GRE

NOVEMBER 2018

PROJECT ID: 4100-21-71

WITH: N/A

COUNTY: MANITOWOC

ORDER OF SHEETS

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

TOTAL SHEETS = 274



N

19

DESIGN DESIGNATION

A.A.D.T.	(2020)	= 7,700
A.A.D.T.	(2040)	= 9,200
D.H.V.		= 1,050
D.D.		= 59/41
T.		= 11.8%
DESIGN SPEED		= 55 MPH
ESALS		= 2,000,000

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

VALDERS - MANITOWOC

(JACKSON STREET - IH 43 SB RAMPS)

USH 151

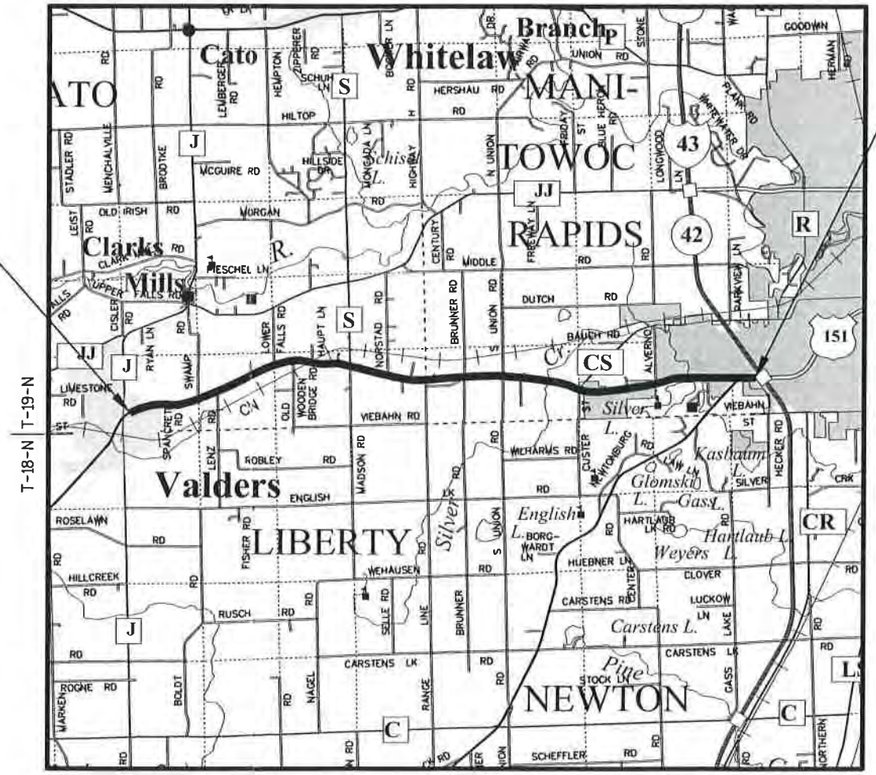
MANITOWOC COUNTY

STATE PROJECT NUMBER
4100-21-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4100-21-71	WISC 2018442	1

BEGIN PROJECT 4100-21-71
STA. 34+07.00
Y = 292,910.73
X = 175,180.43

END PROJECT 4100-21-71
STA. 482+94.00



TOTAL NET LENGTH OF CENTERLINE = 8.50 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MANITOWOC COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ORIGINAL PLANS PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION · MUNICIPAL · REMEDIATION
DEVELOPMENT · ENVIRONMENTAL

2901 International Lane, Suite 300 Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
BRIAN G. HUIBREGTSE E-40465 MADISON WI
PROFESSIONAL ENGINEER

DATE: 11/1/17 (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AECOM
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	BRIAN HAEN
Regional Examiner	
Regional Supervisor	CHAD DEGRAVE

APPROVED FOR THE DEPARTMENT

DATE: 4/13/18 (Signature)

E

GENERAL NOTES

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 120 lb/sy/in.

THE LIMITS OF PAVEMENT REMOVAL ON SIDE STREETS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

THE LIMITS OF CONCRETE BASE PATCHING ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER. CONCRETE PAVEMENT REMOVAL LIMITS SHALL BE ADJUSTED AS NECESSARY TO AN EXISTING JOINT AS DIRECTED THE ENGINEER.

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

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

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS, ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. THE CONTRACTOR WILL REMOVE ITEMS AT THE ENGINEER'S DIRECTION.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS AND MAINTAINED AS DETERMINED BY THE ENGINEER.

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

SECTIONS AS SHOWN ON THE CROSS-SECTIONS INCLUDE THE THICKNESS OF TOPSOIL. TOPSOIL SHALL BE AT A 4-INCH MINIMUM DEPTH.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE SEEDED AND COVERED WITH EROSION MAT AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESTORING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS, INCLUDING GRADING, TOPSOILING, SEEDING AND INSTALLING EROSION MAT.

RIGHT OF WAY LINES FROM STA. 34+07 TO 447+00 ARE FROM PLAT DATA, RIGHT-OF-WAY LINES FROM STA. 447+00 TO 482+94 ARE FROM MANITOWOC COUNTY GIS.

NO PASSING ZONES SHOWN ON THE PAVEMENT MARKING PLANS ARE APPROXIMATE. ACTUAL NO PASSING ZONES SHALL BE ESTABLISHED BASED ON FIELD CONDITIONS.

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: MATT SCHAEVE
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
PHONE: (920) 662-5472
EMAIL: matthew.schaeve@wisconsin.gov

DESIGN CONTACTS

MSA PROFESSIONAL SERVICES
ATTN: BRIAN HUIBREGTSE
2901 INTERNATIONAL LANE, SUITE 300
MADISON, WI 53704
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E-MAIL: bhuibregtse@msa-ps.com

WISCONSIN DEPARTMENT OF TRANSPORTATION
NORTHEAST REGION
ATTN: BRIAN HAEN
944 VANDERPERREN WAY
GREEN BAY, WI 54304
PHONE: (920) 366-4788
E-MAIL: brian.haen@dot.wi.gov

INDEX OF TYPICAL SECTIONS & DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAILS
CONCRETE BASE PATCHING PLAN
PERMANENT SIGNING
TRAFFIC SIGNAL REVISION
PAVEMENT MARKINGS
TRAFFIC CONTROL
DETOUR SIGNING PLAN

STANDARD ABBREVIATIONS

AC	ACRES
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
ASPH	ASPHALT
AVE	AVENUE
BAD	BASE AGGREGATE DENSE
BK	BACK
BLK	BLOCK
BOC	BACK OF CURB
BOW	BACK OF SIDEWALK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CL or ℄	CENTERLINE
Δ	CENTRAL ANGLE or DELTA
CMCP	CORRUGATED METAL CULVERT PIPE
CONC	CONCRETE
CP	CONTROL POINT
CPCS	CULVERT PIPE CORRUGATED STEEL
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
D	DEGREE OF CURVE
DES	DESIRABLE
E	EAST
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EOP	EDGE OF PAVEMENT
ET AL	AND OTHERS
EW	ENDWALL
EXIST	EXISTING
FT	FOOT
FT2	SQUARE FEET
GN	GRID NORTH
GV	GAS VALVE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HYD	HYDRANT
IN	INCH
INL	INLET
INV	INVERT
IP	IRON PIPE
L	LENGTH
L	LENGTH OF CURVE
LC	LONG CHORD
LCB	LONG CHORD BEARING
LF	LINEAR FEET
LT	LEFT
MH	MANHOLE
MI	MILE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
N.C.	NORMAL CROWN
NO	NUMBER
PB	PULLBOX
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
POB	POINT OF BEGINNING
PT	POINT OF TANGENCY
R	RADIUS
R	RANGE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REQ'D	REQUIRED
RL or R/L	REFERENCE LINE
RP	RADIUS POINT
RT	RIGHT
R/W	RIGHT-OF-WAY
S	SOUTH
SAN	SANITARY SEWER
SB	SOUTHBOUND
S.E.	SUPERELEVATION
SEC	SECTION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
SQ	SQUARE
ST	STREET
STA	STATION
STD	STANDARD
STH	STATE TRUNK HIGHWAY
STM	STORM SEWER
STR	STRUCTURE
T	TANGENT
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T or TN	TOWN
TYP.	TYPICAL
WM	WATERMAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

WISCONSIN POWER AND LIGHT COMPANY (ALLIANT ENERGY) EMERGENCY CONTACT NUMBERS:
ELECTRIC: THE 24-HOUR TOLL FREE NUMBER IS 1-800-862-6261
GAS: THE 24-HOUR TOLL FREE NUMBER IS 1-800-862-6263

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

UTILITIES

COMMUNICATIONS
AT&T WISCONSIN
ATTN: JOSEPH KASSAB
221 WEST WASHINGTON STREET
APPLETON, WI 54911-4742
PHONE: (920) 735-3206
E-MAIL: jk572k@att.com

COMMUNICATIONS
COMCAST
ATTN: ROBERT PERONTO
1614 WASHINGTON STREET
P.O. BOX 429
MANITOWOC, WI 54221
PHONE: (920) 482-5561
MOBILE: (920) 374-0309
E-MAIL: robert_peronto@cable.comcast.com

COMMUNICATIONS
MANITOWOC PUBLIC UTILITIES
ATTN: STEVE BACALZO
1303 S. 8TH STREET
P.O. BOX 1090
MANITOWOC, WI 54221-1090
PHONE: (920) 686-4310
E-MAIL: sbacalzo@mpu.org

COMMUNICATIONS
NSIGHT TELSERVICES
ATTN: DOUG STAHL
7520 ENGLISH LAKE ROAD
MANITOWOC, WI 54220
PHONE: (920) 758-3603
E-MAIL: doug.stahl@nsight.com

COMMUNICATIONS
TDS TELECOM
ATTN: STEVE JAKUBIEC
10 COLLEGE AVENUE, SUITE 218A
APPLETON, WI 54911
MOBILE: (920) 562-7221
E-MAIL: steve.jakubiec@tdstelecom.com

COMMUNICATIONS
TIME WARNER CABLE
ATTN: KURT LITTLE
3520 E. DESTINATION DRIVE
APPLETON, WI 54915
PHONE: (920) 831-9227
E-MAIL: kurt.little@twcable.com

COMMUNICATIONS
WINDSTREAM KDL, LLC.
ATTN: NATHAN BECKER
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
PHONE: (262) 792-7938
E-MAIL: nathan.becker@windstream.com

ELECTRIC/TRANSMISSION
ATC MANAGEMENT, INC.
ATTN: MIKE OLSEN
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
PHONE: (920) 338-6582
MOBILE: (920) 660-2390
E-MAIL: molsen@atcllc.com

ELECTRIC
MANITOWOC PUBLIC UTILITIES
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WISCONSIN PUBLIC SERVICE CORPORATION
ATTN: LORI BUTRY
700 N. ADAMS STREET
P.O. BOX 19001
GREEN BAY, WI 54307-9001
PHONE: (920) 433-1703
E-MAIL: labutry@integrysgroup.com

GAS/PETROLEUM
ANR PIPELINE COMPANY
ATTN: STEVE WHITTY
W3925 PIPELINE LANE
EDEN, WI 53019
PHONE: (920) 477-2241
MOBILE: (920) 375-0475
E-MAIL: steven_whitty@transcanada.com

GAS/PETROLEUM
WISCONSIN PUBLIC SERVICE CORPORATION
ATTN: LORI BUTRY
700 N. ADAMS STREET
P.O. BOX 19001
GREEN BAY, WI 54307-9001
PHONE: (920) 433-1703
E-MAIL: labutry@integrysgroup.com

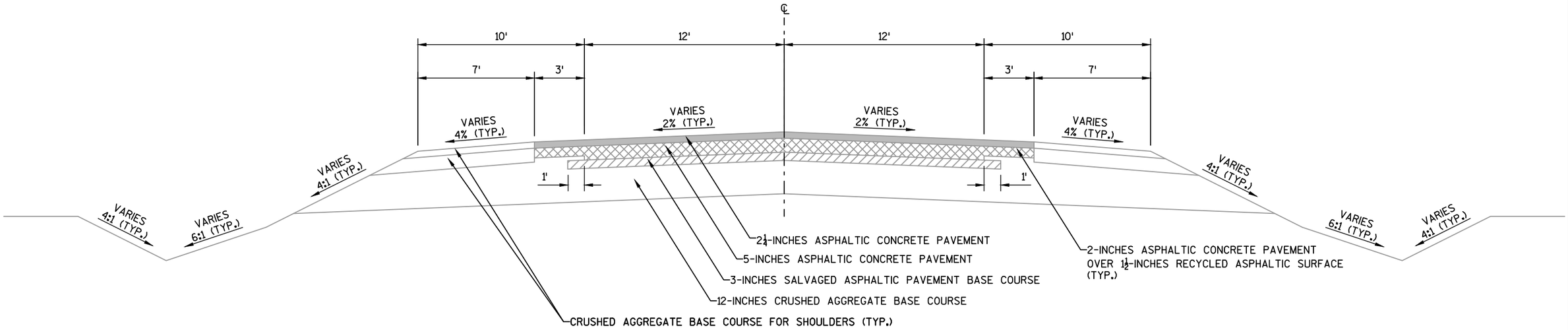
SEWER
CITY OF MANITOWOC
ATTN: DAN KOSKI
900 QUAY STREET
MANITOWOC, WI 54220
PHONE: (920) 686-6550
E-MAIL: dkoski@manitowoc.org

WATER
MANITOWOC PUBLIC UTILITIES
ATTN: ROBERT MICHAELSON
1303 S. 8TH STREET
P.O. BOX 1090
MANITOWOC, WI 54221-1090
PHONE: (920) 686-4354
MOBILE: (920) 374-0959
E-MAIL: rmichaelson@mpu.org

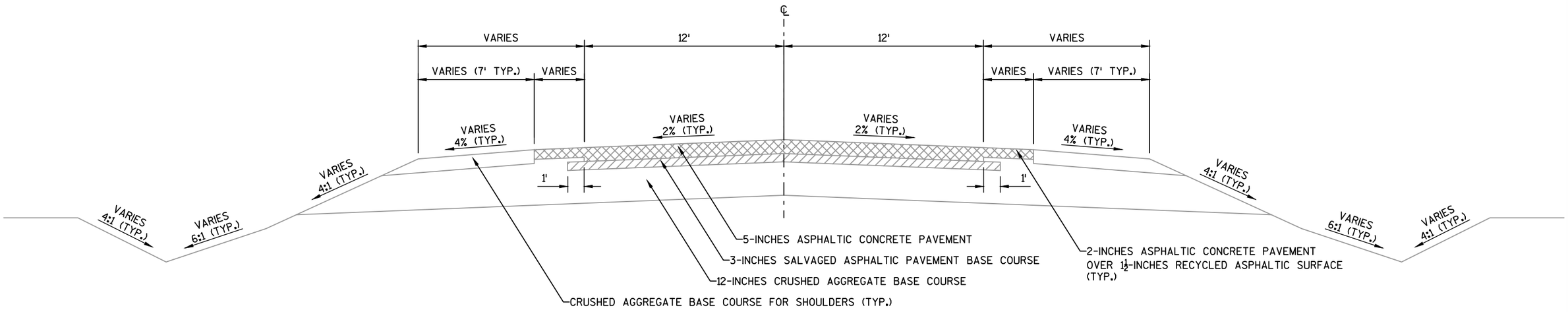
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	GENERAL NOTES	SHEET 2 E



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PROJECT OVERVIEW	SHEET 3	E



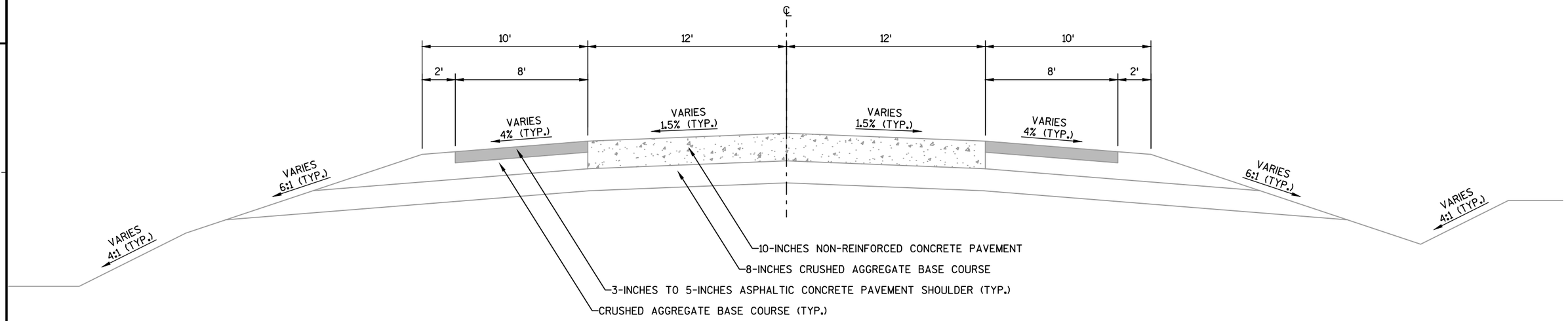
EXISTING TYPICAL SECTION – USH 151
STA. 34+07 - STA. 165+54
STA. 166+93 - STA. 447+53



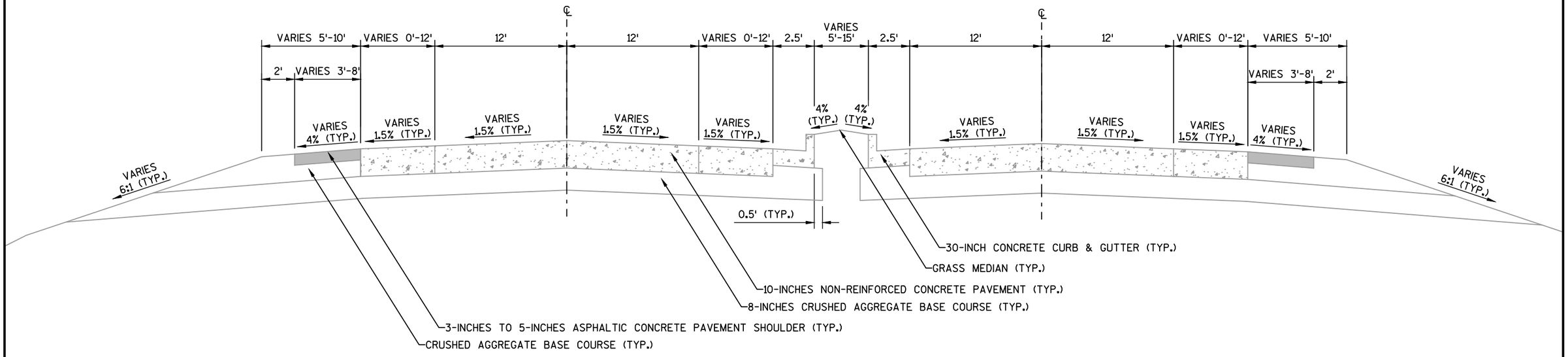
EXISTING TYPICAL SECTION – USH 151
STA. 165+54 - STA. 166+93 (RAILROAD CROSSING)

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 4	E

2



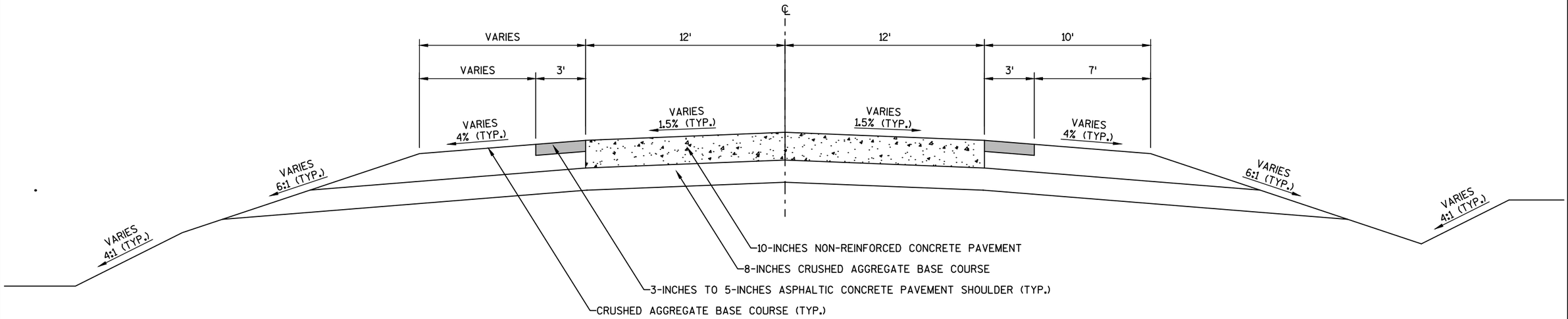
EXISTING TYPICAL SECTION – USH 151
STA. 447+53 - STA. 459+05



EXISTING TYPICAL SECTION – USH 151
STA. 459+05 - STA. 482+94

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 5	E

2



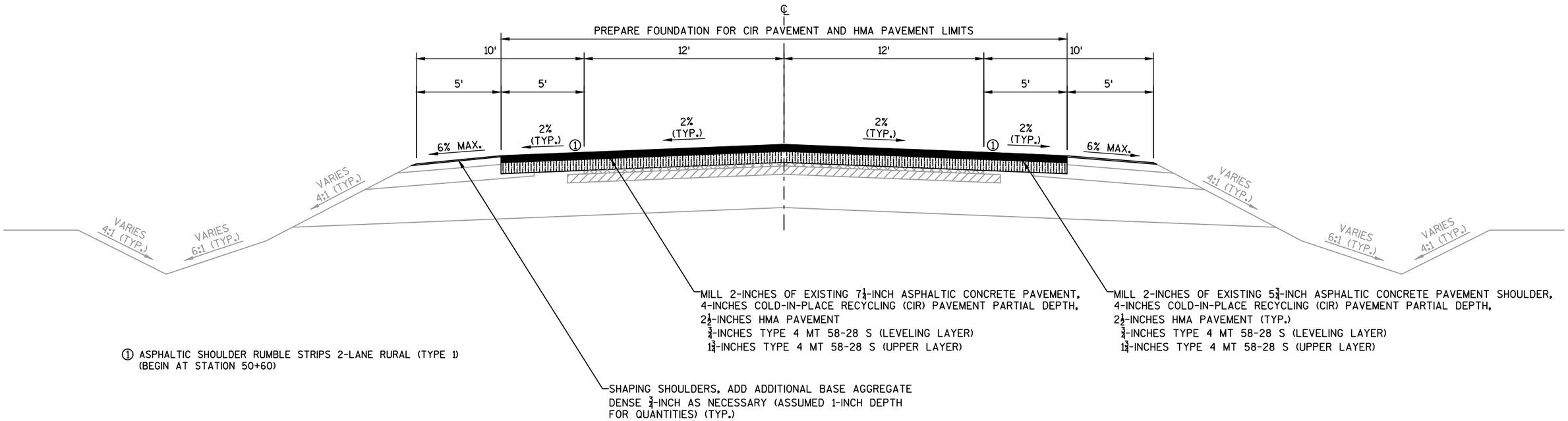
EXISTING TYPICAL SECTION – STH 42

STA. 0+85 - STA. 4+25

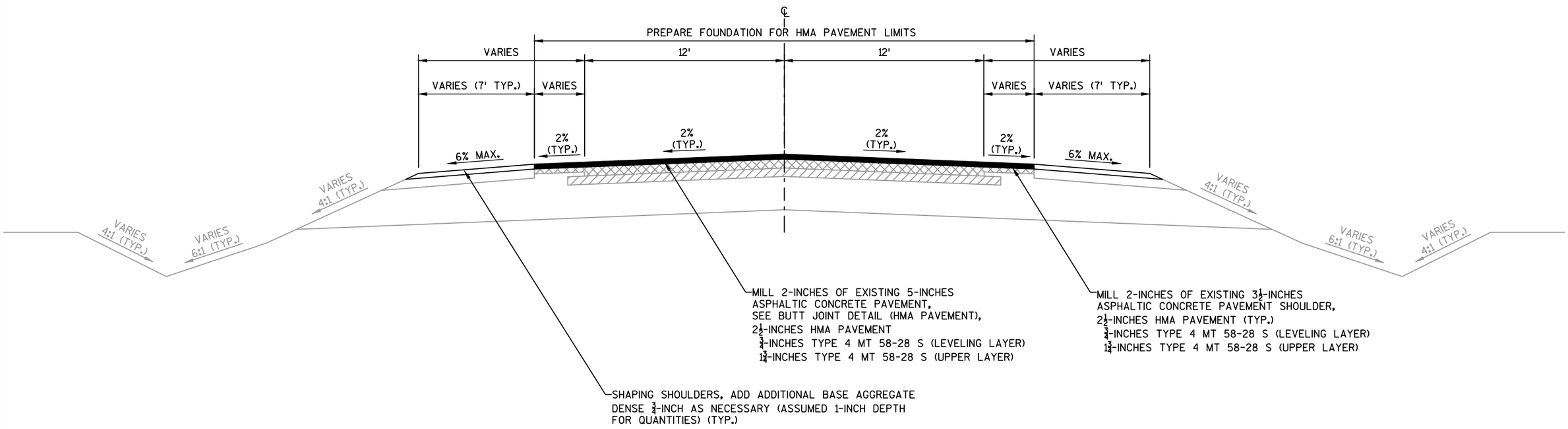
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WISDOT/CADDS SHEET 42

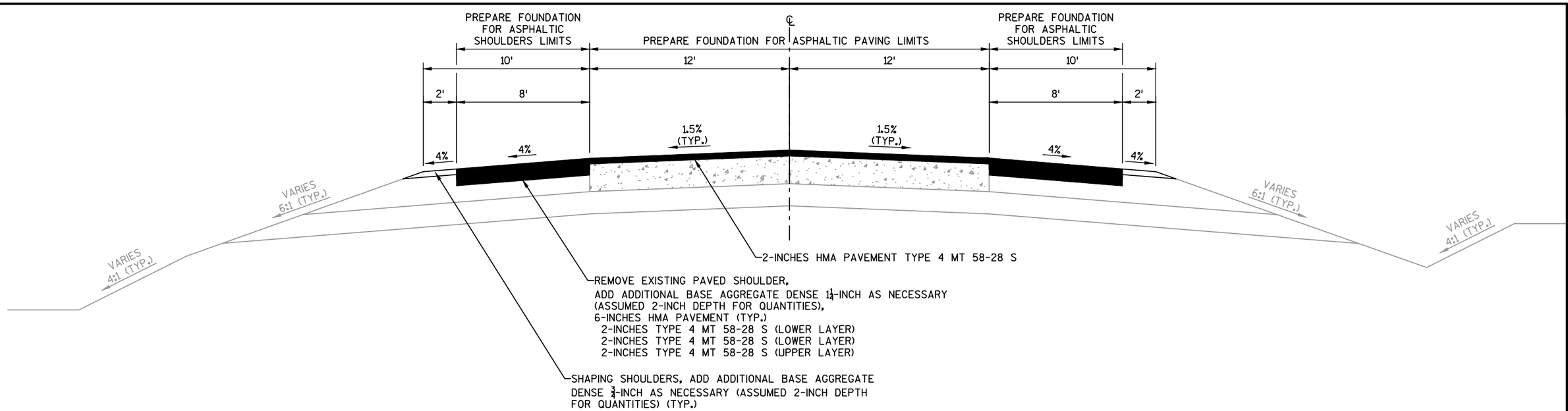


FINISHED TYPICAL SECTION – USH 151
STA. 34+07 - STA. 165+54
STA. 166+93 - STA. 447+53



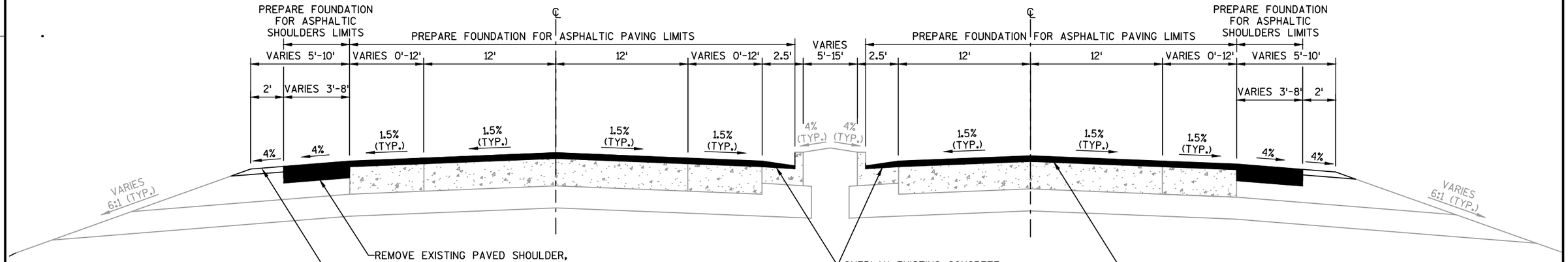
FINISHED TYPICAL SECTION – USH 151
STA. 165+54 - STA. 166+93 (RAILROAD CROSSING)

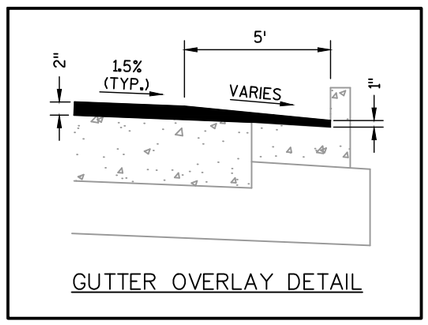
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET 7	E



FINISHED TYPICAL SECTION – USH 151

STA. 447+53 - STA. 459+05





GUTTER OVERLAY DETAIL

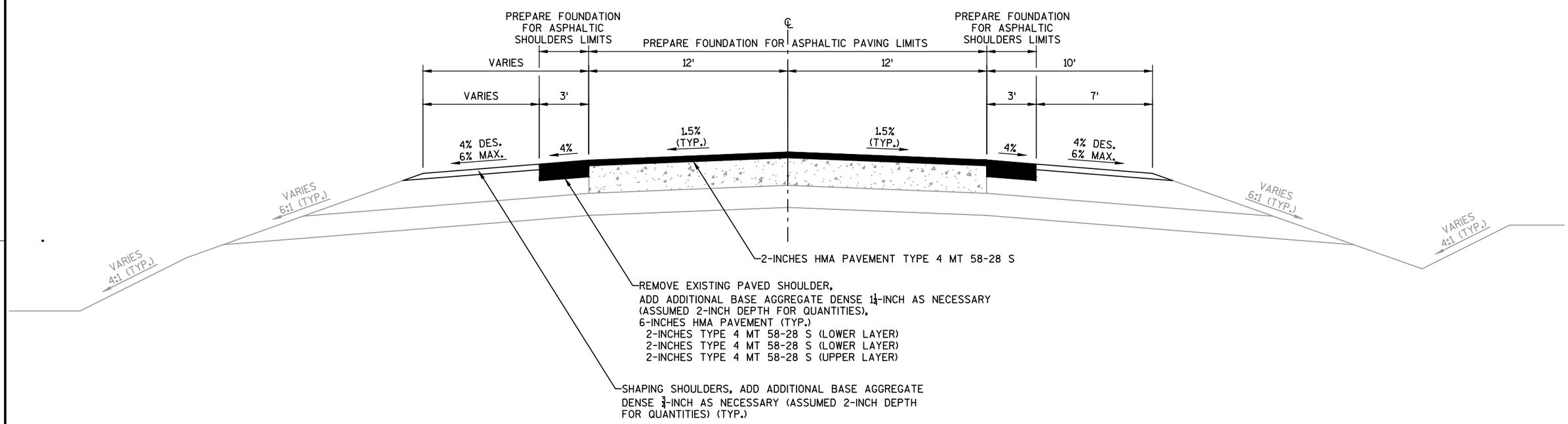
FINISHED TYPICAL SECTION – USH 151

STA. 459+05 - STA. 482+94

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET	E

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WISDOT/CADDS SHEET 42

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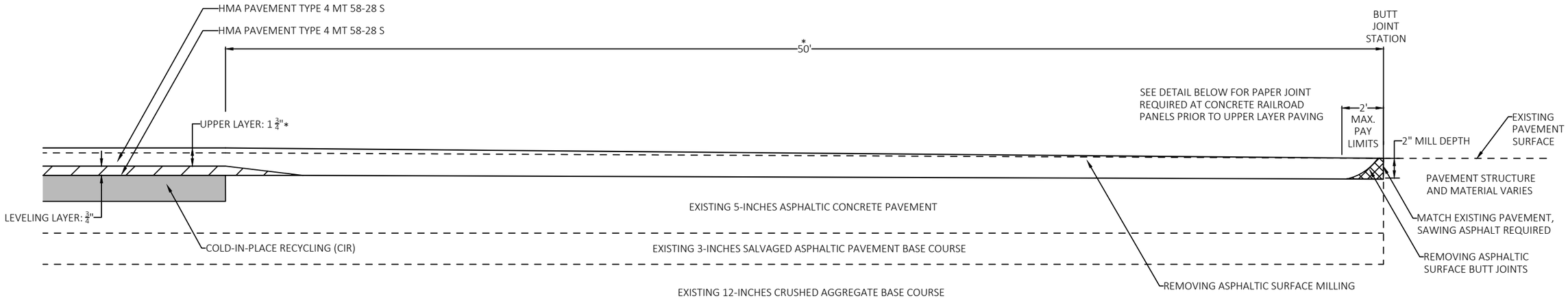


FINISHED TYPICAL SECTION – STH 42

STA. 0+85 - STA. 4+25

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TYPICAL SECTIONS	SHEET	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\020301-TS.DWG PLOT DATE : 10/19/2017 7:30 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : N/A
WISDOT/CADDS SHEET 42

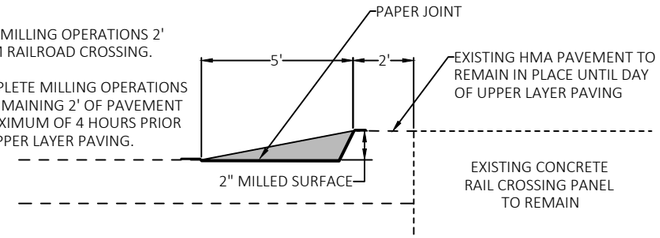


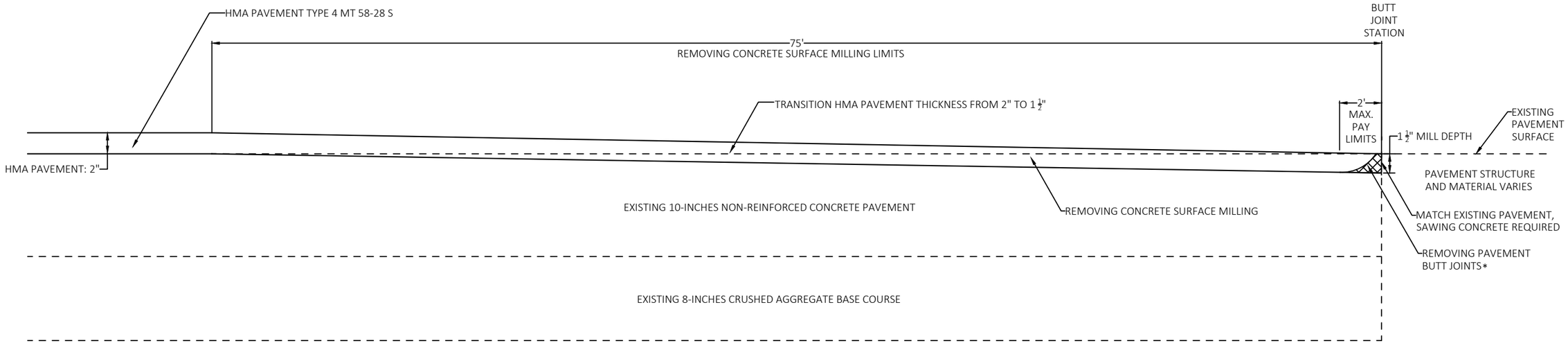
*75' TAPER FOR BUTT JOINT AT STA. 0+85 (STH 42 SOUTH APPROACH);
2" UPPER LAYER AND 2" MILL DEPTH AT BUTT JOINT STATION

BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

SCALE: NONE
STA. 34+07
STA. 166+13 (CONCRETE RAILROAD PANEL)
STA. 166+30 (CONCRETE RAILROAD PANEL)
STA. 431+32 (CONCRETE BRIDGE DECK)
STA. 431+78 (CONCRETE BRIDGE DECK)
STA. 0+85 (STH 42 SOUTH APPROACH)

NOTES:
1. STOP MILLING OPERATIONS 2' FROM RAILROAD CROSSING.
2. COMPLETE MILLING OPERATIONS OF REMAINING 2' OF PAVEMENT A MAXIMUM OF 4 HOURS PRIOR TO UPPER LAYER PAVING.

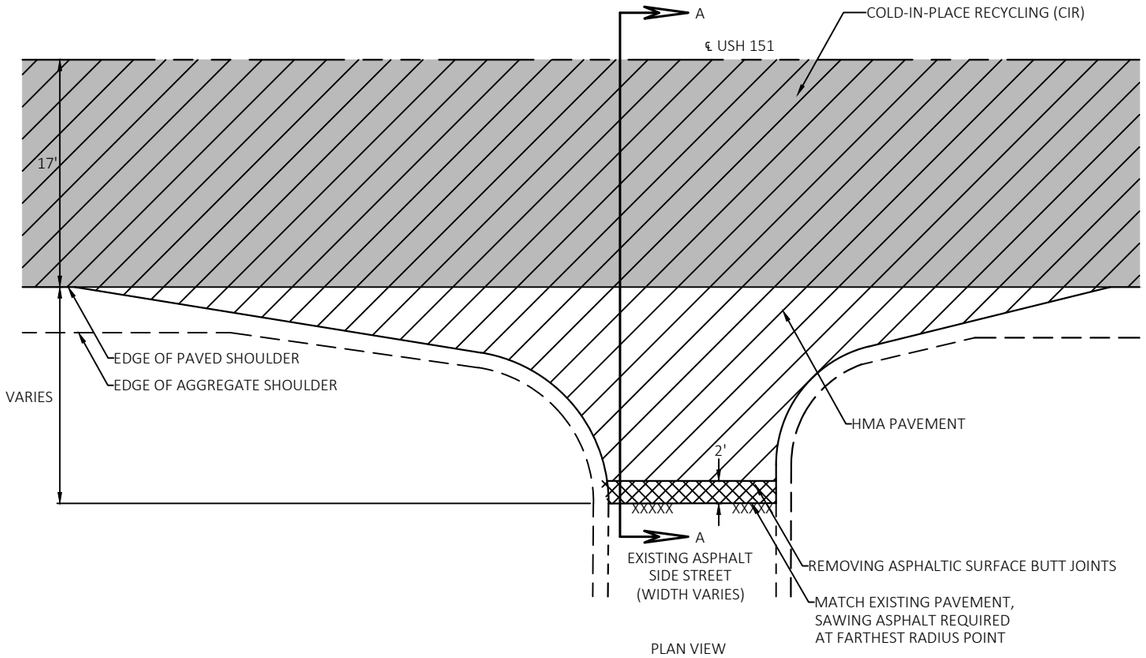




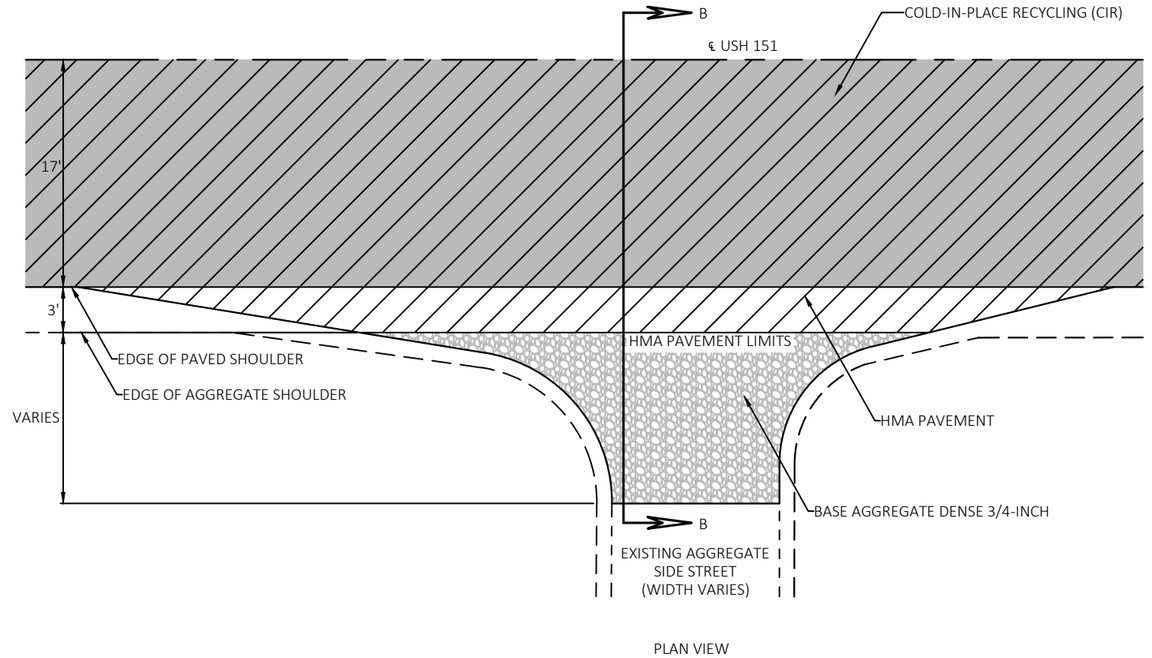
BUTT JOINT DETAIL FOR MILLED CONCRETE PAVEMENTS

SCALE: NONE
STH 42 NORTH APPROACH
STA. 480+79
STA. 481+74

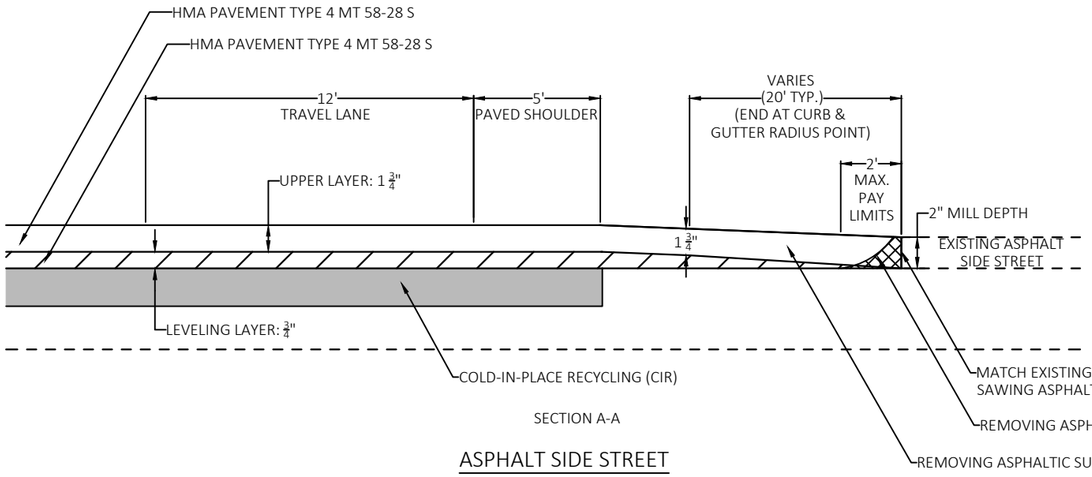
*NO REMOVING PAVEMENT
BUTT JOINTS AT STA. 480+79
AND STA. 481+74



PLAN VIEW

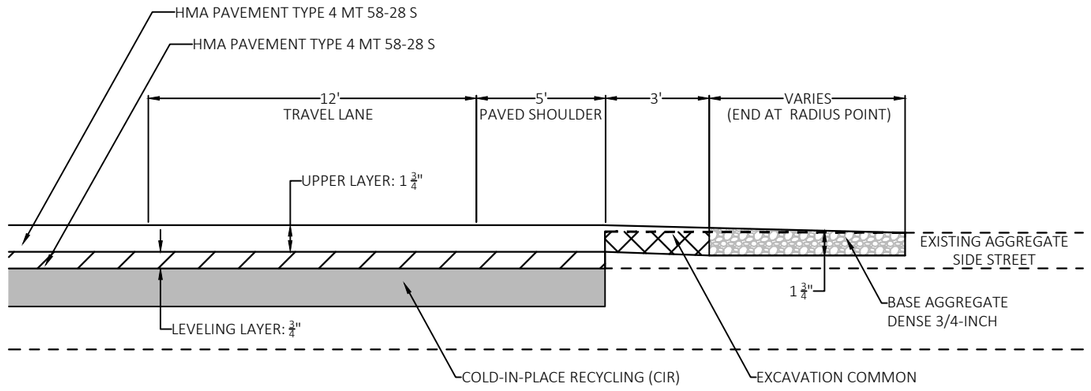


PLAN VIEW



SECTION A-A

ASPHALT SIDE STREET



SECTION B-B

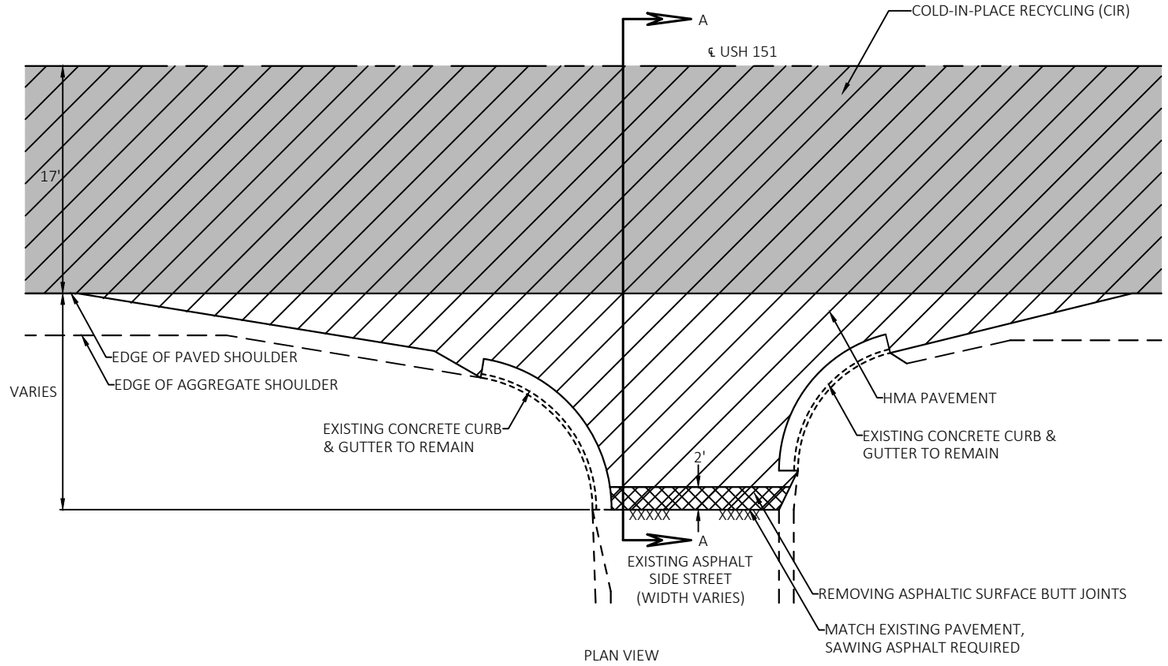
AGGREGATE SIDE STREET

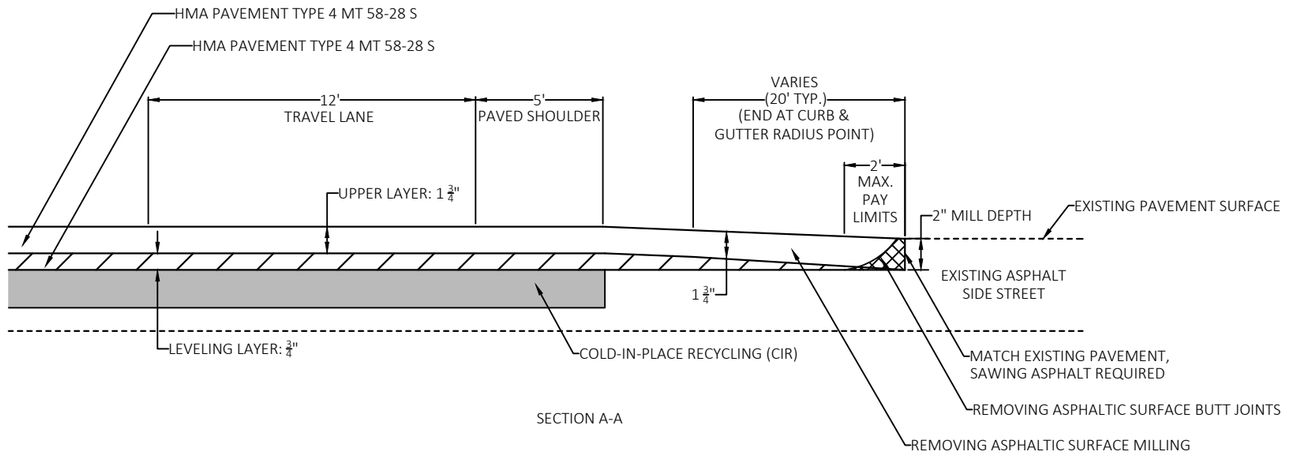
TYPE C INTERSECTION DETAIL

SCALE: NONE
LARSON LANE, HAUPT LANE, RADANDT LANE, HRUDKA LANE,
TILERS LANE, JAQUART LANE, COUNTRY VIEW ROAD, GENE BER LANE

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 11	E

2



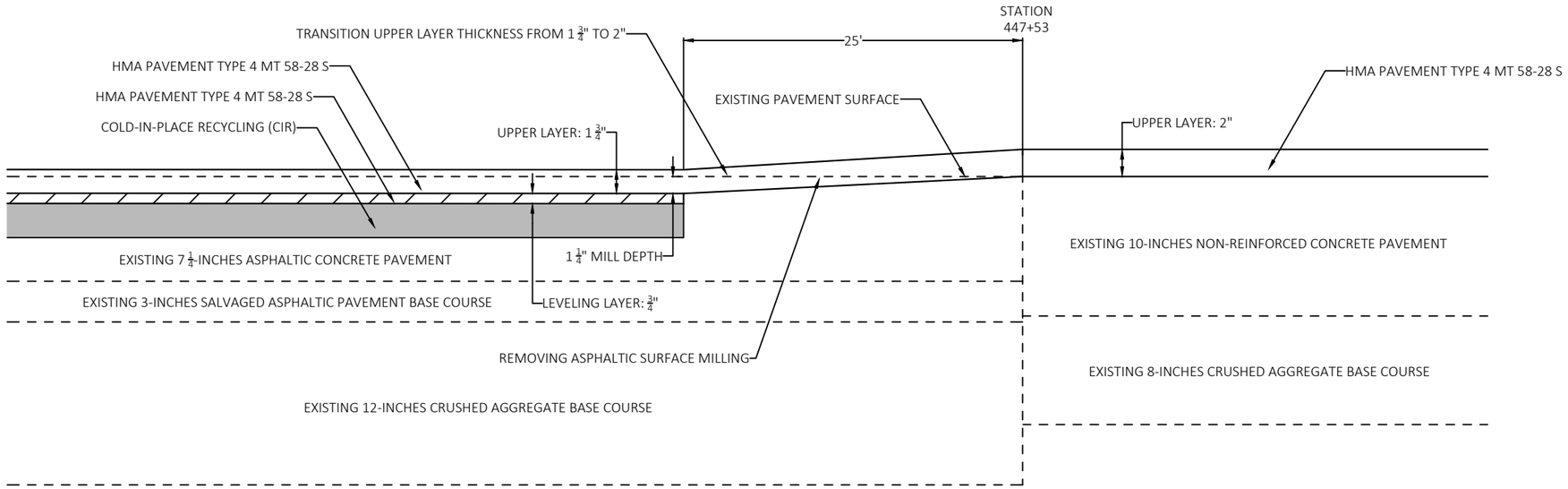


TYPES B & D INTERSECTION DETAIL

SCALE: NONE

SPANCRETE LANE, SWAMP ROAD, LENZ ROAD, LOWER FALLS ROAD, OLD WOODEN BRIDGE LANE, GJERPEN LANE, CTH S (MADSON ROAD), NORSTAD ROAD, RANGE LINE ROAD, BRUNNER ROAD, S. UNION ROAD, SHADY SIDE LANE, CTH CS (S. CUSTER STREET), CROSSING MEADOWS DRIVE, WIMMER ROAD, S. ALVERNO ROAD, SILVER STREET, S. 57TH STREET

2



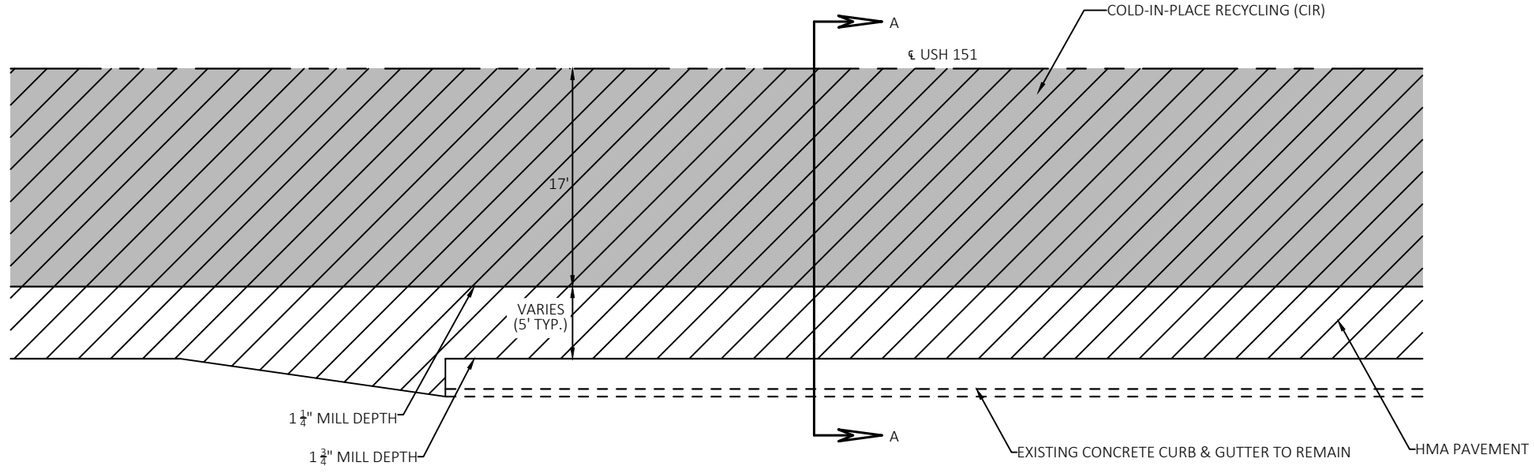
ASPHALT PAVEMENT TO CONCRETE PAVEMENT TRANSITION DETAIL

SCALE: NONE
STA. 447+53

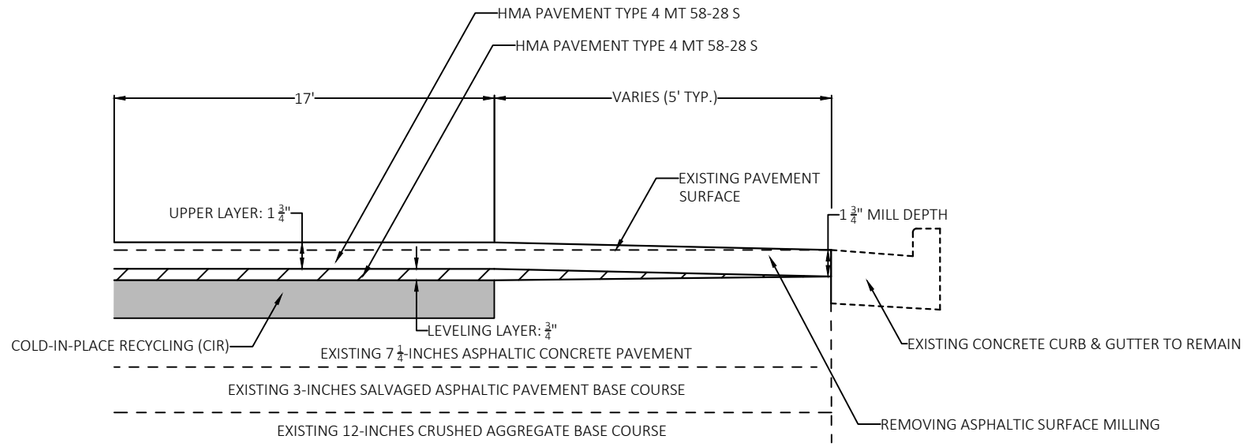
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 13	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021001-CD.DWG
LAYOUT NAME - 021005-cd

PLOT DATE : 11/1/2017 1:05 PM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : ##########



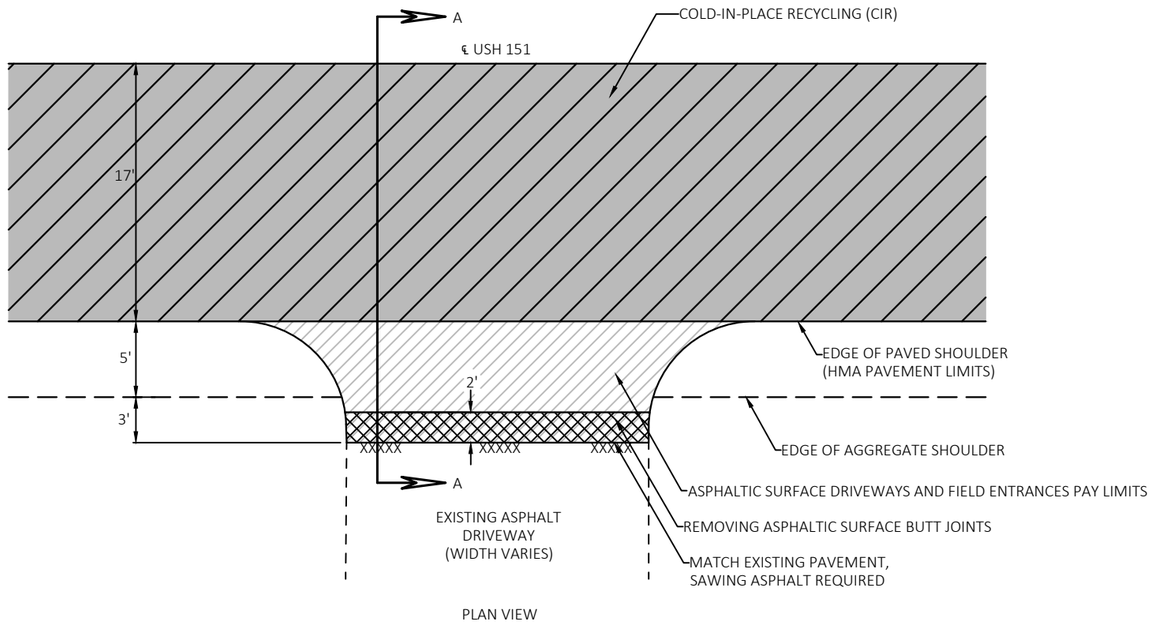
PLAN VIEW

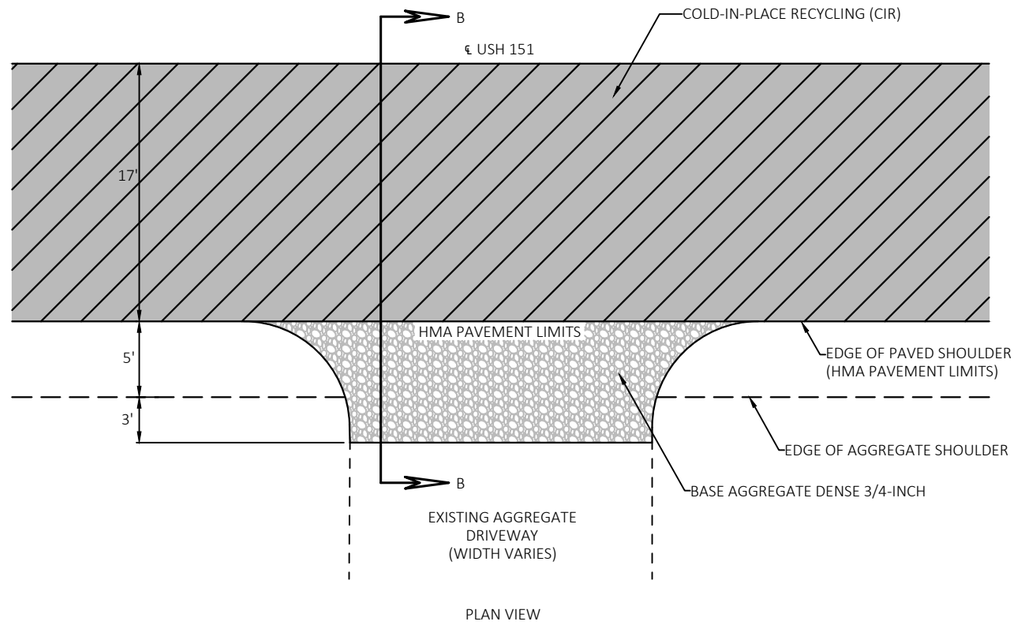


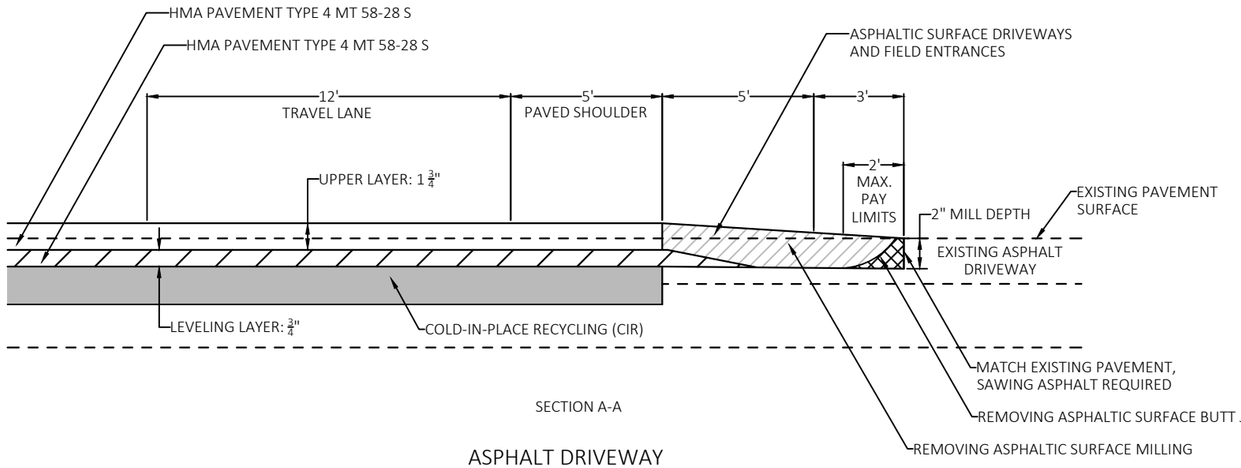
SECTION A-A

CONCRETE CURB & GUTTER SECTIONS DETAIL

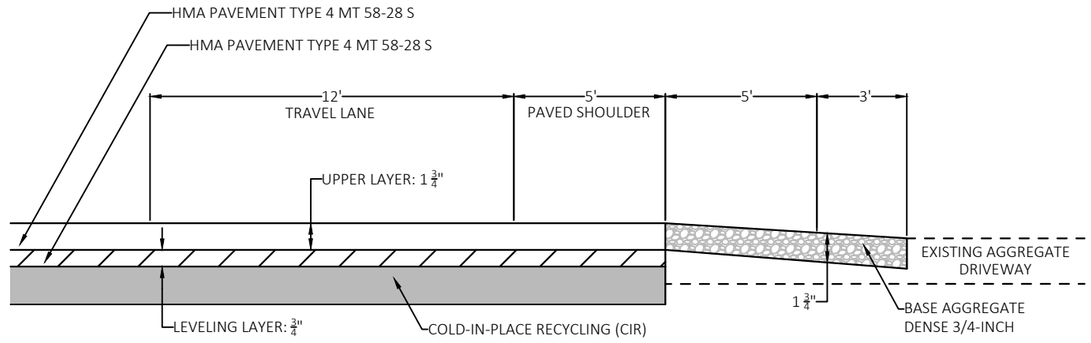
SCALE: NONE
STA. 69+97 - STA. 73+03, LT
STA. 173+19 - STA. 175+50, LT
STA. 388+03 - STA. 389+52, LT
STA. 426+74 - STA. 431+32, LT
STA. 431+78 - STA. 433+53, LT
STA. 434+79 - STA. 445+46, LT







ASPHALT DRIVEWAY



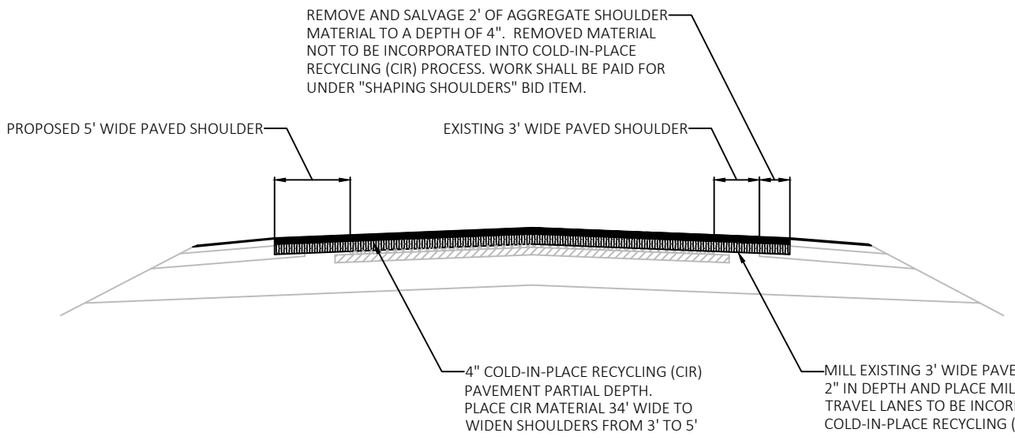
AGGREGATE DRIVEWAY

NOTE: MATCH EXISTING DRIVEWAY SURFACE AND WIDTH

RURAL DRIVEWAY DETAIL

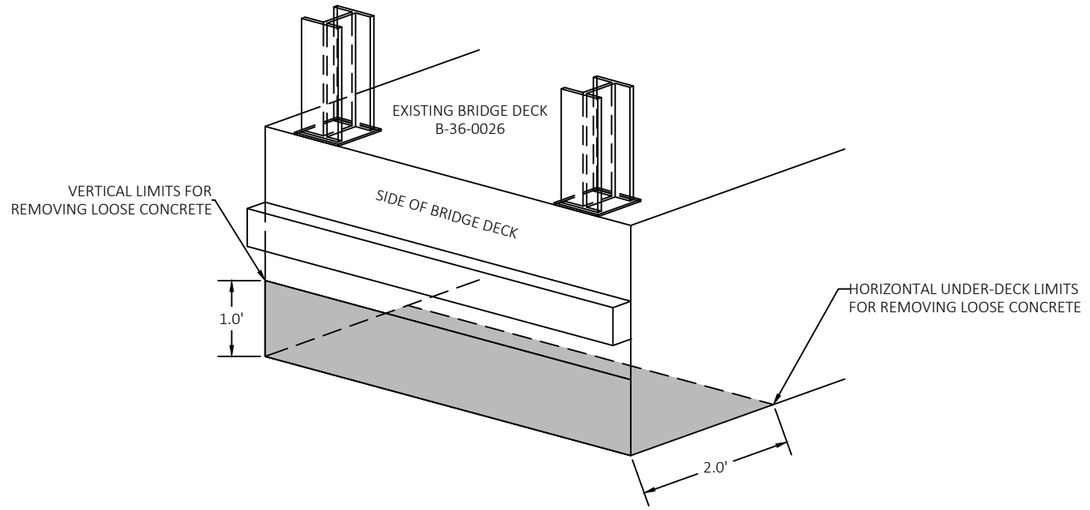
SCALE: NONE

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 15	E



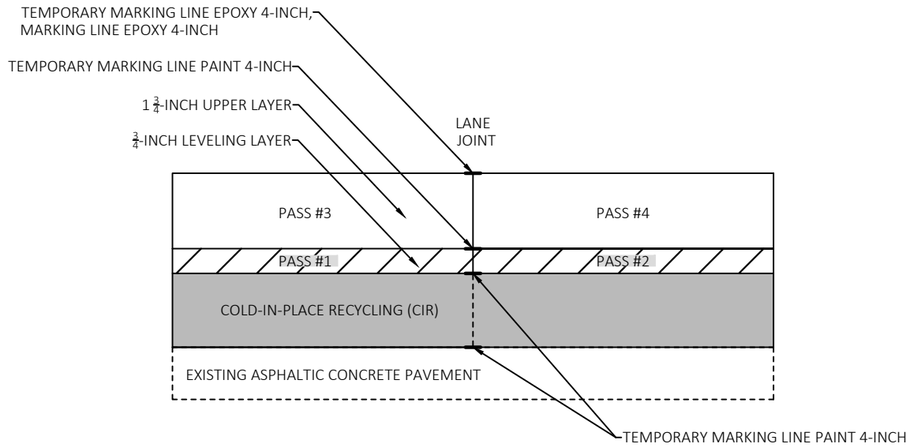
TYPICAL SECTION FOR USH 151 SHOULDER WIDENING DETAIL

SCALE: NONE



REMOVING LOOSE CONCRETE DETAIL

SCALE: NONE
B-36-0026
(STA. 431+32 TO
STA. 431+78)



LONGITUDINAL JOINTS DETAIL

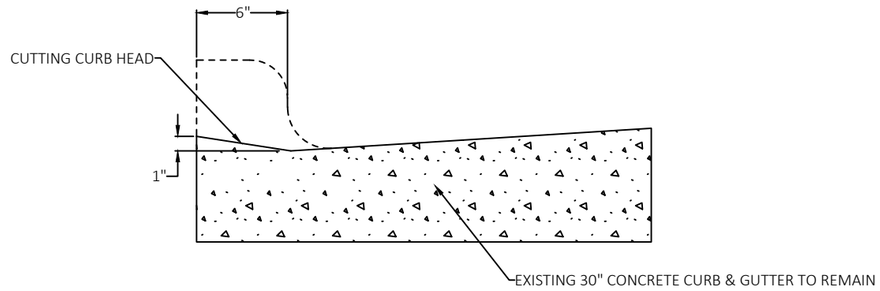
SCALE: NONE



W8-11
48" X 48"

NOTES:

1. TO BE UTILIZED FOR TEMPORARY INSTALLATIONS IN WORK AREAS INVOLVING PAVING LONGITUDINAL JOINTS.
2. UNEVEN LANE SIGNS SHALL BE PLACED AT THE BEGINNING OF JOINT AND AT 1/2 MILE INCREMENTS.
3. SIGNS WILL BE PAID AS TRAFFIC CONTROL SIGNS.
4. REFER TO S.D.D. "TRAFFIC CONTROL, DROP-OFF SIGNING" FOR ADDITIONAL INFORMATION.

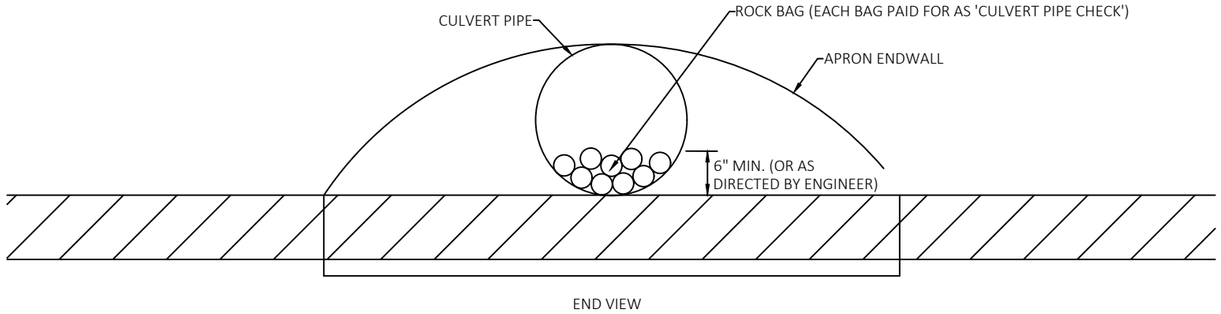


CUTTING CURB HEAD DETAIL

SCALE: NONE
STA. 430+42 - 431+32, LT
STA. 431+76 - 432+47, LT

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONSTRUCTION DETAILS	SHEET 17	E

2



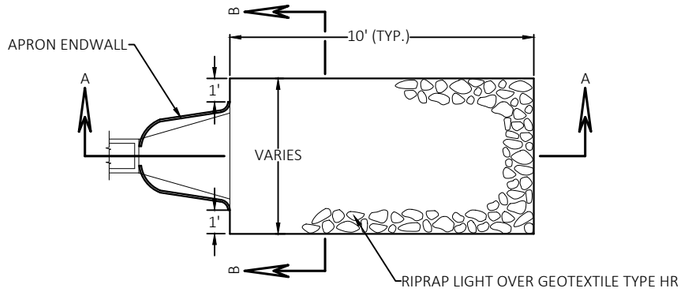
END VIEW

SIDE VIEW

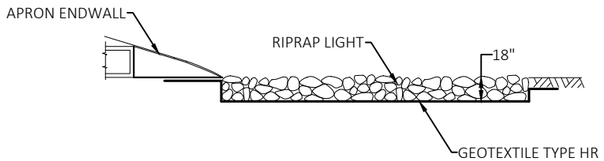
ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	2
15"	2
18"	2
24"	3
30"	5
36"	7
42"	8
48"	10
54"	12
60"	13
66"	15

CULVERT PIPE CHECK DETAIL

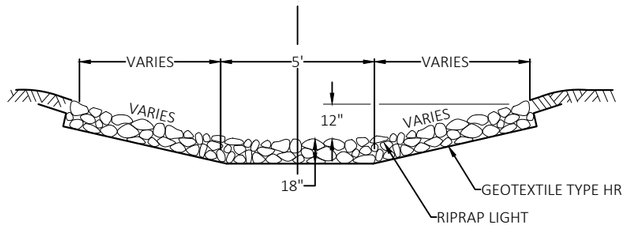
SCALE: NONE



PLAN VIEW



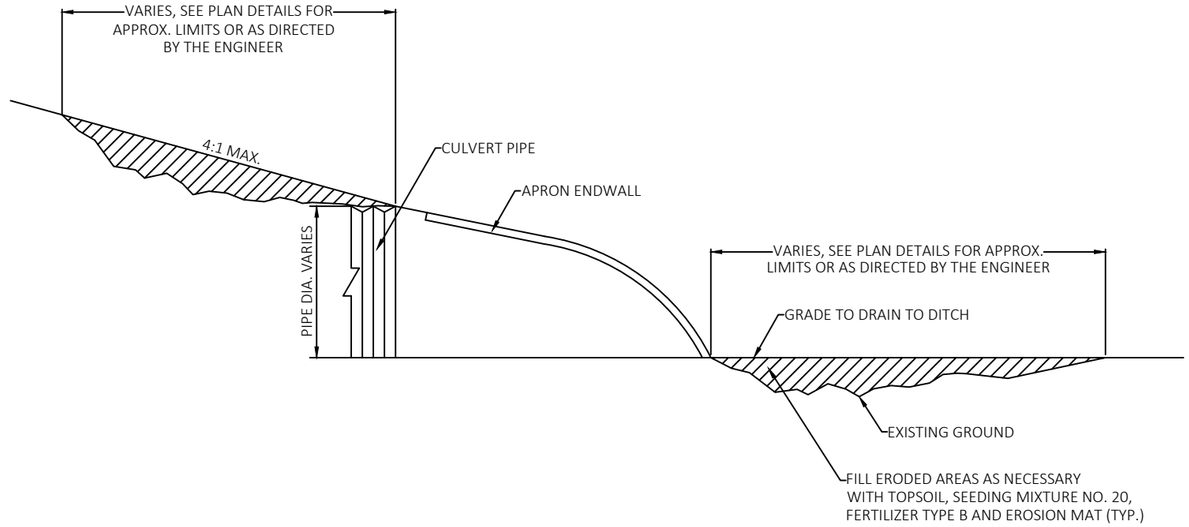
SECTION A-A



SECTION B-B

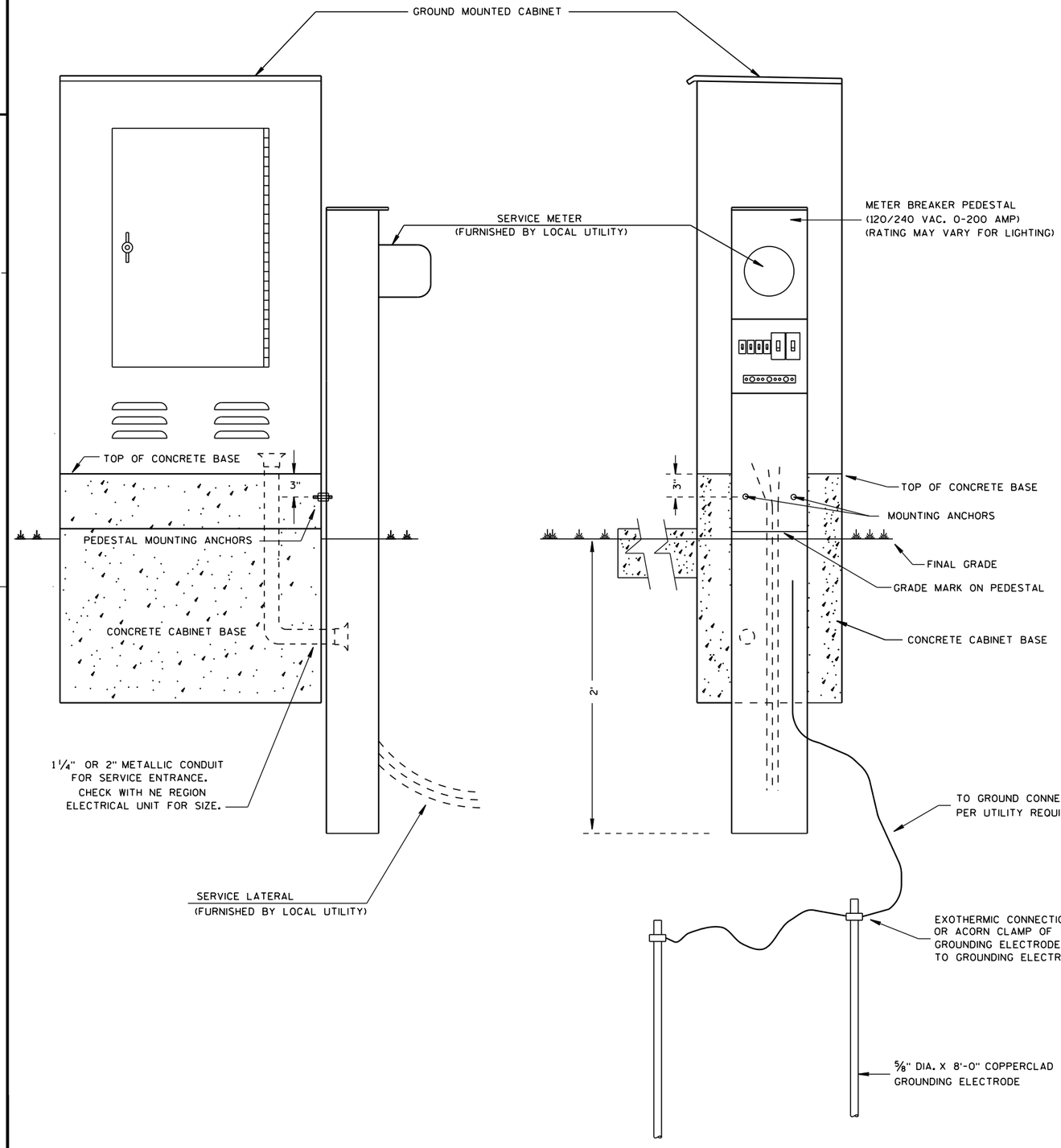
LIGHT RIPRAP TREATMENT AT CULVERTS DETAIL

SCALE: NONE
STA. 152+32, RT



ENDWALL FILL DETAIL

SCALE: NONE
STA. 132+77 - STA. 132+97, LT
STA. 208+61 - STA. 208+91, LT
STA. 208+61 - STA. 208+91, RT
STA. 239+45 - STA. 239+74, RT
STA. 265+74 - STA. 265+94, LT
STA. 418+54 - STA. 418+84, LT
STA. 418+54 - STA. 418+84, RT



GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

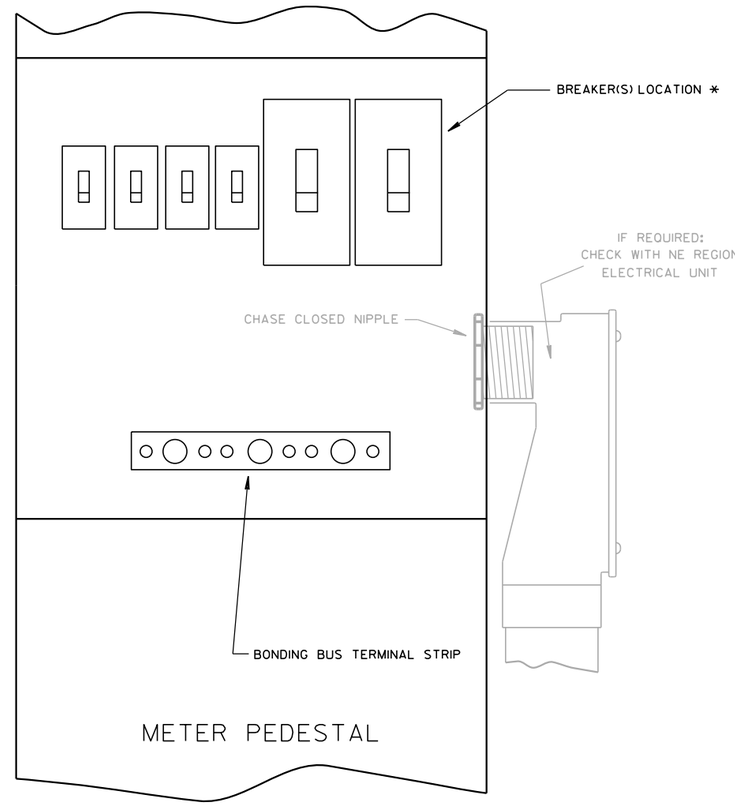
WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

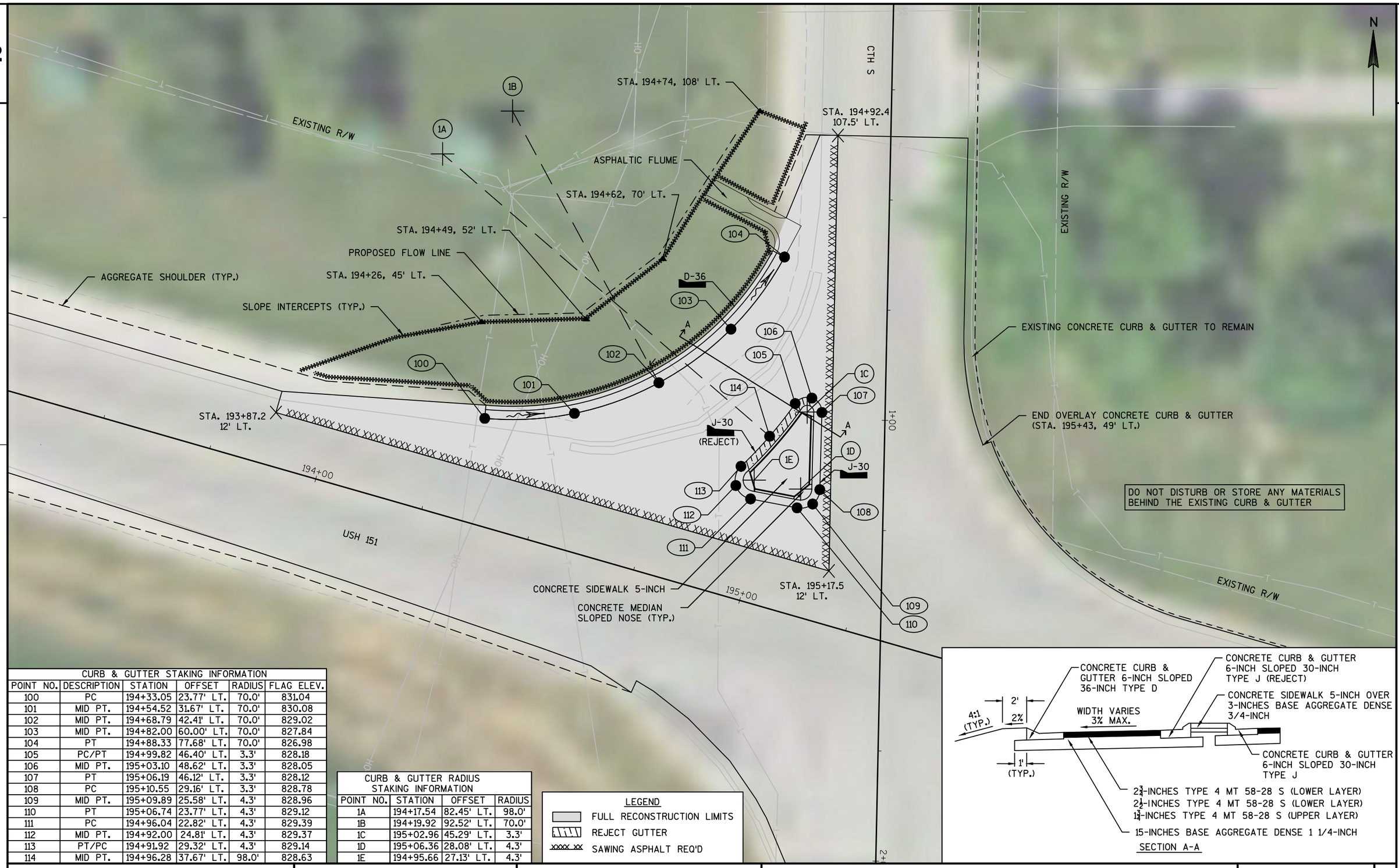
SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT OR SCHEDULE 80 PVC, NIPPLES AND/OR CONDULETS AS REQUIRED. CONDUIT LB SHALL BE OF METALLIC SERVICE ENTRANCE TYPE.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER NEC.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.





CURB & GUTTER STAKING INFORMATION					
POINT NO.	DESCRIPTION	STATION	OFFSET	RADIUS	FLAG ELEV.
100	PC	194+33.05	23.77' LT.	70.0'	831.04
101	MID PT.	194+54.52	31.67' LT.	70.0'	830.08
102	MID PT.	194+68.79	42.41' LT.	70.0'	829.02
103	MID PT.	194+82.00	60.00' LT.	70.0'	827.84
104	PT	194+88.33	77.68' LT.	70.0'	826.98
105	PC/PT	194+99.82	46.40' LT.	3.3'	828.18
106	MID PT.	195+03.10	48.62' LT.	3.3'	828.05
107	PT	195+06.19	46.12' LT.	3.3'	828.12
108	PC	195+10.55	29.16' LT.	3.3'	828.78
109	MID PT.	195+09.89	25.58' LT.	4.3'	828.96
110	PT	195+06.74	23.77' LT.	4.3'	829.12
111	PC	194+96.04	22.82' LT.	4.3'	829.39
112	MID PT.	194+92.00	24.81' LT.	4.3'	829.37
113	PT/PC	194+91.92	29.32' LT.	4.3'	829.14
114	MID PT.	194+96.28	37.67' LT.	98.0'	828.63

CURB & GUTTER RADIUS STAKING INFORMATION			
POINT NO.	STATION	OFFSET	RADIUS
1A	194+17.54	82.45' LT.	98.0'
1B	194+19.92	92.52' LT.	70.0'
1C	195+02.96	45.29' LT.	3.3'
1D	195+06.36	28.08' LT.	4.3'
1E	194+95.66	27.13' LT.	4.3'

LEGEND
- FULL RECONSTRUCTION LIMITS
- REJECT GUTTER
- SAWING ASPHALT REQ'D

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	INTERSECTION DETAILS: USH 151 & CTH S	SHEET 21	E

2

N

WIMMER ROAD

EXISTING R/W

EXISTING R/W

MATCH EXISTING ELEVATION

200

MATCH EXISTING FLUME

201

STA. 390+20.9
81' LT.

1A

202

A

SLOPE INTERCEPTS (TYP.)

EXISTING CONCRETE CURB
& GUTTER TO REMAIN

203

D-36

204

205

A

P.I. 391+82

MATCH EXISTING ELEVATION

STA. 391+90.7
12' LT.

392+00

391+00

STA. 390+21.1
12' LT.

390+00

USH 151

CONCRETE CURB &
GUTTER 6-INCH SLOPED
36-INCH TYPE D

2'

4:1
(TYP.)

2%

WIDTH VARIES
3% MAX.

1'

2¾-INCHES TYPE 4 MT 58-28 S (LOWER LAYER)
2½-INCHES TYPE 4 MT 58-28 S (LOWER LAYER)
1¾-INCHES TYPE 4 MT 58-28 S (UPPER LAYER)
15-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

SECTION A-A

CURB & GUTTER STAKING INFORMATION					
POINT NO.	DESCRIPTION	STATION	OFFSET	RADIUS	FLAG ELEV.
200	BEGIN PT.	390+23.91	81.34' LT.	-	766.53
201	PC	390+24.11	77.96' LT.	60.0'	766.56
202	MID PT.	390+29.39	56.77' LT.	60.0'	766.80
203	MID PT.	390+41.94	38.72' LT.	60.0'	767.26
204	PT	390+81.46	21.35' LT.	60.0'	768.28
205	END PT.	390+85.44	21.15' LT.	-	768.37

CURB & GUTTER RADIUS STAKING INFORMATION			
POINT NO.	STATION	OFFSET	RADIUS
1A	390+84.50	81.27' LT.	60.0'

LEGEND

FULL RECONSTRUCTION LIMITS

xxxx xx SAWING ASPHALT REQ'D

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	INTERSECTION DETAILS: USH 151 & WIMMER ROAD	SHEET	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021102-ID.DWG PLOT DATE : 10/19/2017 8:32 AM PLOT BY : JASON DOLENS PLOT NAME :

2

2

N

PC: 447+72.93

448+02

448+35

449+15

450+55

15'

6'

12'

6'

446+00

447+00

448+00

449+00

USH 151

450+00

451+00

MATCHLINE STA. 451+50

LEGEND

BASE PATCHING CONCRETE SHES

CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

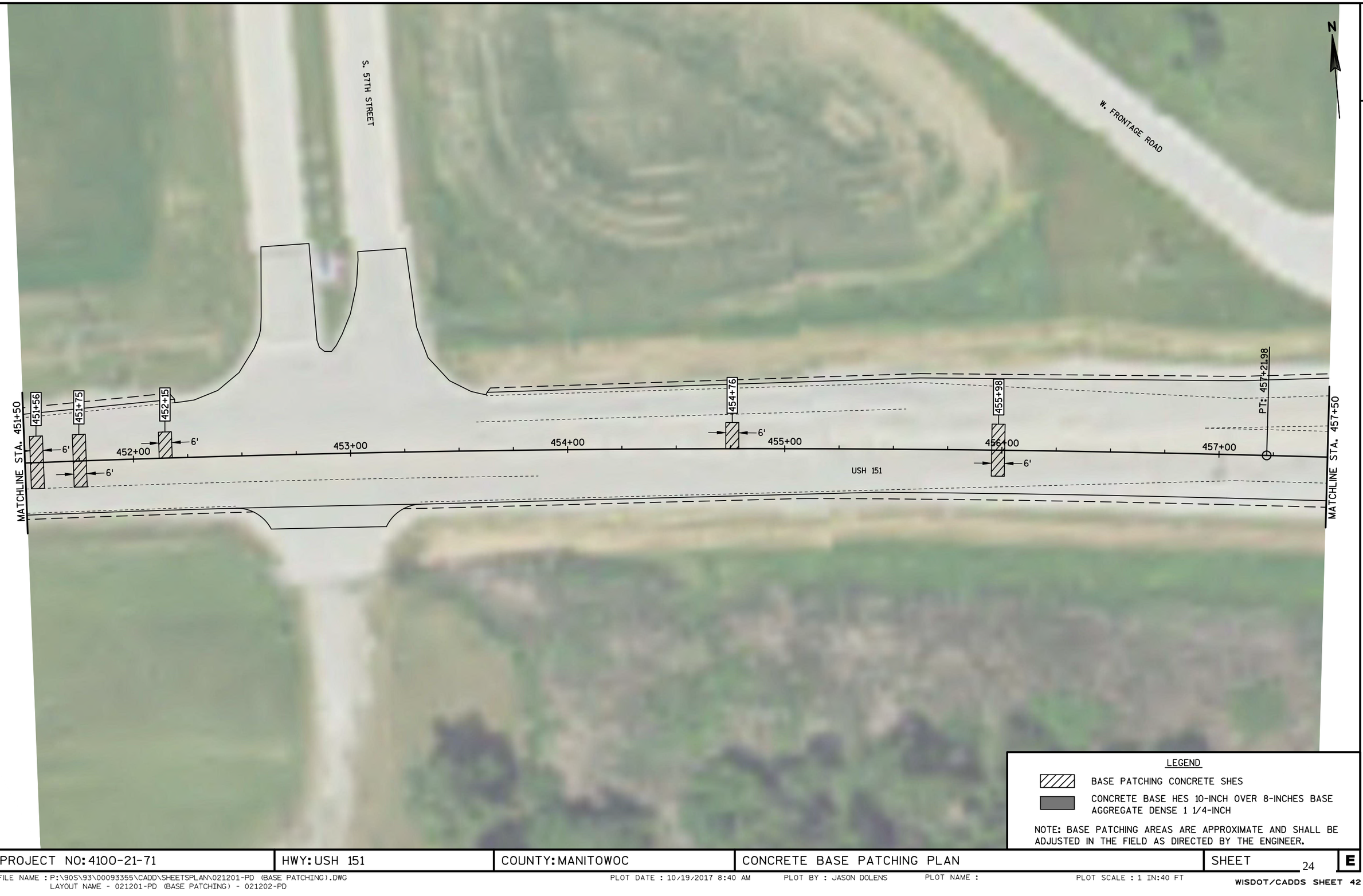
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 23	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021201-PD (BASE PATCHING).DWG
LAYOUT NAME - 021201-PD (BASE PATCHING) - 021201-PD

PLOT DATE : 10/19/2017 8:40 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



LEGEND

BASE PATCHING CONCRETE SHES

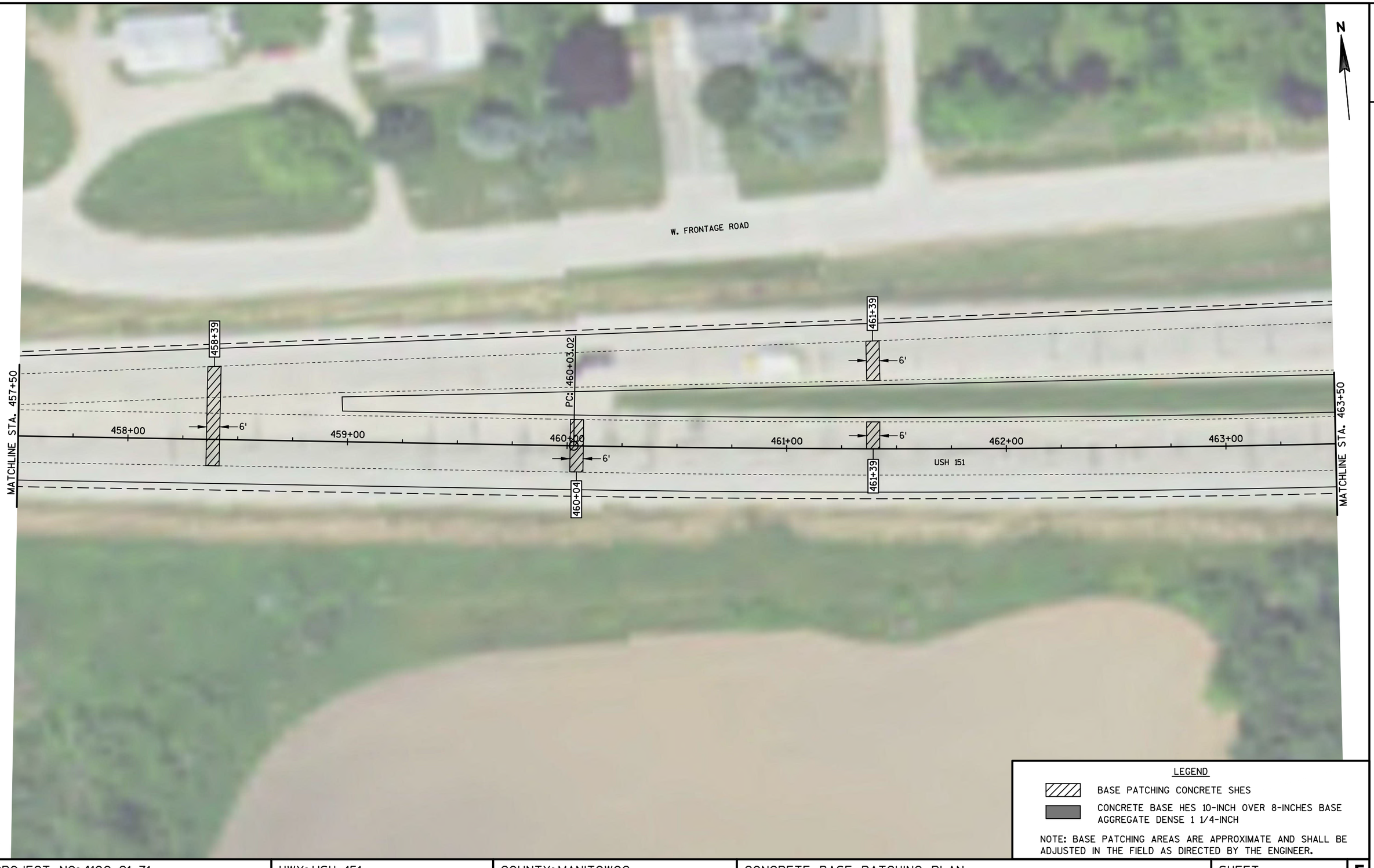
CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 24	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021201-PD (BASE PATCHING).DWG
LAYOUT NAME - 021201-PD (BASE PATCHING) - 021202-PD
PLOT DATE : 10/19/2017 8:40 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



LEGEND

BASE PATCHING CONCRETE SHES

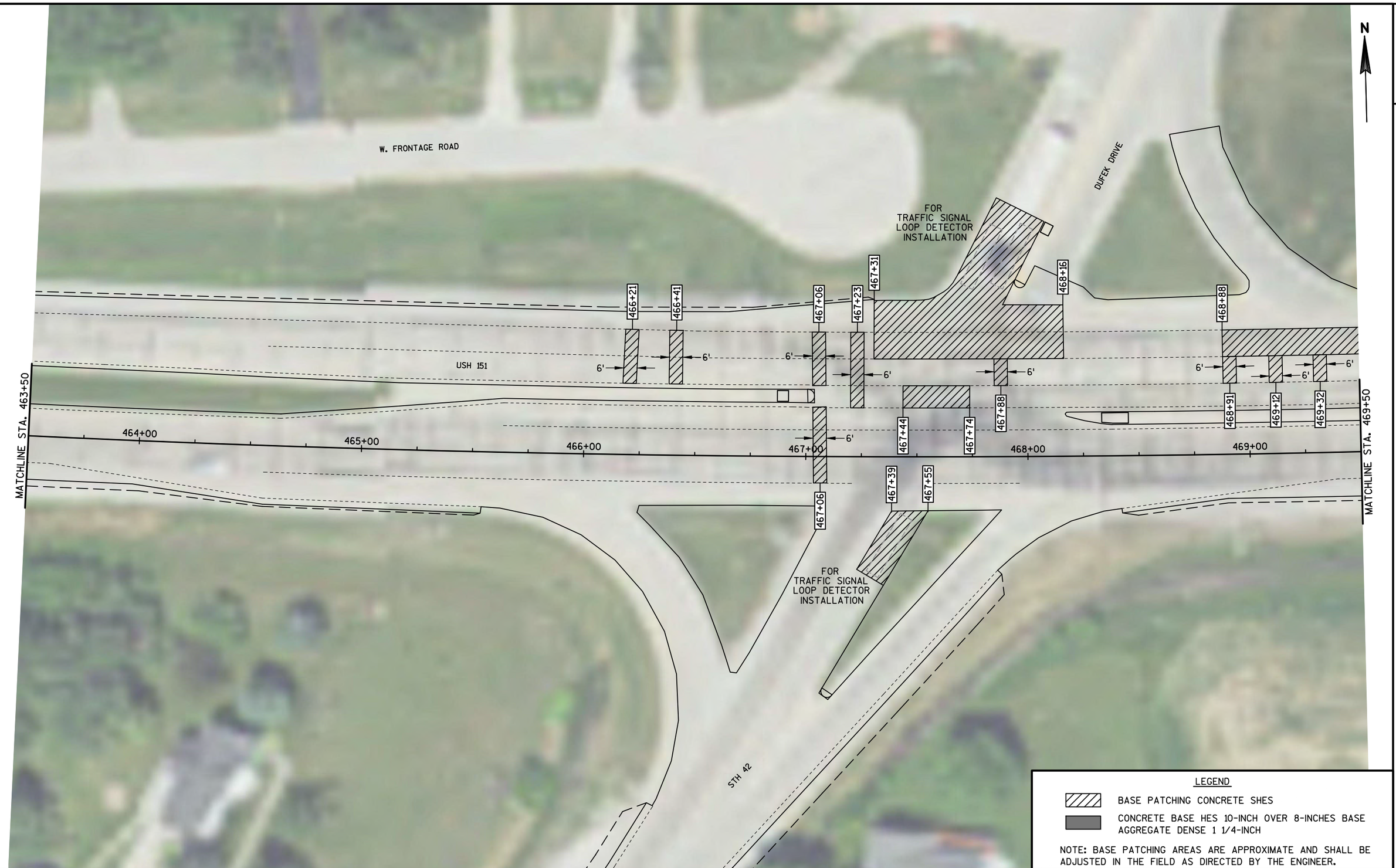
CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 25	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021201-PD (BASE PATCHING).DWG
LAYOUT NAME - 021201-PD (BASE PATCHING) - 021203-PD
PLOT DATE : 10/19/2017 8:41 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT

2



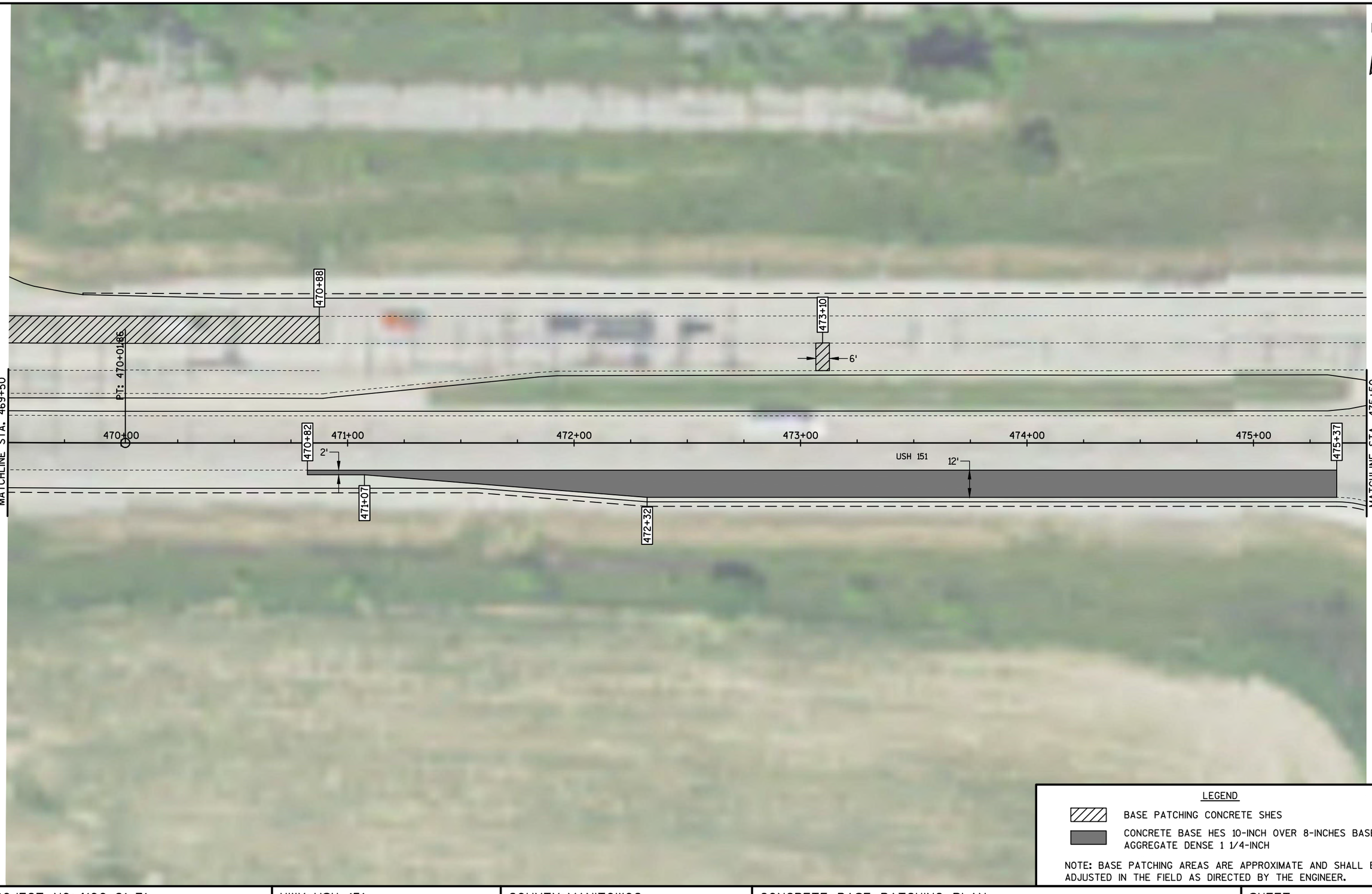
LEGEND

BASE PATCHING CONCRETE SHES

CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 26	E



LEGEND

BASE PATCHING CONCRETE SHES

CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 27	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021201-PD (BASE PATCHING).DWG
LAYOUT NAME - 021201-PD (BASE PATCHING) - 021205-PD
PLOT DATE : 10/19/2017 8:41 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



LEGEND

BASE PATCHING CONCRETE SHES

CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 28	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021201-PD (BASE PATCHING).DWG
LAYOUT NAME - 021201-PD (BASE PATCHING) - 021206-PD

PLOT DATE : 10/19/2017 8:41 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2



LEGEND

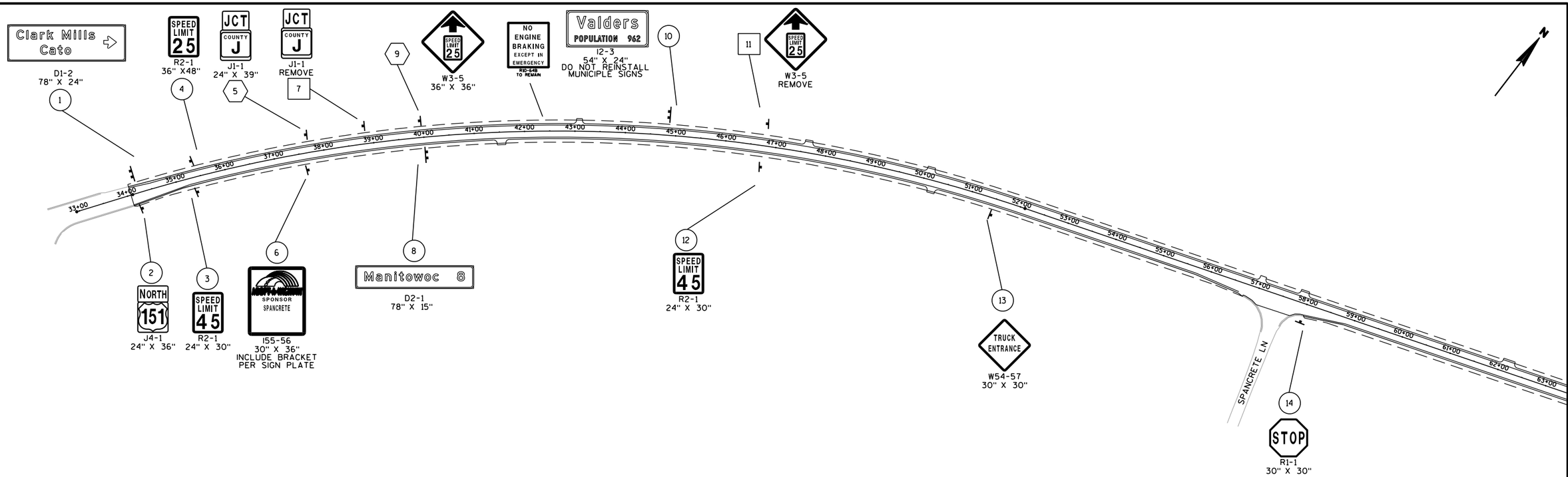
BASE PATCHING CONCRETE SHES

CONCRETE BASE HES 10-INCH OVER 8-INCHES BASE AGGREGATE DENSE 1 1/4-INCH

NOTE: BASE PATCHING AREAS ARE APPROXIMATE AND SHALL BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONCRETE BASE PATCHING PLAN	SHEET 29	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\021201-PD (BASE PATCHING).DWG
LAYOUT NAME - 021201-PD (BASE PATCHING) - 021207-PD
PLOT DATE : 10/19/2017 8:41 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42



SIGNING NOTES

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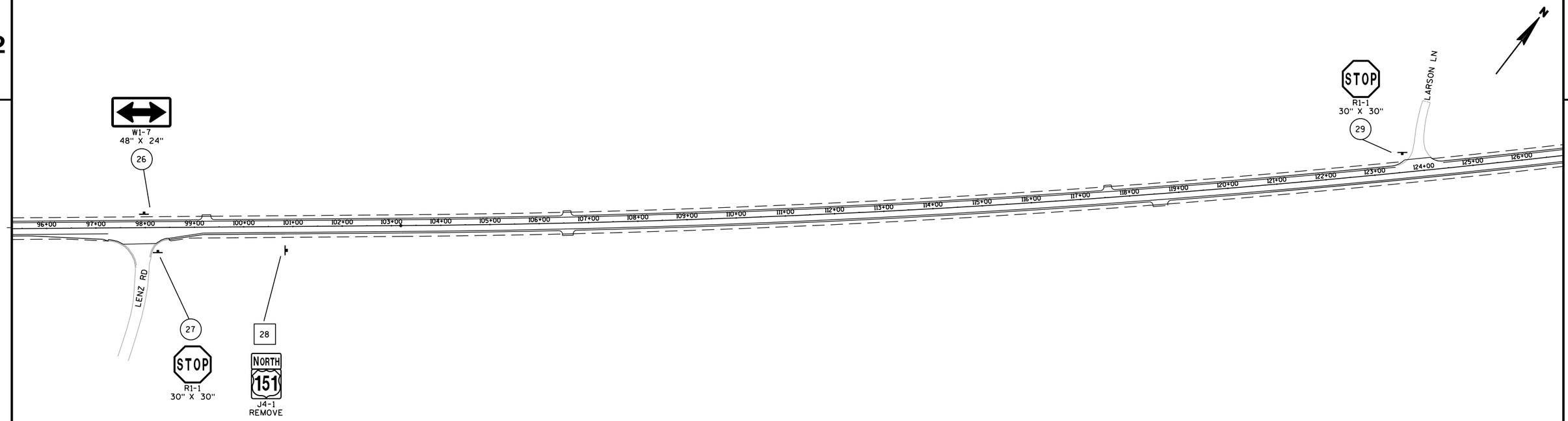
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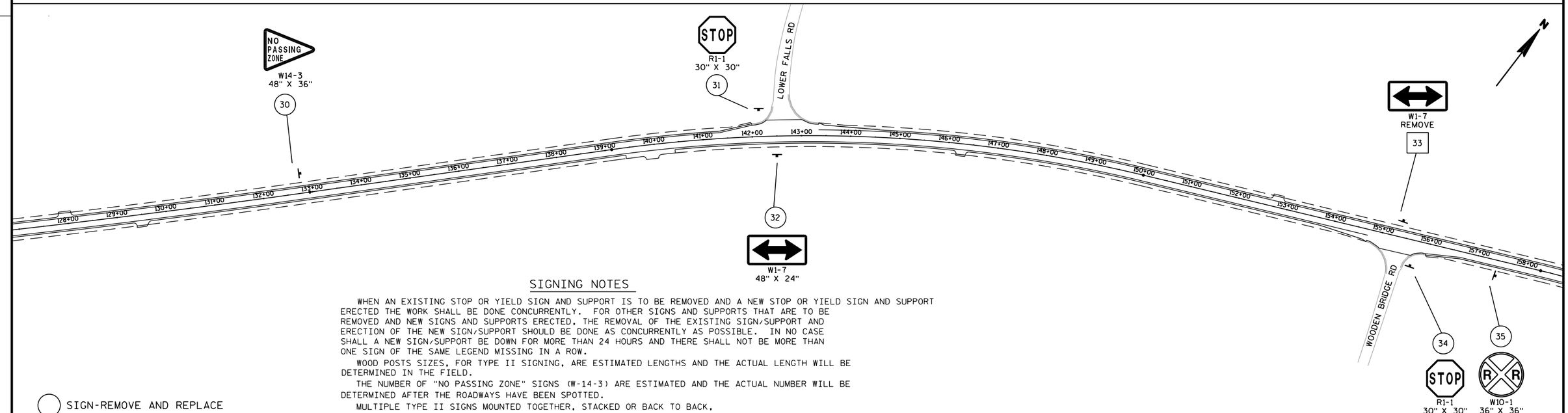
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET	E





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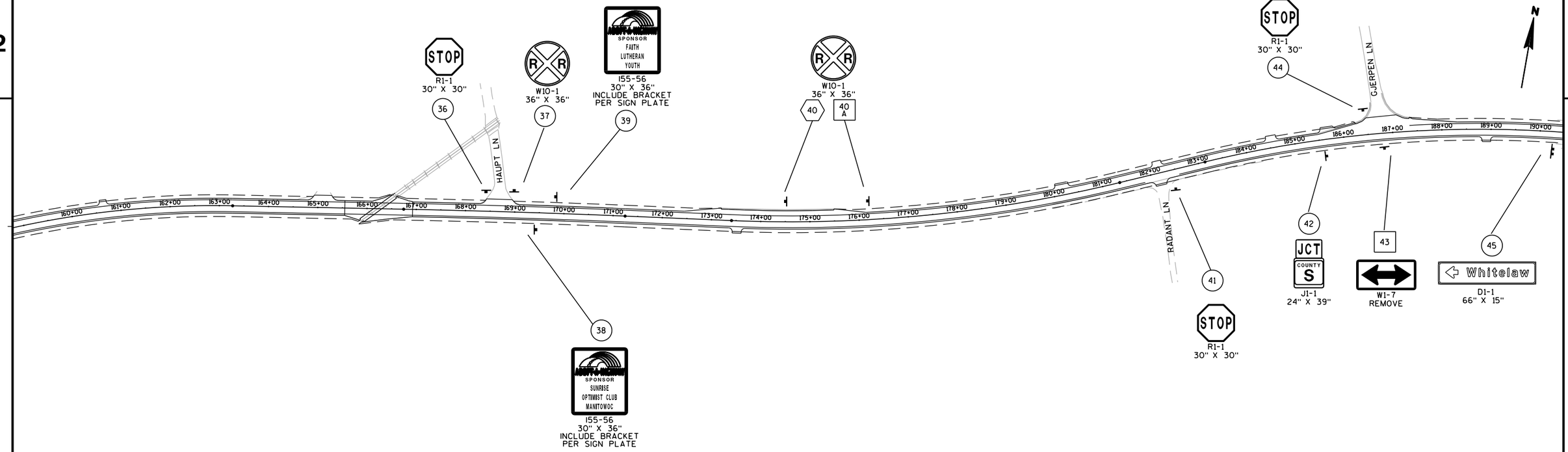
SIGN-REMOVE AND REPLACE

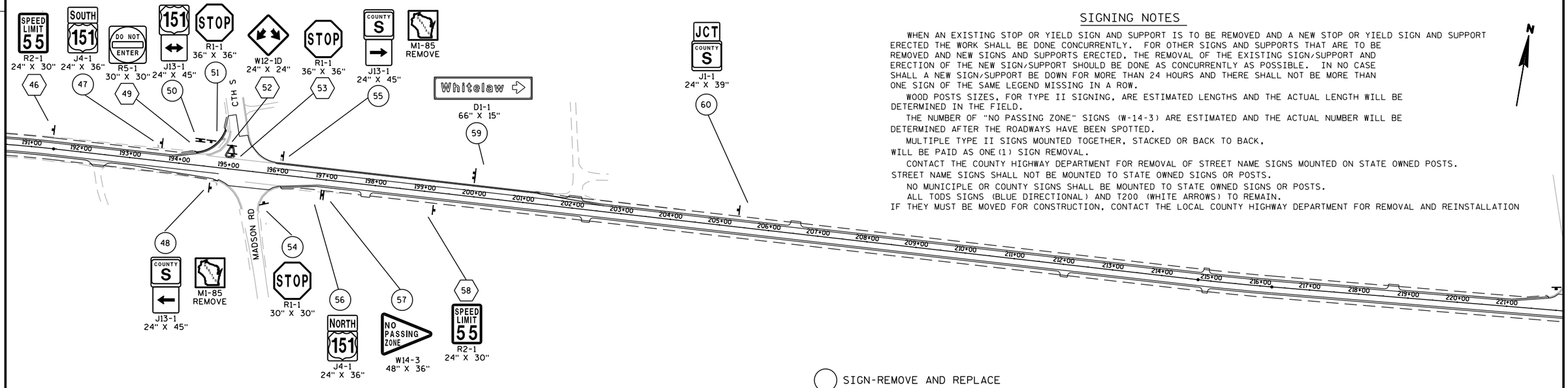
SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET	E

2





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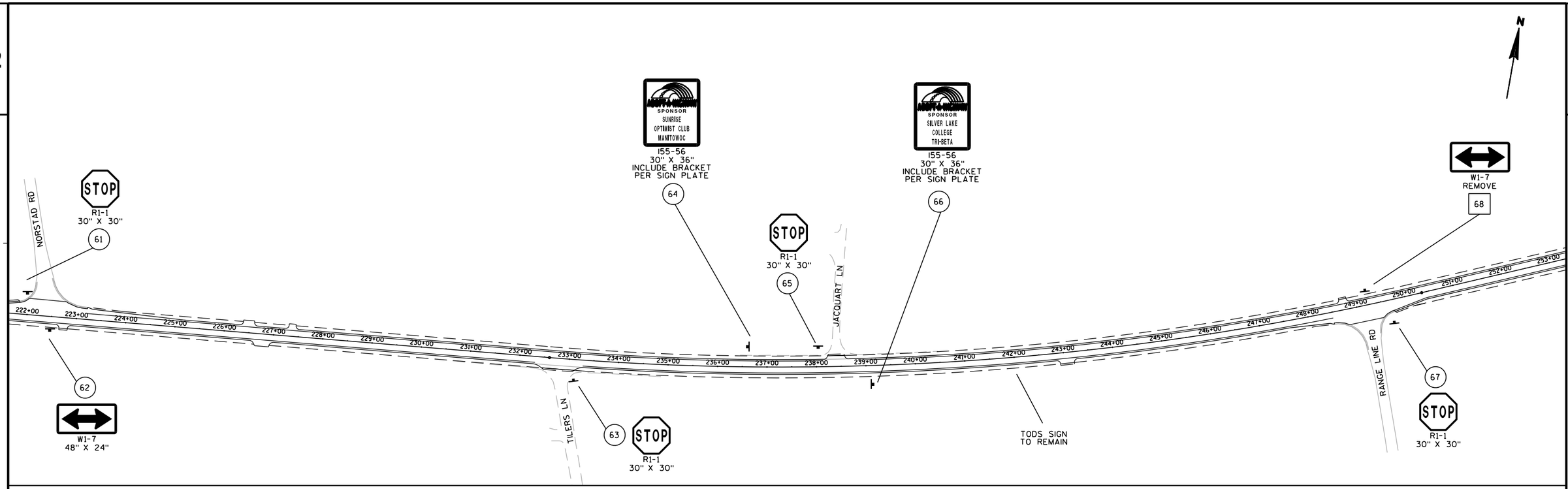
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SIGN-REMOVE EXISTING

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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET	E

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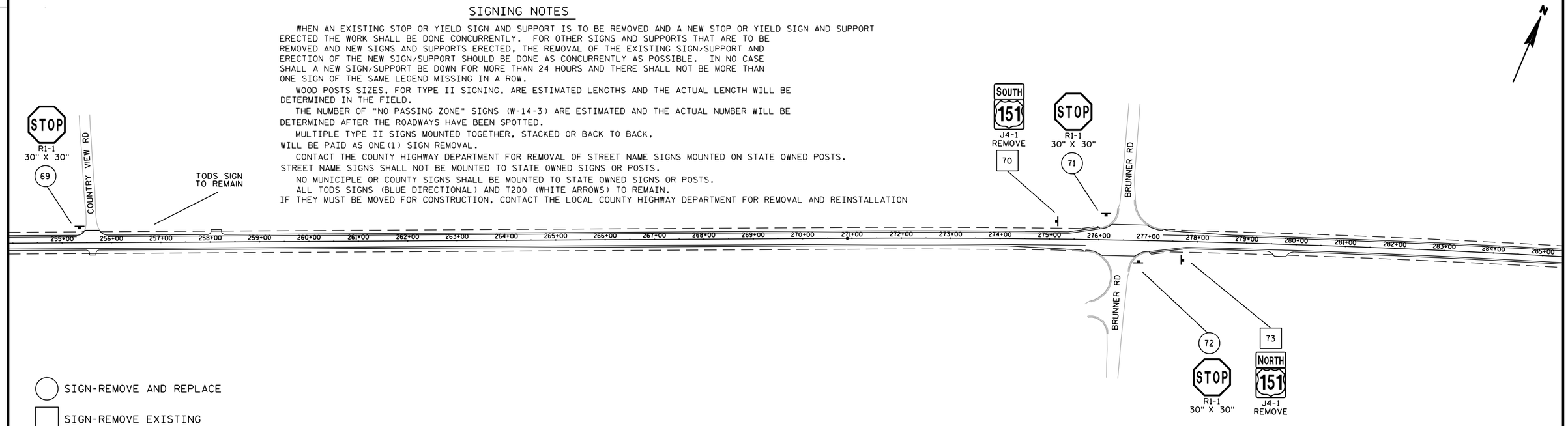
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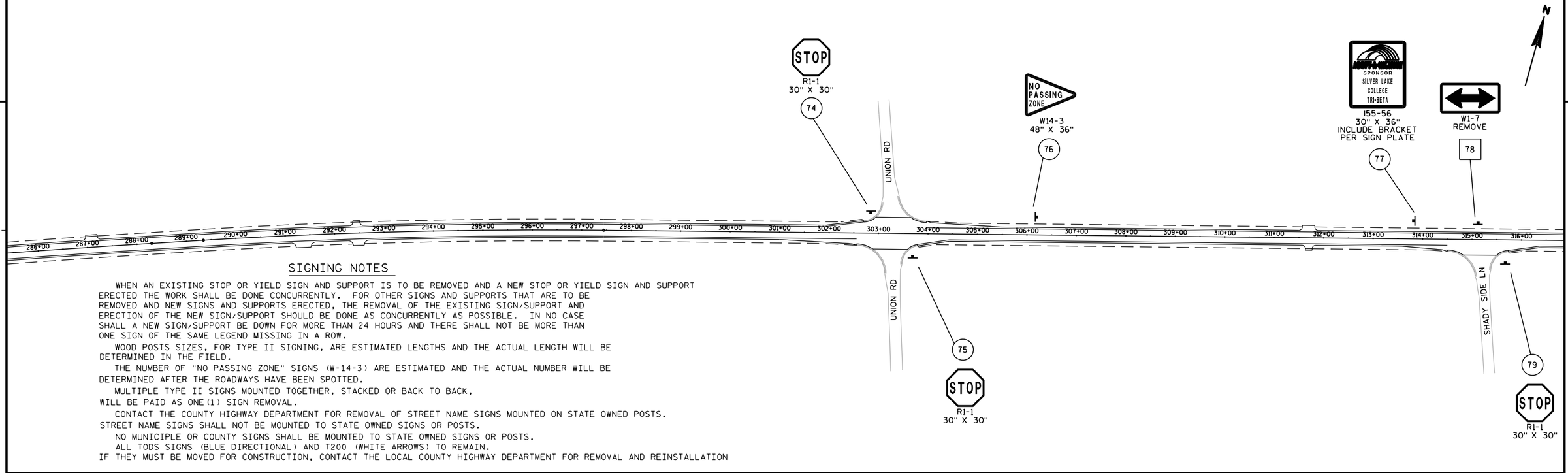
SIGN-REMOVE EXISTING

SIGN-PLACE NEW

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET E

FILE NAME : N:\spo\traffic\SIGNING\Projects\4100-21-71 USH 151 Manitowoc county\41002171_signplan.dgn PLOT DATE : 21-AUG-2017 15:01 PLOT BY : dotets PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42



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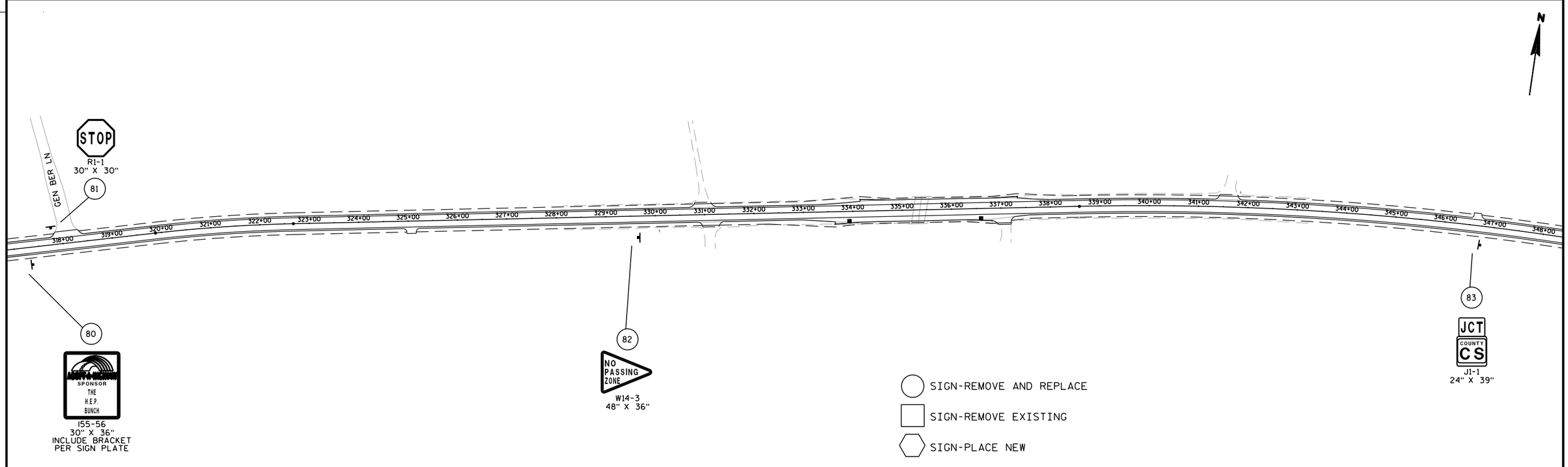
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET	E

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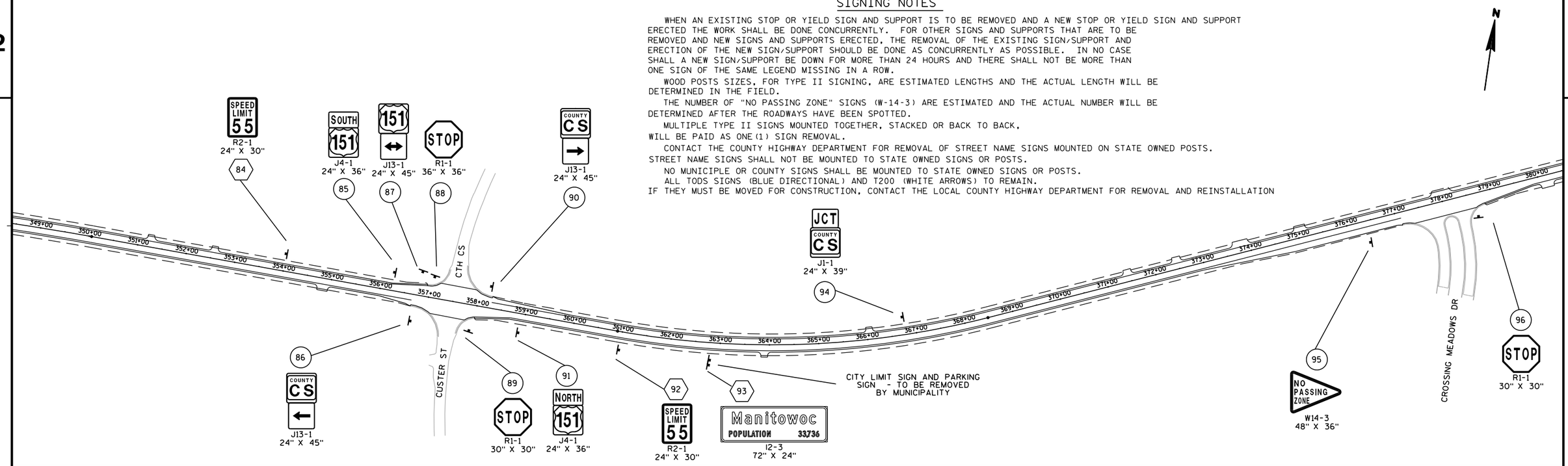
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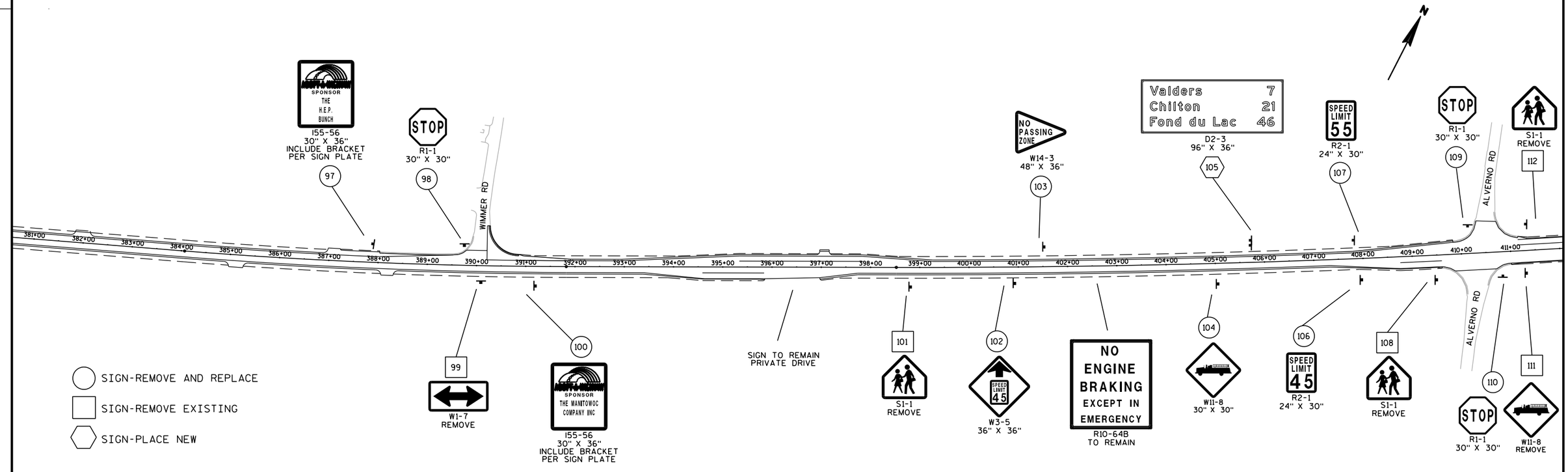
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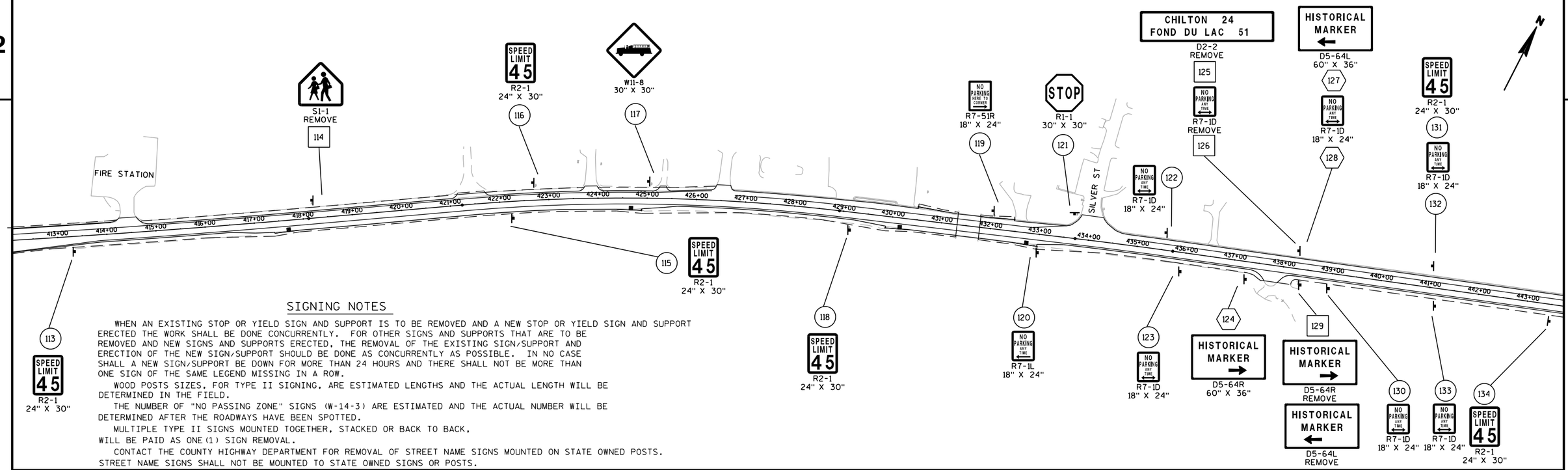


SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET E



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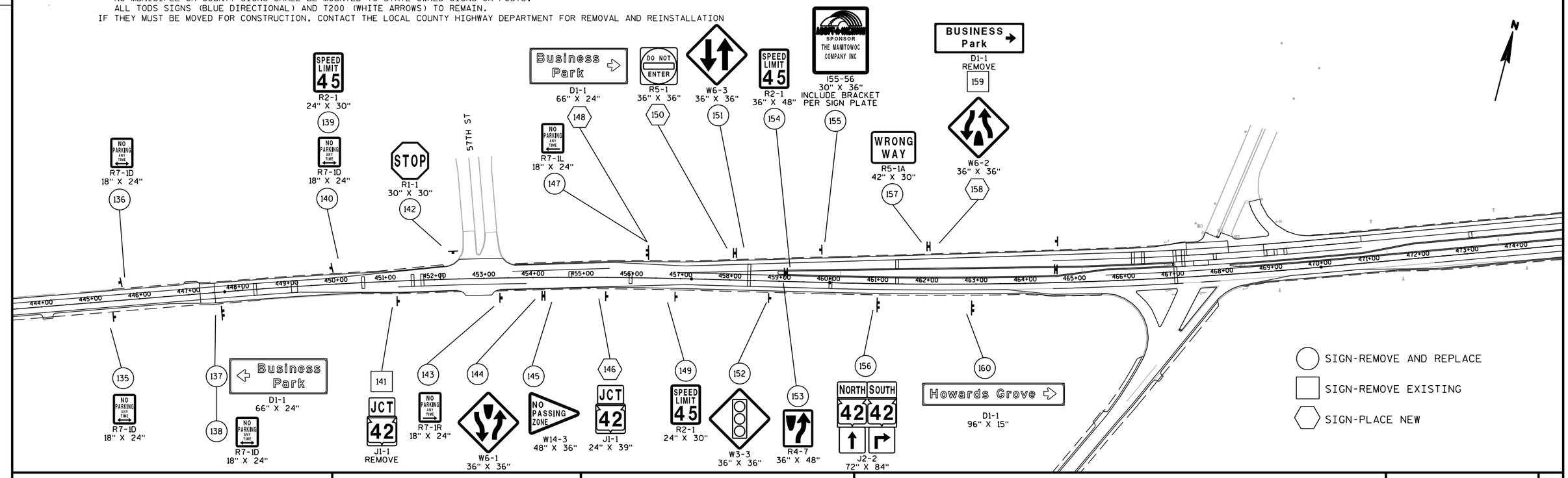
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET E

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

W6-2 REMOVE 166

J4-1 REMOVE 170

J4-1 36" X 54" 165

W4-2L 30" X 30" 169

W4-2L 36" X 36" 171

R3-56L REMOVE 163

W4-2L REMOVE 164

R4-7 24" X 30" MOUNT TO SIGNAL 172

R1-1F 36" X 36" MOUNT TO SIGNAL 172 A

J3-1 24" X 57" 183

R5-1 30" X 30" MOUNT TO SIGNAL 184

R1-1F 36" X 36" MOUNT TO SIGNAL 185

R4-7 24" X 30" MOUNT TO SIGNAL 186

R1-1F 36" X 36" MOUNT TO SIGNAL 187

R6-2L 24" X 30" MOUNT TO SIGNAL 188

R1-1F 36" X 36" MOUNT TO SIGNAL 188 A

R5-1 36" X 36" 189

M1-85 REMOVE 190

VALDERS
CHILTON
FOND DU LAC
D1-3 REMOVE

Valders
Howards Grove
D1-3 96" X 30" 197

HOWARDS GROVE
D1-1 102" X 15" 198

R6-2L 24" X 30" 200

R4-7 24" X 30" 199

WRONG WAY R5-1A 42" X 30" 196

DUFEK DR

STH 42

J3-2 72" X 84" 161

WRONG WAY R5-1A 42" X 30" 162

J3-2 REMOVE 167

WRONG WAY R5-1A REMOVE 168

J3-2 REMOVE

J3-1 36" X 84"

R5-1 36" X 36" 173

R5-1 36" X 36" 174

R1-2 36" X 31" 175

R5-1 36" X 36" 176

R1-1F 36" X 36" MOUNT TO SIGNAL 177 A

W12-1D 24" X 24" 177

R6-2L 24" X 30" MOUNT TO SIGNAL 178

R1-1F 36" X 36" MOUNT TO SIGNAL 179

J3-2 48" X 57" 180

R6-3 REMOVE

R1-2 36" X 31" 181

M1-85 REMOVE 182

SPEED LIMIT 45
R2-1 36" X 48" 194 195

Manitowoc
POPULATION 33736
I2-3 72" X 24" 193

R4-7 24" X 30" MOUNT TO SIGNAL 191

J3-1 24" X 57" MOUNT TO SIGNAL 192

R6-1R 36" X 12" 201

R1-1 36" X 36" 202

R6-3A 30" X 24" 203

J13-1 24" X 45" 204

R6-2R 24" X 30" 205

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WISDOT/CADD SHEET 42

CONFIGURATION WITH HEAD NUMBERS		
3-VLFY 1, 2 6, 7	3-V 3, 4, 5 8, 9, 10 11, 13 14, 16	3-H 12, 15

MONOTUBE STRUCTURE NUMBERS	
SB4	S-36-0040
SB8	S-36-0041

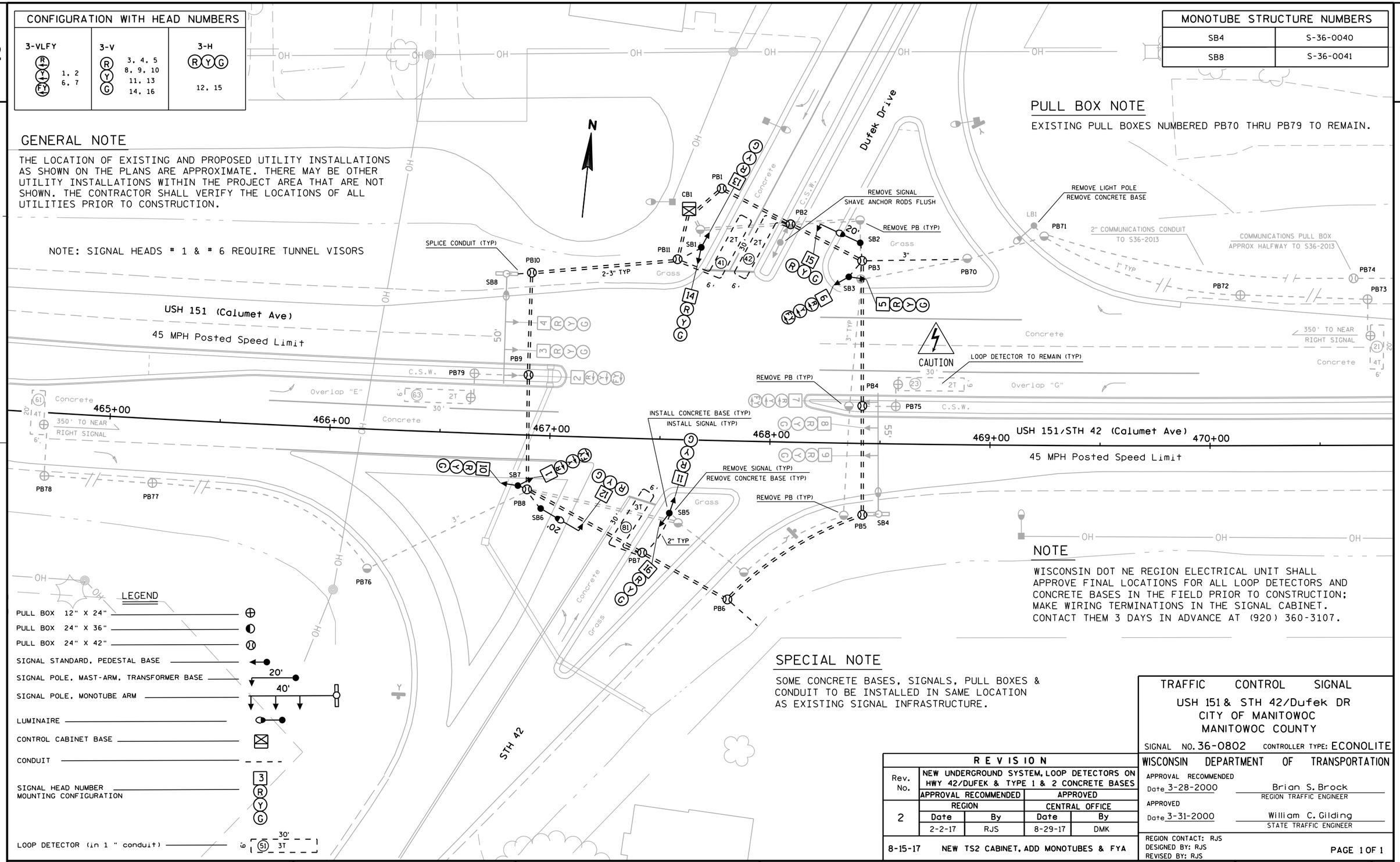
GENERAL NOTE

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

NOTE: SIGNAL HEADS # 1 & # 6 REQUIRE TUNNEL VISORS

PULL BOX NOTE

EXISTING PULL BOXES NUMBERED PB70 THRU PB79 TO REMAIN.



