASS I, TYPE A
	SILT FENCE
	EROSION BALE, BARRIER
	RIP RAP OR STONE DITCH CHECK
	SLOPE INTERCEPT
CONC	CONCRETE FLUME
	SURFACE WATER FLOW

PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 8	E

2

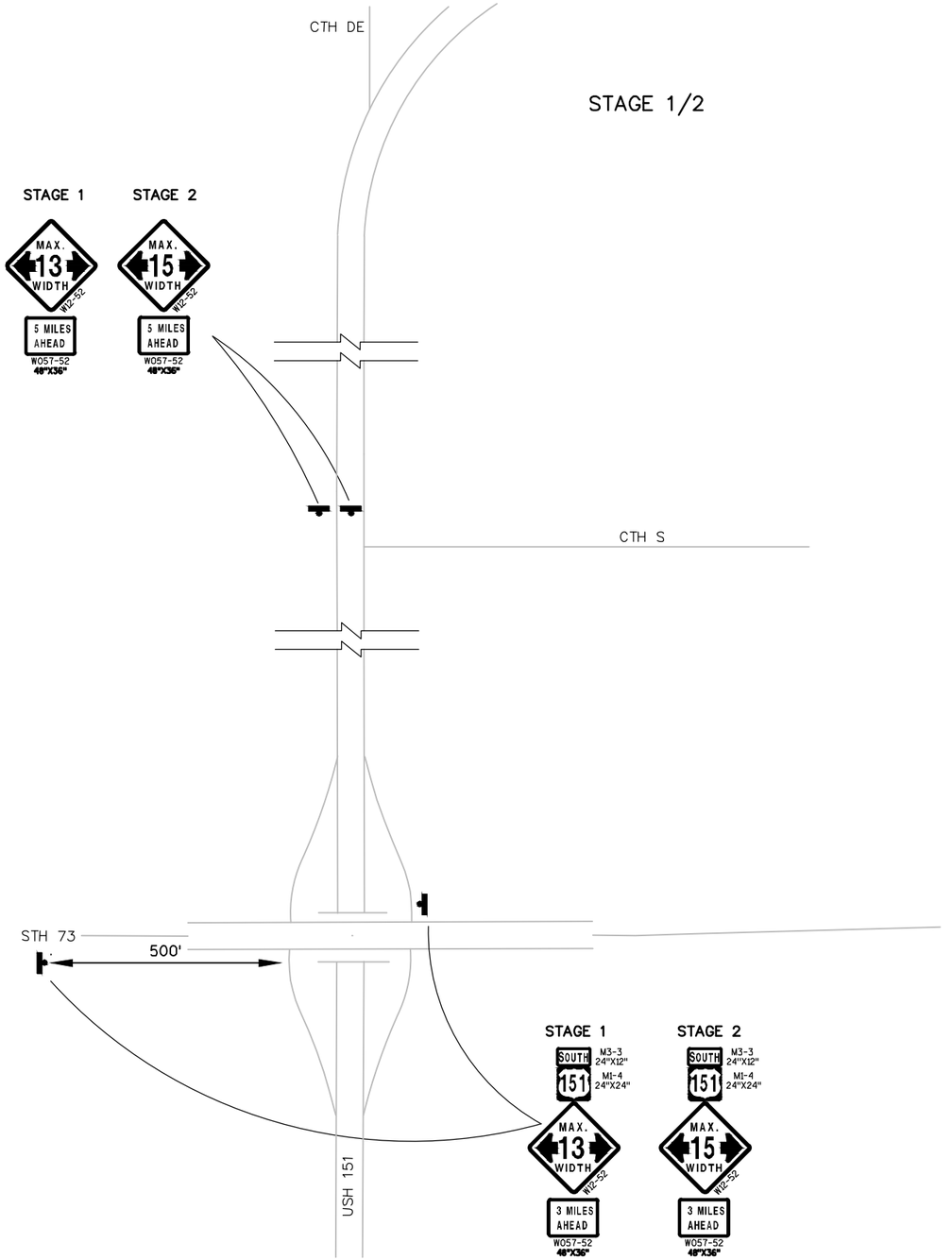
STAGE 1/2



SEE S.D.D. 15 D 3-2 "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER" FOR ADDITIONAL DETAIL.

2

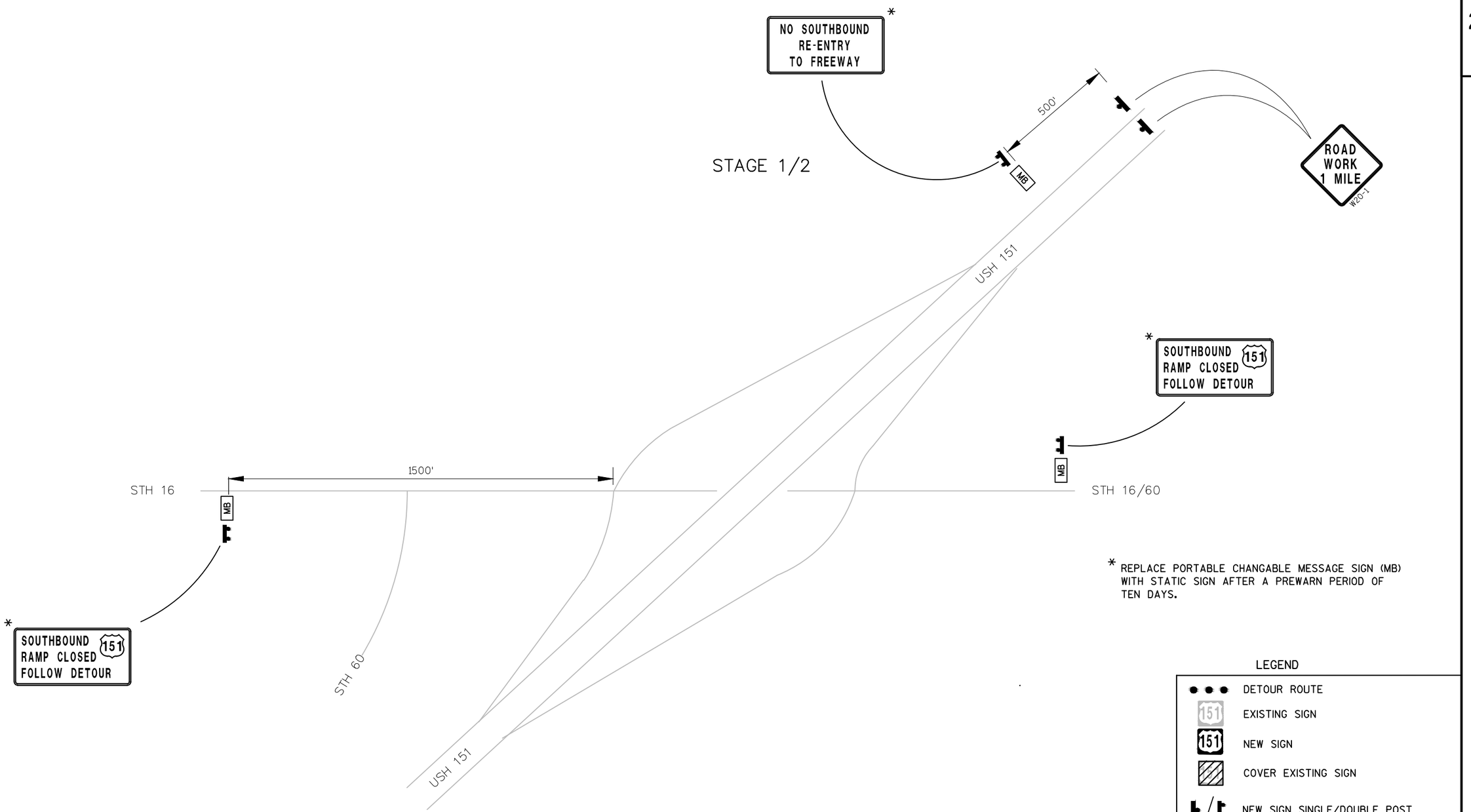
STAGE 1/2



PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	TRAFFIC CONTROL DETAIL	SHEET 9	E

2

STAGE 1/2



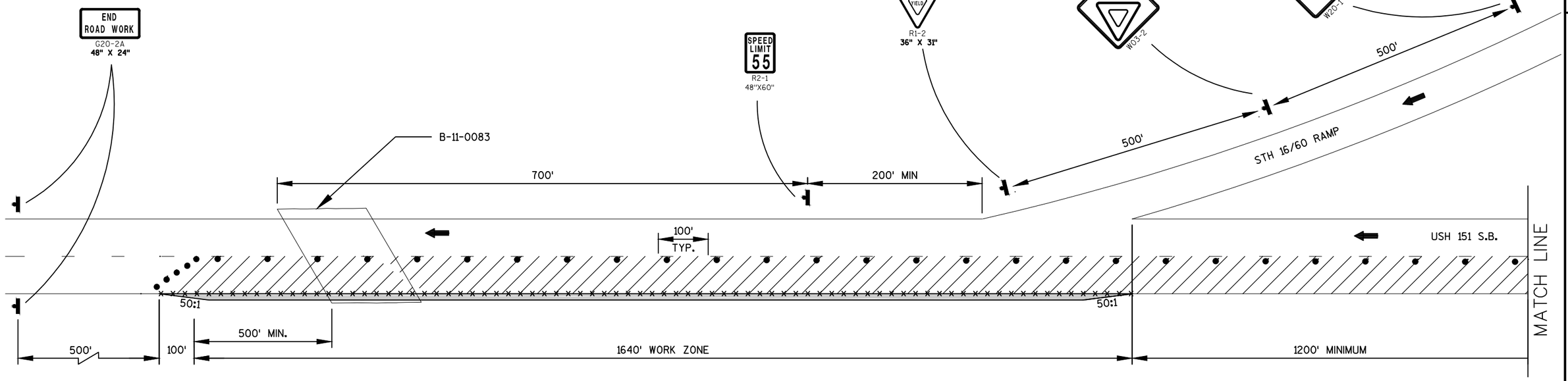
* REPLACE PORTABLE CHANGABLE MESSAGE SIGN (MB) WITH STATIC SIGN AFTER A PREWARN PERIOD OF TEN DAYS.

LEGEND

- DETOUR ROUTE
- EXISTING SIGN
- NEW SIGN
- COVER EXISTING SIGN
- NEW SIGN SINGLE/DOUBLE POST
- EXISTING SIGN SINGLE/DOUBLE POST
- BARRICADE WITH/WITHOUT SIGN
- MB — MESSAGE BOARD

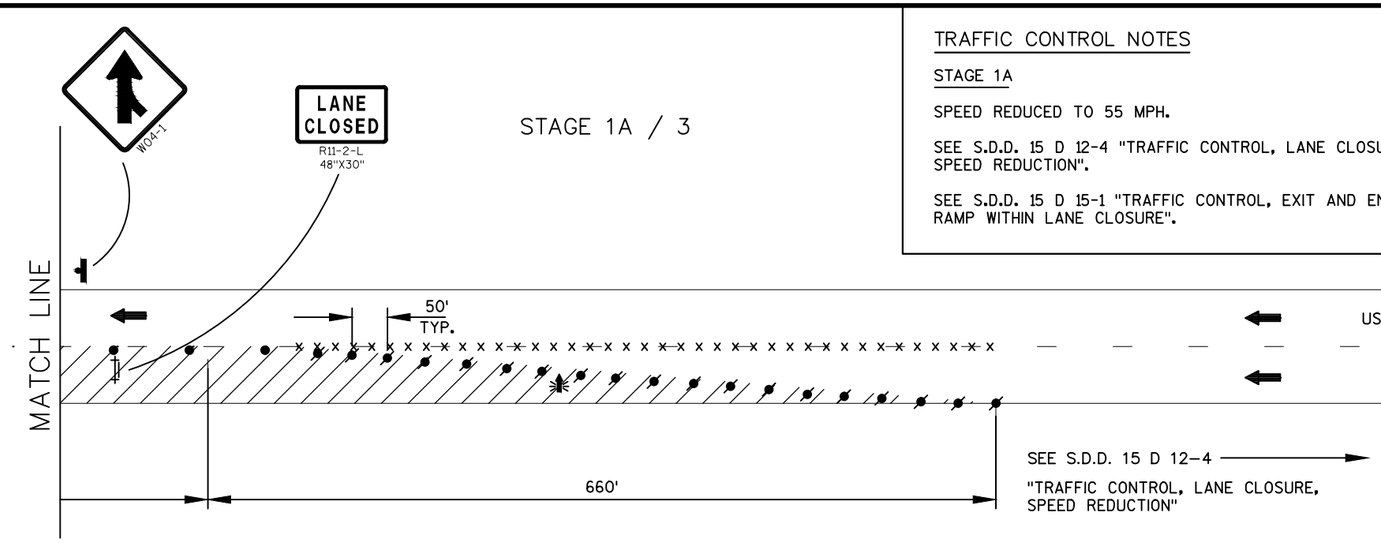
PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	TRAFFIC CONTROL DETAILS	SHEET 10	E

2



SEE S.D.D. 15 D 15–1 FOR MORE DETAILS
"TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP
WITHIN LANE CLOSURE"

STAGE 1A / 3



TRAFFIC CONTROL NOTES

STAGE 1A

SPEED REDUCED TO 55 MPH.

SEE S.D.D. 15 D 12-4 "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

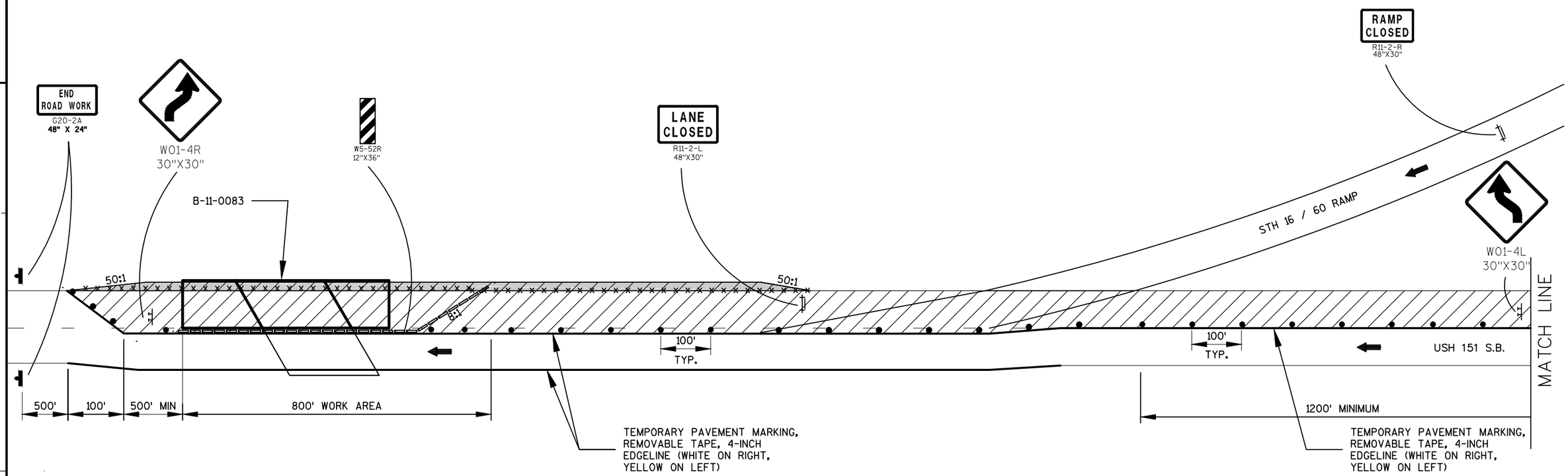
SEE S.D.D. 15 D 15-1 "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE".

LEGEND

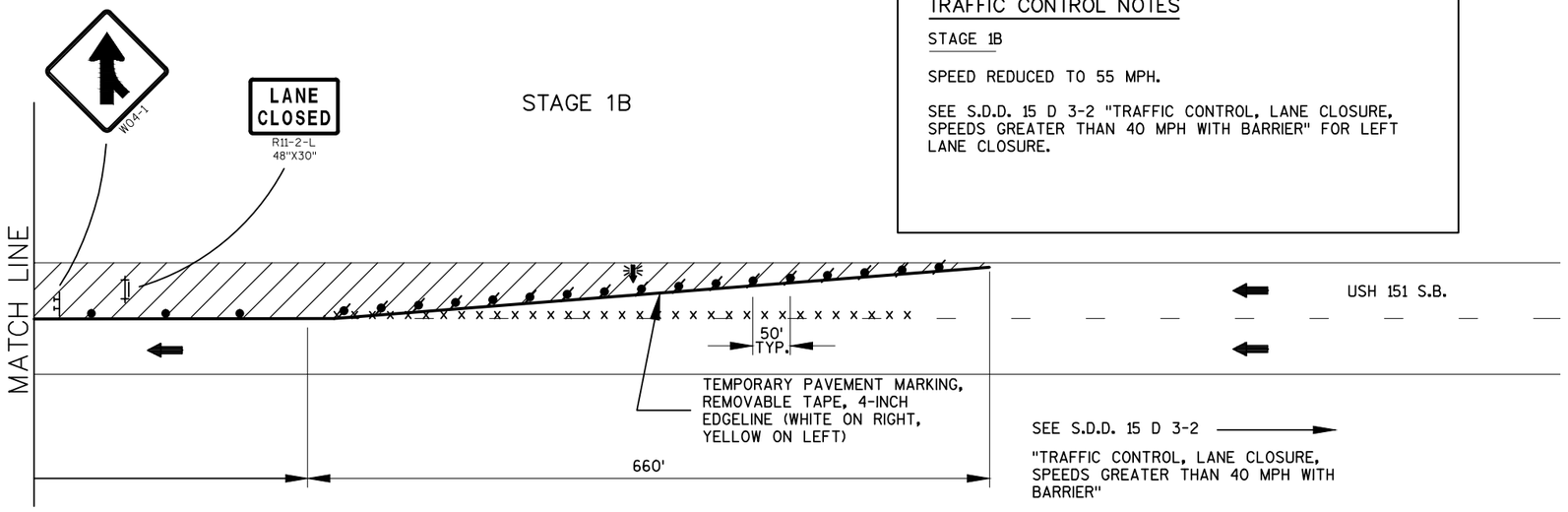
- BARRICADE W/WO SIGN
- FLASHING ARROW BOARD
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- SIGN ON PERMANENT SUPPORT
- TEMPORARY PRECAST CONCRETE BARRIER
- WORK AREA
- x x x x REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC SURFACE

PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 1A / 3	SHEET	E

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\026001_S1A.DWG PLOT DATE : 2/16/2015 2:41 PM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:200 FT



STAGE 1B



STAGE 1B

TRAFFIC CONTROL NOTES

STAGE 1B

SPEED REDUCED TO 55 MPH.

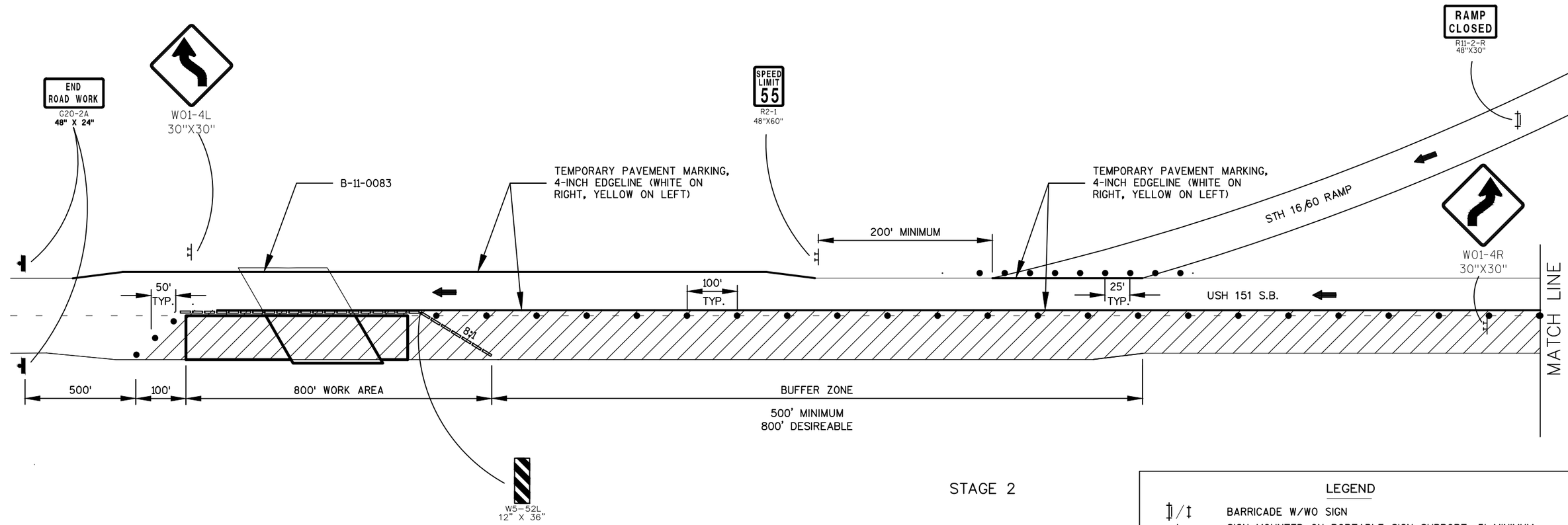
SEE S.D.D. 15 D 3-2 "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER" FOR LEFT LANE CLOSURE.

LEGEND

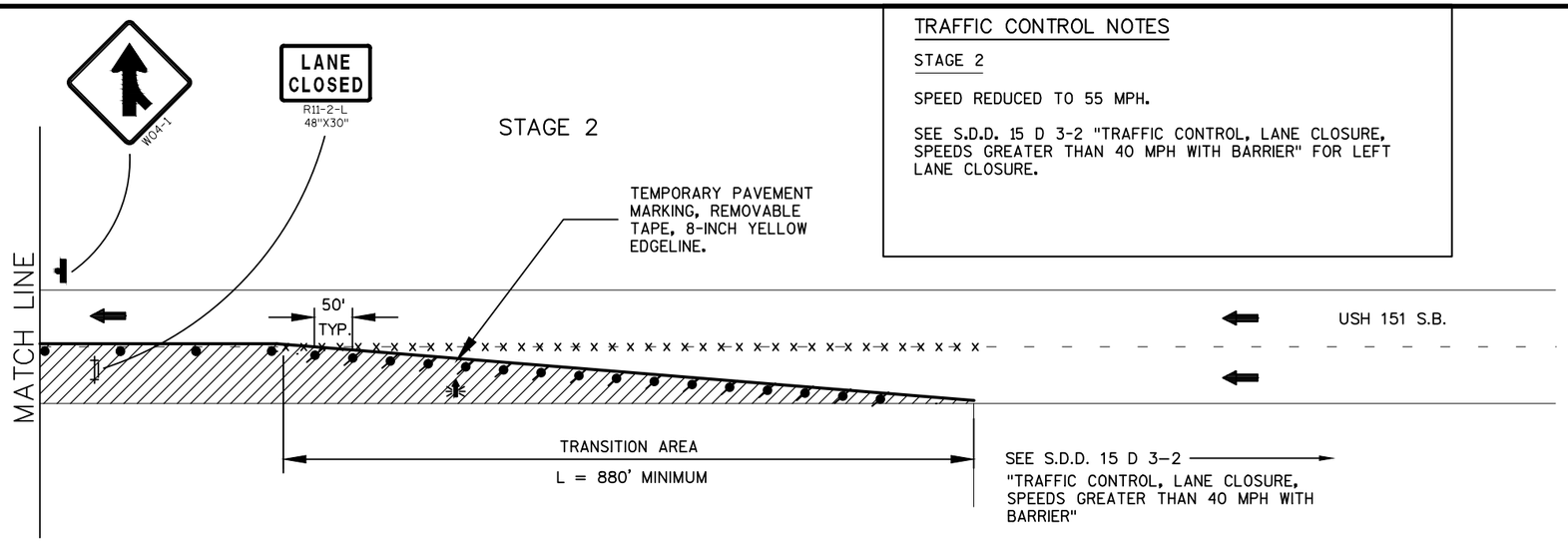
- BARRICADE W/WO SIGN
- SIGN MOUNTED ON PORTABLE SIGN SUPPORT. 5' MINIMUM MOUNTING HEIGHT.
- FLASHING ARROW BOARD
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- SIGN ON PERMANENT SUPPORT
- TEMPORARY PRECAST CONCRETE BARRIER
- WORK AREA
- x x x x REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC SURFACE

PROJECT NO: 111-05-62	HWY: USH 151	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 1B	SHEET	E

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\026001_S1B.DWG PLOT DATE : 2/16/2015 2:41 PM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



STAGE 2



TRAFFIC CONTROL NOTES

STAGE 2

SPEED REDUCED TO 55 MPH.

SEE S.D.D. 15 D 3-2 "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER" FOR LEFT LANE CLOSURE.

LEGEND

- BARRICADE W/WO SIGN
- SIGN MOUNTED ON PORTABLE SIGN SUPPORT. 5' MINIMUM MOUNTING HEIGHT.
- FLASHING ARROW BOARD
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT (TYPE C)
- SIGN ON PERMANENT SUPPORT
- TEMPORARY PRECAST CONCRETE BARRIER
- WORK AREA
- x x x x REMOVE PAVEMENT MARKING
- DIRECTION OF TRAFFIC

PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 2	SHEET 13	E

2

CITY OF COLUMBUS

N

BLOW-UP #1

M3-3 36"X18"
M1-4 36"X36"
SOUTH 151
DETOUR AHEAD
W20-2 48"X48"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M06-1R 30"X30"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M05-1R 30"X30"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M05-2R 30"X30"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M06-2 30"X30"

M3-3 36"X18"
M1-4 36"X36"
END DETOUR SOUTH 151

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M06-1L 30"X30"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M05-1L 30"X30"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M06-1L 30"X30"

M4-8 36"X18"
M3-3 36"X18"
M1-4 36"X36"
DETOUR SOUTH 151
M05-1L 30"X30"

DETOUR AHEAD
W20-2 48"X48"

Portage
Beaver Dam

WEST 16 WEST 60 NORTH 151

LEGEND

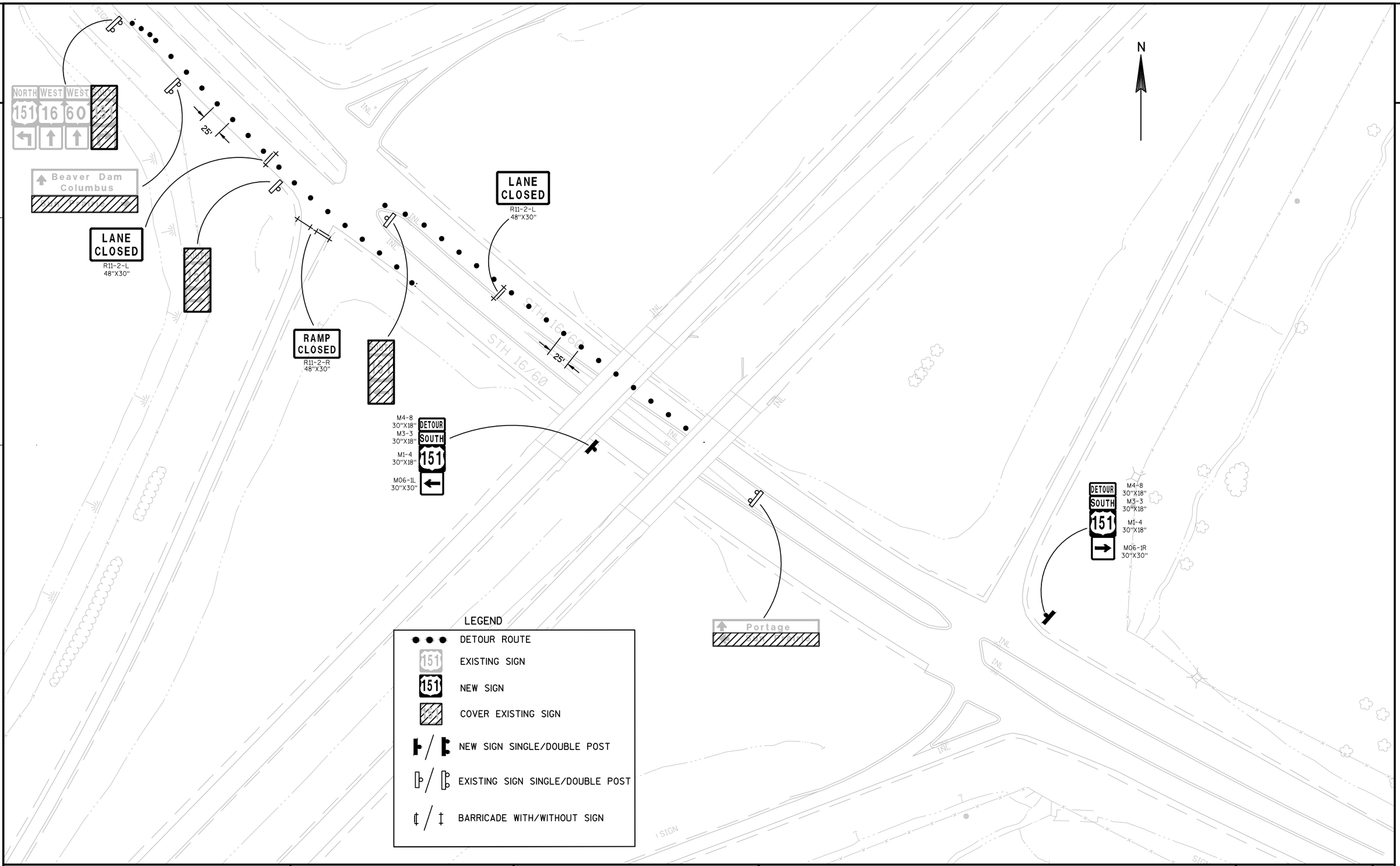
- DETOUR ROUTE
- EXISTING SIGN
- NEW SIGN
- COVER EXISTING SIGN
- NEW SIGN SINGLE/DOUBLE POST
- EXISTING SIGN SINGLE/DOUBLE POST
- BARRICADE WITH/WITHOUT SIGN

PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	DETOUR	SHEET 14	E

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\027001_DT.DWG PLOT DATE : 4/29/2014 4:42 PM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA	DETOUR - BLOW-UP #1	SHEET 15	E

DATE 27FEB15 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1111-05-62 QUANTITY
0010	203.0200	Removing Old Structure (station) 01. 1411+44.28	LS	1.000	1.000
0020	203.0225.S	Debris Containment (structure) 01. B-11-0083	LS	1.000	1.000
0030	204.0100	Removing Pavement	SY	1,350.000	1,350.000
0040	204.0120	Removing Asphaltic Surface Milling	SY	1,660.000	1,660.000
0050	204.0165	Removing Guardrail	LF	802.000	802.000
0060	204.0170	Removing Fence	LF	160.000	160.000
0070	204.0175	Removing Concrete Slope Paving	SY	572.000	572.000
0080	204.0180	Removing Delineators and Markers	EACH	2.000	2.000
0090	204.0190	Removing Surface Drains	EACH	1.000	1.000
0100	206.1000	Excavation for Structures Bridges (structure) 01. B-11-0083	LS	1.000	1.000
0110	208.0100	Borrow	CY	6.000	6.000
0120	210.0100	Backfill Structure	CY	123.000	123.000
0130	213.0100	Finishing Roadway (project) 01. 1111-05-62	EACH	1.000	1.000
0140	305.0110	Base Aggregate Dense 3/4-Inch	TON	428.000	428.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	104.000	104.000
0160	305.0500	Shaping Shoulders	STA	36.000	36.000
0170	415.0105	Concrete Pavement 10 1/2-Inch	SY	895.000	895.000
0180	415.0410	Concrete Pavement Approach Slab	SY	176.000	176.000
0190	416.0620	Drilled Dowel Bars	EACH	46.000	46.000
0200	416.1010	Concrete Surface Drains	CY	4.000	4.000
0210	455.0105	Asphaltic Material PG58-28	TON	20.000	20.000
0220	455.0605	Tack Coat	GAL	2.000	2.000
0230	460.1100	HMA Pavement Type E-0.3	TON	320.000	320.000
0240	465.0400	Asphaltic Shoulder Rumble Strips	LF	2,140.000	2,140.000
0250	502.0100	Concrete Masonry Bridges	CY	255.000	255.000
0260	502.3100	Expansion Device (structure) 01. B-11-0083	LS	1.000	1.000
0270	502.3200	Protective Surface Treatment	SY	981.000	981.000
0280	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	65,464.000	65,464.000
0290	505.0904	Bar Couplers No. 4	EACH	16.000	16.000
0300	505.0905	Bar Couplers No. 5	EACH	616.000	616.000
0310	505.0906	Bar Couplers No. 6	EACH	6.000	6.000
0320	506.4000	Steel Diaphragms (structure) 01. B-11-0083	EACH	24.000	24.000
0330	506.7050.S	Removing Bearings (structure) 01. B-11-0083	EACH	7.000	7.000
0340	603.8000	Concrete Barrier Temporary Precast Delivered	LF	765.000	765.000
0350	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,460.000	1,460.000
0360	604.0400	Slope Paving Concrete	SY	572.000	572.000
0370	606.0200	Riprap Medium	CY	3.000	3.000
0380	612.0106	Pipe Underdrain 6-Inch	LF	260.000	260.000
0390	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0400	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0410	614.0920	Salvaged Rail	LF	518.000	518.000
0420	614.0925	Salvaged Guardrail End Treatments	EACH	2.000	2.000
0430	614.2300	MGS Guardrail 3	LF	1,040.000	1,040.000
0440	614.2500	MGS Thrie Beam Transition	LF	79.000	79.000
0450	614.2610	MGS Guardrail Terminal EAT	EACH	6.000	6.000

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DATE 27FEB15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1111-05-62 QUANTITY
0460	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	160.000	160.000
0470	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1111-05-62	EACH	1.000	1.000
0480	619.1000	Mobilization	EACH	1.000	1.000
0490	624.0100	Water	MGAL	2.000	2.000
0500	627.0200	Mulching	SY	425.000	425.000
0510	628.1104	Erosion Bales	EACH	40.000	40.000
0520	628.1504	Silt Fence	LF	1,155.000	1,155.000
0530	628.1520	Silt Fence Maintenance	LF	1,155.000	1,155.000
0540	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0550	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0560	628.2002	Erosion Mat Class I Type A	SY	600.000	600.000
0570	629.0210	Fertilizer Type B	CWT	1.000	1.000
0580	630.0130	Seeding Mixture No. 30	LB	50.000	50.000
0590	633.0100	Delineator Posts Steel	EACH	2.000	2.000
0600	633.0500	Delineator Reflectors	EACH	2.000	2.000
0610	633.1000	Delineator Brackets	EACH	2.000	2.000
0620	642.5001	Field Office Type B	EACH	1.000	1.000
0630	643.0100	Traffic Control (project) 01. 1111-05-62	EACH	1.000	1.000
0640	643.0300	Traffic Control Drums	DAY	5,688.000	5,688.000
0650	643.0420	Traffic Control Barricades Type III	DAY	468.000	468.000
0660	643.0705	Traffic Control Warning Lights Type A	DAY	936.000	936.000
0670	643.0715	Traffic Control Warning Lights Type C	DAY	2,356.000	2,356.000
0680	643.0800	Traffic Control Arrow Boards	DAY	96.000	96.000
0690	643.0900	Traffic Control Signs	DAY	2,644.000	2,644.000
0700	643.0910	Traffic Control Covering Signs Type I	EACH	6.000	6.000
0710	643.0920	Traffic Control Covering Signs Type II	EACH	8.000	8.000
0720	643.1000	Traffic Control Signs Fixed Message	SF	141.000	141.000
0730	643.1050	Traffic Control Signs PCMS	DAY	112.000	112.000
0740	643.2000	Traffic Control Detour (project) 01. 1111-05-62	EACH	1.000	1.000
0750	643.3000	Traffic Control Detour Signs	DAY	4,992.000	4,992.000
0760	645.0130	Geotextile Fabric Type R	SY	28.000	28.000
0770	646.0106	Pavement Marking Epoxy 4-Inch	LF	3,205.000	3,205.000
0780	646.0600	Removing Pavement Markings	LF	2,980.000	2,980.000
0790	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	5,960.000	5,960.000
0800	690.0150	Sawing Asphalt	LF	25.000	25.000
0810	690.0250	Sawing Concrete	LF	605.000	605.000
0820	715.0415	Incentive Strength Concrete Pavement	DOL	900.000	900.000
0830	715.0502	Incentive Strength Concrete Structures	DOL	2,550.000	2,550.000
0840	ASP.1T0A	On-the-Job Training Apprentice at $5. 00/HR	HRS	275.000	275.000
0850	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000
0860	SPV.0060	Special 01. Bearing Pads Elastomeric Laminated Anchored	EACH	7.000	7.000
0870	SPV.0060	Special 02. Masonry Anchors Type L 1-Inch	EACH	14.000	14.000
0880	SPV.0060	Special 03. Utility Line Opening (ULO)	EACH	6.000	6.000
0890	SPV.0165	Special 01. Fiber Wrap Girder Reinforcing	SF	77.000	77.000

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BRIDGE REMOVAL

CATEGORY	STATION TO	STATION	LOCATION	DEBRIS CONTAINMENT (B-11-0083) 203.0225.S LS	REMARKS
0020	1410+55	- 1412+37	USH-151/MAPLE AVE	1	
		TOTAL 0020		1	

REMOVING PAVEMENT

CATEGORY	STATION TO	STATION	204.0100 SY	REMARKS
0010	1409+00	- 1410+15	310	
	1412+55	- 1414+50	520	
		TOTAL 0010	830	
0020	1410+15	- 1410+55	260	APPROACH SLAB
	1412+37	- 1412+55	260	APPROACH SLAB
		TOTAL 0020	520	

REMOVING ASPHALTIC SURFACE MILLING

STATION TO	STATION	LOCATION	204.0120 SY
1404+60	- 1410+32	RT - STAGE 1A	320
1404+60	- 1410+15	LT - STAGE 1B	430
1412+53	- 1421+00	RT - STAGE 1A	470
1412+40	- 1418+00	LT - STAGE 1B	440
		TOTAL 0010	1660

REMOVING FENCE

STATION	LOCATION	204.0170 LF
1410+53	RT	40
1410+29	LT	40
1412+44	RT	40
1412+13	LT	40
	TOTAL 0010	160

REMOVING SURFACE DRAINS

STATION	LOCATION	204.0190 EACH
1410+41	SE CORNER B-11-083	1
	TOTAL 0010	1

FINISHING ROADWAY (PROJECT)

STATION TO	STATION	LOCATION	213.0100 EACH
1406+50	- 1422+00		1
		TOTAL 0010	1

BASE COURSE ITEMS

STATION TO	STATION	LOCATION	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON	BASE AGGREGATE DENSE 1 1/4-INCH 305.0120 TON	BASE AGGREGATE DENSE 1 1/4-INCH 624.0100 MGAL	WATER REMARKS
1406+60	- 1410+33	USH-151 RT	64		0.2	
1406+60	- 1410+15	USH-151 LT	60		0.2	
1412+55	- 1421+00	USH-151 RT	144		0.2	
1412+15	- 1418+00	UHS-151 LT	100		0.2	
1409+00	- 1410+15	USH-151 RT		18	0.2	
1409+00	- 1410+15	USH-151 LT		21	0.2	
1412+55	- 1414+50	USH-151 RT		30	0.2	
1412+55	- 1414+50	UHS-151 LT		35	0.2	
12+30	- 16+26	MAPLE AVE LT	30		0.2	
12+15	- 16+12	MAPLE AVE RT	30		0.2	
		TOTAL 0010	428	104	2	

SHAPING SHOULDERS

STATION TO	STATION	LOCATION	305.0500 STA
1404+60	- 1410+32	USH-151	11
1412+40	- 1421+00	USH-151	17
12+16	16+26	MAPLE AVE	8
		TOTAL 0010	36

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CONCRETE ITEMS

CATEGORY	STATION TO STATION	LOCATION	CONCRETE PAVEMENT 10 1/2-INCH 415.0105 SY	CONCRETE PAVEMENT APPROACH SLAB 415.0410 SY	DRILLED DOWEL BARS 416.0620 EACH	CONCRETE SURFACE DRAINS 416.1010 CY
0010	1409+00 - 1410+15		332			
	1412+55 - 1414+50		563			
	1409+00					
	1414+50				23	
	1414+50				23	
		TOTAL 0010	895	0	46	0
0020	1410+57	B-11-083 NORTH APPROACH		88	0	
	1412+37	B-11-083 SOUTH APPROACH		88	0	
		SE CORNER B-11-083				4
		TOTAL 0020	0	176	0	4

ASPHALTIC PAVEMENT

STATION TO STATION	LOCATION	ASPHALTIC MATERIAL PG58-28 455.0105 TON	TACK COAT 455.0605 GAL	HMA PAVEMENT TYPE E-0.3 460.1100 TON	ASPHALTIC SHOULDER RUMBLE STRIP 465.0400 LF
			2		
1406+60 - 1410+15	RT - STAGE 1B	2		44	355
1406+60 - 1410+32	LT - STAGE 1A	4		65	372
1412+55 - 1421+00	RT - STAGE 1B	6		105	845
1412+40 - 1418+00	LT - STAGE 1A	5		98	560
	TOTAL 0010	20	2	320	2140

TEMPORARY CONCRETE BARRIER

STATION TO STATION	LOCATION	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED 603.8000 LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED 603.8125 LF	REMARKS
1408+75 - 1416+35	SB USH-151 LT	765	765	STAGE 1B
1408+75 - 1415+70	SB USH-151 RT		695	STAGE 2
	TOTAL 0010	765	1460	

RIPRAP MEDIUM

STATION	LOCATION	606.0200 CY
1410+36	End of Surface Drain	3
	TOTAL 0010	3

BEAM GUARD

STATION TO	STATION	LOCATION	REMOVING GUARDRAIL 204.0165 LF	BARRIER SYSTEM GRADING SHAPING FINISHING 614.0010 EACH	SALVAGED RAIL 614.0920 LF	SALVAGED GUARDRAIL END TREATMENTS 614.0925 EACH	MGS GUARDRAIL 3 614.2300 LF	MGS THRIE BEAM TRANSITION 614.2500 LF	MGS GUARDRAIL TERMINAL EAT 614.2610 EACH	REMARKS
1412+08 -	1414+58	LT	-	1	209	1	155	39	1	USH-151
1412+37 -	1415+95	RT	-	1	309	1	305	39	1	USH-151
12+30 -	16+26	LT	396	1	-	-	290	-	2	MAPLE AVE
12+16 -	16+12	RT	406	1	-	-	290	-	2	MAPLE AVE
		TOTAL 0010	802	4	518	2	1040	79	6	

BARRIER SYSTEM GRADING (FOR BIDDING PURPOSE ONLY)

STATION TO	STATION	LOCATION	BORROW 208.01 CY	BASE AGGREGATE DENSE 3/4-INCH 305.011 TON
10+50 -	17+27	MAPLE AVE	6	46
1412+08 -	1414+61	USH 151	-	15
		Total 0010	6	61

EROSION CONTROL

STATION TO	STATION	LOCATION	EROSION BALES 628.1104 EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH	EROSION MAT CLASS I TYPE A 628.2002 SY	MULCHING 627.0200 SY	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	MOBILIZATIONS EROSION CONTROL 628.1905 EACH	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB
1409+50 -	1414+00	USH-151			600	425	1155	1155	2	1	50
12+40 -	14+20	MAPLE AVE	40	1							
		TOTAL 0010	40	1	600	425	1155	1155	2	1	50

FENCE WOVEN WIRE (4 FT)

STATION	LOCATION	616.0100 LF
1410+53	RT	40
1410+29	LT	40
1412+44	RT	40
1412+13	LT	40
	TOTAL 0010	160

DELINEATORS

CATEGORY	STATION TO	STATION	LOCATION	DELINEATOR POSTS STEEL 633.0100 EACH	REMOVING DELINEATORS AND MARKERS 204.0180 EACH	DELINEATOR REFLECTORS 633.0500 EACH	DELINEATOR BRACKETS 633.1000 EACH
0010	1414+85 -	1416+85	LT	2	2	2	2
			TOTAL 0010	2	2	2	2

GEOTEXTILE FABRIC TYPE R

STATION	LOCATION	645.0130 SY
1410+50	SURFACE DRAIN RIP RAP	28
	TOTAL 0010	28

TRAFFIC CONTROL

STATION TO	STATION	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 DAY	TRAFFIC CONTROL ARROW BOARDS 643.0800 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL SIGNS PCMS 643.1050 DAY	REMARKS
								12	PREWARN
1405+60 -	1422+00	152	8	16	56	4	68	8	STAGE 1A
1406+50 -	1453+30	3040	200	400	1000	40	1120	40	STAGE 1B
1408+90 -	1453+30	2496	260	520	1300	52	1456	52	STAGE 2
	TOTAL 0010	5688	468	936	2356	96	2644	112	

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643-TRAFFIC CONTROL DETOUR

	TRAFFIC CONTROL COVERING SIGNS TYPE I 643.0910 EACH	TRAFFIC CONTROL COVERING SIGNS TYPE II 643.0920 EACH	TRAFFIC CONTROL SIGNS FIXED MESSAGE 643.1000 SF	TRAFFIC CONTROL DETOUR (1111-05-62) 643.2000 EACH	TRAFFIC CONTROL DETOUR SIGNS 643.3000 DAY	REMARKS
	3	4				Cover
	3	4				Uncover
			90			NO SOUTHBOUND RE-ENTRY TO FREEWAY
			51			SOUTHBOUND RAMP CLOSED FOLLOW
				1		STAGE 1B AND STAGE 2
					4992	
TOTAL 0010	6	8	141	1	4992	

PAVEMENT MARKINGS

STATION	TO	STATION	LOCATION	PAVEMENT MARKING EPOXY 4-INCH 646.0106 LF	REMOVING PAVEMENT MARKINGS 646.0600 LF
1405+60	-	1422+00	RT	1640	1640
1405+60	-	1419+00	LT	1340	1340
1423+00	-	1432+00	CENTER	225	
			TOTAL 0010	3205	2980

TEMP PAVEMENT MARKING

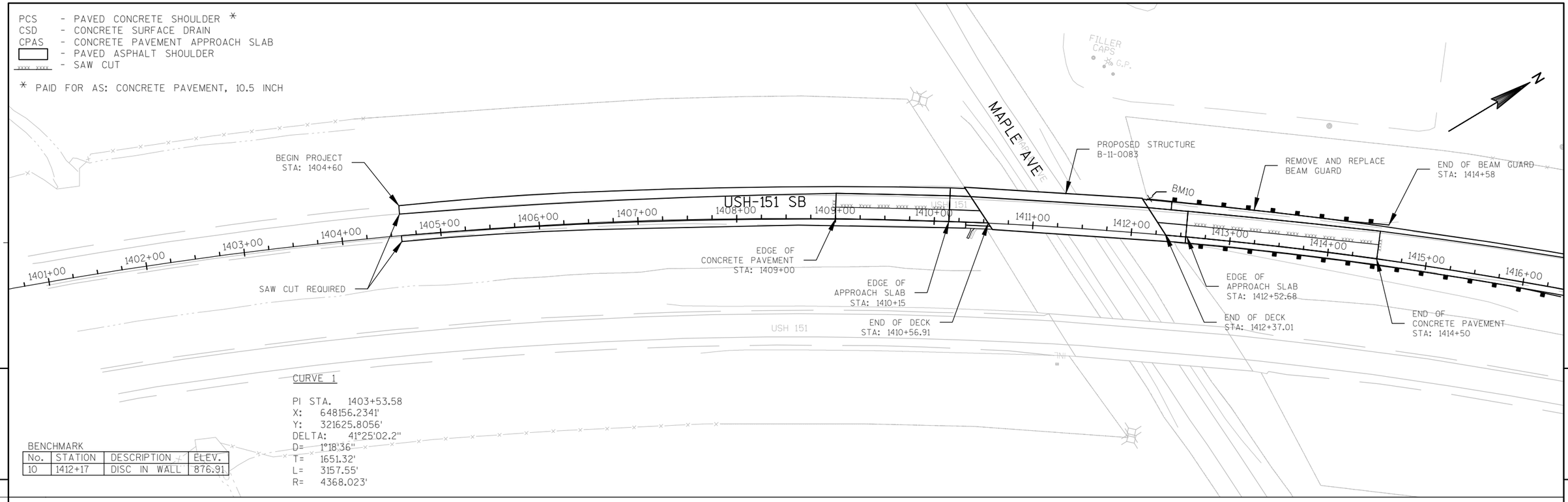
STATION	TO	STATION	LOCATION	REMOVABLE TAPE 4-INCH (WHITE) 649.0400 LF	REMOVABLE TAPE 4-INCH (YELLOW) 649.0400 LF
1405+60	-	1422+00	LT	1640	
1405+60	-	1419+00	LT	1340	
1405+60	-	1422+00	RT		1640
1405+60	-	1419+00	RT		1340
			TOTAL 0010	2980	2980

