LAX

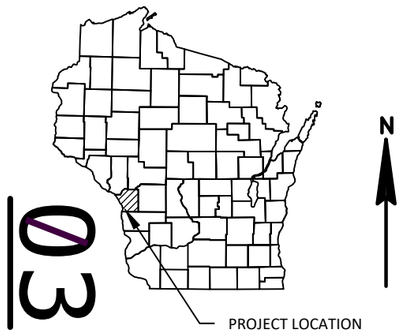
APRIL 2021

PROJECT ID: 1640-03-61

COUNTY: LA CROSSE

ORDER OF SHEETS

TOTAL SHEETS = 68



DESIGN DESIGNATION

A.A.D.T.	(2023)	=	10,000
A.A.D.T.	(2043)	=	10,500
D.H.V.		=	9.3%
D.D.		=	60/40
T.		=	11.1%
DESIGN SPEED		=	60 MPH
ESALS		=	1,700,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

LA CROSSE - WESTBY

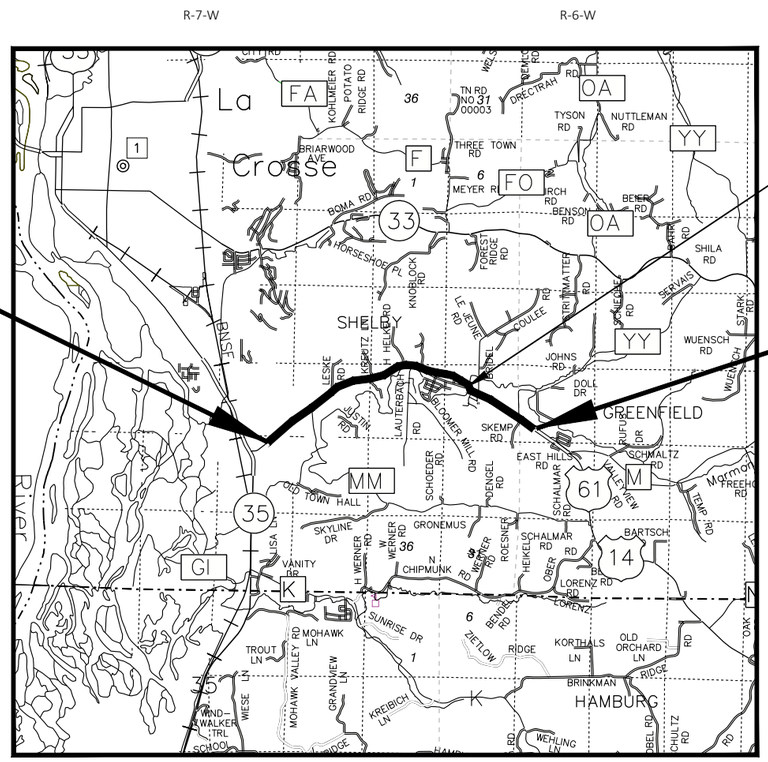
BRICKYARD LANE TO CTH M

USH 14

LA CROSSE COUNTY

STATE PROJECT NUMBER
1640-03-61

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1640-03-61	WISC 2020528	1



NET EXCEPTION TO CL LENGTH
STRUCTURE B-32-144
STA 310+58 - STA 312+23

LAYOUT SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 3.808 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, LA CROSSE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012).

ORIGINAL PLANS PREPARED BY

SEH

WISCONSIN
JEREMY J TOMESH
E-398986
LA CROSSE WI
PROFESSIONAL ENGINEER

7/23/20 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Project Manager	TIM MAEDKE
Regional Examiner	SW REGION
Regional Supervisor	REINY YAHNKE

APPROVED FOR THE DEPARTMENT

DATE: 7/28/20

E

GENERAL NOTES

REFERENCE LINES SHOWN ON THE PLANS ARE APPROXIMATE IN RELATION TO EXISTING CENTERLINE. CONTRACTOR SHALL VERIFY THAT PLAN OFFSETS ARE ACCURATE IN RELATION TO THE EXISTING CENTERLINE.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM.

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

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

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED/TOPSOILED, FERTILIZED, SEEDED AND MULCHED.

ALL PRIVATE DRIVEWAYS, FIELD ENTRANCES, AND SHALL BE RESTORED IN-KIND. LIMITS TO BE DETERMINED BY ENGINEER

WHEN PORTION OF EXISTING ASPHALTIC SURFACES ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION, THE LINE OF SUCH REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUT JOINT THOUGH THE ASPHALTIC SURFACE SO THAT REMOVAL OF THE ASPHALT SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTION, THE LOCATION OF SAW JOINT AND THE AMOUNT REMOVED AT SIDE ROADS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER

BEARINGS SHOWN ON THE PLAN ARE REFERENCED TO THE EXISTING ROADWAY CENTERLINE AND ARE ASSUMED.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

SHOULDER TAPER LOCATIONS SHALL MATCH EXISTING.

TACK COAT CALCULATIONS ARE BASED ON THE FOLLOWING APPLICATION RATES:
- BETWEEN THE MILLED PAVEMENT AND NEW HMA PAVEMENT AT 0.07 GAL/SY
- BETWEEN THE LOWER LAYER AND UPPER LAYER OF NEW HMA PAVEMENT AT 0.05 GAL/SY

HMA PAVEMENT SHALL BE PLACED IN LIFTS AS FOLLOWS:
- 2": SINGLE LAYER (4 MT 58-28 S)
- 3.5": 1.75" LOWER LAYER (4 MT 58-28 S), 1.75" UPPER LAYER (4 MT 58-28 S)

A CONVERSION FACTOR OF 2.1 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.

A CONVERSION FACTOR OF 112 LBS/IN/SY IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.

UTILIZE THE BUTT JOINT CONSTRUCTION DETAIL WHEN MATCHING THE SURFACE BETWEEN THE 2" MILL AND OVERLAY SECTION AND THE 3" MILL AND OVERLAY SECTION.

CONTRACTOR TO PROTECT DH5434 SHELBY GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET FROM DH5434 SHELBY GPS. ENSURE THAT DH5434 SHELBY GPS IS/ARE NOT DISTURBED, BUMPED OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DH5434 SHELBY GPS IS/ARE DISTURBED, BUMPED OR MOVED DURING CONSTRUCTION OPERATIONS. JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV.

STANDARD ABBREVIATIONS:

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
CE	COMMERCIAL ENTRANCE
CL OR C/L OR `	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
CONC	CONCRETE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPCS	CULVERT PIPE CORRUGATED STEEL
CR	CREEK
CY	CUBIC YARD
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
X	EAST GRID COORDINATE
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
EOR	END POINT OF RADIUS
EL	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FC	FACE OF CURB
FF	FACE TO FACE
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FO	FIBER OPTIC
CWT	HUNDREDWEIGHT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MH	MANHOLE
MOR	MID POINT OF RADIUS
MCE	MARKERS CULVERT END
NC	NORMAL CROWN
NO	NUMBER
OBLIT	OBLITERATE
PAVT	PAVEMENT
PE	PRIVATE ENTRANCE
PVRC	POINT OF VERTICAL REVERSE CURVE
QOR	QUARTER POINT OF RADIUS
R	RADIUS
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
R	RIVER
RDWY	ROADWAY
R/L OR ~	REFERENCE LINE
SALV	SALVAGED
SAN	SANITARY SEWER
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SE	SUPERELEVATION RATE
TC	TOP OF CURB
T OR TN	TOWN
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
Y	NORTH GRID COORDINATE
YD	YARD

DESIGN CONTACTS

SEH
ATTENTION : JEREMY TOMESH
329 JAY ST SUITE 301
LA CROSSE, WI 54601
PHONE: (608) 498-4947
EMAIL: JTOMESH@SEHINC.COM

WISDOT SW REGION
ATTENTION : TIM MAEDKE
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
PHONE: (608) 789-6317
EMAIL: TIMOTHY.MAEDKE@DOT.WI.GOV

WDNR LIASON

DNR SERVICE CENTER
ATTENTION : KAREN KALVELAGE
3550 MORMON COULEE ROAD
LACROSSE, WI 54601
PHONE: (608) 785-9115
EMAIL:KAREN.KALVALAGE@WISCONSIN.GOV

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

UTILITY CONTACTS

CENTURYLINK - COMMUNICATION LINE
ATTENTION : MONTY PARKER
20 S WILSON AVE
RICE LAKE, WI 54868
PHONE: (715) 234-5528
EMAIL: MONTY.PARKER@CENTURYLINK.COM

LA CROSSE WATER UTILITY - WATER
ATTENTION: RANDY TURTENWALD
400 LA CROSSE ST
LA CROSSE, WI 54601
PHONE (608)789-7505
TURTENWALDR@CITYOFLACROSSE.ORG

CITY OF LA CROSSE - SEWER
ATTENTION: RANDY TURTENWALD
400 LA CROSSE ST
LA CROSSE, WI 54601
PHONE (608)789-7505
EMAIL: TURTENWALDR@CITYOFLACROSSE.ORG

DAIRYLAND POWER COOPERATIVE - ELECTRICITY
ATTENTION: ROB MALY
3200 EAST AVE S
P.O. BOX 817
LA CROSSE, WI 54602-0817
PHONE (608)788-4000
ROB.MALY@DAIRYLANDPOWER.COM

WINDSTREAM KDL, LLC - COMMUNICATION LINE
ATTENTION: KEVIN PARRIS
1855 WRIGHT ST
MADISON WI 53704
PHONE: (608) 819-5016
EMAIL: KEVIN.J.PARRIS@WINDSTREAM.COM

MIDWEST NATURAL GAS, INC. - GAS/PETROLEUM
ATTENTION: RANDY RISEN
3600 STATE HIGHWAY 157
P.O. BOX 429
LA CROSSE, WI 54602-0429
PHONE (608)781-1011
EMAIL: RANDYR@MIDWESTNATURALGAS.COM

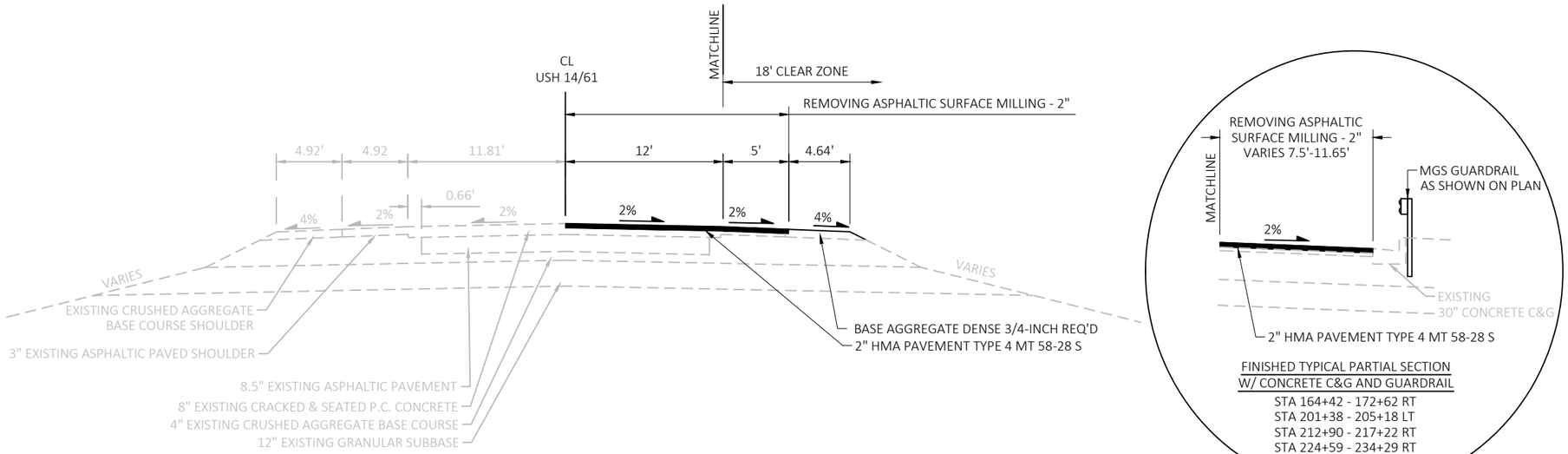
MEDIACOM WISCONSIN LLC - COMMUNICATION LINE
ATTENTION: CRAIG EGGERT
207 W PEARLE ST
P.O. BOX 226
DECORAH, IA 52101-0226
PHONE (563) 419-5160
EMAIL: CEGGERT@MEDIACOMCC.COM

VERNON ELECTRIC COOPERATIVE - ELECTRICITY
ATTENTION: CRAIG BUROS
110 SAUGSTAD RD
WESTBY, WI 54667-1199
PHONE: (608) 634-3121
EMAIL: CBUROS@VERNONELECRTIC.ORG

XCEL ENERGY - GAS/PETROLEUM
ATTENTION: CORISSA SEELY
1414 W HAMILTON AVE
P.O. BOX 8
EAU CLARE, WI 54702-0008
PHONE: (715) 737-4097
EMAIL: CORISSA.E.SEELY@XCELENERGY.COM

NOTES:
HALF SECTIONS SHOWN ARE SYMMETRICAL ABOUT CENTERLINE

SEE PLAN SHEETS FOR GUARDRAIL LOCATIONS

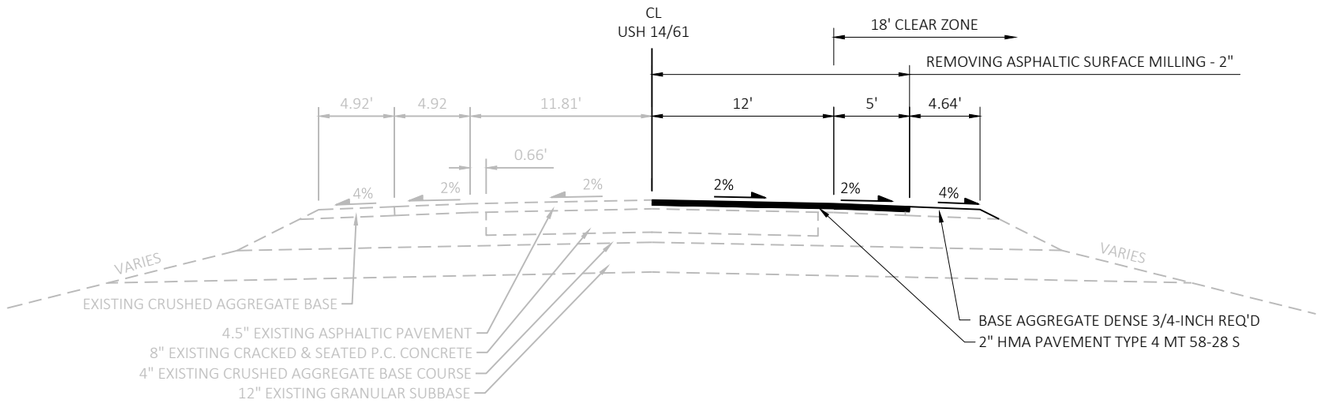


EXISTING & FINISHED TYPICAL HALF SECTION

STA 165+00 - STA 274+67
STA 325+11 - STA 364+30

FINISHED TYPICAL PARTIAL SECTION
W/ CONCRETE C&G AND GUARDRAIL

STA 164+42 - 172+62 RT
STA 201+38 - 205+18 LT
STA 212+90 - 217+22 RT
STA 224+59 - 234+29 RT
STA 257+15 - 267+88 RT



EXISTING & FINISHED TYPICAL HALF SECTION

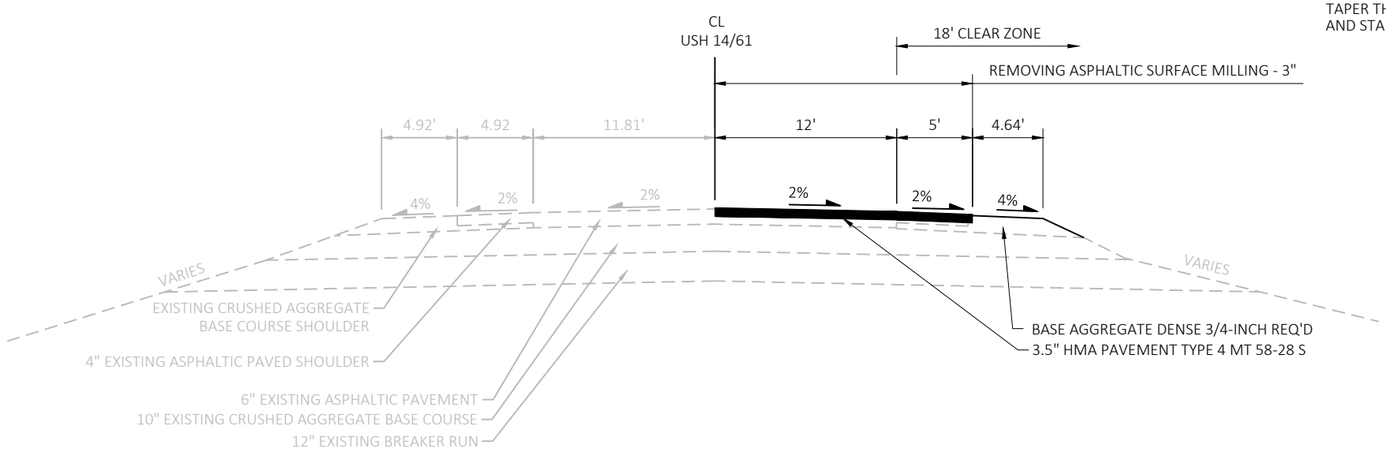
STA 274+67 - STA 275+47

PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 3	E

NOTES:
HALF SECTIONS SHOWN ARE SYMMETRICAL ABOUT CENTERLINE

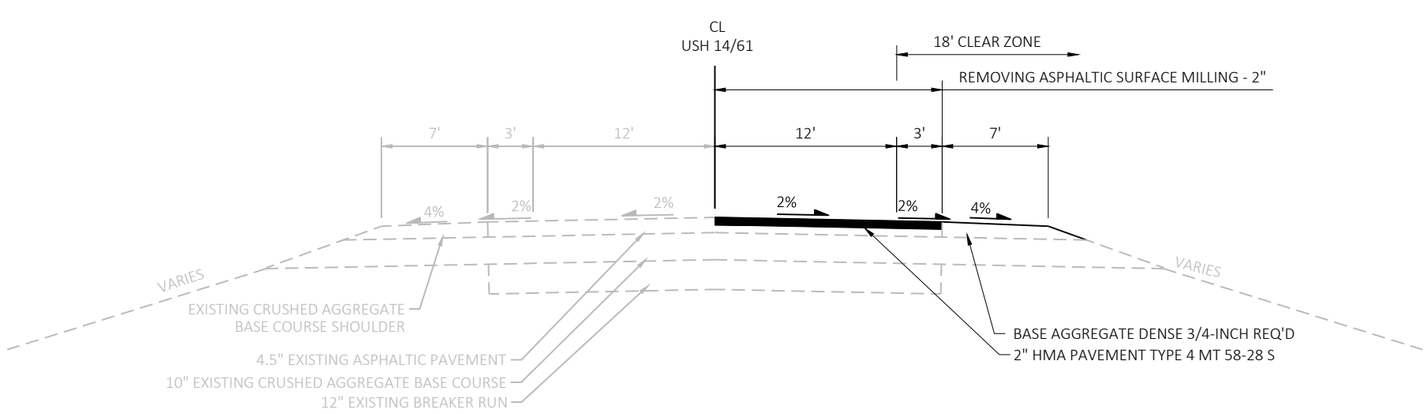
SEE PLAN SHEETS FOR GUARDRAIL LOCATIONS

TAPER THE ½" PROFILE CHANGE FROM STA 274+97 - STA 275+47
AND STA 325+11 - STA 325+61



EXISTING & FINISHED TYPICAL HALF SECTION

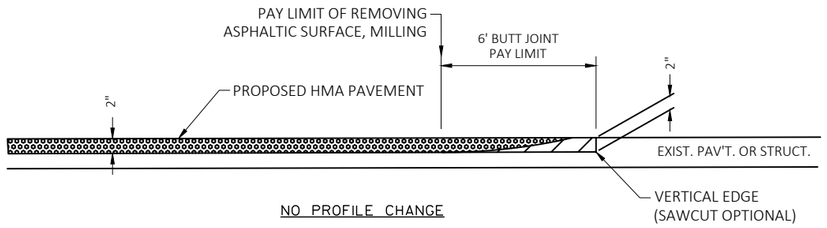
STA 275+47 - STA 310+58
STA 312+23 - STA 325+11



EXISTING & FINISHED TYPICAL HALF SECTION

STA 364+30 - STA 367+75

PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	TYPICAL SECTIONS	SHEET 4	E



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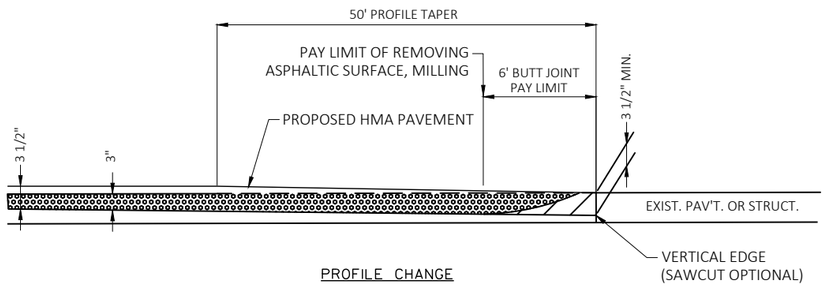
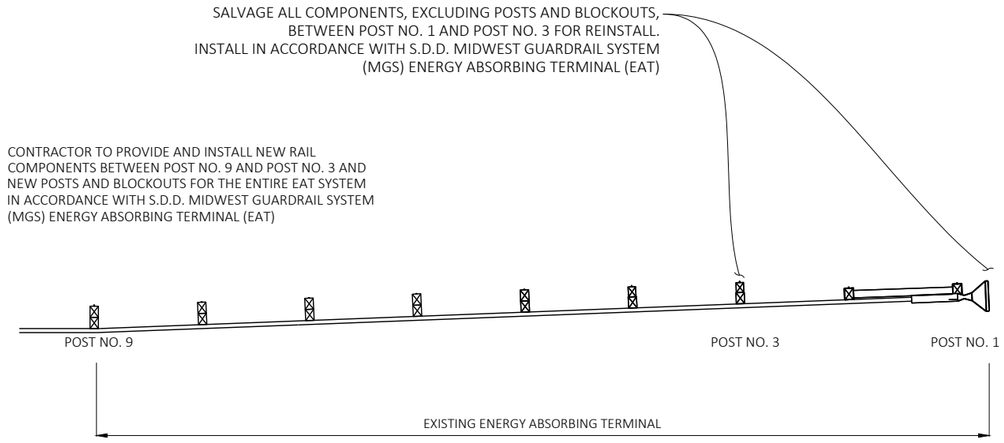


PROFILE CHANGE

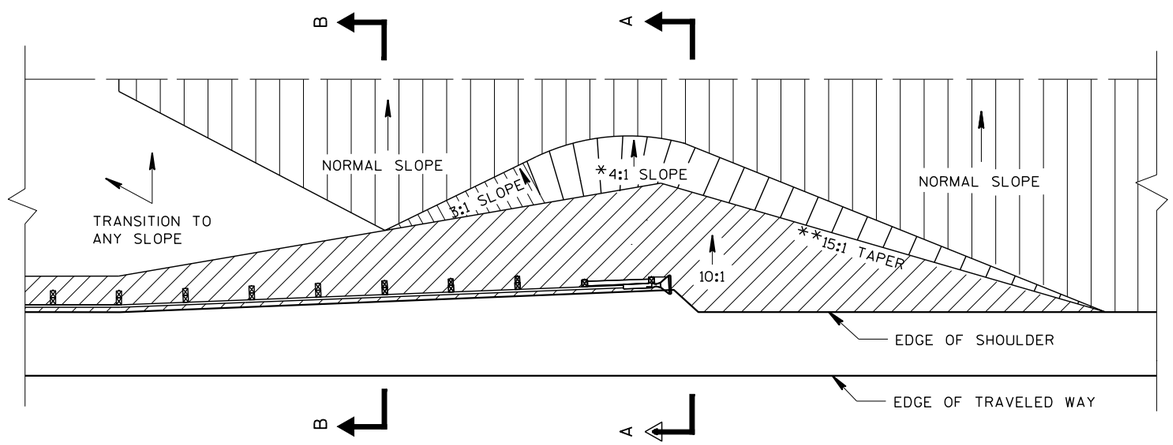
REMOVING ASPHALTIC SURFACE, MILLING

REMOVING ASPHALTIC SURFACE BUTT JOINT

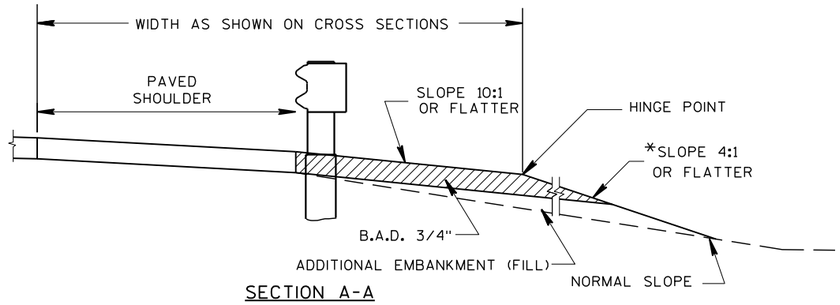
BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS



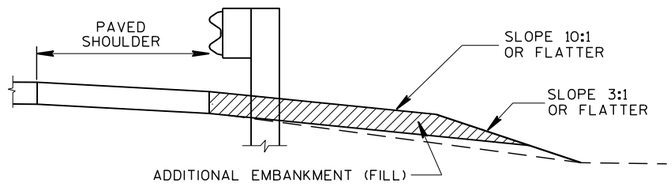
DETAIL FOR SALVAGE AND REINSTALL GUARDRAIL ENERGY ABSORBING TERMINAL



PLAN VIEW



SECTION A-A

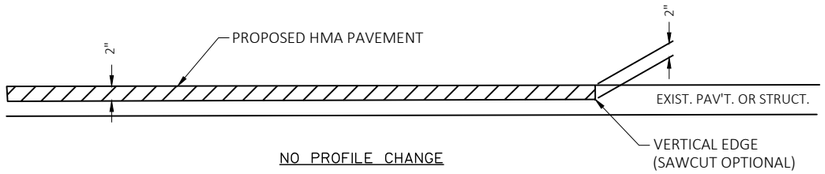


SECTION B-B

FILL AREA AT BEAMGUARD

*4:1 TYPICAL. SEE CROSS SECTIONS FOR SLOPE AT EACH E.A.T. LOCATION.

**TAPER MAY BE REDUCED TO 10:1 AS APPROVED BY THE ENGINEER.



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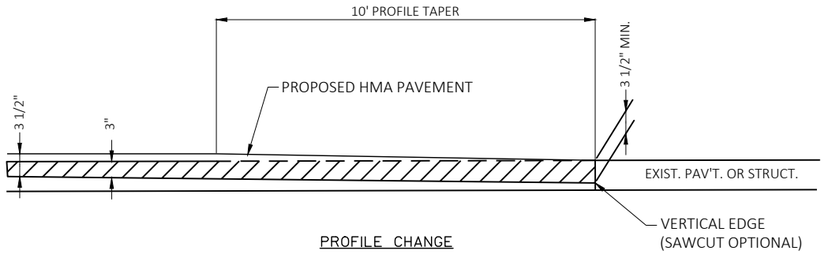
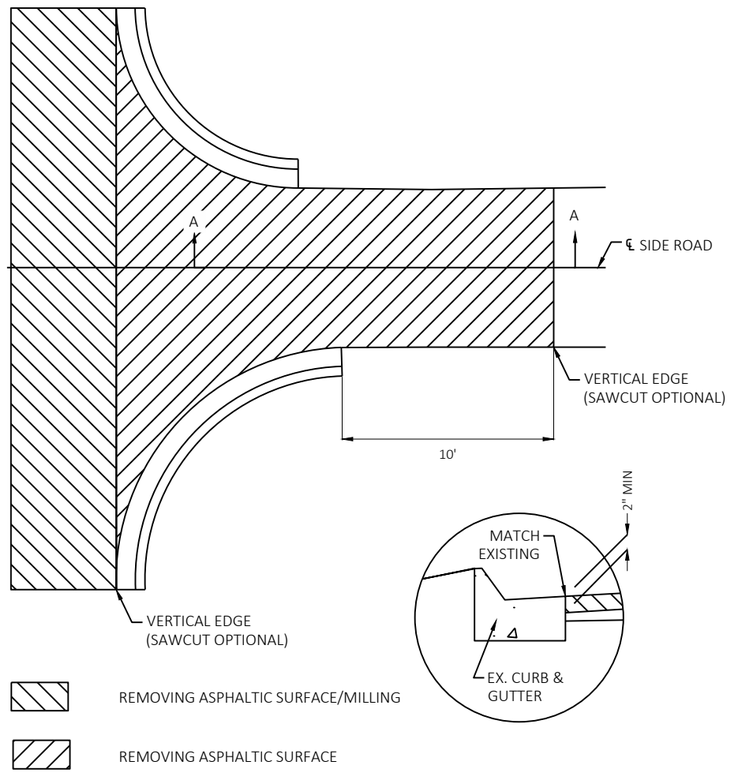


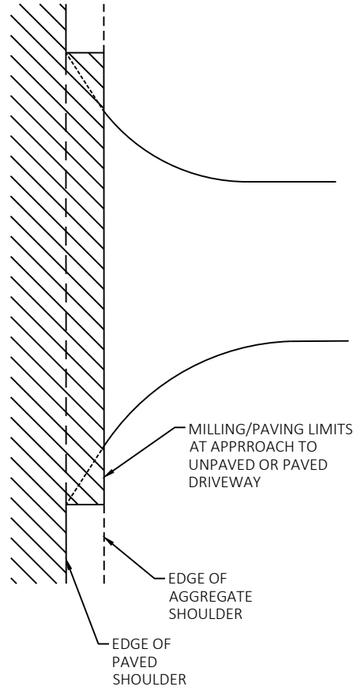
PROFILE CHANGE

SECTION A-A



RURAL ASPHALTIC SURFACE SIDE ROAD DETAIL

*LIMITS OF BASE AGGREGATE DENSE 3/4-INCH AT AGGREGATE DRIVEWAYS AND FIELD ENTRANCES



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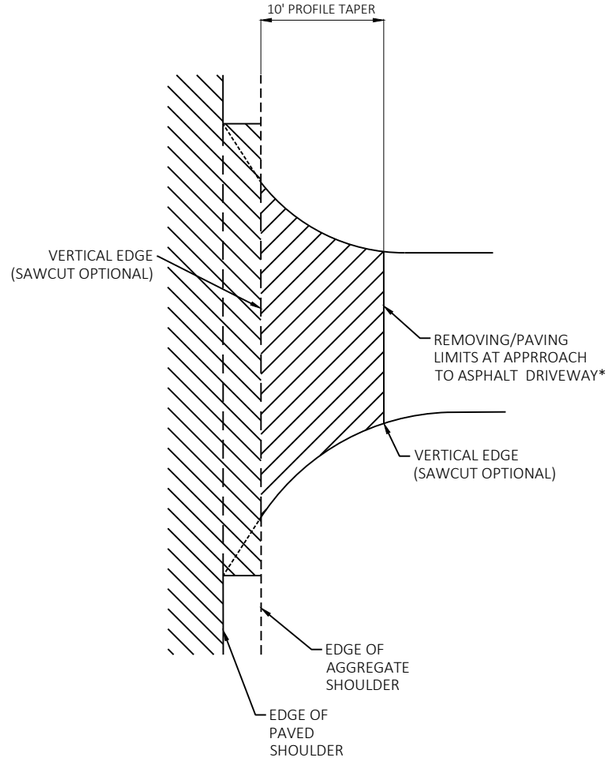
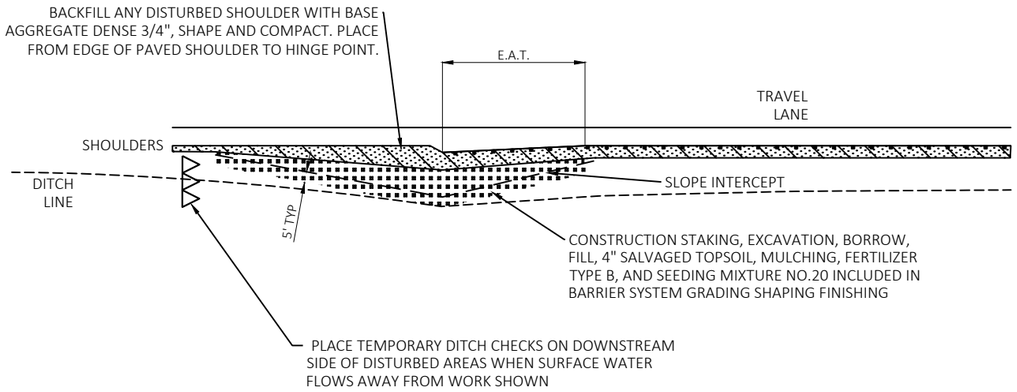


PROFILE CHANGE

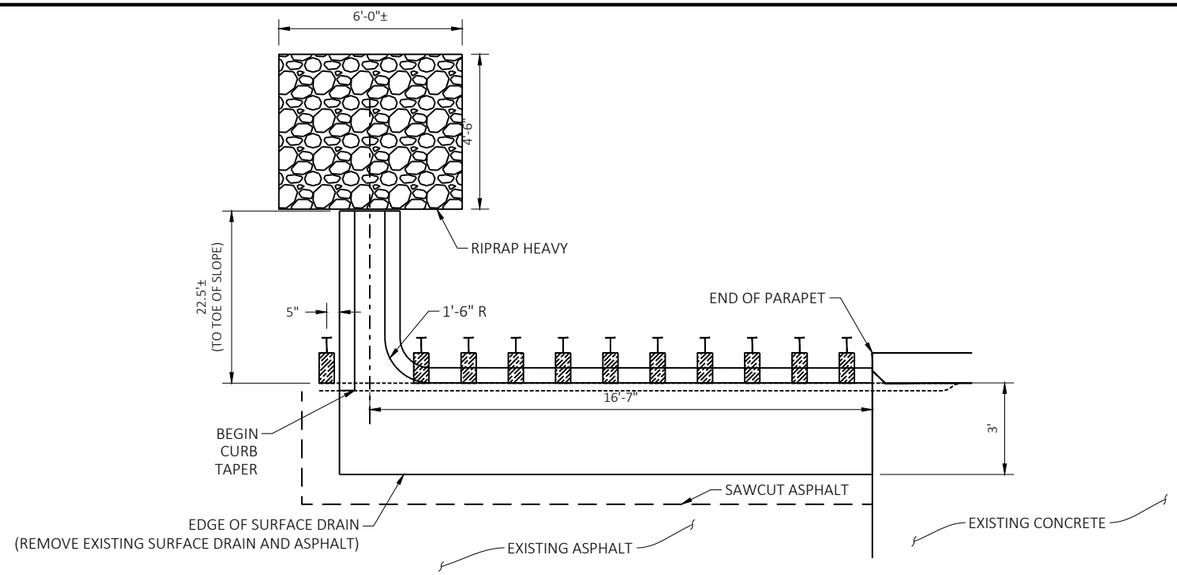
REMOVING ASPHALTIC SURFACE/MILLING (AND HMA PAVEMENT AS SPECIFIED)

REMOVING ASPHALTIC SURFACE (AND ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES) MATCH ADJACENT PAVEMENT THICKNESS ALONG JOINTS

PRIVATE ENTRANCE DETAIL

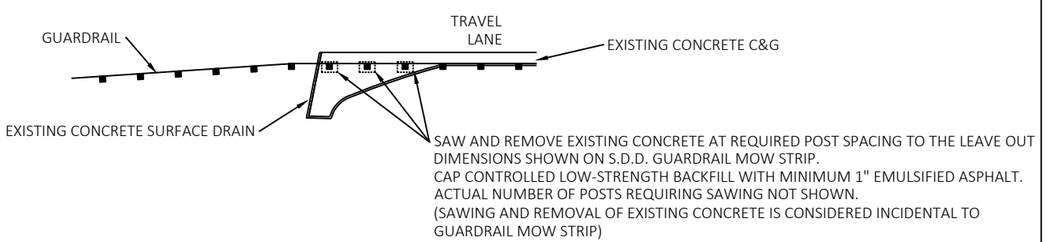


TYPICAL DETAIL FOR BARRIER SYSTEM GRADING SHAPING FINISHING

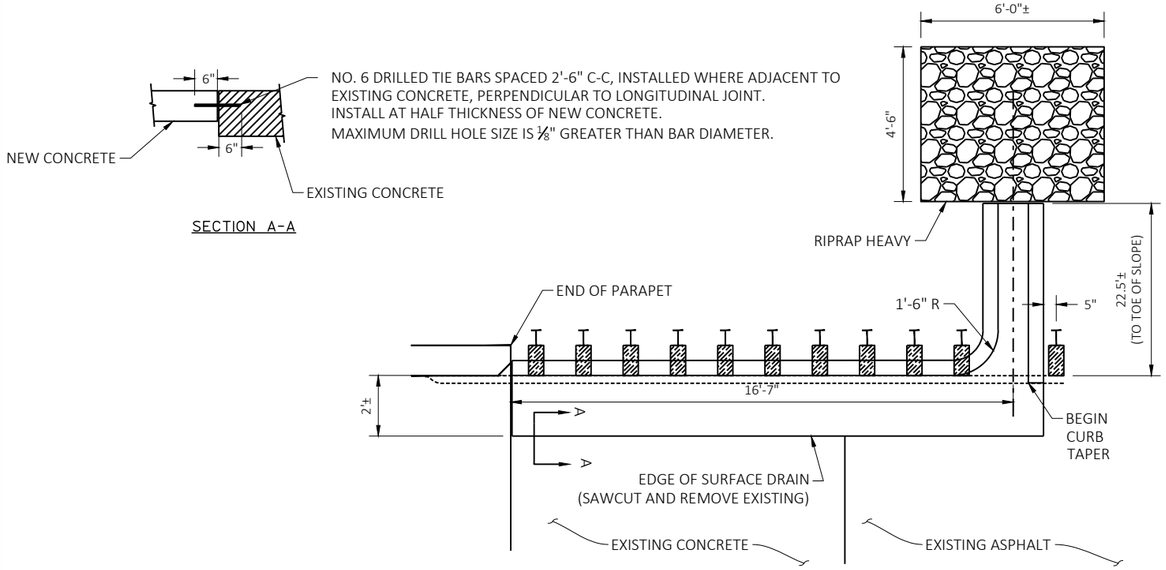


CONCRETE SURFACE DRAIN - STA 310+17 LT

SEE SDD 8D2, CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES FOR FURTHER DETAIL