NOTE

WISCONSIN DOT NE REGION ELECTRICAL UNIT SHALL APPROVE FINAL LOCATIONS FOR ALL LOOP DETECTORS AND CONCRETE BASES IN THE FIELD PRIOR TO CONSTRUCTION; MAKE WIRING TERMINATIONS IN THE SIGNAL CABINET. CONTACT THEM 3 DAYS IN ADVANCE AT (920) 360-3107.

SPECIAL NOTE

SOME CONCRETE BASES, SIGNALS, PULL BOXES & CONDUIT TO BE INSTALLED IN SAME LOCATION AS EXISTING SIGNAL INFRASTRUCTURE.

LEGEND

- PULL BOX 12" X 24"
- PULL BOX 24" X 36"
- PULL BOX 24" X 42"
- SIGNAL STANDARD, PEDESTAL BASE
- SIGNAL POLE, MAST-ARM, TRANSFORMER BASE — 20'
- SIGNAL POLE, MONOTUBE ARM — 40'
- LUMINAIRE
- CONTROL CABINET BASE
- CONDUIT
- SIGNAL HEAD NUMBER / MOUNTING CONFIGURATION
- LOOP DETECTOR (in 1 " conduit) — 6', 30', 3T

REVISION				
Rev. No.	NEW UNDERGROUND SYSTEM, LOOP DETECTORS ON HWY 42/DUFEK & TYPE 1 & 2 CONCRETE BASES			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	Date	By	Date	By
2	2-2-17	RJS	8-29-17	DMK
8-15-17	NEW TS2 CABINET, ADD MONOTUBES & FYA			

TRAFFIC CONTROL SIGNAL

USH 151 & STH 42/Dufek DR
CITY OF MANITOWOC
MANITOWOC COUNTY

SIGNAL NO. 36-0802 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 3-28-2000 — Brian S. Brock, REGION TRAFFIC ENGINEER

APPROVED
Date 3-31-2000 — William C. Gilding, STATE TRAFFIC ENGINEER

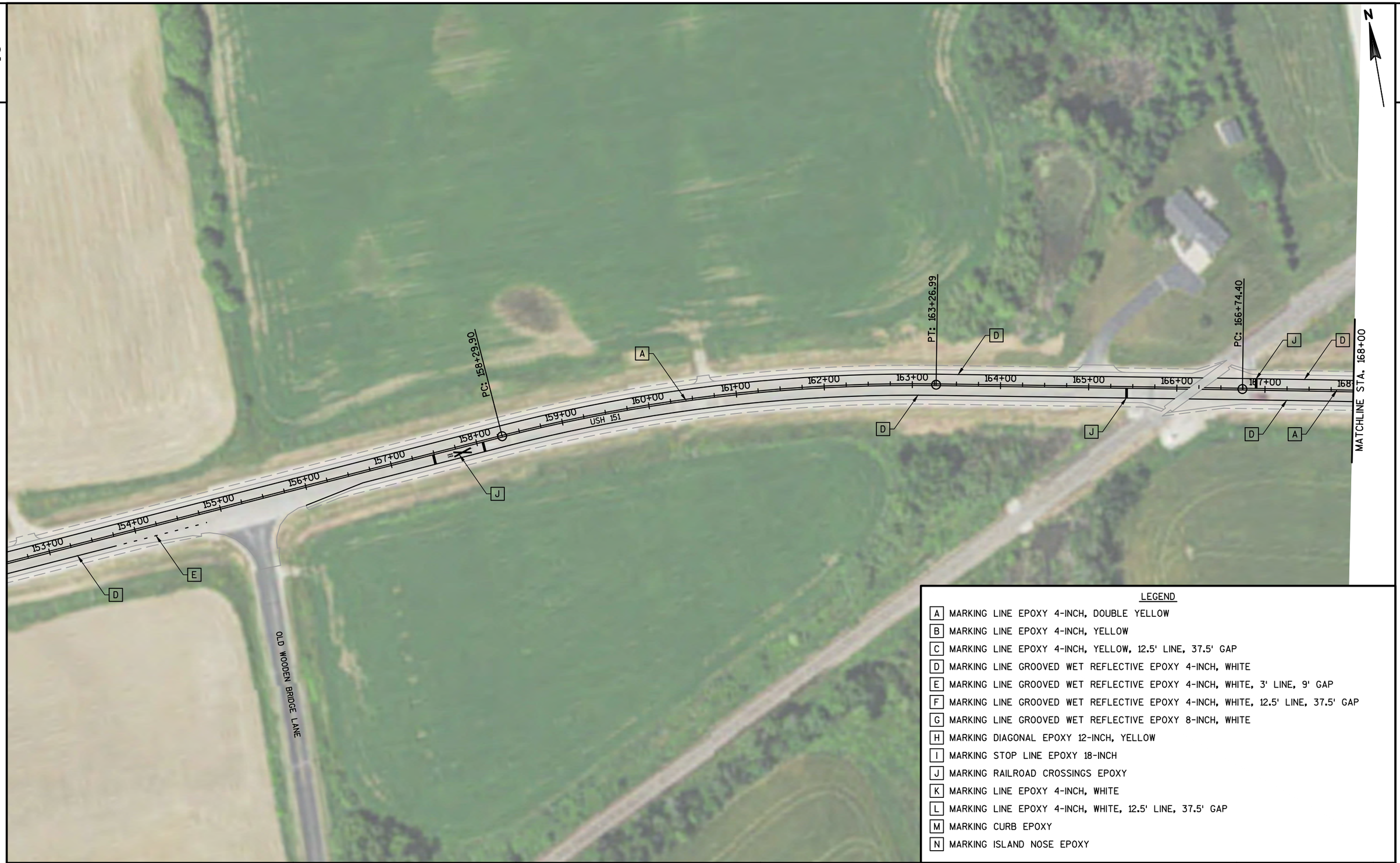
REGION CONTACT: RJS
DESIGNED BY: RJS
REVISED BY: RJS

PAGE 1 OF 1

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CONSTRUCTION DETAIL - TRAFFIC SIGNAL REVISION	SHEET 38 E

FILE NAME : F:\d3_traffi\S-802,rev2,const.dgn PLOT DATE : 08-DEC-2017 10:20 PLOT BY : dotc5s PLOT NAME : S-802,rev2,const PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42



LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
- D MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
- F MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- G MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH, WHITE
- H MARKING DIAGONAL EPOXY 12-INCH, YELLOW
- I MARKING STOP LINE EPOXY 18-INCH
- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

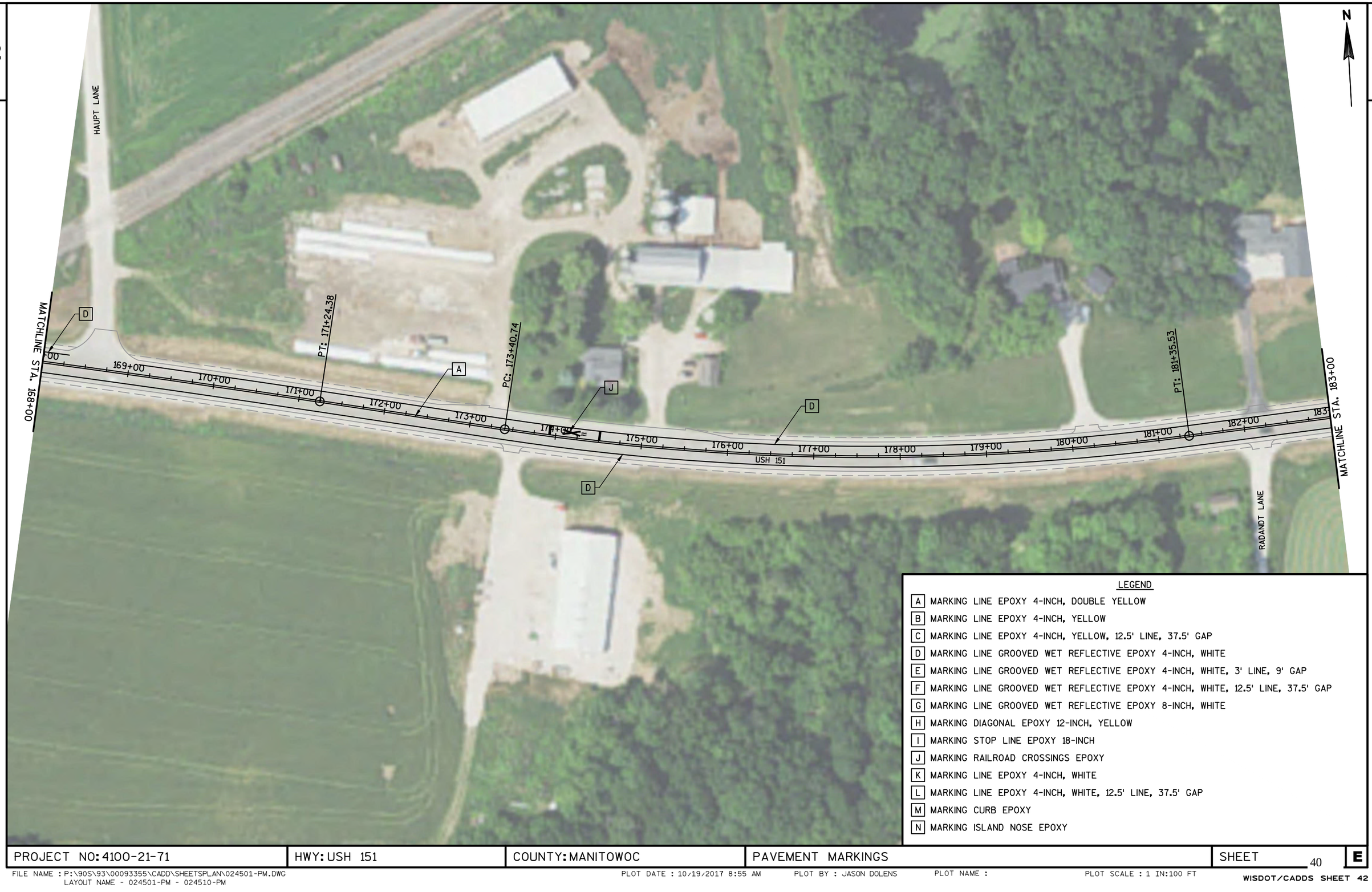
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 39	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024509-PM

PLOT DATE : 10/19/2017 8:55 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2



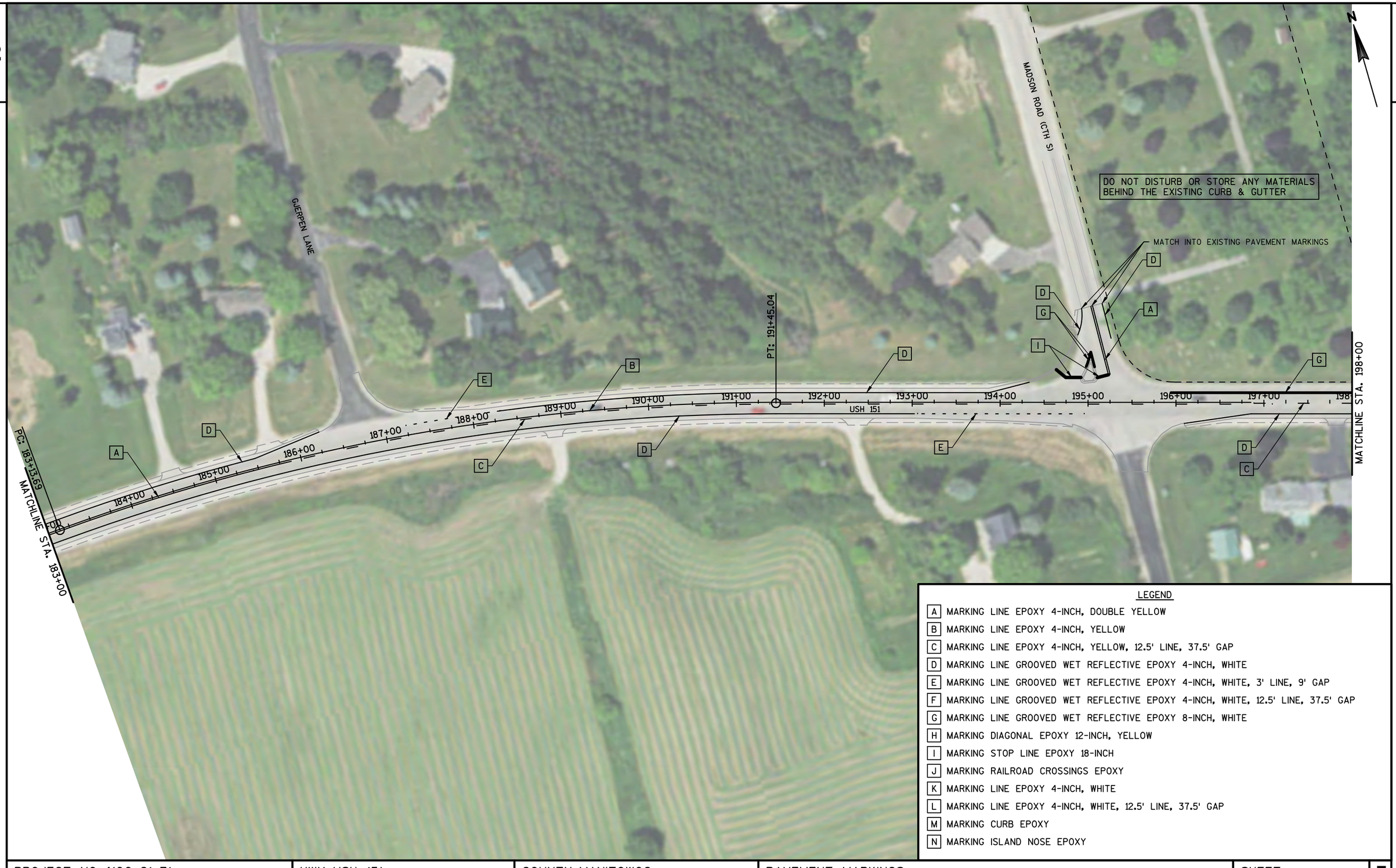
LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
- D MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
- F MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- G MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH, WHITE
- H MARKING DIAGONAL EPOXY 12-INCH, YELLOW
- I MARKING STOP LINE EPOXY 18-INCH
- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 40	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024510-PM
PLOT DATE : 10/19/2017 8:55 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



LEGEND

A	MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
B	MARKING LINE EPOXY 4-INCH, YELLOW
C	MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
D	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
E	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
F	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
G	MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH, WHITE
H	MARKING DIAGONAL EPOXY 12-INCH, YELLOW
I	MARKING STOP LINE EPOXY 18-INCH
J	MARKING RAILROAD CROSSINGS EPOXY
K	MARKING LINE EPOXY 4-INCH, WHITE
L	MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
M	MARKING CURB EPOXY
N	MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 41	E

2



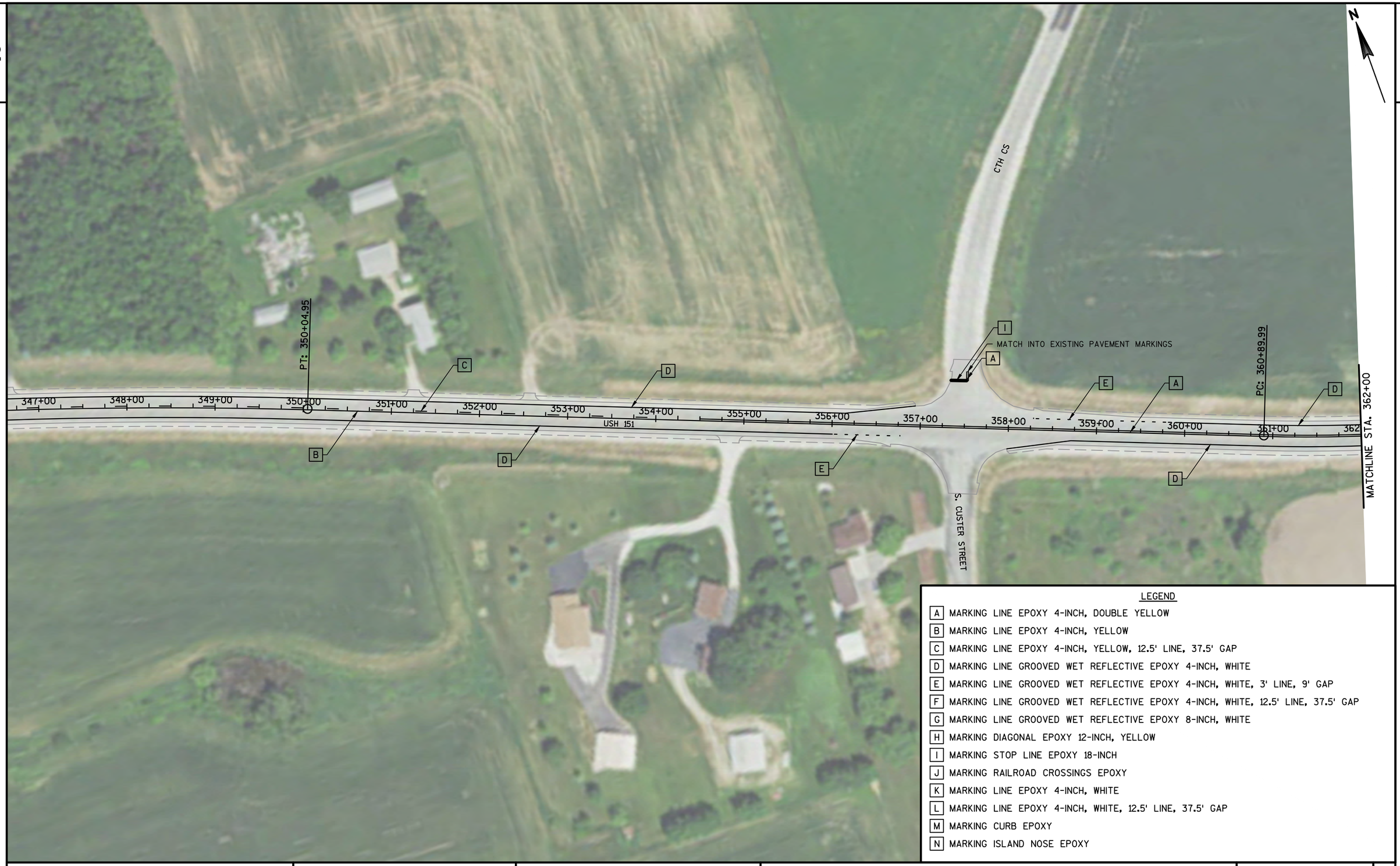
LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
- D MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
- F MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- G MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH, WHITE
- H MARKING DIAGONAL EPOXY 12-INCH, YELLOW
- I MARKING STOP LINE EPOXY 18-INCH
- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 42	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024512-PM
PLOT DATE : 11/1/2017 11:32 AM
PLOT BY : JASON DOLENS
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



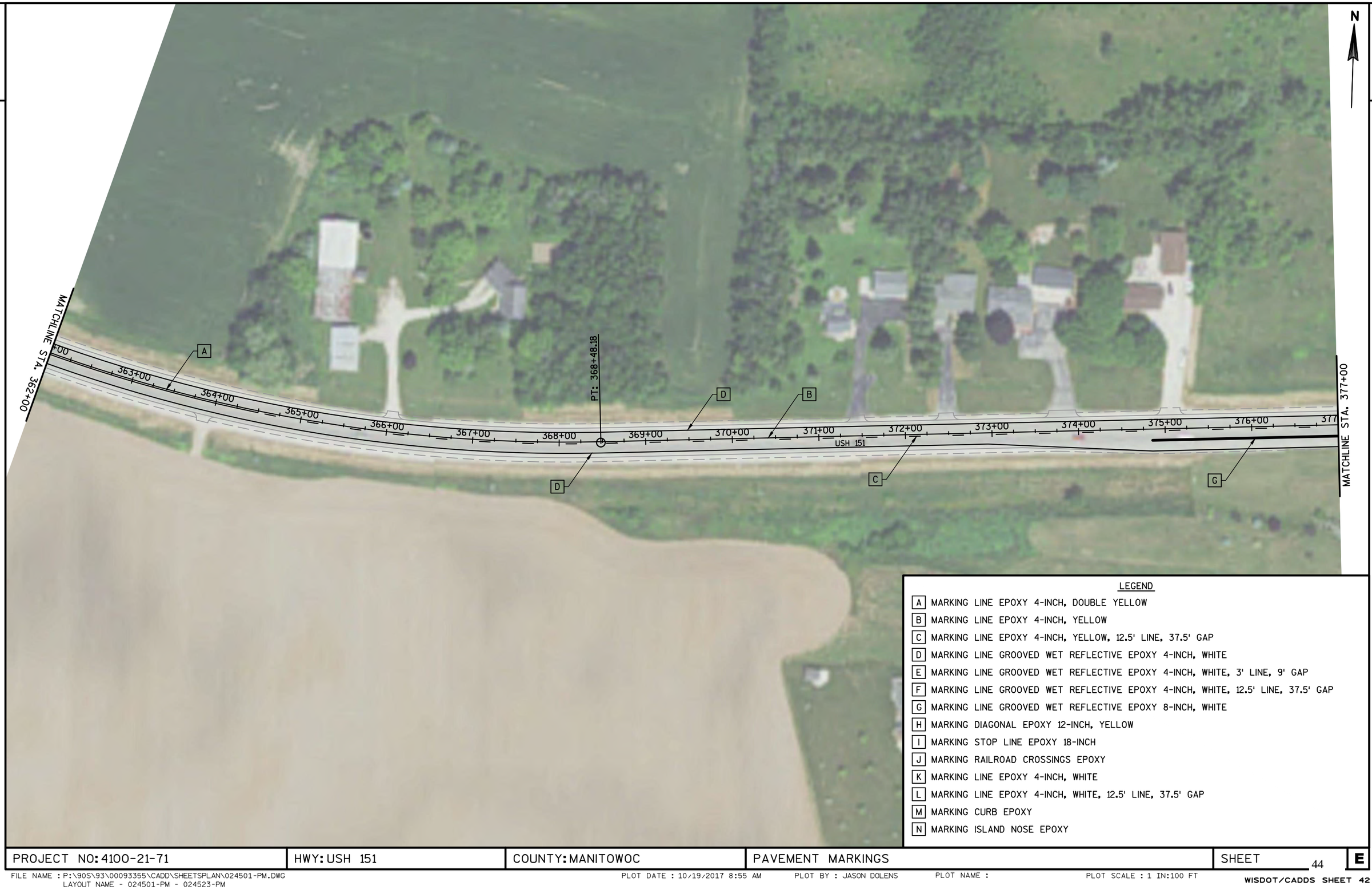
LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
- D MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
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- I MARKING STOP LINE EPOXY 18-INCH
- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 43	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024522-PM
PLOT DATE : 10/19/2017 8:55 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

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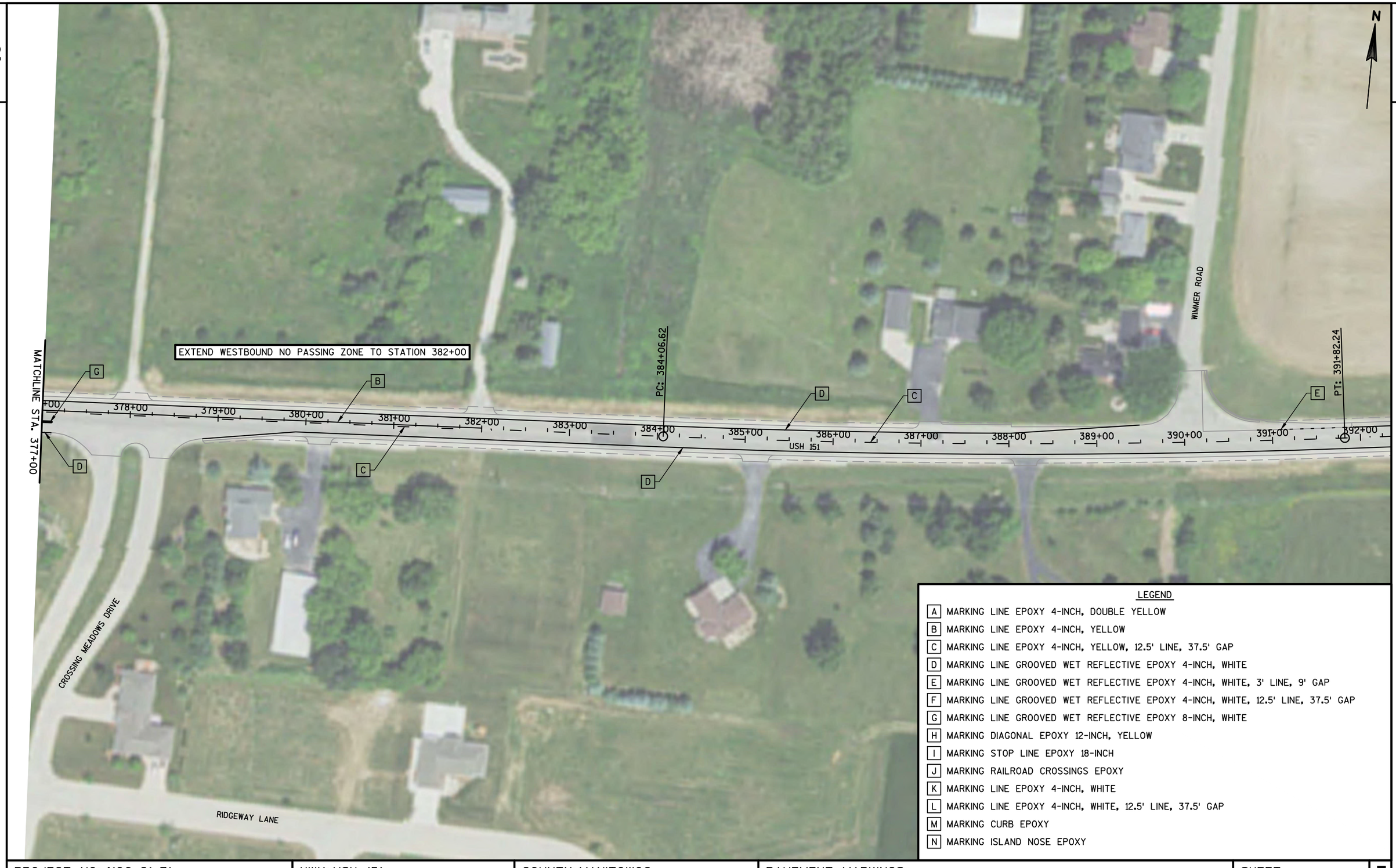


LEGEND

A	MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
B	MARKING LINE EPOXY 4-INCH, YELLOW
C	MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
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F	MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
G	MARKING LINE GROOVED WET REFLECTIVE EPOXY 8-INCH, WHITE
H	MARKING DIAGONAL EPOXY 12-INCH, YELLOW
I	MARKING STOP LINE EPOXY 18-INCH
J	MARKING RAILROAD CROSSINGS EPOXY
K	MARKING LINE EPOXY 4-INCH, WHITE
L	MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
M	MARKING CURB EPOXY
N	MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 44	E

2



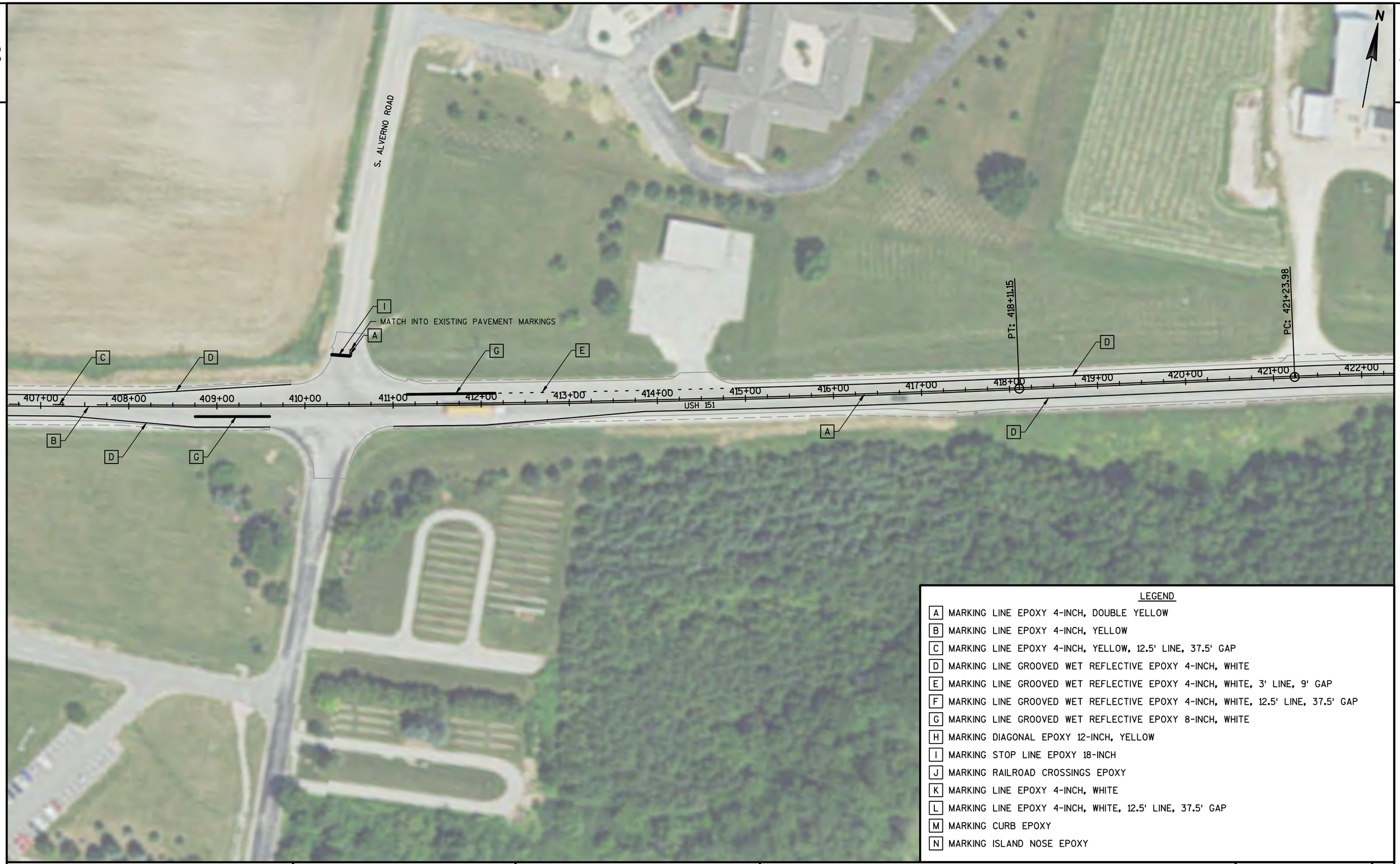
LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
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- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
- F MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
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- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 45	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024524-PM
PLOT DATE : 10/19/2017 8:55 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
- D MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
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- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 46	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024526-PM
PLOT DATE : 10/19/2017 8:55 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

S. 57TH STREET

W. FRONTAGE ROAD

PT: 457+21.98

PC: 460+03.02

451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00 461+00 462+00 463+00 464+00 465+00

25'

USH 151

MATCHLINE STA. 465+00

STH 42

MATCH INTO EXISTING PAVEMENT MARKINGS

(TYP.)

LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
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- H MARKING DIAGONAL EPOXY 12-INCH, YELLOW
- I MARKING STOP LINE EPOXY 18-INCH
- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 47	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024529-PM

PLOT DATE : 10/19/2017 8:55 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

N

DUFEK DRIVE

W. FRONTAGE ROAD

MATCH INTO EXISTING PAVEMENT MARKINGS

MATCHLINE STA. 465+00

MATCHLINE STA. 480+00

PT: 470+01.86

466+00 467+00 468+00 469+00 470+00 471+00 472+00 473+00 474+00 475+00 476+00 477+00 478+00 479+00 480

USH 151

STH 42

HECKER ROAD

MATCH INTO EXISTING PAVEMENT MARKINGS

LEGEND

- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
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- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

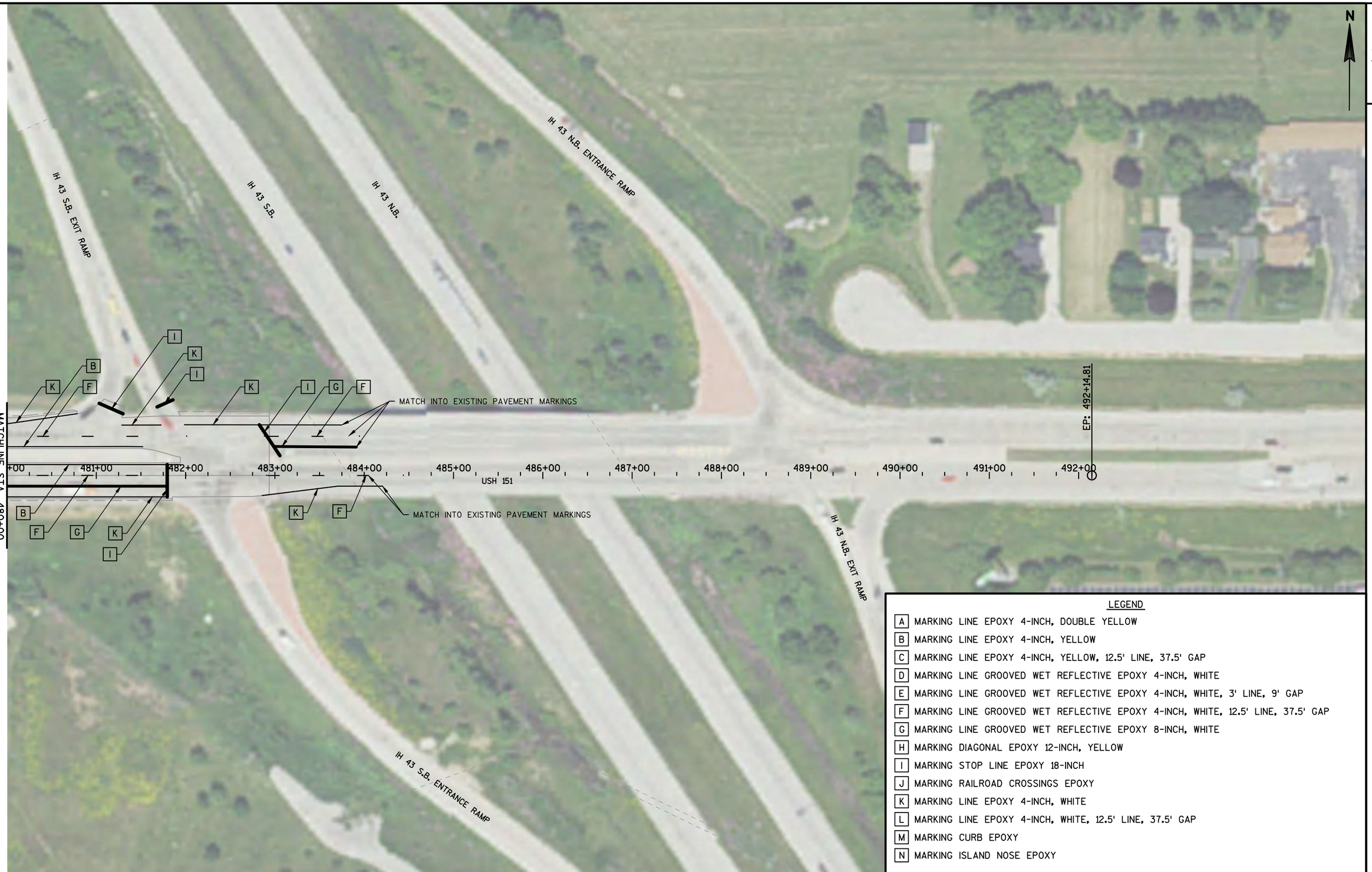
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 48	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024530-PM

PLOT DATE : 10/19/2017 8:56 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2



LEGEND

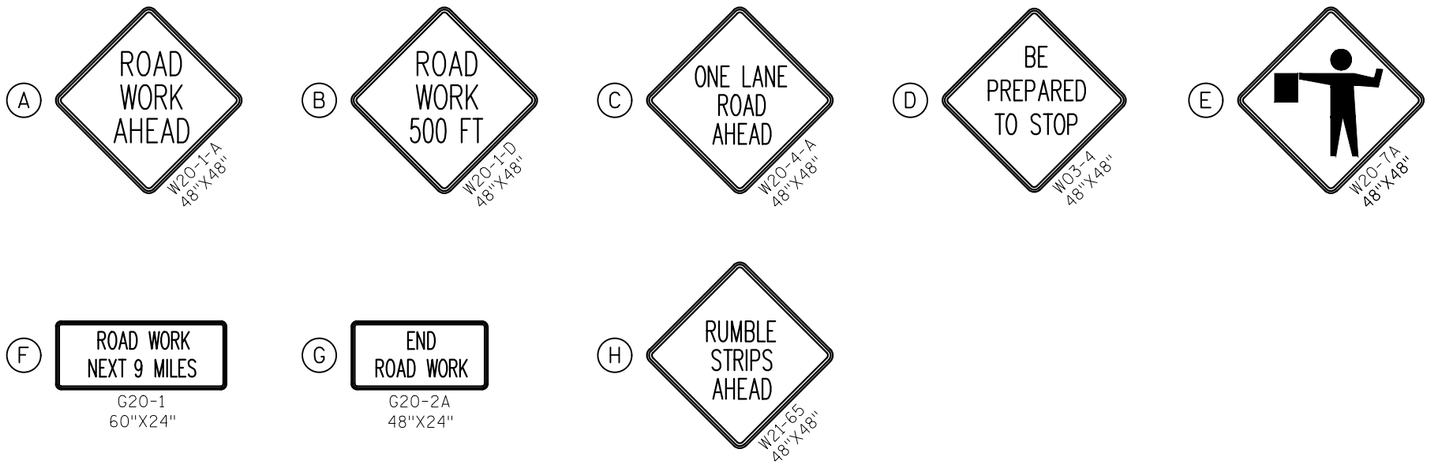
- A MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW
- B MARKING LINE EPOXY 4-INCH, YELLOW
- C MARKING LINE EPOXY 4-INCH, YELLOW, 12.5' LINE, 37.5' GAP
- D MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE
- E MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH, WHITE, 3' LINE, 9' GAP
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- H MARKING DIAGONAL EPOXY 12-INCH, YELLOW
- I MARKING STOP LINE EPOXY 18-INCH
- J MARKING RAILROAD CROSSINGS EPOXY
- K MARKING LINE EPOXY 4-INCH, WHITE
- L MARKING LINE EPOXY 4-INCH, WHITE, 12.5' LINE, 37.5' GAP
- M MARKING CURB EPOXY
- N MARKING ISLAND NOSE EPOXY

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PAVEMENT MARKINGS	SHEET 49	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 024501-PM - 024531-PM

PLOT DATE : 10/19/2017 8:56 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

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

NOTES

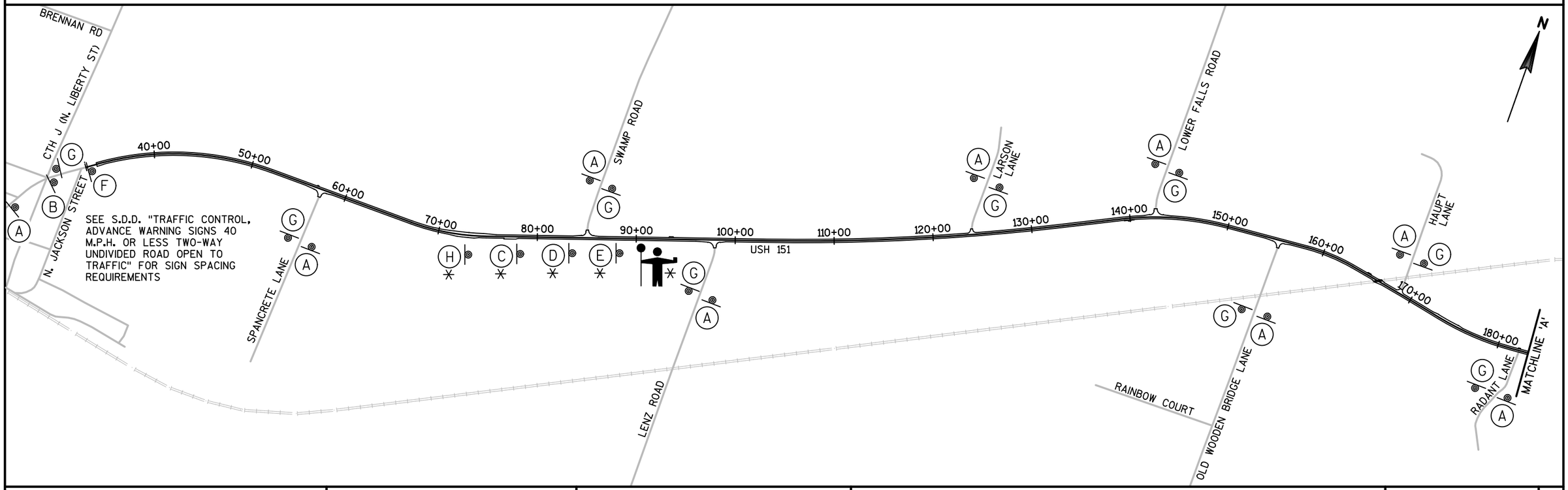
✳ TRAFFIC CONTROL FOR ALL MILLING, CIR, PAVING, AGGREGATE SHOULDER AND RUMBLE STRIP WORK SHALL FOLLOW S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".
(TRAFFIC CONTROL SHOWN AT THIS LOCATION FOR PLAN SHEET PURPOSES ONLY)

TRAFFIC CONTROL FOR ALL PAVEMENT MARKING WORK SHALL FOLLOW S.D.D. "MOVING PAVEMENT MARKING OPERATION-TWO-LANE TWO-WAY ROADWAY".

TRAFFIC CONTROL FOR ANY WORK REQUIRING A SHOULDER CLOSURE SHALL FOLLOW S.D.D. "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY".

TRAFFIC CONTROL FOR CONCRETE BASE PATCHING, NEW SHOULDERS, PAVING AND PAVEMENT MARKINGS IN THE CONCRETE SECTION SHALL FOLLOW S.D.D.'s "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY" AND "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE".

FLAGGERS ARE REQUIRED WHEN WORK IS BEING COMPLETED AT INTERSECTIONS TO MAINTAIN VEHICULAR ACCESS TO USH 151.



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TRAFFIC CONTROL OVERVIEW	SHEET 50	E

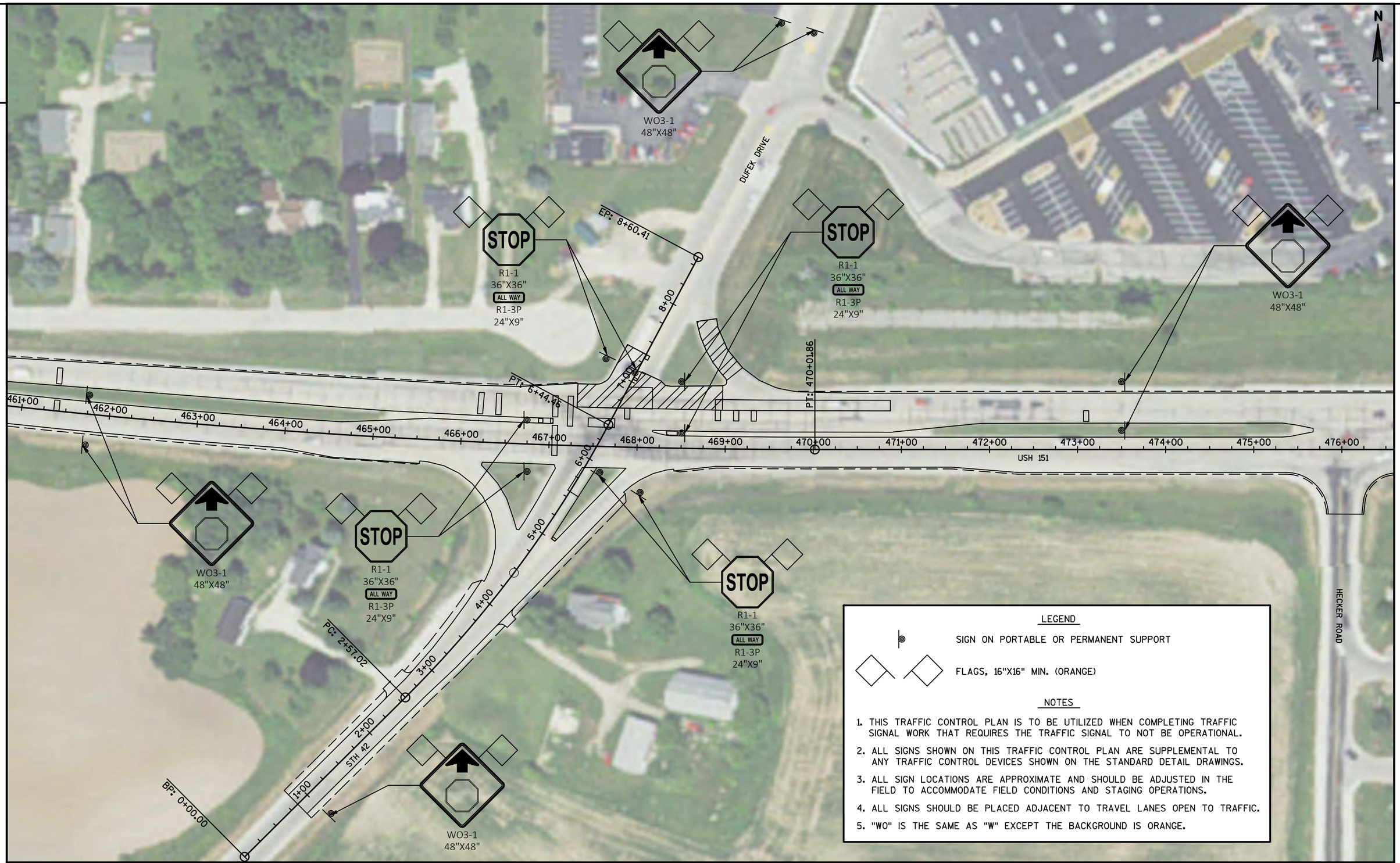
FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\025001-TC (OVERVIEW).DWG
LAYOUT NAME - 025001-TC (OVERVIEW) - 025001-TC
PLOT DATE : 4/4/2018 9:21 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 42

2



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TRAFFIC CONTROL OVERVIEW	SHEET 51	E

2



LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

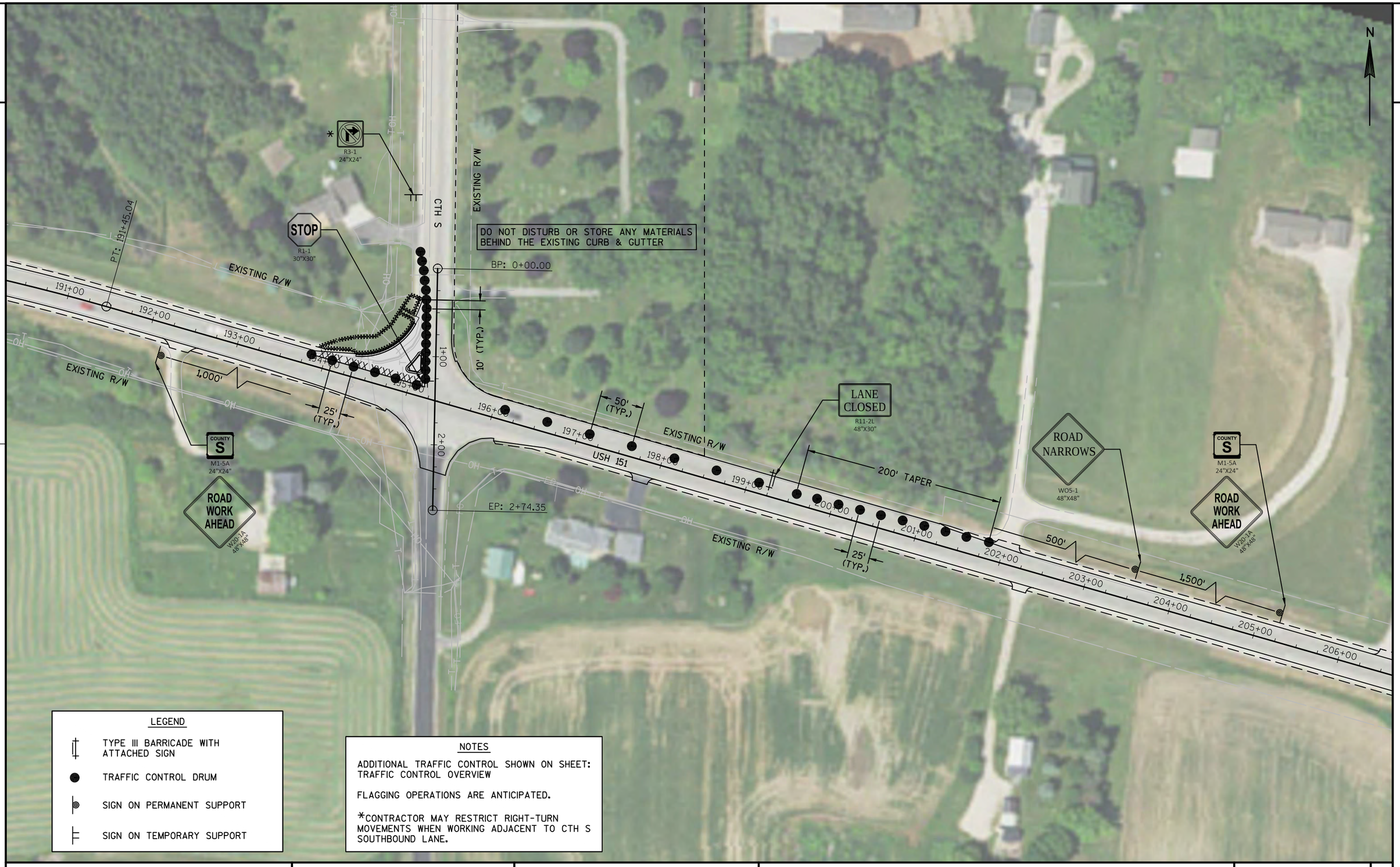
FLAGS, 16"X16" MIN. (ORANGE)

NOTES

1. THIS TRAFFIC CONTROL PLAN IS TO BE UTILIZED WHEN COMPLETING TRAFFIC SIGNAL WORK THAT REQUIRES THE TRAFFIC SIGNAL TO NOT BE OPERATIONAL.
2. ALL SIGNS SHOWN ON THIS TRAFFIC CONTROL PLAN ARE SUPPLEMENTAL TO ANY TRAFFIC CONTROL DEVICES SHOWN ON THE STANDARD DETAIL DRAWINGS.
3. ALL SIGN LOCATIONS ARE APPROXIMATE AND SHOULD BE ADJUSTED IN THE FIELD TO ACCOMMODATE FIELD CONDITIONS AND STAGING OPERATIONS.
4. ALL SIGNS SHOULD BE PLACED ADJACENT TO TRAVEL LANES OPEN TO TRAFFIC.
5. "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TRAFFIC CONTROL	SHEET 52	E

2



LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT

NOTES

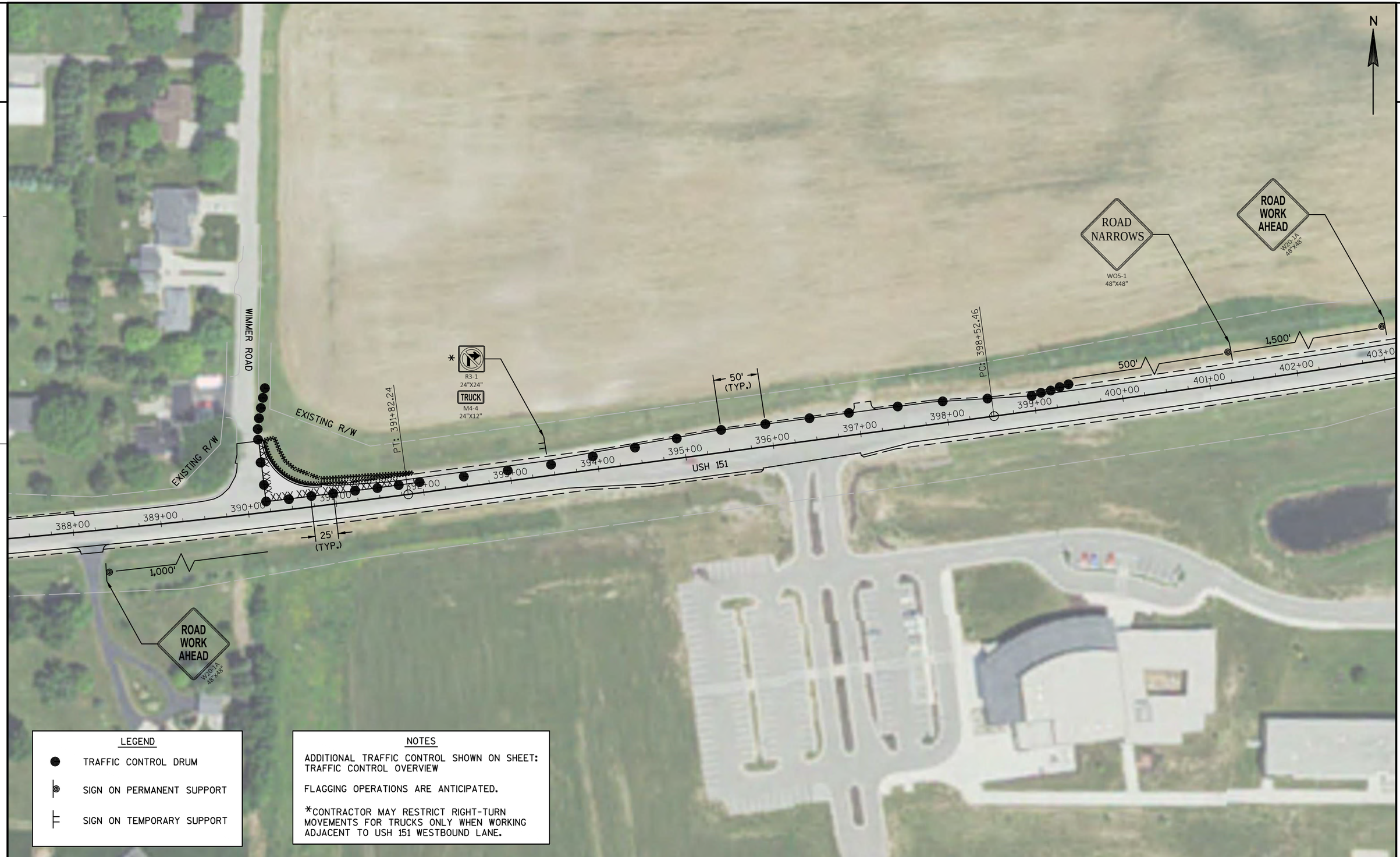
ADDITIONAL TRAFFIC CONTROL SHOWN ON SHEET: TRAFFIC CONTROL OVERVIEW

FLAGGING OPERATIONS ARE ANTICIPATED.

*CONTRACTOR MAY RESTRICT RIGHT-TURN MOVEMENTS WHEN WORKING ADJACENT TO CTH S SOUTHBOUND LANE.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TRAFFIC CONTROL DETAILS: USH 151 & CTH S	SHEET	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\025001-TC (INTERSECTIONS).DWG PLOT DATE : 4/4/2018 9:22 AM PLOT BY : JASON DOLENS PLOT NAME :



LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT

NOTES

ADDITIONAL TRAFFIC CONTROL SHOWN ON SHEET: TRAFFIC CONTROL OVERVIEW

FLAGGING OPERATIONS ARE ANTICIPATED.

*CONTRACTOR MAY RESTRICT RIGHT-TURN MOVEMENTS FOR TRUCKS ONLY WHEN WORKING ADJACENT TO USH 151 WESTBOUND LANE.

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	TRAFFIC CONTROL DETAILS: USH 151 & WIMMER ROAD	SHEET 54	E

2

DETOUR
M04-8
24" X 12"
SOUTH
M3-3
24" X 12"
151
M1-4
24" X 24"
17

DETOUR
M04-8
24" X 12"
SOUTH
M3-3
24" X 12"
151
M1-4
24" X 24"
19

DETAIL #2
SEE SHEET 3 OF 4

INTERSTATE 43

10

HEMPTON LAKE ROAD

HWY H ROAD

N. UNION ROAD

FRIDAY STREET

BLUE HERON ROAD

LOGWOOD LANE

WHITEWATER DR.

JJ

MORGAN ROAD

18

DETOUR
M04-8
24" X 12"
NORTH
M3-1
24" X 12"
151
M1-4
24" X 24"

20

DETOUR
M04-8
24" X 12"
NORTH
M3-1
24" X 12"
151
M1-4
24" X 24"

WALDO BLVD

10 42

DETAIL #1
SEE SHEET 2 OF 4

S

PINECREST ROAD

CENTURY ROAD

N. ALVEMO ROAD

N. PARKVIEW RD.

R
42

MIDDLE ROAD

JJ

LOWER FALLS ROAD

NORSTAD ROAD

BRUNNER ROAD

S. UNION ROAD

DUTCH ROAD

S. ALVEMO ROAD

S. PARKVIEW RD.

W. CUSTER STREET

DUTEK DR.

151

WORK ZONE

CS

151

CALUMET DRIVE

CALUMET DRIVE

71

72

SILVER LAKE

VIEBAHN ROAD

VIEBAHN ROAD

MADSON ROAD

RANGE LINE ROAD

WILHARMS ROAD

S. CUSTER STREET

42

HECKER ROAD

42nd STREET

DETAIL #3
SEE SHEET 4 OF 4

INTERSTATE 43

N

LEGEND

- X — SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- X — PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 4

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	DETOUR SIGNING PLAN	SHEET 55	E

N

DETOUR AHEAD
W20-2A
48" X 48"

DETOUR
M04-8
24" X 12"
SOUTH
M3-3
24" X 12"
151
M1-4
24" X 24"
M06-1
21" X 21"

DETOUR
M04-8
24" X 12"
NORTH
M3-1
24" X 12"
151
M1-4
24" X 24"
M05-1L
21" X 21"

MODIFY TO
151 151

MODIFY TO
JCT END DETOUR
151 M4-8A
24" X 18"
151

ROAD CLOSED
5.1 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3
60" X 30"
DETOUR
M4-9L
30" X 24"

NORTH
151
COVER

DETOUR
M04-8
24" X 12"
NORTH
M3-1
24" X 12"
151
M1-4
24" X 24"
M05-1R
21" X 21"

DETOUR
M04-8
24" X 12"
NORTH
M3-1
24" X 12"
151
M1-4
24" X 24"
M06-1
21" X 21"

DETOUR
M04-8
24" X 12"
NORTH
M3-1
24" X 12"
151
M1-4
24" X 24"

LEGEND

(X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET

(X) PORTABLE CHANGEABLE MESSAGE SIGN

SIGN MOUNTED ON TYPE III BARRICADE

POST MOUNTED SIGN

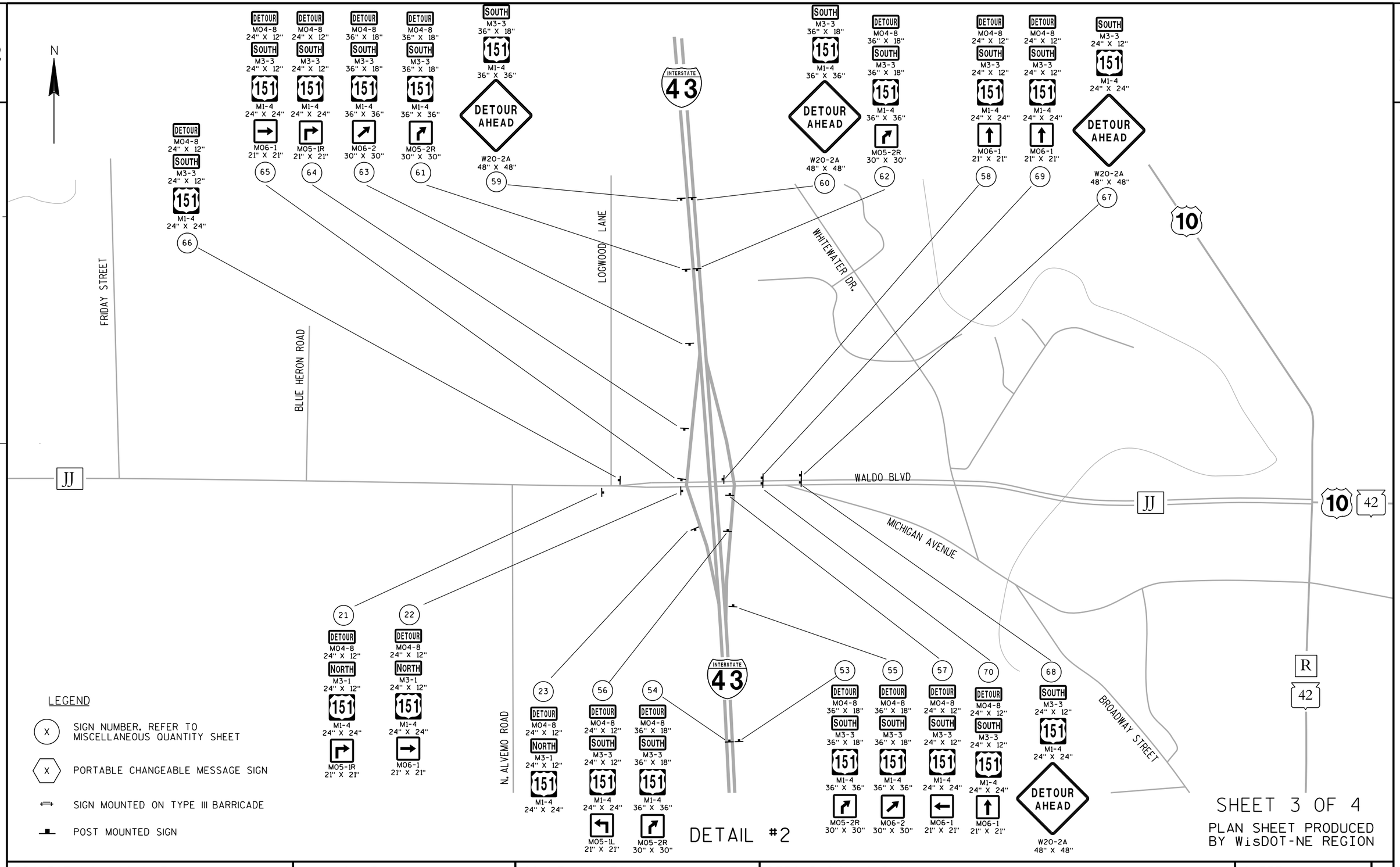
DETAIL #1

SHEET 2 OF 4

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	DETOUR SIGNING PLAN	SHEET E

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Manitowoc County\USH 151\STH 42 - I-43\027002_dt.dgn PLOT DATE : 21-JUN-2017 16:30 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 400:1



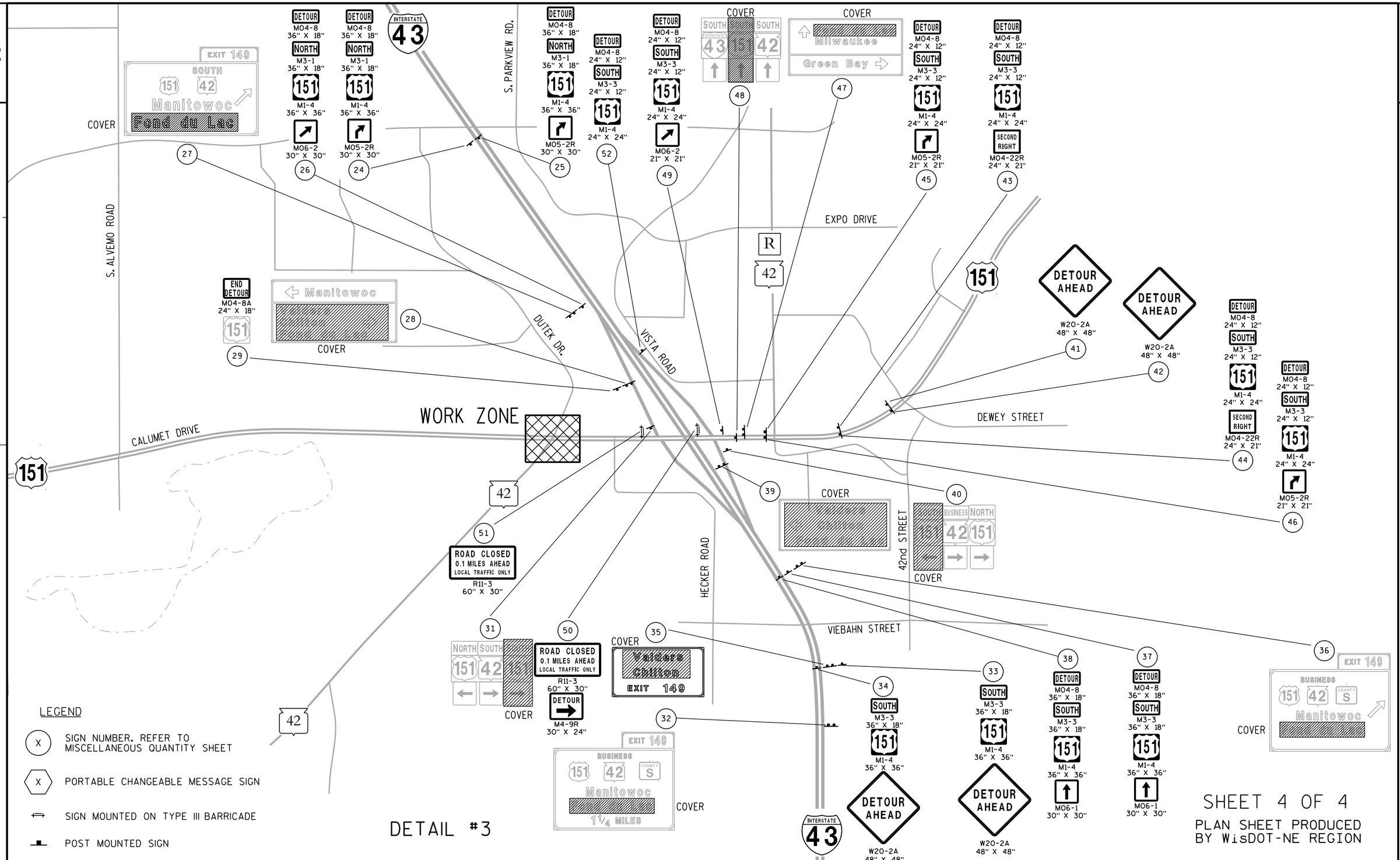
SHEET 3 OF 4

PLAN SHEET PRODUCED BY WisDOT-NE REGION

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	DETOUR SIGNING PLAN	SHEET 57	E

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Manitowoc County\USH 151\STH 42 - I-43\027003_dt.dgn PLOT DATE : 29-MAR-2017 15:06 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 400:1

WISDOT/CADDS SHEET 42



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	DETOUR SIGNING PLAN	SHEET 58	E

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Manitowoc County\USH 151\STH 42 - I-43\027004_dt.dgn PLOT DATE : 29-MAR-2017 15:06 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 400:1

WISDOT/CADDS SHEET 42

4100-21-71

Line	Item	Item Description	Unit	Total	Qty
0002	204.0105	Removing Pavement Butt Joints	SY	42.000	42.000
0004	204.0110	Removing Asphaltic Surface	SY	6.000	6.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	536.000	536.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	158,473.000	158,473.000
0010	204.0150	Removing Curb & Gutter	LF	210.000	210.000
0012	204.0155	Removing Concrete Sidewalk	SY	11.000	11.000
0014	204.0165	Removing Guardrail	LF	532.000	532.000
0016	204.0195	Removing Concrete Bases	EACH	8.000	8.000
0018	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	15.000	15.000
0020	204.9060.S	Removing (item description) 01. Metal Apron Endwall	EACH	9.000	9.000
0022	205.0100	Excavation Common	CY	1,237.000	1,237.000
0024	205.9010.S	Grading and Shaping Intersection (location) 01. USH 151 & CTH S	LS	1.000	1.000
0026	205.9010.S	Grading and Shaping Intersection (location) 02. USH 151 & Wimmer Road	LS	1.000	1.000
0028	208.0100	Borrow	CY	254.000	254.000
0030	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 4100-21-71	LS	1.000	1.000
0032	211.0300	Prepare Foundation for Concrete Base (project) 01. 4100-21-71	LS	1.000	1.000
0034	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	36.000	36.000
0036	213.0100	Finishing Roadway (project) 01. 4100-21-71	EACH	1.000	1.000
0038	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,558.000	2,558.000
0040	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,667.000	1,667.000
0042	305.0500	Shaping Shoulders	STA	455.000	455.000
0044	320.0365	Concrete Base HES 10-Inch	SY	1,043.000	1,043.000
0046	390.0403	Base Patching Concrete Shes	SY	2,070.000	2,070.000
0048	416.0610	Drilled Tie Bars	EACH	7,450.000	7,450.000
0050	416.0620	Drilled Dowel Bars	EACH	1,275.000	1,275.000
0052	440.4410	Incentive IRI Ride	DOL	72,000.000	72,000.000
0054	455.0605	Tack Coat	GAL	22,940.000	22,940.000
0056	460.2005	Incentive Density PWL HMA Pavement	DOL	14,806.000	14,806.000
0058	460.2010	Incentive Air Voids HMA Pavement	DOL	23,120.000	23,120.000
0060	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	49,510.000	49,510.000
0062	460.6224	HMA Pavement 4 MT 58-28 S	TON	30,622.000	30,622.000
0064	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	109.000	109.000
0066	465.0310	Asphaltic Curb	LF	25.000	25.000
0068	465.0315	Asphaltic Flumes	SY	12.000	12.000
0070	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	61,887.000	61,887.000
0072	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	29,987.000	29,987.000
0074	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	3.000	3.000

4100-21-71

Line	Item	Item Description	Unit	Total	Qty
0076	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0078	520.1042	Apron Endwalls for Culvert Pipe 42-Inch	EACH	2.000	2.000
0080	520.1048	Apron Endwalls for Culvert Pipe 48-Inch	EACH	2.000	2.000
0082	520.8700	Cleaning Culvert Pipes	EACH	12.000	12.000
0084	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	15.000	15.000
0086	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	5.000	5.000
0088	601.0415	Concrete Curb & Gutter 6-Inch Sloped 30-Inch Type J	LF	45.000	45.000
0090	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	175.000	175.000
0092	602.0410	Concrete Sidewalk 5-Inch	SF	255.000	255.000
0094	606.0100	Riprap Light	CY	6.000	6.000
0096	611.8110	Adjusting Manhole Covers	EACH	4.000	4.000
0098	614.0200	Steel Thrie Beam Structure Approach	LF	21.000	21.000
0100	614.0305	Steel Plate Beam Guard Class A	LF	125.000	125.000
0102	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	10.000	10.000
0104	614.0950	Replacing Guardrail Posts and Blocks	EACH	3.000	3.000
0106	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4100-21-71	EACH	1.000	1.000
0108	619.1000	Mobilization	EACH	1.000	1.000
0110	620.0300	Concrete Median Sloped Nose	SF	235.000	235.000
0112	624.0100	Water	MGAL	25.000	25.000
0114	625.0100	Topsoil	SY	7,605.000	7,605.000
0116	628.1504	Silt Fence	LF	1,500.000	1,500.000
0118	628.1520	Silt Fence Maintenance	LF	750.000	750.000
0120	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0122	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0124	628.2004	Erosion Mat Class I Type B	SY	5,610.000	5,610.000
0126	628.2008	Erosion Mat Urban Class I Type B	SY	2,200.000	2,200.000
0128	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0130	628.7020	Inlet Protection Type D	EACH	28.000	28.000
0132	628.7555	Culvert Pipe Checks	EACH	61.000	61.000
0134	629.0210	Fertilizer Type B	CWT	4.800	4.800
0136	630.0120	Seeding Mixture No. 20	LB	210.000	210.000
0138	633.5200	Markers Culvert End	EACH	30.000	30.000
0140	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	77.000	77.000
0142	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	80.000	80.000
0144	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	6.000	6.000
0146	637.2210	Signs Type II Reflective H	SF	1,067.880	1,067.880
0148	637.2215	Signs Type II Reflective H Folding	SF	54.000	54.000
0150	637.2230	Signs Type II Reflective F	SF	200.460	200.460
0152	638.2602	Removing Signs Type II	EACH	160.000	160.000

4100-21-71

Line	Item	Item Description	Unit	Total	Qty
0154	638.3000	Removing Small Sign Supports	EACH	165.000	165.000
0156	642.5401	Field Office Type D	EACH	1.000	1.000
0158	643.0300	Traffic Control Drums	DAY	12,400.000	12,400.000
0160	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0162	643.0420	Traffic Control Barricades Type III	DAY	304.000	304.000
0164	643.0705	Traffic Control Warning Lights Type A	DAY	608.000	608.000
0166	643.0715	Traffic Control Warning Lights Type C	DAY	1,000.000	1,000.000
0168	643.0800	Traffic Control Arrow Boards	DAY	45.000	45.000
0170	643.0900	Traffic Control Signs	DAY	13,685.000	13,685.000
0172	643.0910	Traffic Control Covering Signs Type I	EACH	5.000	5.000
0174	643.0920	Traffic Control Covering Signs Type II	EACH	6.000	6.000
0176	643.1050	Traffic Control Signs PCMS	DAY	84.000	84.000
0178	643.5000	Traffic Control	EACH	1.000	1.000
0180	645.0120	Geotextile Type HR	SY	18.000	18.000
0182	646.1020	Marking Line Epoxy 4-Inch	LF	53,198.000	53,198.000
0184	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	80,415.000	80,415.000
0186	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	3,585.000	3,585.000
0188	646.5320	Marking Railroad Crossings Epoxy	EACH	2.000	2.000
0190	646.6120	Marking Stop Line Epoxy 18-Inch	LF	400.000	400.000
0192	646.7120	Marking Diagonal Epoxy 12-Inch	LF	65.000	65.000
0194	646.8120	Marking Curb Epoxy	LF	30.000	30.000
0196	646.8220	Marking Island Nose Epoxy	EACH	3.000	3.000
0198	648.0100	Locating No-Passing Zones	MI	7.830	7.830
0200	649.0105	Temporary Marking Line Paint 4-Inch	LF	136,415.000	136,415.000
0202	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	45,665.000	45,665.000
0204	650.4500	Construction Staking Subgrade	LF	1,156.000	1,156.000
0206	650.5000	Construction Staking Base	LF	301.000	301.000
0208	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	225.000	225.000
0210	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0212	650.7000	Construction Staking Concrete Pavement	LF	855.000	855.000
0214	650.8000	Construction Staking Resurfacing Reference	LF	44,887.000	44,887.000
0216	650.8500	Construction Staking Electrical Installations (project) 01. 4100-21-71	LS	1.000	1.000
0218	650.9910	Construction Staking Supplemental Control (project) 01. 4100-21-71	LS	1.000	1.000
0220	650.9920	Construction Staking Slope Stakes	LF	2,618.000	2,618.000
0222	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	80.000	80.000
0224	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	420.000	420.000
0226	652.0615	Conduit Special 3-Inch	LF	820.000	820.000
0228	652.0800	Conduit Loop Detector	LF	280.000	280.000

4100-21-71

Line	Item	Item Description	Unit	Total	Qty
0230	653.0164	Pull Boxes Non-Conductive 24x42-Inch	EACH	11.000	11.000
0232	653.0905	Removing Pull Boxes	EACH	12.000	12.000
0234	654.0101	Concrete Bases Type 1	EACH	4.000	4.000
0236	654.0102	Concrete Bases Type 2	EACH	2.000	2.000
0238	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
0240	655.0230	Cable Traffic Signal 5-14 AWG	LF	610.000	610.000
0242	655.0240	Cable Traffic Signal 7-14 AWG	LF	30.000	30.000
0244	655.0260	Cable Traffic Signal 12-14 AWG	LF	1,270.000	1,270.000
0246	655.0305	Cable Type UF 2-12 AWG Grounded	LF	870.000	870.000
0248	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	1,150.000	1,150.000
0250	655.0610	Electrical Wire Lighting 12 AWG	LF	300.000	300.000
0252	655.0700	Loop Detector Lead In Cable	LF	1,850.000	1,850.000
0254	655.0800	Loop Detector Wire	LF	710.000	710.000
0256	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. USH 151 & STH 42/Dufek Drive	LS	1.000	1.000
0258	657.0100	Pedestal Bases	EACH	4.000	4.000
0260	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	2.000	2.000
0262	657.0310	Poles Type 3	EACH	2.000	2.000
0264	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	4.000	4.000
0266	657.0590	Trombone Arms 20-FT	EACH	2.000	2.000
0268	657.0709	Luminaire Arms Truss Type 4-Inch Clamp 12-FT	EACH	2.000	2.000
0270	658.0173	Traffic Signal Face 3S 12-Inch	EACH	10.000	10.000
0272	658.5069	Signal Mounting Hardware (location) 01. USH 151 & STH 42/Dufek Drive	LS	1.000	1.000
0274	659.1120	Luminaires Utility LED B	EACH	2.000	2.000
0276	690.0150	Sawing Asphalt	LF	248.000	248.000
0278	690.0250	Sawing Concrete	LF	10,753.000	10,753.000
0280	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,400.000	2,400.000
0282	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,100.000	2,100.000
0284	SPV.0060	Special 01. Adjust Water Valve Box	EACH	9.000	9.000
0286	SPV.0060	Special 02. Cleaning Ditch	EACH	6.000	6.000
0288	SPV.0060	Special 03. HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0290	SPV.0060	Special 04. HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0292	SPV.0060	Special 05. Reconnect Underdrain	EACH	1.000	1.000
0294	SPV.0090	Special 01. Cutting Curb Head	LF	160.000	160.000
0296	SPV.0105	Special 01. Preparation of Foundation for CIR Pavement 4100-21-71	LS	1.000	1.000
0298	SPV.0105	Special 02. Prepare Foundation for HMA Pavement 4100-21-71	LS	1.000	1.000

4100-21-71

Line	Item	Item Description	Unit	Total	Qty
0300	SPV.0105	Special 03. Removing Traffic Signal (USH 151 & STH 42/Dufek Drive)	LS	1.000	1.000
0302	SPV.0165	Special 01. Removing Loose Concrete	SF	88.000	88.000
0304	SPV.0180	Special 01. Removing Concrete Surface Milling	SY	3,115.000	3,115.000
0306	SPV.0180	Special 02. Cold-In-Place Recycling (CIR) Pavement Partial Depth	SY	154,915.000	154,915.000
0308	SPV.0195	Special 01. Asphalt Stabilizing Agent	TON	870.000	870.000

3

REMOVING PAVEMENT BUTT JOINTS

CATEGORY	STATION	TO STATION	LOCATION	(204.0105) SY
0010	467+86	468+08	LT	5
	468+03	468+30	LT	6
	468+66	468+88	LT	5
	481+07	481+33	LT	6
	482+92	482+94	LT & RT	20
		TOTAL		**42**

REMOVING ASPHALTIC SURFACE BUTT JOINTS

CATEGORY	STATION	TO STATION	LOCATION	* (204.0115) SY
0010	34+07	34+09	LT & RT	9
	57+31	57+59	RT	6
	84+92	85+17	LT	6
	97+82	98+08	RT	6
	123+85	124+05	LT	4
	142+45	142+75	LT	7
	155+27	155+51	RT	5
	166+11	166+13	LT & RT	19
	166+30	166+32	LT & RT	19
	168+55	168+82	LT	6
	186+61	186+84	LT	5
	194+88	195+22	LT	8
	195+37	195+68	RT	7
	222+13	222+45	LT	7
	249+07	249+34	RT	6
	255+49	255+71	LT	5
	276+26	276+61	RT	8
	276+42	276+70	LT	6
	303+08	303+38	LT	7
	303+16	303+45	RT	7
	315+10	315+37	RT	6
	317+85	318+34	LT	11
	357+34	357+67	RT	7
	357+36	357+67	LT	7
	377+57	378+48	RT	13
	389+95	390+24	LT	6
	395+60	397+22	RT	43
	410+10	410+48	RT	9
	410+36	410+70	LT	7
	431+30	431+32	LT & RT	10
	431+78	431+80	LT & RT	10
	433+80	434+16	LT	8
	452+61	453+27	LT	10
	452+62	453+17	RT	12
	0+85	0+87	LT & RT	7
	475+85	476+23	RT	9
		TOTAL		**324**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

REMOVING LOOSE CONCRETE

CATEGORY	STATION	TO STATION	LOCATION	(SPV.0165.01) SF
0010	431+32	431+76	LT	44
	431+32	431+76	RT	44
		TOTAL		**88**

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION	TO STATION	LOCATION	(204.0120) SY
0010	34+07	166+13	LT & RT	48,080
	166+30	195+50	LT & RT	11,429
	195+50	303+25	LT & RT	39,659
	303+25	357+50	LT & RT	20,270
	357+50	410+50	LT & RT	21,409
	410+50	431+32	LT & RT	9,295
	431+78	447+53	LT & RT	7,053
	451+95	453+88	LT	754
	452+47	453+32	RT	69
	0+85	1+35	LT & RT	167
	475+38	476+55	RT	288
		TOTAL		**158,473**

REMOVING CURB & GUTTER

CATEGORY	STATION	TO STATION	LOCATION	(204.0150) LF	* (690.0250) SAWING CONCRETE LF
0010	194+54	194+96	LT	74	-
	390+26	390+86	LT	92	-
	467+01	467+06	LT (MEDIAN)	10	30
	476+61	476+67	LT (MEDIAN)	14	33
	5+01	5+04	RT (ISLAND)	10	22
	7+03	7+06	RT (MEDIAN)	10	20
		TOTALS		**210**	**105**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

REMOVING CONCRETE SIDEWALK

CATEGORY	STATION	TO STATION	LOCATION	(204.0155) REMOVING CONCRETE SIDEWALK SY	* (690.0250) SAWING CONCRETE LF
0010	466+87	466+92	LT (MEDIAN)	3	10
	468+33	468+45	LT (MEDIAN)	6	10
	7+30	7+35	RT (MEDIAN)	2	8
		TOTALS		**11**	**28**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

REMOVING GUARDRAIL

CATEGORY	STATION	TO STATION	LOCATION	(204.0165) LF
0010	333+65	334+15	RT	51
	334+16	334+66	LT	50
	336+30	336+80	RT	51
	336+83	337+33	LT	51
	417+40	417+90	RT	50
	424+38	424+88	RT	50
	429+88	430+38	RT	50
	430+50	431+08	LT	58
	431+77	432+46	LT	70
	432+47	432+97	RT	51
		TOTAL		**532**

EARTHWORK SUMMARY (PROJECT I.D. 4100-21-71)

Division	From/To Station	Location	(205.0100) Excavation Common (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	(208.0100) Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.25				
BRIDGE BEAM GUARD UPDATES	333+64.5 - 337+33	B-36-0026	22	0	0	22	228	285	263	263	-263	
BEAM GUARD UPDATES	417+40 - 424+88	ALVERNO ROAD	1	0	0	1	50	62	61	61	-61	
BRIDGE BEAM GUARD UPDATES	429+88 - 432+97	B-36-0105	28	0	0	28	17	21	-7	-7	7	
TURN LANE UPGRADES	471+00 - 481+50	HECKER ROAD	235	0	0	235	138	172	-63	-63	63	
SHOULDER AND DRIVEWAY REMOVAL			950	0	950	0	0	0	0	0	0	
GRAND TOTAL			1,237	0	950	287	432	540	254	254	-254	
TOTAL EXCAVATION COMMON			1,237									

Notes:

(1) Excavation Common is the sum of the Cut and EBS Excavation columns. Item number 205.0100

(2) Salvaged/Unsuable Pavement Material is included in Cut.

(3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.

(4) Salvaged/Unusable Pavement Material

(5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(13) Expanded Fill Factor = 1.25

Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**

Or Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced Marsh) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock * Rock Factor) * Fill Factor

(14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

AGGREGATE SHOULDERS

CATEGORY	STATION	TO STATION	LOCATION	* (305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	(305.0500) SHAPING SHOULDERS STA
0010	34+07	71+92	LT & RT	214	-
	73+03	166+56	LT & RT	526	-
	165+84	194+82	LT & RT	149	-
	196+10	276+00	LT & RT	445	-
	277+03	302+70	LT & RT	149	-
	303+78	356+94	LT & RT	308	-
	358+00	409+84	LT & RT	262	-
	411+00	452+55	LT & RT	166	-
	453+23	467+30	LT & RT	71	-
	468+42	482+94	LT & RT	66	-
	0+85	5+87	LT & RT	68	6
	34+07	482+94	LT & RT	-	449
		TOTALS		**2,422**	**455**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

NOTE: SHAPING SHOULDERS BID ITEM INCLUDES MOVING THE EXISTING AGGREGATE OUTSIDE OF THE WIDENED ASPHALT SHOULDER TO ACCOMMODATE PAVING OPERATIONS.

BASE AGGREGATE DENSE (AGGREGATE SIDEROADS & INTERSECTION IMPROVEMENTS)

CATEGORY	STATION	TO STATION	LOCATION	* (305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	* (305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	181+99	182+35	RT	2	-
	193+87	195+18	LT	-	362
	201+82	202+24	LT	2	-
	232+29	233+29	RT	6	-
	238+16	238+64	LT	3	-
	390+21	391+91	LT	-	244
		TOTALS		**14**	**606**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

GRADING AND SHAPING INTERSECTION (LOCATION)

CATEGORY	DESCRIPTION	(205.9010.S.01) LS	(205.9010.S.02) LS
0010	USH 151 & CTH S	1	-
	USH 151 & WIMMER ROAD	-	1
	TOTALS	**1**	**1**

3

CONCRETE BASE PATCHING

CATEGORY	STATION	TO STATION	LOCATION	(320.0365) CONCRETE BASE HES 10-INCH SY	(390.0403) BASE PATCHING CONCRETE SHES SY	* (305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON	(416.0610) DRILLED TIE BARS EACH	(416.0620) DRILLED DOWEL BARS EACH	* (690.0150) SAWING ASPHALT LF	* (690.0250) SAWING CONCRETE LF
0010	448+02	-	LT	-	20	-	11	22	15	39
	448+35	-	LT & RT	-	16	-	4	46	12	48
	449+15	-	LT & RT	-	32	-	12	46	24	48
	450+55	-	LT & RT	-	16	-	12	46	-	60
	451+56	-	LT & RT	-	16	-	12	46	-	60
	451+75	-	LT & RT	-	16	-	12	46	-	60
	452+15	-	LT	-	8	-	8	22	-	36
	454+76	-	LT	-	8	-	8	22	-	36
	455+98	-	LT & RT	-	16	-	12	46	-	60
	458+39	-	LT & RT	-	30	-	12	88	12	91
	460+04	-	LT & RT	-	16	-	8	46	6	54
	461+39	-	LT	-	12	-	8	22	6	42
	461+39	-	LT	-	8	-	4	34	-	37
	466+21	-	LT	-	16	-	8	46	6	55
	466+41	-	LT	-	16	-	12	46	-	60
	467+06	-	LT & RT	-	23	-	12	66	6	75
	467+06	-	LT	-	16	-	12	46	-	60
	467+23	-	LT	-	23	-	16	66	-	80
	467+31	468+16	LT	-	368	-	190	66	-	310
	467+39	467+55	RT	-	54	-	53	22	-	100
	467+44	467+74	LT	-	33	-	44	18	-	80
	467+88	-	LT	-	8	-	4	22	-	30
	468+88	470+88	LT	-	265	-	316	22	-	421
	468+91	-	LT	-	8	-	4	22	-	30
	469+12	-	LT	-	8	-	4	22	-	30
	469+32	-	LT	-	8	-	4	22	-	30
	470+82	475+37	RT	510	-	227	362	11	105	467
	473+10	-	LT	-	8	-	8	22	-	37
	476+65	480+65	RT	533	-	237	319	11	12	413
	UNDISTRIBUTED (DAMAGED PANELS)			-	214	-	295	213	-	590
	UNDISTRIBUTED (LONGITUDINAL JOINT)			-	787	-	5,664	-	-	7,081
	TOTALS			**1,043**	**2,070**	**464**	**7,450**	**1,275**	**204**	**10,620**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

NOTE: AN UNDISTRIBUTED QUANTITY OF CONCRETE BASE PATCHING SHES IS INCLUDED FOR REPAIRING THE LONGITUDINAL LANE JOINT (2' WIDE PATCH) AS NECESSARY AND AS DIRECTED BY THE ENGINEER.

REMOVING CONCRETE SURFACE MILLING

CATEGORY	STATION	TO STATION	LOCATION	(SPV.0180.01) SY
0010	457+70	458+97	LT	98
	467+30	468+96	LT	634
	468+66	469+19	LT	169
	4+68	4+99	RT	20
	5+50	5+88	LT	8
	480+03	482+92	LT & RT	2,185
		TOTAL		**3,115**

CONCRETE SIDEWALK 5-INCH

CATEGORY	STATION	TO STATION	LOCATION	(602.0410) CONCRETE SIDEWALK 5-INCH SF	* (305.0110) BASE AGGREGATE DENSE 3/4-INCH TON
0010	194+94	195+08	LT (ISLAND)	155	3
	466+87	466+92	LT (MEDIAN)	25	0.5
	468+33	468+45	LT (MEDIAN)	55	1
	7+30	7+35	RT (MEDIAN)	20	0.5
		TOTALS		**255**	**5**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

CONCRETE CURB & GUTTER

CATEGORY	STATION	TO STATION	LOCATION	(601.0409) CONCRETE CURB & GUTTER 30-INCH TYPE A LF	(601.0415) CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J LF	(601.0557) CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	(650.5500) CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	(SPV.0090.01) CUTTING CURB HEAD LF
0010	194+33	194+86	LT	-	-	80	80	-
	194+94	195+09	LT (ISLAND)	-	45	-	45	-
	390+26	390+86	LT	-	-	95	95	-
	430+42	431+32	LT	-	-	-	-	90
	431+76	432+47	LT	-	-	-	-	70
	476+65	476+67	LT (MEDIAN)	5	-	-	5	-
		TOTALS		**5**	**45**	**175**	**225**	**160**

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	STATION	TO STATION	LOCATION	(620.0300) SF
0010	194+91	194+96	LT (ISLAND)	25
	195+00	195+06	LT (ISLAND)	20
	195+05	195+11	LT (ISLAND)	25
	467+01	467+06	LT (MEDIAN)	55
	476+60	476+65	LT (MEDIAN)	45
	4+99	5+04	RT (ISLAND)	40
	7+01	7+06	RT (MEDIAN)	25
		TOTAL		**235**

HMA PAVEMENT

CATEGORY	STATION	TO STATION	LEVELING LAYER HMA PAVEMENT 4 MT 58-28 S (460.6224) * TON	LOWER LAYERS HMA PAVEMENT 4 MT 58-28 S (460.6224) * TON	LOWER LAYERS HMA PAVEMENT 4 MT 58-28 S PWL DENSITY INCENTIVE TON #	LOWER LAYERS HMA PAVEMENT 4 MT 58-28 S PWL AIR VOIDS TON # #	UPPER LAYER HMA PAVEMENT 4 MT 58-28 S (460.6224) * TON	UPPER LAYER HMA PAVEMENT 4 MT 58-28 S PWL DENSITY INCENTIVE TON #	UPPER LAYER HMA PAVEMENT 4 MT 58-28 S PWL AIR VOIDS TON # #	* (455.0605) TACK COAT GAL
0010	34+07	166+14	2,344	-	-	-	5,565	3,698	5,565	6,360
	166+30	431+32	4,885	-	-	-	11,628	7,421	11,628	13,289
	431+78	447+28	270	-	-	-	748	434	748	855
	447+28	480+79 / 481+74	-	-	-	-	2,848	2,848	2,848	1,662
	480+79 / 481+74	482+94	-	-	-	-	146	146	146	114
	INTERSECTION IMPROVEMENTS		-	194	194	194	65	65	65	62
	TOTALS		**7,499**	**194**	**194**	**194**	**21,001**	**14,612**	**21,001**	**22,341**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

Total HMA Pavement 4 MT 58-28 S: 7,499 TON Leveling Layer + 194 TON Lower Layers + 21,1001 Upper Layer + 1,283 TON Lower Layers (Shoulders) + 642 TON Upper Layer (Shoulders) = 30,619 TON
Tonnage is eligible for Incentive Density PWL HMA Pavement (460.2005) and Incentive Air Voids HMA Pavement (460.2010).
Tonnage is eligible for Incentive Air Voids HMA Pavement (460.2010) and density is tested for acceptance in those areas.

ASPHALT SHOULDERS (ADJACENT TO CONCRETE PAVEMENT)

CATEGORY	STATION	TO STATION	LOCATION	LOWER LAYERS HMA PAVEMENT 4 MT 58-28 S (460.6224) * TON	LOWER LAYERS HMA PAVEMENT 4 MT 58-28 S PWL AIR VOIDS TON # #	UPPER LAYER HMA PAVEMENT 4 MT 58-28 S (460.6224) * TON	UPPER LAYER HMA PAVEMENT 4 MT 58-28 S PWL AIR VOIDS TON # #	* (455.0605) TACK COAT GAL	* (305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	447+53	451+95	LT	96	96	48	48	40	45
	447+53	465+55	RT	392	392	196	196	163	181
	453+88	467+31	LT	341	341	170	170	142	158
	465+83	467+21	RT	84	84	42	42	35	39
	468+42	475+51	RT	69	69	35	35	29	32
	469+83	480+04	LT	204	204	102	102	85	95
	476+40	481+85	RT	29	29	14	14	12	13
	1+35	4+16	LT	27	27	13	13	11	12
	1+35	5+88	RT	41	41	20	20	17	19
	TOTALS			**1,283**	**1,283**	**642**	**642**	**535**	**594**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE
NOTE: EXCAVATION COMMON QUANTITY FOR THE REMOVAL OF THE EXISTING ASPHALTIC SHOULDER IS INCLUDED IN THE EARTHWORK QUANTITY TABLES.

Tonnage is eligible for Incentive Air Voids HMA Pavement (460.2010) and density is tested for acceptance in those areas.

COLD-IN-PLACE RECYCLING (CIR) PAVEMENT

CATEGORY	STATION	TO STATION	(SPV.0180.02) COLD-IN-PLACE RECYCLING (CIR) PAVEMENT PARTIAL DEPTH SY	(SPV.0195.01) ASPHALT STABILIZING AGENT TON
0010	34+57	165+63	49,515	278
	166+80	430+82	99,735	560
	432+28	447+28	5,665	32
	TOTALS		**154,915**	**870**

REHEATING HMA PAVEMENT LONGITUDINAL JOINTS

CATEGORY	STATION	TO STATION	LOCATION	(460.4110.S) LF
0010	34+07	166+14	ON LINE	13,207
	166+30	431+32	ON LINE	26,502
	431+78	457+00	ON LINE	2,522
	457+00	482+94	RT	2,594
	457+00	482+94	LT	2,594
	464+63	467+04	LT	241
	468+17	471+92	LT	375
	471+57	475+37	RT	380
	476+61	478+75	LT	214
	478+16	481+85	RT	369
	0+85	5+97	ON LINE	512
	TOTAL			**49,510**

ASPHALTIC FLUMES

CATEGORY	STATION	TO STATION	LOCATION	(465.0315) ASPHALTIC FLUMES SY	(465.0310) ASPHALTIC CURB LF
0010	194+67	194+88	LT	12	25
		TOTALS		**12**	**25**

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

CATEGORY	STATION	TO STATION	LOCATION	(211.0400) STA
0010	447+53	482+94	LT & RT	36
		TOTAL		**36**

RURAL DRIVEWAYS AND FIELD ENTRANCES

CATEGORY	STATION	TO STATION	LOCATION	* (204.0115) REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	# (205.0100) EXCAVATION COMMON CY	* (305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	(465.0120) ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	* (455.0605) TACK COAT GAL
0010	41+38	41+69	RT	-	1	1.7	-	-
	42+96	43+21	LT	-	1	1.2	-	-
	47+49	47+78	LT	-	1	1.5	-	-
	49+95	50+24	LT	-	1	1.5	-	-
	50+05	50+34	RT	-	1	1.5	-	-
	56+88	57+14	LT	3	-	-	2	1
	57+74	58+04	LT	-	1	1.7	-	-
	61+97	62+35	LT	-	1	2.3	-	-
	71+68	73+86	RT	42	-	-	-	-
	76+62	78+15	RT	27	-	-	12	7
	81+30	81+57	RT	-	1	1.4	-	-
	81+33	81+61	LT	-	1	1.4	-	-
	93+26	93+82	LT	9	-	-	5	3
	99+09	99+41	LT	-	1	1.8	-	-
	106+40	106+76	RT	-	1	2.1	-	-
	106+42	106+72	LT	-	1	1.6	-	-
	117+42	117+72	LT	-	1	1.6	-	-
	118+39	118+83	RT	-	1	2.8	-	-
	127+76	128+15	LT	-	1	2.4	-	-
	129+31	129+68	RT	-	1	2.1	-	-
	139+41	140+41	RT	6	-	-	9	5
	146+10	146+43	RT	-	1	1.9	-	-
	152+60	152+96	LT	-	1	2.1	-	-
	160+51	160+79	LT	-	1	1.4	-	-
	164+78	165+42	LT	8	-	-	5	3
	173+36	173+68	RT	-	1	1.8	-	-
	179+98	180+39	LT	-	1	2.5	-	-
	182+01	182+33	LT	4	-	-	2	1
	184+37	184+71	LT	5	-	-	2	1
	185+47	185+88	LT	-	1	2.3	-	-
	188+75	189+06	RT	-	1	1.7	-	-
	192+09	192+66	RT	-	1	2.5	-	-
	197+66	197+98	RT	4	-	-	2	1
	202+15	202+45	RT	-	1	1.6	-	-
	206+36	206+70	LT	-	1	2.0	-	-
	211+89	212+18	RT	-	1	1.5	-	-
	214+76	215+02	LT	-	1	1.2	-	-
	214+77	215+03	RT	-	1	1.2	-	-
	218+52	218+87	LT	-	1	2.0	-	-
	222+59	222+90	RT	-	1	1.7	-	-
	226+31	226+67	LT	5	-	-	3	2
	226+52	227+02	RT	7	-	-	4	2
	227+23	227+51	LT	3	-	-	2	1
	242+85	243+27	RT	-	1	2.6	-	-
	248+61	248+90	LT	-	1	1.5	-	-
	255+48	255+75	RT	-	1	1.4	-	-
	257+95	258+30	LT	-	1	2.1	-	-
	279+39	279+97	RT	6	-	-	4	2
	286+90	287+28	LT	-	1	2.2	-	-
	291+12	291+62	RT	7	-	-	4	2

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED)

FOR INFORMATIONAL PURPOSES ONLY. EXCAVATION COMMON QUANTITY IS INCLUDED IN EARTHWORK QUANTITY TABLES.

RURAL DRIVEWAYS AND FIELD ENTRANCES (CONTINUED)

CATEGORY	STATION	TO STATION	LOCATION	* (204.0115) REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	# (205.0100) EXCAVATION COMMON CY	* (305.0110) BASE AGGREGATE DENSE 3/4-INCH TON	(465.0120) ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	* (455.0605) TACK COAT GAL
0010	292+27	292+69	RT	5	-	-	3	2
	292+31	292+59	LT	-	1	1.4	-	-
	311+50	311+89	LT	6	-	-	3	2
	311+56	311+84	RT	-	1	1.4	-	-
	324+90	325+23	RT	4	-	-	2	1
	330+67	331+27	LT	-	2	3.2	-	-
	330+86	331+40	RT	-	2	3.2	-	-
	336+80	337+28	RT	-	2	4.1	-	-
	341+32	341+89	LT	-	2	3.5	-	-
	346+51	346+80	LT	3	-	-	2	1
	351+11	351+41	LT	-	1	1.5	-	-
	352+43	352+70	LT	-	1	1.4	-	-
	354+67	355+02	RT	-	1	2.1	-	-
	363+76	364+03	RT	-	1	1.4	-	-
	365+92	366+19	LT	-	1	1.4	-	-
	371+30	371+60	LT	4	-	-	2	1
	372+32	372+63	LT	4	-	-	2	1
	373+57	374+06	LT	7	-	-	4	2
	374+87	374+24	LT	-	1	2.2	-	-
	377+73	378+30	LT	-	2	3.3	-	-
	379+96	380+36	RT	6	-	-	3	2
	381+73	382+23	LT	-	1	2.8	-	-
	384+88	385+37	RT	6	-	-	3	2
	386+88	387+25	LT	6	-	-	3	2
	387+96	388+41	RT	6	-	-	3	2
	396+90	397+23	LT	-	1	2.3	-	-
	414+11	414+89	LT	8	-	-	10	6
	421+02	421+84	LT	-	3	5.3	-	-
	423+60	424+13	LT	7	-	-	4	2
	425+12	425+49	LT	-	1	1.4	-	-
	437+31	438+20	RT	6	-	-	10	6
	443+94	444+28	RT	-	1	2.0	-	-
	446+87	447+23	LT	-	1	1.8	-	-
	2+39	2+84	LT	-	2	3.7	-	-
	3+86	4+13	RT	-	1	1.7	-	-
	TOTALS			**212**	**58**	**117**	**109**	**64**

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

\# FOR INFORMATIONAL PURPOSES ONLY. EXCAVATION COMMON QUANTITY IS INCLUDED IN EARTHWORK QUANTITY TABLES.

