

PROJECT ID: 1166-06-62
WITH: 1166-07-64, 1166-07-84

COUNTY: WAUSHARA

ORDER OF SHEETS

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

TOTAL SHEETS = 240



DESIGN DESIGNATION	IH 39	STH21
A.A.D.T.(2014)	= 12,900	5,300
A.A.D.T.(2034)	= 16,400	7,200
D.H.V.	= -	-
D.D.	= 57/43	-
T.	= 19.3%	-
DESIGN SPEED	= 70 MPH	50 MPH
ESALS	= -	-

CONVENTIONAL SYMBOLS

PLAN

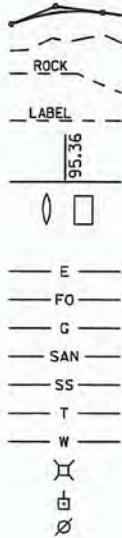
CORPORATE LIMITS	////
PROPERTY LINE	----
LOT LINE	----
LIMITED HIGHWAY EASEMENT	----
EXISTING RIGHT OF WAY	----
PROPOSED OR NEW R/W LINE	----

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	95.36
CULVERT (Profile View)	----
UTILITIES	----
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

COLOMA - PLAINFIELD

B-69-7, 19, 20 CTH CH BRIDGES, B-69-7,19 STH 21 BRIDGE REHAB, B-69-20
IH 39 IH 39 IH 39
WAUSHARA COUNTY WAUSHARA COUNTY WAUSHARA COUNTY

STATE PROJECT NUMBER
1166-06-62

STATE PROJECT NUMBER
1166-07-64

STATE PROJECT NUMBER
1166-07-84

BEGIN CONSTRUCTION
STA 198+00A STH 21
BEGIN PROJECT 1166-07-84
STA 307+00 IH 39
N: 118564.07
E: 318985.40

STRUCTURE B-69-7
SB IH 39 OVER CTH CH

END PROJECT 1166-07-84
STA 325+00 IH 39
END CONSTRUCTION
STA 205+00A STH 21
STRUCTURE B-69-20
STH 21 OVER IH 39

END PROJECT 1166-07-64
STA 290+00 IH 39
STRUCTURE B-69-19
NB IH 39 OVER CTH CH
BEGIN PROJECT 1166-07-64
STA 268+00 IH 39

N: 115317.46
E: 321146.31

LAYOUT
SCALE 0 0.5 MI.

1166-06-62 TOTAL NET LENGTH OF CENTERLINE = 0.00 MI.
1166-07-64 TOTAL NET LENGTH OF CENTERLINE = 0.42 MI.
1166-07-84 TOTAL NET LENGTH OF CENTERLINE = 0.34 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WAUSHARA COUNTY.
ELEVATIONS ON THIS PLAN ARE REFERENCED TO NAVD 88

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1166-06-62	WISC 2014306	1
1166-07-64	WISC 2014307	1
1166-07-84	WISC 2014308	1

PLANS PREPARED BY

QUEST
Civil Engineers, LLC
2811 8th Street South, Suite 8
Wisconsin Rapids, WI 54494

ADAM J. OSTROWSKI
E-38689
STEVENS POINT
WIS
PROFESSIONAL ENGINEER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	QUEST Civil Engineers
Designer	QUEST Civil Engineers
Project Manager	Daniel Holloway
Regional Examiner	Cheryl Simon
Regional Supervisor	Mike Kretschmer

APPROVED FOR THE DEPARTMENT

DATE: 04/28/2014 (Signature)

E

GENERAL NOTES

THE ALIGNMENT FOR I-39 AND CTH CH IN THIS PLAN IS BASED ON FIELD SURVEY SHOTS TAKEN ON THE CENTERLINE. ACTUAL ROADWAY CENTERLINE MAY DEVIATE FROM THE PLAN. NEW HMA PAVEMENT SHALL FOLLOW EXISTING ROADWAY CENTERLINE. ANY ADJUSTMENTS SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE DENSE AND ASPHALTIC SURFACE ARE MEASURED FOR PAYMENT BY THE TON, 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.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF ALL LANDMARKS, BENCHMARKS, AND OTHER CONTROL POINTS IN ALL AREAS WHERE SUCH LANDMARKS, BENCHMARKS, OR OTHER CONTROL POINTS MAY EXIST.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. SURVEY MARKERS SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND RESTORATION OF ANY DISTURBED AREAS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO: SEED, FERTILIZER, MULCH, EROSION MAT.

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

AGENCY CONTACTS

WISCONSIN DEPT OF NATURAL RESOURCES
BOBBI JO FISCHER
ENVIRONMENTAL ANALYSIS AND REVIEW SPECIALIST WAUSHARA COUNTY
427 EAST TOWER DRIVE
WAUTOMA, WI 54982
920.787.3015
BOBBI.FISCHER@WISCONSIN.GOV

UTILITY CONTACTS

Send all Alliant Correspondence to:
ALLIANT ENERGY (ELECTRIC)
ATTN: JASON HOGAN
SUITE 1000
4902 N. BILTMORE LANE
MADISON, WI 53718
1-608-458-4871 DESK
1-608-395-7395 CELL
JASONHOGAN@ALLIANTENERGY.COM

ALLIANT CONSTRUCTION FIELD CONTACT - ELECTRICITY
MARK VILLARS
880 NORTH WISCONSIN STREET
BERLIN, WI 54923
920.361.5652
MARKVILLARS@ALLIANTENERGY.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE
RUDI RUDIGER
5024 HEFFRON STREET
STEVENS POINT, WI 54481
715.302.1550
RUDI.RUDIGER@CHARTER.COM

UNION TELEPHONE COMPANY - COMMUNICATION LINE
RONALD BOWDEN
100 WEST NORTH STREET
PLAINFIELD, WI 54966
715.335.6301
RBOWDEN@UNIONTEL.NET

VILLAGE OF COLOMA - SEWER
KEN LEWKO
P.O. BOX 353
COLOMA, WI 54930
715.228.2872
VOCDPW1@UNIONTEL.NET

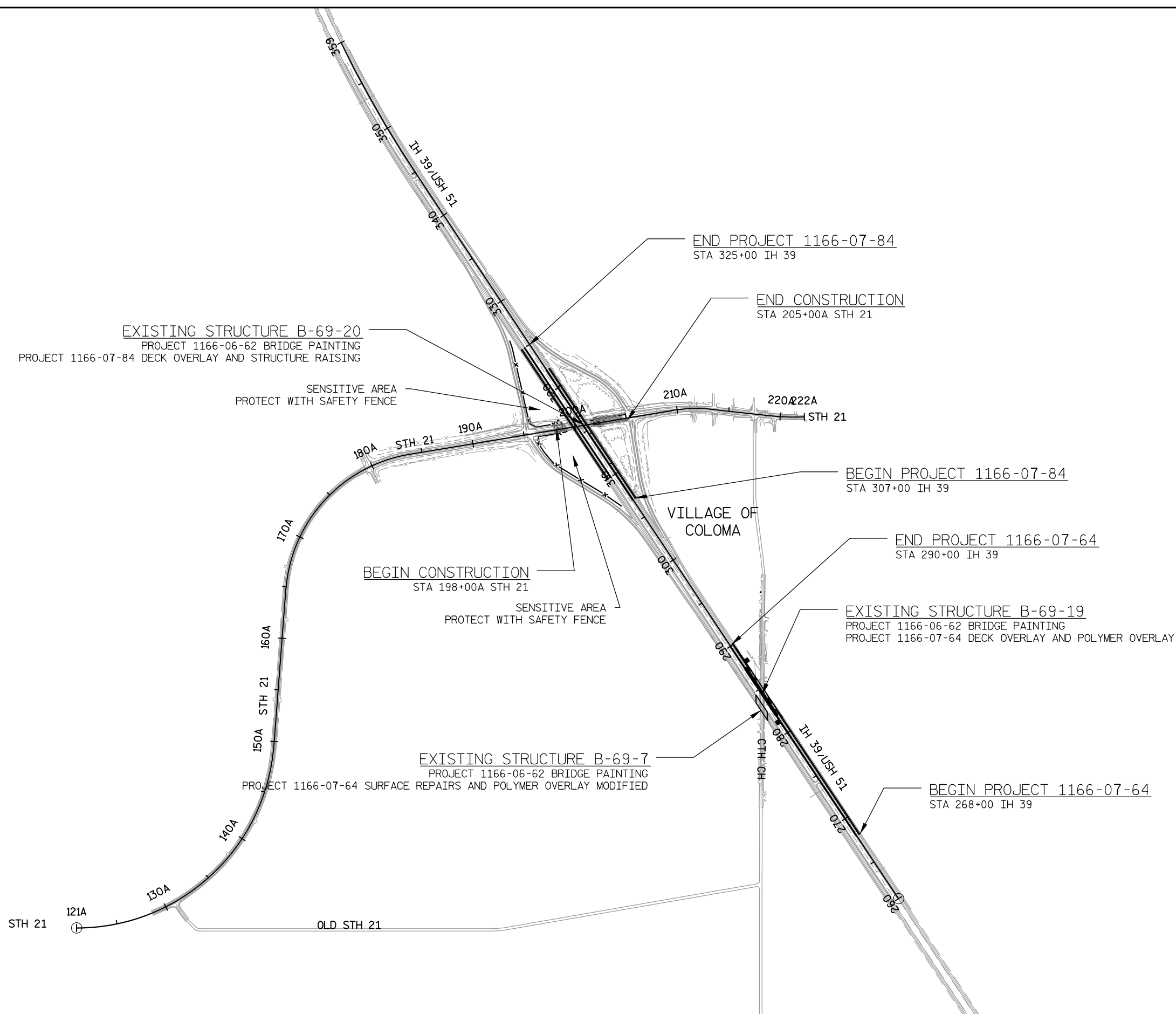
VILLAGE OF COLOMA - WATER
KEN LEWKO
P.O. BOX 353
COLOMA, WI 54930
715.228.2872
VOCDPW1@UNIONTEL.NET

Send all WE Energies Correspondence to:
WE ENERGIES GAS
ATTN: LATROY BRUMFIELD
333 W EVERETT ST, A299
MILWAUKEE, WI 53203
414.221.5617
LATROY.BRUMFIELD@WE-ENERGIES.COM

WE ENERGIES CONSTRUCTION FIEILD CONTACT-
GAS/PETROLEUM
BILL GARSKE
1921 8TH STREET SOUTH
WISCONSIN RAPIDS, WI 54494
715.421.7259
BILL.GARSKE@WE-ENERGIES.COM



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



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STA 268+00 TO STA 290+00 IH 39
STA 307+00 TO STA 314+60 IH 39
STA 316+60 TO STA 325+00 IH 39

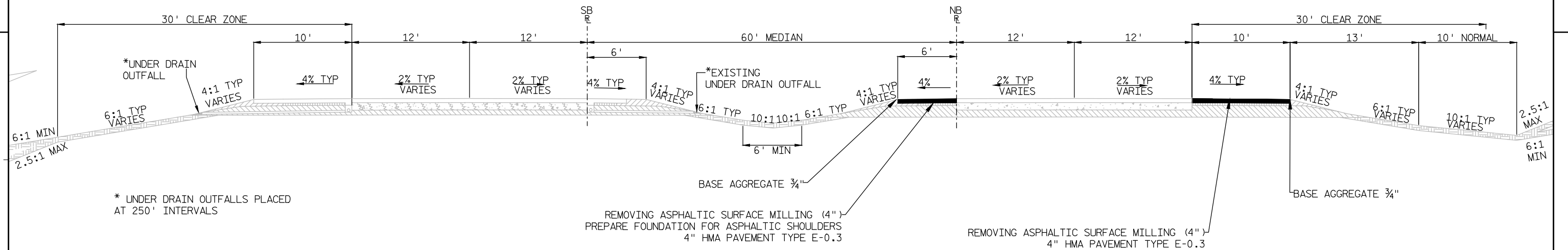


STA 314+60 TO STA 316+60

	CONCRETE PAVEMENT
	CRUSHED AGGREGATE BASE COURSE
	ASPHALTIC PAVEMENT
	CRUSHED AGGREGATE BASE COURSE (SHOULDERS)
	TOPSOIL
	SALVAGED ASPHALTIC SHOULDER MATERIAL

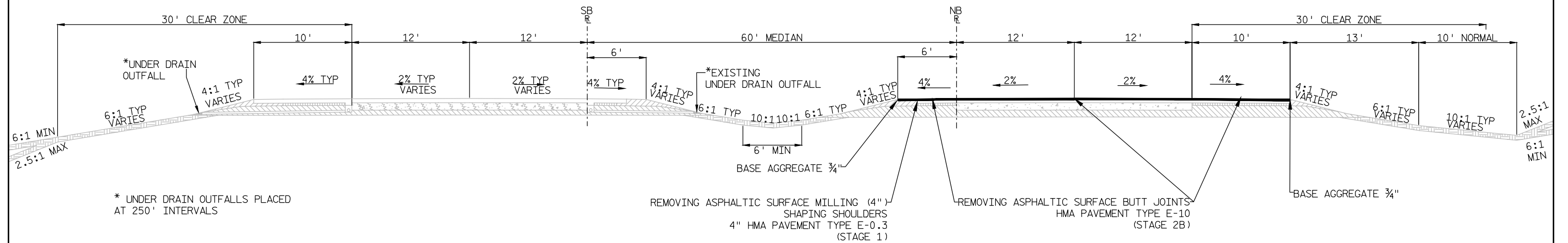
4

WISDOT/CADDS SHEET 42



FINISHED TANGENT SECTION IH 39

STA 268+00 - STA 282+75
STA 286+65 - STA 290+00

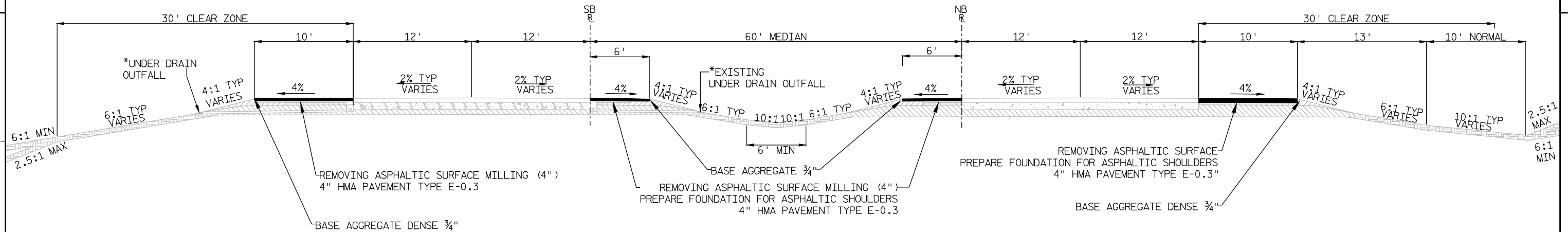


FINISHED TANGENT SECTION IH 39

STA 282+75 -STA 283+25 NB IH 39
STA 286+15 -STA 286+65 NB IH 39

LEGEND

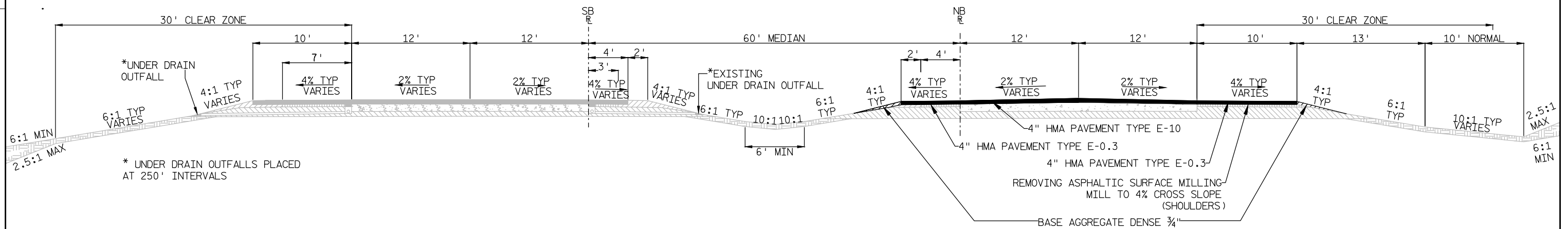
	CONCRETE PAVEMENT
	BASE AGGREGATE DENSE 1 1/4"
	ASPHALTIC PAVEMENT
	BASE AGGREGATE DENSE 3/4" (SHOULDERS)
	TOPSOIL



FINISHED TANGENT SECTION IH 39

STA 307+00 TO STA 314+60 NB IH 39
STA 316+60 TO STA 327+00 NB IH 39
STA 310+00 TO STA 325+00 SB IH 39

* UNDER DRAIN OUTFALLS PLACED
AT 250' INTERVALS

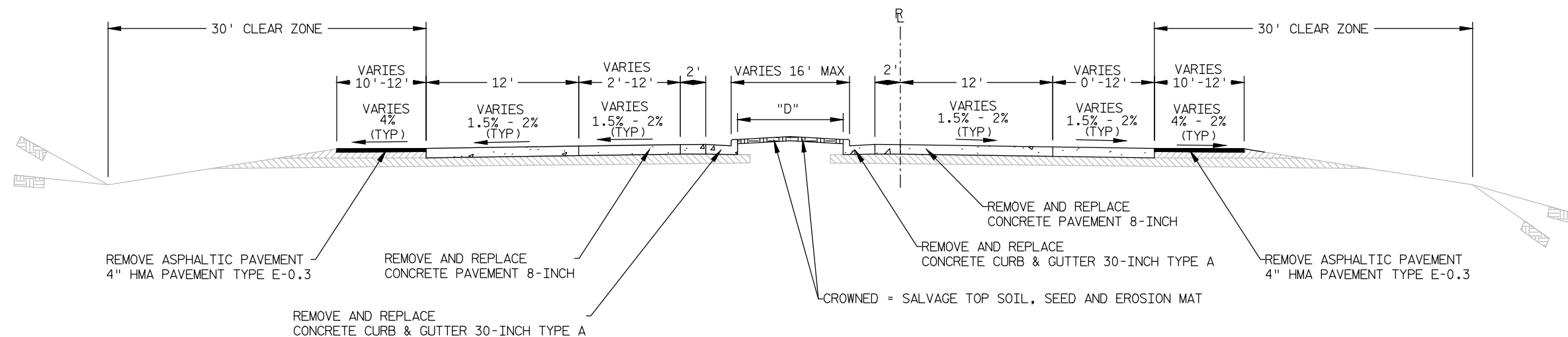


FINISHED TANGENT SECTION IH 39

STA 314+60 TO STA 316+60

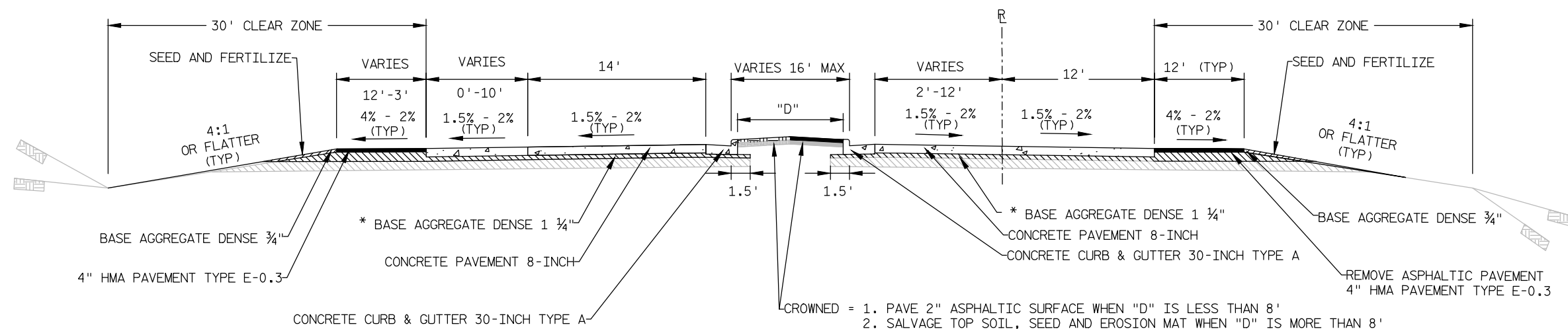
LEGEND

- CONCRETE PAVEMENT
- BASE AGGREGATE DENSE 1 1/4"
- ASPHALTIC PAVEMENT
- BASE AGGREGATE DENSE 3/4" (SHOULDERS)
- TOPSOIL



FINISHED STH 21 TYPICAL SECTION

STA 198+00A - STA 199+20A



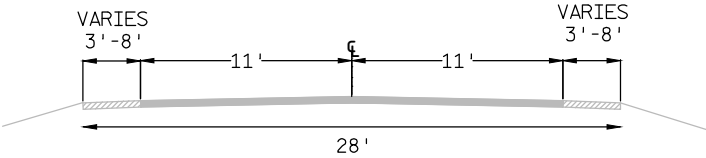
FINISHED STH 21 TYPICAL SECTION

STA 201+70A - STA 205+00A

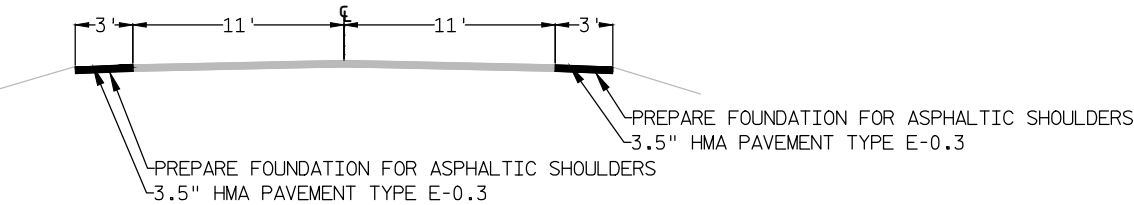
LEGEND

	CONCRETE PAVEMENT
	BASE AGGREGATE DENSE 1 1/4"
	ASPHALTIC PAVEMENT
	BASE AGGREGATE DENSE 3/4" (SHOULDERS)
	TOPSOIL

* BASE AGGREGATE DENSE 1 1/4"
DEPTH VARIES 6" TO 11 1/4"



EXISTING CTH CH TYPICAL SECTION

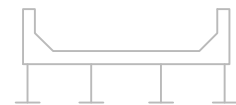


PROPOSED CTH CH TYPICAL SECTION
CTH CH STA 297+15 - STA 301+35

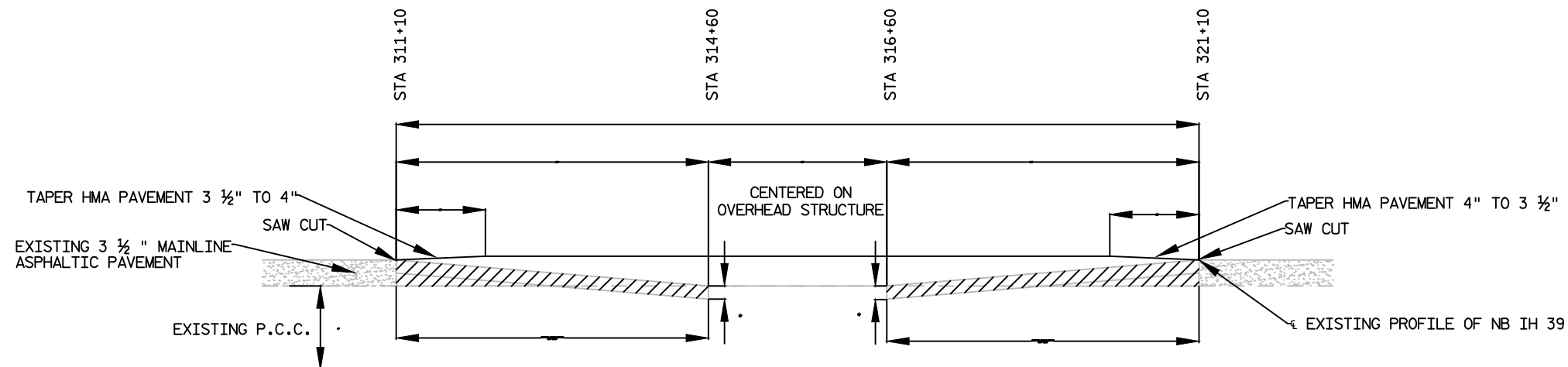
LEGEND

EXIST	PROP	
		CONCRETE PAVEMENT
		BASE AGGREGATE DENSE
		HMA PAVEMENT
		BASE AGGREGATE DENSE (SHOULDERS)
		TOPSOIL

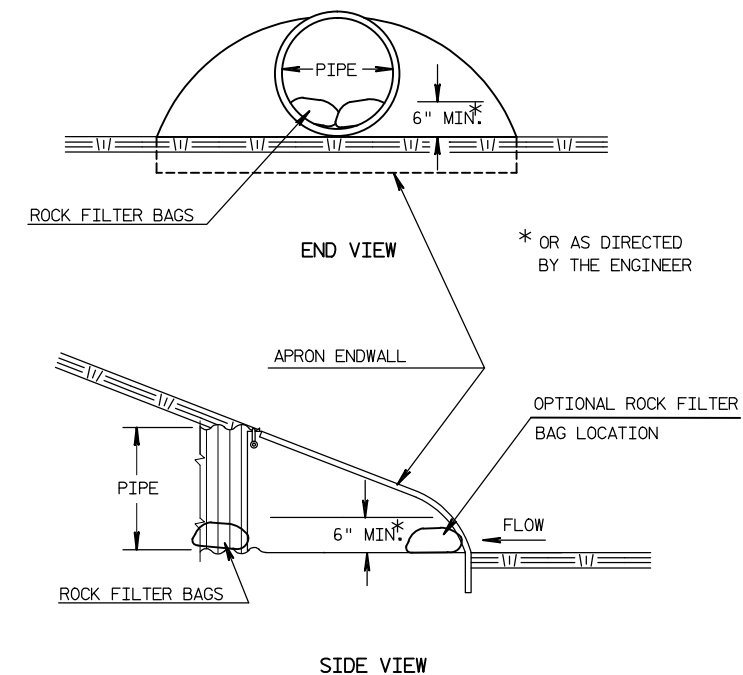
OVERHEAD STRUCTURE B-69-20



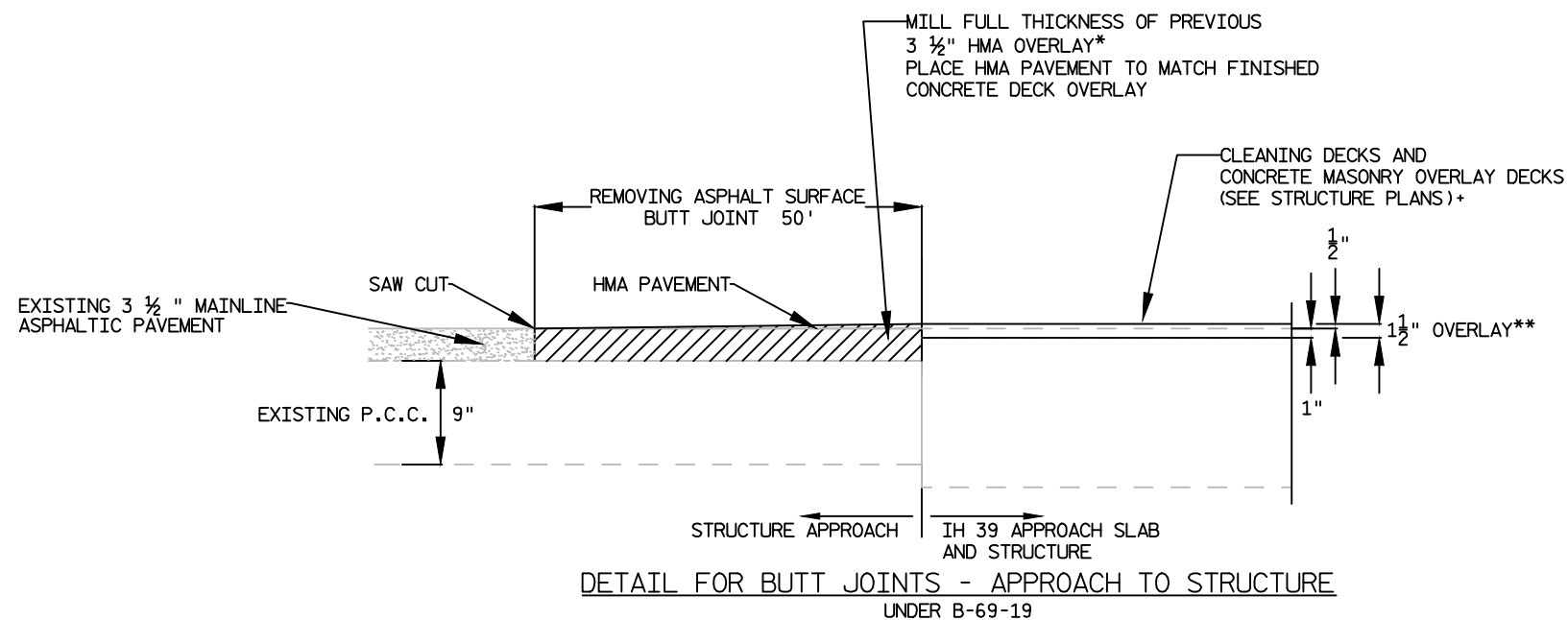
BRIDGE BEAM



DETAIL FOR BUTT JOINTS ON IH 39 AT OVERHEAD STRUCTURE
UNDER B-69-20



CULVERT PIPE CHECKS
(INSTALL ON INLET END ONLY)

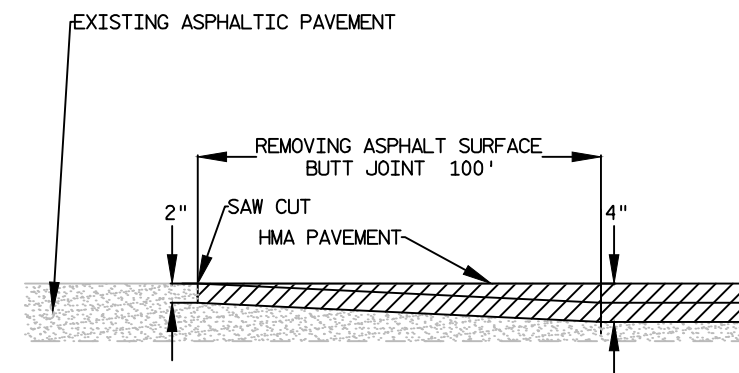


DETAIL FOR BUTT JOINTS - APPROACH TO STRUCTURE
UNDER B-69-19

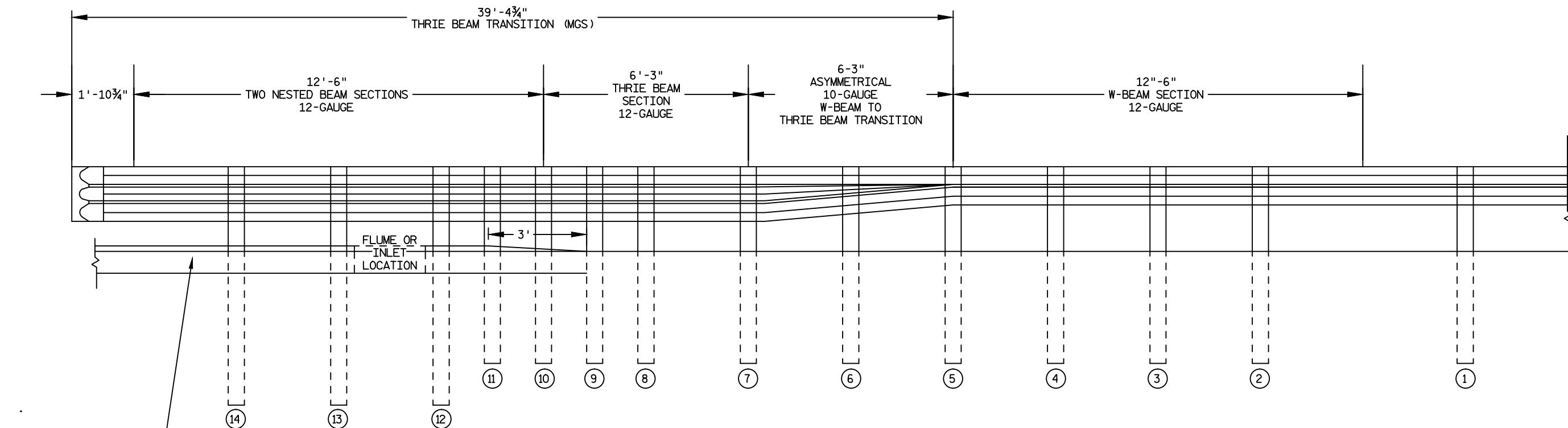
* MILL BOTH ASPHALT & STRUCTURE DECK AND/OR APPROACH CONCRETE AT THE SAME TIME

+REMOVING PAVEMENT BUTT JOINTS AND CONCRETE MASONRY OVERLAY APPROACHES AT B-69-19 APPROACH SLAB

**SEE STRUCTURE PLANS FOR AVERAGE OVERLAY THICKNESSES

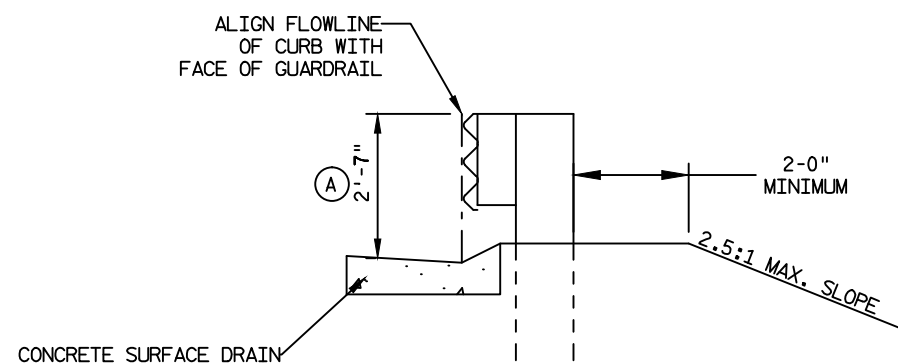


DETAIL FOR BUTT JOINTS - SHOULDERS



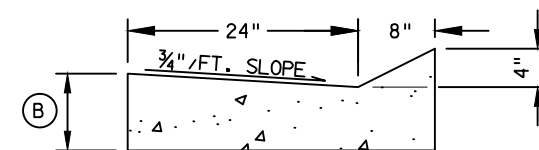
CONCRETE SURFACE DRAIN
(SEE SECTION A-A)

MODIFIED CURB HEAD FOR SURFACE DRAIN AT MGS THRIE BEAM - FLUME / INLET



SECTION A-A
POSTS 12-14

(A) FOR NEW MGS INSTALLATION TOP OF
W-BEAM TOLERANCE IS +/- 1\".



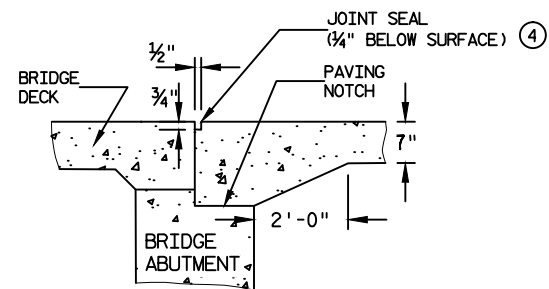
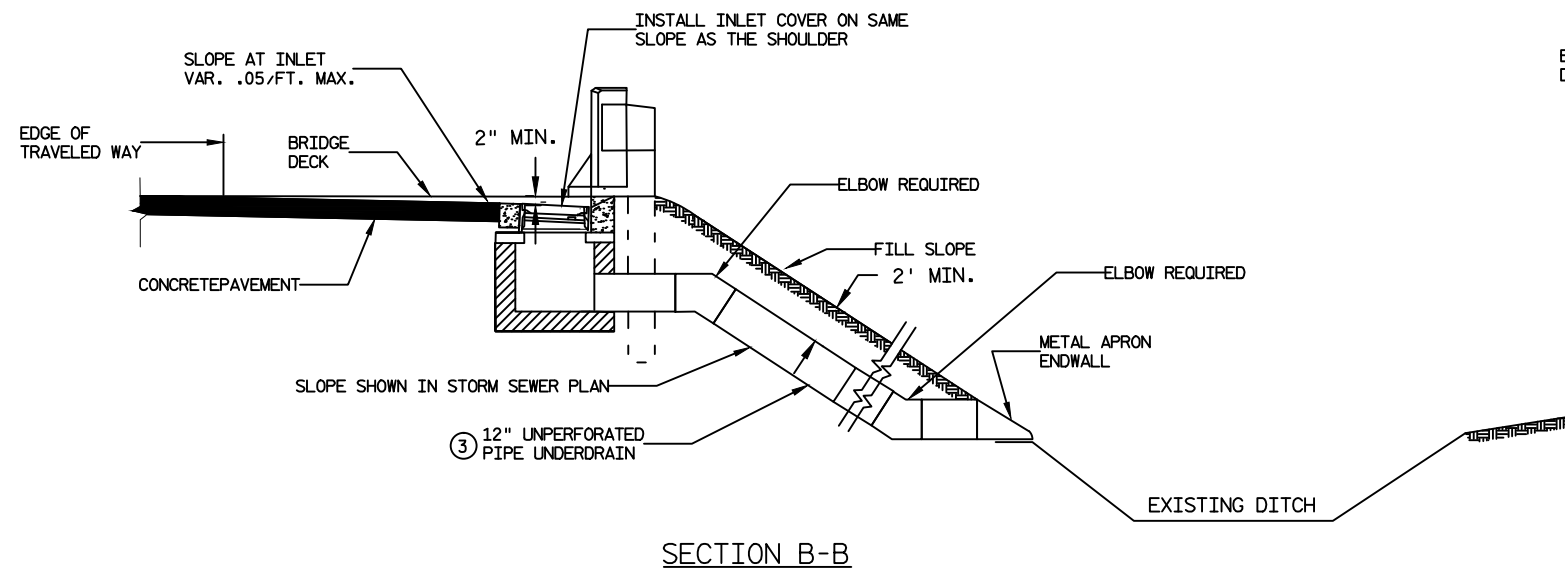
CONCRETE SURFACE DRAIN

(B) MATCH DEPTH OF CONCRETE SURFACE DRAIN (SEE SDD)

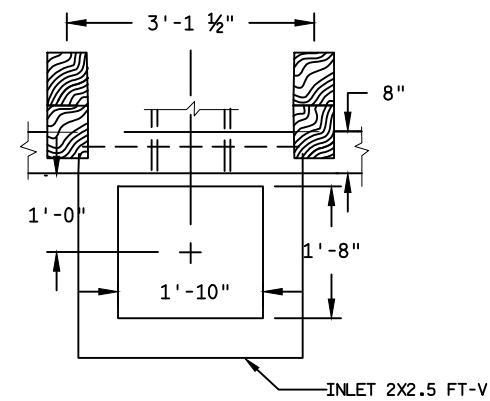
SEE SDD "MIDWEST GUARDRAIL SYSTEM (MGS)
GUARDRAIL" AND "MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS) FOR ADDITIONAL
DETAIL

SEE SDD "CONCRETE SURFACE DRAINS FLUME TYPE
AT STRUCTURES" AND "CONCRETE SURFACE DRAINS
INLET TYPE AT STRUCTURES" FOR ADDITIONAL
DETAILS

MODIFIED CURB HEAD CONSTRUCTION IS INCIDENTAL
TO CONCRETE SURFACE DRAIN



SECTION D-D

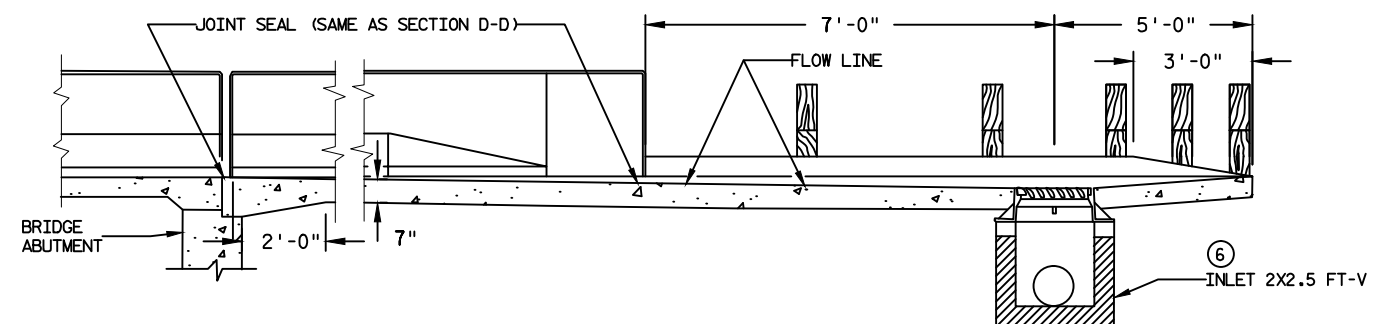


PLAN VIEW

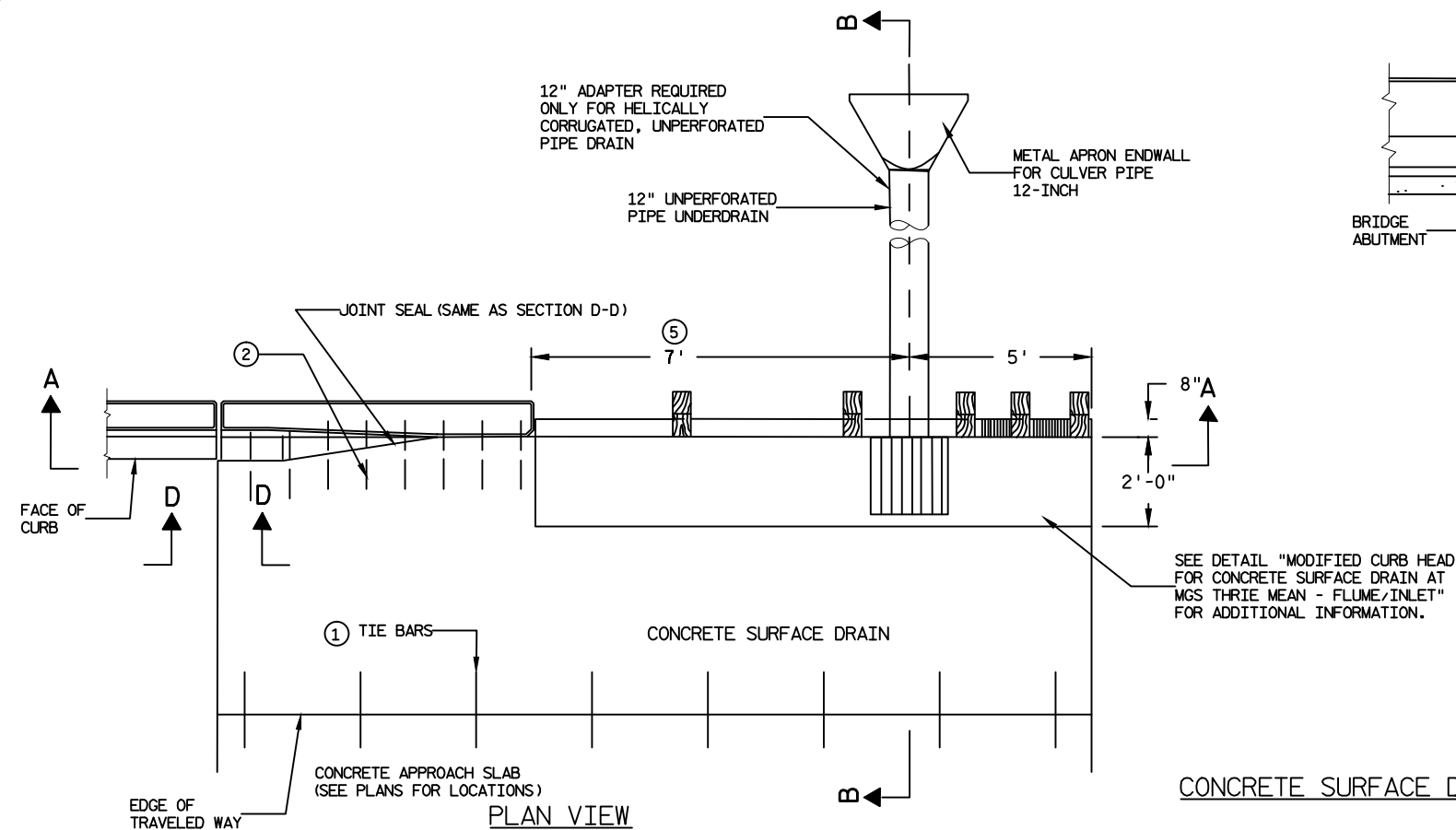
GENERAL NOTES

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

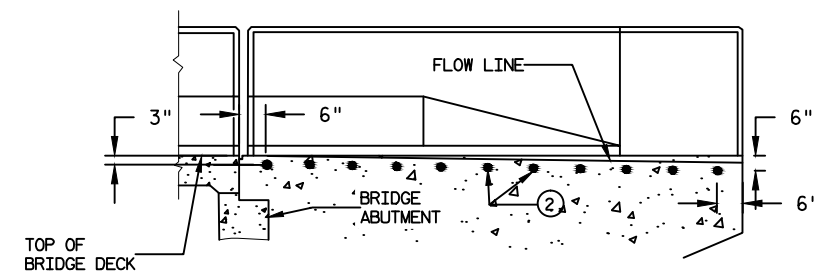
- ① NO. 4 X2'-0" TIE BARS SPACED AT 3'-0" CENTERS.
- ② NO 4 X2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE FIVE MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2.
- ④ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑤ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE MGS THRIE BEAM TRANSITION. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1 1/2". LAYOUT POSTS BEFORE INLET INSTALLATION.
- ⑥ SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C1 FOR DETAILS.



SECTION A-A

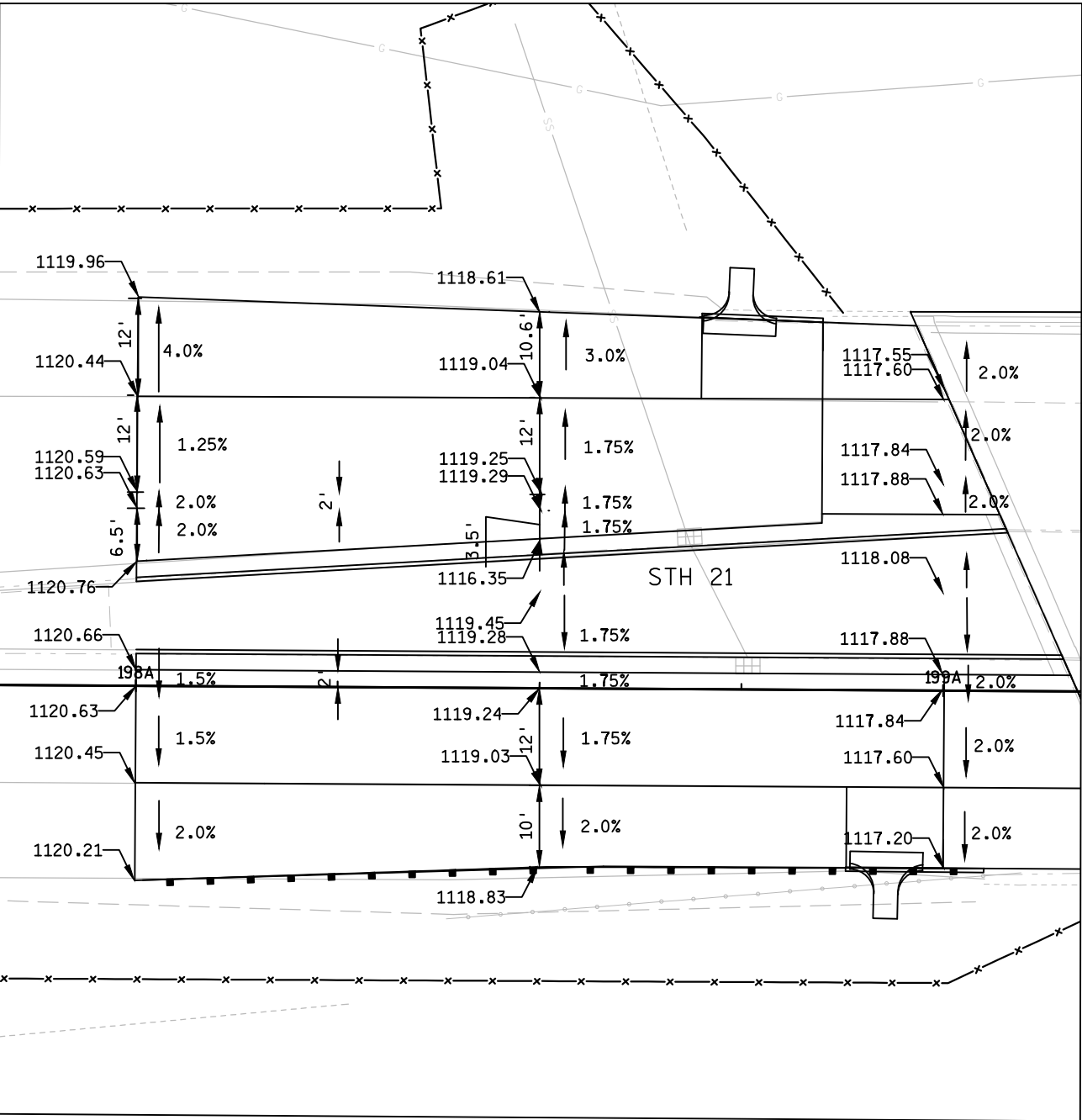


CONCRETE SURFACE DRAIN DROP INLET

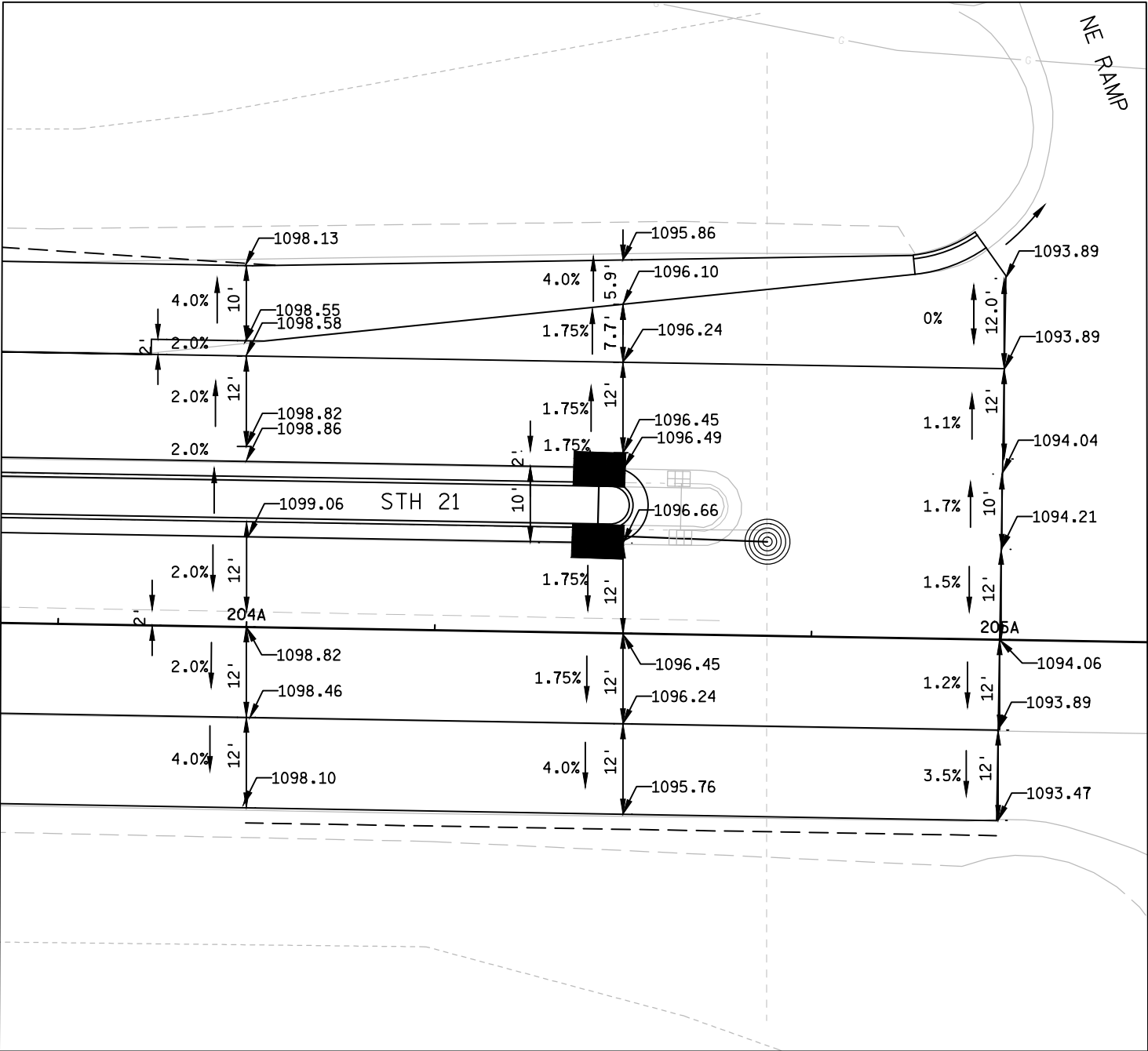


LOCATION OF TIE BARS IN WINGWALL

DETAIL A

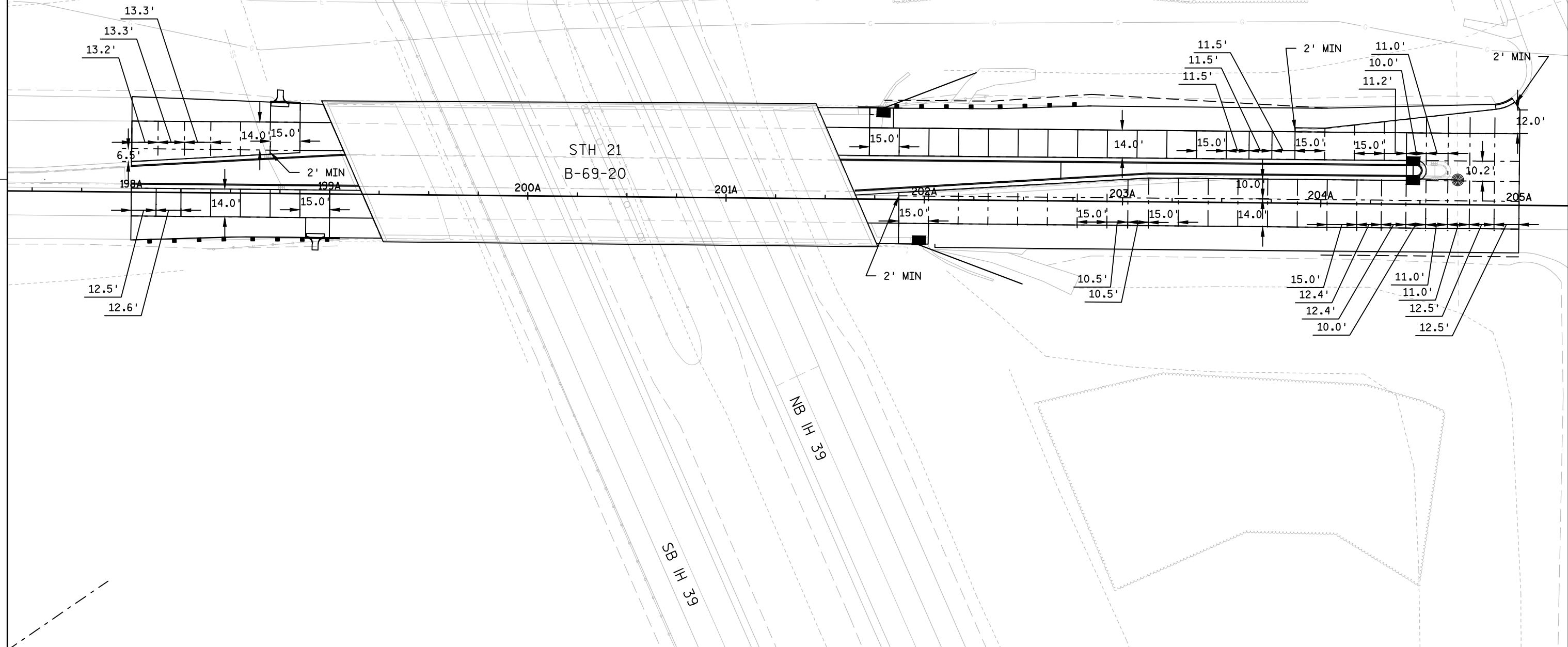


DETAIL B



2

2



PROJECT NO:1166-07-84

HWY: IH 39

COUNTY: WAUSHARA

JOINT DETAIL STH 21

SHEET
15

3

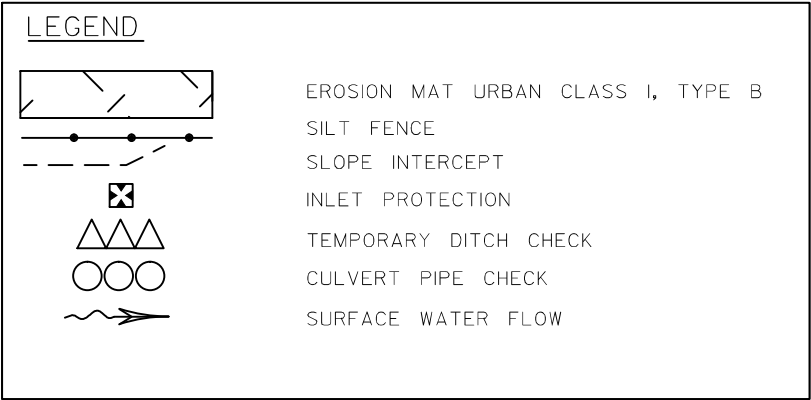
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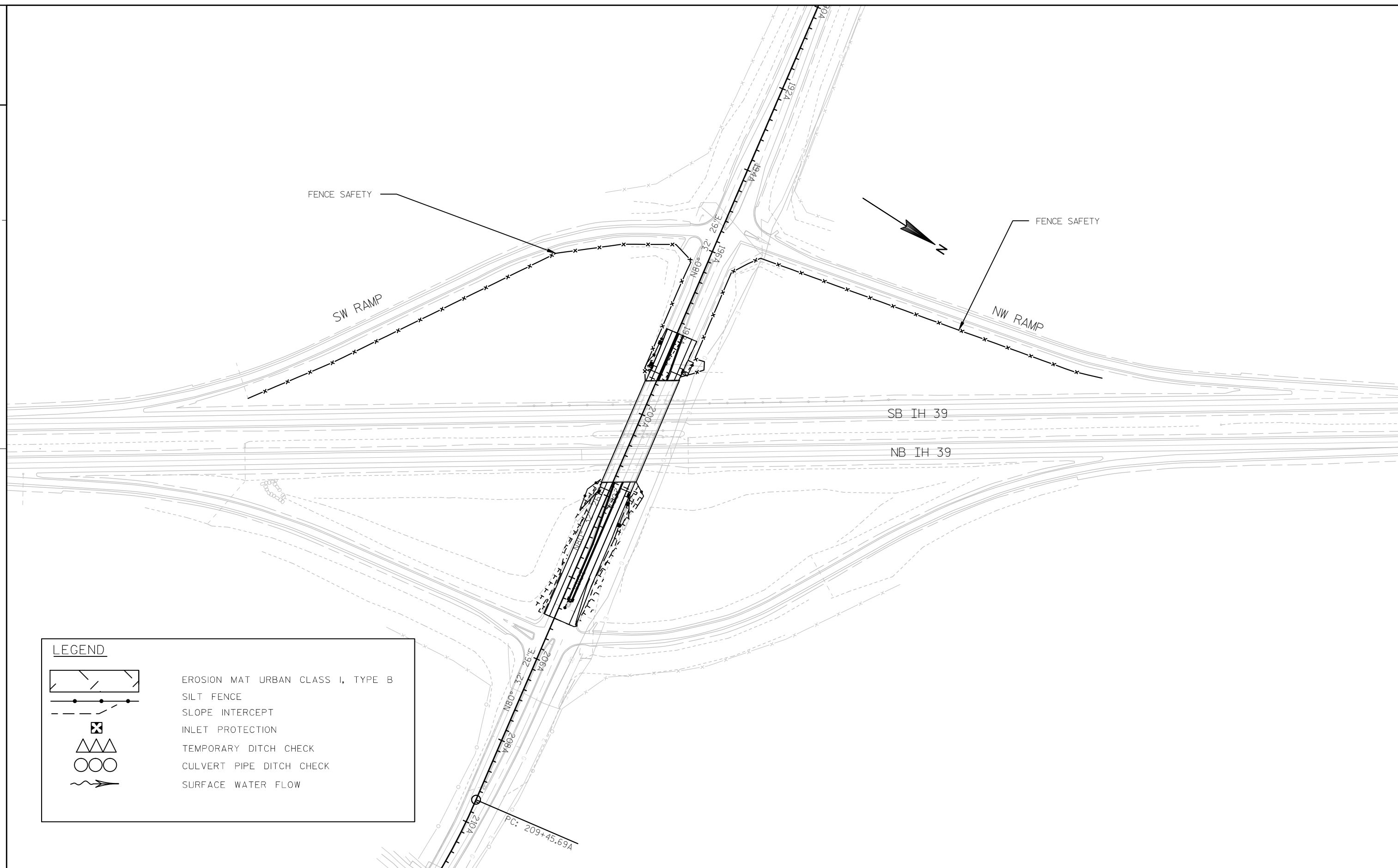
PLOT BY : QUEST CIVIL ENG

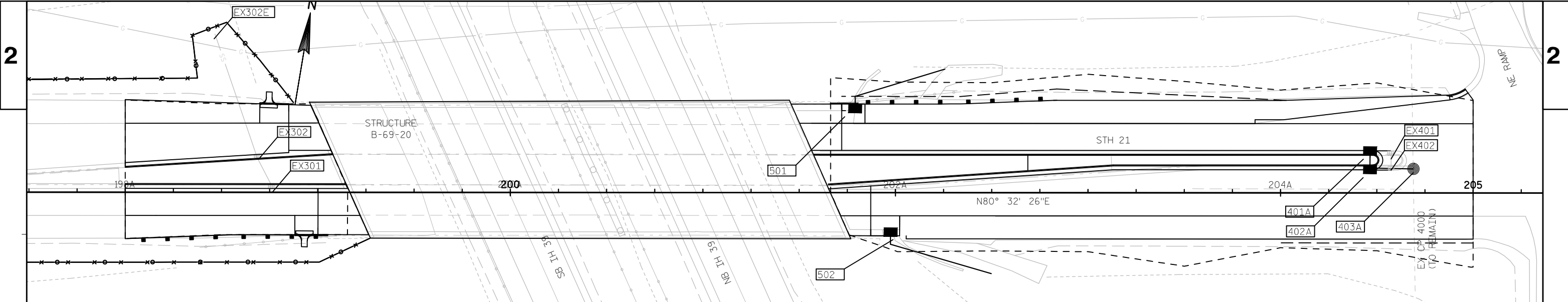
PLOT NAME : _____ PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

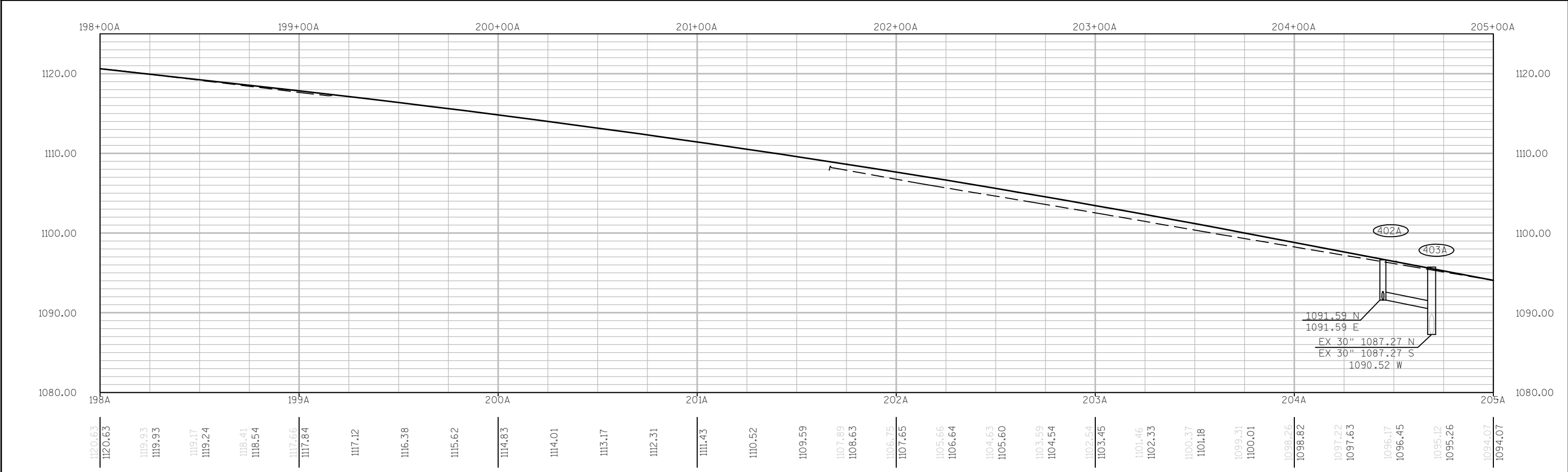
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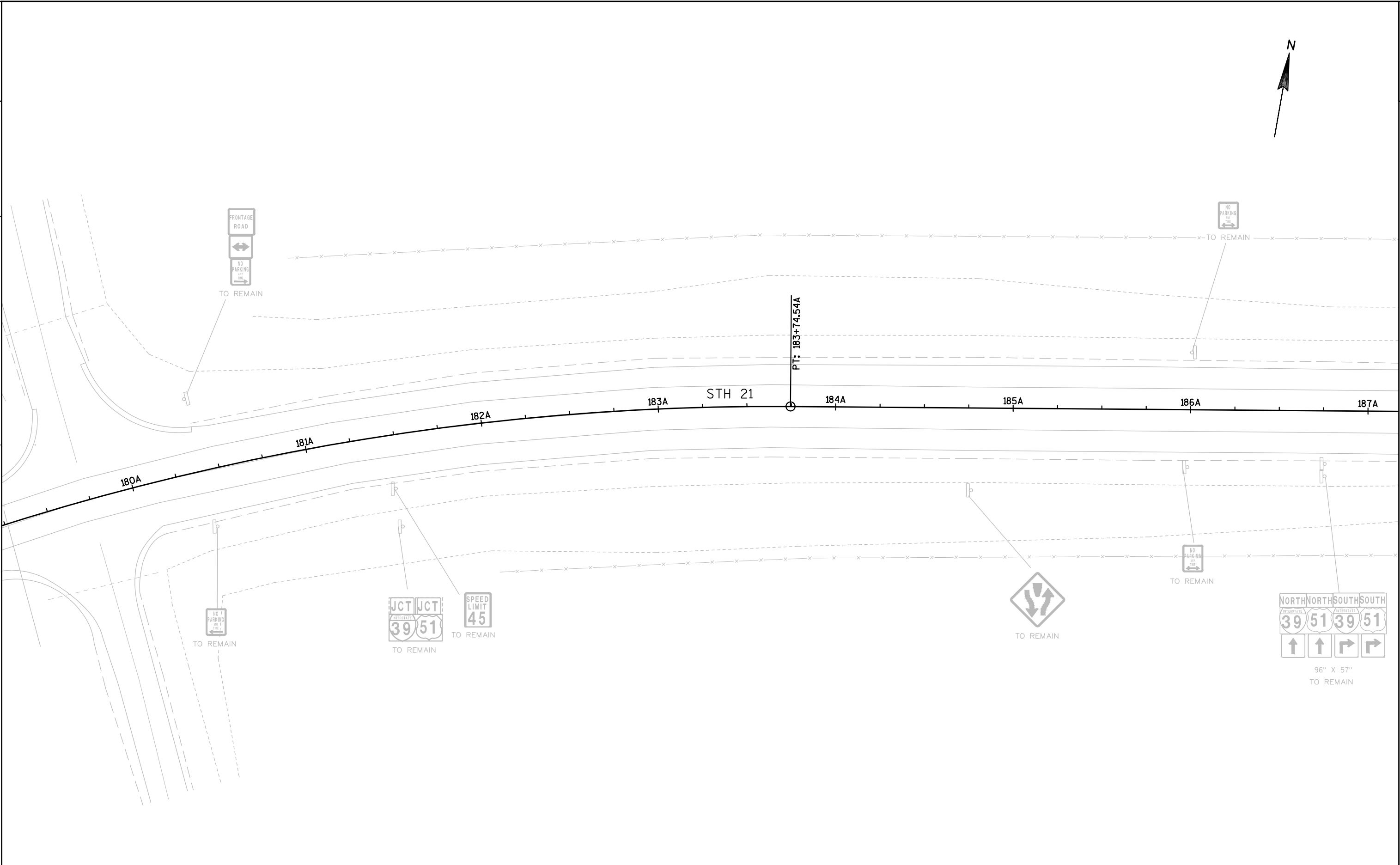


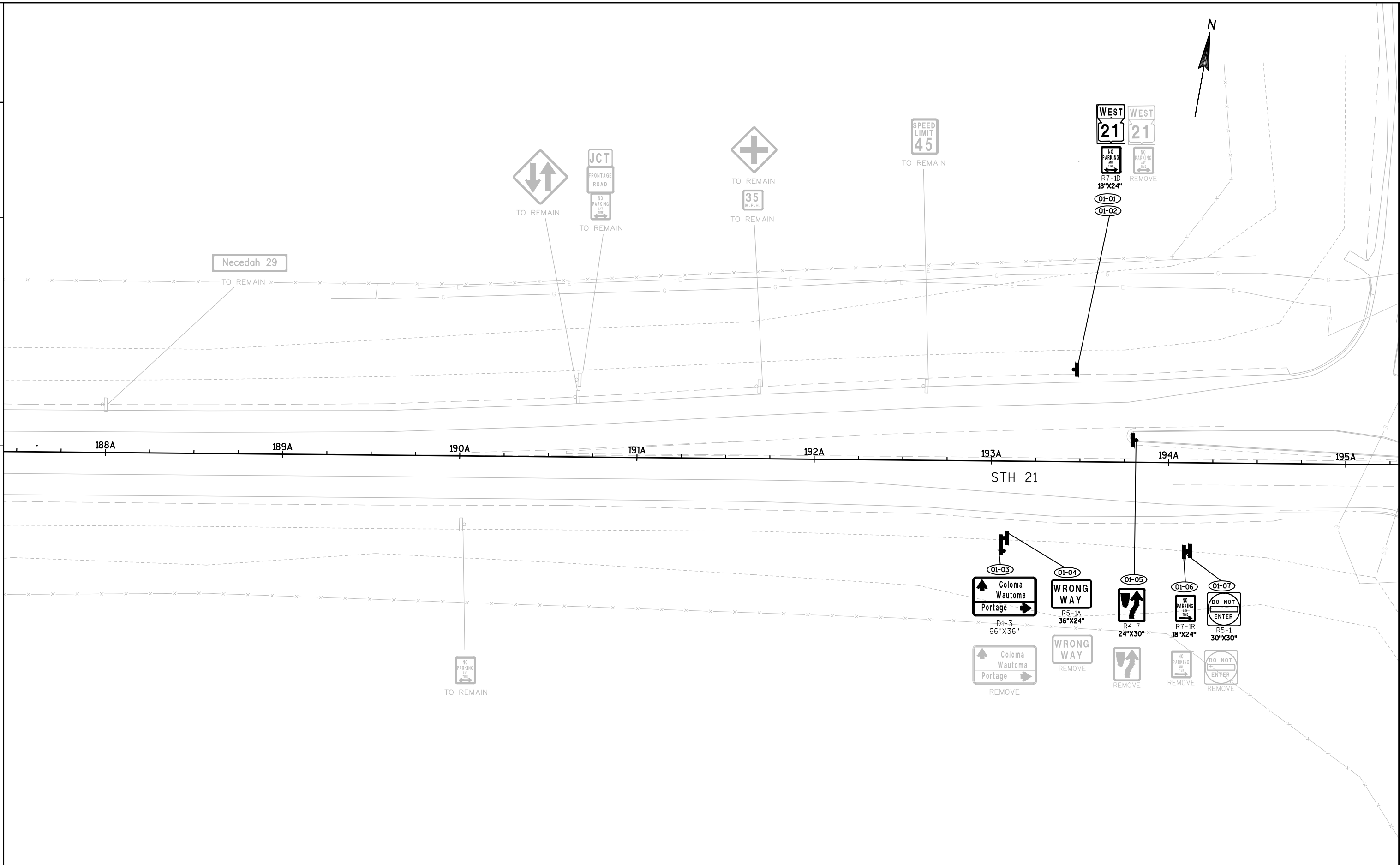


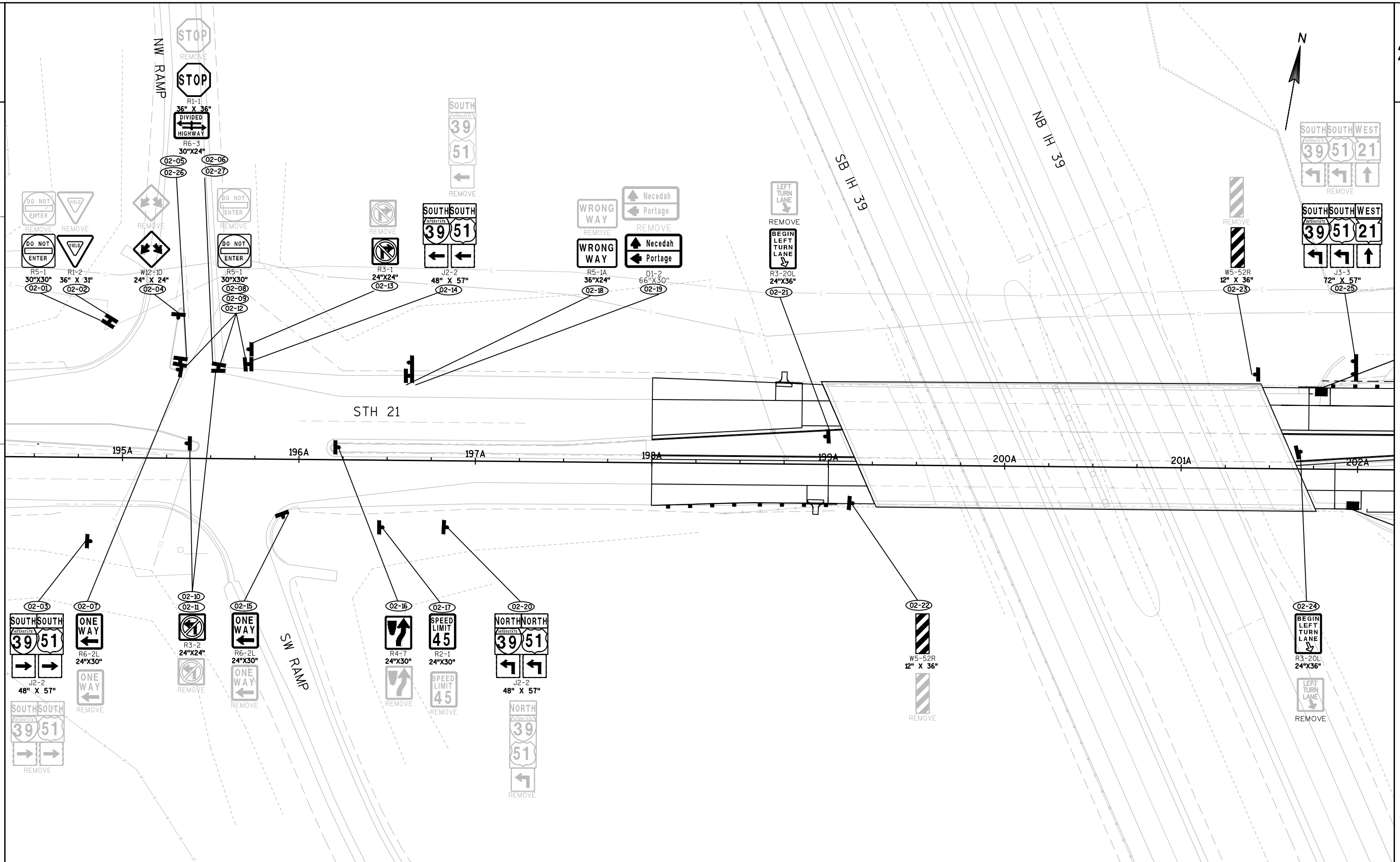


STRUCT NO.	STATION	OFFSET		C-C (FT)	TO STRUCT	STRUCTURE			EXIST RIM	PROPOSED RIM/GRATE ELEVATION	T.O.S. ELEV	DEPTH (FT)	DISCHARGE PIPE					REMARKS
						TYPE	COVER						SIZE (IN)	INLET ELEV	DISCHARGE ELEV	LENGTH (FT)	SLOPE (%)	
EX301	198+75.8A	2'	LT	15.5'	EX302	INL	EXIST	H	1118.21	1118.34	-	-	EX 12	EXIST	EXIST	EXIST	EXIST	ADJUST INLET; CLEAN PIPE
EX302	198+68.5A	17.9'	LT	68.5'	EX303E	INL	EXIST	H	1118.50	1118.61	-	-	EX 12	EXIST	EXIST	EXIST	EXIST	ADJUST INLET; CLEAN PIPE
EX302E	198+46.5A	82'	LT	-	-	EX	CONC	ENDWALL	-	-	-	-	-	EXIST	-	-	-	CLEAN PIPE
EX401	204+57.4A	20'	LT	6'	EX402	INL	EXIST	REMOVE	1095.82	-	-	-	EX12	REMOVE	-	-	-	REMOVE INLET AND PIPE
EX402	204+57.4A	14'	LT	12'	JCT CP4000	INL	EXIST	REMOVE	1095.85	-	-	-	EX12	REMOVE	-	-	-	REMOVE INLET AND PIPE
401A	204+44.5A	20'	LT	6'	402A	INL	2X3	H	-	1096.49	1095.24	3.25	12	1091.99	1091.59	10	4	REPLACES EX401
402A	204+44.5A	14'	LT	23'	403A	INL	2X3	H	-	1096.63	1095.38	3.79	12	1091.59	1090.52	23	4.75	REPLACES EX402
403A	204+69A	12.5'	LT	-	EX S EW 4000	MH	4 FT	J	-	1095.73	1094.90	7.63	EX 30	1087.27	EXIST	EXIST	EXIST	TIE MH INTO EXISTING CP 4000 N AND S
EX N EW 4000	204+69A	77'	LT	-	403A	EX	CONC	ENDWALL	-	-	-	-	EX 30	EXIST	1087.27	EXIST	EXIST	TIE PIPE INTO MH 403A; CLEAN PIPE
501	201+79A	46'	LT	43'	OUTFALL	INL	2X2.5	V	-	1107.91	1106.66	1.50	12	1105.16	1104.02	49	2.33	SURFACE DRAIN TO DITCH @ 202+25, 65' LT
502	201+97A	22'	RT	43'	OUTFALL	INL	2X2.5	V	-	1107.01	1105.76	1.50	12	1104.26	1102.89	56	2.45	SURFACE DRAIN TO DITCH @ 202+50, 43' RT

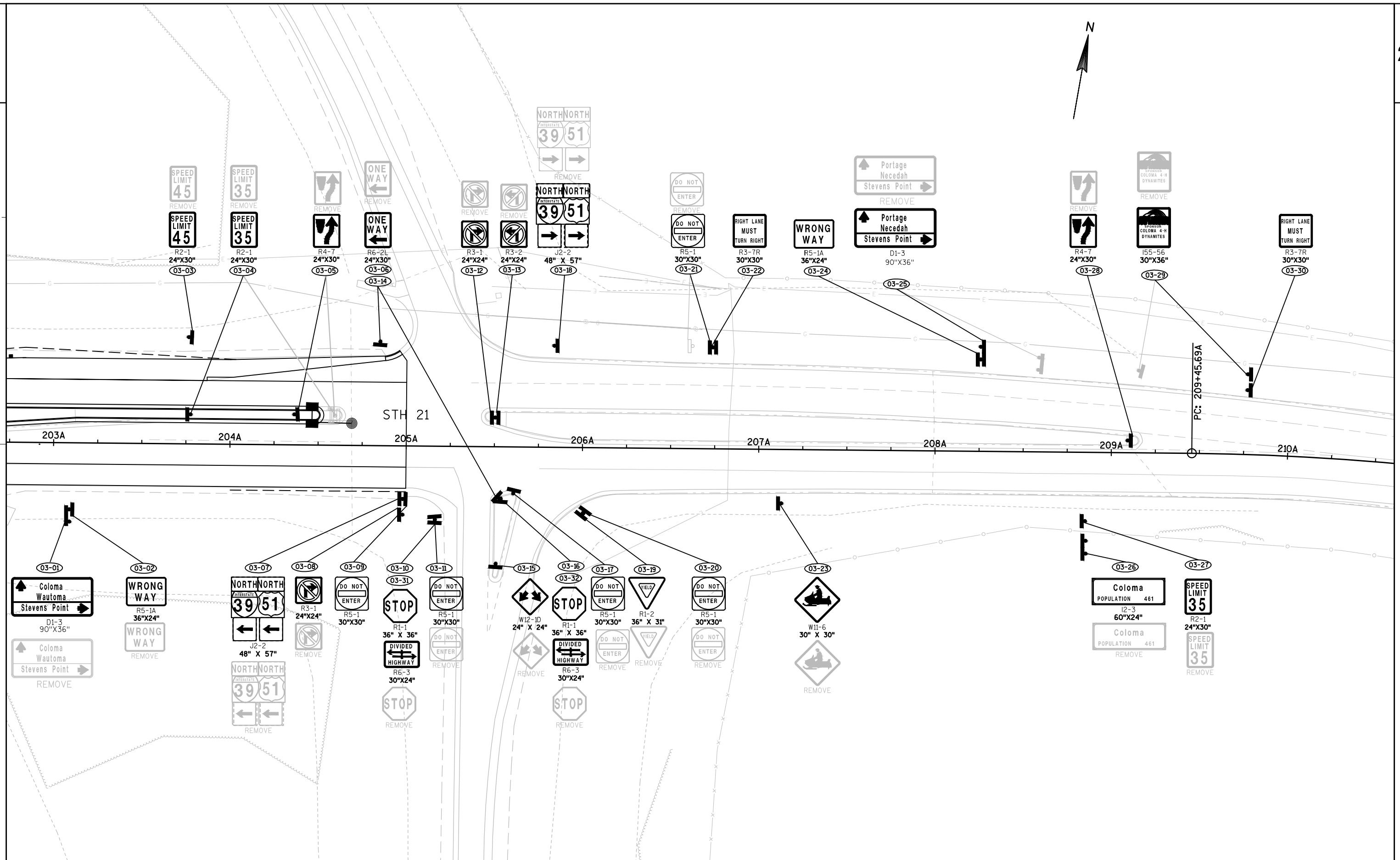


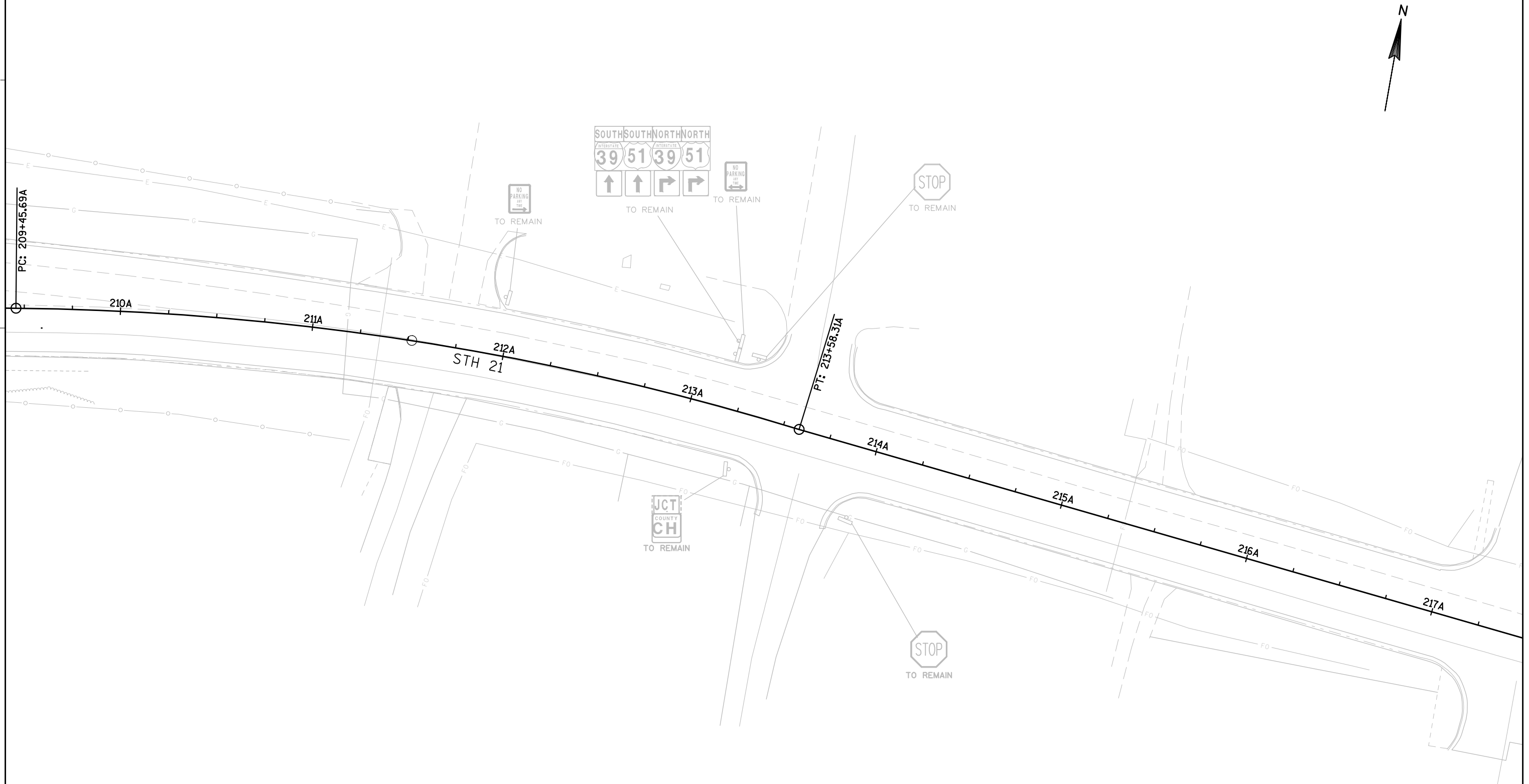


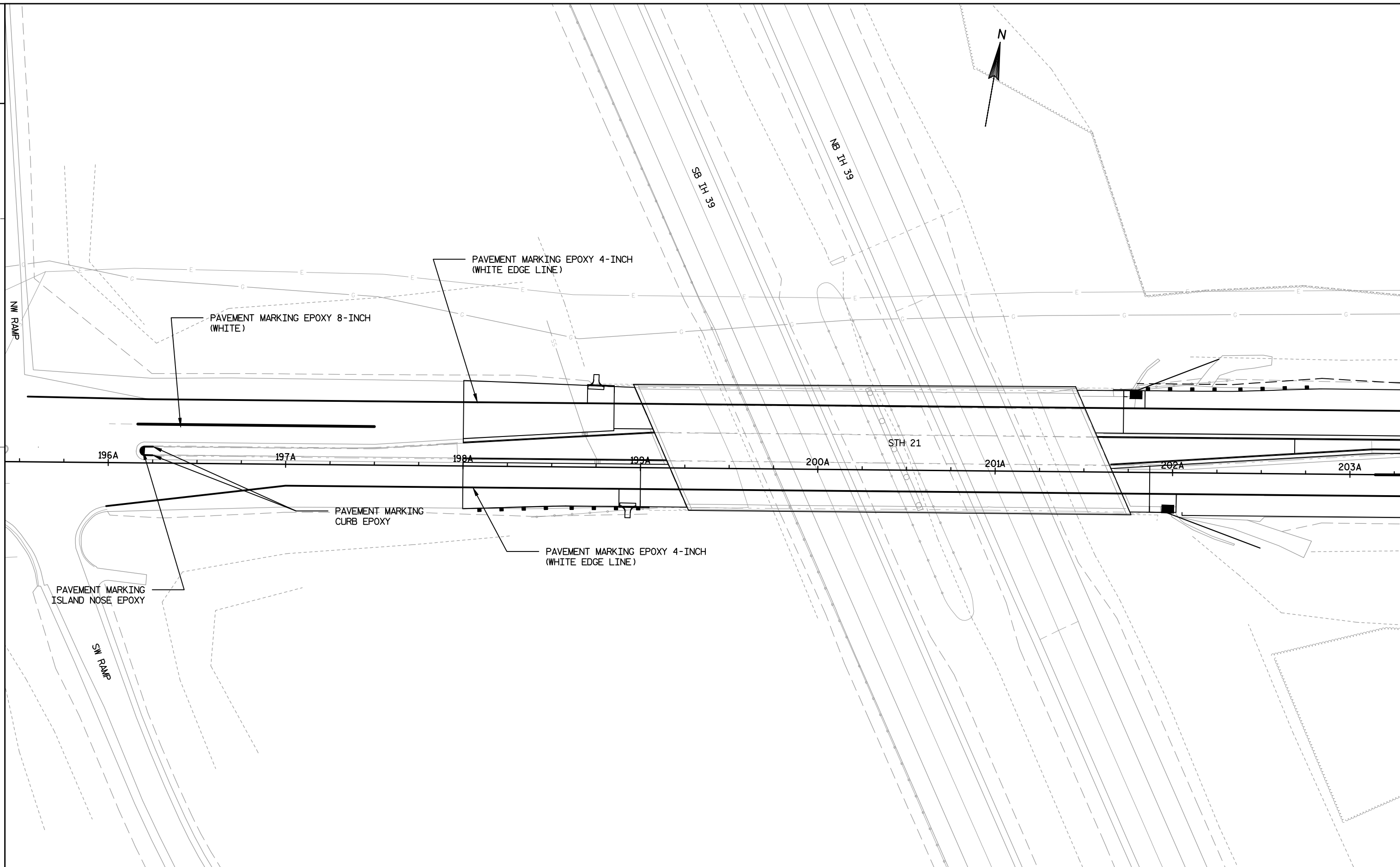


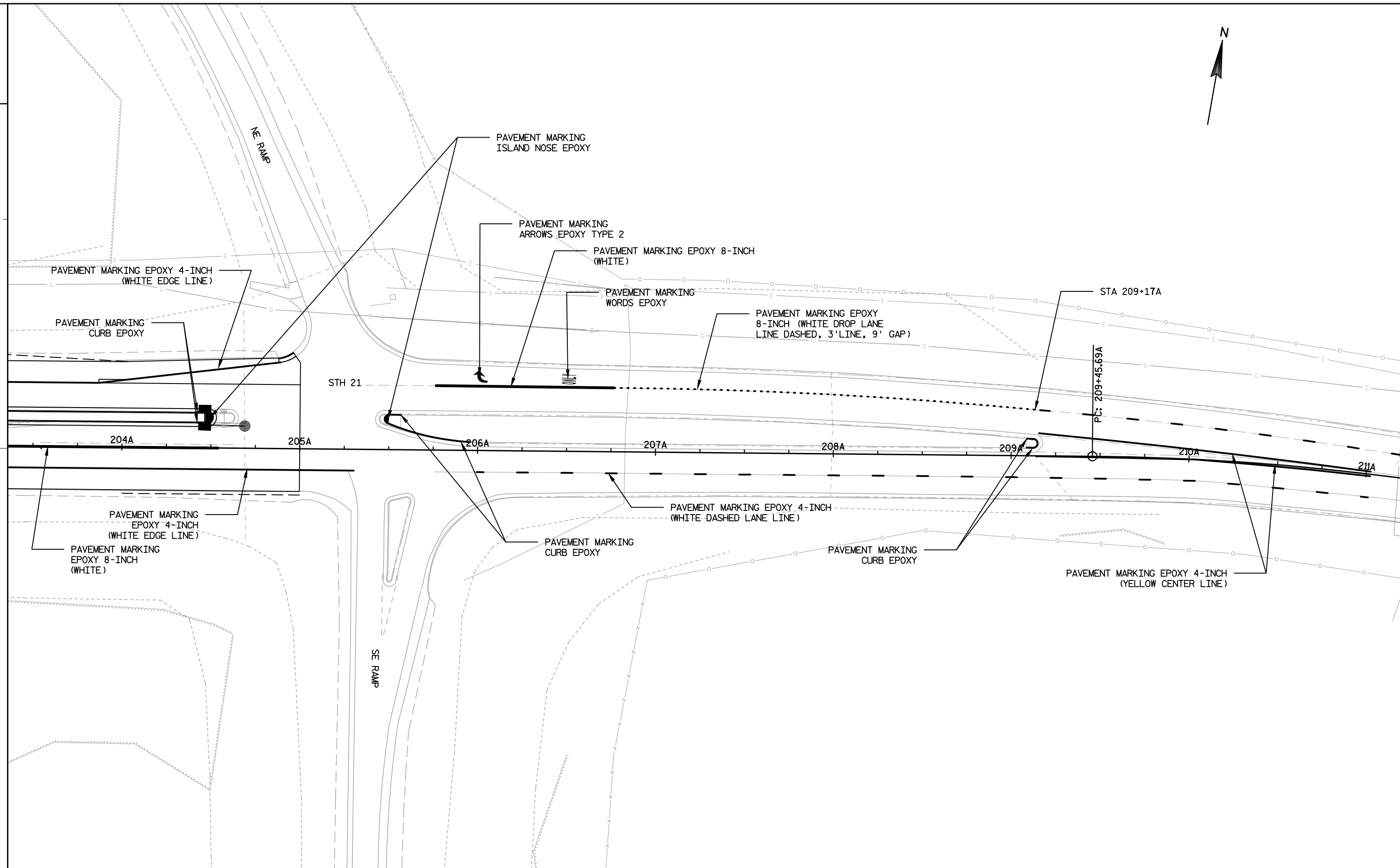


PROJECT NO:1166-07-84	HWY: IH 39	COUNTY: WAUSHARA	PERMANENT SIGNING	SHEET 21	E
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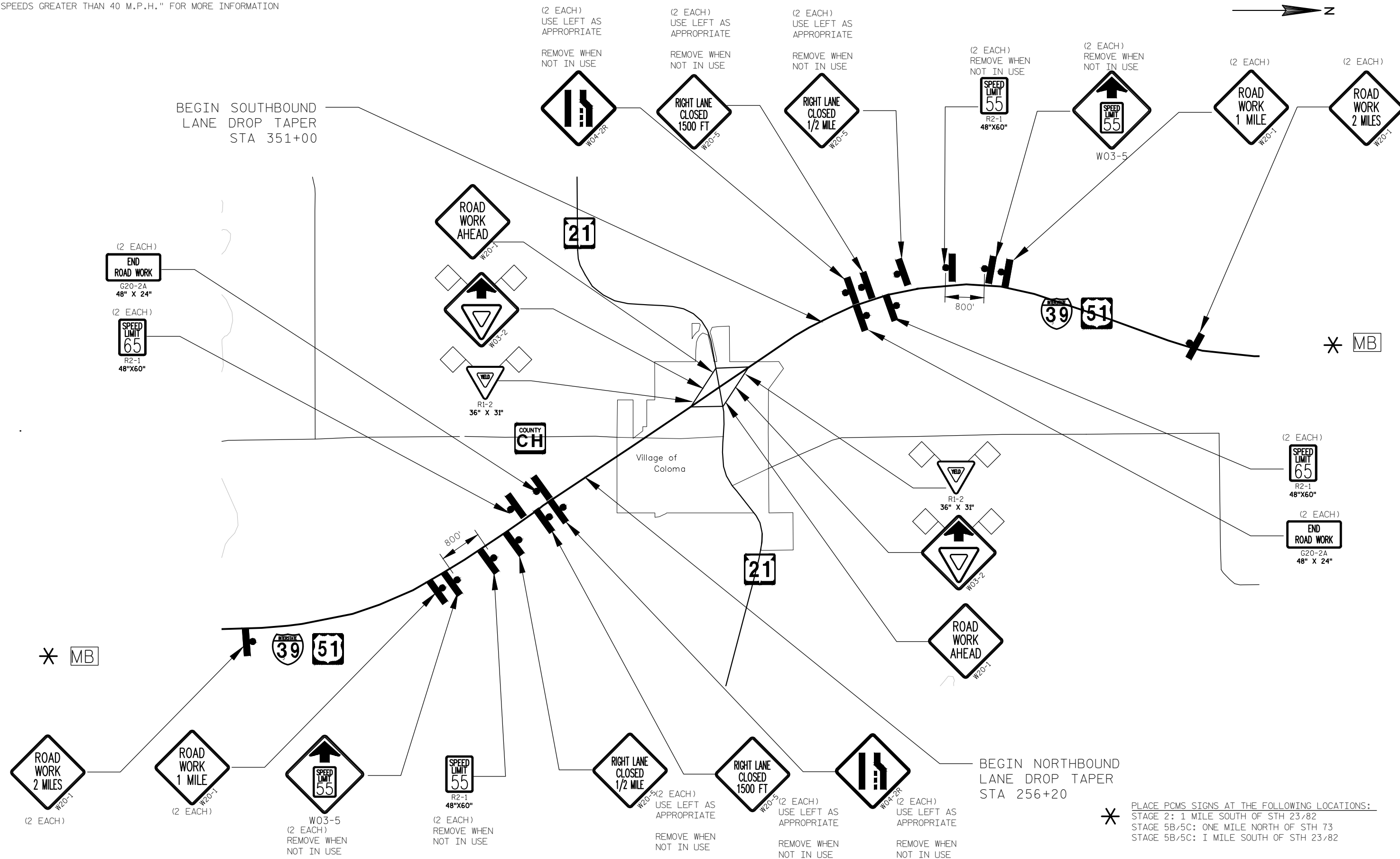




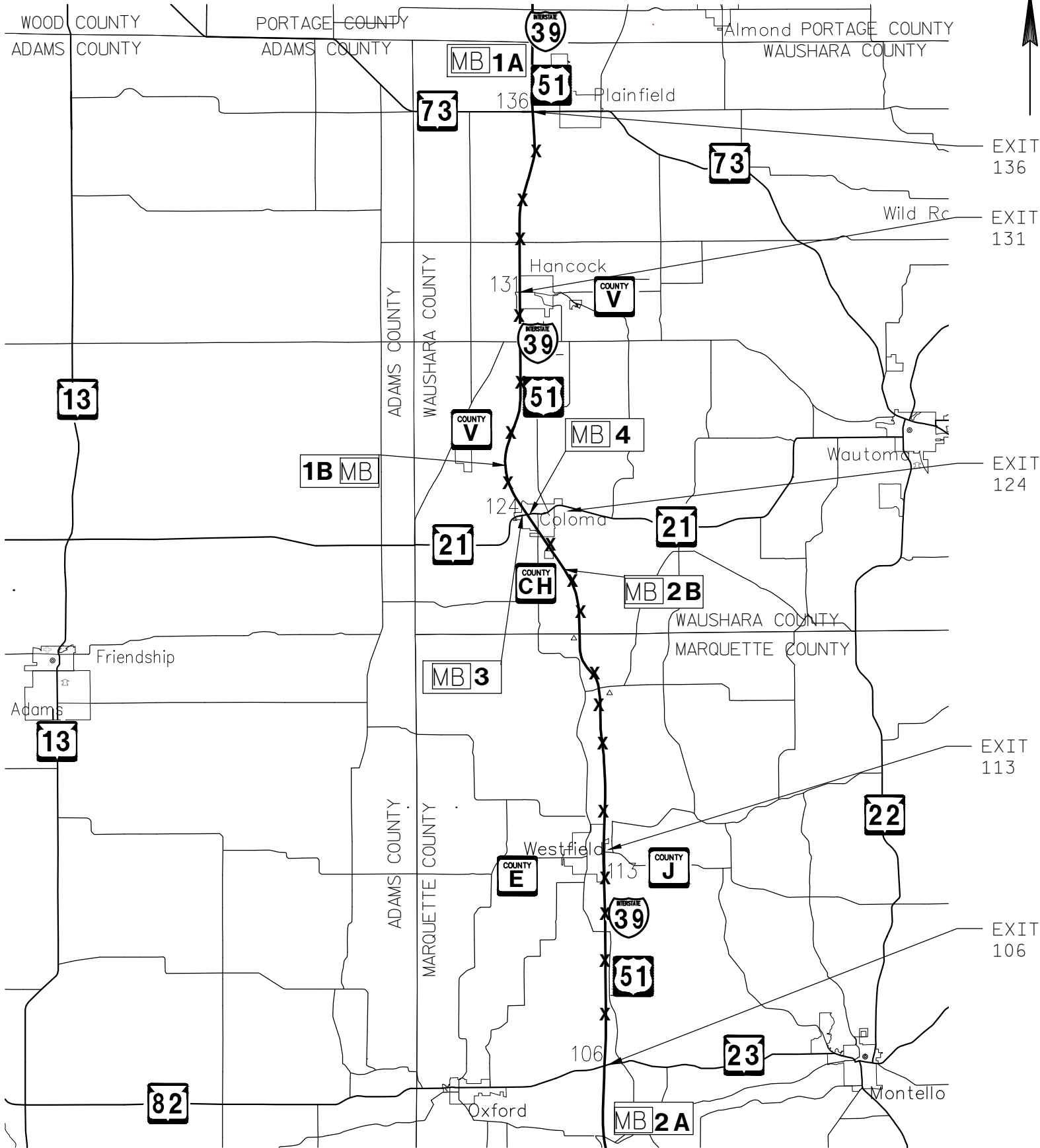




REFER TO S.D.D. "TRAFFIC CONTROL, LANE CLOSURE,
SPEEDS GREATER THAN 40 M.P.H." FOR MORE INFORMATION



PLACE PCMS SIGNS AT THE FOLLOWING LOCATIONS:
STAGE 2: 1 MILE SOUTH OF STH 23/82
STAGE 5B/5C: ONE MILE NORTH OF STH 73
STAGE 5B/5C: I MILE SOUTH OF STH 23/82



GENERAL NOTES FOR CHANGEABLE MESSAGE BOARDS

PCMS=PORTABLE CHANGEABLE MESSAGE SIGN

CONSIDER CLEAR ROWADWAY GEOMETRICS WHEN LOCATING MESSAGE SIGNS. PLACE THE SIGNS SO THE DRIVER HAS A CLEAR VIEW OF THE MESSAGE FOR A MINIMUM OF 1000 FEET.

MESSAGE SIGNS SHOULD BE PLACED AS FAR AWAY FROM THE LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF INTERSTATE CONSTRUCTION PROJECTS, THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ROADWAY.

FOR INTERMITTENT WORK SUCH AS A FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SOULD BE PLACED AHEAD OF A PCMS THAT IS PALCED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.

