

PROJECT ID: 7255-05-72

COUNTY: CHIPPEWA

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. 8	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 164

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

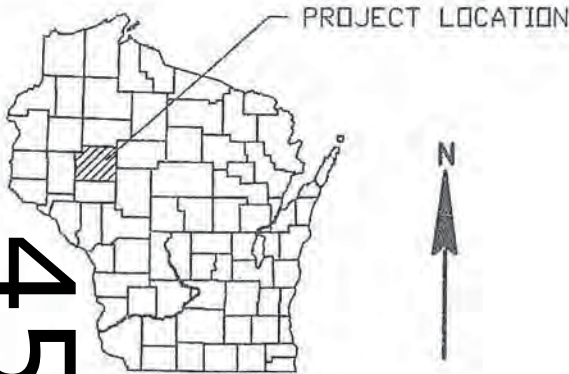
CITY OF CHIPPEWA FALLS, BRIDGE STREET

CHIPPEWA RIVER TO RIVER STREET

STH 124

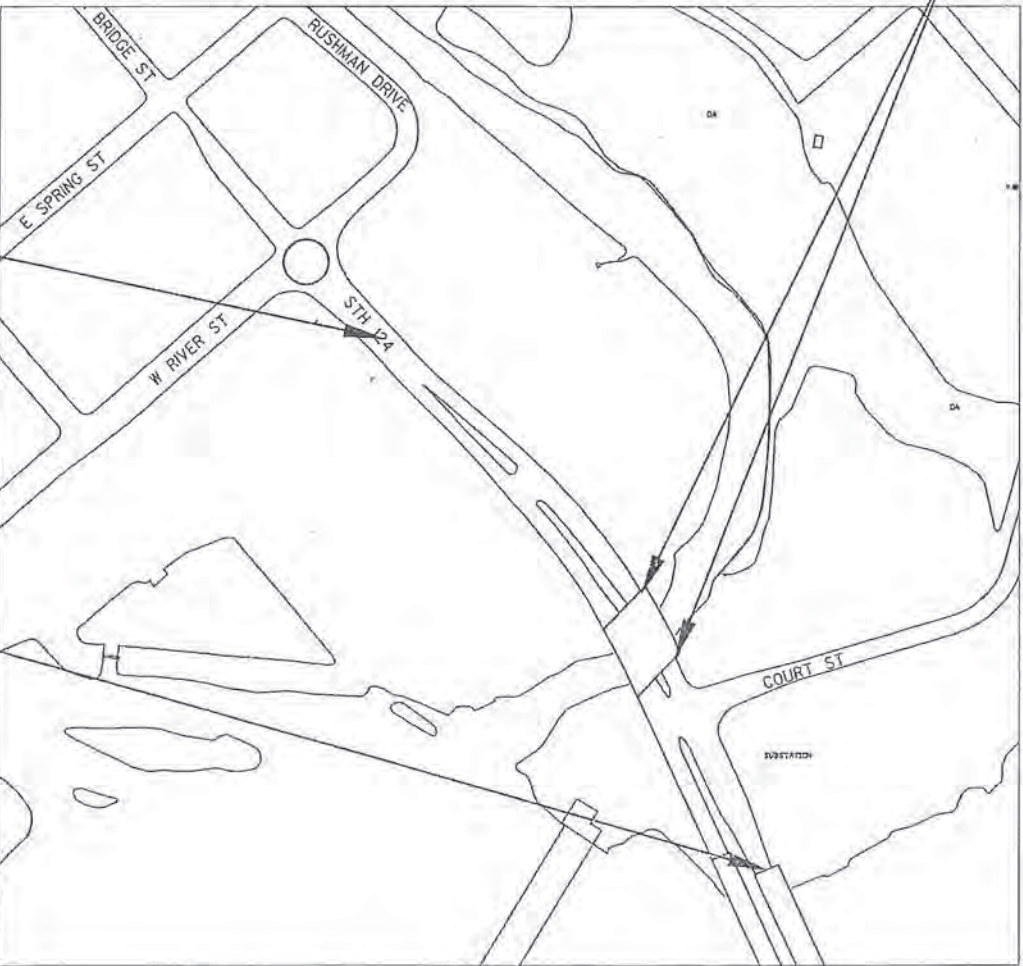
CHIPPEWA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7255-05-72	WISC 2014208	1



STATE PROJECT NUMBER
7255-05-72

EXCEPTION TO NET CENTERLINE LENGTH
STA 203+85.84'NB' TO STA 205+10.44'NB'



END PROJECT
STA 210+50.60'NB'
Y=128873.0675
X=172262.4402

BEGIN PROJECT
STA 200+05.59'NB'
Y=128013.0279
X=172835.7525

TOTAL NET LENGTH OF CENTERLINE = .174 MI

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

DESIGN DESIGNATION

A.A.D.T.	2014	=	12,150
A.A.D.T.	2034	=	15,840
D.H.V.		=	1,950
D.D.		=	64/36
T.		=	5.6%
DESIGN SPEED		=	25 MPH
ESALS		=	8,993,600

CONVENTIONAL SYMBOLS

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

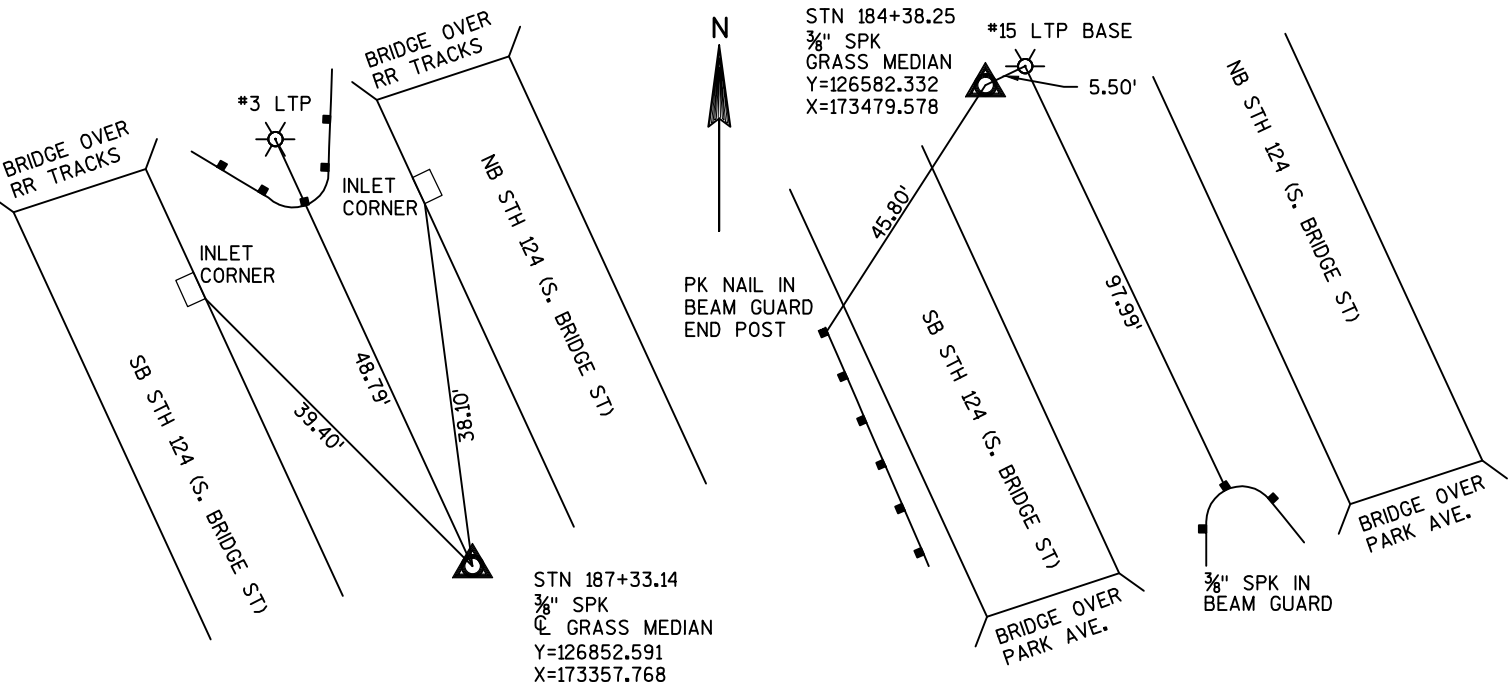
PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	93.56
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----

ACCEPTED FOR	
CITY of CHIPPEWA FALLS	
Jan. 28, 2014	Richard J. Ruby
DATE:	
ORIGINAL PLANS PREPARED BY:	
SEH	
WISCONSIN PROFESSIONAL ENGINEER	
GREGORY L. WEYANDT	
32579	
CHIPPEWA FALLS, WI	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	SEH
Designer	SEH
Project Manager	STACIE LAMBELLE
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	RICK SHERMO
C.O. Examiner	
APPROVED FOR THE DEPARTMENT	
DATE: 2/4/14	Richard J. Ruby
	(Signature)

STANDARD ABBREVIATIONS:

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

CONTROL TIES:



GENERAL NOTES:

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

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

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

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

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

THE LOCATION OF ALL DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

ALL SIDE ROAD EARTHWORK QUANTITIES ARE INCLUDED IN MAINLINE EARTHWORK QUANTITIES.

A VERTICAL SAWCUT SHALL BE MADE THOUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMIT.

TOP OF CASTING ELEVATIONS SHOWN FOR INLETS REFER TO THE CASTING ELEVATIONS AT THE FRONT EDGE CASTING/FLOWLINE OF GRATE/TOP OF CURB BOX.

ALL STORM SEWER INVERTS, ELEVATIONS, PIPE LENGTHS, AND GRADES ARE COMPUTED CENTER-TO-CENTER OF STRUCTURES.

EXCAVATION BELOW SUBGRADE (EBS) IS USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION.

CURB RAMP TYPE 1, 4B, 5 ARE SHOWN ON PLAN/INTERSECTION DETAIL SHEETS.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

EXISTING PIPE CULVERT AND SIZES SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL BASE ITS BID ON ACTUAL FIELD CONDITIONS.

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

UTILITY CONTACTS:

CHARTER COMMUNICATIONS
1201 MCCANN DRIVE
ALTOONA, WI 54720
TELEPHONE: 715.831.8940 EXT. 619
ATTENTION: SHANE YODER
EMAIL: SHANE.YODER@CHARTERCOM.COM

AT&T WISCONSIN
304 SOUTH DEWEY
EAU CLAIRE, WI 54701
TELEPHONE: 715.839.5565
ATTENTION: RICK PODOLAK
EMAIL: RP4514@ATT.COM

XCEL ENERGY - GAS
PO BOX 8
1400 WESTERN AVENUE
EAU CLAIRE, WI 54702
TELEPHONE: 715.737.2584
ATTENTION: SCOTT SEAHOLM

XCEL ENERGY - DISTRIBUTION
1400 WESTERN AVENUE
EAU CLAIRE, WI 54702
TELEPHONE: 715.737.4040
ATTENTION: CATHERINE VANGORDEN DEUX

XCEL ENERGY - TRANSMISSION
414 NICOLLET MALL - MP8-C
MINNEAPOLIS, MN 55401
TELEPHONE: 612.337.2341
ATTENTION: RONALD ZEMKE
EMAIL: RONALD.P.ZEMKE@XCELENERGY.COM

CITY OF CHIPPEWA FALLS
30 W CENTRAL STREET
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.726.2736
ATTENTION: RICK RUBENZER
EMAIL:RRUBENZER@CHIPPEWAFALLWI.GOV

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN



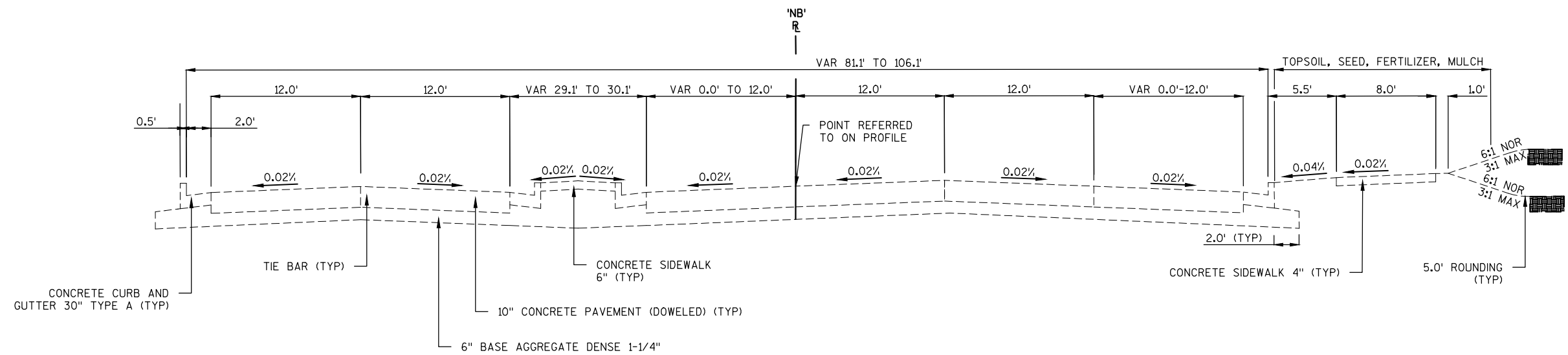
Dial 811 or (800) 242-8511
www.DiggersHotline.com

NOTE: WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

HEARING IMPAIRED TDD (800) 542-2289
** NOT A MEMBER OF DIGGERS HOTLINE

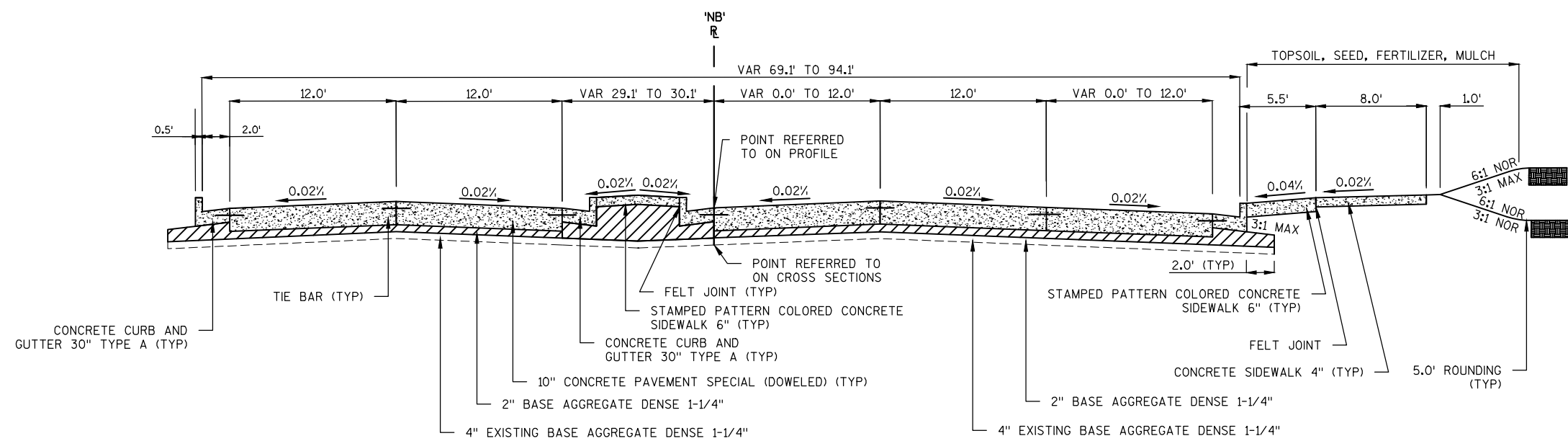
DESIGN CONTACTS
SEH INC.
421 FRENETTE DRIVE
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715.720.6266
ATTENTION: GREG WEYANDT
EMAIL: GWEYANDT@SEHINC.COM

WDNR CONTACT
DNR NORTHERN REGION HQ
810 W. MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.635.4229
ATTENTION: AMY CRONK
EMAIL: AMY.CRONK@WISCONSIN.GOV



TYPICAL EXISTING SECTION

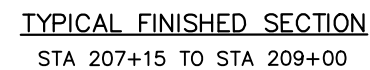
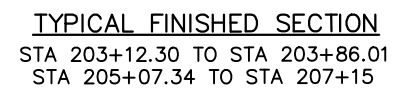
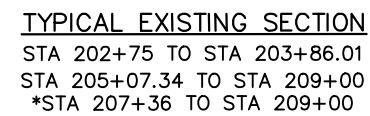
STA 200+05.59 TO STA 202+75



TYPICAL FINISHED SECTION

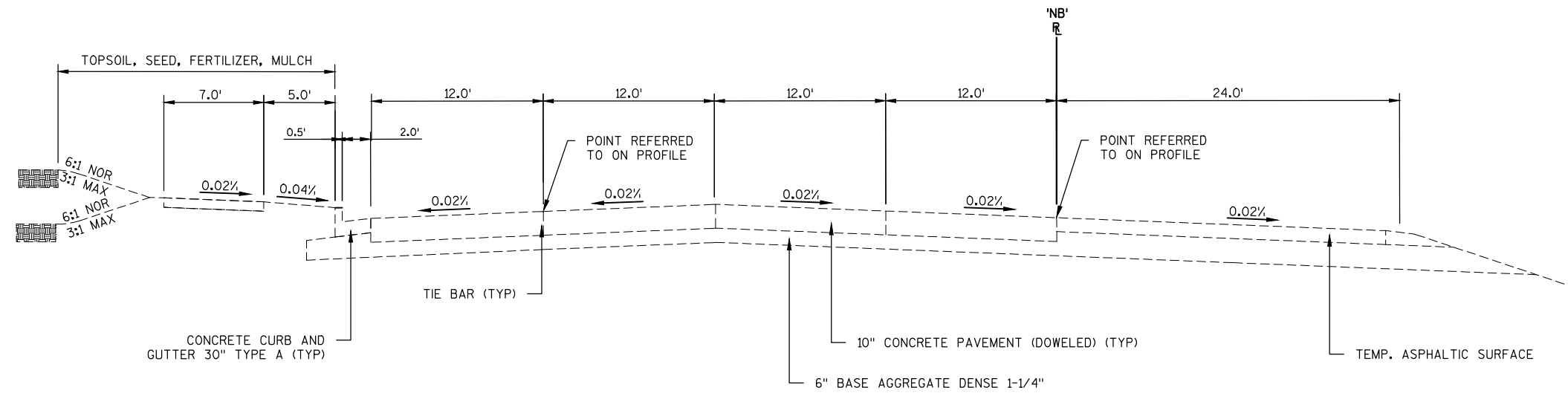
STA 200+05.59 TO STA 203+12.30

2

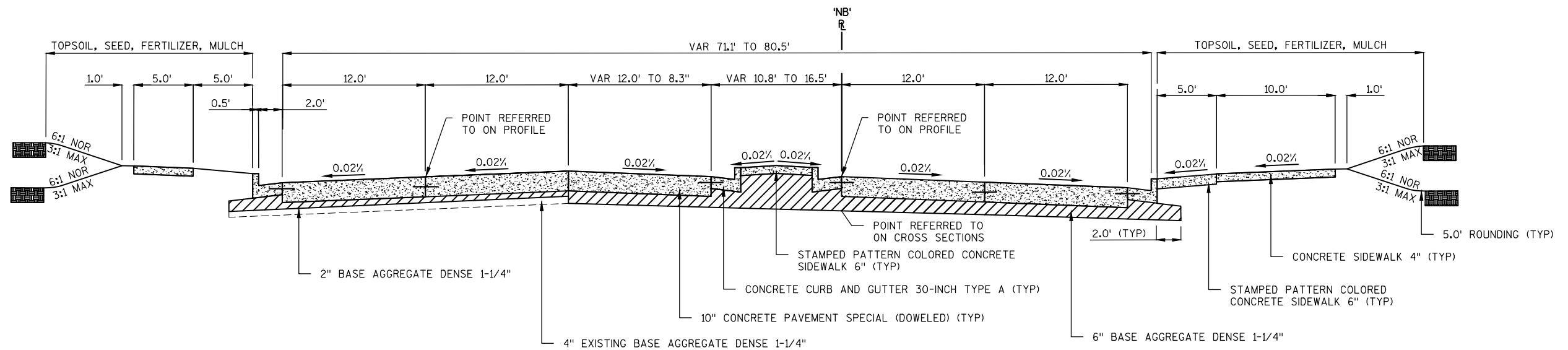


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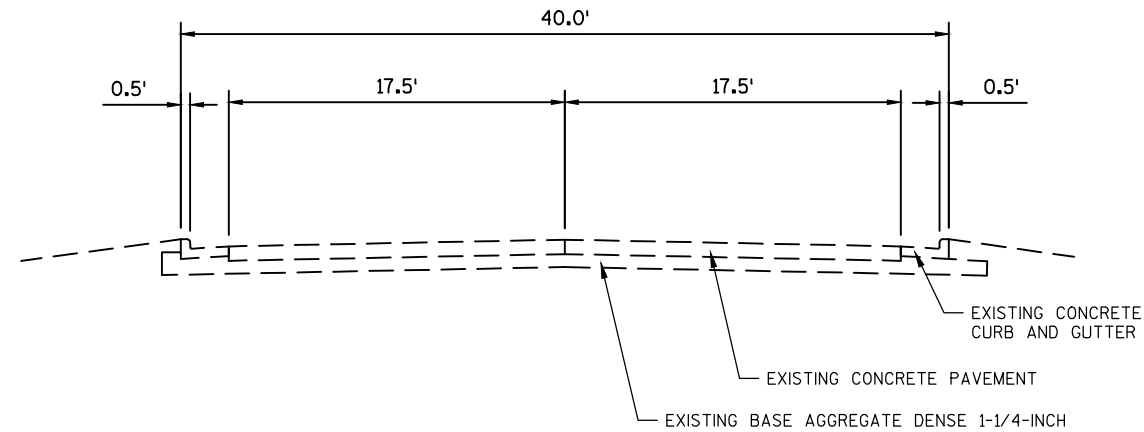
WISDOT/CADDS SHEET 42

**TYPICAL EXISTING SECTION**

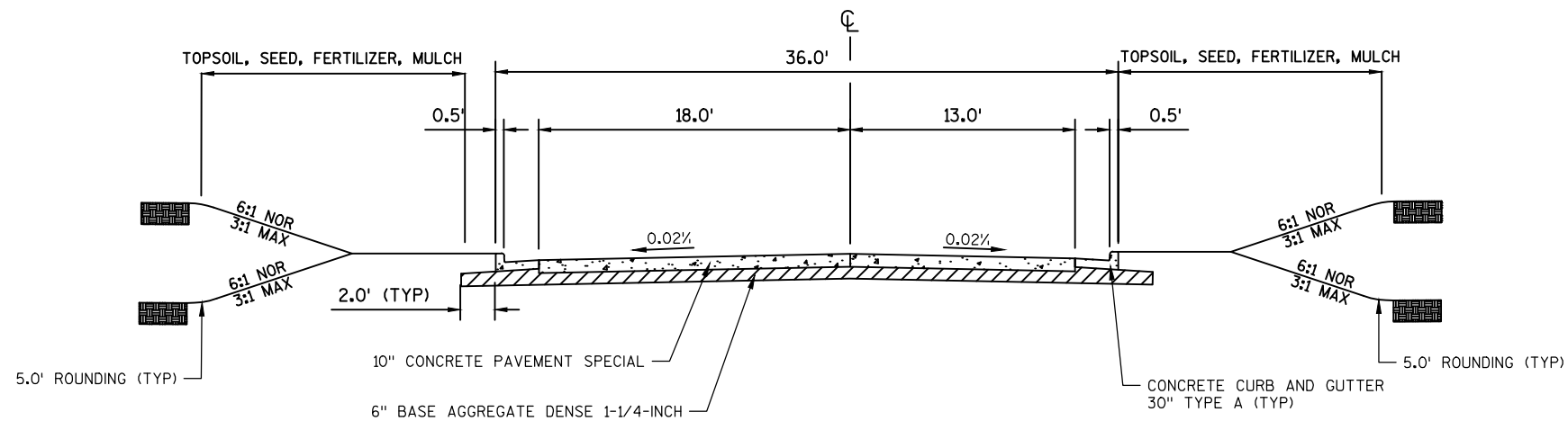
STA 209+00 TO STA 210+50.60

**TYPICAL FINISHED SECTION**

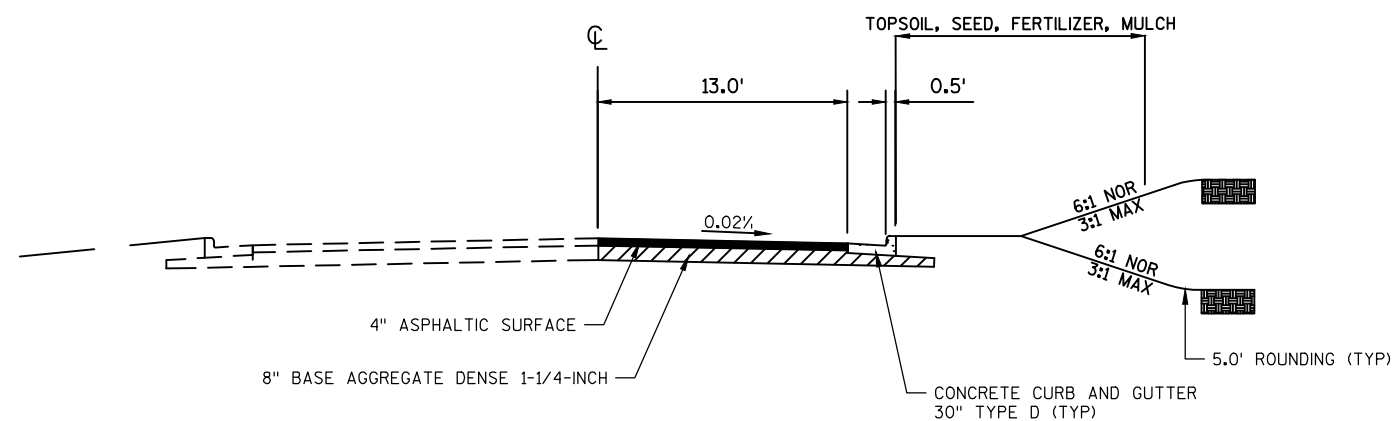
STA 209+00 TO STA 210+50.60



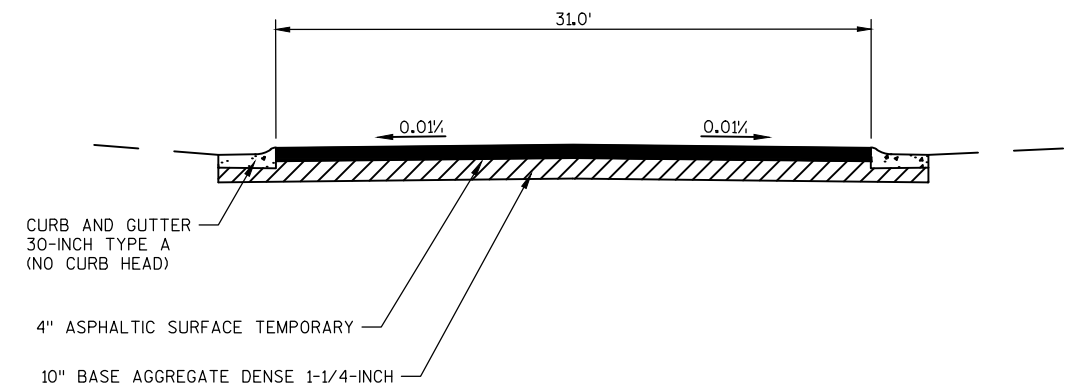
TYPICAL EXISTING SECTION
COURT ST



TYPICAL FINISHED SECTION (COURT ST)
STA 10+00.00 TO STA 10+80.00



TYPICAL FINISHED SECTION (COURT ST)
STA 10+80.00 TO STA 11+20.63



TYPICAL SINGLE LANE TEMPORARY CROSSOVER SECTION FOR STAGE 1

SEE SECTION A-A STAGE 1
TRAFFIC CONTROL SHEET

GENERAL NOTES

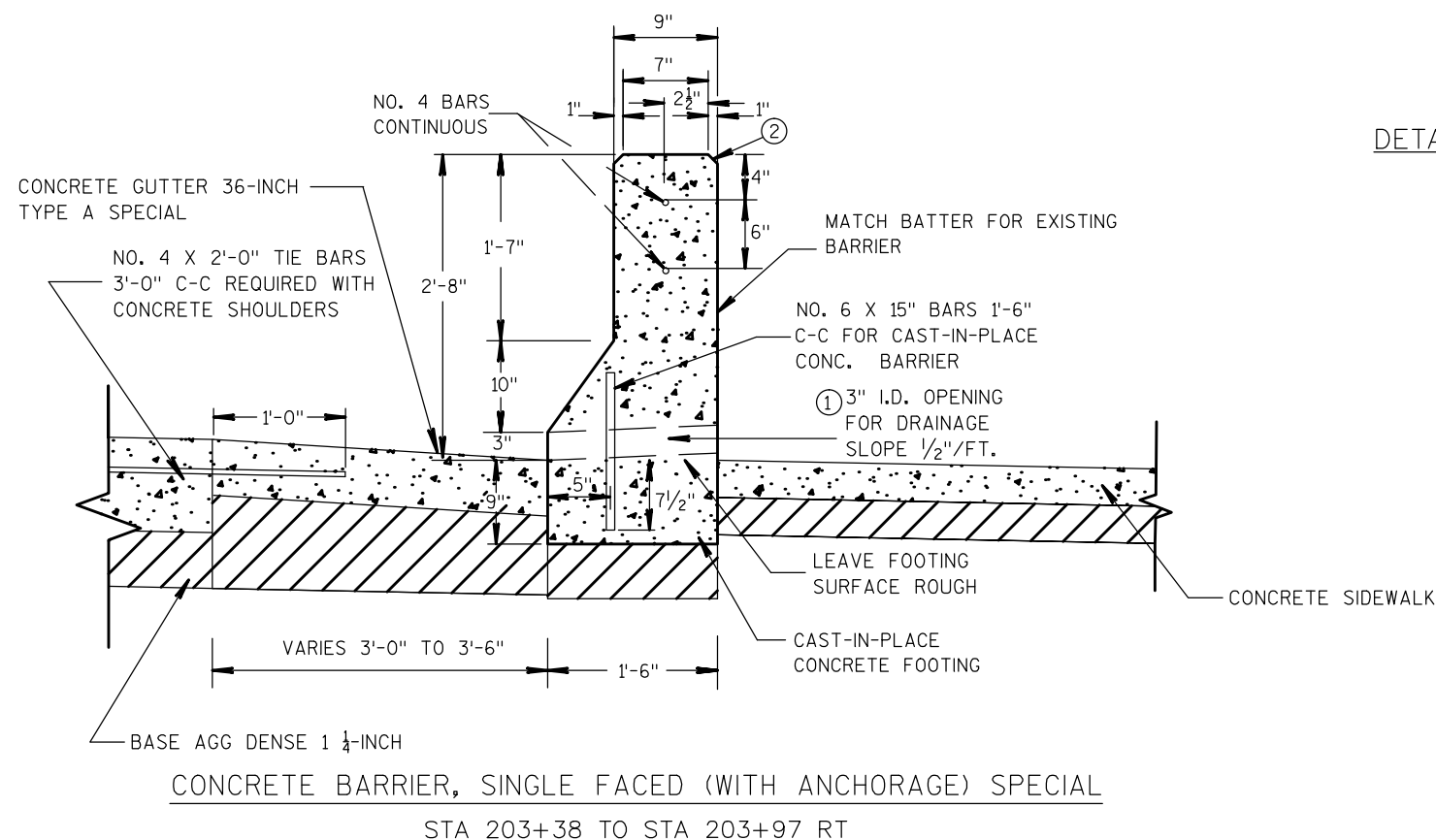
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

PRECAST UNITS SHALL BE FIRMLY BUTTED TOGETHER IN A CONTINUOUS LINE AND BE INTERCONNECTED BY VERTICAL MALE-FEMALE SHEAR CONNECTORS FORMED IN THE BARRIER ENDS.

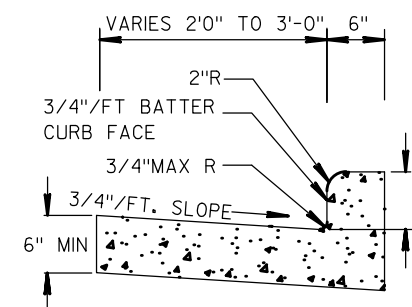
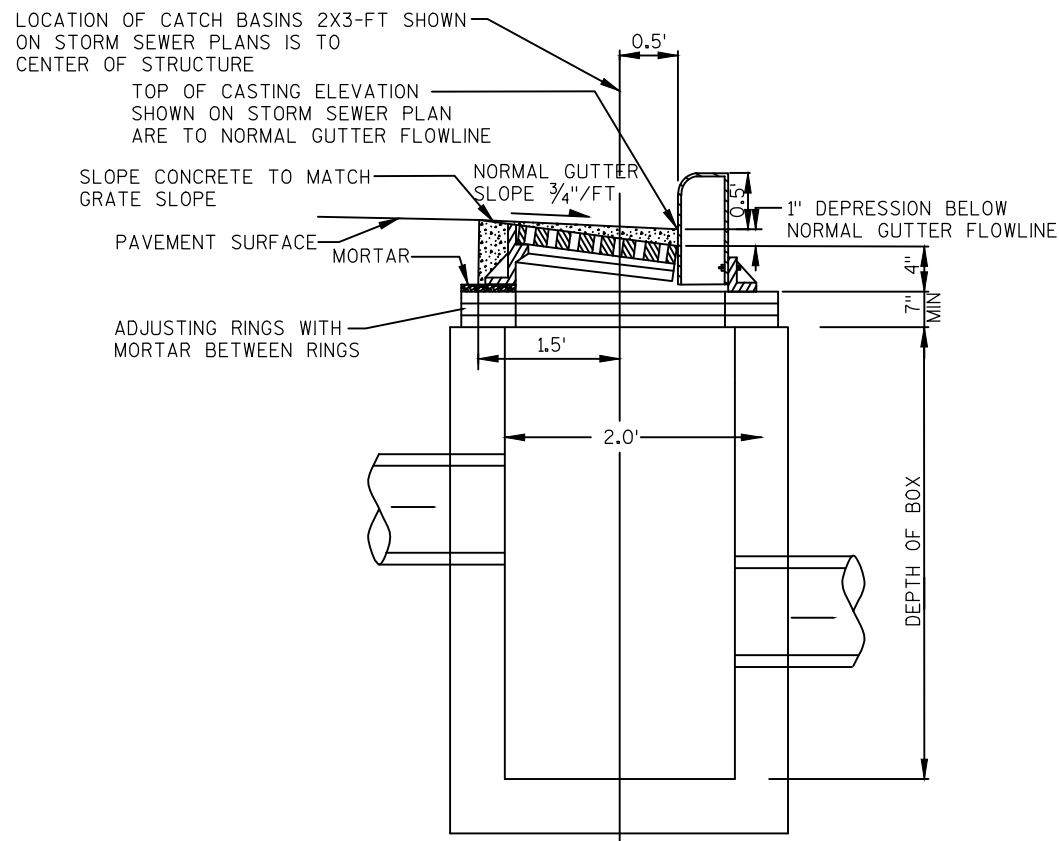
SPICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

- ① OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.
- ② $\frac{3}{4}$ -INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

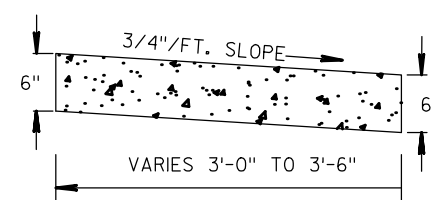


DETAIL OF CURB AND GUTTER AT CATCH BASINS



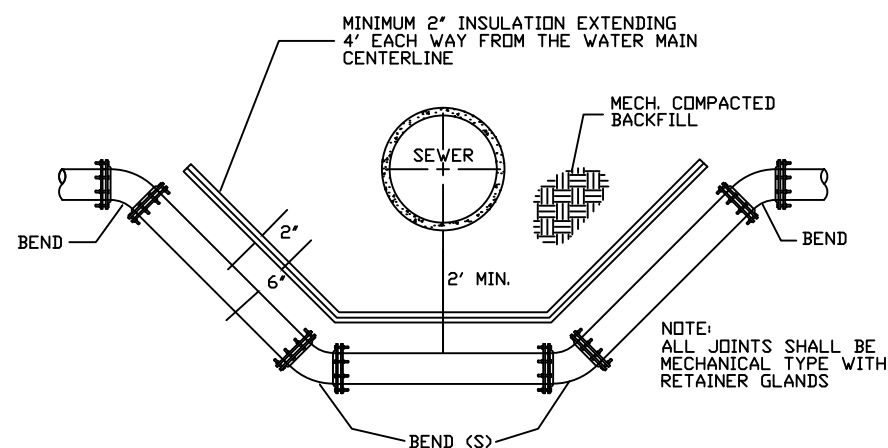
CONCRETE CURB & GUTTER 30-INCH TYPE A SPECIAL

STA 203+35 TO STA 203+64 RT
STA 203+38 TO STA 203+47 LT

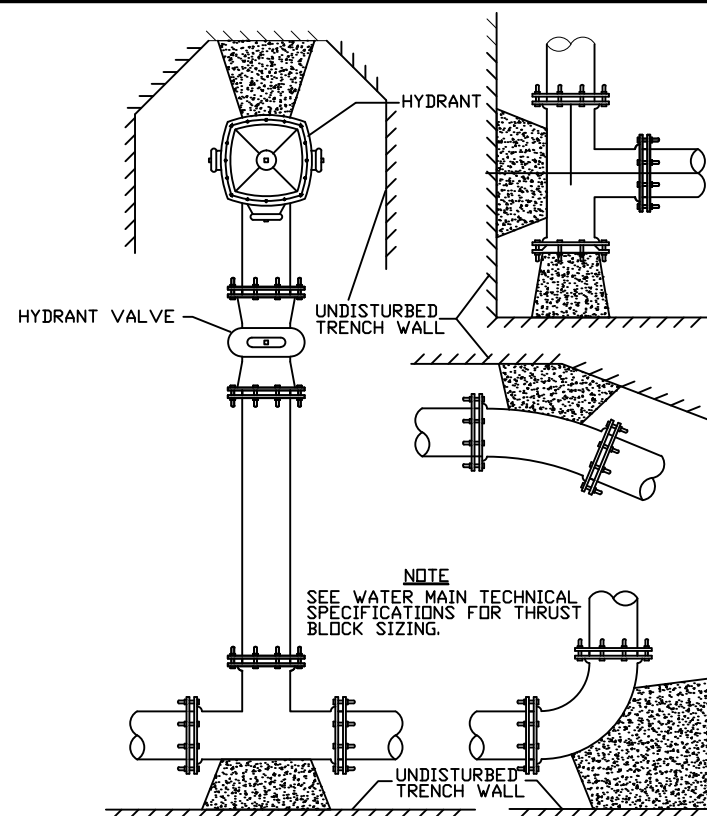
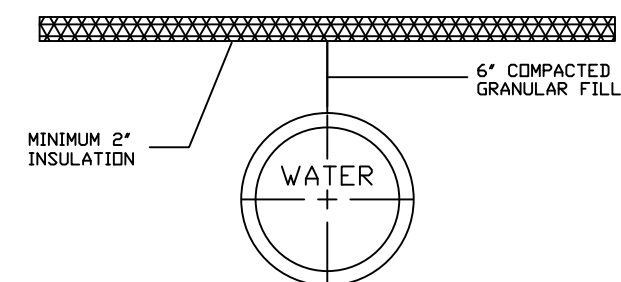
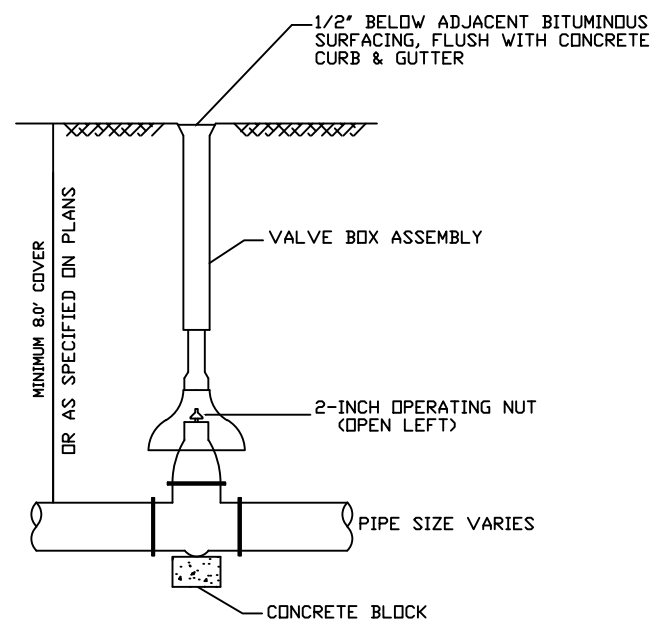
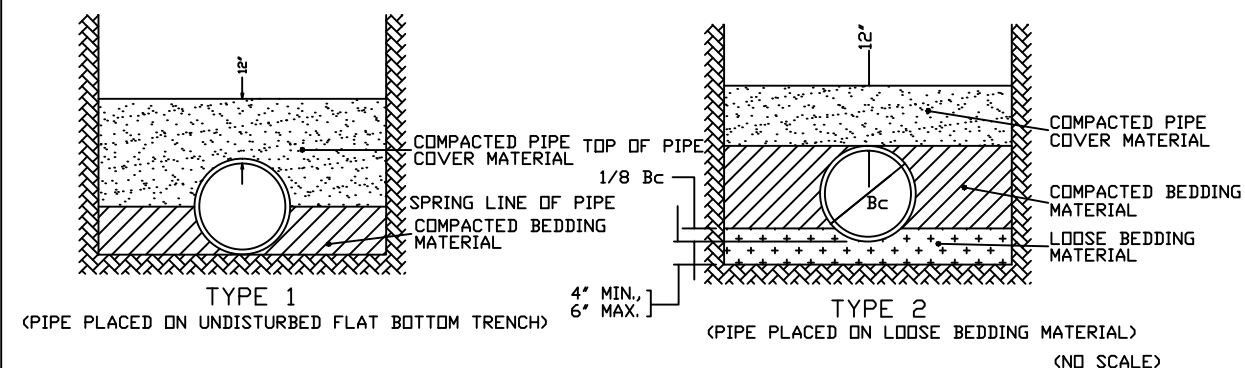
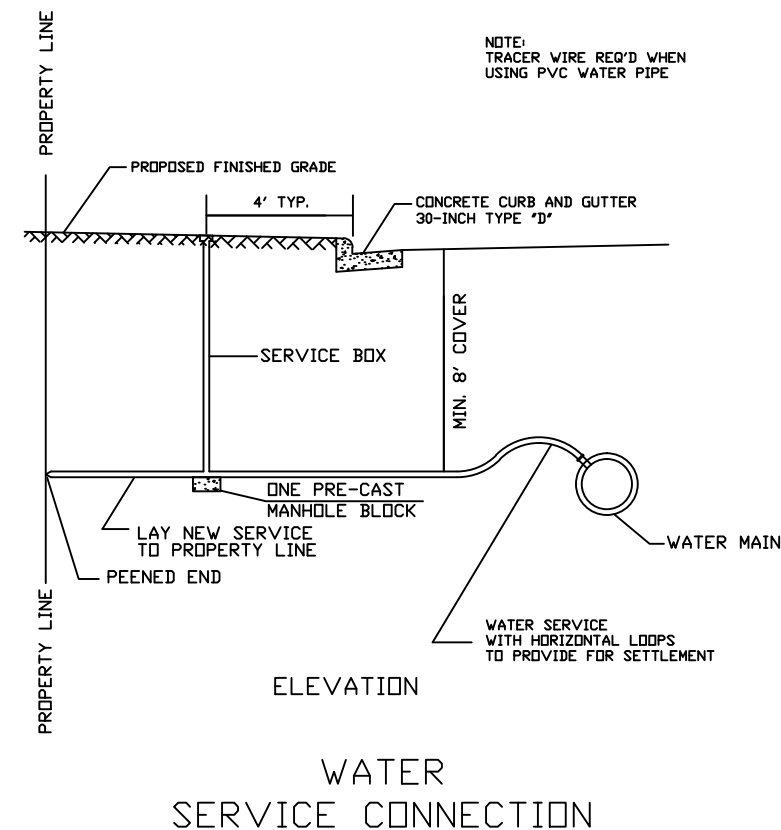


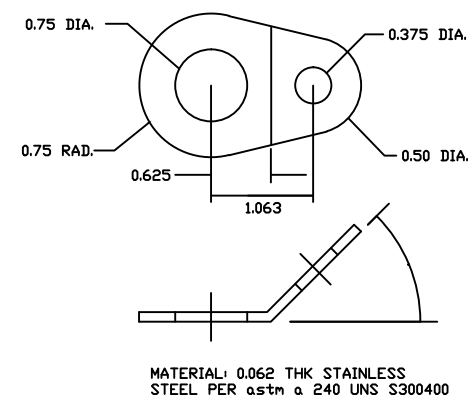
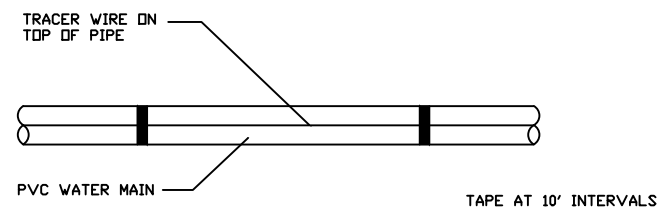
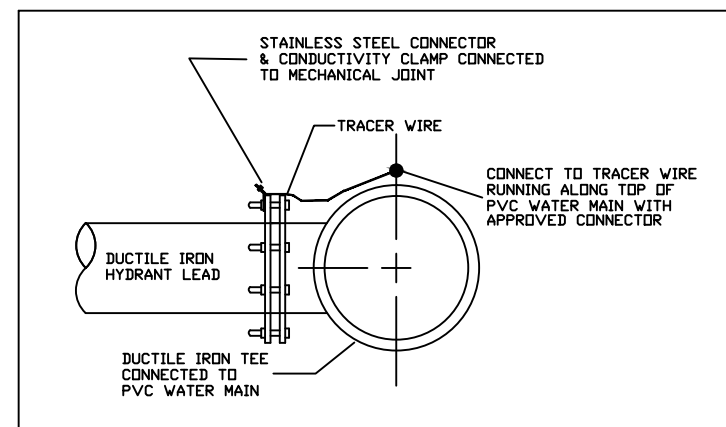
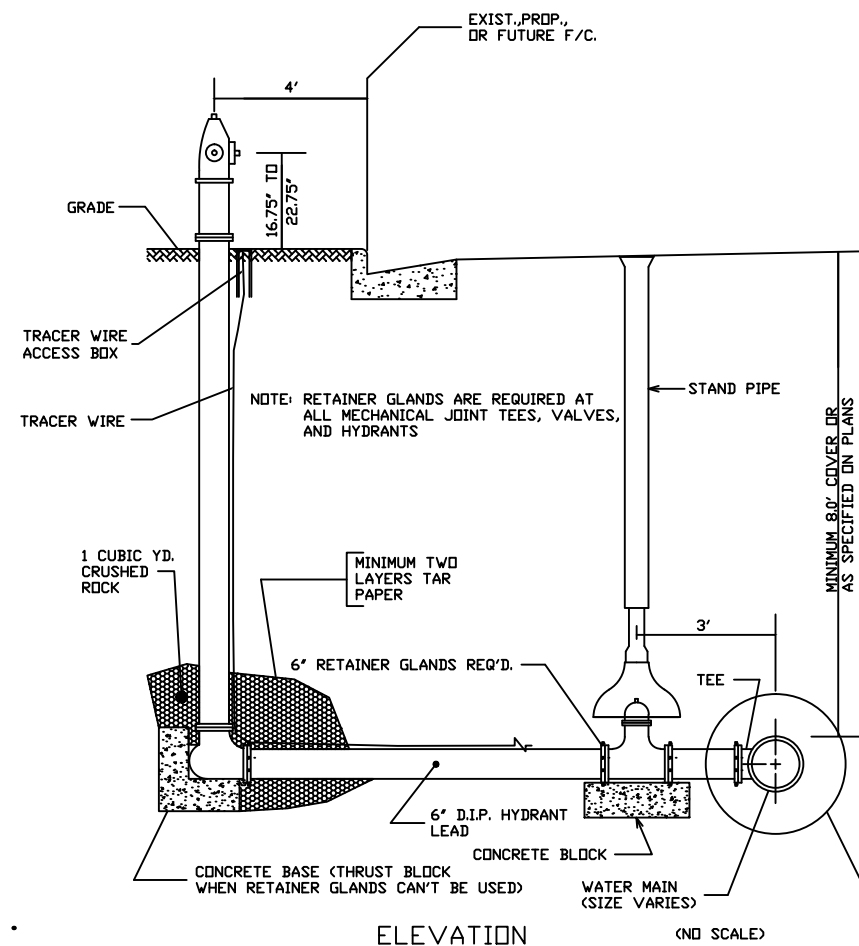
CONCRETE GUTTER 36-INCH TYPE A SPECIAL

STA 203+47 TO STA 203+63 LT
STA 203+64 TO STA 203+96 RT



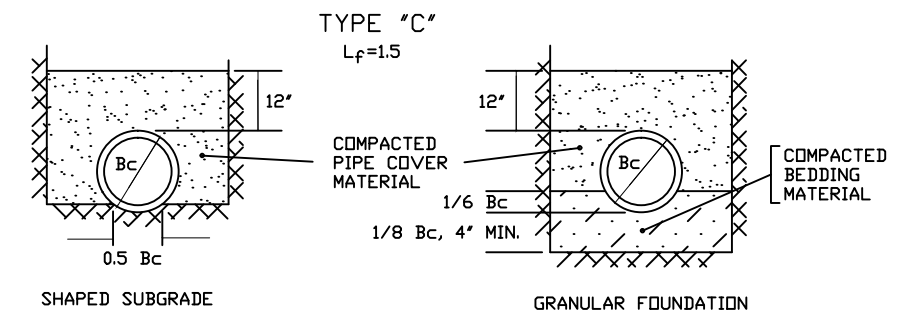
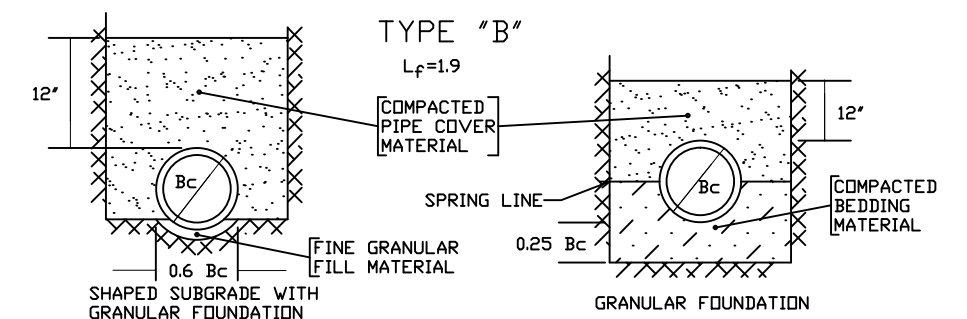
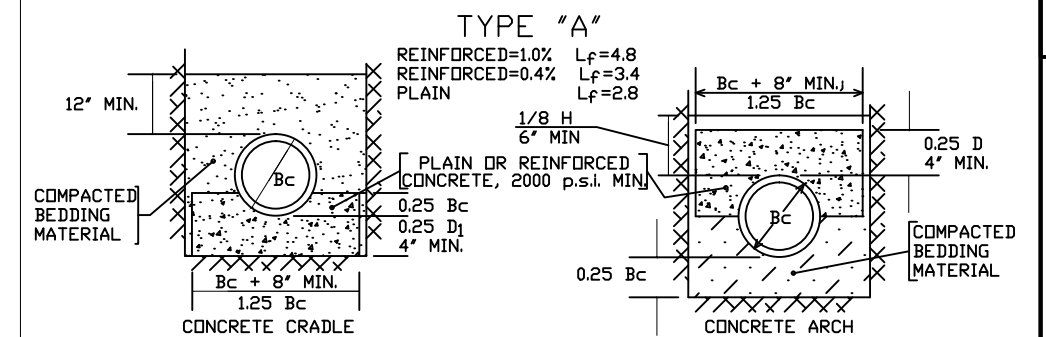
LOWER WATER MAIN

TYPICAL THRUST
BLOCKING DETAILWATER MAIN
INSULATIONTYPICAL GATE VALVE
& BOX INSTALLATIONLAYING CONDITIONS FOR
WATER MAINWATER
SERVICE CONNECTION



STAINLESS STEEL CONNECTOR

FIRE HYDRANT & PVC WATER MAIN TRACER WIRE INSTALLATION

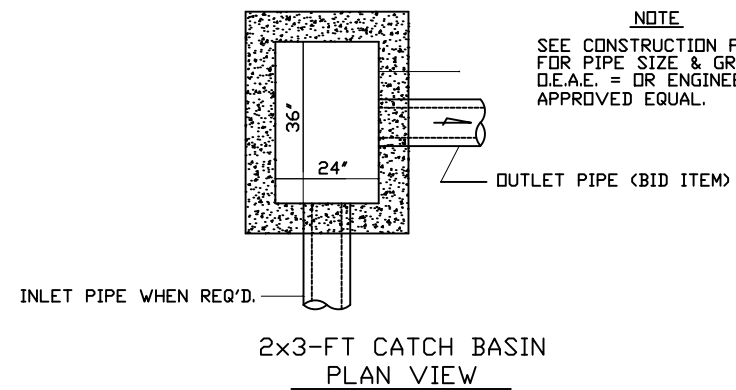
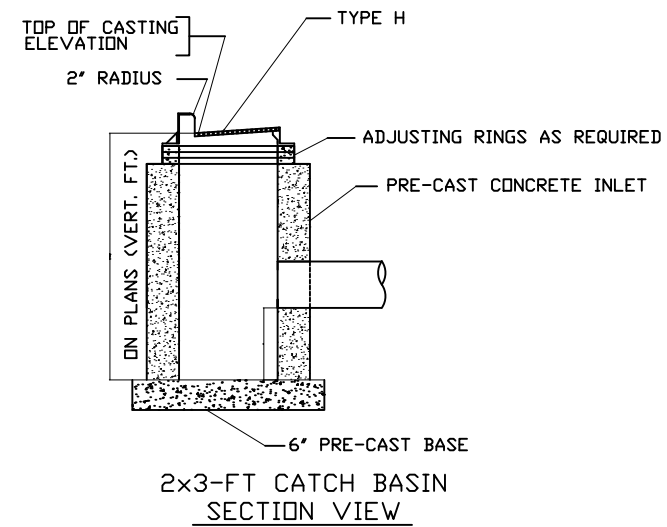
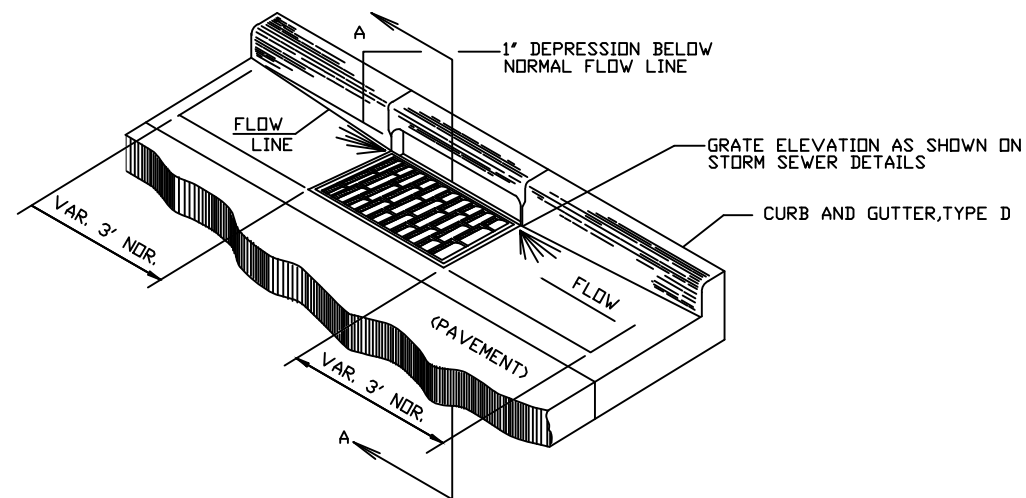
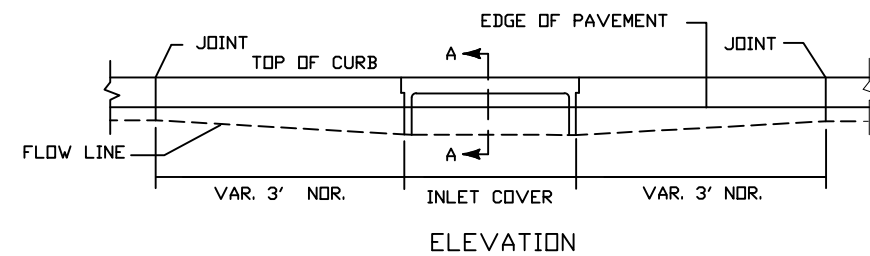


LEGEND

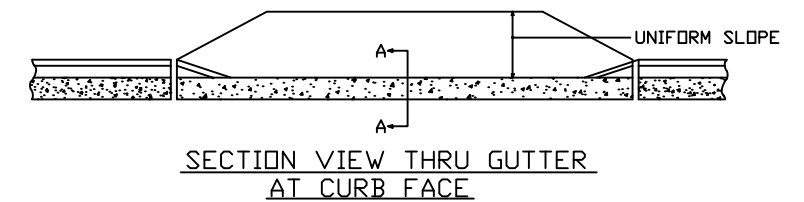
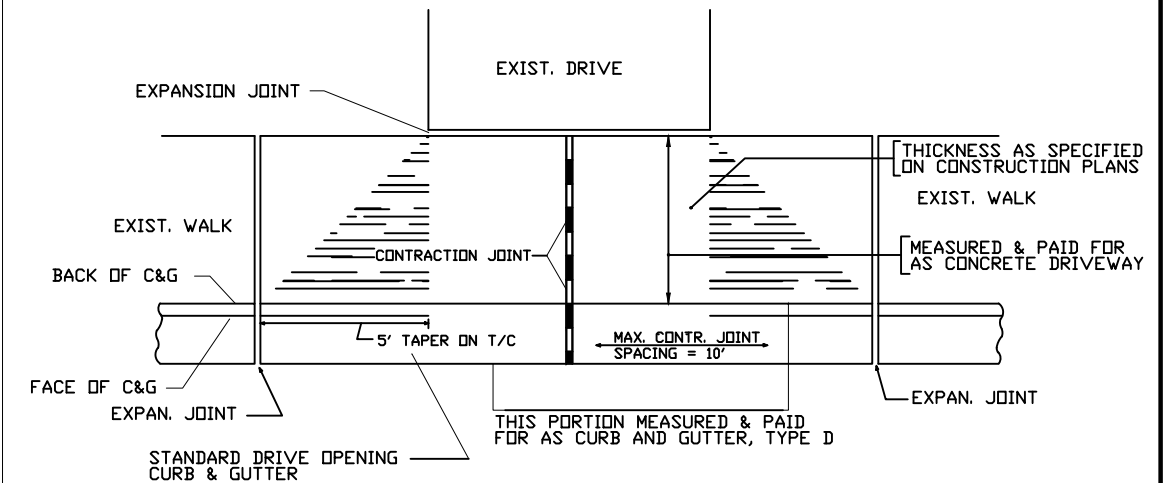
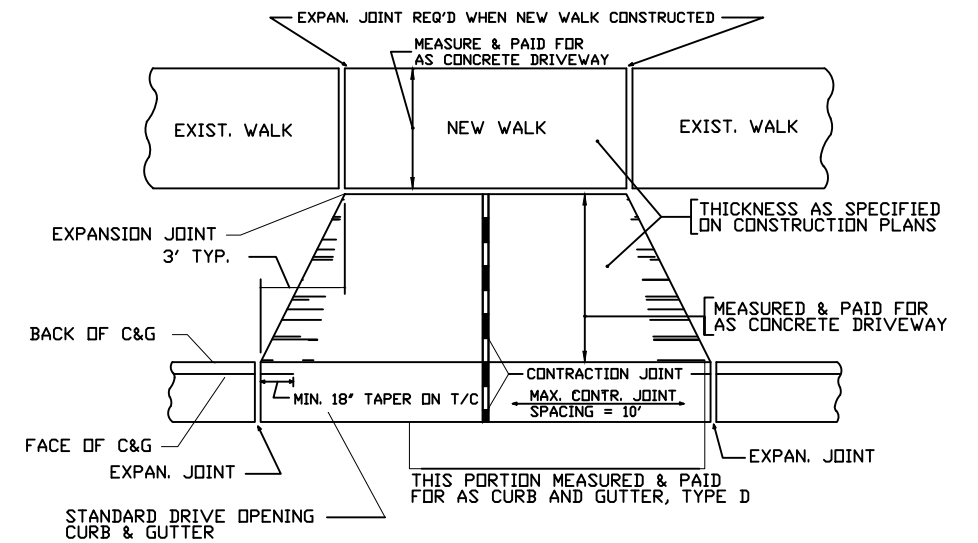
B_c = OUTSIDE DIAMETER
 H = BACKFILL COVER ABOVE TOP OF PIPE
 D = INSIDE DIAMETER
 P = AREA OF TRANSVERSE STEEL IN THE CRADLE OR ARCH EXPRESSED AS A PERCENTAGE OF AREA OF CONCRETE AT INVERT OR CROWN.

NOTE: FOR ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHOULD BE OVER EXCAVATED A MINIMUM OF 6 INCHES AND REFILLED WITH GRANULAR MATERIAL.

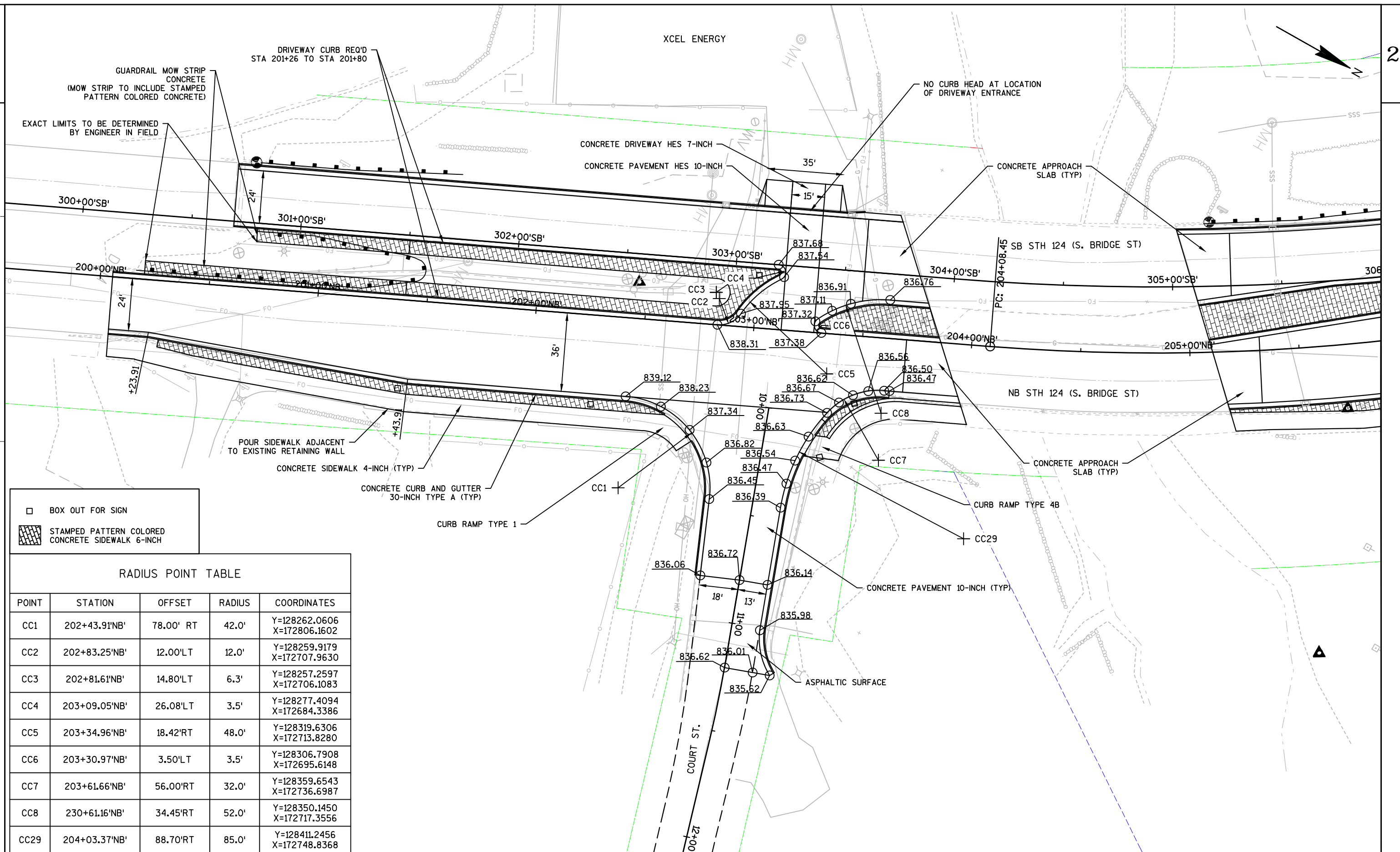
LAYING CONDITIONS FOR
SEWER PIPE



2x3-FT
CATCH BASIN



STANDARD CONCRETE
DRIVE & DRIVE OPENING



□ BOX OUT FOR SIGN

STAMPED PATTERN COLORED
CONCRETE SIDEWALK 6-INCH

RADIUS POINT TABLE

POINT	STATION	OFFSET	RADIUS	COORDINATES
CC1	202+43.91'NB'	78.00' RT	42.0'	Y=128262.0606 X=172806.1602
CC2	202+83.25'NB'	12.00'LT	12.0'	Y=128259.9179 X=172707.9630
CC3	202+81.61'NB'	14.80'LT	6.3'	Y=128257.2597 X=172706.1083
CC4	203+09.05'NB'	26.08'LT	3.5'	Y=128277.4094 X=172684.3386
CC5	203+34.96'NB'	18.42'RT	48.0'	Y=128319.6306 X=172713.8280
CC6	203+30.97'NB'	3.50'LT	3.5'	Y=128306.7908 X=172695.6148
CC7	203+61.66'NB'	56.00'RT	32.0'	Y=128359.6543 X=172736.6987
CC8	230+61.16'NB'	34.45'RT	52.0'	Y=128350.1450 X=172717.3556
CC29	204+03.37'NB'	88.70'RT	85.0'	Y=128411.2456 X=172748.8368

PROJECT NO: 7255-05-72

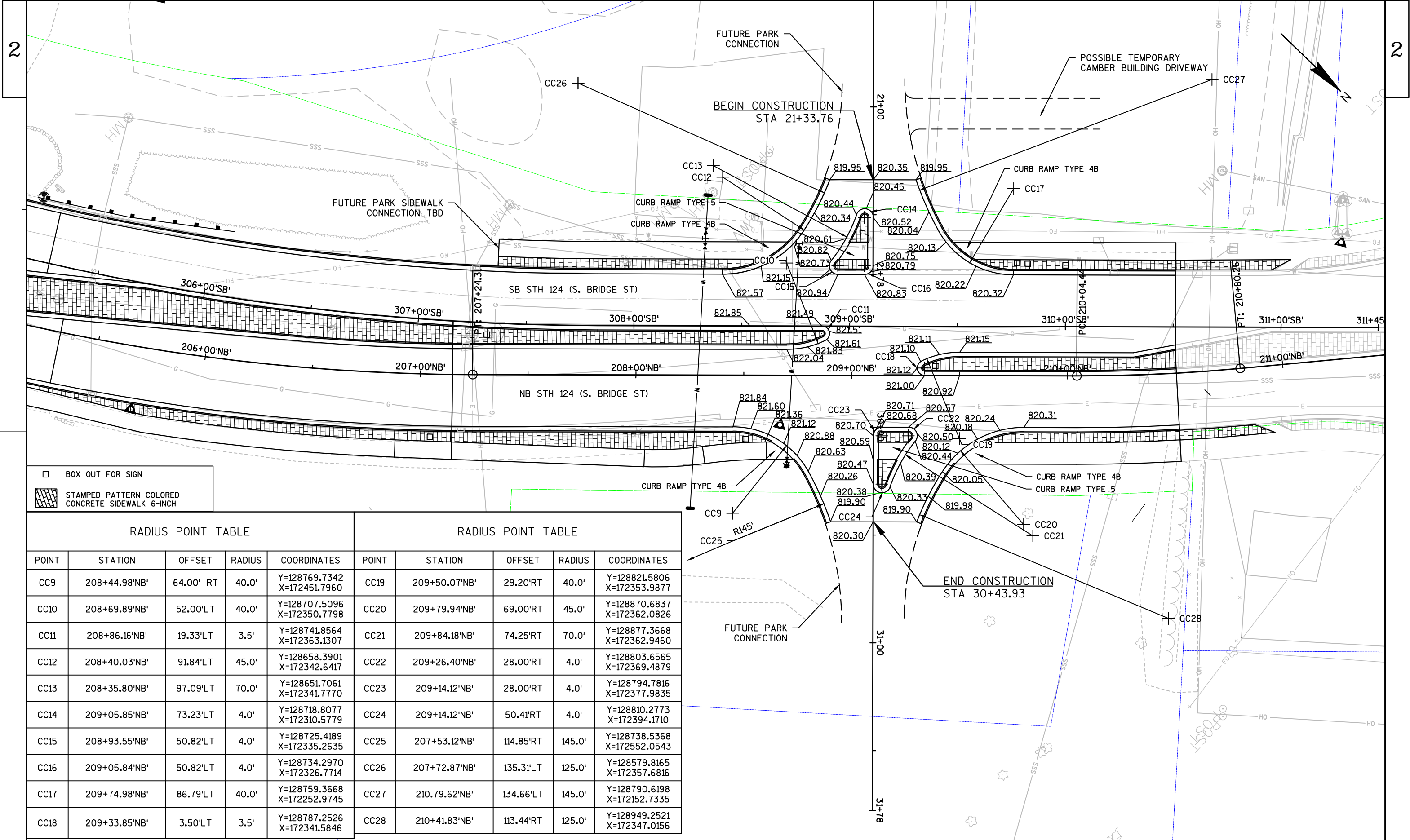
HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

INTERSECTION DETAIL

SHEET

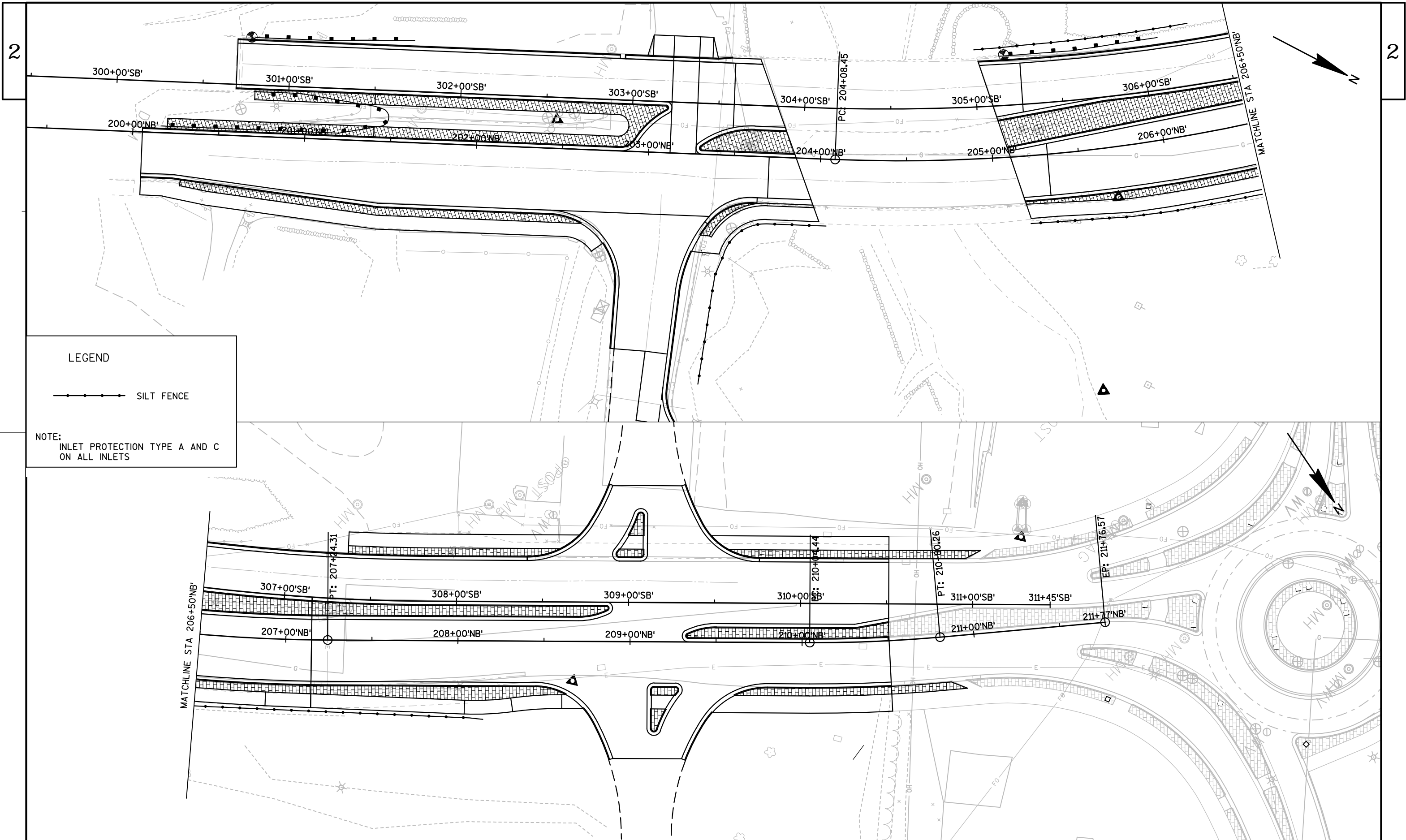
E

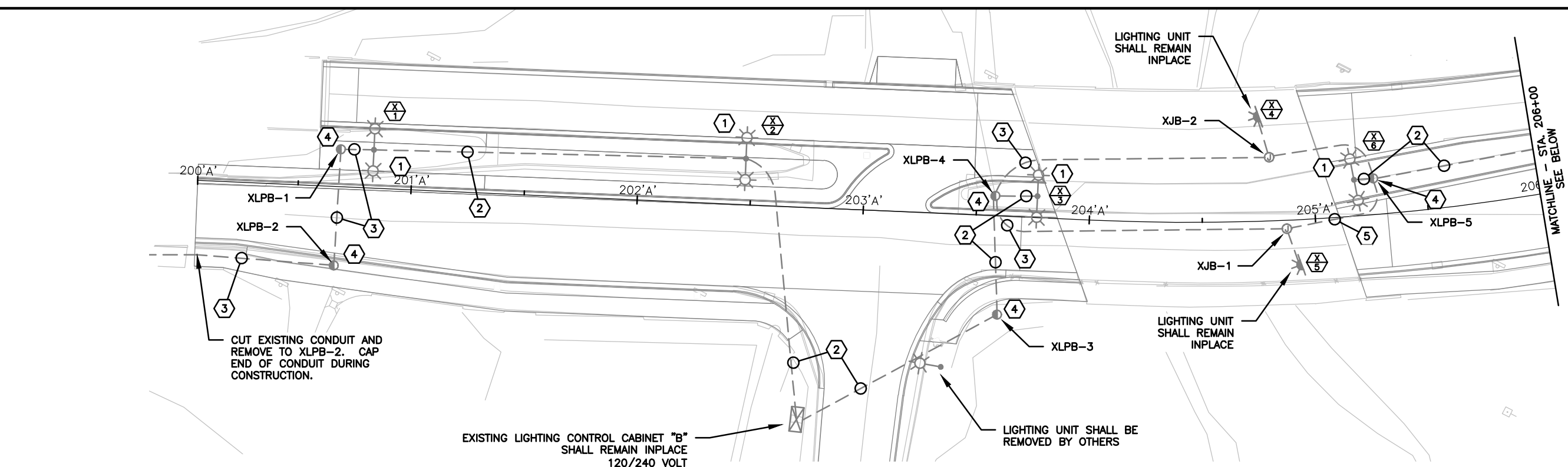


BOX OUT FOR SIGN

STAMPED PATTERN COLORED
CONCRETE SIDEWALK 6-INCH

RADIUS POINT TABLE					RADIUS POINT TABLE				
POINT	STATION	OFFSET	RADIUS	COORDINATES	POINT	STATION	OFFSET	RADIUS	COORDINATES
CC9	208+44.98'NB'	64.00' RT	40.0'	Y=128769.7342 X=172451.7960	CC19	209+50.07'NB'	29.20'RT	40.0'	Y=128821.5806 X=172353.9877
CC10	208+69.89'NB'	52.00'LT	40.0'	Y=128707.5096 X=172350.7798	CC20	209+79.94'NB'	69.00'RT	45.0'	Y=128870.6837 X=172362.0826
CC11	208+86.16'NB'	19.33'LT	3.5'	Y=128741.8564 X=172363.1307	CC21	209+84.18'NB'	74.25'RT	70.0'	Y=128877.3668 X=172362.9460
CC12	208+40.03'NB'	91.84'LT	45.0'	Y=128658.3901 X=172342.6417	CC22	209+26.40'NB'	28.00'RT	4.0'	Y=128803.6565 X=172369.4879
CC13	208+35.80'NB'	97.09'LT	70.0'	Y=128651.7061 X=172341.7770	CC23	209+14.12'NB'	28.00'RT	4.0'	Y=128794.7816 X=172377.9835
CC14	209+05.85'NB'	73.23'LT	4.0'	Y=128718.8077 X=172310.5779	CC24	209+14.12'NB'	50.41'RT	4.0'	Y=128810.2773 X=172394.1710
CC15	208+93.55'NB'	50.82'LT	4.0'	Y=128725.4189 X=172335.2635	CC25	207+53.12'NB'	114.85'RT	145.0'	Y=128738.5368 X=172552.0543
CC16	209+05.84'NB'	50.82'LT	4.0'	Y=128734.2970 X=172326.7714	CC26	207+72.87'NB'	135.31'LT	125.0'	Y=128579.8165 X=172357.6816
CC17	209+74.98'NB'	86.79'LT	40.0'	Y=128759.3668 X=172252.9745	CC27	210+79.62'NB'	134.66'LT	145.0'	Y=128790.6198 X=172152.7335
CC18	209+33.85'NB'	3.50'LT	3.5'	Y=128787.2526 X=172341.5846	CC28	210+41.83'NB'	113.44'RT	125.0'	Y=128949.2521 X=172347.0156

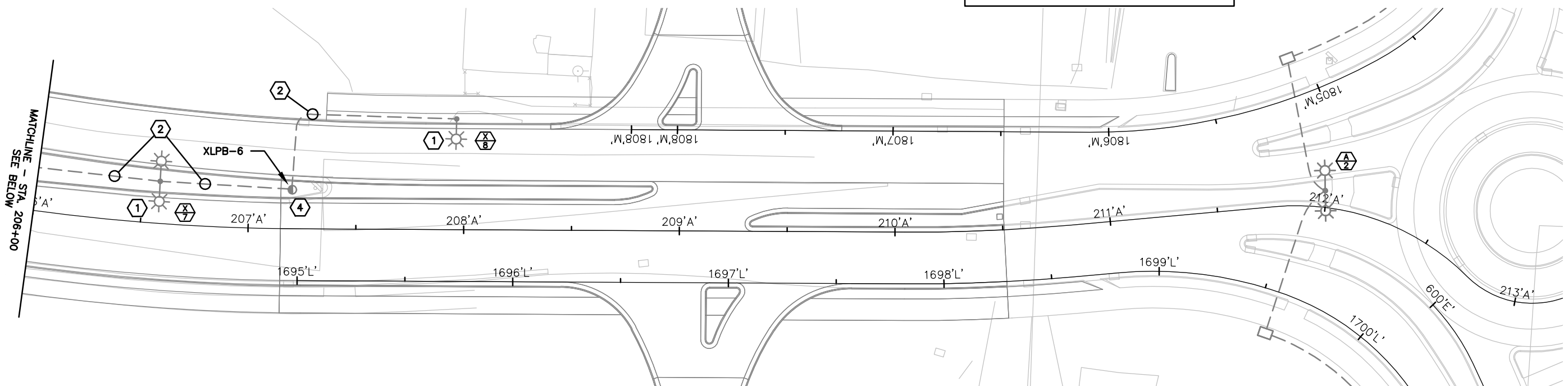
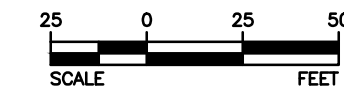
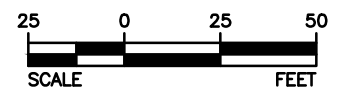


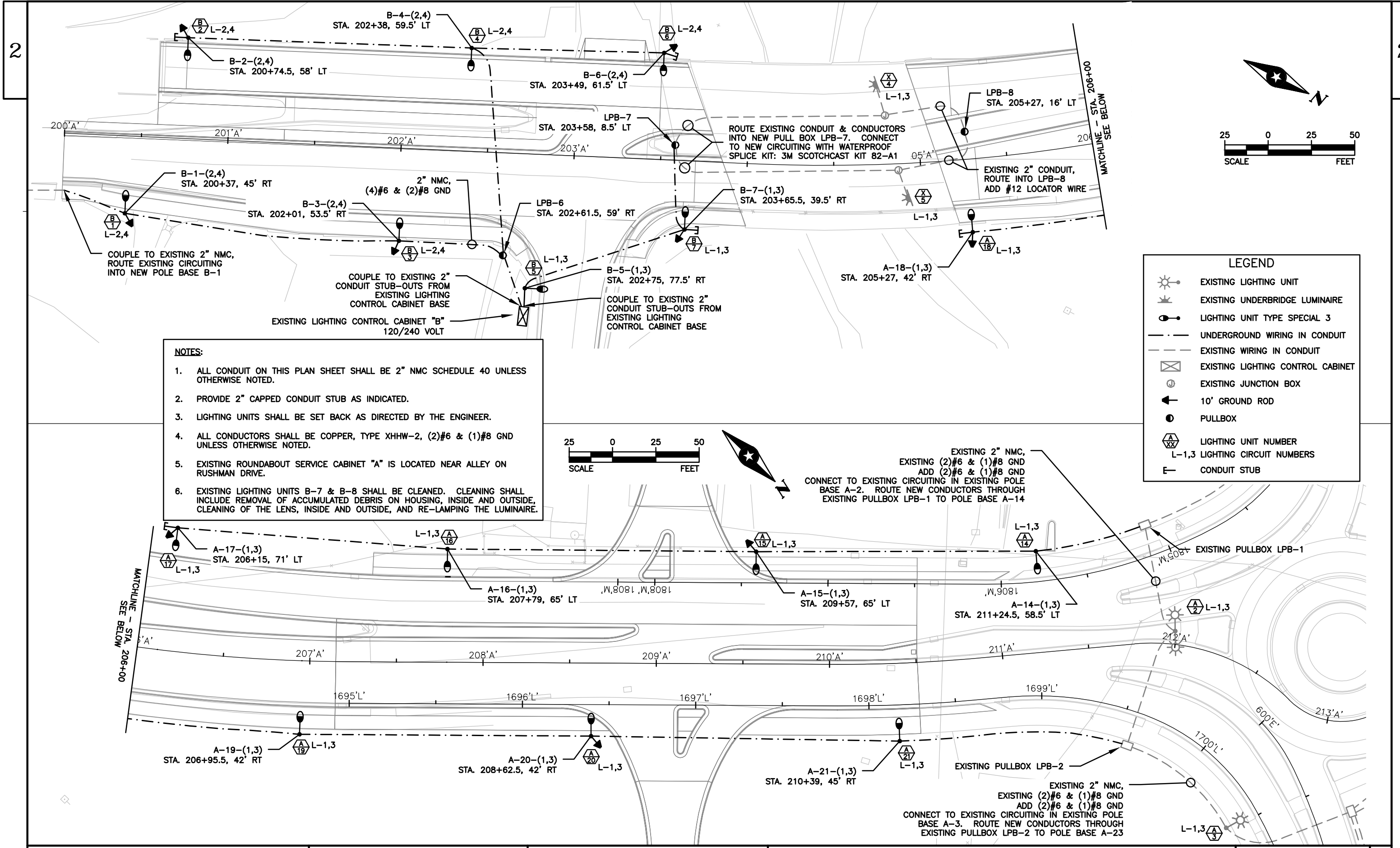


- KEYED NOTES:**
- 1. SALVAGE LIGHTING UNIT AND REMOVE CONCRETE BASE.
 - 2. REMOVE CONDUIT AND CONDUCTORS.
 - 3. DISCONNECT, PULL BACK, AND PROTECT EXISTING CONDUCTORS.
 - 4. REMOVE PULLBOX.
 - 5. DISCONNECT AND REMOVE EXISTING CONDUCTORS.

LEGEND

	EXISTING LIGHTING UNIT
	EXISTING LIGHTING UNIT
	EXISTING UNDERBRIDGE LUMINAIRE
	EXISTING WIRING IN CONDUIT
	EXISTING LIGHTING CONTROL CABINET
	EXISTING PULLBOX
	LIGHTING UNIT NUMBER
	EXISTING JUNCTION BOX

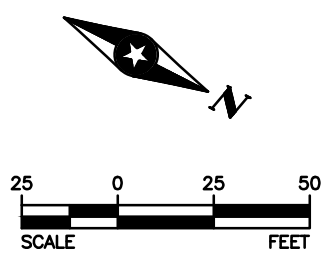
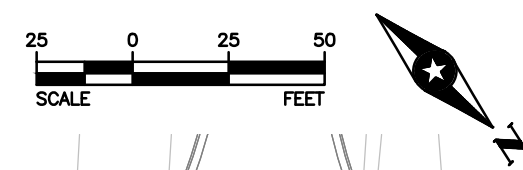





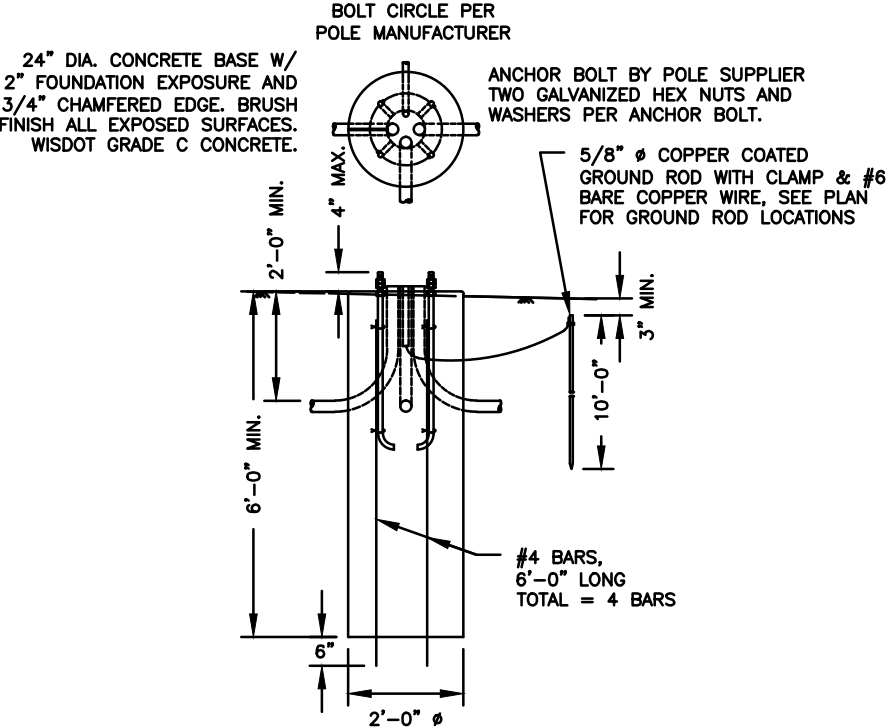
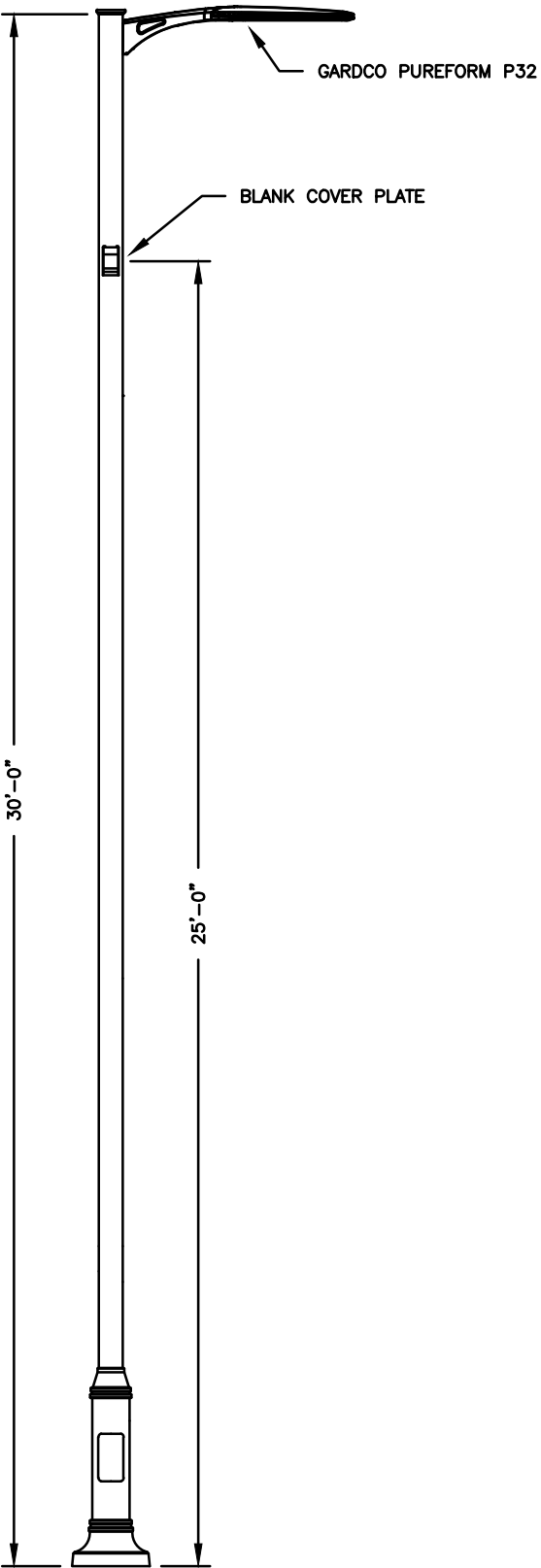
- NOTES:**
1. ALL CONDUIT ON THIS PLAN SHEET SHALL BE 2" NMC SCHEDULE 40 UNLESS OTHERWISE NOTED.
 2. PROVIDE 2" CAPPED CONDUIT STUB AS INDICATED.
 3. LIGHTING UNITS SHALL BE SET BACK AS DIRECTED BY THE ENGINEER.
 4. ALL CONDUCTORS SHALL BE COPPER, TYPE XHHW-2, (2)#6 & (1)#8 GND UNLESS OTHERWISE NOTED.
 5. EXISTING ROUNDABOUT SERVICE CABINET "A" IS LOCATED NEAR ALLEY ON RUSHMAN DRIVE.
 6. EXISTING LIGHTING UNITS B-7 & B-8 SHALL BE CLEANED. CLEANING SHALL INCLUDE REMOVAL OF ACCUMULATED DEBRIS ON HOUSING, INSIDE AND OUTSIDE, CLEANING OF THE LENS, INSIDE AND OUTSIDE, AND RE-LAMPING THE LUMINAIRE.

LEGEND

- EXISTING LIGHTING UNIT
- EXISTING UNDERBRIDGE LUMINAIRE
- LIGHTING UNIT TYPE SPECIAL 3
- UNDERGROUND WIRING IN CONDUIT
- EXISTING WIRING IN CONDUIT
- EXISTING LIGHTING CONTROL CABINET
- EXISTING JUNCTION BOX
- 10' GROUND ROD
- PULLBOX
- LIGHTING UNIT NUMBER
- L-1,3 LIGHTING CIRCUIT NUMBERS
- CONDUIT STUB

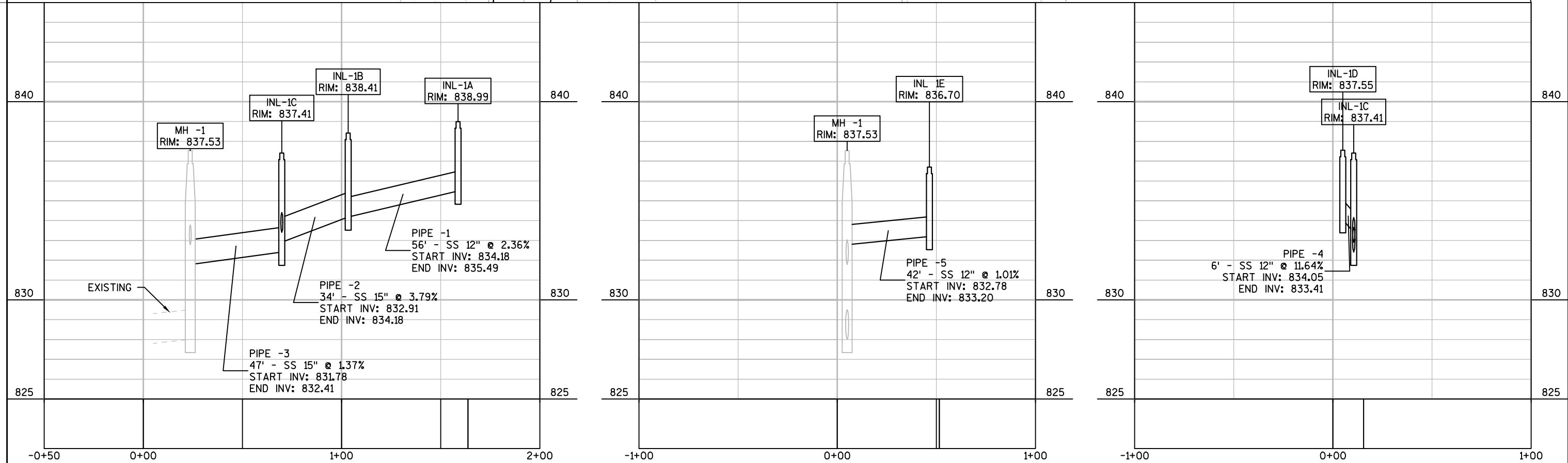
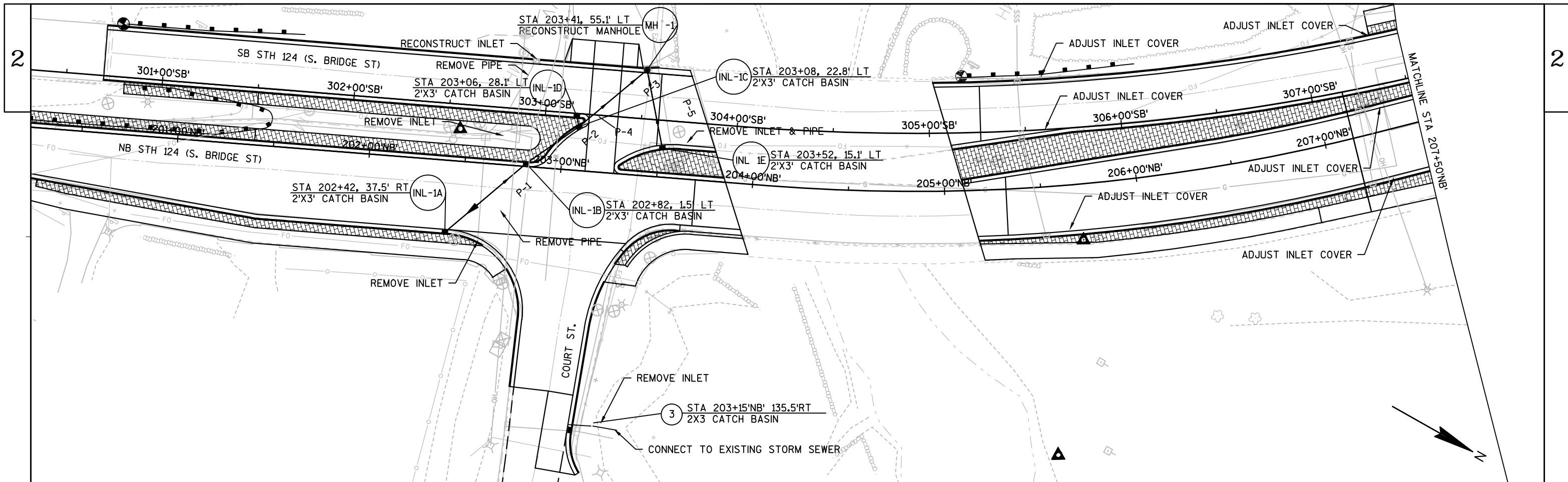


EQUIPMENT SCHEDULE					
SYMBOL	DESCRIPTION	LAMP SOURCE	MOUNTING	OPTICS	MANUFACTURER & SERIES #
	LIGHTING UNIT TYPE SPECIAL 3 LED LUMINAIRE ON ROUND BOTTLENECK ALUMINUM POLE W/ DECORATIVE ARM AND BLANK COVER PLATE	160 WATT 96 LED 4000K	30' POLE ON CONCRETE BASE TYPE SPECIAL	TYPE III	GARDCO - LUMINAIRE: P32-A3-1-160LA-3-NW-UNIV-BRP-CDMGP HAPCO - POLE: RTA-30-SKT8052013B



CONCRETE BASE TYPE SPECIAL DETAIL

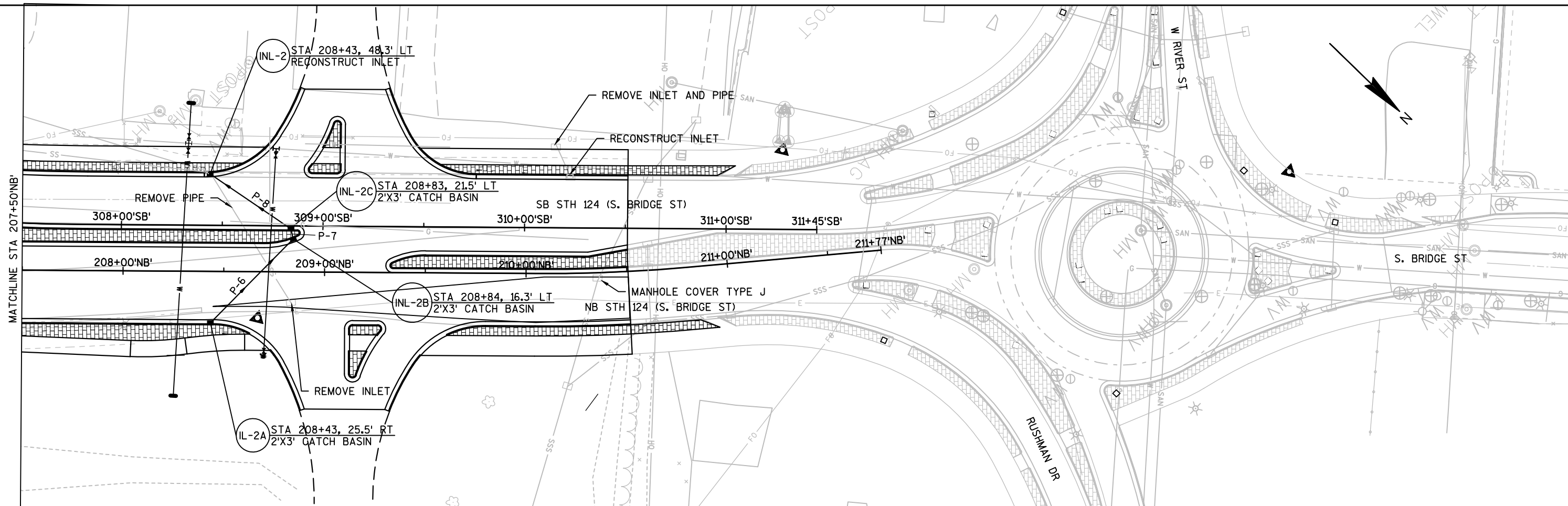
LIGHTING UNIT TYPE SPECIAL DETAIL



PROJECT NO: 7255-05-72	HWY: STH 124 (S. BRIDGE ST)	COUNTY: CHIPPEWA	STORM SEWER	SHEET	-----	E
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2

2



820

820

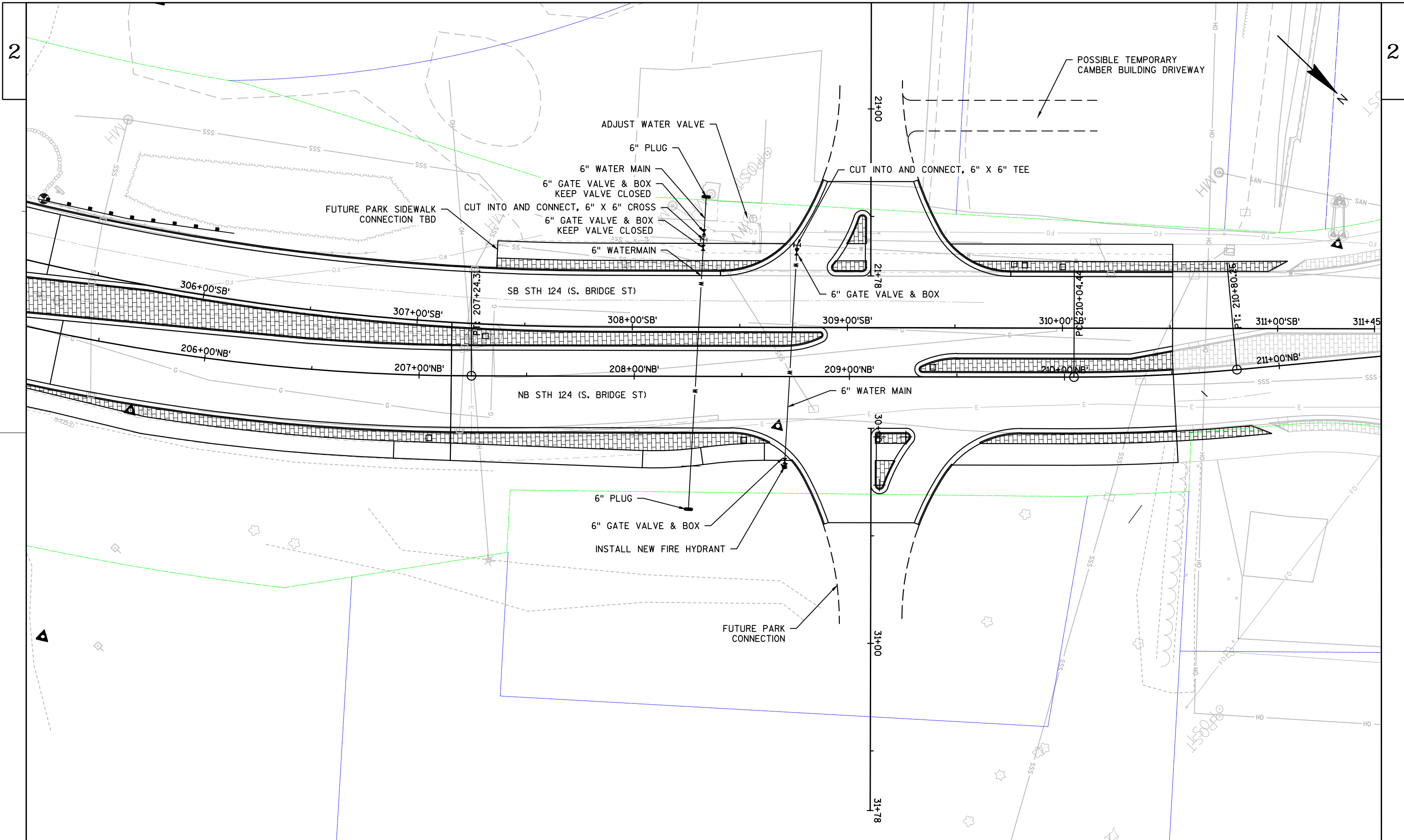
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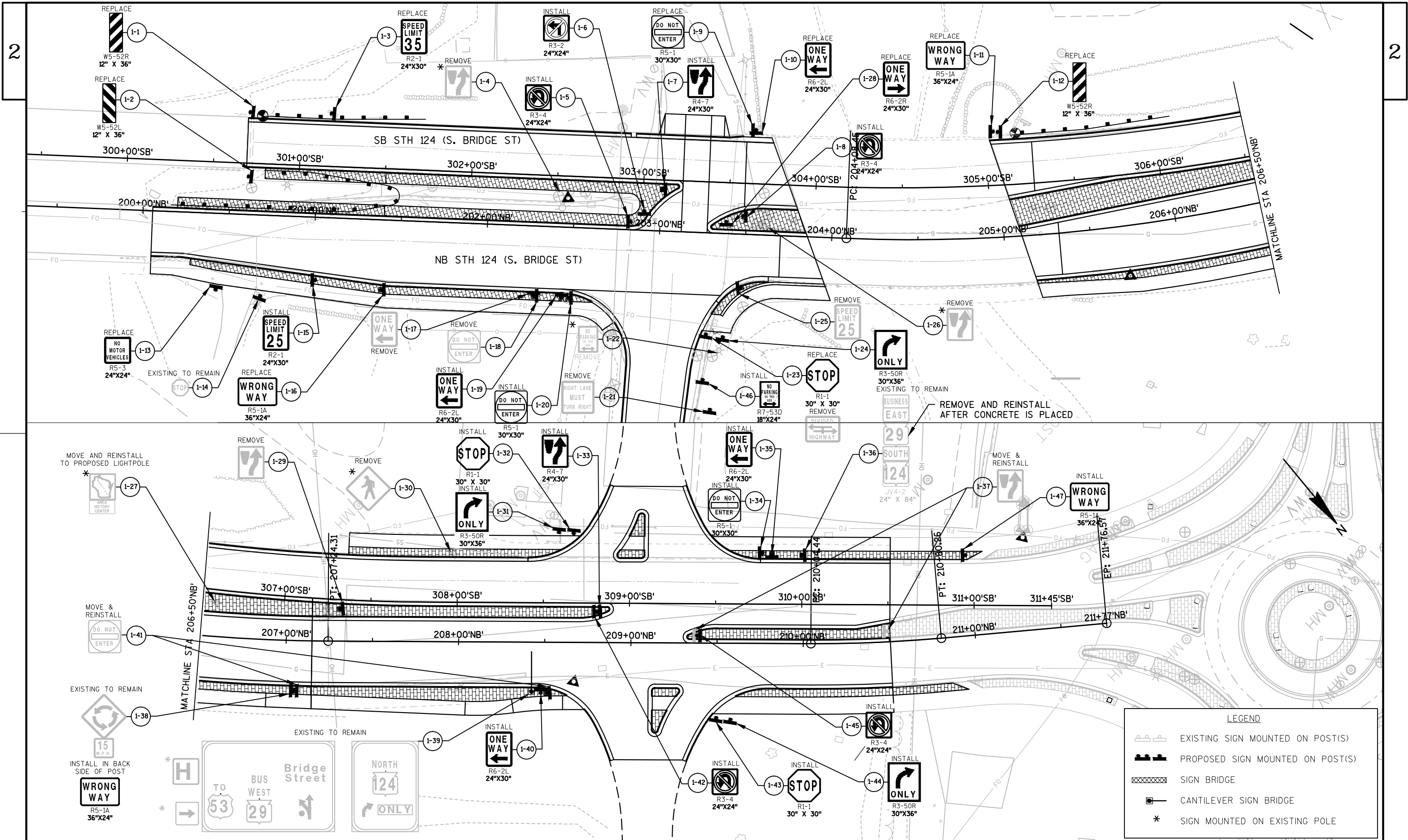
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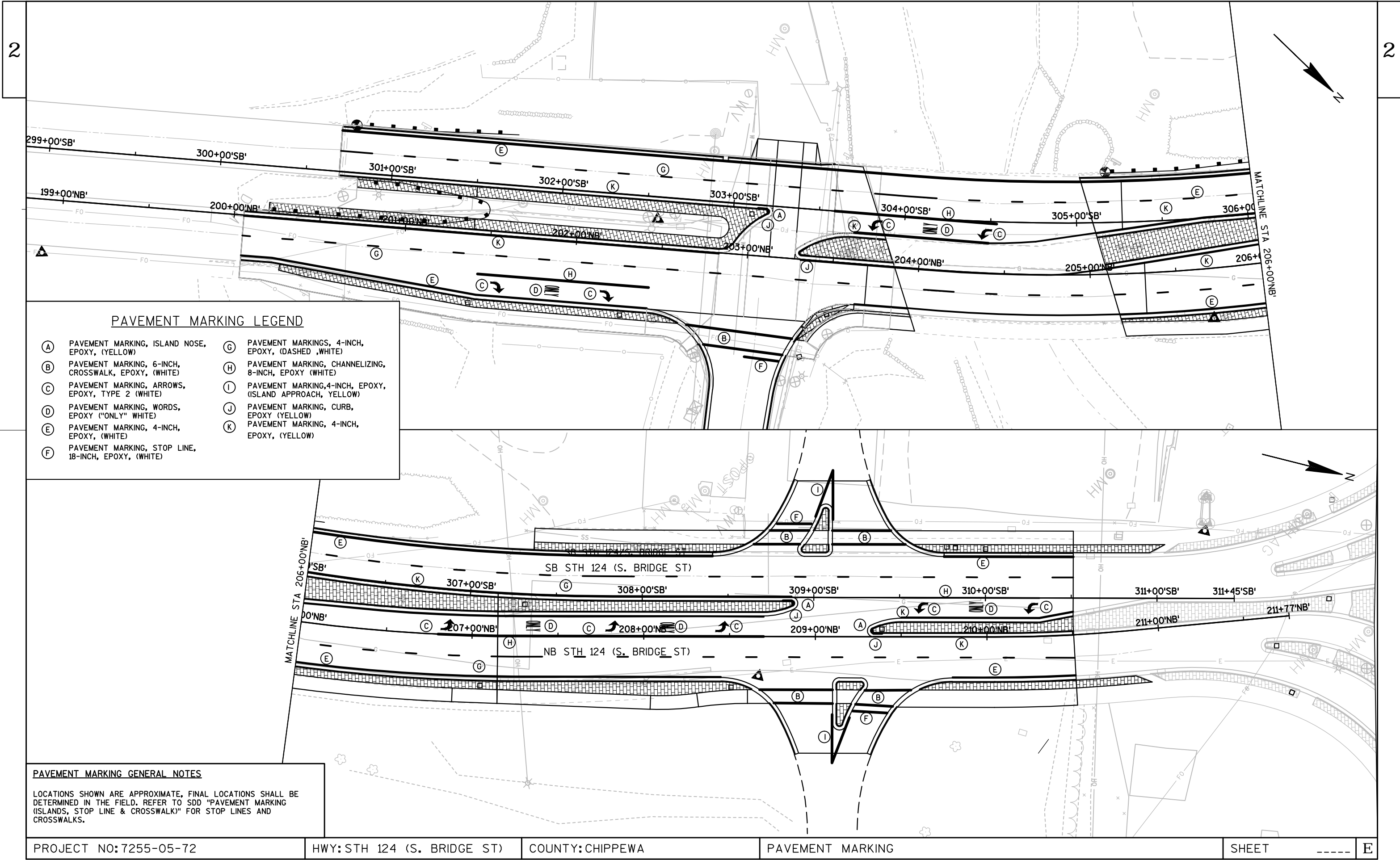
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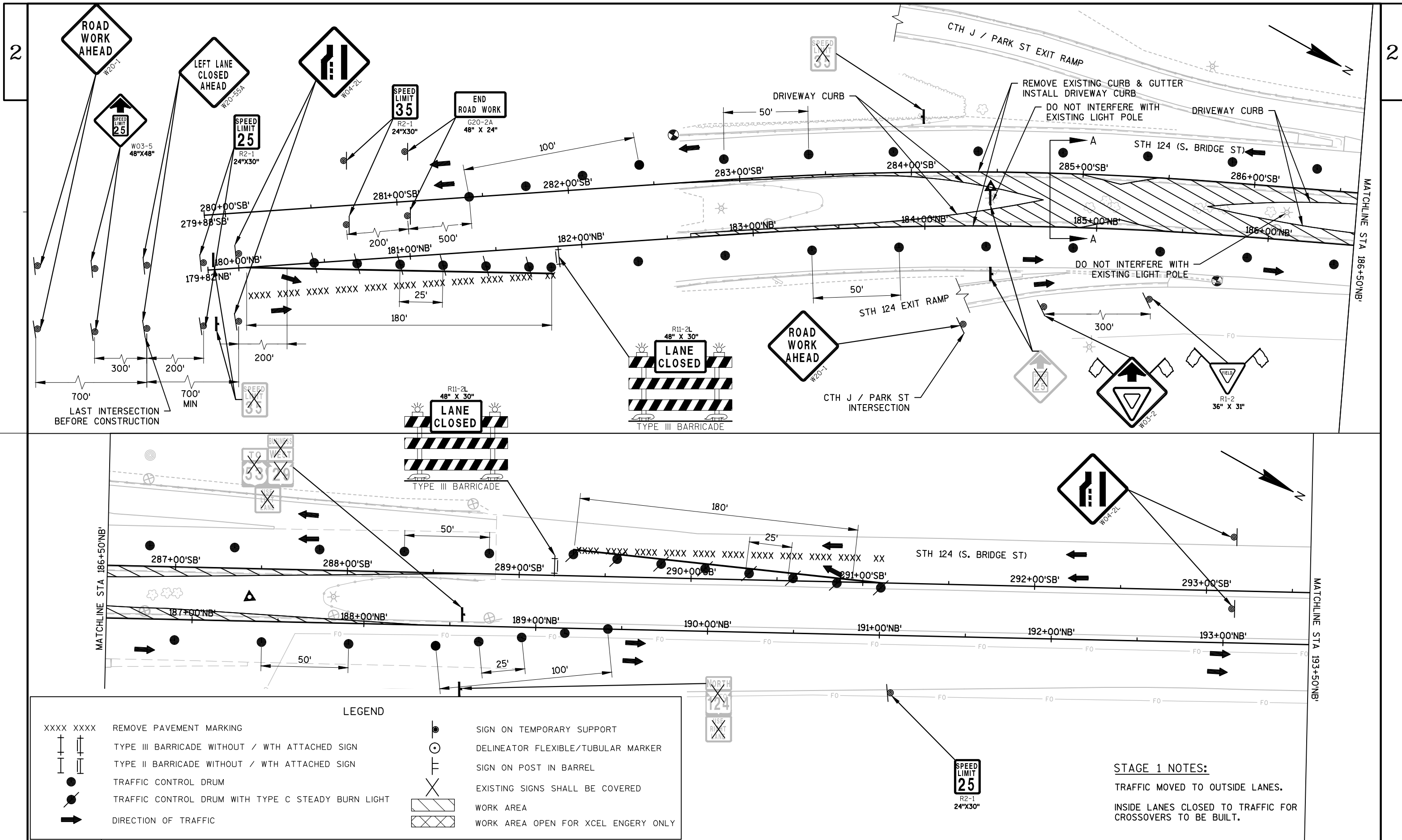
PROJECT NO: 7255-05-72	HWY: STH 124 (S. BRIDGE ST)	COUNTY: CHIPPEWA	STORM SEWER	SHEET	----	E
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







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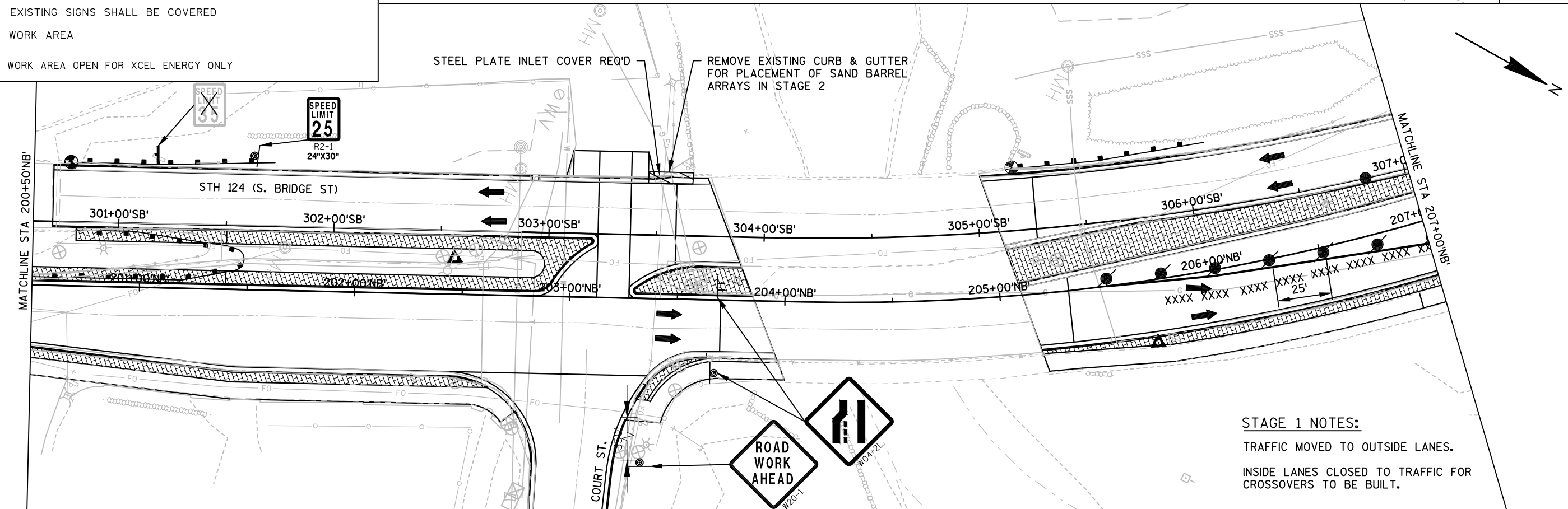
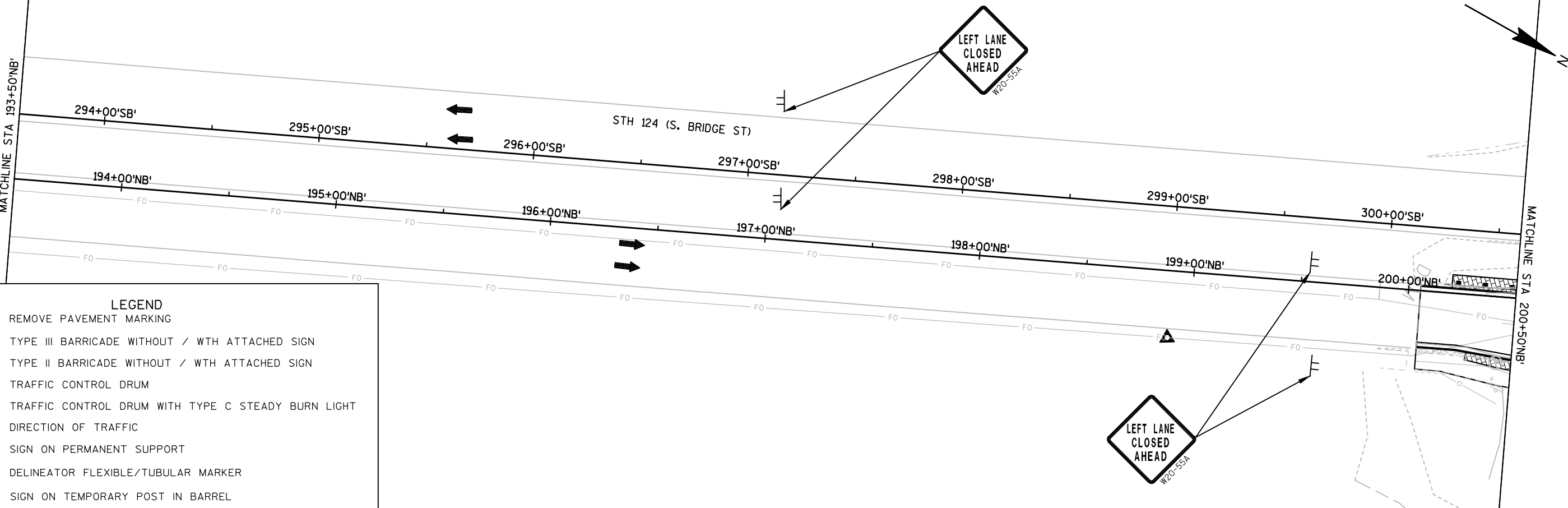








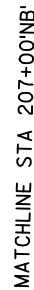
LEGEND	
XXXX XXXX	REMOVE PAVEMENT MARKING
	TYPE III BARRICADE WITHOUT / WTH ATTACHED SIGN
	TYPE II BARRICADE WITHOUT / WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	DIRECTION OF TRAFFIC
	SIGN ON PERMANENT SUPPORT
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	SIGN ON TEMPORARY POST IN BARREL
	EXISTING SIGNS SHALL BE COVERED
	WORK AREA
	WORK AREA OPEN FOR XCEL ENERGY ONLY

**STAGE 1 NOTES:**

TRAFFIC MOVED TO OUTSIDE LANES.