SAWING PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	SAWING ASPHALT 690.0150 LF	SAWING CONCRETE 690.0250 LF	REMARKS
0010	1406+60			RT	5		STAGE 1A
	1406+60			LT	7		STAGE 1B
	1421+00			RT	5		STAGE 1A
	1418+00			LT	7		STAGE 1B
	1409+00	-	1410+55	CENTER		155	STAGE 1A
	1412+37	-	1414+50	CENTER		213	STAGE 1A
	1414+50			LT		14	STAGE 1B
	1409+00			LT		14	STAGE 1B
	1409+00			RT		12	STAGE 2
	1414+50			RT		12	STAGE 2
				TOTAL 0010	25	420	
0020	1410+55	-	1412+37	B-11-0083		185	STAGE 1B
				TOTAL 0020	0	185	

PCS - PAVED CONCRETE SHOULDER *
CSD - CONCRETE SURFACE DRAIN
CPAS - CONCRETE PAVEMENT APPROACH SLAB
▭ - PAVED ASPHALT SHOULDER
xxxx xxxx - SAW CUT

* PAID FOR AS: CONCRETE PAVEMENT, 10.5 INCH

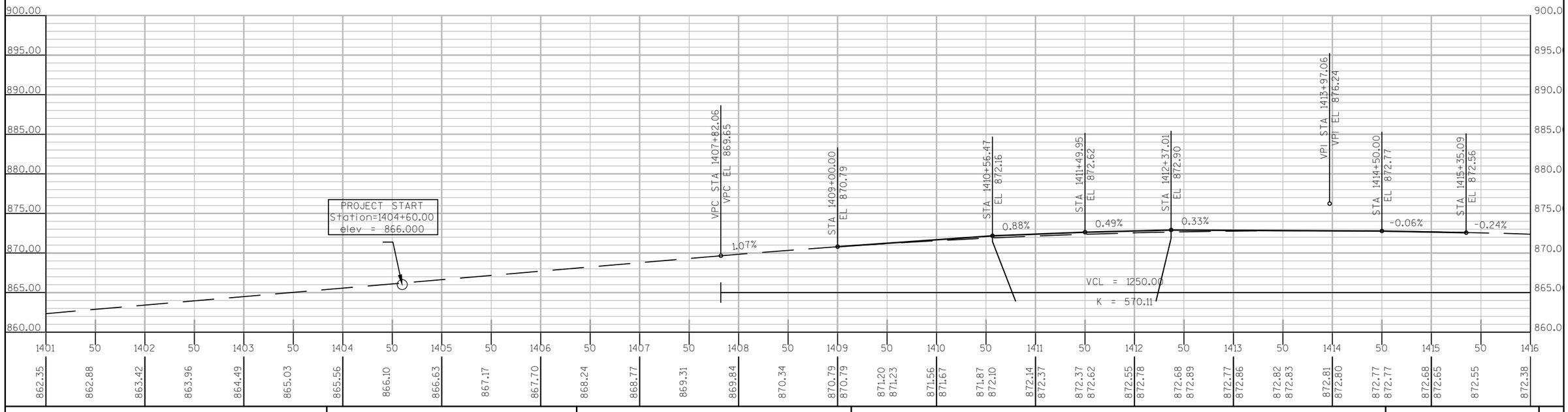


CURVE 1

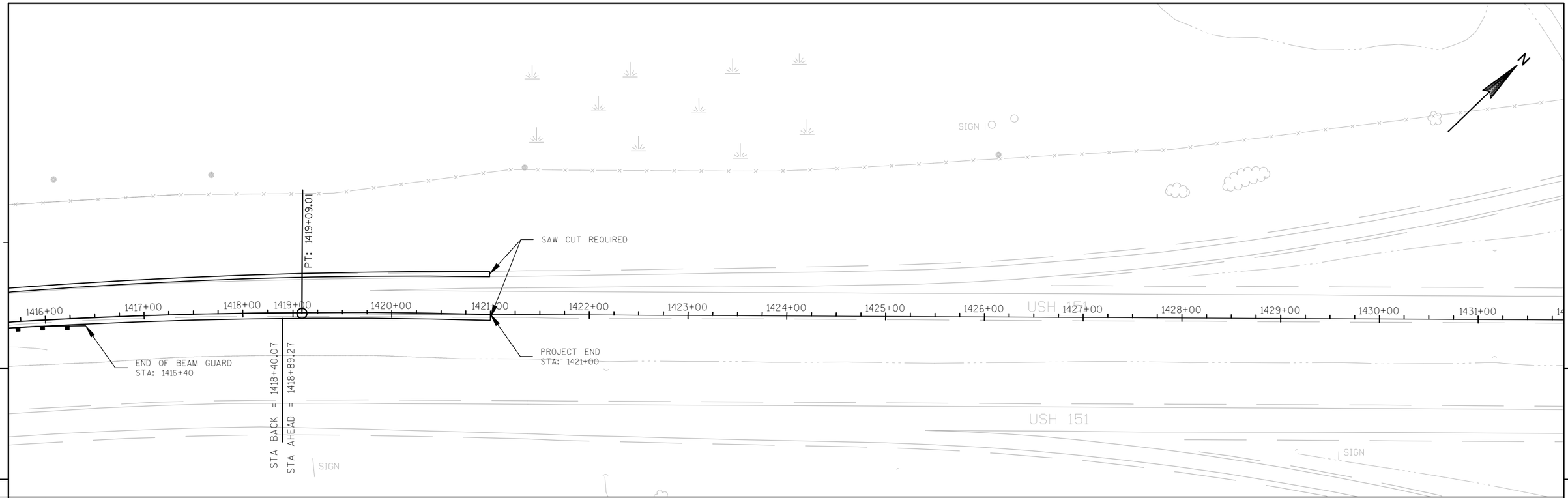
PI STA. 1403+53.58
X: 648156.2341'
Y: 321625.8056'
DELTA: 41°25'02.2"
D= 1°18'36"
T= 1651.32'
L= 3157.55'
R= 4368.023'

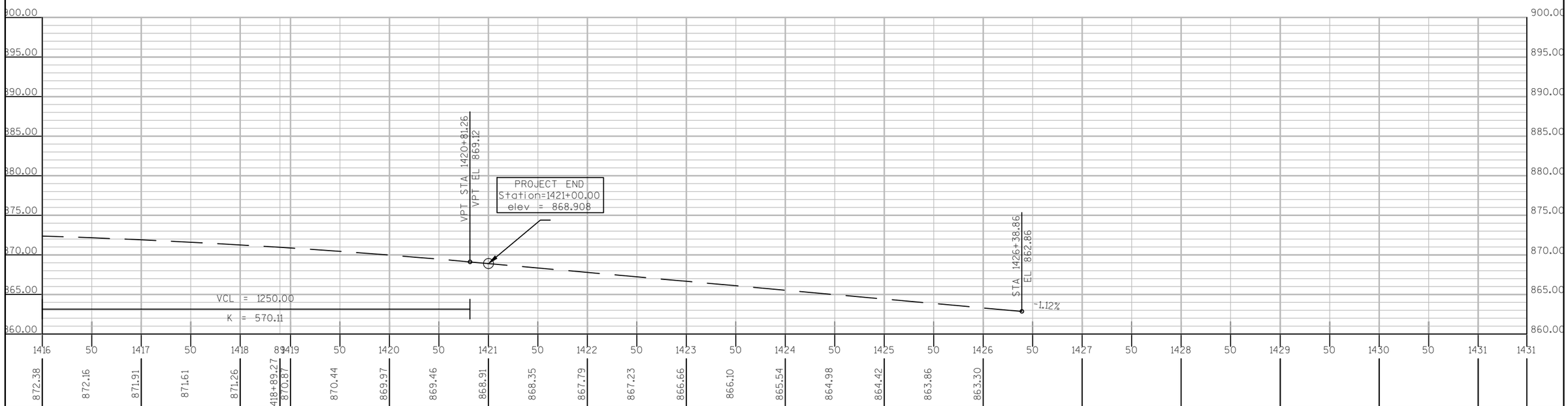
BENCHMARK

No.	STATION	DESCRIPTION	ELEV.
10	1412+17	DISC IN WALL	876.91



PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	PLAN AND PROFILE: B-11-0083	SHEET 22	E





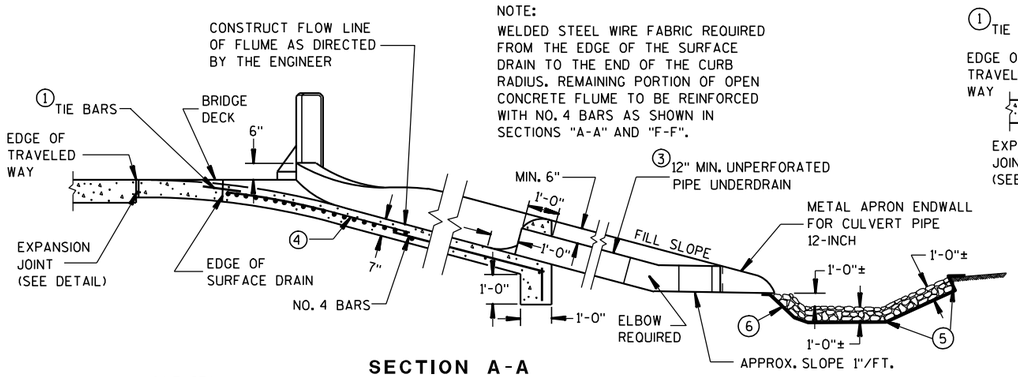
PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	PLAN AND PROFILE: B-11-0083	SHEET 23	E

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\050101_PPA.DWG PLOT DATE : 4/21/2014 10:55 AM PLOT BY : KOENIG, DELLA M PLOT NAME : ---------- PLOT SCALE : 1 IN:100 FT

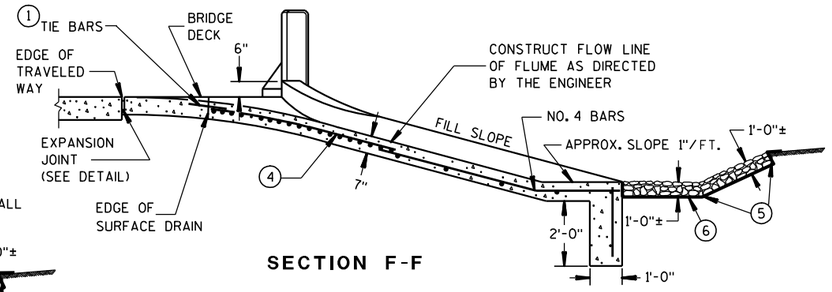
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13A03-05	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-07A	CONCRETE BRIDGE APPROACH
13B02-07B	STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B28-03	GUARDRAIL MOW STRIP
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A06-02	DELINEATOR LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD



SECTION A-A



SECTION F-F

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.

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

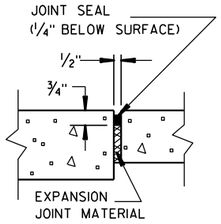
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

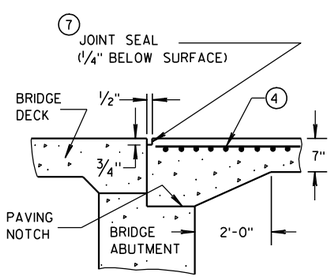
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

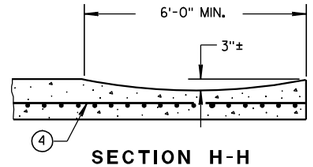
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



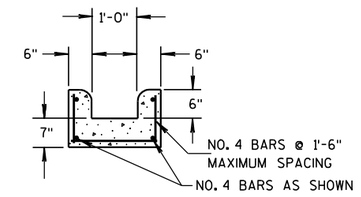
EXPANSION JOINT DETAIL



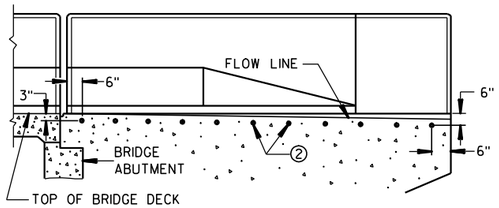
SECTION D-D



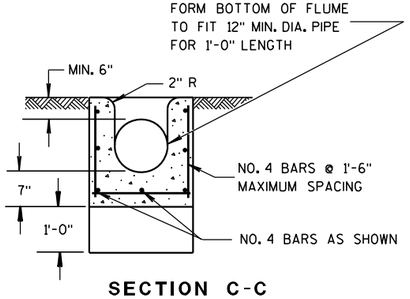
SECTION H-H



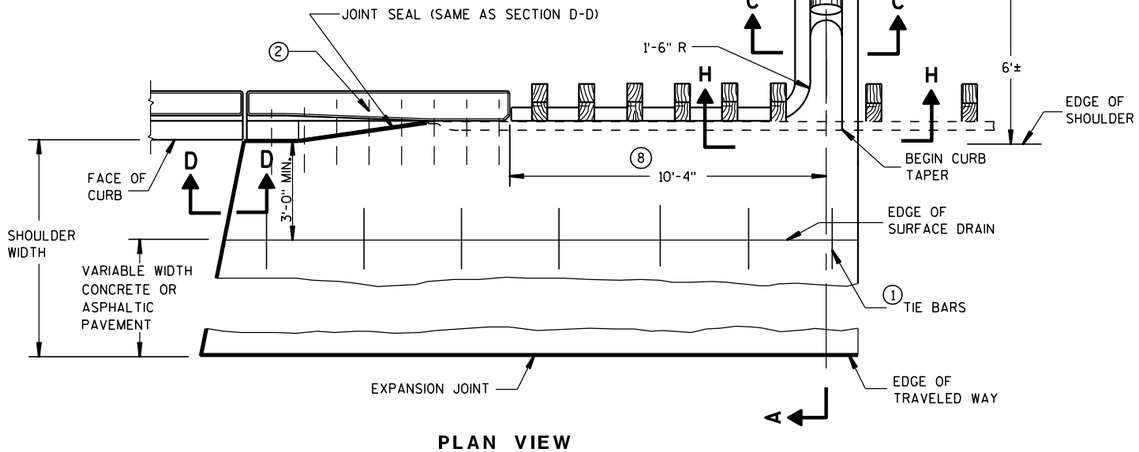
SECTION E-E



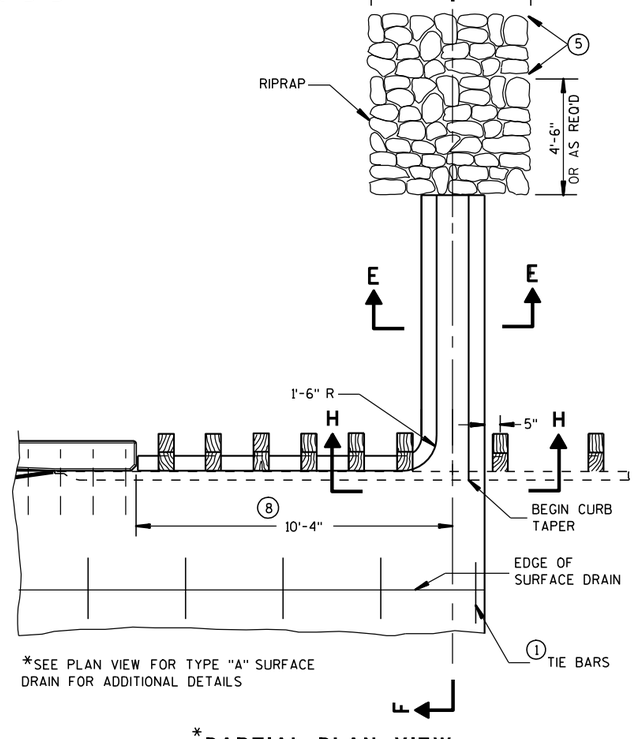
LOCATION OF TIE BARS IN WINGWALL



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 8 D 2-6

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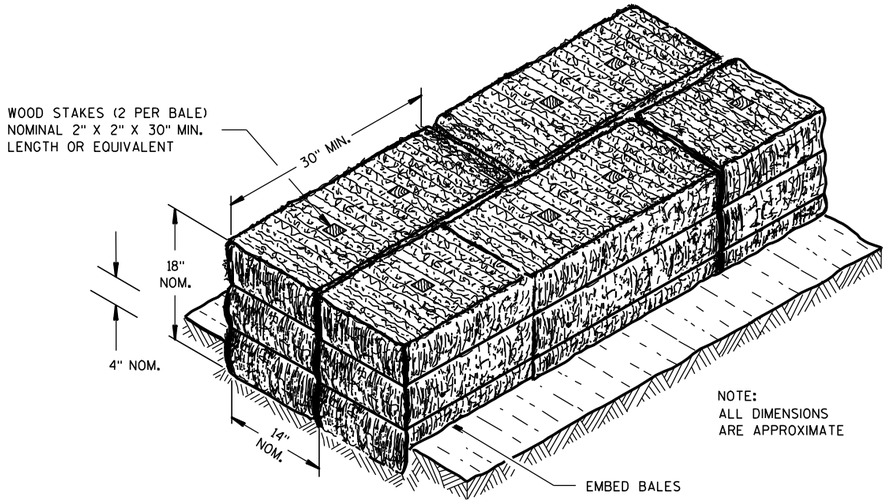
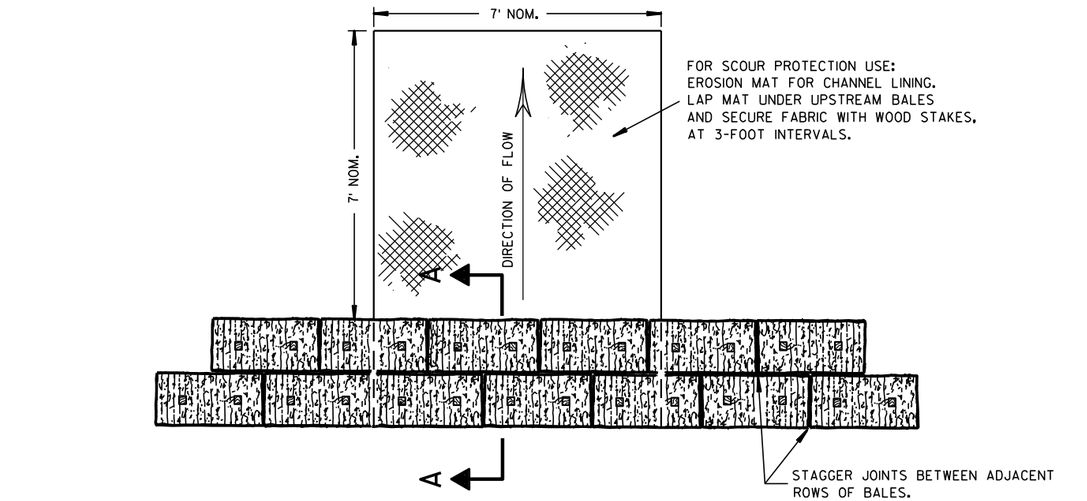
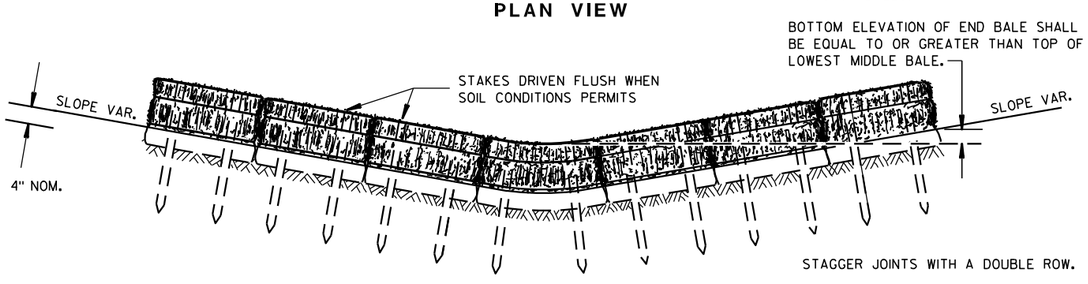
S.D.D. 8 D 2-6



SECTION A-A



PLAN VIEW



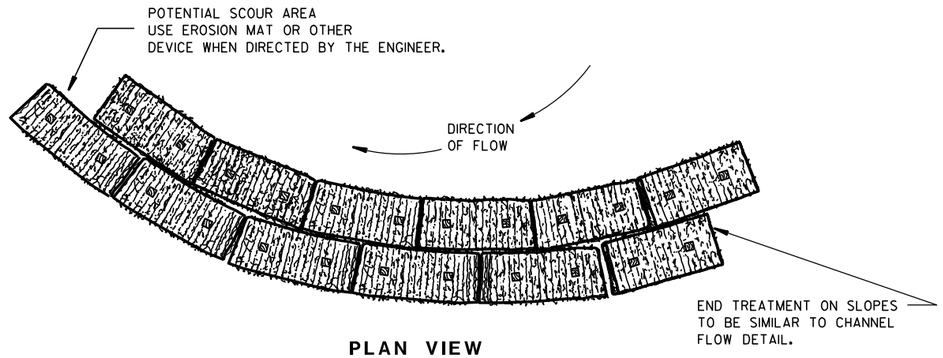
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

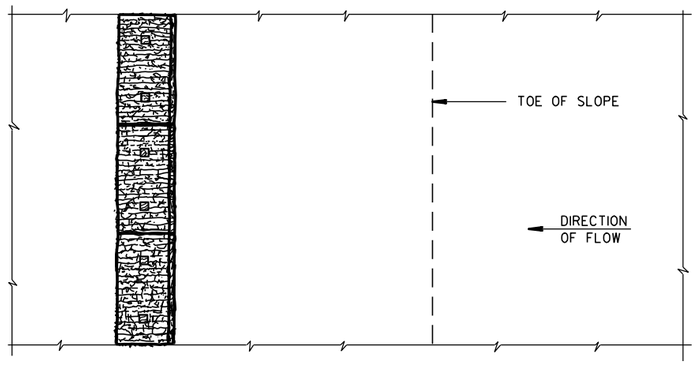
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

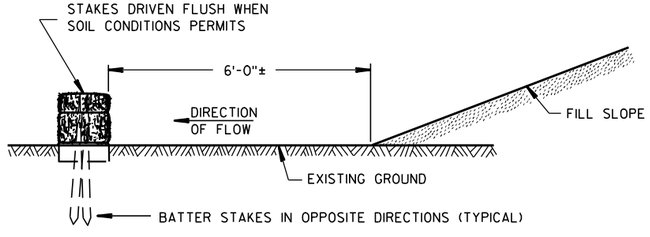


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

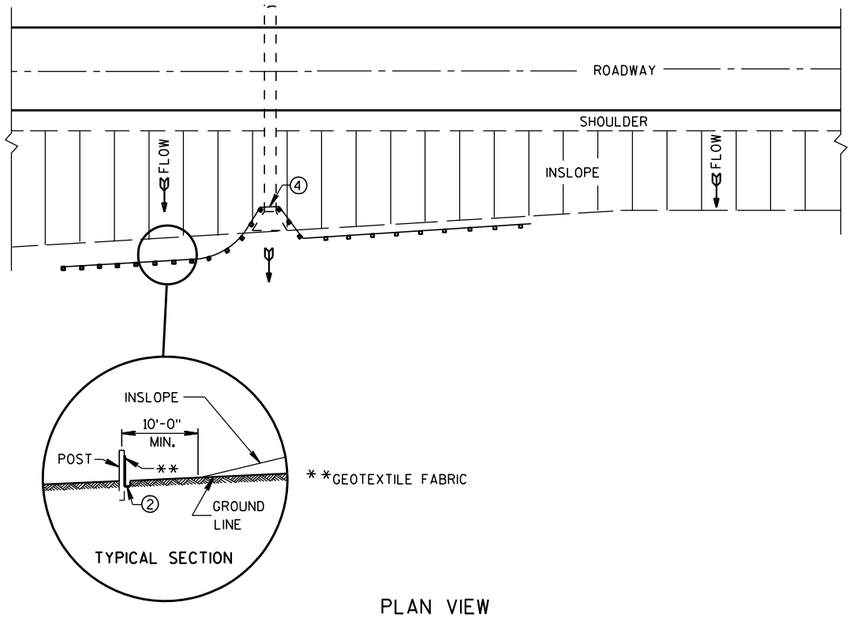
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

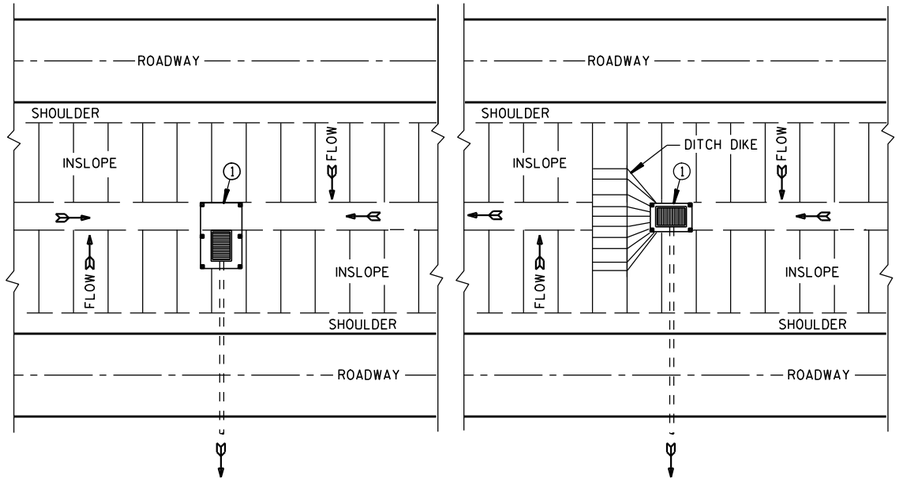
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 8-3



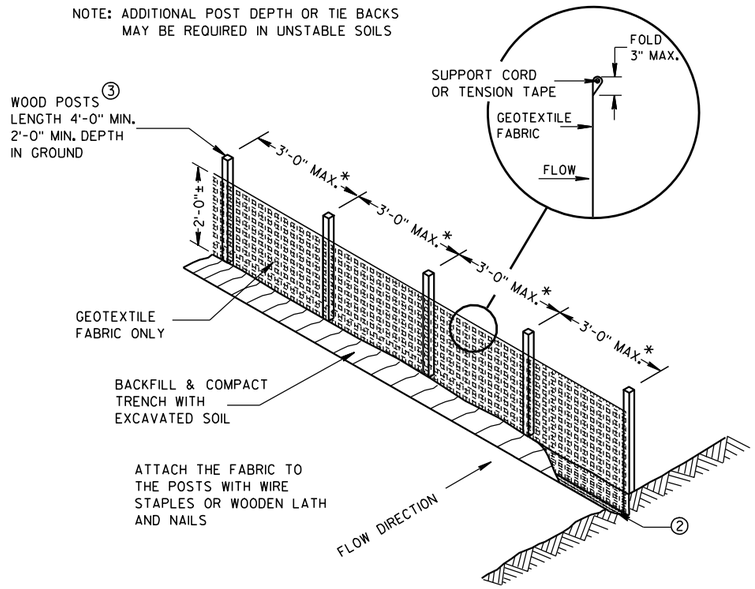
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

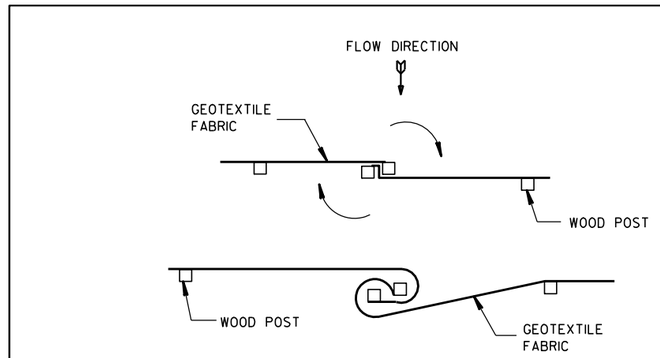


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

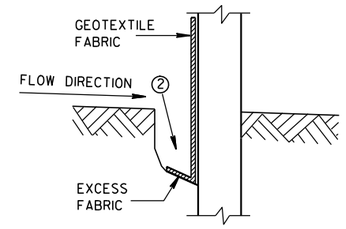


JOINING TWO LENGTHS OF SILT FENCE 5

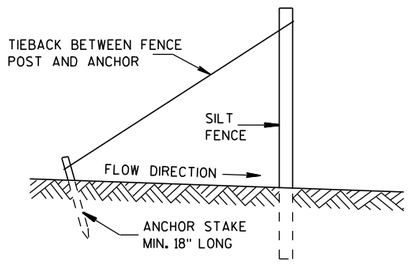
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK

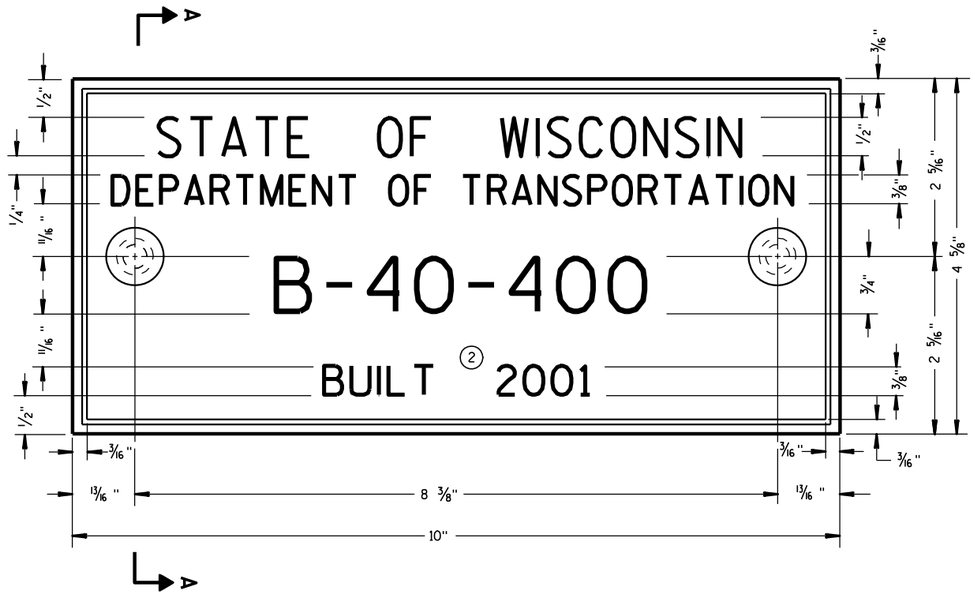
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

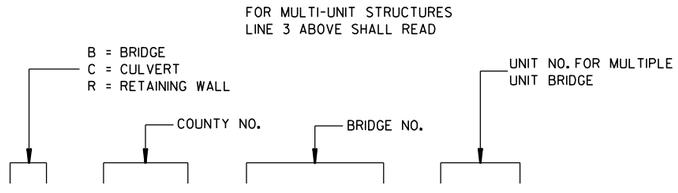
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 9-6



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

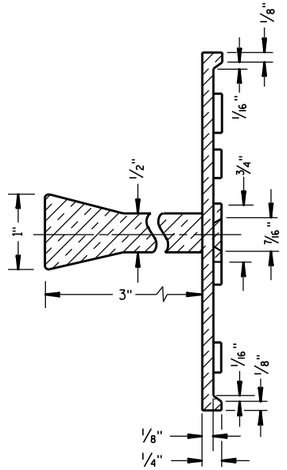
GENERAL NOTES

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

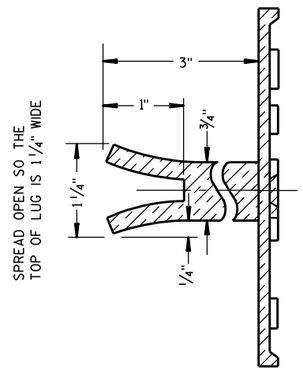
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

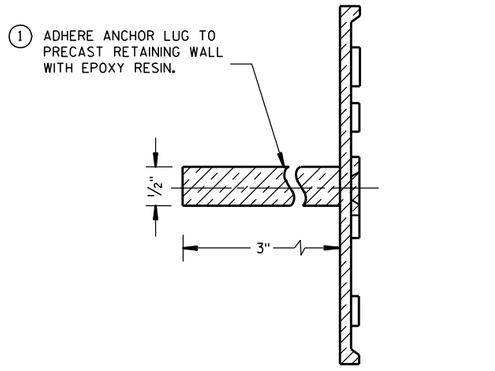
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10

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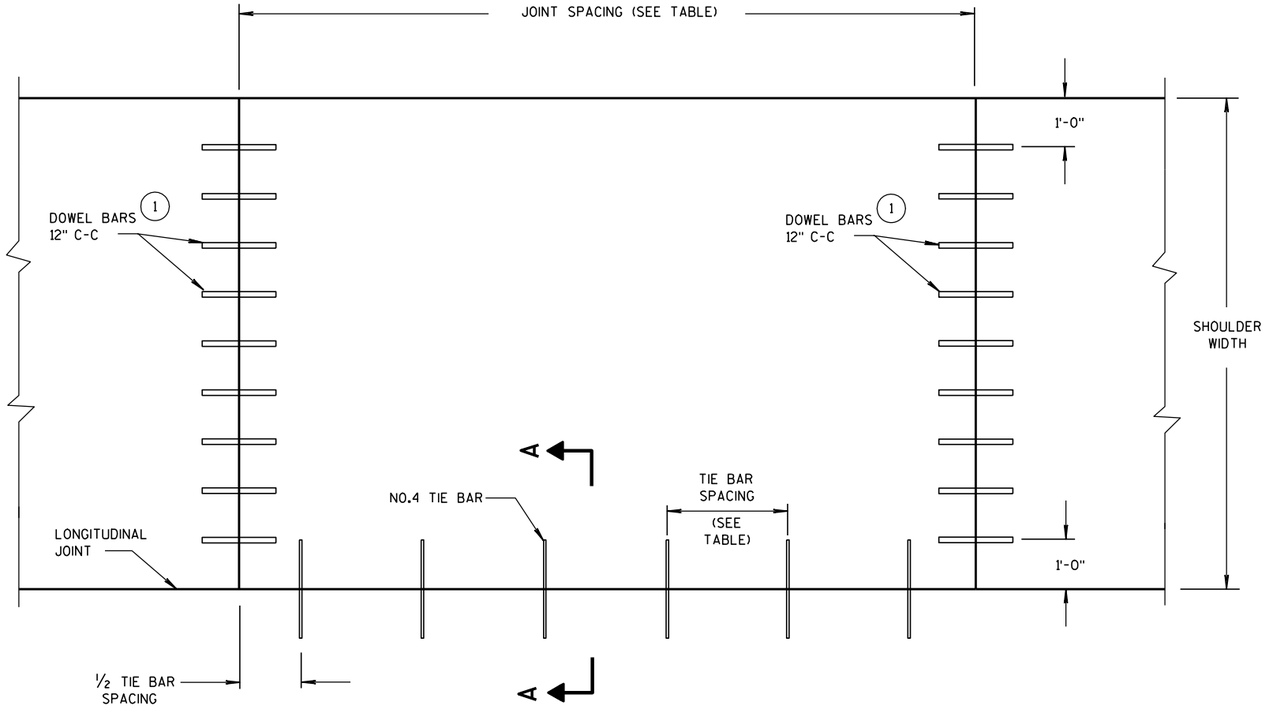
S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

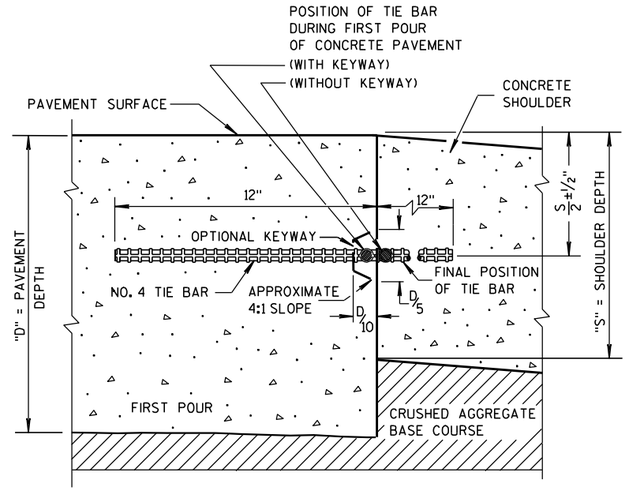
GENERAL NOTES

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

(1)

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.

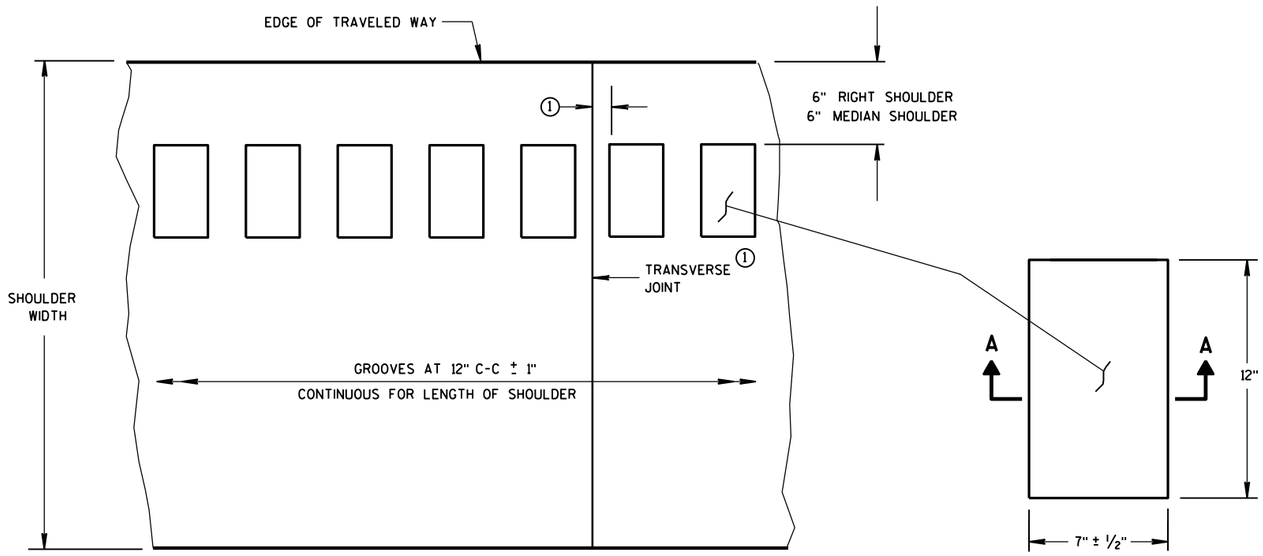
CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
FHWA

6

S.D.D. 13 A 3-5



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

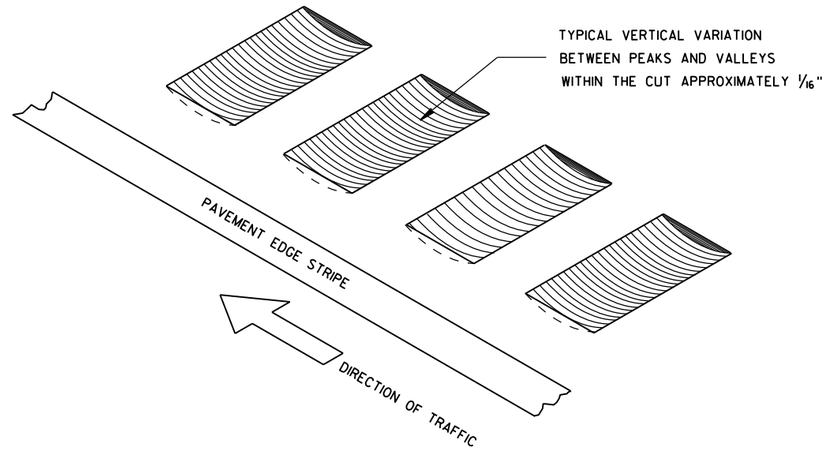
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

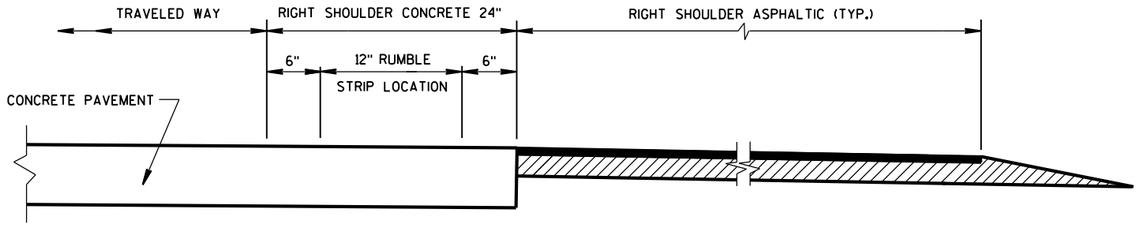
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

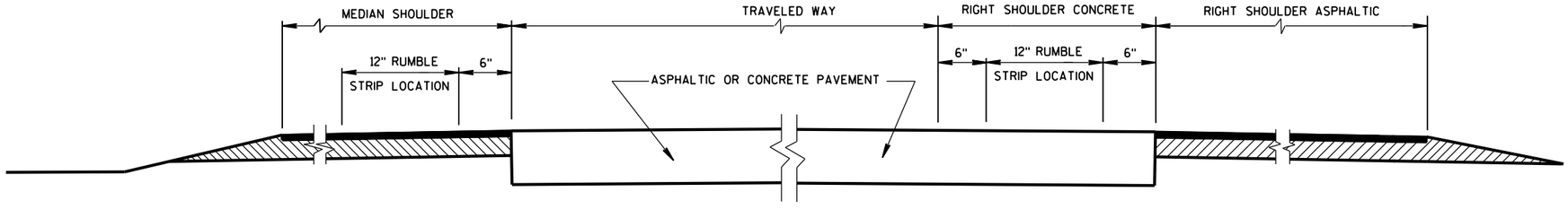
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



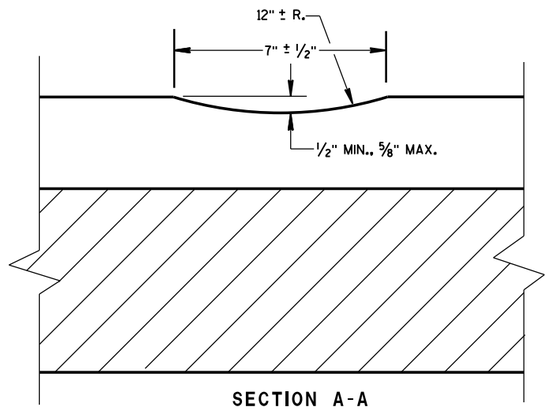
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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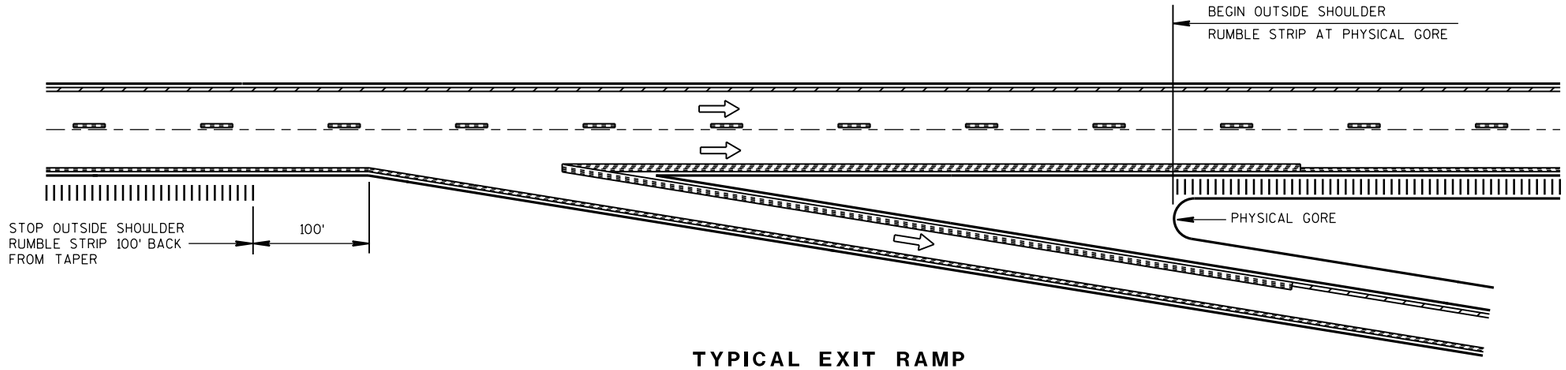
S.D.D. 13 A 5-5a



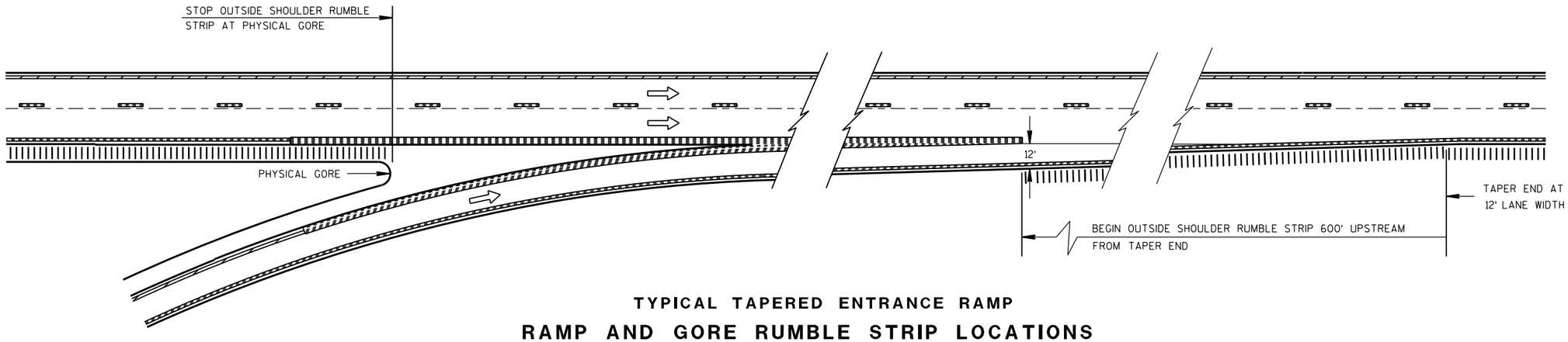
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