RAMP GATE INFORMATION:

RAMP GATES LOCATED AT THE FOLLOWING INTERCHANGES:

- EXIT 106 (STH 23/82) NORTHBOUND AND SOUTHBOUND
- EXIT 113 (CTH E/J) NORTHBOUND AND SOUTHBOUND
- EXIT 124 (STH 21) NORTHBOUND AND SOUTHBOUND

RAMP GATES ARE NOT LOCATED AT THE FOLLOWING INTERCHANGES:

- EXIT 131 (CTH V)
- EXIT 136 (STH 73)

X MAINTENANCE CROSSOVER LOCATIONS (MILE MARKER)

- 136.1
- 133.4
- 131.9
- 130.7
- 128.2
- 126.6
- 124.8
- 123.4
- 121.3
- 120.4
- 118.4
- 116.9
- 116.1
- 113.7
- 112.6
- 111.5
- 110.3
- 108.0

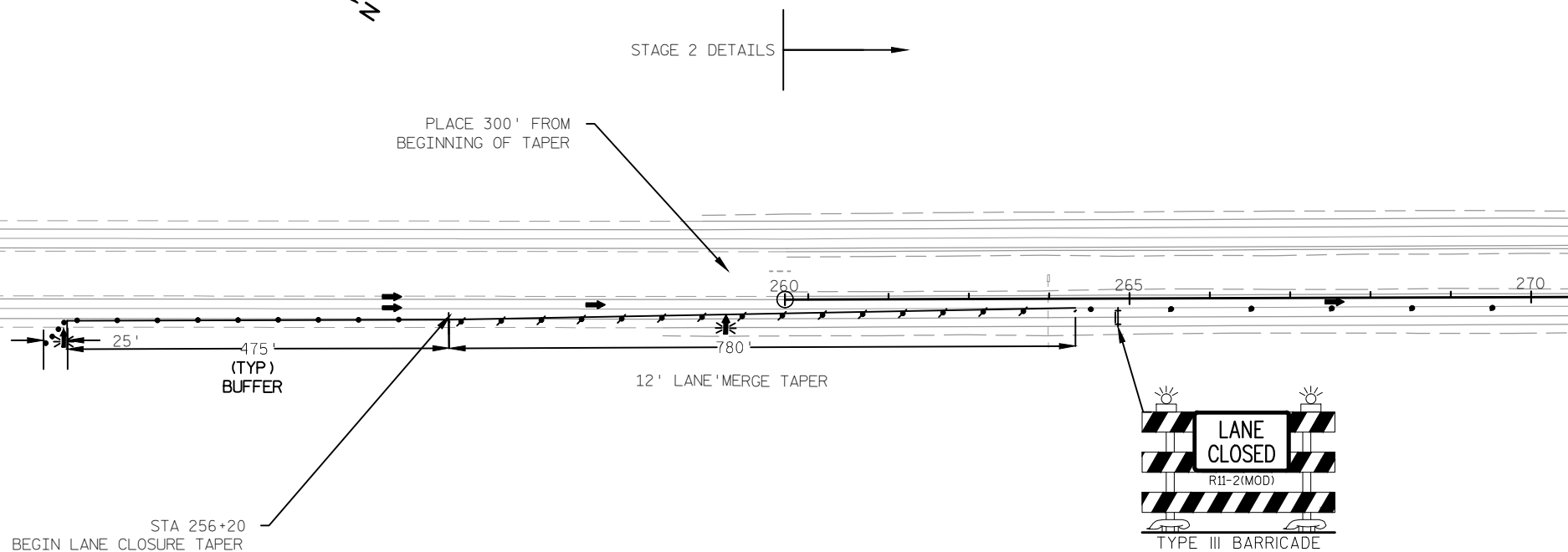
MB xx PCMS SITE LOCATIONS

- SITE NO. APPROXIMATE LOCATION
- 1A ON SB IH 39 APPROXIMATELY 1 MILE NORTH OF EXIT 136
 - 1B ON SB IH 39 APPROXIMATELY 2 MILES NORTH OF EXIT 124
 - 2A ON NB IH 39 APPROXIMATELY 3 MILES SOUTH OF EXIT 124
 - 2B ON NB IH 39 APPROXIMATELY 1 MILE SOUTH OF EXIT 106
 - 3 ON EB STH 21 AT SOUTHBOUND RAMP TERMINAL
 - 4 ON WB STH 21 AT NORTHBOUND RAMP TERMINAL

2014			STAGE 1		10 DAYS PRIOR TO STAGE 2		STAGE 2		WINTER 2014-2015	
	SITE NO.	ROADWAY CONDITION/ CONSTRUCTION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	NO MESSAGE BOARD USED	
	SITE 1A	INCIDENT MANAGEMENT	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		TRAFFIC STOPPED AHEAD	USE ALT RTE	NO MESSAGE BOARD USED	
		GENERAL					(NO MESSAGE)			
	SITE 1B	LANE CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		EXTENDED LANE CLOSURES	TO BEGIN MON.XX	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	
	SITE 2A	INCIDENT MANAGEMENT	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		TRAFFIC STOPPED AHEAD	USE ALT RTE	NO MESSAGE BOARD USED	
		GENERAL					(NO MESSAGE)			
SITE 2B	LANE CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		EXTENDED LANE CLOSURES	TO BEGIN MON.XX	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		
	SITES 3,4	STH 21CLOSURE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	

2015			10 DAYS PRIOR TO STAGE 3		STAGES 3, 4, 5		10 DAYS PRIOR TO STAGE 6		STAGE 6	
	SITE NO.	ROADWAY CONDITION/ CONSTRUCTION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
	SITE 1A	INCIDENT MANAGEMENT	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		TRAFFIC STOPPED AHEAD	USE ALT RTE
		GENERAL							(NO MESSAGE)	
	SITE 1B	LANE CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		EXTENDED LANE CLOSURES	TO BEGIN MON.XX	NO MESSAGE BOARD USED	
	SITE 2A	INCIDENT MANAGEMENT	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		TRAFFIC STOPPED AHEAD	USE ALT RTE
		GENERAL							(NO MESSAGE)	
SITE 2B	LANE CLOSURE ADVANCE NOTICE	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		EXTENDED LANE CLOSURES	TO BEGIN MON.XX	NO MESSAGE BOARD USED		
	SITES 3,4	STH 21CLOSURE	HWY 21 BRIDGE OVER I-39	CLOSURE BEGINS MON.XX	NO MESSAGE BOARD USED		NO MESSAGE BOARD USED		NO MESSAGE BOARD USED	

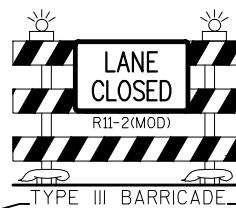
SEE "TRAFFIC CONTROL: ADVANCE WARNING" AND
S.D.D "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS
GREATER THAN 40 M.P.H." FOR SIGNING



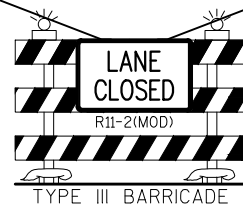
LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE TUBULAR MARKER
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

COVER SIGN
SPEED LIMIT 65 R2-1
SPEED LIMIT 55 R2-1
48"X60"

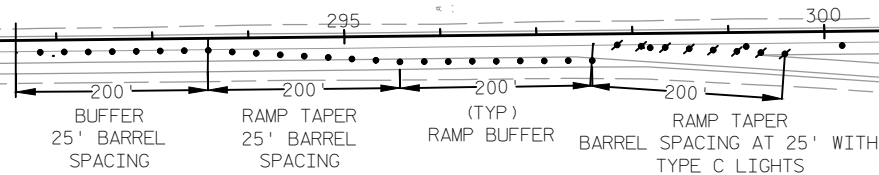


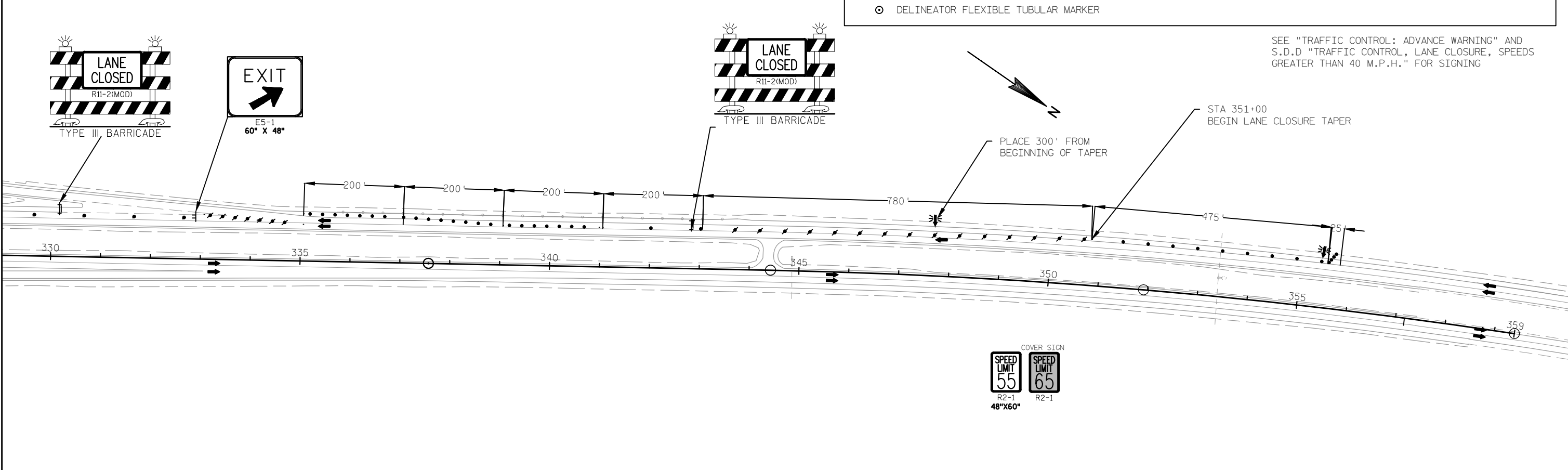
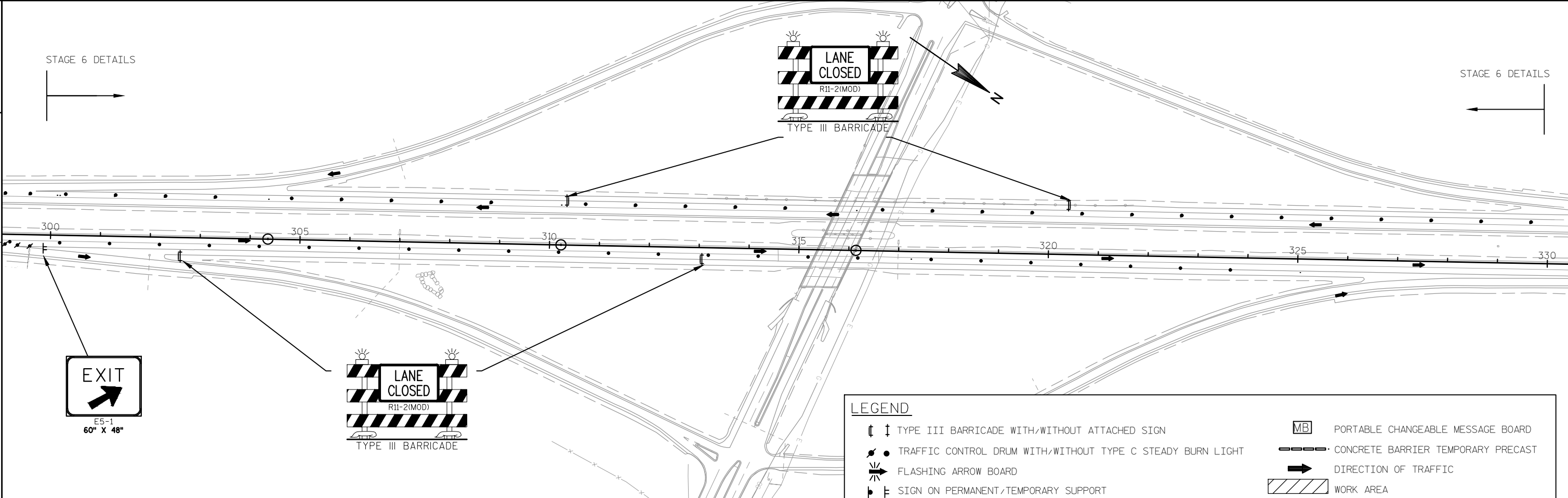
TYPE III BARRICADE



TYPE III BARRICADE

STAGE 2 DETAILS





STAGE 2 DETAILS

SEE "TRAFFIC CONTROL: ADVANCE WARNING" AND
S.D.D "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS
GREATER THAN 40 M.P.H." FOR SIGNING

LEGEND

↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

→ FLASHING ARROW BOARD

⌋ ⌋ SIGN ON PERMANENT/TEMPORARY SUPPORT

⊙ DELINEATOR FLEXIBLE TUBULAR MARKER

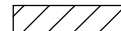
MB

PORTABLE CHANGEABLE MESSAGE BOARD

CONCRETE BARRIER TEMPORARY PRECAST

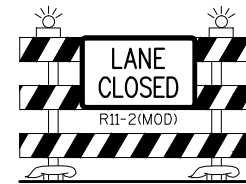
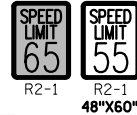


DIRECTION OF TRAFFIC

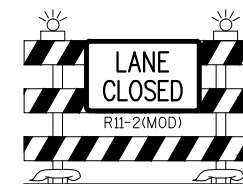


WORK AREA

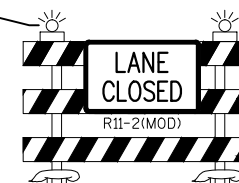
COVER SIGN



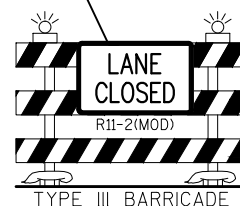
TYPE III BARRICADE



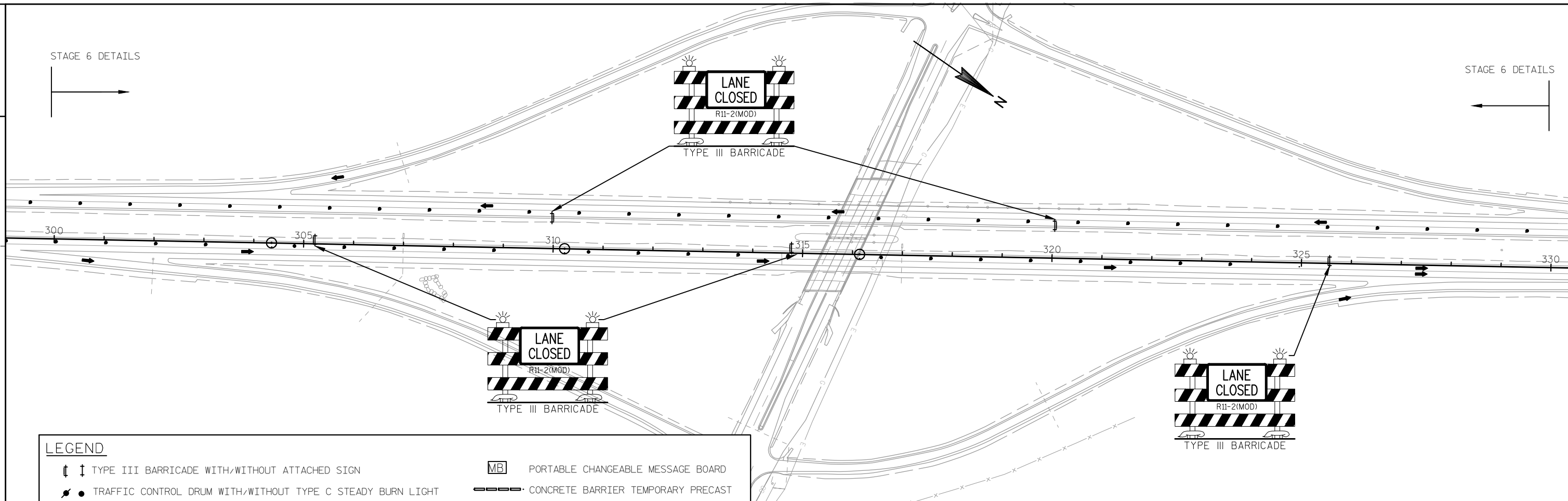
TYPE III BARRICADE



TYPE III BARRICADE



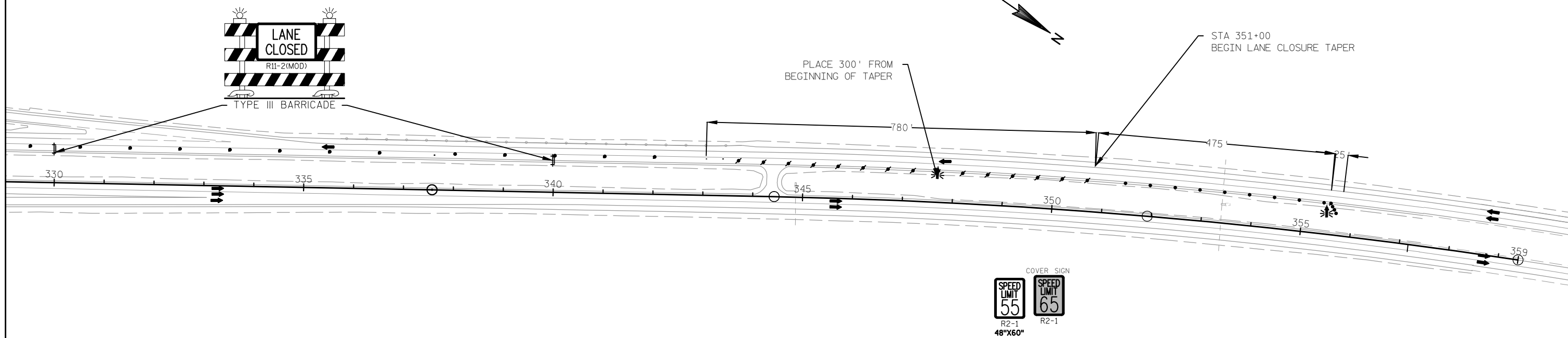
TYPE III BARRICADE



LEGEND

- | | |
|--|--------------------------------------|
| ↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | MB PORTABLE CHANGEABLE MESSAGE BOARD |
| ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | CONCRETE BARRIER TEMPORARY PRECAST |
| → FLASHING ARROW BOARD | → DIRECTION OF TRAFFIC |
| ⊢ SIGN ON PERMANENT/TEMPORARY SUPPORT | WORK AREA |
| ○ DELINEATOR FLEXIBLE TUBULAR MARKER | |

SEE "TRAFFIC CONTROL: ADVANCE WARNING" AND
S.D.D "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS
GREATER THAN 40 M.P.H." FOR SIGNING





4TH AVENUE

FRONT STREET

SEMROW
STREET

STH 21

COLOMA

STAGE 1

PURPOSE:

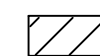
CONSTRUCT PAVEMENT ON INSIDE AND OUTSIDE SHOULDERS ALONG NORTHBOUND IH 39/USH 51
FOR FUTURE TRAFFIC HANDLING.

TRAFFIC HANDLING:

IH 39/USH 51 NB - TRAFFIC ON NORTHBOUND PAVEMENT
IH 39/USH 51 SB - TRAFFIC ON SOUTHBOUND PAVEMENT.
STH 21 - ALL LANES EACH DIRECTION AND RAMP OPEN TO TRAFFIC.
CTH CH - ONE LANE EACH DIRECTION OPEN TO TRAFFIC.

RESTRICTIONS:

IH 39/USH 51 NB - WEEK DAY LANE CLOSURES
IH 39/USH 51 SB - NONE
STH 21 - NONE
CTH CH - NONE

LEGEND WORK ZONE

STH 21

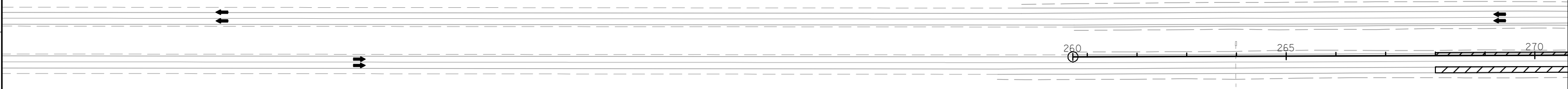
STH 21

USH 51 /
IH 39

CTH CH

OLD HWY 21

SEE "TRAFFIC CONTROL: INSIDE LANE CLOSURE DETAIL" AND
"TRAFFIC CONTROL: OUTSIDE LANE CLOSURE DETAIL" FOR
ADDITIONAL TRAFFIC CONTROL.



LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

FLASHING ARROW BOARD

SIGN ON PERMANENT/TEMPORARY SUPPORT

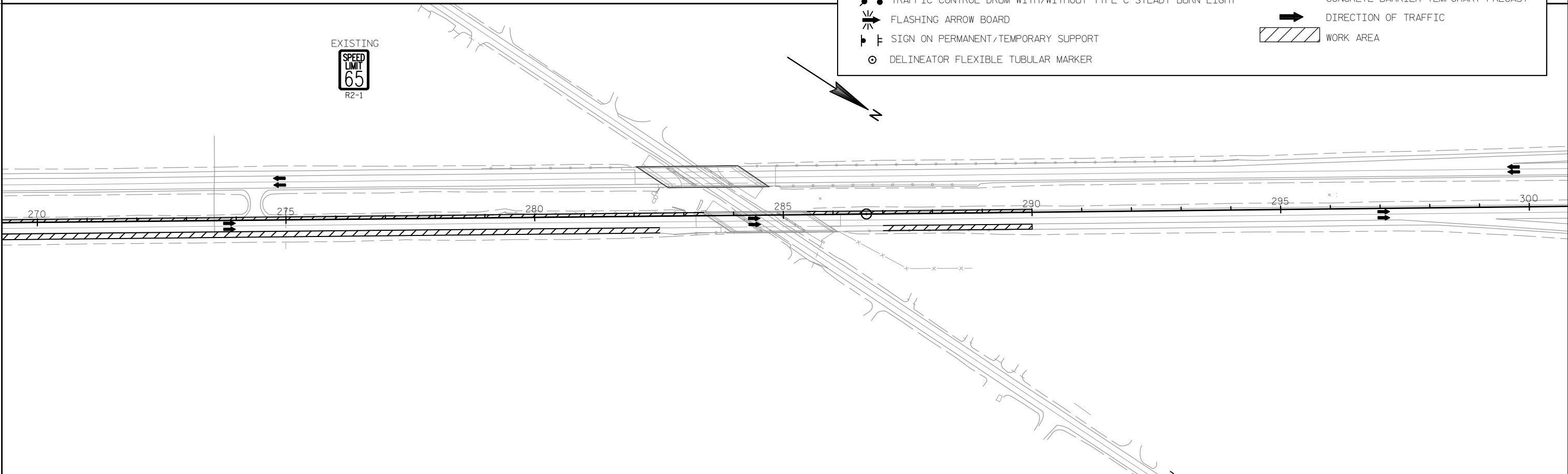
DELINEATOR FLEXIBLE TUBULAR MARKER

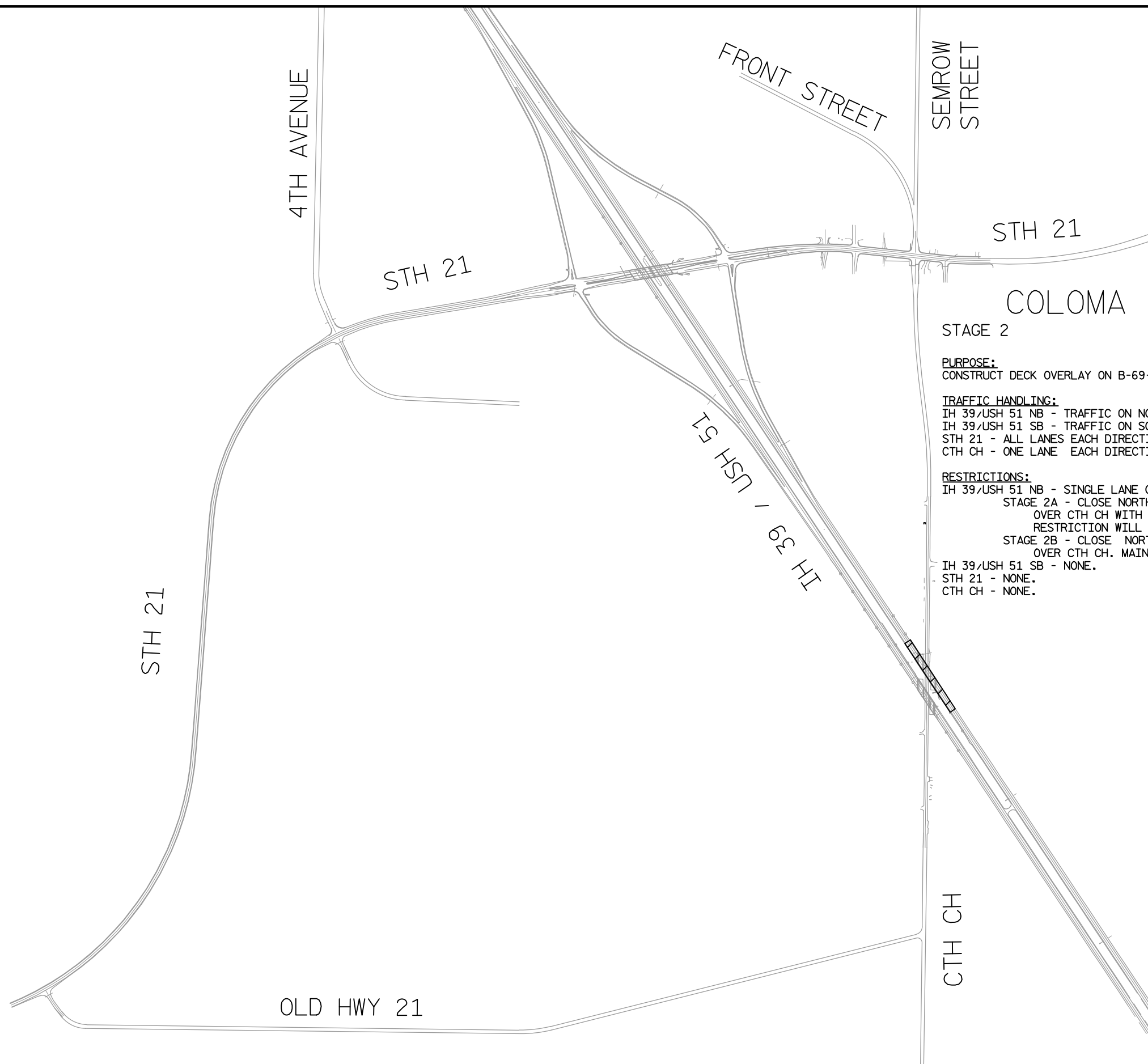
PORTABLE CHANGEABLE MESSAGE BOARD

CONCRETE BARRIER TEMPORARY PRECAST

DIRECTION OF TRAFFIC

WORK AREA





PURPOSE:
CONSTRUCT DECK OVERLAY ON B-69-19. MILL AND OVERLAY APPROACHES TO TIE INTO THE NEW DECK PROFILE.

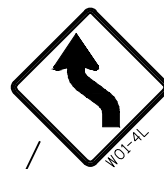
TRAFFIC HANDLING:
IH 39/USH 51 NB - TRAFFIC ON NORTHBOUND PAVEMENT.
IH 39/USH 51 SB - TRAFFIC ON SOUTHBOUND PAVEMENT.
STH 21 - ALL LANES EACH DIRECTION AND RAMPS OPEN TO TRAFFIC.
CTH CH - ONE LANE EACH DIRECTION OPEN TO TRAFFIC.

RESTRICTIONS:
IH 39/USH 51 NB - SINGLE LANE OF TRAFFIC WITH BARRIER WALL LANE CLOSURES.
STAGE 2A - CLOSE NORTHBOUND OUTSIDE LANE AND SHIFT TO INSIDE SHOULDER OF NB IH 39/USH 51 OVER CTH CH WITH 2' INSIDE SHOULDER, 1' OUTSIDE SHOULDER AND BARRIER. A 14' MAX WIDTH RESTRICTION WILL BE REQUIRED.
STAGE 2B - CLOSE NORTHBOUND INSIDE LANE AND SHIFT TO OUTSIDE SHOULDER OF NB IH 39/USH 51 OVER CTH CH. MAINTAIN A MINIMUM OF 16' CLEAR WIDTH TO ACCOMMODATE OSOW VEHICLES.
IH 39/USH 51 SB - NONE.
STH 21 - NONE.
CTH CH - NONE.

LEGEND

 WORK ZONE

REMOVE ALL PAVEMENT MARKING FROM
IH 39 NB 268+00 - 290+00



TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

260

265

270

275

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 6-INCH (BLACK)

400'
BUFFER

220'
4' LANE SHIFT TAPER

800'
BUFFER

SEE "TRAFFIC CONTROL: OUTSIDE LANE CLOSURE DETAIL"
FOR ADDITIONAL NB ADVANCED SIGNING

STA 264+00
END LANE DROP TAPER

LEGEND

⚡ ⚡ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

⚡ FLASHING ARROW BOARD

⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT

⊙ DELINEATOR FLEXIBLE TUBULAR MARKER

MB PORTABLE CHANGEABLE MESSAGE BOARD

CONCRETE BARRIER TEMPORARY PRECAST

DIRECTION OF TRAFFIC

WORK AREA

EXISTING



R2-1

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

CONCRETE BARRIER
TEMPORARY PRECAST

8:1 CONCRETE BARRIER
TEMPORARY PRECAST TAPER
TAPER TO OUTSIDE EDGE OF
SHOULDER. END SECTION
REQUIRED

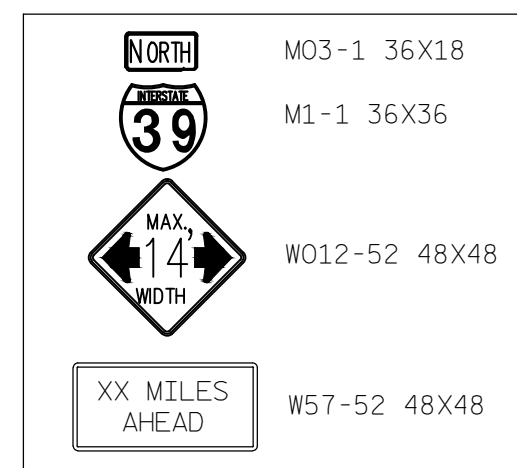
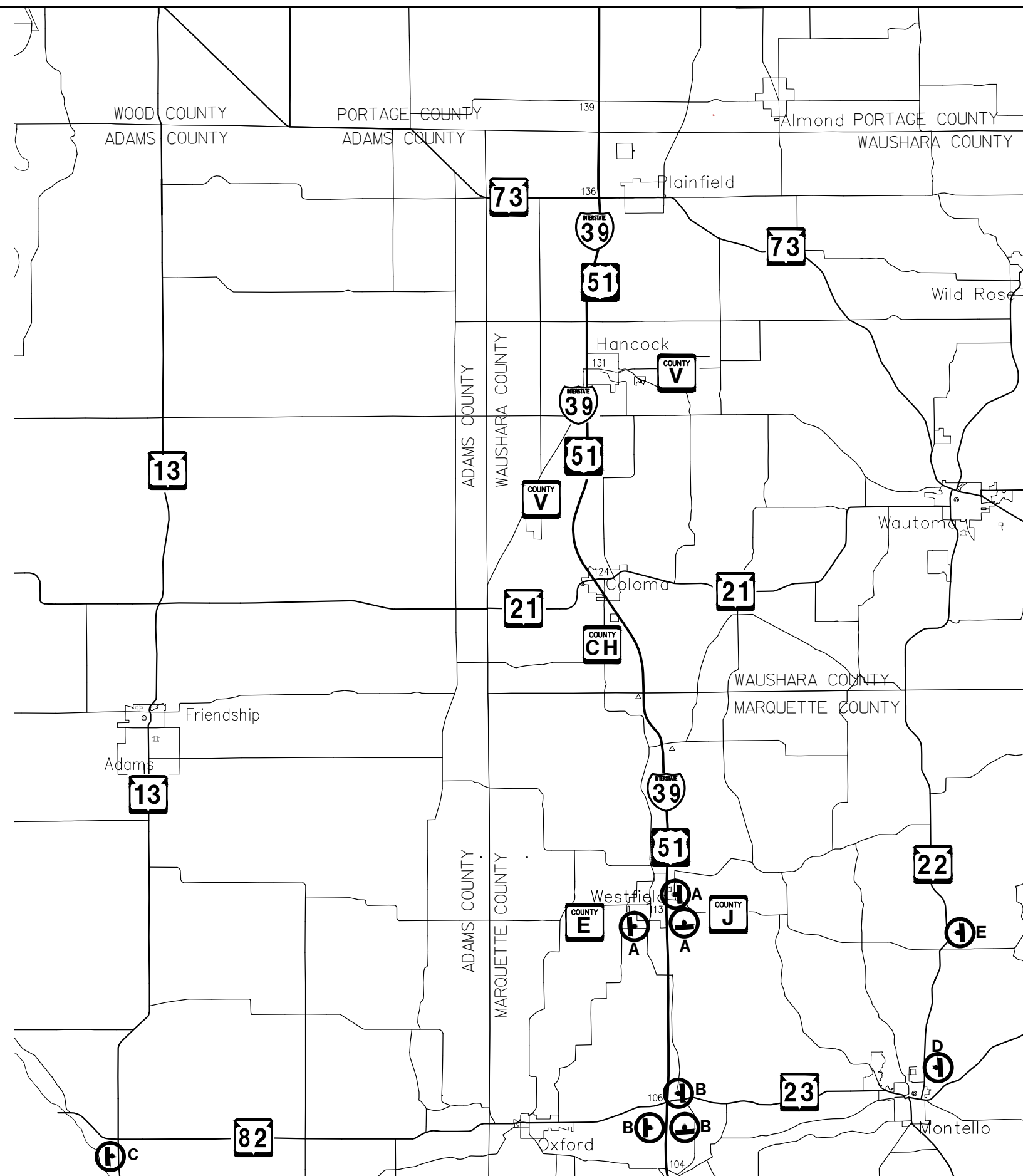
W5-52R

W5-52R



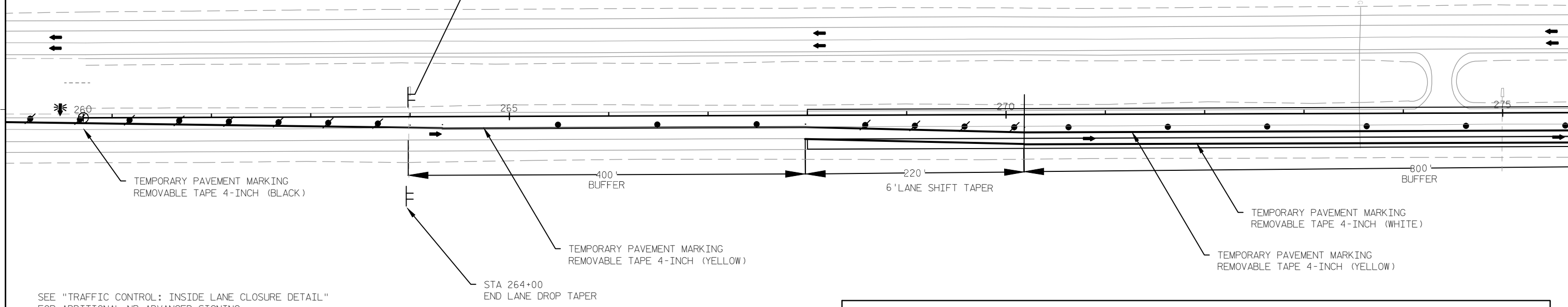
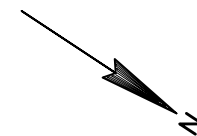
WORK ZONE

100' 200'
4' LANE
SHIFT TAPER



① SIGN ON TEMPORARY SUPPORT

- A - 10 MILES
- B - 17 MILES
- C - 34 MILES
- D - 25 MILES
- E - 19 MILES



SEE "TRAFFIC CONTROL: INSIDE LANE CLOSURE DETAIL"
FOR ADDITIONAL NB ADVANCED SIGNING

STA 264+00
END LANE DROP TAPER

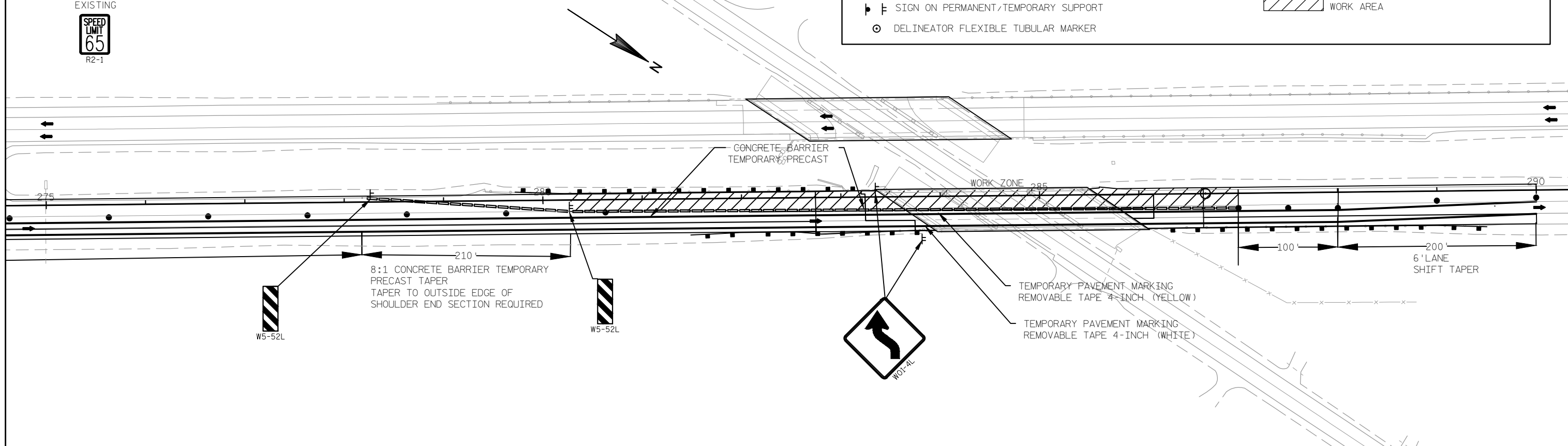
LEGEND

- | | |
|--|------------------------------------|
| TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | PORTABLE CHANGEABLE MESSAGE BOARD |
| TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | CONCRETE BARRIER TEMPORARY PRECAST |
| FLASHING ARROW BOARD | DIRECTION OF TRAFFIC |
| SIGN ON PERMANENT/TEMPORARY SUPPORT | WORK AREA |
| DELINEATOR FLEXIBLE TUBULAR MARKER | |

EXISTING



R2-1



PROJECT NO: 1166-07-64

HWY: IH 39

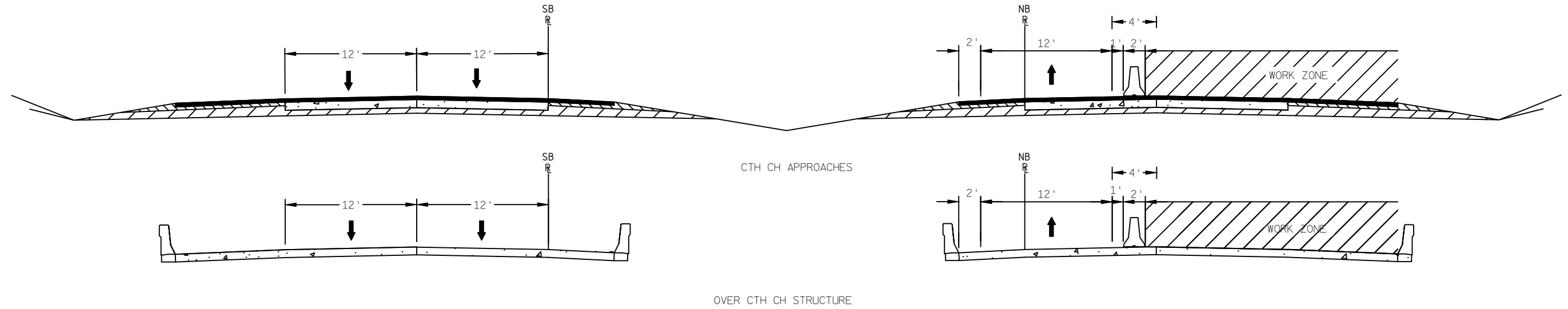
COUNTY: WAUSHARA

TRAFFIC CONTROL: STAGE 2B

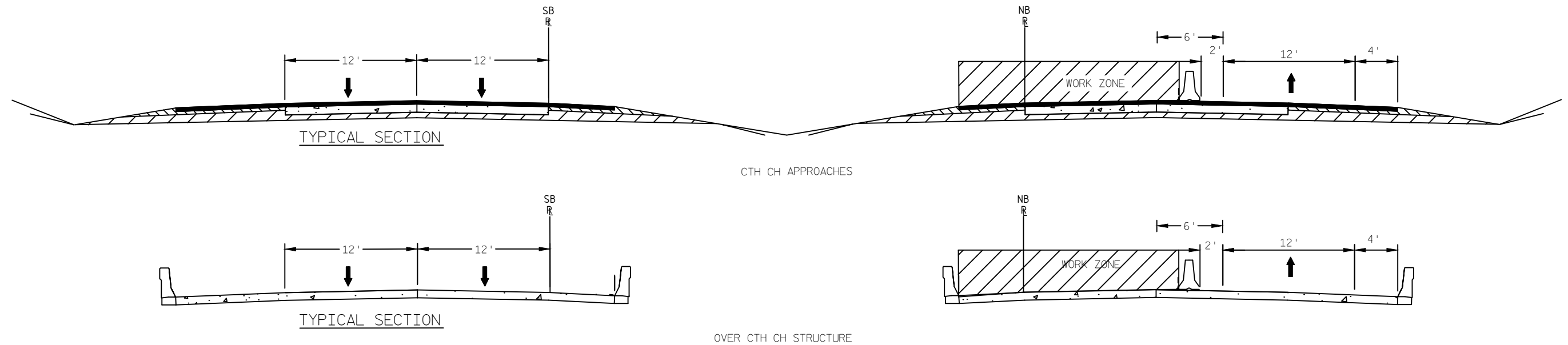
SHEET

38

E



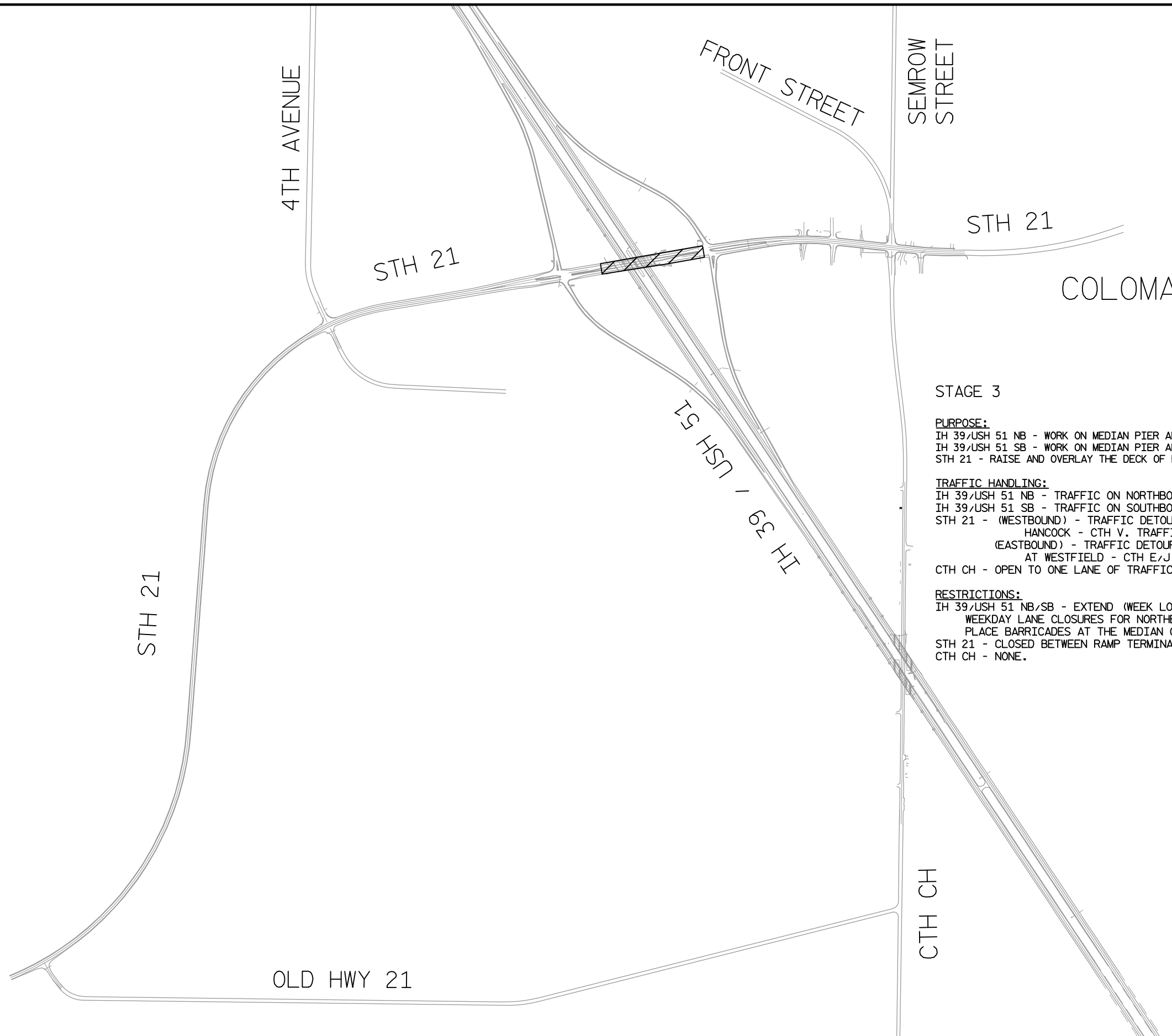
IH 39 STAGE 2A



STAGE 2B

IH 39 STAGE 2B

* MAINTAIN 2' MINIMUM OFFSET FROM DRIVING LANE TO
TRAFFIC CONTROL DRUM WHEN NOT WORKING IN LANE

**STAGE 3****PURPOSE:**

IH 39/USH 51 NB - WORK ON MEDIAN PIER AND EAST ABUTMENT FOR RAISING OF STRUCTURE B-69-20.
IH 39/USH 51 SB - WORK ON MEDIAN PIER AND WEST ABUTMENT FOR RAISING OF STRUCTURE B-69-20.
STH 21 - RAISE AND OVERLAY THE DECK OF B-69-20, AND RECONSTRUCT APPROACHES.

TRAFFIC HANDLING:

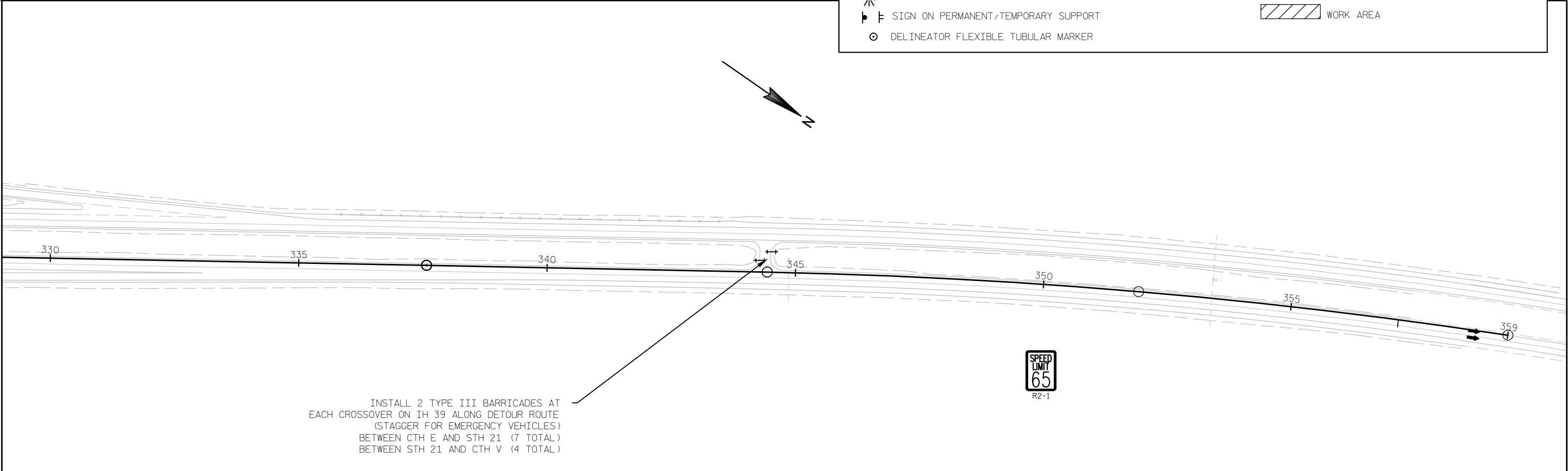
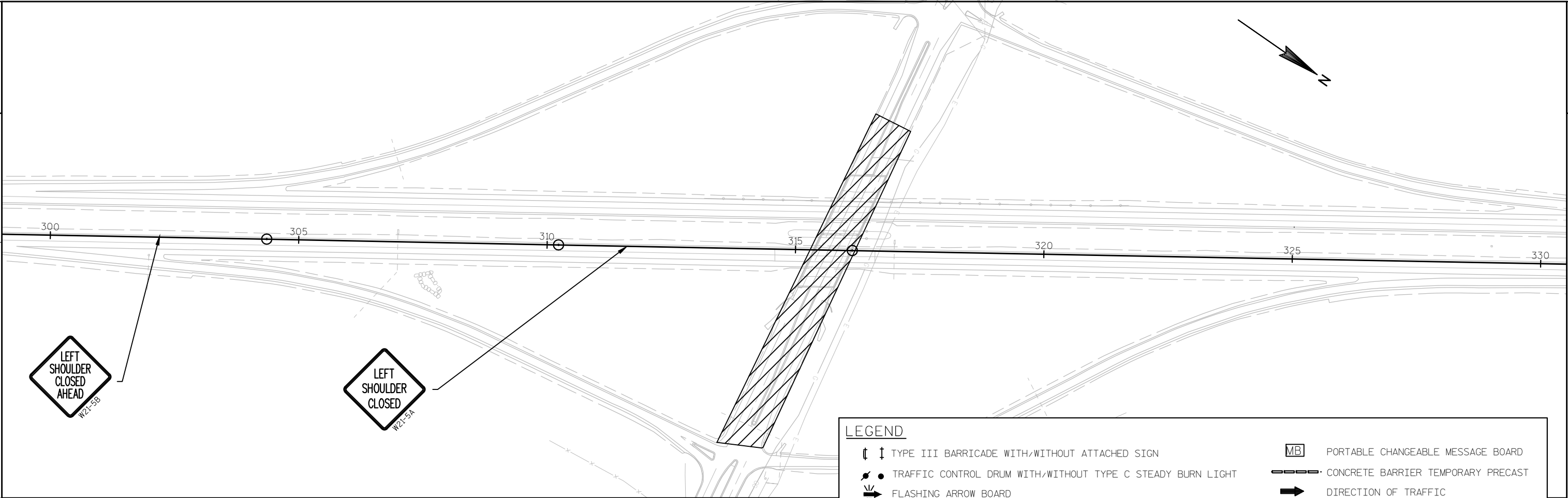
IH 39/USH 51 NB - TRAFFIC ON NORTHBOUND PAVEMENT.
IH 39/USH 51 SB - TRAFFIC ON SOUTHBOUND PAVEMENT.
STH 21 - (WESTBOUND) - TRAFFIC DETOURED VIA IH 39/USH 51, TURNING AROUND VIA ADJACENT RAMP TERMINAL AT HANCOCK - CTH V. TRAFFIC RETURNS TO STH 21 AT INTERCHANGE RAMP.
(EASTBOUND) - TRAFFIC DETOURED VIA IH 39/USH 51, TURNING AROUND VIA ADJACENT RAMP TERMINAL AT WESTFIELD - CTH E/J. TRAFFIC RETURNS TO STH 21 AT INTERCHANGE RAMP.
CTH CH - OPEN TO ONE LANE OF TRAFFIC IN EACH DIRECTION.

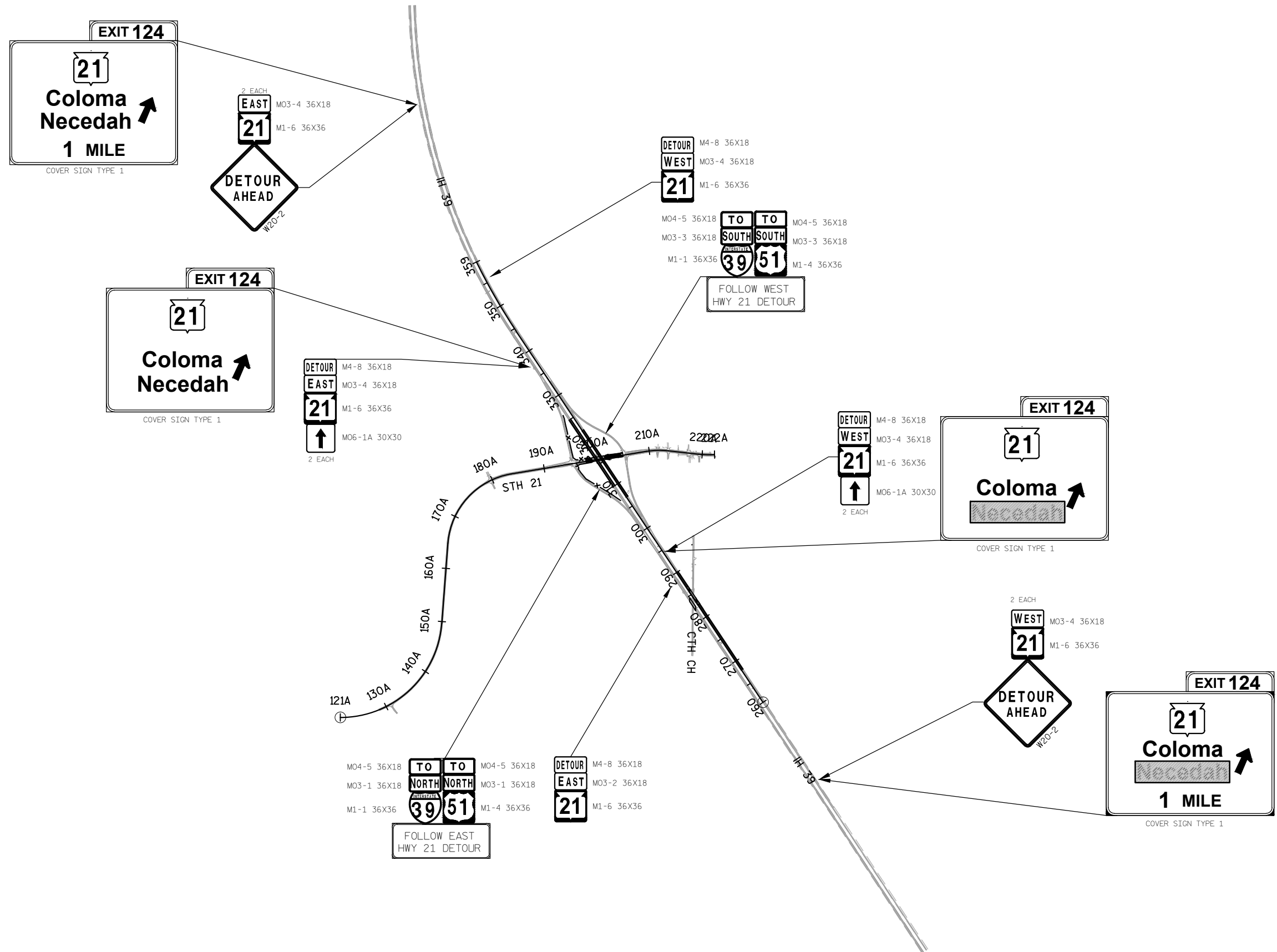
RESTRICTIONS:

IH 39/USH 51 NB/SB - EXTEND (WEEK LONG) SHOULDER CLOSURES FOR PIER WORK.
WEEKDAY LANE CLOSURES FOR NORTHBOUND AND SOUTHBOUND TRAFFIC.
PLACE BARRICADES AT THE MEDIAN CROSSOVERS BETWEEN CTH E AND CTH V TO DISCOURAGE U-TURNS.
STH 21 - CLOSED BETWEEN RAMP TERMINALS; REDUCED TO ONE LANE OF TRAVEL IN EACH DIRECTION.
CTH CH - NONE.

LEGEND

 WORK ZONE





2

2



LEGEND

↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

● ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

⚡ FLASHING ARROW BOARD

⌂ SIGN ON PERMANENT/TEMPORARY SUPPORT

⊙ DELINEATOR FLEXIBLE TUBULAR MARKER

MB

PORTABLE CHANGEABLE MESSAGE BOARD

— — — — —

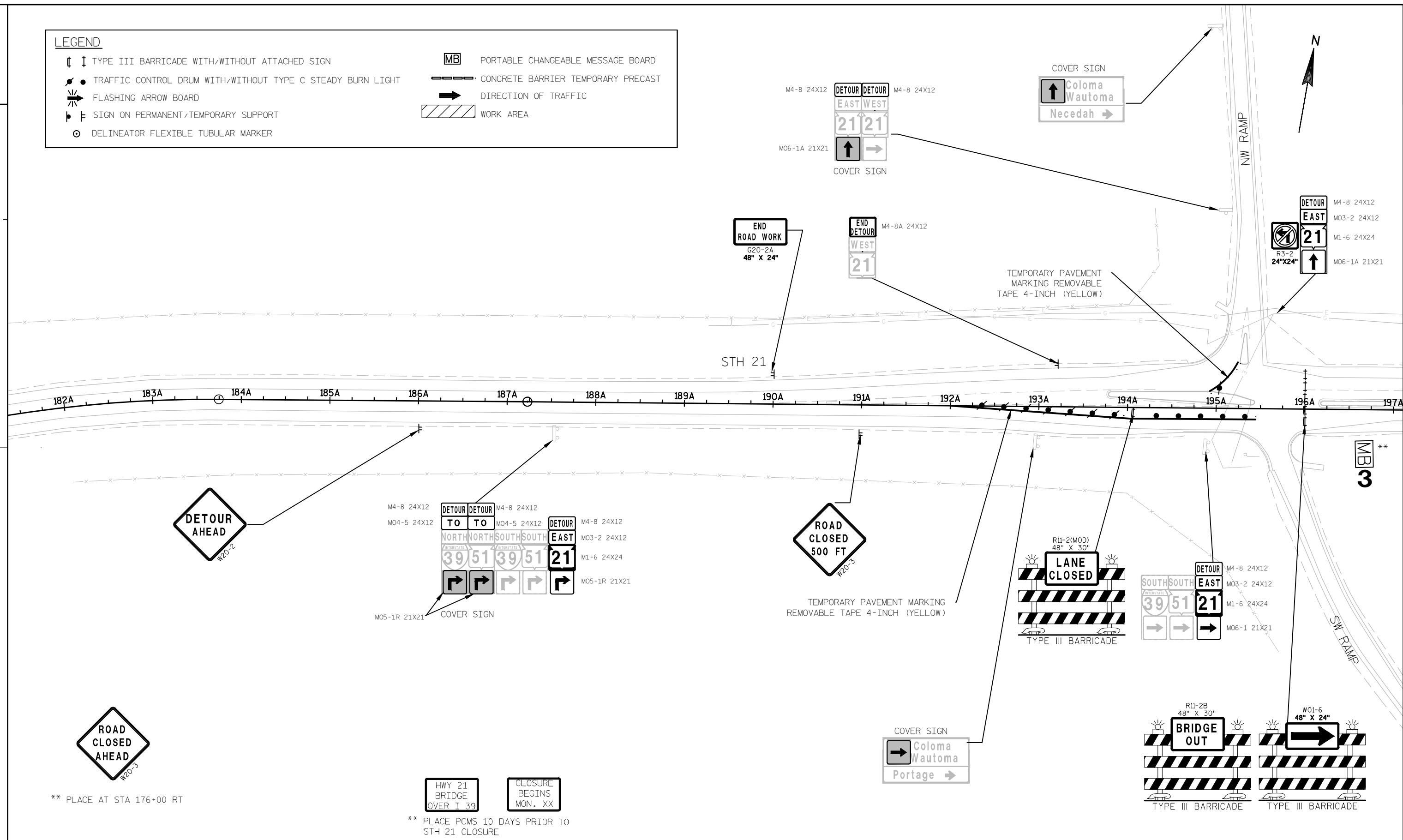
CONCRETE BARRIER TEMPORARY PRECAST

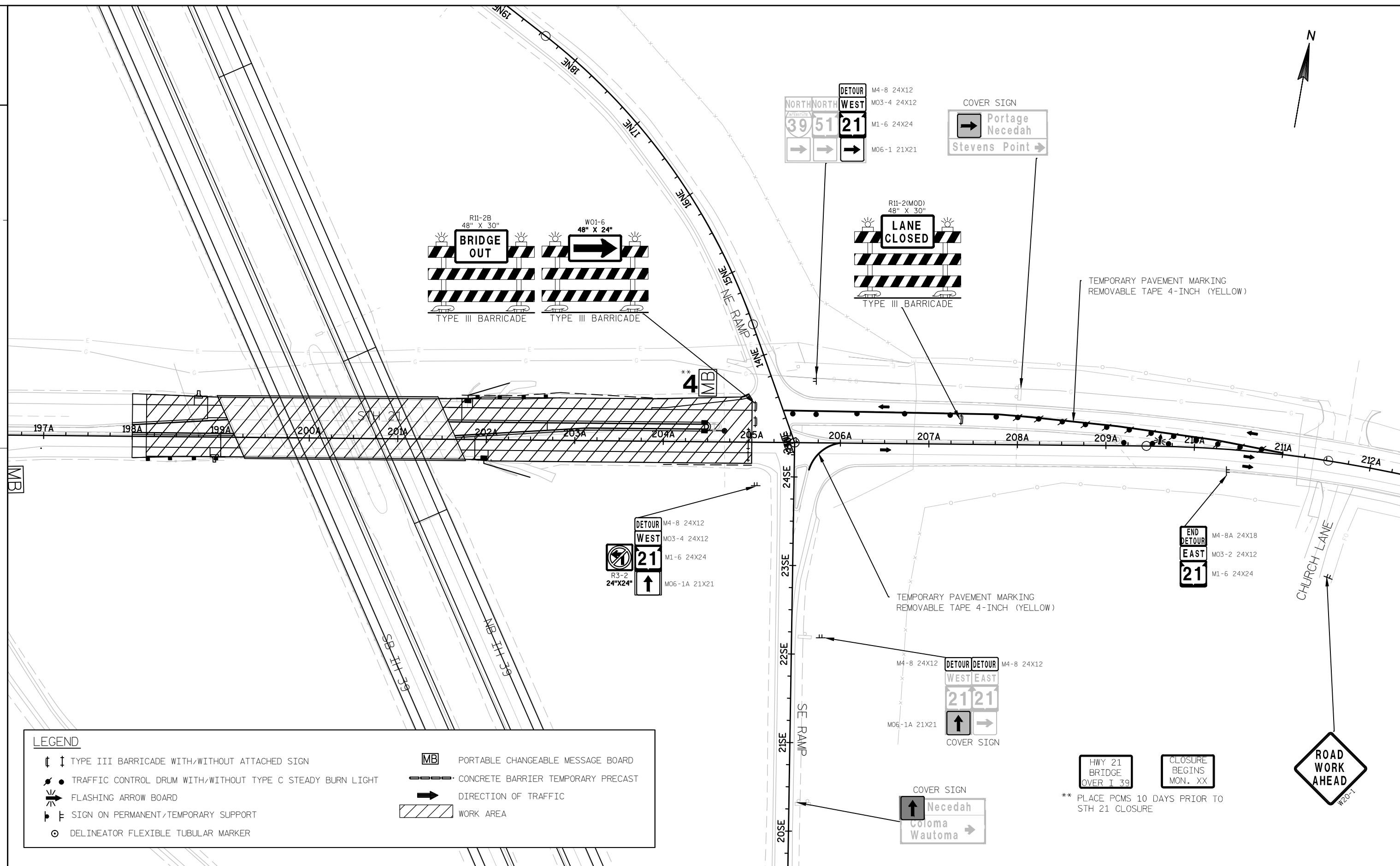
➡

DIRECTION OF TRAFFIC

▨

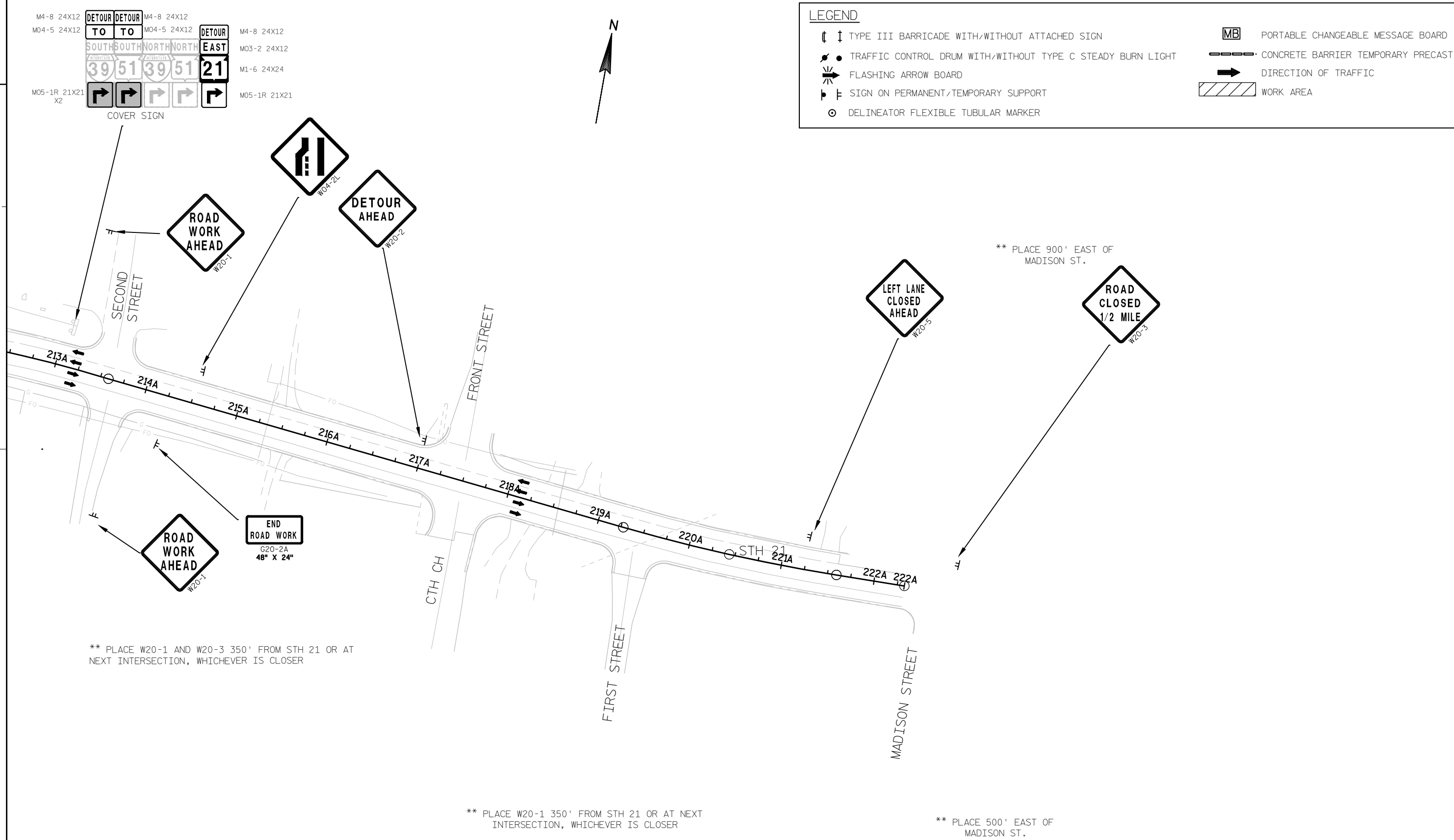
WORK AREA





2

2





4TH AVENUE

FRONT STREET

SEMROW
STREET

STH 21

STH 21

COLOMA

STAGE 4

PURPOSE:

IH 39/USH 51 NB - CONSTRUCT PAVEMENT ON INSIDE AND OUTSIDE SHOULDER FOR FUTURE TRAFFIC HANDLING.
OVERLAY PAVEMENT UNDER B-69-20. APPLY POLYMER OVERLAY TO B-69-19.
IH 39/USH 51 SB -CONSTRUCT PAVEMENT ON INSIDE AND OUTSIDE SHOULDER FOR FUTURE TRAFFIC HANDLING.
CONSTRUCT SURFACE REPAIR AND APPLY POLYMER OVERLAY MODIFIED ON B-69-7.

TRAFFIC HANDLING:

IH 39/USH 51 NB - TRAFFIC ON NORTHBOUND PAVEMENT.
IH 39/USH 51 SB - TRAFFIC ON SOUTHBOUND PAVEMENT.
STH 21 - ALL LANES EACH DIRECTION AND RAMPS OPEN TO TRAFFIC.
CTH CH - ONE LANE EACH DIRECTION OPEN TO TRAFFIC.

RESTRICTIONS:

IH 39/USH 51 NB - WEEKDAY LANE AND SHOULDER CLOSURES.
IH 39/USH 51 SB - WEEKDAY LANE AND SHOULDER CLOSURES.

STH 21 - NONE.
CTH CH - NONE.

LEGEND WORK ZONE

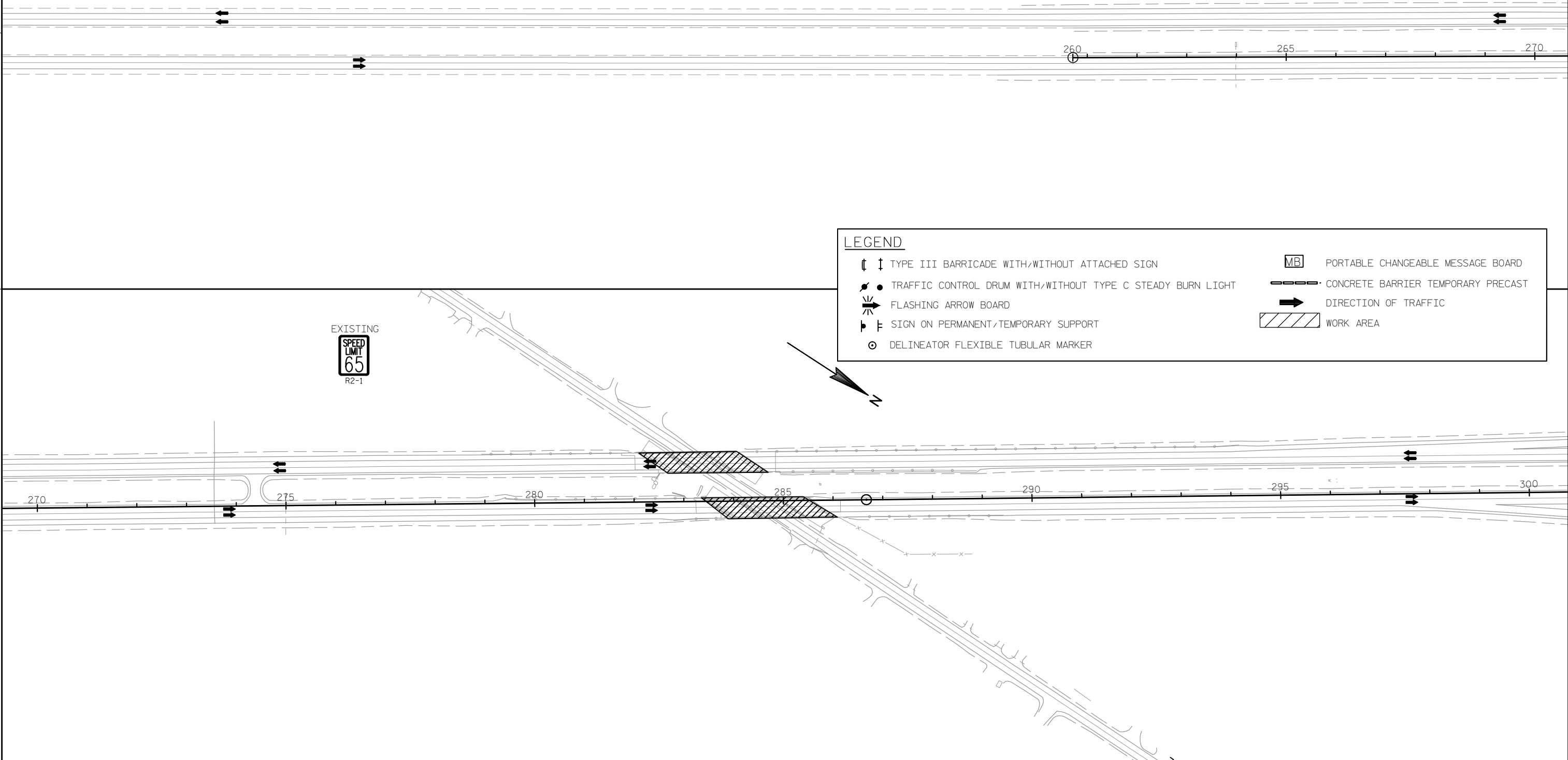
STH 21

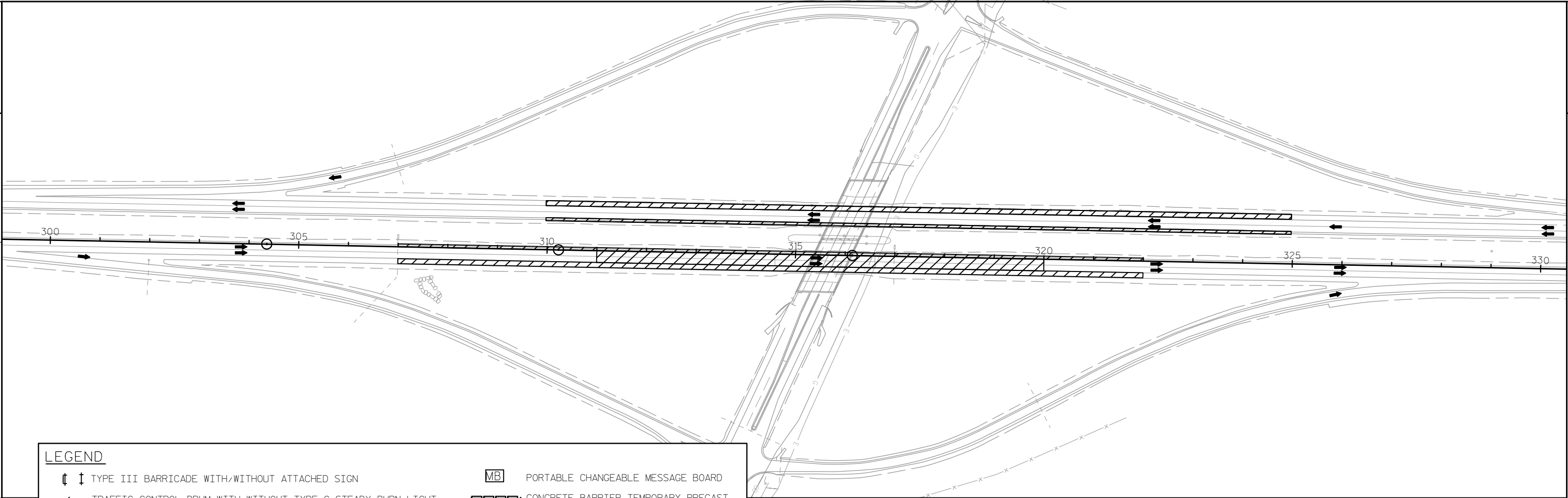
USH 51 / IH 39

CTH CH

OLD HWY 21

SEE "TRAFFIC CONTROL: INSIDE LANE CLOSURE DETAIL"
AND "TRAFFIC CONTROL: OUTSIDE LANE CLOSURE
DETAIL" FOR ADDITIONAL TRAFFIC CONTROL.

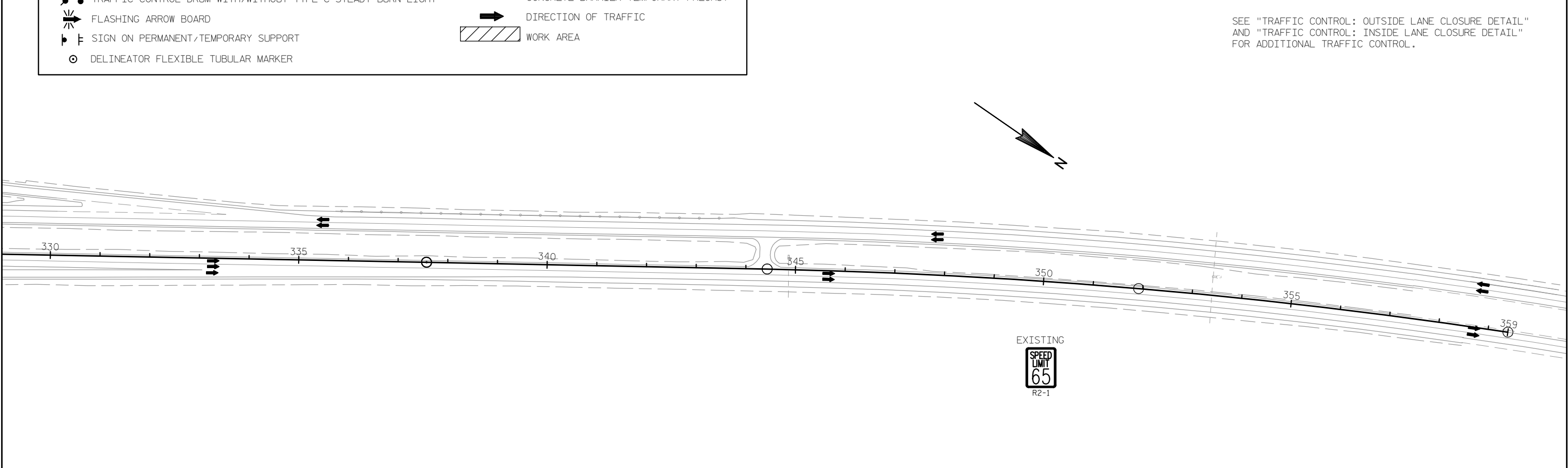


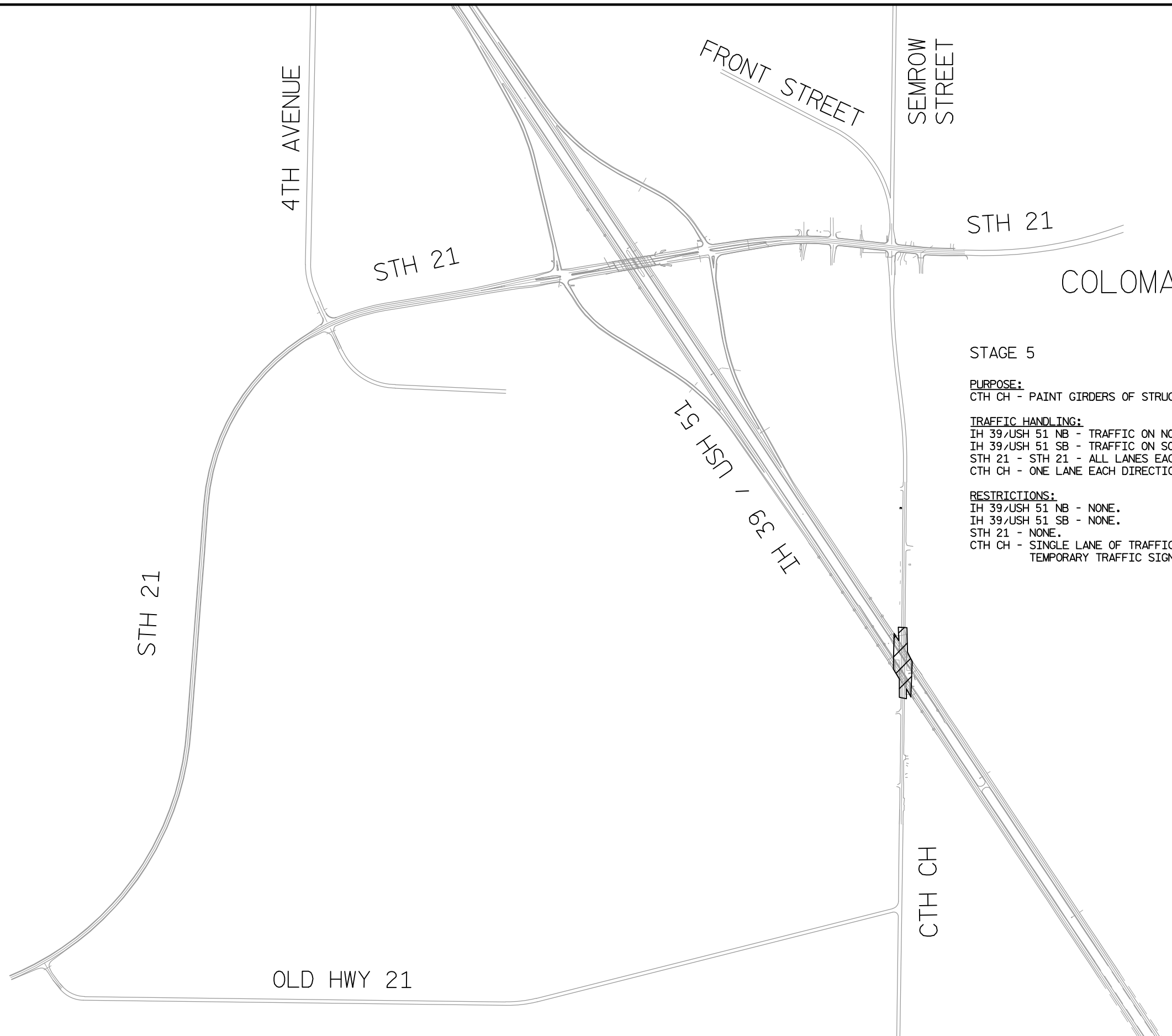


LEGEND

- | | |
|--|--------------------------------------|
| ⇄ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | MB PORTABLE CHANGEABLE MESSAGE BOARD |
| ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | CONCRETE BARRIER TEMPORARY PRECAST |
| ⚡ FLASHING ARROW BOARD | ➡ DIRECTION OF TRAFFIC |
| ⌵ SIGN ON PERMANENT/TEMPORARY SUPPORT | WORK AREA |
| ○ DELINEATOR FLEXIBLE TUBULAR MARKER | |

SEE "TRAFFIC CONTROL: OUTSIDE LANE CLOSURE DETAIL"
AND "TRAFFIC CONTROL: INSIDE LANE CLOSURE DETAIL"
FOR ADDITIONAL TRAFFIC CONTROL.



**STAGE 5****PURPOSE:**

CTH CH - PAINT GIRDERS OF STRUCTURE B-69-7 AND B-69-19 OVER CTH CH.

TRAFFIC HANDLING:

IH 39/USH 51 NB - TRAFFIC ON NORTHBOUND PAVEMENT.

IH 39/USH 51 SB - TRAFFIC ON SOUTHBOUND PAVEMENT.

STH 21 - STH 21 - ALL LANES EACH DIRECTION AND RAMPS OPEN TO TRAFFIC.

CTH CH - ONE LANE EACH DIRECTION OPEN TO TRAFFIC.

RESTRICTIONS:

IH 39/USH 51 NB - NONE.

IH 39/USH 51 SB - NONE.

STH 21 - NONE.

CTH CH - SINGLE LANE OF TRAFFIC UNDER BRIDGES WITH BARRIER WALL AND TEMPORARY TRAFFIC SIGNALS TO CONTROL DIRECTIONAL FLOW.

LEGEND

 **WORK ZONE**

SIGNAL TIMING**TEMPORARY TRAFFIC SIGNALS FOR BRIDGES B-69-7**

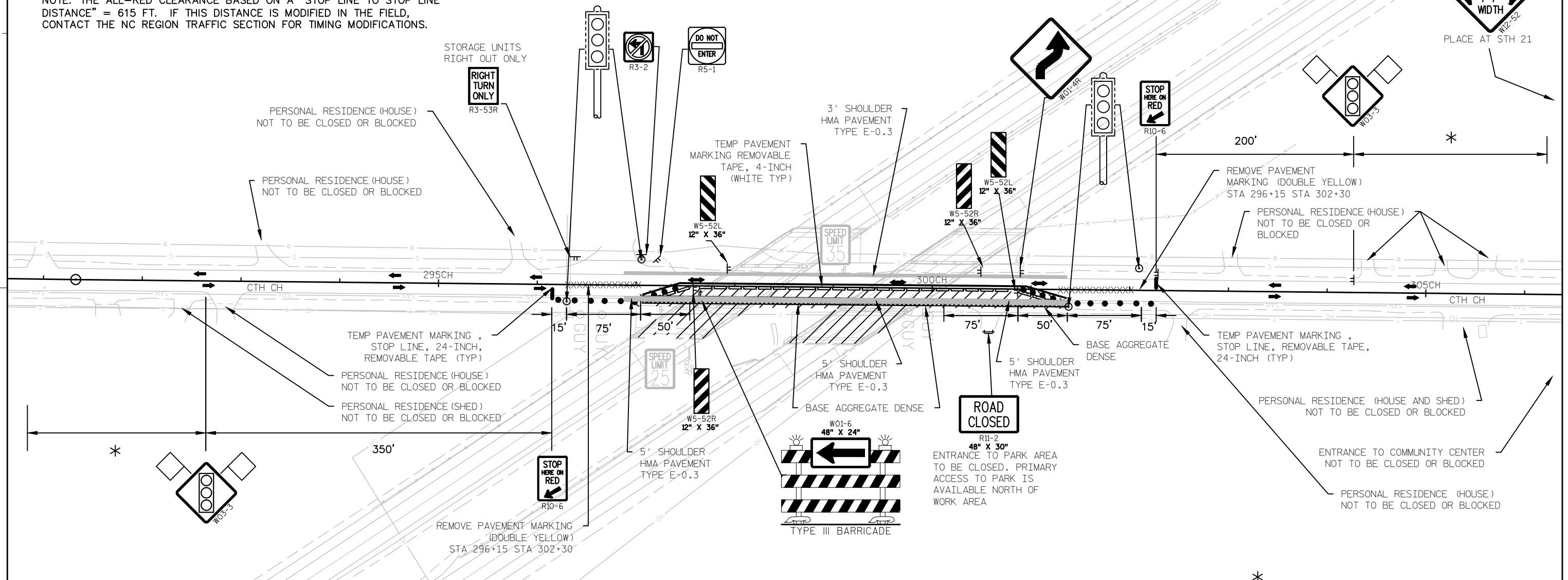
BASIC TIMES (SEC)	PHASE	SB	NB
MINIMUM GREEN		12.0	12.0
PASSAGE		3.0	3.0
MAXIMUM		24.0	24.0
YELLOW CHANGE		4.0	4.0
RED CHANGE		17.0	17.0

EMERGENCY FLASH = RED - RED

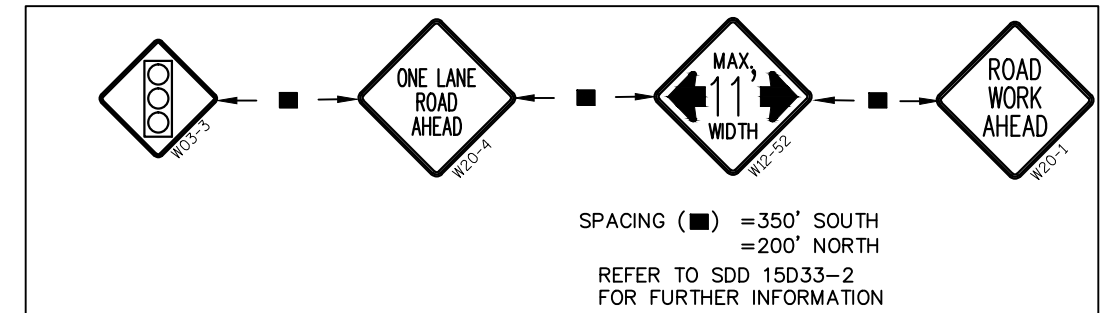
NOTE: THE ALL-RED CLEARANCE BASED ON A "STOP LINE TO STOP LINE DISTANCE" = 615 FT. IF THIS DISTANCE IS MODIFIED IN THE FIELD, CONTACT THE NC REGION TRAFFIC SECTION FOR TIMING MODIFICATIONS.

NOTE: ALL UTILITY LOCATIONS ARE APPROXIMATE. CONTACT DIGGERS HOT LINE PRIOR TO PLACEMENT OF POSTS.

REMOVE ALL PAVEMENT MARKING FROM
CTH CH RT 996+15 - 302+30

**LEGEND**

- ↑ ↓ TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- ⚡ FLASHING ARROW BOARD
- ⚡ SIGN ON PERMANENT/TEMPORARY SUPPORT
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- ➡ DIRECTION OF TRAFFIC
- WORK ZONE
- FLAGS, 16"X16" MIN. ORANGE
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- SIGNAL POST



SIGNAL TIMING

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES B-69-7

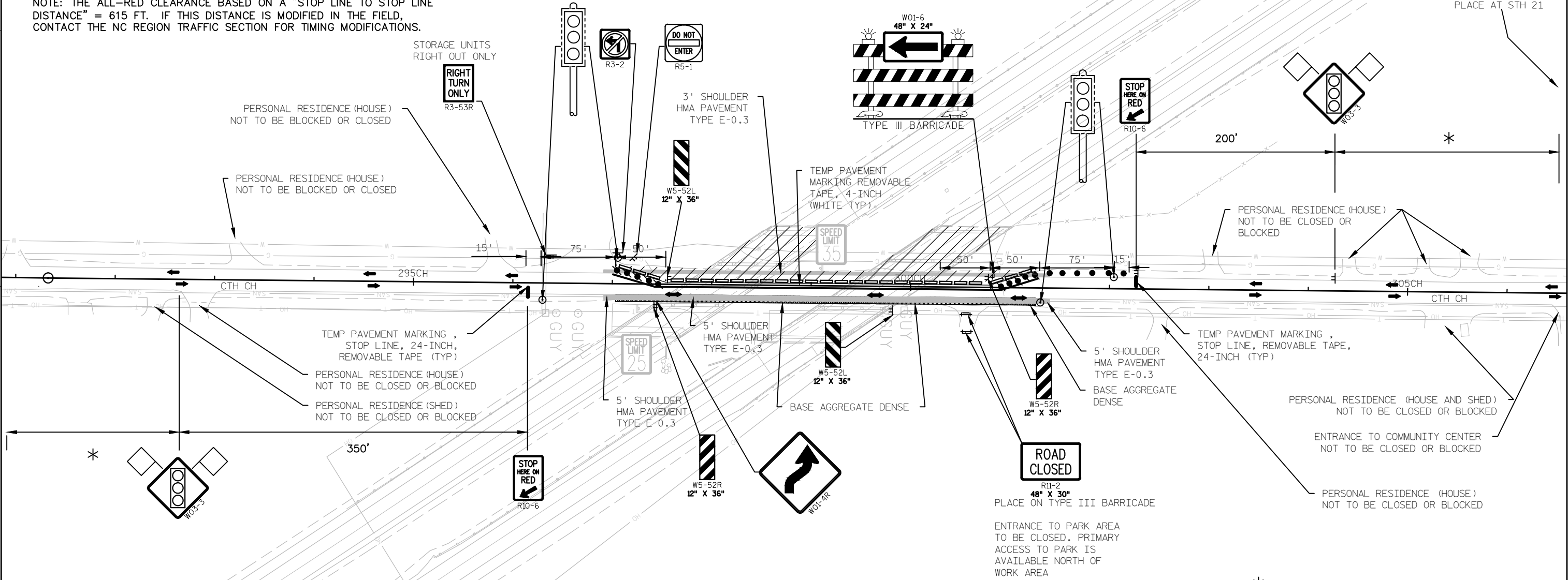
BASIC TIMES (SEC)	PHASE	SB	NB
MINIMUM GREEN		12.0	12.0
PASSAGE		3.0	3.0
MAXIMUM		24.0	24.0
YELLOW CHANGE		4.0	4.0
RED CHANGE		17.0	17.0

EMERGENCY FLASH = RED - RED

NOTE: THE ALL-RED CLEARANCE BASED ON A "STOP LINE TO STOP LINE DISTANCE" = 615 FT. IF THIS DISTANCE IS MODIFIED IN THE FIELD, CONTACT THE NC REGION TRAFFIC SECTION FOR TIMING MODIFICATIONS.

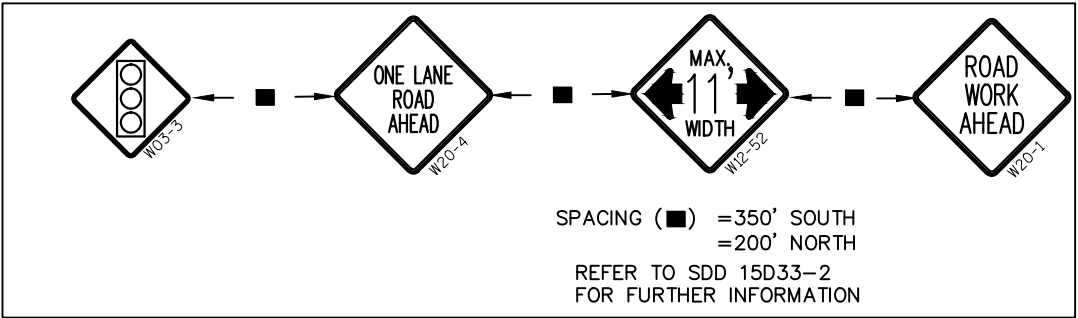
NOTE: ALL UTILITY LOCATIONS ARE APPROXIMATE. CONTACT DIGGERS HOT LINE PRIOR TO PLACEMENT OF POSTS.

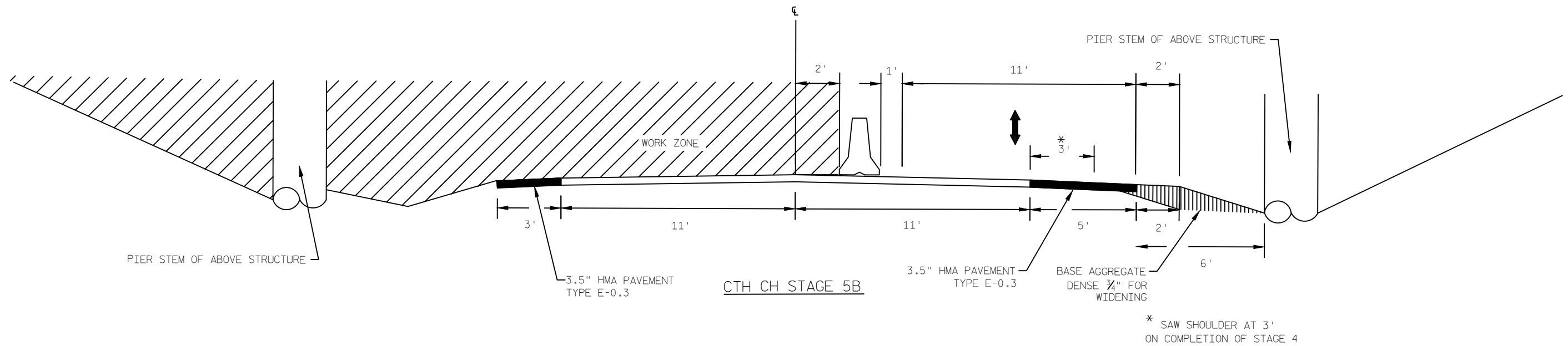
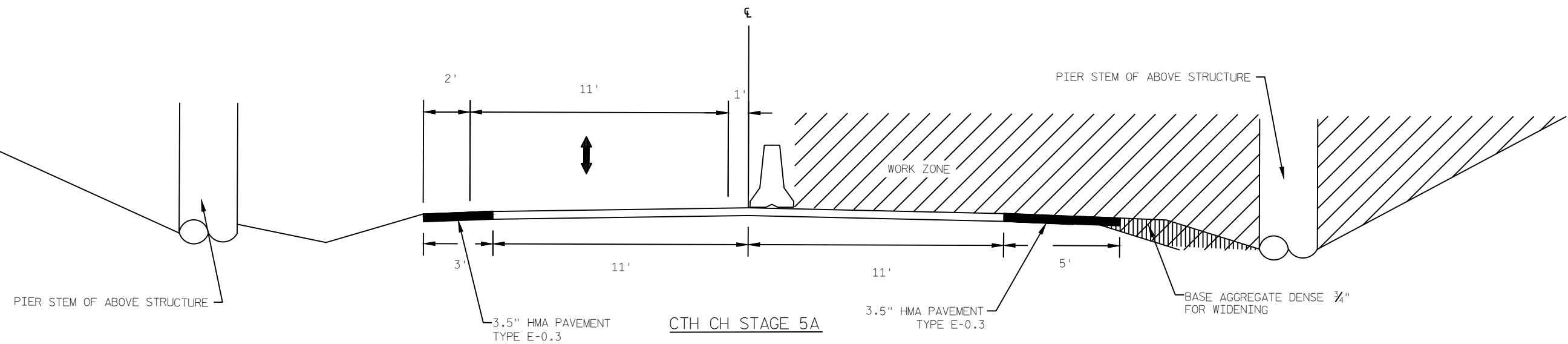
REMOVE ALL PAVEMENT MARKING FROM CTH CH LT 996+15 - 302+30

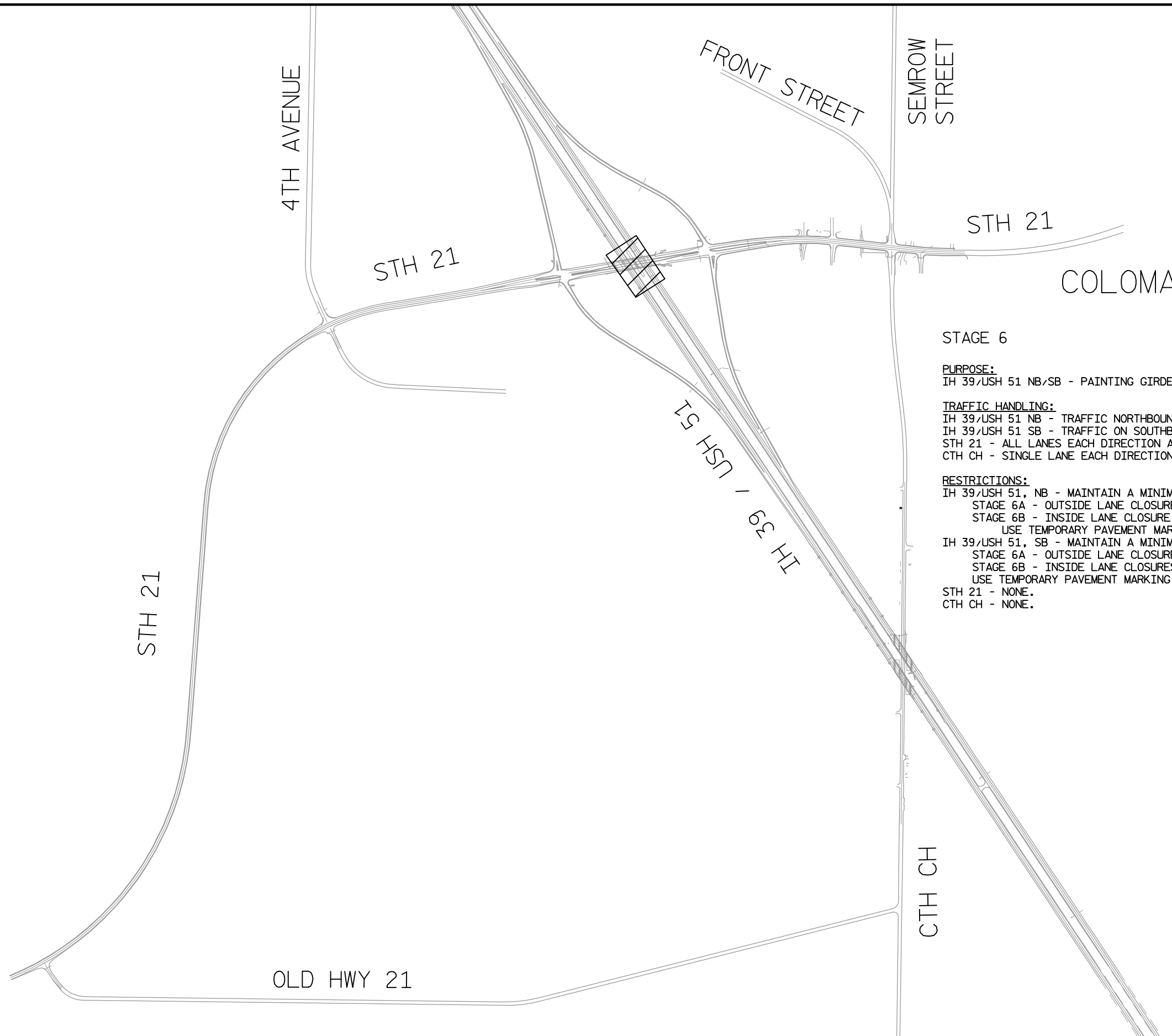


LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- PORTABLE CHANGEABLE MESSAGE BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK ZONE
- FLAGS, 16"X16" MIN. ORANGE
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- SIGNAL POST





**STAGE 6****PURPOSE:**

IH 39/USH 51 NB/SB - PAINTING GIRDERS OF STRUCTURE B-69-20.

TRAFFIC HANDLING:

IH 39/USH 51 NB - TRAFFIC NORTHBOUND ON PAVEMENT.

IH 39/USH 51 SB - TRAFFIC ON SOUTHBOUND PAVEMENT.

STH 21 - ALL LANES EACH DIRECTION AND RAMPS OPEN TO TRAFFIC.

CTH CH - SINGLE LANE EACH DIRECTION OPEN TO TRAFFIC.

RESTRICTIONS:

IH 39/USH 51, NB - MAINTAIN A MINIMUM OF 16' CLEAR WIDTH TO ACCOMMODATE OSOW VEHICLES.

STAGE 6A - OUTSIDE LANE CLOSURE AND SHIFT TO INSIDE SHOULDER WITH BARRIER WALL.

STAGE 6B - INSIDE LANE CLOSURE AND SHIFT TO OUTSIDE SHOULDER WITH BARRIER WALL.

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (BLACK) IN LANE DROP AREAS.

IH 39/USH 51, SB - MAINTAIN A MINIMUM OF 16' CLEAR WIDTH TO ACCOMMODATE OSOW VEHICLES.

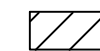
STAGE 6A - OUTSIDE LANE CLOSURE AND SHIFT TO INSIDE SHOULDER WITH BARRIER WALL.

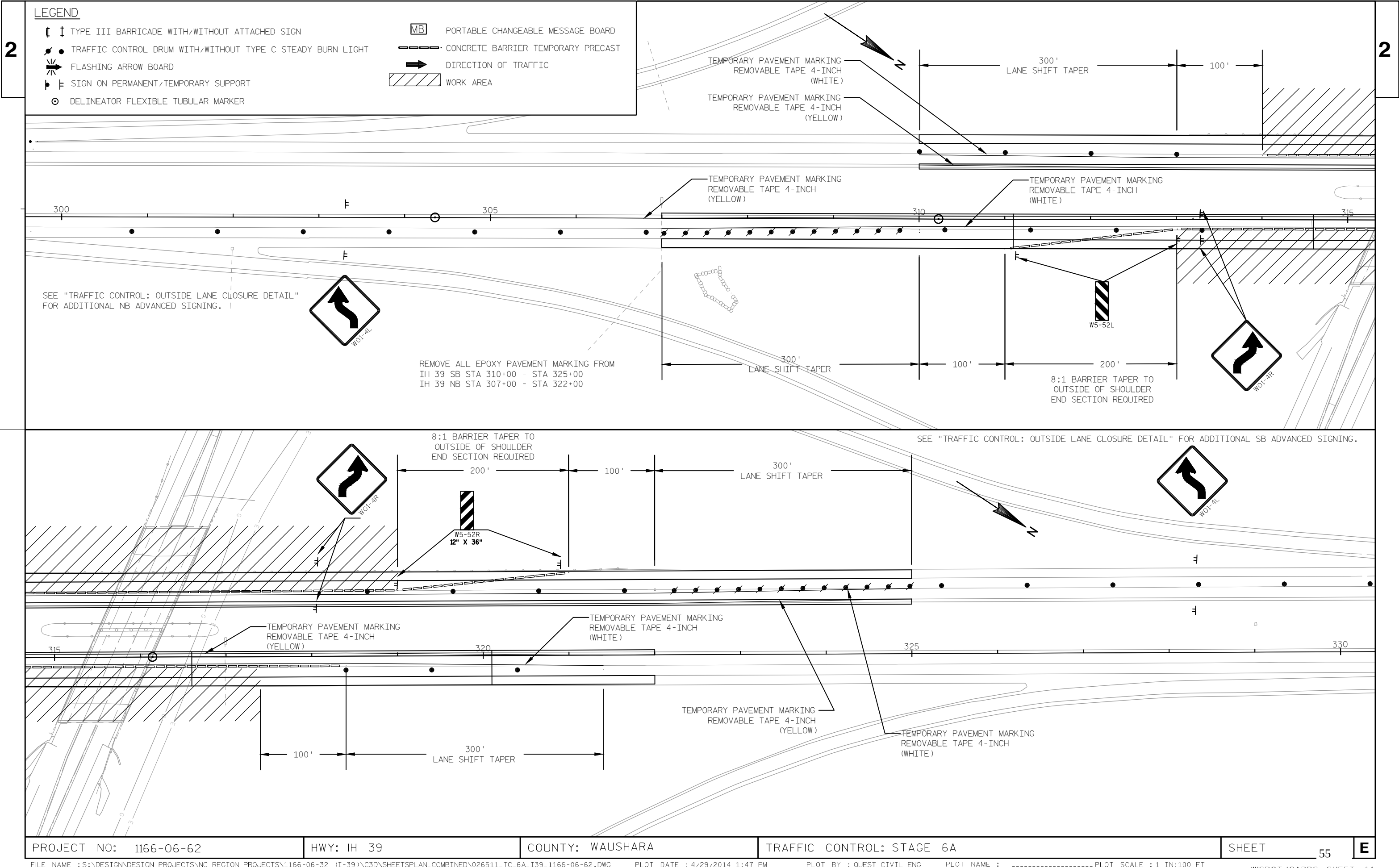
STAGE 6B - INSIDE LANE CLOSURES AND SHIFT TO OUTSIDE SHOULDER WITH BARRIER WALL.

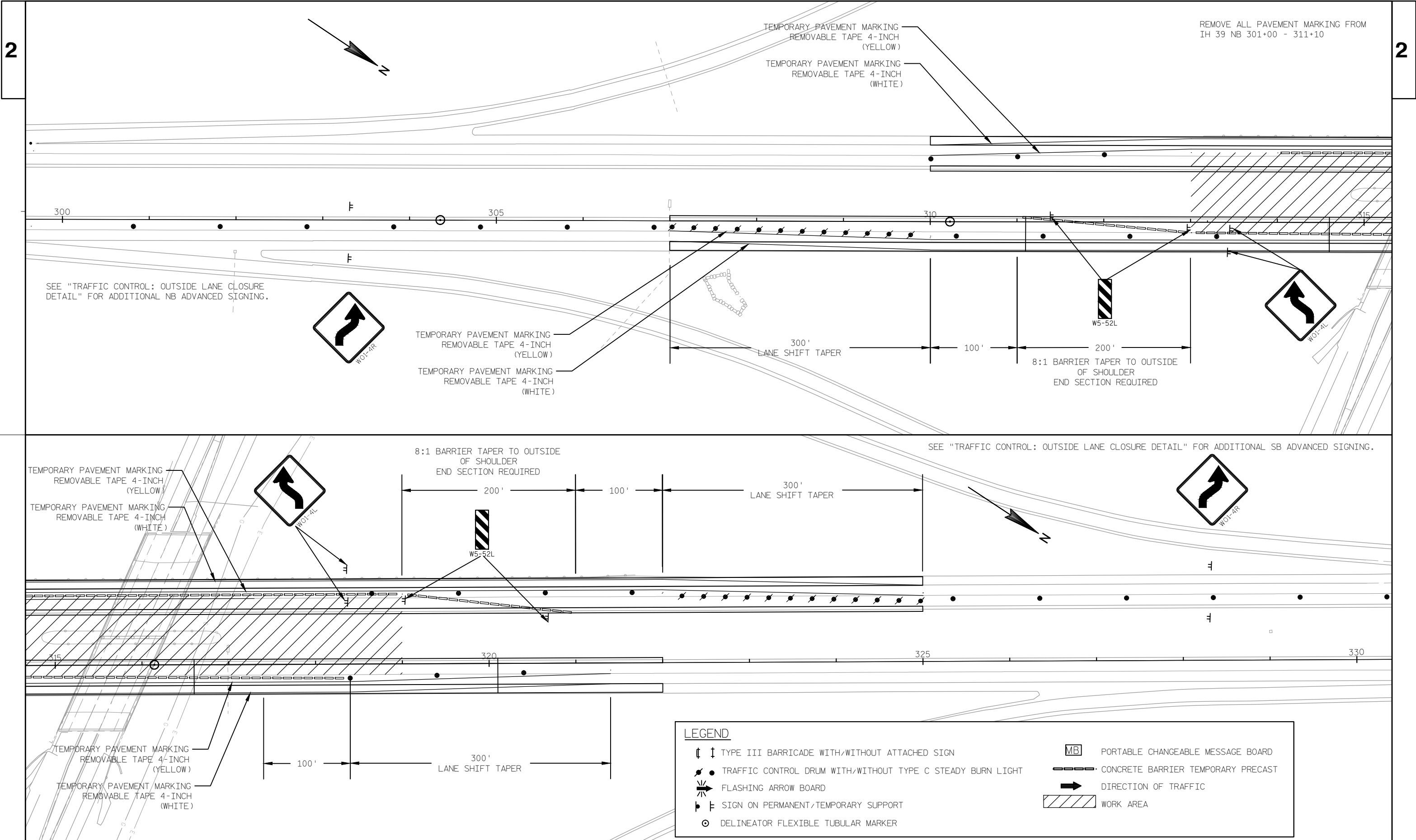
USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (BLACK) IN LANE DROP AREAS.

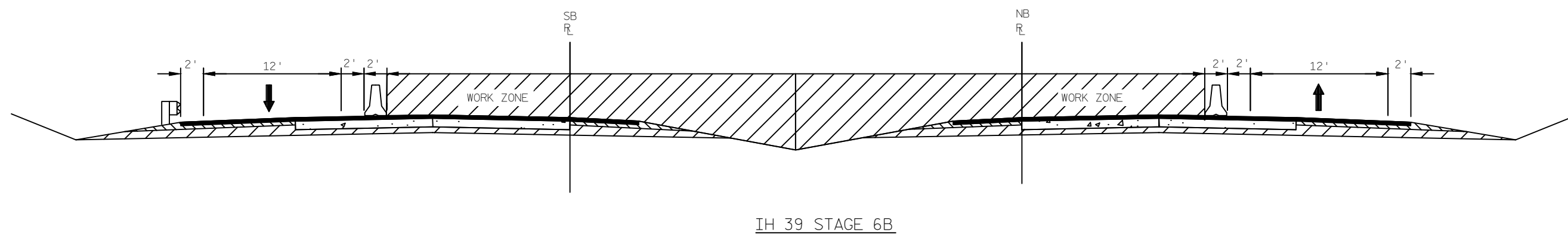
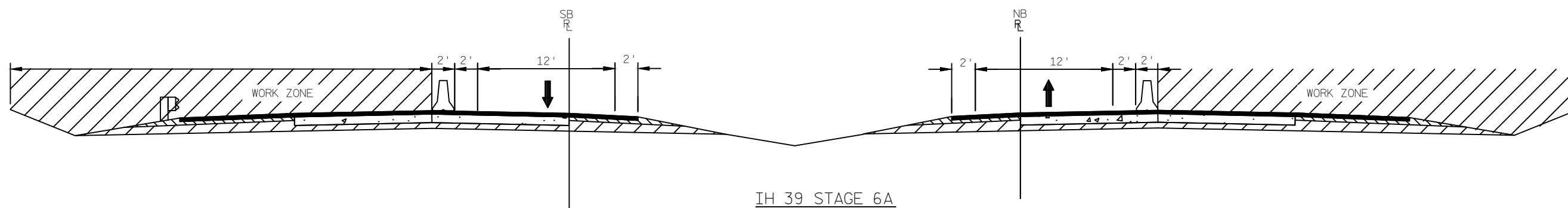
STH 21 - NONE.

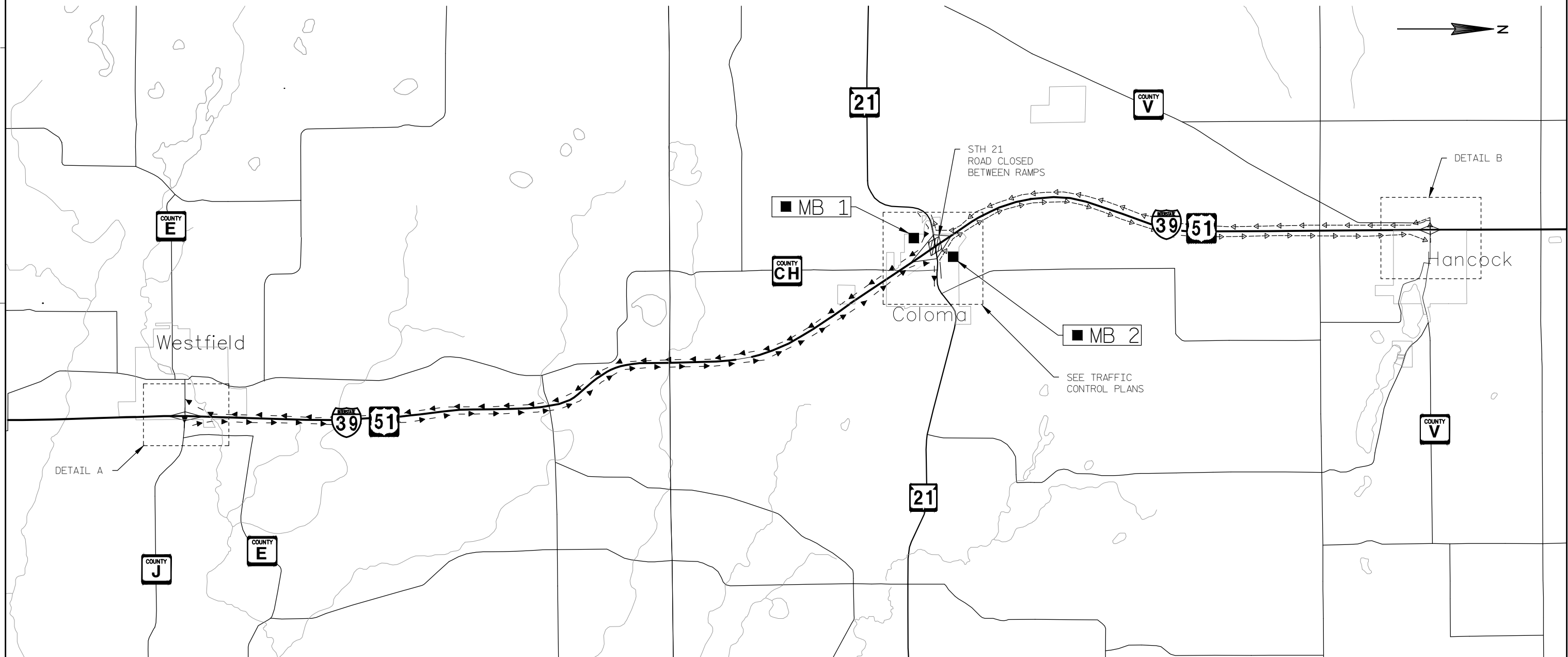
CTH CH - NONE.