INSIDE LANES CLOSED TO TRAFFIC FOR CROSSOVERS TO BE BUILT.












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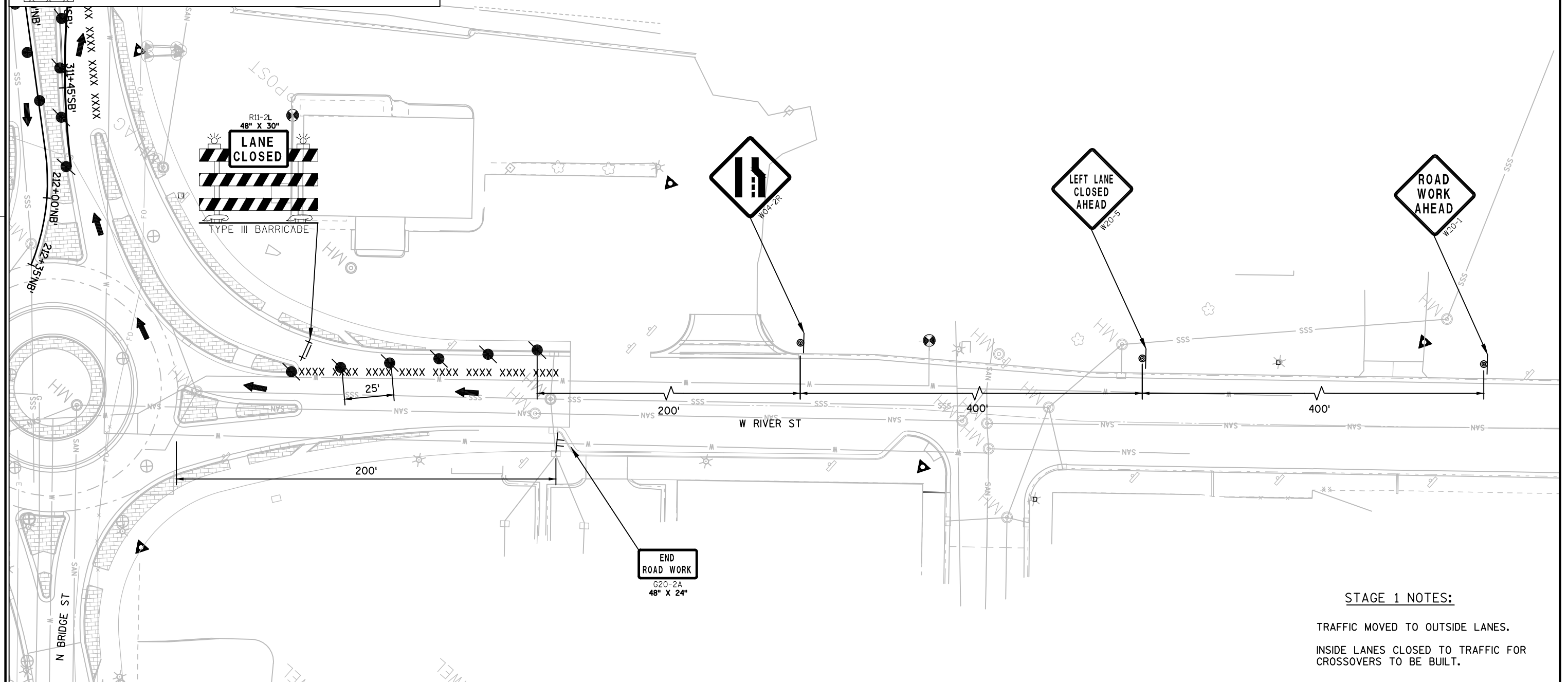


TRAFFIC MOVED TO OUTSIDE LANES.
INSIDE LANES CLOSED TO TRAFFIC FOR
CROSSOVERS TO BE BUILT.

E

WISDOT/CADDS SHEET 42

LEGEND	
XXXX XXXX	REMOVE PAVEMENT MARKING
	TYPE III BARRICADE WITHOUT / WTH ATTACHED SIGN
	TYPE II BARRICADE WITHOUT / WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	DIRECTION OF TRAFFIC
	SIGN ON PERMANENT SUPPORT
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	SIGN ON TEMPORARY POST IN BARREL
	EXISTING SIGNS SHALL BE COVERED
	WORK AREA
	WORK AREA OPEN FOR XCEL ENERGY ONLY

**STAGE 1 NOTES:**

TRAFFIC MOVED TO OUTSIDE LANES.
INSIDE LANES CLOSED TO TRAFFIC FOR
CROSSOVERS TO BE BUILT.

PROJECT NO: 7255-05-72

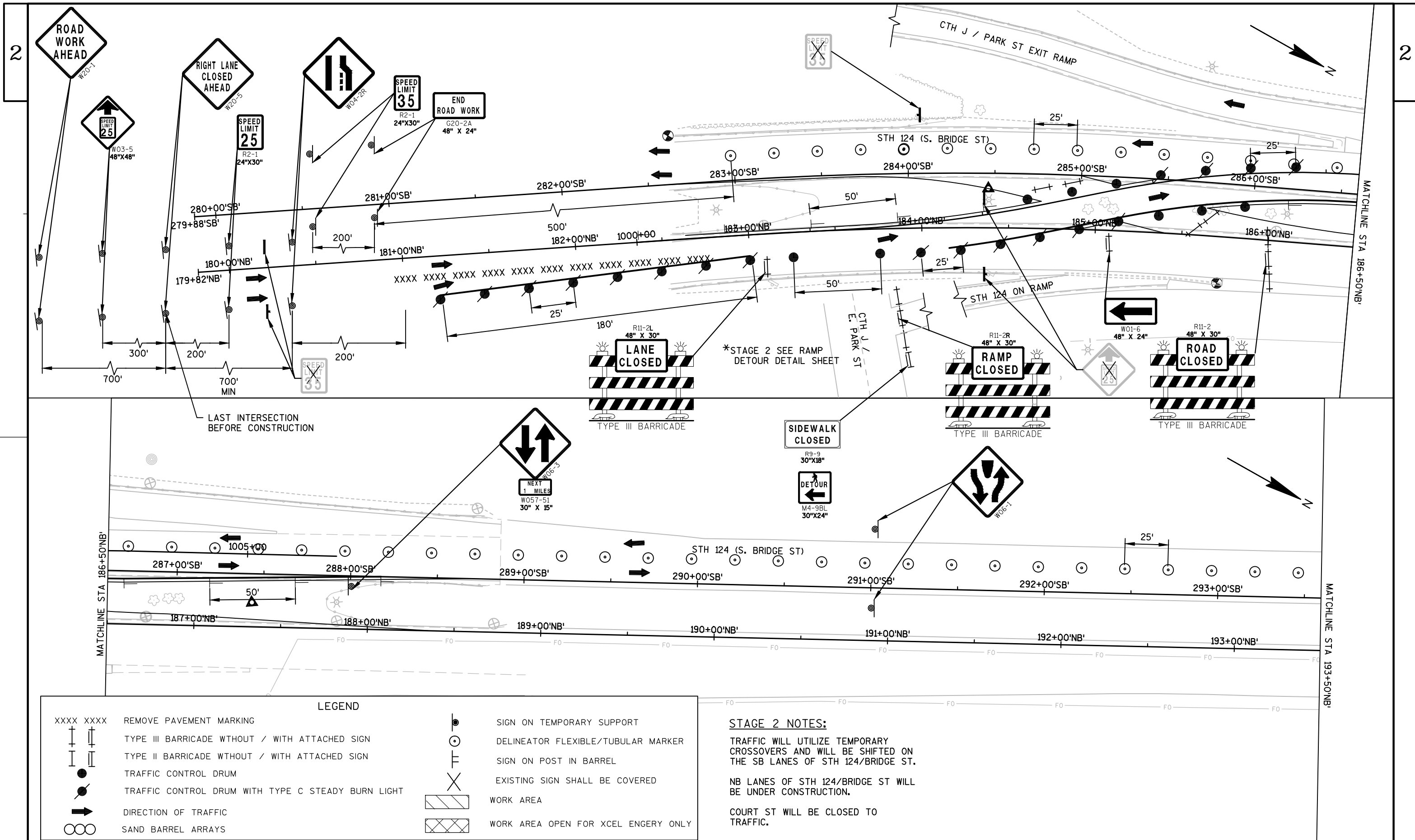
HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

TRAFFIC CONTROL STAGE 1

SHEET

E



LEGEND

XXXX XXXX REMOVE PAVEMENT MARKING

TYPE III BARRICADE WITHOUT / WITH ATTACHED SIGN

TYPE II BARRICADE WITHOUT / WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT

DIRECTION OF TRAFFIC

SIGN ON PERMANENT SUPPORT

SAND BARREL ARRAYS

DELINEATOR FLEXIBLE/TUBULAR MARKER

SIGN ON TEMPORARY POST IN BARREL

EXISTING SIGN SHALL BE COVERED

WORK AREA

WORK AREA OPEN FOR XCEL ENERGY ONLY

STAGE 2 NOTES:

TRAFFIC WILL UTILIZE TEMPORARY CROSSOVERS AND WILL BE SHIFTED ON THE SB LANES OF STH 124/BRIDGE ST.

NB LANES OF STH 124/BRIDGE ST WILL BE UNDER CONSTRUCTION.

COURT ST WILL BE CLOSED TO TRAFFIC.

SAND BARREL ARRAYS. FOR REFERENCE ONLY. COORDINATE WITH MANUFACTURER DESIGN DETAILS



10-15' TYP



SIDEWALK CLOSED

R9-9 30\"/>



TYPE III BARRICADE

STA 205+16 - 205+50 DO NOT INSTALL CURB & GUTTER OR STAMPED PATTERN COLORED CONCRETE SIDEWALK UNTIL STAGE 4

SIDEWALK CLOSED

EXISTING MULTI USE PATH SEE DETAIL

SPEED LIMIT 25

R2-1 24\"/>



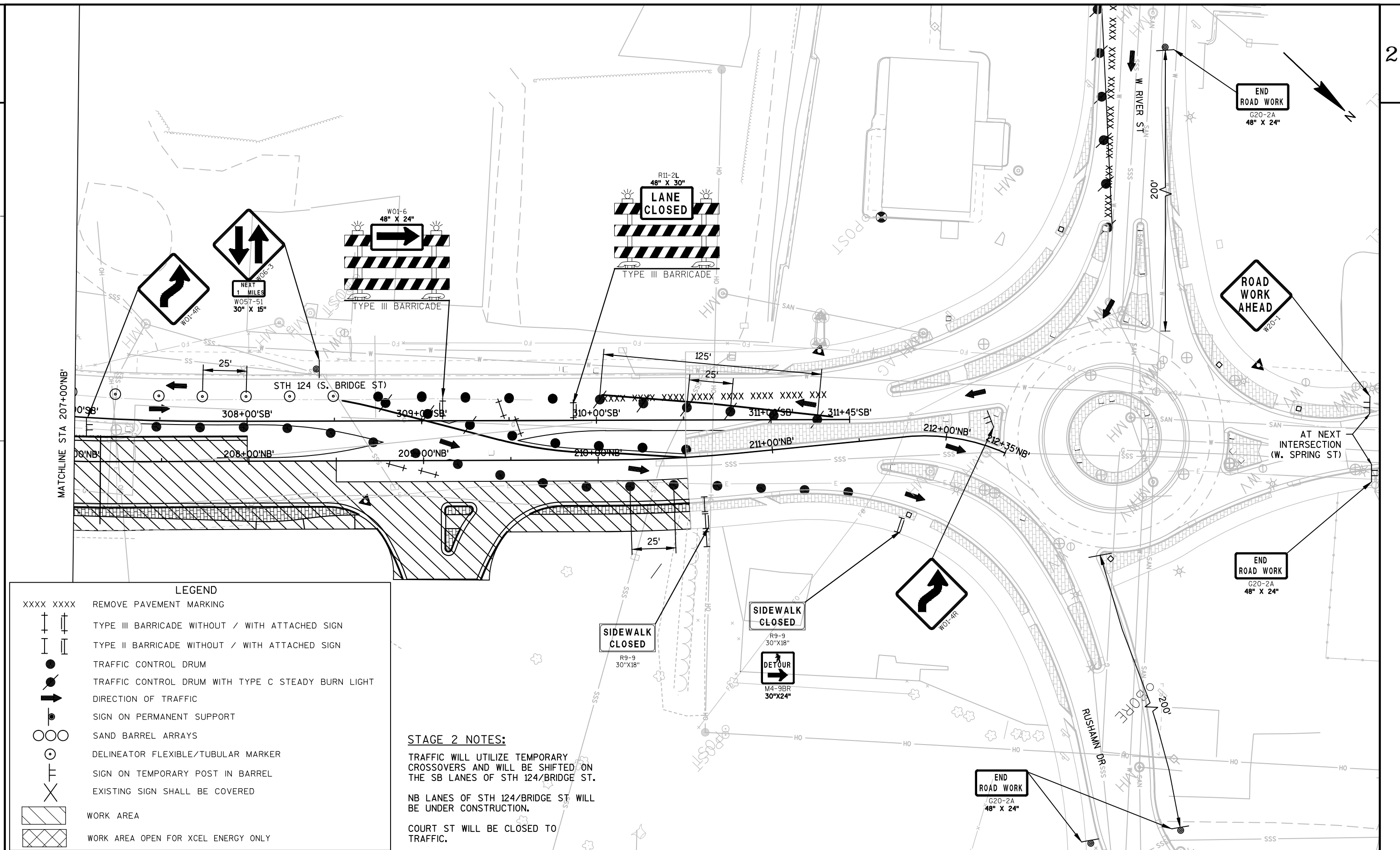
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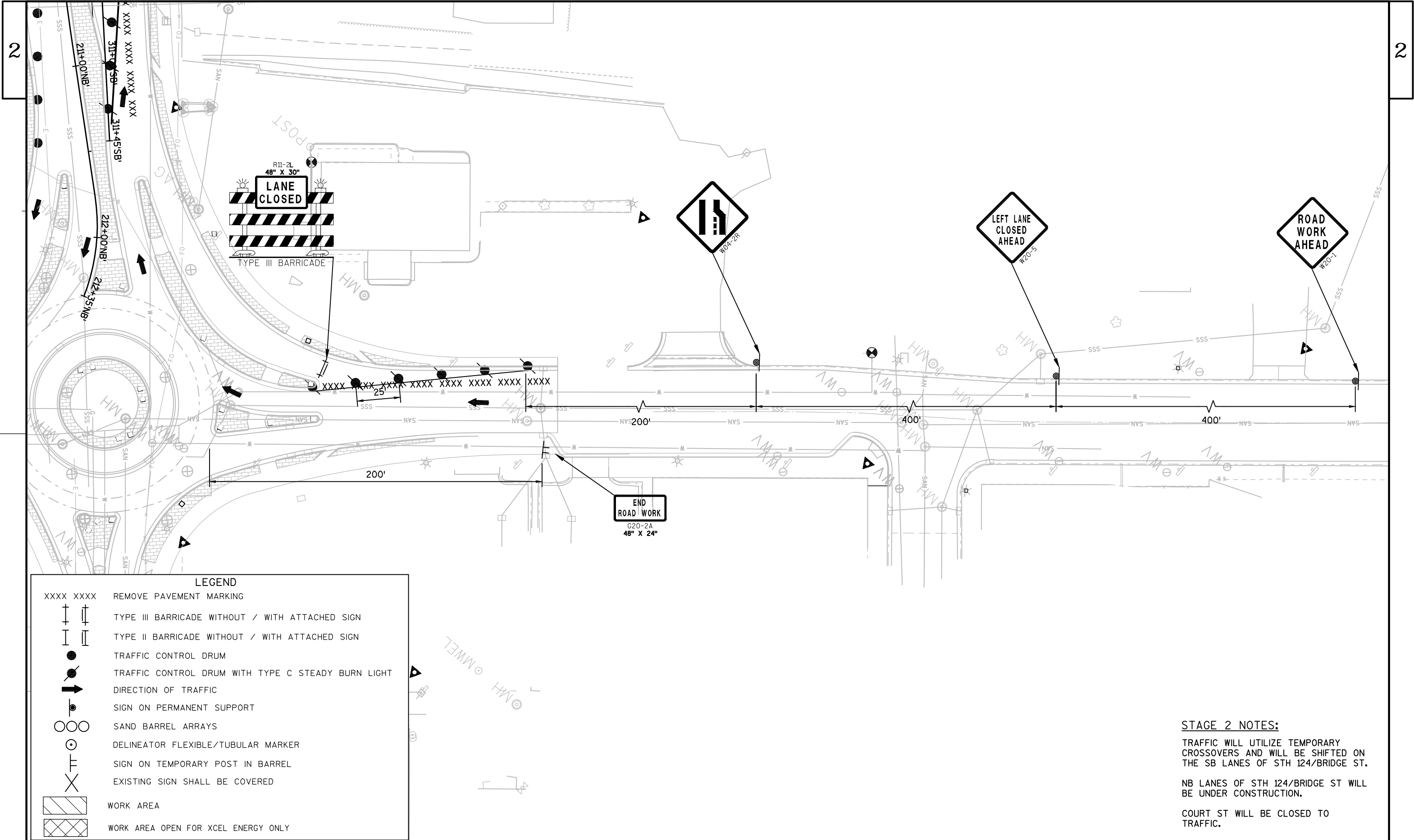
TYPE III BARRICADE

COURT ST.

PUMPHOUSE RD.

EXISTING MULTI USE PATH DETAIL



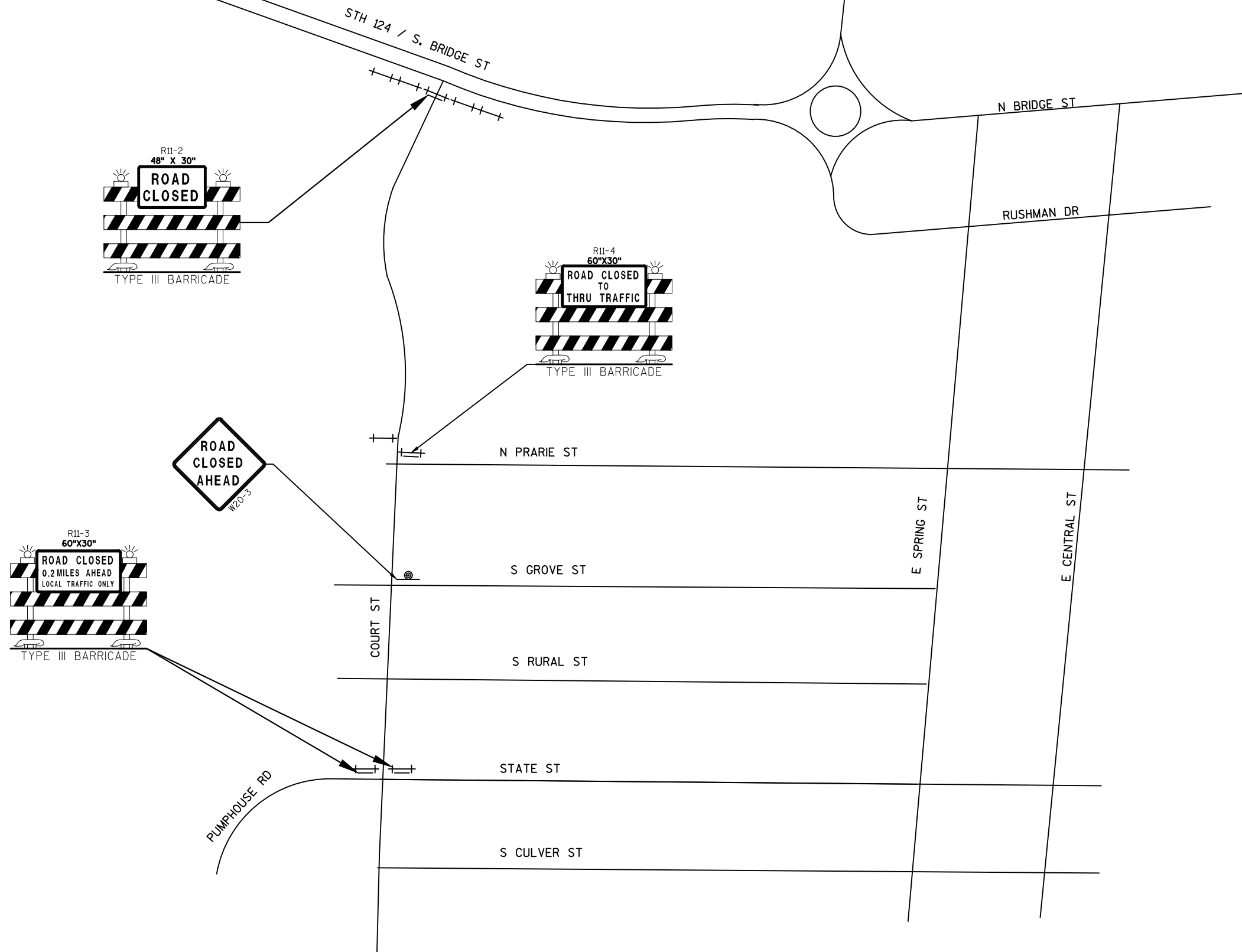


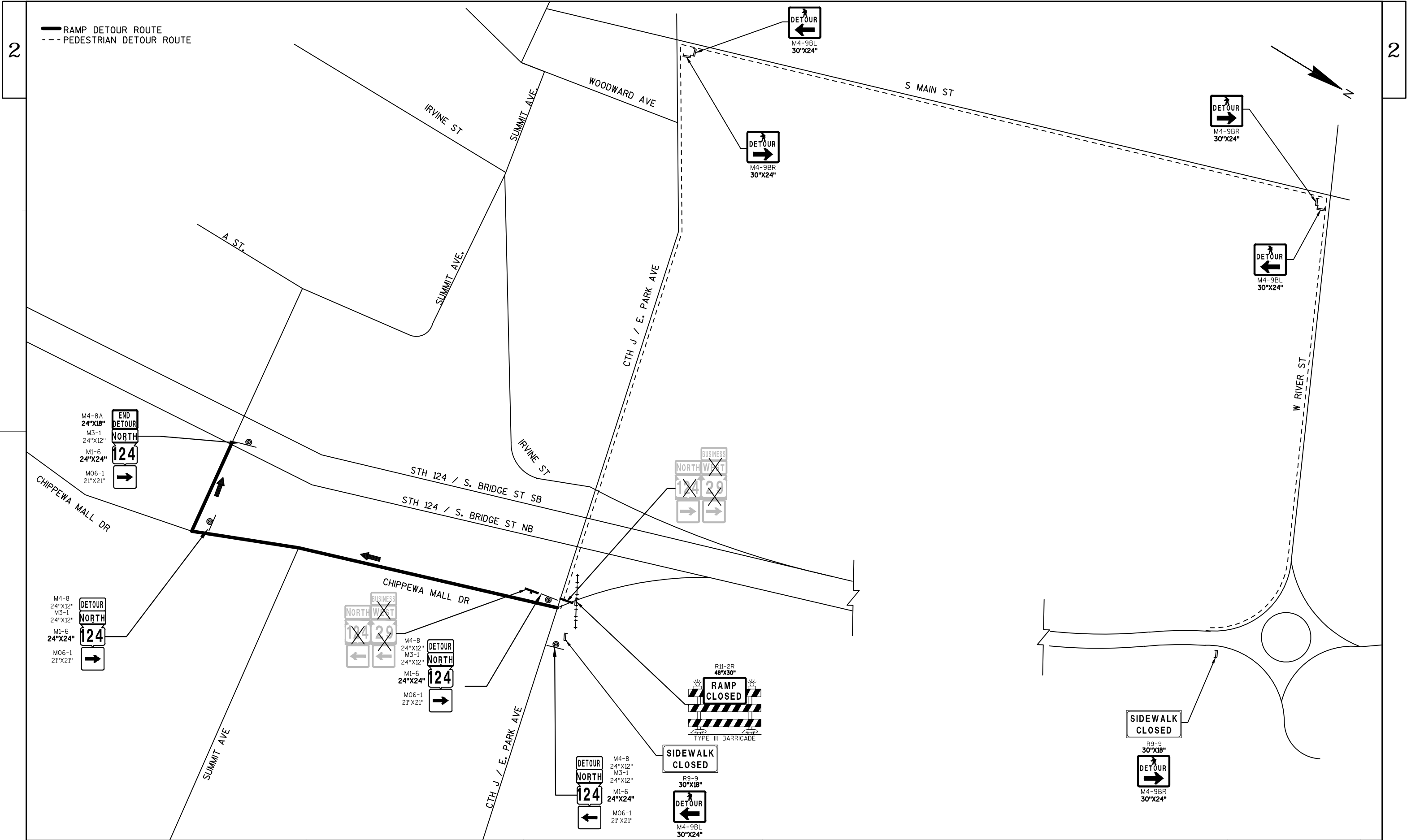
STAGE 2 NOTES:

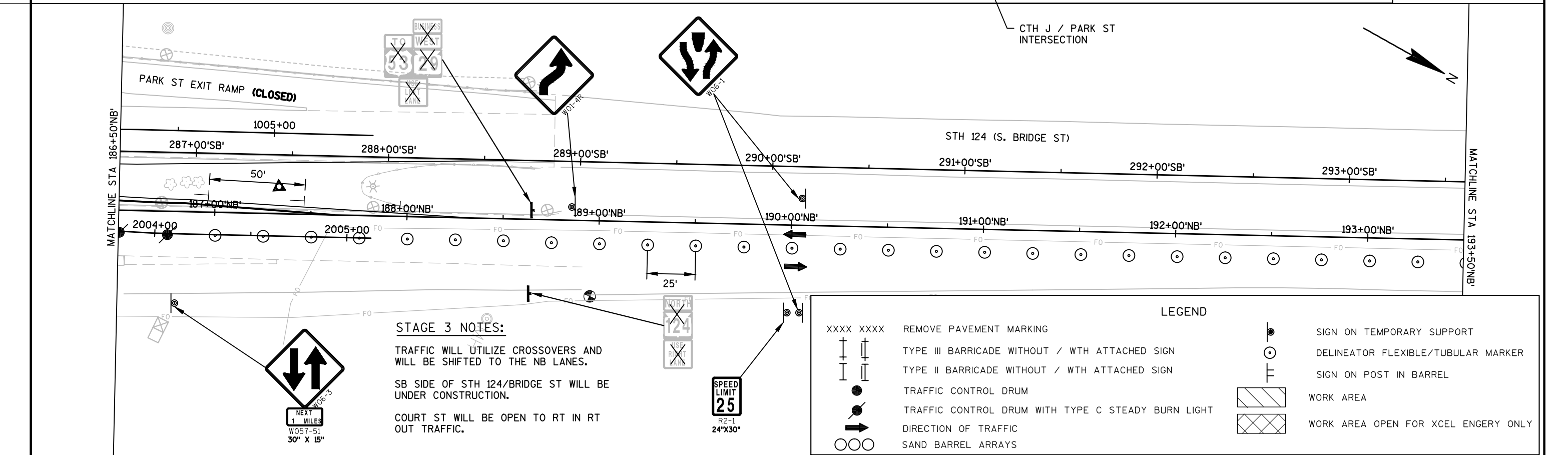
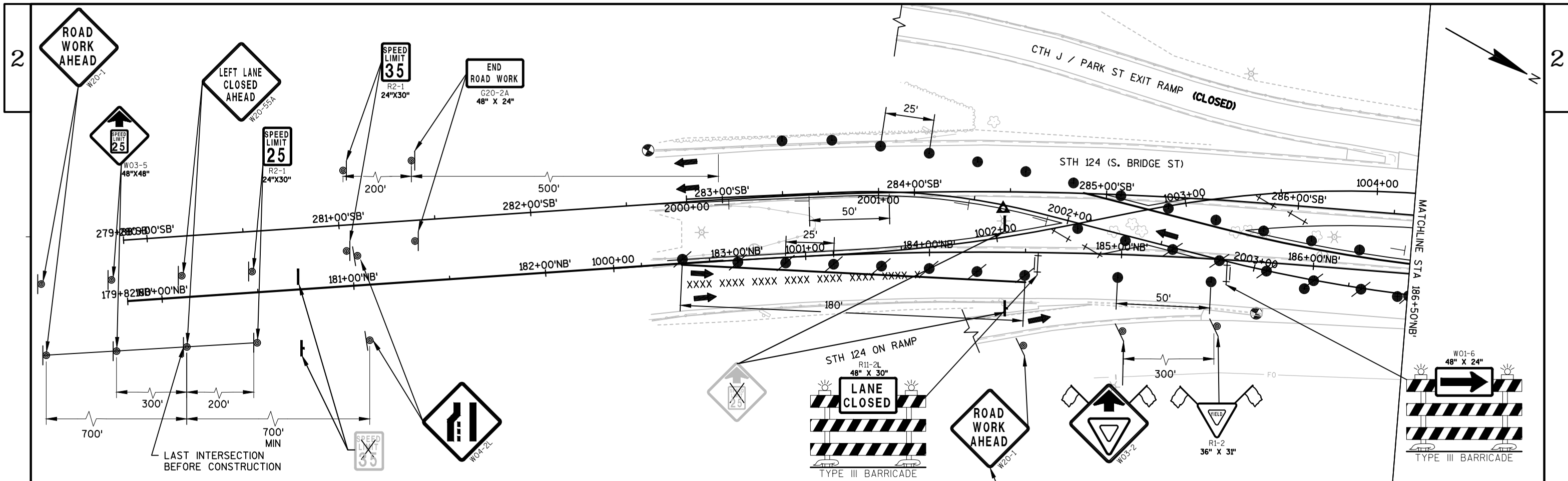
TRAFFIC WILL UTILIZE TEMPORARY CROSSOVERS AND WILL BE SHIFTED ON THE SB LANES OF STH 124/BRIDGE ST.

NB LANES OF STH 124/BRIDGE ST WILL BE UNDER CONSTRUCTION.

COURT ST WILL BE CLOSED TO TRAFFIC.



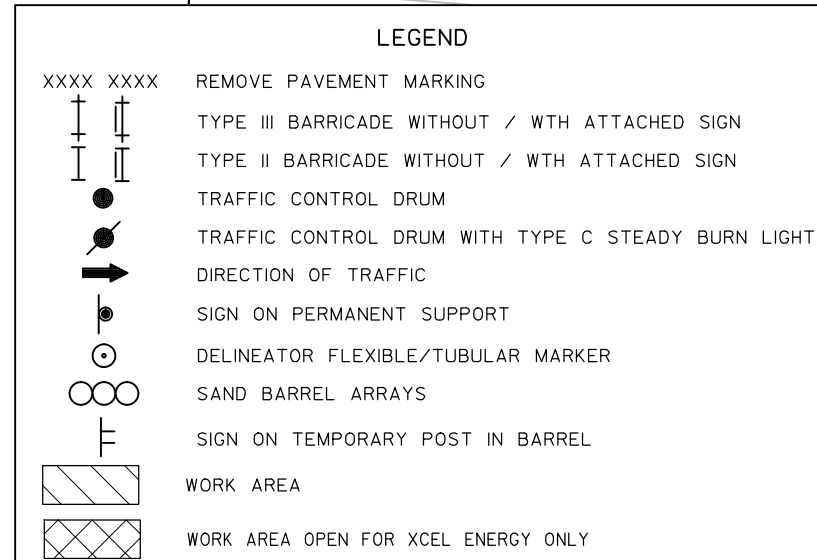




STAGE 3 NOTES:

TRAFFIC WILL UTILIZE CROSSOVERS AND WILL BE SHIFTED TO THE NB LANES.
 SB SIDE OF STH 124/BRIDGE ST WILL BE UNDER CONSTRUCTION.
 COURT ST WILL BE OPEN TO RT IN RT OUT TRAFFIC.

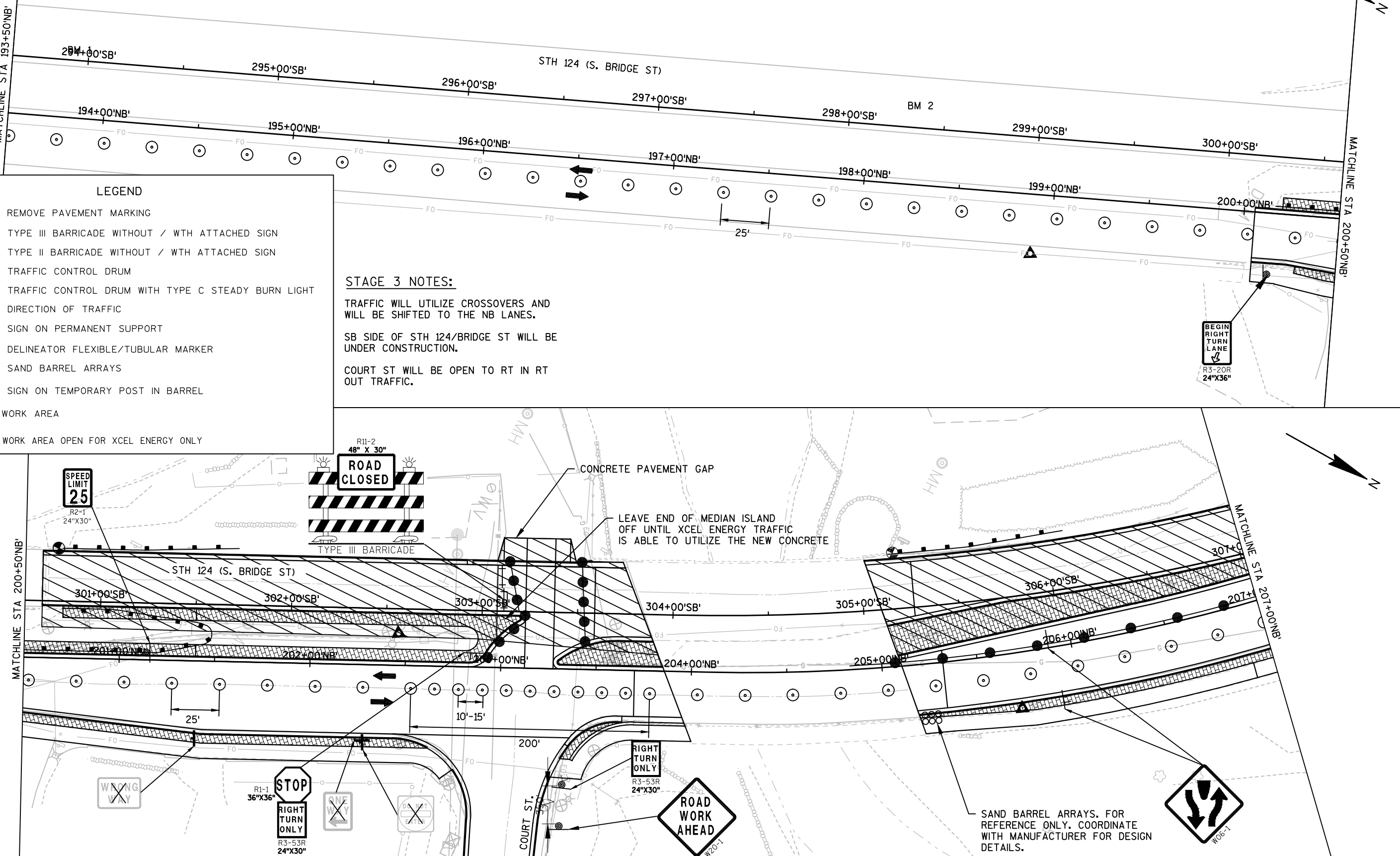
LEGEND	
XXXX XXXX	REMOVE PAVEMENT MARKING
	TYPE III BARRICADE WITHOUT / WTH ATTACHED SIGN
	TYPE II BARRICADE WITHOUT / WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	DIRECTION OF TRAFFIC
	SAND BARREL ARRAYS
	SIGN ON TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	SIGN ON POST IN BARREL
	WORK AREA
	WORK AREA OPEN FOR XCEL ENGERY ONLY

**STAGE 3 NOTES:**

TRAFFIC WILL UTILIZE CROSSOVERS AND WILL BE SHIFTED TO THE NB LANES.

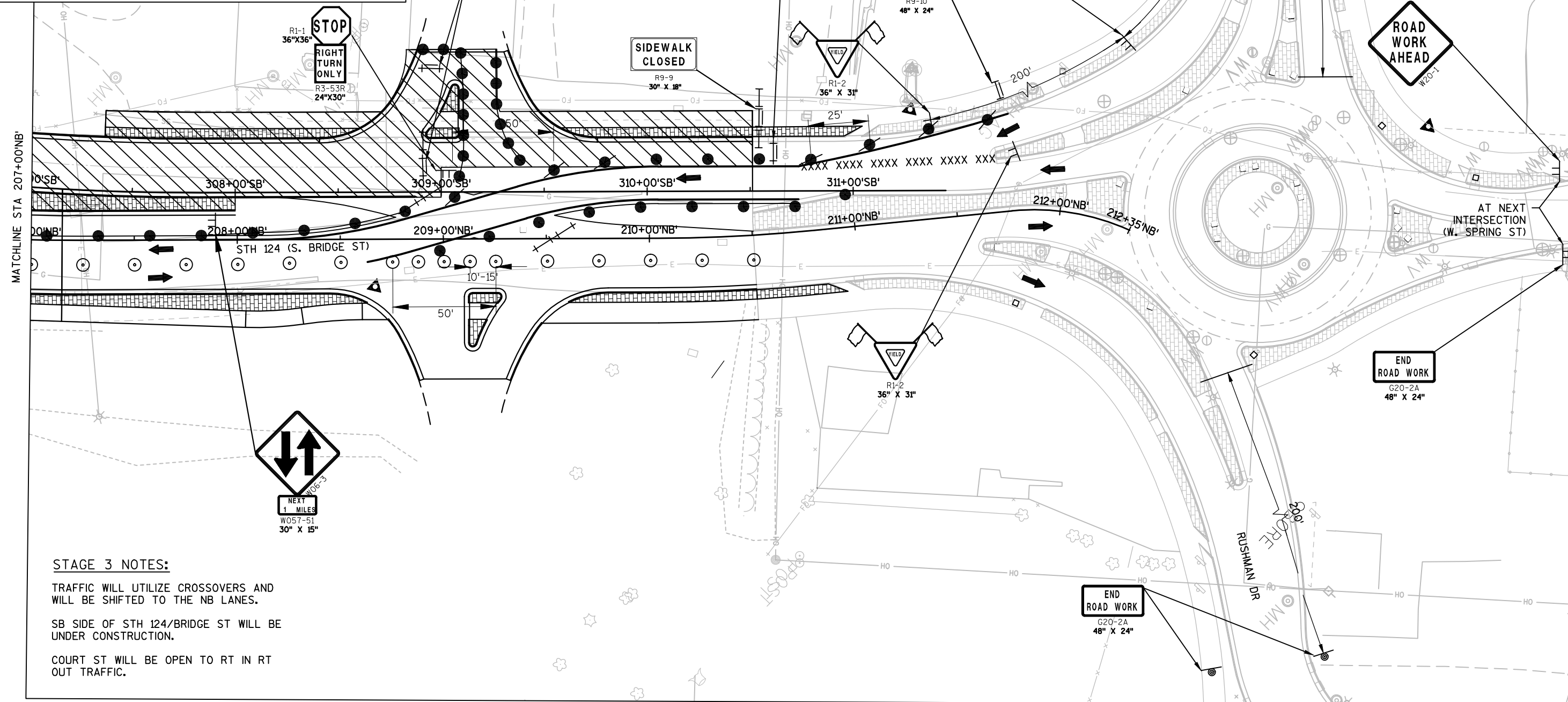
SB SIDE OF STH 124/BRIDGE ST WILL BE UNDER CONSTRUCTION.

COURT ST WILL BE OPEN TO RT IN RT OUT TRAFFIC.



LEGEND

XXXX XXXX	REMOVE PAVEMENT MARKING
	TYPE III BARRICADE WITHOUT / WTH ATTACHED SIGN
	TYPE II BARRICADE WITHOUT / WTH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	DIRECTION OF TRAFFIC
	SIGN ON PERMANENT SUPPORT
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	SAND BARREL ARRAYS
	SIGN ON TEMPORARY POST IN BARREL
	WORK AREA
	WORK AREA OPEN FOR XCEL ENERGY ONLY



STAGE 3 NOTES:

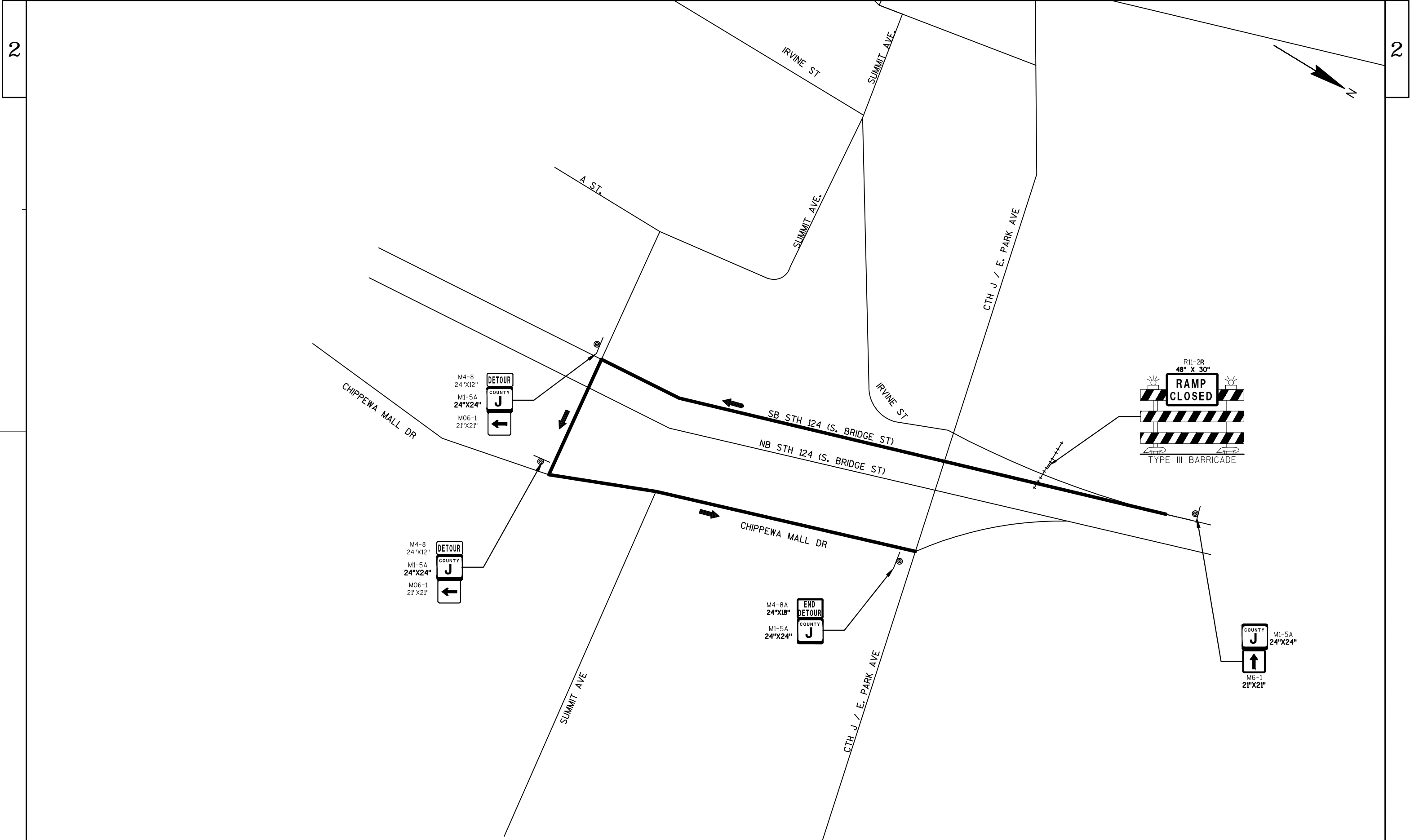
TRAFFIC WILL UTILIZE CROSSOVERS AND
WILL BE SHIFTED TO THE NB LANES.

SB SIDE OF STH 124/BRIDGE ST WILL BE
UNDER CONSTRUCTION.

COURT ST WILL BE OPEN TO RT IN RT
OUT TRAFFIC.

2

2



PROJECT NO: 7255-05-72

HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

TRAFFIC CONTROL STAGE 3 RAMP DETOUR DETAIL

SHEET _____ E

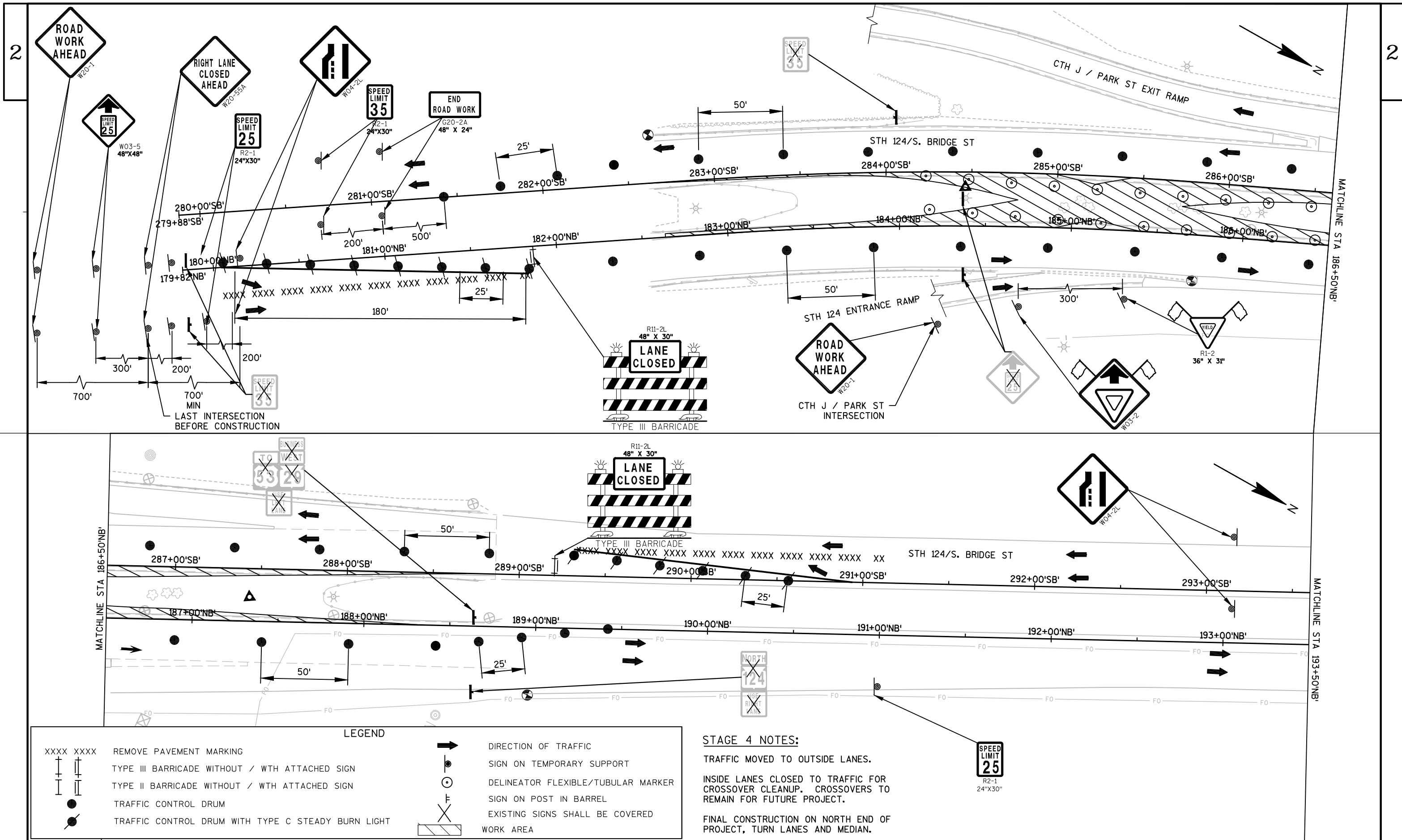
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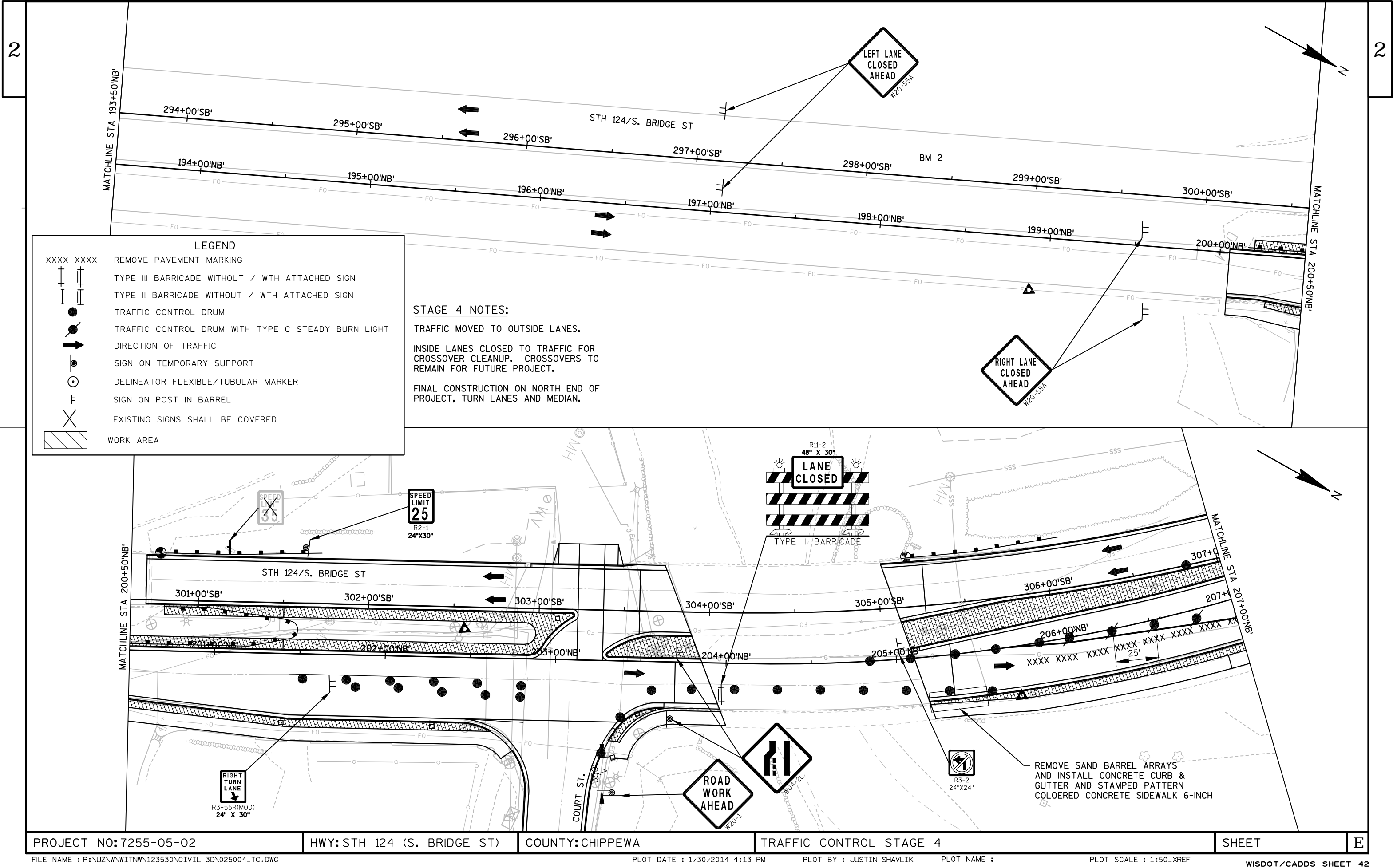
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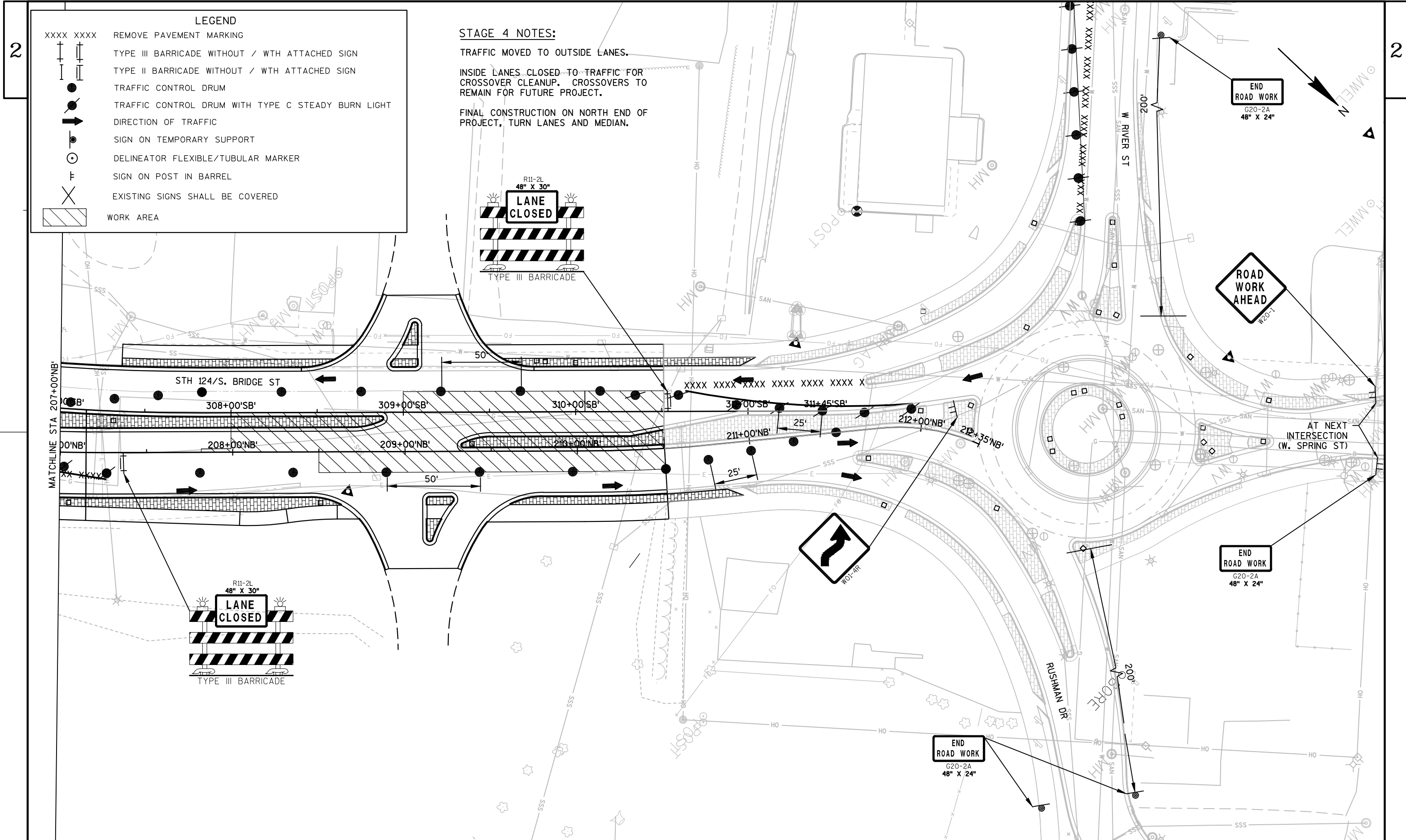
PLOT BY : JUSTIN SHAVLIK

PLOT NAME : ----- PLOT SCALE : 0.004628

WISDOT/CADDS SHEET 42







CURVE 6

PI STA = 1000+44.07
Y = 126457.84
X = 173581.79
DELTA = 0°54'52"
D = 2°51'53"
T = 15.96
L = 31.92
R = 2000.00
PC STA = 1000+28.11
PT STA = 1000+60.03

CURVE 7

PI STA = 2001+32.50
Y = 126548.79
X = 173486.03
DELTA = 17°00'20"
D = 16°22'13"
T = 52.33
L = 103.88
R = 350.00
PC STA = 2000+80.18
PT STA = 2001+84.06

CURVE 8

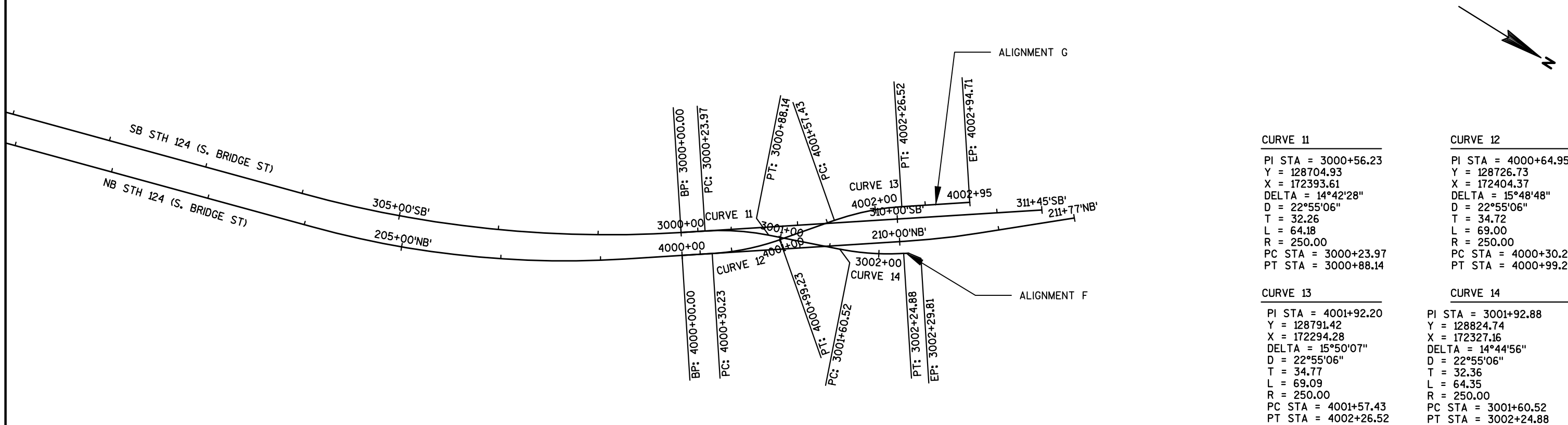
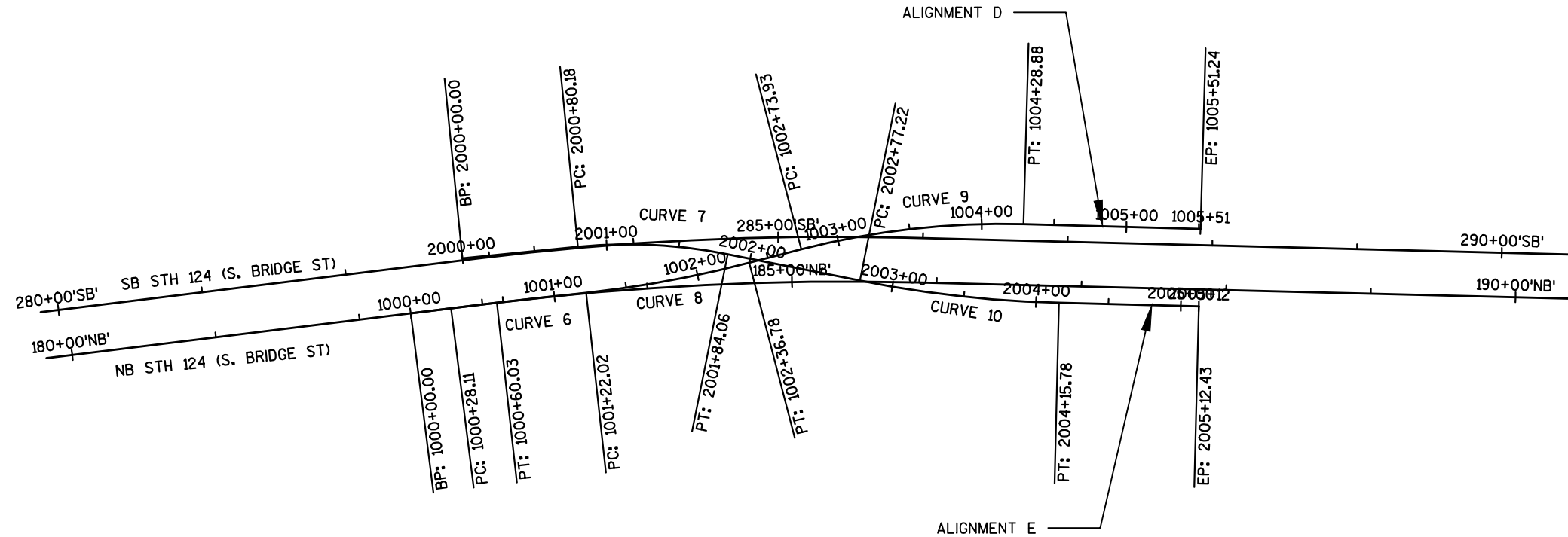
PI STA = 1001+79.50
Y = 126571.93
X = 173508.83
DELTA = 8°13'12"
D = 7°09'46"
T = 57.48
L = 114.76
R = 799.92
PC STA = 1001+22.02
PT STA = 1002+36.78

CURVE 9

PI STA = 1003+51.92
Y = 126702.57
X = 173396.00
DELTA = 16°08'32"
D = 10°25'03"
T = 77.99
L = 154.95
R = 550.00
PC STA = 1002+73.93
PT STA = 1004+28.88

CURVE 10

PI STA = 2003+46.67
Y = 126756.46
X = 173430.59
DELTA = 9°55'24"
D = 7°09'43"
T = 69.45
L = 138.56
R = 800.00
PC STA = 2002+77.22
PT STA = 2004+15.78



CURVE 11

PI STA = 3000+56.23
Y = 128704.93
X = 172393.61
DELTA = 14°42'28"
D = 22°55'06"
T = 32.26
L = 64.18
R = 250.00
PC STA = 3000+23.97
PT STA = 3000+88.14

CURVE 12

PI STA = 4000+64.95
Y = 128726.73
X = 172404.37
DELTA = 15°48'48"
D = 22°55'06"
T = 34.72
L = 69.00
R = 250.00
PC STA = 4000+30.23
PT STA = 4000+99.23

CURVE 13

PI STA = 4001+92.20
Y = 128791.42
X = 172294.28
DELTA = 15°50'07"
D = 22°55'06"
T = 34.77
L = 69.09
R = 250.00
PC STA = 4001+57.43
PT STA = 4002+26.52

CURVE 14

PI STA = 3001+92.88
Y = 128824.74
X = 172327.16
DELTA = 14°44'56"
D = 22°55'06"
T = 32.36
L = 64.35
R = 250.00
PC STA = 3001+60.52
PT STA = 3002+24.88

Alignment A

Tangent Data			
Description	PT Station	Northing	Easting
Start:	179+82.072	126209.202	173745.235
End:	182+92.501	126468.701	173574.864
Tangent Data			
Parameter	Value	Parameter	Value
Length:	310.429	Course:	N 33° 17' 11.2726" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	182+92.501	126468.701	173574.864
PI:	184+39.866	126591.889	173493.986
PT:	185+86.700	126725.601	173432.037
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	08° 25' 41.4546"	Type:	RIGHT
Radius:	2000		
Length:	294.199	Tangent:	147.365
Mid-Ord:	5.407	External:	5.422
Chord:	293.934	Course:	N 29° 04' 20.5453" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	185+86.700	126725.601	173432.037
End:	204+08.447	128378.564	172666.220
Tangent Data			
Parameter	Value	Parameter	Value
Length:	1821.747	Course:	N 24° 51' 29.8179" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	204+08.447	128378.564	172666.220
PI:	205+67.822	128523.174	172599.222
PT:	207+24.305	128638.303	172489.014
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	18° 53' 26.7864"	Type:	LEFT
Radius:	958		
Length:	315.859	Tangent:	159.376
Mid-Ord:	12.988	External:	13.167
Chord:	314.43	Course:	N 34° 18' 13.2111" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	207+24.305	128638.303	172489.014
End:	210+04.444	128840.668	172295.297
Tangent Data			
Parameter	Value	Parameter	Value
Length:	280.139	Course:	N 43° 44' 56.6043" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	210+04.444	128840.668	172295.297
PI:	210+42.378	128868.071	172269.066
PT:	210+80.255	128892.868	172240.359
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	05° 25' 46.3866"	Type:	LEFT
Radius:	800		
Length:	75.811	Tangent:	37.934
Mid-Ord:	0.898	External:	0.899
Chord:	75.782	Course:	N 46° 27' 49.7977" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	210+80.255	128892.868	172240.359
End:	211+76.570	128955.829	172167.473
Tangent Data			
Parameter	Value	Parameter	Value
Length:	96.315	Course:	N 49° 10' 42.9910" W

Alignment B

Tangent Data			
Description	PT Station	Northing	Easting
Start:	279+87.733	126191.64	173718.485
End:	282+92.234	126446.202	173551.395
Tangent Data			
Parameter	Value	Parameter	Value
Length:	304.501	Course:	N 33° 16' 48.1557" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	282+92.234	126446.202	173551.395
PI:	284+40.146	126569.857	173470.231
PT:	285+87.521	126704.106	173408.141
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	08° 27' 33.6318"	Type:	RIGHT
Radius:	2000		
Length:	295.287	Tangent:	147.912
Mid-Ord:	5.447	External:	5.462
Chord:	295.019	Course:	N 29° 03' 01.3398" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	285+87.521	126704.106	173408.141
End:	303+99.692	128348.879	172647.427
Tangent Data			
Parameter	Value	Parameter	Value
Length:	1812.171	Course:	N 24° 49' 14.5238" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	303+99.692	128348.879	172647.427
PI:	305+93.167	128524.482	172566.211
PT:	307+83.124	128664.295	172432.477
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	18° 54' 22.3937"	Type:	LEFT
Radius:	1162		
Length:	383.432	Tangent:	193.475
Mid-Ord:	15.78	External:	15.997
Chord:	381.695	Course:	N 34° 16' 25.7207" W
Tangent Data			
Description	PT Station	Northing	Easting
Start:	307+83.124	128664.295	172432.477
End:	311+45.000	128925.802	172182.34
Tangent Data			
Parameter	Value	Parameter	Value
Length:	361.876	Course:	N 43° 43' 36.9176" W

Alignment C - Court Street

Tangent Data			
Description	PT Station	Northing	Easting
Start:	10+00.000	128304.127	172740.382
End:	11+17.355	128343.753	172850.845
Tangent Data			
Parameter	Value	Parameter	Value
Length:	117.355	Course:	N 70° 15' 56.9668" E
Curve Point Data			
Description	Station	Northing	Easting
PC:	11+17.355	128343.753	172850.845
PI:	11+36.182	128350.110	172868.567
PT:	11+54.996	128355.318	172886.659
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	03° 40' 26.6659"	Type:	RIGHT
Radius:	587		
Length:	37.641	Tangent:	18.827
Mid-Ord:	0.302	External:	0.302
Chord:	37.635	Course:	N 72° 06' 10.2998" E
Tangent Data			
Description	PT Station	Northing	Easting
Start:	11+54.996	128355.318	172886.659
End:	12+94.266	128393.846	173020.493
Tangent Data			
Parameter	Value	Parameter	Value
Length:	139.27	Course:	N 73° 56' 23.6328" E

Alignment D

Tangent Data			
Description	PT Station	Northing	Easting
Start	1000+00.000	126421.09	173606.122
End:	1000+28.109	126444.527	173590.603
Tangent Data			
Parameter	Value	Parameter	Value
Length:	28.109	Course:	N 33° 30' 42.7494" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	1000+28.109	126444.527	173590.603
PI:	10000+44.072	126457.836	173581.79
PT:	1000+60.033	126471.284	173573.19
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	00° 54' 52.4048"	Type:	RIGHT
Radius:	2000		
Length:	31.924	Tangent:	15.962
Mid-Ord:	0.064	External:	0.064
Chord:	31.924	Course:	N 33° 03' 16.5470" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	1000+60.033	126471.284	173573.19
End:	1001+22.019	126523.505	173539.797
Tangent Data			
Parameter	Value	Parameter	Value
Length:	61.985	Course:	N 32° 35' 50.3446" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	1001+22.019	126523.505	173539.797
PI:	1001+79.497	126571.929	173508.832
PT:	1002+36.778	126615.428	173471.261
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	08° 13' 11.5355"	Type:	LEFT
Radius:	799.916		
Length:	114.759	Tangent:	57.478
Mid-Ord:	2.057	External:	2.062
Chord:	114.661	Course:	N 36° 42' 26.1123" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	1002+36.778	126615.428	173471.261
End:	1002+73.930	126643.545	173446.977
Tangent Data			
Parameter	Value	Parameter	Value
Length:	37.152	Course:	N 40° 49' 01.8800" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	1002+73.930	126643.545	173446.977
PI:	1003+51.923	126702.57	173395.997
PT:	1004+28.883	126773.442	173363.437
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	16° 08' 31.6084"	Type:	RIGHT
Radius:	550		
Length:	154.953	Tangent:	77.993
Mid-Ord:	5.448	External:	5.502
Chord:	154.441	Course:	N 32° 44' 46.0758" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	1004+28.883	126773.442	173363.437
End:	1005+51.244	126884.63	173312.355
Tangent Data			
Parameter	Value	Parameter	Value
Length:	122.361	Course:	N 24° 40' 30.2716" W

Alignment E

Tangent Data			
Description	PT Station	Northing	Easting
Start	2000+00.000	126436.363	173556.151
End:	2000+80.178	126504.392	173513.719
Tangent Data			
Parameter	Value	Parameter	Value
Length:	80.178	Course:	N 31° 57' 10.5468" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	2000+80.178	126504.392	173513.719
PI:	2001+32.503	126548.789	173486.028
PT:	2001+84.059	126599.344	173472.531
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	17° 00' 19.7891"	Type:	RIGHT
Radius:	350		
Length:	103.881	Tangent:	52.325
Mid-Ord:	3.847	External:	3.89
Chord:	103.5	Course:	N 23° 27' 00.6523" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	2001+84.059	126599.344	173472.531
End:	2002+77.222	126689.354	173448.501
Tangent Data			
Parameter	Value	Parameter	Value
Length:	93.163	Course:	N 14° 56' 50.7578" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	2002+77.222	126689.354	173448.501
PI:	2003+46.673	126756.456	173430.588
PT:	2004+15.777	126819.466	173401.378
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	09° 55' 23.9817"	Type:	LEFT
Radius:	800		
Length:	138.556	Tangent:	69.452
Mid-Ord:	2.998	External:	3.009
Chord:	138.383	Course:	N 19° 54' 32.7487" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	2004+15.777	126819.466	173401.378
End:	2005+12.434	126907.159	173360.727
Tangent Data			
Parameter	Value	Parameter	Value
Length:	96.656	Course:	N 24° 52' 14.7395" W

Alignment F

Tangent Data			
Description	PT Station	Northing	Easting
Start	3000+00.000	128664.295	172432.477
End:	3000+23.967	128681.616	172415.911
Tangent Data			
Parameter	Value	Parameter	Value
Length:	23.967	Course:	N 43° 43' 17.0336" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	3000+23.967	128681.616	172415.911
PI:	3000+56.232	128704.934	172393.611
PT:	3000+88.143	128733.15	172377.962
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	14° 42' 28.2251"	Type:	RIGHT
Radius:	250		
Length:	64.175	Tangent:	32.265
Mid-Ord:	2.056	External:	2.073
Chord:	63.999	Course:	N 36° 22' 02.9211" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	3000+88.143	128733.15	172377.962
End:	3001+60.524	128796.448	172342.856
Tangent Data			
Parameter	Value	Parameter	Value
Length:	72.381	Course:	N 29° 00' 48.8085" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	3001+60.524	128796.448	172342.856
PI:	3001+92.880	128824.744	172327.163
PT:	3002+24.879	128848.112	172304.783
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	14° 44' 56.4466"	Type:	LEFT
Radius:	250		
Length:	64.355	Tangent:	32.356
Mid-Ord:	2.068	External:	2.085
Chord:	64.177	Course:	N 36° 23' 17.0318" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	3002+24.879	128848.112	172304.783
End:	3002+29.807	128851.671	172301.374
Tangent Data			
Parameter	Value	Parameter	Value
Length:	4.929	Course:	N 43° 45' 45.2551" W

Alignment G

Tangent Data			
Description	PT Station	Northing	Easting
Start	4000+00.000	128679.809	172449.281
End:	4000+30.233	128701.649	172428.375
Tangent Data			
Parameter	Value	Parameter	Value
Length:	30.233	Course:	N 43° 44' 56.6043" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	4000+30.233	128701.649	172428.375
PI:	4000+64.953	128726.729	172404.366
PT:	4000+99.232	128744.319	172374.431
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	15° 48' 47.7492"	Type:	LEFT
Radius:	250		
Length:	68.998	Tangent:	34.72
Mid-Ord:	2.377	External:	2.399
Chord:	68.78	Course:	N 51° 39' 20.4789" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	4000+99.232	128744.319	172374.431
End:	4001+57.429	128773.801	172324.255
Tangent Data			
Parameter	Value	Parameter	Value
Length:	58.197	Course:	N 59° 33' 44.3535" W
Curve Point Data			
Description	Station	Northing	Easting
PC:	4001+57.429	128773.801	172324.255
PI:	4001+92.198	128791.415	172294.277
PT:	4002+26.524	128816.541	172270.244
Circular Curve Data			
Parameter	Value	Parameter	Value
Delta:	15° 50' 07.4360"	Type:	RIGHT
Radius:	250		
Length:	69.095	Tangent:	34.769
Mid-Ord:	2.383	External:	2.406
Chord:	68.875	Course:	N 51° 38' 40.6356" W
Tangent Data			
Description	PT Station	Northing	Easting
Start	4002+26.524	128816.541	172270.244
End:	4002+94.707	128865.813	172223.115
Tangent Data			
Parameter	Value	Parameter	Value
Length:	68.183	Course:	N 43° 43' 36.9176" W

DATE 06MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE				7255-05-72	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0100	REMOVING PAVEMENT	SY	6,850.000	6,850.000
0020	204.0110	REMOVING ASPHALTIC SURFACE	SY	1,208.000	1,208.000
0030	204.0150	REMOVING CURB & GUTTER	LF	1,223.000	1,223.000
0040	204.0155	REMOVING CONCRETE SIDEWALK	SY	1,500.000	1,500.000
0050	204.0160	REMOVING LIP CURB	LF	215.000	215.000
0060	204.0165	REMOVING GUARDRAIL	LF	455.000	455.000
0070	204.0195	REMOVING CONCRETE BASES	EACH	6.000	6.000
0080	204.0220	REMOVING INLETS	EACH	7.000	7.000
0090	204.0245	REMOVING STORM SEWER (SIZE) 01. 15-INCH	LF	244.000	244.000
0100	204.0280	SEALING PIPES	EACH	4.000	4.000
0110	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. CABLES	LF	932.000	932.000
0120	205.0100	EXCAVATION COMMON **P**	CY	4,425.000	4,425.000
0130	208.0100	BORROW	CY	480.000	480.000
0140	213.0100	FINISHING ROADWAY (PROJECT) 01. 7255-05-72	EACH	1.000	1.000
0150	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	20.000	20.000
0160	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	3,516.000	3,516.000
0170	415.0210	CONCRETE PAVEMENT GAPS	EACH	1.000	1.000
0180	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	275.000	275.000
0190	415.1100	CONCRETE PAVEMENT HES 10-INCH	SY	90.000	90.000
0200	416.0170	CONCRETE DRIVEWAY 7-INCH	SY	30.000	30.000
0210	416.0270	CONCRETE DRIVEWAY HES 7-INCH	SY	20.000	20.000
0220	416.0610	DRILLED TIE BARS	EACH	395.000	395.000
0230	416.0620	DRILLED DOWEL BARS	EACH	124.000	124.000
0240	440.4410.S	INCENTIVE IRI RIDE	DOL	31,652.000	31,652.000
0250	465.0105	ASPHALTIC SURFACE	TON	14.000	14.000
0260	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	240.000	240.000
0270	520.8000	CONCRETE COLLARS FOR PIPE	EACH	2.000	2.000
0280	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	4,782.000	4,782.000
0290	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	42.000	42.000
0300	602.0405	CONCRETE SIDEWALK 4-INCH	SF	7,211.000	7,211.000
0310	602.0415	CONCRETE SIDEWALK 6-INCH	SF	1,409.000	1,409.000
0320	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	160.000	160.000
0330	607.0600.S	STORM SEWER PIPE (INCH) 01. 12-INCH	LF	238.000	238.000
0340	607.0600.S	STORM SEWER PIPE (INCH) 02. 15-INCH	LF	81.000	81.000
0350	611.0420	RECONSTRUCTING MANHOLES	EACH	1.000	1.000
0360	611.0430	RECONSTRUCTING INLETS	EACH	3.000	3.000
0370	611.0530	MANHOLE COVERS TYPE J	EACH	1.000	1.000
0380	611.0624	INLET COVERS TYPE H	EACH	9.000	9.000
0390	611.1230	CATCH BASINS 2X3-FT	EACH	9.000	9.000
0400	611.8110	ADJUSTING MANHOLE COVERS	EACH	1.000	1.000
0410	611.8115	ADJUSTING INLET COVERS	EACH	6.000	6.000
0420	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	14.400	14.400
0430	614.0220	STEEL THRIE BEAM BULLNOSE TERMINAL	EACH	1.000	1.000
0440	614.0230	STEEL THRIE BEAM	LF	91.000	91.000
0450	614.0700	SAND BARRELS ARRAYS	EACH	2.000	2.000
0460	614.2500	MGS THRIE BEAM TRANSITION	LF	78.800	78.800
0470	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	2.000	2.000
0480	619.1000	MOBILIZATION	EACH	1.000	1.000
0490	620.0200	CONCRETE MEDIAN BLUNT NOSE	SF	80.000	80.000
0500	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	140.000	140.000
0510	625.0100	TOPSOIL	SY	1,150.000	1,150.000
0520	627.0200	MULCHING	SY	1,150.000	1,150.000

DATE 06MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE				7255-05-72	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0530	628.1504	SILT FENCE	LF	400.000	400.000
0540	628.1520	SILT FENCE MAINTENANCE	LF	400.000	400.000
0550	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	1.000	1.000
0560	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0570	628.7005	INLET PROTECTION TYPE A	EACH	20.000	20.000
0580	628.7015	INLET PROTECTION TYPE C	EACH	20.000	20.000
0590	629.0210	FERTILIZER TYPE B	CWT	1.000	1.000
0600	630.0140	SEEDING MIXTURE NO. 40	LB	30.000	30.000
0610	630.0200	SEEDING TEMPORARY	LB	30.000	30.000
0620	633.1100	DELINEATORS TEMPORARY	EACH	60.000	60.000
0630	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	3.000	3.000
0640	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	8.000	8.000
0650	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	5.000	5.000
0660	634.0814	POSTS TUBULAR STEEL 2X2-INCH X 14-FT	EACH	9.000	9.000
0670	634.0816	POSTS TUBULAR STEEL 2X2-INCH X 16-FT	EACH	6.000	6.000
0680	637.2210	SIGNS TYPE II REFLECTIVE H	SF	159.040	159.040
0690	637.2230	SIGNS TYPE II REFLECTIVE F	SF	9.000	9.000
0700	638.2102	MOVING SIGNS TYPE II	EACH	4.000	4.000
0710	638.2602	REMOVING SIGNS TYPE II	EACH	21.000	21.000
0720	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	13.000	13.000
0730	643.0100	TRAFFIC CONTROL (PROJECT) 01. 7255-05-72	EACH	1.000	1.000
0740	643.0300	TRAFFIC CONTROL DRUMS	DAY	9,382.000	9,382.000
0750	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	904.000	904.000
0760	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	2,338.000	2,338.000
0770	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	244.000	244.000
0780	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	244.000	244.000
0790	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	5,028.000	5,028.000
0800	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	2,768.000	2,768.000
0810	643.0900	TRAFFIC CONTROL SIGNS	DAY	5,568.000	5,568.000
0820	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	8.000	8.000
0830	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 7255-05-72	EACH	1.000	1.000
0840	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	1,884.000	1,884.000
0850	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	4,568.000	4,568.000
0860	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	614.000	614.000
0870	646.0600	REMOVING PAVEMENT MARKINGS	LF	368.000	368.000
0880	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	9.000	9.000
0890	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	5.000	5.000
0900	647.0456	PAVEMENT MARKING CURB EPOXY	LF	45.000	45.000
0910	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	60.000	60.000
0920	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	3.000	3.000
0930	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	360.000	360.000
0940	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	3,786.000	3,786.000
0950	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	10,774.000	10,774.000
0960	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	20.000	20.000
0970	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	920.000	920.000
0980	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	920.000	920.000
0990	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 7255-05-72	LS	1.000	1.000
1000	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 7255-05-72	LS	1.000	1.000

DATE 06MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE				7255-05-72	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1010	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	2,219.000	2,219.000
1020	653.0145	PULL BOXES STEEL 24X48-INCH	EACH	3.000	3.000
1030	653.0905	REMOVING PULL BOXES	EACH	5.000	5.000
1040	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	1,845.000	1,845.000
1050	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG	LF	2,485.000	2,485.000
1060	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG	LF	4,970.000	4,970.000
1070	690.0150	SAWING ASPHALT	LF	100.000	100.000
1080	690.0250	SAWING CONCRETE	LF	2,142.000	2,142.000
1090	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	585.000	585.000
1100	ASP. 1TOA	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	1,200.000	1,200.000
1110	ASP. 1TOG	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	300.000	300.000
1120	SPV.0060	SPECIAL 01. ADJUSTING WATER VALVE	EACH	2.000	2.000
1130	SPV.0060	SPECIAL 02. ADJUSTING CURB STOP	EACH	2.000	2.000
1140	SPV.0060	SPECIAL 03. REMOVING CURB STOP	EACH	2.000	2.000
1150	SPV.0060	SPECIAL 04. SALVAGE LIGHTING UNIT	EACH	6.000	6.000
1160	SPV.0060	SPECIAL 05. LIGHTING UNIT TYPE SPECIAL	EACH	15.000	15.000
1170	SPV.0060	SPECIAL 06. CONCRETE BASE TYPE SPECIAL	EACH	15.000	15.000
1180	SPV.0060	SPECIAL 07. CUT INTO AND CONNECT TO EXISTING WATER MAIN	EACH	2.000	2.000
1190	SPV.0060	SPECIAL 08. STEEL PLATE INLET COVER	EACH	1.000	1.000
1200	SPV.0060	SPECIAL 09. FIRE HYDRANT	EACH	1.000	1.000
1210	SPV.0060	SPECIAL 10. GATE VALVE AND BOX 6-INCH	EACH	4.000	4.000
1220	SPV.0085	SPECIAL 01. WATER MAIN FITTINGS	LB	176.000	176.000
1230	SPV.0090	SPECIAL 01. CONCRETE CURB & GUTTER CURE AND SEAL TREATMENT	LF	4,916.000	4,916.000
1240	SPV.0090	SPECIAL 02. CONCRETE BARRIER SINGLE-FACED (WITH ANCHORAGE) SPECIAL	LF	66.000	66.000
1250	SPV.0090	SPECIAL 03. CONCRETE CURB & GUTTER 30-INCH TYPE A SPECIAL	LF	42.000	42.000
1260	SPV.0090	SPECIAL 04. CONCRETE GUTTER 36-INCH TYPE A SPECIAL	LF	49.000	49.000
1270	SPV.0090	SPECIAL 05. WATER MAIN 6-INCH	LF	248.000	248.000
1280	SPV.0105	SPECIAL 01. CONSTRUCTION STAKING CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000
1290	SPV.0165	SPECIAL 01. STAMPED PATTERN COLORED CONCRETE SIDEWALK 6-INCH	SF	11,326.000	11,326.000
1300	SPV.0165	SPECIAL 02. CONCRETE SIDEWALK CURE AND SEAL TREATMENT	SF	21,031.000	21,031.000
1310	SPV.0180	SPECIAL 01. CONCRETE PAVEMENT 10-INCH SPECIAL	SY	6,556.000	6,556.000
1320	SPV.0180	SPECIAL 02. GUARDRAIL MOW STRIP CONCRETE SPECIAL	SY	130.000	130.000

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STORM SEWER REMOVALS			
STATION - STATION	LOCATION	204.0220	204.0245.01
		REMOVING INLETS EACH	REMOVING STORM SEWER (15-INCH) LF
STH 124/BRIDGE ST			
CATEGORY 0010			
202+59	14.7' LT	1	
202+59 - 202+83	LT & RT		85
202+60	40.8' RT	1	
202+69	24.5' LT	1	
203+20	135.5' RT	1	20
203+41 - 203+52	LT		45
203+52	12.5' LT	1	
208+43 - 208+84	LT		77
208+84	16.6' RT	1	
210+15	64.2' LT	1	
210+15 - 210+23	LT		17
SUBTOTAL CATEGORY 0010		7	244
TOTALS		7	244

REMOVING CONCRETE SIDEWALK

STATION - STATION	LOCATION	204.0155 SY	REMARKS	STAGE
STH 124/BRIDGE ST				
CATEGORY 0010				
201+37 - 202+73	LT	185	EXISTING CORRUGATED CONCRETE MEDIANS	STAGE 3
203+45 - 203+84	LT	39	EXISTING CORRUGATED CONCRETE MEDIANS	STAGE 3
207+15 - 207+34	LT	13	EXISTING CORRUGATED CONCRETE MEDIANS	STAGE 3
207+15 - 209+37	RT	187	SIDEWALK	STAGE 2
208+44 - 209+71	LT	89	SIDEWALK	STAGE 3
SUBTOTAL CATEGORY 0010		513		
CATEGORY 0020				
200+05 - 202+75	RT	242	SIDEWALK	STAGE 2
203+32 - 204+00	RT	69	SIDEWALK	STAGE 2
205+04 - 207+15	LT	284	EXISTING CORRUGATED CONCRETE MEDIANS	STAGE 3
205+17 - 207+15	RT	176	SIDEWALK	STAGE 2
207+37 - 208+44	LT	136	SIDEWALK	STAGE 3
209+71 - 210+54	LT	80	SIDEWALK	STAGE 3
SUBTOTAL CATEGORY 0020		987		
TOTAL		1500		

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REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100* SY	REMARKS	STAGE
STH 124/BRIDGE ST				
CATEGORY 0010				
200+05.61 - 203+85	LT	497	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 2
205+08 - 210+50.68	LT	1328	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 2 & 4
SUBTOTAL CATEGORY 0010		1825		
CATEGORY 0020				
200+05.61 - 203+85	RT	1326	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 2
COURT STREET	RT	603	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 2
200+05.61 - 203+85	LT	828	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 3
205+08 - 210+50.68	RT	794	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 2
205+08 - 210+50.69	LT	1474	EXISTING MAINLINE CONCRETE PAVEMENT	STAGE 3
SUBTOTAL CATEGORY 0020		5025		
TOTAL		6850		

* CONCRETE PAVEMENT ADJACENT TO CURB & GUTTER INCLUDES CURB & GUTTER REMOVAL

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 LF
STH 124/BRIDGE ST		
CATEGORY 0010		
200+18.71 - 201+32.32	LT	183
SUBTOTAL CATEGORY 0010		183
CATEGORY 0020		
200+71 - 201+40	LT	69
203+34 - 203+71	RT	45
205+10 - 206+77	LT	158
SUBTOTAL CATEGORY 0020		272
TOTAL		455

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 SY
STH 124/BRIDGE ST		
CATEGORY 0010		
208+45 - 210+50.68	RT	359
SUBTOTAL CATEGORY 0010		359
CATEGORY 0020		
TEMPORARY CROSSOVER		849
SUBTOTAL CATEGORY 0020		849
TOTAL		1208

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	204.0160 REMOVING LIP CURB LF	REMARKS	STAGE
STH 124/BRIDGE ST					
CATEGORY 0010					
203+31 - 203+44	LT	13		MAINLINE	STAGE 1
208+40 - 210+50	RT		215	MAINLINE	STAGE 2
SUBTOTAL CATEGORY 0010		13	215		
CATEGORY 0020					
182+56 - 188+59	LT	603		TEMP CROSSOVER	STAGE 1
182+61 - 188+35	LT	574		TEMP CROSSOVER	STAGE 1
203+23	RT	33		COURT STREET	STAGE 2
SUBTOTAL CATEGORY 0020		1210	0		
TOTALS		1223	215		

EXCAVATION COMMON

STATION - STATION	* 205.0100 EXCAVATION COMMON CY	AIR FILL CY	1.3% EXPAND. FILL CY	WASTE CY	208.0100 BORROW CY	REMARKS
STH 124/BRIDGE ST						
CATGORY 0010						
200+05 - 210+50	1350	30	40	1350	40	
SUBTOTAL CATEGORY 0010		1350	30	40	1350	40
CATEGORY 0020						
200+05 - 210+50	2650	85	110	2650	110	
TEMPORARY CROSSOVER	425	250	330	425	330	TEMPORARY CROSSOVER
SUBTOTAL CATEGORY 0020		3075	335	440	3075	440
TOTALS		4425	365	480	4425	480

* PAY PLAN QUANTITY, QUANTITY INCLUDES CONCRETE PAVEMENT AREA
NOTE: EXPANSION FACTOR = 1.3

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

PROJECT NO: 7255-05-72

HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

MISCELLANEOUS QUANTITIES

SHEET

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FINISHING ROADWAY (7255-05-72)

STATION - STATION		LOCATION	213.0100 EACH
STH 124/BRIDGE ST. CATEGORY 0010			
205+05 - 210+50.68	LT & RT		0.5
SUBTOTAL CATEGORY 0010			0.5
CATEGORY 0020			
205+05 - 210+50.68	LT & RT		0.5
SUBTOTAL CATEGORY 0020			0.5
TOTAL			1

ASPHALTIC SURFACE

STATION - STATION		LOCATION	465.0105 TON	465.0125 TEMPORARY TON	REMARKS
STH 124/BRIDGE ST CATEGORY 0020					
203+03 - 203+20	RT		14	240	TEMPORARY CROSSOVER COURT STREET
SUBTOTAL CATEGORY 0020			14	240	
TOTALS			14	240	

BASE AGGREGATE DENSE

STATION - STATION		LOCATION	305.0110 3/4 INCH TON	305.0120 1 1/4-INCH TON	REMARKS	STAGE
STH 124/BRIDGE ST CATEGORY 0010						
200+05 - 203+10	LT		329		MEDIAN ISLAND	STAGE 2 & 3
200+05 - 203+12	LT		88		CURB & GUTTER	STAGE 2 & 3
203+28 - 203+85	LT		17		CURB & GUTTER	STAGE 2
203+29 - 203+85	LT		54		MEDIAN ISLAND	STAGE 2
202+83 - 203+78	LT		19		MAINLINE	STAGE 2 & 3
202+84 - 203+63	LT		13		CURB & GUTTER	STAGE 3
202+96 - 203+38	LT		17		DRIVEWAY	STAGE 3
207+15 - 208+87	LT		101		MEDIAN ISLAND	STAGE 3 & 4
207+15 - 208+90	LT		54		CURB & GUTTER	STAGE 3 & 4
207+15 - 210+50	RT		299		MAINLINE	STAGE 2
207+15 - 210+50	LT		167		MAINLINE	STAGE 2 & 4
207+15 - 208+90	RT		55		CURB & GUTTER	STAGE 2
208+40 - 209+75	LT		92		DRIVEWAY	STAGE 3
208+40 - 208+90	LT		19		CURB & GUTTER	STAGE 3
208+50 - 209+79	RT		92		DRIVEWAY	STAGE 2
208+90 - 209+10	LT		12		CURB & GUTTER	STAGE 3
208+93 - 209+07	LT		21		SPLITTER ISLAND	STAGE 3
209+10 - 209+31	RT		12		CURB & GUTTER	STAGE 2
209+13 - 209+30	RT		21		SPLITTER ISLAND	STAGE 2
209+30 - 209+75	LT		18		CURB & GUTTER	STAGE 3
209+30 - 210+50	RT		39		CURB & GUTTER	STAGE 2
209+31 - 210+50	LT		37		CURB & GUTTER	STAGE 4
209+33 - 210+50	LT		66		MEDIAN ISLAND	STAGE 4
UNDISTRIBUTED	LT & RT	10	206		UNDISTRIBUTED	
SUBTOTAL CATEGORY 0010			10	1848		
CATEGORY 0020						
200+05 - 200+21	RT		5		CONCRETE APPROACH SLAB	STAGE 2
200+05 - 202+84	RT		57		CURB & GUTTER	STAGE 2
200+21 - 203+70	RT		142		MAINLINE	STAGE 2
200+59 - 200+74	LT		5		CONCRETE APPROACH SLAB	STAGE 3
200+59 - 202+81	LT		37		CURB & GUTTER	STAGE 3
200+74 - 203+48	LT		81		MAINLINE	STAGE 3
202+47 - 203+37	RT		121		COURT STREET MAINLINE	STAGE 2
203+03 - 203+20	RT		43		COURT STREET ASPHALT	STAGE 2
203+23 - 203+97	RT		33		CURB & GUTTER	STAGE 2
203+48 - 203+74	LT		6		CONCRETE APPROACH SLAB	STAGE 3
203+70 - 203+96	RT		6		CONCRETE APPROACH SLAB	STAGE 2
204+94 - 208+40	LT		55		CURB & GUTTER	STAGE 3
204+95 - 205+20	LT		7		CONCRETE APPROACH SLAB	STAGE 3
205+04 - 207+15	LT		32		CURB & GUTTER	STAGE 3
205+04 - 207+15	LT		246		MEDIAN ISLAND	STAGE 2 & 3
205+09 - 207+15	LT		31		CURB & GUTTER	STAGE 2
205+09 - 205+32	LT & RT		7		CONCRETE APPROACH SLAB	STAGE 2
205+16 - 207+15	RT		34		CURB & GUTTER	STAGE 2
205+20 - 210+50	LT		156		MAINLINE	STAGE 3
205+32 - 207+15	LT & RT		79		MAINLINE	STAGE 2
209+75 - 210+53	LT		13		CURB & GUTTER	STAGE 3
UNDISTRIBUTED	LT & RT	10			UNDISTRIBUTED	
TEMPORARY CROSSOVER	LT & RT		472		TEMPORARY CROSSOVER	STAGE 1
SUBTOTAL CATEGORY 0020			10	1668		
TOTALS			20	3516		

CONCRETE CURB & GUTTER

STATION - STATION		LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	601.0409 30-INCH TYPE A LF	601.0411 30-INCH TYPE D LF	SPV.0090.03 30-INCH TYPE A SPECIAL LF	SPV.0090.04 CONCRETE GUTTER 36-INCH TYPE A SPECIAL LF	REMARKS	STAGE
STH 124/BRIDGE ST CATEGORY 0010										
200+05 - 203+12	LT				570				MEDIAN ISLAND	STAGE 2 & 3
202+84 - 203+38	LT				54				DRIVEWAY*	STAGE 3
203+38 - 203+47	LT						9		MAINLINE	STAGE 3
203+47 - 203+63	LT							16	MAINLINE	STAGE 3
203+28 - 203+85	LT			31	110				MEDIAN ISLAND	STAGE 2
207+15 - 208+90	LT				350				MEDIAN ISLAND	STAGE 2, 3 & 4
207+15 - 208+90	RT			24	196				MAINLINE & DRIVEWAY	STAGE 2
208+40 - 208+90	LT				69				DRIVEWAY	STAGE 3
208+93 - 209+07	LT				70				SPLITTER ISLAND	STAGE 3
209+13 - 209+30	RT				70				SPLITTER ISLAND	STAGE 2
209+30 - 209+75	LT				66				DRIVEWAY	STAGE 3
209+31 - 210+50	LT			21	240				MEDIAN ISLAND	STAGE 4
209+30 - 210+50	RT				141				MAINLINE & DRIVEWAY	STAGE 2
SUBTOTAL CATEGORY 0010			0	76	1936	0	9	16		
CATEGORY 0020										
182+56 - 188+59	LT		200		603				TEMP CROSSOVER*	STAGE 1
182+61 - 188+35	LT		195		574				TEMP CROSSOVER*	STAGE 1
200+05 - 202+84	RT			25	339				MAINLINE	STAGE 2
200+59 - 202+81	LT				225				MAINLINE	STAGE 3
203+22 - 203+35	RT				80	42			COURT STREET	STAGE 2
203+35 - 203+64	RT						33		MAINLINE	STAGE 2
203+64 - 203+96	RT							33	MAINLINE	STAGE 2
204+94 - 208+40	LT				335				MAINLINE	STAGE 3
205+04 - 207+15	LT				205				MEDIAN ISLAND	STAGE 3
205+09 - 207+15	LT				205				MEDIAN ISLAND	STAGE 2
205+16 - 205+50	RT				34				MAINLINE	STAGE 4
205+50 - 207+15	RT				171				MAINLINE	STAGE 2
209+75 - 210+53	LT			23	75				MAINLINE	STAGE 3
SUBTOTAL CATEGORY 0020			395	48	2846	42	33	33		
TOTALS			395	124	4782	42	42	49		