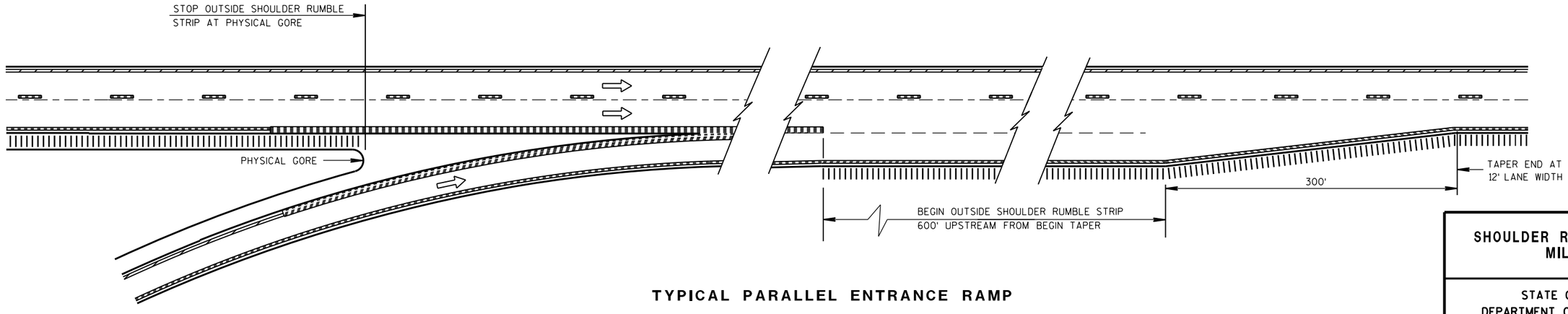
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

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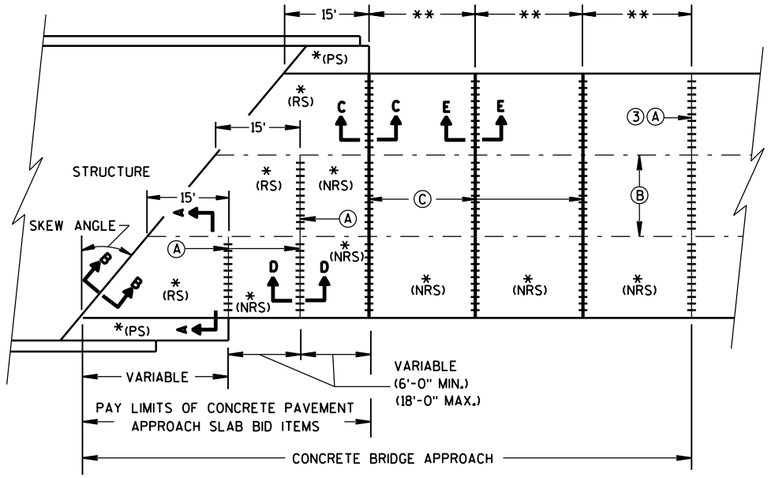
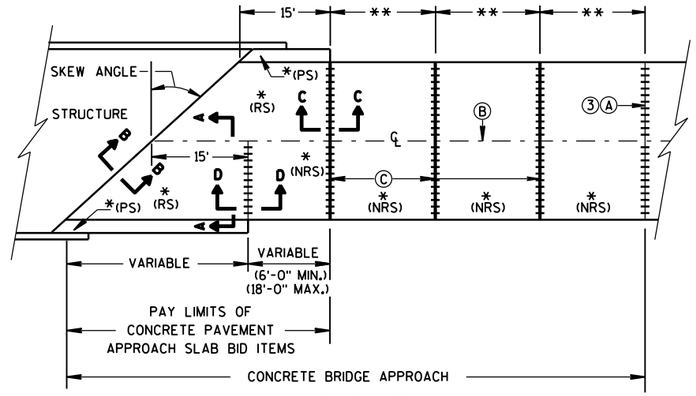
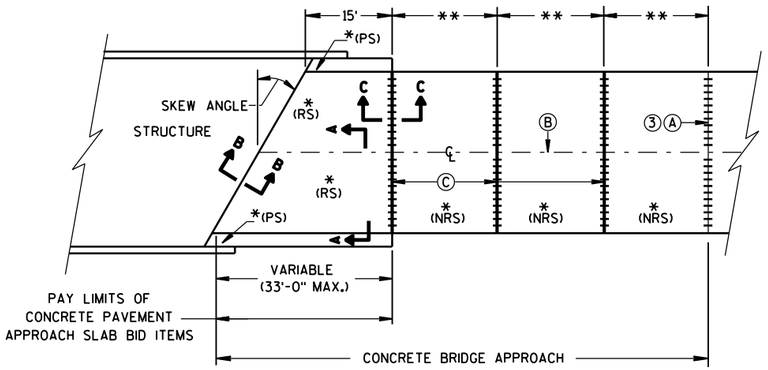
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



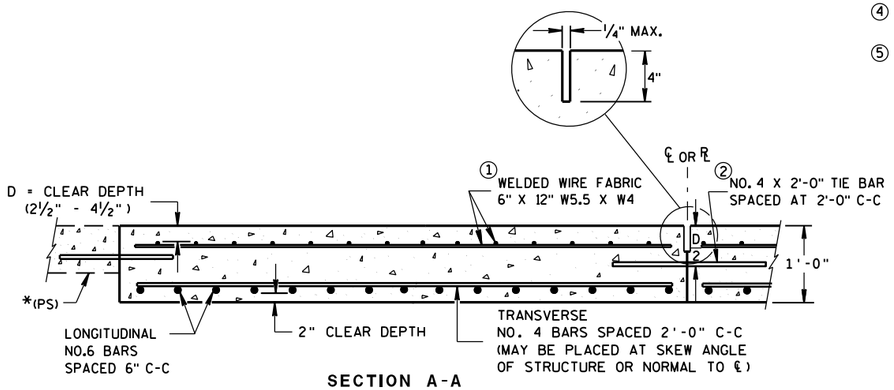
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

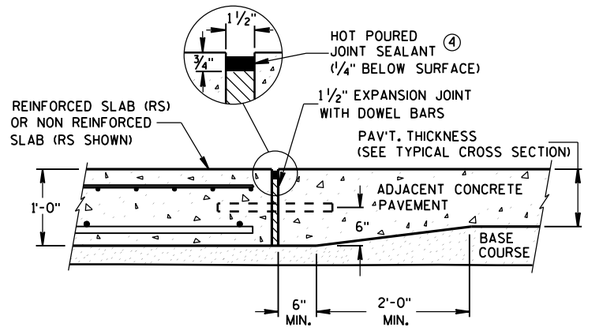
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

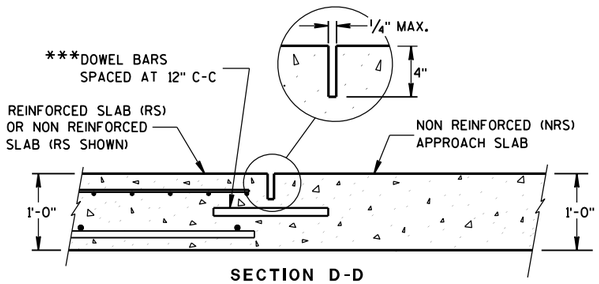
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



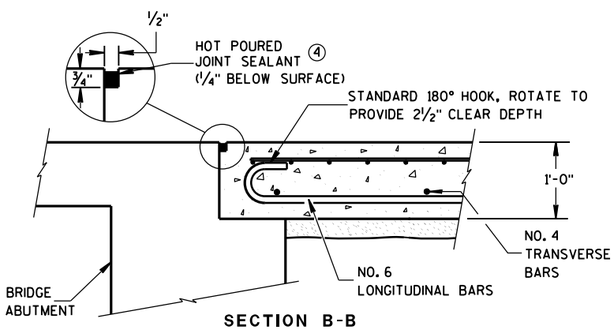
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

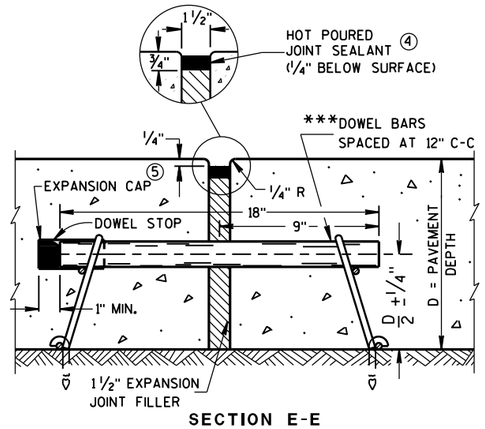
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

1. THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
2. THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
3. DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
4. USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
5. PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
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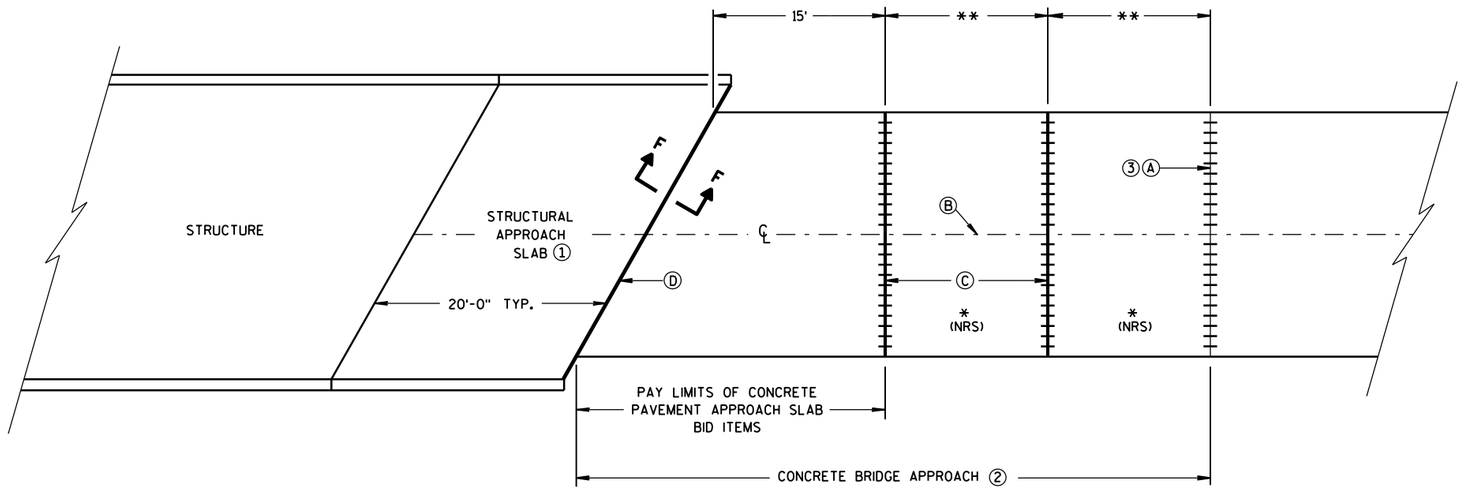


BRIDGE APPROACHES

GENERAL NOTES

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

① CONFORM TO APPLICABLE BRIDGE MANUAL STANDARD DRAWINGS FOR *STRUCTURAL APPROACH SLABS* (SEE CHAPTER 12 - ABUTMENTS).

② CONFORM TO SHEET (a) OF THIS SET FOR *CONCRETE BRIDGE APPROACH* DETAILS, WITH ONE EXCEPTION — WHEN CONSTRUCTING A *CONCRETE BRIDGE APPROACH* NEXT TO A *STRUCTURAL APPROACH SLAB*, AS SHOWN IN THE DETAIL DRAWING, THE *CONCRETE BRIDGE APPROACH* WILL ONLY HAVE TWO EXPANSION JOINTS; THE THIRD EXPANSION JOINT IS AT THE END OF THE *STRUCTURAL APPROACH SLAB*.

③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

*(NRS) = NON-REINFORCED CONCRETE SLAB

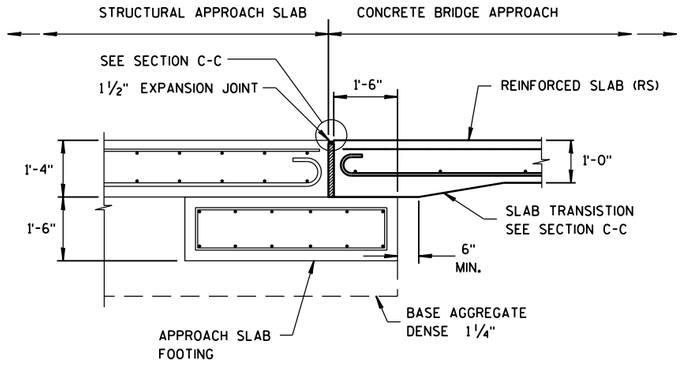
**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)

Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT AND TIE BARS.

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

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)



SECTION F-F

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
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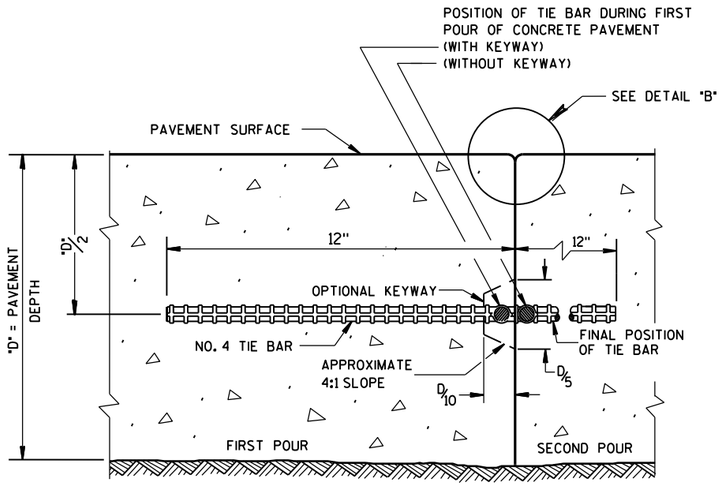
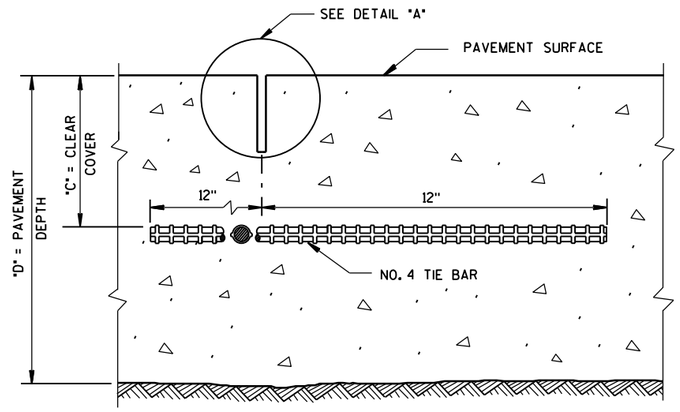


CONSTRUCTION JOINT



SAWED JOINT

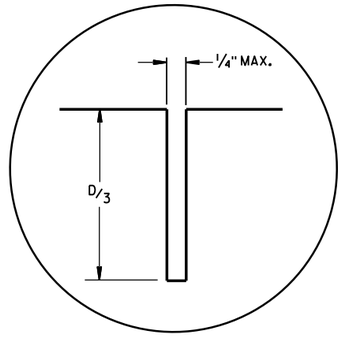
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

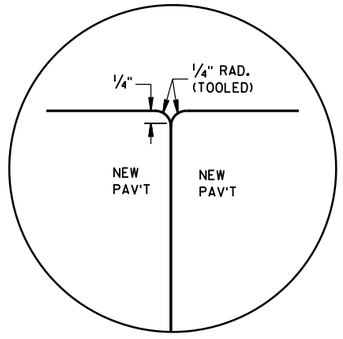
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

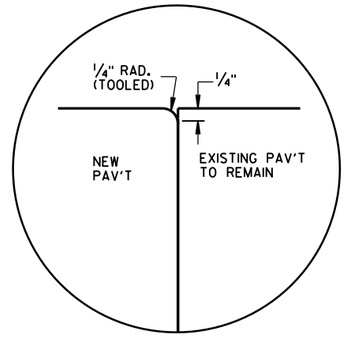
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



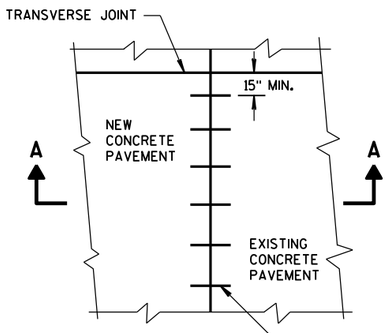
DETAIL "A"



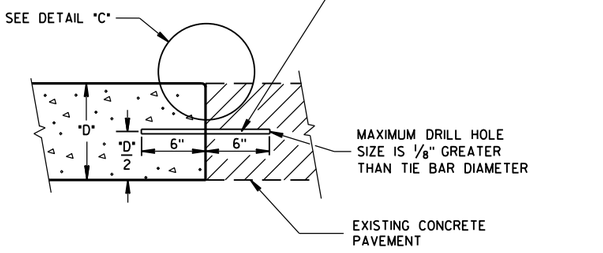
DETAIL "B"



DETAIL "C"



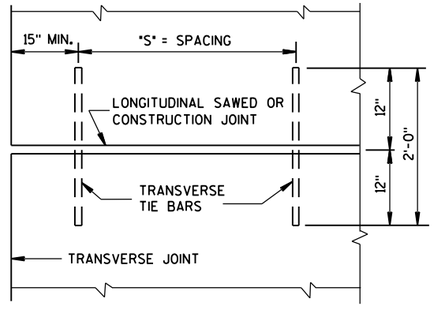
PLAN VIEW



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

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE ... NEER

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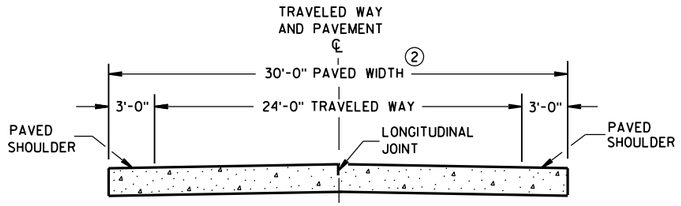
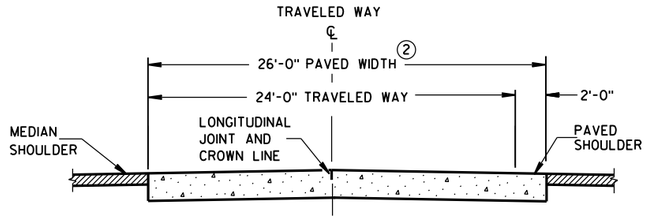
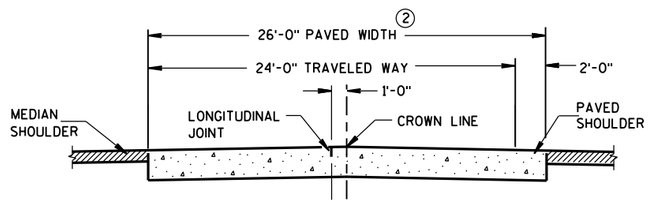


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

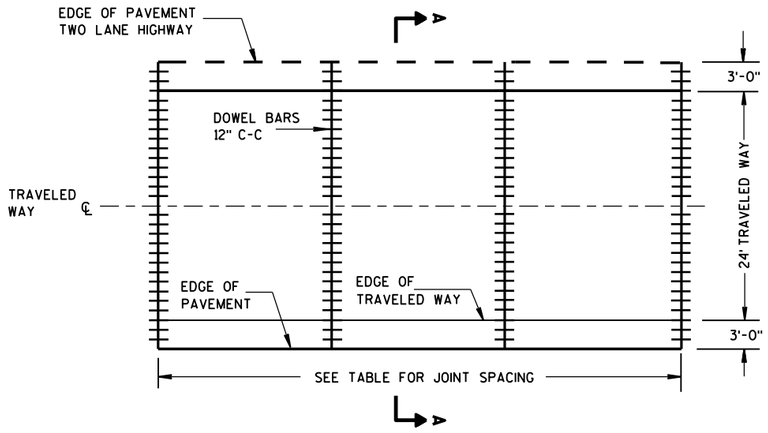
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

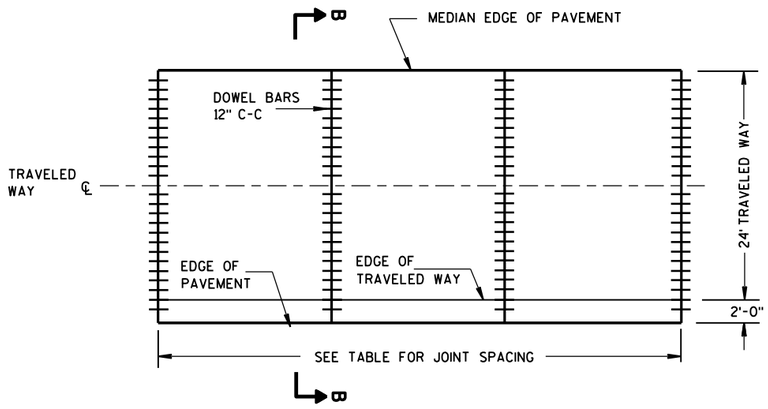
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

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'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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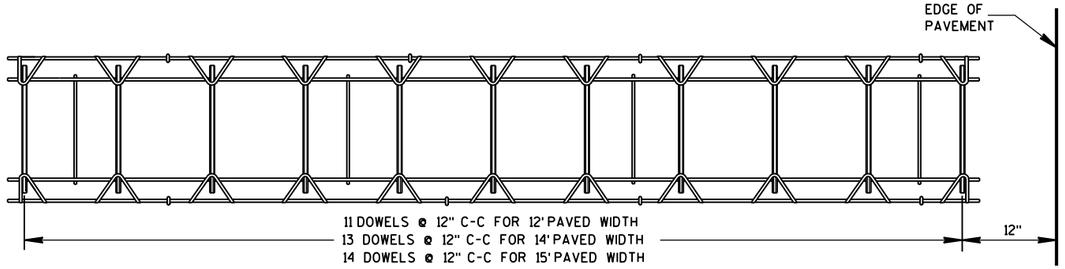
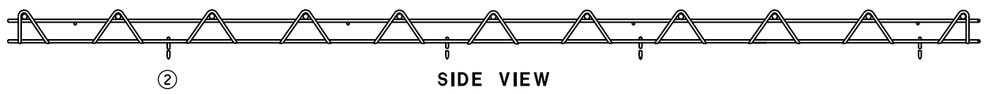


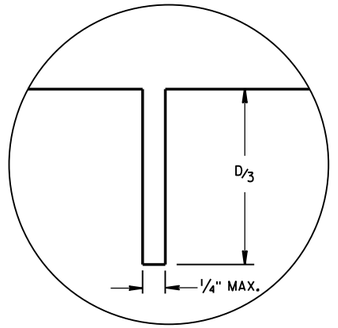
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

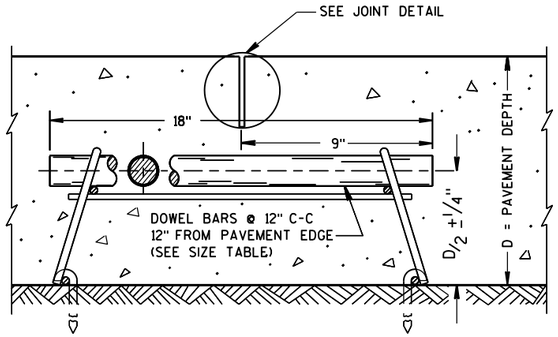
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

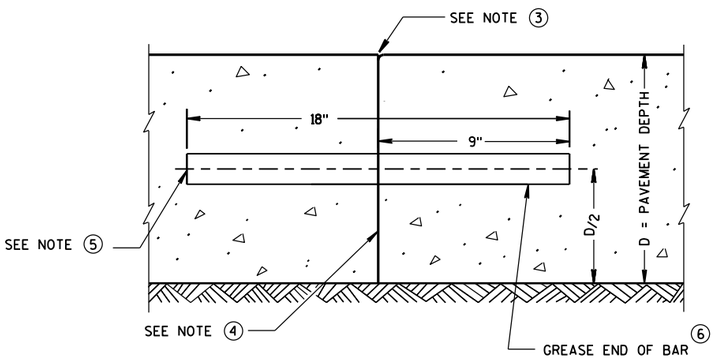
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

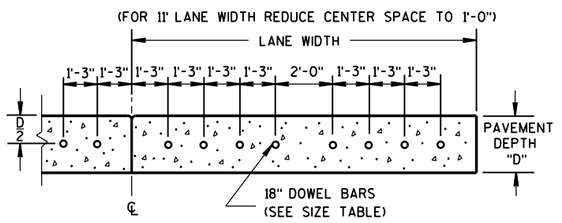
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/3/2013 DATE	/S/ Deb Bischoff PAVEMENT POLICY & DE ENGINEER
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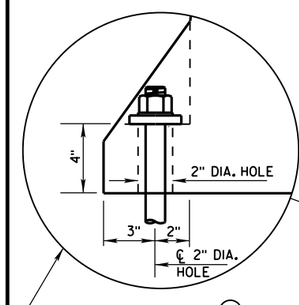
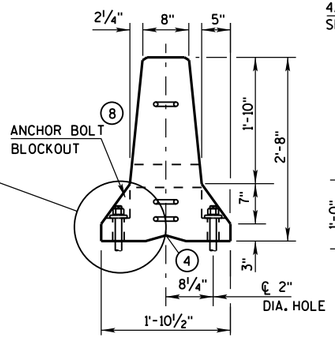
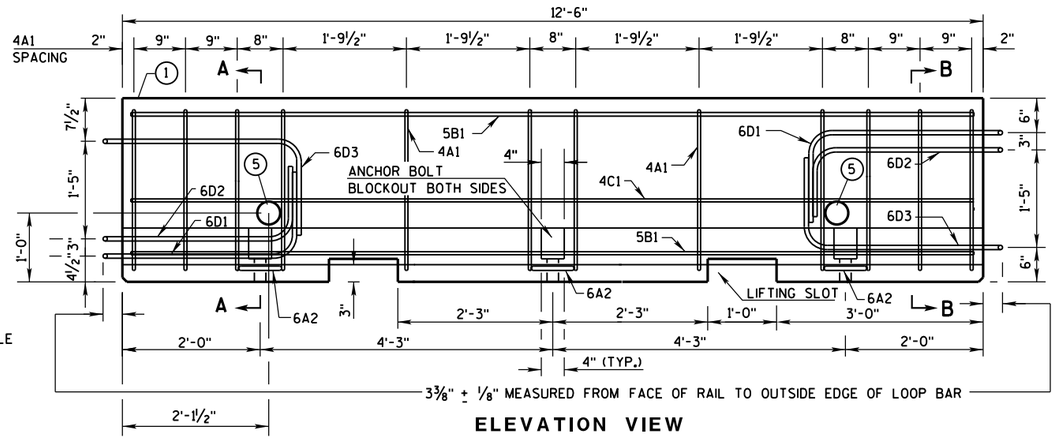
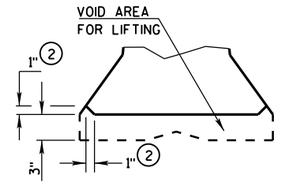




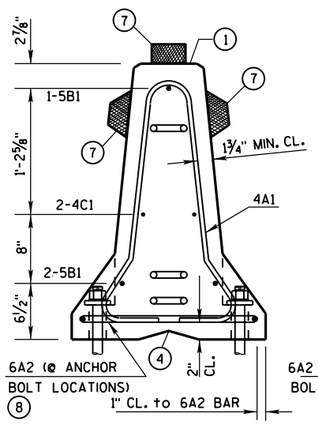
END VIEW



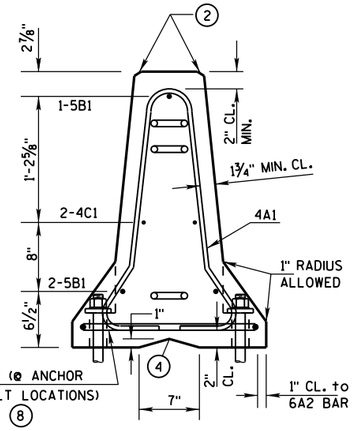
ELEVATION VIEW



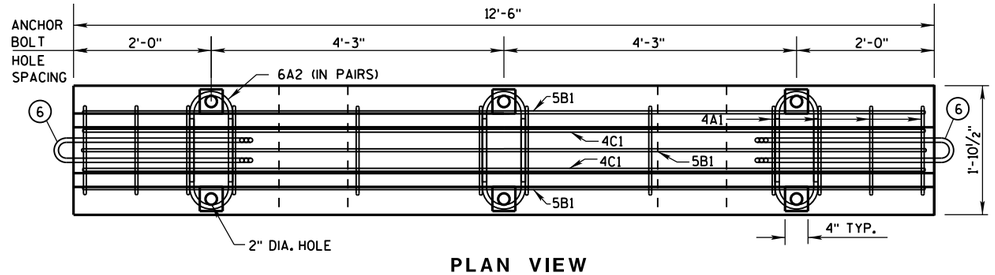
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

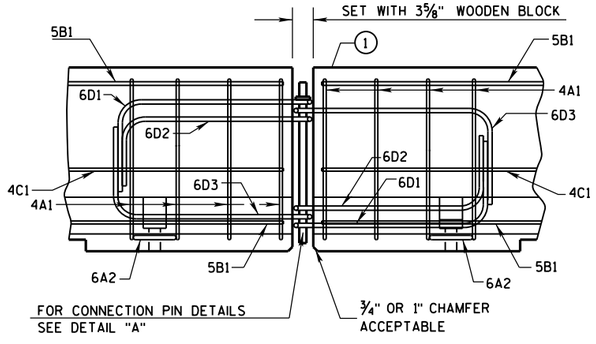
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

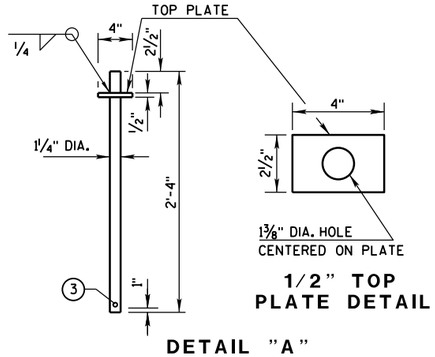
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

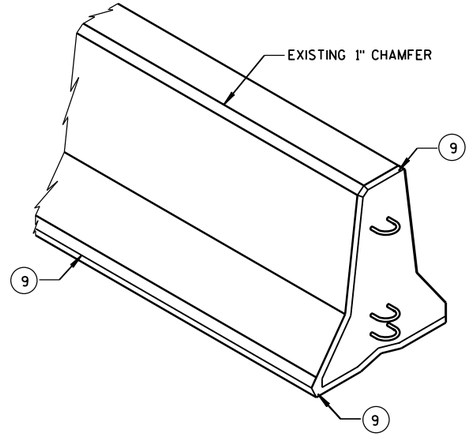


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))

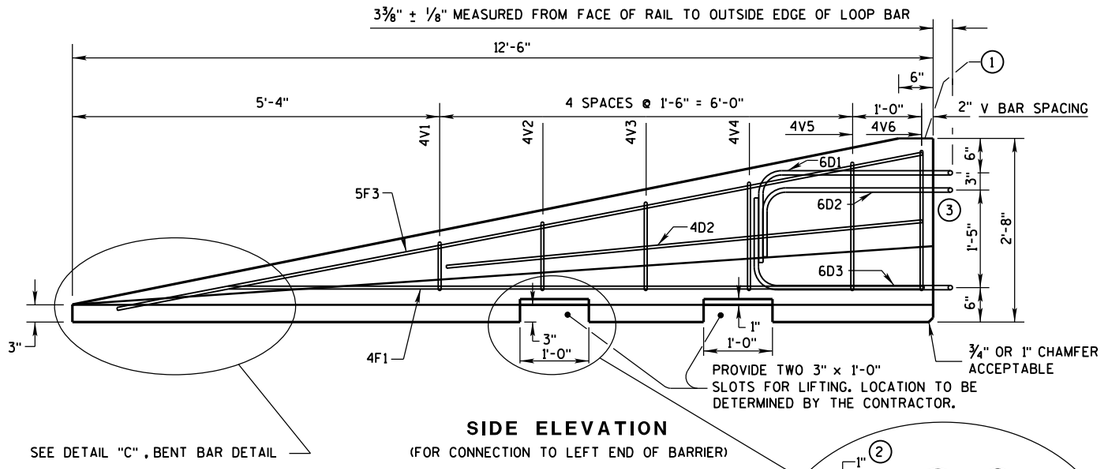


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

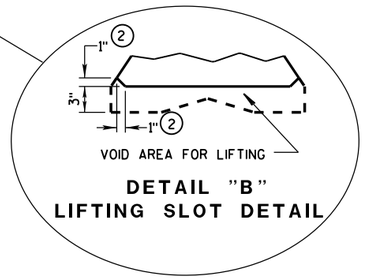
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

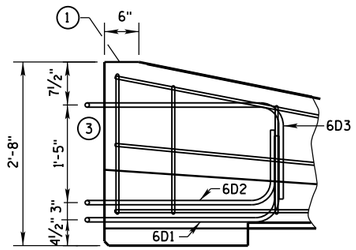
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



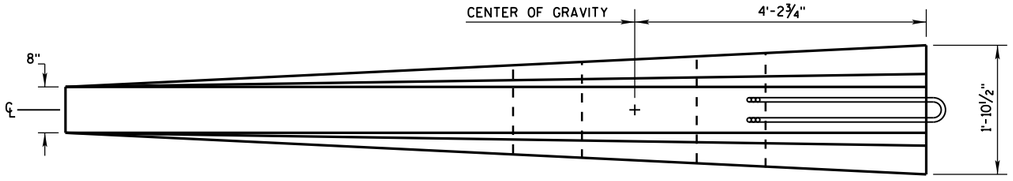
DETAIL "B"
LIFTING SLOT DETAIL



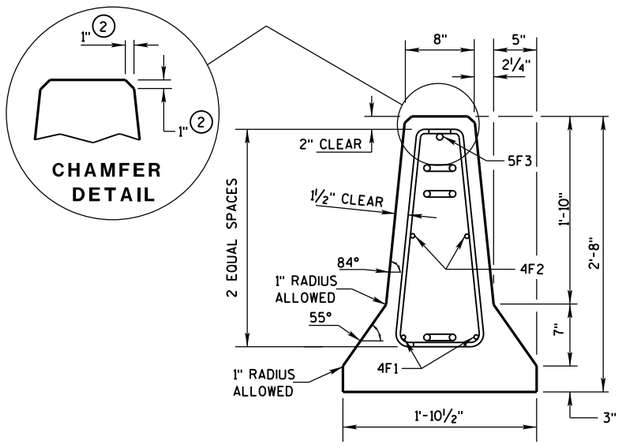
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

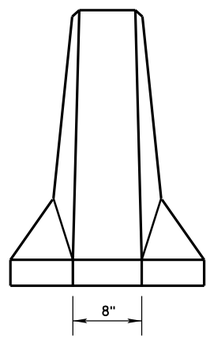
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



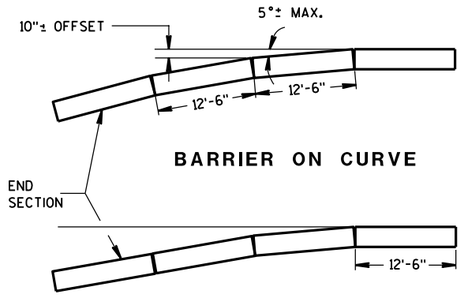
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

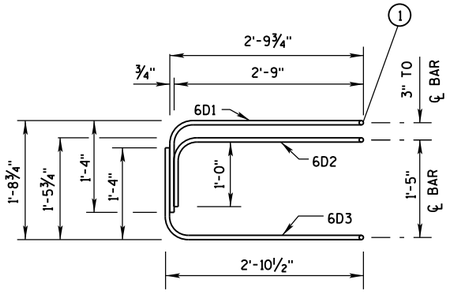
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-14b

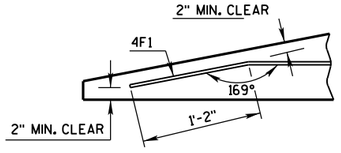
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

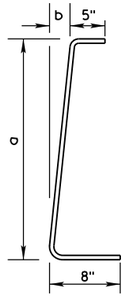
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

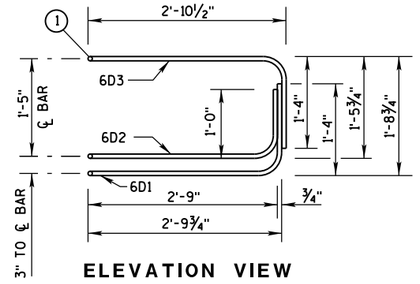
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

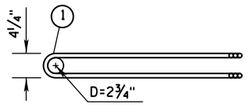
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

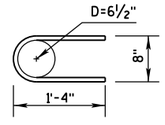
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



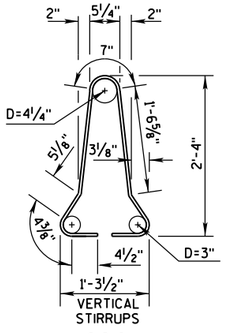
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

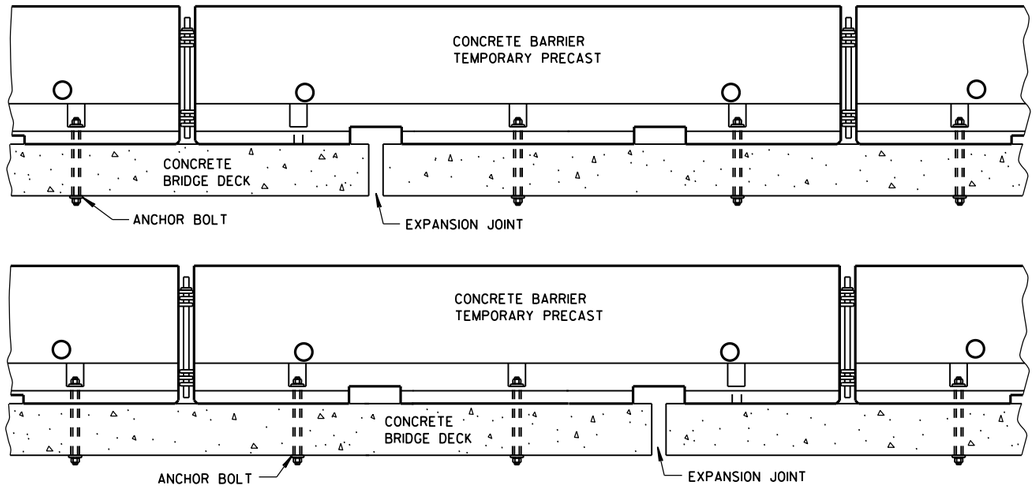
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

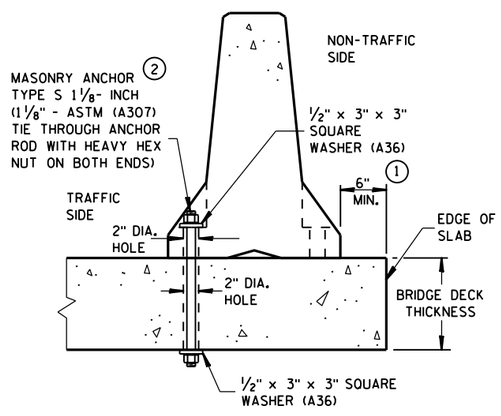
6

S.D.D. 14 B 7-14c



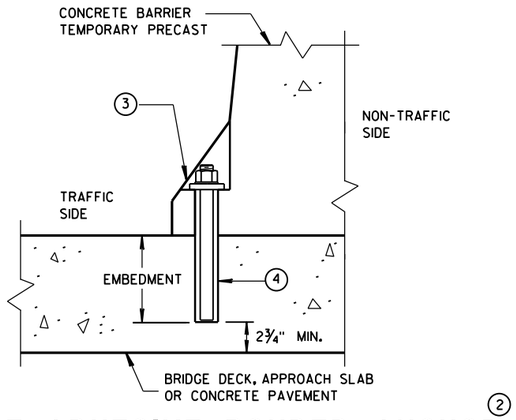
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

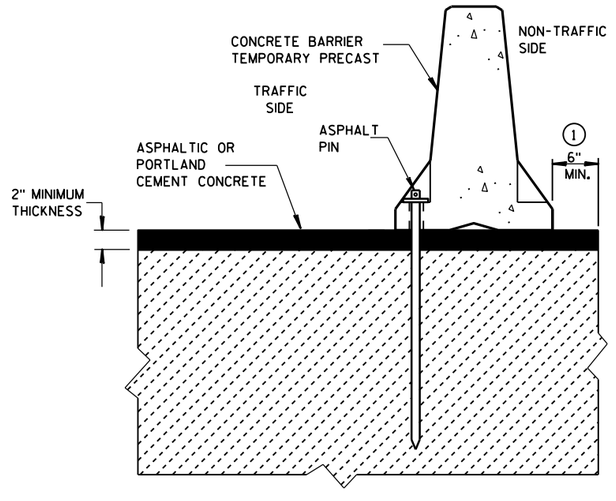
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

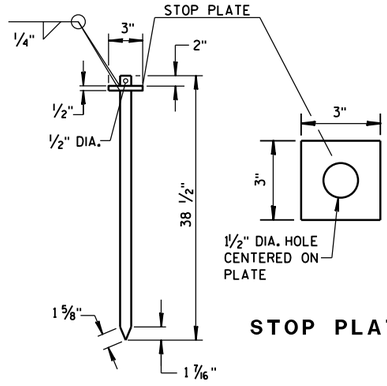
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

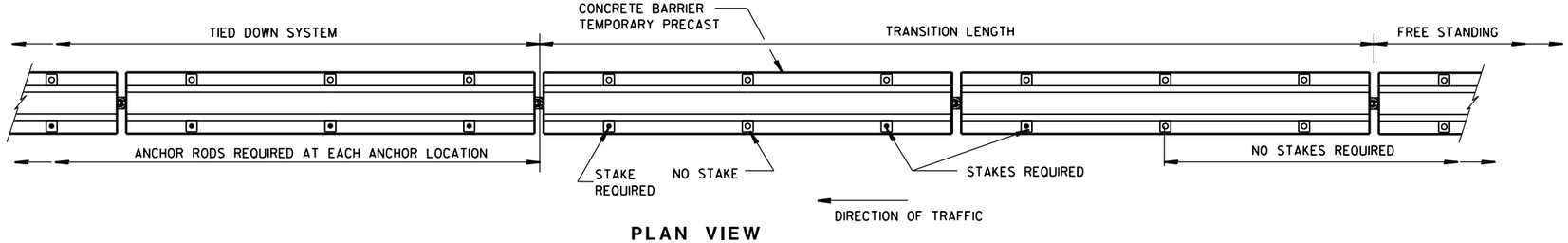
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

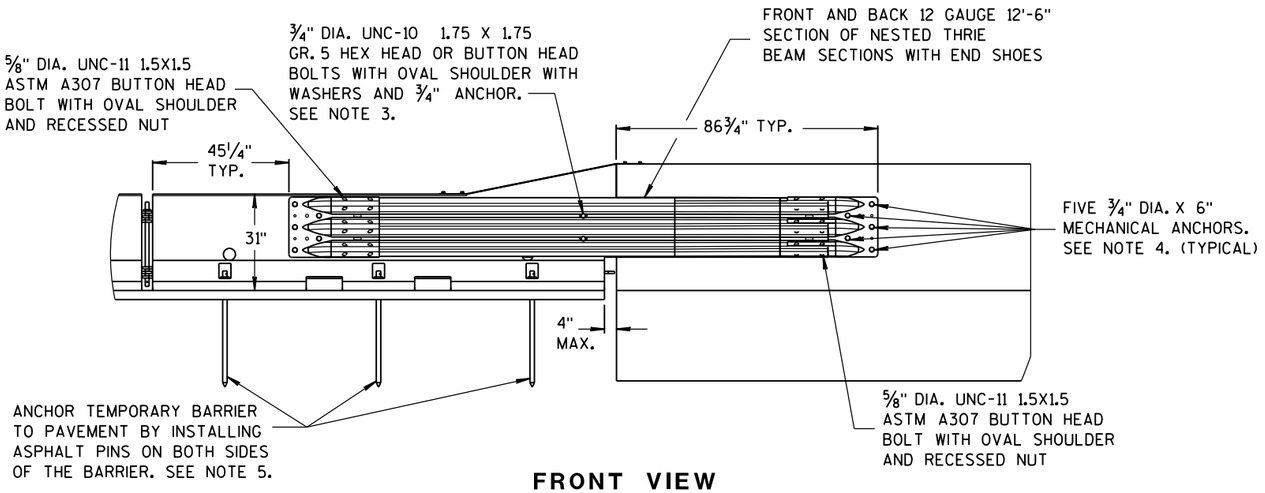
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

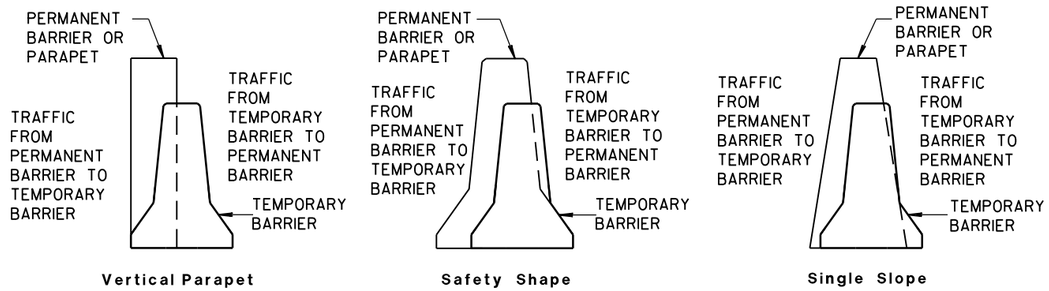
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW



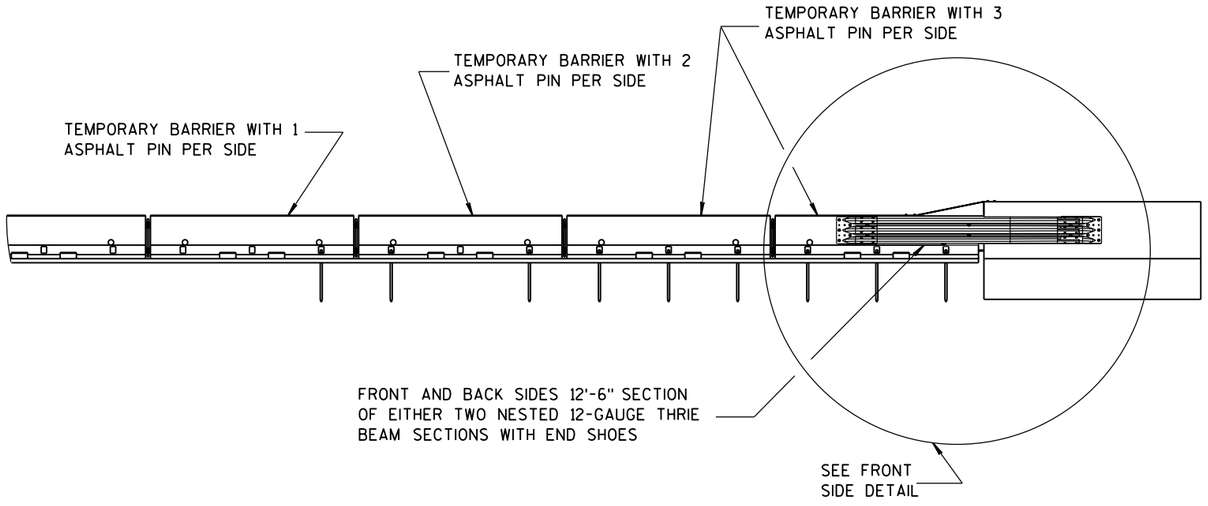
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