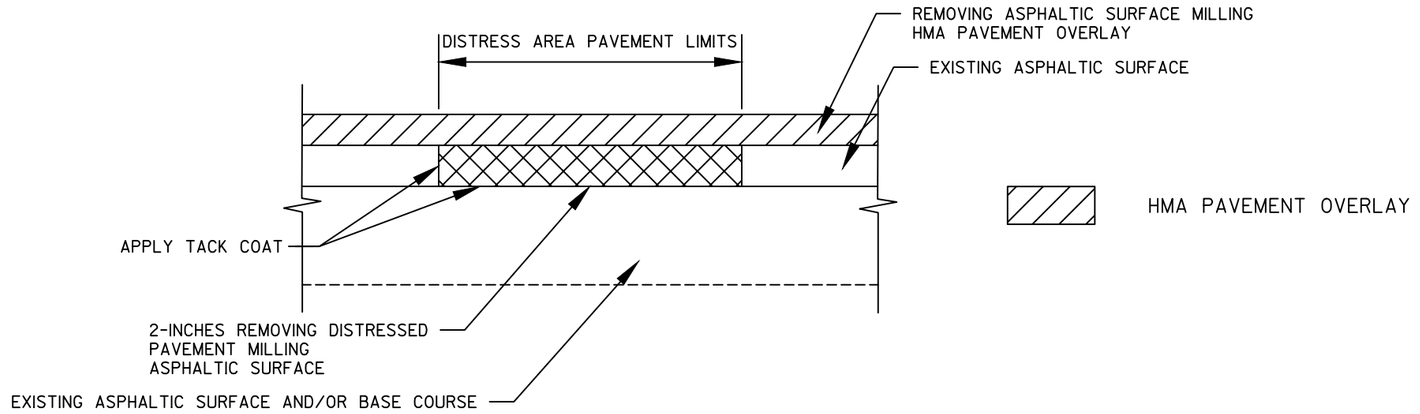


DETAIL FOR GUARDRAIL MOW STRIP

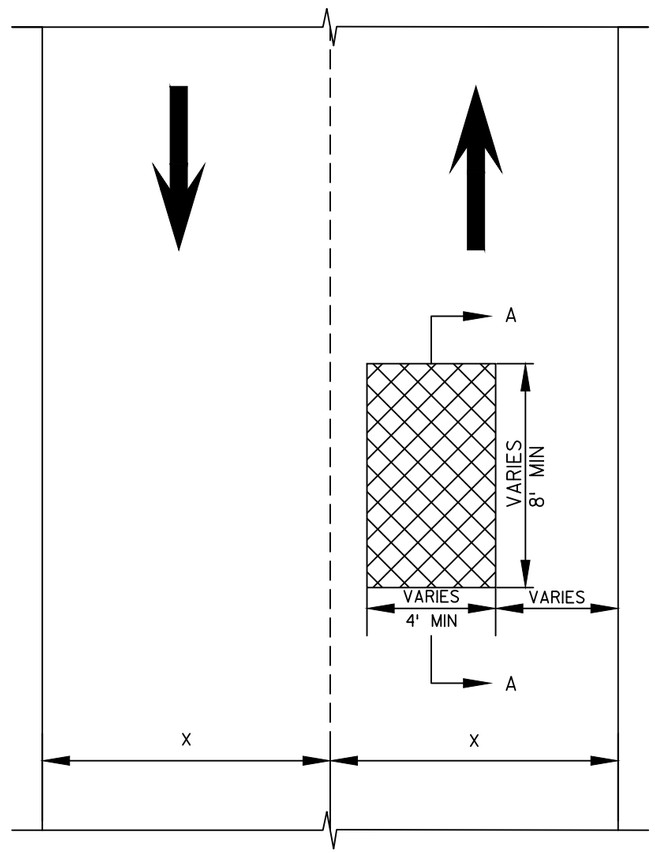


CONCRETE SURFACE DRAIN - STA 312+47 LT

SEE SDD 8D2, CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES FOR FURTHER DETAIL



REMOVING DISTRESS PAVEMENT MILLING
SECTION A-A



PLAN VIEW

EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED PAVEMENT MILLING TO BE DETERMINED BY THE ENGINEER IN THE FIELD

Location	Station	Mixture Use	Underlying Surface	Bid Items	Tons	Thickness	Mixture Acceptance	Density Acceptance
12' Driving Lane	165+00 to 275+47 325+11 to 367+75	Upper Layer	Existing Pavement	4 MT 58-28 S	**4573**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Incentive Density PWL HMA Pavement SPV.0055.01
12' Driving Lane	275+47 to 325+11	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	**1254**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Incentive Density PWL HMA Pavement SPV.0055.01
12' Driving Lane	275+47 to 325+11	Lower Layer	Existing Pavement	4 MT 58-28 S	**1254**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Incentive Density PWL HMA Pavement SPV.0055.01
5' Shoulder	Varies	Upper Layer	Existing Pavement	4 MT 58-28 S	**1418**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
5' Shoulder	275+47 to 325+11	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	**523**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
5' Shoulder	275+47 to 325+11	Lower Layer	Existing Pavement	4 MT 58-28 S	**523**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
3' Shoulder	364+30 to 367+75	Upper Layer	Existing Pavement	4 MT 58-28 S	**26**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Beamguard Shoulder	Varies	Upper Layer	Existing Pavement	4 MT 58-28 S	**523**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Beamguard Shoulder	Varies	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	**42**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Beamguard Shoulder	Varies	Lower Layer	Existing Pavement	4 MT 58-28 S	**42**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Intersections	Varies	Upper Layer	Existing Pavement	4 MT 58-28 S	**653**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Intersections	Varies	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	**196**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Intersections	Varies	Lower Layer	Existing Pavement	4 MT 58-28 S	**196**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Widenings	Varies	Upper Layer	Existing Pavement	4 MT 58-28 S	**446**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Widenings	Varies	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	**153**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Widenings	Varies	Lower Layer	Existing Pavement	4 MT 58-28 S	**153**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Side Entrances & Driveways	Varies	Upper Layer	Existing Pavement	4 MT 58-28 S	**103**	2"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Side Entrances & Driveways	Varies	Upper Layer	4 MT 58-28 S	4 MT 58-28 S	**32**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive
Side Entrances & Driveways	Varies	Lower Layer	Existing Pavement	4 MT 58-28 S	**32**	1 3/4"	Incentive Air Voids HMA Pavement SPV.0055.02	Acceptance testing by the department; Not eligible for incentive

NOTE:
SEE PLAN SHEETS FOR ALIGNMENT CURVE DATA.

SUPERELEVATION TRANSITION EVENT POINTS

Station	Description	Left Lane	Right Lane
195+07.21'	End Normal Crown	-2.00%	-2.00%
195+60.72'	Level Crown	-2.00%	0.00%
196+14.24'	Reverse Crown	-2.00%	2.00%
196+59.72'	Begin Full Super	-3.51%	3.51%
204+64.60'	End Full Super	-3.51%	3.51%
205+10.08'	Reverse Crown	-2.00%	2.00%
205+63.60'	Level Crown	-2.00%	0.00%
206+17.11'	Begin Normal Crown	-2.00%	-2.00%
207+04.99'	End Normal Crown	-2.00%	-2.00%
207+58.32'	Level Crown	0.00%	-2.00%
208+11.66'	Reverse Crown	2.00%	-2.00%
208+94.32'	Begin Full Super	5.10%	-5.10%
222+81.05'	End Full Super	5.10%	-5.10%
223+63.71'	Reverse Crown	2.00%	-2.00%
224+17.05'	Level Crown	0.00%	-2.00%
224+70.38'	Begin Normal Crown	-2.00%	-2.00%
238+15.25'	End Normal Crown	-2.00%	-2.00%
238+68.58'	Level Crown	-2.00%	0.00%
239+21.91'	Reverse Crown	-2.00%	2.00%
239+88.58'	Begin Full Super	-4.38%	4.38%
251+16.71'	End Full Super	-4.38%	4.38%
251+83.38'	Reverse Crown	-2.00%	2.00%
252+36.71'	Level Crown	-2.00%	0.00%
252+90.04'	Begin Normal Crown	-2.00%	-2.00%
254+68.92'	End Normal Crown	-2.00%	-2.00%
255+22.26'	Level Crown	0.00%	-2.00%
255+75.59'	Reverse Crown	2.00%	-2.00%
256+82.26'	Begin Full Super	5.96%	-5.96%
271+54.03'	End Full Super	5.96%	-5.96%
272+60.70'	Reverse Crown	2.00%	-2.00%
273+14.03'	Level Crown	0.00%	-2.00%
273+67.37'	Begin Normal Crown	-2.00%	-2.00%

Station	Description	Left Lane	Right Lane
273+99.28'	End Normal Crown	-2.00%	-2.00%
274+52.76'	Level Crown	-2.00%	0.00%
275+06.23'	Reverse Crown	-2.00%	2.00%
275+75.76'	Begin Full Super	-4.50%	4.50%
287+99.03'	End Full Super	-4.50%	4.50%
288+68.55'	Reverse Crown	-2.00%	2.00%
289+22.03'	Level Crown	-2.00%	0.00%
289+75.51'	Begin Normal Crown	-2.00%	-2.00%
291+20.49'	End Normal Crown	-2.00%	-2.00%
291+73.94'	Level Crown	0.00%	-2.00%
292+27.40'	Reverse Crown	2.00%	-2.00%
293+20.94'	Begin Full Super	5.60%	-5.60%
305+30.24'	End Full Super	5.60%	-5.60%
306+23.78'	Reverse Crown	2.00%	-2.00%
306+77.24'	Level Crown	0.00%	-2.00%
307+30.69'	Begin Normal Crown	-2.00%	-2.00%
308+38.92'	End Normal Crown	-2.00%	-2.00%
308+92.25'	Level Crown	-2.00%	0.00%
309+45.59'	Reverse Crown	-2.00%	2.00%
310+12.25'	Begin Full Super	-4.60%	4.60%
315+19.39'	End Full Super	-4.60%	4.60%
315+86.06'	Reverse Crown	-2.00%	2.00%
316+39.39'	Level Crown	-2.00%	0.00%
316+92.73'	Begin Normal Crown	-2.00%	-2.00%
318+09.30'	End Normal Crown	-2.00%	-2.00%
318+62.87'	Level Crown	0.00%	-2.00%
319+16.44'	Reverse Crown	2.00%	-2.00%
319+37.87'	Begin Full Super	2.50%	-2.50%
322+34.43'	End Full Super	2.50%	-2.50%
322+55.86'	Reverse Crown	2.00%	-2.00%
323+09.43'	Level Crown	0.00%	-2.00%
323+63.00'	Begin Normal Crown	-2.00%	-2.00%

*SUPERELEVATION DATA IS FOR INFORMATION ONLY AND IS ASSUMED TO MATCH EXISTING CONDITIONS. PAVING OPERATIONS SHALL MATCH EXISTING PAVEMENT SLOPES AND SHALL NOT PERFORM CORRECTIONS TO MATCH TABLE.

1640-03-61

Line	Item	Item Description	Unit	Total	Qty
0002	204.0110	Removing Asphaltic Surface	SY	5,072.000	5,072.000
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	177.000	177.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	87,117.000	87,117.000
0008	204.0150	Removing Curb & Gutter	LF	167.000	167.000
0010	204.0165	Removing Guardrail	LF	6,928.000	6,928.000
0012	204.0190	Removing Surface Drains	EACH	2.000	2.000
0014	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1640-03-61	LS	1.000	1.000
0016	213.0100	Finishing Roadway (project) 01. 1640-03-61	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,640.000	2,640.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	60.000	60.000
0022	305.0500	Shaping Shoulders	STA	400.000	400.000
0024	416.0610	Drilled Tie Bars	EACH	7.000	7.000
0026	416.1010	Concrete Surface Drains	CY	2.600	2.600
0028	455.0605	Tack Coat	GAL	7,624.000	7,624.000
0030	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0032	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0034	460.6224	HMA Pavement 4 MT 58-28 S	TON	12,141.000	12,141.000
0036	465.0105	Asphaltic Surface	TON	112.000	112.000
0038	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	32.000	32.000
0040	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	29,404.000	29,404.000
0042	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	14,578.000	14,578.000
0044	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	42.000	42.000
0046	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	125.000	125.000
0048	606.0300	Riprap Heavy	CY	5.000	5.000
0050	614.0010	Barrier System Grading Shaping Finishing	EACH	1.000	1.000
0052	614.0395	Guardrail Mow Strip Concrete	SY	12.000	12.000
0054	614.2300	MGS Guardrail 3	LF	5,237.000	5,237.000
0056	614.2330	MGS Guardrail 3 K	LF	337.000	337.000
0058	614.2500	MGS Thrie Beam Transition	LF	157.000	157.000
0060	614.2610	MGS Guardrail Terminal EAT	EACH	26.000	26.000
0062	614.2620	MGS Guardrail Terminal Type 2	EACH	3.000	3.000
0064	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1640-03-61	EACH	1.000	1.000
0066	619.1000	Mobilization	EACH	1.000	1.000
0068	624.0100	Water	MGAL	40.000	40.000
0070	625.0500	Salvaged Topsoil	SY	158.000	158.000
0072	627.0200	Mulching	SY	158.000	158.000
0074	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0076	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
0078	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0080	629.0210	Fertilizer Type B	CWT	0.400	0.400
0082	630.0120	Seeding Mixture No. 20	LB	7.000	7.000
0084	630.0500	Seed Water	MGAL	46.000	46.000
0086	642.5001	Field Office Type B	EACH	1.000	1.000
0088	643.0300	Traffic Control Drums	DAY	2,145.000	2,145.000
0090	643.0900	Traffic Control Signs	DAY	2,276.000	2,276.000
0092	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0094	643.5000	Traffic Control	EACH	1.000	1.000
0096	645.0120	Geotextile Type HR	SY	22.000	22.000
0098	646.1020	Marking Line Epoxy 4-Inch	LF	37,285.000	37,285.000
0100	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	40,550.000	40,550.000
0102	646.3020	Marking Line Epoxy 8-Inch	LF	1,678.000	1,678.000
0104	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	34,727.000	34,727.000
0106	646.7120	Marking Diagonal Epoxy 12-Inch	LF	55.000	55.000
0108	648.0100	Locating No-Passing Zones	MI	3.840	3.840
0110	649.0105	Temporary Marking Line Paint 4-Inch	LF	2,022.000	2,022.000
0112	650.8000	Construction Staking Resurfacing Reference	LF	18,934.000	18,934.000
0114	650.9910	Construction Staking Supplemental Control (project) 01. 1640-03-61	LS	1.000	1.000
0116	690.0150	Sawing Asphalt	LF	663.000	663.000
0118	740.0440	Incentive IRI Ride	DOL	14,344.000	14,344.000
0120	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0122	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0124	SPV.0055	Special 01. Incentive Density PWL HMA Pavement	DOL	7,090.000	7,090.000
0126	SPV.0055	Special 02. Incentive Air Voids HMA Pavement	DOL	12,150.000	12,150.000
0128	SPV.0055	Special 03. Incentive Density HMA Pavement Longitudinal Joints	DOL	11,310.000	11,310.000
0130	SPV.0060	Special 01. Salvage and Reinstall Guardrail Energy Absorbing Terminal	EACH	1.000	1.000
0132	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	1,000.000	1,000.000

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REMOVING ASPHALTIC SURFACE ITEMS

CATEGORY	STATION	-	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE (SY)	204.0120 REMOVING ASPHALTIC SURFACE MILLING (SY)
0010	165+00	-	275+47	USH 14	-	48836
	275+47	-	310+36	USH 14	-	14853
	286+95			LT, DWY	64	-
	300+88			LT, DWY	79	-
	306+60			LT, DWY	22	-
	312+43	-	325+11	USH 14	-	5644
	325+11	-	367+75	USH 14	-	17784
	5+01'WV'			WATERFORD VALLEY RD	352	-
	10+00'MM'			CTH MM	415	-
	15+00'J'			JUSTIN RD	512	-
	20+00'L'			LESKE RD	330	-
	25+00'C'			CONTINENTAL LN	197	-
	30+00'K'			KREUTZ LN	184	-
	35+01'H'			HELKE RD	265	-
	40+00'BM'			BLOOMER MILL RD	200	-
	45+00'RO'			RED OAK RD	328	-
	50+00'P'			PARK RD	268	-
	60+00'A'			AUTUMN DR	366	-
	70+00'BC'			BREIDEL COULEE RD	411	-
	75+00'P'			PINEVIEW DR	299	-
	80+00'YY'			CTH YY	339	-
	85+00'S'			SKEMP RD	251	-
	90+00'CM'			COULEE MANOR RD	189	-
				PROJECT TOTALS	**5072**	**87117**

REMOVING GUARDRAIL

CATEGORY	STATION	-	STATION	LOCATION	204.0165 (LF)
0010	163+58	-	172+86	RT	928
	167+32	-	168+59	LT	128
	178+41	-	181+68	RT	329
	179+42	-	183+05	LT	365
	200+15	-	205+03	RT	503
	201+26	-	205+30	LT	402
	212+78	-	217+34	RT	452
	213+22	-	217+58	LT	441
	224+64	-	234+29	RT	966
	256+39	-	268+37	RT	1204
	261+75	-	262+81	LT	155
	268+67	-	269+37	RT	92
	308+28	-	310+48	RT	221
	308+63	-	310+34	LT	171
	312+30	-	314+25	LT	194
	312+47	-	313+89	RT	144
	354+45	-	355+49	RT	117
	354+66	-	355+81	LT	116
				PROJECT TOTALS	**6928**

BASE AGGREGATE DENSE

CATEGORY	STATION	-	STATION	LOCATION	305.0110 3/4-INCH (TON)	305.0120 1 1/4-INCH (TON)	305.0500 SHAPING SHOULDERS (STA)	624.0100 WATER (MGAL)
0010	165+00	-	367+75	SHOULDERS	2,094	-	400	40
	165+00	-	367+75	DRIVEWAYS	50	-	-	-
	165+00	-	367+75	GUARDRAIL EATs	254	-	-	-
	222+66	-	224+52	GUARDRAIL EAT-SHLD WIDENING	-	54	-	-
				UNDISTRIBUTED	243	6		
				PROJECT TOTALS	**2,640**	**60**	**400**	**40**

CONCRETE SURFACE DRAINS

CATEGORY	STATION	LOCATION	204.0190 REMOVING SURFACE DRAINS (EACH)	416.1010 CONCRETE SURFACE DRAINS (CY)	416.0610 DRILLED TIE BARS (EACH)	645.0120 GEOTEXTILE FABRIC TYPE HR (SY)	606.0300 RIPRAP HEAVY (CY)
0010	310+17	LT	1	1.5	-	10	2
	312+47	LT	1	1.1	7	10	2
		UNDISTRIBUTED				2	1
		PROJECT TOTALS	**2**	**2.6**	**7**	**22**	**5**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CATEGORY	STATION	LOCATION	204.0115 (SY)
0010	165+00	USH 14	12
	367+75	USH 14	14
	5+72'WV'	WATERFORD VALLEY RD	15
	8+92'MM'	CTH MM	10
	13+85'J'	JUSTIN RD	10
	20+86'L'	LESKE RD	8
	25+68'C'	CONTINENTAL LN	8
	30+68'K'	KREUTZ LN	7
	35+74'H'	HELKE RD	7
	39+32'BM'	BLOOMER MILL RD	10
	45+91'RO'	RED OAK RD	8
	49+30'P'	PARK RD	12
	59+04'A'	AUTUMN DR	11
	71+00'BC'	BREIDEL COULEE RD	10
	74+17'P'	PINEVIEW DR	10
	80+84'YY'	CTH YY	9
	84+12'S'	SKEMP RD	8
	90+59'CM'	COULEE MANOR RD	8
		PROJECT TOTALS	**177**

ASPHALTIC PAVEMENT ITEMS

CATEGORY	STATION	-	STATION	LOCATION	LAYER THICKNESS (IN)	455.0605 TACK COAT (GAL)	460.6224 HMA PAVEMENT 4 MT 58-28 S (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)	465.0105 ASPHALTIC SURFACE (TON)	
0010	165+00	-	275+47	USH 14	2.00	3613	5781	-	-	UPPER
	275+47	-	310+36	USH 14	1.75	1084	1518	-	-	LOWER
					1.75	774	1518	-	-	UPPER
	286+95			LT, DWY	1.75	8	-	6	-	LOWER
					1.75	-	-	6	-	UPPER
	300+88			LT, DWY	1.75	9	-	8	-	LOWER
					1.75	-	-	8	-	UPPER
	306+60			LT, DWY	1.75	3	-	2	-	LOWER
					1.75	-	-	2	-	UPPER
	312+43	-	325+11	USH 14	1.75	445	623	-	-	LOWER
					1.75	318	623	-	-	UPPER
	325+11	-	367+75	USH 14	2.00	1299	2079	-	-	UPPER
				UNDISTRIBUTED	2.00	70	-	-	112	
				PROJECT TOTAL		**7,624**	**12,141**	**32**	**112**	

CONCRETE CURB & GUTTER

CATEGORY	STATION	-	STATION	LOCATION	204.0150 REMOVING CURB & GUTTER (LF)	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D (LF)	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D (LF)
0010	234+21.33	-	234+63.64	USH 14, RT	42	42	-
	70+26.39 'BC'	-	70+90.65 'BC'	BREIDEL COULEE, LT	70	-	70
	80+22'YY'	-	80+74'YY'	CTH YY, LT	55	-	55
				PROJECT TOTALS	**167**	**42**	**125**

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RUMBLE STRIPS

CATEGORY	STATION	-	STATION	LOCATION	465.0425 ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL (LF)	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL (LF)
0010	165+00		174+57	LT SHOULDER	957	-
	165+00		177+05	CENTERLINE	-	1205
	165+00		186+39	RT SHOULDER	2139	-
	181+05		188+47	CENTERLINE	-	742
	182+48		186+41	LT SHOULDER	393	-
	187+03		199+59	LT SHOULDER	1256	-
	192+37		200+56	RT SHOULDER	819	-
	192+47		203+37	CENTERLINE	-	1090
	200+19		207+58	LT SHOULDER	739	-
	207+49		210+30	RT SHOULDER	281	-
	210+72		211+52	LT SHOULDER	80	-
	211+07		235+91	CENTERLINE	-	2484
	212+28		235+95	RT SHOULDER	2367	-
	212+71		236+63	LT SHOULDER	2392	-
	239+87		247+90	RT SHOULDER	803	-
	240+76		244+25	LT SHOULDER	349	-
	241+22		261+00	CENTERLINE	-	1978
	244+93		246+60	LT SHOULDER	167	-
	247+28		256+00	LT SHOULDER	872	-
	248+58		264+55	RT SHOULDER	1597	-
	257+10		260+98	LT SHOULDER	388	-
	265+00		265+93	CENTERLINE	-	93
	268+29		270+38	LT SHOULDER	209	-
	270+99		272+70	LT SHOULDER	171	-
	270+58		272+70	CENTERLINE	-	213
	271+10		282+42	RT SHOULDER	1132	-
	276+70		284+93	CENTERLINE	-	822
	288+93		298+89	CENTERLINE	-	997
	289+30		296+47	RT SHOULDER	717	-
	302+65		310+11	RT SHOULDER	746	-
	302+89		310+11	CENTERLINE	-	722
	312+68		316+84	RT SHOULDER	416	-
	312+68		318+53	CENTERLINE	-	585
	322+86		351+04	CENTERLINE	-	2818
	322+90		330+79	RT SHOULDER	789	-
	331+39		334+20	RT SHOULDER	281	-
	334+84		349+42	RT SHOULDER	1458	-
	355+89		361+11	RT SHOULDER	522	-
	355+45		360+92	CENTERLINE	-	547
	361+83		362+33	RT SHOULDER	50	
	362+94		367+75	RT SHOULDER	481	-
	278+48		286+59	LT SHOULDER	811	-
	287+28		300+48	LT SHOULDER	1320	-
	301+25		306+26	LT SHOULDER	501	-
	306+96		310+11	LT SHOULDER	315	-
	312+68		318+41	LT SHOULDER	573	-
	324+67		351+06	LT SHOULDER	2639	-
	356+34		360+41	LT SHOULDER	407	-
	364+91		367+75	CENTERLINE	-	284
	365+08		367+75	LT SHOULDER	267	-
				PROJECT TOTALS	**29404**	**14578**

FINISHING ITEMS

CATEGORY	STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING NO. 20 (LB)	630.0500 SEED WATER (MGAL)
0010	312+47	LT	10	10	0.1	1	15
	234+21.33 - 234+63.64	RT	37	37	0.1	2	8
	70+26.39 'BC' - 70+90.65 'BC'	LT	62	62	0.1	2	13
	80+22'YY' - 80+74 'YY'	LT	49	49	0.1	2	10
		PROJECT TOTAL	**158**	**158**	**0.4**	**7**	**46**

EROSION CONTROL MOBILIZATION

CATEGORY	LOCATION	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 EMERGENCY MOBILIZATIONS EROSION CONTROL (EACH)
0010	USH 14	1	1
	PROJECT TOTALS	**1**	**1**

3

BARRIER SYSTEM GRADING SHAPING FINISHING

CATEGORY	STATION	-	STATION	LOCATION	614.0010 (EACH)	628.7504 TEMPORARY DITCH CHECKS (LF)	*EXCAVATION COMMON (CY)	*BORROW (CY)	*SALVAGED TOPSOIL (SY)	*MULCHING (SY)	*FERTILIZER TYPE B (CWT)	*SEEDING NO. 20 (LB)	*CONSTRUCTION STAKING SLOPE STAKES (LF)
0010	223+65	-	224+52	GUARDRAIL EAT; RT	1	15	21	3	85	85	0.1	4	87
				PROJECT TOTAL	**1**	**15**	**21**	**3**	**85**	**85**	**0.1**	**4**	**87**

*ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY

GUARDRAIL ITEMS

CATEGORY	STATION	-	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 (LF)	614.2330 MGS GUARDRAIL 3 K (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	614.2620 TERMINAL TYPE 2 (EACH)	614.0395 GUARDRAIL MOW STRIP CONCRETE (SY)	SPV.0060.01 SALVAGE AND REINSTALL GUARDRAIL ENERGY ABSORBING TERMINAL (EACH)
0010	163+57.50	-	172+76.24	RT	812.5	-	-	2	-	-	-
	167+33.00	-	168+64.24	LT	25.0	-	-	2	-	-	-
	178+37.25	-	181+68.50	RT	225.0	-	-	2	-	-	-
	179+41.50	-	183+10.23	LT	262.5	-	-	2	-	-	-
	199+65.92	-	205+05.65	RT	487.5	-	-	1	1	-	-
	201+25.50	-	205+31.74	LT	300.0	-	-	2	-	-	-
	212+71.76	-	217+28.00	RT	350.0	-	-	2	-	-	-
	213+21.00	-	217+64.74	LT	-	337.5	-	2	-	-	-
	224+02.50	-	234+33.74	RT	925.0	-	-	2	-	12	-
	256+40.00	-	268+37.19	RT	1150.0	-	-	1	-	-	-
	261+55.54	-	262+81.80	LT	137.5	-	-	1	1	-	-
	268+67.39	-	269+60.68	RT	62.5	-	-	1	-	-	-
	308+20.48	-	310+47.97	RT	137.5	-	39.4	-	-	-	1
	308+68.80	-	310+33.79	LT	75.0	-	39.4	1	-	-	-
	312+29.91	-	314+19.90	LT	100.0	-	39.4	1	-	-	-
	312+47.31	-	313+87.30	RT	50.0	-	39.4	1	-	-	-
	354+07.62	-	355+49.61	RT	125.0	-	-	1	1	-	-
	354+66.00	-	355+84.74	LT	12.5	-	-	2	-	-	-
				PROJECT TOTAL	**5237.5**	**337.5**	**157.6**	**26**	**3**	**12**	**1**

MARKING LINE ITEMS

STATION - STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH SKIPS WHITE LF	646.1020 MARKING LINE EPOXY 4-INCH CL LENGTH	646.1020 MARKING LINE EPOXY 4-INCH SOLID YELLOW LF	646.1020 MARKING LINE EPOXY 4-INCH SKIPS YELLOW LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH SOLID YELLOW LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH SKIPS YELLOW LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH SOLID WHITE LT	646.3020 MARKING LINE EPOXY 8-INCH SOLID WHITE LF	646.3020 MARKING LINE EPOXY 8-INCH SKIPS WHITE LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH YELLOW LF	REMARKS
165+00 - 310+55	CL	15	14,555	29,110	-	29,110	-	-	-	-	-	
165+00 - 310+55	LT/RT	588		-	-	-	-	29,110	1,160	150	-	
310+55 - 323+75	CL	-	1,320	1,320	660	1,320	330		-	-	-	
310+55 - 323+75	LT/RT	38		-	-		-	2,640	330	38	-	
323+75 - 345+20	CL	1,821	2,145	-	571	-	537	-	-	-	-	
323+75 - 345+20	LT/RT	-		-	-	-	-	4,290	-	-	-	
345+20 - 364+00	CL	-	1,880	1,880	470	1,880	-	-	-	-	-	
345+20 - 364+00	LT/RT	-		-	-	-	-	3,760	-	-	-	
364+00 - 367+75	CL	-	375	750	-	750	-	-	-	-	-	
364+00 - 367+75	LT/RT	63		-	-	-	-	750	-	-	-	
366+12 - 367+75	MEDIAN	-	200	-	-	800	-	-	-	-	55	
SIDE ROADS		-		-	-	-	-	-	-	-	-	
PROJECT TOTALS			**37,285**			**34,727**		**40,550**	**1,678**		**55**	

TEMPORARY MARKING ITEMS

STATION - STATION	LOCATION	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH YELLOW LF	REMARKS
165+00 - 275+47	CL	884	4' SKIPS 50' C-C
275+47 - 325+11	CL	796	4' SKIPS 50' C-C
325+11 - 367+75	CL	342	4' SKIPS 50' C-C
PROJECT TOTALS		**2022**	

SAWING ASPHALT

CATEGORY	STATION	LOCATION	690.0150 (LF)	REMARKS
0010	165+00	USH 14	37	TRANSVERSE
	234+21 - 234+64	USH 14, RT	42	LONGITUDINAL
	310+17	USH 14, LT	25	CONC. SURF DRN
	367+75	USH 14	42	TRANSVERSE
	5+72'WV'	WATERFORD VALLEY RD	46	TRANSVERSE
	8+92'MM'	CTH MM	29	TRANSVERSE
	13+85'J'	JUSTIN RD	31	TRANSVERSE
	20+86'L'	LESKE RD	23	TRANSVERSE
	25+68'C'	CONTINENTAL LN	24	TRANSVERSE
	30+68'K'	KREUTZ LN	22	TRANSVERSE
	35+74'H'	HELKE RD	22	TRANSVERSE
	39+32'BM'	BLOOMER MILL RD	29	TRANSVERSE
	45+91'RO'	RED OAK RD	24	TRANSVERSE
	49+30'P'	PARK RD	36	TRANSVERSE
	59+04'A'	AUTUMN DR	32	TRANSVERSE
	71+00'BC'	BREIDEL COULEE RD	30	TRANSVERSE
	74+17'P'	PINEVIEW DR	29	TRANSVERSE
	80+22 - 80+74'YY'	CTH YY	65	CURB RETURN
	80+84'YY'	CTH YY	28	TRANSVERSE
	84+12'S'	SKEMP RD	24	TRANSVERSE
	90+59'CM'	COULEE MANOR RD	23	TRANSVERSE
	PROJECT TOTALS		**663**	

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	650.8000 RESURFACING REFERENCE LF
0010	STA 165+00 - 367+75	18934
PROJECT TOTALS		**18934**

TEMPORARY TRAFFIC CONTROL

DESCRIPTION	DAYS	EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.5000 TRAFFIC CONTROL EACH	REMARKS
ADVANCE SIGNING	7	2			14		
GUARDRAIL WORK	15	143	2145				
MILLING & PAVING OPS	25	34		850			
PAVING OPS	6	8		48			
PROJECT DURATION	53	26		1378		1	
PROJECT TOTALS			**2145**	**2276**	**14**	**1**	

LOCATING NO-PASSING ZONES

CATEGORY	LOCATION	648.0100 MI
0010	PROJECT	3.84
PROJECT TOTALS		**3.84**

CONSTRUCTION STAKING

CATEGORY	650.9910 SUPPLEMENTAL CONTROL (1640-03-61) (LS)
0010	1
PROJECT TOTALS	**1**

BOUNDARIES OF SENSITIVE AREAS ARE APPROXIMATE.

BENCHMARK DATA				
NO.	DESCRIPTION	STATION	OFFSET (FT)	ELEV. (FT)
BM # 5	BRONZE TABLET ON CONCRETE CULVERT	180+27.91	33.62 RT	714.64
BM #7	CHISELED SQUARE ON NE END OF NW HEADWALL OF CONCRETE CULVERT	156+08.57	10.58 LT	728.95
BM #7 NOT SHOWN ON THIS SHEET				

MGS GUARDRAIL 3 REQ'D
STA 167+86.12 TO 168+08.00, 22' LT
MGS GUARDRAIL TERMINAL EAT REQ'D
STA 167+33.00 TO 167+86.12, POST 1: 24' LT
STA 168+08.00 TO 168+64.24, POST 1: 24' LT

STA 175+59 LT
CONST. ASPH PE

STA 176+69 LT
CONST. ASPH PE

SENSITIVE AREA -
SEE SPECIAL
PROVISIONS

PC: 164+42.34

CENTURYLINK

164 166 168 170 172 174 176

USH 14

MATCH LINE STA 177+75.00

BEGIN CONSTRUCTION
STA 163+57.50

CENTURYLINK

BEGIN PROJECT
STA 165+00.00
Y = 111,289.444
X = 460,750.957
BUTT JOINT REQ'D

MGS GUARDRAIL 3 REQ'D
STA 164+10.62 TO STA 172+23.12, 21.5' RT
MGS GUARDRAIL TERMINAL EAT REQ'D
STA 163+57.50 TO 164+10.62, POST 1: 23.5'RT
STA 172+23.12 TO 172+76.24, POST 1: 23.5'RT

DAIRYLAND\
WINDSTREAM

PI STA = 174+69.76
DELTA = 8°31'52"
D = 0°24'57"
T = 1027.42'
L = 2051.05'
R = 13775.00'
PC STA = 164+42.34
PT STA = 184+93.39

STA 175+99 RT
CONST. AGG PE

SENSITIVE AREA -
SEE SPECIAL
PROVISIONS

5

5

STA 186+73 LT
CONST. ASPH PE

7+00'WV'

6+00'WV'

WATERFORD VALLEY RD

END CONSTRUCTION
5+72 WATERFORD VALLEY RD

MGS GUARDRAIL 3 REQ'D
STA 179+94.61 TO 182+57.11, 24' LT
MGS GUARDRAIL TERMINAL EAT REQ'D
STA 179+41.50 TO 179+94.61, POST 1: 31' LT
STA 182+57.11 TO 183+10.23, POST 1: 26' RT

PT: 184+93.39

VERNON ELEC

INT TYPE B2 MODIFIED W/ BYPASS REQ'D
(150' RT TURN BAY LENGTH)
STA 190+46.98 USH 14 =
STA 10+00.00 CTH MM

CENTURYLINK

MEDIACOM

CITY OF
LA CROSSE

MATCH LINE STA 177+75.00

178 180 182 184 186 188 190 192

USH 14

N56° 01' 36"E

MATCH LINE STA 192+50.00

BM #5

CENTURYLINK

XCEL ENERGY
(GAS)

VERNON ELEC

MEDIACOM

CITY OF
LA CROSSE

CITY OF
LA CROSSE

CENTURYLINK

VERNON ELEC

XCEL ENERGY
(GAS)

9+00'MM'

CTH MM

8+00'MM'

N6° 25' 05"W

BEGIN CONSTRUCTION
8+92 CTH MM

MGS GUARDRAIL 3 REQ'D
STA 178+90.37 TO 181+15.37, 24' RT
MGS GUARDRAIL TERMINAL EAT REQ'D
STA 178+37.25 TO 178+90.37, POST 1: 26' RT
STA 181+15.37 TO 181+68.50, POST 1: 26'RT

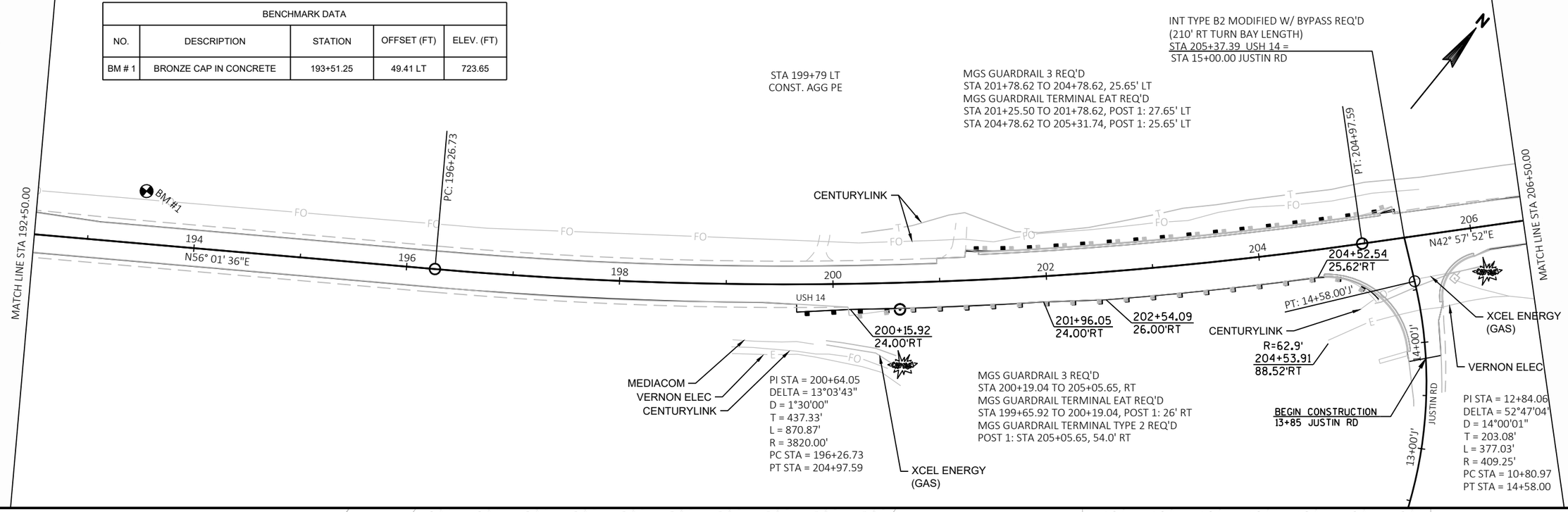
INT TYPE B2 MODIFIED W/ BYPASS REQ'D
(140' RT TURN BAY LENGTH)
STA 179+05.34 USH 14 =
STA 5+00.60 WATERFORD VALLEY RD