*NO CURB HEAD AT XCEL ENERGY DRIVEWAY LOCATION AND TEMPORARY CROSSOVER

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

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CONCRETE PAVEMENT									
STATION - STATION	LOCATION	415.0210 CONCRETE PAVEMENT GAPS EACH	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	415.1100 CONCRETE PAVEMENT HES 10-INCH SY	416.0170 CONCRETE DRIVEWAY 7-INCH SY	416.0270 CONCRETE DRIVEWAY HES 7-INCH SY	SPV.0180.01 CONCRETE PAVEMENT 10-INCH SPECIAL SY	REMARKS	STAGE
STH 124/BRIDGE ST CATEGORY 0010									
202+83 - 203+48	LT			50			78	MAINLINE	STAGE 2 & 3
203+00 - 203+41	LT				30	20		DRIVEWAY	STAGE 3
203+48 - 203+78	LT		93					MAINLINE	STAGE 3
203+70 - 203+96	RT		55					MAINLINE	STAGE 2
204+95 - 205+20	LT		65					MAINLINE	STAGE 3
205+09 - 205+32	LT & RT		62					MAINLINE	STAGE 2
207+15 - 210+50	RT						898	MAINLINE	STAGE 2 & 4
207+15 - 210+50	LT						500	MAINLINE	STAGE 2 & 4
208+40 - 209+75	LT						275	DRIVEWAY	STAGE 3
208+50 - 209+79	RT						275	DRIVEWAY	STAGE 2
SUBTOTAL CATEGORY 0010		0	275	50	30	20	2026		
CATEGORY 0020									
200+21 - 203+70	RT	1					1361	MAINLINE	STAGE 2
200+74 - 203+48	LT			40			690	MAINLINE	STAGE 3
202+47 - 203+37	RT						362	COURT STREET	STAGE 2
205+20 - 210+50	LT						1402	MAINLINE	STAGE 3 & 4
205+32 - 207+15	LT & RT						715	MAINLINE	STAGE 2
SUBTOTAL CATEGORY 0020		1	0	40	0	0	4530		
TOTALS		1	275	90	30	20	6556		

CONCRETE SIDEWALK				
STATION - STATION	LOCATION	602.0405 4-INCH SF	602.0415* 6-INCH SF	STAGE
STH 124/BRIDGE ST CATEGORY 0010				
207+15 - 208+73	RT	1153	77	STAGE 2
208+93 - 209+08	LT	0	85	STAGE 3
209+12 - 209+26	RT	0	85	STAGE 2
209+48 - 210+50	RT	877	113	STAGE 2
UNDISTRIBUTED		200		
SUBTOTAL CATEGORY 0010		2230	360	
CATEGORY 0020				
200+05 - 202+76	RT	2080	154	STAGE 2
203+27 - 204+00	RT	571	737	STAGE 2
205+17 - 207+15	RT	1031		STAGE 2
207+36 - 208+70	LT	950	81	STAGE 3
209+46 - 210+54	LT	349	77	STAGE 3
SUBTOTAL CATEGORY 0020		4981	1049	
TOTALS		7211	1409	
*FOR SIDEWALK WITH DETECTABLE WARNING FIELD				

CURB RAMP DETECTABLE WARNING FIELD YELLOW			
STATION - STATION	LOCATION	602.0505 SF	REMARKS
STH 124/BRIDGE ST CATEGORY 0010			
208+66	RT	16	SIDEWALK
209+02	LT	32	SPLITTER ISLAND
209+18	RT	32	SPLITTER ISLAND
209+56	RT	16	SIDEWALK
SUBTOTAL CATEGORY 0010		96	
CATEGORY 0020			
202+70	RT	16	SIDEWALK
203+40	RT	16	SIDEWALK
208+50	LT	16	SIDEWALK
209+35	LT	16	SIDEWALK
SUBTOTAL CATEGORY 0020		64	
TOTAL		160	

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STORM SEWER STRUCTURE ITEMS												
STRUCTURE NUMBER	STATION	LOCATION	611.0420 RECONSTRUCTING MANHOLES EACH	611.0430 RECONSTRUCTING INLETS EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0624 INLET COVERS TYPE H EACH	611.1230 CATCH BASINS 2X3-FT EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
STH 124/BRIDGE ST CATEGORY 0010												
1A	202+42	37.5' RT				1	1			1	1	1
1B	202+82	1.5' LT				1	1			1	1	1
	202+83	56.3' LT		1						1	1	1
1D	203+06	28.1' LT				1	1			1	1	1
1C	203+08	22.8' LT				1	1			1	1	1
3	203+15	135.5' RT				1	1			1	1	1
1	203+41	55.1' LT	1							1	1	1
1E	203+52	15.1' LT				1	1			1	1	1
	205+41	56.2' LT							1	1	1	1
	205+42	25.5' LT							1	1	1	1
	205+51	28.5' RT							1	1	1	1
	207+19	21.0' RT							1	1	1	1
	207+21	14.1' LT							1	1	1	1
	207+26	50.4' RT							1	1	1	1
2	208+43	48.3' LT		1						1	1	1
2A	208+43	25.5' RT				1	1			1	1	1
2C	208+83	21.5' LT				1	1			1	1	1
2B	208+84	16.3' LT				1	1			1	1	1
	210+23	48.4' LT		1						1	1	1
	210+35	4.1' RT			1			1		1	1	1
SUBTOTAL CATEGORY 0010			1	3	1	9	9	1	6	20	20	20
TOTALS			1	3	1	9	9	1	6	20	20	20
NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED												

PROJECT NO: 7255-05-72	HWY: STH 124 (S. BRIDGE ST)	COUNTY: CHIPPEWA	MISCELLANEOUS QUANTITIES	SHEET	E
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STORM SEWER PIPE ITEMS

STRUCTURE NUMBER	STATION	LOCATION	PIPE	204.0280 SEALING PIPES EACH	520.8000 CONCRETE COLLARS FOR PIPE EACH	607.0600.S.01 STORM SEWER PIPE 12-INCH LF	607.0600.S.02 15-INCH LF	STAGE
STH 124/BRIDGE ST CATEGORY 0010								
1A	202+42	37.5' RT	P-1			56		STAGE 2
3	203+15	135.5' RT			2	20		STAGE 2
1B	202+82	1.5' LT	P-2				34	STAGE 3
1D	203+06	28.1' LT	P-4			6		STAGE 3
1C	203+08	22.8' LT	P-3				47	STAGE 3
1E	203+52	15.1' LT	P-5			42		STAGE 3
2A	208+43	25.5' RT	P-6			59		STAGE 2 & 4
2B	208+84	16.3' LT	P-7			6		STAGE 4
2C	208+83	21.3' LT	P-8			49		STAGE 3
UNDISTRIBUTED				4				
SUBTOTAL CATEGORY 0010				4	2	238	81	
TOTALS				4	2	238	81	

BEAM GUARD

STATION - STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	SPV.0180.02 GUARDRAIL MOW STRIP CONCRETE SPECIAL SY	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS TERMINAL EAT EACH	REMARKS
STH 124/BRIDGE ST CATEGORY 0010								
200+15 - 201+40	LT				80			NB
200+16 - 200+94				78.50				NB
200+70 - 201+40	LT				50			SB
200+69 - 200+84	LT	14.40						SB
200+84 - 200+96	LT			12.50				SB
200+94 - 200+48	LT		1					NB
SUBTOTAL CATEGORY 0010		14.40	1	91	130	0.00	0	
CATEGORY 0020								
200+69 - 201+09	LT					39.40		SB
201+09 - 201+62	LT						1	SB
205+08 - 205+50	LT					39.40		SB
205+50 - 206+06	LT						1	SB
SUBTOTAL CATEGORY 0020		0.00	0	0.00	0	78.80	2	
TOTALS		14.40	1	91.00	130	78.80	2	

3

MOBILIZATION

STATION - STATION	LOCATION	619.1000 EACH
STH 124/BRIDGE ST CATEGORY 0010		
205+05 - 210+50.68	LT & RT	0.5
SUBTOTAL CATEGORY 0010		0.5
CATEGORY 0020		
205+05 - 210+50.68	LT & RT	0.5
SUBTOTAL CATEGORY 0020		0.5
TOTAL		1

CONCRETE MEDIAN NOSE

STATION - STATION	LOCATION	620.0200 BLUNT SF	620.0300 SLOPED SF
STH 124/BRIDGE ST CATEGORY 0010			
202+90	LT	20	
203+09	LT		20
203+30	LT	20	
208+87	LT		20
208+92	LT	20	
209+07	LT		40
209+13	RT		40
209+27	RT	20	
209+30	LT		20
SUBTOTAL CATEGORY 0010		80	140
TOTALS		80	140

TOPSOIL, MULCHING, FERTILIZER, AND SEEDING

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB
STH 124/BRIDGE ST CATEGORY 0010						
200+05 - 210+50	LT & RT	325	325	0.25	8	8
SUBTOTAL CATEGORY 0010						
CATEGORY 0020						
207+36 - 210+50	RT	825	825	0.75	22	22
SUBTOTAL CATEGORY 0020						
TOTALS		1150	1150	1.0	30	30

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATIONS EROSION CONTROL EACH
STH 124/BRIDGE ST CATEGORY 0020					
200+05 - 210+50	LT & RT	280	280	1	1
UNDISTRIBUTED		120	120		
SUBTOTAL CATEGORY 0020		400	400	1	1
TOTALS		400	400	1	1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

TRAFFIC CONTROL			
STATION - STATION	LOCATION	643.0100	643.2000
		TRAFFIC CONTROL (7255-05-72) EACH	TRAFFIC CONTROL DETOUR (7255-05-72) EACH
STH 124/BRIDGE ST			
CATEOGRY 0010			
200+05 - 210+50		0.5	0.5
SUBTOTALS CATEGORY 0010		0.5	0.5
CATEGORY 0020			
200+05 - 210+50		0.5	0.5
SUBTOTALS CATEGORY 0020		0.5	0.5
TOTALS		1	1

TRAFFIC CONTROL														
STATION - STATION	LOCATION	614.0700	633.1100	643.0300	643.0410	643.0420	643.0500	643.0600	643.0705	643.0715	643.0900	643.0920	643.3000	REMARKS
		SAND BARREL ARRAYS EACH	DELINEATORS TEMPORARY EACH	DRUMS DAY	BARRICADES TYPE II DAY	BARRICADES TYPE III DAY	FLEXIBLE TUBULAR MARKER POSTS EACH	FLEXIBLE TUBULAR MARKER BASES EACH	WARNING LIGHTS TYPE A DAY	WARNING LIGHTS TYPE C DAY	SIGNS DAY	COVERING SIGNS TYPE II EACH	DETOUR SIGNS DAY	
STH 124/BRIDGE ST														
CATEGORY 0010														
200+05 - 210+50	LT & RT			332		16			32	112	168			STAGE 1
200+05 - 210+50	LT & RT	0.5	5	1587	368	782	54	54	1656	621	1265	3	690	STAGE 2
200+05 - 210+50	LT & RT	0.5	5	2016	84	336	52	52	756	462	1092	1	252	STAGE 3
200+05 - 210+50	LT & RT		10	756		35			70	189	259			STAGE 4
UNDISTRIBUTED							16	16						
SUBTOTAL CATEGORY 0010		1	20	4691	452	1169	122	122	2514	1384	2784	4	942	
CATEGORY 0020														
200+05 - 210+50	LT & RT			332		16			32	112	168			STAGE 1
200+05 - 210+50	LT & RT	0.5	5	1587	368	782	54	54	1656	621	1265	3	690	STAGE 2
200+05 - 210+50	LT & RT	0.5	5	2016	84	336	52	52	756	462	1092	1	252	STAGE 3
200+05 - 210+50	LT & RT		20	756		35			70	189	259			STAGE 4
UNDISTRIBUTED			10				16	16						
SUBTOTAL CATEGORY 0020		1	40	4691	452	1169	122	122	2514	1384	2784	4	942	
TOTALS		2	60	9382	904	2338	244	244	5028	2768	5568	8	1884	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

SIGNING ITEMS														
SIGN GROUP NUMBER	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X H (INCHES)	637.2210 SIGNS TYPE II	637.2230 SIGNS TYPE II	634.0612	634.0614	634.0616	634.0814	634.0816	638.2102	638.2602	638.3000 REMOVING SMALL SIGN SUPPORTS	REMARKS
				REFLECTIVE H SF	REFLECTIVE F SF	POSTS WOOD			POSTS TUBULAR STEEL		MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH		
						4X6-INCH X 12-FT EACH	4X6-INCH X 14-FT EACH	4X6-INCH X 16-FT EACH	2X2-INCH X 14-FT EACH	2X2-INCH X 16-FT EACH				
STH 124/BRIDGE ST CATEGORY 0010														
1-2	W5-52L	BRIDGE HASH MARKS	12 X 36		3	1						1	1	REPLACE
1-4	R4-7	KEEP RIGHT	24 X 30									1		REMOVE
1-5	R3-4	NO U-TURN	24 X 24	4.00					1					INSTALL
1-6	R3-2	NO LEFT TURN	24 X 24	4.00					1					INSTALL
1-7	R4-7	KEEP RIGHT	24 X 30	5.00					1					INSTALL
1-8	R3-4	NO U-TURNS	24 X 24	4.00					1					INSTALL
1-26	R4-7	KEEP RIGHT	24 X 30									1		REMOVE
1-28	R6-2L	ONE WAY	24 X 30	5.00						1				INSTALL
1-29	R4-7	KEEP RIGHT	24 X 30									1	1	REMOVE
1-31	R3-50R	LANE CONT. SYMBOL RT	30 X 36	7.50				1						INSTALL
1-32	R1-1	STOP	30 X 30	5.18								1	1	REPLACE
1-33	R4-7	KEEP RIGHT	24 X 30	5.00				1						INSTALL
1-34	R5-1	DO NOT ENTER	30 X 30	6.25					1					INSTALL
1-35	R6-2L	ONE WAY	24 X 30	5.00						1				INSTALL
1-37	R4-7	KEEP RIGHT	24 X 30								1			MOVE & REINSTALL
1-40	R6-2L	ONE WAY	24 X 30	5.00						1				INSTALL
1-41	R5-1	DO NOT ENTER	30 X 30	6.25							1			MOVE & REINSTALL
1-42	R3-4	NO U TURN	24 X 24	4.00					1					INSTALL
1-43	R1-1	STOP	30 X 30	5.18			1							INSTALL
1-44	R3-50R	LANE CONT. SYMBOL RT	30 X 36	7.50				1						INSTALL
1-45	R3-4	NO U TURN	24 X 24	4.00					1					INSTALL
SUBTOTAL CATEGORY 0010					82.86	3	1	2	2	7	4	2	5	3
CATEGORY 0020														
1-1	W5-52R	BRIDGE HASH MARKS	12 X 36		3	1						1	1	REPLACE
1-3	R2-1	SPEED LIMIT 35	24 X 30	5.00				1				1		REPLACE
1-9	R5-1	DO NOT ENTER	30 X 30	6.25								1	1	REPLACE
1-10	R6-2L	ONE WAY	24 X 30	5.00				1				1		REPLACE
1-11	R5-1A	WRONG WAY	36 X 24	6.00				1				1	1	REPLACE
1-12	W5-52R	BRIDGE HASH MARKS	12 X 36		3	1						1	1	REPLACE
1-13	R5-3	NO MOTOR VEHICLES	24 X 24	4.00				1				1	1	REPLACE
1-14	R1-1	STOP	30 X 30											EXISTING TO REMAIN
1-15	R2-1	SPEED LIMIT 25	24 X 30	5.00					1					INSTALL
1-16	R5-1A	WRONG WAY	36 X 24	6.00					1			1	1	REPLACE
1-17	R6-2L	ONE WAY	24 X 30									1		REMOVE
1-18	R5-1	DO NOT ENTER	30 X 30									1		REMOVE
1-19	R6-2L	ONE WAY	24 X 30	5.00						1				INSTALL
1-20	R5-1	DO NOT ENTER	30 X 30	6.25						1				INSTALL
1-21	R3-7R	RIGHT LANE MUST TURN RIGHT	30 X 30									1	1	REMOVE
1-22	R7-53D	NO PARKING ON THIS SIDE	18 X 24									1		REMOVE
1-23	R1-1	STOP	30 X 30	5.18			1					1	1	REPLACE
	R6-3A	DIVIDED HIGHWAY	30 X 24									1		REMOVE
1-24	R3-50R	LANE CONT. SYMBOL RT	30 X 36	7.50				1						INSTALL
1-25	R2-1	SPEED LIMIT 25	24 X 30									1	1	REMOVE
1-27	M1-85	WI HERITAGE									1			MOVE & REINSTALL ON PO
		AREA HISTORY CENTER												
1-30	W11-2	PEDESTRIAN CROSSING	30 X 30									1		REMOVE
1-36	JV3-2	BUSINESS	24 X 105											REMOVE & REINSTALL
		EAST												
		STH 29												
		SOUTH												
		STH 124												
		ARROW												
1-38	W2-6	CHASING ARROWS	30 X 30											EXISTING TO REMAIN
	W13-1	15 MPH	18 X 18											
	R5-1A	WRONG WAY	36 X 24	6.00										INSTALL
1-39	E6-52	ROUNDAABOUT NAVIGATION SIGN	108 X 84											EXISTING TO REMAIN
	E6-54R	ROUNDAABOUT NAVIGATION SIGN	96 X 78											S-09-0033
	D9-2	HOSPITAL	24 X 24											EXISTING TO REMAIN
	MB6-1	ARROW	21 X 21											EXISTING TO REMAIN
1-46	R7-53D	NO PARKING ON THIS SIDE	18 X 24	3.00				1						INSTALL
1-47	R5-1A	WRONG WAY	36 X 24	6.00				1						INSTALL
SUBTOTAL CATEGORY 0020					76.18	6	2	6	3	2	2	2	16	10
TOTALS					159.04	9	3	8	5	9	6	4	21	13

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

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		PAVEMENT MARKING									
STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH LF	646.0126 EPOXY 8-INCH LF	646.0600 REMOVING PAVEMENT MARKINGS LF	647.0166 ARROWS EPOXY TYPE 2 EACH	647.0356 WORDS EPOXY EACH	647.0456 CURB EPOXY LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 ISLAND NOSE EPOXY EACH	647.0766 CROSSWALK EPOXY 6-INCH LF	REMARKS
STH 124/BRIDGE ST											
CATEGORY 0010											
180+00 - 183+00		75		75							WHITE DASHED
189+20 - 191+05		47		47							WHITE DASHED
200+05 - 202+83		280									YELLOW
200+59 - 203+09		250									YELLOW
203+04 - 203+10							10				YELLOW
203+10									1		YELLOW
203+30 - 203+36							13				YELLOW
203+31 - 203+88		57									YELLOW
205+75 - 207+23		37		37							WHITE DASHED
207+15 - 208+40		130									WHITE
207+15 - 208+70		155									YELLOW
207+15 - 208+70			155								WHITE
207+15 - 208+86		175									YELLOW
207+15 - 210+50		85									WHITE DASHED
207+36						1					WHITE (ONLY)
207+83					1						WHITE (LEFT)
208+14						1					WHITE (ONLY)
208+46					1						WHITE (LEFT)
208+64 - 209+52										125	WHITE
208+68 - 209+56										125	WHITE
208+78 - 208+98								20			WHITE
208+81 - 208+87							10				YELLOW
208+87									1		YELLOW
209+00 - 209+10		60									YELLOW
209+10 - 209+20		60									YELLOW
209+22 - 209+42								20			WHITE
209+33									1		YELLOW
209+33 - 209+39							10				YELLOW
209+34 - 210+50		120									YELLOW
209+50 - 210+31			80								WHITE
209+50 - 210+51		150									YELLOW
209+61					1						WHITE (LEFT)
209+80 - 210+50		72									WHITE
209+94						1					WHITE (ONLY)
210+00 - 210+98		15		25							WHITE DASHED
210+27					1						WHITE (LEFT)
210+98 - 211+72			184	184							WHITE
SUBTOTALS CATEGORY 0010		1768	419	368	4	3	43	40	3	250	
CATEGORY 0020											
200+05 - 202+44		240									WHITE
200+05 - 207+15		180									WHITE DASHED
200+59 - 208+40		765									WHITE
200+59 - 210+50		245									WHITE DASHED
201+60					1						WHITE (RIGHT)
201+87						1					WHITE (ONLY)
201+44 - 202+44			100								WHITE
202+20					1						WHITE (RIGHT)
202+68 - 203+29										110	WHITE
203+03 - 203+23								20			WHITE
203+48 - 204+44			95								WHITE
203+61 - 207+15		350									YELLOW
203+64 - 207+15		400									WHITE
203+72					1						WHITE (LEFT)
203+88 - 207+15		510									YELLOW
204+05						1					WHITE (ONLY)
204+38					1						WHITE (LEFT)
206+80 - 207+15		35									YELLOW
206+86					1						WHITE (LEFT)
209+75 - 210+50		75									WHITE
SUBTOTALS CATEGORY 0020		2800	195	0	5	2	2	20	0	110	
TOTALS		4568	614	368	9	5	45	60	3	360	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

TEMPORARY PAVEMENT MARKING

STATION	LOCATION	649.0100 4-INCH		649.0400 REMOVABLE TAPE 4-INCH		REMARKS
		WHITE LF	YELLOW LF	WHITE LF	YELLOW LF	
STH 124/BRIDGE ST						
CATEGORY 0010						
200+05 - 210+50	LT & RT				333	STAGE 1
200+05 - 210+50	LT & RT	415	975	130	1988	STAGE 2
200+05 - 210+50	LT & RT	255	248	53	2548	STAGE 3
200+05 - 210+50	LT & RT				335	STAGE 4
SUBTOTALS CATEGORY 0010		1893		5387		
CATEGORY 0020						
200+05 - 210+50	LT & RT				333	STAGE 1
200+05 - 210+50	LT & RT	415	975	130	1988	STAGE 2
200+05 - 210+50	LT & RT	255	248	53	2548	STAGE 3
200+05 - 210+50	LT & RT				335	STAGE 4
SUBTOTALS CATEGORY 0020		1893		5387		
TOTALS		3786		10774		

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500	650.7000	650.8500	650.9910
		SUBGRADE LF	CONCRETE PAVEMENT LF	ELECTRICAL INSTALLATIONS (7255-05-72) LS	SUPPLEMENTAL CONTROL (7255-05-72) LS
STH 124/BRIDGE ST					
CATEGORY 0010					
200+05.46 - 210+50.68	~	414	414	0.5	0.5
SUBTOTAL CATEGORY 0010		414	414	0.5	0.5
CATEGORY 0020					
200+05.46 - 210+50.68	~	506	506	0.5	0.5
SUBTOTAL CATEGORY 0020		506	506	0.5	0.5
TOTALS		920	920	1	1

SAWING

STATION	LOCATION	690.0150	690.0250	REMARKS
		ASPHALT LF	CONCRETE LF	
STH 124/BRIDGE ST				
CATEGORY 0010				
201+38 - 203+83	LT		245	STAGING
203+03 - 303+45	LT	35	25	DRIVEWAY
205+00 - 217+15	LT & RT		215	STAGING
210+50	LT & RT	25	40	MAINLINE
SUBTOTAL CATEGORY 0010		60	525	
CATEGORY 0020				
182+56 - 188+59	LT		603	TEMP CROSSOVER*
182+61 - 188+35	LT		574	TEMP CROSSOVER*
200+05	RT		30	MAINLINE
202+76	RT		10	SIDEWALK
203+06	RT	40		COURT STREET
217+15 - 210+50	LT		360	STAGING
210+50	LT		40	MAINLINE
SUBTOTAL CATEGORY 0020		40	1617	
TOTALS		100	2142	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

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WATER UTILITY ITEMS

STATION - STATION	LOCATION	SPV.0060.01 ADJUSTING WATER VALVE EACH	SPV.0060.02 ADJUSTING CURB STOP EACH	SPV.0060.03 REMOVING CURB STOP EACH	SPV.0060.07 CUT INTO AND CONNECT TO EXISTING WATER MAIN EACH	SPV.0060.08 STEEL PLATE INLET COVER EACH	SPV.0060.09 FIRE HYDRANT EACH	SPV.0060.10 GATE VALVE AND BOX 6-INCH EACH	SPV.0085.01 WATER MAIN FITTINGS LB	SPV.0090.05 WATER MAIN 6-INCH LF	REMARKS
STH 124/BRIDGE ST CATEGORY 0020											
203+41	55.1' LT					1					STAGE 1 & 2 6" PLUG
208+25.28	61.8' RT								18		
208+25.25 - 208+32.16	LT & RT									125	
208+31.96	59.8' LT							1			KEEP VALVE CLOSED 6" X 6" CROSS
208+32.16	63.5' LT				1				80		
208+32.16 - 208+33.26	LT									20	KEEP VALVE CLOSED 6" PLUG
208+32.35	67.0' LT							1			
208+33.26	83.4' LT								18		
208+55.07	73.3' LT	1									
208+69.92	42.0' RT						1				
208+69.92 - 208+75.58	LT & RT									103	
208+70.07	39.3' RT							1			
208+75.40	57.8' LT							1			
208+75.58	61.1' LT				1				60		6" X 6" TEE
UNDISTRIBUTED		1	2	2							
SUBTOTAL CATEGORY 0020		2	2	2	2	1	1	4	176	248	
TOTALS		2	2	2	2	1	1	4	176	248	

STAMPED PATTERN COLORED CONCRETE SIDEWALK 6-INCH

STATION	LOCATION	SPV.0165.01 SF	STAGE
STH 124/BRIDGE ST CATEGORY 0010			
200+05 - 203+10	LT	2046	STAGE 2 & 3
203+29 - 203+85	LT	547	STAGE 2
207+15 - 208+87	LT	1027	STAGE 3 & 4
207+15 - 208+63	RT	641	STAGE 2
208+93 - 209+07	LT	131	STAGE 3
209+13 - 209+30	RT	131	STAGE 2
209+33 - 210+50	LT	672	STAGE 4
209+48 - 210+50	RT	383	STAGE 2
SUBTOTAL CATEGORY 0010		5578	
CATEGORY 0020			
200+28 - 202+62	RT	1019	STAGE 2
203+32 - 203+64	RT	107	STAGE 2
205+04 - 207+15	LT	2495	STAGE 2 & 3
205+17 - 207+15	RT	804	STAGE 2
207+36 - 208+59	LT	526	STAGE 3
209+57 - 210+53	LT	393	STAGE 3
210+50 - 210+94	RT	178	STAGE 2
210+53 - 211+09	LT	226	STAGE 3
SUBTOTAL CATEGORY 0020		5748	
TOTAL		11326	

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CONCRETE CURB & GUTTER CURE AND SEAL TREATMENT

STATION - STATION	LOCATION	SPV.0090.01 LF	REMARKS
STH 124/BRIDGE ST CATEGORY 0010			
200+05 - 203+12	LT	570	MEDIAN ISLAND
202+84 - 203+63	LT	80	DRIVEWAY
203+28 - 203+85	LT	110	MEDIAN ISLAND
207+15 - 208+90	LT	350	MEDIAN ISLAND
207+15 - 208+90	RT	196	MAINLINE & DRIVEWAY
208+40 - 208+90	LT	69	DRIVEWAY
208+93 - 209+07	LT	70	SPLITTER ISLAND
209+13 - 209+30	RT	70	SPLITTER ISLAND
209+30 - 209+75	LT	66	DRIVEWAY
209+31 - 210+50	LT	240	MEDIAN ISLAND
209+30 - 210+50	RT	141	MAINLINE & DRIVEWAY
SUBTOTAL CATEGORY 0010		1962	
CATEGORY 0020			
182+56 - 188+59	LT	603	TEMP CROSSOVER
182+61 - 188+35	LT	574	TEMP CROSSOVER
200+05 - 202+84	RT	339	MAINLINE
200+59 - 202+81	LT	225	MAINLINE
203+22 - 203+96	RT	188	MAINLINE & COURT STREET
204+94 - 208+40	LT	335	MAINLINE
205+04 - 207+15	LT	205	MEDIAN ISLAND
205+09 - 207+15	LT	205	MEDIAN ISLAND
205+16 - 207+15	RT	205	MAINLINE
209+75 - 210+53	LT	75	MAINLINE
SUBTOTAL CATEGORY 0020		2954	
TOTAL		4916	

CONCRETE BARRIER SINGLE-FACED (WITH ANCHORAGE) SPECIAL

STATION - STATION	LOCATION	SPV.0090.02 LF
STH 124/BRIDGE ST CATEGORY 0020		
203+38 - 203+97	RT	66
SUBTOTAL CATEGORY 0020		66
TOTAL		66

CONSTRUCTION STAKING CONCRETE PAVEMENT JOINT LAYOUT

STATION - STATION	LOCATION	SPV.0105.01 LS	REMARKS
STH 124/BRIDGE ST CATEGORY 0010			
200+05.61 - 210+50.68	~	0.5	MAINLINE CONCRETE
SUBTOTAL CATEGORY 0010		0.5	
CATEGORY 0020			
200+05.61 - 210+50.68	~	0.5	MAINLINE CONCRETE
SUBTOTAL CATEGORY 0020		0.5	
TOTALS		1	

CONCRETE SIDEWALK CURE AND SEAL TREATMENT

STATION	LOCATION	SPV.0165.02 SF
STH 124/BRIDGE ST CATEGORY 0010		
200+05 - 203+10	LT	3329
203+29 - 203+85	LT	547
207+15 - 208+87	LT	1027
207+15 - 208+63	RT	641
207+15 - 208+73	RT	1231
208+93 - 209+08	RT	85
209+12 - 209+26	RT	85
209+33 - 210+50	LT	672
209+48 - 210+50	RT	1374
SUBTOTAL CATEGORY 0010		8991
CATEGORY 0020		
200+05 - 202+76	RT	2234
200+28 - 202+62	RT	1019
203+27 - 204+00	RT	1307
203+32 - 203+64	RT	107
205+04 - 207+15	LT	2495
205+17 - 207+15	RT	1835
207+36 - 208+59	LT	526
207+36 - 208+70	LT	1031
208+93 - 209+07	LT	131
209+13 - 209+30	RT	131
209+46 - 210+54	LT	427
209+57 - 210+53	LT	393
210+50 - 210+94	RT	178
210+53 - 211+09	LT	226
SUBTOTAL CATEGORY 0020		12040
TOTAL		21031

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED

3

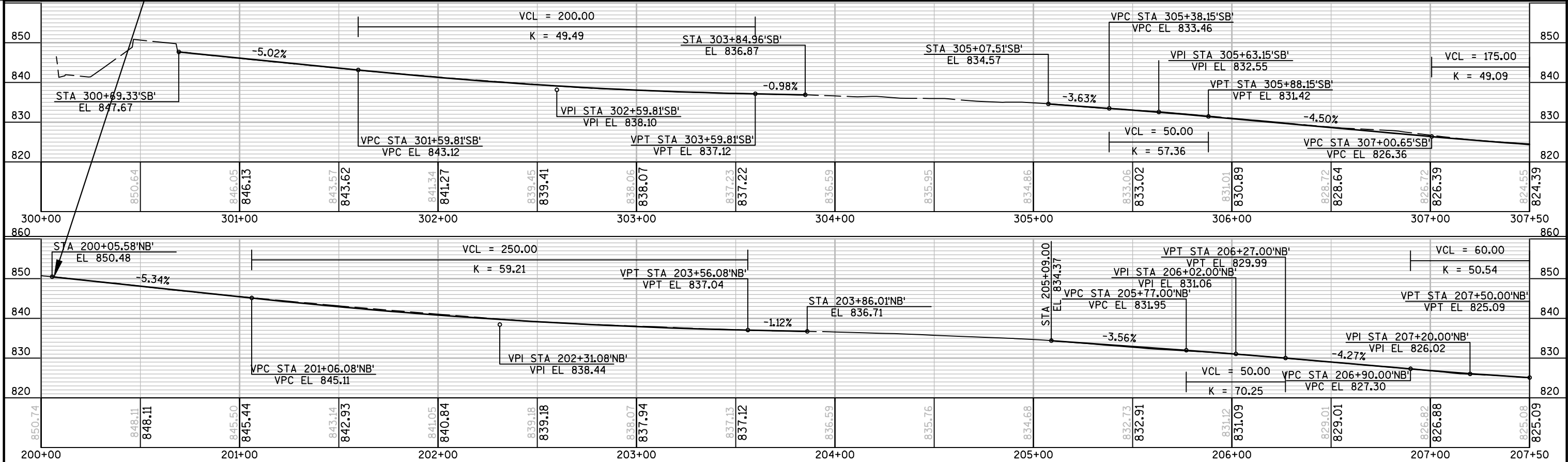
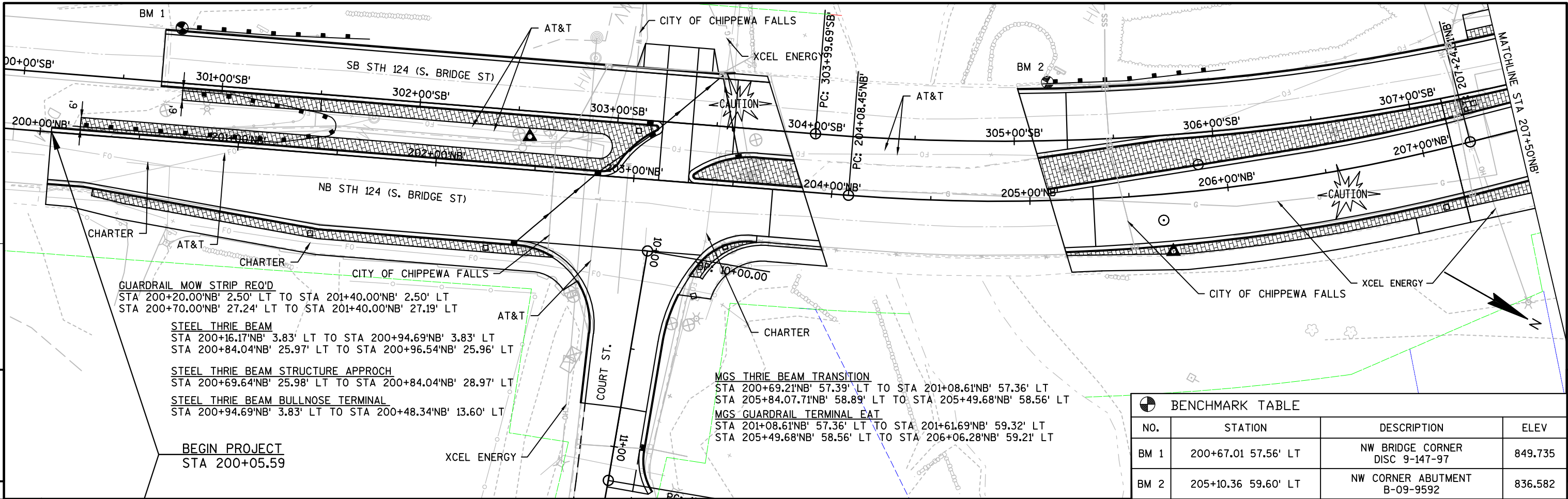
LIGHTING UNIT ITEMS				
LIGHTING UNIT NO.	204.0195 REMOVING CONCRETE BASES EACH	SPV.0060.04 SALVAGE LIGHTING UNIT EACH	SPV.0060.05 LIGHTING UNIT TYPE SPECIAL EACH	SPV.0060.06 CONCRETE BASE TYPE SPECIAL EACH
STH 124/BRIDGE ST				
X-1	1	1		
X-2	1	1		
X-3	1	1		
X-4				
X-5				
X-6	1	1		
X-7	1	1		
X-8	1	1		
A-14			1	1
A-15			1	1
A-16			1	1
A-17			1	1
A-18			1	1
A-19			1	1
A-20			1	1
A-21			1	1
B-1			1	1
B-2			1	1
B-3			1	1
B-4			1	1
B-5			1	1
B-6			1	1
B-7			1	1
SUBTOTAL CATEGORY 0010	5	5	4	4
SUBTOTAL CATEGORY 0020	1	1	11	11
TOTALS	6	6	15	15

PULL BOX ITEMS			
NO.	LOCATION	653.0145 PULL BOXES STEEL 24" X 48" EACH	653.0905 REMOVING PULL BOXES EACH
STH 124/BRIDGE ST			
XLPB-1			1
XLPB-2			1
XLPB-3			
XLPB-4			1
XLPB-5			1
XLPB-6			1
LPB-6	202+61.5, 59' RT	1	
LPB-7	203+58, 8.5' LT	1	
LPB-8	205+27, 16' LT	1	
SUBTOTAL CATEGORY 0010		2	4
SUBTOTAL CATEGORY 0020		1	1
TOTALS		3	5

LIGHTING ELECTRICAL WIRE AND CONDUIT ITEMS						
STA. FROM	STA. TO	204.9090.S.01	652.0225	655.0610	655.0620	655.0625
		REMOVING CABLES LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	ELECTRICAL WIRE LIGHTING 12 AWG LF	ELECTRICAL WIRE LIGHTING 8 AWG LF	ELECTRICAL WIRE LIGHTING 6 AWG LF
STH 124/BRIDGE ST						
X-1	X-2	175				
X-2	LCC-B	132				
X-8	XLPB-6	120				
XLPB-6	X-7	75				
X-7	XLPB-5	140				
X-6	XLPB-5	20				
XLPB-5	XJB-1	65				
X-3	XLPB-4	30				
XLPB-4	XLPB-3	65				
XLPB-3	LCC-B	110				
B-1	B-3		161	115	171	342
B-3	LPB-6		66	115	152	304
B-2	B-4		166	115	176	352
B-6	B-4		113	115	123	246
B-6	LPB-6		125	115	135	270
LPB-6	LCC-B		39		49	98
LPB-7	B-7		53		63	126
B-7	B-5		101	115	111	222
B-5	LCC-B		18	115	28	56
A-17	A-16		158	115	168	336
A-16	A-15		180	115	190	380
A-15	A-14		164	115	174	348
A-14	LPB-1		67	115	77	154
LPB-1	A-2		68		78	156
X-4	LPB-8			60		
X-5	LPB-8			60		
A-18	A-19		178	115	188	376
A-19	A-20		170	115	180	360
A-20	A-21		180	115	190	380
A-21	LPB-2		134	115	144	288
LPB-2	A-3		78		88	176
SUBTOTAL CATEGORY 0010		542	380	230	410	820
SUBTOTAL CATEGORY 0020		390	1839	1615	2075	4150
TOTALS		932	2219	1845	2485	4970

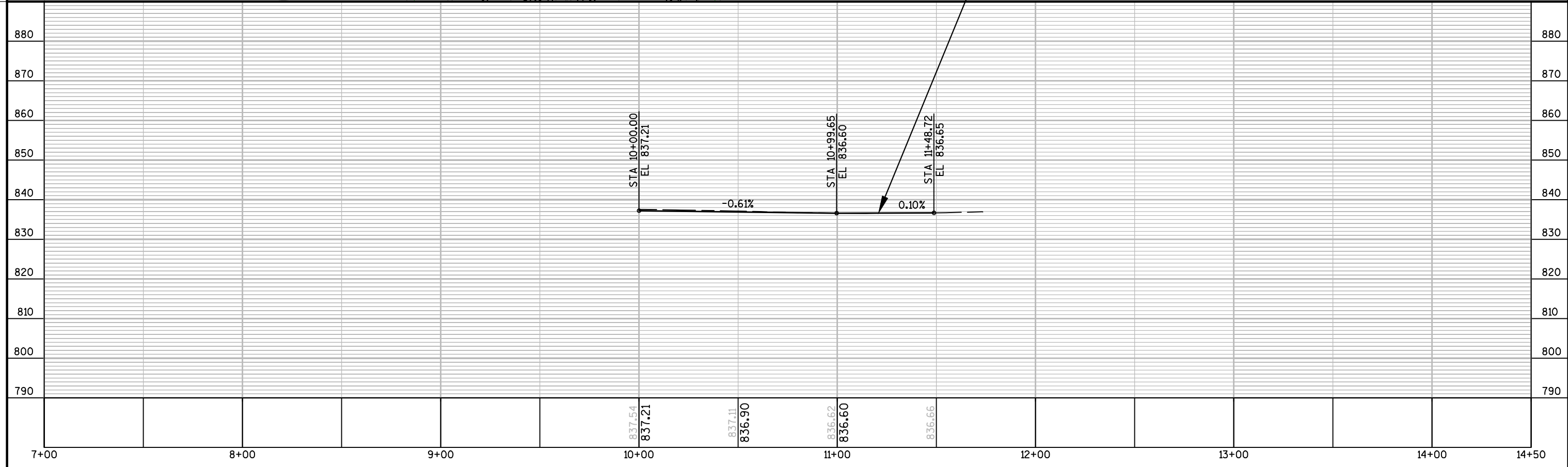
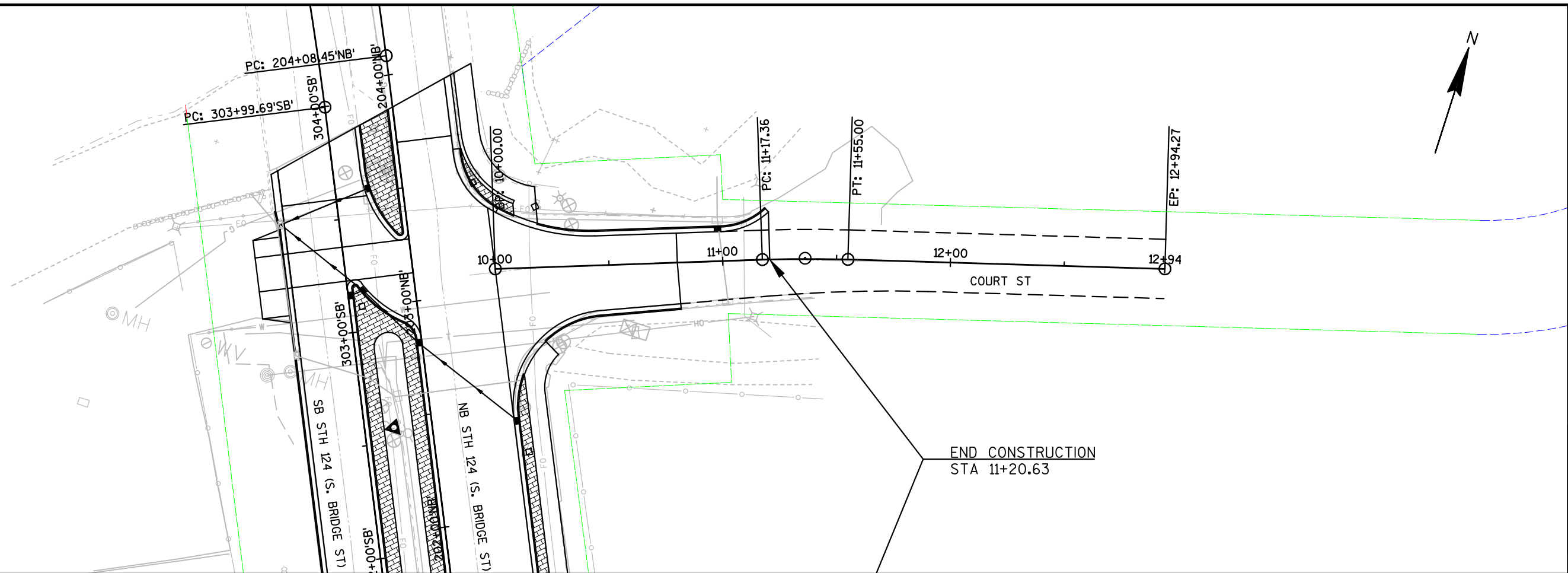
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NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED



5

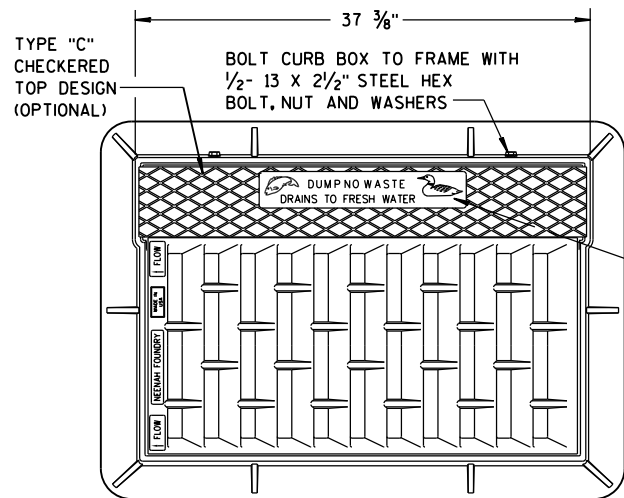
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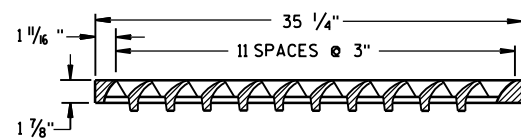
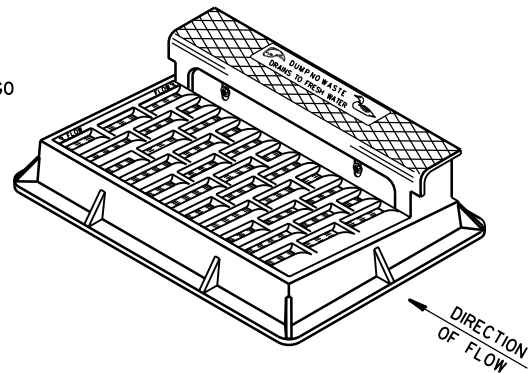
PROJECT NO: 7255-05-72	HWY: STH 124 (S. BRIDGE ST)	COUNTY: CHIPPEWA	PLAN AND PROFILE: COURT STREET	SHEET	E
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Standard Detail Drawing List

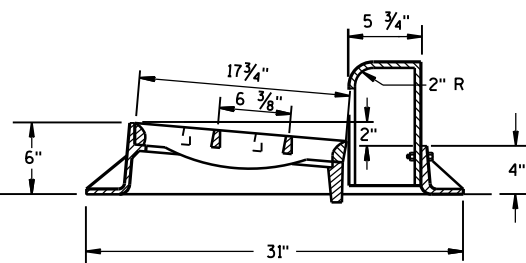
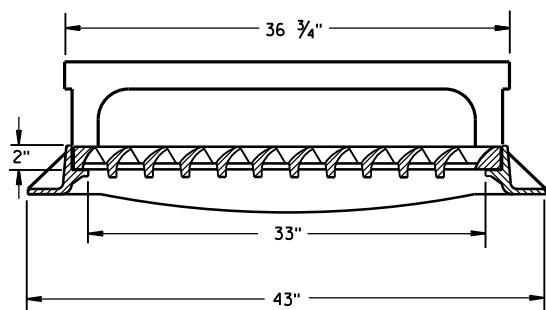
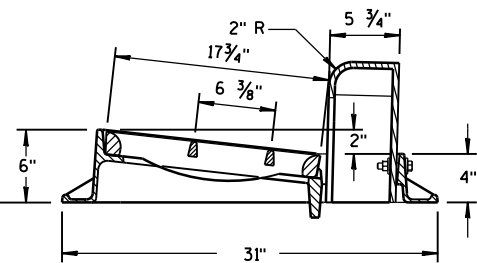
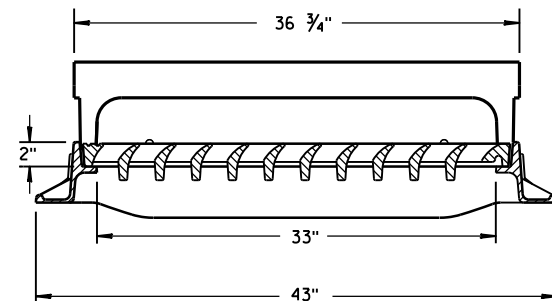
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-01	CATCH BASINS 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
11B02-02	CONCRETE MEDIAN NOSE
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B20-11A	STEEL THREE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THREE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B26-02A	STEEL THREE BEAM BULLNOSE TERMINAL
14B26-02B	STEEL THREE BEAM BULLNOSE TERMINAL
14B26-02C	STEEL THREE BEAM BULLNOSE TERMINAL
14B26-02D	STEEL THREE BEAM BULLNOSE TERMINAL
14B26-02E	STEEL THREE BEAM BULLNOSE TERMINAL
14B28-02	GUARDRAIL MOW STRIP
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D06-03	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D09-03	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT
15D11-04	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



**NOTE:
GRATE IS REVERSIBLE.**

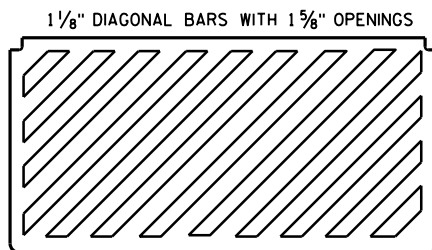


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

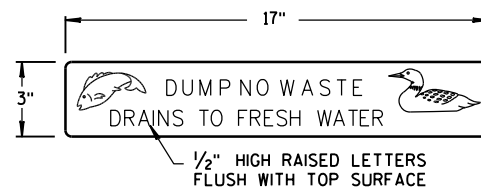


TYPE "H"

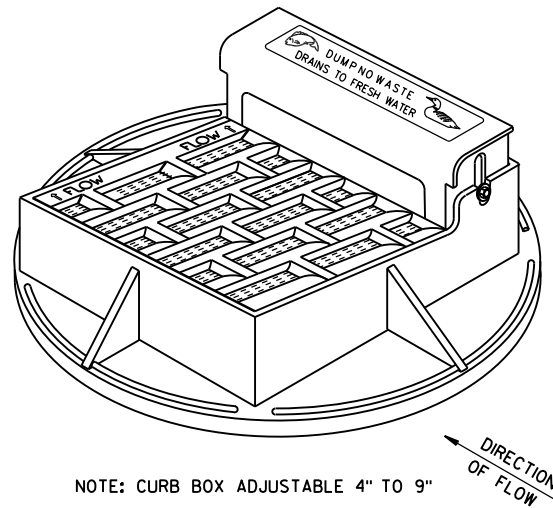
NOTE: EITHER CASTING IS ACCEPTABLE



**SPECIAL GRATE FOR
TYPE "H" COVER**
(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

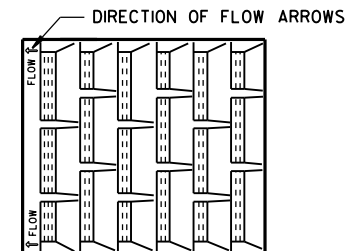


LOGO DETAIL

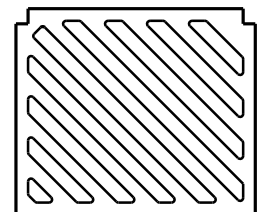


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

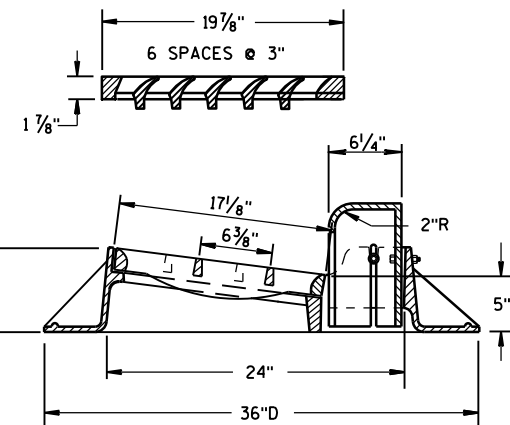
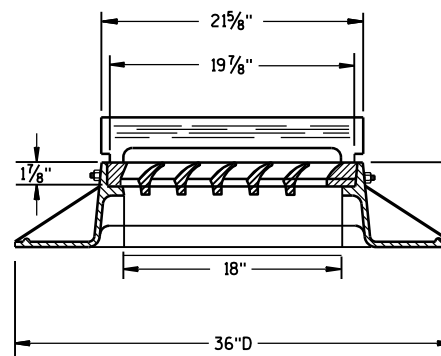
**NOTE:
GRATE IS REVERSIBLE.**



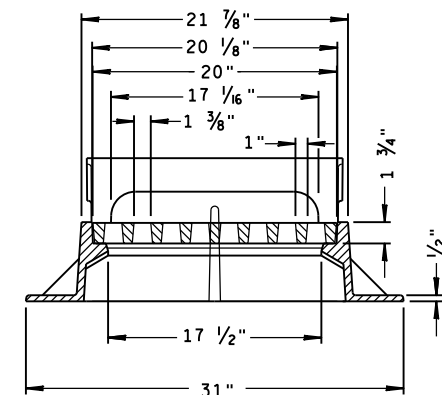
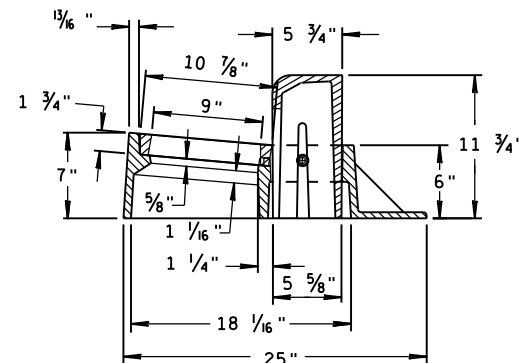
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



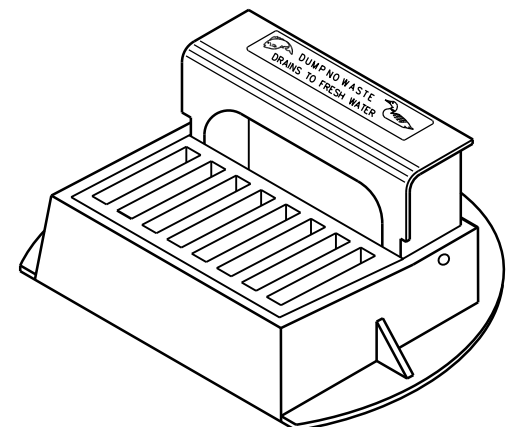
**SPECIAL GRATE FOR
TYPE "A" COVER**
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"

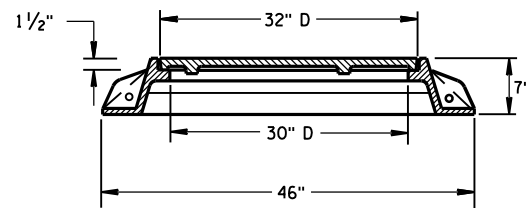
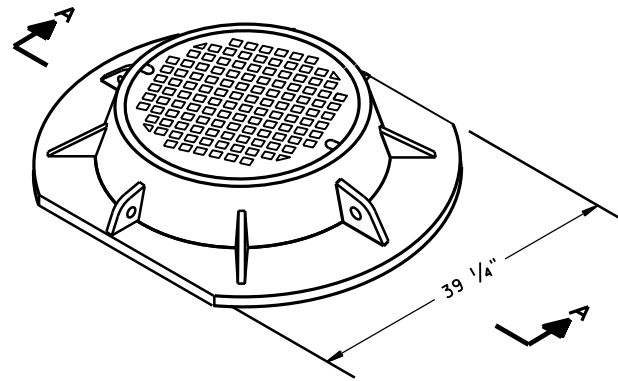


**INLET COVERS
TYPE A, H, A-S, H-S & Z**

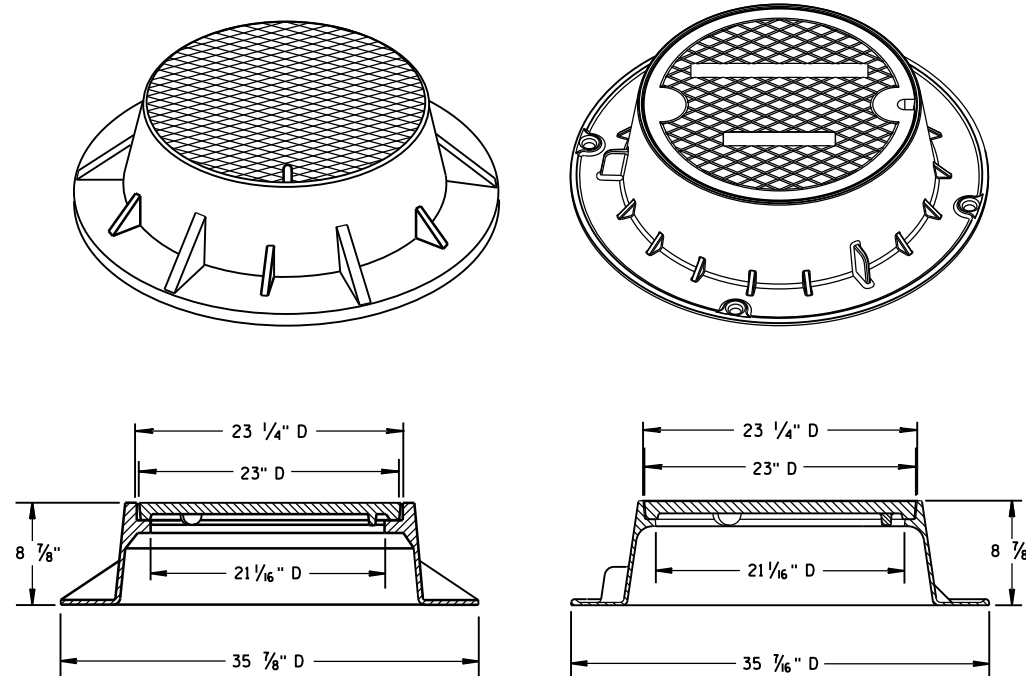
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
II-27-13
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

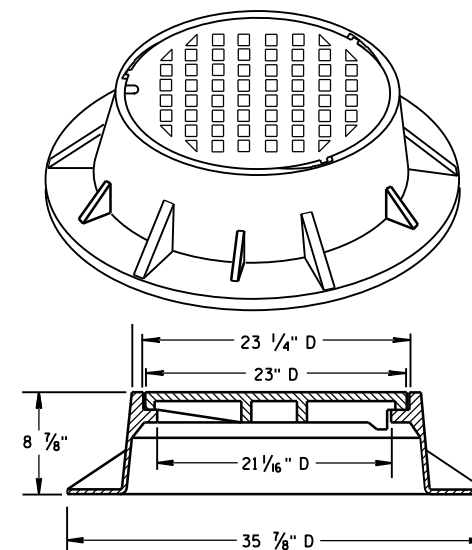
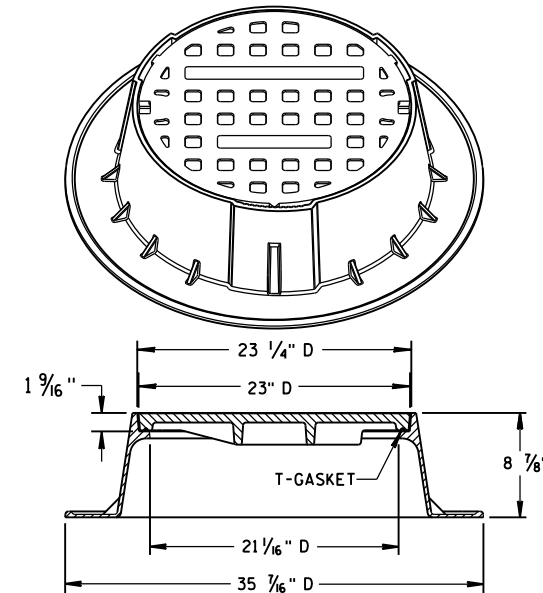


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

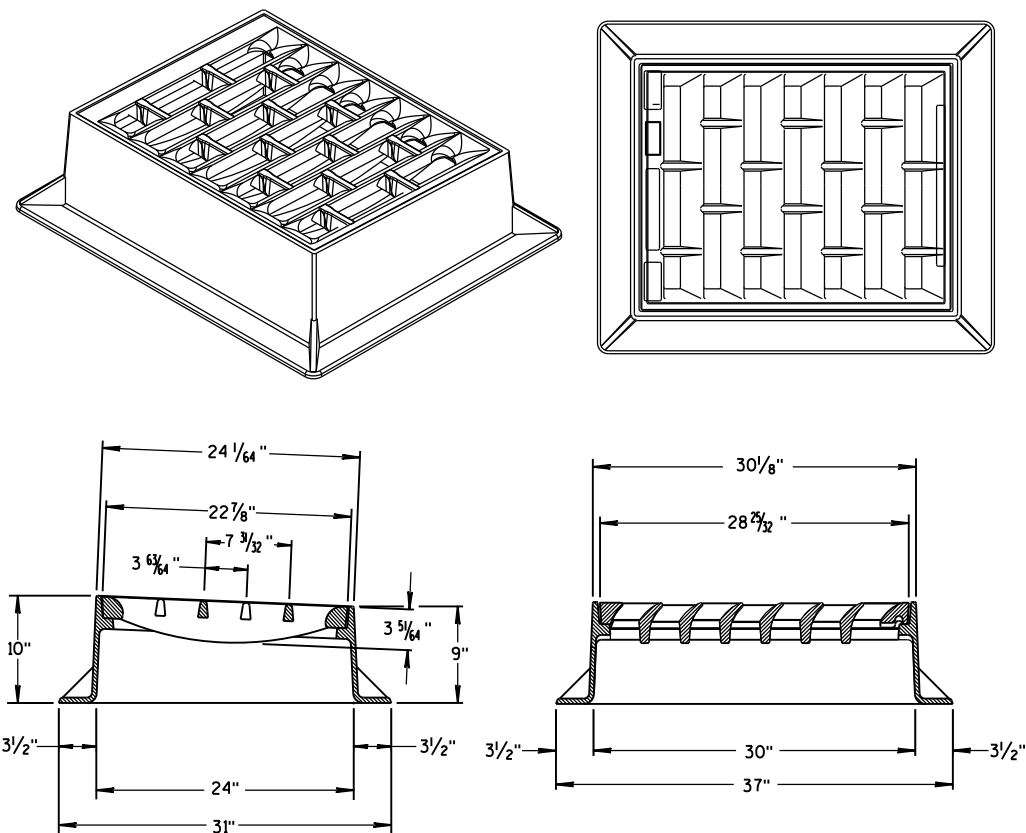


TYPE "J" SPECIAL

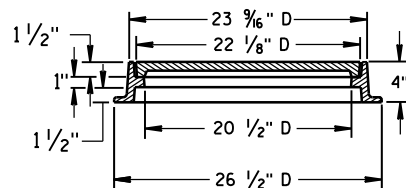
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

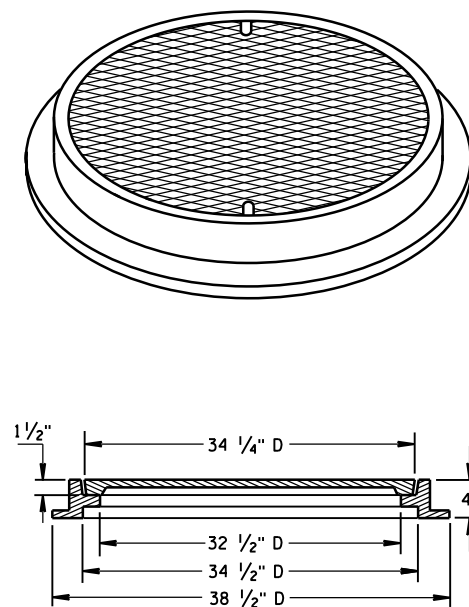
NOTE: EITHER CASTING IS ACCEPTABLE



INLET COVER TYPE "BW"



TYPE "L"



TYPE "M"

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

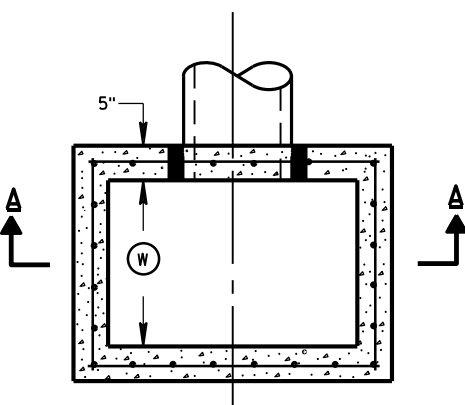
APPROVED
11/27/2013
DATE
FHWA
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

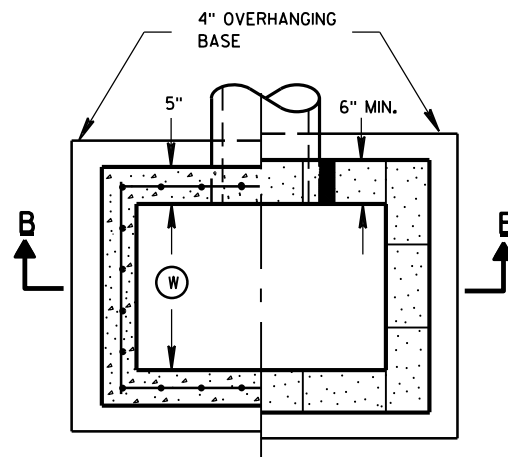
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

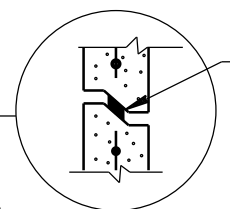
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



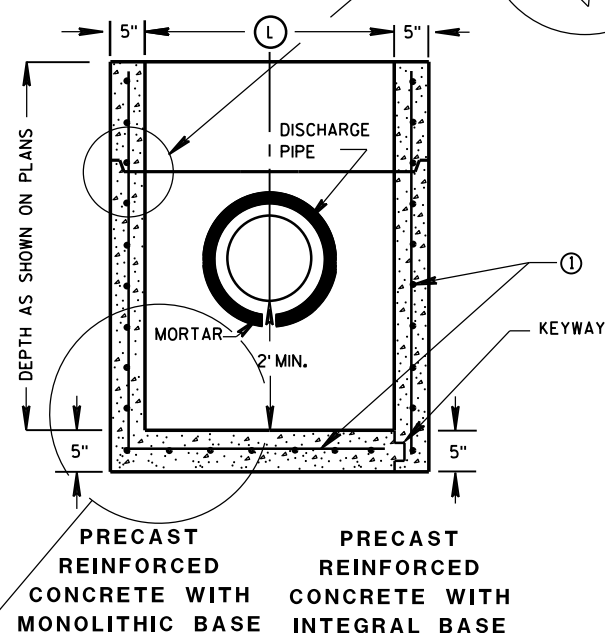
PLAN VIEW



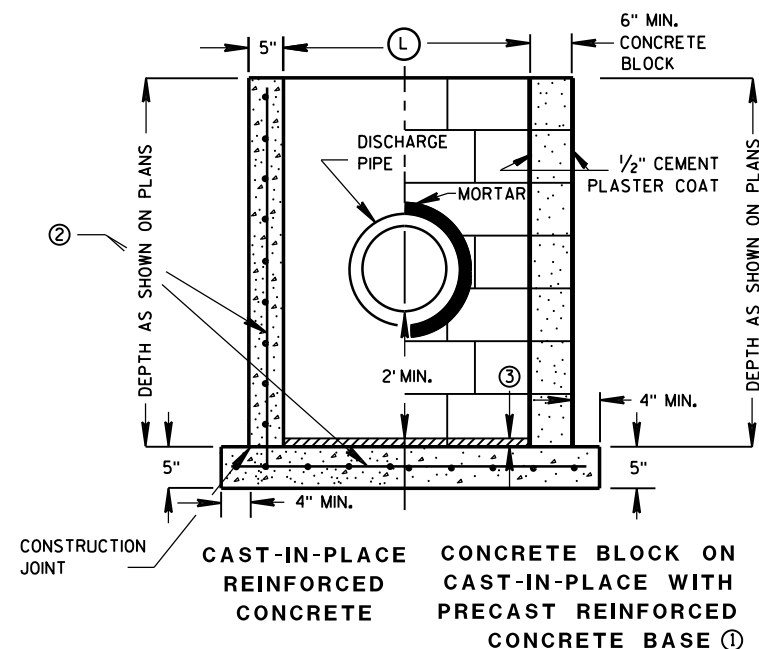
PLAN VIEW



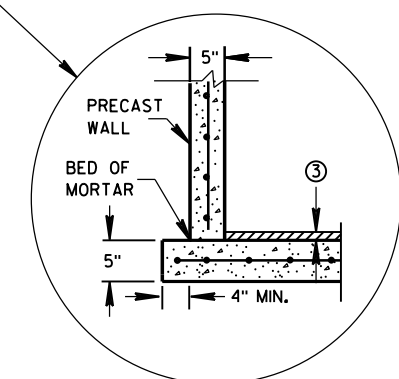
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

CATCH BASINS 2X3-FT AND 2.5X3-FT

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

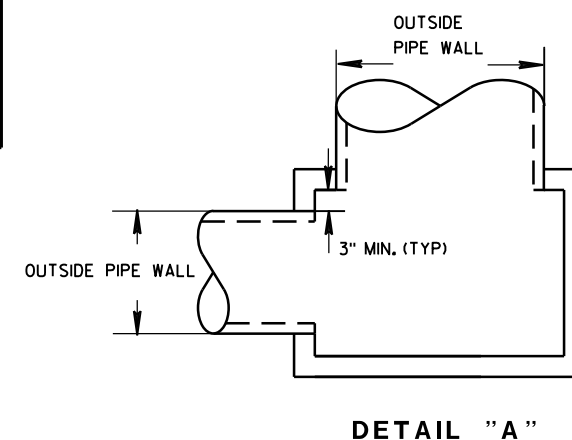
- ① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE	WIDTH (W) (FT)	LENGTH (L) (FT)	F	ALL H'S
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



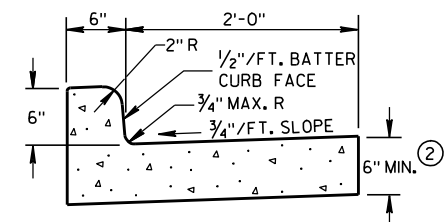
DETAIL "A"

CATCH BASINS 2X3-FT
AND 2.5X3-FT

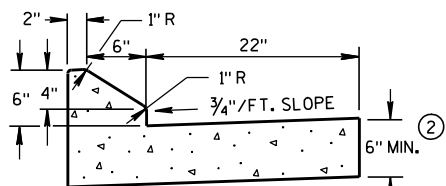
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

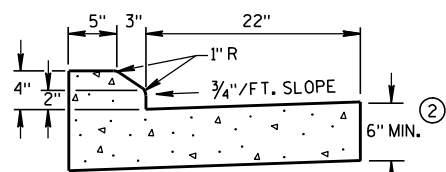
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TYPES A & D ①

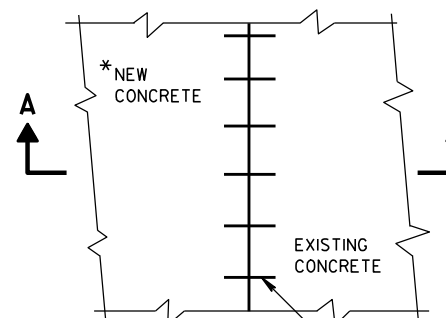


6" SLOPED CURB TYPES G & J ①



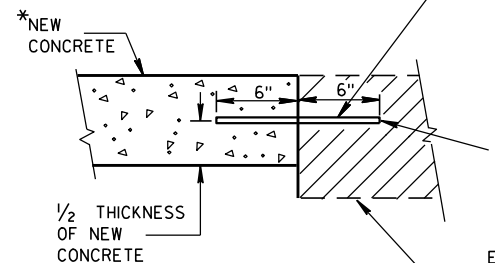
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



PLAN VIEW

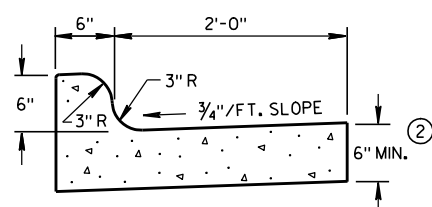
* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

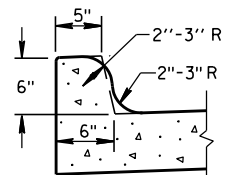
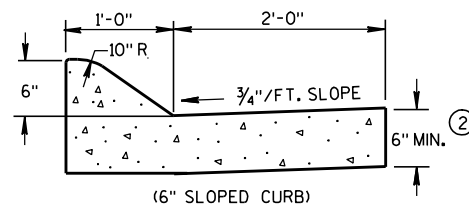
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

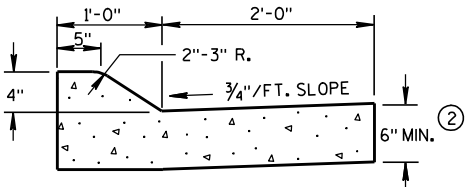
EXISTING
CONCRETE



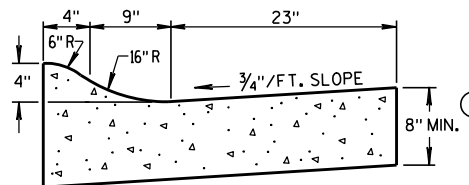
TYPES K & L ①

OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

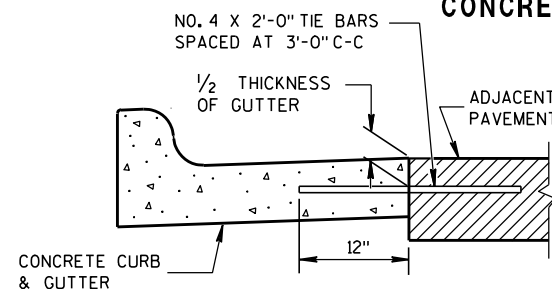


TYPES A & D ①

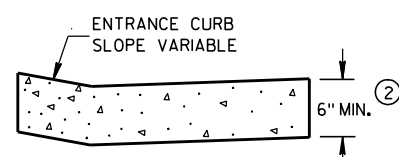


4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

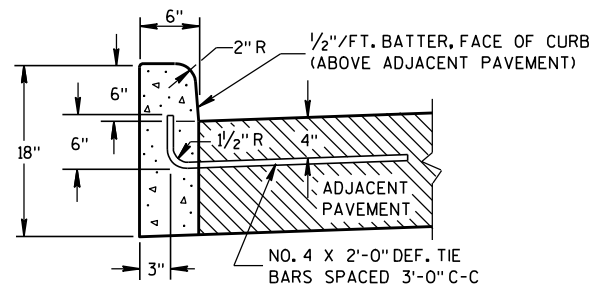


TYPICAL TIE BAR LOCATION ①



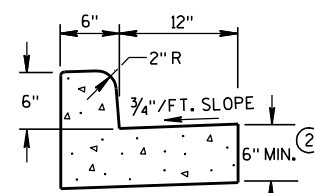
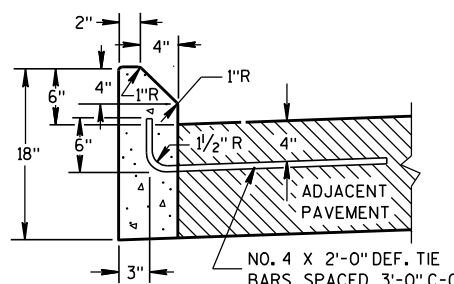
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

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

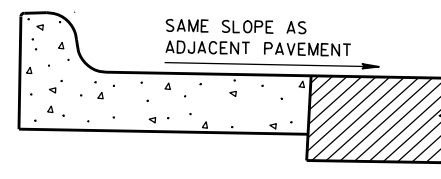
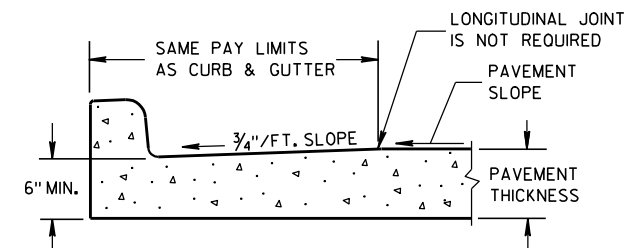
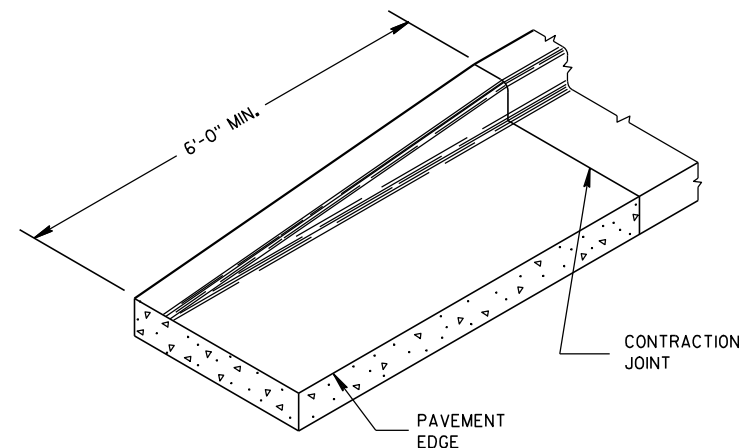
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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 AND R.
- 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 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.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

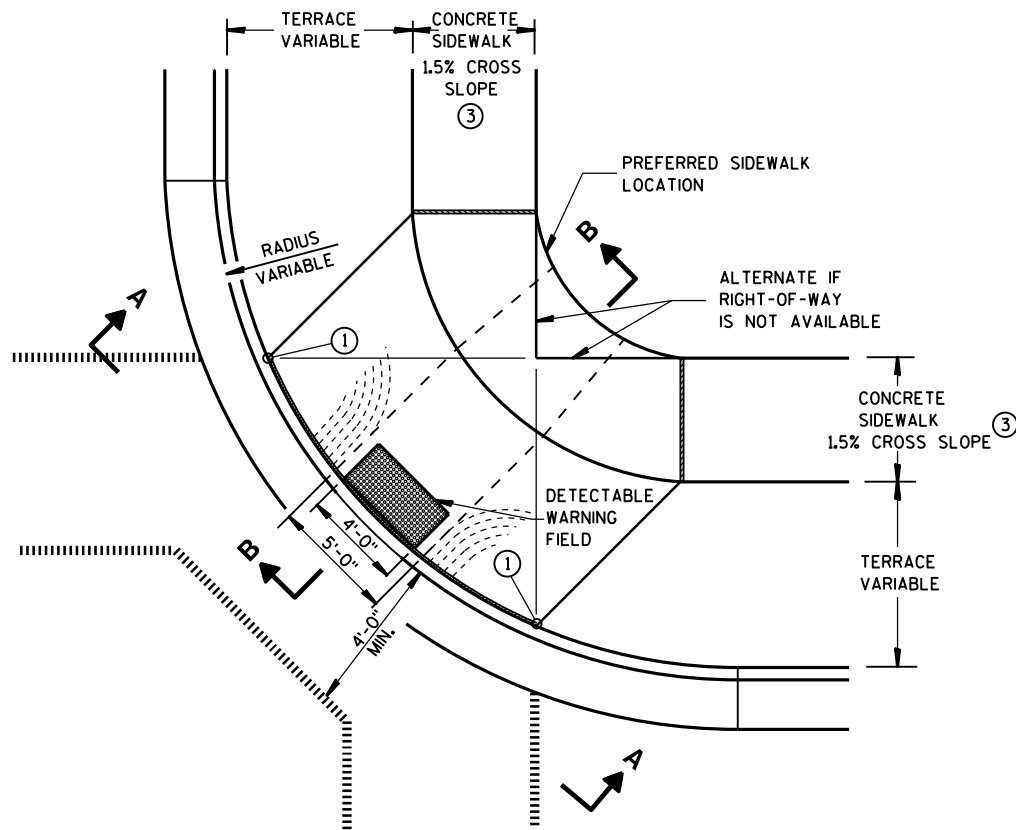
APPROVED

9/4/08

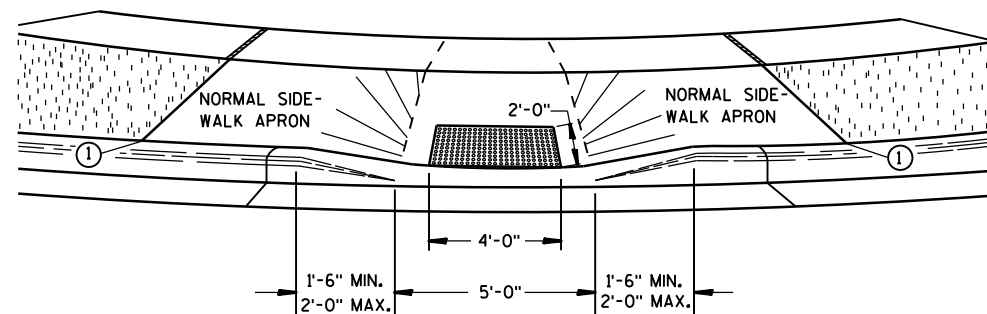
DATE

FHWA

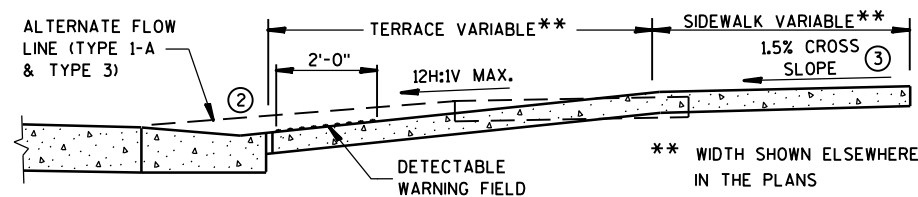
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



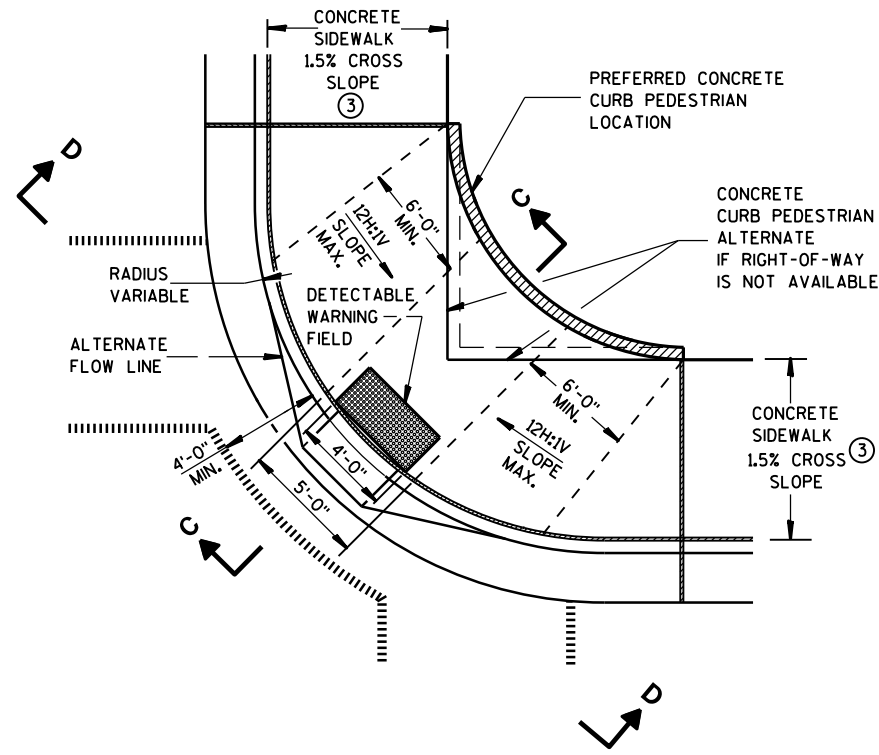
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



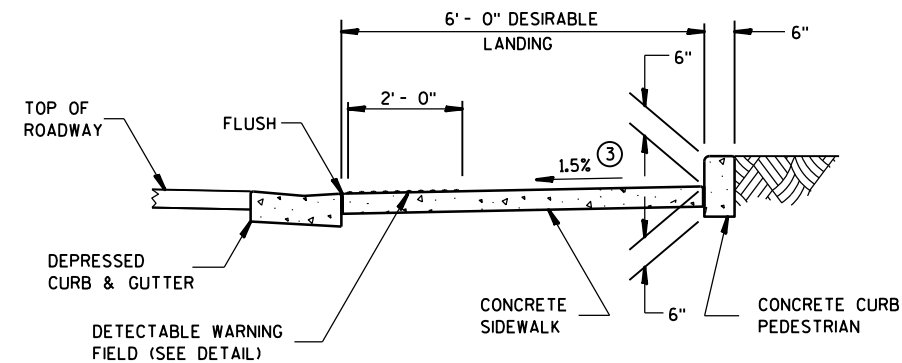
VIEW A-A



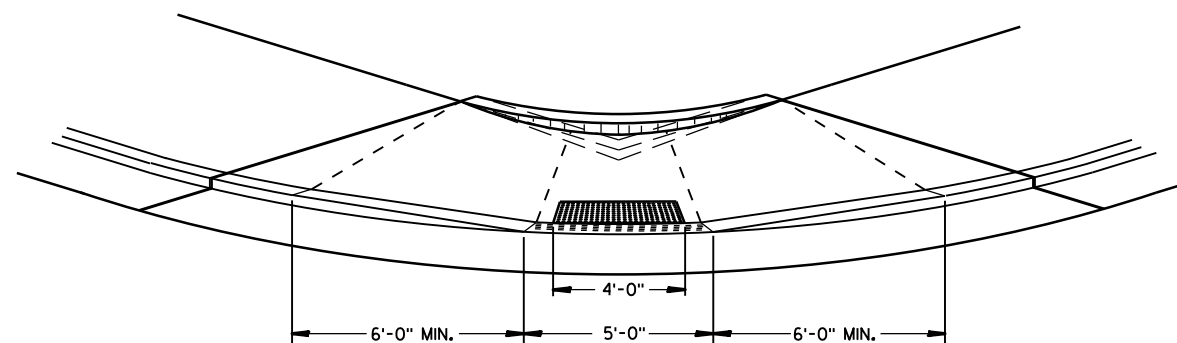
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

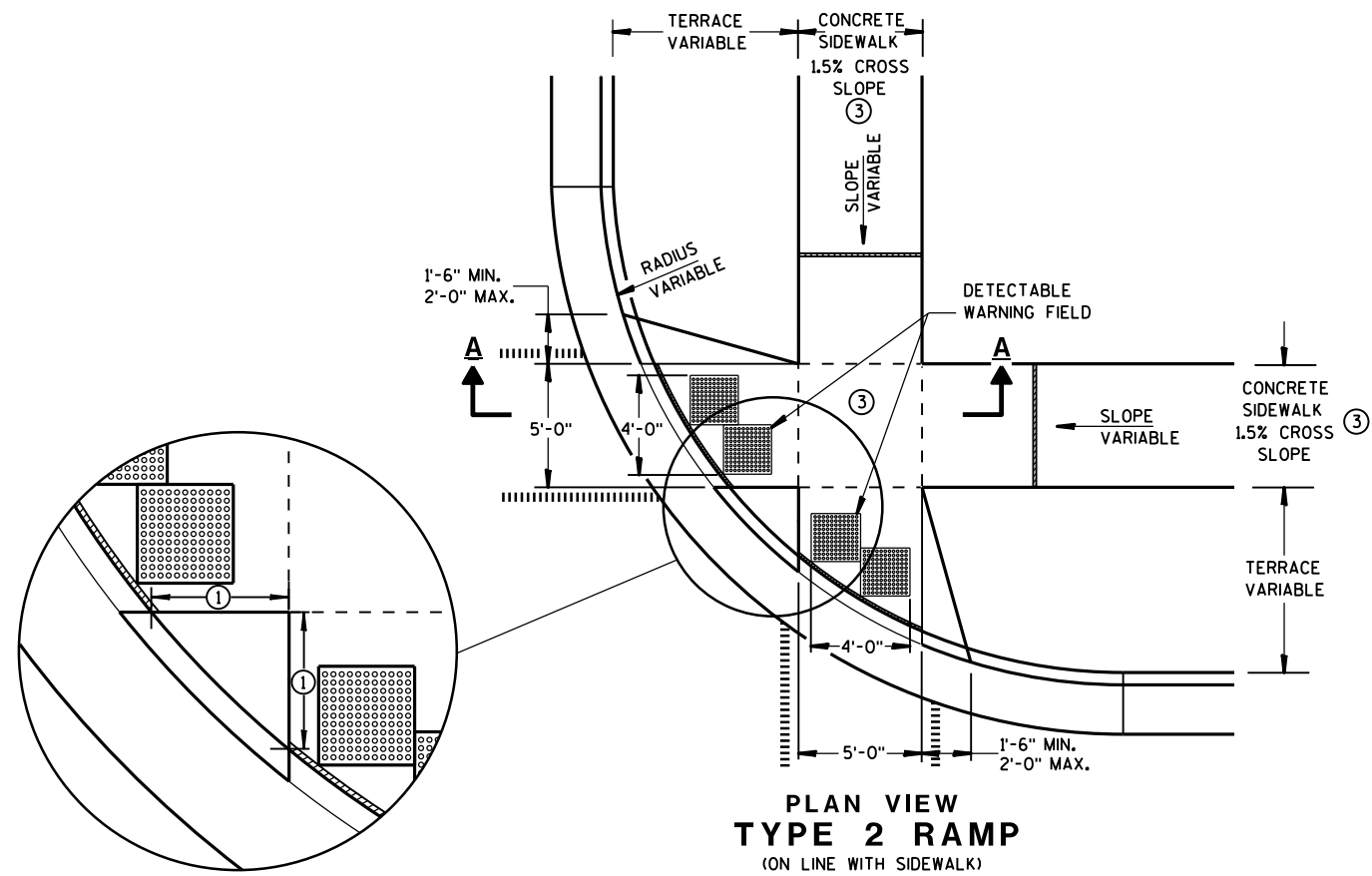
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

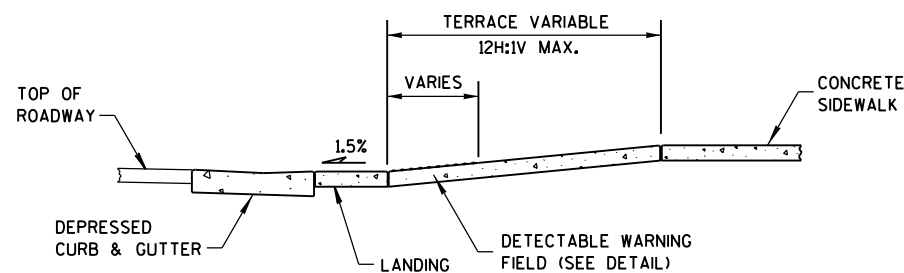
- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS
TYPES 1 AND 1-A**

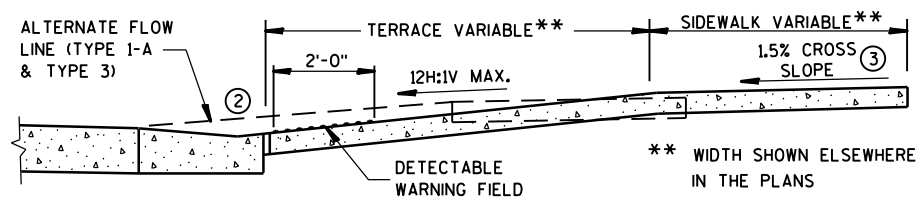
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW
TYPE 2 RAMP**
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

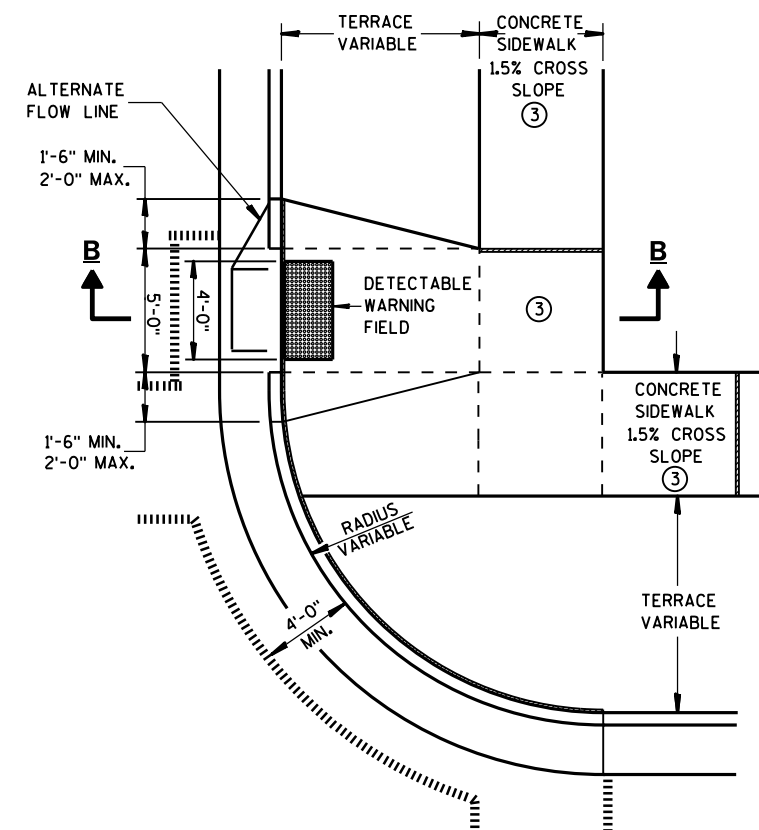
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

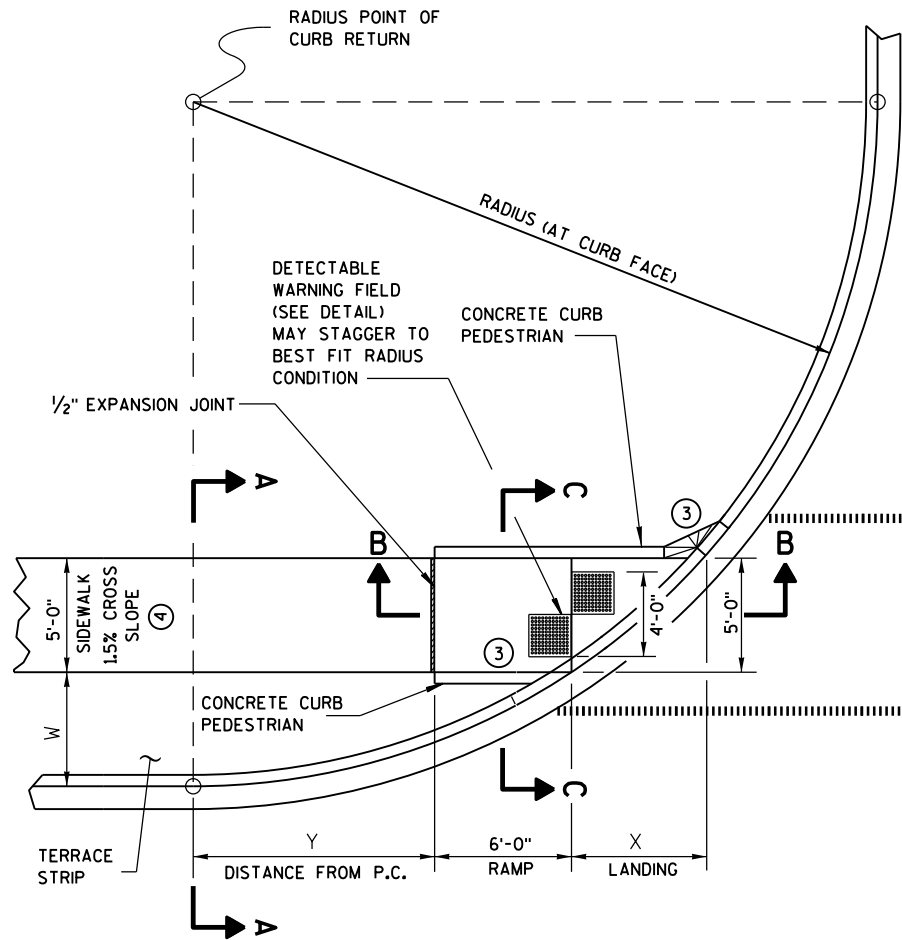


**PLAN VIEW
TYPE 3 RAMP**
(OUTSIDE OF CROSSWALK AREA)

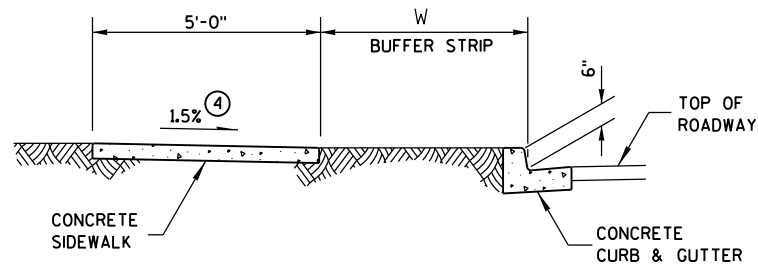
**CURB RAMPS
TYPES 2 AND 3**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

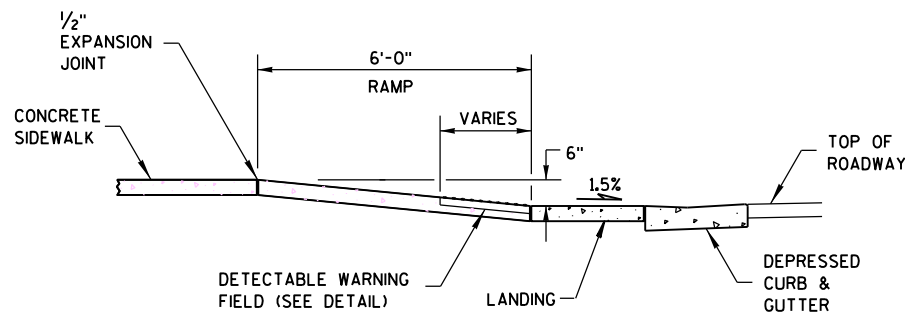




CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B

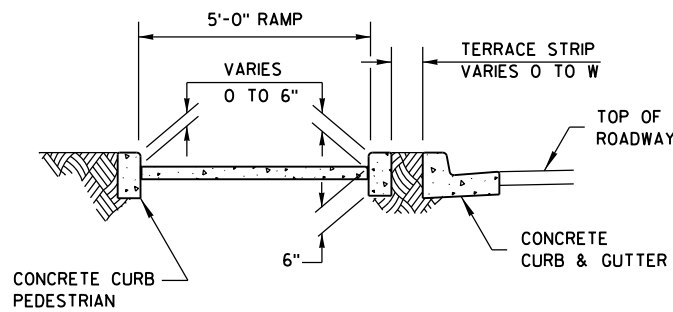


SECTION B-B FOR TYPE 4B

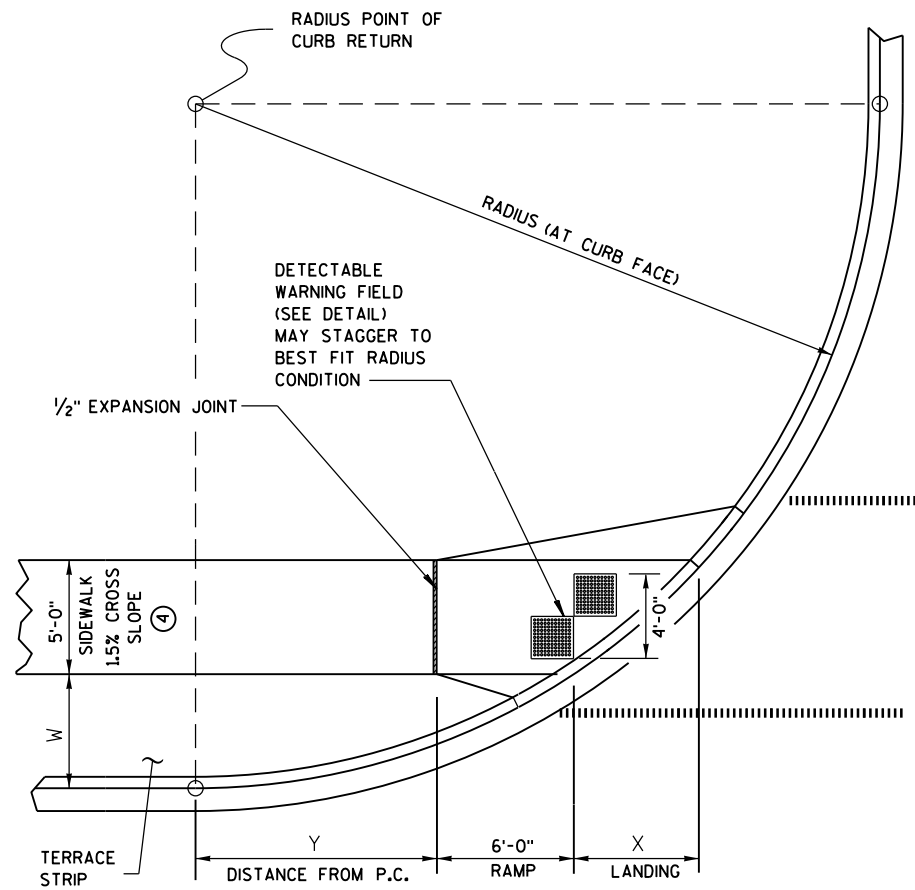
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW

GENERAL NOTES

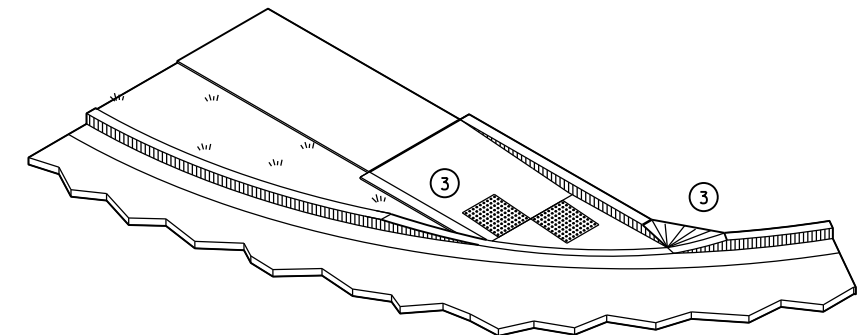
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

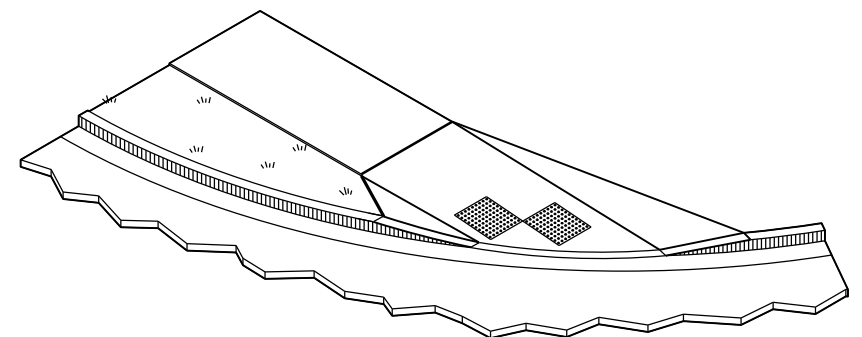
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



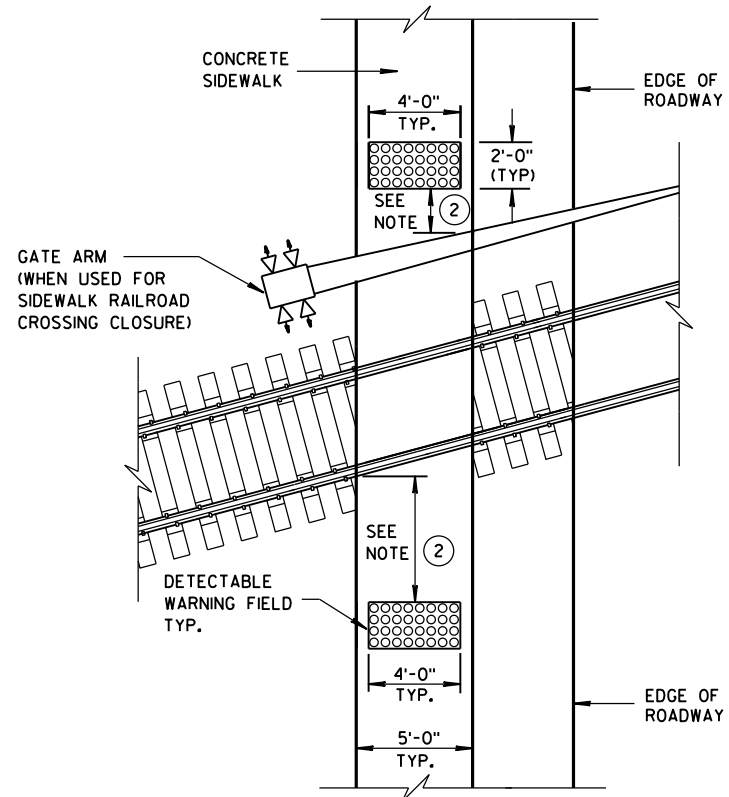
ISOMETRIC VIEW FOR TYPE 4B



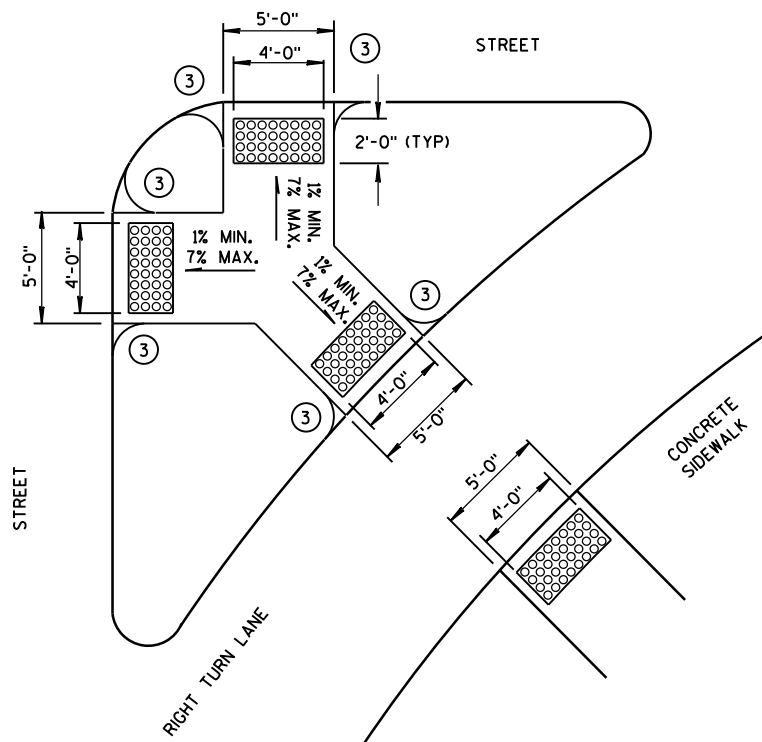
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

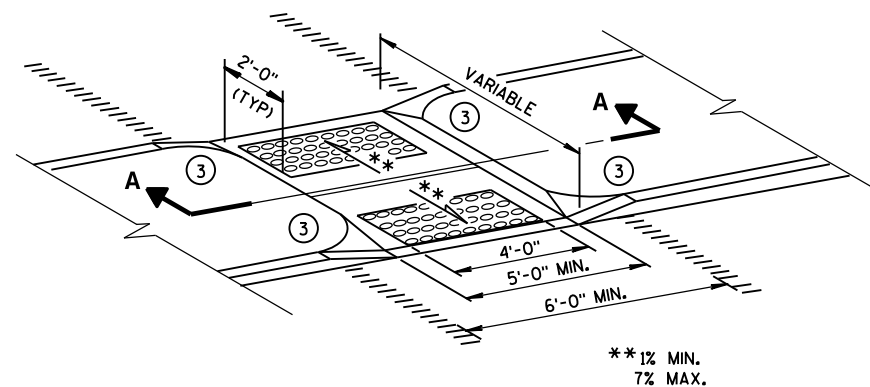
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



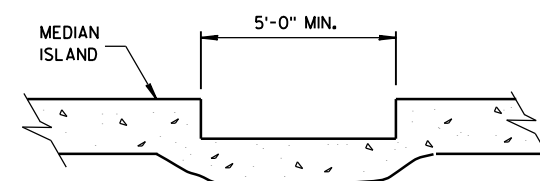
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



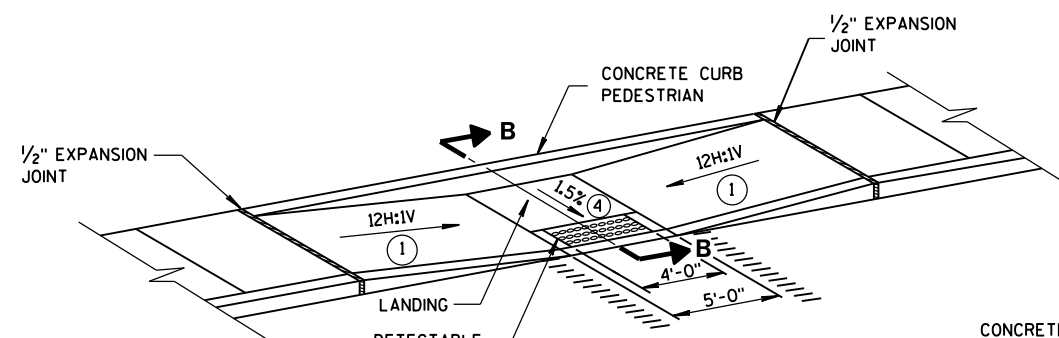
TYPE 6
DETECTABLE WARNING AT ISLANDS



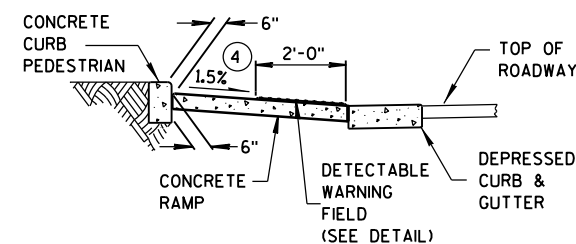
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



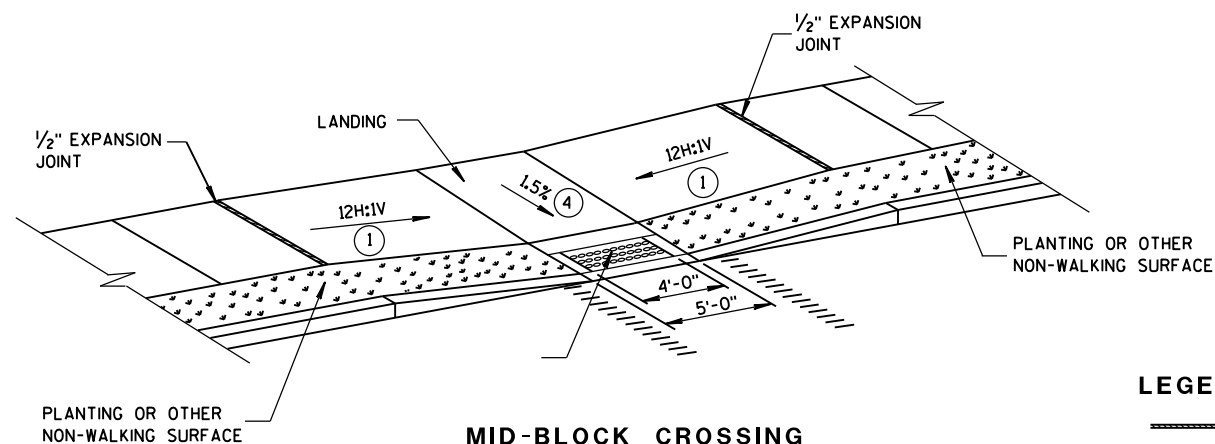
SECTION A-A



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

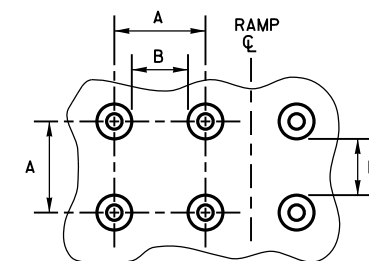
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

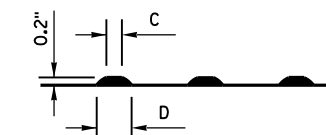
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- 1 SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 2 THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET \pm 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- 3 INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- 4 \pm 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



PLAN VIEW



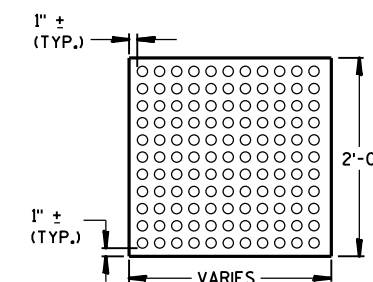
ELEVATION VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW
DETECTABLE WARNING
FIELD (TYPICAL)

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013
DATE
FHWA

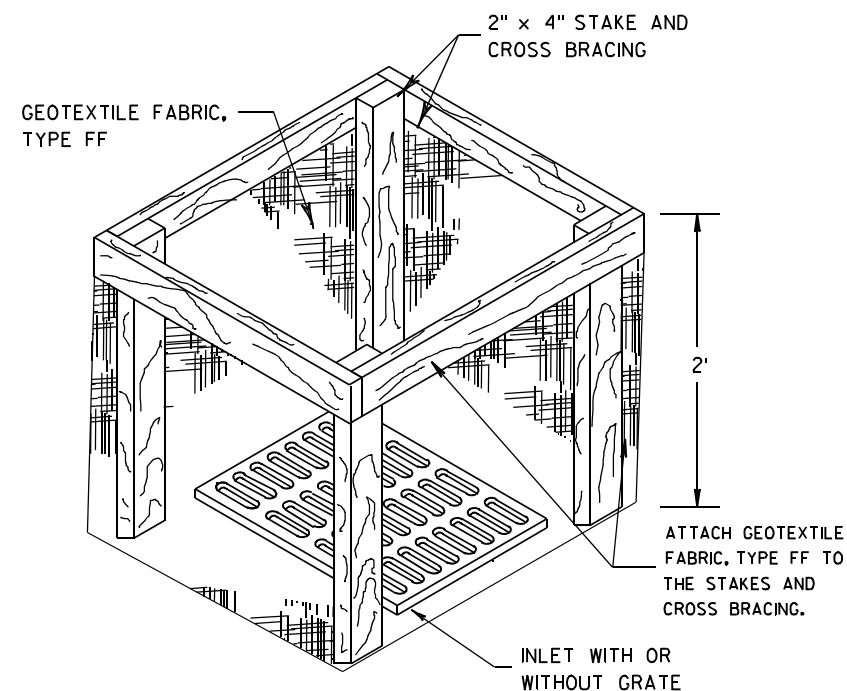
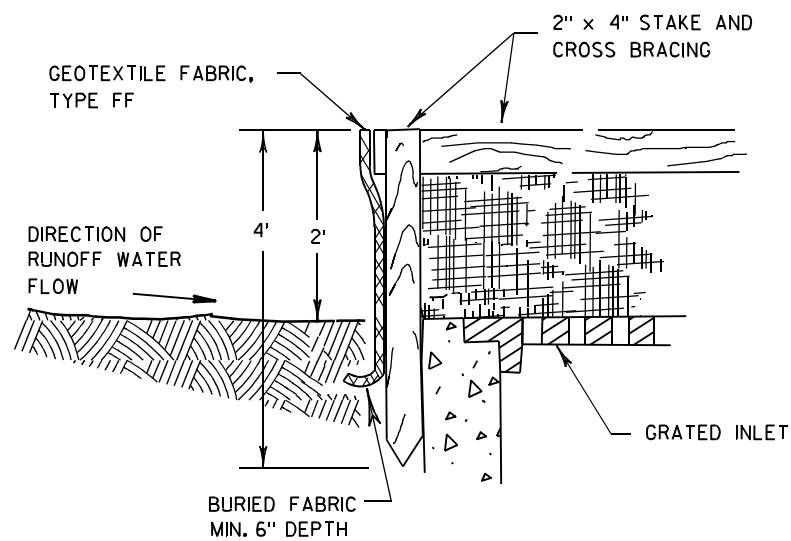
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



- 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 1½" X 1½" 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.