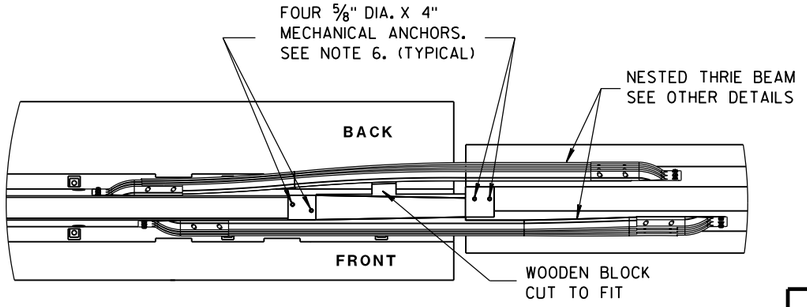
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW



FRONT VIEW



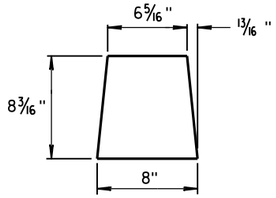
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

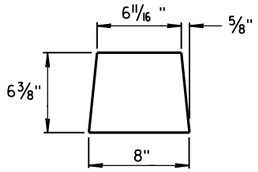
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

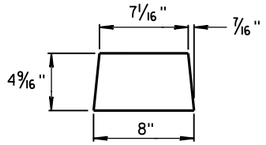
6
S.D.D. 14 B 7-14e



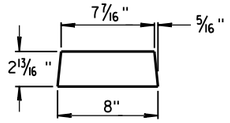
GUSSET 1



GUSSET 2

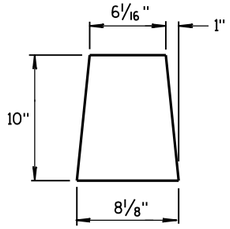


GUSSET 3

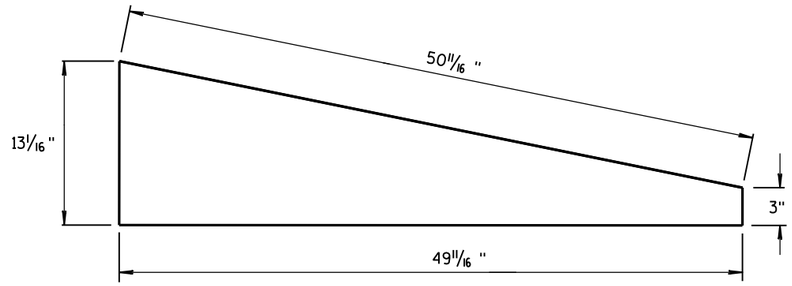


GUSSET 4

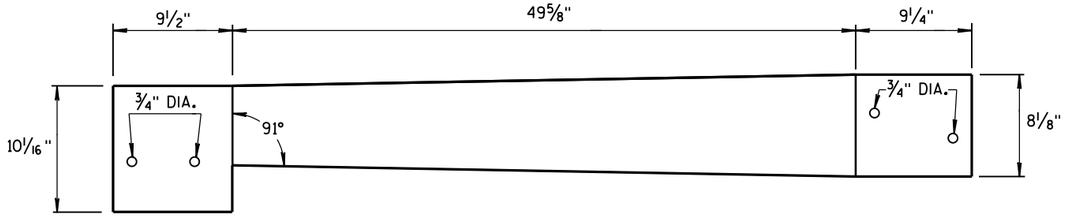
GUSSETS

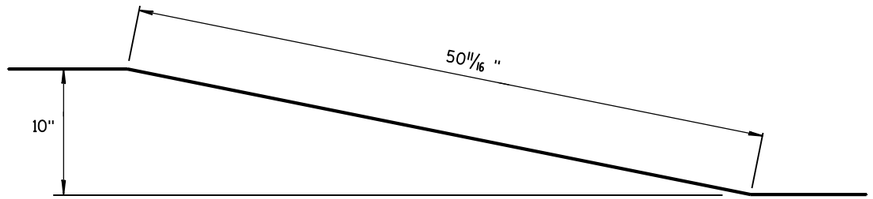


END PLATE



SIDE PLATE

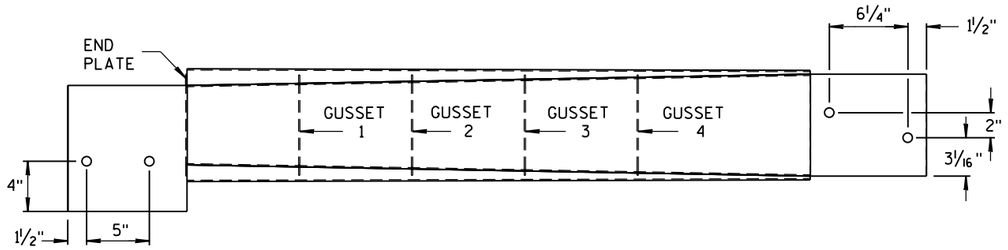


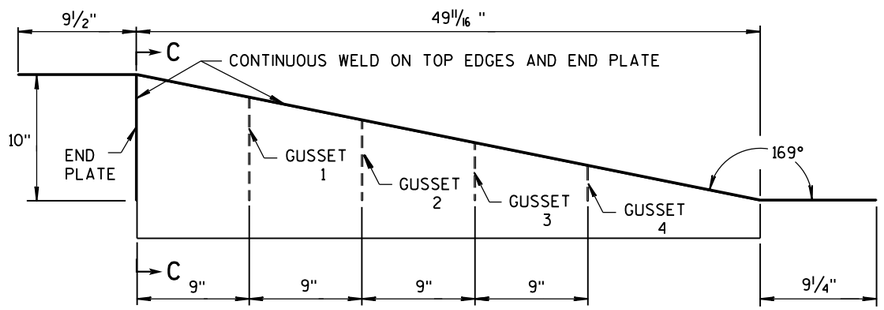


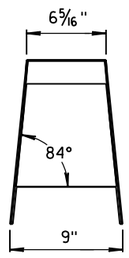
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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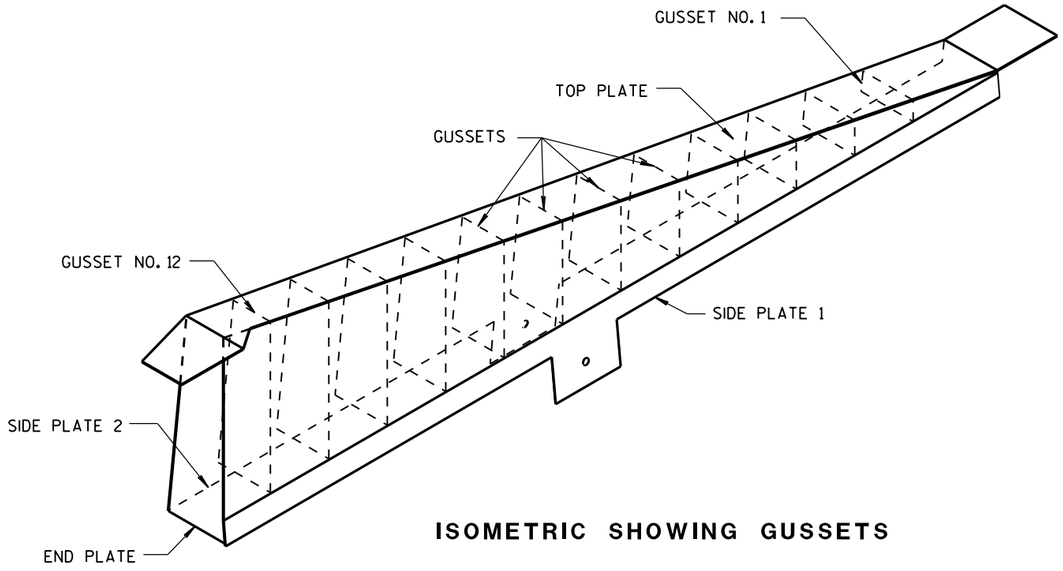
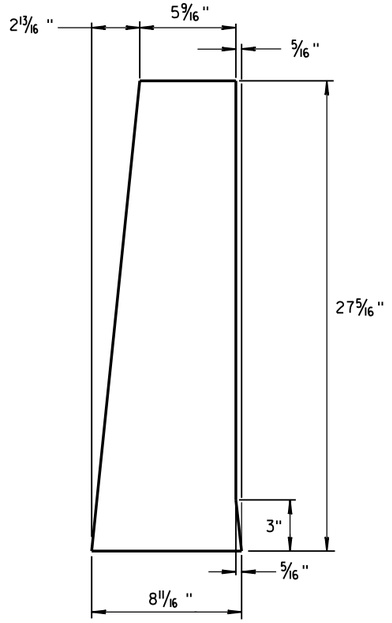
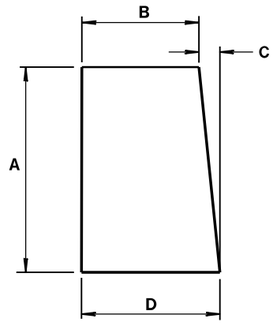


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



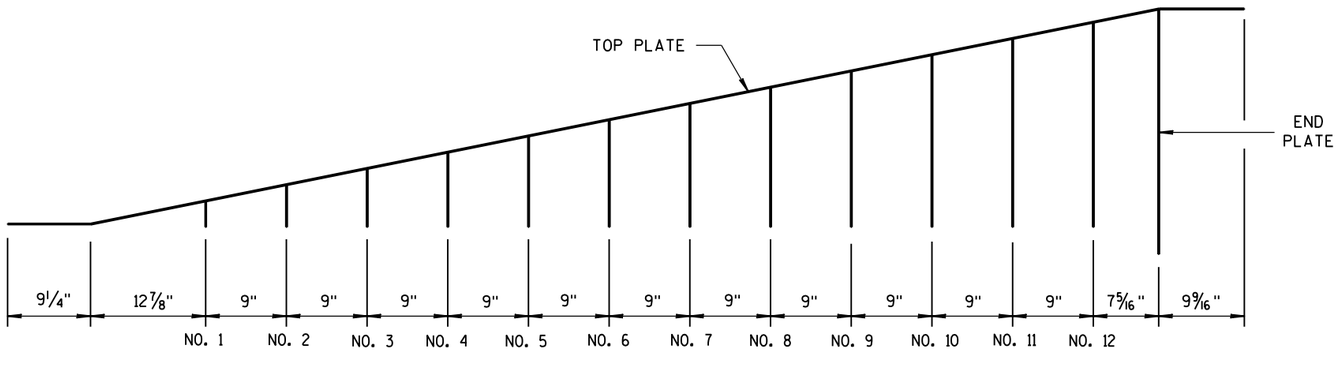
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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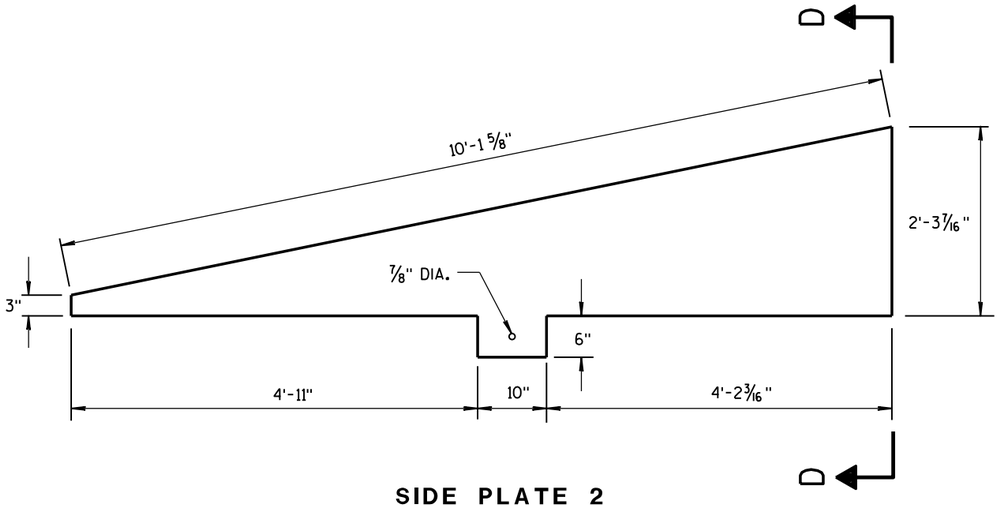
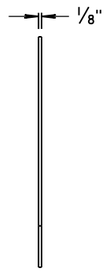
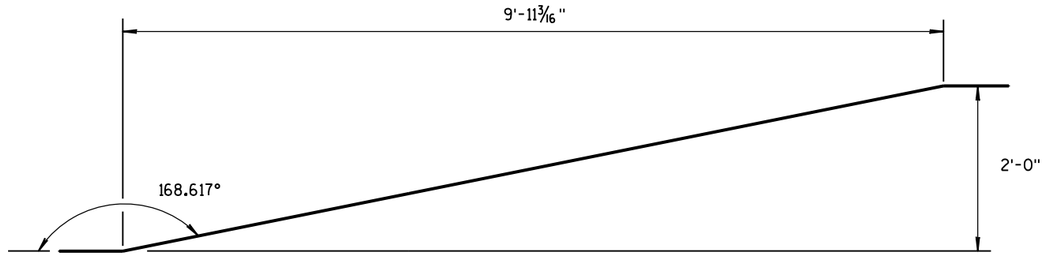
S.D.D. 14 B 7-14g



SIDE PLATE 2

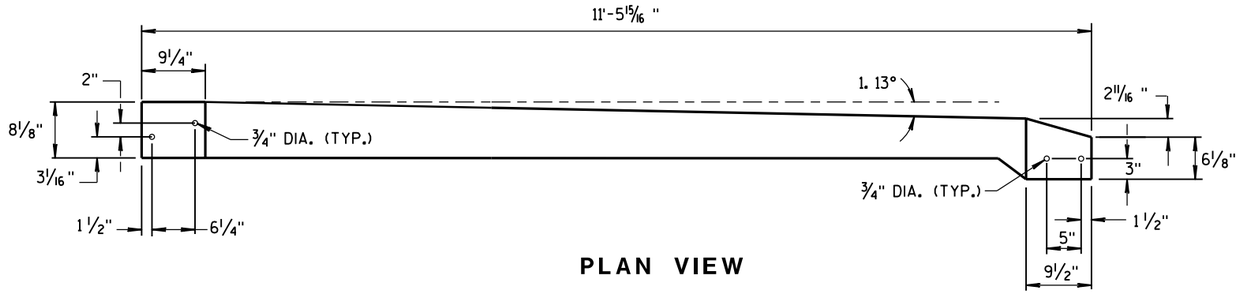


END VIEW



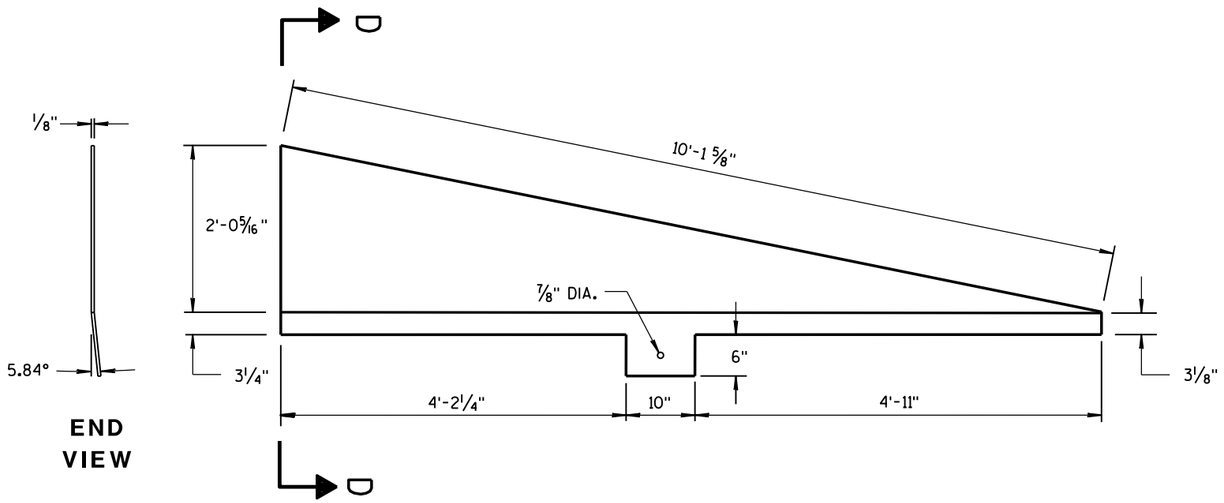
SIDE VIEW

TOP PLATE



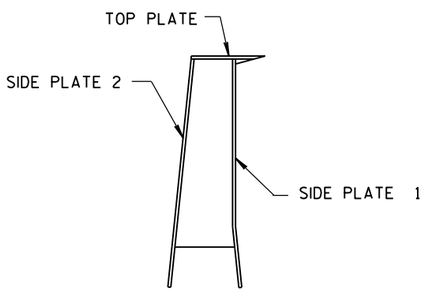
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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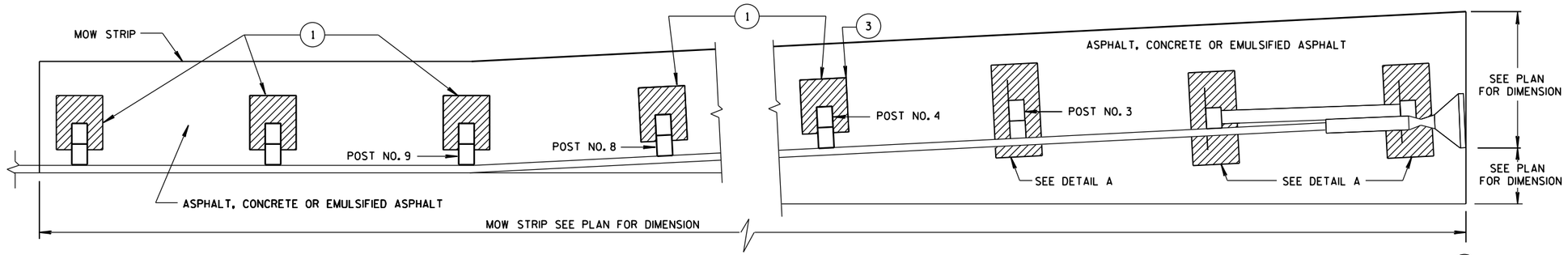
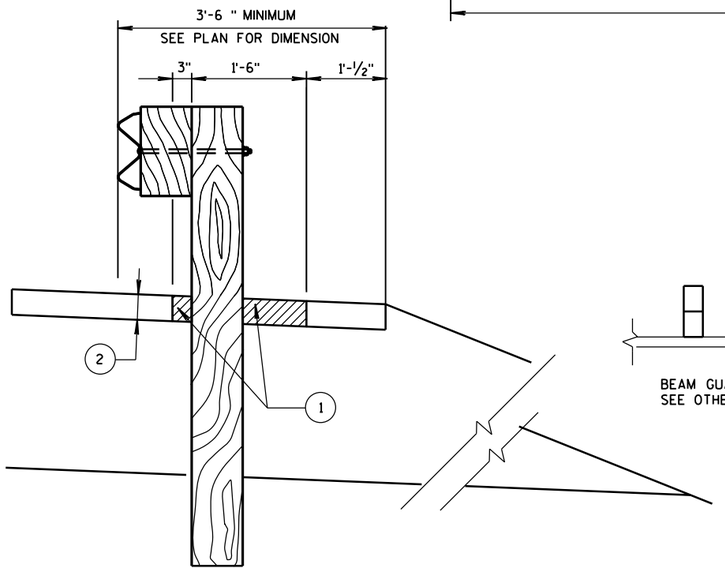
S.D.D. 14 B 7-14h

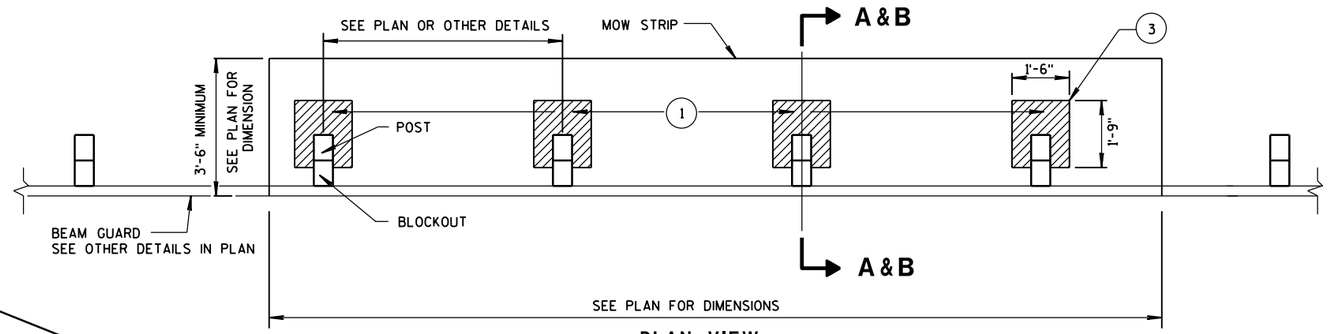


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

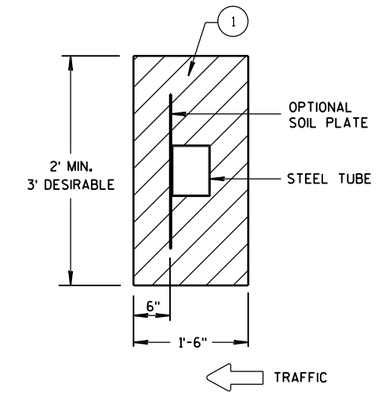


SECTION A-A

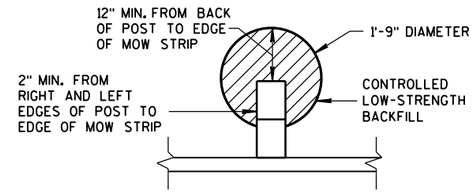


PLAN VIEW

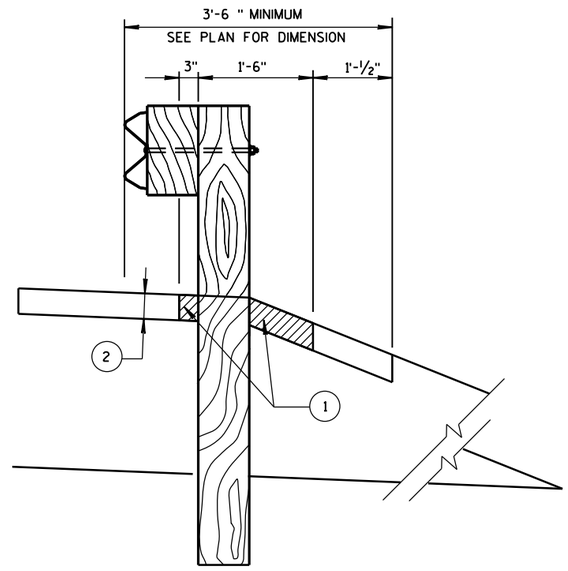
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



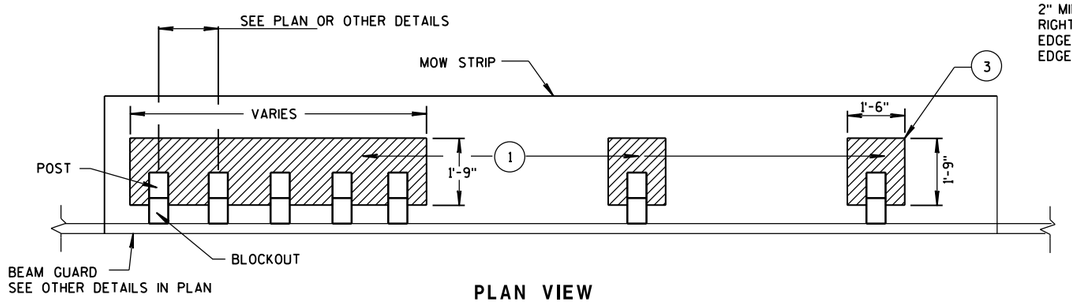
DETAIL A



ALTERNATIVE HMA
MOW STRIP DESIGN

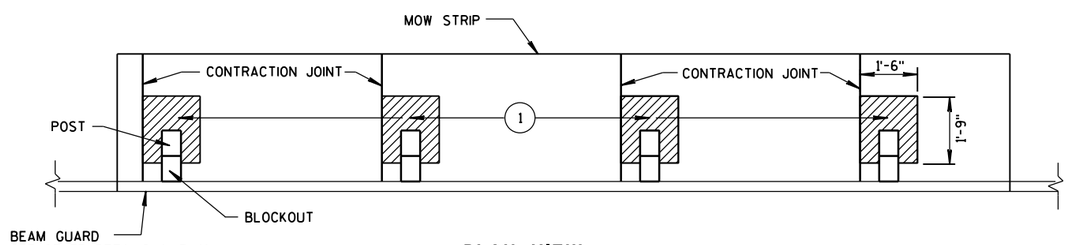


SECTION B-B



PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

1 CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

2 DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

3 FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

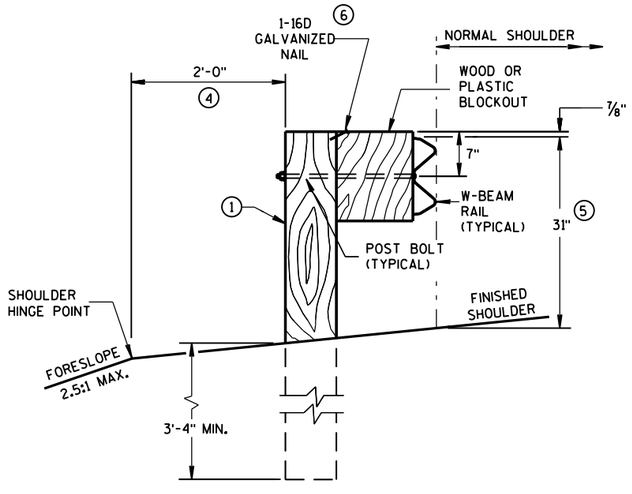
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

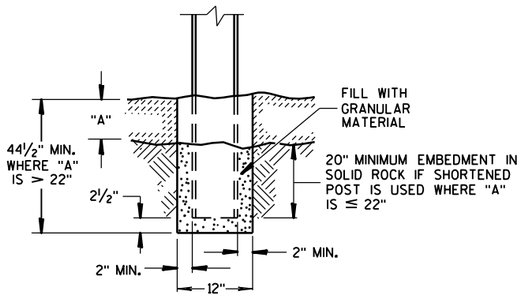
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



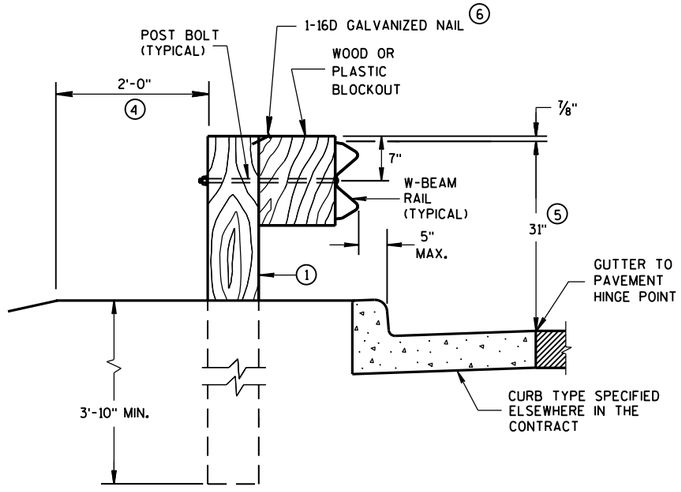
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



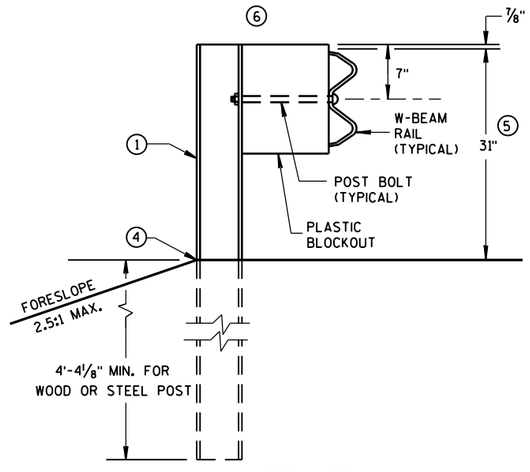
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



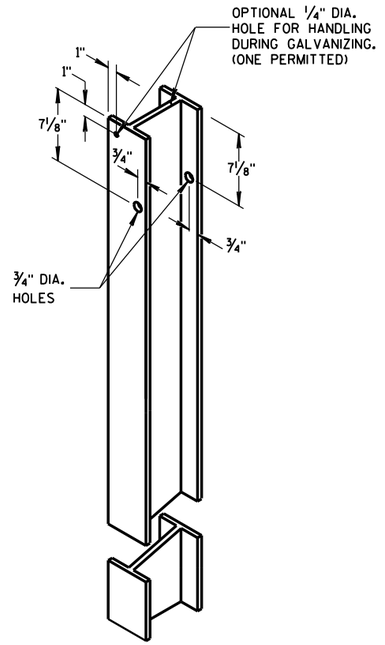
END VIEW

LOCATED ALONG A CURBED ROADWAY

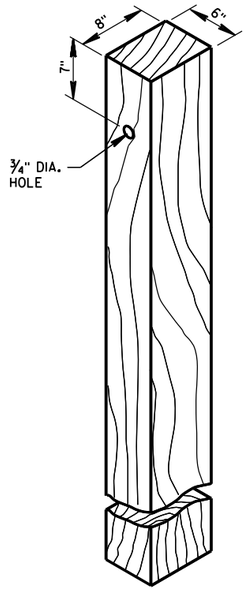


END VIEW

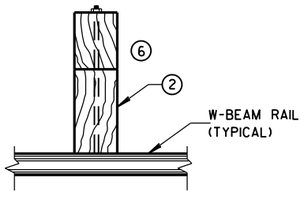
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



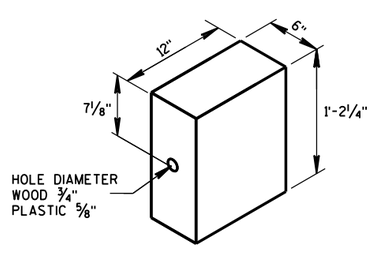
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



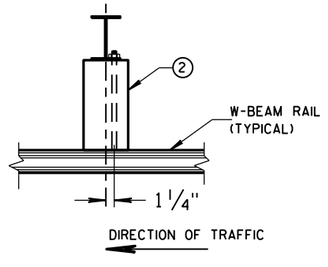
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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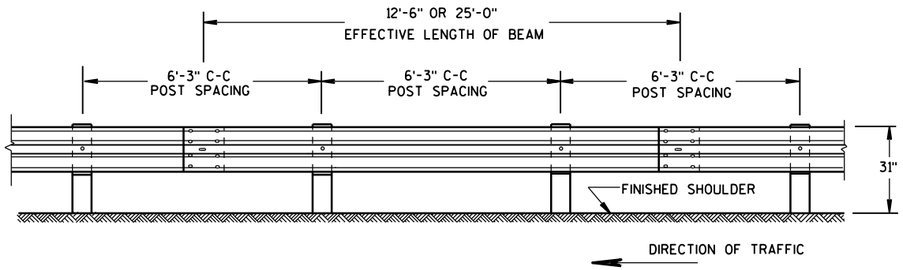
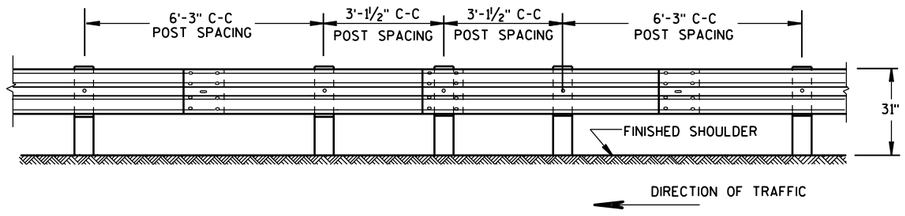


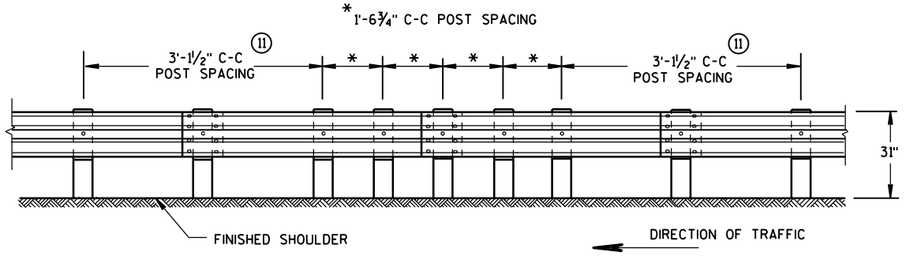
FRONT VIEW

POST SPACING STANDARD INSTALLATION



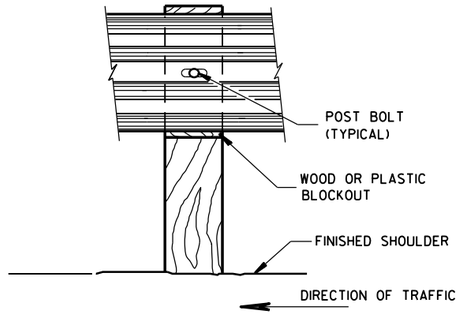
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

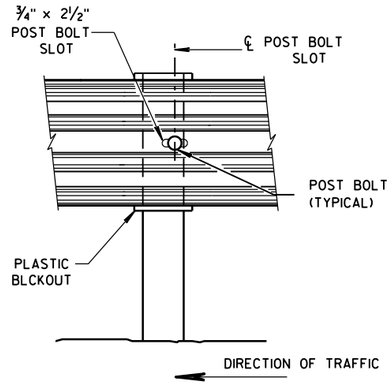


FRONT VIEW

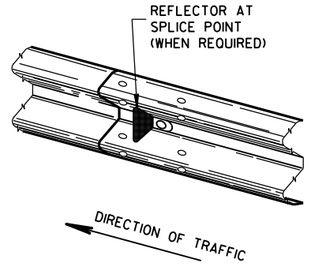
QUARTER POST SPACING (QS)

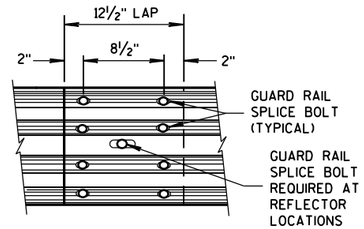


FRONT VIEW AT WOOD POST

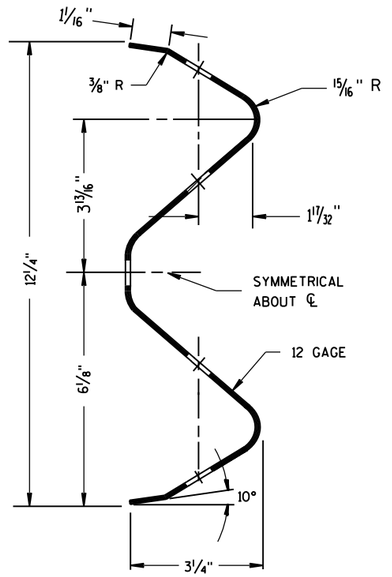


FRONT VIEW AT STEEL POST

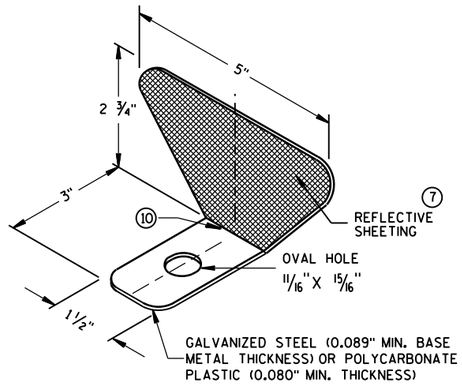




FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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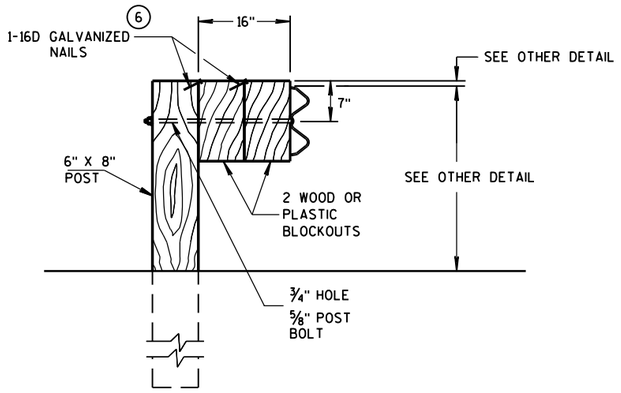
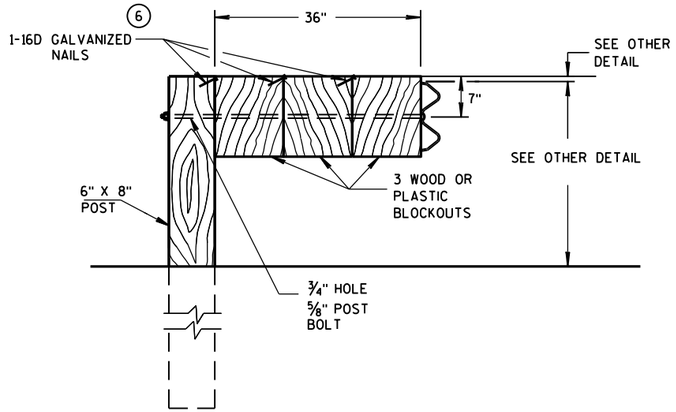
S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

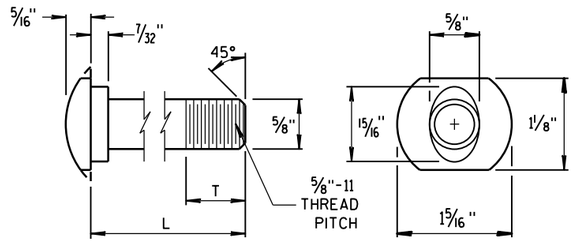


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

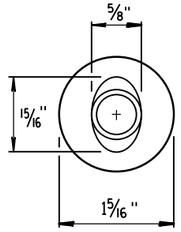
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

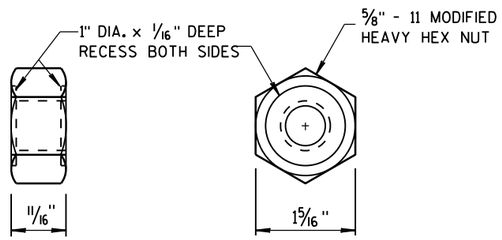


POST BOLT TABLE

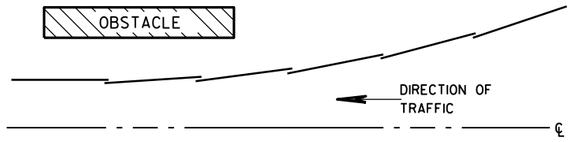
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

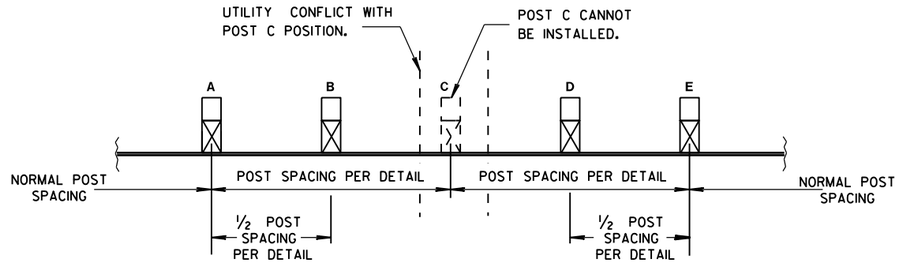


POST BOLT AND RECESS NUT

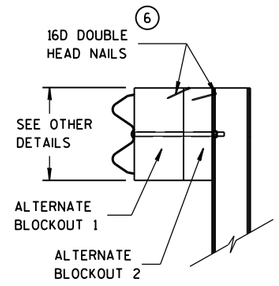


PLAN VIEW

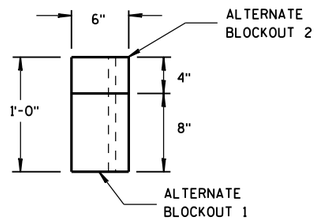
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

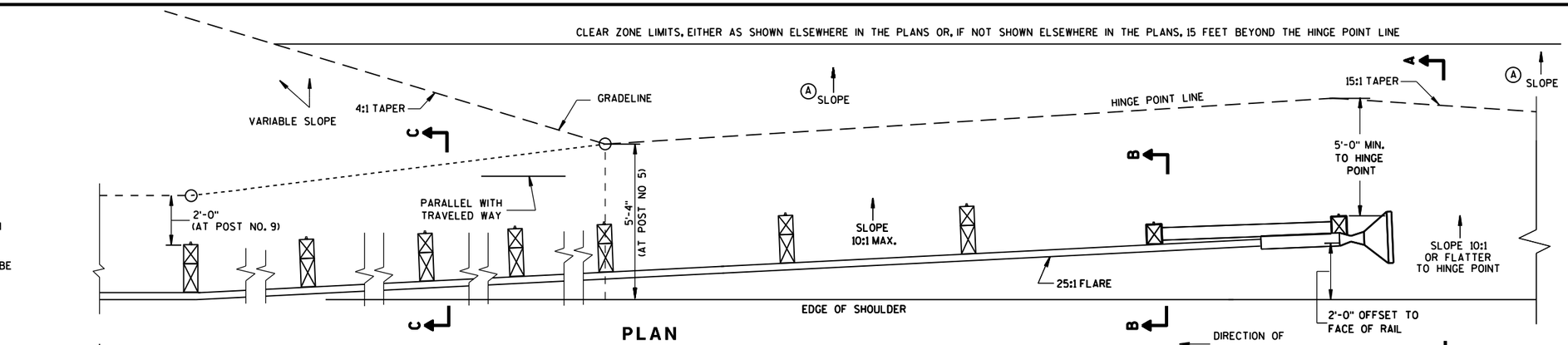
SEE SDD 14B42 FOR MORE INFORMATION.