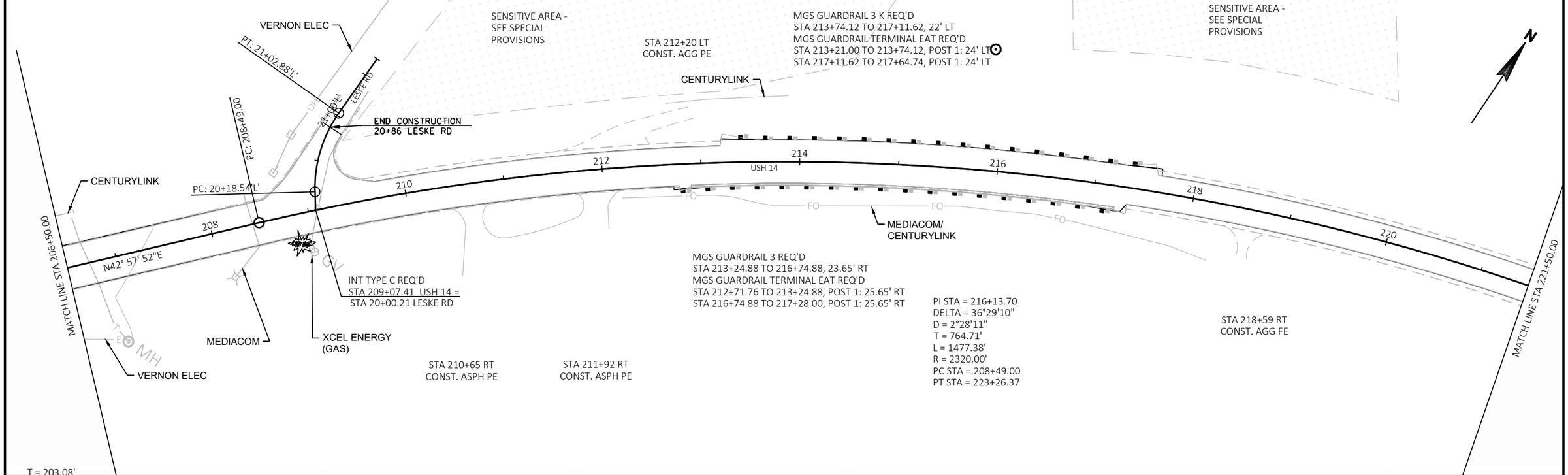
SENSITIVE AREA -
SEE SPECIAL
PROVISIONS

PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 16	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-PN - 01
PLOT DATE : 7/22/2020 3:52 PM
PLOT BY : CLARISSA M. HOETH
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

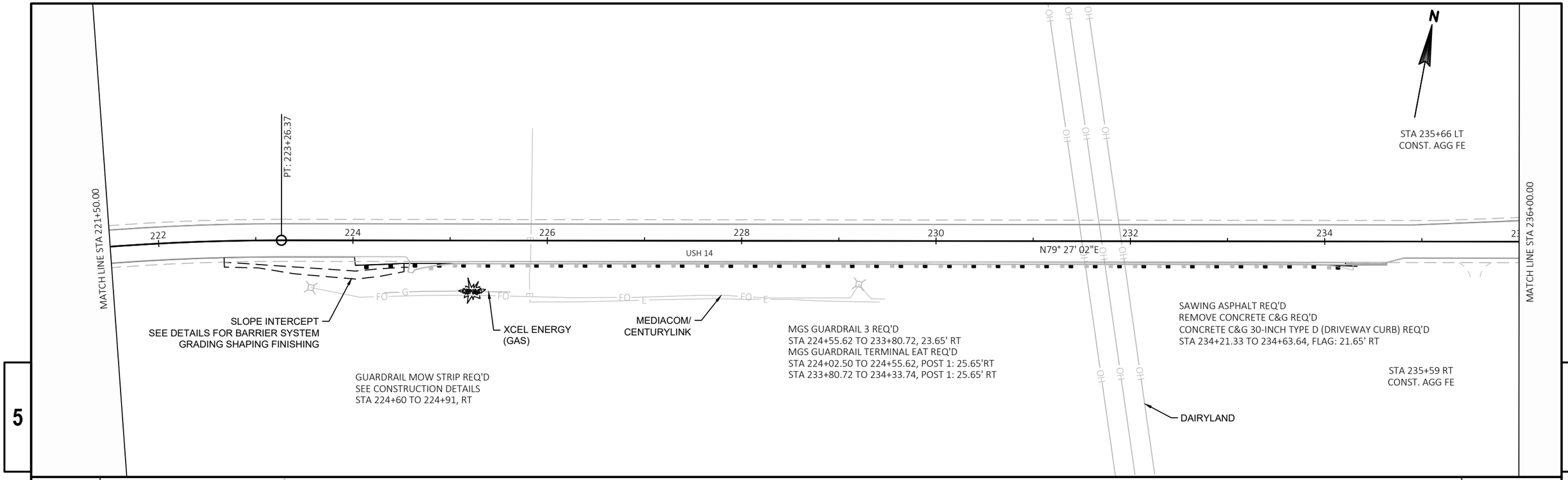
BENCHMARK DATA				
NO.	DESCRIPTION	STATION	OFFSET (FT)	ELEV. (FT)
BM # 1	BRONZE CAP IN CONCRETE	193+51.25	49.41 LT	723.65





PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 17	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-PN - 02
PLOT DATE : 7/22/2020 3:53 PM
PLOT BY : CLARISSA M. HOETH
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

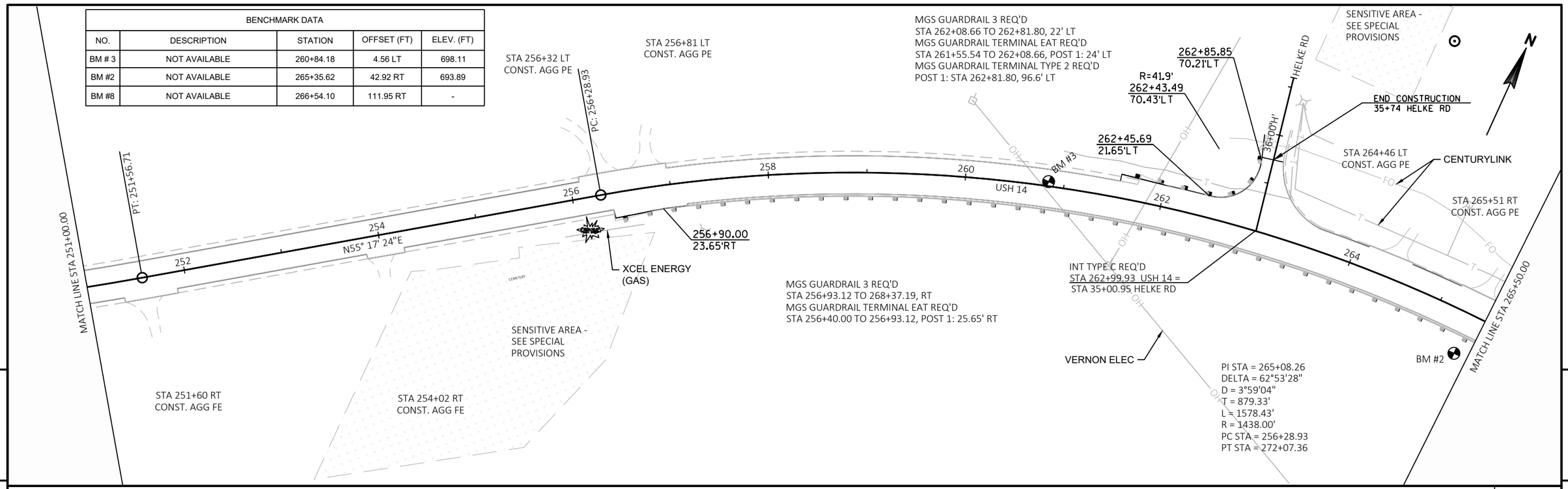


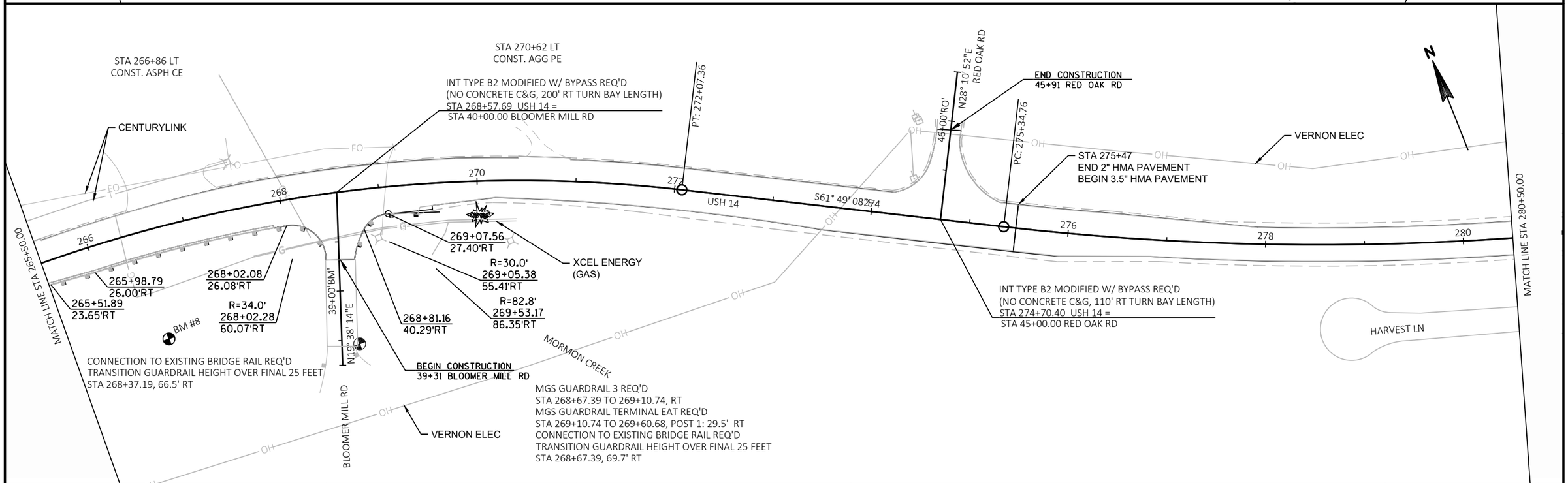
PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 18	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-PN - 03

PLOT DATE : 7/22/2020 3:53 PM PLOT BY : CLARISSA M. HOETH PLOT NAME : PLOT SCALE : 1 IN:100 FT

BENCHMARK DATA				
NO.	DESCRIPTION	STATION	OFFSET (FT)	ELEV. (FT)
BM # 3	NOT AVAILABLE	260+84.18	4.56 LT	698.11
BM #2	NOT AVAILABLE	265+35.62	42.92 RT	693.89
BM #8	NOT AVAILABLE	266+54.10	111.95 RT	-





PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 19	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-PN - 04
PLOT DATE : 7/22/2020 3:53 PM PLOT BY : CLARISSA M. HOETH PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

STA 286+95 LT
CONST. ASPH PE

PI STA = 281+99.57
DELTA = 26°48'53"
D = 2°03'16"
T = 664.81'
L = 1305.27'
R = 2789.00'
PC STA = 275+34.76
PT STA = 288+40.03

MATCH LINE STA 280+50.00

INT TYPE B2 /W BYPASS REQ'D
(200' RT TURN BAY LENGTH)
STA 286+92.50 USH 14 =
STA 50+00.00 PARK RD

PT: 288+40.03

VERNON ELEC

PC: 292+71.95

N

282 284 286 288 290 292 294

S88° 38' 01"E

USH 14

N4° 23' 07"E

49+00'P'

PARK RD

HARVEST LN

BEGIN CONSTRUCTION
49+30 PARK RD

SENSITIVE AREA -
SEE SPECIAL
PROVISIONS

MATCH LINE STA 295+50.00

5

5

SENSITIVE AREA -
SEE SPECIAL
PROVISIONS

MGS GUARDRAIL 3 REQ'D
STA 309+21.92 TO 309+96.92, 21.65' LT
MGS GUARDRAIL TERMINAL EAT REQ'D
STA 308+68.80 TO 309+21.92, POST 1: 23.65' LT
MGS THRIE BEAM TRANSITION REQ'D
STA 309+96.92 TO 310+33.79, 21.65' LT

PI STA = 299+51.17
DELTA = 38°22'19"
D = 2°56'07"
T = 679.22'
L = 1307.29'
R = 1952.00'
PC STA = 292+71.95
PT STA = 305+79.23

STA 300+88 LT
CONST. ASPH PE

VERNON ELEC

PT: 305+79.23

STA 306+60 LT
CONST. ASPH PE

STA 310+17 LT
REMOVE CONCRETE SURFACE DRAIN
CONCRETE SURFACE DRAIN REQ'D
RIPRAP HEAVY REQ'D

PC: 309+72.26

MATCH LINE STA 295+50.00

296 298 300 302 304 306 308 310

USH 14

S50° 15' 42"E

INT TYPE B2 MODIFIED W/ BYPASS REQ'D
(150' RT TURN BAY LENGTH)
STA 300+89.08 USH 14 =
STA 60+00.00 AUTUMN DR

59+00

N25° 17' 28"E

AUTUMN DR

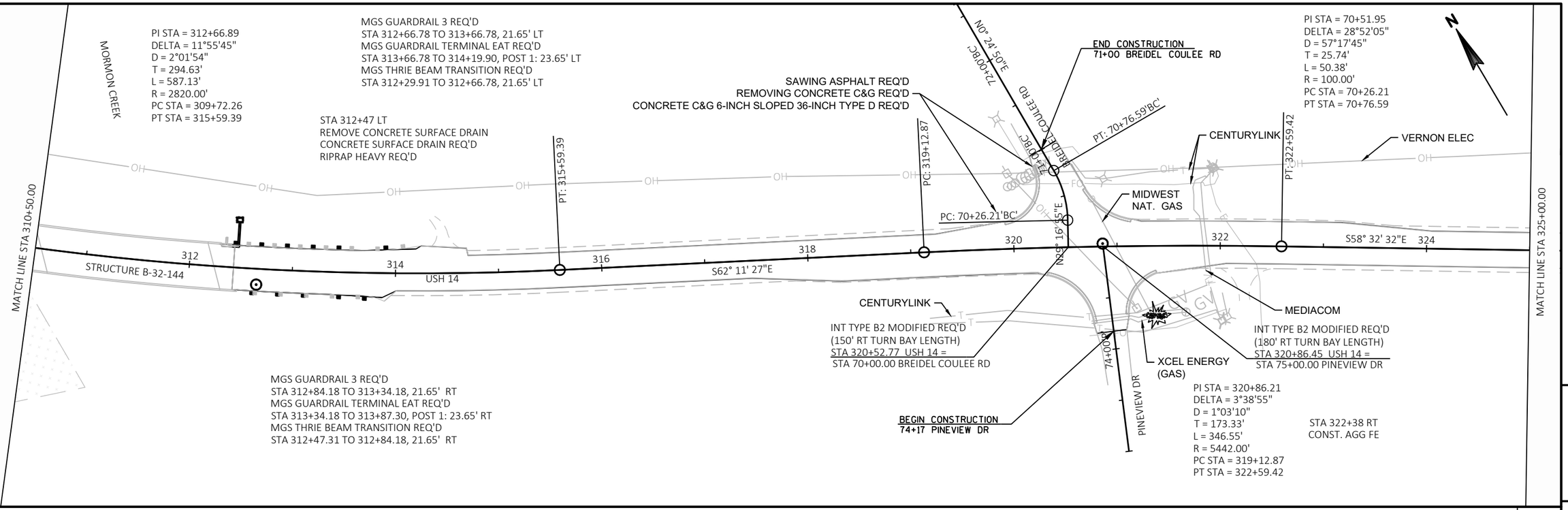
BEGIN CONSTRUCTION
59+04 AUTUMN DR

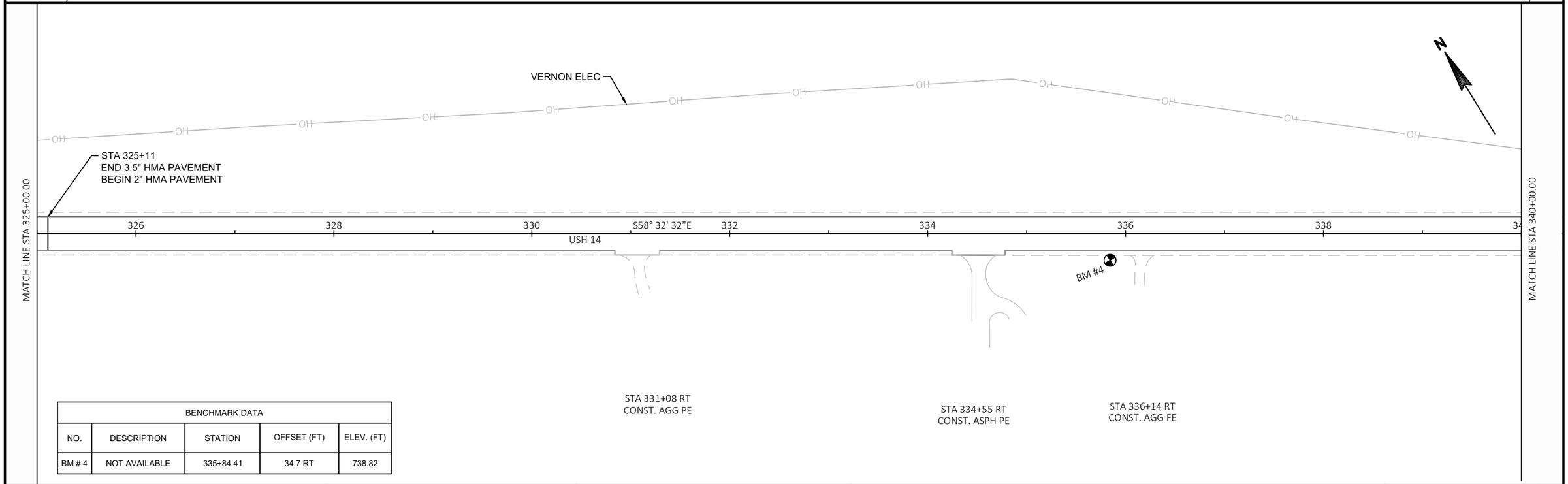
SENSITIVE AREA -
SEE SPECIAL
PROVISIONS

MGS GUARDRAIL 3 REQ'D
STA 308+73.60 TO 310+11.10, 21.65' RT
SALVAGE AND REINSTALL GUARDRAIL ENERGY ABSORBING TERMINAL REQ'D
STA 308+20.48 TO 308+73.60, POST 1: 23.65' RT
MGS THRIE BEAM TRANSITION REQ'D
STA 310+11.10 TO 310+47.97, 21.65' RT

MATCH LINE STA 310+50.00

PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 20	E

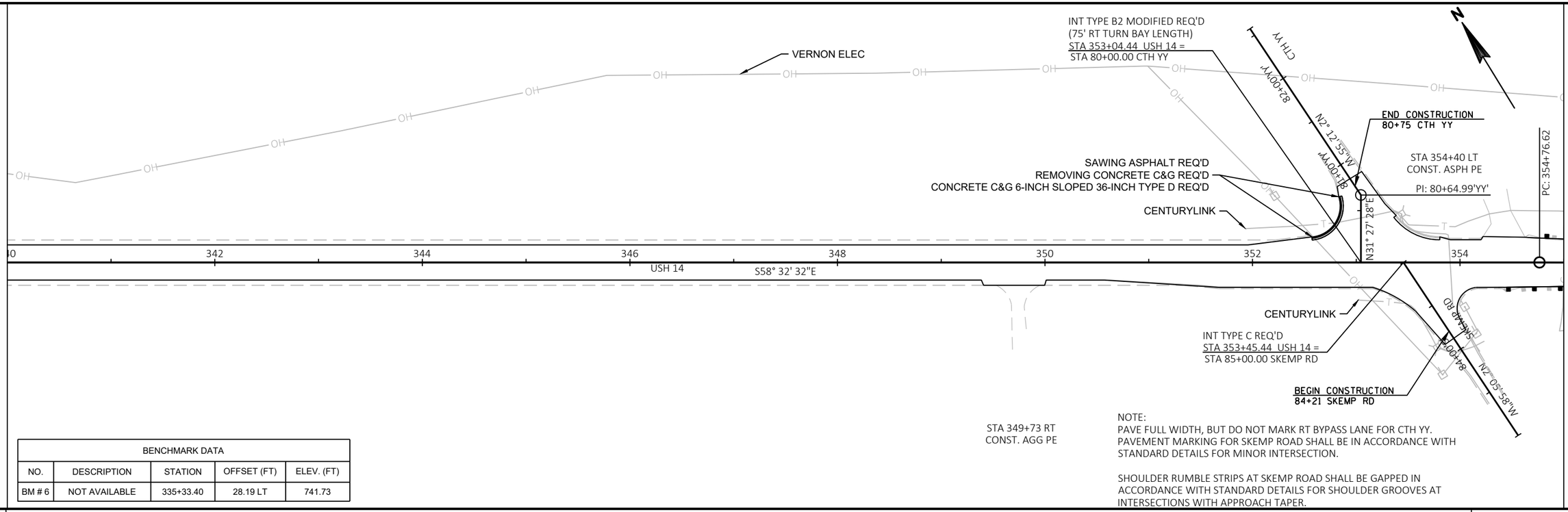




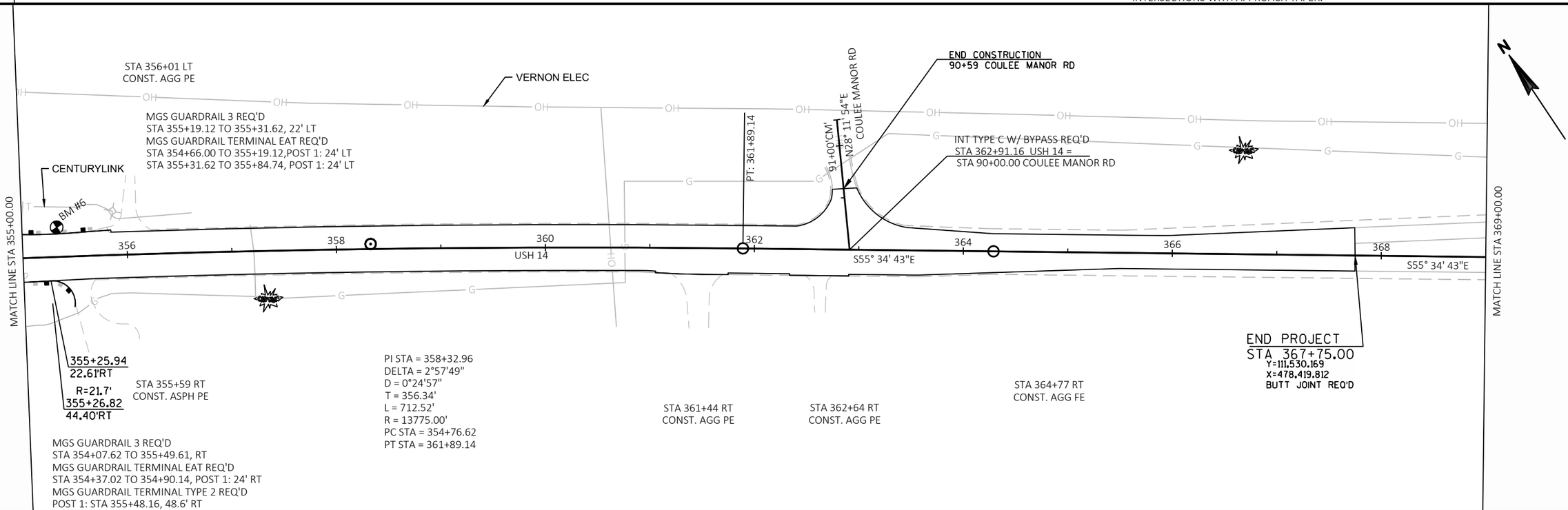
BENCHMARK DATA				
NO.	DESCRIPTION	STATION	OFFSET (FT)	ELEV. (FT)
BM # 4	NOT AVAILABLE	335+84.41	34.7 RT	738.82

PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 21	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-PN - 06
PLOT DATE : 7/22/2020 3:53 PM PLOT BY : CLARISSA M. HOETH PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



BENCHMARK DATA				
NO.	DESCRIPTION	STATION	OFFSET (FT)	ELEV. (FT)
BM # 6	NOT AVAILABLE	335+33.40	28.19 LT	741.73

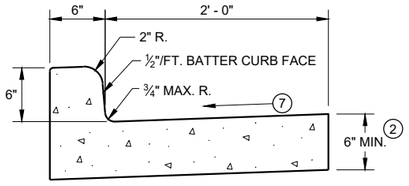


PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	PLAN SHEETS	SHEET 22	E

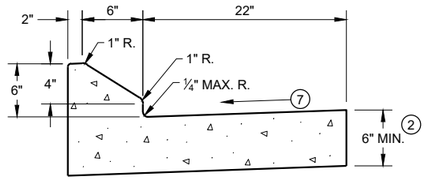
FILE NAME : P:\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 050201-PN - 07
PLOT DATE : 2/9/2021 9:39 AM PLOT BY : CLARISSA HOETH PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

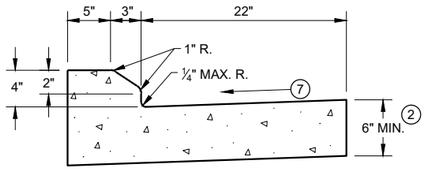
08D01-21A	CONCRETE CURB & GUTTER
08D01-21B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-02	HMA LONGITUDINAL JOINTS
14B28-03	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING



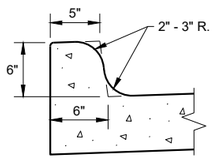
TYPES A[1] & D



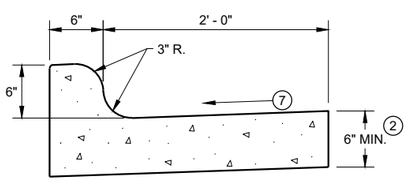
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

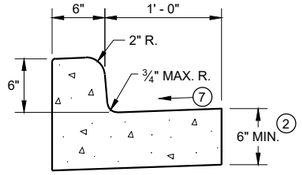


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



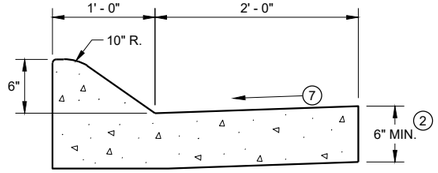
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"

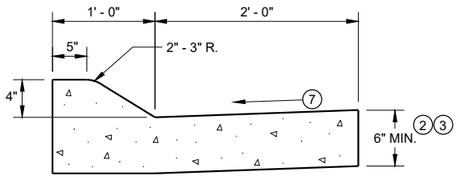


TYPES A[1] & D

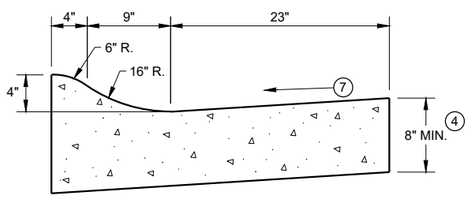
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D



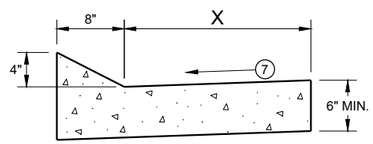
4" SLOPED CURB TYPES A[1] & D



4" SLOPED CURB TYPES R[1] & T[5]

CONCRETE CURB AND GUTTER 36"

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

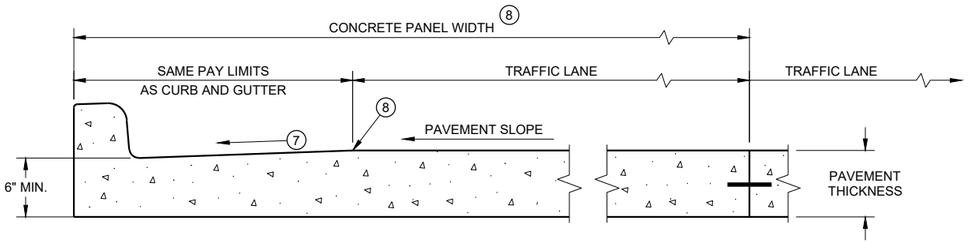


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

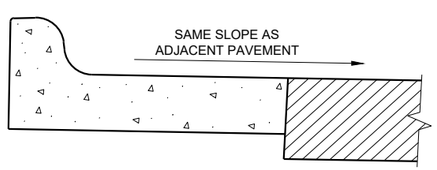
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

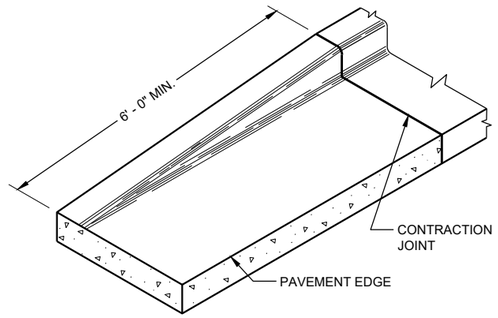
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH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

CONCRETE CURB AND GUTTER

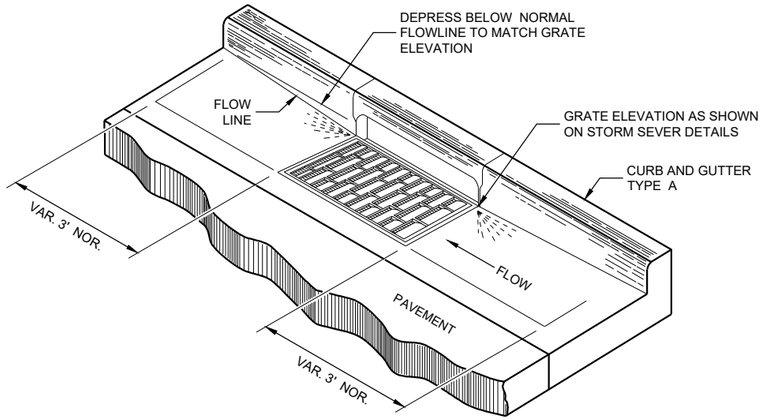
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01 - 21a

SDD 08D01 - 21a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

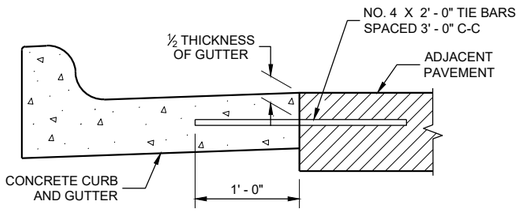
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

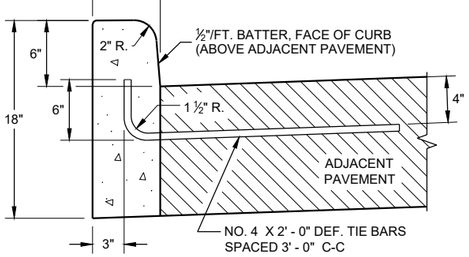
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

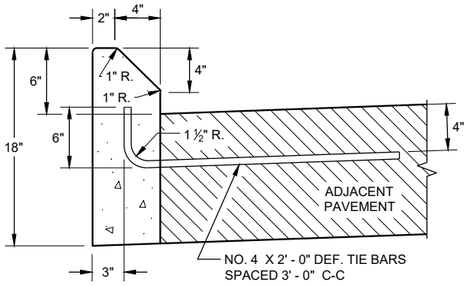
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

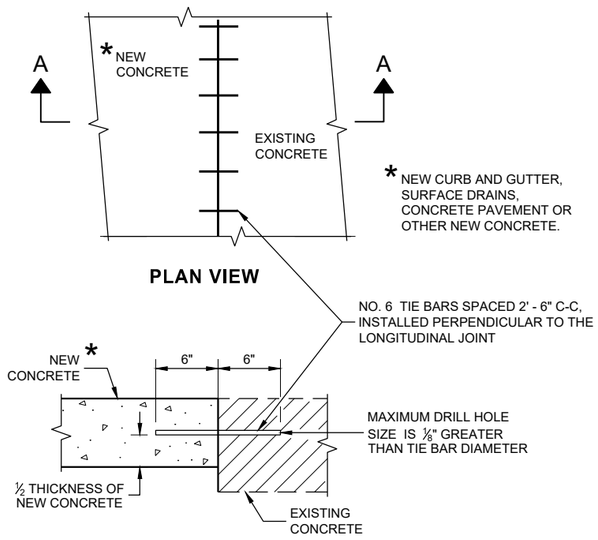


TYPES A (1) & D



TYPES G (1) & J

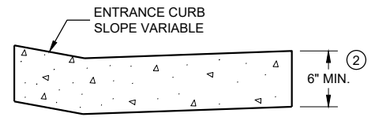
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

SDD08D01 - 21b

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

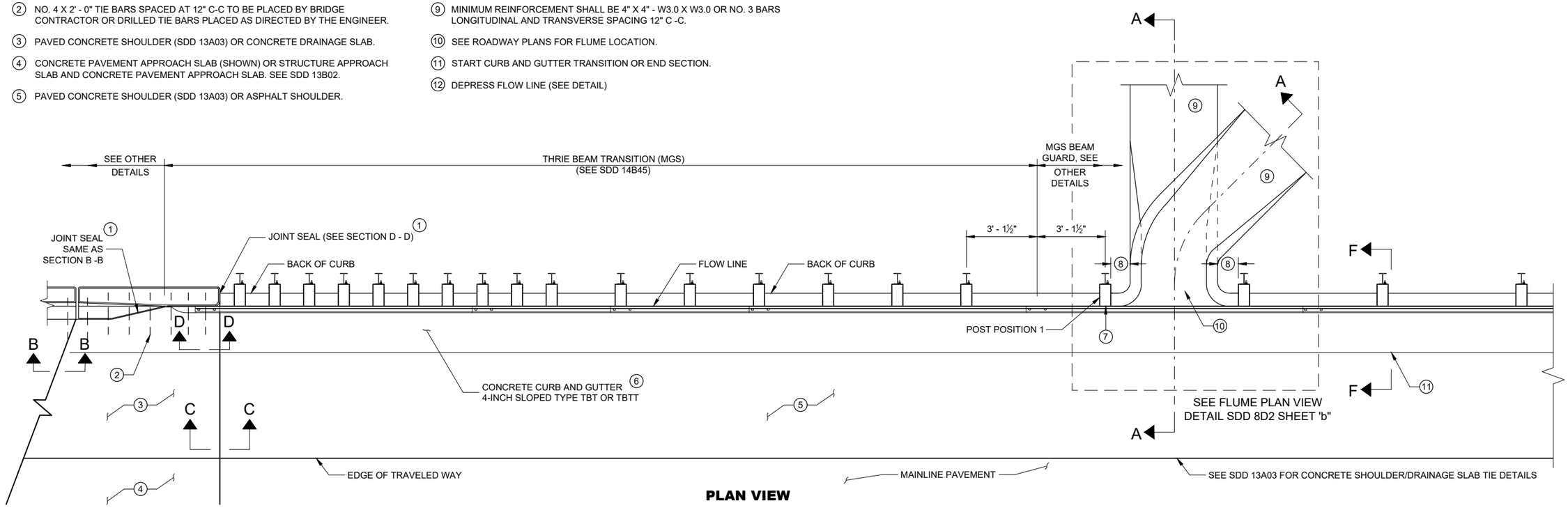
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

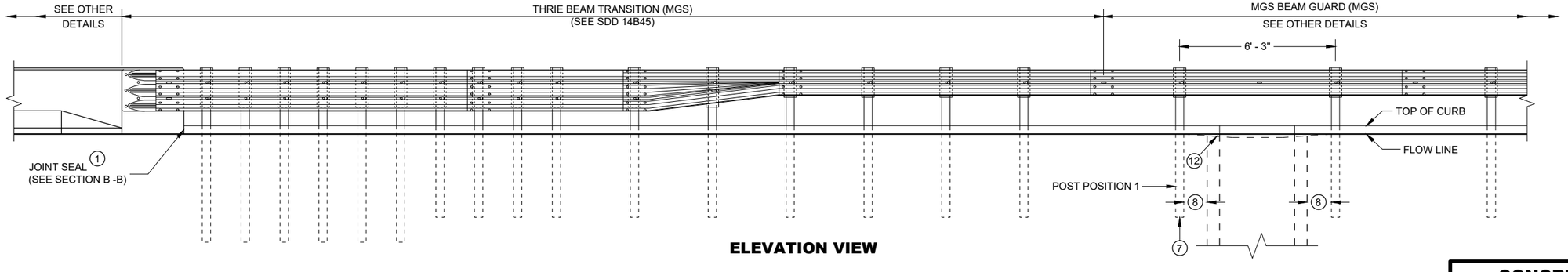
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



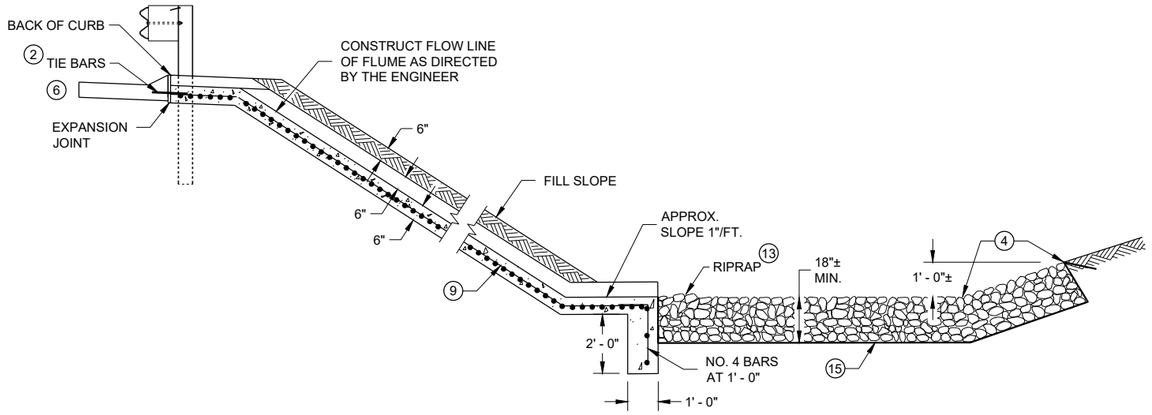
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

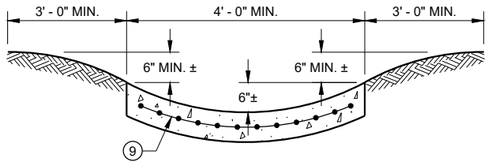
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

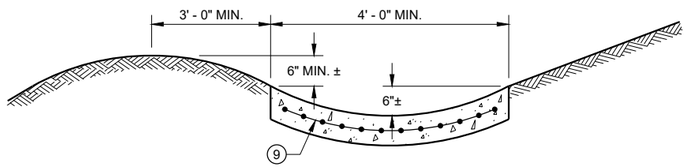
SDD 08D02 - 07a



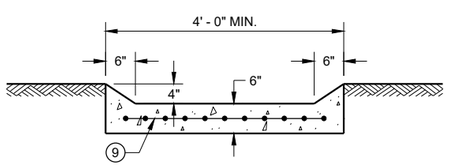
SECTION A - A



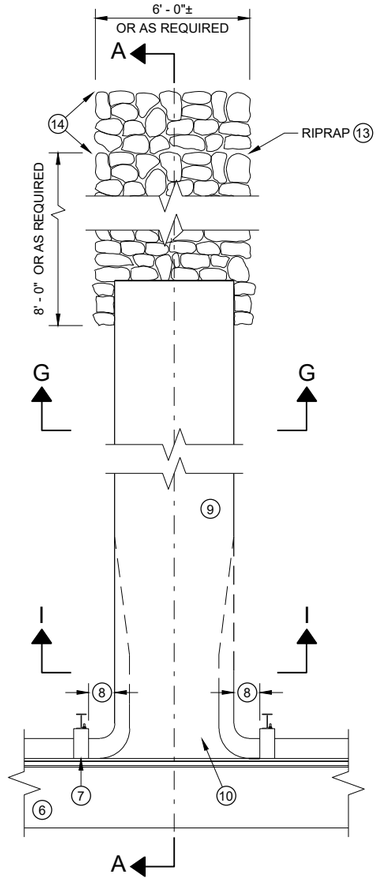
SECTION G - G



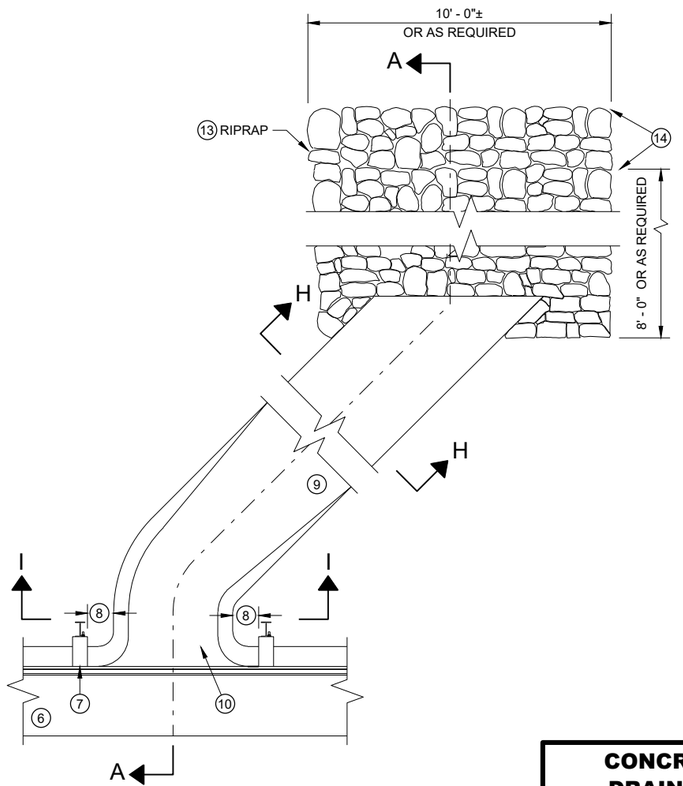
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.