<div style="text-align: center;">SILT FENCE</div>	
<div style="text-align: center;">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</div>	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

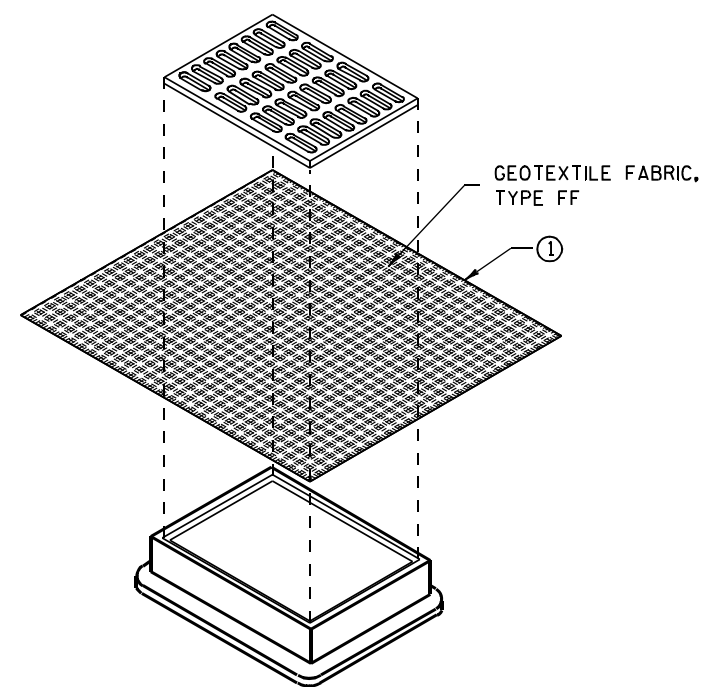
GENERAL NOTES

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

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

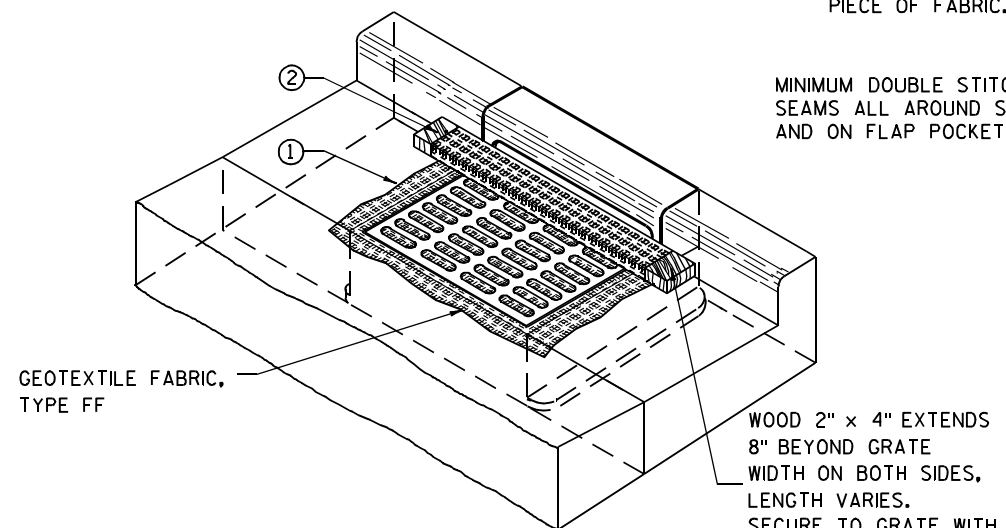
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

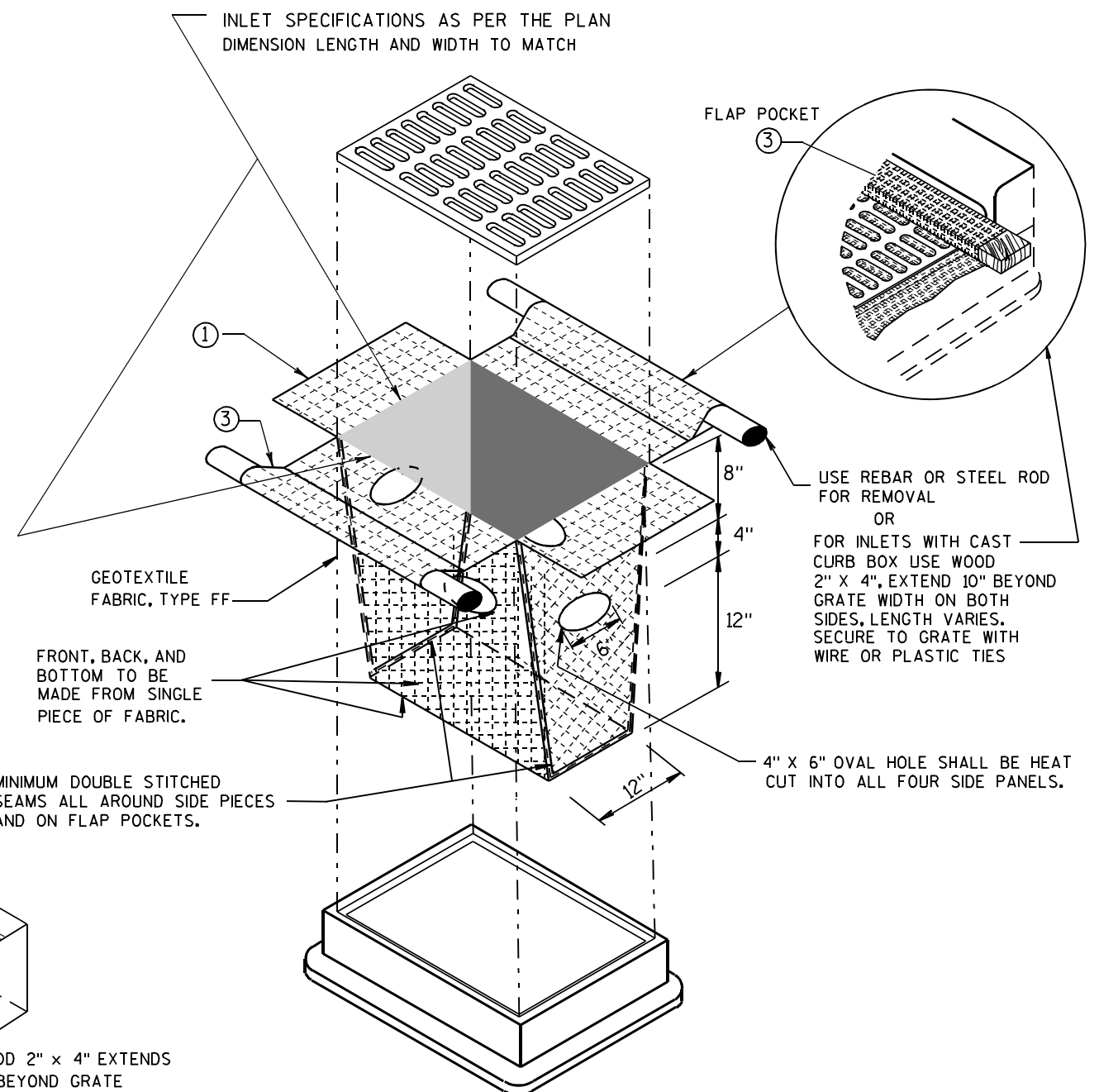
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



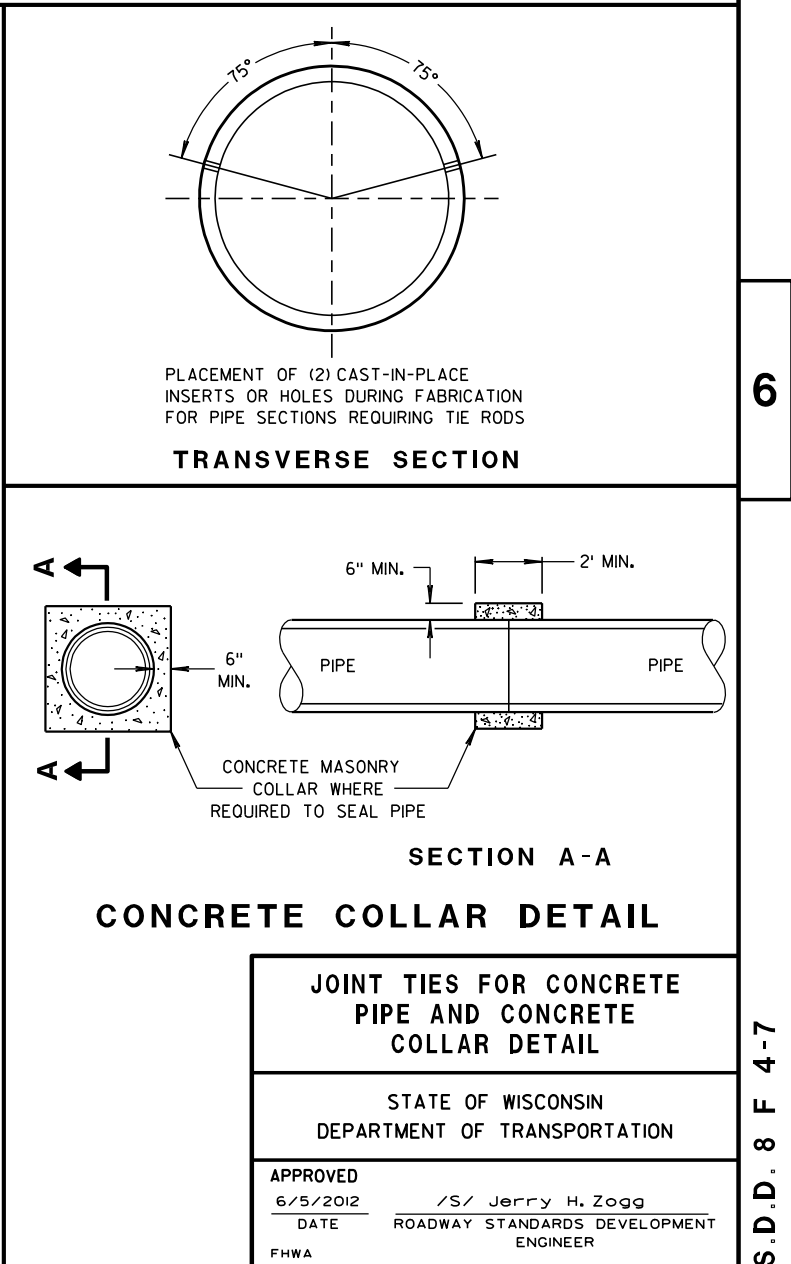
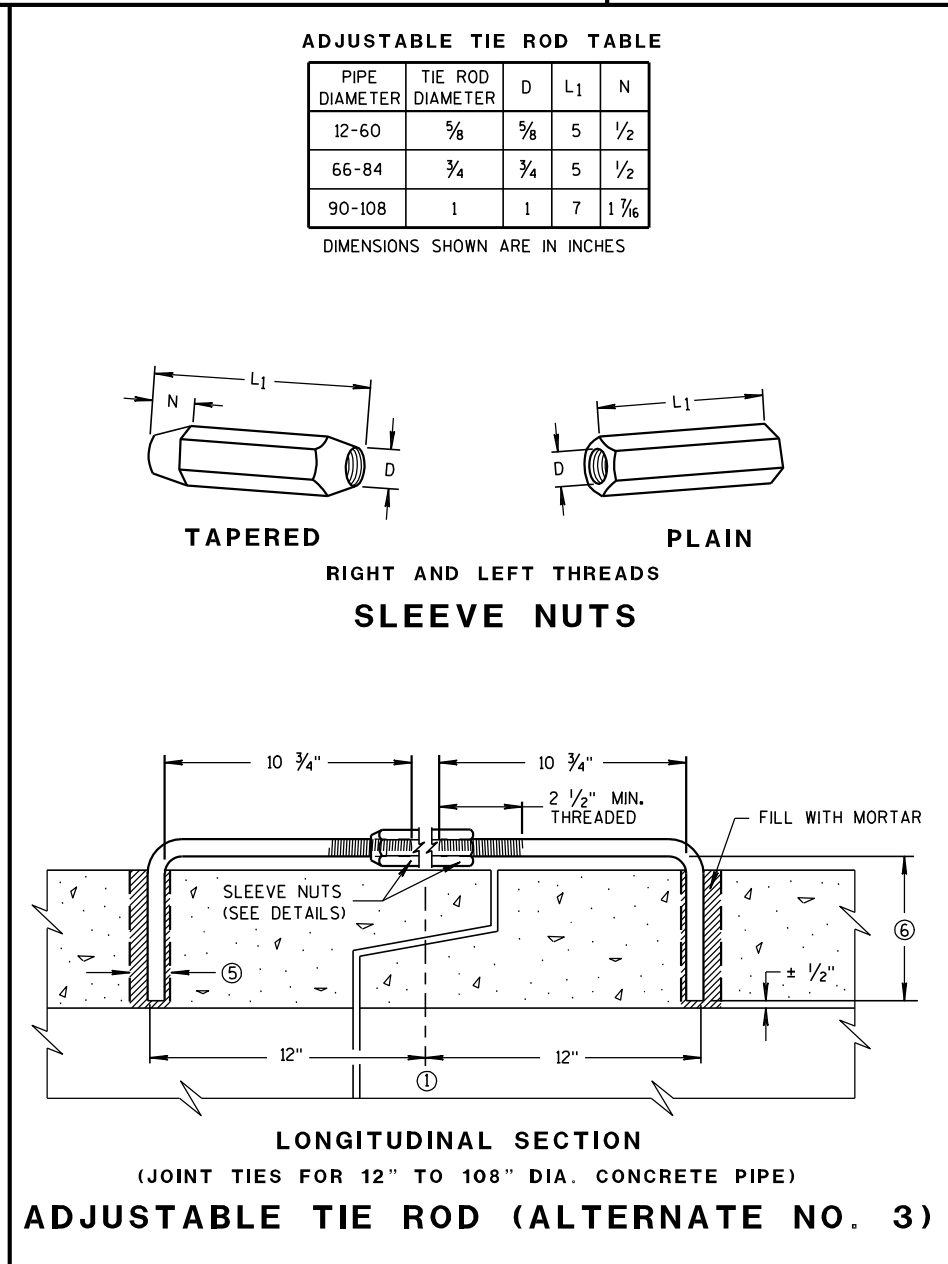
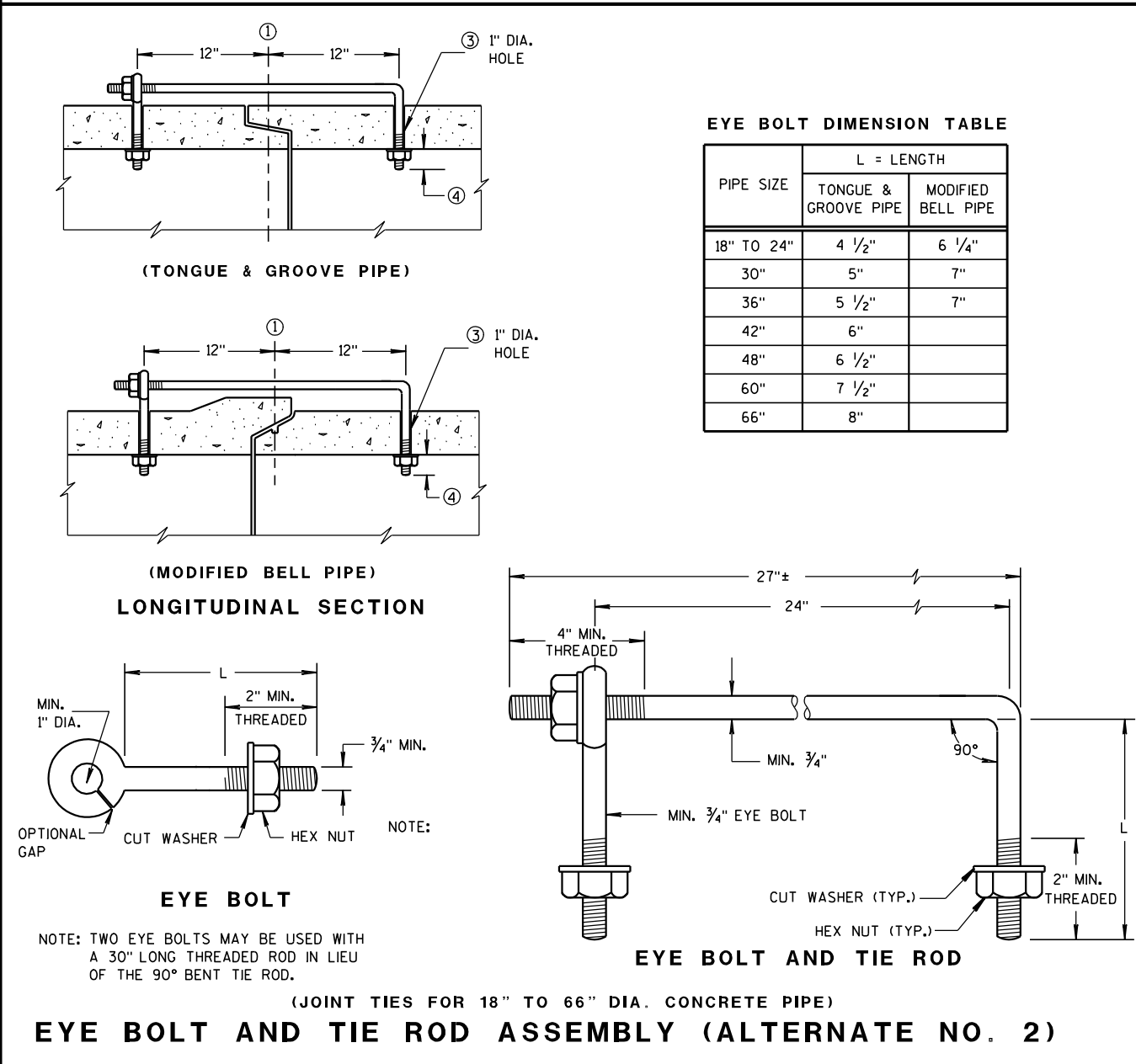
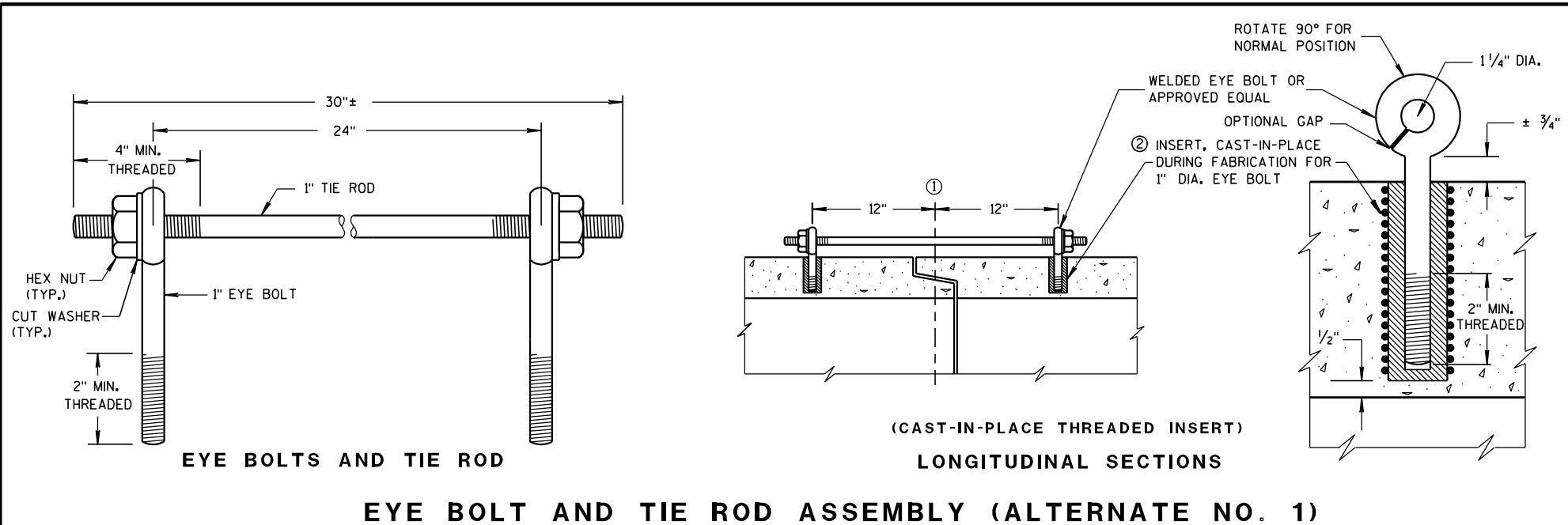
INLET PROTECTION, TYPE D

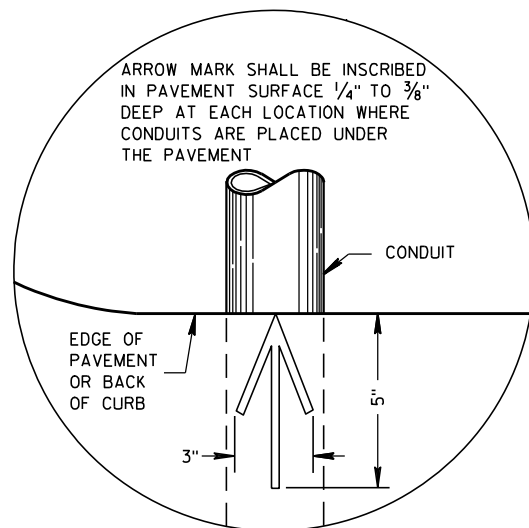
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

**INLET PROTECTION
TYPE A, B, C, AND D**

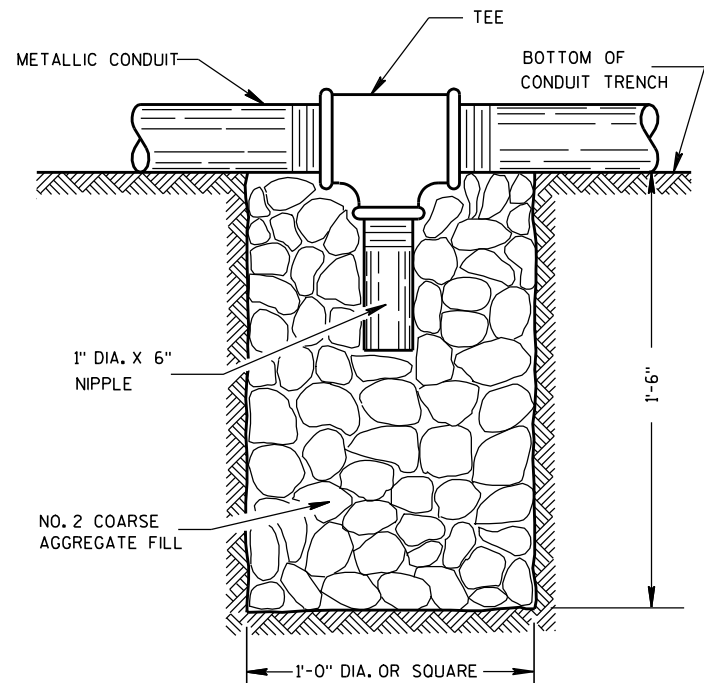
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



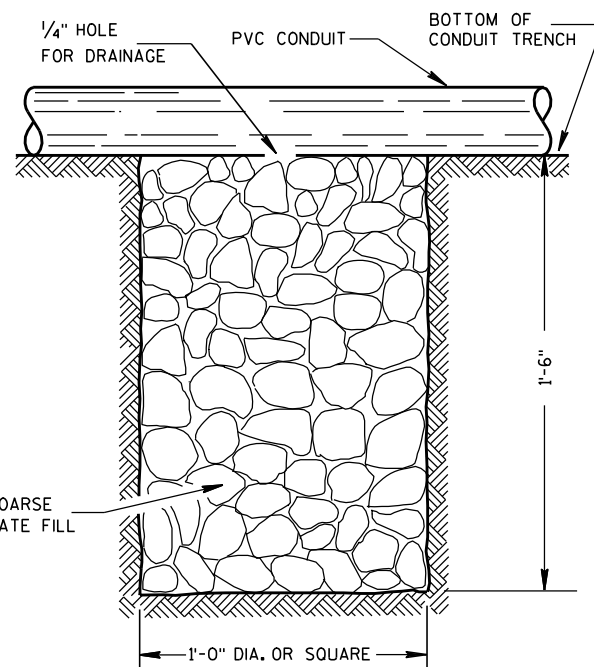


PLAN VIEW
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS
CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS
CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

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 EMERSON 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.

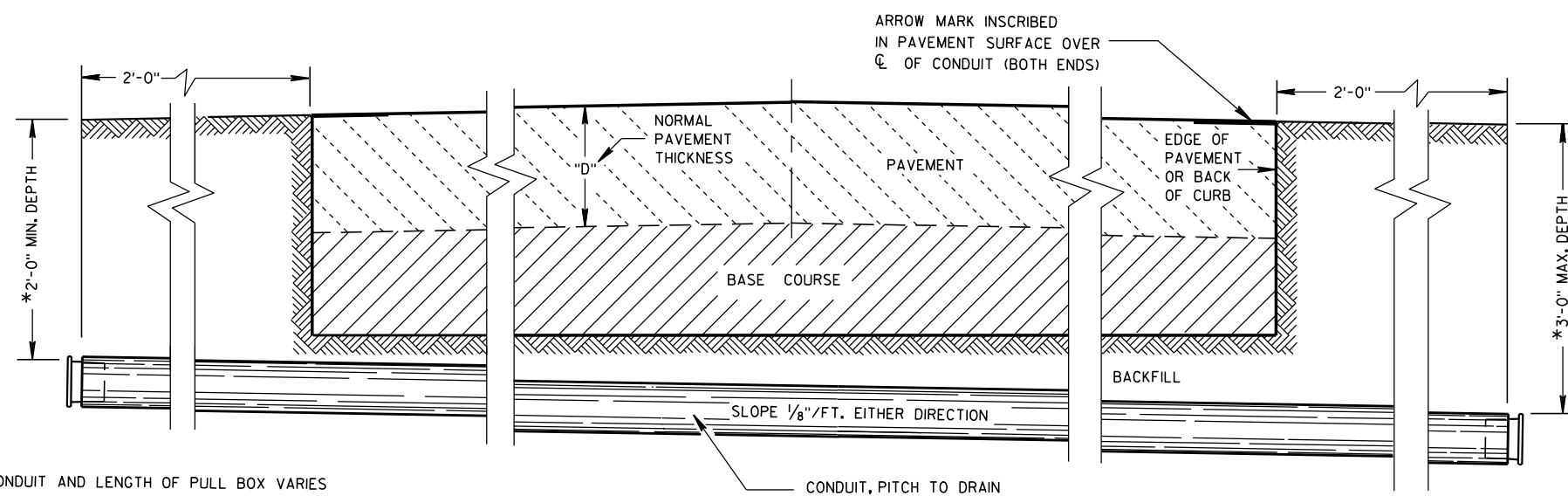
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

POLY ROPE OR A PULL 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.



*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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03
DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER FOR HWYS

6

S.D.D. 9 B 4-10

**) 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.

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

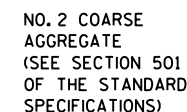
PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

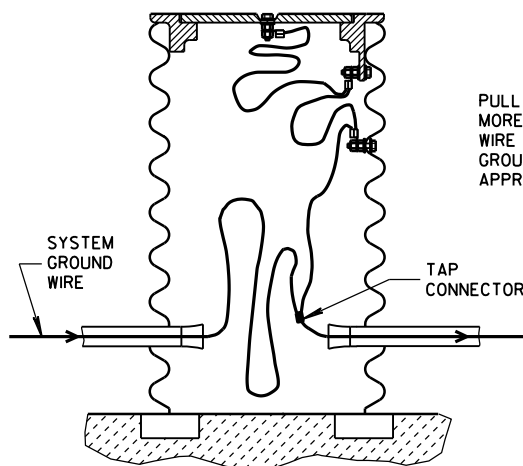
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

ELECTRICAL USE/ ON ALL NONMETALLIC
CONDUIT BEFORE INSTALLATION OF
WIRE AND/OR CABLE.



PULL BOX



This diagram illustrates an alternate cover locking method using a tightening bar type. It consists of two parts: a top view and a cross-sectional view.

The top view shows a rectangular cover with a central locking mechanism. A label "BAR" points to a horizontal bar that passes through the cover. A label "BOTTOM" points to the underside of the cover.

The cross-sectional view shows the cover being secured to a base. A label "SECTION" points to the cross-section of the cover. A label "HOOK" points to a hook-shaped component that is part of the locking mechanism, which is shown engaging with the base.

6'-0" LENGTH OF GROUNDING WIRE

3'-0" LENGTH OF GROUNDING WIRE

#10 AWG EQUIPMENT GROUNDING WIRE FROM NEAREST CAST BASE, CONTINUOUS THRU PULL BOX LUG TO FRAME AND COVER

6" - 8"

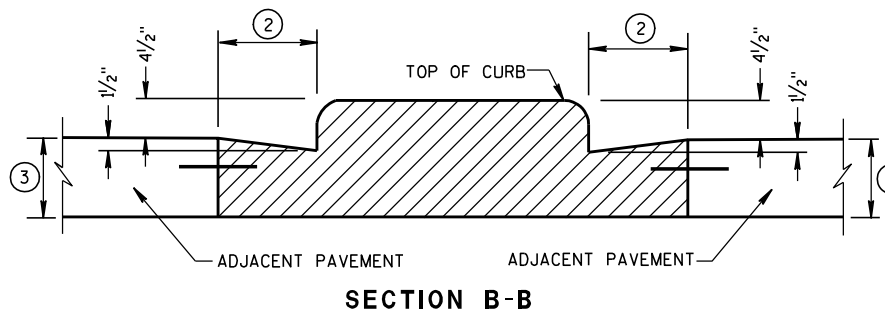
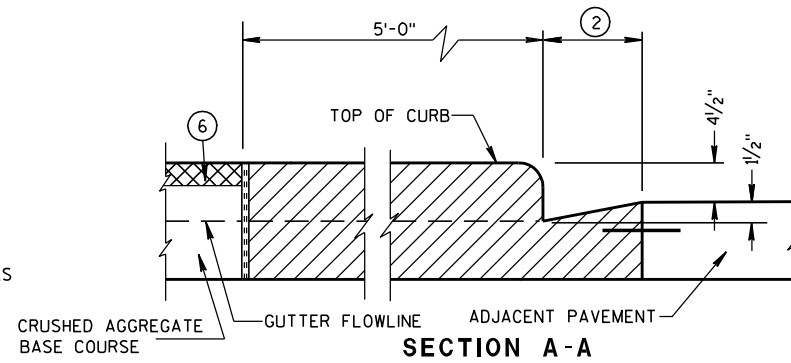
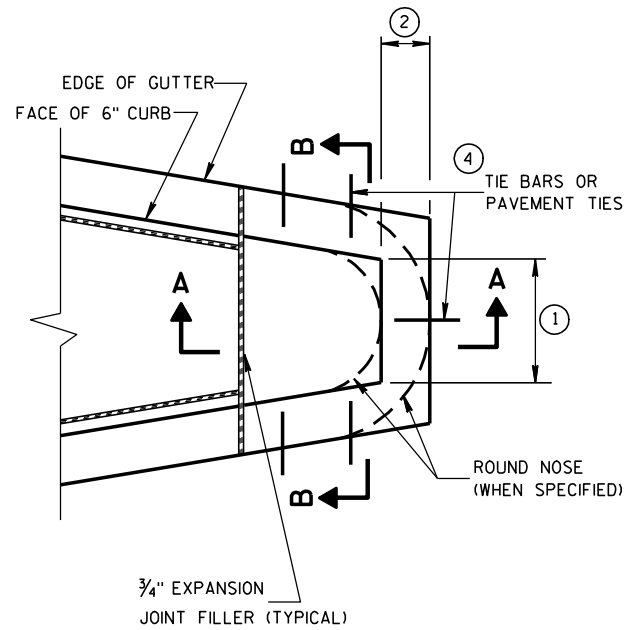
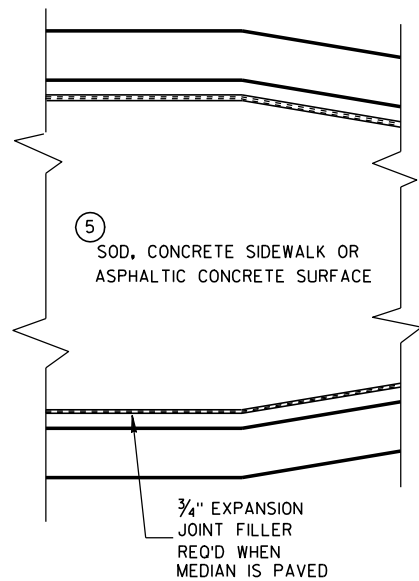
STAINLESS STEEL HARDWARE - BOLT, NUTS AND LOCKWASHERS (1/4" X 3/4" X 20 TPI)

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR LAY-IN (LUG) CU RATED, SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE

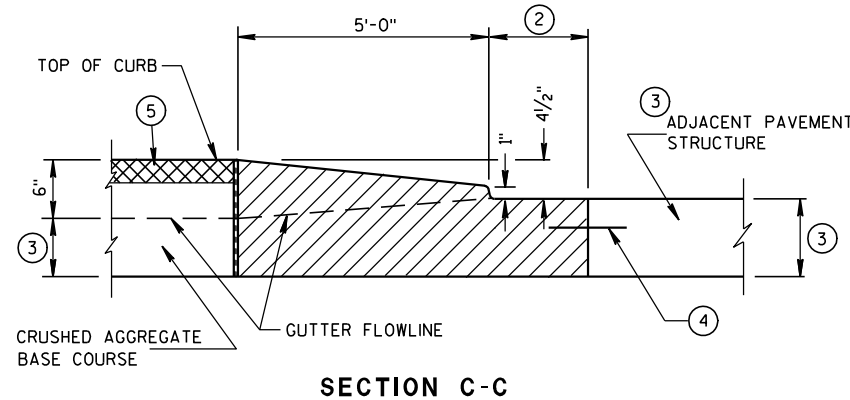
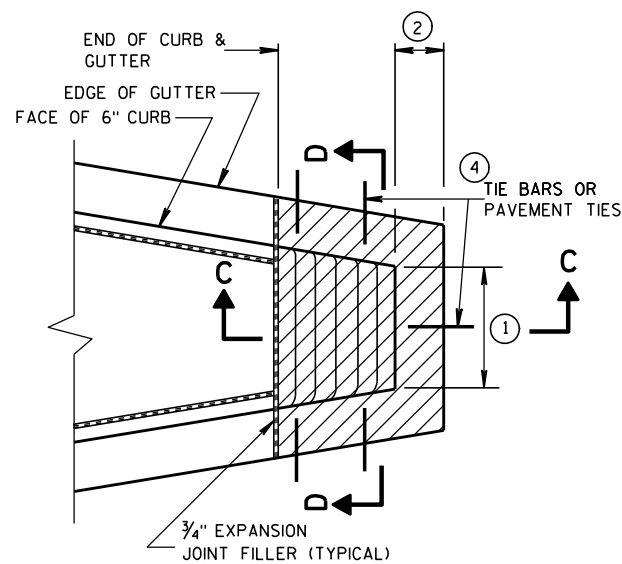
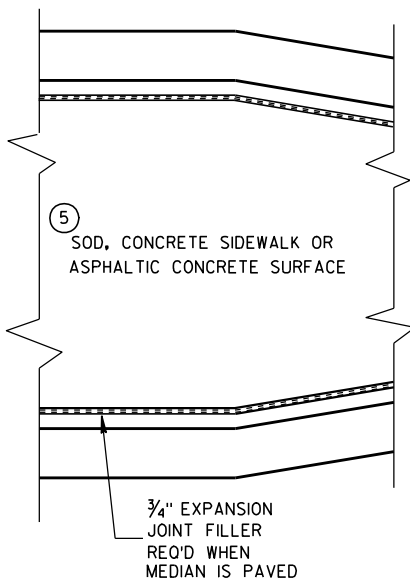
PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

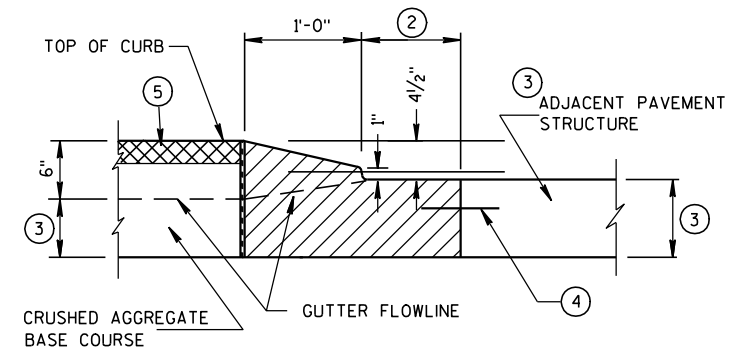
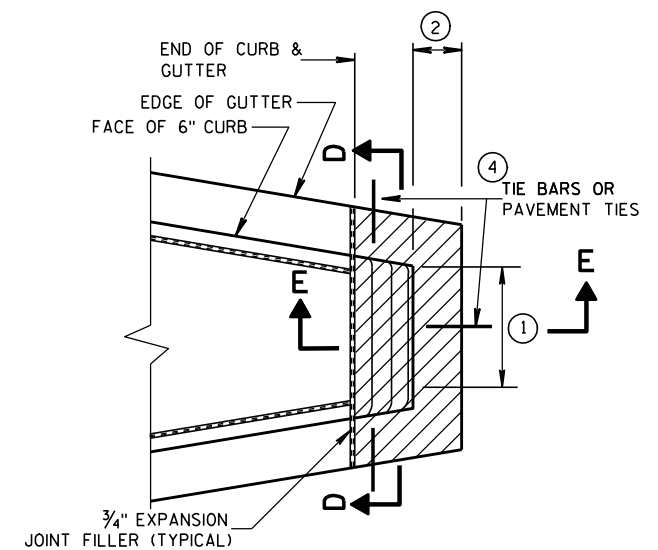
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER



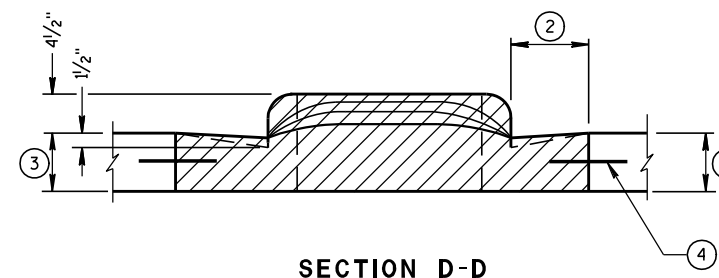
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



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.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

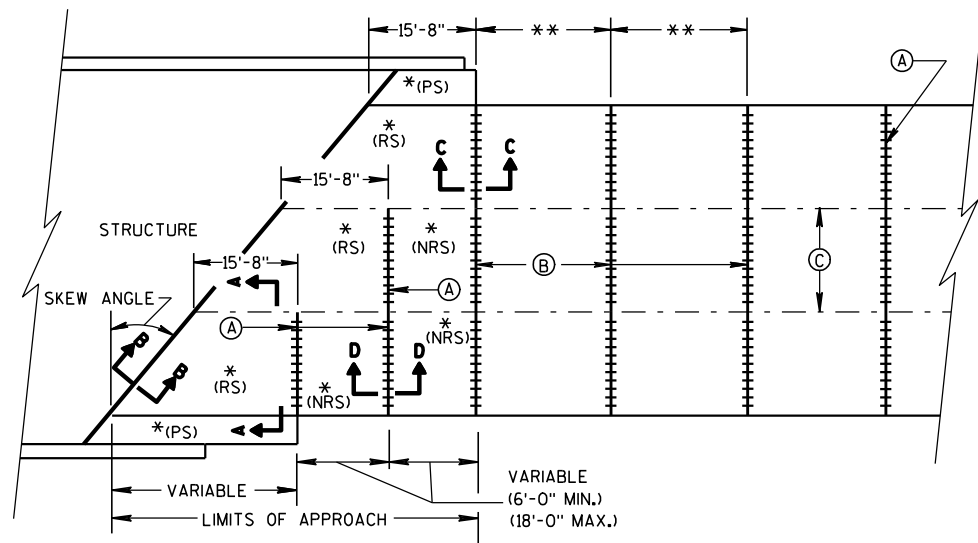
APPROVED

6/8/2006

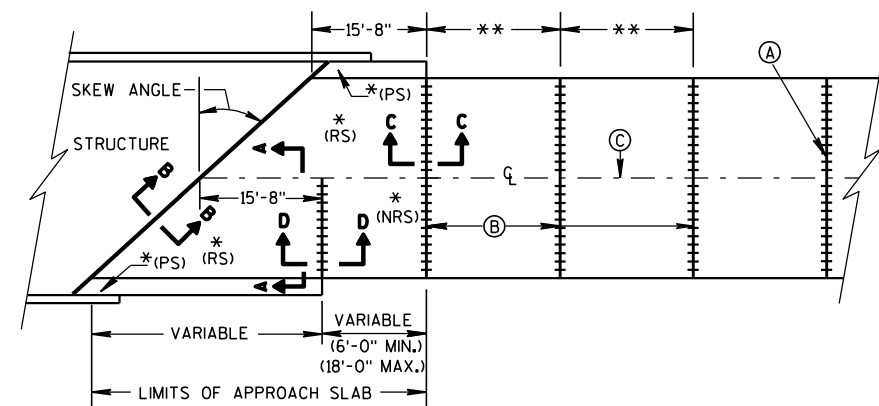
DATE

FHWA

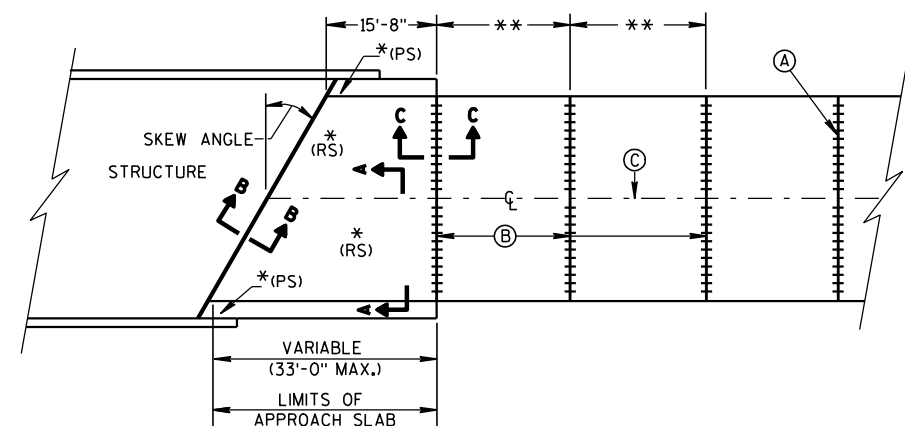
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**

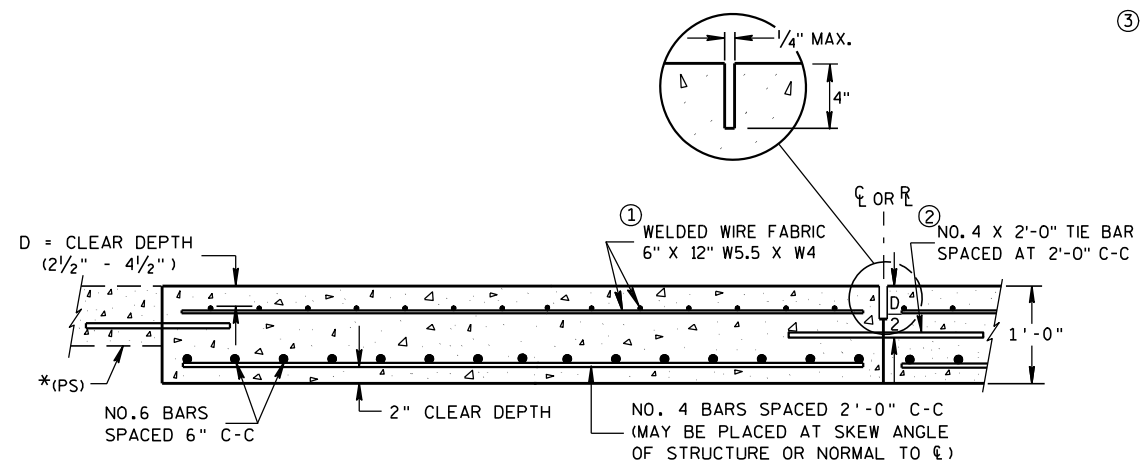


**SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')**

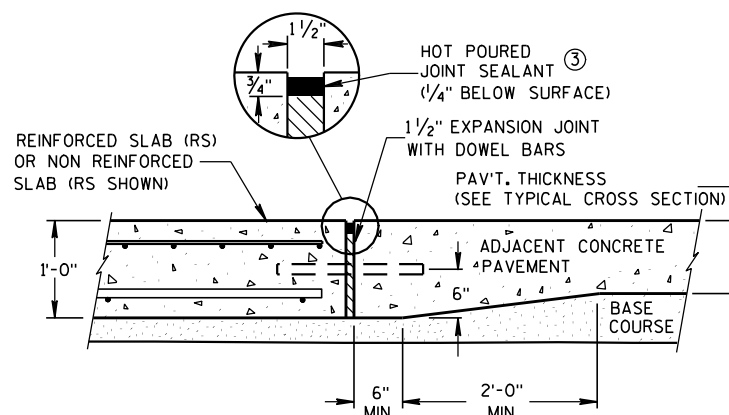


**SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')**
APPROACH SLAB AND ADJACENT PAVEMENT

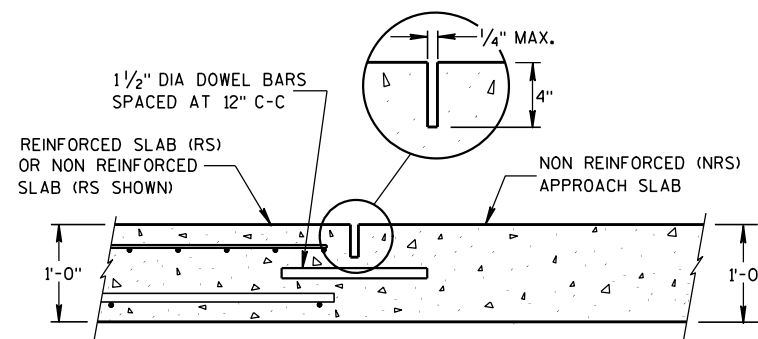
- * (RS) = REINFORCED CONCRETE SLAB
 * (PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 * (NRS) = NON-REINFORCED CONCRETE SLAB
 ** STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C
 (C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



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



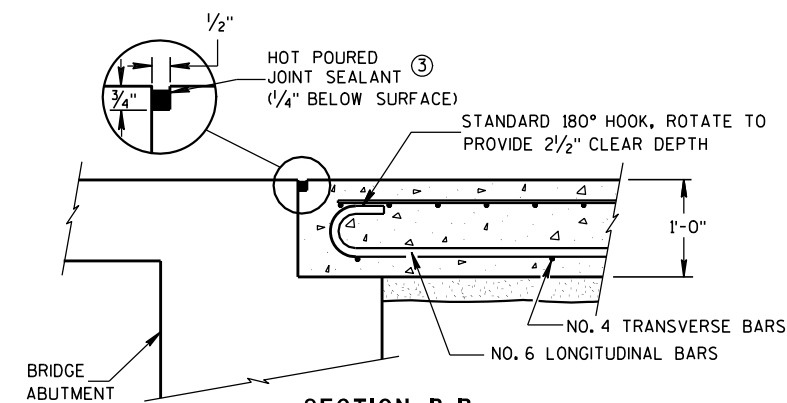
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

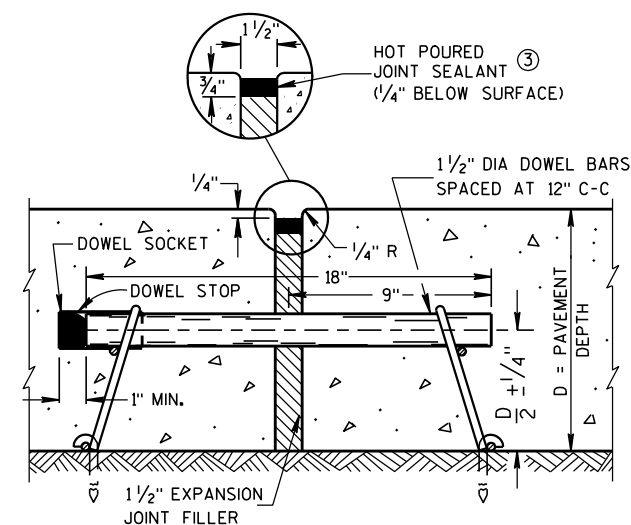
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



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



EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

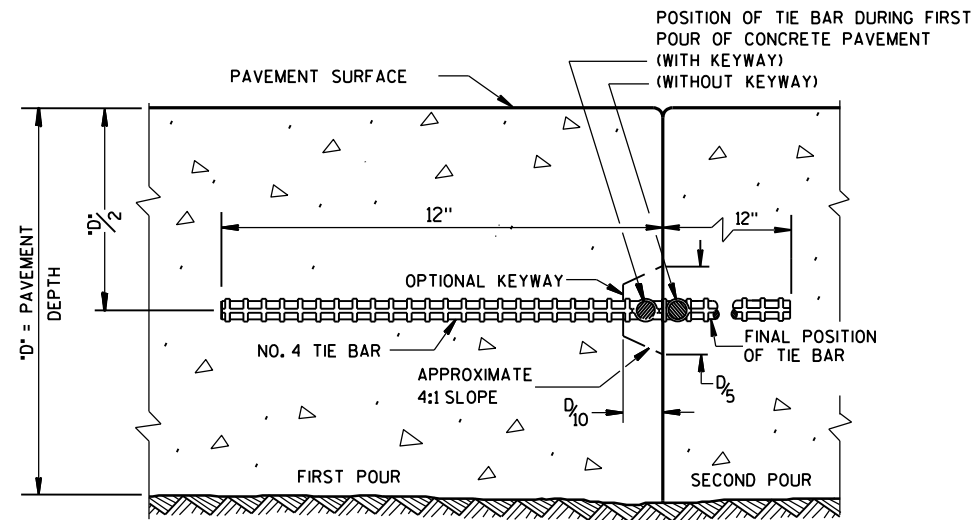
APPROVED

12/11/2009

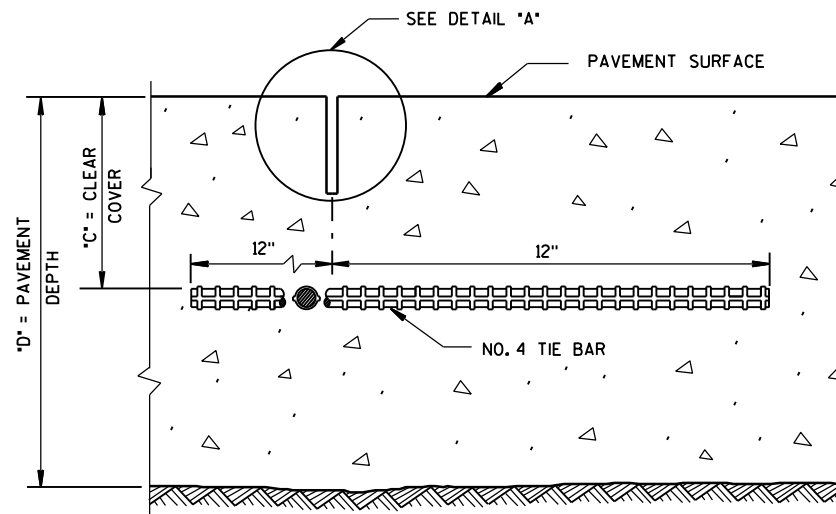
DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



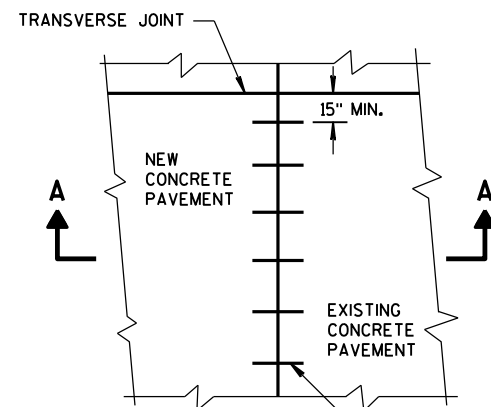
CONSTRUCTION JOINT



SAWED JOINT

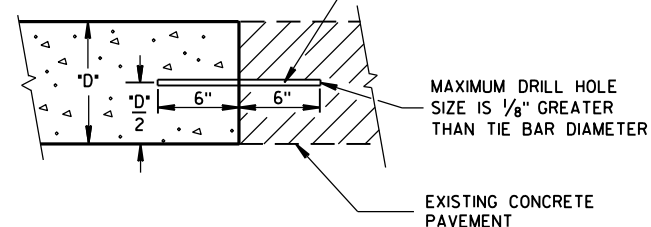
GENERAL NOTES

- DO NOT SEAL OR FILL LONGITUDINAL JOINTS.
- CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

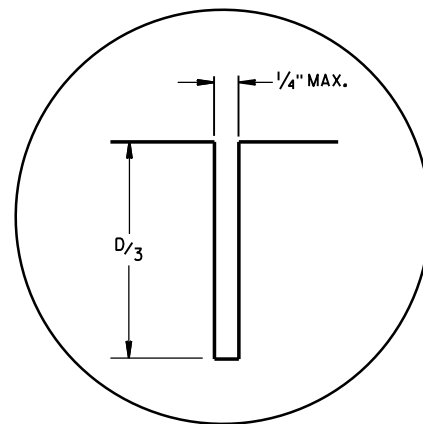


PLAN VIEW

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



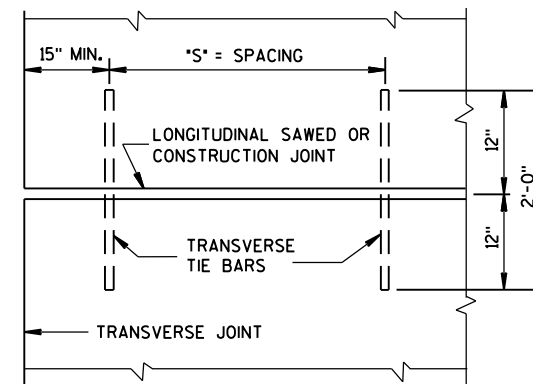
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"

TIE BAR TABLE

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



**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

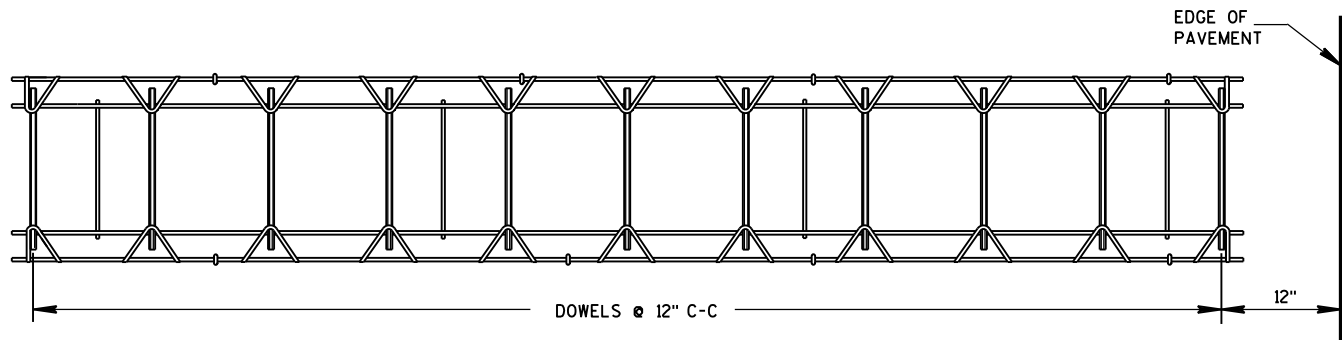
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

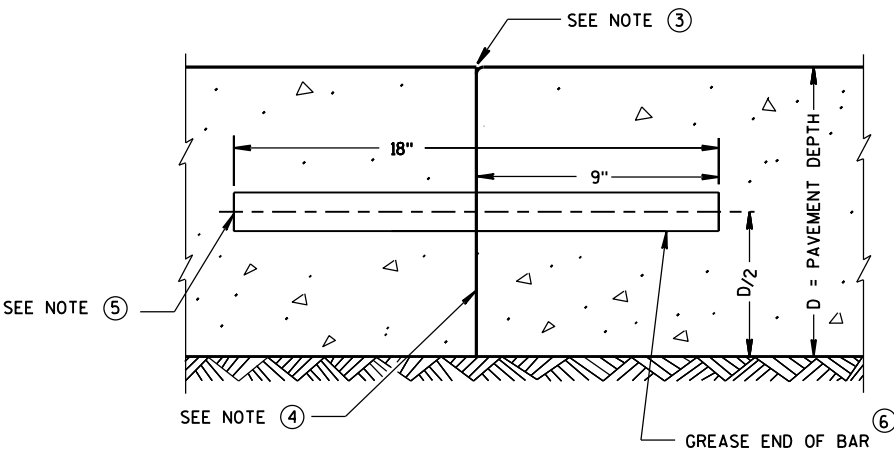
FHWA



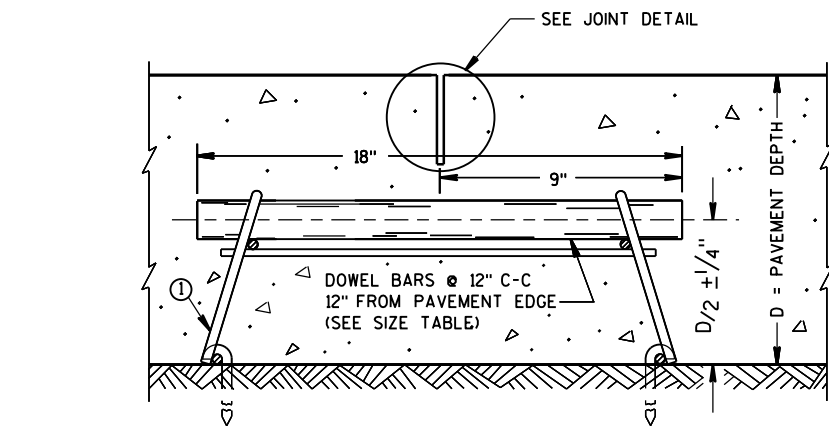
PLAN VIEW



SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY



TRANSVERSE CONSTRUCTION JOINT



DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

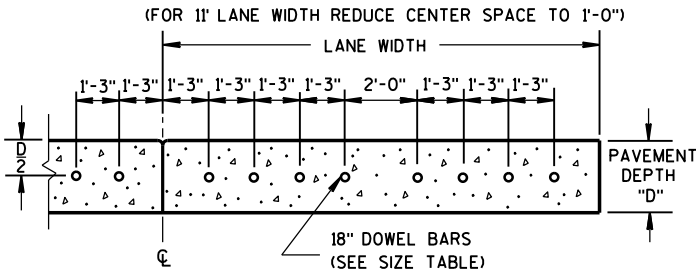
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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

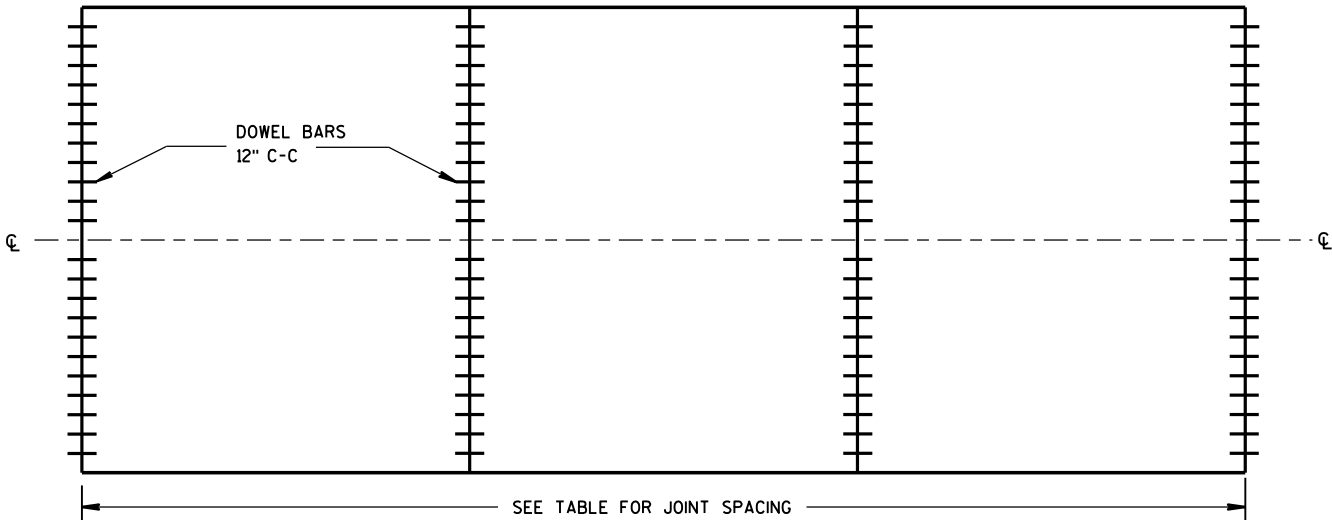
CONSTRUCTION JOINTS

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

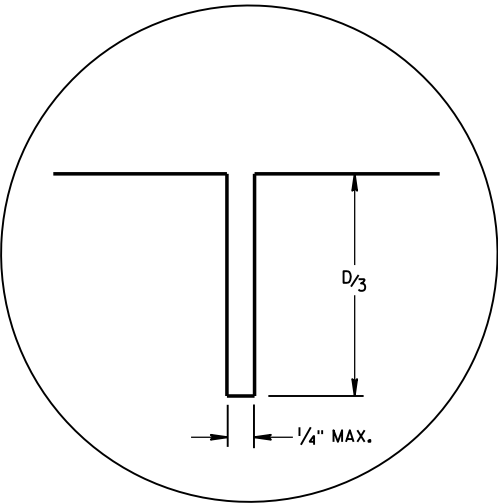
- OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH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



DRILLED DOWEL BAR CONSTRUCTION JOINT



CONTRACTION JOINT LOCATIONS

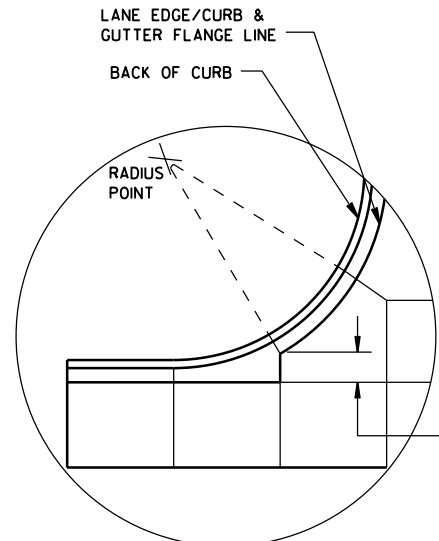


JOINT DETAIL

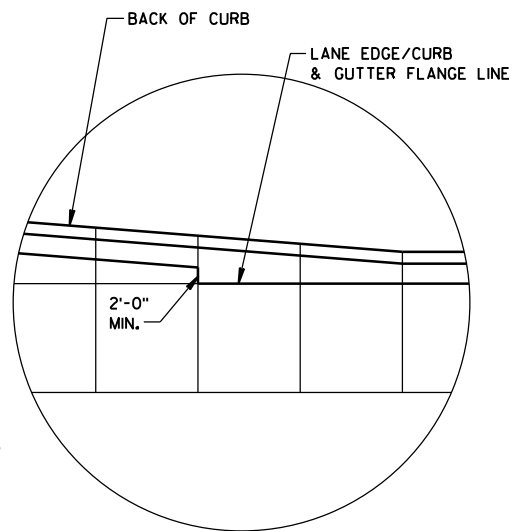
URBAN DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

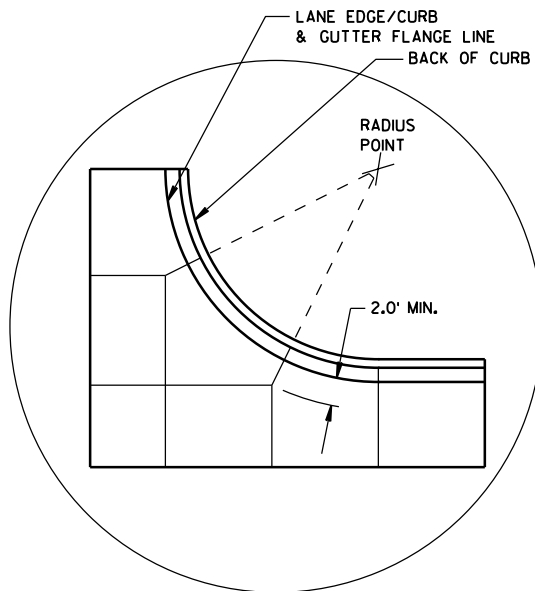
APPROVED
5/3/2013 /S/ Deb Bischoff
DATE PAVEMENT POLICY & DESIGN ENGINEER
FHWA



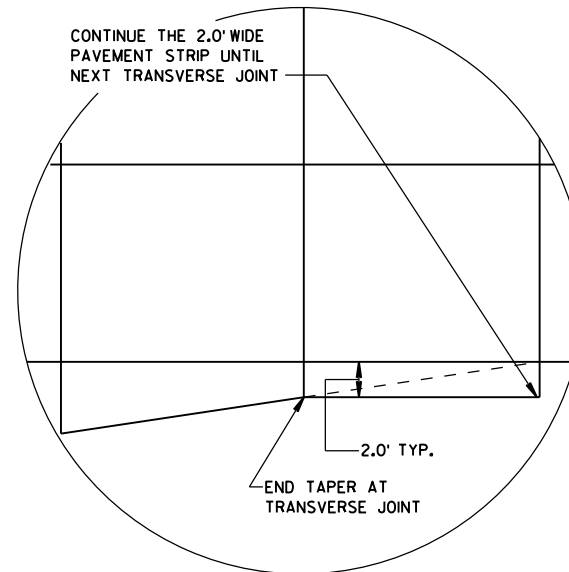
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

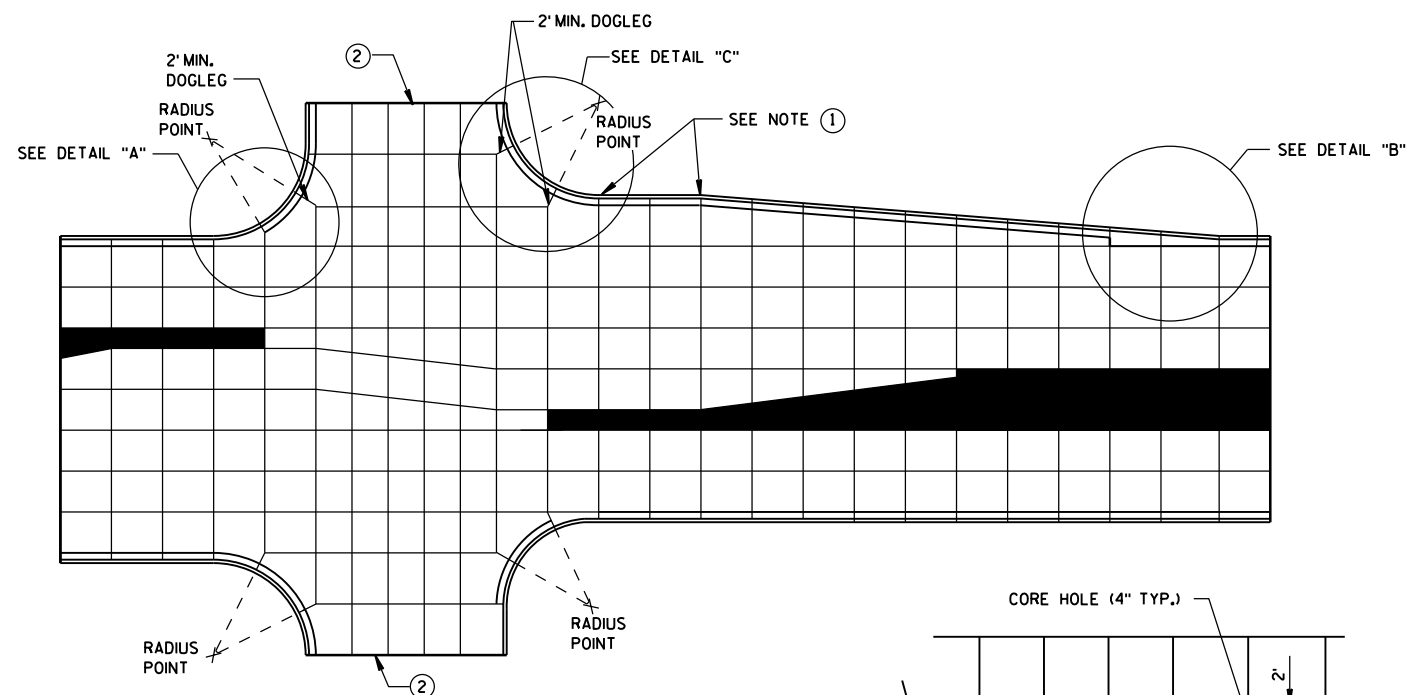
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

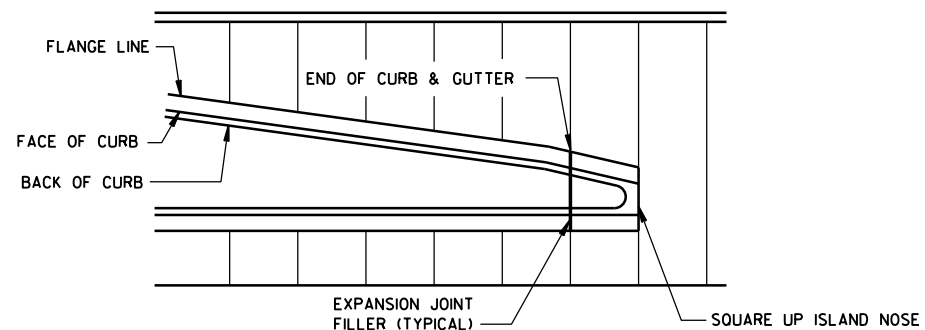
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

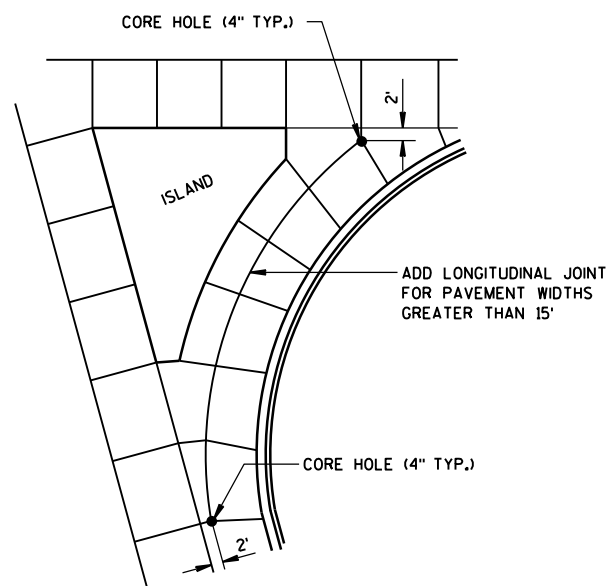
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



STANDARD INTERSECTION



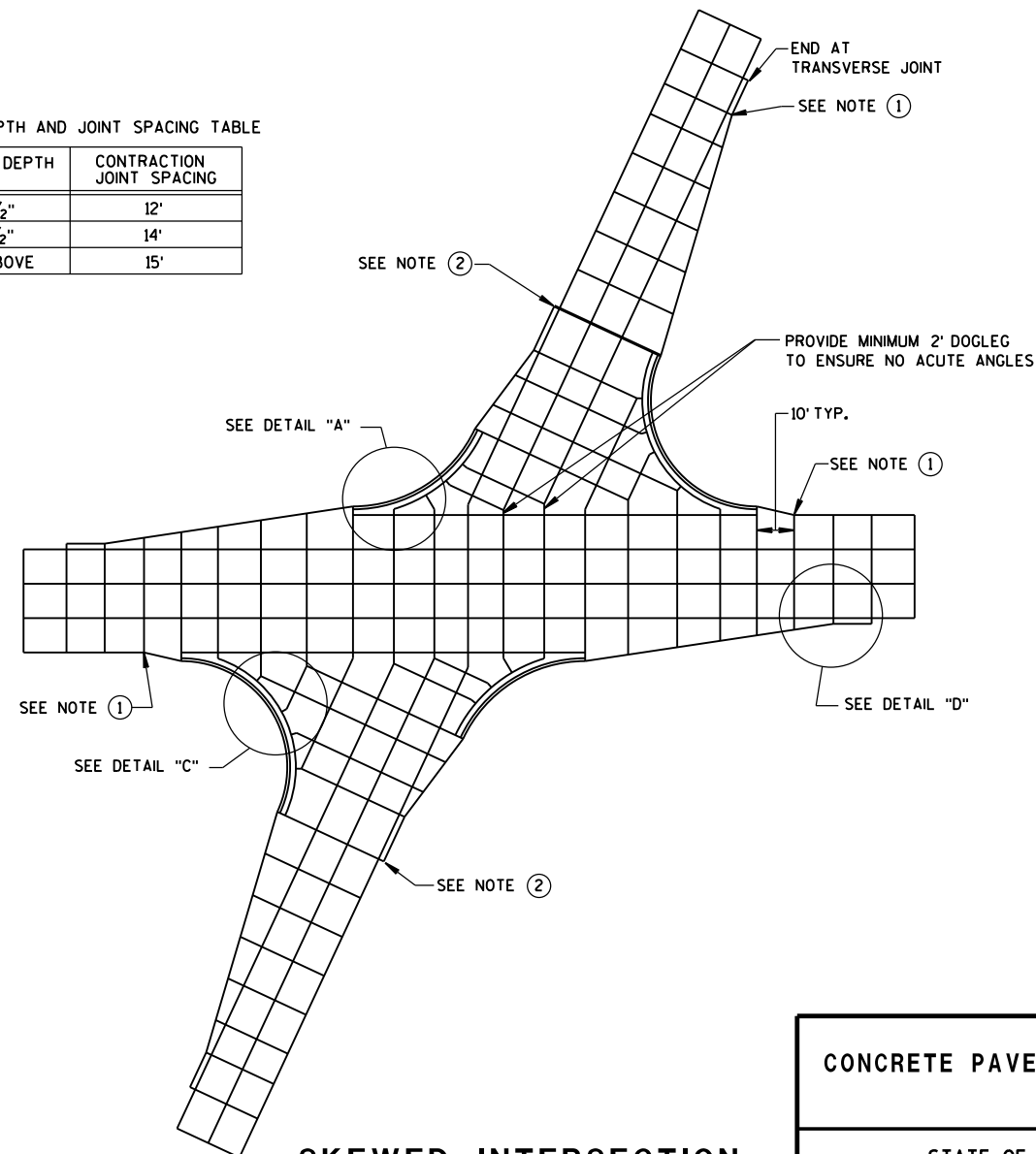
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

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



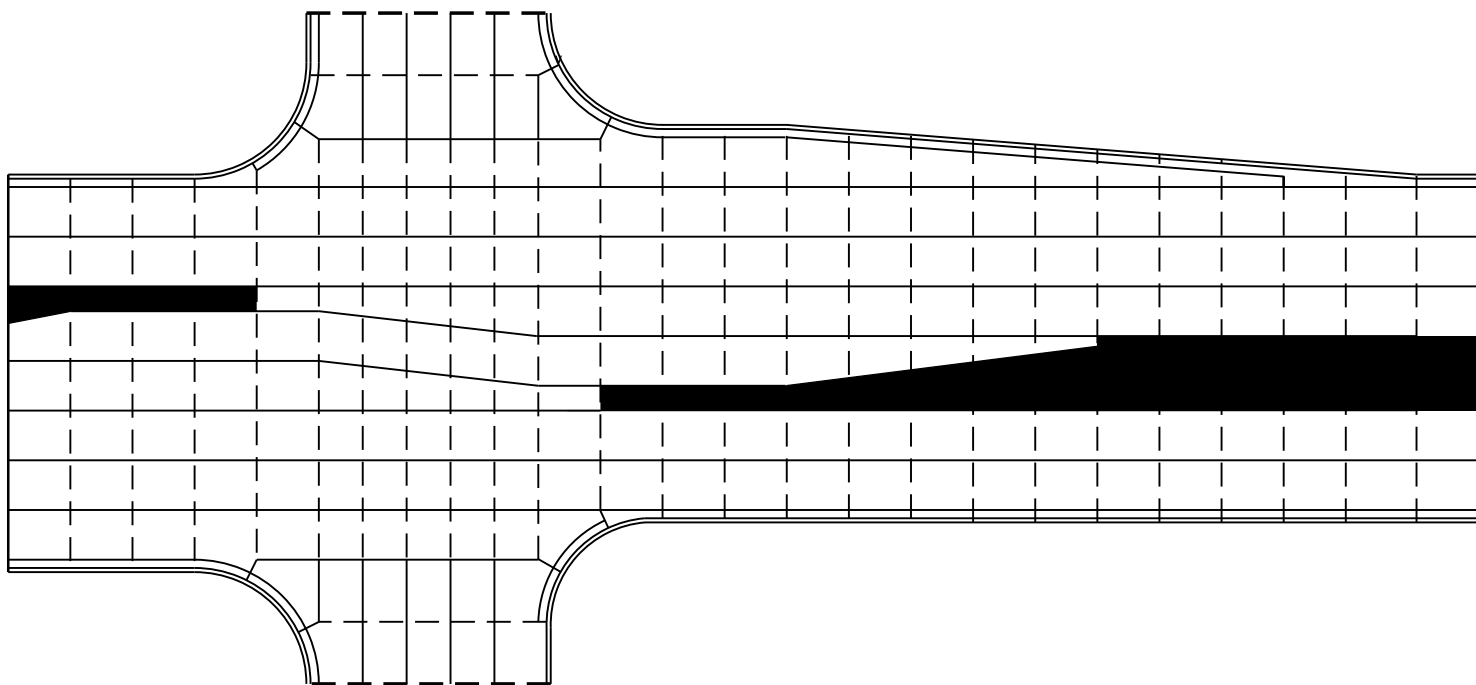
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

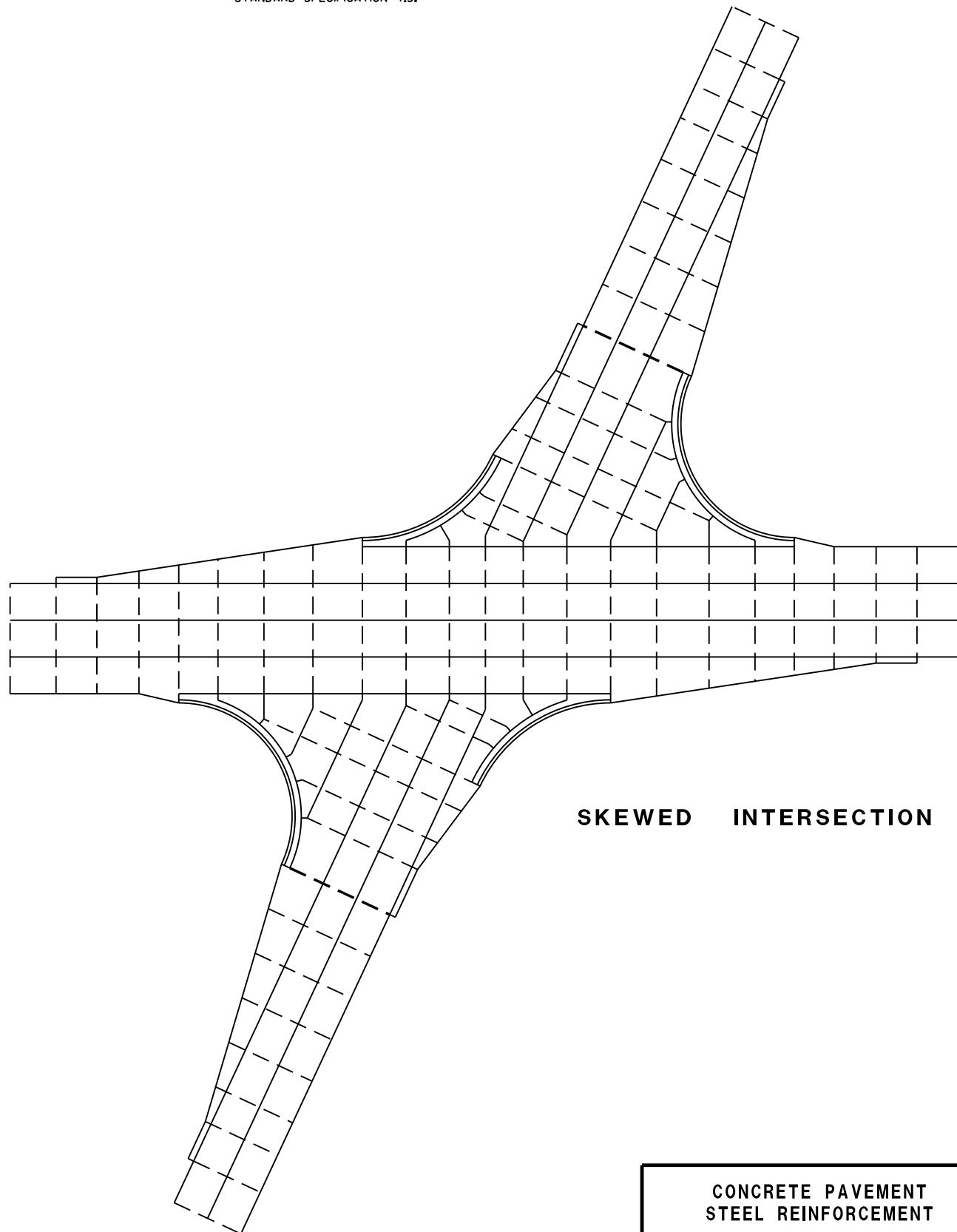
- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

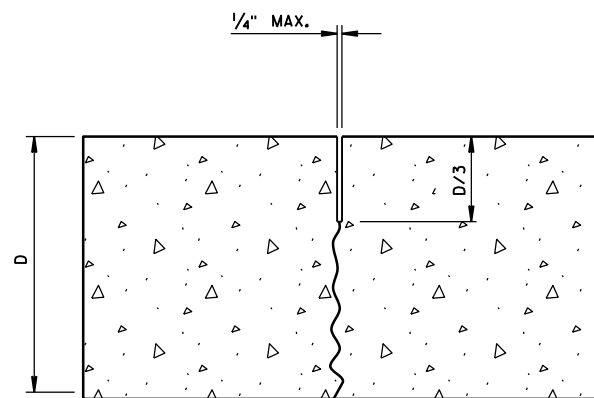
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



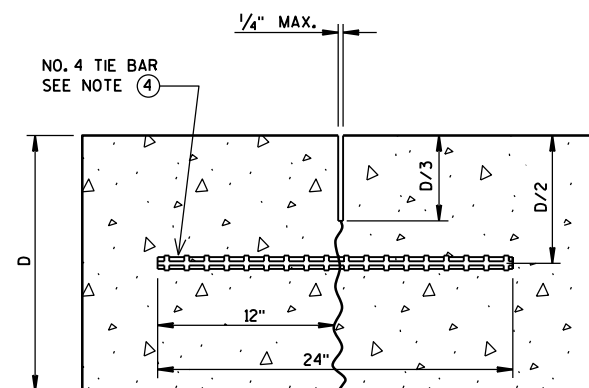
SKewed INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

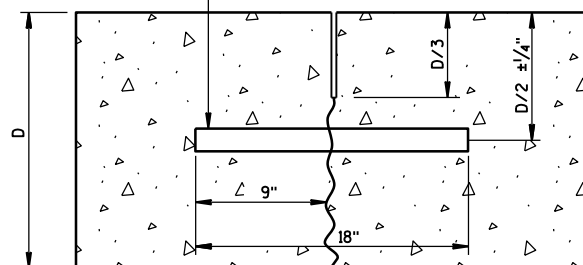


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

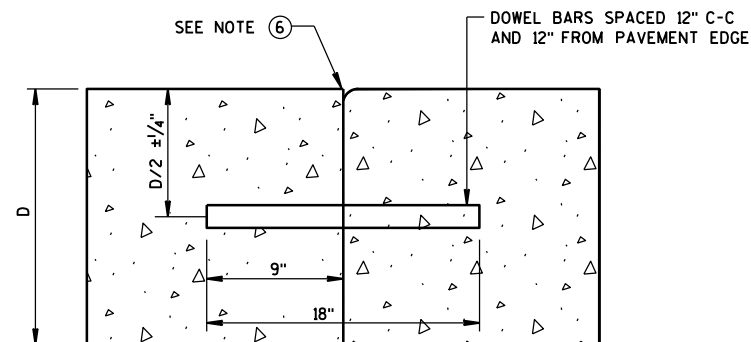
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



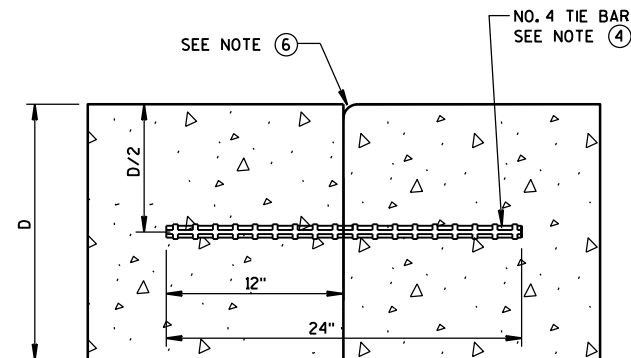
DOWELED-TRANSVERSE

CONTRACTION JOINTS

SEE NOTE ②

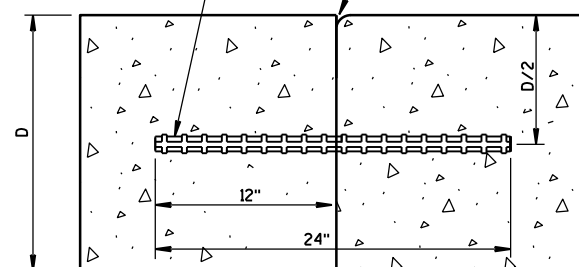
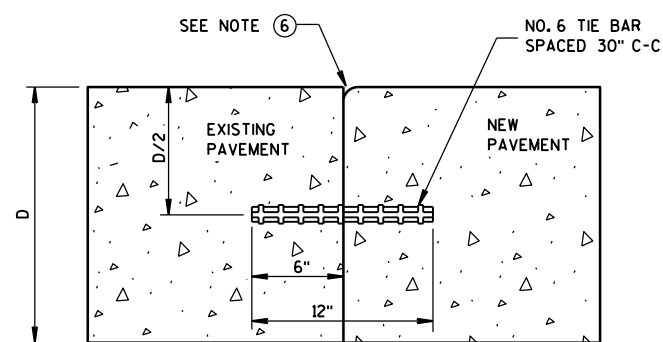


DOWELED TRANSVERSE



TIED LONGITUDINAL

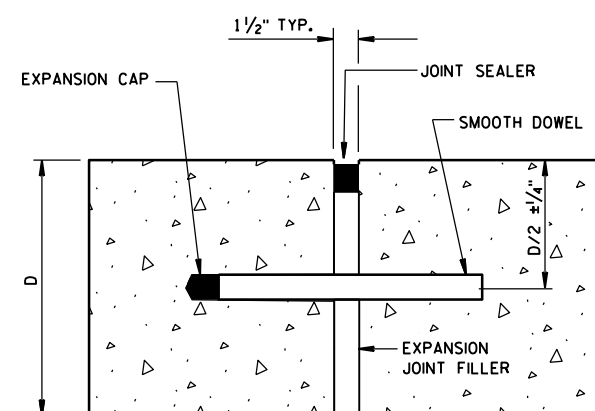
NO. 6 TIE BARS SPACED 12" C-C
AND 12" FROM PAVEMENT EDGE

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

TIED LONGITUDINAL TO EXISTING

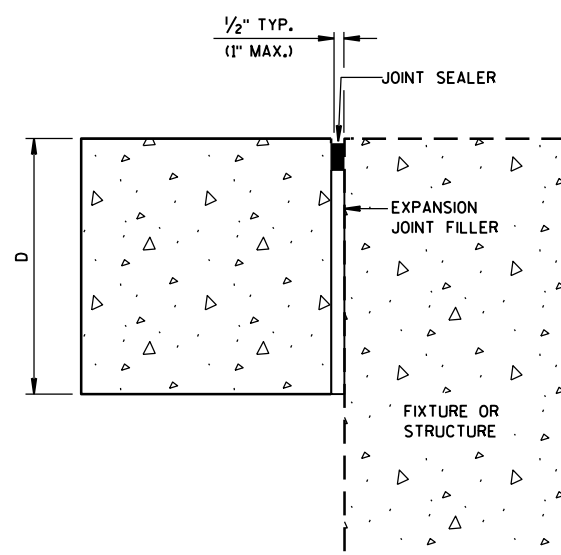
CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE

SEE NOTE ①



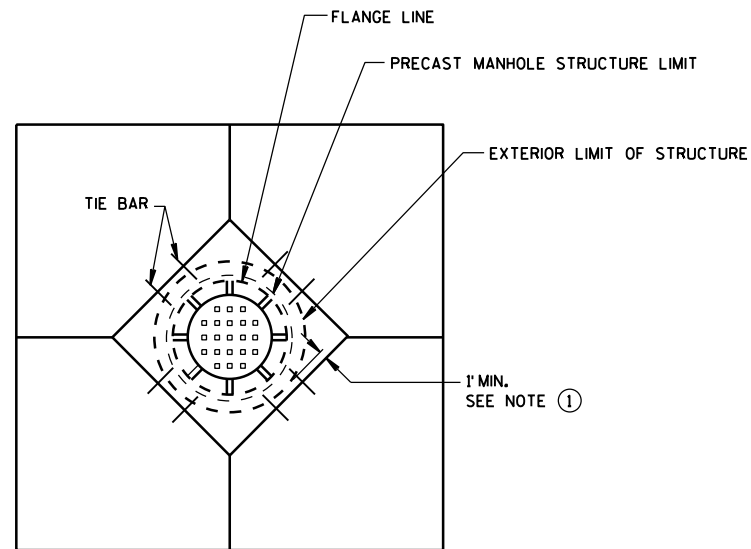
UNTIED-LONGITUDINAL

EXPANSION JOINTS

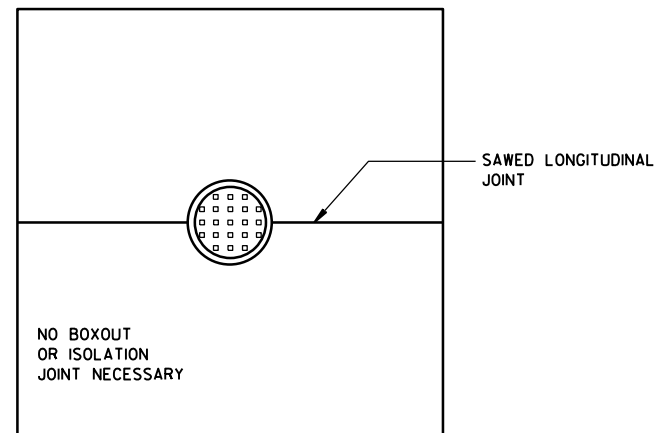
GENERAL NOTES

1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

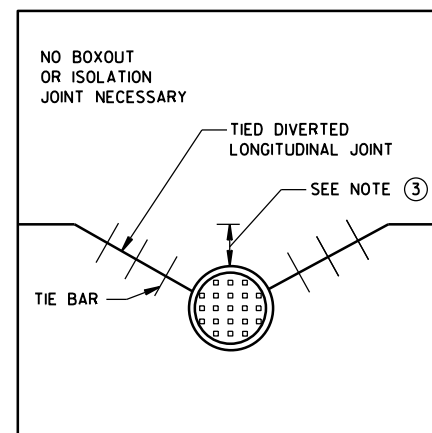
CONCRETE PAVEMENT
JOINT TYPESSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



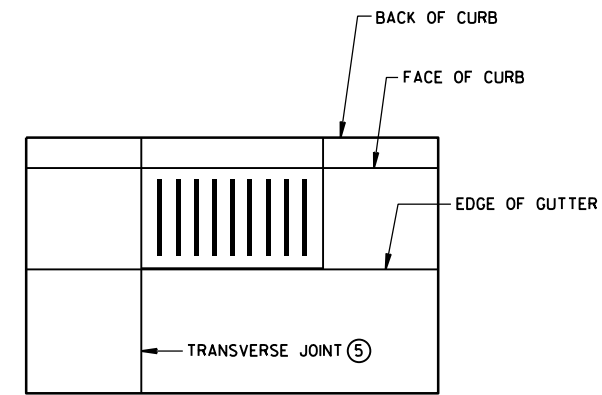
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



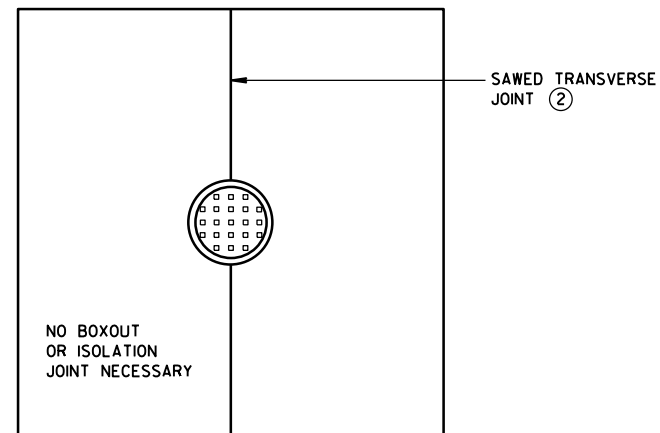
**MANHOLE WITH
LONGITUDINAL JOINT**



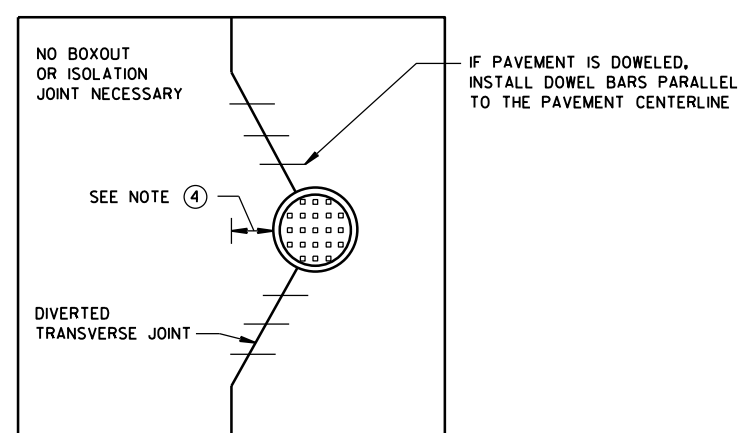
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

GENERAL NOTES

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

**CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES**

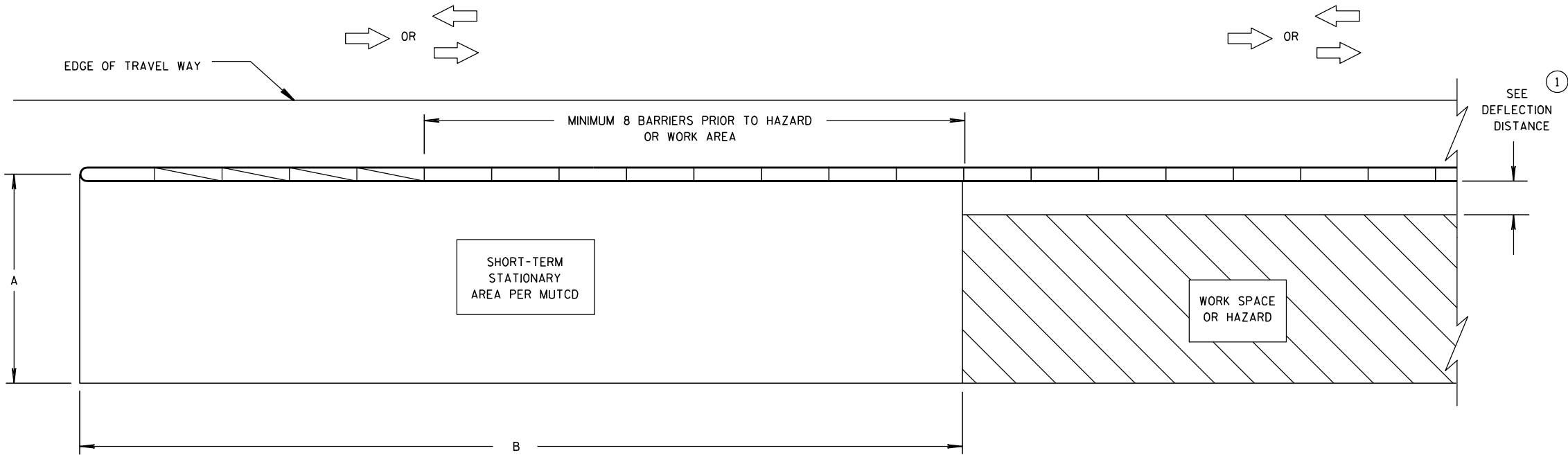
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

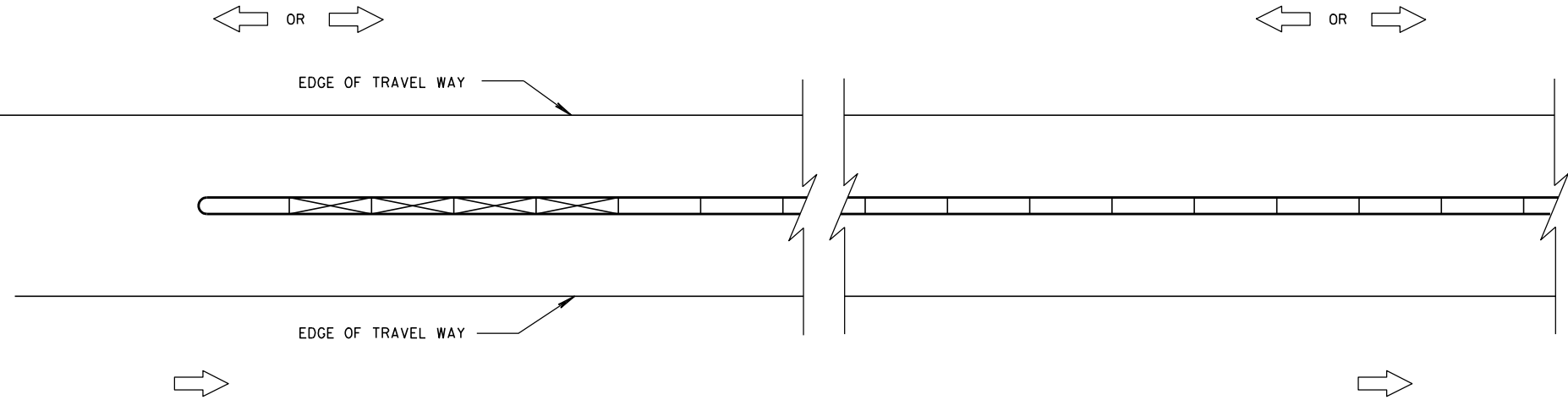
5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

FHWA



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER**



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER**

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

- 1 FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- 2 VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

DIMENSION A TABLE 2

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE 2

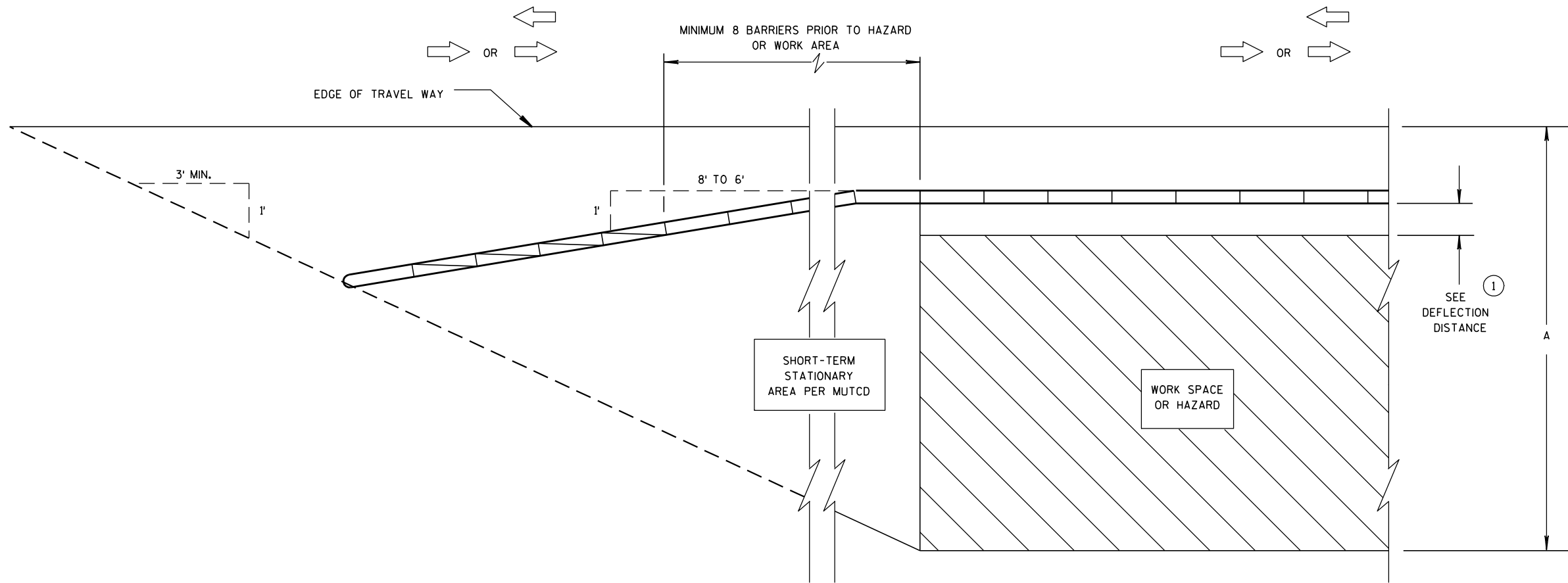
POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