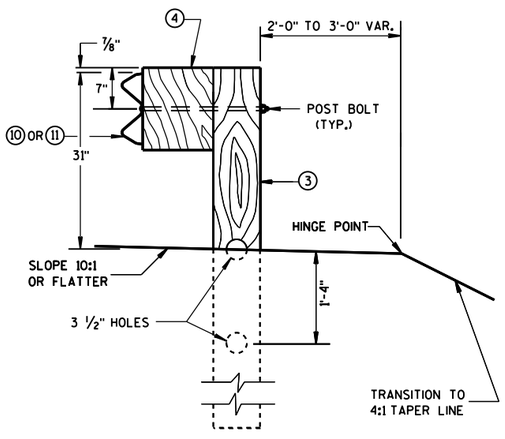
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

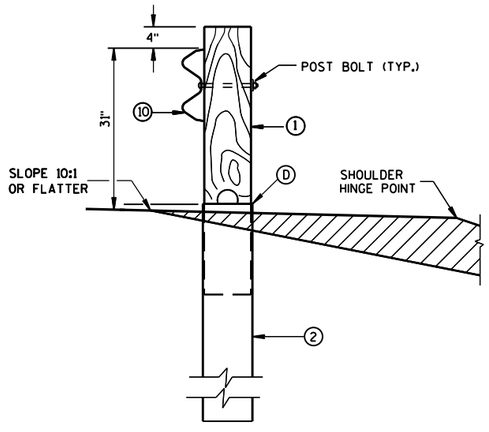
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

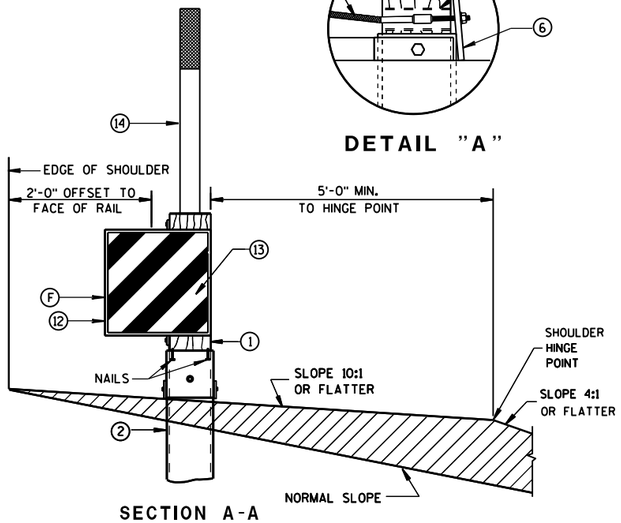




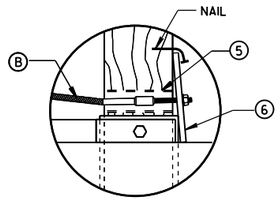
SECTION C-C
TYPICAL AT POST NOS. 3-9



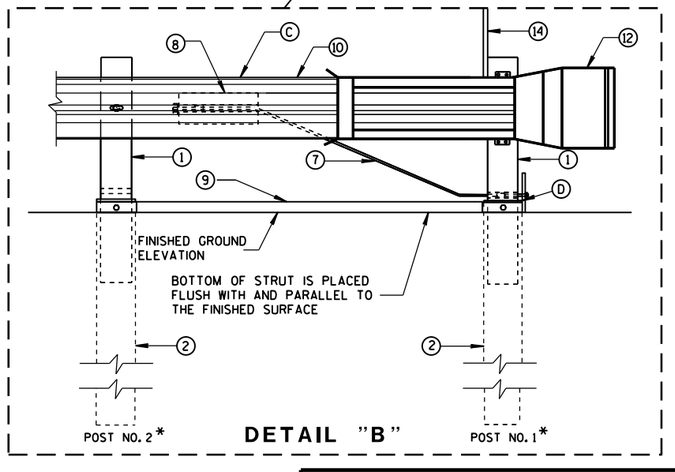
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



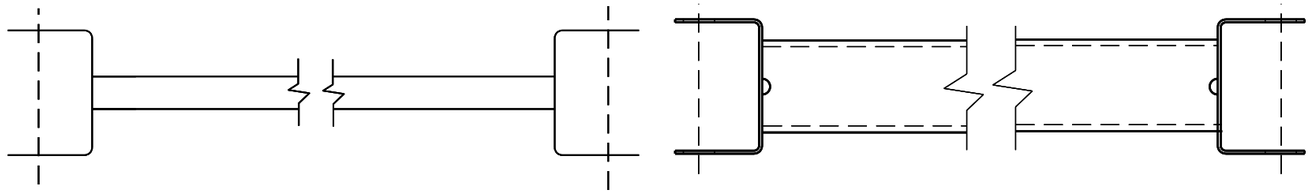
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

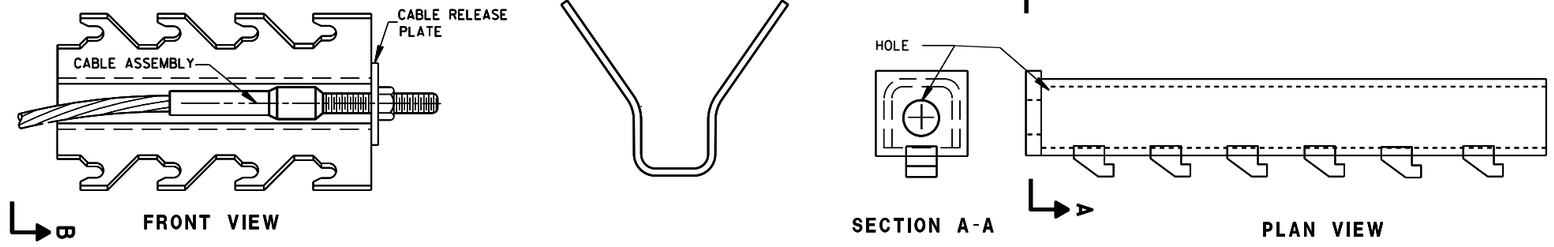
S.D.D. 14 B 44-2a



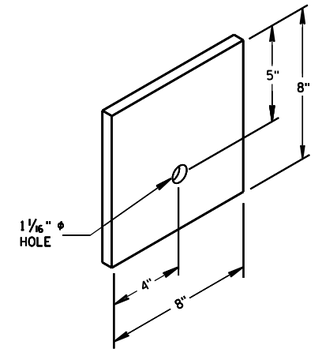
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)



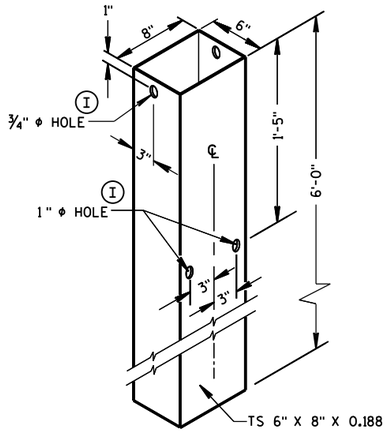
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

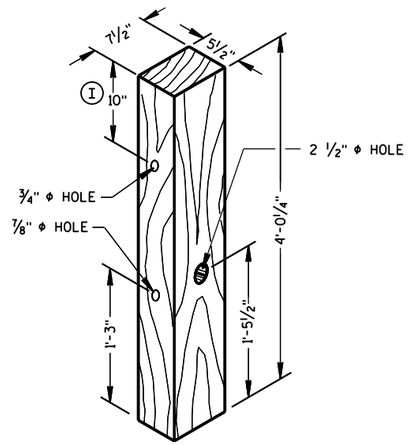
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 44-2b

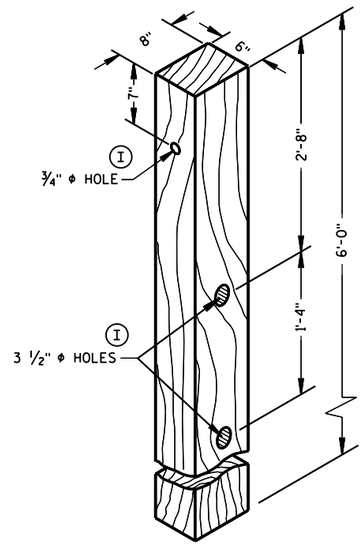


FOUNDATION TUBE (2)



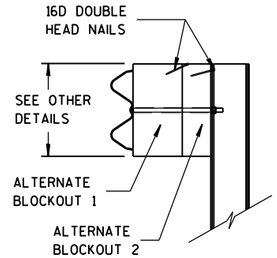
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

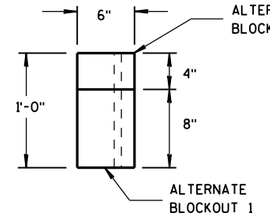


POSTS NUMBER 3-9

WOOD CRT POST (3)

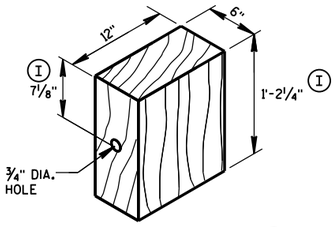


SIDE VIEW



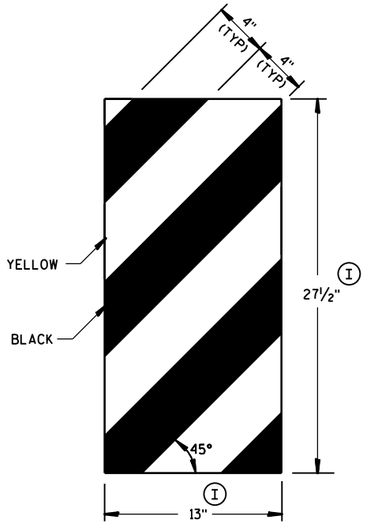
TOP VIEW

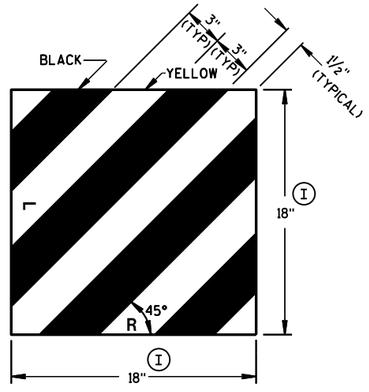
ALTERNATE WOOD BLOCKOUT DETAIL



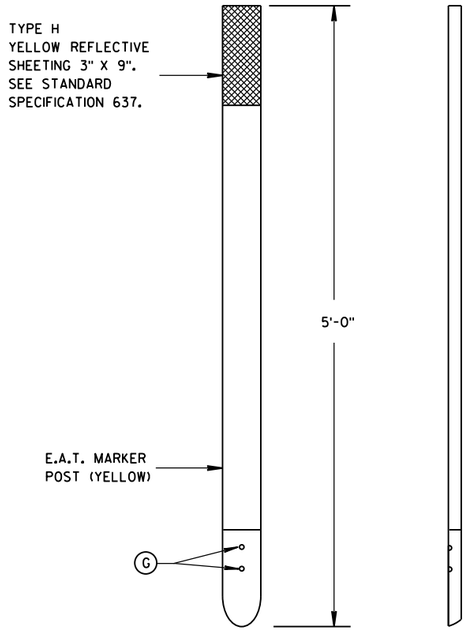
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





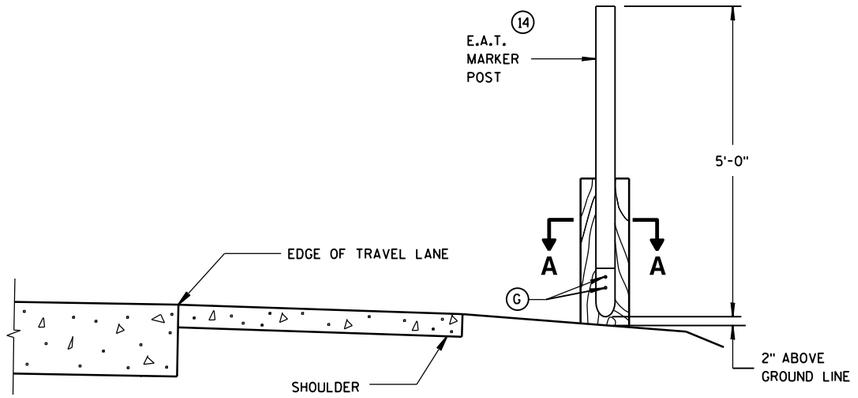
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

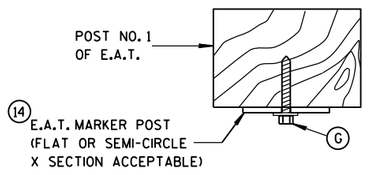
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

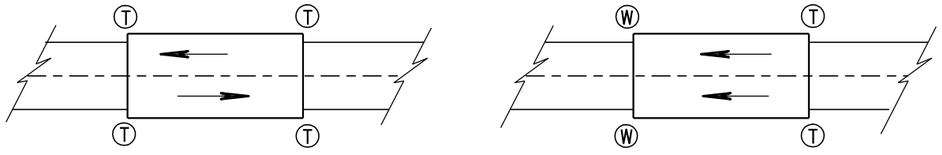
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

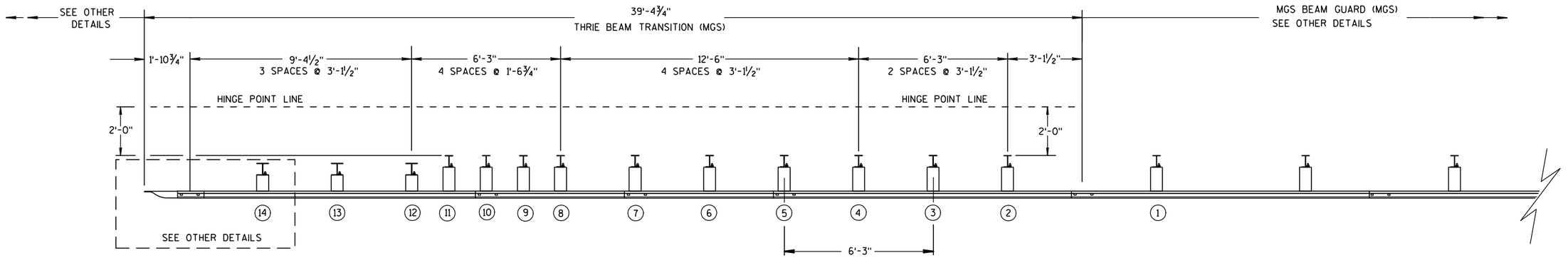
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

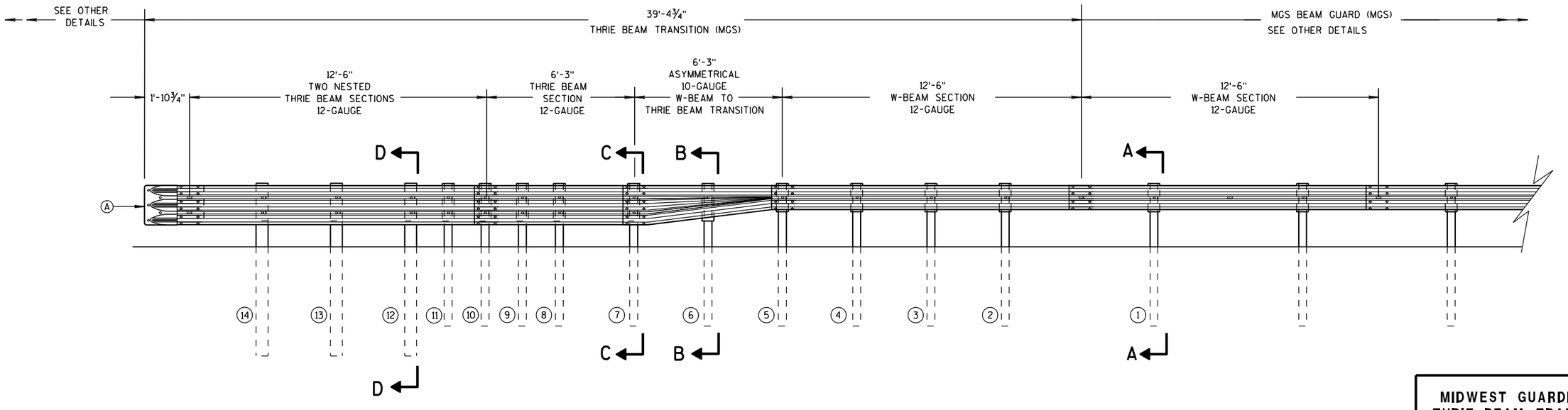
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

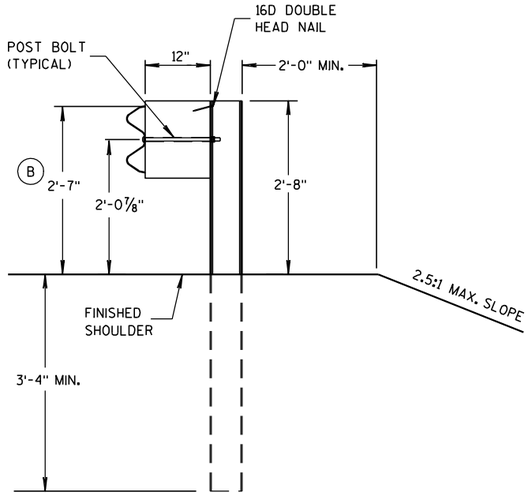
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

6
S.D.D. 14 B 45-3a

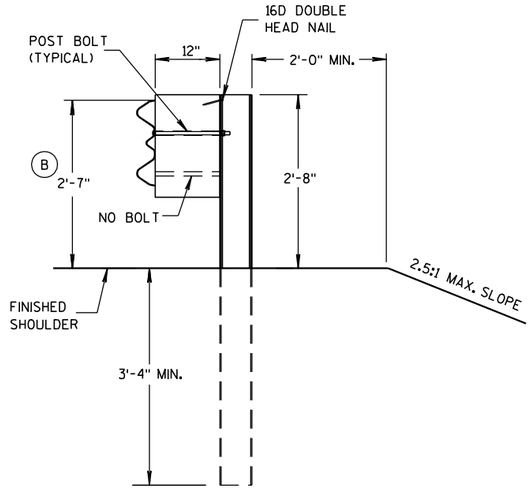
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



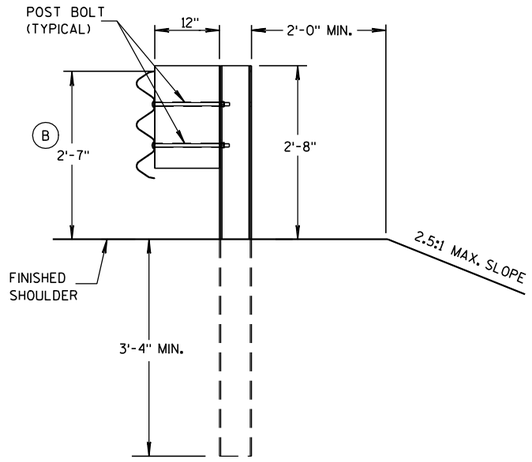
SECTION A-A

POSTS 1-5



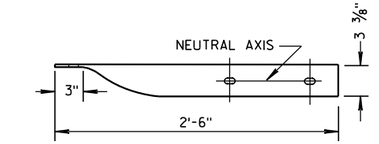
SECTION B-B

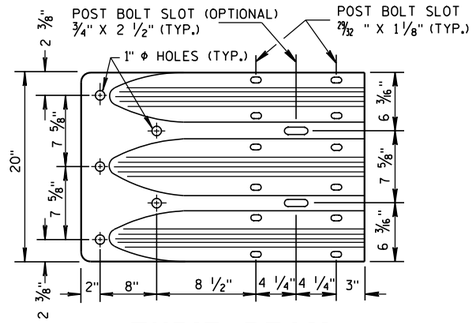
POST 6



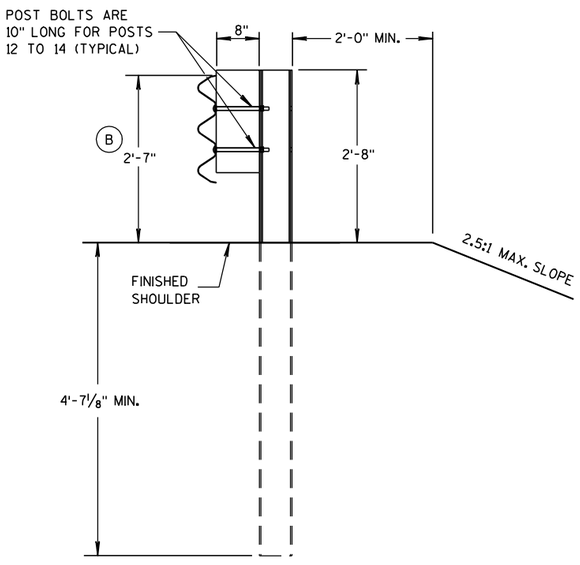
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

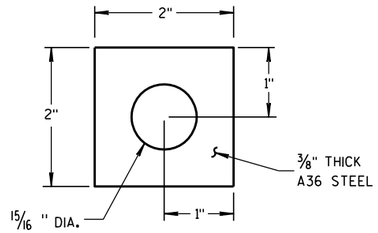
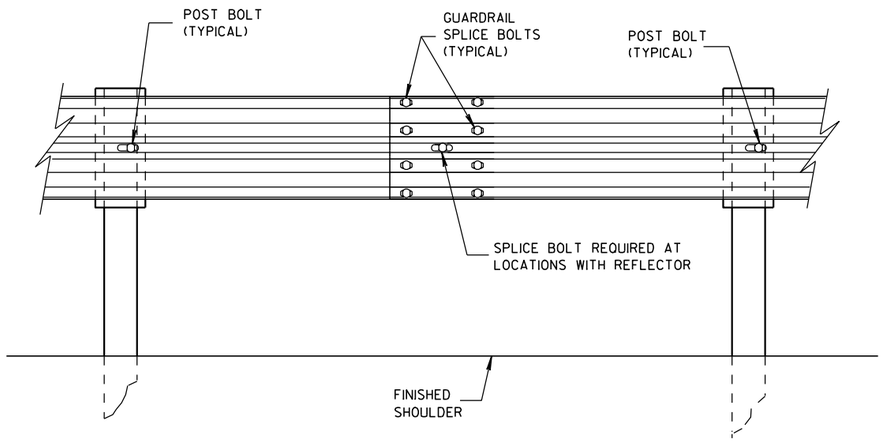
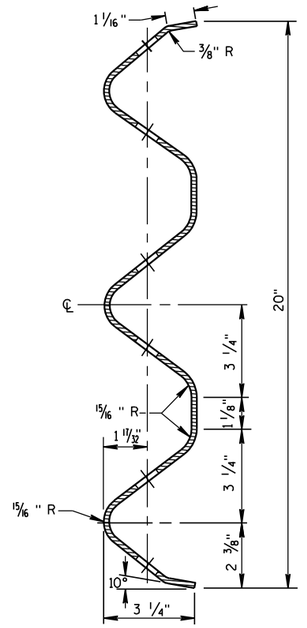


PLATE WASHER DETAIL



SPLICE DETAIL



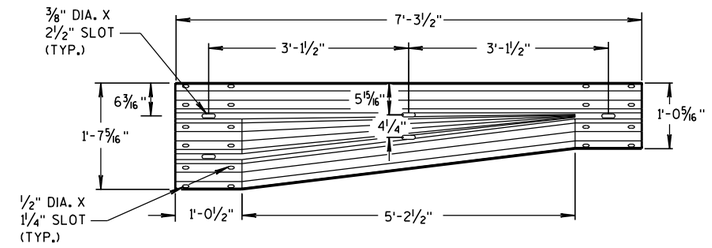
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

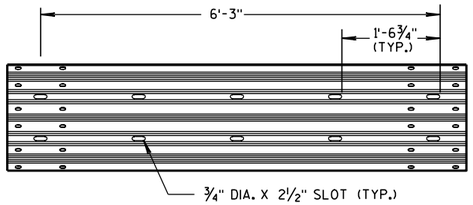
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

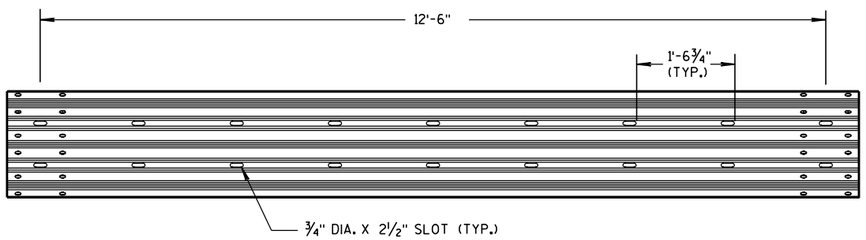
S.D.D. 14 B 45-3b



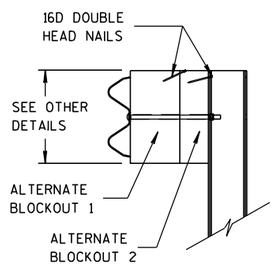
W-BEAM TO THRIE BEAM TRANSITION SECTION



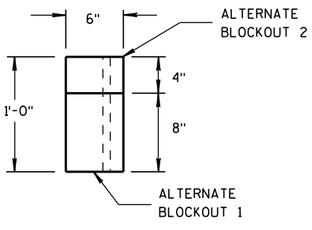
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

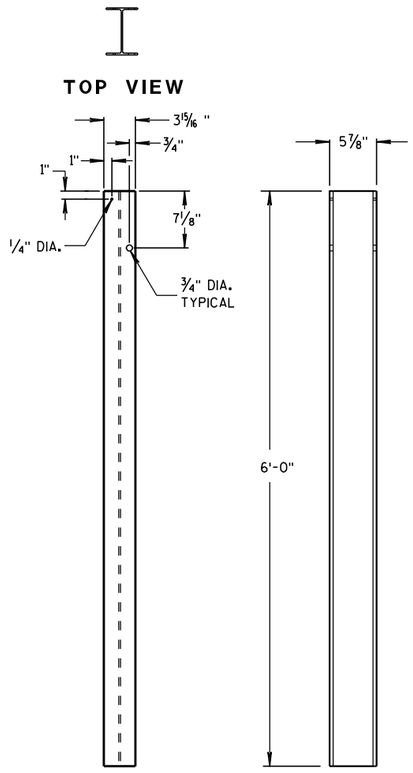


SIDE VIEW



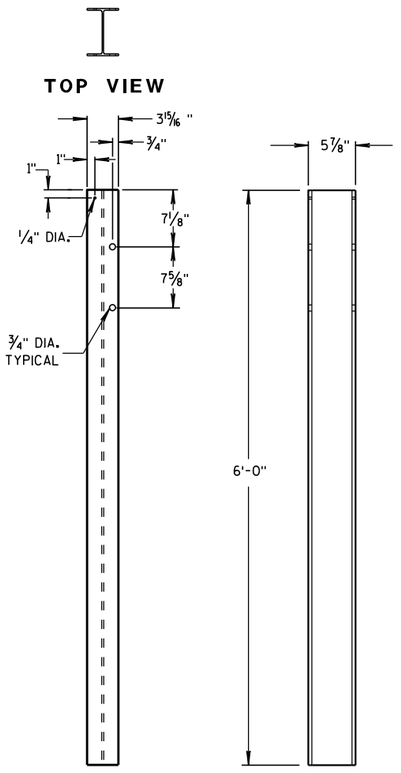
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



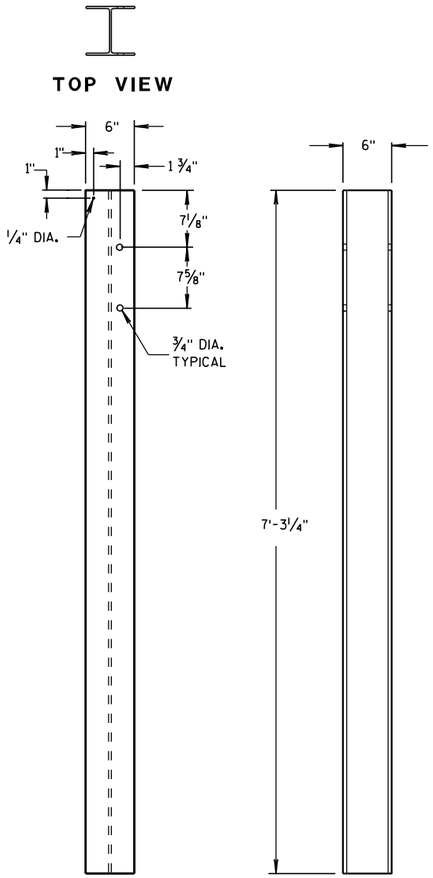
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5



FRONT VIEW SIDE VIEW

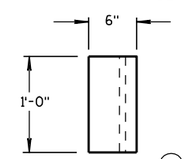
STEEL POSTS 6-11



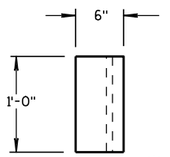
FRONT VIEW SIDE VIEW

STEEL POSTS 12-14

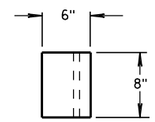
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



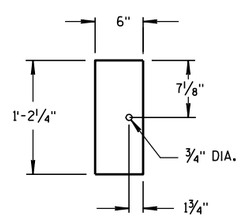
TOP VIEW (1)



TOP VIEW (1)

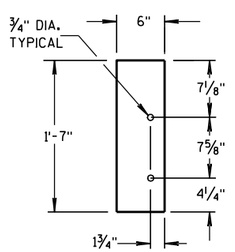


TOP VIEW



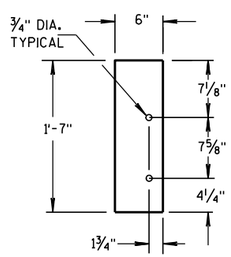
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

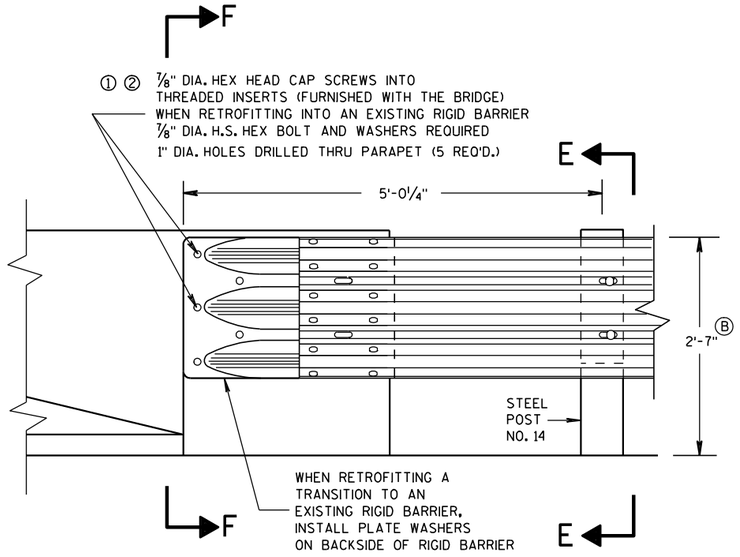
STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
(1)	W6x9	72"
(2)	W6x9	72"
(3)	W6x9	72"
(4)	W6x9	72"
(5)	W6x9	72"
(6)	W6x9	72"
(7)	W6x9	72"
(8)	W6x9	72"
(9)	W6x9	72"
(10)	W6x9	72"
(11)	W6x9	72"
(12)	W6x15	87 1/8"
(13)	W6x15	87 1/8"
(14)	W6x15	87 1/8"

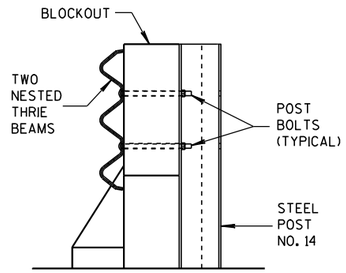
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3c



FRONT VIEW



SECTION E-E

GENERAL NOTES

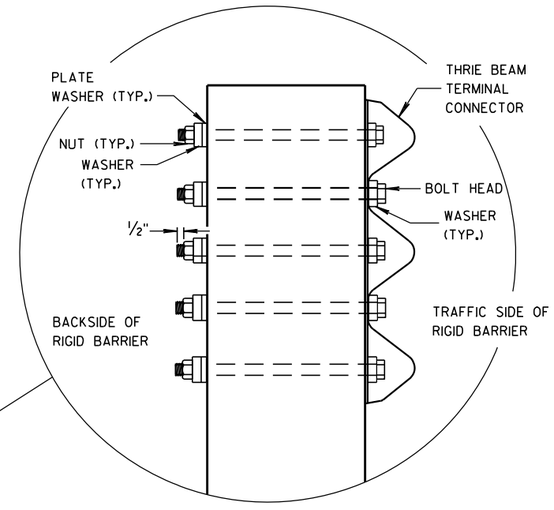
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

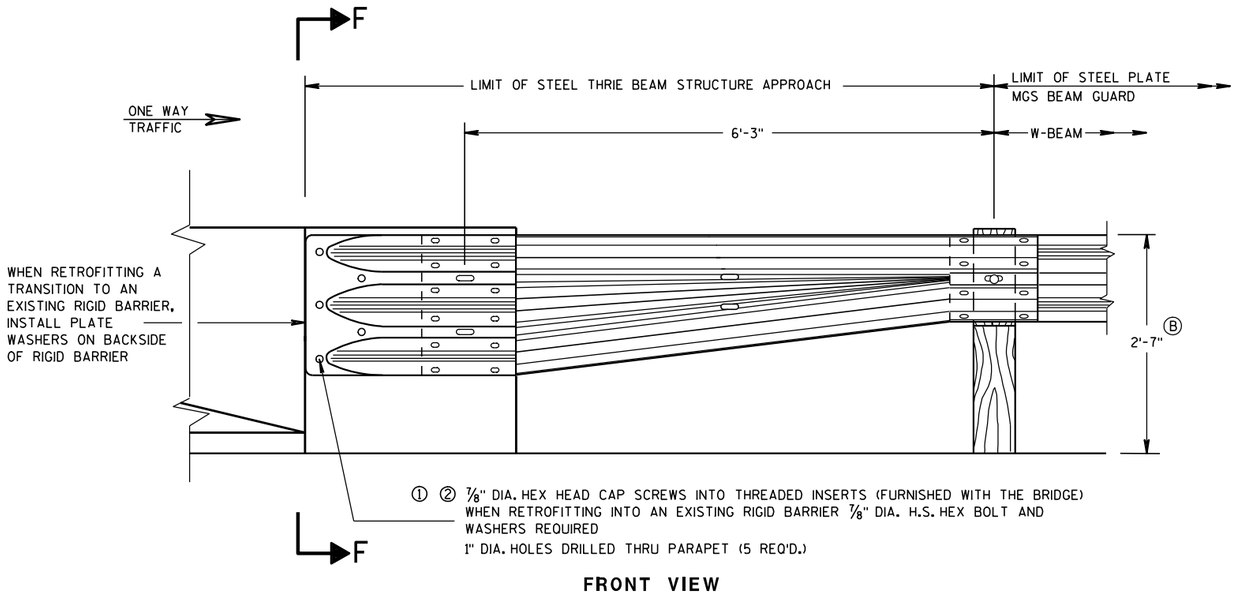
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

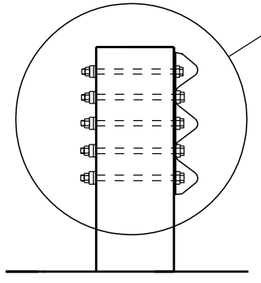
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW



SECTION F-F

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER

FHWA

6

S.D.D. 14 B 45-3d

6

S.D.D. 14 B 45-3d

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

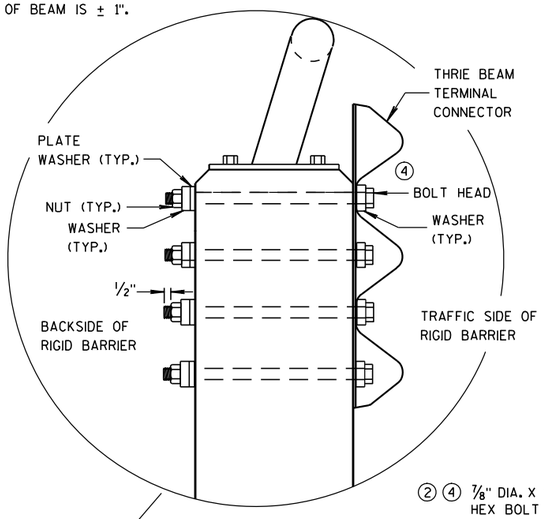
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

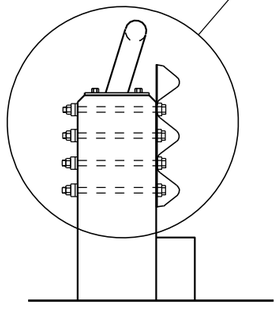
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2". BLOCK IS INCIDENTAL TO THE CONTRACT.

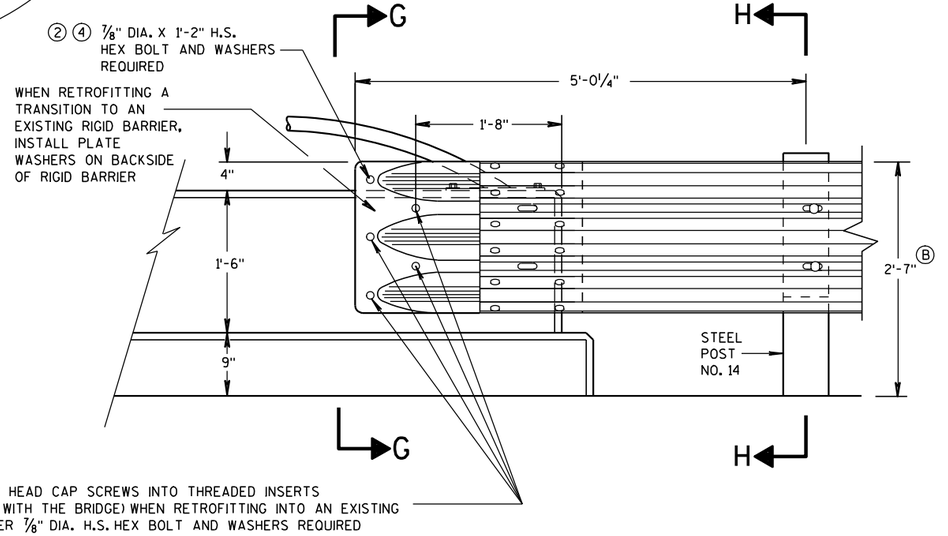
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

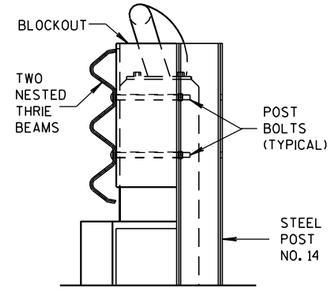




SECTION G-G

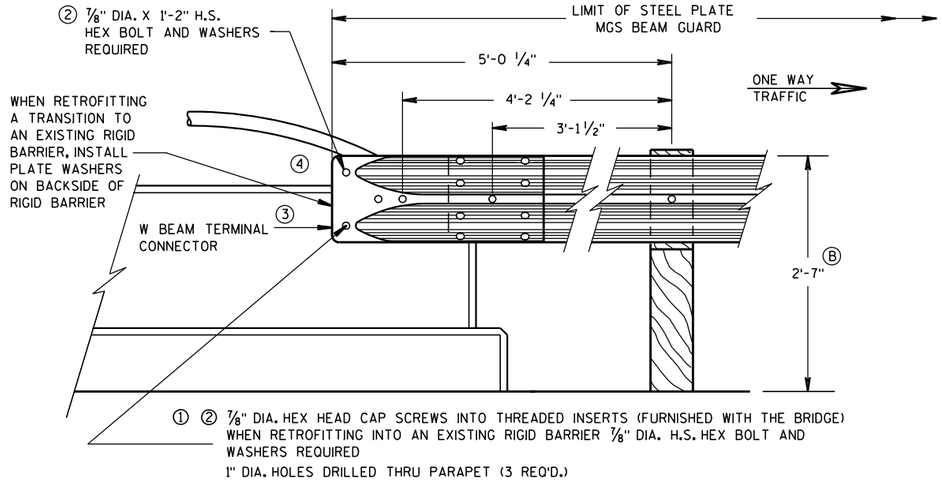


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

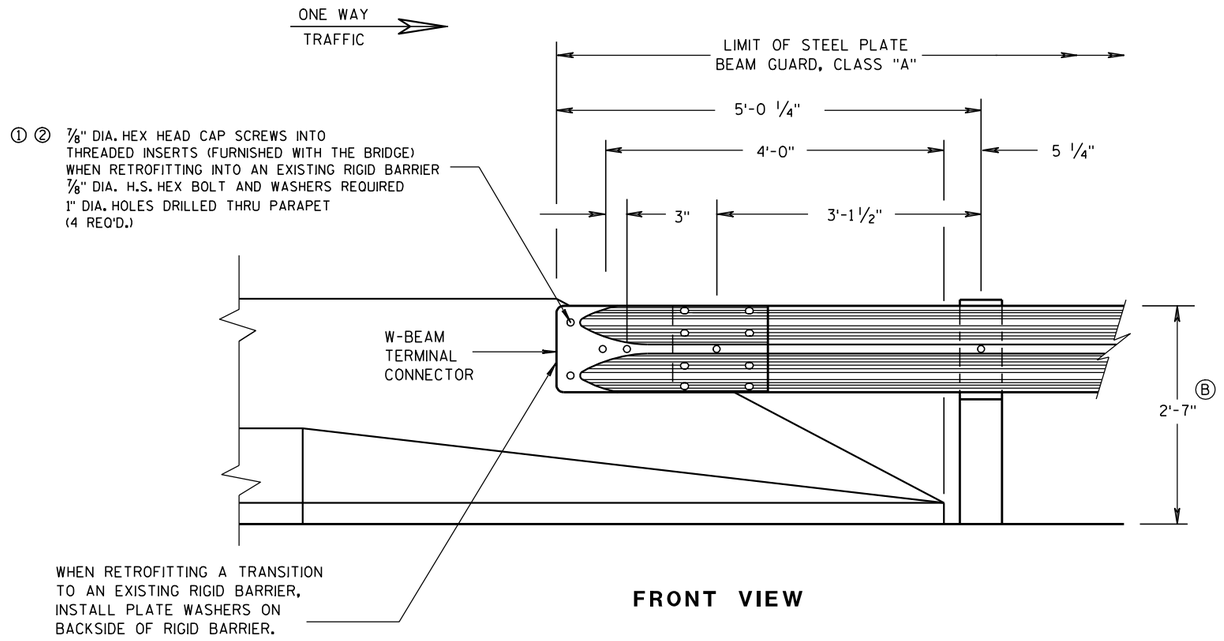
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

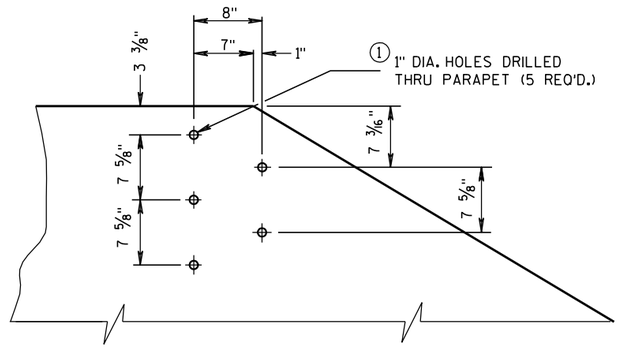
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

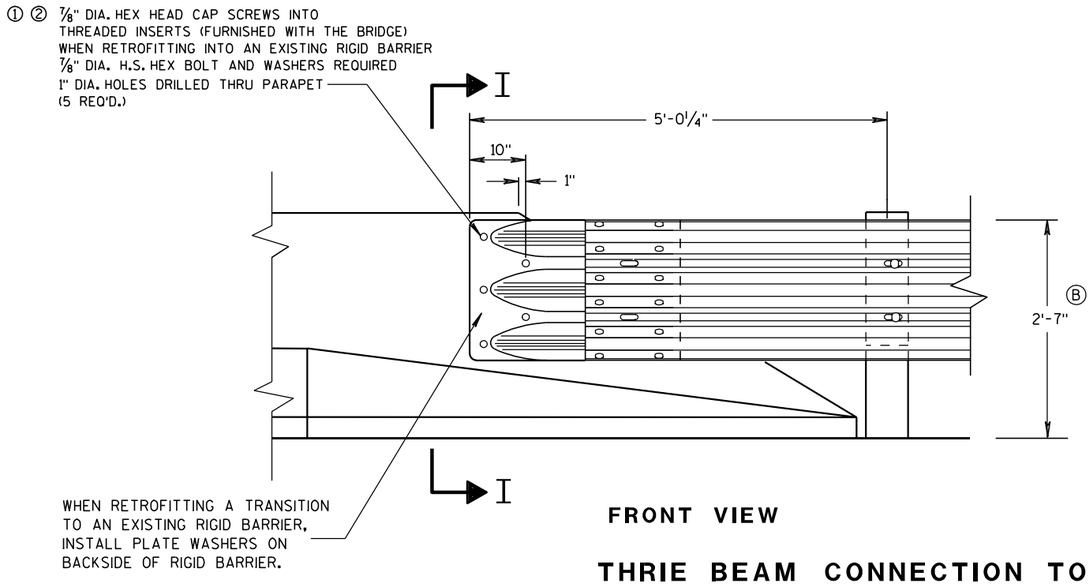
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

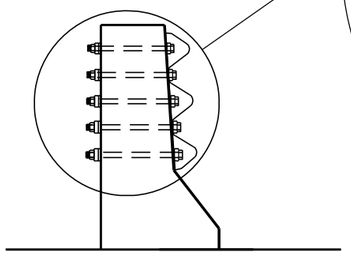
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



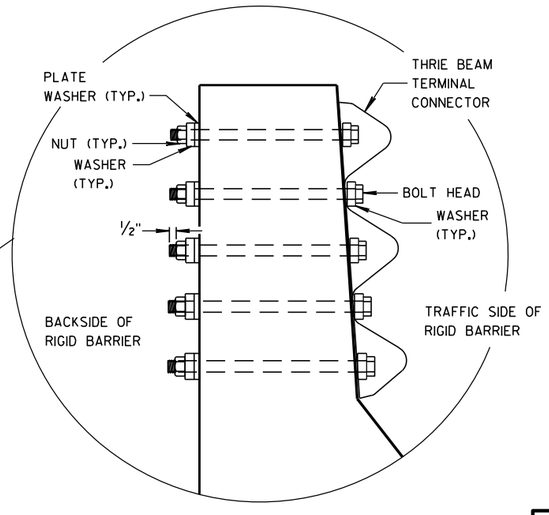
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

57 — ENT

FHWA

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S.D.D. 14 B 45-3f

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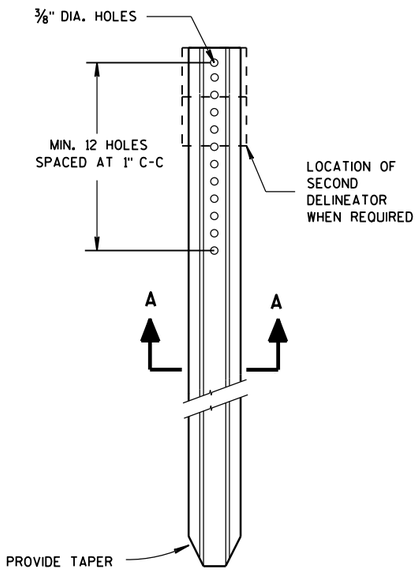
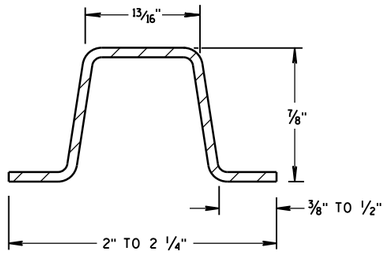
S.D.D. 14 B 45-3f

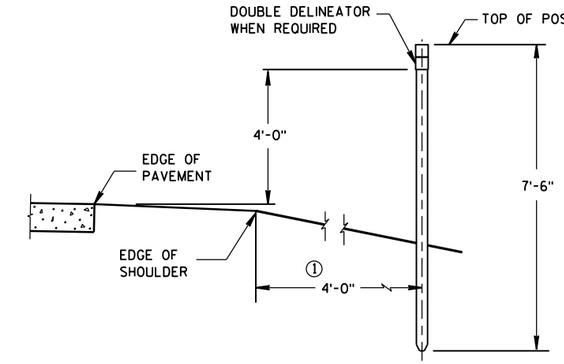


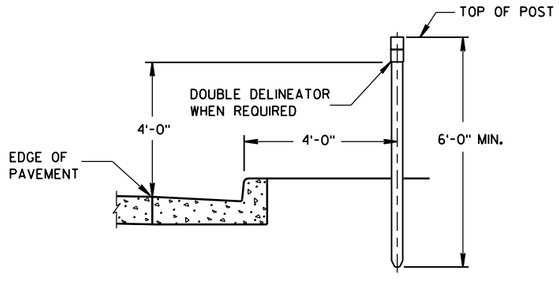
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



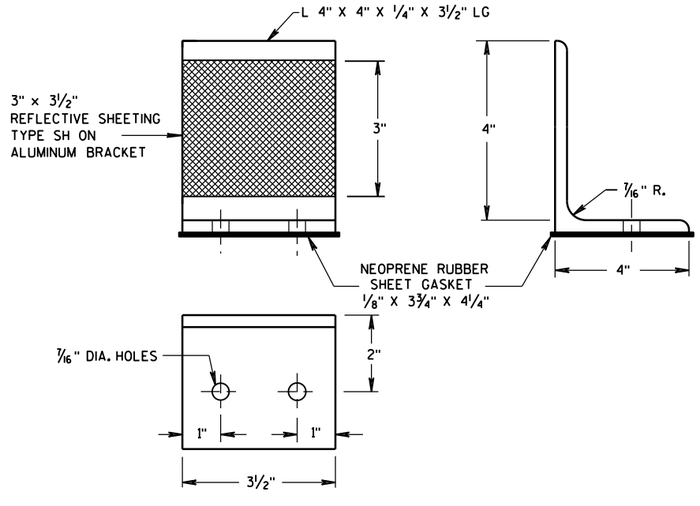


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

GENERAL NOTES

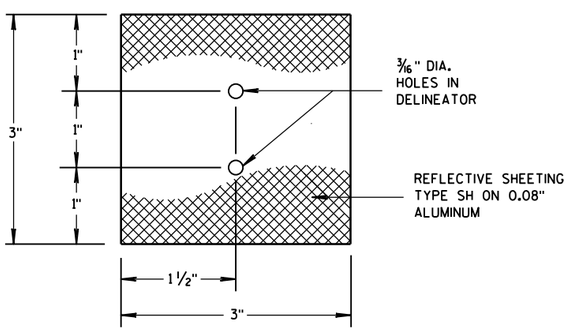
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

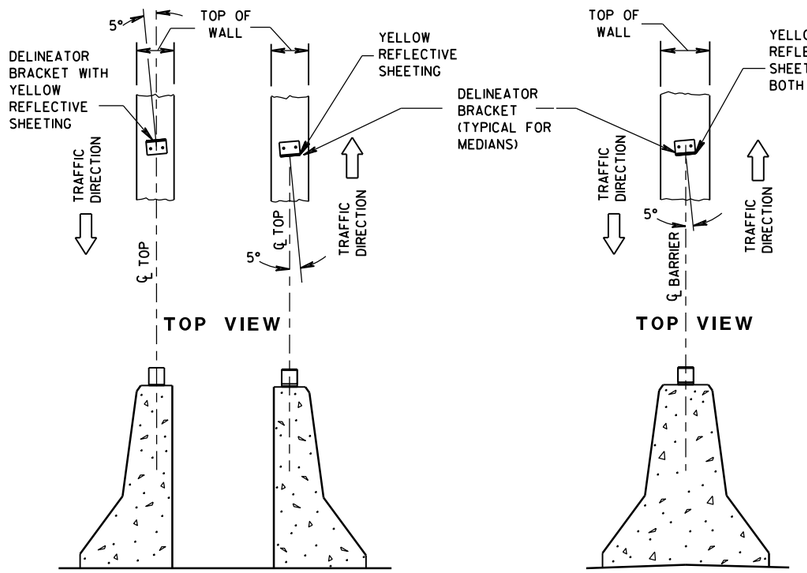


DELINEATOR BRACKET

MOUNTING DETAIL FOR DELINEATOR

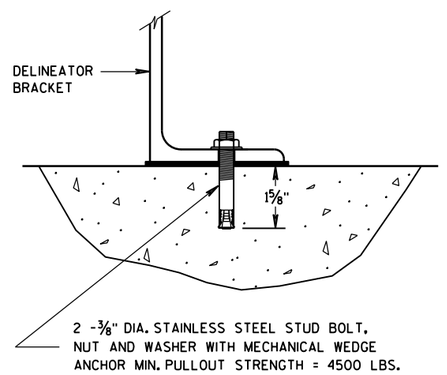


3"x 3" DELINEATOR



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, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