NOTE: SAWING ASPHALT IS INCIDENTAL TO REMOVING ASPHALTIC SURFACE BUTT JOINTS BID ITEM

ASPHALTIC RUMBLE STRIPS

CATEGORY	STATION	TO STATION	LOCATION	(465.0425) ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL LF	(465.0475) ASPHALTIC CENTER LINE RUMBLE STRIPS 2-LANE RURAL LF
0010	50+60	83+10	LT	2,910	-
	50+60	55+44	CL	-	484
	50+60	55+72	RT	511	-
	59+14	70+87	RT	1,175	-
	59+44	70+77	CL	-	1,133
	78+57	96+03	RT	1,746	-
	79+22	83+06	CL	-	383
	86+21	123+05	LT	3,530	-
	87+06	95+93	CL	-	888
	99+54	153+97	RT	5,146	-
	99+93	140+61	CL	-	4,068
	125+40	140+97	LT	1,557	-
	144+61	153+37	CL	-	876
	144+17	164+67	LT	2,057	-
	156+98	164+97	RT	796	-
	157+37	165+14	CL	-	777
	167+14	181+81	RT	1,402	-
	170+68	184+74	CL	-	1,406
	170+10	184+19	LT	921	-
	182+53	192+02	RT	944	-
	188+74	193+33	CL	-	460
	188+10	193+37	LT	528	-
	197+33	220+31	CL	-	2,298
	198+16	232+25	RT	3,201	-
	202+63	220+72	LT	1,668	-
	224+31	247+20	CL	-	2,289
	224+59	238+00	LT	1,183	-
	233+33	247+87	RT	1,380	-
	238+81	255+24	LT	1,640	-
	253+20	274+50	CL	-	2,130
	250+78	274+62	RT	2,383	-
	255+95	275+01	LT	1,835	-
	278+11	301+43	RT	2,070	-
	278+22	301+59	LT	2,265	-
	278+50	301+25	CL	-	2,275
	305+25	313+22	CL	-	797
	304+80	313+85	RT	905	-
	305+09	317+61	LT	1,177	-
	316+71	356+20	RT	3,805	-
	317+22	355+50	CL	-	3,828
	318+57	355+88	LT	3,525	-
	359+50	376+00	CL	-	1,650
	359+06	372+95	RT	1,394	-
	359+41	386+73	LT	1,755	-
	380+00	388+12	CL	-	812
	380+54	393+39	RT	1,133	-
	391+61	407+61	LT	1,600	-
	392+21	394+41	CL	-	220
	398+08	407+33	RT	926	-
	398+41	408+50	CL	-	1,009
	412+50	413+44	CL	-	94
	414+89	428+24	LT	1,076	-
	413+96	431+07	RT	1,708	-
	415+44	428+00	CL	-	1,256
	430+00	431+07	CL	-	107
	432+03	436+57	RT	454	-
	435+25	442+55	LT	590	-
	436+03	436+78	CL	-	75
	438+69	447+53	RT	884	-
	438+78	443+50	CL	-	472
	445+50	447+53	CL	-	203
	445+63	446+69	LT	105	-
TOTALS				**61,887**	**29,987**

ADJUSTING MANHOLE COVERS

CATEGORY	STATION	LOCATION	(611.8110) AJUSTING MANHOLE COVERS EACH	(204.0110) REMOVING ASPHALTIC SURFACE SY	* (305.0120) BASE AGGREGATE DENSE 1 1/4-INCH TON	* (460.6224) HMA PAVEMENT 4 MT 58-28 S TON	* (690.0150) SAWING ASPHALT LF	NOTES
0010	390+50	40' LT	1	-	-	-	-	SANITARY SEWER
	429+88	22' LT	1	2	1	1	12	WATERMAIN
	433+15	18' LT	1	2	1	1	16	WATERMAIN
	433+89	34' LT	1	2	1	1	16	SANITARY SEWER
	TOTAL		**4**	**6**	**3**	**3**	**44**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ADJUST WATER VALVE BOX

CATEGORY	STATION	LOCATION	(SPV.0060.01) EACH
0010	390+87	27' LT	1
	390+98	23' LT	1
	391+02	27' LT	1
	428+70	20' LT	1
	433+99	16' LT	1
	434+02	22' LT	1
	441+25	15' LT	1
	453+22	79' LT	1
	453+23	54' LT	1
	TOTAL		**9**

WATER

CATEGORY	DESCRIPTION	(624.0100) MGAL
0010	PROJECT 4100-21-71	25
	TOTAL	**25**

MGS GUARDRAIL

CATEGORY	STATION	TO STATION	LOCATION	(614.0200) STEEL THRIE BEAM STRUCTURE APPROACH LF	(614.0305) STEEL PLATE BEAM GUARD CLASS A LF	(614.0370) STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	(614.0950) REPLACING GUARDRAIL POSTS AND BLOCKS EACH
0010	333+64.5	333+14.5	RT	-	-	1	-
	334+16	334+66	LT	-	-	1	-
	336+30	336+80	RT	-	-	1	-
	336+83	337+33	LT	-	-	1	-
	417+40	417+90	RT	-	-	1	-
	424+38	424+88	RT	-	-	1	-
	429+88	430+38	RT	-	-	1	-
	430+50	431+00	LT	-	-	1	-
	431+77	431+96	LT	21	-	-	-
	431+96	432+46	LT	-	-	1	-
	432+47	432+97	RT	-	-	1	-
	UNDISTRIBUTED (DAMAGED BEAM GUARD)			-	125	-	3
	TOTALS			**21**	**125**	**10**	**3**

3

CULVERT PIPES

CATEGORY	STATION	(204.0245.01) REMOVING STORM SEWER 24-INCH LF	(204.9060.01) REMOVING METAL APRON ENDWALL EACH	(SPV.0060.05) RECONNECT UNDERDRAIN EACH	(520.1018) APRON ENDWALLS FOR CULVERT PIPE 18-INCH EACH	(520.1024) APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	(520.1042) APRON ENDWALLS FOR CULVERT PIPE 42-INCH EACH	(520.1048) APRON ENDWALLS FOR CULVERT PIPE 48-INCH EACH	(520.8700) CLEANING CULVERT PIPES EACH	(521.3124) CULVERT PIPE CORRUGATED STEEL 24-INCH LF	MINIMUM WALL THICKNESS (INCHES) STEEL	MINIMUM WALL THICKNESS (INCHES) ALUM.	(633.5200) MARKERS CULVERT END EACH	(650.6000) CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	34+30	-	-	-	-	-	-	-	-	-	-	-	2	-
	34+35	-	-	-	-	-	-	-	-	-	-	-	2	-
	52+21	-	-	-	-	-	-	-	-	-	-	-	-	-
	77+52	-	-	-	-	-	-	-	-	-	-	-	2	-
	102+65	-	-	-	-	-	-	-	-	-	-	-	-	-
	117+71	-	-	-	-	-	-	-	-	-	-	-	1	-
	132+87	-	-	-	-	-	-	-	-	-	-	-	-	-
	152+32	-	-	-	-	-	-	-	1	-	-	-	2	-
	164+39	-	-	-	-	-	-	-	-	-	-	-	-	-
	169+20	-	-	-	-	-	-	-	-	-	-	-	2	-
	178+69	-	2	-	2	-	-	-	1	-	-	-	2	-
	191+08	-	-	-	-	-	-	-	-	-	-	-	-	-
	208+76	-	2	1	-	-	2	-	1	-	-	-	-	-
	224+63	-	-	-	-	-	-	-	1	-	-	-	-	-
	239+84	-	-	-	-	-	-	-	1	-	-	-	-	-
	258+54	-	-	-	-	-	-	-	-	-	-	-	2	-
	265+83	-	-	-	-	-	-	-	-	-	-	-	-	-
	283+25	-	-	-	-	-	-	-	-	-	-	-	-	-
	283+38	-	-	-	-	-	-	-	-	-	-	-	-	-
	329+95	-	-	-	-	-	-	-	1	-	-	-	2	-
	362+44	-	-	-	-	-	-	-	-	-	-	-	1	-
	383+53	-	2	-	-	-	-	2	1	-	-	-	1	-
	418+70	15	2	-	-	2	-	-	1	15	0.064	0.075	2	1
	426+30	-	-	-	-	-	-	-	-	-	-	-	1	-
	429+60	-	-	-	-	-	-	-	1	-	-	-	1	-
	453+90	-	-	-	-	-	-	-	-	-	-	-	2	-
	453+97	-	-	-	-	-	-	-	-	-	-	-	2	-
	459+05	-	1	-	1	-	-	-	1	-	-	-	1	-
	471+94	-	-	-	-	-	-	-	1	-	-	-	1	-
	475+60	-	-	-	-	-	-	-	1	-	-	-	1	-
	TOTALS	**15**	**9**	**1**	**3**	**2**	**2**	**2**	**12**	**15**	**-**	**-**	**30**	**1**

FINISHING ITEMS

CATEGORY	STATION	TO STATION	LOCATION	(625.0100) TOPSOIL SY	(629.0210) FERTILIZER TYPE B CWT	(630.0120) SEEDING MIXTURE NO. 20 LB	(628.2004) EROSION MAT CLASS I TYPE B SY	(628.2008) EROSION MAT URBAN CLASS I TYPE B SY
0010	132+77	132+97	LT	42	0.03	1	42	-
	152+21	152+41	RT	33	0.02	1	33	-
	178+22	178+50	LT	44	0.03	1	-	44
	178+89	179+14	RT	44	0.03	1	44	-
	193+89	194+86	LT	236	0.15	6	-	236
	208+61	208+91	LT	83	0.05	2	83	-
	208+61	208+91	RT	83	0.05	2	83	-
	224+51	224+71	RT	56	0.04	2	56	-
	224+54	224+74	LT	56	0.04	2	56	-
	239+45	239+74	RT	67	0.04	2	67	-
	265+74	265+94	LT	67	0.04	2	67	-
	329+85	300+05	LT	22	0.01	1	22	-
	329+85	300+05	RT	22	0.01	1	22	-
	332+62	334+15	RT	410	0.26	11	410	-
	333+35	334+67	LT	427	0.27	12	-	427
	336+30	336+92	RT	141	0.09	4	141	-
	336+83	337+33	LT	109	0.07	3	-	109
	383+31	383+61	RT	67	0.04	2	-	67
	383+43	383+73	LT	67	0.04	2	67	-
	390+27	392+17	LT	172	0.11	5	-	172
	416+05	417+90	RT	496	0.31	13	496	-
	418+54	418+84	LT	133	0.08	4	-	133
	418+54	418+84	RT	100	0.06	3	100	-
	424+38	426+89	RT	507	0.32	14	507	-
	428+74	430+50	RT	205	0.13	6	205	-
	430+50	431+01	LT	37	0.02	1	-	37
	431+77	432+47	LT	80	0.05	2	-	80
	432+47	434+39	RT	83	0.05	2	83	-
	458+96	459+16	RT	44	0.03	1	44	-
	STH 42/DUFEK DRIVE TRAFFIC SIGNAL MODIFICATIONS			690	0.43	19	-	690
	470+60	475+59	RT	1,063	0.67	29	1,063	-
	476+75	481+85	RT	601	0.38	16	601	-
	CLEANING DITCH LOCATIONS			500	0.32	14	500	-
	UNDISTRIBUTED (ADDITIONAL DISTURBED AREAS)			818	0.53	23	818	205
	TOTALS			**7,605**	**4.80**	**210**	**5,610**	**2,200**

SILT FENCE

CATEGORY	STATION	TO STATION	LOCATION	(628.1504) LF	(628.1520) MAINTENANCE LF
0010	132+43	133+33	RT	100	50
	208+32	209+22	LT	100	50
	329+50	330+40	RT	100	50
	383+15	384+05	LT	100	50
	424+00	431+00	RT	700	350
	432+00	435+00	RT	300	150
	458+60	459+50	RT	100	50
		TOTALS		**1,500**	**750**

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	(628.1905) EACH	(628.1910) EMERGENCY EACH
0010	4100-21-71	6	3
	TOTALS	**6**	**3**

CLEANING DITCH

CATEGORY	STATION	LOCATION	(SPV.0060.02) EACH
	208+76	LT & RT	2
	329+95	LT & RT	2
	UNDISTRIBUTED		2
	TOTAL		**6**

CULVERT PIPE CHECKS

CATEGORY	STATION	LOCATION	(628.7555) EACH
0010	132+87	LT	8
	152+32	LT	7
	178+38	LT	2
	208+76	LT	8
	224+63	RT	5
	240+04	LT	8
	265+83	LT	7
	329+95	LT	3
	383+46	RT	10
	418+70	LT	3
	TOTAL		**61**

INLET PROTECTION

CATEGORY	STATION	LOCATION	(628.7005) TYPE A EACH	(628.7020) TYPE D EACH
0010	195+14	LT	-	1
	198+83	LT	-	1
	426+23	LT	1	-
	429+60	LT	-	1
	436+08	LT	-	1
	436+20	LT	-	1
	438+57	LT	-	1
	440+50	LT	-	1
	452+60	LT	-	1
	452+91	LT	-	1
	453+32	LT	-	1
	459+05	LT	-	2
	466+73	RT	1	-
	466+98	LT	-	2
	5+07	RT	-	1
	468+70	LT	-	1
	468+91	LT	-	1
	468+97	LT	-	1
	469+19	LT	-	1
	471+94	LT	-	2
	475+64	LT	-	2
	481+34	LT	-	1
	481+88	LT	-	2
	483+70	LT	-	2
	TOTALS		**2**	**28**

RIPRAP LIGHT

CATEGORY	STATION	LOCATION	(606.0100) CY	(645.0120) GEOTEXTILE TYPE HR SY
0010	152+32	RT	6	18
	TOTALS		**6**	**18**

PERMANENT SIGNING

CATEGORY	SIGN NO.	LOCATION	SIGN CODE	W	X	H	(637.2210) SIGNS TYPE II REFLECTIVE H SF	(637.2215) SIGNS TYPE II REFLECTIVE H FOLDING SF	(637.2230) SIGNS TYPE II REFLECTIVE F SF	(634.0614) POSTS WOOD 4x6-INCH x 14-FT EACH	(634.0616) POSTS WOOD 4x6-INCH x 16-FT EACH	(634.0618) POSTS WOOD 4x6-INCH x 18-FT EACH	(638.2602) REMOVING SIGNS TYPE II EACH	(638.3000) REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	1	USH 151, S. OF SPANCRETE LN	D1-2	96"	X	30"	20.00	-	-	2	-	-	1	2	SEE SIGN DETAILS
	2	"	J4-1	24"	X	36"	6.00	-	-	-	1	-	1	1	SEE PLAN SHEET
	3	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	45 MPH
	4	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	25 MPH
	5	"	J1-1	24"	X	39"	6.50	-	-	-	1	-	-	-	SEE PLAN SHEET
	6	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	SPANCRETE
	7	"	J1-1		-		-	-	-	-	-	-	1	1	
	8	"	D2-1	84"	X	21"	12.25	-	-	2	-	-	1	2	SEE SIGN DETAILS
	9	"	W3-5	36"	X	36"	-	-	9.00	-	1	-	-	-	25 MPH
	10	"	I2-3	66"	X	24"	11.00	-	-	2	-	-	1	2	SEE SIGN DETAILS
	11	"	W3-5		-		-	-	-	-	-	-	1	1	
	12	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	45 MPH
	13	"	W54-57	30"	X	30"	-	-	6.25	-	1	-	1	1	
	14	SPANCRETE LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	15	USH 151, N. OF SPANCRETE LN	W54-57	30"	X	30"	-	-	6.25	-	1	-	1	1	
	16	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	45 MPH
	17	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	55 MPH
	18	"	W3-5	36"	X	36"	-	-	9.00	-	1	-	-	-	45 MPH
	19	"	W3-5		-		-	-	-	-	-	-	1	1	
	20	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	SPANCRETE
	21	"	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	22	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	FAITH LUTHERN YOUTH
	23	"	J4-1		-		-	-	-	-	-	-	1	1	
	24	SWAMP RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	25	"	W1-7		-		-	-	-	-	-	-	1	1	
	26	LENZ RD	W1-7	48"	X	24"	-	-	8.00	-	1	-	1	1	
	27	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	28	"	J4-1		-		-	-	-	-	-	-	1	1	
	29	LARSON LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	30	USH 151, N. OF LARSON LN	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	31	LOWER FALLS RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	32	"	W1-7	48"	X	24"	-	-	8.00	-	1	-	1	1	
	33	WOODEN BRIDGE RD	W1-7		-		-	-	-	-	-	-	1	1	
	34	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	35	USH 151, N. OF WOODEN BRIDGE RD	W10-1	36"	X	36"	-	-	7.07	-	1	-	1	1	
	36	HAUPT LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	37	"	W10-1	36"	X	36"	-	-	7.07	-	1	-	1	1	
	38	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	SUNRISE OPTIMIST CLUB MANITOWOC
	39	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	FAITH LUTHERN YOUTH
	40	"	W10-1	36"	X	36"	-	-	7.07	-	1	-	-	-	
	40A	"	W10-1		-		-	-	-	-	-	-	1	1	
	41	RADANT LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	42	USH 151, N. OF RADANT LN	J1-1	24"	X	39"	6.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	43	GJERPEN LN	W1-7		-		-	-	-	-	-	-	1	1	
	44	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	45	USH 151, N. OF GJERPEN LN	D1-1	96"	X	21"	14.00	-	-	2	-	-	1	2	SEE SIGN DETAILS
	46	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	-	-	55 MPH
	47	"	J4-1	24"	X	36"	6.00	-	-	-	1	-	1	1	SEE PLAN SHEET
	48	"	J13-1	24"	X	45"	7.50	-	-	-	1	-	1	1	SEE PLAN SHEET, REMOVE M1-85
	49	CTH S	R5-1	30"	X	30"	6.25	-	-	-	1	-	-	-	
	50	"	J13-1	24"	X	45"	7.50	-	-	-	-	-	1	1	MOUNT TO BACK OF SIGN 49, SEE PLAN SHEET
	51	"	R1-1	36"	X	36"	7.46	-	-	-	1	-	1	1	
	52	"	W12-1D	24"	X	24"	4.00	-	-	1	-	-	-	-	
	53	"	R1-1	36"	X	36"	7.46	-	-	-	1	-	-	-	
	54	MADSON RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	55	USH 151, N. OF CTH S	J13-1	24"	X	45"	7.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	56	"	J4-1	24"	X	36"	6.00	-	-	-	-	-	-	-	SEE PLAN SHEET, MOUNT TO BACK OF SIGN 57
	57	"	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	58	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	-	-	55 MPH
	59	"	D1-1	96"	X	21"	14.00	-	-	2	-	-	1	2	SEE SIGN DETAILS

(CONTINUED)

PERMANENT SIGNING (CONTINUED)

CATEGORY	SIGN NO.	LOCATION	SIGN CODE	W		H	(637.2210) SIGNS TYPE II REFLECTIVE H SF	(637.2215) SIGNS TYPE II REFLECTIVE H FOLDING SF	(637.2230) SIGNS TYPE II REFLECTIVE F SF	(634.0614) POSTS WOOD 4x6-INCH x 14-FT EACH	(634.0616) POSTS WOOD 4x6-INCH x 16-FT EACH	(634.0618) POSTS WOOD 4x6-INCH x 18-FT EACH	(638.2602) REMOVING SIGNS TYPE II EACH	(638.3000) REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	60	"	J1-1	24"	X	39"	6.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	61	NORSTAD RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	62	"	W1-7	48"	X	24"	-	-	8.00	-	1	-	1	1	
	63	TILERS LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	64	USH 151, N. OF TILERS LN	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	SUNRISE OPTIMIST CLUB MANITOWOC
	65	JACQUART LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	66	USH 11, N. OF JACQUART LN	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	SILVER LAKE COLLEGE TRI-BETA
	67	RANGE LINE RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	68	"	W1-7		-		-	-	-	-	-	-	1	1	
	69	COUNTRY VIEW RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	70	USH 151, S. OF BRUNNER RD	J4-1		-		-	-	-	-	-	-	1	1	
	71	BRUNNER RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	72	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	73	USH 151, N. OF BRUNNER RD	J4-1		-		-	-	-	-	-	-	1	1	
	74	UNION RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	75	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	76	USH 151, N. OF UNION RD	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	77	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	SILVER LAKE COLLEGE TRI-BETA
	78	SHADY SIDE LN	W1-7		-		-	-	-	-	-	-	1	1	
	79	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	80	USH 151, S. OF GEN BER LN	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	THE H.E.P. BUNCH
	81	GEN BER LN	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	82	USH 151, N. OF GEN BER LN	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	83	"	J1-1	24"	X	39"	6.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	84	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	-	-	55 MPH
	85	"	J4-1	24"	X	36"	6.00	-	-	-	1	-	1	1	SEE PLAN SHEET
	86	"	J13-1	24"	X	45"	7.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	87	CTH CS	J13-1	24"	X	45"	7.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	88	"	R1-1	36"	X	36"	7.46	-	-	-	1	-	1	1	
	89	CUSTER ST	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	90	USH 151, N. OF CTH CS	J13-1	24"	X	45"	7.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	91	"	J4-1	24"	X	36"	6.00	-	-	-	1	-	1	1	SEE PLAN SHEET
	92	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	-	-	55 MPH
	93	"	I2-3	66"	X	24"	11.00	-	-	2	-	-	1	2	SEE SIGN DETAILS
	94	"	J1-1	24"	X	39"	6.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	95	"	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	96	CROSSING MEADOWS DR	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	97	USH 151, N. OF CROSSING MEADOWS DR	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	THE H.E.P. BUNCH
	98	WIMMER RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	99	"	W1-7		-		-	-	-	-	-	-	1	1	
	100	USH 151, N. OF WIMMER RD	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	THE MANITOWOC COMPANY INC
	101	"	S1-1		-		-	-	-	-	-	-	1	1	
	102	"	W3-5	36"	X	36"	-	-	9.00	-	1	-	-	-	45 MPH
	103	"	W14-3	48"	X	36"	-	-	6.00	-	1	-	1	1	
	104	"	W11-8	30"	X	30"	-	-	6.25	-	1	-	1	1	
	105	"	D2-3	96"	X	36"	24.00	-	-	-	2	-	-	-	SEE SIGN DETAILS
	106	USH 151, S. OF ALVERNO RD	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	45 MPH
	107	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	55 MPH
	108	"	S1-1		-		-	-	-	-	-	-	1	1	
	109	ALVERNO RD	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	110	"	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	111	USH 151, N. OF ALVERNO RD	W11-8		-		-	-	-	-	-	-	1	1	
	112	"	S1-1		-		-	-	-	-	-	-	1	1	
	113	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	45 MPH
	114	"	S1-1		-		-	-	-	-	-	-	1	1	
	115	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	
	116	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	
	117	"	W11-8	30"	X	30"	-	-	6.25	-	1	-	1	1	
	118	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	
	119	"	R7-51R	18"	X	24"	3.00	-	-	1	-	-	1	1	

(CONTINUED)

PERMANENT SIGNING (CONTINUED)

CATEGORY	SIGN NO.	LOCATION	SIGN CODE	W	X	H	(637.2210) SIGNS TYPE II REFLECTIVE H SF	(637.2215) SIGNS TYPE II REFLECTIVE H FOLDING SF	(637.2230) SIGNS TYPE II REFLECTIVE F SF	(634.0614) POSTS WOOD 4x6-INCH x 14-FT EACH	(634.0616) POSTS WOOD 4x6-INCH x 16-FT EACH	(634.0618) POSTS WOOD 4x6-INCH x 18-FT EACH	(638.2602) REMOVING SIGNS TYPE II EACH	(638.3000) REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	120	"	R7-1L	18"	X	24"	3.00	-	-	1	-	-	1	1	
	121	SILVER ST	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	122	USH 151, N. OF SILVER ST	R7-1D	18"	X	24"	3.00	-	-	1	-	-	1	1	
	123	"	R7-1D	18"	X	24"	3.00	-	-	1	-	-	1	1	
	124	"	D5-64R	60"	X	36"	15.00	-	-	-	2	-	-	-	
	125	"	D2-2		-		-	-	-	-	-	-	1	1	
	126	"	R7-1D		-		-	-	-	-	-	-	-	-	
	127	"	D5-64L	60"	X	36"	15.00	-	-	-	2	-	-	-	
	128	"	R7-1D	18"	X	24"	3.00	-	-	-	-	-	-	-	MOUNT BELOW SIGN 127
	129	"	D5-64		-		-	-	-	-	-	-	1	1	REMOVE BOTH D5-64 SIGNS
	130	"	R7-1D	18"	X	24"	3.00	-	-	1	-	-	1	1	
	131	"	R2-1	24"	X	30"	5.00	-	-	-	1	-	1	1	45 MPH
	132	"	R7-1D	18"	X	24"	3.00	-	-	-	-	-	-	-	MOUNT BELOW SIGN 131
	133	"	R7-1D	18"	X	24"	3.00	-	-	1	-	-	1	1	
	134	"	R2-1	24"	X	30"	5.00	-	-	-	1	-	1	1	45 MPH
	135	"	R7-1D	18"	X	24"	3.00	-	-	1	-	-	1	1	
	136	"	R7-1D	18"	X	24"	3.00	-	-	1	-	-	1	1	
	137	"	D1-1	66"	X	24"	11.00	-	-	-	2	-	1	2	
	138	"	R7-1D	18"	X	24"	3.00	-	-	-	-	-	-	-	MOUNT BELOW SIGN 137
	139	"	R2-1	24"	X	30"	5.00	-	-	-	1	-	1	1	45 MPH
	140	"	R7-1D	18"	X	24"	3.00	-	-	-	-	-	-	-	MOUNT BELOW SIGN 139
	141	USH 151, S. OF 57TH ST	J1-1		-		-	-	-	-	-	-	1	1	
	142	57TH ST	R1-1	30"	X	30"	5.18	-	-	1	-	-	1	1	
	143	USH 151, N. OF 57TH ST	R7-1R	18"	X	24"	3.00	-	-	1	-	-	1	1	
	144	"	W6-1	36"	X	36"	-	-	9.00	-	1	-	1	1	
	145	"	W14-3	48"	X	36"	-	-	6.00	-	-	-	-	-	MOUNT TO BACK OF SIGN 144
	146	"	J1-1	24"	X	39"	6.50	-	-	-	1	-	-	-	SEE PLAN SHEET
	147	"	R7-1L	18"	X	24"	3.00	-	-	-	-	-	1	1	MOUNT BELOW SIGN 148
	148	"	D1-1	66"	X	24"	11.00	-	-	-	2	-	-	-	SEE SIGN DETAILS
	149	"	R2-1	24"	X	30"	5.00	-	-	1	-	-	1	1	45 MPH
	150	"	R5-1	36"	X	36"	9.00	-	-	-	-	-	-	-	MOUNT TO BACK OF SIGN 151
	151	"	W6-3	36"	X	36"	-	-	9.00	-	1	-	-	-	
	152	"	W3-3	36"	X	36"	-	-	9.00	-	1	-	1	1	
	153	"	R4-7	36"	X	48"	12.00	-	-	-	1	-	1	1	
	154	"	R2-1	36"	X	48"	12.00	-	-	-	-	-	-	-	MOUNT TO BACK OF SIGN 153
	155	"	I55-56	30"	X	36"	7.50	-	-	-	1	-	1	1	THE MANITOWOC COMPANY INC
	156	"	J2-2	72"	X	84"	42.00	-	-	-	-	2	1	2	SEE PLAN SHEET
	157	"	R5-1A	42"	X	30"	8.75	-	-	-	1	-	1	1	
	158	"	W6-2	36"	X	36"	-	-	9.00	-	-	-	-	-	MOUNT TO BACK OF SIGN 157
	159	"	D1-1		-		-	-	-	-	-	-	-	-	
	160	"	D1-1	102"	X	15"	10.63	-	-	2	-	-	1	2	SEE SIGN DETAILS
	161	USH 151, S. OF STH 42	J3-2	72"	X	84"	42.00	-	-	-	-	2	-	-	SEE PLAN SHEET
	162	"	R5-1A	42"	X	30"	8.75	-	-	-	-	-	-	-	MOUNT TO BACK OF SIGN 161
	163	"	R3-56L		-		-	-	-	-	-	-	1	1	
	164	"	W4-2L		-		-	-	-	-	-	-	-	-	
	165	"	J4-1	36"	X	54"	13.50	-	-	-	1	-	-	-	SEE PLAN SHEET
	166	"	W6-2		-		-	-	-	-	-	-	1	1	
	167	"	J3-2		-		-	-	-	-	-	-	1	1	
	168	"	R5-1		-		-	-	-	-	-	-	-	-	
	169	"	W4-2L	30"	X	30"	-	-	6.25	1	-	-	-	-	
	170	"	J4-1		-		-	-	-	-	-	-	1	1	
	171	"	W4-2L	36"	X	36"	-	-	9.00	-	1	-	-	-	
	172	"	R4-7	24"	X	30"	5.00	-	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	172A	"	R1-1F	36"	X	36"	-	9.00	-	-	-	-	-	-	MOUNT TO SIGNAL POLE
	173	"	J3-1	36"	X	84"	21.00	-	-	-	-	1	1	1	SEE PLAN SHEET, REMOVE J3-2
	174	"	R5-1	36"	X	36"	9.00	-	-	-	-	-	-	-	MOUNT TO BACK OF SIGN 173
	175	STH 42	R1-2	36"	X	31"	3.88	-	-	-	1	-	1	1	
	176	STH 42	R5-1	36"	X	36"	9.00	-	-	-	-	-	-	-	MOUNT TO BACK OF SIGN 175
	177	"	W12-1D	24"	X	24"	-	-	4.00	1	-	-	1	1	
	177A	"	R1-1F	36"	X	36"	-	9.00	-	-	-	-	-	-	MOUNT TO SIGNAL POLE

(CONTINUED)

PERMANENT SIGNING (CONTINUED)

CATEGORY	SIGN NO.	LOCATION	SIGN CODE	W	X	H	(637.2210) SIGNS TYPE II REFLECTIVE H SF	(637.2215) SIGNS TYPE II REFLECTIVE H FOLDING SF	(637.2230) SIGNS TYPE II REFLECTIVE F SF	(634.0614) POSTS WOOD 4x6-INCH x 14-FT EACH	(634.0616) POSTS WOOD 4x6-INCH x 16-FT EACH	(634.0618) POSTS WOOD 4x6-INCH x 18-FT EACH	(638.2602) REMOVING SIGNS TYPE II EACH	(638.3000) REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	178	"	R6-2L	24"	X	30"	5.00	-	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	179	"	R1-1F	36"	X	36"	-	9.00	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	180	"	J3-2	48"	X	57"	19.00	-	-	-	1	-	1	1	SEE SIGN PLAN, REMOVE R6-3
	181	"	R1-2	36"	X	31"	3.88	-	-	-	1	-	1	1	
	182	"	M1-85		-		-	-	-	-	-	-	1	1	
	183	DUFEK DR	J3-1	24"	X	57"	9.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	184	"	R5-1	30"	X	30"	6.25	-	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	185	"	R1-1F	36"	X	36"	-	9.00	-	-	-	-	-	-	MOUNT TO SIGNAL POLE
	186	"	R4-7	24"	X	30"	5.00	-	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	187	"	R1-1F	36"	X	36"	-	9.00	-	-	-	-	-	-	MOUNT TO SIGNAL POLE
	188A	"	R1-1F	36"	X	36"	-	9.00	-	-	-	-	-	-	MOUNT TO SIGNAL POLE
	188	"	R6-2L	24"	X	30"	5.00	-	-	-	-	-	-	-	MOUNT TO SIGNAL POLE
	189	USH 151, N. OF STH 42	R5-1	36"	X	36"	9.00	-	-	-	1	-	1	1	
	190	"	M1-85		-		-	-	-	-	-	-	-	-	
	191	"	R4-7	24"	X	30"	5.00	-	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	192	"	J3-1	24"	X	57"	9.50	-	-	-	-	-	1	-	MOUNT TO SIGNAL POLE
	193	"	I2-2	66"	X	24"	11.00	-	-	2	-	-	1	2	SEE SIGN DETAILS
	194	"	R2-1	36"	X	48"	12.00	-	-	-	1	-	1	1	45 MPH
	195	"	R2-1	36"	X	48"	12.00	-	-	-	-	-	-	-	45 MPH, MOUNT TO BACK OF SIGN 194
	196	"	R5-1A	42"	X	30"	8.75	-	-	1	-	-	1	1	
	197	"	D1-3	96"	X	30"	20.00	-	-	-	2	-	1	2	SEE SIGN DETAILS
	198	"	D1-1	102"	X	15"	10.63	-	-	2	-	-	1	2	SEE SIGN DETAILS
	199	"	R4-7	24"	X	30"	5.00	-	-	1	-	-	1	1	
	200	"	R6-2L	24"	X	30"	5.00	-	-	1	-	-	1	1	
	201	CTH CL	R6-1R	36"	X	12"	3.00	-	-	-	-	-	-	-	MOUNT ABOVE SIGN 202
	202	"	R1-1F	36"	X	36"	7.46	-	-	-	-	1	1	1	
	203	"	R6-3A	30"	X	24"	5.00	-	-	-	-	-	-	-	MOUNT BELOW SIGN 202
	204	"	J13-1	24"	X	45"	7.50	-	-	-	1	-	1	1	SEE PLAN SHEET
	205	"	R6-2R		-		-	-	-	-	-	-	-	-	
			TOTALS				**1,067.88**	**54.00**	**200.46**	**77**	**80**	**6**	**160**	**165**	

TRAFFIC CONTROL

CATEGORY	DESCRIPTION	(643.5000) TRAFFIC CONTROL EACH	DRUMS NO. DEVICES	(643.0300) DRUMS DAY	BARRICADES TYPE III NO. DEVICES	* (643.0420) BARRICADES TYPE III DAY	WARNING LIGHTS TYPE A NO. DEVICES	* (643.0705) WARNING LIGHTS TYPE A DAY	WARNING LIGHTS TYPE C NO. DEVICES	(643.0715) WARNING LIGHTS TYPE C DAY	ARROW BOARDS NO. DEVICES	(643.0800) ARROW BOARDS DAY	SIGNS NO. DEVICES	* (643.0900) SIGNS DAY	DURATION	
0010	ADVANCE WARNING SIGNS (MAINLINE & SIDEROAD)	-	-	-	-	-	-	-	-	-	-	-	80	9,840	123	DAYS
	LANE CLOSURE WITH FLAGGING OPERATION	-	-	-	-	-	-	-	-	-	-	-	8	320	40	DAYS
	MOVING PAVEMENT MARKING OPERATION	-	-	-	-	-	-	-	-	-	-	-	7	35	5	DAYS
	SHOULDER CLOSURE	-	15	225	-	-	-	-	-	-	-	-	1	15	15	DAYS
	SINGLE LANE CLOSURE (CONCRETE SECTION)	-	530	10,600	10	200	20	400	44	880	2	40	45	900	20	DAYS
	MAINLINE CLOSURE	-	-	-	10	60	20	120	-	-	-	-	2	12	6	DAYS
	CTH S INTERSECTION IMPROVEMENTS	-	38	380	-	-	-	-	-	-	-	-	8	80	10	DAYS
	WIMMER ROAD INTERSECTION IMPROVEMENTS	-	34	68	-	-	-	-	-	-	-	-	5	10	2	DAYS
	UNEVEN LANES	-	-	-	-	-	-	-	-	-	-	-	16	192	12	DAYS
	UNDISTRIBUTED	-	-	1,127	-	26	-	52	-	120	-	5	-	1,141		
	PROJECT 4100-21-71	1	-	-	-	-	-	-	-	-	-	-	-	-		
	TOTALS	**1**	**-**	**12,400**	**-**	**286**	**-**	**572**	**-**	**1,000**	**-**	**45**	**-**	**12,545**		

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

NOTES:
ADVANCE WARNING SIGNS (MAINLINE & SIDEROAD) - SEE S.D.D. "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC"
LANE CLOSURE WITH FLAGGING OPERATION - SEE S.D.D. "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION"
MOVING PAVEMENT MARKING OPERATION - SEE S.D.D. "MOVING PAVEMENT MARKING OPERATION - TWO-LANE TWO-WAY ROADWAY"
SHOULDER CLOSURE - SEE S.D.D. "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY"
SINGLE LANE CLOSURE (CONCRETE SECTION) - SEE S.D.D.'s "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY" AND "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"
MAINLINE CLOSURE - SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

TRAFFIC CONTROL SIGNS PCMS

CATEGORY	LOCATION	DESCRIPTION	* (643.1050) DAY
0010	USH 151 EASTBOUND, WEST OF PROJECT LIMITS	ADVANCE PROJECT NOTIFICATION	7
	USH 151 WESTBOUND, EAST OF PROJECT LIMITS	ADVANCE PROJECT NOTIFICATION	7
	USH 151 EASTBOUND, 500' WEST OF STH 42 INTERSECTION	ADVANCE PROJECT NOTIFICATION (TRAFFIC SIGNALS TO ALL-WAY STOP)	7
	USH 151 WESTBOUND, 500' EAST OF STH 42 INTERSECTION	ADVANCE PROJECT NOTIFICATION (TRAFFIC SIGNALS TO ALL-WAY STOP)	7
	STH 42 NORTHBOUND, 500' SOUTH OF USH 151 INTERSECTION	ADVANCE PROJECT NOTIFICATION (TRAFFIC SIGNALS TO ALL-WAY STOP)	7
	STH 42 SOUTHBOUND, 500' NORTH OF USH 151 INTERSECTION	ADVANCE PROJECT NOTIFICATION (TRAFFIC SIGNALS TO ALL-WAY STOP)	7
	USH 151 EASTBOUND, 500' WEST OF STH 42 INTERSECTION	TRAFFIC PATTERN SWITCH (LANE CLOSURES)	7
	USH 151 WESTBOUND, 500' EAST OF STH 42 INTERSECTION	TRAFFIC PATTERN SWITCH (LANE CLOSURES)	7
	STH 42 NORTHBOUND, 500' SOUTH OF USH 151 INTERSECTION	TRAFFIC PATTERN SWITCH (LANE CLOSURES)	7
	STH 42 SOUTHBOUND, 500' NORTH OF USH 151 INTERSECTION	TRAFFIC PATTERN SWITCH (LANE CLOSURES)	7
		TOTAL	**70**

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

TRAFFIC CONTROL DETOUR

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 6 DAYS	* (643.0900) TRAFFIC CONTROL SIGNS DAYS	* (643.0420) TRAFFIC CONTROL BARRICADES TYPE III DAYS	* (643.0705) TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	* (643.1050) TRAFFIC CONTROL SIGNS PCMS DAYS	NO. CYCLES	(643.0910) TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	(643.0920) TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
1	750' W OF SIGN # 2	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
2	LT OF J1-1 (JCT S)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-1L	21"x21"	1	6	6	-	-	-	-	-	-	
3	ABOVE J13-1 (S-LT ARROW)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	LEFT
4	J4-1 (N-151)	-	-	-	-	-	-	-	-	1	-	1	NORTH 151
5	ON BACK OF J13-1 (S-RT ARROW) WB	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	LEFT
6	SE QUAD OF USH 151 & CTH S INTERSECTION	R 11-3	60"x30"	1	6	6	6	12	-	-	-	-	5.1 MILES
7	200' N OF USH 151 INTERSECTION ON CTH S	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
8	MODIFY J13-1 (151-DBL ARROW)	M 1-4	EXISTING	-	-	-	-	-	-	-	-	-	
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	RIGHT
9	MODIFY J1-1 (JCT 151)	M 4-8A	24"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	EXISTING	-	-	-	-	-	-	-	-	-	151
10	LT OF J1-1 (JCT JJ)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	M 5-1R	21"x21"	1	6	6	-	-	-	-	-	-	
11	ABOVE J13-2 (S-AH ; JJ- DBL ARROW)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	RIGHT
12	200' S OF CTH JJ INTERSECTION ON CTH S	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
13	LT OF J13-1 (S-DBL ARROW)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	LEFT
14	SW QUAD OF CTH JJ & CTH S INTERSECTION	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	LEFT
15	200' E OF CTH S INTERSECTION ON CTH JJ	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
16	LT OF J1-1 (JCT S)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-1L	21"x21"	1	6	6	-	-	-	-	-	-	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED)

TRAFFIC CONTROL DETOUR (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 6 DAYS	* (643.0900) TRAFFIC CONTROL SIGNS DAYS	* (643.0420) TRAFFIC CONTROL BARRICADES TYPE III DAYS	* (643.0705) TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	* (643.1050) TRAFFIC CONTROL SIGNS PCMS DAYS	NO. CYCLES	(643.0910) TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	(643.0920) TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
17	200' E OF PINECREST LANE INTERSECTION ON CTH JJ	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
18	200' W OF PINECREST LANE INTERSECTION ON CTH JJ	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
19	200' E OF FIRDAY ST INTERSECTION ON CTH JJ	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
20	200' W OF FRIDAY ST INTERSECTION ON CTH JJ	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
21	LT OF J1-4 (JCT 43; JCT 10; JCT 42, END JJ)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-1R	21"x21"	1	6	6	-	-	-	-	-	-	
22	ABOVE J3-2 (S-43-RT; S-42-RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	RIGHT
23	200' S OF CTH JJ INTERSECTION ON SB I 43 ON-RAMP	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
24	LT OF TYPE 1 (VALDERS/CHILTON-EXIT # 149)	MO 4-8	30"x15"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	30"x15"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	30"x30"	1	6	6	-	-	-	-	-	-	
25	ACROSS FROM SIGN # 24 (MEDIAN SIDE)	MO 4-8	30"x15"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	30"x15"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	30"x30"	1	6	6	-	-	-	-	-	-	
26	LT OF TYPE 1 (151-S 42; MANITOWOC/FOND DU LAC; TILT RT)	MO 4-8	30"x15"	1	6	6	-	-	-	-	-	-	
	"	M 3-1	30"x15"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-2	30"x30"	1	6	6	-	-	-	-	-	-	RIGHT
27	LT OF TYPE 1 (151-S 42; MANITOWOC/FOND DU LAC; TILT RT)	-	-	-	-	-	-	-	-	1	1	-	FOND DU LAC
28	D1-4 (LT-MANITOWOC; VALDERS/CHILTON/FOND DU LAC-RT)	-	-	-	-	-	-	-	-	1	1	-	VALDERS/CHILTON/FOND DU LAC-RT
29	LT OF SIGN # 28	MO 4-8A	24"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	EXISTING	-	-	-	-	-	-	-	-	-	151
30	VACANT	-	-	-	-	-	-	-	-	-	-	-	
31	J3-3 (N-151-LT; S-42-RT; S-151-RT)	-	-	-	-	-	-	-	-	1	-	1	SOUTH-151-RIGHT
32	TYPE 1 (151/BUS 42; MANITOWOC/FOND DU LAC; 1 1/4 MILES)	-	-	-	-	-	-	-	-	1	1	-	FOND DU LAC
33	RT OF TYPE 1 (VALDERS-CHILTON- EXIT # 149)	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	
	"	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	151
34	ACROSS FROM SIGN # 33 (MEDIAN SIDE)	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M1-4	36"x36"	1	6	6	-	-	-	-	-	-	
	"	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	151
35	TYPE 1 (VALDERS-CHILTON- EXIT # 149)	-	-	-	-	-	-	-	-	1	1	-	VALDERS-CHILTON
36	TYPE 1 (151/BUS 42; MANITOWOC/FOND DU LAC; TILT RT)	-	-	-	-	-	-	-	-	1	1	-	FOND DU LAC
37	LT OF SIGN # 36	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	30"x30"	1	6	6	-	-	-	-	-	-	AHEAD

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED)

TRAFFIC CONTROL DETOUR (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX. SERVICE PERIOD 6 DAYS	* (643.0900) TRAFFIC CONTROL SIGNS DAYS	* (643.0420) TRAFFIC CONTROL BARRICADES TYPE III DAYS	* (643.0705) TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	* (643.1050) TRAFFIC CONTROL SIGNS PCMS DAYS	NO. CYCLES	(643.0910) TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	(643.0920) TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
38	ACROSS FROM SIGN # 37 (MEDIAN SIDE)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	30"x30"	1	6	6	-	-	-	-	-	-	AHEAD
39	D1-3 (LT-VALDERS/CHILTON/FOND DU LAC)	-	-	-	-	-	-	-	-	1	-	1	LT-VALDERS/CHILTON/FOND DU LAC
40	J3-3 (S-151-LT; BUS-42-RT; N-151-RT)	-	-	-	-	-	-	-	-	1	-	1	SOUTH-151-LEFT
41	200' W OF DEWEY ST INTERSECTION ON USH 151	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
42	ACROSS FROM SIGN # 41 (MEDIAN SIDE)	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
43	700' W 0F SIGN # 41 ON USH 151	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 4-22R	24"x21"	1	6	6	-	-	-	-	-	-	
44	ACROSS FROM SIGN # 43 (MEDIAN SIDE)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 4-22R	24"x21"	1	6	6	-	-	-	-	-	-	
45	ABOVE J2-2 (N-42-AH RT; N-43-AH RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	21"x21"	1	6	6	-	-	-	-	-	-	
46	ACROSS FROM SIGN # 45 (MEDIAN SIDE)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	21"x21"	1	6	6	-	-	-	-	-	-	
47	D1-3 (AH-FOND DU LAC-MILWAUKEE/ GREEN BAY-RT)	-	-	-	-	-	-	-	-	1	-	1	FOND DU LAC
48	J3-3 (S-43-AH; S-151-AH; S-42-AH)	-	-	-	-	-	-	-	-	1	-	1	SOUTH-151-AHEAD ARROW
49	ABOVE J2-2 (N-42-RT; N-43-RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-2	21"x21"	1	6	6	-	-	-	-	-	-	RIGHT
50	NW QUAD USH 151 & NB I 43 ON-RAMP INTERSECTION	R 11-3	60"x30"	1	6	6	6	12	-	-	-	-	0.1 MILES AHEAD
	"	M 4-9R	30"x24"	1	6	6	-	-	-	-	-	-	
51	NW QUAD USH 151 & SB I 43 OFF-RAMP INTERSECTION	R 11-3	60"x30"	1	6	6	6	12	-	-	-	-	0.1 MILES AHEAD
52	300' N OF USH 151 INTERSECTION ON NB ON-RAMP	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
53	LT OF SIS (FOOD EXIT # 152)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	30"x30"	1	6	6	-	-	-	-	-	-	
54	ACROSS FROM SIGN # 53 (MEDIAN SIDE)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	30"x30"	1	6	6	-	-	-	-	-	-	
55	LT OF TYPE 1 (N-42/JJ/E-10; MANITOWOC/STURGEON BAY; TILT RT)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	M 6-2	30"x30"	1	6	6	-	-	-	-	-	-	RIGHT
56	100' N D1-2 (WALDO BVLD; MANITOWOC COUNTY AIRPORT; RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-1L	21"x21"	1	6	6	-	-	-	-	-	-	
57	LT OF J1`3-1 (JJ-RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	LEFT

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

(CONTINUED)

TRAFFIC CONTROL DETOUR (CONTINUED)

SIGN NO.	LOCATION	SIGN CODE	SIZE W X H	NUMBER IN SERVICE	APPROX SERVICE PERIOD 6 DAYS	* (643.0900) TRAFFIC CONTROL SIGNS DAYS	* (643.0420) TRAFFIC CONTROL BARRICADES TYPE III DAYS	* (643.0705) TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	* (643.1050) TRAFFIC CONTROL SIGNS PCMS DAYS	NO. CYCLES	(643.0910) TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	(643.0920) TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	REMARKS
58	100' W OF J2-2 (S-43 AH LT; S-42-AH RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-2	21"x21"	1	6	6	-	-	-	-	-	-	AHEAD
59	500' N OF MANITOWOC RIVER BRIDGE (N ABUTTMENT)	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
60	ACROSS FROM SIGN # 59 (MEDIAN SIDE)	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
61	LT OF SIS (FOOD EXIT # 152)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	30"x30"	1	6	6	-	-	-	-	-	-	
62	ACROSS FROM SIGN # 61 (MEDIAN SIDE)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	30"x30"	1	6	6	-	-	-	-	-	-	
63	LT OF TYPE 1 N 42/JJ/E-10; MANITOWOC; TILT RT)	MO 4-8	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	36"x18"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	36"x36"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-2	30"x30"	1	6	6	-	-	-	-	-	-	RIGHT
64	150' N OF D1-3 (LT-WALDO BVLD; LT-MANITOWOC; CLARKS MILLS-RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	21"x21"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 5-2R	21"x21"	1	6	6	-	-	-	-	-	-	
65	ABOVE J3-1 (N-42-LT; W-JJ-RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	RIGHT
66	200' W OF SB I 43 OFF RAMP ON CTH JJ	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
67	LT OF J1-2 (JCT 43; JCT JJ)	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
68	ACROSS FROM SIGN # 67 (MEDIAN SIDE)	M0 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	W 20-2A	48"x48"	1	6	6	-	-	-	-	-	-	
69	LT OF J2-4 (S-43-AH; S-42-AH; W-10-AH RT; N-43-AH RT)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	AHEAD
70	ACROSS FROM SIGN # 69 (MEDIAN SIDE)	MO 4-8	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 3-3	24"x12"	1	6	6	-	-	-	-	-	-	
	"	M 1-4	24"x24"	1	6	6	-	-	-	-	-	-	151
	"	MO 6-1	21"x21"	1	6	6	-	-	-	-	-	-	AHEAD
71	US 151, SB @ WEST CONSTRUCTION LIMITS	-	-	1	7	-	-	-	7	-	-	-	IN ADVANCE OF FULL CLOSURE
72	US 151, NB @ EAST CONSTRUCTION LIMITS	-	-	1	7	-	-	-	7	-	-	-	IN ADVANCE OF FULL CLOSURE
	TOTALS					**1,140**	**18**	**36**	**14**		**5**	**6**	

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

3

PAVEMENT MARKINGS

CATEGORY	STATION	TO STATION	(646.1020) MARKING LINE EPOXY 4-INCH (YELLOW) LF	(646.1020) MARKING LINE EPOXY 4-INCH (WHITE) LF	(649.0120) TEMPORARY MARKING LINE EPOXY 4-INCH (YELLOW) LF	(646.1040) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE) LF	(646.3040) MARKING LINE GROOVED WET REF EPOXY 8-INCH (WHITE) LF	(646.5320) MARKING RAILROAD CROSSING EPOXY EACH	(646.8120) MARKING CURB EPOXY LF	(646.6120) MARKING STOP LINE EPOXY 18-INCH LF	(646.8220) MARKING ISLAND NOSE EPOXY EACH	(646.7120) MARKING DIAGONAL EPOXY 12-INCH LF	(648.0100) LOCATING NO-PASSING ZONES MI	(649.0105) TEMPORARY MARKING LINE PAINT 4-INCH LF
0010	34+07	57+50	4,686	-	4,686	4,537	-	-	-	-	-	-	-	14,058
	57+50	85+00	4,123	65	4,123	5,397	-	-	-	-	-	-	-	11,628
	85+00	98+00	325	-	325	2,285	-	-	-	-	-	-	-	312
	98+00	124+00	650	-	650	5,097	-	-	-	-	-	-	-	624
	124+00	142+50	1,440	-	1,440	3,611	-	-	-	-	-	-	-	3,375
	142+50	155+50	2,444	-	2,444	2,268	-	-	-	-	-	-	-	7,223
	155+50	166+15	2,127	-	2,127	2,082	-	1	-	-	-	-	-	6,381
	166+29	186+75	4,026	-	4,026	3,961	-	1	-	-	-	-	-	12,033
	186+75	195+50	1,255	-	1,255	1,372	35	-	-	45	-	-	-	3,318
	195+50	222+50	814	-	814	4,656	300	-	-	-	-	-	-	1,065
	222+50	249+25	669	-	669	4,842	-	-	-	-	-	-	-	642
	249+25	276+50	681	-	681	5,101	-	-	-	-	-	-	-	654
	276+50	303+25	669	-	669	4,873	-	-	-	-	-	-	-	642
	303+25	315+25	1,382	-	1,382	2,020	-	-	-	-	-	-	-	3,534
	315+25	357+50	4,301	-	4,301	8,150	-	-	-	20	-	-	-	10,902
	357+50	378+00	3,088	-	3,088	3,764	225	-	-	-	-	-	-	8,574
	378+00	390+00	700	-	700	2,266	-	-	-	-	-	-	-	1,489
	390+00	396+50	163	29	163	1,071	125	-	-	-	-	-	-	156
	396+50	410+50	1,454	34	1,454	2,599	85	-	-	20	-	-	-	3,784
	410+50	434+00	4,720	-	4,720	4,234	100	-	-	-	-	-	-	14,160
	434+00	453+50	3,900	60	3,900	3,588	-	-	-	30	-	-	-	11,700
	453+50	468+25	2,079	1,964	2,049	1,928	845	-	20	95	2	65	-	12,470
	468+25	476+00	1,408	1,438	-	380	1,365	-	-	35	-	-	-	4,346
	476+00	482+00	1,078	1,115	-	283	410	-	10	110	1	-	-	3,326
	482+00	486+00	-	315	-	53	95	-	-	45	-	-	-	20
	34+07	447+53	-	-	-	-	-	-	-	-	-	-	7.83	-
TOTALS			**48,179**	**5,020**	**45,665**	**80,415**	**3,585**	**2**	**30**	**400**	**3**	**65**	**7.83**	**136,415**
			53,198											

NOTE: TEMPORARY MARKING LINE EPOXY 4-INCH TO BE APPLIED BEFORE CENTERLINE RUMBLE STRIPS ARE INSTALLED
NOTE: MARKING LINE EPOXY 4-INCH TO BE APPLIED AFTER CENTERLINE RUMBLE STRIPS ARE INSTALLED
NOTE: A QUANTITY OF TEMPORARY MARKING LINE PAINT 4-INCH (WHITE) IS INCLUDED FOR LANE LINES IN DIVIDED SECTION IF MARKING LINE GROOVED WET REFELCTIVE EPOXY 4-INCH CAN NOT BE INSTALLED DIRECTLY AFTER PAVING OPERATIONS

3

CONDUIT

CATEGORY	FROM	TO	(652.0225) CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	(652.0235) CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	(652.0615) CONDUIT SPECIAL 3-INCH LF
USH 151 & STH 42/DUFEK DRIVE (S36-0802)					
0010	CB1	PB1	-	20	-
	CB1	PB1	-	20	-
	PB1	PB2	-	-	40
	PB1	PB2	-	-	40
	PB2	PB3	-	-	40
	PB2	PB3	-	-	40
	PB3	SB2	10	-	-
	PB3	PB70	-	50	-
	PB3	SB3	10	-	-
	PB3	PB4	-	-	70
	PB3	PB4	-	-	70
	PB4	PB5	-	-	50
	PB4	PB5	-	-	50
	PB5	SB4	-	5	-
	PB5	PB6	-	70	-
	PB5	PB6	-	70	-
	PB6	DRAIN	15	-	-
	PB6	PB7	-	-	50
	PB6	PB7	-	-	50
	PB7	SB5	20	-	-
	PB7	PB8	-	-	60
	PB7	PB8	-	-	60
	PB8	SB6	10	-	-
	PB8	SB7	5	-	-
	PB8	PB9	-	-	50
	PB8	PB9	-	-	50
	PB9	PB10	-	-	50
	PB9	PB10	-	-	50
	PB10	SB8	-	5	-
	PB10	PB11	-	70	-
	PB10	PB11	-	70	-
	PB11	SB1	10	-	-
	PB11	CB1	-	20	-
	PB11	CB1	-	20	-
	TOTALS		**80**	**420**	**820**

REMOVING PULL BOXES

CATEGORY	LOCATION	(653.0905) EACH
USH 151 & STH 42/DUFEK DRIVE (S36-0802)		
0010	USH 151 & STH 42/DUFEK DRIVE (S36-0802)	12
	TOTAL	**12**

REMOVING CONCRETE BASES

CATEGORY	LOCATION	(204.0195) EACH
USH 151 & STH 42/DUFEK DRIVE (S36-0802)		
0010	USH 151 & STH 42/DUFEK DRIVE (S36-0802)	8
	TOTAL	**8**

PULL BOXES NON-CONDUCTIVE 24x42-INCH

CATEGORY	LOCATION	(653.0164) EACH
USH 151 & STH 42/DUFEK DRIVE (S36-0802)		
0010	USH 151 & STH 42/DUFEK DRIVE (S36-0802)	11
	TOTAL	**11**

CONCRETE BASES

CATEGORY	LOCATION	(654.0101) CONCRETE BASES TYPE 1 EACH	(654.0102) CONCRETE BASES TYPE 2 EACH	(654.0217) CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
USH 151 & STH 42/DUFEK DRIVE (S36-0802)				
0010	USH 151 & STH 42/DUFEK DRIVE (S36-0802)	4	2	1
	TOTALS	**4**	**2**	**1**

LOOP DETECTORS

CATEGORY	LOOP NO.	# OF TURNS	(652.0800) CONDUIT LOOP DETECTOR LF	(655.0700) LOOP DETECTOR LEAD IN CABLE LF	(655.0800) LOOP DETECTOR WIRE LF
USH 151 & STH 42/DUFEK DRIVE (S36-0802)					
0010	21	-	-	470	-
	23	-	-	210	-
	41	2	100	40	220
	42	2	90	80	200
	61	-	-	590	-
	63	-	-	180	-
	81	3	90	280	290
	TOTALS		**280**	**1,850**	**710**

3

3

TRAFFIC SIGNALS

CATEGORY	LOCATION	(656.0200.01) ELECTRICAL SERVICE METER BREAKER PEDESTAL (USH 151 & STH 42/DUFEK DRIVE) LS	(657.0100) PEDESTAL BASES EACH	(657.0255) TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	(657.0310) POLES TYPE 3 EACH	(657.0420) TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	(657.0590) TROMBONE ARMS 20-FT EACH	(658.0173) TRAFFIC SIGNAL FACE 3S 12-INCH EACH	(658.5069.01) SIGNAL MOUNTING HARDWARE (USH 151 & STH 42/DUFEK DRIVE) LS	(SPV.0105.03) REMOVE TRAFFIC TRAFFIC SIGNAL (USH 151 & STH 42/DUFEK DRIVE) LS
USH 151 & STH 42/DUFEK DRIVE (S36-0802)										
0010	USH 151 & STH 42/DUFEK DRIVE (S36-0802)	1	4	2	2	4	2	10	1	1
	TOTALS	**1**	**4**	**2**	**2**	**4**	**2**	**10**	**1**	**1**

CABLE TRAFFIC SIGNAL

CATEGORY	FROM CB1 TO	(655.0230) 5-14 AWG LF	(655.0240) 7-14 AWG LF	(655.0260) 12-14 AWG LF	HEAD NO.	BASE TO HEAD (655.0230) 5-14 AWG LF	BASE TO HEAD (655.0240) 7-14 AWG LF
USH 151 & STH 42/DUFEK DRIVE (S36-0802)							
0010	SB1	-	-	60	13	15	-
		-	-	-	14	15	-
	SB2	160	-	-	15	50	-
	SB3	-	-	160	5	15	-
		-	-	-	6	-	15
	SB4	-	-	300	7	-	EXISTING
		-	-	-	8	EXISTING	-
		-	-	-	9	EXISTING	-
	SB5	-	-	340	11	15	-
		-	-	-	16	15	-
	SB6	260	-	-	12	50	-
	SB7	-	-	260	1	-	15
		-	-	-	10	15	-
	SB8	-	-	150	2	-	EXISTING
		-	-	-	3	EXISTING	-
		-	-	-	4	EXISTING	-
	SUBTOTALS	**420**	**0**	**1,270**		**190**	**30**
	TOTALS	**610**	**30**	**1,270**			

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

CATEGORY	FROM	TO	(655.0515) (EQUIPMENT GROUNDING CONDUCTOR) (GREEN) LF
USH 151 & STH 42/DUFEK DRIVE (S36-0802)			
0010	CB1	SB2	160
	SB2	SB3	50
	SB3	SB4	200
	SB4	SB5	200
	SB5	SB6	130
	SB6	SB7	40
	SB7	SB8	180
	SB8	SB1	130
	SB1	CB1	60
	TOTAL		**1,150**

LIGHTING SUMMARY

CATEGORY	LOCATION	(657.0709) LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FT EACH	(659.1120) LUMINAIRES UTILITY LED B EACH
USH 151 & STH 42/DUFEK DRIVE (S36-0802)			
0010	USH 151 & STH 42/DUFEK DRIVE (S36-0802)	2	2
	TOTALS	**2**	**2**

CABLE TYPE UF 2-12 AWG GROUNDED

CATEGORY	FROM	TO	(655.0305) LF
USH 151 & STH 42/DUFEK DRIVE (S36-0802)			
0010	CB1	SB2	160
	CB1	SB4	300
	CB1	SB6	260
	CB1	SB8	150
	TOTAL		**870**

ELECTRICAL WIRE LIGHTING 12 AWG

CATEGORY	FROM	TO	(655.0610) LF
USH 151 & STH 42/DUFEK DRIVE (S36-0802)			
0010	SB2	LUMINAIRE	150
	SB6	LUMINAIRE	150
	TOTAL		**300**

NOTE: 120 VOLT SYSTEM

3

CONSTRUCTION STAKING

CATEGORY	STATION	TO STATION	LOCATION	(650.4500) SUBGRADE LF	(650.5000) BASE LF	(650.7000) CONCRETE PAVEMENT LF	(650.8000) RESURFACING REFERENCE LF	(650.8500.01) ELECTRICAL INSTALLATIONS (PROJECT) LS	(650.9910.01) SUPPLEMENTAL CONTROL (PROJECT) LS	(650.9920) SLOPE STAKES LF
0010	193+87	195+18	LT	131	131	-	-	-	-	131
	332+62	334+15	RT	-	-	-	-	-	-	153
	333+35	334+66	LT	-	-	-	-	-	-	131
	336+30	336+92	RT	-	-	-	-	-	-	62
	336+83	337+33	LT	-	-	-	-	-	-	50
	390+21	391+91	LT	170	170	-	-	-	-	170
	416+05	417+90	RT	-	-	-	-	-	-	185
	424+38	426+90	RT	-	-	-	-	-	-	252
	428+73	430+38	RT	-	-	-	-	-	-	165
	430+50	431+01	LT	-	-	-	-	-	-	51
	431+77	432+47	LT	-	-	-	-	-	-	70
	432+46	434+39	RT	-	-	-	-	-	-	193
	470+63	475+58	RT	455	-	455	-	-	-	495
	476+75	481+85	RT	400	-	400	-	-	-	510
	PROJECT 4100-21-71			-	-	-	44,887	1	1	-
	TOTALS			**1,156**	**301**	**855**	**44,887**	**1**	**1**	**2,618**



BENCHMARKS

NO.	STATION	LOCATION	DESCRIPTION	ELEV.
BM*1	32+56.91	41.05' LT.	N.E. BURY BOLT ON HYDRANT	839.83

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*10	34+6.95	24.40' RT.	1" IRON PIPE WITH CAP	292,890.74	175,194.41	838.85
CP*11	41+36.27	30.97' RT.	1" IRON PIPE WITH CAP	293,222.00	175,834.15	866.67

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 86 E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (1)

PLOT DATE : 10/26/2017 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT



5

5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 87 E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (2)

PLOT DATE : 10/26/2017 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT



5 5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 88	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (3)

PLOT DATE : 10/26/2017 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT



5

5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 89	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (4)

PLOT DATE : 10/26/2017 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



5

5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 90	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (5)

PLOT DATE : 10/26/2017 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



5

5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 91	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (6)

PLOT DATE : 10/26/2017 4:51 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 92	E



CURVE DATA:
P.I. = STA. 144+63.35
Y = 296,075.58
X = 185,625.16
DELTA ANGLE = 21°32'18"
EXTERNAL TANGENT = 550.00'
LENGTH = 1,087.02'
RADIUS = 2,891.65'
P.C. = STA. 139+13.35
Y = 295,833.82
X = 185,131.14
P.T. = STA. 150+00.37
Y = 296,119.08
X = 186,173.43

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 93 E



CURVE DATA:
P.I. = STA. 160+79.90
Y = 296,204.47
X = 187,249.59
DELTA ANGLE = 15°08'52"
EXTERNAL TANGENT = 250.00'
LENGTH = 497.08'
RADIUS = 1,880.19'
P.C. = STA. 158+29.90
Y = 296,184.69
X = 187,000.37
P.T. = STA. 163+26.99
Y = 296,158.43
X = 187,495.31

BENCHMARKS

NO.	STATION	LOCATION	DESCRIPTION	ELEV.
BM*2	164+41.85	52.43' LT.	NORTH END OF TOP OF CMCP	829.27

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*12	164+5.74	21.90' RT.	1" IRON PIPE WITH CAP	296,122.41	187,568.69	831.84

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 94	E



5

5

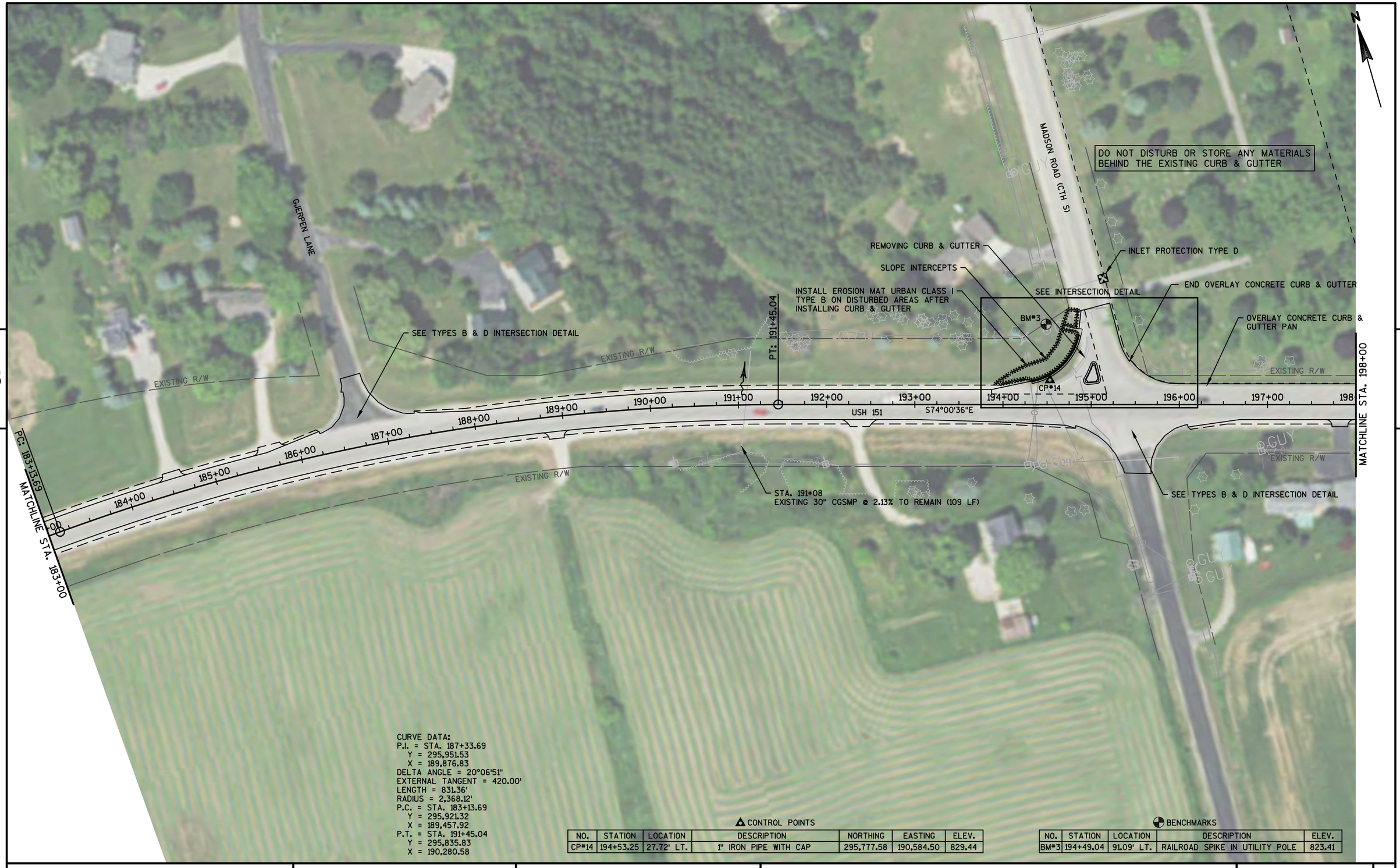
CURVE DATA:
P.I. = STA. 168+99.40
Y = 296,053.03
X = 188,057.94
DELTA ANGLE = 01°16'29"
EXTERNAL TANGENT = 225.00'
LENGTH = 449.98'
RADIUS = 20,226.28'
P.C. = STA. 166+74.40
Y = 296,094.46
X = 187,836.79
P.T. = STA. 171+24.38
Y = 296,006.69
X = 188,278.12

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*13	170+32.79	24.15' LT.	1" IRON PIPE WITH CAP	296,049.00	188,193.31	834.47

CURVE DATA:
P.I. = STA. 177+40.74
Y = 295,879.74
X = 188,881.26
DELTA ANGLE = 16°00'36"
EXTERNAL TANGENT = 400.00'
LENGTH = 794.79'
RADIUS = 2,844.34'
P.C. = STA. 173+40.74
Y = 295,962.13
X = 188,489.83
P.T. = STA. 181+35.53
Y = 295,908.51
X = 189,280.22

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 95	E



CURVE DATA:
P.I. = STA. 187+33.69
Y = 295,951.53
X = 189,876.83
DELTA ANGLE = 20°06'51"
EXTERNAL TANGENT = 420.00'
LENGTH = 831.36'
RADIUS = 2,368.12'
P.C. = STA. 183+13.69
Y = 295,921.32
X = 189,457.92
P.T. = STA. 191+45.04
Y = 295,835.83
X = 190,280.58

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*14	194+53.25	27.72' LT.	1" IRON PIPE WITH CAP	295,777.58	190,584.50	829.44

BENCHMARKS

NO.	STATION	LOCATION	DESCRIPTION	ELEV.
BM*3	194+49.04	91.09' LT.	RAILROAD SPIKE IN UTILITY POLE	823.41

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 96	E



5

5

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*15	204+61.78	24.65' RT.	1" IRON PIPE WITH CAP	295,449.41	191,539.59	812.02

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 97	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (12)

PLOT DATE : 11/1/2017 11:59 AM PLOT BY : JASON DOLENS PLOT NAME : PLOT SCALE : 1 IN:100 FT

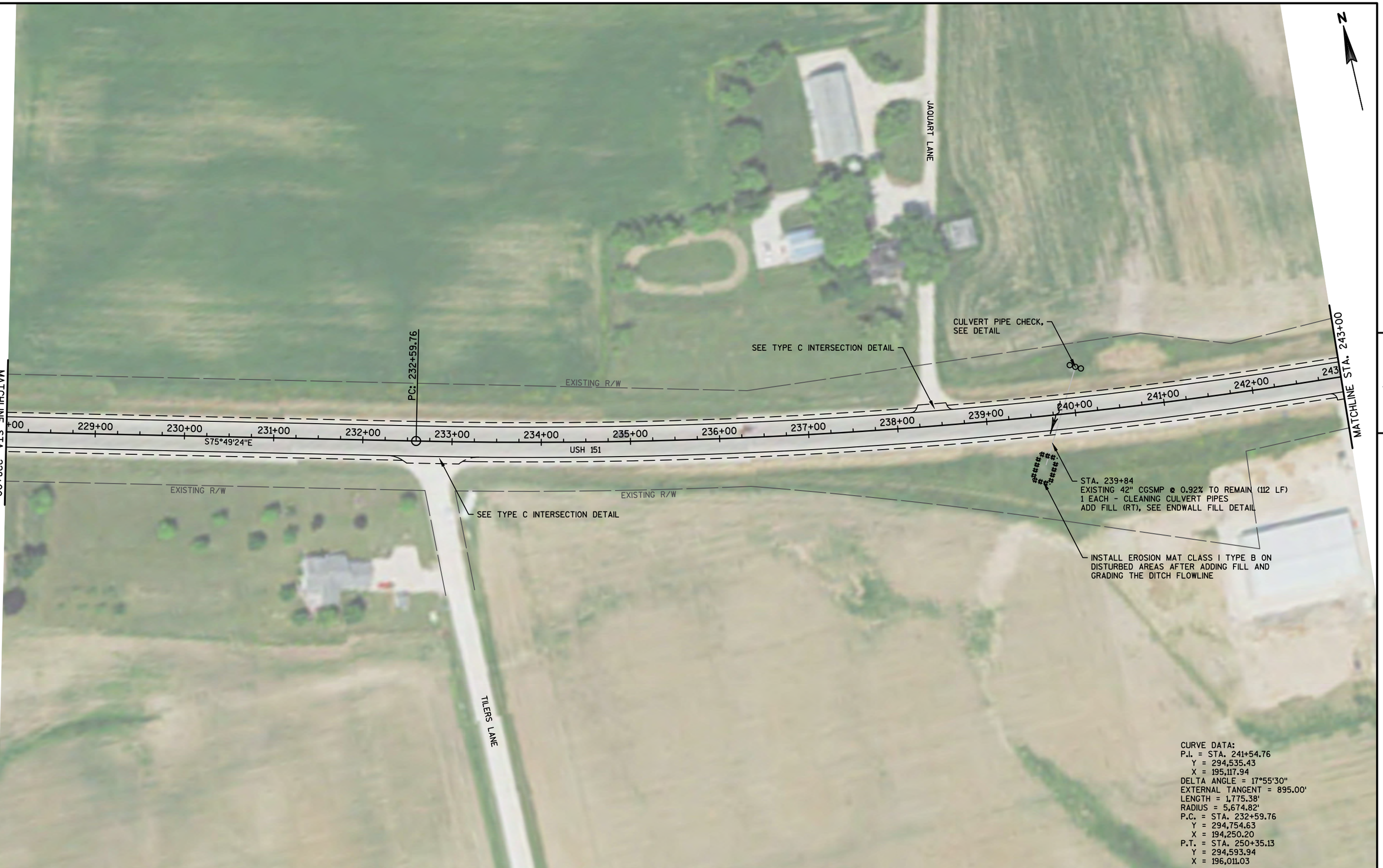
WISDOT/CADDS SHEET 44



5

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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 98	E



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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 99	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (14)

PLOT DATE : 10/26/2017 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 100	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (15)

PLOT DATE : 10/26/2017 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

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N

INSTALL EROSION MAT CLASS I TYPE B ON DISTURBED AREAS AFTER ADDING FILL AND GRADING THE DITCH FLOWLINE

CULVERT PIPE CHECK, SEE DETAIL

EXISTING R/W

PC: 270+90.63

MATCHLINE STA. 258+00

+00 259+00 260+00 261+00 262+00 263+00 264+00 265+00 266+00 267+00 268+00 269+00 270+00 271+00 272+00 273

USH 151

N86°15'06"E

MATCHLINE STA. 273+00

EXISTING R/W

STA. 258+54
EXISTING 12" CGSMP @ 0.37% TO REMAIN (69 LF)
2 EACH - MARKERS CULVERT END (LT & RT)

STA. 265+83
EXISTING 36" CMCP @ 0.15% TO REMAIN (106 LF)
ADD FILL (LT), SEE ENDWALL FILL DETAIL

OLD 151 ROAD

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 101	E

5



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 102 E



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 103 E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (18)

PLOT DATE : 10/26/2017 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



5

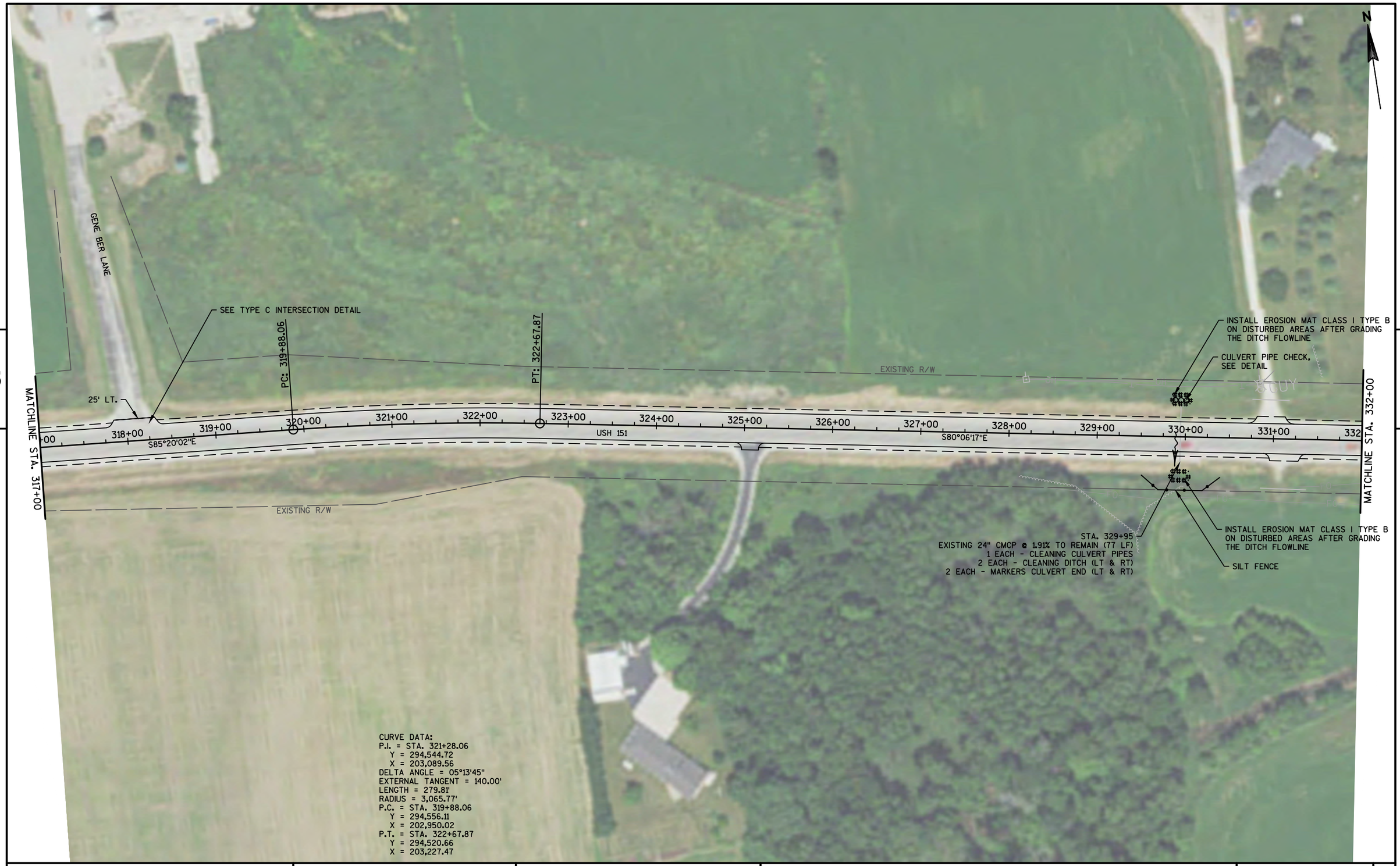
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 104 E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (19)

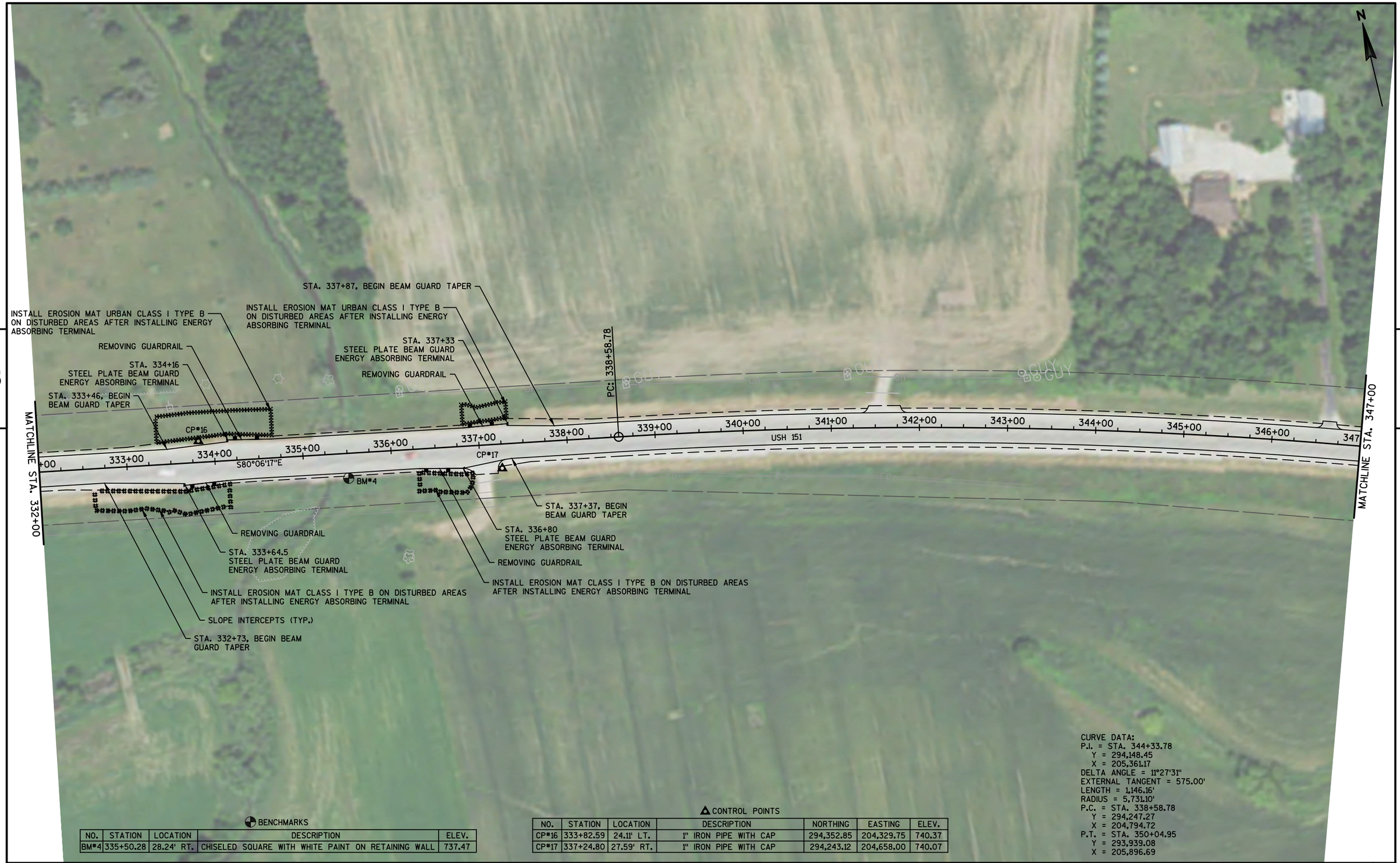
PLOT DATE : 10/26/2017 4:52 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



5 5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 105 E



BENCHMARKS

NO.	STATION	LOCATION	DESCRIPTION	ELEV.
BM*4	335+50.28	28.24' RT.	CHISELED SQUARE WITH WHITE PAINT ON RETAINING WALL	737.47

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*16	333+82.59	24.11' LT.	1" IRON PIPE WITH CAP	294,352.85	204,329.75	740.37
CP*17	337+24.80	27.59' RT.	1" IRON PIPE WITH CAP	294,243.12	204,658.00	740.07

CURVE DATA:
P.I. = STA. 344+33.78
Y = 294,148.45
X = 205,361.17
DELTA ANGLE = 11°27'31"
EXTERNAL TANGENT = 575.00'
LENGTH = 1,146.16'
RADIUS = 5,731.10'
P.C. = STA. 338+58.78
Y = 294,247.27
X = 204,794.72
P.T. = STA. 350+04.95
Y = 293,939.08
X = 205,896.69

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 106	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (21)
PLOT DATE : 10/26/2017 4:53 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT



SUPERELEVATION STAKING INFORMATION				
POINT	DESCRIPTION	STATION	LEFT	RIGHT
A	BEGIN TANGENT RUNOUT	359+35.66	2%	2%
B	BEGIN SUPERELEVATION RUNOFF	359+88.66	0%	2%
PC	2/3 FULL SUPERELEVATION	361+40.66	3.8%	3.8%
C	BEGIN FULL SUPERELEVATION	361+40.66	5.7%	5.7%

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 107 E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (22)

PLOT DATE : 10/26/2017 4:53 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT



CURVE DATA:
P.I. = STA. 364+74.99
Y = 293,403.79
X = 207,265.82
DELTA ANGLE = 24°33'04"
EXTERNAL TANGENT = 385.00'
LENGTH = 758.18'
RADIUS = 1,769.39'
P.C. = STA. 360+89.99
Y = 293,543.98
X = 206,907.25
P.T. = STA. 368+48.18
Y = 293,425.27
X = 207,650.22

SUPERELEVATION STAKING INFORMATION				
POINT	DESCRIPTION	STATION	LEFT	RIGHT
D	END FULL SUPERELEVATION	367+97.51	5.7%	5.7%
PT	2/3 FULL SUPERELEVATION	368+48.18	3.8%	3.8%
E	END SUPERELEVATION RUNOFF	369+49.51	0%	2%
F	END TANGENT RUNOUT	370+02.51	2%	2%

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 108 E

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N

SILT FENCE

INSTALL EROSION MAT CLASS I TYPE B ON DISTURBED AREAS AROUND THE APRON ENDWALL

PC: 384+06.62

SEE TYPES B & D INTERSECTION DETAIL

SEE CONCRETE CURB & GUTTER SECTIONS DETAIL

WIMMER ROAD

INSTALL EROSION MAT URBAN CLASS I TYPE B ON DISTURBED AREAS AFTER INSTALLING CURB & GUTTER

SLOPE INTERCEPTS

REMOVING CURB & GUTTER

STA. 390+50 ADJUSTING MANHOLE COVERS (SANITARY)

PT: 391+82.24

EXISTING R/W

MATCHLINE STA. 377+00

378+00 379+00 380+00 381+00 382+00 383+00 384+00 385+00 386+00 387+00 388+00 389+00 390+00 391+00 392+00

N86°48'10"E

USH 151

MATCHLINE STA. 392+00

SEE INTERSECTION DETAIL

SEE TYPES B & D INTERSECTION DETAIL

48' RT.

INSTALL EROSION MAT URBAN CLASS I TYPE B ON DISTURBED AREAS AROUND THE APRON ENDWALL

CULVERT PIPE CHECK, SEE DETAIL

EXISTING R/W

STA. 383+53
EXISTING 48" CMCP @ 0.61% TO REMAIN (127 LF)
1 EACH - CLEANING CULVERT PIPES
2 EACH - REMOVING METAL APRON ENDWALL (LT & RT)
2 EACH - APRON ENDWALLS FOR CULVERT PIPE 48-INCH (LT & RT)
1 EACH - MARKERS CULVERT END (LT & RT)

STA. 391+02 ADJUST WATER VALVE BOX

STA. 390+98 ADJUST WATER VALVE BOX

STA. 390+87 ADJUST WATER VALVE BOX

CROSSING MEADOWS DRIVE

RIDGEWAY LANE

CURVE DATA:
P.I. = STA. 387+94.62
Y = 293,533.83
X = 209,593.64
DELTA ANGLE = 04°24'29"
EXTERNAL TANGENT = 388.00'
LENGTH = 775.62'
RADIUS = 10,081.54'
P.C. = STA. 384+06.62
Y = 293,512.19
X = 209,206.24
P.T. = STA. 391+82.24
Y = 293,585.18
X = 209,978.22

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 109	E



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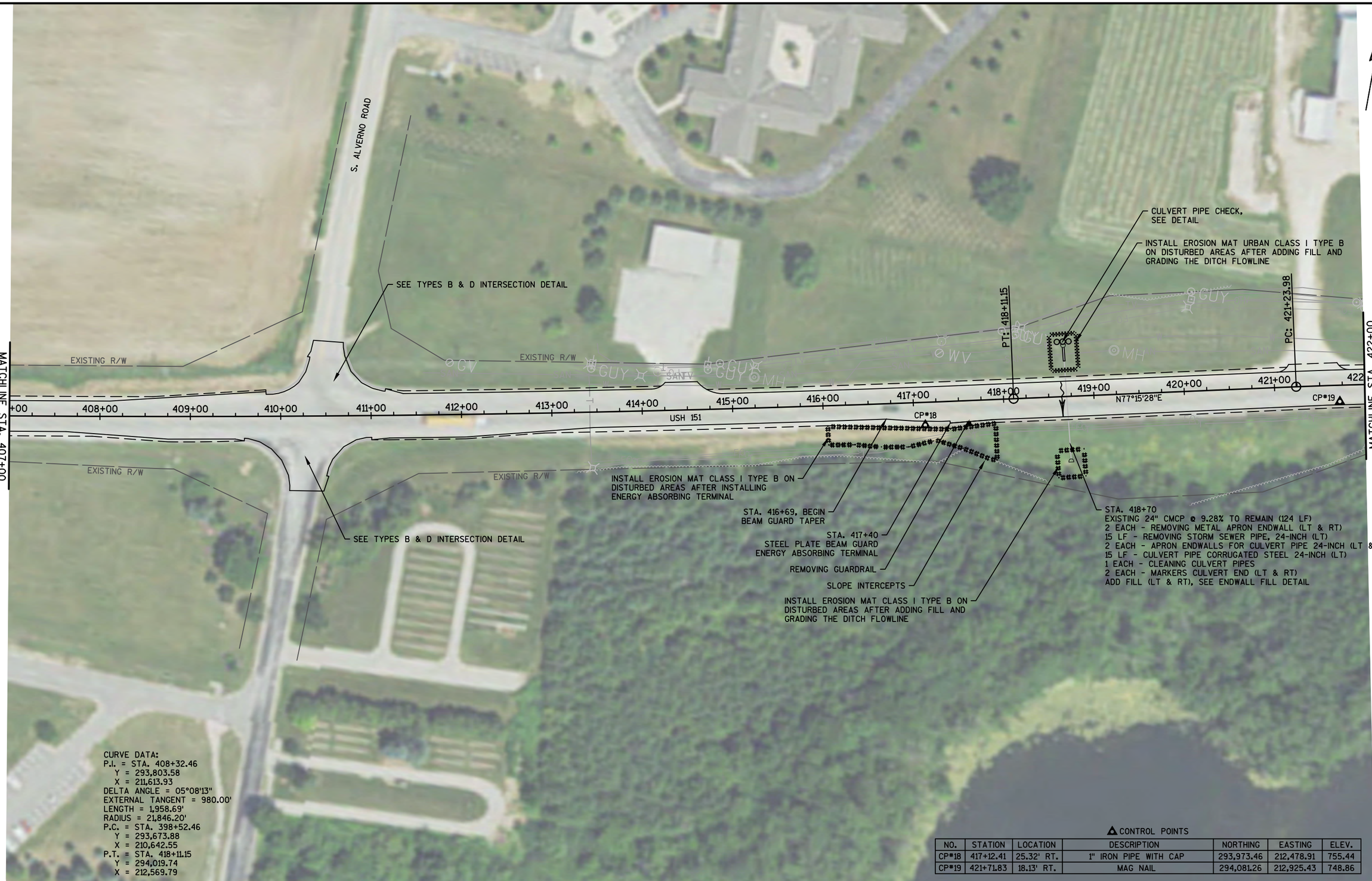
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 110	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (25)

PLOT DATE : 10/26/2017 4:53 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

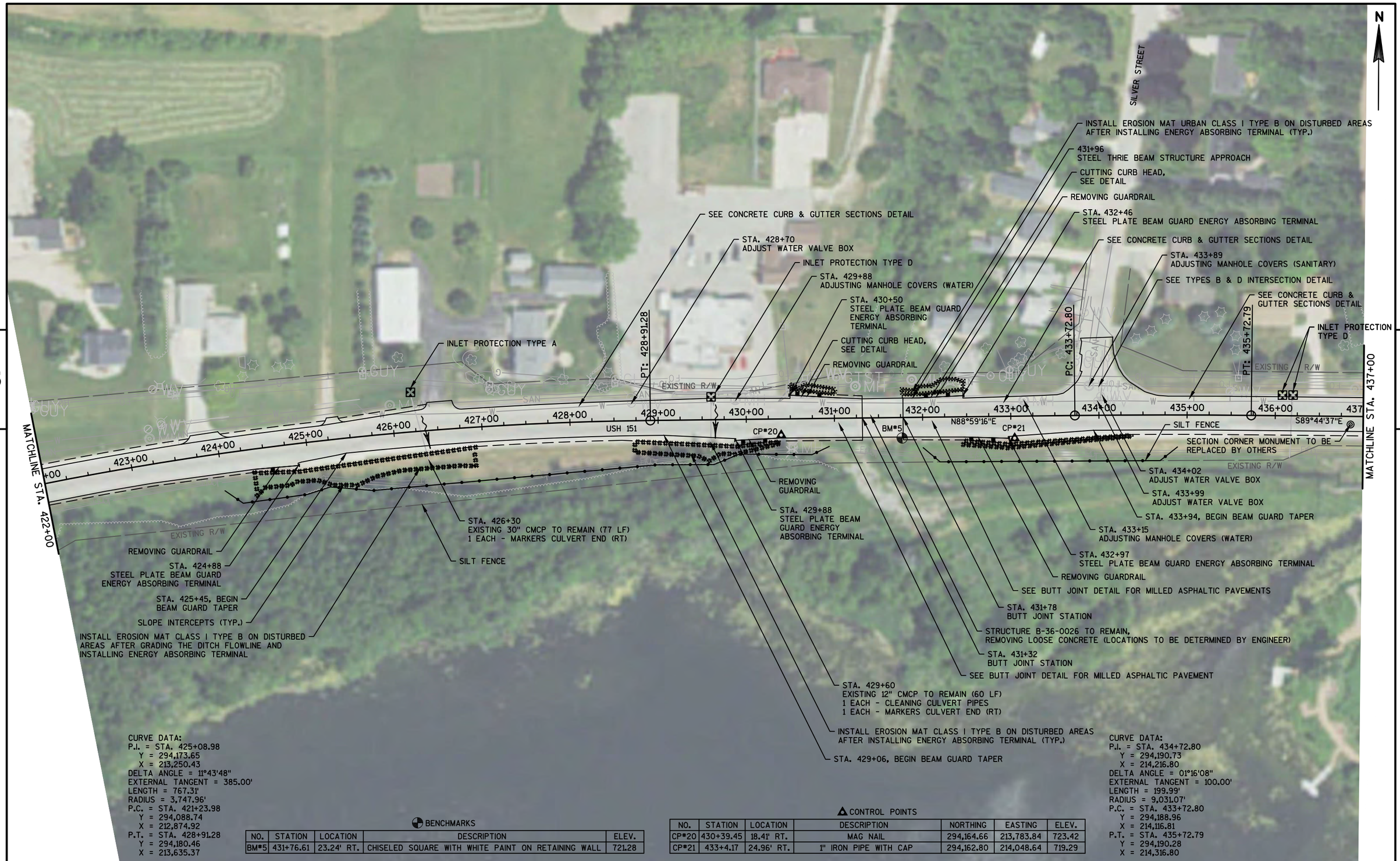


△ CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*18	417+12.41	25.32' RT.	1" IRON PIPE WITH CAP	293,973.46	212,478.91	755.44
CP*19	421+71.83	18.13' RT.	MAG NAIL	294,081.26	212,925.43	748.86

5 5

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 111	E



CURVE DATA:
P.I. = STA. 425+08.98
Y = 294,173.65
X = 213,250.43
DELTA ANGLE = 11°43'48"
EXTERNAL TANGENT = 385.00'
LENGTH = 767.31'
RADIUS = 3,747.96'
P.C. = STA. 421+23.98
Y = 294,088.74
X = 212,874.92
P.T. = STA. 428+91.28
Y = 294,180.46
X = 213,635.37

CURVE DATA:
P.I. = STA. 434+72.80
Y = 294,190.73
X = 214,216.80
DELTA ANGLE = 01°16'08"
EXTERNAL TANGENT = 100.00'
LENGTH = 199.99'
RADIUS = 9,031.07'
P.C. = STA. 433+72.80
Y = 294,188.96
X = 214,116.81
P.T. = STA. 435+72.79
Y = 294,190.28
X = 214,316.80

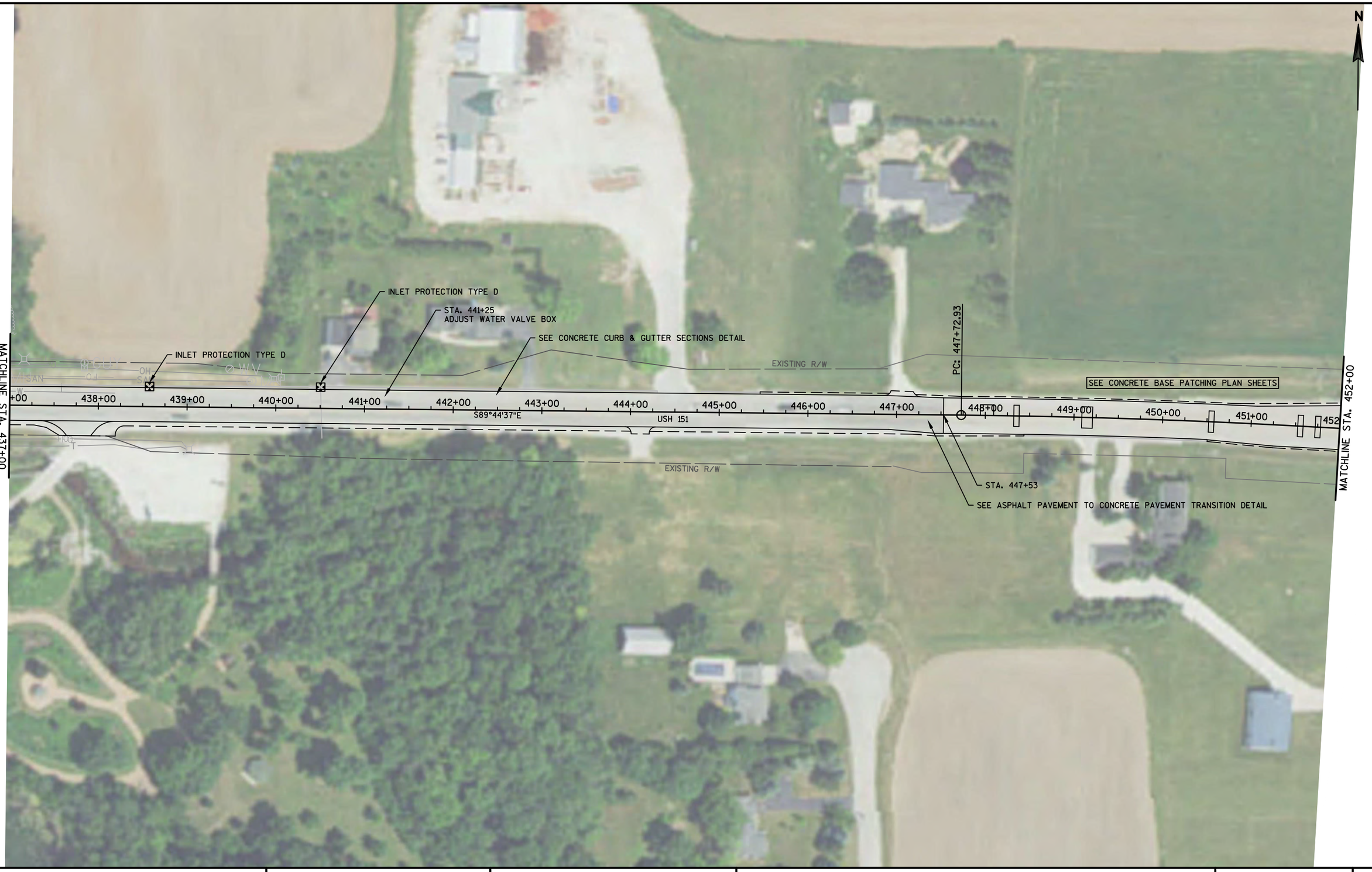
BENCHMARKS

NO.	STATION	LOCATION	DESCRIPTION	ELEV.
BM*5	431+76.61	23.24' RT.	CHISELED SQUARE WITH WHITE PAINT ON RETAINING WALL	721.28

CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*20	430+39.45	18.41' RT.	MAG NAIL	294,164.66	213,783.84	723.42
CP*21	433+4.17	24.96' RT.	1" IRON PIPE WITH CAP	294,162.80	214,048.64	719.29

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 112	E

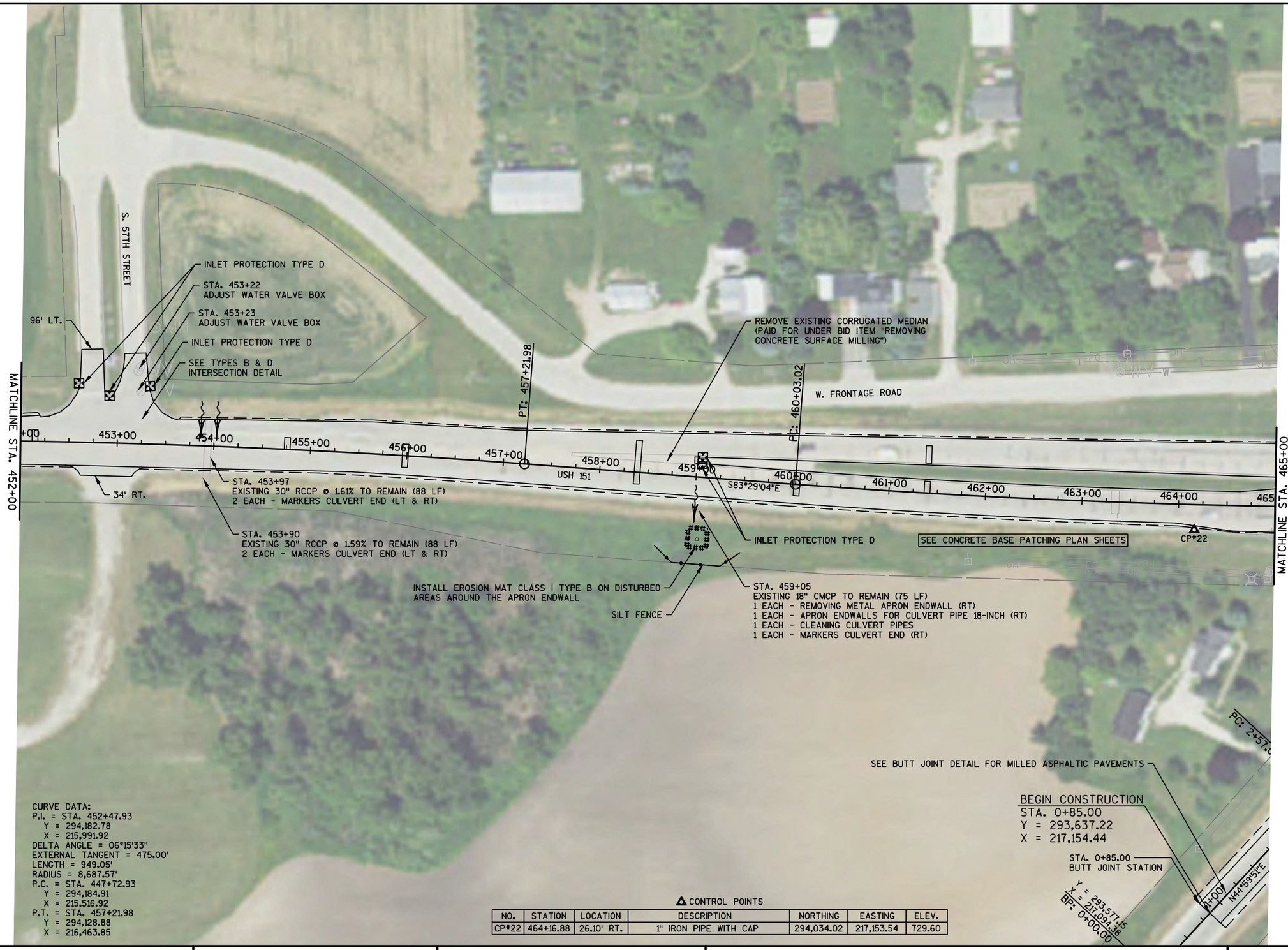


PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 113	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (28)

PLOT DATE : 10/26/2017 4:53 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



CURVE DATA:
P.I. = STA. 452+47.93
Y = 294,182.78
X = 215,991.92
DELTA ANGLE = 06°15'33"
EXTERNAL TANGENT = 475.00'
LENGTH = 949.05'
RADIUS = 8,687.57'
P.C. = STA. 447+72.93
Y = 294,184.91
X = 215,516.92
P.T. = STA. 457+21.98
Y = 294,128.88
X = 216,463.85

△ CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*22	464+16.88	26.10' RT.	1" IRON PIPE WITH CAP	294,034.02	217,153.54	729.60

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 114 E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (29)
PLOT DATE : 10/26/2017 4:53 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

CURVE DATA:
P.I. = STA. 465+03.02
Y = 294,040.26
X = 217,239.84
DELTA ANGLE = 06°44'14"
EXTERNAL TANGENT = 500.00'
LENGTH = 998.85'
RADIUS = 8,494.60'
P.C. = STA. 460+03.02
Y = 294,096.99
X = 216,743.07
P.T. = STA. 470+01.86
Y = 294,042.19
X = 217,739.83

END CONSTRUCTION
STA. 7+35.00
Y = 294,149.35
X = 217,547.89

DUFEK DRIVE

INLET PROTECTION TYPE D

Y = 294,260.16
X = 217,606.62
EP. 8+60.41

STA. 7+35
BUTT JOINT STATION

STA. 7+16
BUTT JOINT STATION

REMOVING CONCRETE SIDEWALK,
CONCRETE SIDEWALK 5-INCH OVER
3-INCHES BASE AGGREGATE DENSE 3/4-INCH
FOR NEW PULL BOX INSTALLATION

REMOVING CONCRETE CURB & GUTTER,
INSTALL NEW CONCRETE MEDIAN SLOPED NOSE

8+00
N27°55'17"E

W. FRONTAGE ROAD

STA. 8+02
BUTT JOINT STATION

REMOVING CONCRETE SURFACE MILLING,
SEE BUTT JOINT DETAIL FOR MILLED CONCRETE PAVEMENTS

SEE CONCRETE BASE PATCHING PLAN SHEETS

REMOVING CONCRETE CURB & GUTTER,
INSTALL NEW CONCRETE MEDIAN SLOPED NOSE

INLET PROTECTION TYPE D

PT: 470+01.86

INLET PROTECTION TYPE D

INLET PROTECTION TYPE D

CP*23

PT: 6+44.46

7+00

MATCHLINE STA. 465+00

466+00 467+00 468+00 469+00 470+00 471+00 472+00 473+00 474+00 475+00 476+00 477+00 478+00 479+00 480+00

MATCHLINE STA. 480+00

USH 151

N89°46'42"E

BM*6

6+00

REMOVING CONCRETE SIDEWALK,
CONCRETE SIDEWALK 5-INCH OVER
3-INCHES BASE AGGREGATE DENSE 3/4-INCH
FOR NEW PULL BOX INSTALLATION

INSTALL EROSION MAT URBAN CLASS I TYPE B
ON DISTURBED AREAS AFTER INSTALLING
NEW TRAFFIC SIGNAL ITEMS (TYP.)

INSTALL EROSION MAT CLASS I TYPE B
ON DISTURBED AREAS AFTER LENGTHENING
THE RIGHT TURN LANE

REPLACE CONCRETE CURB & GUTTER 2' FROM MEDIAN NOSE

CONCRETE MEDIAN SLOPED NOSE

REMOVING CONCRETE SIDEWALK,
CONCRETE SIDEWALK 5-INCH
OVER 3-INCHES BASE AGGREGATE
DENSE 3/4-INCH FOR NEW PULL
BOX INSTALLATION

5+00

STA. 467+54.18 = STA. 6+16.56
Y = 294,044.84
X = 217,492.17

STA. 471+94
EXISTING 15" CMCP TO REMAIN (53 LF)
1 EACH - CLEANING CULVERT PIPES
1 EACH - MARKERS CULVERT END (RT)

4+00

OVERLAY ISLAND CONCRETE CURB & GUTTER PAN

INSTALL EROSION MAT CLASS I TYPE B ON DISTURBED AREAS
AFTER LENGTHENING THE RIGHT TURN LANE

74 RT.

REMOVE EXISTING CORRUGATED MEDIAN
(PAID FOR UNDER BID ITEM "REMOVING
CONCRETE SURFACE MILLING")

SLOPE INTERCEPTS (TYP.)

STA. 475+60
EXISTING 18" CMCP TO REMAIN (92 LF)
1 EACH - CLEANING CULVERT PIPES
1 EACH - MARKERS CULVERT END (RT)

INLET PROTECTION TYPE D

3+00

HECKER ROAD

REMOVING CONCRETE CURB & GUTTER,
INSTALL NEW CONCRETE MEDIAN SLOPED NOSE

REMOVE EXISTING CORRUGATED MEDIAN
(PAID FOR UNDER BID ITEM "REMOVING
CONCRETE SURFACE MILLING")

2+00
N44°59'51"E

INLET PROTECTION TYPE A

CURVE DATA:
P.I. = STA. 4+52.19
Y = 293,896.90
X = 217,414.11
DELTA ANGLE = 17°04'34"
EXTERNAL TANGENT = 195.17'
LENGTH = 387.44'
RADIUS = 1,300.00'
P.C. = STA. 2+57.02
Y = 293,758.89
X = 217,276.11
P.T. = STA. 6+44.46
Y = 294,069.35
X = 217,505.50

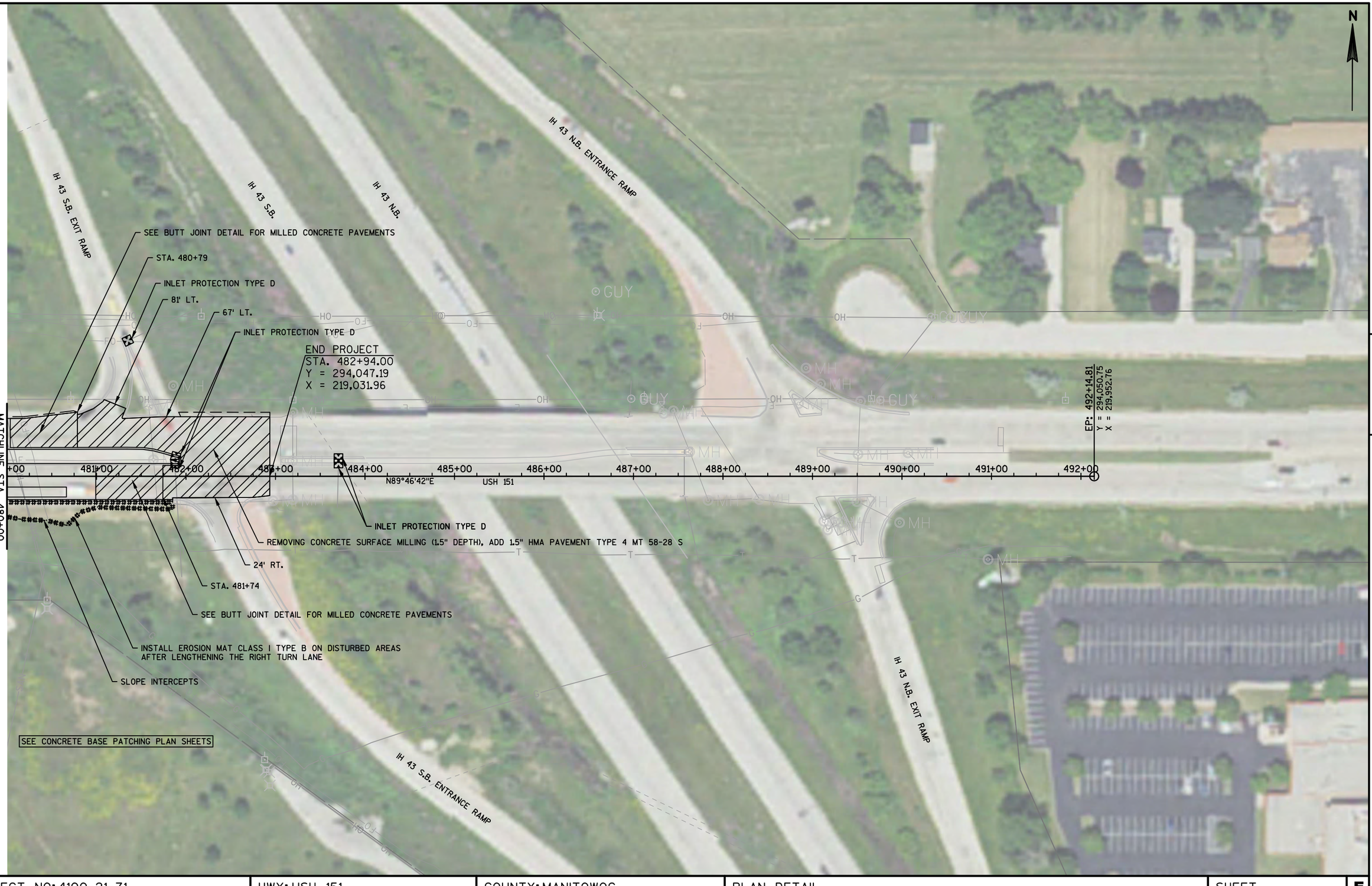
CONTROL POINTS

NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
CP*23	473+95.84	71.22' LT.	1" IRON PIPE WITH CAP	294,114.93	218,133.53	720.22

BENCHMARKS

NO.	STATION	LOCATION	DESCRIPTION	ELEV.
BM*6	470+53.94	31.36' RT.	S.W. BURY BOLT ON HYDRANT	725.02

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET 115 E



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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PLAN DETAIL	SHEET	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\100 SCALE OVERVIEW SHEETS.DWG
LAYOUT NAME - 100 SCALE OVERVIEW SHEETS - SHEET - (31)

PLOT DATE : 10/26/2017 4:53 PM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

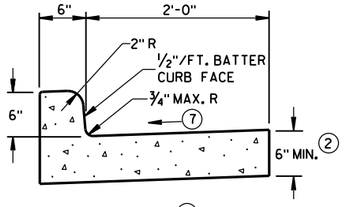
08D01-20A	CONCRETE CURB & GUTTER
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09B02-10	CONDUIT
09B04-11	PULL BOX
09B16-01	PULL BOX NON-CONDUCTIVE
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-14B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
11B02-02	CONCRETE MEDIAN NOSE
13A10-01A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
13C15-06A	CONCRETE BASE
13C15-06B	CONCRETE BASE
13C18-06B	CONCRETE PAVEMENT STEEL REINFORCEMENT
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B28-03	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C08-18B	PAVEMENT MARKING (TURN LANES)
15C09-11A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-04	MEDIAN ISLAND MARKING
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-05C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C21-08	SIGNING AND MARKING FOR TWO LANE TO FOUR LANE DIVIDED TRANSITIONS
15C27-02A	DOUBLE ARROW WARNING SIGN PLACEMENT
15C27-02B	PAVEMENT MARKING (ISLANDS)
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D12-06B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-05	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-03	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

6

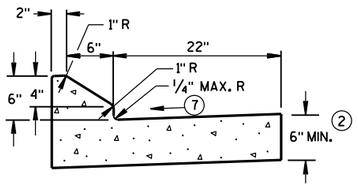
Standard Detail Drawing List

15D40-01 TRAFFIC CONTROL, LANE SHIFT, MULTILANE DIVIDED OR ONE WAY ROAD

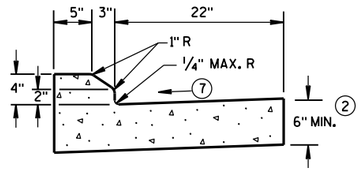
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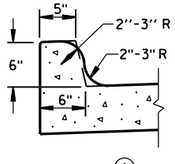
TYPES A (1) & D



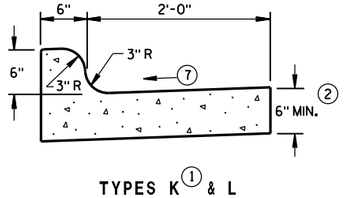
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

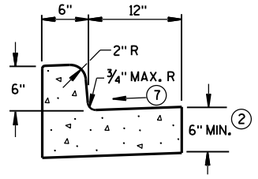


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



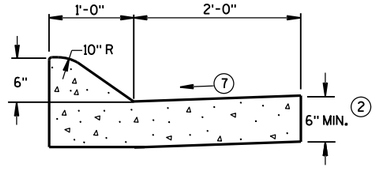
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

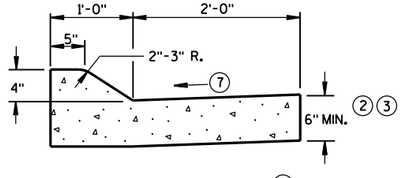


TYPES A (1) & D

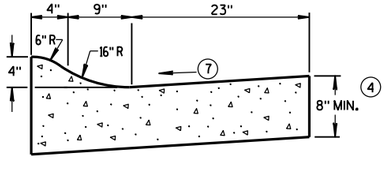
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

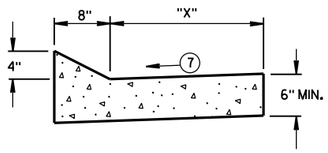


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS 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 & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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 GUTTER 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.

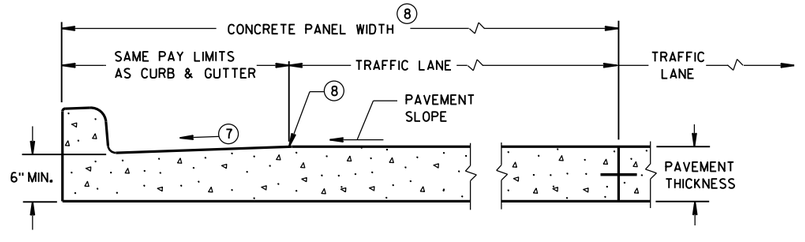
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(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.

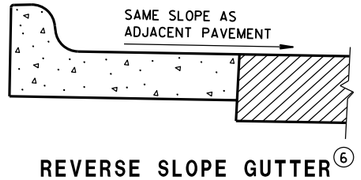
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.