LEGEND WORK ZONE









■ PORTABLE CHANGEABLE MESSAGE BOARD
←←←←← WB STH 21 DETOUR
→→→→→ EB STH 21 DETOUR

NOTE: RAMP DETOURS FOLLOW STH 21 DETOUR

M4-8 36X18
M03-2 36X18
M1-6 36X36
M05-2R 30X30
2 EACH

APPROXIMATELY
1 MILE

M4-8 36X18
M03-2 36X18
M1-6 36X36
M06-2R 30X30
2 EACH

M4-8A 30X24
M4-8A 30X24
END DETOUR
NORTH
END DETOUR
NORTH
DETOUR
EAST
M4-8 36X18
M03-2 36X18
M1-6 36X36

M4-8 24X12
M03-2 24X12
M1-6 24X24
M06-1 21X21
DETOUR
EAST
21
COUNTY
E
COUNTY
J

M4-8 24X12
M04-5 24X12
X2
DETOUR
TO
NORTH
DETOUR
TO
NORTH
DETOUR
EAST
M4-8 24X12
M03-2 24X12
M1-6 24X24
M05-1L 21X21

M4-8 24X12
M04-5 24X12
X2
DETOUR
TO
NORTH
DETOUR
TO
NORTH
DETOUR
EAST
M4-8 24X12
M03-2 24X12
M1-6 24X24
M06-1 21X21

DETAIL A

M4-8 24X12
M04-5 24X12
X2
DETOUR
TO
SOUTH
DETOUR
TO
SOUTH
DETOUR
WEST
M4-8 24X12
M03-4 24X12
M1-6 24X24
M06-1 21X21

M4-8 24X12
M04-5 24X12
X2
DETOUR
TO
SOUTH
DETOUR
TO
SOUTH
DETOUR
WEST
M4-8 24X12
M03-4 24X12
M1-6 24X24
M05-1L 21X21

M4-8 24X12
M03-4 24X12
M1-6 24X24
M06-1 21X21
DETOUR
WEST
21
COUNTY
V

M03-4 24X12
M1-6 24X24
M05-1L 21X21
DETOUR
WEST
21
COUNTY
V

CTH V

CTH V

IH 39/USH 51

M4-8A 30X24
M4-8A 30X24
END DETOUR
SOUTH
END DETOUR
SOUTH
DETOUR
WEST
M4-8 36X18
M03-4 36X18
M1-6 36X36

M4-8 36X18
M03-4 36X18
M1-6 36X36
M06-2R 30X30
2 EACH
DETOUR
WEST
21

APPROXIMATELY
1 MILE

M4-8 36X18
M03-4 36X18
M1-6 36X36
M05-2R 30X30
2 EACH
DETOUR
WEST
21

DETAIL B

LEGEND

- ▬ F = SIGN ON PERMANENT/TEMPORARY SUPPORT
- ←--←--←-- = WB STH 21 DETOUR ROUTE
- ←--←--←-- = EB STH 21 DETOUR ROUTE

3

DATE 18JUN14		E S T I M A T E O F Q U A N T I T I E S			1166-06-62	1166-07-64	1166-07-84
LINE	NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
	0010	203.0200	REMOVING OLD STRUCTURE (STATION) STA 200+00A	LS	1.000		1.000
	0020	204.0100	REMOVING PAVEMENT	SY	2,170.000		2,170.000
	0030	204.0105	REMOVING PAVEMENT BUTT JOINTS	SY	245.000	245.000	
	0040	204.0110	REMOVING ASPHALTIC SURFACE	SY	1,060.000	95.000	965.000
	0050	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	4,195.000	620.000	3,575.000
	0060	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	5,490.000	2,550.000	2,940.000
	0070	204.0165	REMOVING GUARDRAIL	LF	257.000	7.000	250.000
	0080	204.0190	REMOVING SURFACE DRAINS	EACH	4.000		4.000
	0090	204.0220	REMOVING INLETS	EACH	2.000		2.000
	0100	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	30.000		30.000
	0110	205.0100	EXCAVATION COMMON	CY	585.000	125.000	460.000
	0120	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	74.000	10.000	48.000
	0130	213.0100	FINISHING ROADWAY (PROJECT) 01. 1166-07-64	EACH	1.000	1.000	
	0140	213.0100	FINISHING ROADWAY (PROJECT) 02. 1166-07-84	EACH	1.000		1.000
	0150	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	645.000	280.000	275.000
	0160	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	900.000		900.000
	0170	415.0080	CONCRETE PAVEMENT 8-INCH	SY	1,700.000		1,700.000
	0180	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	265.000		265.000
	0190	416.0620	DRILLED DOWEL BARS	EACH	87.000		87.000
	0200	416.1010	CONCRETE SURFACE DRAINS	CY	20.000		20.000
	0210	440.4410.S	INCENTIVE IRI RIDE	DOL	1,180.000	840.000	340.000
	0220	455.0105	ASPHALTIC MATERIAL PG58-28	TON	120.000	48.000	72.000
	0230	455.0605	TACK COAT	GAL	515.000	195.000	320.000
	0240	460.1100	HMA PAVEMENT TYPE E-0.3	TON	1,840.000	755.000	1,085.000
	0250	460.1110	HMA PAVEMENT TYPE E-10	TON	310.000	90.000	220.000
	0260	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	1,380.000	540.000	840.000
	0270	465.0105	ASPHALTIC SURFACE	TON	270.000	75.000	195.000
	0280	465.0400	ASPHALTIC SHOULDER RUMBLE STRIPS	LF	10,010.000	4,010.000	6,000.000
	0290	502.0100	CONCRETE MASONRY BRIDGES	CY	12.000		12.000
	0300	502.3100	EXPANSION DEVICE (STRUCTURE) 01. B-69-19	LS	1.000	1.000	
	0310	502.3100	EXPANSION DEVICE (STRUCTURE) 02. B-69-20	LS	1.000		1.000
	0320	502.3200	PROTECTIVE SURFACE TREATMENT	SY	2,570.000	390.000	2,180.000
	0330	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	448.000	144.000	304.000
	0340	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	13,140.000	5,390.000	7,750.000
	0350	505.0905	BAR COUPLERS NO. 5	EACH	6.000	6.000	
	0360	505.0906	BAR COUPLERS NO. 6	EACH	22.000	22.000	
	0370	505.0907	BAR COUPLERS NO. 7	EACH	10.000	10.000	
	0380	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	17.000	10.000	7.000
	0390	506.5000	BEARING ASSEMBLIES FIXED (STRUCTURE) 01. B-69-20	EACH	7.000		7.000
	0400	506.7050.S	REMOVING BEARINGS (STRUCTURE) 01. B-69-19	EACH	10.000	10.000	
	0410	506.7050.S	REMOVING BEARINGS (STRUCTURE) 02. B-69-20	EACH	14.000		14.000
	0420	506.7060.S	BRIDGE JACKING (STRUCTURE) 01. B-69-20	LS	1.000		1.000
	0430	509.0301	PREPARATION DECKS TYPE 1	SY	242.000	96.000	146.000
	0440	509.0302	PREPARATION DECKS TYPE 2	SY	96.000	38.000	58.000
	0450	509.0500	CLEANING DECKS	SY	2,420.000	960.000	1,460.000
	0460	509.1000	JOINT REPAIR	SY	141.000	68.000	73.000
	0470	509.1500	CONCRETE SURFACE REPAIR	SF	46.000	26.000	20.000

3

3

DATE 18JUN14		E S T I M A T E O F Q U A N T I T I E S						
LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1166-06-62 QUANTITY	1166-07-64 QUANTITY	1166-07-84 QUANTITY	
0480	509.2000	FULL-DEPTH DECK REPAIR	SY	2.000		1.000	1.000	
0490	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	186.000		83.000	103.000	
0500	509.2600	CONCRETE MASONRY OVERLAY APPROACHES	CY	6.000		6.000		
0510	509.5100.S	POLYMER OVERLAY	SY	960.000		960.000		
0520	509.9020.S	EPOXY CRACK SEALING 02. EPOXY CRACK INJECTION	LF	35.000			35.000	
0530	509.9050.S	CLEANING PARAPETS	LF	1,495.000		950.000	545.000	
0540	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	21.000			21.000	
0550	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 01. B-69-07	LS	1.000	1.000			
0560	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 02. B-69-19	LS	1.000	1.000			
0570	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 03. B-69-20	LS	1.000	1.000			
0580	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 01. B-69-07	LS	1.000	1.000			
0590	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 02. B-69-19	LS	1.000	1.000			
0600	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 03. B-69-20	LS	1.000	1.000			
0610	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	3.000	3.000			
0620	520.7000	CLEANING CULVERT PIPES	EACH	3.000			3.000	
0630	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	2.000			2.000	
0640	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	800.000			800.000	
0650	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	3,770.000	2,880.000	890.000		
0660	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	5,510.000	3,730.000	1,780.000		
0670	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	29.000			29.000	
0680	611.0530	MANHOLE COVERS TYPE J	EACH	1.000			1.000	
0690	611.0624	INLET COVERS TYPE H	EACH	2.000			2.000	
0700	611.0654	INLET COVERS TYPE V	EACH	2.000			2.000	
0710	611.2004	MANHOLES 4-FT DIAMETER	EACH	1.000			1.000	
0720	611.3225	INLETS 2X2.5-FT	EACH	2.000			2.000	
0730	611.3230	INLETS 2X3-FT	EACH	2.000			2.000	
0740	611.8115	ADJUSTING INLET COVERS	EACH	3.000		1.000	2.000	
0750	612.0212	PIPE UNDERDRAIN UNPERFORATED 12-INCH	LF	105.000			105.000	
0760	614.0115	ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2	EACH	1.000		1.000		
0770	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2.000			2.000	
0780	614.0400	ADJUSTING STEEL PLATE BEAM GUARD	LF	765.000		765.000		
0790	614.0950	REPLACING GUARDRAIL POSTS AND BLOCKS	EACH	35.000		35.000		
0800	614.0951	REPLACING GUARDRAIL RAIL AND HARDWARE	LF	50.000		50.000		
0810	614.2300	MGS GUARDRAIL 3	LF	25.000			25.000	
0820	614.2500	MGS THRIE BEAM TRANSITION	LF	78.000			78.000	
0830	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	2.000			2.000	
0840	616.0700.S	FENCE SAFETY	LF	3,000.000			3,000.000	
0850	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1166-06-62	EACH	1.000	1.000			
0860	619.1000	MOBILIZATION	EACH	1.000	0.410	0.210	0.380	

3

3

DATE 18JUN14		E S T I M A T E O F Q U A N T I T I E S					
LINE					1166-06-62	1166-07-64	1166-07-84
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY	QUANTITY
0870	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	35.000			35.000
0880	625.0100	TOPSOIL	SY	1,665.000			1,665.000
0890	628.1504	SILT FENCE	LF	365.000			365.000
0900	628.1520	SILT FENCE MAINTENANCE	LF	365.000			365.000
0910	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000			4.000
0920	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000			2.000
0930	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	1,665.000			1,665.000
0940	628.7005	INLET PROTECTION TYPE A	EACH	5.000			5.000
0950	628.7015	INLET PROTECTION TYPE C	EACH	8.000			8.000
0960	628.7504	TEMPORARY DITCH CHECKS	LF	165.000			165.000
0970	628.7555	CULVERT PIPE CHECKS	EACH	5.000			5.000
0980	628.7570	ROCK BAGS	EACH	100.000			100.000
0990	629.0210	FERTILIZER TYPE B	CWT	1.000			1.000
1000	630.0120	SEEDING MIXTURE NO. 20	LB	41.000			41.000
1010	630.0171	SEEDING MIXTURE NO. 70A	LB	4.000			4.000
1020	634.0410	POSTS WOOD 4X4-INCH X 10-FT	EACH	1.000			1.000
1030	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	37.000			37.000
1040	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	13.000			13.000
1050	634.0620	POSTS WOOD 4X6-INCH X 20-FT	EACH	4.000			4.000
1060	637.2210	SIGNS TYPE II REFLECTIVE H	SF	481.820			481.820
1070	637.2230	SIGNS TYPE II REFLECTIVE F	SF	20.250			20.250
1080	638.2602	REMOVING SIGNS TYPE II	EACH	61.000			61.000
1090	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	52.000			52.000
1100	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000		
1110	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1166-06-62	EACH	1.000	1.000		
1120	643.0100	TRAFFIC CONTROL (PROJECT) 02. 1166-07-64	EACH	1.000		1.000	
1130	643.0100	TRAFFIC CONTROL (PROJECT) 03. 1166-07-84	EACH	1.000			1.000
1140	643.0300	TRAFFIC CONTROL DRUMS	DAY	31,897.000	10,140.000	20,237.000	1,520.000
1150	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	2,185.000	375.000	1,130.000	680.000
1160	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	680.000	200.000		480.000
1170	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	8,662.000	3,870.000	3,992.000	800.000
1180	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	664.000	200.000	424.000	40.000
1190	643.0900	TRAFFIC CONTROL SIGNS	DAY	10,536.000	3,964.000	5,532.000	1,040.000
1200	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	2.000			2.000
1210	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	228.000	2.000	216.000	10.000
1220	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	178.000	100.000	58.000	20.000
1230	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1166-07-84	EACH	1.000			1.000
1240	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	4,000.000			4,000.000
1250	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	18,335.000	8,460.000	5,410.000	4,465.000
1260	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	375.000			375.000
1270	646.0600	REMOVING PAVEMENT MARKINGS	LF	12,860.000	8,460.000	4,400.000	
1280	646.0881.S	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	LF	350.000		110.000	240.000
1290	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	1.000			1.000
1300	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	1.000			1.000
1310	647.0456	PAVEMENT MARKING CURB EPOXY	LF	75.000			75.000
1320	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	3.000			3.000
1330	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	28,530.000	16,350.000	11,160.000	1,020.000
1340	649.0600	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 6-INCH	LF	1,750.000	1,560.000	190.000	
1350	649.1400	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH	LF	22.000	22.000		

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DATE 18JUN14		E S T I M A T E O F Q U A N T I T I E S						
LINE						1166-06-62	1166-07-64	1166-07-84
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL		QUANTITY	QUANTITY	QUANTITY
1360	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	5.000				5.000
1370	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	450.000				450.000
1380	650.5000	CONSTRUCTION STAKING BASE	LF	450.000				450.000
1390	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	800.000				800.000
1400	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	450.000				450.000
1410	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	5,650.000			2,200.000	3,450.000
1420	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1166-07-84	LS	1.000				1.000
1430	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	450.000				450.000
1440	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-69-19	LS	1.000		1.000		
1450	690.0150	SAWING ASPHALT	LF	650.000		440.000	110.000	100.000
1460	690.0250	SAWING CONCRETE	LF	105.000				105.000
1470	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000				500.000
1480	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	690.000				690.000
1490	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	2,000.000		2,000.000		
1500	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	1,260.000		1,260.000		
1510	SPV.0045	SPECIAL 01. PCMS CELLULAR COMMUNICATIONS	DAY	158.000		100.000	58.000	
1520	SPV.0060	SPECIAL 01. CLEANING AND PAINTING BEARINGS	EACH	17.000		17.000		
1530	SPV.0060	SPECIAL 02. PRECAST CONCRETE BEARING BLOCK	EACH	14.000				14.000
1540	SPV.0180	SPECIAL 01. POLYMER OVERLAY MODIFIED	SY	902.000			902.000	

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COMMON EXCAVATION

205.0100 EXCAVATION COMMON CY								REMARKS
CATEGORY	STAGE	STA	-	STA	LOCATION			
0010	STAGE 5	297+15	-	301+35	CTH CH NB	125		REMOVE TEMP WIDENING CTH CH NB
TOTAL						125		

REMOVING ASPHALT

204.0110 REMOVING ASPHALT SURFACE SY								REMARKS
CATEGORY	STAGE	STA	-	STA	LOCATION			
0010	STAGE 5	297+15	-	301+35	CTH CH NB	95		REMOVE TEMP WIDENING CTH CH NB
TOTAL						95		

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BASE AGGREGATE DENSE

						305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA
CATEGORY	STAGE	STA	-	STA	LOCATION		
0010	STAGE 5	297+15	-	301+35	CTH CH RT	280	10
TOTALS						280	10

ASPHALTIC SURFACE

							465.0105 ASPHALTIC SURFACE TON
CATEGORY	STAGE	STA	-	STA	LOCATION		
0010	STAGE 5	297+15	-	301+35	CTH CH NB SHOULDER	47	
	STAGE 5	297+15	-	301+35	CTH CH SB SHOULDER	28	
							75

PAVEMENT MARKING

CATEGORY	STAGE	STA	-	STA	LOCATION	TEMPORARY						649.1400
						646.0600 REMOVING PAVEMENT MARKINGS LF	646.0106 PAVEMENT MARKING		PAVEMENT MARKING REMOVABLE TAPE			TEMPORARY
							EPOXY 4-INCH WHITE LF	YELLOW LF	649.0400		649.0600	PAVEMENT MARKING STOPLINE REMOVABLE TAPE 24-INCH LF
									4-INCH WHITE LF	4-INCH YELLOW LF		
0010	STAGE 5A	296+15	-	302+30	CTH CH RT	615	615	0	615	---	---	11
	STAGE 5B	296+15	-	302+30	CTH CH LT	615	615	0	615	---	---	11
	STAGE 5A & 5B	296+15	-	302+30	CTH CH CENTER	1,230	---	1,230	---	---	---	---
	STAGE 6A	343+20	-	351+00	SB TAPER	---	---	---	---	780	780	---
	STAGE 6A	310+00	-	325+00	I-39 SB	1,500	---	---	1,500	1,500	---	---
	STAGE 6A	256+20	-	264+00	NB TAPER	---	---	---	---	780	780	---
	STAGE 6A	307+00	-	322+00	I-39 NB	1,500	---	---	1,500	1,500	---	---
	STAGE 6B	343+20	-	351+00	SB TAPER	---	---	---	780	---	---	---
	STAGE 6B	310+00	-	325+00	I-39 SB	1,500	---	---	1,500	1,500	---	---
	STAGE 6B	256+20	-	264+00	NB TAPER	---	---	---	780	---	---	---
	STAGE 6B	307+00	-	322+00	I-39 NB	1,500	---	---	1,500	1,500	---	---
	END 6	307+00		322+00	I-39 NB	---	1,500	1,500	---	---	---	---
	END 6	310+00	-	325+00	I-39 SB	---	1,500	1,500	---	---	---	---
SUBTOTALS						8,460	4,230	4,230	8,790	7,560	1,560	22
TOTALS						8,460	8,460		16,350	1,560		22

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	STAGE	STA	-	STA	LOCATION	603.8000	603.8125
						CONCRETE BARRIER TEMP PRECAST DELIVERED LF	CONCRETE BARRIER TEMP PRECAST INSTALLED LF
0010	STAGE 5A	297+10	-	301+35	CTH CH	425	425
	STAGE 5B	297+10	-	301+35	CTH CH	0	425
	STAGE 6A	314+00	-	321+00	I-39 SB RT SHOULDER SB	700	700
						0	740
						0	700
						740	740
TOTALS						2,880	3,730

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TRAFFIC CONTROL

TRAFFIC CONTROL																		
643.0100																		
643.0300																		
643.0420																		
643.0705																		
643.0715																		
643.0800																		
643.0900																		
661.0100																		
TEMP TRAFFIC SIGNAL FOR BRIDGES B-69-7																		
CATEGORY	STAGE	LOCATION	DURATION DAYS	ROADWAY	PROJ	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	LS
0010	PROJECT	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---
	ADV WARN 5-6	---	137	IH 39	---	---	---	---	---	---	---	---	---	---	---	12	1,644	---
	STAGE 5A	LANE CLOUSRE	20	CTH CH	---	21	420	2	40	4	80	10	200	---	---	20	400	1
	STAGE 5B	LANE CLOUSRE	20	CTH CH	---	16	320	3	60	6	120	16	320	---	---	21	420	---
	STAGE 6A	OUTSIDE LANE CLOSURE	25	SB IH 39	---	92	2,300	2	50	---	---	36	900	2	50	14	350	---
	STAGE 6A	OUTSIDE LANE CLOSURE	25	NB IH 39	---	120	3,000	3	75	---	---	22	550	2	50	14	350	---
	STAGE 6B	INSIDE LANE CLOSURE	25	SB IH 39	---	70	1,750	2	50	---	---	38	950	2	50	14	350	---
	STAGE 6B	INSIDE LANE CLOSURE	25	NB IH 39	---	94	2,350	4	100	---	---	38	950	2	50	18	450	---
TOTALS					1	10,140		375		200		3,870		200		3,964		1

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TRAFFIC CONTROL PCMS

					643.1050			
					TRAFFIC		SPV.0045.01	
					CONTROL		PCMS	
					SIGNS		CELLULAR	
					PCMS		COMMUNICATION	
CATEGORY	STAGE	LOCATION	DURATION	ROADWAY	# REQUIRED	DAYS	# REQUIRED	DAYS
0010	STAGE 6A	SB I-39	25	NB IH 39	1	25	1	25
	STAGE 6A	NB I-39	25	NB IH 39	1	25	1	25
	STAGE 6B	NB I-39	25	NB IH 39	1	25	1	25
	STAGE 6B	SB I-39	25	NB IH 39	1	25	1	25
					TOTALS	100	100	

TRAFFIC CONTROL COVERING SIGNS

				643.0920		
				TRAFFIC CONTROL		
				COVERING SIGNS		
				TYPE II		
CATEGORY	STAGE	LOCATION		# REQUIRED	CYCLES	EACH
0010	STAGE 6 A&B	IH-39 LANE CLOSED NB		1	1	1
	STAGE 6 A&B	IH-39 LANE CLOSED SB		1	1	1
					TOTAL	2

SAWING

						690.0150
						SAWING
						ASPHALT
CATEGORY	STAGE	STA	-	STA	LOCATION	LF
0010	STAGE 5	297+00	-	301+40	CTH CH RT	440
					TOTAL	440

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REMOVING ASPHALTIC SURFACE

										204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
CATEGORY	STAGE	STA	-	STA	LOCATION					
0010	STAGE 1	269+00	-	282+75	IH-39	NB	OUTSIDE	SHOULDER		1,528
	STAGE 1	286+65	-	289+00	IH-39	NB	OUTSIDE	SHOULDER		262
	STAGE 1	269+00	-	283+25	IH-39	NB	INSIDE	SHOULDER		634
	STAGE 1	286+15	-	289+00	IH-39	NB	INSIDE	SHOULDER		126
										2,550

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

										211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA
CATEGORY	STAGE	STA	-	STA						
0010	STAGE 2B	268+00	-	283+45	IH-38	NB	INSIDE	SHOULDER		15
	STAGE 2B	286+00	-	287+00	IH-39	NB	INSIDE	SHOULDER		1
TOTAL										16

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REMOVING BUTT JOINTS

				204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY
CATEGORY	STAGE	STATION	LOCATION		
0010	STAGE 1	268+00	IH-39 NB OUT SHLDR	60	---
	STAGE 1	289+00	IH-39 NB OUT SHLDR	60	---
	STAGE 1	268+00	IH-39 NB IN SHLDR	30	---
	STAGE 1	289+00	IH-39 NB IN SHLDR	30	---
	STAGE 2A	283+25	IH-39 NB	120	75
	STAGE 2A	286+15	IH-39 NB	120	55
	STAGE 2B	283+25	IH-39 NB	100	50
	STAGE 2B	286+15	IH-39 NB	100	65
TOTALS				620	245

BASE AGGREGATE DENSE

								305.011 BASE AGGREGATE DENSE 3/4-INCH TON
CATEGORY	STA	-	STA	LOCATION				
0010	STAGE 1	268+00	-	283+50	IH-39	NB	INSIDE SHOULDER	75
	STAGE 1	282+50	-	283+45	IH-39	NB	INSIDE SHOULDER	5
	STAGE 1	285+50	-	287+00	IH-39	NB	INSIDE SHOULDER	10
TOTALS								90

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HMA PAVEMENT

								455.0105		460.1100	460.1110
								ASPHALTIC		HMA PAVEMENT	HMA PAVEMENT
								MATERIAL	455.0605		
								PG58-28	TACK COAT	TYPE E-0.3	TYPE E-10
CATEGORY	STAGE	STA	-	STA				TON	GAL	TON	TON
0010	STAGE 1	268+00	-	282+75	IH-39	NB	OUTSIDE SHLDR	21	80	375	---
	STAGE 1	286+65	-	290+00	IH-39	NB	OUTSIDE SHLDR	5	20	85	---
	STAGE 1	268+00	-	283+25	IH-39	NB	INSIDE SHLDR	13	50	235	---
	STAGE 1	286+15	-	290+00	IH-39	NB	INSIDE SHLDR	3	15	60	---
	STAGE 2A	282+75	-	283+25	IH-39	NB	OUTSIDE LANE	1	5	---	15
	STAGE 2A	282+75	-	283+25	IH-39	NB	OUTSIDE SHLDR	1	5	---	10
	STAGE 2A	286+15	-	286+65	IH-39	NB	OUTSIDE LANE	1	5	---	15
	STAGE 2A	286+15	-	286+65	IH-39	NB	OUTSIDE SHLDR	1	5	---	10
	STAGE 2B	282+75	-	283+25	IH-39	NB	INSIDE LANE	1	5	---	15
	STAGE 2B	282+75	-	283+25	IH-39	NB	INSIDE SHLDR	1	0	---	5
	STAGE 2B	286+15	-	286+65	IH-39	NB	INSIDE LANE	1	5	---	15
	STAGE 2B	286+15	-	286+65	IH-39	NB	INSIDE SHLDR	1	0	---	5
TOTALS								48	195	755	90

ADJUSTING INLET COVERS

						611.8115
						ADJUSTING
						INLET
						COVERS
CATEGORY	STAGE	STA	-	STA	LOCATION	EACH
0010	STAGE 2A	283+40	-	IH-39	NB RT	1
					TOTAL	1

CONCRETE MASONRY

CATEGORY	STAGE	STATION	LOCATION	509.2600 CONCRETE MASONRY OVERLAY APPROACH CY
0010	STAGE 2A	283+25	IH-39 NB	2
	STAGE 2A	286+15	IH-39 NB	1
	STAGE 2B	283+25	IH-39 NB	1
	STAGE 2B	286+15	IH-39 NB	2
TOTAL				6

ASPHALTIC SHOULDER RUMBLE STRIPS

CATEGORY	STA	-	STA	LOCATION	LF
0010	268+00	-	282+50	I-39 NB OUTSIDE/INSIDESHLDERS NB	2,900
	282+50	-	283+60	I-39 NB OUTSIDE/INSIDESHLDERS NB	220
	285+55	-	287+00	I-39 NB OUTSIDE/INSIDESHLDERS NB	290
	287+00	-	290+00	I-39 NB OUTSIDE/INSIDESHLDERS NB	600
TOTAL					4,010

GUARDRAIL

CATEGORY	STAGE	STA	-	STA	LOCATION	204.0165	614.0115	614.0400	614.0950	614.0951
						REMOVING GUARDRAIL LF	ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2 EACH	ADJUSTING STEEL PLATE BEAM GUARD LF	REPLACING GUARDRAIL POSTS AND BLOCKS EACH	REPLACING GUARDRAIL RAIL AND HARDWARE LF
0010	STAGE 2A	281+50	-	283+90	IH-39 NB RT	---	---	125	10	0
	STAGE 2A	286+00	-	289+00	IH-39 NB RT	7	1	290	25	50
	STAGE 2B	279+75	-	283+35	IH-39 NB LT	---	---	350	---	---
TOTALS						7	1	765	35	50

CONCRETE BARRIER TEMPORARY PRECAST

CATEGORY	STAGE	STA	- STA	LOCATION	603.8000 CONCRETE BARRIER TEMP PRECAST DELIVERED LF			603.8125 CONCRETE BARRIER TEMP PRECAST INSTALLED LF		
0010	STAGE 2A	276+60	- 285+50	IH-39 CL NB	890			890		
	STAGE 2B	276+60	- 285+50	IH-39 CL NB	---			890		
TOTALS					890			1,780		

PAVEMENT MARKING

CATEGORY	STAGE	LOCATION	STA	- STA	646.0600 REMOVING PAVEMENT MARKING LF	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 649.0400 4-INCH 649.0600 6-INCH			646.0106 PAVEMENT MARKING EPOXY 4-INCH		646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH	
						WHITE LF	YELLOW LF	BLACK LF	WHITE LF	YELLOW LF	LF	
0010	STAGE 2A	SHIFT INSIDE	256+20	- 264+00	---	---	780	190	---	---	---	
	STAGE 2A	SHIFT INSIDE	264+00	- 268+00	---	---	400	---	---	---	---	
	STAGE 2A	SHIFT INSIDE	268+00	- 290+00	2,200	2,200	2,200	---	---	---	---	
	STAGE 2A	SHIFT OUTSIDE	256+20	- 264+00	---	---	780	---	---	---	---	
	STAGE 2B	SHIFT OUTSIDE	264+00	- 268+00	---	400	---	---	---	---	---	
	STAGE 2B	SHIFT OUTSIDE	268+00	- 290+00	2,200	2,200	2,200	---	---	---	---	
END STAGE 2					---	---	---	---	2,310	2,200	---	
STAGE 4 NB IH 39 B-69-19 DECK					---	---	---	---	450	450	110	
SUBTOTALS					4,400	4,800	6,360	190	2,760	2,650	110	
TOTALS					4,400	11,160	---	190	5,410	---	110	

TRAFFIC CONTROL

CATEGORY	STAGE	LOCATION	DURATION DAYS	ROADWAY	643.0100 TRAFFIC CONTROL PROJ	# REQ'D	DAYS	643.0300 TRAFFIC CONTROL DRUMS	# REQ'D	DAYS	643.0715	# REQ'D	DAYS	643.0800	# REQ'D	DAYS
											TRAFFIC CONTROL BARRICADES TYPE III					
0010		PROJECT	---	---	1	---	---	---	---	---	---	---	---	---	--	--
		ADV WARN 1-2	72	IH 39	--	---	---	---	---	---	---	---	---	---	12	864
		ADV WARN 3-4	121	IH 39	--	---	---	---	---	---	---	---	---	---	12	1,452
	STAGE 1	INSIDE LANE CLOSURE	3	NB IH 39	---	60	180	3	9	16	48	2	6	10	30	
	STAGE 1	OUTSIDE LANE CLOSURE	3	NB IH 39	---	60	180	3	9	16	48	2	6	11	33	
	STAGE 2A	OUTSIDE LANE CLOSURE	29	NB IH 39	---	60	1,740	3	87	16	464	2	58	17	493	
	STAGE 2B	INSIDE LANE CLOSURE	29	NB IH 39	---	60	1,740	3	87	16	464	2	58	16	464	
	STAGE 3	INSIDE LANE CLOSURE FOR B-69-20	5	NB IH 39	---	90	450	6	30	24	120	2	10	13	65	
	STAGE 3	OUTSIDE LANE CLOSURE FOR B-69-20	1	NB IH 39	---	115	115	6	6	24	24	2	2	14	14	
	STAGE 3	INSIDE SHOULDER CLOSURE	19	NB IH 39	---	30	570	--	--	--	--	--	--	8	152	
	STAGE 3	INSIDE LANE CLOSURE FOR B-69-20	5	SB IH 39	---	63	315	3	15	16	80	2	10	10	50	
	STAGE 3	OUTSIDE LANE CLOSURE FOR B-69-20	1	SB IH 39	---	89	89	3	3	24	24	2	2	11	11	
	STAGE 4	INSIDE LANE CLOSURE	34	SB IH 39	---	98	3,332	7	238	16	544	2	68	14	476	
	STAGE 4	OUTSIDE LANE CLOSURE	34	SB IH 39	---	134	4,556	7	238	24	816	2	68	15	510	
	STAGE 4	INSIDE LANE CLOSURE	34	NB IH 39	---	90	3,060	6	204	16	544	2	68	13	442	
	STAGE 4	OUTSIDE LANE CLOSURE	34	NB IH 39	--	115	3,910	6	204	24	816	2	68	14	476	
TOTALS					1	20,237		1,130		3,992		424		5,532		

COVERING SIGNS

643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II						
CATEGORY	STAGE	LOCATION	# REQ'D	CYCLES	EACH	
0010	STAGE 1	IH-39 INSIDE CLOSED NB	1	5	5	
	STAGE 1	IH-39 OUTSIDE CLOSED NB	1	5	5	
	STAGE 2A	IH-39 OUTSIDE CLOSED NB	1	29	29	
	STAGE 2B	IH-39 INSIDE CLOSED NB	1	29	29	
	STAGE 3	IH-39 INSIDE CLOSED NB	1	6	6	
	STAGE 3	IH-39 OUTSIDE CLOSED NB	1	6	6	
	STAGE 4	IH-39 LANE CLOSED NB	1	34	34	
	STAGE 4	IH-39 LANE CLOSED NB	1	34	34	
	STAGE 4	IH-39 LANE CLOSED SB	1	34	34	
	STAGE 4	IH-39 LANE CLOSED SB	1	34	34	
TOTAL					216	

TRAFFIC CONTROL PCMS

				643.1050			
				TRAFFIC		SPV.0045.01	
				CONTROL		PCMS	
				SIGNS		CELLULAR	
				DURATION	PCMS	COMMUNICATION	
CATEGORY	STAGE	LOCATION	DAYS	# REQ'D	DAYS	# REQ'D	DAYS
0010	STAGE 1	NB IH 39	---	---	---	---	---
	STAGE 2A	NB IH 39	29	1	29	1	29
	STAGE 2B	NB IH 39	29	1	29	1	29
	STAGE 3	NB IH 39	---	---	---	---	---
TOTALS				58		58	

CONSTRUCTION STAKING

650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE				
CATEGORY	STA	X	STA	LF
0010	268+00	-	290+00	2200
TOTAL				2200

SAWING

690.0150 SAWING ASPHALT LF						
CATEGORY	STAGE	STA	LOCATION			
0010	STAGE 1	268+00.00	IH 39 NB	INSIDE	SHOULDER	5
	STAGE 1	268+00.00	IH 39 NB	OUTSIDE	SHOULDER	10
	STAGE 1	290+00.00	IH 39 NB	INSIDE	SHOULDER	5
	STAGE 1	290+00.00	IH 39 NB	OUTSIDE	SHOULDER	10
	STAGE 2 A	282+75.00	IH 39 NB	OUTSIDE	LANE/SHOULDER	20
	STAGE 2 A	286+65.00	IH 39 NB	OUTSIDE	LANE/SHOULDER	20
	STAGE 2 B	282+75.00	IH 39 NB	INSIDE	LANE/SHOULDER	20
	STAGE 2 B	286+65.00	IH 39 NB	INSIDE	LANE/SHOULDER	20
TOTAL						110

REMOVING ASPHALTIC SURFACE

CATEGORY	STAGE	STA	-	STA	LOCATION	204.0115	204.0110	204.0120
						REMOVING ASPHALT SURFACE BUTT JOINTS SY	REMOVING ASPHALTIC SURFACE SY	REMOVING ASPHALTIC SURFACE MILLING SY
0010	STAGE 3	198+00	-	199+00	STH 21 EB SHOULDER	---	110	---
	STAGE 3	198+00	-	198+85	STH 21 WB SHOULDER	---	95	---
	STAGE 3	202+10	-	205+00	STH 21 EB SHOULDER	---	385	---
	STAGE 3	201+80	-	203+85	STH 21 WB SHOULDER	---	275	---
	STAGE 3	203+85	-	204+85	STH 21 WB SHOULDER TAPER	---	65	---
	STAGE 3	203+12		204+46	STH 21 --- MEDIAN	---	35	---
	STAGE 4	310+00		311+00	IH 39 SB OUTSIDE SHLDR	110	---	---
	STAGE 4	310+00		311+00	IH 39 SB INSIDE SHLDR	45	---	---
	STAGE 4	311+00	-	324+00	IH-39 SB OUTSIDE SHLDR	---	---	1,445
	STAGE 4	311+00	-	324+00	IH-39 SB INSIDE SHLDR	---	---	580
	STAGE 4	324+00		325+00	IH 39 SB OUTSIDE SHLDR	110	---	---
	STAGE 4	324+00		325+00	IH 39 SB INSIDE SHLDR	45	---	---
	STAGE 4	307+00		308+00	IH 39 NB OUTSIDE SHLDR	110	---	---
	STAGE 4	307+00		308+00	IH 39 NB INSIDE SHLDR	45	---	---
	STAGE 4	308+00		311+10	IH 39 NB OUTSIDE SHLDR	---	---	345
	STAGE 4	308+00		311+10	IH 39 NB INSIDE SHLDR	---	---	140
	STAGE 4	311+10		314+60	IH 39 NB FULL WIDTH	1,480	---	---
	STAGE 4	316+60		320+10	IH 39 NB FULL WIDTH	1,480	---	---
	STAGE 4	320+10		321+00	IH 39 NB OUTSIDE SHLDR	---	---	100
	STAGE 4	320+10		321+00	IH 39 NB INSIDE SHLDR	---	---	40
	STAGE 4	321+00		322+00	IH 39 NB OUTSIDE SHLDR	110	---	---
	STAGE 4	321+10		322+00	IH 39 NB INSIDE SHLDR	40	---	---
	STAGE 4	314+00	-	316+60	IH-39 NB OUTSIDE SHLDR		---	290
TOTALS						3,575	965	2,940

EXCAVATION

					205.0100 COMMON EXCAVATION
CATEGORY	STA	-	STA	LOCATION	CY
0010	201+70	-	205+00	STH 21	460
TOTAL					460

REMOVING PAVEMENT

								204.0190	
								204.0100	REMOVING
								REMOVING	SURFACE
								PAVEMENT	DRAIN
CATEGORY	STAGE	STA	-	STA	LOCATION			SY	EACH
0010	STAGE 3	198+00	-	199+22	STH 21	EB	DRIVE LANE	190	---
	STAGE 3	198+00	-	199+22	STH 21	EB	CURB	34	---
	STAGE 3	199+00	-	199+25	STH 21	EB	SURFACE DRAIN	28	1
	STAGE 3	198+00	-	199+06	STH 21	WB	DRIVE LANE	165	---
	STAGE 3	198+00	-	199+06	STH 21	WB	CURB	29	---
	STAGE 3	198+00	-	198+70	STH 21	WB	TURN LANE	39	---
	STAGE 3	198+85	-	198+96	STH 21	WB	SURFACE DRAIN	6	1
	STAGE 3	201+72	-	205+00	STH 21	EB	DRIVE LANE	510	---
	STAGE 3	201+72	-	205+00	STH 21	EB	CURB	91	---
	STAGE 3	201+75	-	202+10	STH 21	EB	SURFACE DRAIN	39	1
	STAGE 3	202+10	-	203+15	STH 21	EB	TURN LANE	70	---
	STAGE 3	203+15	-	205+00	STH 21	EB	TURN LANE	247	---
	STAGE 3	204+65	-	205+00	STH 21	MD	MEDIAN OF INTERSECTION	39	---
	STAGE 3	201+48	-	201+80	STH 21	WB	SURFACE DRAIN	36	1
	STAGE 3	201+52	-	205+00	STH 21	WB	DRIVING LANE	541	---
	STAGE 3	201+52	-	205+00	STH 21	WB	CURB	97	---
	STAGE 3	203+85	-	205+00	STH 21	RAMP	TAPER FOR NE RAMP/STH21	7	---
	STAGE 3	204+90	-	205+00	STH 21	RAMP	CURB IN RAMP TAPER	3	---
TOTALS								2,170	4

REMOVING GUARDRAIL

							204.0165 REMOVING GUARDRAIL
CATEGORY	STAGE	STA	-	STA	LOCATION		LF
0010	STAGE 3	198+00	-	199+25	STH 21 EB RT		125
	STAGE 3	201+50	-	202+75	STH 21 WB LT		125
	TOTAL						250

REMOVING STORM SEWER

							204.0245 REMOVING STORM SEWER 12-INCH LF	204.0220 REMOVING INLETS EACH
CATEGORY	STAGE	STA		LOCATION				
0010	STAGE 3	204+46		STH 21 WB MEDIAN			8	---
	STAGE 3	204+46		STH 21 EB MEDIAN			22	---
	STAGE 3	204+57		STH 21 MEDIAN			---	2
TOTALS							30	2

ASPHALTIC SURFACE

									211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	465.0105 ASPHALTIC SURFACE
CATEGORY	STAGE	STA	-	STA	LOCATION				STA	TON
0010	STAGE 4	310+00	-	325+00	IH-39 SB INSIDE SHOULDER				15	---
	STAGE 4	307+00	-	322+00	IH-39 NB INSIDE SHOULDER				15	---
	STAGE 4	307+00	-	314+60	IH-39 NB OUTSIDE SHOULDER				8	---
	STAGE 4	316+60	-	327+00	IH-39 NB OUTSIDE SHOULDER				10	---
	STAGE 3	202+67	-	204+46	STH 21 MEDIAN				---	195
TOTALS									48	195

BASE AGGREGATE DENSE

							305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
CATEGORY	STAGE	STA	-	STA	LOCATION			
0010	STAGE 4	311+10	-	321+10	IH-39 NB OUTSIDE SHLDR		95	---
	STAGE 4	311+10	-	321+10	IH-39 NB INSIDE SHLDR		95	---
	STAGE 3	201+66	-	201+75	STH 21 EB		---	5
	STAGE 3	201+75	-	203+59	STH 21 EB		25	225
	STAGE 3	203+59	-	205+00	STH 21 EB		20	198
	STAGE 3	204+50	-	205+00	MEDIAN INTERSECTION		---	20
	STAGE 3	201+46	-	201+56	STH 21 WB		---	5
	STAGE 3	201+56	-	205+00	STH 21 WB		40	357
	STAGE 3	201+56	-	201+66	STH 21 MEDIAN CURB AREA		---	5
	STAGE 3	201+66	-	203+59	STH 21 MEDIAN CURB AREA		---	68
	STAGE 3	203+59	-	204+50	STH 21 MEDIAN CURB AREA		---	17
TOTALS							275	900

CONCRETE PAVEMENT

							415.0410				
							415.0080	CONCRETE	416.1010	416.0620	
							CONCRETE	PAVEMENT	CONCRETE	DRILLED	
							PAVEMENT	APPROACH	SURFACE	DOWEL	
							8-INCH	SLAB	DRAINS	BARS	
CATEGORY	STAGE	STA	-	STA	LOCATION		SY	SY	CY	EACH	
0010	STAGE 3	198+00	-	199+00	STH 21	EB	DRIVE LANE	155	---	---	13
	STAGE 3	199+00	-	199+22	STH 21	EB	DRIVE LANE	---	35	---	---
	STAGE 3	198+88	-	199+00	STH 21	EB	SURFACE DRAIN	---	---	5	---
	STAGE 3	198+90	-	199+25	STH 21	EB	APPROACH/SURFACE DRAIN	---	40	---	---
	STAGE 3	198+00	-	198+85	STH 21	WB	DRIVE LANE	130	---	---	18
	STAGE 3	198+85	-	199+06	STH 21	WB	DRIVE LANE	---	35	---	---
	STAGE 3	198+00	-	198+70	STH 21	WB	TURN LANE	40	---	---	---
	STAGE 3	198+69	-	198+85	STH 21	WB	SURFACE DRAIN	---	---	5	---
	STAGE 3	198+58	-	198+96	STH 21	WB	APPROACH/SURFACE DRAIN	---	40	---	---
	STAGE 3	201+87	-	202+02	STH 21	EB	SURFACE DRAIN	---	---	5	---
	STAGE 3	201+72	-	201+80	STH 21	EB	DRIVE LANE	---	10	---	13
	STAGE 3	201+80	-	205+00	STH 21	EB	DRIVE LANE	500	---	---	---
	STAGE 3	201+75	-	202+07	STH 21	EB	APPROACH/SURFACE DRAIN	---	35	---	---
	STAGE 3	202+10	-	203+15	STH 21	EB	TURN LANE	70	---	---	9
	STAGE 3	203+15	-	205+00	STH 21	EB	TURN LANE	245	---	---	---
	STAGE 3	204+65	-	205+00	STH 21	MD	MEDIAN OF INTERSECTION	40	---	---	9
	STAGE 3	201+72	-	201+84	STH 21	EB	SURFACE DRAIN	---	---	5	---
	STAGE 3	201+48	-	201+82	STH 21	WB	APPROACH/SURFACE DRAIN	---	40	---	13
	STAGE 3	201+52	-	201+70	STH 21	WB	DRIVING LANE	---	30	---	---
	STAGE 3	201+70	-	205+00	STH 21	WB	DRIVING LANE	515	---	---	---
	STAGE 3	203+85	-	205+00	STH 21	RAMP	TAPER FOR NE RAMP/STH21	5	---	---	12
TOTALS							1,700	265	20	87	

ASPHALTIC SHOULDER RUMBLE STRIPS

							465.0400
							ASPHALTIC
							SHOULDER
							RUMBLE
							STRIP
CATEGORY	STAGE	STA	-	STA	LOCATION		LF
0010	STAGE 3	307+00	-	322+00	I-39 NB	OUTSIDE/INSIDE SHLDRS NB	3,000
	STAGE 3	310+00	-	325+00	I-39 SB	OUTSIDE/INSIDE SHLDRS SB	3,000
TOTAL							6,000

3

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HMA PAVEMENT

CATEGORY	STAGE	STA	-	STA	LOCATION	455.0105		460.1100	460.1110
						ASPHALTIC			
						MATERIAL	455.0605	HMA PAVEMENT	HMA PAVEMENT
						PG58-28	TACK COAT	TYPE E-0.3	TYPE E-10
						TON	GAL	TON	TON
0010	STAGE 3	198+00	-	198+88	STH 21 EB	1.4	5	25	---
	STAGE 3	198+00	-	198+70	STH 21 WB	1.1	5	20	---
	STAGE 3	202+02	-	205+00	STH 21 EB	5.0	20	90	---
	STAGE 3	201+84	-	203+85	STH 21 WB	3.3	15	60	---
	STAGE 3	203+85	-	204+85	STH 21 WB	0.8	5	15	---
	STAGE 4	307+00	-	308+00	IH 39 INSIDE SHLDR NB	0.3	0	5	---
	STAGE 4	307+00	-	308+00	IH 39 OUTSIDE SHLDR NB	0.6	5	10	---
	STAGE 4	308+00	-	311+10	IH 39 INSIDE SHLDR NB	1.4	5	25	---
	STAGE 4	308+00	-	311+10	IH 39 OUTSIDE SHLDR NB	2.2	10	40	---
	STAGE 4	311+10	-	314+60	IH 39 INSIDE SHLDR NB	1.1	5	20	---
	STAGE 4	311+10	-	314+60	IH 39 OUTSIDE SHLDR NB	1.9	10	35	---
	STAGE 4	311+10	-	314+60	DRIVING LANES NB	4.4	25	---	80
	STAGE 4	314+60	-	316+60	IH 39 INSIDE SHLDR NB	0.8	5	15	---
	STAGE 4	314+60	-	316+60	IH 39 OUTSIDE SHLDR NB	1.4	5	25	---
	STAGE 4	314+60	-	316+60	DRIVING LANES NB	3.3	15	---	60
	STAGE 4	316+60	-	320+10	IH 39 INSIDE SHLDR NB	1.1	5	20	---
	STAGE 4	316+60	-	320+10	IH 39 OUTSIDE SHLDR NB	1.9	10	35	---
	STAGE 4	316+60	-	320+10	DRIVING LANES NB	4.4	25	---	80
	STAGE 4	320+10	-	321+00	IH 39 INSIDE SHLDR NB	0.3	0	5	---
	STAGE 4	320+10	-	321+00	IH 39 OUTSIDE SHLDR NB	0.6	5	10	---
	STAGE 4	321+00	-	322+00	IH 39 INSIDE SHLDR NB	0.3	0	5	---
	STAGE 4	321+00	-	322+00	IH 39 OUTSIDE SHLDR NB	0.6	5	10	---
	STAGE 4	310+00	-	325+00	IH 39 OUTSIDE SHLDR SB	21.2	85	385	---
	STAGE 4	310+00	-	325+00	IH 39 INSIDE SHLDR SB	12.7	50	230	---
TOTALS						72	320	1,085	220

STORM SEWER

CATEGORY	STAGE	STA	LOCATION	STRUCTURE #	520.7000	521.1012	608.0312	611.0530	611.0654	611.0624	611.2004	611.3230	611.3225	611.8115	612.0212
					CLEANING CULVERT PIPES EACH	APRON ENDWALL CP-STEEL 12-INCH EACH	SSPRC CLASS III 12-INCH LF	MANHOLE COVERS TYPE J EACH	INLET COVER TYPE V EACH	INLET COVER TYPE H EACH				4-FT DIAM EACH	2X3-FT INLETS EACH
0010	STAGE 3	198+65	STH 21 WB MEDIAN	302	1	---	---	---	---	---	---	---	---	1	---
	STAGE 3	198+75	STH 21 EB MEDIAN	301	1	---	---	---	---	---	---	---	---	1	---
	STAGE 3	201+79	STH 21 WB LT	501	---	1	---	---	1	---	---	---	1	---	50
	STAGE 3	201+98	STH 21 EB RT	502	---	1	---	---	1	---	---	---	1	---	55
	STAGE 3	204+45	STH 21 WB MEDIAN	401A	---	---	---	---	---	1	---	1	---	---	---
	STAGE 3	204+45	STH 21 EB MEDIAN	402A	---	---	6	---	---	1	---	1	---	---	---
	STAGE 3	204+69	STH 21 EB MEDIAN	403A	---	---	23	1	---	---	1	---	---	---	---
	STAGE 3	204+69	STH 21	EX CP 4000	1	---	---	---	---	---	--	---	---	---	---
TOTALS					3	2	29	1	2	2	1	2	2	2	105

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BEAM GUARD								CONCRETE CURB & GUTTER								EROSION CONTROL MOBILIZATION			
				614.2300 MGS GUARDRAIL 3	614.2500 MGS THRIE BEAM TRANSITION	614.2610 MGS GUARDRAIL EAT EACH					601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A	620.0300 CONCRETE MEDIAN SLOPED NOSE							
CATEGORY	STA	-	STA	LOCATION	LF	LF		CATEGORY	STAGE	STA	-	STA	LOCATION	LF	SF	CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	198+00	-	199+05	STH 21 EB	12.5	39	1	0010	STAGE 3	198+00	-	199+15	EB MEDIAN	115	---	0010	PROJECT	4	2
	201+80	-	202+85	STH 21 WB	12.5	39	1		STAGE 3	201+66	-	204+51	EB MEDIAN	285	---				
				TOTALS	25	78	2		STAGE 3	198+00	-	199+05	WB MEDIAN	105	---		TOTALS	4	2
									STAGE 3	201+56	-	204+51	WB MEDIAN	295	---				
									STAGE 3	204+51			MEDIAN	---	35				
								TOTALS				800	35						

TYPE II SIGNING

CATEGORY	SIGN #	SIGN CODE	SHAPE T,O,R,D	SIGN SIZE IN X IN			MESSAGE	637.2210	637.2230	POST SHARED	POSTS WOOD					
								SIGNS	SIGNS		634.0410	634.0616	634.0618	634.0620		
								TYPE II	TYPE II		4X4 INCH	4X6 INCH	4X6 INCH	4X6 INCH		
								REFLECTIVE	REFLECTIVE		10-FT	16-FT	18-FT	20-FT		
								H	F							
								SF	SF	EACH	EACH	EACH	EACH			
0010	01-01	J4-1	R	24	36	WEST STH 21		6.00	---	---	---	1	---	---		
	01-02	R7-1D	R	18	24	NO PARKING ANYTIME RT<		3.00	---	---	---	1	---	---		
	01-03	D1-3	R	66	36	COLOMA WAUTOMA AHEAD, PORTAGE RIGHT		16.50	---	---	---	1	1	---		
	01-04	R5-1A	R	36	24	WRONG WAY		6.00	---	Y	---	---	---	---		
	01-05	R4-7	R	24	30	KEEP RT		5.00	---	---	---	1	---	---		
	01-06	R7-1R	R	18	24	NO PARKING ANYTIME RT		3.00	---	---	---	1	---	---		
	01-07	R5-1	R	30	30	DO NOT ENTER		6.25	---	Y	---	---	---	---		
	02-01	R5-1	R	30	30	DO NOT ENTER		6.25	---	Y	---	---	---	---		
	02-02	R1-2	T	36	31	YIELD		3.88	---	---	---	1	---	---		
	02-03	J2-2	R	48	57	SOUTH 39 RT SOUTH 51 RT		19.00	---	---	---	---	1	---		
	02-04	W12-1D	D	24	24	DOUBLE DOWN		---	4.00	---	1	---	---	---		
	02-05	R1-1	O	36	36	STOP		7.46	---	---	---	---	1	---		
	02-06	R1-1	O	36	36	STOP		7.46	---	---	---	---	1	---		
	02-07	R6-2L	R	24	30	ONE WAY LT		5.00	---	---	---	1	---	---		
	02-08	R5-1	R	30	30	DO NOT ENTER		6.25	---	Y	---	---	---	---		
	02-09	R5-1	R	30	30	DO NOT ENTER		6.25	---	Y	---	---	---	---		
	02-10	R3-2	R	24	24	NO LT TURN		4.00	---	---	---	1	---	---		
	02-11	R3-2	R	24	24	NO LT TURN		4.00	---	Y	---	---	---	---		
	02-12	R5-1	R	30	30	DO NOT ENTER		6.25	---	Y	---	---	---	---		
	02-13	R3-1	R	24	24	NO RT TURN		4.00	---	---	---	1	---	---		
	02-14	J2-2	R	48	57	SOUTH 39 LT SOUTH 51 LT		19.00	---	---	---	---	1	---		
	02-15	R6-2L	R	24	30	ONE WAY LT		5.00	---	---	---	1	---	---		
	02-16	R4-7	R	24	30	KEEP RT		5.00	---	---	---	1	---	---		
	02-17	R2-1	R	24	30	SPEED LIMIT 45		5.00	---	---	---	1	---	---		
	02-18	R5-1A	R	36	24	WRONG WAY		6.00	---	Y	---	---	---	---		
	02-19	D1-2	R	66	30	NECEDAH AHEAD PORTAGE LT		13.75	---	---	---	1	1	---		
	02-20	J2-2	R	48	57	NORTH 39 AHEAD LT NORTH 51 AHEAD LT		19.00	---	---	---	---	1	---		
	02-21	R3-20L	R	24	36	BEGIN LT TURN LANE		6.00	---	---	---	1	---	---		
	02-22	W5-52R	R	12	36	TIGER BOARD		---	3.00	---	---	1	---	---		
	02-23	W5-52R	R	12	36	TIGER BOARD		---	3.00	---	---	1	---	---		
	02-24	R3-20L	R	24	36	BEGIN LT TURN LANE		6.00	---	---	---	1	---	---		
	02-25	J3-3	R	72	57	S 39 AHEAD LT, S 51 AHEAD LT, WEST 21 AHEAD		28.50	---	---	---	---	---	2		
	02-25	R6-3	R	30	24	DIVIDED HIGHWAY		5.00	---	Y	---	---	---	---		
	02-26	R6-3	R	30	24	DIVIDED HIGHWAY		5.00	---	Y	---	---	---	---		
	03-01	D1-3	R	90	36	COLOMA WAUTOMA AHEAD, STEVENS POINT RIGHT		22.50	---	---	---	---	1	1		
	03-02	R5-1A	R	36	24	WRONG WAY		6.00	---	Y	---	---	---	---		
	03-03	R2-1	R	24	30	SPEED LIMIT 45		5.00	---	---	---	1	---	---		
	03-04	R2-1	R	24	30	SPEED LIMIT 35		5.00	---	---	---	1	---	---		
	03-05	R4-7	R	24	30	KEEP RT		5.00	---	---	---	1	---	---		
	03-06	R5-2L	R	24	30	ONE WAY LT		5.00	---	---	---	1	---	---		
	03-07	J2-2	R	48	57	NORTH 39 LT, NORTH 51 LT		19.00	---	---	---	---	1	---		
	03-08	R3-1	R	24	24	NO RT TURN		4.00	---	---	---	1	---	---		
CONTINUE NEXT PAGE								SUBTOTALS			320.29	10.00	1	22	9	3

TYPE II SIGNING

CATEGORY	SIGN #	SIGN CODE	SHAPE T,O,R,D	SIGN SIZE			MESSAGE	637.2210	637.2230	POST SHARED	POSTS WOOD			
								SIGNS	SIGNS		634.0410	634.0616	634.0618	634.0620
								TYPE II REFLECTIVE	TYPE II REFLECTIVE		4X4 INCH 10-FT	4X6 INCH 16-FT	4X6 INCH 18-FT	4X6 INCH 20-FT
				IN	X	IN		H SF	F SF		EACH	EACH	EACH	EACH
0010	03-09	R5-1	R	30	30		DO NOT ENTER	6.25	---	Y	---	1	---	---
	03-10	R1-1	O	36	36		STOP	7.46	---	---	---	---	1	---
	03-11	R5-1	R	30	30		DO NOT ENTER	6.25	---	Y	---	---	---	---
	03-12	R3-1	R	24	24		NO RT TURN	4.00	---	---	---	1	---	---
	03-13	R3-2	R	24	24		NO LT TURN	4.00	---	Y	---	---	---	---
	03-14	R5-2L	R	24	30		ONE WAY LT	5.00	---	Y	---	---	---	---
	03-15	W12-1D	R	24	24		DOUBLE DOWN	---	4.00	---	---	1	---	---
	03-16	R1-1	O	36	36		STOP	7.46	---	---	---	---	1	---
	03-17	R5-1	R	30	30		DO NOT ENTER	6.25	---	---	---	1	---	---
	03-18	J2-2	R	48	57		NORTH 39 RT, NORTH 51 RT	19.00	---	---	---	---	1	---
	03-19	R1-2	T	36	31		YIELD	3.88	---	---	---	1	---	---
	03-20	R5-1	R	30	30		DO NOT ENTER	6.25	---	Y	---	---	---	---
	03-21	R5-1	R	30	30		DO NOT ENTER	6.25	---	---	---	1	---	---
	03-22	R3-7R	R	30	30		RIGHT LANE MUST TURN RT	6.25	---	Y	---	---	---	---
	03-23	W11-6	R	30	30		SNOWMOBILE CROSSING	---	6.25	---	---	1	---	---
	03-24	R5-1A	R	36	24		WRONG WAY	6.00	---	---	---	1	---	---
	03-25	D1-3	R	90	36		PORTAGE NECEDAH AHEAD, STEVENS POINT RT	22.50	---	---	---	---	1	1
	03-26	I2-3	R	66	24		COLOMA POPULATION 461	11.00	---	---	---	2	---	---
	03-27	R2-1	R	24	30		SPEED LIMIT 35	5.00	---	---	---	1	---	---
	03-28	R4-7	R	24	30		KEEP RT	5.00	---	---	---	1	---	---
	03-29	I55-56	R	30	36		ADOPT A HIGHWAY	7.50	---	---	---	1	---	---
	03-30	R3-7R	R	30	30		RIGHT LANE MUST TURN RT	6.25	---	---	---	1	---	---
	03-31	R6-3	R	30	24		DIVIDED HIGHWAY	5.00	---	Y	---	---	---	---
	03-32	R6-3	R	30	24		DIVIDED HIGHWAY	5.00	---	Y	---	---	---	---
							UNDSTIBUTED	---	---	---	---	1	---	---
SUBTOTALS								161.54	10.25		0	15	4	1
TOTALS								481.82	20.25		1	37	13	4

REMOVING SIGNS

				638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
CATEGORY	SIGN #	SIGN CODE	SIGN MESSAGE		
0010	01-01	J4-1	WEST STH 21	1	1
	01-02	R7-1D	NO PARKING ANYTIME RT<	1	1
	01-03	D1-3	COLOMA WAUTOMA AHEAD, PORTAGE RIGHT	1	2
	01-04	R5-1A	WRONG WAY	1	0
	01-05	R4-7	KEEP RT	1	1
	01-06	R7-1R	NO PARKING ANYTIME RT	1	1
	01-07	R5-1	DO NOT ENTER	1	0
	02-01	R5-1	DO NOT ENTER	1	0
	02-02	R1-2	YIELD	1	1
	02-03	J2-2	SOUTH 39 RT SOUTH 51 RT	1	1
	02-04	W12-1D	DOUBLE DOWN	1	1
	02-05	R1-1	STOP	1	1
	02-06	R1-1	STOP	1	1
	02-07	R6-2L	ONE WAY LT	1	1
	02-08	R5-1	DO NOT ENTER	1	0
	02-09	R5-1	DO NOT ENTER	1	0
	02-10	R3-2	NO LT TURN	1	1
	02-11	R3-2	NO LT TURN	1	0
	02-12	R5-1	DO NOT ENTER	1	0
	02-13	R3-1	NO RT TURN	1	1
	02-14	J2-2	SOUTH 39 LT SOUTH 51 LT	1	1
	02-15	R6-2L	ONE WAY LT	1	1
	02-16	R4-7	KEEP RT	1	1
	02-17	R2-1	SPEED LIMIT 45	1	1
	02-18	R5-1A	WRONG WAY	1	0
	02-19	D1-2	NECEDAH AHEAD PORTAGE LT	1	2
	02-20	J2-2	NORTH 39 AHEAD LT NORTH 51 AHEAD LT	1	1
	02-21	R3-20L	LEFT TURN LANE	1	1
	02-22	W5-52R	TIGER BOARD	1	1
	02-23	W5-52R	TIGER BOARD	1	1
	02-24	R3-20L	BEGIN LT TURN LANE	1	1
	02-25	J3-3	S 39 AHEAD LT, S 51 AHEAD LT, WEST 21 AHEAD	1	2
	03-01	D1-3	COLOMA WAUTOMA AHEAD, STEVENS POINT RIGHT	1	2
	03-02	R5-1A	WRONG WAY	1	0
	03-03	R2-1	SPEED LIMIT 45	1	1
	03-04	R2-1	SPEED LIMIT 35	1	1
	03-05	R4-7	KEEP RT	1	1
	03-06	R5-2L	ON E WAY LT	1	1
	03-07	J2-2	NORTH 39 LT, NORTH 51 LT	1	1
	03-08	R3-1	NO RT TURN	1	1
	03-09	R5-1	DO NOT ENTER	1	0
SUBTOTALS				41	35

REMOVING SIGNS

				638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
CATEGORY	SIGN #	SIGN CODE	SIGN MESSAGE		
0010	03-10	R1-1	STOP	1	1
	03-11	R5-1	DO NOT ENTER	1	0
	03-12	R3-1	NO RT TURN	1	1
	03-13	R3-2	NO LT TURN	1	0
	03-14	R5-2L	ONE WAY LT	1	0
	03-15	W12-1D	DOUBLE DOWN	1	1
	03-16	R1-1	STOP	1	1
	03-17	R5-1	DO NOT ENTER	1	1
	03-18	J2-2	NORTH 39 RT, NORTH 51 RT	1	1
	03-19	R1-2	YIELD	1	1
	03-20	R5-1	DO NOT ENTER	1	0
	03-21	R5-1	DO NOT ENTER	1	1
	03-22	R3-7R	RIGHT LANE MUST TURN RT	1	0
	03-23	W11-6	SNOWMOBILE CROSSING	1	1
	03-24	R5-1A	WRONG WAY	1	1
	03-25	D1-3	PORTAGE NECEDAH AHEAD, STEVENS POINT RT	1	2
	03-26	I2-3	COLOMA POPULATION 461	1	2
	03-27	R2-1	SPEED LIMIT 35	1	1
	03-28	I5	ADOPT A HIGHWAY	1	1
	03-29	R4-7	KEEP RT	1	1
SUBTOTALS				20	17
TOTALS				61	52

3

TRAFFIC CONTROL

CATEGORY	STAGE	LOCATION	DURATION DAYS	ROADWAY CONTROL	643.0100		643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.2000		643.3000			
					TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL	TRAFFIC	CONTROL
					DRUMS	TYPE III	TYPE A	TYPE C	ARROW	SIGNS	DETOUR	DETOUR	SIGNS											
					# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS
0010		PROJECT	40	STH 21	1		---		---		---		---		---		---	1	100	4000				
	STAGE 3	ACCESS TO EAST SIDE BUS	40	STH 21	---		---	5	200	---	---	---	---	---	---	9	360	---	---	---				
	STAGE 3	STH 21 WEST/STRUCTURE	40	STH 21	---	15	600	6	240	6	240	8	320	---	---	7	280	---	---	---				
	STAGE 3	STH 21 EAST/STRUCTURE	40	STH 21	---	23	920	6	240	6	240	12	480	1	40	10	400	---	---	---				
	TOTALS				1		1,520		680		480		800		40		1,040	1		4,000				

SEE PROJECT 1166-06-64 FOR QUANTITIES ON IH-39

COVERING SIGNS

				643.0910			643.0920			
				TRAFFIC CONTROL COVERING SIGNS TYPE I			TRAFFIC CONTROL COVERING SIGNS TYPE II			
CATEGORY	STAGE			LOCATION	# REQ'D	CYCLES	EACH	# REQ'D	CYCLES	EACH
0010	STAGE 3	IH-39	LANE CLOSED NB	2	1	2	---	1	---	
	STAGE 3	IH-39	LANE CLOSED SB	---	1	---	---	1	---	
	STAGE 3	STH 21	CLOSURE	---	1	---	10	1	10	
TOTALS				2			10			

TRAFFIC CONTROL PCMS

					643.1050	
					TRAFFIC	
					CONTROL	
					SIGNS	
					PCMS	
CATEGORY	STAGE	LOCATION	DURATION DAYS	ROADWAY	# REQ'D	EACH
0010	STAGE 3		10	NB IH 39	2	20
					TOTAL	20

PAVEMENT MARKING

						646.0106 PAVEMENT MARKING EPOXY 4-INCH			646.0126 PAVEMENT MARKING EPOXY 8-INCH		646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)		647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2 EACH		647.0356 PAVEMENT MARKING WORDS EPOXY EACH		647.0456 PAVEMENT MARKING CURB EPOXY LF		647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY EACH		649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF	
CATEGORY	STAGE	LOCATION	STA	-	STA	WHITE LF	DASH LF	YELLOW LF	WHITE LF		LF		EACH	EACH			LF	EACH		LF		
0010	STAGE 4	NB IH 39	311+10	-	321+10	1,000	---	1,000	---		240	---	---	---	---	---	---	---	---	---		
	STAGE 3	STH 21 WB	195+50	-	204+90	940	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	STAGE 3	STH 21 WB	196+16	-	197+51	---	---	---	135	---	---	---	---	10	1	---	---	---	---	---		
	STAGE 3	STH 21 WB	205+76	-	206+78	---	---	---	100	---	1	1	---	---	---	---	---	---	---	---		
	STAGE 3	STH 21 WB	206+78	-	209+16	---	60	---	---	---	---	---	---	---	---	---	---	---	---	---		
	STAGE 3	STH 21 WB	209+16	-	211+00	---	45	185	---	---	---	---	---	---	---	---	---	---	---	---		
	STAGE 3	STH 21 EB	196+00	-	205+31	930	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	STAGE 3	STH 21 EB	203+13	-	204+55	---	---	---	140	---	---	---	---	---	10	1	---	---	---	---		
	STAGE 3	STH 21 EB	206+00	-	209+16	---	75	---	---	---	---	---	---	55	1	---	---	---	---	---		
	STAGE 3	STH 21 EB	209+16	-	211+00	---	45	185	---	---	---	---	---	---	---	---	---	---	---	---		
	STAGE 3	STH 22 EB	192+00	-	195+50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	350		
	STAGE 3	STH 23 EB	205+50	-	206+00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50		
	STAGE 3	STH 24 WB	195+00	-	195+50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	50		
	STAGE 3	STH 25 WB	205+30	-	211+00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	570		
SUBTOTALS						2,870	225	1,370	375		240		1	1	75	3			1,020			
TOTALS						4,465			375		240		1	1	75	3			1,020			

FENCE SAFTEY

			616.0700.S
			FENCE
			SAFETY
CATEGORY	STAGE	LOCATION	LF
0010	STAGE 3	WEST OF STRUCT IH-39 SB ON RAMP OFF RAMP	1,500
	STAGE 3	WEST OF STRUCT IH-39SB OFF RAMP	1,500
	TOTAL		3,000

SAWING

				690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
CATEGORY	STAGE	STA			
0010	STAGE 3	198+00	STH 21 EB	12	16
	STAGE 3	198+00	STH 21 WB	12	21
	STAGE 3	205+00	STH 21 EB	12	26
	STAGE 3	205+00	STH 21 MEDIAN INTERSECTION	5	14
	STAGE 3	205+00	STH 21 WB	---	28
	STAGE 4	307+00	IH 39 NB INSIDE SHLDR	4	---
	STAGE 4	307+00	IH 39 NB OUTSIDE SHLDR	10	---
	STAGE 4	310+00	IH 39 SB OUTSIDE SHLDR	5	---
	STAGE 4	310+00	IH 39 SB INSIDE SHLDR	10	---
	STAGE 4	322+00	IH 39 NB INSIDE SHLDR	5	---
	STAGE 4	322+00	IH 39 NB OUTSIDE SHLDR	10	---
	STAGE 4	325+00	IH 39 SB OUTSIDE SHLDR	5	---
	STAGE 4	325+00	IH 39 SB INSIDE SHLDR	10	---
TOTALS				100	105

CONSTRUCTION STAKING

CATEGORY	STA	-	STA	LOCATION	650.4500	650.5000	650.5500	650.7000	650.8000	650.9910	650.9920
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	CONSTRUCTION STAKING RESURFACING REFERENCE LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS	CONSTRUCTION STAKING SLOPE STAKES LF
0010	---	-	---	PROJECT	---	---	---	---	---	1	---
	198+00	-	199+15	STH 21 EB	---	---	115	---	---	---	---
	201+66	-	204+51	STH 21 EB	---	---	285	---	---	---	---
	198+00	-	199+05	STH 21WB	---	---	105	---	---	---	---
	201+56	-	204+51	STH 21WB	---	---	295	---	---	---	---
	198+00	-	199+22	STH 21	122	122	---	122	122	---	122
	201+72	-	205+00	STH 21	328	328	---	328	328	---	328
	307+00	-	322+00	I 39 NB	---	---	---	---	1500	---	---
	310+00	-	325+00	I 39 SB	---	---	---	---	1500	---	---
TOTALS					450	450	800	450	3450	1	450

CONSTRUCTION STAKING

CATEGORY	STATION	LOCATION	650.4000
			CONSTRUCTION STAKING STORM SEWER EACH
0010	201+79	STH 21 WB LT	1
	201+98	STH 21 EB RT	1
	204+45	STH 21 WB MEDIAN	1
	204+45	STH 21 EB MEDIAN	1
	204+69	STH 21 EB MEDIAN	1
TOTAL			5

CONTROL POINTS						
POINT#	NORTHING	EASTING	ELEVATION	STA	OFFSET	TYPE
902	116469.94	320200.57	1025.51	282+83.34	-149.334'	CP NL
911	116454.12	320197.75	1026.19	282+71.73	-160.441'	CP IP

BEGIN PROJECT 1166-07-64
STA 268+00

REMOVING ASPHALT SURFACE
BUTT JOINTS (SHOULDERS)
STA 268+00 TO 269+00

ADJUSTING STEEL PLATE BEAM GUARD

ADJUSTING STEEL PLATE BEAM GUARD
REPLACING GUARDRAIL POSTS AND BLOCKS

SAWING ASPHALT
(SHOULDERS)
STA 268+00

SB IH 39

NB IH 39

N33° 37' 26"W

5

5

PROJECT 1166-06-62
STRUCTURE PAINTING B-69-07

REMOVING PAVEMENT BUTT JOINTS
CONCRETE MASONRY OVERLAY APPROACHES

END PROJECT 1166-07-64
STA 290+00

REMOVING ASPHALT SURFACE
BUTT JOINTS (SHOULDERS)
STA 289+00 TO 290+00

SB IH 39

SAWING ASPHALT
STA 286+65

N33° 40' 41"W

NB IH 39

STRUCTURE
B-69-7

SURFACE DRAIN

STRUCTURE
B-69-19

ADJUST INLET

REMOVING PAVEMENT BUTT JOINTS
CONCRETE MASONRY OVERLAY APPROACHES

STA 282+75 - STA 283+25
REMOVING ASPHALTIC
SURFACE BUTT JOINT

SAWING ASPHALT
STA 282+75

STA 286+15 - STA 286+65
REMOVING ASPHALTIC
SURFACE BUTT JOINT

PROJECT 1166-06-62
STRUCTURE PAINTING B-69-19

SAWING ASPHALT
(SHOULDERS)
STA 290+00

ADJUSTING STEEL PLATE BEAM GUARD
REPLACING GUARDRAIL POSTS AND BLOCKS
REPLACING GUARDRAIL RAIL AND HARDWARE (50')
REMOVE GUARDRAIL (EXISTING TYPE 2 TERMINAL)
ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2

CONTROL POINTS						
POINT#	NORTHING	EASTING	ELEVATION	STA	OFFSET	TYPE
902	116469.94	320200.57	1025.51	282+83.34	-149.334'	CP NL
903	116871.82	320214.81	1025.84	286+10.10	85.061'	CP NL
908	116616.78	320249.18	1025.24	283+78.71	-27.548'	CP NL
909	116837.32	320256.73	1025.54	285+58.17	100.864'	CP NL
910	116852.65	320275.31	1024.99	285+60.64	124.825'	CP IP
911	116454.12	320197.75	1026.19	282+71.73	-160.441'	CP IP

PROJECT NO: 1166-06-62/1166-07-64

HWY: IH 39

COUNTY: WAUSHARA

PLAN: IH 39

SHEET

83

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\NC REGION PROJECTS\1166-06-32 (I-39)\C3D\SHEETS\PLAN.COMBINED\050101_PP_1166-07-64_CTH CH.DWG

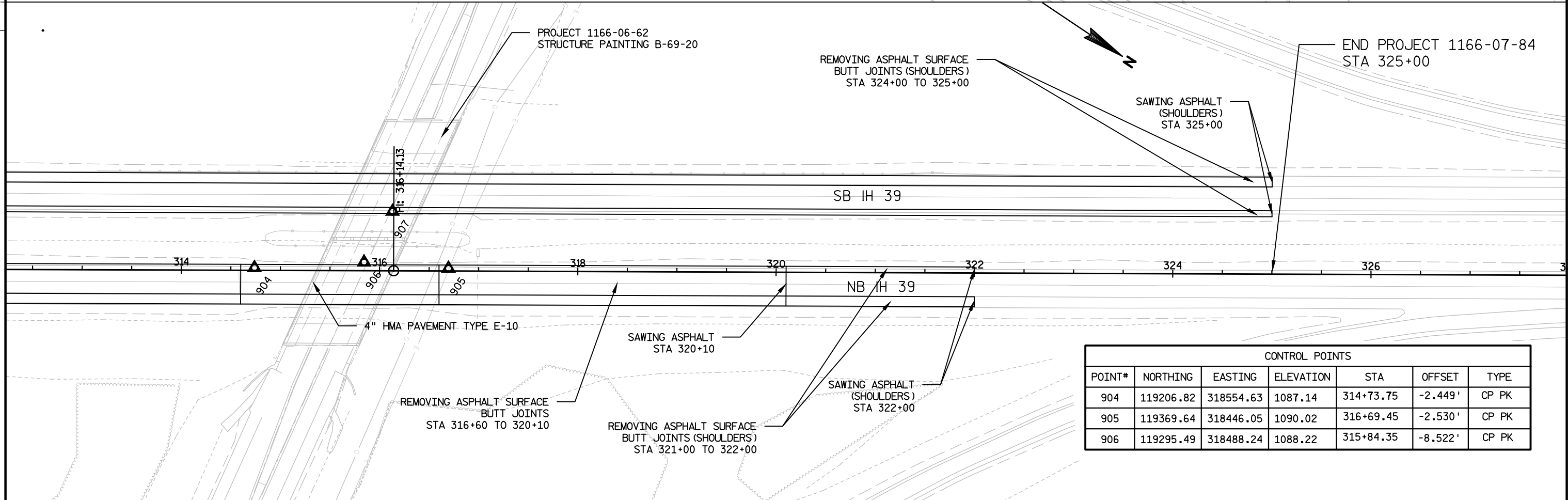
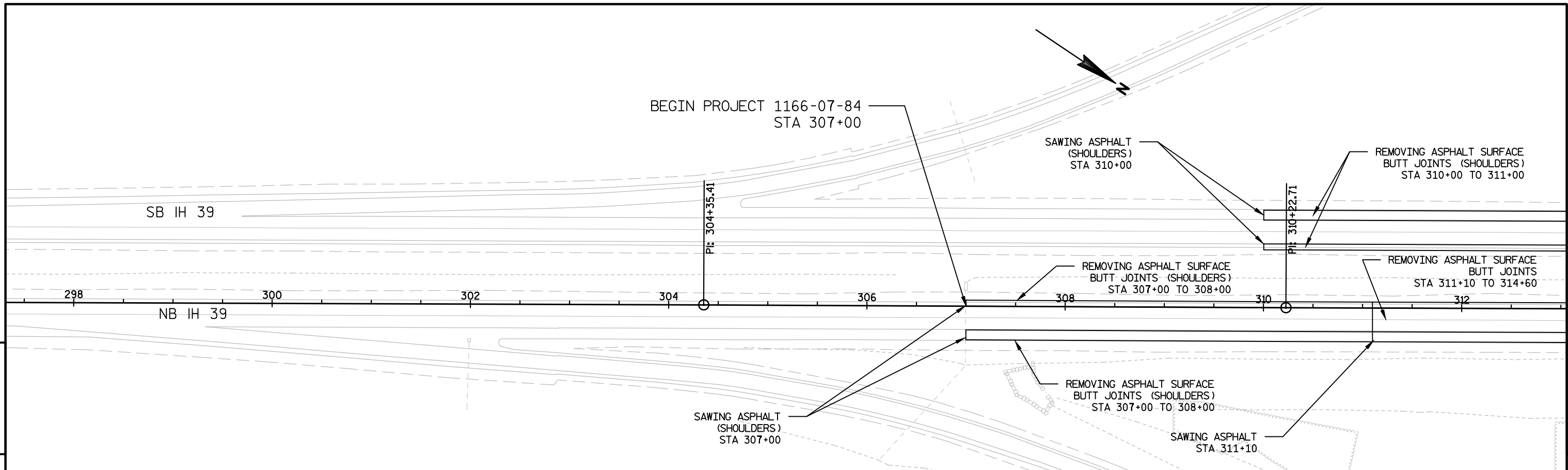
PLOT DATE : 5/1/2014 11:31 AM

PLOT BY : QUEST CIVIL ENG

PLOT NAME :

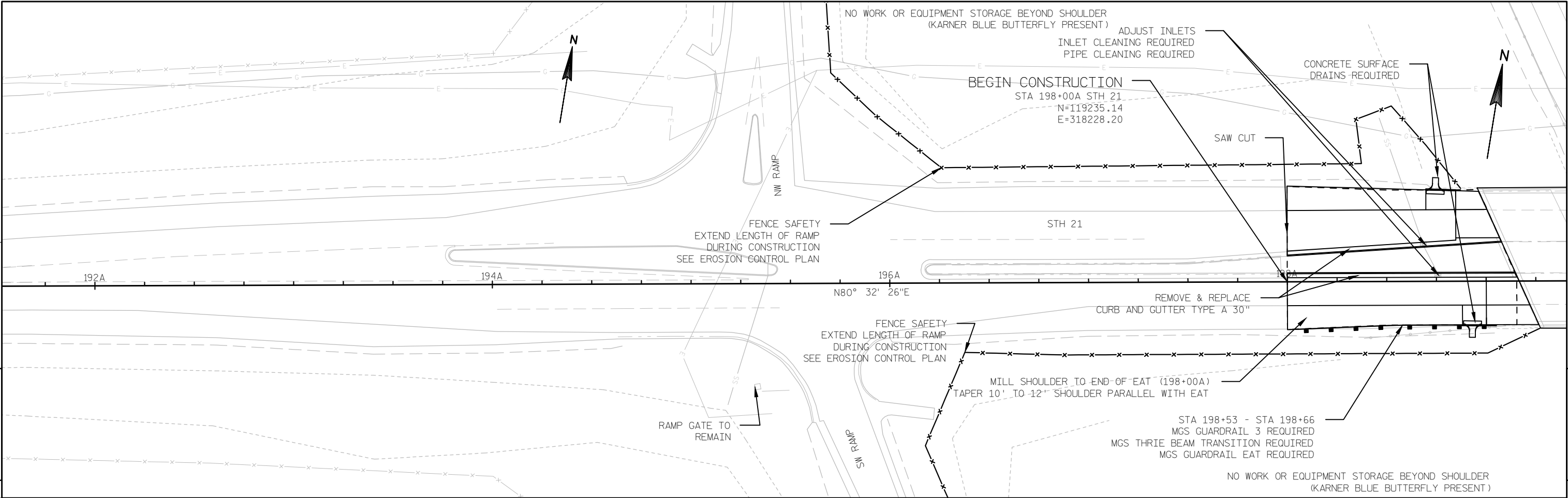
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WISDOT/CADDs SHEET 42

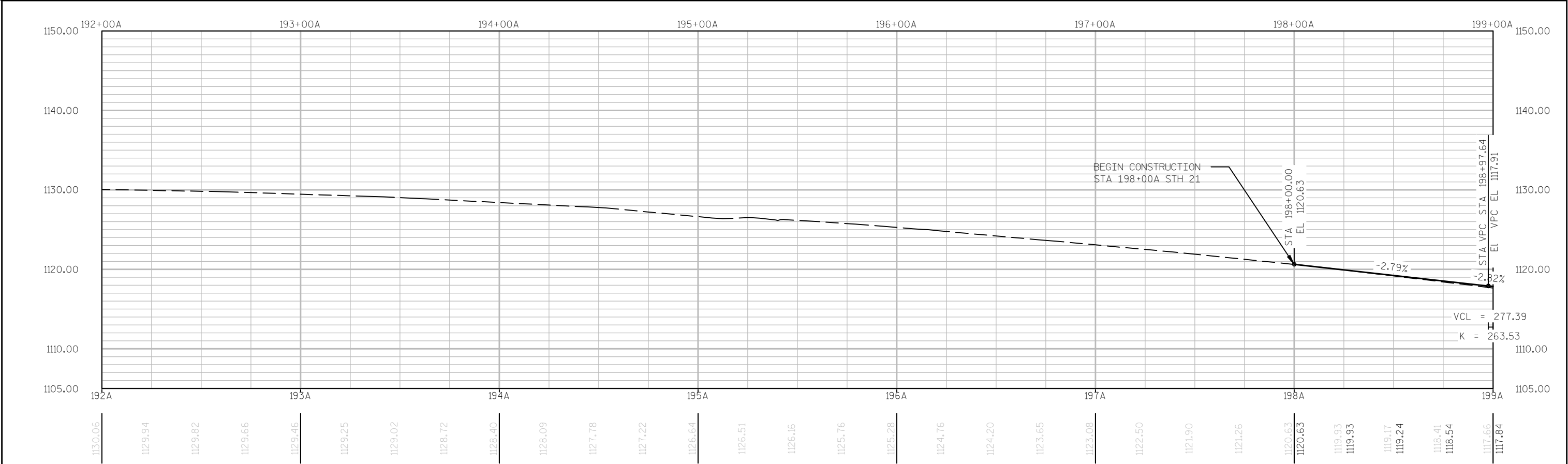


CONTROL POINTS						
POINT#	NORTHING	EASTING	ELEVATION	STA	OFFSET	TYPE
904	119206.82	318554.63	1087.14	314+73.75	-2.449'	CP PK
905	119369.64	318446.05	1090.02	316+69.45	-2.530'	CP PK
906	119295.49	318488.24	1088.22	315+84.35	-8.522'	CP PK

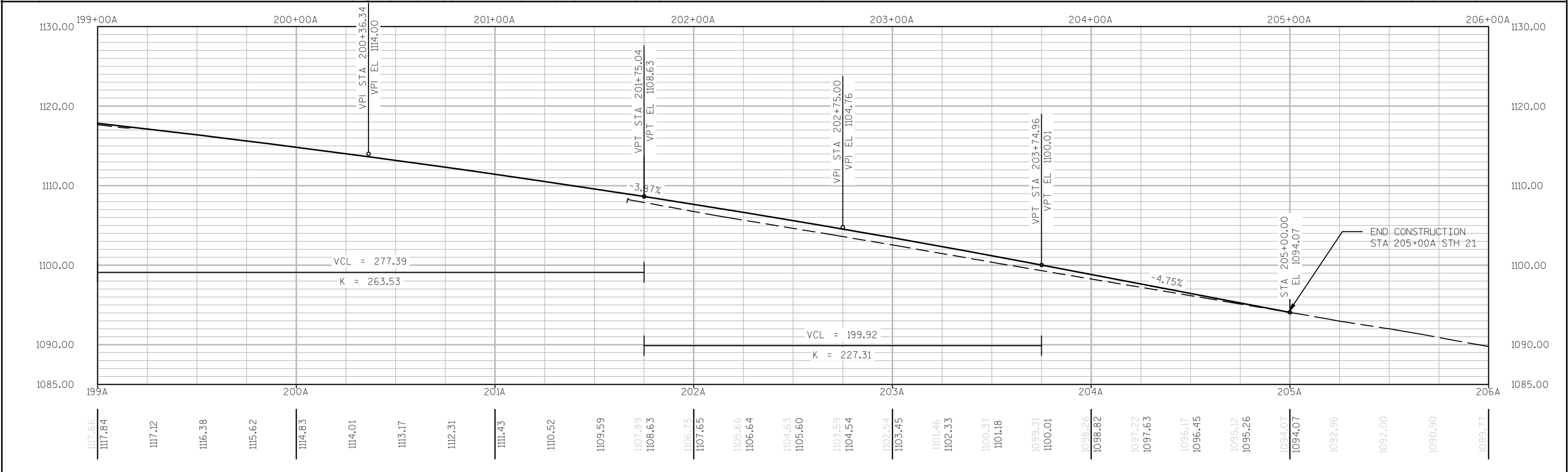
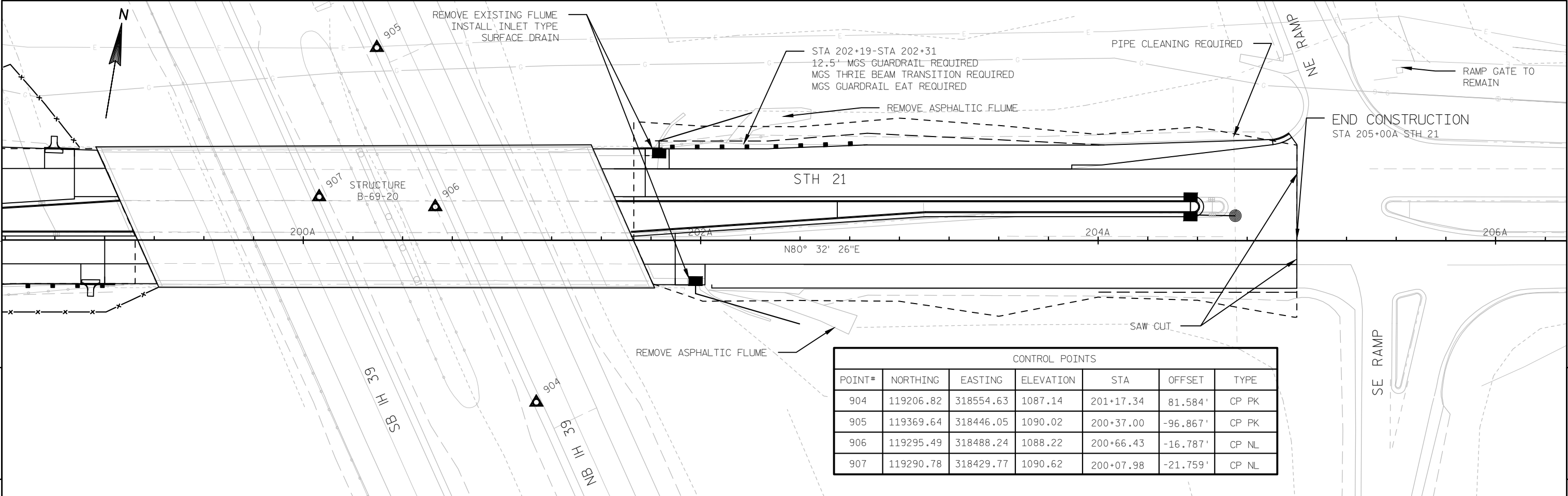
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5

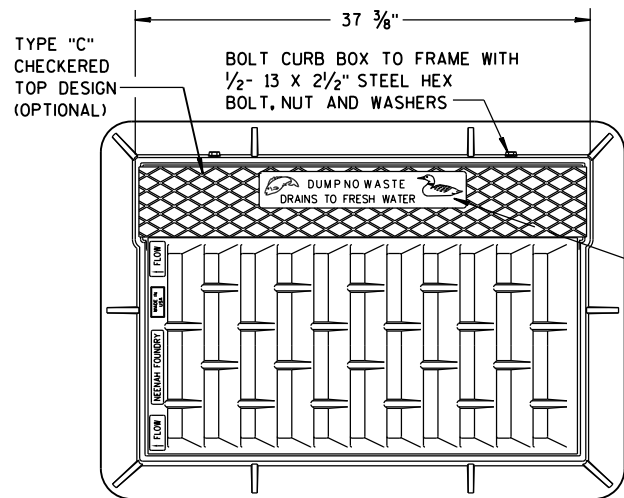


PROJECT NO: 1166-07-84	HWY: IH 39	COUNTY: WAUSHARA	PLAN AND PROFILE: STH 21	SHEET 85	E
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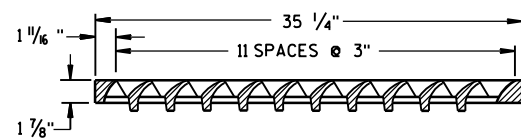
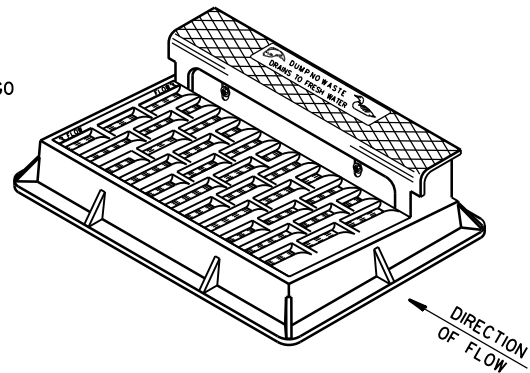


Standard Detail Drawing List

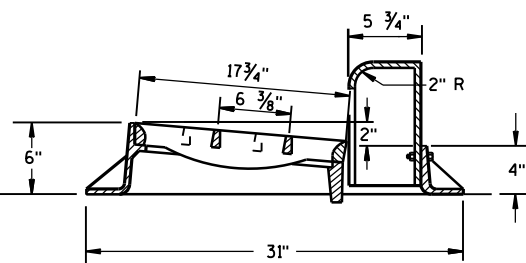
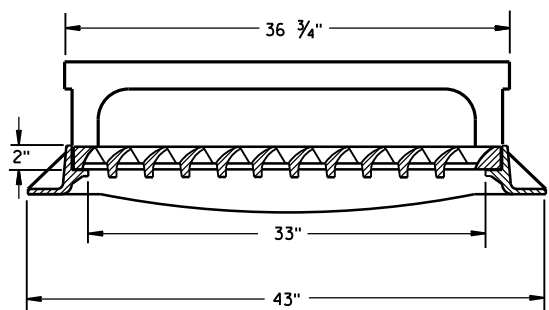
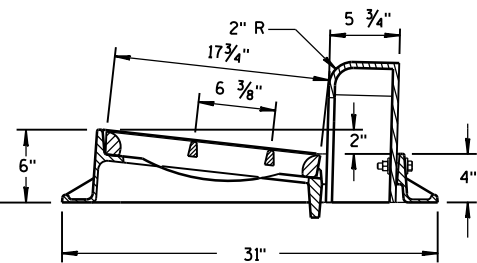
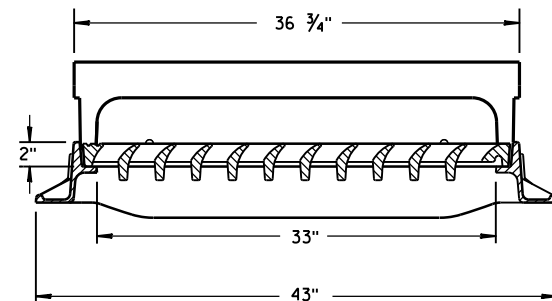
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
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
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
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 THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE 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)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-02B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C19-02C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D33-03	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



**NOTE:
GRATE IS REVERSIBLE.**

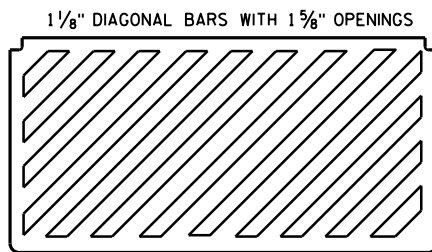


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



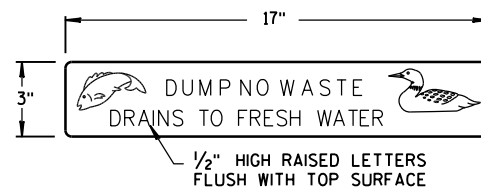
TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

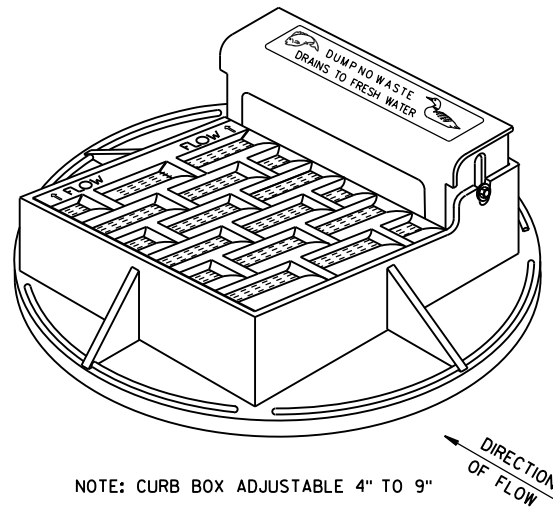


**SPECIAL GRATE FOR
TYPE "H" COVER**

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

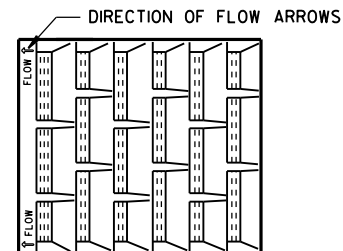


LOGO DETAIL

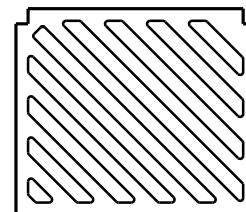


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

**NOTE:
GRATE IS REVERSIBLE.**

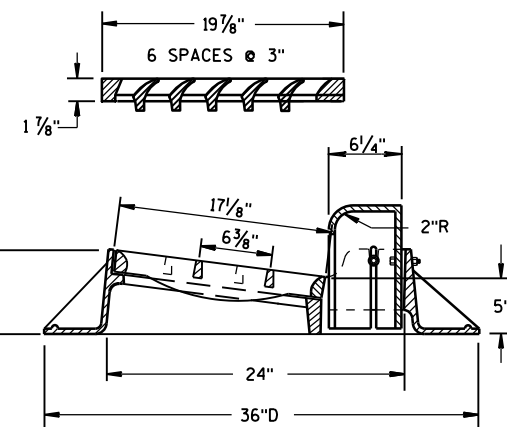
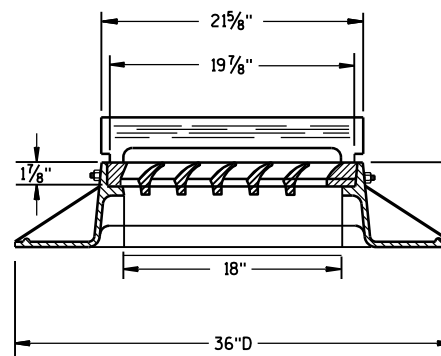


1" DIAGONAL BARS
WITH 1 1/2" OPENINGS

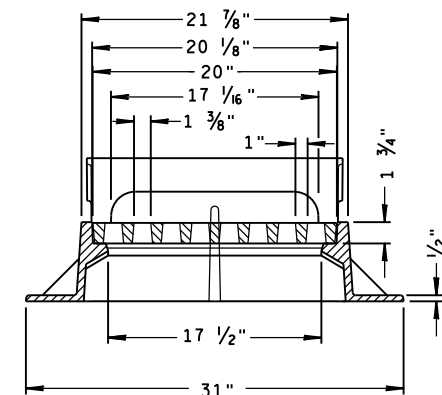
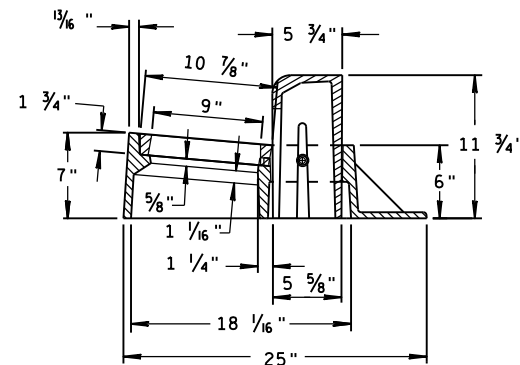


**SPECIAL GRATE FOR
TYPE "A" COVER**

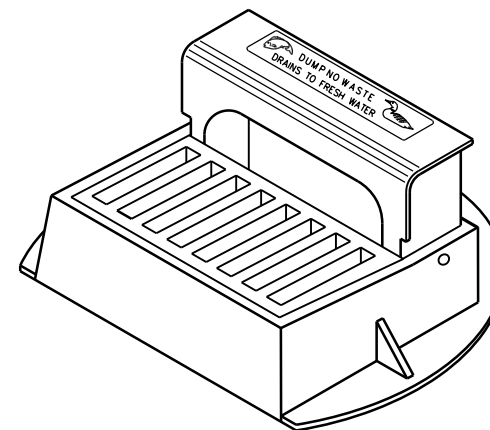
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



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

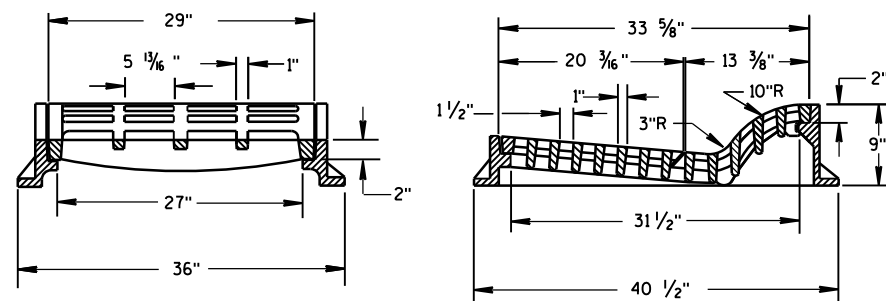
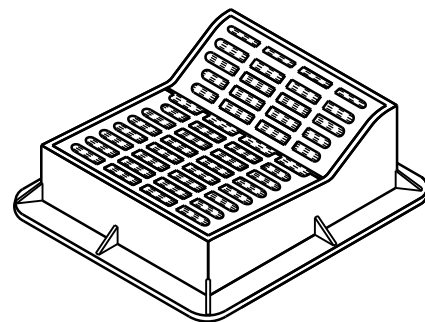
FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS

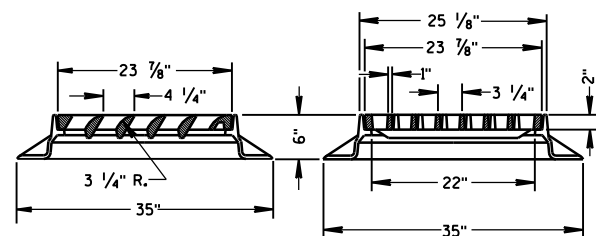
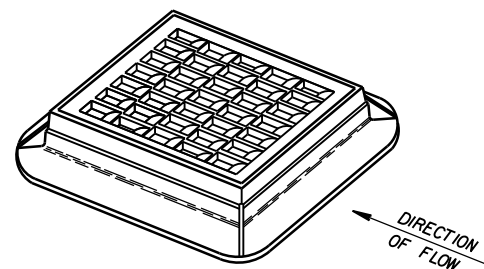
ENGINEER

ENT

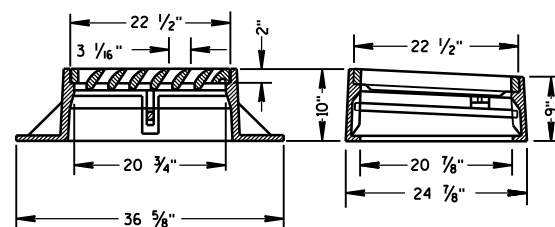
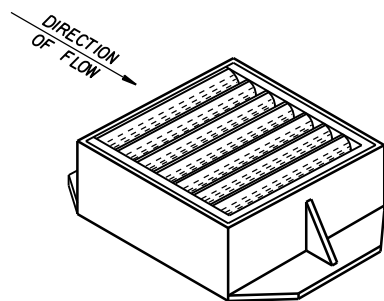


TYPE "F"

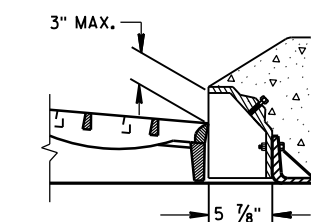
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



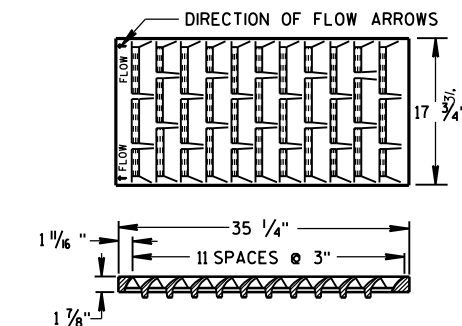
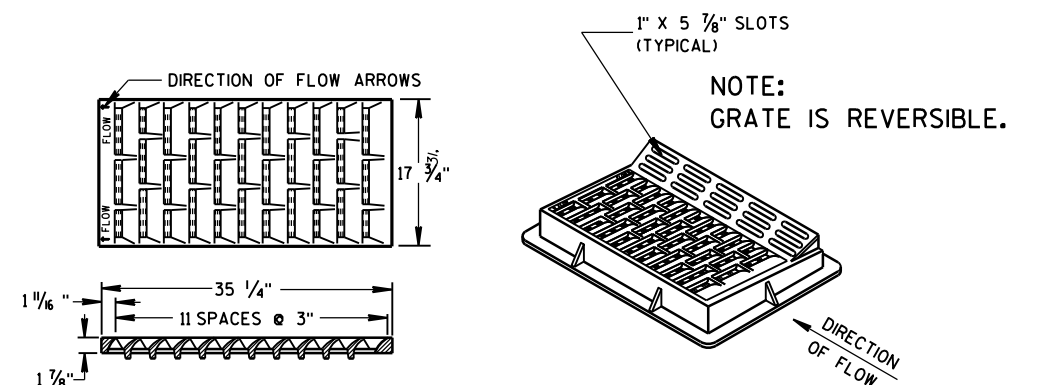
TYPE "S"



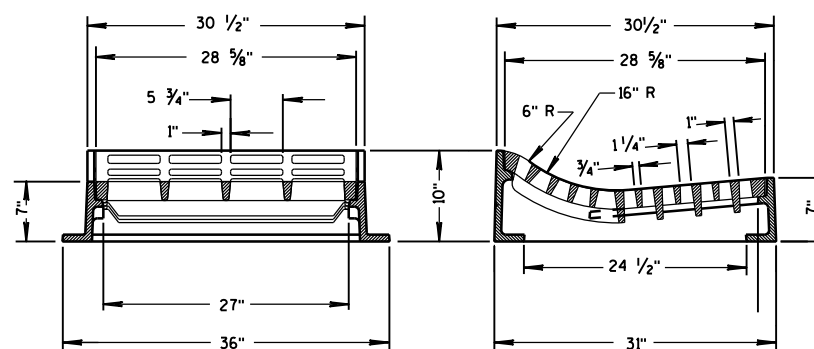
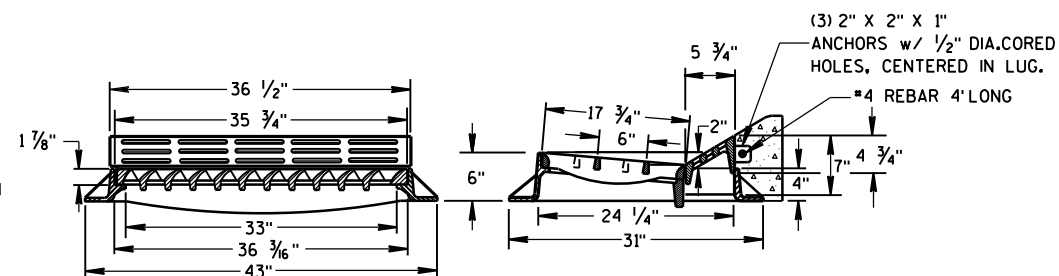
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

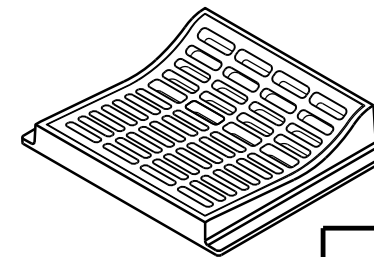
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

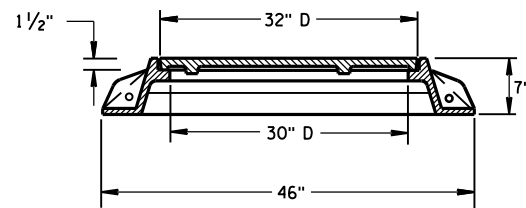
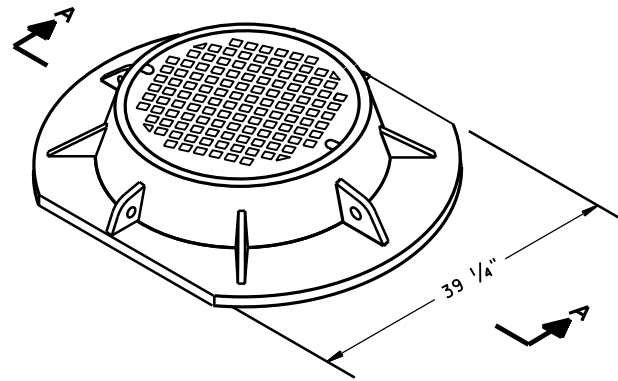
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

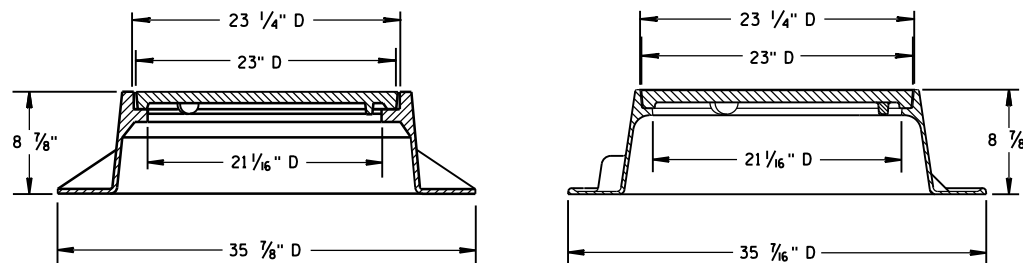
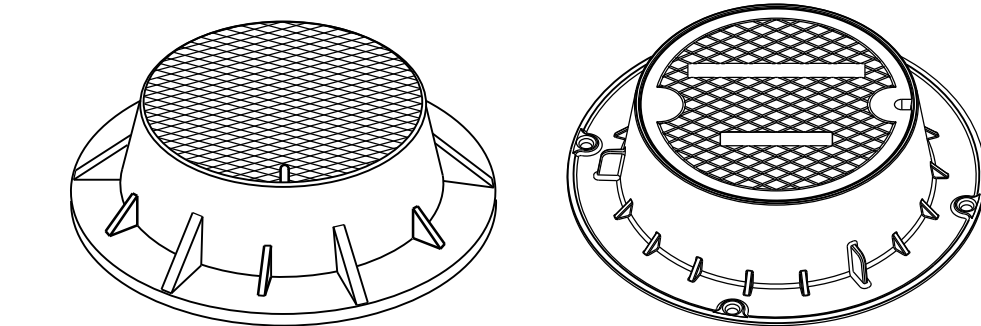
TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

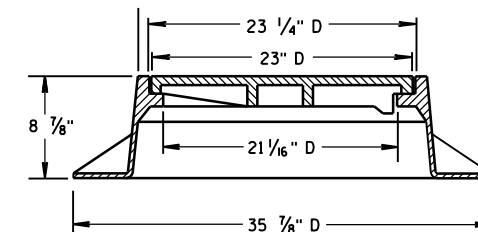
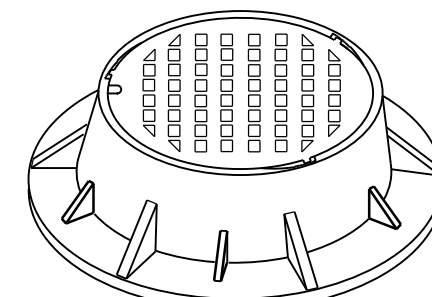
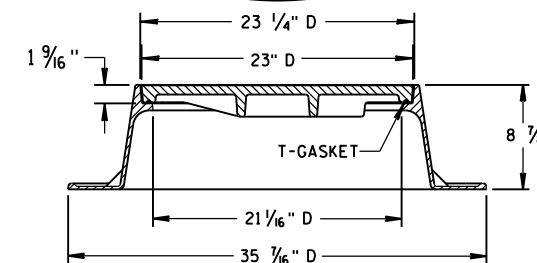
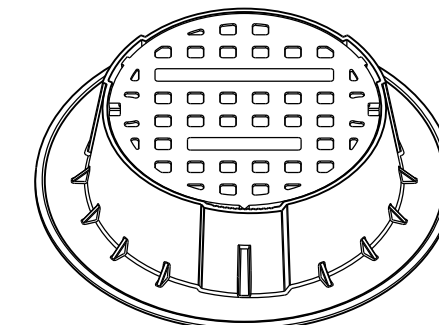


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

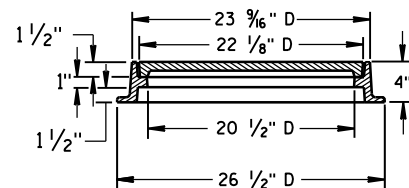
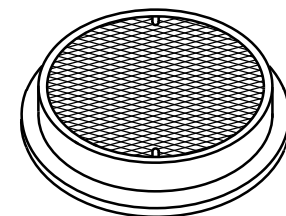


TYPE "J" SPECIAL

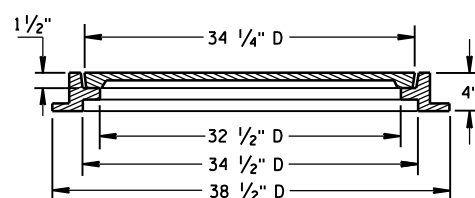
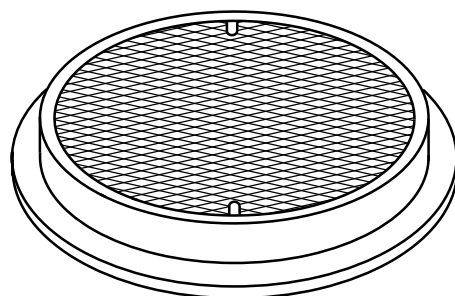
TYPE "B" NON-ROCKING SELF-SEAL LID

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

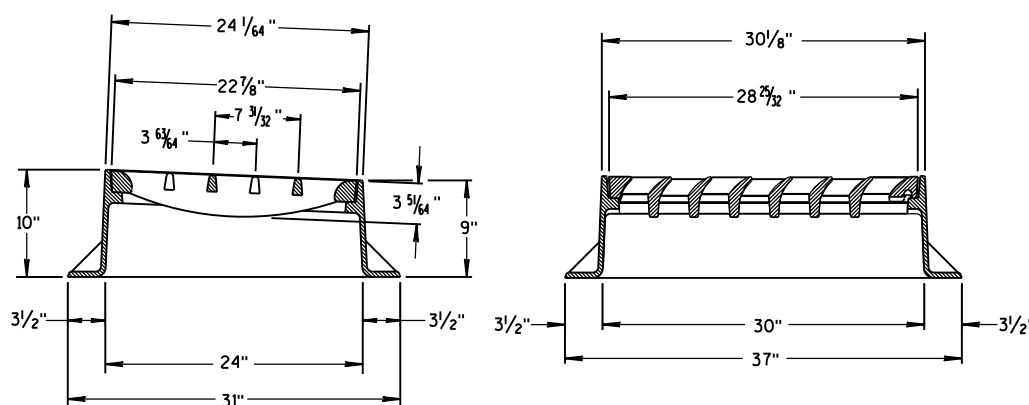
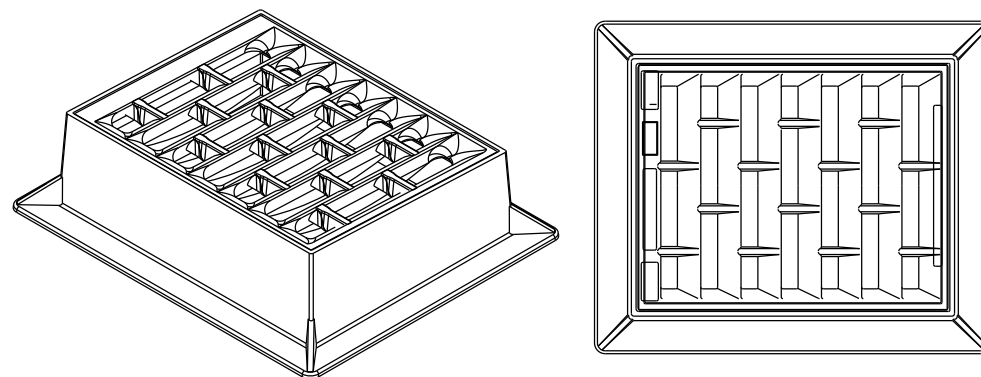
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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.