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S.D.D. 15 A 2-8

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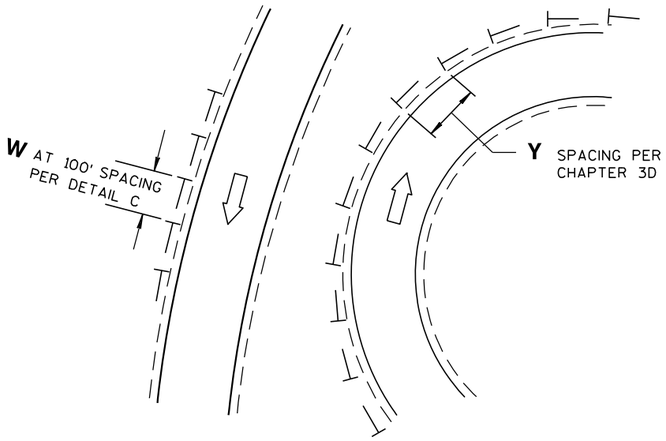
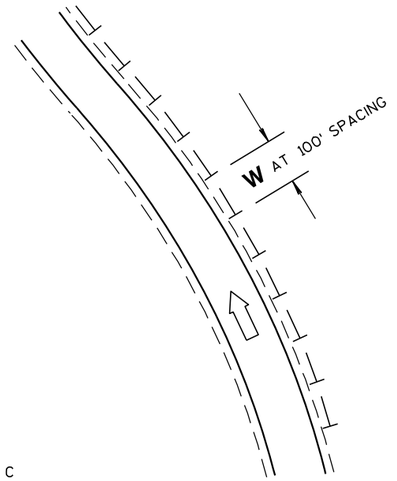
S.D.D. 15 A 2-8

GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



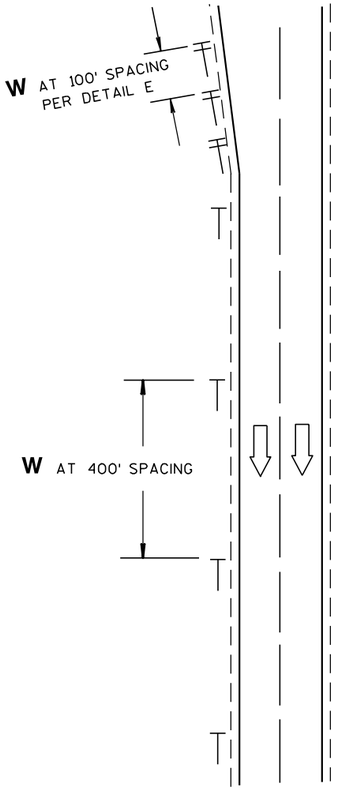
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



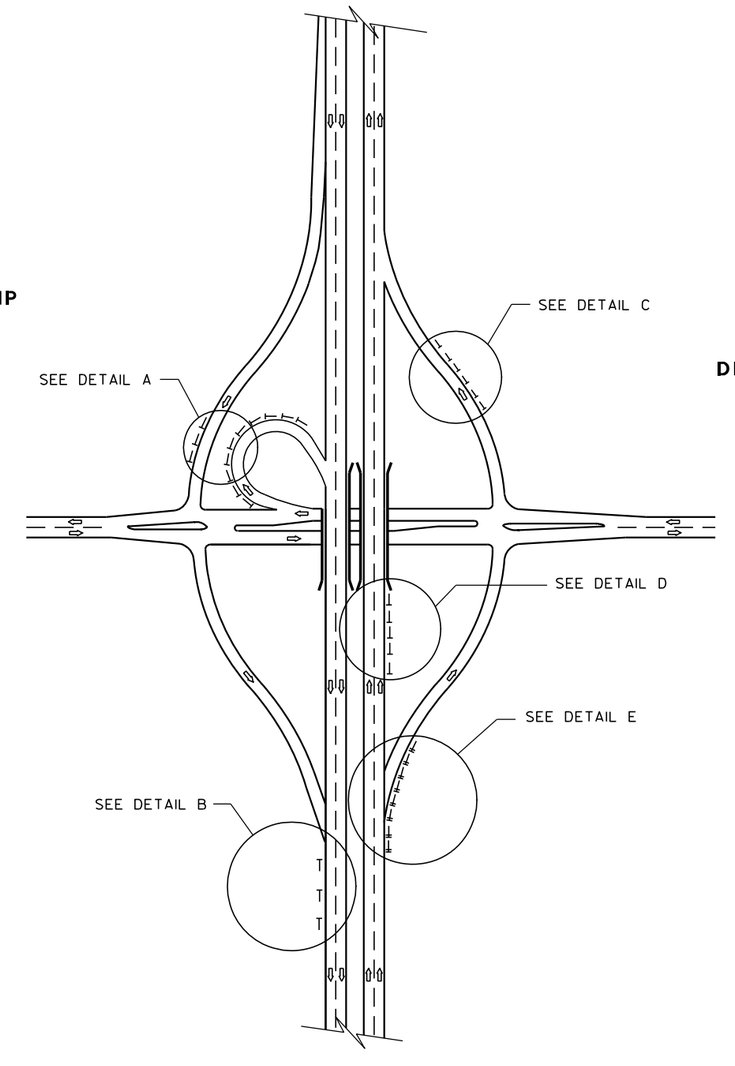
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

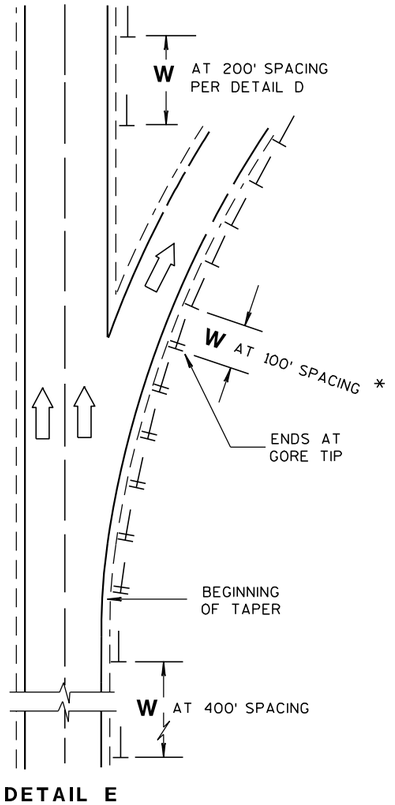
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



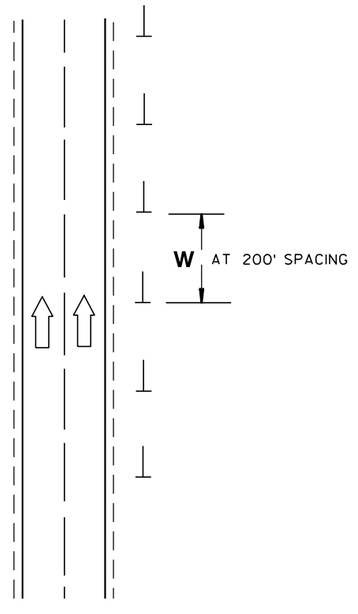
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS



DETAIL D
DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 DATE
/S/ Thomas N. Nothnagel
STATE TRAFFIC ENGINEER
FHWA

6

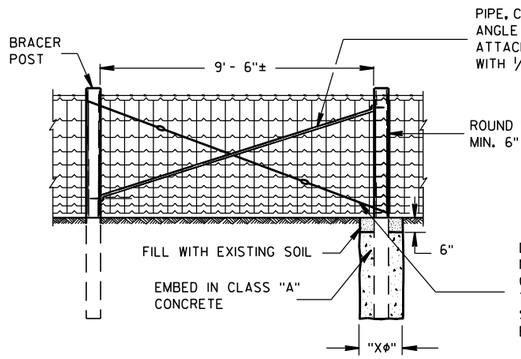
S.D.D. 15 A 6-2

6

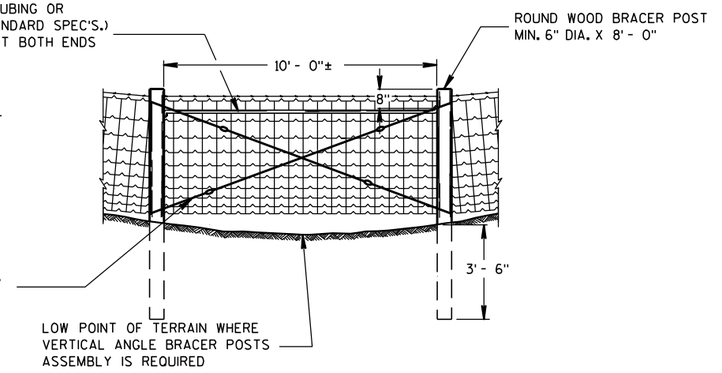
S.D.D. 15 A 6-2

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

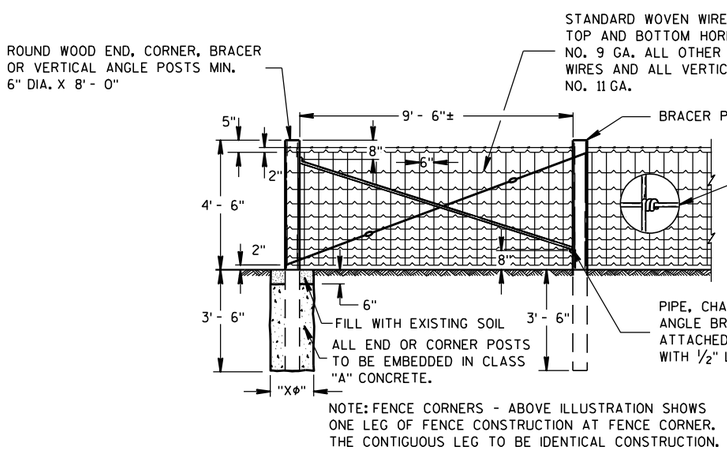
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

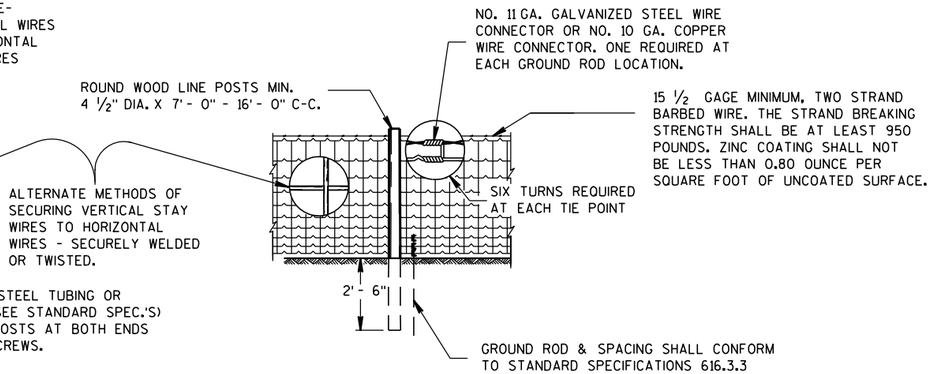
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



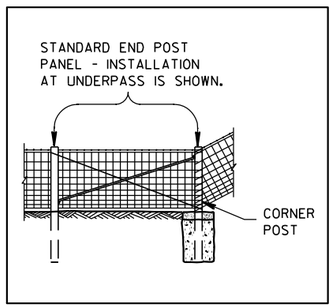
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

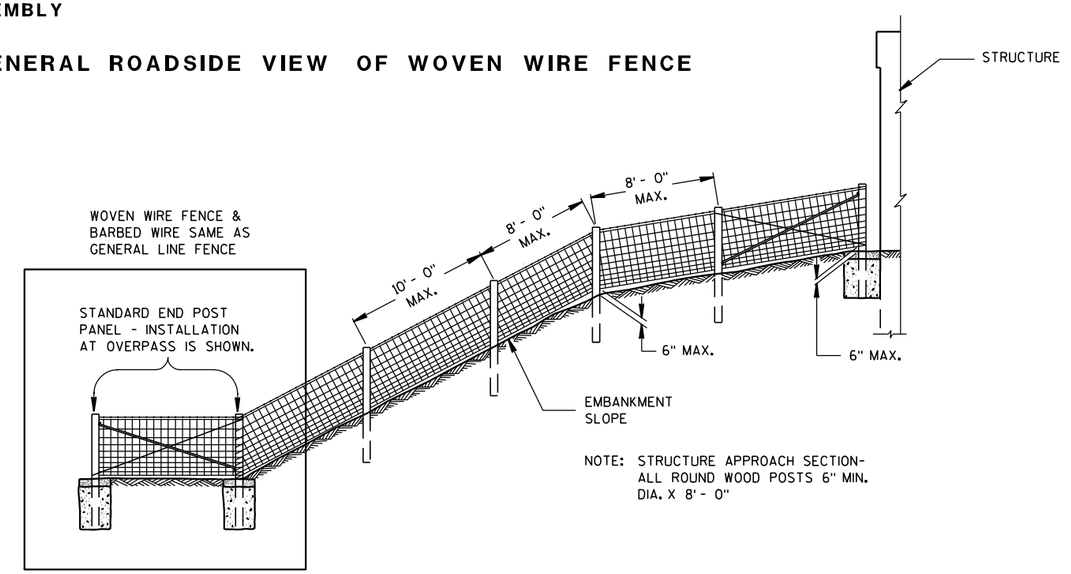


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

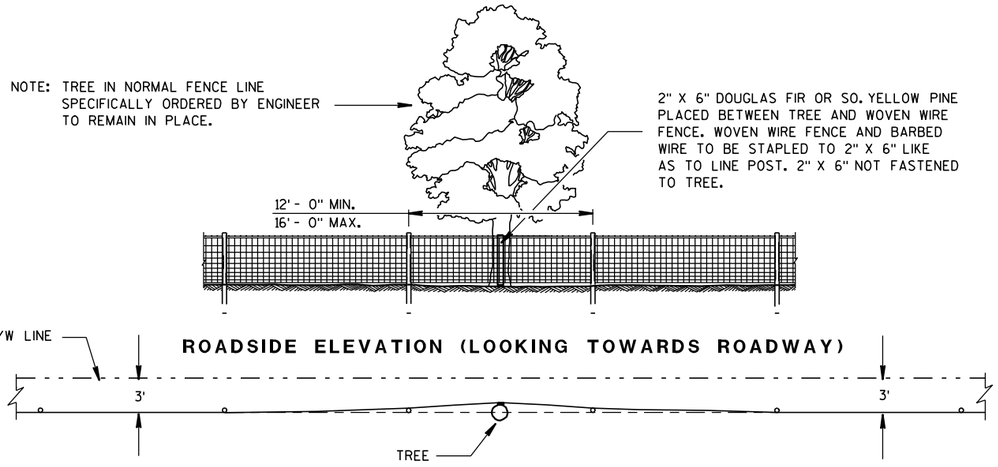
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

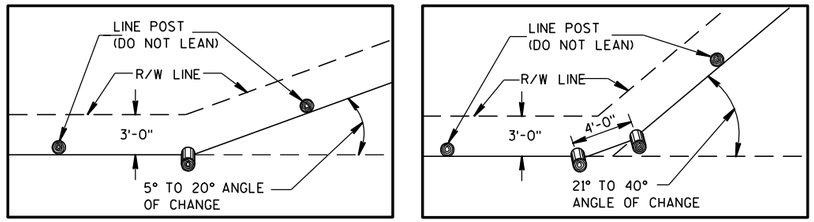
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



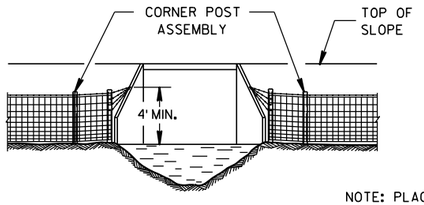
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

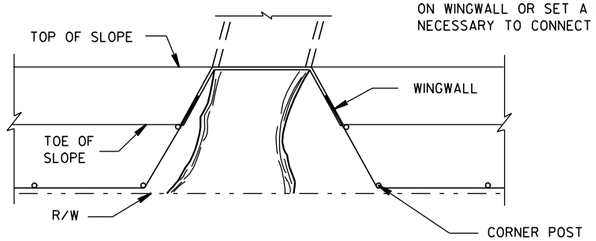
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

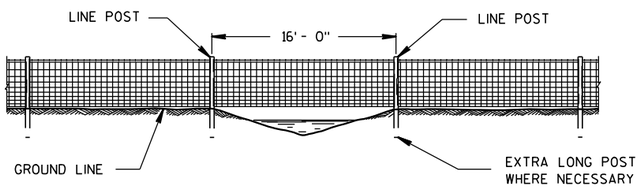
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



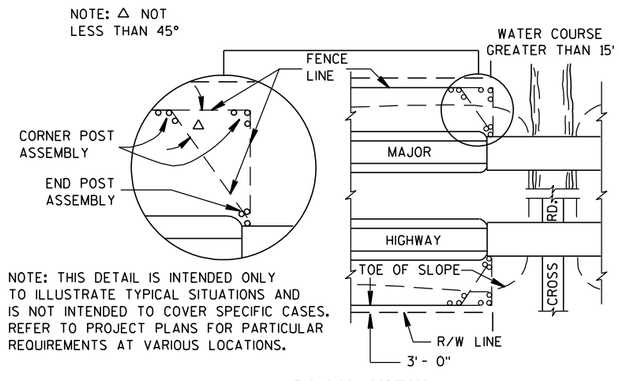
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

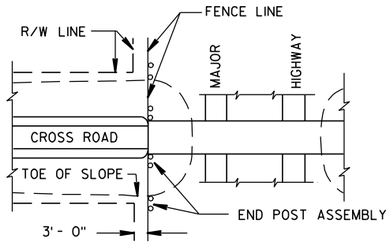


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH

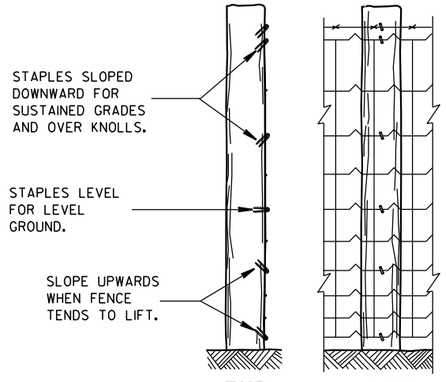


PLAN VIEW

MAJOR HIGHWAY UNDERPASS

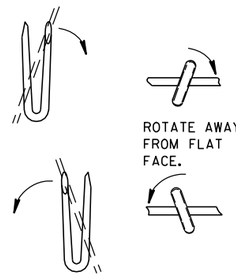
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

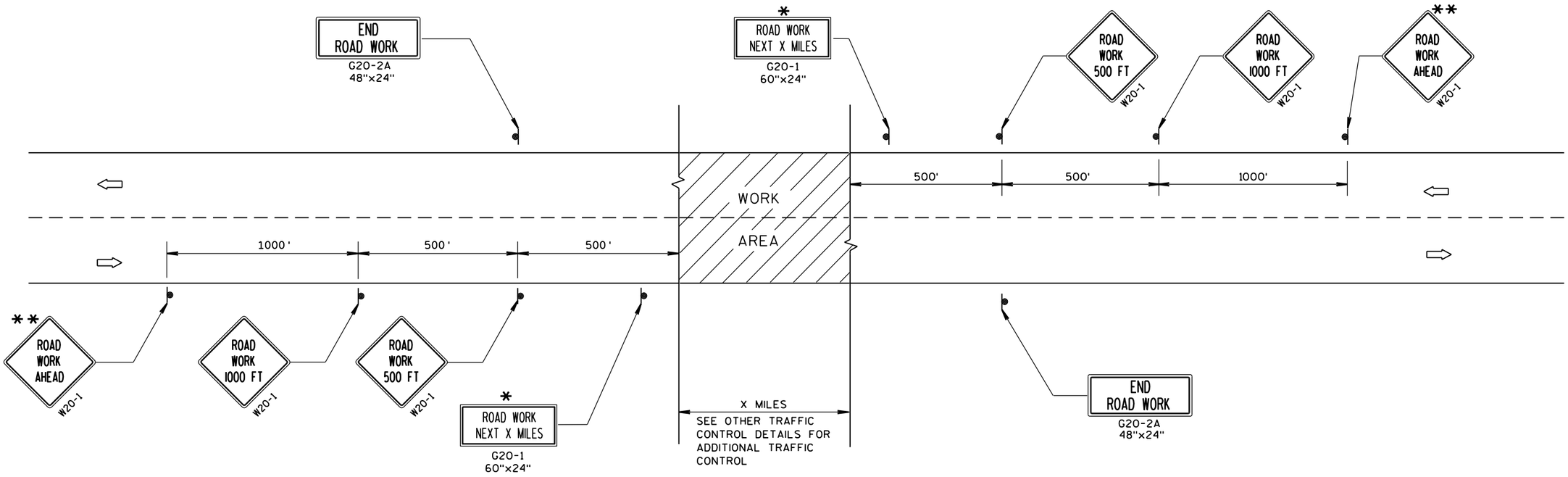
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. ---
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 15 B 1-8b



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 MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

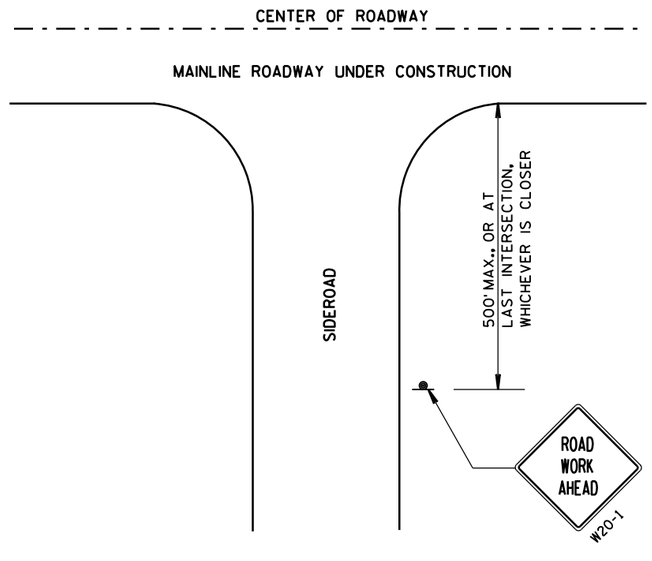
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.

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

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

SIGN

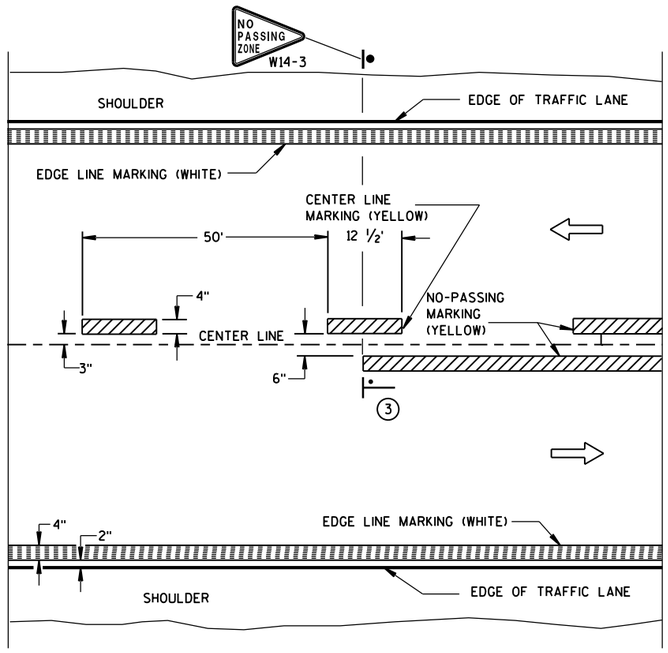
FHWA

6

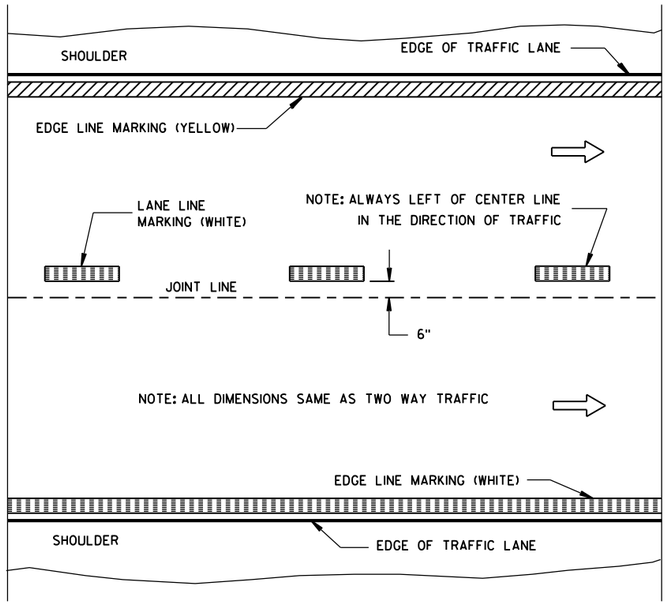
S.D.D. 15 C 4-2

6

S.D.D. 15 C 4-2

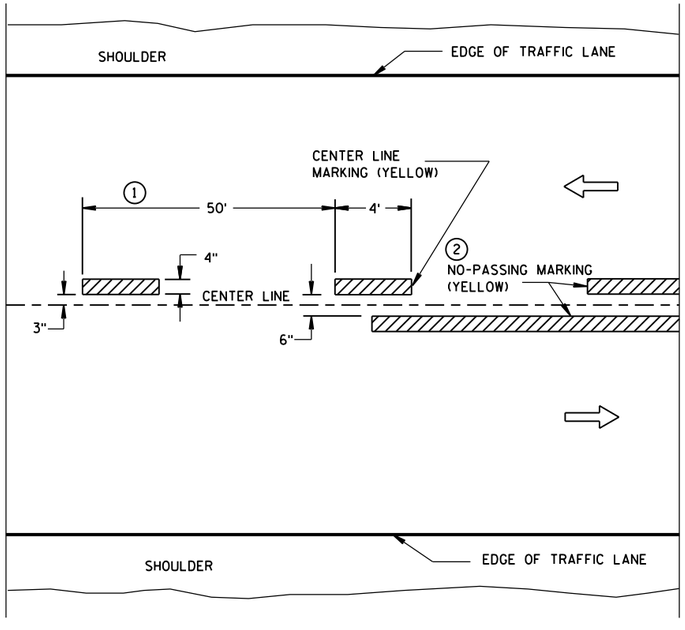


TWO WAY TRAFFIC

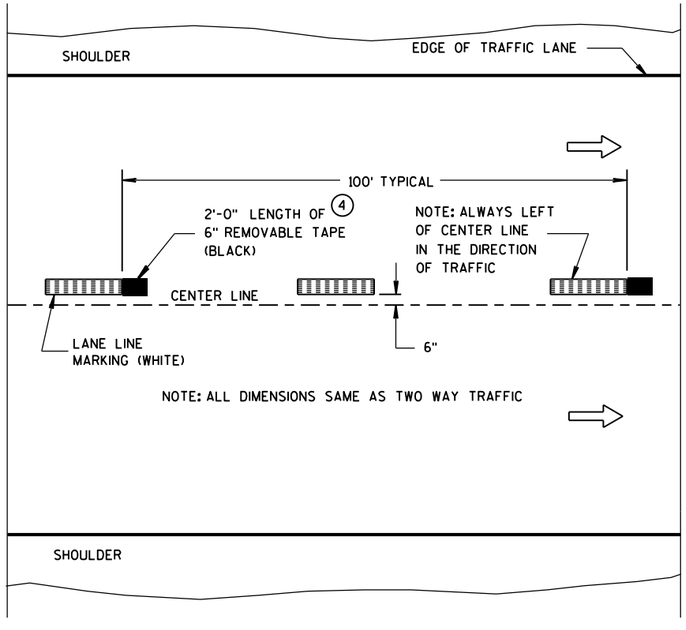


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

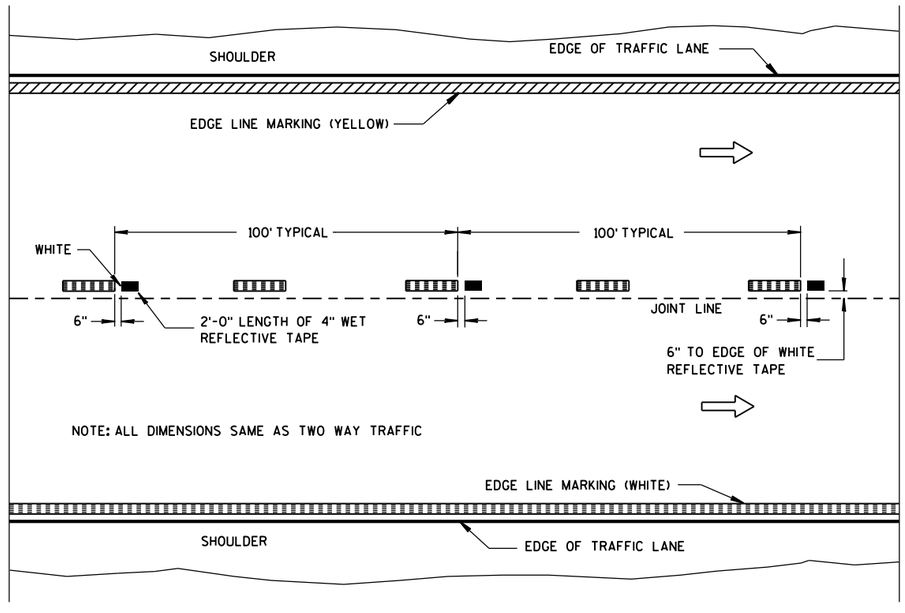
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

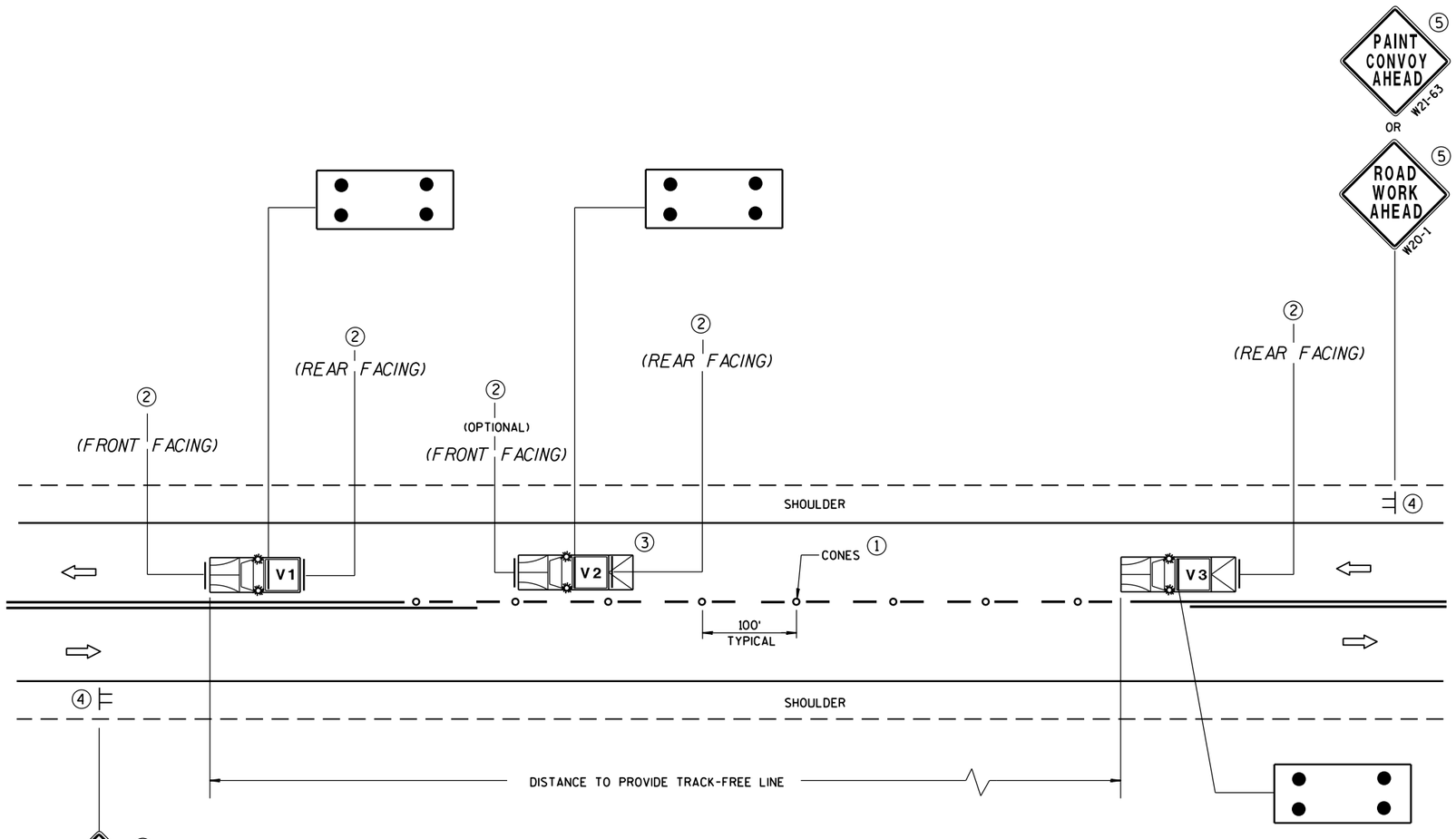
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/3/2013 DATE	/S/ Travis Feltes STATE TRAFFIC E
FHWA	

6

S.D.D. 15 C 19-2a

6

S.D.D. 15 C 19-2a

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

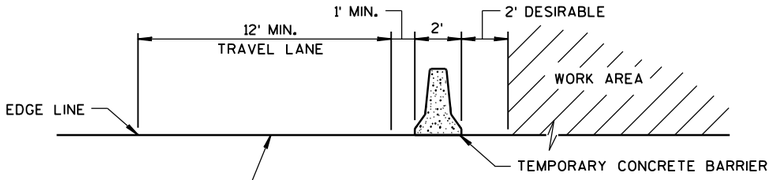
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

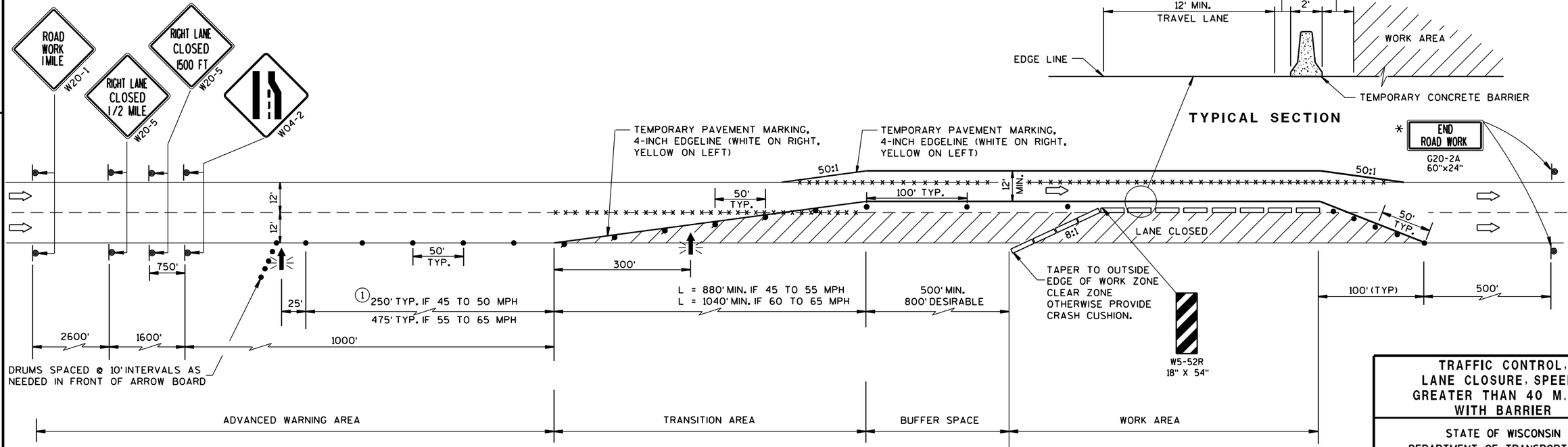
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.



TYPICAL SECTION



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

S.D.D. 15 D 3-2

S.D.D. 15 D 3-2

LEGEND

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

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

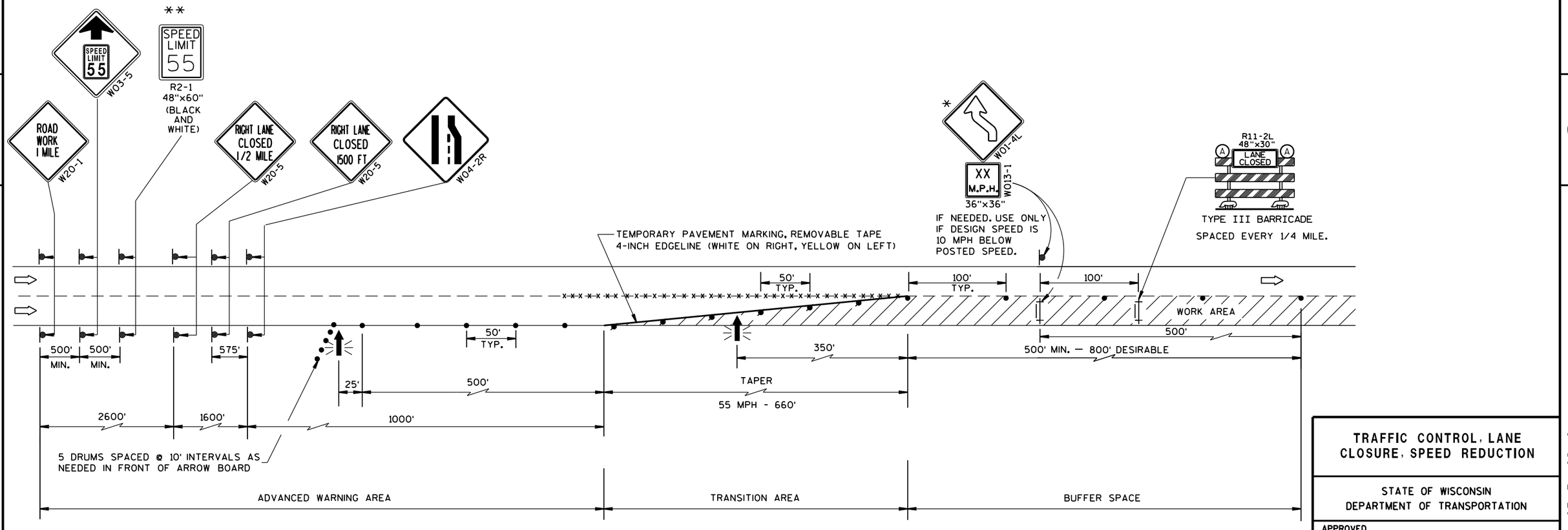
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



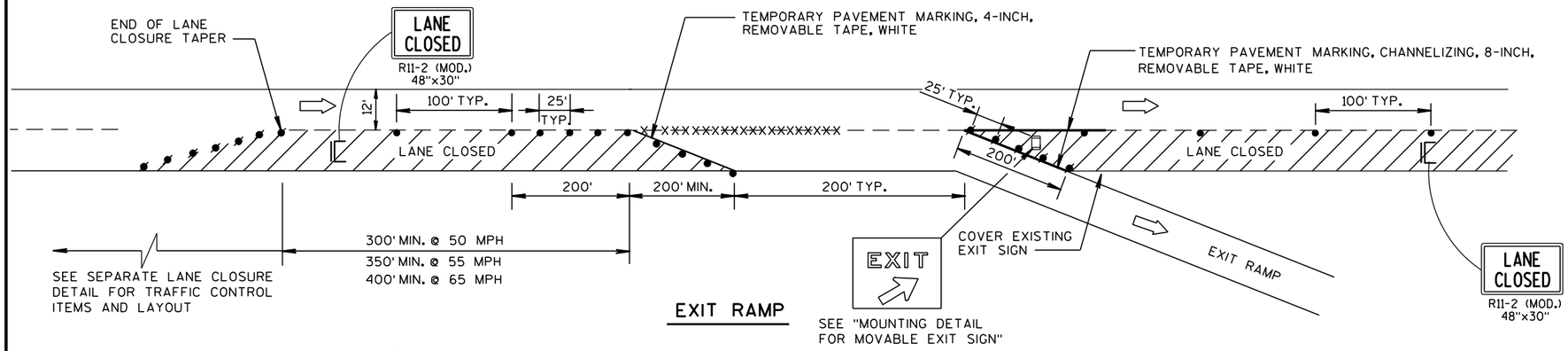
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

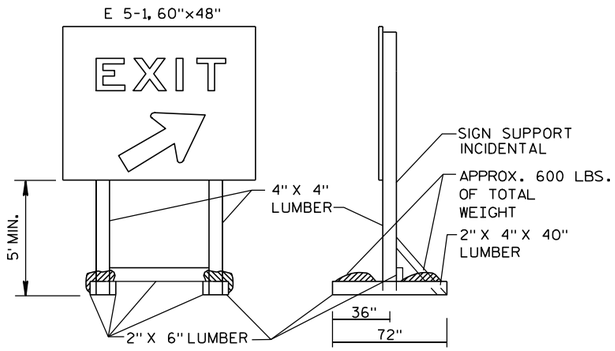
APPROVED
3-2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 12-4

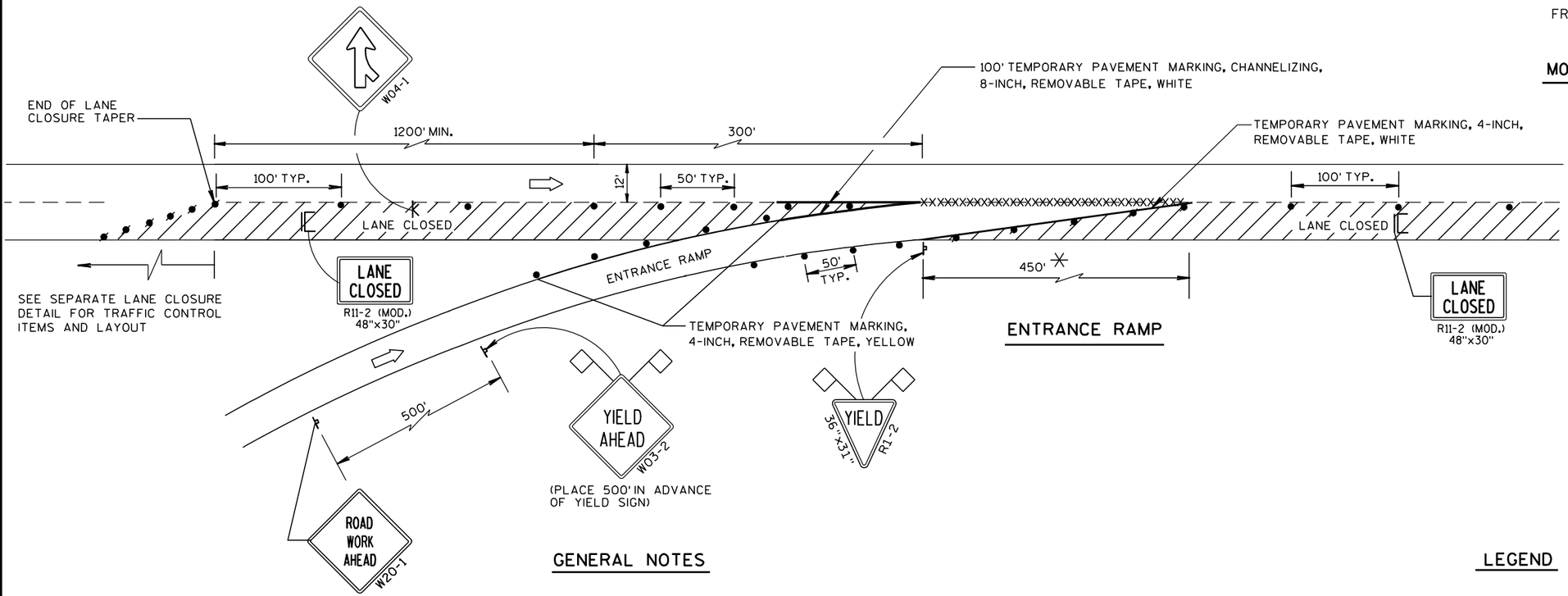


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND 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.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2 (MOD.) "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

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

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible] CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6
S.D.D. 15 D 15-1

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

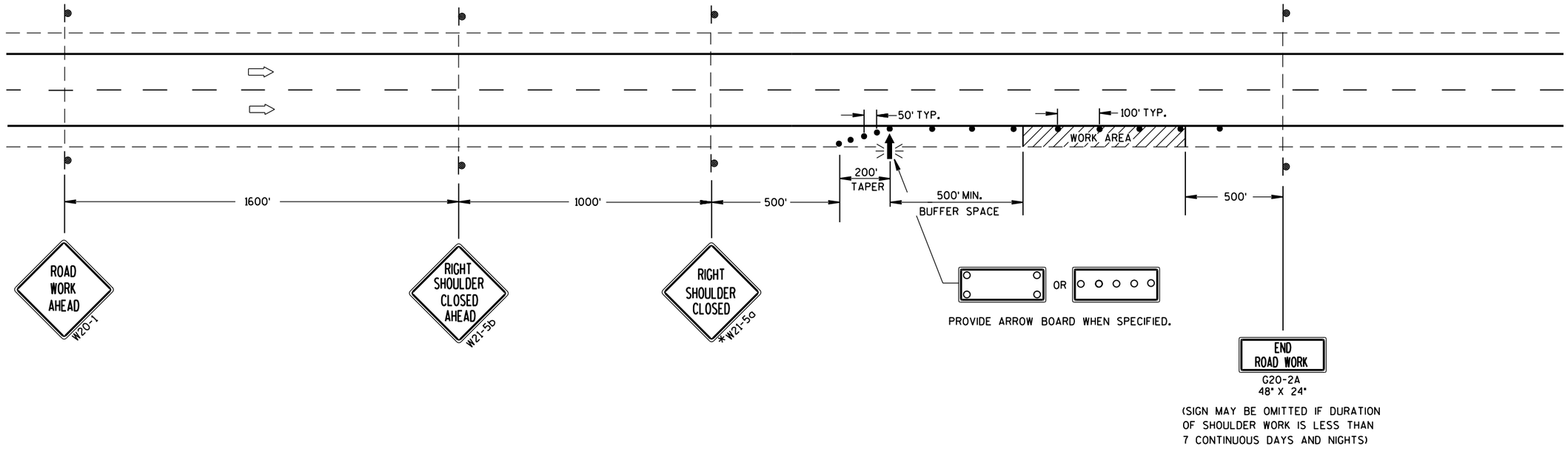
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