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

CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

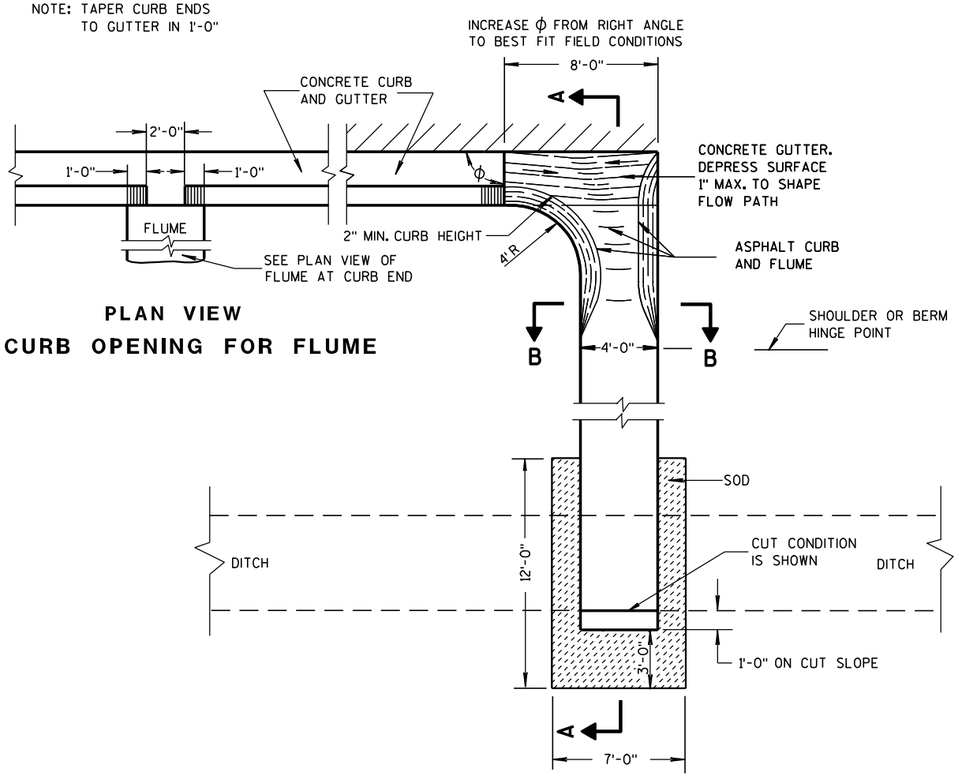
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S.D.D. 8 D 1-20a

6

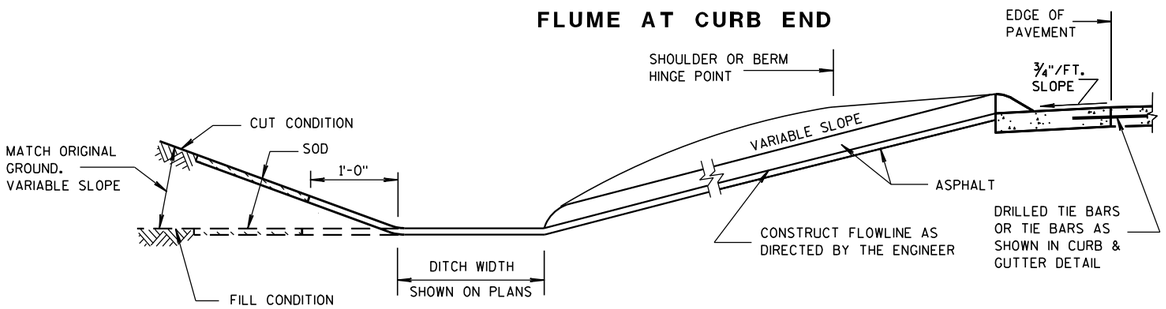
S.D.D. 8 D 1-20a

ASPHALTIC FLUME

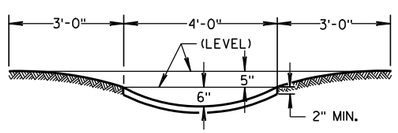


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

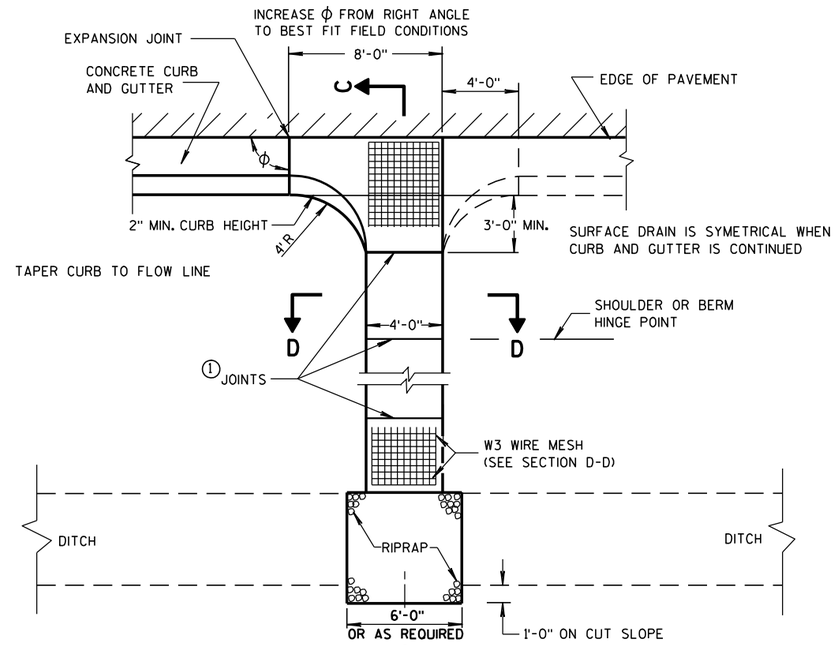
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

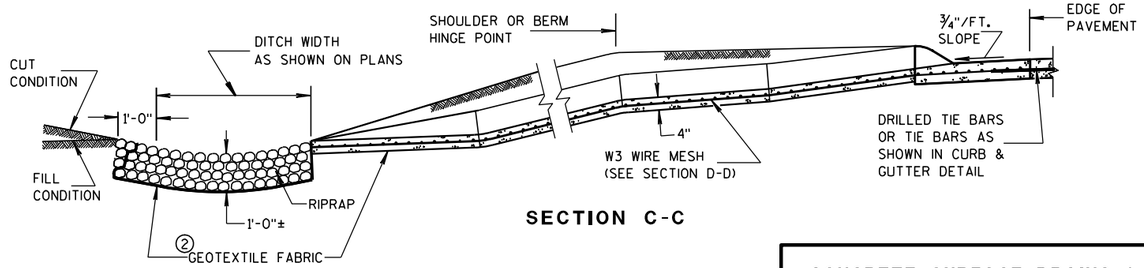
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

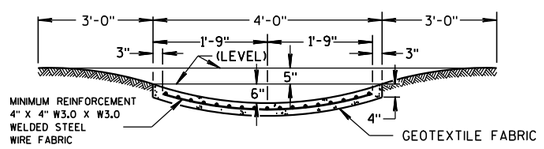
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

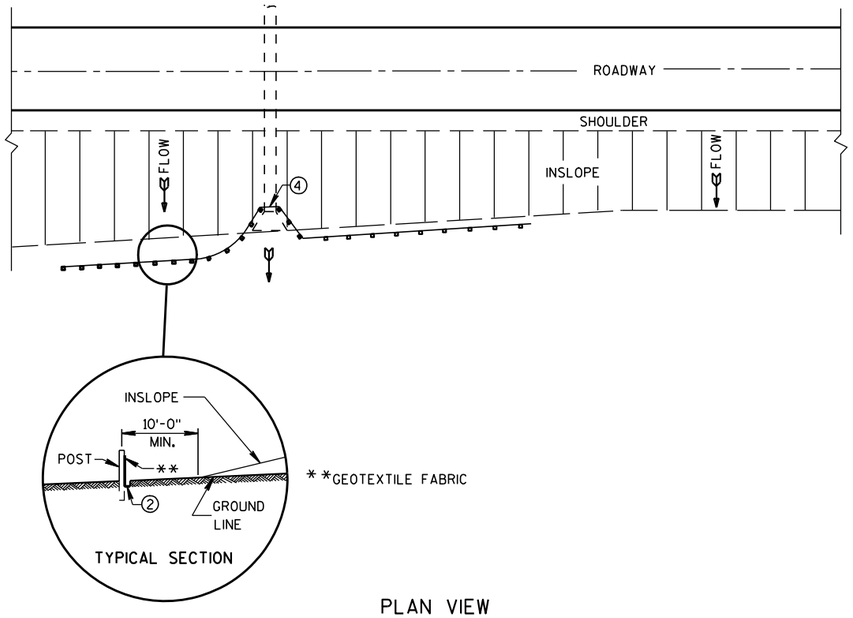
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA

6

S.D.D. 8 D 4-5

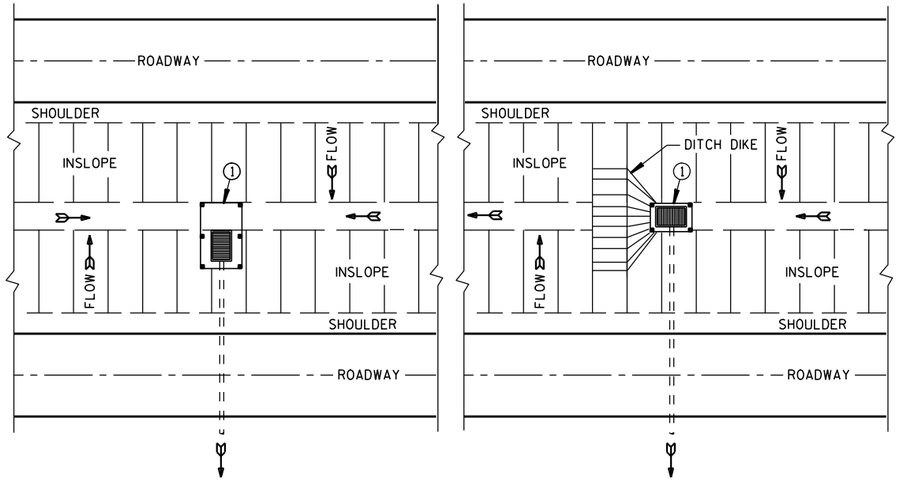
6

S.D.D. 8 D 4-5



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



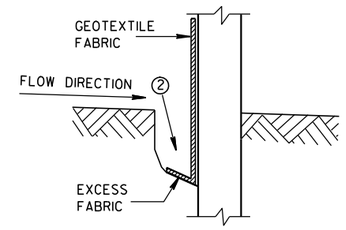
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

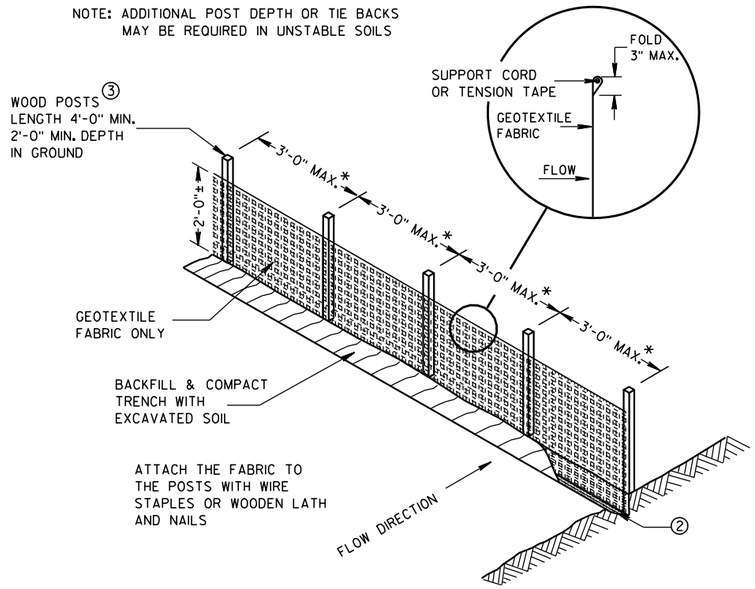
GENERAL NOTES

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

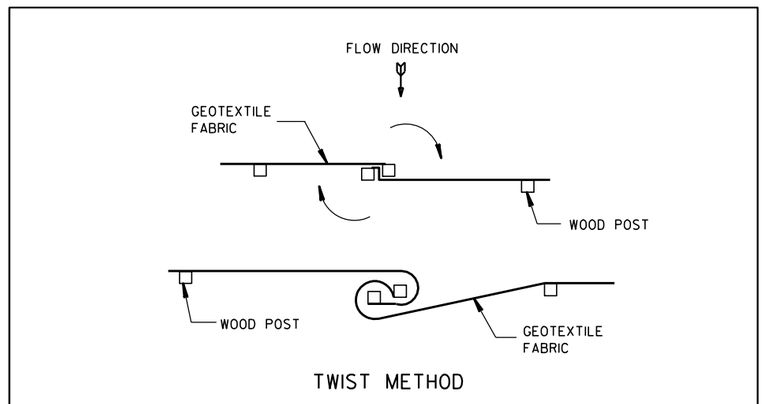
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



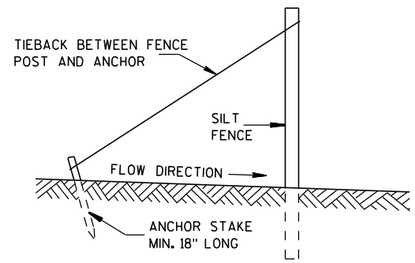
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

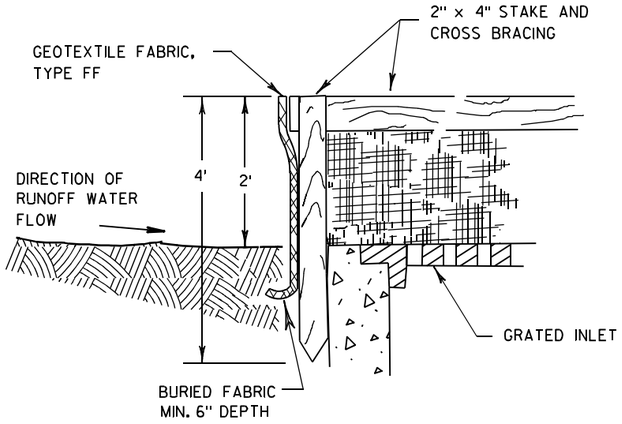
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

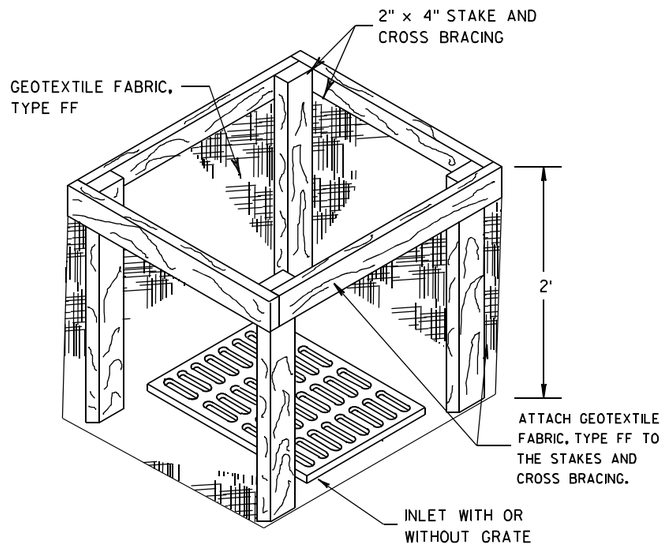
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S.D.D. 8 E 9-6

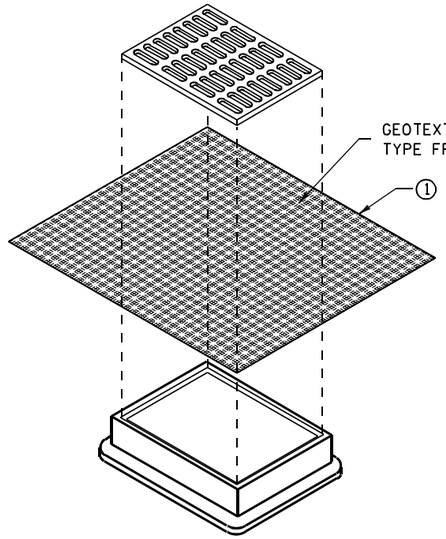
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S.D.D. 8 E 9-6



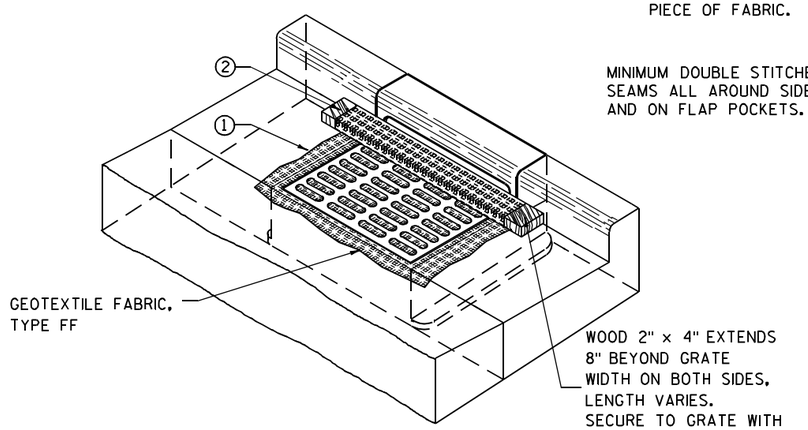


INLET PROTECTION, TYPE A

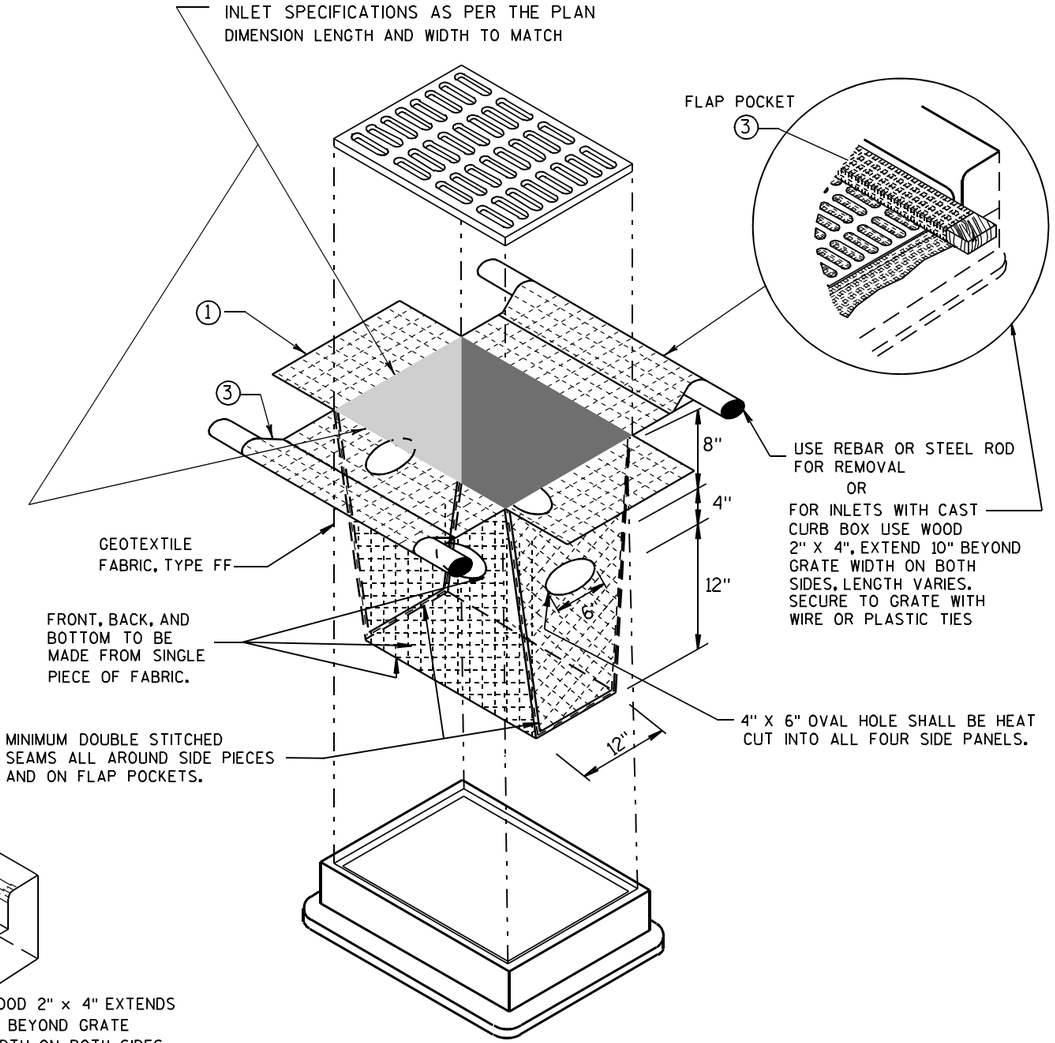


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2

METAL APRON ENDWALLS

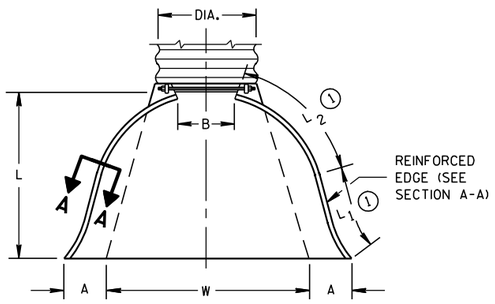
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

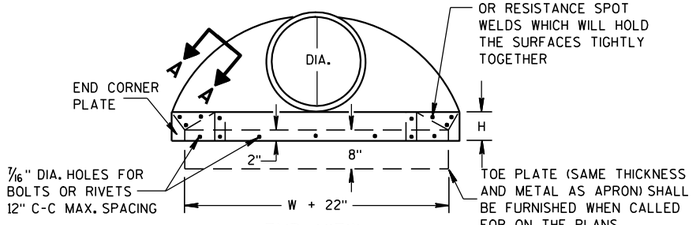
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

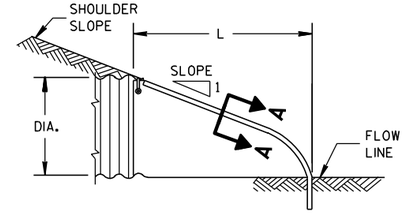
*MINIMUM
**MAXIMUM



PLAN VIEW

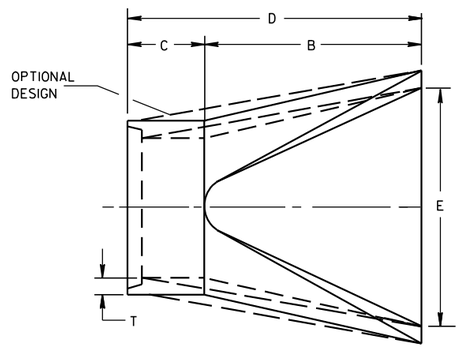


END VIEW

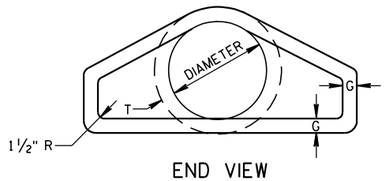


SIDE ELEVATION

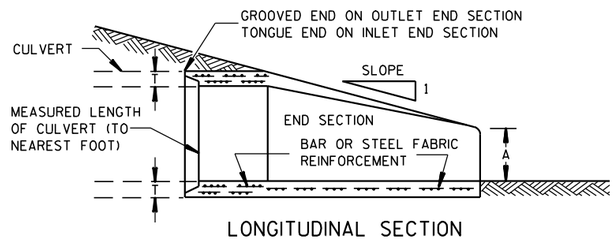
METAL ENDWALLS



PLAN

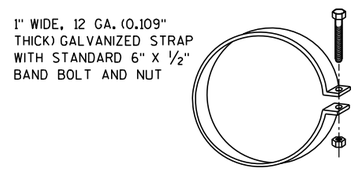


END VIEW



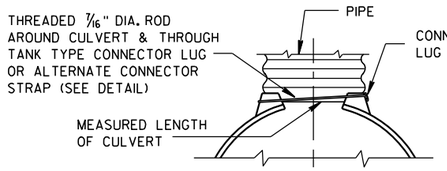
LONGITUDINAL SECTION

CONCRETE ENDWALLS

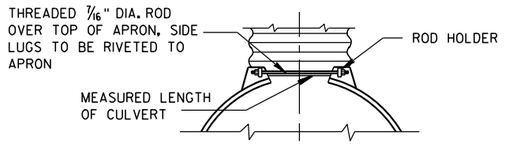


ALTERNATE FOR TYPE 1 CONNECTION

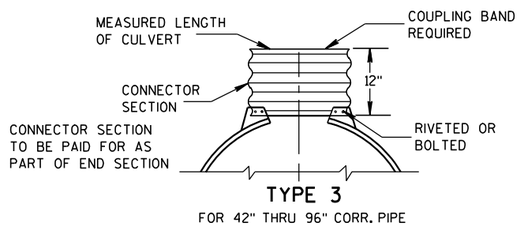
END SECTION CONNECTOR STRAP



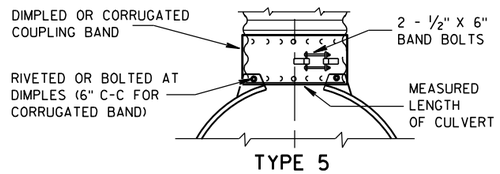
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

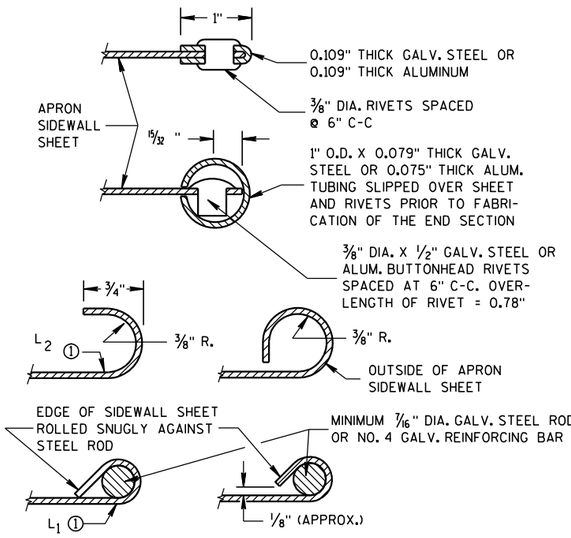
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

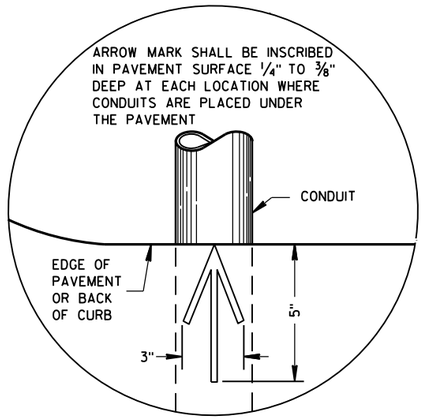
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

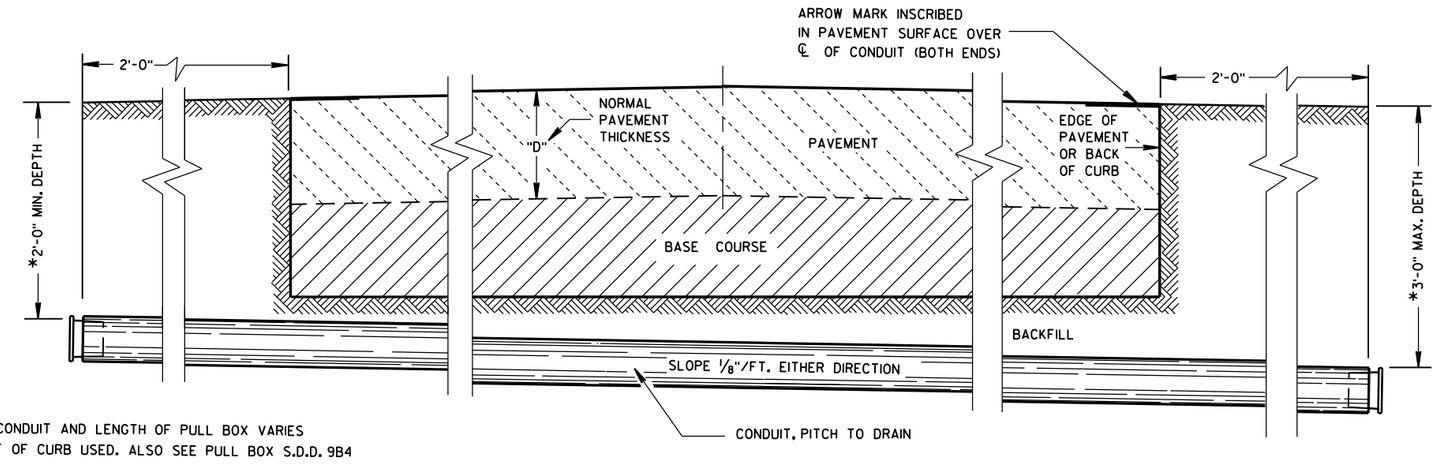
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 1-11



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

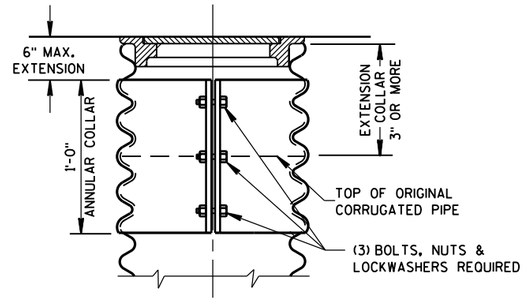
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

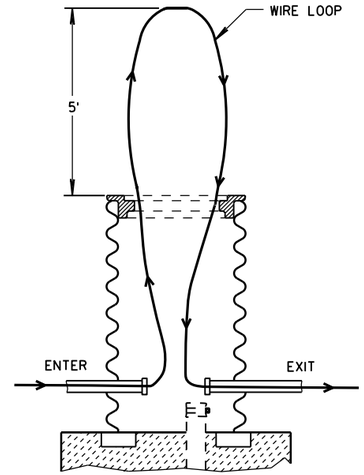
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

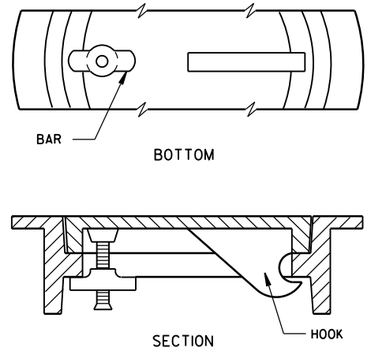
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

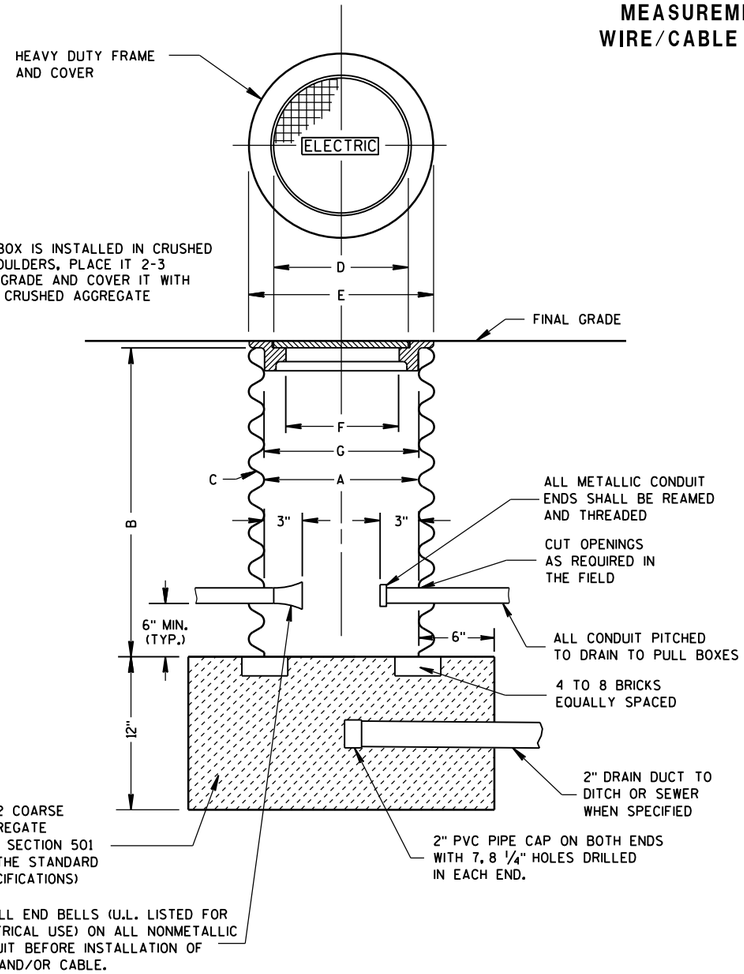


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



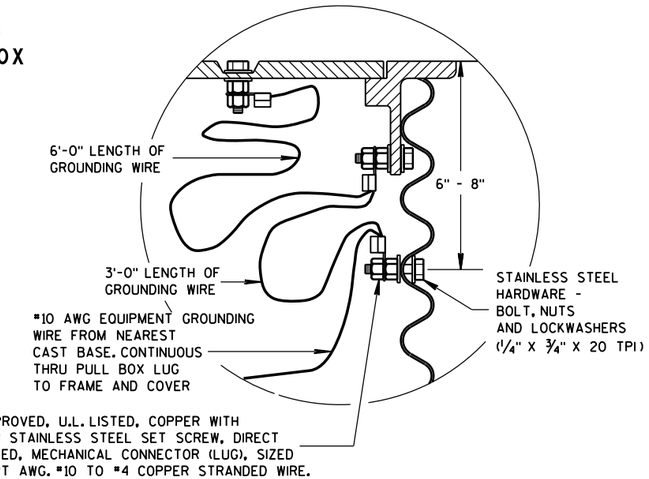
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

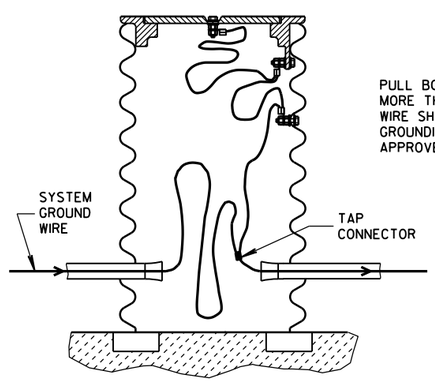
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 4-11

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN 1/4".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

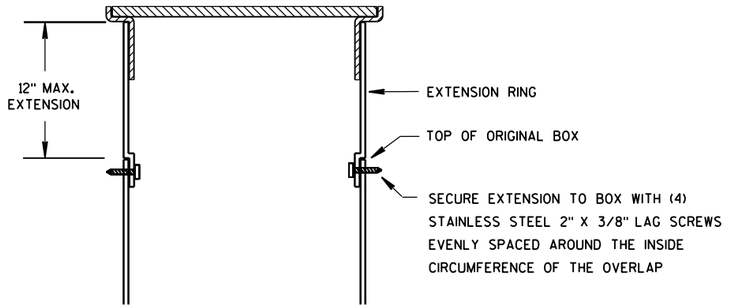
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

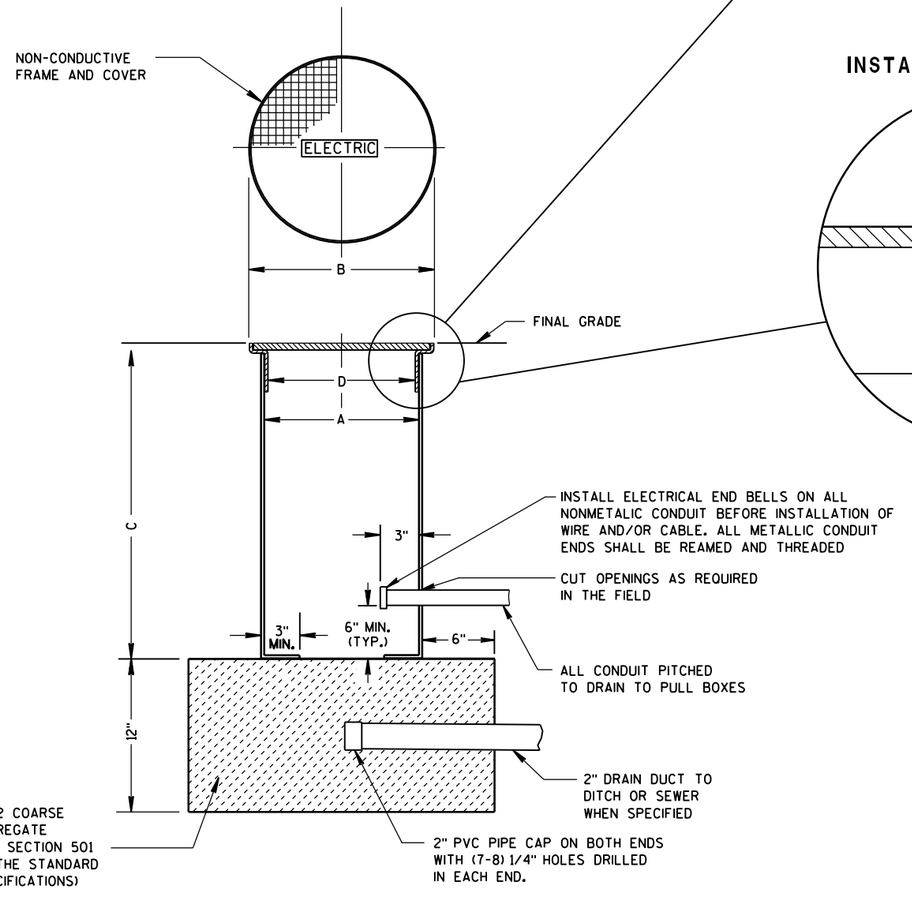
ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.

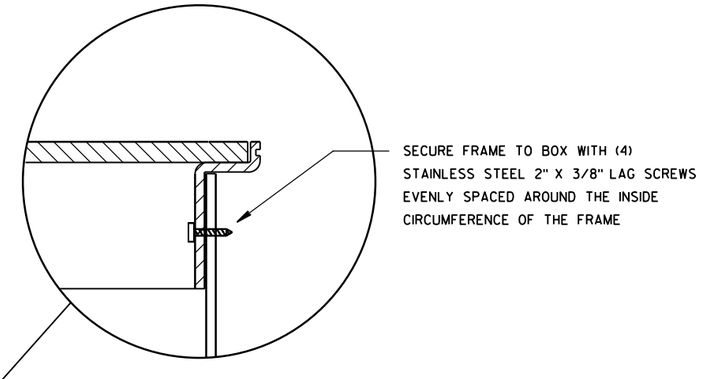


BOX EXTENSION

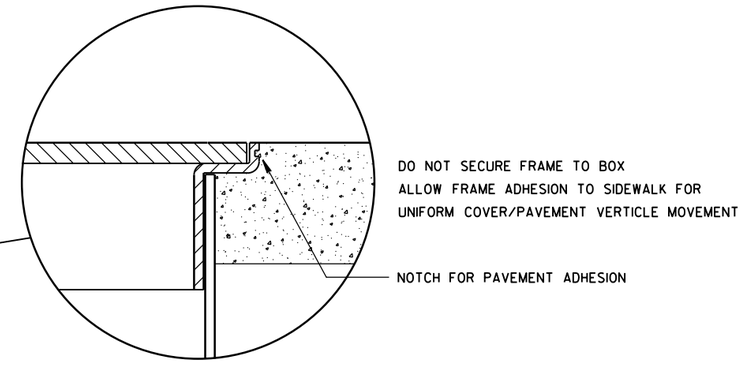


NON-CONDUCTIVE PULL BOX

INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK



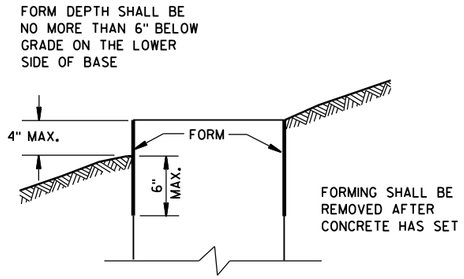
PULL BOX NON-CONDUCTIVE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 9 B 16-1



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

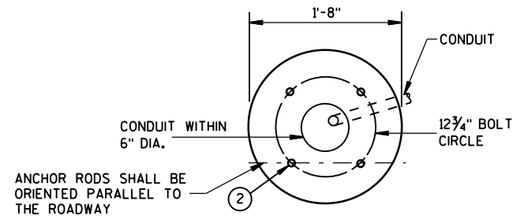
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

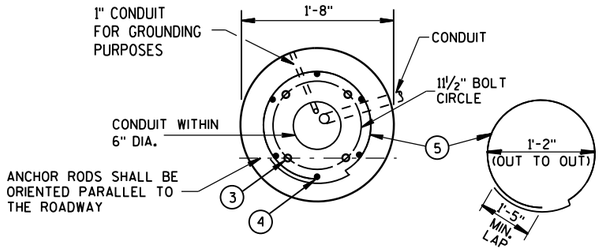
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

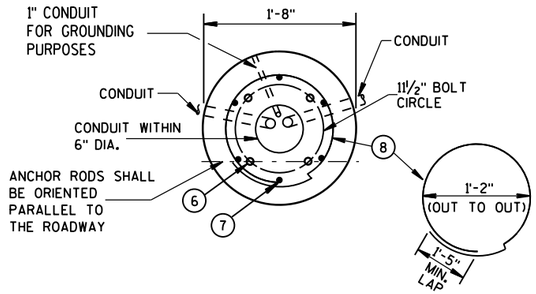
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

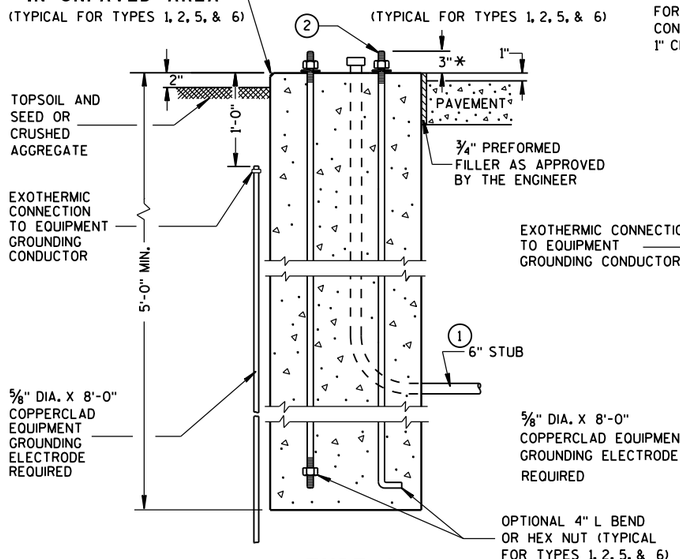




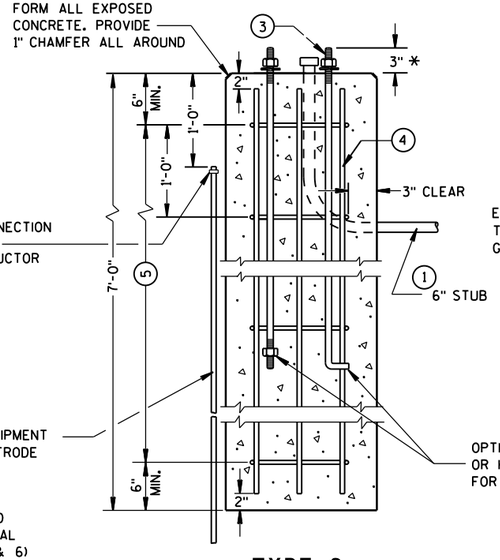


HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

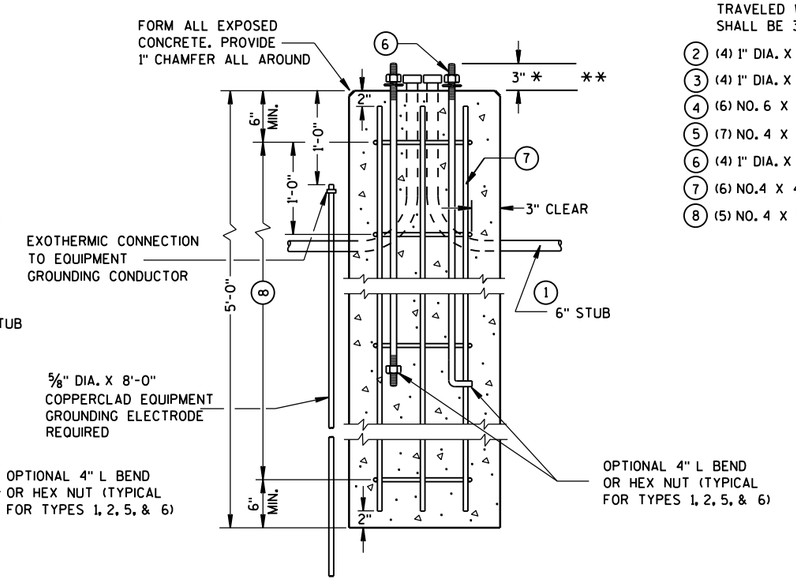
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 1



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL

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GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

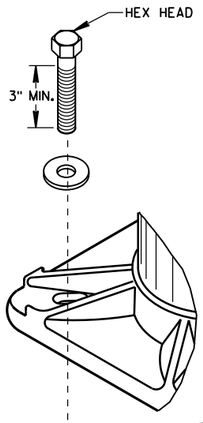
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

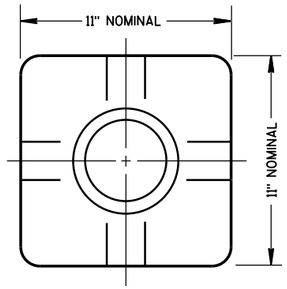
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

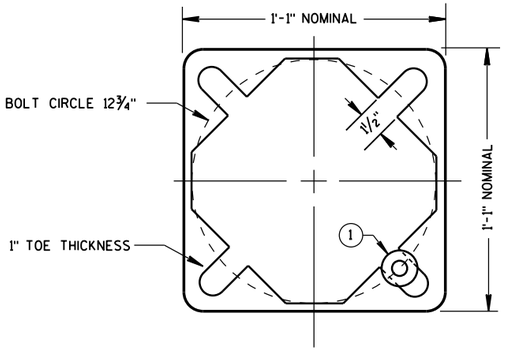
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

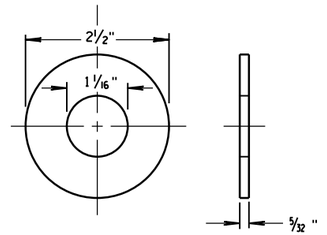




TOP VIEW
(PEDESTAL BASE)

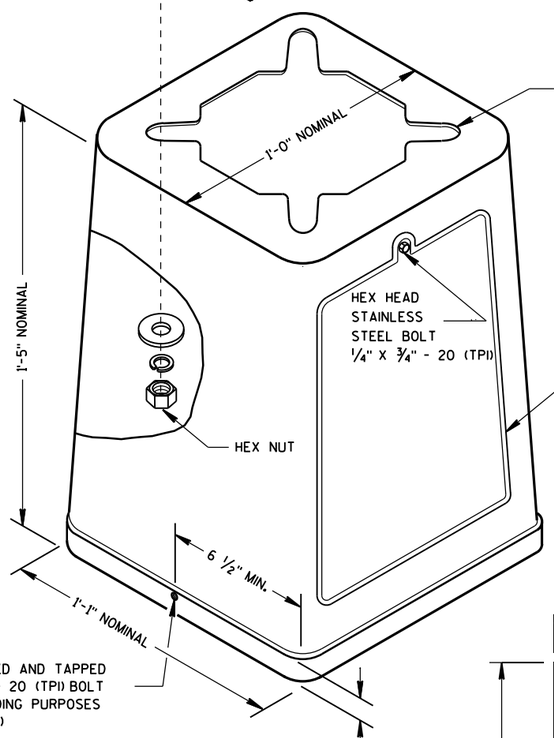


BOTTOM VIEW
(PEDESTAL BASE)

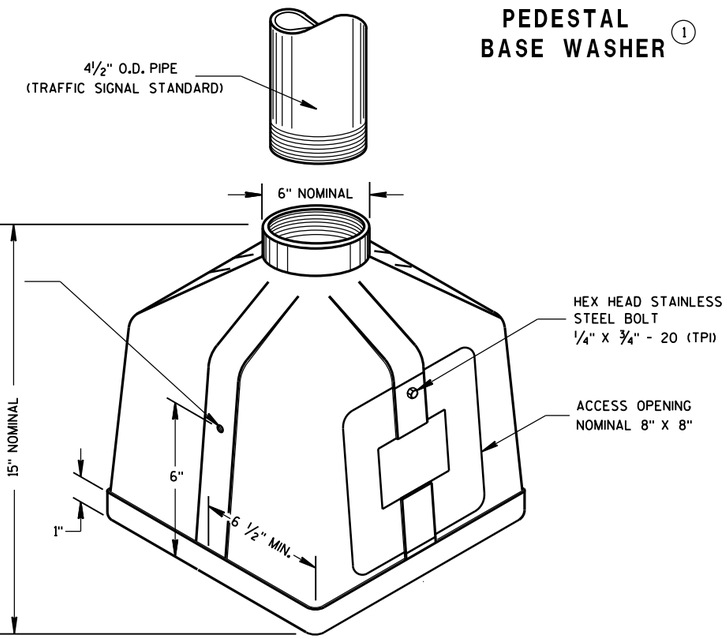


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

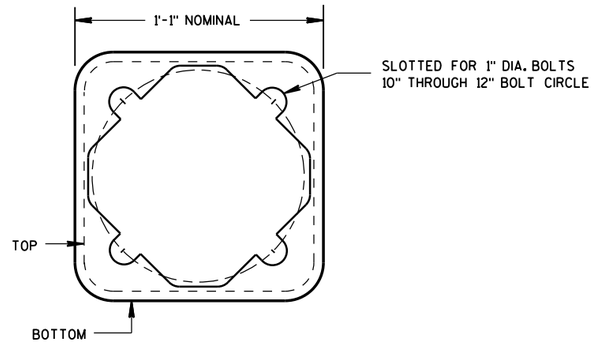


ISOMETRIC VIEW

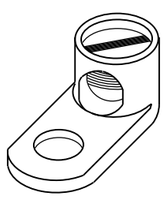


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

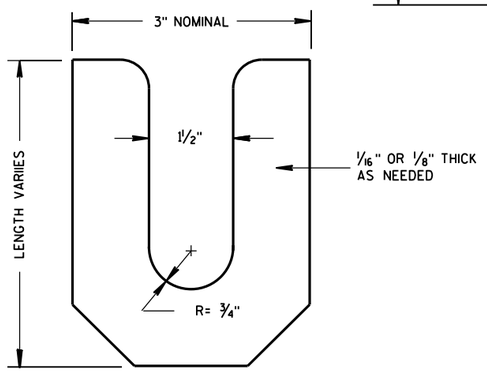


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

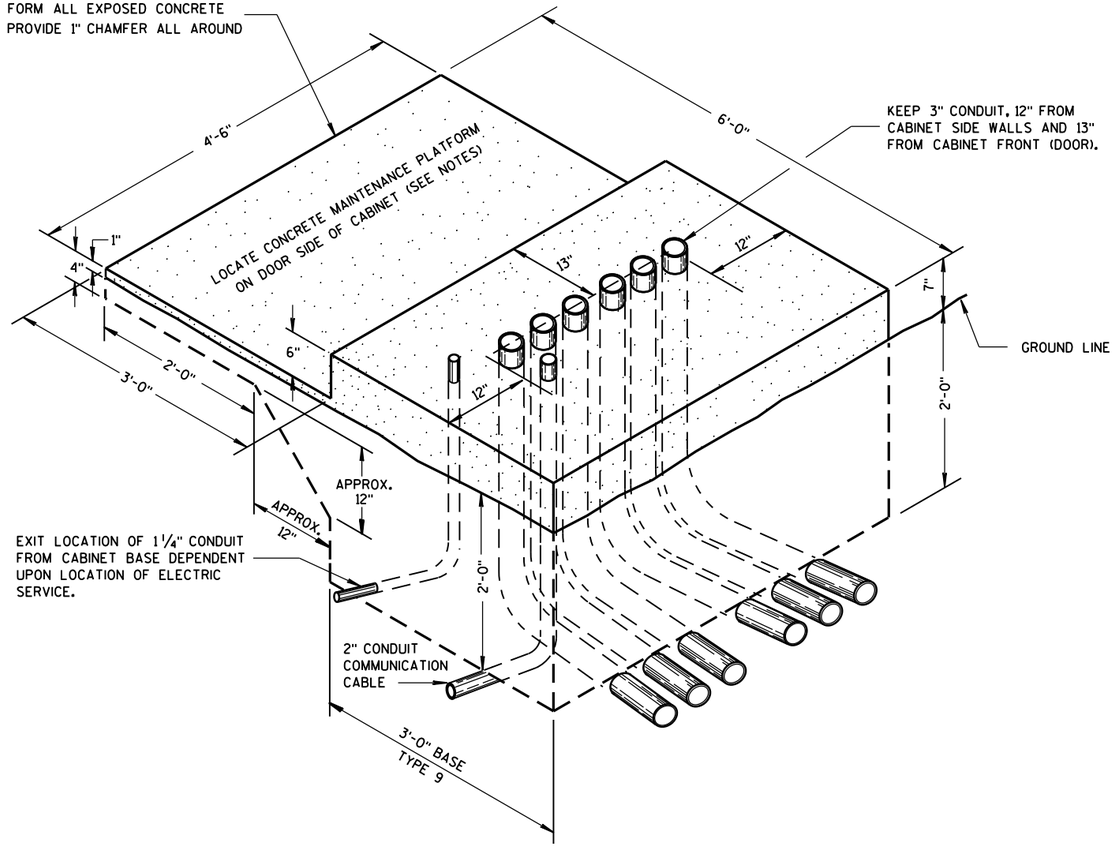
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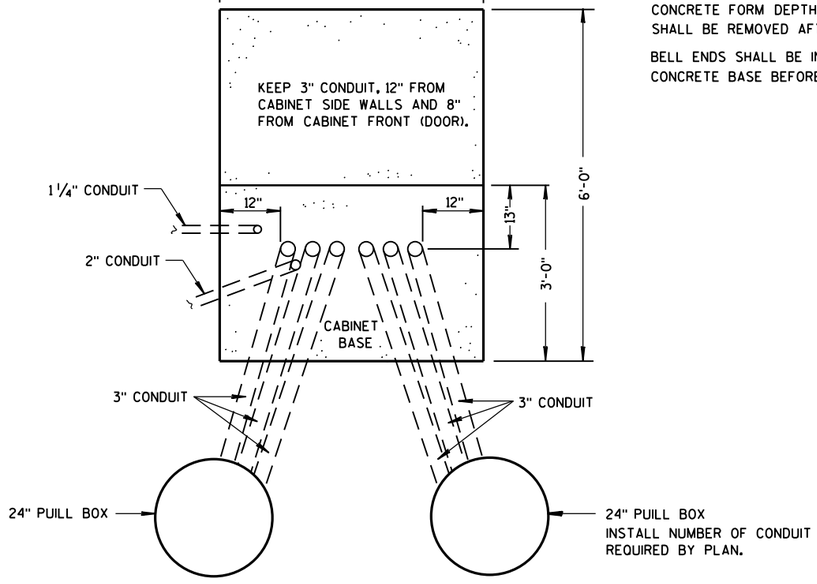
S.D.D. 9 C 3-4



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

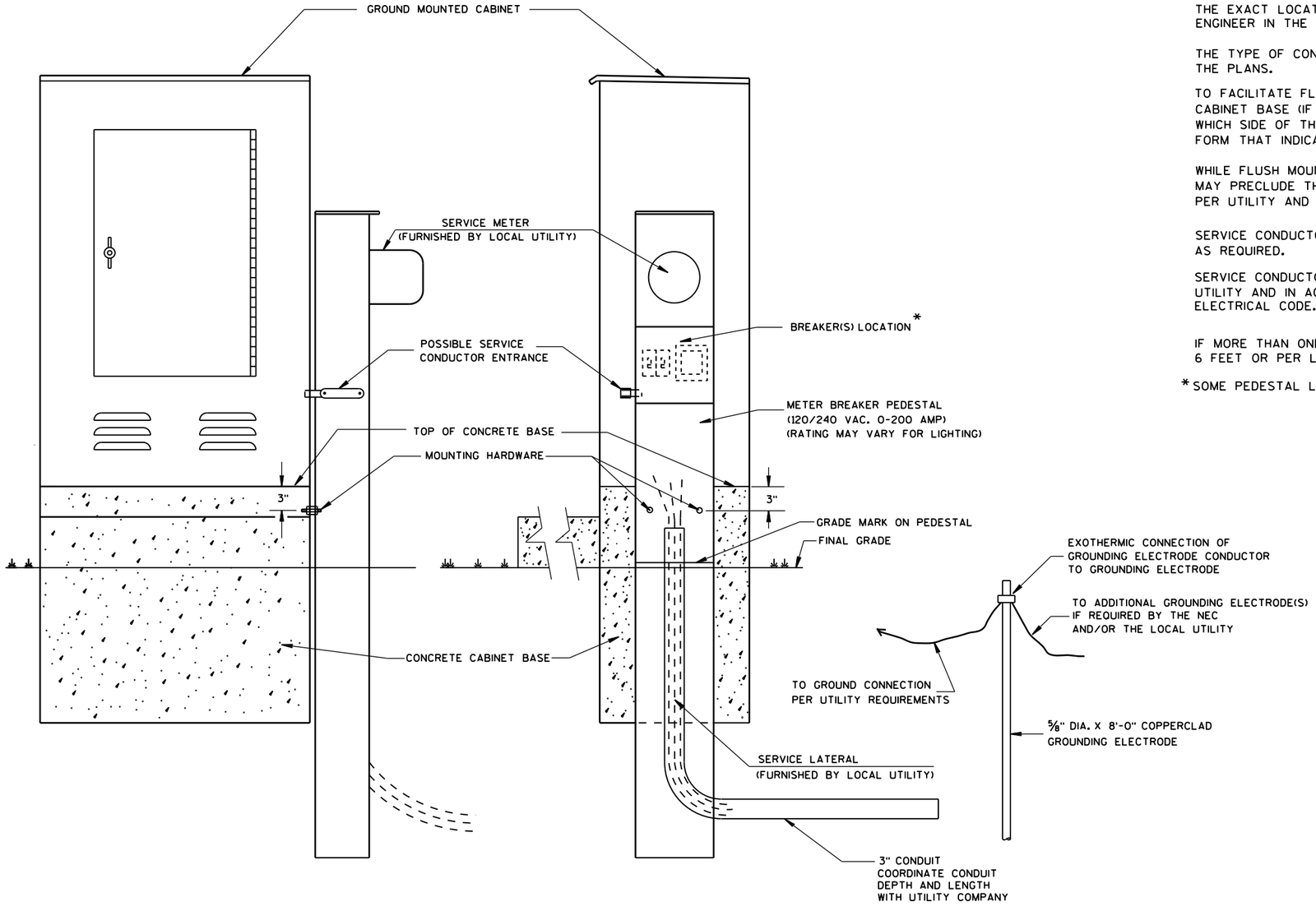
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

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TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

*SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

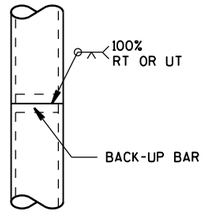
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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FHWA

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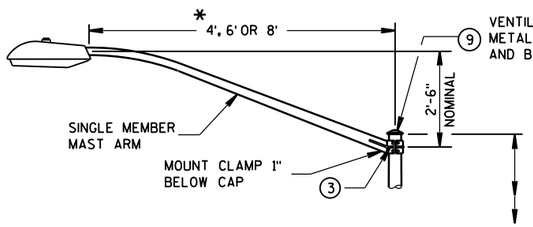
FOR MANUFACTURERS USE ONLY

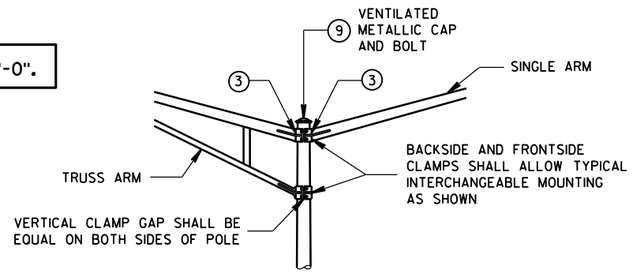
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



POLE SPLICE DETAIL

* RISE FOR 4' ARM SHALL BE 2'-0".

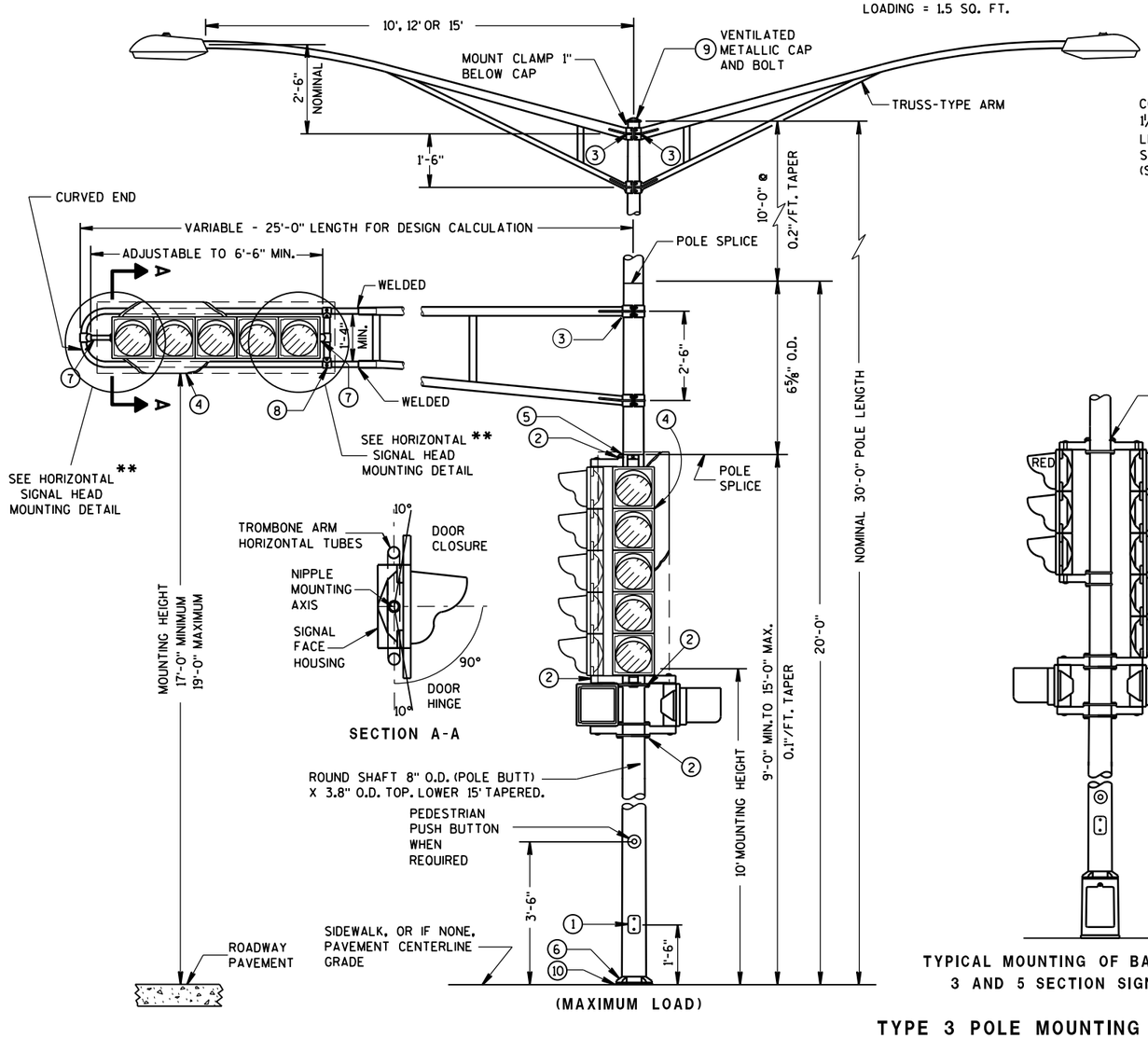


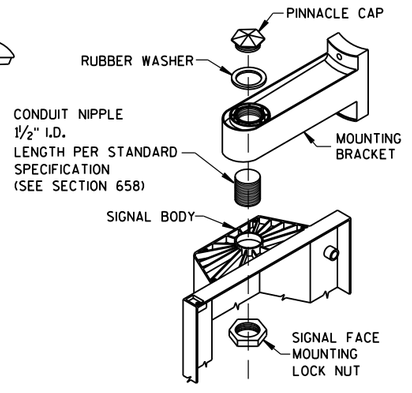


INTERCHANGEABLE MOUNTING DETAIL

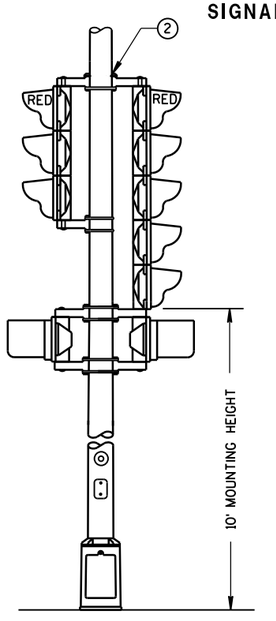
LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

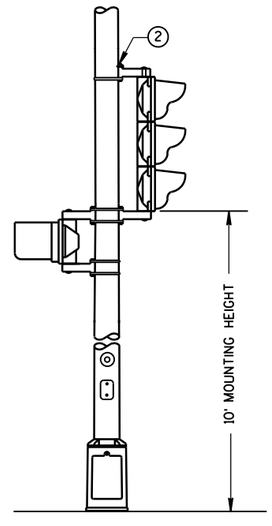




SIGNAL FACE MOUNTING DETAIL
(BANDED)



TYPICAL MOUNTING OF BACK TO BACK
3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.

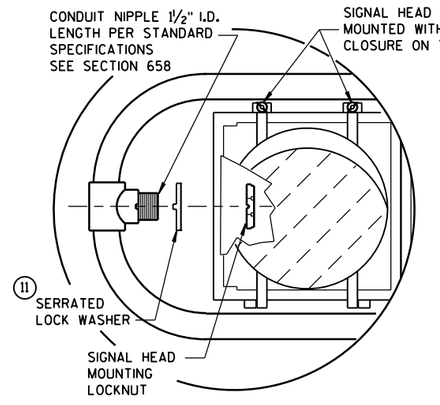
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4 " X ¾" -20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL **

** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

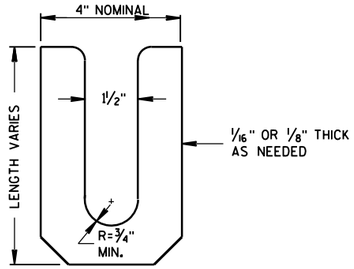
TYPE 3 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)

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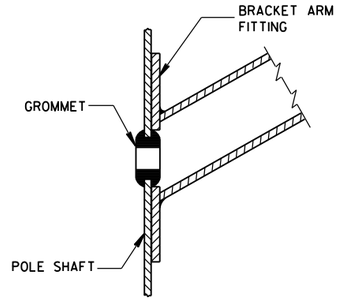
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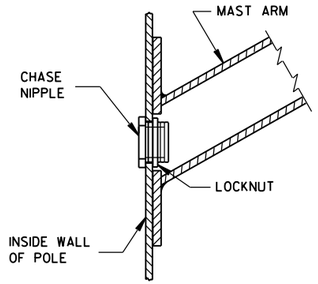


LEVELING SHIM (13)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

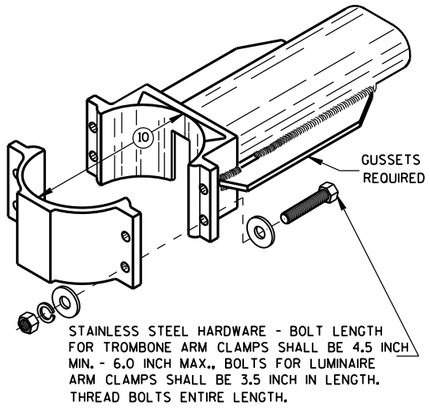
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

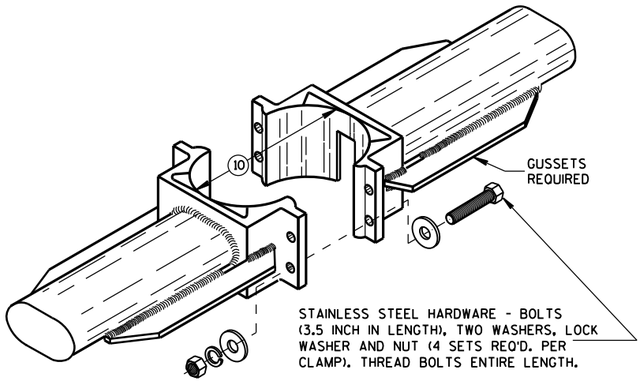
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

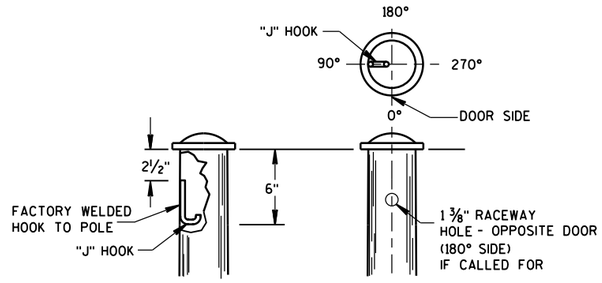
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



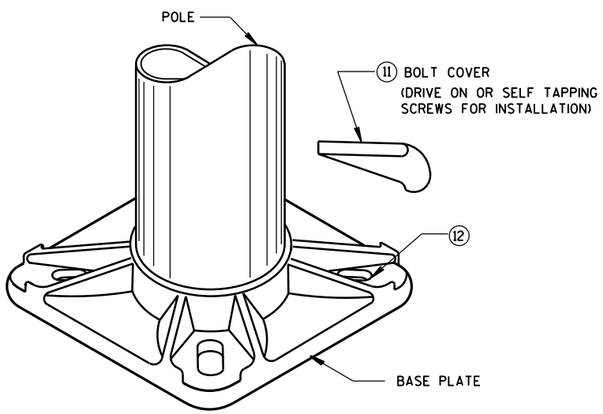
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



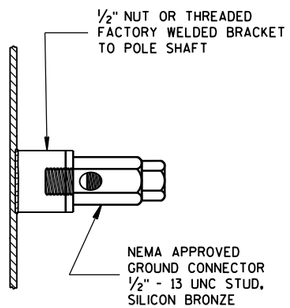
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

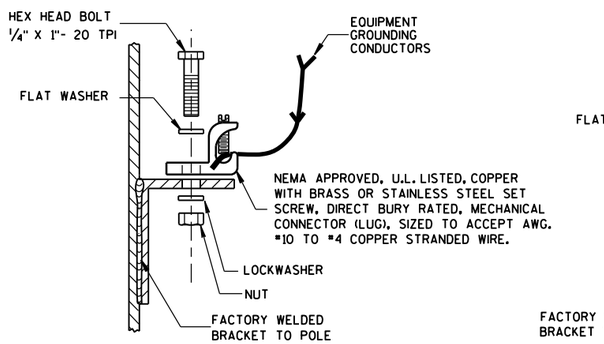


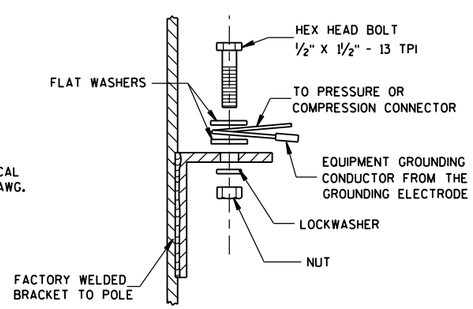
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

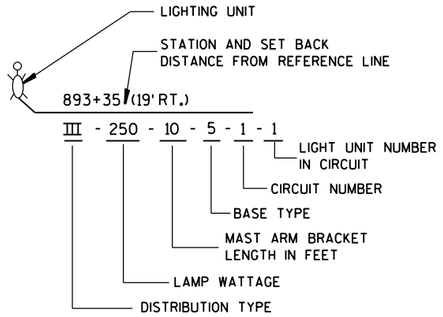
HARDWARE DETAILS FOR POLE MOUNTINGS

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DEPARTMENT OF TRANSPORTATION

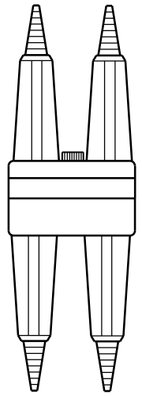
APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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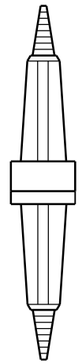
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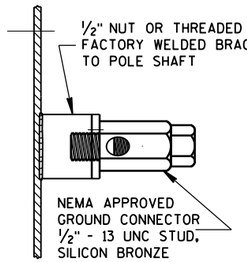
LIGHTING UNIT CODE
(TYPICAL)

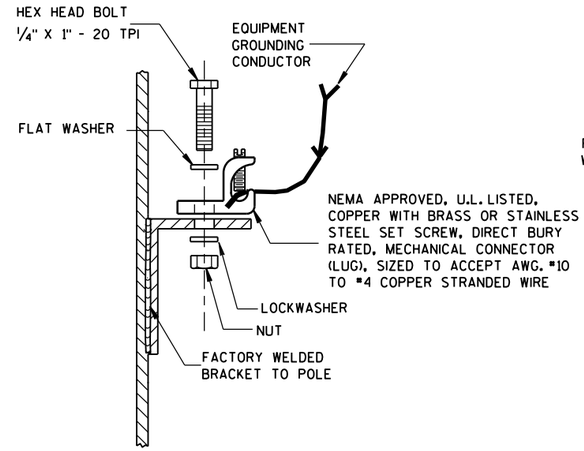


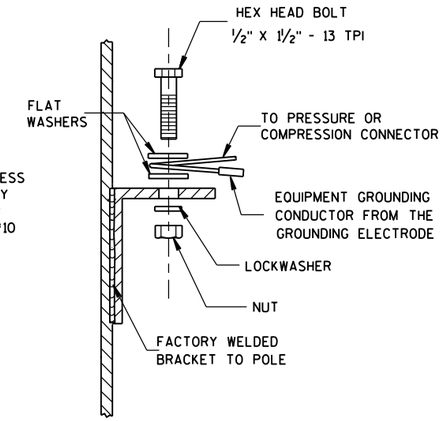
DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



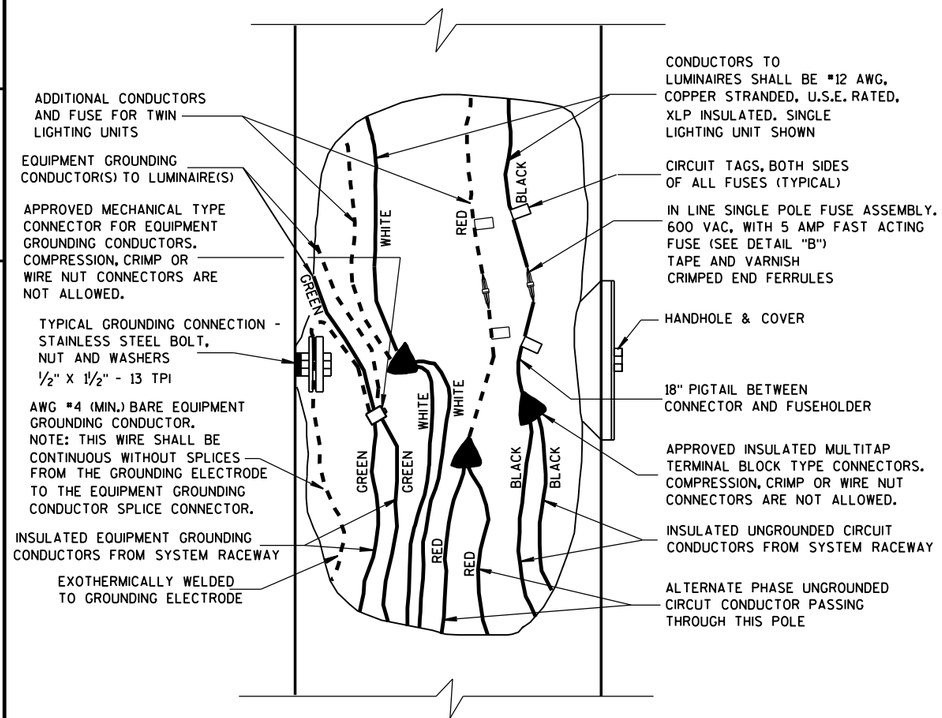
DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



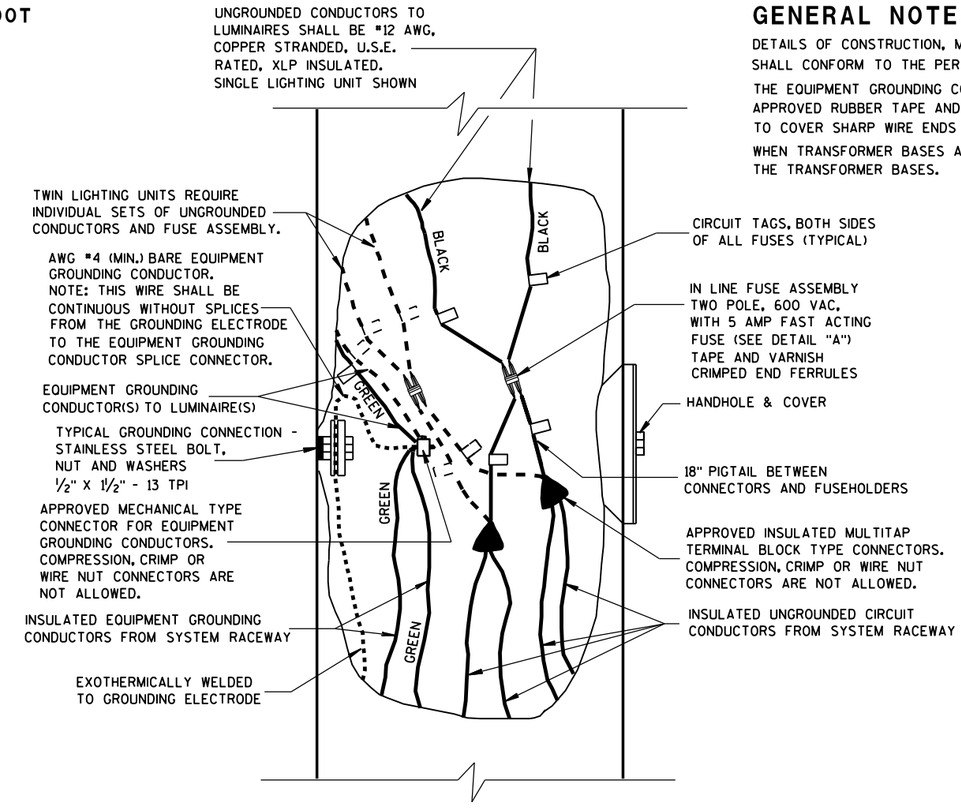




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

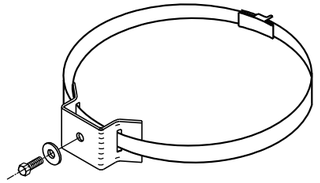
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

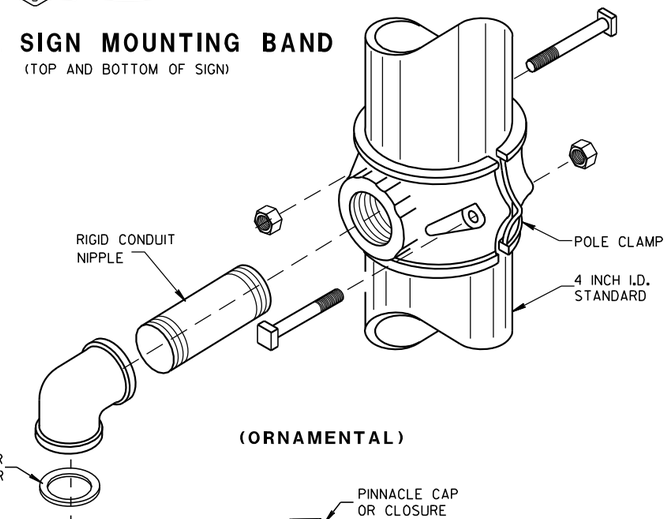
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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Sept. 2014 — DATE
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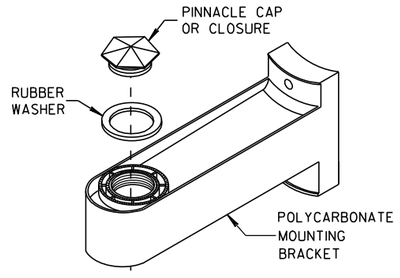
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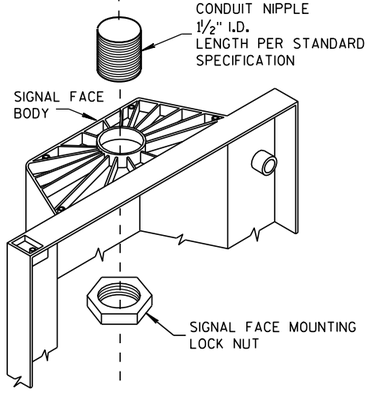
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



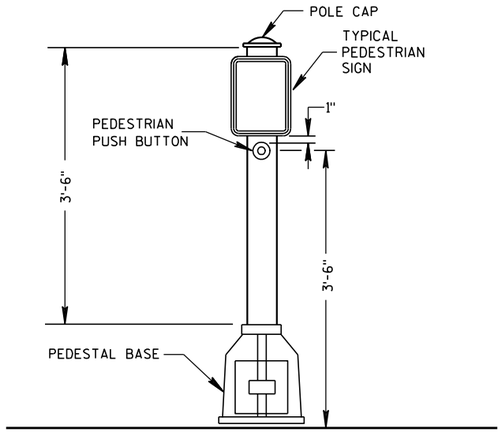
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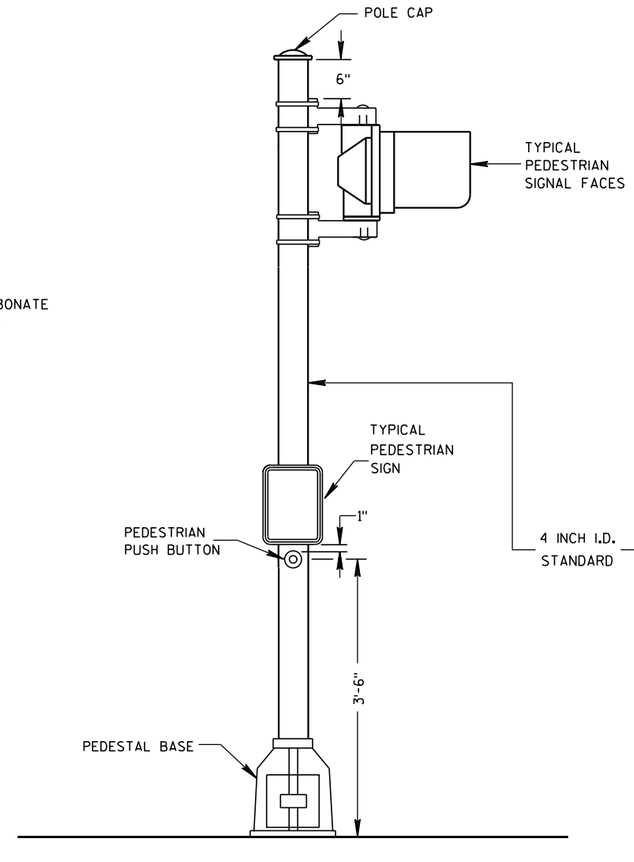
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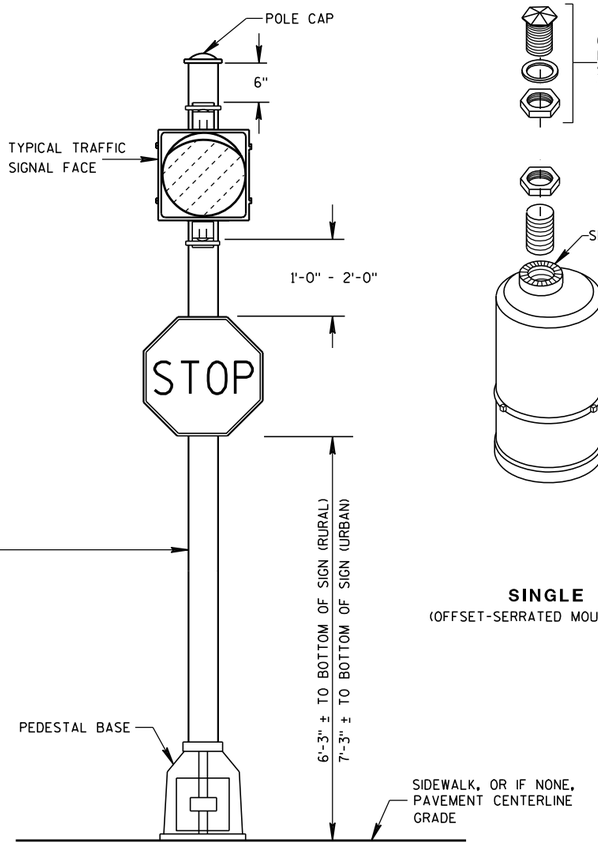
SIGNAL FACE MOUNTING DETAILS



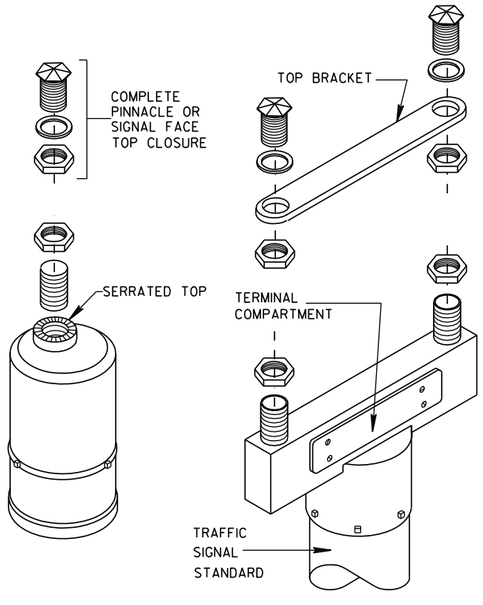
PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

TRAFFIC SIGNAL STANDARD
PEDESTRIAN AND FLASHER
TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/11/10
DATE

/S/ John Corbin
STATE ELECTRICAL ENGI

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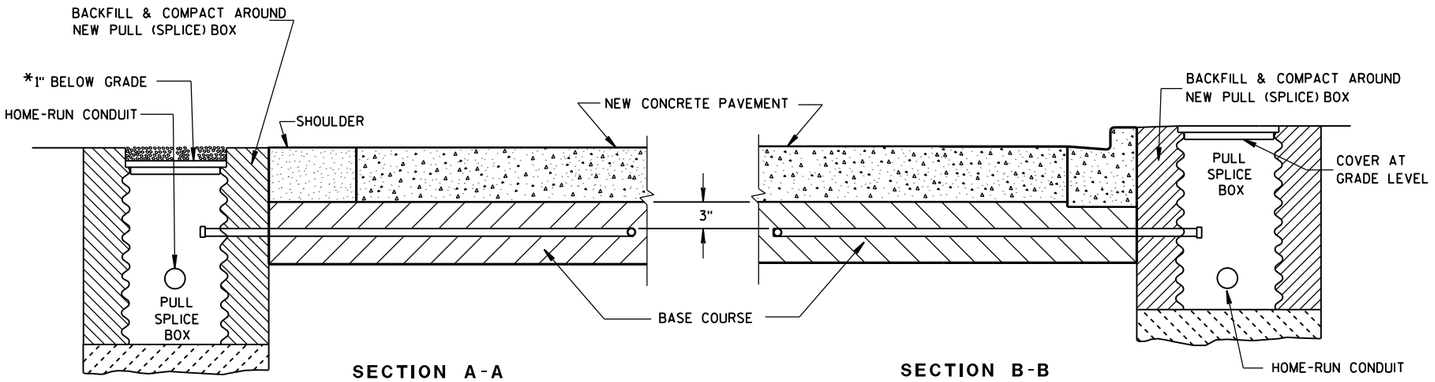
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SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

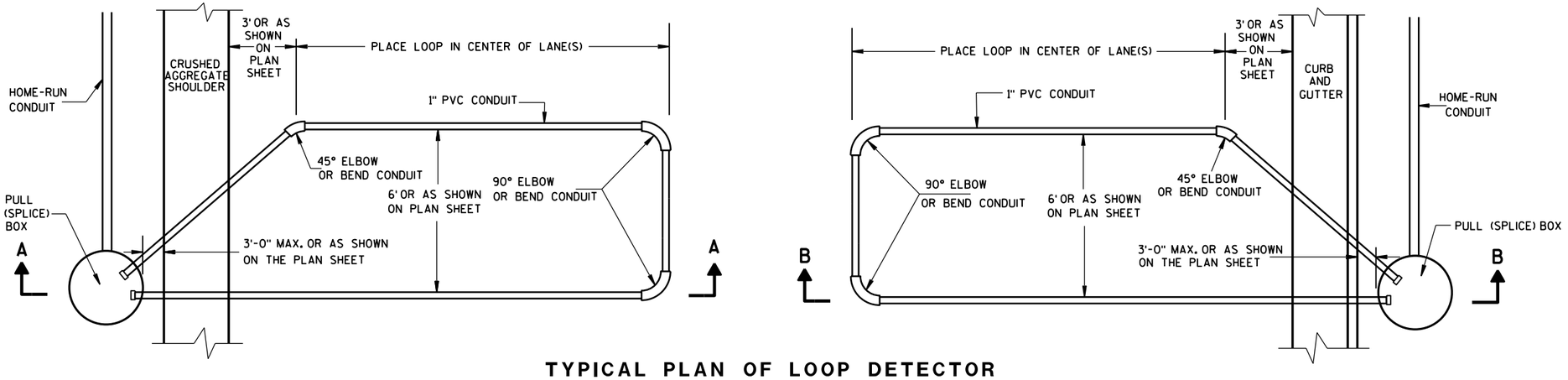
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

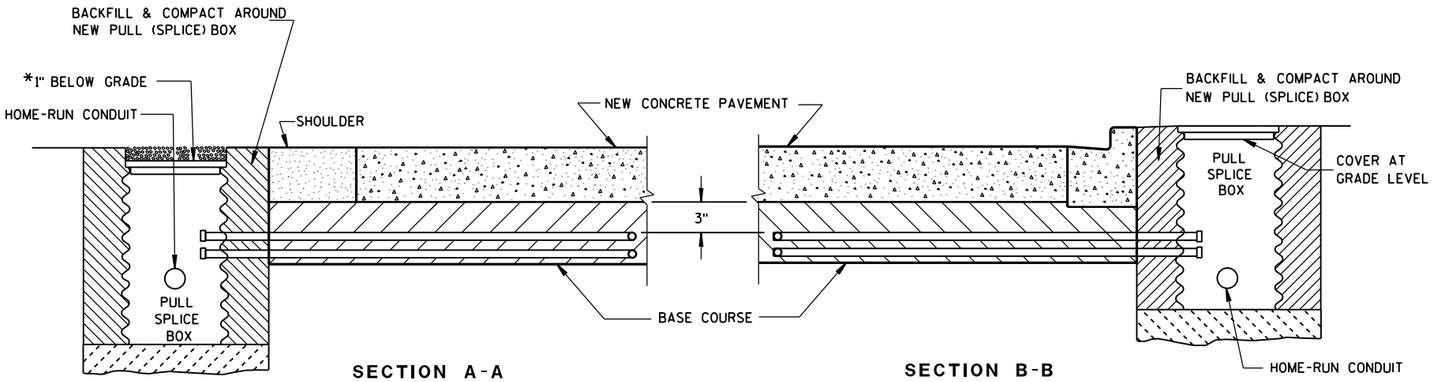
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 F 15-4a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

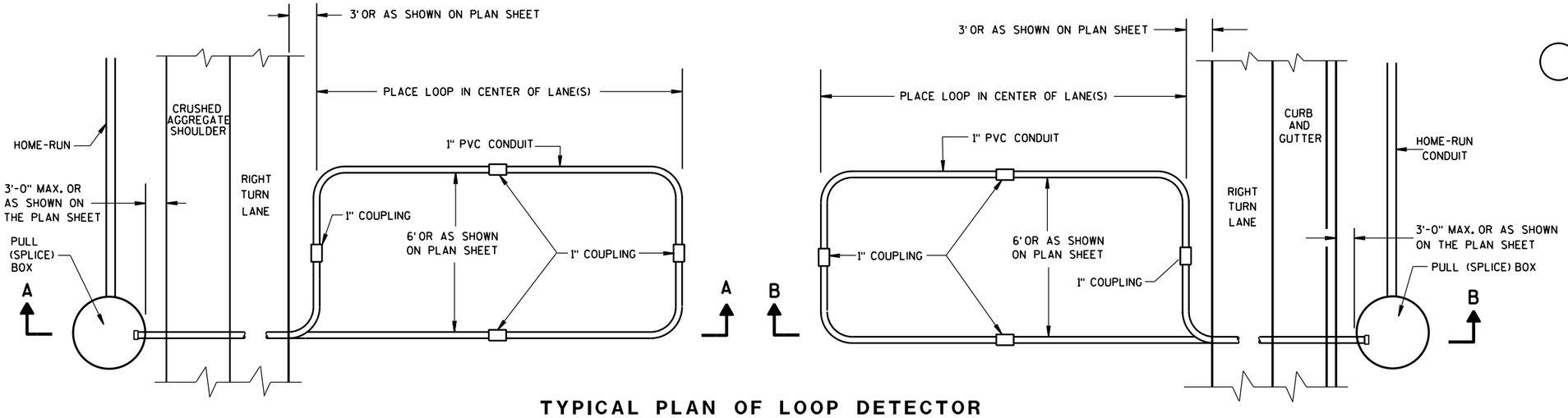
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

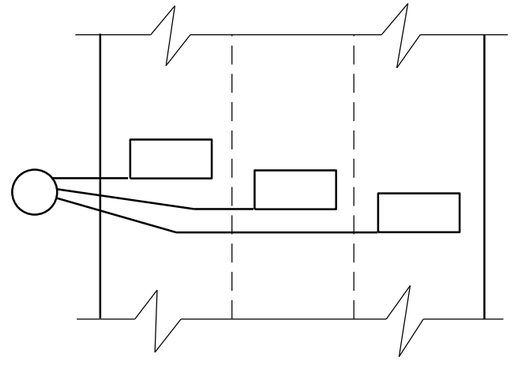
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.

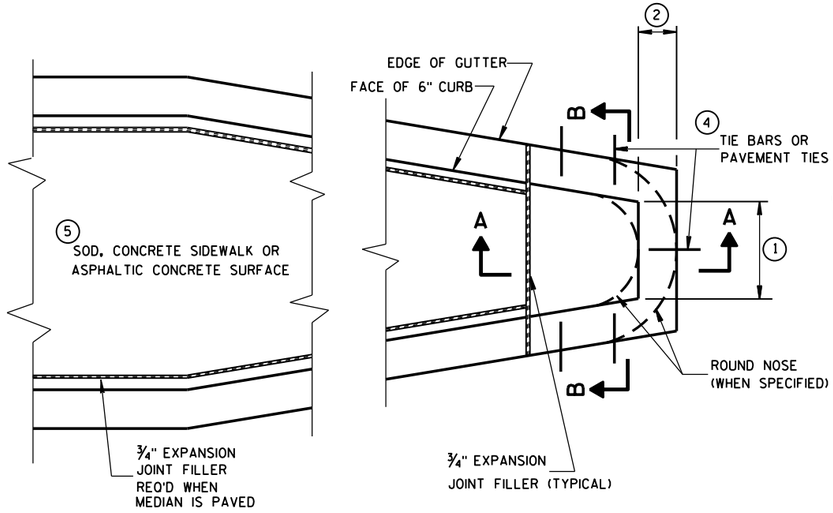


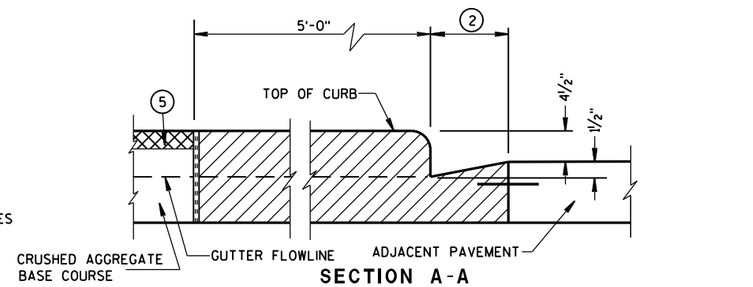
TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL FHWA





CONCRETE MEDIAN BLUNT NOSE DETAIL

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) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

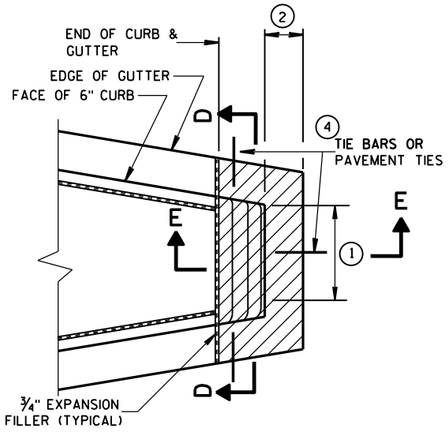
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

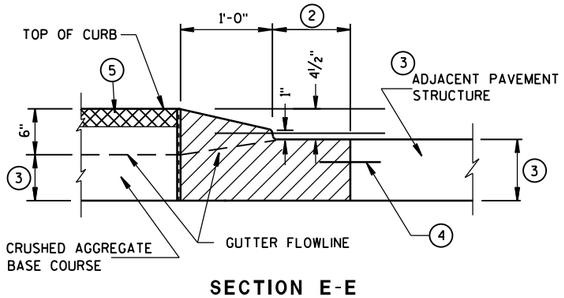
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

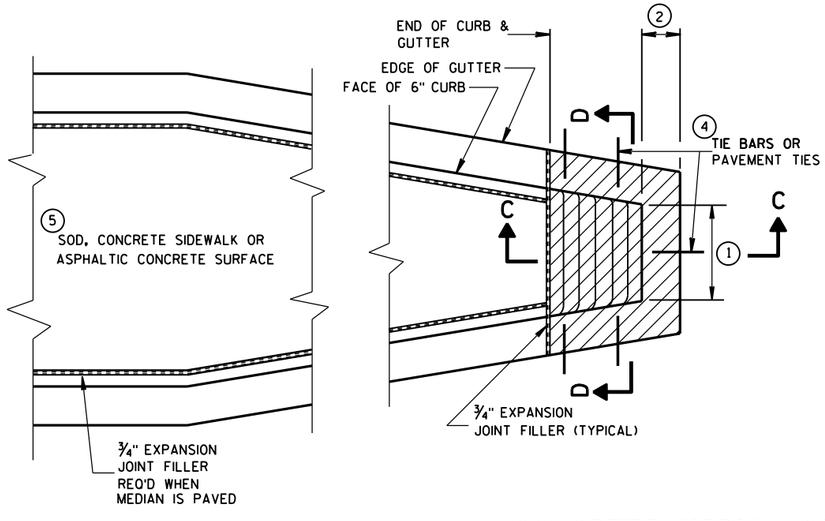
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

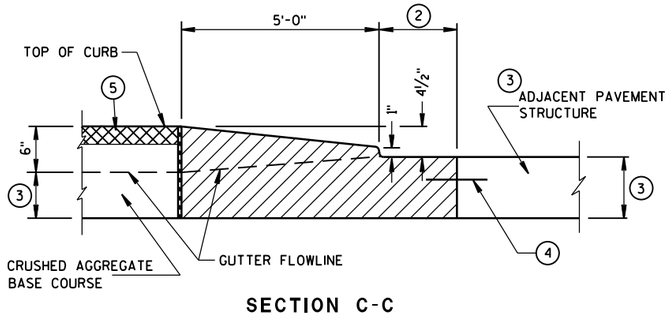




SECTION E-E

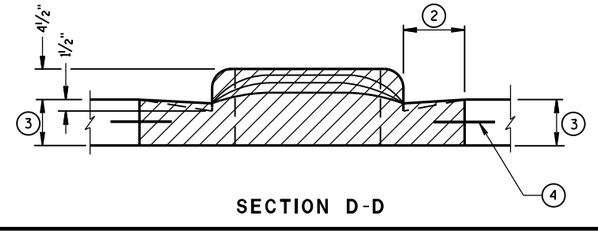
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

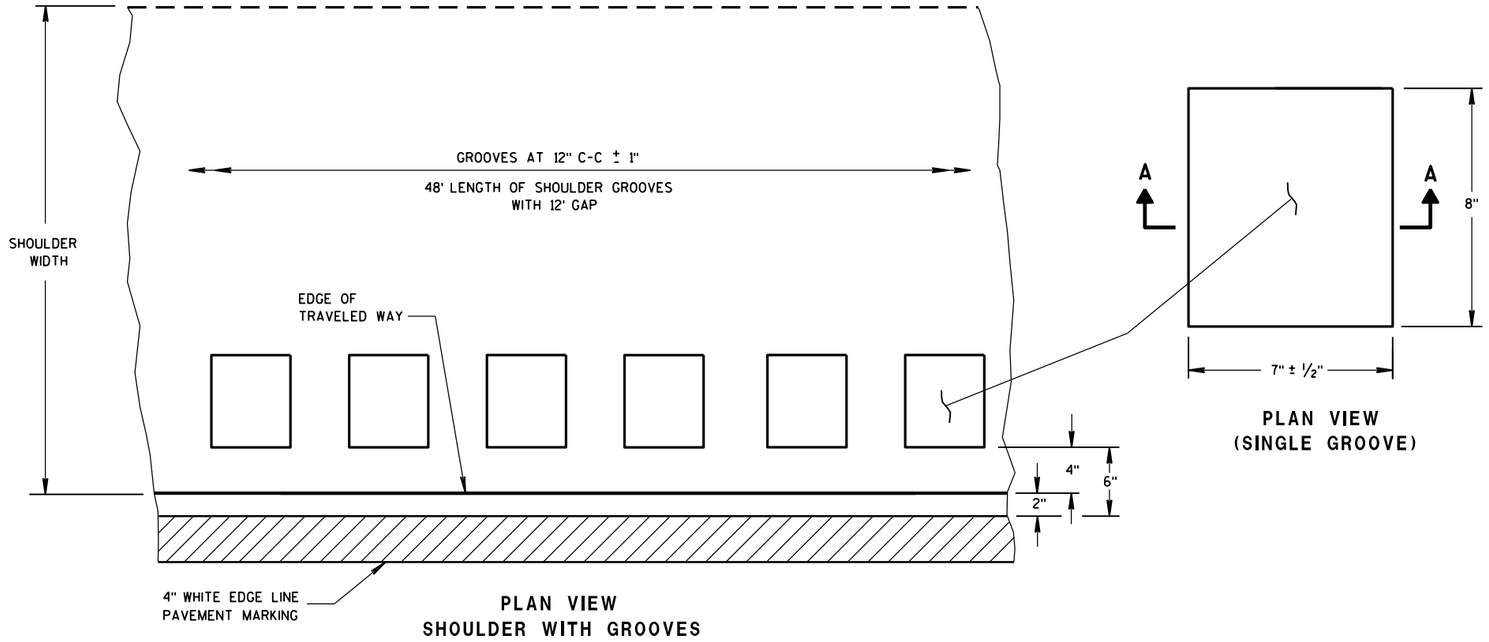
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER
FHWA

6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

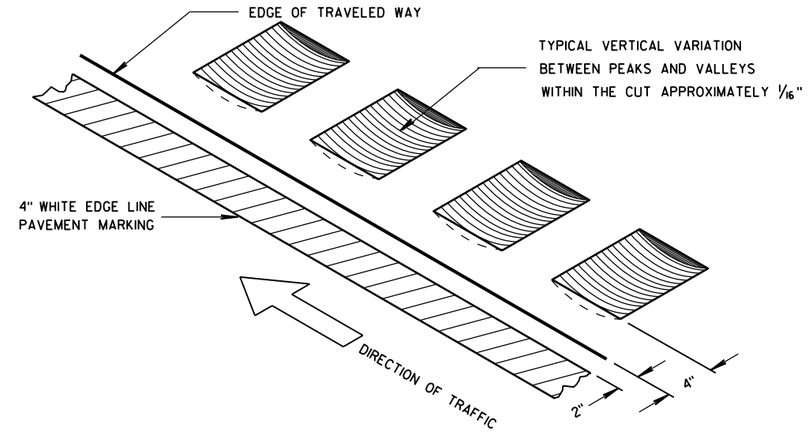
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

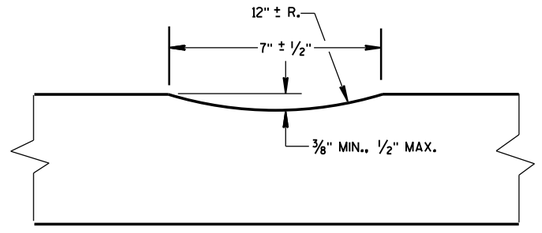
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

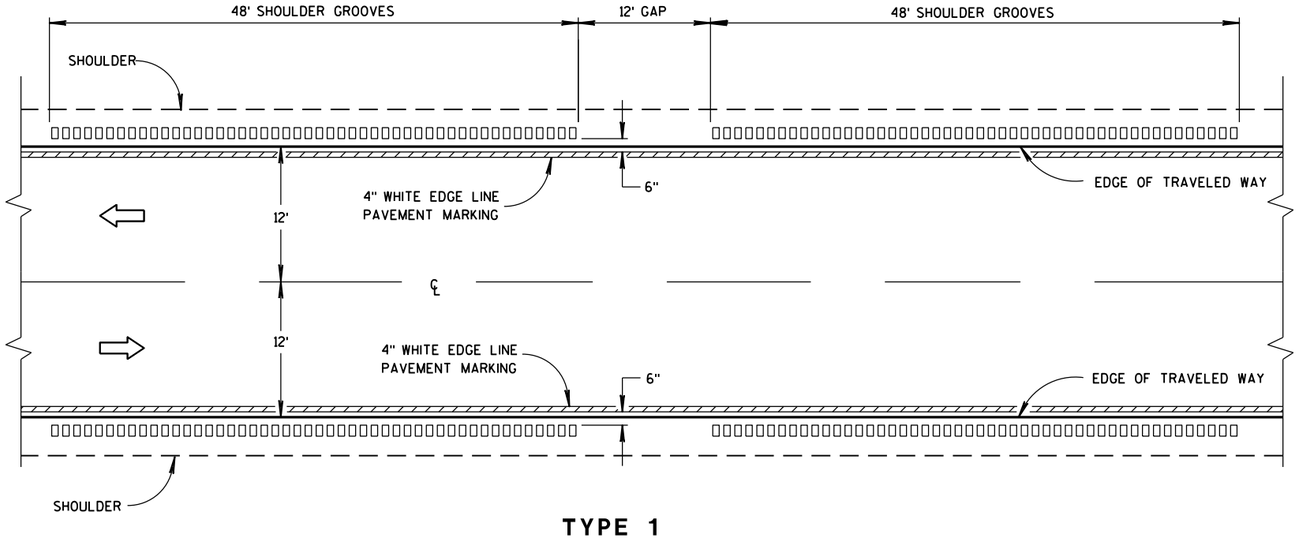
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



SECTION A-A



TYPE 1
2-LANE SHOULDER RUMBLE STRIP

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

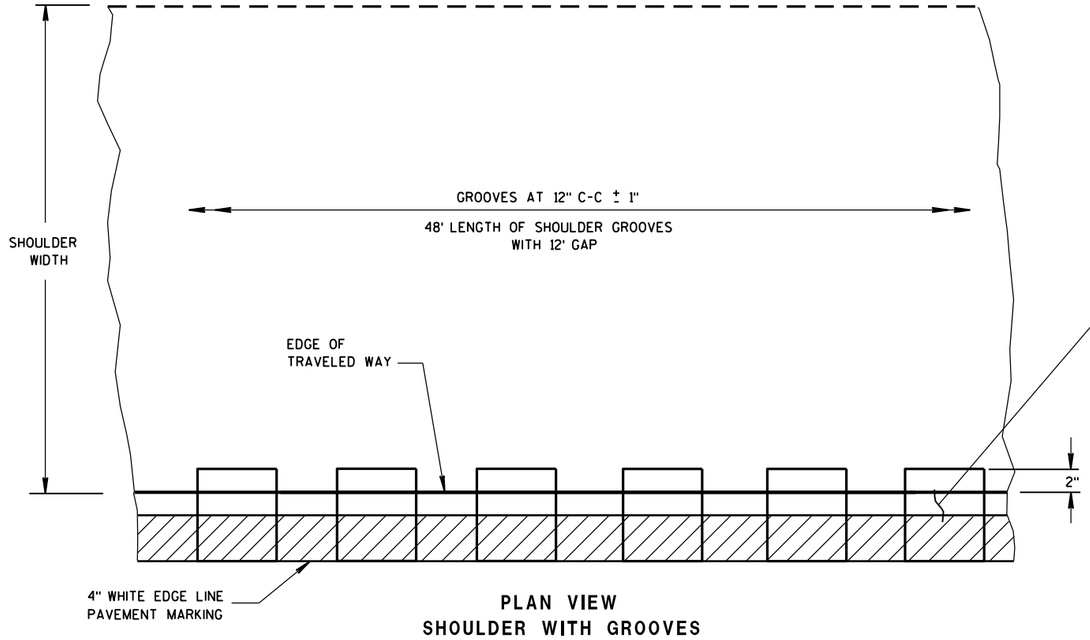
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

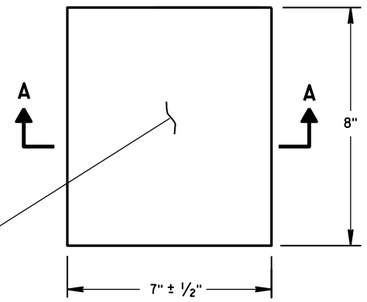
S.D.D. 13 A 10-1a

6

S.D.D. 13 A 10-1a



PLAN VIEW
SHOULDER WITH GROOVES



PLAN VIEW
(SINGLE GROOVE)

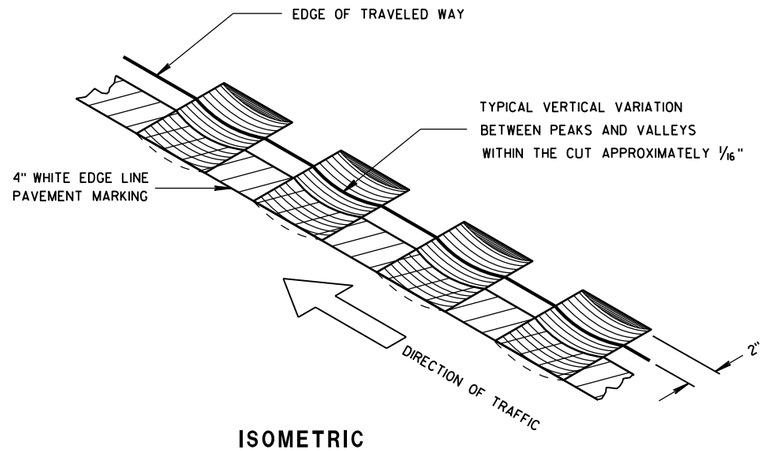
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

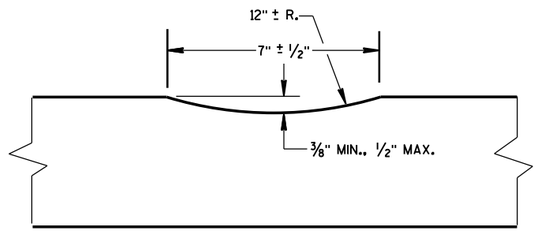
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

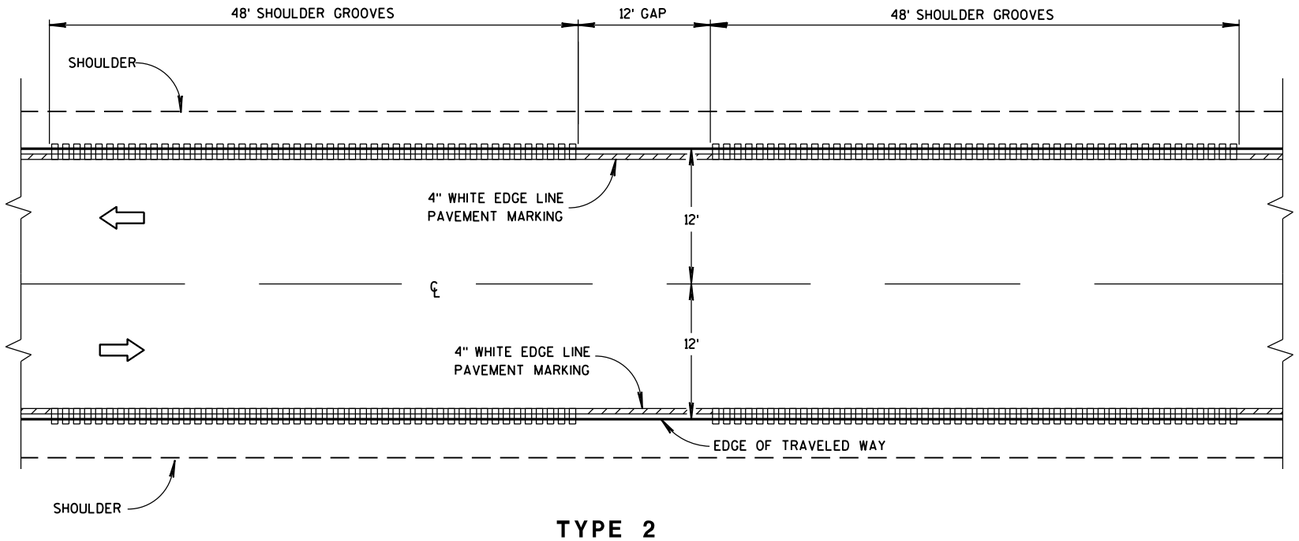
(1) SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



ISOMETRIC



SECTION A-A



TYPE 2
2-LANE SHOULDER RUMBLE STRIP

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

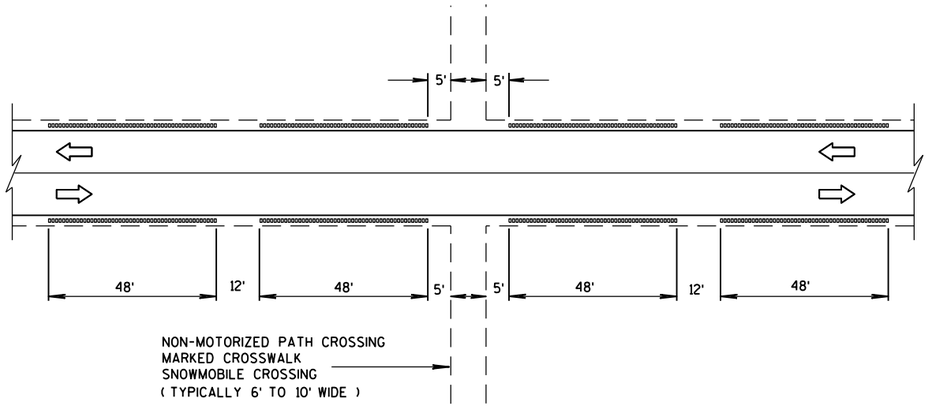
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

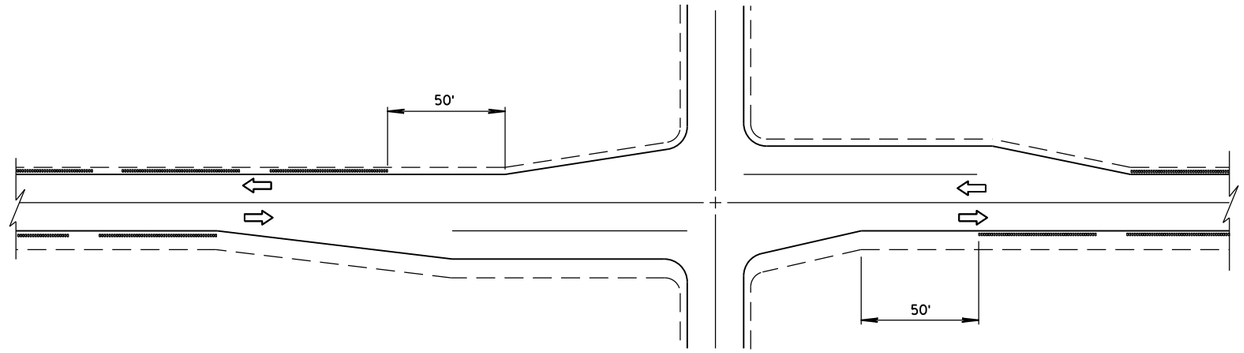
S.D.D. 13 A 10-1b

6

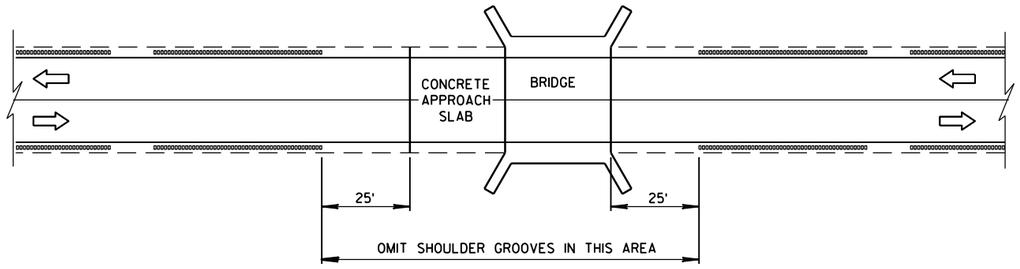
S.D.D. 13 A 10-1b



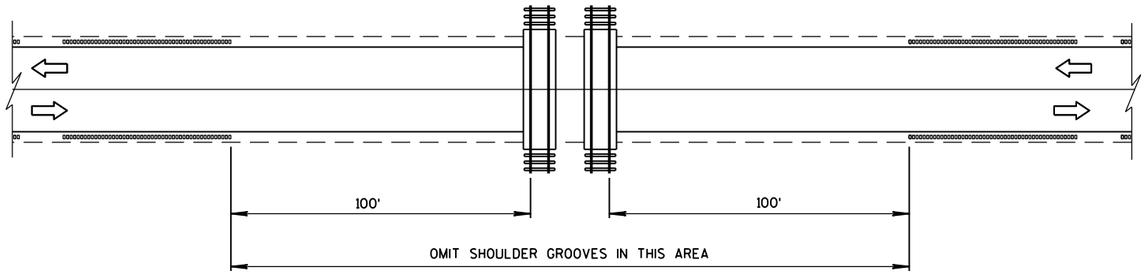
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



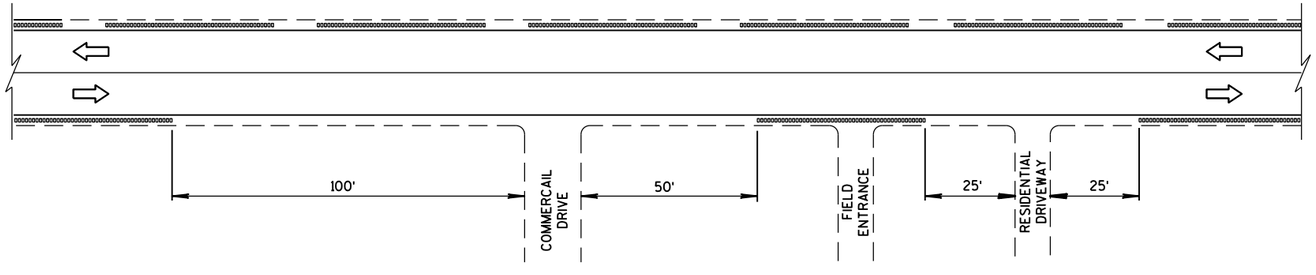
SHOULDER GROOVES AT INTERSECTIONS



SHOULDER GROOVES AT BRIDGES



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT DRIVEWAYS (1)

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

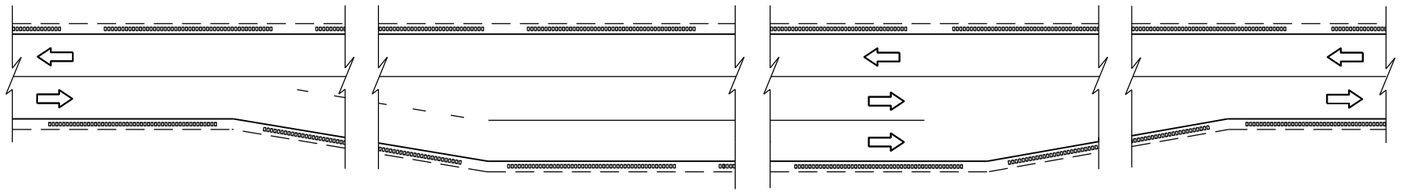
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

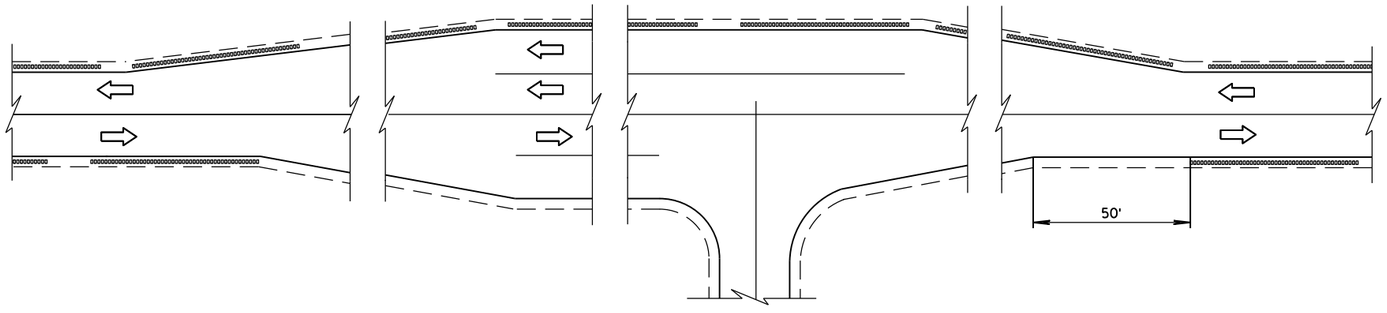
S.D.D. 13 A 10-1c

6

S.D.D. 13 A 10-1c



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

6

S.D.D. 13 A 10-1d

S.D.D. 13 A 10-1d

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

FHWA

GENERAL NOTES

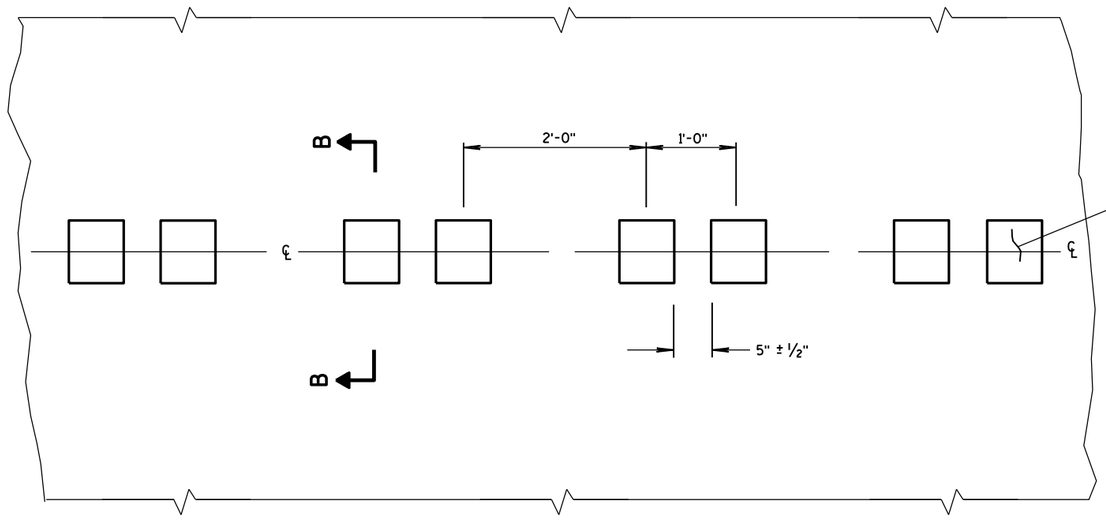
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

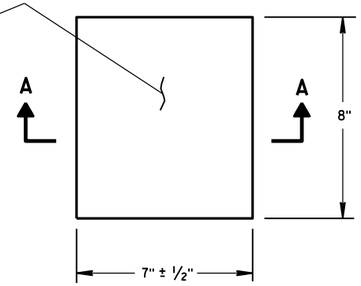
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

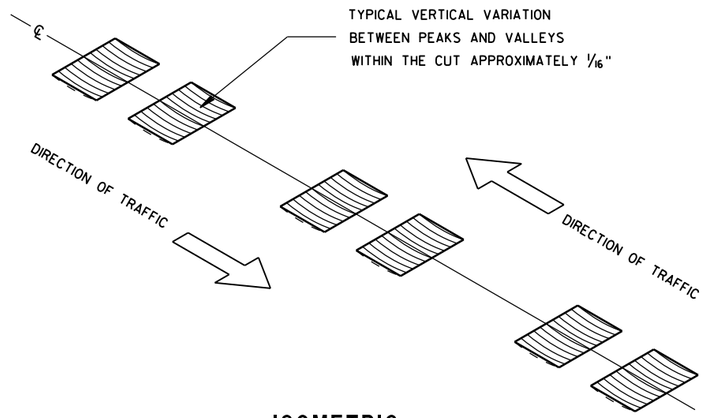
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



PLAN VIEW
CENTER LINE WITH GROOVES

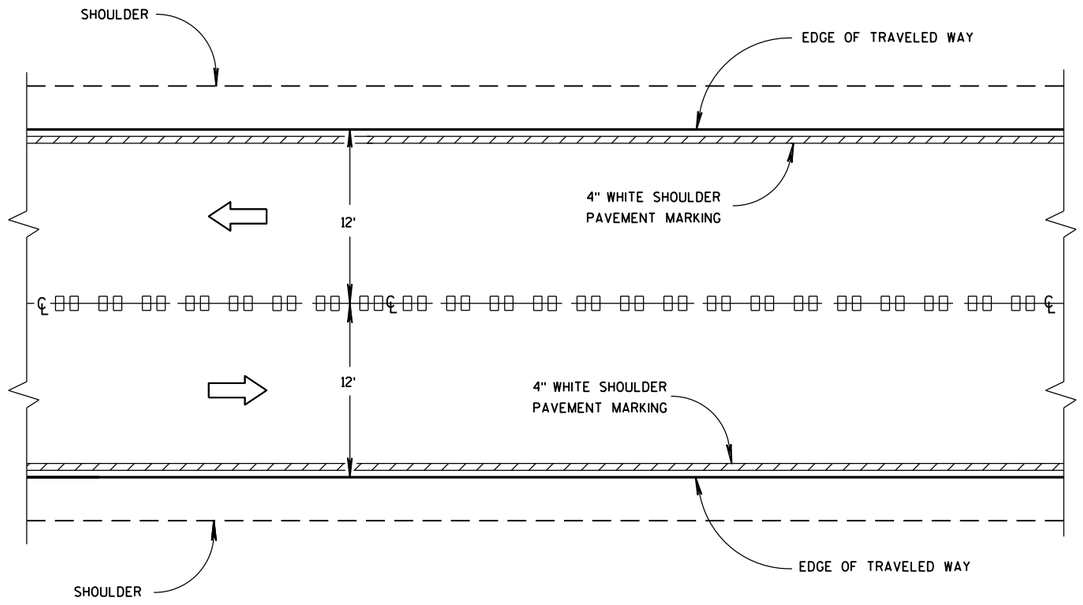


PLAN VIEW
(SINGLE GROOVE)

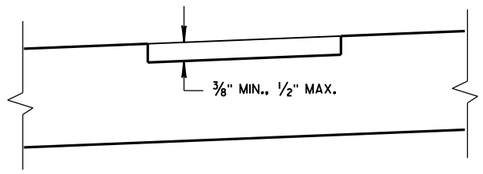


ISOMETRIC

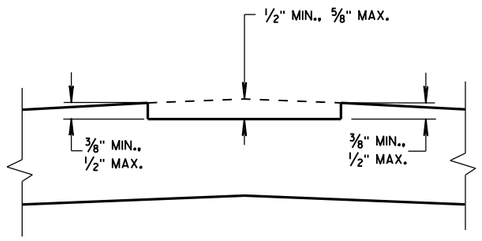
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



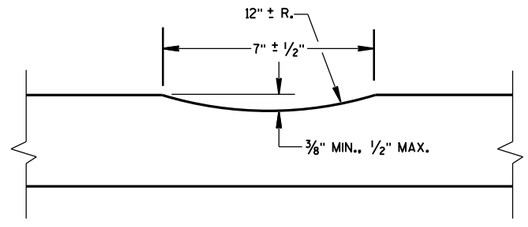
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

6

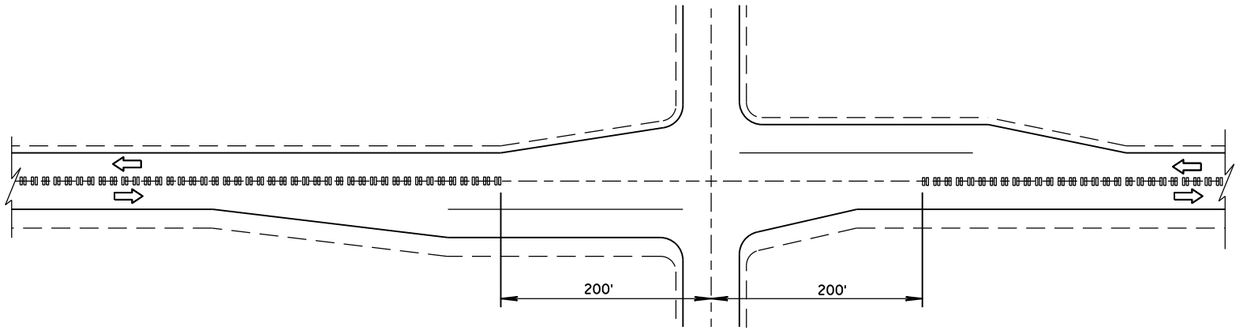
S.D.D. 13 A 11-2a

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

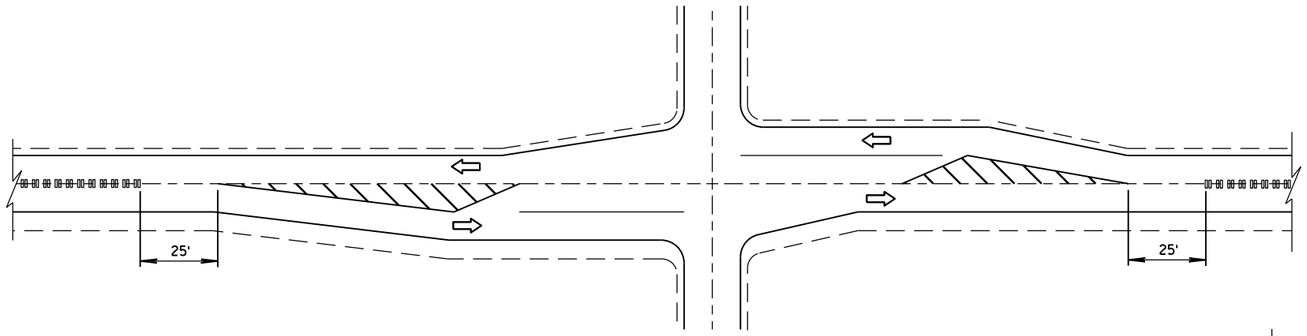
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

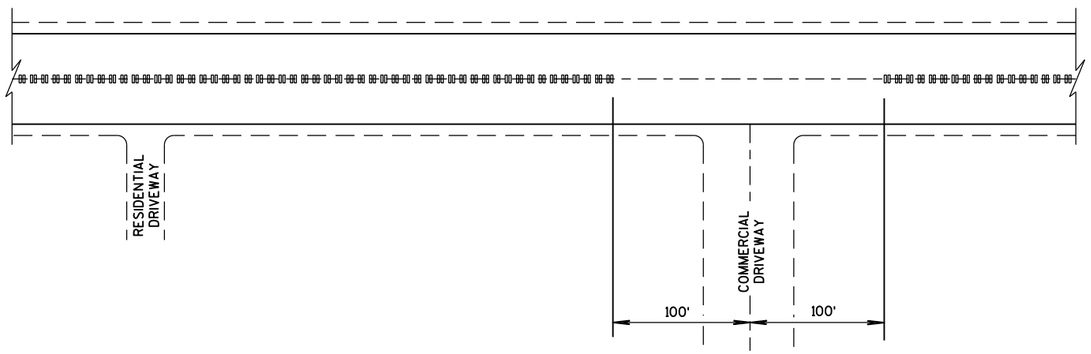
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

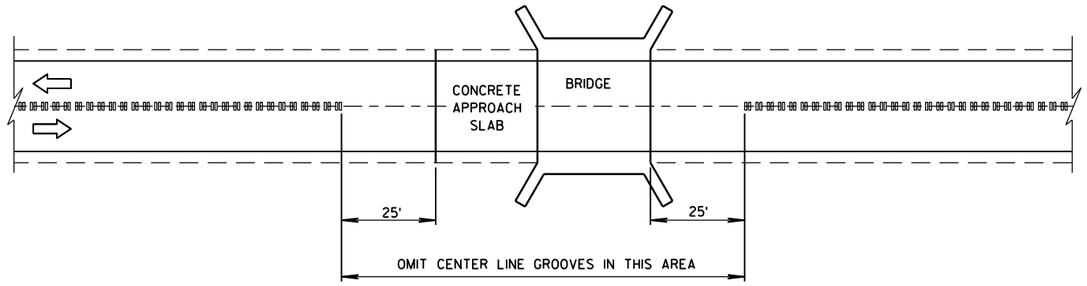


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

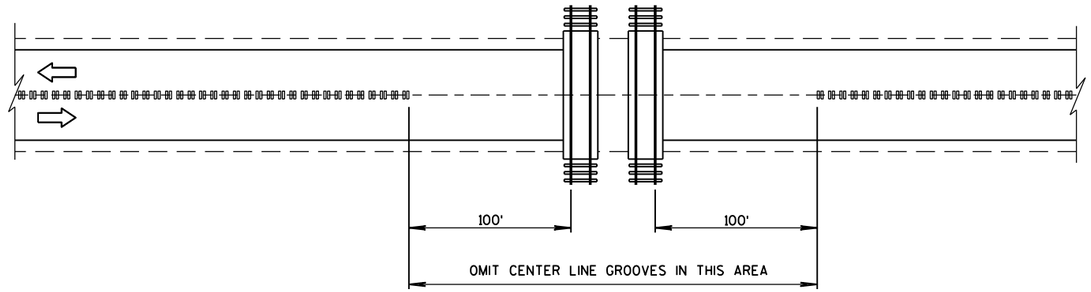


CENTER LINE GROOVES AT DRIVEWAYS (1)

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



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

6

S.D.D. 13 A 11-2b

6

S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

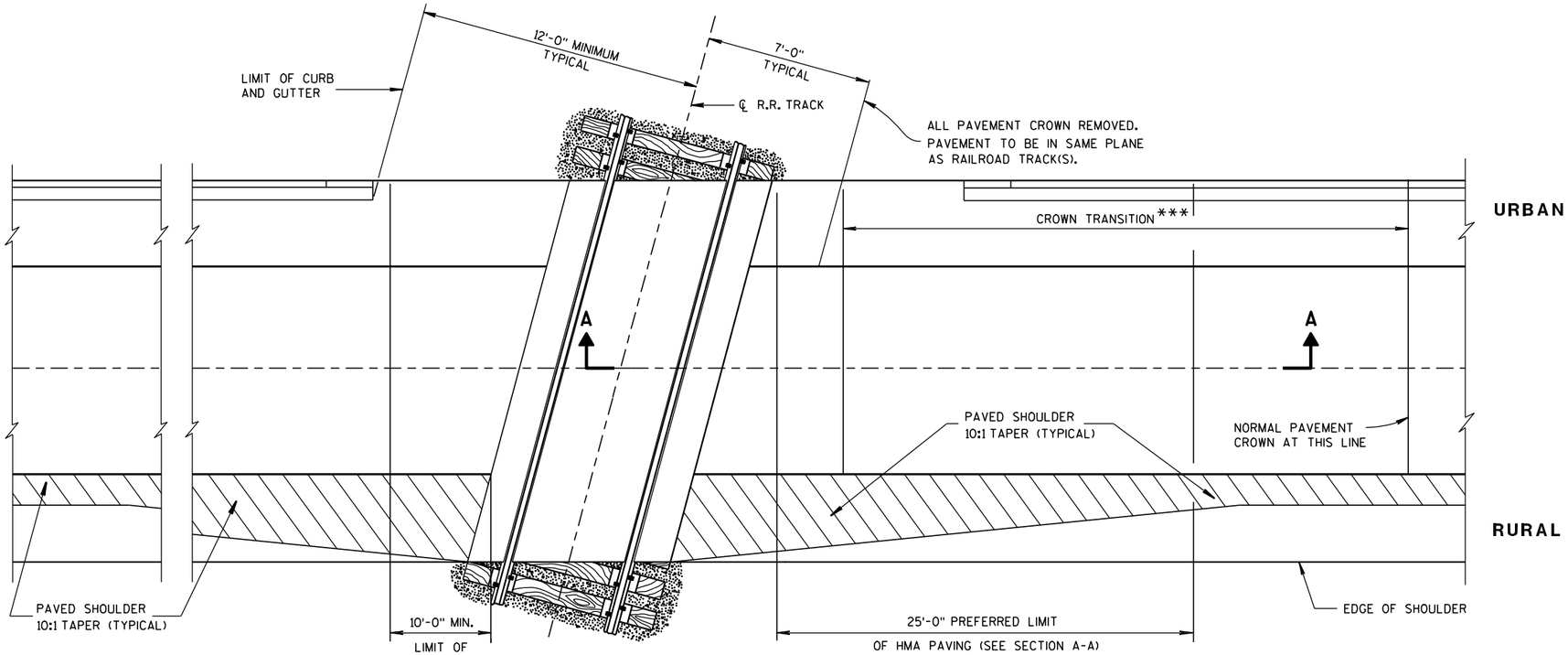
APPROVED

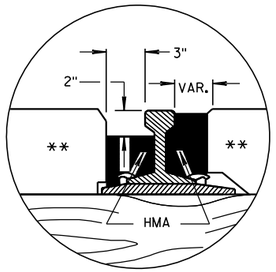
5/15/2013
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

FHWA





DETAIL B

HMA FLANGEWAY AND FIELD FILLERS

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

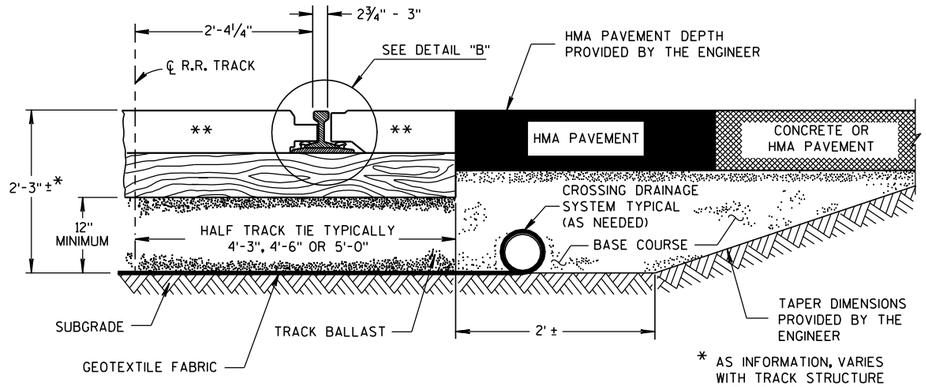
HMA PAVEMENT APPROACHES AND HMA PAVEMET CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

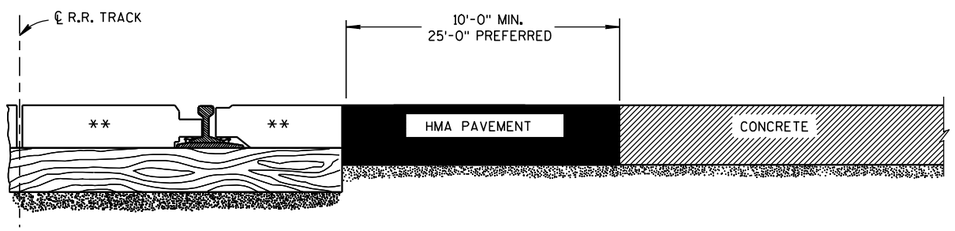
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



TYPICAL HALF SECTION



SECTION A-A

CONCRETE PAVEMENT APPROACH



SECTION A-A

HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-28-09 DATE
/S/ Ronald E. Adams
CHIEF, RAILROADS & HAI CTION
FHWA

6

S.D.D. 13 B 1-10

6

S.D.D. 13 B 1-10

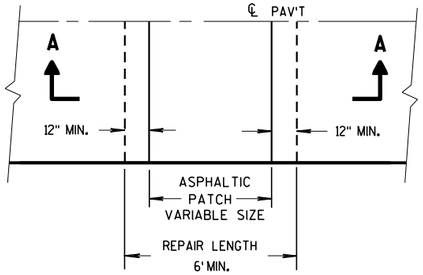
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

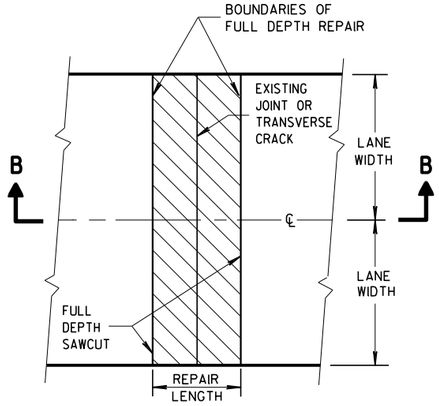
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

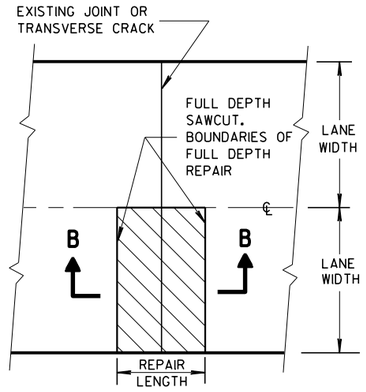
(1) DOWEL BARS MIGHT NOT EXIST.