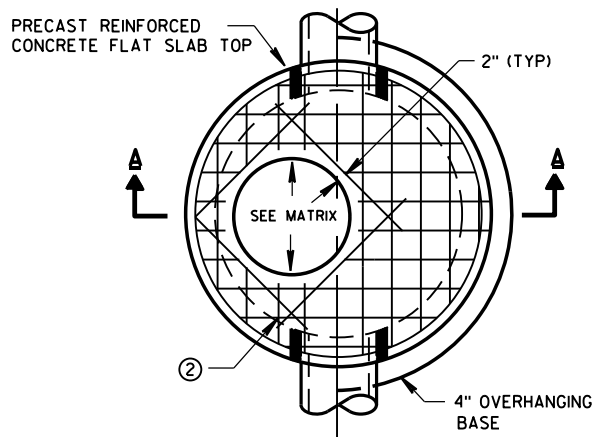
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

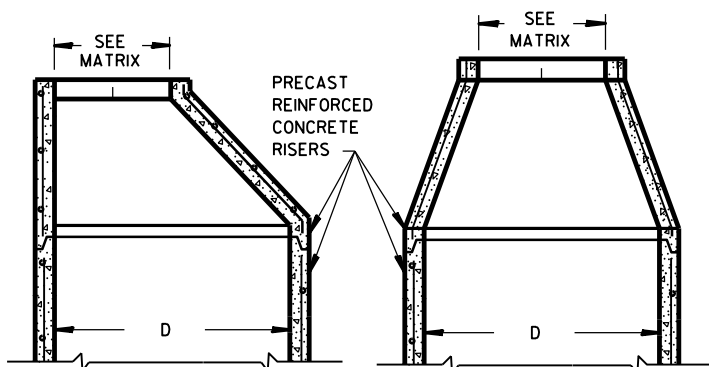
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS & 90
ENGINEER
FWHA

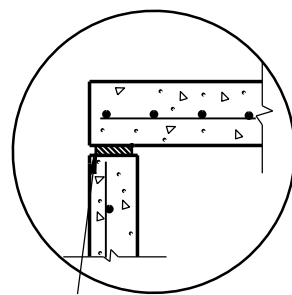


PLAN VIEW CIRCULAR OPENING

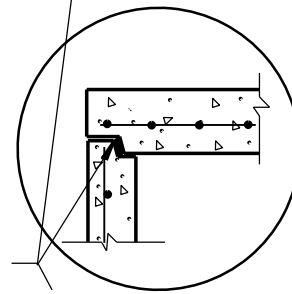


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

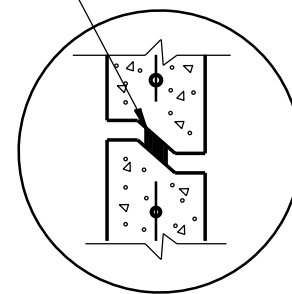
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



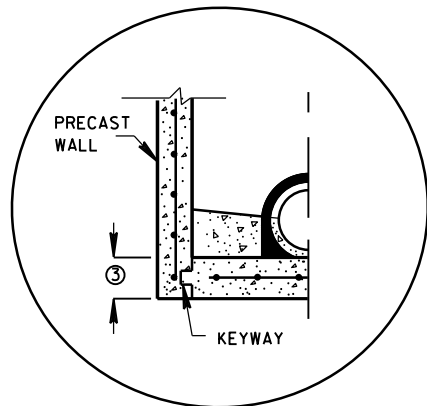
TOP WITH TONGUE AND GROOVE JOINT



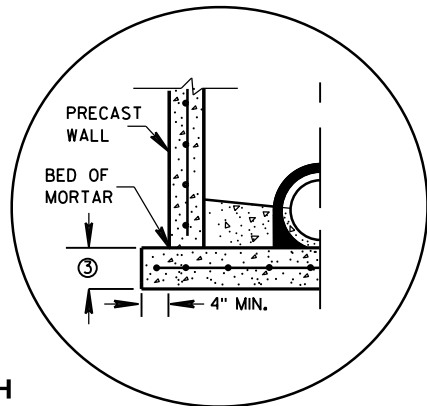
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

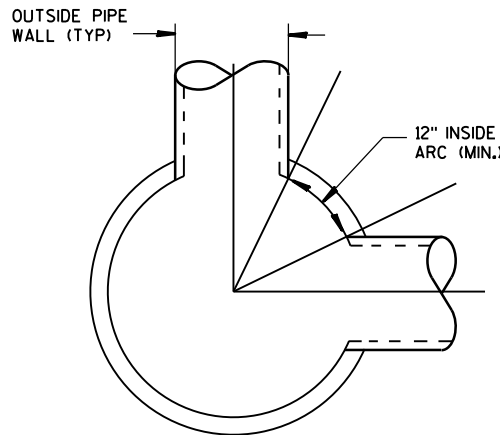


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

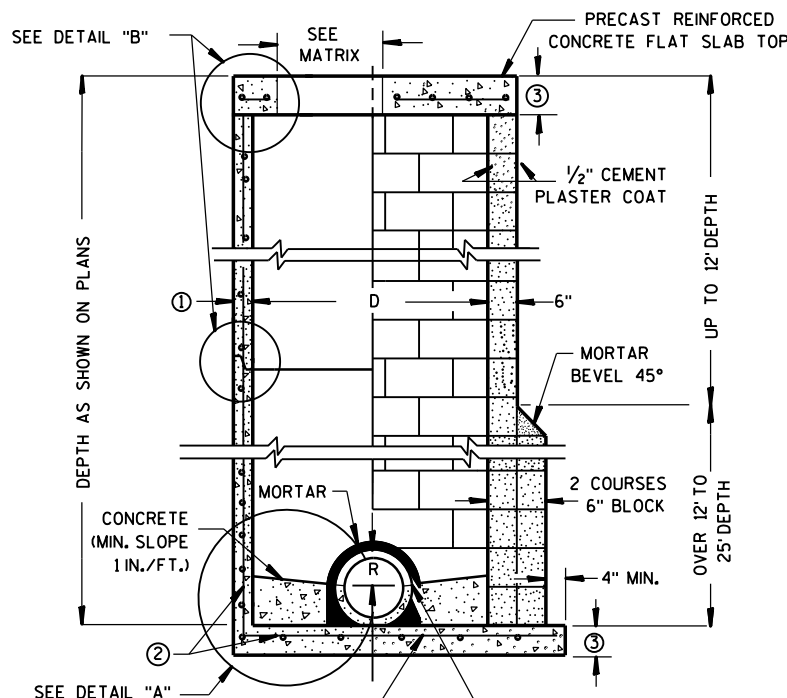


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES

PRECAST REINFORCED CONCRETE BLOCK WITH CONCRETE WITH MONOLITHIC BASE CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

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 MANHOLE 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 DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE 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.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL 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.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

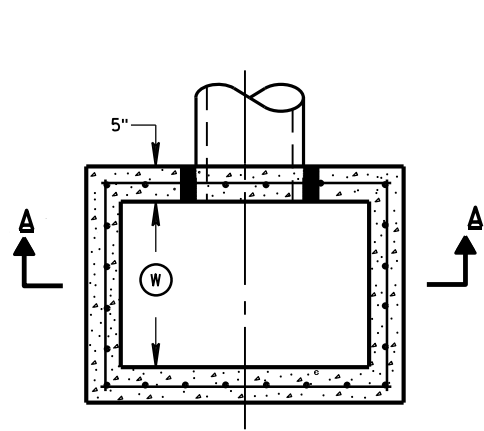
PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

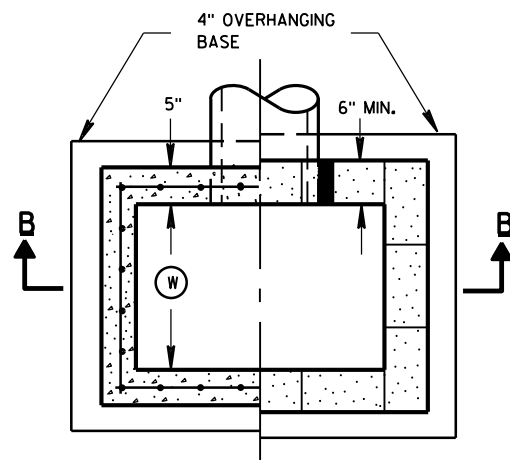
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER 91
FHWA

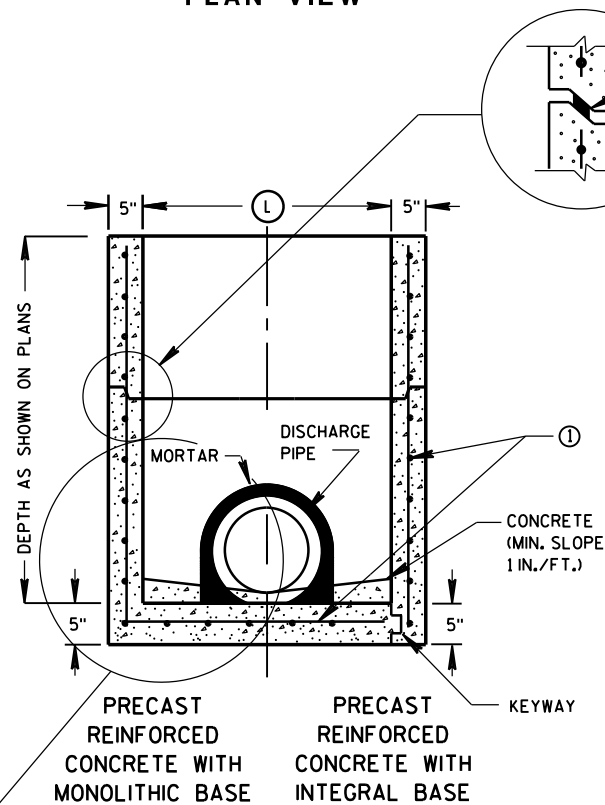


PLAN VIEW

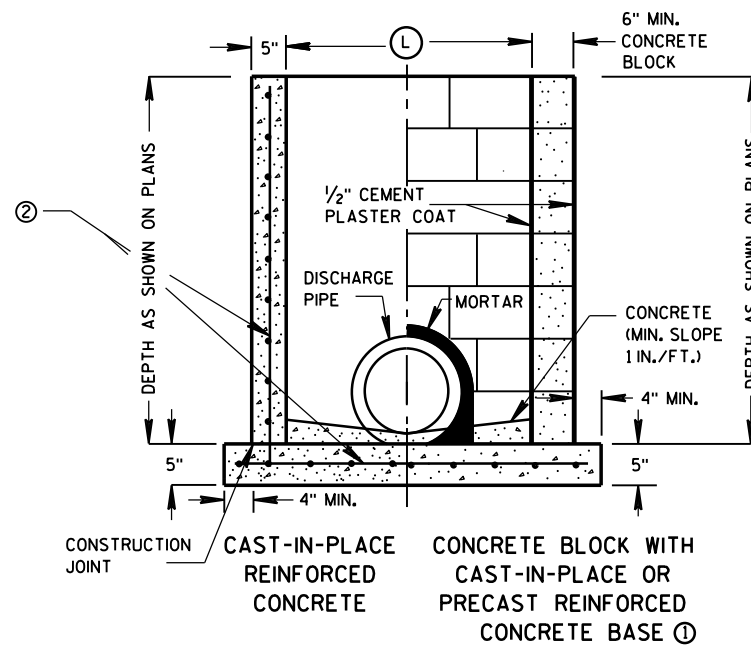


PLAN VIEW

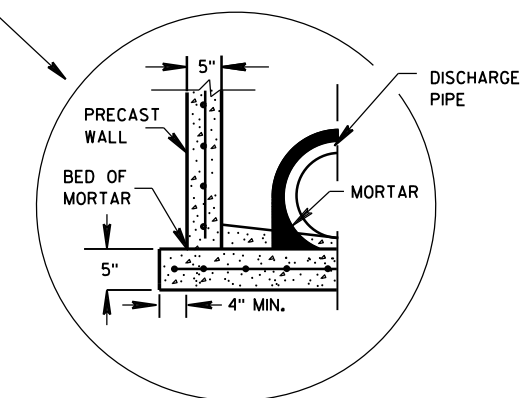
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

INLETS 2X2-FT, 2X2.5-FT, 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 INLET 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 INLET 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 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

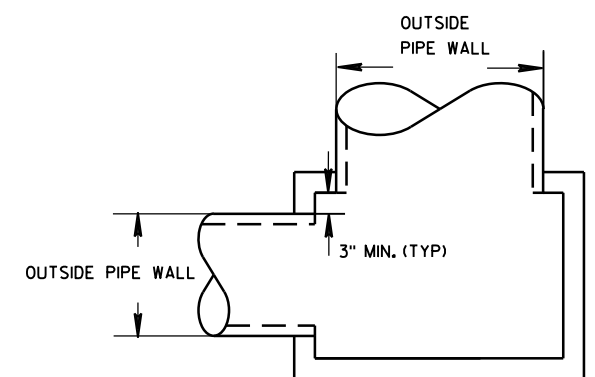
- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24

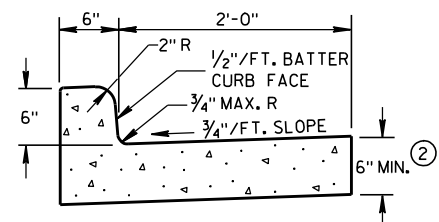


DETAIL "A"

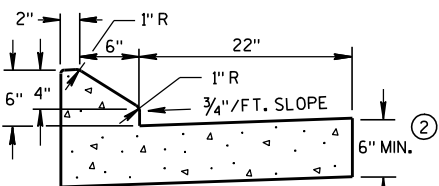
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

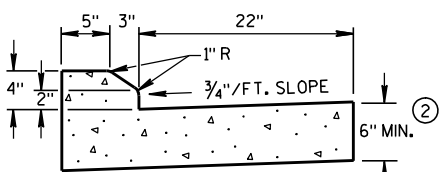
APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DE
FHWA ENGINEER 92



TYPES A & D ①

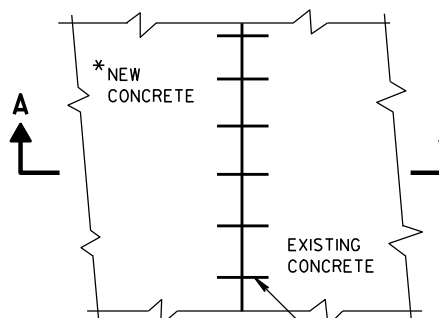


6" SLOPED CURB TYPES G & J ①



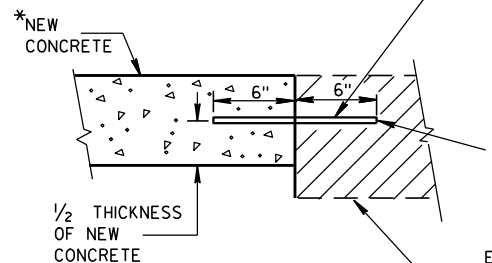
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



PLAN VIEW

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

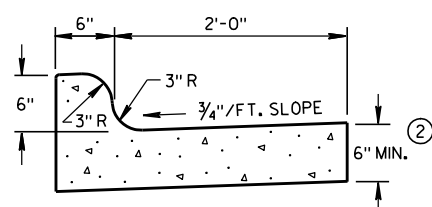


SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

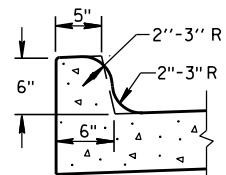
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

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

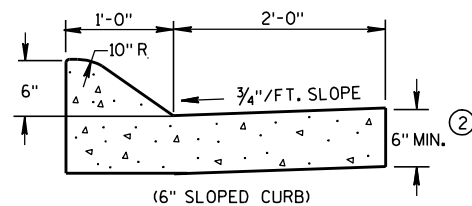
EXISTING
CONCRETE



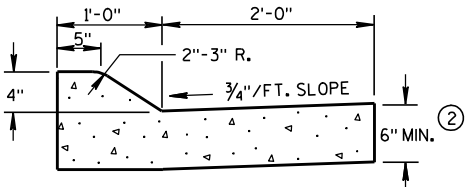
TYPES K & L ①



OPTIONAL CURB SHAPE
FOR TYPES K & L ①

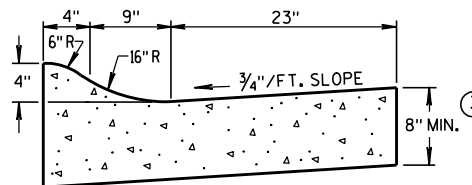


(6" SLOPED CURB)

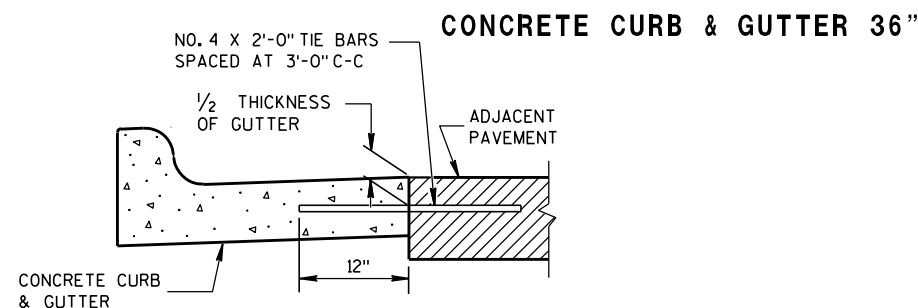


(4" SLOPED CURB)

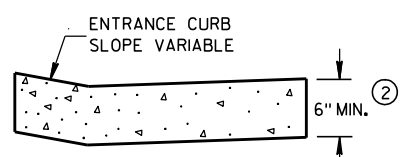
TYPES A & D ①



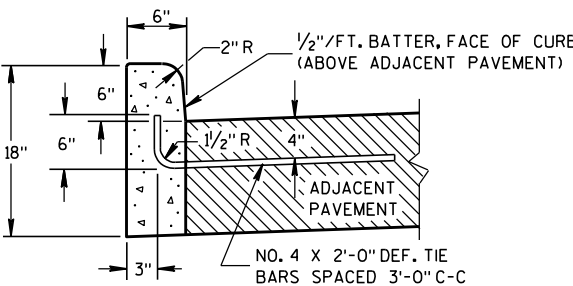
4" SLOPED CURB TYPES R & T ① ④



TYPICAL TIE BAR LOCATION ①

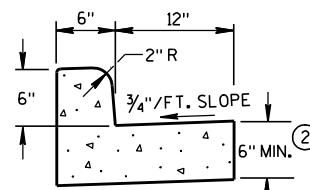


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

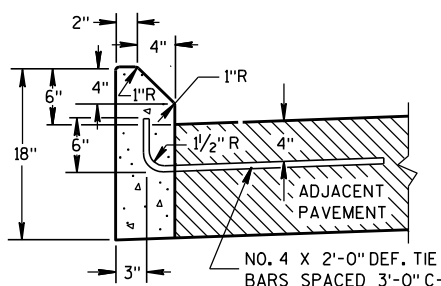


TYPES A & D ①

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.

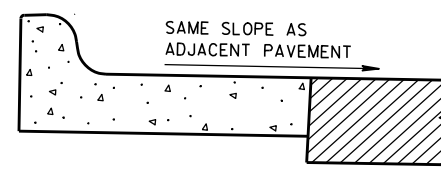
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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.

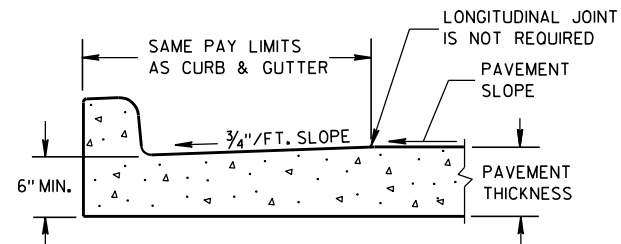
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

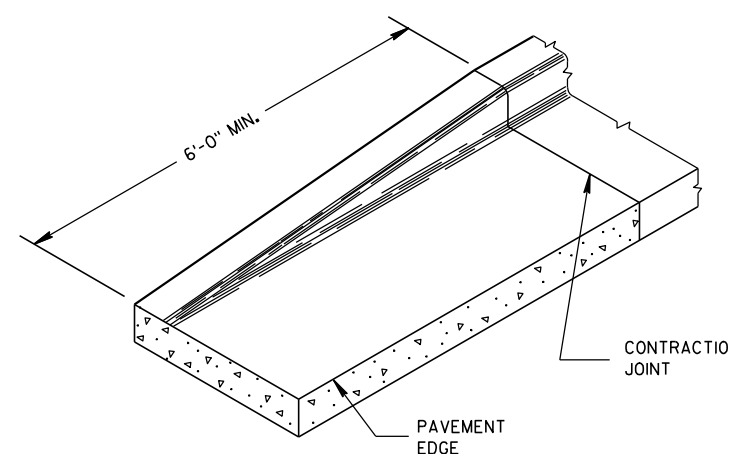
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER 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

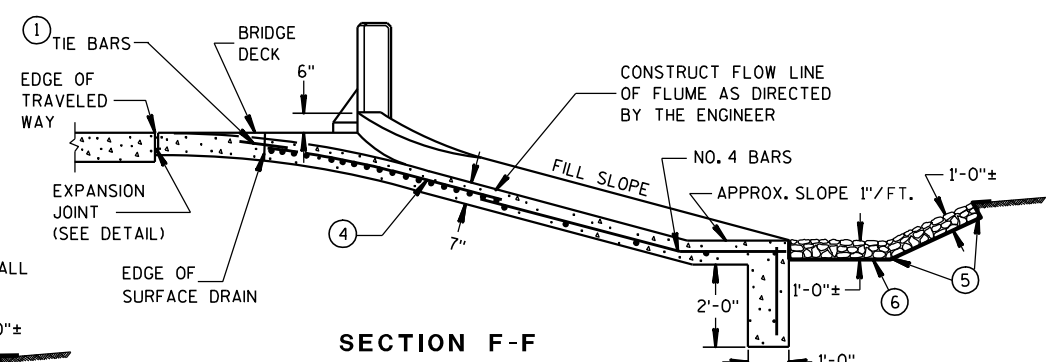
FHWA

/S/ Jerry H. 7

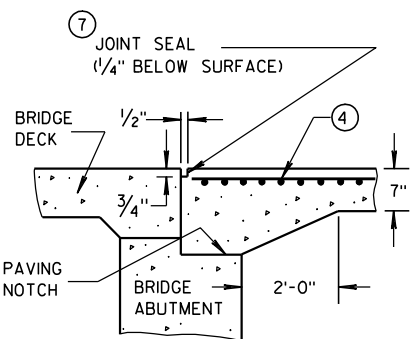
ROADWAY STANDARDS 93

ENGINEER

ENT

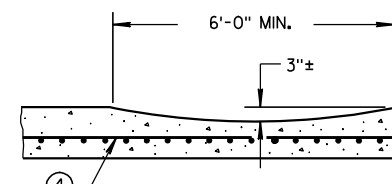


SECTION F-F

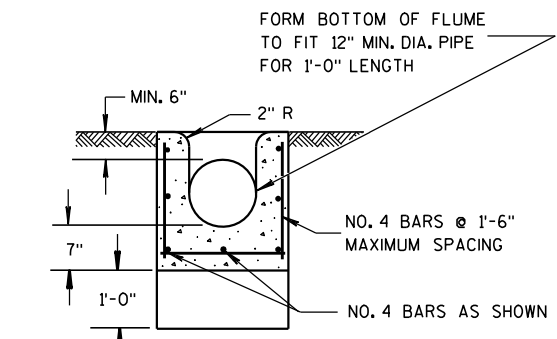


EXPANSION JOINT DETAIL

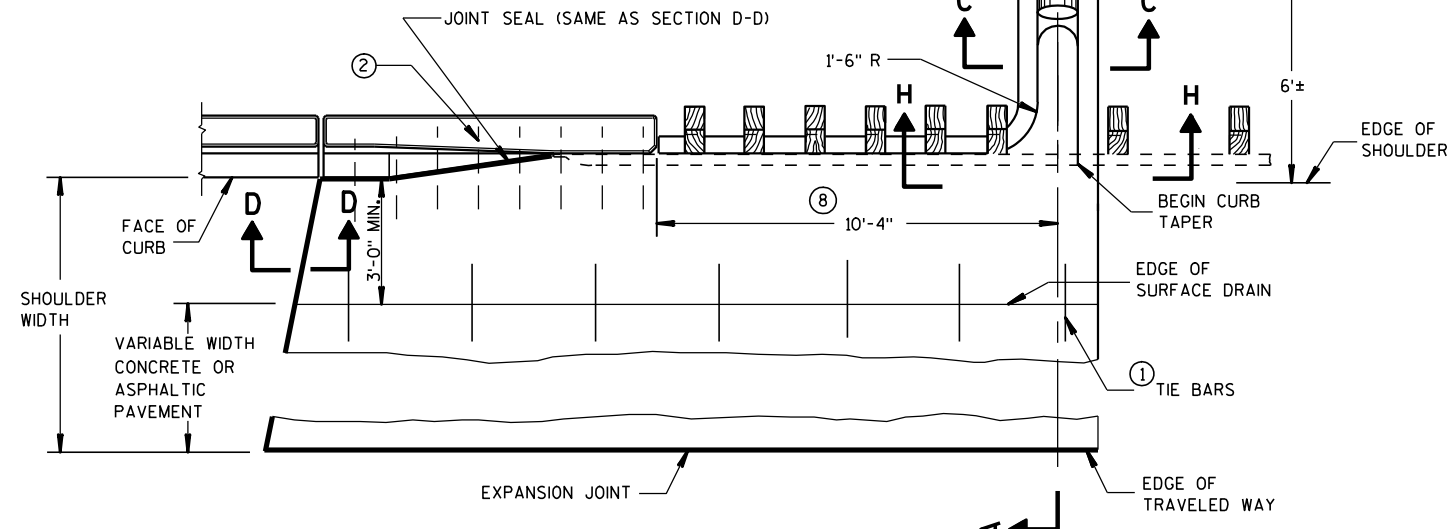
SECTION H-H



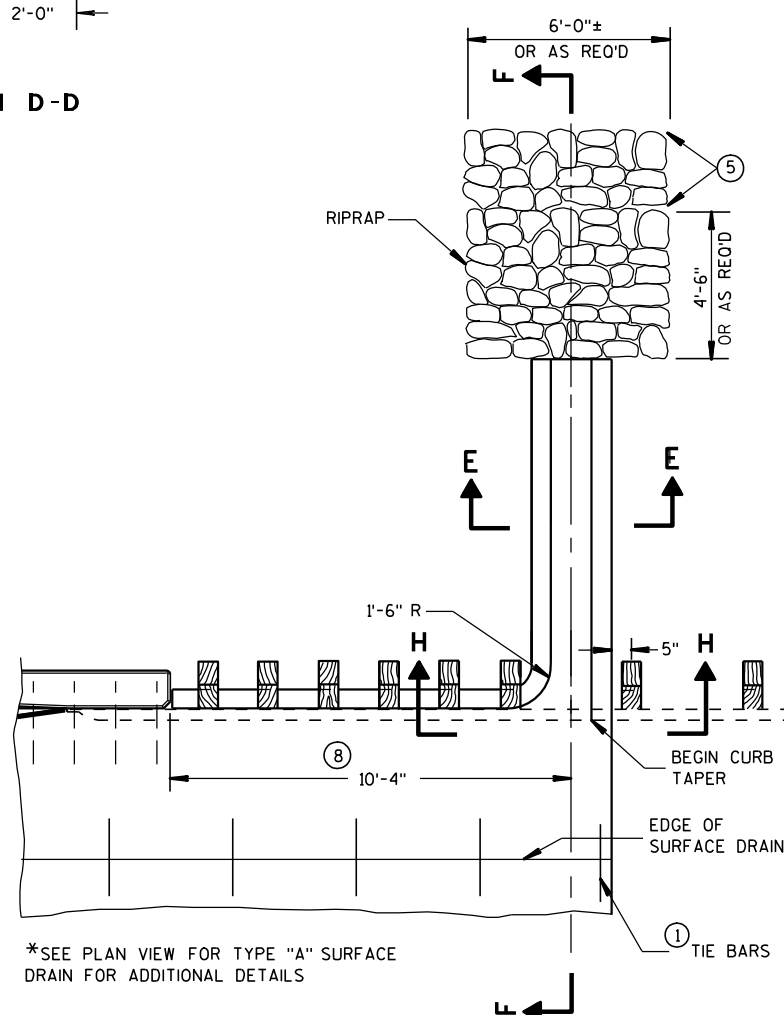
SECTION D-D



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



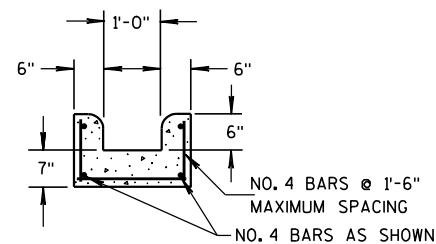
* PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

GENERAL NOTES

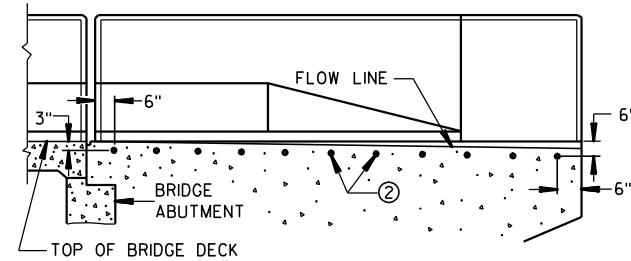
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE 'R'
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1/2".



SECTION E-E



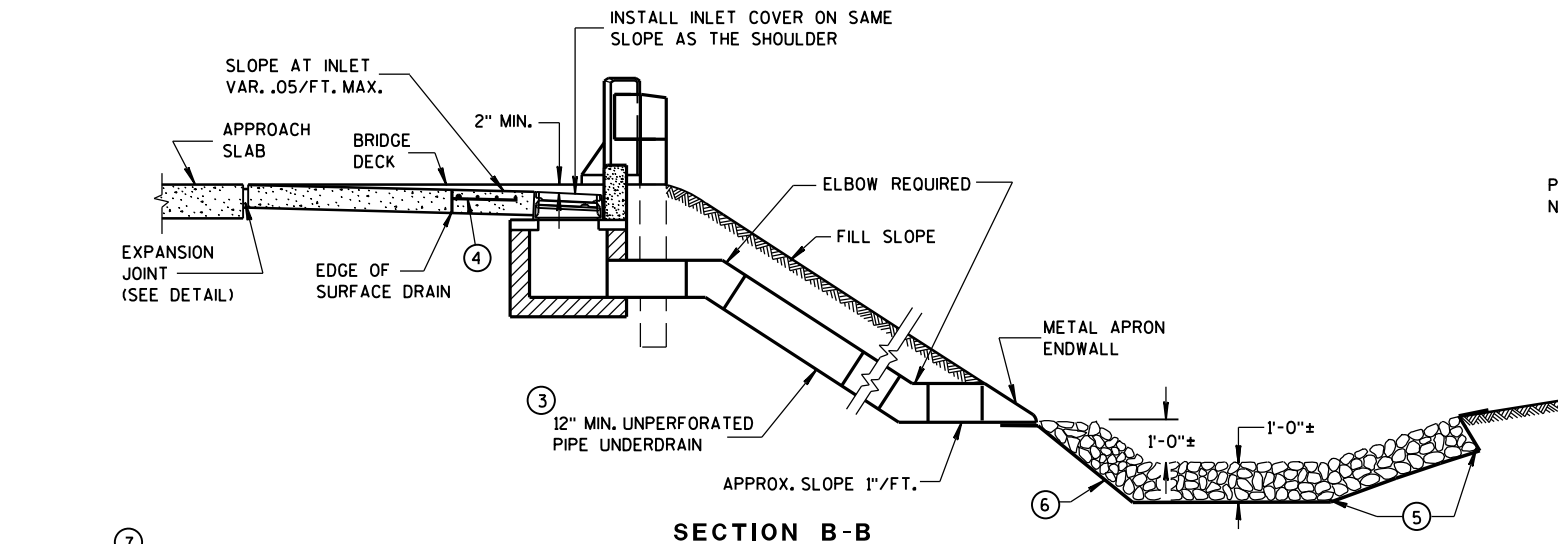
LOCATION OF TIE BARS IN WINGWALL

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

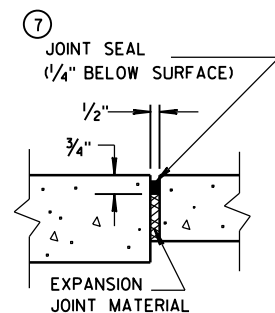
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

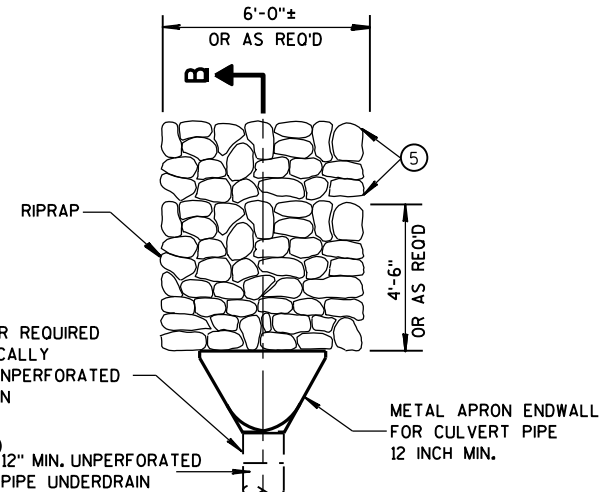
9/4/08	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS 94	MENT
FHWA	ENGINEER	



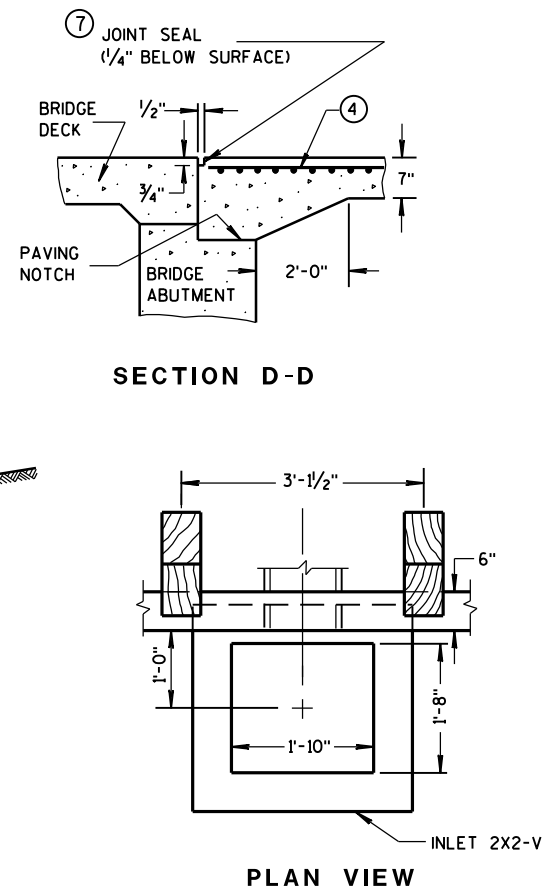
SECTION B-B



EXPANSION JOINT DETAIL

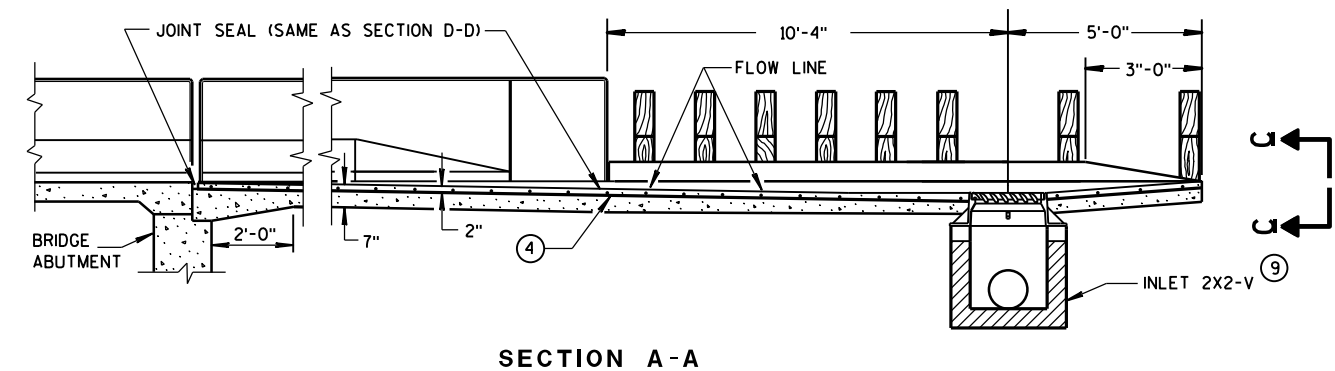


PLAN VIEW

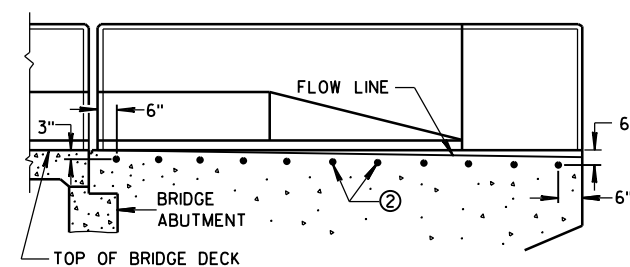
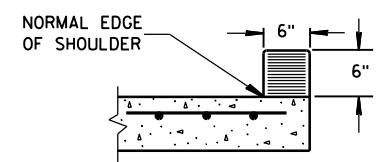


SECTION D-D

PLAN VIEW



SECTION A-A

LOCATION OF
TIE BARS IN WINGWALL

SECTION C-C

GENERAL NOTES

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

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

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE 'R'
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1 1/2".
- ⑨ SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS
DROP INLET TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

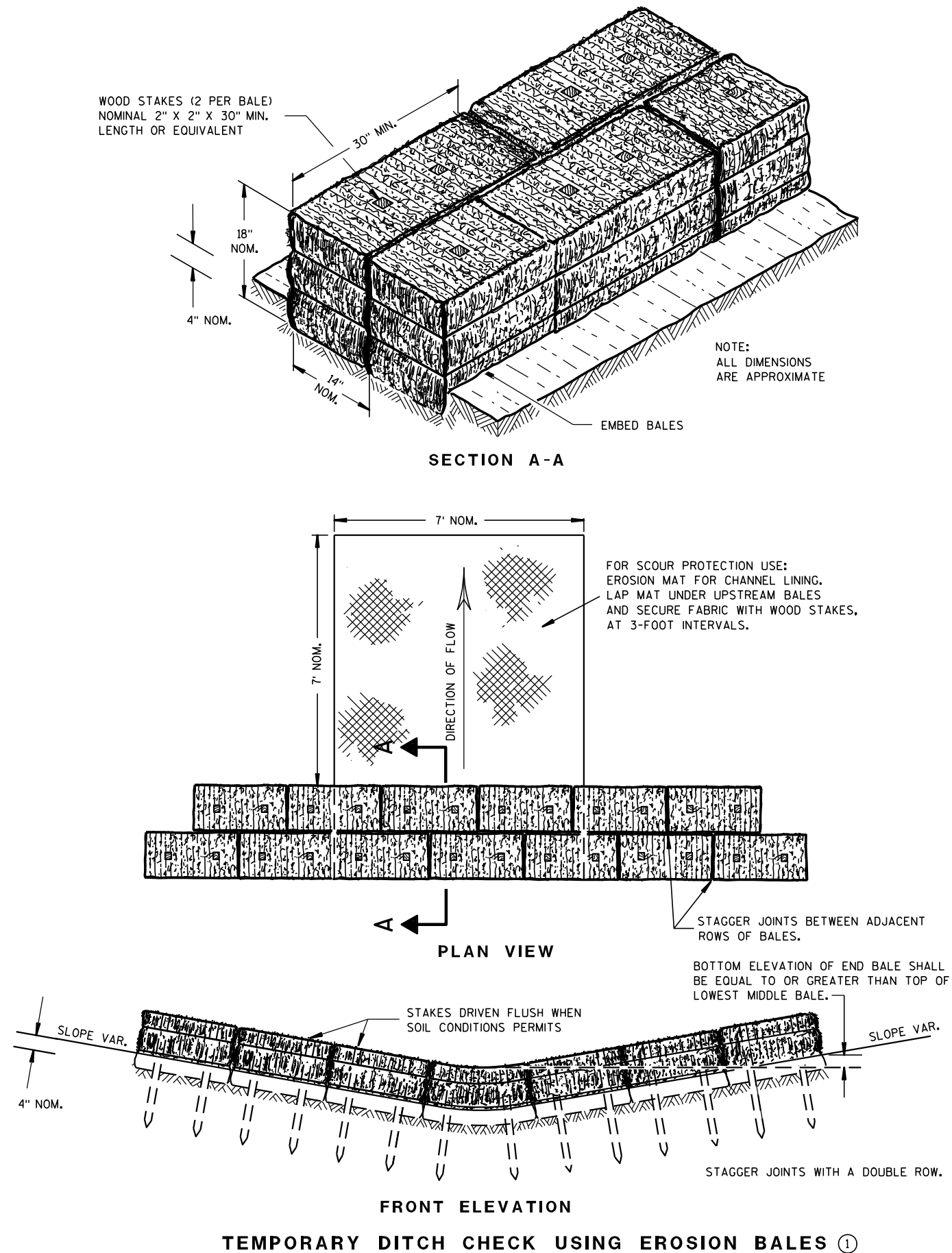
APPROVED

9/4/08

DATE

FHWA

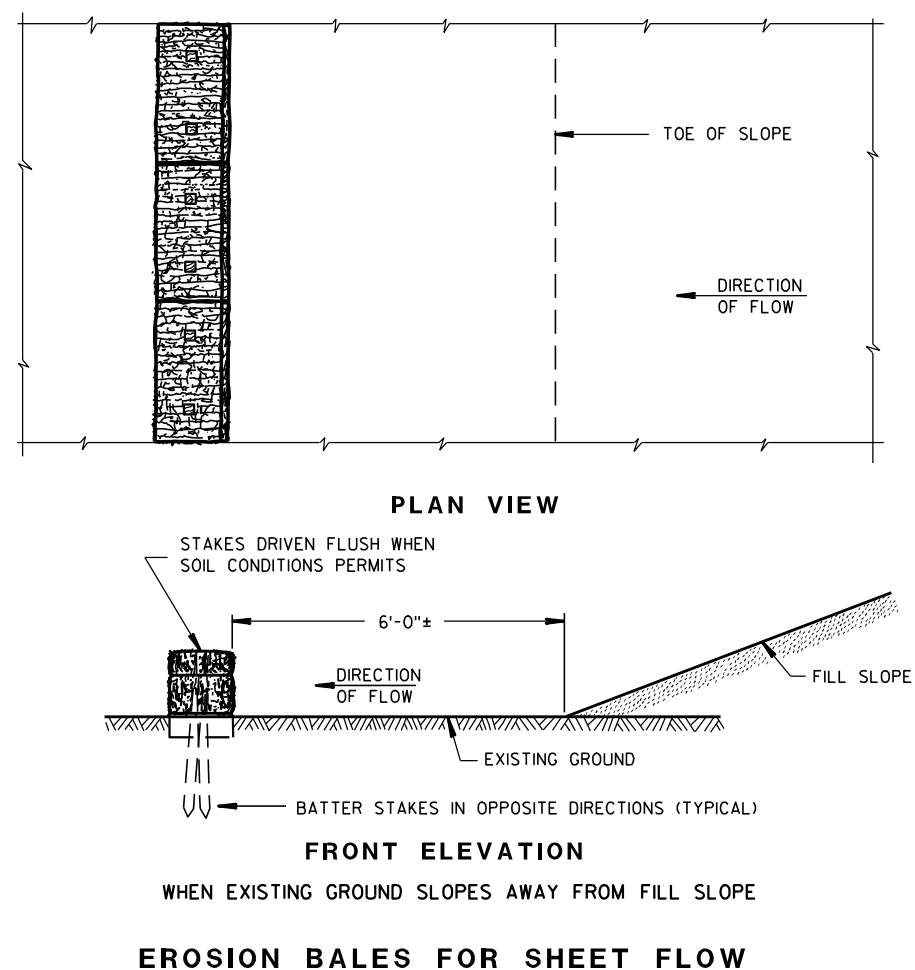
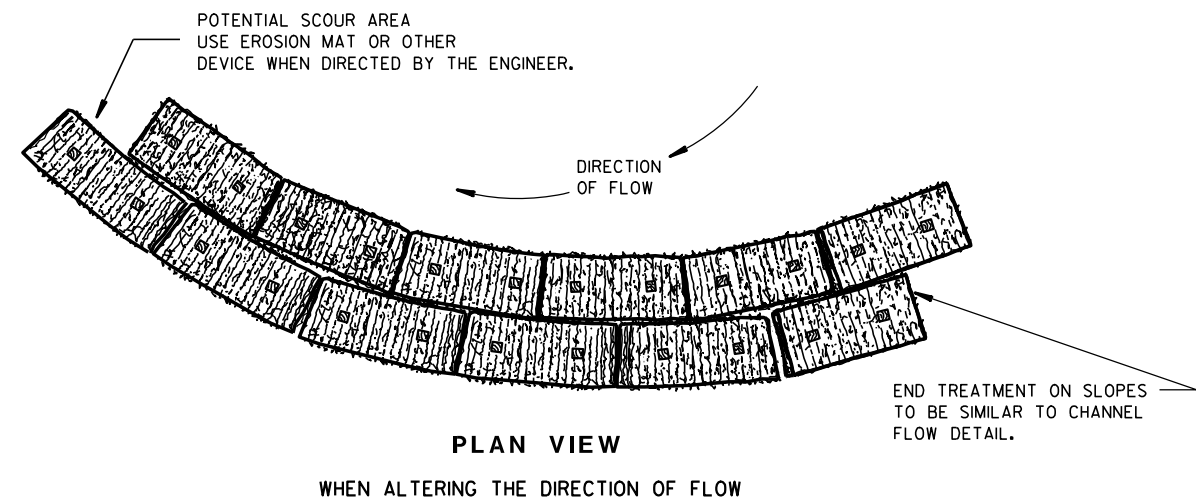
/S/ Jerry H. Zogg
ROADWAY STANDARDS 95
ENGINEER



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.

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

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

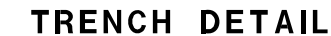
/S/ Beth Connolly
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



- 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.



SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

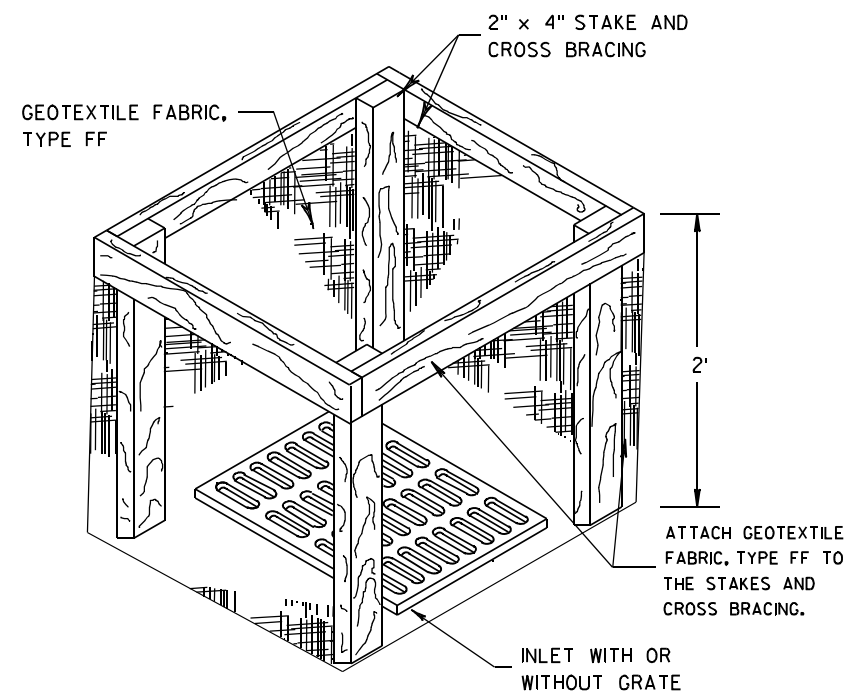
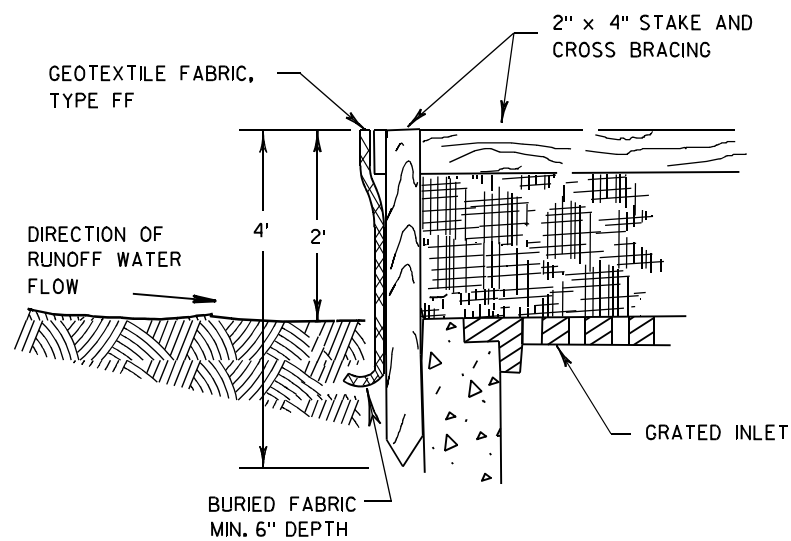
APPROVED
4-29-05
DATE

/S/ Beth Cannata
CHIEF ROADWAY DEVELOPMENT

97

ENGINEER

FHWA



INLET PROTECTION, TYPE A

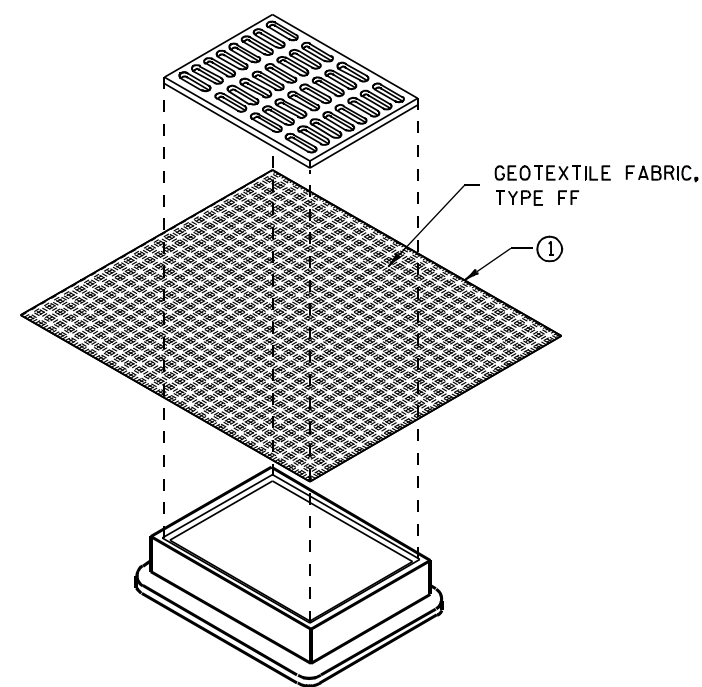
GENERAL NOTES

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.

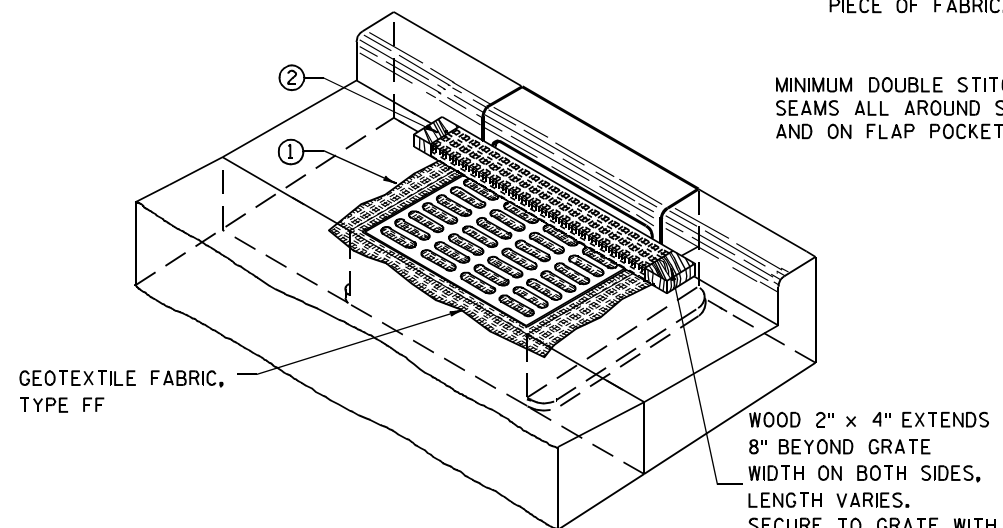
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

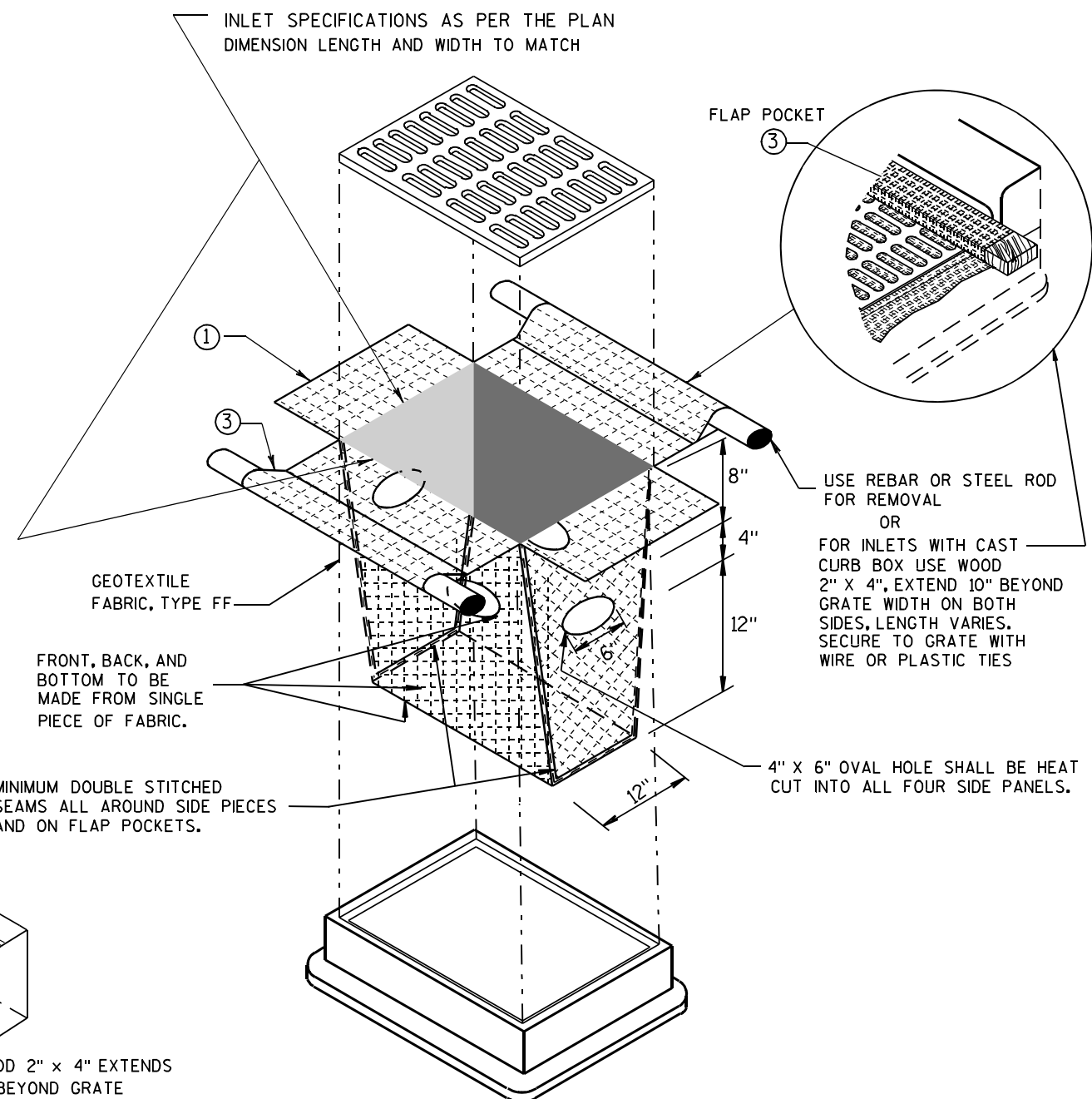
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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)

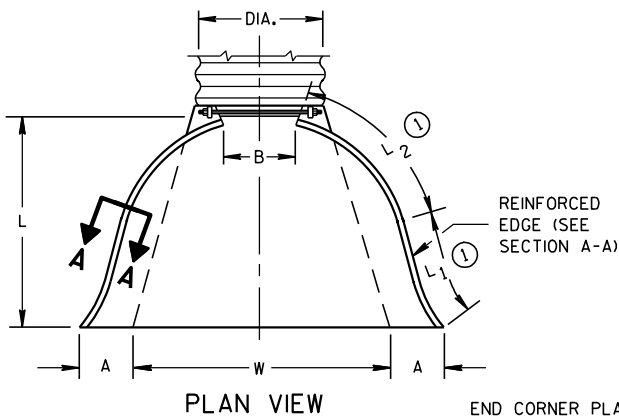
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 98
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

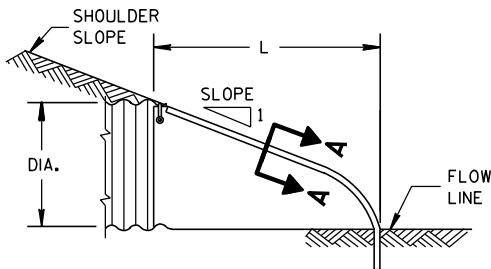
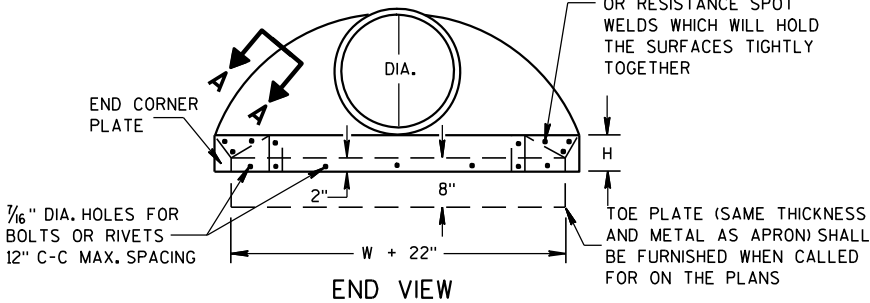
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1		1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1		1 Pc.
18	.064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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

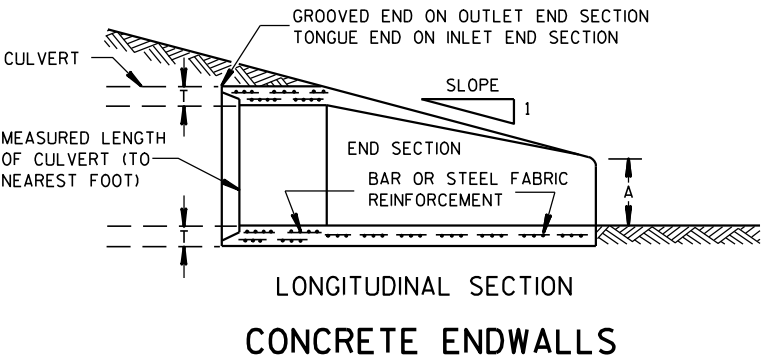
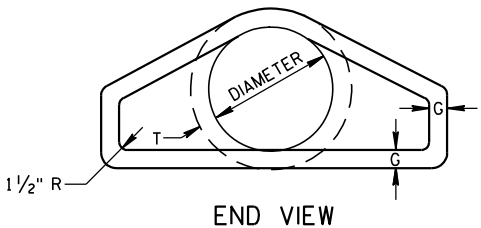
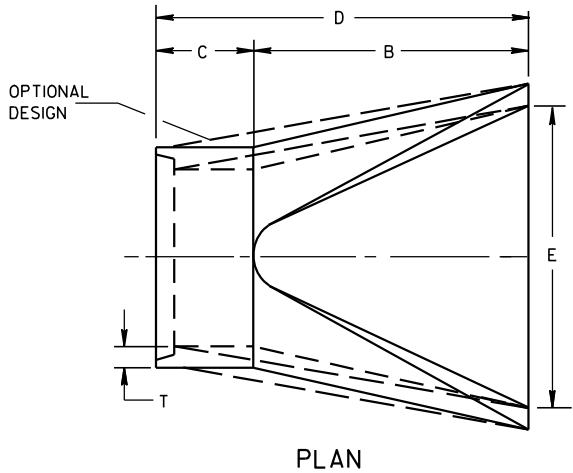
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

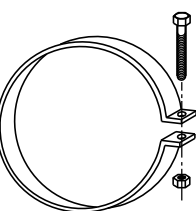
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

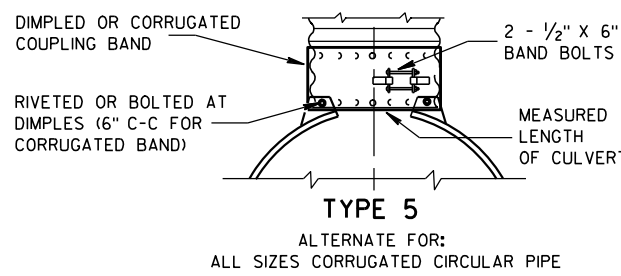
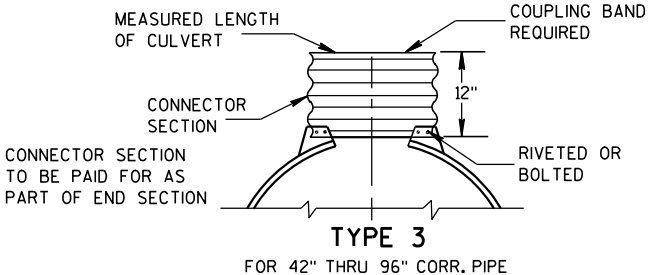
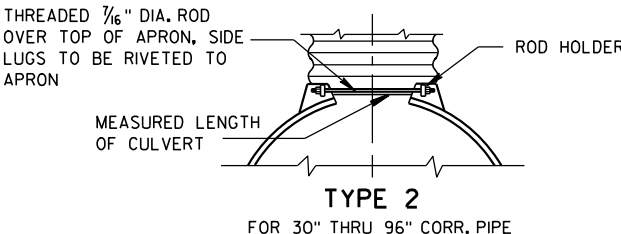
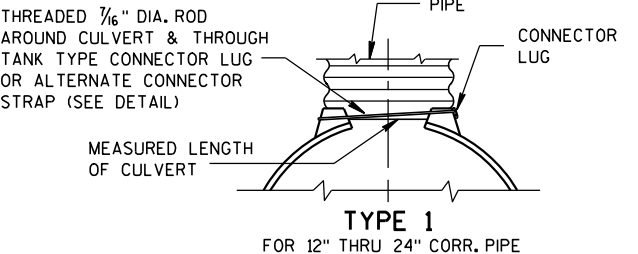


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



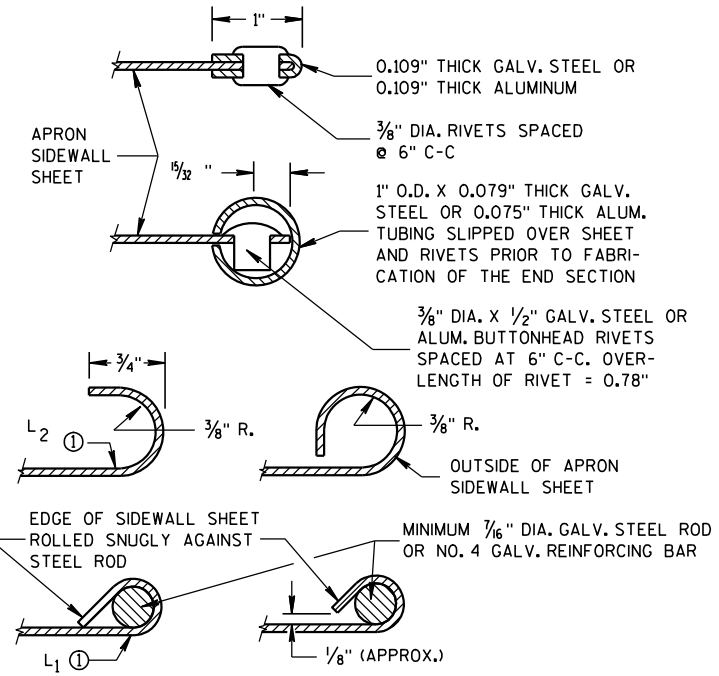
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

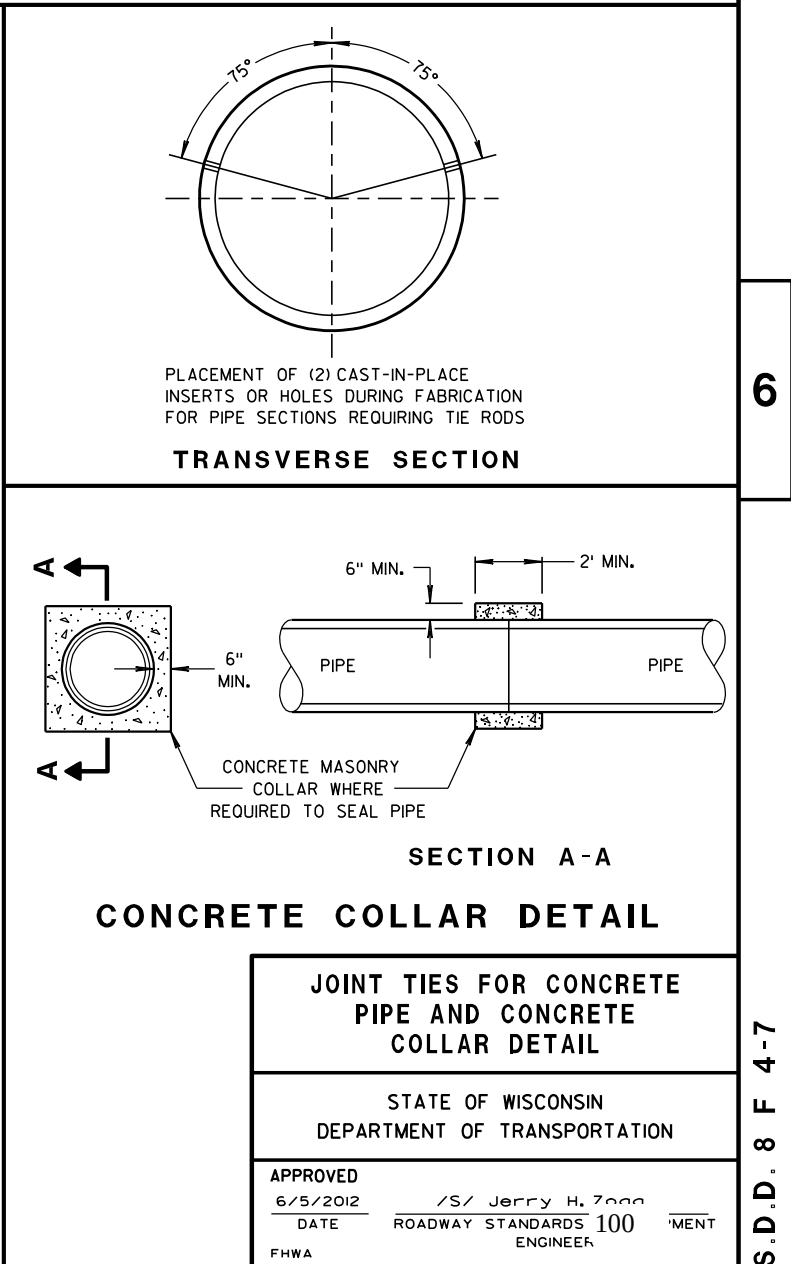
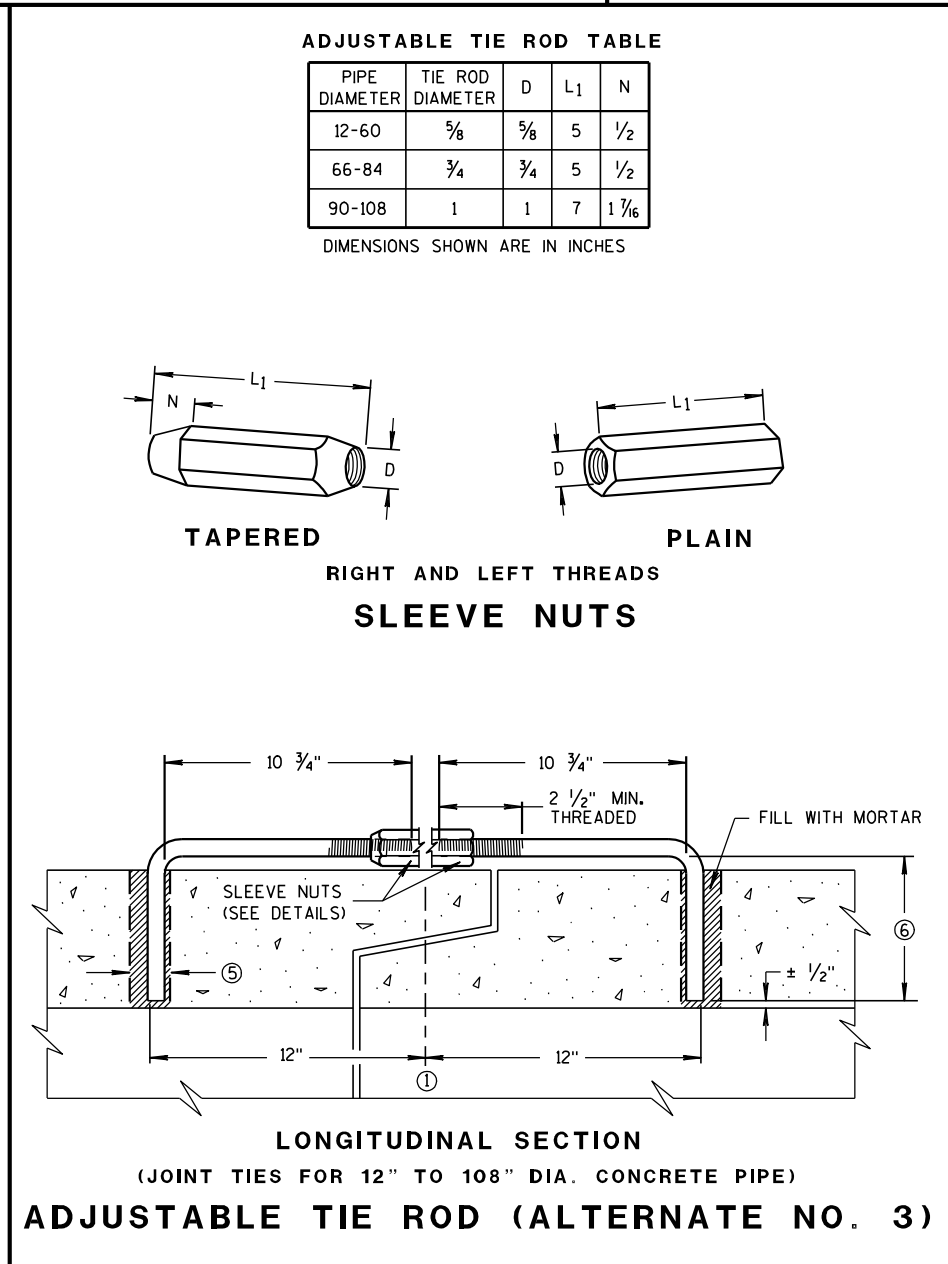
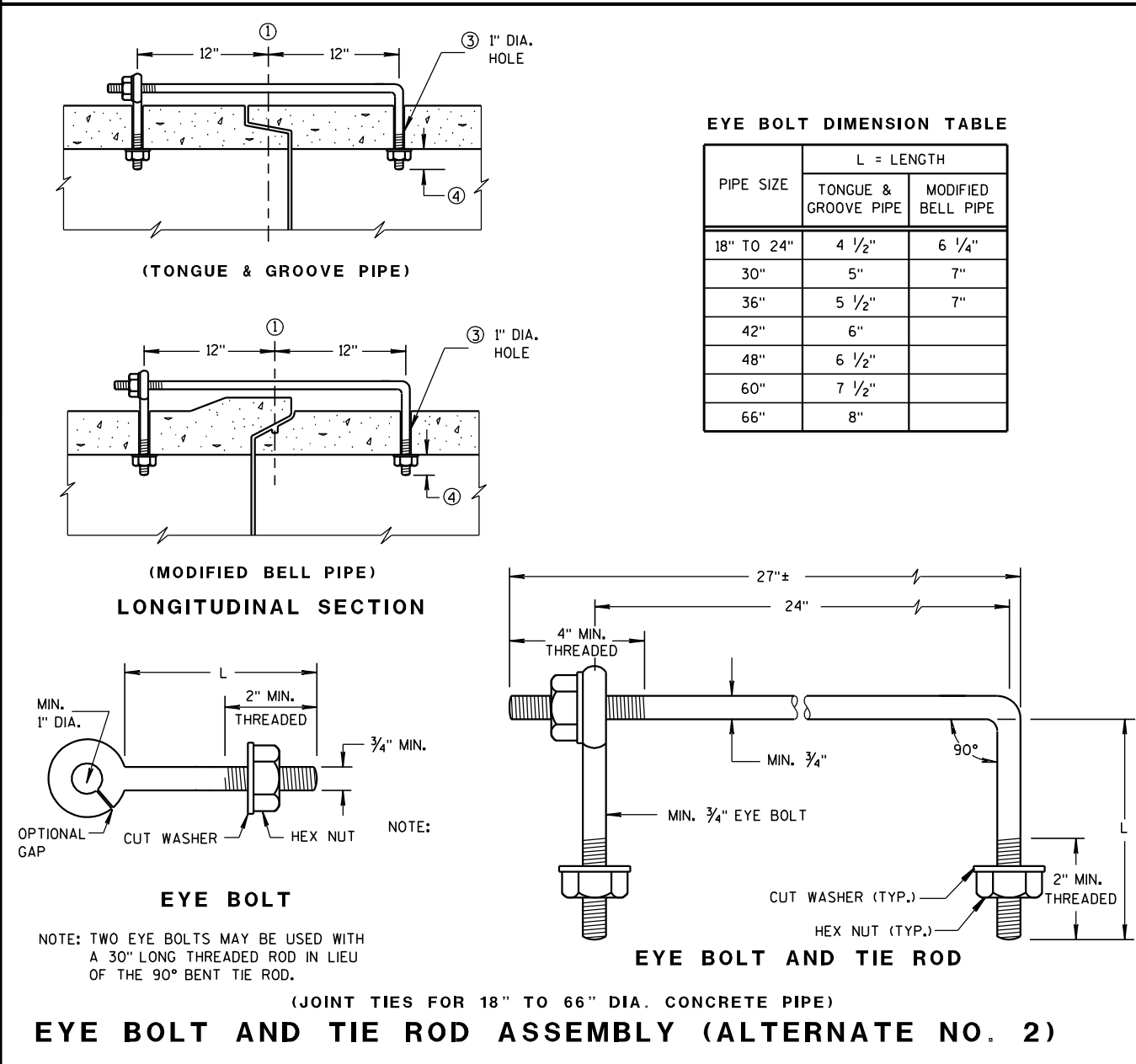
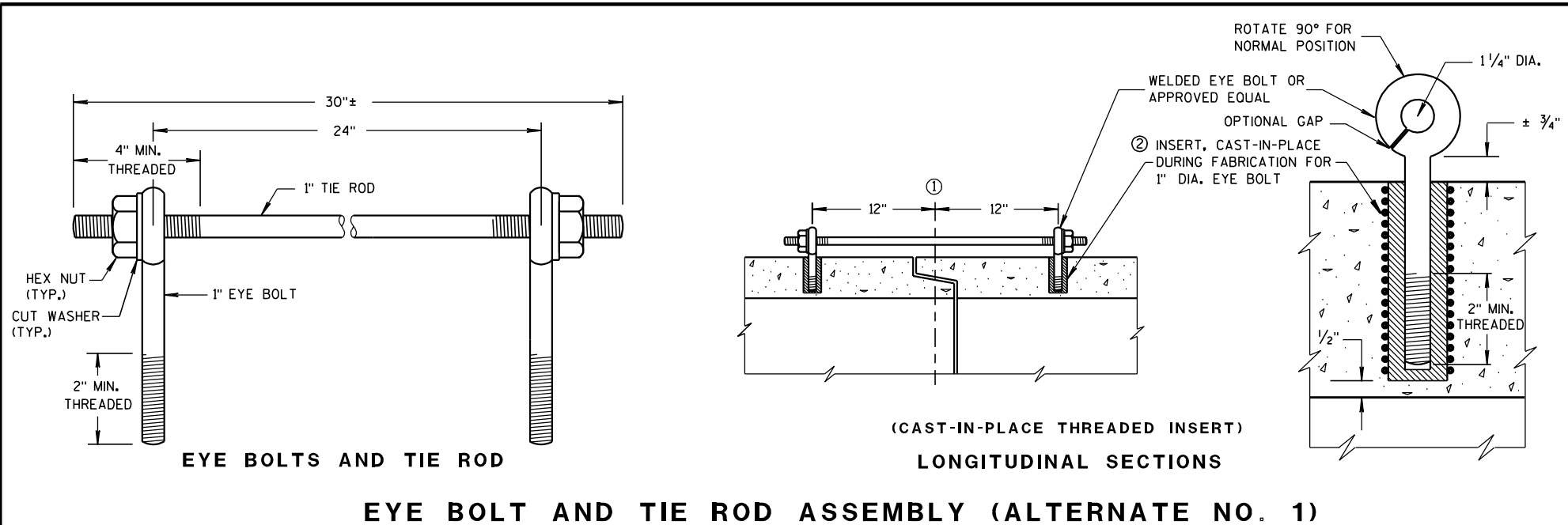
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

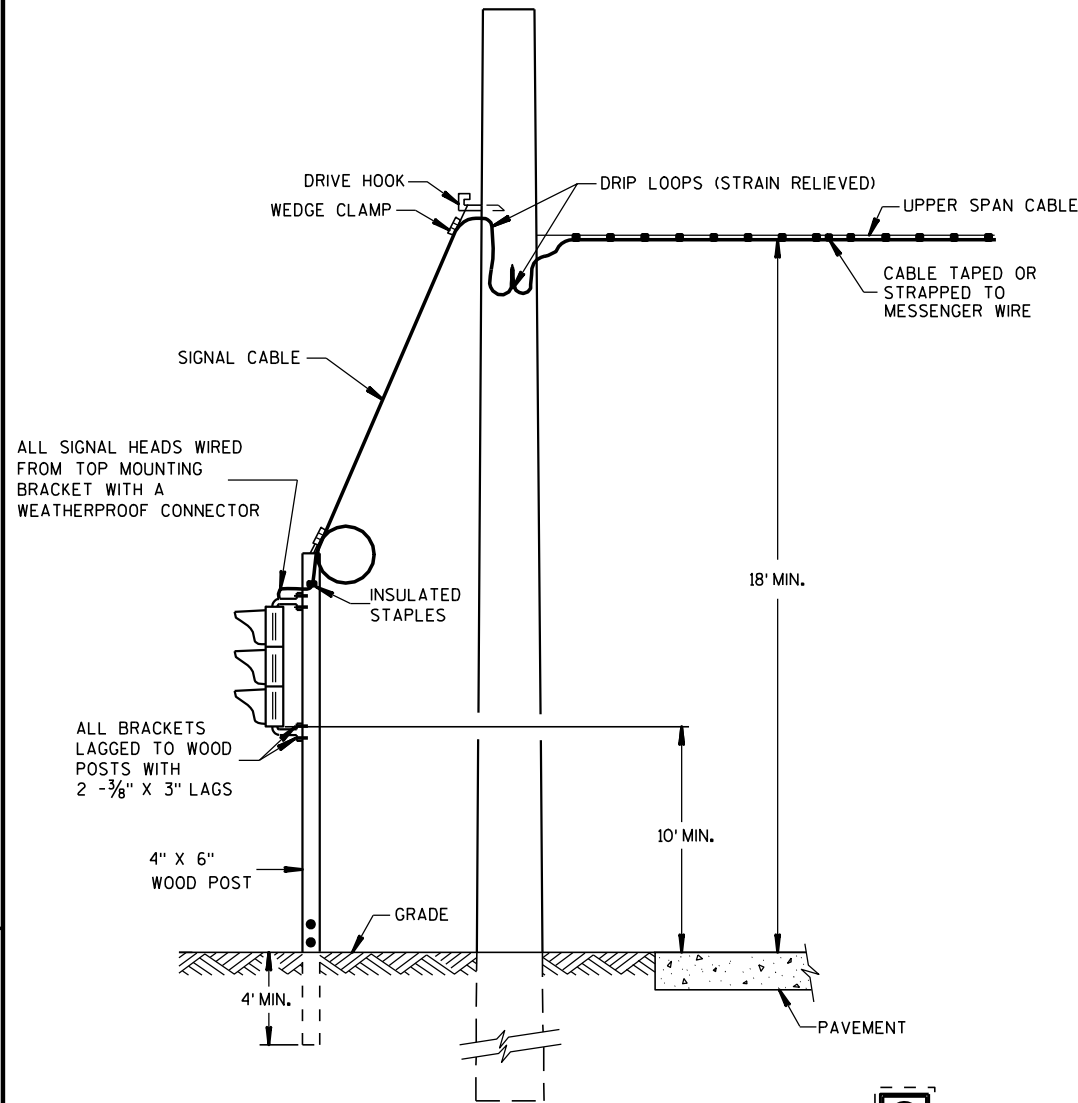
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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

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

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

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhin... CHIEF ROADWAY DEVELOP 99	NEER	
FHWA			

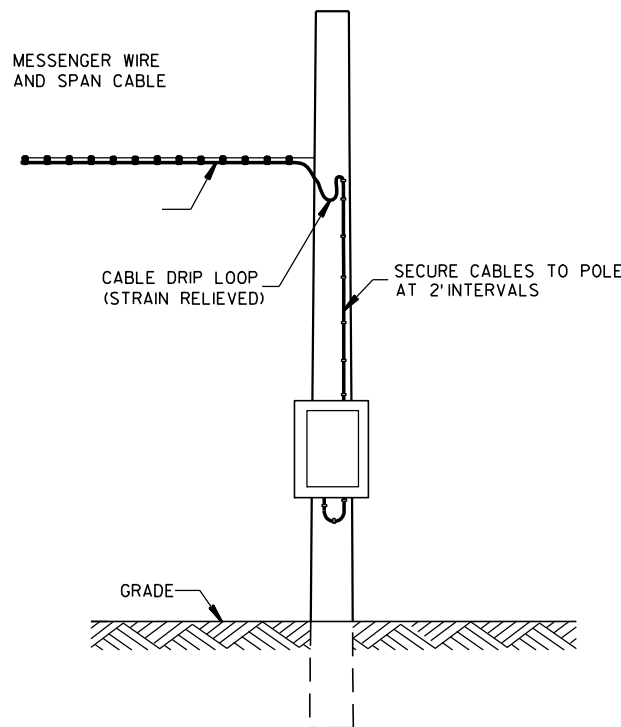




TYPICAL DROP TO TRAFFIC SIGNAL FACE

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT
**NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.	

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	Ⅴ	5 FEET
30 FEET	Ⅴ	6 FEET
35 FEET	Ⅳ	7 FEET
40 FEET	Ⅳ	8 FEET
45 FEET	Ⅳ	9 FEET



POLE MOUNT CABINET INSTALLATION

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

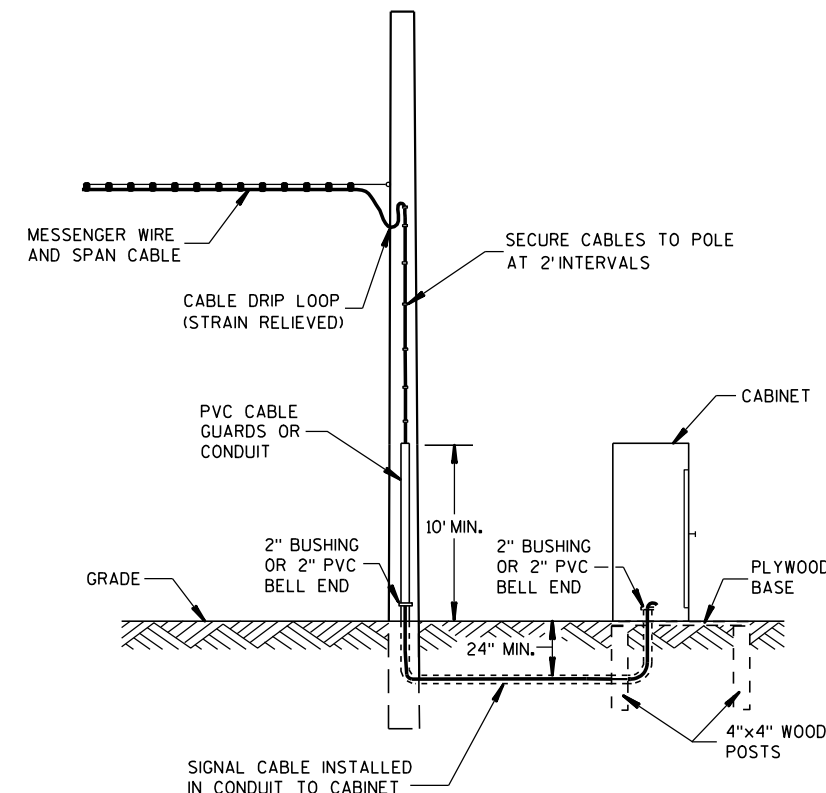
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

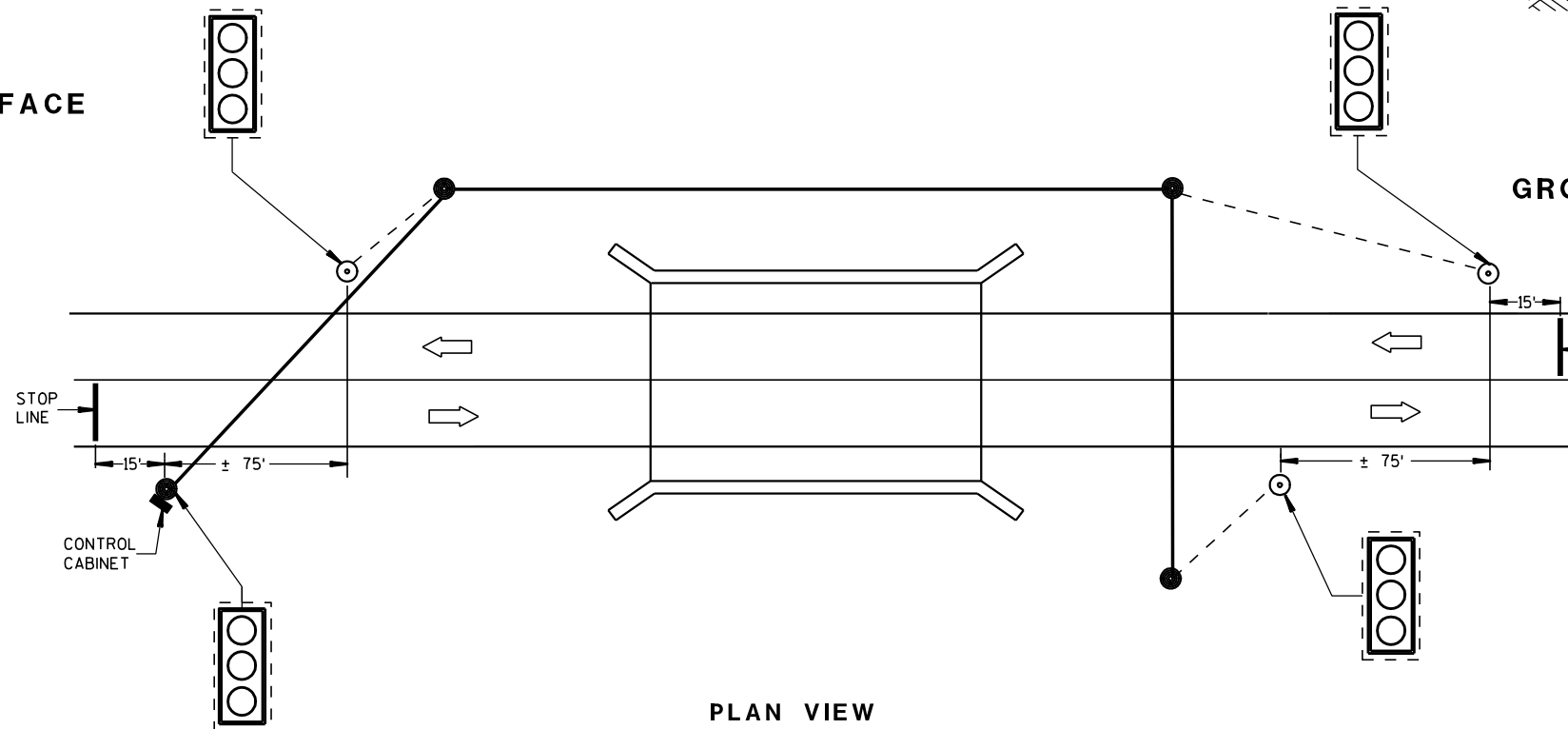
VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION



PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

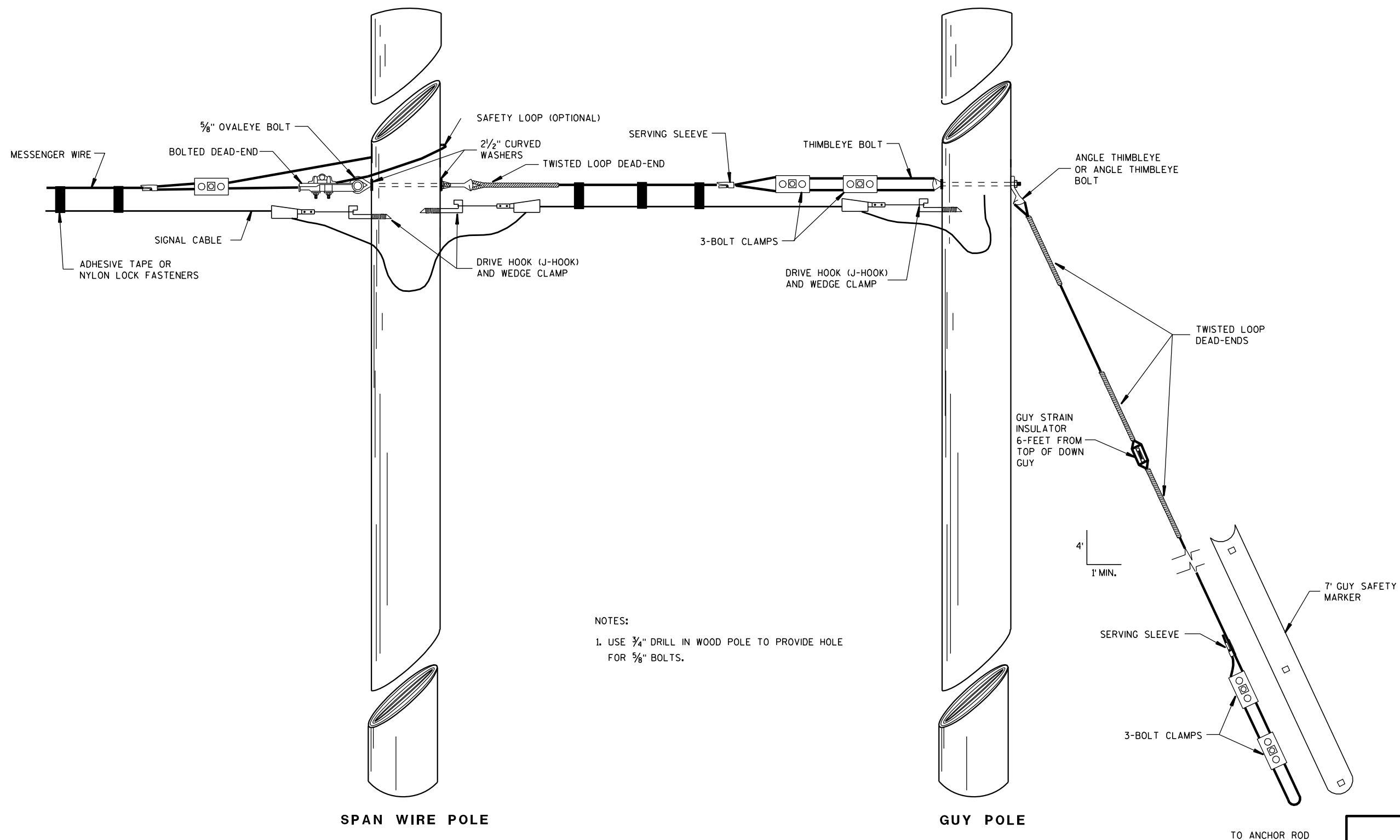
LEGEND

- WOOD POLE (NONBREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 DATE /S/ Thomas J. G... STATE ELECTRICAL ENGI 101 HWYS
FHWA



NOTES:

1. USE $\frac{3}{4}$ " DRILL IN WOOD POLE TO PROVIDE HOLE FOR $\frac{5}{8}$ " BOLTS.

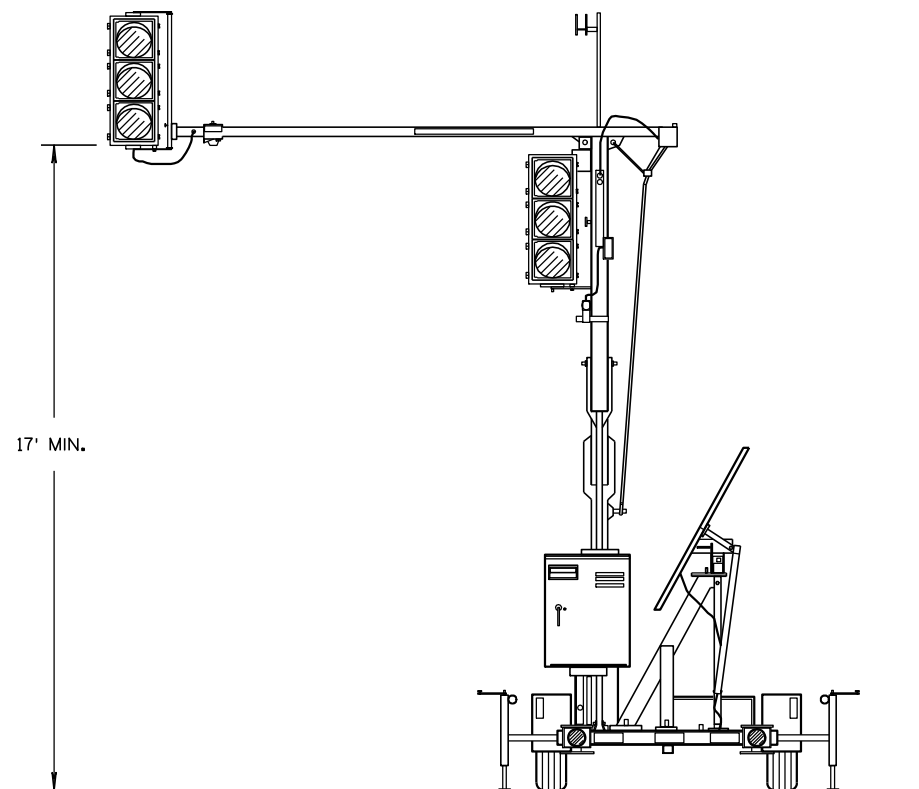
TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE/S/ Thomas J. G...
STATE ELECTRICAL ENGI 102 HWYS

FHWA

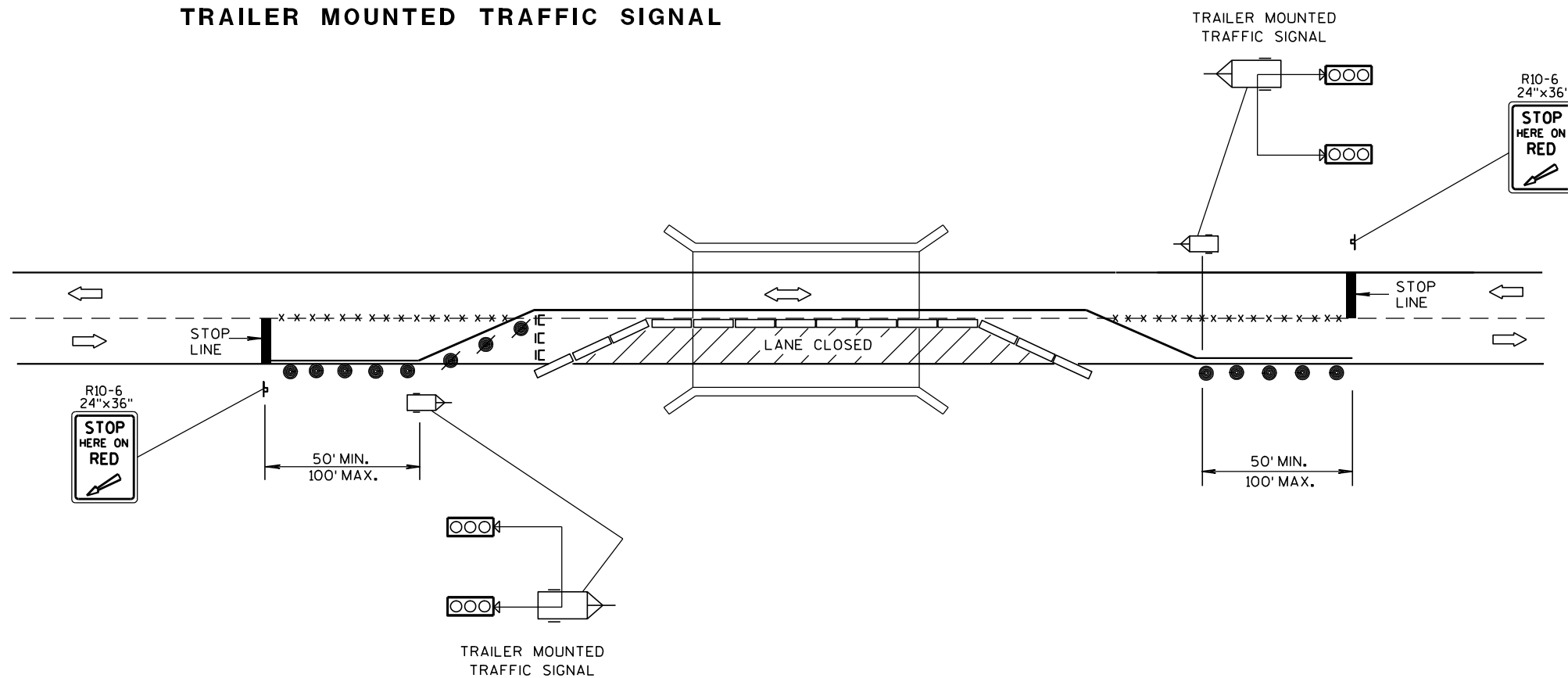


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

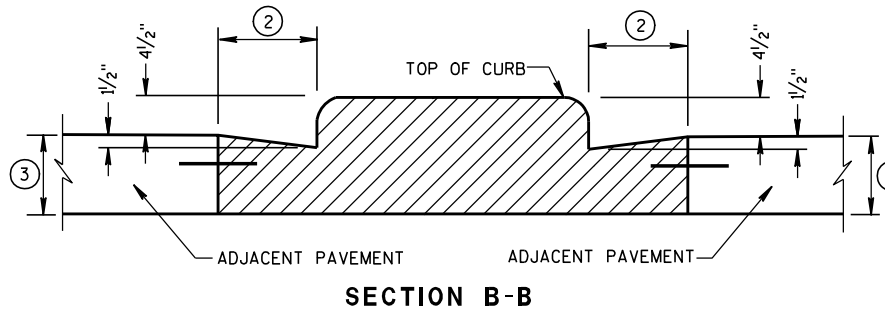
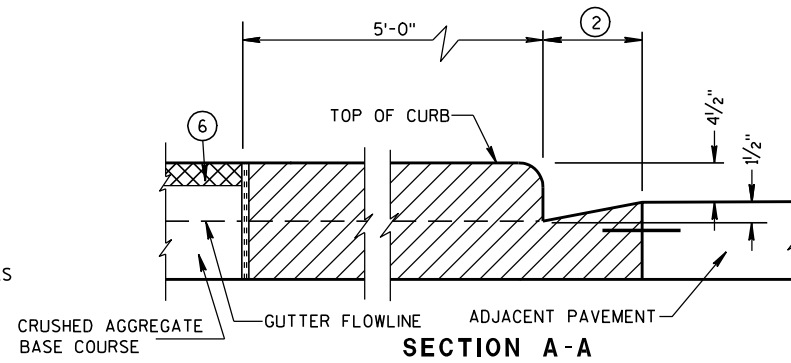
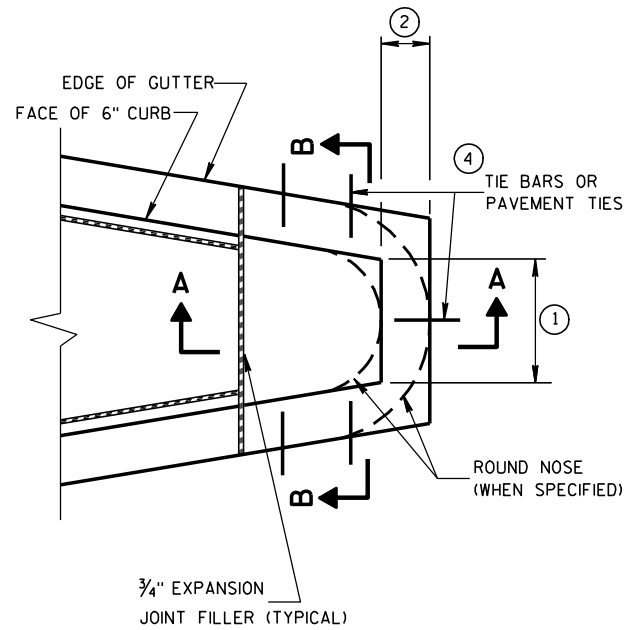
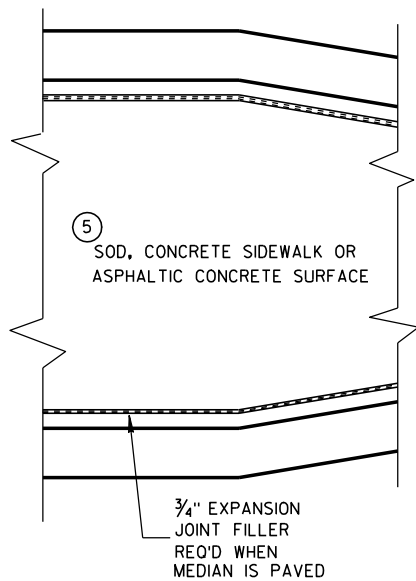
LEGEND

- ⌵ POST MOUNTED SIGN
- *-x-* REMOVING PAVEMENT MARKING
- IC TYPE III BARRICADE WITH SIGN
- /● DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- ▬ TEMPORARY PRECAST CONCRETE BARRIER
- ⌵ TRAILER MOUNTED TRAFFIC SIGNAL
- ➡ DIRECTION OF TRAFFIC FLOW

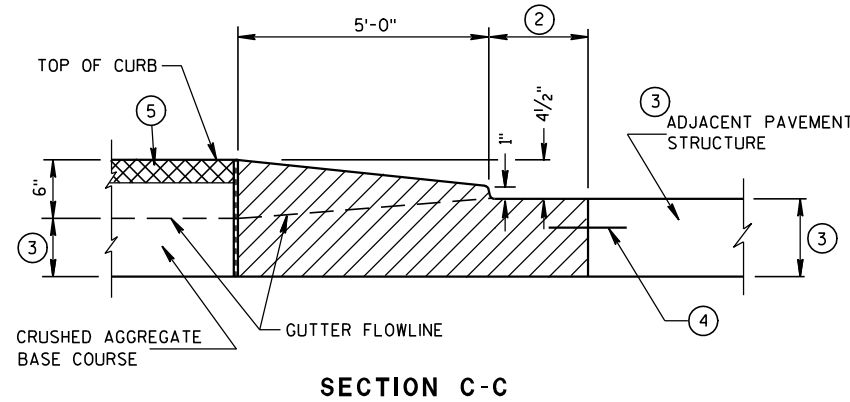
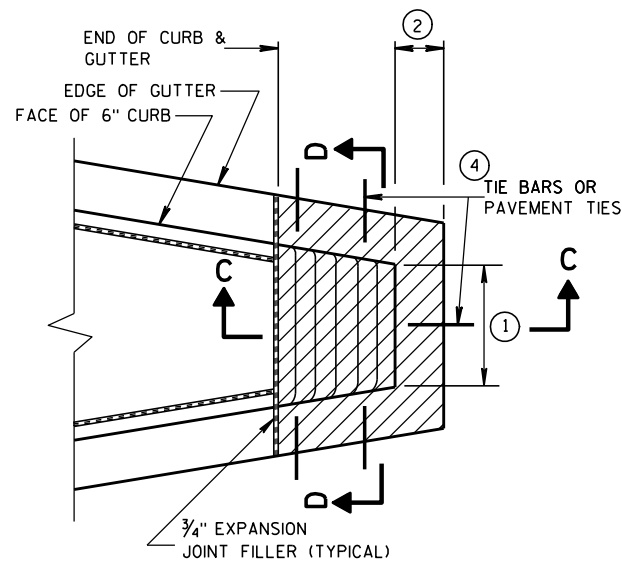
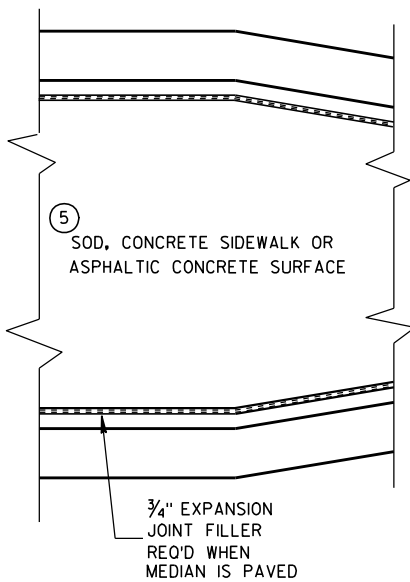
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

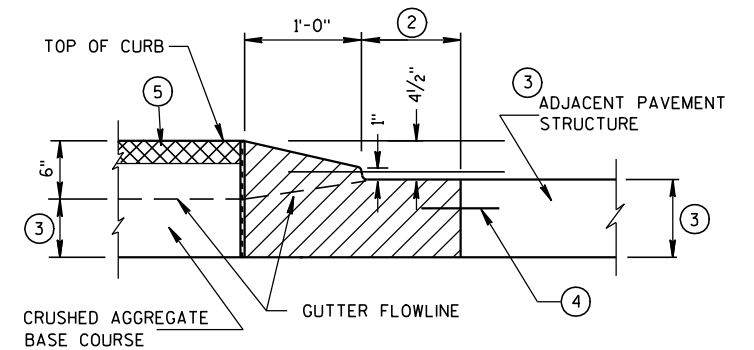
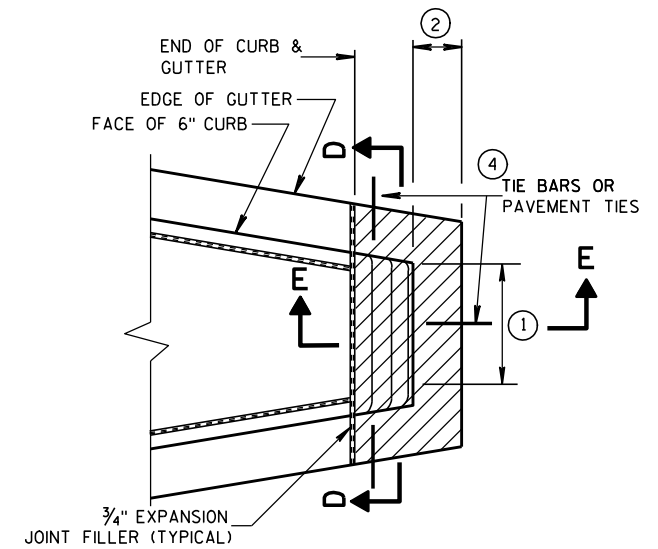
APPROVED
3/2/2011 /S/ Thomas J. Gorman
DATE STATE ELECTRICAL ENGR 103 HWYS
FHWA