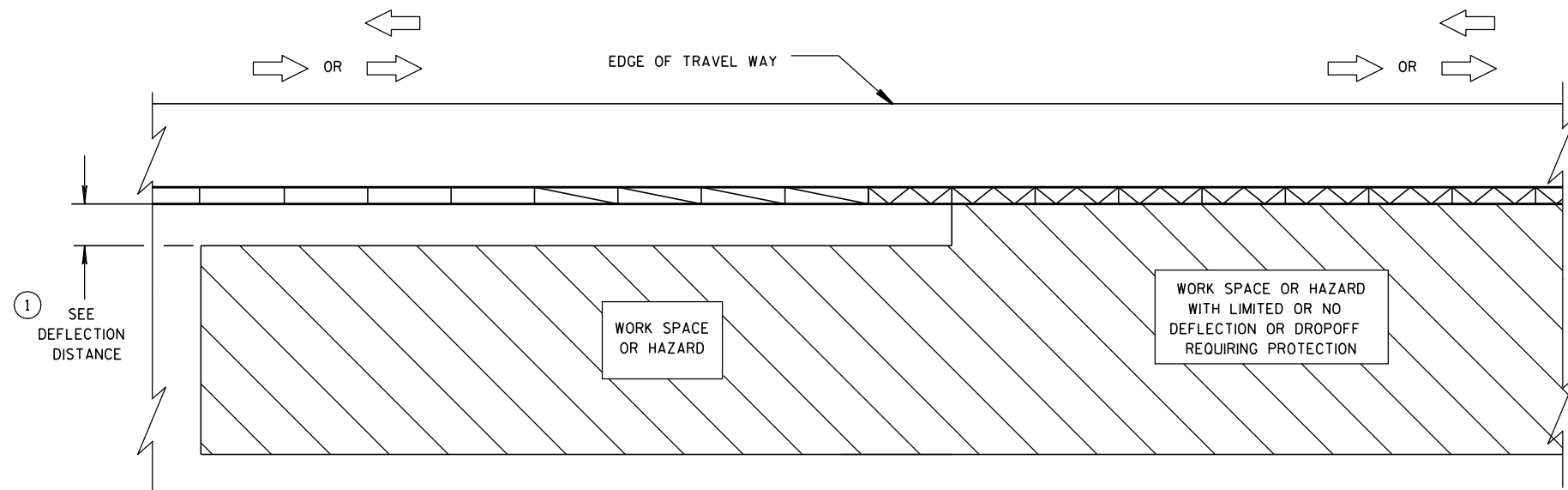
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

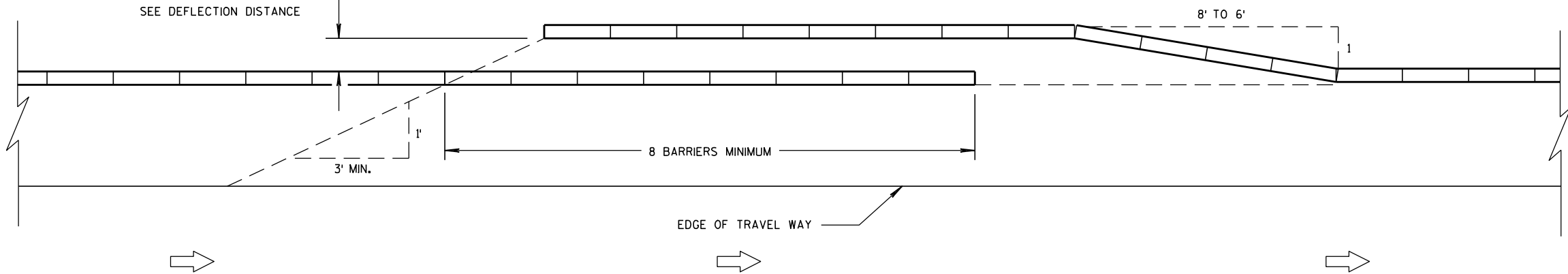
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

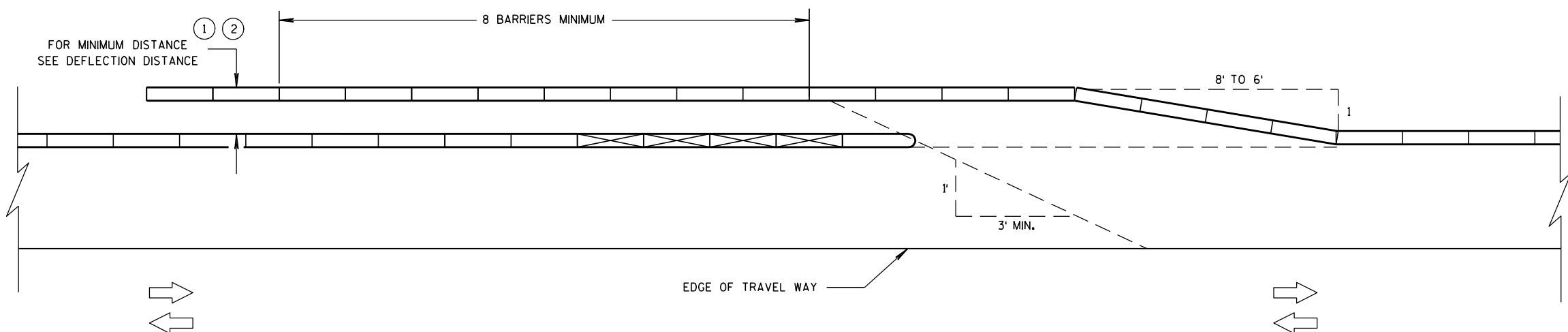
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

FOR MINIMUM DISTANCE
SEE DEFLECTION DISTANCE

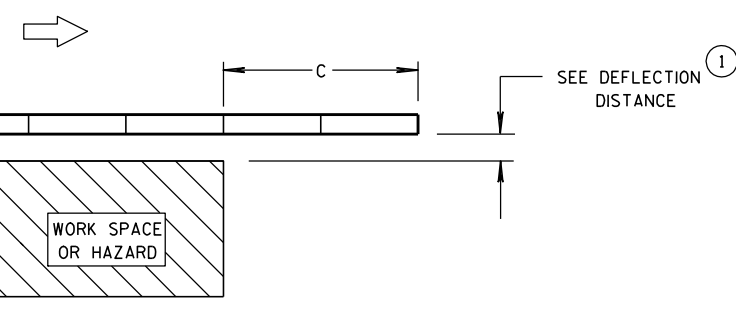


TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC

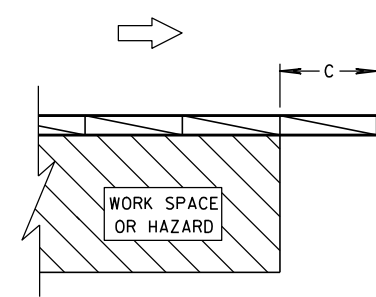
FOR MINIMUM DISTANCE
SEE DEFLECTION DISTANCE



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



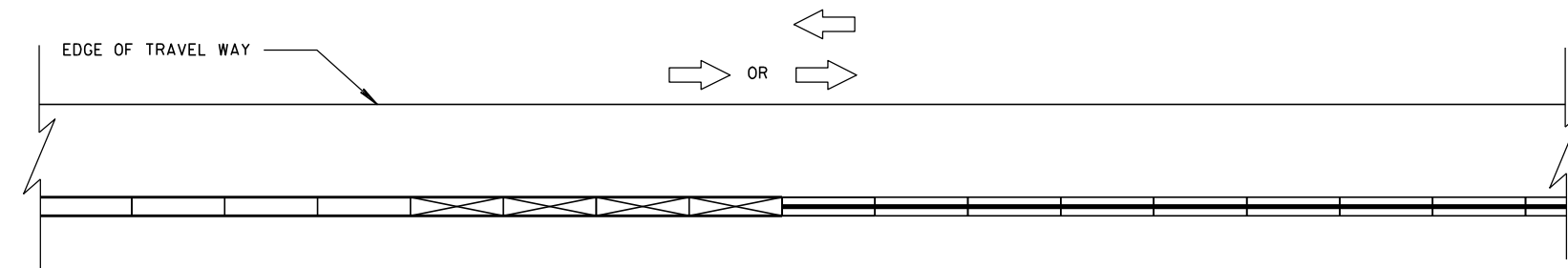
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

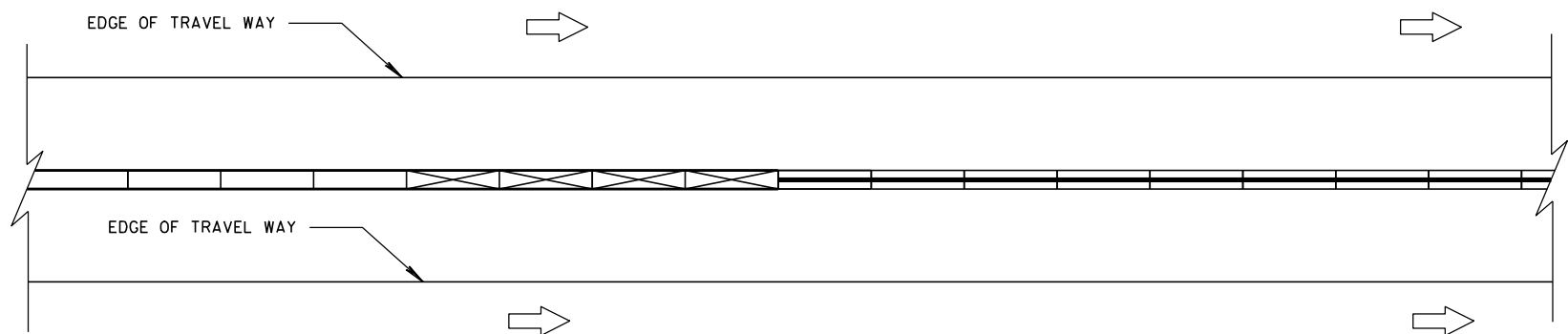
- DIRECTION OF TRAVEL →
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE**



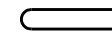
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES**

LEGEND

DIRECTION OF TRAVEL



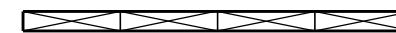
CRASH CUSHION OR
SAND BARREL ARRAY



SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS



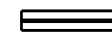
SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS



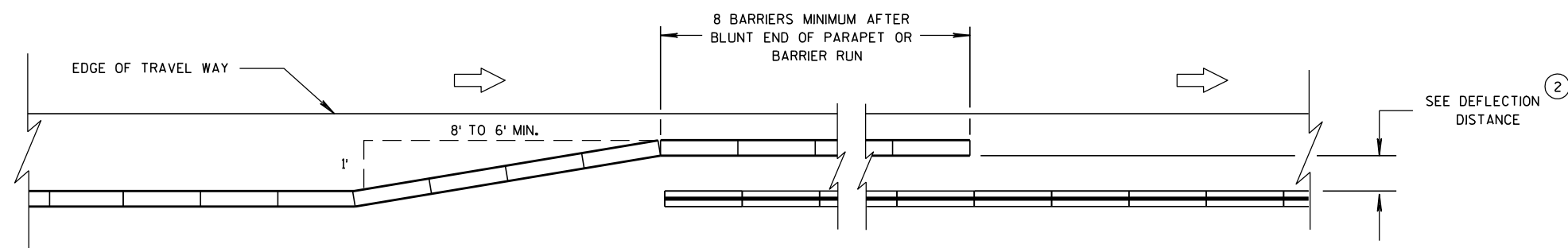
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER



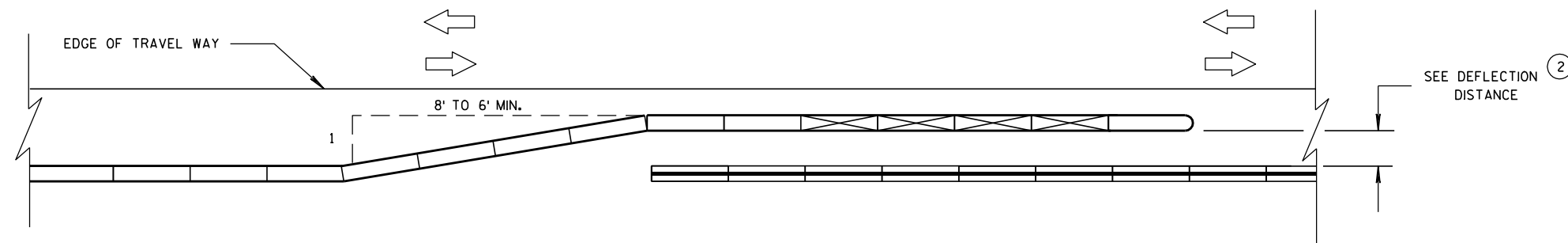
PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET



FREE STANDING TEMPORARY
BARRIER



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC**


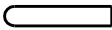







**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC**

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

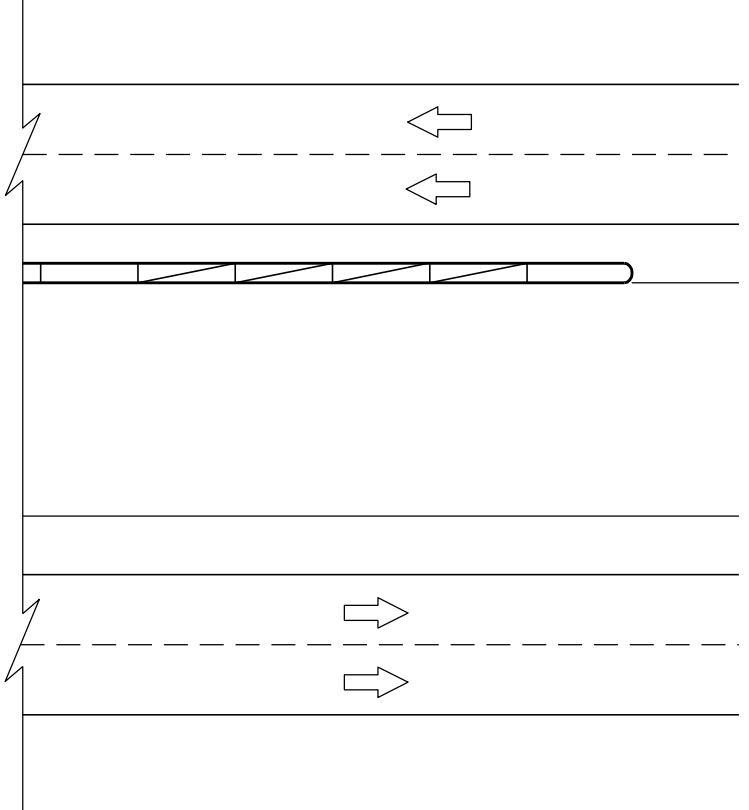
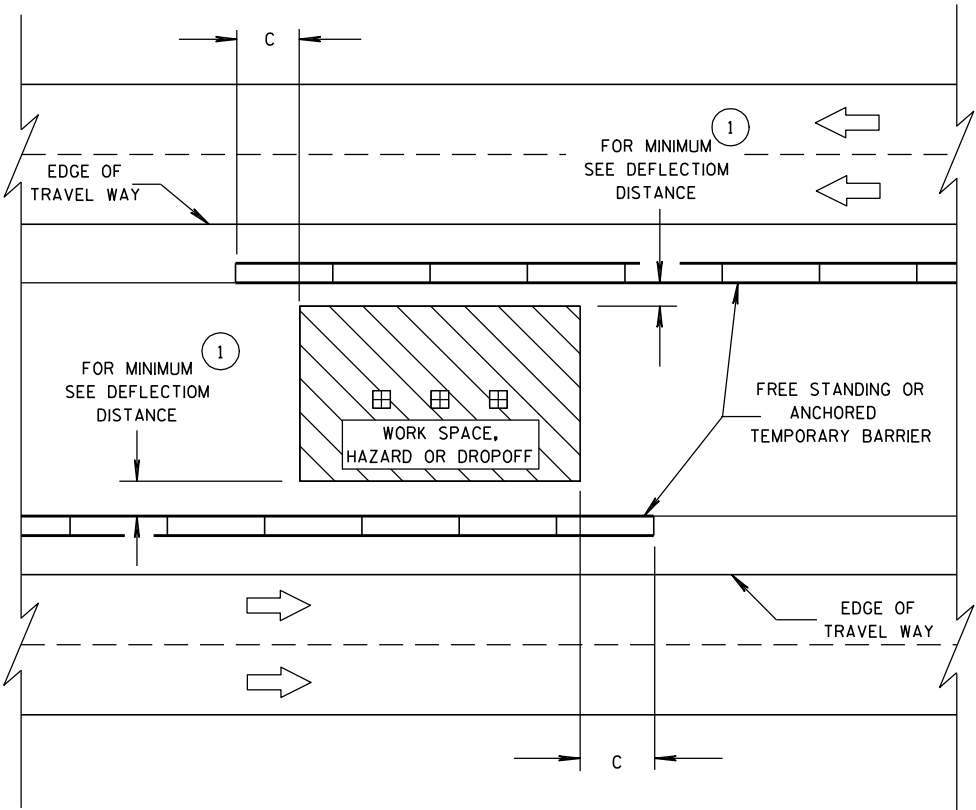
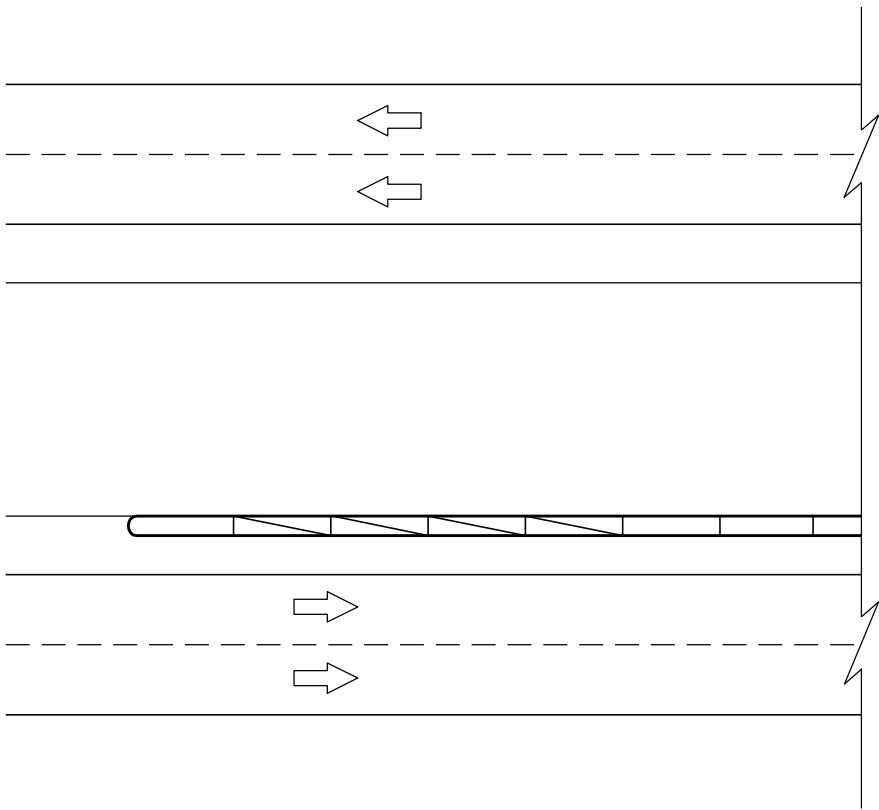
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

DIMENSION C TABLE

2

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100

6



6

**CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

S.D.D. 14 B 8-1e

S.D.D. 14 B 8-1e

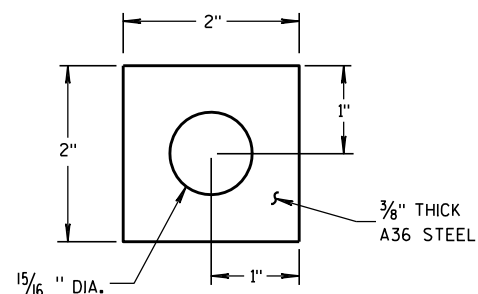
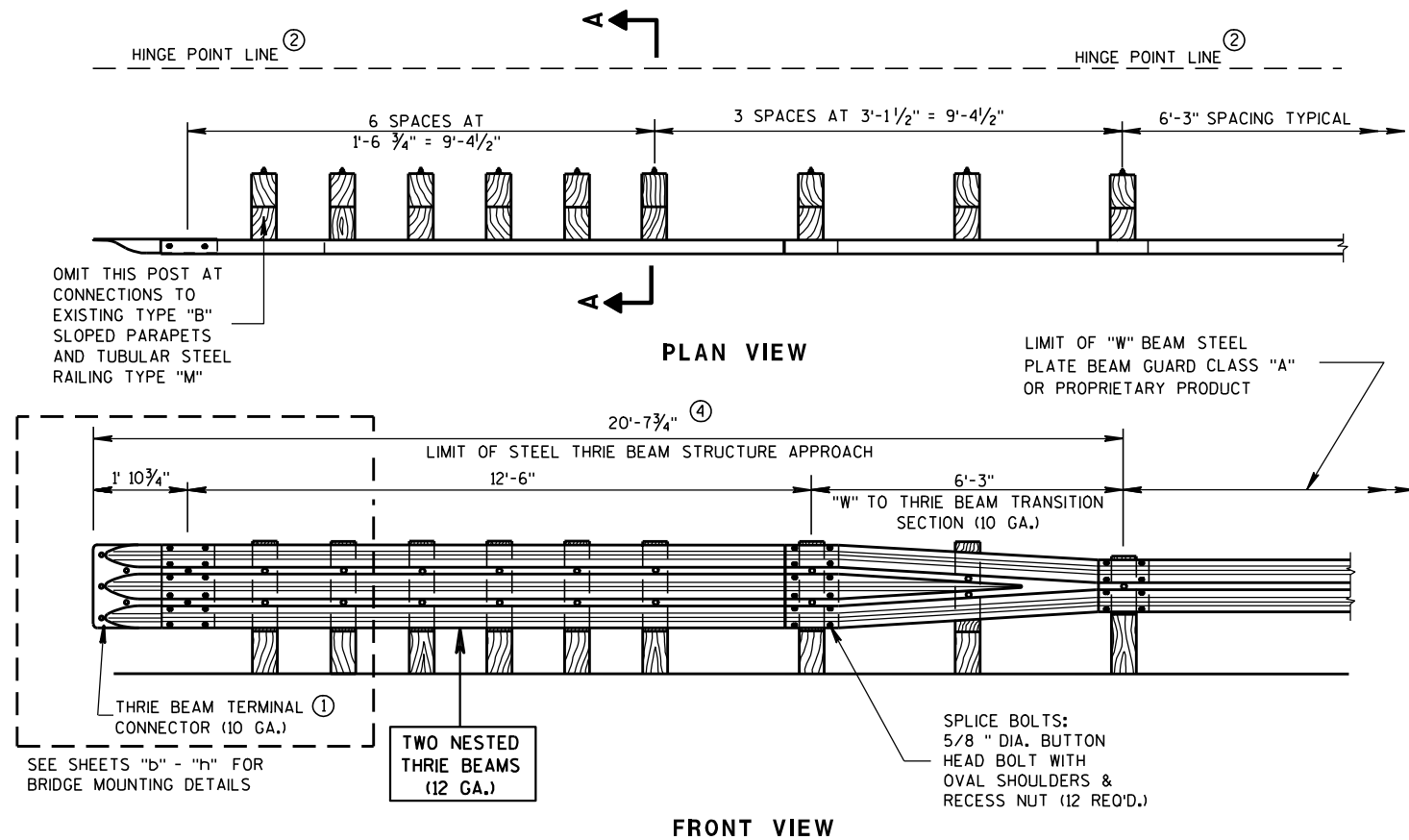


PLATE WASHER DETAIL

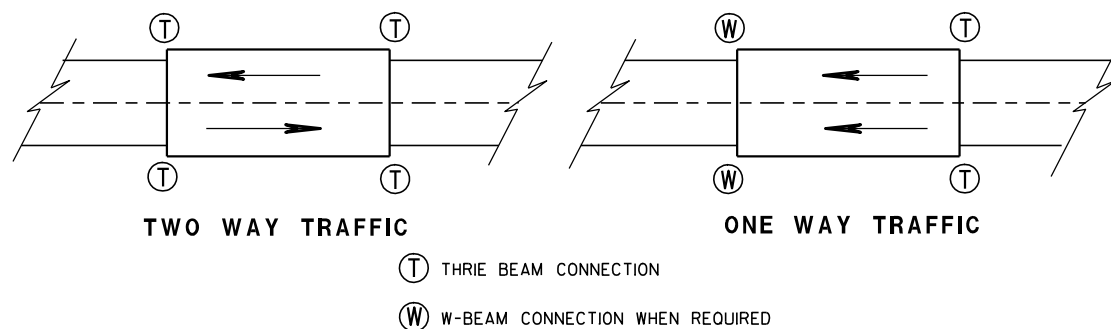
GENERAL NOTES

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".

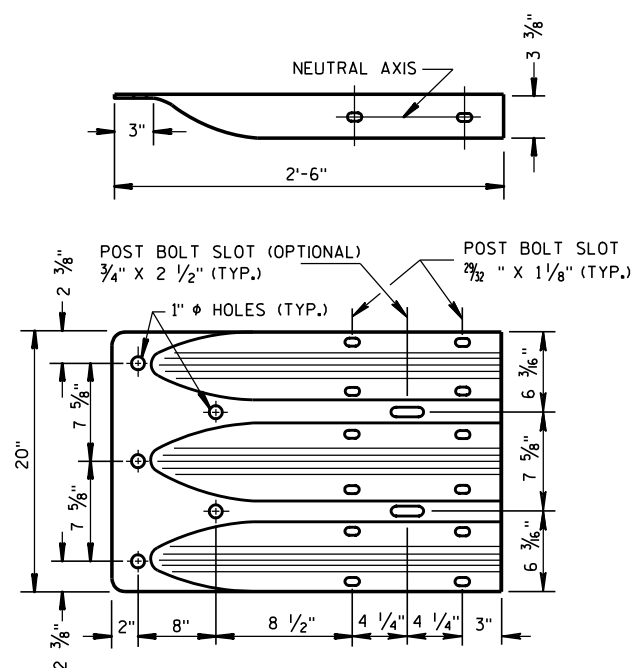
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

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.

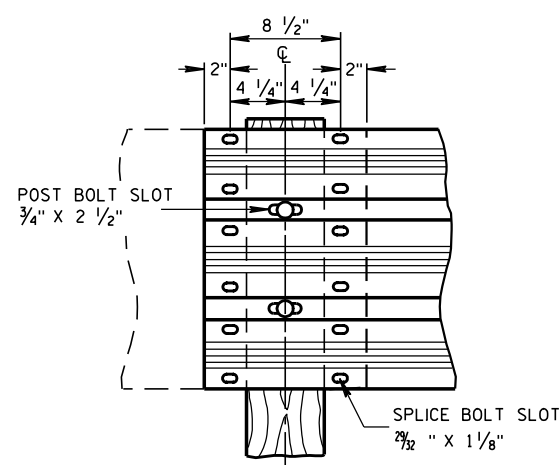
- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE 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.



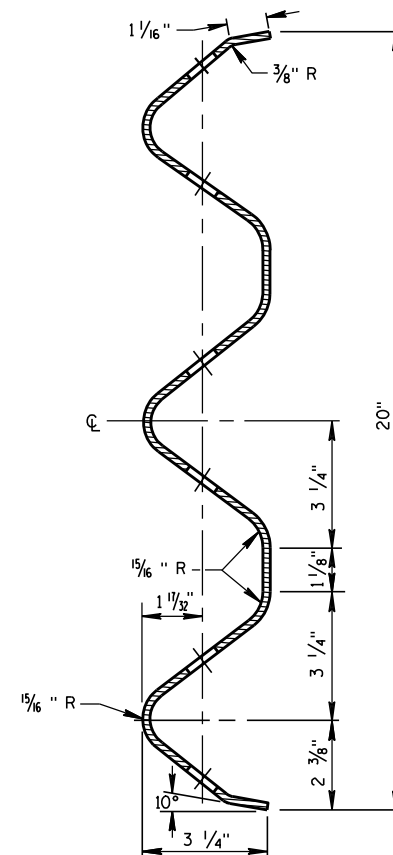
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



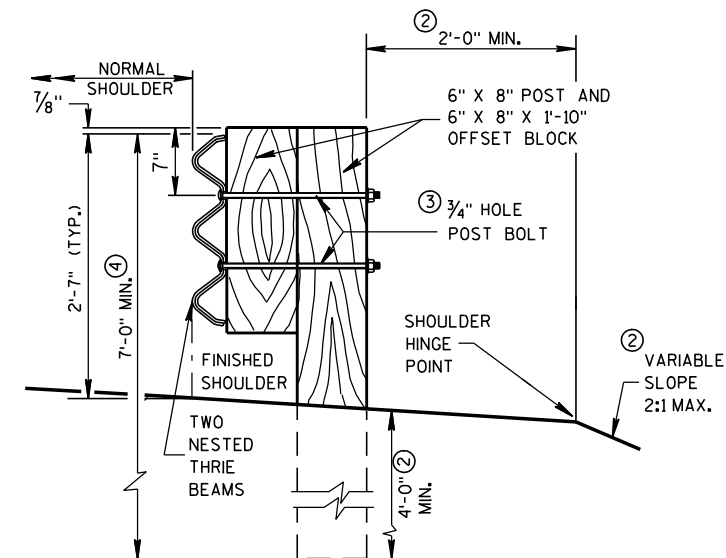
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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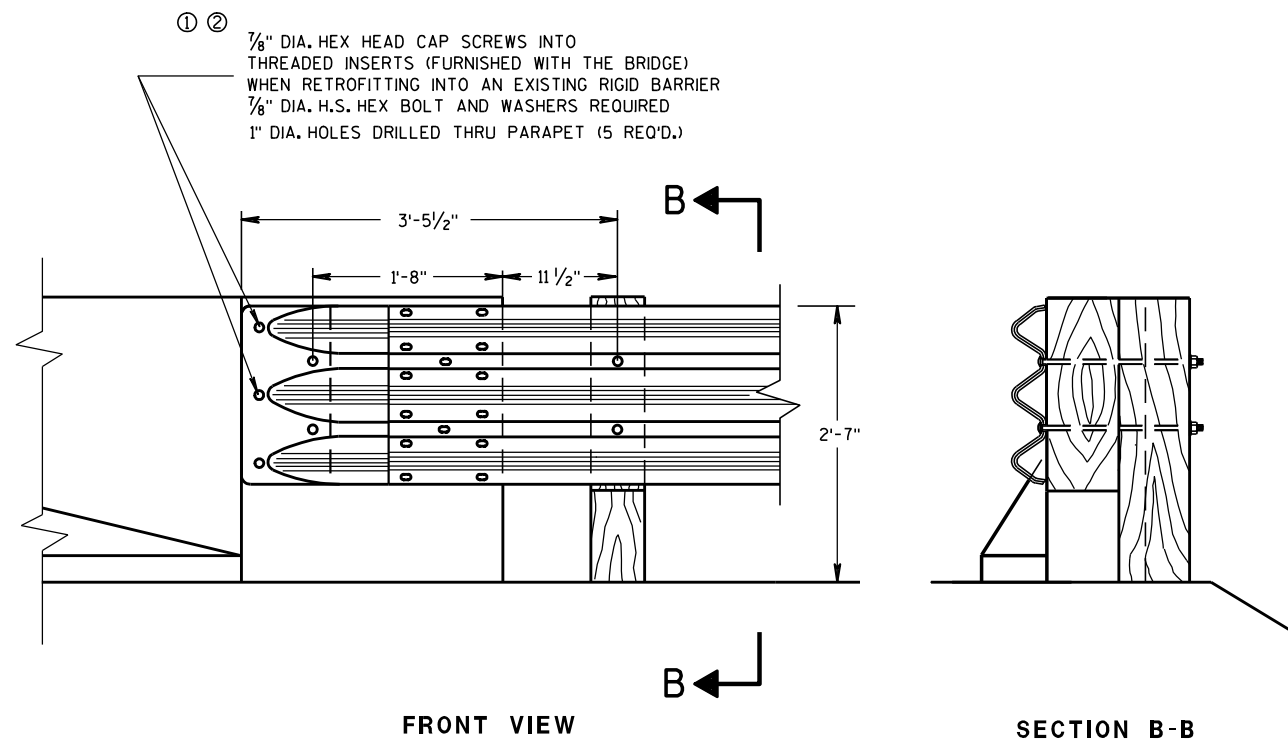
DATE

FHWA

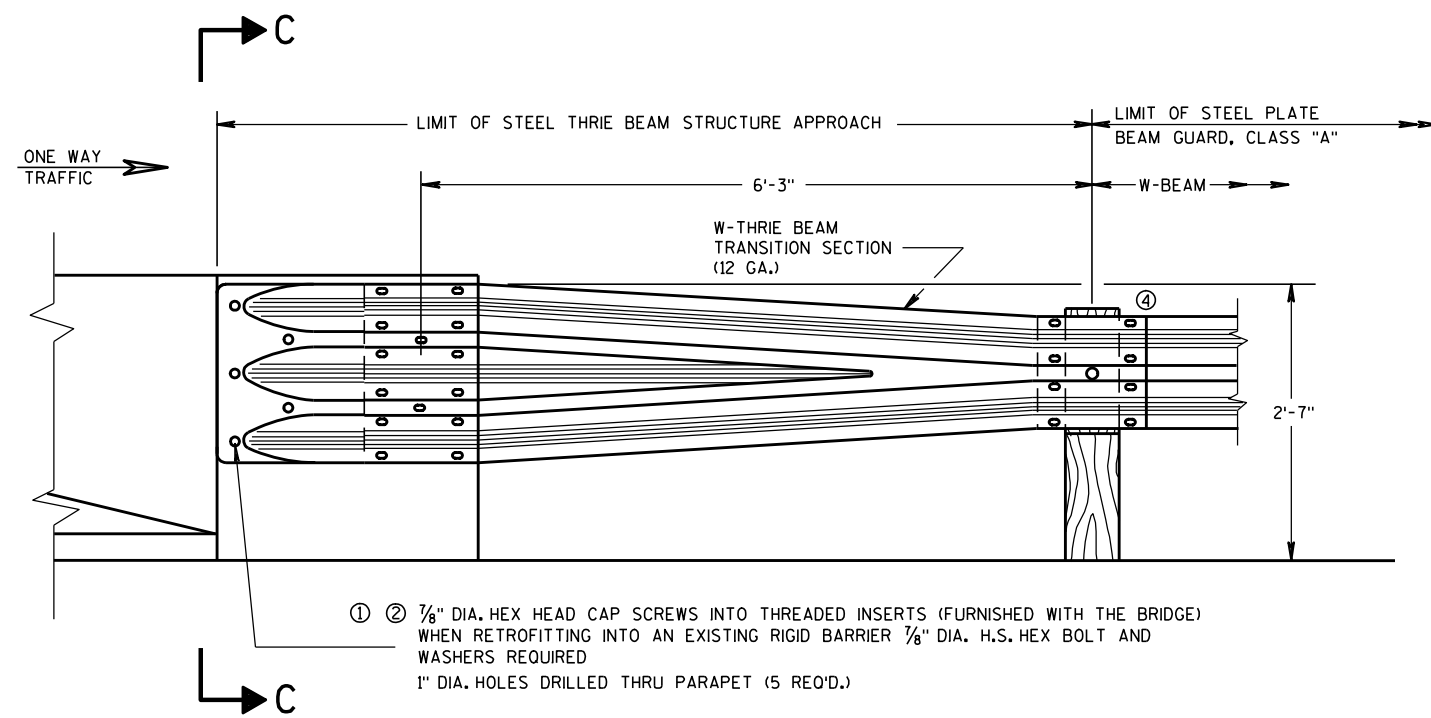
/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

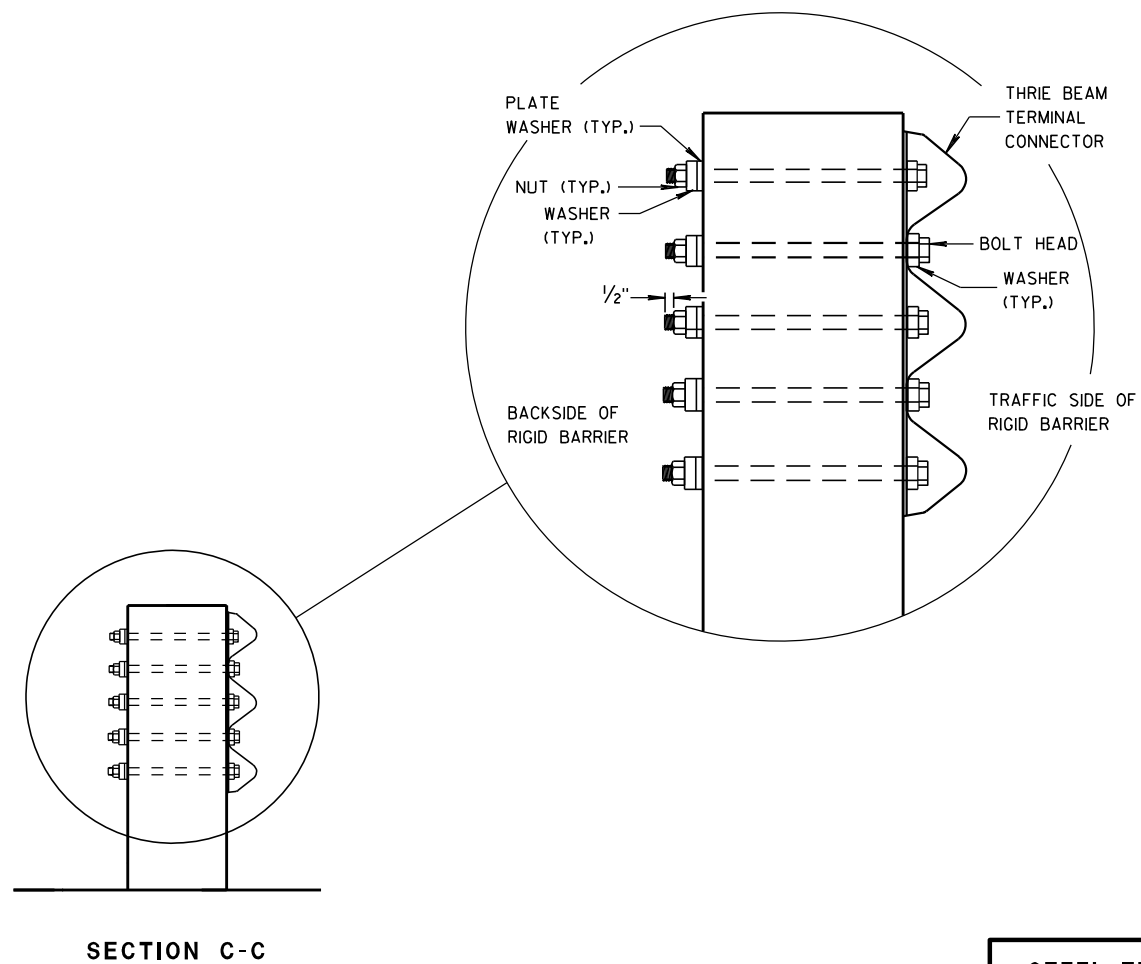
GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

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.



STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

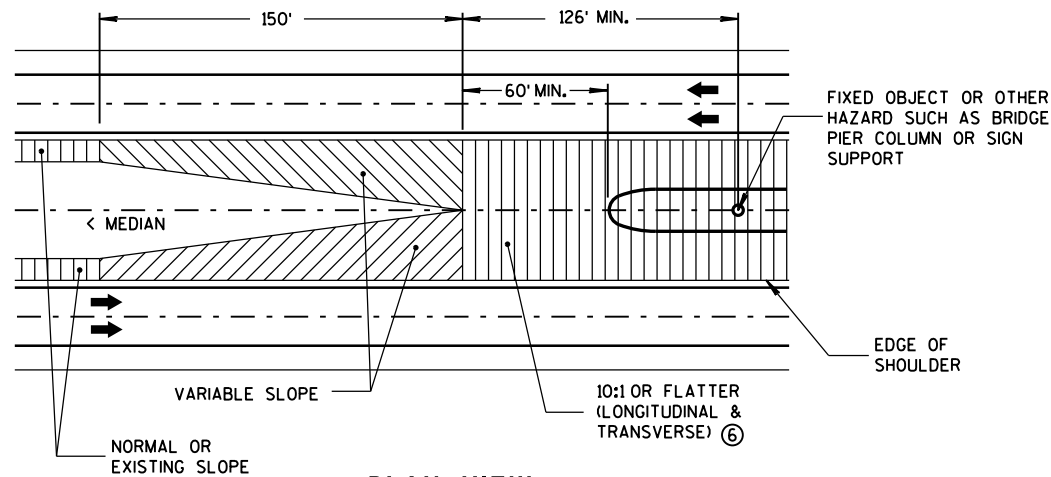
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

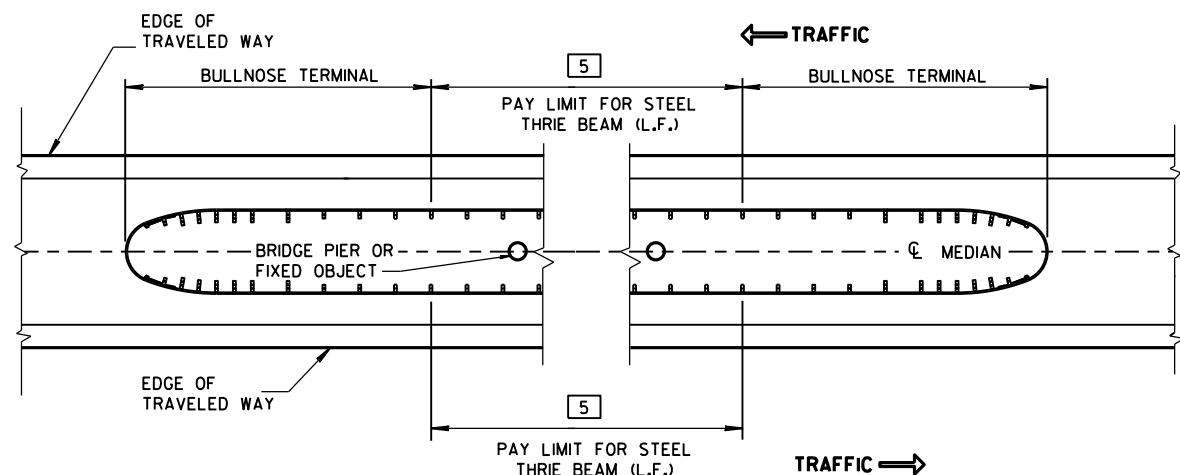
8/31/2012
DATE

FHWA

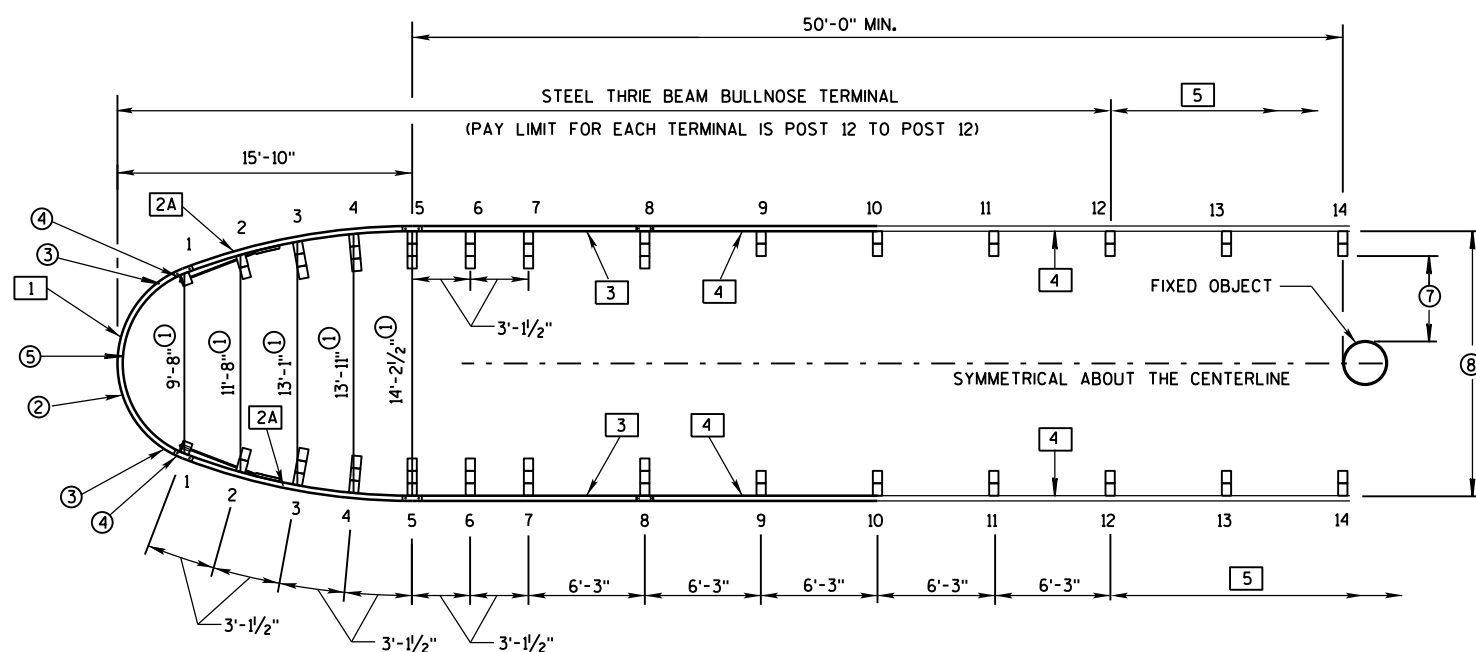
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



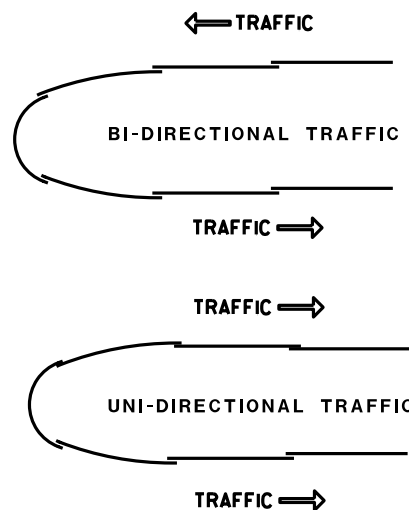
PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

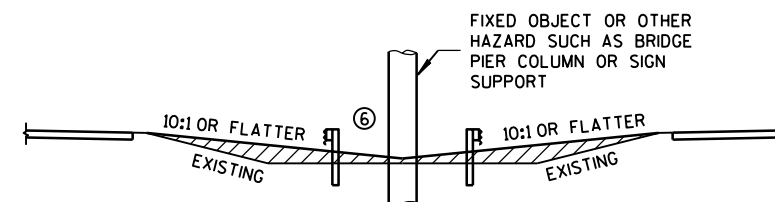
THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

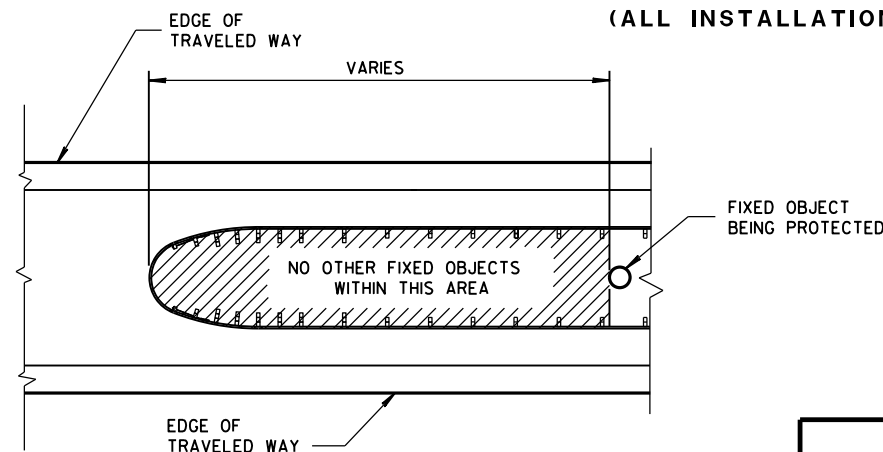
ALL THRIE BEAM SHALL BE 12-GAUGE.

- 1 SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)
- 2A SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)
- 3 SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)
- 4 UNBENT STANDARD THRIE-BEAM RAIL NO. 4. (POST 8 TO POST 10 & POST 10 TO POST 12)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

- ① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- ② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- ③ NOSE CABLE W/SWAGGED END BUTTONS.
- ④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- ⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- ⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.
- ⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.
- ⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2 1/2" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



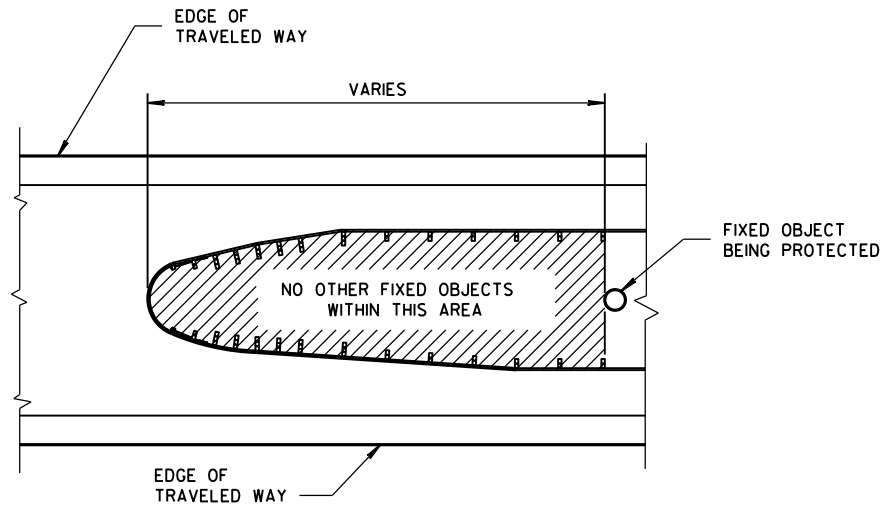
MEDIAN GRADING SECTION
(ALL INSTALLATIONS)



HAZARD FREE
AREA INSIDE BULLNOSE

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



HAZARD FREE AREA INSIDE BULLNOSE

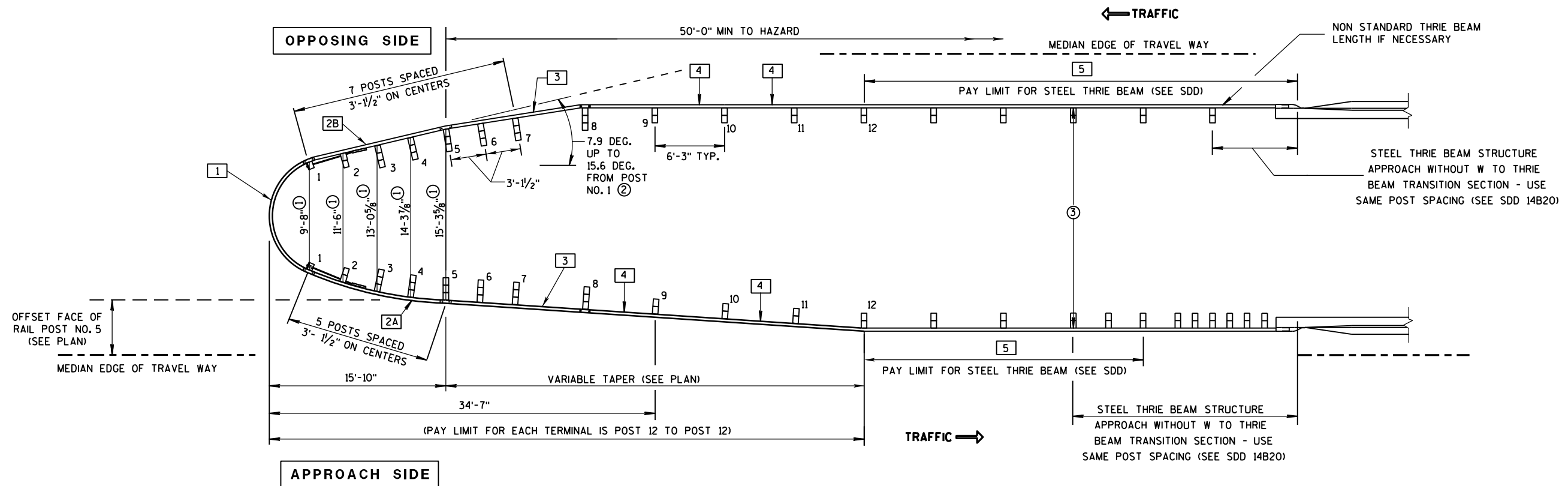
GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

- [1] SLOTTED THRIE BEAM RAIL NO. 1, (POST 1 TO POST 1)
- [2A] SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)
- [2B] SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)
- [3] SLOTTED THRIE BEAM RAIL NO. 3, (POST 5 TO POST 8)
- [4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)
- [5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

- ① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.
- ② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)
- ③ FOR MEDIANS WIDER THAN 14'-2 1/2" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



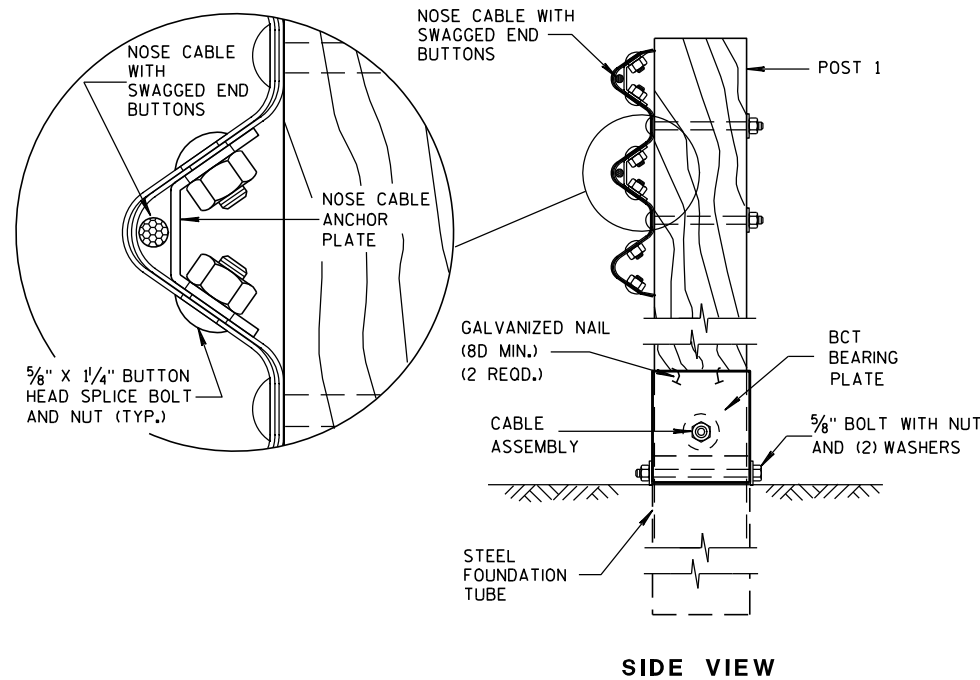
PLAN VIEW

WIDENED BULLNOSE DESIGN

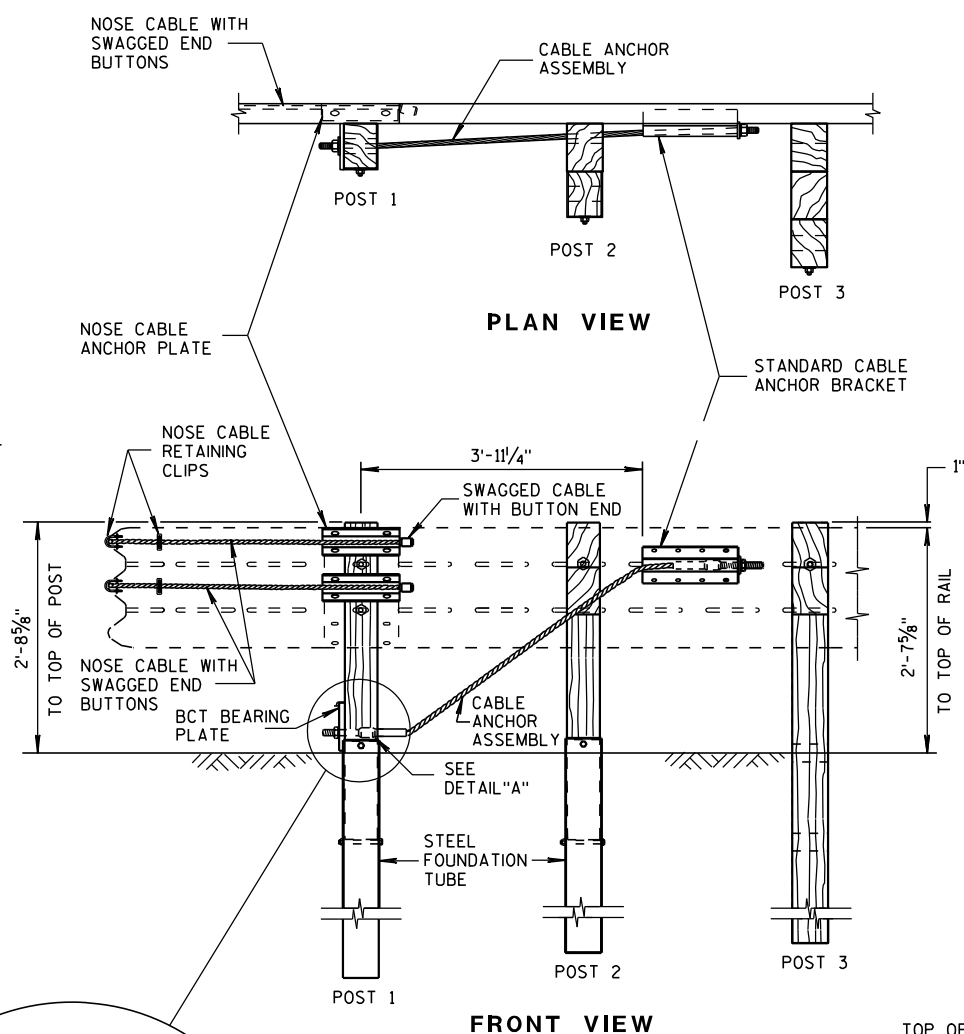
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

STEEL THRIE BEAM
BULLNOSE TERMINAL

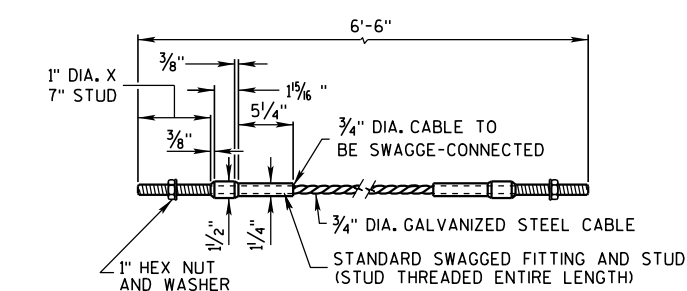
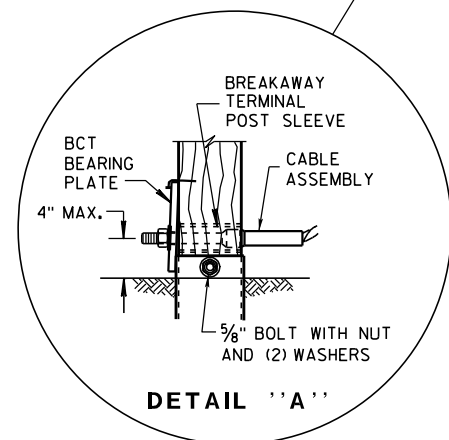
STATE OF WISCONSIN
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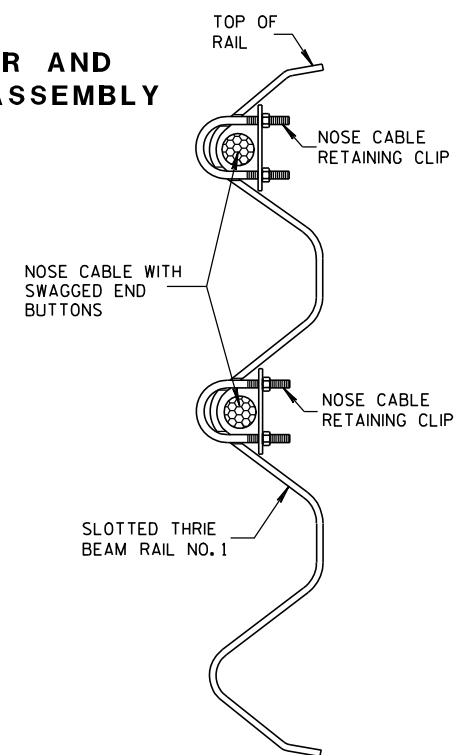
NOSE CABLE ASSEMBLY AT POST NO. 1



FRONT VIEW
NOSE CABLE ANCHOR AND
STANDARD BRACKET ASSEMBLY



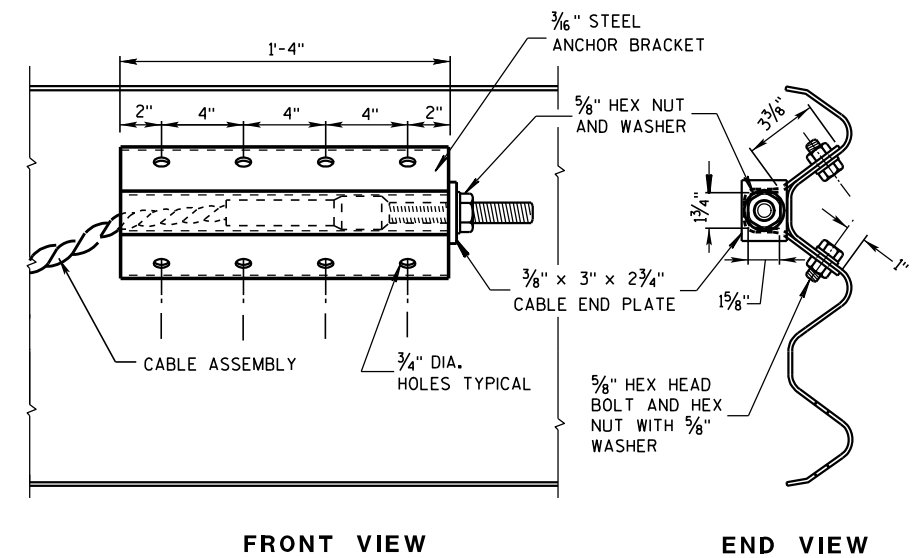
DETAILS OF CABLE ANCHOR ASSEMBLY



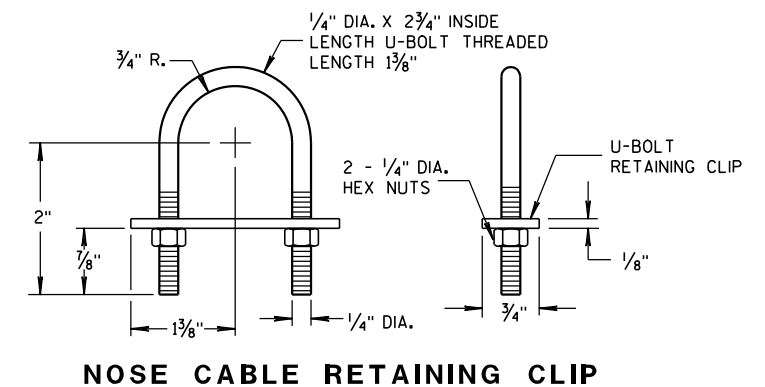
PLACEMENT OF NOSE
CABLE RETAINING CLIP

GENERAL NOTES

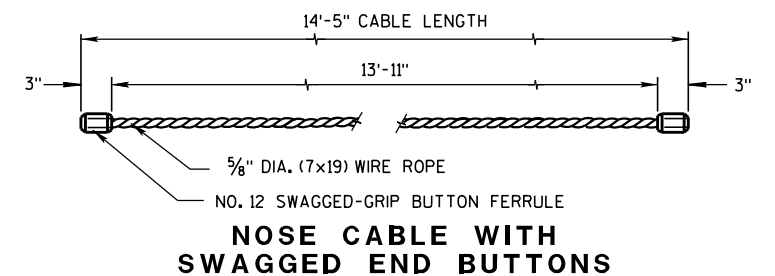
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



FRONT VIEW
DETAILS OF CABLE ANCHOR BRACKET



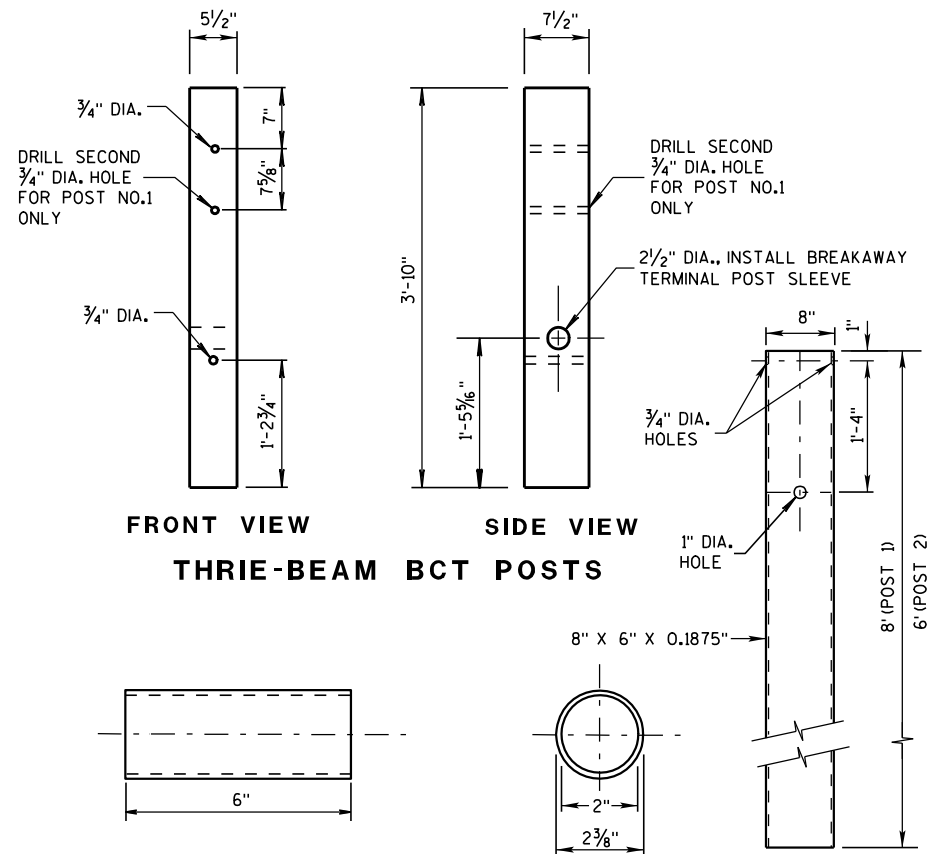
NOSE CABLE RETAINING CLIP



TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGTH.

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

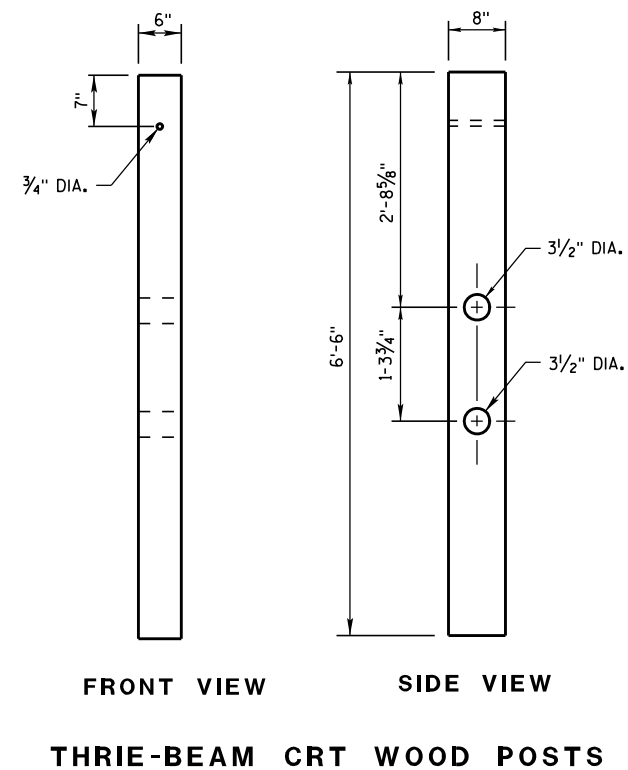


FRONT VIEW
THRIE-BEAM BCT POSTS

SIDE VIEW

**BREAKAWAY TERMINAL
POST SLEEVE**

**STEEL
FOUNDATION TUBE**



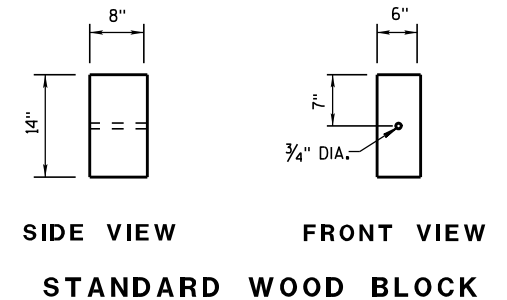
FRONT VIEW

SIDE VIEW

THRIE-BEAM CRT WOOD POSTS

GENERAL NOTES

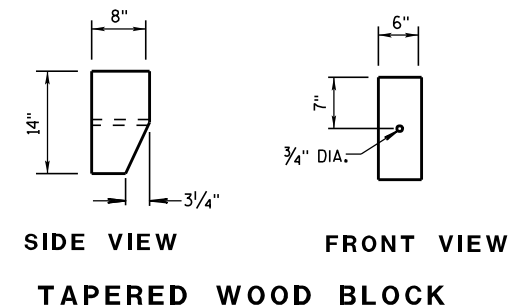
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



SIDE VIEW

FRONT VIEW

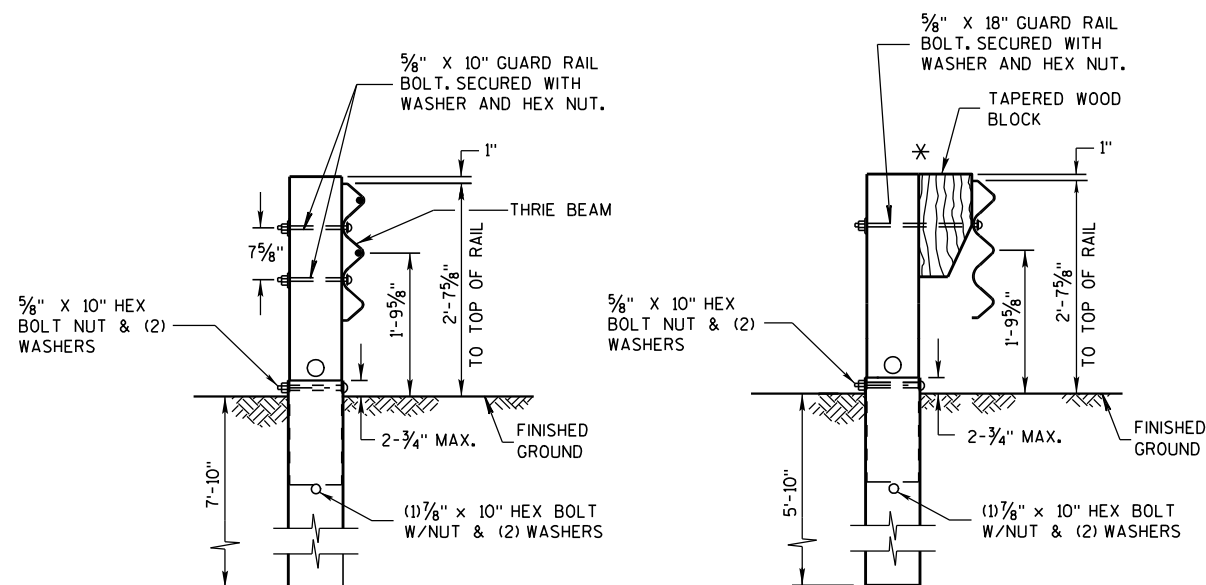
STANDARD WOOD BLOCK



SIDE VIEW

FRONT VIEW

TAPERED WOOD BLOCK

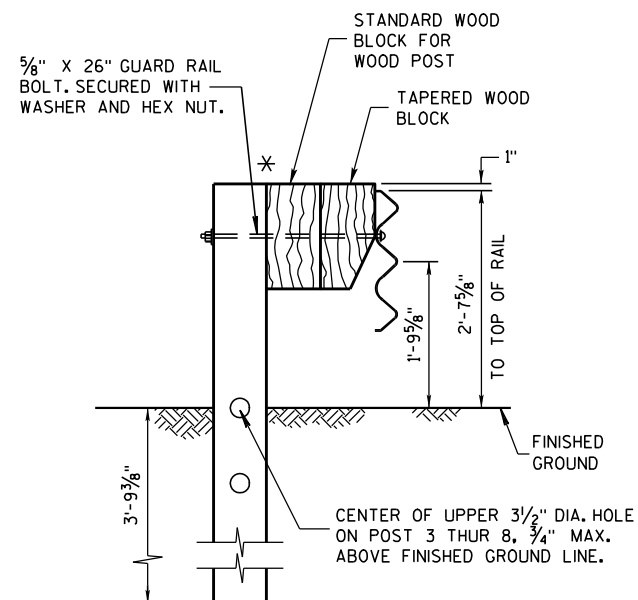


**THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)**

POST NO. 1

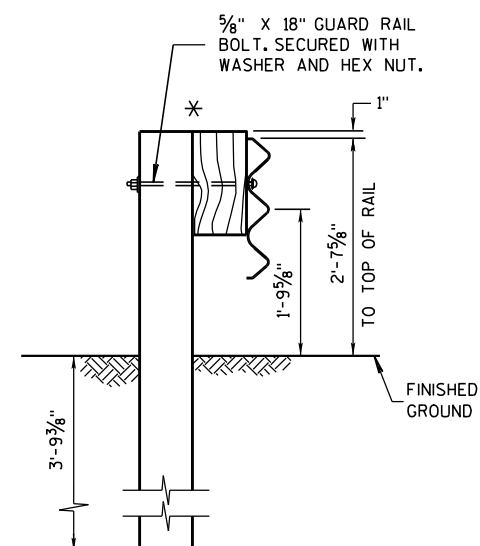
**THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE
AND 1'-2" TAPERED BLOCK)**

POST NO. 2



**THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK
AND 1'-2" TAPERED BLOCK)**

POST NO. 3,4,5,6,7, & 8



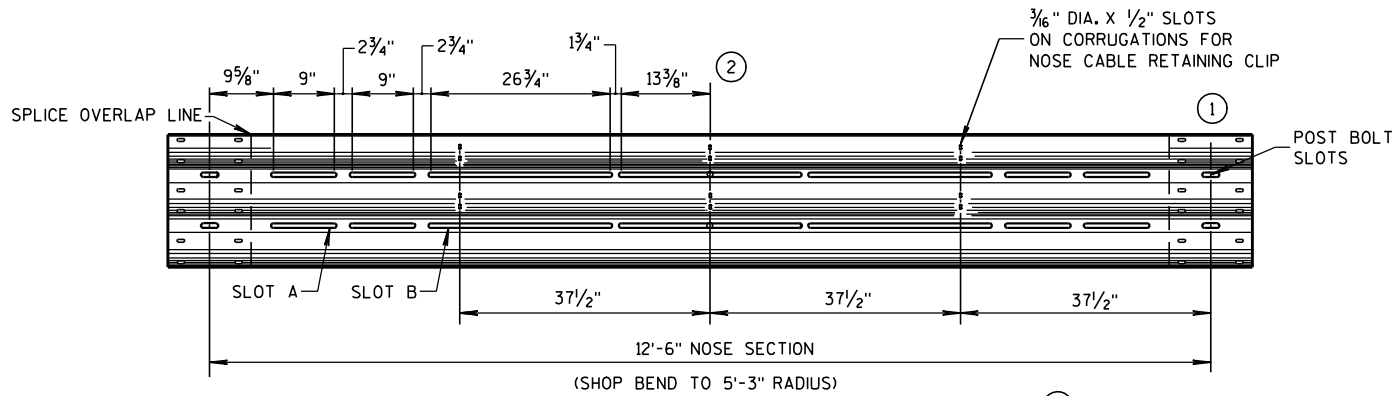
**THRIE-BEAM POST
(6'-6" LONG POST
WITH 1'-2" BLOCK)**

POST NO. 9,10,11, & 12
(ALSO USE FOR STEEL
THRIE BEAM BEYOND POST 12)

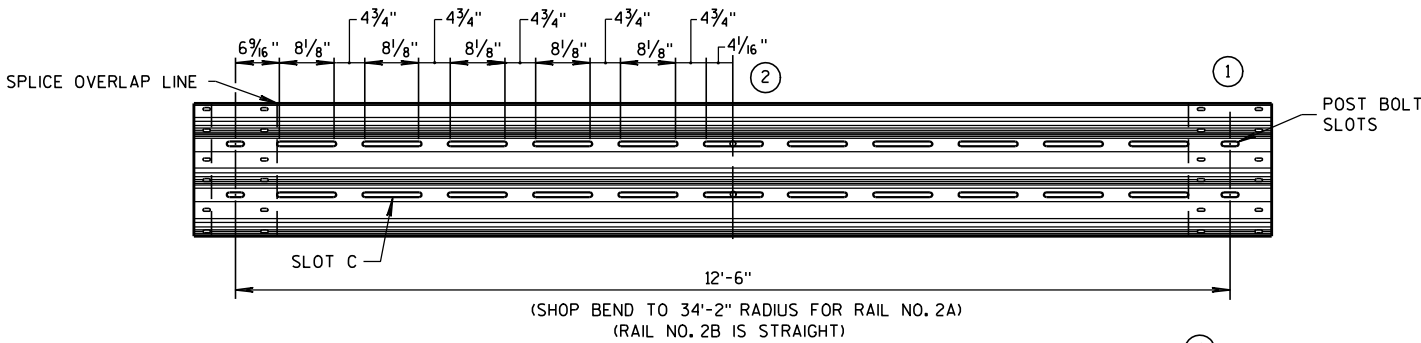
* IF NEEDED DUE TO AN UNDERGROUND
OBSTACLE ADD 1 ADDITIONAL STANDARD
BLOCKOUT TO POST.

**STEEL THRIE BEAM
BULLNOSE TERMINAL**

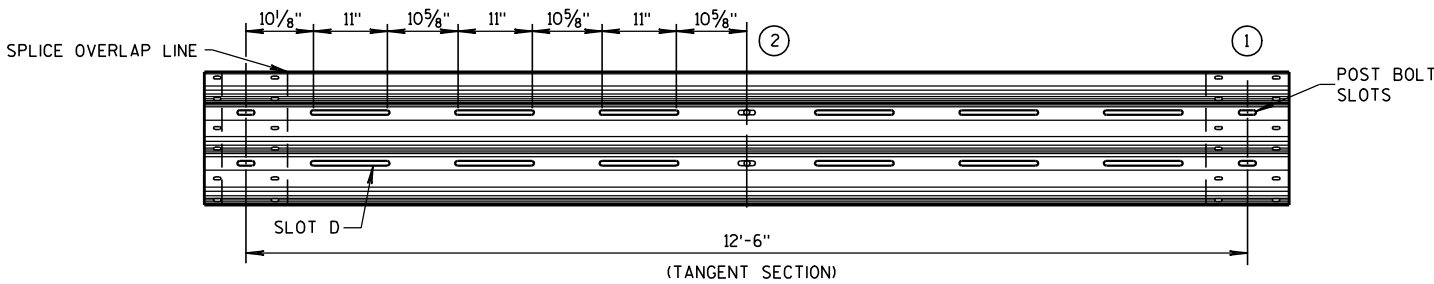
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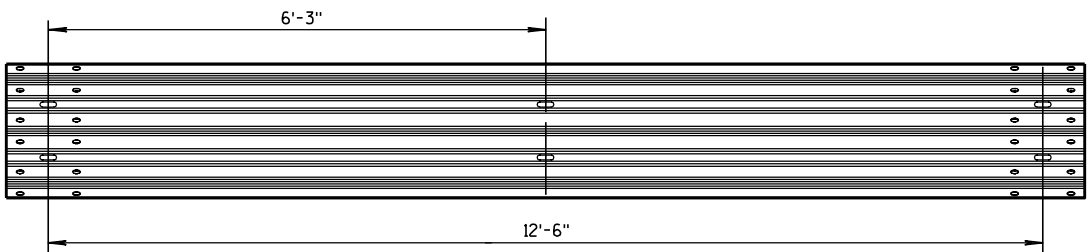
SLOTTED THRIE BEAM RAIL NO. 1 ③



SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B ④



SLOTTED THRIE BEAM RAIL NO. 3 ⑤

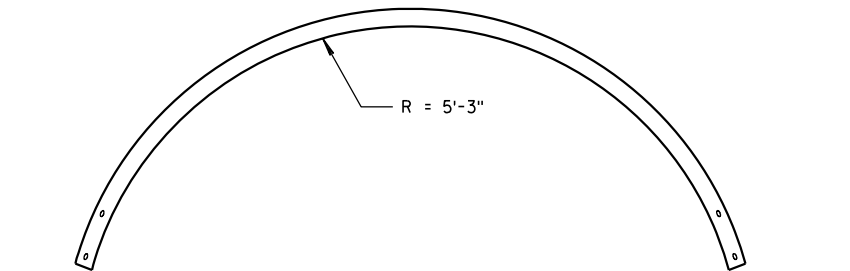


UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

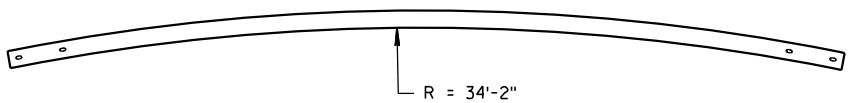
GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

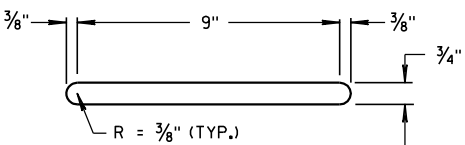
- ① SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.
- ② SLOT SIZE AND SPACING SYMMETRIC.
- ③ SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".
- ④ SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.
- ⑤ SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



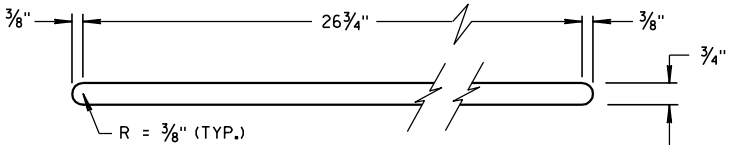
**PLAN VIEW
SLOTTED THRIE BEAM RAIL NO. 1**



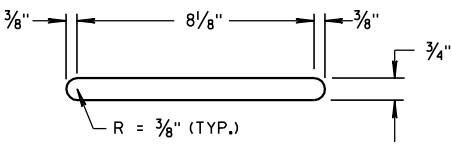
**PLAN VIEW
SLOTTED THRIE BEAM RAIL NO. 2A**



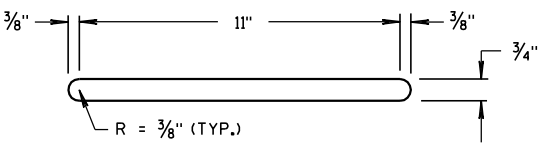
SLOT A



SLOT B



SLOT C



SLOT D

SLOT DETAILS

**STEEL THRIE BEAM
BULLNOSE TERMINAL**

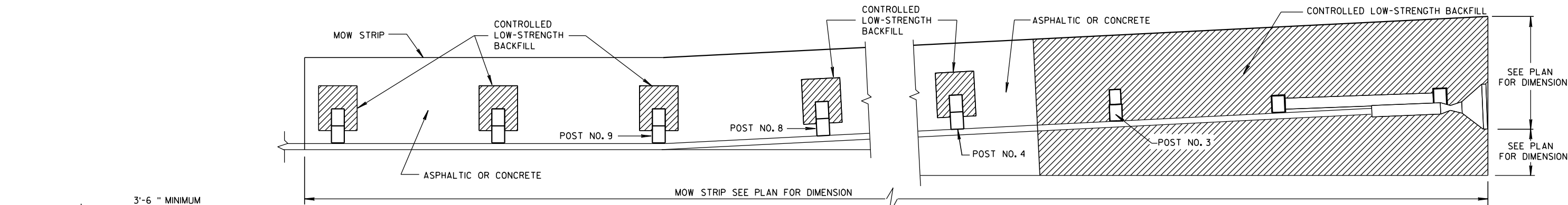
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-16-2010
DATE

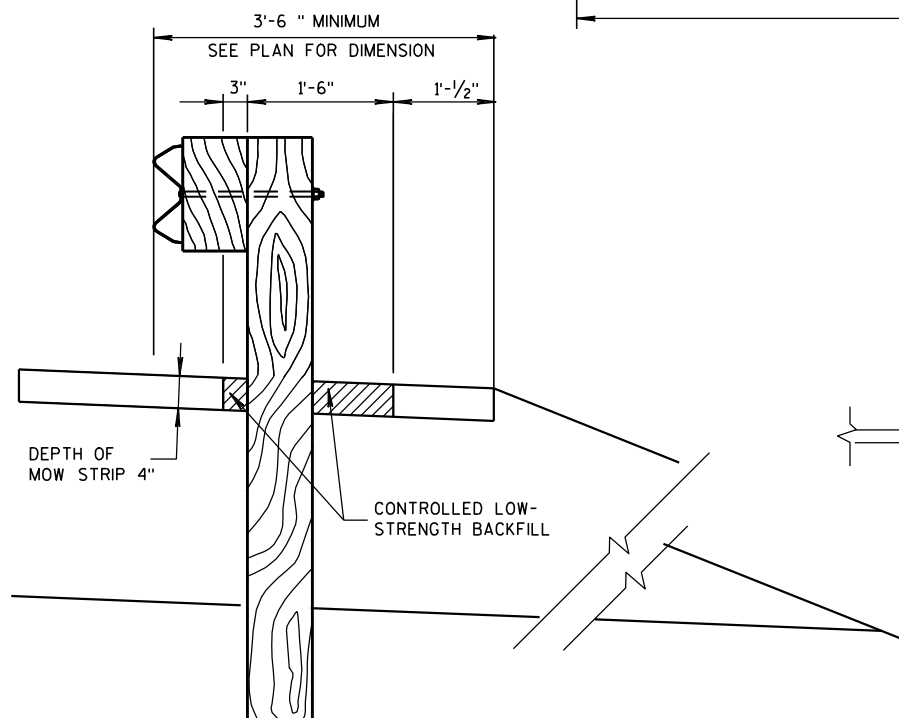
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

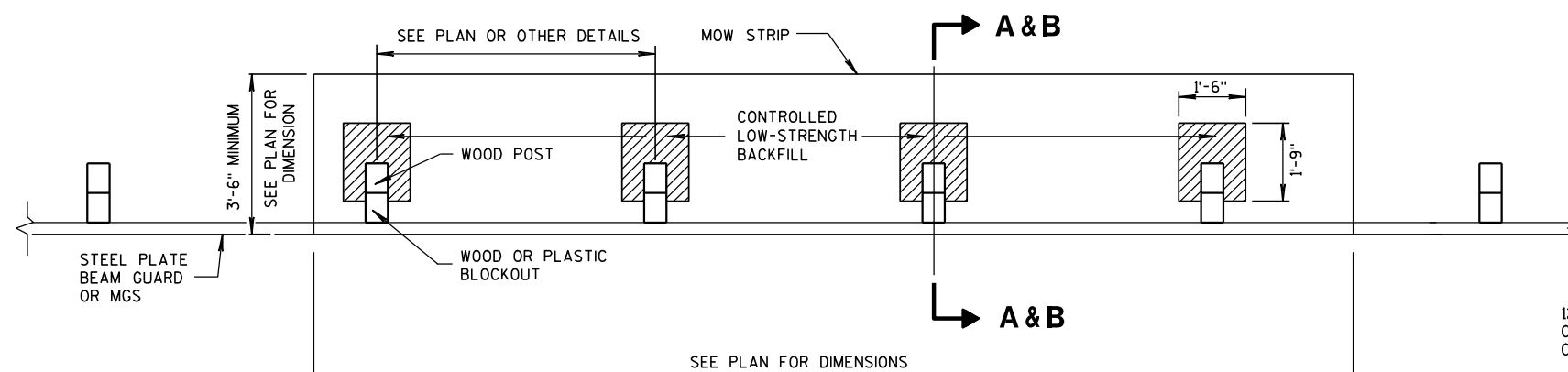


PLAN VIEW

MOW STRIP FOR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

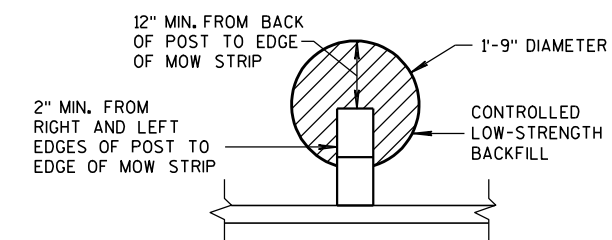
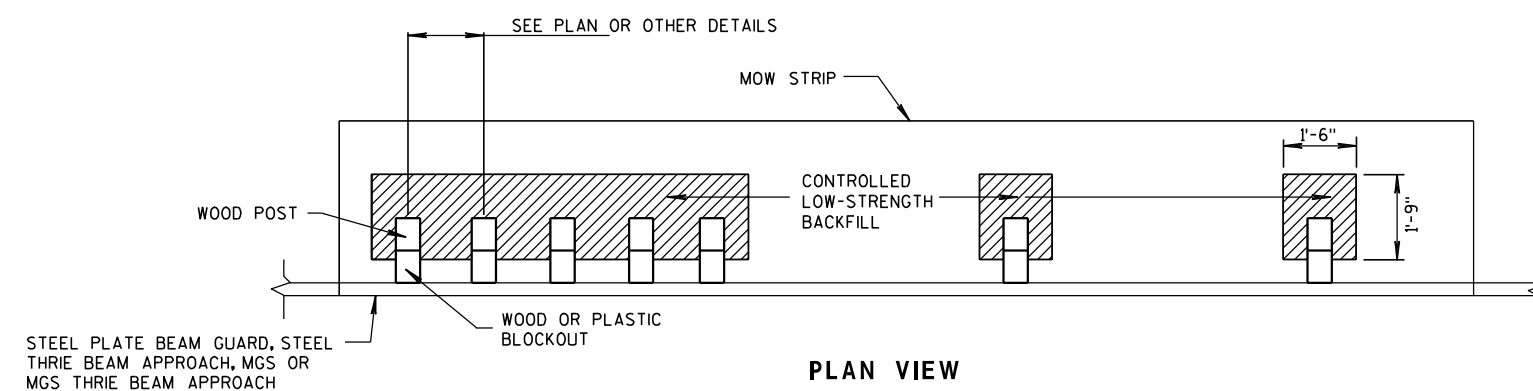


SECTION A-A



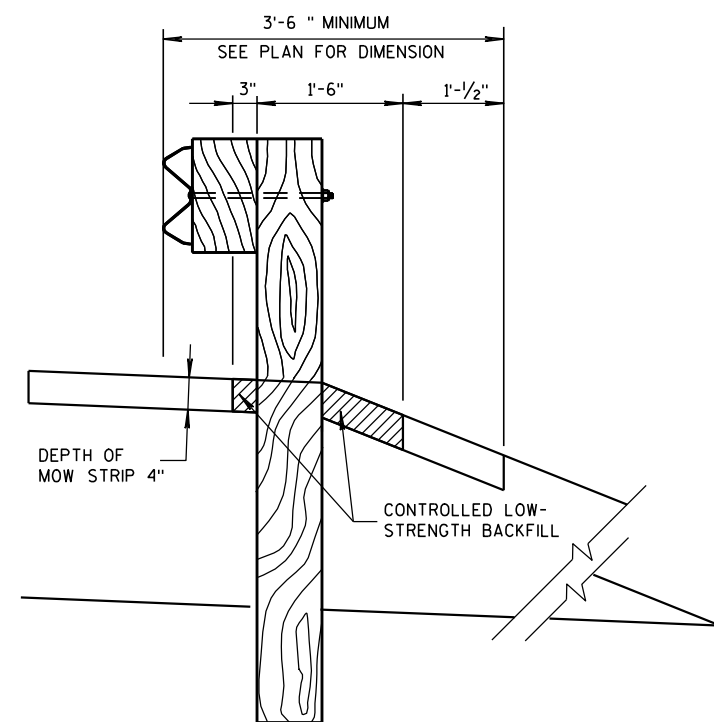
PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

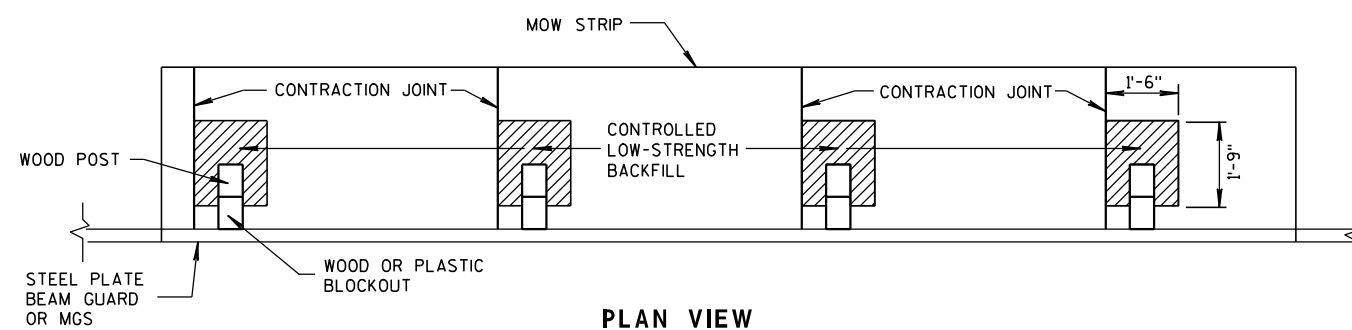
ALTERNATIVE HMA
MOW STRIP DESIGN

PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



SECTION B-B



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

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DEPARTMENT OF TRANSPORTATION

APPROVED

1/27/12

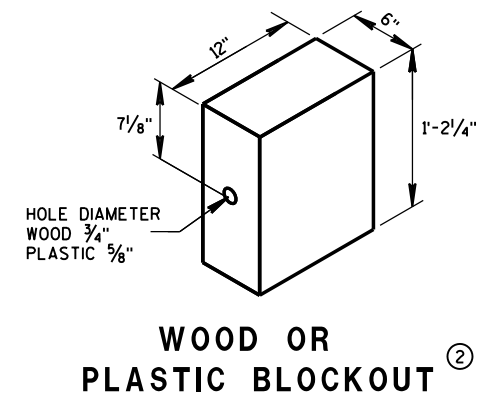
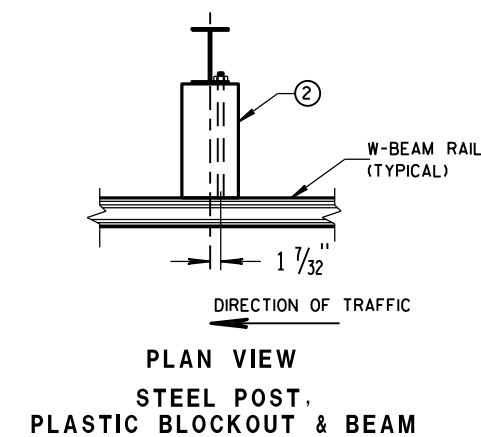
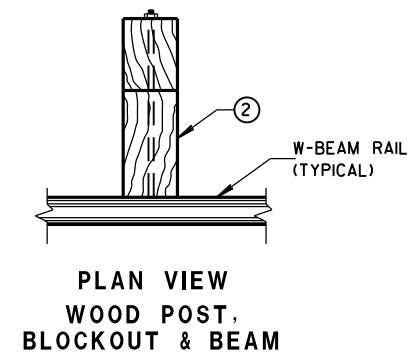
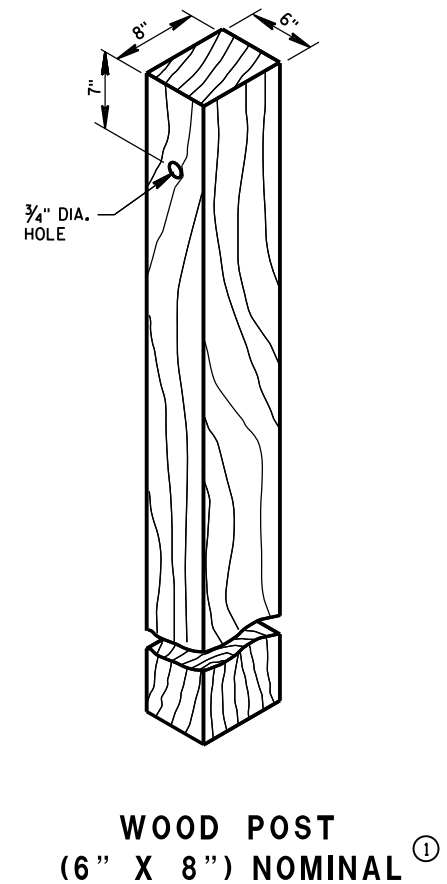
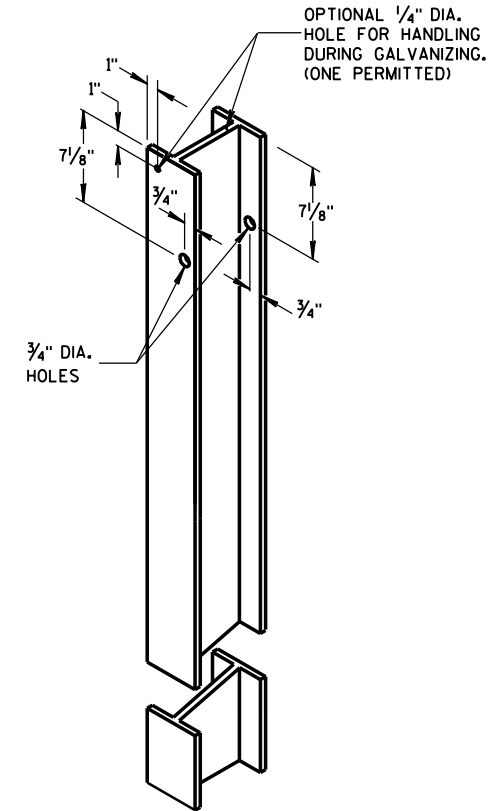
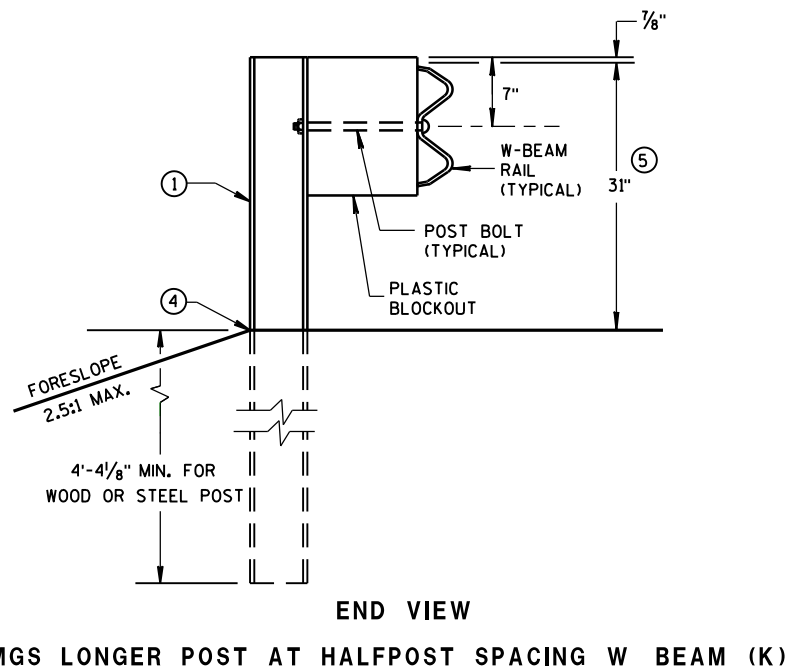
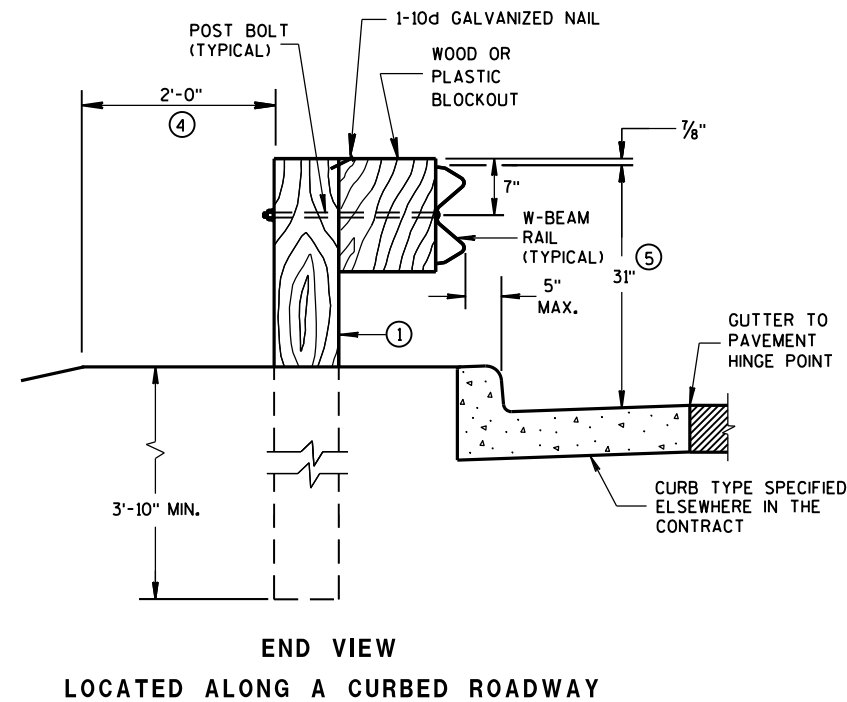
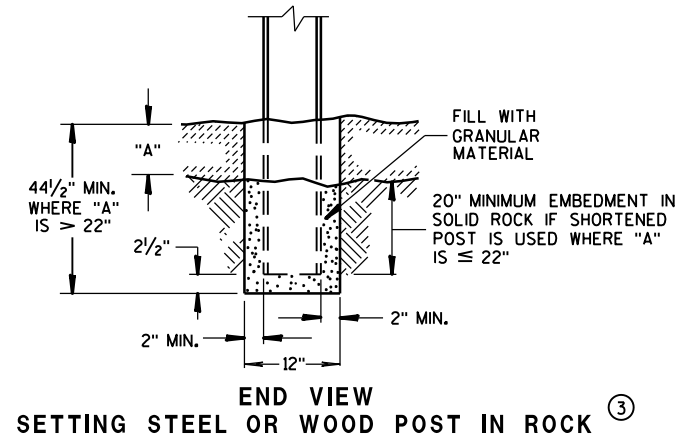
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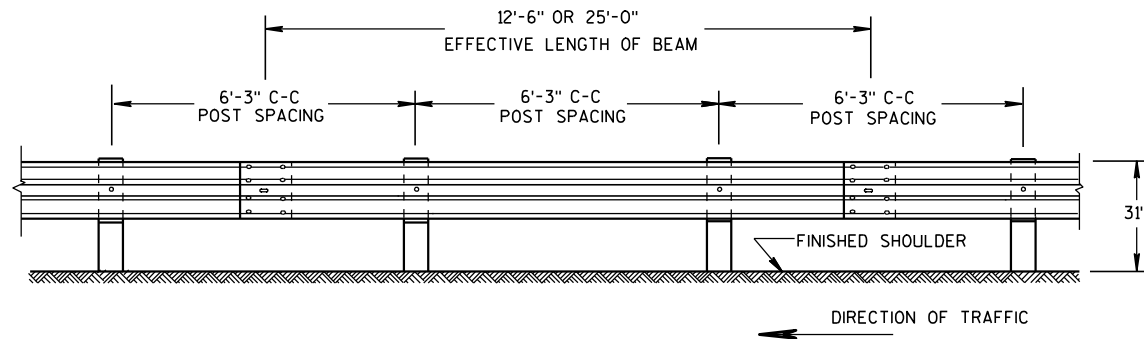
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

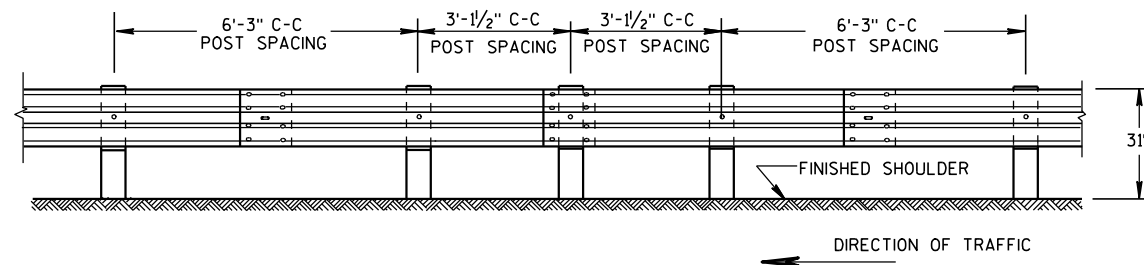
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- S.D.D. 14 B 42-2a**

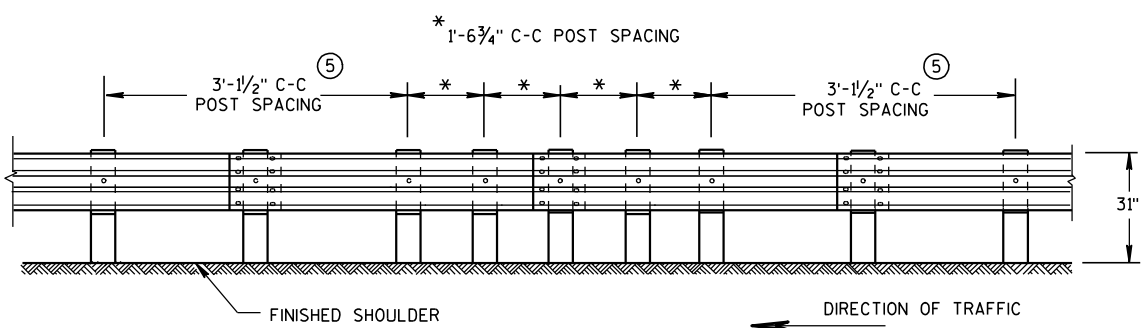




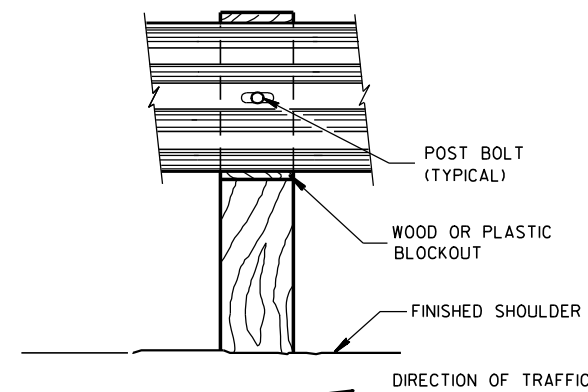
FRONT VIEW
POST SPACING STANDARD INSTALLATION



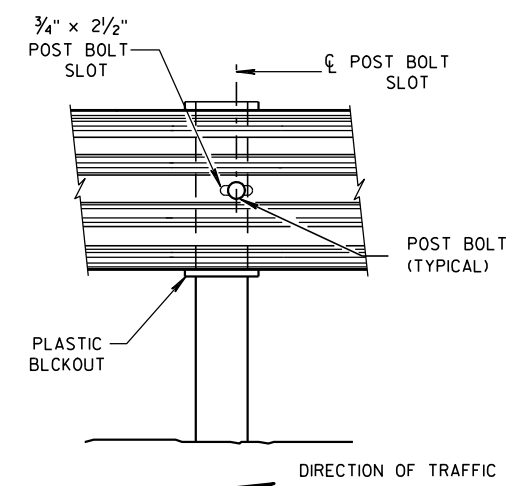
FRONT VIEW
**HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



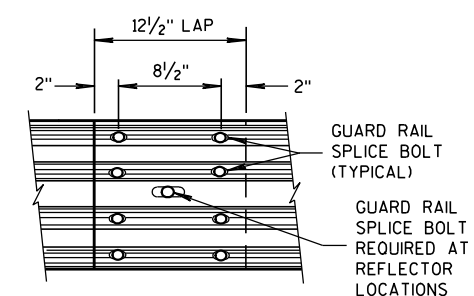
FRONT VIEW
QUARTER POST SPACING (QS)



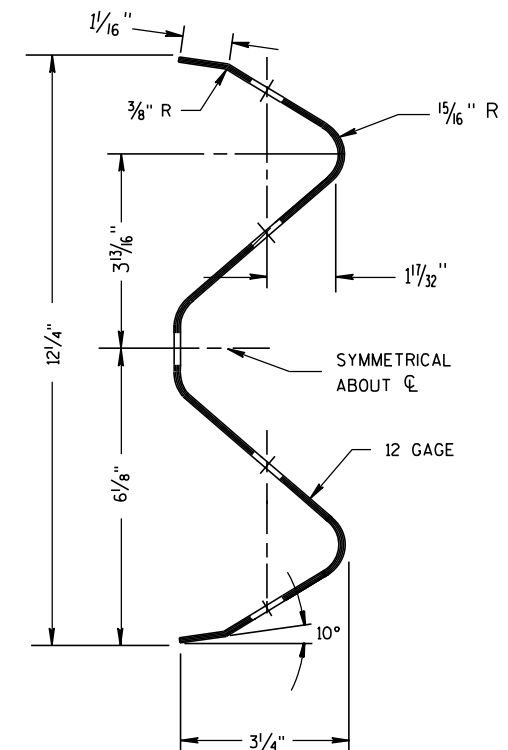
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