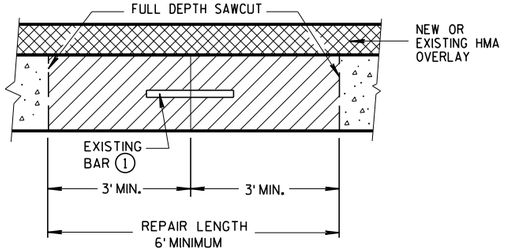
PLAN VIEW



PLAN VIEW
(DOUBLE LANE REPAIR)



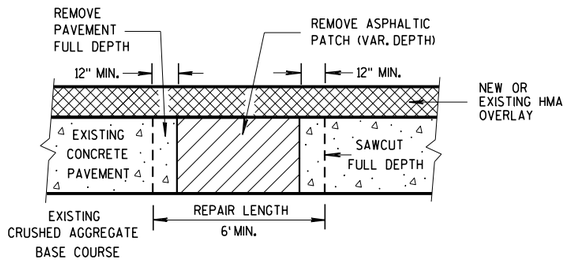
PLAN VIEW
(SINGLE LANE REPAIR)



SECTION B-B

CONCRETE REMOVAL

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL

BASE PATCHING CONCRETE

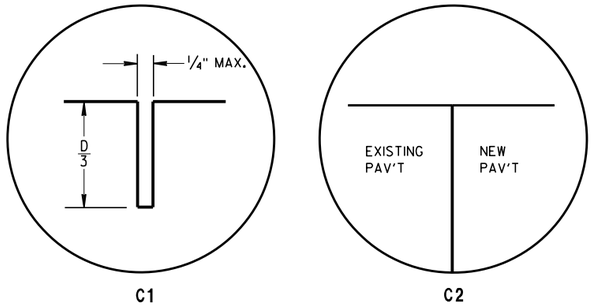
STATE OF WISCONSI
DEPARTMENT OF TRANSPORTATION

6

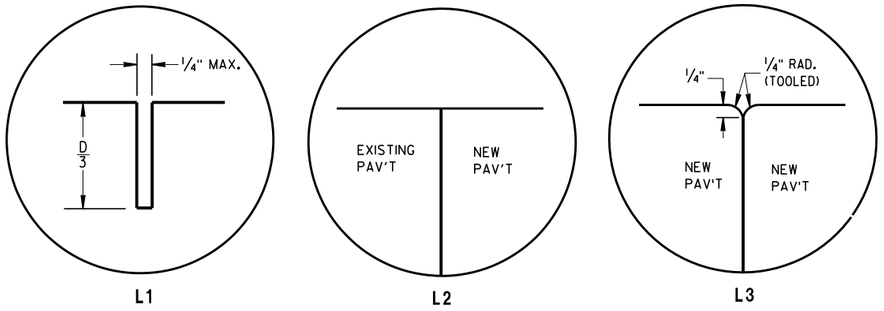
S.D.D. 13 C 14-7a

6

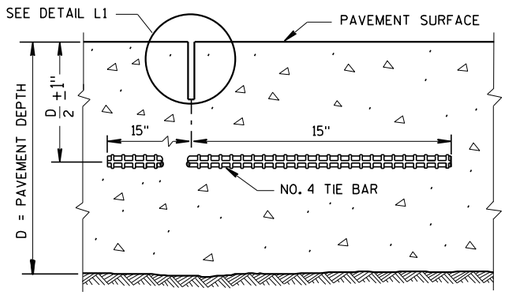
S.D.D. 13 C 14-7a



TRANSVERSE JOINTS

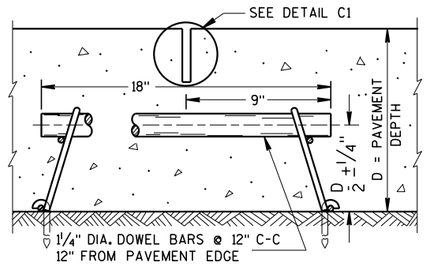


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

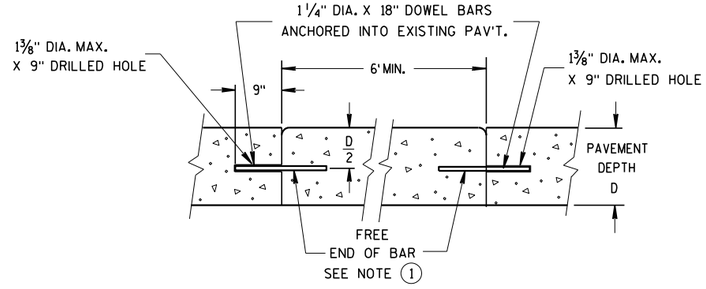
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

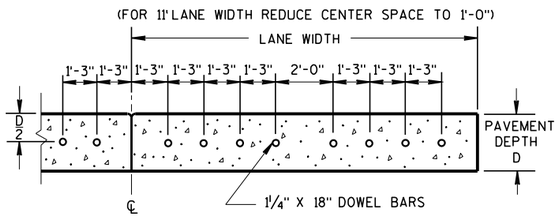
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

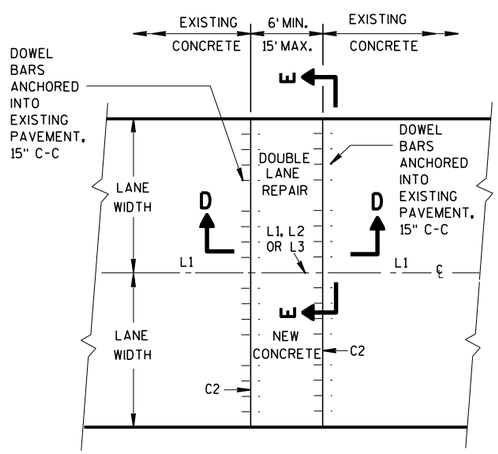


SECTION D-D



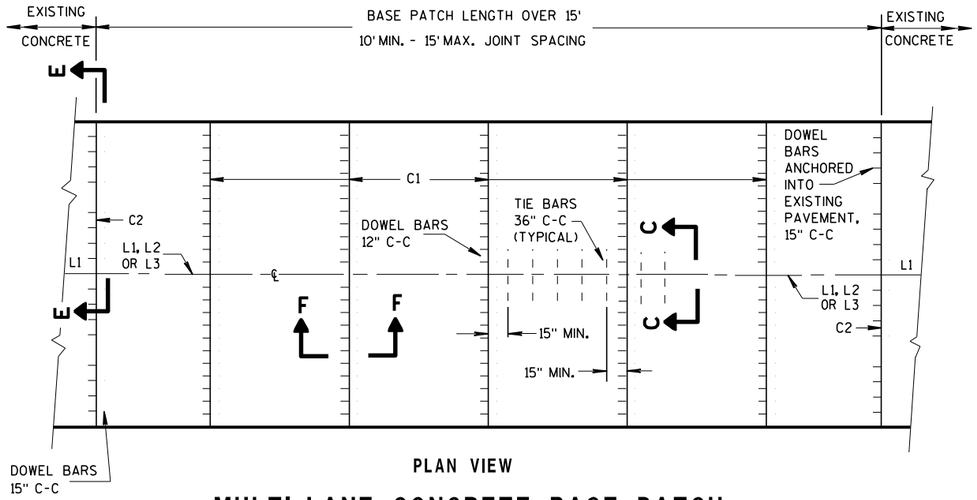
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH

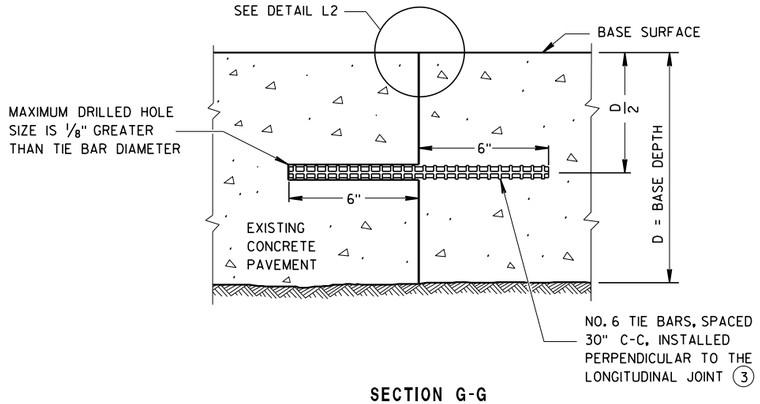


PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

6
S.D.D. 13 C 14-7b



SECTION G-G

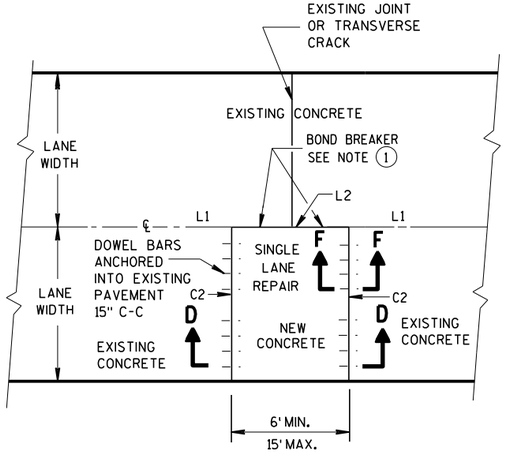
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

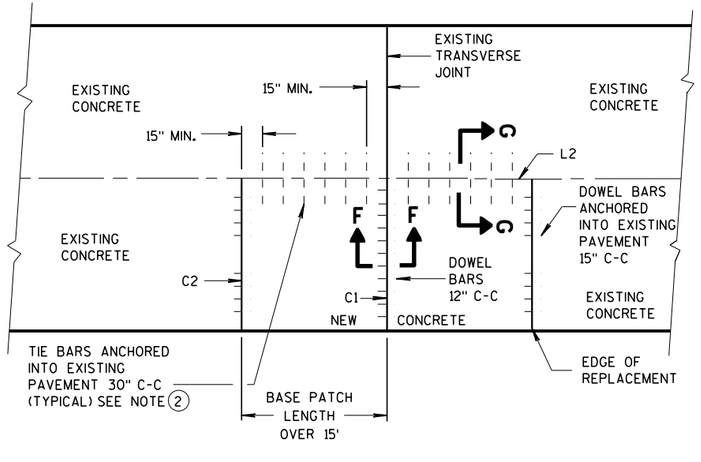
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

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



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

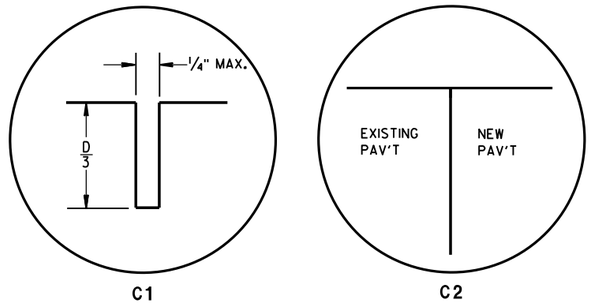
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

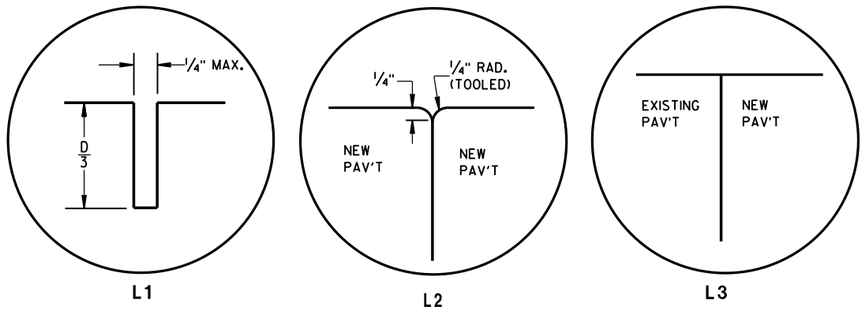
APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

6

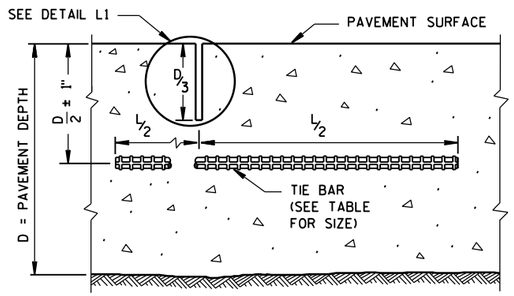
S.D.D. 13 C 14-7c



TRANSVERSE JOINTS

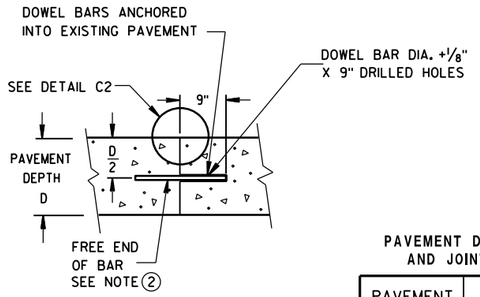


LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

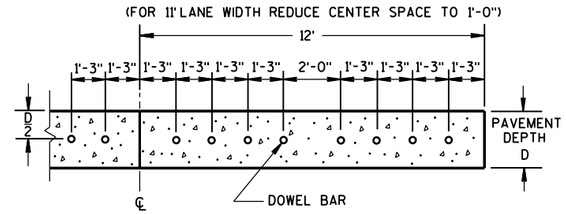
GENERAL NOTES

ANCHOR TIE BARS AND DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

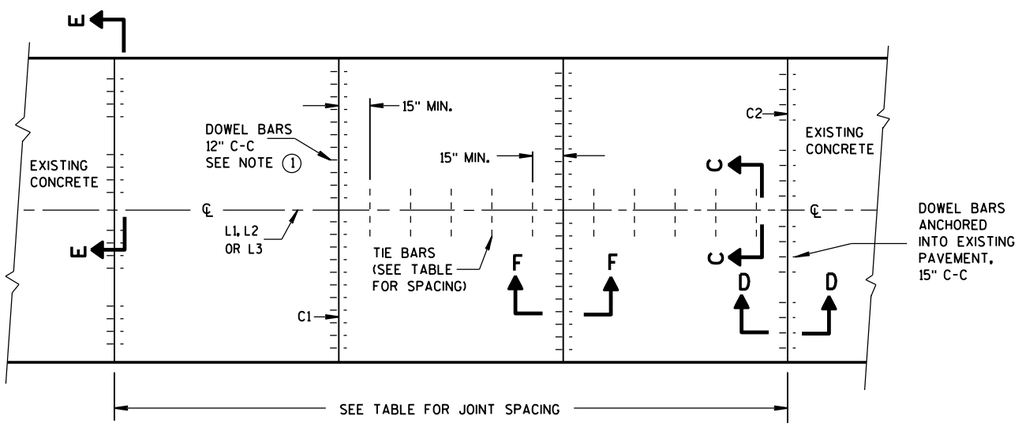
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 6, 6 ½"	NONE	12'
7, 7 ½"	1"	14'
8, 8 ½"	1 ¼"	15'
9, 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

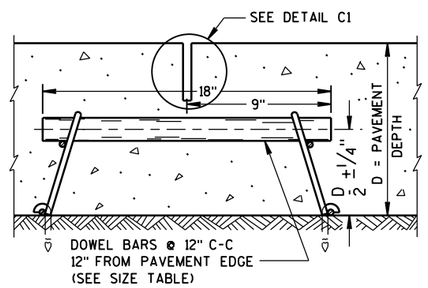
* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

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



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

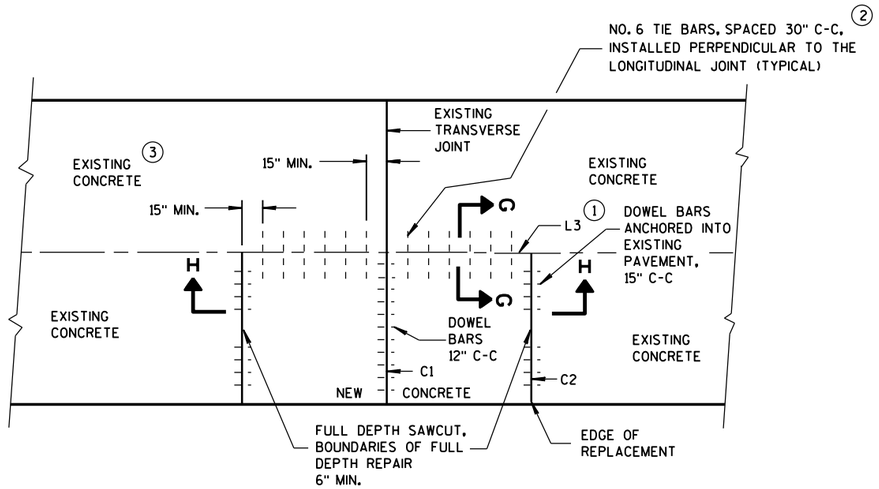
6
S.D.D. 13 C 15-6a

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.

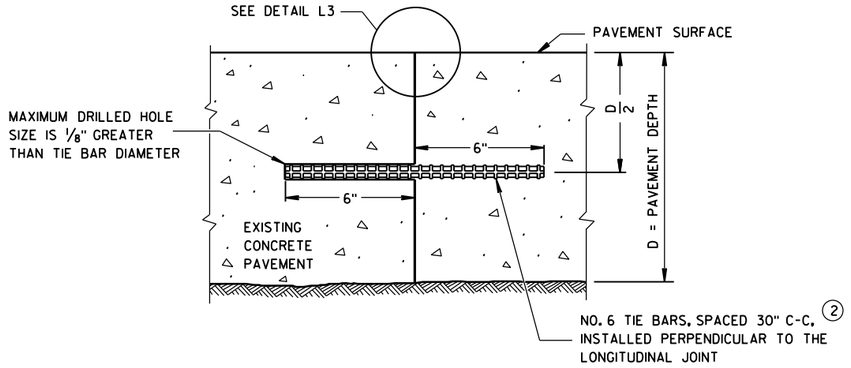
(2) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(3) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



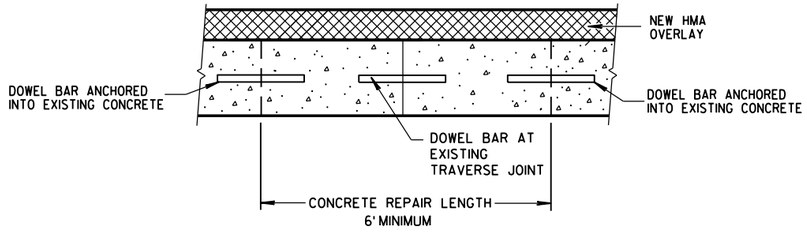
PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H-H

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

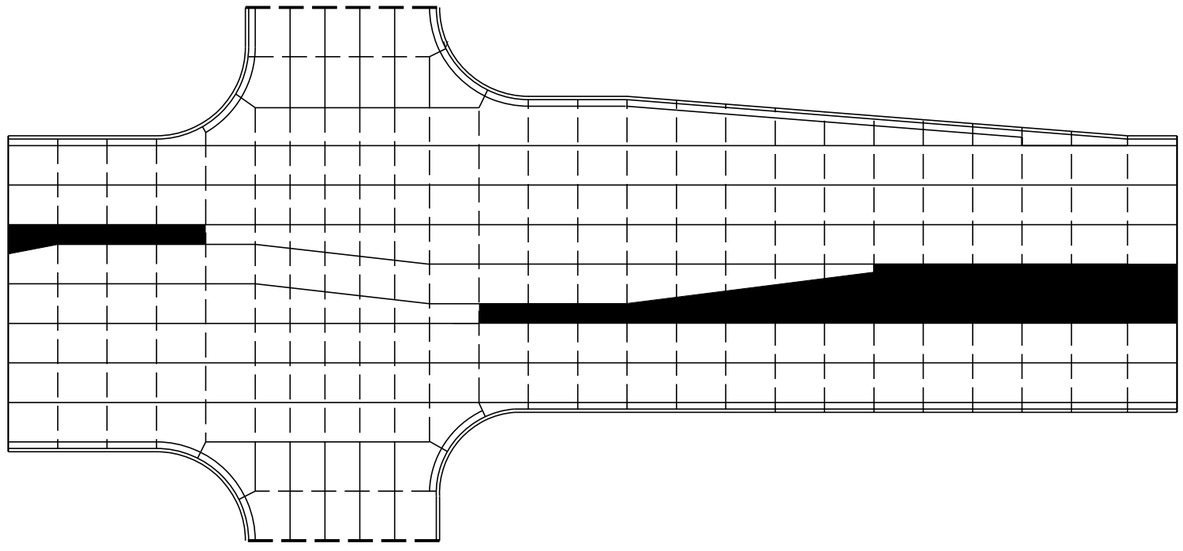
6
S.D.D. 13 C 15-6b

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

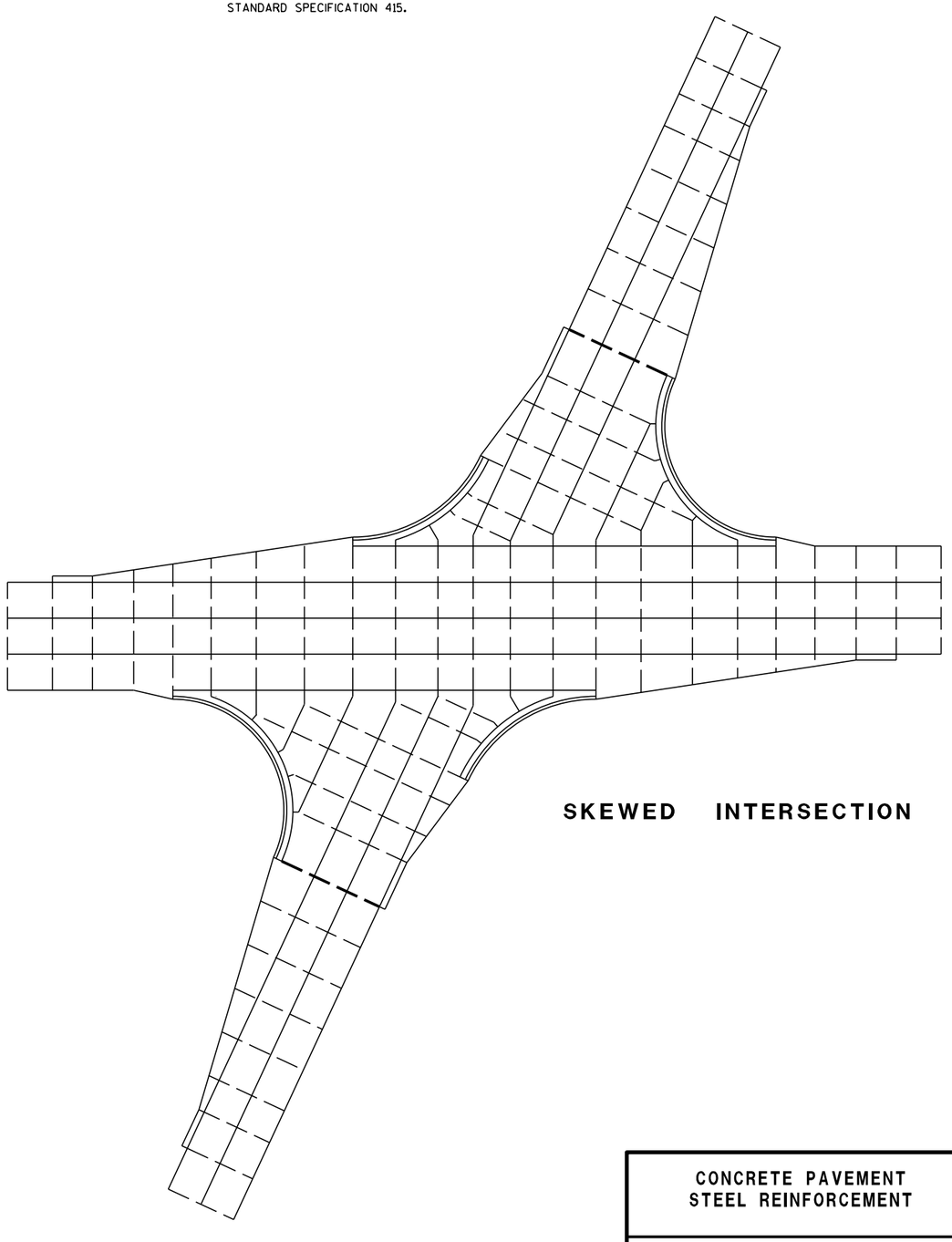
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

6

S.D.D. 13 C 18-6b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 18-6b

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

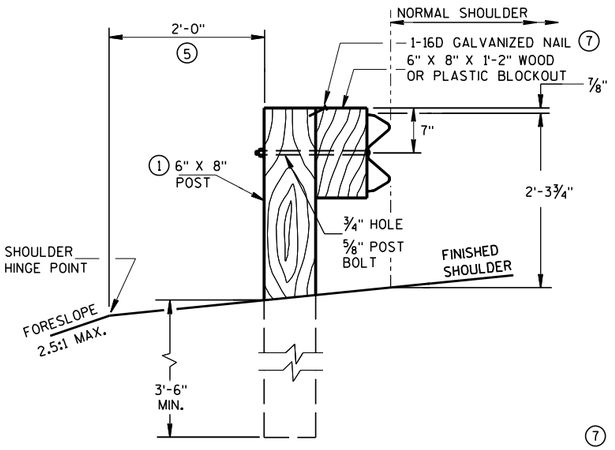
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

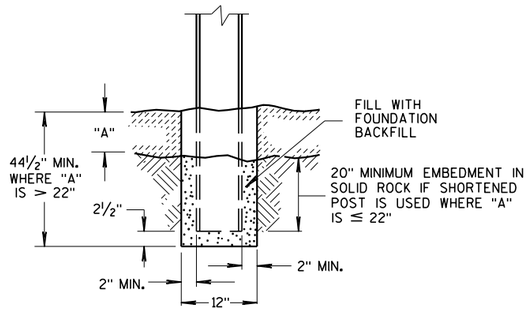
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

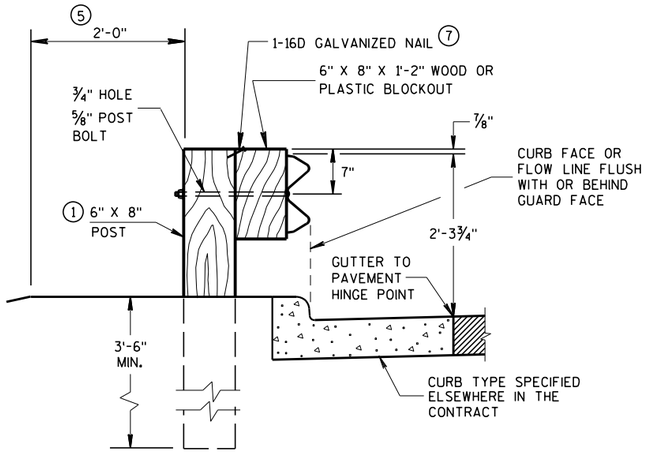
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



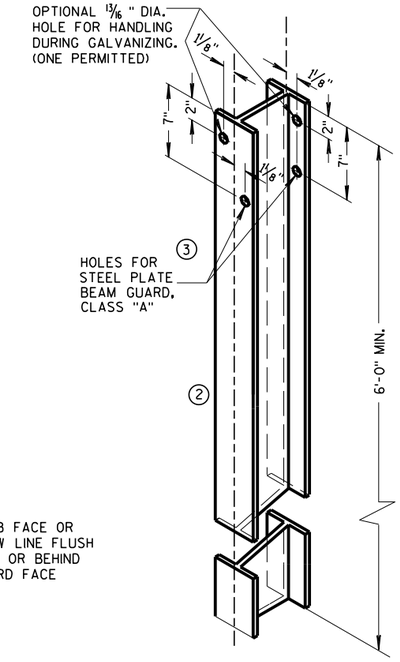
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)

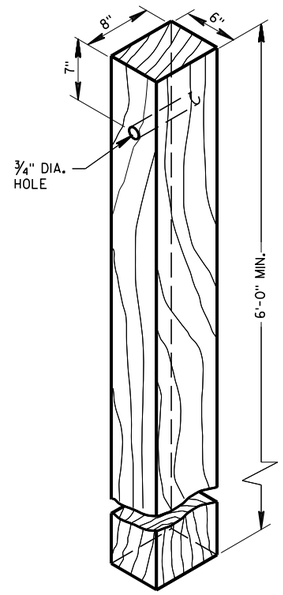


END VIEW
LOCATED ALONG A CURBED ROADWAY

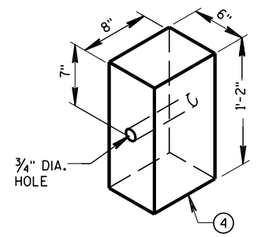


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

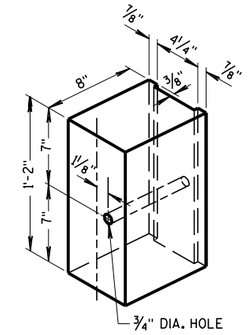
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



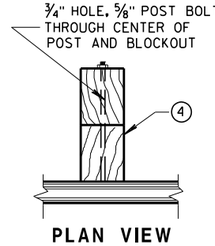
WOOD POST
(6"X8") NOMINAL



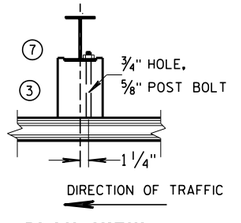
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



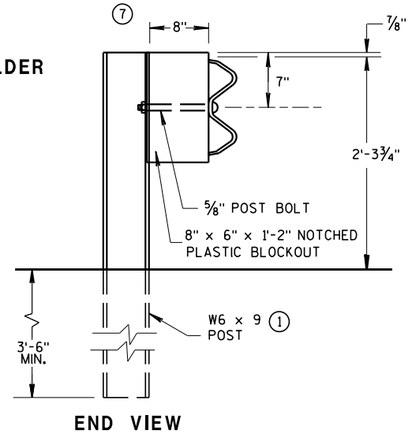
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



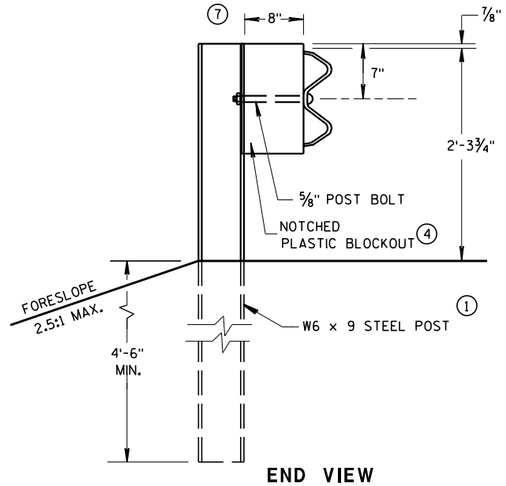
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



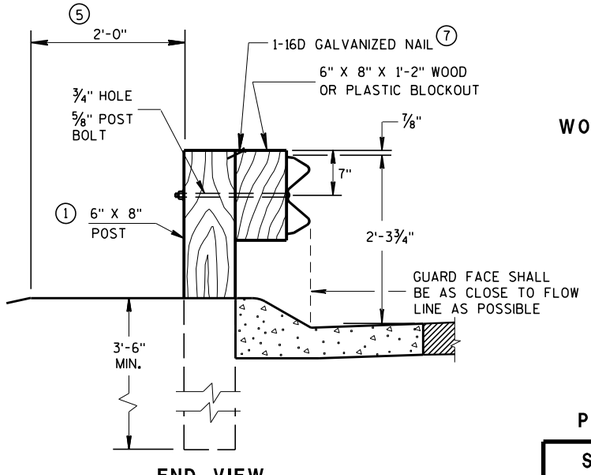
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



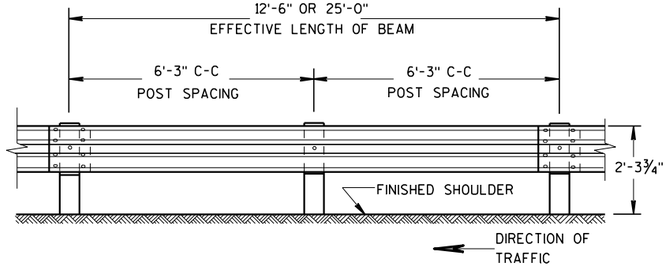
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

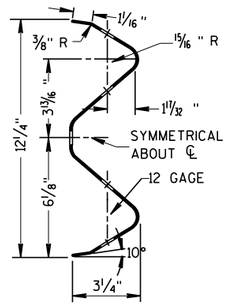
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 15-11a

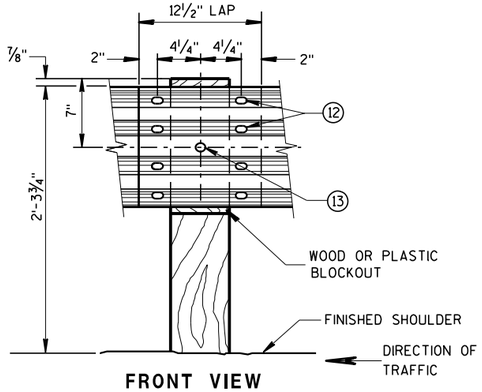


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

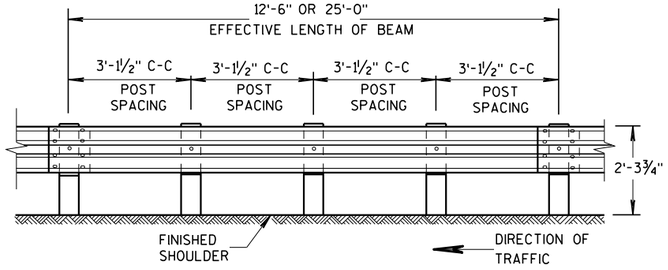
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

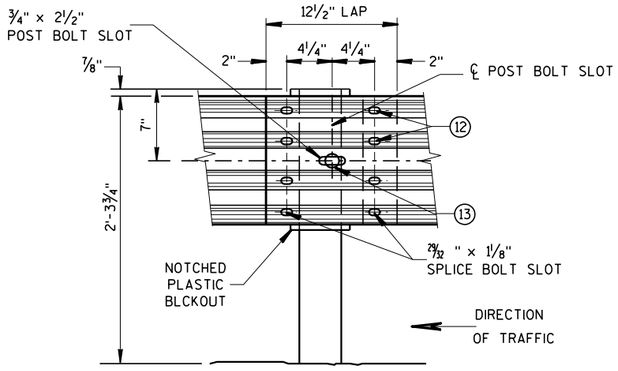
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



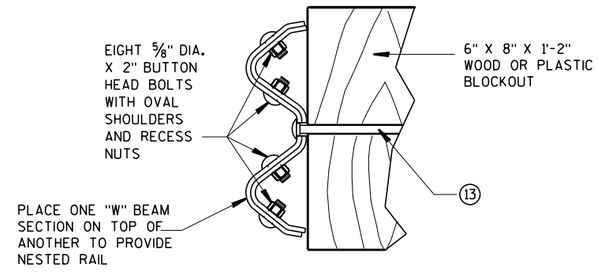
FRONT VIEW

POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

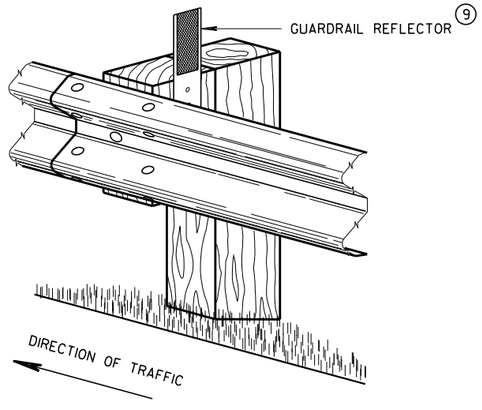


NESTED W BEAM (NW)

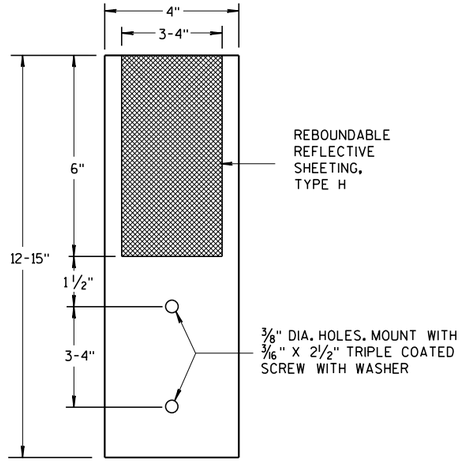
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

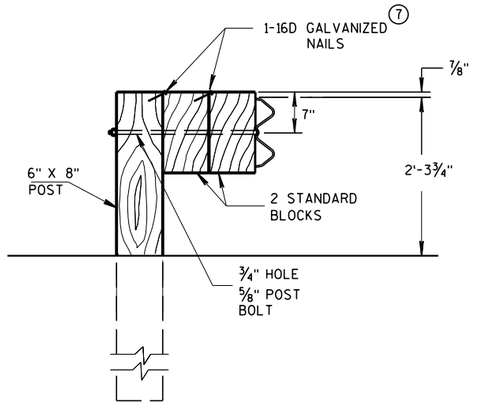
STATE OF WISCO 152
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

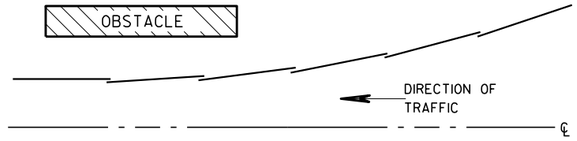
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S.D.D. 14 B 15-11b

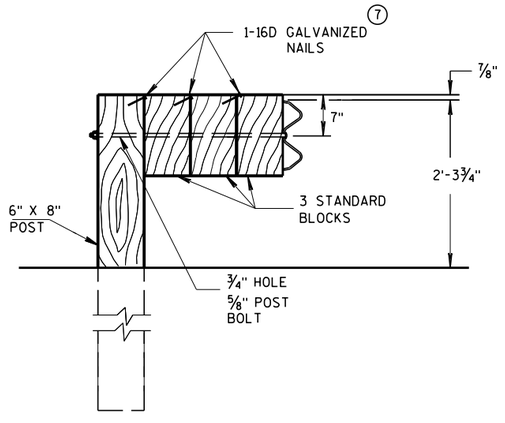


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

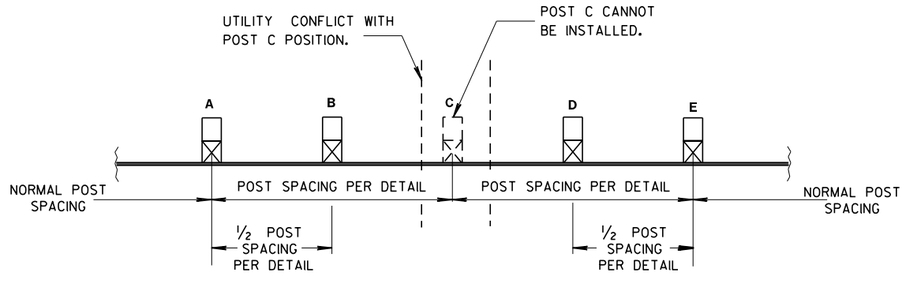


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

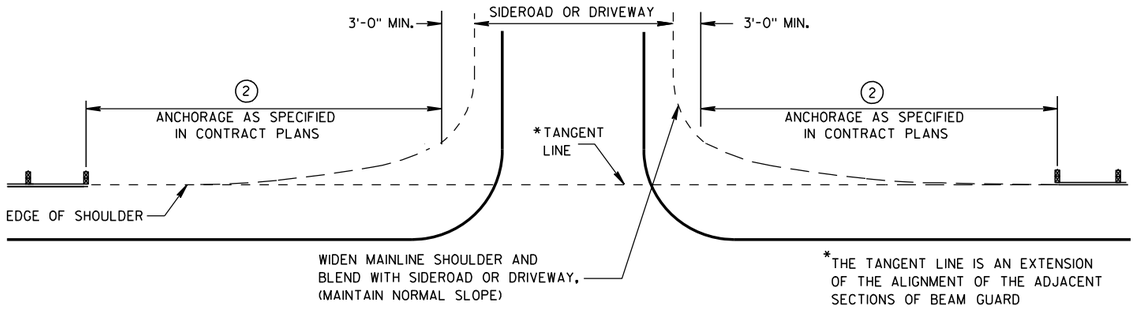
DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

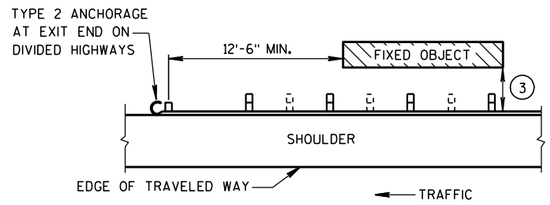
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

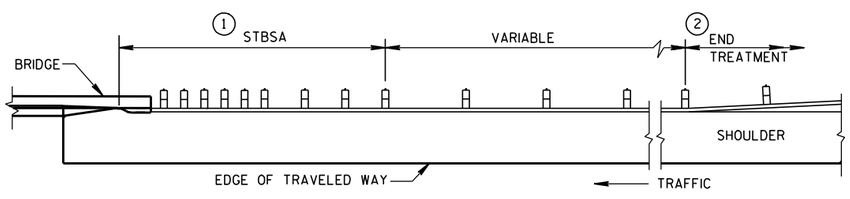
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S.D.D. 14 B 15-11c



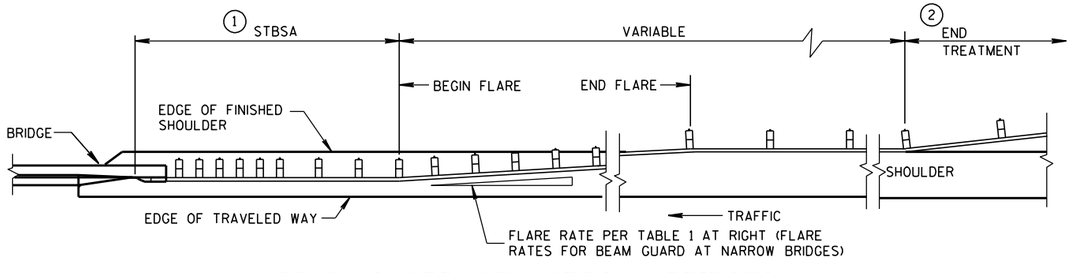
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



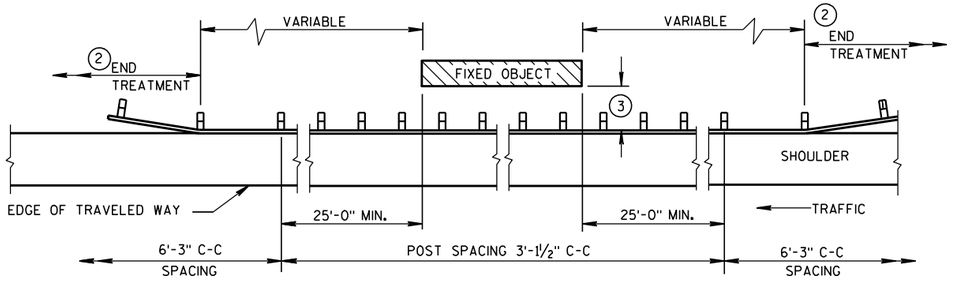
BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT NARROW BRIDGES
(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC
(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

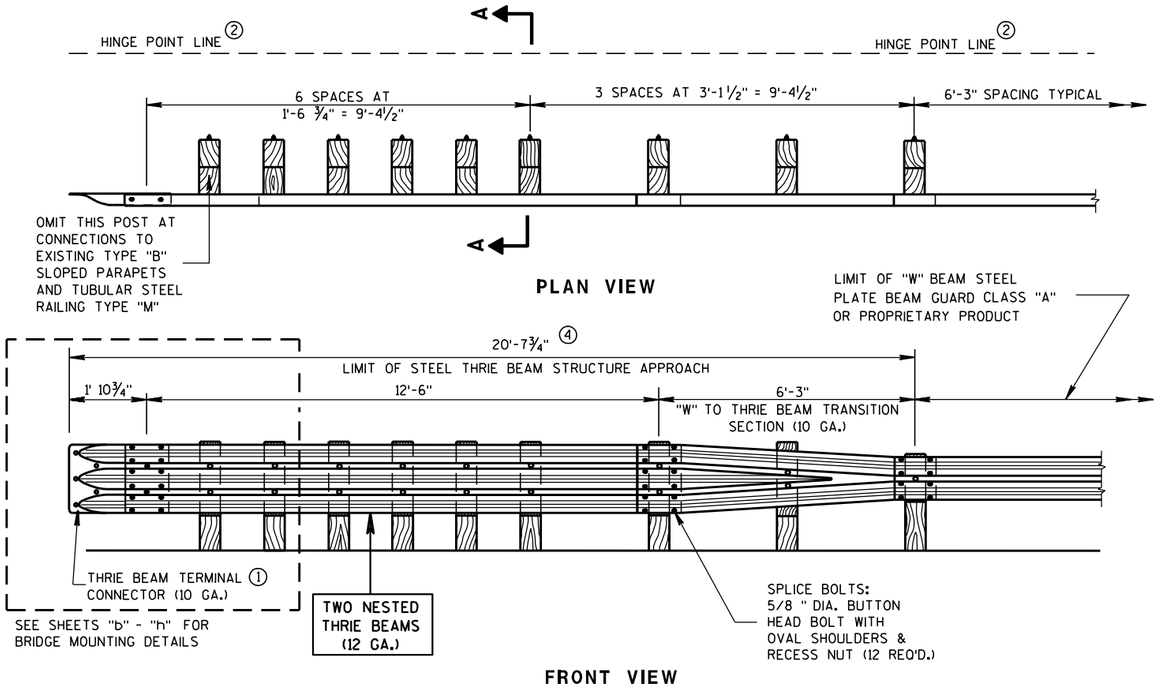
APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 18-6a

6

S.D.D. 14 B 18-6a



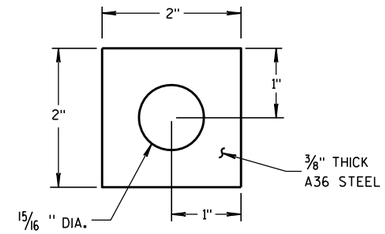


PLATE WASHER DETAIL

GENERAL NOTES

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

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

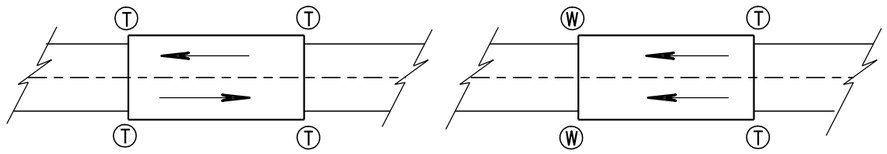
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



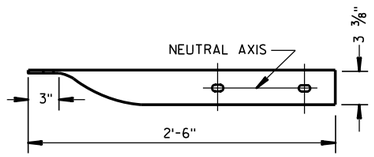
TWO WAY TRAFFIC

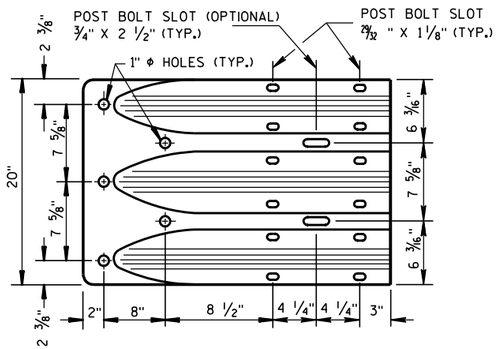
ONE WAY TRAFFIC

T THRIE BEAM CONNECTION

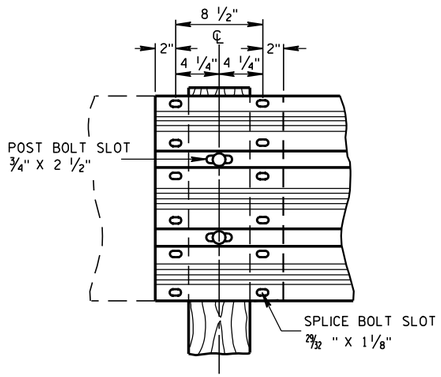
W W-BEAM CONNECTION WHEN REQUIRED

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

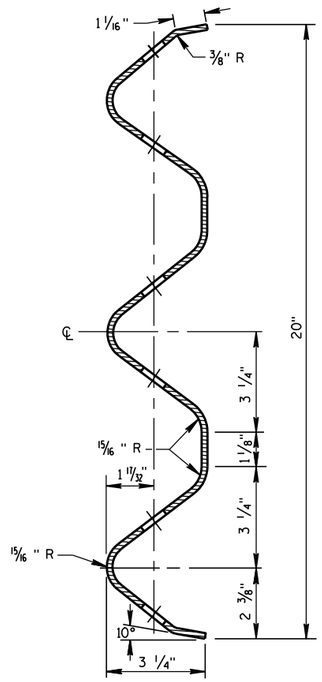




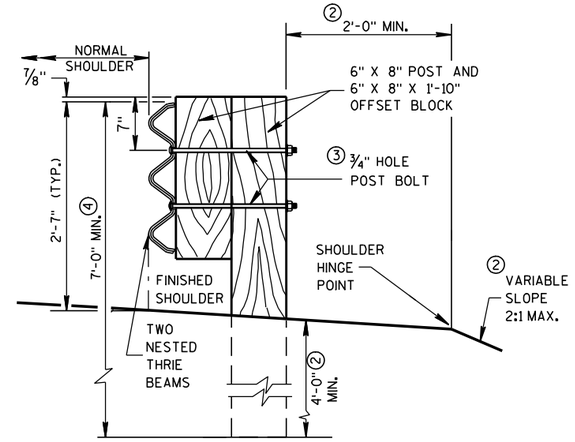
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

(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.

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

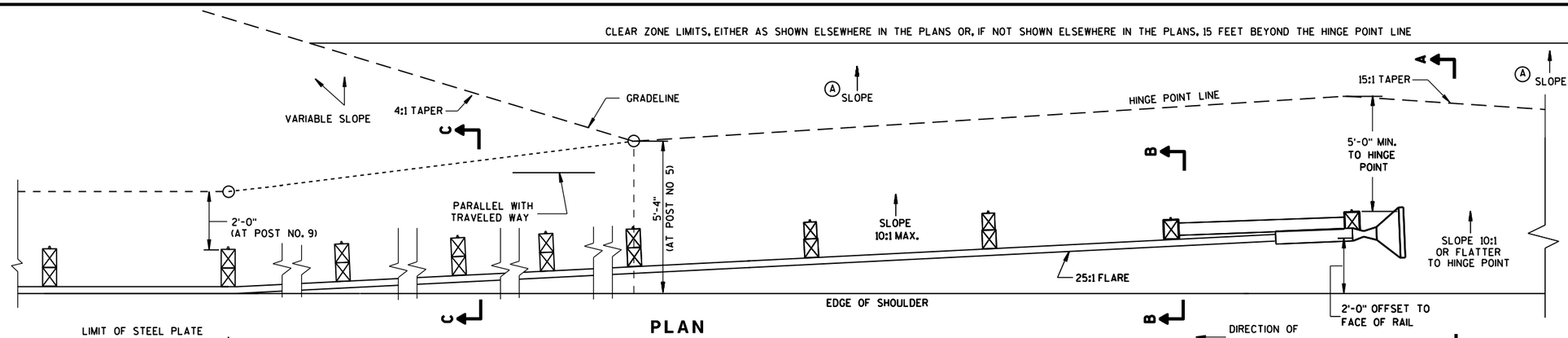
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

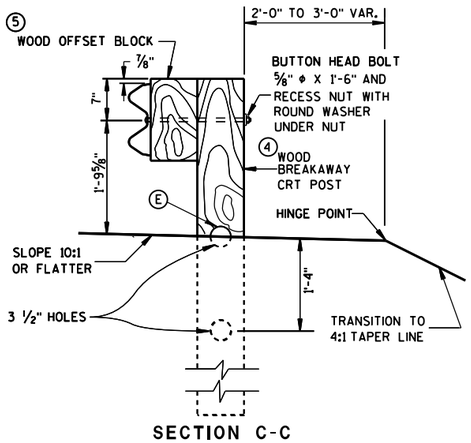
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

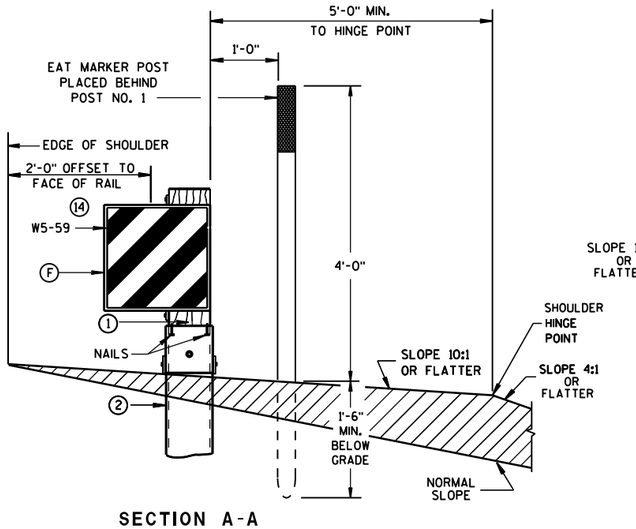
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

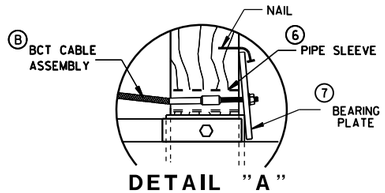




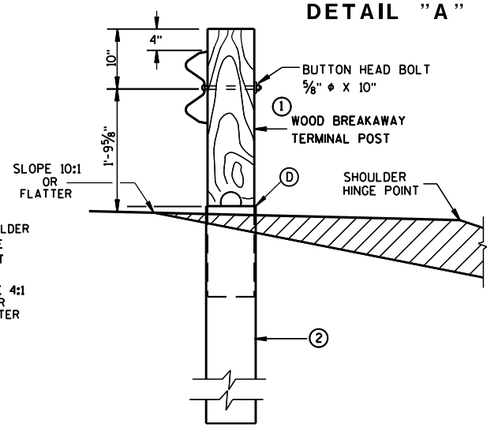
SECTION C-C
TYPICAL AT POST NOS. 6, 8



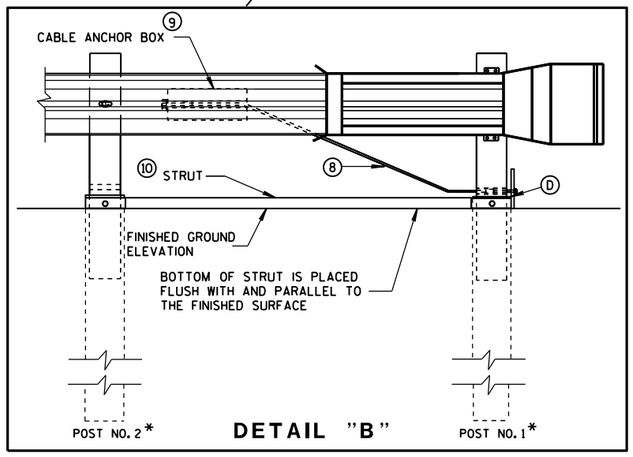
SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



SECTION B-B
TYPICAL AT POST NO. 2*



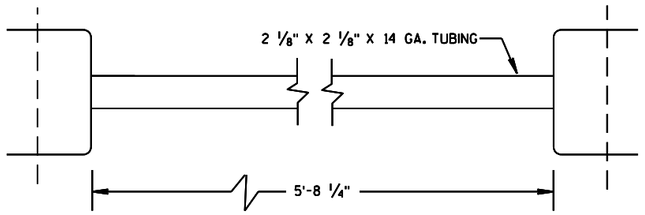
DETAIL "B"

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

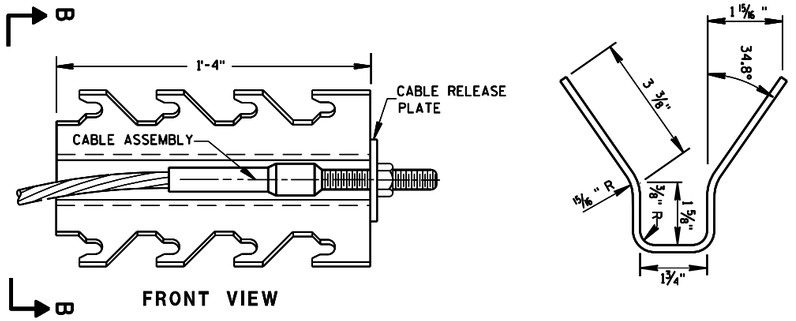
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

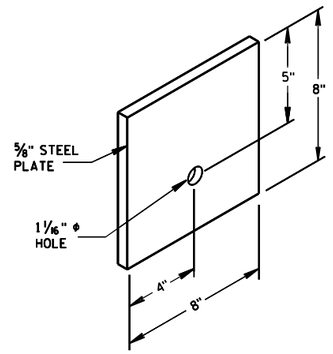
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

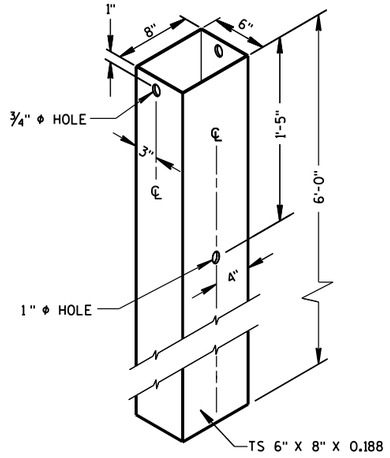
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S.D.D. 14 B 24-9b

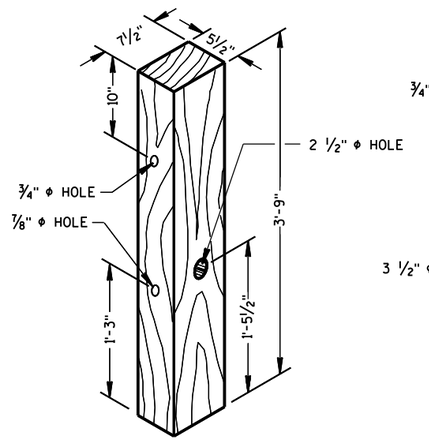
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

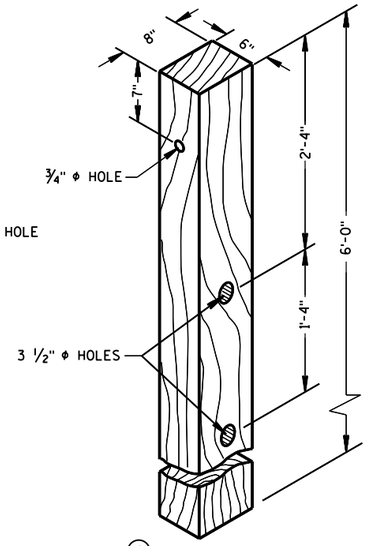
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST

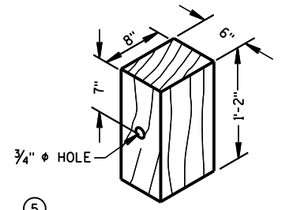


④ CRT POST
(POSTS NO'S 5-8)

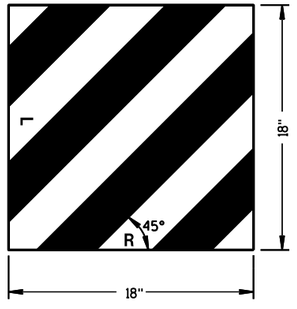
WOOD BREAKAWAY POSTS

GENERAL NOTES

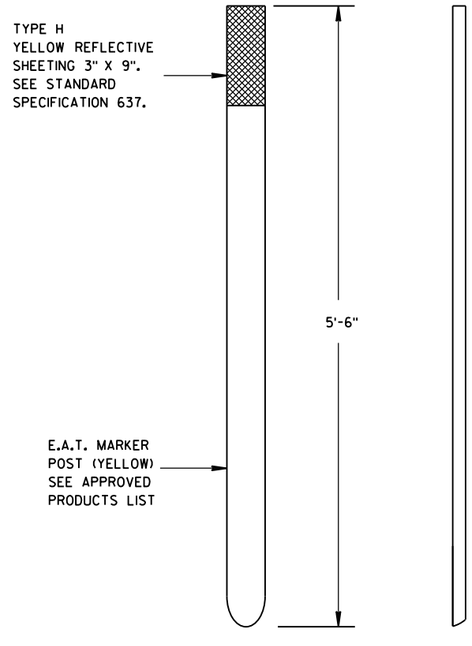
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERV...

158

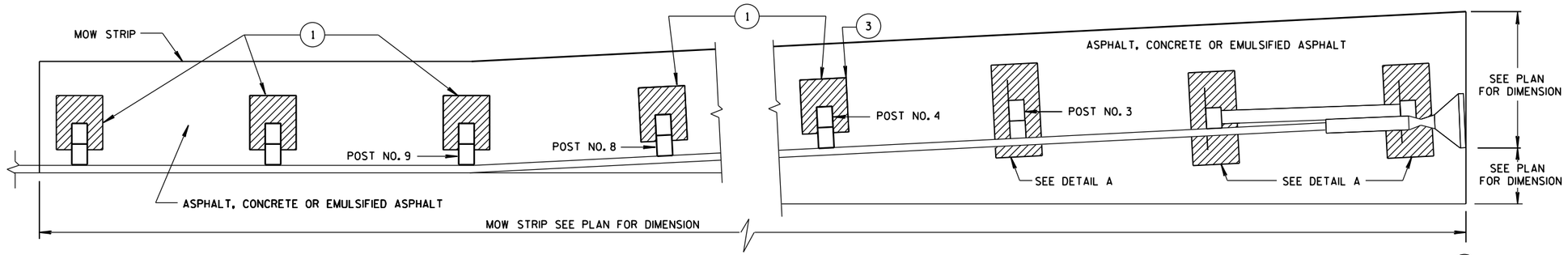
ENT

6

S.D.D. 14 B 24-9c

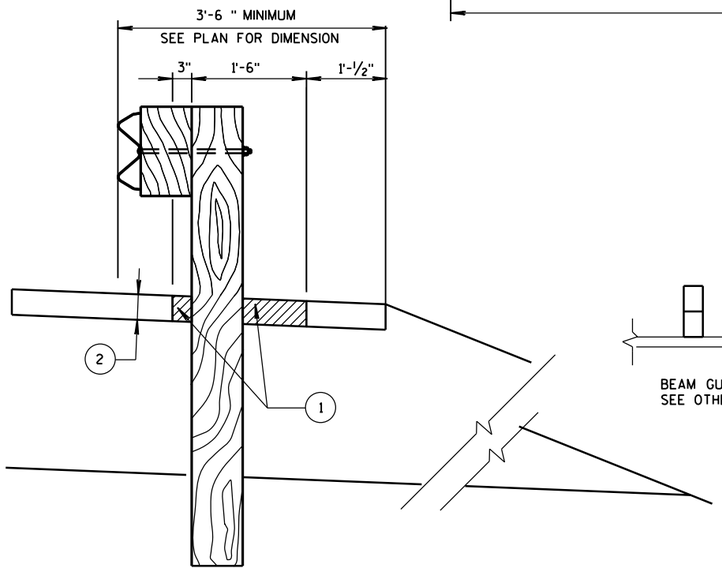
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S.D.D. 14 B 24-9c

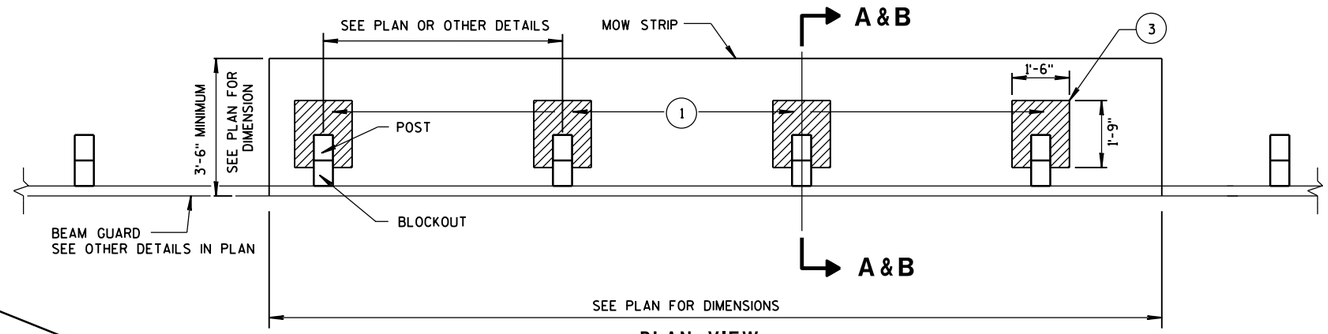


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

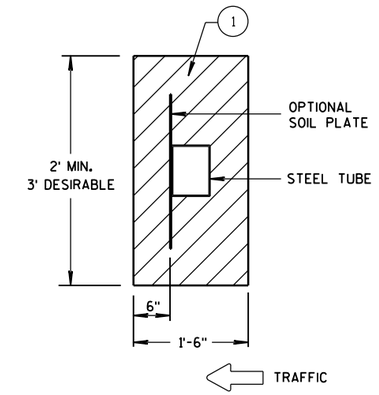


SECTION A-A

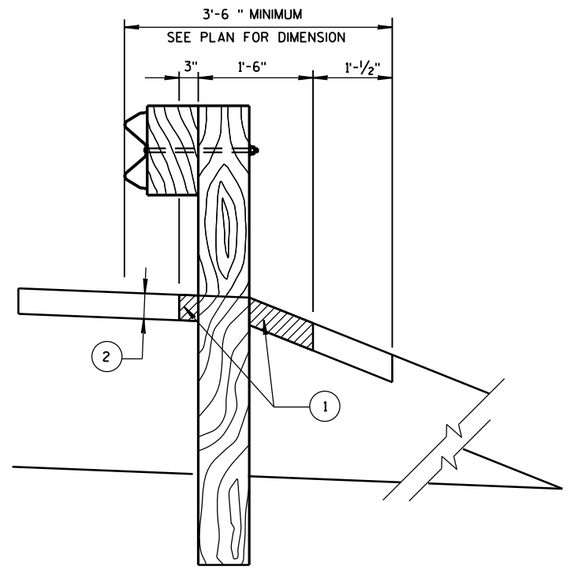


PLAN VIEW

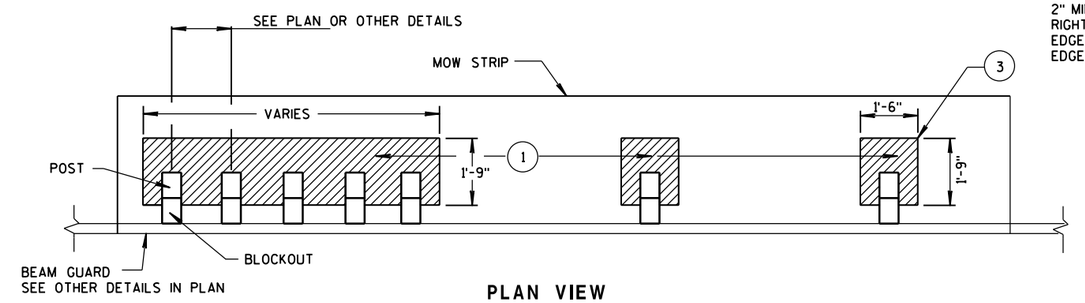
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

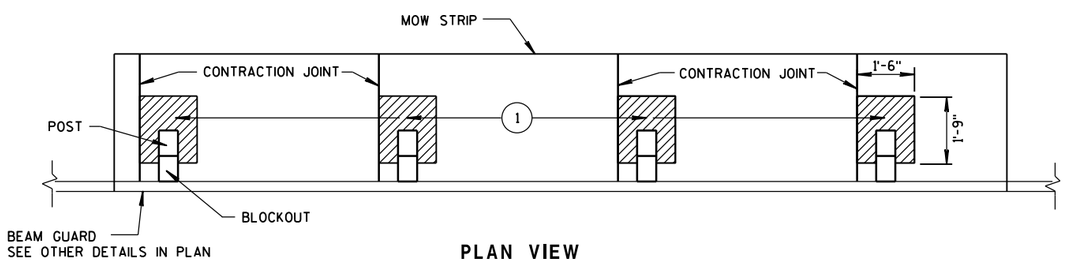


SECTION B-B



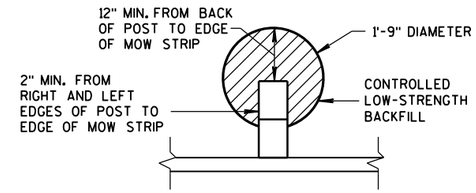
PLAN VIEW

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

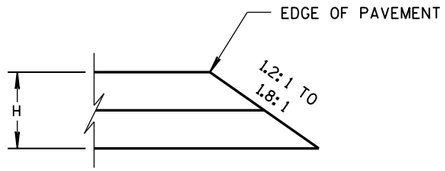
APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA
NT

6

S.D.D. 14 B 28-3

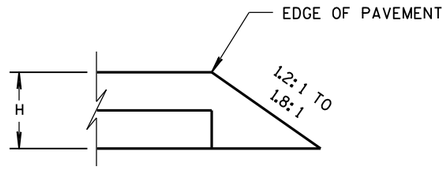
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S.D.D. 14 B 28-3



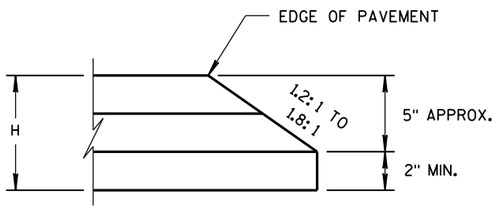
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



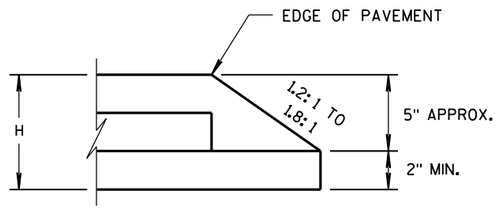
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

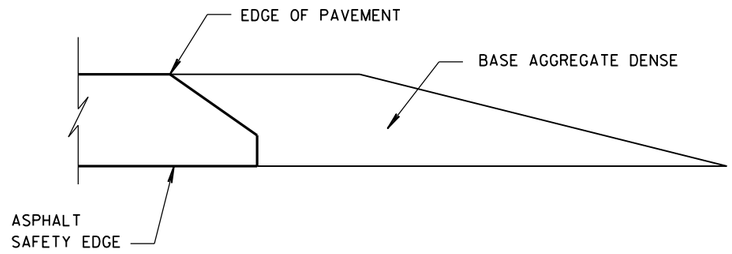
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

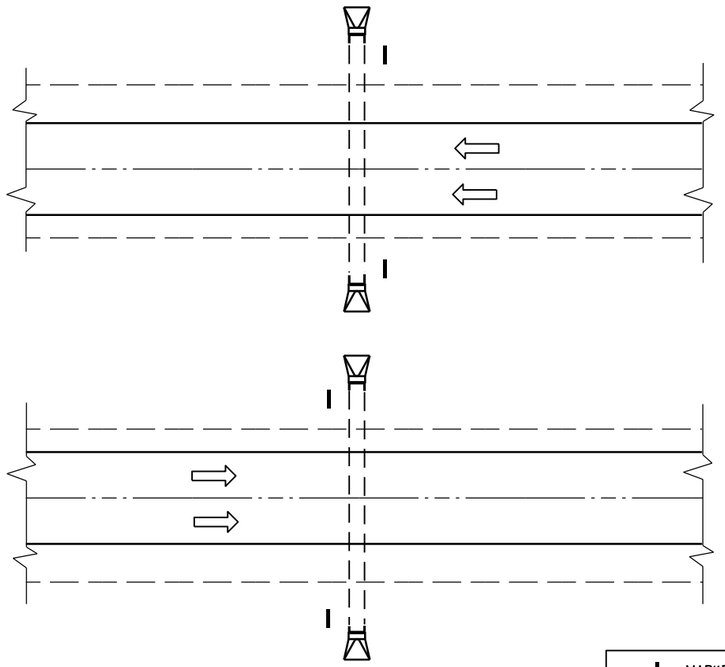
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

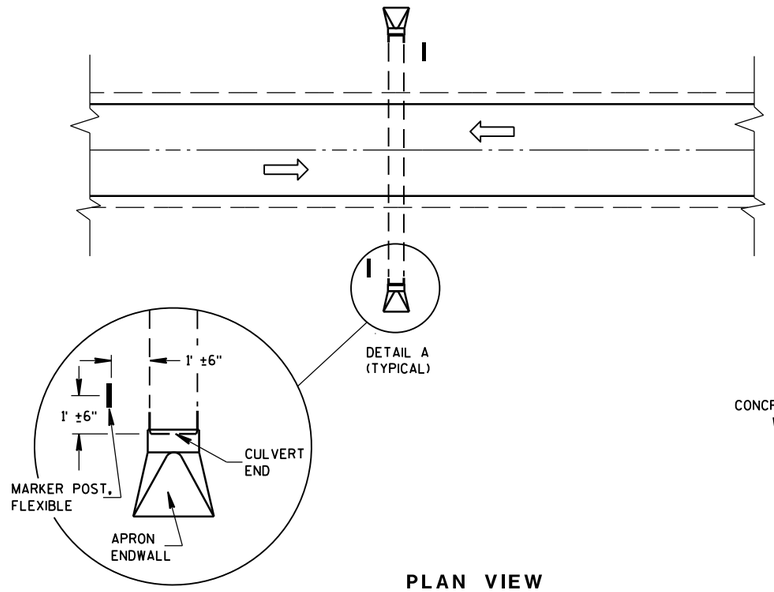
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

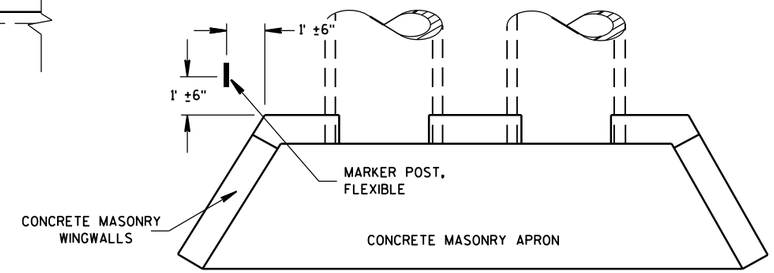
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

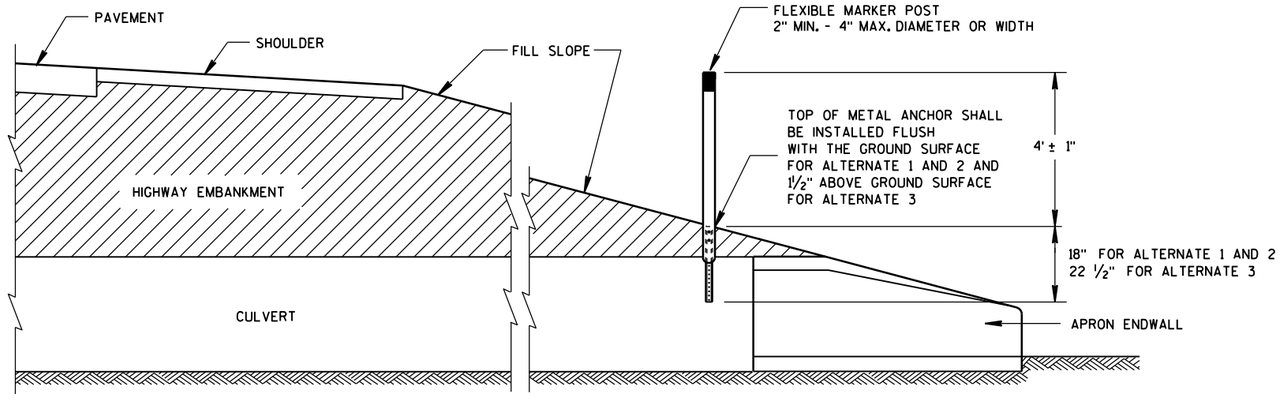
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

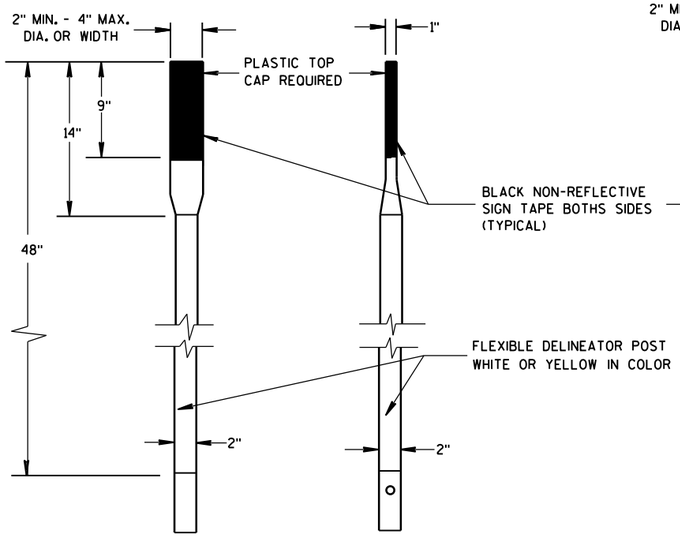
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

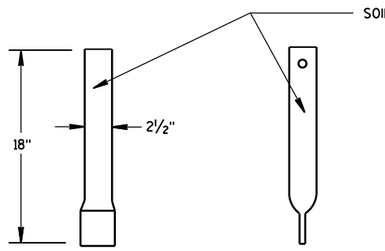
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S.D.D. 15 A 3-2a

6

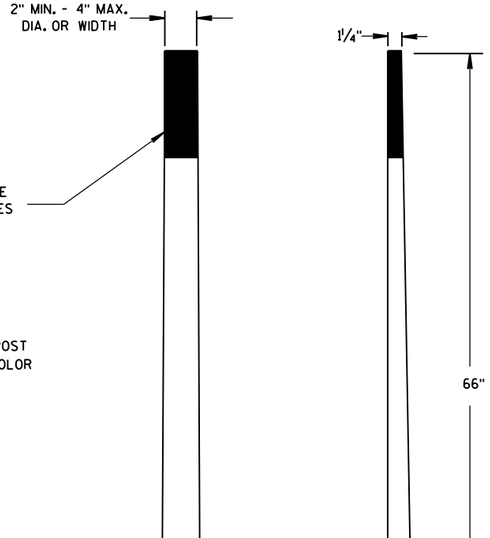
S.D.D. 15 A 3-2a





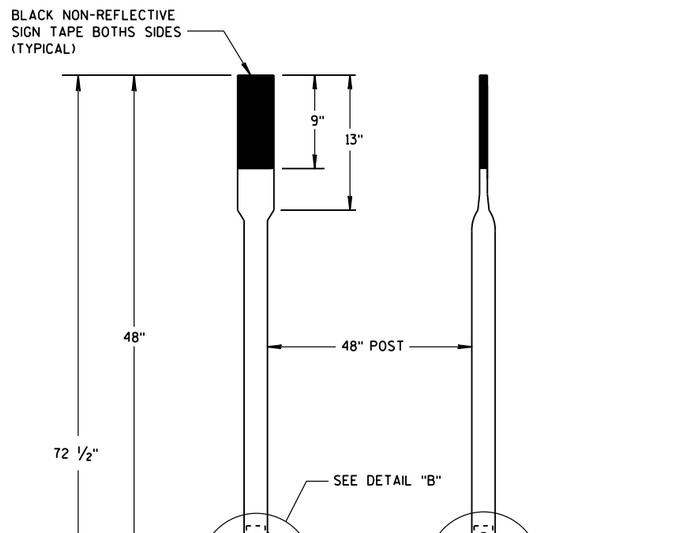
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

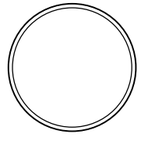
ALTERNATE 2



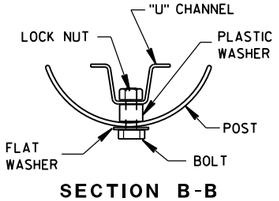
FRONT VIEW SIDE VIEW

ALTERNATE 3

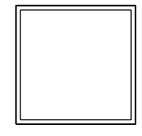
FLEXIBLE MARKER POSTS



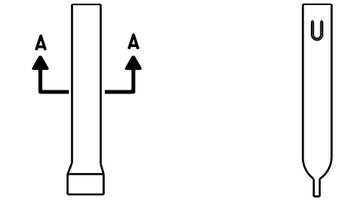
SECTION A-A



SECTION B-B

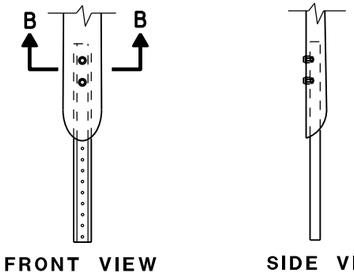


SECTION C-C



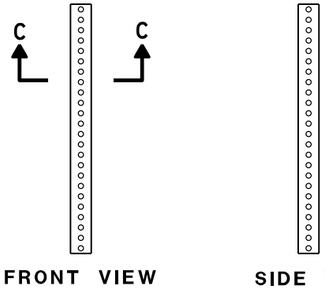
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

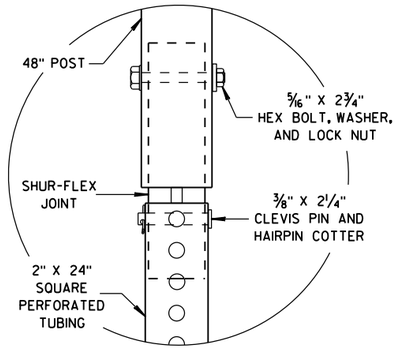
ALTERNATE 2



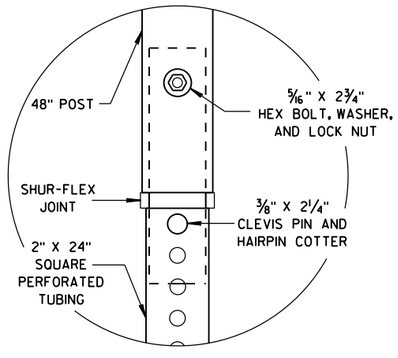
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

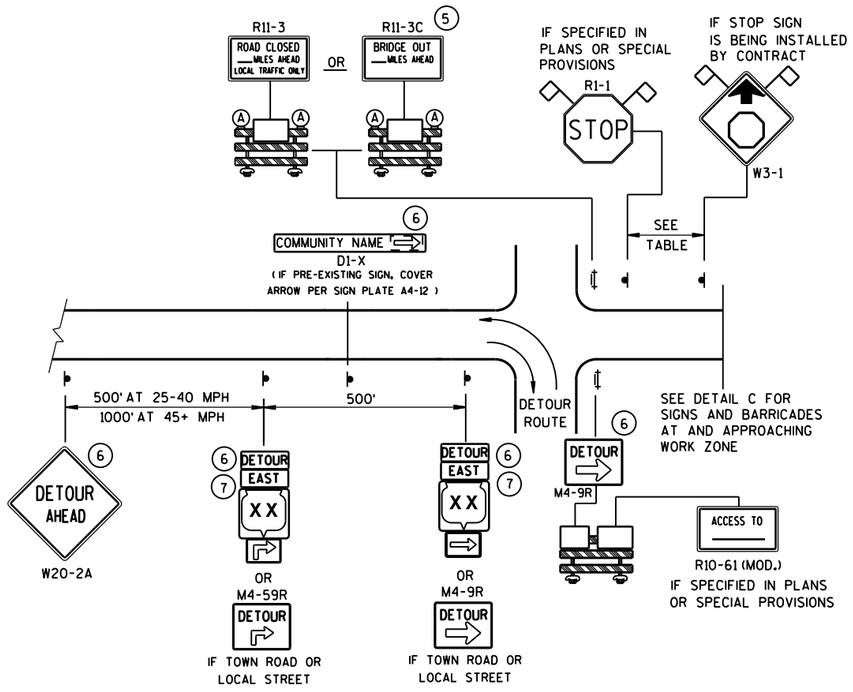
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

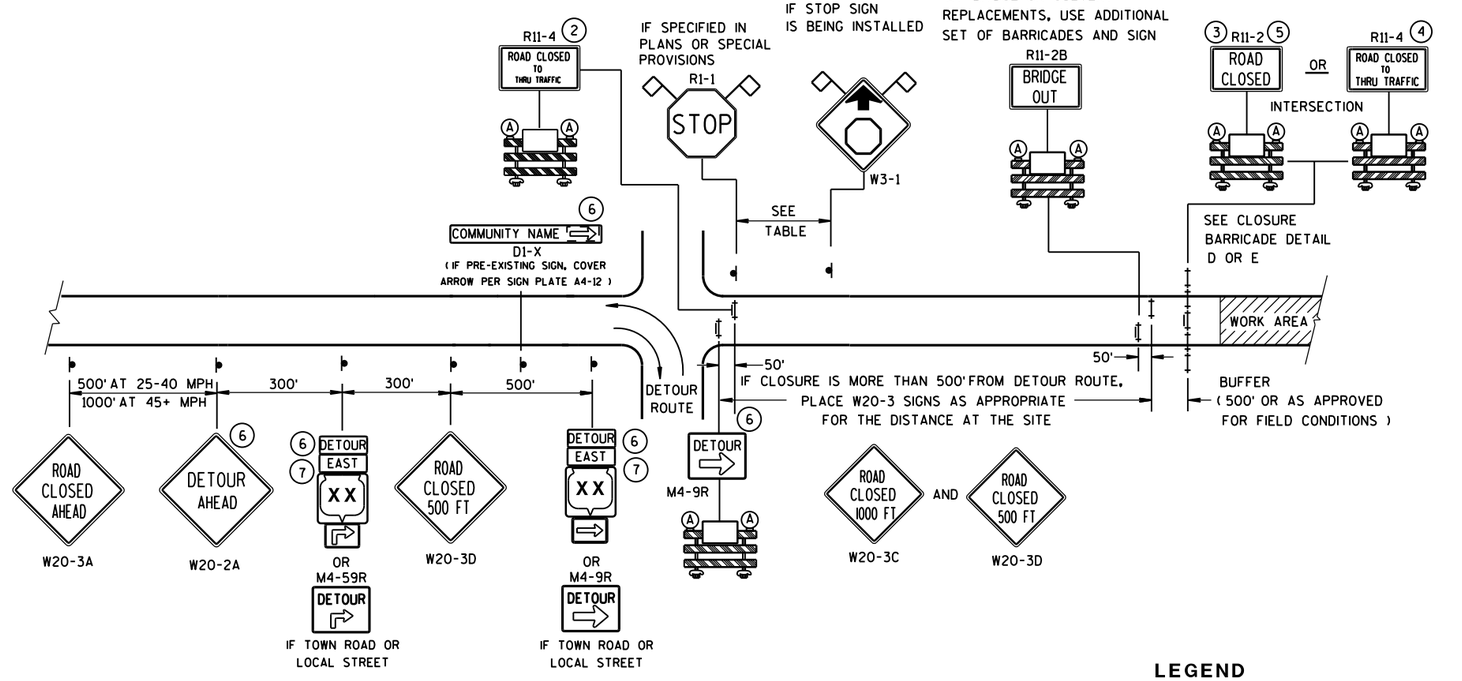
6

S.D.D. 15 A 3-2b



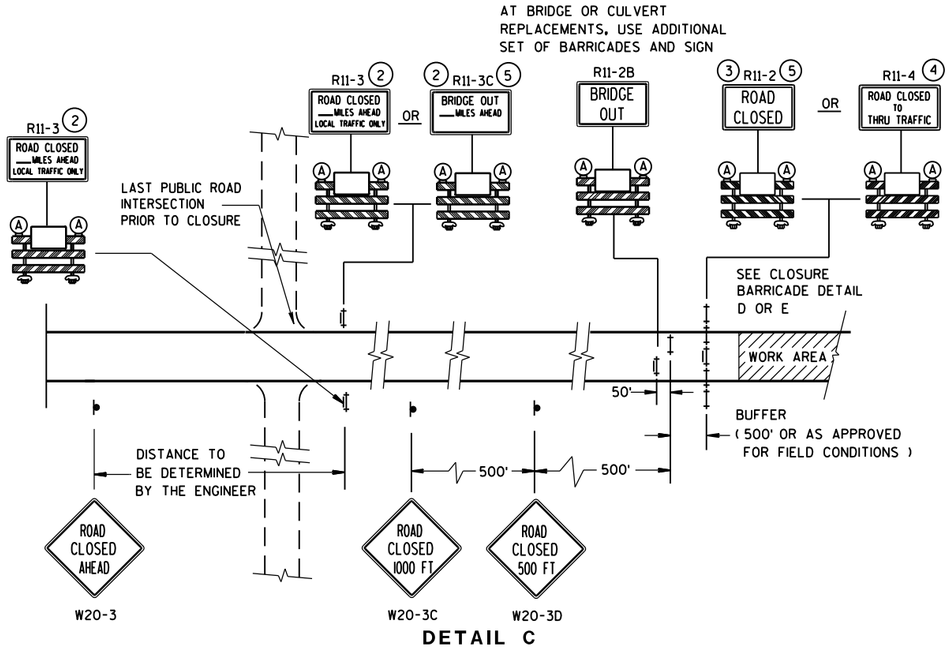
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

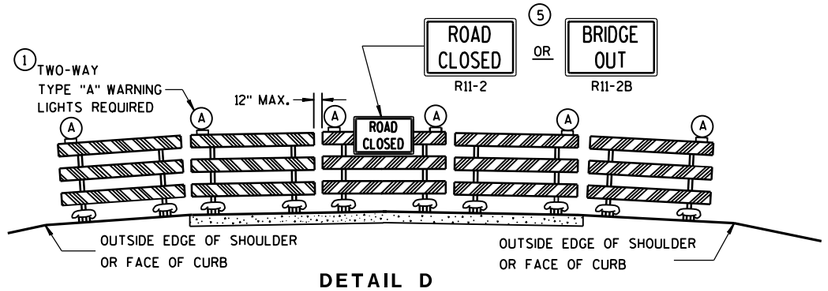
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

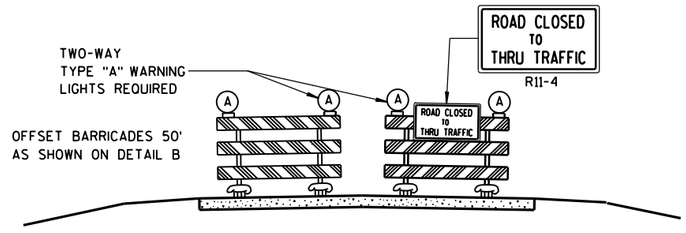
6
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI
FHWA — FIC

6

S.D.D. 15 C 2-6b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

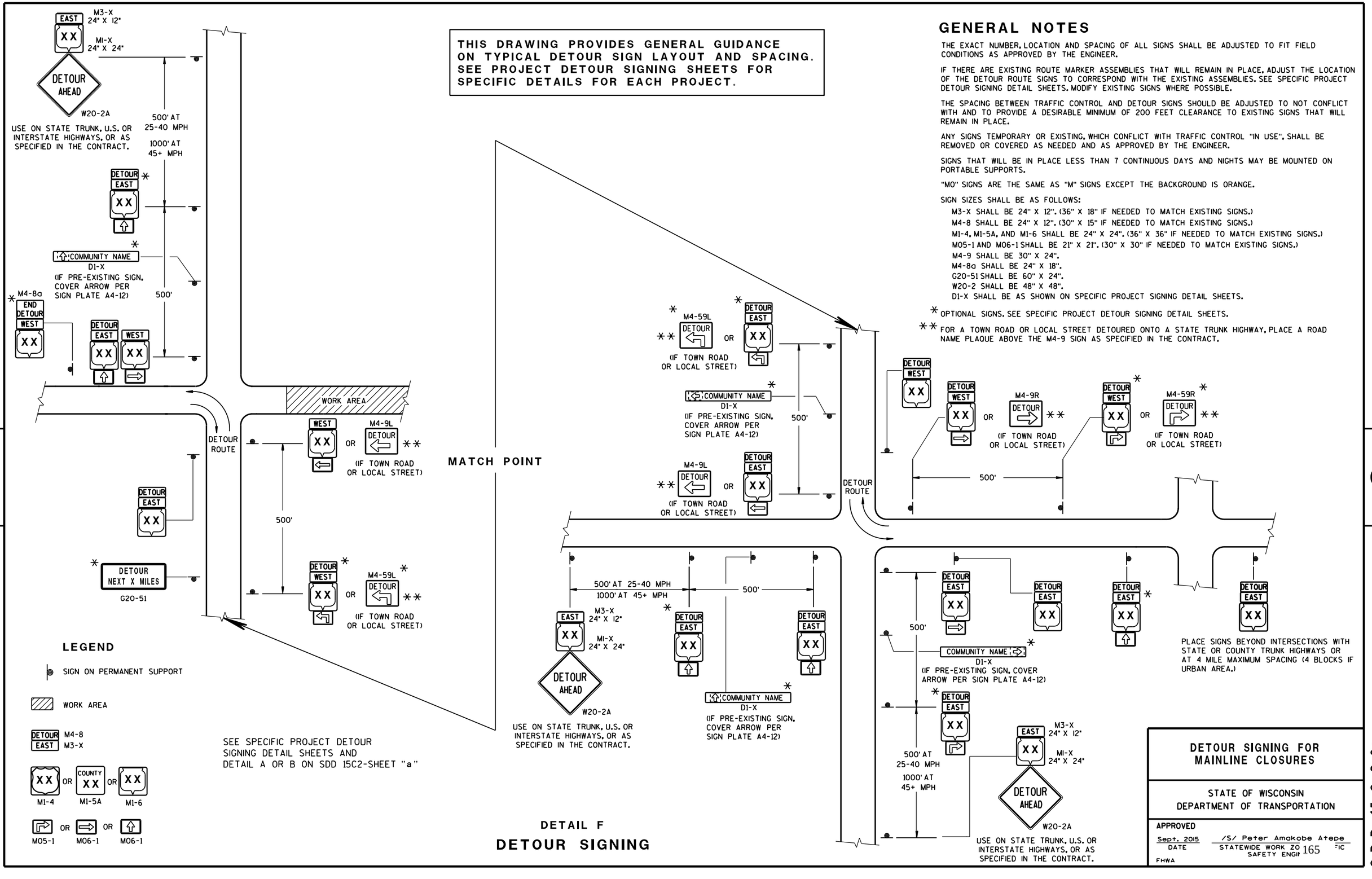
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

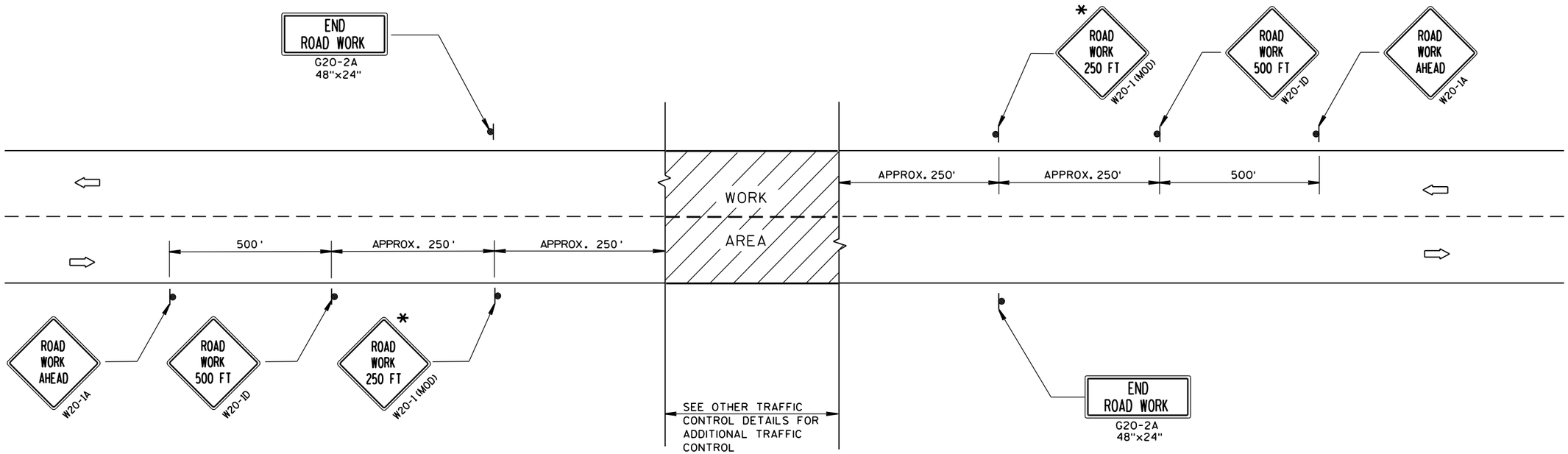
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

S.D.D. 15 C 2-6c

S.D.D. 15 C 2-6c

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

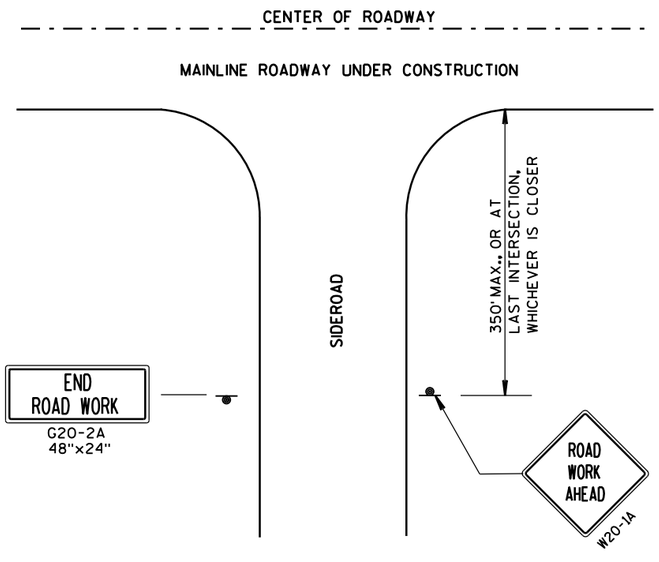
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

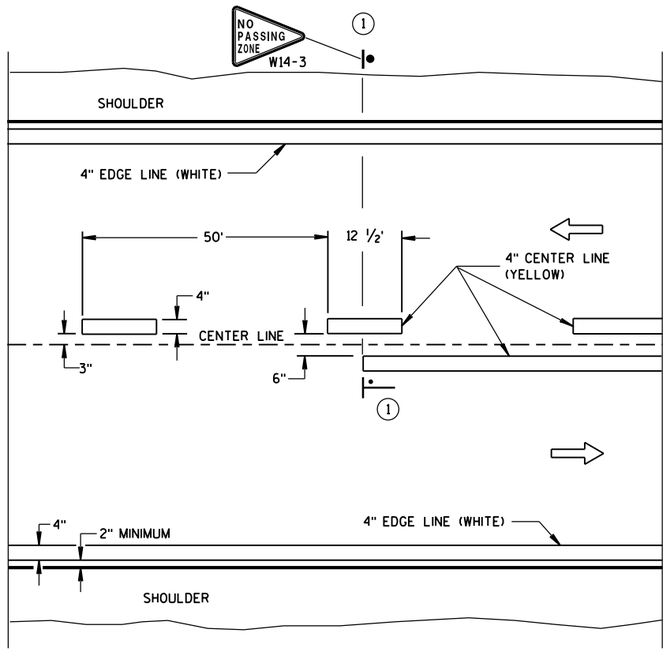
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

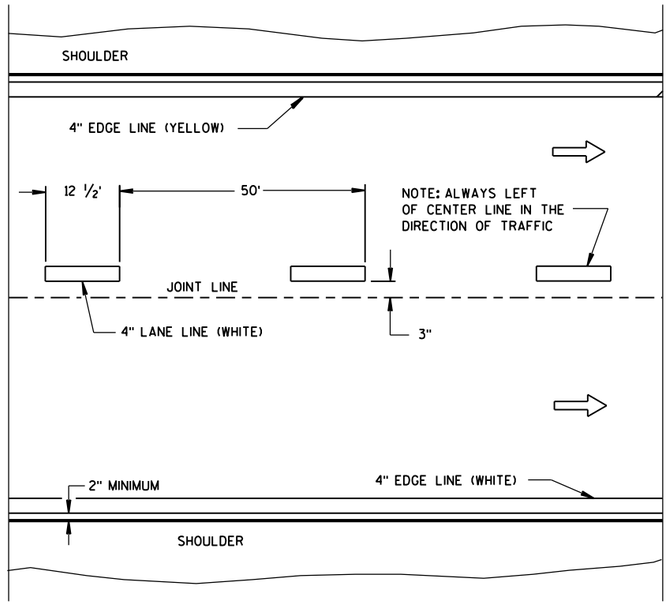
APPROVED
Sept. 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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S.D.D. 15 C 5-4



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

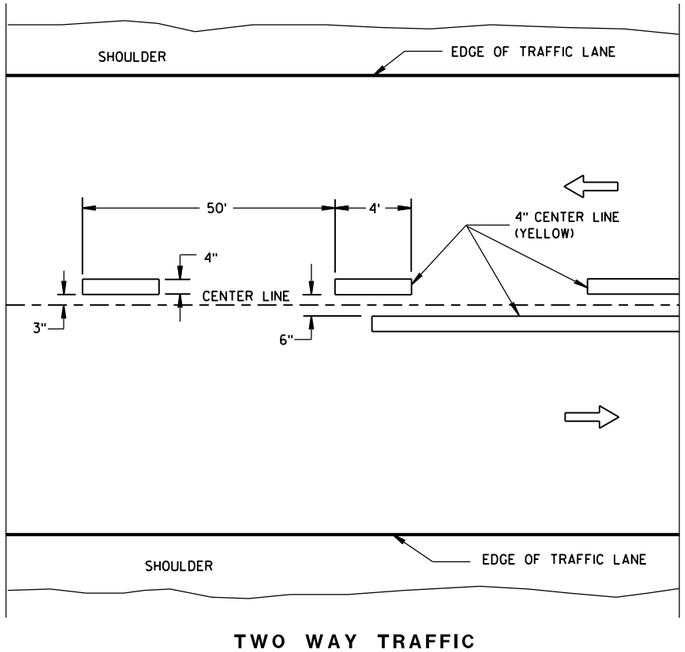
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

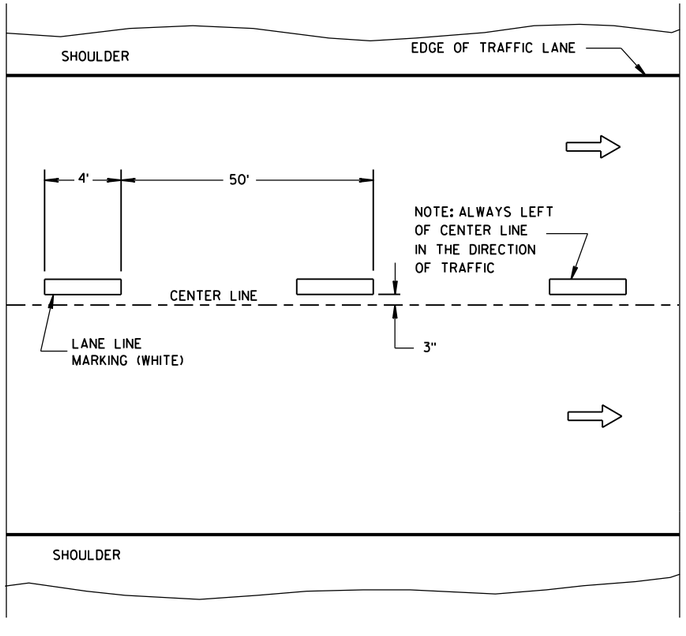
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

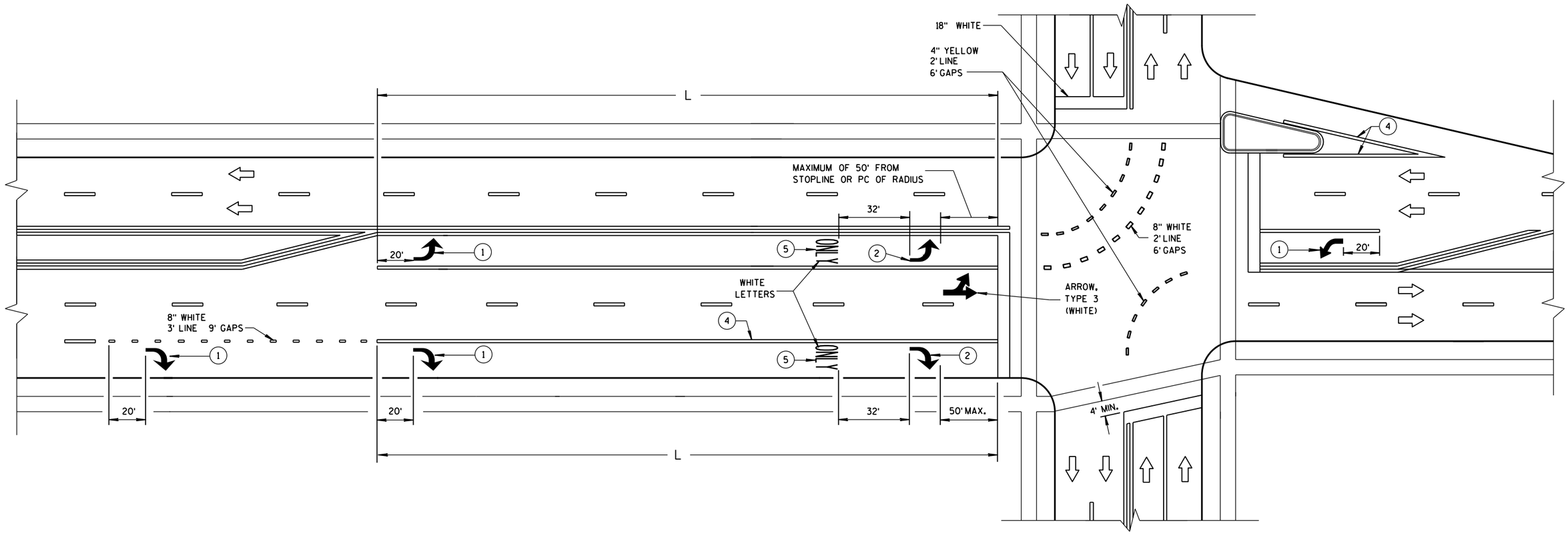
LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MAR[illegible]INEER
FHWA	

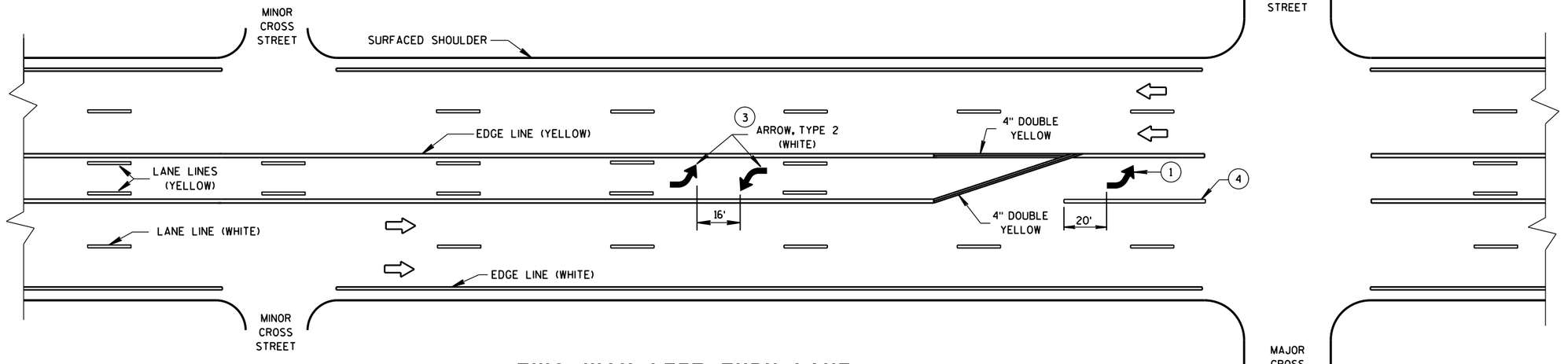
6

S.D.D. 15 C 8-18a

6

S.D.D. 15 C 8-18a





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

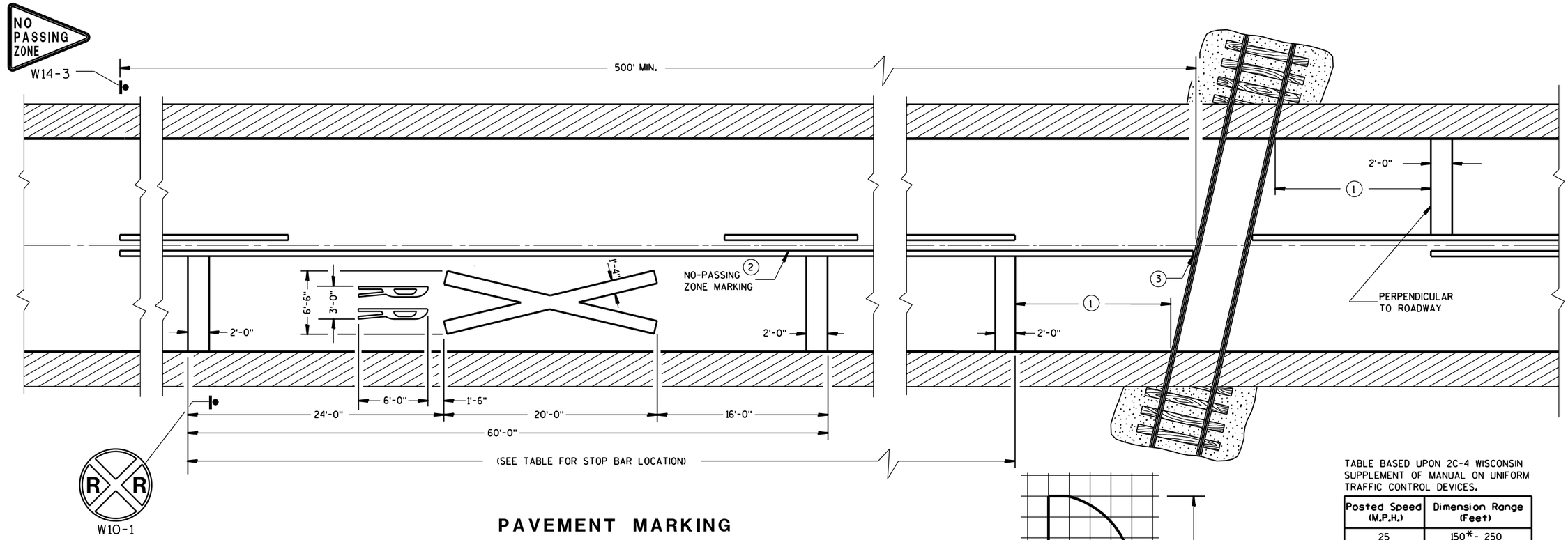
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-18b



PAVEMENT MARKING

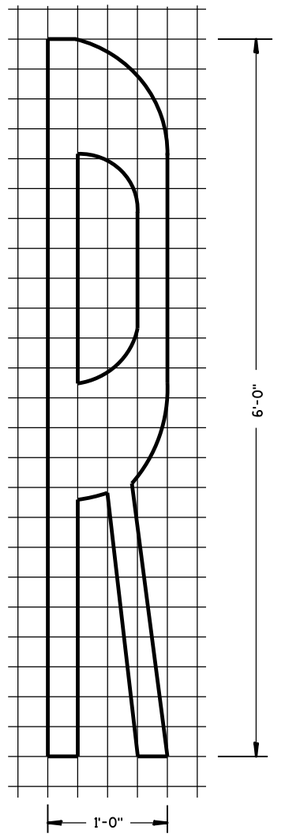


TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

(1) MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.

(2) 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.

(3) FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAI[illegible]GINEER
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S.D.D. 15 C 9-11a

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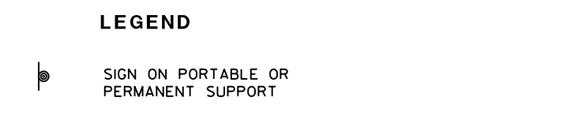
S.D.D. 15 C 9-11a

LEGEND

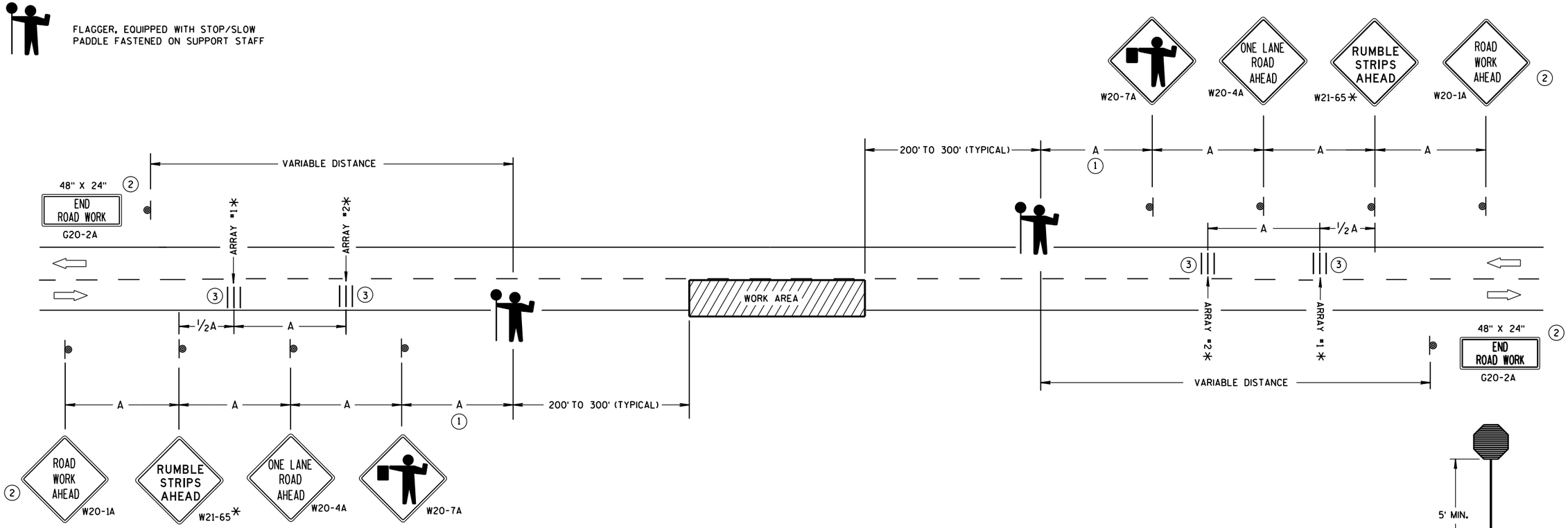
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

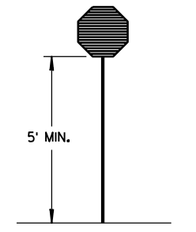
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

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

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.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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 RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT 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.

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

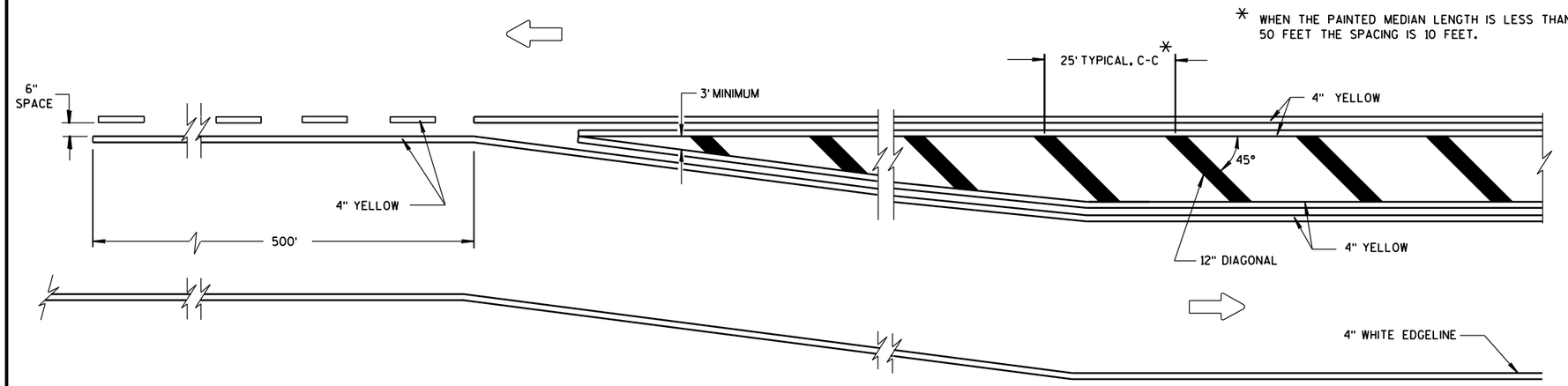
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 C 12-6



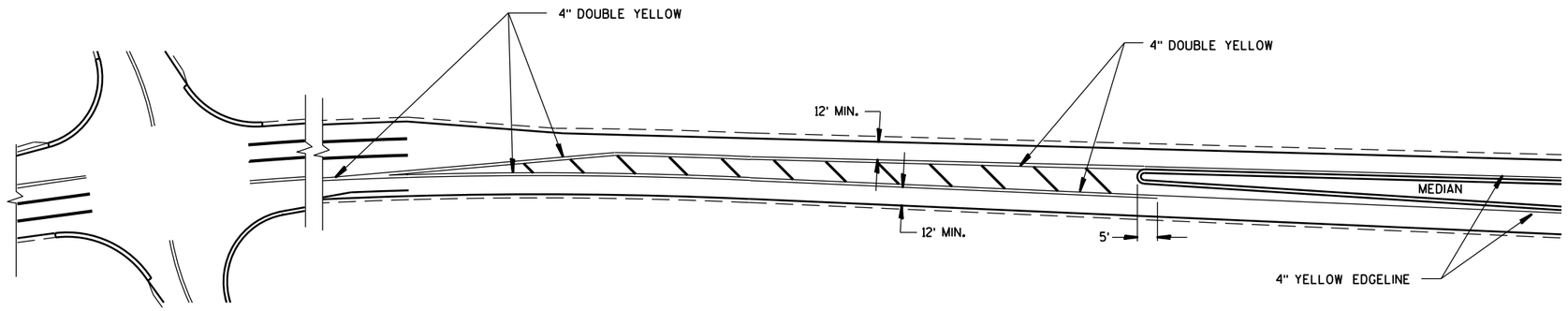
* WHEN THE PAINTED MEDIAN LENGTH IS LESS THAN 50 FEET THE SPACING IS 10 FEET.