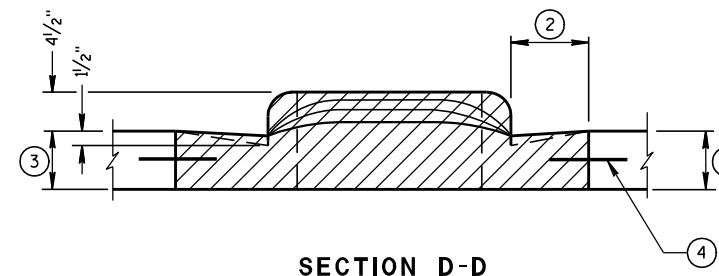
CONCRETE MEDIAN BLUNT NOSE DETAIL



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

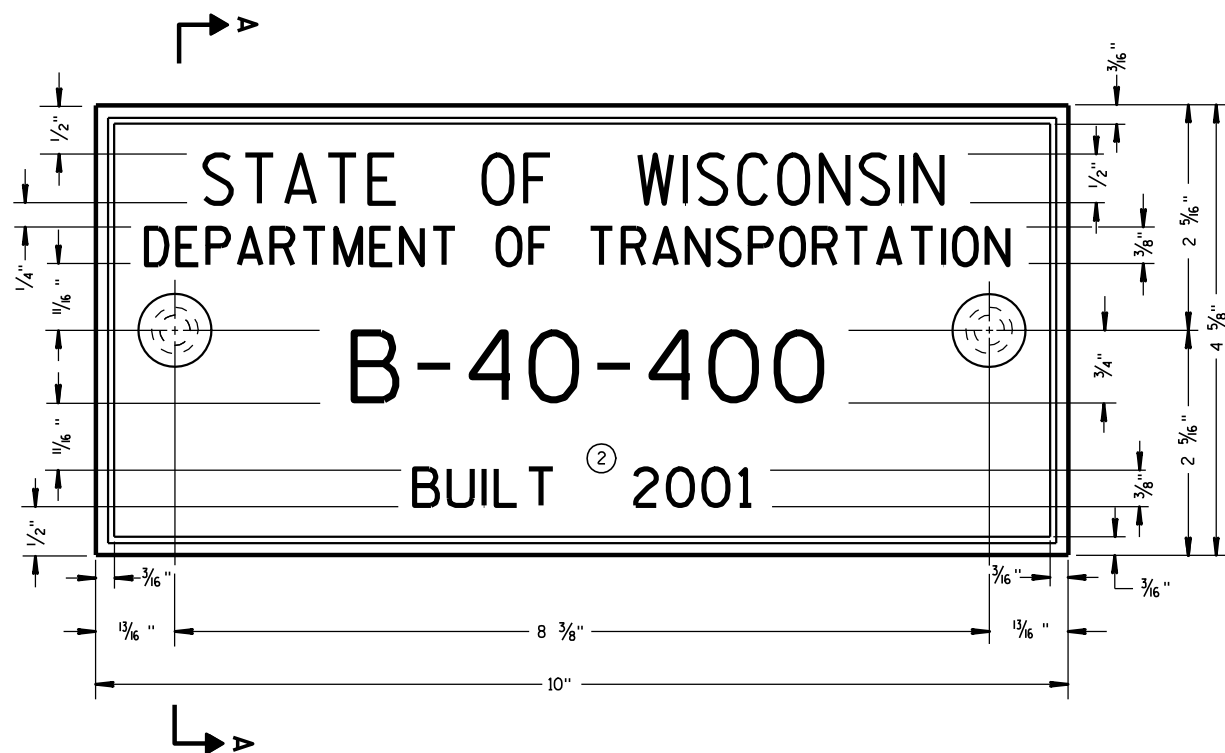
DATE

/S/ Jerry H. 7----

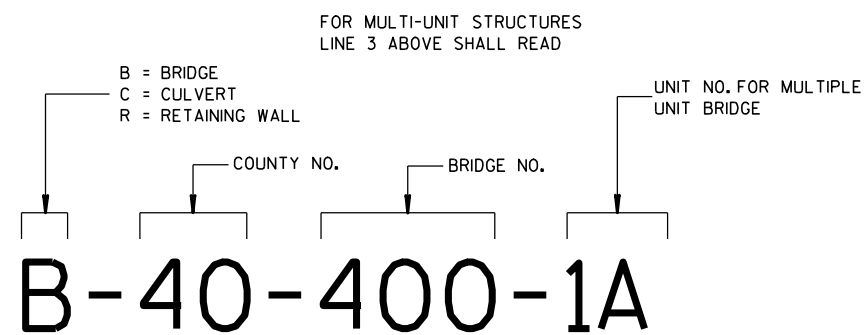
ROADWAY STANDARDS 104

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FHWA



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



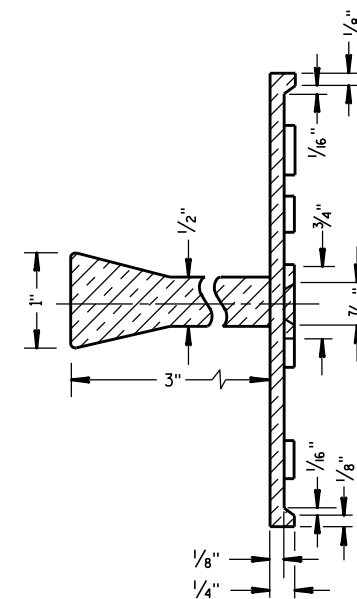
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

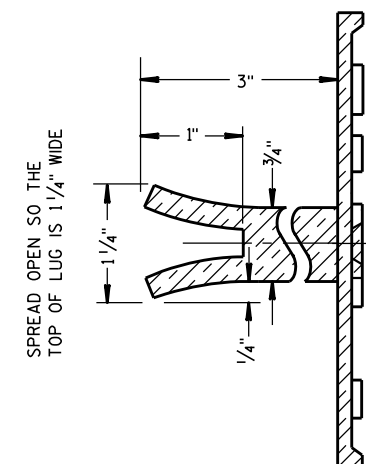
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

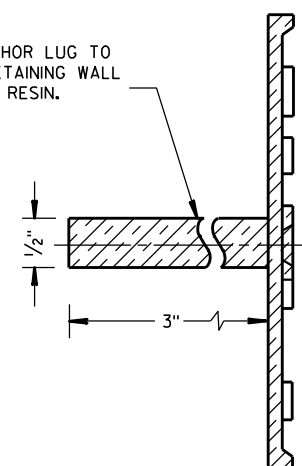


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE

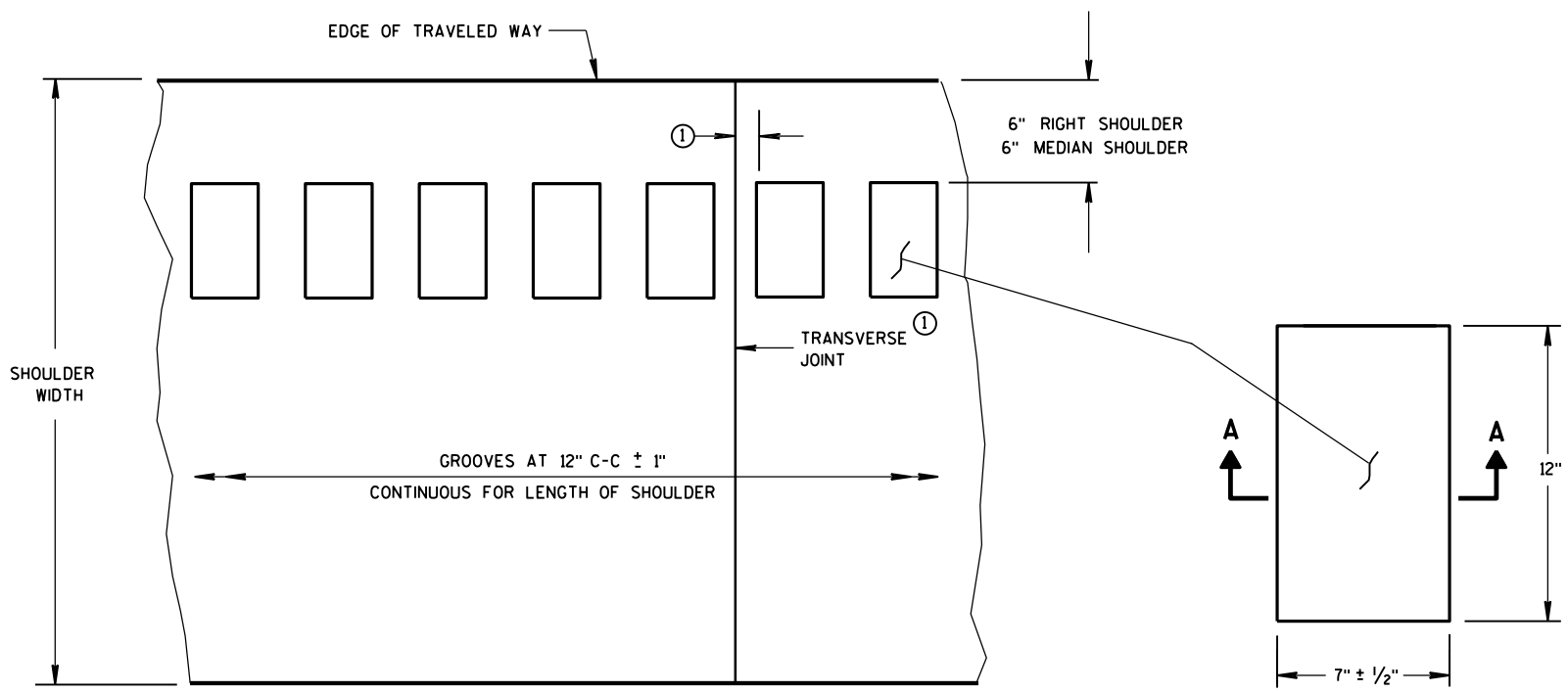
3/26/10

FHWA

CHIEF STRUCTURAL DEVELOPER

105

JEER



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

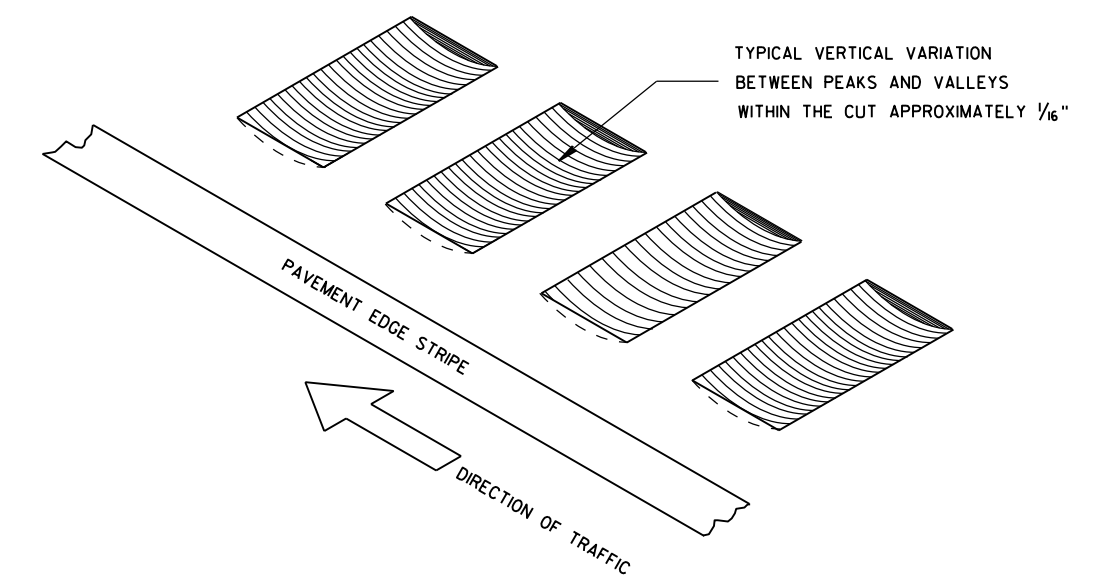
GENERAL NOTES

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

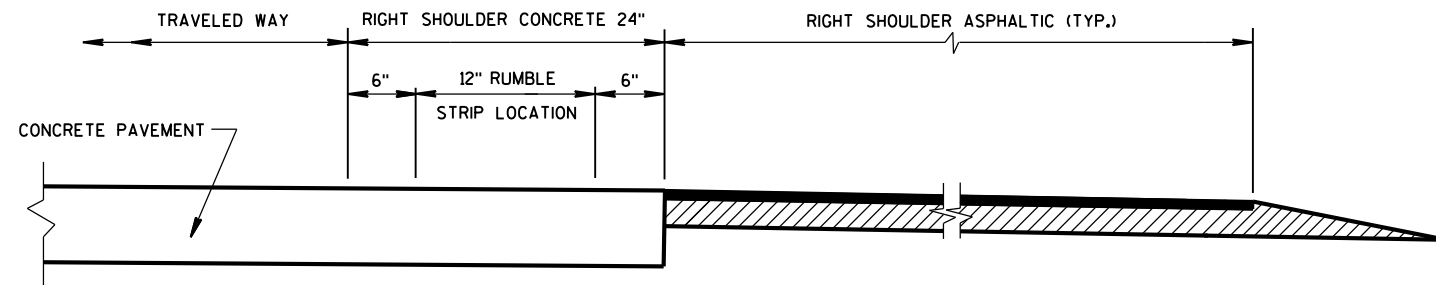
RUMBLE STRIPS ON EXPRESSWAYS

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

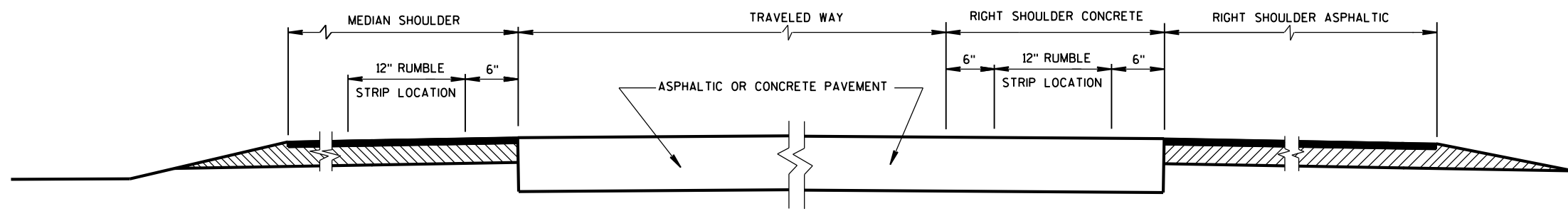
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



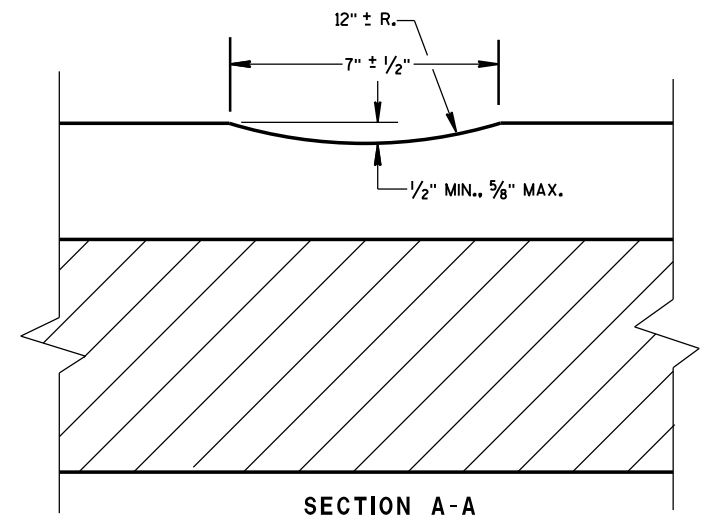
ISOMETRIC



SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



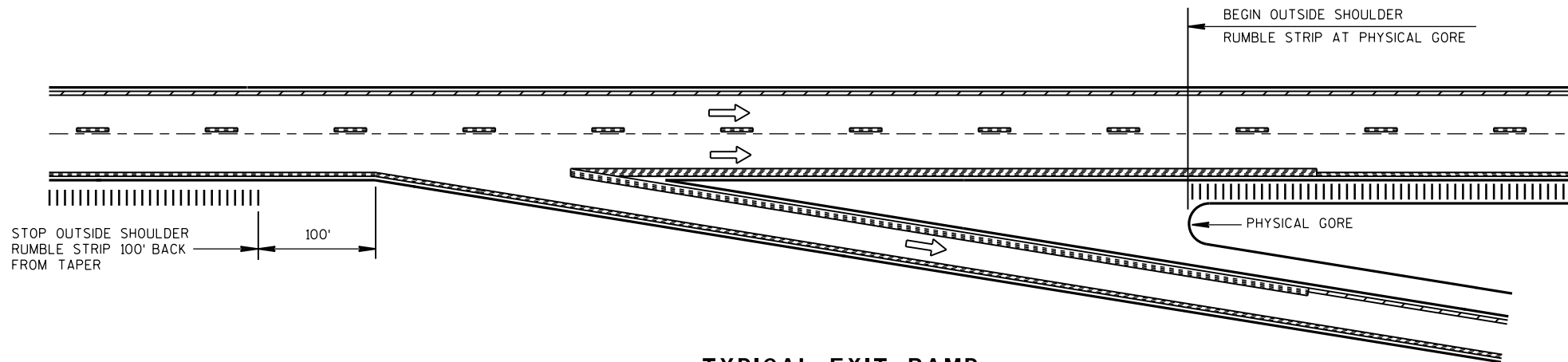
SECTION VIEW
TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS
IN RURAL DIVIDED HIGHWAYS
(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 106



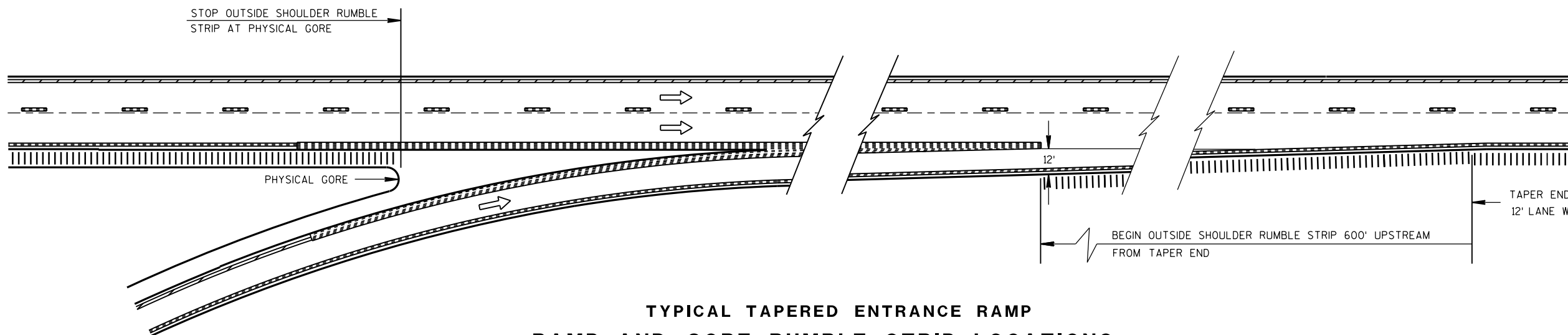
TYPICAL EXIT RAMP

NOTES:

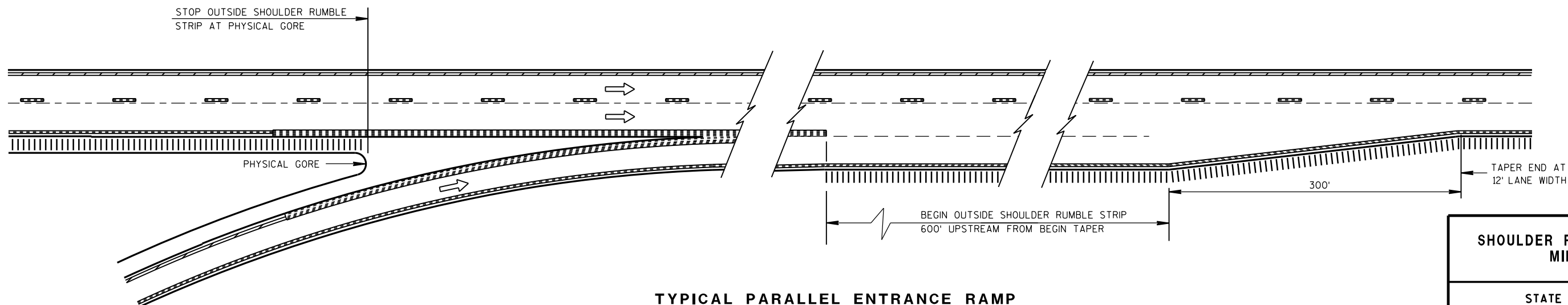
NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

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

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL



**TYPICAL TAPERED ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS**

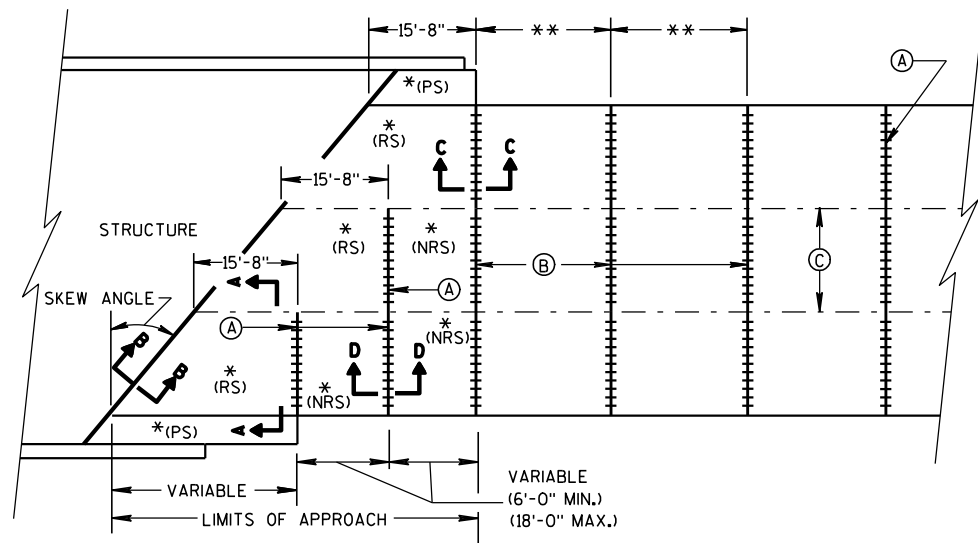


**TYPICAL PARALLEL ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS**

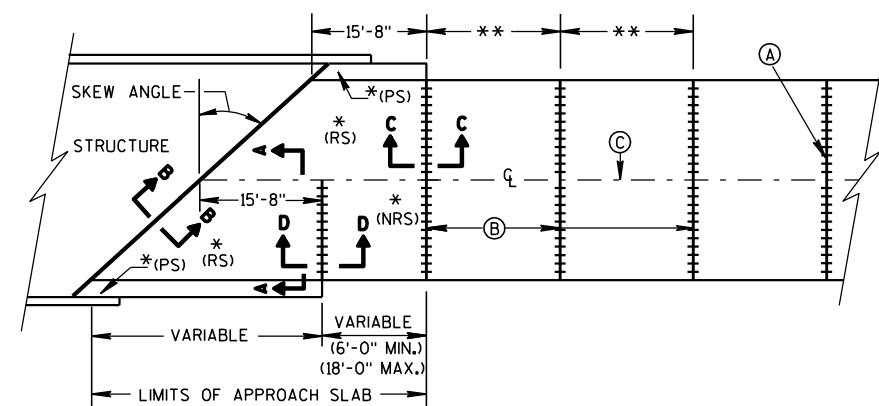
**SHOULDER RUMBLE STRIP,
MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

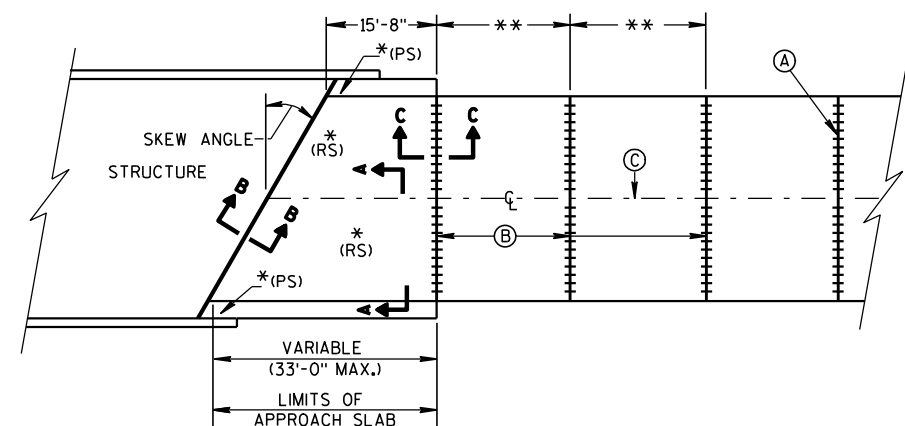
APPROVED
DATE 12/17/2012 /S/ Jerry H. Zoagg
ROADWAY STANDARDS ENGINEER 107 ENT
FHWA



SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)

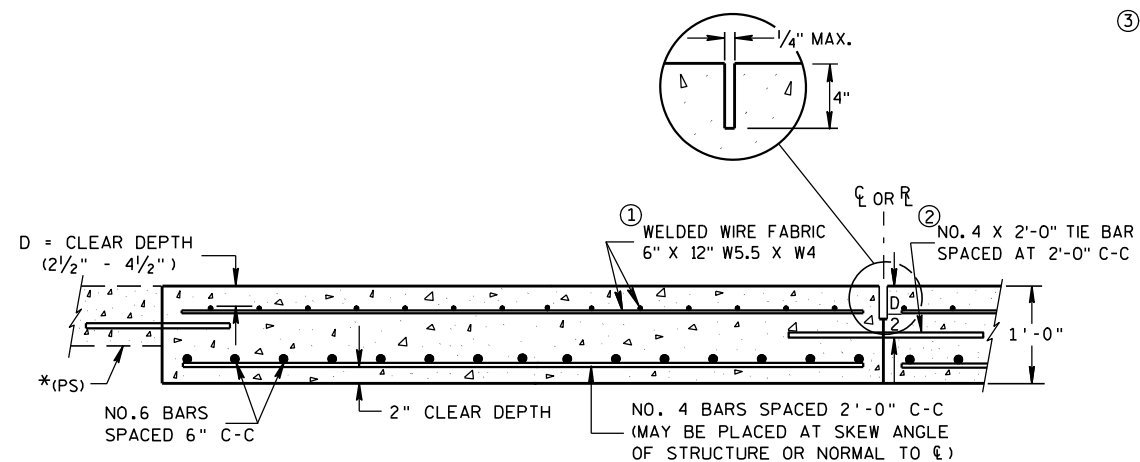


SKews >30°
(PAVEMENT WIDTH ≤ 30')

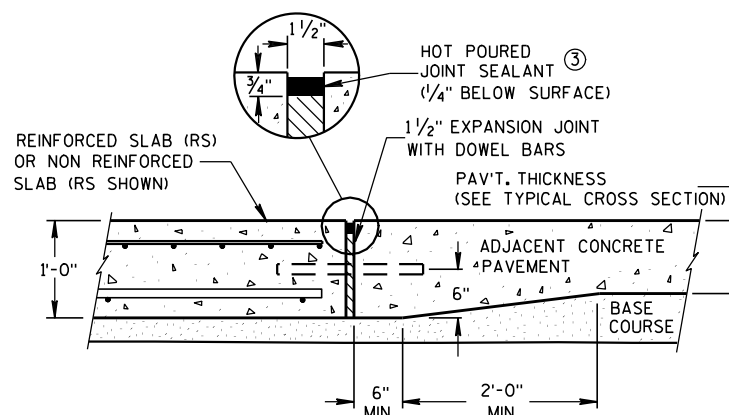


SKews ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT

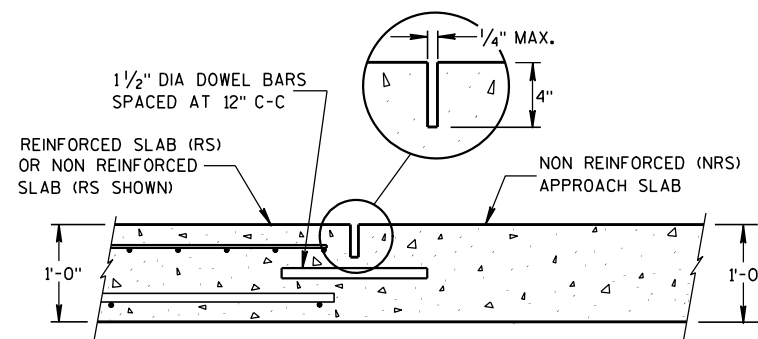
- * (RS) = REINFORCED CONCRETE SLAB
 * (PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 * (NRS) = NON-REINFORCED CONCRETE SLAB
 ** STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 (A) STANDARD CONTRACTION JOINT 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



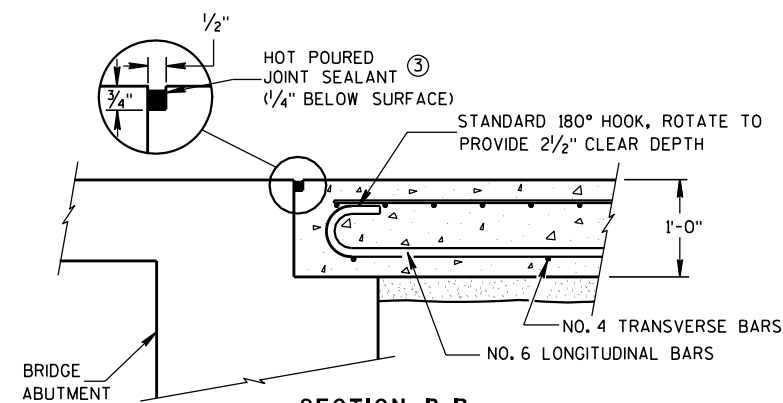
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

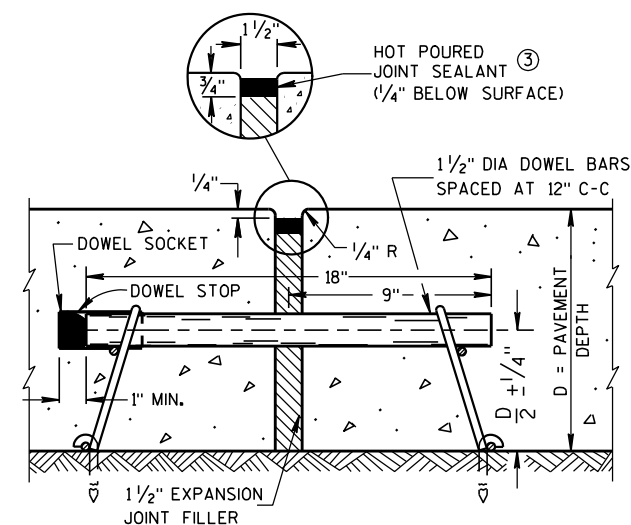
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

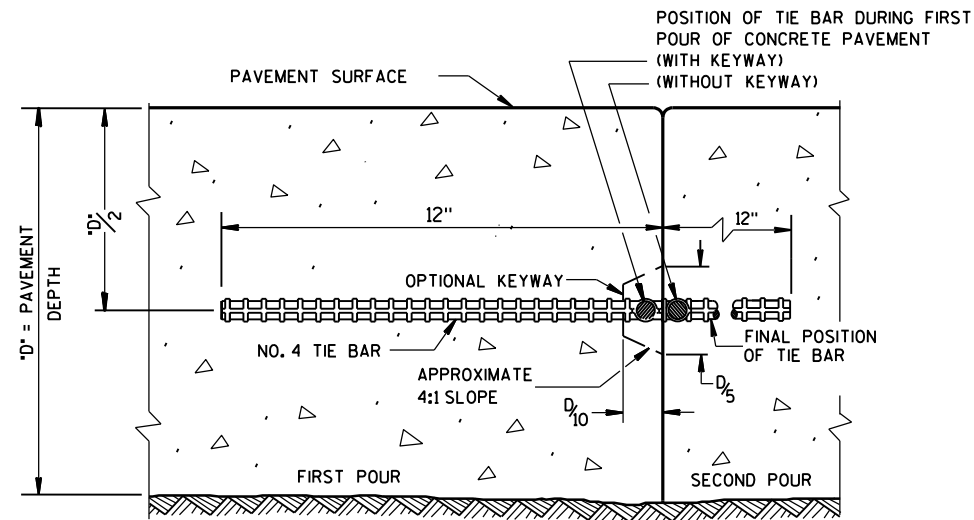
DATE

FHWA

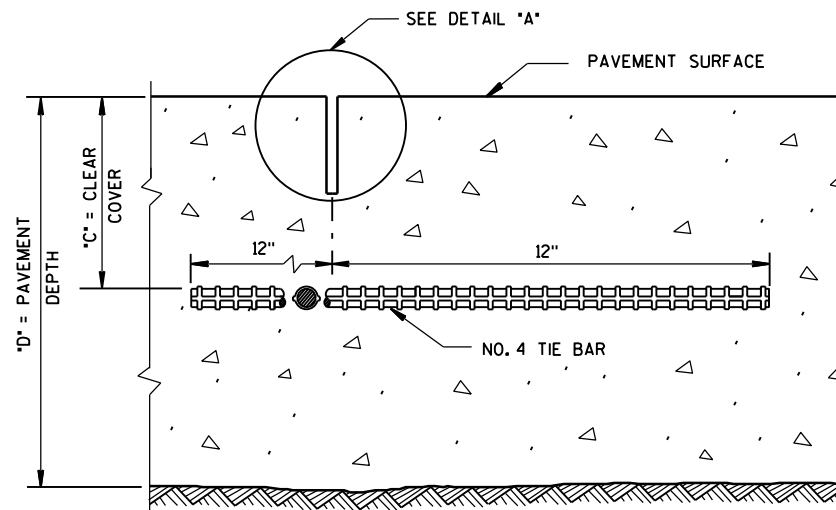
/S/ Deb Bischoff

PAVEMENT POLICY & DE 108

JEER



CONSTRUCTION JOINT



SAWED JOINT

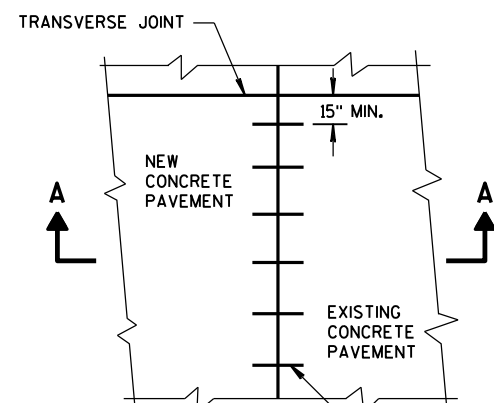
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

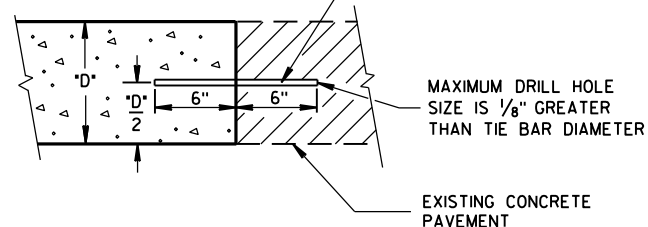
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

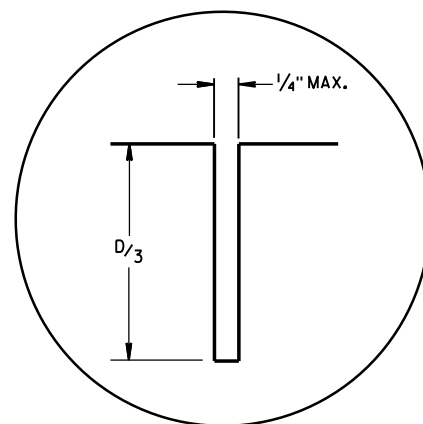


PLAN VIEW

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



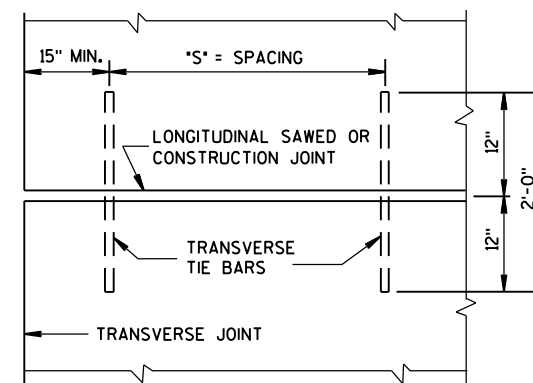
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



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

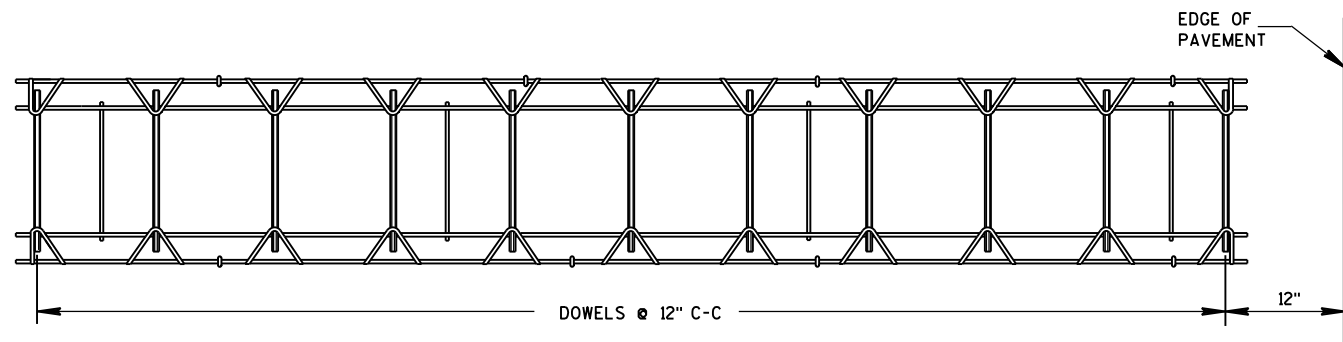
APPROVED

5-3-2013
DATE

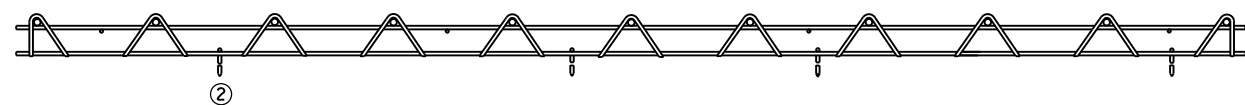
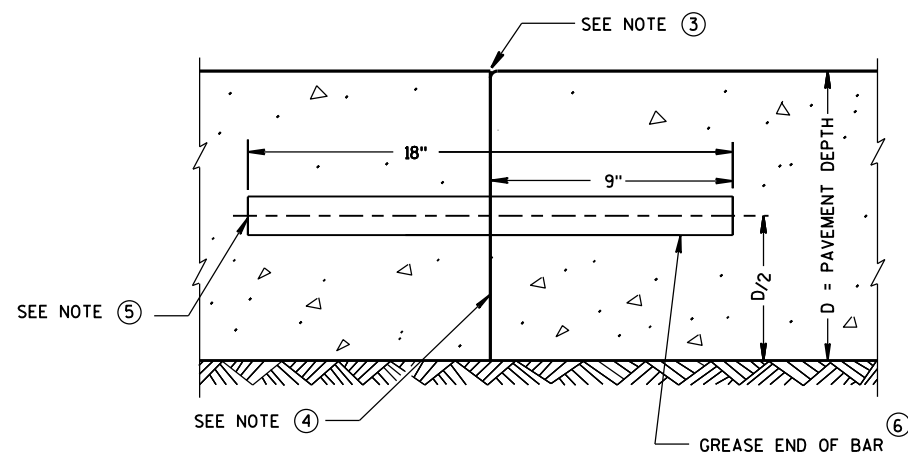
/S/ Deb Bischoff
PAVEMENT POLICY & DE 109

VEER

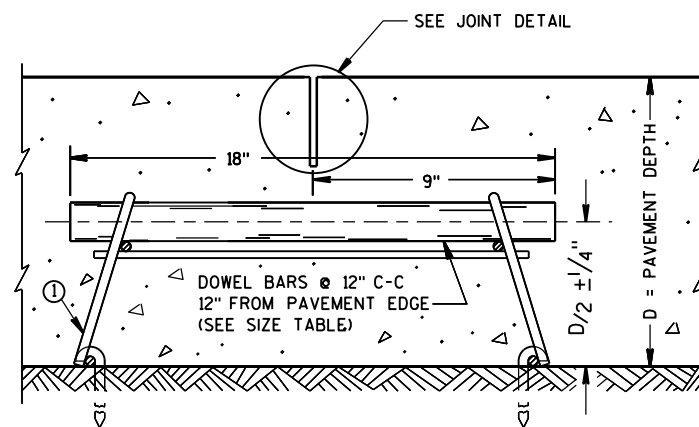
FHWA



PLAN VIEW

SIDE VIEW
CONTRACTION JOINT DOWEL ASSEMBLY ①

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.

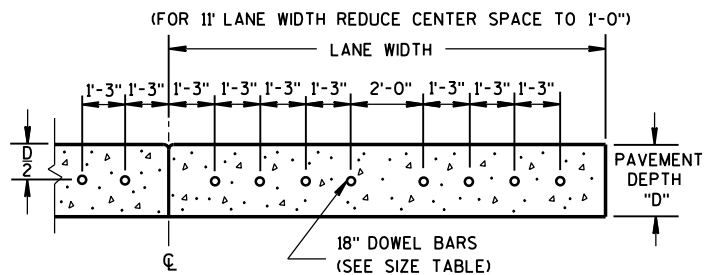
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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.

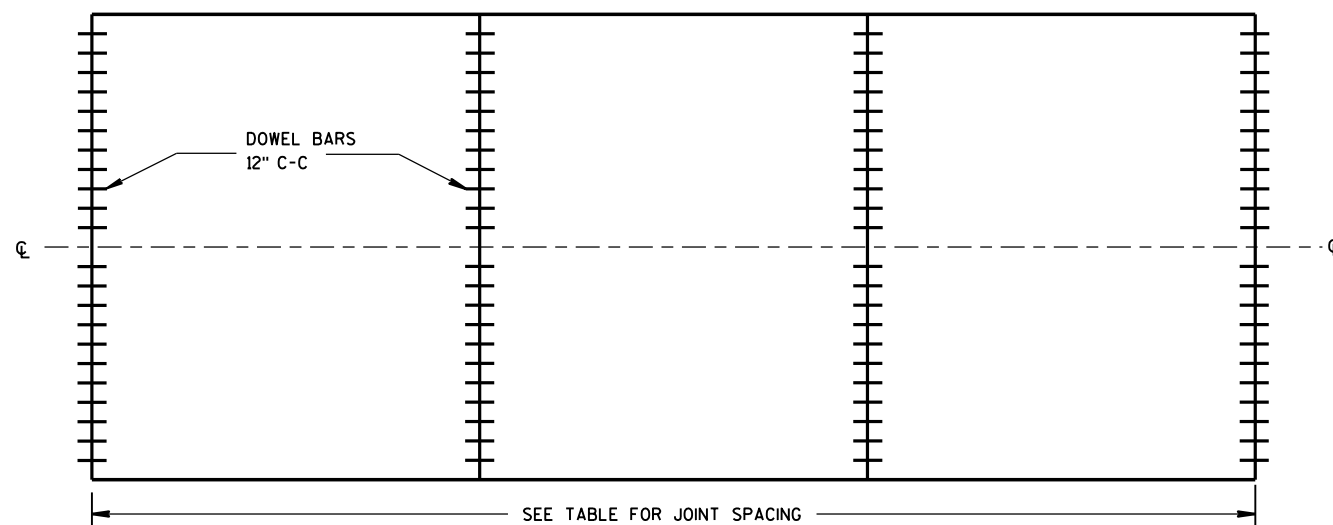
CONSTRUCTION JOINTS

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

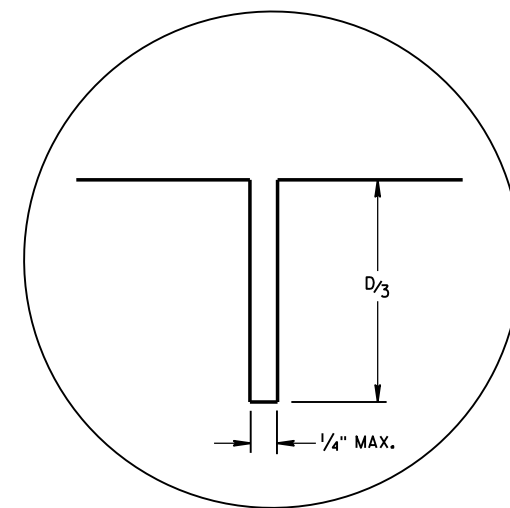
- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

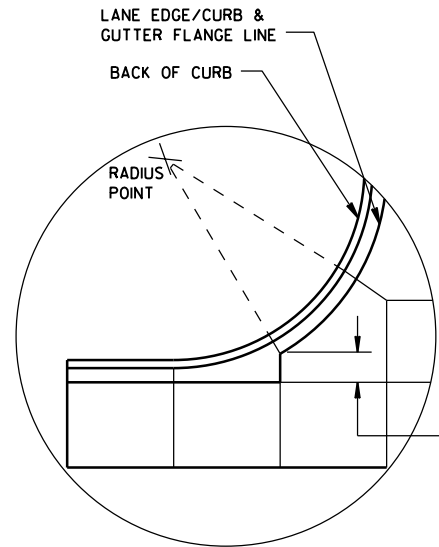
APPROVED

5/3/2013
DATE

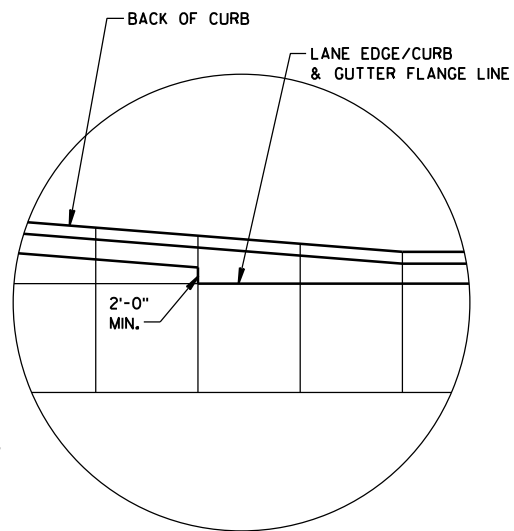
FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DE 110

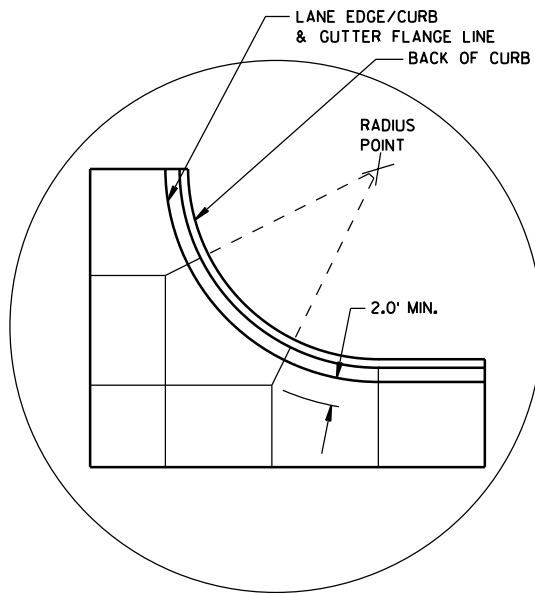
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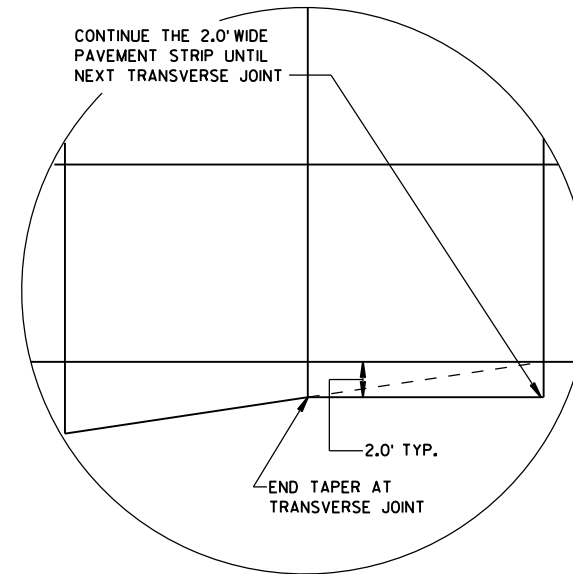
DETAIL "A"



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.

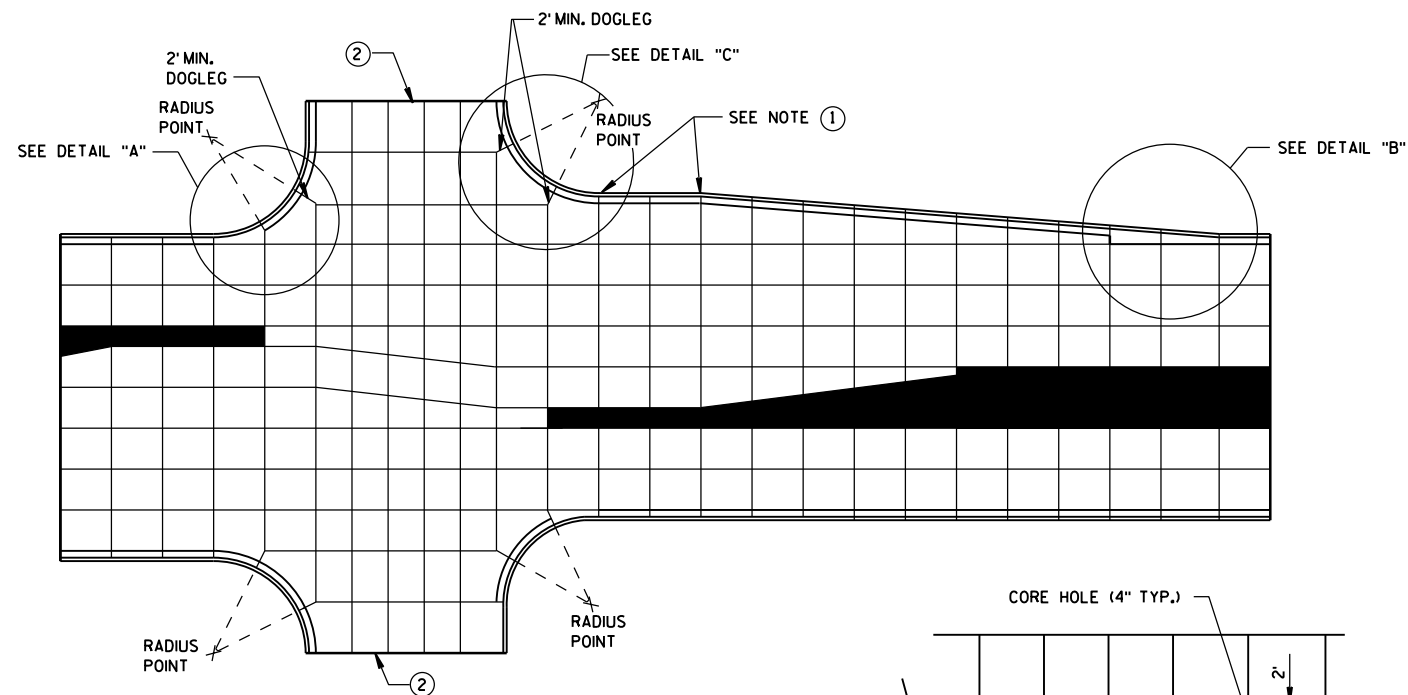
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

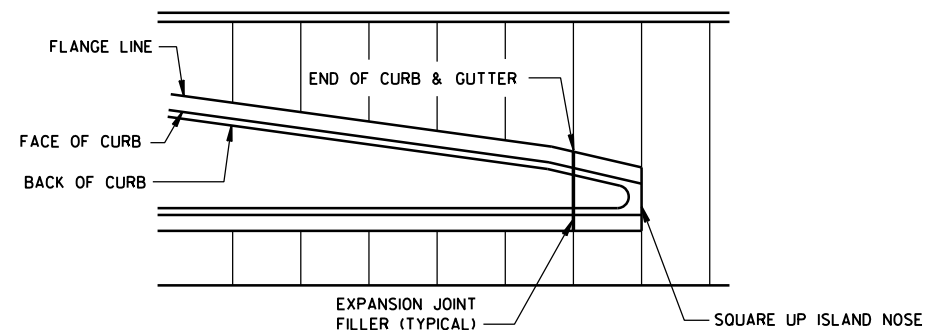
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

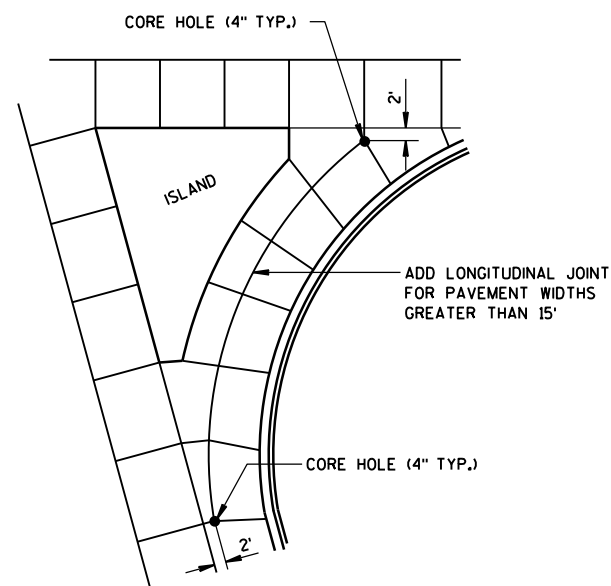
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



STANDARD INTERSECTION



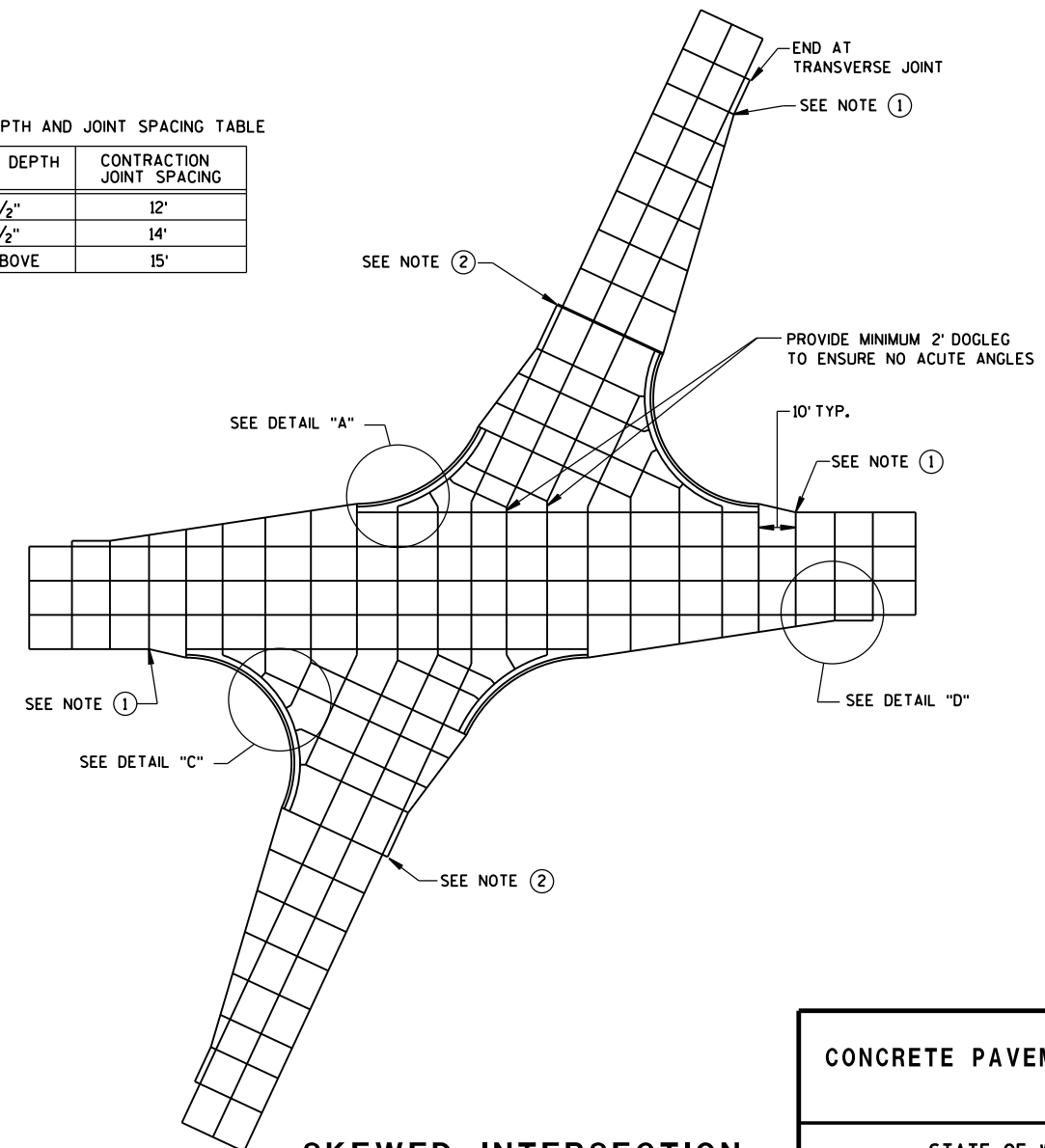
APPROACH TO MEDIAN



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'



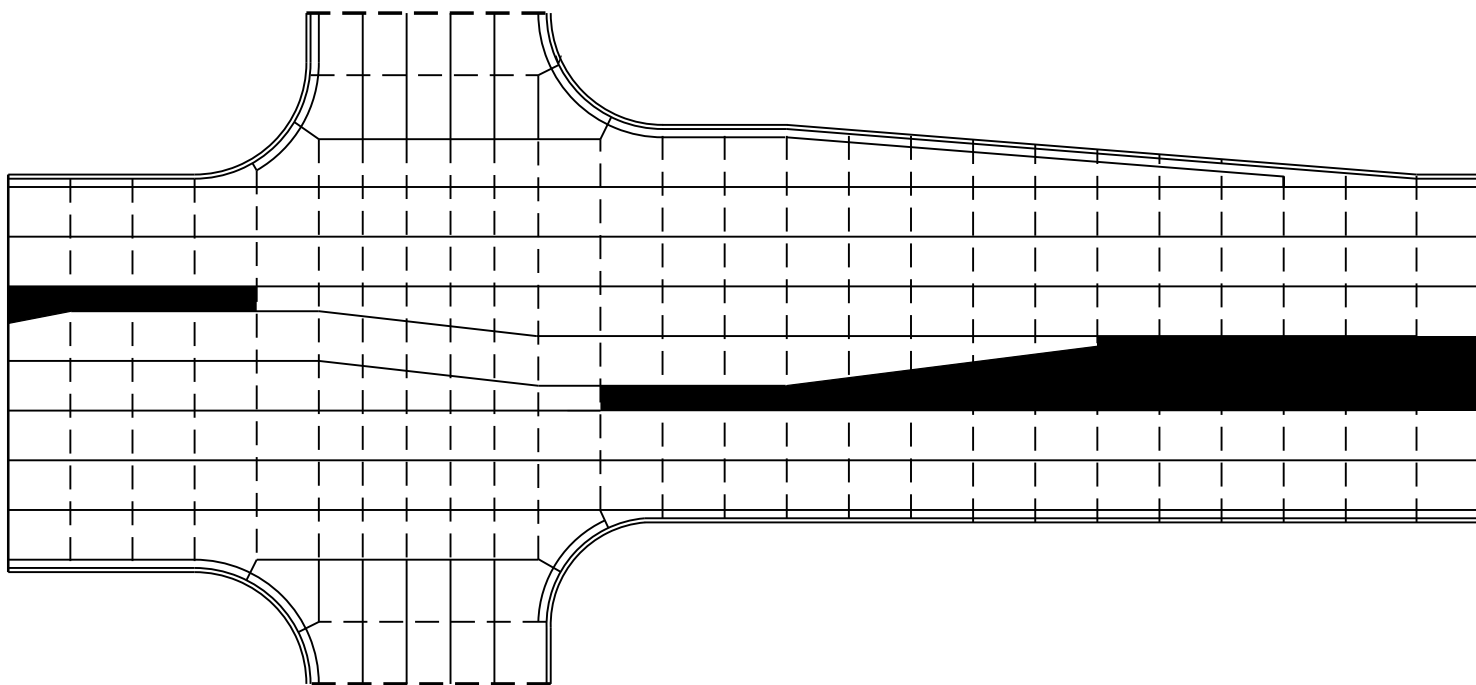
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

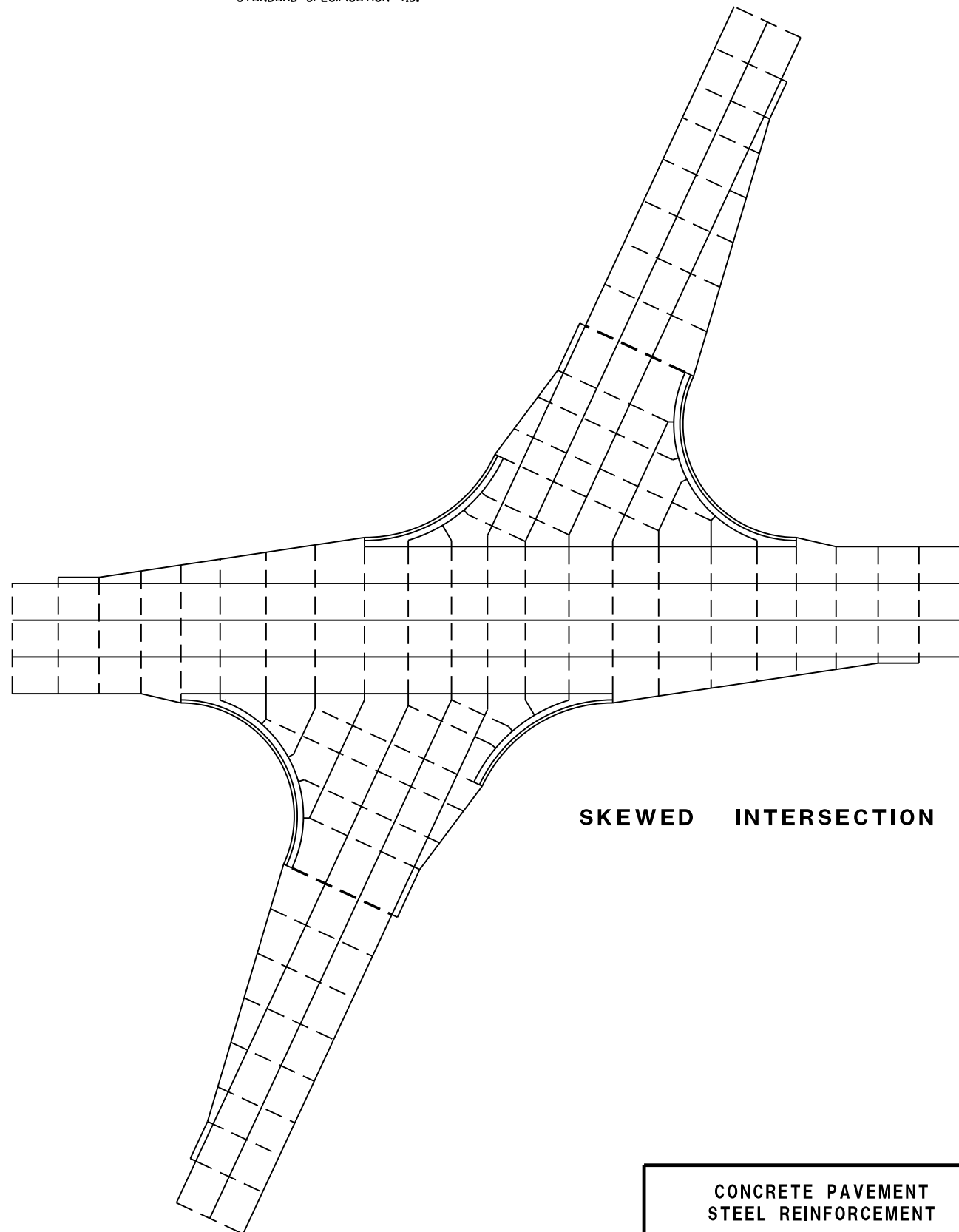
- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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

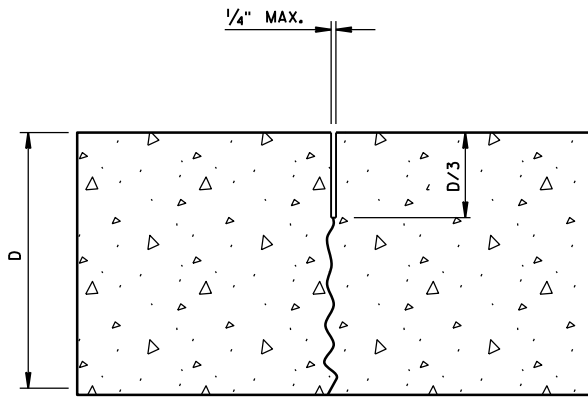


SKewed INTERSECTION

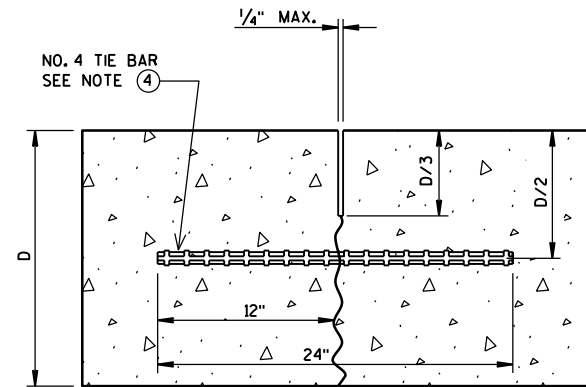
CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

112

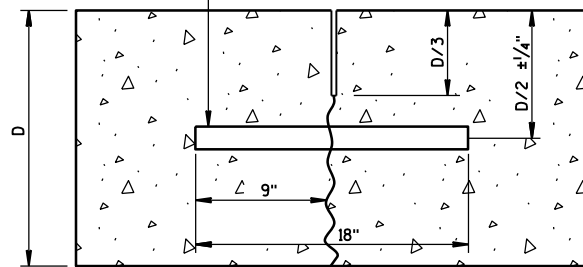


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

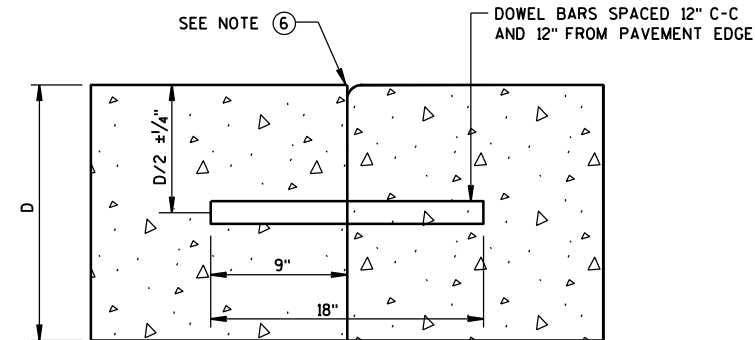
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



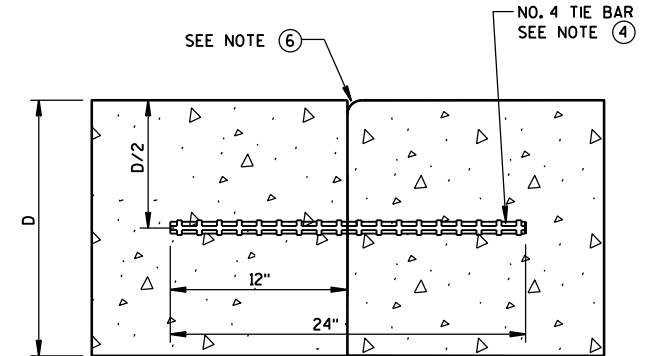
DOWELED-TRANSVERSE

CONTRACTION JOINTS

SEE NOTE ②

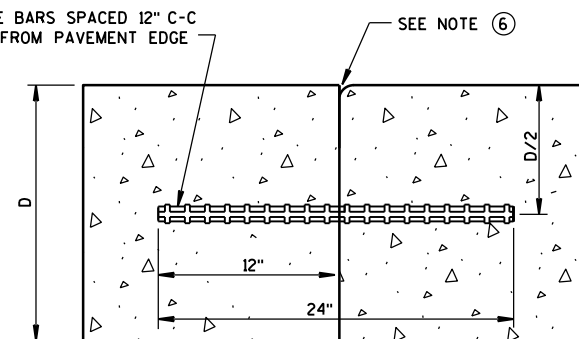


DOWELED TRANSVERSE

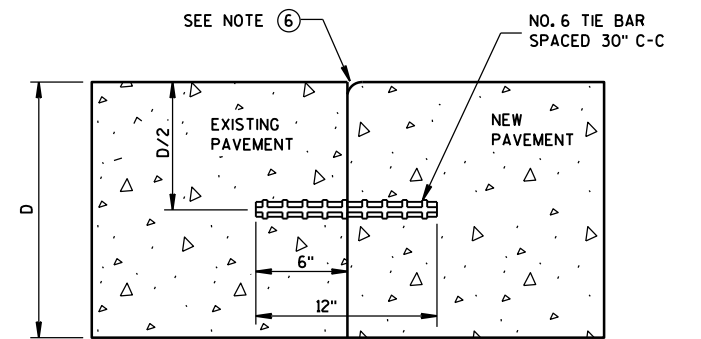


TIED LONGITUDINAL

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



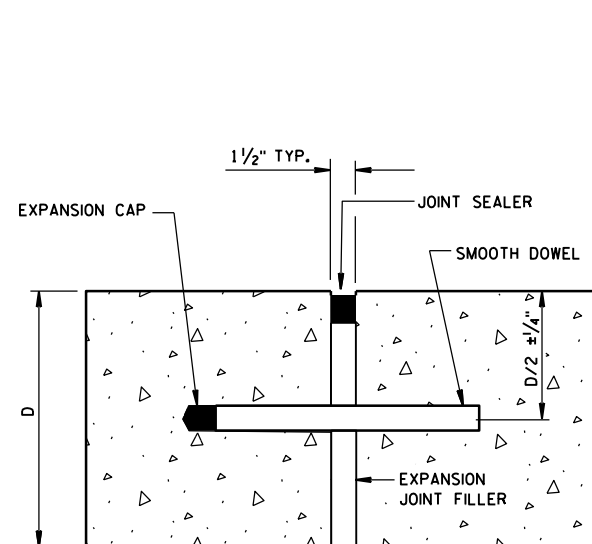
TIED TRANSVERSE
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



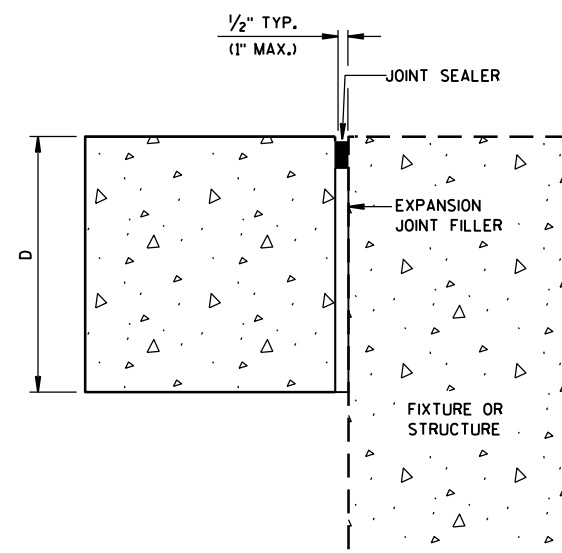
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE
SEE NOTE ①

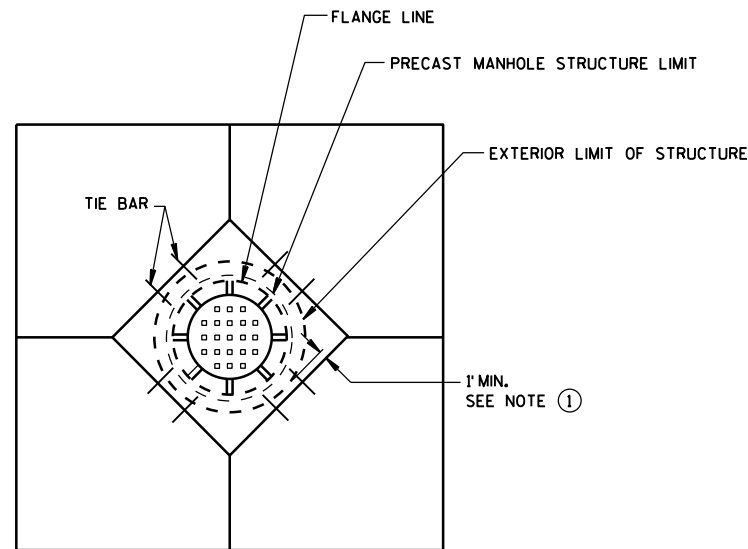


UNTIED-LONGITUDINAL

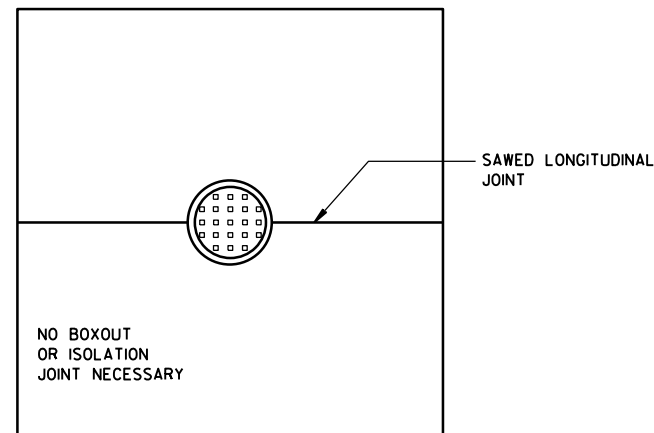
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

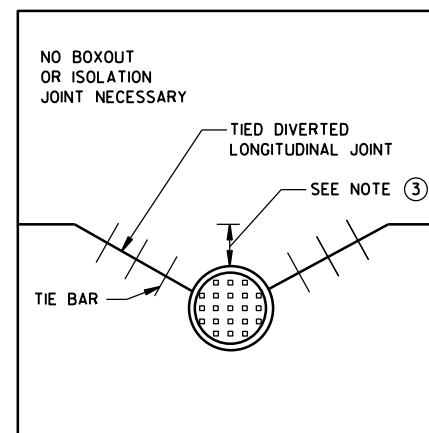
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 113



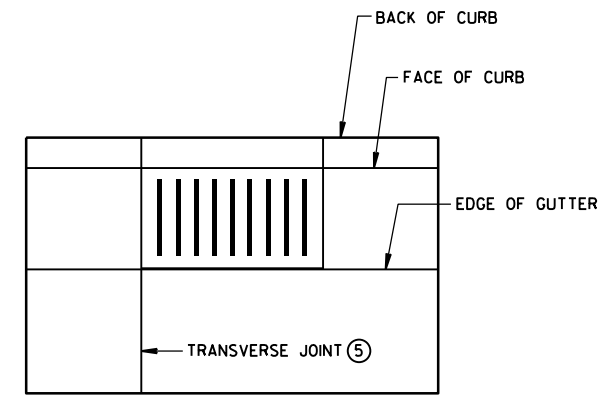
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



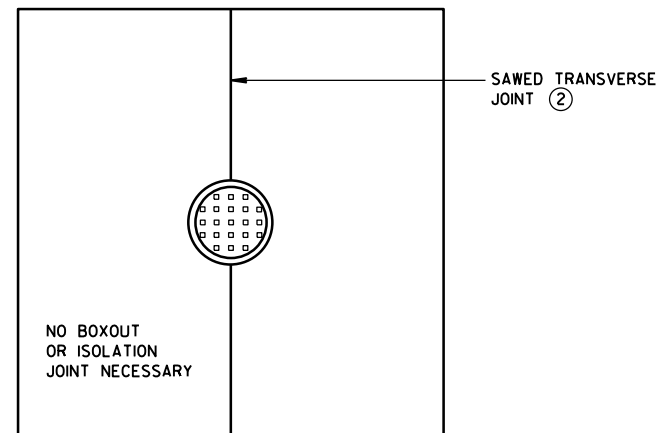
**MANHOLE WITH
LONGITUDINAL JOINT**



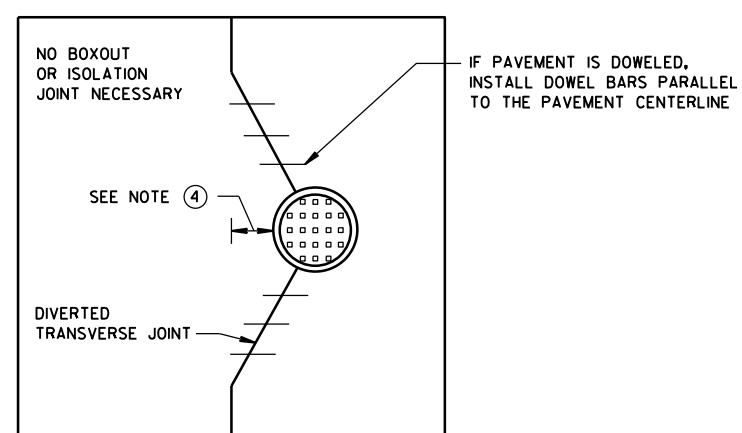
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**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

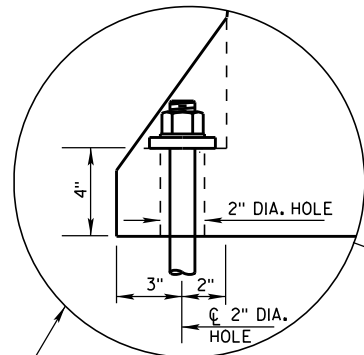
APPROVED

5-3-2013
DATE

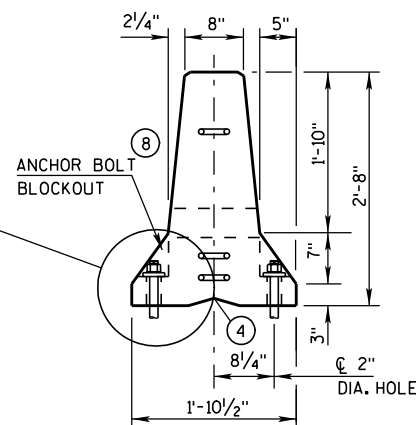
/S/ Deb Bischoff
PAVEMENT POLICY & DE 114

NEER

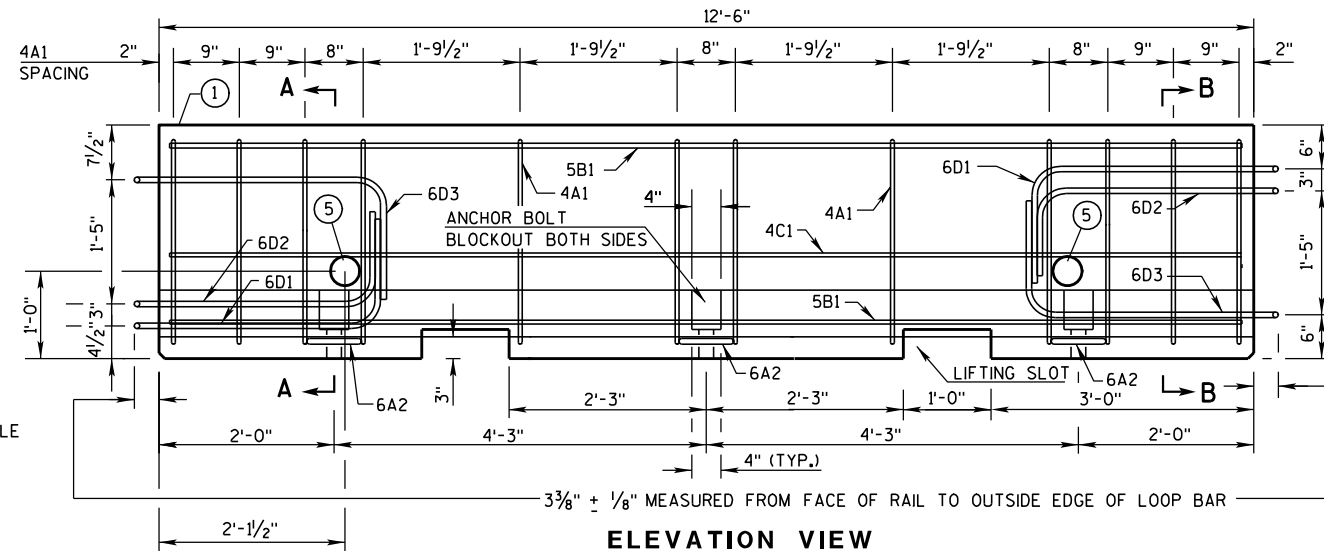
FHWA



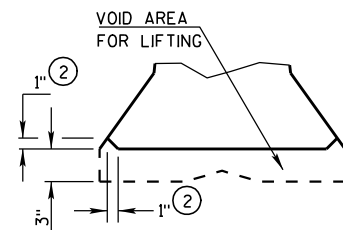
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



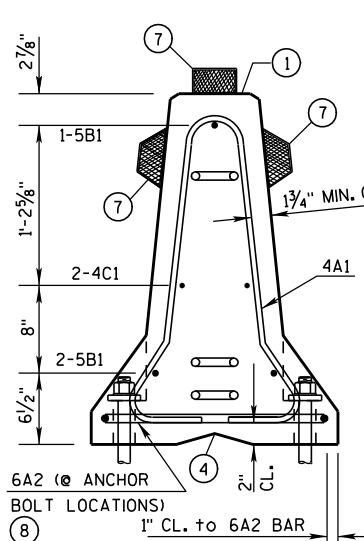
END VIEW



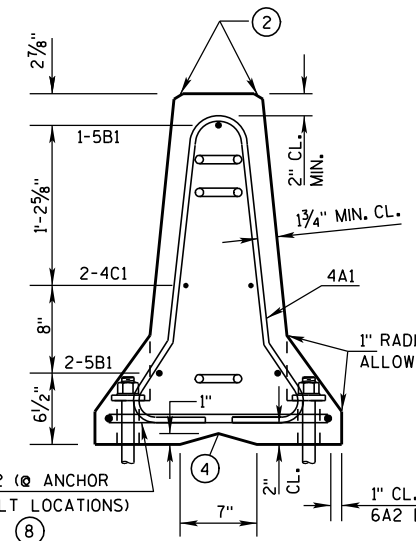
ELEVATION VIEW



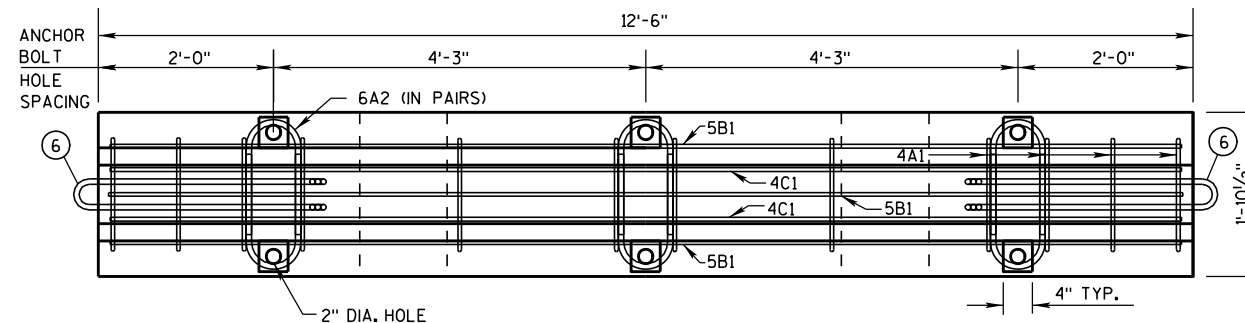
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

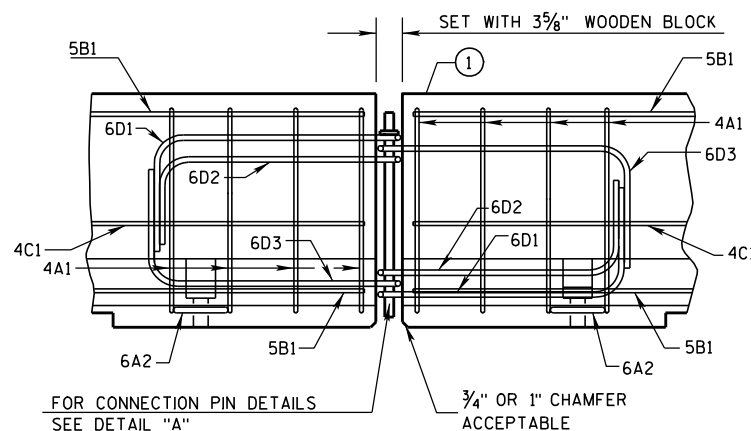


SECTION B-B
(STIRRUP PLACEMENT)

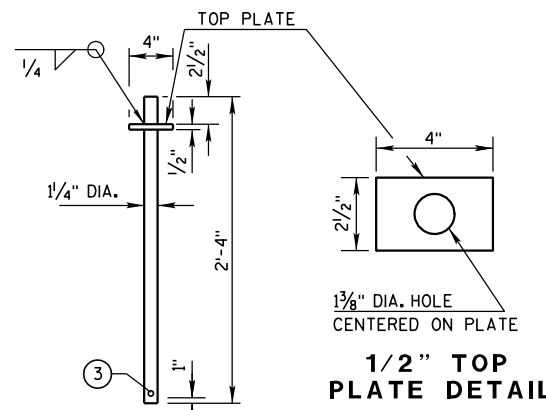


PLAN VIEW

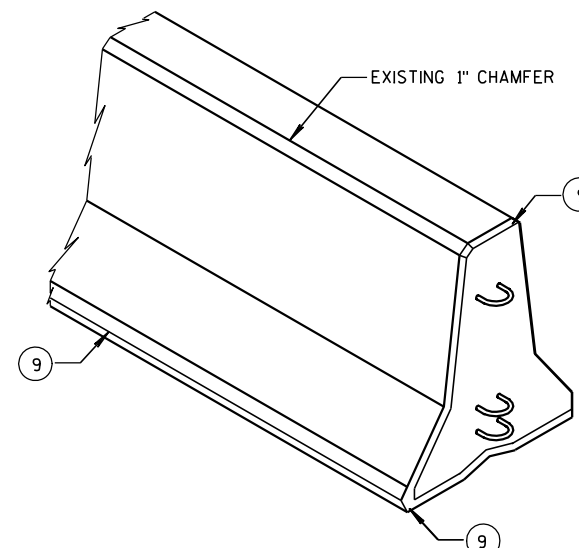
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(g) THRU 14B7-13(h).

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

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

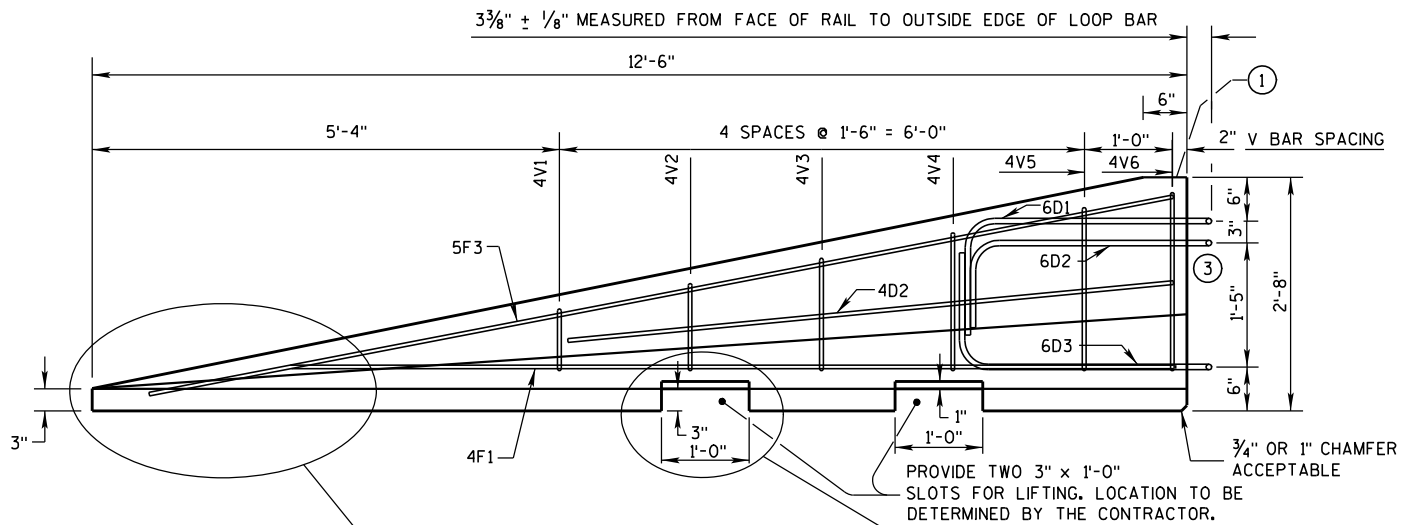
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

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

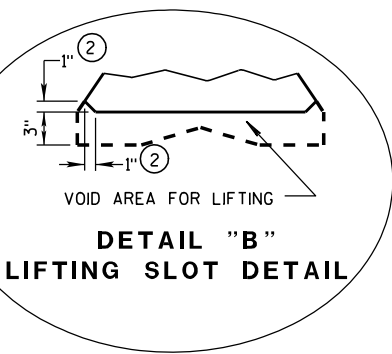
- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- SEE SHEET D FOR ANCHORING CRITERIA.
- 1" CHAMFER OPTIONAL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

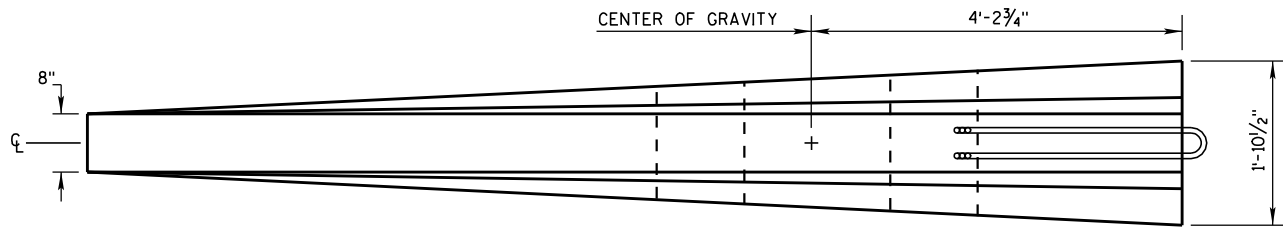
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



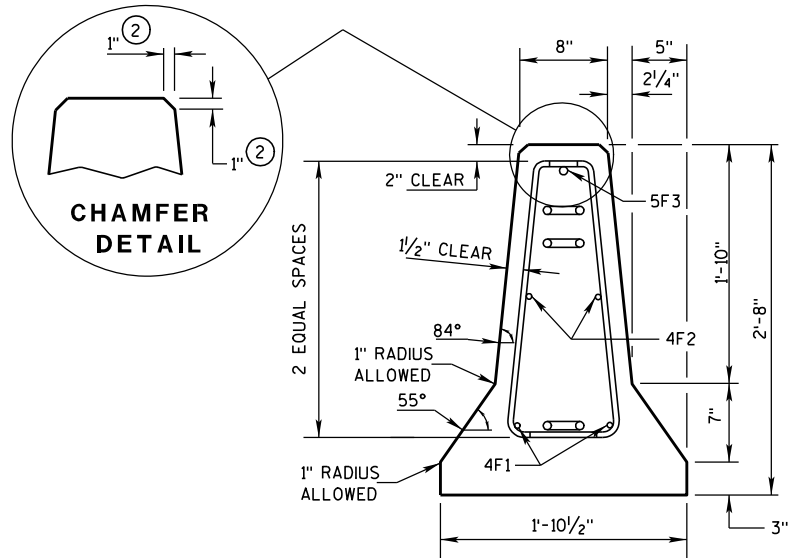
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



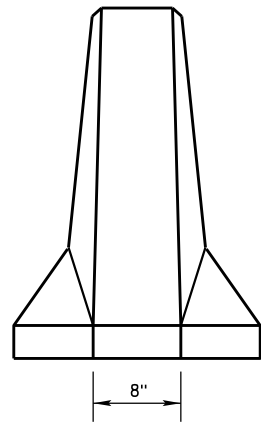
DETAIL "B"
LIFTING SLOT DETAIL



PLAN VIEW

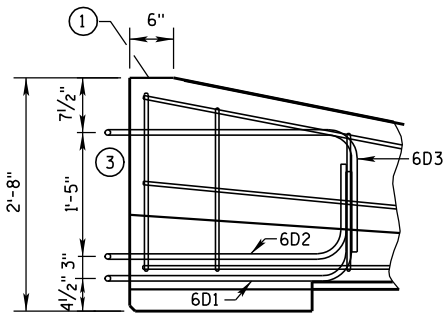


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION

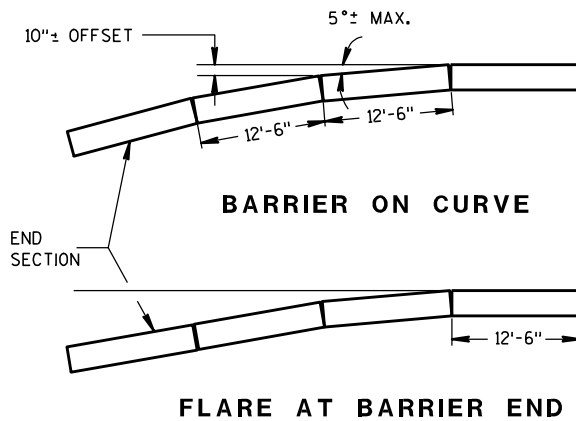


SIDE ELEVATION

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

GENERAL NOTES

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



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

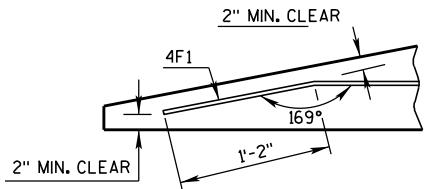
**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

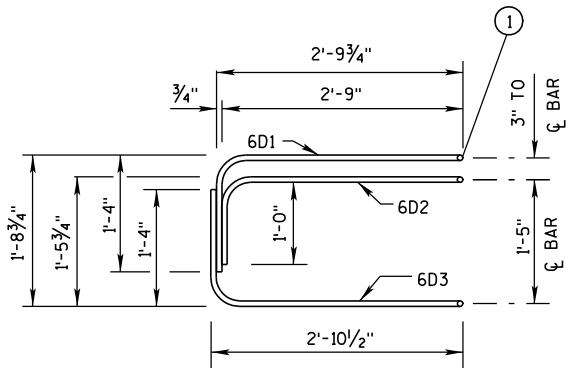
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

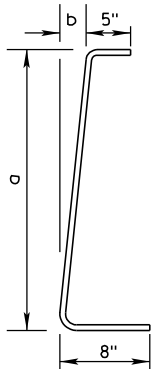
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

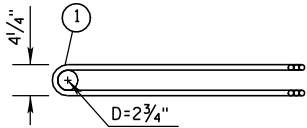
GENERAL NOTES

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

BARRIER SECTION
BILL OF MATERIALS

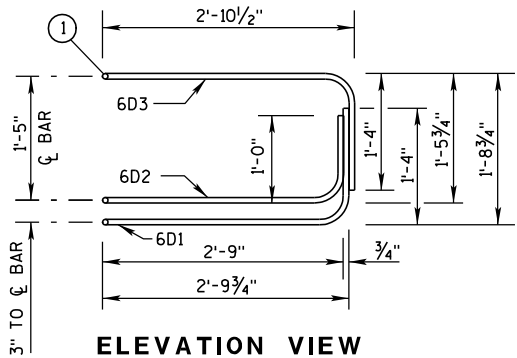
(PER 12'-6" BARRIER SECTION)

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

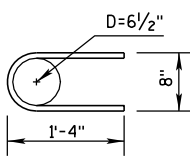


PLAN VIEW
LOOP BAR ASSEMBLY

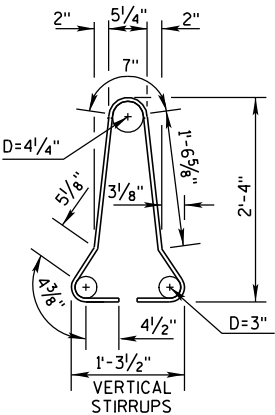
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

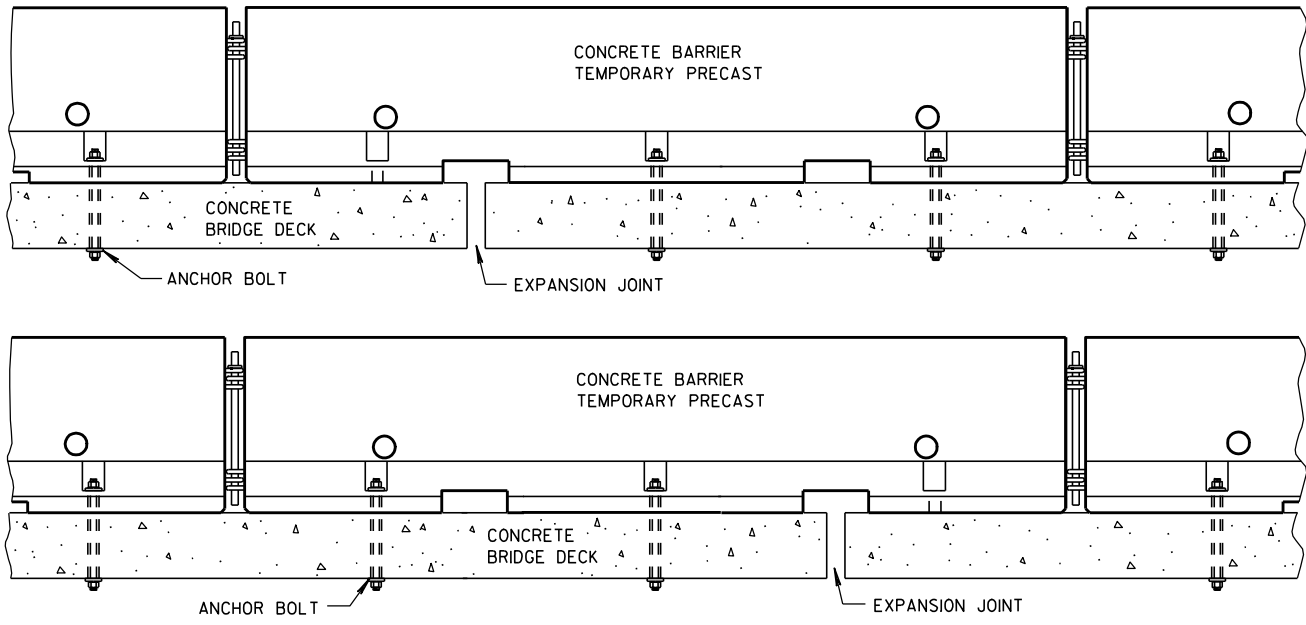


4A1

BARRIER SECTION

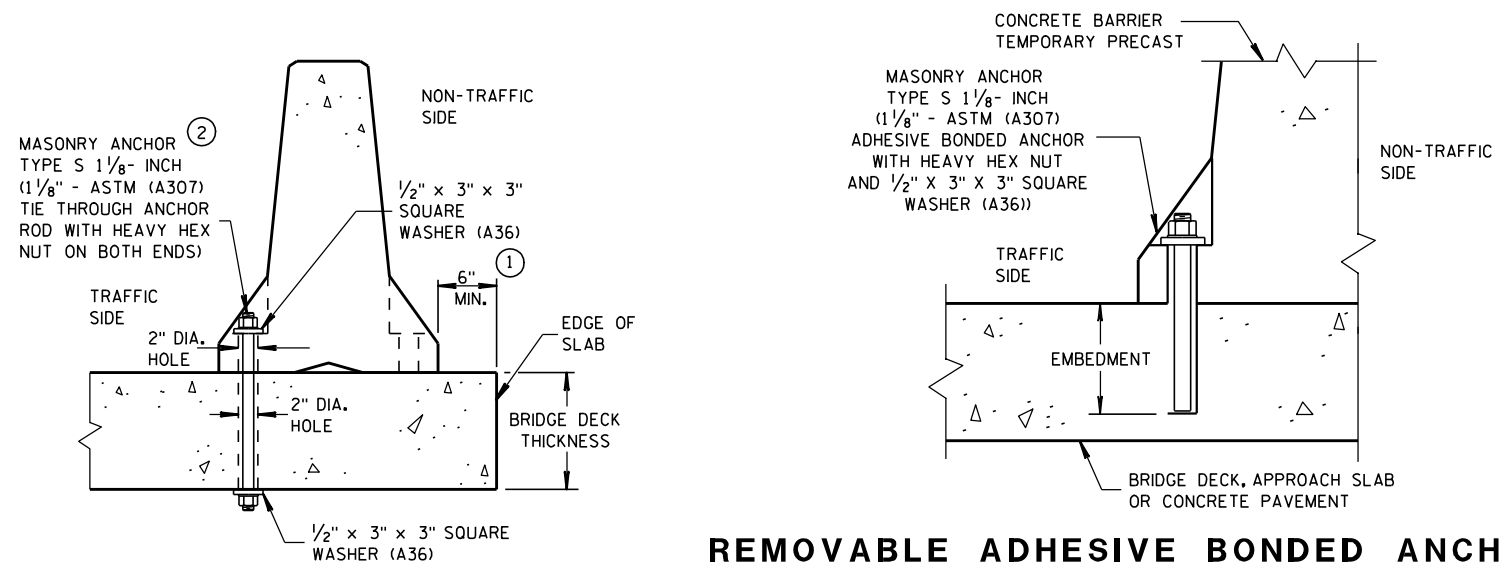
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

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TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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

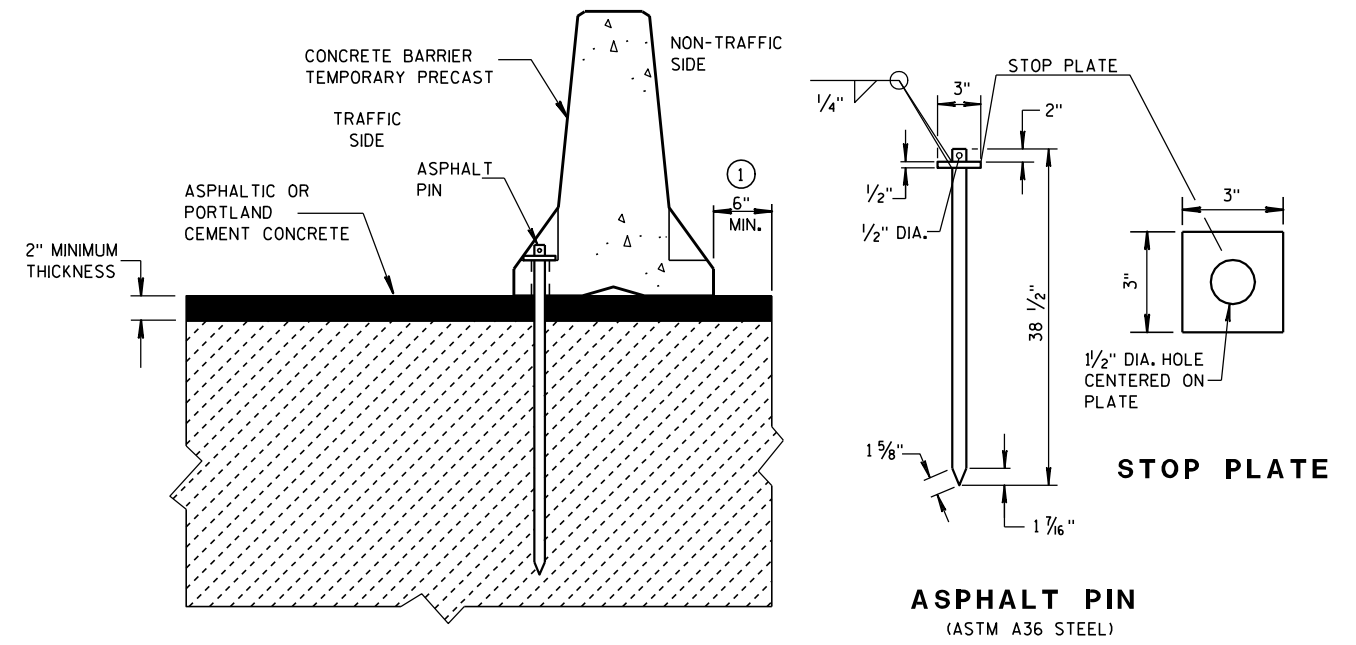


THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

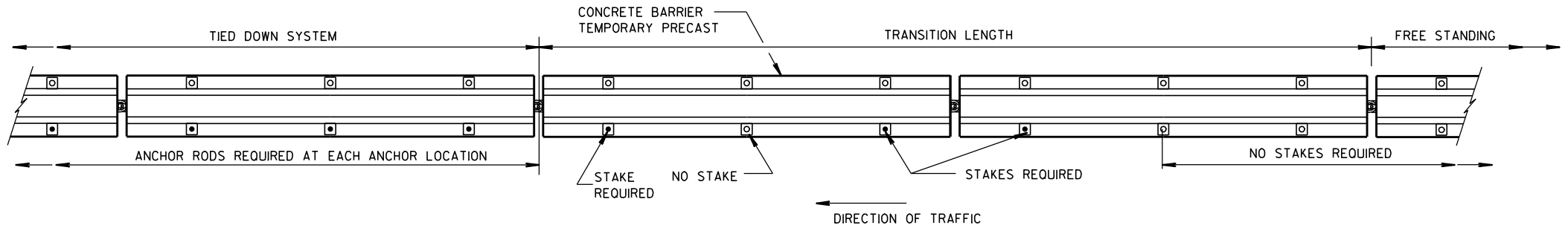
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

GENERAL NOTES

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

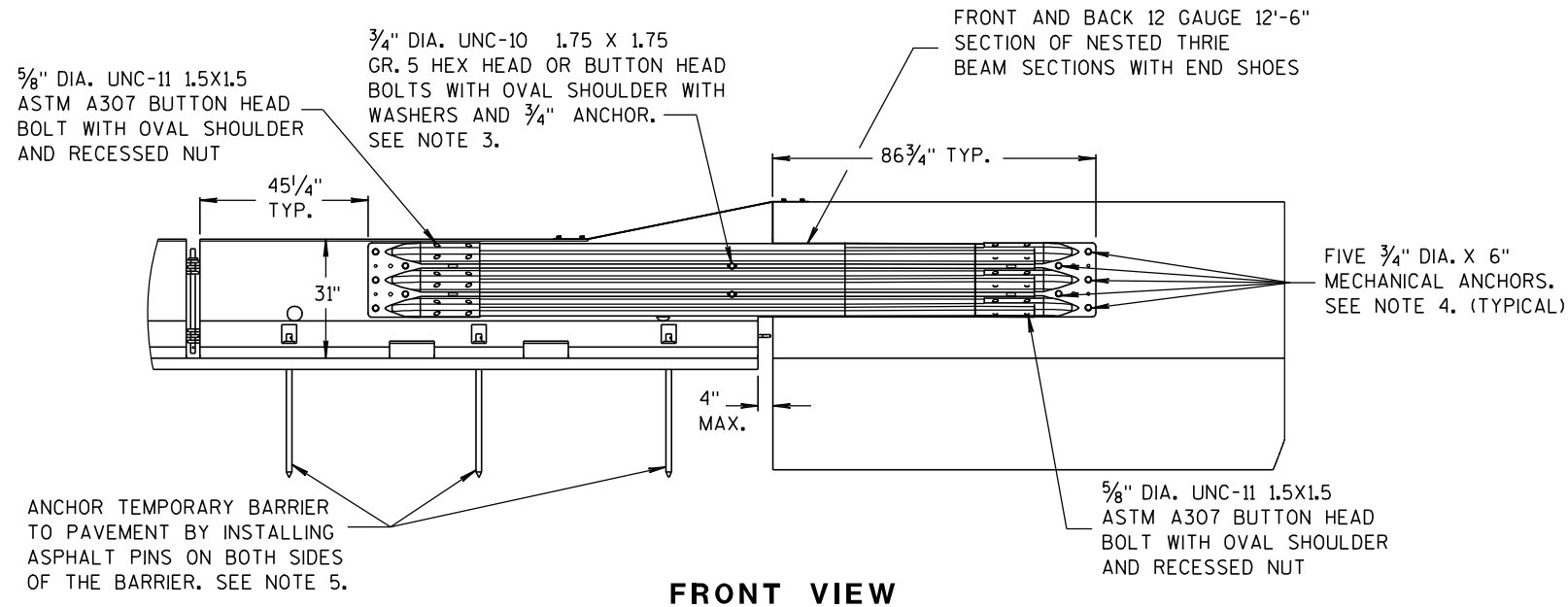
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- 2 ANCHORING IS INCIDENTAL TO CONCRETE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