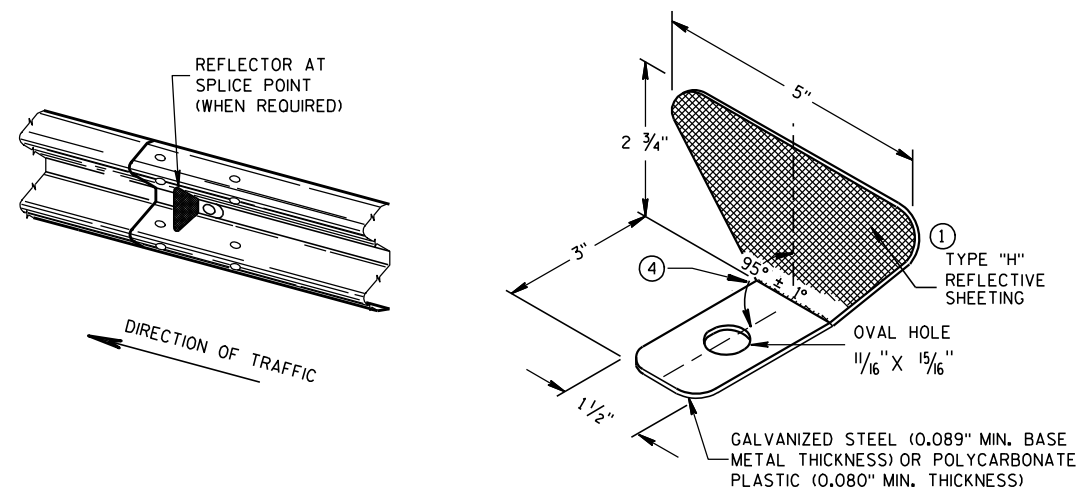
**FRONT VIEW
MID-SPAN BEAM SPLICE**



SECTION THRU W-BEAM RAIL

REFLECTOR SPACING

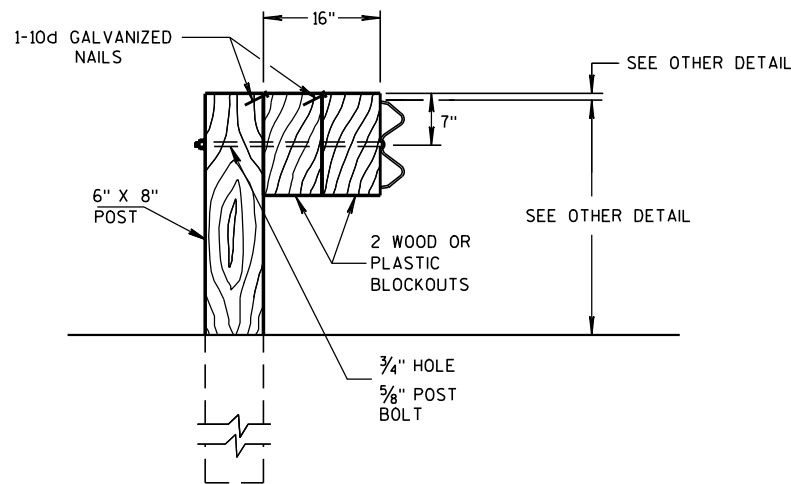
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

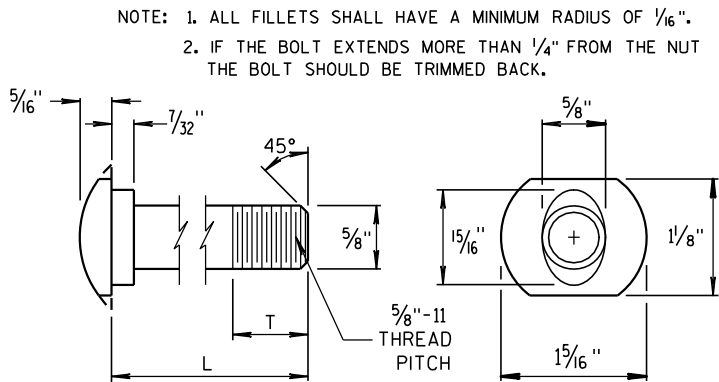
GENERAL NOTES

- 1 PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
 - 2 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - 3 REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - 4 PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
 - 5 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

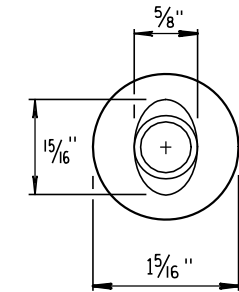


DETAIL FOR 16" BLOCKOUT DEPTH

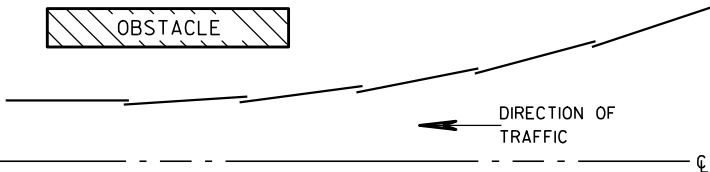
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



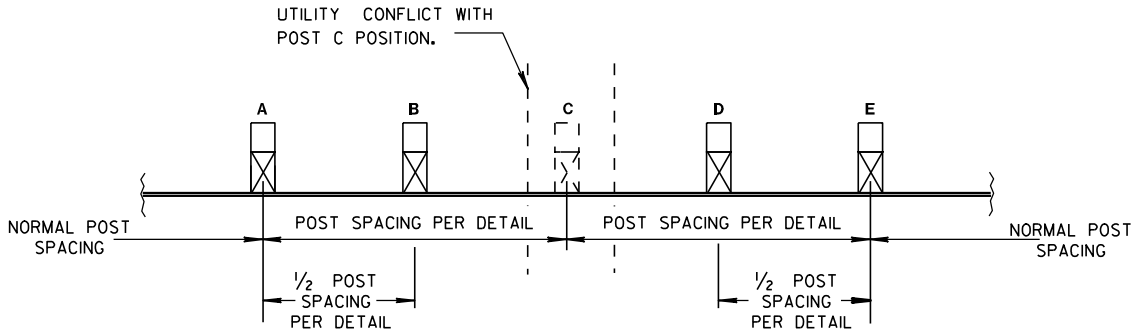
POST BOLT TABLE



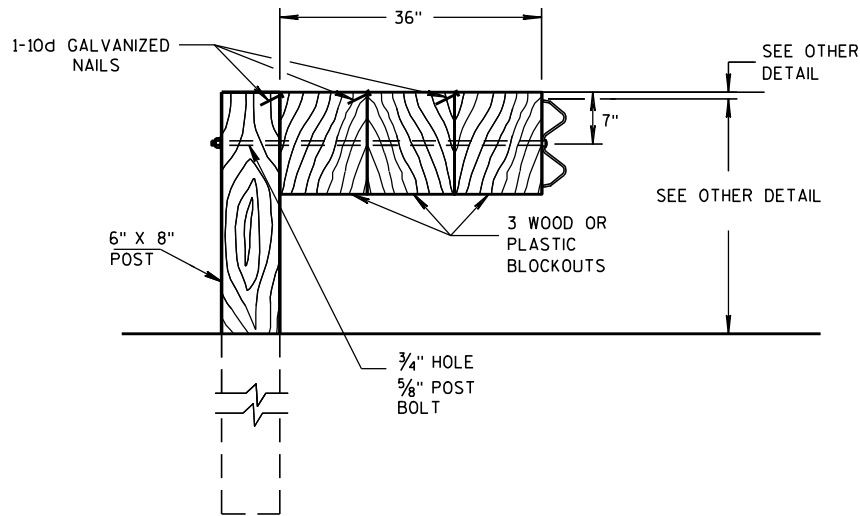
ALTERNATE BOLT HEAD



PLAN VIEW
BEAM LAPPING DETAIL



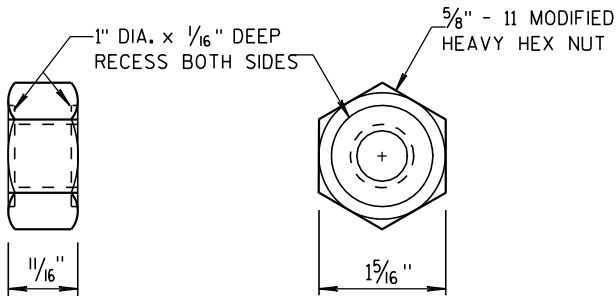
POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



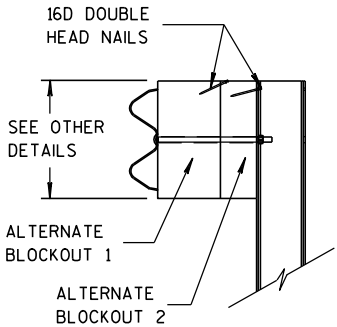
DETAIL FOR 36" BLOCKOUT DEPTH

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

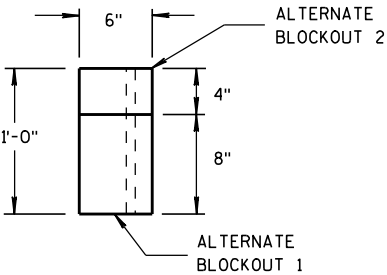
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



POST BOLT
AND RECESS NUT



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/15/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

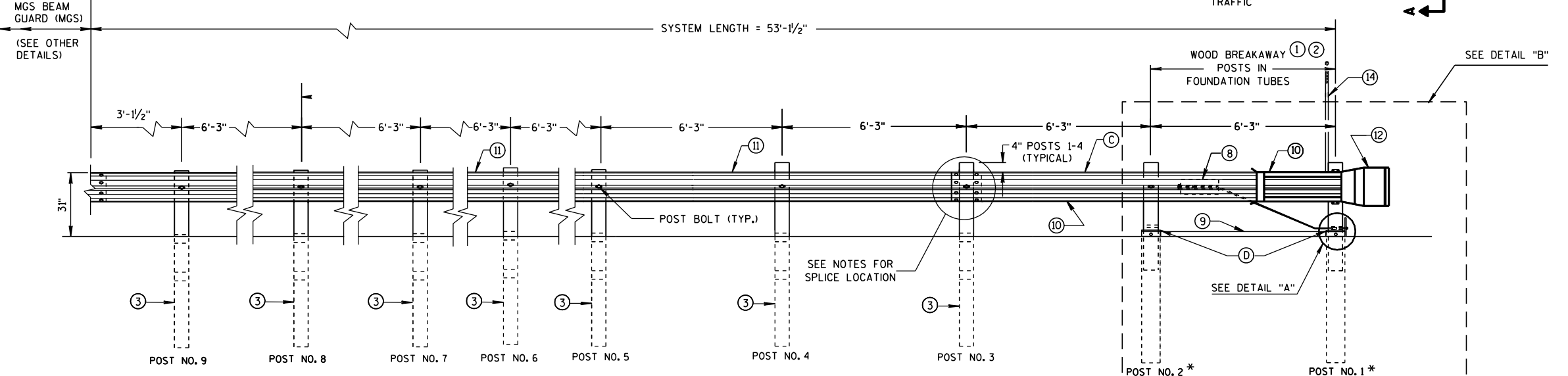
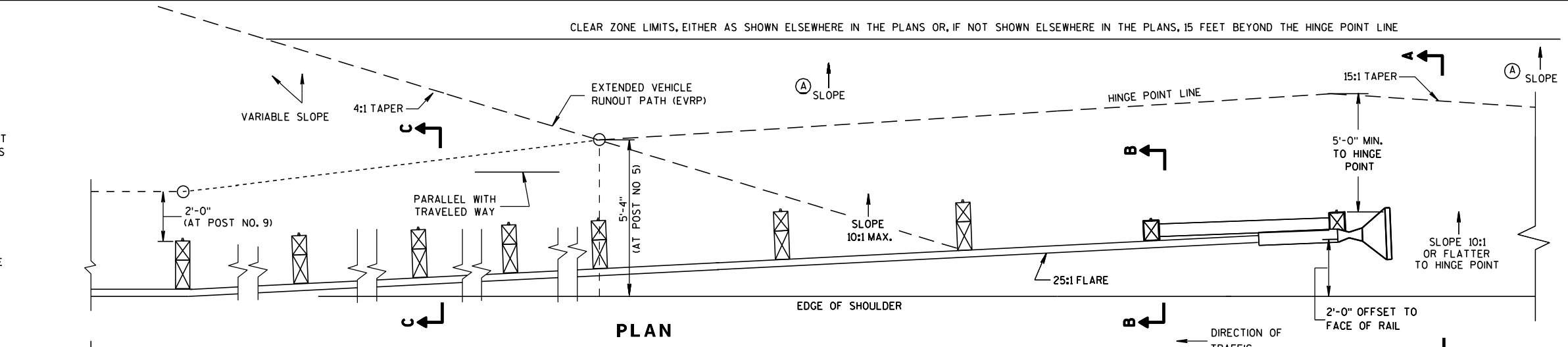
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

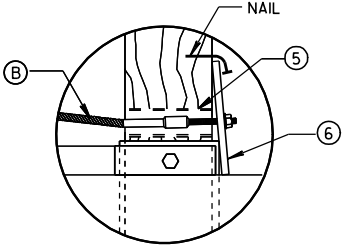
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

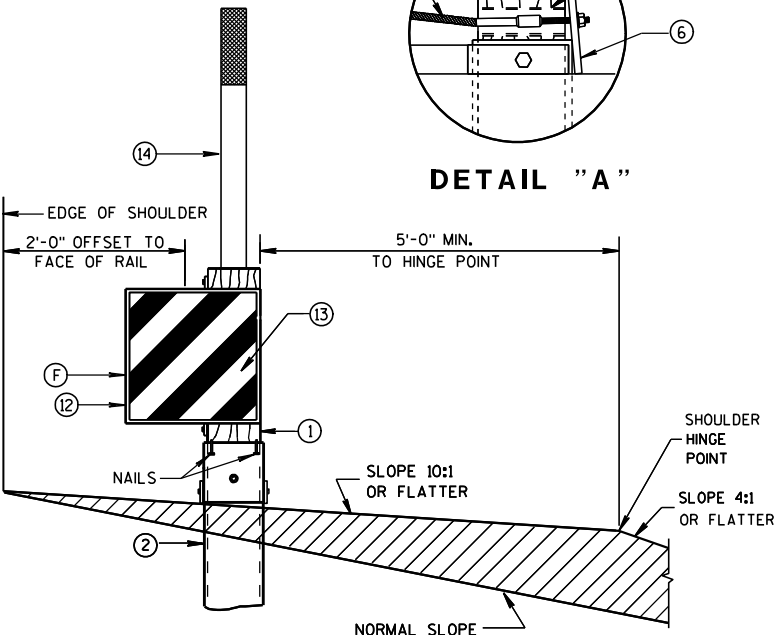
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")



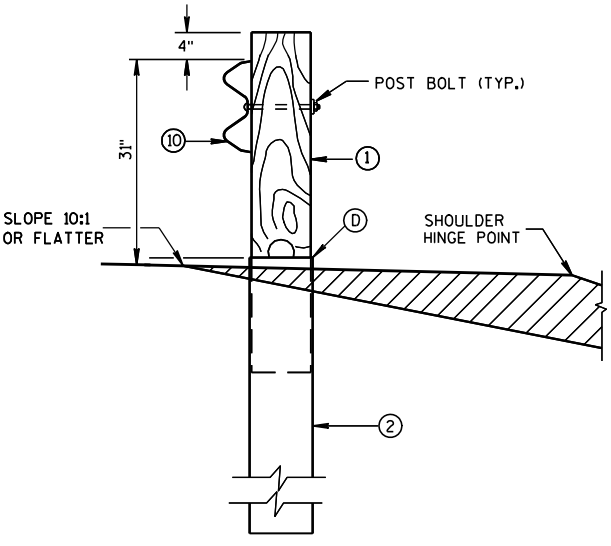
ELEVATION



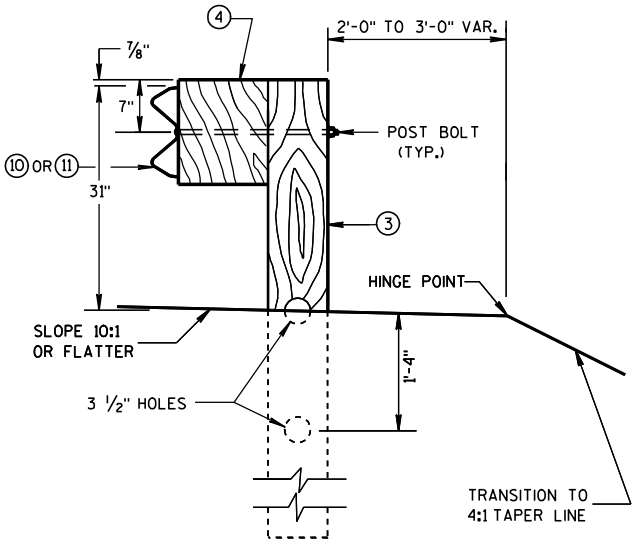
DETAIL "A"



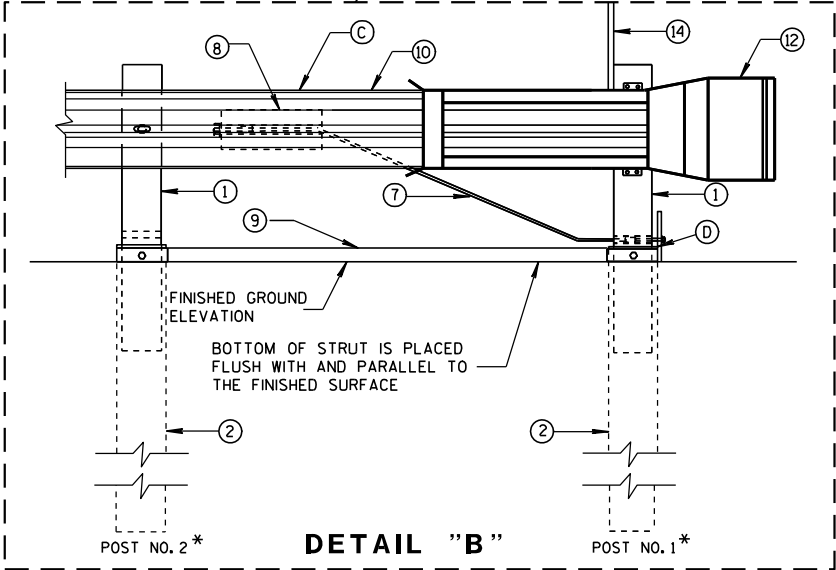
SECTION A-A
TYPICAL AT POST NO. 1*



SECTION B-B
TYPICAL AT POST NO. 2*



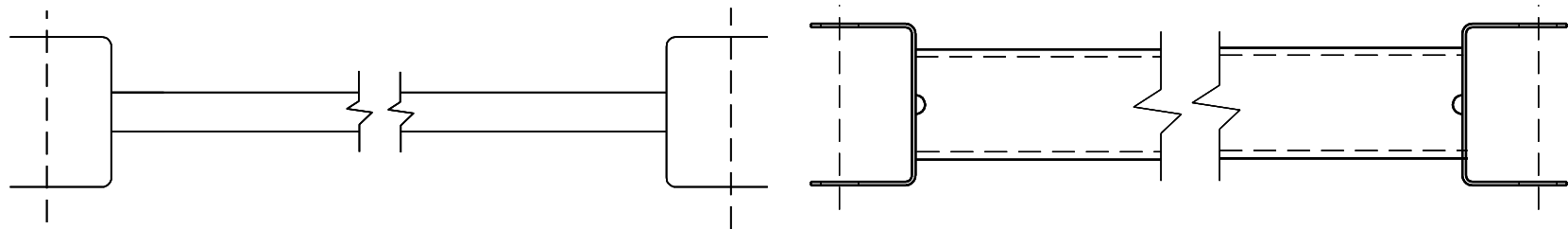
SECTION C-C
TYPICAL AT POST NOS. 3-9



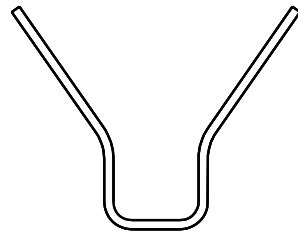
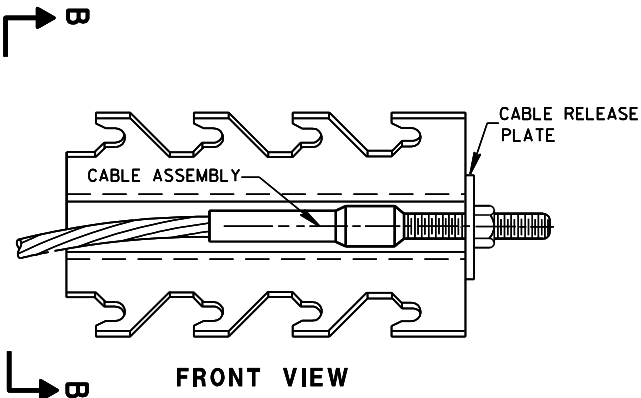
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

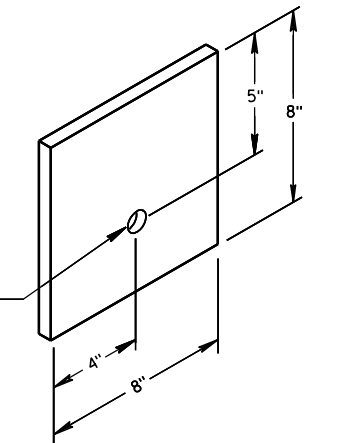
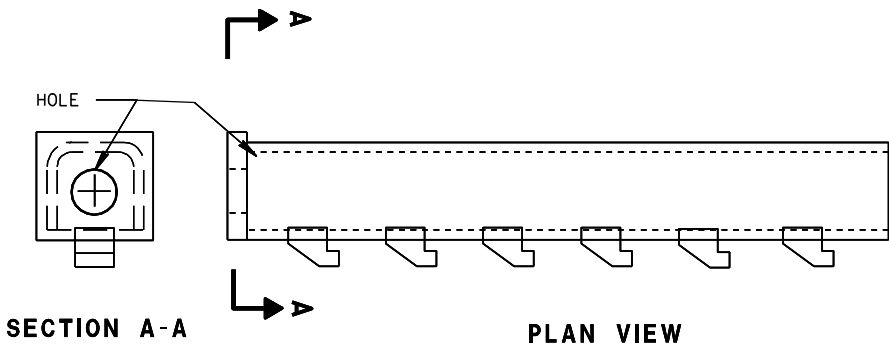
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



9 H
GENERIC GROUND STRUT

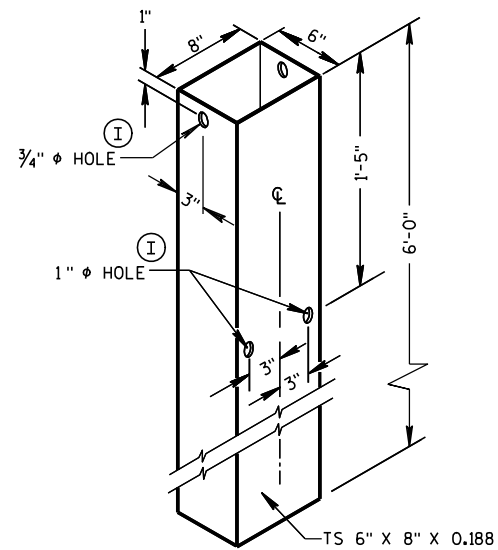


SECTION B-B
8 H
GENERIC ANCHOR CABLE BOX

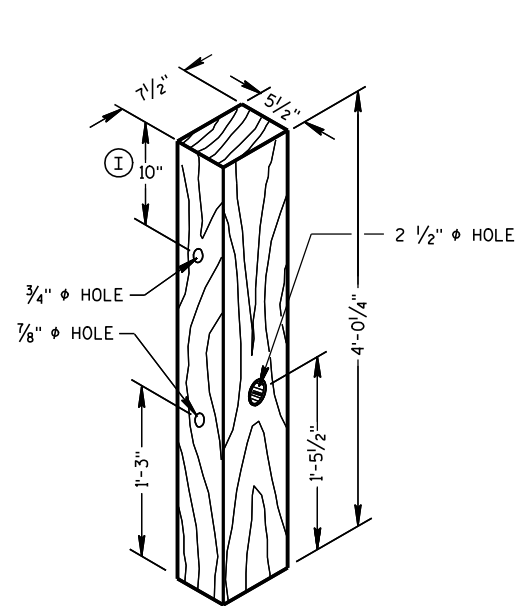


6
BEARING PLATE

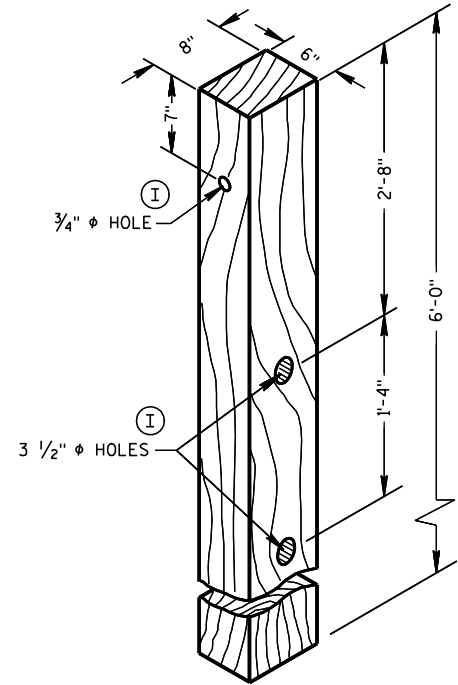
BILL OF MATERIALS	
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR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



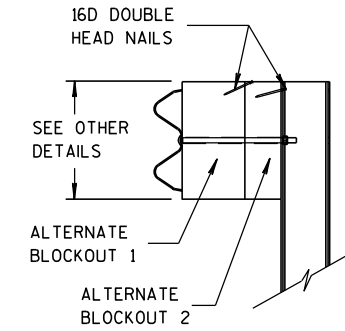
FOUNDATION TUBE ②



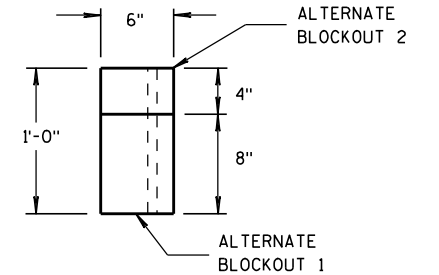
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

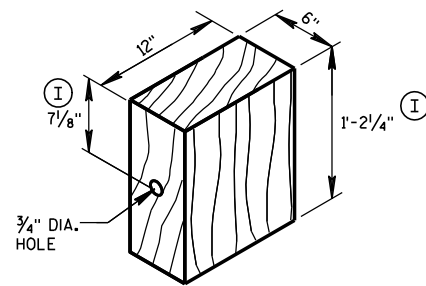


SIDE VIEW



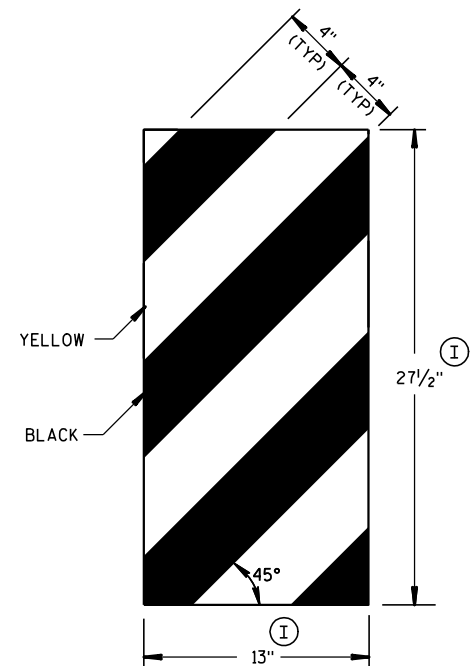
TOP VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

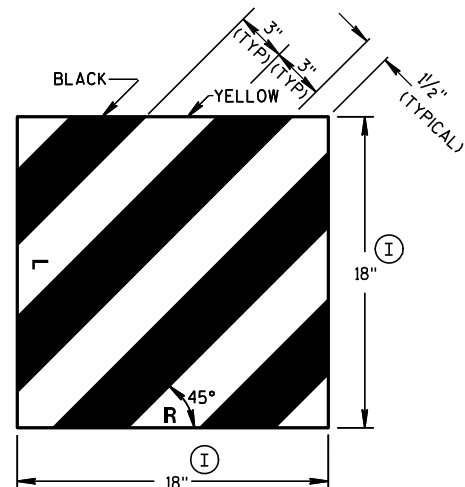


WOOD BLOCKOUT ④

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



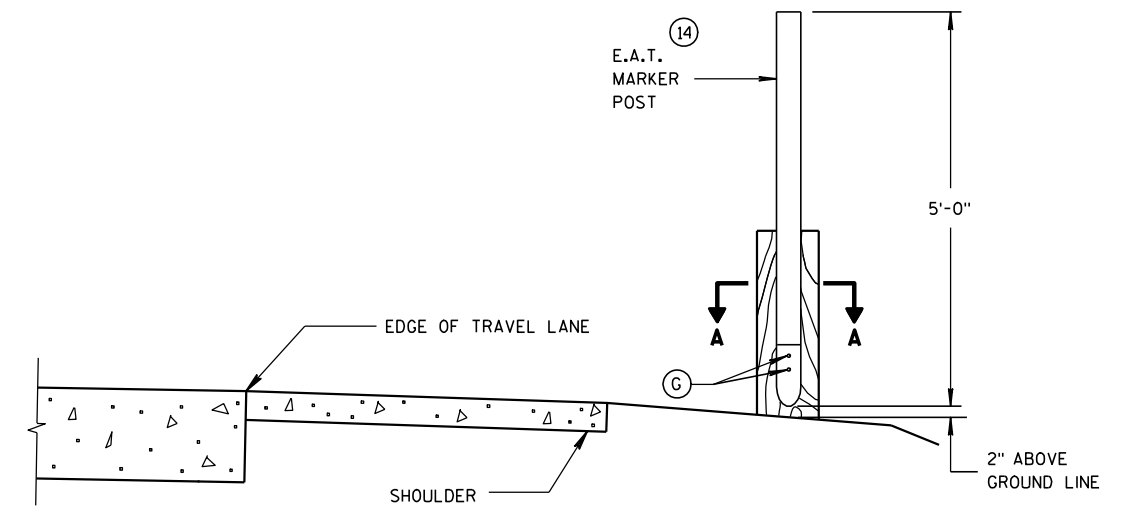
GENERIC REFLECTIVE SHEETING ⑬ ④



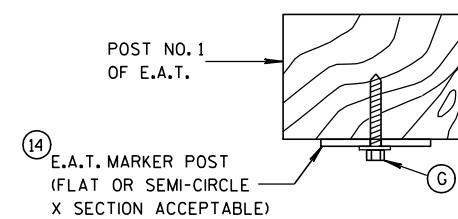
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



**TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1**
(E.A.T. AND RAIL REMOVED FOR CLARITY)

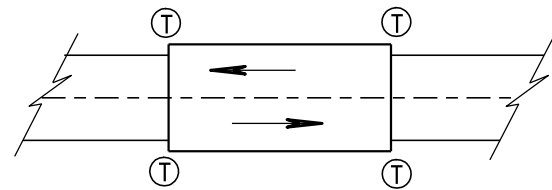


SECTION A-A

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

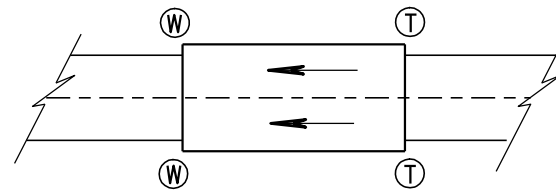
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

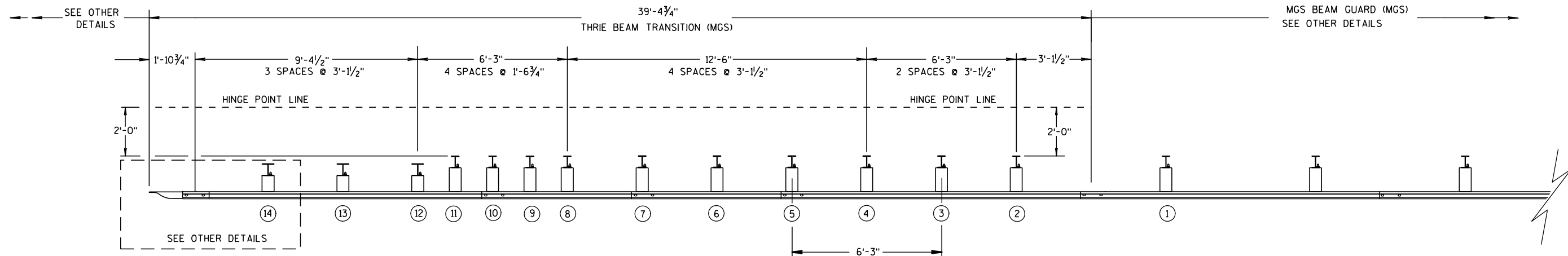
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

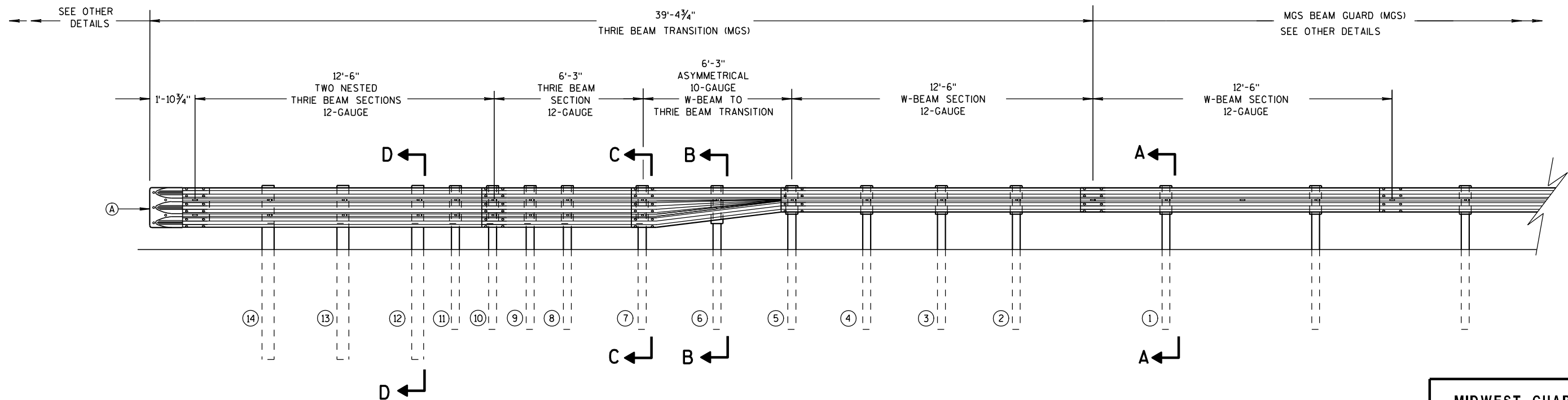
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

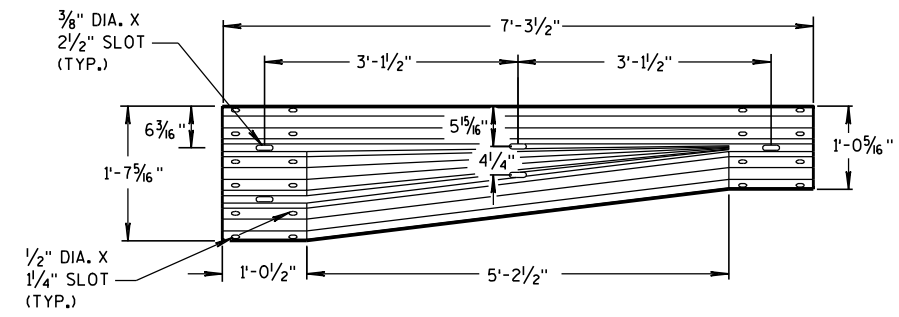
6

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

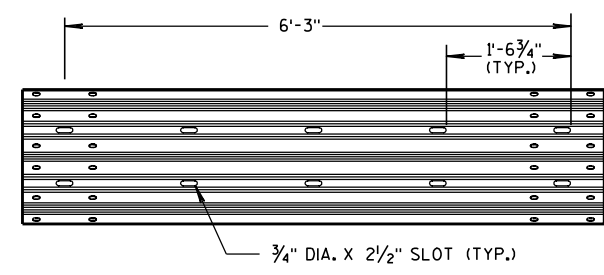


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

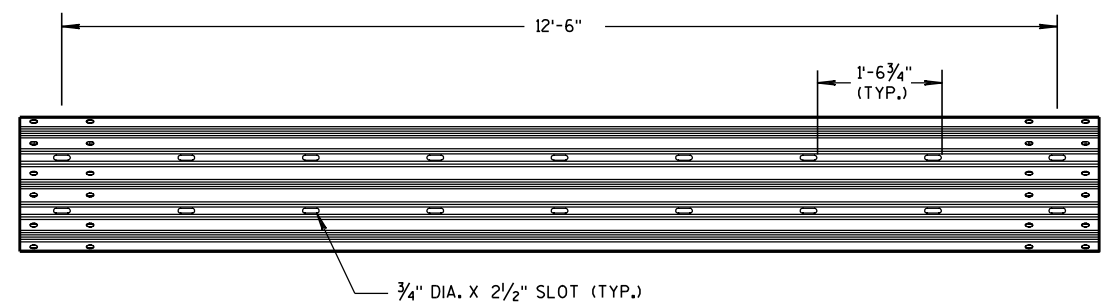
S.D.D. 14 B 45-3b



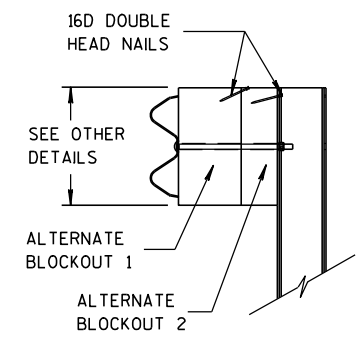
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

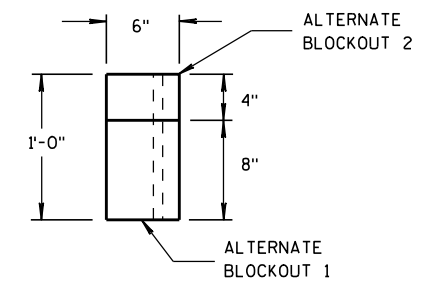


12'-6" THRIE BEAM SECTION

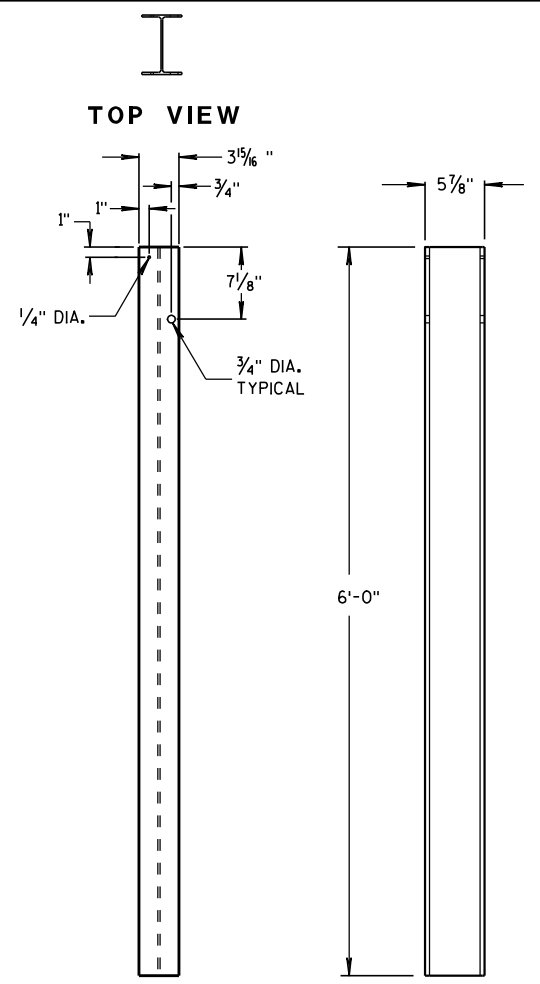


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



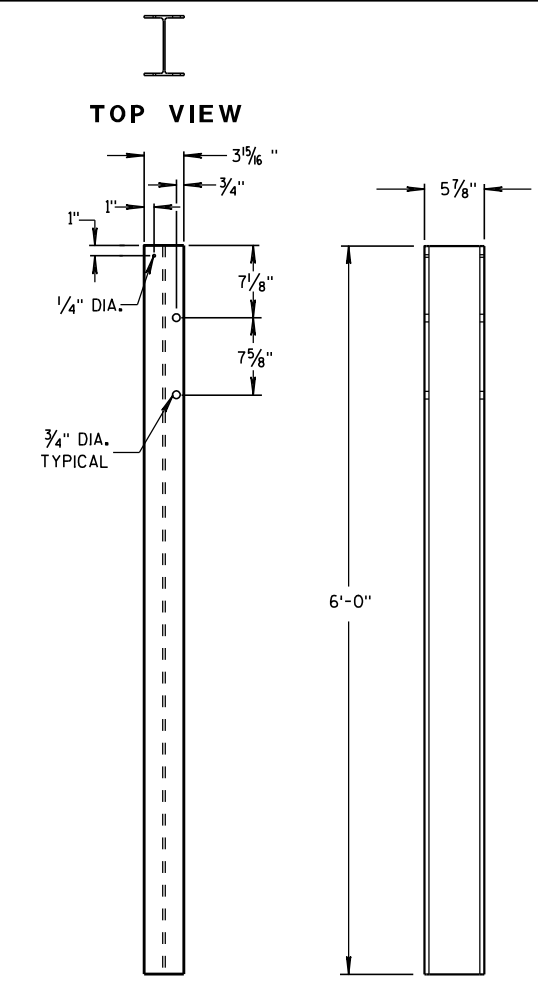
TOP VIEW



FRONT VIEW

SIDE VIEW

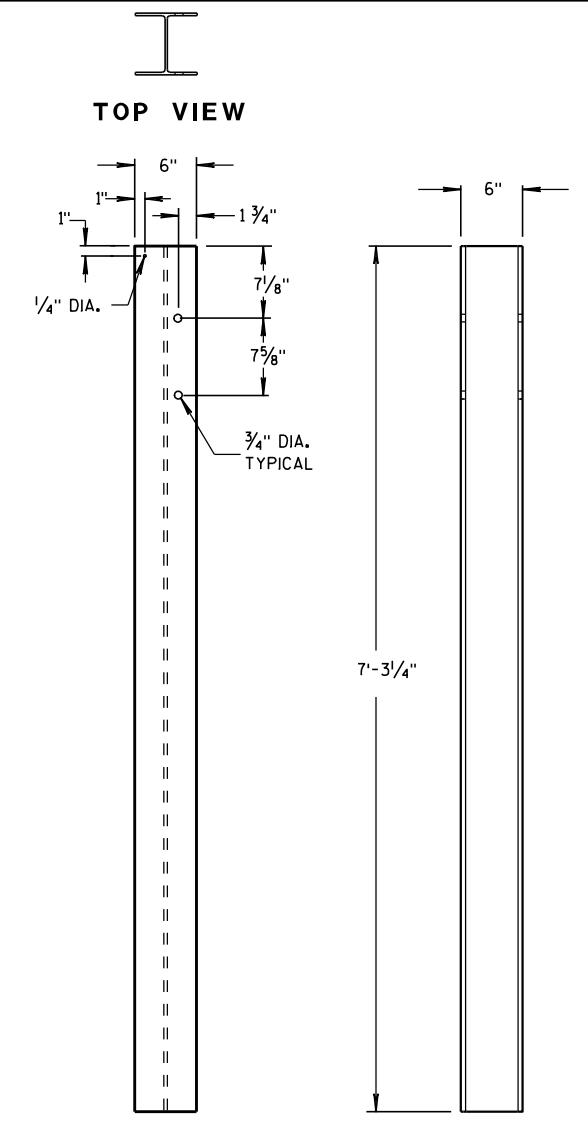
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

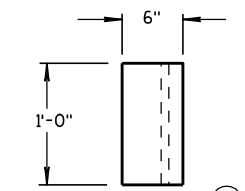


FRONT VIEW

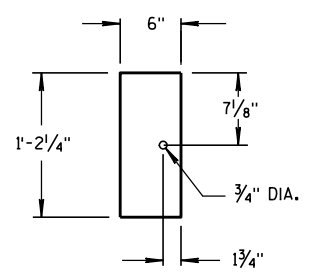
SIDE VIEW

STEEL POSTS 12-14

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

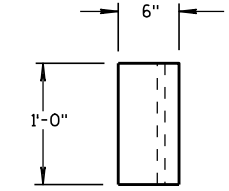


TOP VIEW

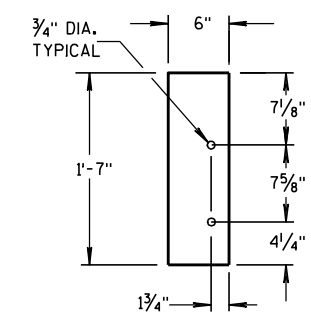


FRONT VIEW

BLOCKOUT POSTS 1-5

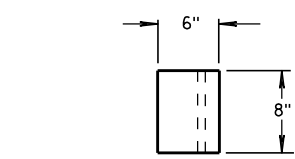


TOP VIEW

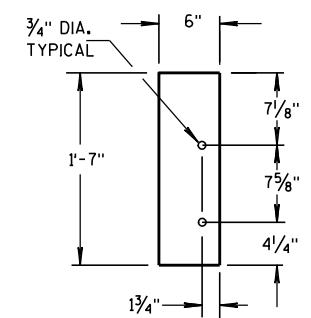


FRONT VIEW

BLOCKOUT POSTS 6-11



TOP VIEW



FRONT VIEW

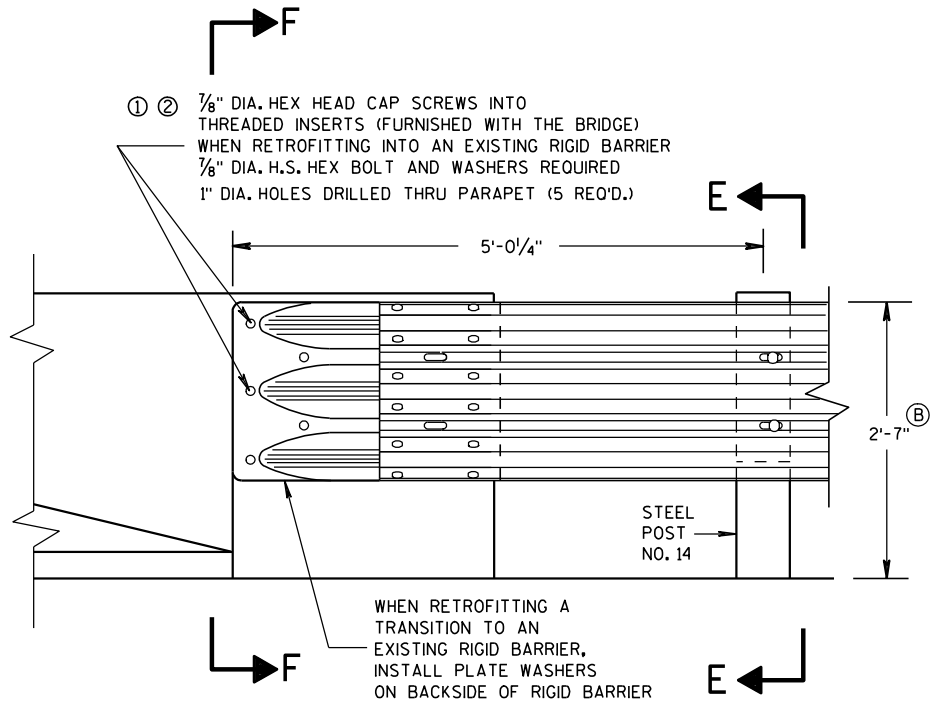
BLOCKOUT POSTS 12-14

STEEL POST SIZES

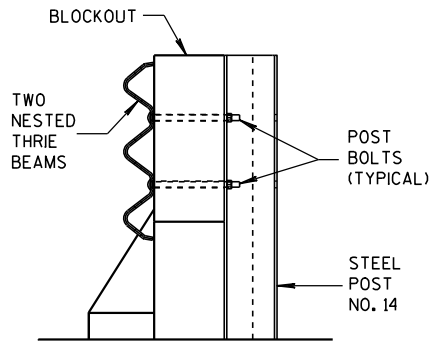
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 7/8"
⑬	W6x15	87 7/8"
⑭	W6x15	87 7/8"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS

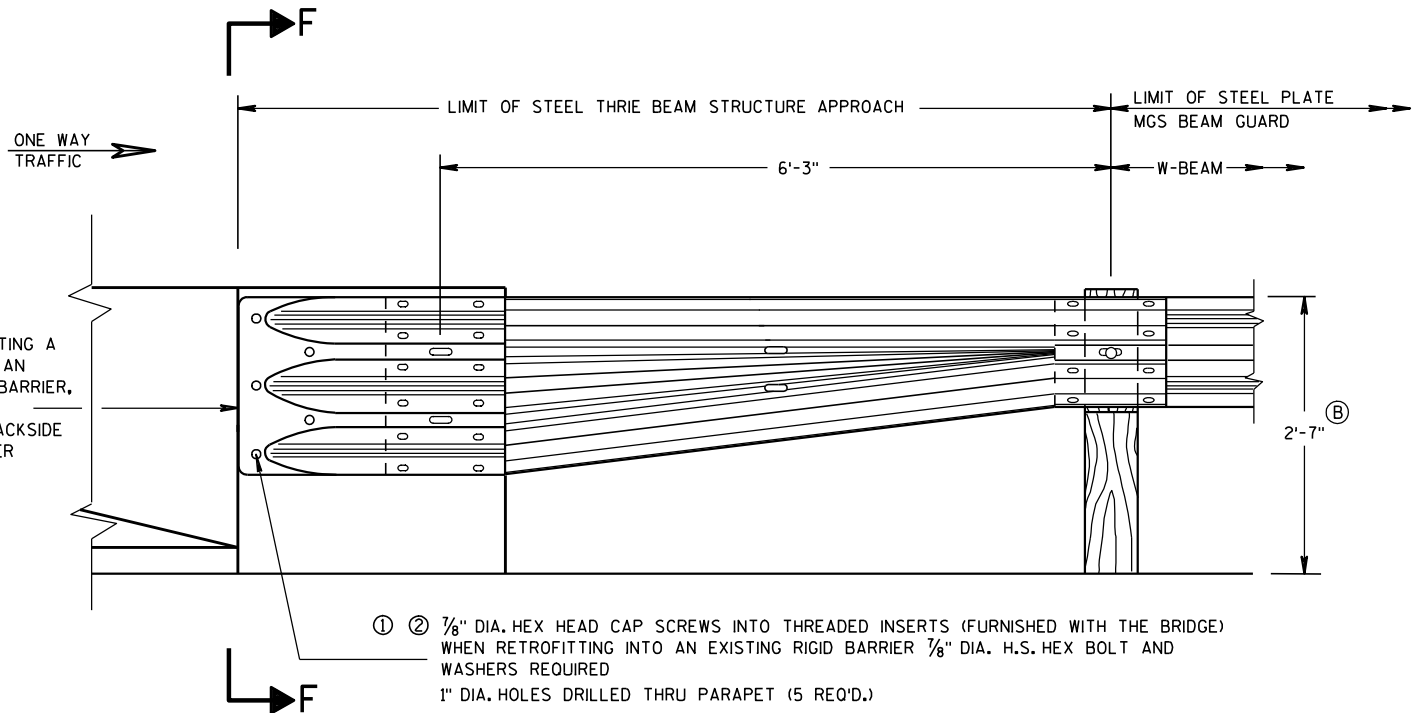


SECTION E-E

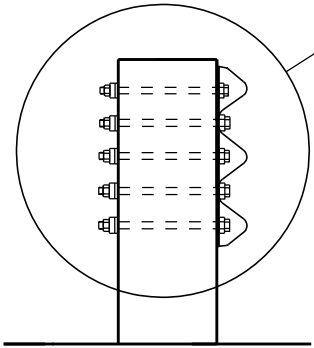
GENERAL NOTES

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

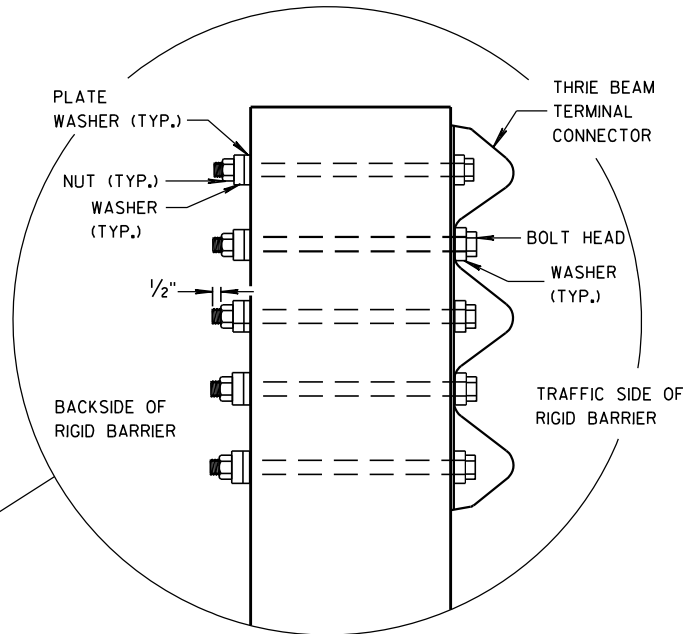
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- (B) TOLERANCE FOR TOP OF BEAM IS ± 1".



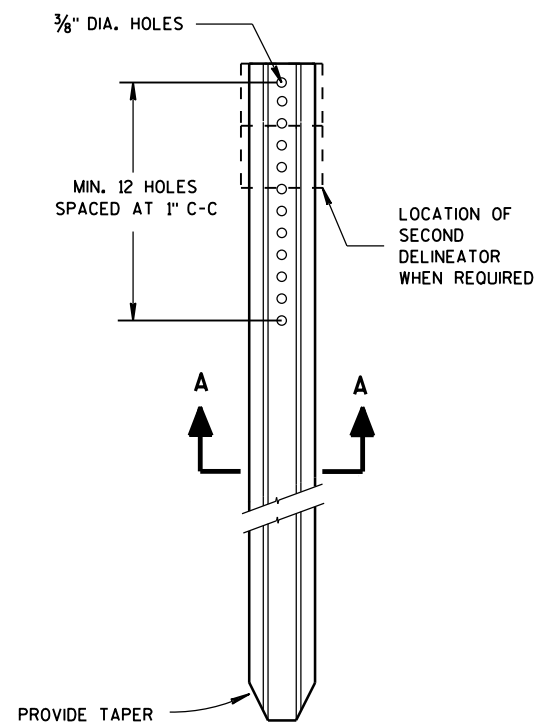
FRONT VIEW
W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



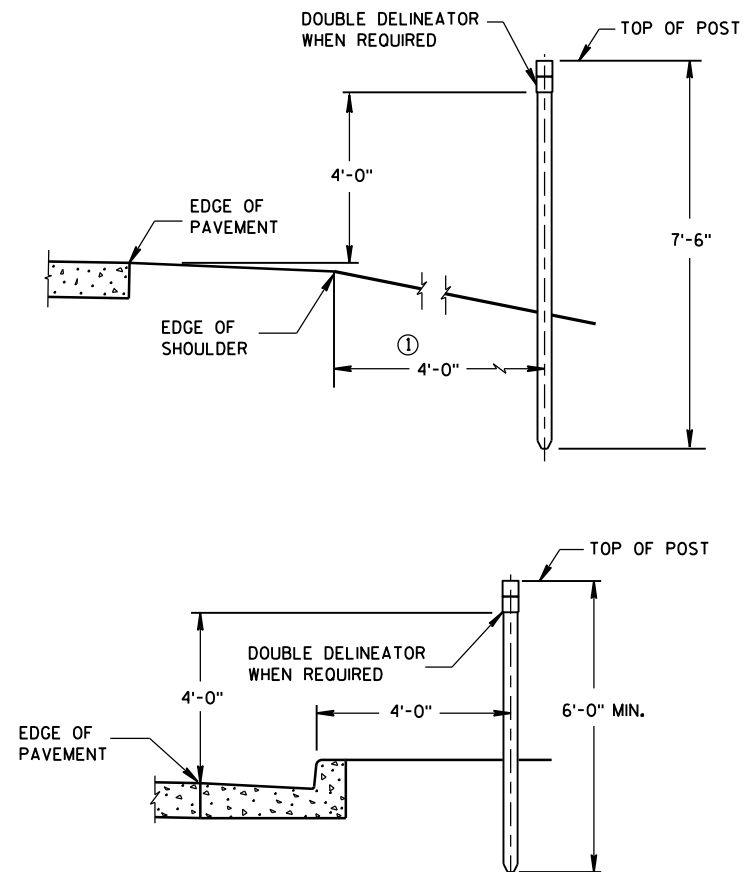
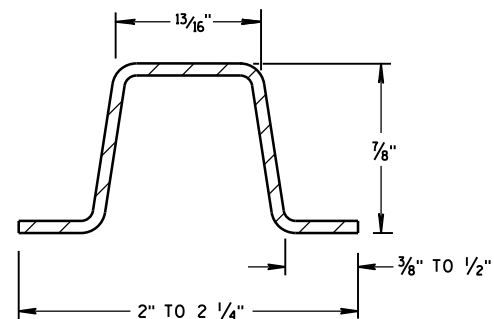
SECTION F-F



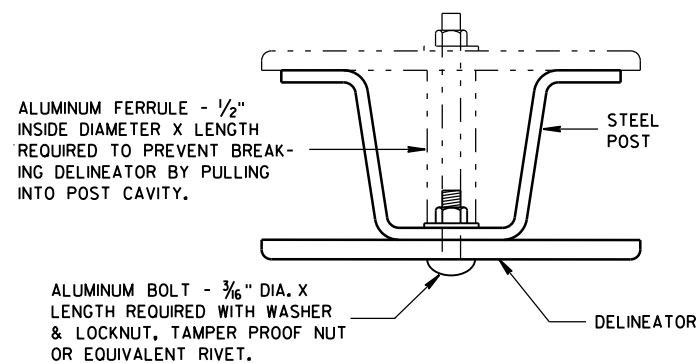
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



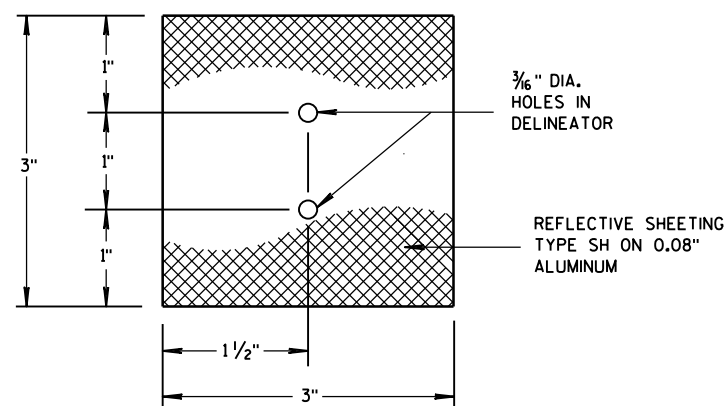
DELINEATOR POST



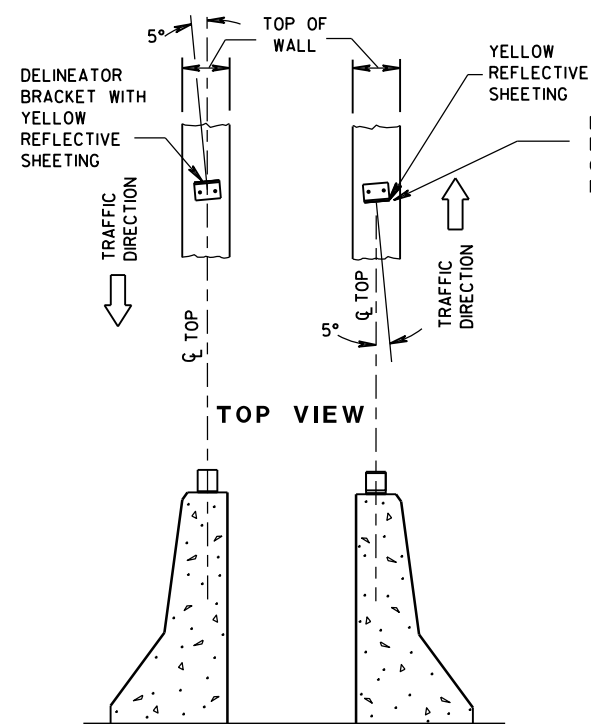
TYPICAL INSTALLATIONS OF DELINEATOR POSTS



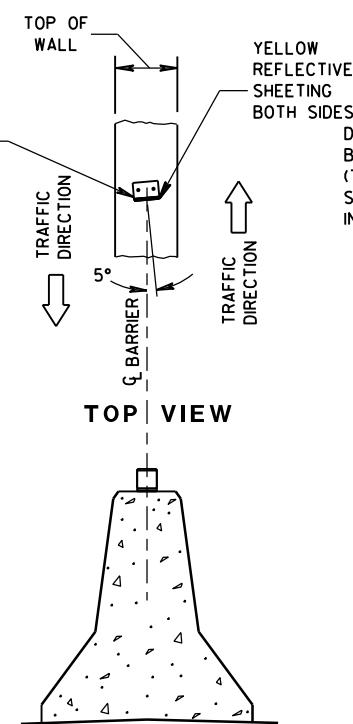
MOUNTING DETAIL FOR DELINEATOR



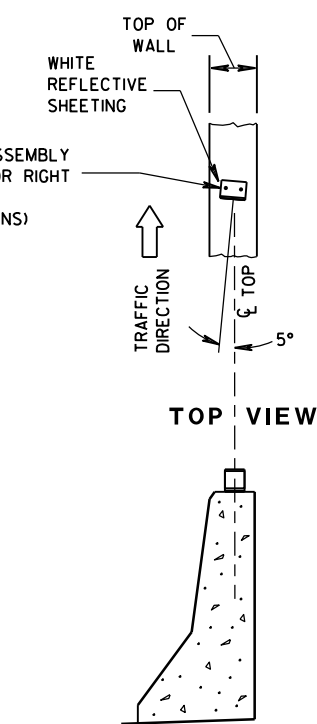
3" x 3" DELINEATOR



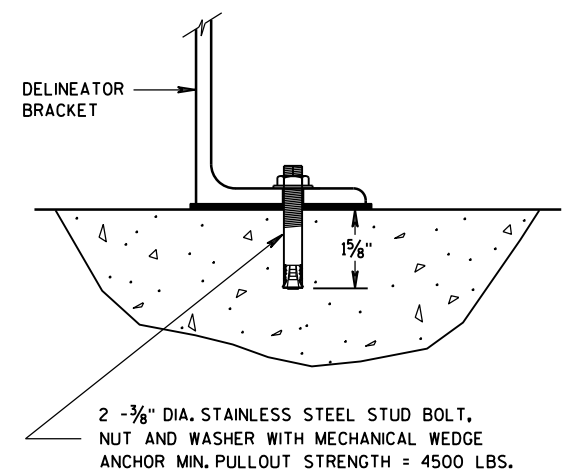
DOUBLE BARRIERS IN MEDIAN



MEDIAN BARRIER



BARRIER LOCATED TO RT. OF TRAFFIC FLOW

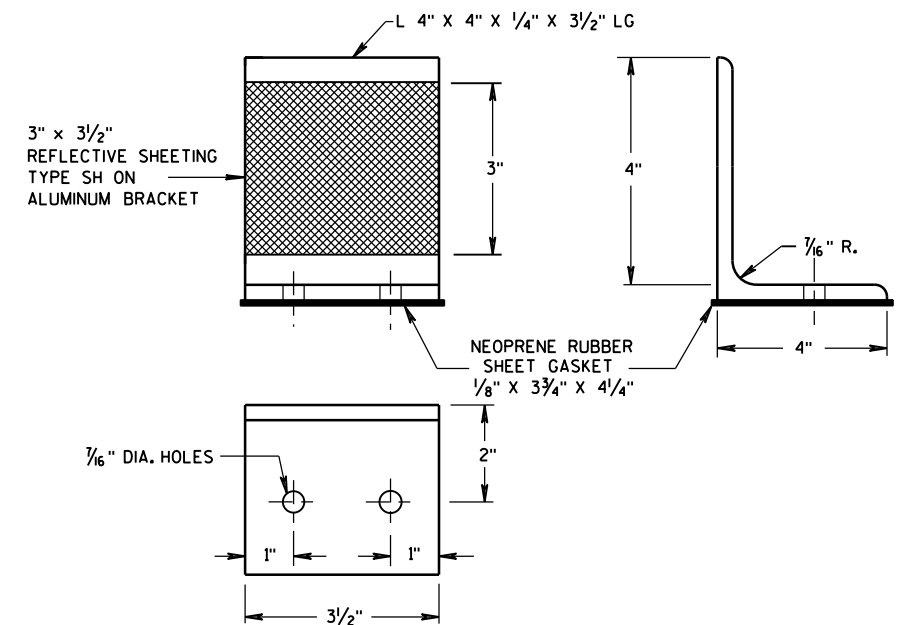


DELINEATOR BRACKET MOUNTING DETAIL

GENERAL NOTES

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

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



DELINEATOR BRACKET

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

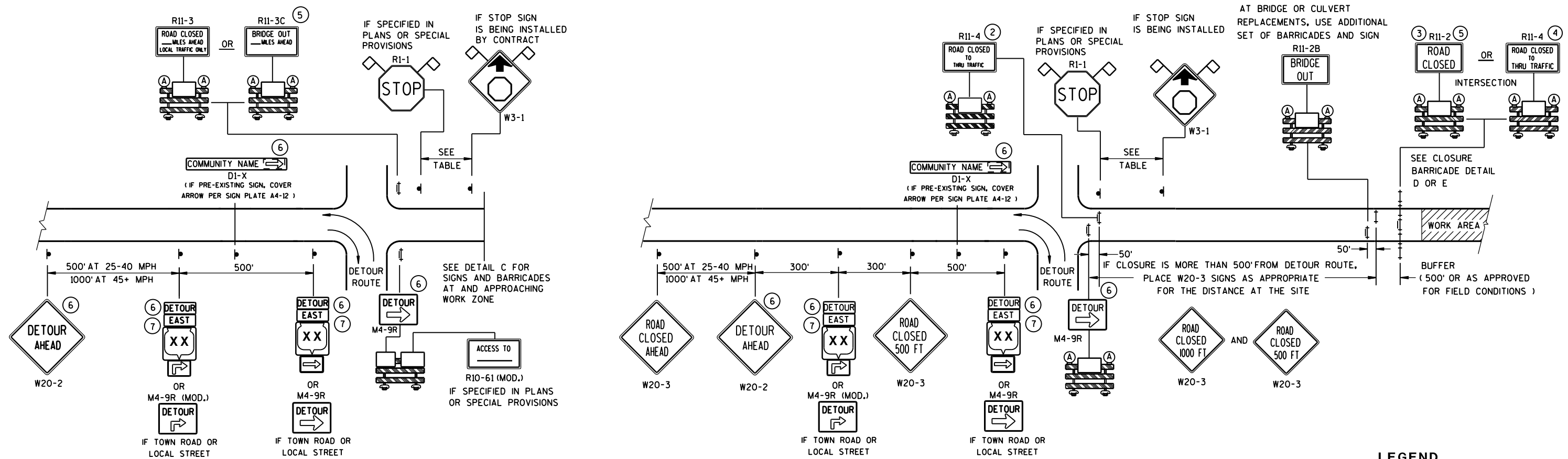
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2013
DATE

/s/ Travis Feltes
STATE TRAFFIC ENGINEER

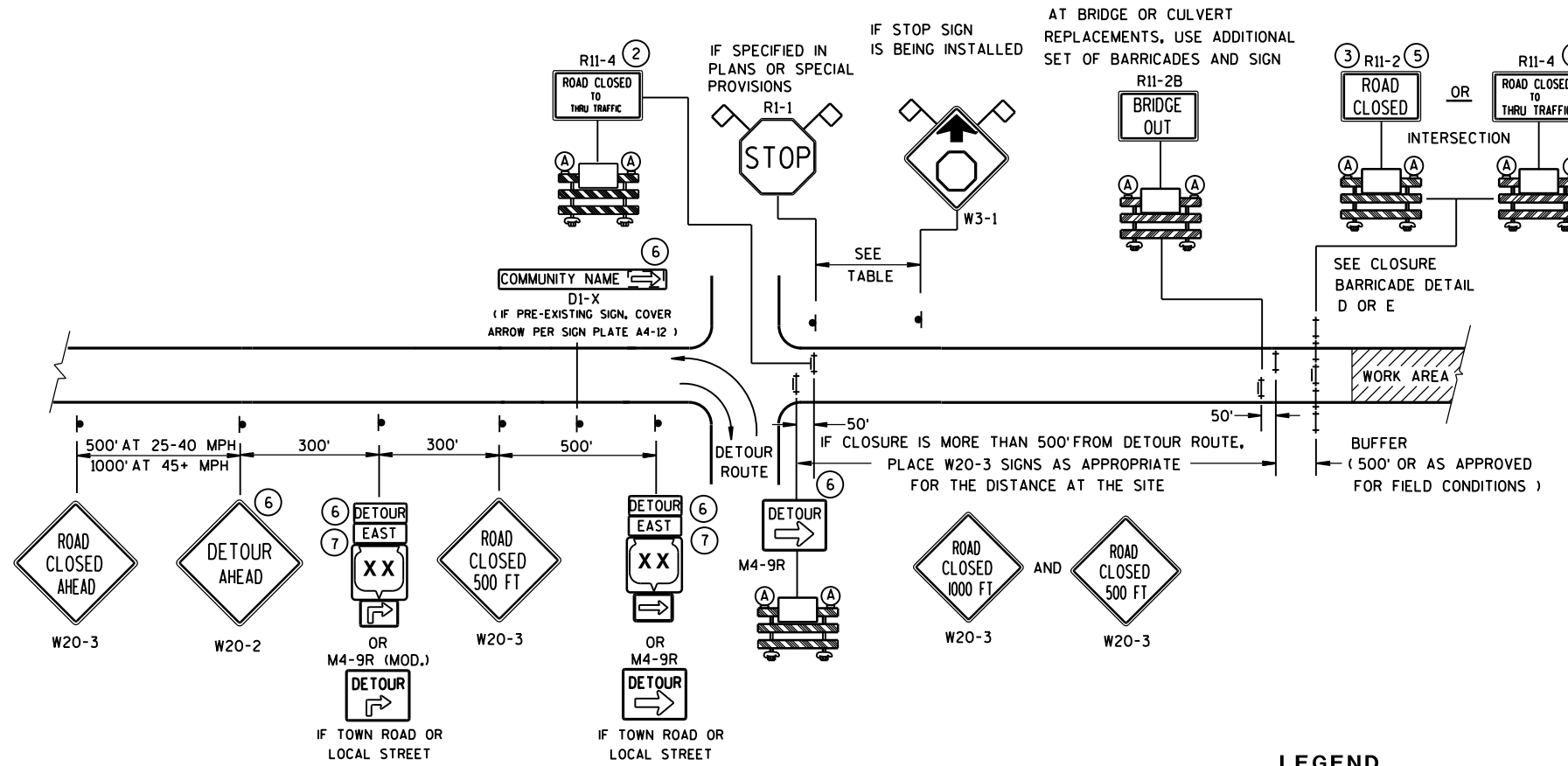
FHWA



DETAIL A

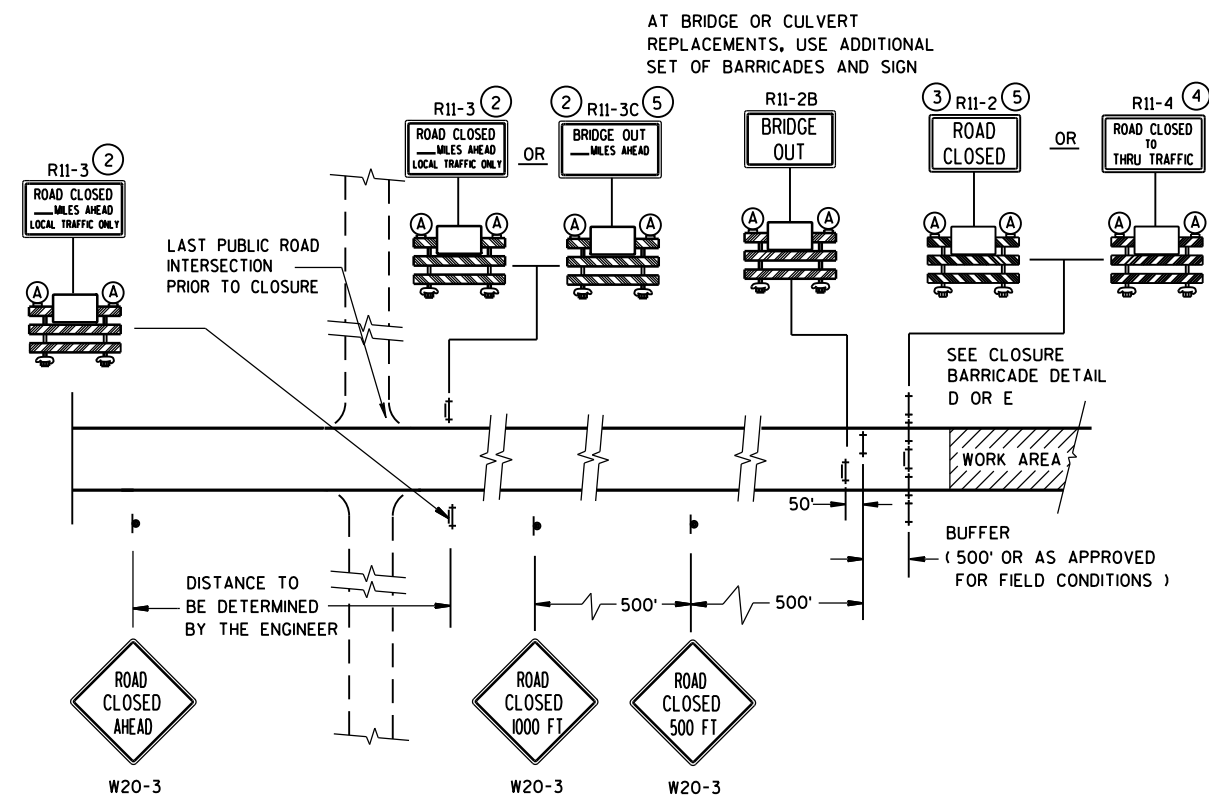
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR













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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

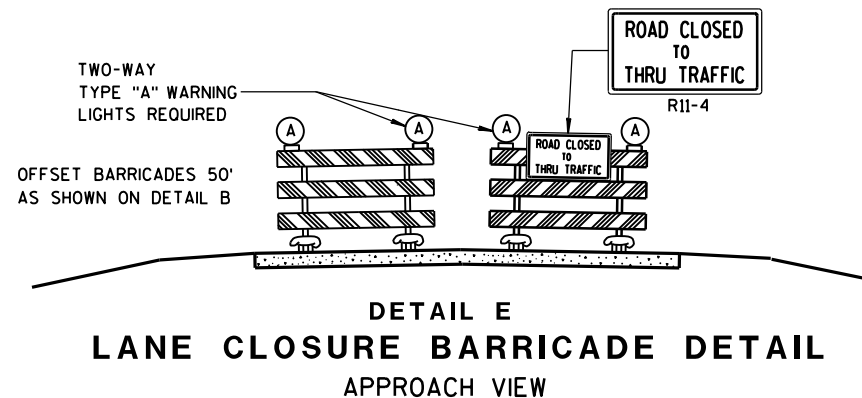
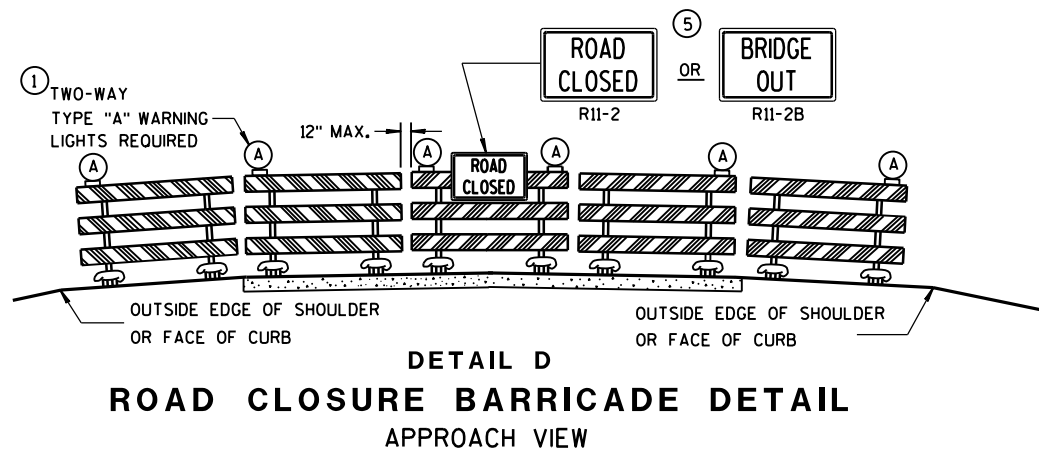
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (F T)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

- # LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
-  M3-X
-  M1-4
-  M1-5A
-  M1-6
-  M05-1
-  M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



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.

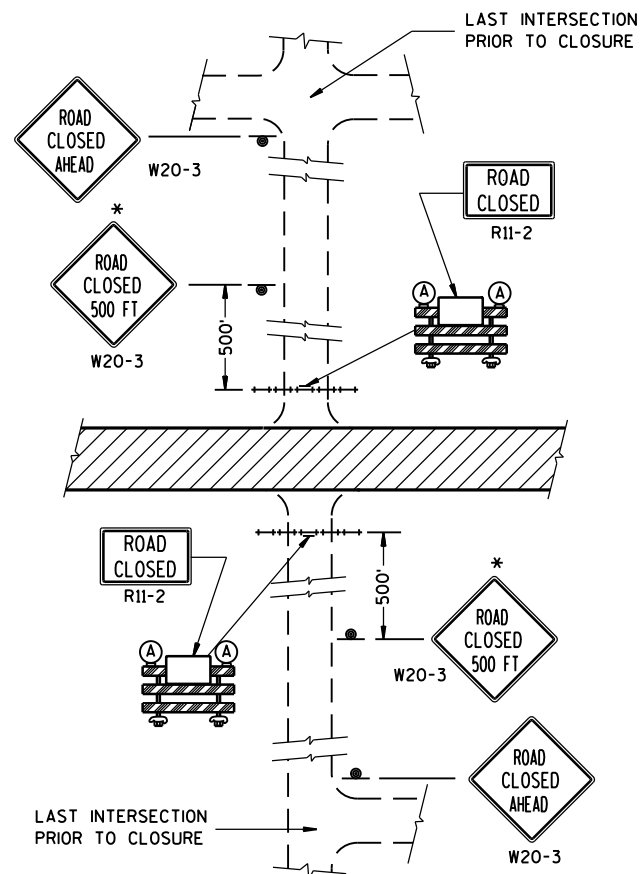
R1-1 SHALL BE 36" X 36".

- 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.

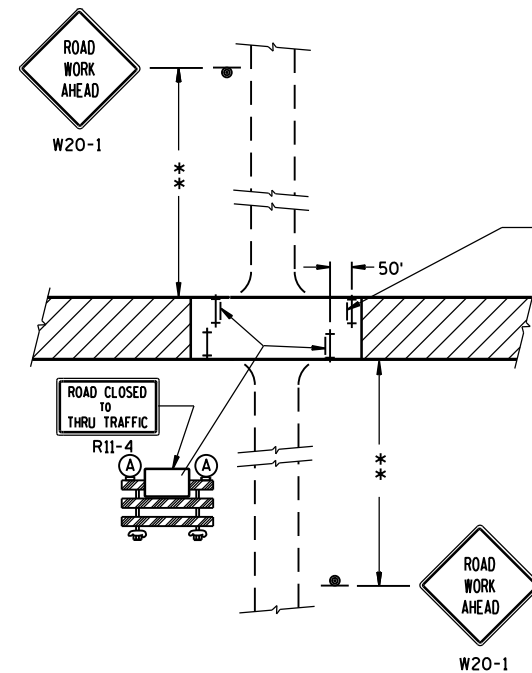
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

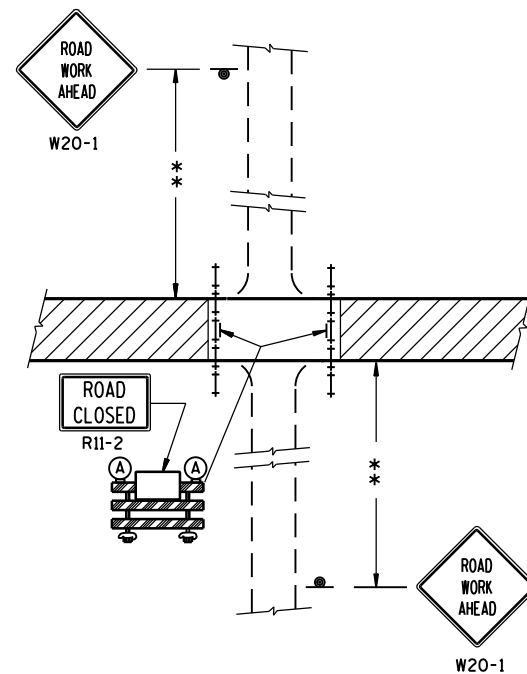
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



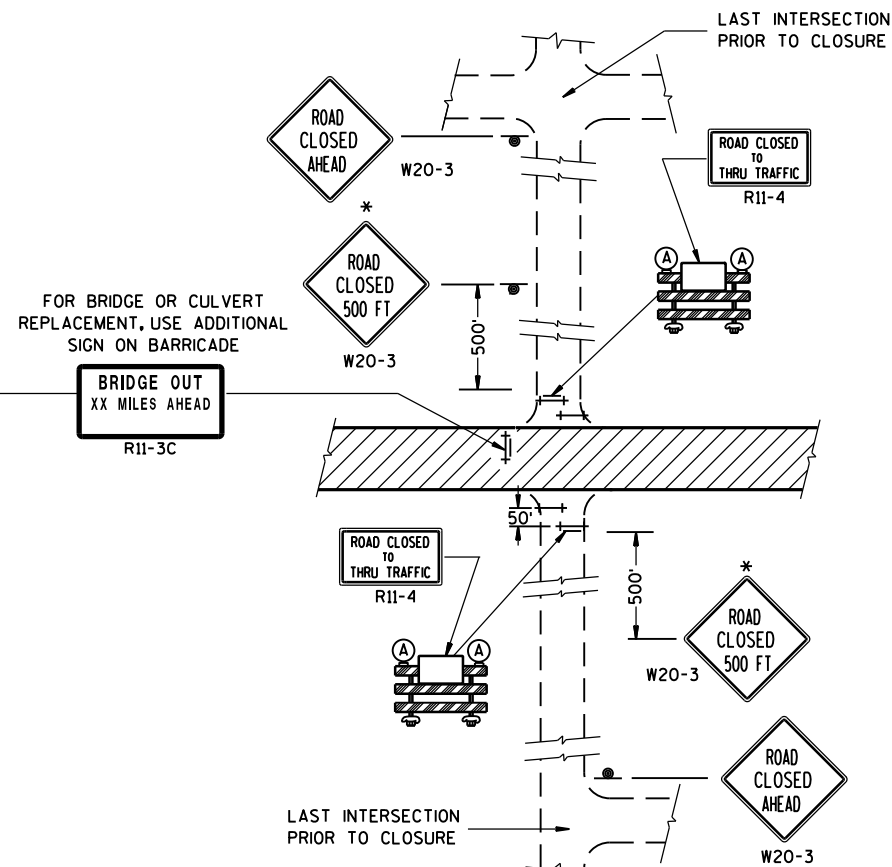
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

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.

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.

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 AND R11-4 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.

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

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

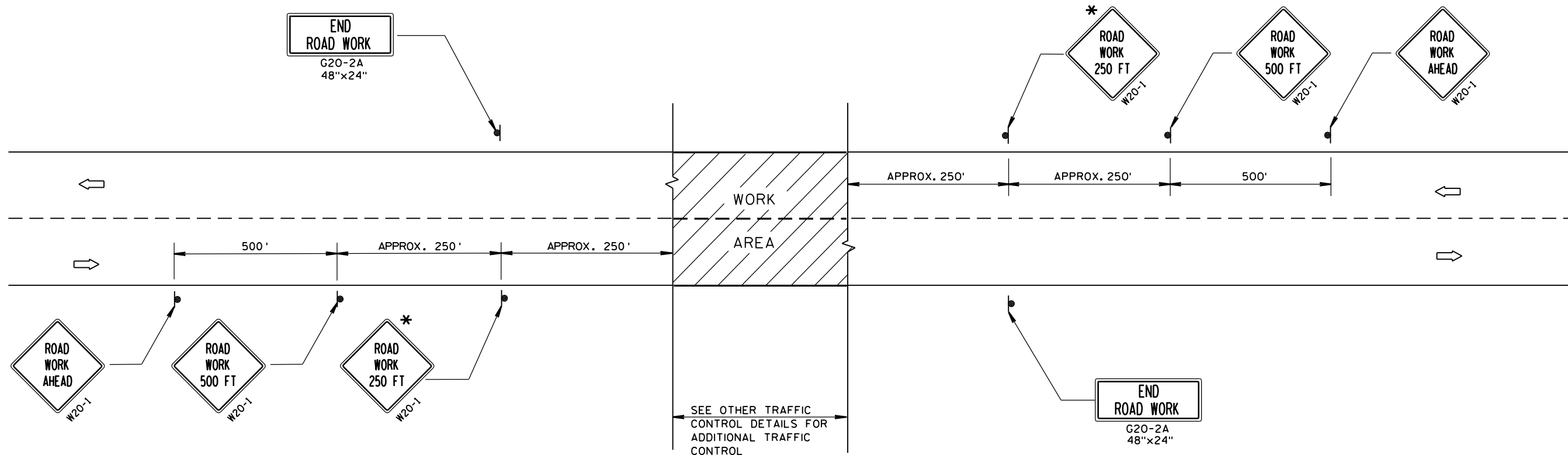
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 /S/ Travis Feltes

DATE STATE TRAFFIC ENGINEER OF DESIGN

FHWA



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.

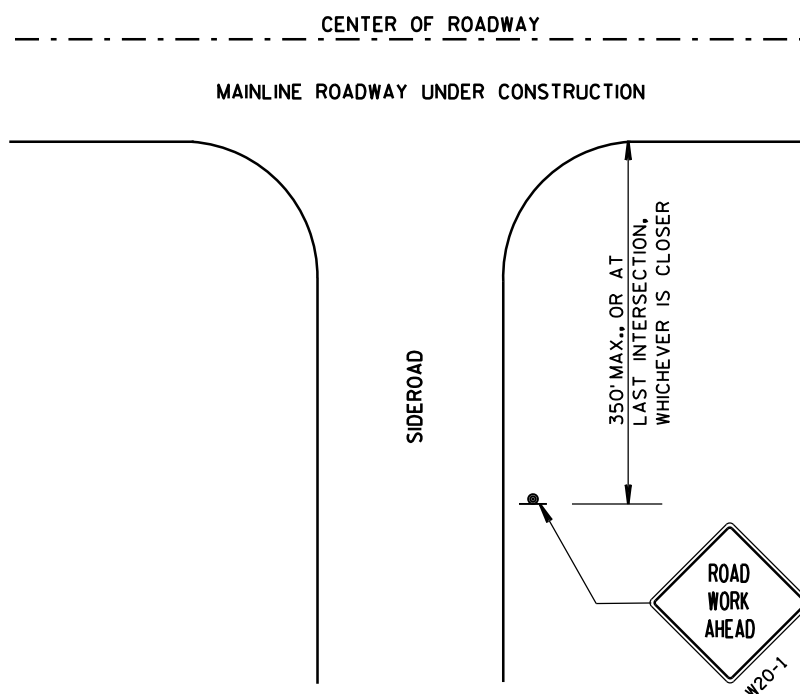
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

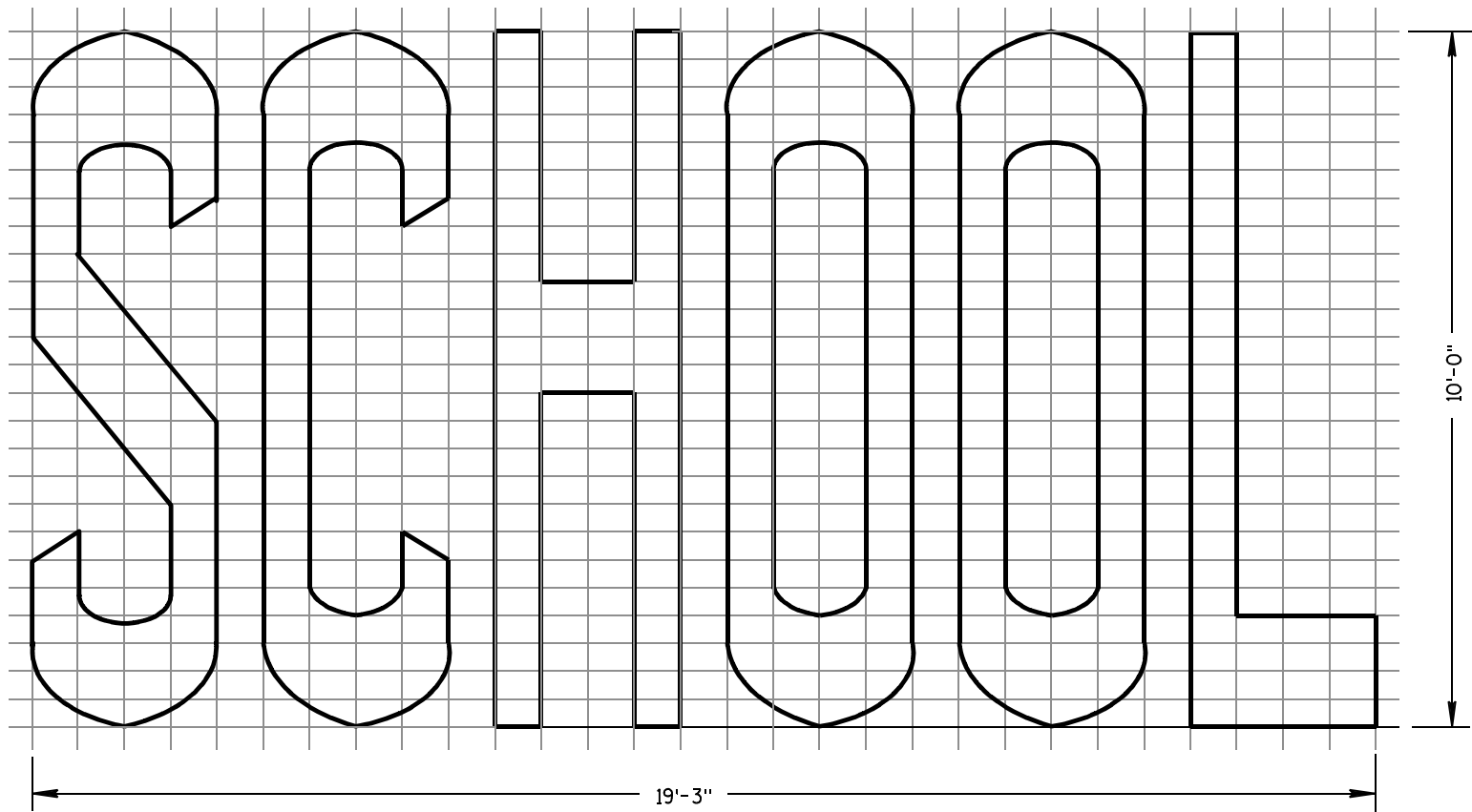
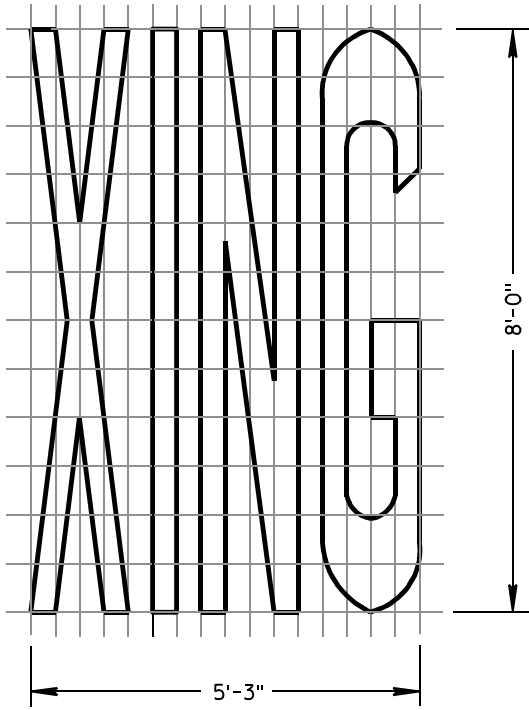
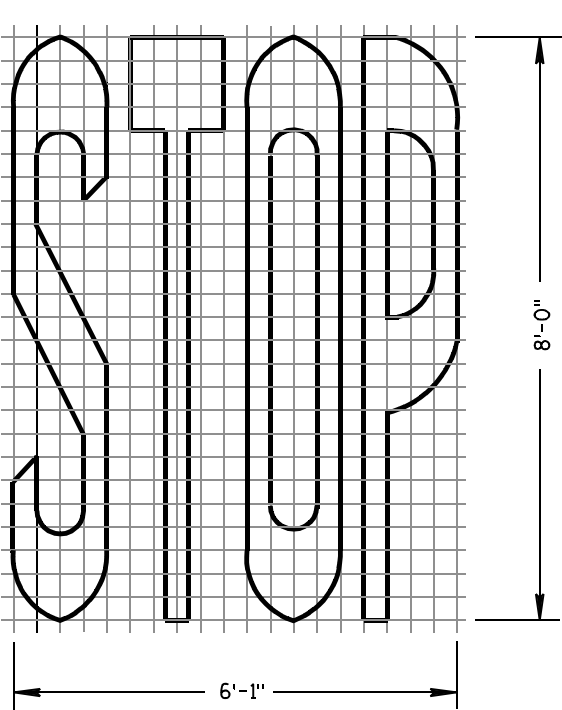
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

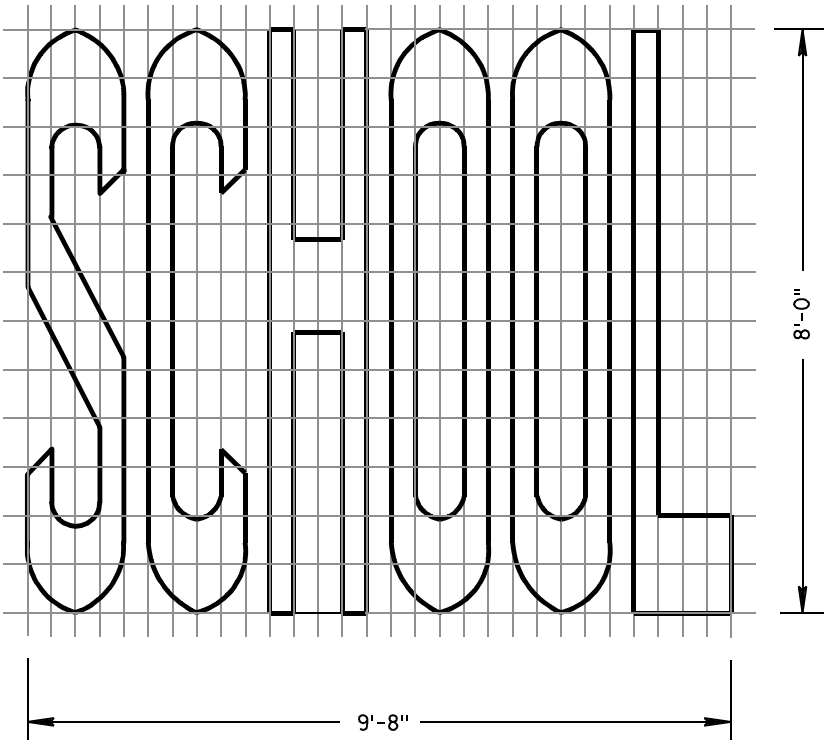
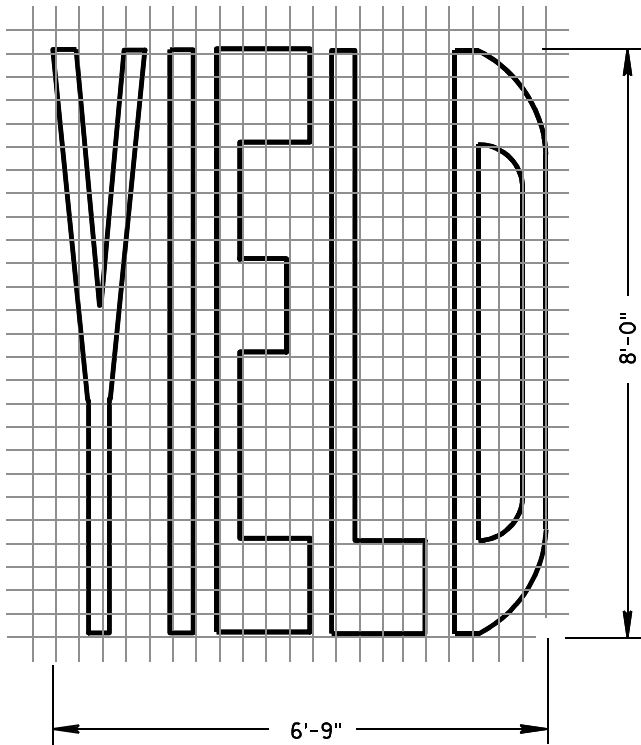
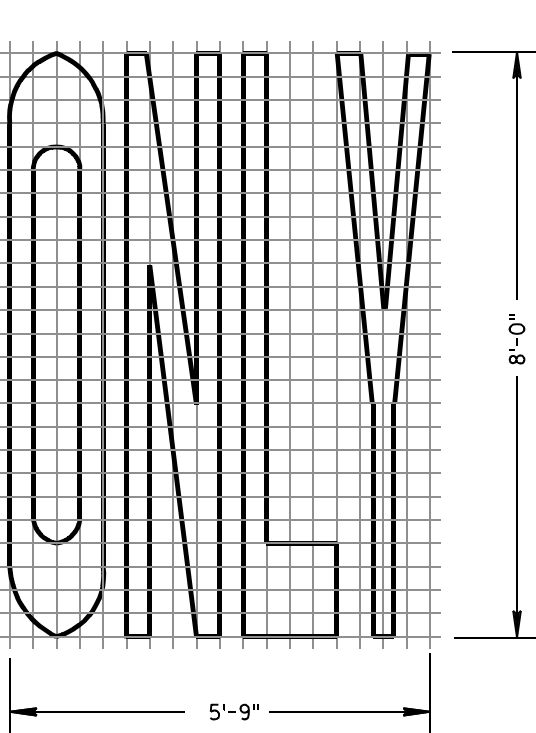
GENERAL NOTES

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

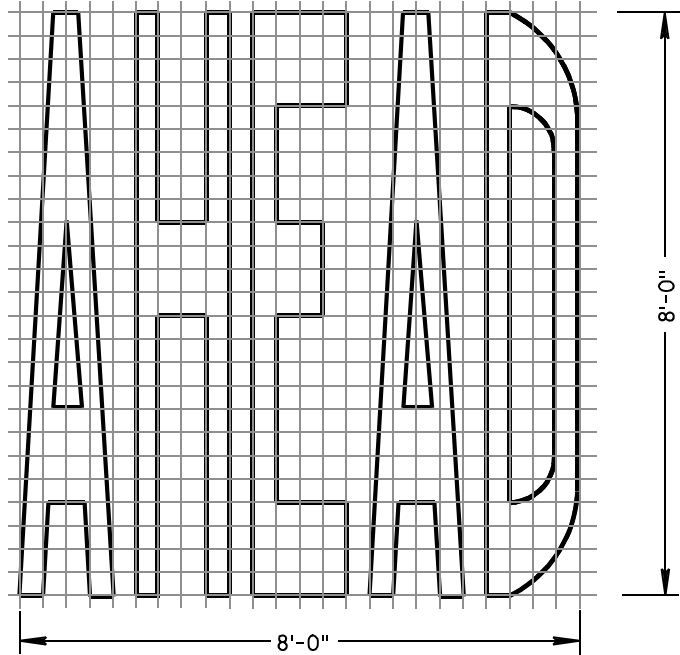
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

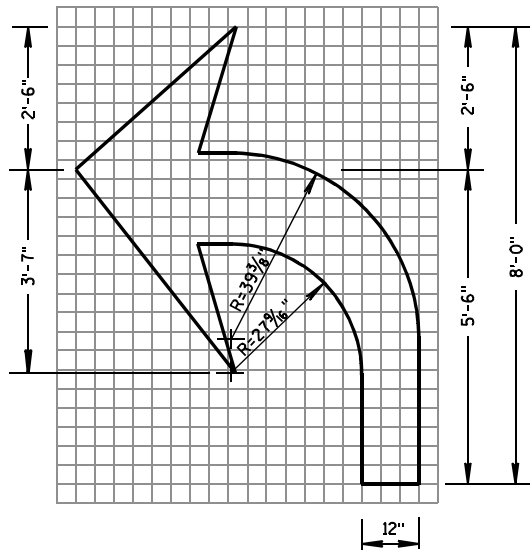
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

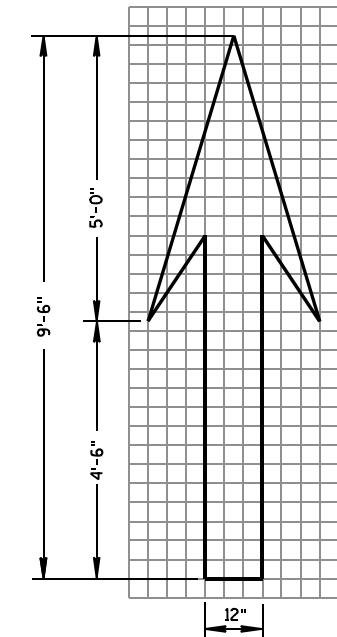
7-1-11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

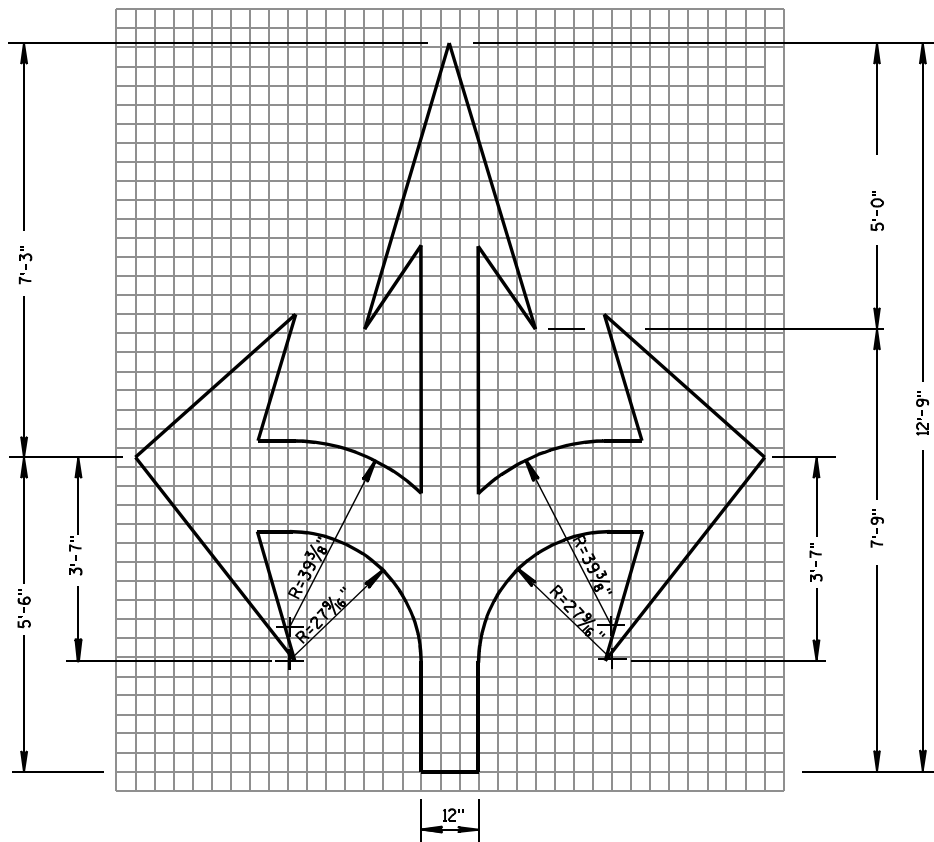
FHWA



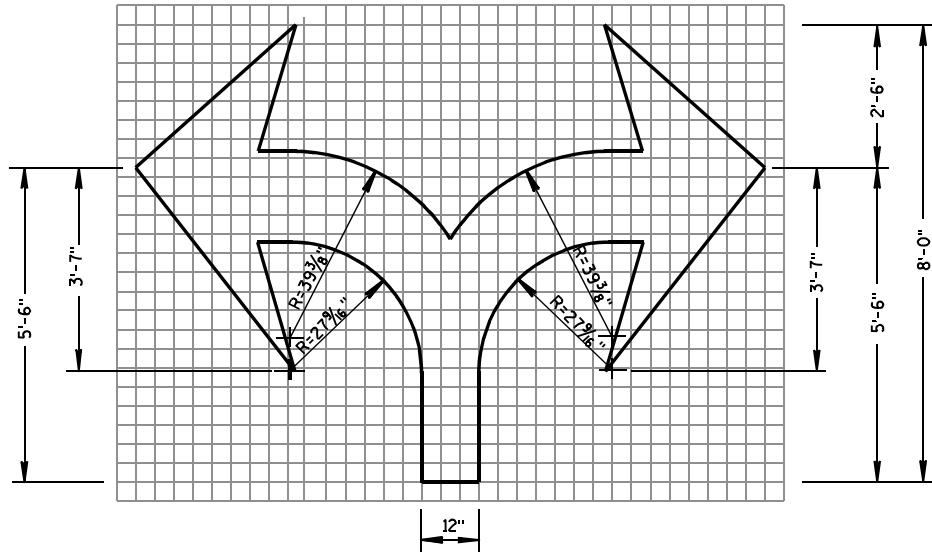
TYPE 2



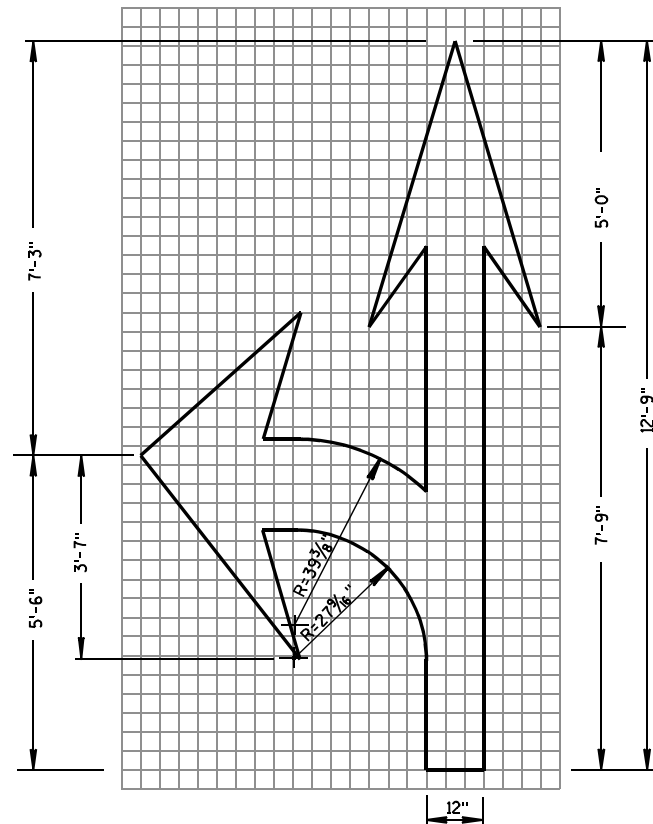
TYPE 1



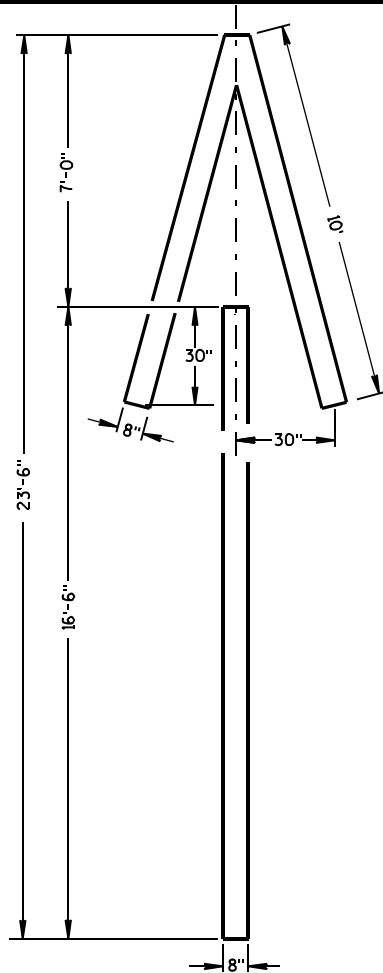
TYPE 6



TYPE 7



TYPE 3

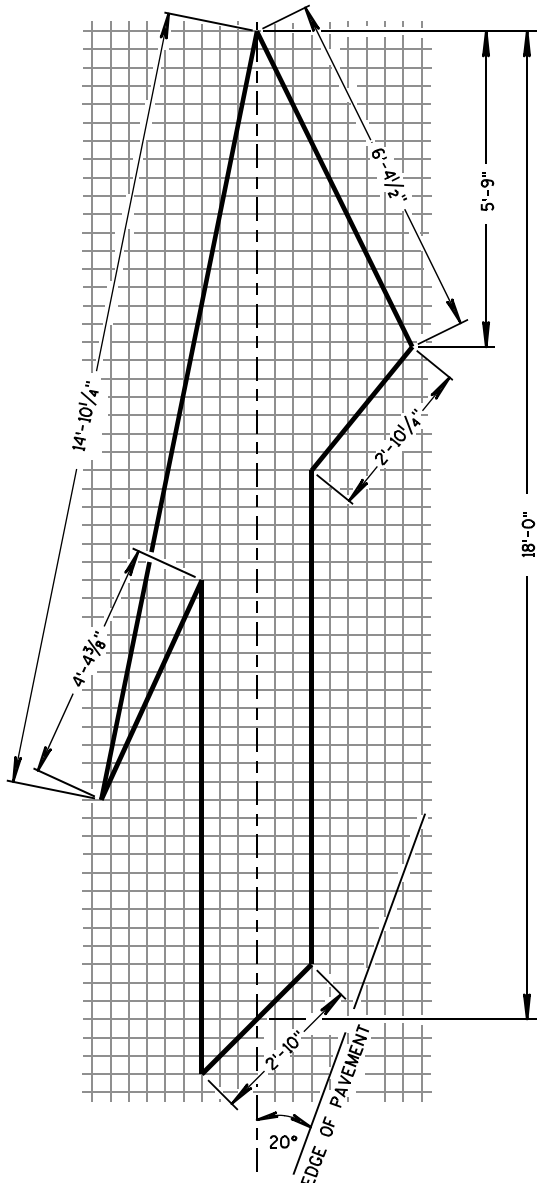


TYPE 4

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

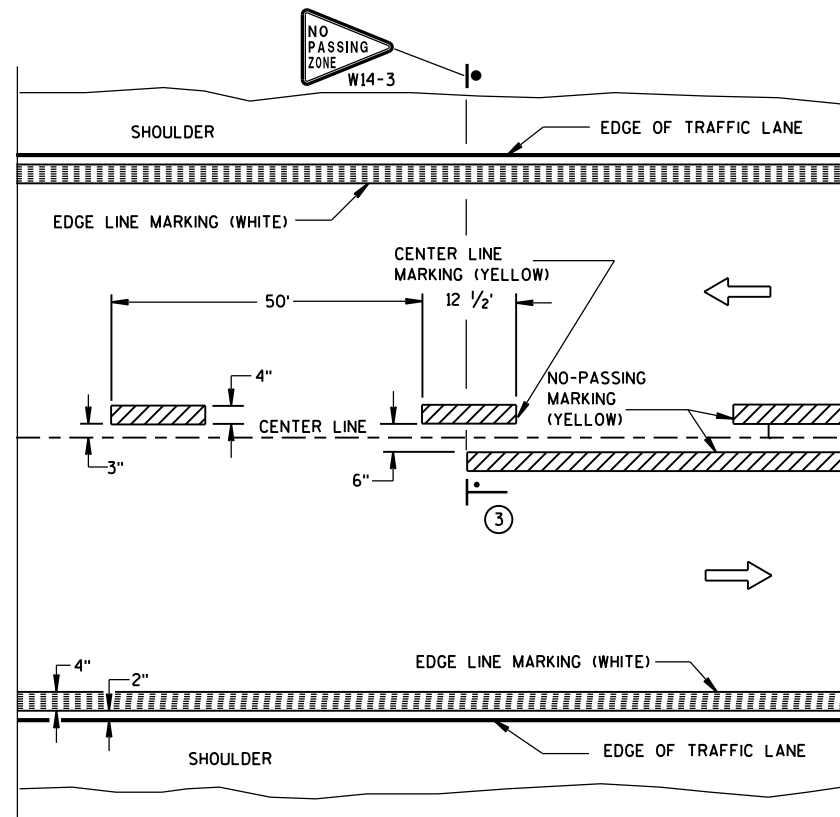
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