MEDIAN ISLAND DETAIL

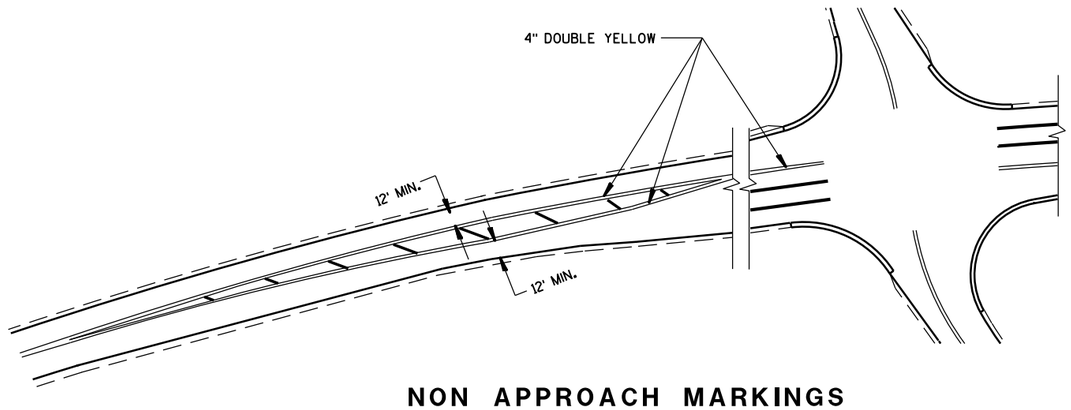
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

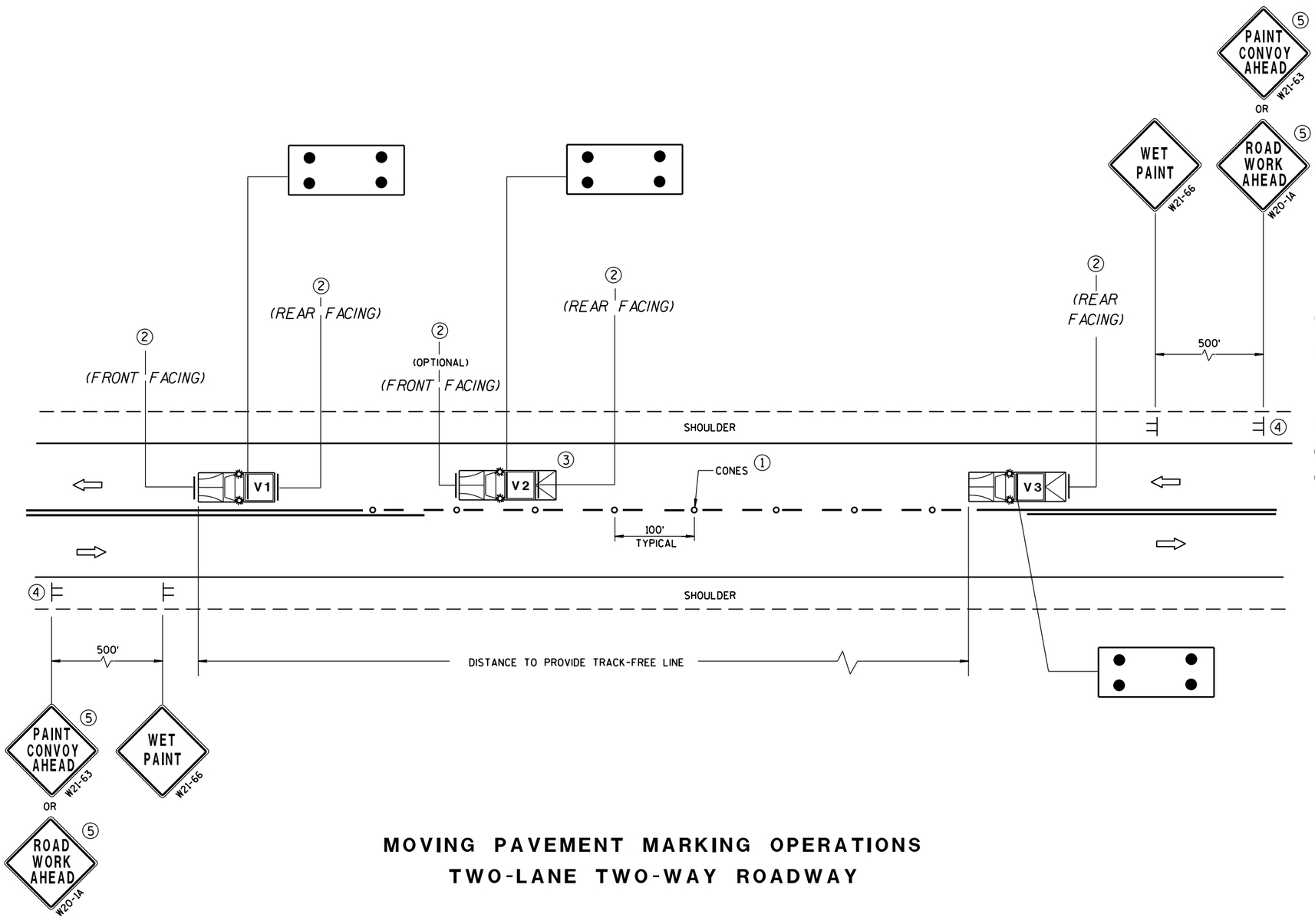
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE FHWA	/S/ Matthew Rauch STATE SIGNING AND MARK ... EER

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S.D.D. 15 C 18-4

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S.D.D. 15 C 18-4



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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

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

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

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

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

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

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

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

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

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

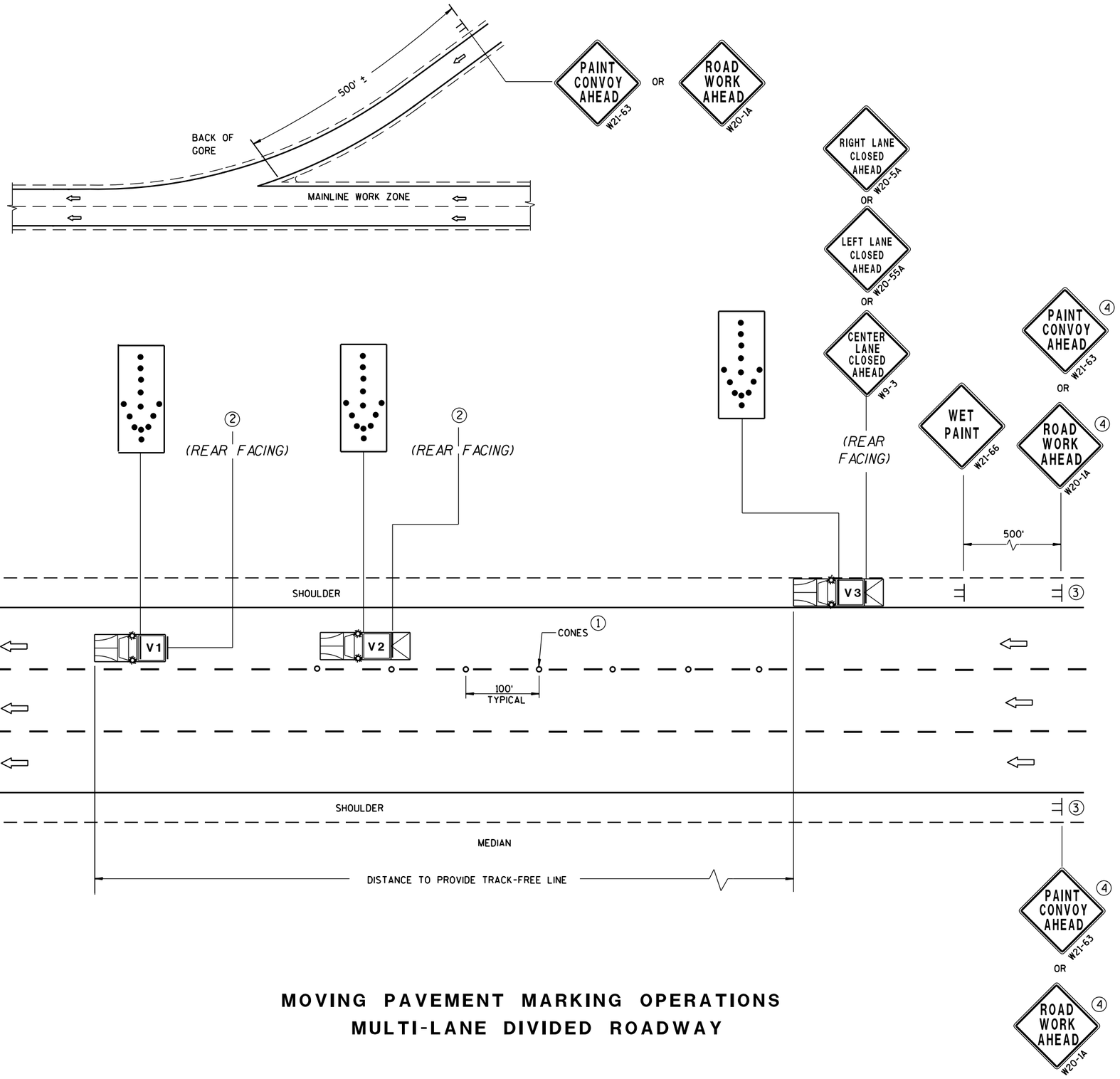
(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

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

LEGEND

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

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept., 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGR
FHWA	



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

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

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

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

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

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

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

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

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

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

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

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

WET PAINT W21-64 OR WET PAINT W21-64

(3) SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

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

LEGEND

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

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGR
FHWA

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S.D.D. 15 C 19-5c

GENERAL NOTES

SIGNING AND MARKING IS SHOWN AS TYPICAL PLACEMENT. FIELD CONDITIONS MAY DICTATE CHANGES IN SIGNING AND MARKING PLACEMENT.

A DISTANCE DEPENDENT ON SPEED (SEE TABLE)

(1) USED ONLY WHEN APPROVED BY REGION TRAFFIC ENGINEER.

SYMBOLS

* SIGNS MAY BE OMITTED IF SPACE DOES NOT PERMIT

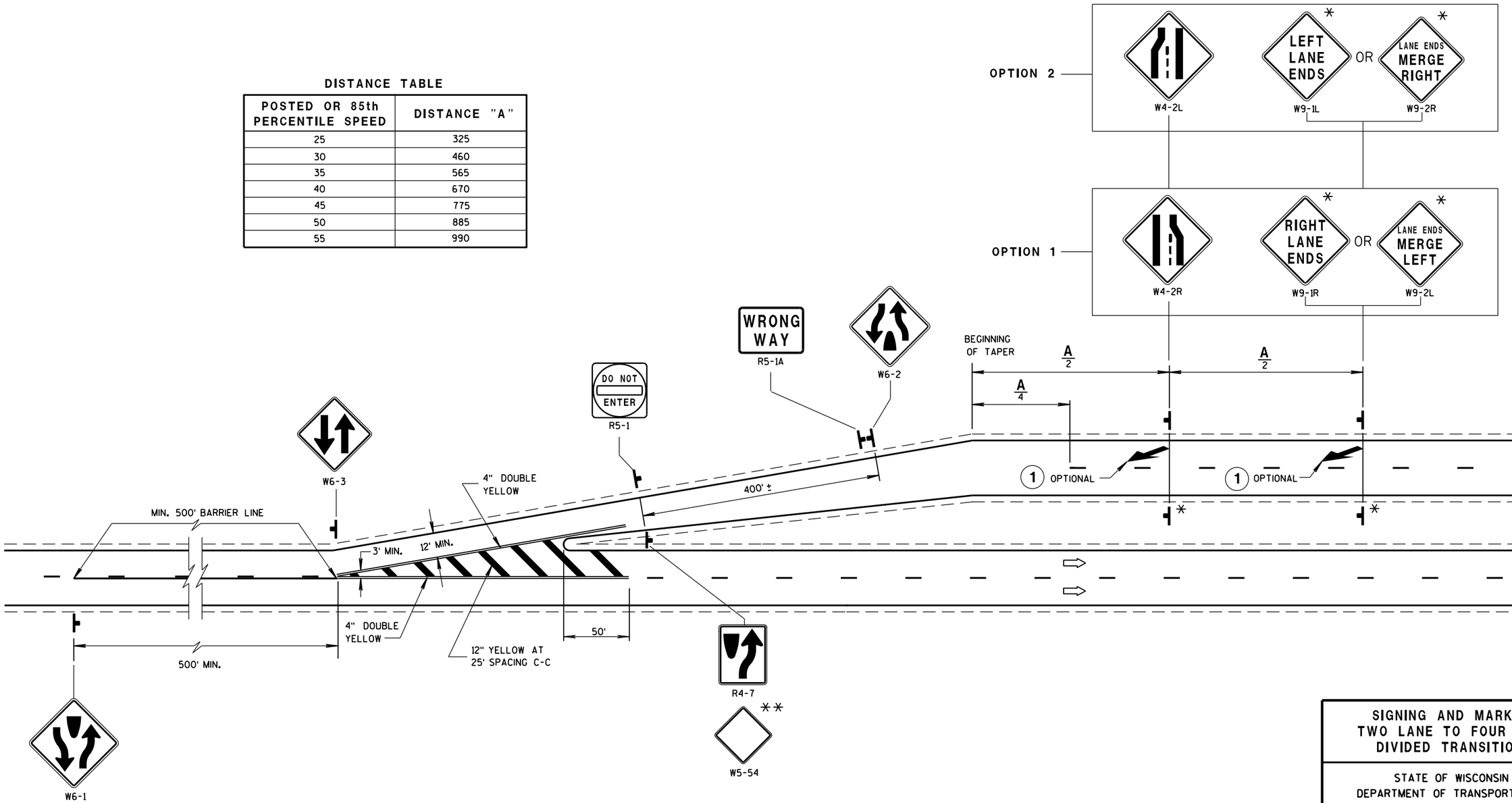
** IF POSTED SPEED 45 MPH OR GREATER, PLACE W5-54 SIGN UNDER R4-7 SIGN. MOUNT W5-54 SIGN AT 4' MOUNTING HEIGHT (TOP OF ROADWAY TO BOTTOM OF SIGN)

POST MOUNTED SIGN

DIRECTION OF TRAFFIC FLOW

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	325
30	460
35	565
40	670
45	775
50	885
55	990



SIGNING AND MARKING
TWO LANE TO FOUR LANE
DIVIDED TRANSITIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

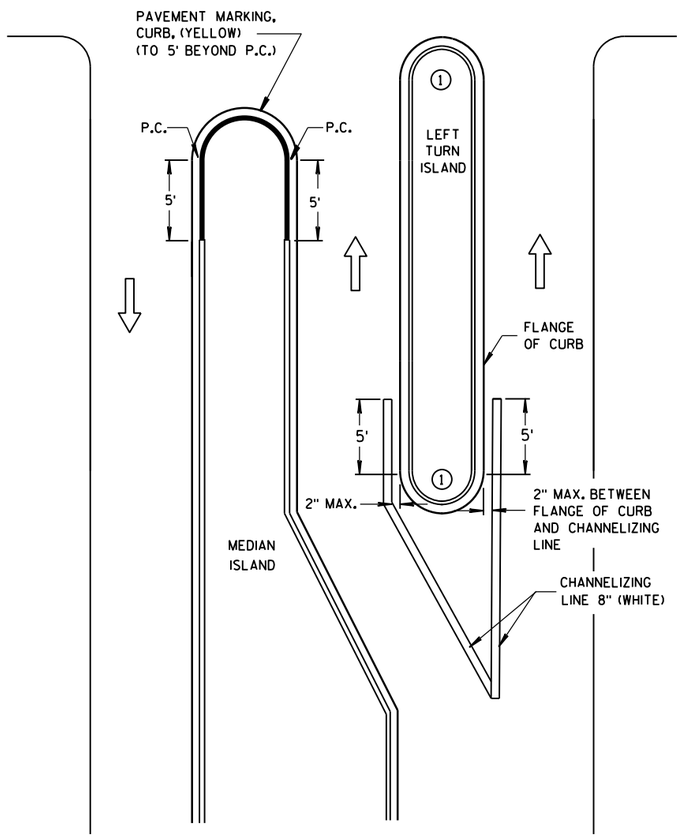
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S.D.D. 15 C 21-8

GENERAL NOTE

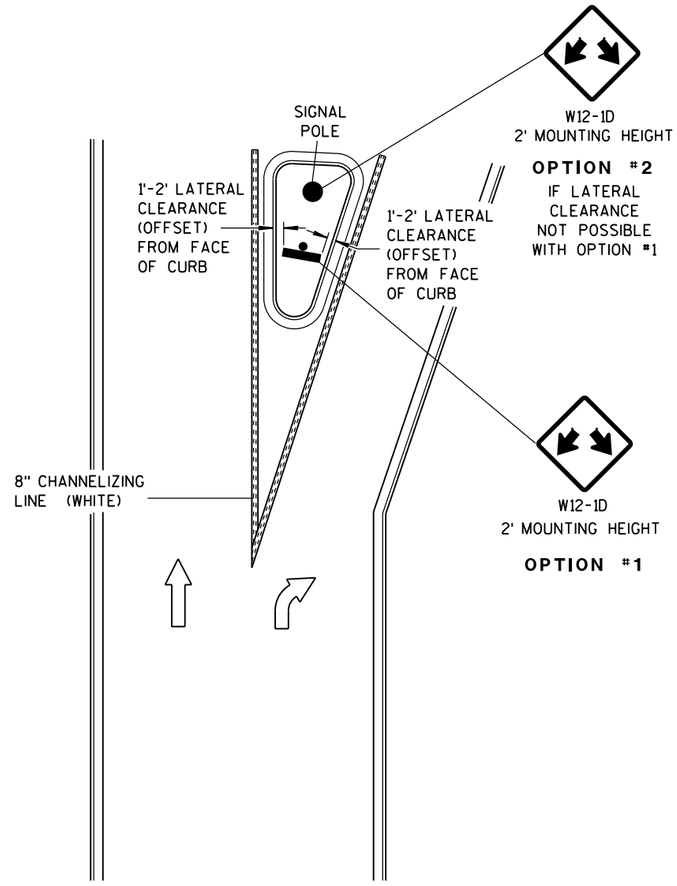
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

DIRECTION OF TRAVEL



LEFT TURN & MEDIAN ISLAND



RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

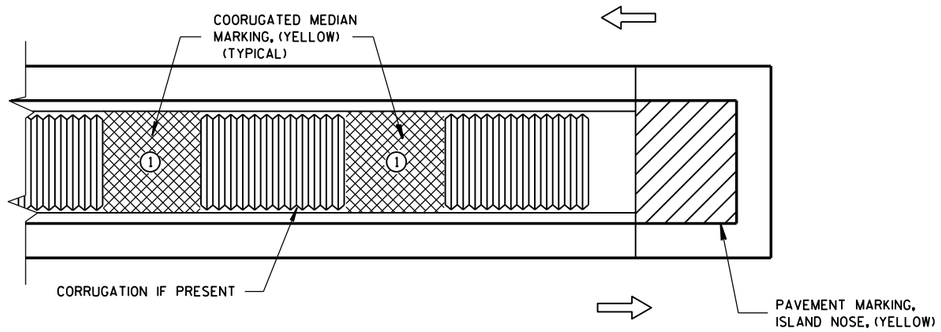
APPROVED
June 2017 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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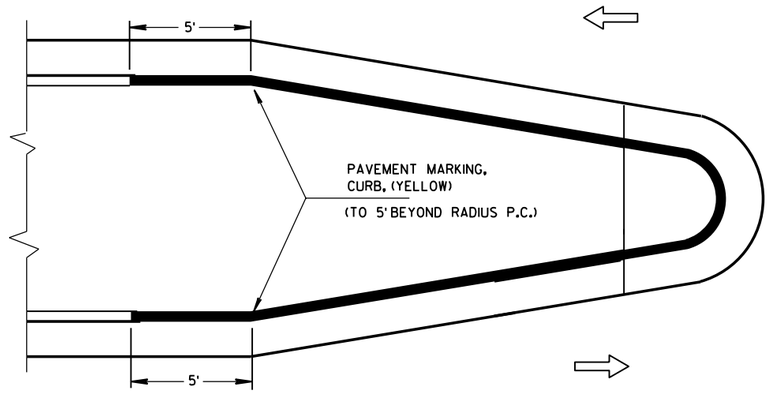
S.D.D. 15 C 27-2a

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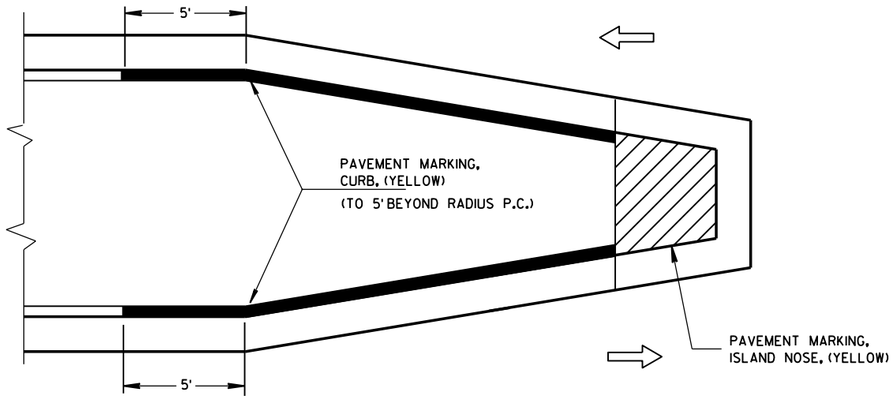
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MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

(1) WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARK ENGINEER

FHWA

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S.D.D. 15 C 27-2b

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S.D.D. 15 C 27-2b

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

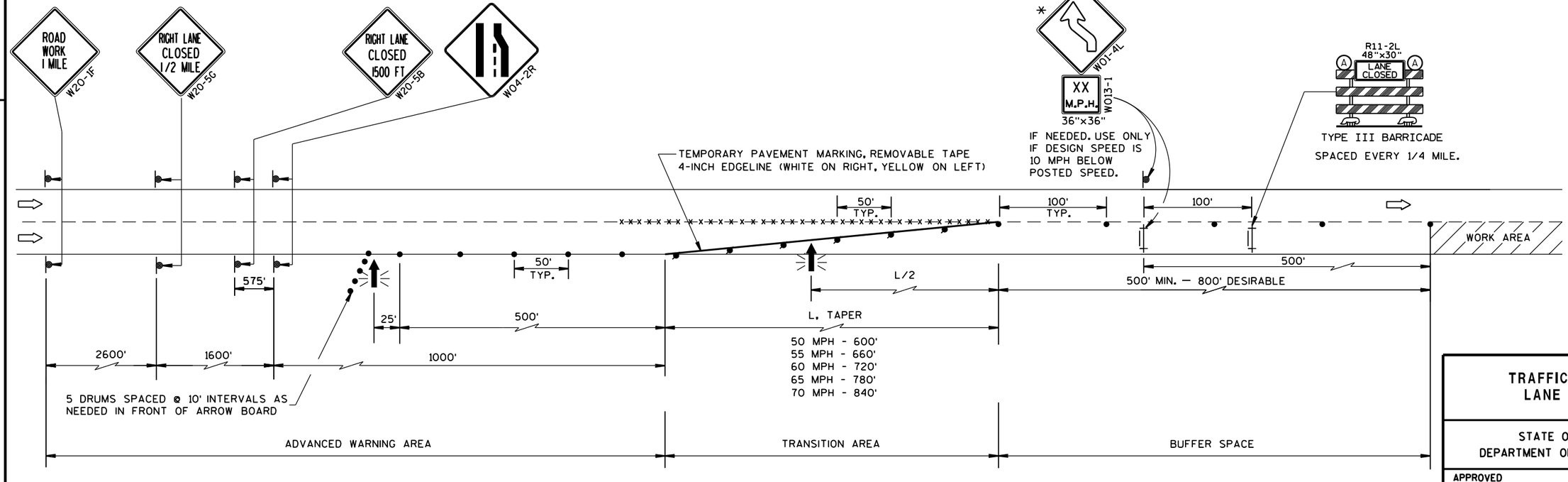
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

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

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 12-6a

6

S.D.D. 15 D 12-6a

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

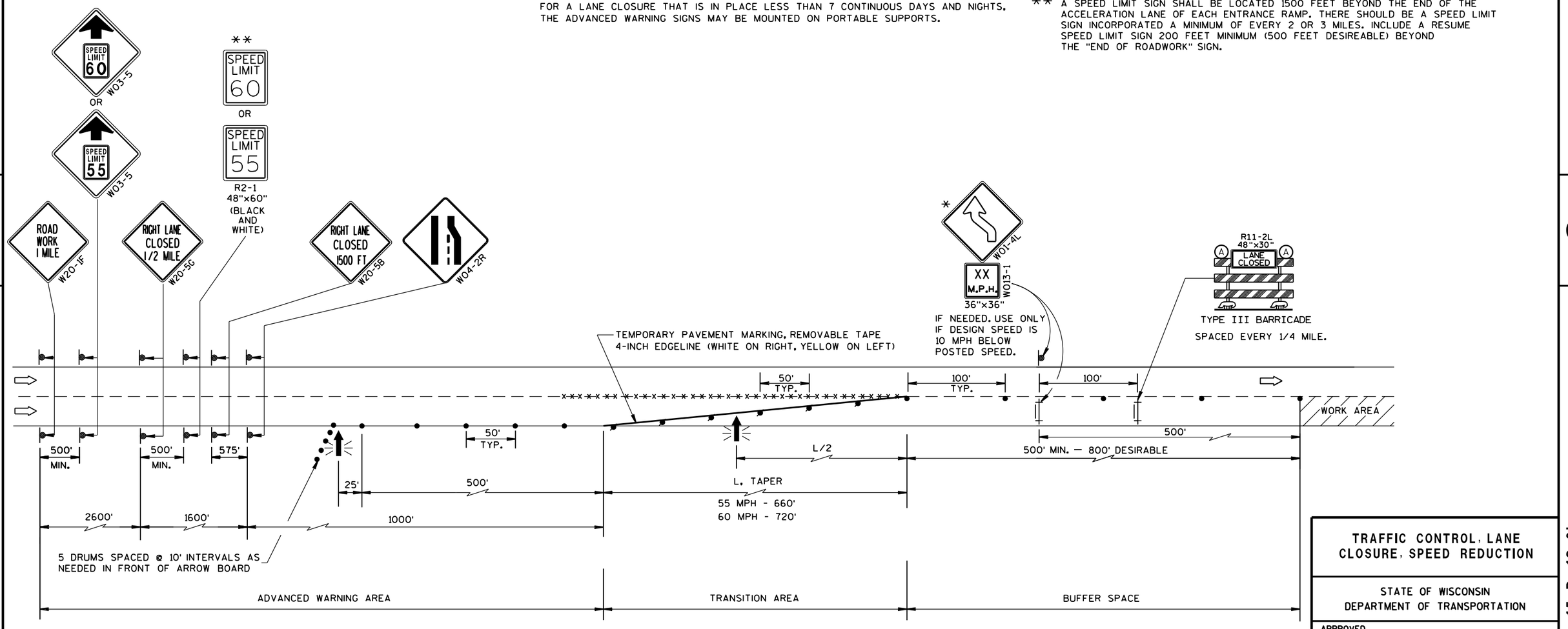
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

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

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



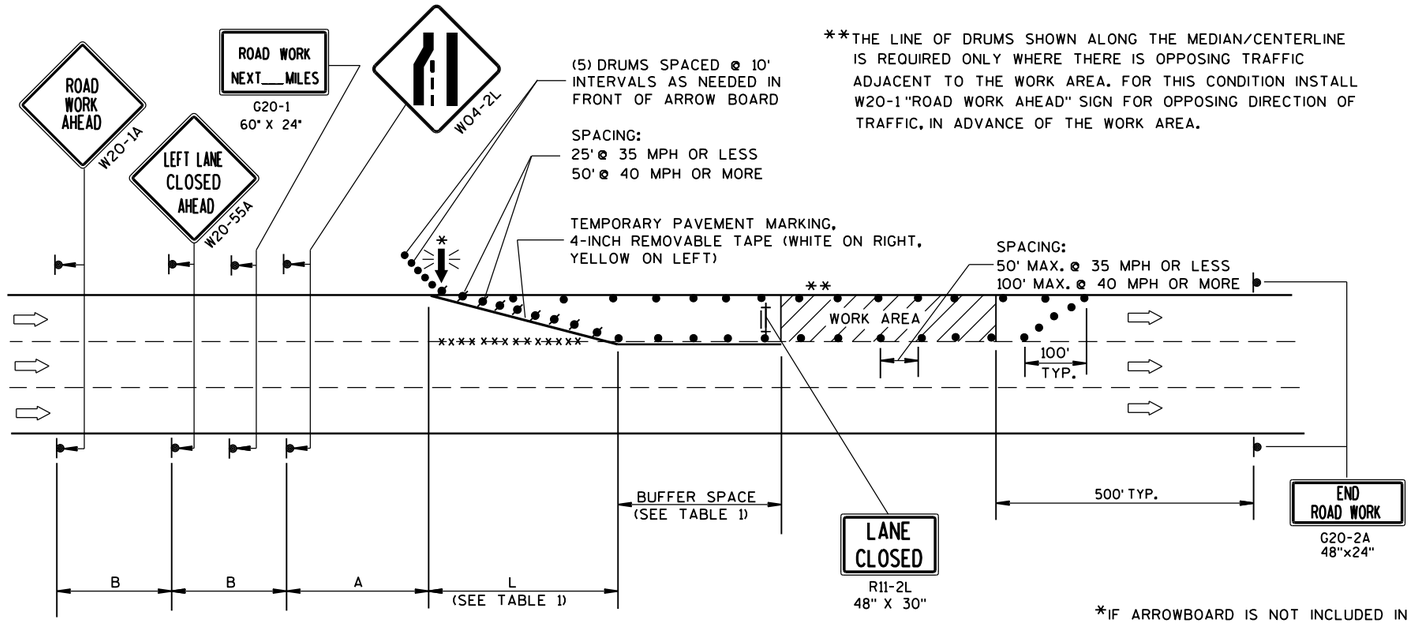
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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S.D.D. 15 D 12-6b



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

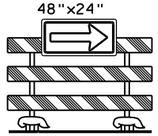


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

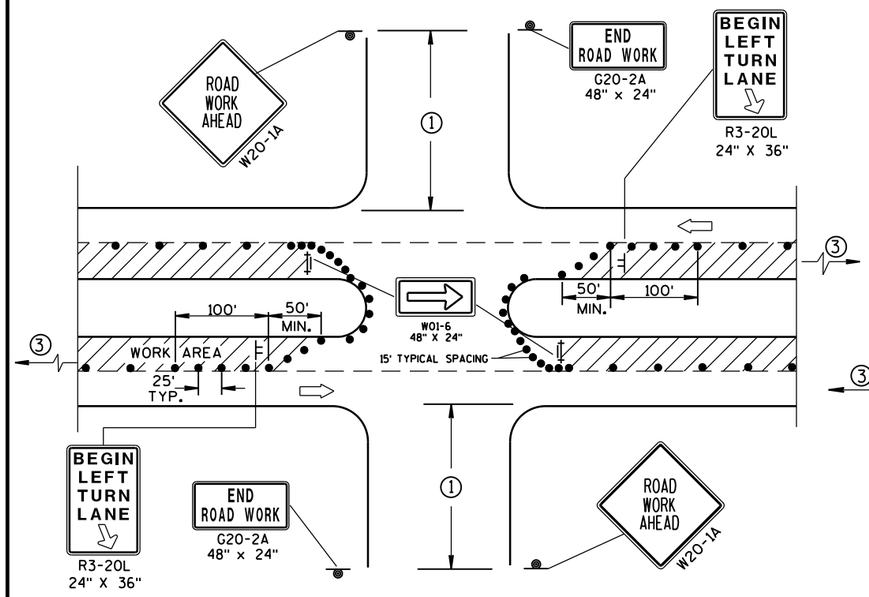
APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

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S.D.D. 15 D 20-4

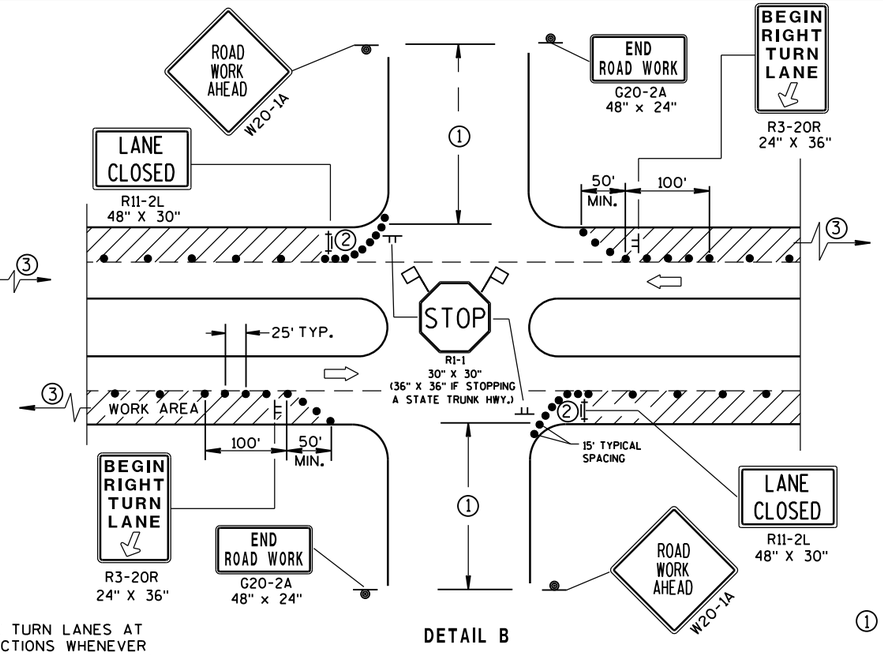
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S.D.D. 15 D 20-4



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

GENERAL NOTES

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

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

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

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

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

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

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

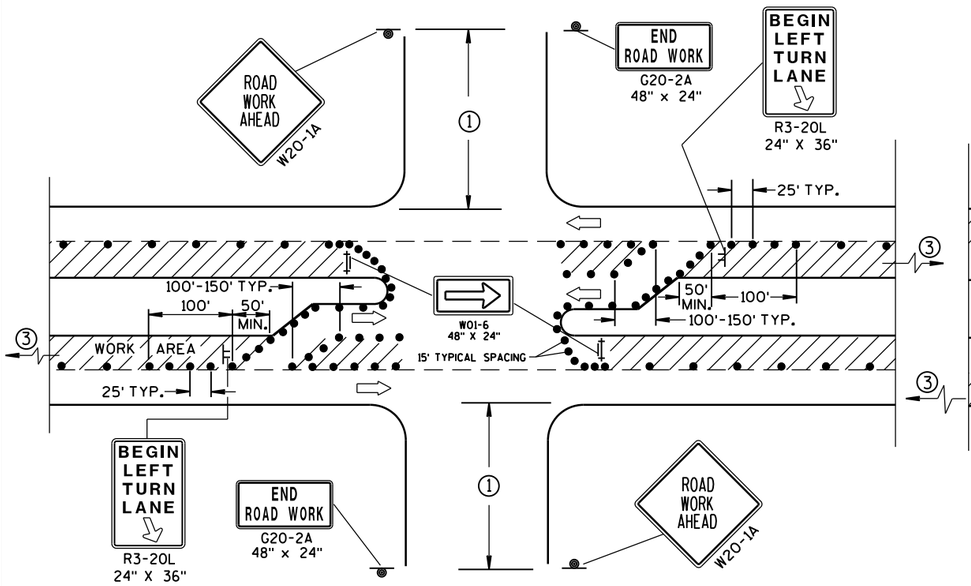
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

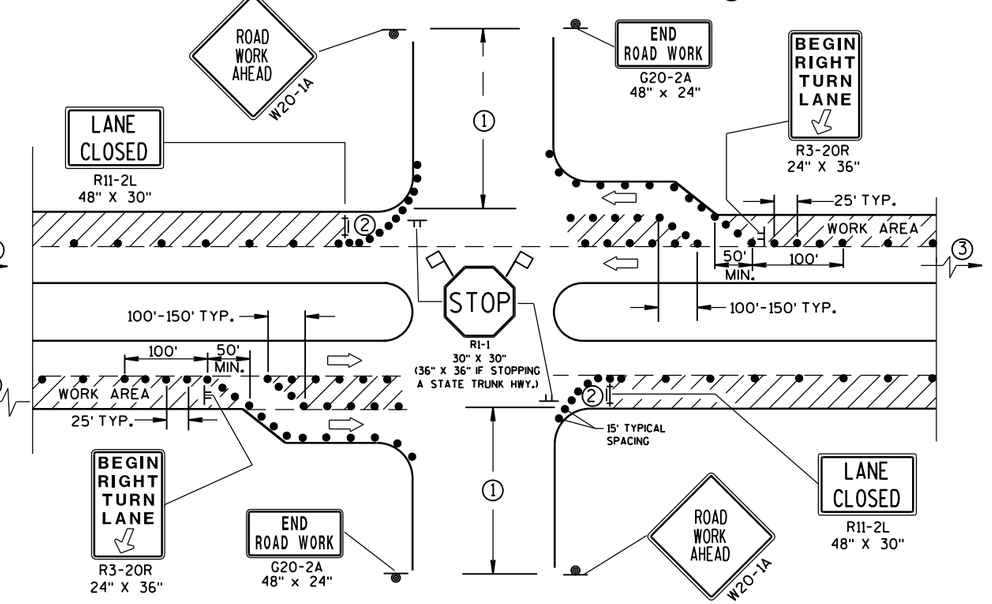
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 D 21-5

LEGEND

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

GENERAL NOTES

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

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

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

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

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

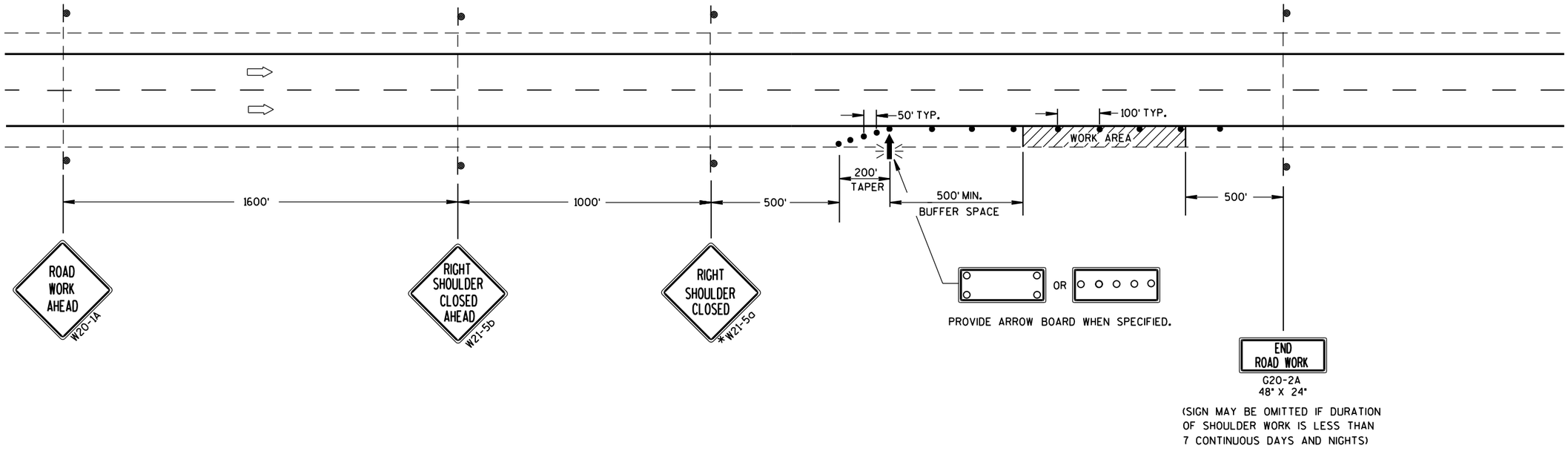
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible]FIC SAFETY ENGI[illegible]
FHWA

6

S.D.D. 15 D 27-3

GENERAL NOTES

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

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

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

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

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

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.

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

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

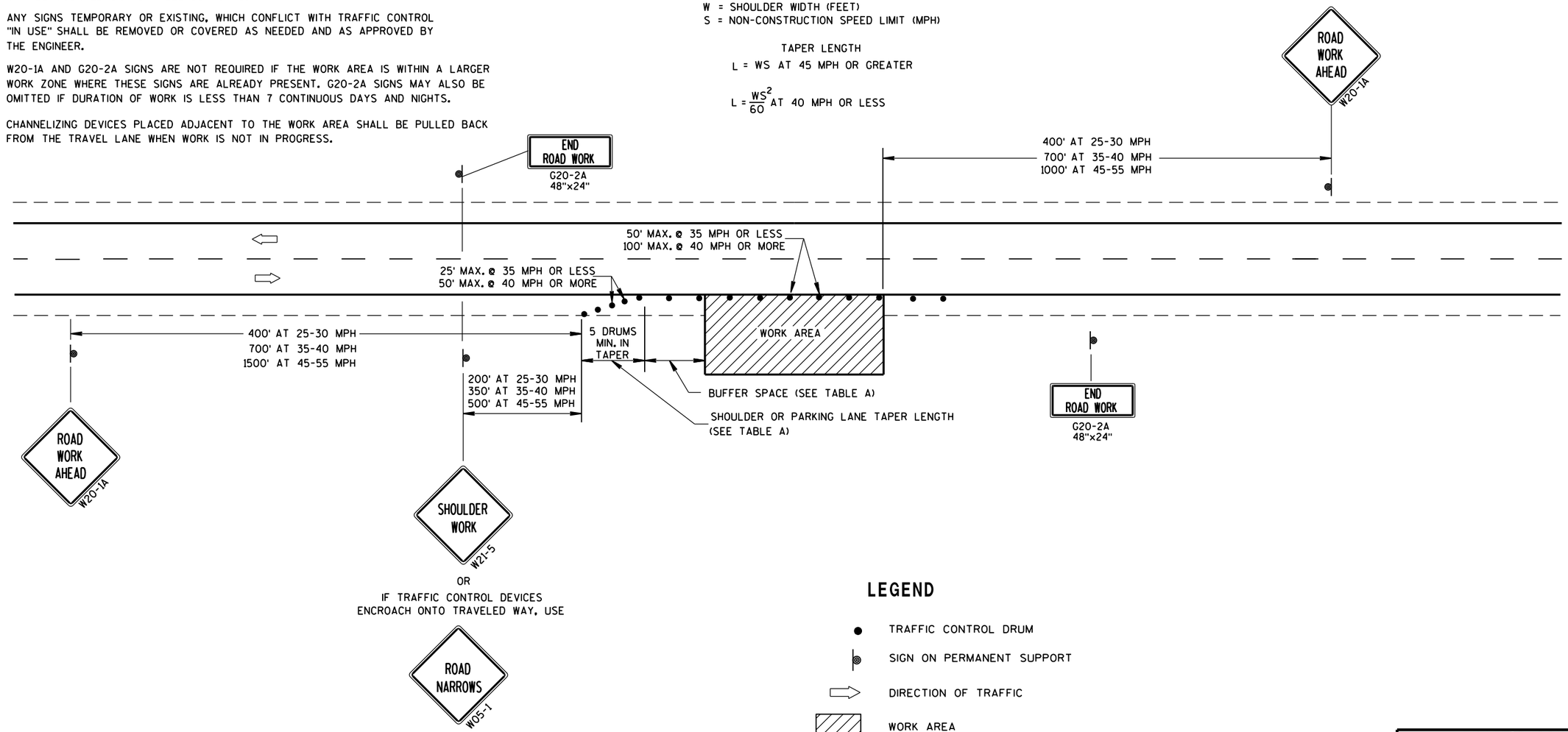
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

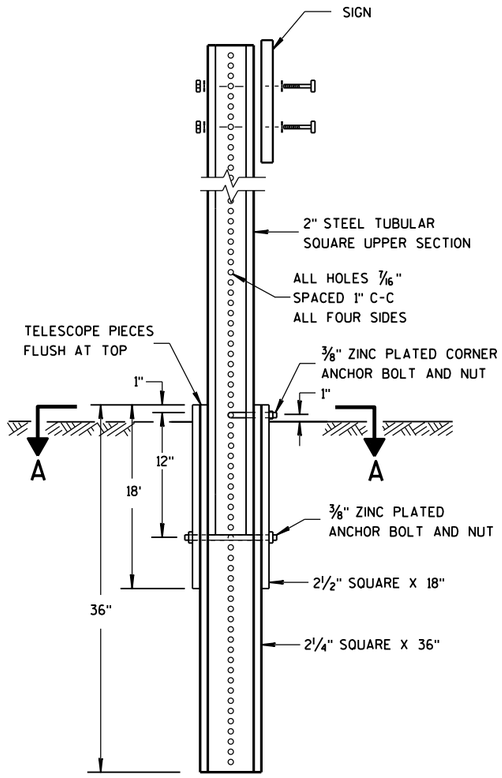
FHWA

6

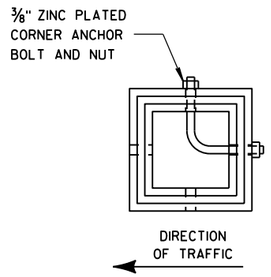
S.D.D. 15 D 28-3

6

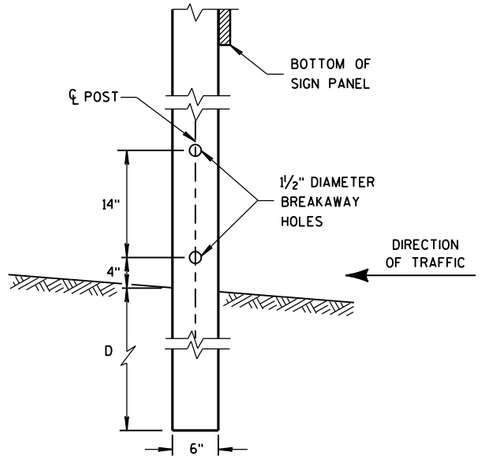
S.D.D. 15 D 28-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



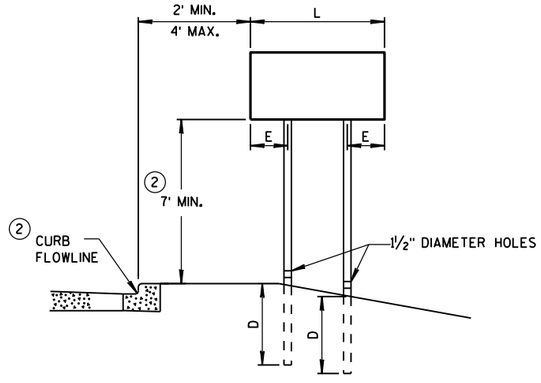
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

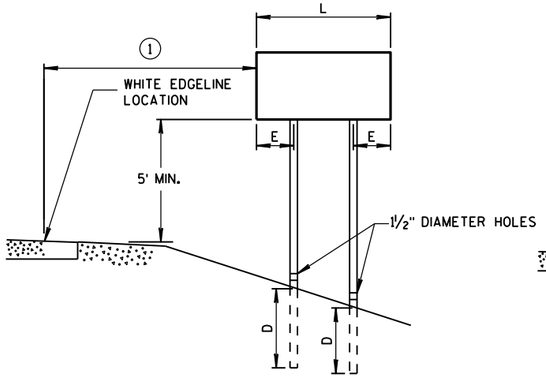
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

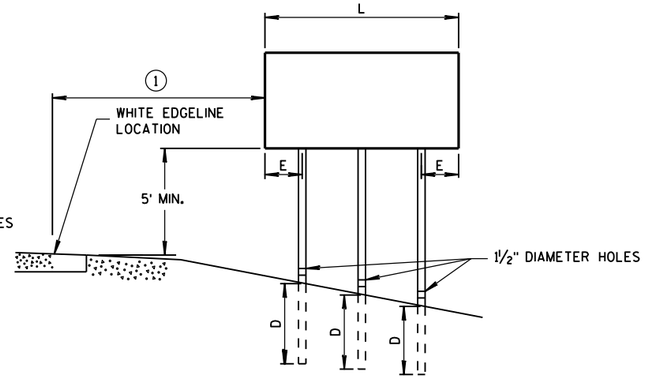
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

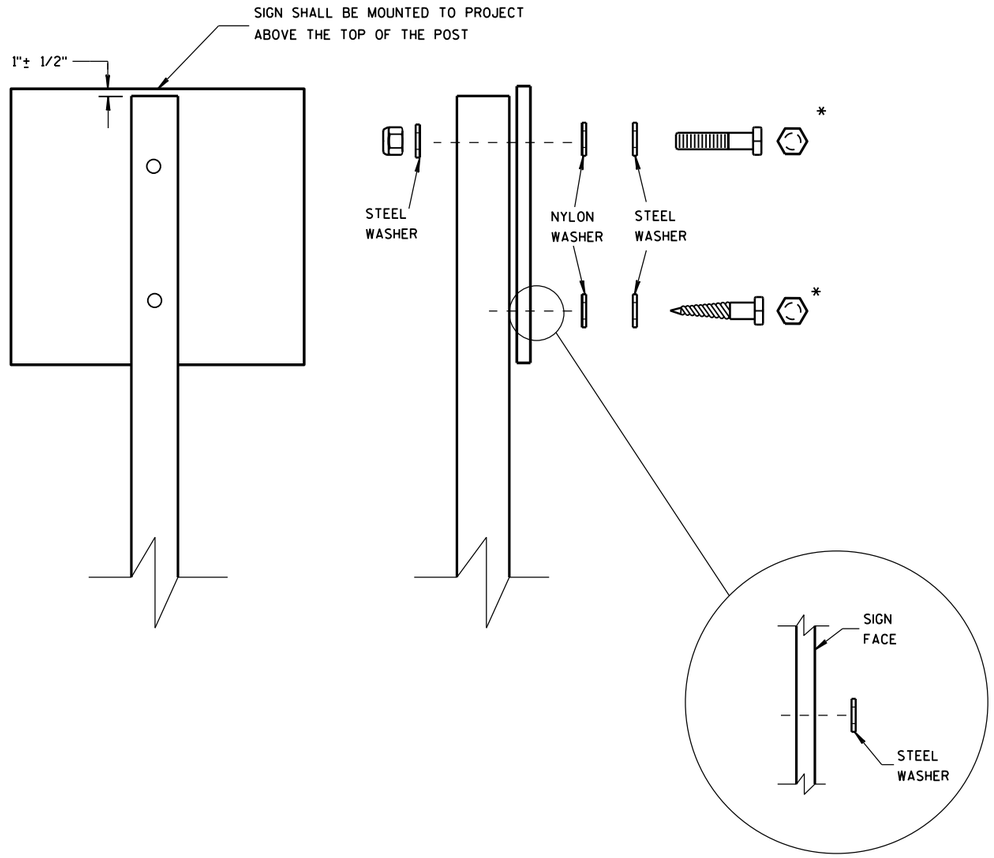
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* 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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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

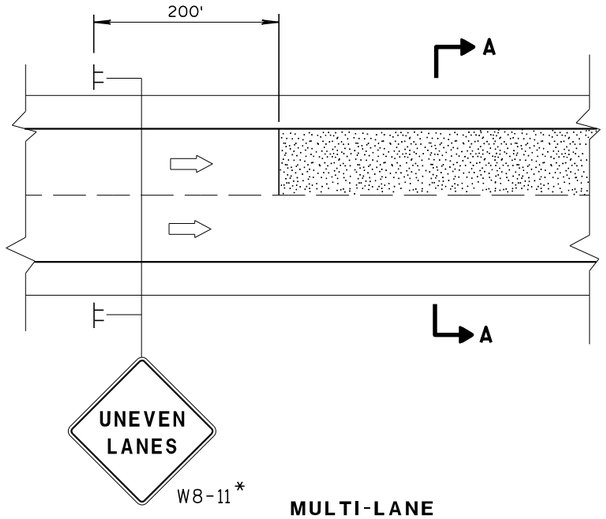
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

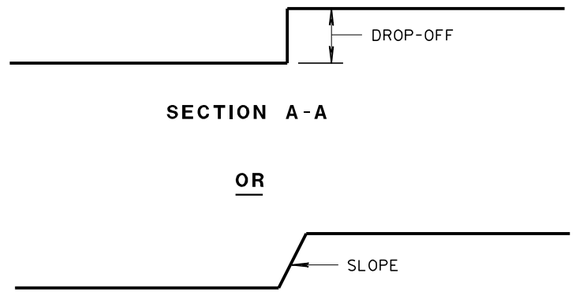
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA



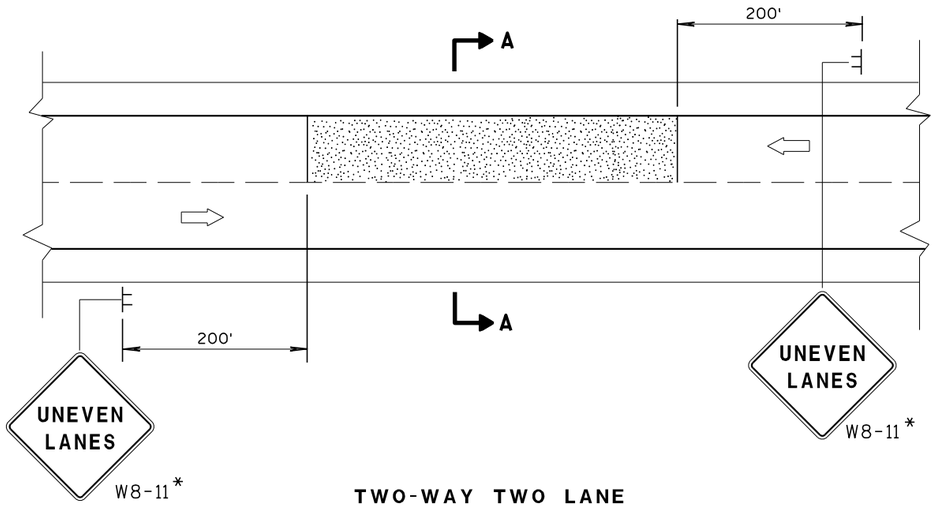
MULTI-LANE



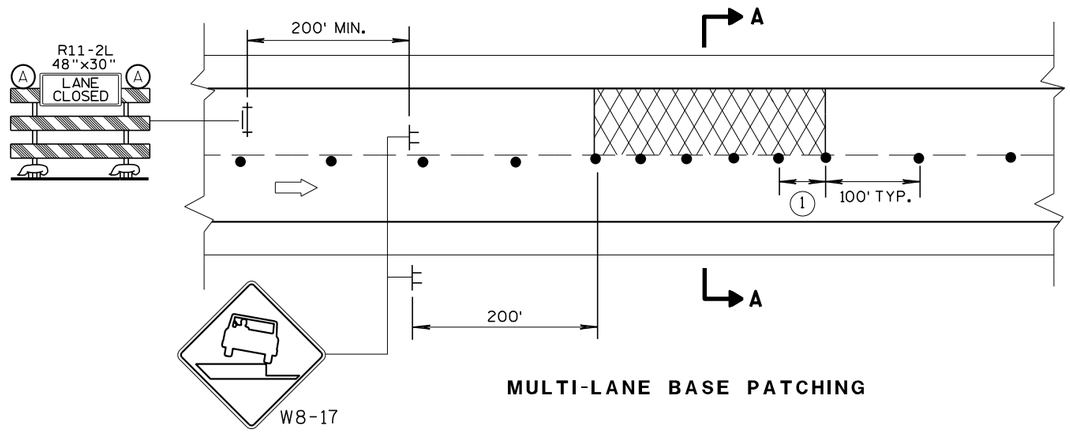
SECTION A-A

OR

SECTION A-A



TWO-WAY TWO LANE



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

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.

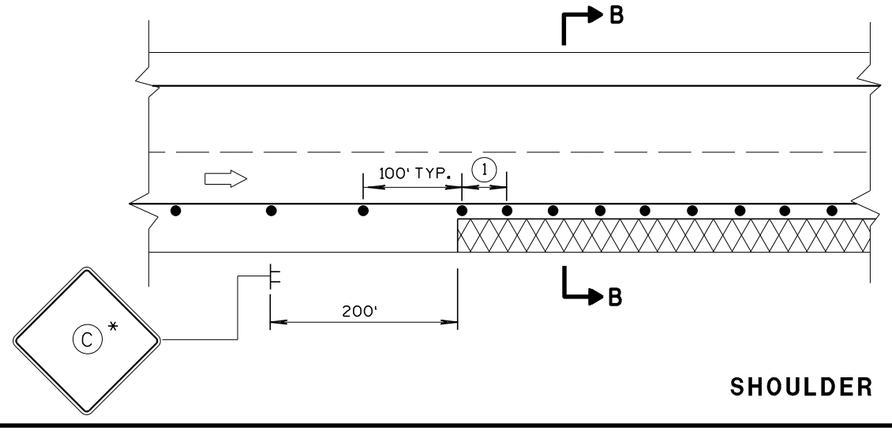
* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EACH ENTRANCE RAMP.

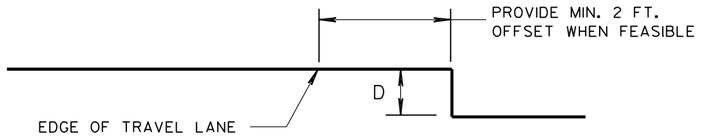
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

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

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





SECTION B-B

SHOULDER DROP-OFFS

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Andrew H — WORK ZONE EN
FHWA

6

S.D.D. 15 D 39-2

6

S.D.D. 15 D 39-2

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

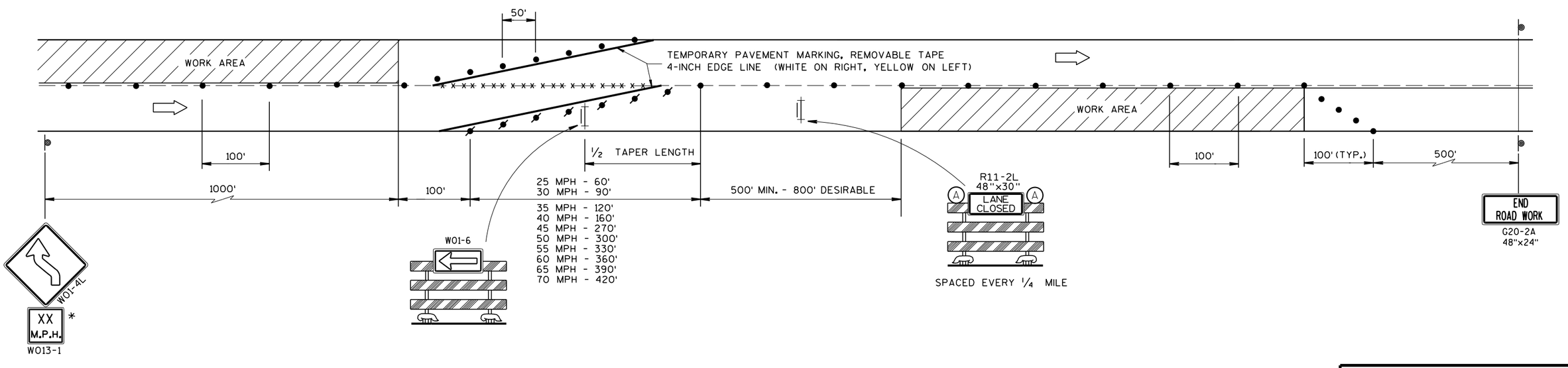
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



* USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED

LANE SHIFT MULTI-LANE DIVIDED OR ONE WAY ROAD

TRAFFIC CONTROL, LANE SHIFT, MULTI-LANE DIVIDED OR ONE WAY ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

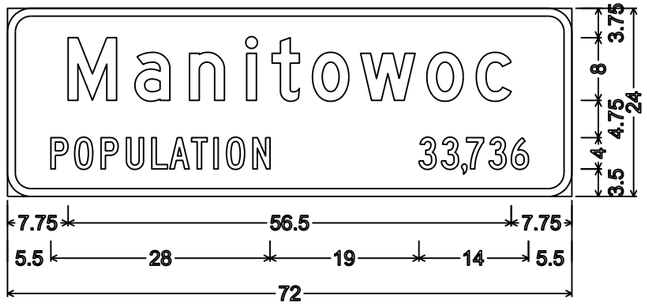
APPROVED
March 2018
DATE
/S/ Andrew I
WORK ZONE E
FHWA

6

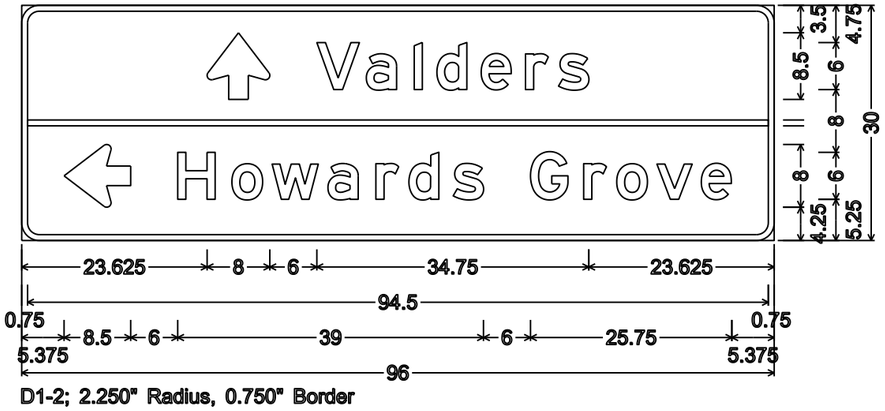
S.D.D. 15 D 40-1

NOTES

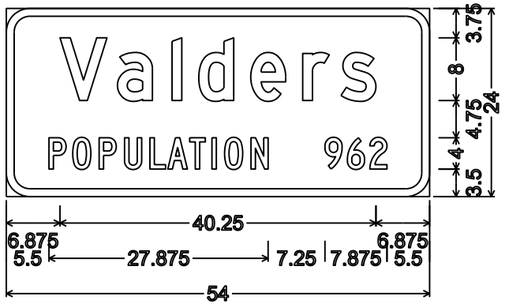
1. Signs are Type II- Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E except as noted



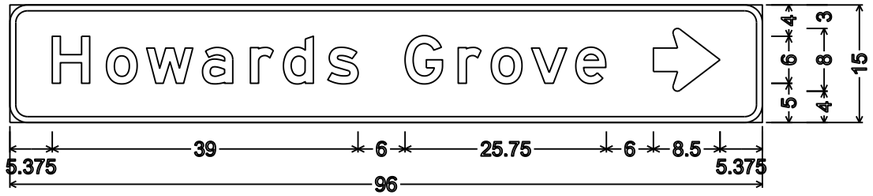
I2-3; 3.000" Radius, 1.000" Border,
"Manitowoc" D; "POPULATION" C; "33,736" C



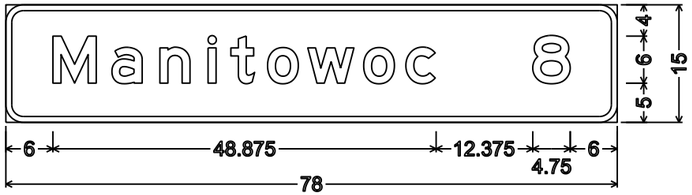
D1-2; 2.250" Radius, 0.750" Border



I2-3;
3.000" Radius, 1.000" Border,
"Valders" D; "POPULATION" C; "962" C



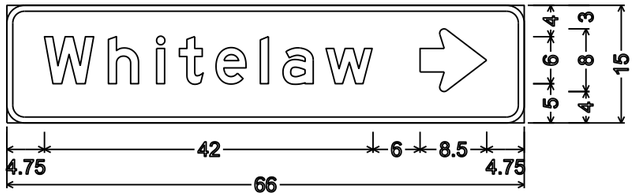
D1-1; 2.250" Radius, 0.750" Border



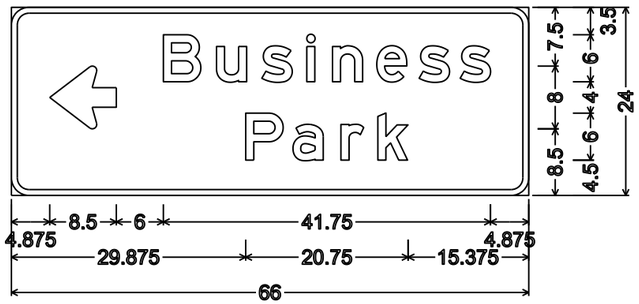
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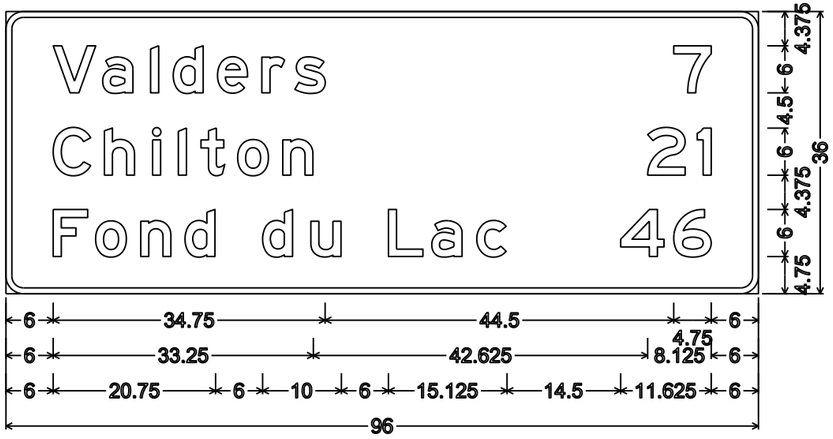
D1-1; 2.250" Radius, 0.750" Border



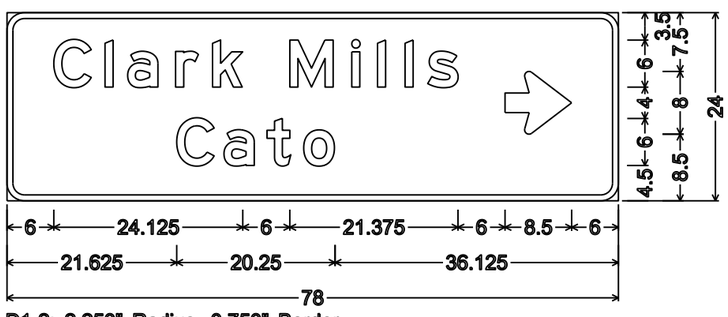
D1-1; 2.250" Radius, 0.750" Border



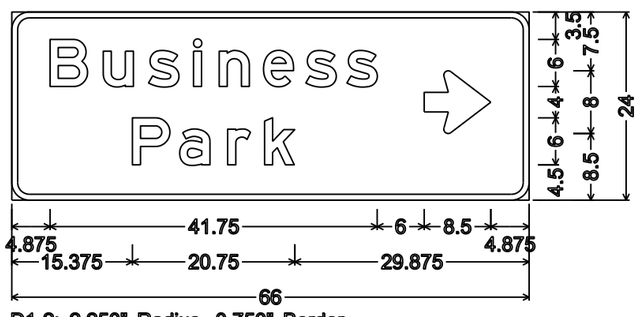
D1-2; 2.250" Radius, 0.750" Border



D2-3; 2.250" Radius, 0.750" Border



D1-2; 2.250" Radius, 0.750" Border



D1-2; 2.250" Radius, 0.750" Border

7

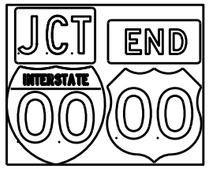
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	PERMANENT SIGNING	SHEET NO: 187	E

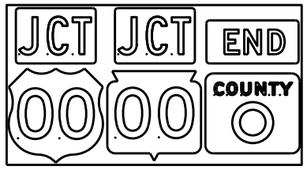
TYPICAL ASSEMBLIES



J1-1



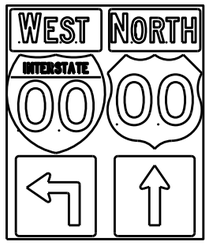
J1-2



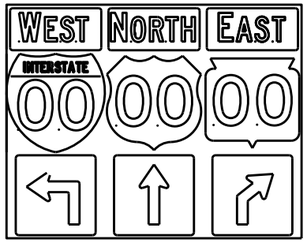
J1-3



J2-1



J2-2

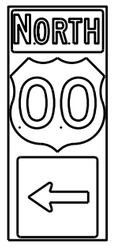


J2-3

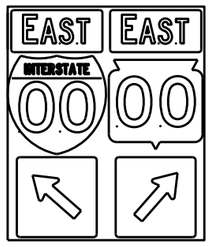


JV

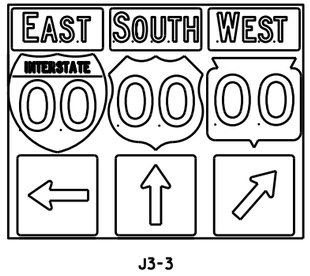
(Typical Vertical J-Assembly
See Note 10 and 11)



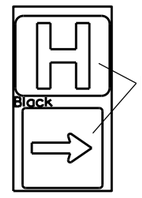
J3-1



J3-2



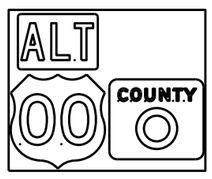
J3-3



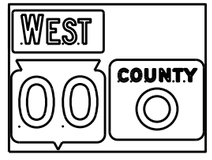
JH-1



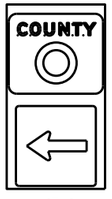
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

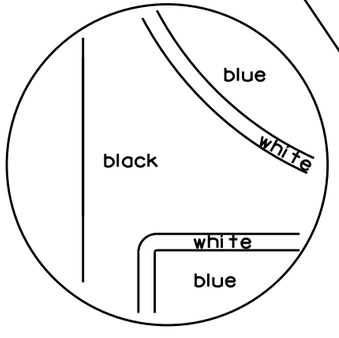


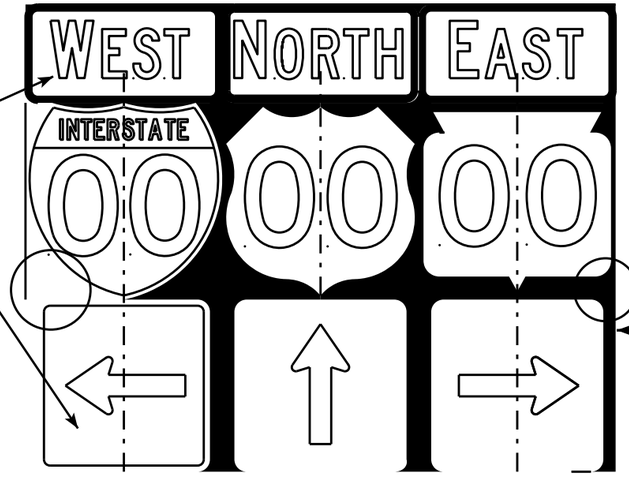
J23-1

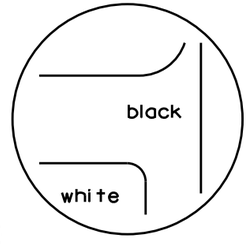


J22-1

blue background
with interstate







black background

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

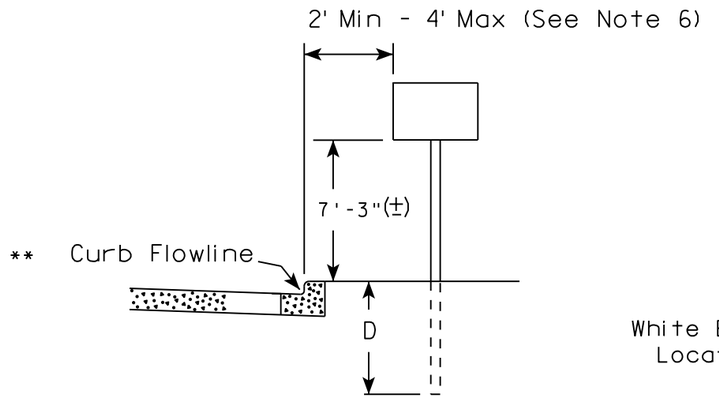
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

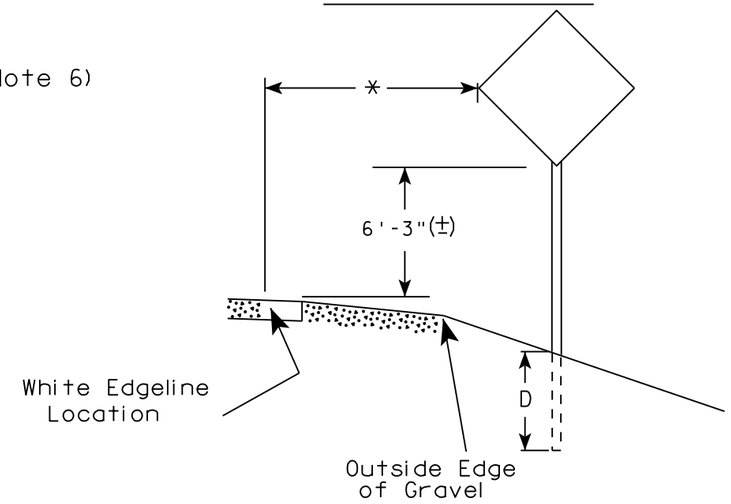
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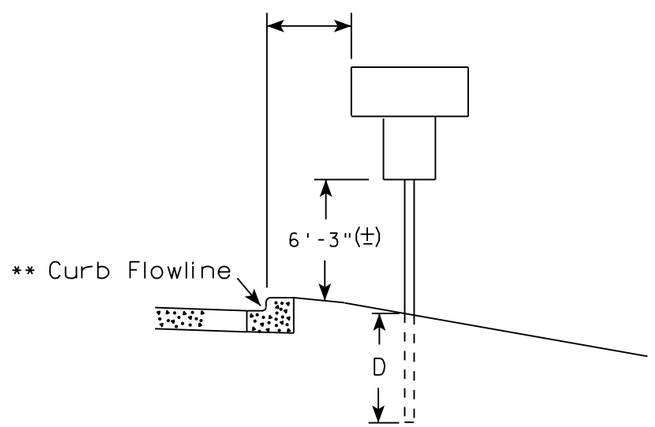
WISDOT/CADDS SHEET 42

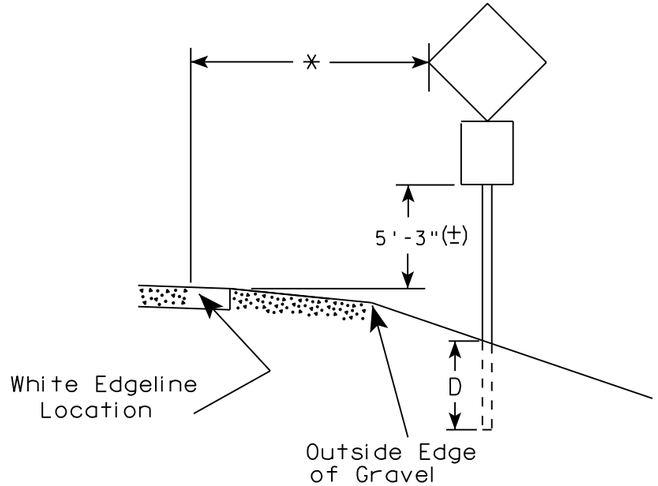
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

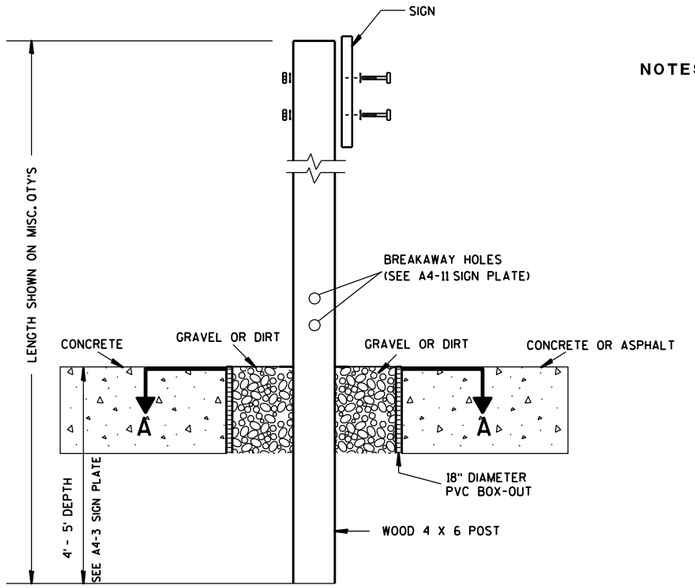
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

7 7

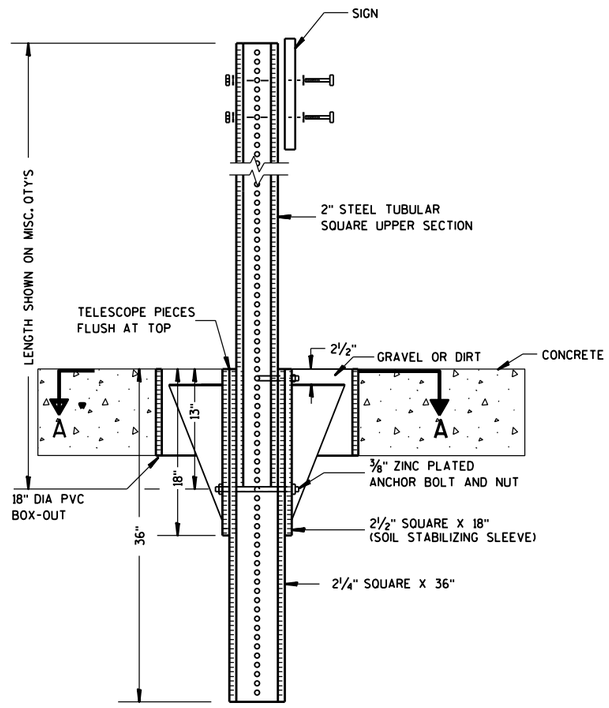
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 189	E



ELEVATION VIEW

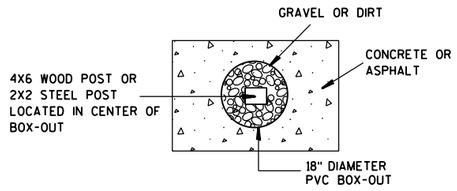
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

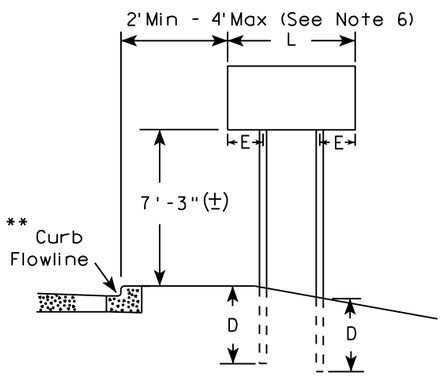
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

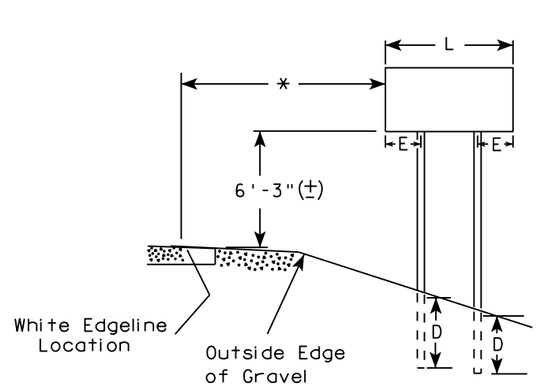
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

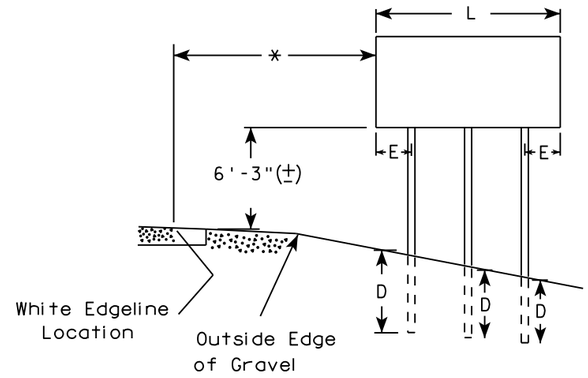
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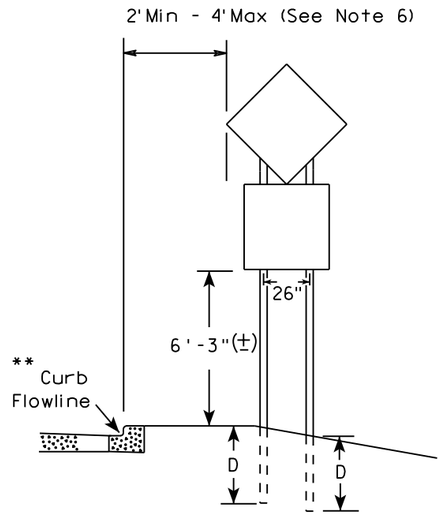
URBAN AREA



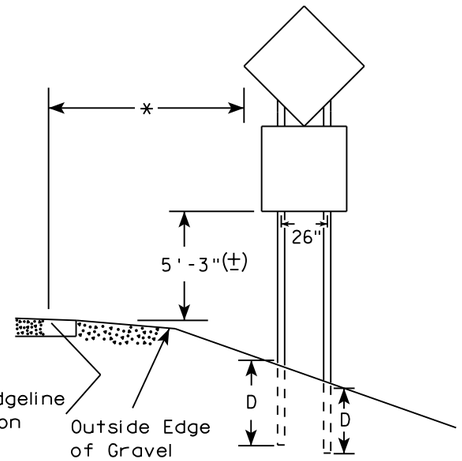
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

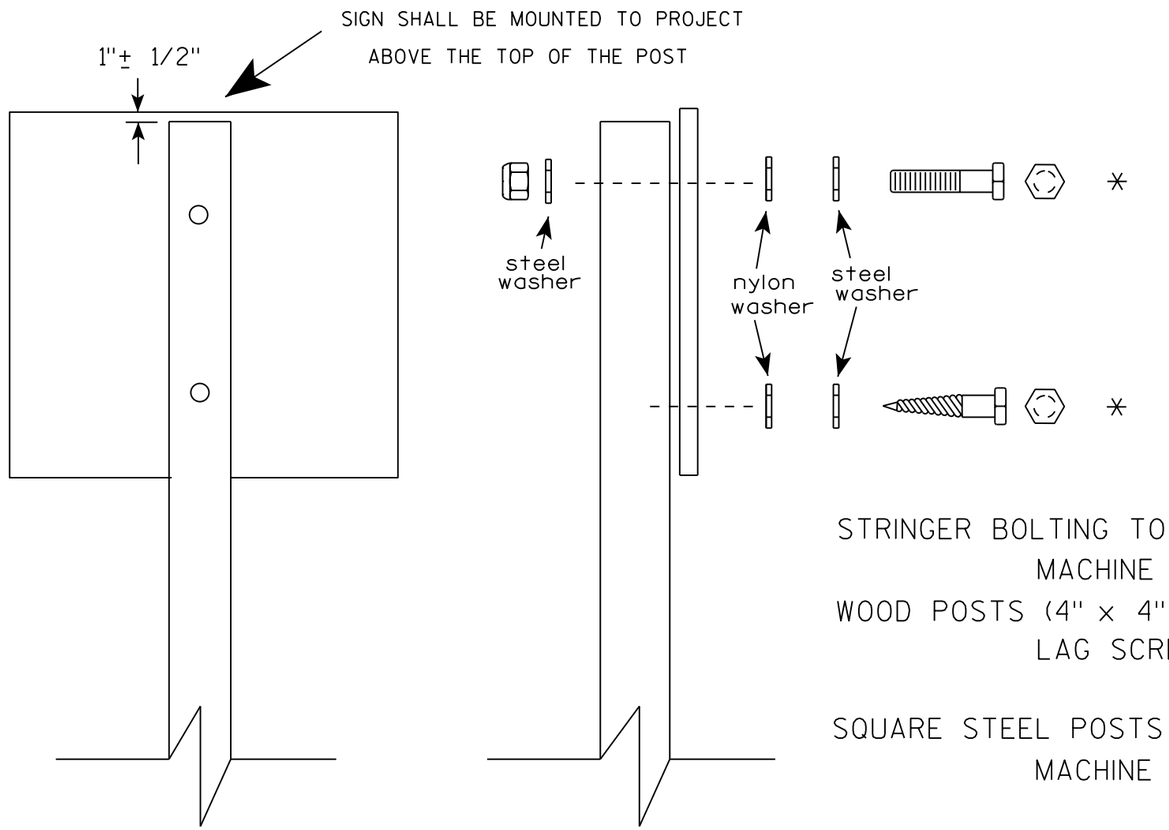
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 191	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

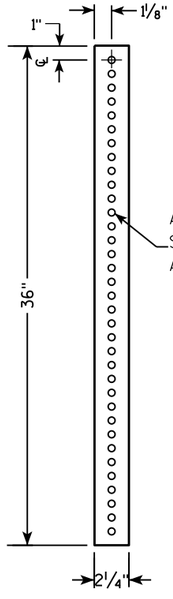
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PROJECT NO: SHEET NO: E

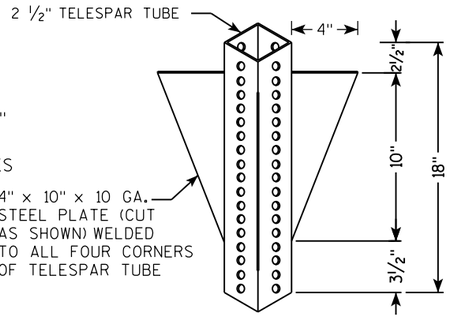
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TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

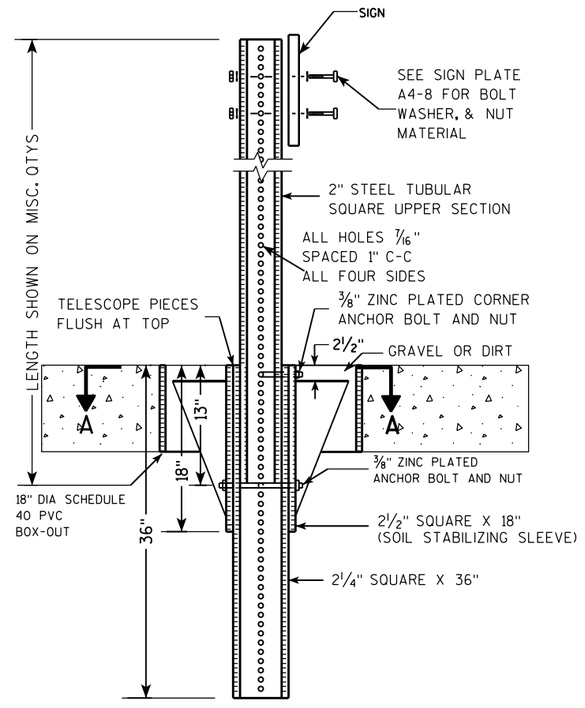
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



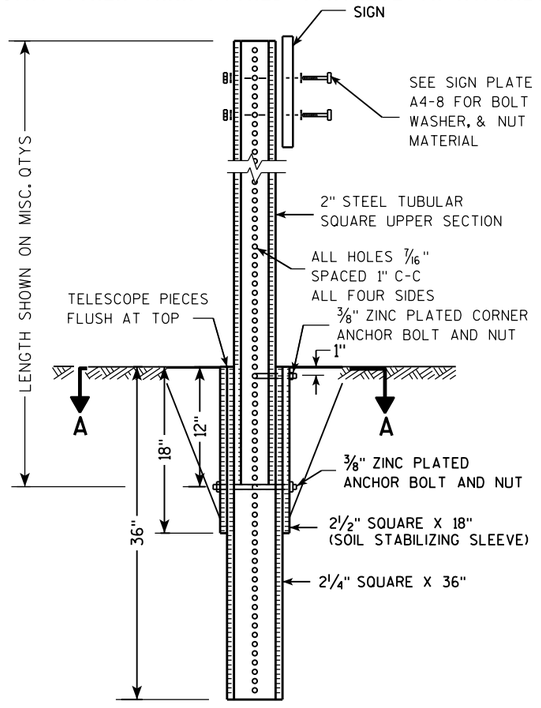
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

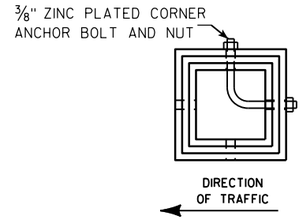


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required 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).

TUBULAR STEEL
SIGN POST
A4-9

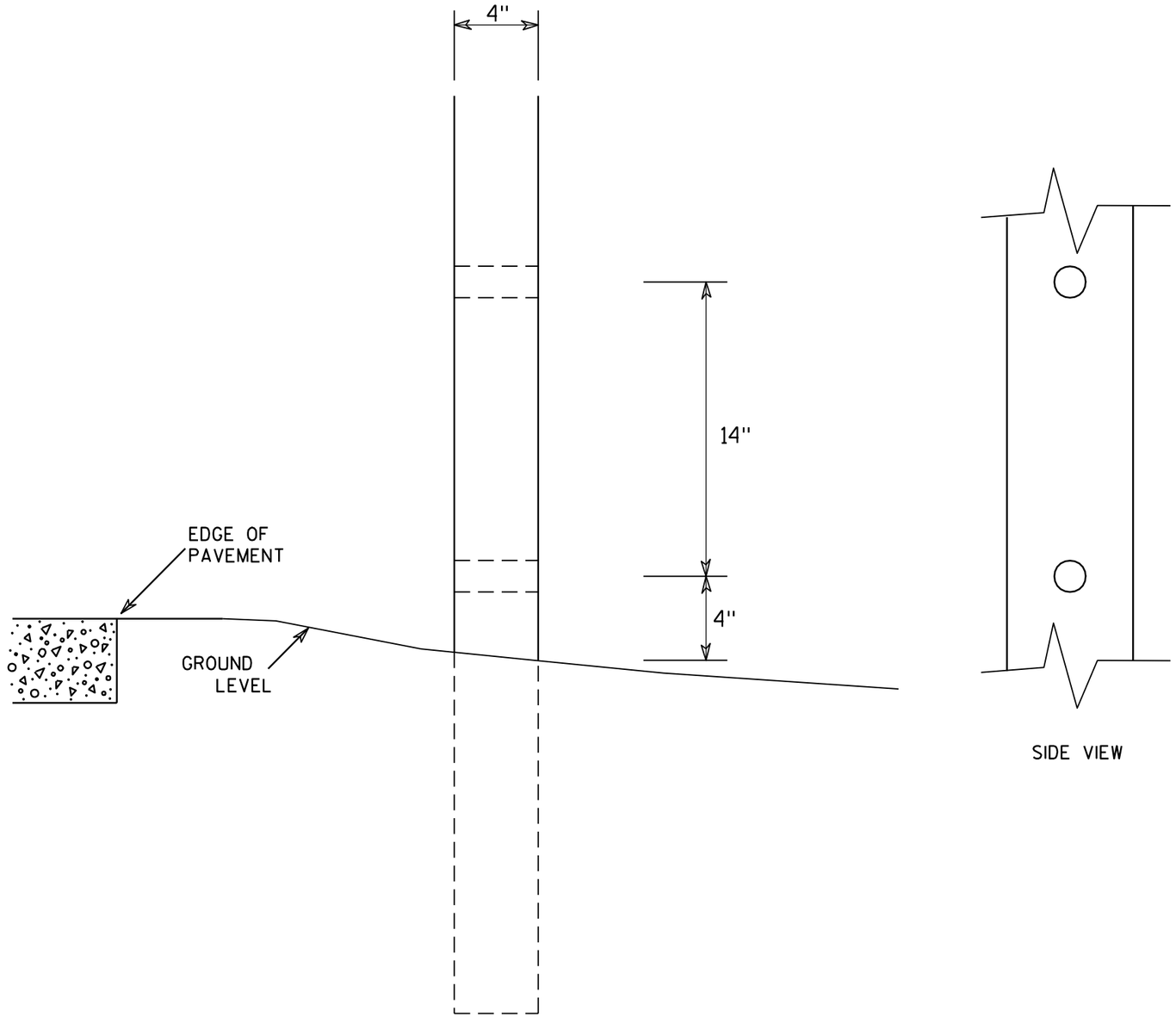
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

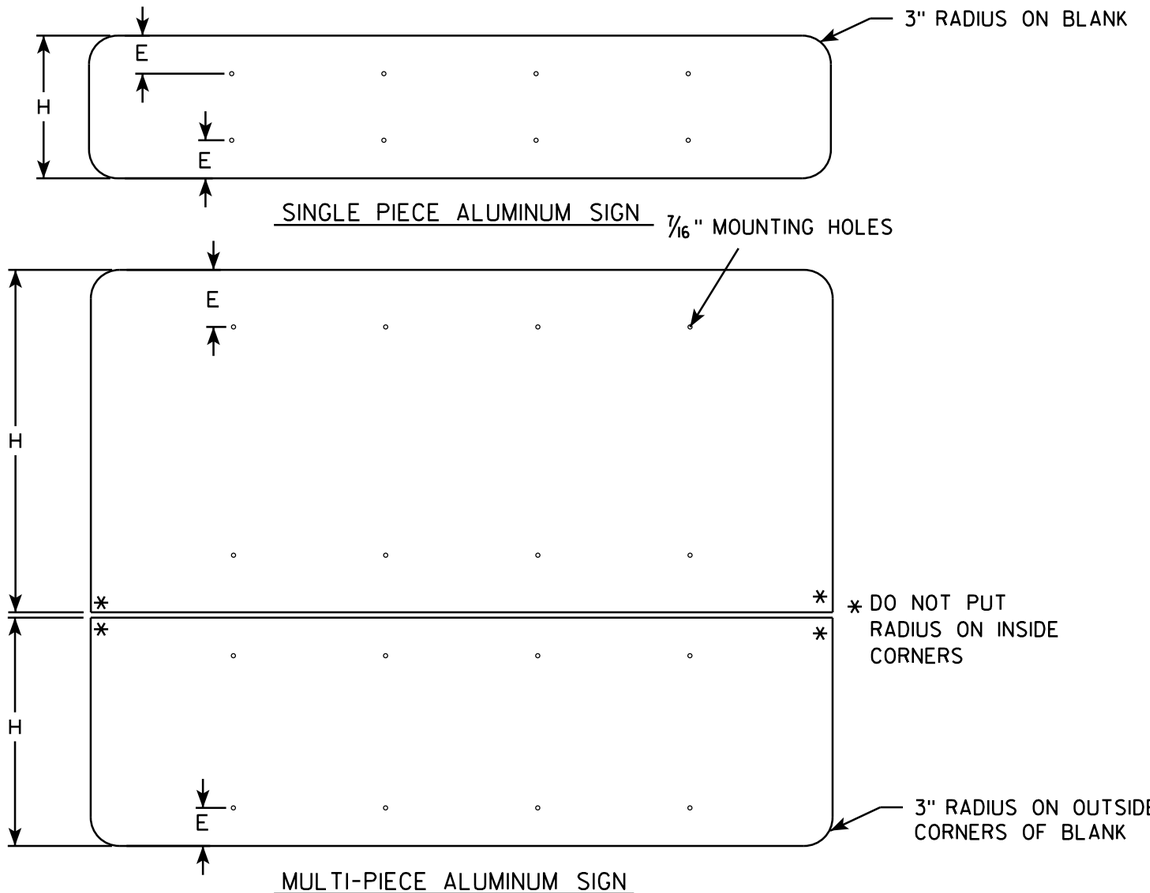
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

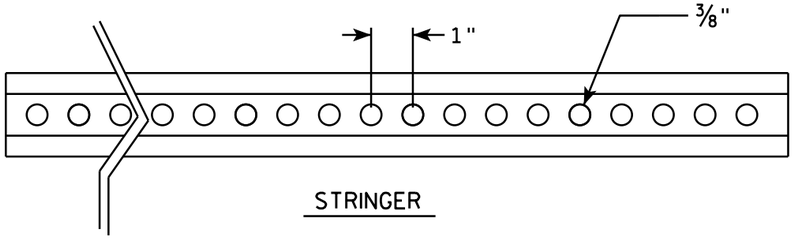
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 194	E



GENERAL NOTES

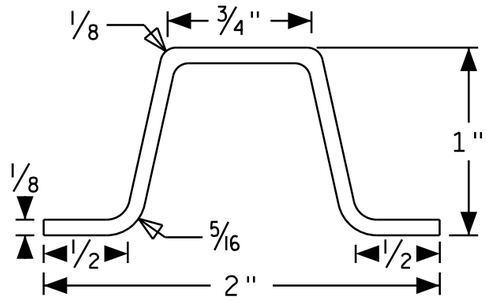
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

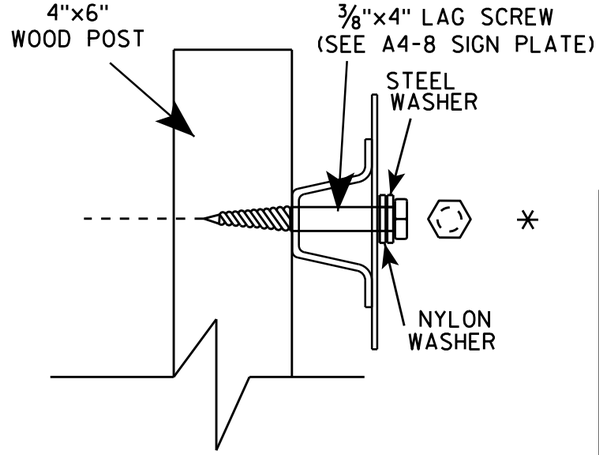


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

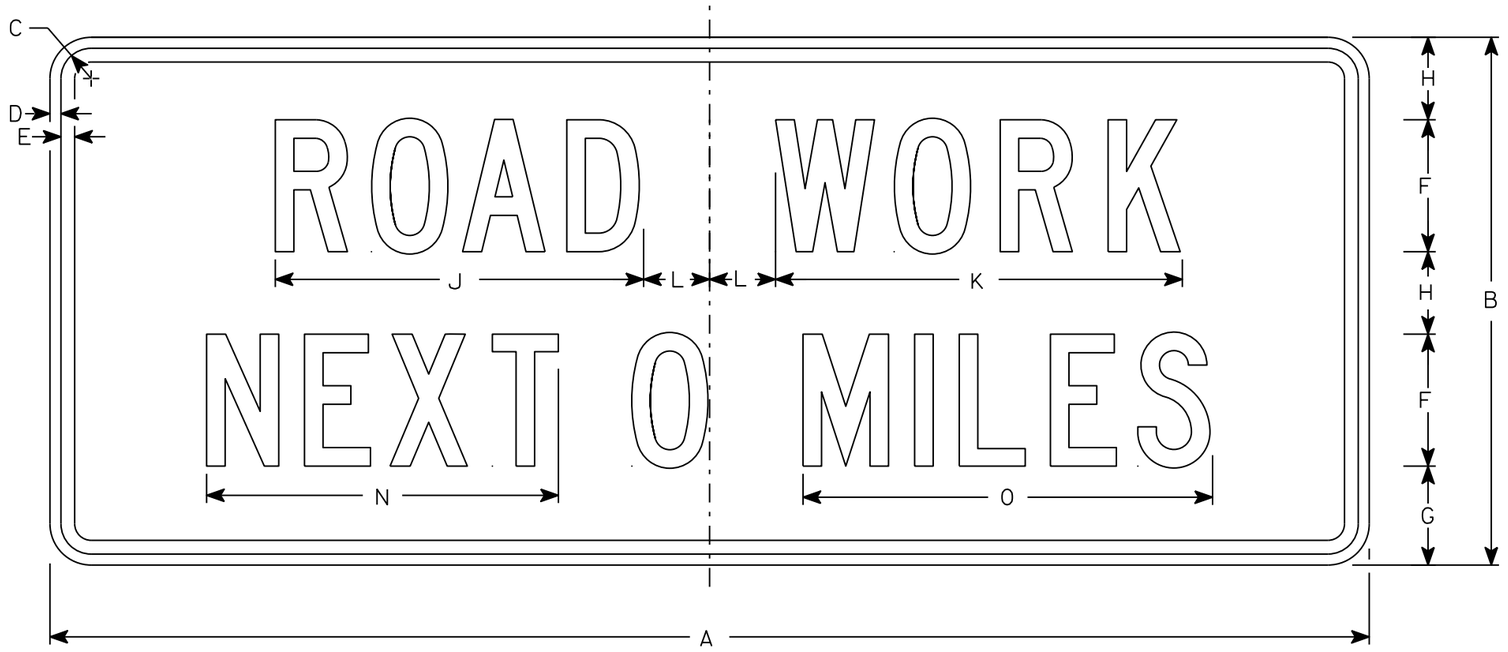
APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 4/26/16 PLATE NO A4-18.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
3																											
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10
5																											

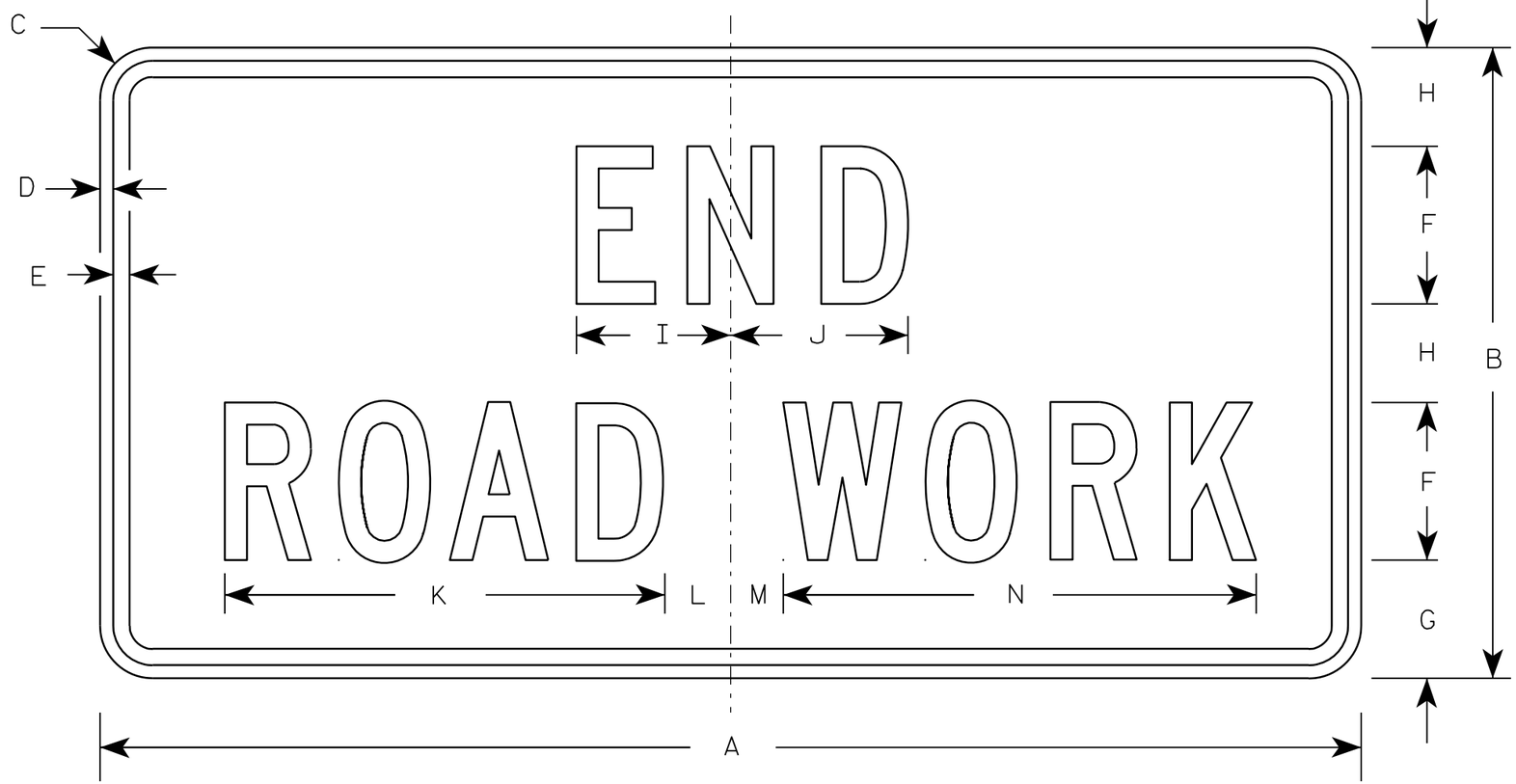
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 196 | E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

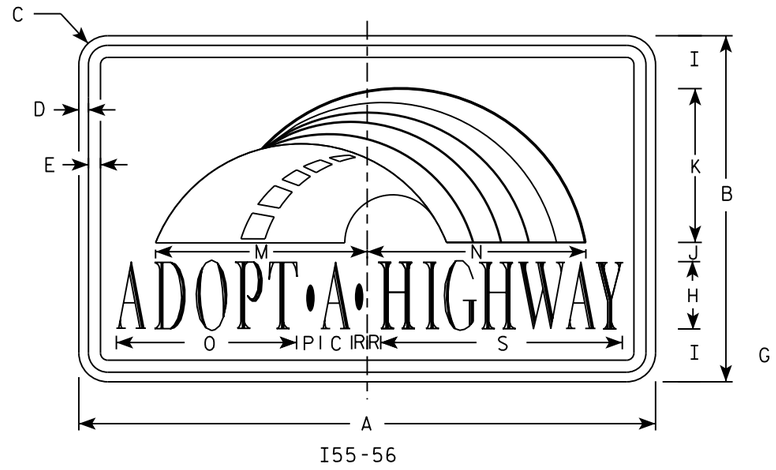
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

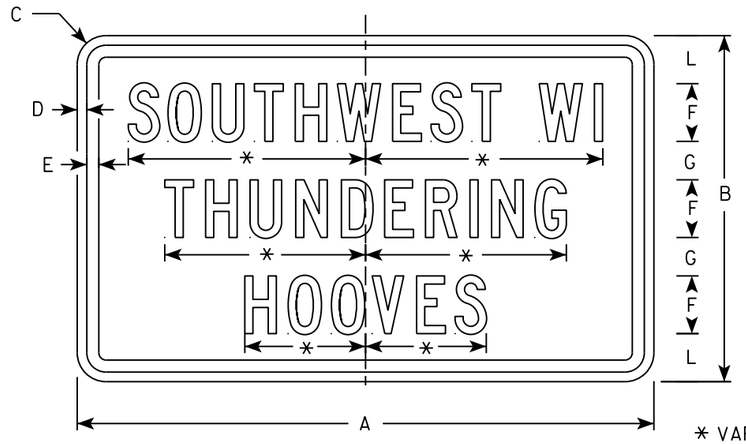
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 197	E



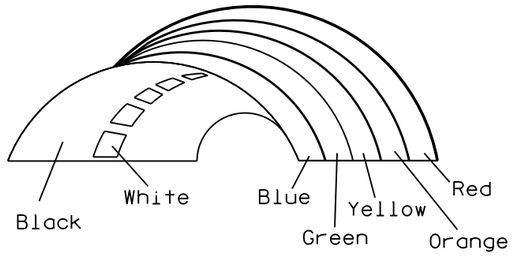
I55-56



I55-56P

* VARIES

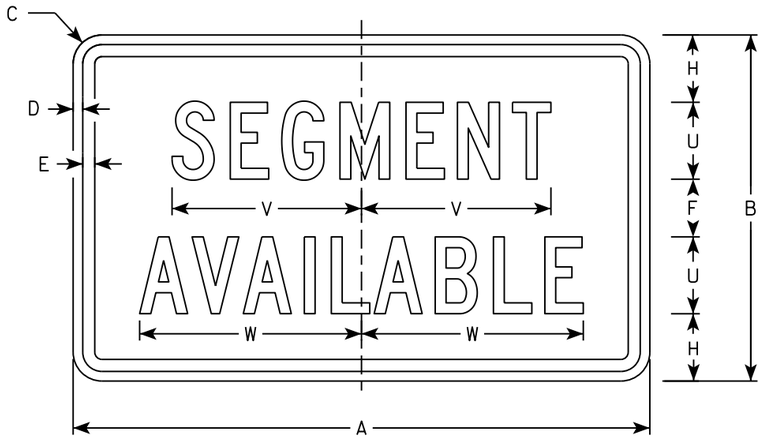
Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - (See Note 4)
3. Message Series - (See Note 5)
4. Border - Blue
   Adopt a Highway - Red
   All other Text - Blue
5. Adopt a Highway - Dutch 8011L
   All other Text - Series C
6. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.



I55-56S

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	18	1 1/2	1/2	5/8	3	2	3 1/2	2 3/4	1	8	2 1/2	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2	4	9 7/8	11 1/2				3.75
3																											
4																											
5																											

STANDARD SIGN
I55-56

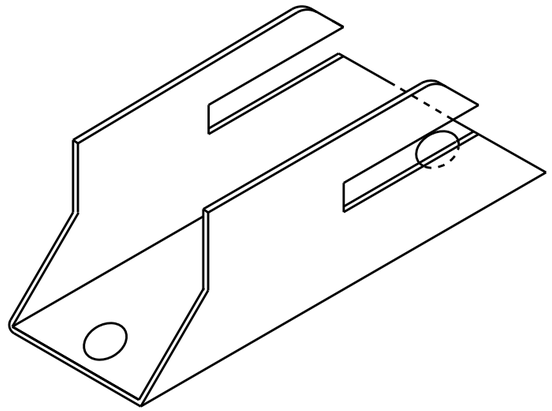
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

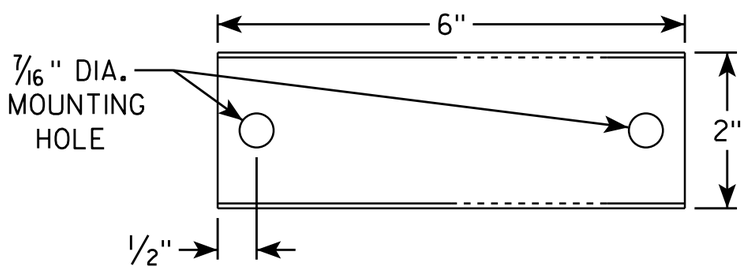
DATE 2/20/18 PLATE NO. I55-56.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 198 | E

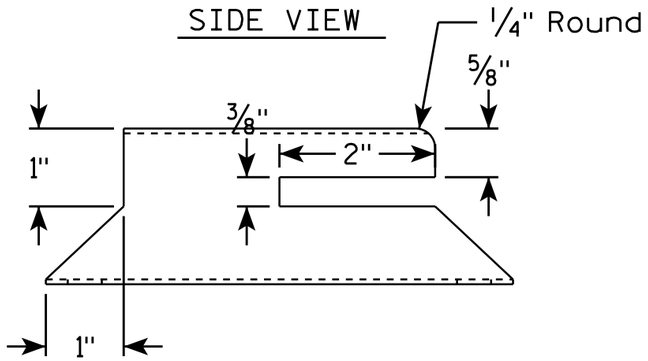
ISOMETRIC VIEW



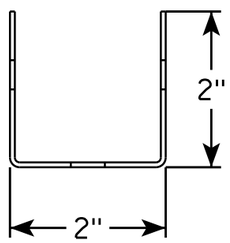
TOP VIEW



SIDE VIEW



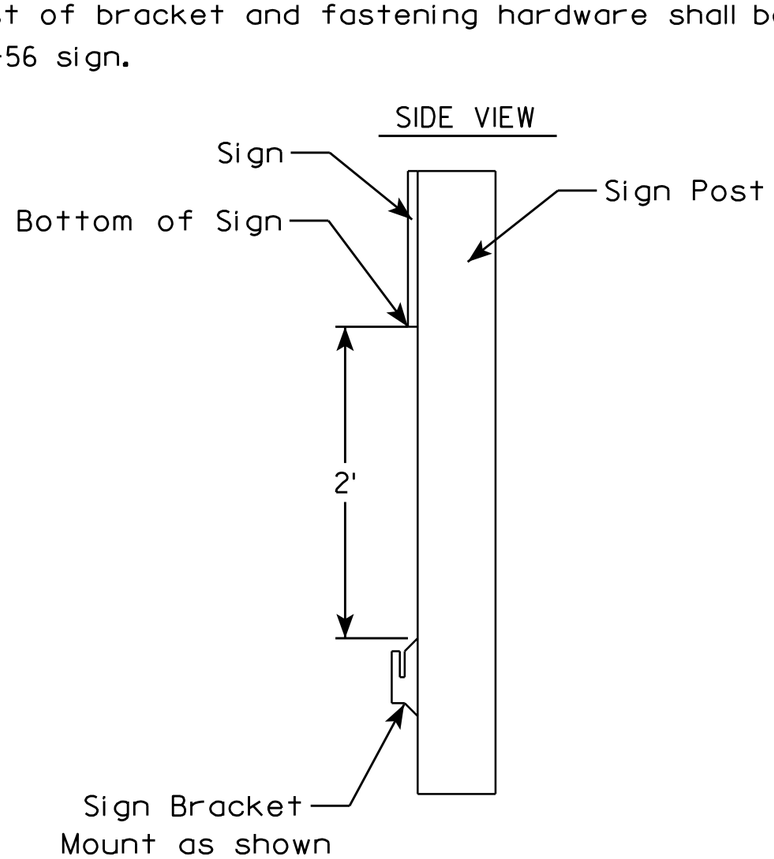
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



7

7

ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

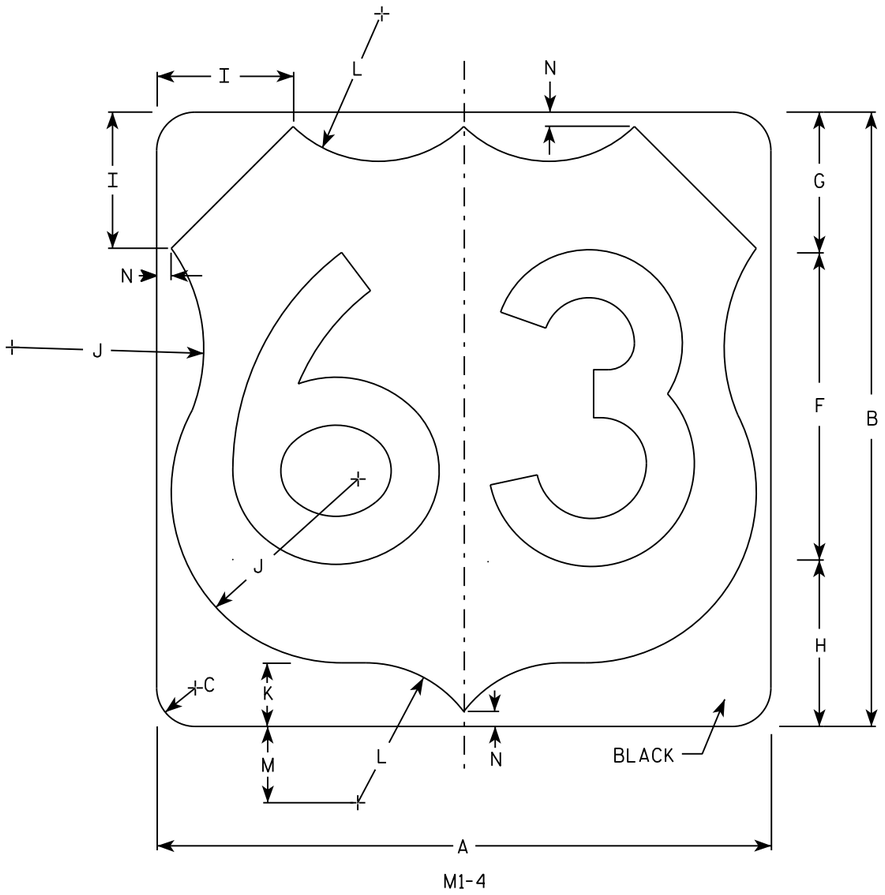
DATE 4/26/16 PLATE I55-56B.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

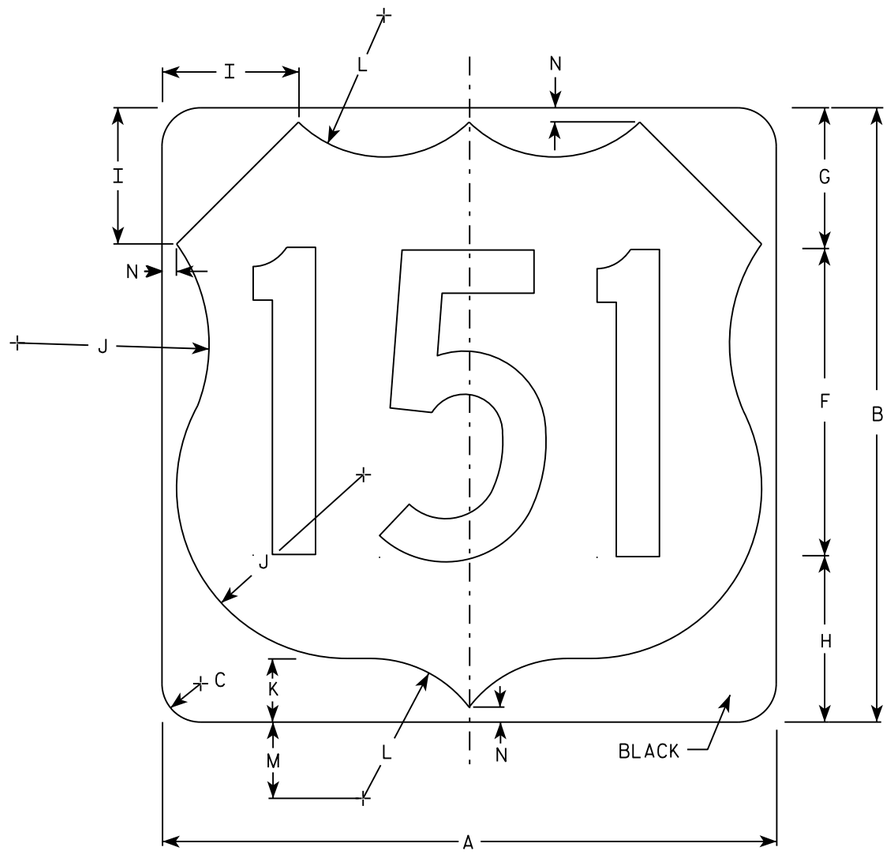
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\I5556B.DGN PLOT DATE : 26-APR-2016 17:29 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.945842:1.000000 WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M1-4



M1-4

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area Sq. ft.
1																											
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

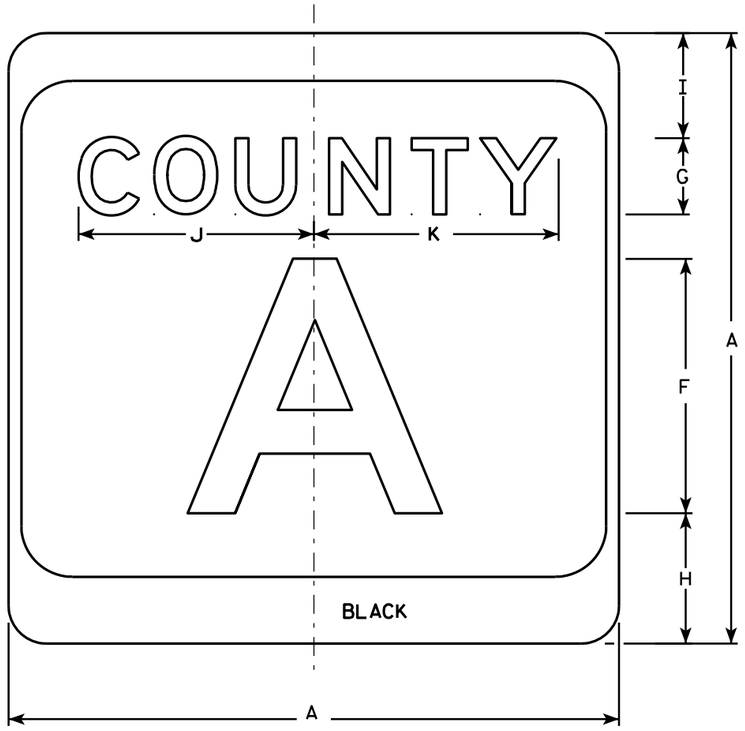
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

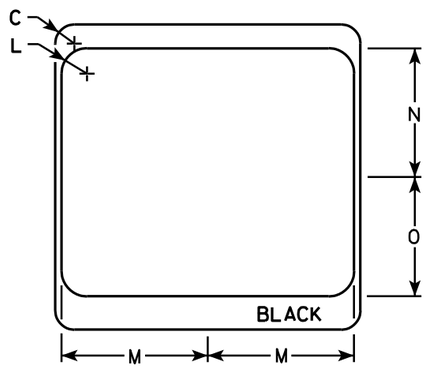
APPROVED Matthew R Rauch
for State Traffic Engineer

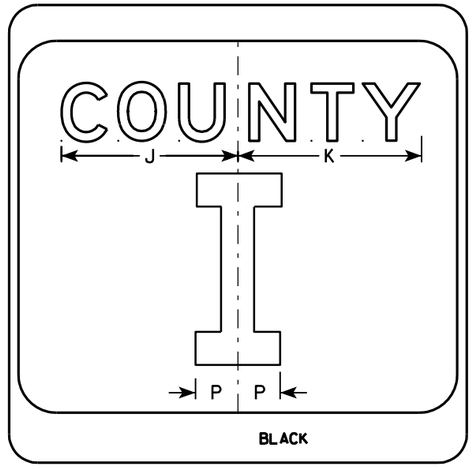
DATE 3/16/18 PLATE NO. M1-4.10

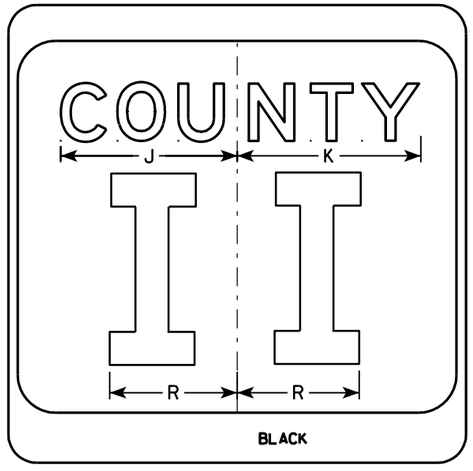
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 200	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

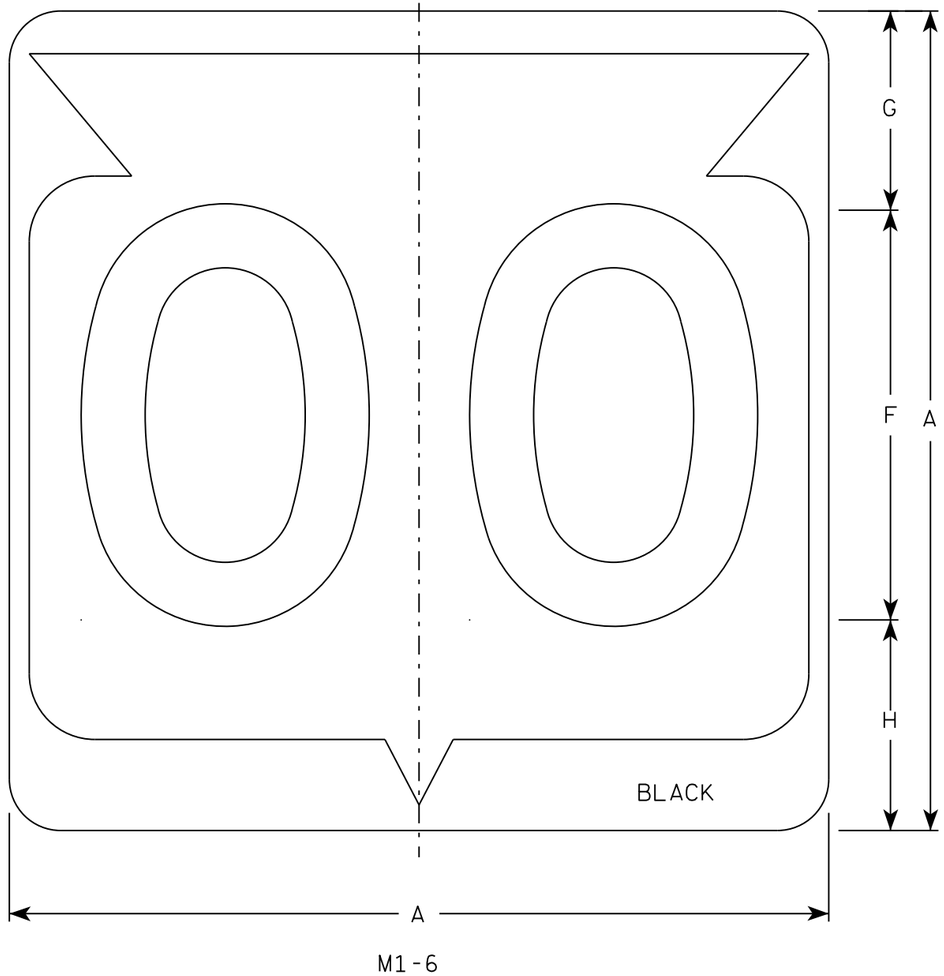
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

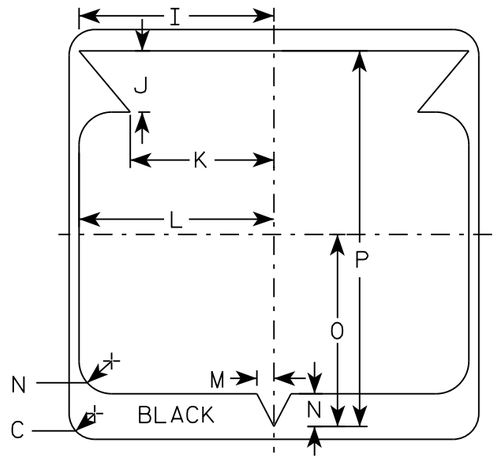
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 201	E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

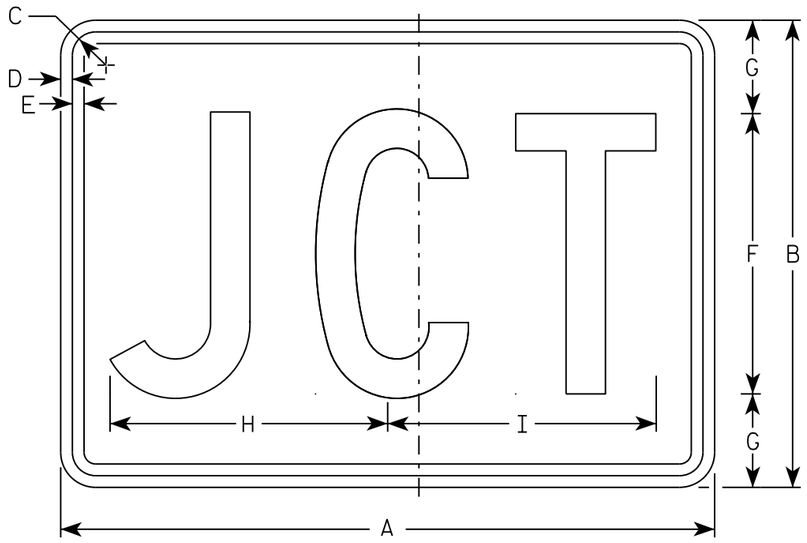
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

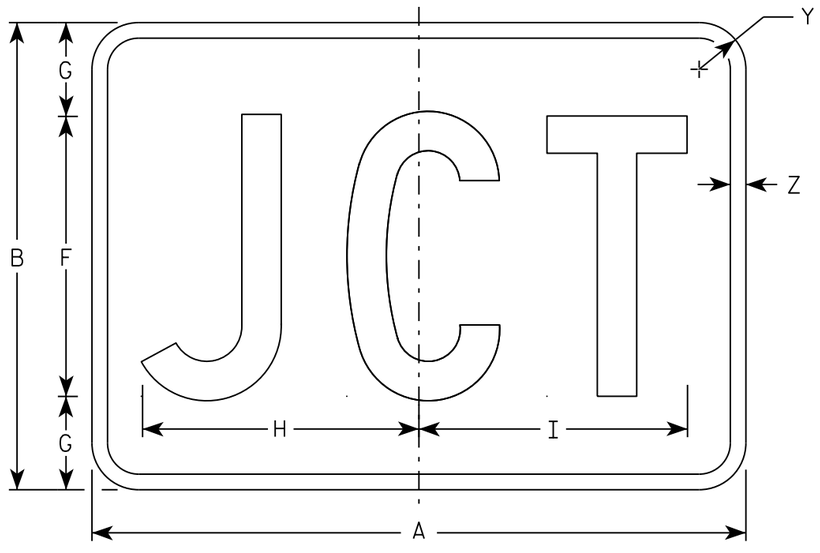
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 202 | E



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2-1

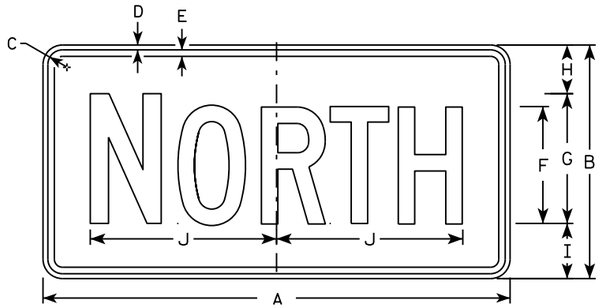
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