(15) GEOTEXTILE FABRIC TYPE HR.

6

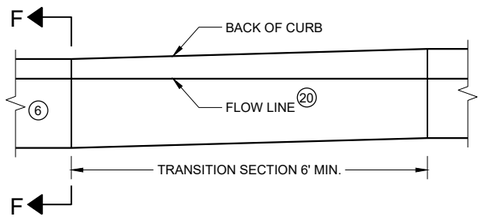
SDD 08D02 - 07b

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

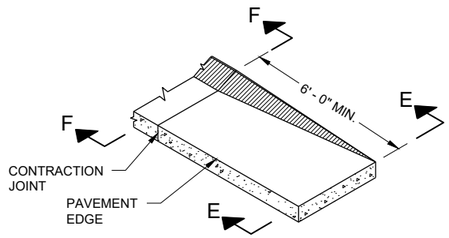
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

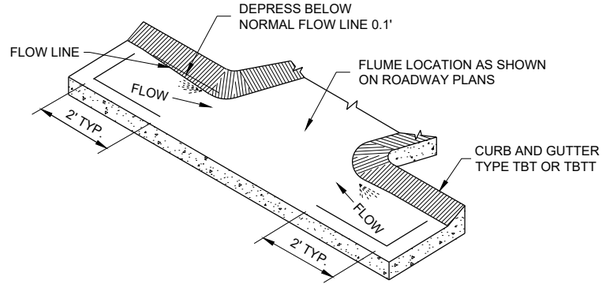
SDD 08D02 - 07b



CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION AT FLUMES CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(15) GEOTEXTILE FABRIC TYPE HR.

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

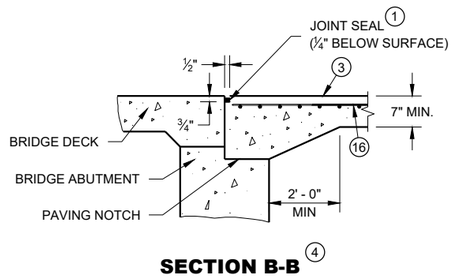
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

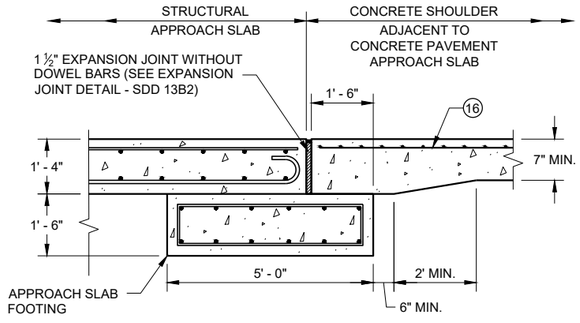
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

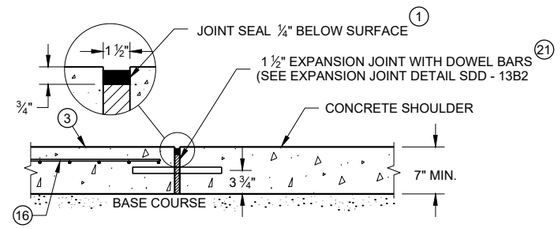
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



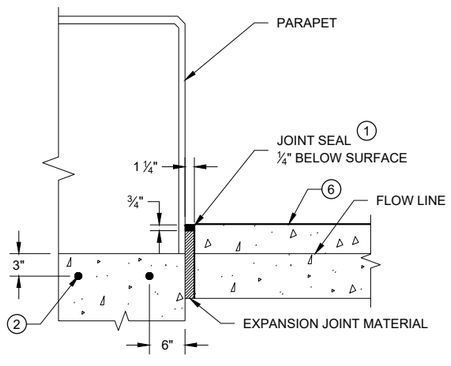
SECTION B-B



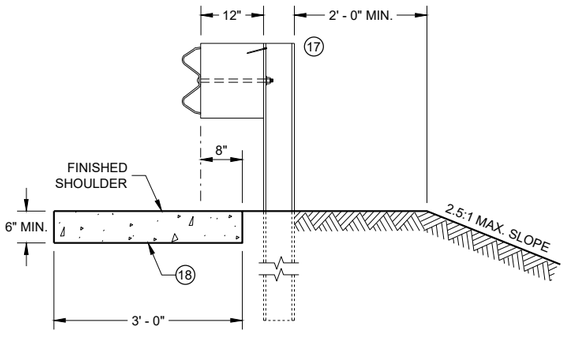
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



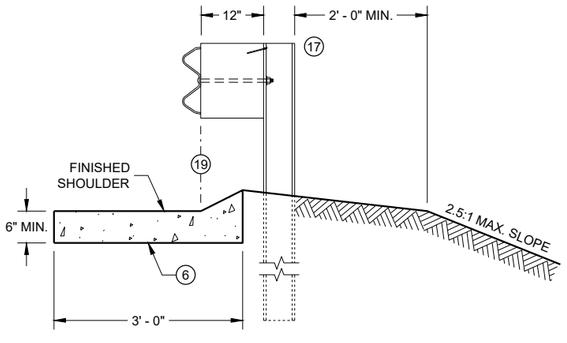
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08D02 - 07c

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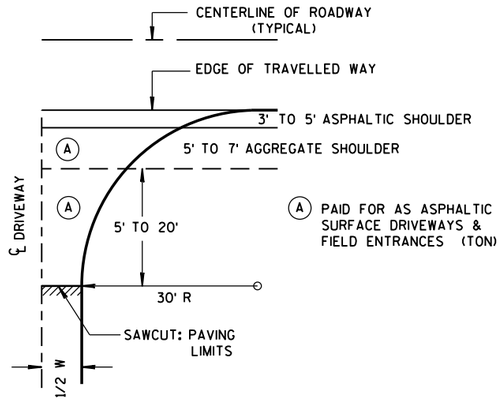
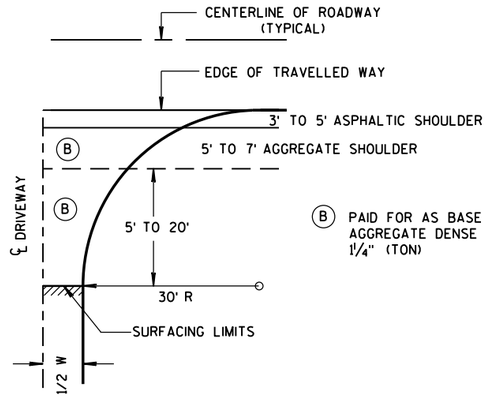


PLAN VIEW
HALF SECTION

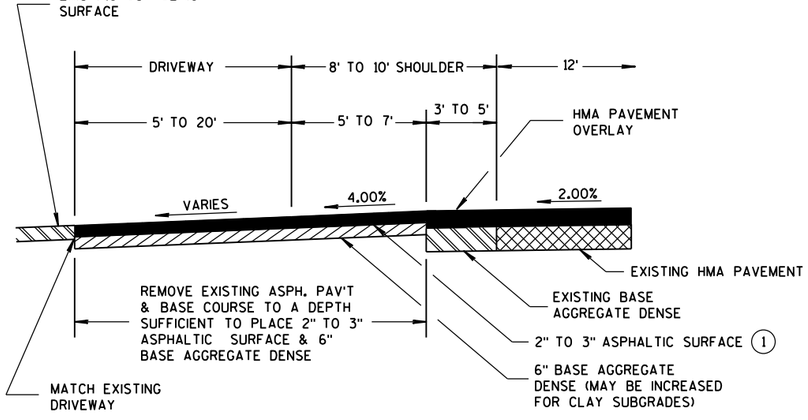
W MIN. = 16'
W MAX. = 24'



PLAN VIEW
HALF SECTION

GENERAL NOTES

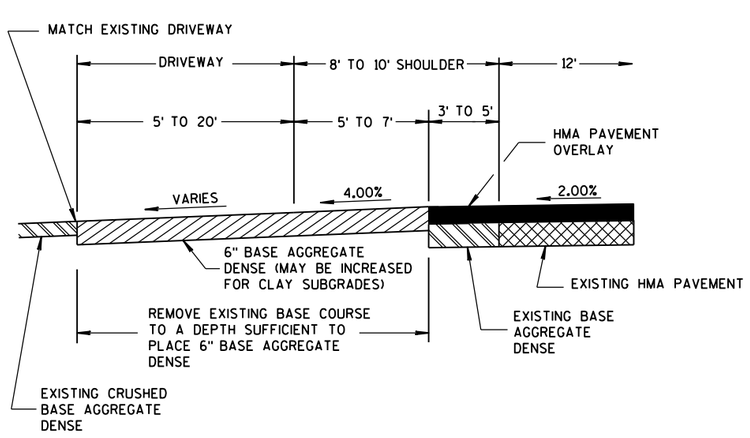
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
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FHWA

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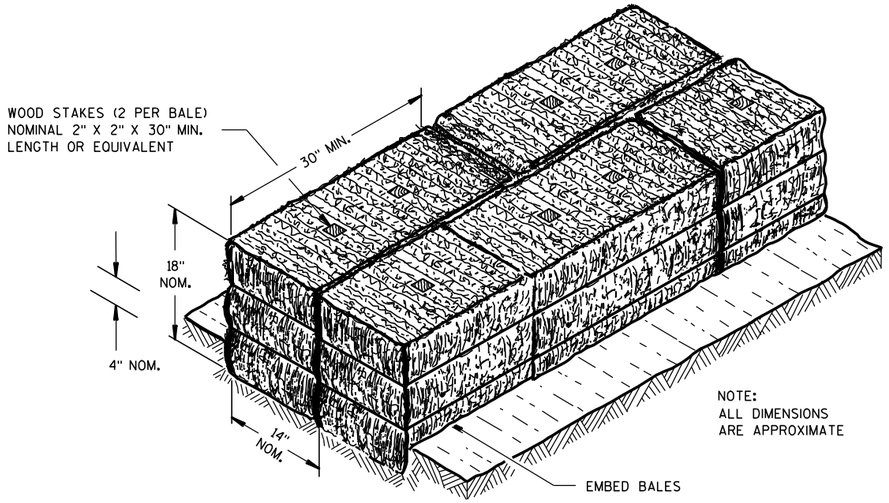
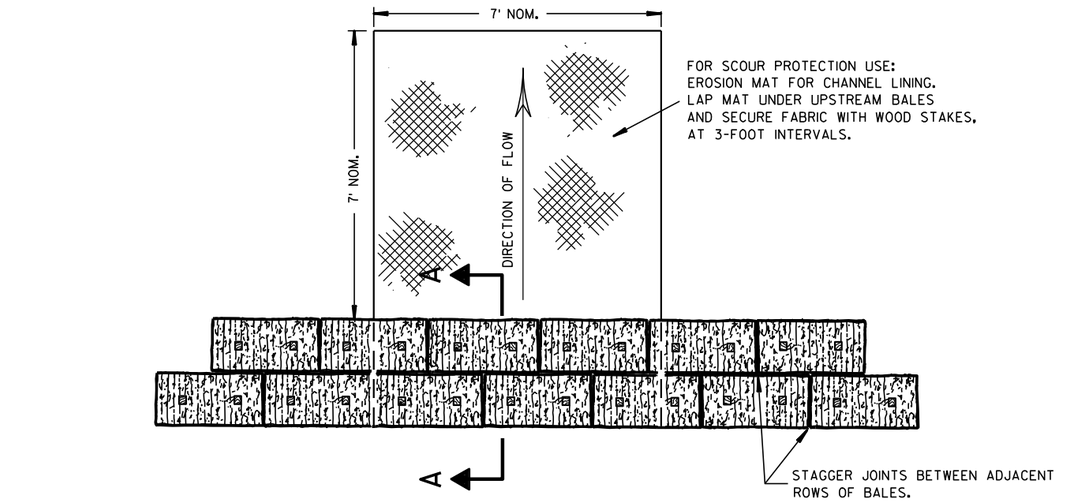
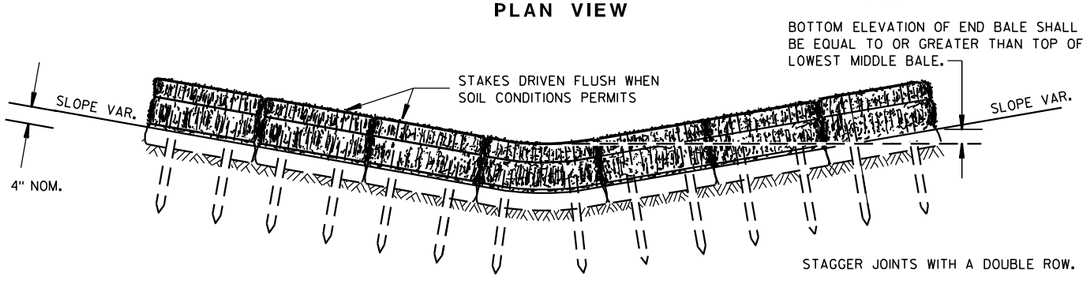


SECTION A-A



PLAN VIEW



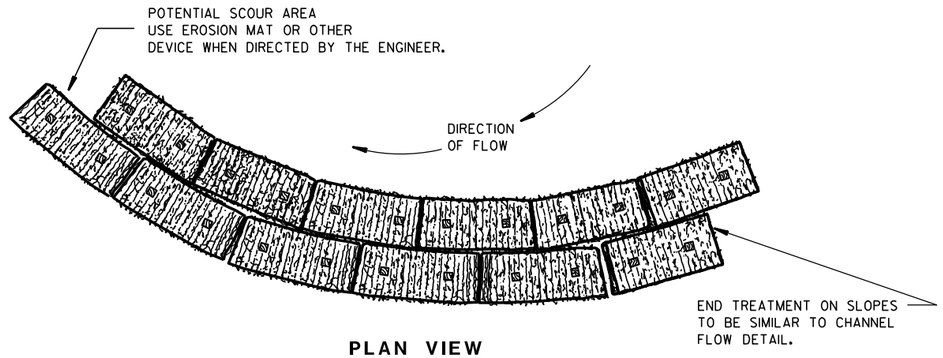
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

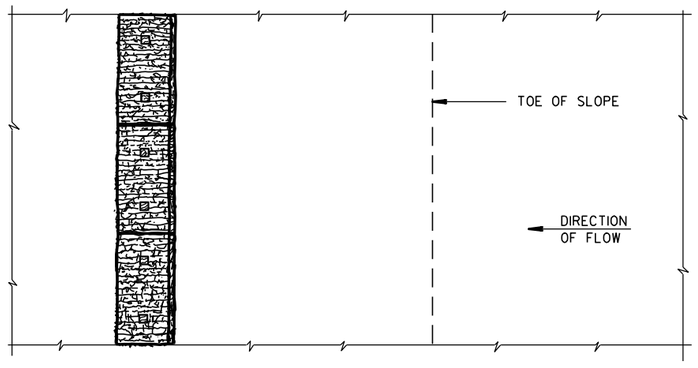
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

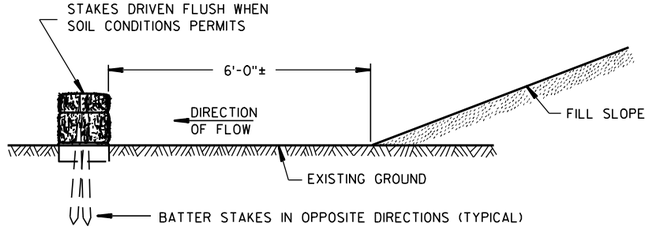


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

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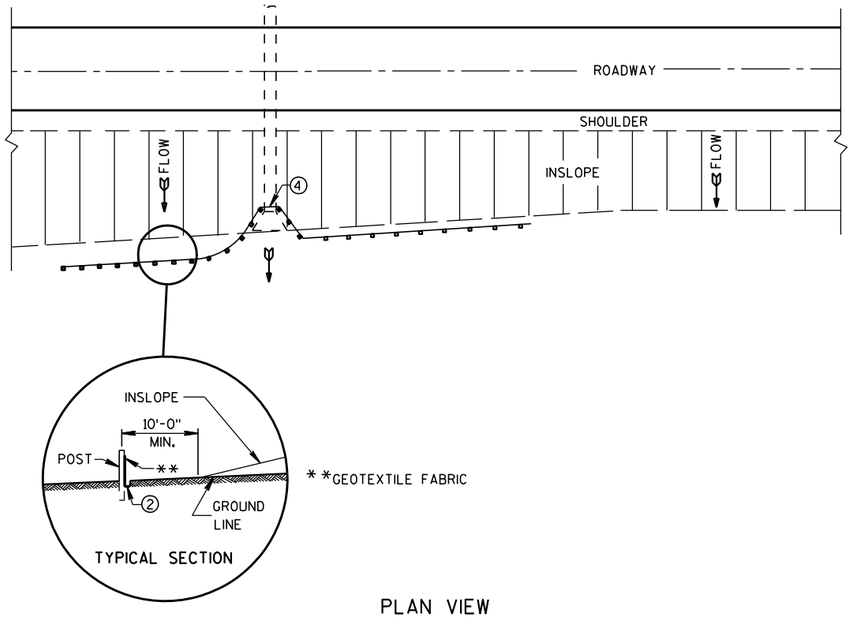
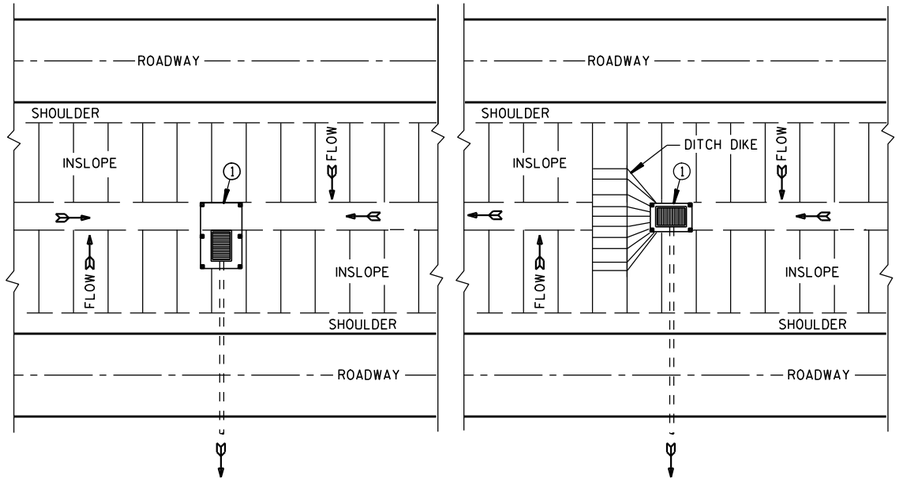


PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



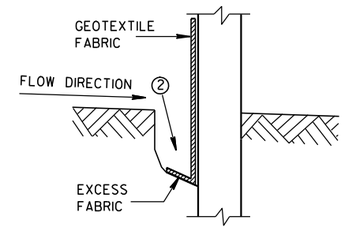
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

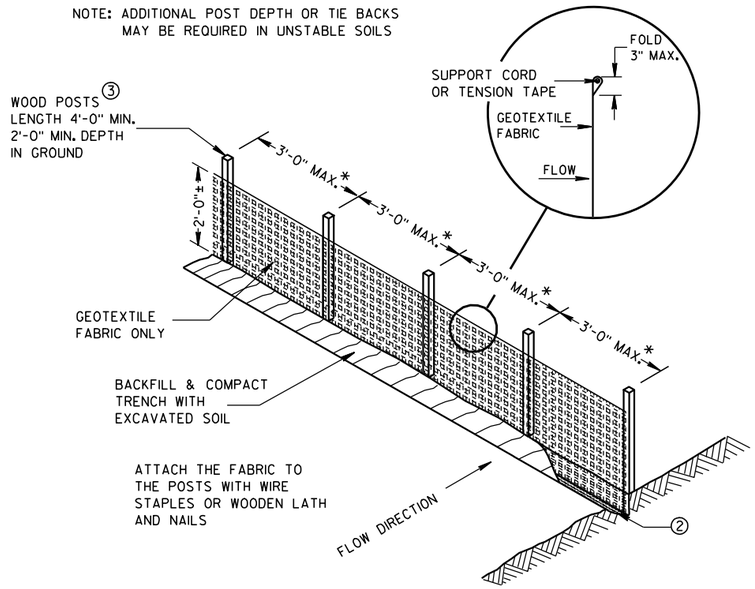
GENERAL NOTES

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

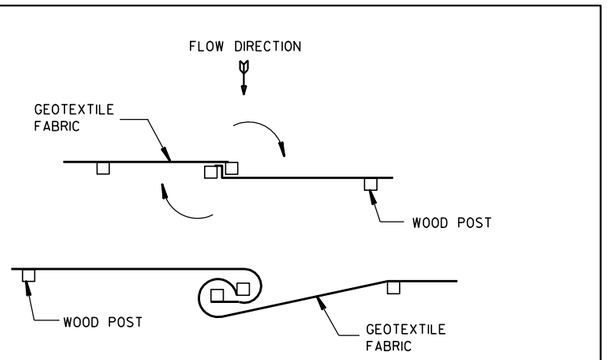
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



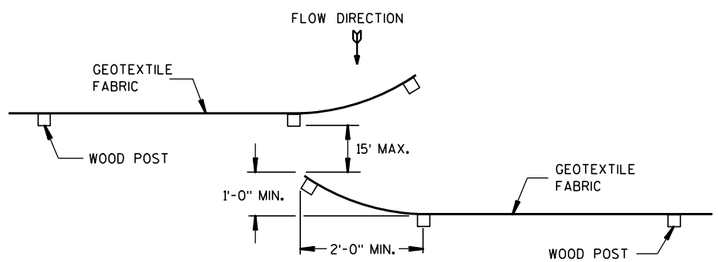
TRENCH DETAIL



SILT FENCE

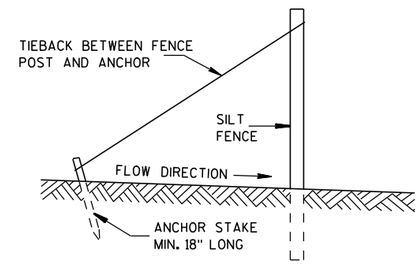


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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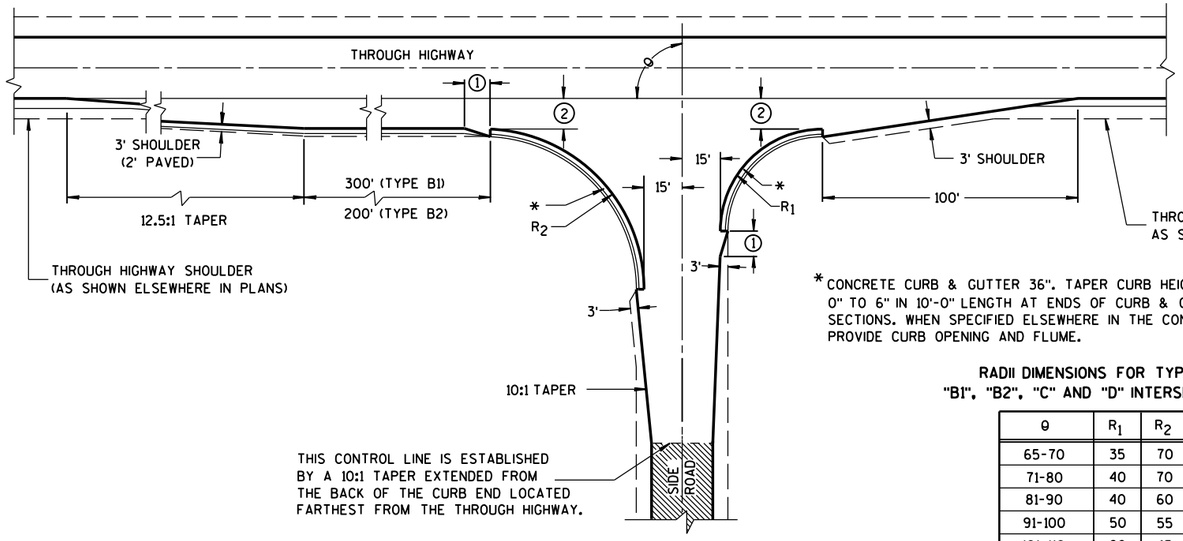
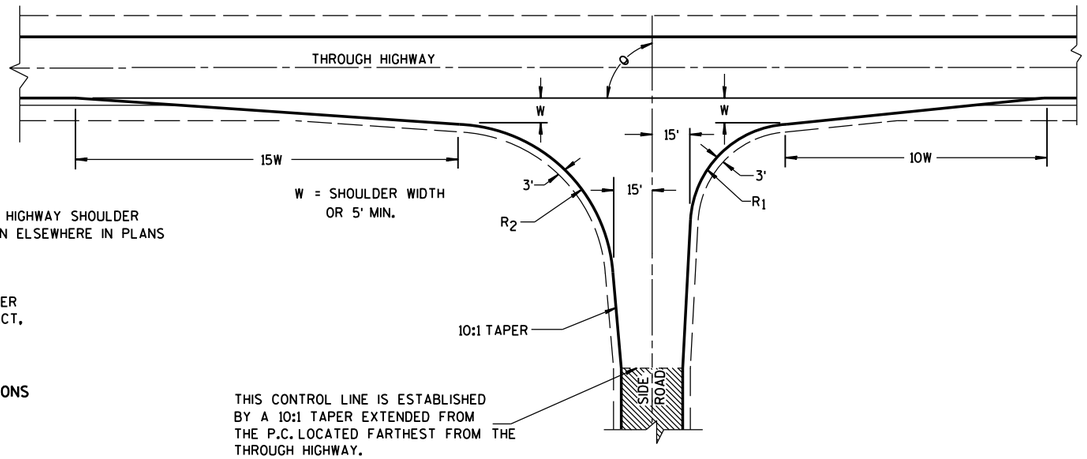


TYPE "B1" AND "B2"

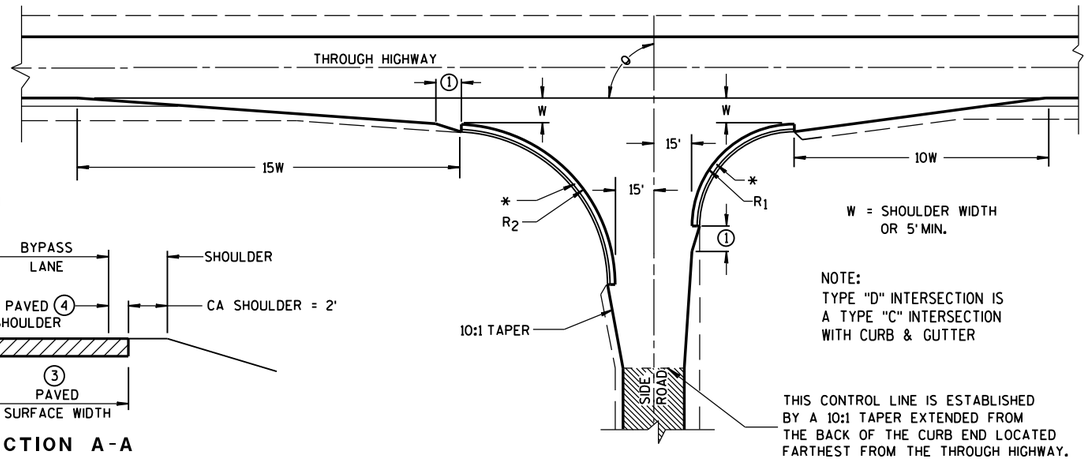
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

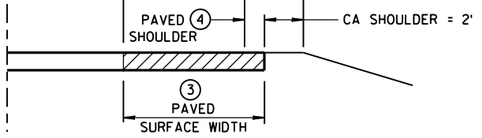
(1) 10-FT TYPICAL.

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

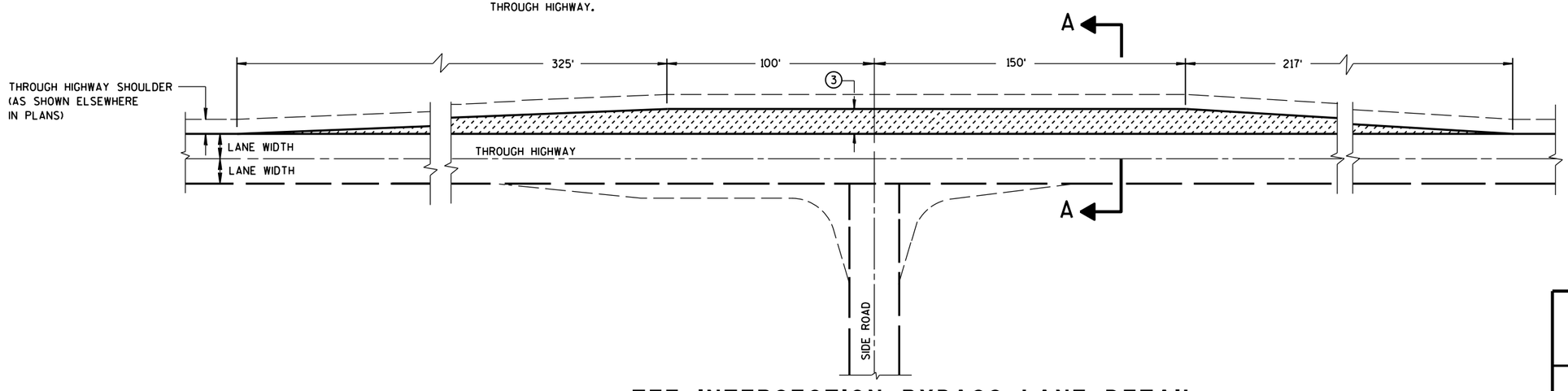
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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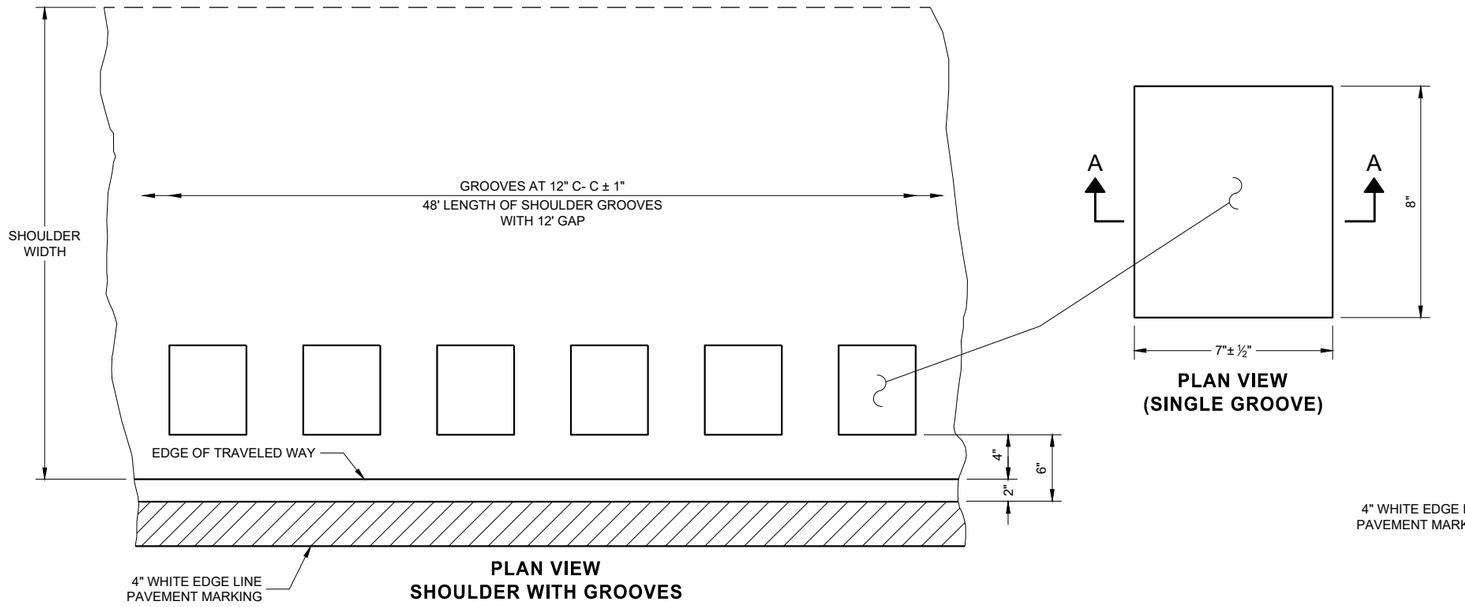


PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

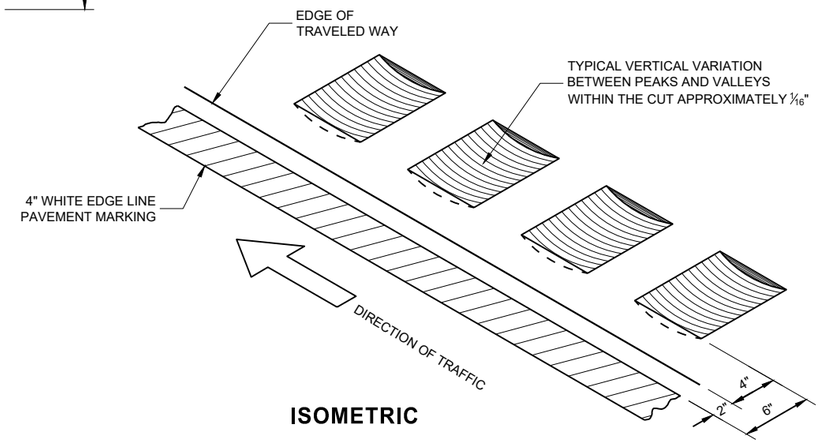
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