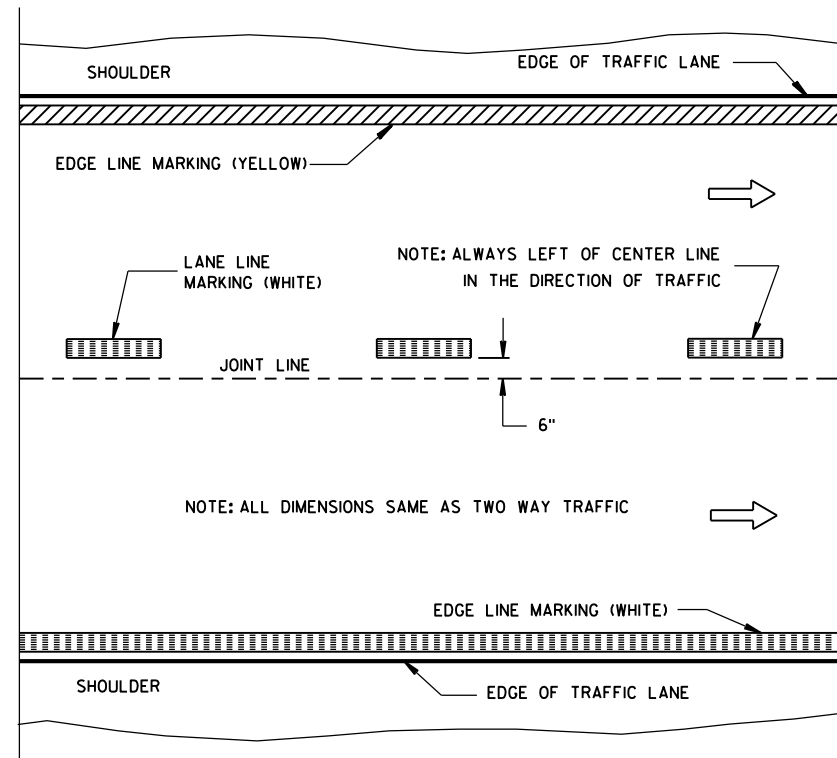
7/1/11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

FHWA

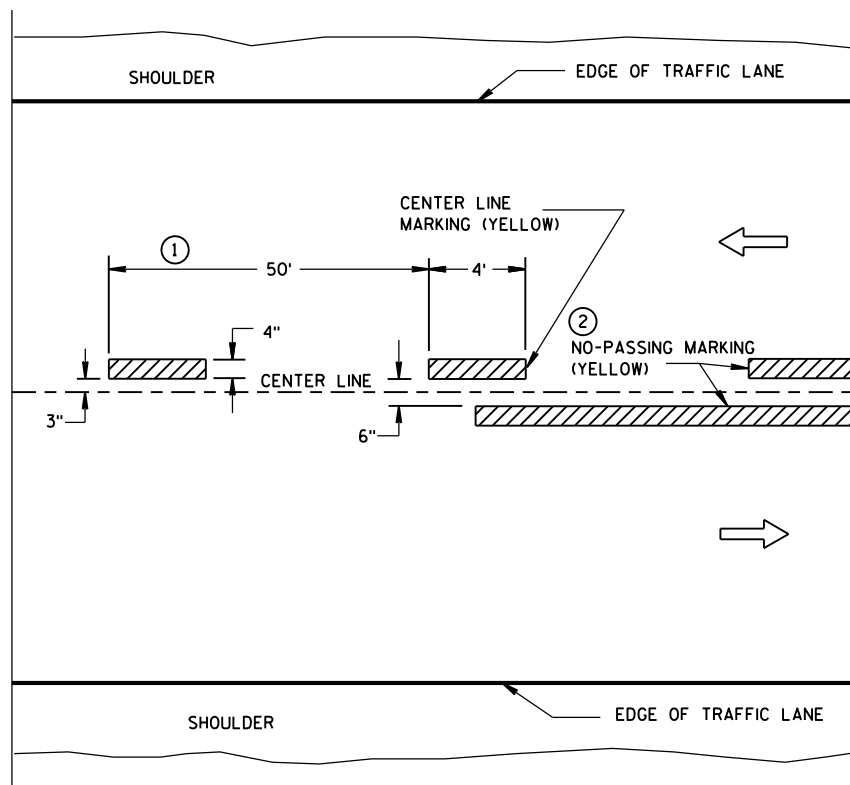


TWO WAY TRAFFIC

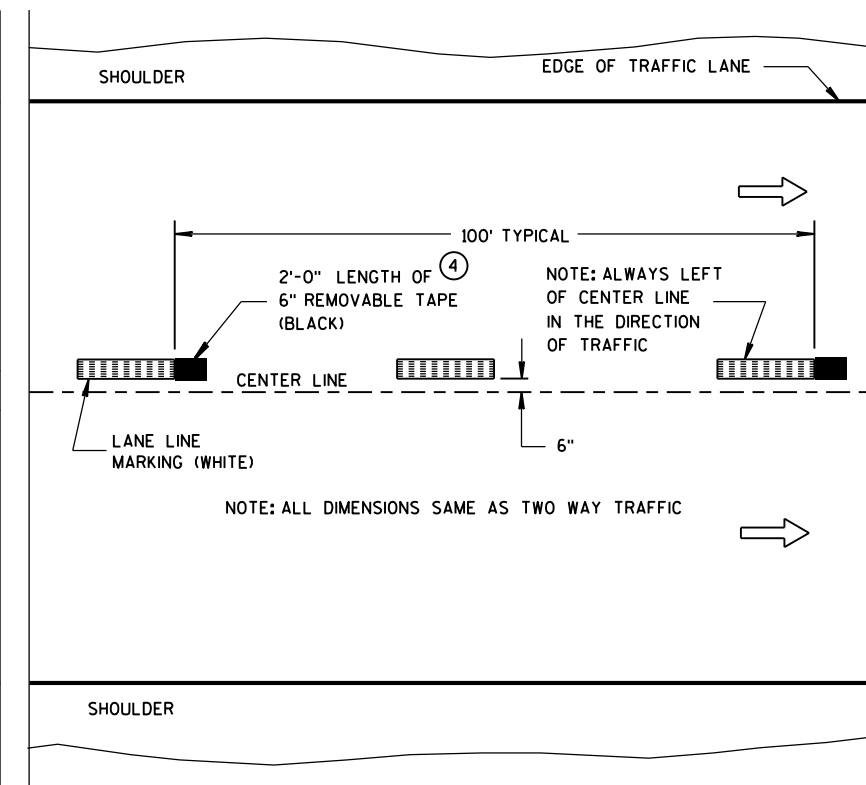


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

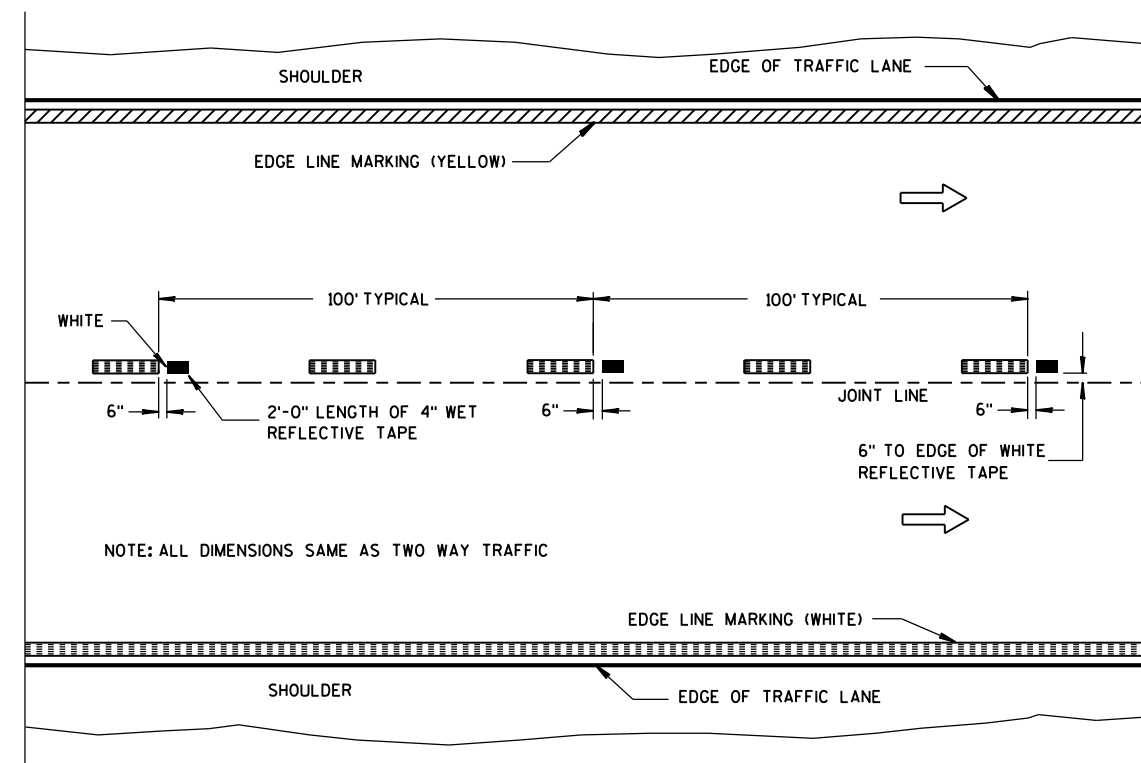
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

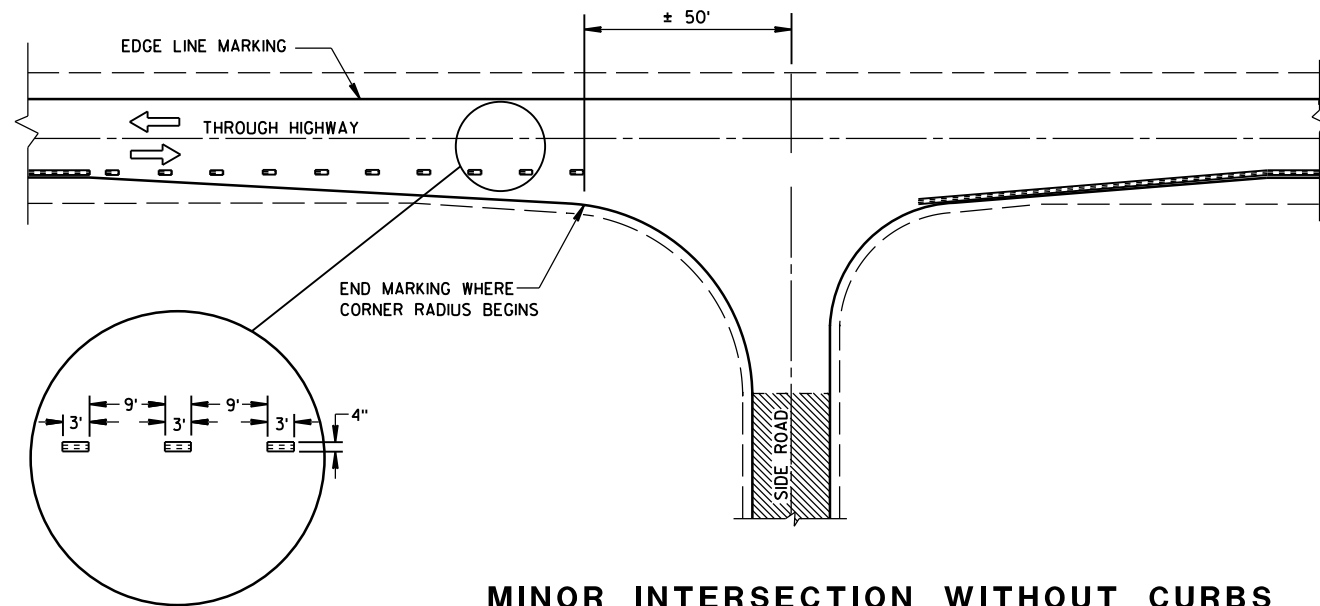
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

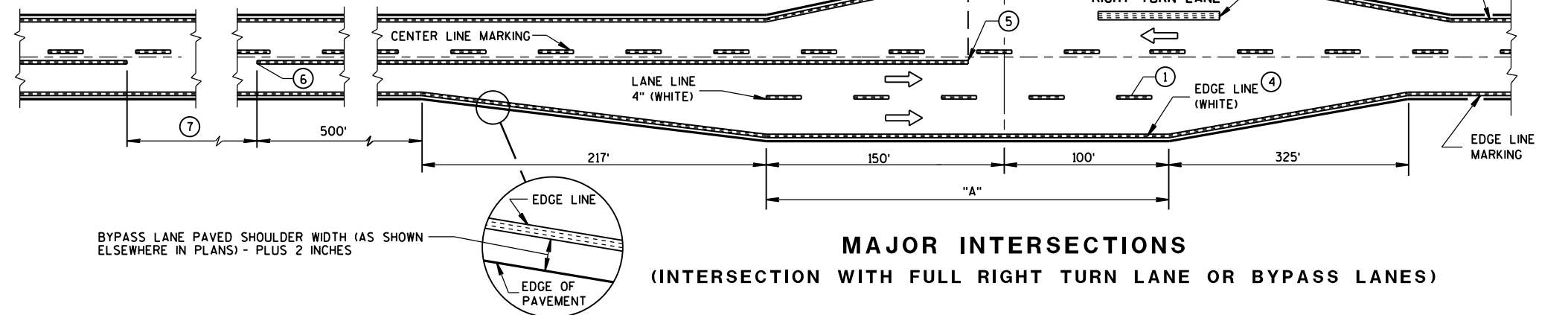
/S/ Travis Feltes
STATE TRAFFIC ENGINEER



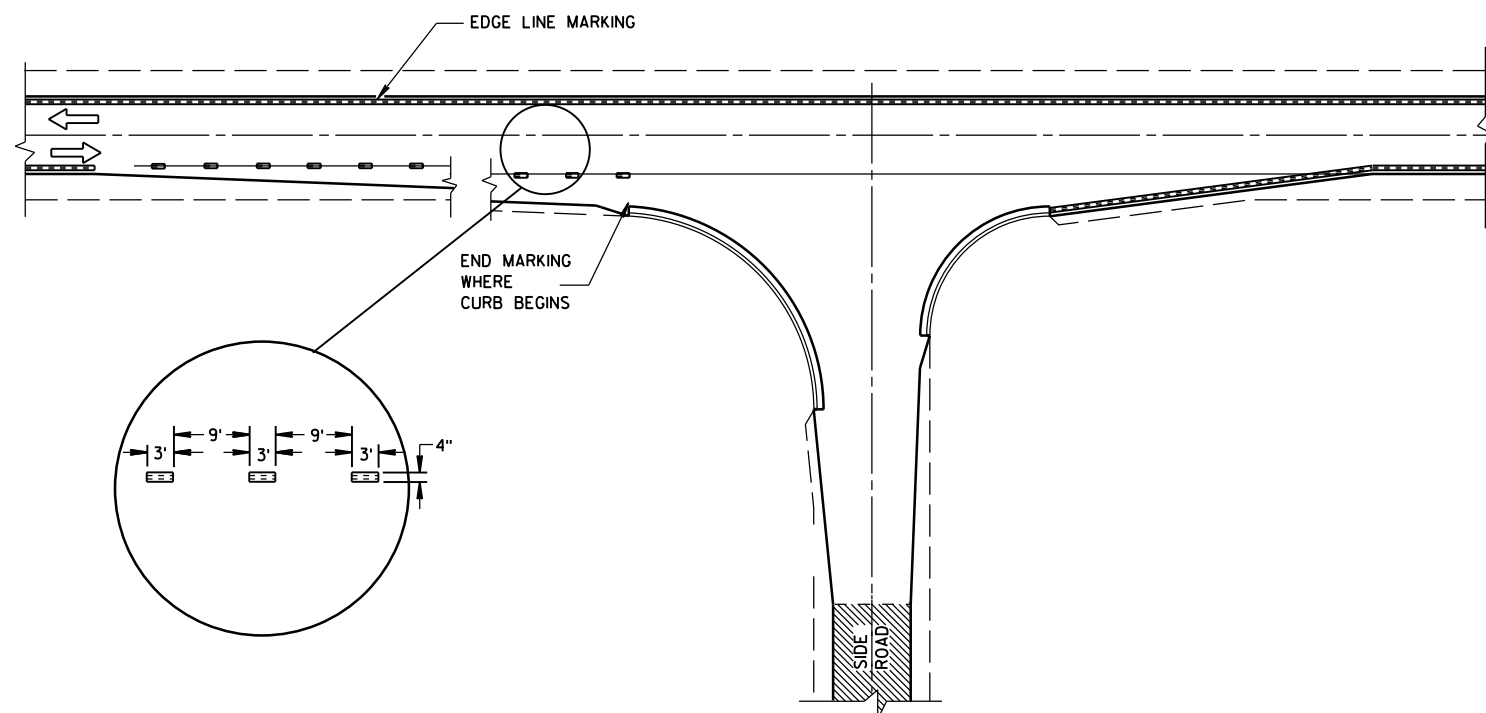
MINOR INTERSECTION WITHOUT CURBS

⑦

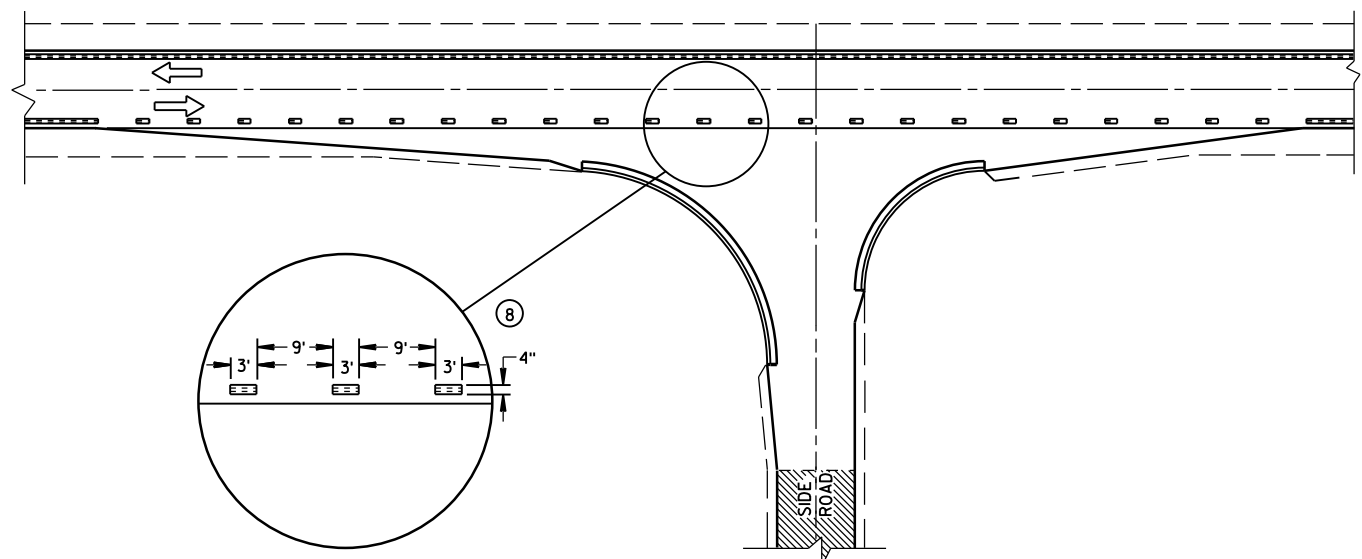
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

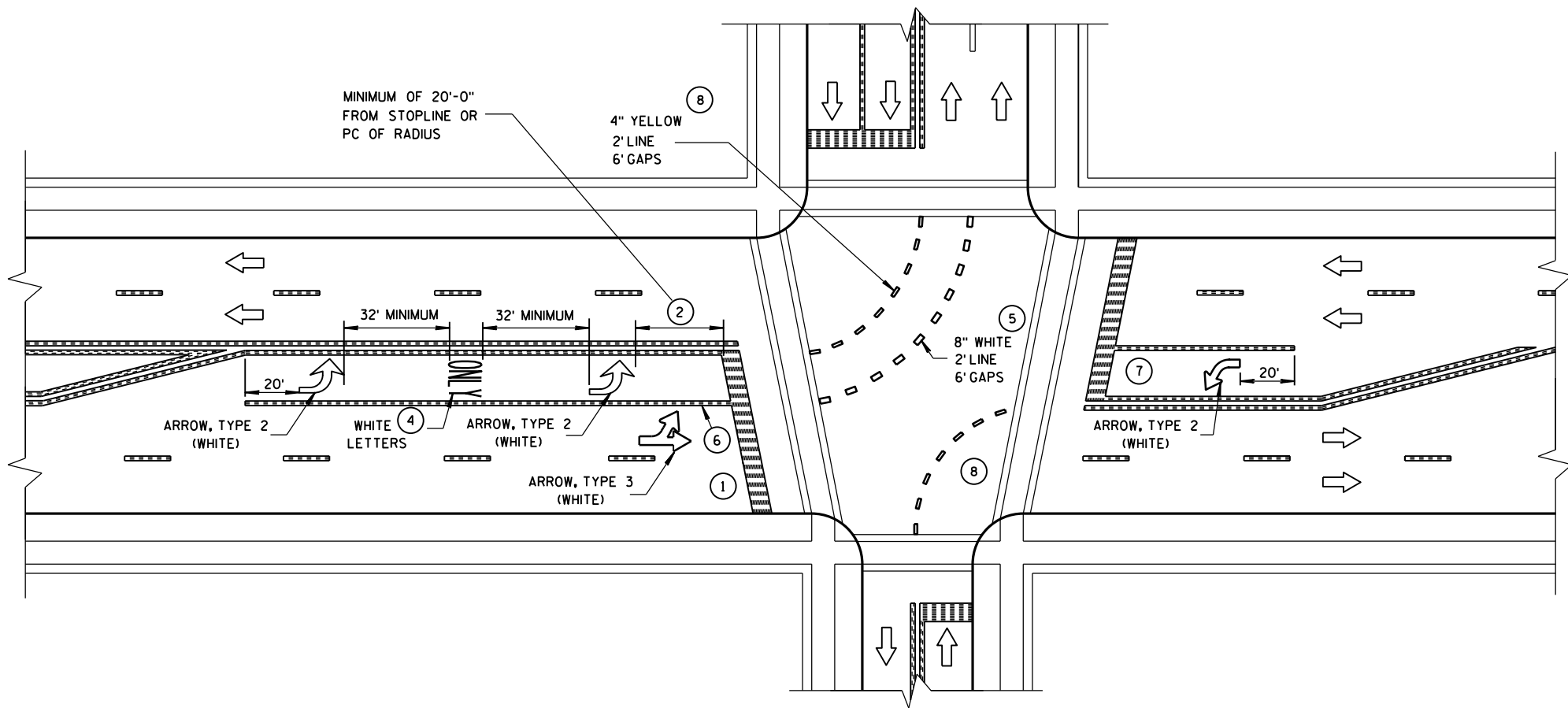
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
- ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

- ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
- ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

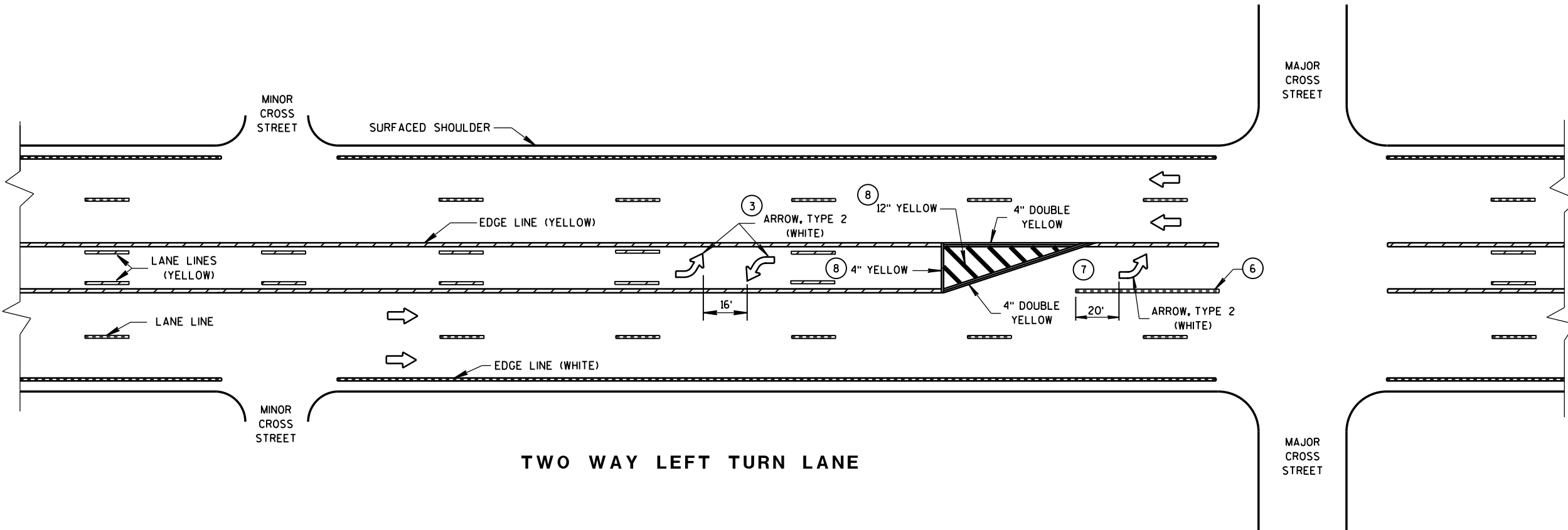
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

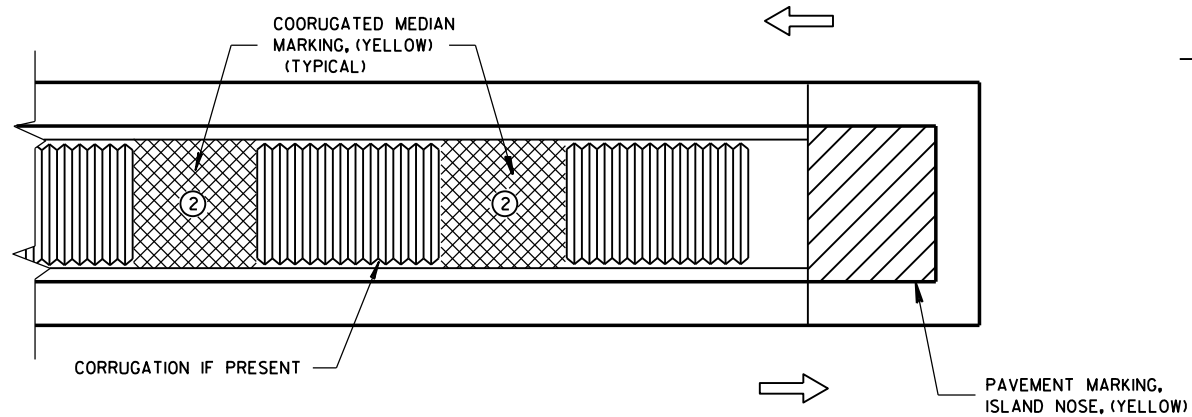
- 1 STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- 2 DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
- 3 A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- 4 ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
- 5 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- 6 8" WHITE
- 7 ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
- 8 REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (➡)
SHOWS DIRECTION OF TRAVEL

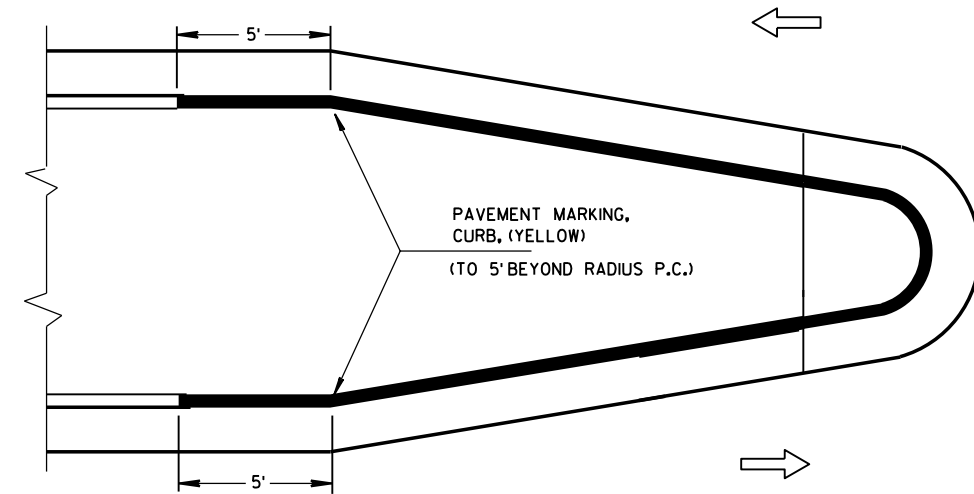


PAVEMENT MARKING
(LEFT TURN LANE)

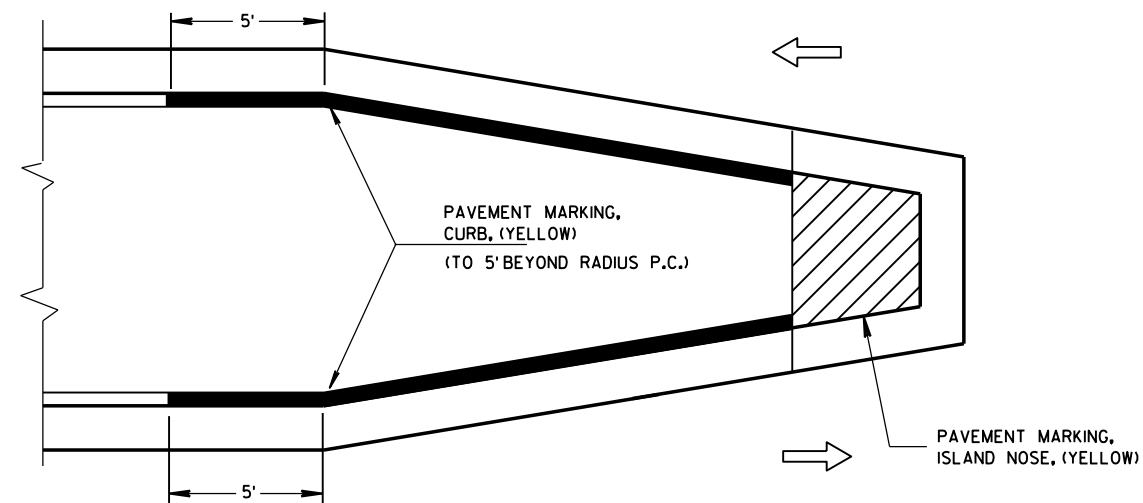
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

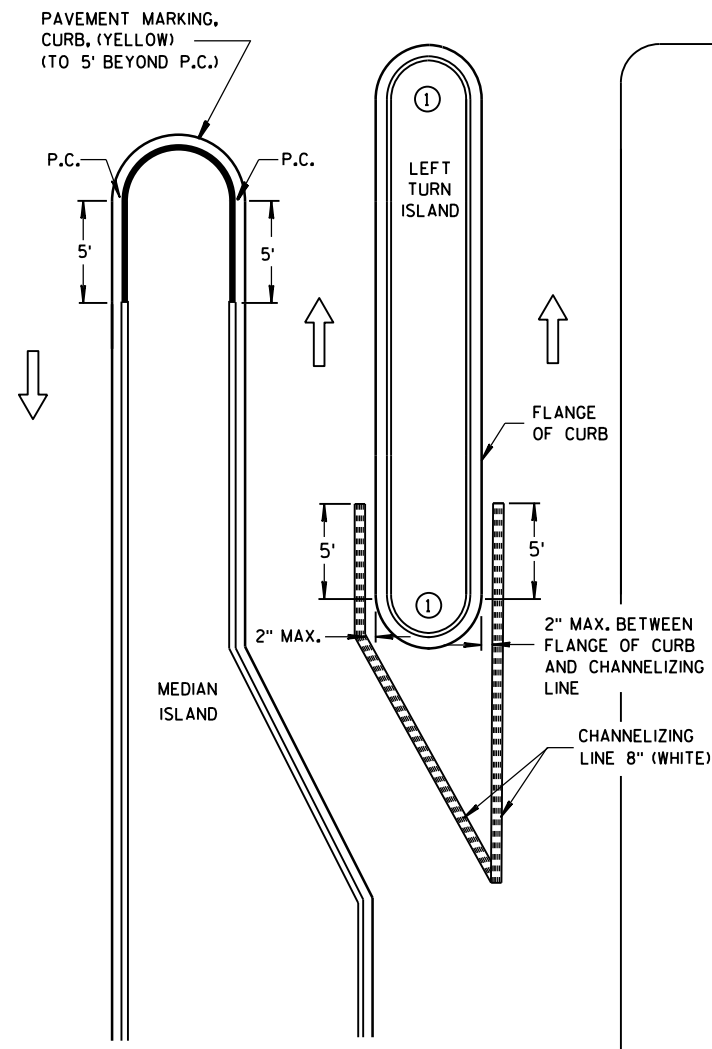


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

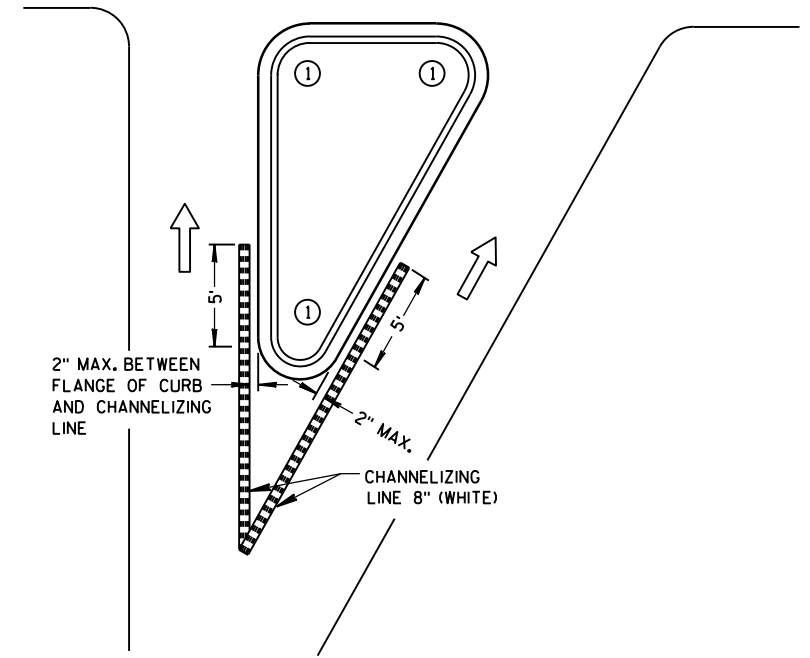
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 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 ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



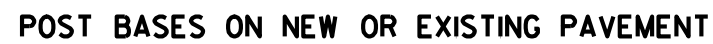
RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

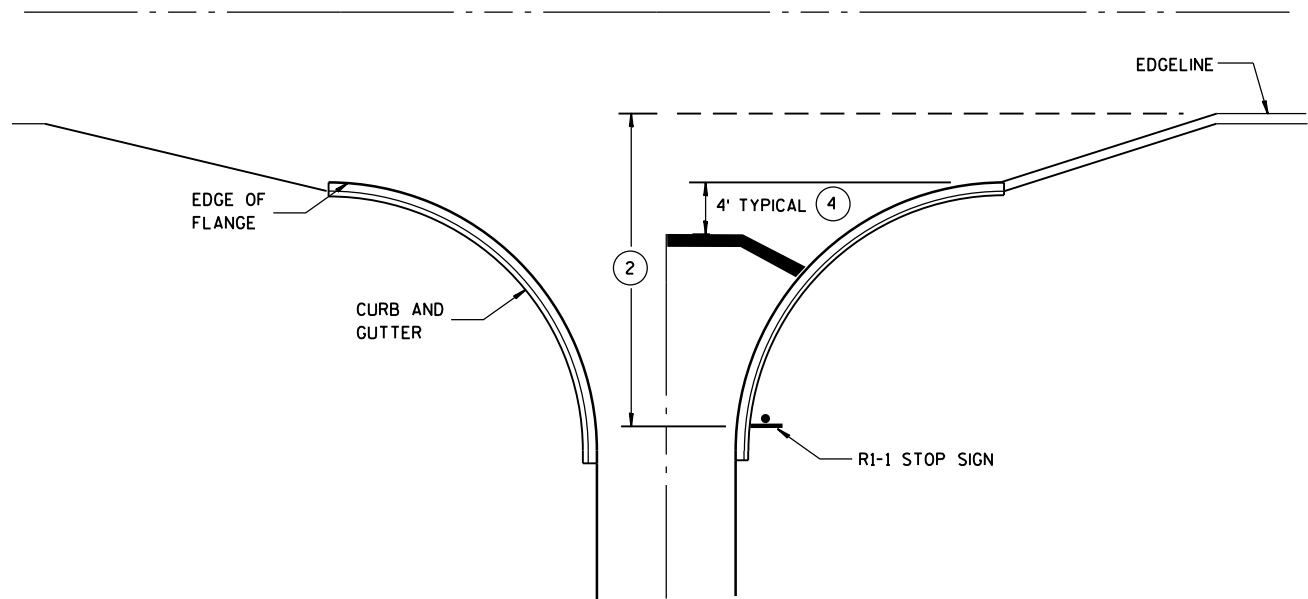
PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

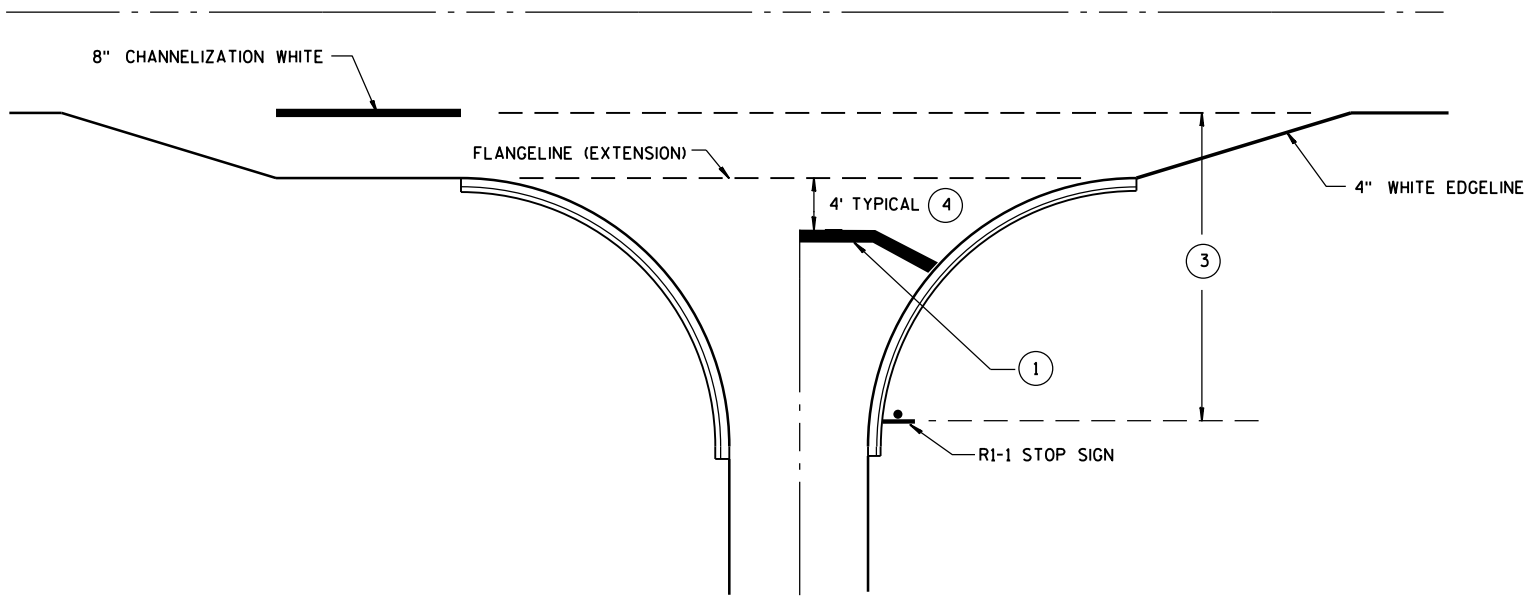


SECTION B-B

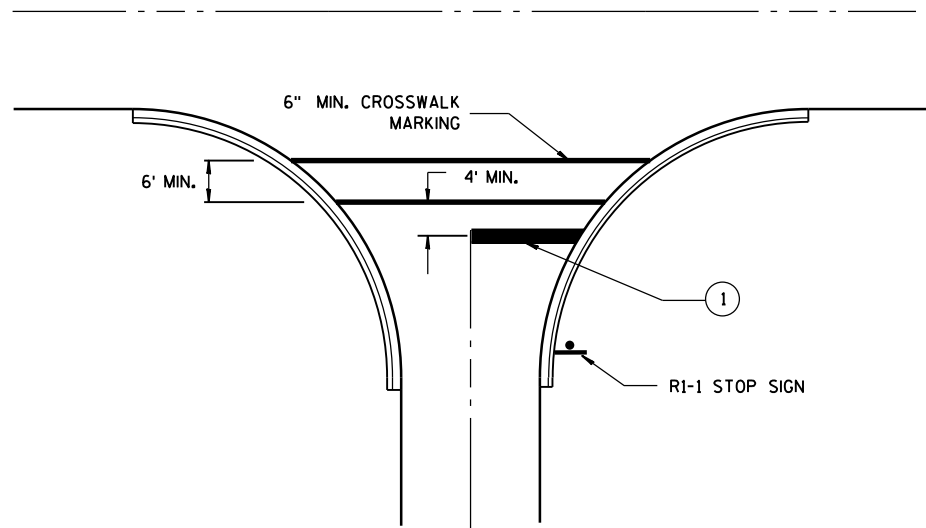
ALTERNATIVE SHAPES



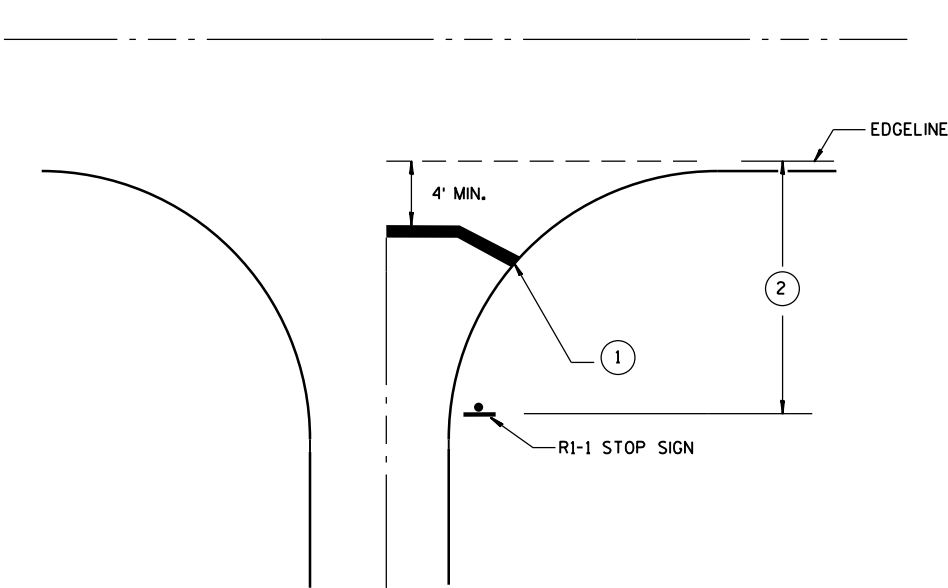
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

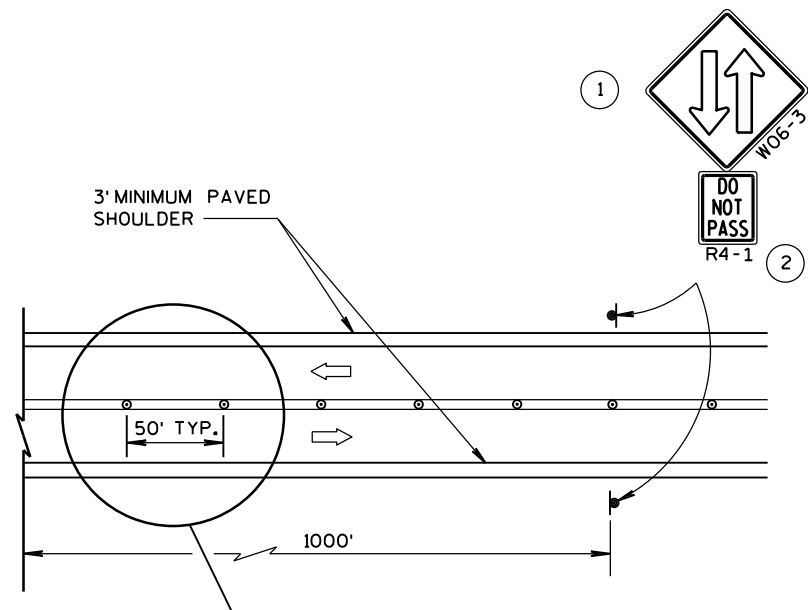
GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

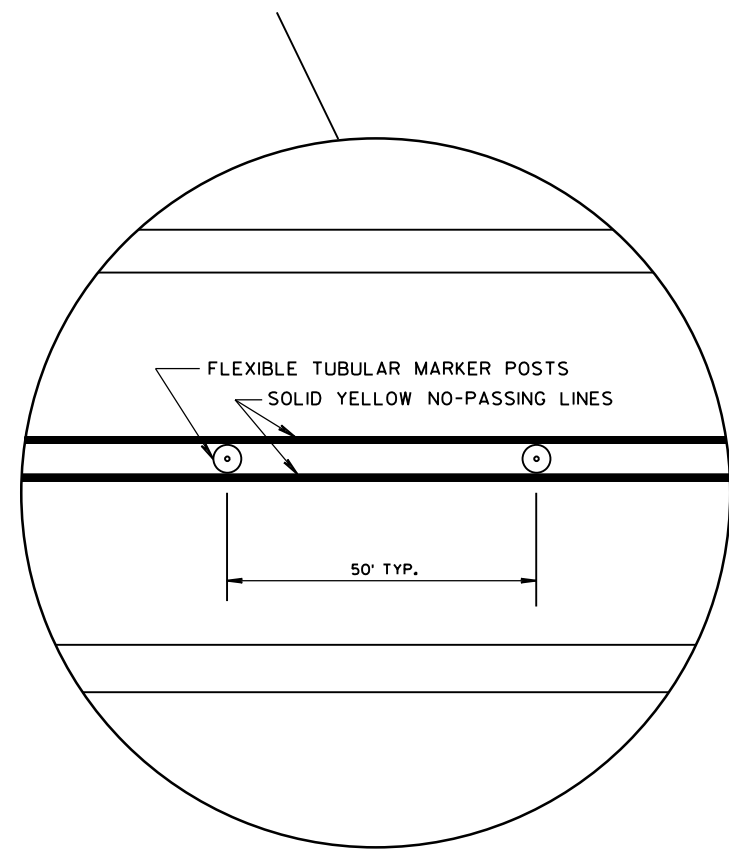
STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




APPROVED
4/30/2013 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER
FHWA



TWO LANE, TWO WAY OPERATION



LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DELINEATOR FLEXIBLE/TUBULAR MARKER
-  DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

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

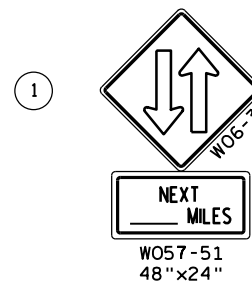
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50-FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.



THE W06-3 WITH THE W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500 FEET BEYOND ANY SIDEROAD. THE W06-3 WITH THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN W06-3 SIGNS.

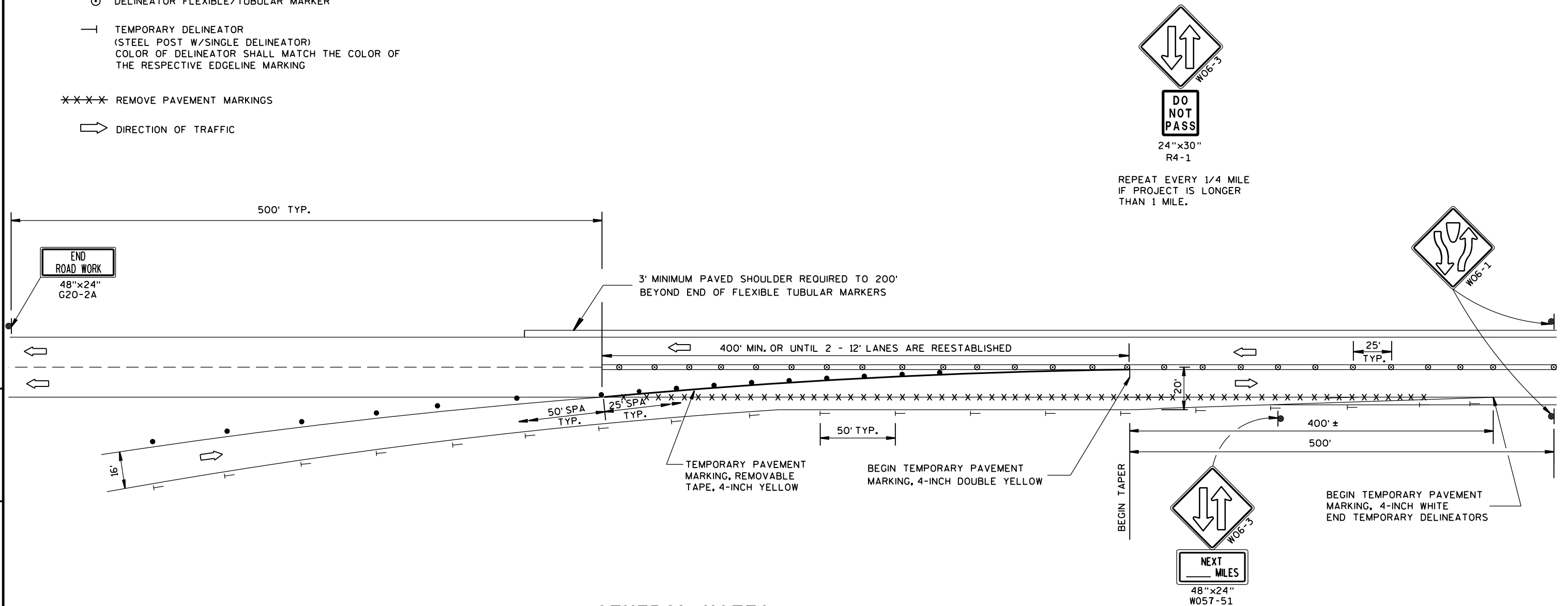
2 CONVENTIONAL: 24"x30"
FREEWAY AND EXPRESSWAY: 36"x48"

TRAFFIC CONTROL,
TWO LANE TWO
WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- ⊙ DELINEATOR FLEXIBLE/TUBULAR MARKER
- TEMPORARY DELINEATOR
(STEEL POST W/SINGLE DELINEATOR)
COLOR OF DELINEATOR SHALL MATCH THE COLOR OF
THE RESPECTIVE EDGETLINE MARKING
- X—X REMOVE PAVEMENT MARKINGS
- ➡ DIRECTION OF TRAFFIC



ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

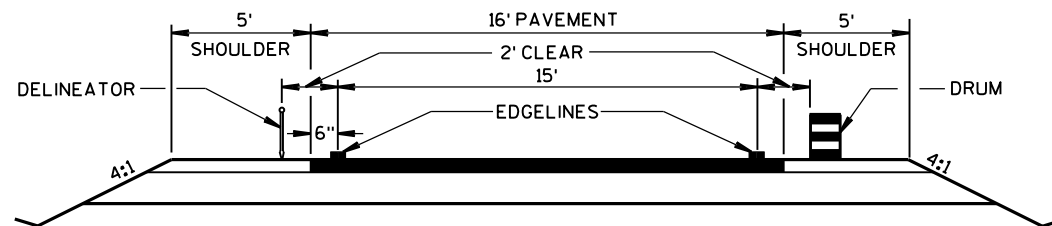
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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 NO CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

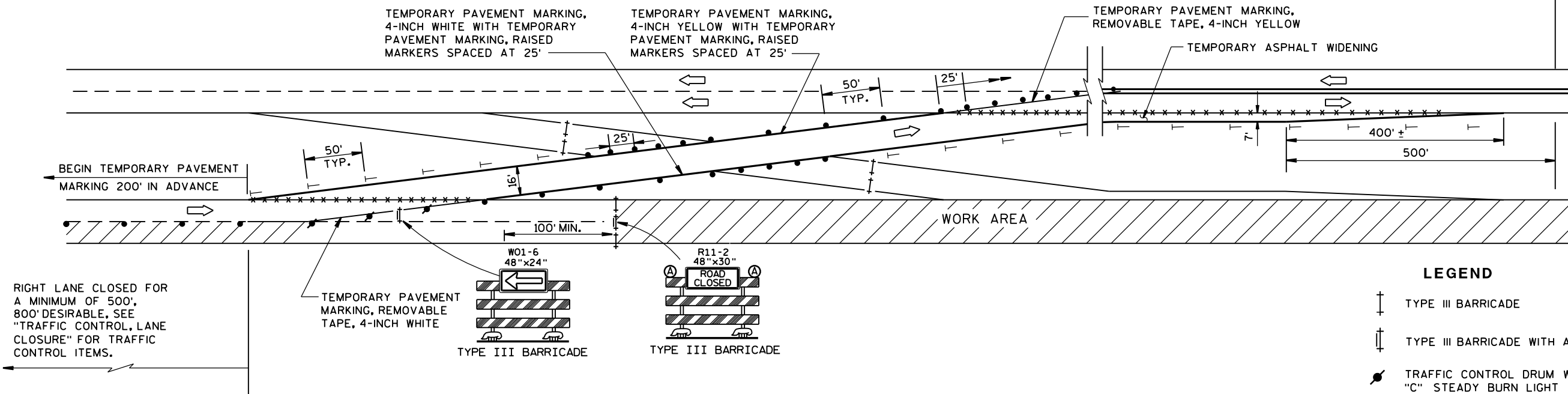
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF Crossover.

TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>8/2013</u> DATE	<u>/S/ Travis Feltes</u> STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



TYPICAL CROSSOVER ROADWAY DIMENSIONS

SEE S.D.D. 15 D 10, "TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT WITH BARRIER" OR "TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT" DETAIL FOR ADDITIONAL TRAFFIC CONTROL ITEMS AND LAYOUT DIMENSIONS.



LEGEND

- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- ⊥ TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)
- ⊥ TEMPORARY DELINEATOR (DOUBLE SIDED)
- *** REMOVING PAVEMENT MARKINGS
- ⊙ DELINEATOR FLEXIBLE/TUBULAR MARKER
- ➡ 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 PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

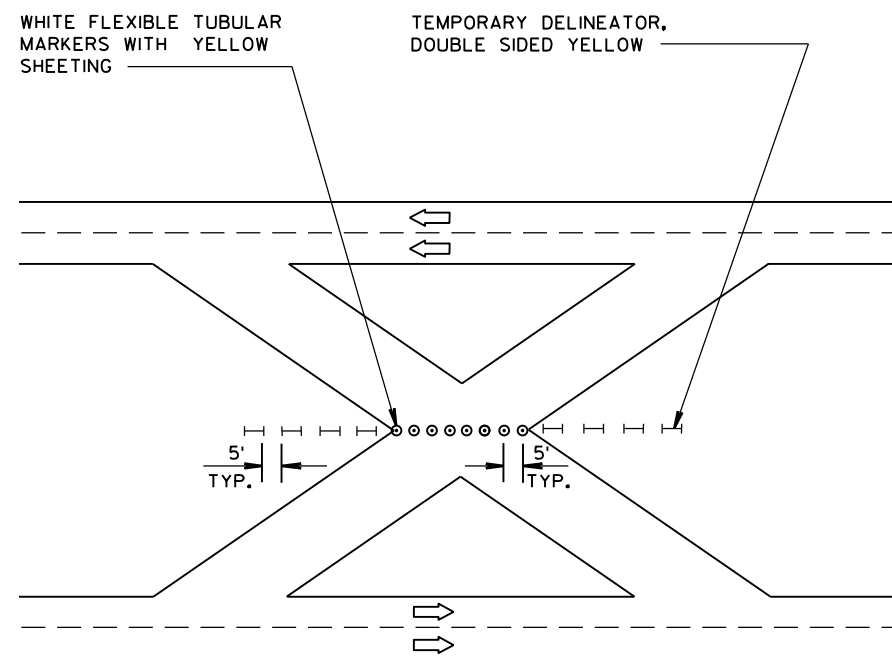
TEMPORARY PAVEMENT MARKING REMOVABLE TAPE SHALL BE USED WHEN CROSSING PERMANENT ROADWAY SURFACES THAT WILL REMAIN AFTER USE OF CROSSOVER AND TEMPORARY PAVEMENT MARKING WHERE USED.

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 THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.









**PROTECTION OF CROSSOVER NOT IN USE
WHEN CONSTRUCTION IS NOT TAKING PLACE**

**TRAFFIC CONTROL,
SINGLE LANE CROSSOVER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

LEGEND

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  SIGN ON PERMANENT SUPPORT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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.

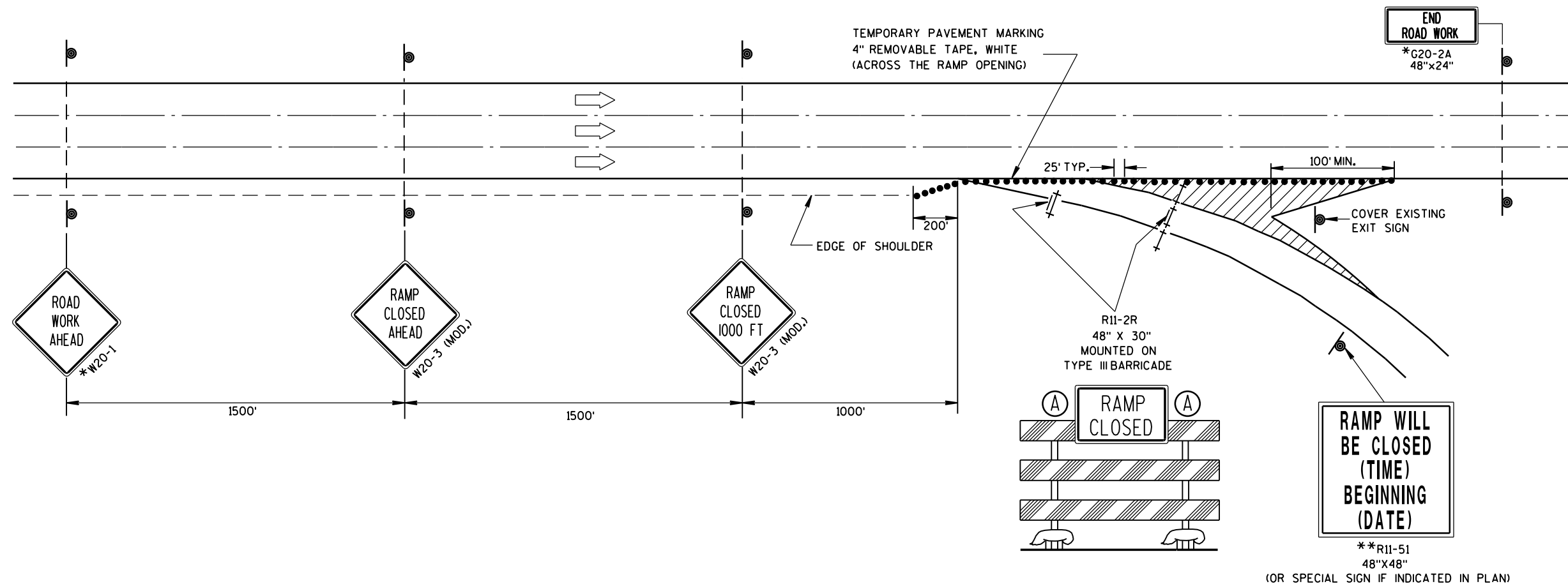
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

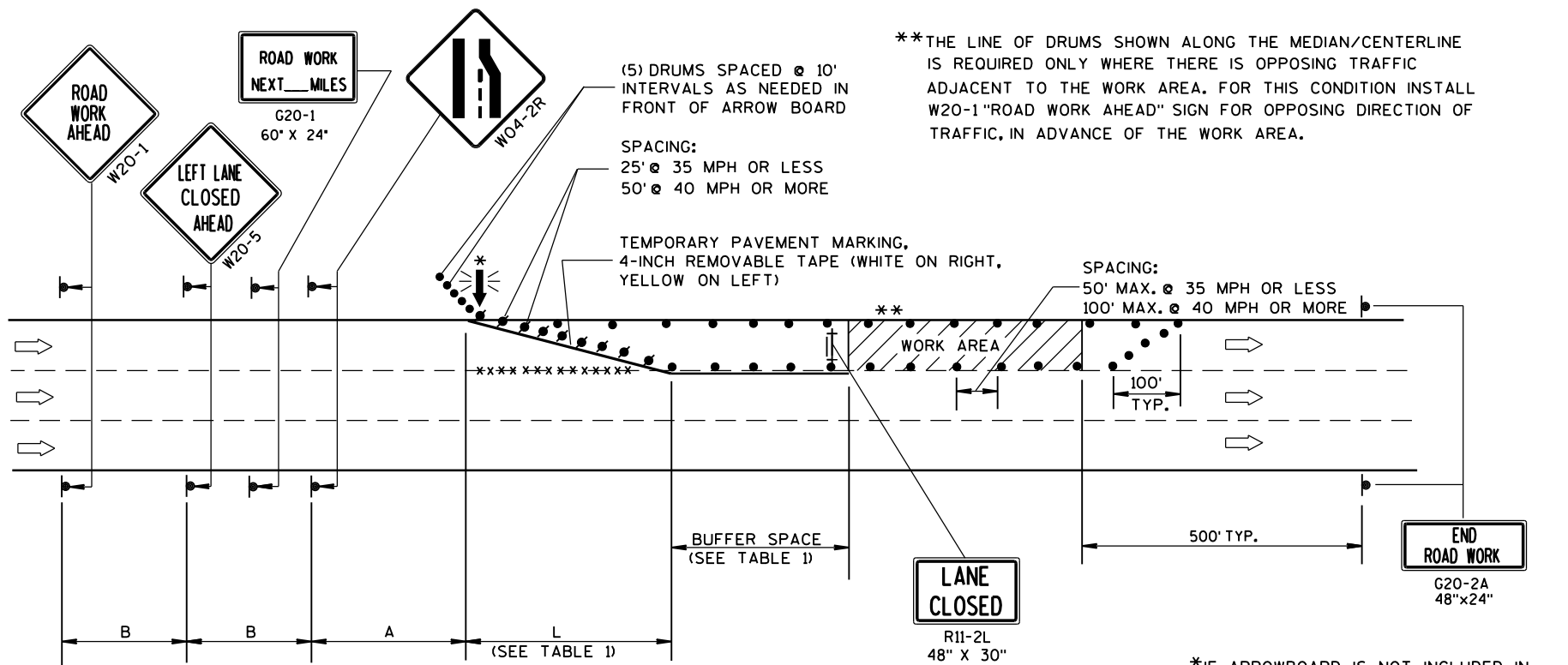
WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

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

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.





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

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.

W20-1, 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.

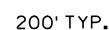
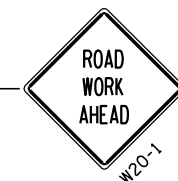
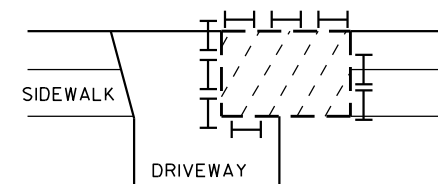
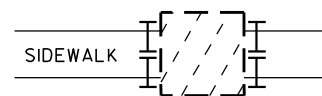
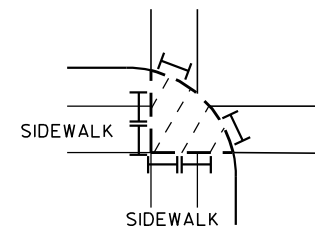
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



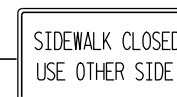
—IF WORK AREA ENCROACHES INTO THE ROADWAY,
SEE OTHER TRAFFIC CONTROL DETAILS FOR
ADDITIONAL TRAFFIC CONTROL



R5-8
24"x12"
SERIES C
BLACK LETTERS
REFLECTIVE
WHITE BACKGROUND



R5-8
24"x12"
3" SERIES C
BLACK LETTERS
ON REFLECTIVE
WHITE BACKGROUND




R5-8a
24"x12"
2 1/2" SERIES B
BLACK LETTERS
ON REFLECTIVE
WHITE BACKGROUND

LEGEND

POST MOUNTED SIGN

II/I	TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
------	--

 WORK AREA

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

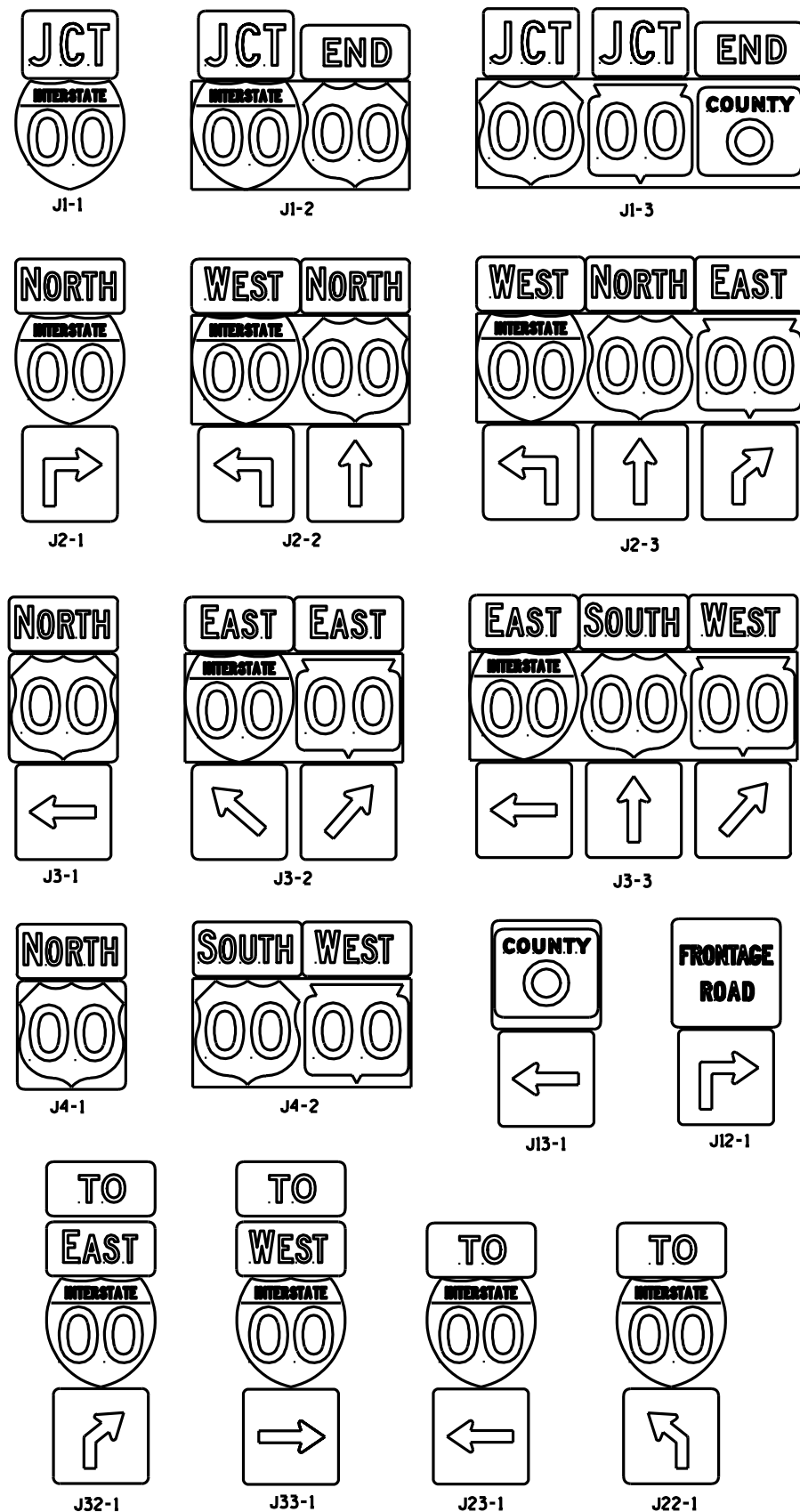
TRAFFIC CONTROL,
SIDEWALK CLOSURE

**TRAFFIC CONTROL,
SIDEWALK CLOSURE**

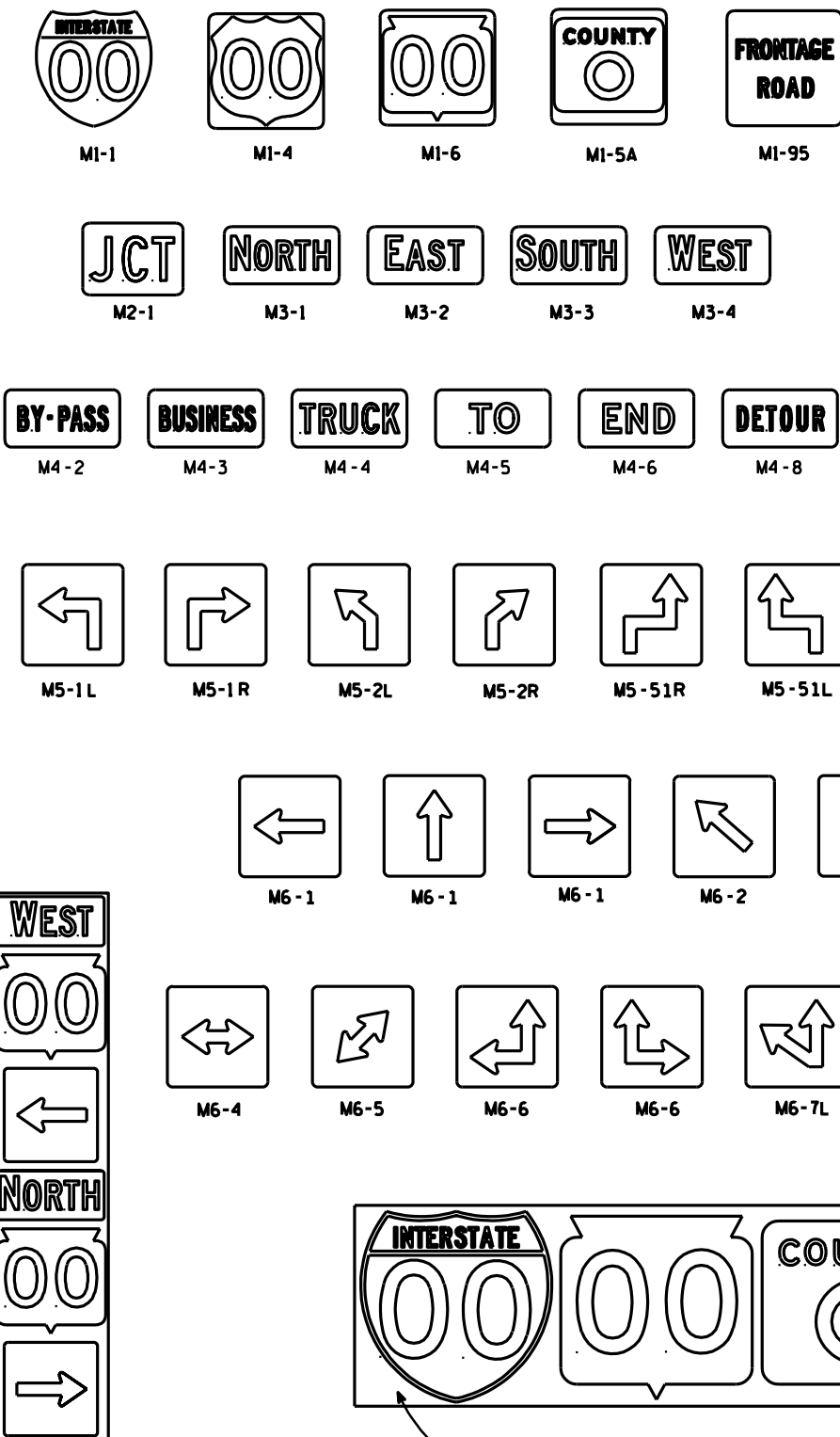
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

TYPICAL ASSEMBLIES



INDIVIDUAL COMPONENTS OF ASSEMBLIES



GENERAL NOTES

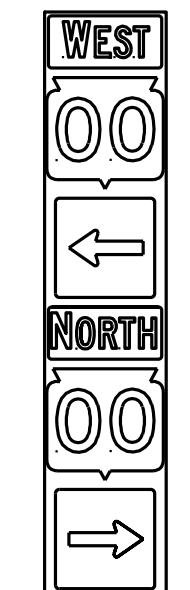
1. All components within any individual assembly shall be the same "size". The following table illustrates that situation:

SIZE	M1'S	M2	M3'S & M4'S	M5'S & M6'S
2	24 X 24	21 X 15	24 X 12	21 X 21
3,4-5	36 X 36	30 X 21	30 X 15	30 X 30

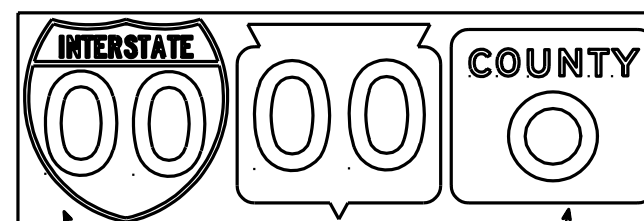
2. For any assembly containing two or more route markers, the route markers SHALL be placed on a single high density overlay PLYWOOD panel. All other materials within the assembly can be either plywood or aluminum.

3. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 marker shall be blue.

4. All vertical J assemblies are given a sign code of JV.



JV
(Typical Vertical J-Assembly See Note 4)



ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/06/00

A2-1.6

PROJECT NO:

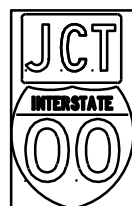
HWY:

COUNTY:

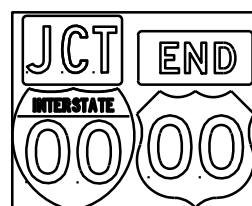
SHEET NO:

E

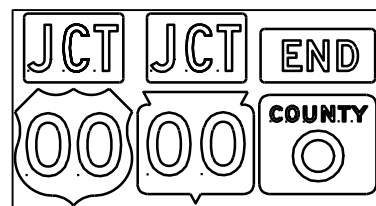
TYPICAL ASSEMBLIES



J1-1



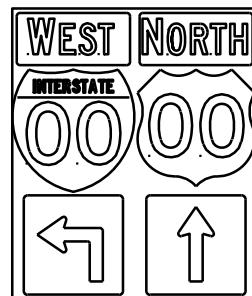
J1-2



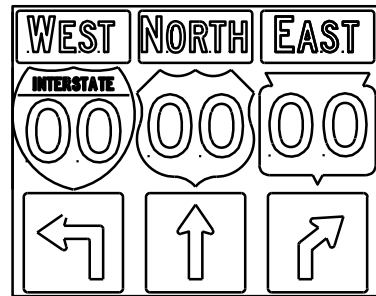
J1-3



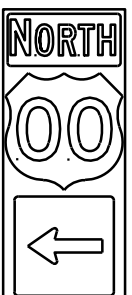
J2-1



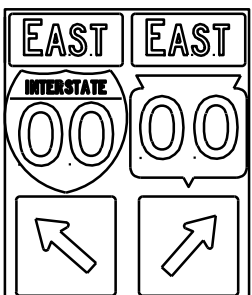
J2-2



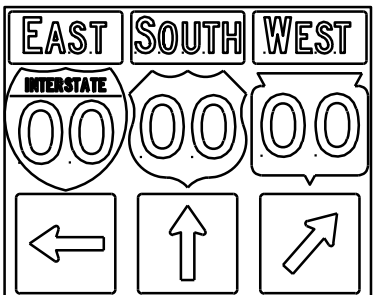
J2-3



J3-1



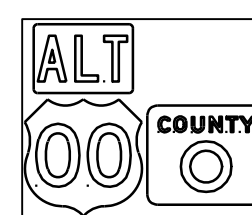
J3-2



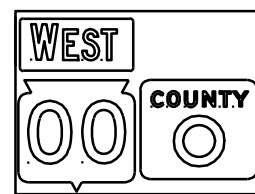
J3-3



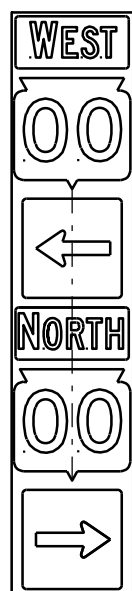
J4-1



J4-2

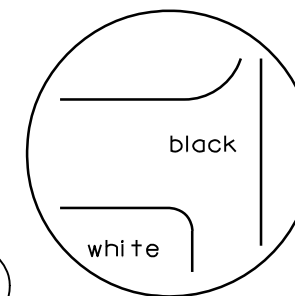
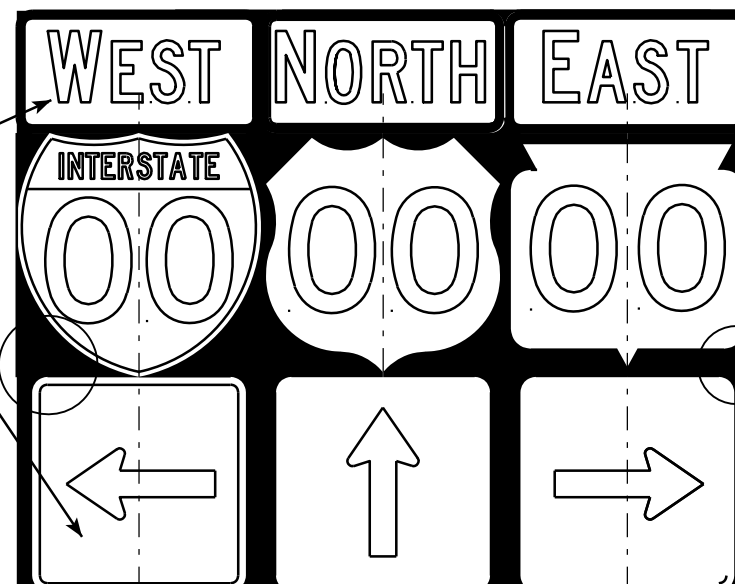
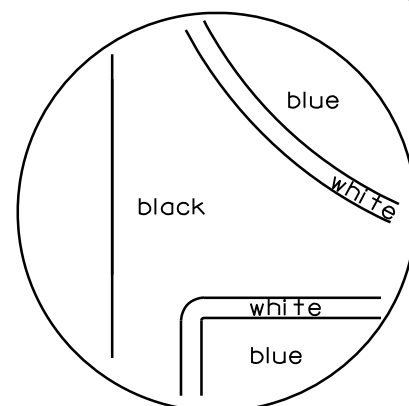


J4-2

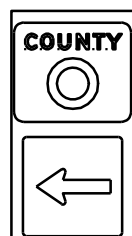


JV

[blue background with interstate]



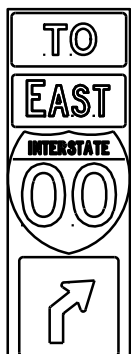
[black background]



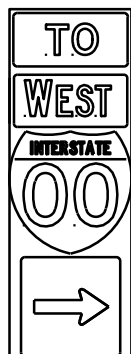
J13-1



J12-1



J32-1



J33-1



J23-1



J22-1

NOTES

- Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Black Non-reflective
Message - see Note 5
- Message Series - See Note 5
- Corners shall be square since base material is plywood.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- 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.
- 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.
- 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.
- Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (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.

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
For State Traffic Engineer

DATE 10/21/09

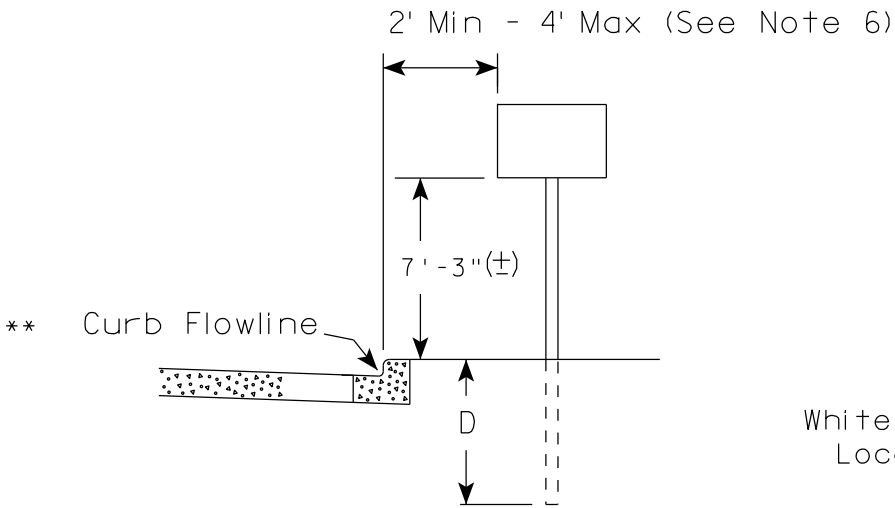
PLATE NO. A2-1S.6

PROJECT NO:

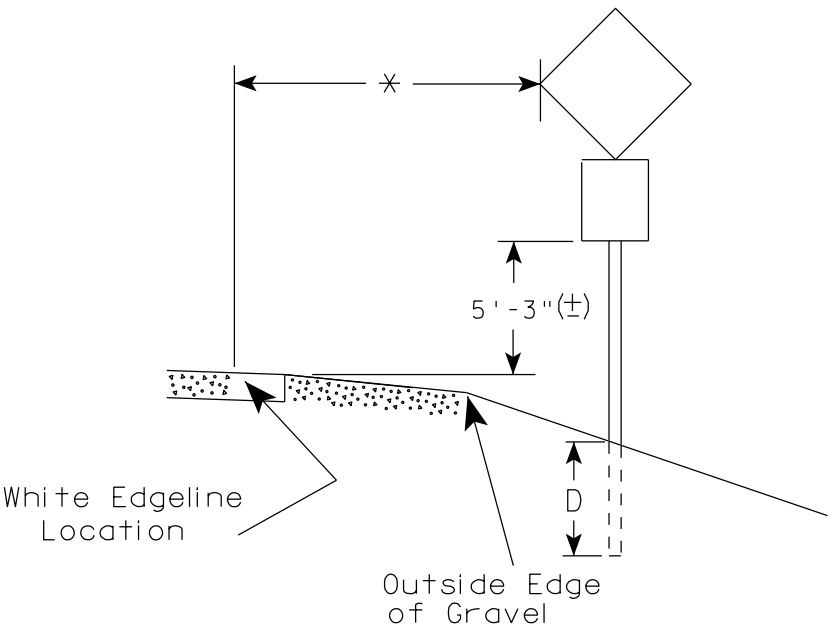
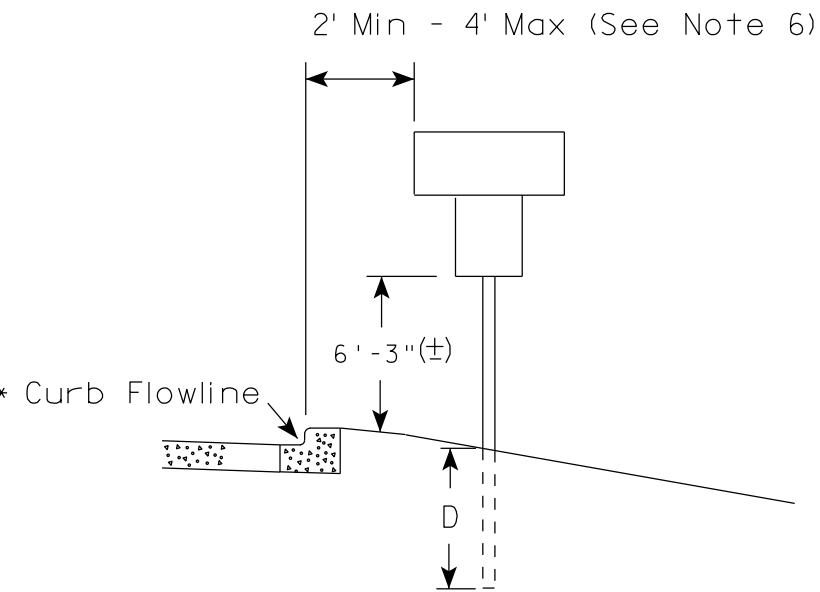
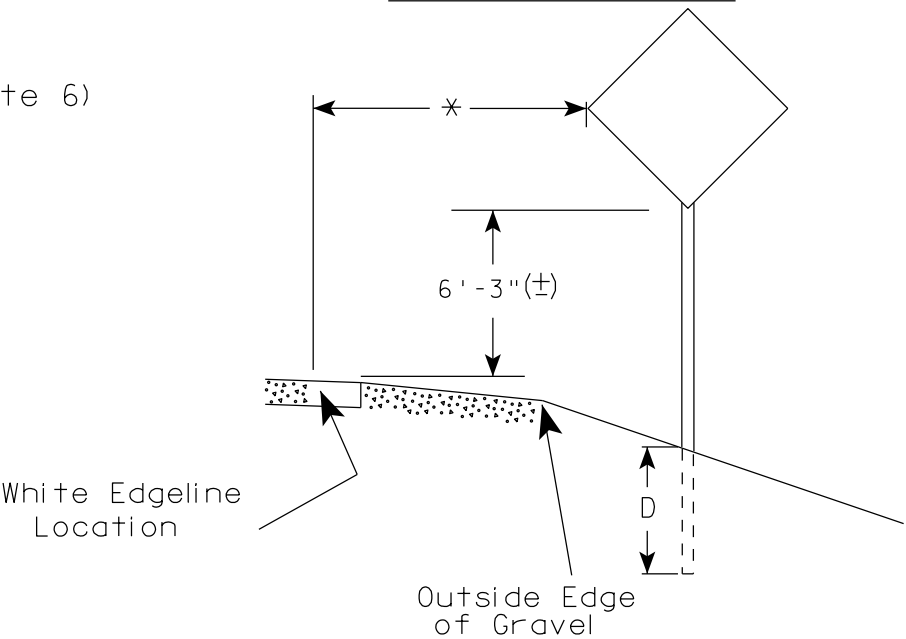
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

×× 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.

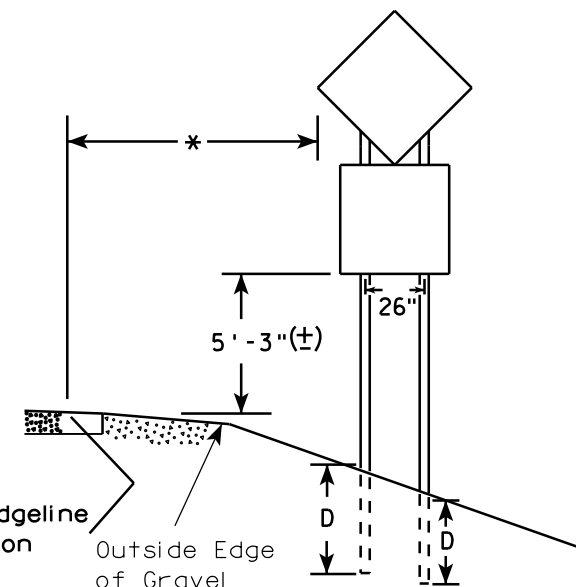
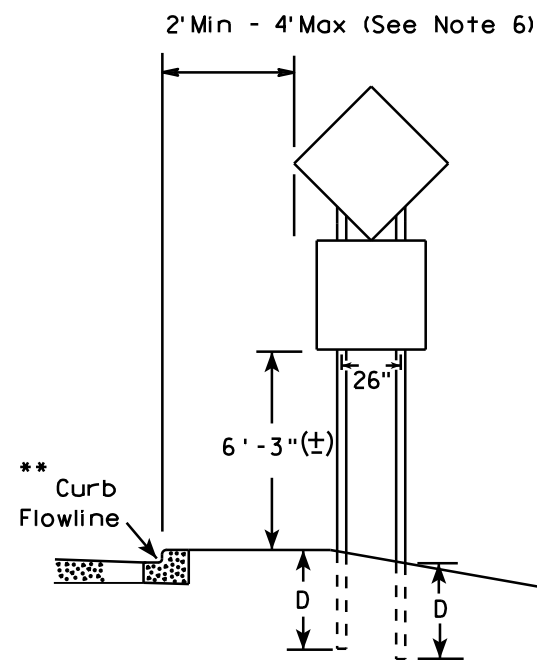
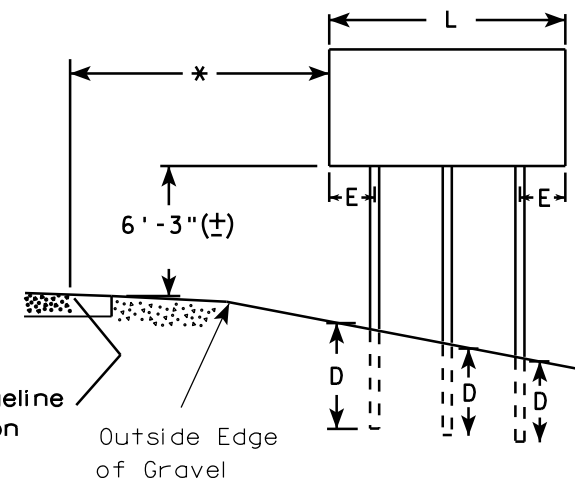
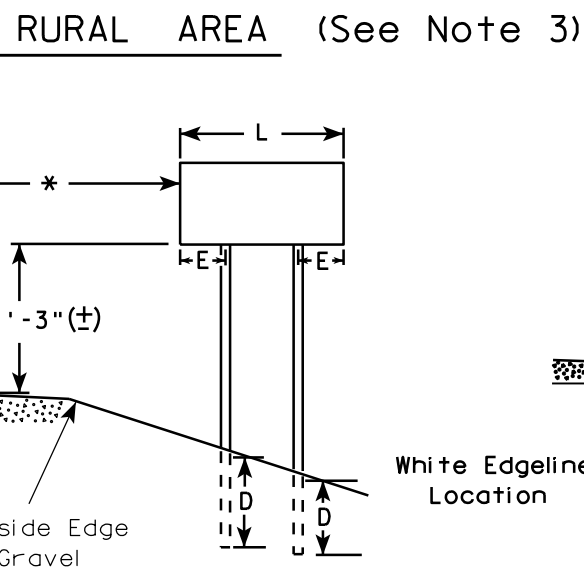
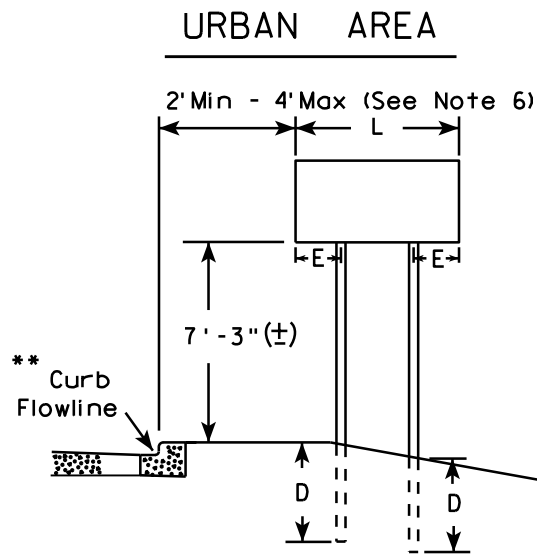
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES**
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 - See tables below for required number of posts.
 - For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 - The (±) tolerance for mounting height is 3 inches.
 - Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 - Offset distance shall be consistent with existing signs or consistent throughout length of project.
 - Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 - 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) & End of Road Markers (W5-56 & W5-56A) 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 or 20 S.F. or less in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

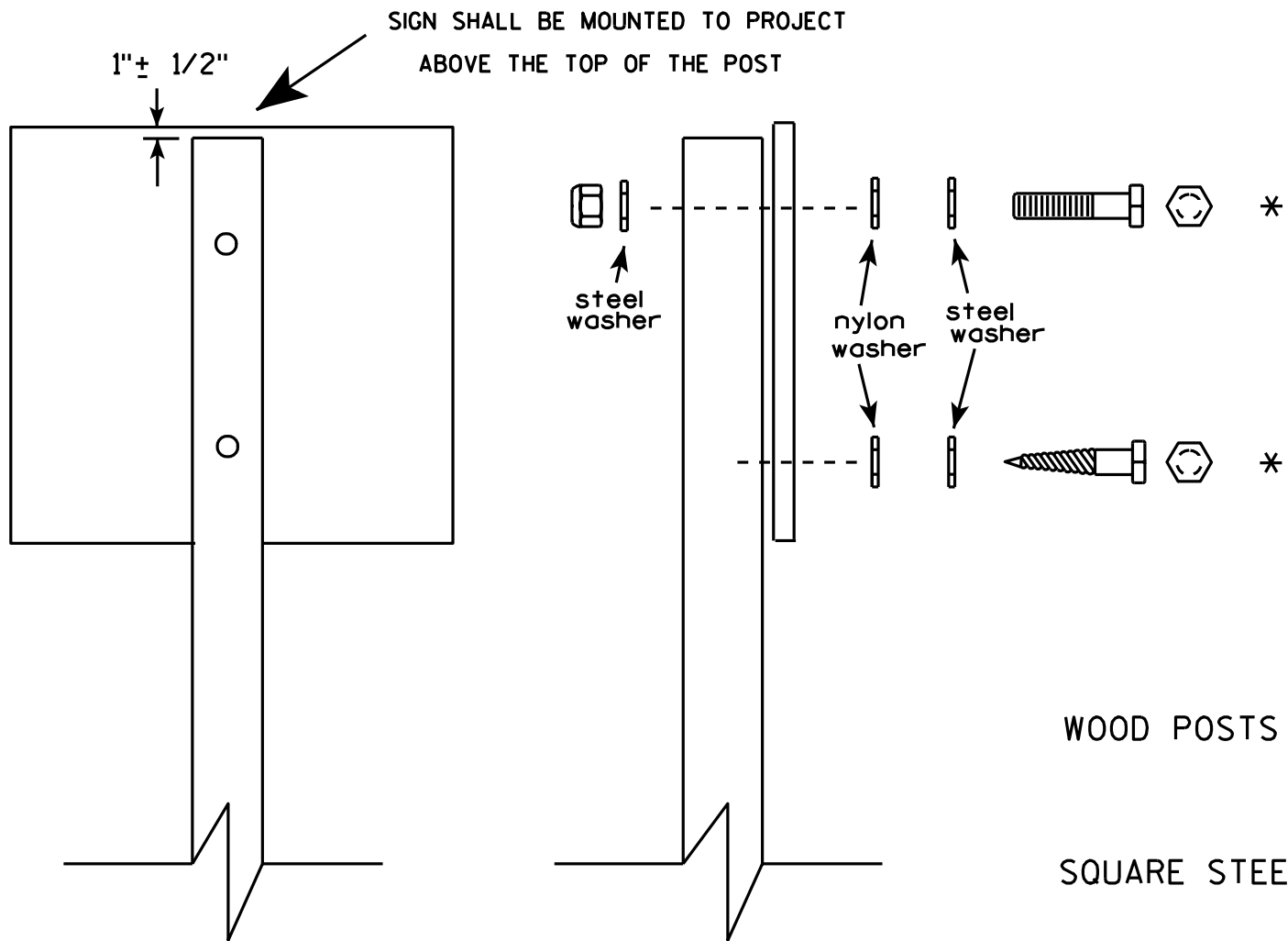
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4.12

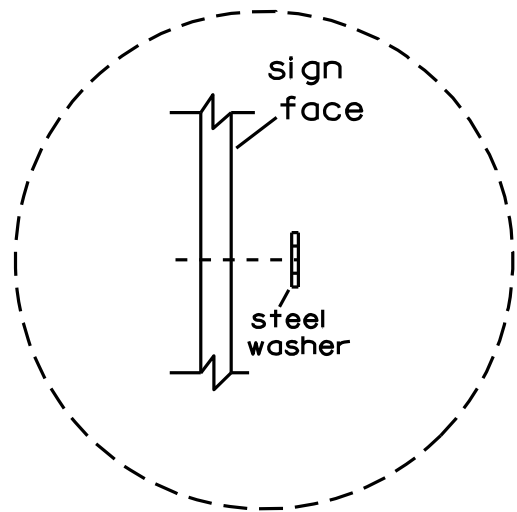


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
- MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
- 1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

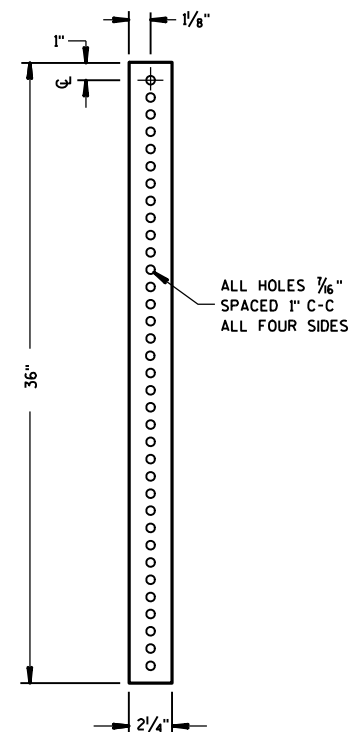


Washer Placement when Sign Has Other Than Type H or Type F Face

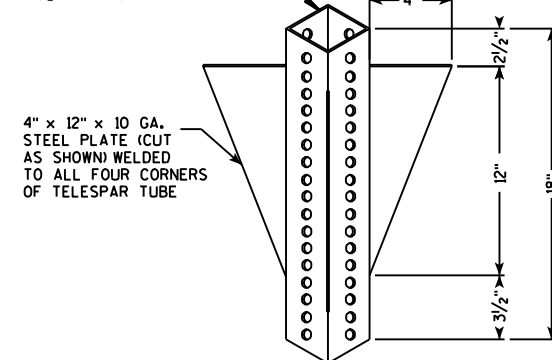
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



2 1/2" or 2 1/4" TELESPAR TUBE



LENGTH SHOWN ON MISC. QTY'S

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

TELESCOPE PIECES FLUSH AT TOP

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " GRAVEL OR DIRT

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

$2\frac{1}{4}$ " SQUARE X 36"

18" DIA PVC BOX-OUT

13"

18"

36"

LENGTH SHOWN ON MISC. QTY'S

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

TELESCOPE PIECES FLUSH AT TOP

1"

12"

18"

36"

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

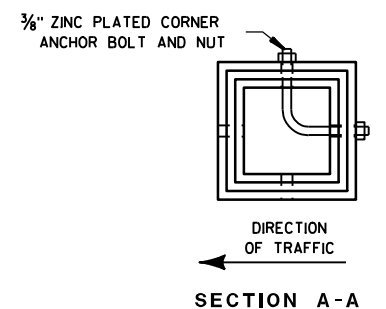
$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

$2\frac{1}{4}$ " SQUARE X 36"

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 5/30/12 PLATE NO. A4-9.7

PROJECT NO:

HWY:

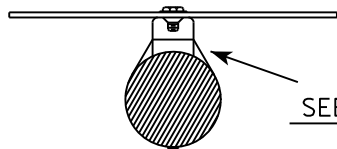
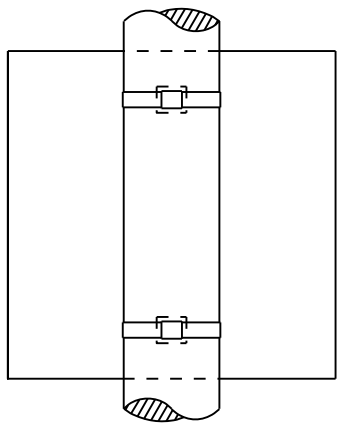
COUNTY:

SHEET NO:

E

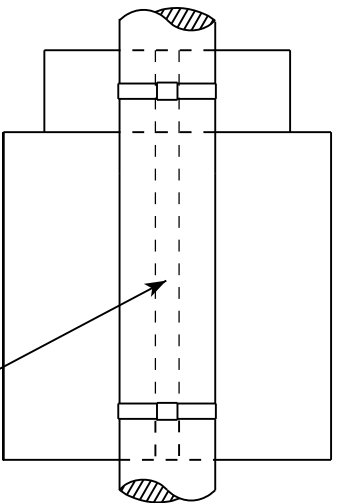
BANDING

SINGLE SIGN

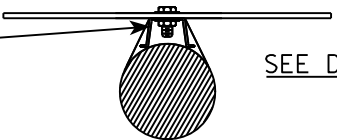


SEE DETAIL A

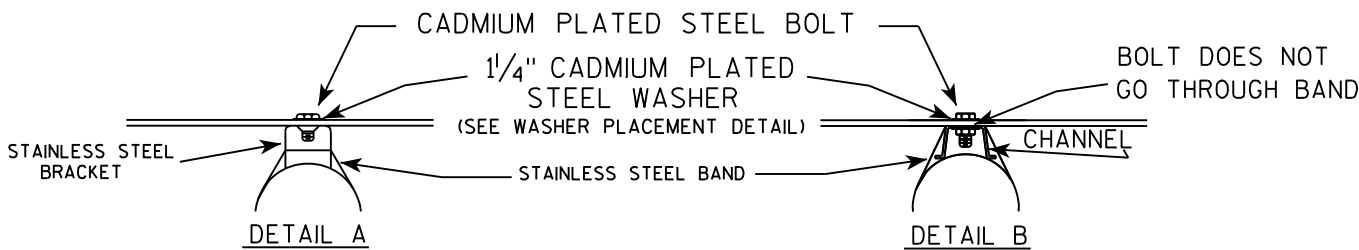
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



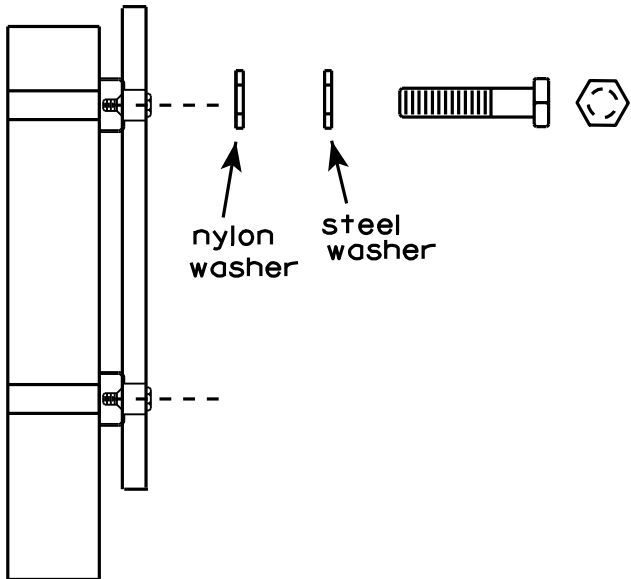
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 8/16/13

PLATE NO. A5-9.3

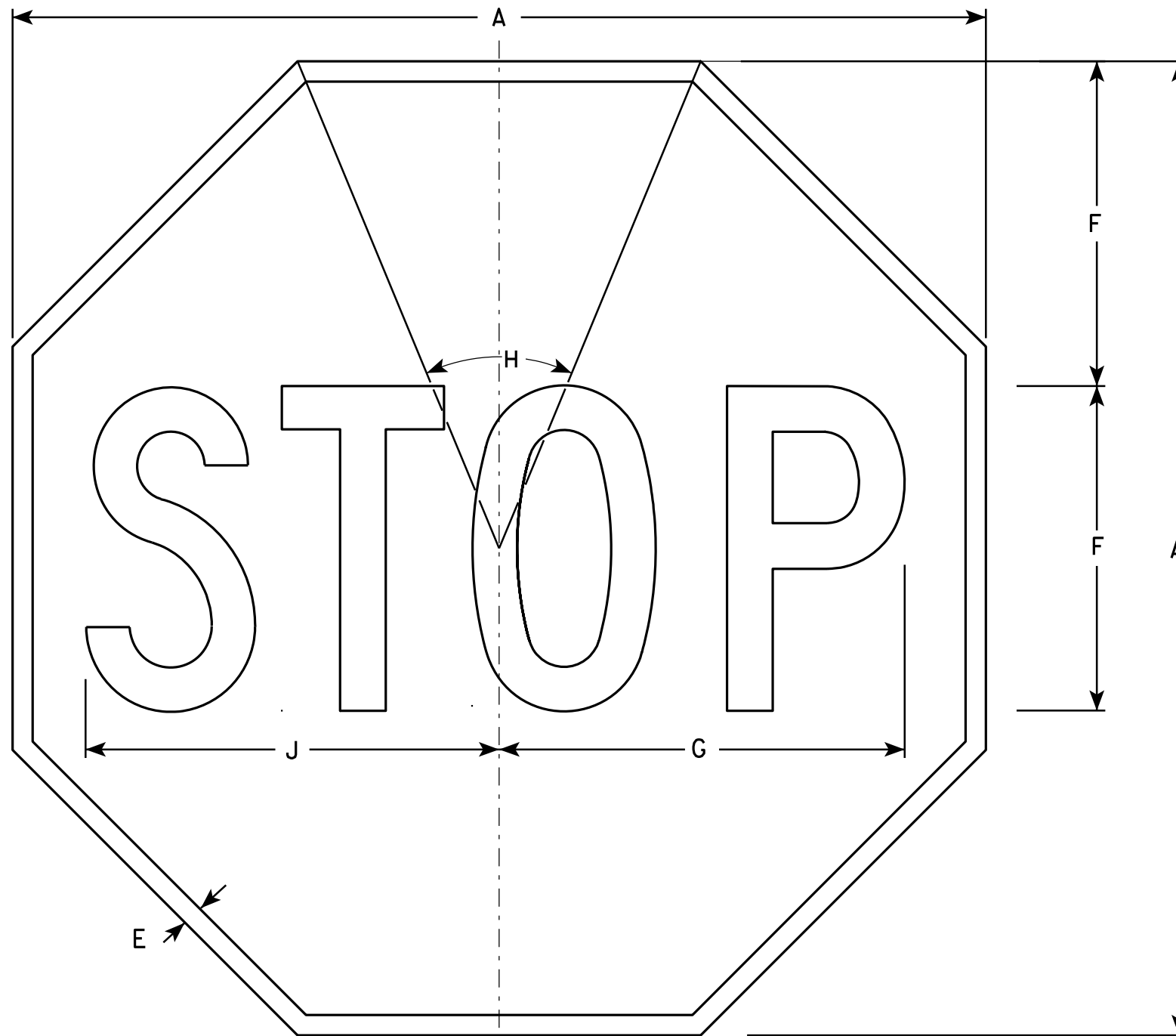
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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

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				$\frac{3}{8}$	8	10	45°		10 $\frac{1}{4}$																	3.31
2S	30				$\frac{5}{8}$	10	12 $\frac{1}{2}$	45°		12 $\frac{3}{4}$																	5.18
2M	36				$\frac{3}{4}$	12	15	45°		15 $\frac{3}{8}$																	7.46
3	36				$\frac{3}{4}$	12	15	45°		15 $\frac{3}{8}$																	7.46
4	48				1	16	20	45°		20 $\frac{1}{2}$																	13.25
5	48				1	16	20	45°		20 $\frac{1}{2}$																	13.25
6	18				$\frac{3}{8}$	6	7 $\frac{3}{4}$	45°		7 $\frac{3}{4}$																	1.86
7	12				$\frac{1}{4}$	4	5	45°		5 $\frac{1}{8}$																	0.78

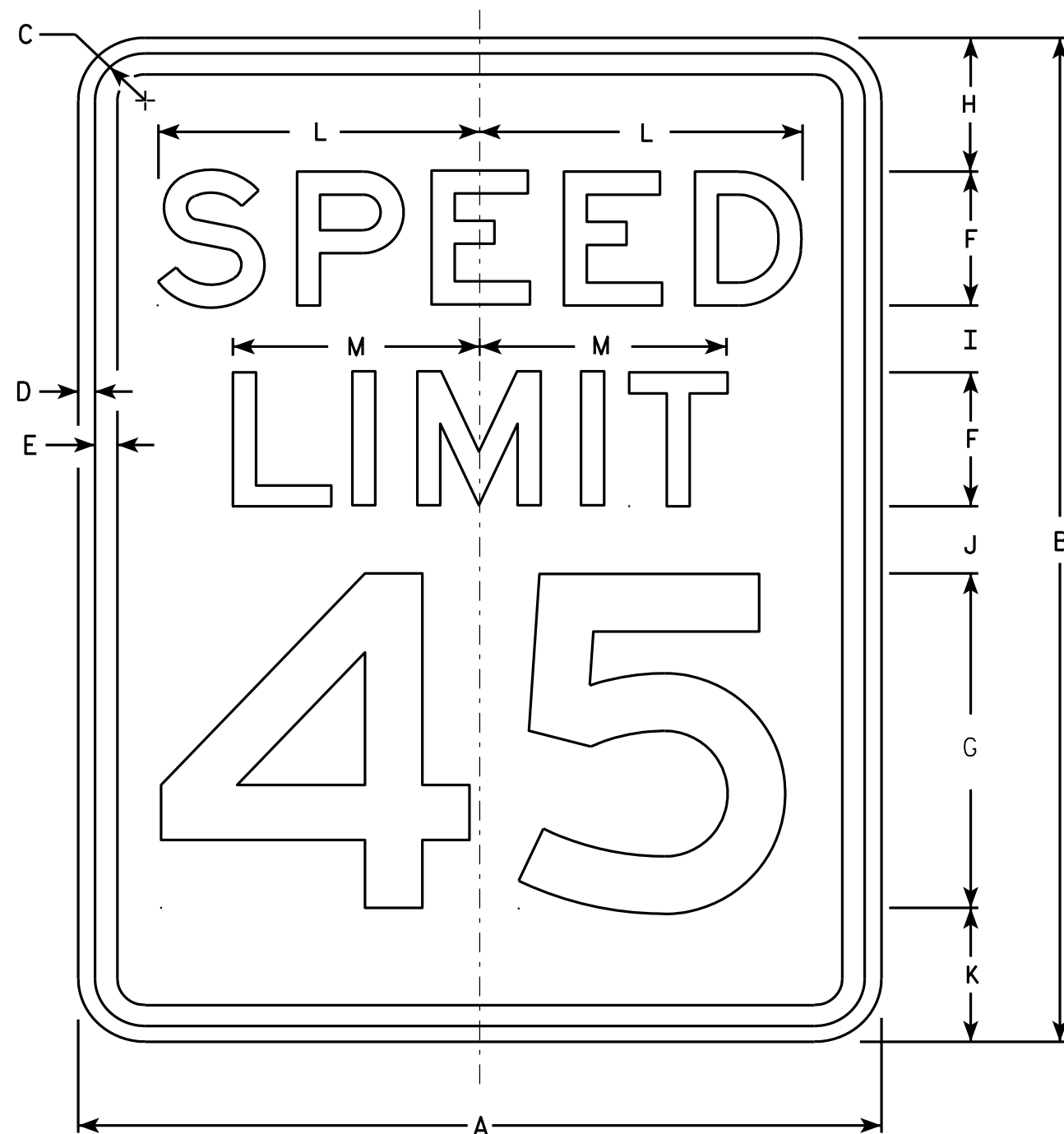
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO: HWY: COUNTY: SHEET NO: 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 - 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.