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

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

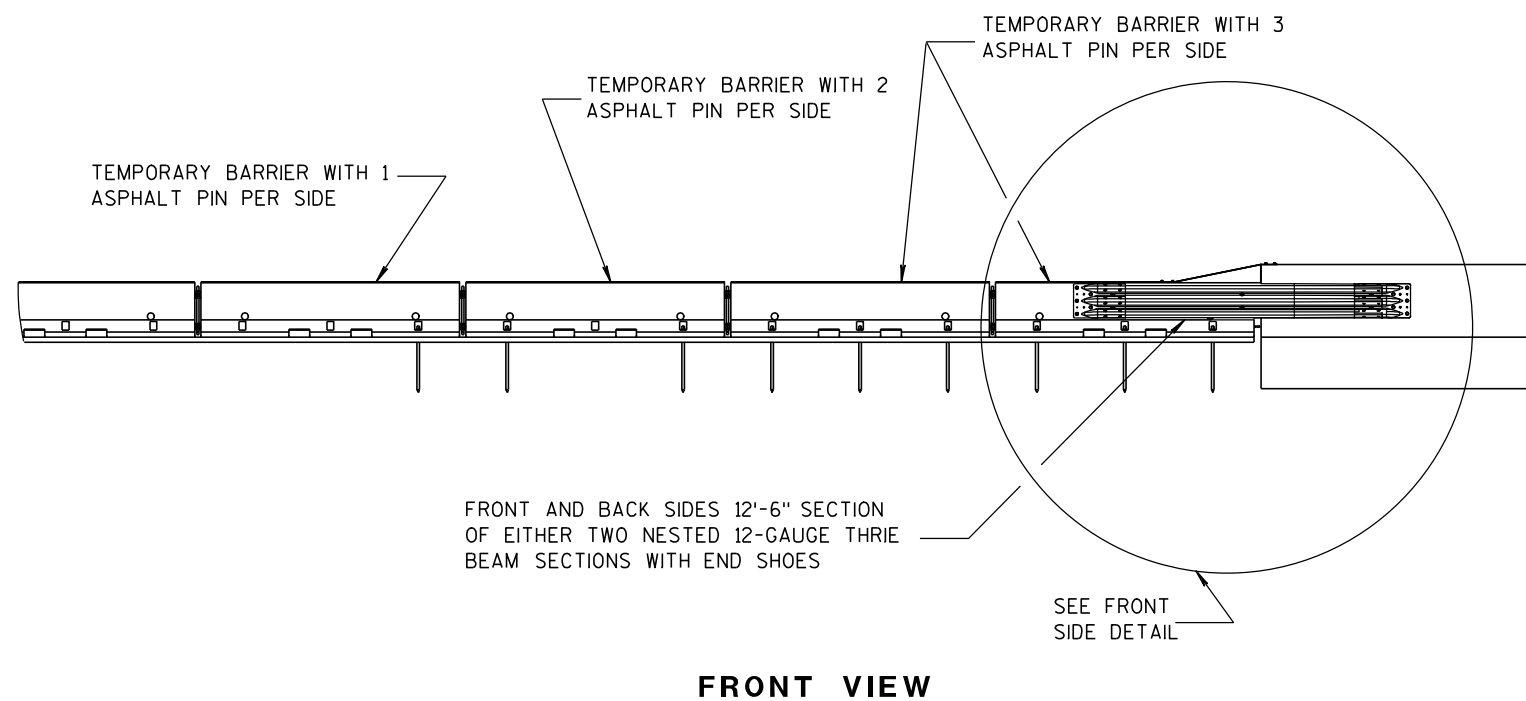
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

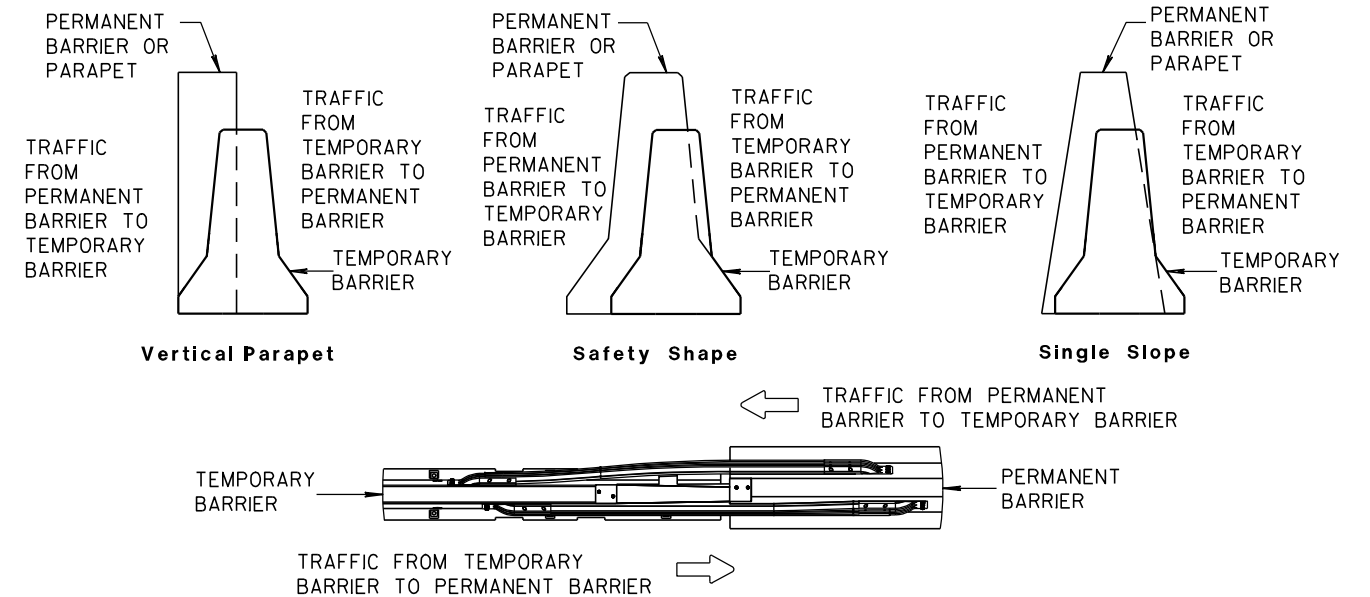


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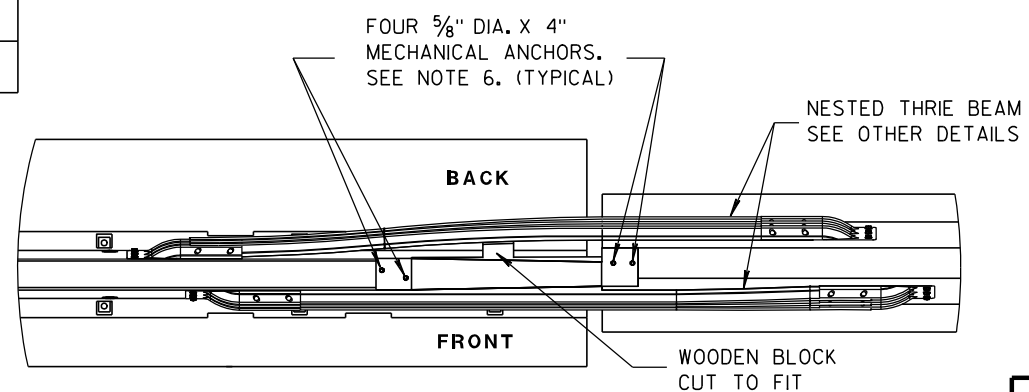
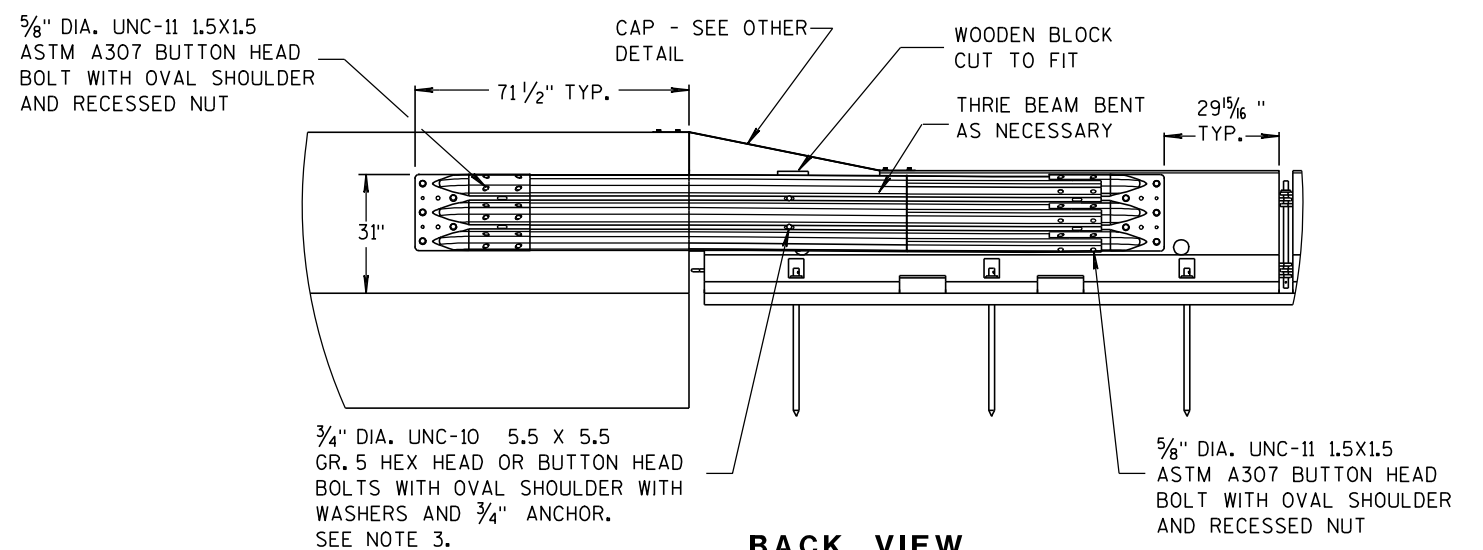
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48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



BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

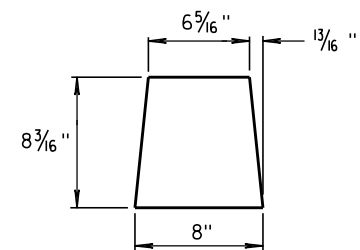


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

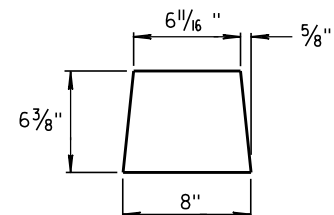


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

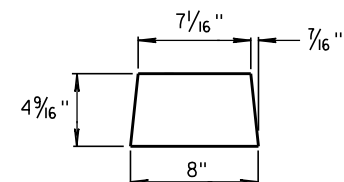
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



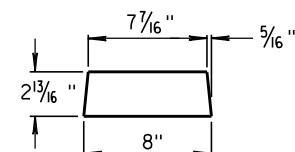
GUSSET 1



GUSSET 2

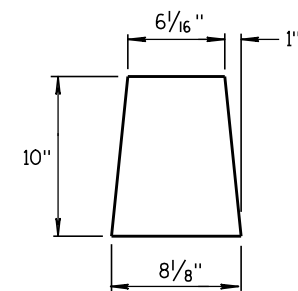


GUSSET 3

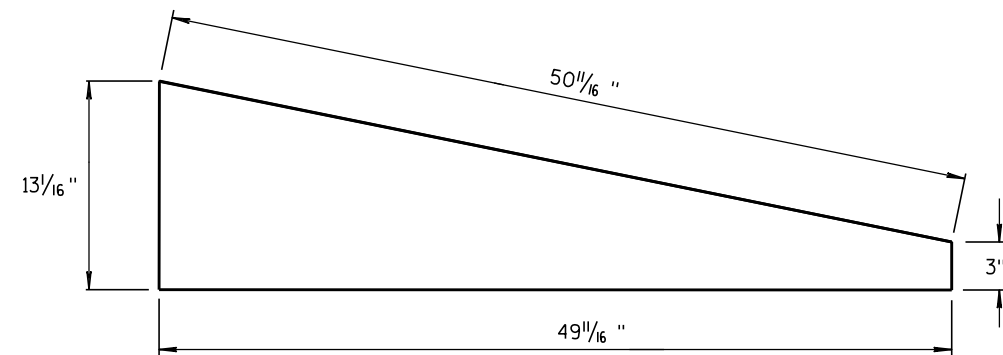


GUSSET 4

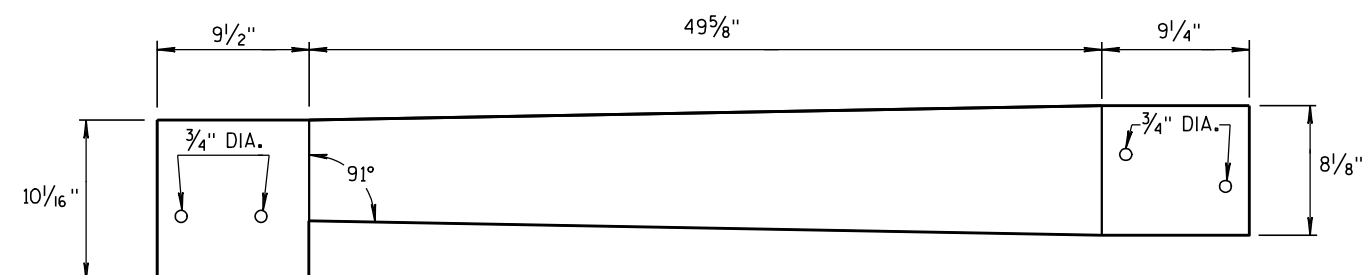
GUSSETS



END PLATE



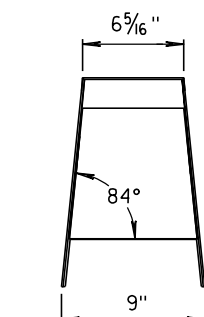
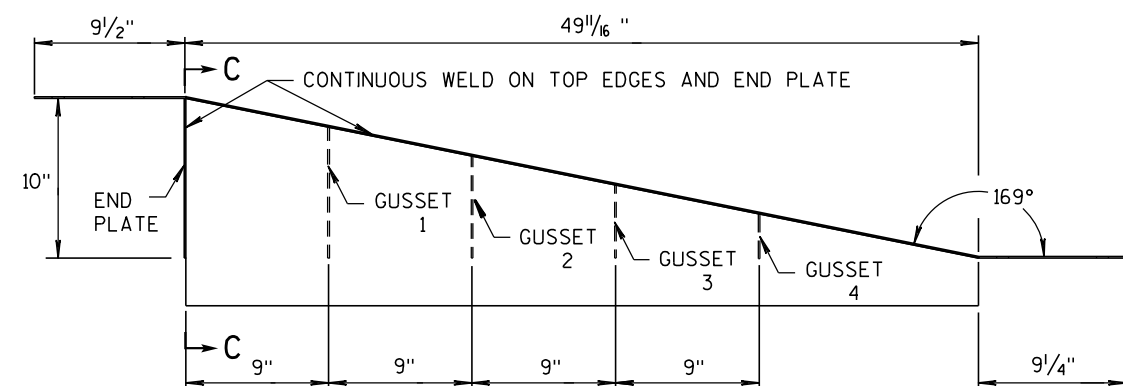
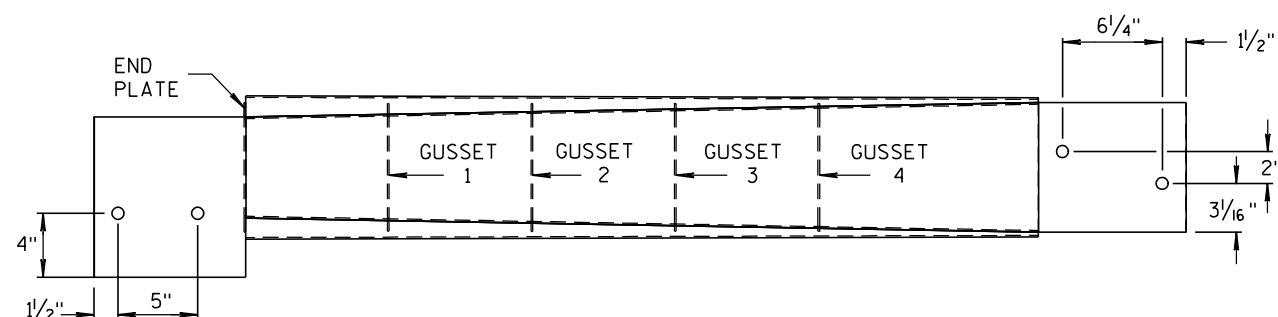
SIDE PLATE



TOP PLATE

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

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



SECTION C-C

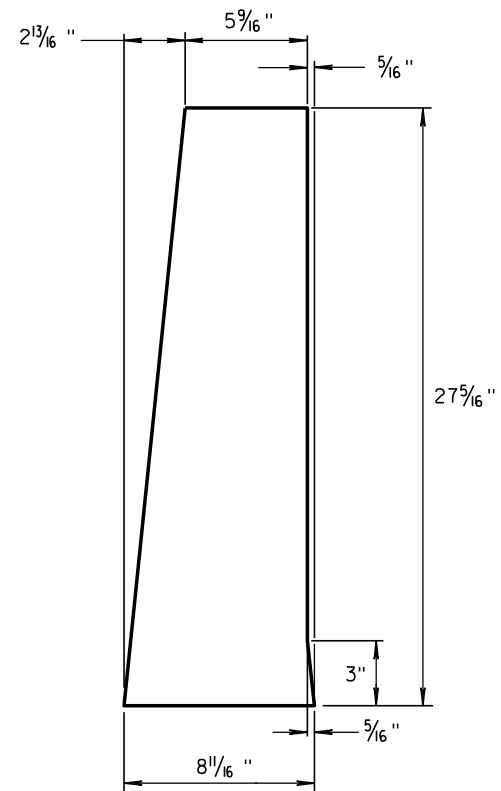
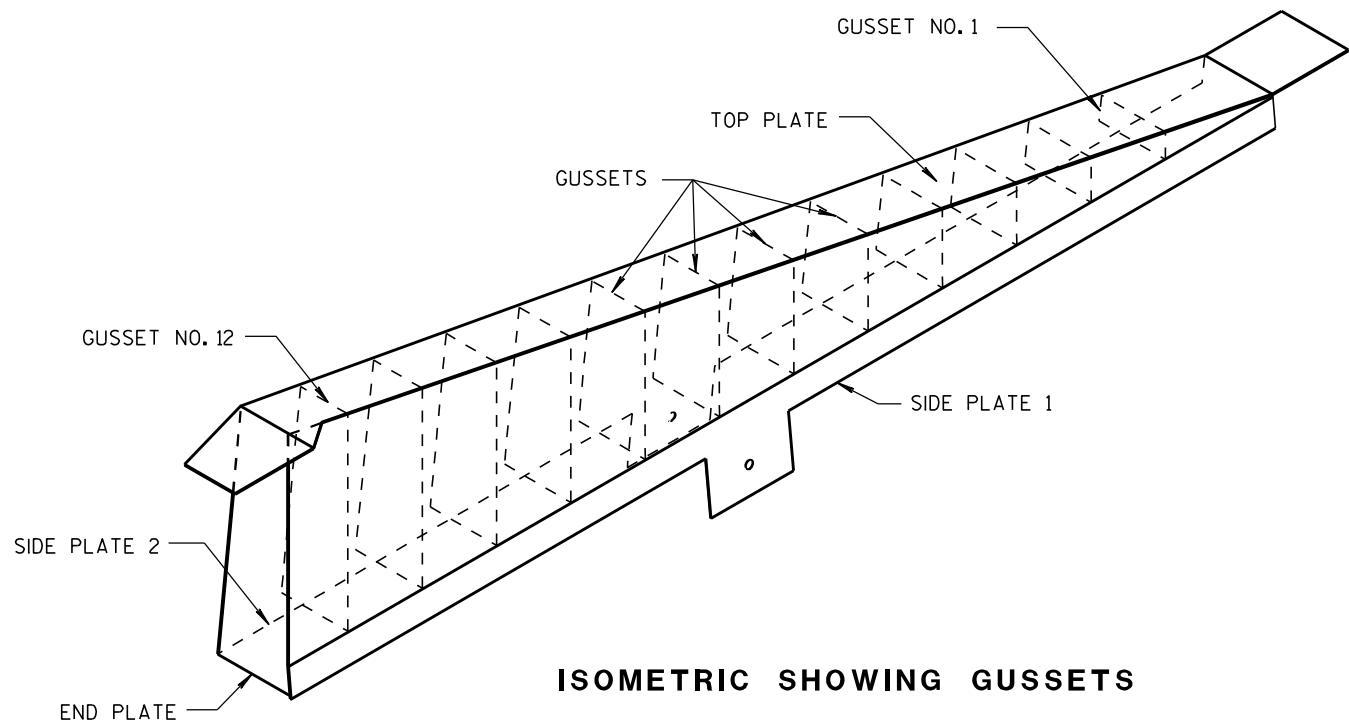
NOTES

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

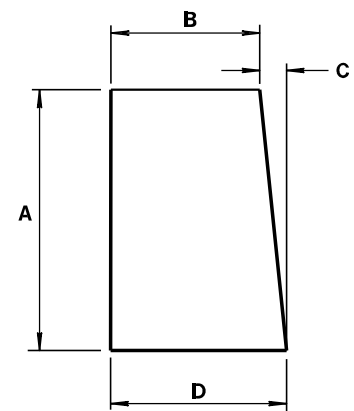
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

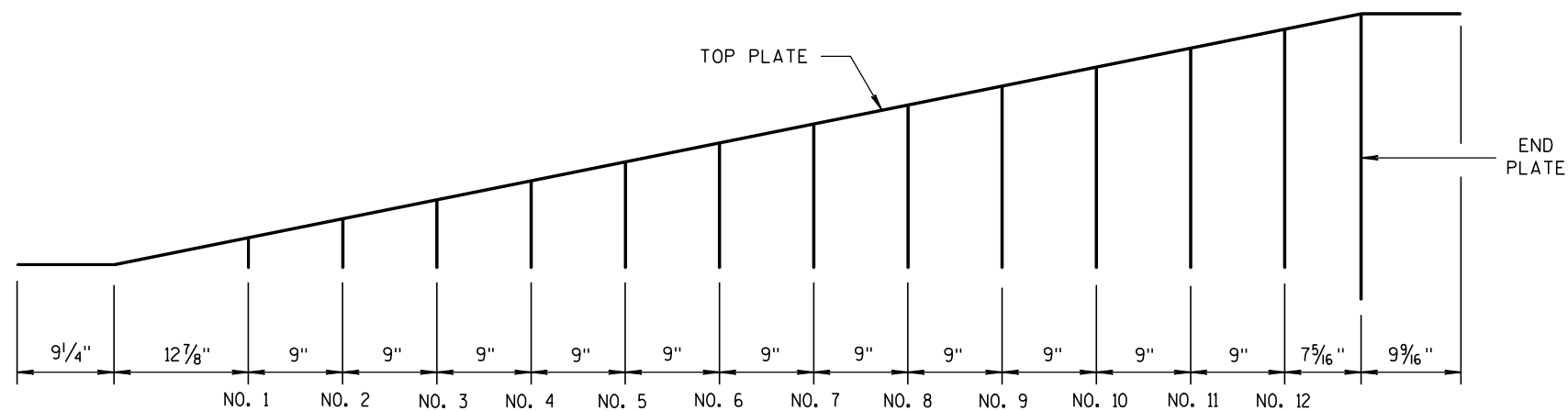


ALL GUSSETS 1/8" STEEL PLATE

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

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

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

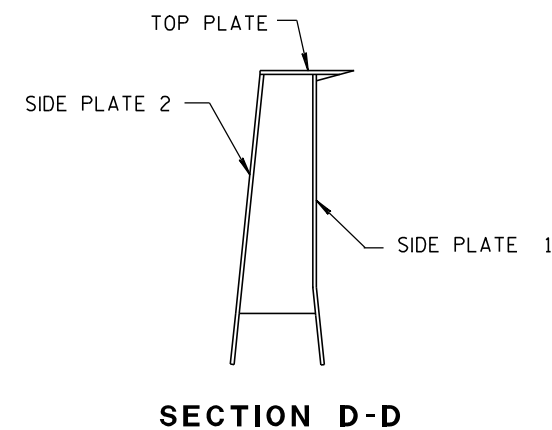
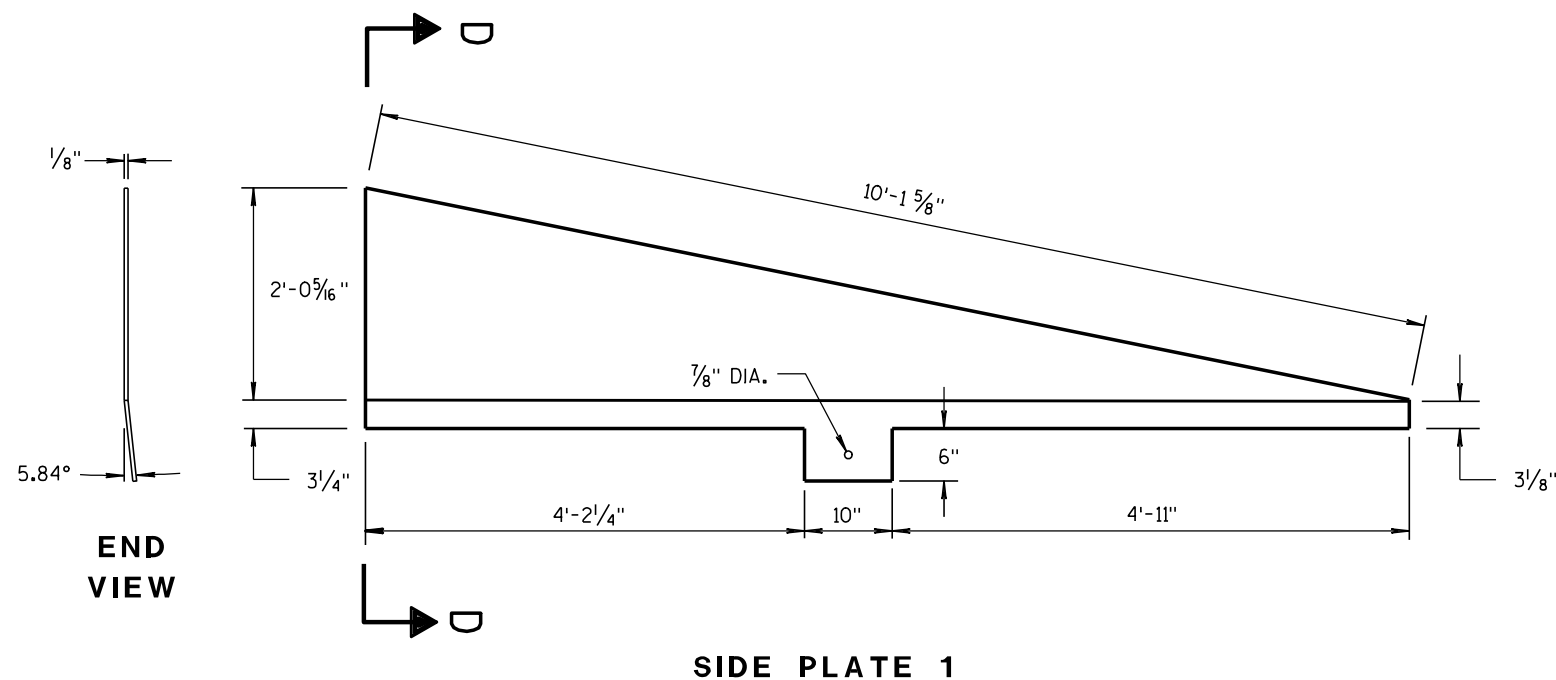
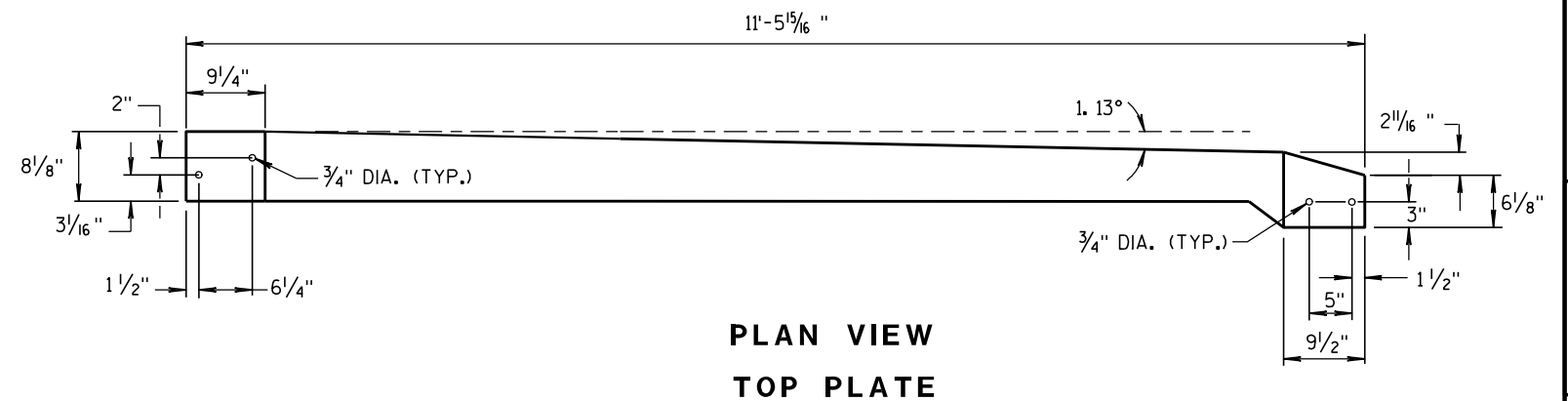
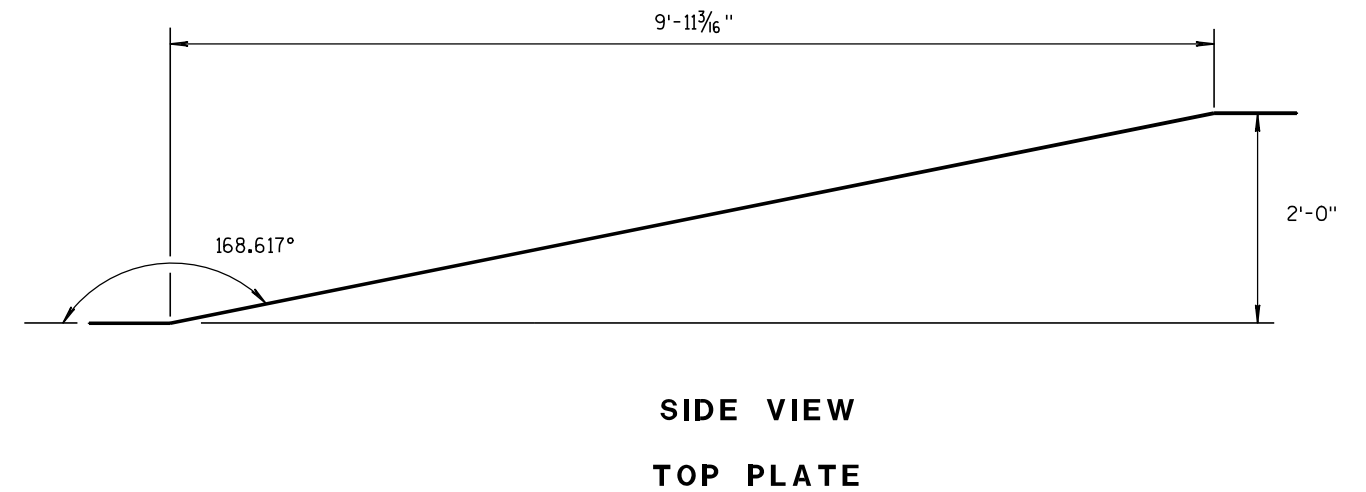
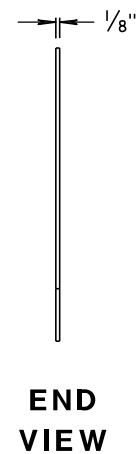
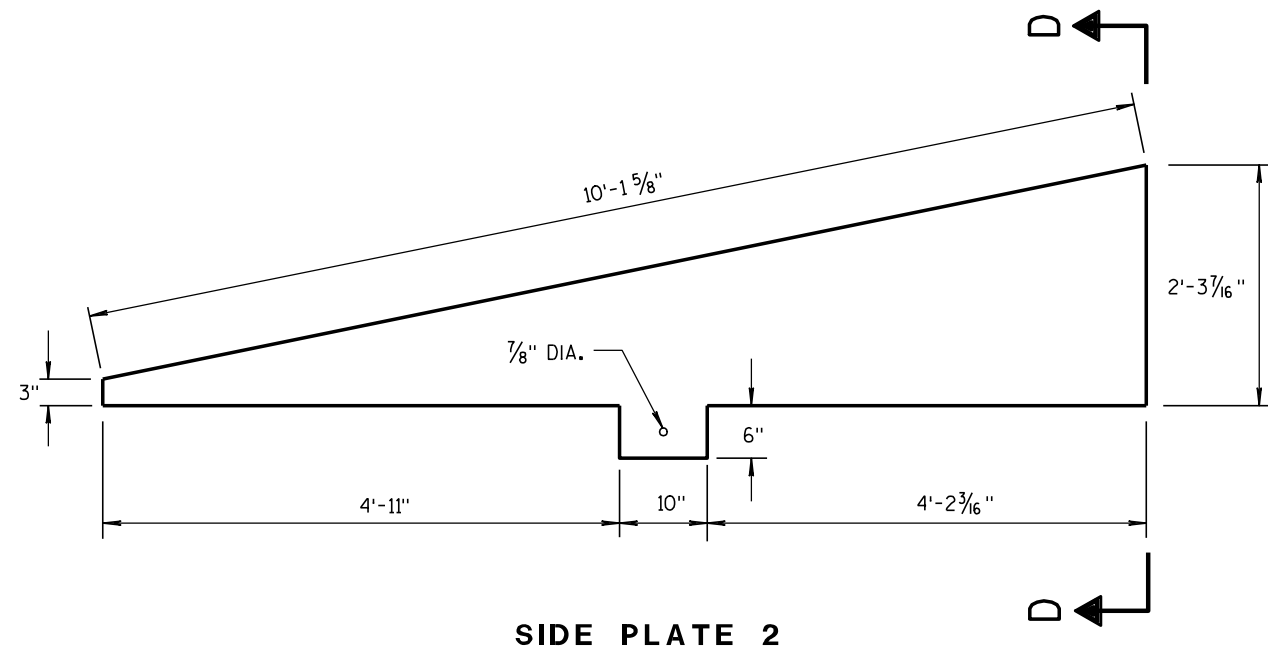


CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

121



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

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

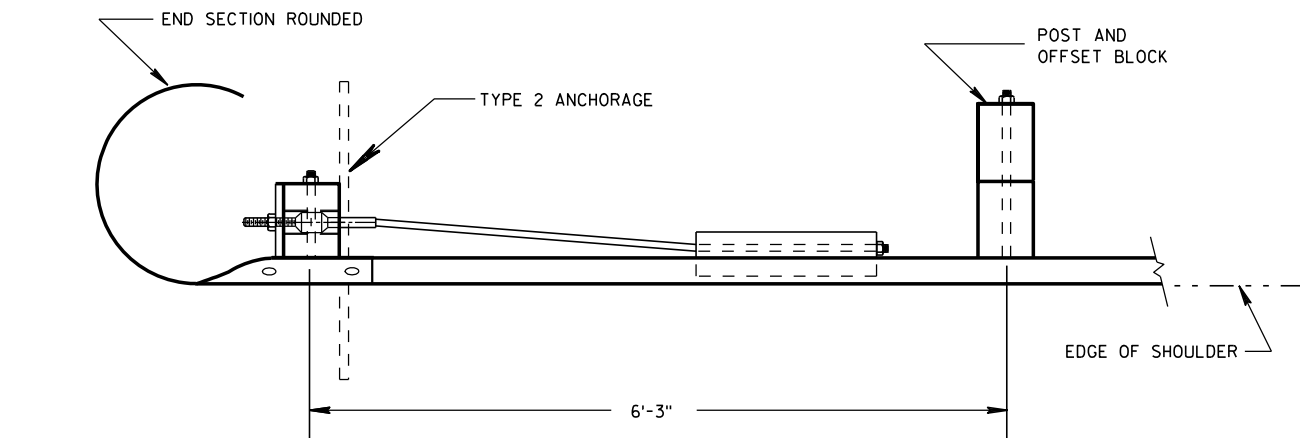
FHWA

/S/ Jerry H. 7-13h

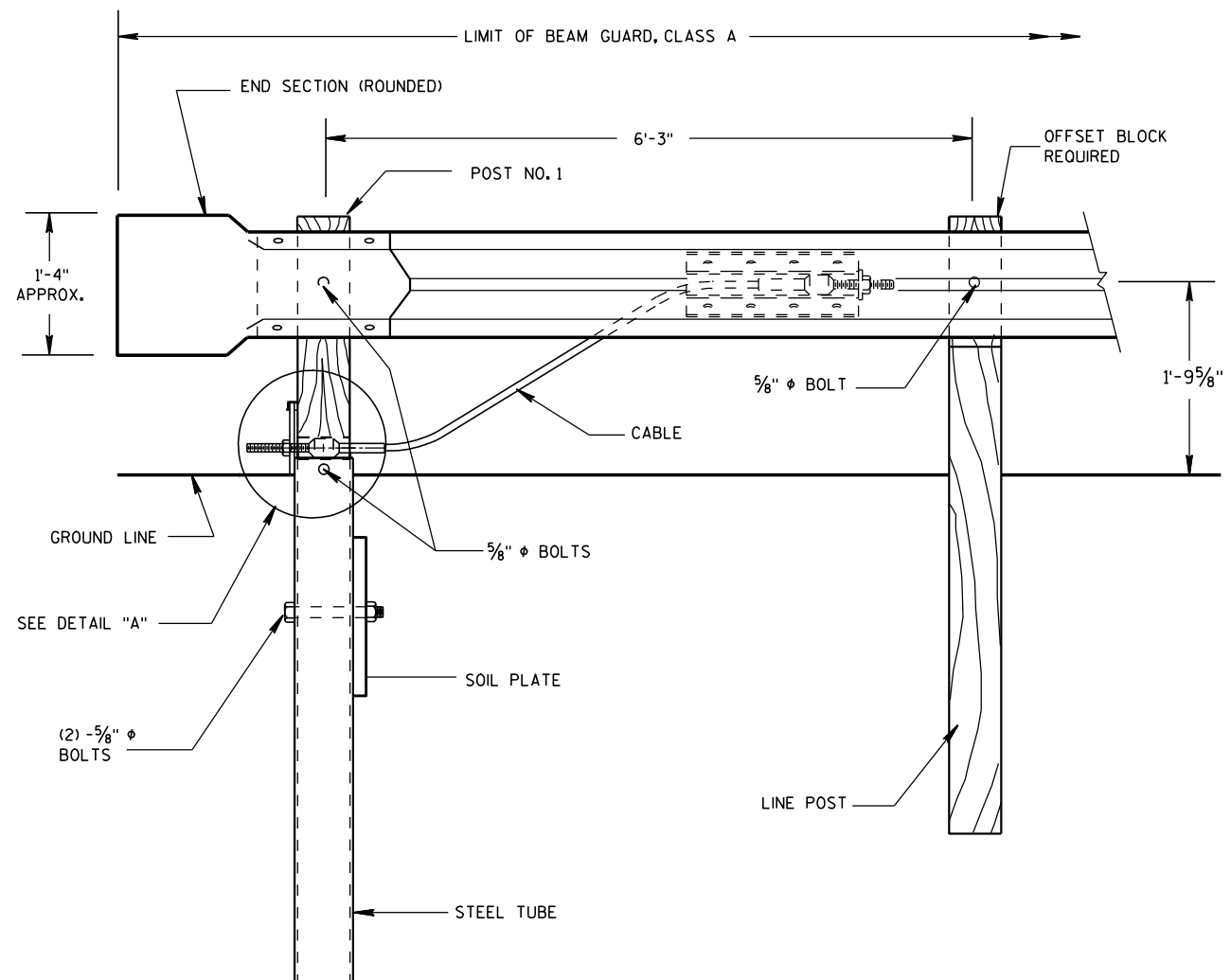
ROADWAY STANDARD 122

ENGINEER

ENT



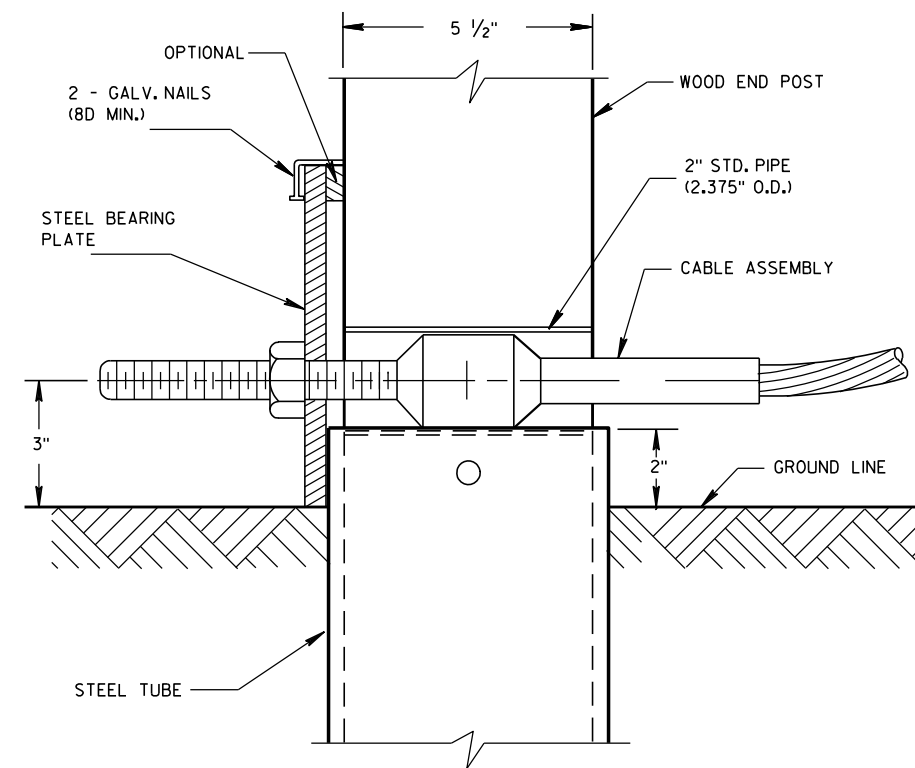
PLAN VIEW



FRONT VIEW

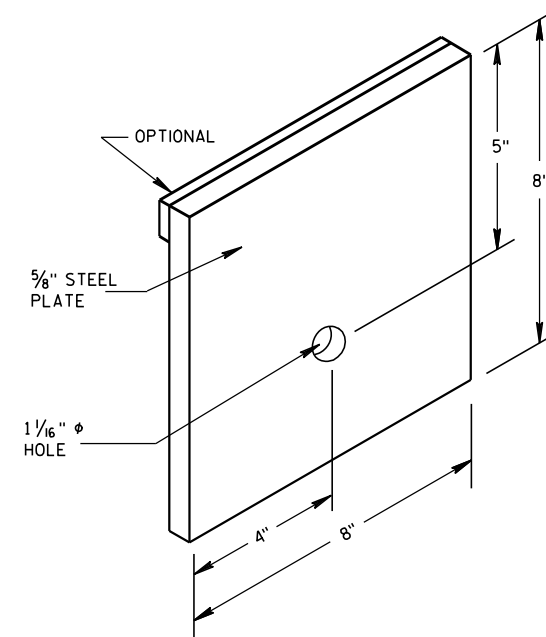
END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)



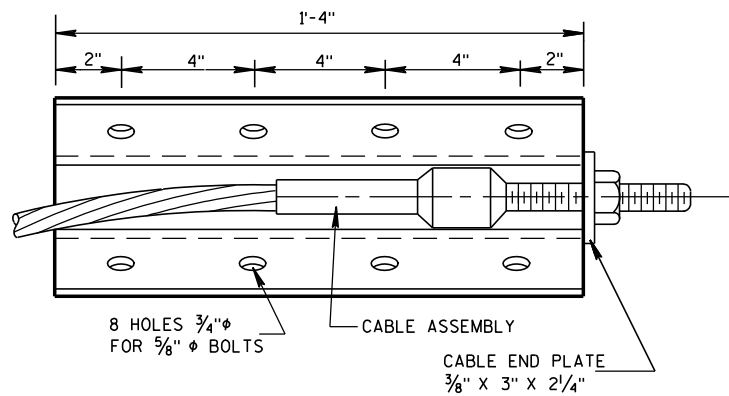
DETAIL "A"

POST NO. 1

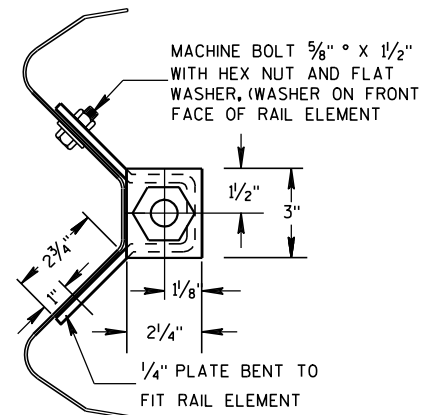


STEEL BEARING PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
123

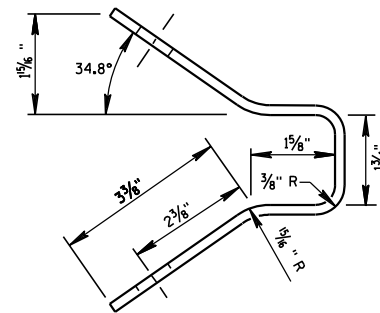


FRONT VIEW

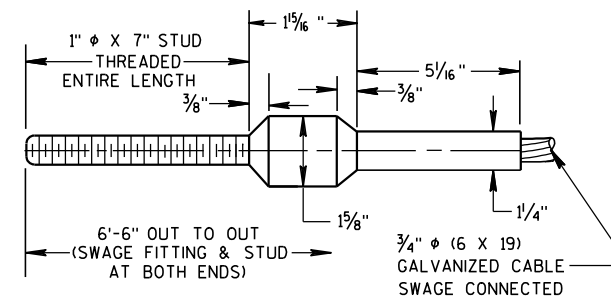


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP A MINIMUM BREAKING STRENGTH OF 40,000 LB (TIGHTEN UNTIL TAUT)

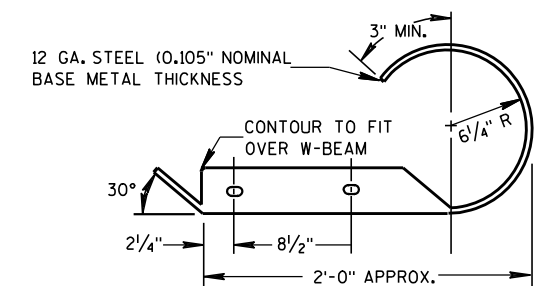
GENERAL NOTES

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

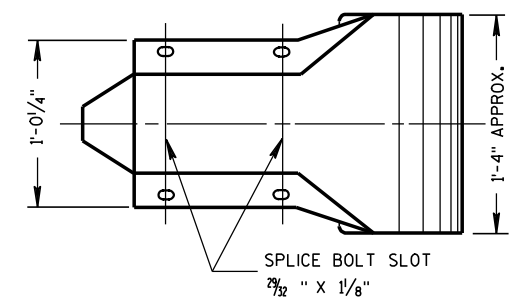
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

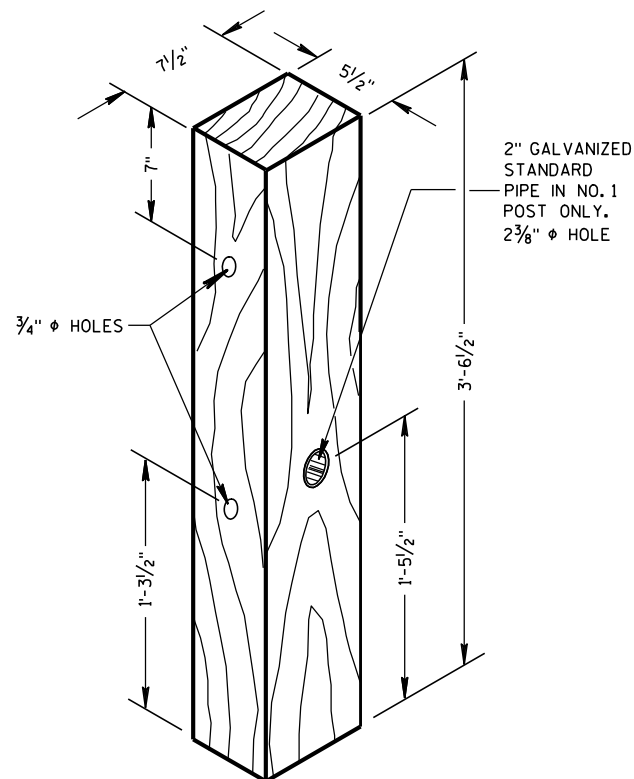
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE, WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



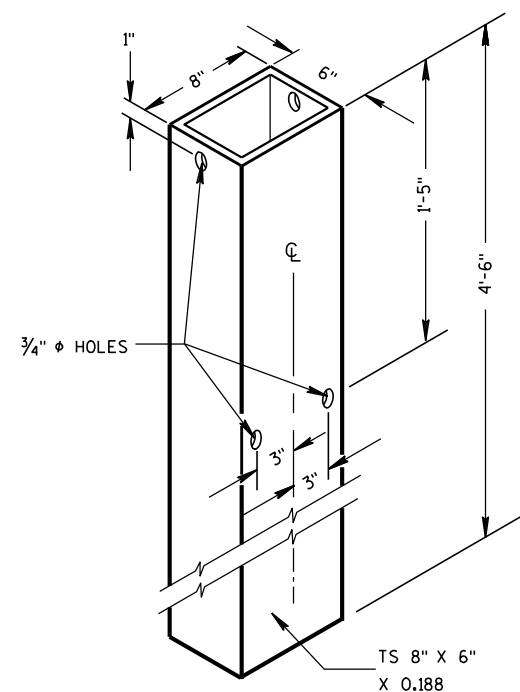
PLAN VIEW



FRONT VIEW
W BEAM END SECTION ROUNDED

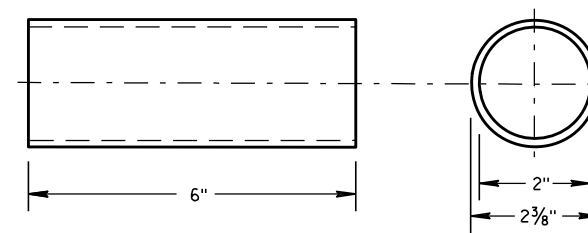


WOOD BREAKAWAY POST



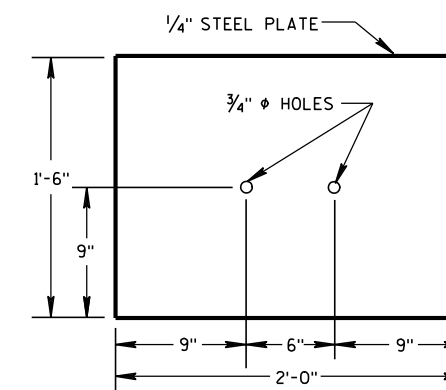
STEEL TUBE

STEEL TUBE SHALL CONFORM TO REQUIREMENTS OF ASTM A500



BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/21/2007

DATE

FHWA

/S/ Jerry H. 7

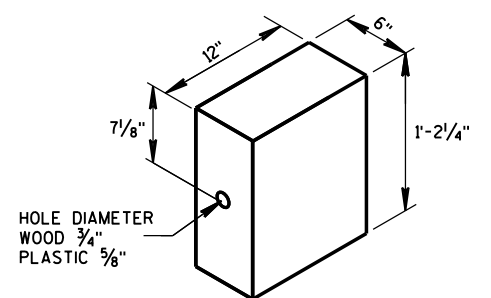
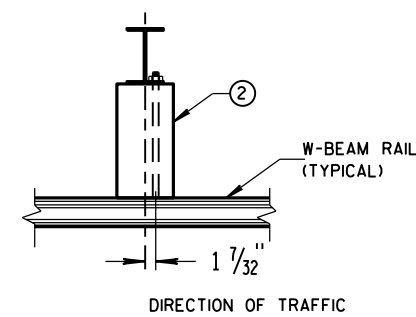
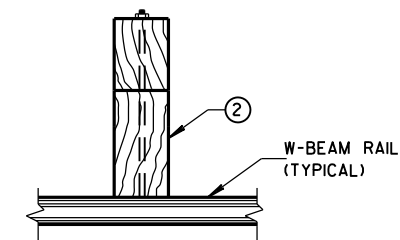
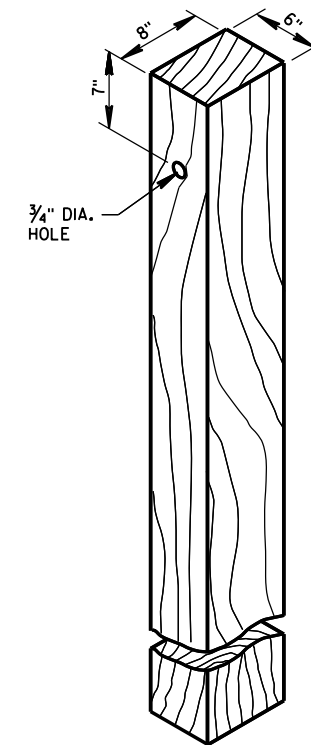
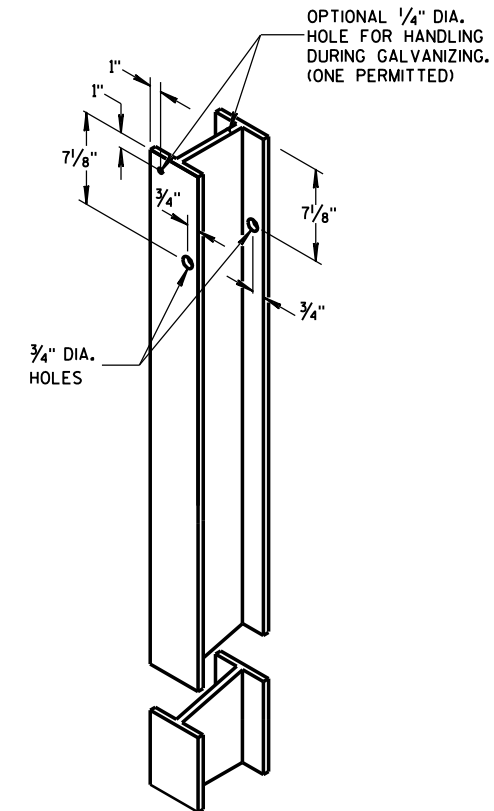
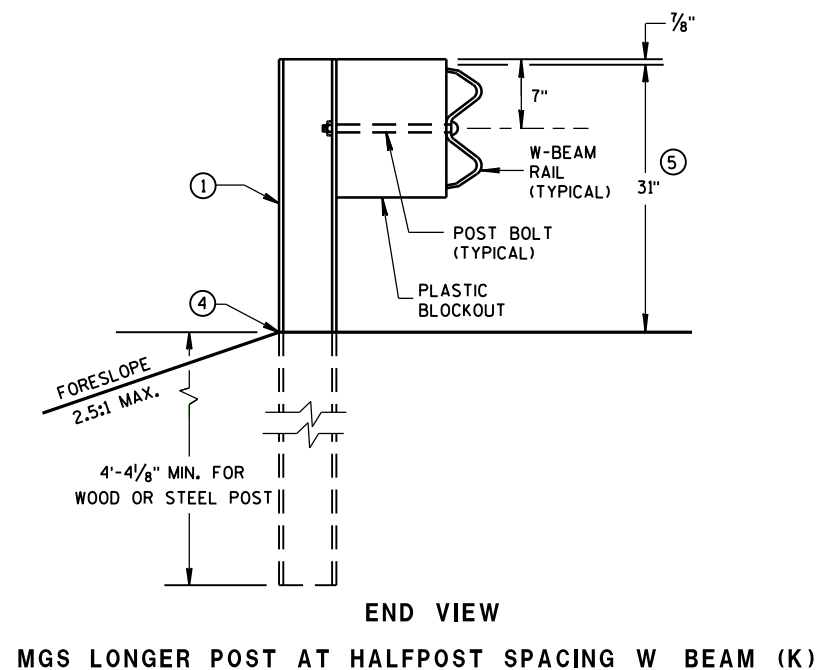
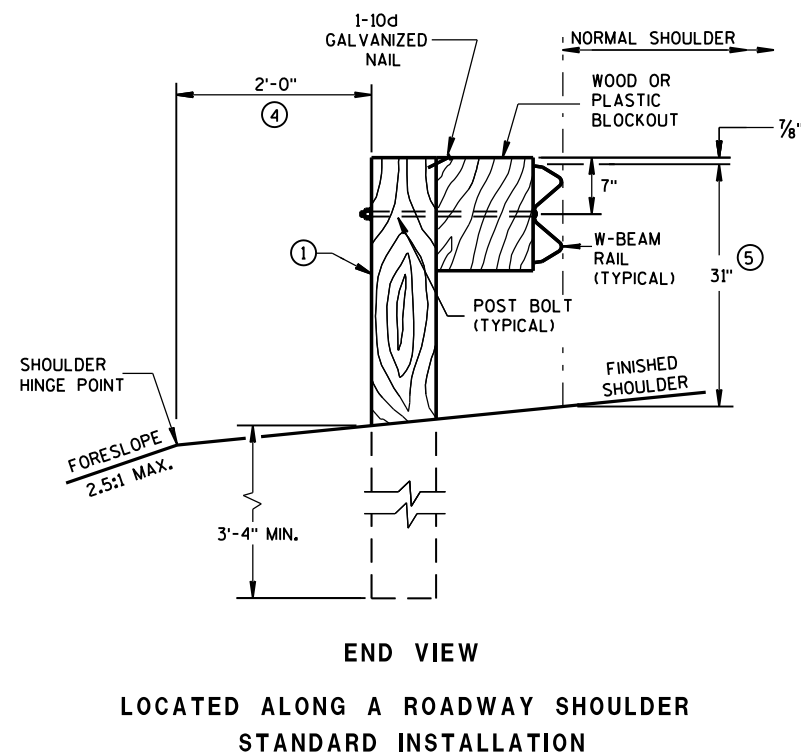
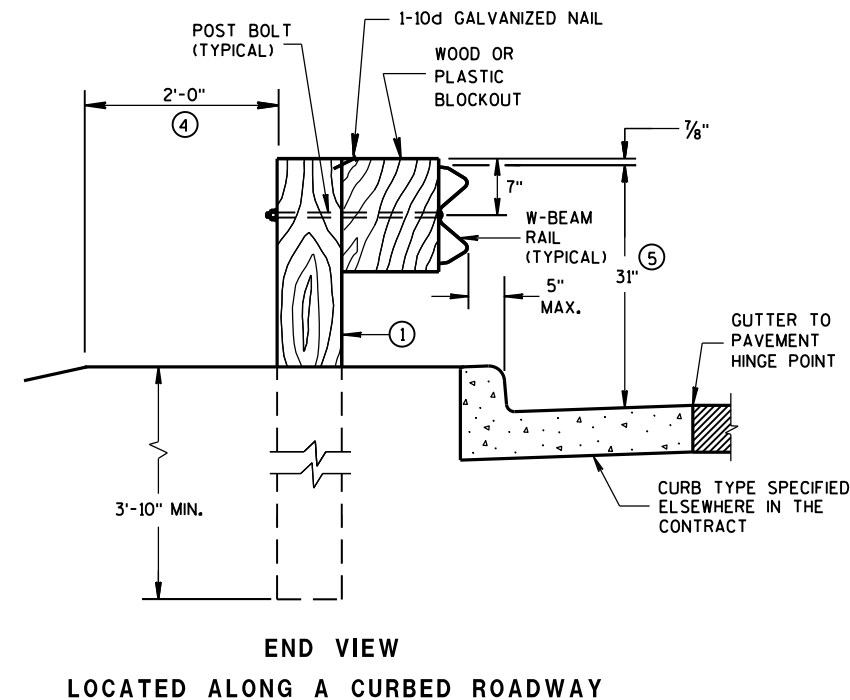
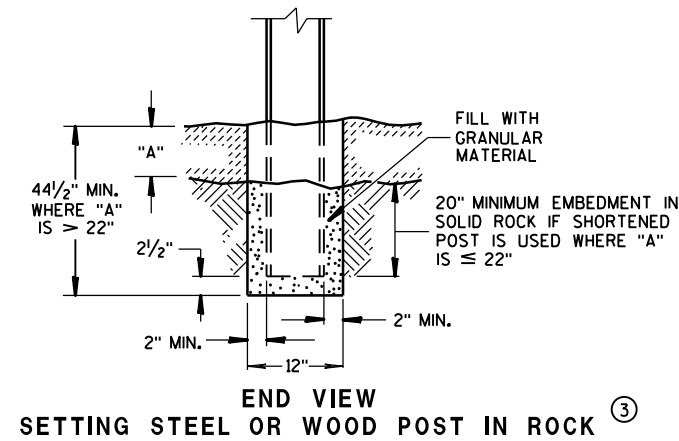
ROADWAY STANDARDS 124

ENGINEER

ENT

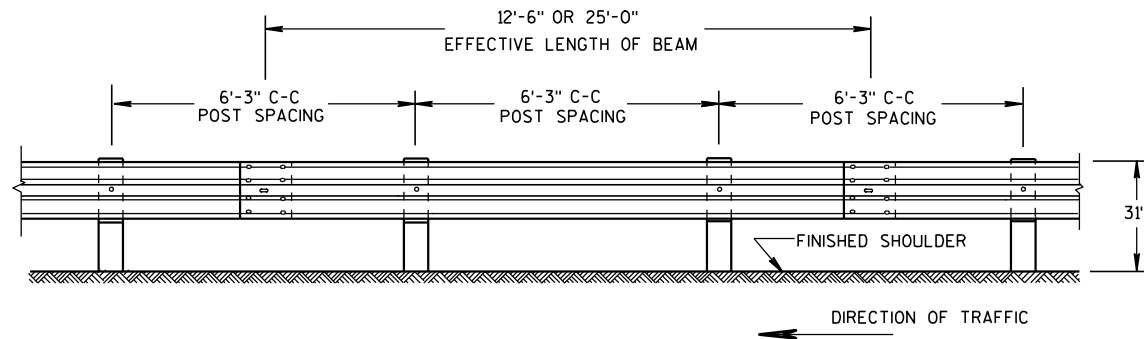
S.D.D. 14 B 42-2a

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

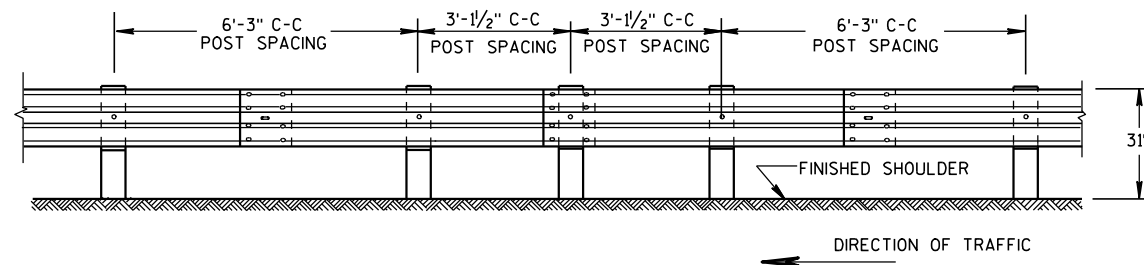


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

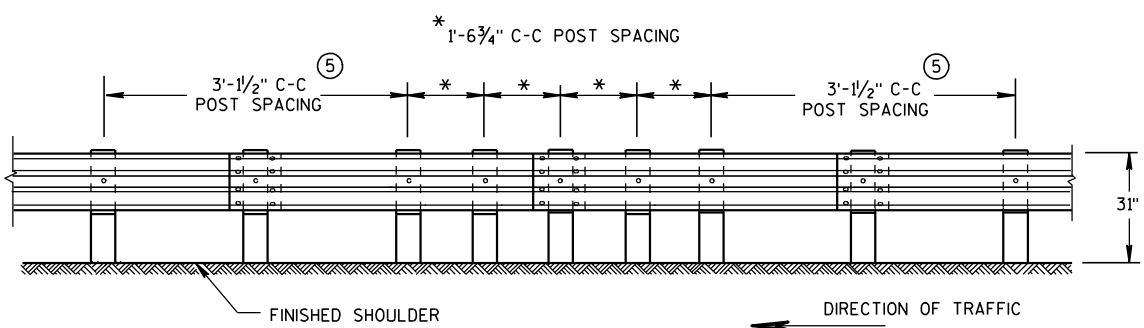
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 125



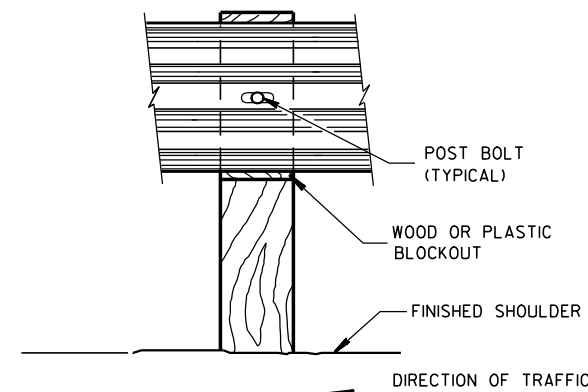
FRONT VIEW
POST SPACING STANDARD INSTALLATION



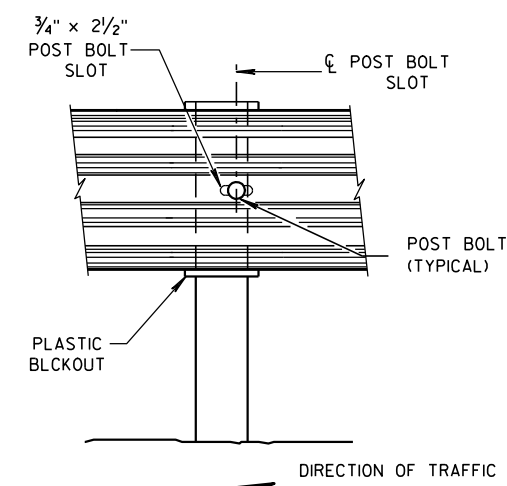
FRONT VIEW
**HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



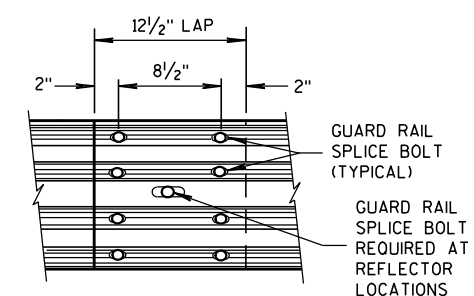
FRONT VIEW
QUARTER POST SPACING (QS)



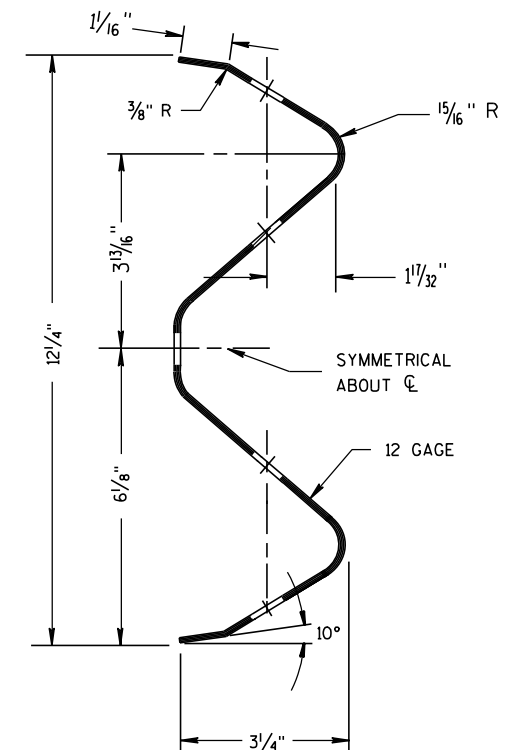
FRONT VIEW AT WOOD POST



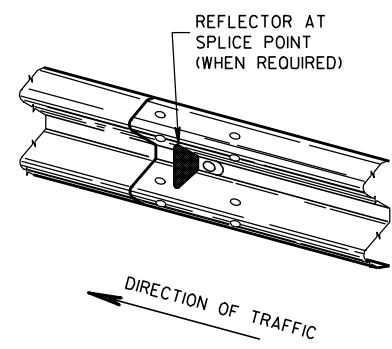
FRONT VIEW AT STEEL POST



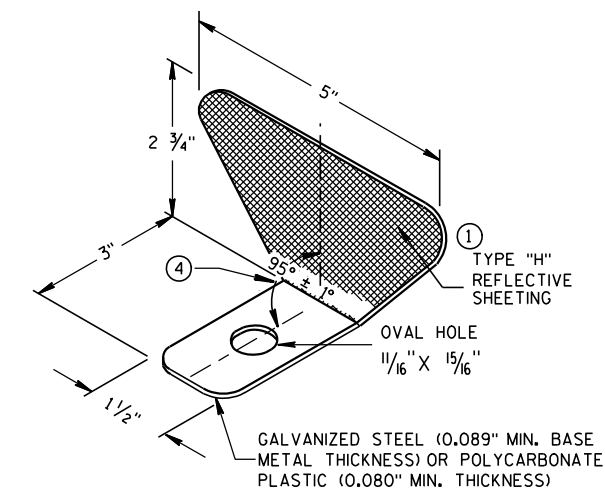
**FRONT VIEW
MID-SPAN BEAM SPLICE**



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION



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.

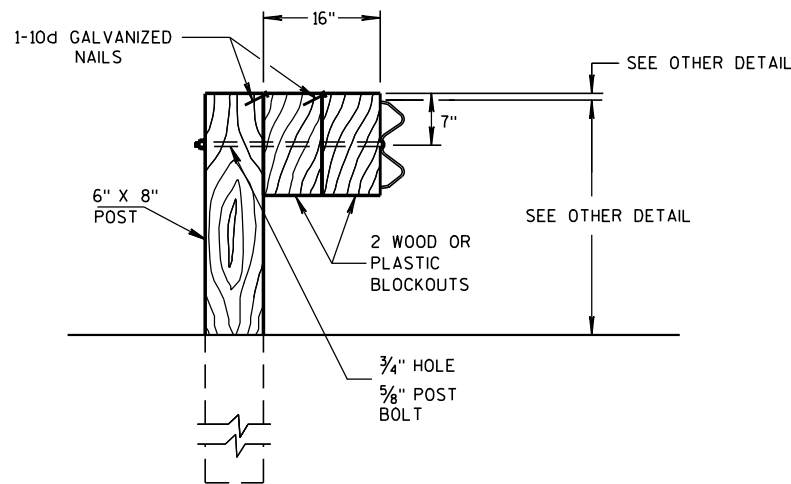
GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

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 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	

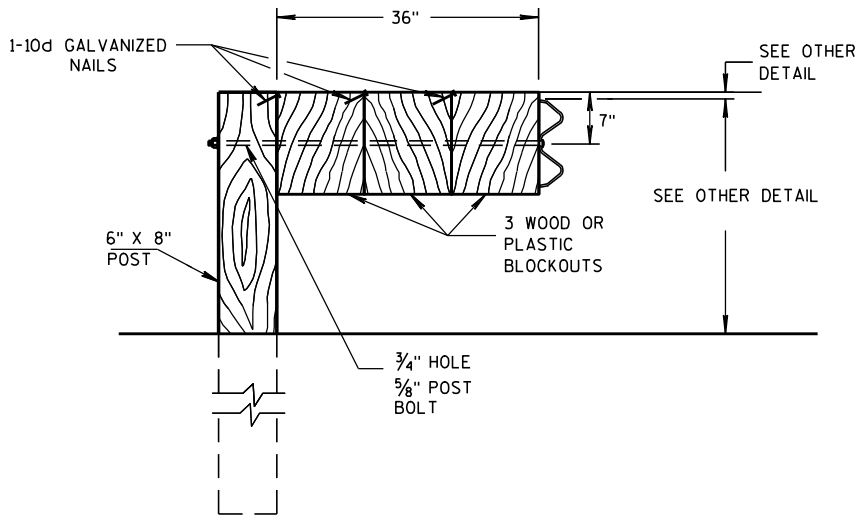
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

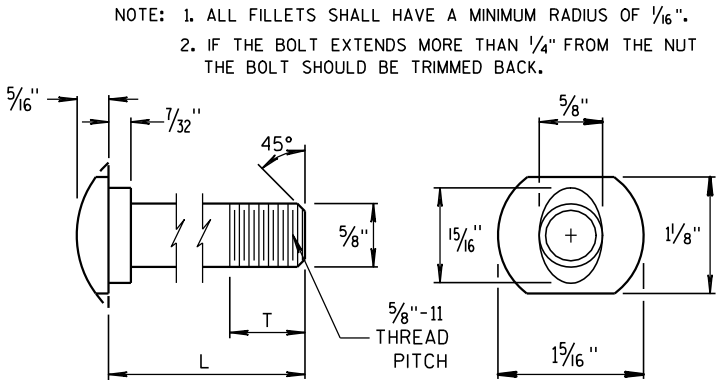
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



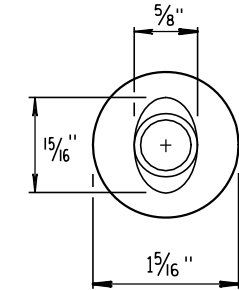
DETAIL FOR 36" BLOCKOUT DEPTH

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

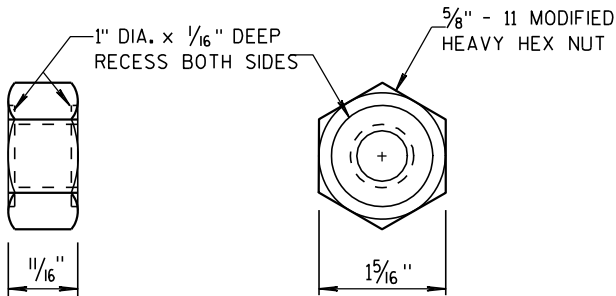
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



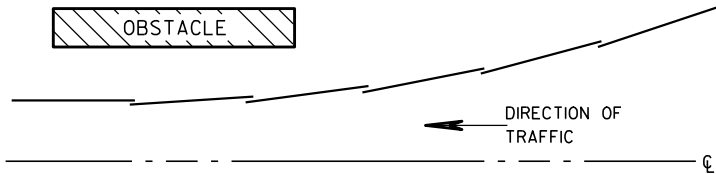
POST BOLT TABLE



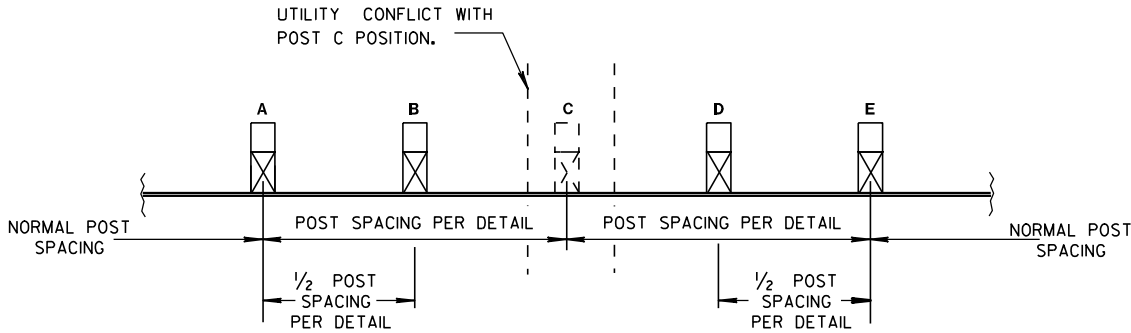
ALTERNATE BOLT HEAD



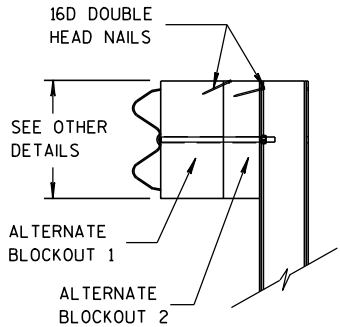
POST BOLT AND RECESS NUT



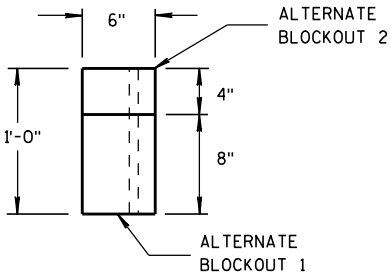
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 11/15/2011
FHW

127
ROADWAY STANDARDS
ENGINEER

127
ENT

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.
- (G) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (H) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

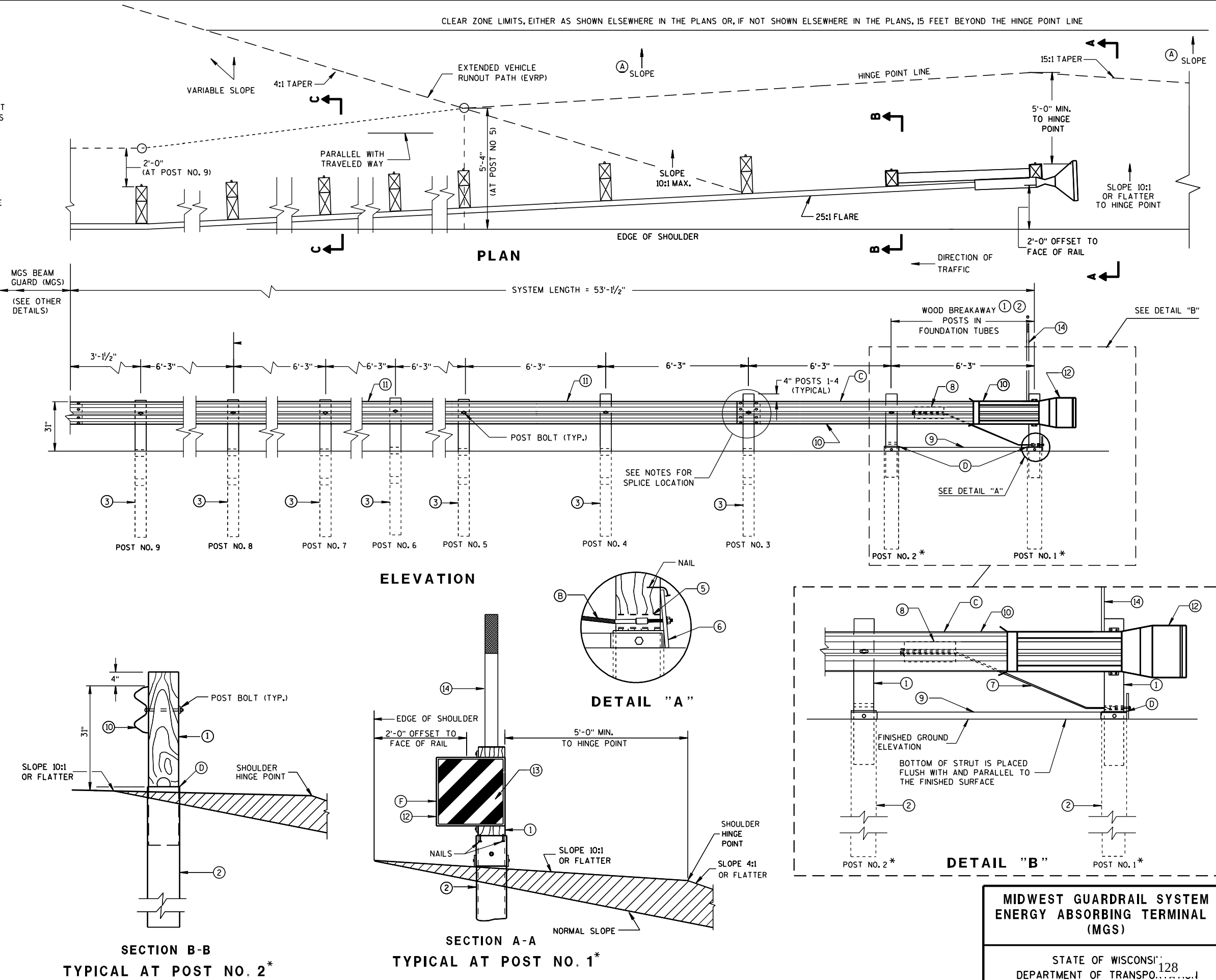
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

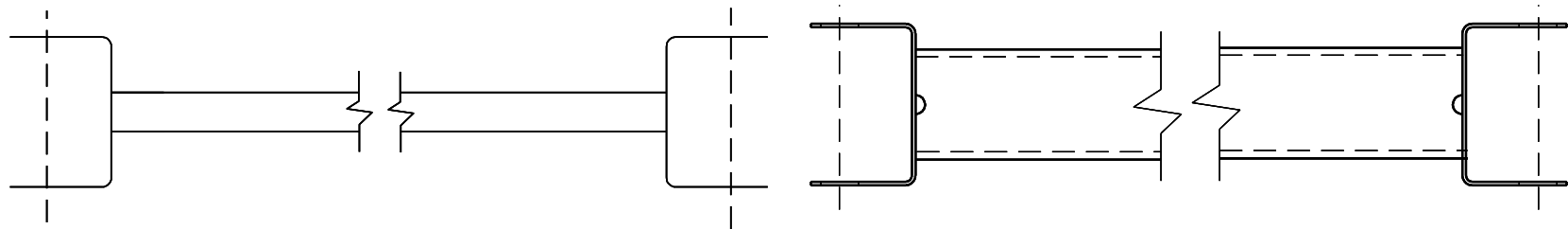
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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.

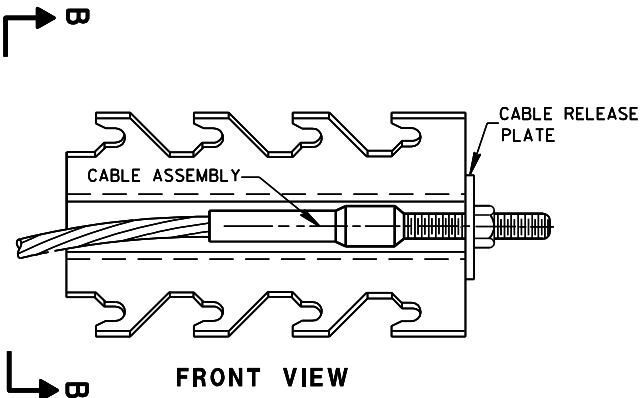
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")



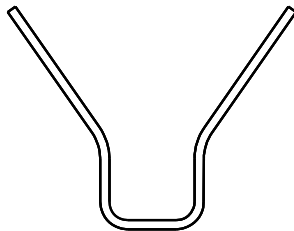


GENERIC GROUND STRUT

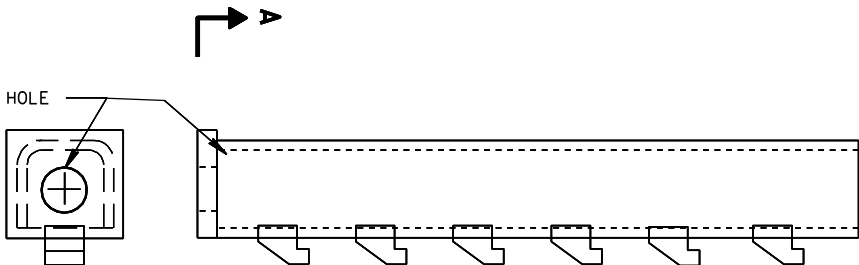
9 H



FRONT VIEW



SECTION B-B



SECTION A-A

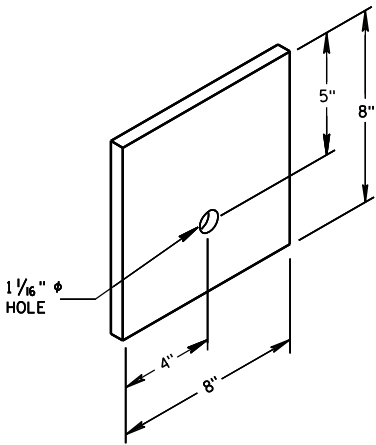
PLAN VIEW

GENERIC ANCHOR CABLE BOX

8 H

BILL OF MATERIALS

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

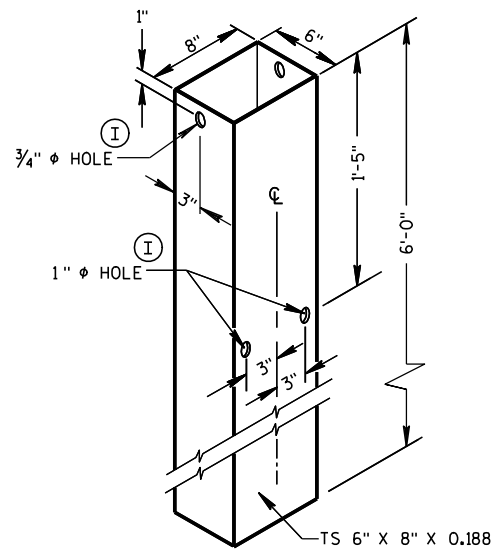


BEARING PLATE

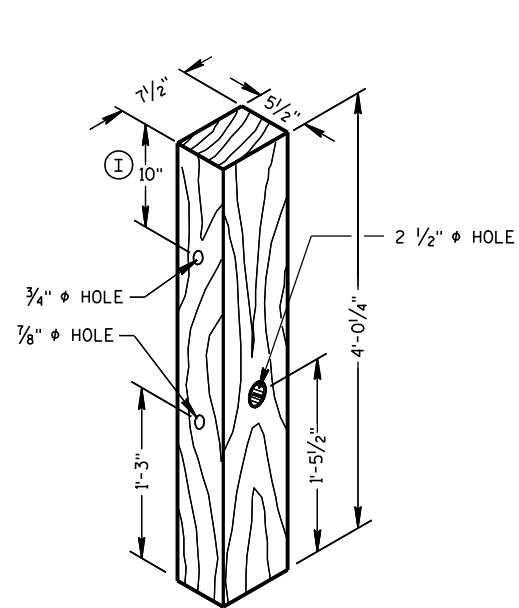
6

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

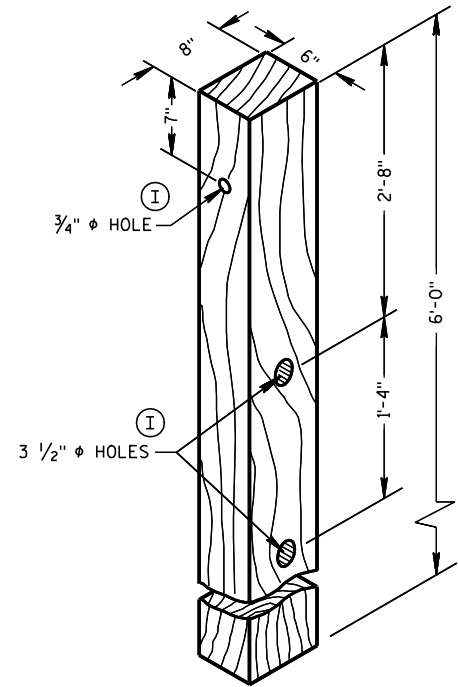
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



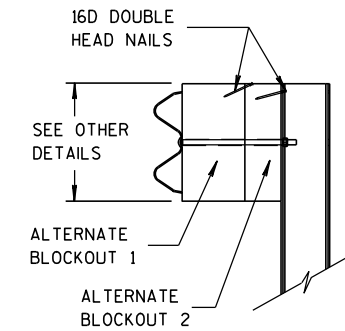
FOUNDATION TUBE ②



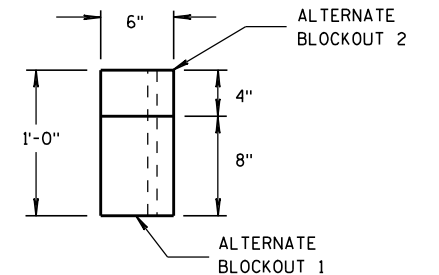
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

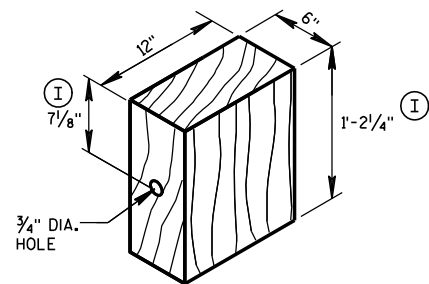


SIDE VIEW



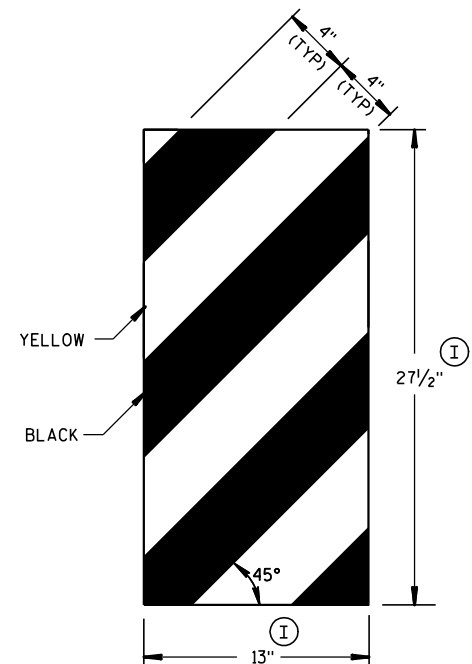
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

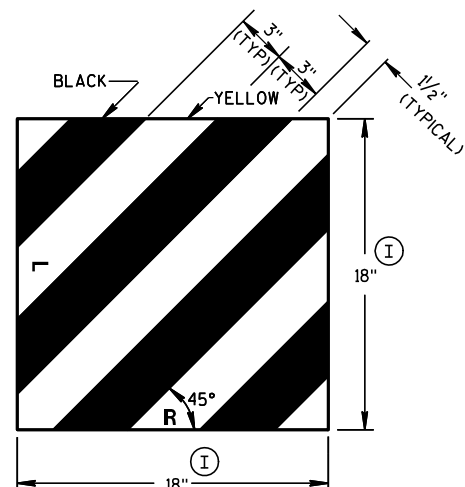


WOOD BLOCKOUT ④

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



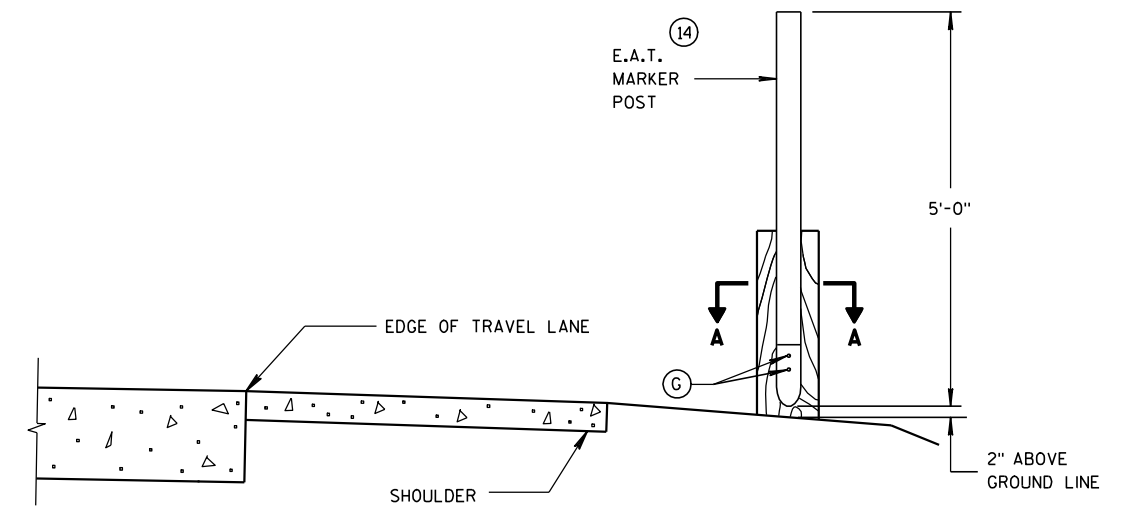
GENERIC REFLECTIVE SHEETING ⑬ ④



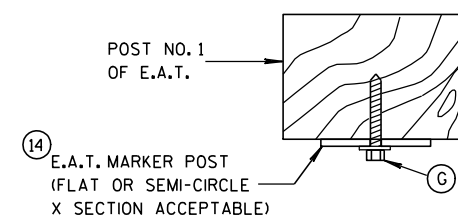
FRONT VIEW

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)

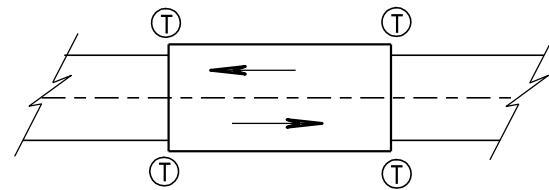


SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

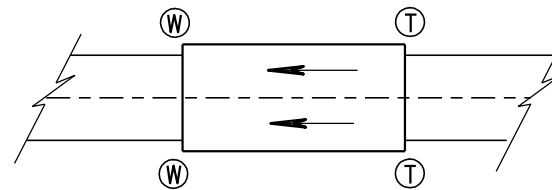
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 DATE /S/ Jerry H. 3000
DATE ROADWAY STANDARDS 130 CENT
FHWA ENGINEER



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".

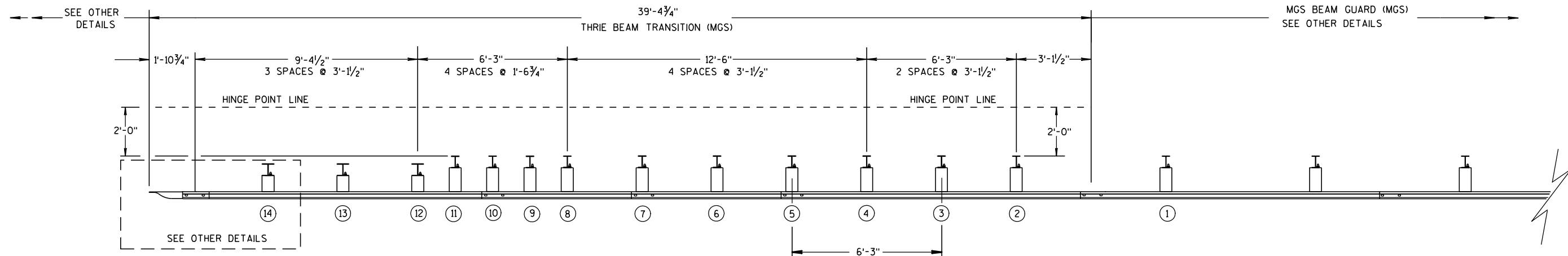
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

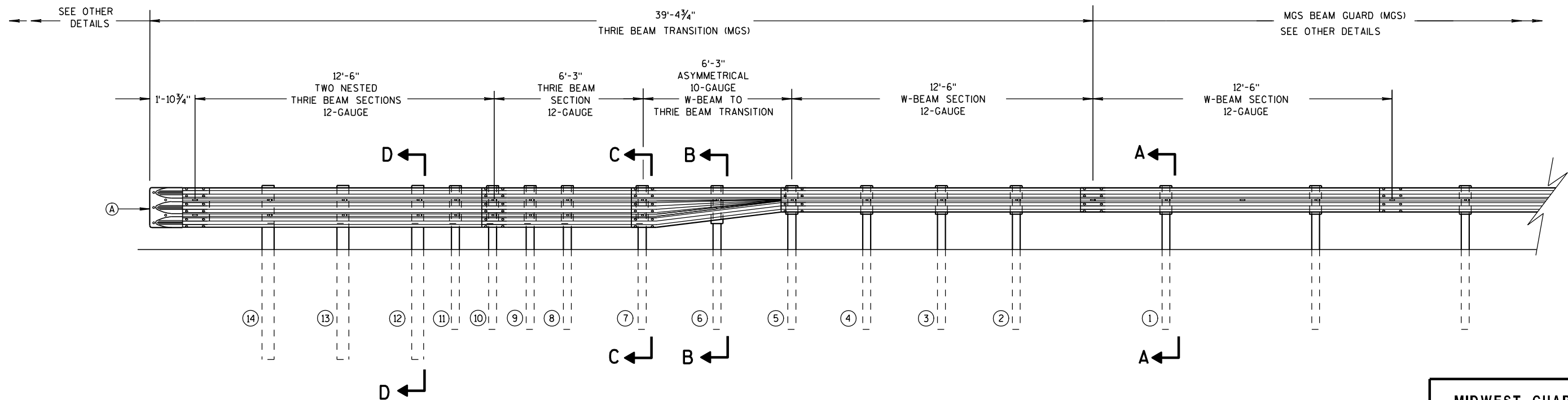
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ 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

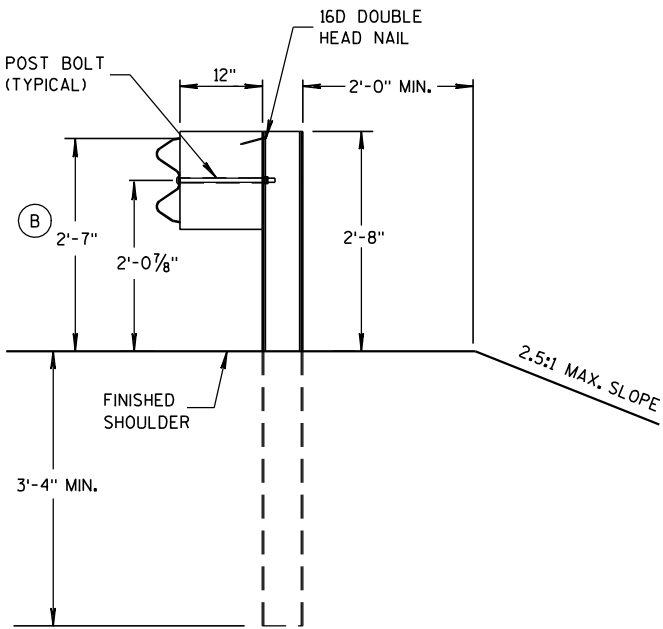
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

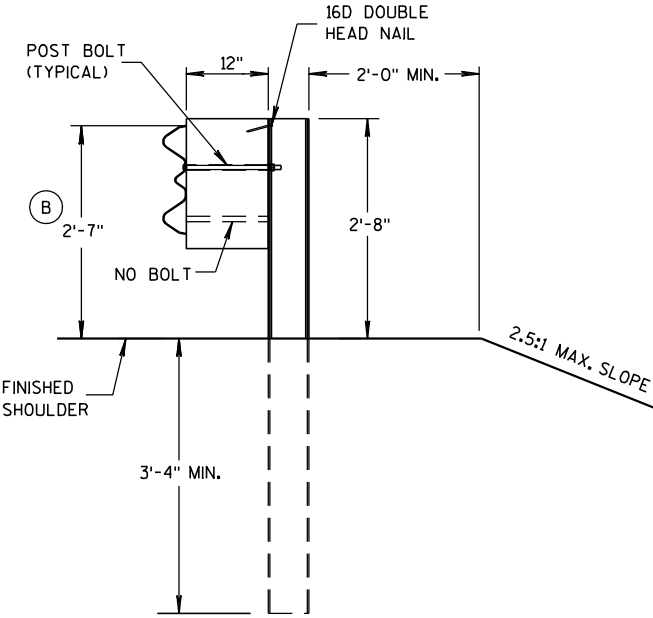
131

GENERAL NOTES

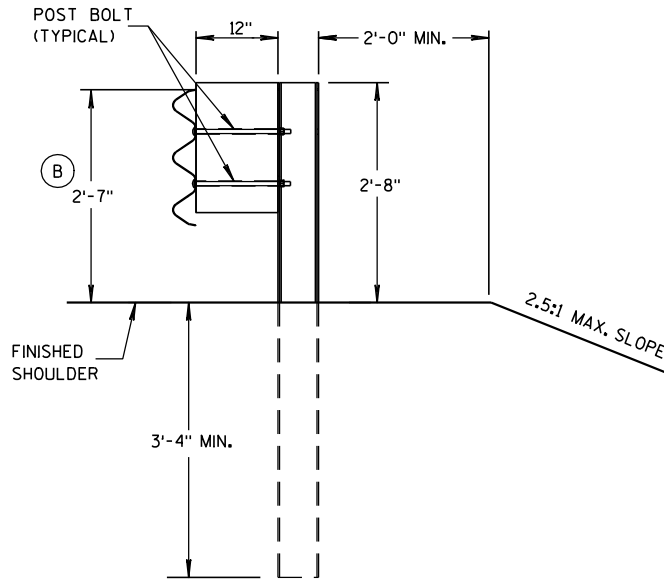
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



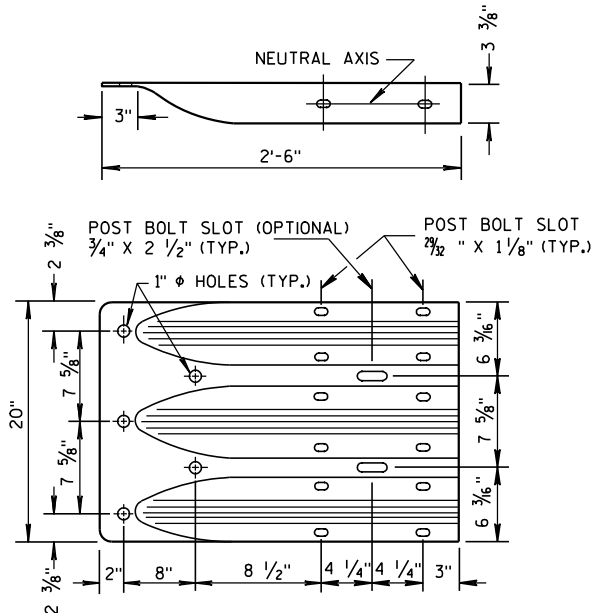
SECTION A-A
POSTS 1-5



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11



THRIE BEAM
TERMINAL CONNECTOR

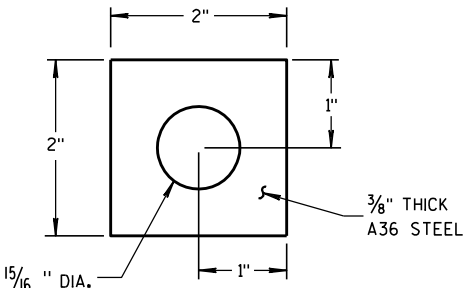
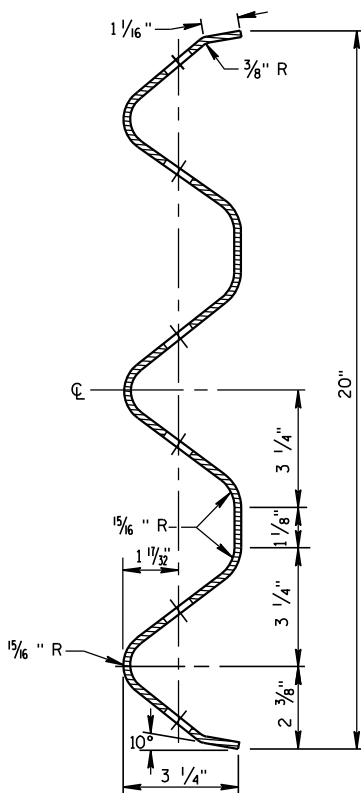
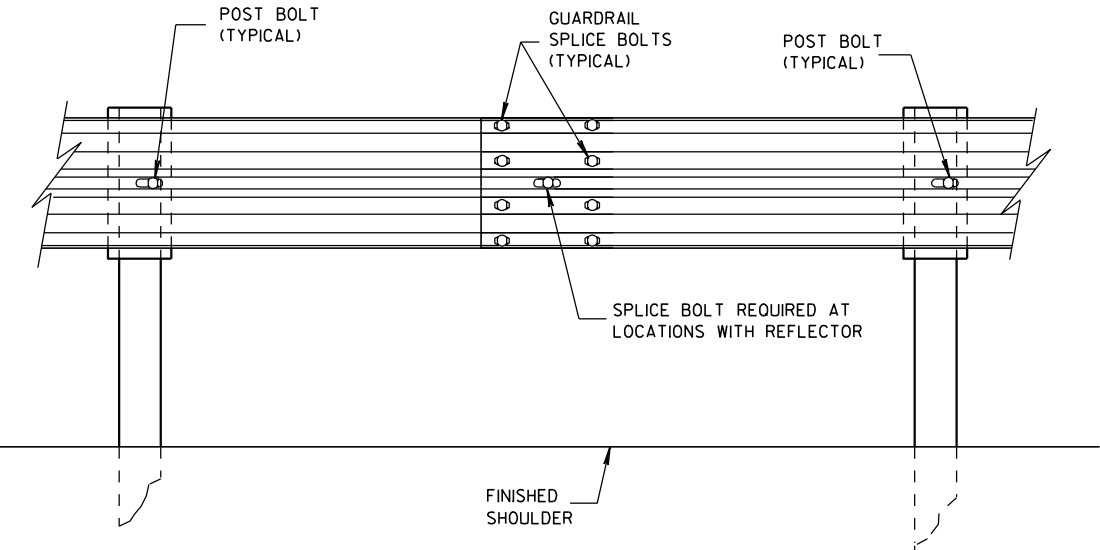


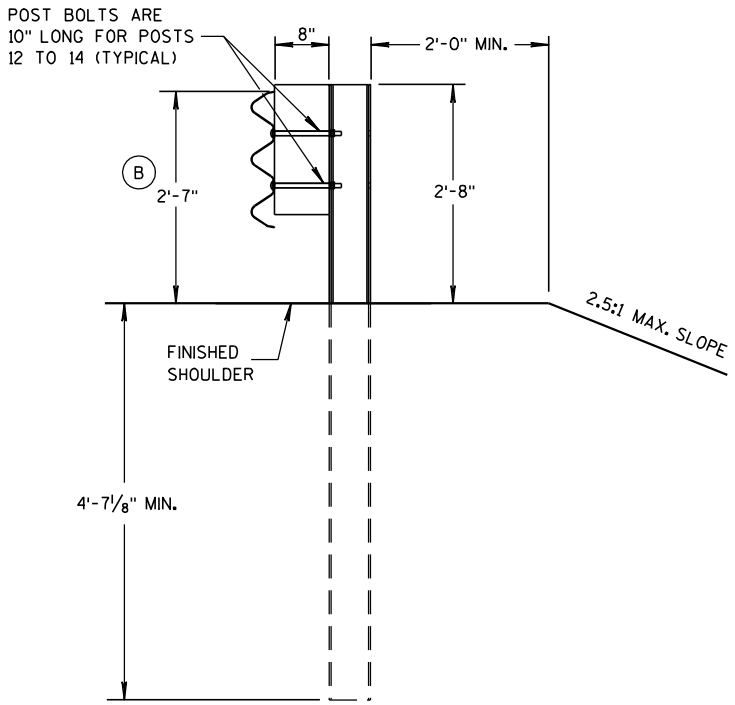
PLATE WASHER DETAIL



SECTION THRU THRIE
BEAM RAIL ELEMENT



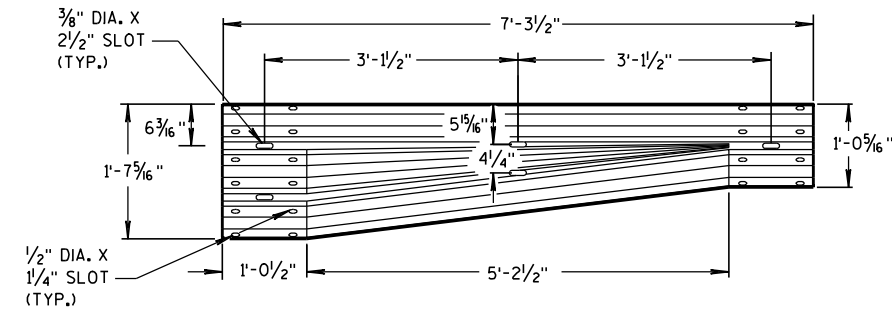
SPLICE DETAIL



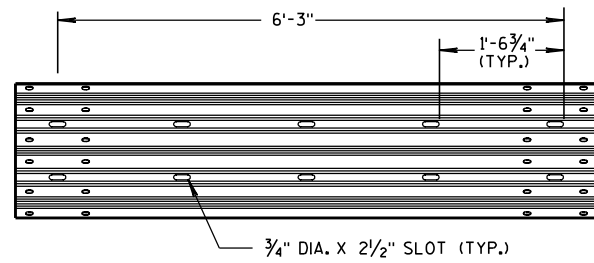
SECTION D-D
POSTS 12-14

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

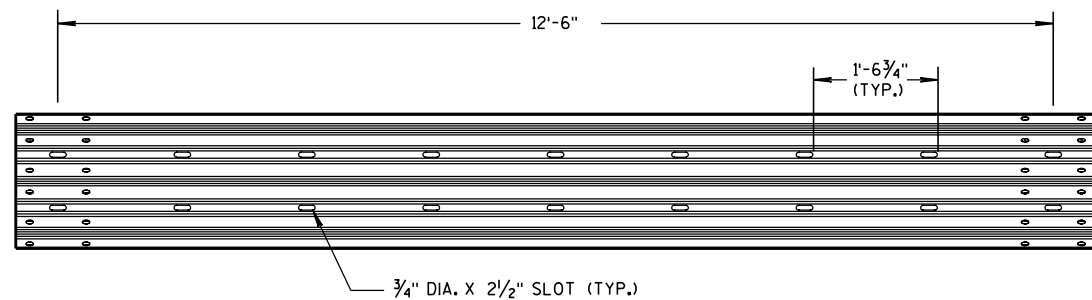
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



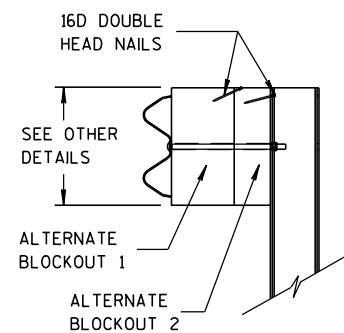
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

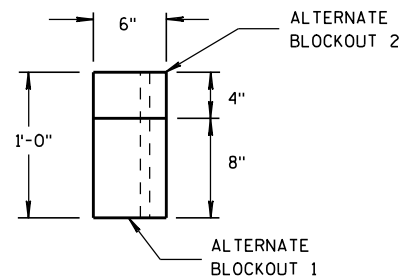


12'-6" THRIE BEAM SECTION

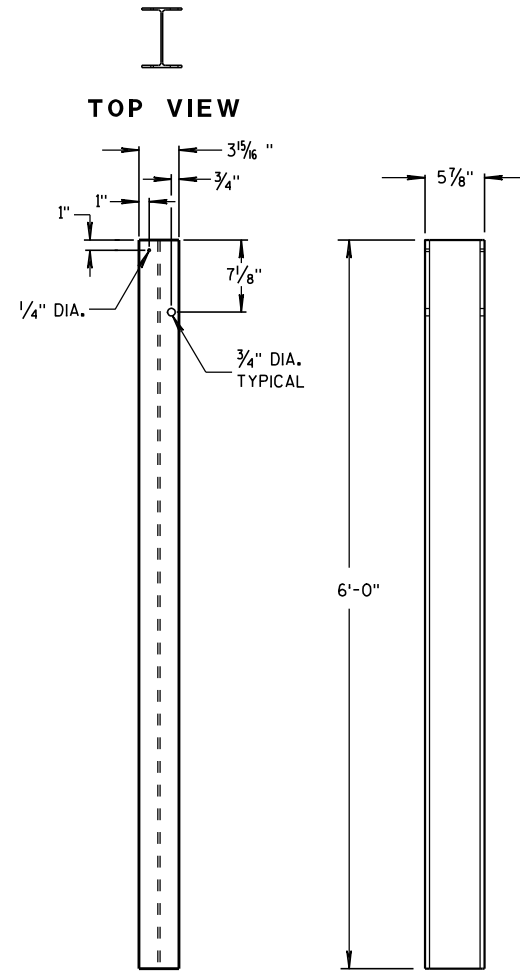


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



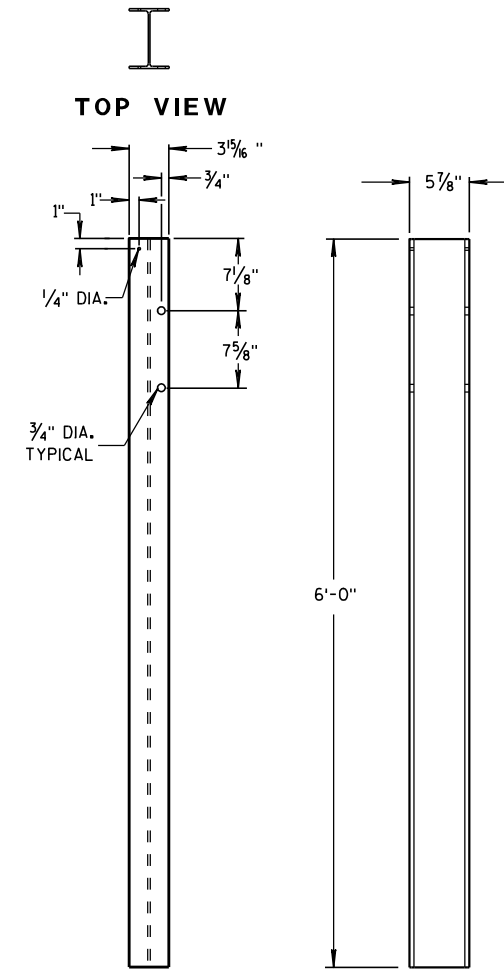
TOP VIEW



FRONT VIEW

SIDE VIEW

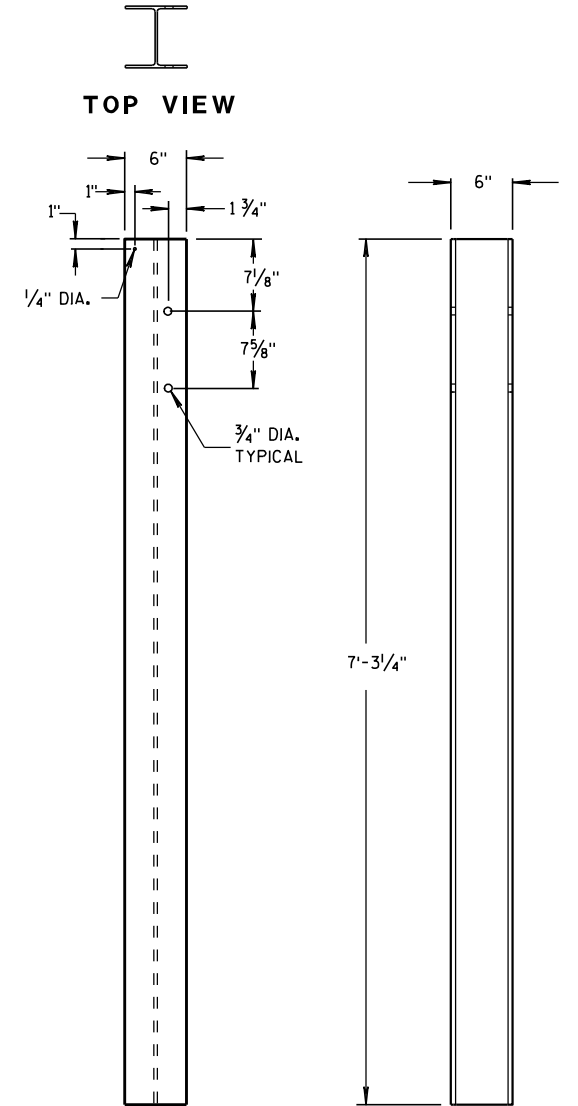
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11



FRONT VIEW

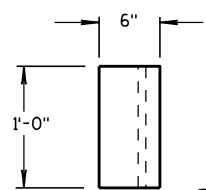
SIDE VIEW

STEEL POSTS 12-14

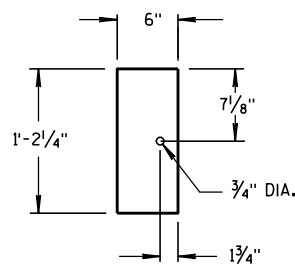
STEEL POST SIZES

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

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

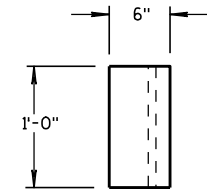


TOP VIEW

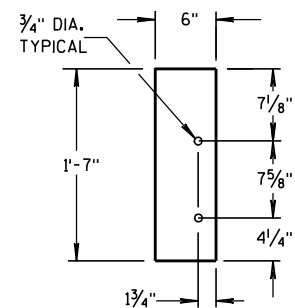


FRONT VIEW

BLOCKOUT POSTS 1-5

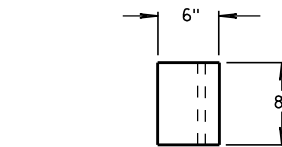


TOP VIEW

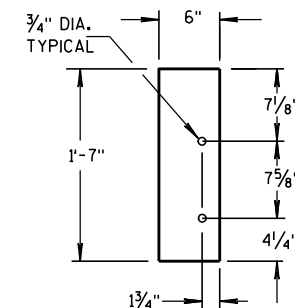


FRONT VIEW

BLOCKOUT POSTS 6-11



TOP VIEW

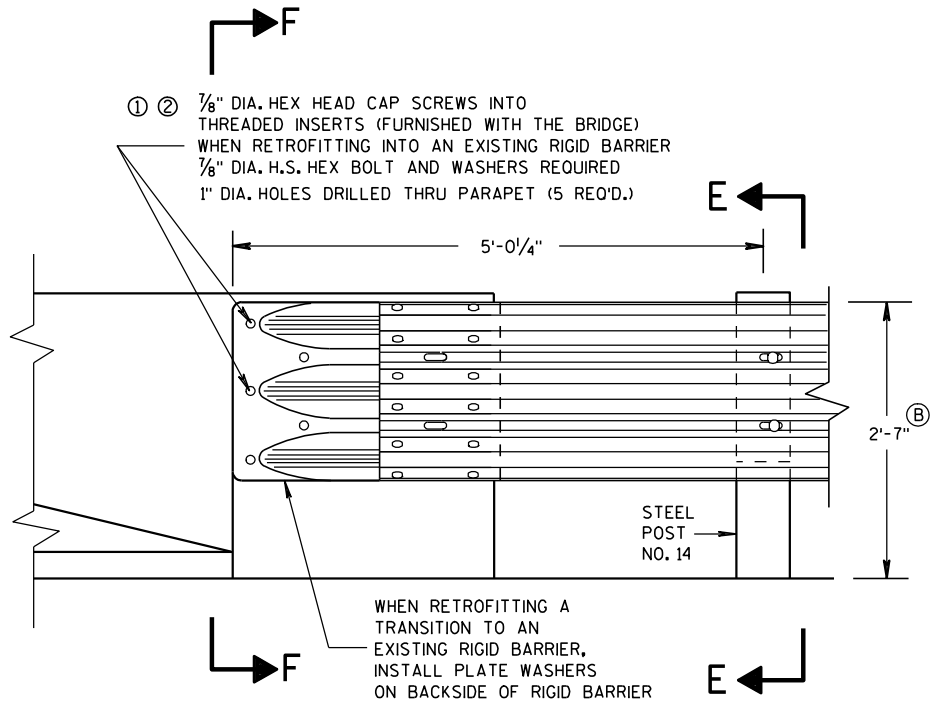


FRONT VIEW

BLOCKOUT POSTS 12-14

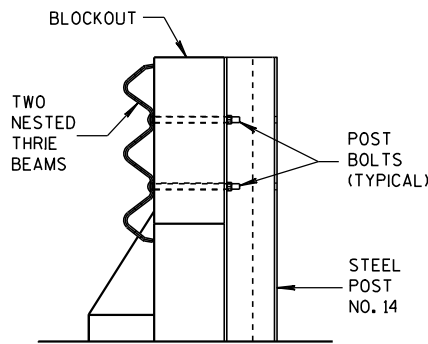
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

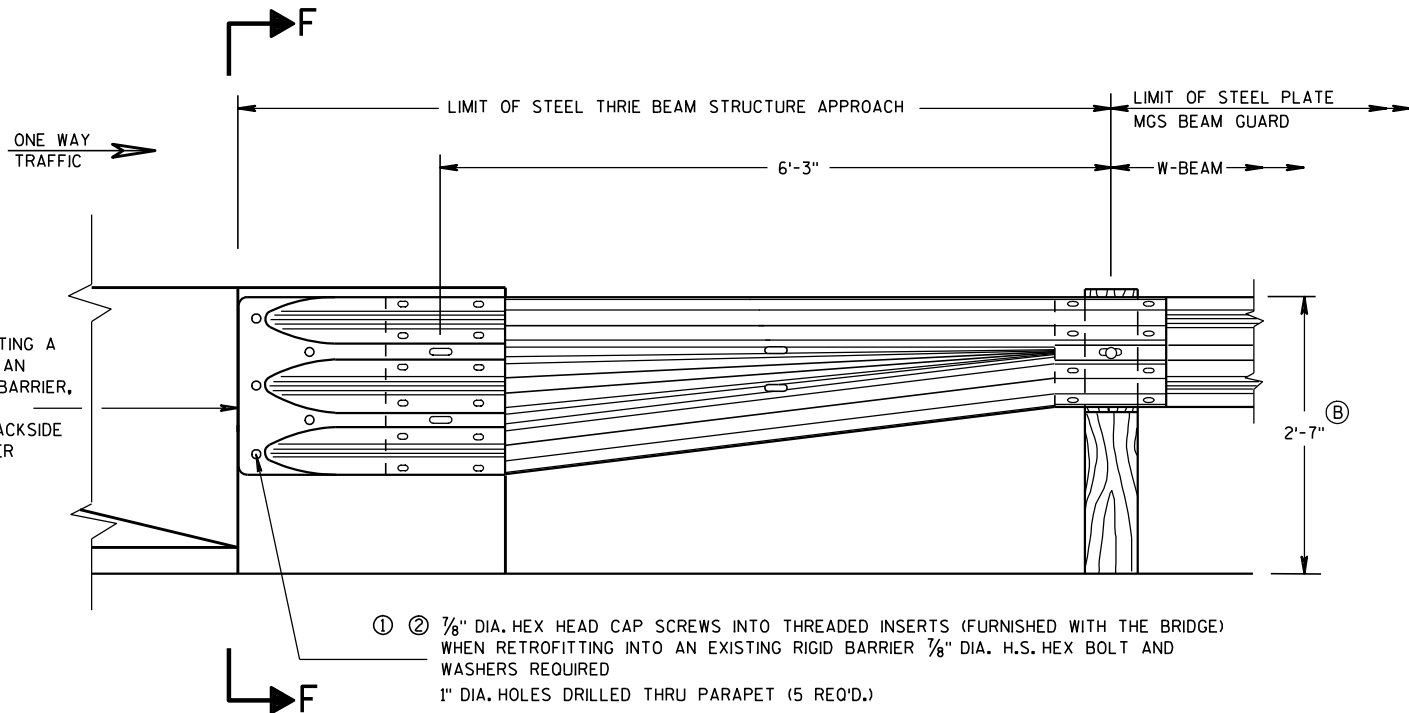
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



SECTION E-E

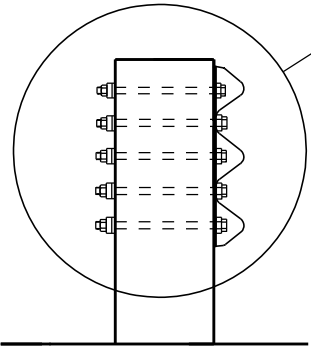
GENERAL NOTES

- 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".
 - ④ TOLERANCE FOR TOP OF BEAM IS ± 1".