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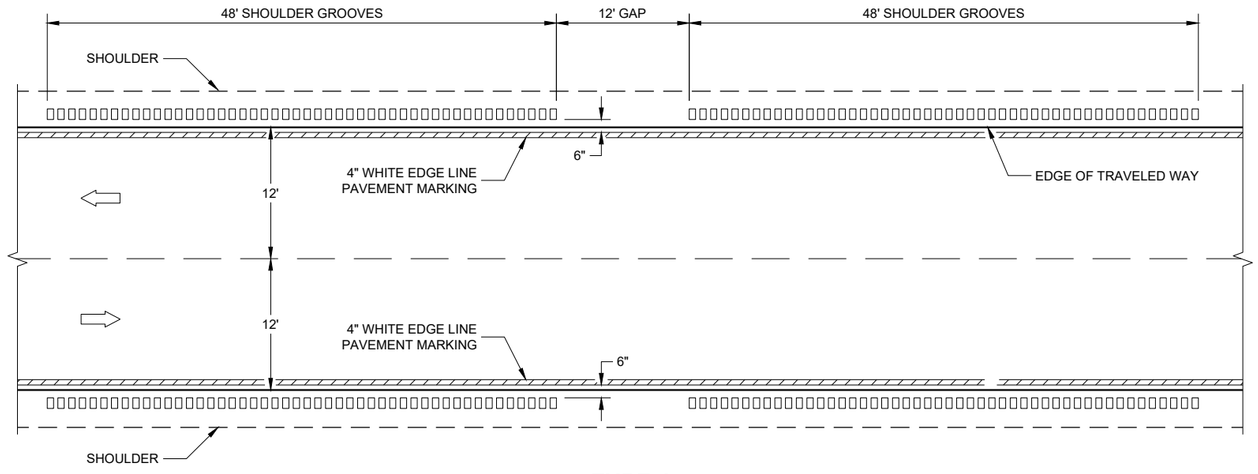
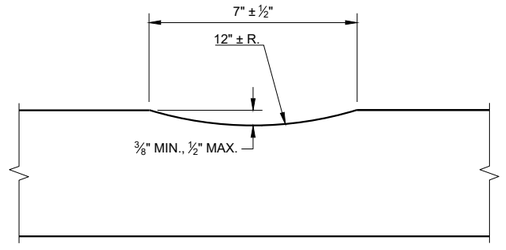
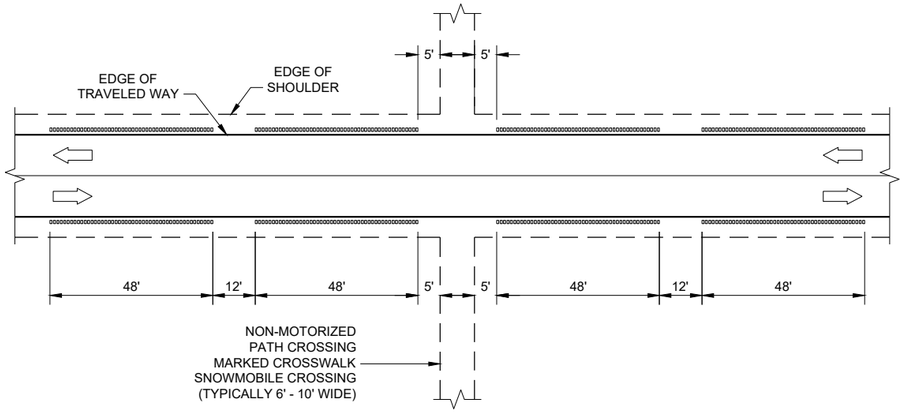


TYPE 1
2 - LANE SHOULDER RUMBLE STRIP

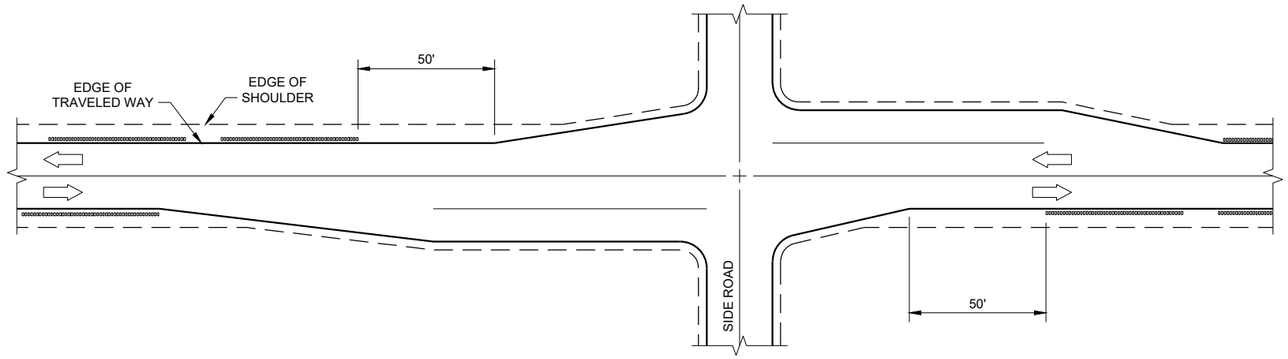


SECTION A - A

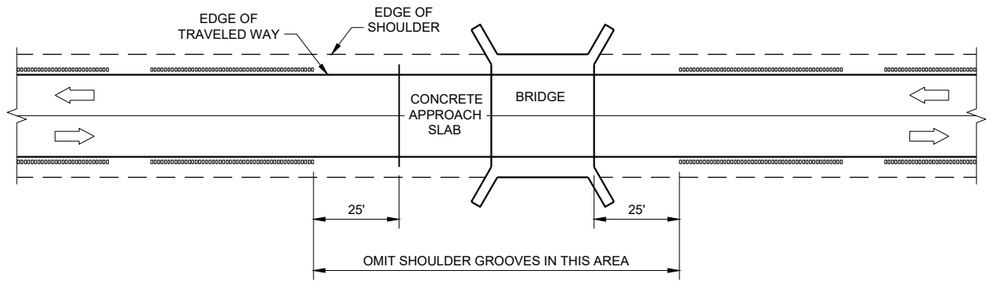
2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING



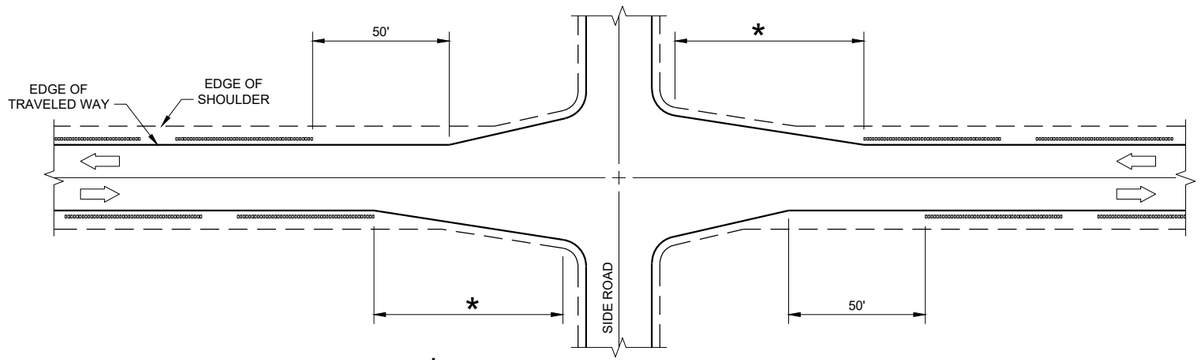
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT RIGHT TURN LANE

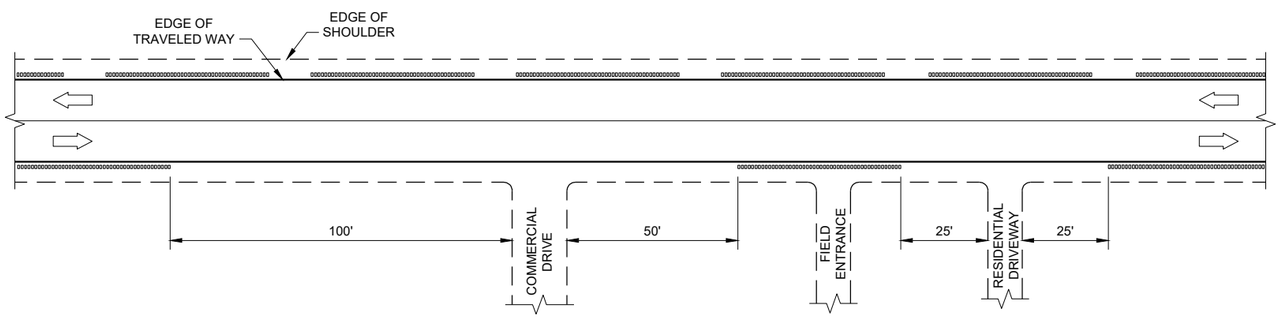


SHOULDER GROOVES AT BRIDGES



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



SHOULDER GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
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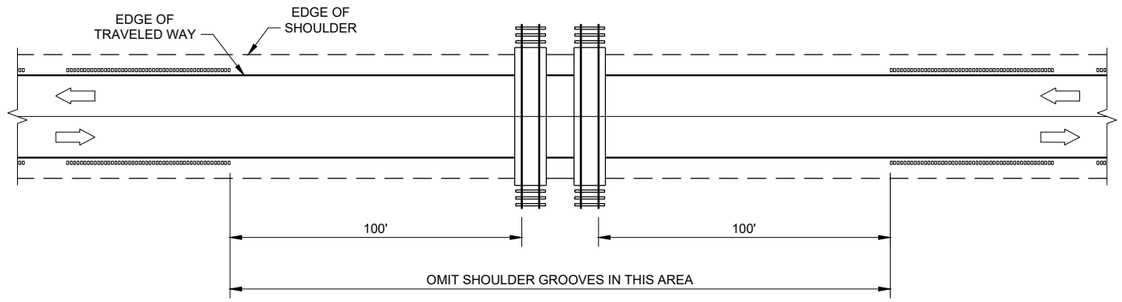
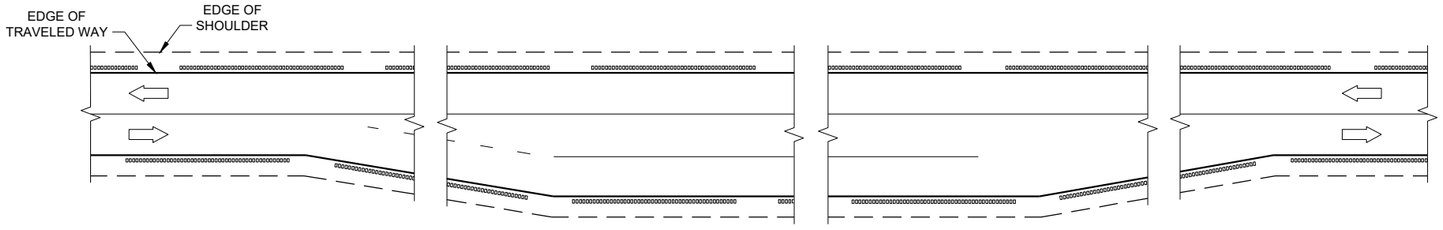
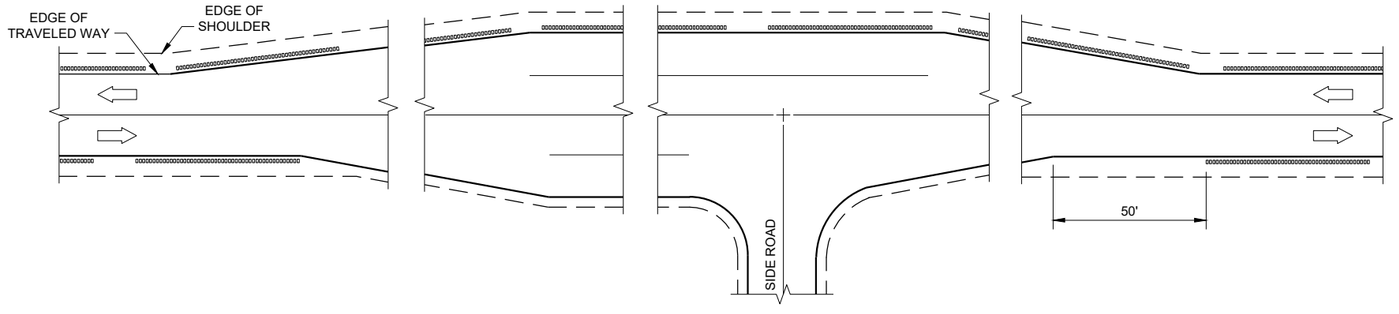
SDD 13A10 - 02c



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

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SDD 13A10 - 02d

SDD13A10 - 02d

2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING

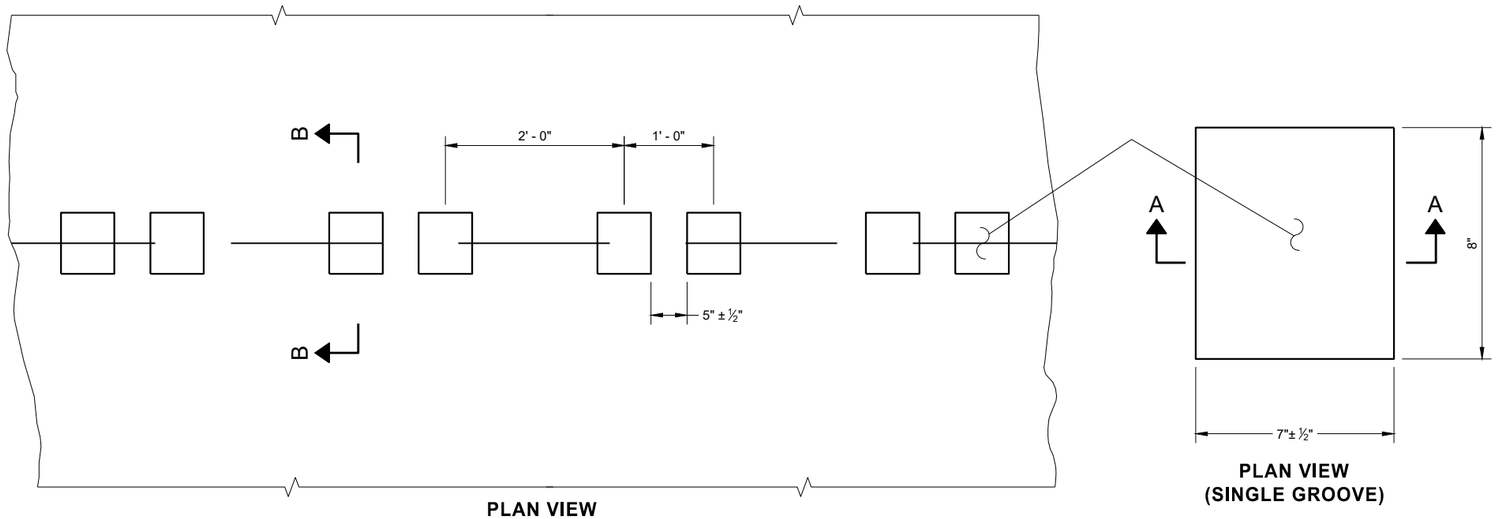
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

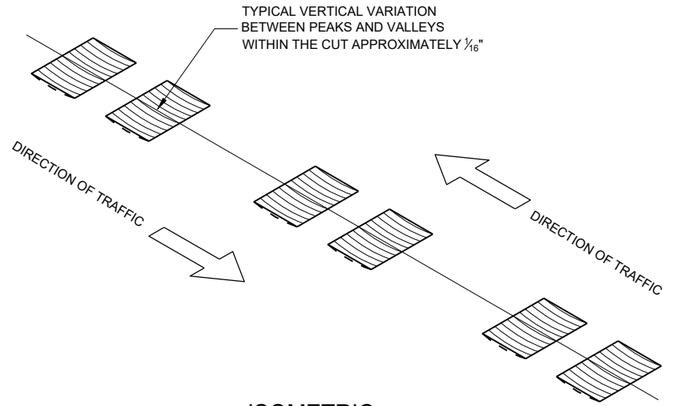
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTERLINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

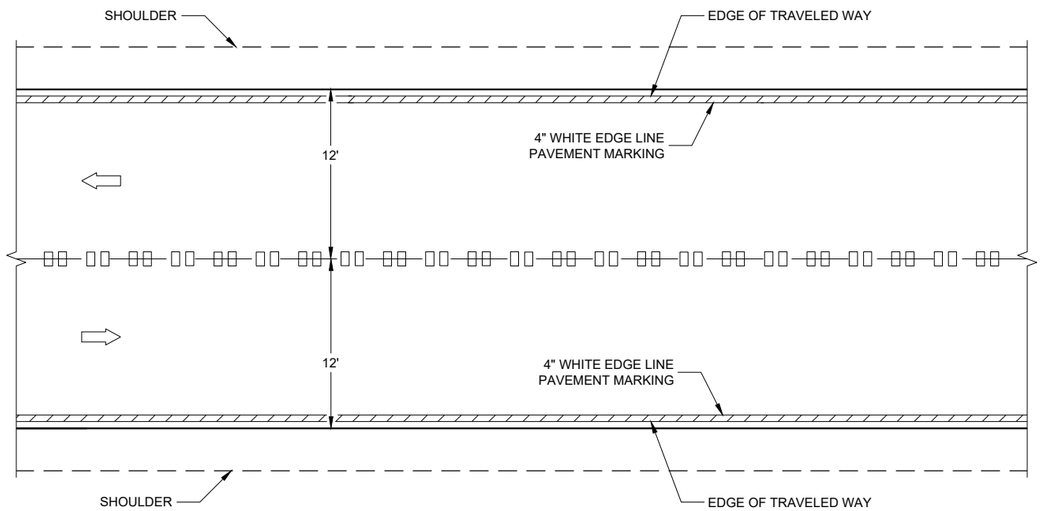
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

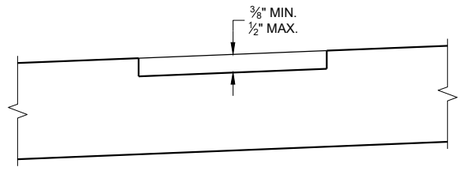
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



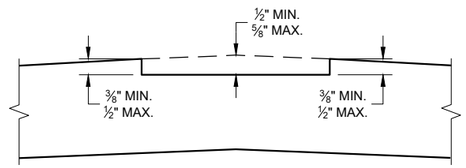
ISOMETRIC



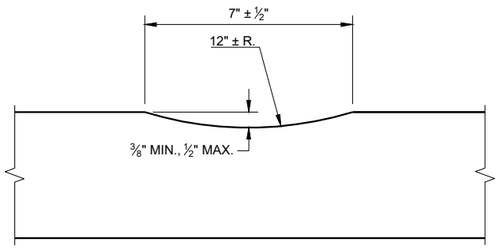
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



SECTION A - A

6

SDD 13A11 - 03a

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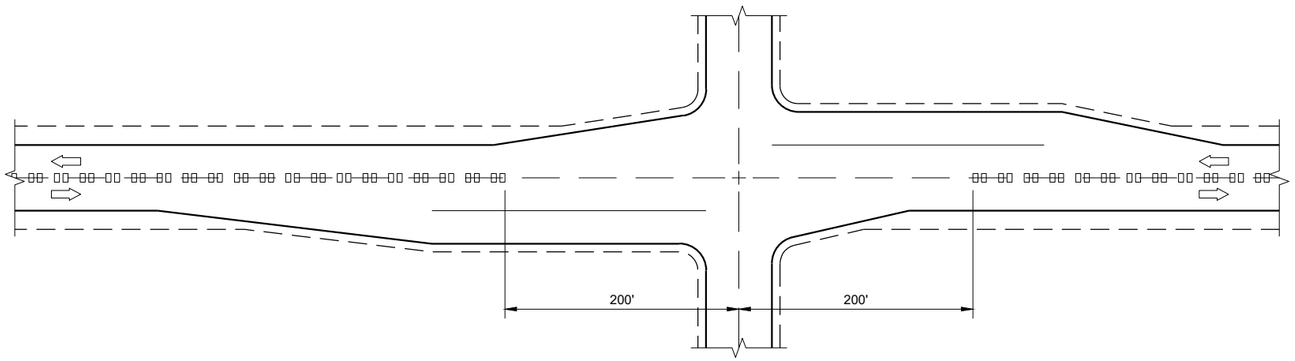
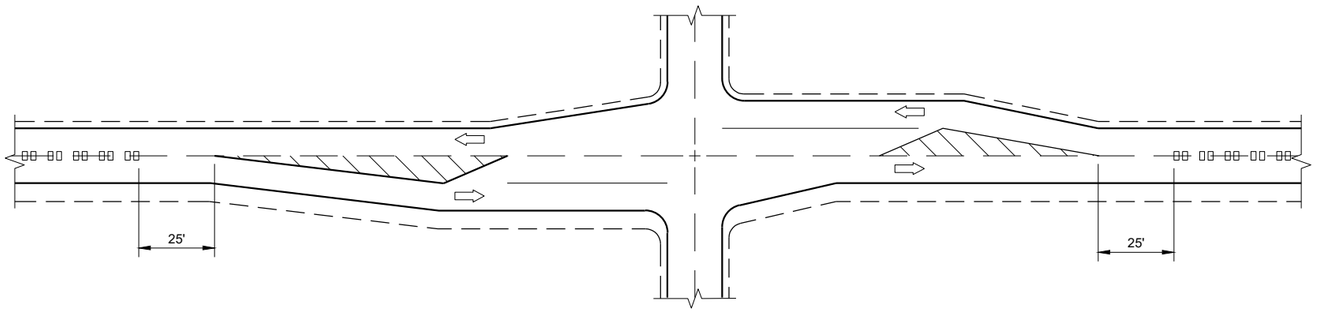
SDD 13A11 - 03a

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

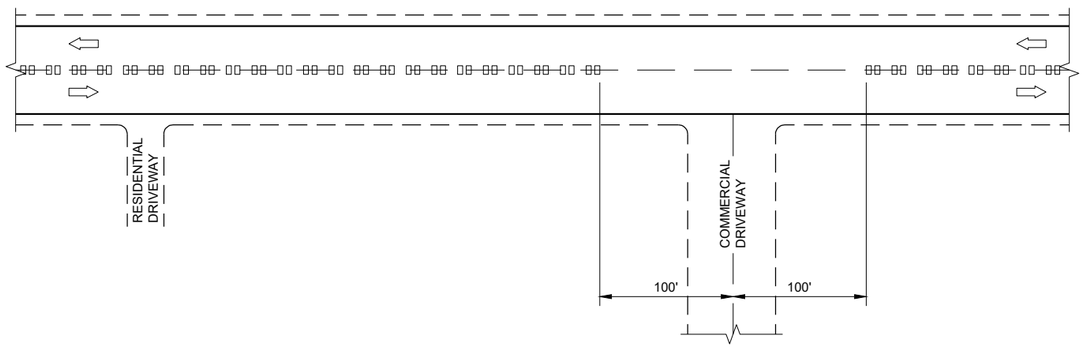
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



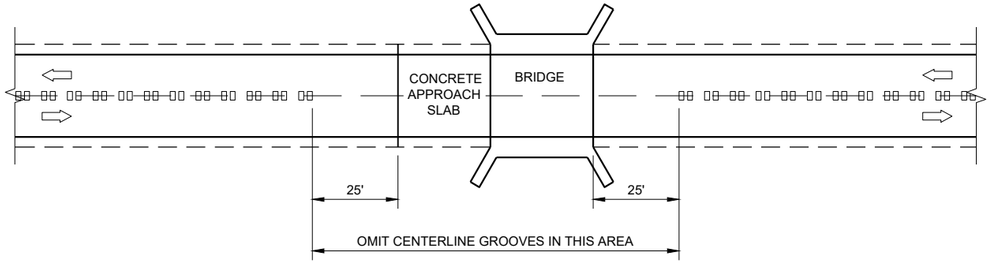
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



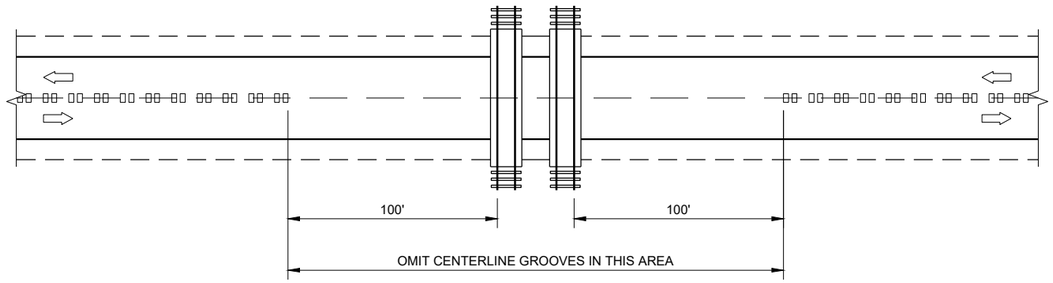
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

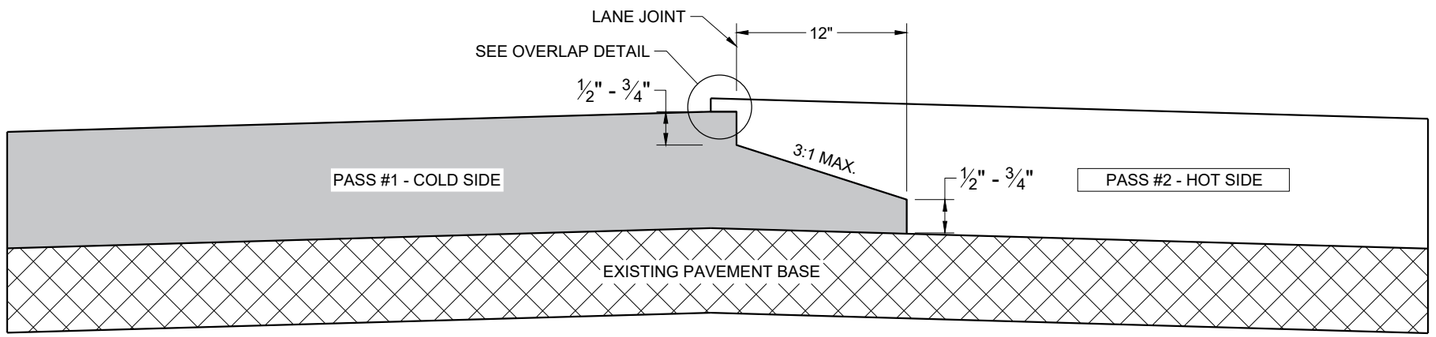
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

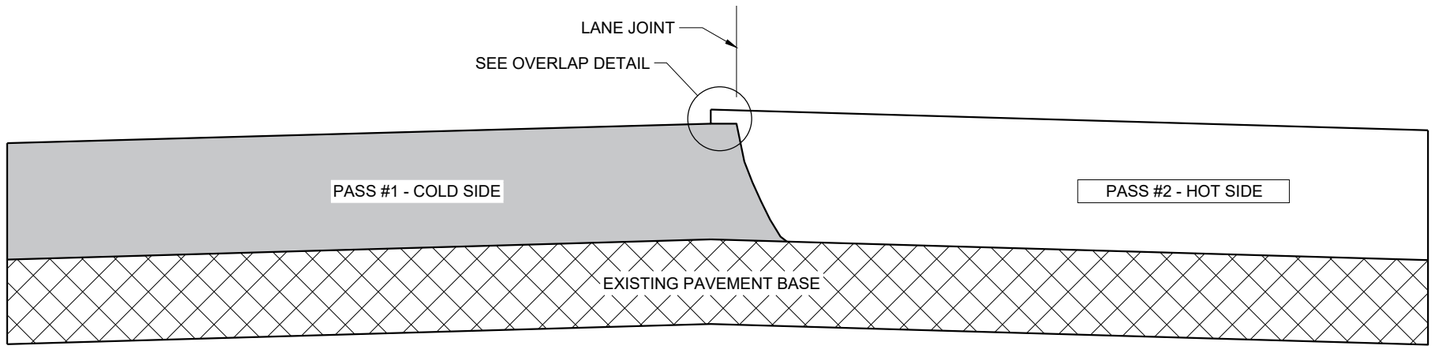
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

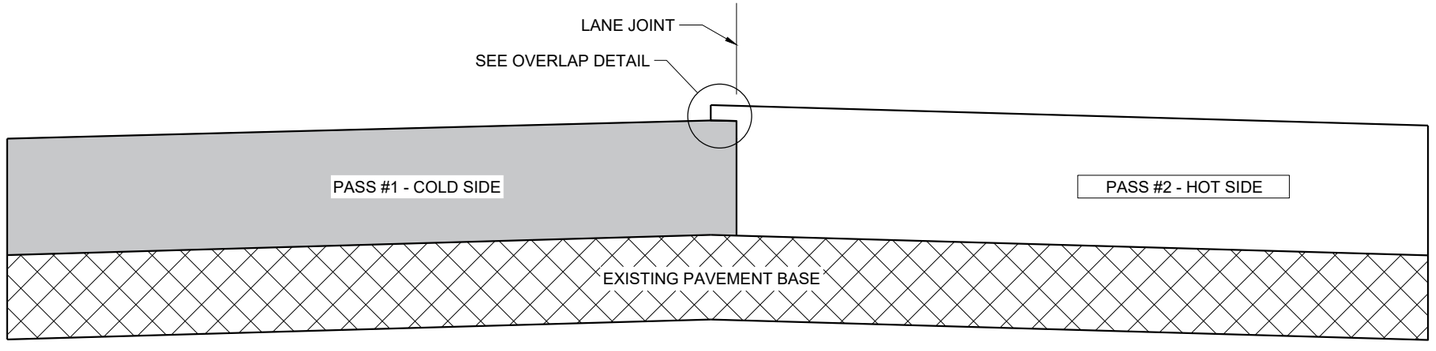
6
SDD 13A11 - 03b



TYPICAL PAVEMENT CROSS SECTION
OF NOTCHED WEDGE LONGITUDINAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL LONGITUDINAL JOINT



TYPICAL PAVEMENT CROSS SECTION
OF MILLED LONGITUDINAL JOINT

GENERAL NOTES

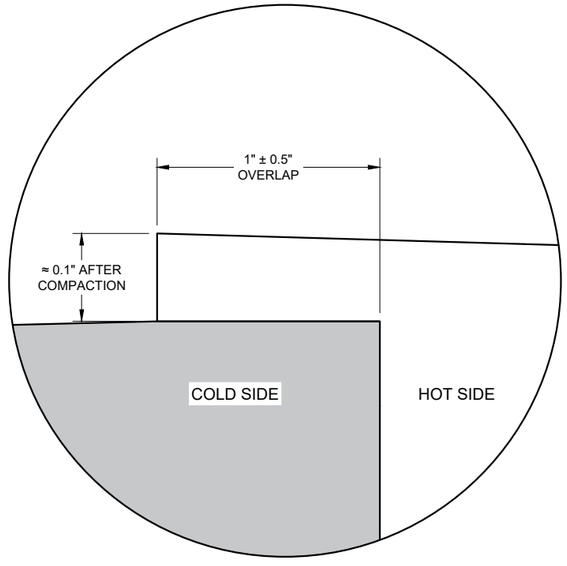
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION.

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

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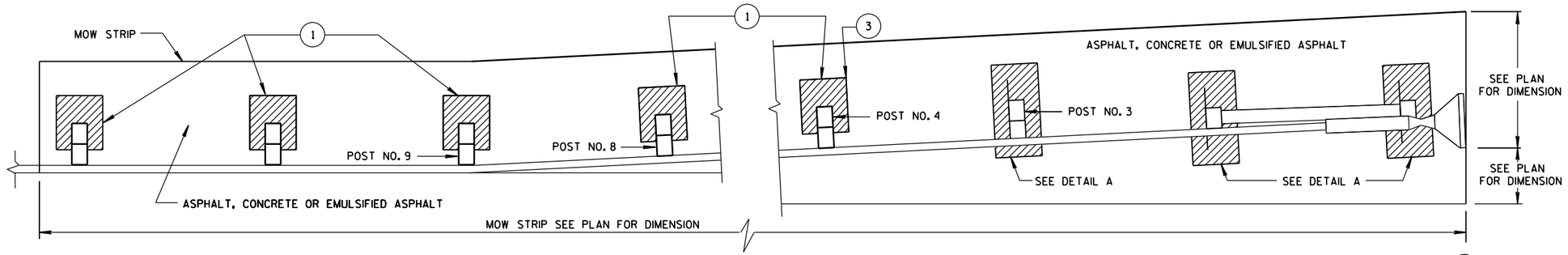
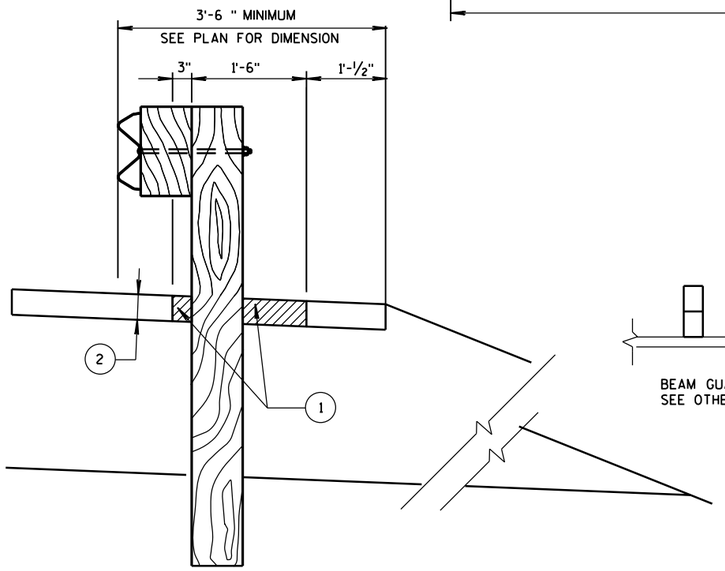
SDD 13C19 - 02

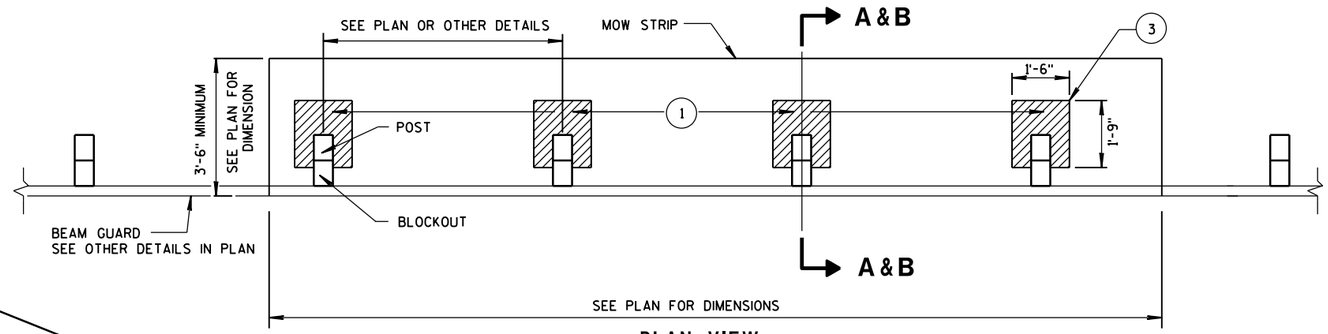


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

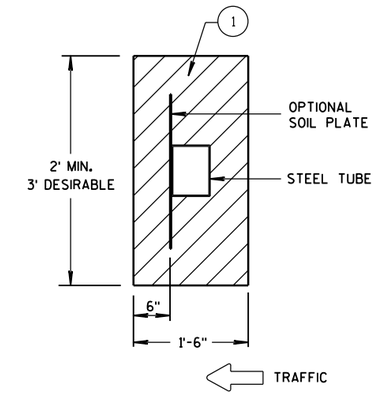


SECTION A-A

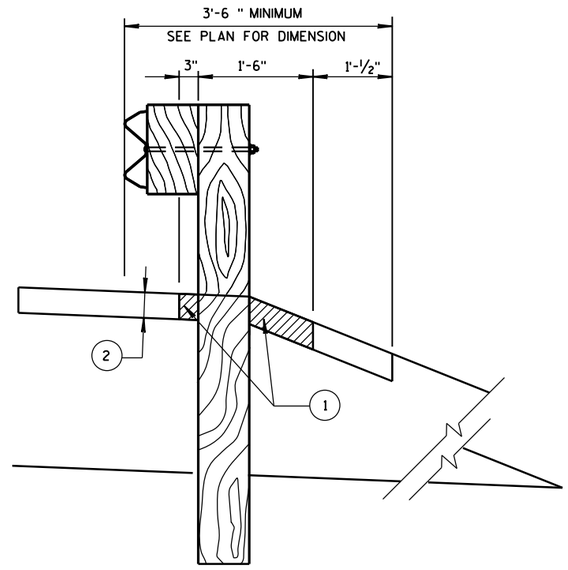


PLAN VIEW

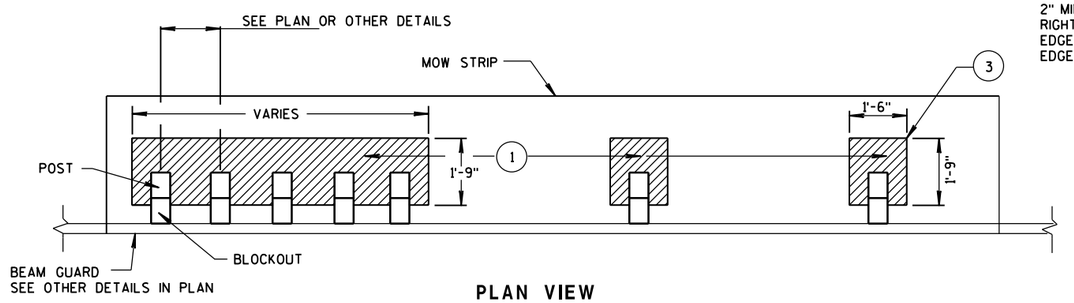
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

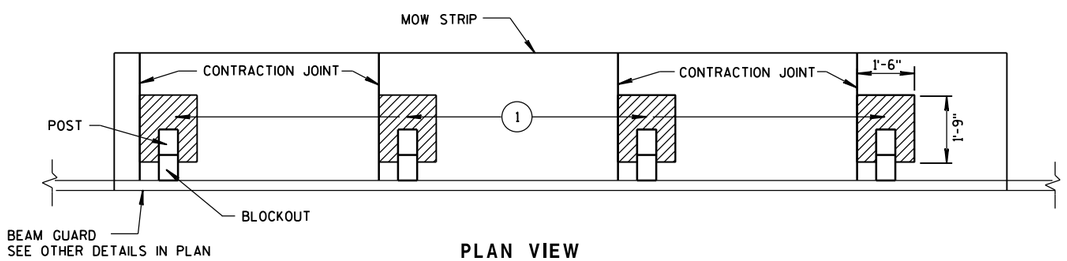


SECTION B-B



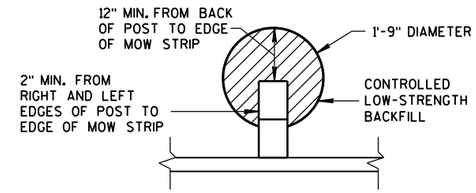
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

(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 ENGINEER
FHWA

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S.D.D. 14 B 28-3

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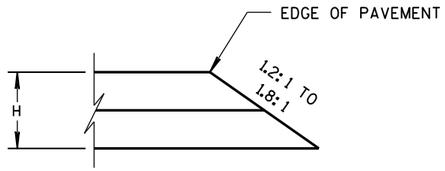
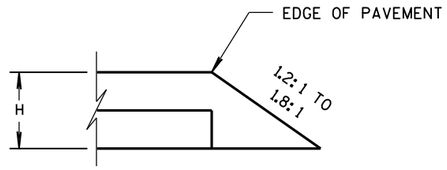
S.D.D. 14 B 28-3



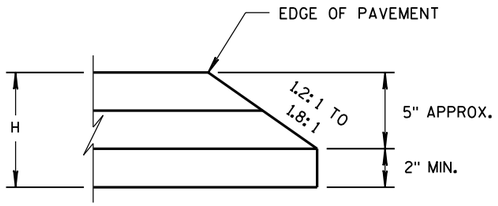
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



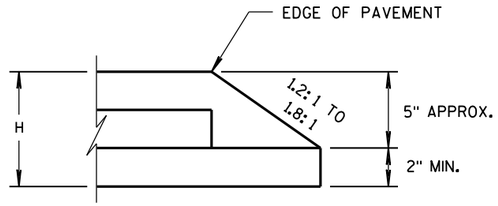
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

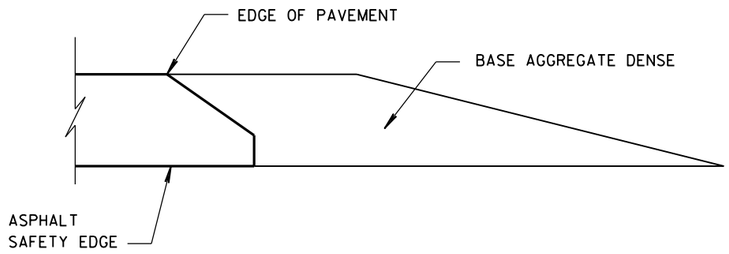
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

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S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(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.