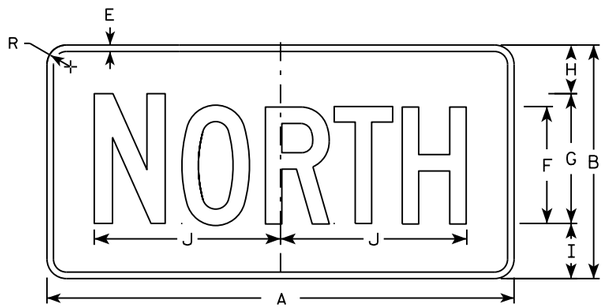
DATE 10/15/15 PLATE 203 12-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000



M3-1
MM3-1
MP3-1



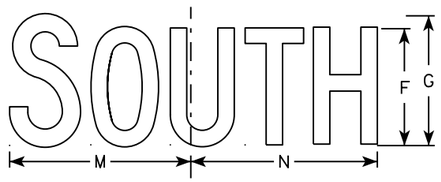
MB3-1
MK3-1
MN3-1



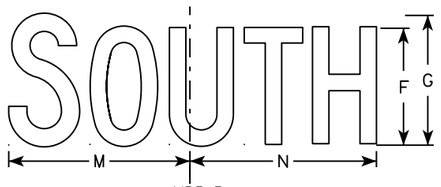
M3-2
MM3-2
MP3-2



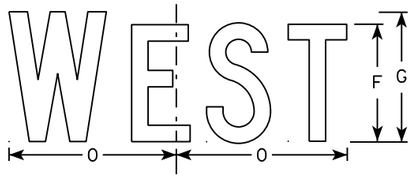
MB3-2
MK3-2
MN3-2



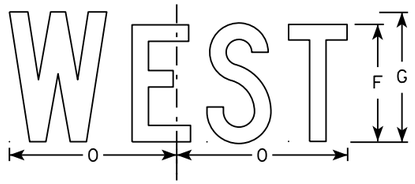
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

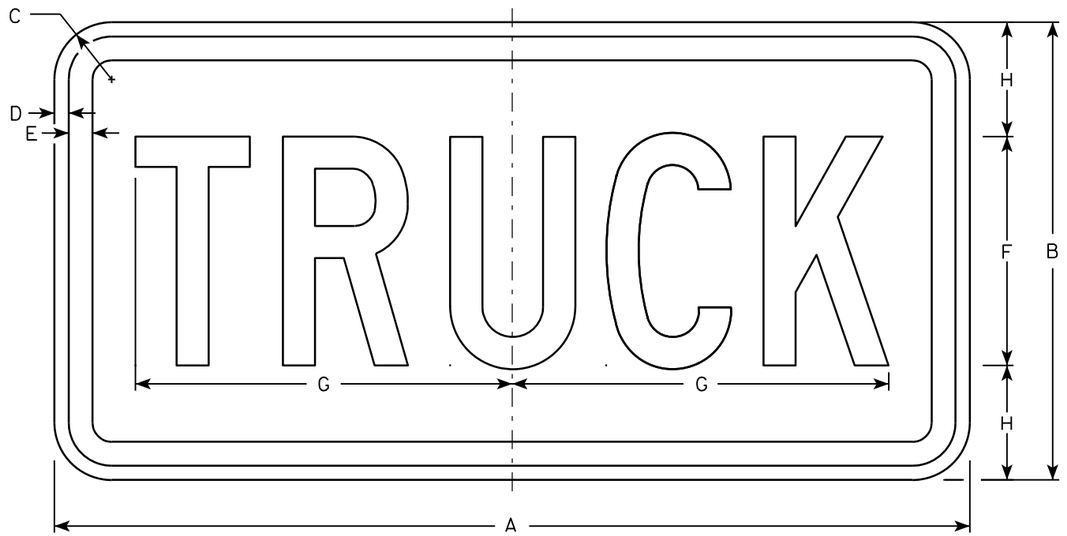
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-4

NOTES

1. Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White - See Note 5
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Permanent Signs
   Background - Type H Reflective
   Temporary or other temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	9 7/8	3																			2.0
3	36	18	1 1/2	3/8	1/2	9	15 5/8	4 1/2																			4.5
4																											
5																											

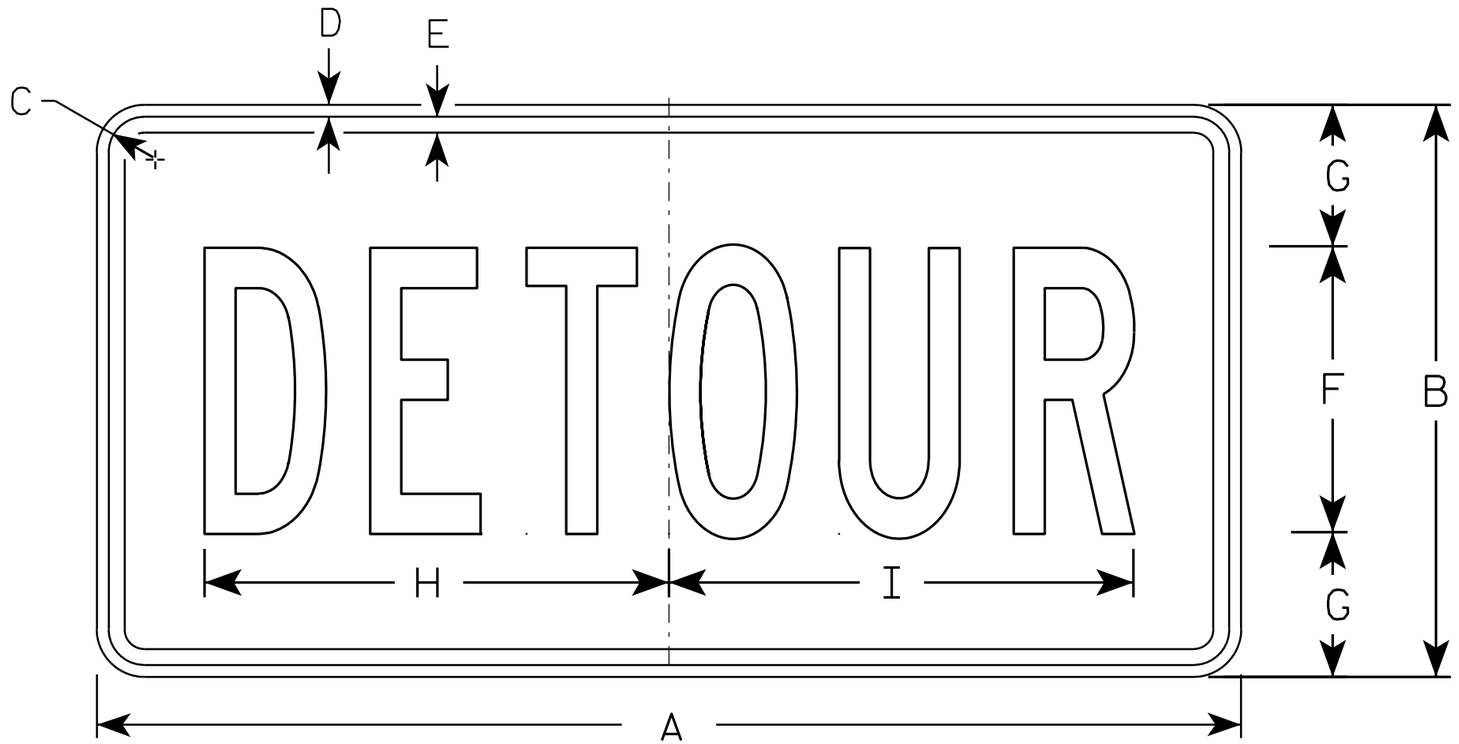
STANDARD SIGN
M4-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 205 | E



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

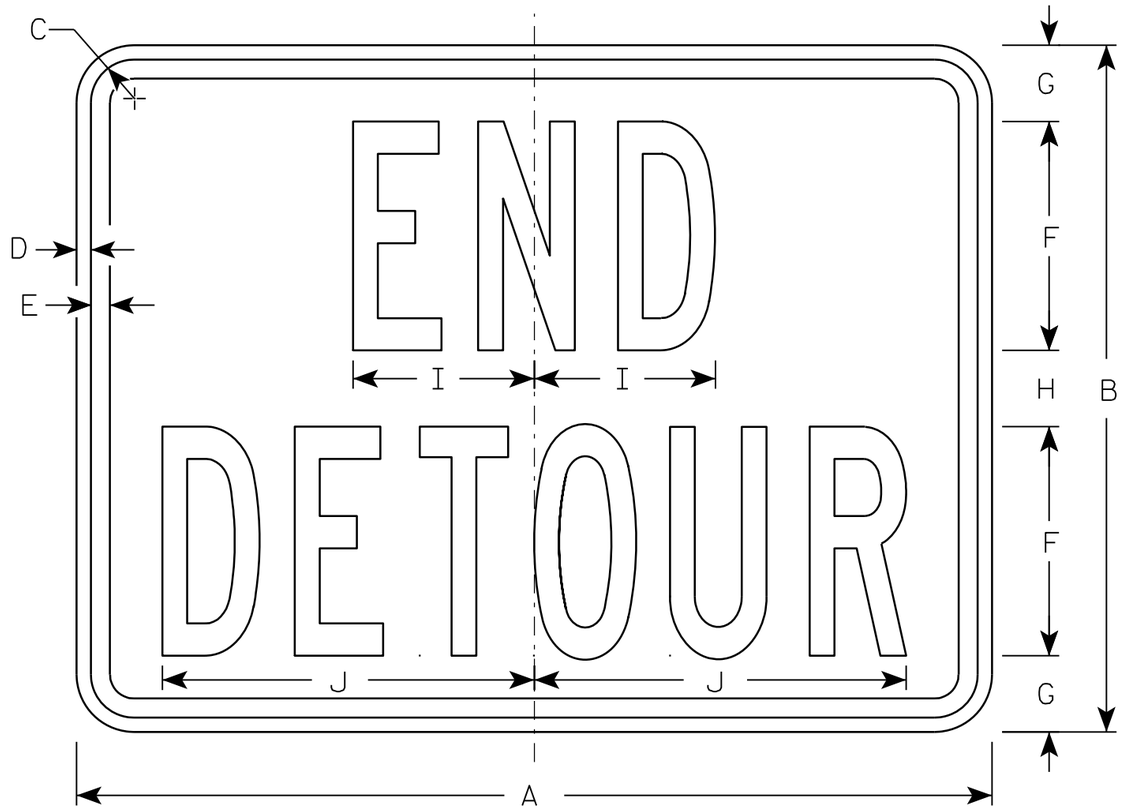
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 206	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

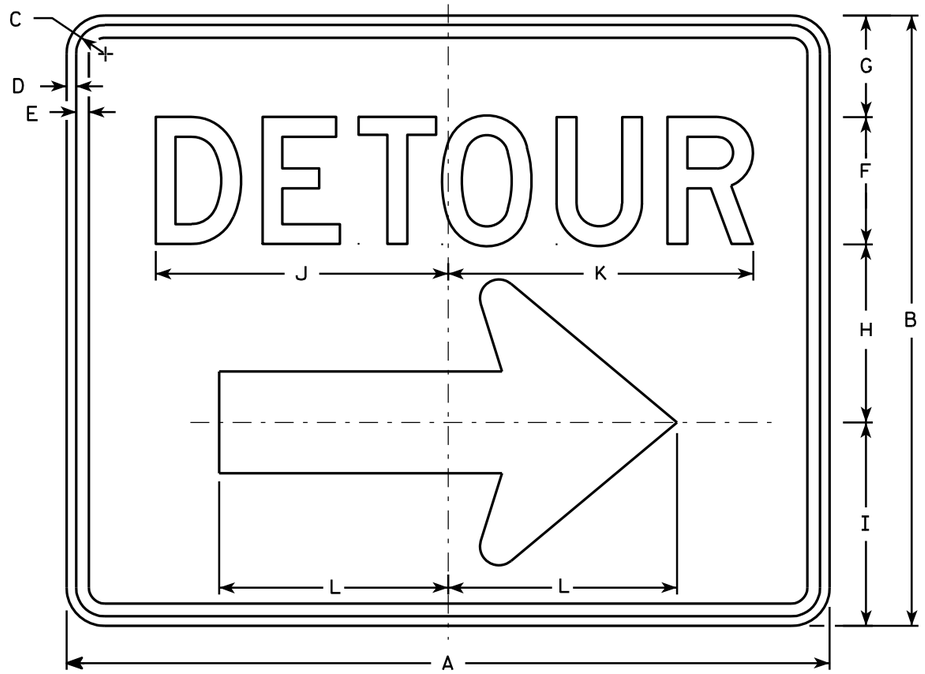
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

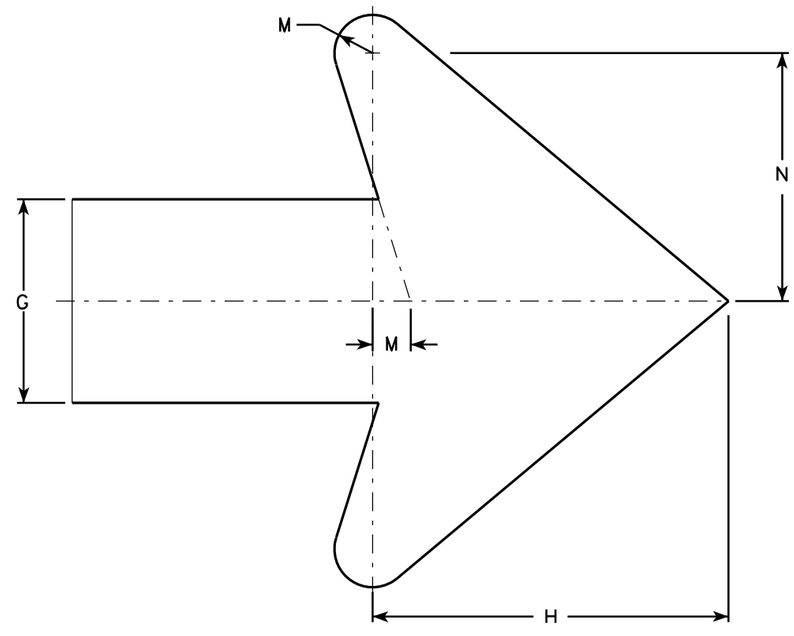
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 207	E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

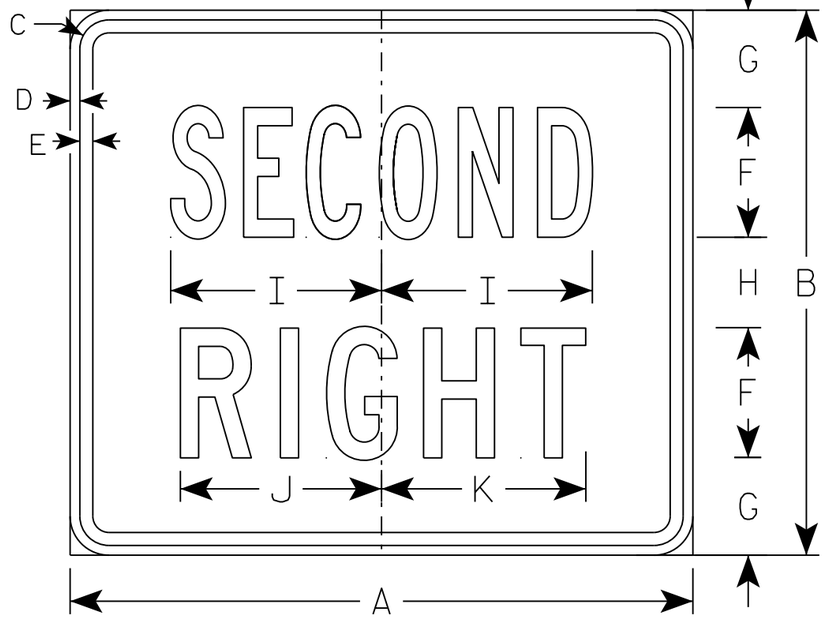
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

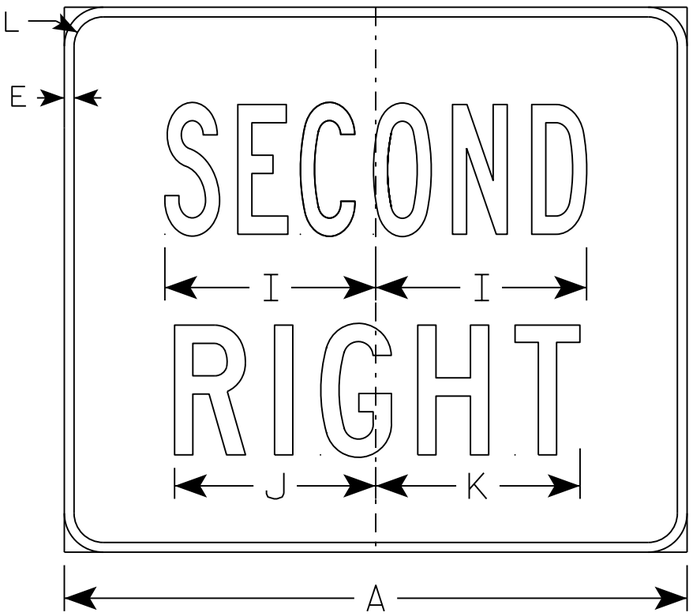
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

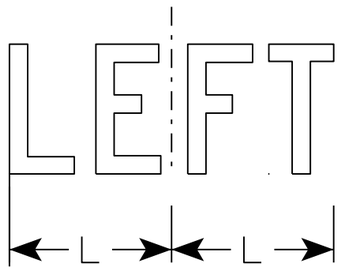
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 208 | E



M4-22R
MM4-22R
M04-22R
MP4-22R



MB4-22R
MK4-22R
MN4-22R
MR4-22R



M4-22L
MB4-22L
MK4-22L
MM4-22L
MN4-22L
M04-22L
MP4-22L
MR4-22L

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-22 Background - White
   Message - Black
   MB4-22 Background - Blue
   Message - White
   MK4-22 Background - Green
   Message - White
   MM4-22 Background - White
   Message - Green
   MN4-22 Background - Brown
   Message - White
   M04-22 Background - Orange - Type F Reflective
   Message - Black
   MP4-22 Background - White
   Message - Blue
   MR4-22 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	21	1 1/8	3/8	1/2	5	3 3/4	3 1/2	8 1/8	7 3/4	7 7/8	1 1/2															3.5
3	36	30	1 5/8	5/8	3/4	8	4 3/4	4 1/2	13 1/8	12 5/8	12 1/2	1 7/8															7.5
4																											
5																											

STANDARD SIGN
M4-22

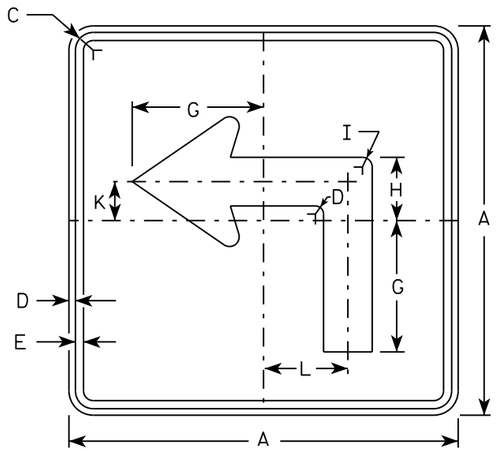
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

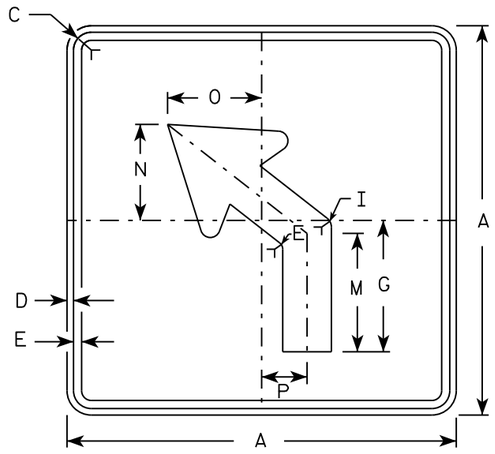
DATE 10/15/15 PLATE NO. M4-22.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

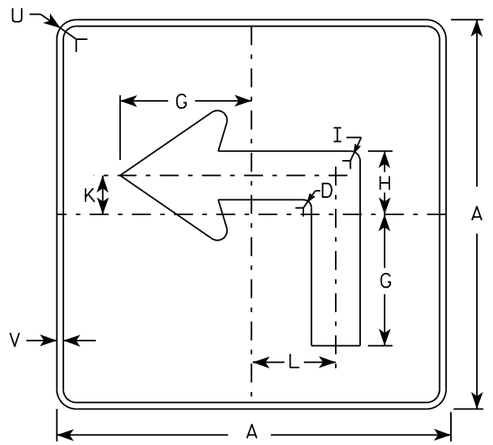
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M422.DGN PLOT DATE : 01-DEC-2015 18:04 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



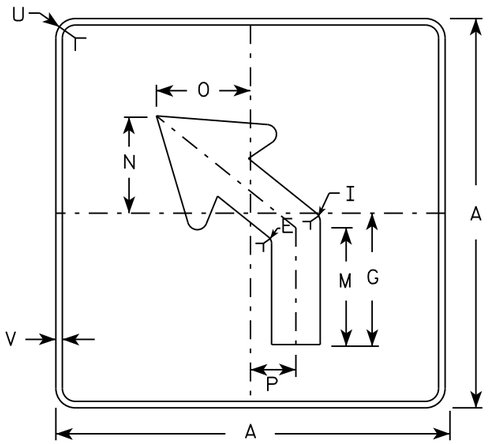
M5-1L
MM5-1L
MO5-1L
MP5-1L



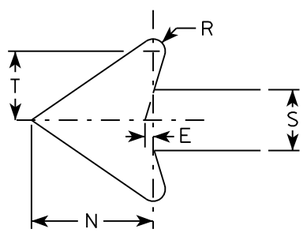
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

STANDARD SIGN
M5-1 & M5-2

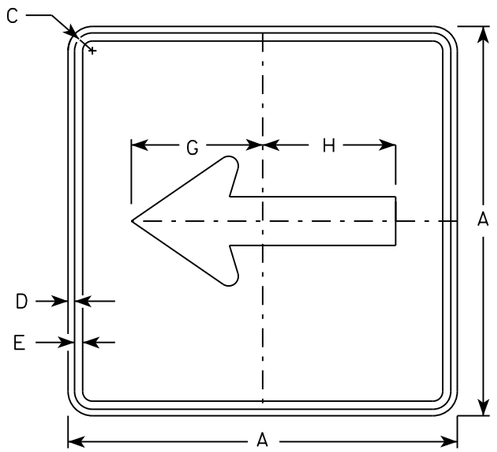
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

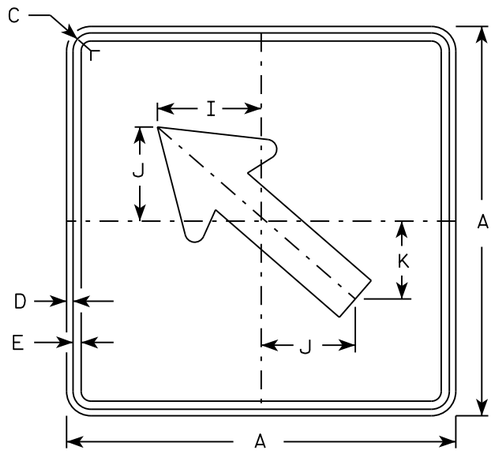
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



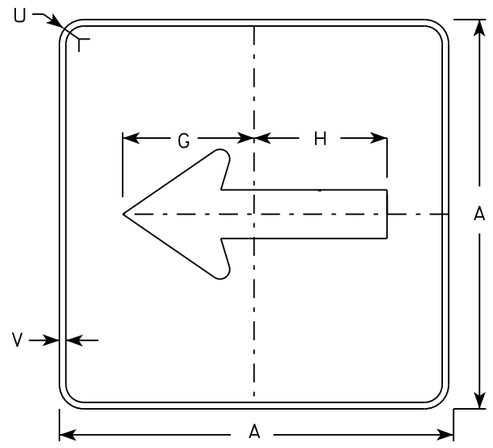
M6-1
MM6-1
MO6-1
MP6-1



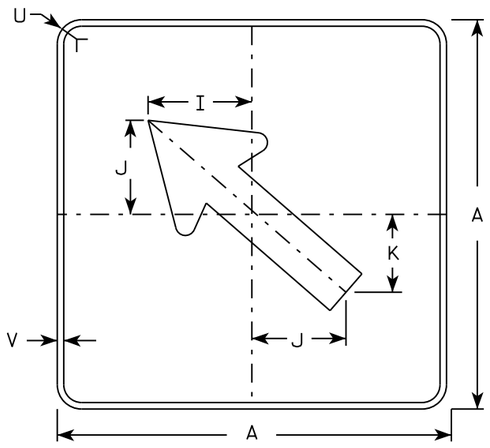
M6-2
MM6-2
MO6-2
MP6-2

NOTES

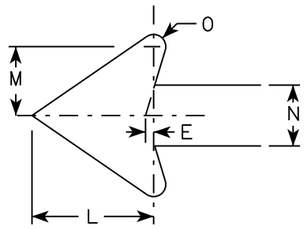
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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

STANDARD SIGN
M6-1 & M6-2
SERIES

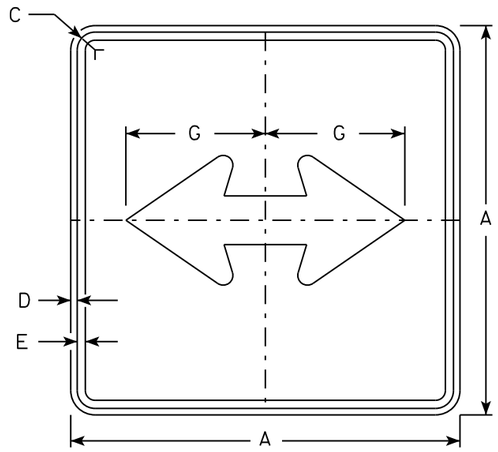
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

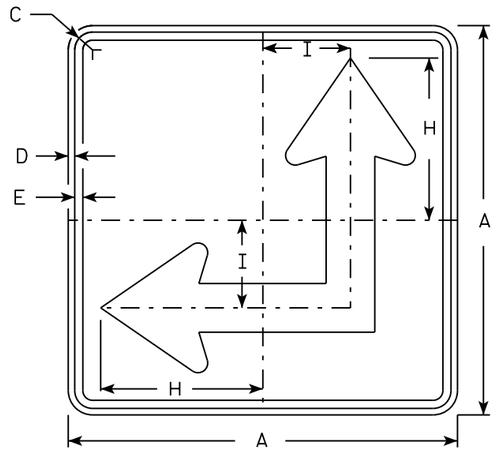
DATE 10/15/15 PLATE 211 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



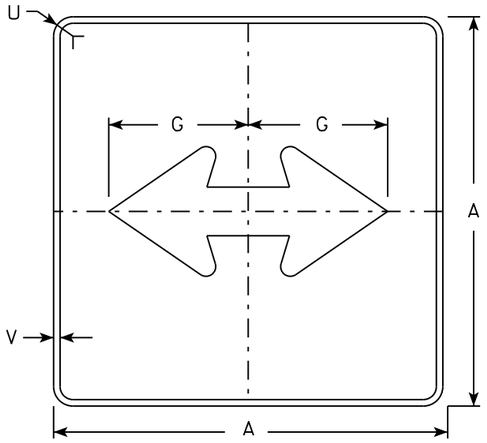
M6-4
MM6-4
MO6-4
MP6-4



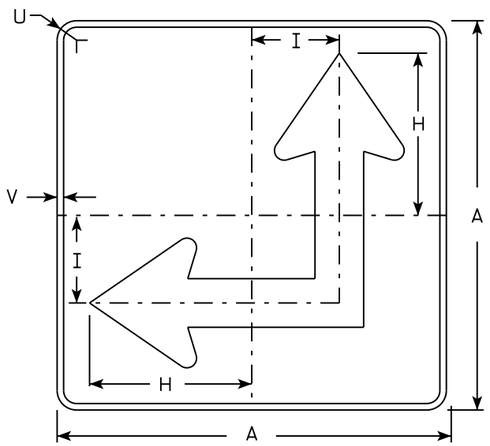
M6-6
MM6-6
MO6-6
MP6-6

NOTES

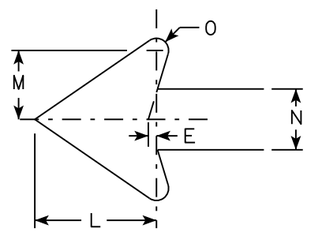
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-4 & M6-6
SERIES

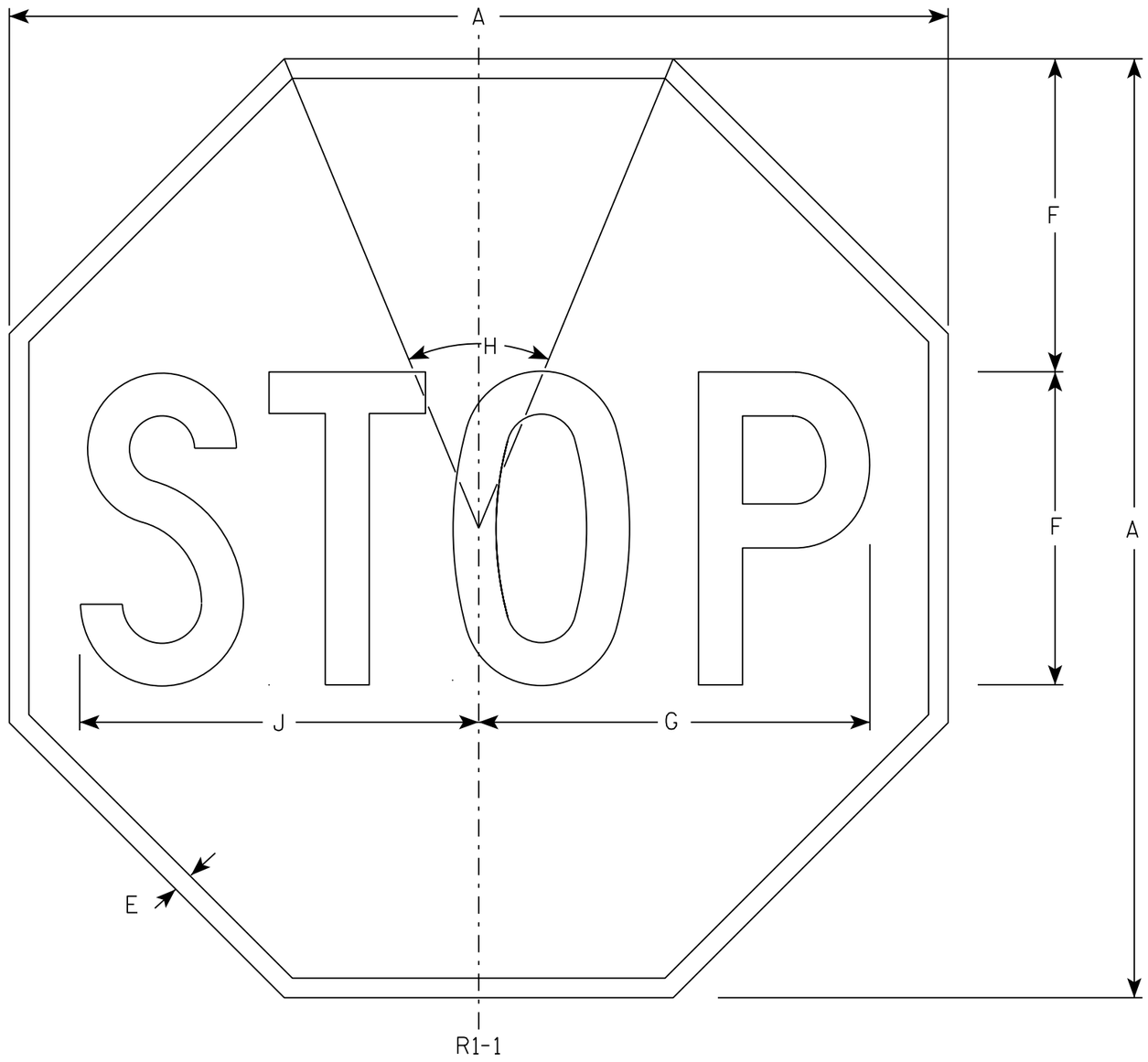
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 212 M6-4.10

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 01-DEC-2015 17:58 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN

R1-1

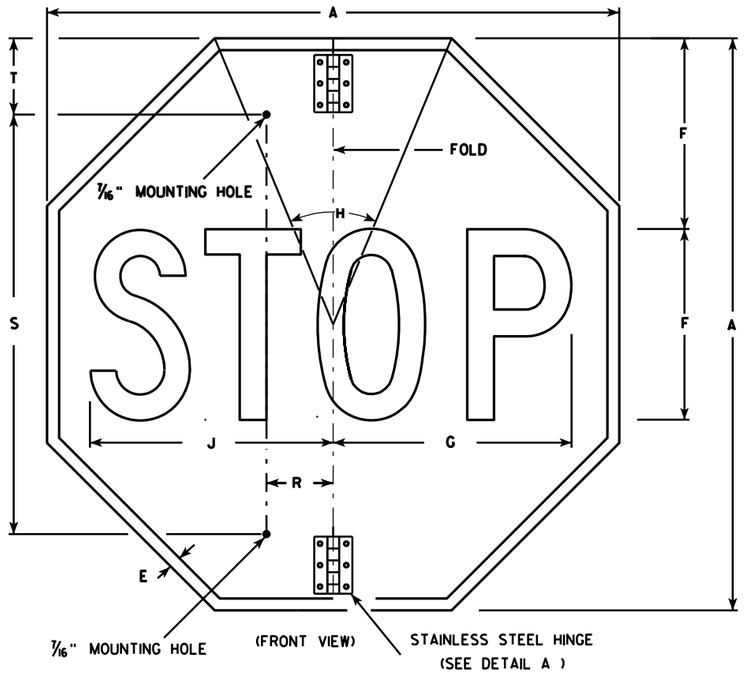
WISCONSIN DEPT OF TRANSPORTATION

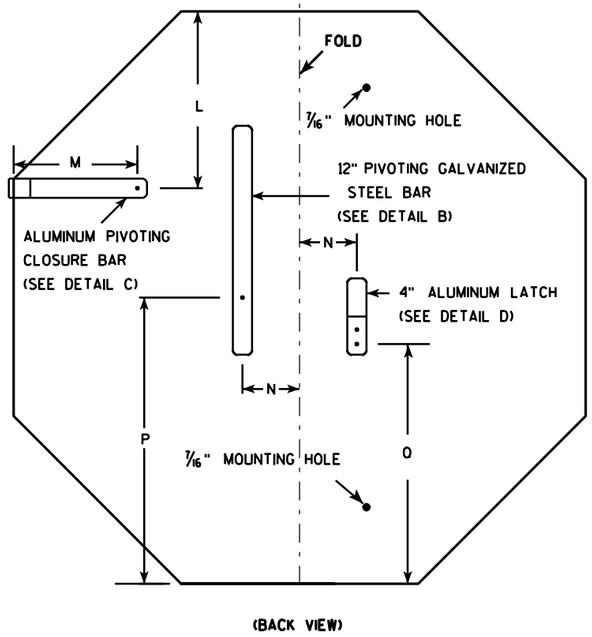
APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

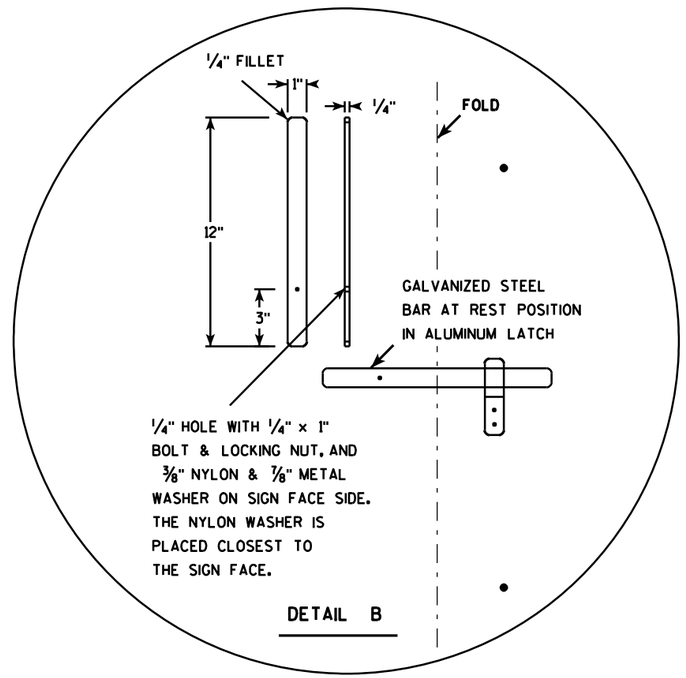
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 213	E

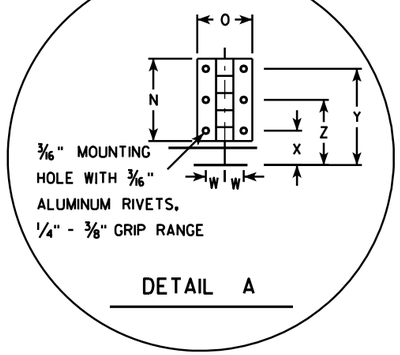


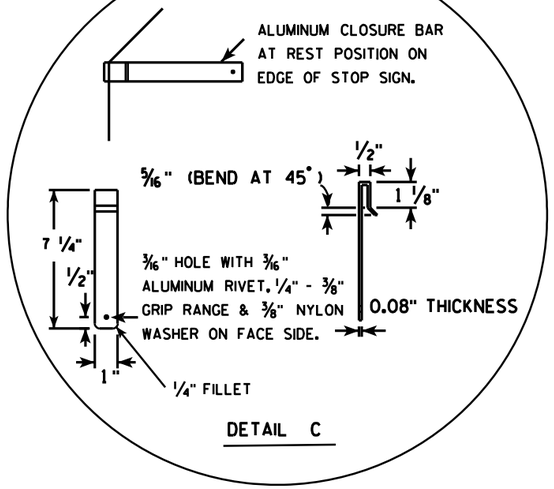


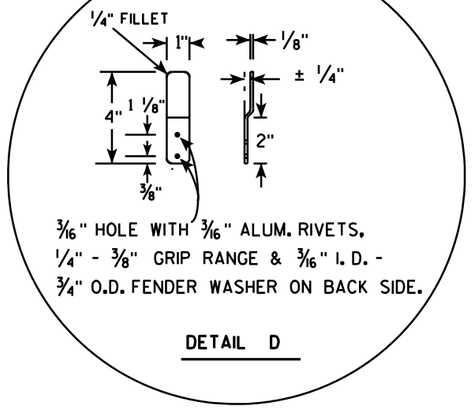
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

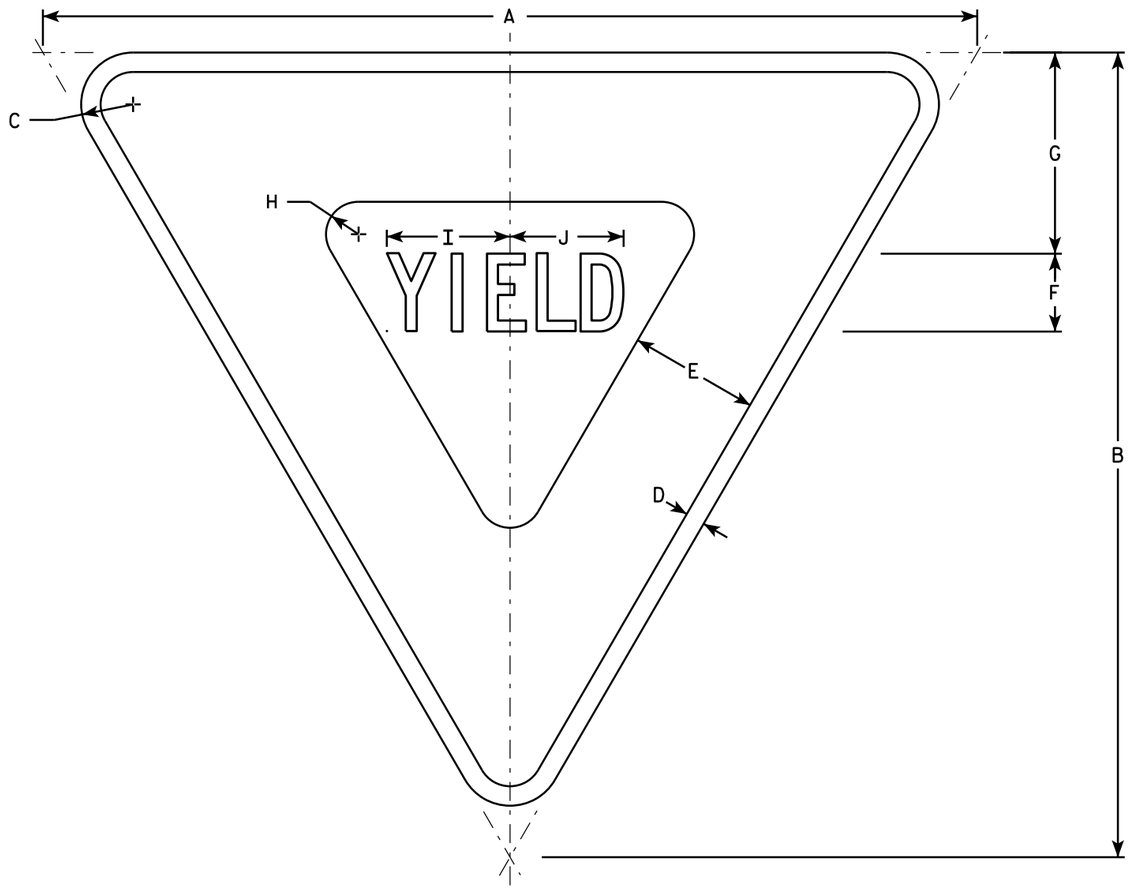
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 214 | E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

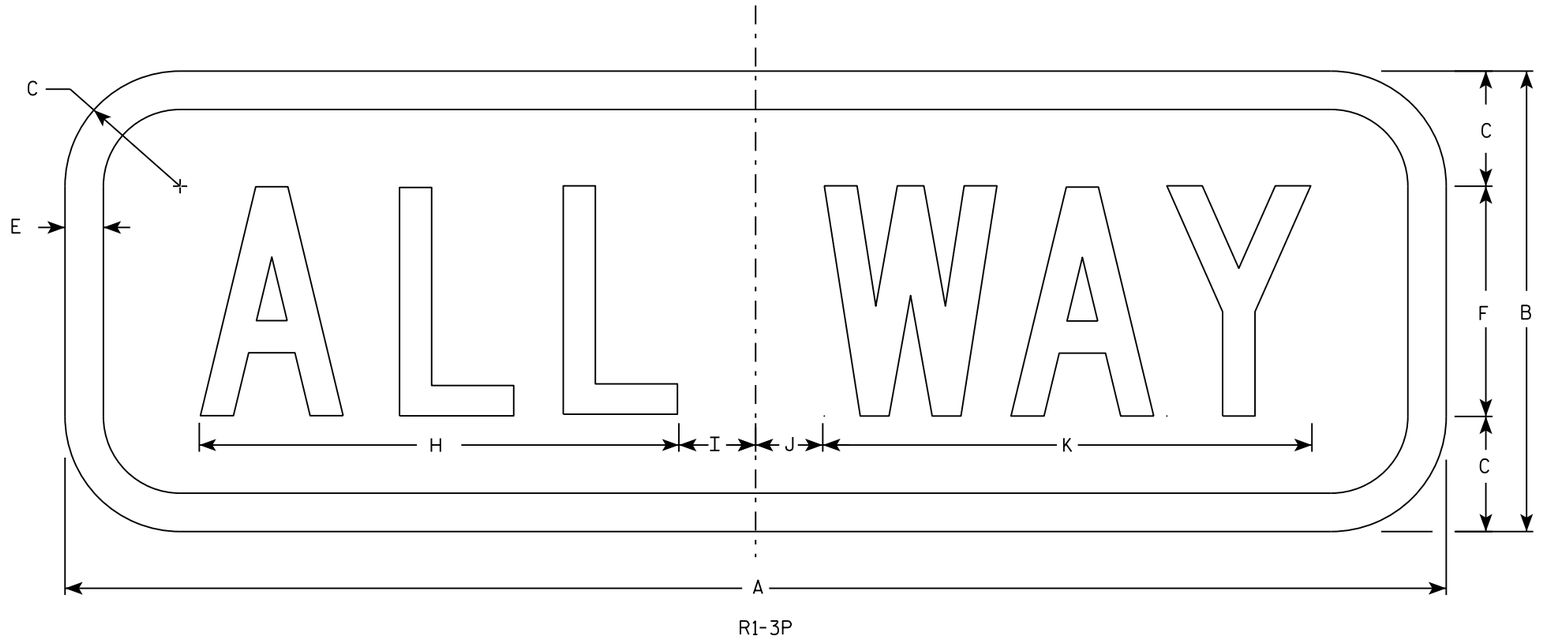
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000



R1-3P

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. For 30"x30" R1-1 use 18"x6" R1-3P sign
   For 36"x36" R1-1 use 24"x9" R1-3P sign
   For 48"x48" R1-1 use 30"x12" R1-3P sign

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	6	1 ½		½	3		6 ¼	1 ¼	⅞	6 ⅜																0.75
2S	18	6	1 ½		½	3		6 ¼	1 ¼	⅞	6 ⅜																1.5
2M	24	9	1 ½		½	5		9 ¼	1 ¼	¾	9 ¾																1.5
3	24	9	1 ½		½	5		9 ¼	1 ¼	¾	9 ¾																1.5
4	30	12	2 ¼		⅝	6		11	2 ¼	1 ½	11 ¾																2.5
5	30	12	2 ¼		⅝	6		11	2 ¼	1 ½	11 ¾																2.5

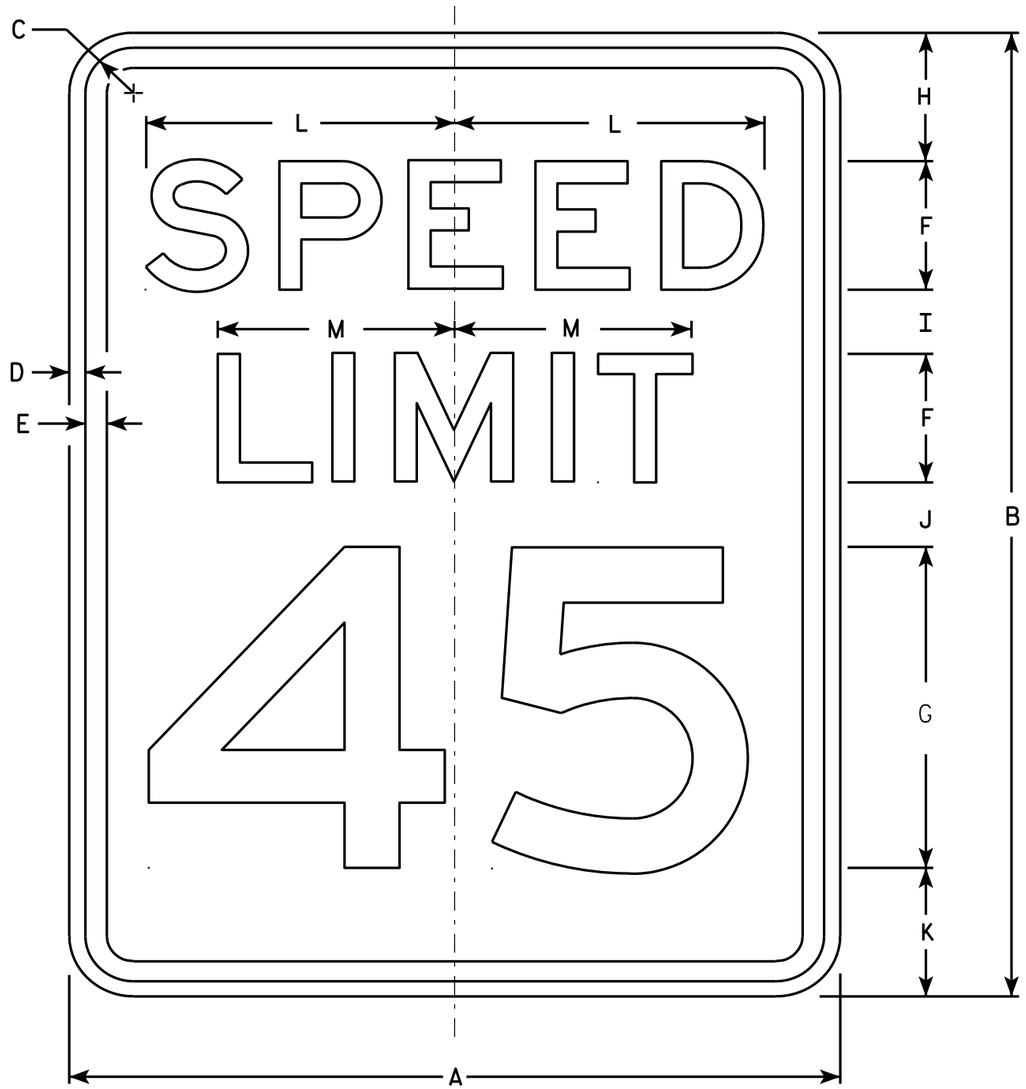
STANDARD SIGN
R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R1-3P.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 216 | E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

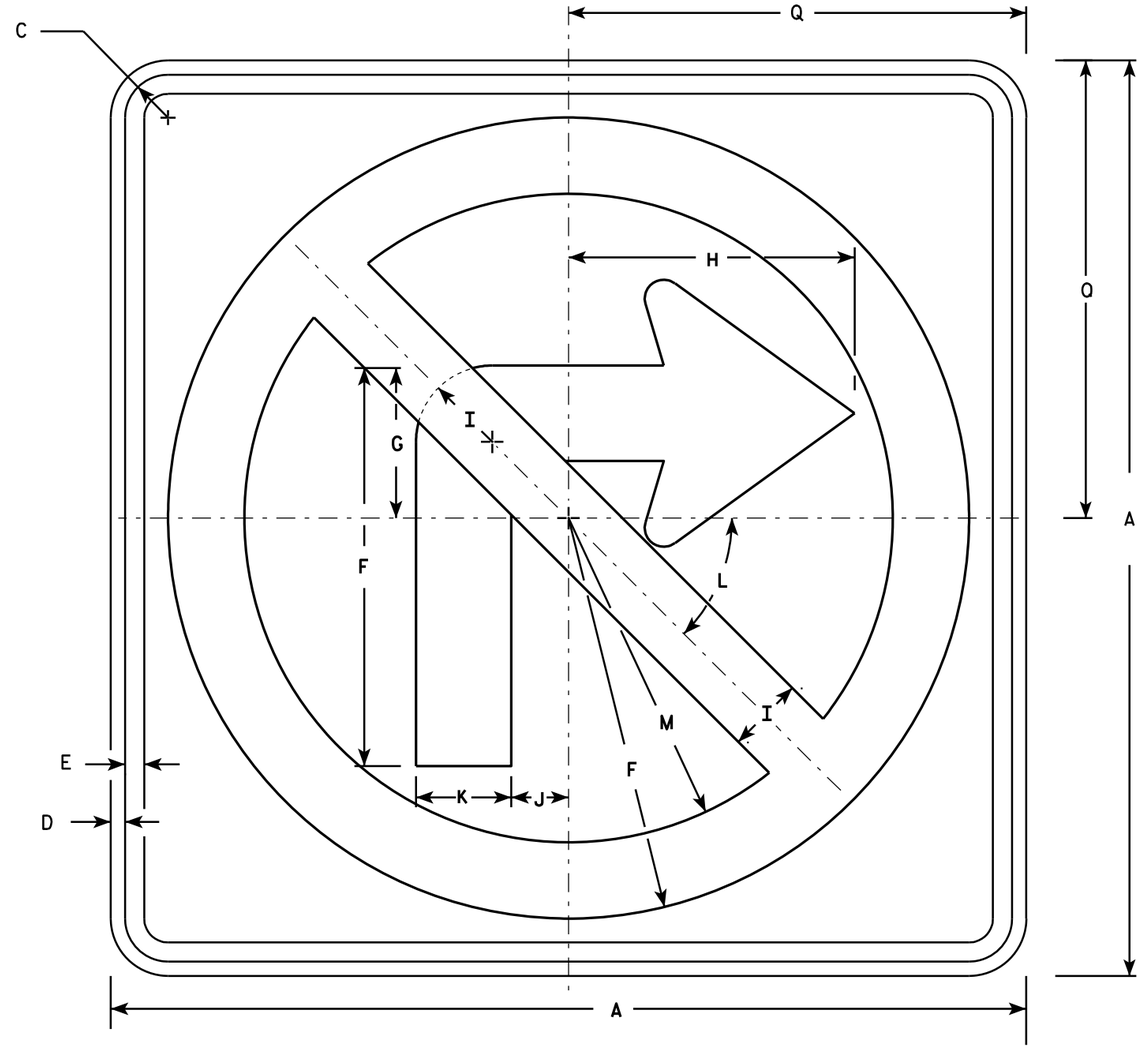
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

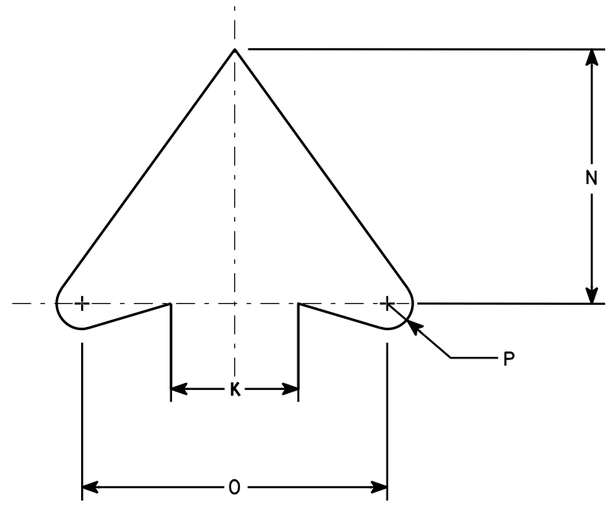
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 217	E



R3-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

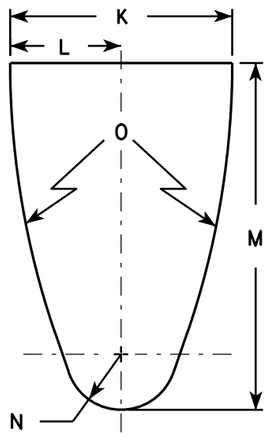
STANDARD SIGN
R3-1

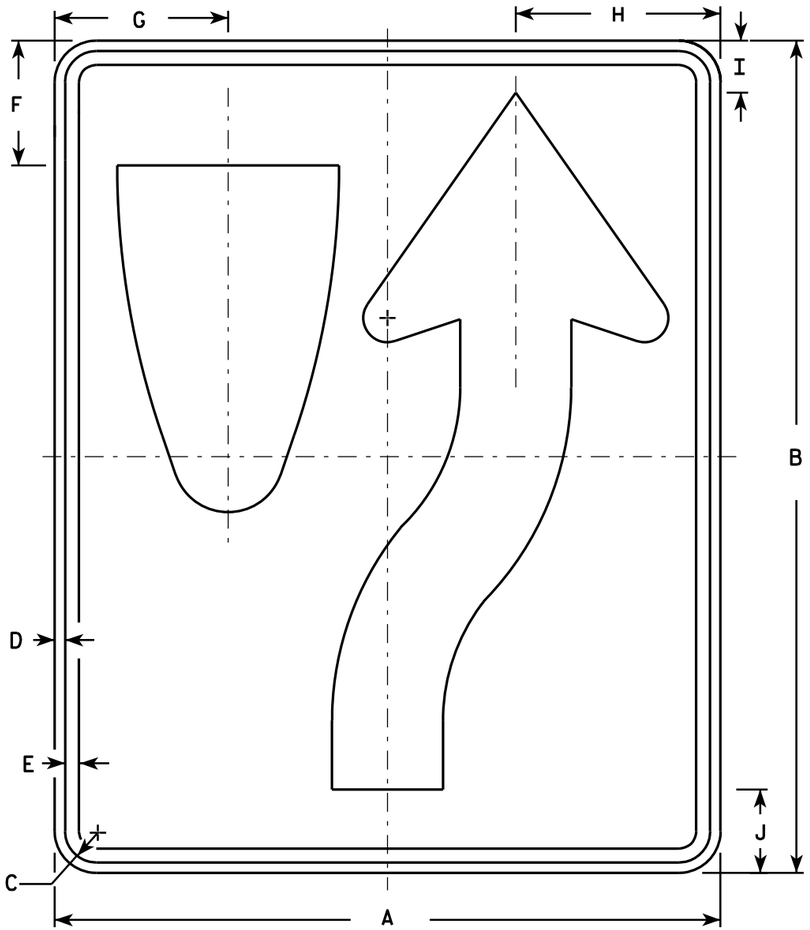
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 218	E

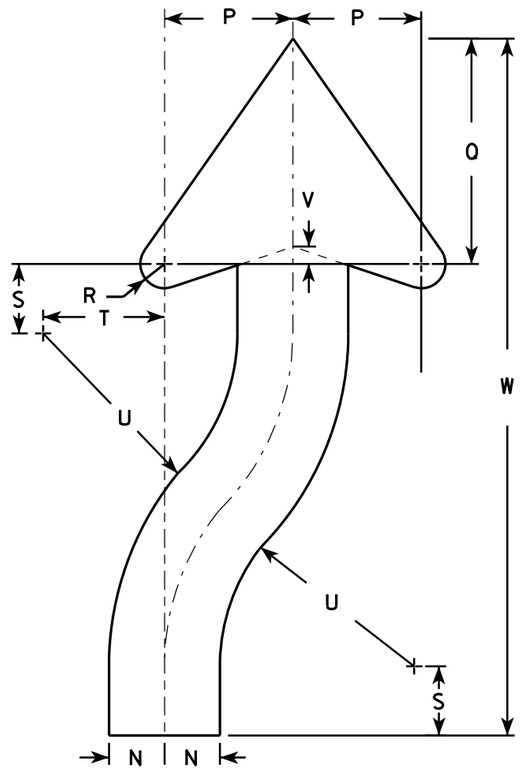




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

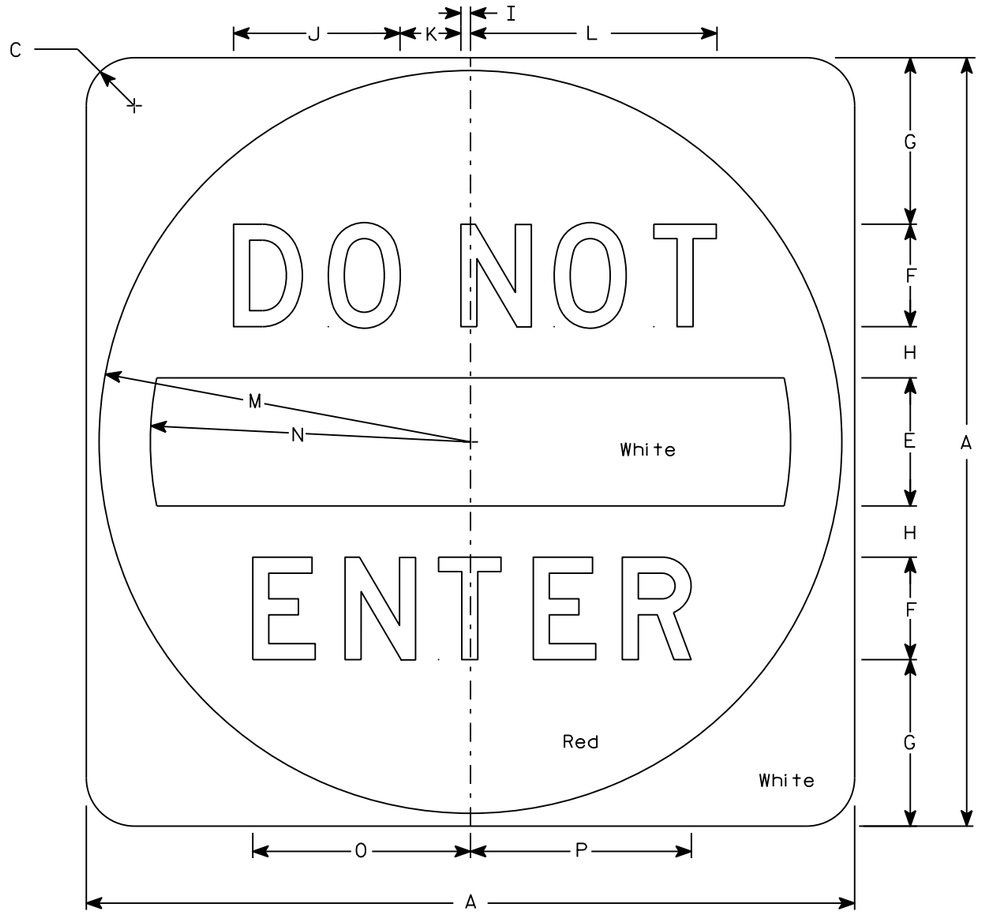
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 219	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See detail
   Message - White
3. Message Series - D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.25
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

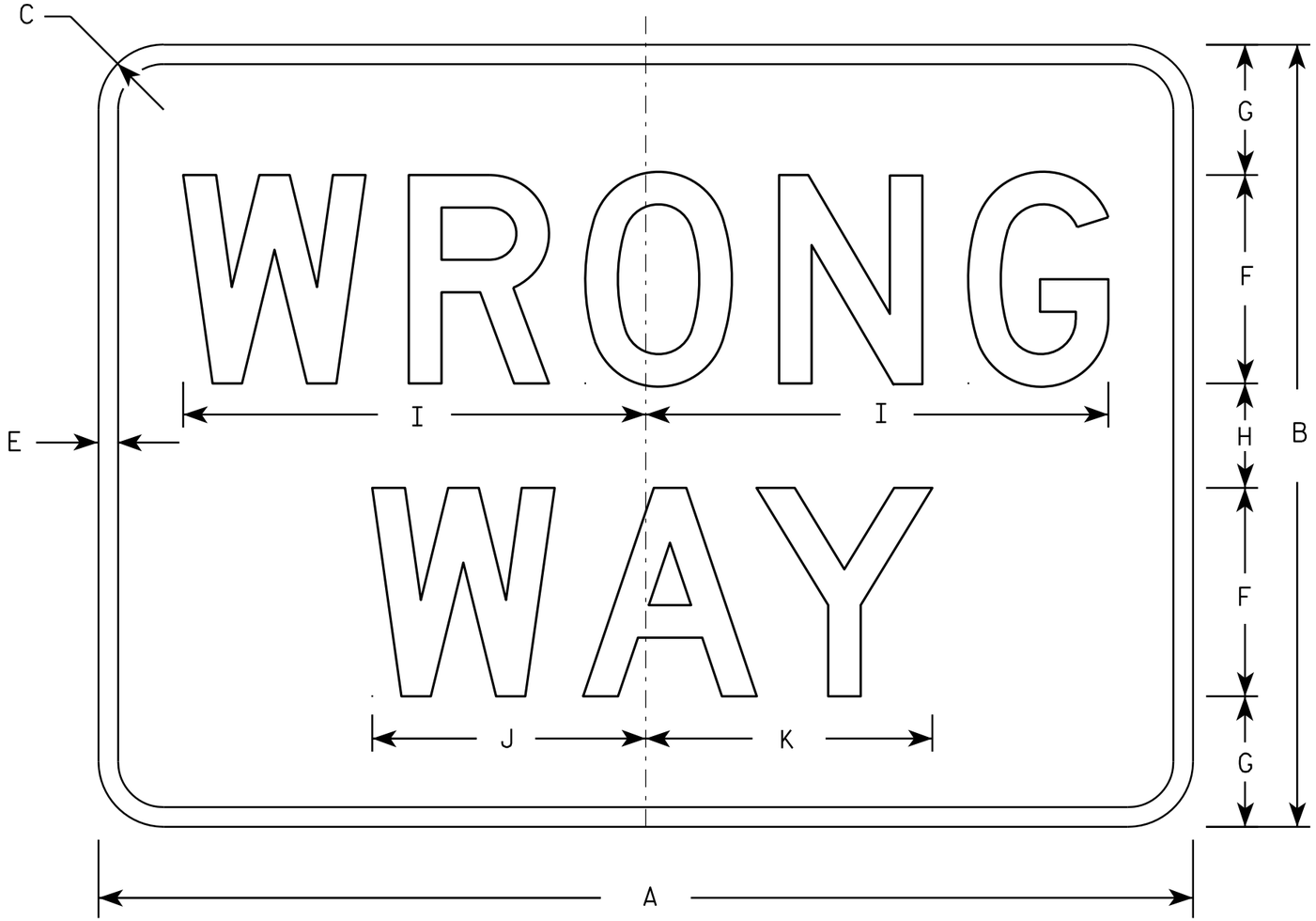
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 220 | E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

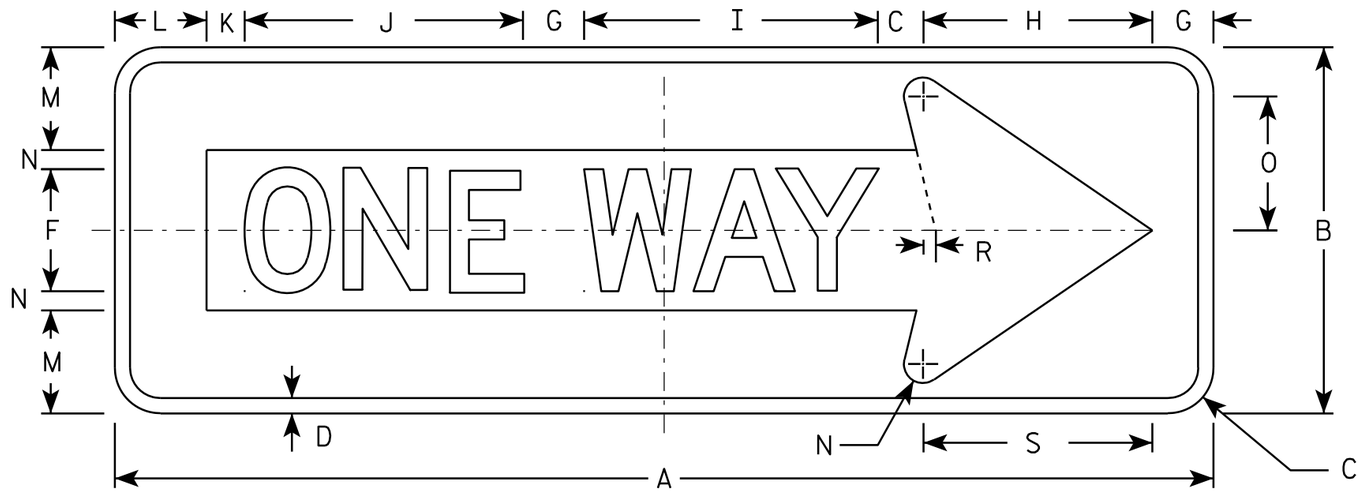
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

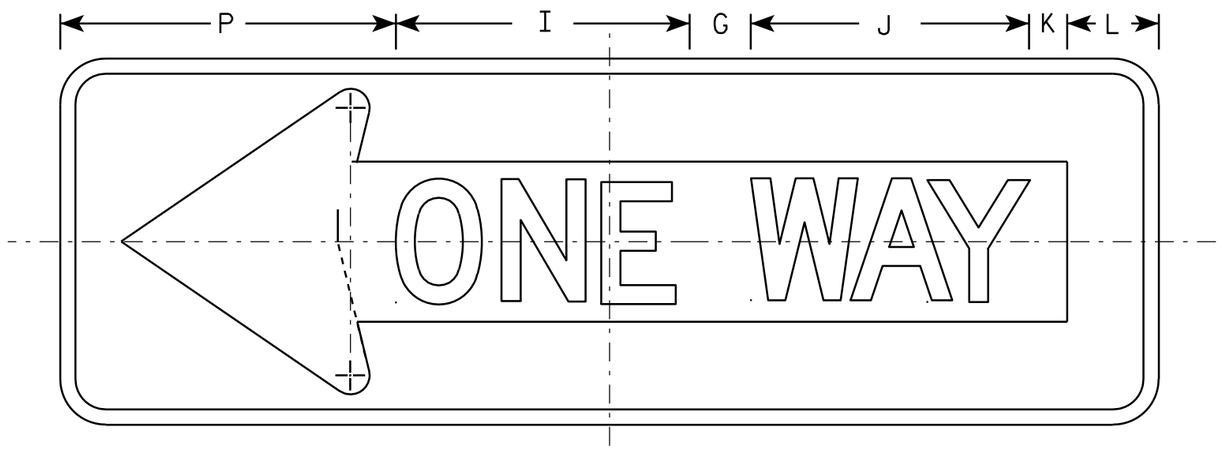
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 221	E



R6-1R



R6-1L

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 1/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 1/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 1/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

STANDARD SIGN
R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

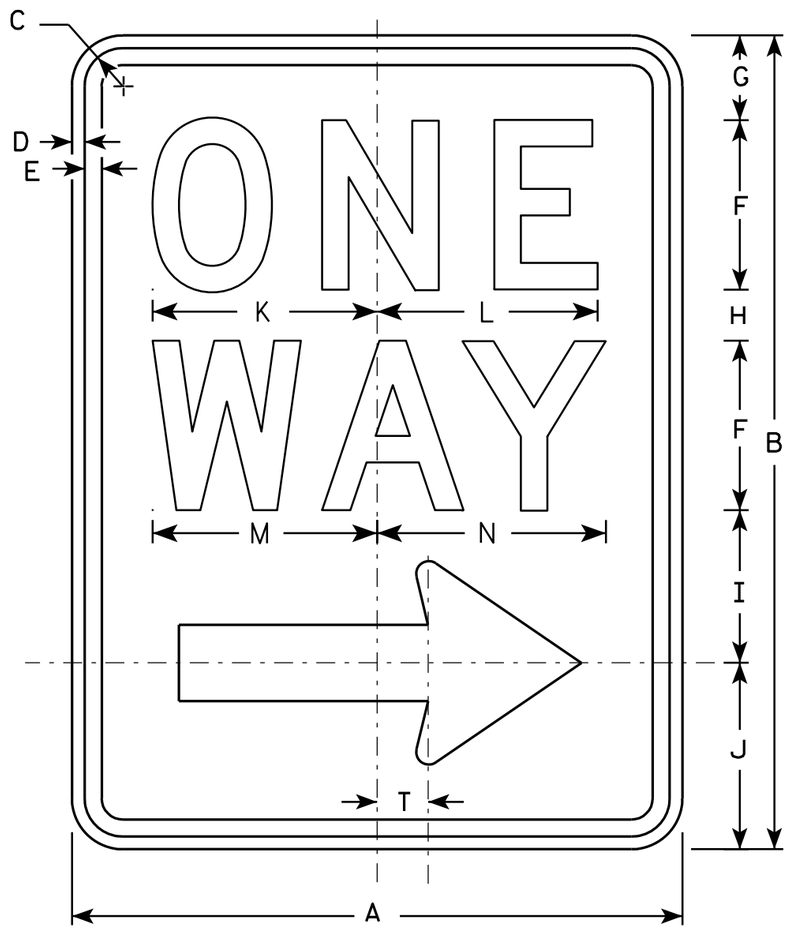
DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

SHEET NO: 222 E

7

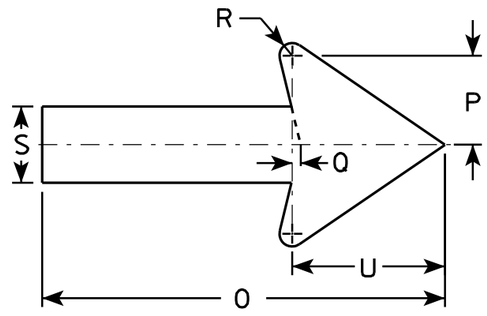
7



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

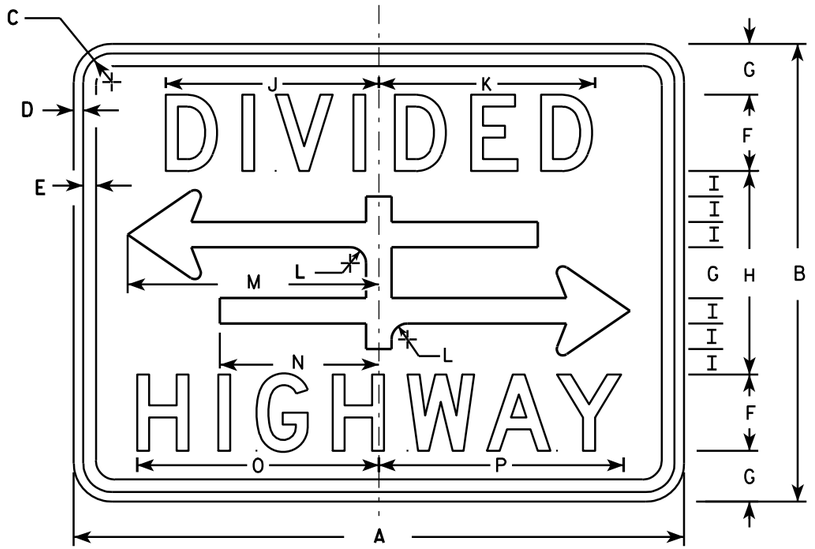
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

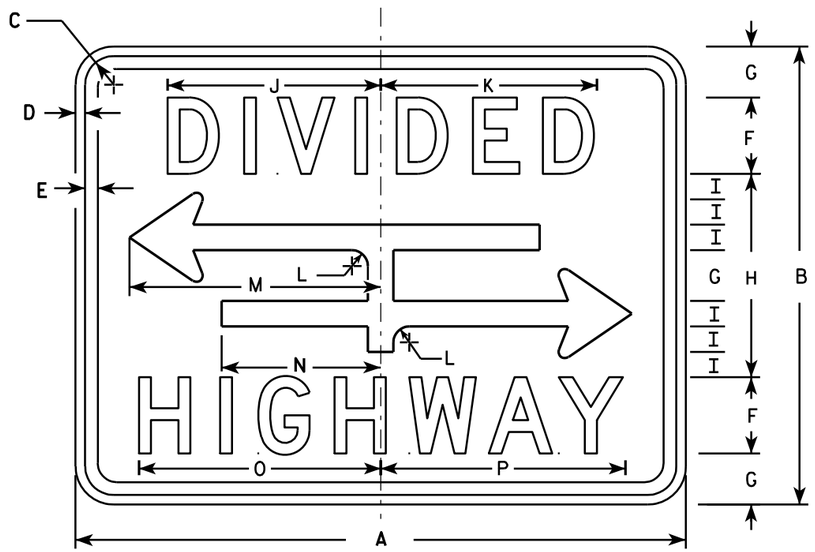
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 223	E



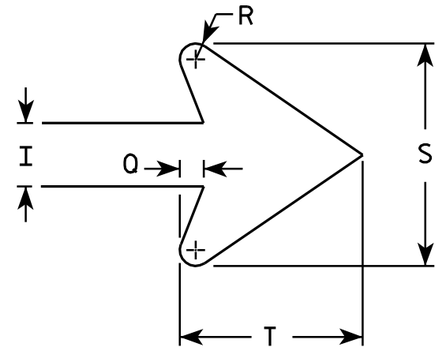
R6-3

NOTES

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



R6-3A



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN
R6-3 & R6-3A

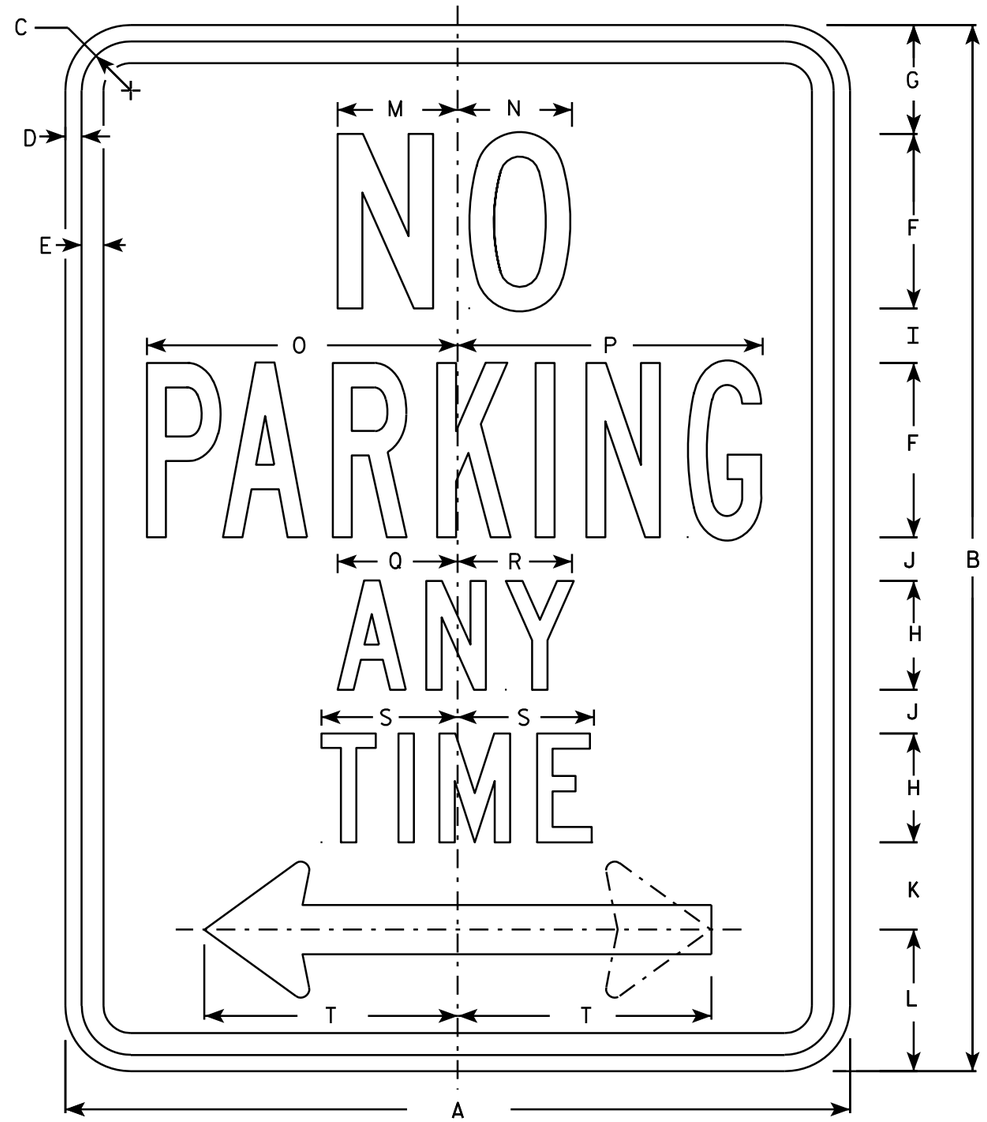
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

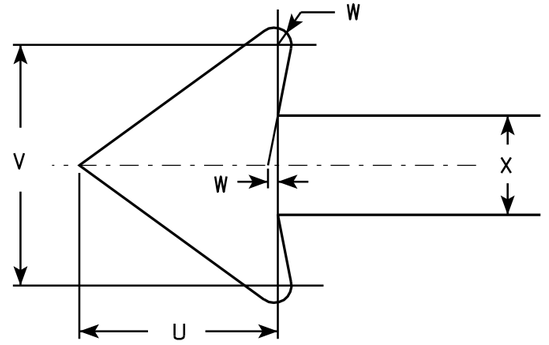
SHEET NO: 224 E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

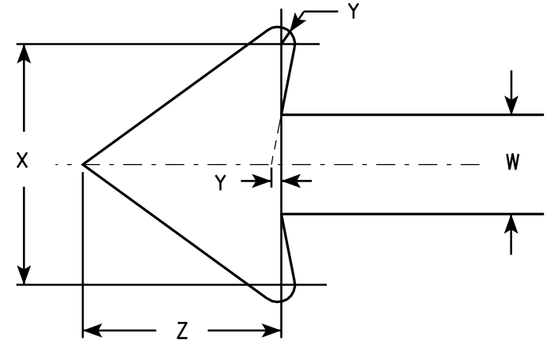
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 225 | E



R7-51

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R7-51D (double arrow)
   R7-51R (right arrow)
   R7-51L (left arrow)
6. Lines 1, 3 and 4 are Series C.
   Line 2 is Series B.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	4 7/8	5/8	1 3/4	2 1/2	4 3/8	3 7/8	3/4	1 3/4	1/8	1 1/2	1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	5 3/4	1 1/8	1 1/2	3 1/8	5 1/2	5 7/8	1 1/8	2 5/8	1/4	2 1/4	3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 1/8	1 1/4	2	3 3/4	6 1/2	7 3/4	1 1/2	3 1/2	1/4	3	5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	7 1/8	1 1/4	2	3 3/4	6 1/2	7 3/4	1 1/2	3 1/2	1/4	3	5.0
4																											
5																											

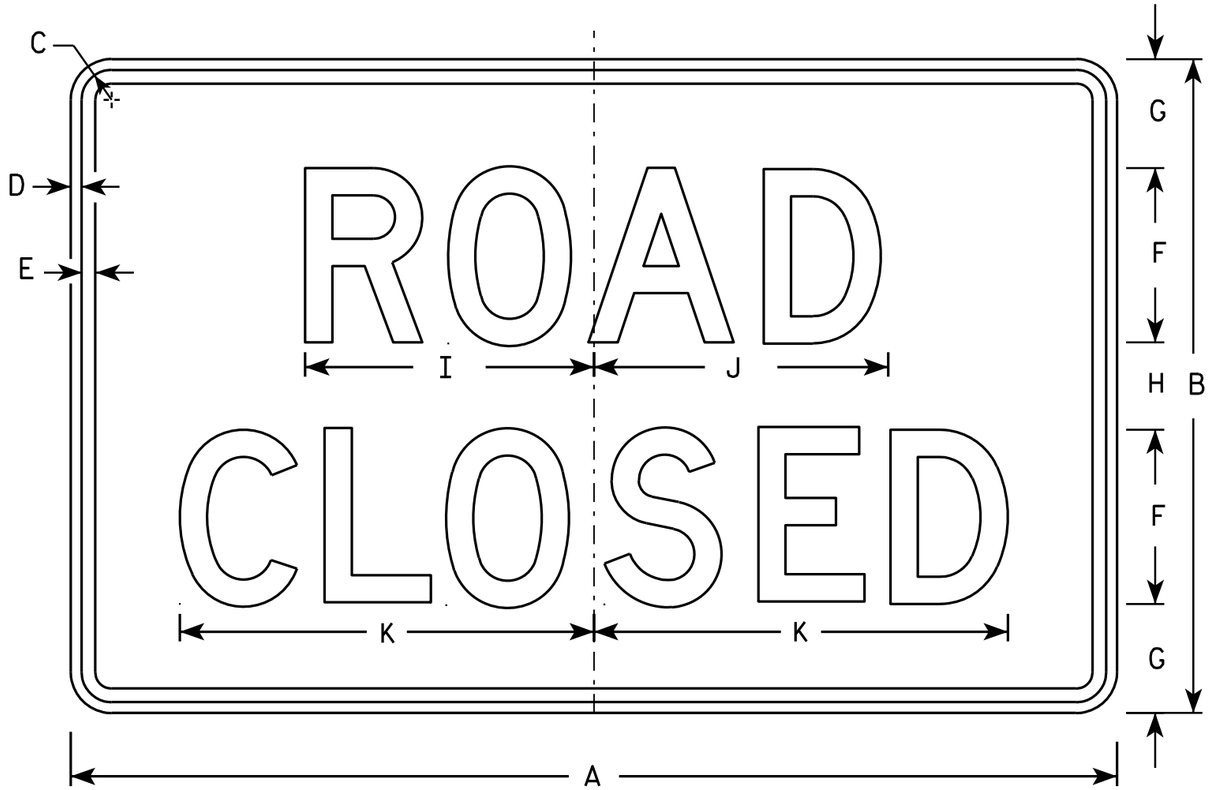
STANDARD SIGN
R7-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-51.6

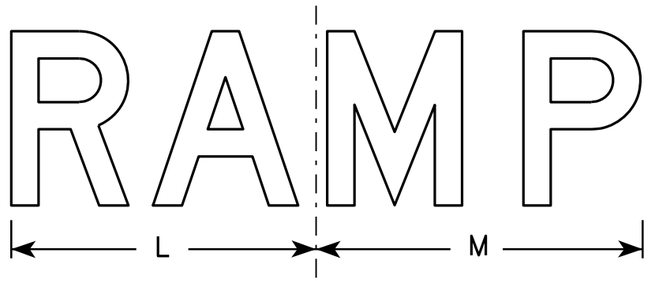
PROJECT NO:	HWY:	COUNTY:			SHEET NO: 226	E



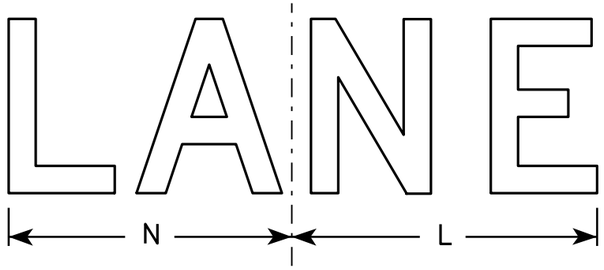
R11-2

NOTES

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



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

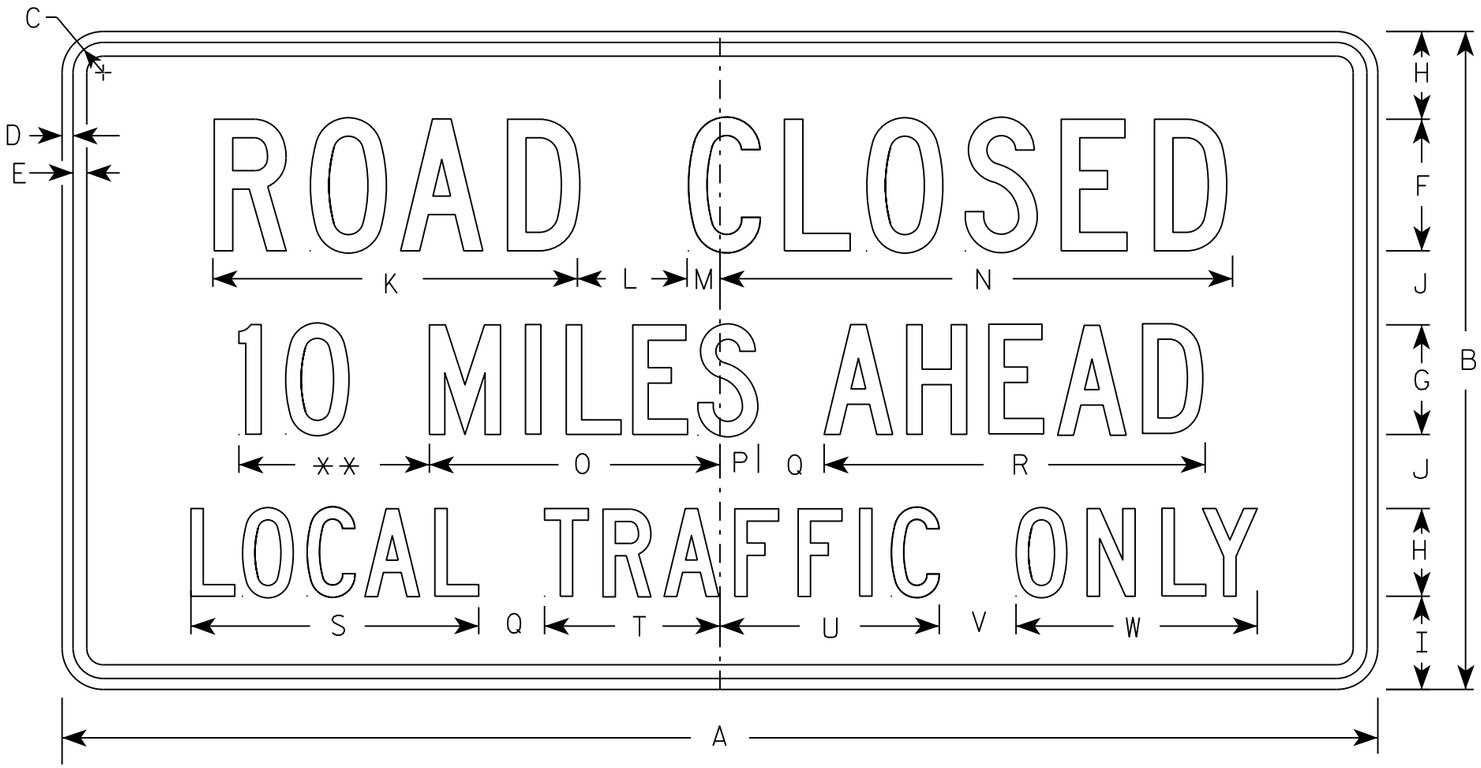
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 227 | E

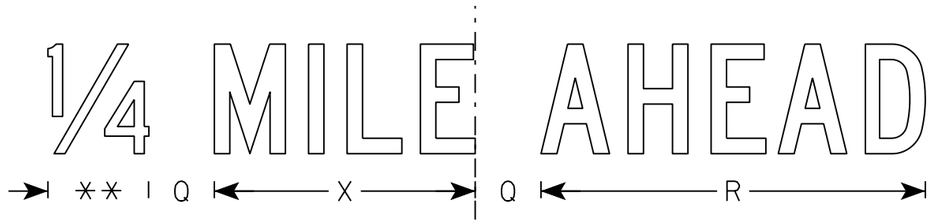
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

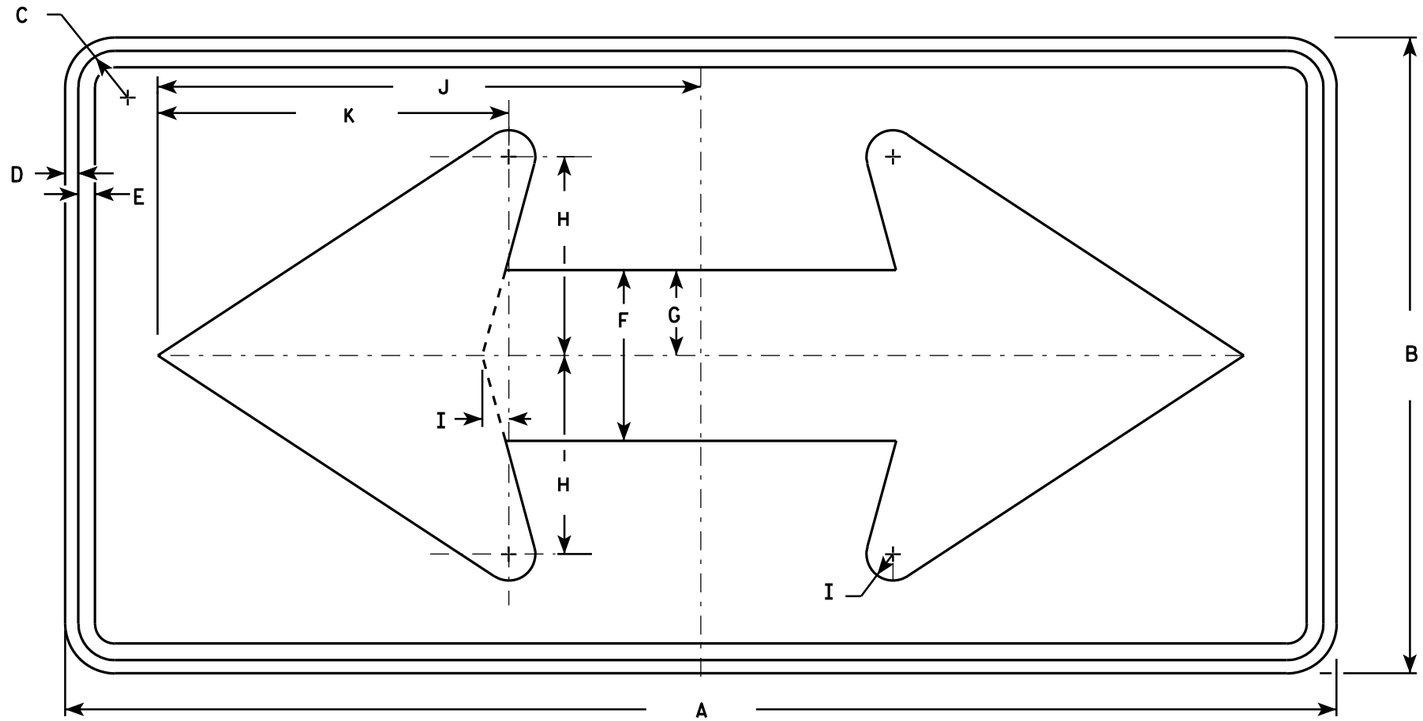
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 228	E



W1-7

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

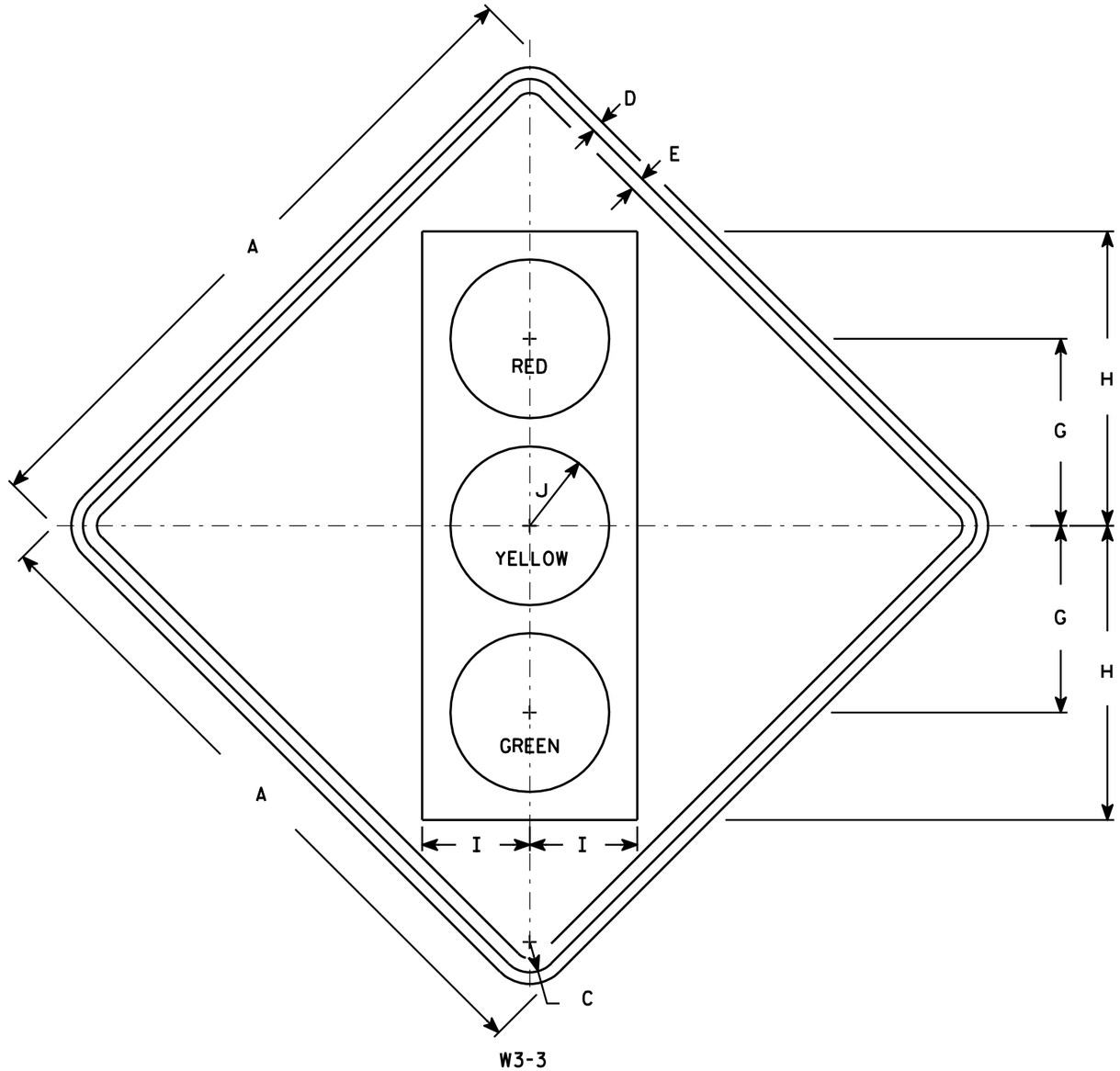
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 229 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W3-3

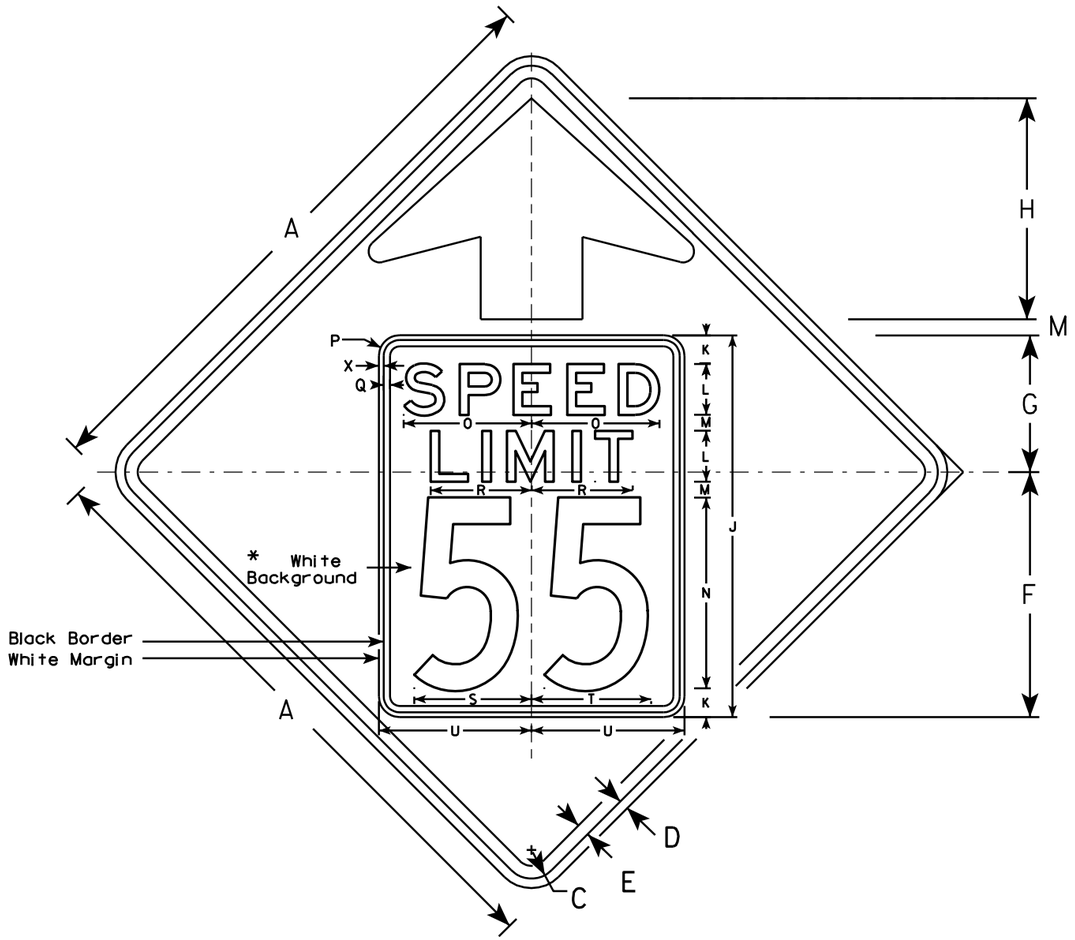
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 230 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W33.DGN PLOT DATE : 07-JUN-2010 13:07 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 7.448805:1.000000
WISDOT/CADDS SHEET 42

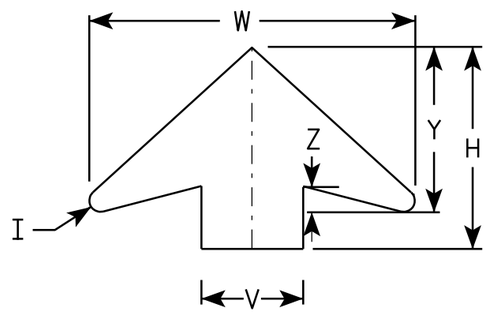


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

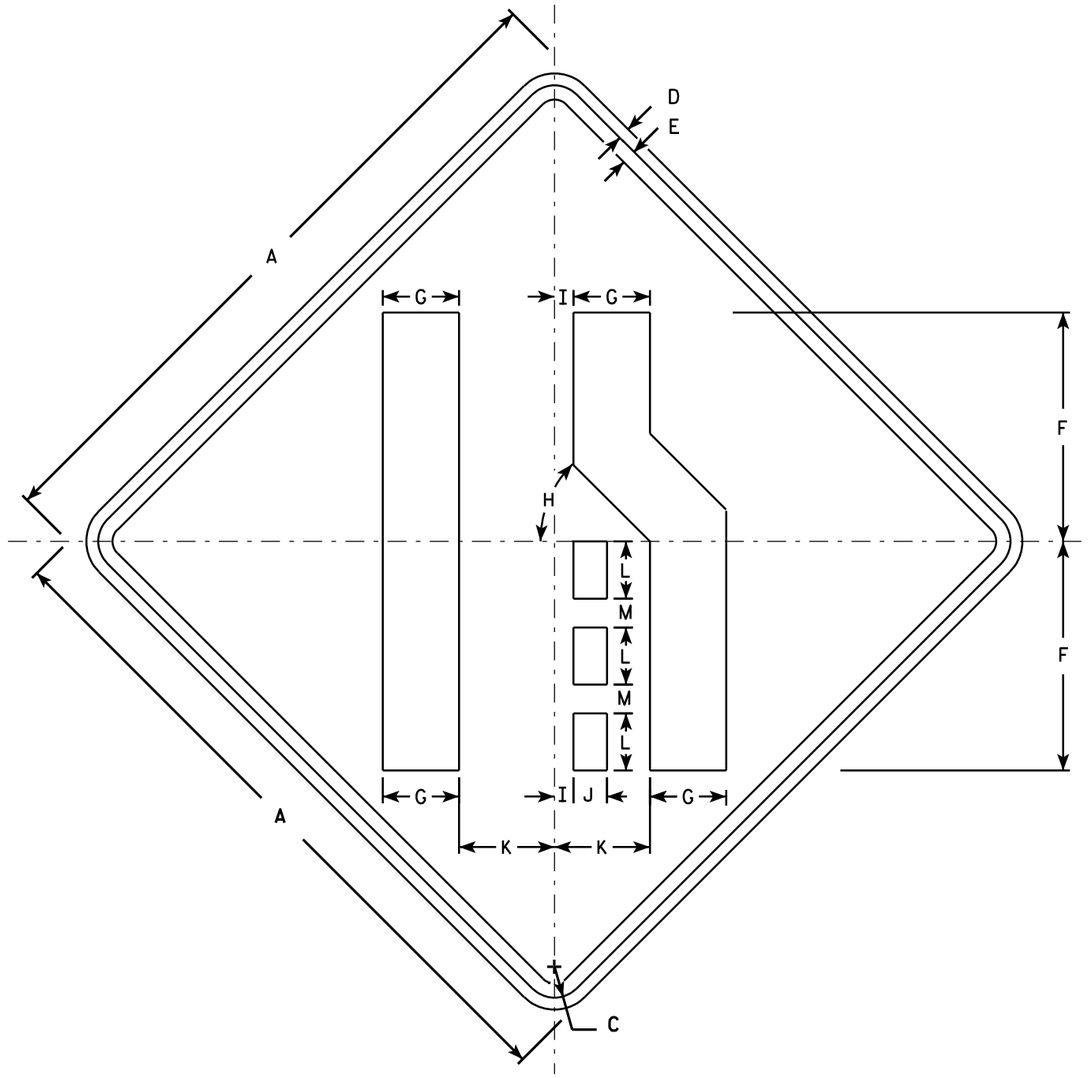
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 231 E



W4-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

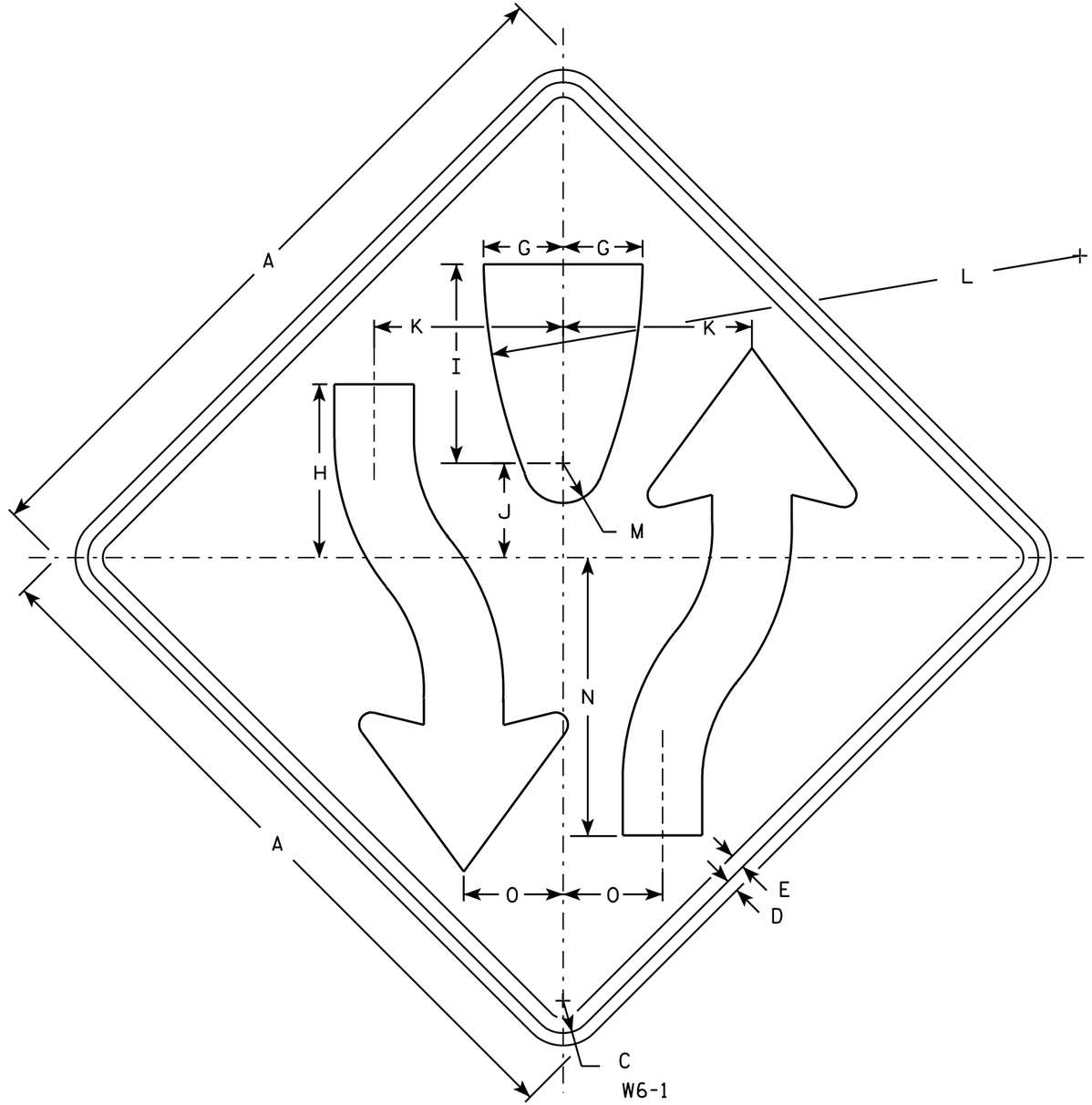
DATE 3/12/13 PLATE NO. W4-2.14

PROJECT NO:

SHEET NO: 232 E

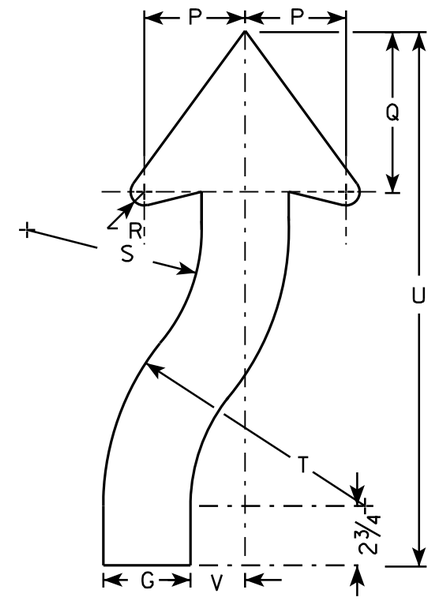
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W42.DGN PLOT DATE : 12-MAR-2013 11:09 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

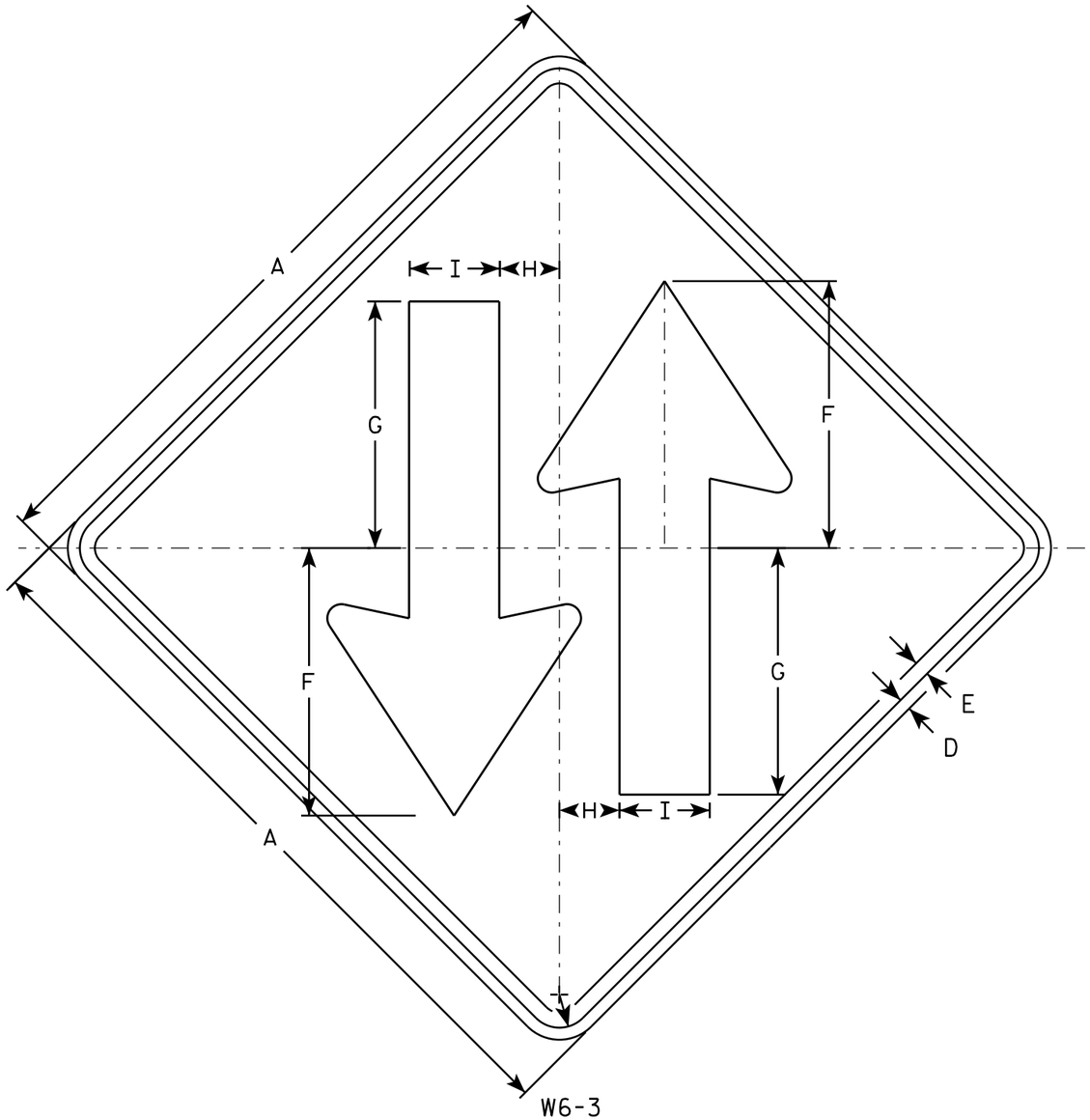
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 233	E

7

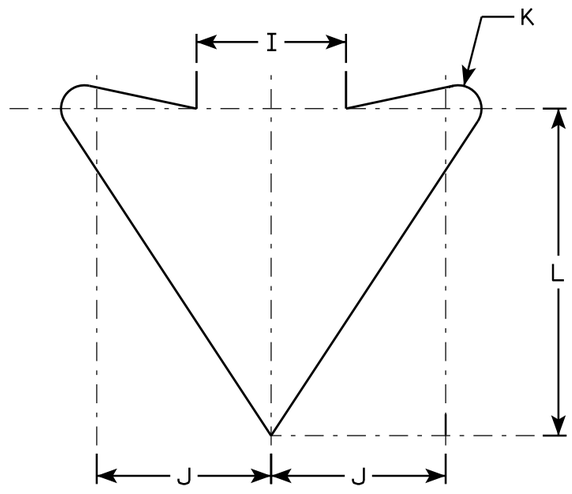
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



W6-3

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 1/8	10 1/4	2 1/2	3 3/4	4 3/8	5/8	8 1/4															6.25
2S	36		1 5/8	5/8	3/4	13 3/8	12 1/4	3	4 1/2	5 1/4	3/4	9 7/8															9.0
2M	36		1 5/8	5/8	3/4	13 3/8	12 1/4	3	4 1/2	5 1/4	3/4	9 7/8															9.0
3																											
4	48		2 1/4	3/4	1	17 3/4	16 3/8	4	6	7	1	13 1/8															16.0
5	48		2 1/4	3/4	1	17 3/4	16 3/8	4	6	7	1	13 1/8															16.0

STANDARD SIGN
W6-3

WISCONSIN DEPT OF TRANSPORTATION

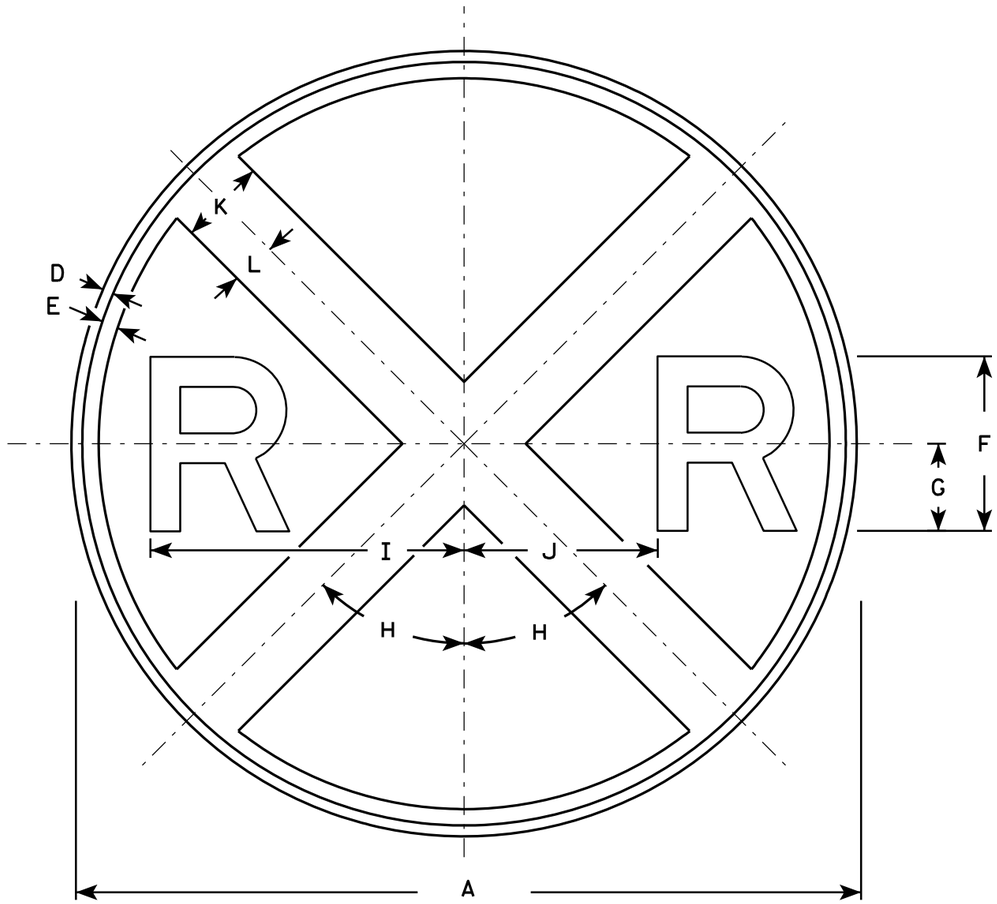
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/16 PLATE W6-3.11

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

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W63.DGN PLOT DATE : 10-MAR-2016 14:01 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.080757:1.000000
WISDOT/CADDS SHEET 42



W10-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30			3/8	5/8	7	3 1/2	45°	12 3/8	7 1/8	3	1 1/2															4.91
2S	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
2M	36			5/8	3/4	8	4	45°	14 3/8	8 5/8	4	2															7.07
3																											
4	48			3/4	1 1/4	10	5	45°	18 3/8	11 5/8	5	2 1/2															12.57
5																											

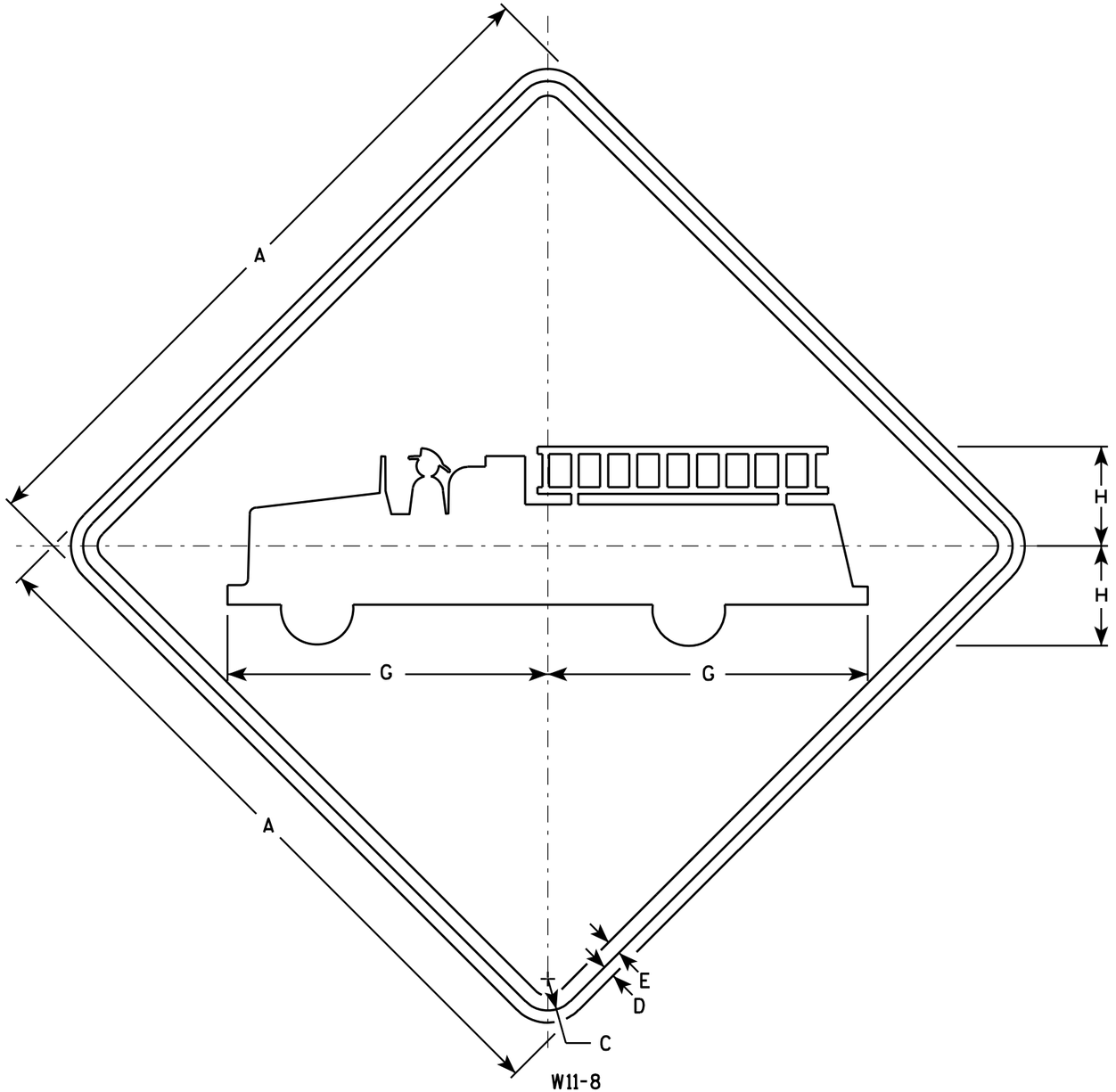
STANDARD SIGN
W10-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 235	E



W11-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		11	3 3/8																			4.0
2S	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
2M	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
3	36		1 5/8	5/8	3/4		16 1/2	5 1/4																			9.0
4	48		2 1/4	3/4	1		22	7																			16.0
5																											

STANDARD SIGN
W11-8

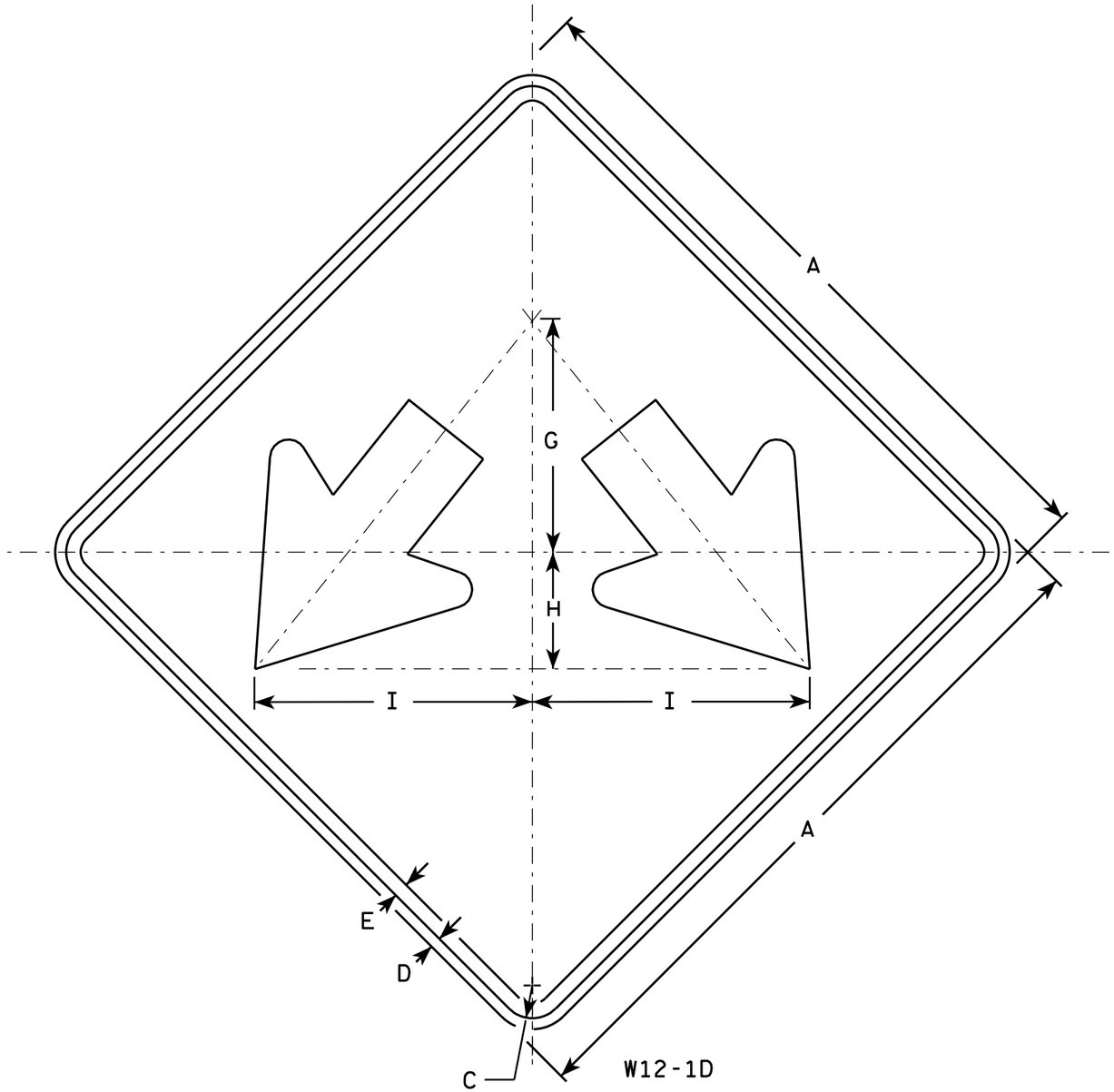
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W11-8.7