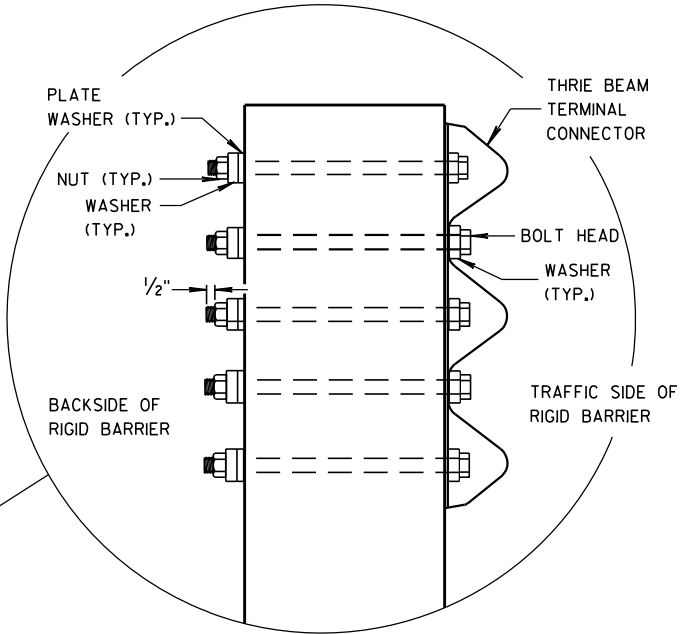


FRONT VIEW

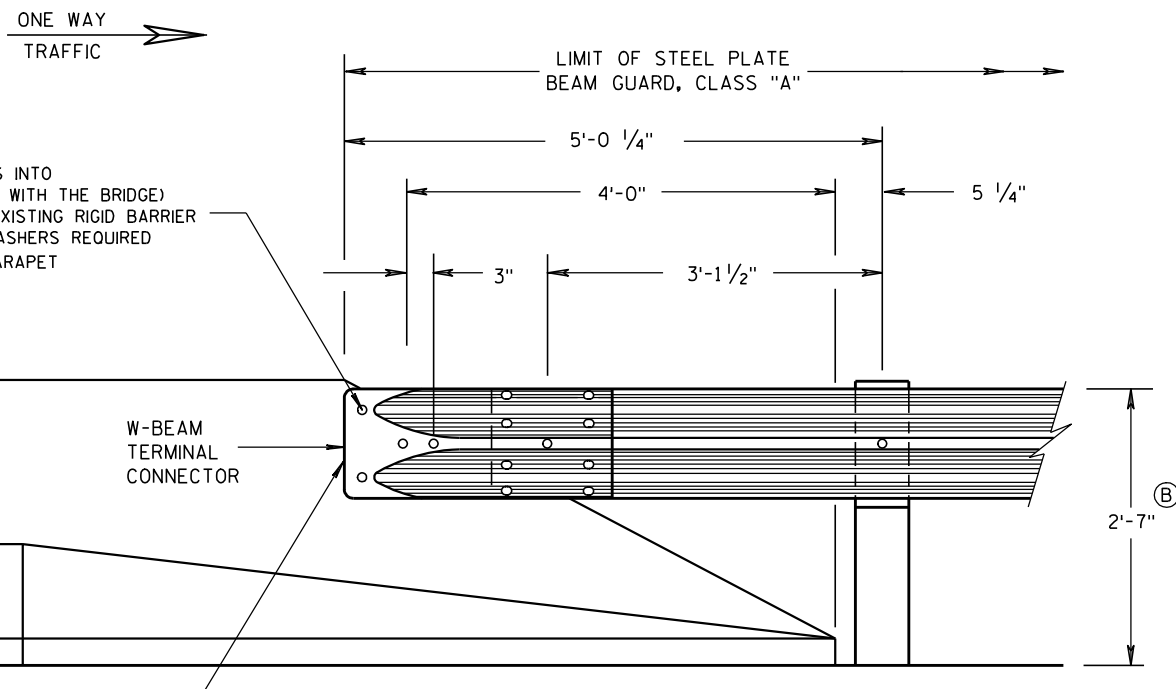
W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F



MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zapp ROADWAY STANDARDS ENGINEER 134 ENT
FHWA	



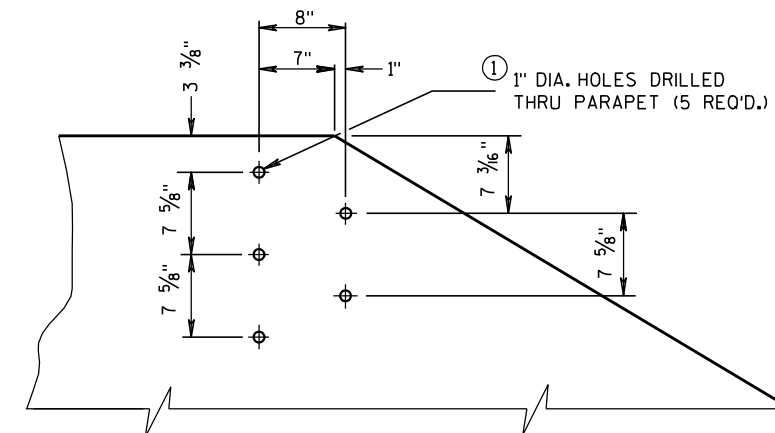
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

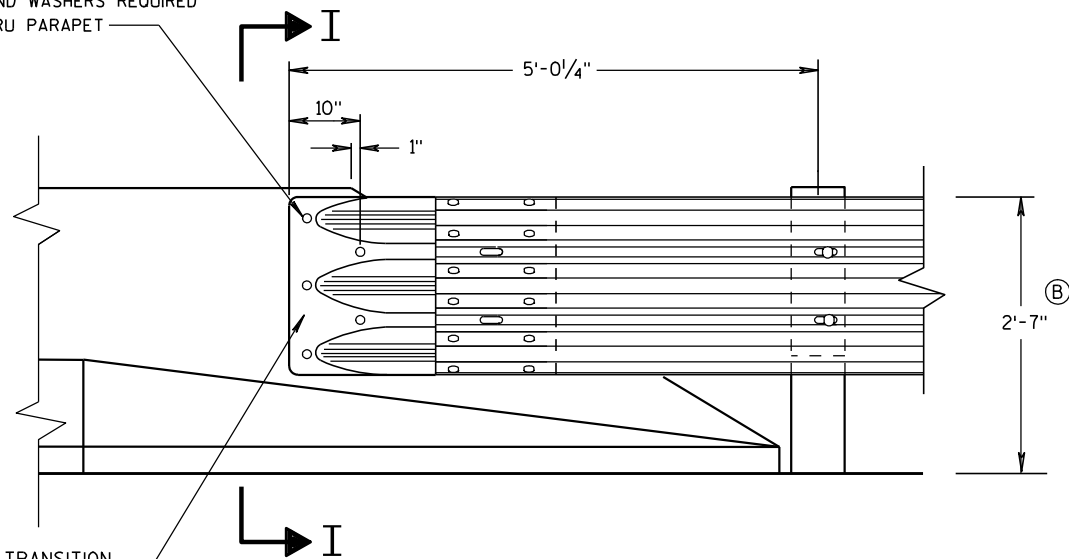
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



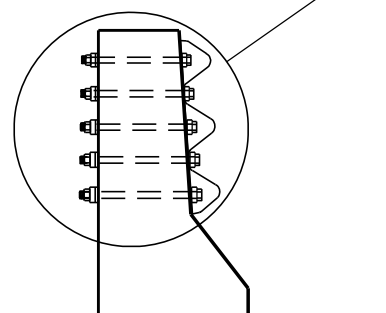
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)

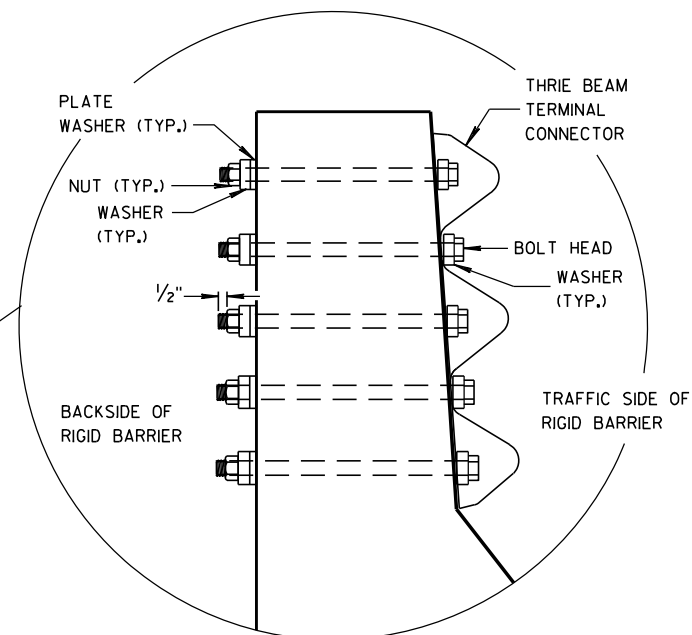


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

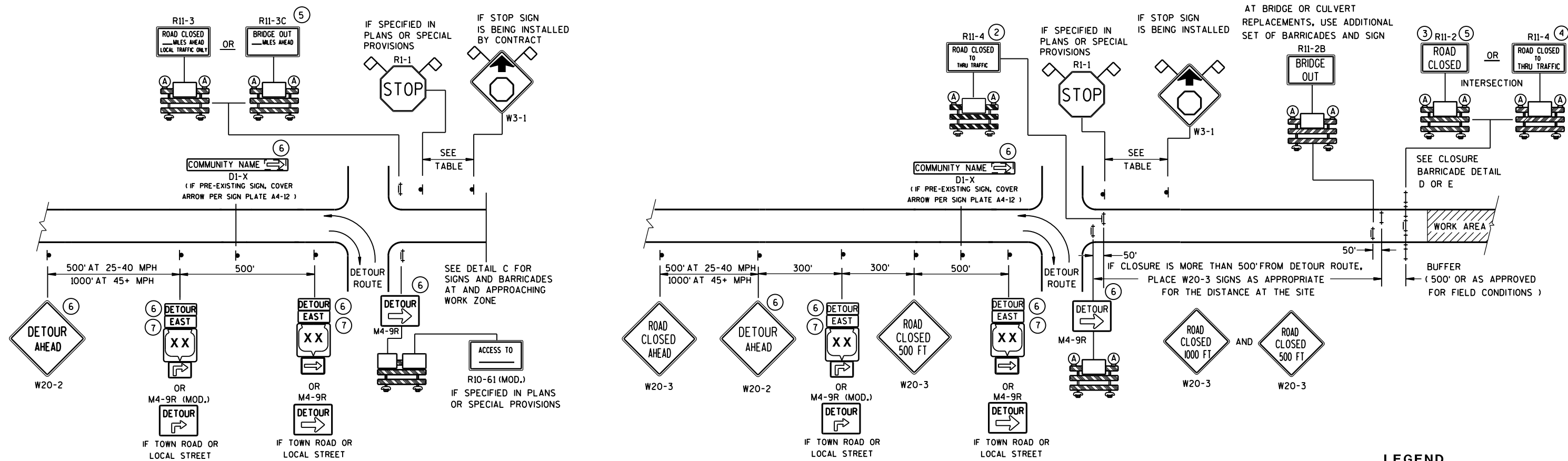
DATE

FHWA

/S/ Jerry H. Zapp

ROADWAY STANDARDS 135

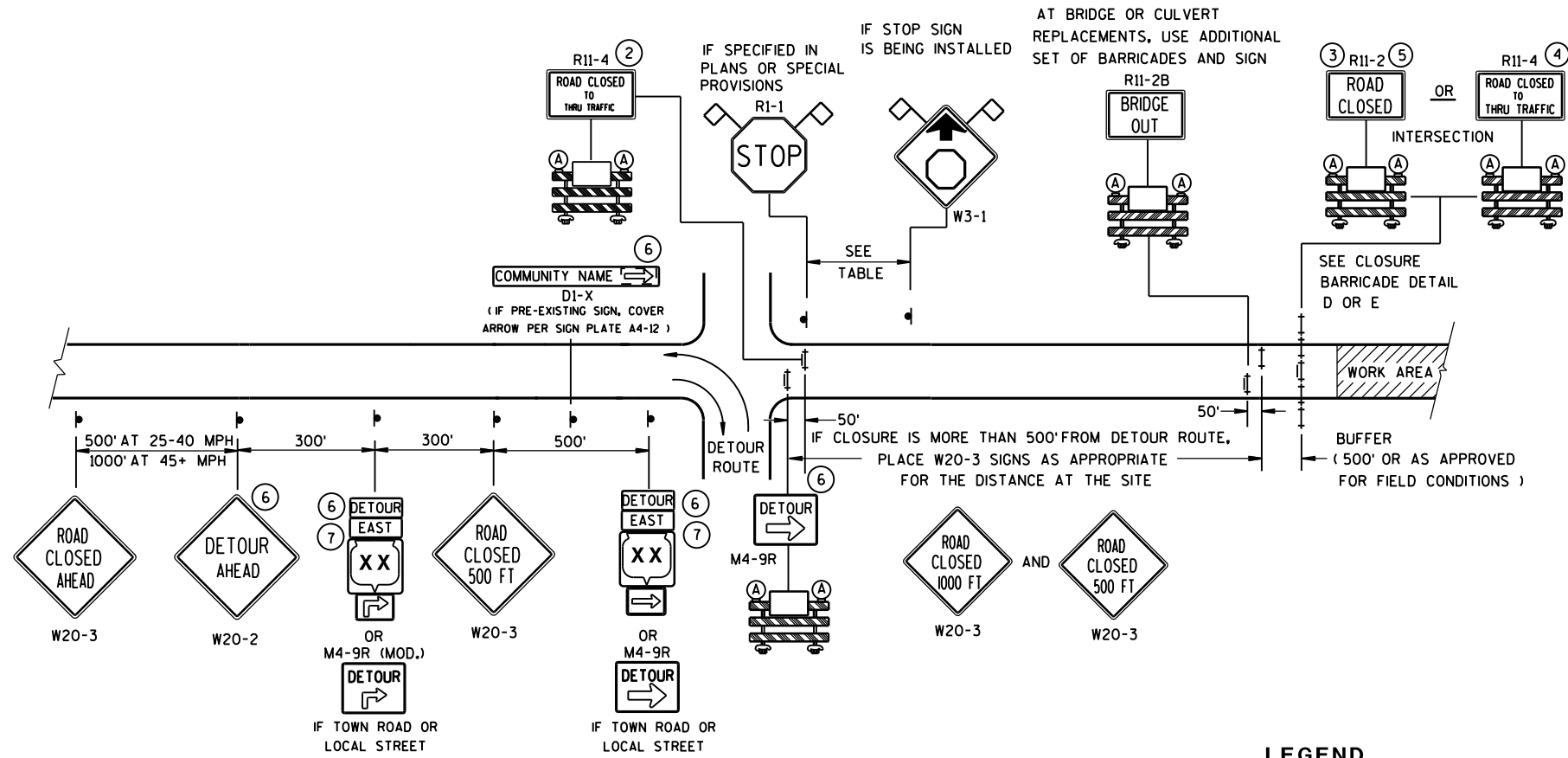
ENGINEER



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

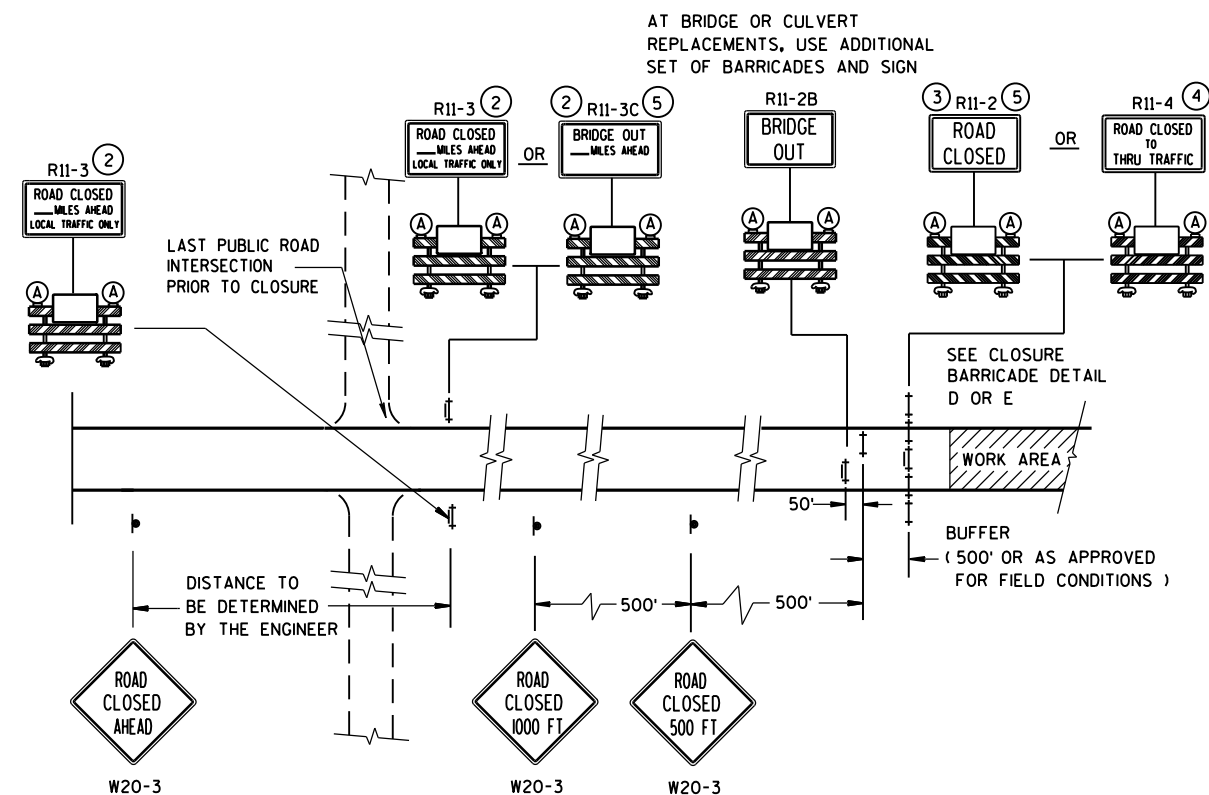
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



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

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)

 WORK AREA

DETOUR M4-8
EAST M3-X

 OR  OR 

M1-4 M1-5A M1-6

 OR 
M05-1 M06-1

 FLAGS, 16" X 16" MIN., (ORANGE)

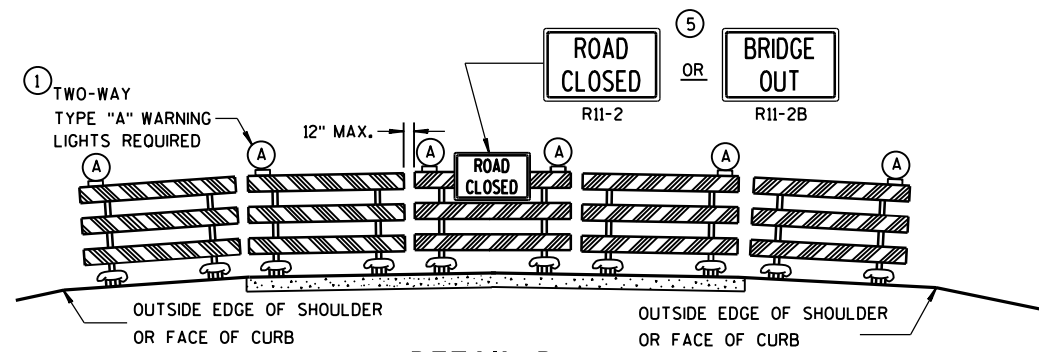
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

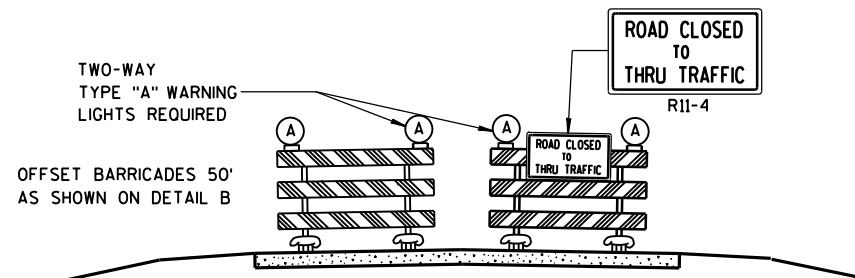
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINE 136	ESIGN
FHWA		



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

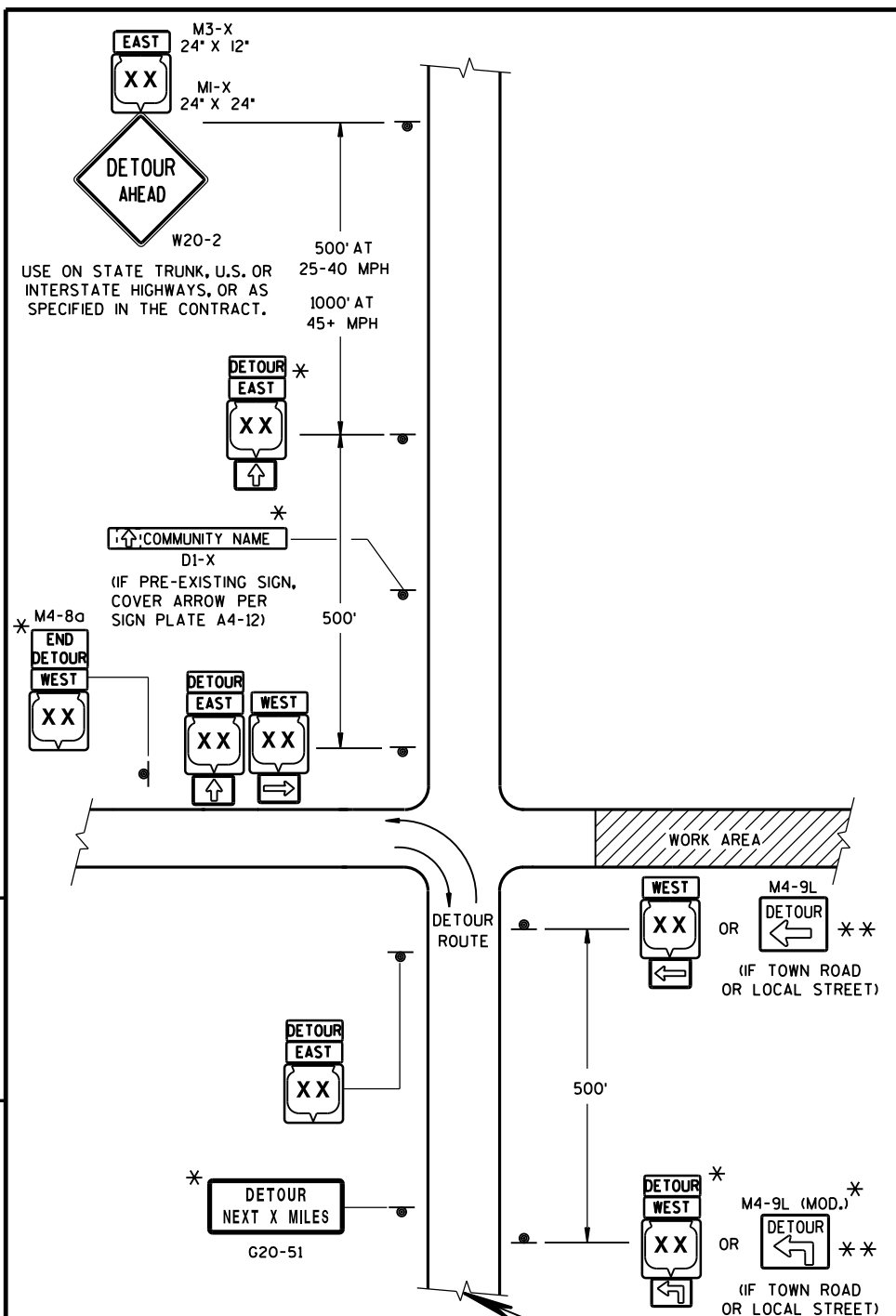
R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 137 ESIGN
FHWA



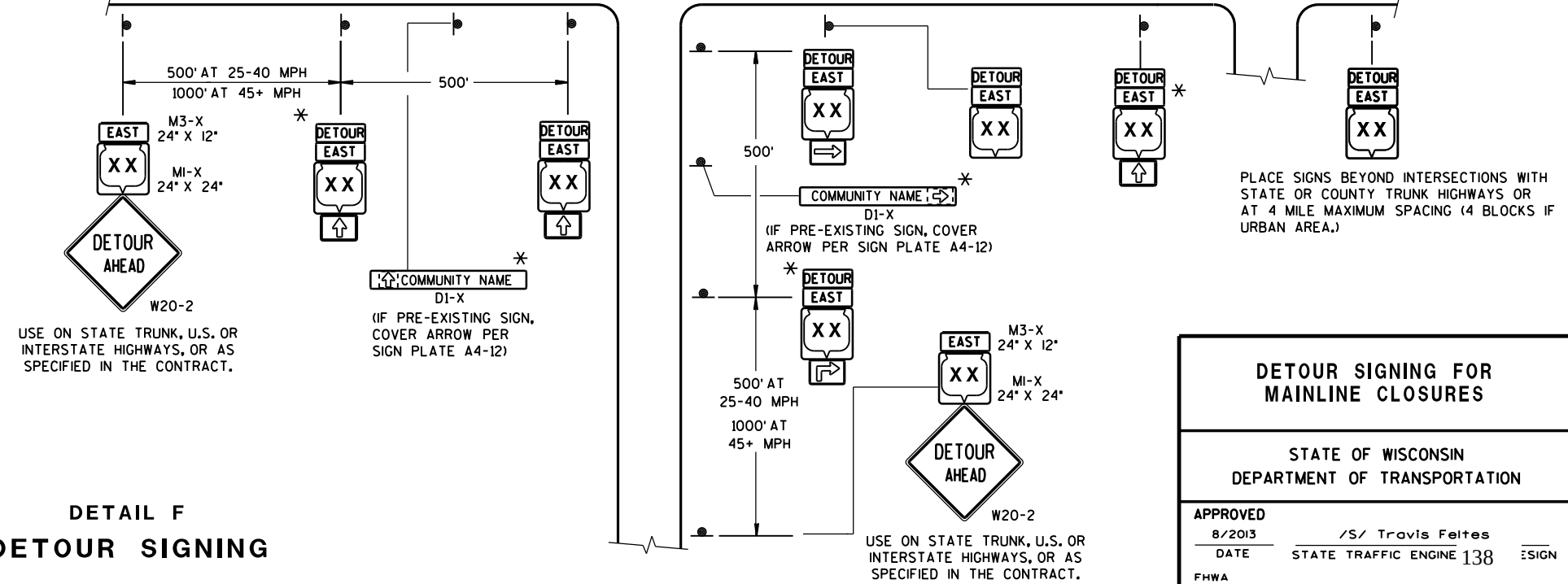
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

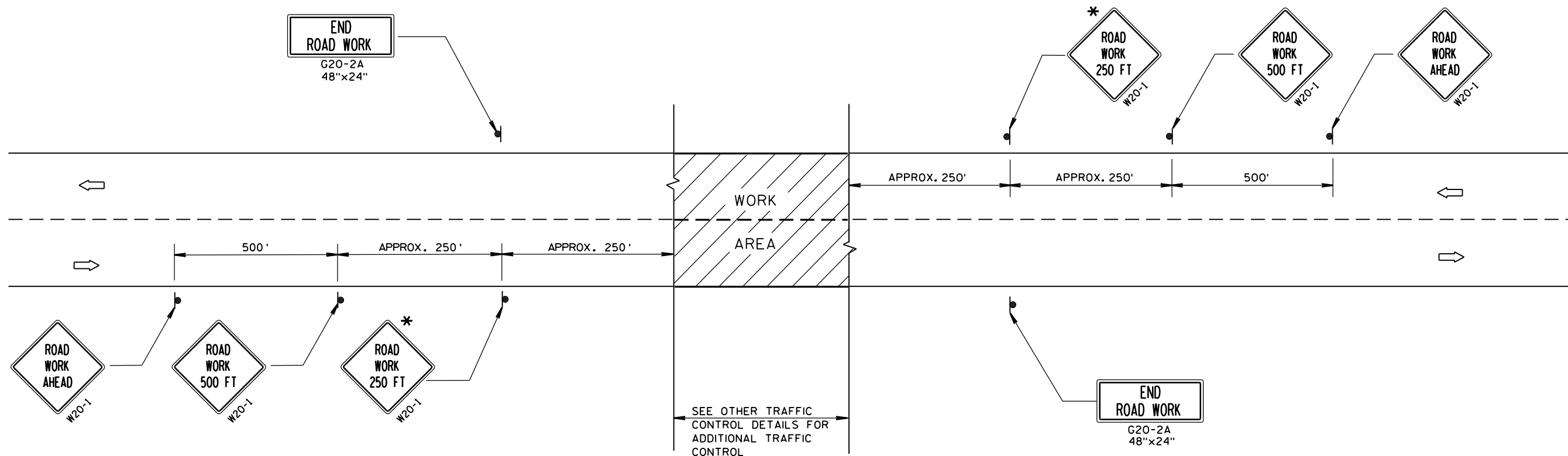
DETAIL F
DETOUR SIGNING

GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
 - M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 138 SIGN
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.

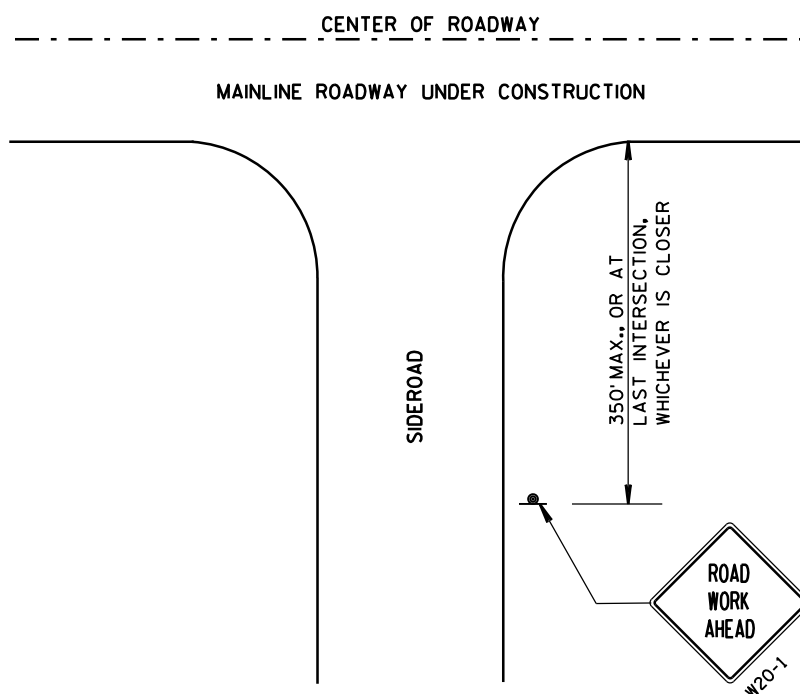
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

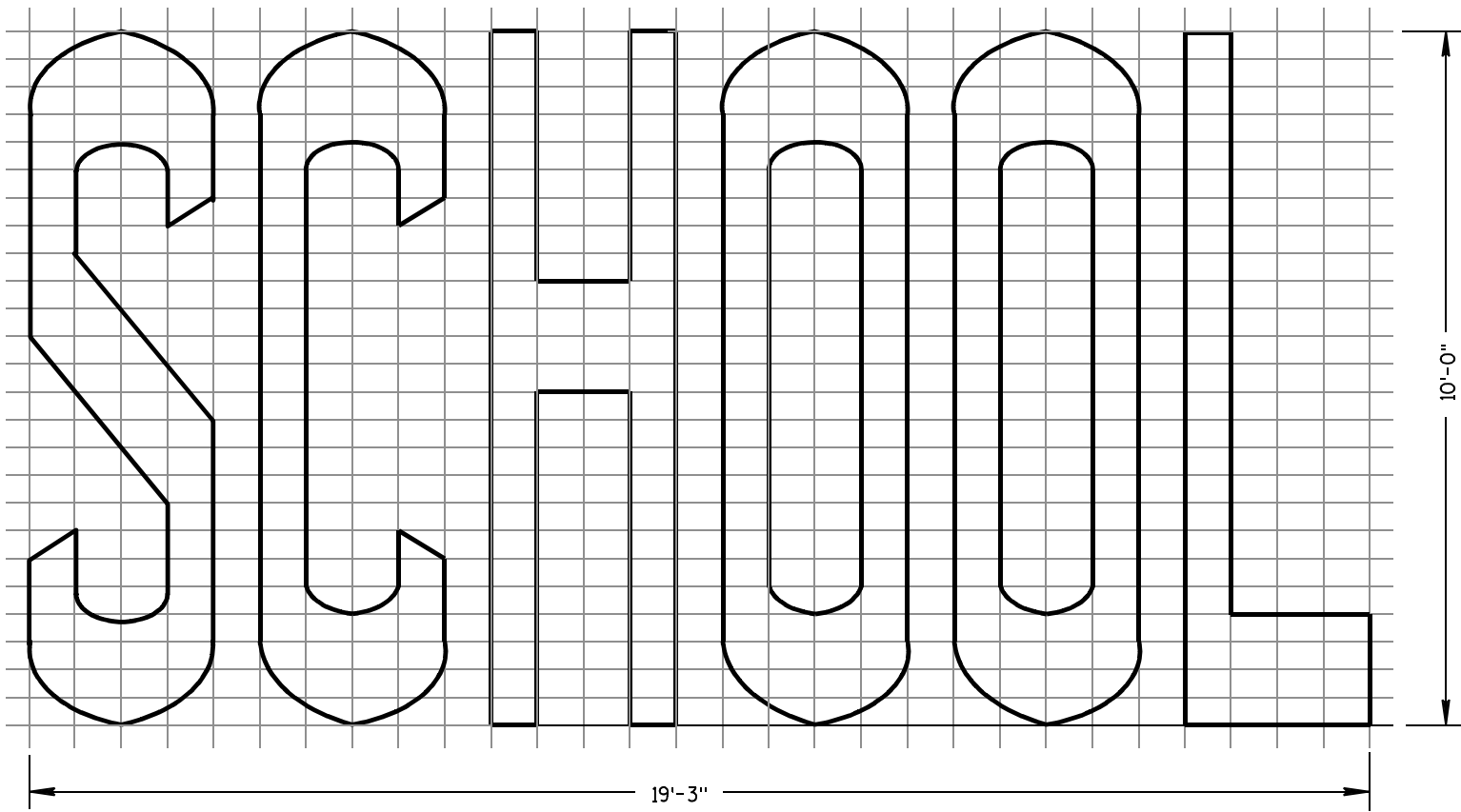
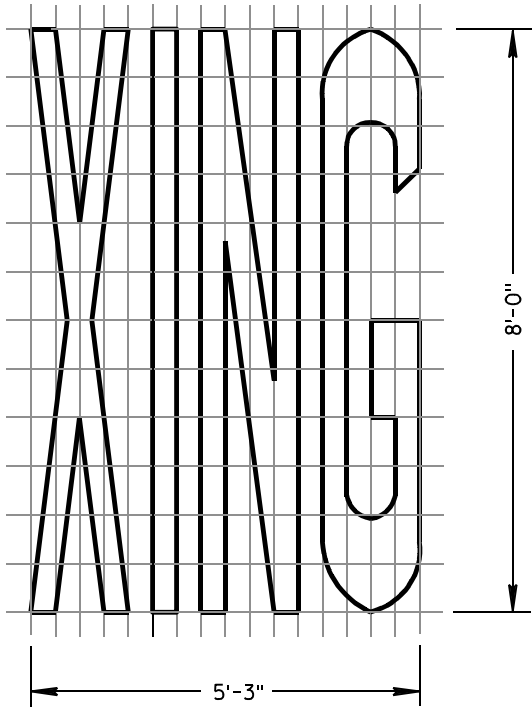
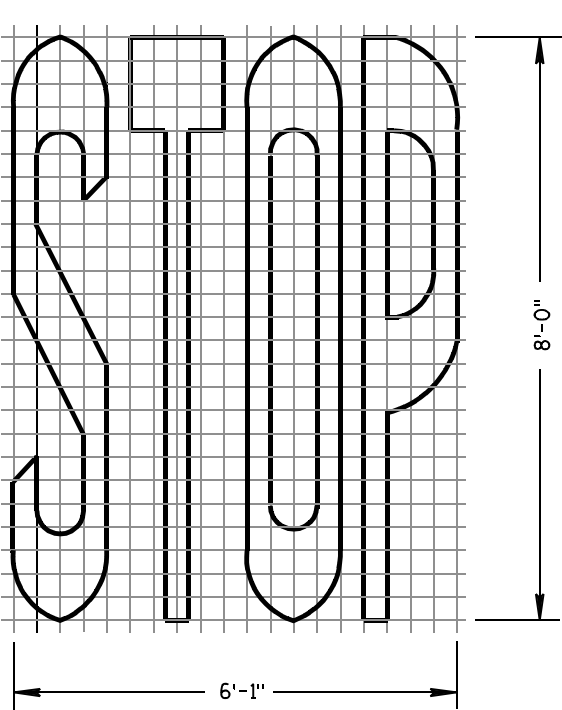
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APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 139 SIGN
FHWA

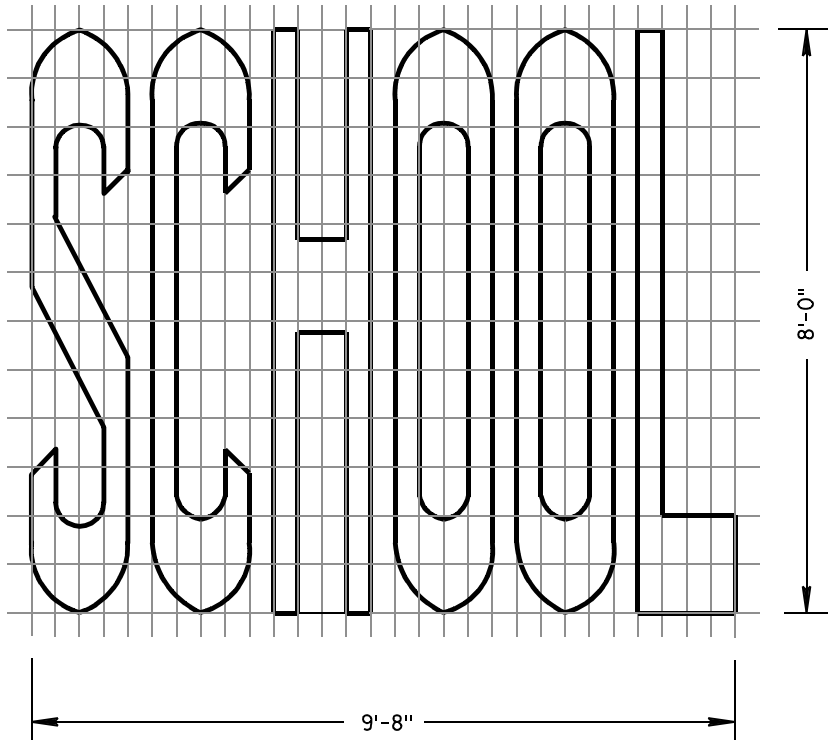
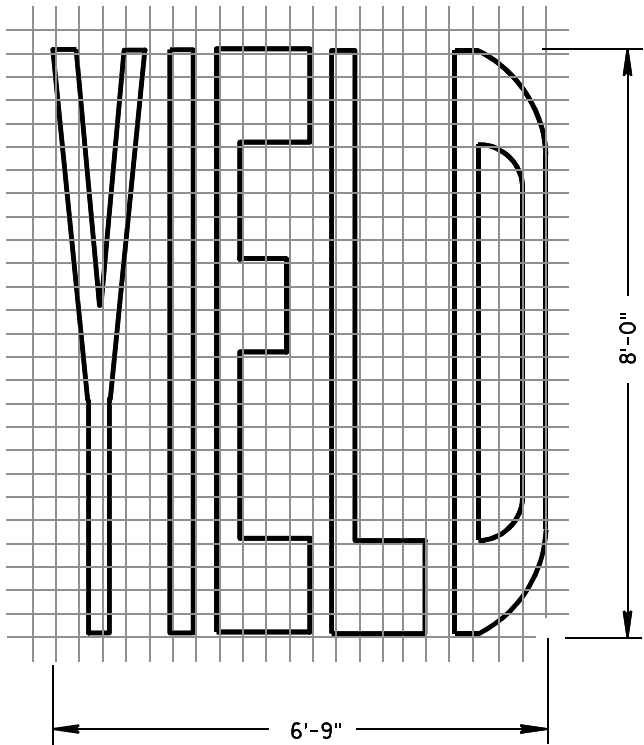
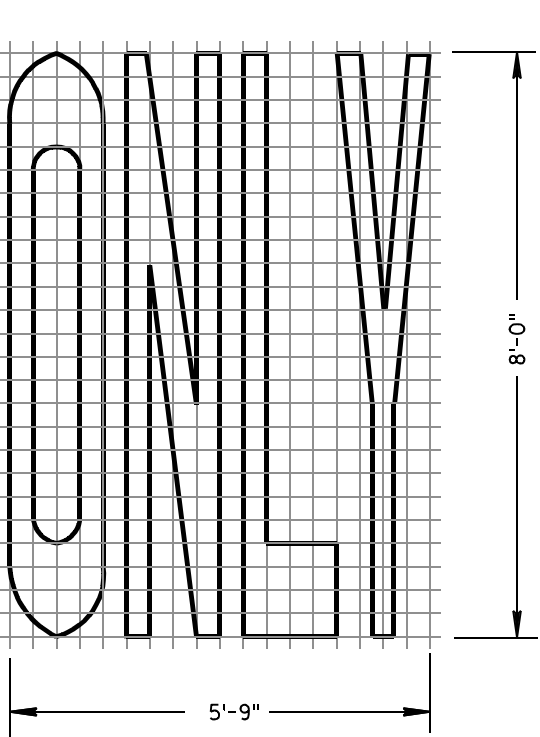
GENERAL NOTES

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.

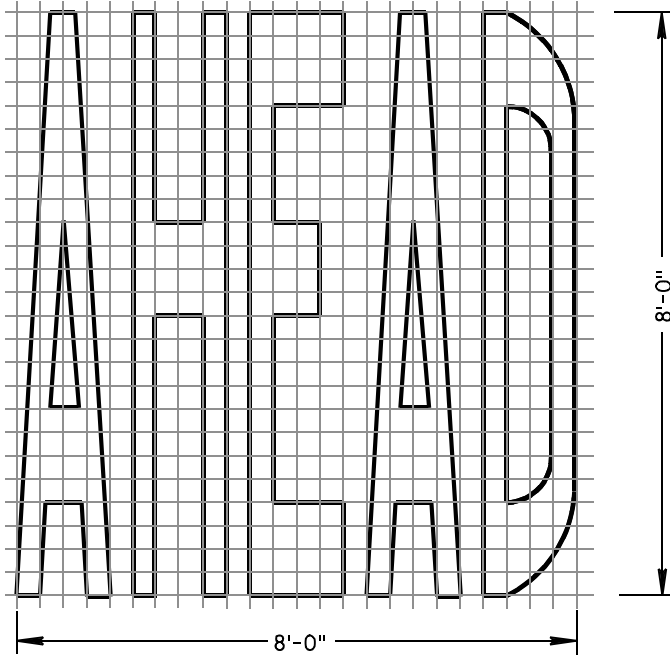
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

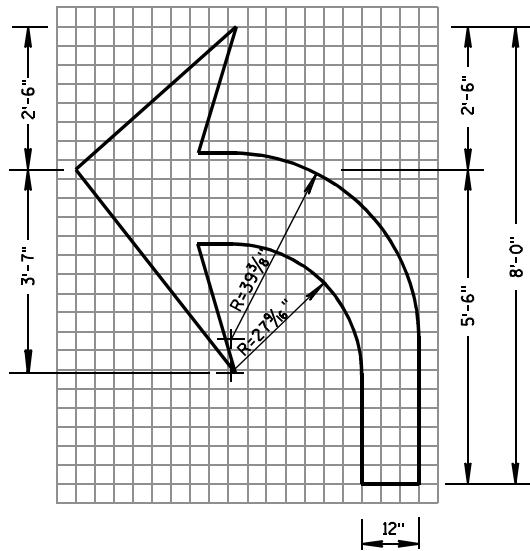
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

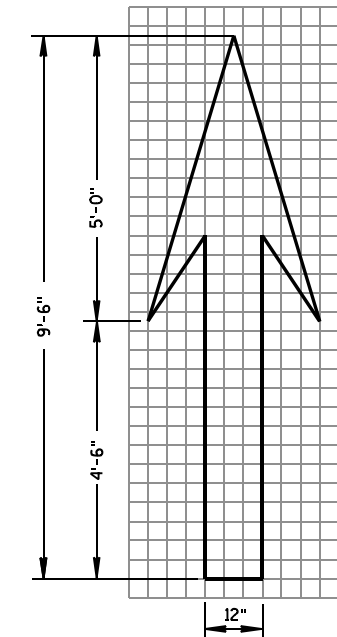
7-1-11
DATE

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER 140 IGN

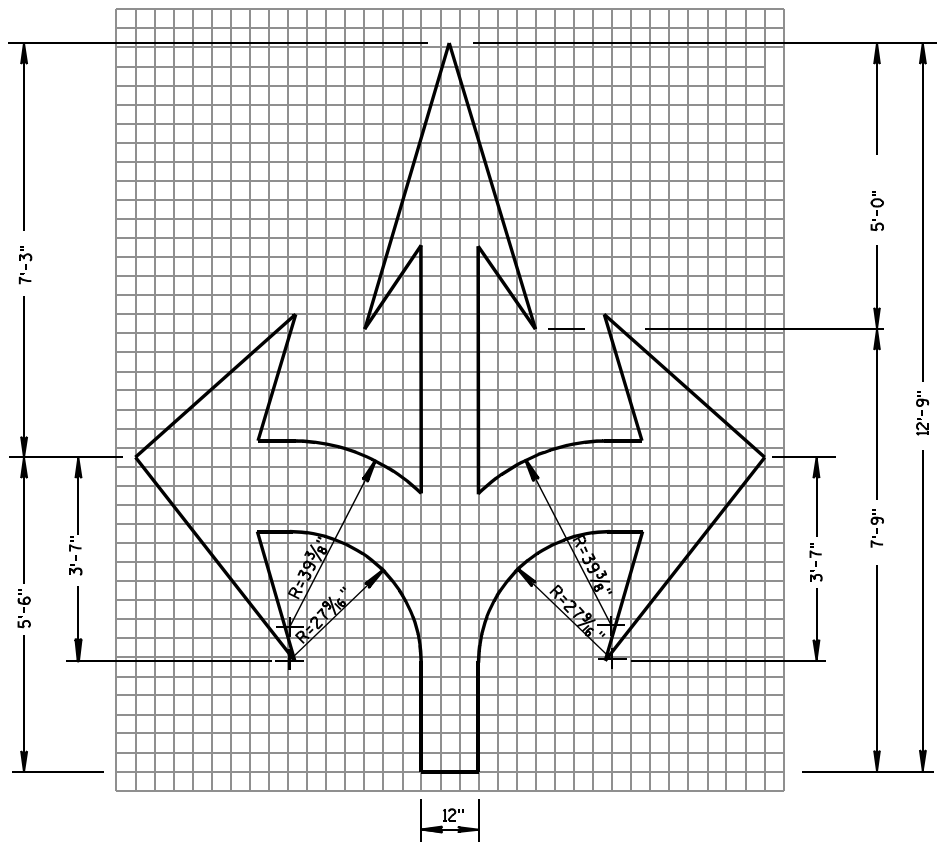
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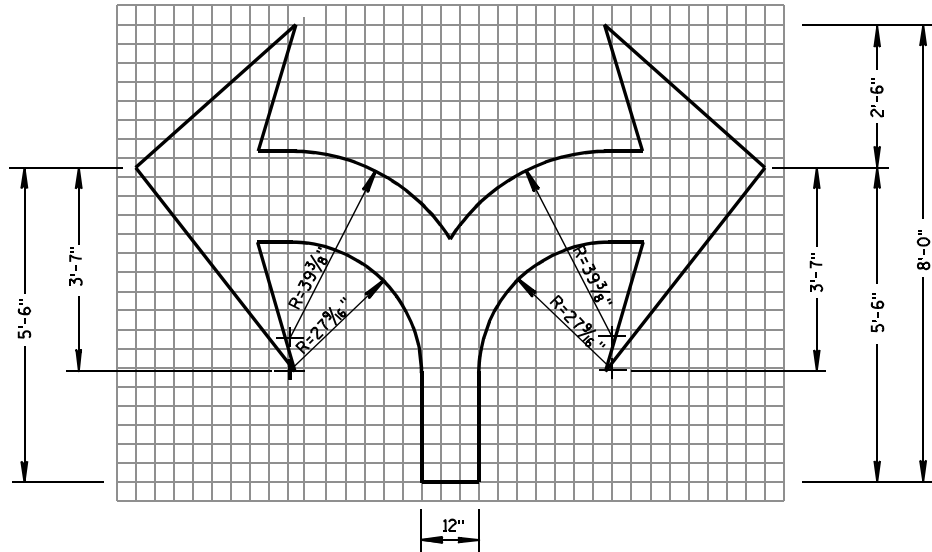
TYPE 2



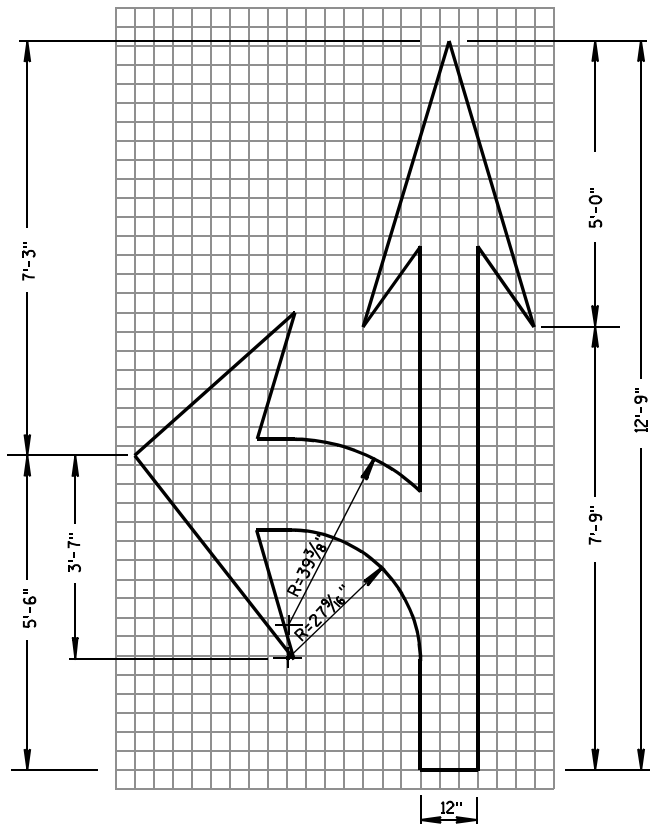
TYPE 1



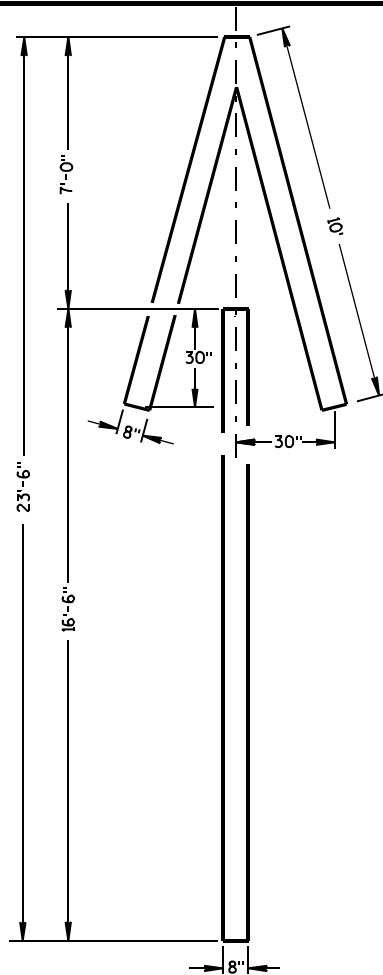
TYPE 6



TYPE 7



TYPE 3

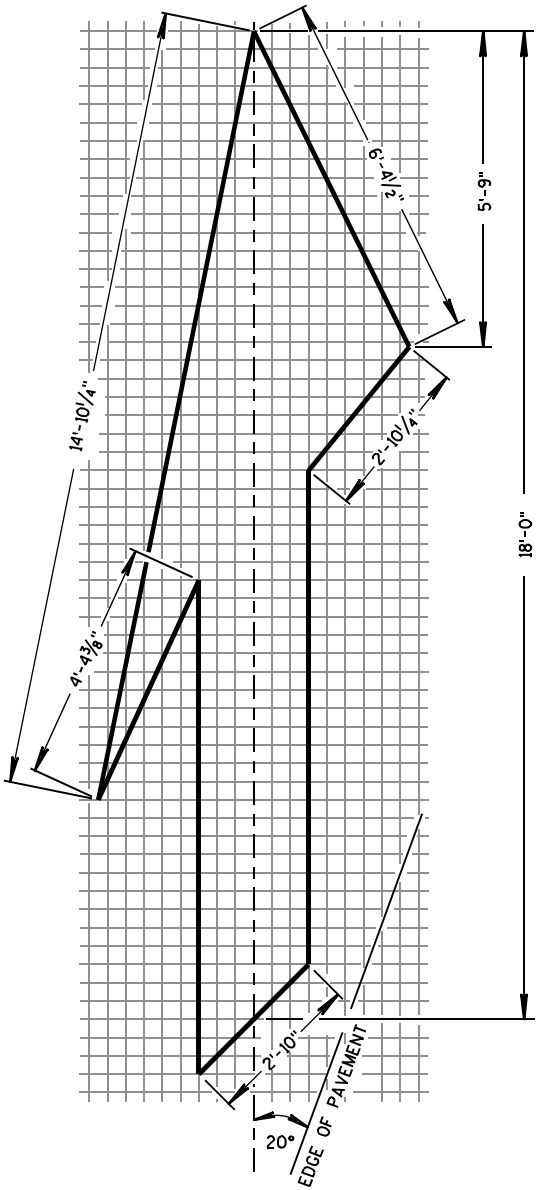


TYPE 4

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.

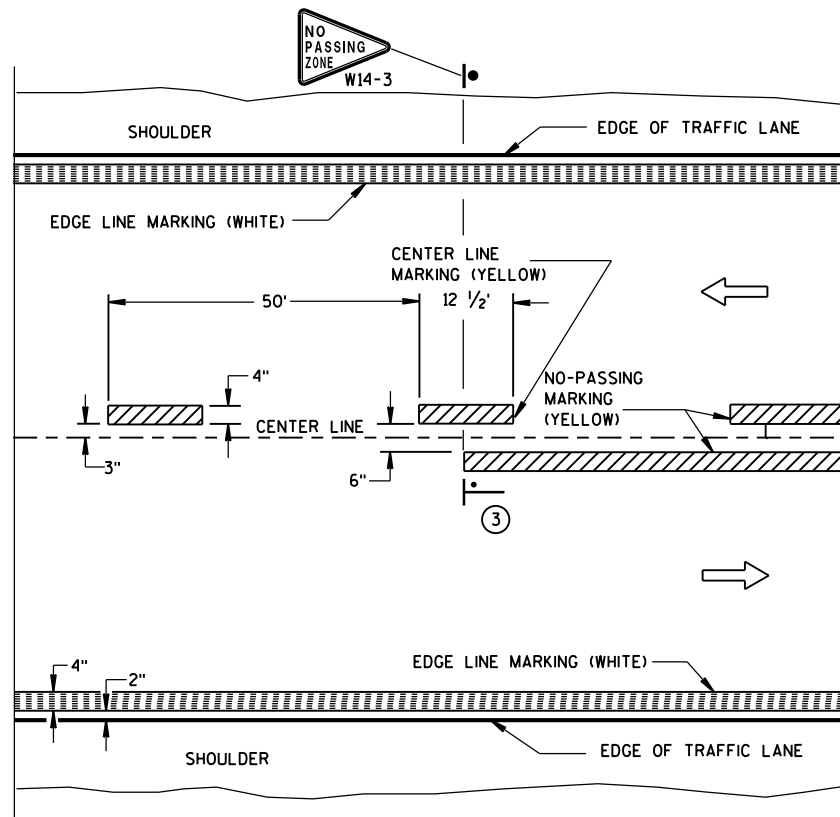


TYPE 5 LANE DROP ARROW

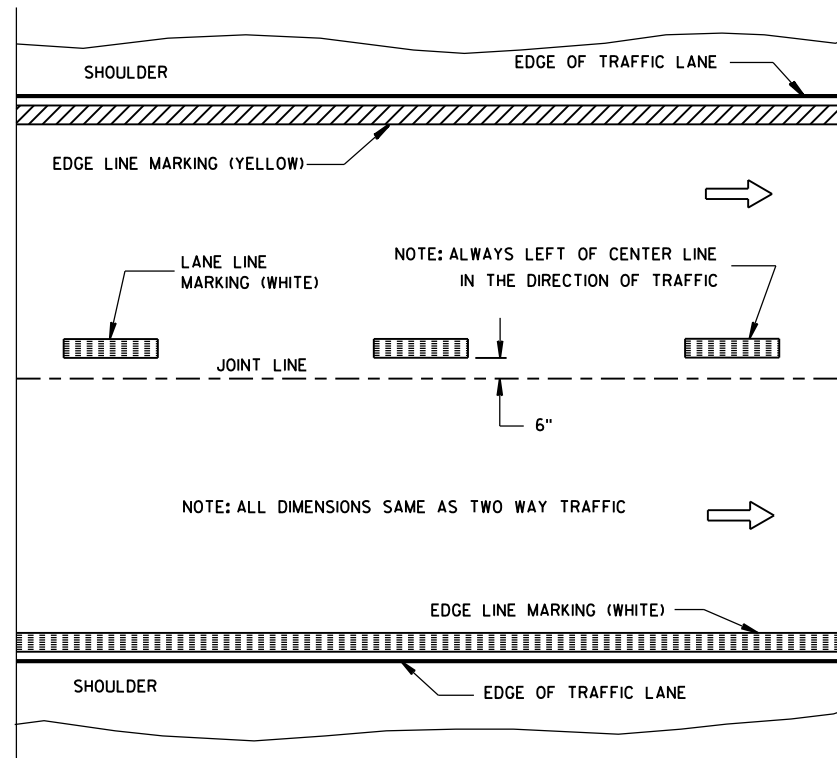
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/1/11
DATE /S/ Thomas N. Nathahn
STATE TRAFFIC ENGINEER 141 SIGN
FHWA

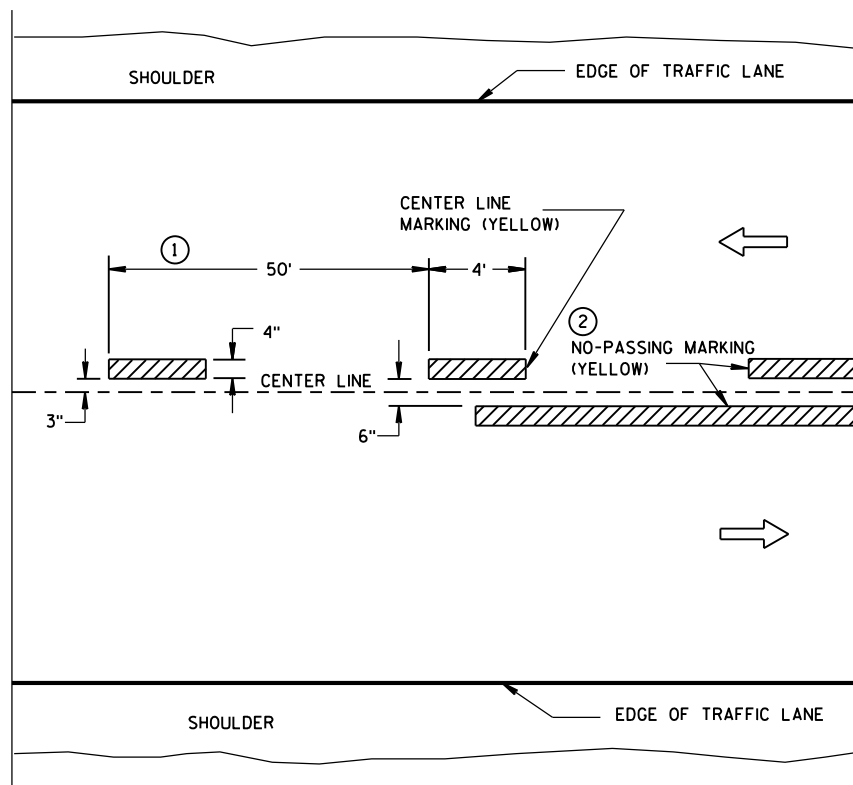


TWO WAY TRAFFIC

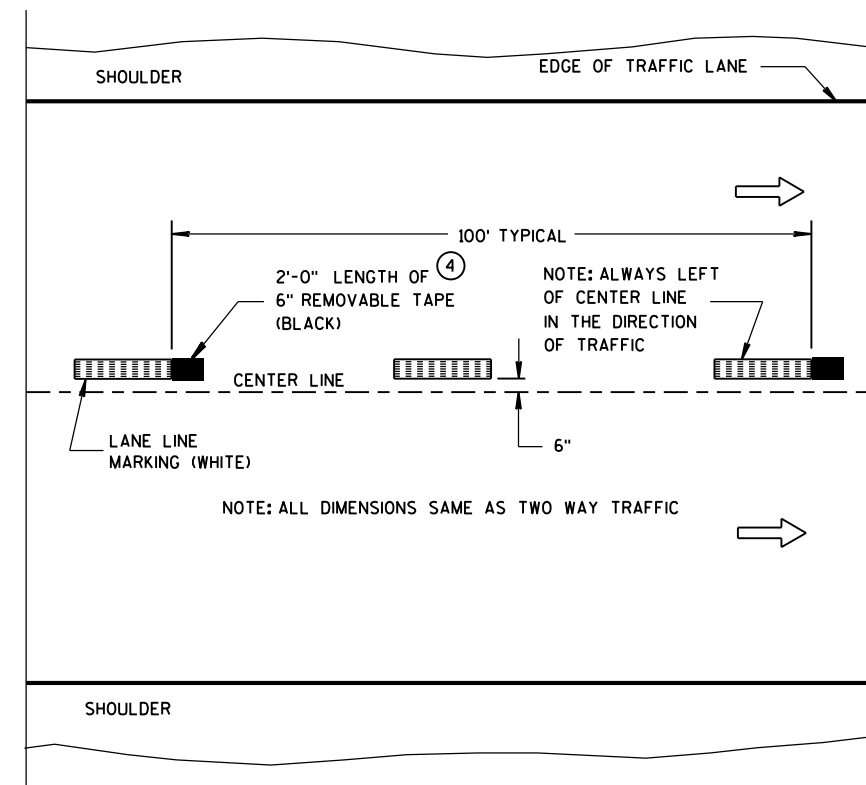


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

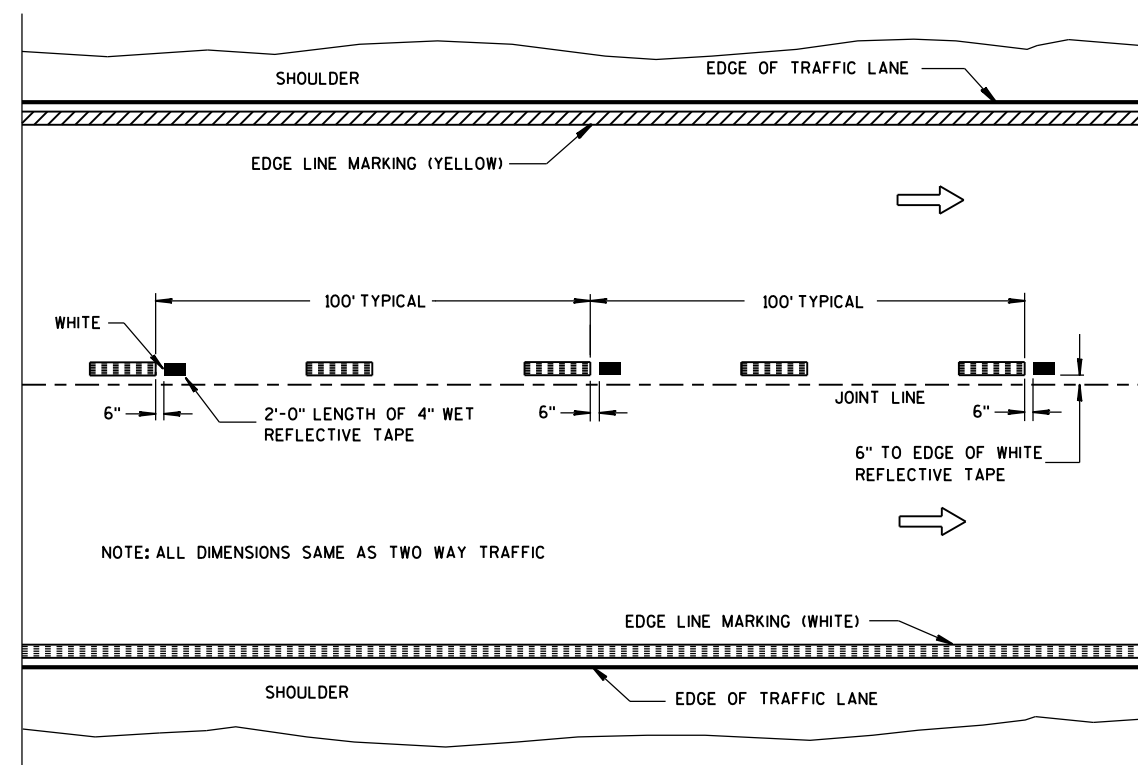
GENERAL NOTES

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)

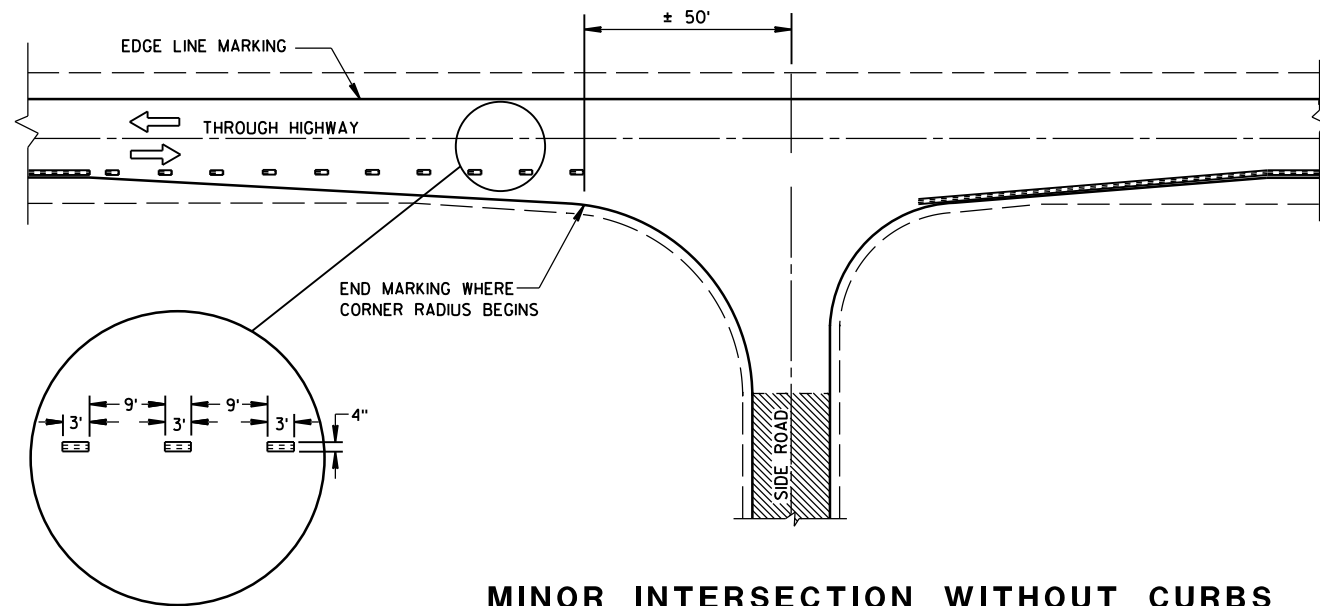
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

FHWA

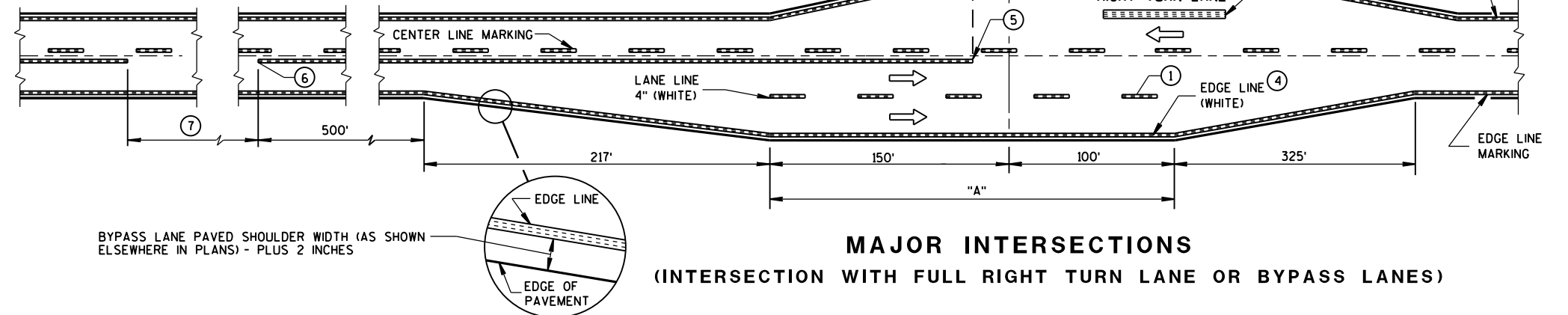
/S/ Travis Feltes
STATE TRAFFIC E 142



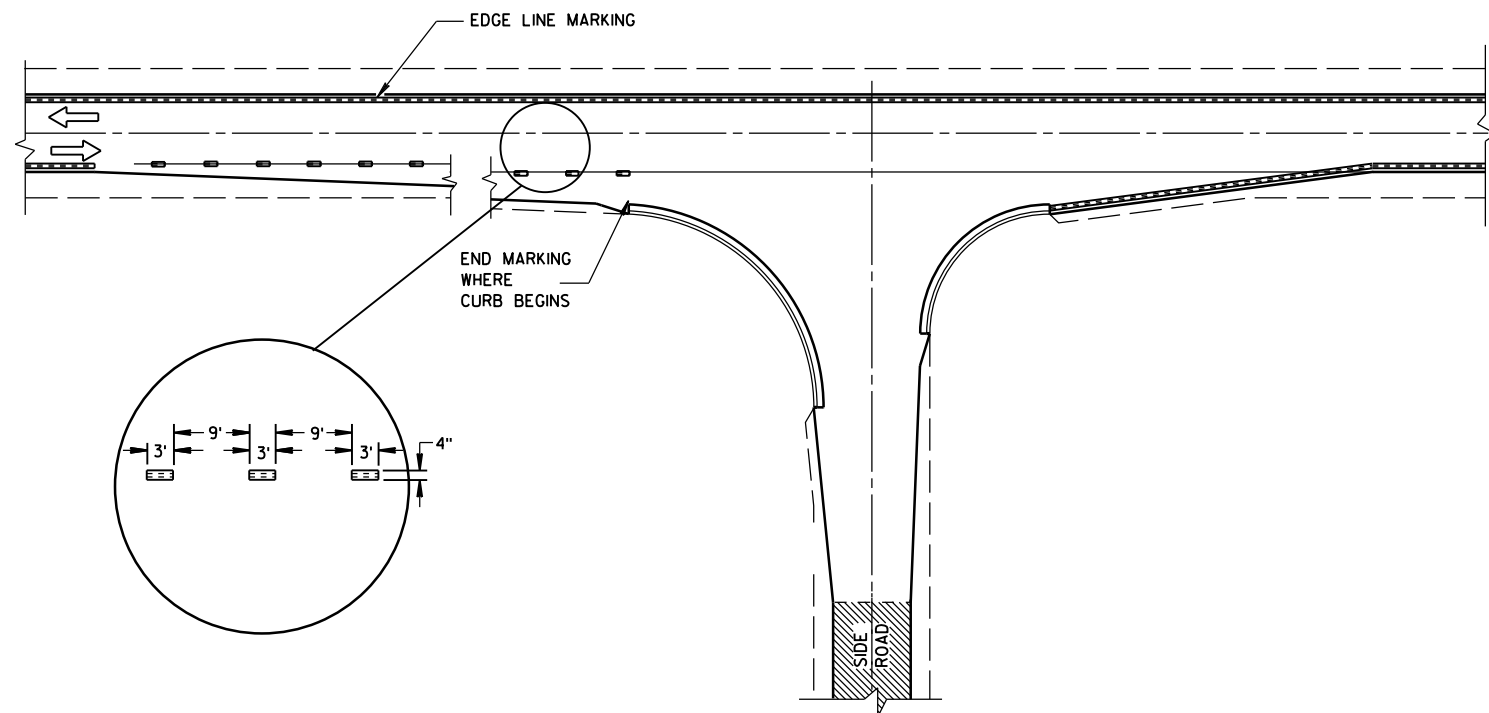
MINOR INTERSECTION WITHOUT CURBS

⑦

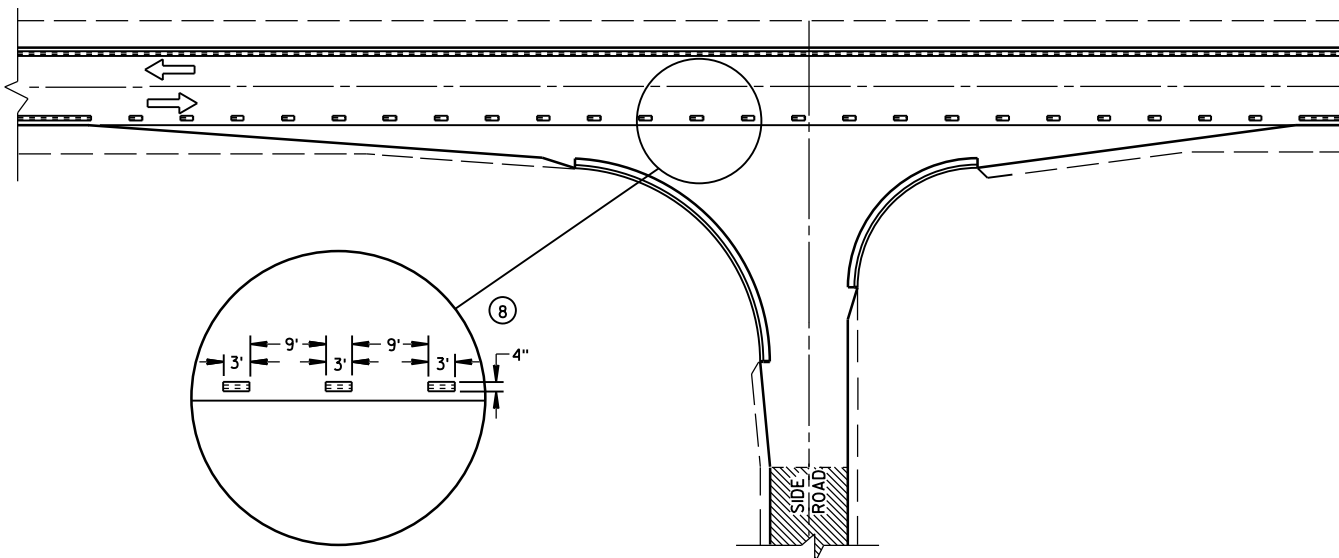
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



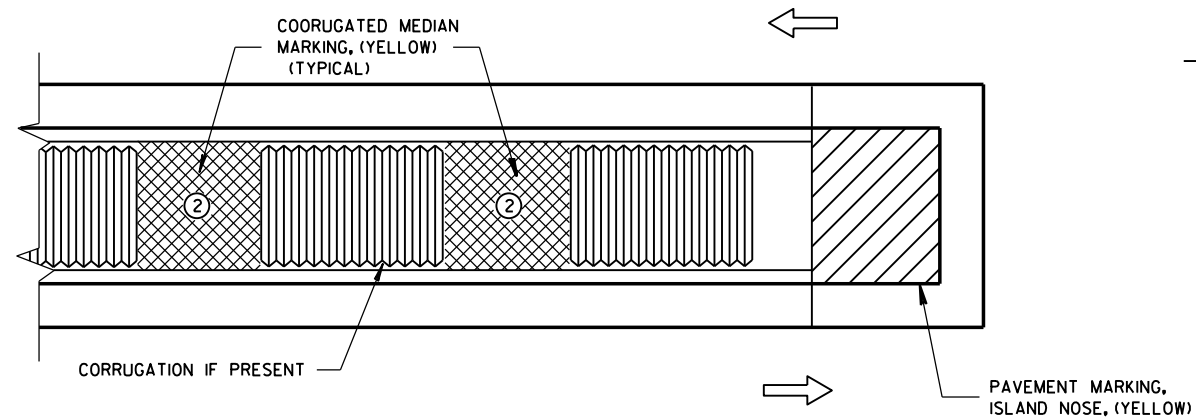
MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



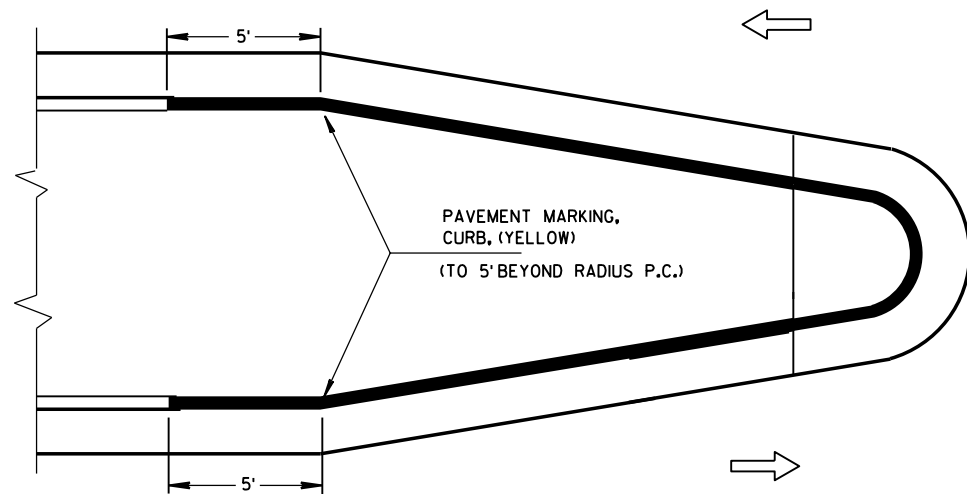
MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

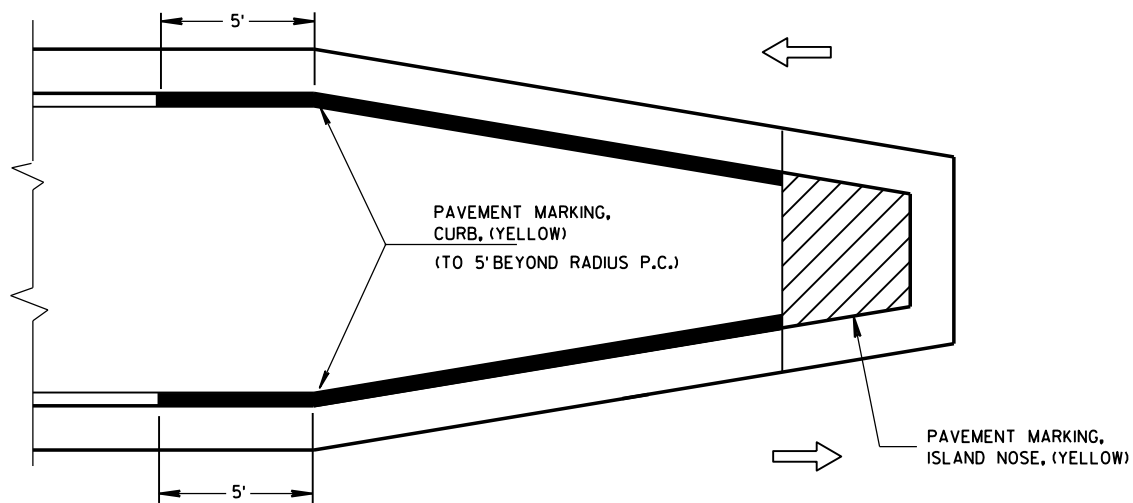
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE 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



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

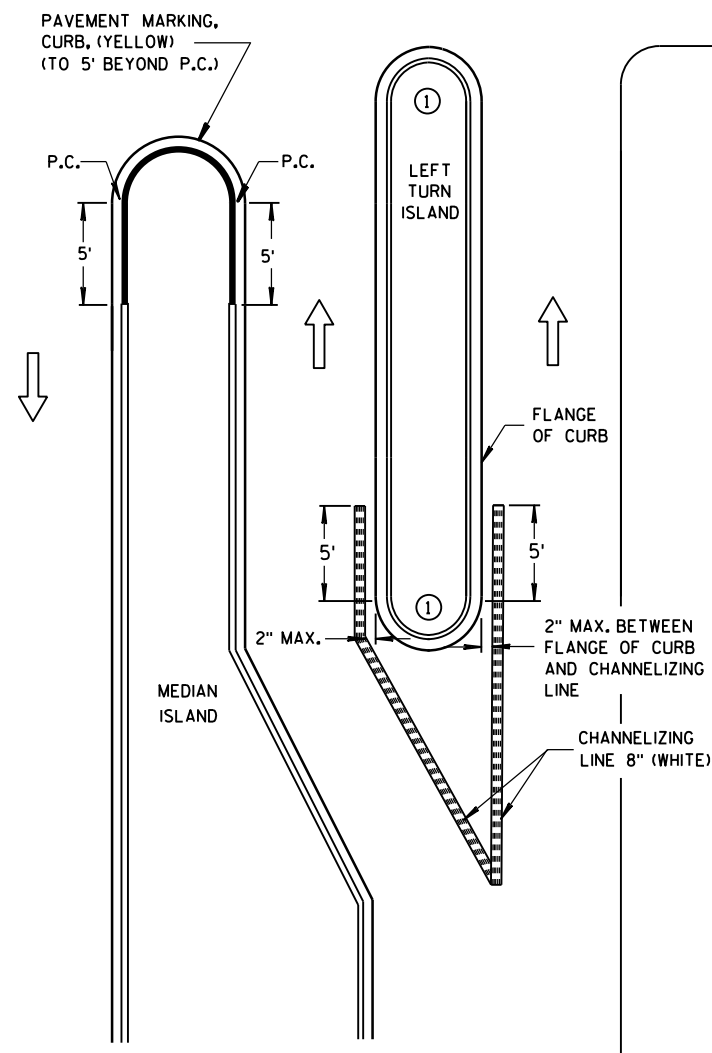


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

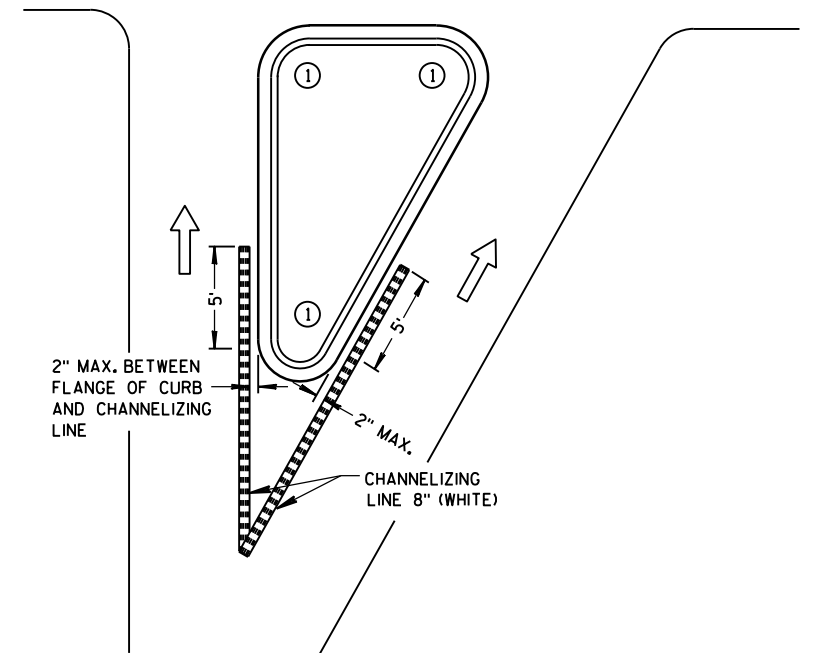
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- 1 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 2 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN, THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

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

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 144

LEGEND

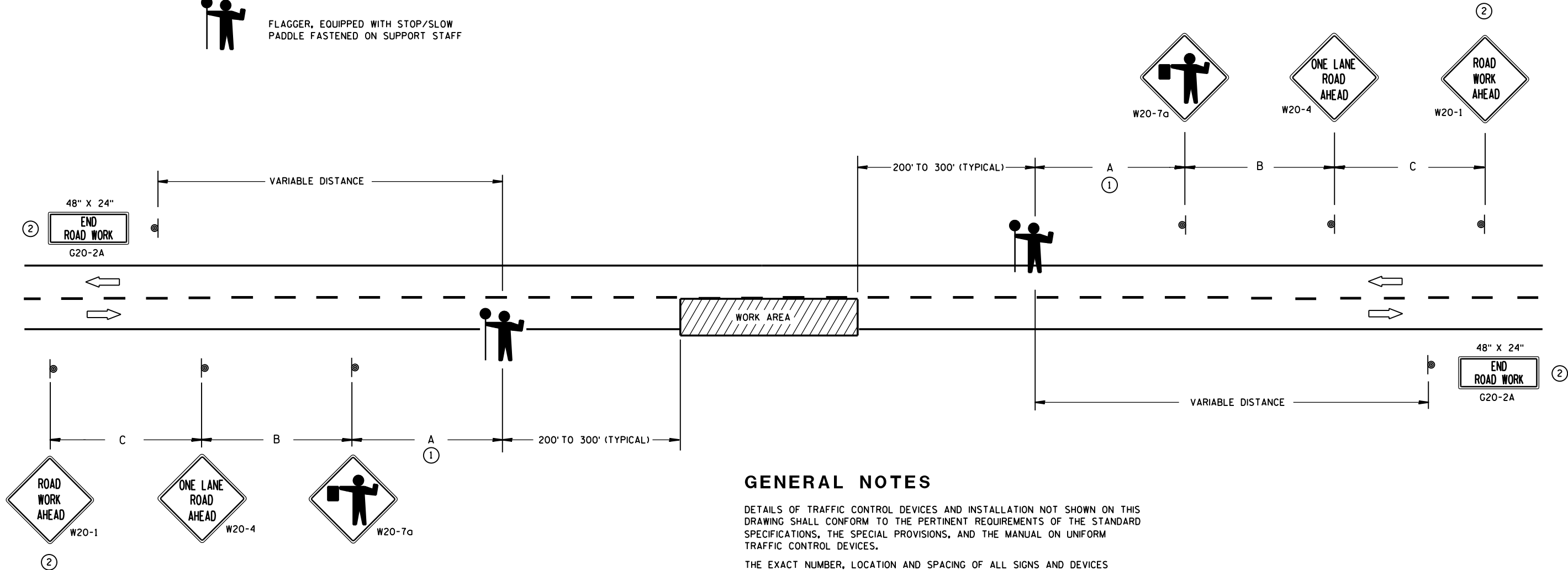
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

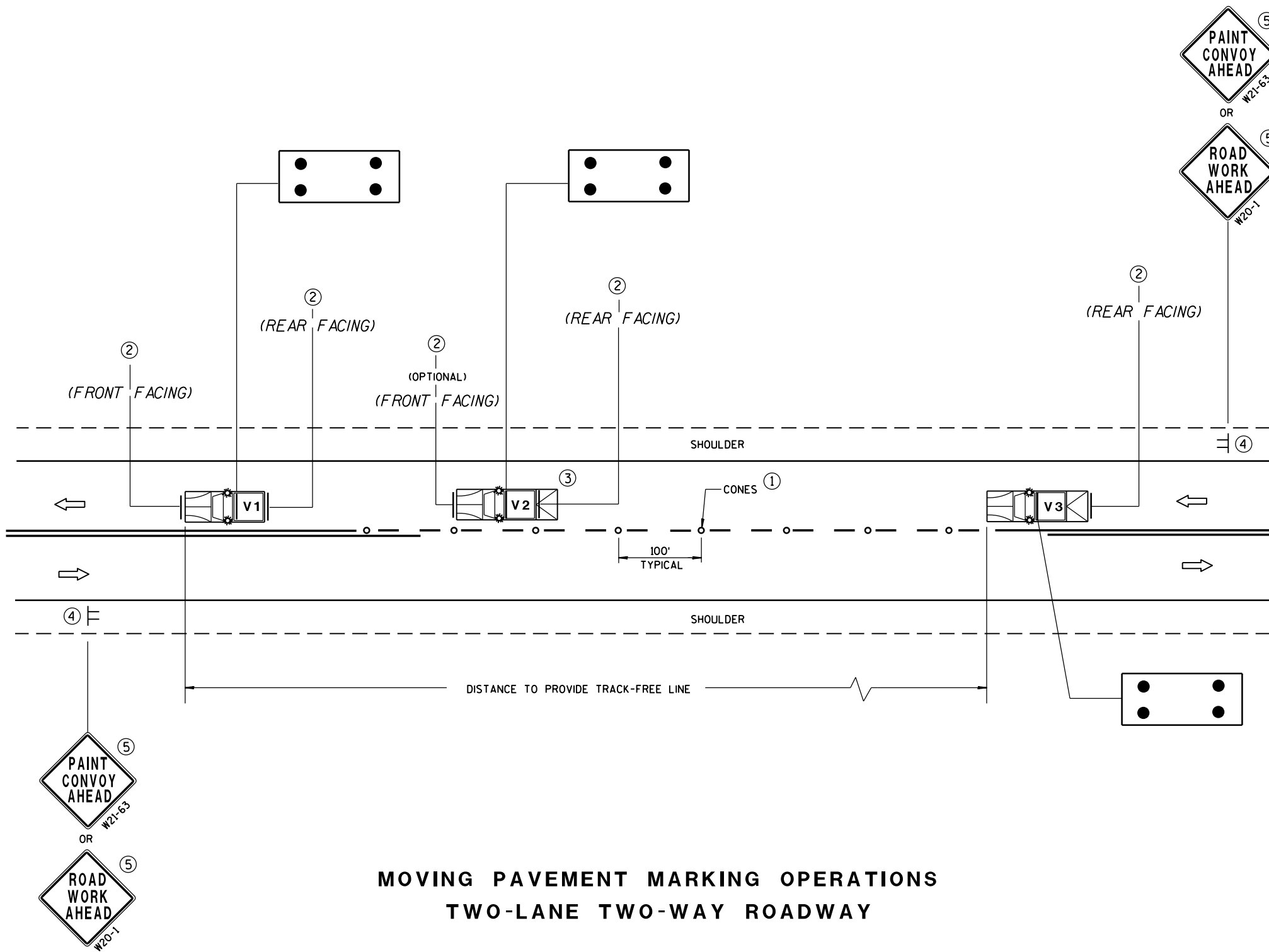
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

TRAFFIC CONTROL FOR LANE
CLOSURE (SUITABLE FOR
MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
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MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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

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

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

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

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

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

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

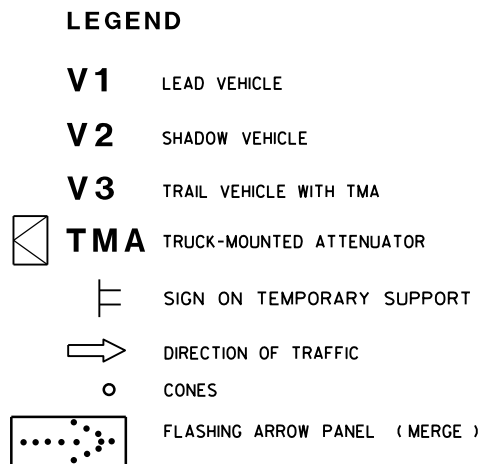
LEGEND

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

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 /S/ Travis Feltes
DATE STATE TRAFFIC E 146
FHWA



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

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

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

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

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

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

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGE LINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH.

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGETLINE OR LANELINE MARKING FOR MULTILANE UNDIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.