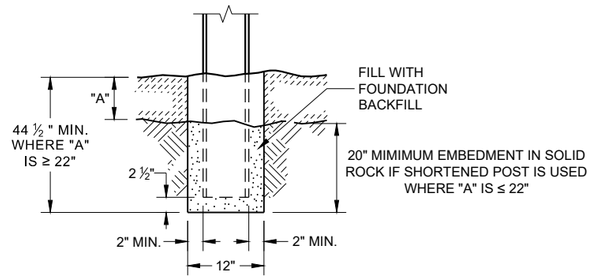
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

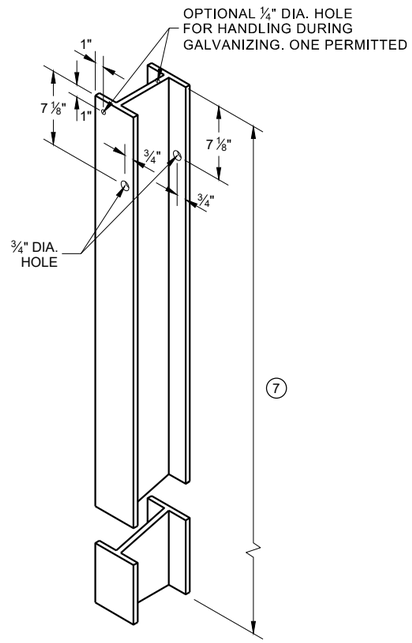
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

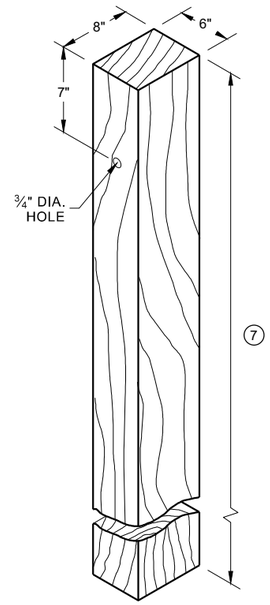
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



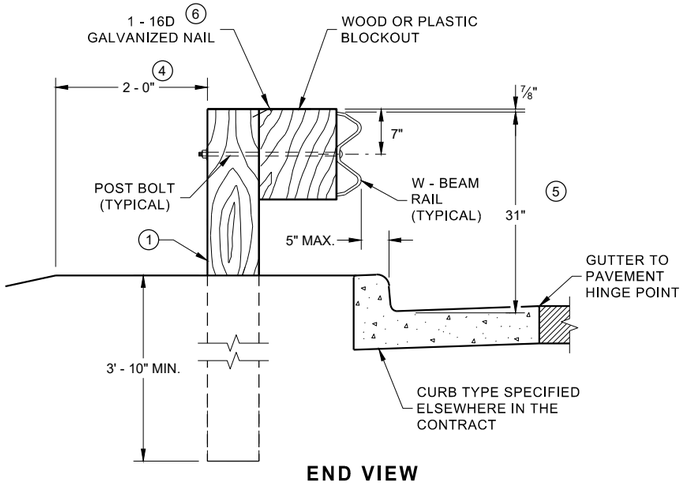
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



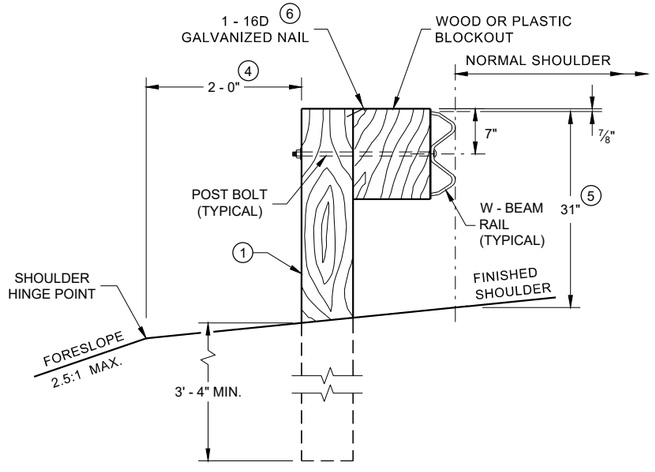
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



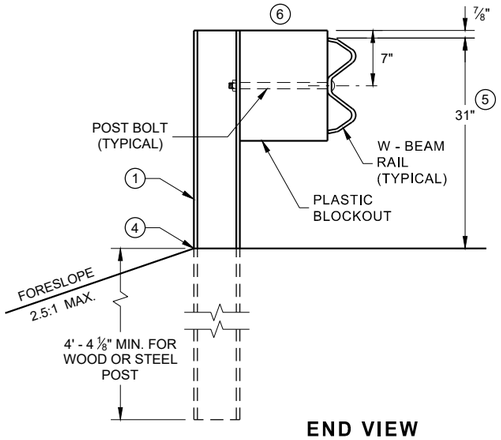
WOOD POST (6" X 8") NOMINAL (1)



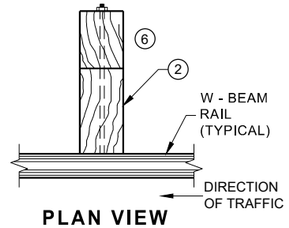
END VIEW
LOCATED ALONG A CURBED ROADWAY



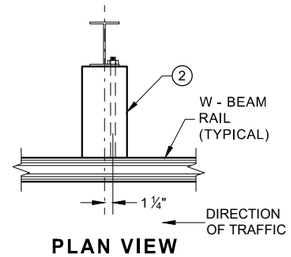
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



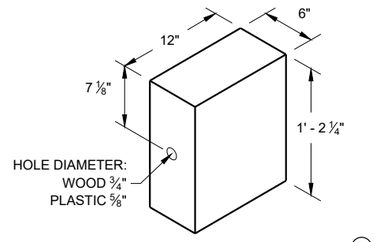
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 06a

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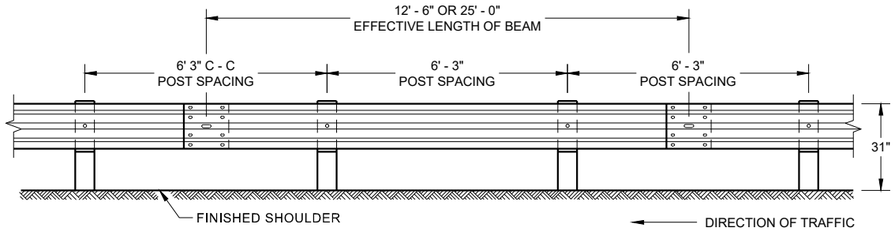
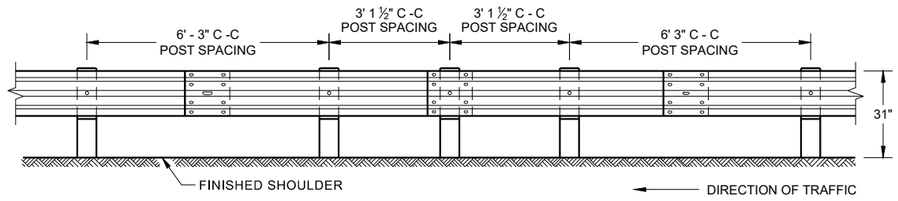
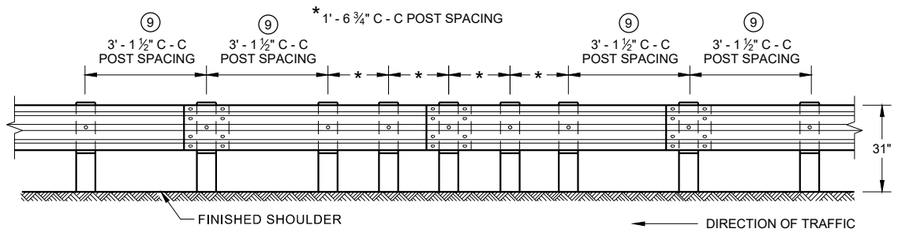
SDD 14B42 - 06a



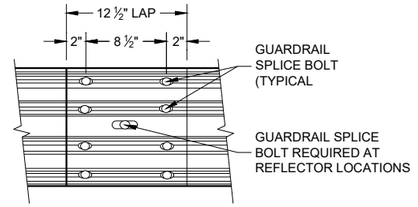
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

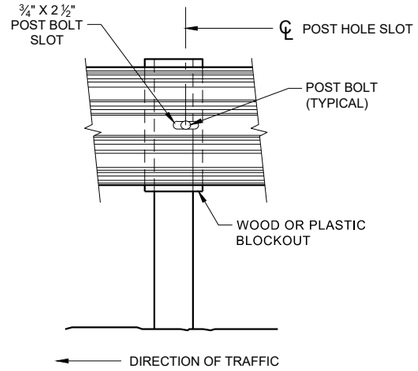
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

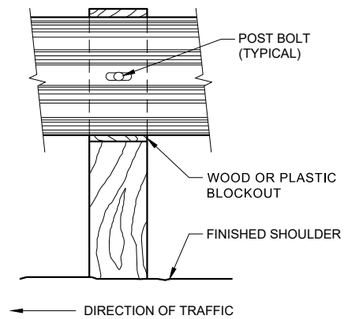
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.

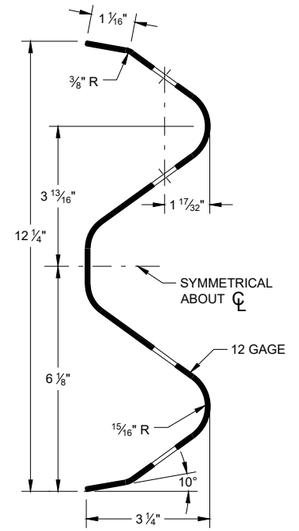
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



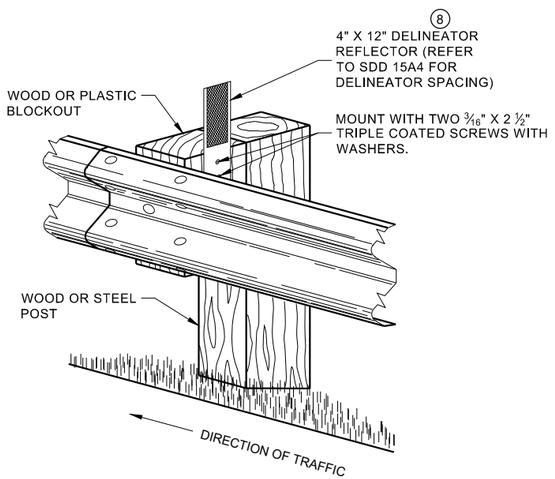
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL

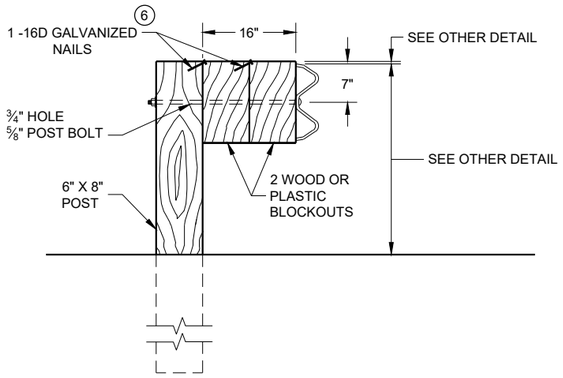


ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 06b

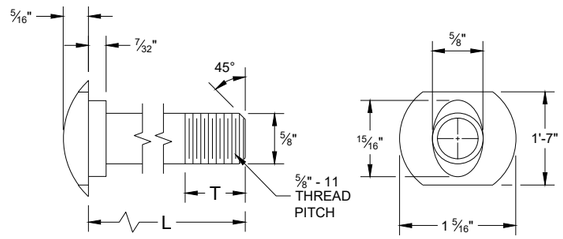


DETAIL FOR 16" BLOCKOUT DEPTH

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.

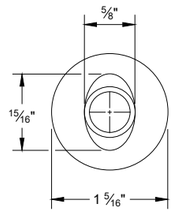
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

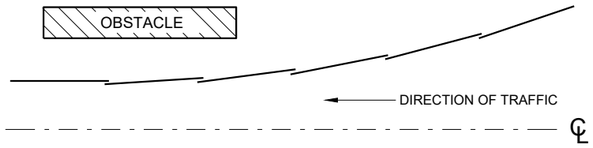


POST BOLT TABLE

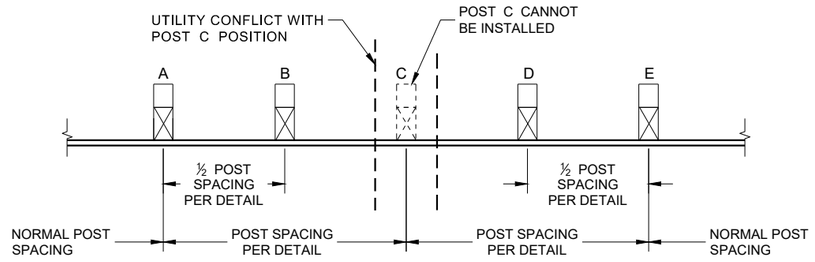
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



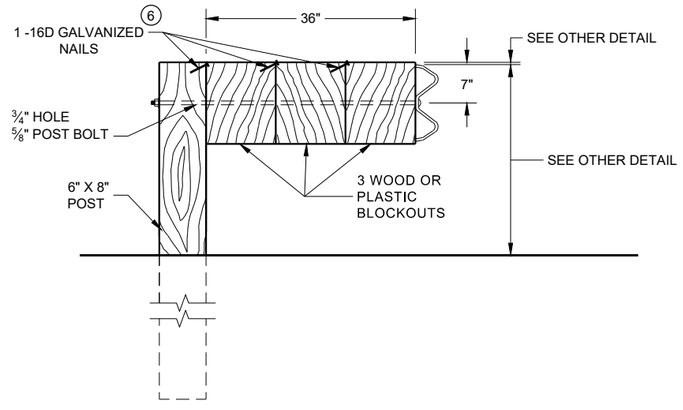
ALTERNATE BOLT HEAD



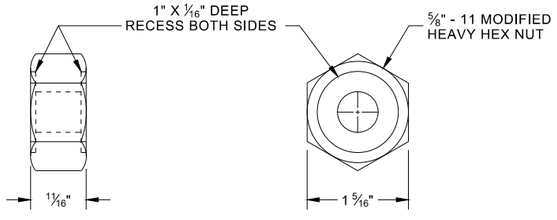
PLAN VIEW
BEAM LAPPING DETAIL



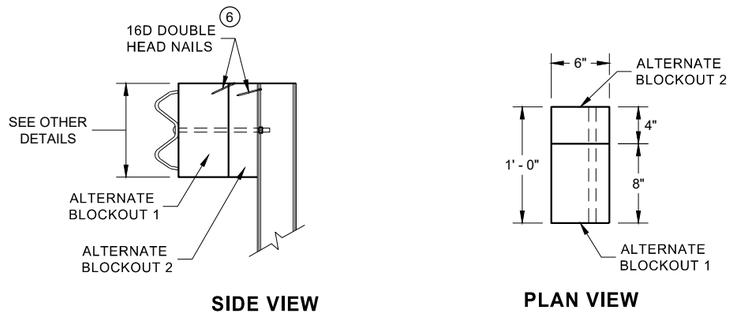
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

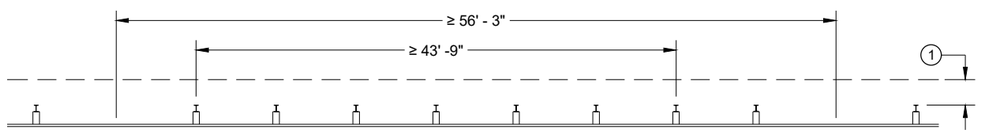
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD 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.

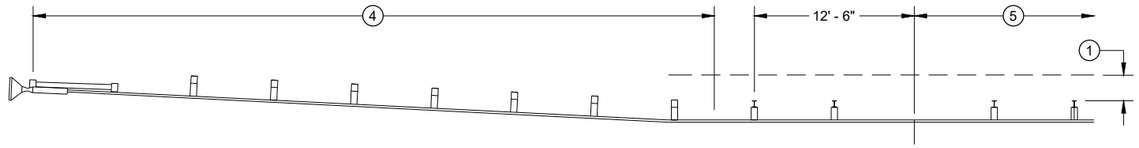
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

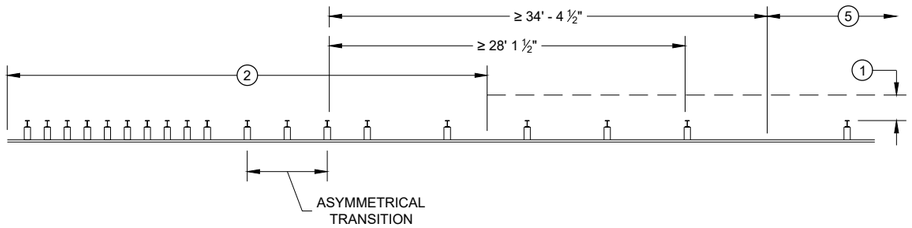
SDD 14B42 - 06c



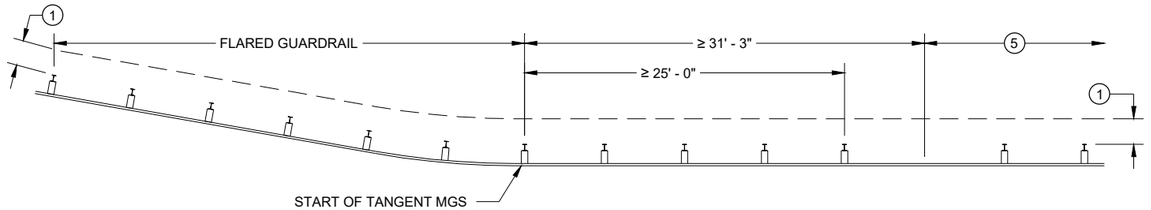
MISSING POST IN NORMAL BEAM GUARD RUN



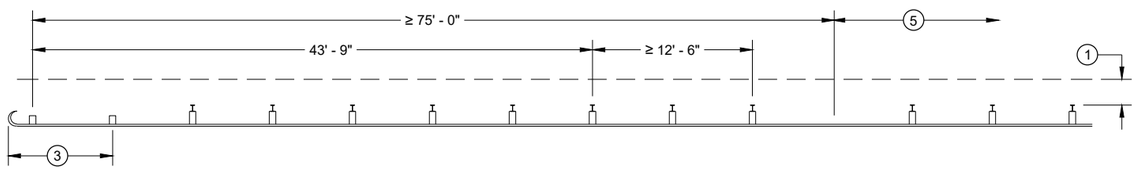
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



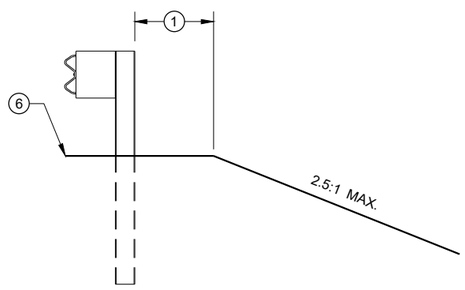
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

SDD 14B42 - 06d

SDD 14B42 - 06d

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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

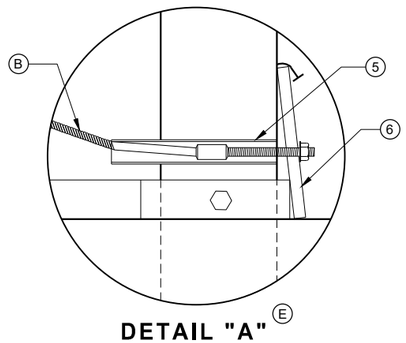
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

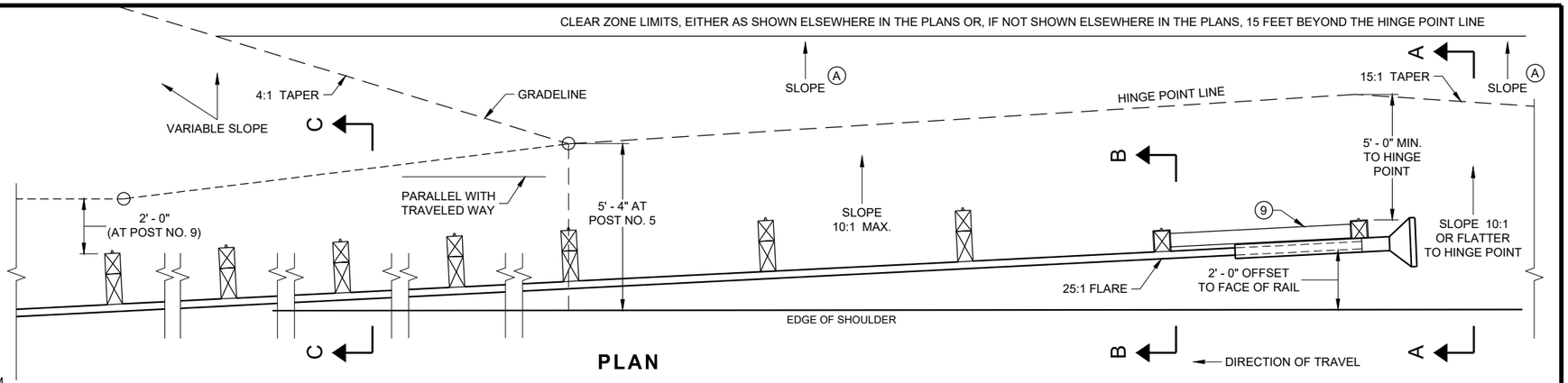
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

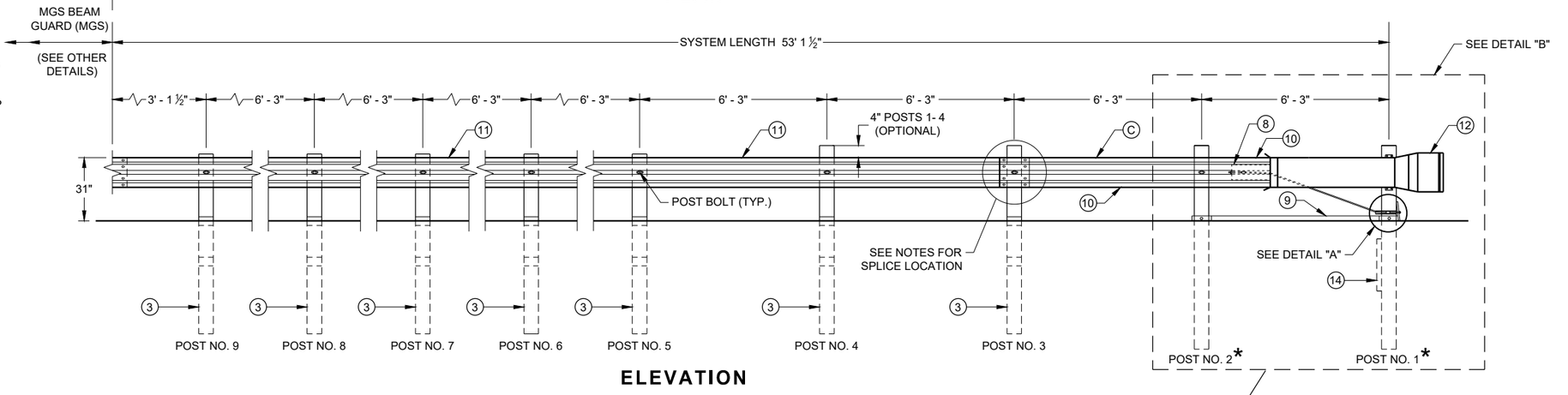
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



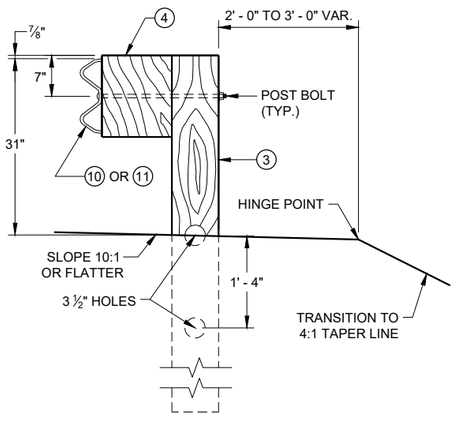
DETAIL "A" (E)



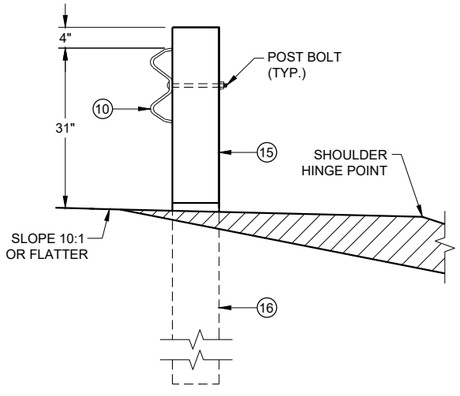
PLAN



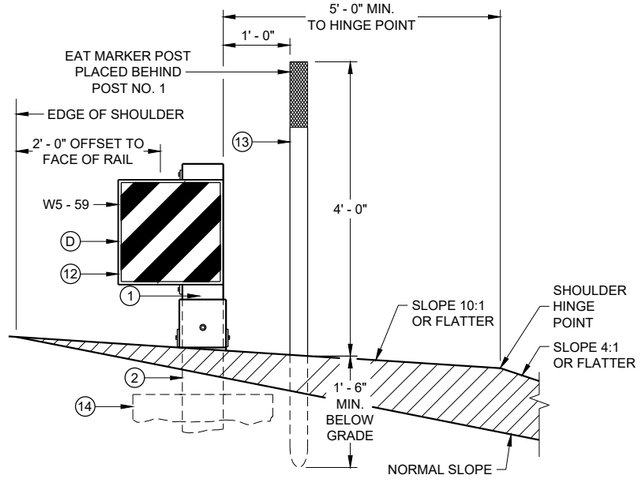
ELEVATION



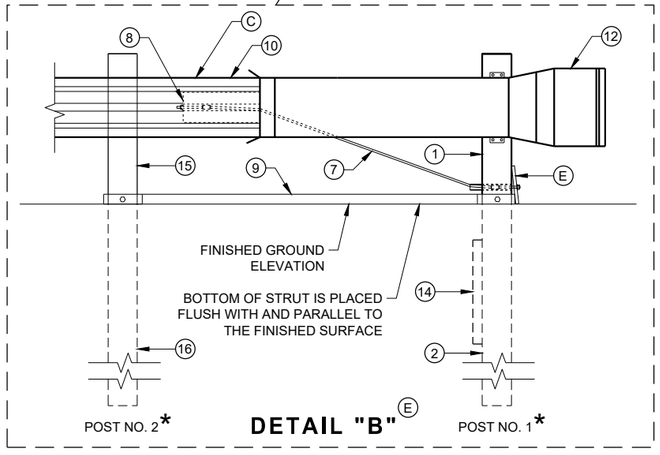
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



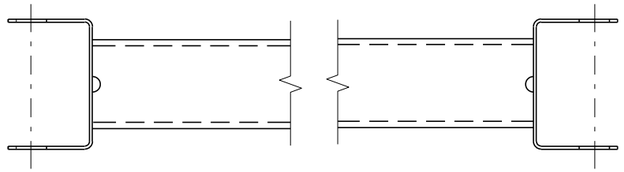
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

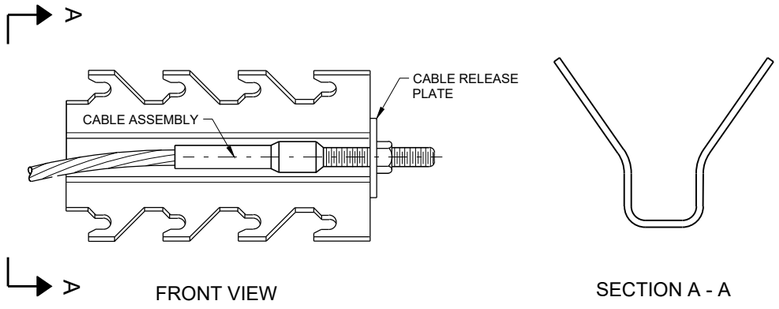
SDD 14B44 - 04a



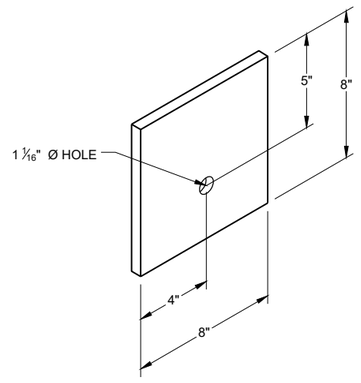
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
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	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

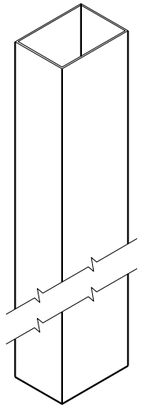
6

SDD 14B44 - 04b

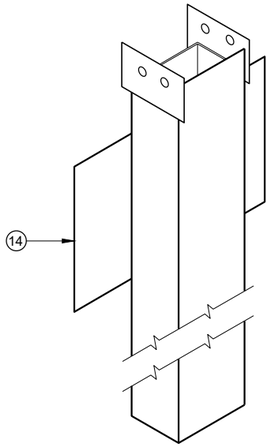
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

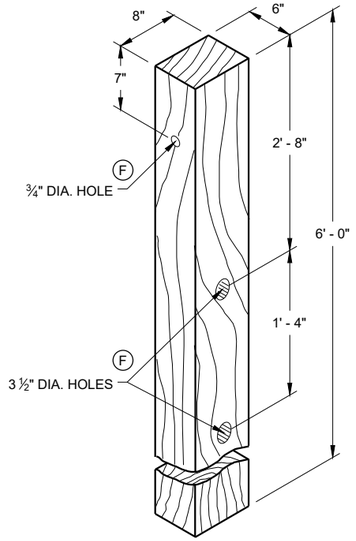
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



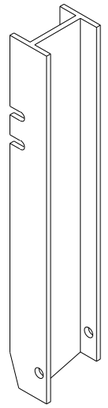
UPPER POST NO. 1 (1) (E)



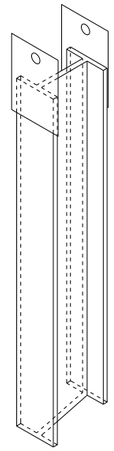
LOWER POST NO. 1 (2) (E)



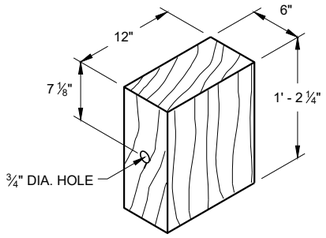
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



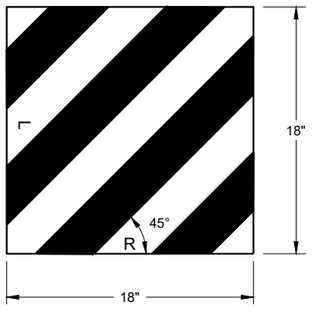
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

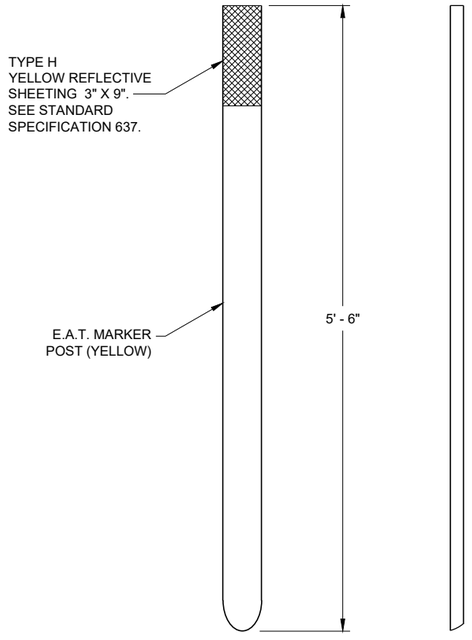


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



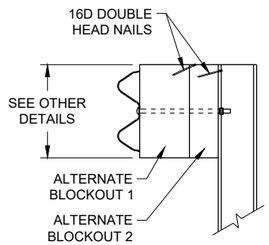
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

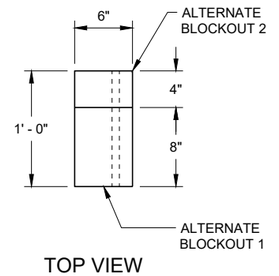


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

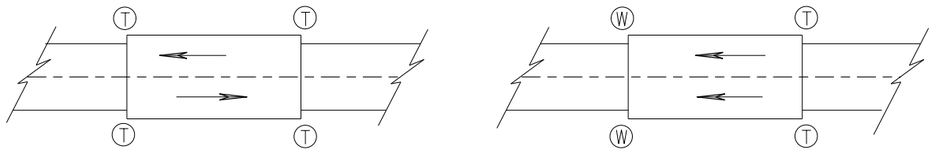
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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.