R2-1

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

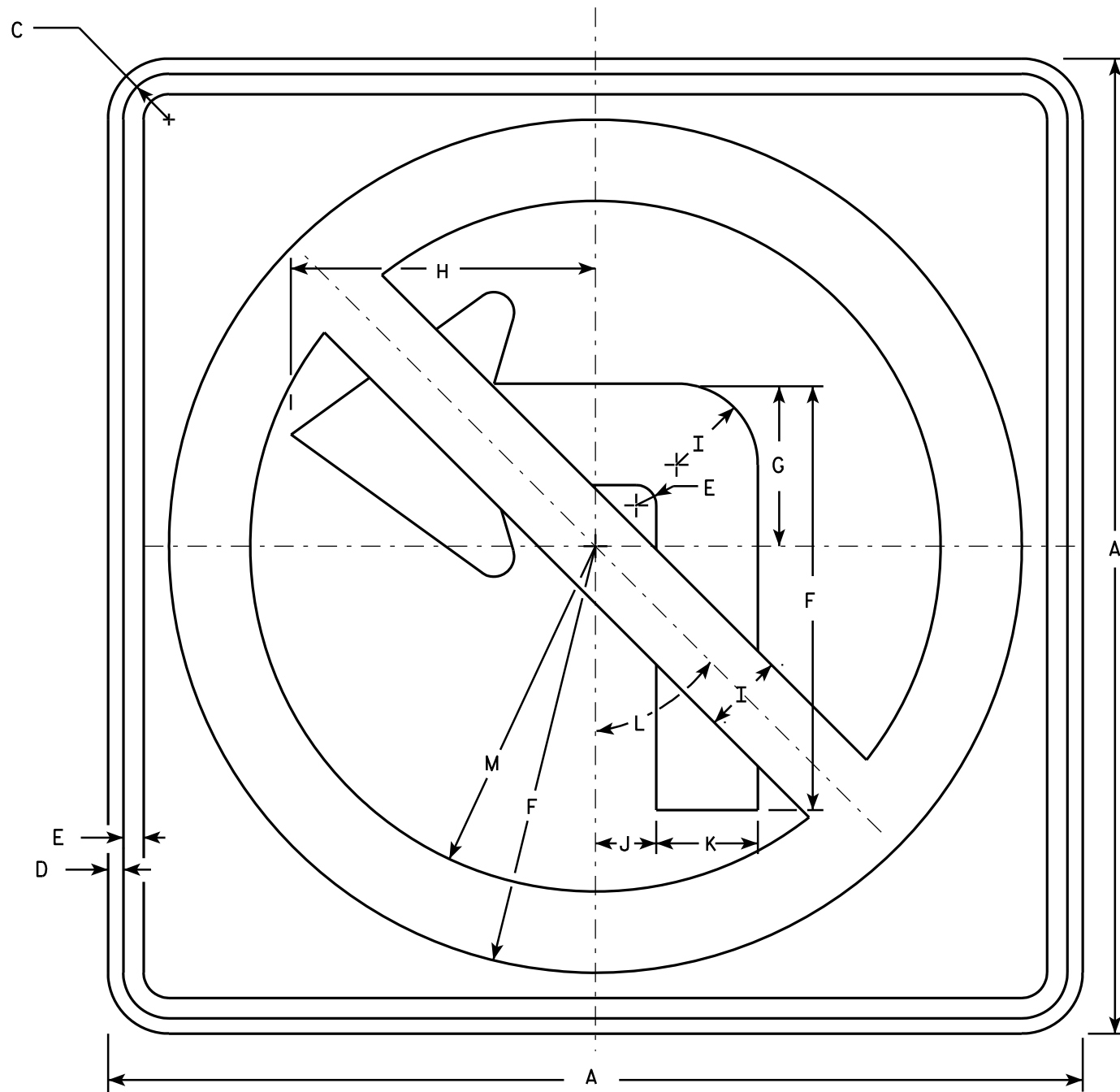
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

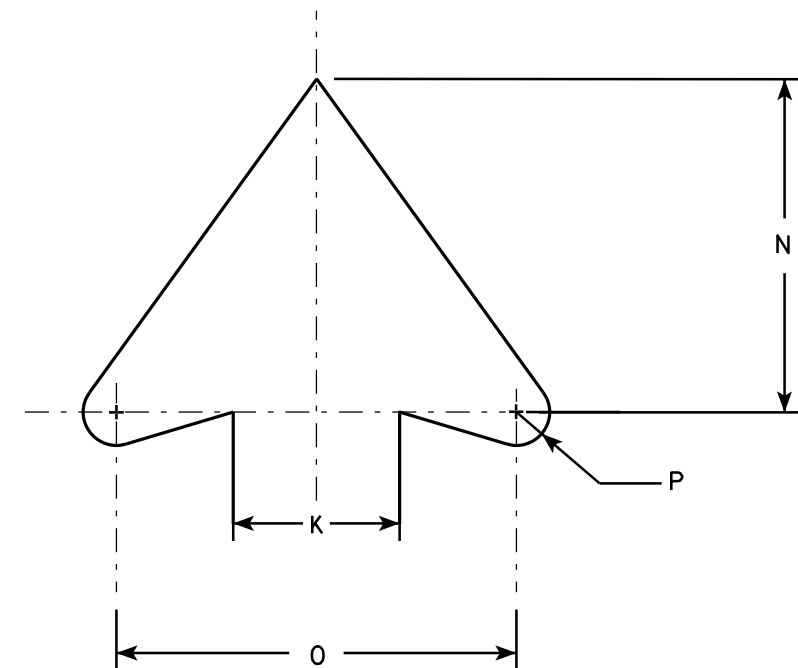
E



R3-2

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 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											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											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											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											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											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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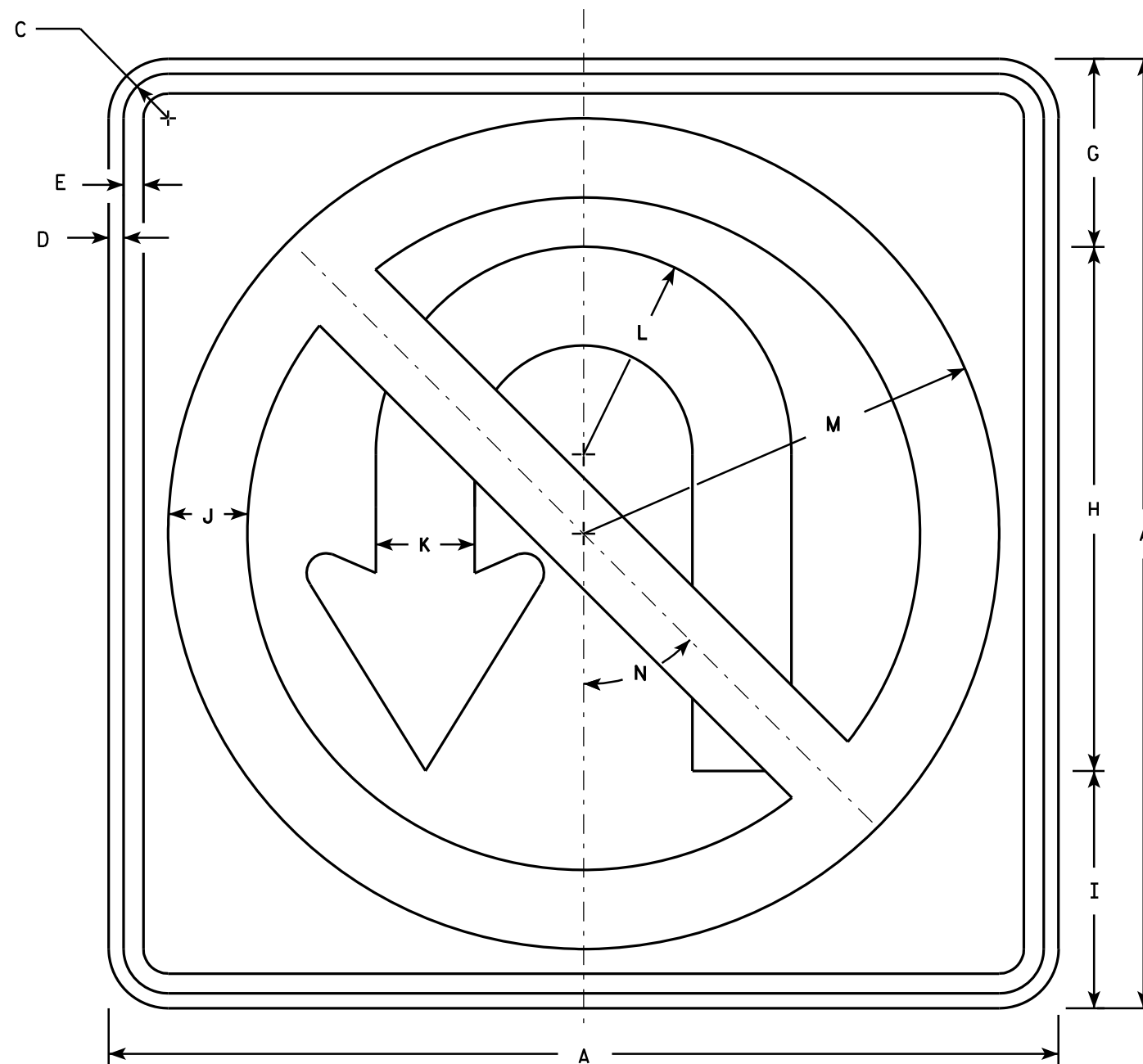
STANDARD SIGN

R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

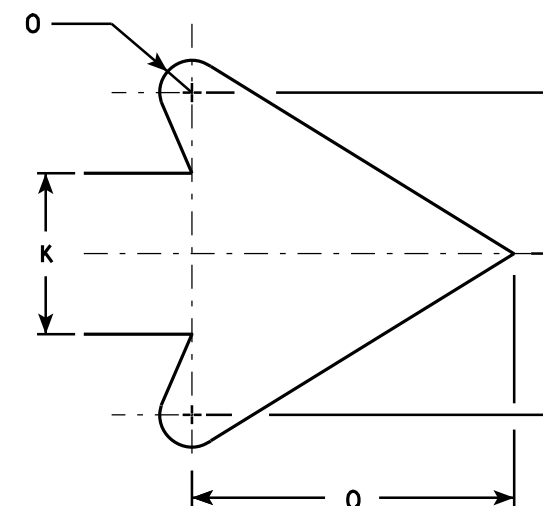
DATE 12/08/10 PLATE NO. R3-2.10



R3-4

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.



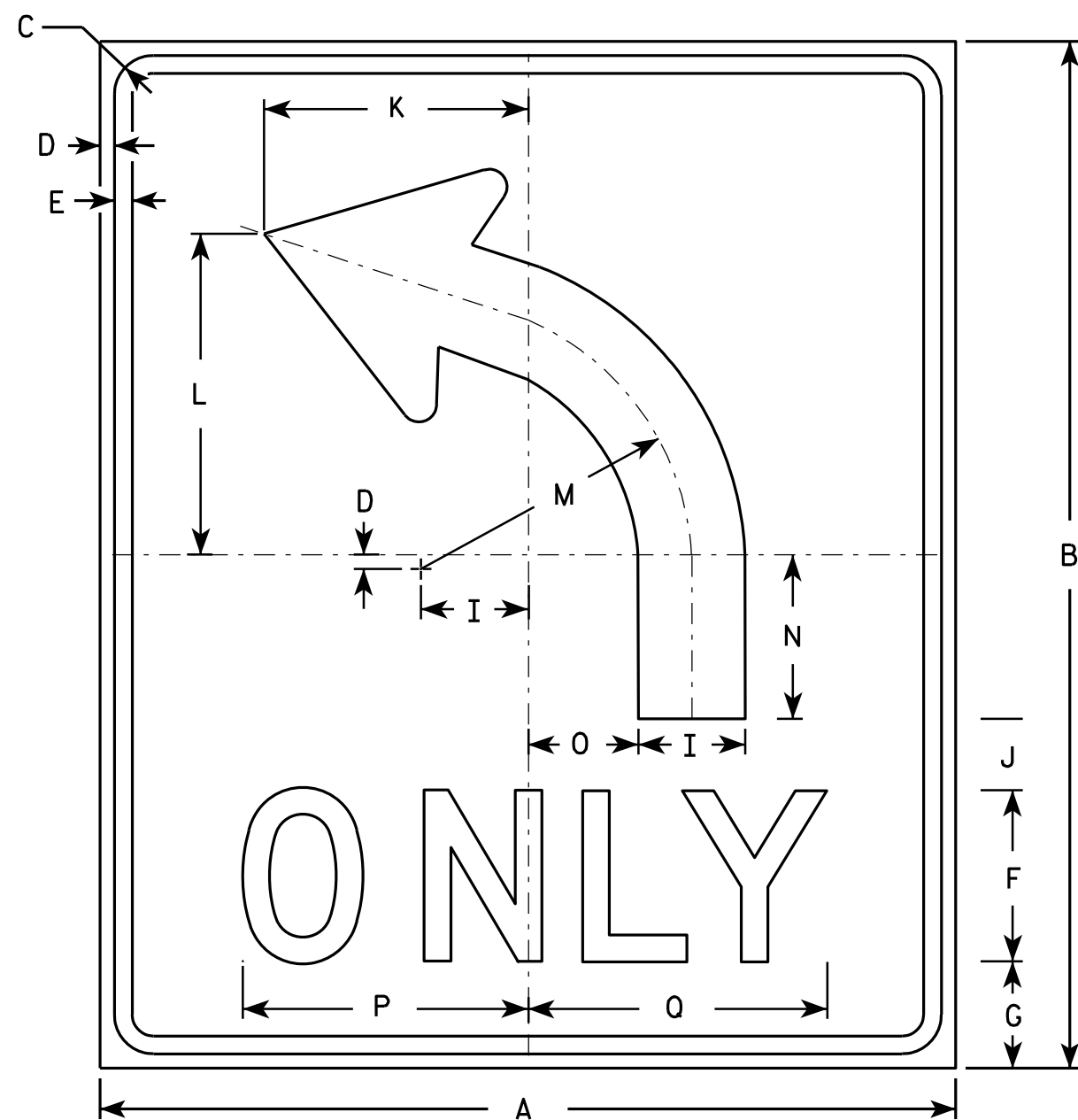
ARROW DETAIL

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																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

STANDARD SIGN R3-4	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/08/10	PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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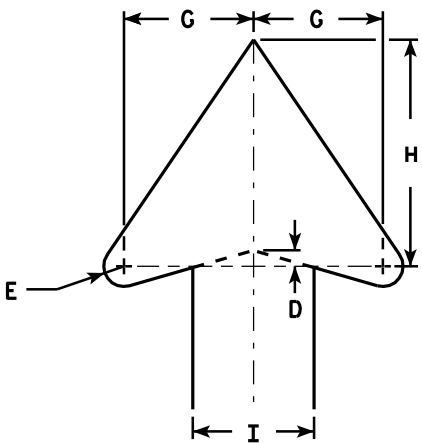
7



R3-50L

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. R3-50R is the same as R3-50L except curved portion of arrow points right.



ARROW DETAIL

7

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	36	1 3⁄8	1⁄2	5⁄8	6	4	7	3 3⁄4	2 1⁄2	9 1⁄4	11 1⁄4	9 1⁄2	5 3⁄4	3 7⁄8	10	10 1⁄2										7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	6	4	7	3 3⁄4	2 1⁄2	9 1⁄4	11 1⁄4	9 1⁄2	5 3⁄4	3 7⁄8	10	10 1⁄2										7.5
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN
R3-50

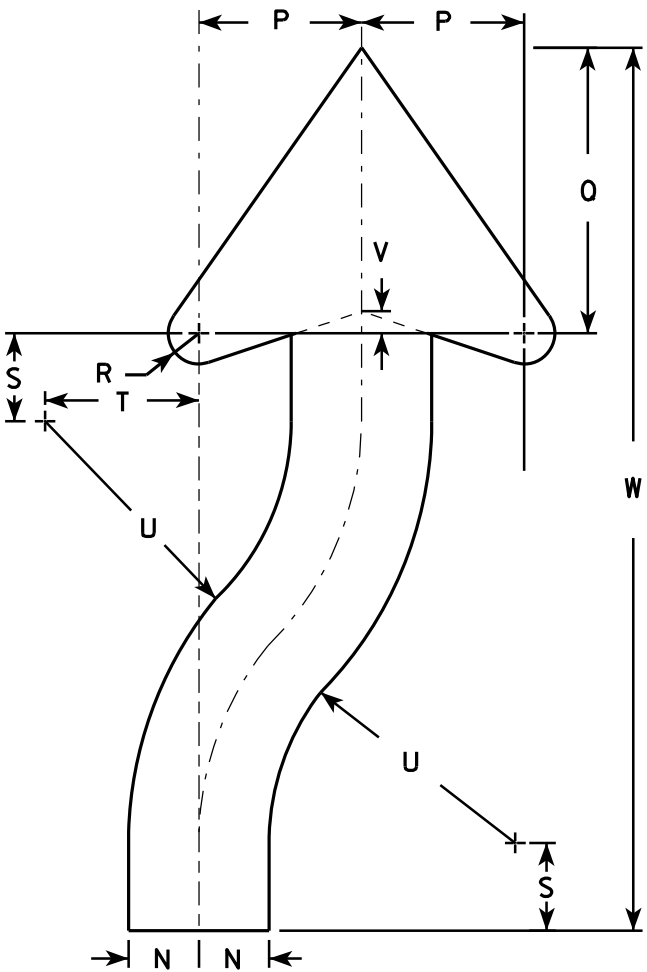
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

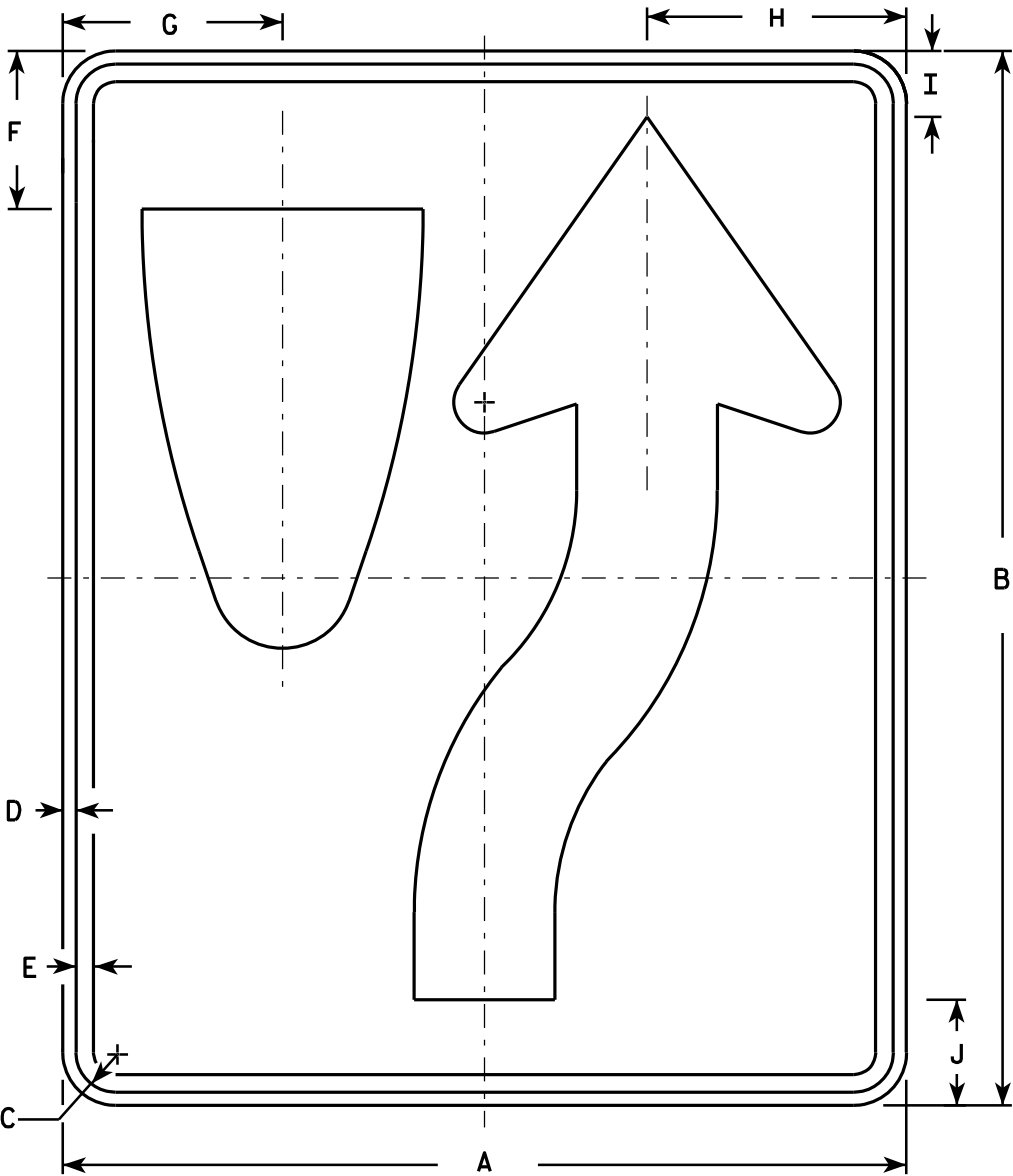
DATE 3/24/2011 PLATE NO. R3-50.2

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



R4-7

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:

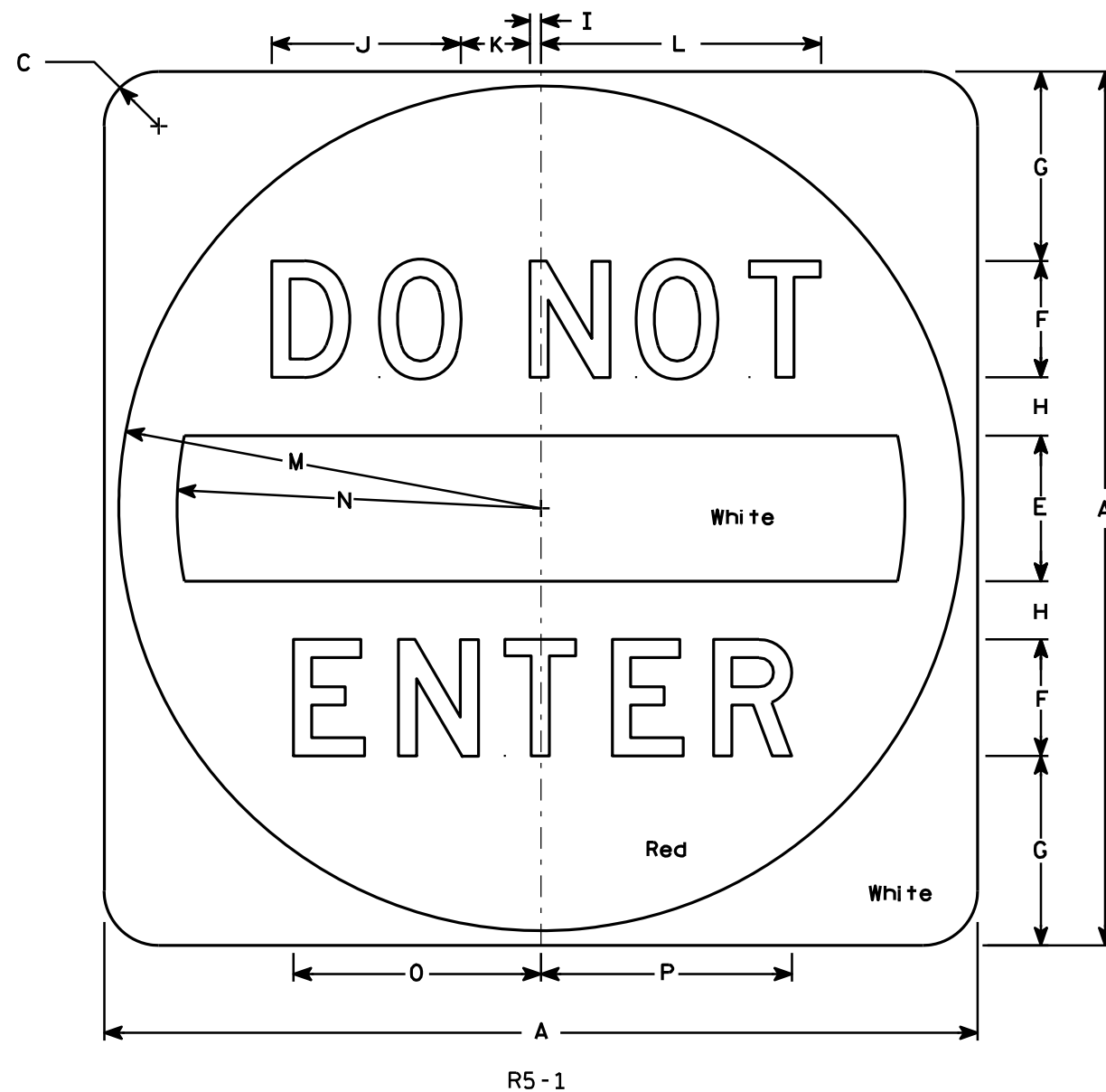
COUNTY:

SHEET NO:

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 - See detail
 - Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the corners shall be rounded.

[illegible]

STANDARD SIGN
R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

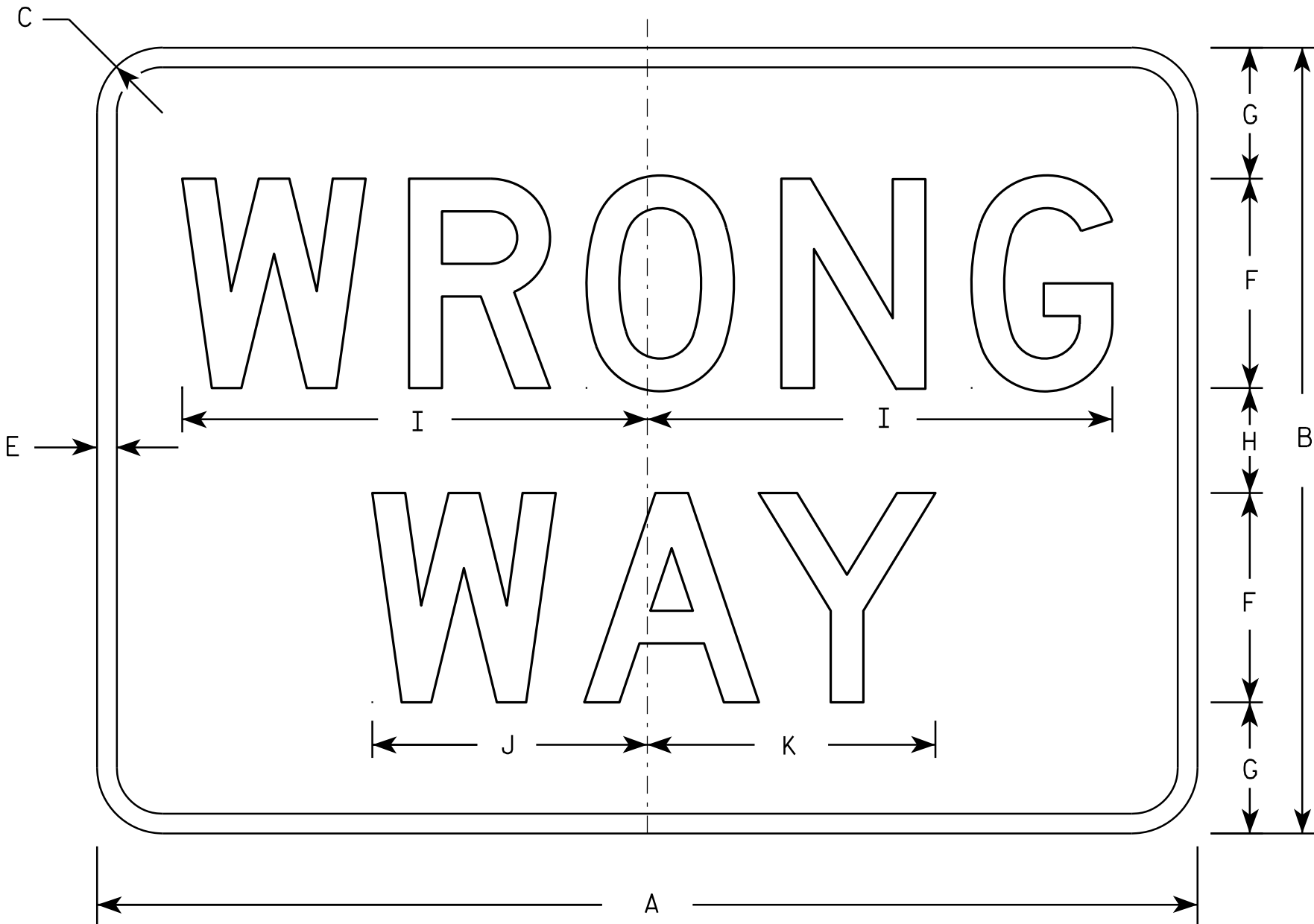
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R5-1A

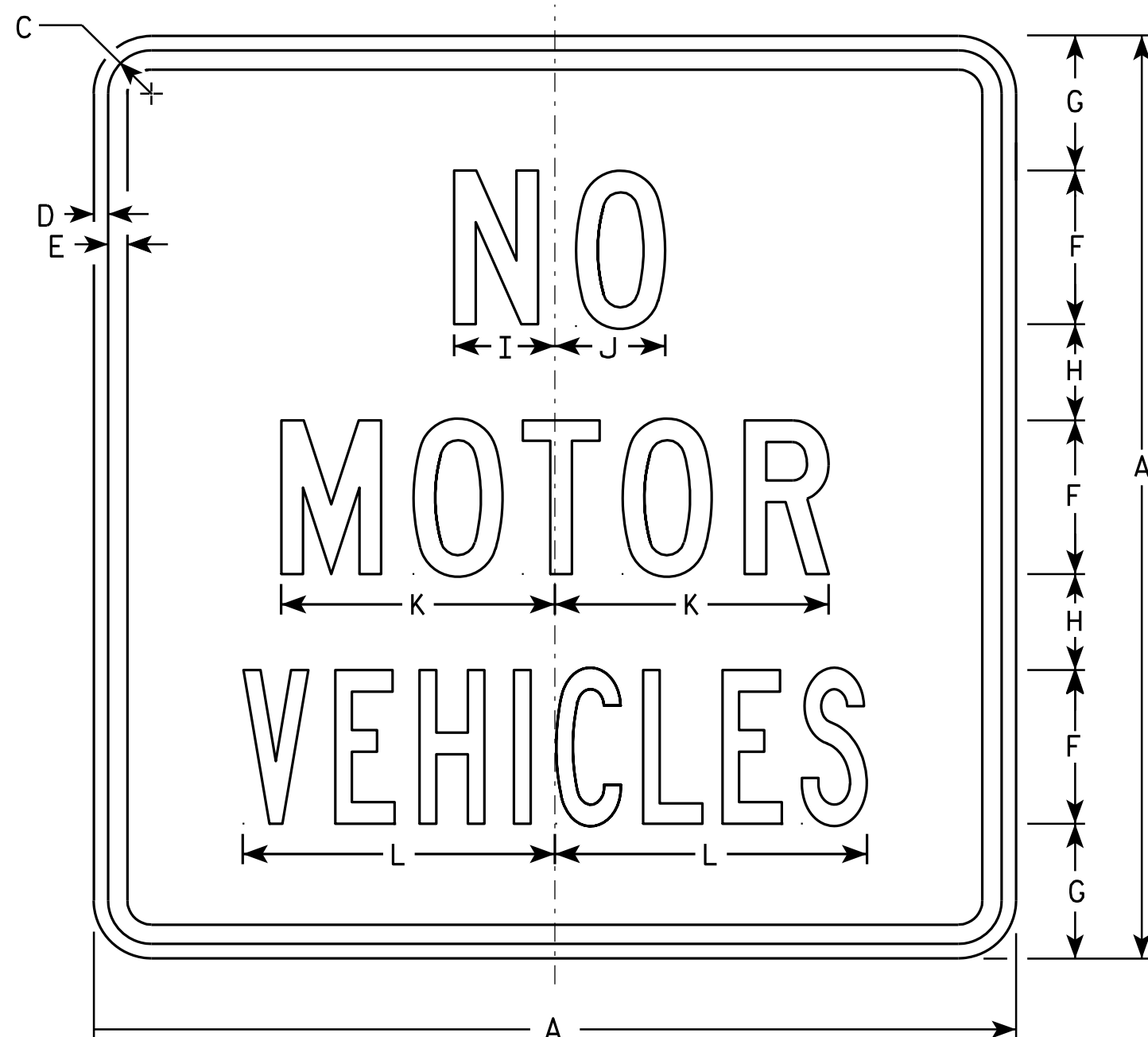
NOTES

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	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/17/10	PLATE NO. R5-1A.2

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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R5-3

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 - 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 & 2 are Series C.
Line 3 is Series B.

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	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8															4.0
2M	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	2 5/8	2 7/8	7 1/8	8 1/8															4.0
3																											
4																											
5																											

STANDARD SIGN R5-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-3.2

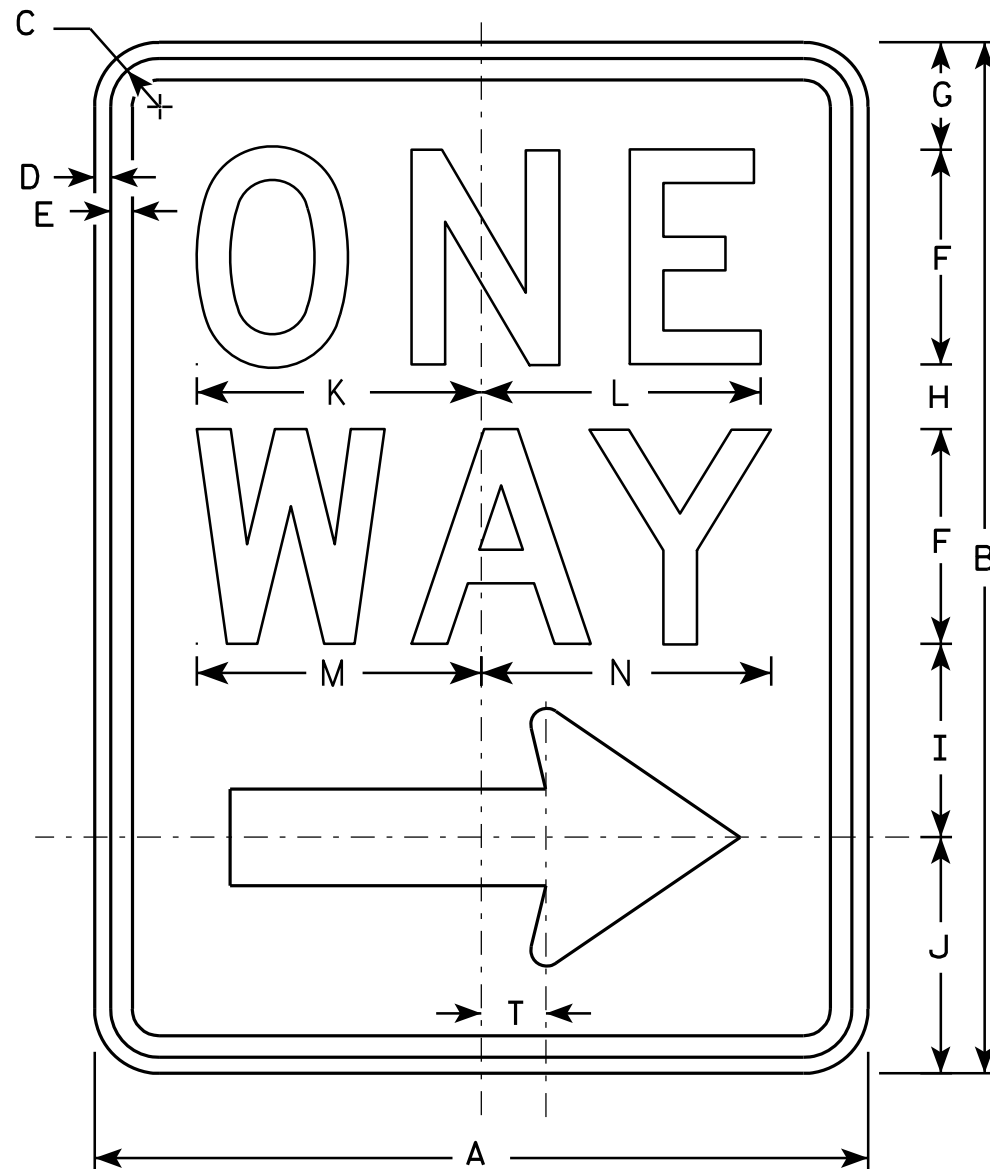
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

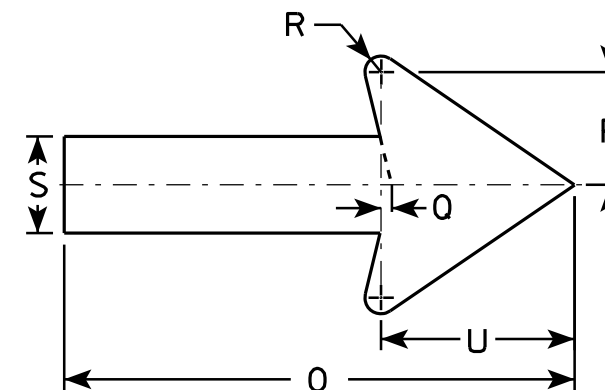
E



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

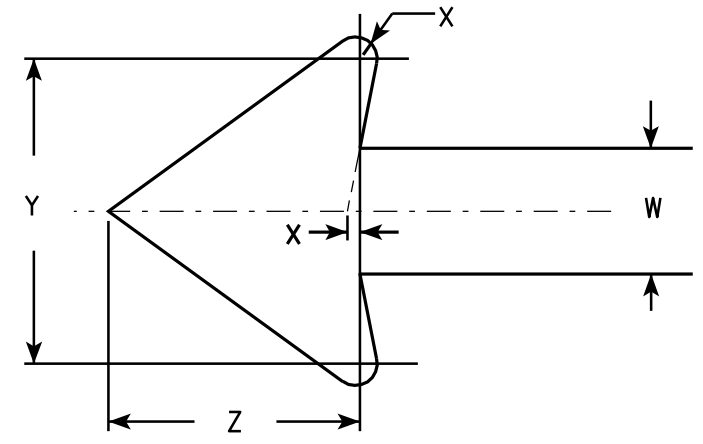
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



R7-53

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. R7-53D (double arrow)
R7-53L (left arrow)
R7-53R (right arrow)

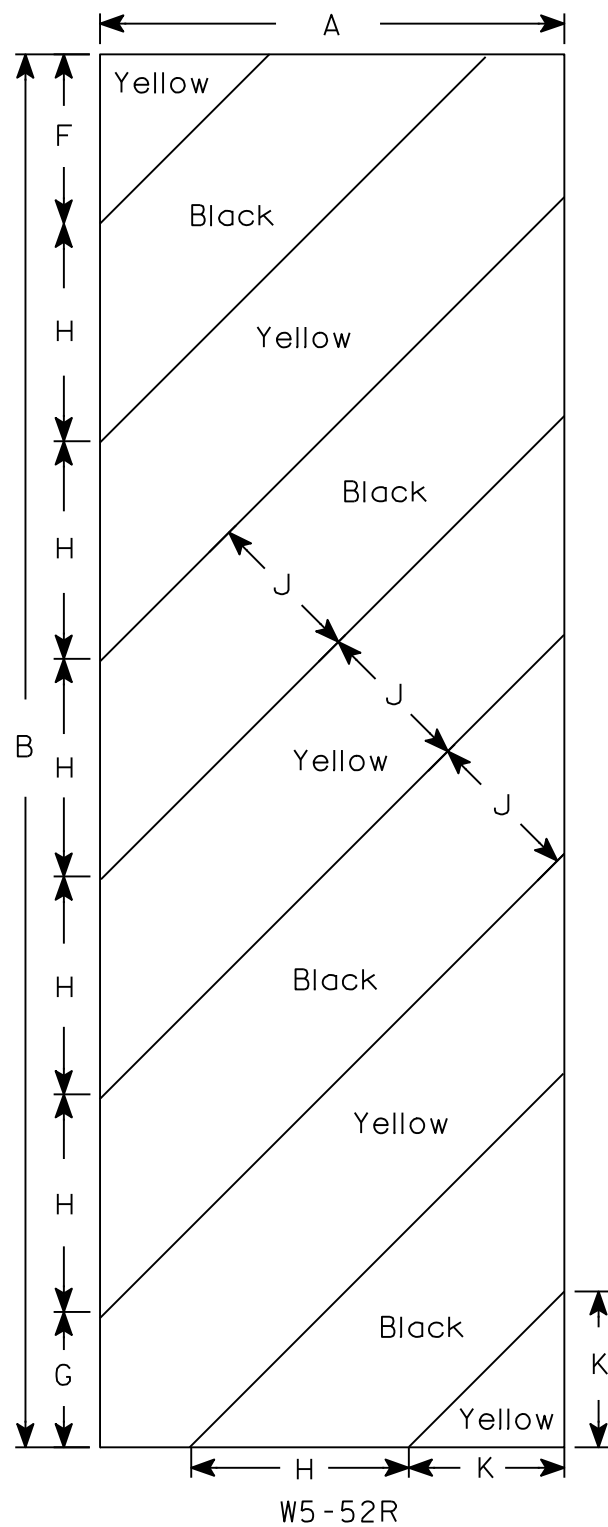
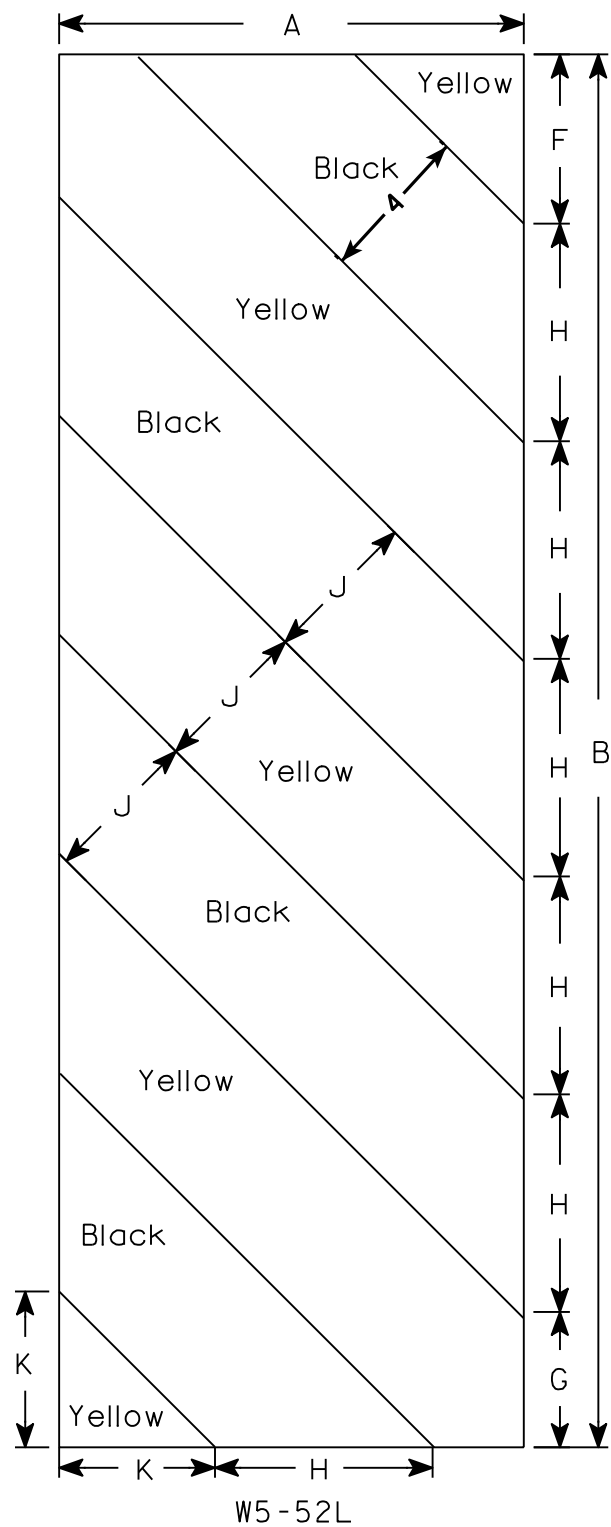


ARROW DETAIL

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	2 5/8	1 3/4	1/4	4 1/2	2 3/8	3 7/8	3/4	1/8	1 3/4	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	3 3/8	1 1/2	5/8	5 3/8	3	5 7/8	1 1/8	1/4	2 5/8	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	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	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	4	2	5/8	6 5/8	3 5/8	7 3/4	1 1/2	1/4	3 1/2	3	5.0
4																											
5																											

STANDARD SIGN R7-53	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/31/2011	PLATE NO. R7-53.6

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

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

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

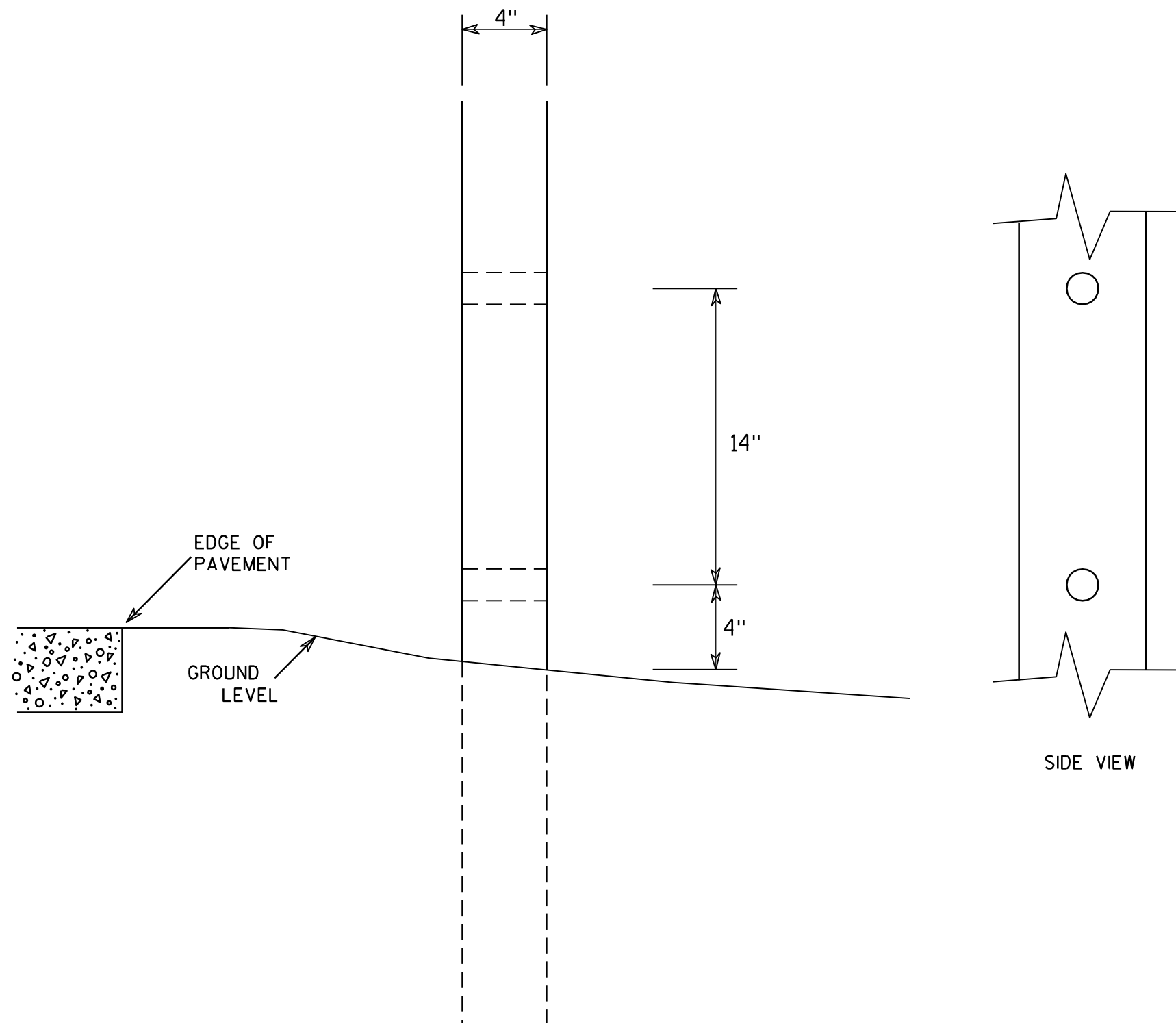
STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



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

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:

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

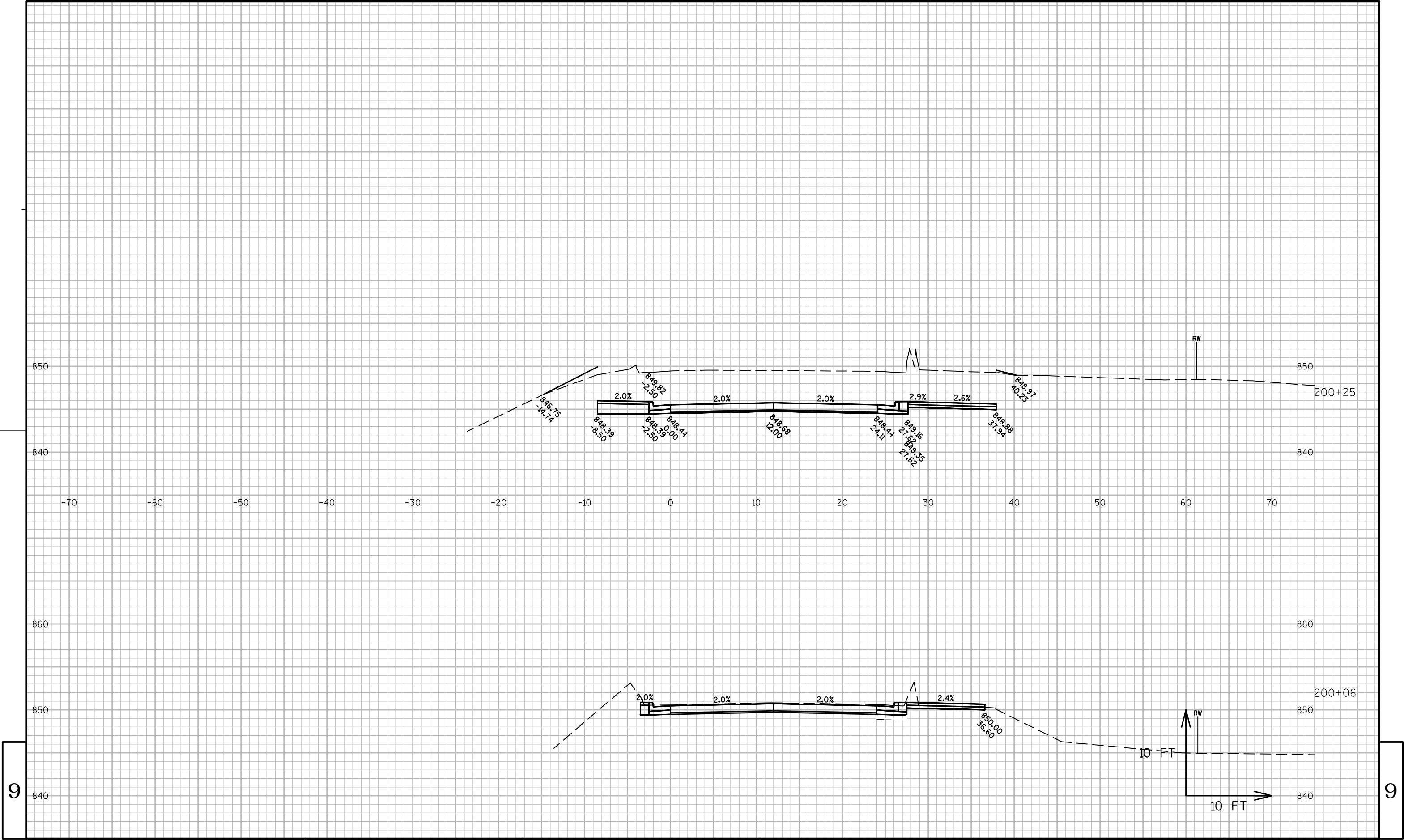
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



9

9

PROJECT NO: 7255-05-72

HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

CROSS SECTIONS: CROSS SECTION

SHEET

E

FILE NAME : P:\UZ\W\WITNW\123530\CIVIL 3D\090201_XSNICK.DWG

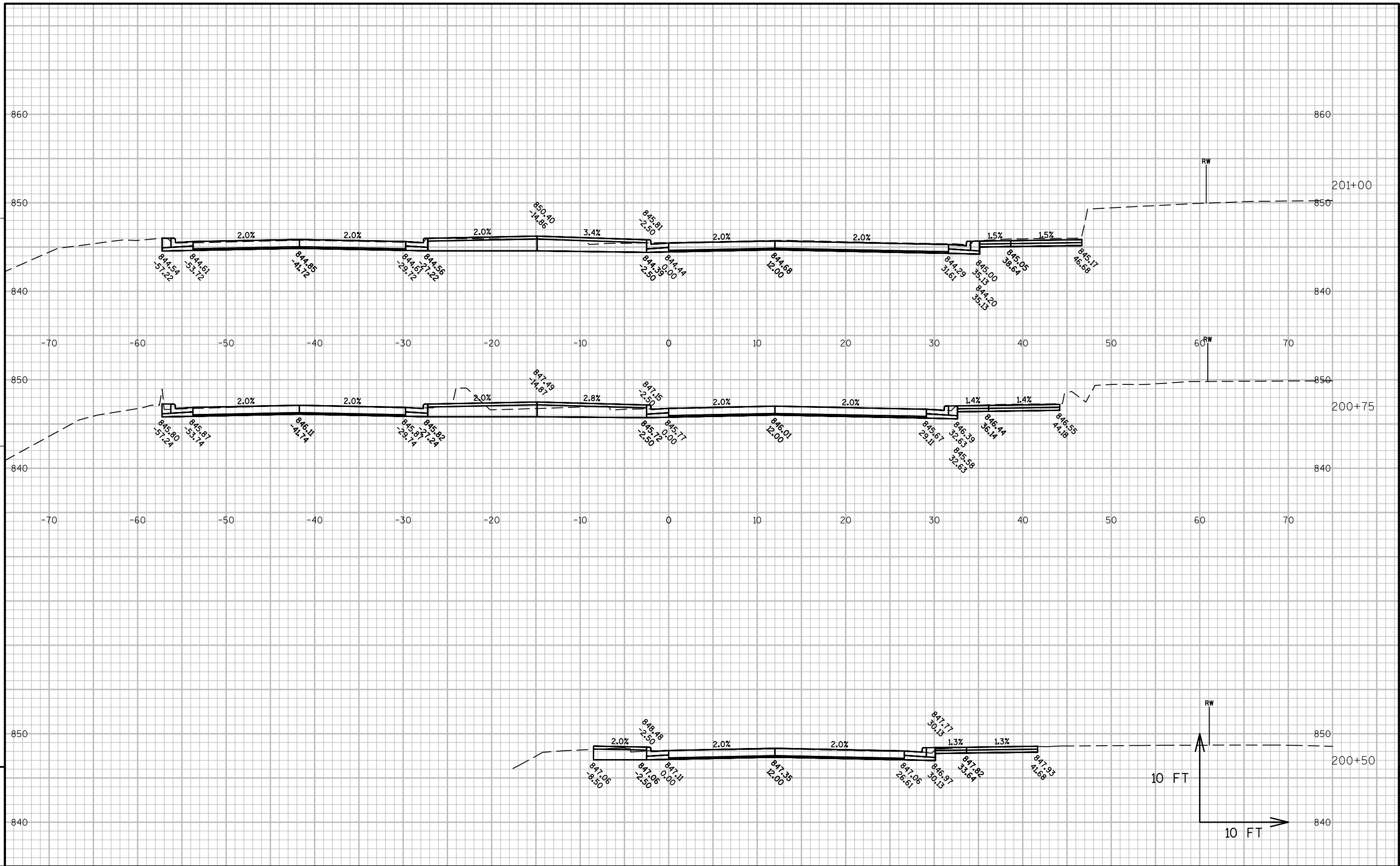
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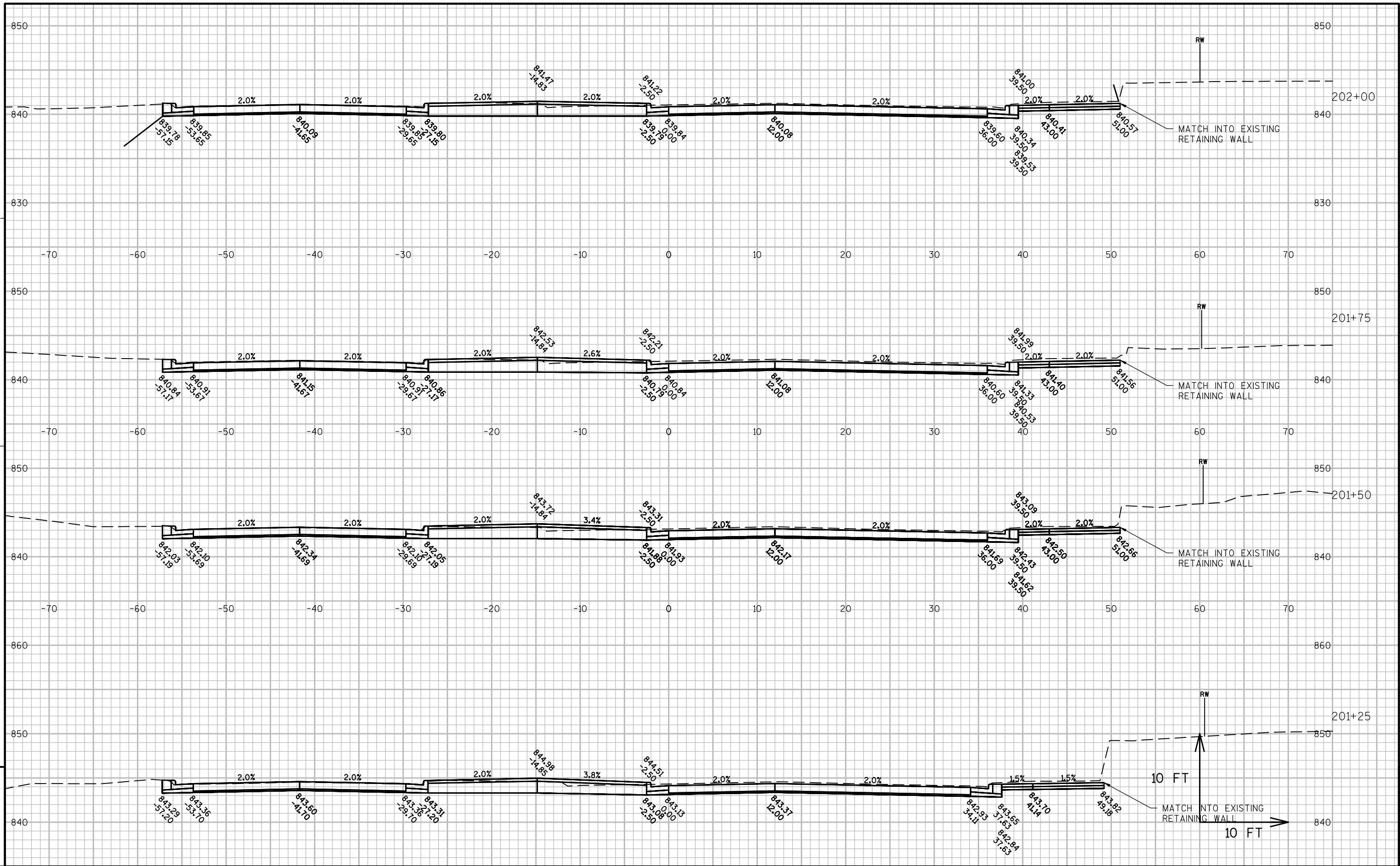
PLOT BY : JUSTIN SHAVLIK

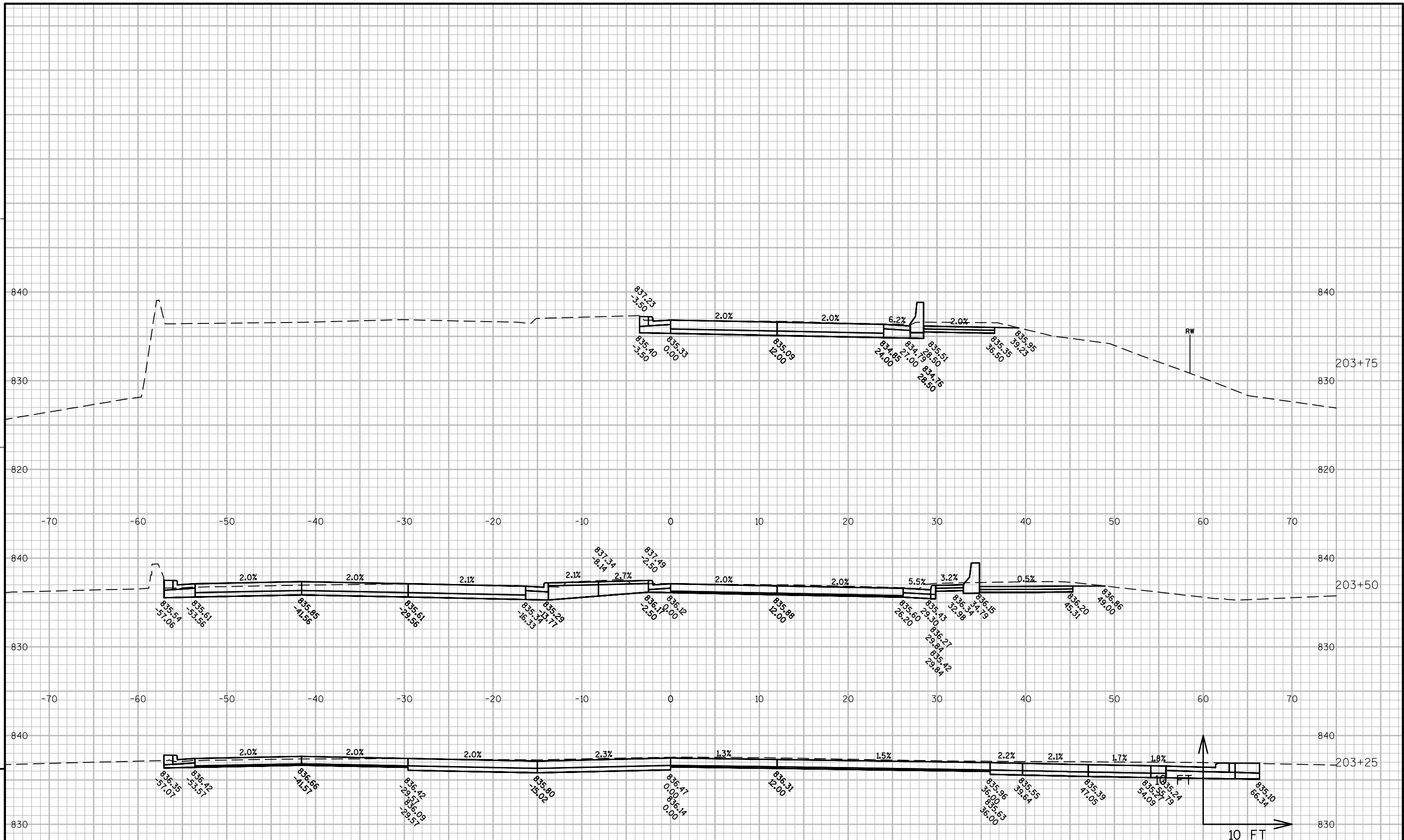
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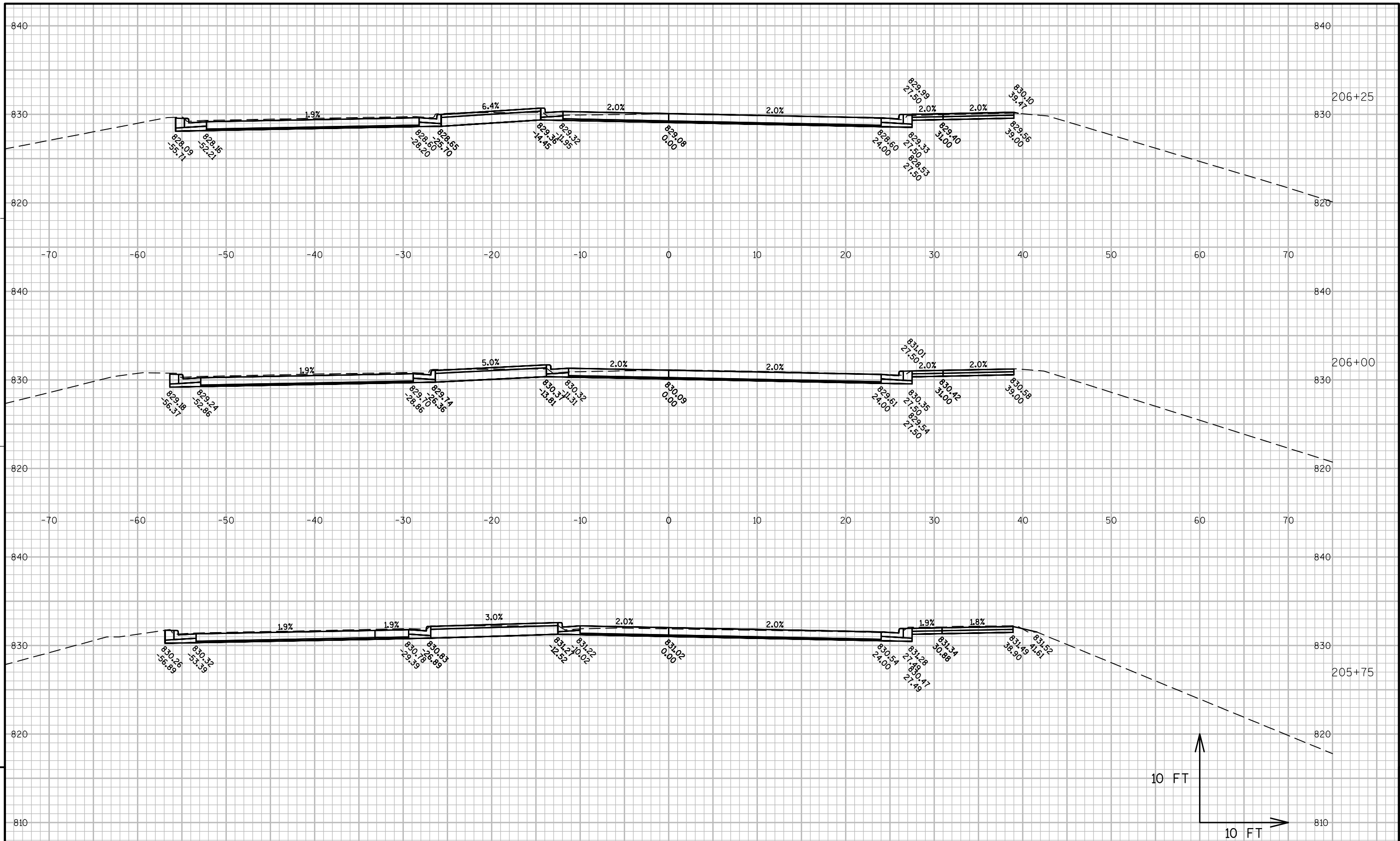
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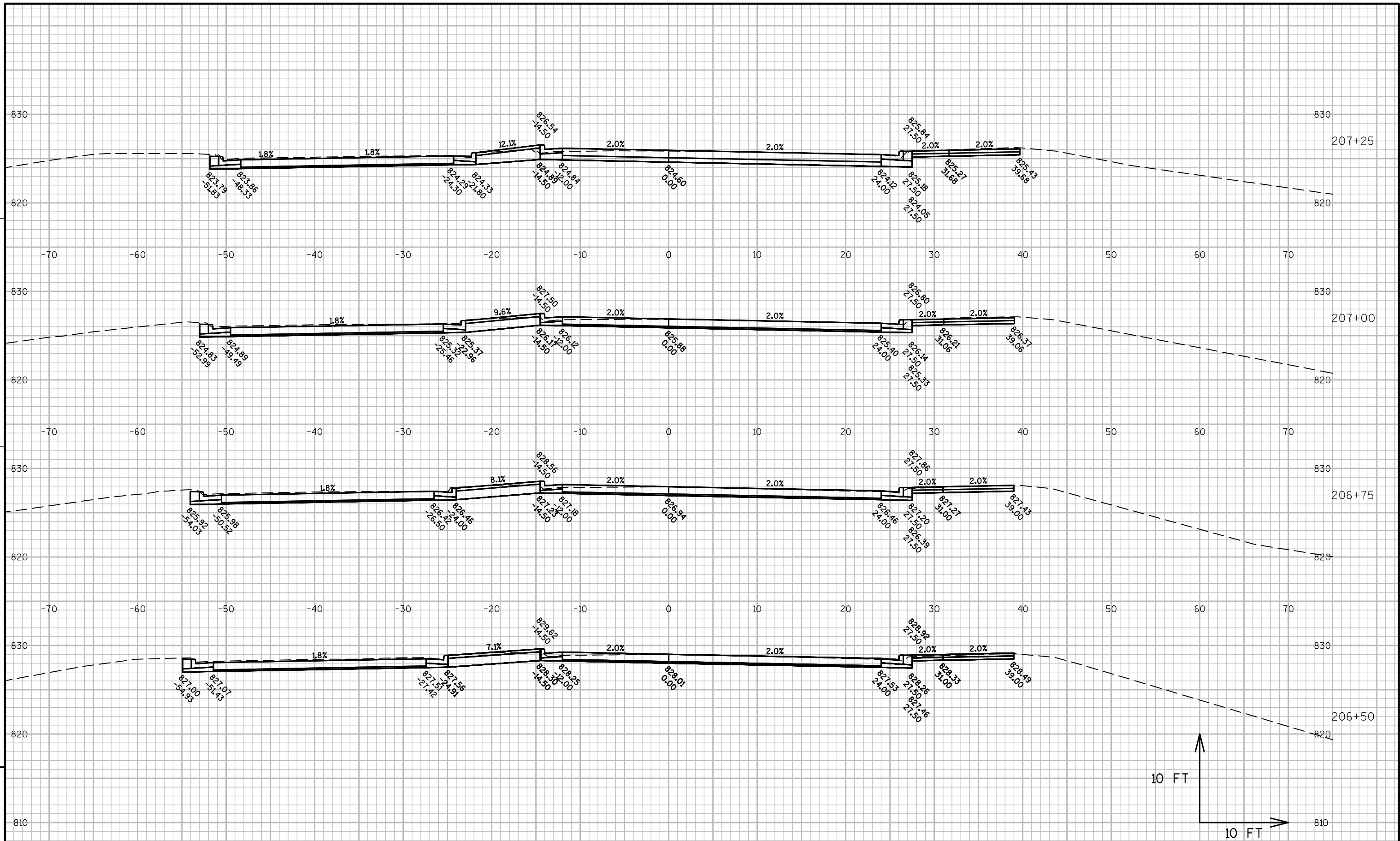
WISDOT/CADDs SHEET 49











PROJECT NO: 7255-05-72

HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

CROSS SECTIONS: CROSS SECTION

SHEET

E

FILE NAME : P:\UZ\W\WITNW\123530\CIVIL 3D\090201_XSNICK.DWG

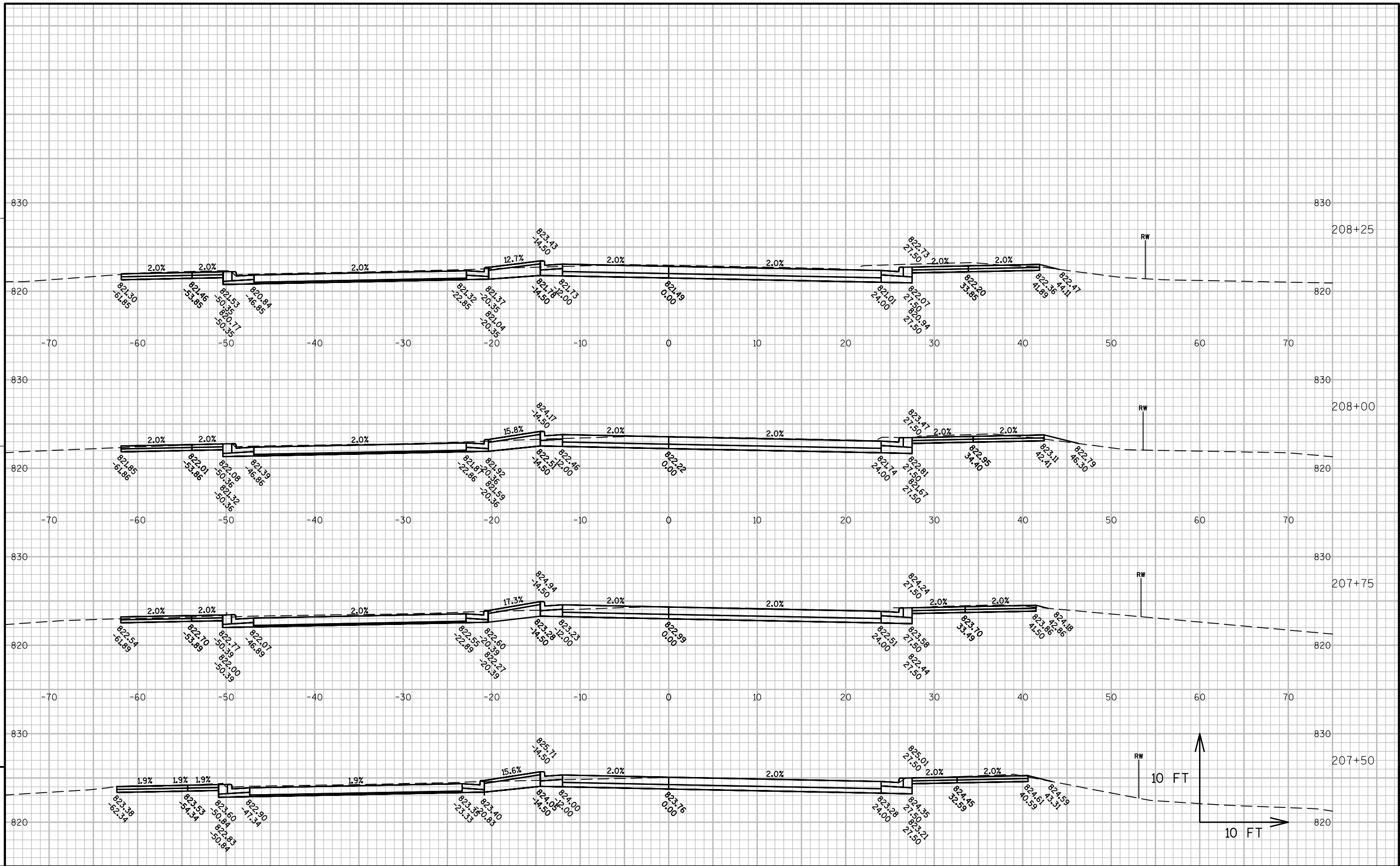
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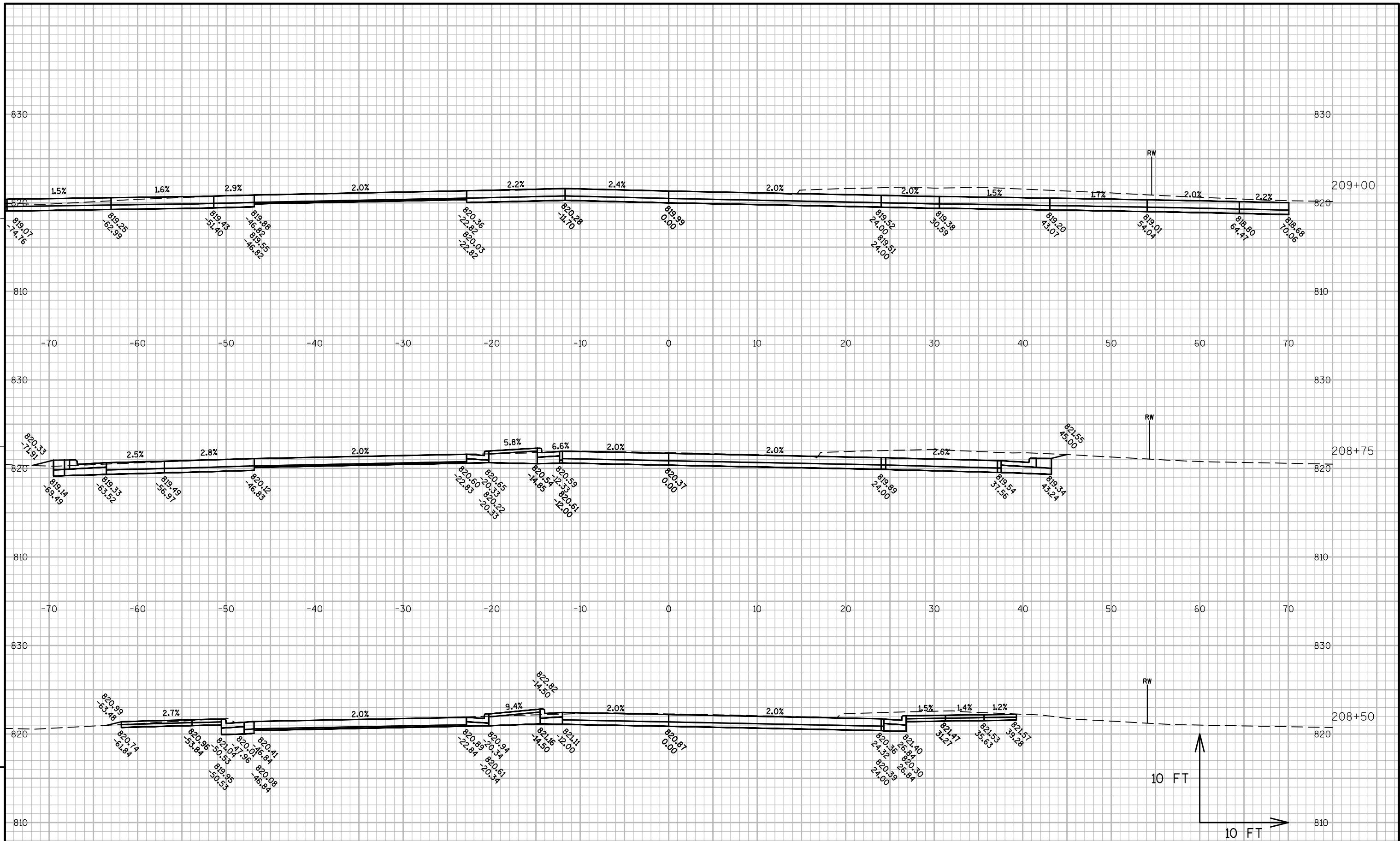
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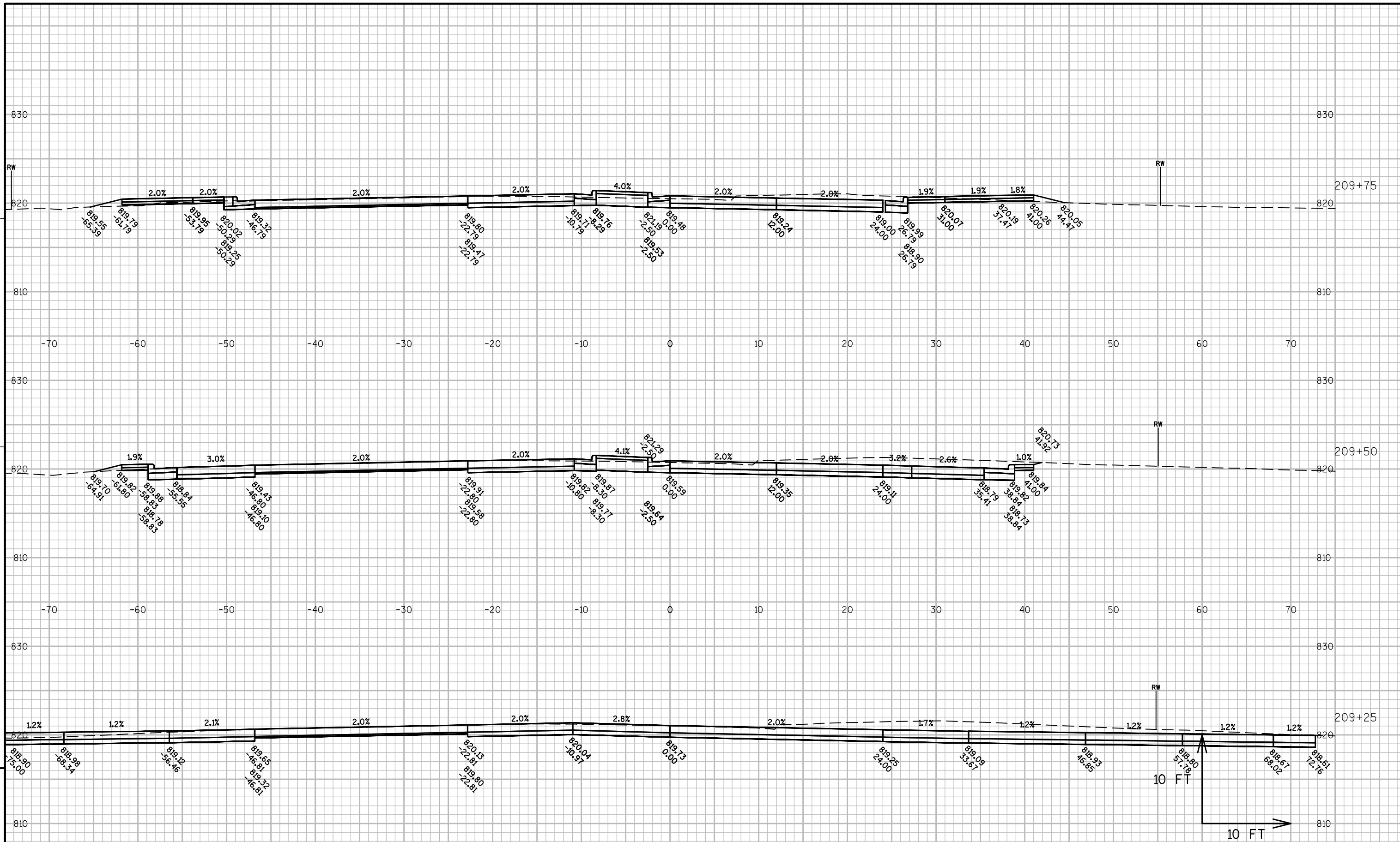
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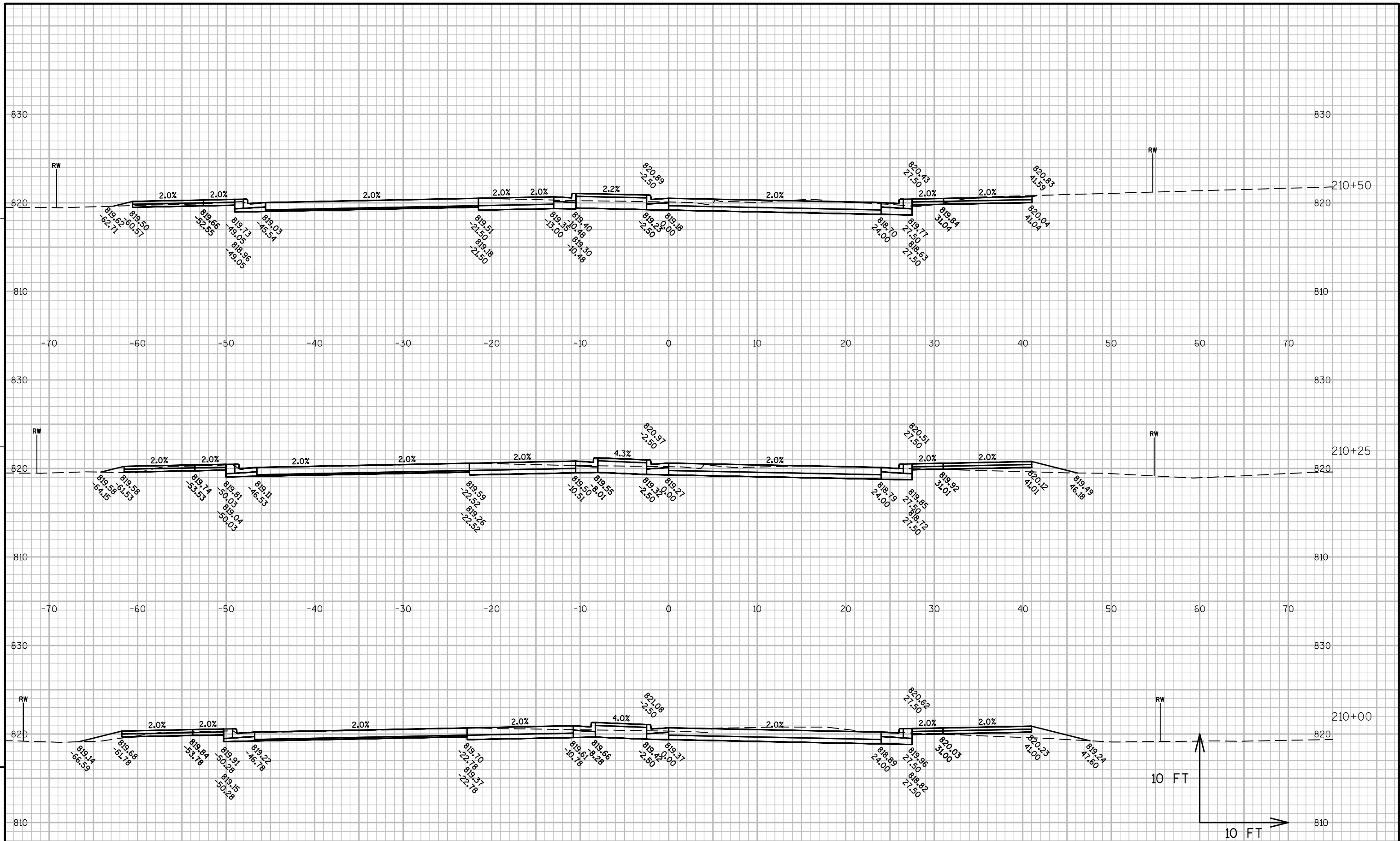
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WISDOT/CADDs SHEET 49









PROJECT NO:7255-05-72

HWY: STH 124 (S. BRIDGE ST)

COUNTY:CHIPPEWA

CROSS SECTIONS: CROSS SECTION

SHEET

E

FILE NAME : P:\UZ\W\WITNW\123530\CIVIL 3D\090201_XSNICK.DWG

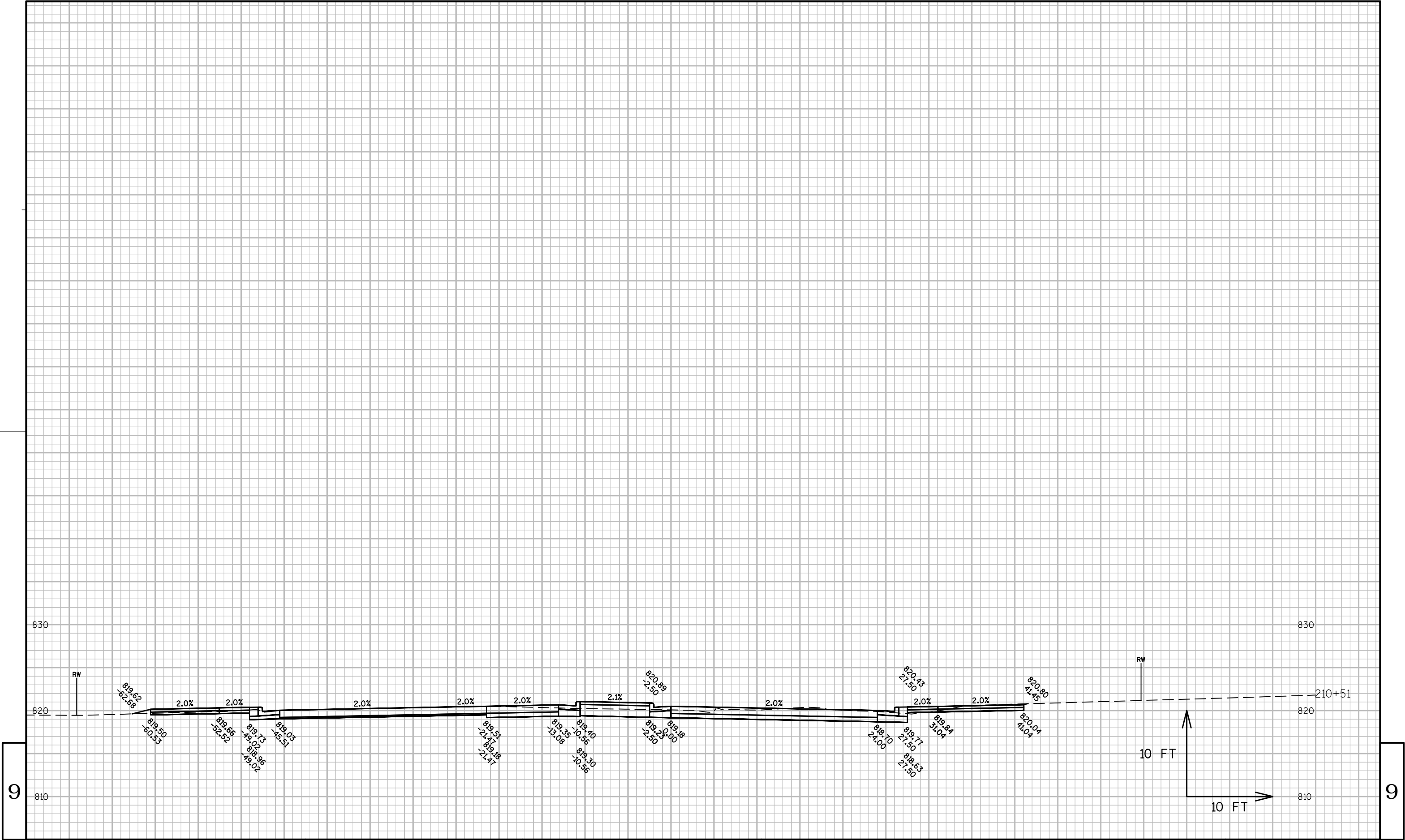
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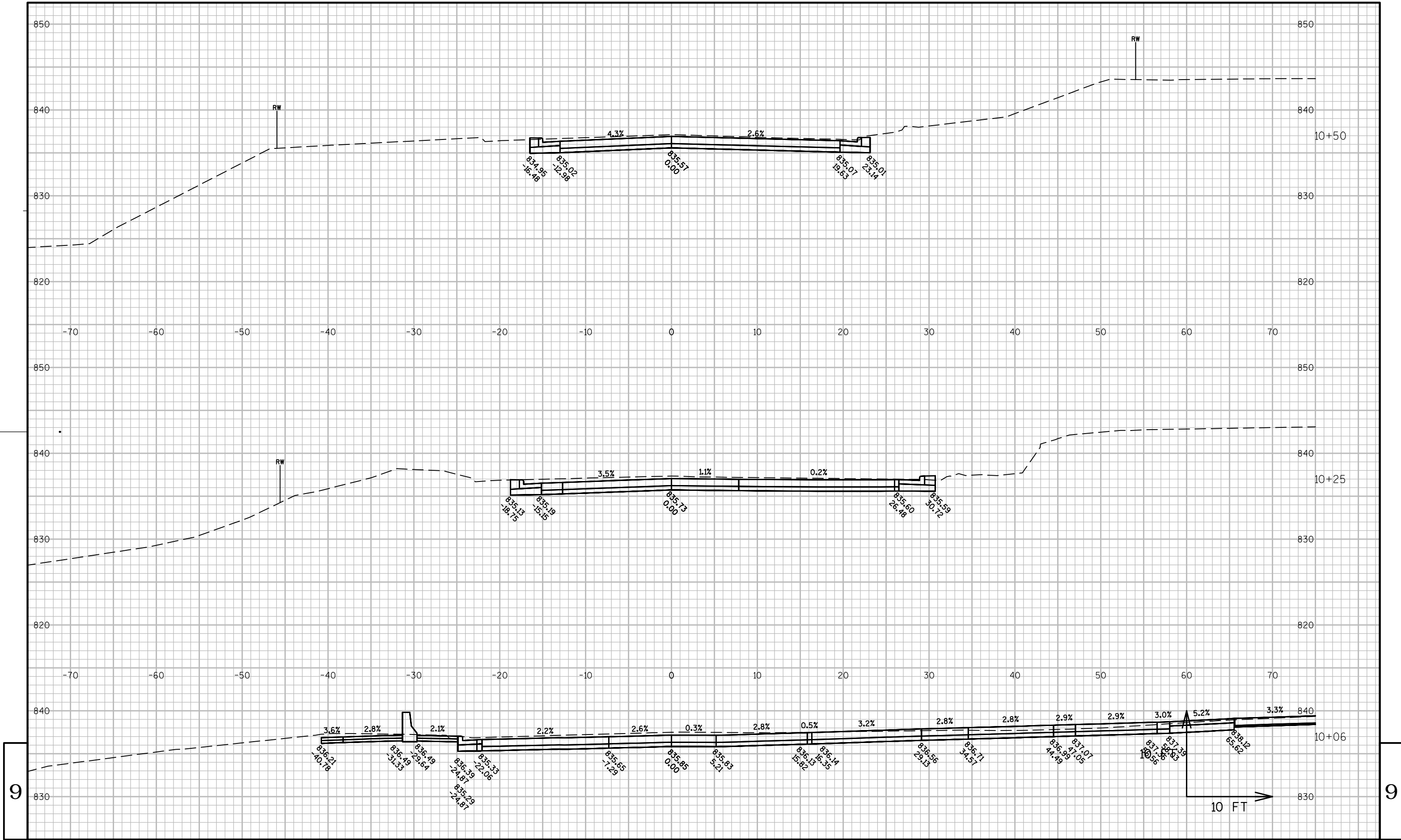
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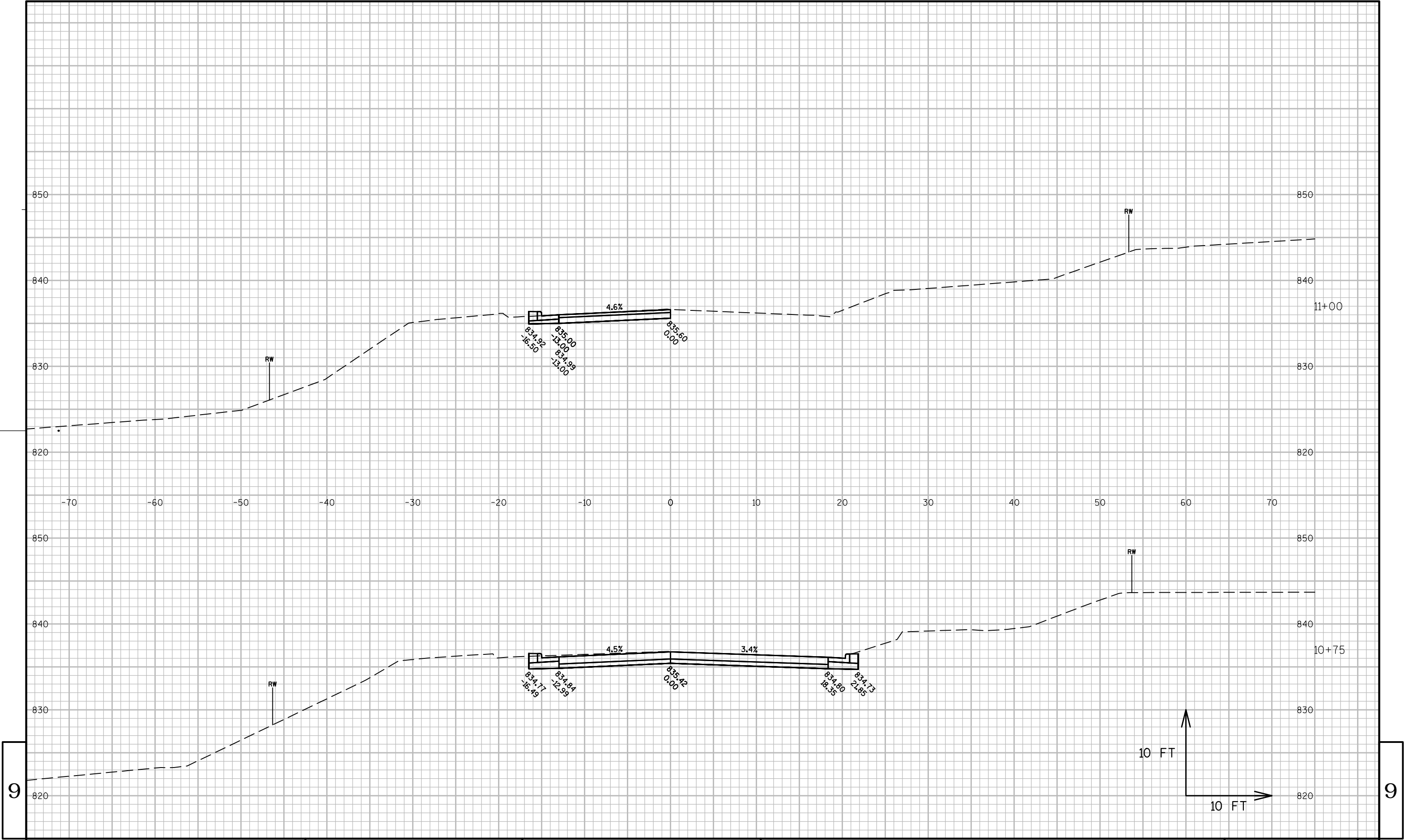
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PLOT SCALE : 1:10-XREF

WISDOT/CADDs SHEET 49







9

9

PROJECT NO: 7255-05-72

HWY: STH 124 (S. BRIDGE ST)

COUNTY: CHIPPEWA

CROSS SECTIONS: CROSS SECTION

SHEET

E

FILE NAME : P:\UZ\W\WITNW\123530\CIVIL 3D\090201_XS2 NICK.DWG

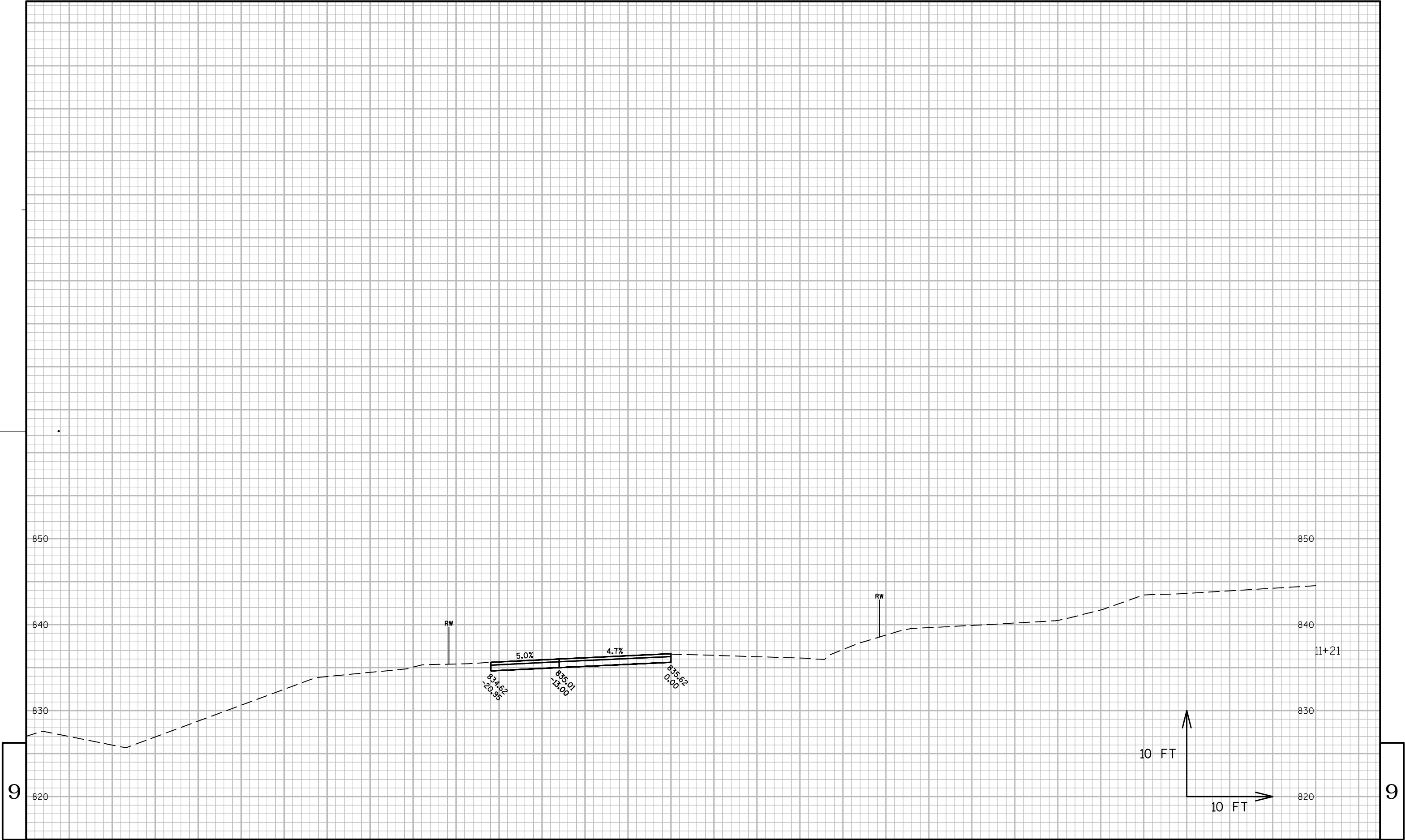
PLOT DATE : 1/30/2014 4:21 PM

PLOT BY : JUSTIN SHAVLIK

PLOT NAME :

PLOT SCALE : 1:10-XREF

WISDOT/CADDs SHEET 49



Notes



Wisconsin Department of Transportation

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through innovation and exceptional service.

<http://www.dot.wisconsin.gov>