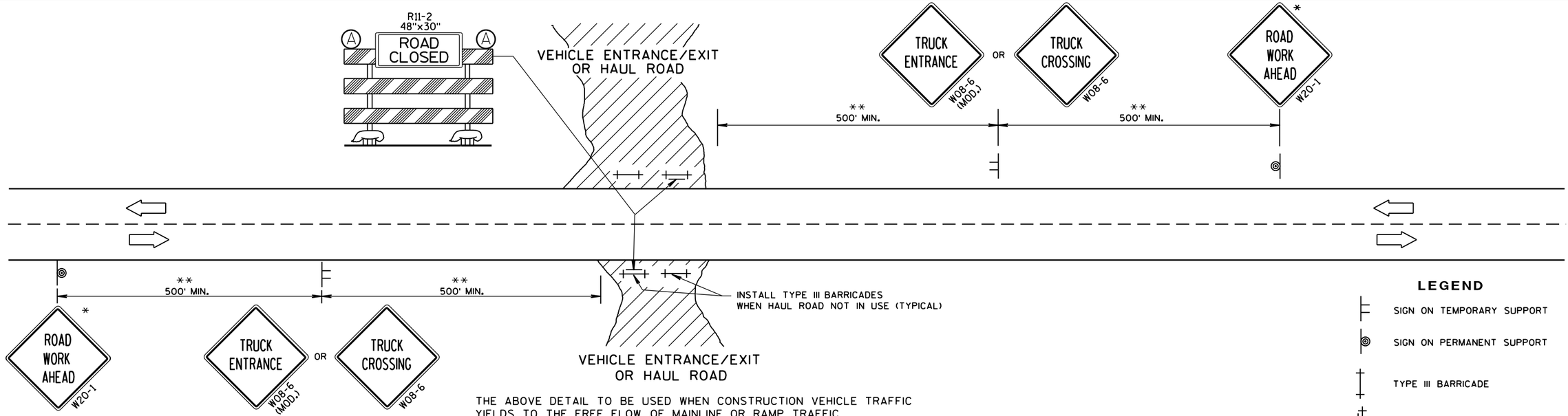
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

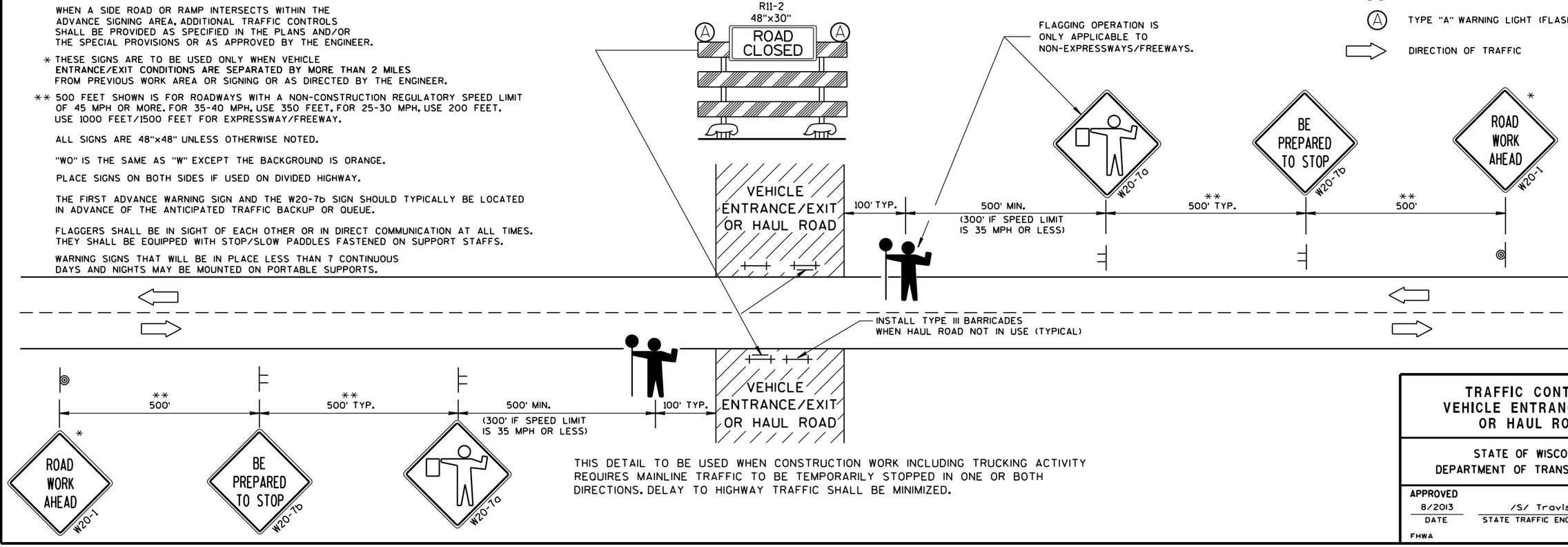
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

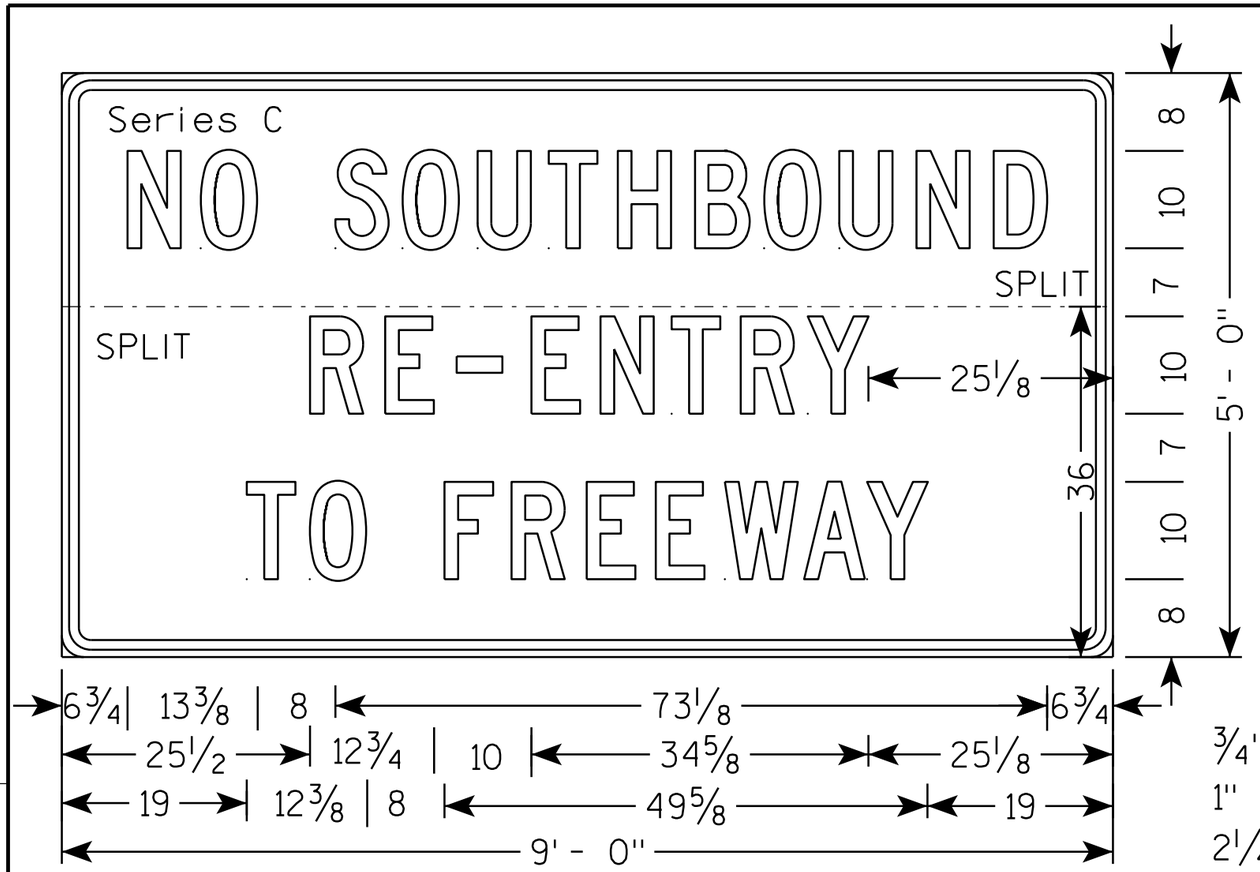
APPROVED

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINEER	IGN

FHWA

6

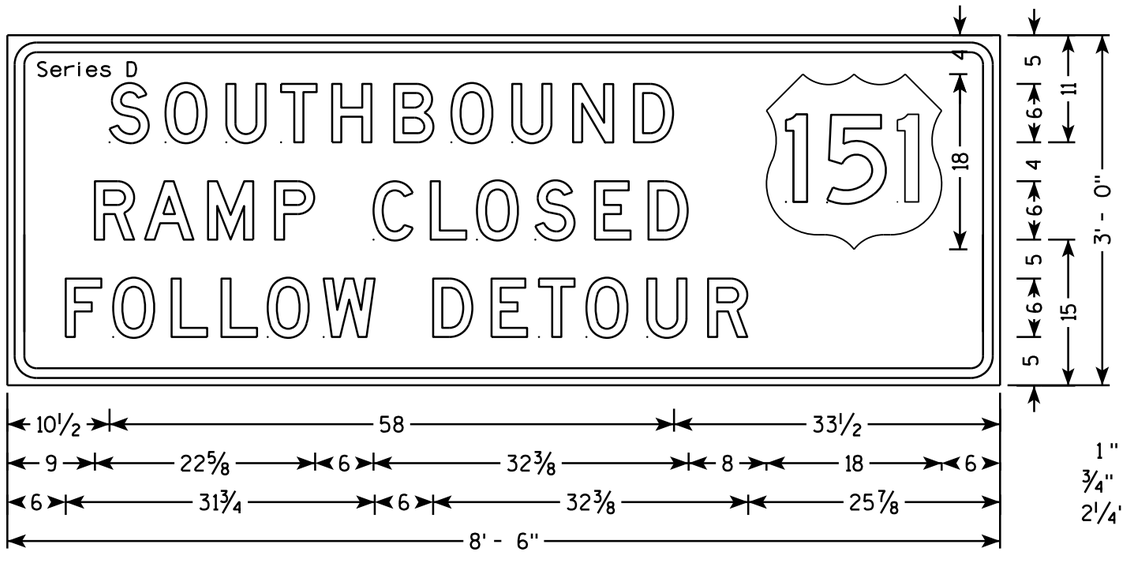
S.D.D. 15 D 29-3



NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - ORANGE
   Message - BLACK
3. Message Series - as Shown

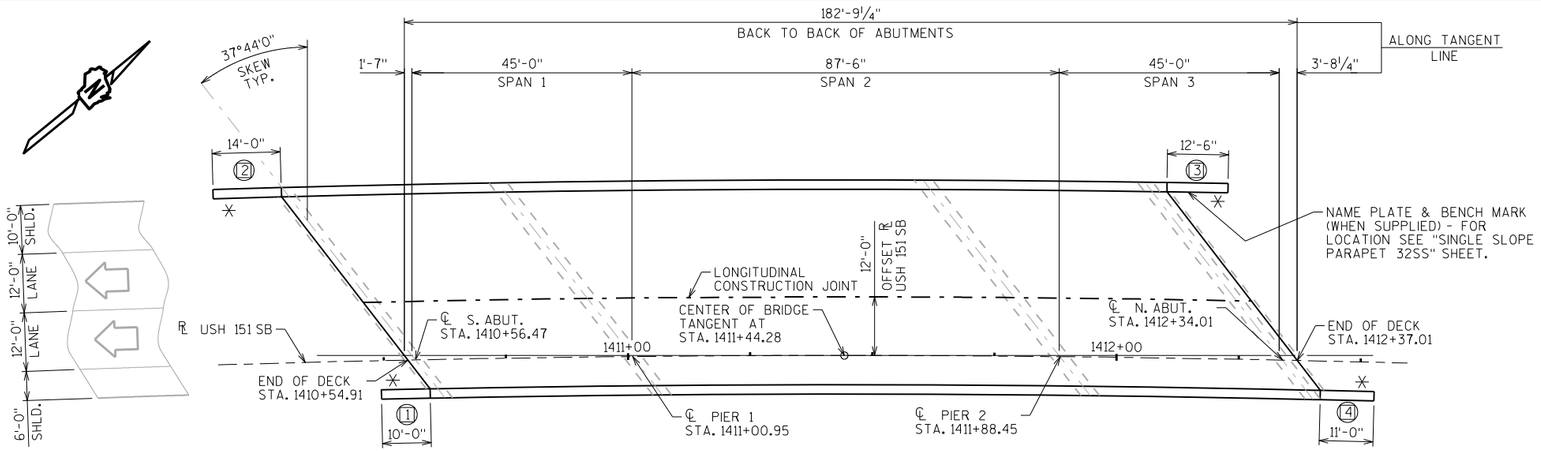
3/4" Margin
1" Border
2 1/4" Radius



1" Border
3/4" Margin
2 1/4" Radius

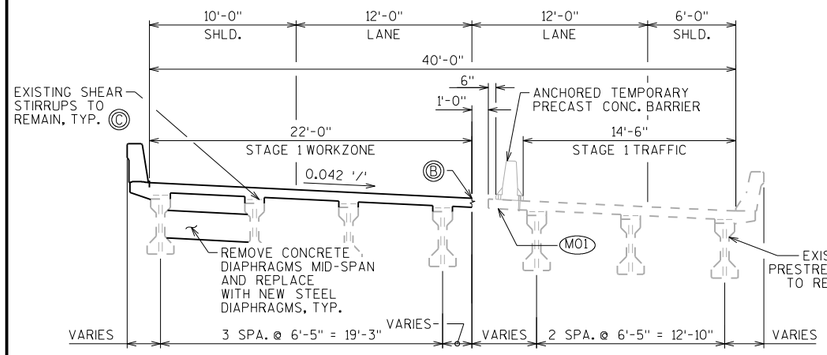
PROJECT NO: 1111-05-62	HWY: USH 151	COUNTY: COLUMBIA		SHEET NO:	E

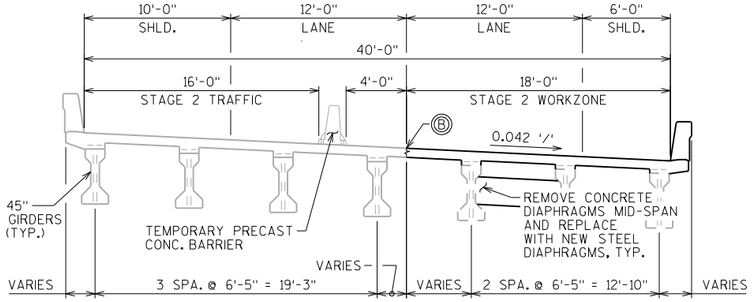
FILE NAME : C:\CAEFiles\Projects\tr_d1\NoReEntry.dgn PLOT DATE : 27-FEB-2014 09:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 15.566735:1.000000
WISDOT/CADDS SHEET 42



Ⓐ PLAN

3 SPAN - 45" PRESTRESSED GIRDER



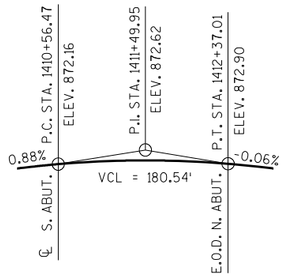


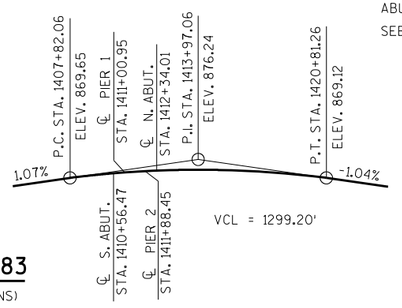
CROSS SECTION THRU BRIDGE - STAGE 1 CONST.

(LOOKING NORTH)

CROSS SECTION THRU BRIDGE - STAGE 2 CONST.

(LOOKING NORTH)





PROFILE GRADE LINE - B-11-83

(USED TO DETERMINE TOP OF DECK ELEVATIONS)

PROFILE GRADE LINE - USH 151 SB

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	STAGE 1	STAGE 2	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 1411+44.28	LS	———	———	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	———	———	572
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-11-83	LS	———	———	1
210.0100	BACKFILL STRUCTURE	CY	68	55	123
502.0100	CONCRETE MASONRY BRIDGES	CY	138	117	255
502.3100	EXPANSION DEVICE B-11-83	LS	———	———	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	532	449	981
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	35,444	30,020	65,464
505.0904	BAR COUPLERS NO. 4	EACH	16	———	16
505.0905	BAR COUPLERS NO. 5	EACH	616	———	616
505.0906	BAR COUPLERS NO. 6	EACH	6	———	6
506.4000	STEEL DIAPHRAGMS B-11-83	EACH	12	12	24
506.7050.S	REMOVING BEARINGS B-11-83	EACH	4	3	7
604.0400	SLOPE PAVING CONCRETE	SY	———	———	572
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	———	260
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	2	4
SPV.0060	BEARING PADS ELASTOMERIC LAMINATED ANCHORED	EACH	4	3	7
SPV.0060	MASONRY ANCHORS TYPE L 1-INCH	EACH	8	6	14
SPV.0165	FIBER WRAP GIRDER REINFORCING	SF	———	77	77
	NON-BID ITEMS				
	BRIDGE SEAT PROTECTION	LS	———	———	1
	FILLER	SIZE	———	———	½" & ¾"

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

□ INDICATES WING NUMBER

Ⓐ STATIONING MAY VARY BASED ON EXACT LOCATION OF BRIDGE TO PROPOSED ALIGNMENT. CONTRACTOR TO VERIFY. VARIATIONS TO THE NEW GRADE LINE OVER ½" MUST BE SUBMITTED FOR REVIEW BY BUREAU OF STRUCTURES.

Ⓑ LONGITUDINAL CONSTRUCTION JOINT FORMED BY 2" X 1½" KEY. SEAL LONGITUDINAL CONSTRUCTION JOINT WITH CRACK SEALER PER SEC. 502.3.13 OF THE STANDARD SPEC. SEE LONGITUDINAL CONSTRUCTION JOINT DETAIL ON "SUPERSTRUCTURE" SHEET.

Ⓒ CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE SHEAR STIRRUPS AND TOP GIRDER FLANGE. ENGINEER WILL INSPECT GIRDERS PRIOR TO PLACING NEW DECK.

M01 CONTRACTOR TO PROVIDE A TEMPORARY SUPPORT SYSTEM DURING DECK REMOVAL AND REPLACEMENT.

DESIGN DATA

LIVE LOAD:

DESIGN RATING: HS-20
INVENTORY RATING: HS-25
OPERATIONAL RATING: HS-42
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

REPLACE ALL STEEL EXPANSION BEARINGS AT NORTH ABUTMENT WITH LAMINATED ELASTOMERIC BEARINGS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON "SLOPE PAVING (CONCRETE CAST-IN-PLACE)" SHEET.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

IF A NEW NAME PLATE IS REQ'D, THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1976.

ANY EXCAVATION REQUIRED TO CONSTRUCT NEW DECK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

IF EXISTING BAR STEEL REINFORCEMENT IS SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH EPOXY ANCHORED BARS OF THE SAME SIZE. EMBED 1'-6" INTO EXISTING CONCRETE. WORK TO BE PAID UNDER ITEM "REMOVING OLD STRUCTURE STA. 1411+44.28".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-11-83".

FIBER WRAP GIRDER REINFORCING TO BE APPLIED TO NORTH ABUTMENT ENDS OF GIRDERS 6 & 7 OR AS DIRECTED BY ENGINEER.

SEE ROADWAY PLANS FOR EXISTING UTILITY LOCATIONS.

CURVE DATA

USH 151 SB

P.I. = STA. 1403+53.19
Δ = 42.03°
D = 1.33°
T = 1650.93'
L = 3152.43'
R = 4297.18'
S.E. = 4.20%
P.C. = STA. 1387+02.26
P.T. = STA. 1418+54.69

LIST OF DRAWINGS

1. DECK REPLACEMENT
2. STEEL DIAPHRAGM
3. SUPERSTRUCTURE
4. SUPERSTRUCTURE DETAILS 1
5. SUPERSTRUCTURE DETAILS 2
6. PRESTRESSED GIRDER BEARINGS
7. STRIP SEAL EXPANSION JOINT
8. SLOPE PAVING (CONCRETE CAST-IN-PLACE)
9. SINGLE SLOPE PARAPET 32SS (MODIFIED)

STRUCTURE DESIGN CONTACTS:

JONATHON RESHESKE (608) 266-8491
LAURA SHADEWALD (608) 267-9592

STATE PROJECT NUMBER

1111-05-62

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 2/18/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-11-83

USH 151 SB OVER MAPLE AVE

COUNTY	COLUMBIA	~~TOWN~~/CITY ~~/VILLAGE~~	COLUMBUS
DESIGN SPEC.	REHABILITATION		N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JLR	ARC	JLR	ARC

DECK REPLACEMENT

SHEET 1 OF 9

71

I.D. 1111-05-32

DATE: OCT 2013

SCALE = 15

8

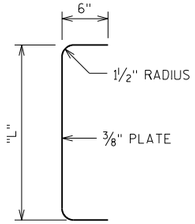
8

STATE PROJECT NUMBER

1111-05-62

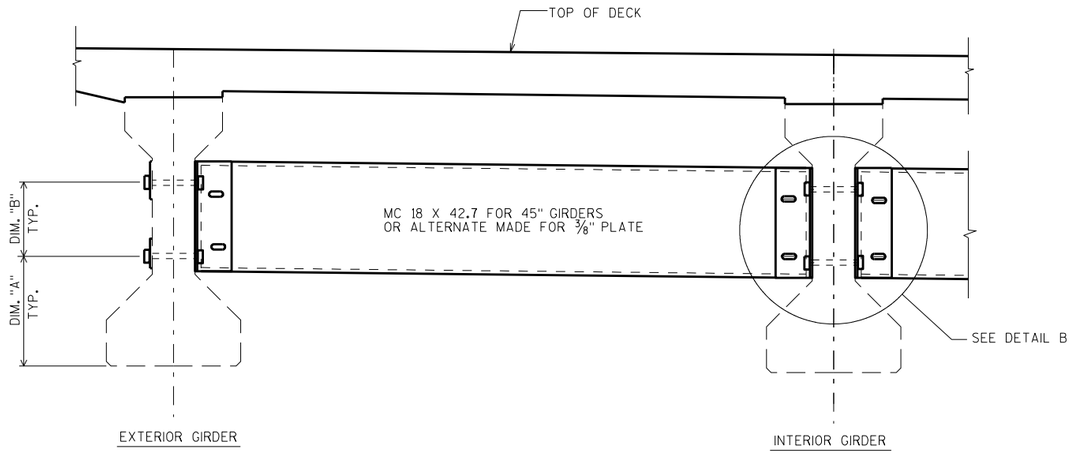
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

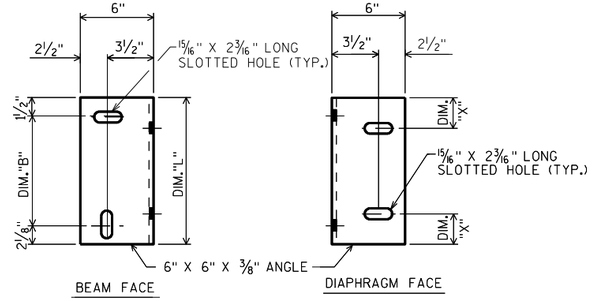
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-11-83", EACH.

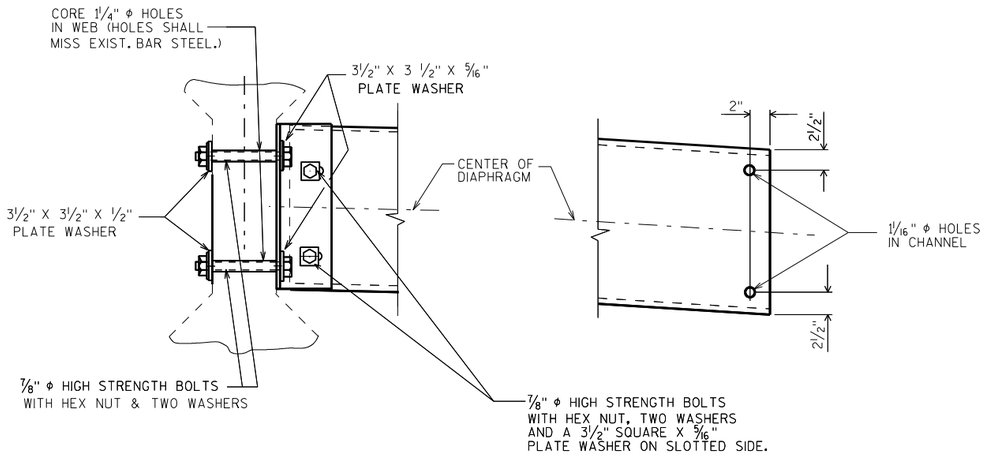
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT



DETAIL B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

STEEL DIAPHRAGM

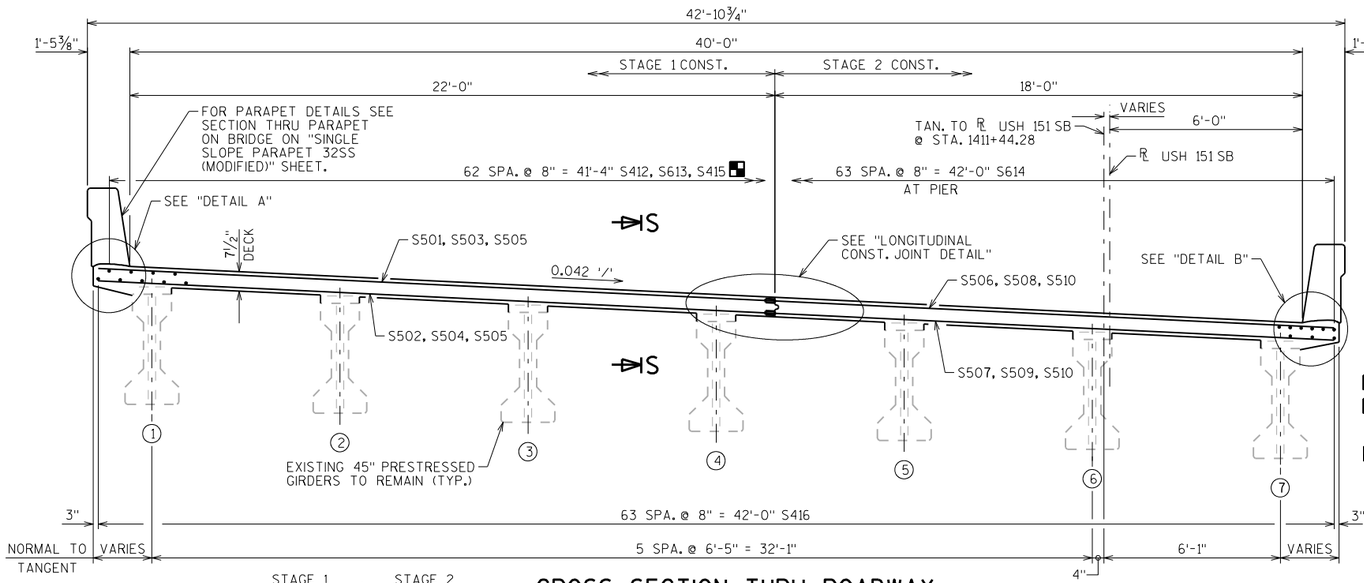
SHEET 2

72

SCALE = 1

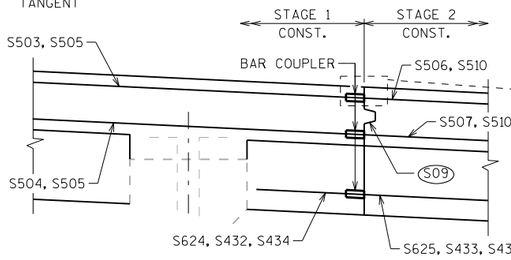
8

8

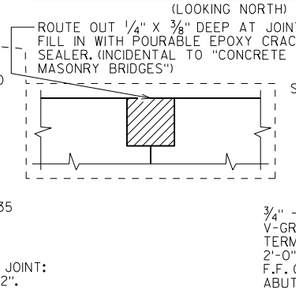


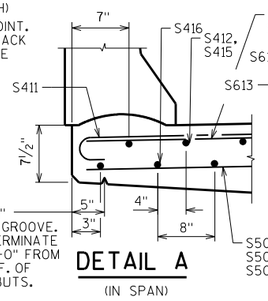
CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



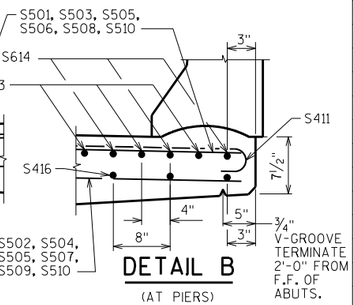
LONGITUDINAL CONST. JOINT DETAIL





DETAIL A

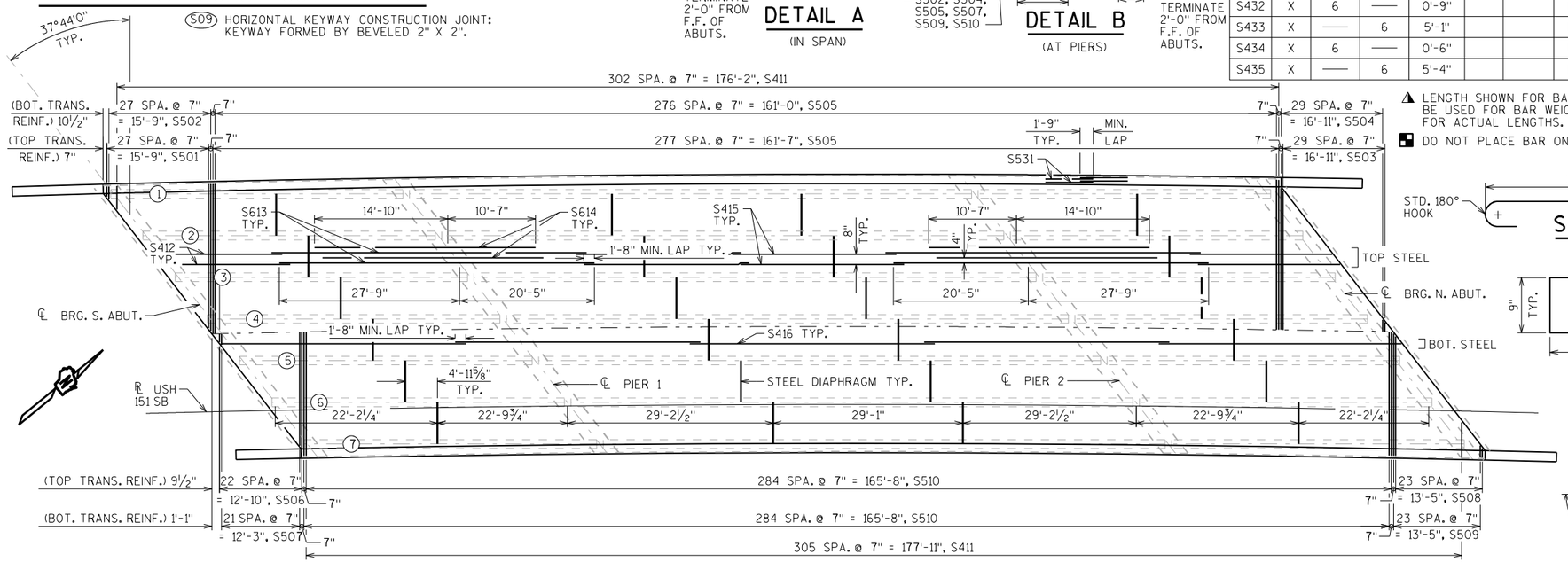
(IN SPAN)



DETAIL B

(AT PIERS)

S09 HORIZONTAL KEYWAY CONSTRUCTION JOINT: KEYWAY FORMED BY BEVELED 2" X 2".



PLAN

BILL OF BARS

BAR MARK	COAT	STAGE 1 NO. REQ'D	STAGE 2 NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	28	——	12'-0"		▲	TOP TRANS.
S502	X	28	——	12'-4"		▲	BOT. TRANS.
S503	X	30	——	11'-8"		▲	TOP TRANS.
S504	X	30	——	12'-0"		▲	BOT. TRANS.
S505	X	555	——	23'-1"			TOP & BOT. TRANS.
S506	X	——	23	9'-2"		▲	TOP TRANS.
S507	X	——	22	9'-3"		▲	BOT. TRANS.
S508	X	——	24	9'-11"		▲	TOP TRANS.
S509	X	——	24	10'-4"		▲	BOT. TRANS.
S510	X	——	570	19'-1"			TOP & BOT. TRANS.
S411	X	303	306	4'-2"	X		TRANS. TOP ADDITIONAL REINF.
■ S412	X	70	56	20'-4"			TOP LONG.
■ S613	X	70	56	48'-2"			TOP LONG. - CONTINUITY
S614	X	70	58	25'-5"			TOP LONG. - CONTINUITY
■ S415	X	70	56	25'-10"			TOP LONG.
S416	X	175	145	37'-5"			BOT. LONG.
S417	X	2	——	28'-8"			S. ABUT. DIAPHRAGM TRANS.
S418	X	——	2	23'-9"			S. ABUT. DIAPHRAGM TRANS.
S419	X	32	28	10'-0"	X		PIER HAUNCH LONG.
S420	X	36	——	6'-0"			PIER HAUNCH TRANS.
S421	X	——	24	6'-0"			PIER HAUNCH TRANS.
S422	X	23	19	5'-2"	X		N. ABUT. DIAPHRAGM
S623	X	18	12	6'-0"			N. ABUT. DIAPHRAGM TRANS.
S624	X	6	——	1'-4"			N. ABUT. DIAPHRAGM TRANS.
S625	X	——	6	4'-7"			N. ABUT. DIAPHRAGM TRANS.
S426	X	6	4	7'-4"			N. ABUT. EXPANSION TRANS.
S427	X	2	——	2'-1"			N. ABUT. EXPANSION TRANS.
S428	X	——	2	5'-3"			N. ABUT. EXPANSION TRANS.
S529	X	271	272	4'-5"	X		PARAPET VERT.
S530	X	271	272	5'-0"	X		PARAPET VERT.
S531	X	30	30	37'-6"			PARAPET HORIZ.
S432	X	6	——	0'-9"			PIER #1 HAUNCH TRANS.
S433	X	——	6	5'-1"			PIER #1 HAUNCH TRANS.
S434	X	6	——	0'-6"			PIER #2 HAUNCH TRANS.
S435	X	——	6	5'-4"			PIER #2 HAUNCH TRANS.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

■ DO NOT PLACE BAR ON LONGITUDINAL CONSTRUCTION JOINT.

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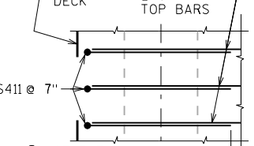
1111-05-62

BAR SERIES TABLE

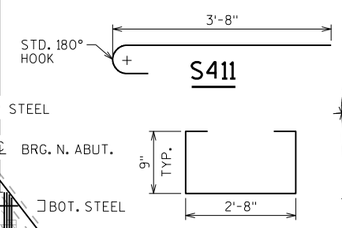
BUNDLE AND TAG EACH SERIES SEPARATELY

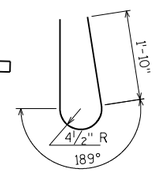
MARK	NO. REQ'D	LENGTH
S501	1 SERIES OF 28	1'-7" TO 22'-4"
S502	1 SERIES OF 28	1'-11" TO 22'-8"
S503	1 SERIES OF 30	0'-10" TO 22'-5"
S504	1 SERIES OF 30	1'-3" TO 22'-10"
S506	1 SERIES OF 23	0'-9" TO 17'-7"
S507	1 SERIES OF 22	1'-2" TO 17'-3"
S508	1 SERIES OF 24	1'-5" TO 18'-5"
S509	1 SERIES OF 24	1'-8" TO 18'-10"



SECTION S-S

PLAN ADDITIONAL OVERHANG REINFORCEMENT DETAIL





NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

SUPERSTRUCTURE | SHEET 3 | 73

SCALE = 10

8

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STATE PROJECT NUMBER

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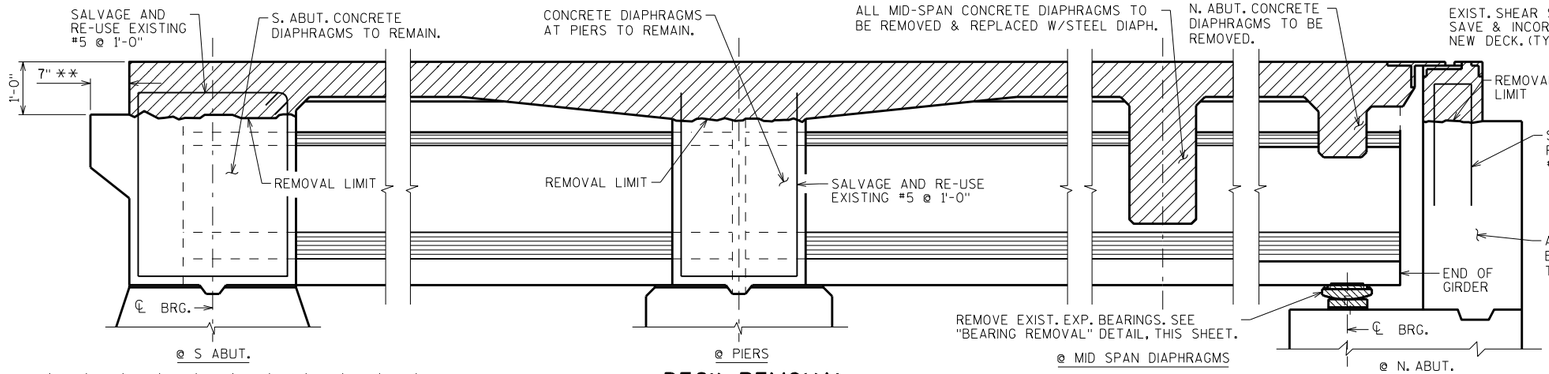
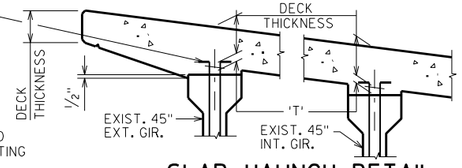
TOP OF DECK ELEVATIONS

	℄ BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ PIER 1	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ PIER 2	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. N. ABUT.
LT. E.O.D.	873.37	873.41	873.45	873.49	873.53	873.57	873.59	873.62	873.64	873.66	873.68	873.72	873.76	873.80	873.84	873.88	873.91	873.95	873.99	874.02	874.06	874.08	874.09	874.11	874.13	874.14	874.16	874.18	874.19	874.21	874.23
GIRDER 1	873.37	873.41	873.44	873.47	873.51	873.54	873.57	873.59	873.60	873.62	873.64	873.68	873.71	873.75	873.78	873.82	873.85	873.89	873.93	873.96	874.00	874.02	874.03	874.05	874.07	874.09	874.11	874.13	874.15	874.16	874.18
GIRDER 2	873.14	873.17	873.21	873.24	873.28	873.30	873.32	873.34	873.35	873.37	873.39	873.43	873.46	873.50	873.53	873.57	873.60	873.64	873.68	873.71	873.75	873.77	873.79	873.80	873.82	873.84	873.86	873.88	873.90	873.92	873.93
GIRDER 3	872.91	872.94	872.98	873.01	873.03	873.05	873.07	873.09	873.10	873.12	873.14	873.18	873.21	873.25	873.28	873.32	873.36	873.39	873.43	873.46	873.50	873.52	873.54	873.56	873.57	873.59	873.61	873.63	873.65	873.67	873.69
GIRDER 4	872.67	872.71	872.74	872.76	872.78	872.80	872.82	872.84	872.85	872.87	872.89	872.93	872.96	873.00	873.03	873.07	873.11	873.14	873.18	873.22	873.25	873.27	873.29	873.31	873.33	873.34	873.36	873.38	873.40	873.42	873.44
CONST. JT.	872.59	872.63	872.67	872.69	872.71	872.73	872.75	872.77	872.79	872.81	872.83	872.87	872.91	872.95	872.99	873.02	873.06	873.10	873.13	873.17	873.20	873.22	873.23	873.25	873.27	873.28	873.30	873.32	873.33	873.35	873.36
GIRDER 5	872.44	872.48	872.49	872.51	872.53	872.55	872.57	872.59	872.60	872.62	872.64	872.68	872.71	872.75	872.78	872.82	872.86	872.89	872.93	872.97	873.00	873.02	873.04	873.06	873.08	873.10	873.11	873.13	873.15	873.17	873.19
GIRDER 6	872.21	872.23	872.24	872.26	872.28	872.30	872.32	872.34	872.35	872.37	872.39	872.43	872.46	872.50	872.54	872.57	872.61	872.64	872.68	872.72	872.75	872.77	872.79	872.81	872.83	872.85	872.87	872.88	872.90	872.92	872.94
℄ USH 151	872.16	872.18	872.20	872.22	872.25	872.27	872.29	872.31	872.33	872.35	872.37	872.41	872.45	872.49	872.52	872.56	872.60	872.63	872.67	872.70	872.73	872.75	872.77	872.78	872.80	872.81	872.83	872.85	872.86	872.88	872.89
GIRDER 7	871.96	871.98	871.99	872.01	872.03	872.05	872.07	872.09	872.11	872.12	872.14	872.18	872.21	872.25	872.29	872.32	872.36	872.40	872.43	872.47	872.51	872.52	872.54	872.56	872.58	872.60	872.62	872.64	872.65	872.67	872.68
RT. E.O.D.	871.93	871.95	871.97	871.99	872.02	872.04	872.06	872.08	872.10	872.12	872.14	872.18	872.21	872.25	872.29	872.32	872.36	872.40	872.43	872.46	872.50	872.51	872.53	872.55	872.56	872.58	872.59	872.61	872.62	872.64	872.64



DECK REMOVAL



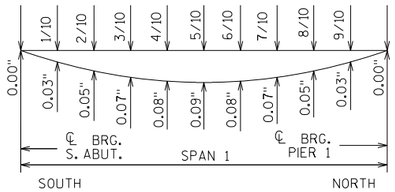
SLAB HAUNCH DETAIL

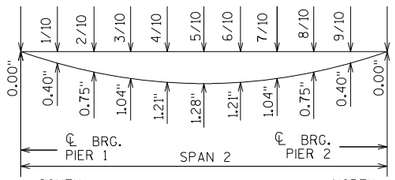
THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2".

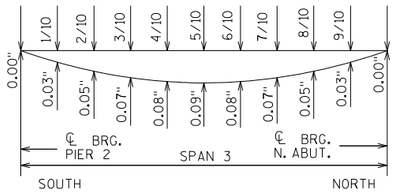
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

NOTE: AN AVERAGE HAUNCH ('T') OF 2.52" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

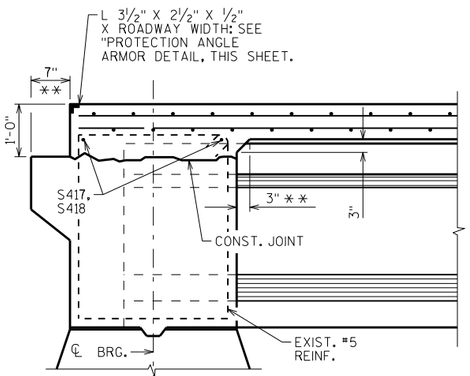




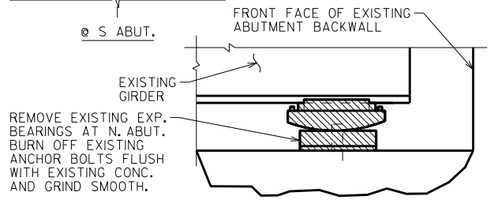


DEFLECTION DIAGRAM

NOTE: DEFLECTIONS USED FOR COMPUTING GIRDER ELEVATION SHALL BE CALCULATED BY TAKING GIRDER ELEVATION BEFORE & AFTER THE EXISTING DECK IS REMOVED. THE DEFLECTIONS GIVEN ON THIS PLAN SHALL BE USED AS A REFERENCE ONLY. FIELD MEASURED DEFLECTION DATA SHALL BE PROPORTIONED TO ACCOUNT FOR THE NEW 7 1/2" DECK THICKNESS VERSUS THE EXISTING DECK THICKNESS. EXISTING DECK THICKNESS SHALL BE FIELD VERIFIED.

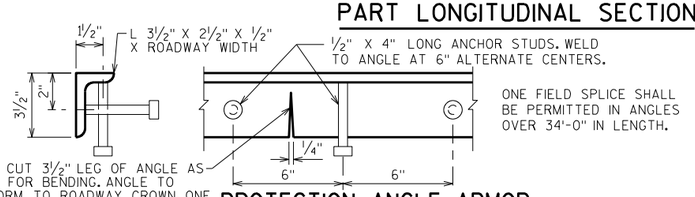


PART LONGITUDINAL SECTION



BEARING REMOVAL

NORTH ABUTMENT



FIELD CUT 3 1/2" LEG OF ANGLE AS REQ'D FOR BENDING. ANGLE TO CONFORM TO ROADWAY CROWN. ONE CUT SHALL BE AT CROWN.

PROTECTION ANGLE ARMOR

SANDBLAST PROTECTION ANGLE AFTER FABRICATION PER NOTES. AFTER BLAST CLEANING, THE PROTECTION ANGLE SHALL BE HOT DIPPED GALVANIZED.