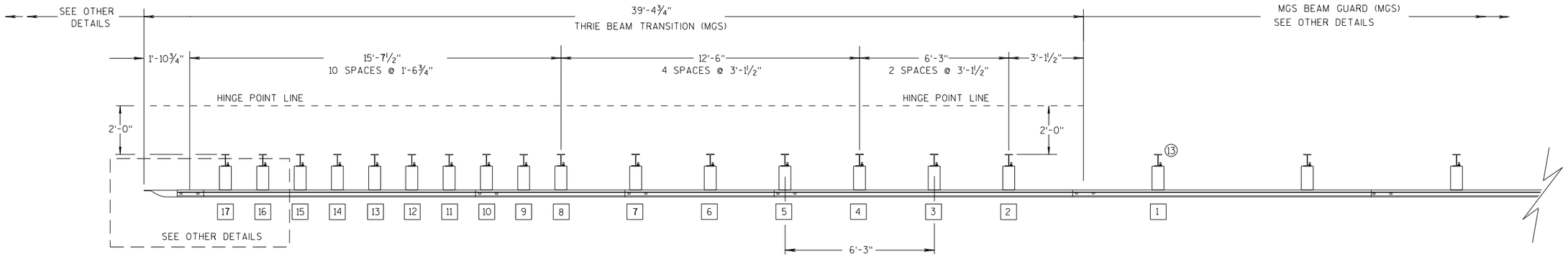
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

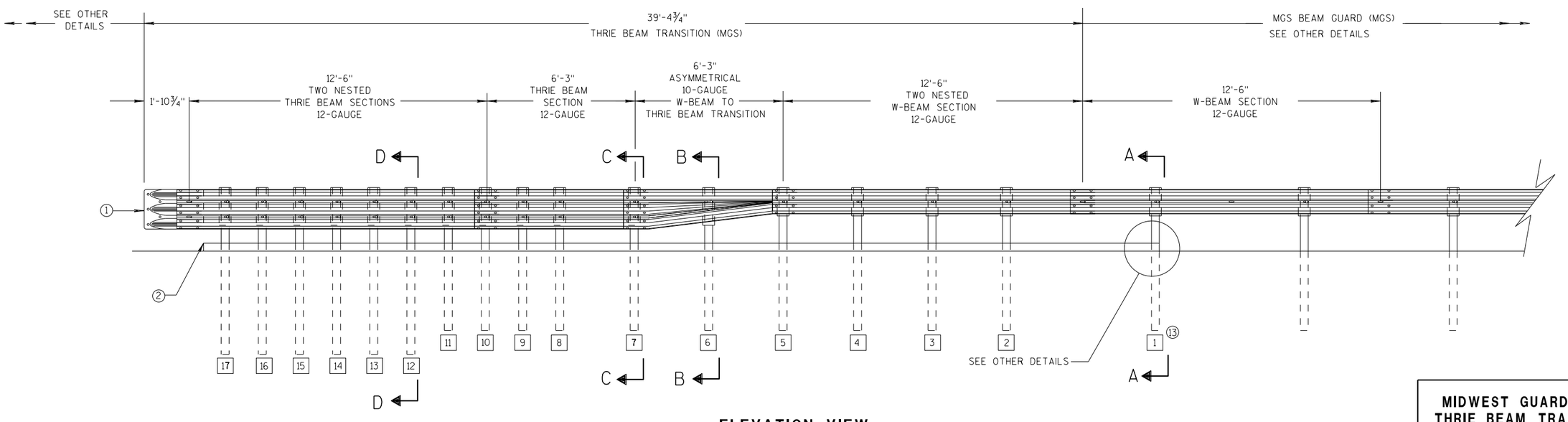
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

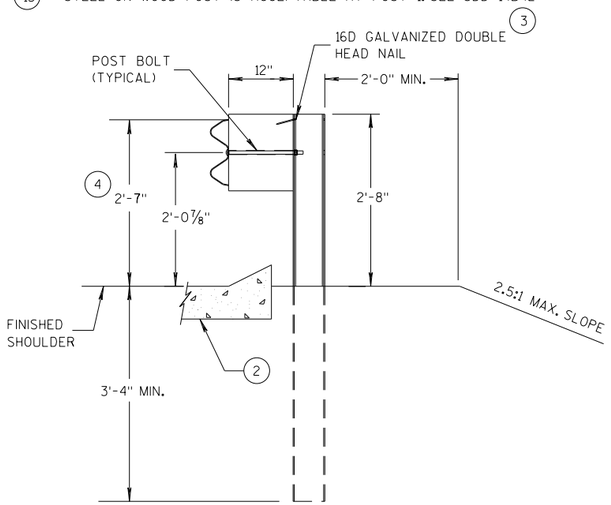
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

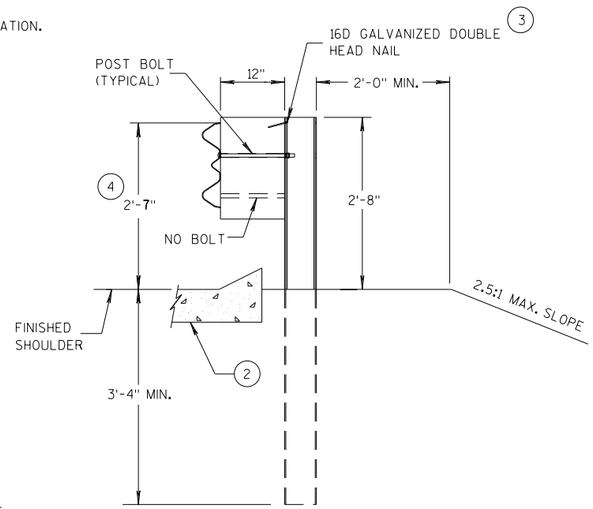
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



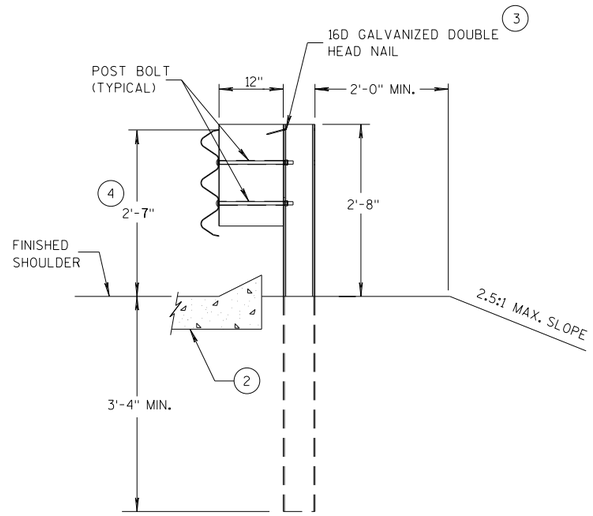
SECTION A-A (13)

POSTS 1-5



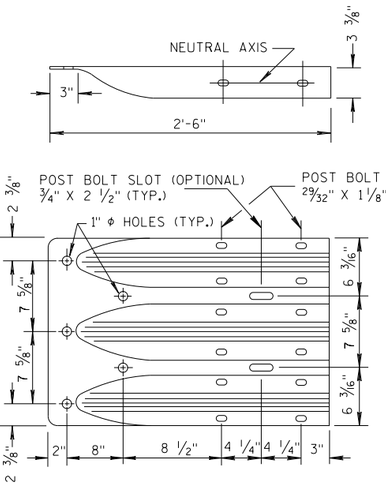
SECTION B-B

POST 6

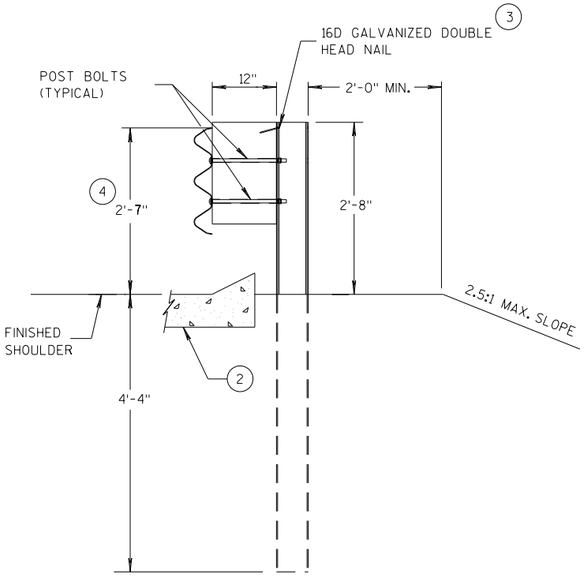


SECTION C-C

POSTS 7-11

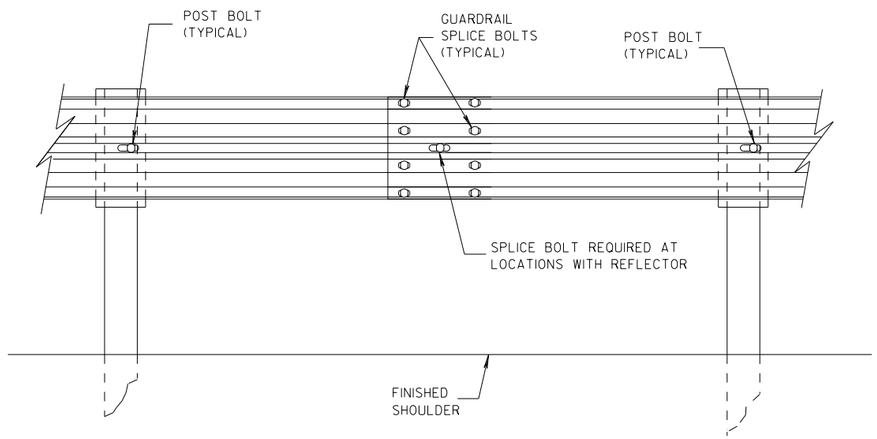


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

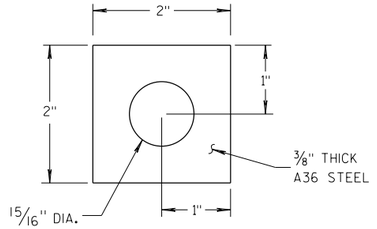
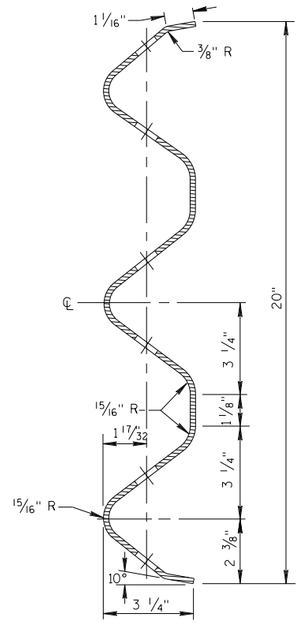


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

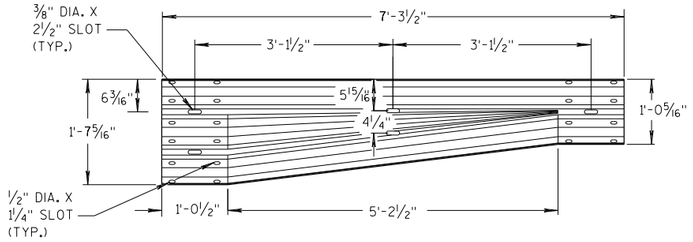
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 49

6

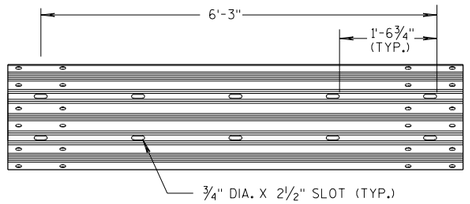
S.D.D. 14 B 45-5b

6

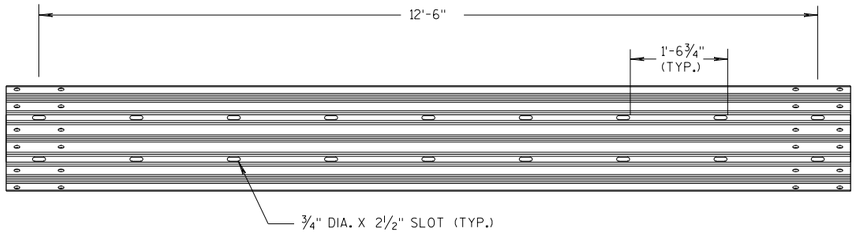
S.D.D. 14 B 45-5b



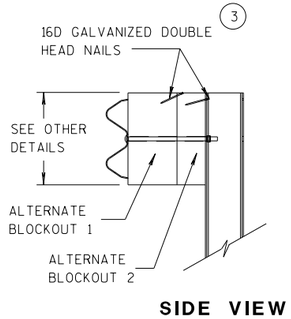
W-BEAM TO THRIE BEAM TRANSITION SECTION



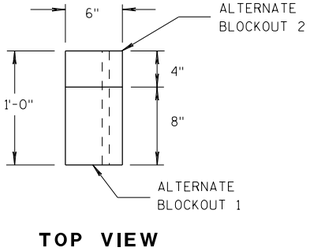
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

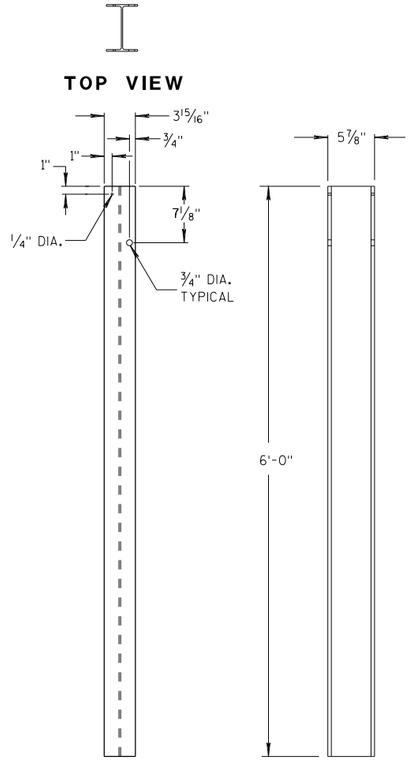


SIDE VIEW



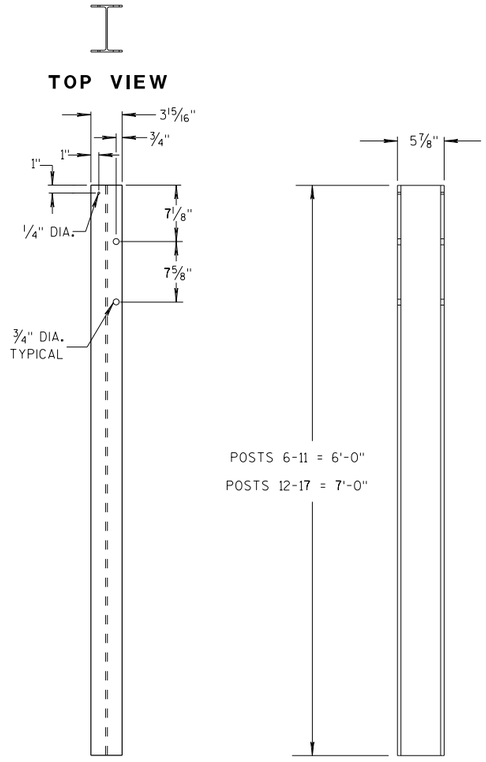
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



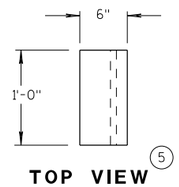
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

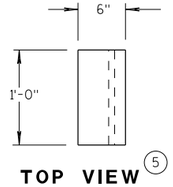


FRONT VIEW SIDE VIEW

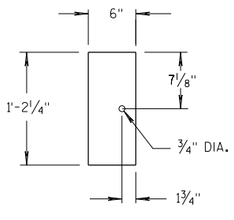
STEEL POSTS 6-17



TOP VIEW (5)

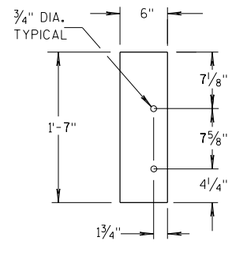


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS 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.

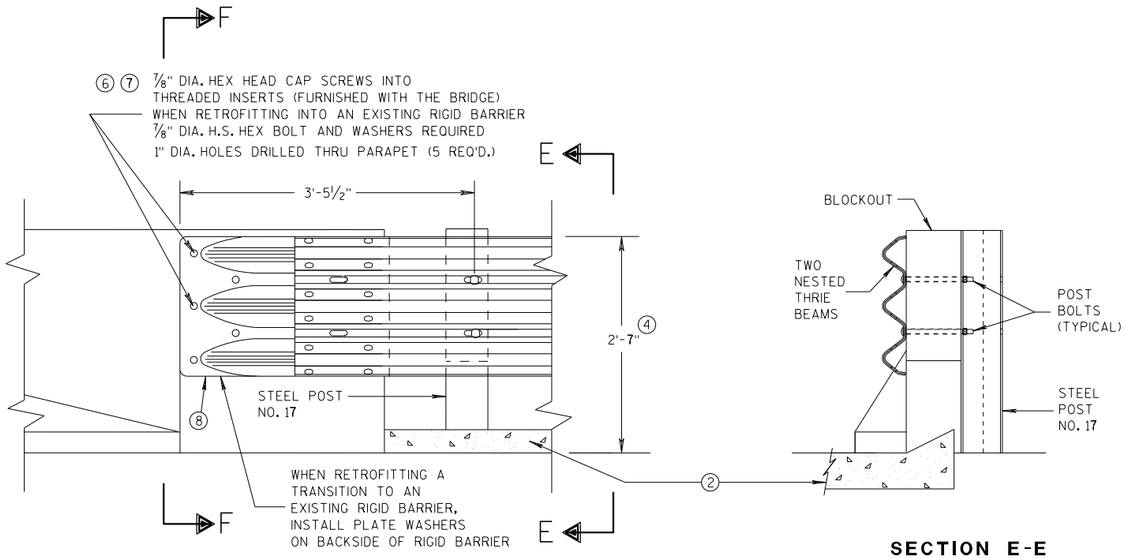
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6
S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

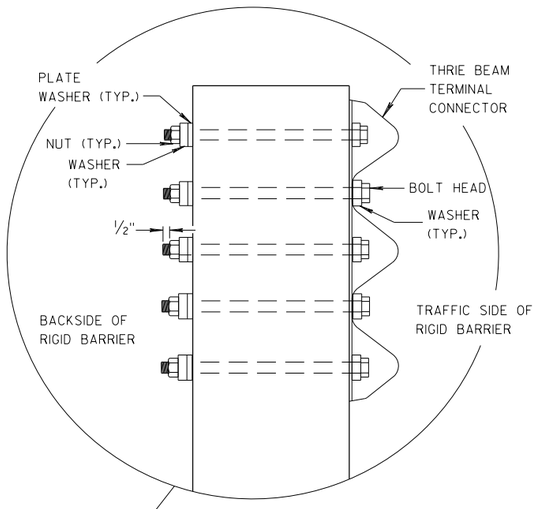
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

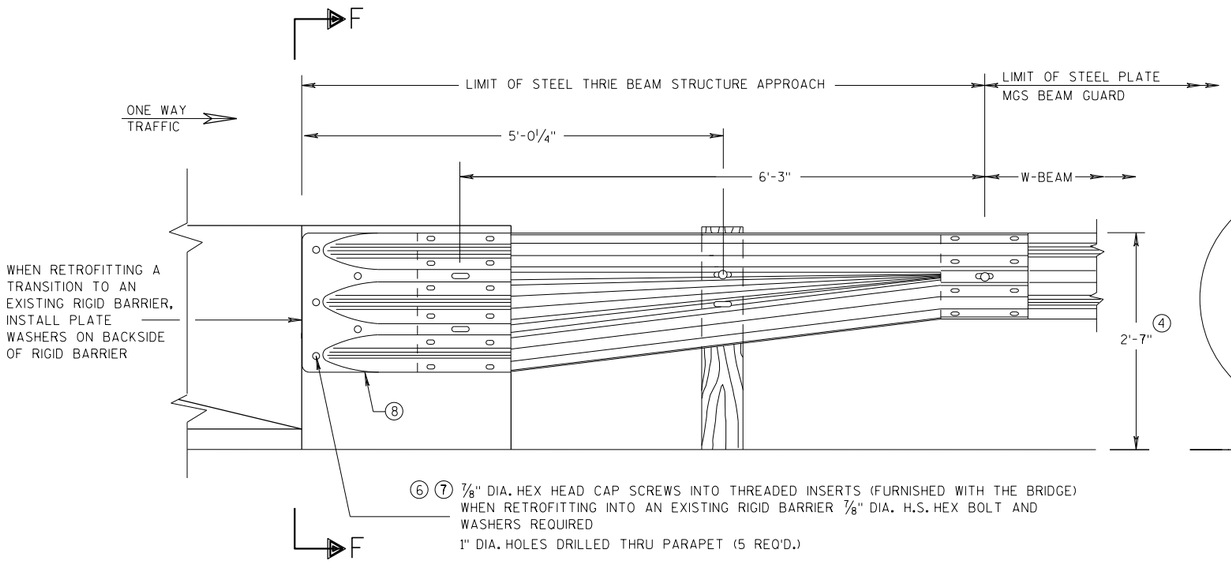
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

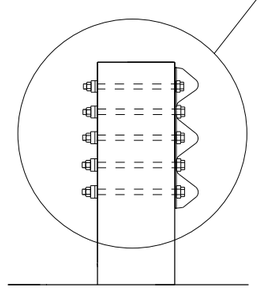
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ 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".

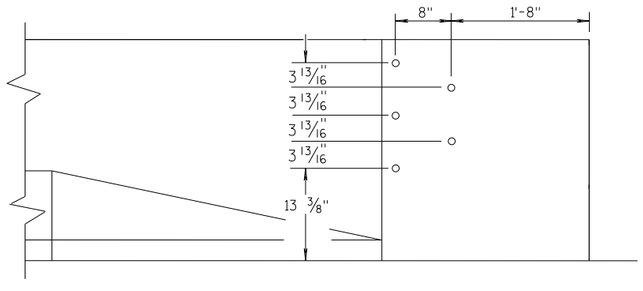




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

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
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]
[illegible]NT
FHWA

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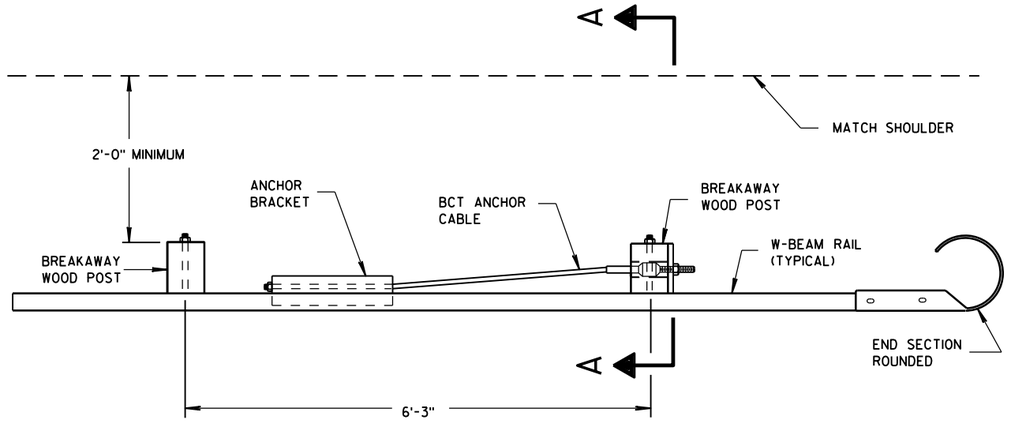
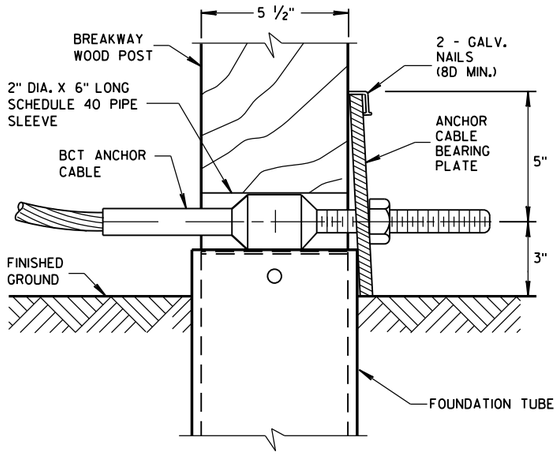
S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d



PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

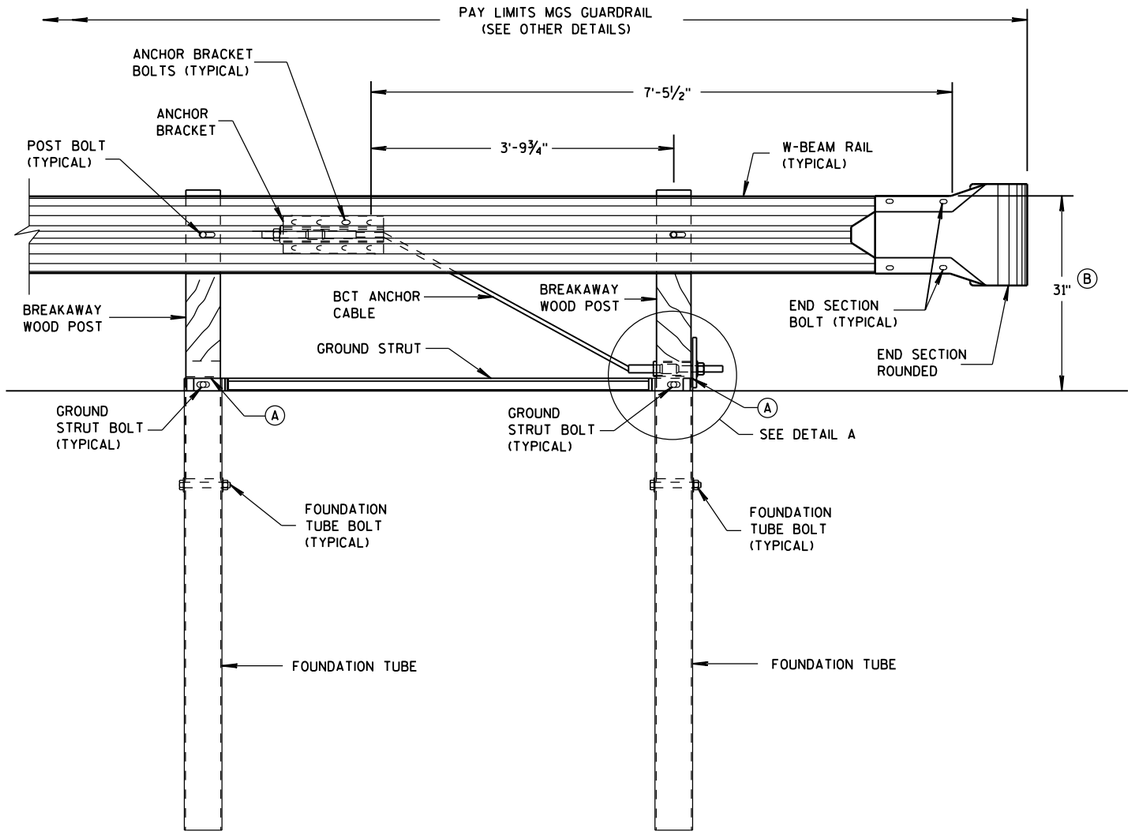
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

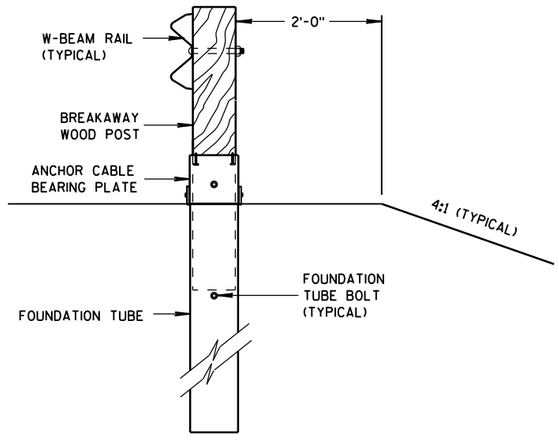
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".

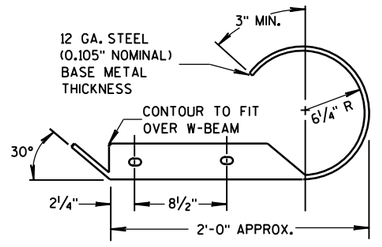


FRONT VIEW

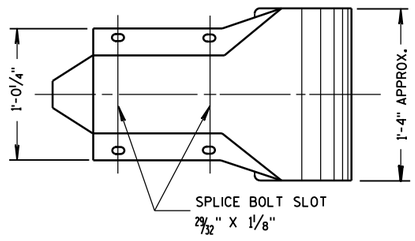
END RAIL DETAIL



SECTION A-A



PLAN VIEW



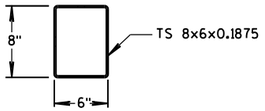
FRONT VIEW

W BEAM END SECTION ROUNDED

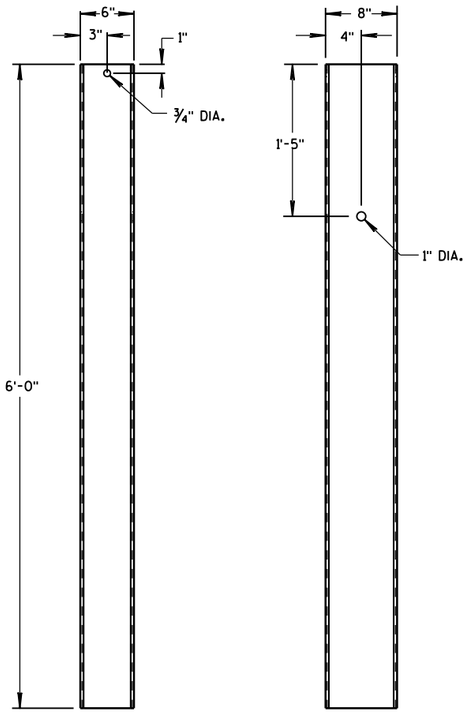
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a

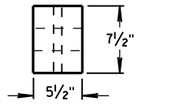


PLAN VIEW

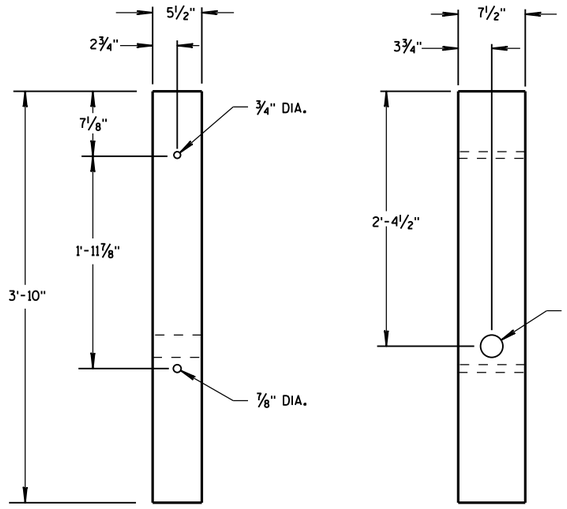


FRONT VIEW SIDE VIEW

FOUNDATION TUBE



PLAN VIEW



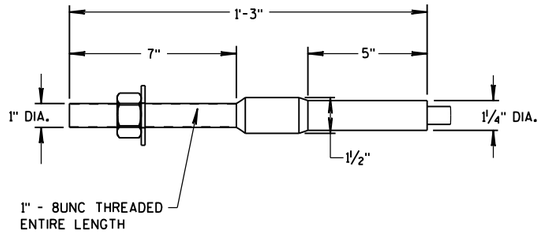
FRONT VIEW SIDE VIEW

BREAKAWAY WOOD POST

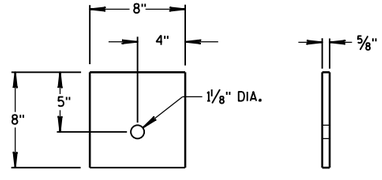
GENERAL NOTES

BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

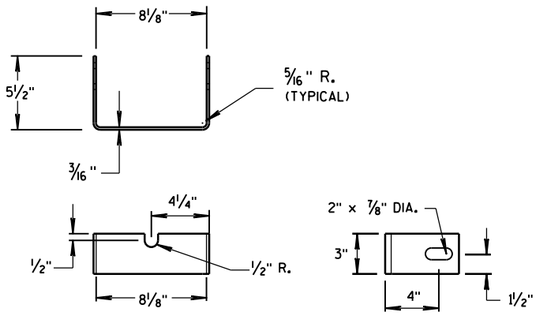
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

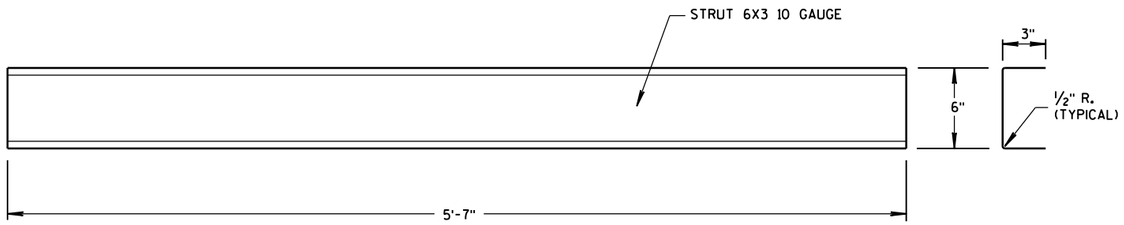
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

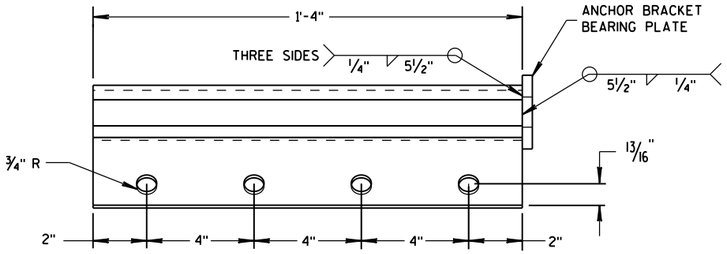
S.D.D. 14 B 47-2b

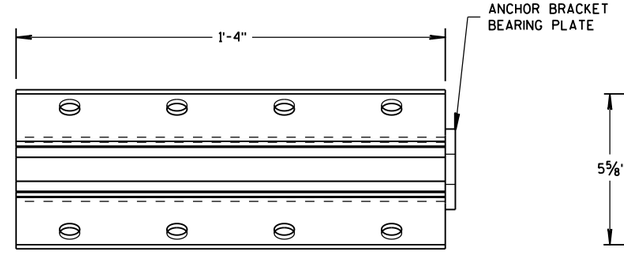


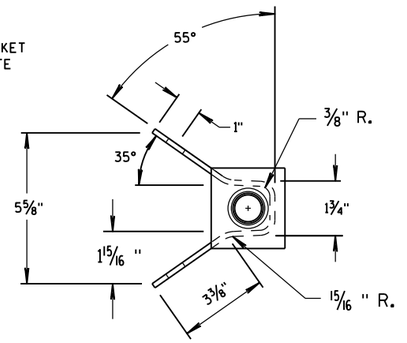
YOKE DETAIL



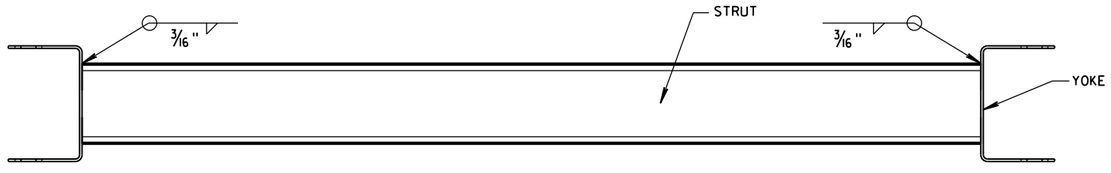
STRUT DETAIL



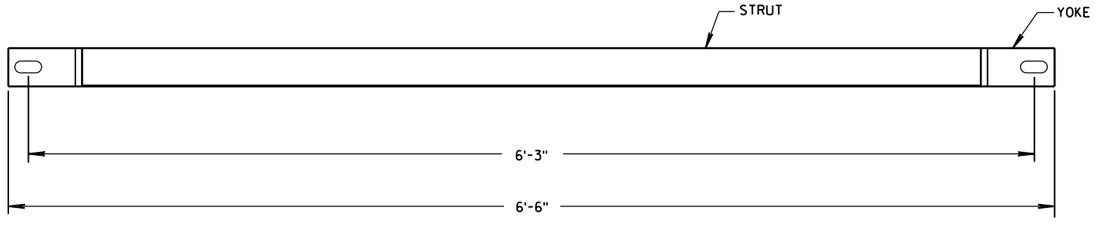




ANCHOR BRACKET

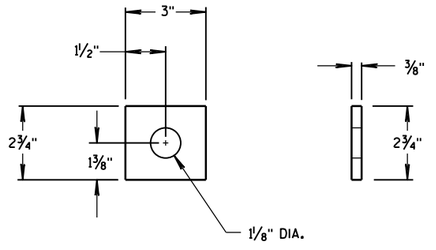


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 14 B 47-2c

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.

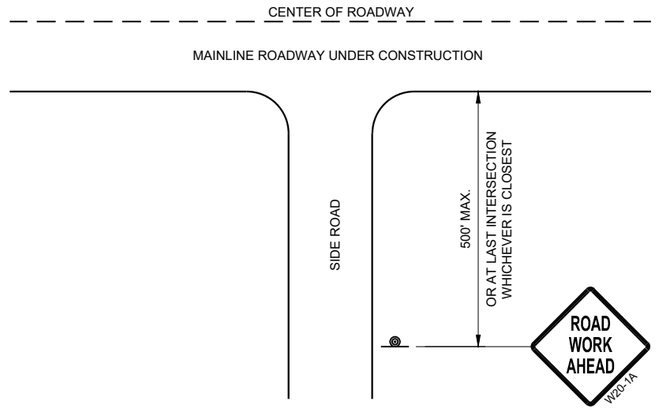
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 REESTABLISHED.