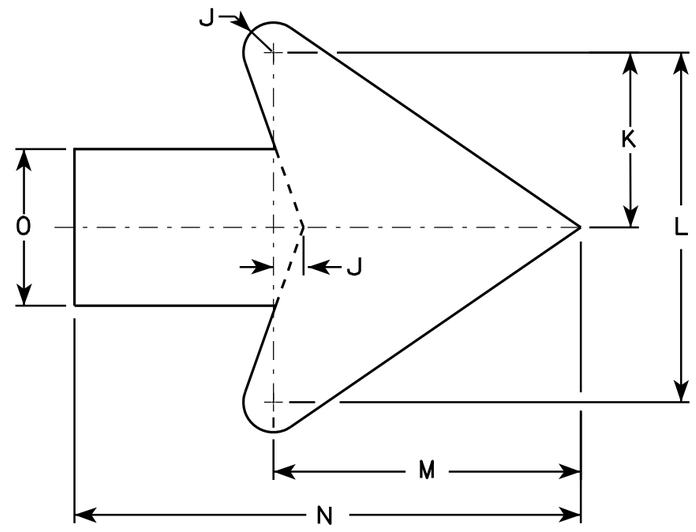
PROJECT NO:

SHEET NO: 236 E



NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 237	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W121D.DGN PLOT DATE : 13-MAR-2013 13:26 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.713802:1.000000

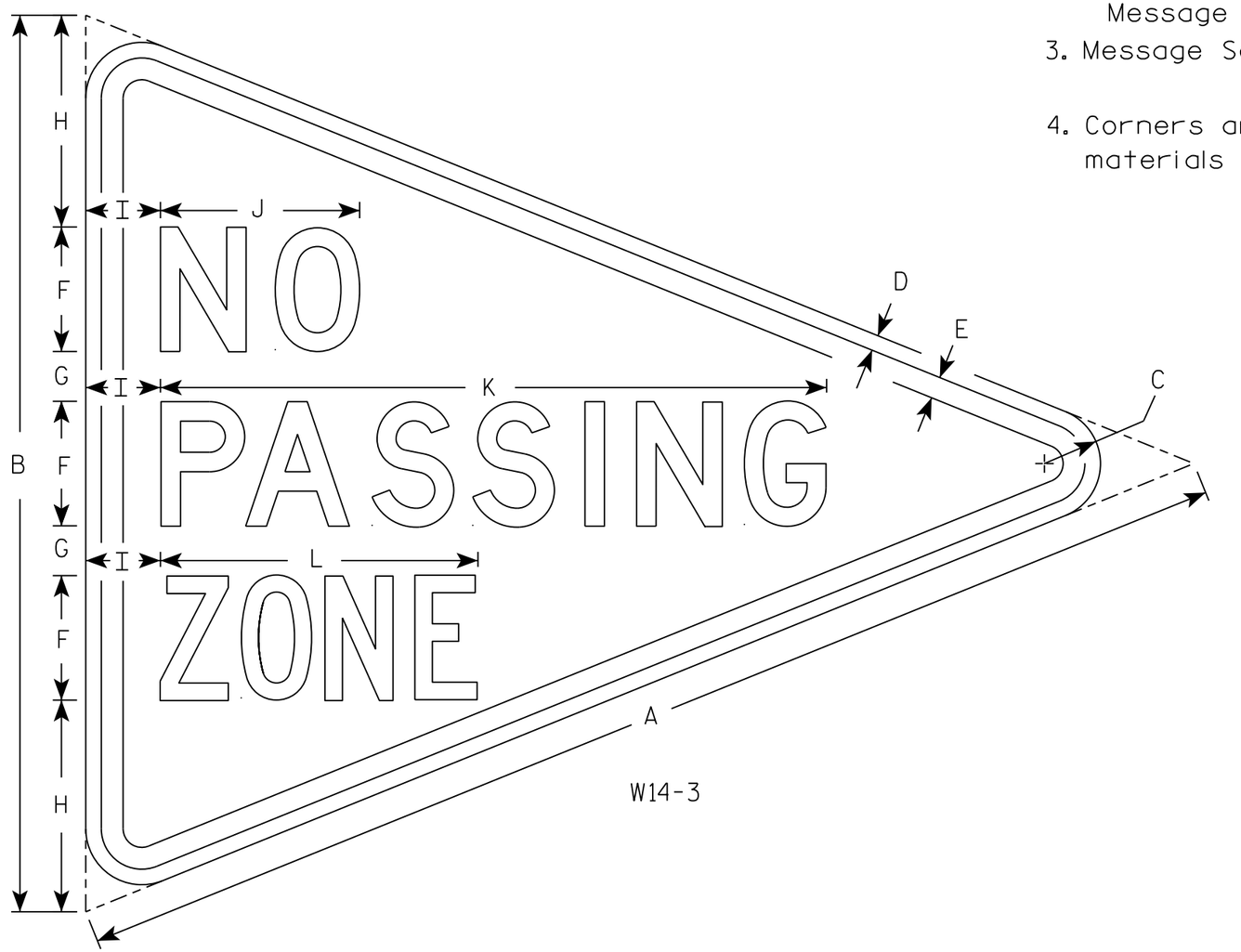
WISDOT/CADDS SHEET 42

7

7

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - Lines 1 and 2 are Series D.
   Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

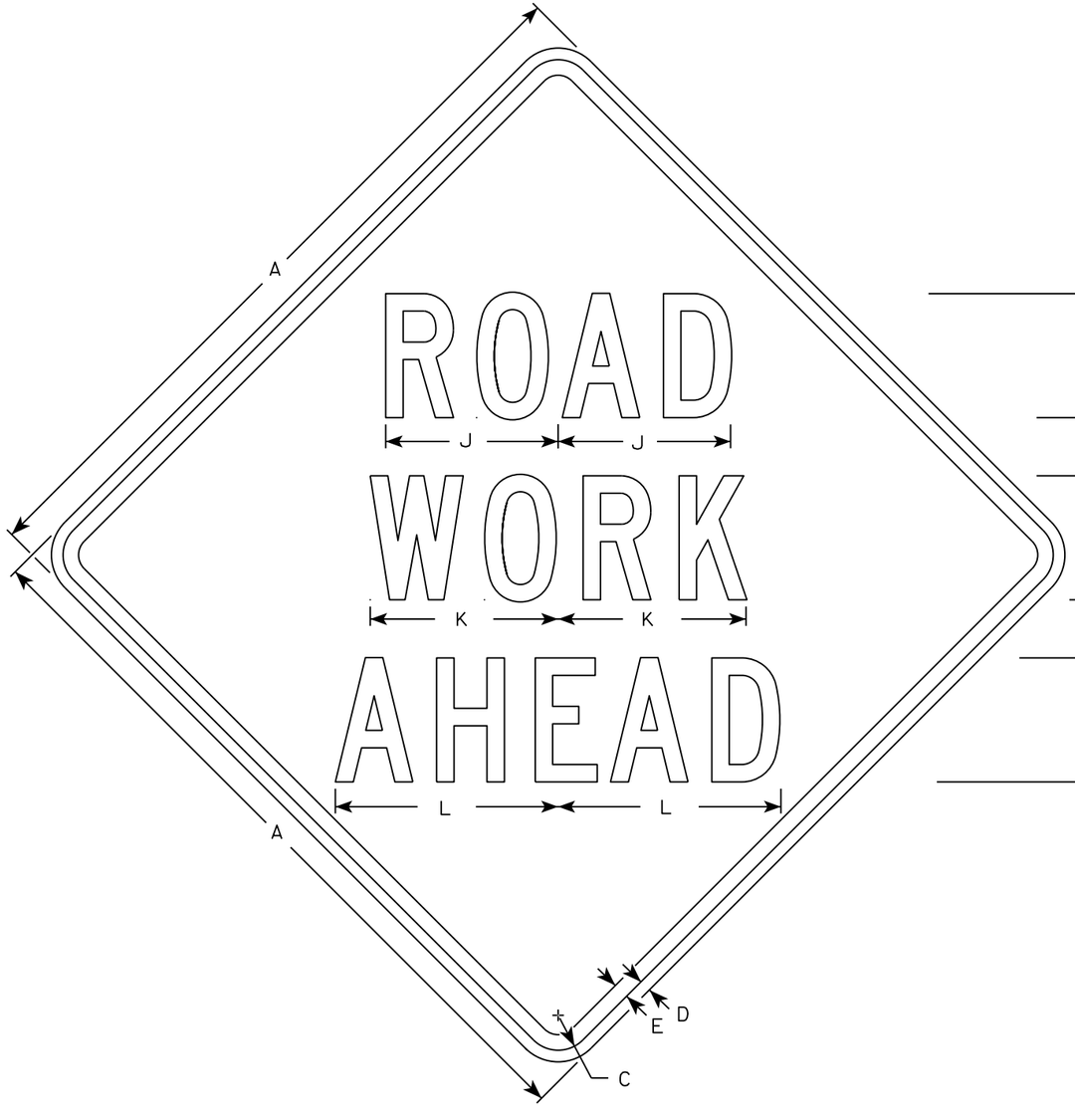
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

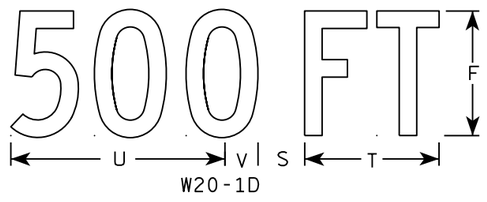
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10

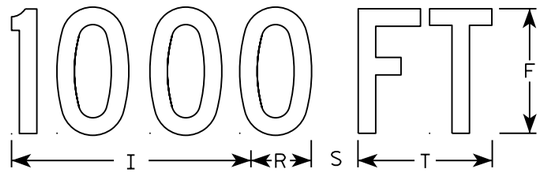
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 238 | E



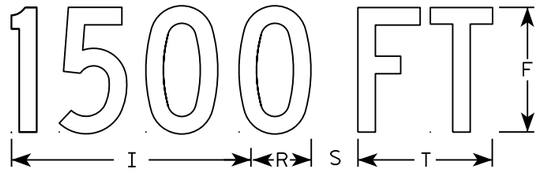
W20-1A



W20-1D



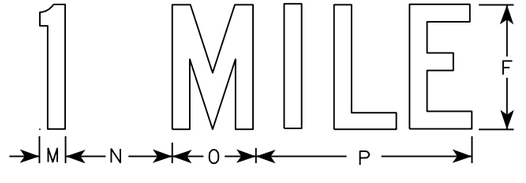
W20-1C



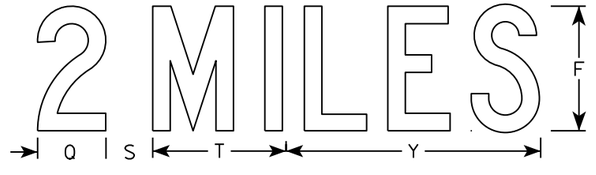
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

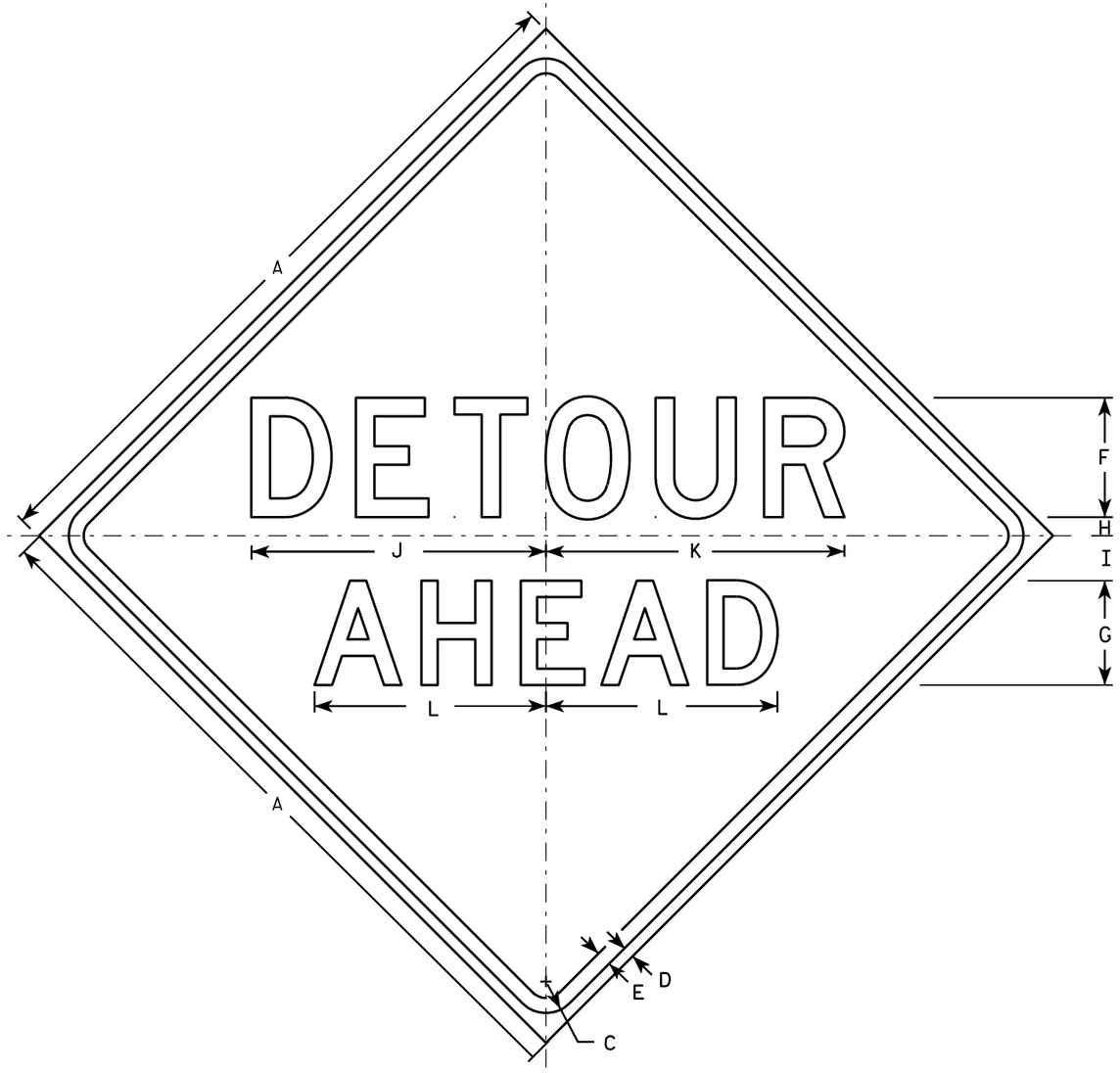
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

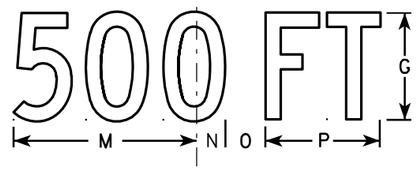
PROJECT NO:

SHEET NO: E

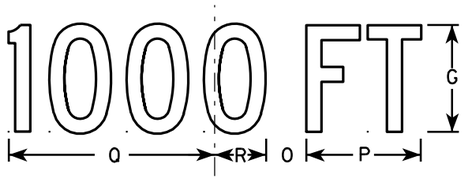
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



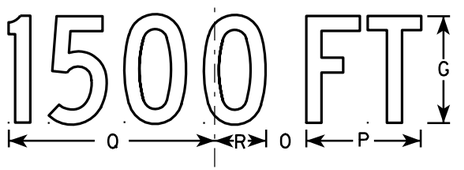
W20-2A



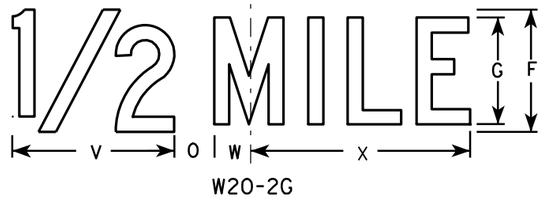
W20-2D



W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

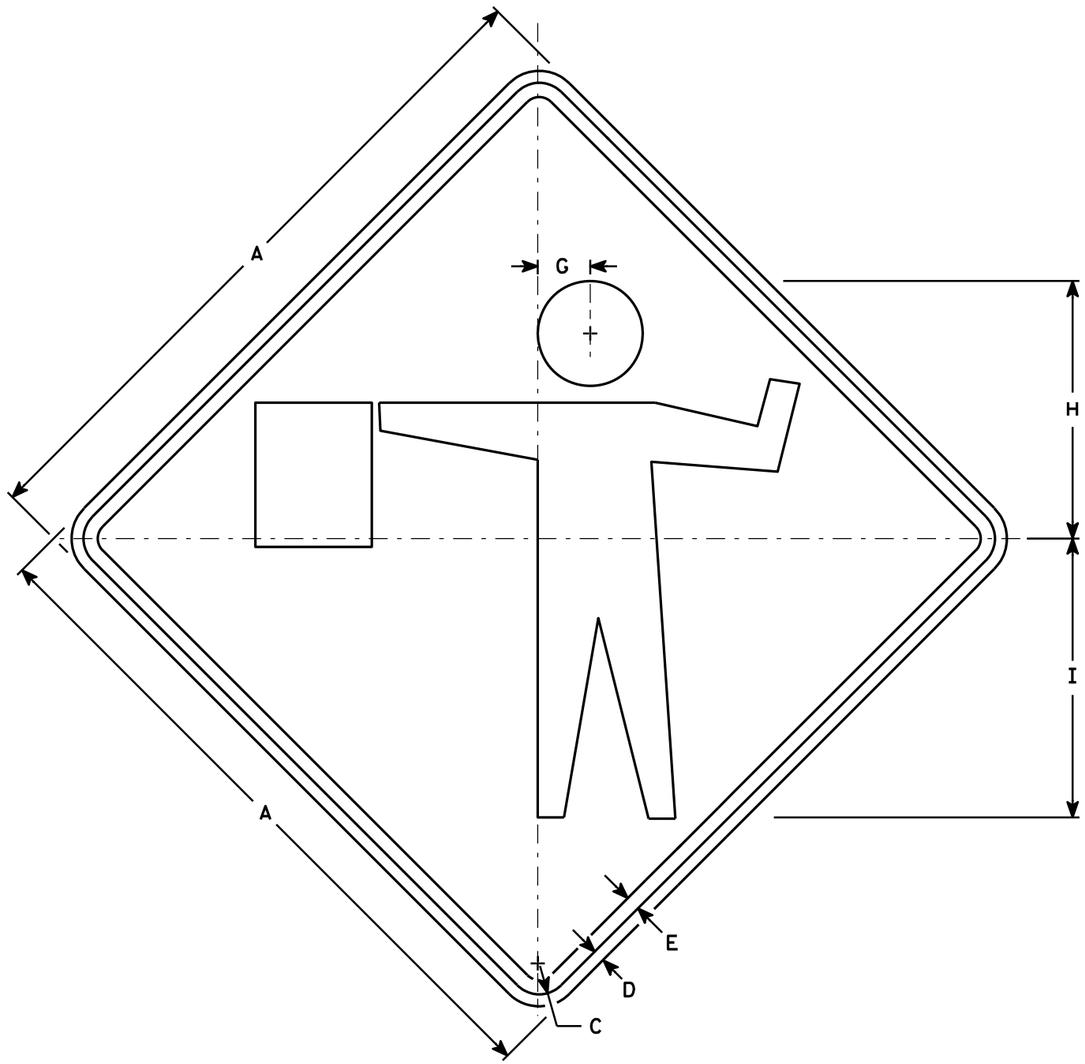
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 240 | E



W20-7A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		2 3/4	13 1/2	14 5/8																		9.00
2S	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
2M	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
3	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
4	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
5	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00

STANDARD SIGN
W20-7A

WISCONSIN DEPT OF TRANSPORTATION

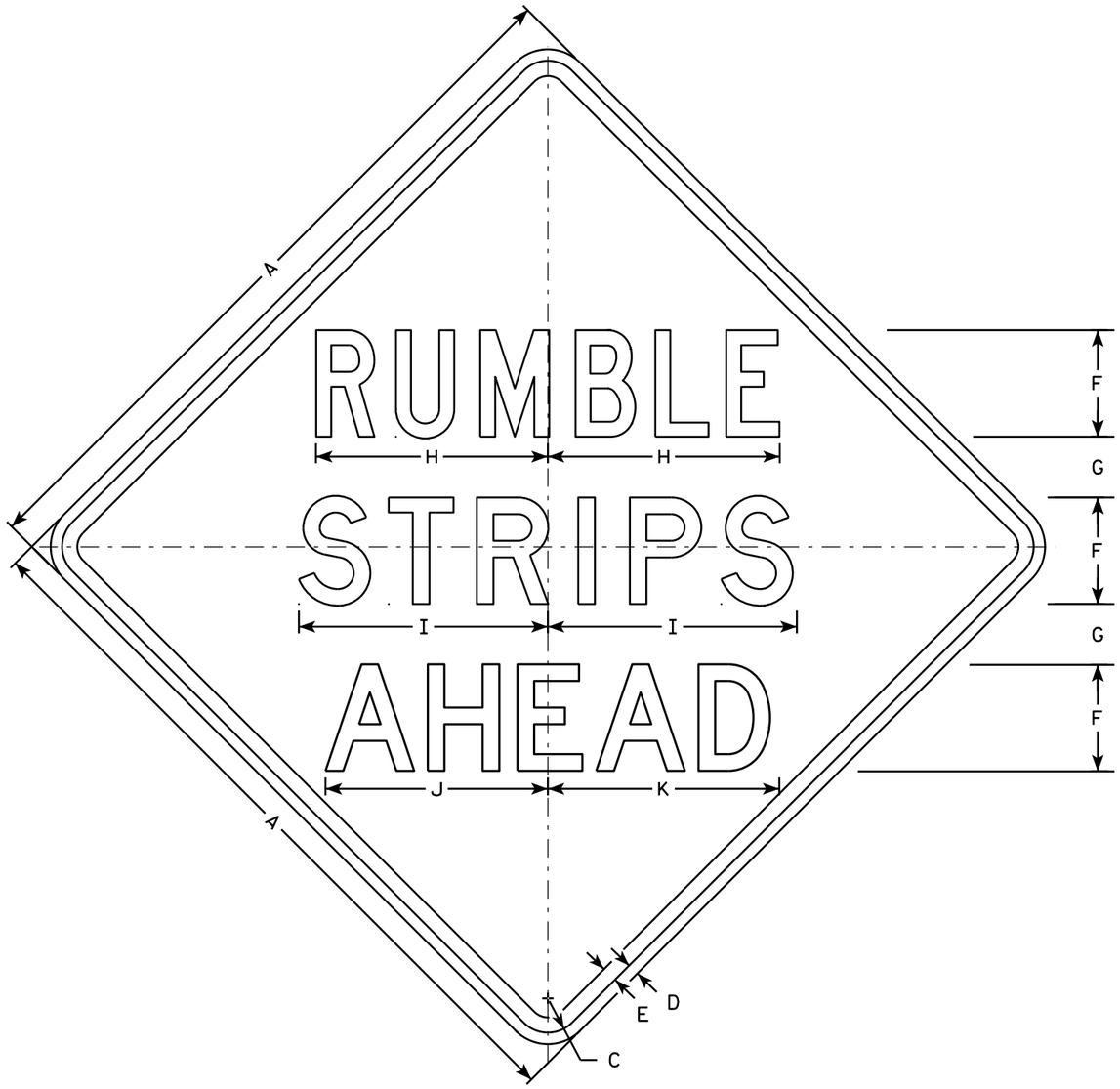
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 241 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W207A.DGN PLOT DATE : 18-MAR-2011 13:14 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.945391:1.000000 WISDOT/CADDS SHEET 42



W21-65

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C
   Lines 2 and 3 are Series D

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 1/4	10 7/8	11 5/8	11	11 5/8																9.0
2S	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
2M	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
3	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
4	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
5	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0

STANDARD SIGN

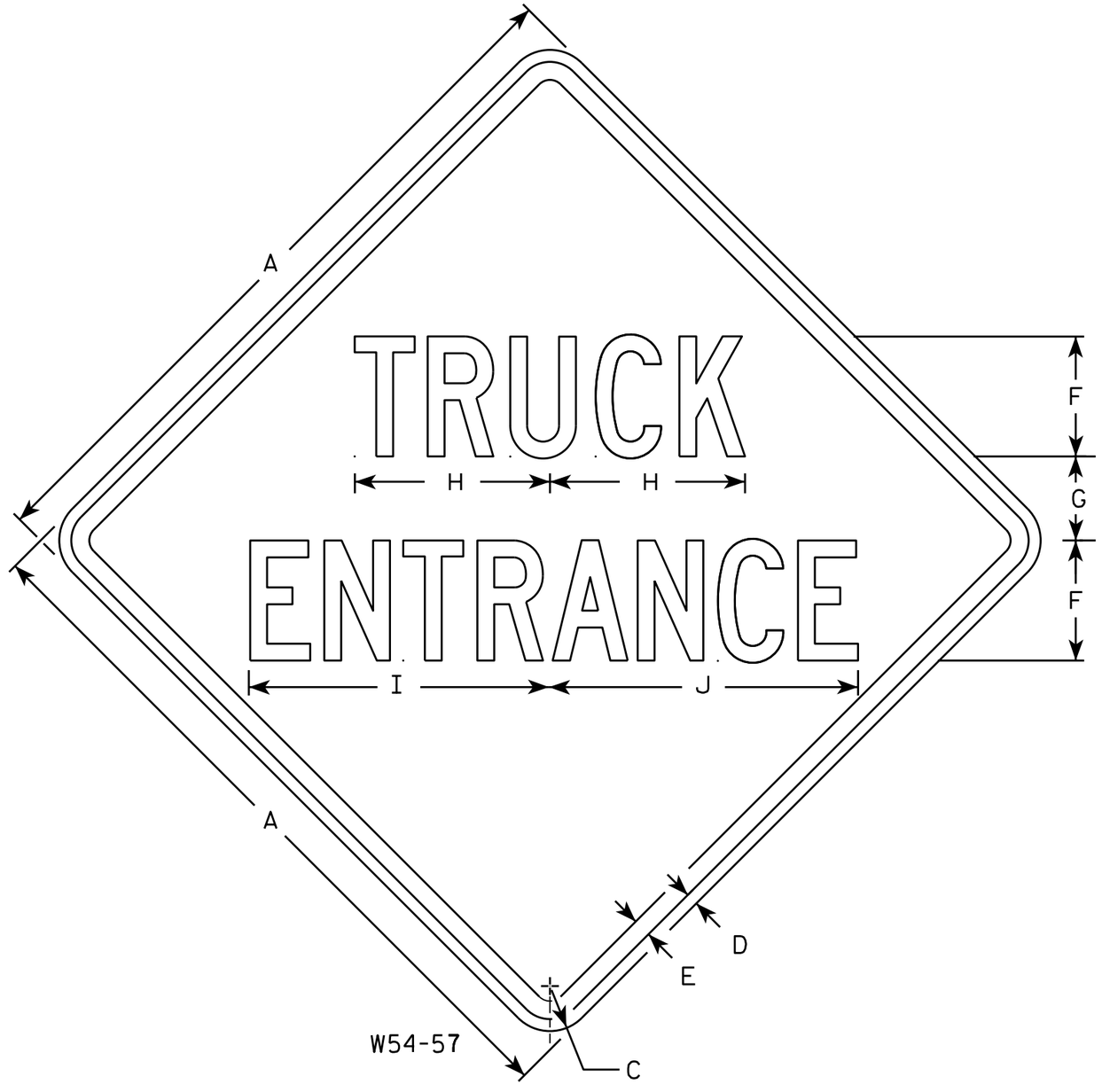
W21-65

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/28/14 PLATE W21-65.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 3/8	1/2	5/8	5	3 1/2	8 1/8	12 1/2	12 7/8																	6.25
2M	36		1 5/8	5/8	3/4	6	4 1/4	9 5/8	15	15 3/8																	9.00
3	36		1 5/8	5/8	3/4	6	4 1/4	9 5/8	15	15 3/8																	9.00
4	48		2 1/4	3/4	1	8	5 1/2	13	20	20 5/8																	16.00
5																											

STANDARD SIGN
W54-57

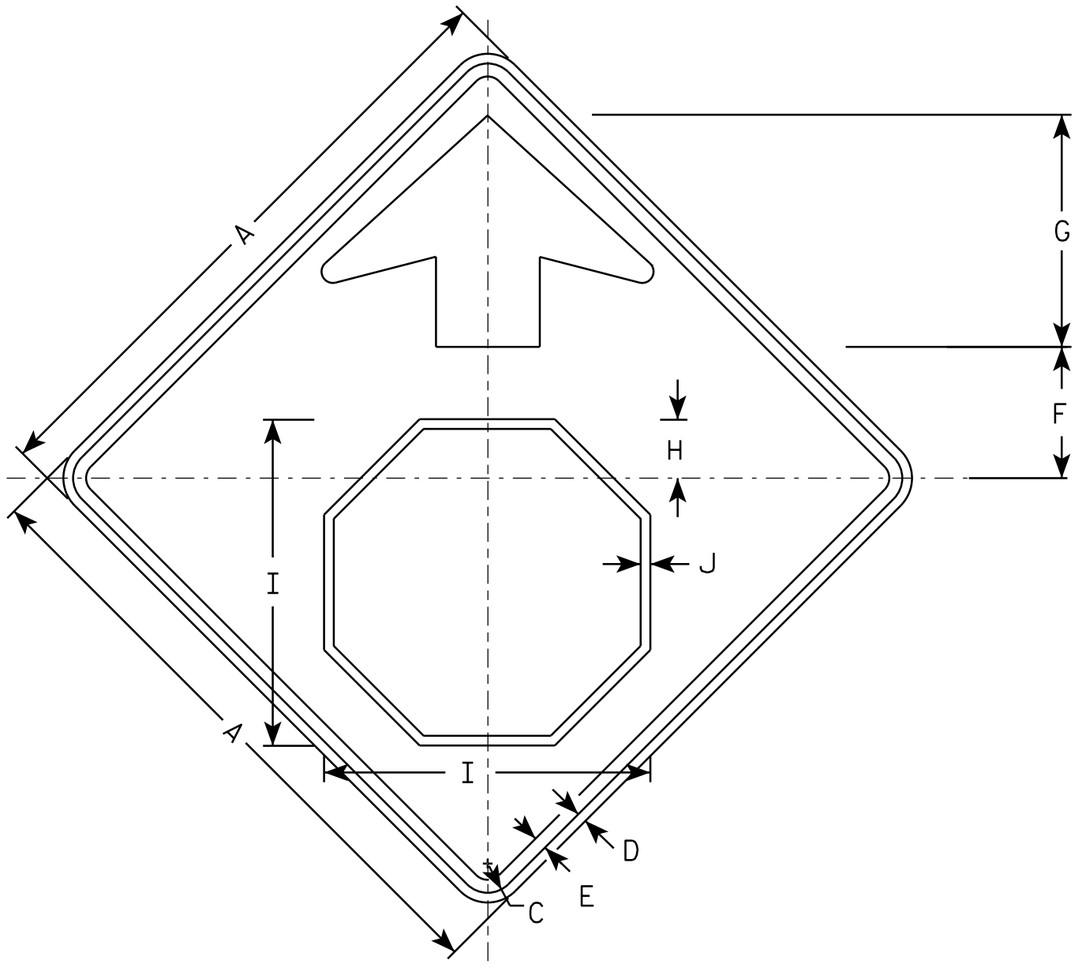
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE W54-57.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

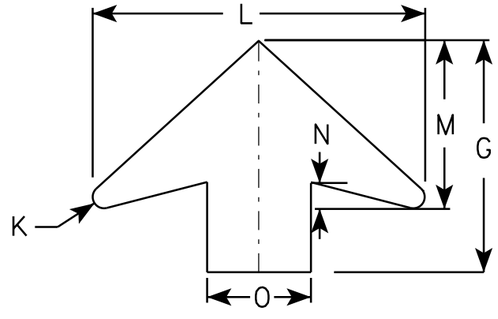
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W5457.DGN PLOT DATE : 27-APR-2016 10:05 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.594294:1.000000 WISDOT/CADDS SHEET 42



W03-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W03-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

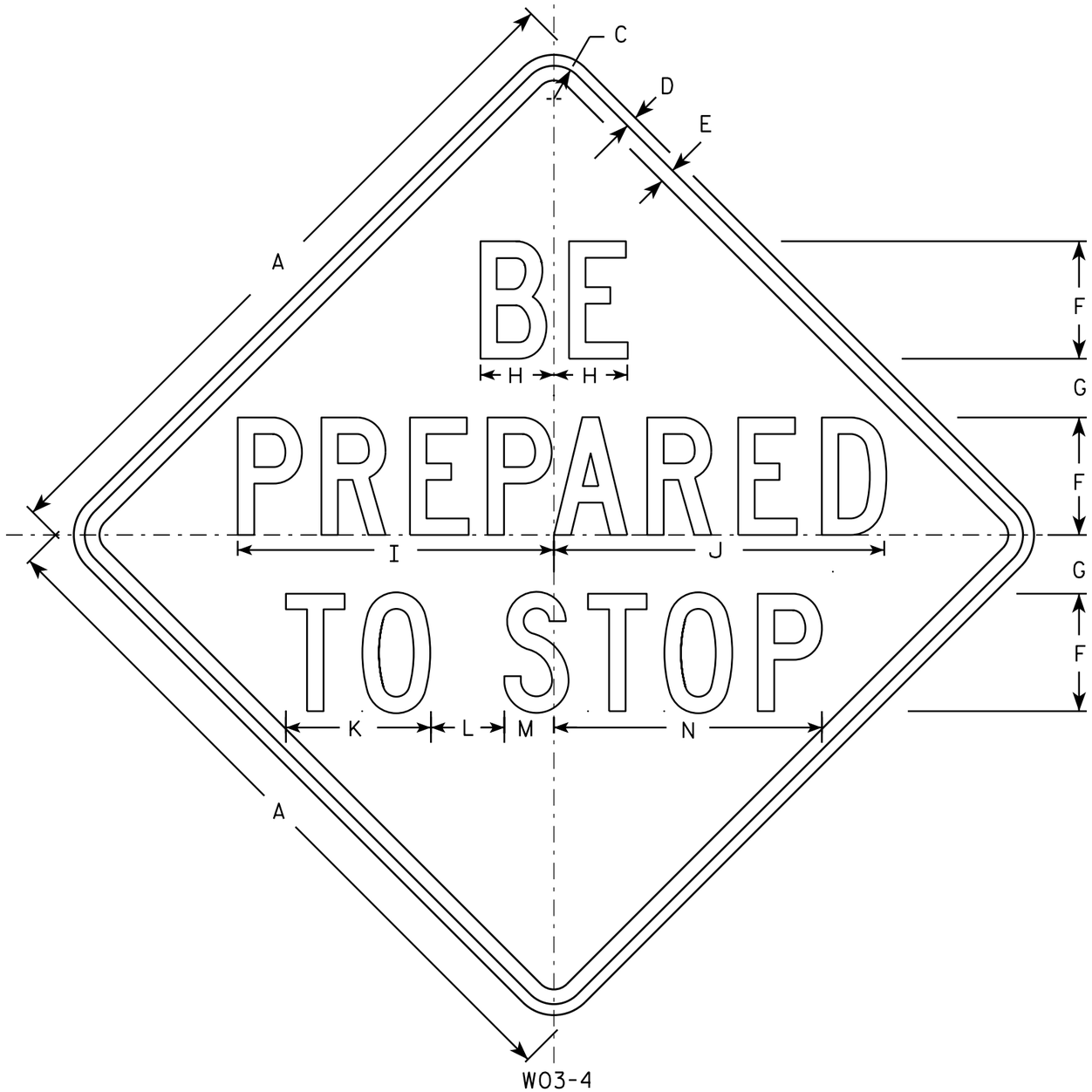
DATE 11/20/13 PLATE 03-1.1

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W031.DGN PLOT DATE : 20-NOV-2013 10:54 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	6	2 1/2	3 3/4	15 7/8	16 7/8	7 3/8	4	2 3/8	13 3/4													9.0
2S	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
2M	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
3	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
4	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0
5	48		2 1/4	3/4	1	8	4	5	21 1/2	22 1/2	9 7/8	5	3 3/8	18 1/4													16.0

STANDARD SIGN
W03-4

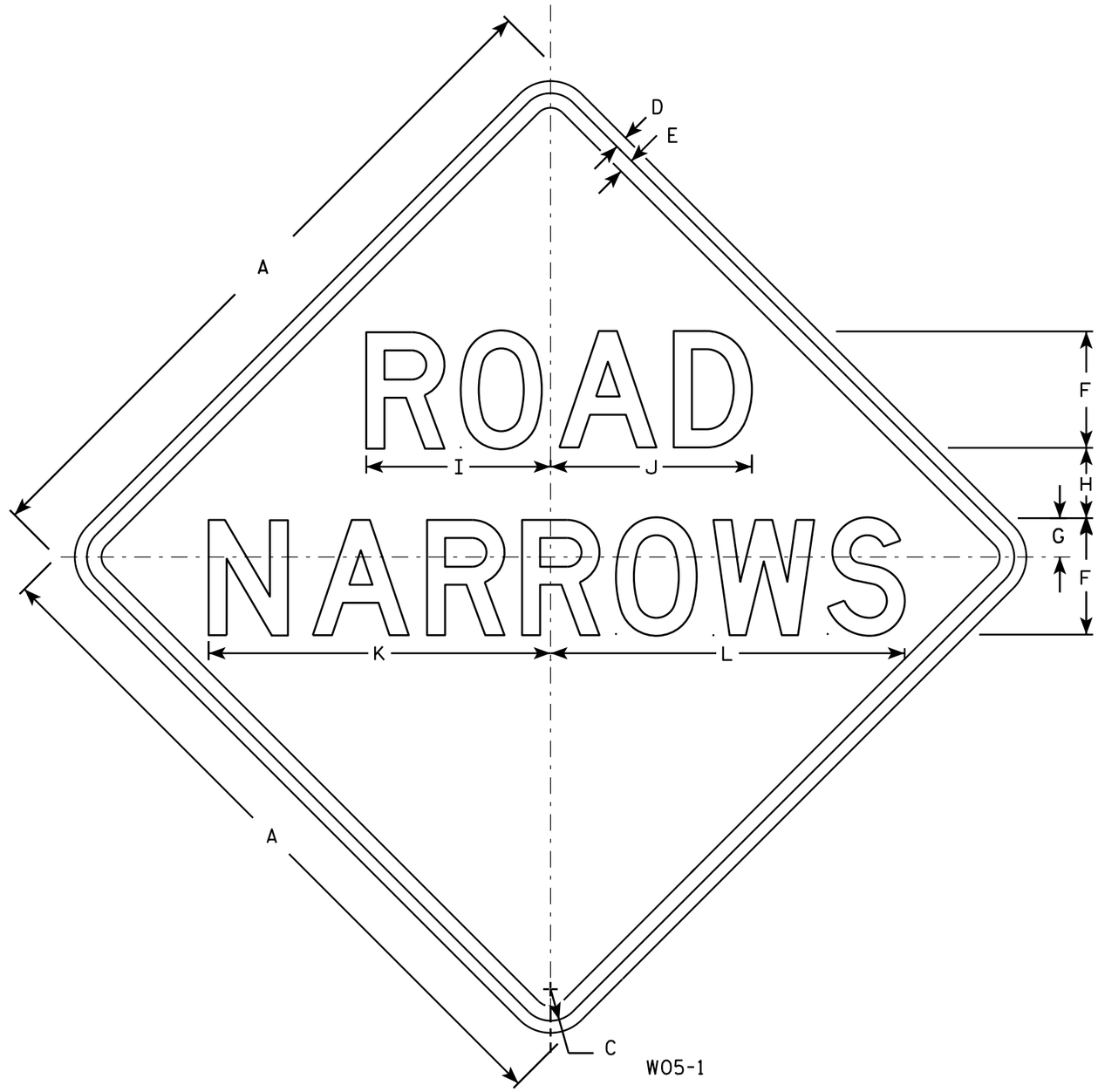
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/02/13 PLATE NO. W03-4.1

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W034.DGN PLOT DATE : 02-DEC-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 8.999518:1.000000
WISDOT/CADDS SHEET 42



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	2	3 1/2	9 1/2	10 3/8	17 5/8	18 1/4															9.0
2S	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
2M	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
3	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
4	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
5	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0

STANDARD SIGN
W05-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W05-1.1

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

EARTHWORK PROJECT I.D. 4100-21-71 (BRIDGE BEAM GUARD UPDATES - B-36-0026)

STATION	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Rock Exc	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Rock 1.10	Mass Ordinate Note 8
333+64.5	0.00	4	0	61	0	0	0	0	0	0	0	0	0
333+89.5	25.00	4	0	54	0	4	0	53	0	4	67	0	-63
334+14.5	25.00	3	0	51	0	3	0	49	0	7	128	0	-120
334+16	1.50	3	0	52	0	0	0	3	0	7	131	0	-124
334+41	25.00	2	0	44	0	2	0	44	0	9	186	0	-177
334+66	25.00	2	0	37	0	2	0	37	0	11	233	0	-222
B-36-0026													
336+30	0.00	3	0	7	0	0	0	0	0	11	233	0	-222
336+55	25.00	1	0	12	0	2	0	9	0	13	244	0	-231
336+80	25.00	6	0	19	0	3	0	15	0	17	263	0	-246
336+83	3.00	6	0	18	0	1	0	2	0	17	265	0	-248
337+08	25.00	1	0	5	0	3	0	11	0	20	279	0	-258
337+33	25.00	2	0	6	0	1	0	5	0	22	285	0	-263
						22	0	228	0				

EARTHWORK PROJECT I.D. 4100-21-71 (BEAM GUARD UPDATES)

STATION	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Rock Exc	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Rock 1.10	Mass Ordinate Note 8
417+40	0.00	0	0	13	0.00	0	0	0	0	0	0	0	0
417+65	25.00	0	0	21	0.00	0	0	16	0	0	19	0	-19
417+90	25.00	1	0	13	0.00	1	0	15	0	1	39	0	-38
424+38	0.00	1	0	10	0.00	0	0	0	0	1	39	0	-38
424+63	25.00	0	0	11	0.00	0	0	10	0	1	51	0	-50
424+88	25.00	0	0	8	0.00	0	0	9	0	1	62	0	-61
						1	0	50	0				

EARTHWORK PROJECT I.D. 4100-21-71 (BRIDGE BEAM GUARD UPDATES - B-36-0105)

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	AREA (SF) Rock Exc	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Cumulative Vol (CY) Expanded Rock 1.10	Mass Ordinate Note 8
429+88	0.00	0	0	6	0	0	0	0	0	0	0	0	0
430+13	25.00	0	0	3	0	0	0	4	0	0	5	0	-5
430+38	25.00	0	0	0	0	0	0	1	0	0	6	0	-6
430+50	12.00	10	0	0	0	2	0	0	0	3	6	0	-4
430+75	25.00	8	0	0	0	8	0	0	0	11	7	0	4
431+00	25.00	5	0	0	0	6	0	0	0	17	7	0	10
B-36-105													
431+96	0.00	3	0	0	0	0	0	0	0	17	7	0	10
432+21	25.00	6	0	4	0	4	0	2	0	21	9	0	12
432+46	25.00	9	0	3	0	7	0	3	0	28	13	0	15
432+47	1.00	0	0	3	0	0	0	0	0	28	13	0	15
432+72	25.00	0	0	3	0	0	0	3	0	28	17	0	11
432+97	25.00	0	0	5	0	0	0	4	0	28	21	0	7
						28	0	17	0				

EARTHWORK PROJECT I.D. 4100-21-71 (TURN LANE UPGRADES)

STATION	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	AREA (SF) Rock Exc	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) Rock Exc	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.25	Cumulative Vol (CY) Expanded Rock 1.10	Mass Ordinate Note 8
471+00	0.00	8	0	1	0.00	0	0	0	0	0	0	0	0
471+50	50.00	7	0	1	0.00	14	0	2	0	14	3	0	11
472+00	50.00	7	0	12	0.00	13	0	12	0	27	17	0	10
472+50	50.00	7	0	9	0.00	14	0	19	0	41	41	0	-1
473+00	50.00	7	0	10	0.00	13	0	17	0	54	63	0	-9
473+50	50.00	6	0	12	0.00	12	0	20	0	66	87	0	-21
474+00	50.00	7	0	12	0.00	12	0	21	0	78	114	0	-36
474+50	50.00	8	0	4	0.00	14	0	14	0	92	132	0	-40
475+00	50.00	8	0	4	0.00	14	0	8	0	107	142	0	-36
HECKER ROAD													
478+50	0.00	8	0	1	0.00	0	0	0	0	107	142	0	-36
479+00	50.00	9	0	2	0.00	16	0	3	0	122	145	0	-23
479+50	50.00	10	0	3	0.00	18	0	5	0	140	151	0	-11
480+00	50.00	11	0	4	0.00	20	0	7	0	160	160	0	0
480+50	50.00	13	0	3	0.00	22	0	7	0	183	168	0	15
481+00	50.00	15	0	0	0.00	26	0	3	0	208	172	0	36
481+50	50.00	14	0	0	0.00	27	0	0	0	235	172	0	63
						235	0	138	0				

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PROJECT NO: 4100-21-71 | HWY: USH 151 | COUNTY: MANITOWOC | EARTHWORK | SHEET 248 E

FILE NAME : P:\90s\93\00093355\CADD\SheetsPlan\4100-21-71 Earthwork Border.dgn PLOT DATE : 7/31/2017 PLOT BY : jdolens PLOT NAME : PLOT SCALE : 1:200

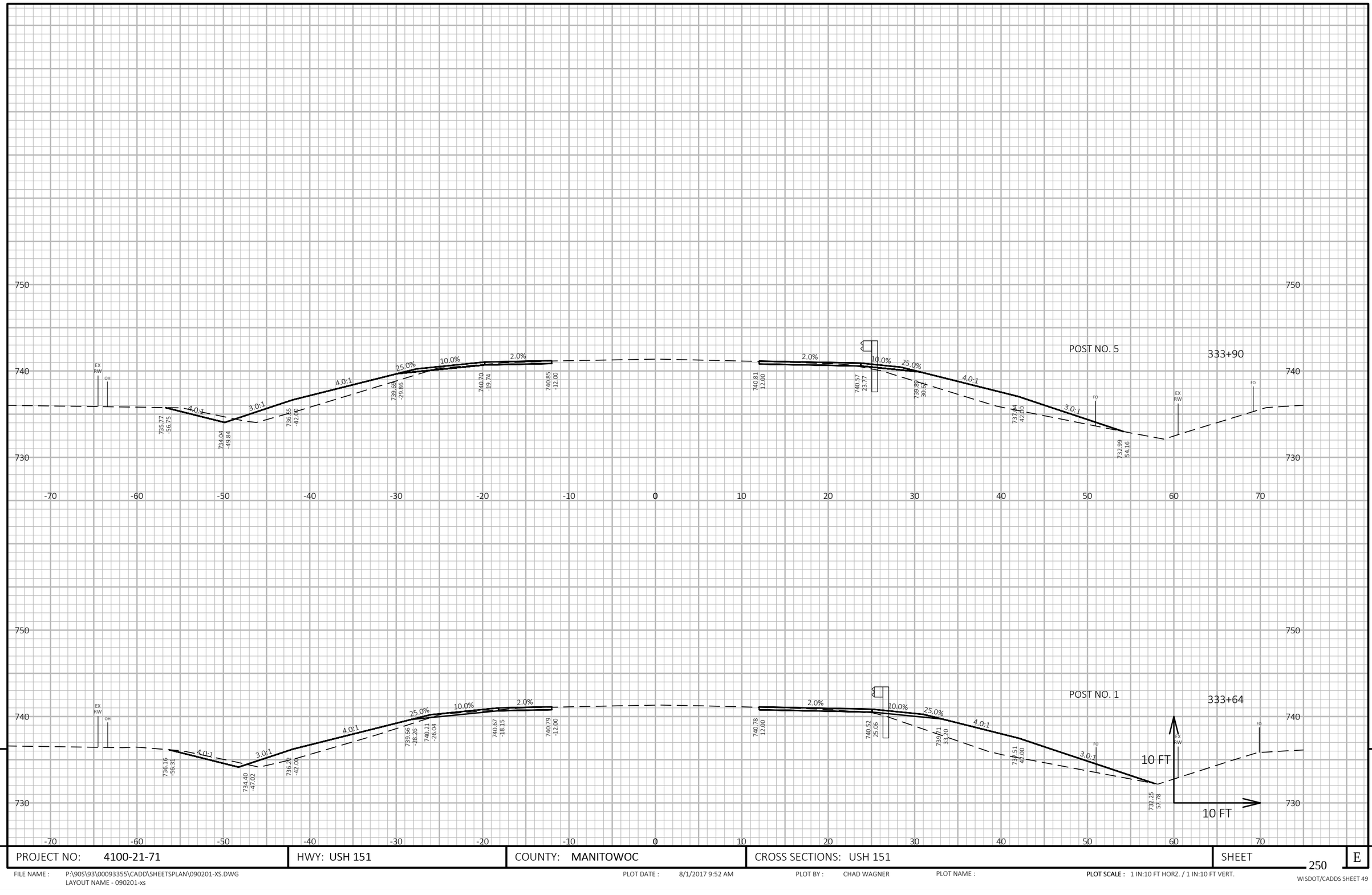
WISDOT/CADDS SHEET 49

EARTHWORK PROJECT I.D. 4100-21-71 (SHOULDER AND DRIVEWAY REMOVAL)

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)			
		Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut	Salvaged/Unusable Pavement Material	Fill	Rock Exc	Cut 1.00	Expanded Fill 1.25	Expanded Rock 1.10	Mass Ordinate
						Note 1	Note 2	Note 3		Note 1			Note 8
ASPHALTIC SHOULDER REMOVAL		-	-	-	-	891	891	0	0	891	0	0	0
DRIVEWAYS		-	-	-	-	59	59	0	0	950	0	0	0
						950	950	0	0				

9

9

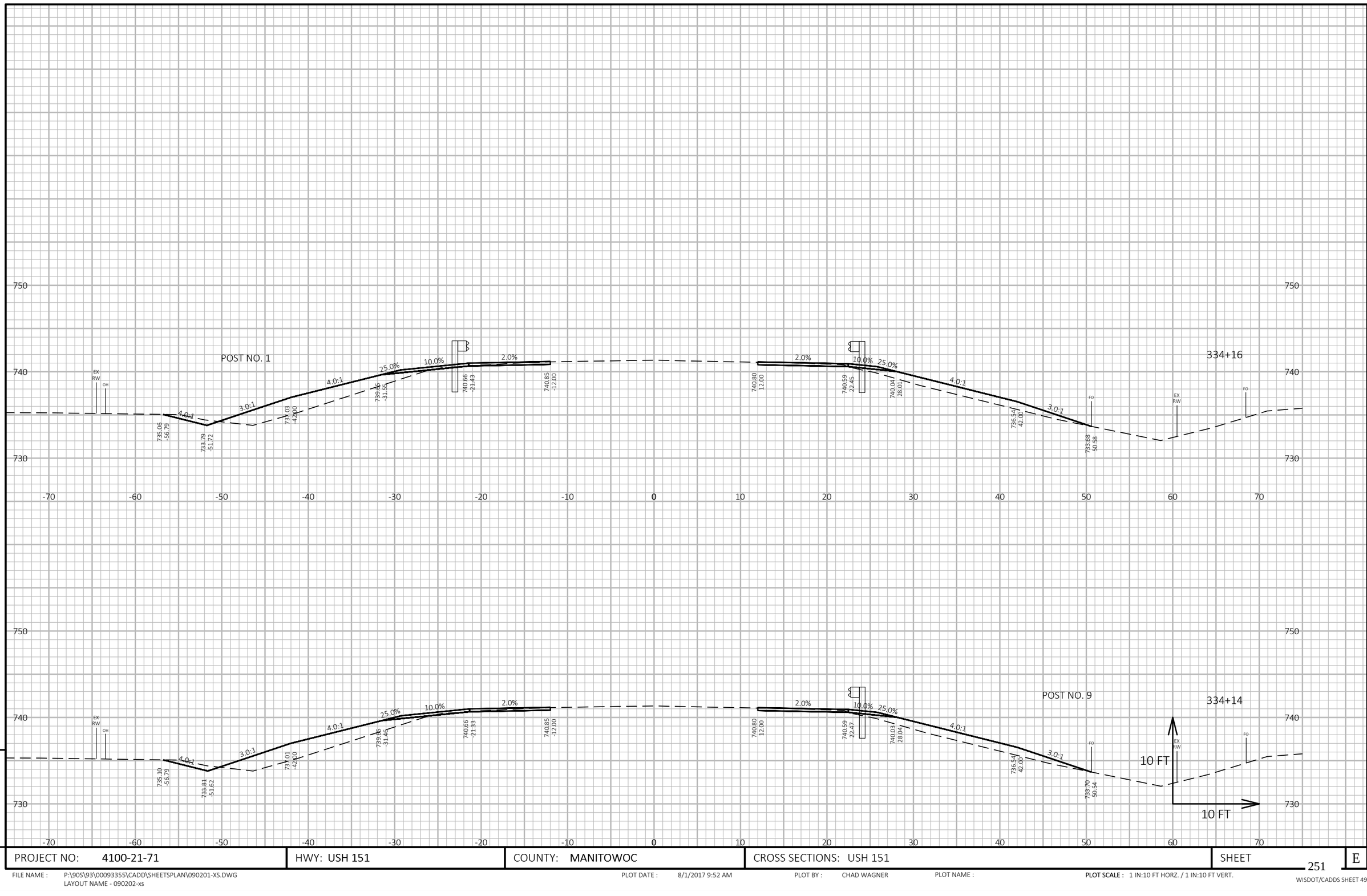


PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 250	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 8/1/2017 9:52 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



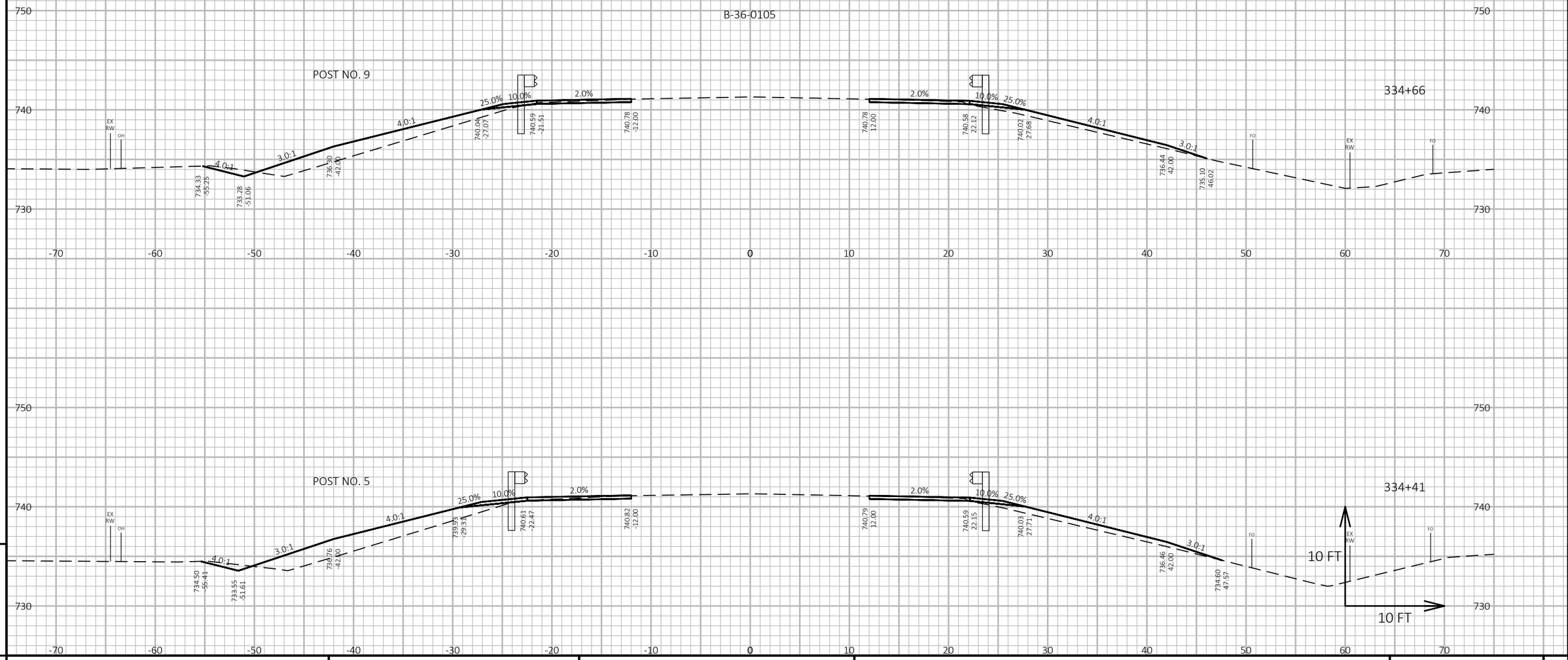
PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 251	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 8/1/2017 9:52 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

B-36-0105

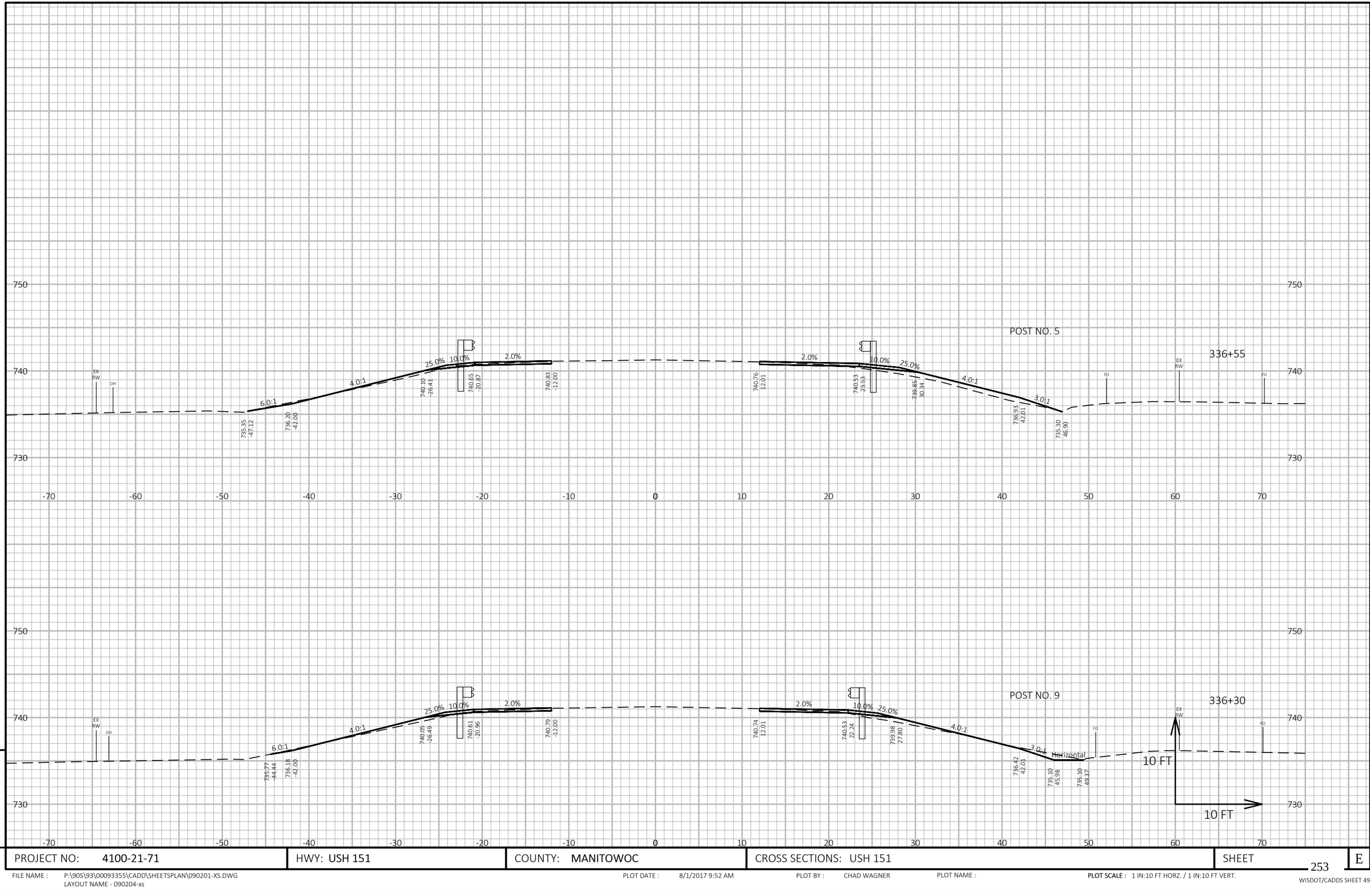


9 9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 252	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203-xs

PLOT DATE : 8/1/2017 9:52 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 253	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204-xs

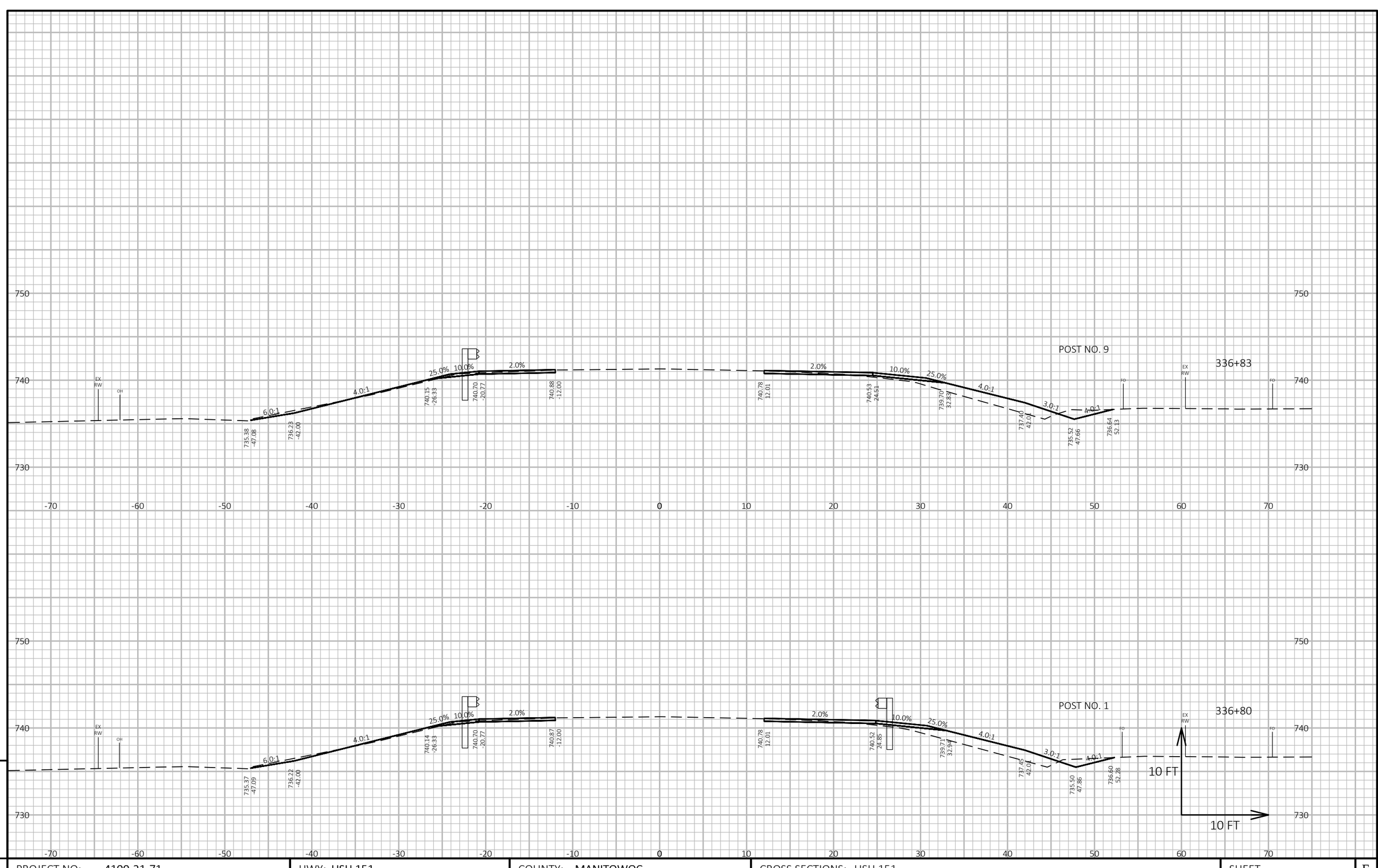
PLOT DATE : 8/1/2017 9:52 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 254	E

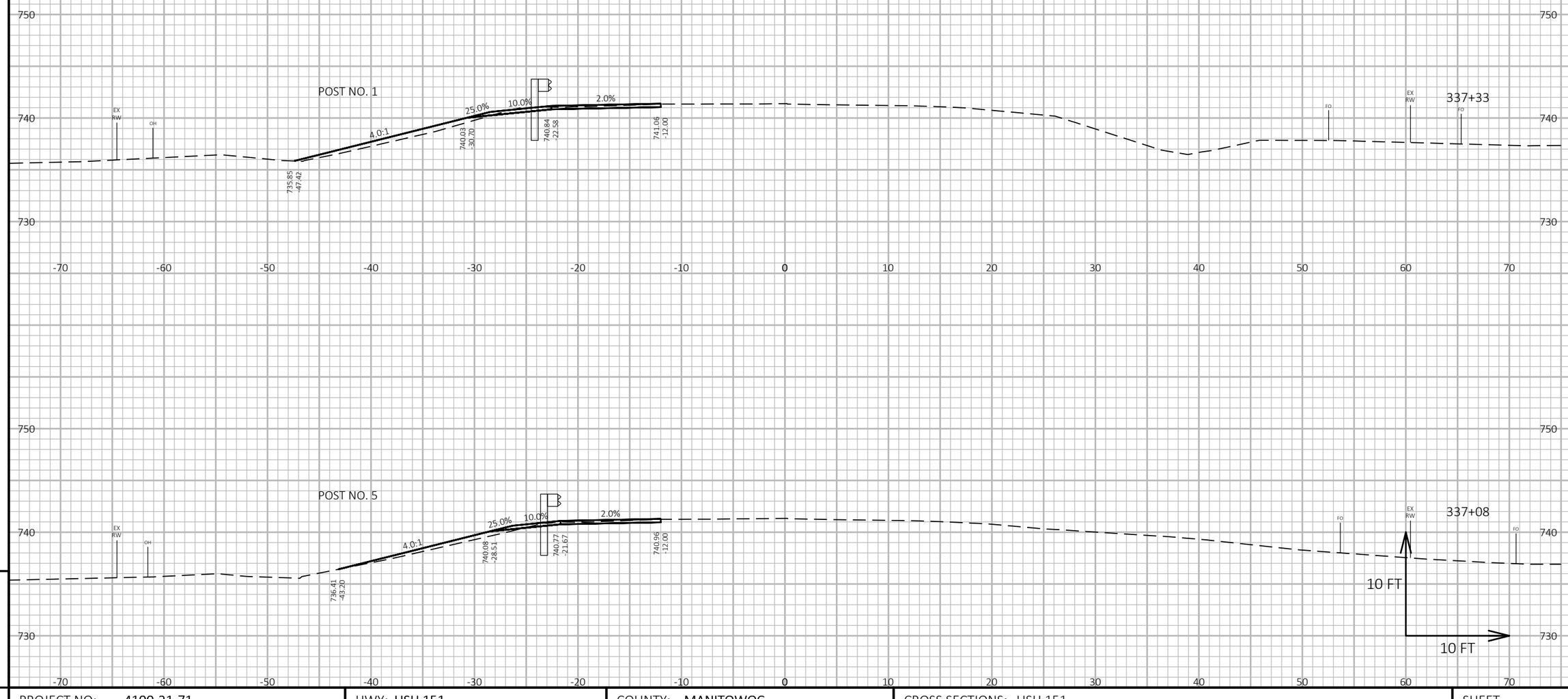
FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205-xs

PLOT DATE : 8/1/2017 9:52 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 255	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090206-xs

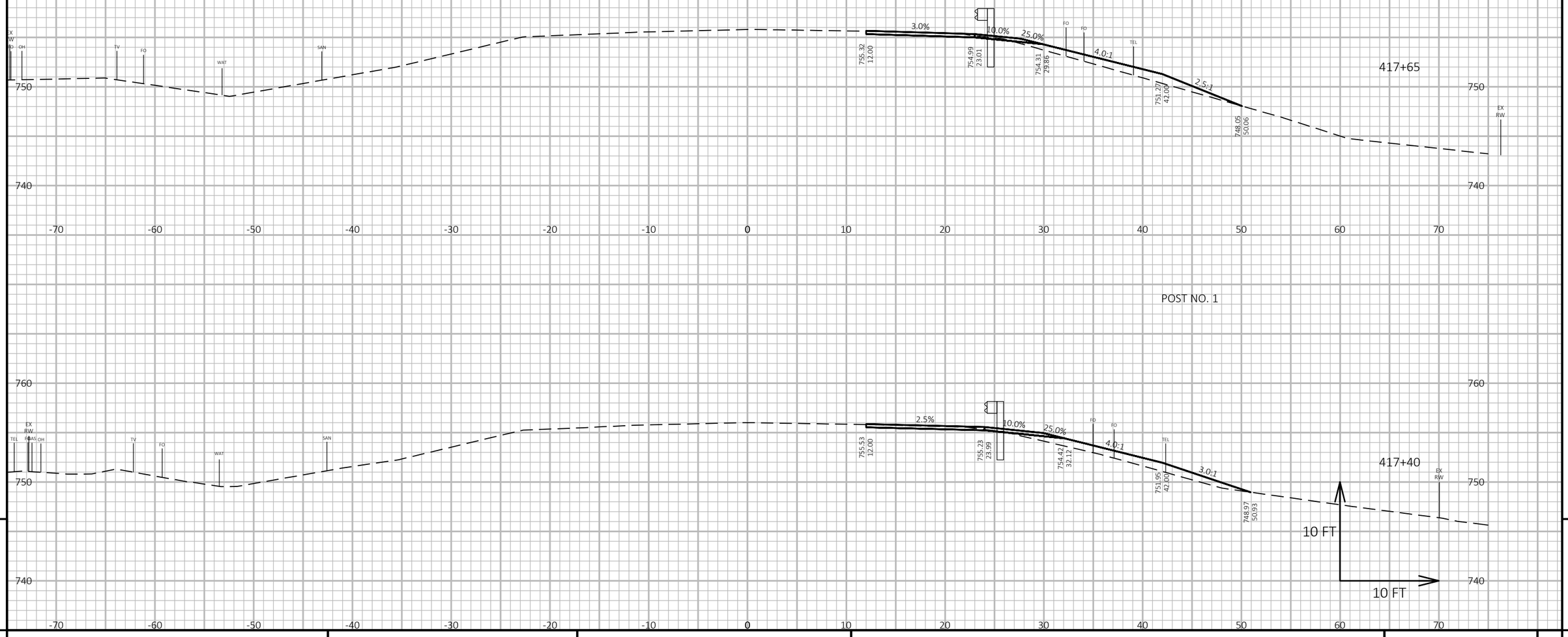
PLOT DATE : 8/1/2017 9:53 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

POST NO. 5



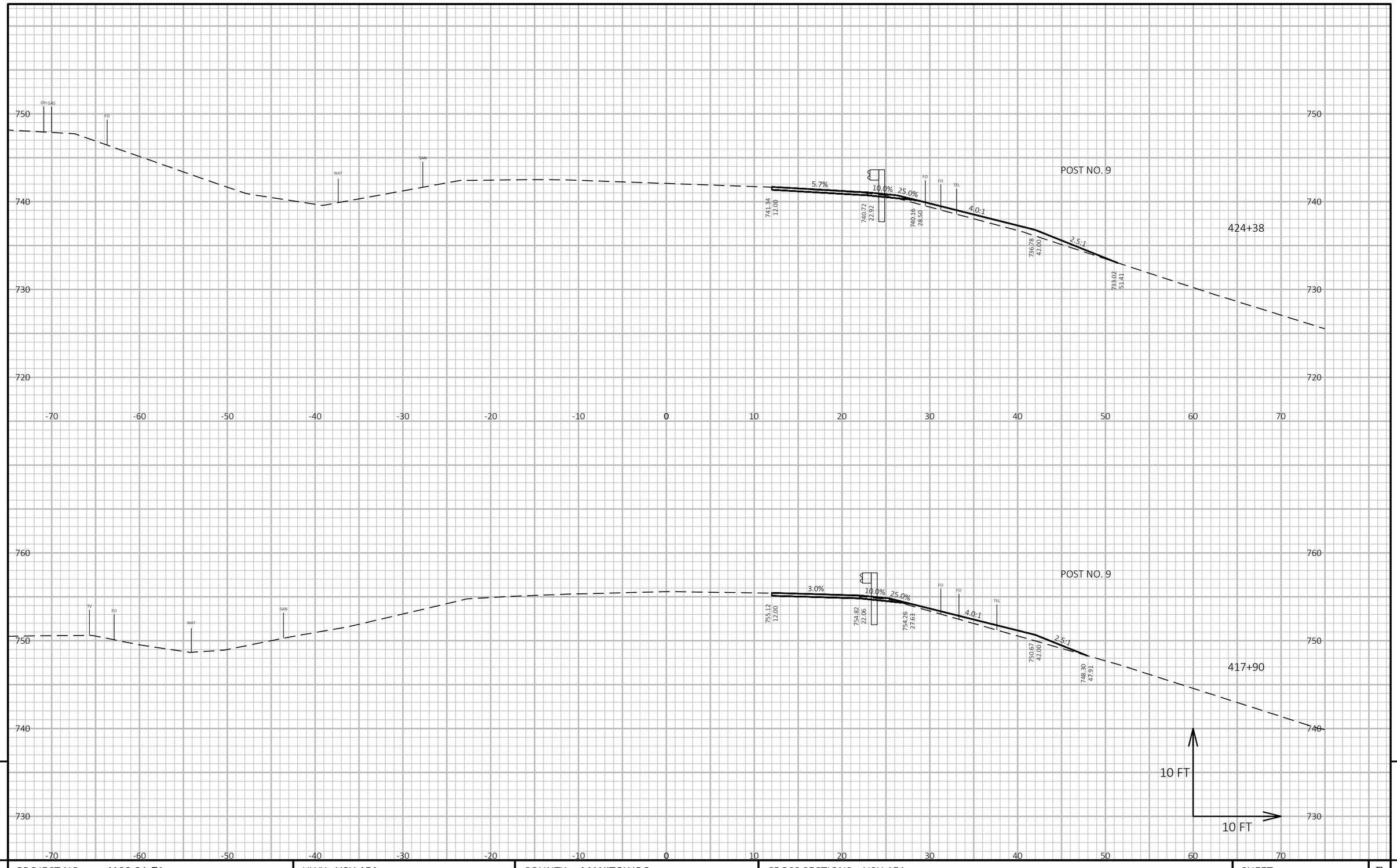
POST NO. 1

9 9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 256	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090207-xs

PLOT DATE : 10/19/2017 11:53 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



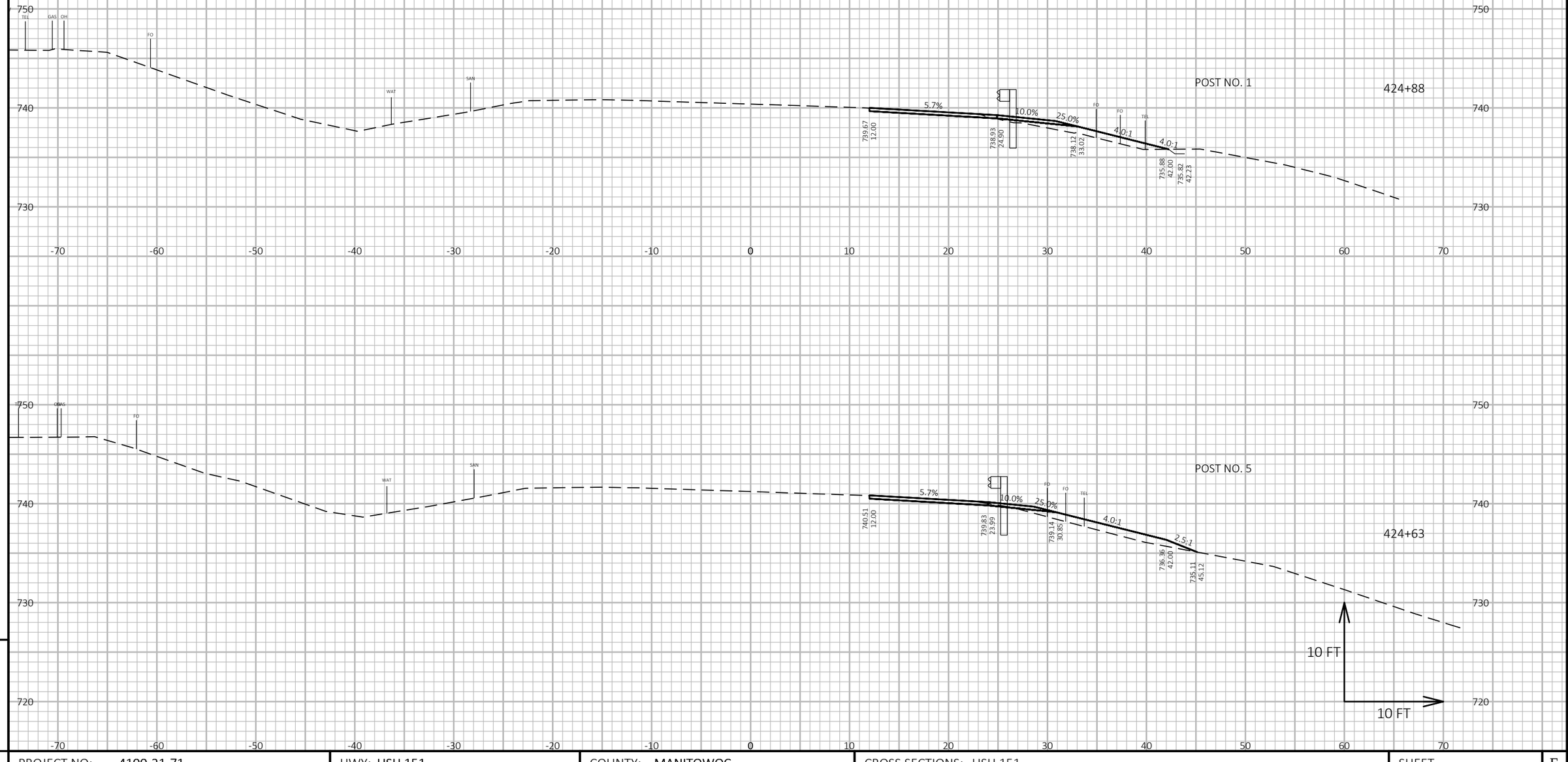
9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 257	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090208-xs

PLOT DATE : 10/19/2017 11:55 AM PLOT BY : CHAD WAGNER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 258	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090209-xs

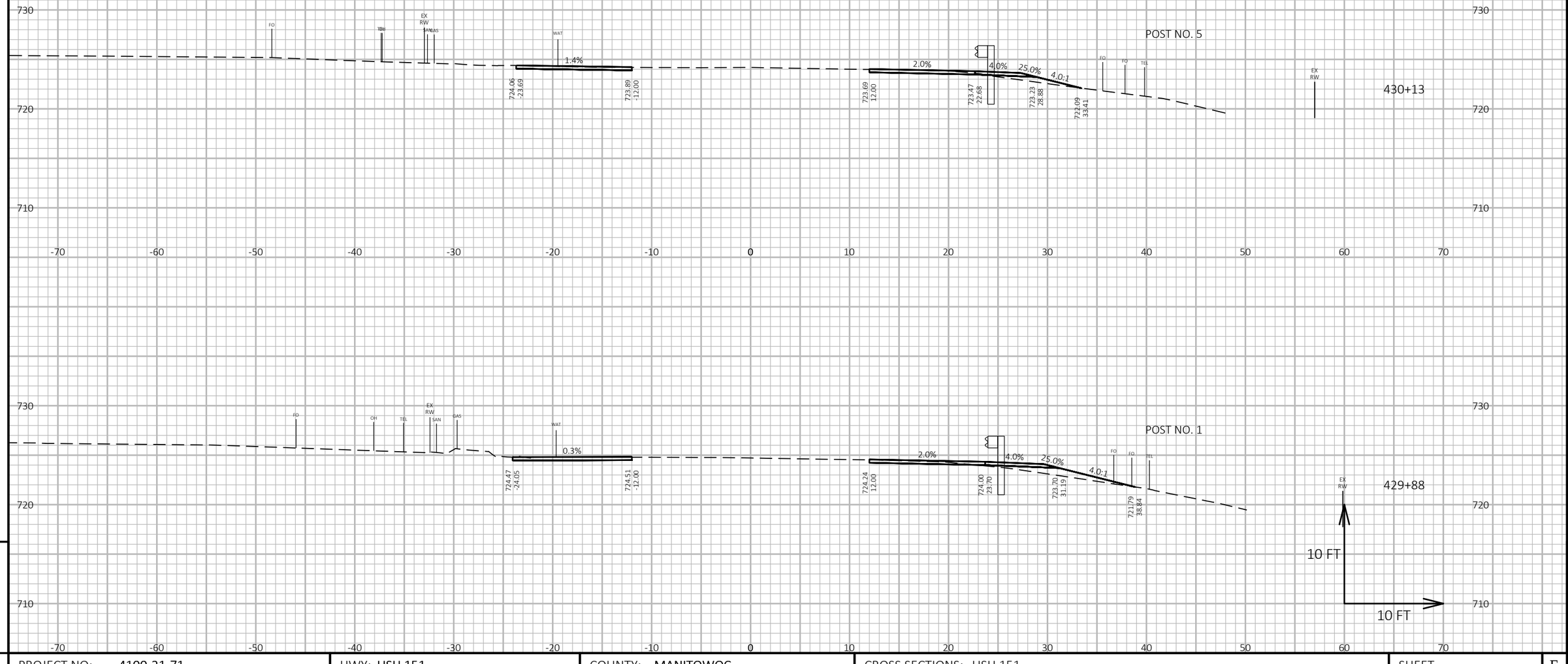
PLOT DATE : 8/1/2017 9:53 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 259	E

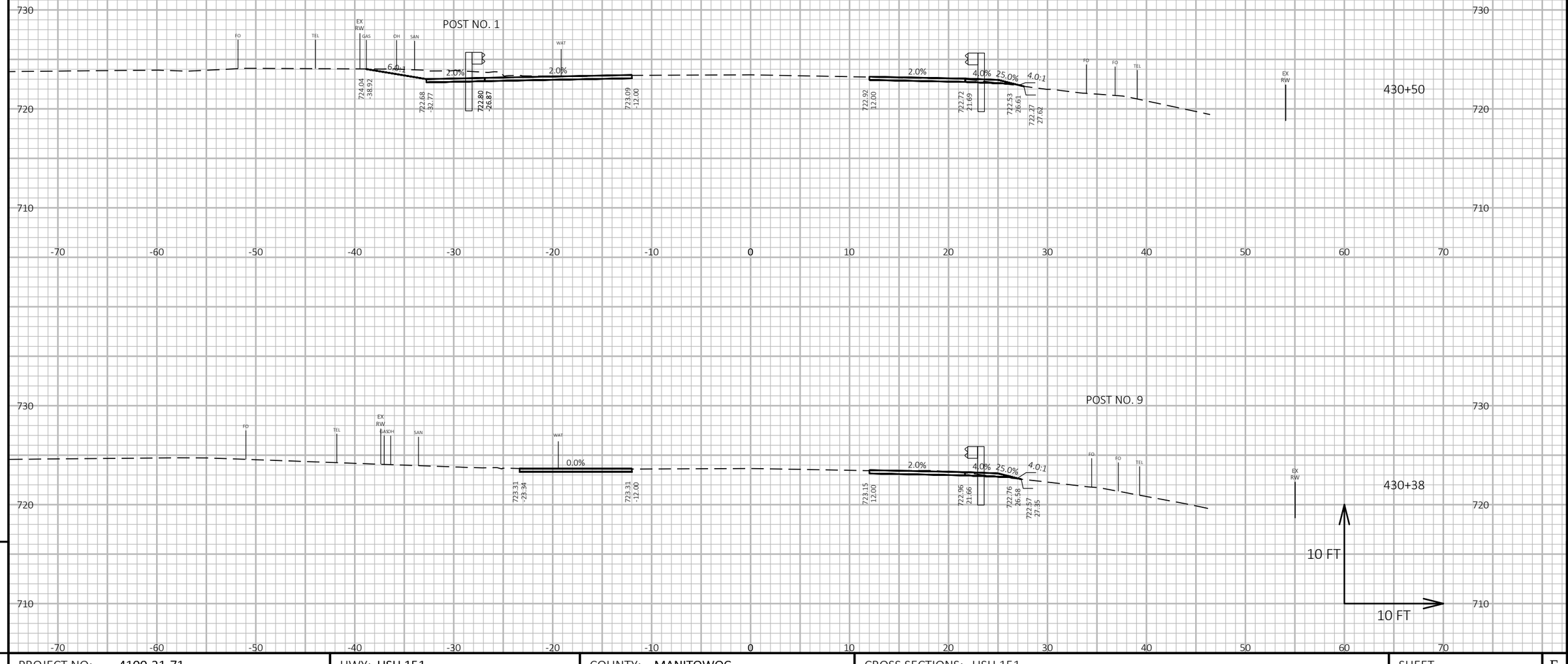
FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090210-xs

PLOT DATE : 8/1/2017 9:53 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 260	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090211-xs

PLOT DATE : 8/1/2017 9:53 AM

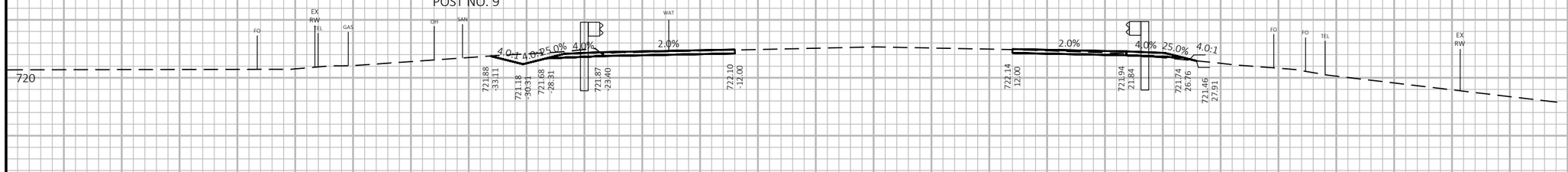
PLOT BY : CHAD WAGNER

PLOT NAME :

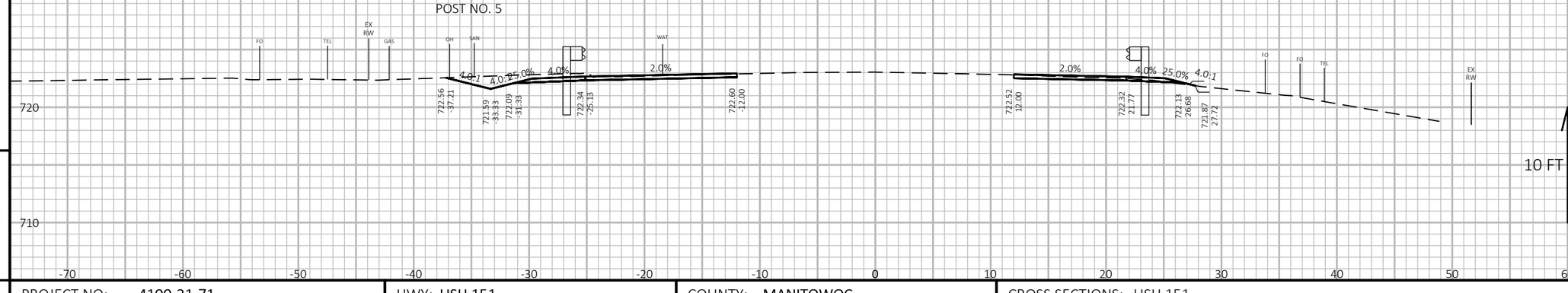
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

B-36-0026

POST NO. 9



POST NO. 5



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 261	E

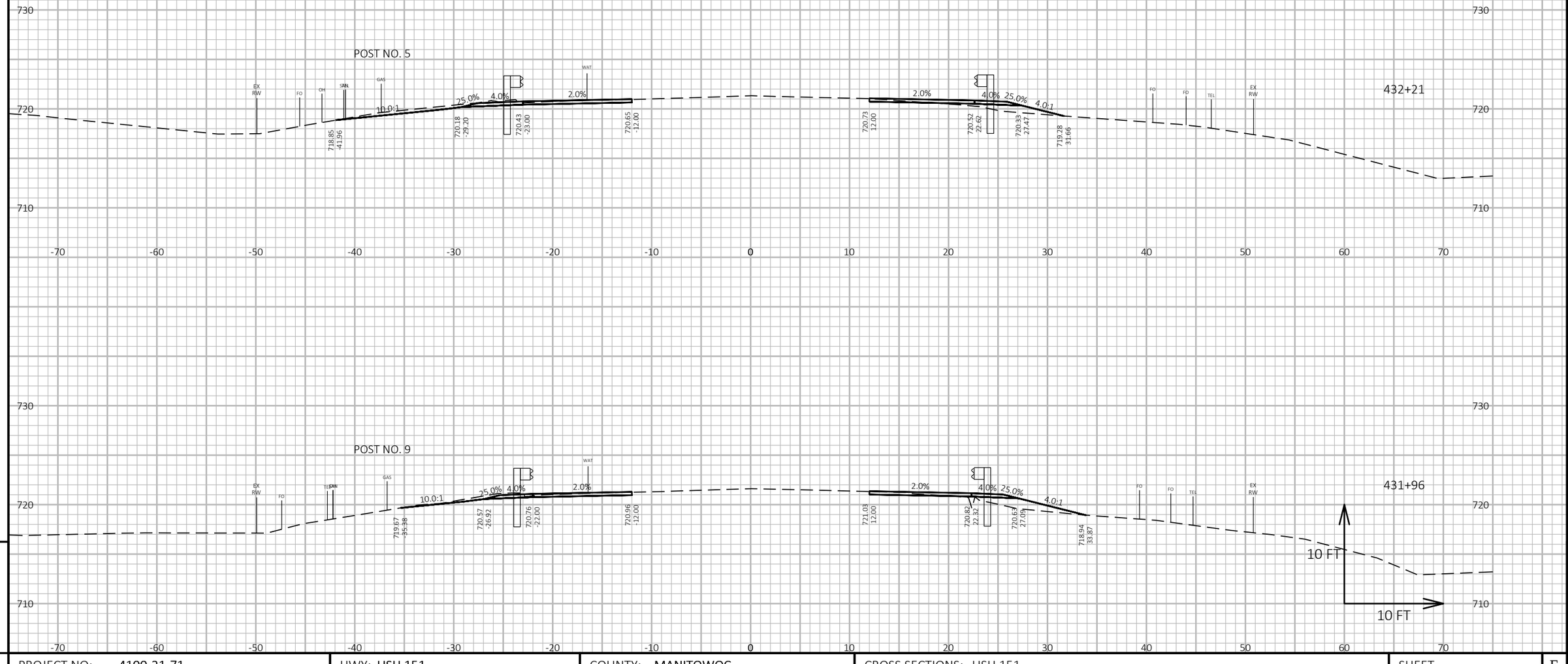
FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090212-xs

PLOT DATE : 8/1/2017 9:54 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 262	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090213-xs

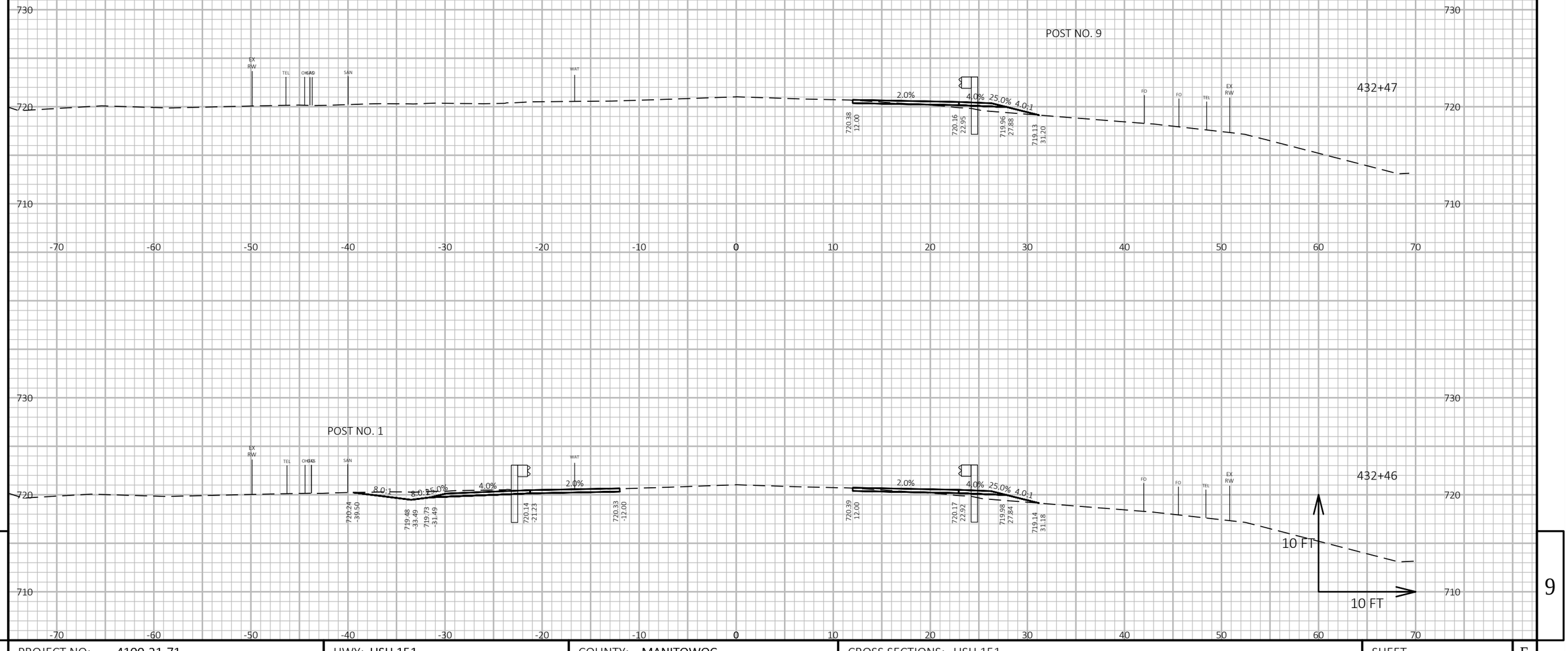
PLOT DATE : 8/1/2017 9:54 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 263	E

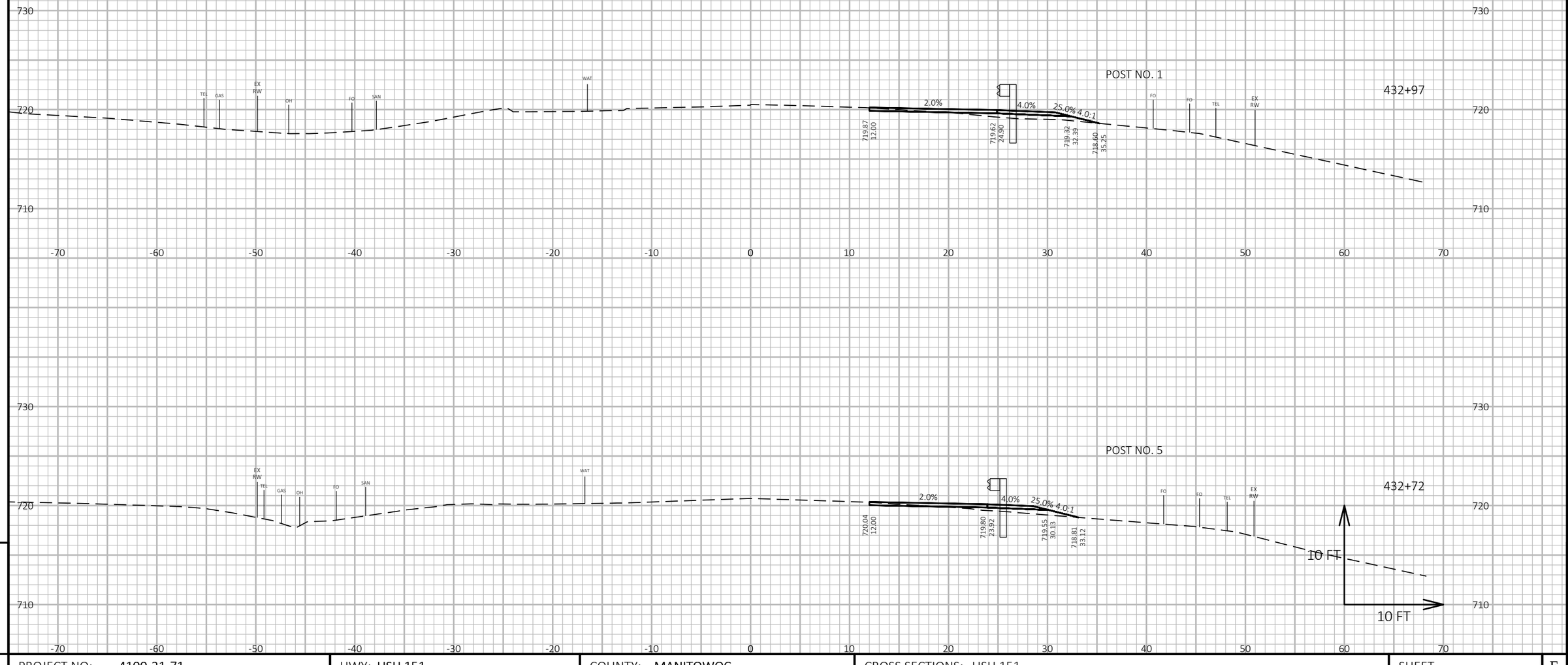
FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090214-xs

PLOT DATE : 8/1/2017 9:54 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 264	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090215-xs

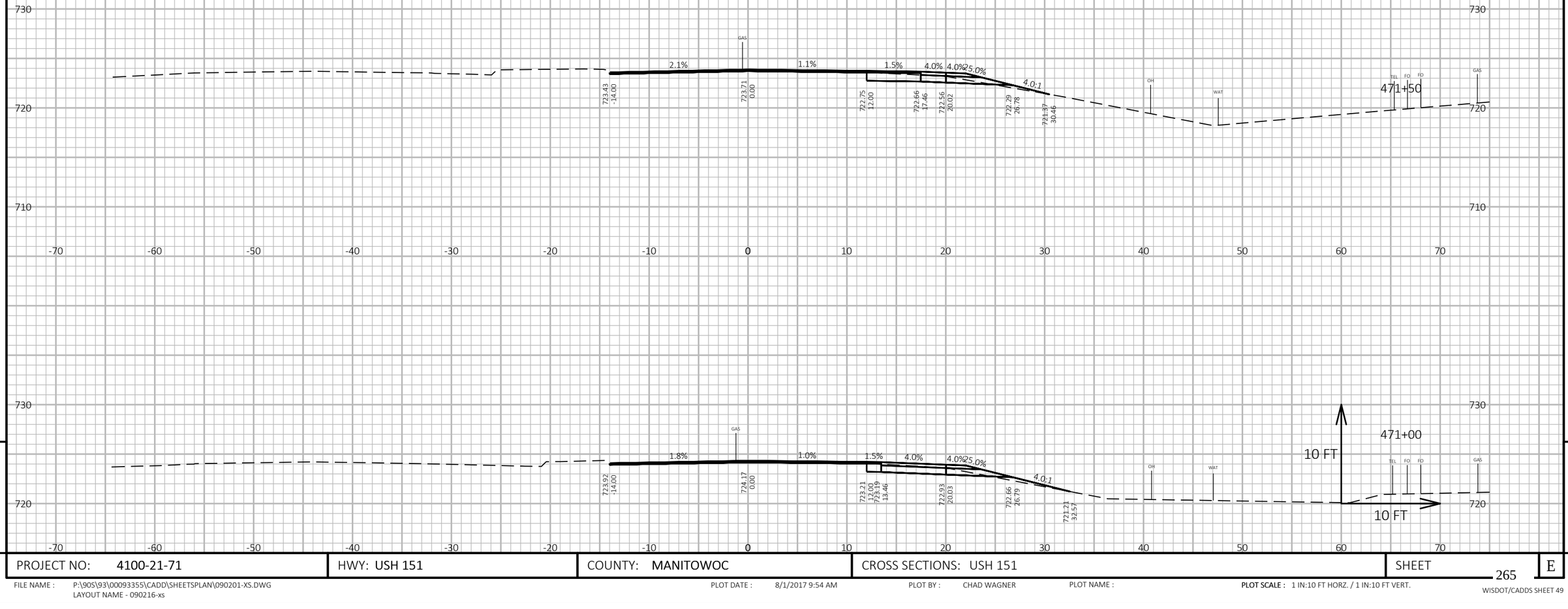
PLOT DATE : 8/1/2017 9:54 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 265	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090216-xs

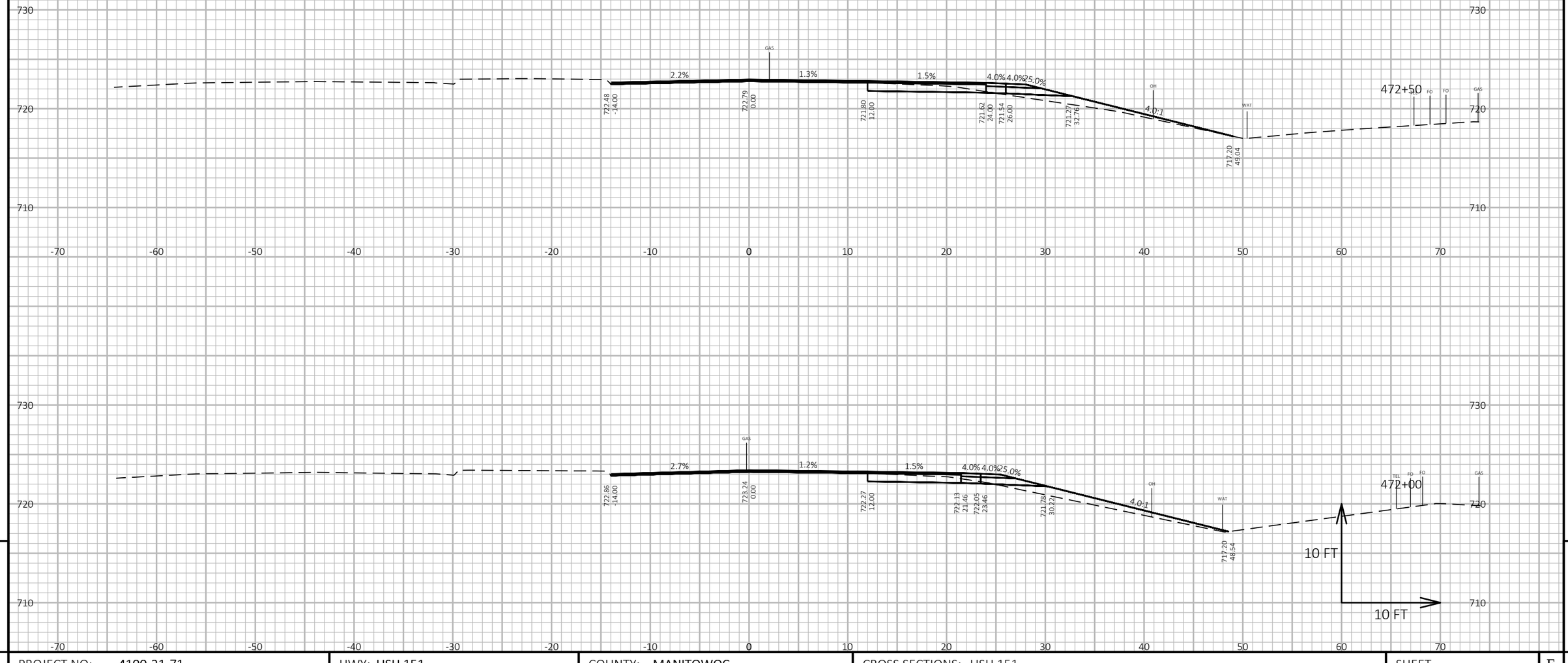
PLOT DATE : 8/1/2017 9:54 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 266	E

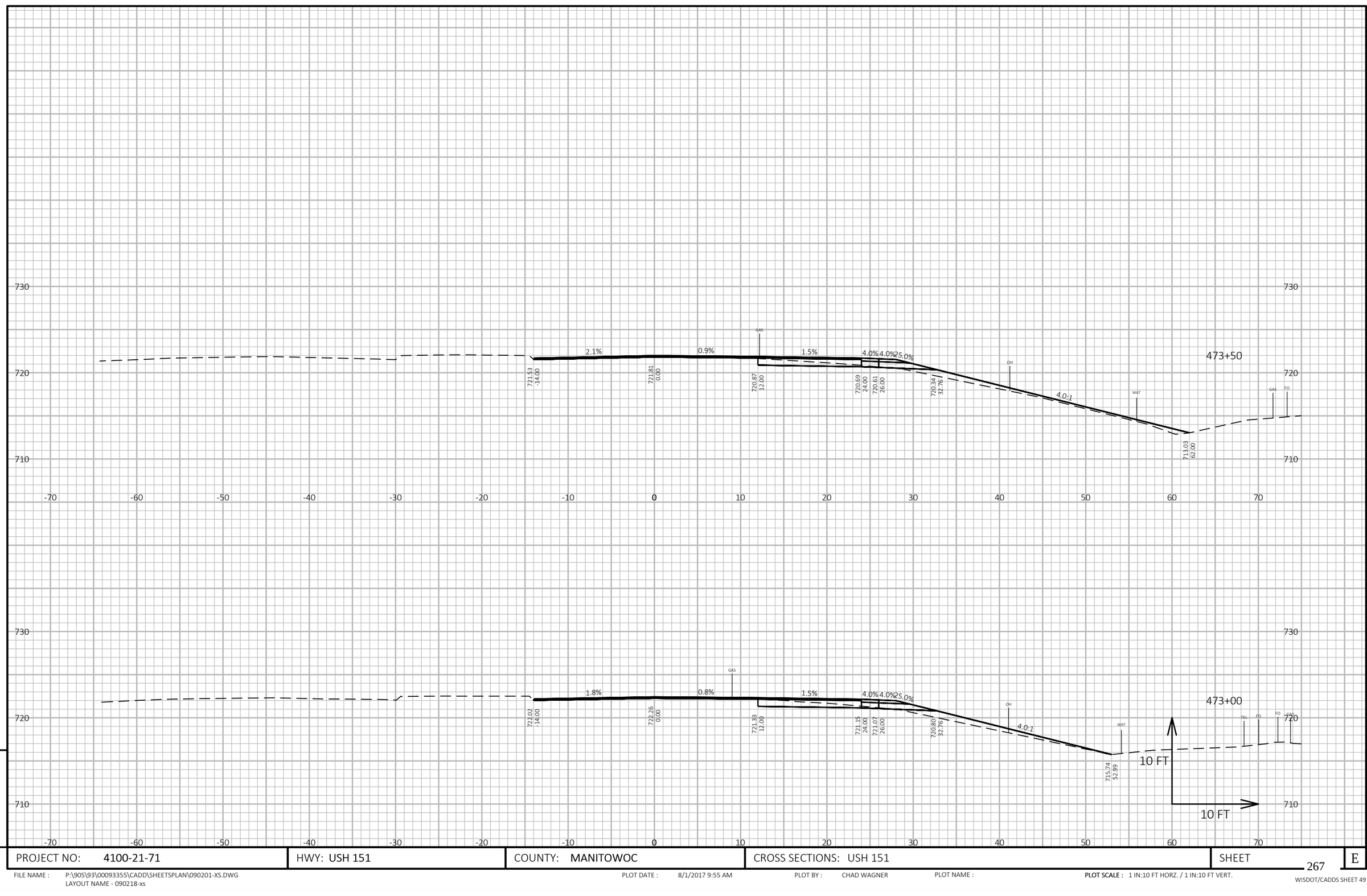
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LAYOUT NAME - 090217-xs

PLOT DATE : 8/1/2017 9:54 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



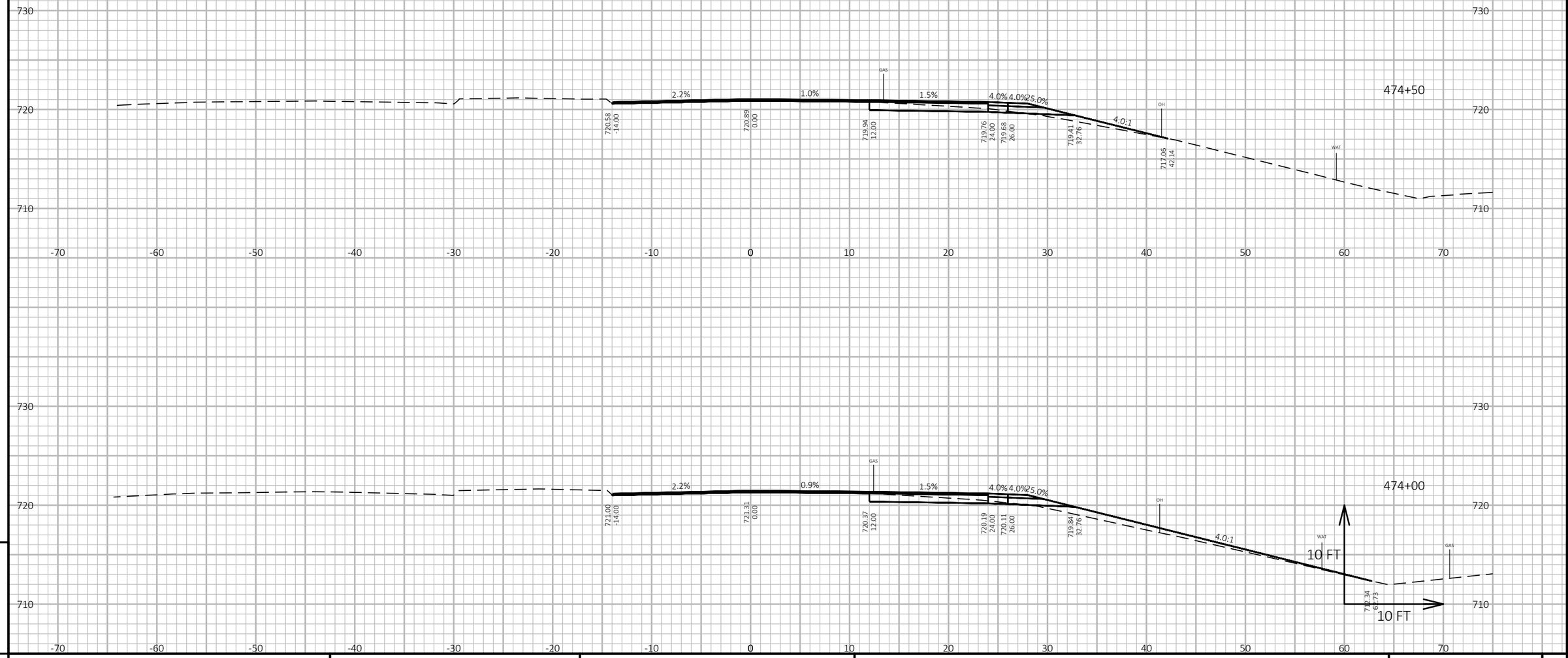
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 267	E

9

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090218-xs

PLOT DATE : 8/1/2017 9:55 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

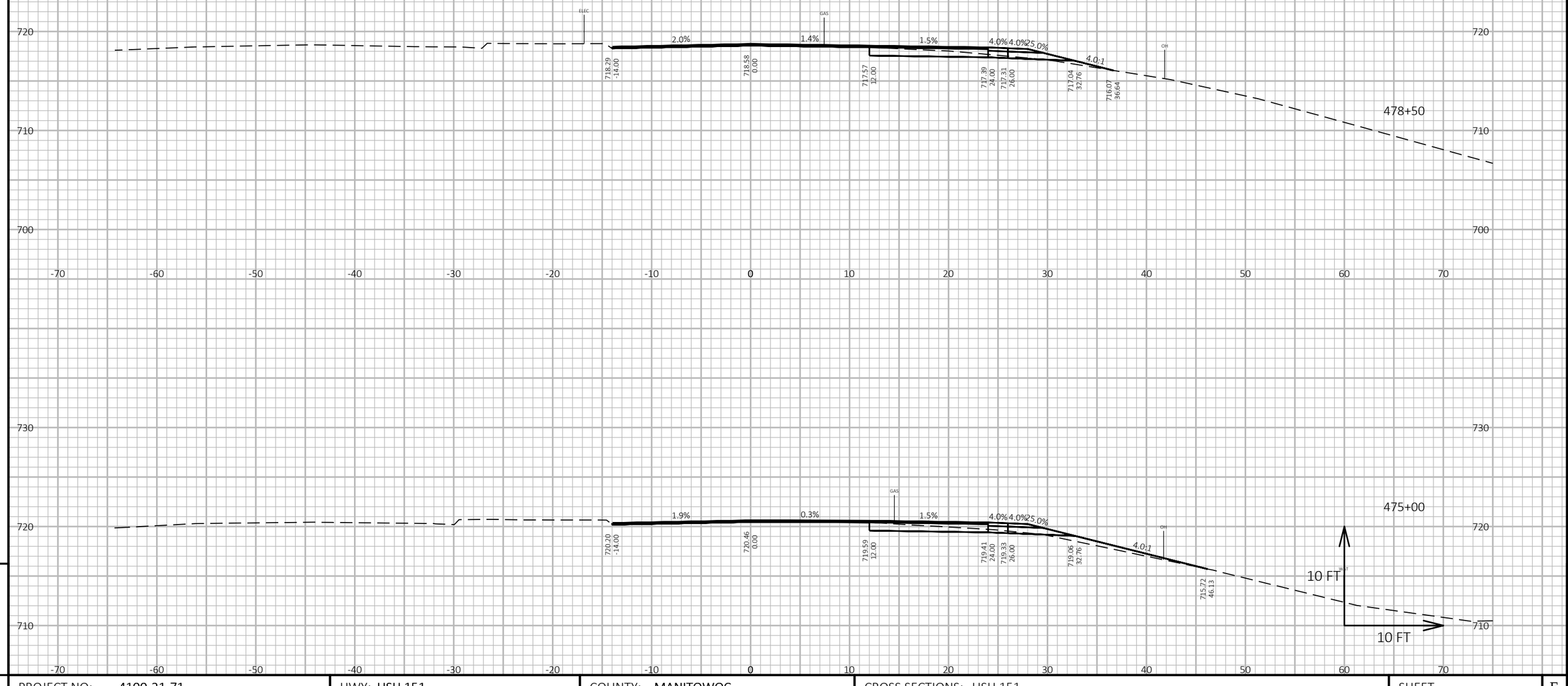
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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 268	E

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LAYOUT NAME - 090219-xs

PLOT DATE : 8/1/2017 9:55 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 269	E

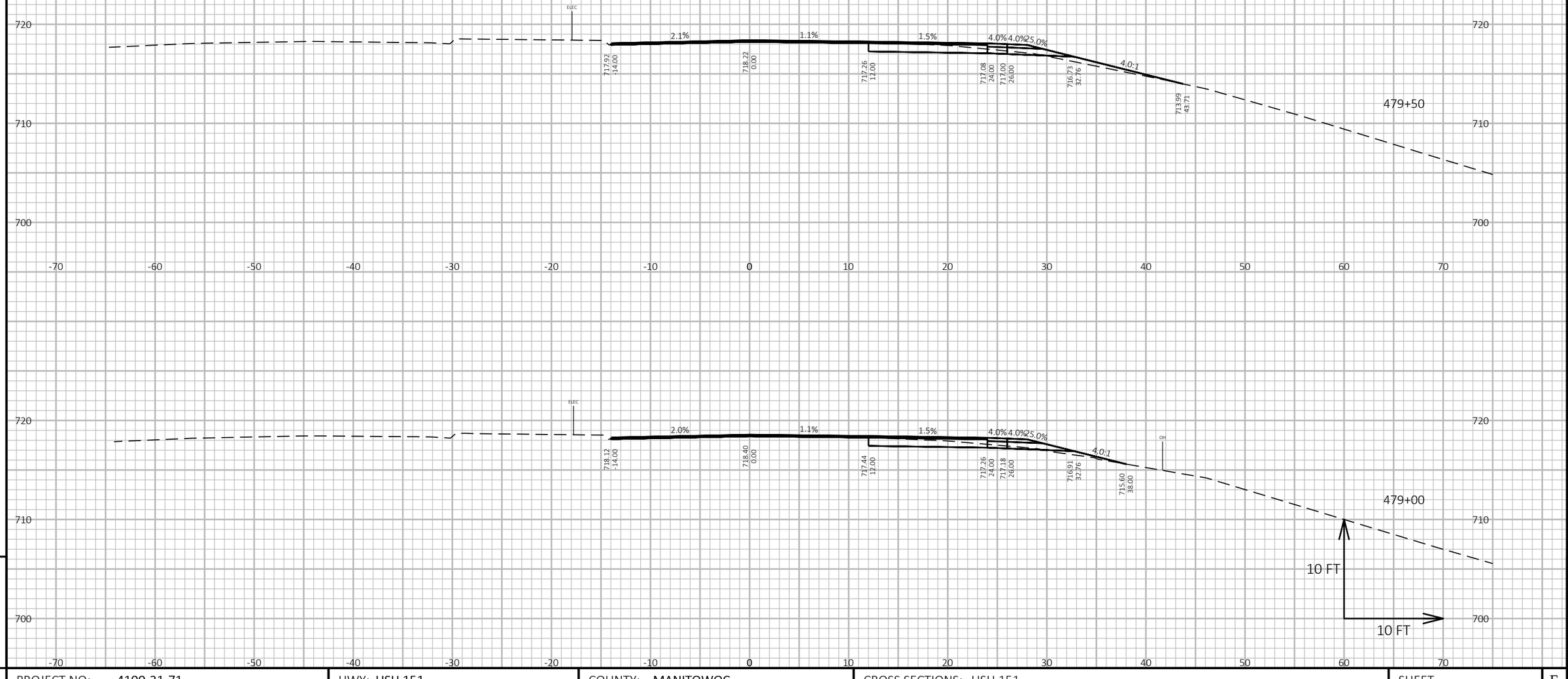
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LAYOUT NAME - 090220-xs

PLOT DATE : 8/1/2017 9:55 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 270	E

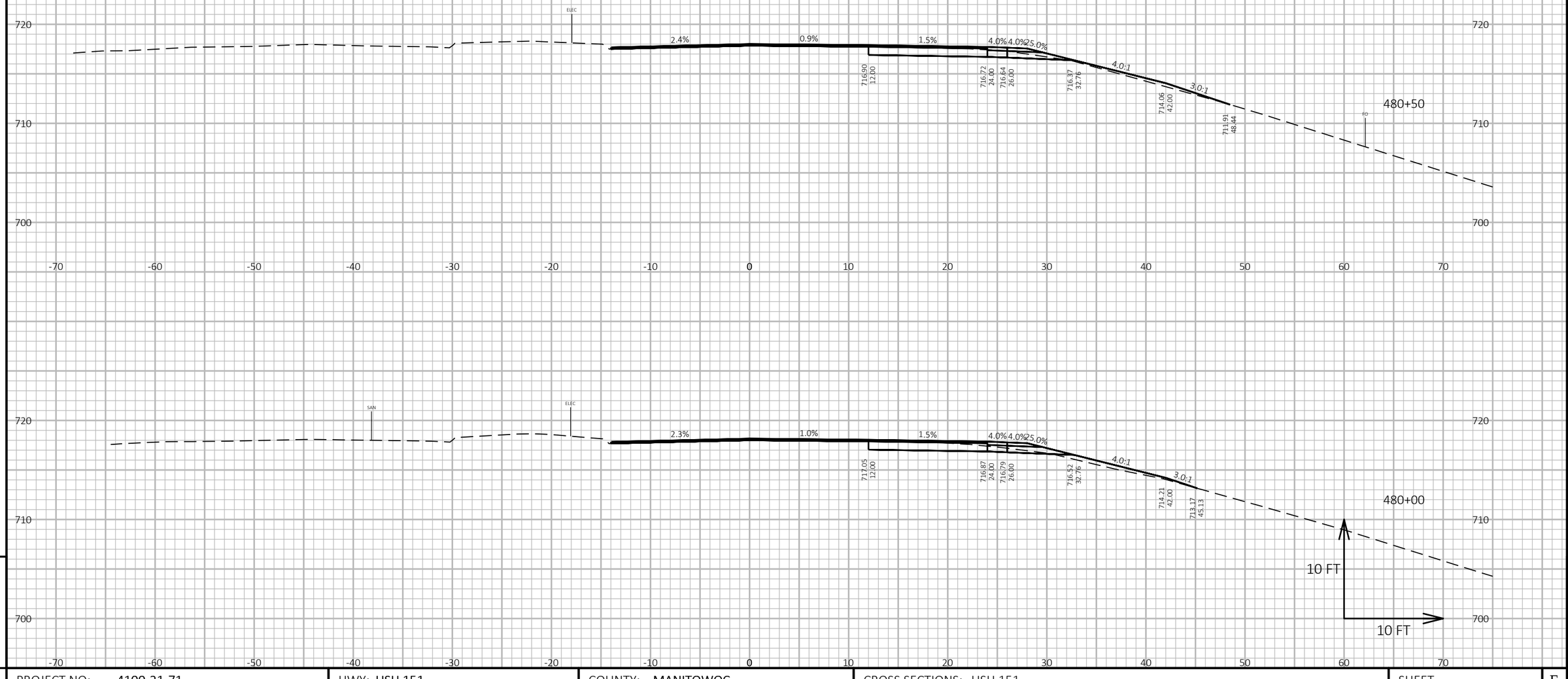
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LAYOUT NAME - 090221-xs

PLOT DATE : 8/1/2017 9:55 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 271	E

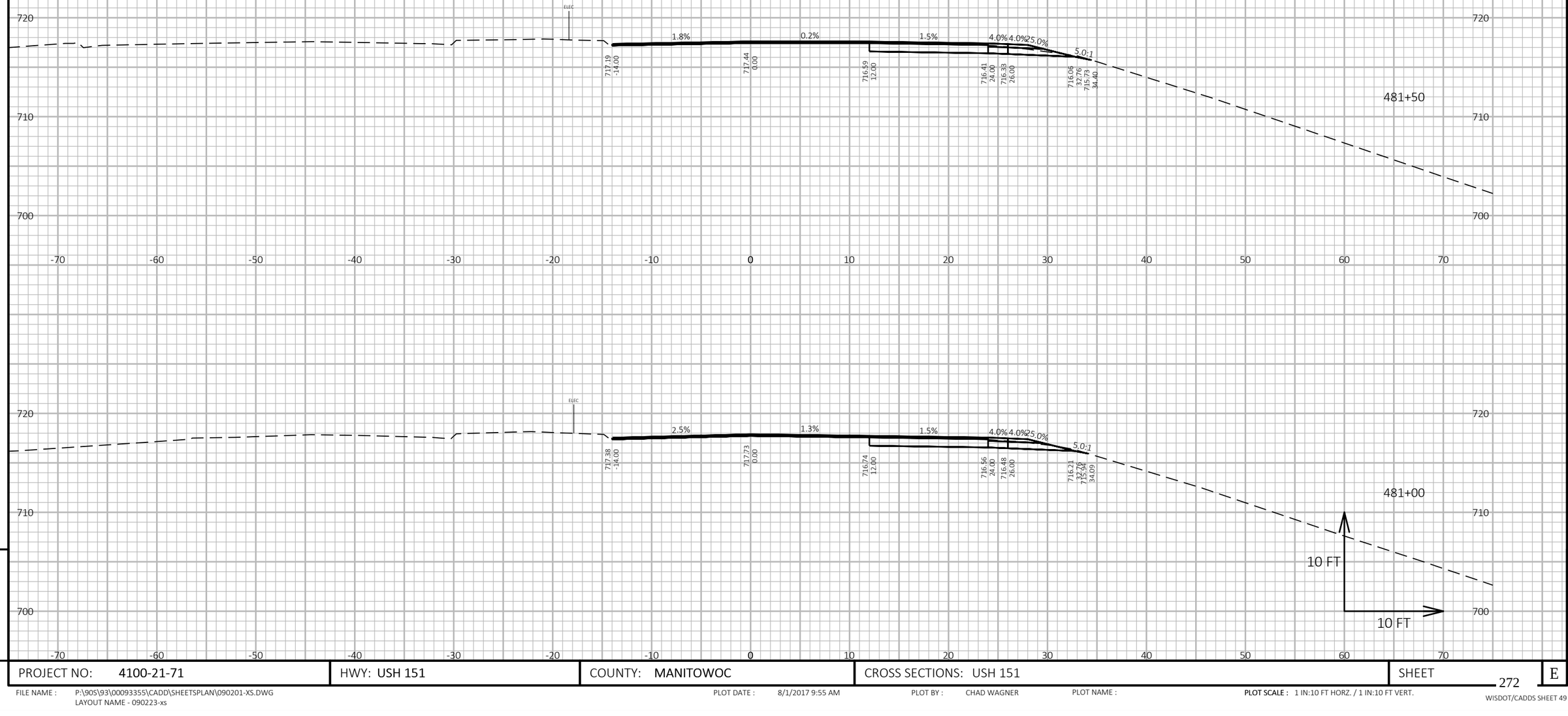
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LAYOUT NAME - 090222-xs

PLOT DATE : 8/1/2017 9:55 AM

PLOT BY : CHAD WAGNER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9 9

PROJECT NO: 4100-21-71	HWY: USH 151	COUNTY: MANITOWOC	CROSS SECTIONS: USH 151	SHEET 272	E

FILE NAME : P:\90S\93\00093355\CADD\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090223-xs

PLOT DATE : 8/1/2017 9:55 AM PLOT BY : CHAD WAGNER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

Wisconsin Department of Transportation

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