☆ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER

** DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

SUPERSTRUCTURE DETAILS 1

SHEET 4

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SCALE = 2

STATE PROJECT NUMBER

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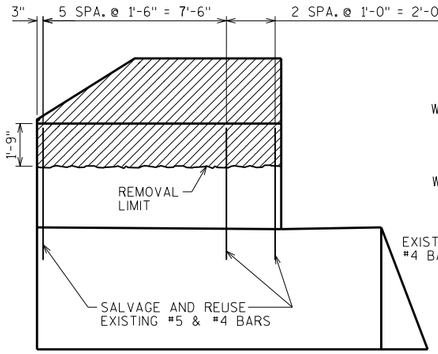
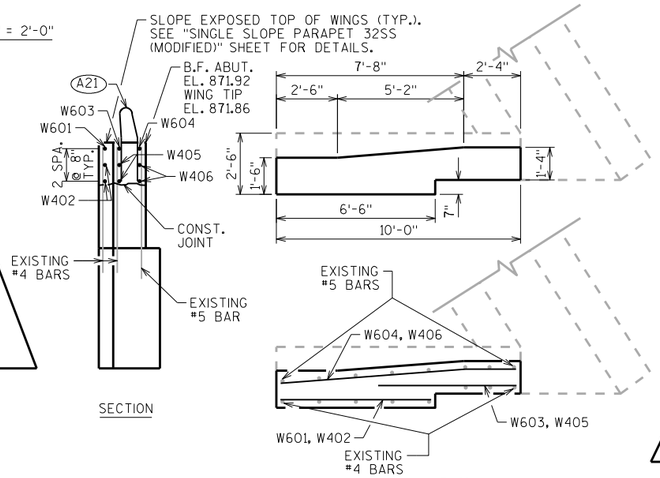


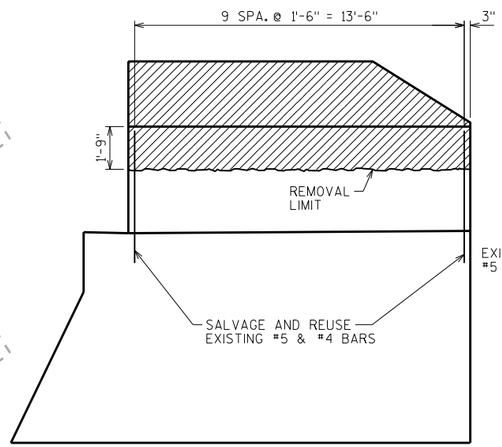
ELEVATION



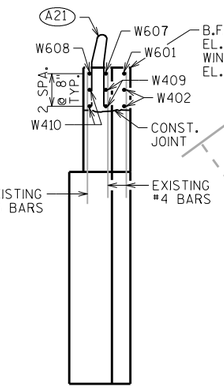
SECTION

PLAN

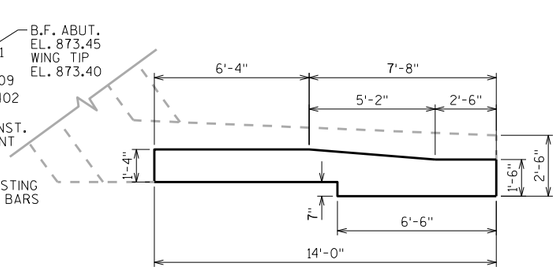
WING 1

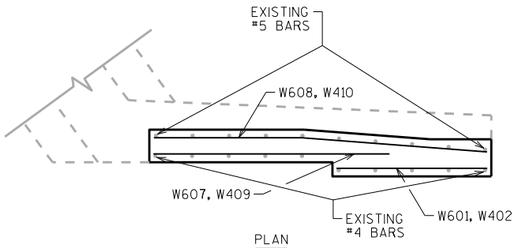


ELEVATION



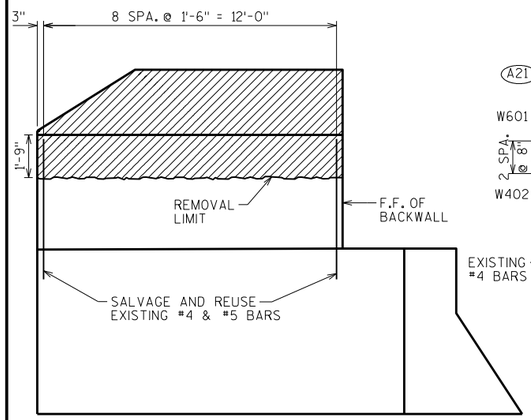
SECTION



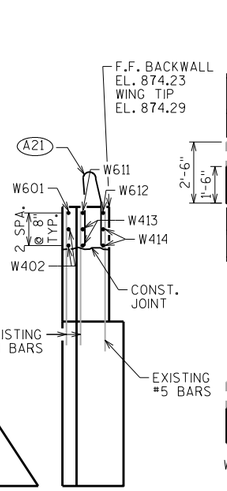


PLAN

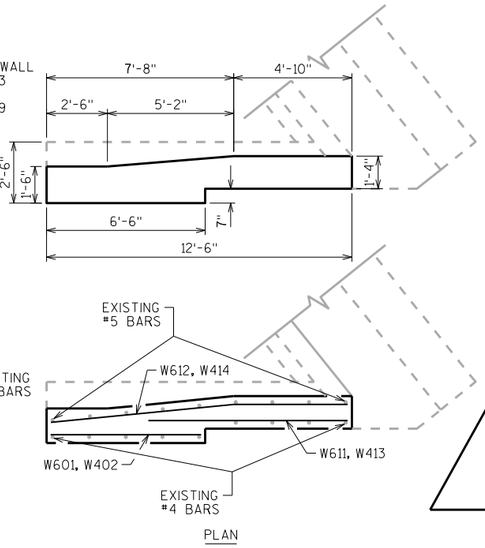
WING 2



ELEVATION

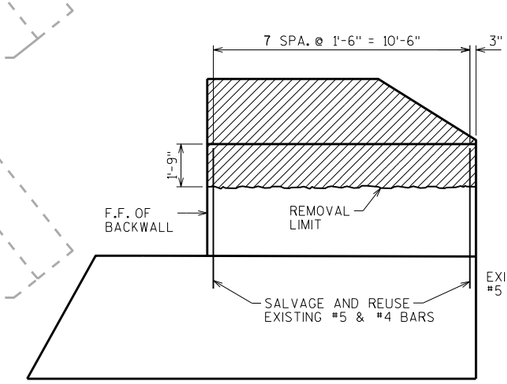


SECTION

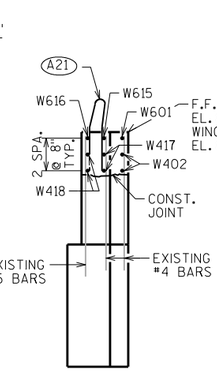


PLAN

WING 3



ELEVATION



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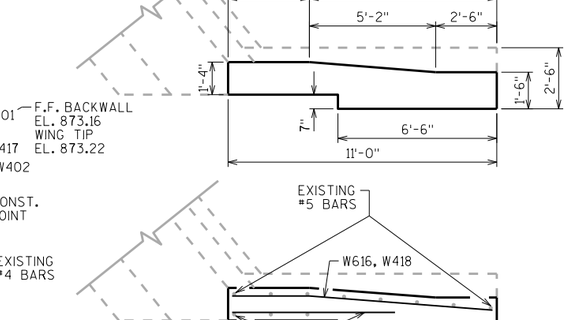
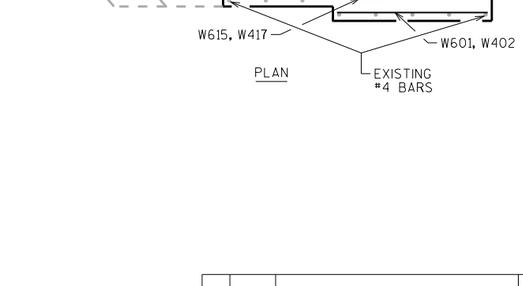




PLAN

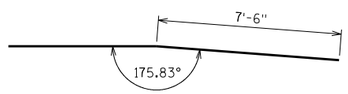
WING 4

BILL OF BARS

FOR WINGS

BAR MARK	COAT	STAGE 1	STAGE 2	LENGTH	BENT	LOCATION
W601	X	2	2	6'-2"		WING HORIZ.
W402	X	4	4	6'-2"		WING HORIZ.
W603	X	—	1	5'-8"		WING 1 HORIZ.
W604	X	—	1	9'-8"	X	WING 1 HORIZ.
W405	X	—	2	5'-8"		WING 1 HORIZ.
W406	X	—	2	9'-8"	X	WING 1 HORIZ.
W607	X	1	—	9'-8"		WING 2 HORIZ.
W608	X	1	—	13'-8"	X	WING 2 HORIZ.
W409	X	2	—	9'-8"		WING 2 HORIZ.

BAR MARK	COAT	STAGE 1	STAGE 2	LENGTH	BENT	LOCATION
W410	X	2	—	13'-8"	X	WING 2 HORIZ.
W611	X	1	—	8'-2"		WING 3 HORIZ.
W612	X	1	—	12'-2"	X	WING 3 HORIZ.
W413	X	2	—	8'-2"		WING 3 HORIZ.
W414	X	2	—	12'-2"	X	WING 3 HORIZ.
W615	X	—	1	6'-8		WING 4 HORIZ.
W616	X	—	1	10'-8"	X	WING 4 HORIZ.
W417	X	—	2	6'-8"		WING 4 HORIZ.
W418	X	—	2	10'-8"	X	WING 4 HORIZ.



W604, W406, W608, W410, W612, W414, W616, W418

(A21) FOR PPT. BARS & DIMENSIONS SEE "SINGLE SLOPE PARAPET 32SS (MODIFIED)" SHEET.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

SUPERSTRUCTURE DETAILS 2

SHEET 5

75

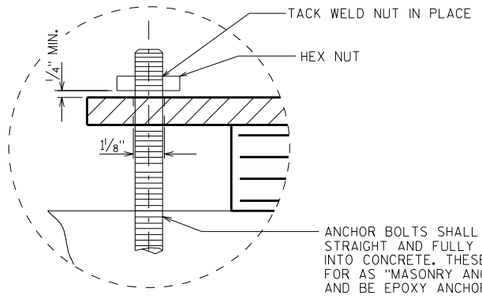
SCALE = 3

8

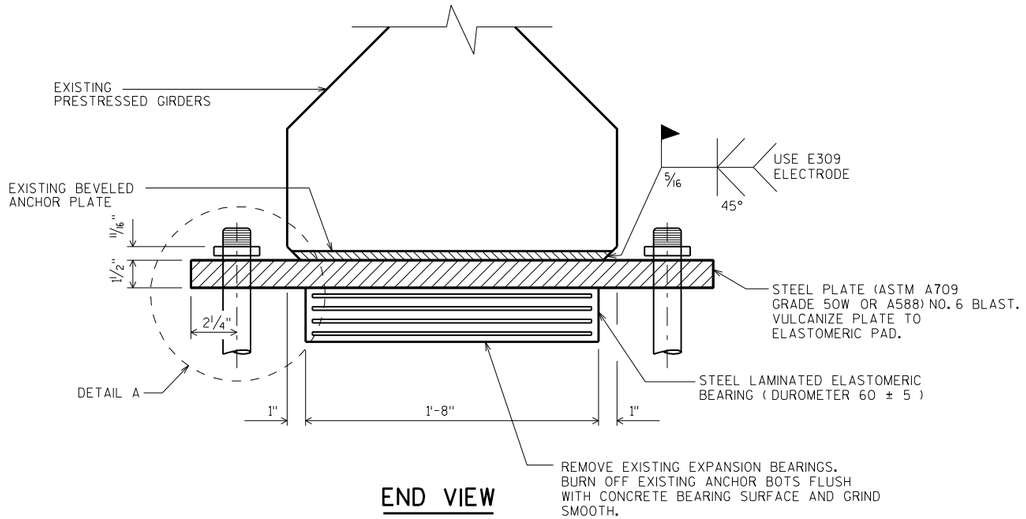
8

STATE PROJECT NUMBER

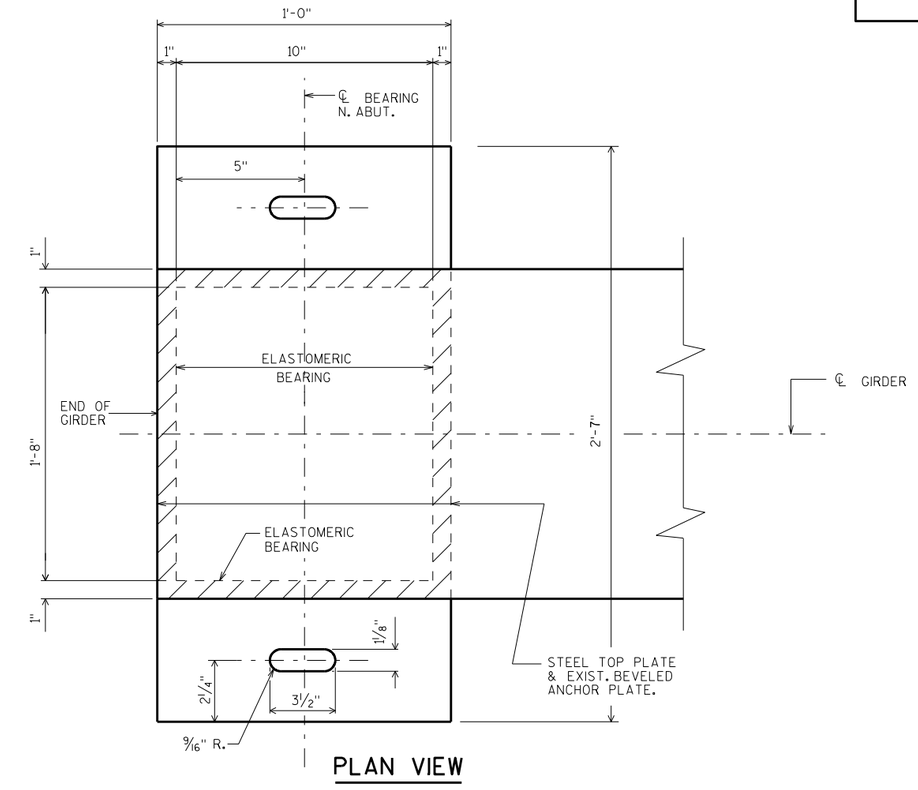
1111-05-62



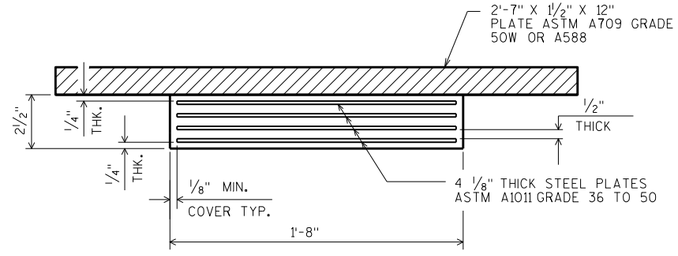
DETAIL A



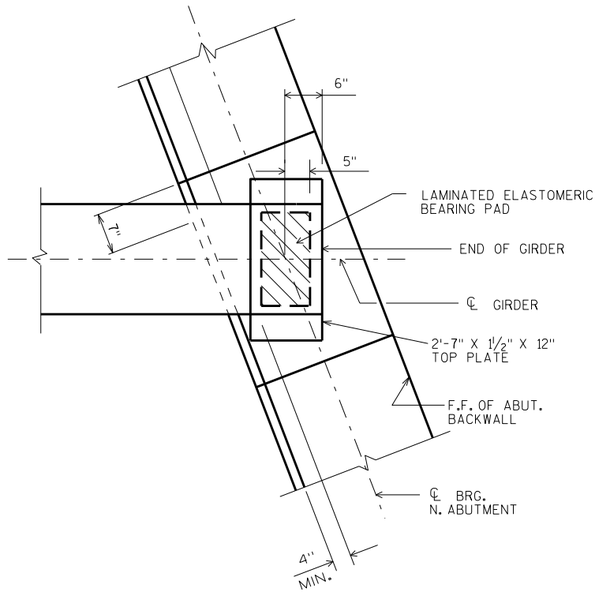
END VIEW



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



BEARING PAD DETAIL

BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED ANCHORED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

PRESTRESSED GIRDER BEARINGS

SHEET 6

76

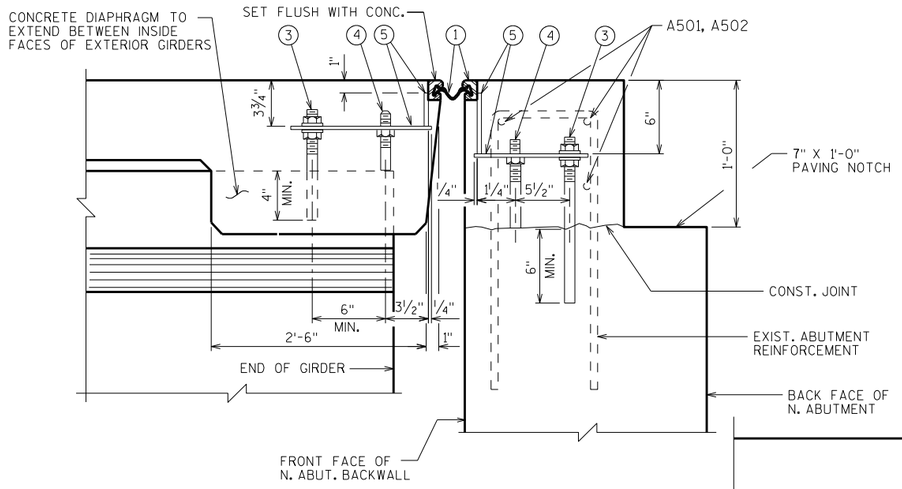
8

8

SCALE = 0.3333

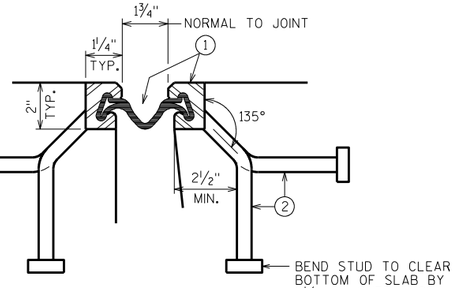
STATE PROJECT NUMBER

1111-05-62



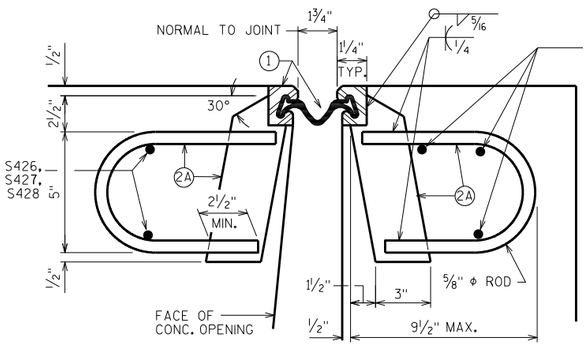
SECTION THRU JOINT AT N. ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



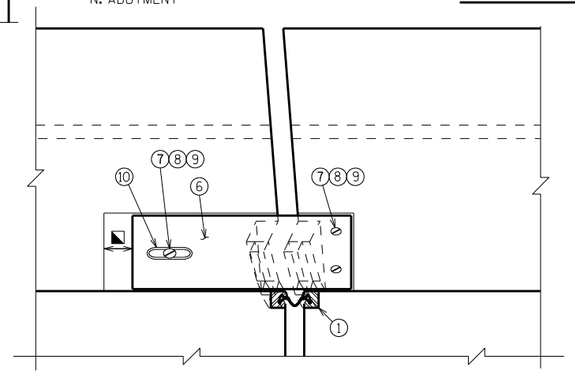
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS.

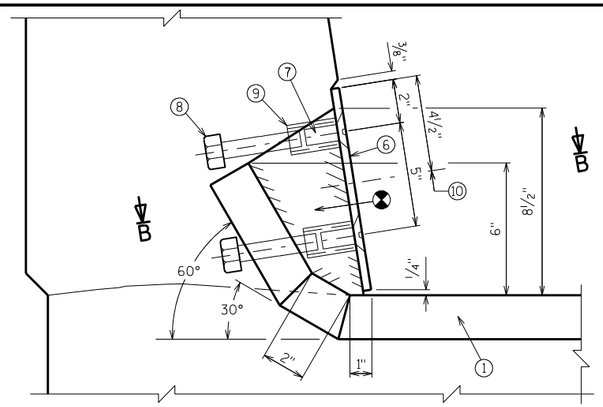


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



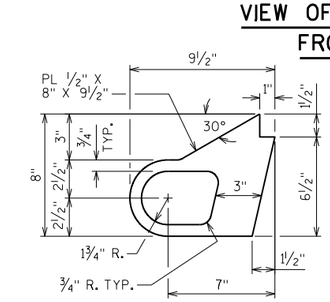
VIEW OF PARAPET PLATE FROM ROADWAY



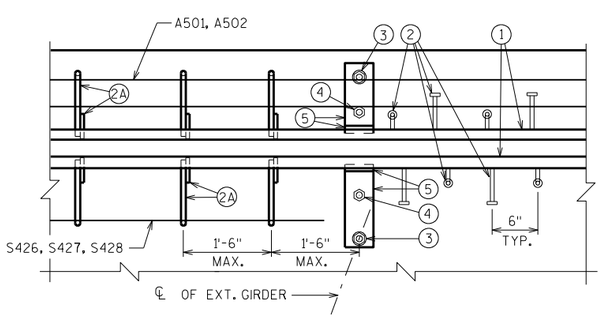
SECTION A-A

BILL OF BARS

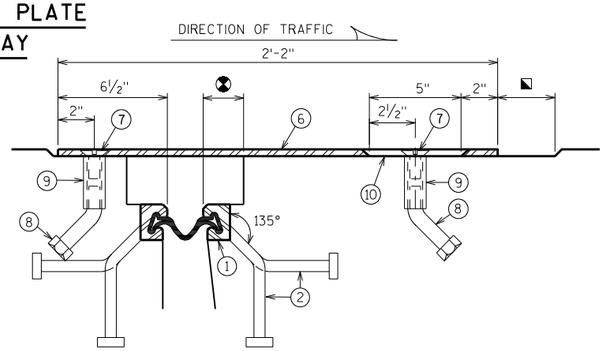
BAR MARK	COAT	STAGE 1 NO. REQ'D	STAGE 2 NO. REQ'D	LENGTH	LOCATION
A501	—	3	—	28'-2"	N. ABUT. EXPANSION PAVING BLOCK
A502	—	—	3	23'-1"	N. ABUT. EXPANSION PAVING BLOCK



ALTERNATE STRIP SEAL ANCHOR



PART PLAN



SECTION B-B

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝"ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT, THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.

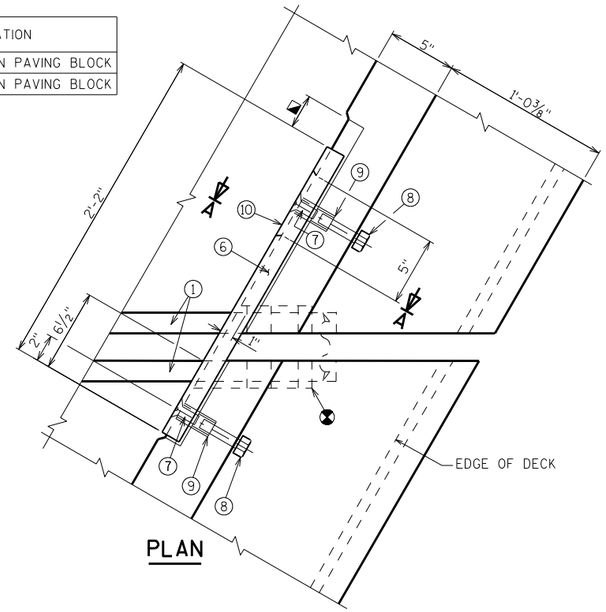
(6) GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.

(7) ¾"ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾"ϕ X 2¼" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-11-83".

⧓ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

STRIP SEAL EXPANSION JOINT

SHEET 7

77

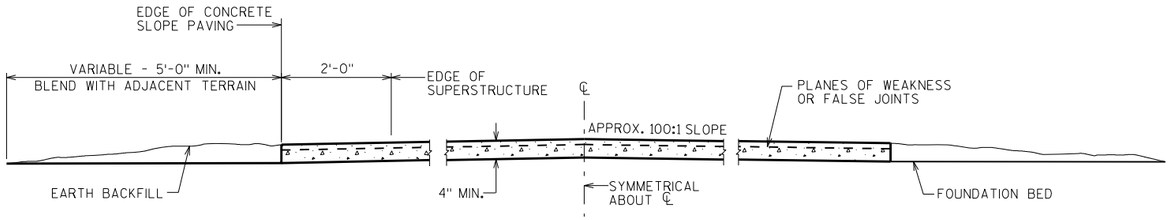
SCALE = 1

8

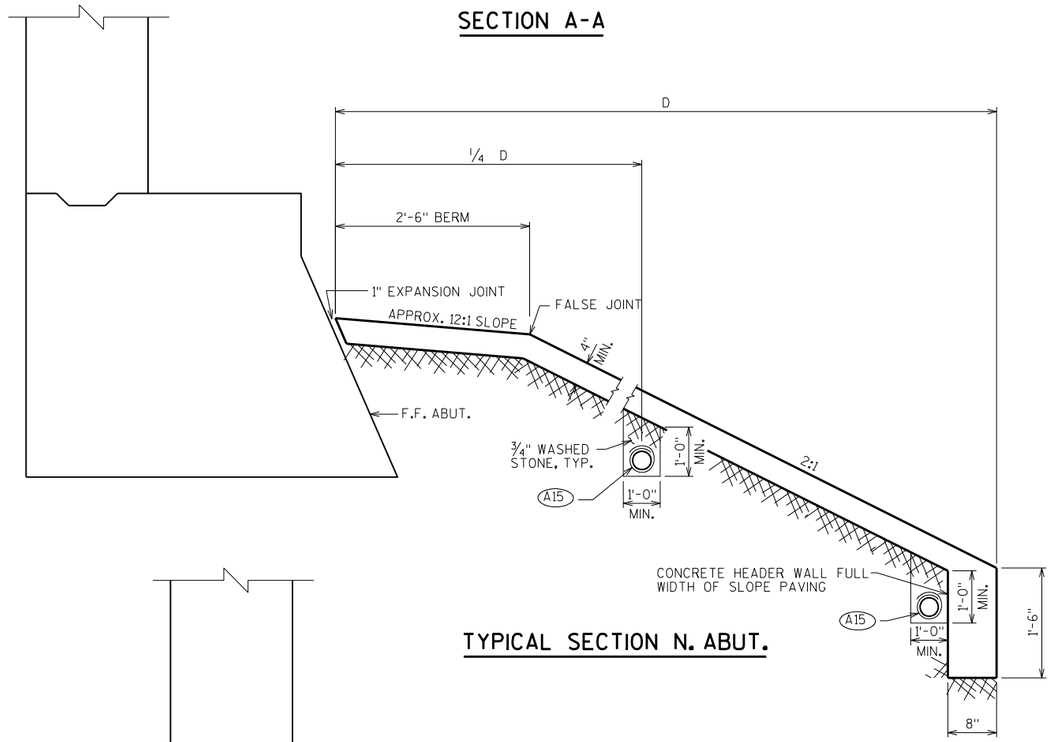
8

STATE PROJECT NUMBER

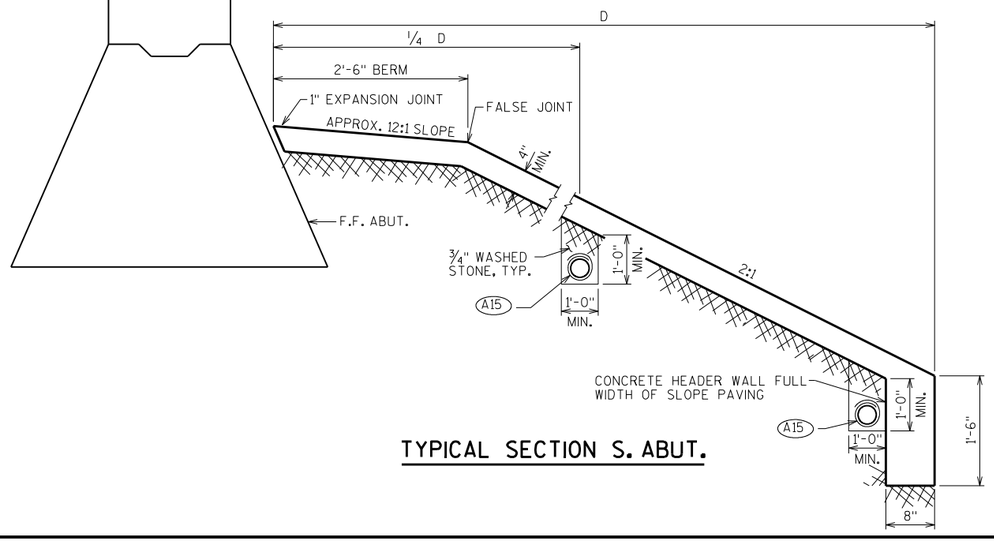
1111-05-62



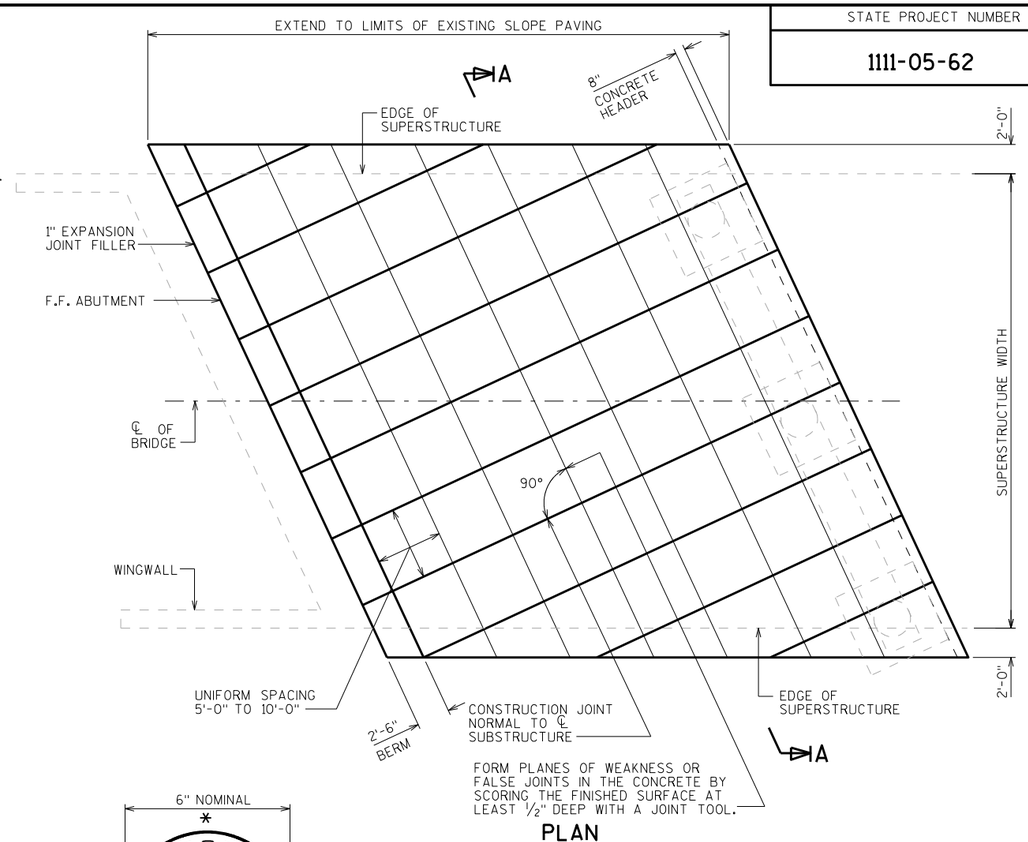
SECTION A-A



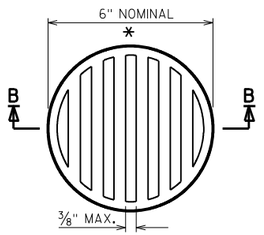
TYPICAL SECTION N. ABUT.



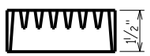
TYPICAL SECTION S. ABUT.



PLAN



RODENT SHIELD DETAIL

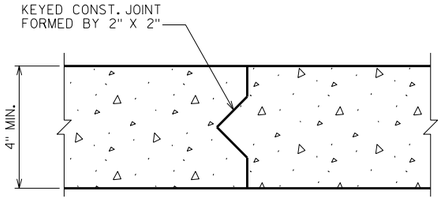


SECTION B-B

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

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

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



CONSTRUCTION JOINT DETAIL

GENERAL NOTES

COMPLETE REMOVAL OF CONCRETE SLOPE PAVING TO BE PAID UNDER "REMOVING CONCRETE SLOPE PAVING" ITEM.

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

SLOPE PAVING (CONCRETE CAST-IN-PLACE)

SHEET 8

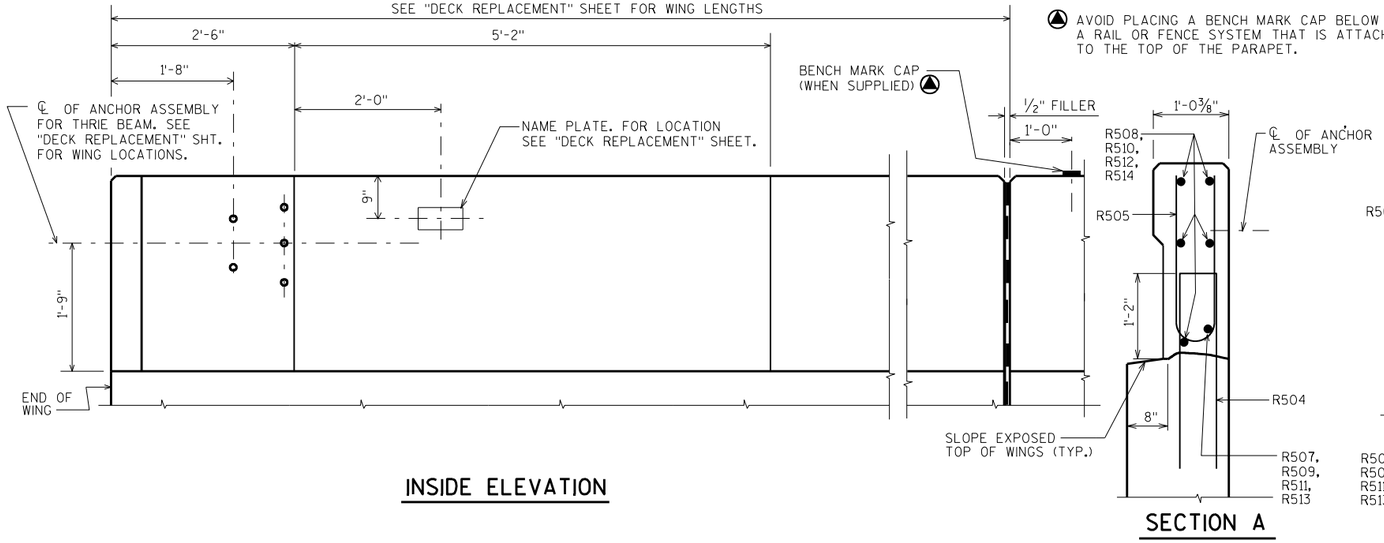
78

SCALE = 1

8

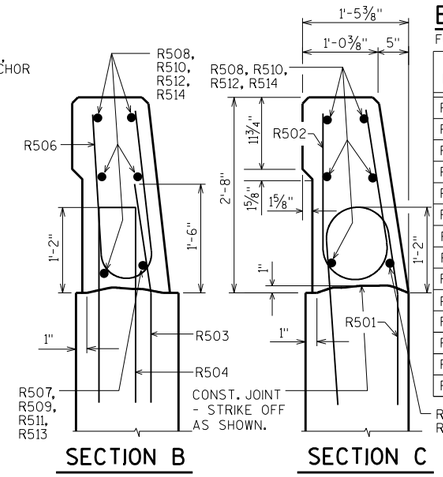
8

STATE PROJECT NUMBER
1111-05-62



INSIDE ELEVATION

SECTION A



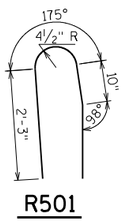
SECTION B

SECTION C

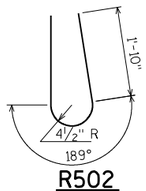
BILL OF BARS

FOR ABUTMENT PARAPETS

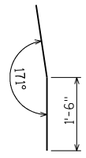
BAR MARK	COAT	STAGE 1	STAGE 2	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	18	10	5'-10"	X		PARAPET VERT.
R502	X	18	10	5'-0"	X		PARAPET VERT.
R503	X	20	20	3'-0"	X		PARAPET VERT.
R504	X	30	30	5'-7"	X		PARAPET VERT.
R505	X	22	22	4'-9"	X		PARAPET VERT.
R506	X	8	8	4'-10"	X		PARAPET VERT.
R507	X	—	1	9'-5"	X		PARAPET HORIZ. WING 1
R508	X	—	5	9'-5"			PARAPET HORIZ. WING 1
R509	X	1	—	13'-5"	X		PARAPET HORIZ. WING 2
R510	X	5	—	13'-5"			PARAPET HORIZ. WING 2
R511	X	1	—	11'-11"	X		PARAPET HORIZ. WING 3
R512	X	5	—	11'-11"			PARAPET HORIZ. WING 3
R513	X	—	1	10'-5"	X		PARAPET HORIZ. WING 4
R514	X	—	5	10'-5"			PARAPET HORIZ. WING 4



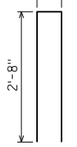
R501



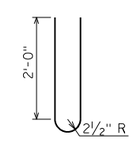
R502



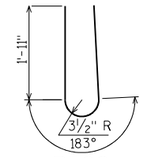
R503



R504

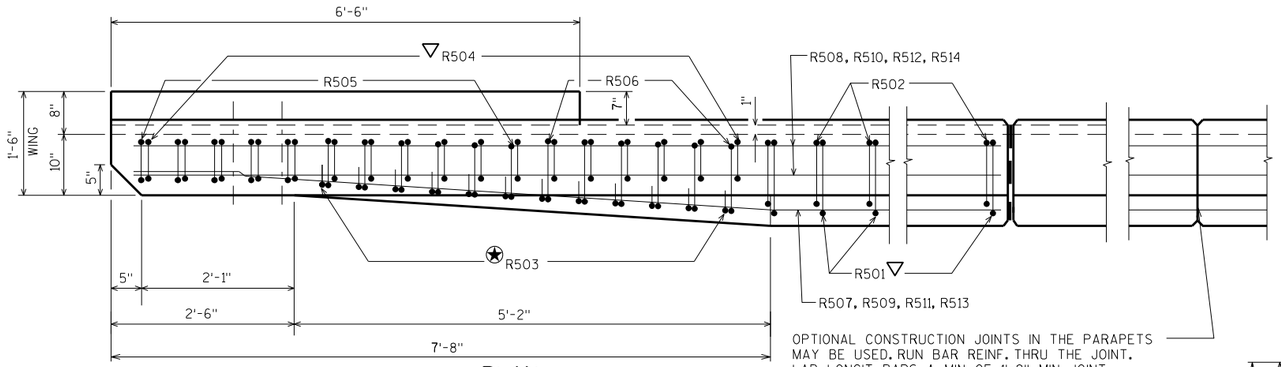


R505



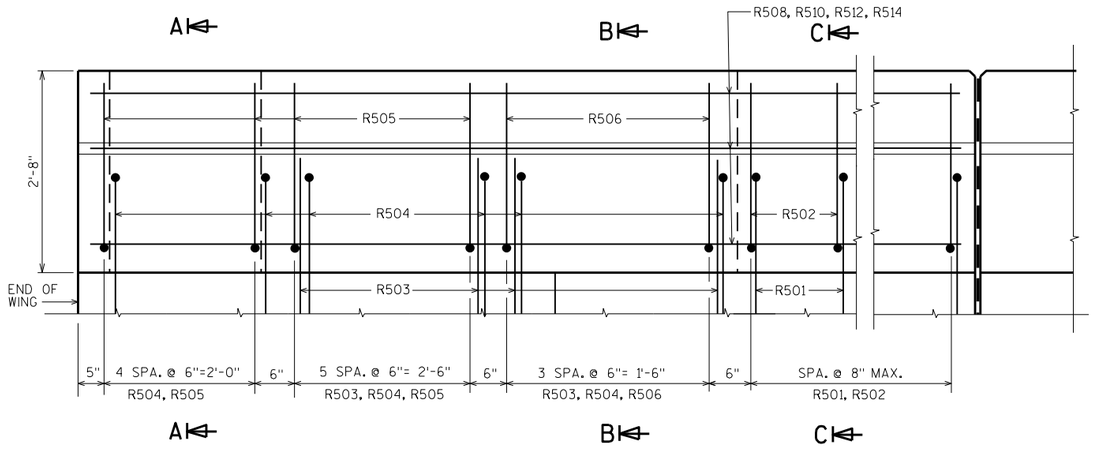
R506

R507, R509, R511, R513

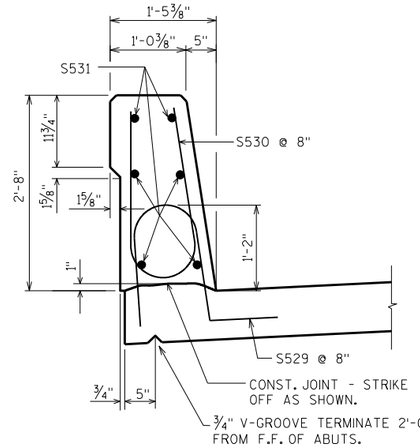


PLAN

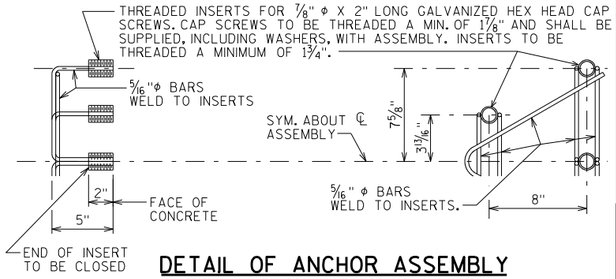
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

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

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

★R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-11-83

DRAWN BY JLR | PLANS CK'D. ARC

SINGLE SLOPE PARAPET 32SS (MODIFIED)

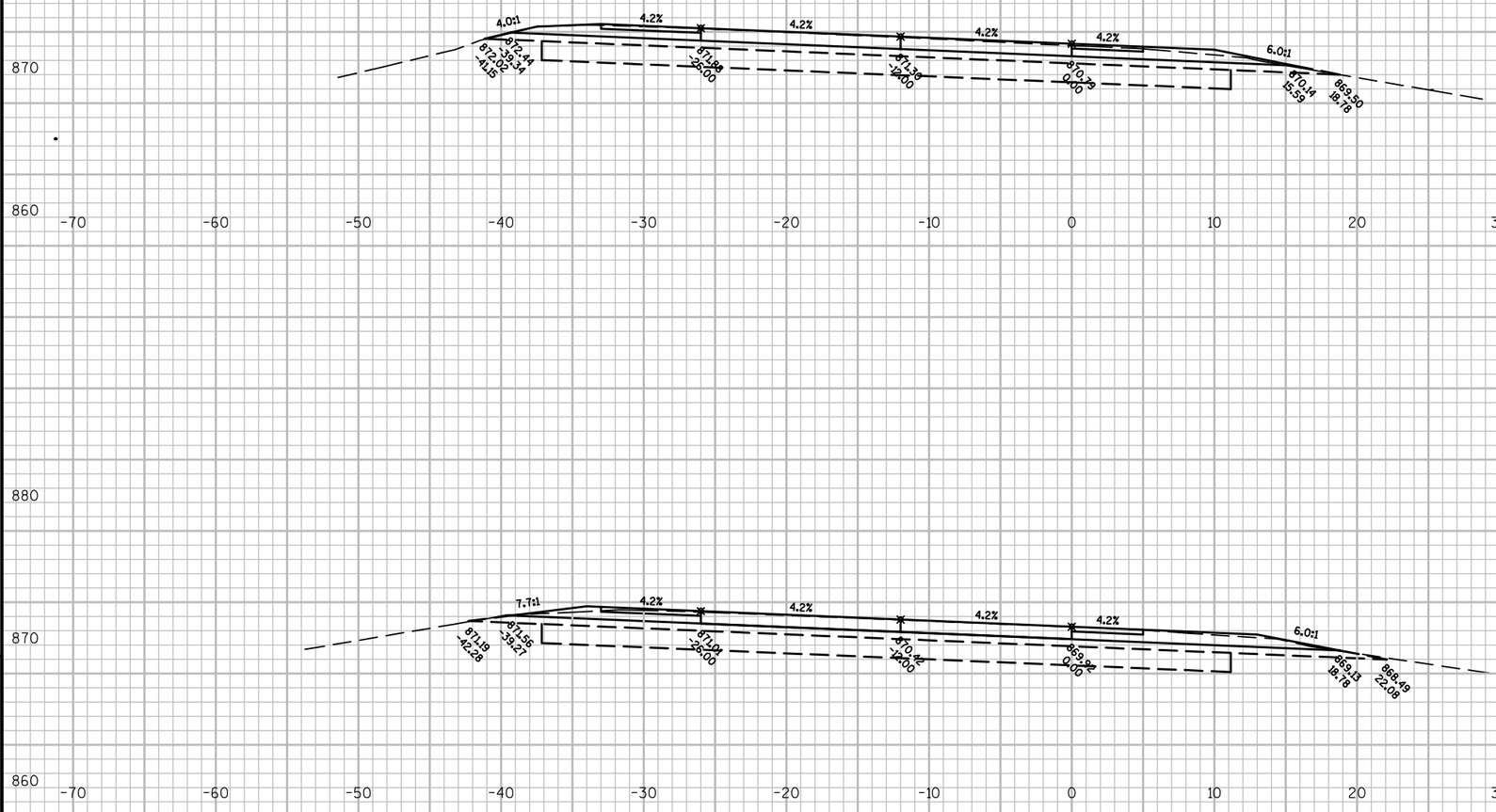
SHEET 9

79

SCALE = 1

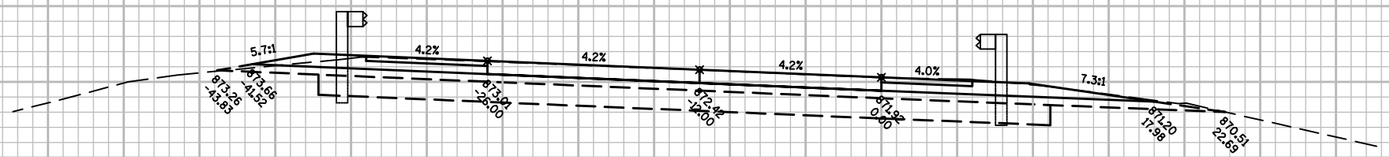
8

8



9	PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	CROSS SECTIONS: ----	SHEET 80 E	9

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\090201_XS.DWG PLOT DATE : 4/14/2014 11:33 AM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:10 FT



880

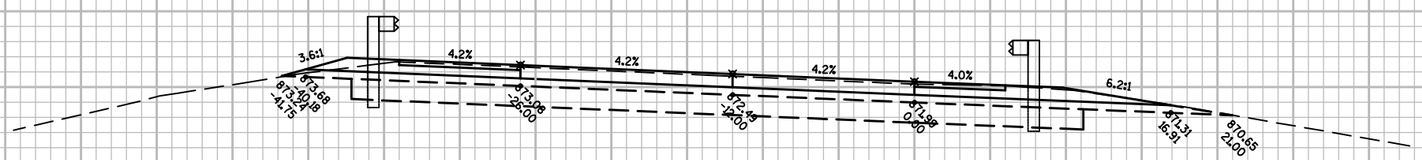
870

880

POST 9

1414+10

870



860 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 860

880

870

880

1413+00

870

10 FT

10 FT

860 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 860

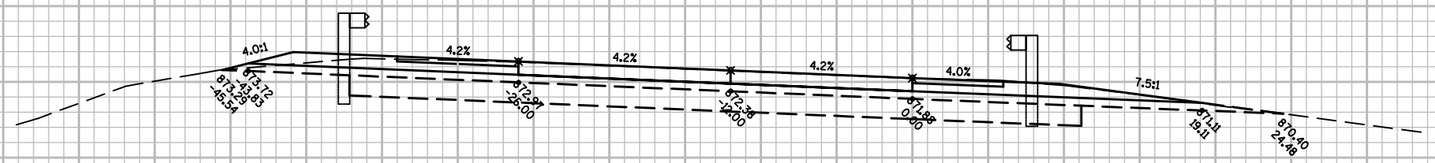
9

9

PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	CROSS SECTIONS: ----	SHEET	E

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\090201_XS.DWG PLOT DATE : 4/14/2014 11:33 AM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:10 FT

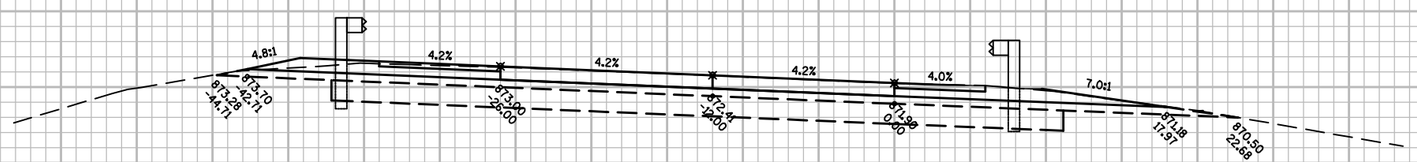
WISDOT/CADDS SHEET 49



880 880

870 870

POST 1
1414+57



860 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 860

880 880

870 870

POST 5
1414+34

10 FT
10 FT

860 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 860

9 9

PROJECT NO: 1111-05-62	HWY: USH-151	COUNTY: COLUMBIA	CROSS SECTIONS: ----	SHEET	E

FILE NAME : N:\PDS\C3D\11110532\SHEETSPLAN\090201_XS.DWG PLOT DATE : 4/14/2014 11:33 AM PLOT BY : KOENIG, DELLA M PLOT NAME : PLOT SCALE : 1 IN:10 FT

Notes

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