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

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



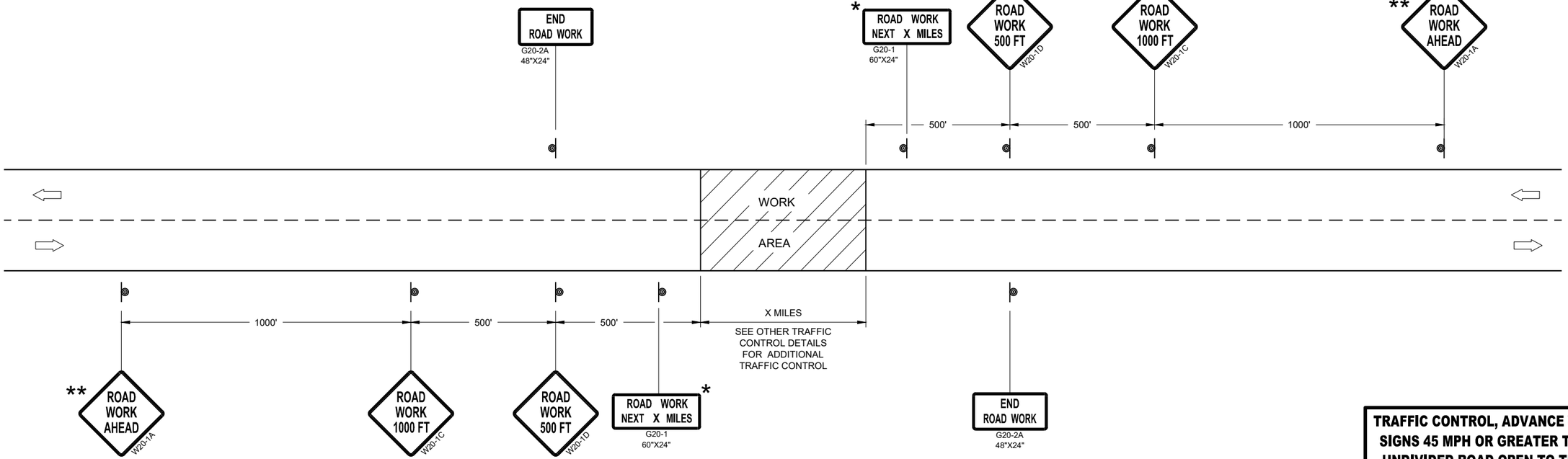
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

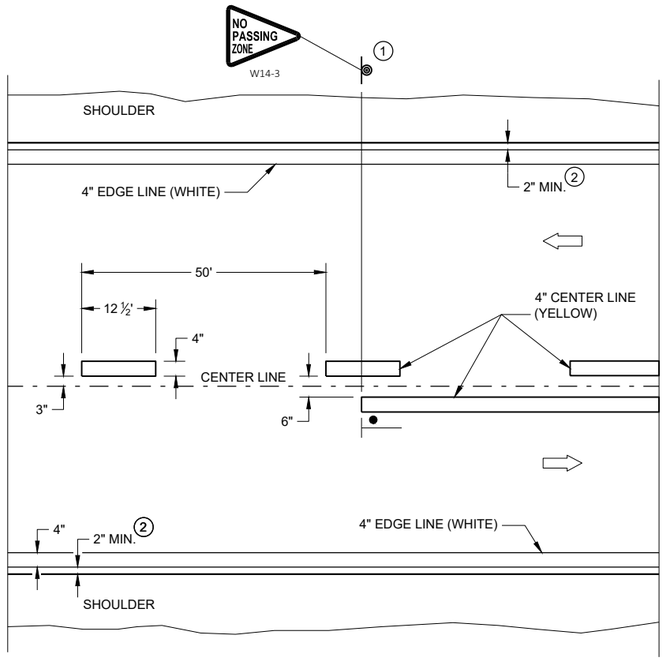
APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

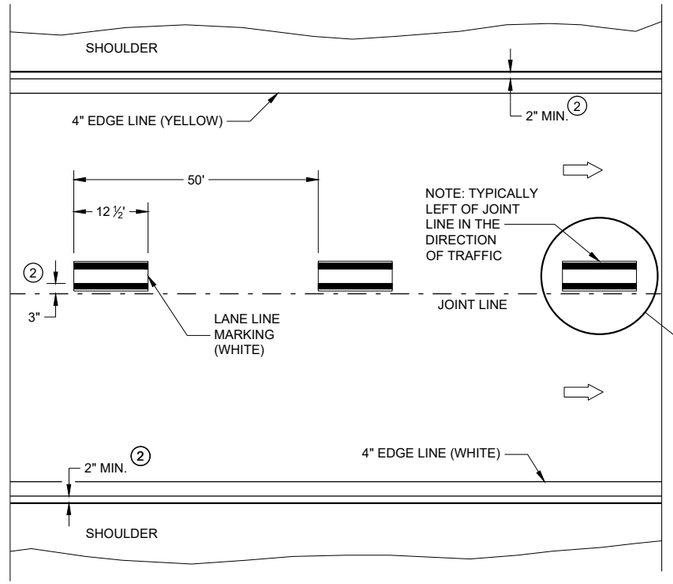
FHWA

6

SDD 15C04 - 05

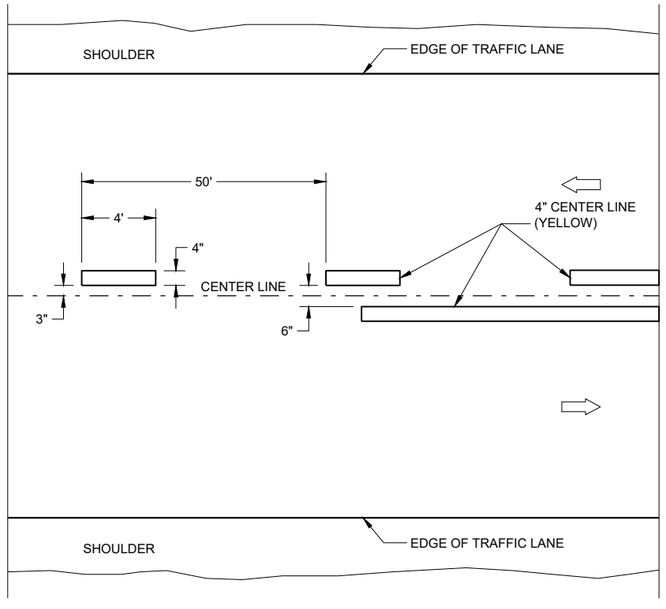


TWO WAY TRAFFIC

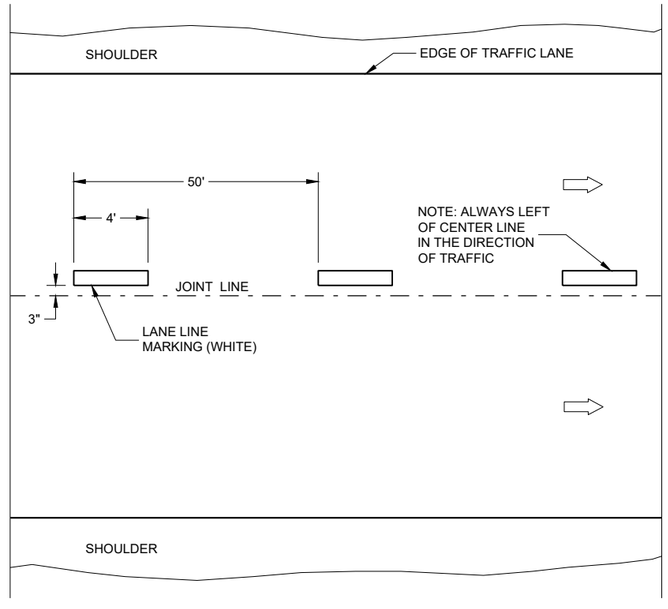


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

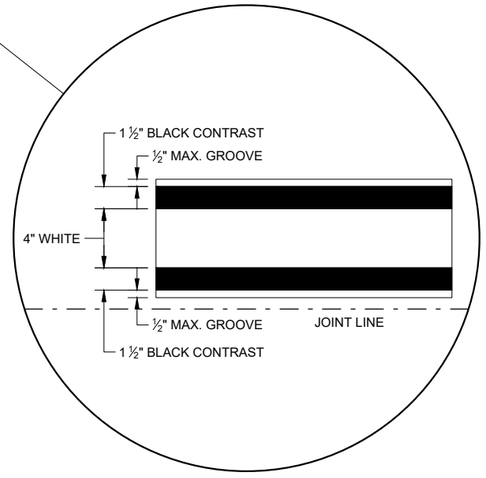
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

FHWA

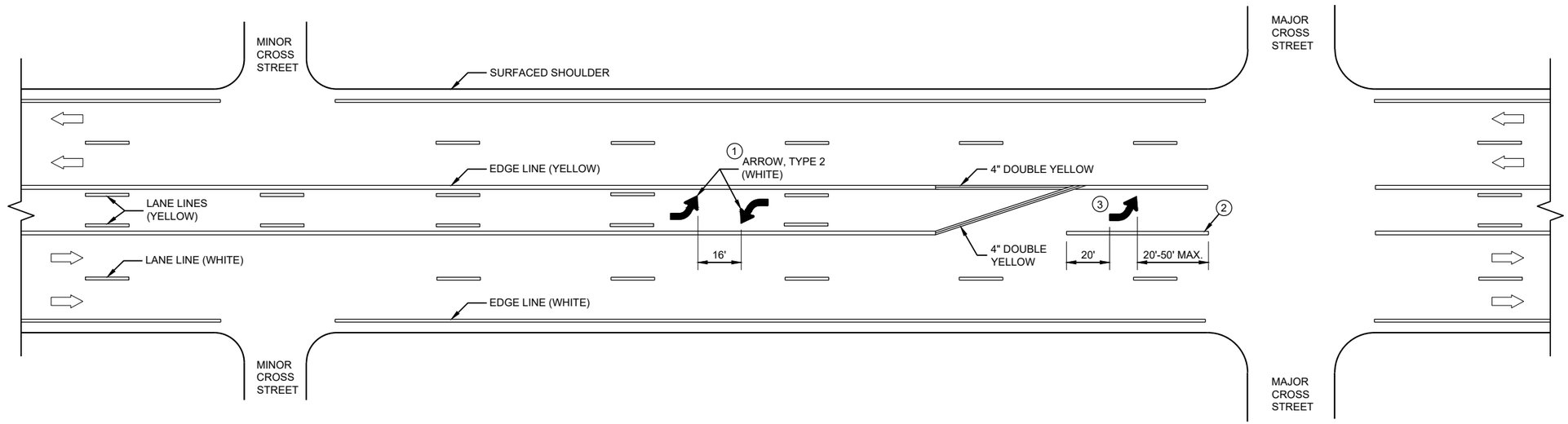
SDD 15C08 - 20a

SDD 15C08 - 20a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

6

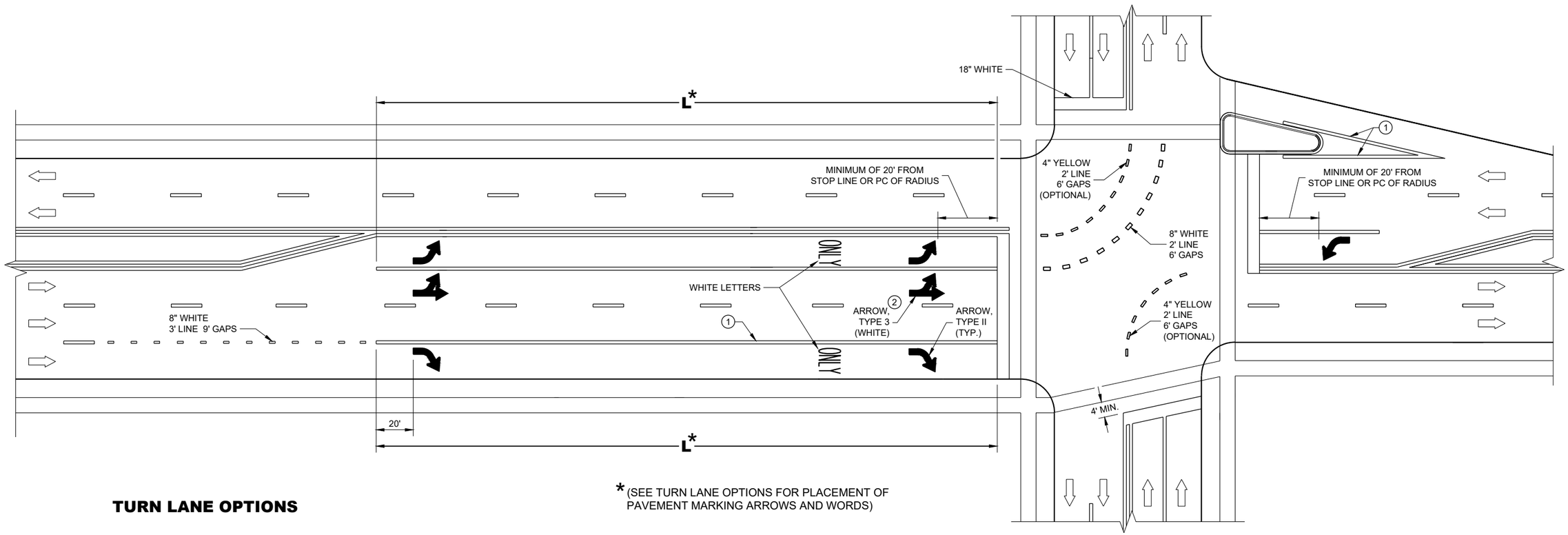
6

SDD 15C08 - 20b

SDD 15C08 - 20b

PAVEMENT MARKING (TURN LANES)

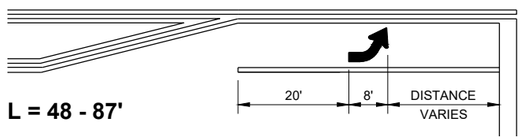
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



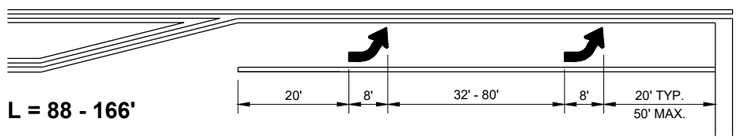
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

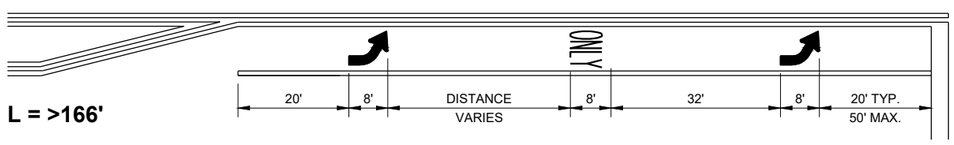
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C08 - 20c

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR 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.

FLAGGING

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. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

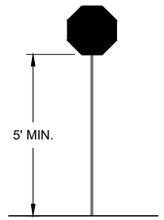
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



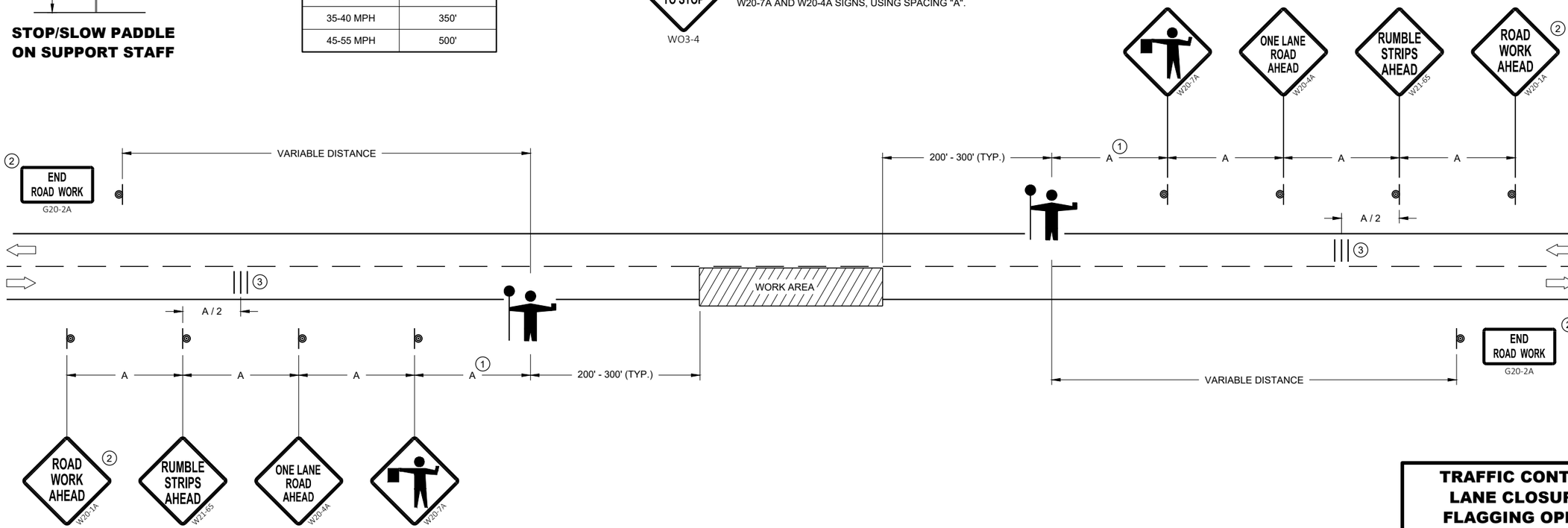
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C12 - 07

SDD 15C12 - 07

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

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.

ALL 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.

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 AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

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

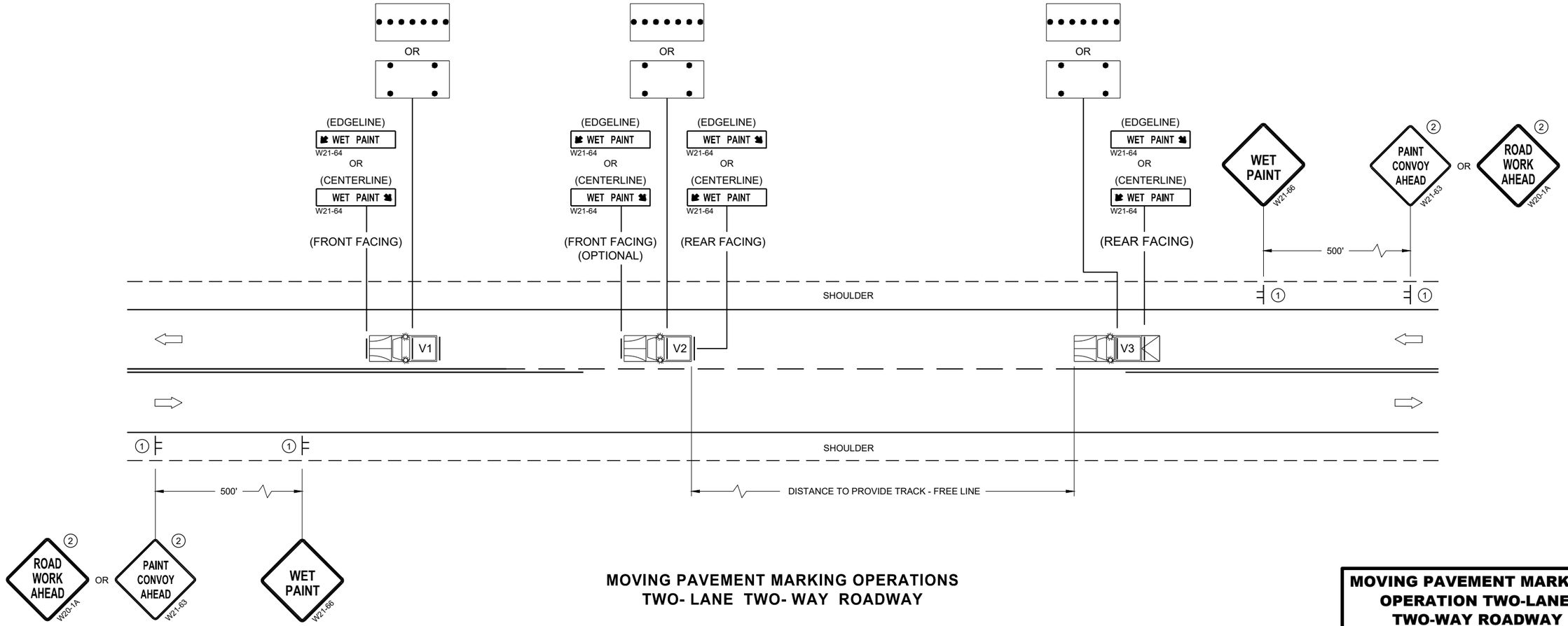
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 18" FOR WET PAVEMENT MARKING .

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

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



MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

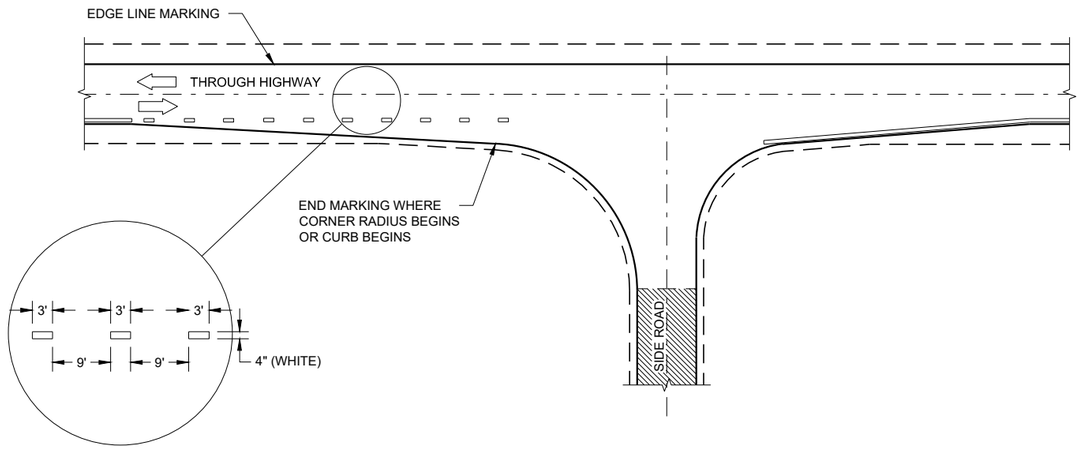
APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

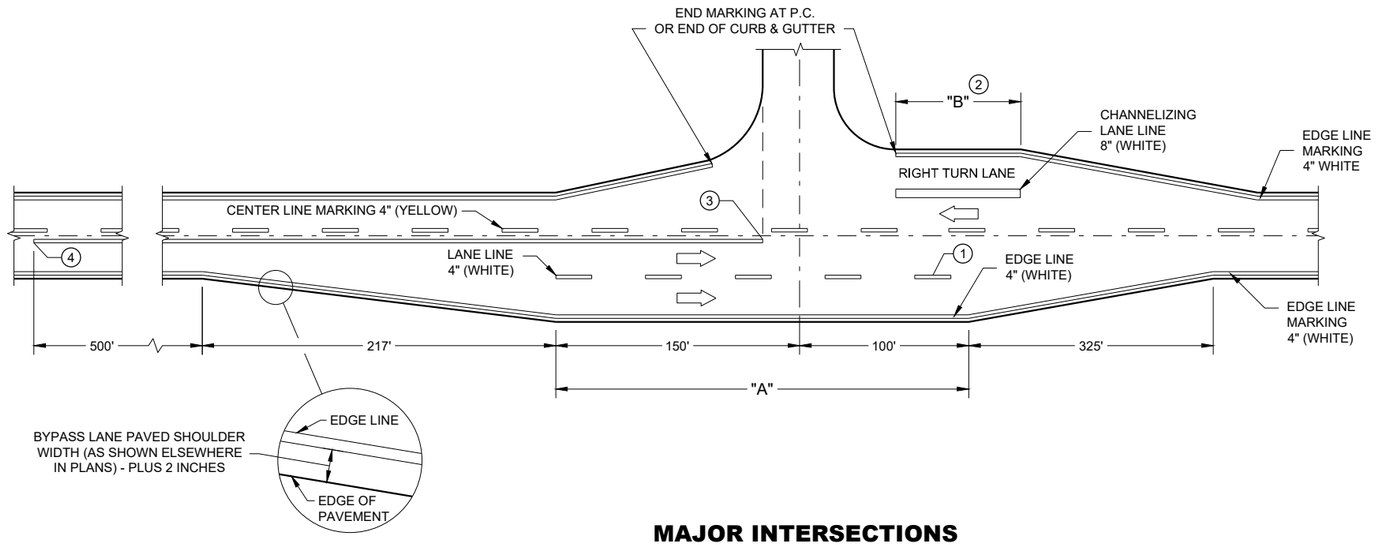
FHWA

SDD 15C19 - 06a

SDD 15C19 - 06a



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

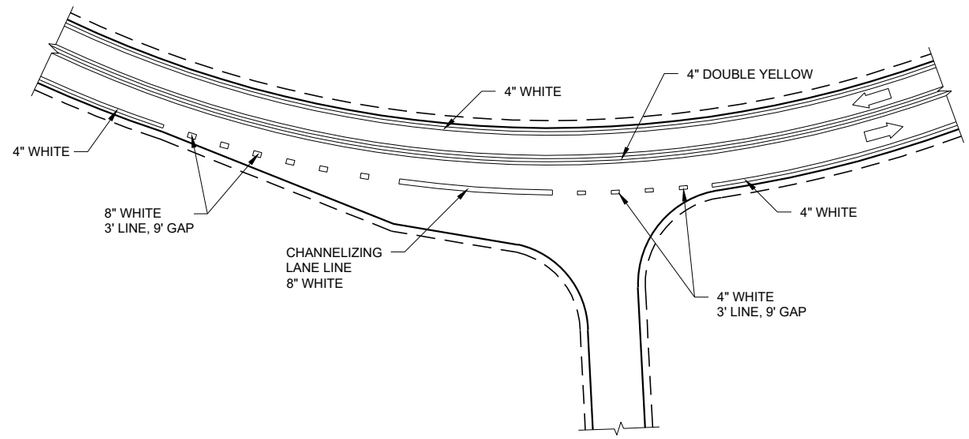
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C35 - 04a

6

SDD 15C35 - 04a

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

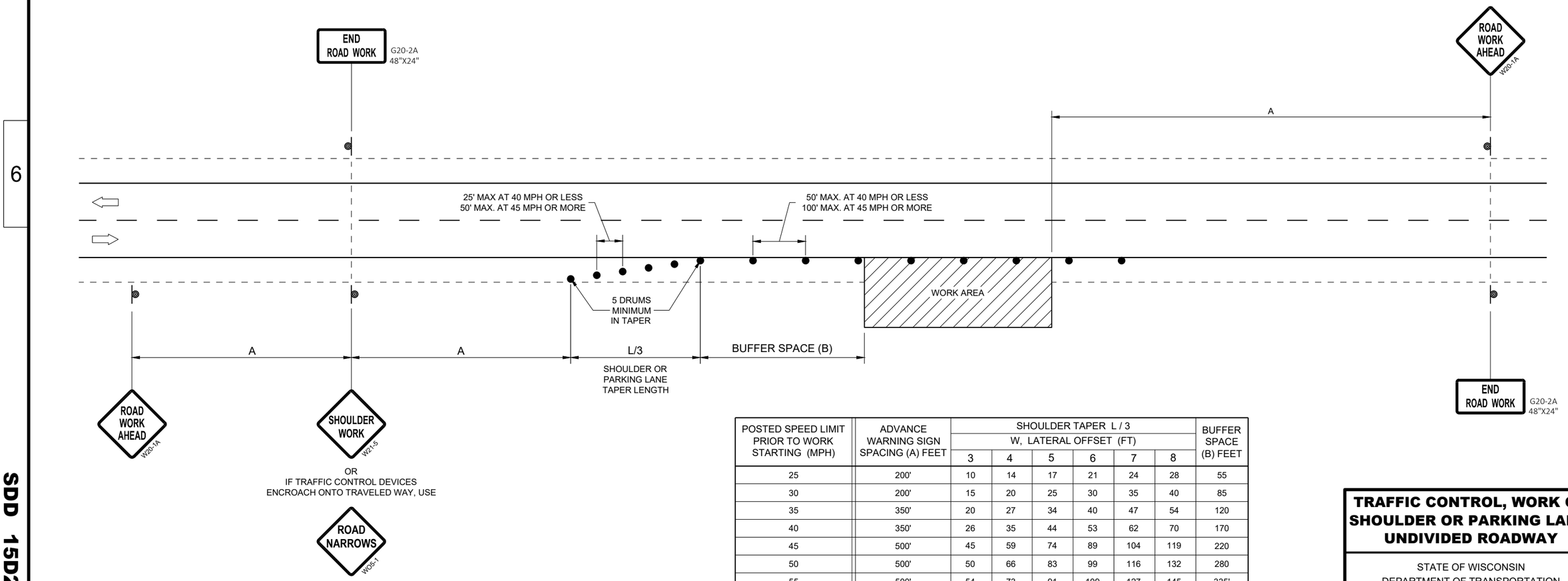
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

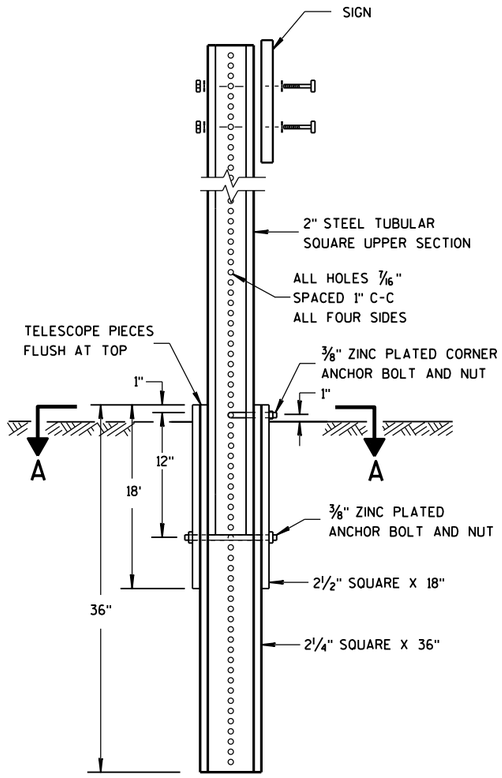
APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

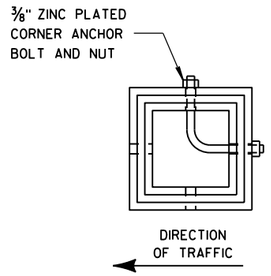
FHWA

SDD 15D28 - 04

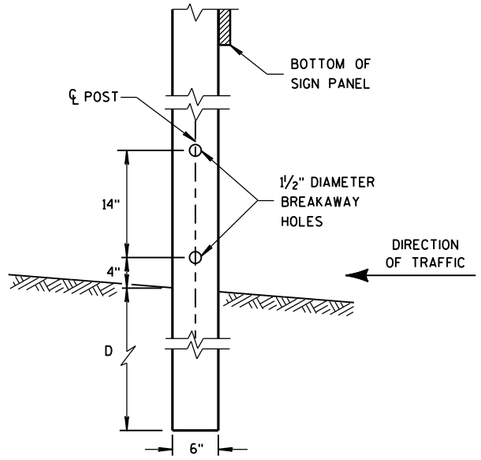
SDD 15D28 - 04



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



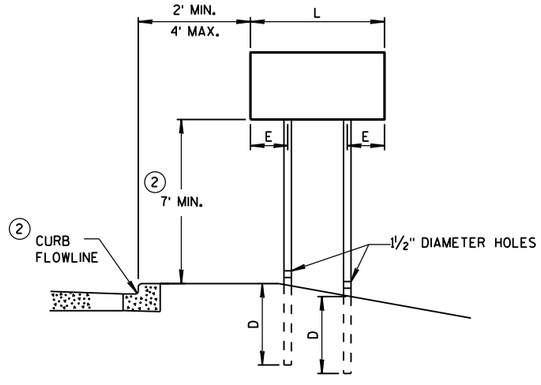
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

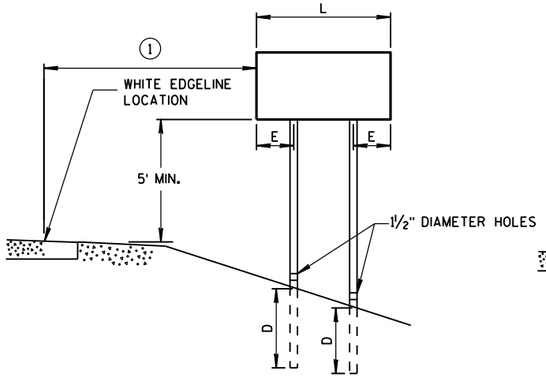
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

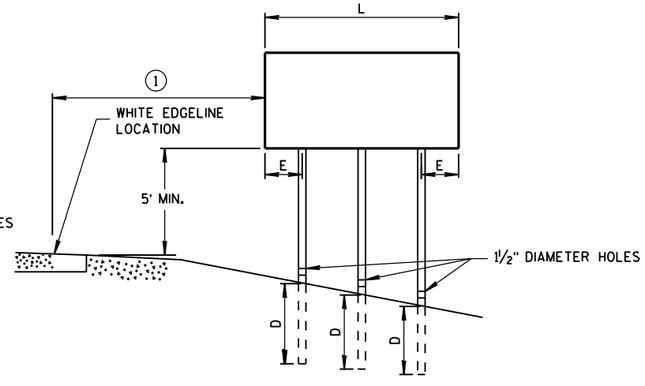
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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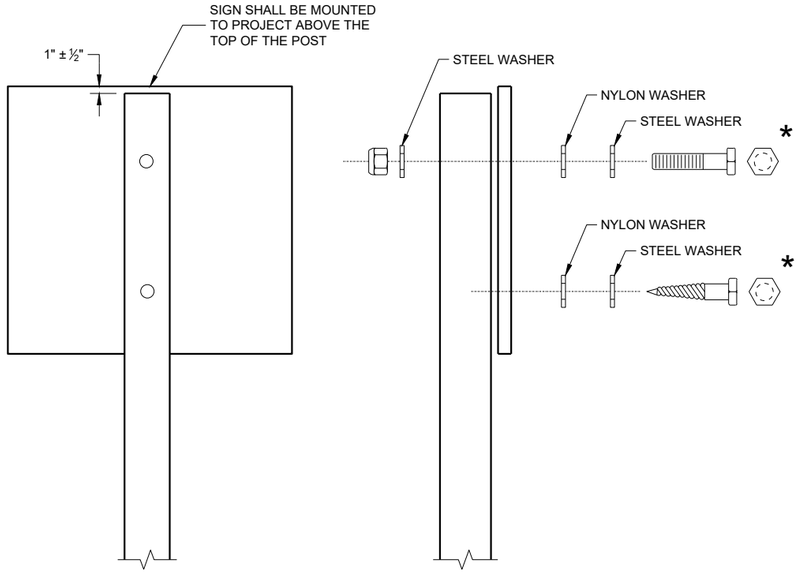
S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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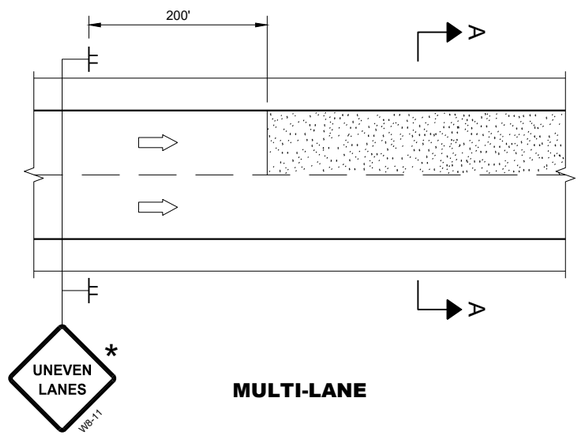
SDD 15D38 - 02b

SDD15D38 - 02b

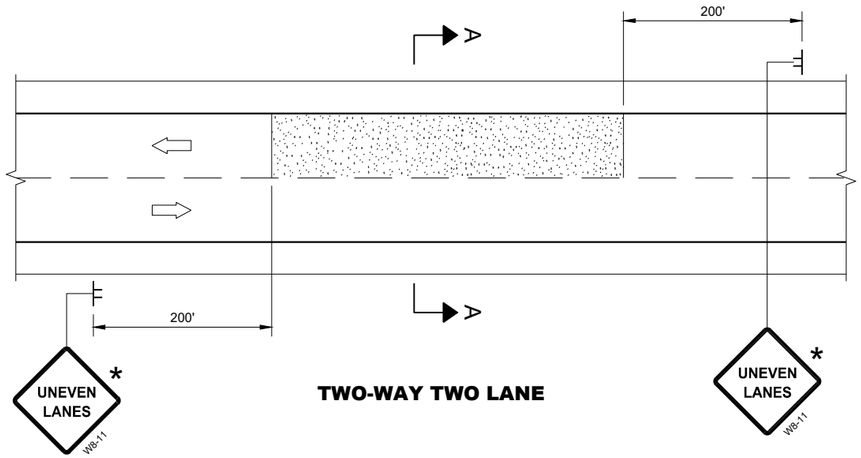
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

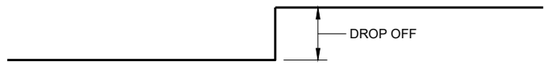
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA



MULTI-LANE

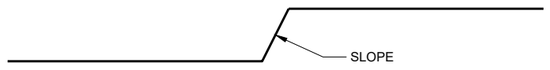


TWO-WAY TWO LANE

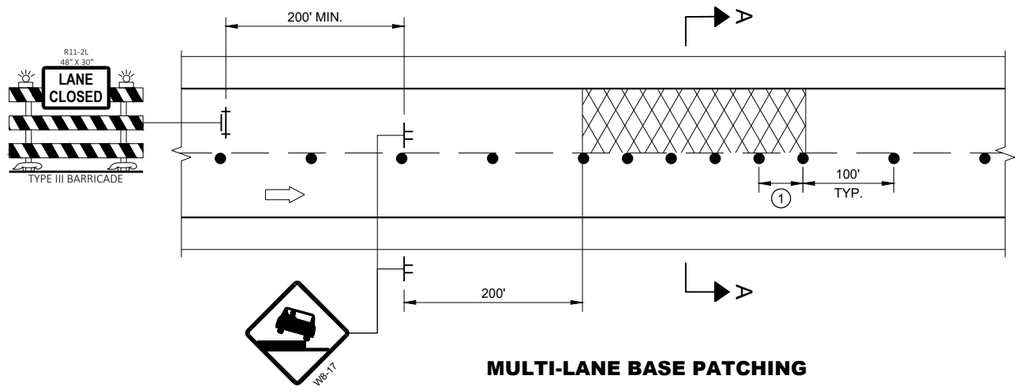


SECTION A - A

OR

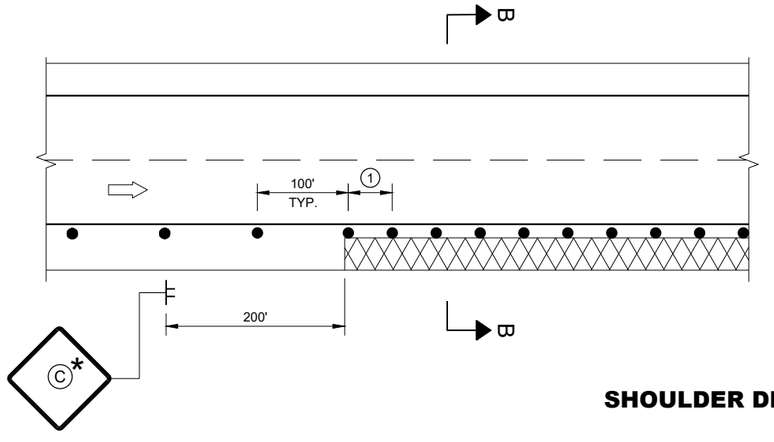


SECTION A - A

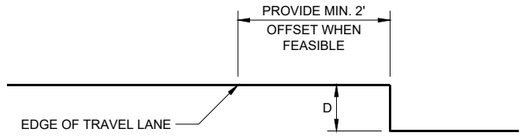


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

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

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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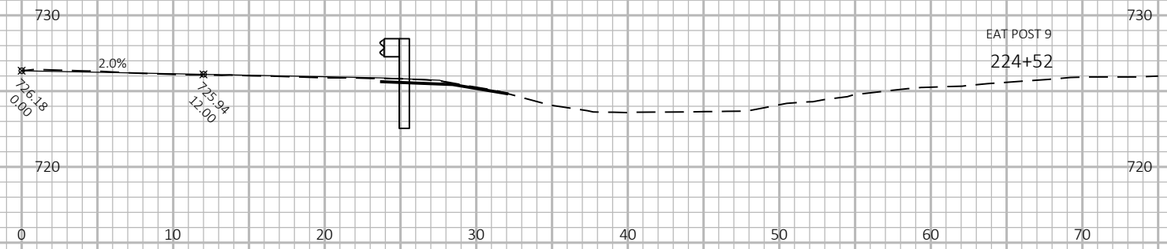
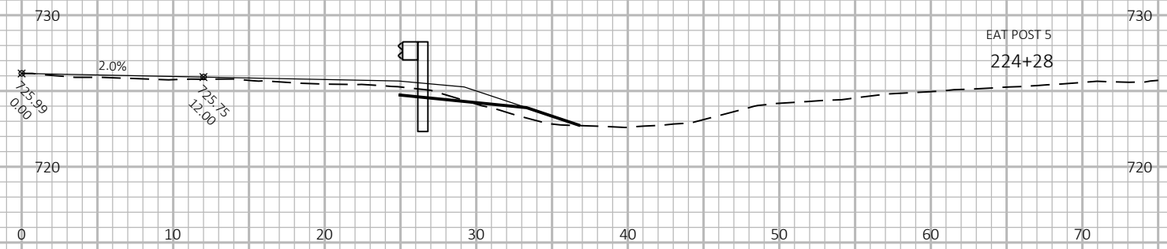
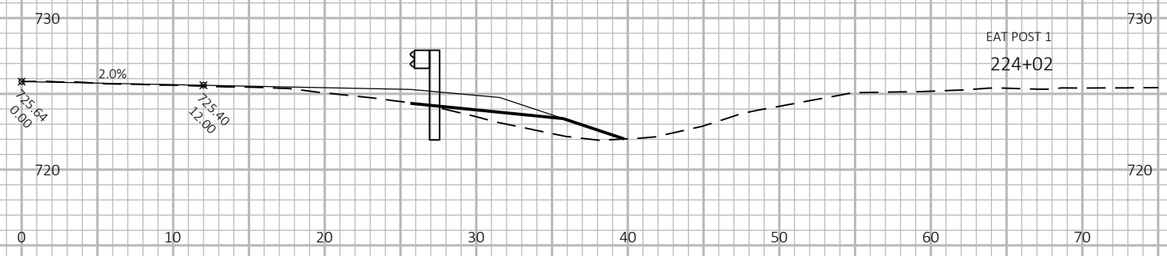
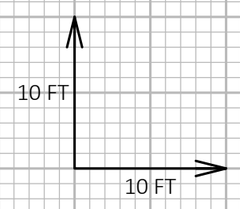
SDD 15D39 - 02









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PROJECT NO: 1640-03-61	HWY: USH 14	COUNTY: LA CROSSE	CROSS SECTIONS: USH 14	SHEET 66	E

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\145831\PERMANENT\5-FINAL-DSGN\51-DRAWINGS\10-CIVIL\C3D\16400331\SHEETSPLAN\090102-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 7/14/2020 4:18 PM PLOT BY : CLARISSA M. HOETH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

Wisconsin Department of Transportation

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through innovation and exceptional service.

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