W21-64

OR


W21-64
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

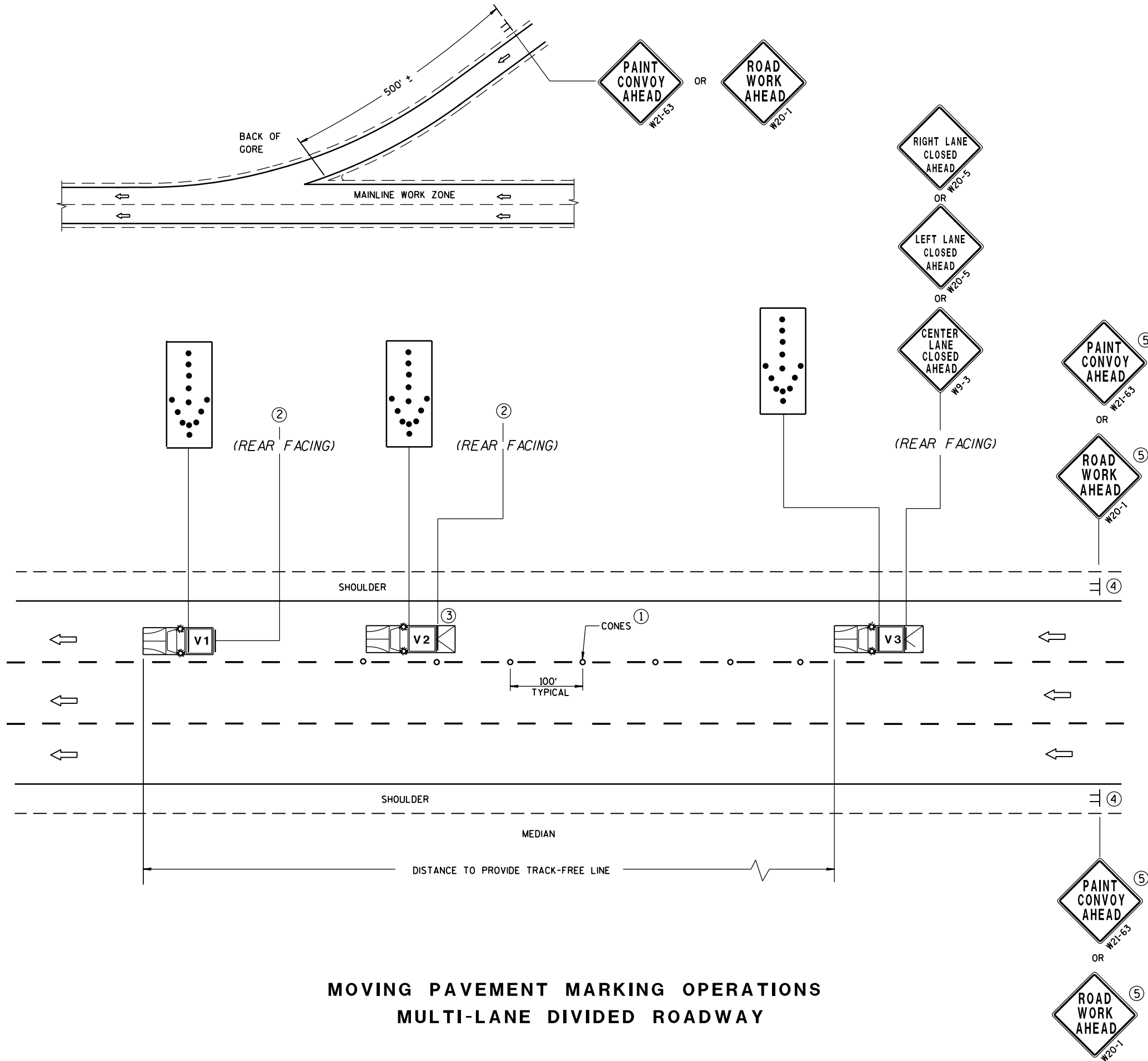
LEGEND

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

MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/3/2013 /S/ Travis Feltes
DATE STATE TRAFFIC EN 147
FHWA



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

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

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

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

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

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

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

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGE LINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

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

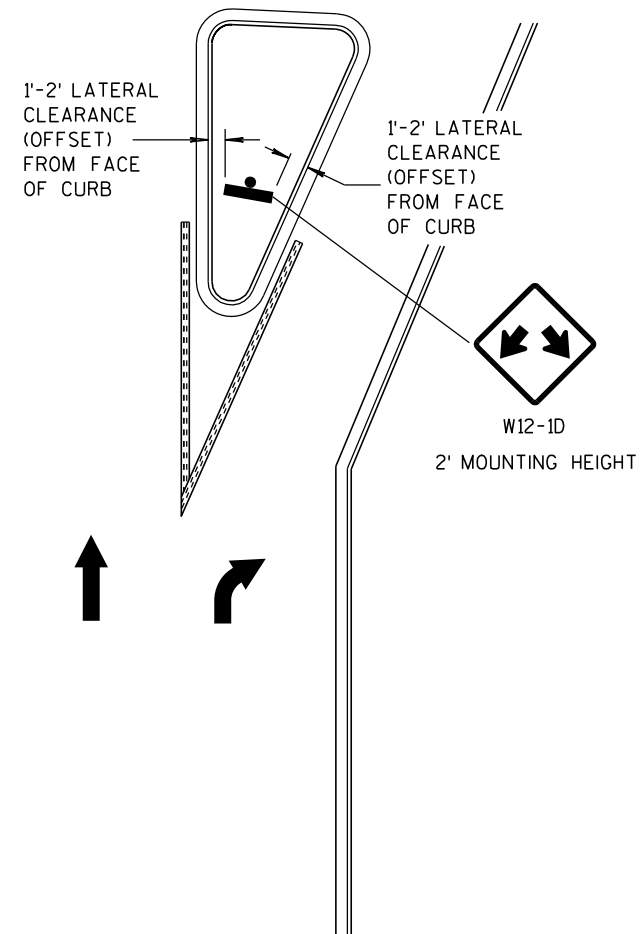
THIS DRAWING SHALL BE USED FOR EDGE LINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

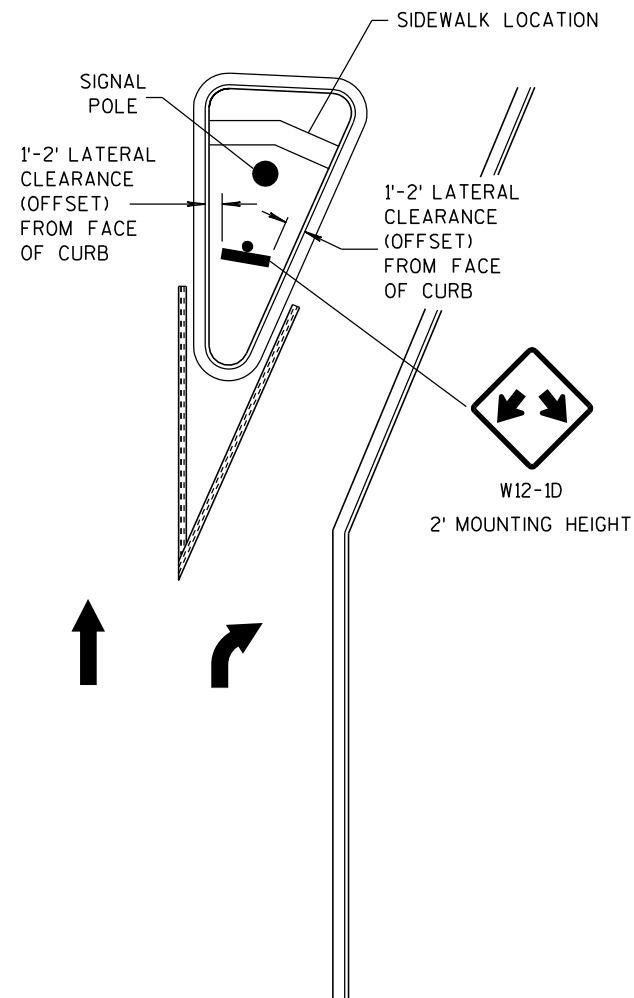
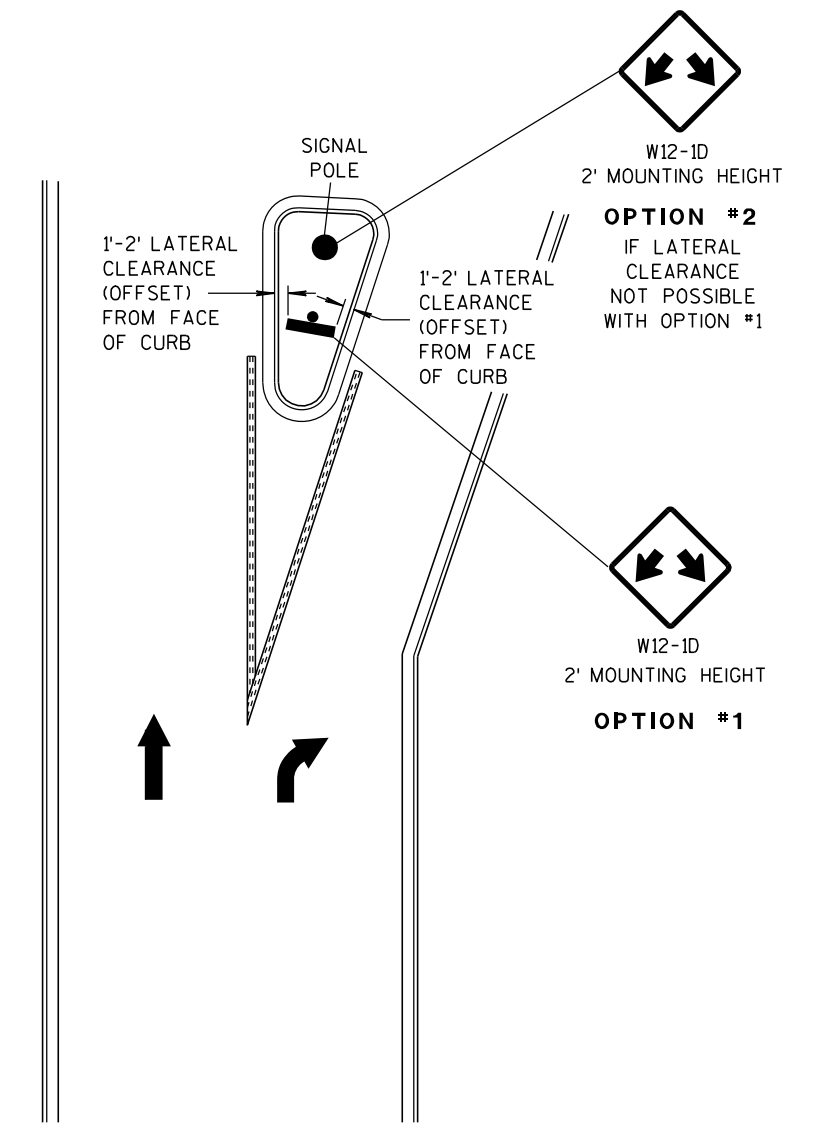
LEGEND

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

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 5/3/2013	/S/ Travis Feltes STATE TRAFFIC ENGINEER 148
FHWA	



LARGE RIGHT TURN ISLAND

LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE

SMALL RIGHT TURN ISLAND

GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

DOUBLE ARROW WARNING SIGN PLACEMENT**DOUBLE ARROW
WARNING SIGN PLACEMENT**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-22-08
DATE

FHWA

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER 149 IGN

LEGEND

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



W02-52
36"x24"

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



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



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

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

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

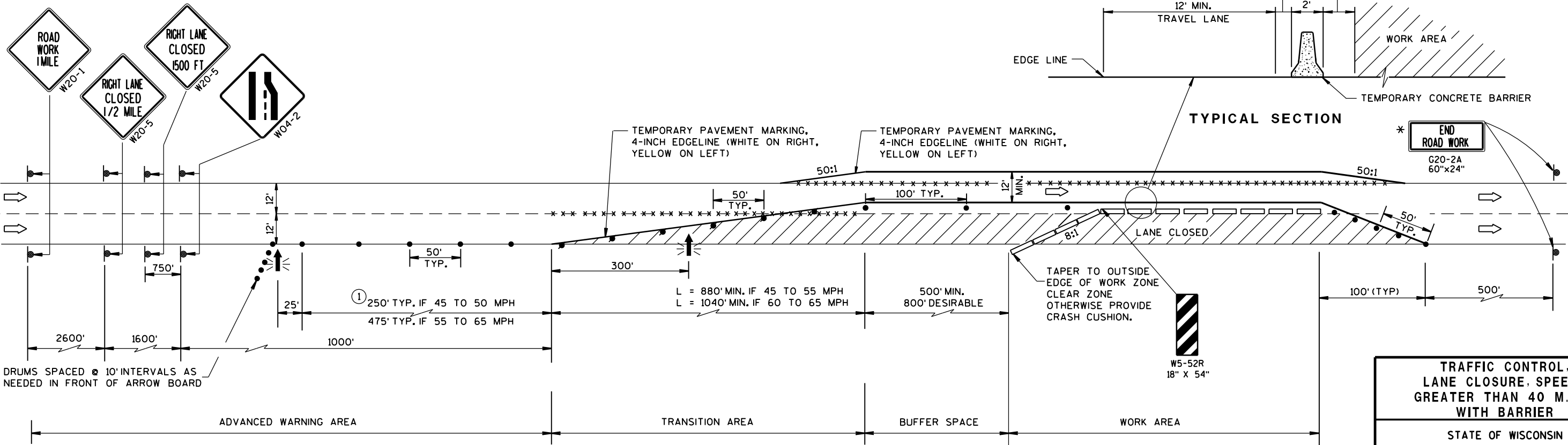
- ① CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

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

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

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



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 150 SIGN
FHWA	

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

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

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

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

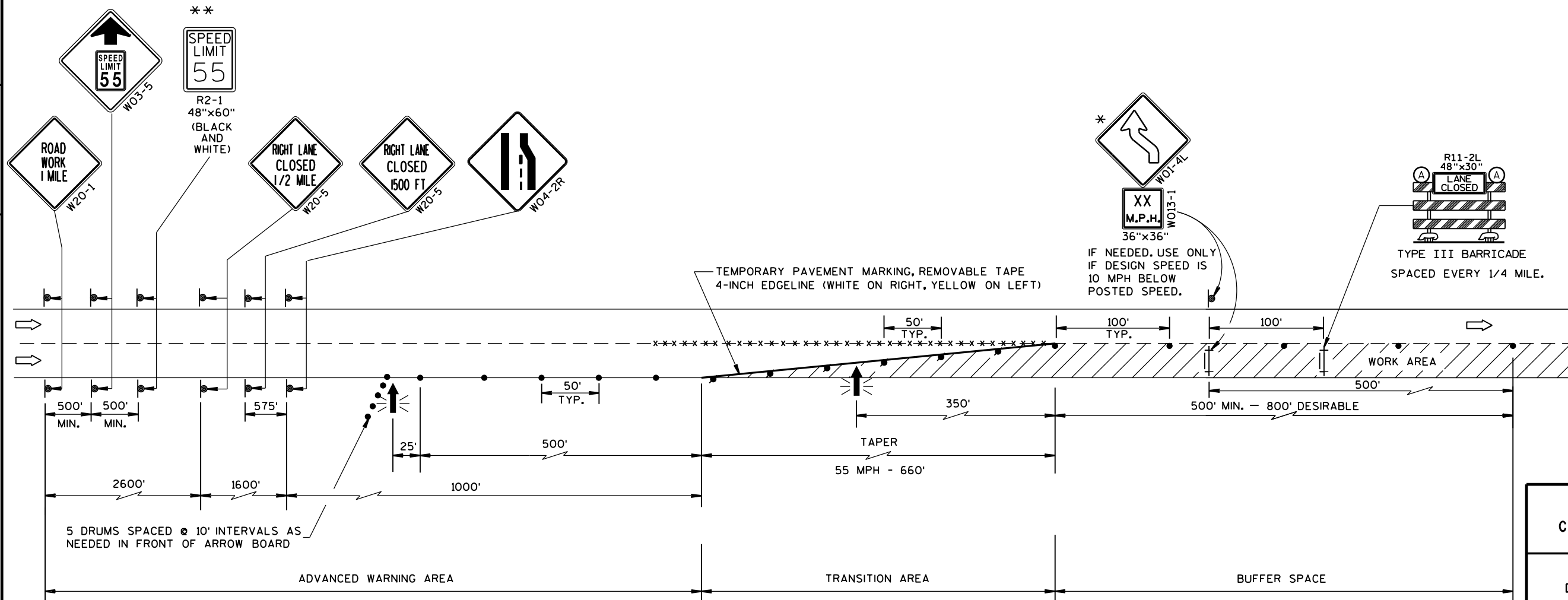
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

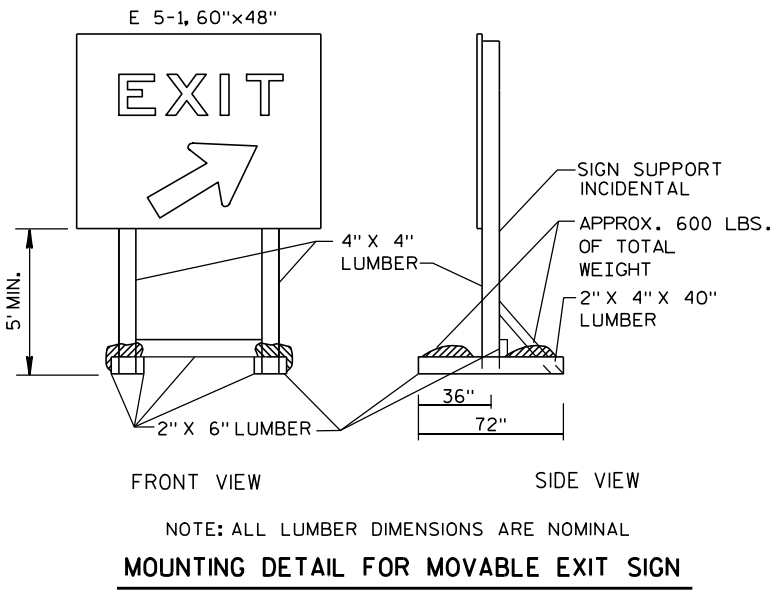
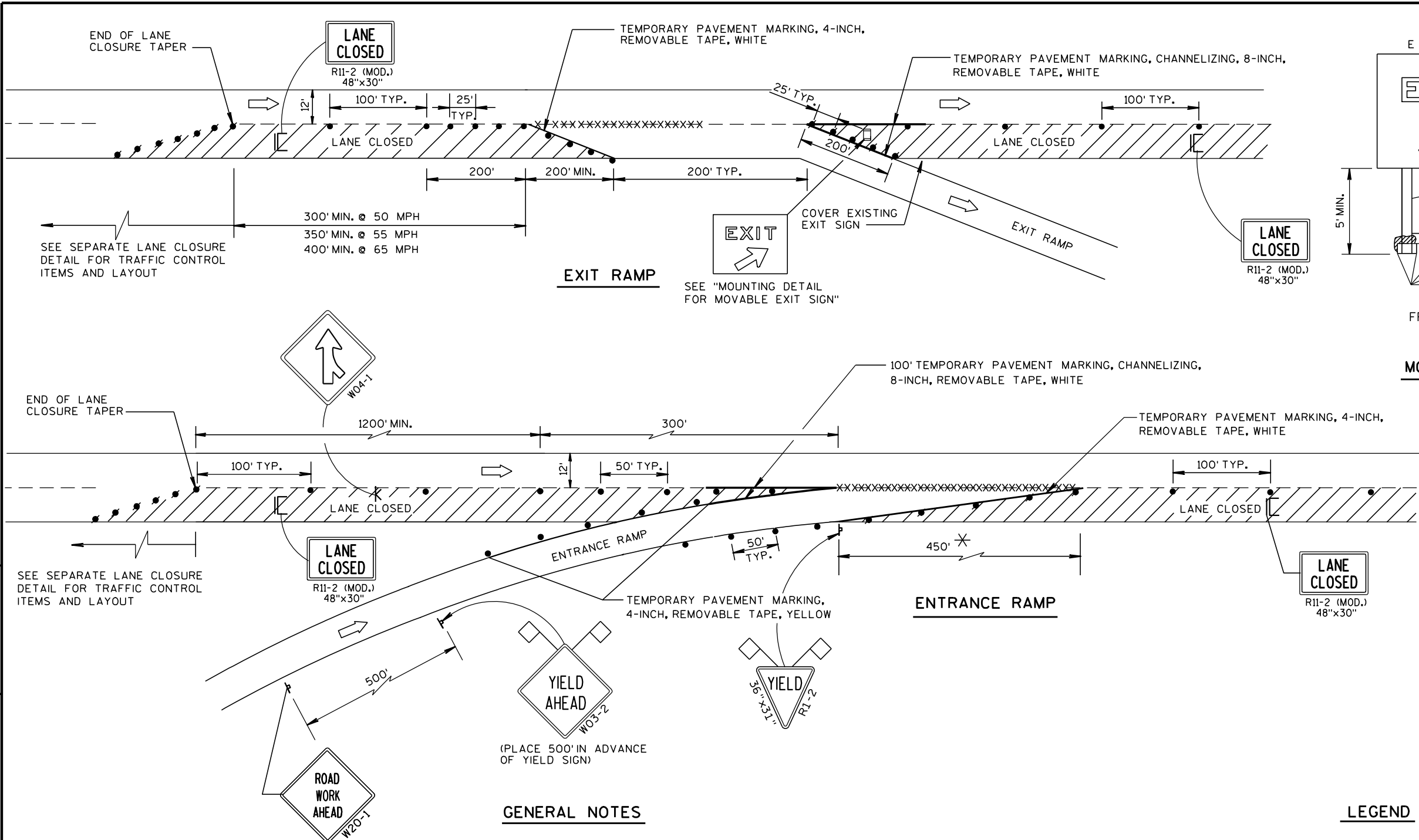
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN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

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

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



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3-2014 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 151 SIGN
FHWA	



GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

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

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

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

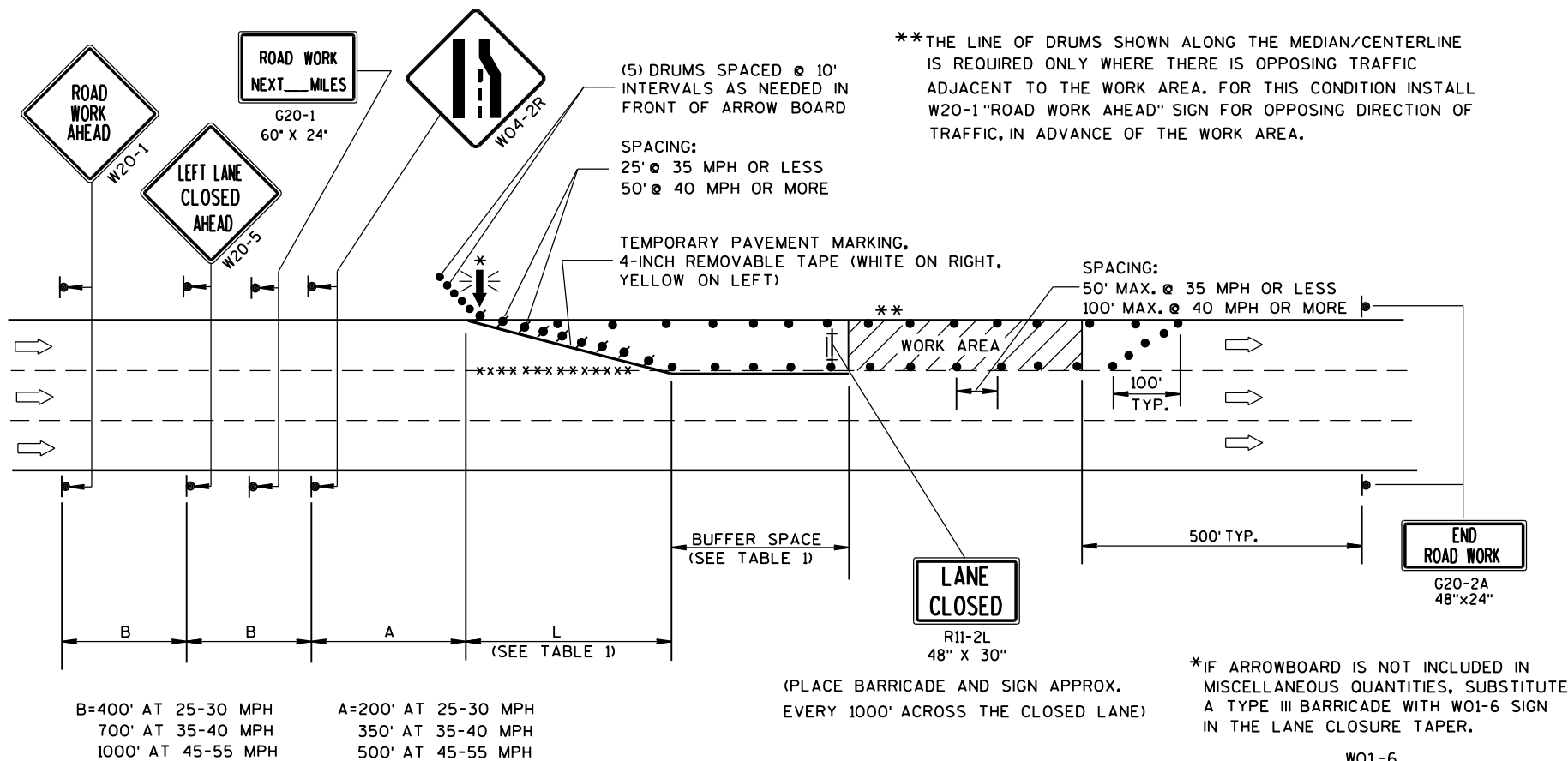
LEGEND

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

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE /S/ Chester J. _____
CHIEF SIGNS AND MAR 152 INEER
FHWA



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.

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 153		SIGN
FHWA			

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

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

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

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

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

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

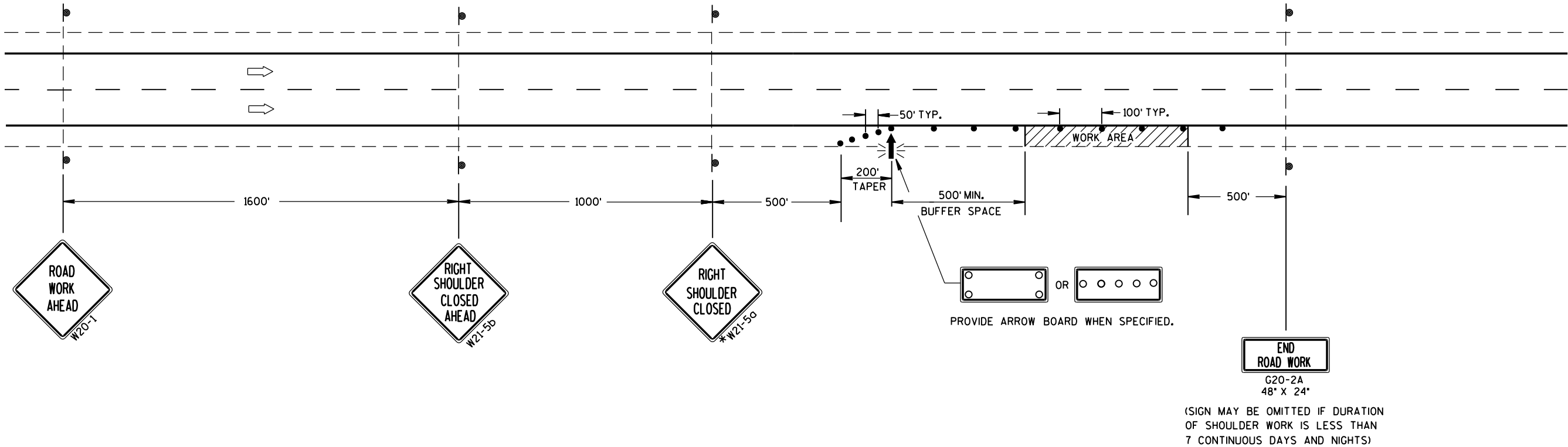
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINE 154 SIGN
FHWA

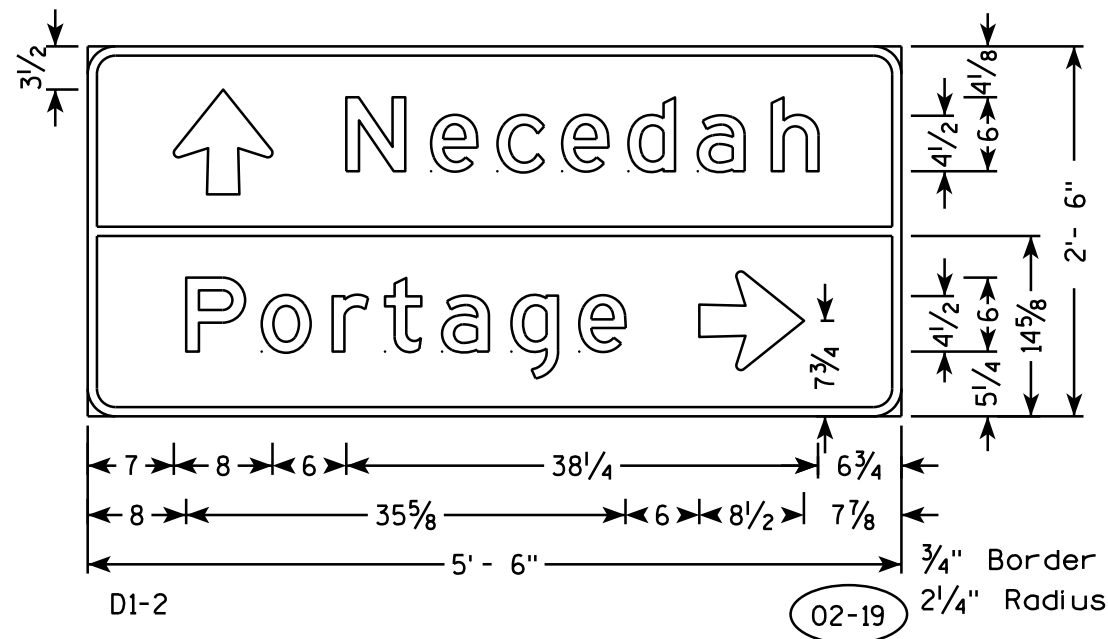
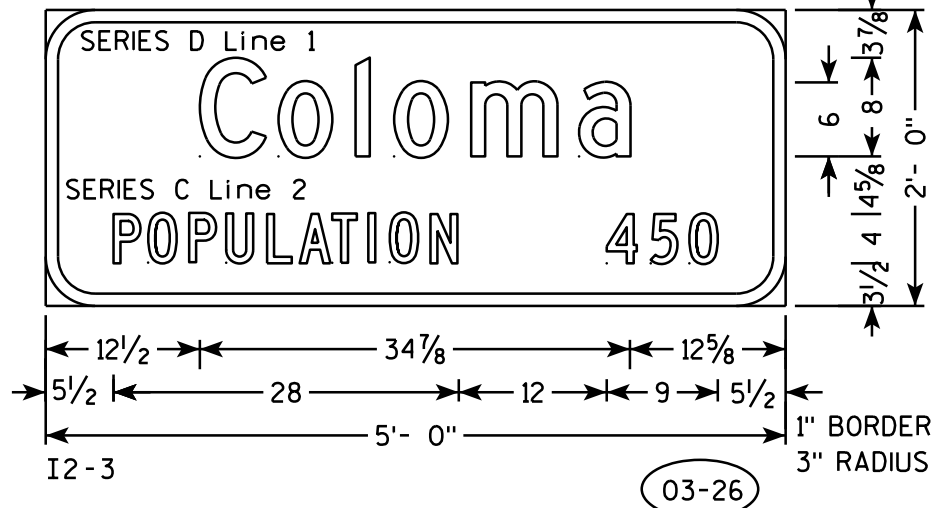
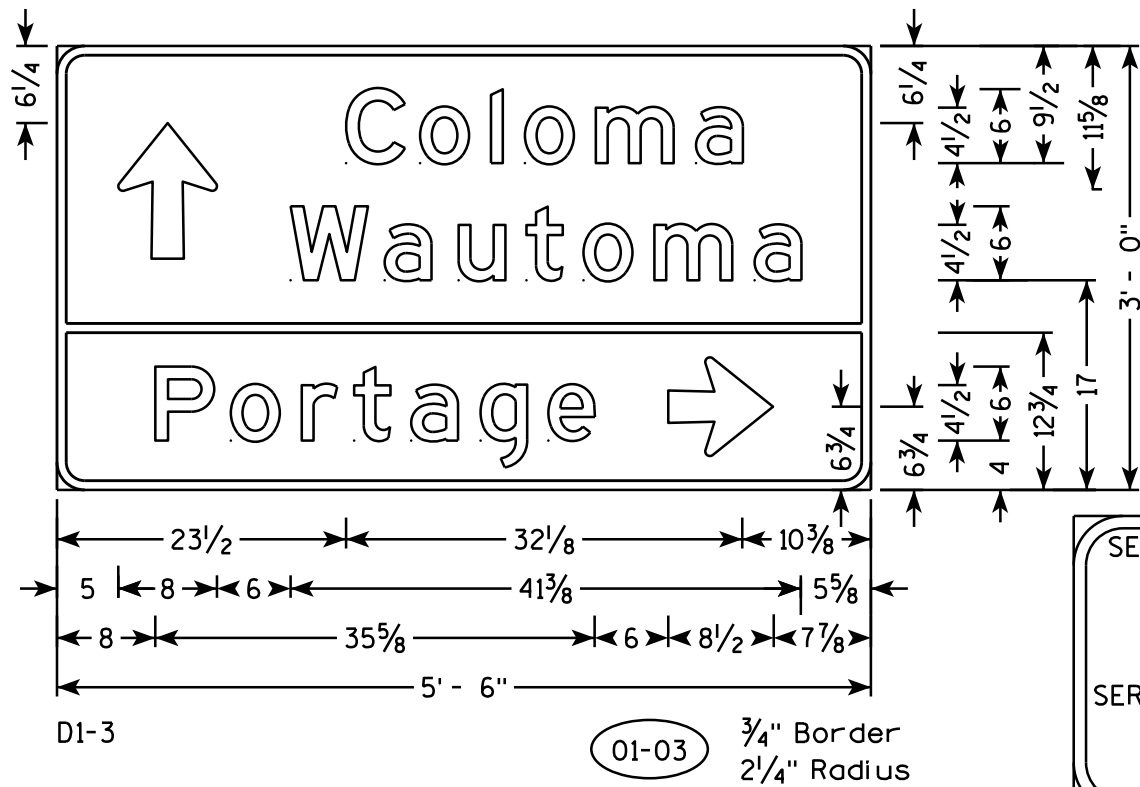
	SIGN ON PERMANENT SUPPORT
	REMOVING PAVEMENT MARKING
	TYPE III BARRICADE WITH ATTACHED SIGN
	CONCRETE BARRIER TEMPORARY PRECAST
	FLAGS, 16" x 16" MIN., (ORANGE)
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
	ASPHALTIC PAVEMENT WIDENING
	DIRECTION OF TRAFFIC
	4" X 6" WOOD POST
	TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE



 W057-52
 36" x 24"

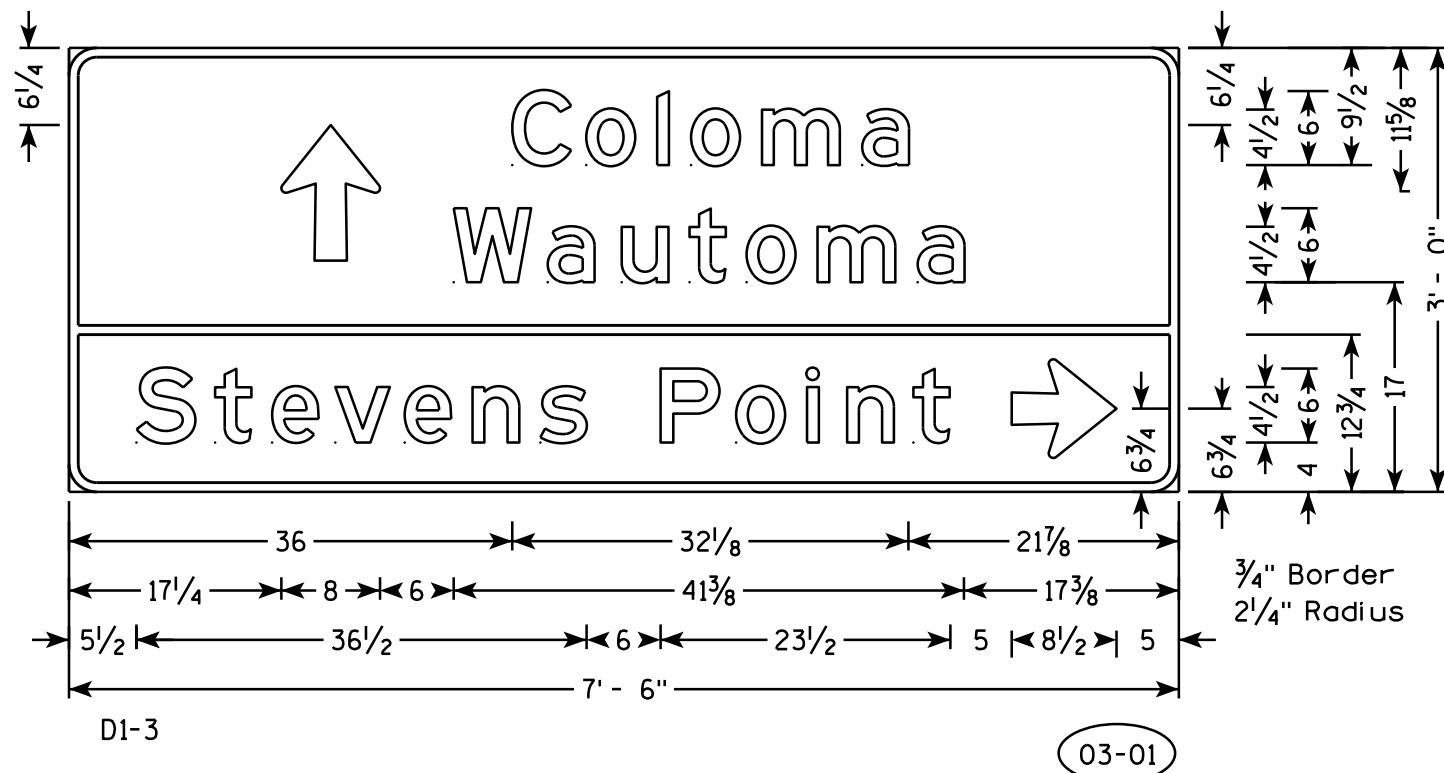
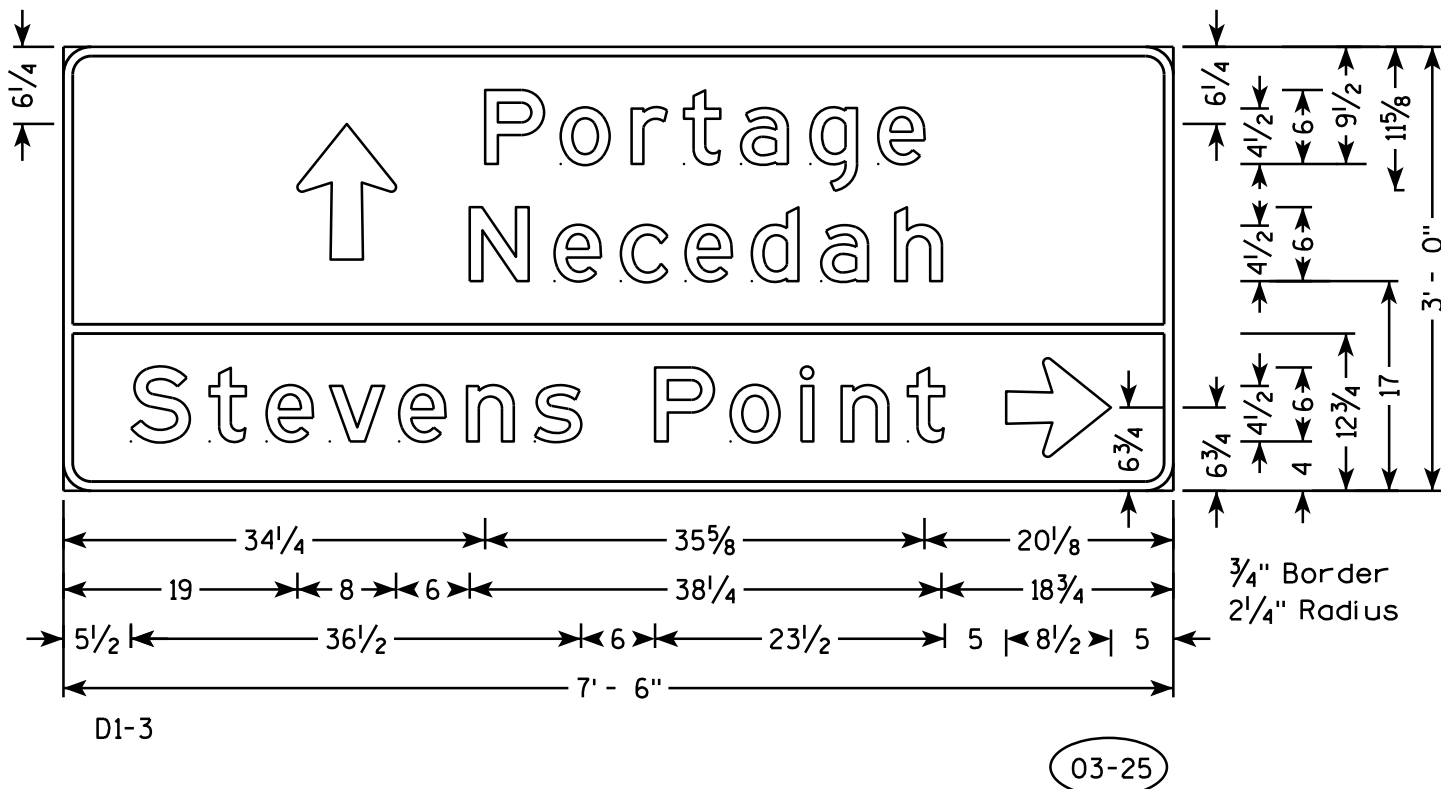
** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.





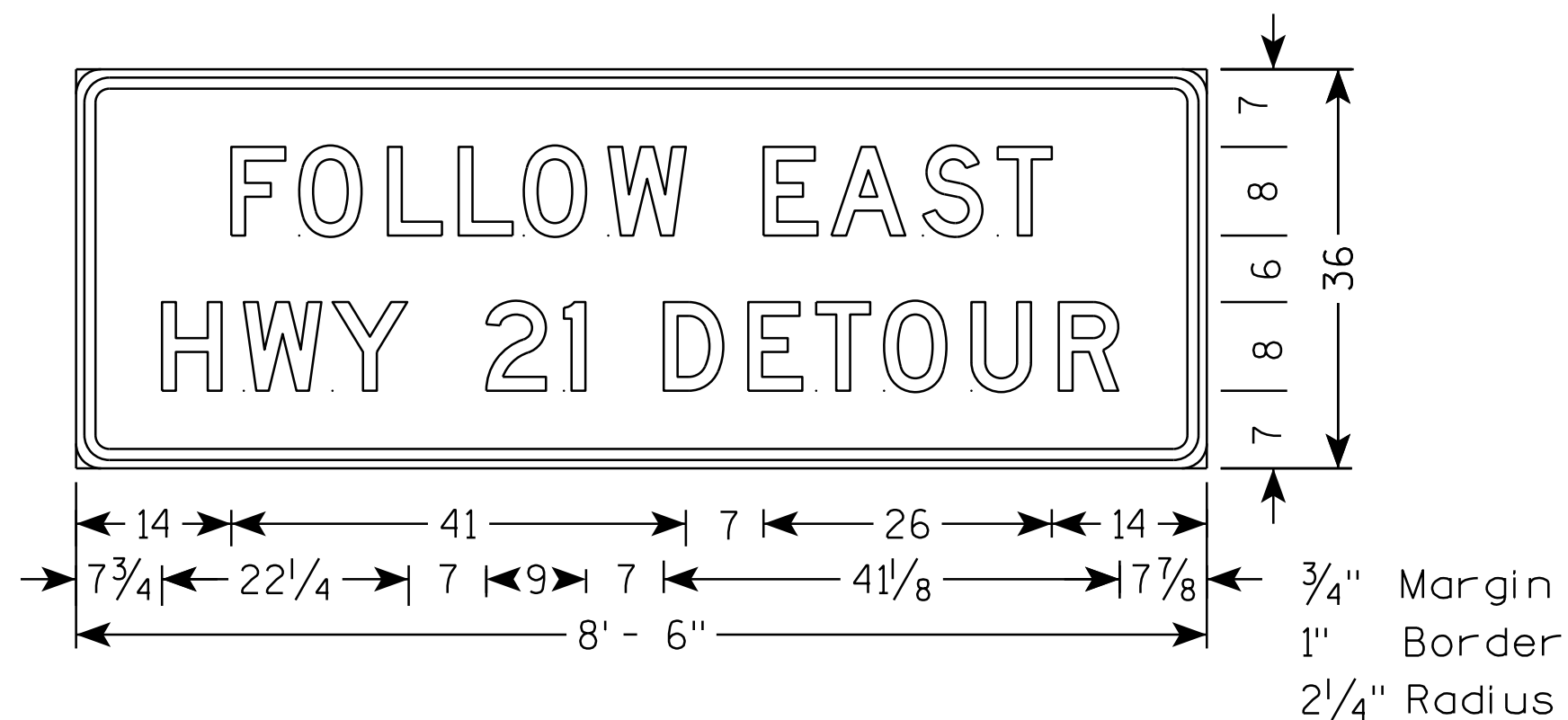
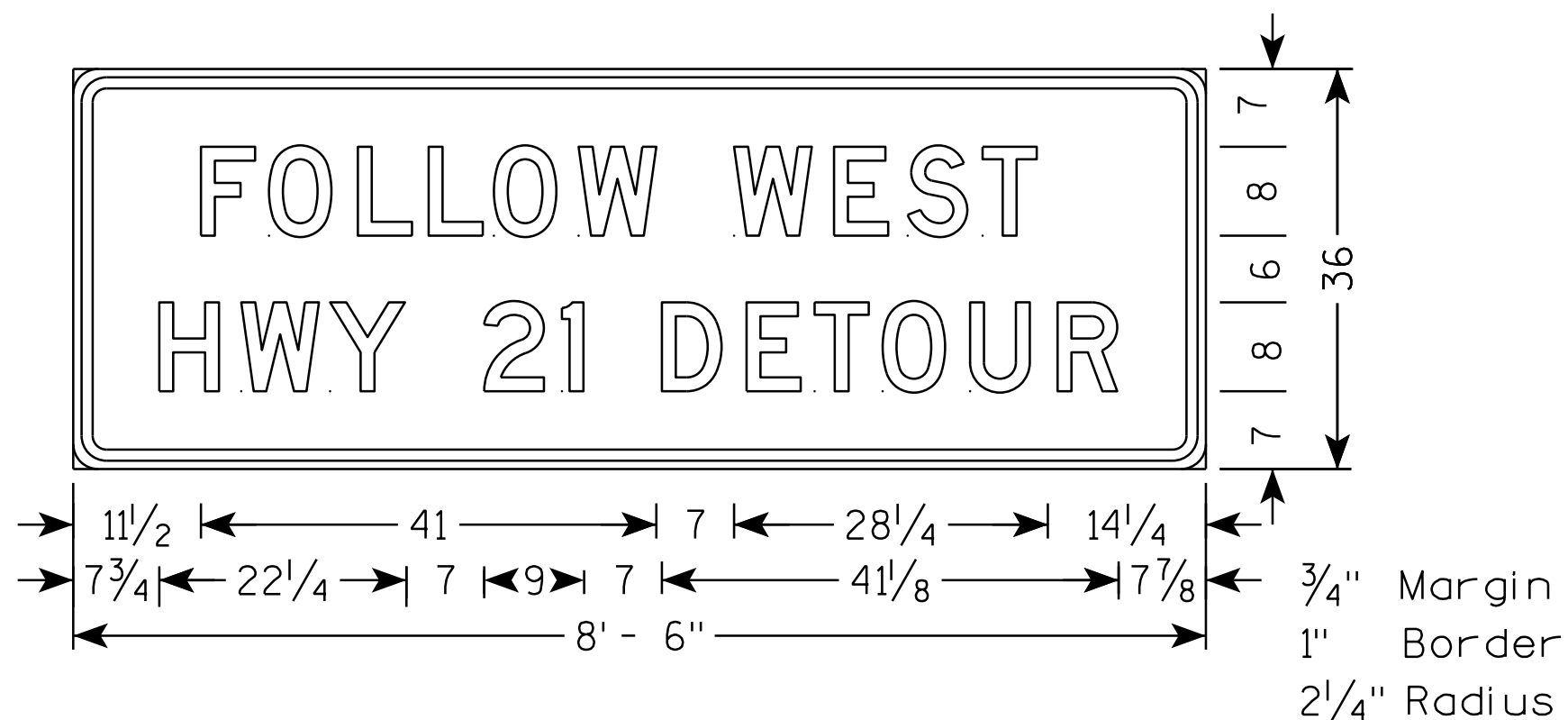
NOTES

1. All Signs Type II - Type H Reflective
2. Color:
Background - GREEN
Message - WHITE
3. Message Series - E except as Shown

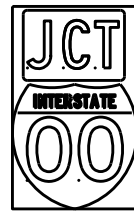


NOTES

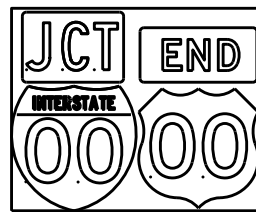
1. All Signs Type II - Type F Reflective
2. Color:
Background - ORANGE
Message - BLACK
3. Message Series - D



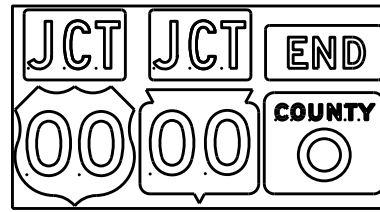
TYPICAL ASSEMBLIES



J1-1



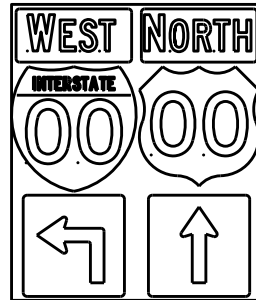
J1-2



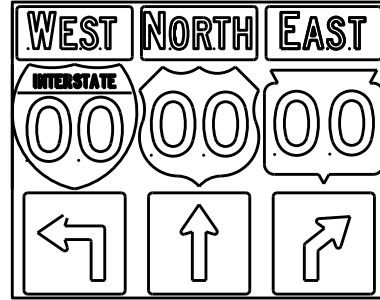
J1-3



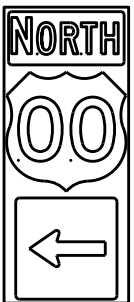
J2-1



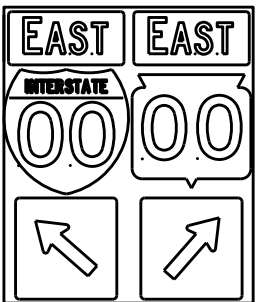
J2-2



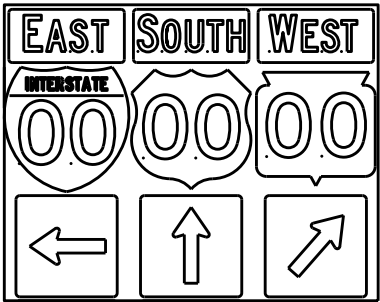
J2-3



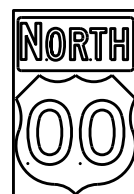
J3-1



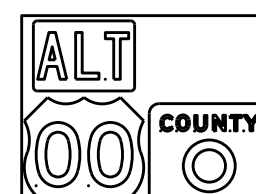
J3-2



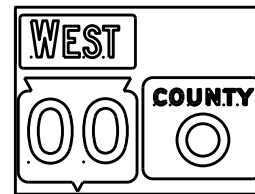
J3-3



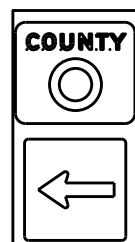
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

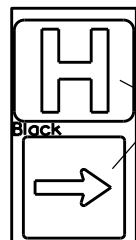


J22-1



JV

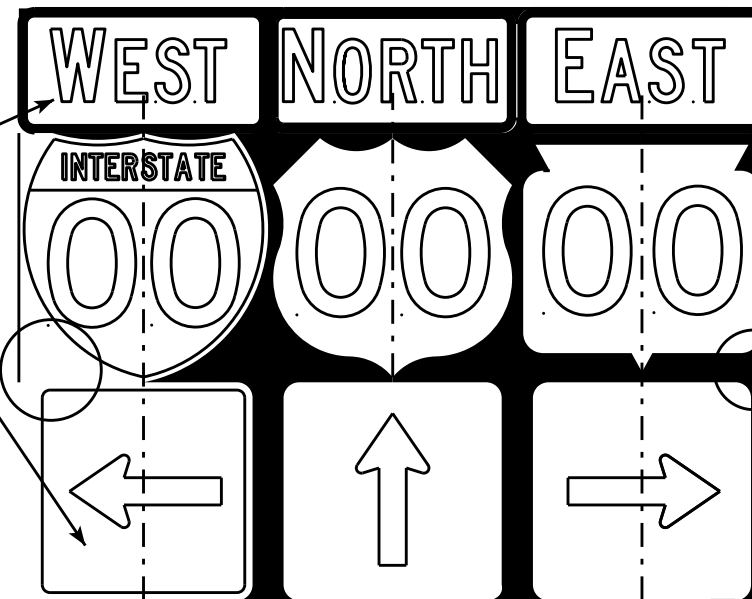
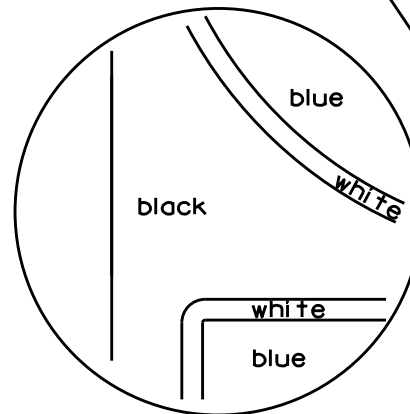
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PL 158 A2-1S.8

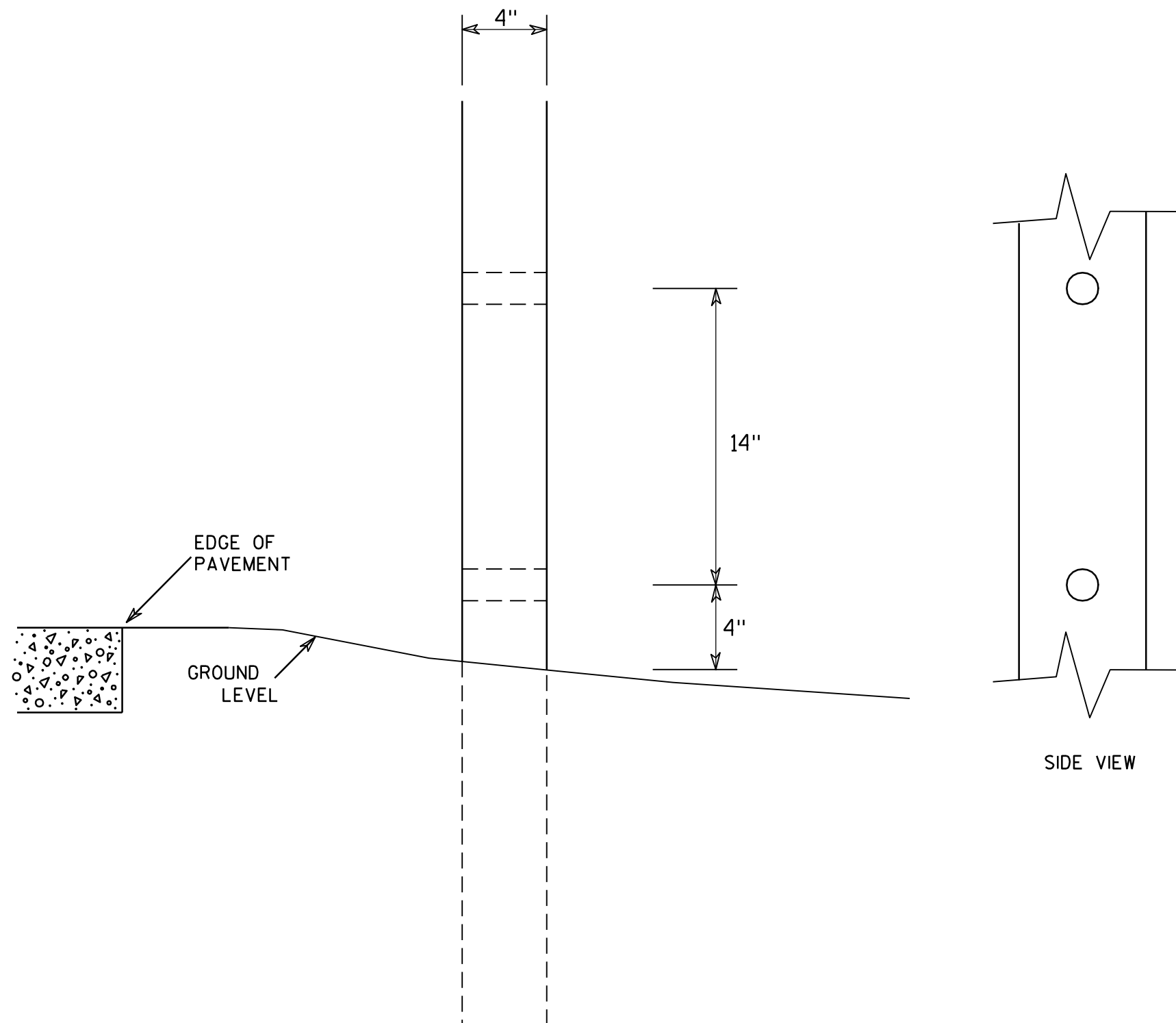
SHEET NO: E

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 or rounded if base material is plywood. If base material is metal the corners shall be rounded.
- 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.
- All Vertical J Assemblies are given a Sign Code of JV
- For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

PROJECT NO:

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:

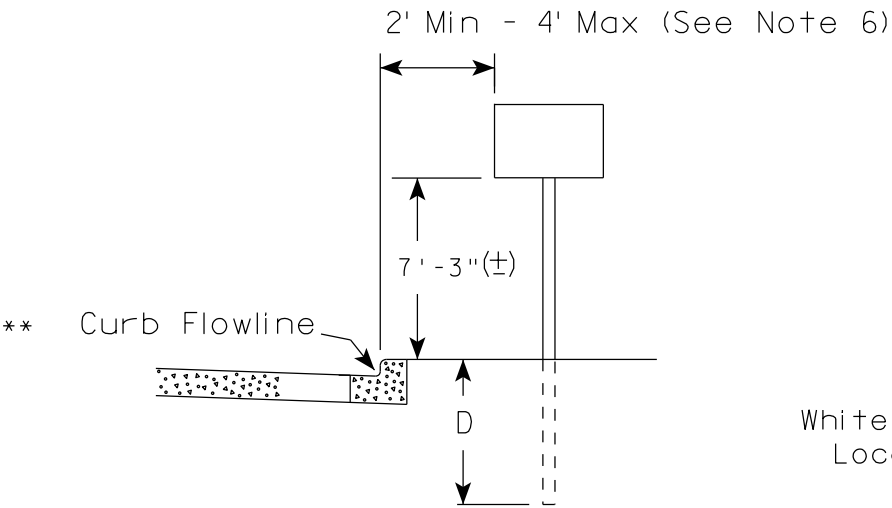
HWY:

COUNTY:

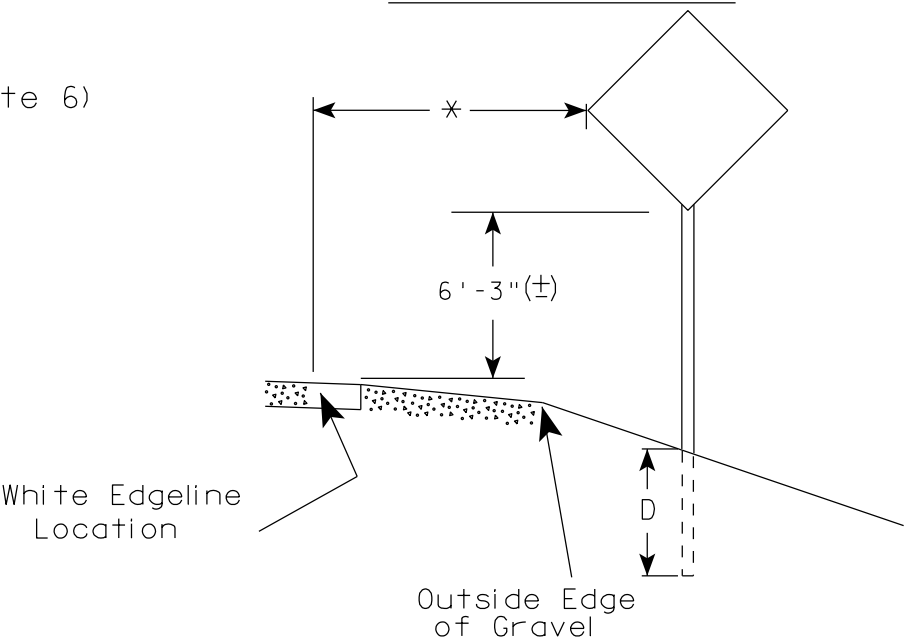
SHEET NO: 159

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.

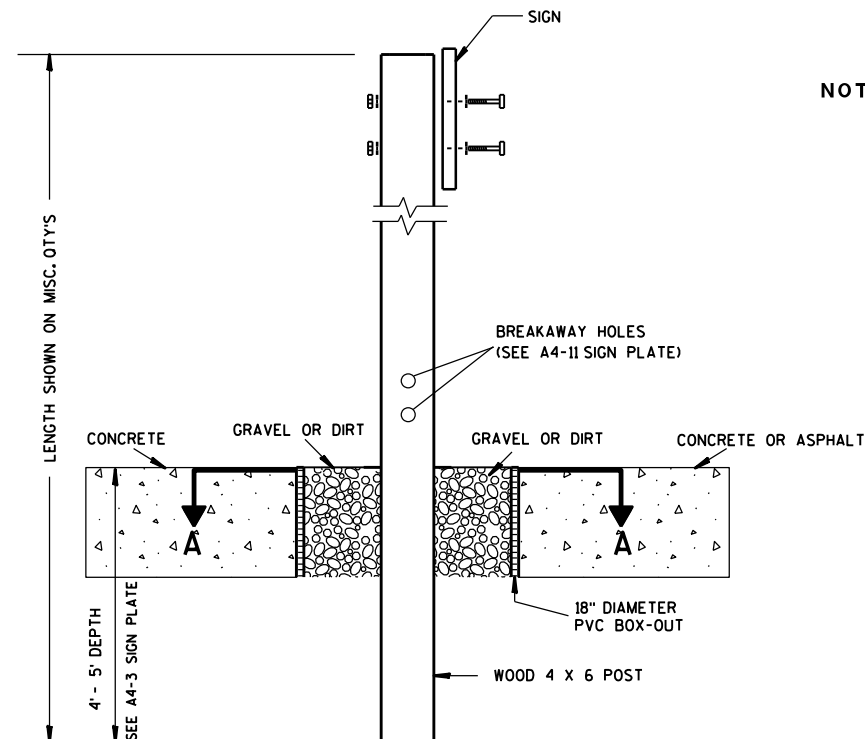
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

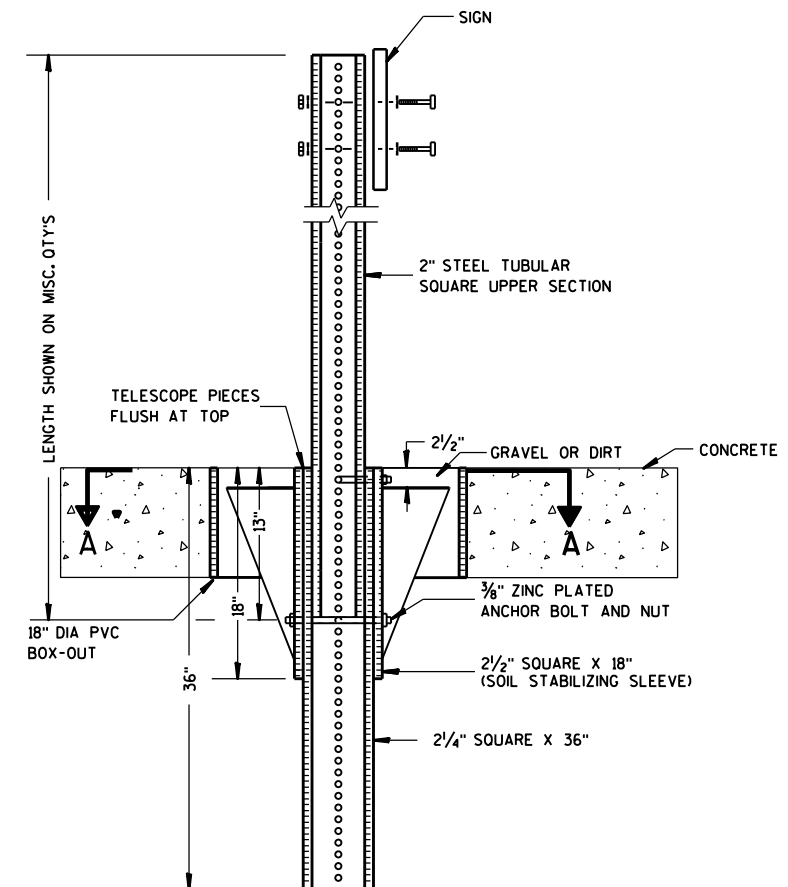
160



ELEVATION VIEW

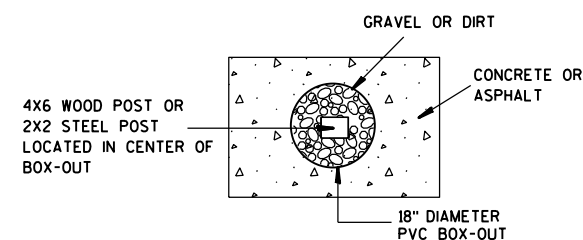
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 161 A4-3B.1

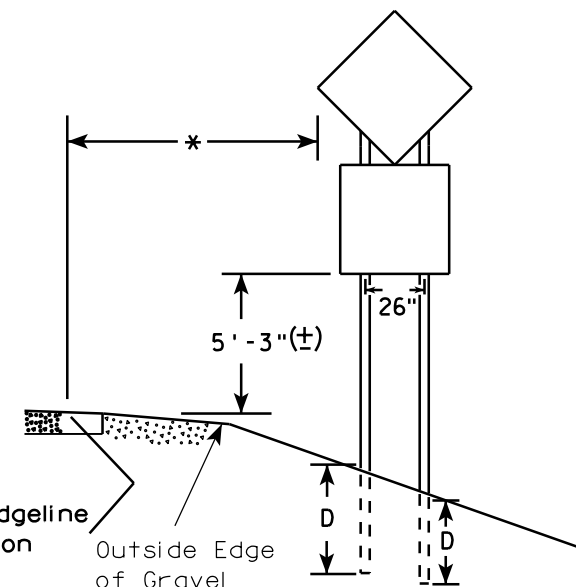
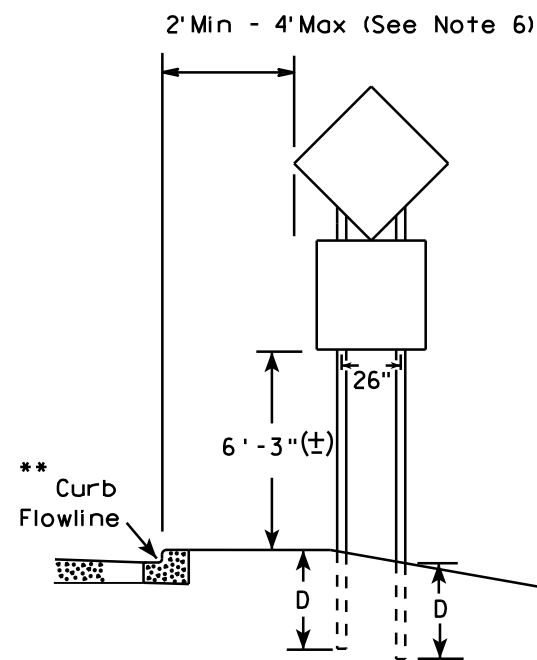
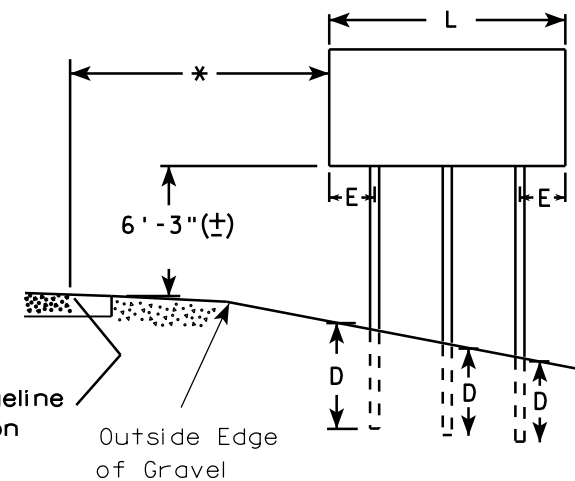
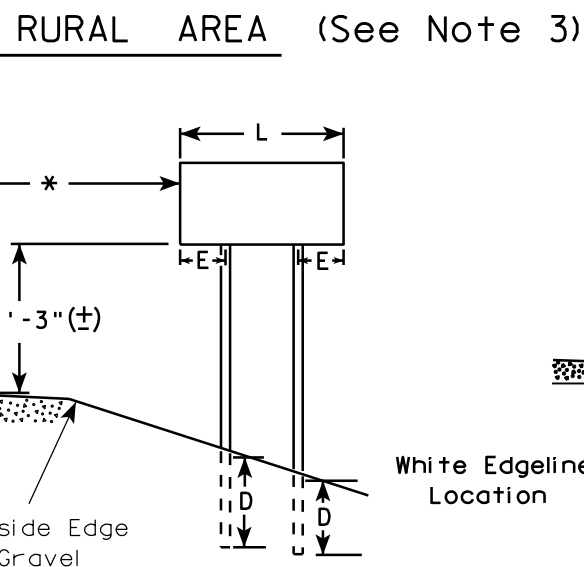
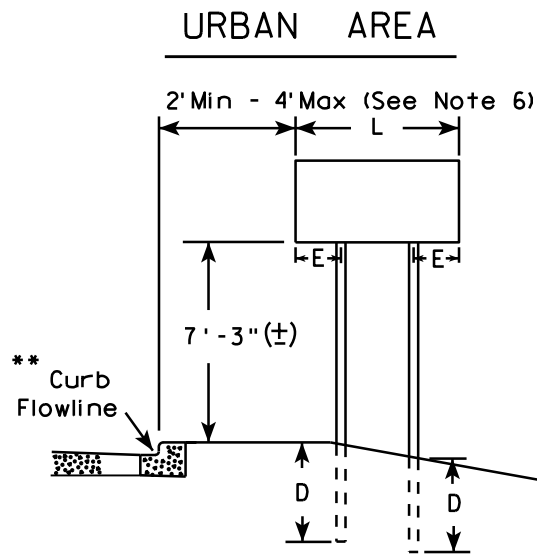
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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 less than 20 S.F. 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 4/29/14 PLATE NO. 162 13

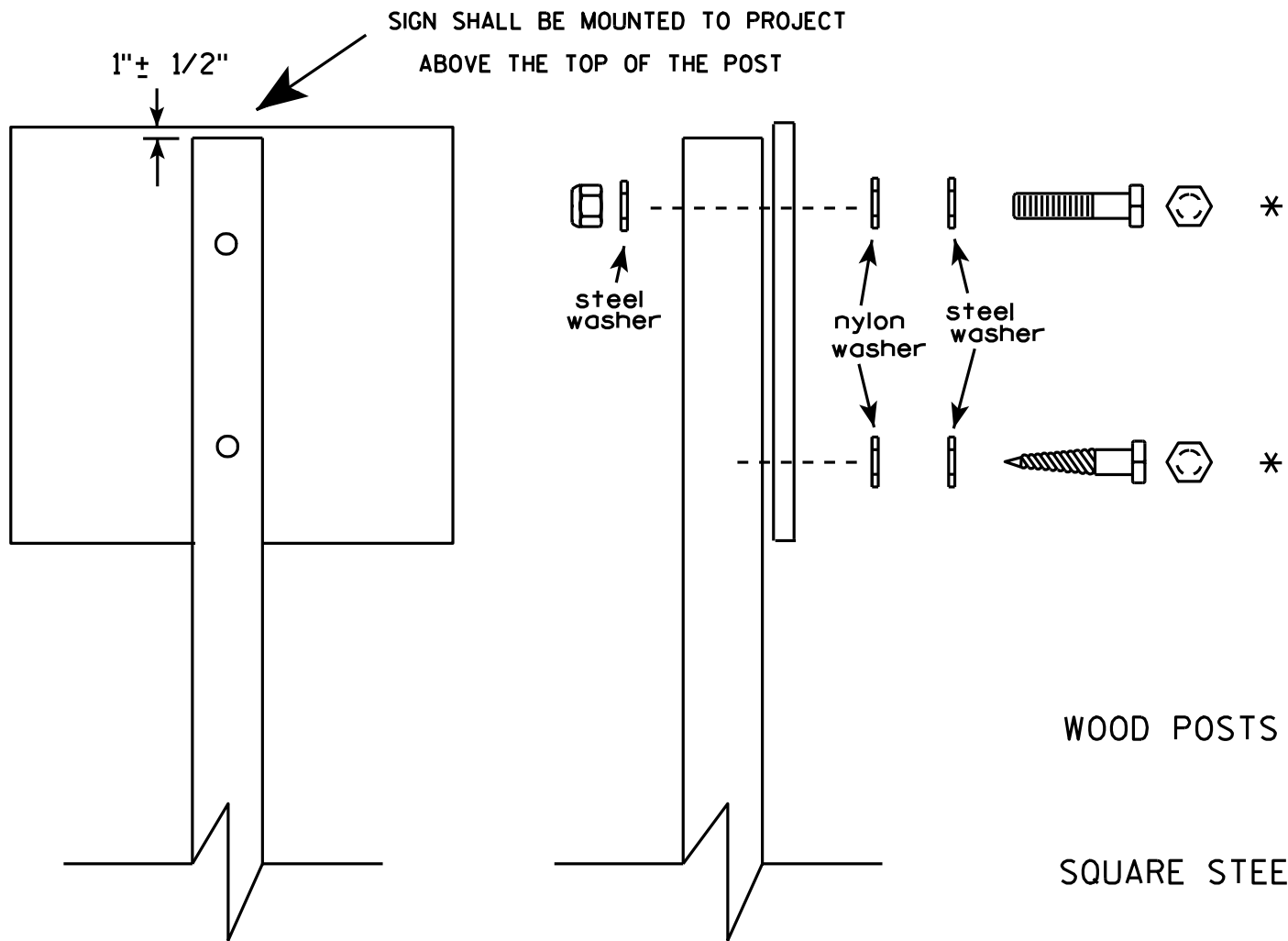
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

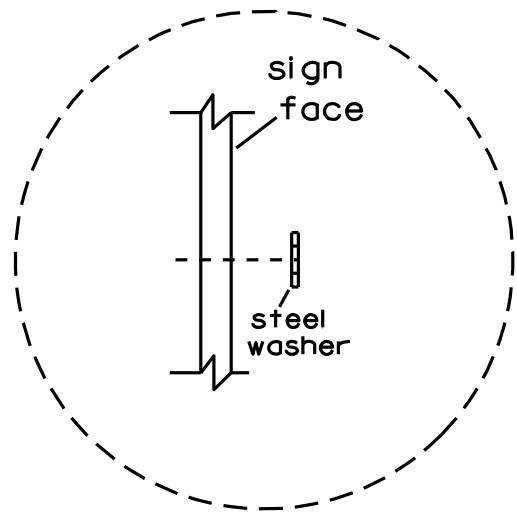


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

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



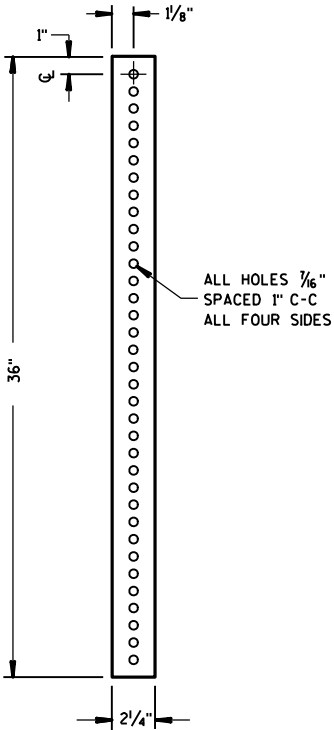
Washer Placement when Sign Has Other Than Type H or Type F Face

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

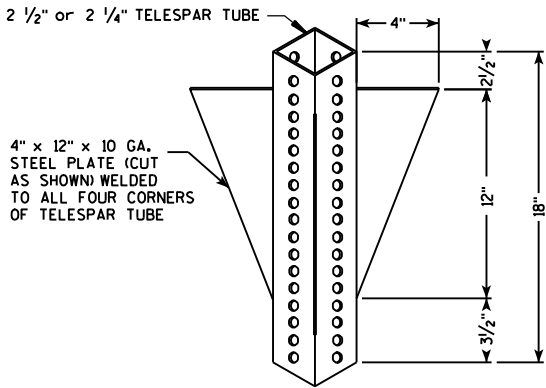
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

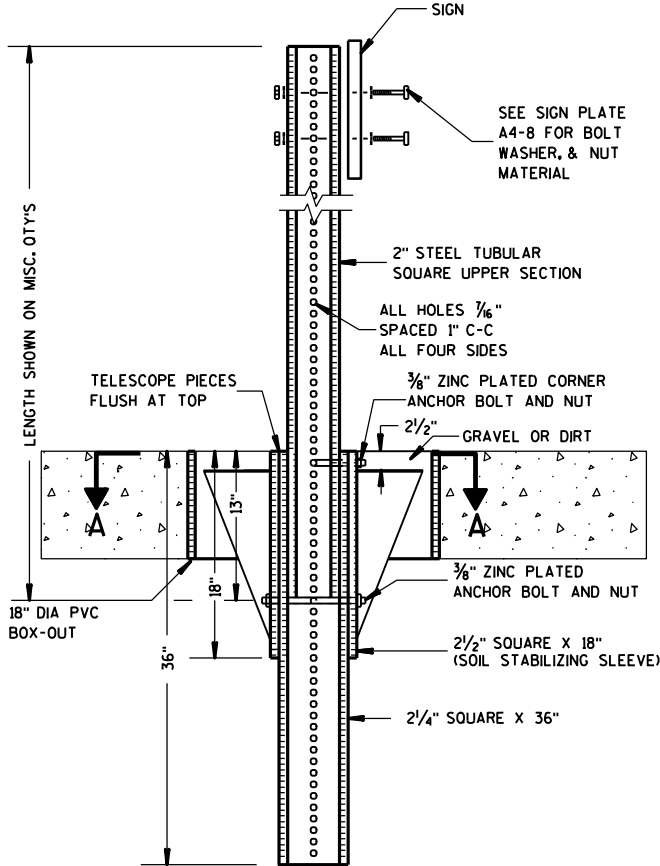
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



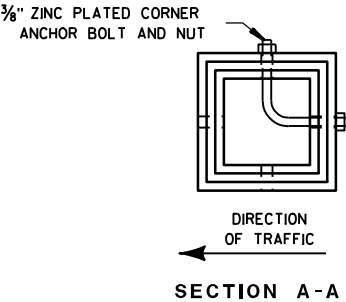
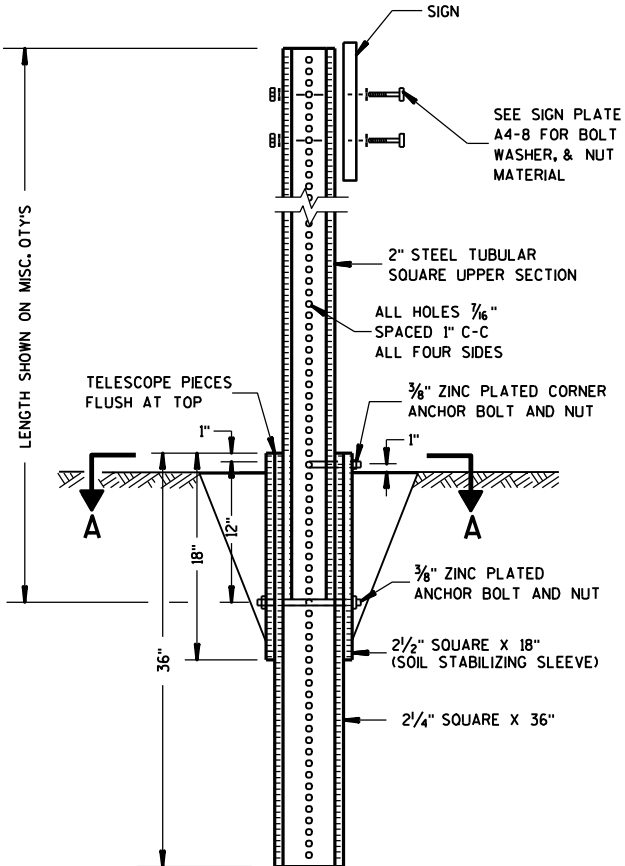
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



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

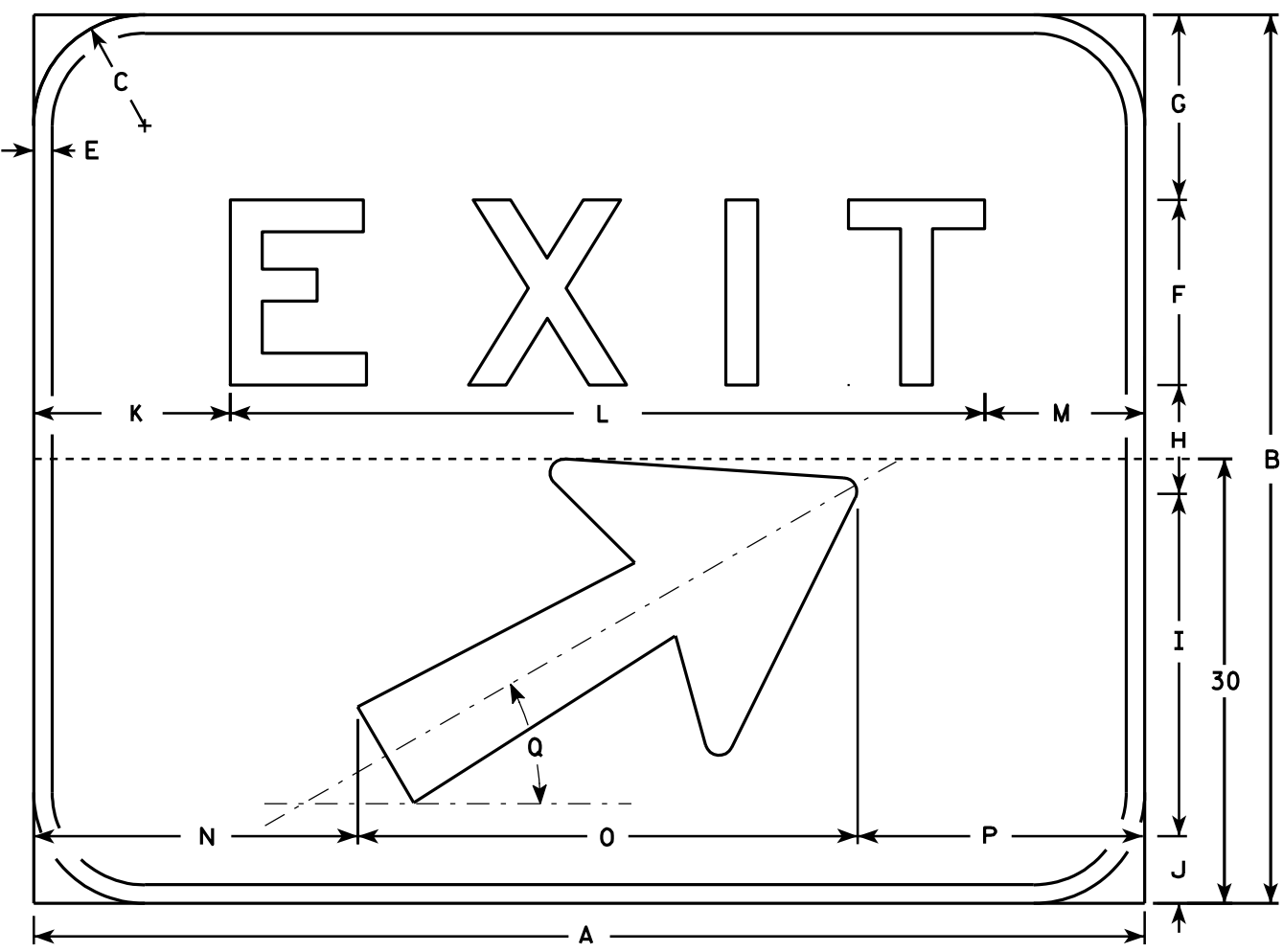
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

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



E5-1

NOTES

- 1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Green
Message - White (Type H reflective)
- 3. Message Series - E
- 4. Corners may be square or rounded but borders shall be rounded as shown.
- 5. Base material for this sign shall be plywood and shall be split into two seperate pieces for the 72 x 60 size as shown on the detail by the dashed line (-----).
- 6. Arrow is Type "A" from sign plate A1-1.
- 7. As per the Standard Spec's, this sign shall not have a vertical joint.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	1500 mm X 1200 mm
5	1800 mm X 1500 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2																												
3																												
4	60	48	6		1	10	10	5 7/8	18 1/2	3 5/8	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°										20.0	1.80
5	72	60	6		1	12	12	10	18 1/2	7 1/2	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°										30.0	2.70

STANDARD SIGN
E5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Christa J. Spang
for State Traffic Engineer

DATE 6/22/00 PLATE NO. E5-1.8

PROJECT NO:

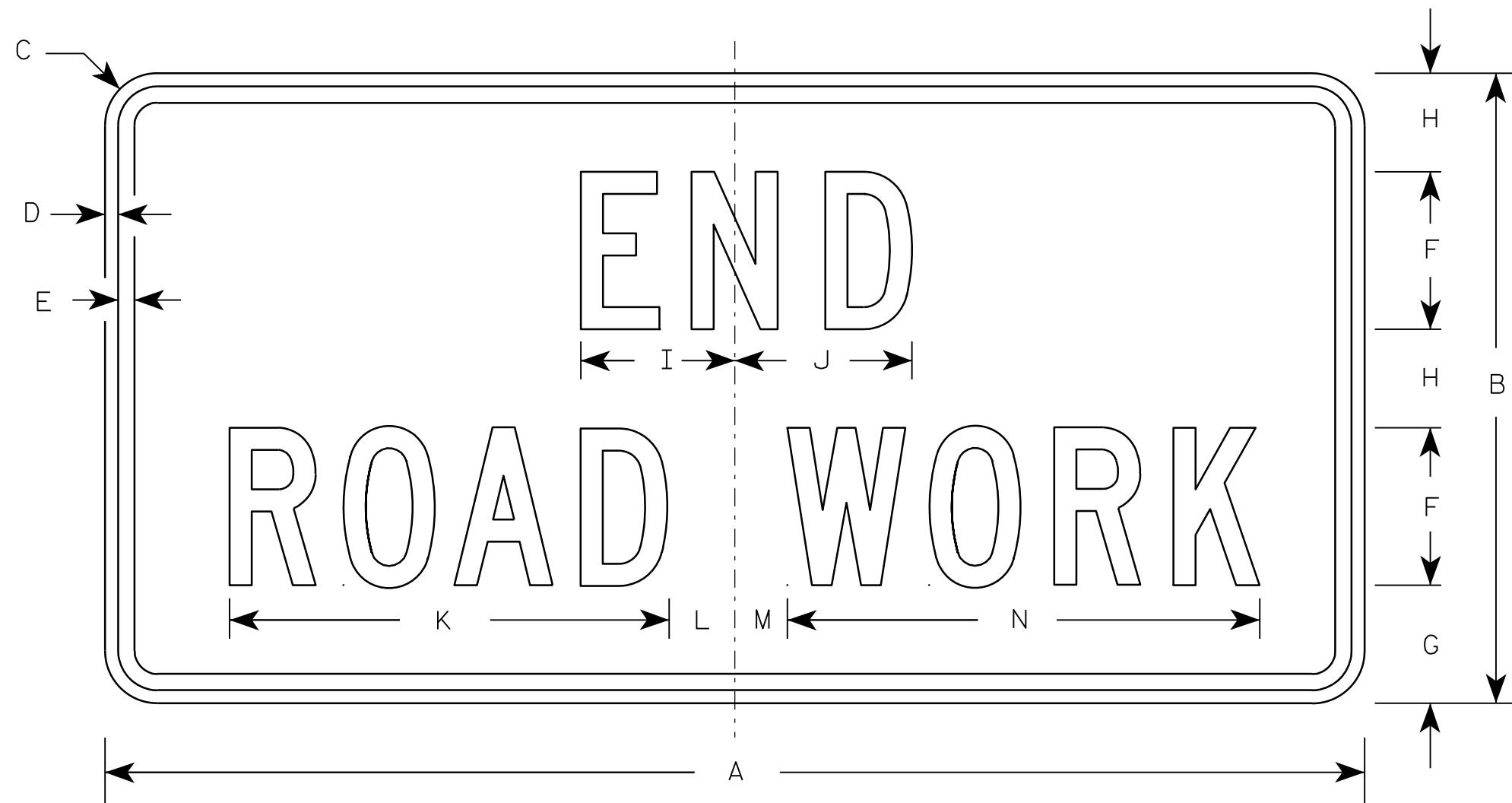
HWY:

COUNTY:

SHEET NO: 165

E

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- 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.

7

PROJECT NO:

HWY:

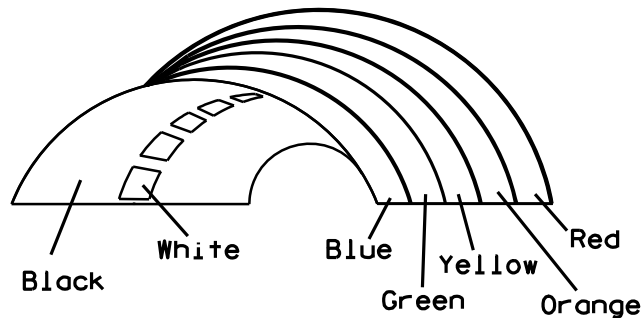
COUNTY:

SHEET NO: 166

E



Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - (See Note 5)
3. Message Series - (See Note 6)
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Border - Blue
Line 1 - Red
Line 2 - Black
Line 3-5 - Blue
6. Line 1 - Dutch 8011L
Line 2 - Series E
Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 167
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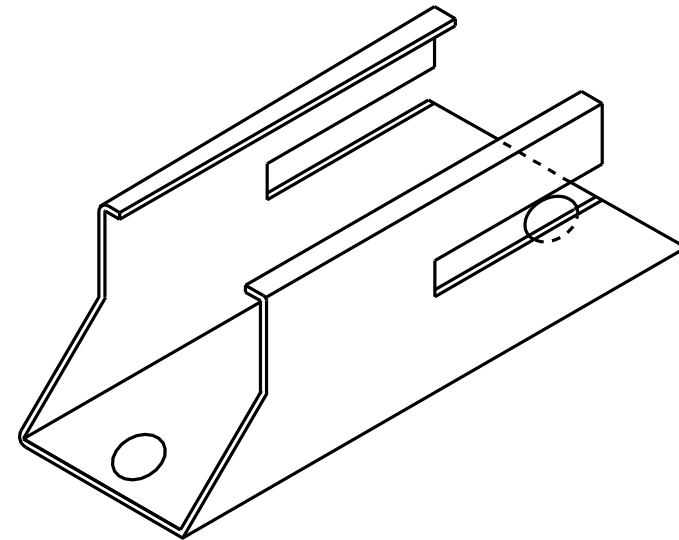
STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

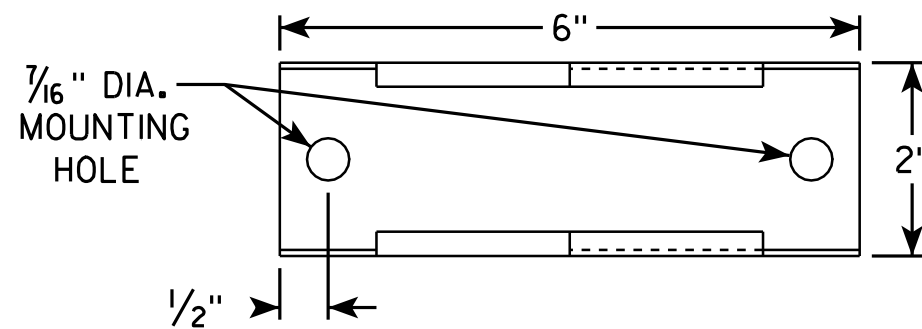
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

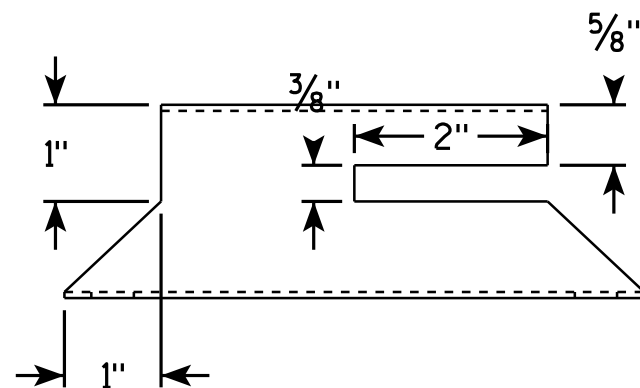
ISOMETRIC VIEW



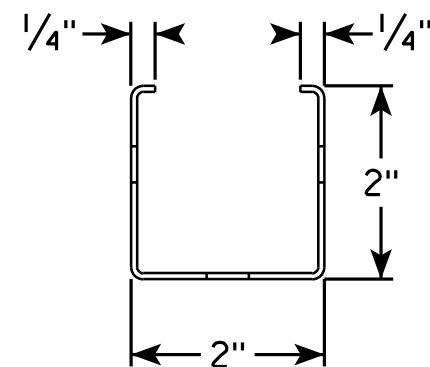
TOP VIEW



SIDE VIEW



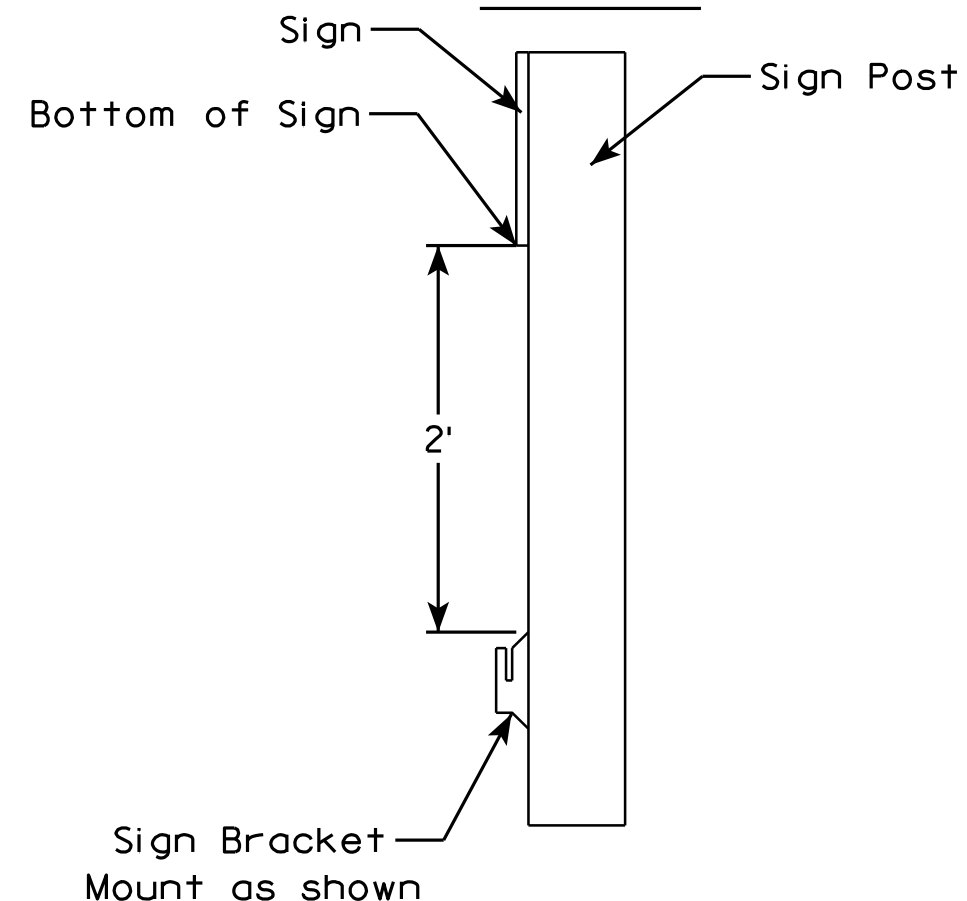
END VIEW



NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW

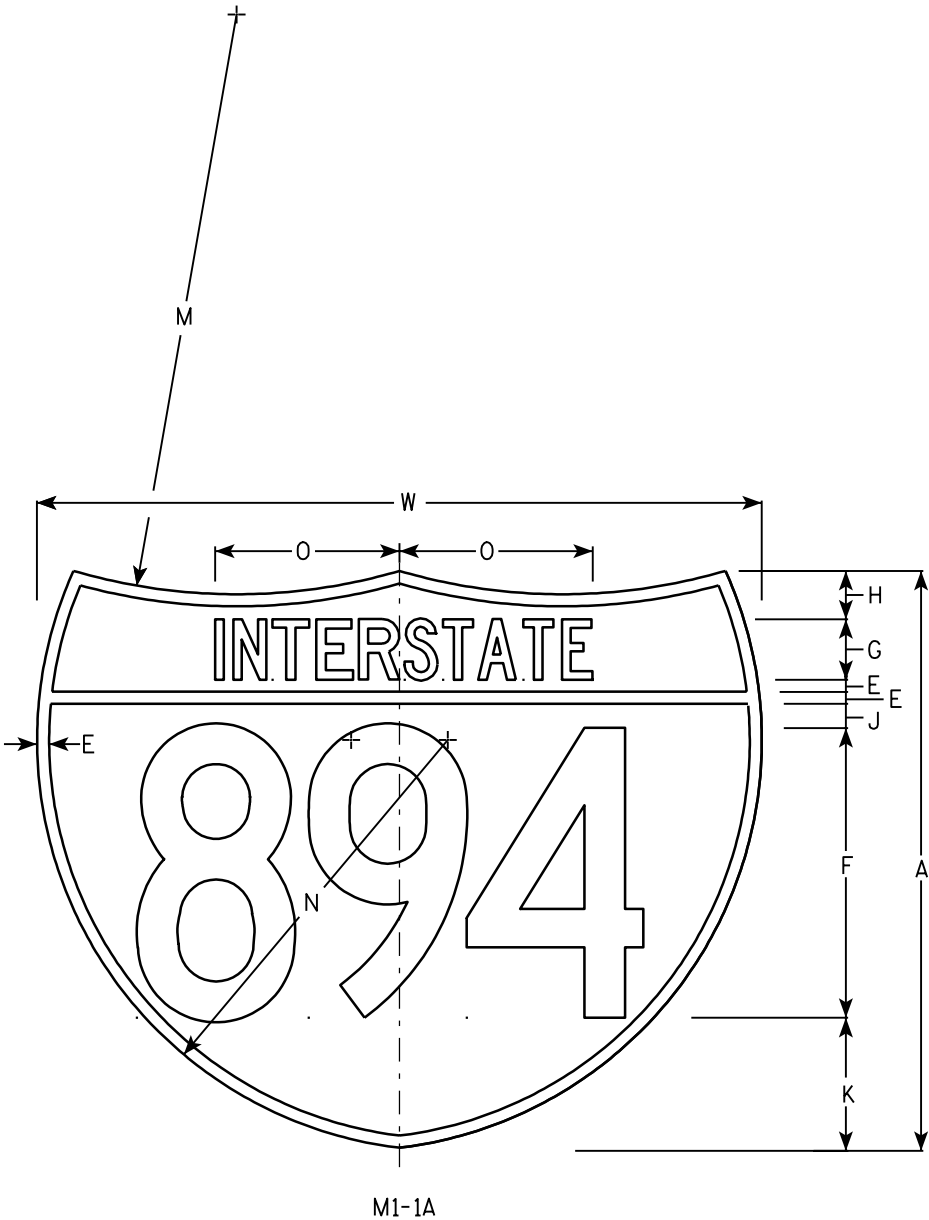
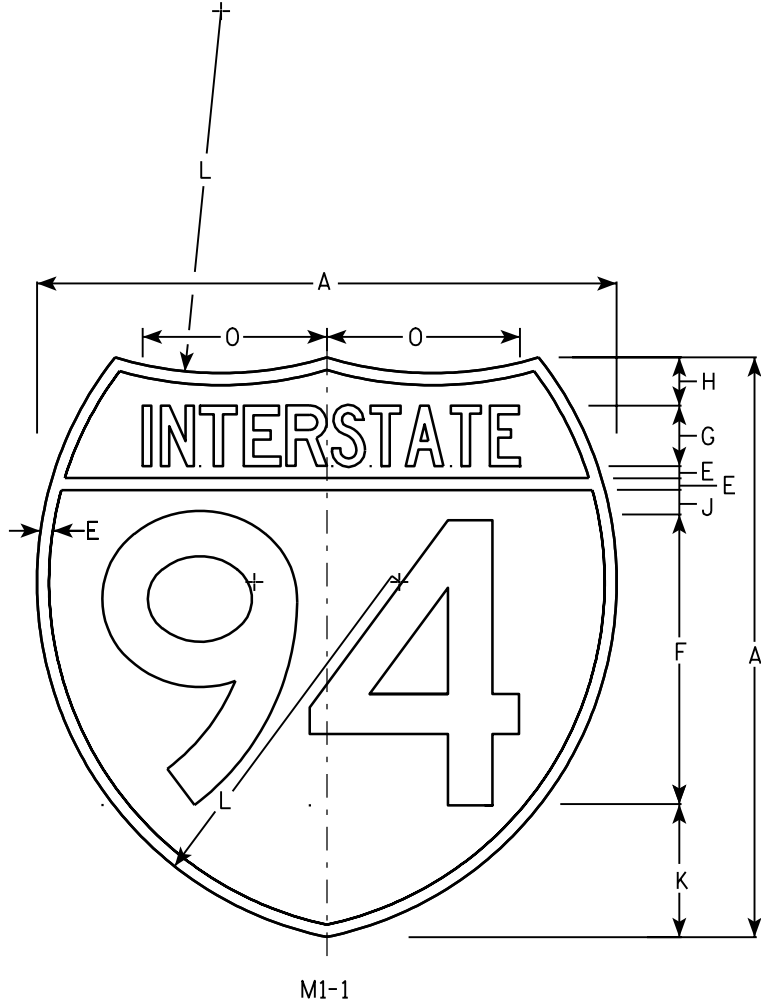


ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1



NOTES

- 1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Top Red - Bottom Blue (See Note 6)
Message - White - See Note 6
- 3. Message Series - See note 5
- 4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
- 5. M1-1 - Numerals - D
Interstate - C
M1-1A - All copy - C
- 6. Permanent Signs
Message - Type H Reflective
Detour or other temporary signs
Background - Reflective
Message - Reflective

Metric equivalent for these signs are:

SIZE	M1 - 1	SIZE	M1 - 1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Area sq. ft.	Area sq. ft.	Area m ²	Area m ²
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

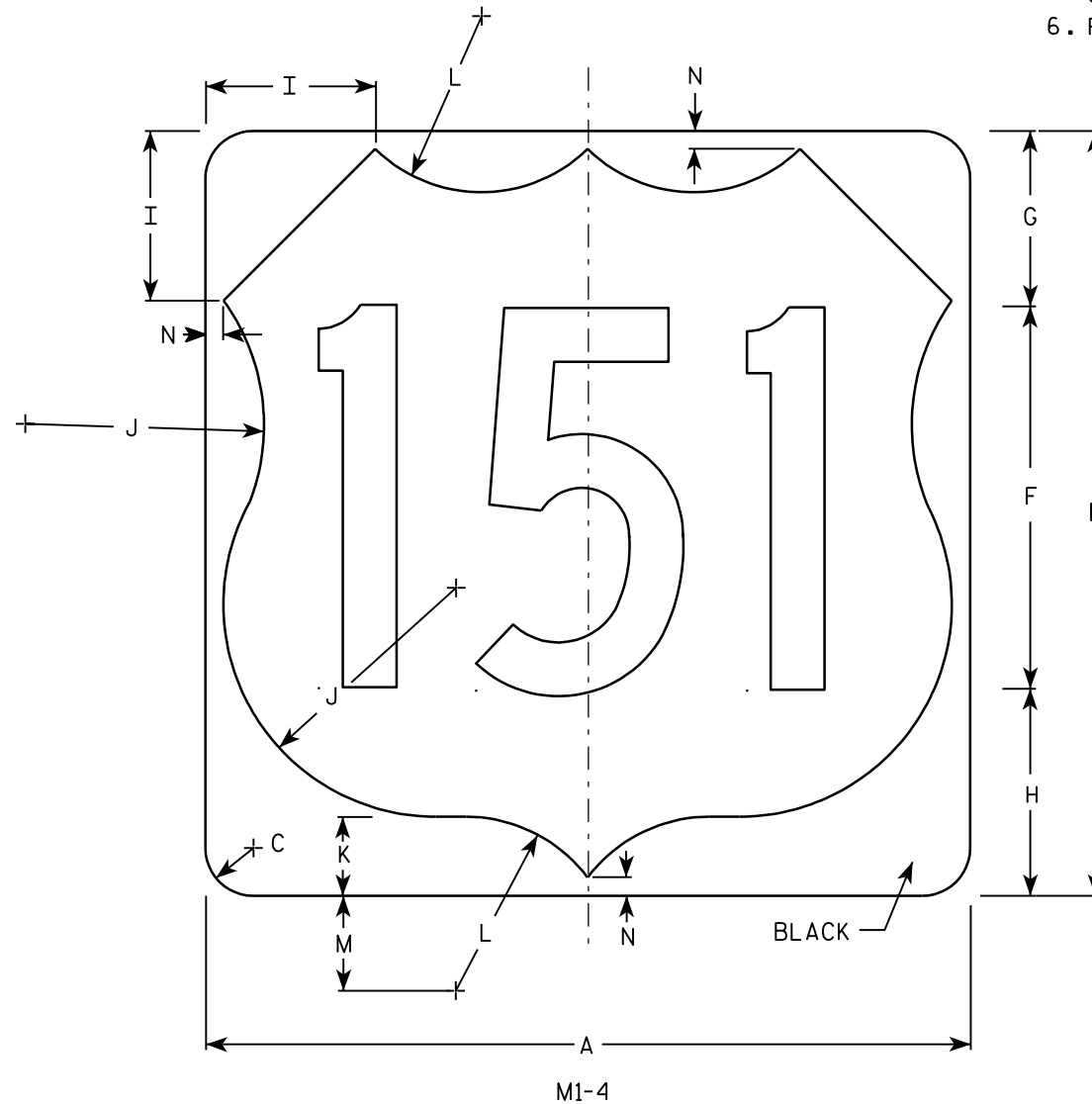
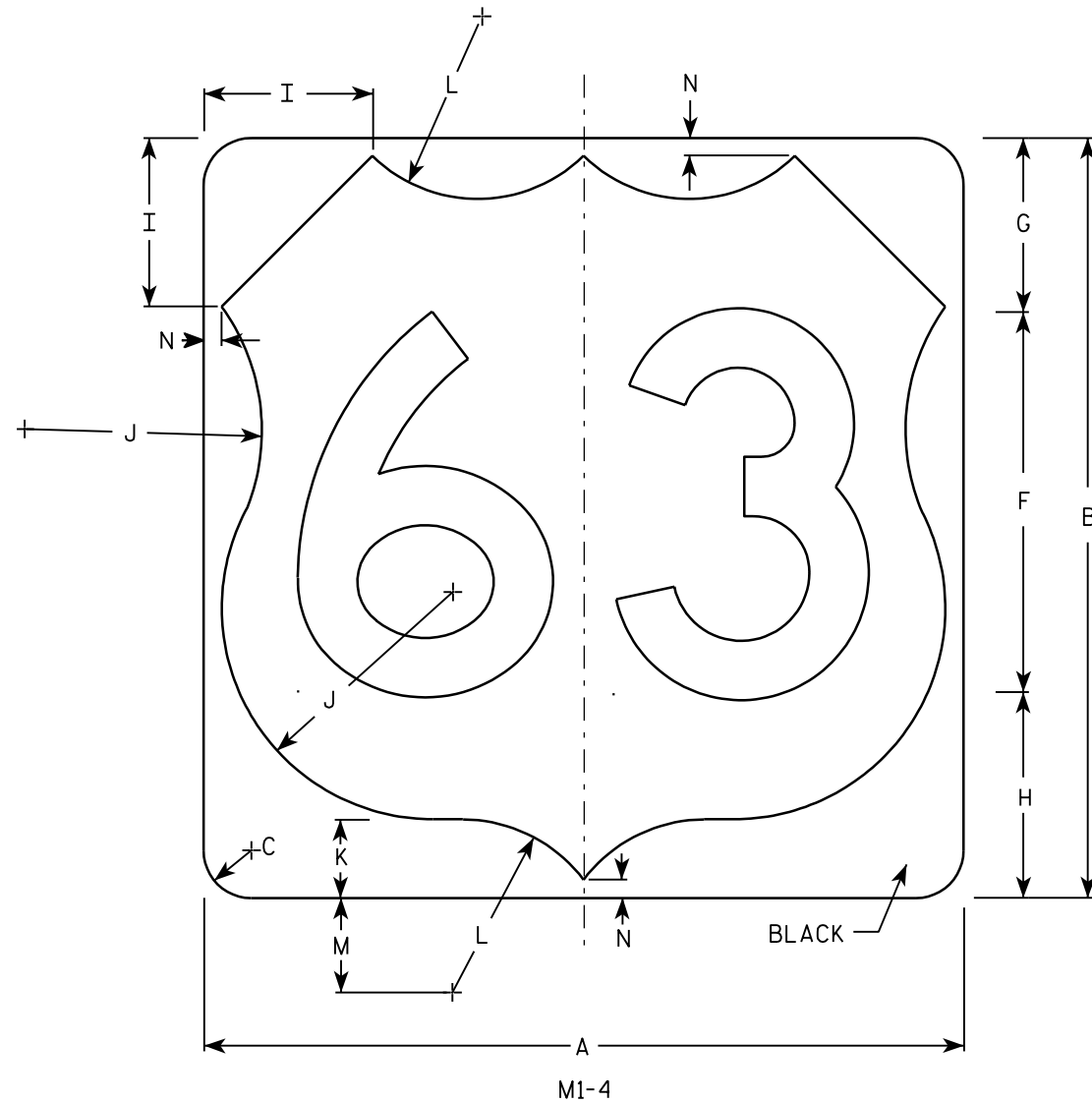
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
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. Substitute appropriate numerals and adjust
spacing as per Plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



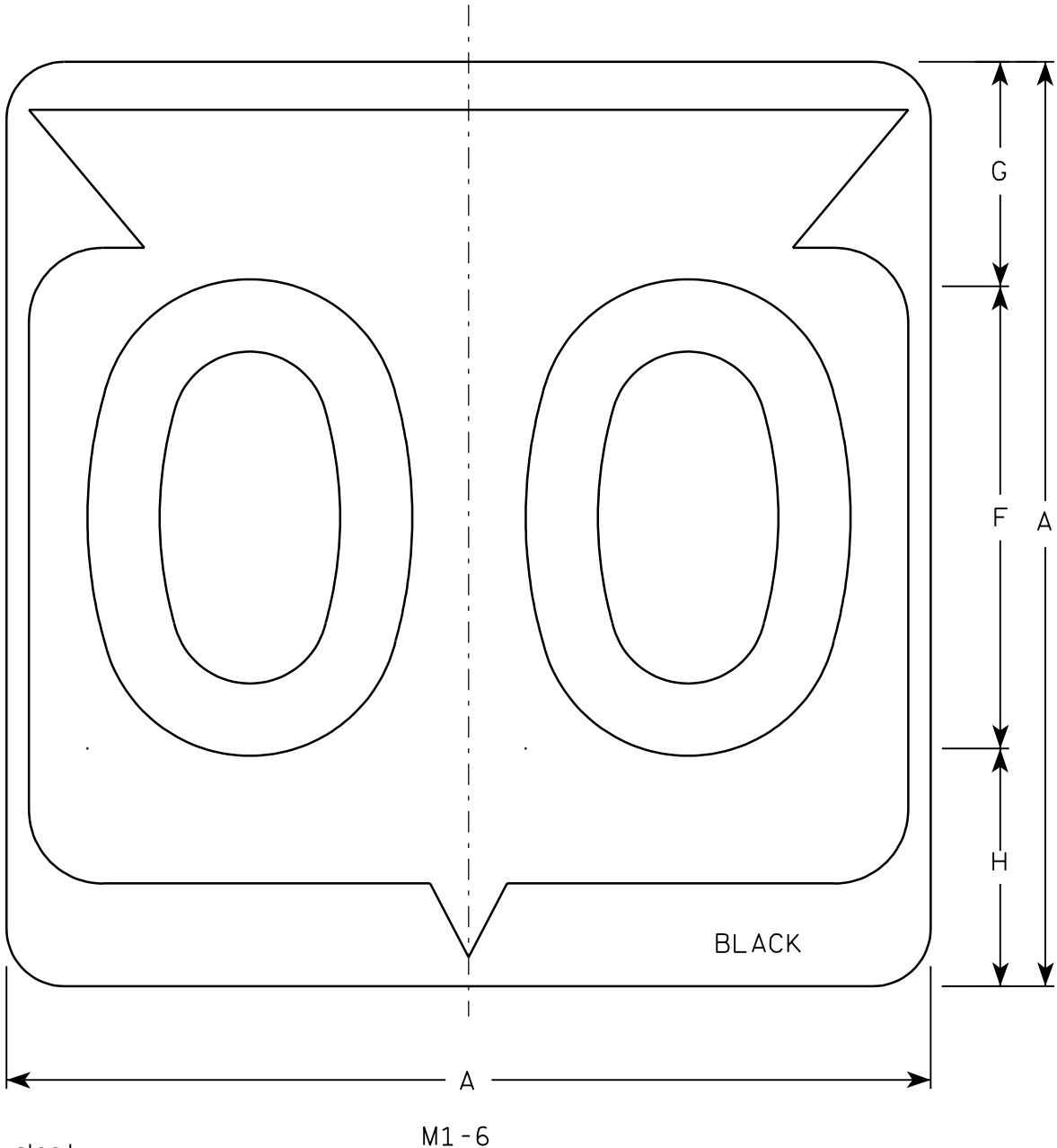
Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Area m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

PROJECT NO: HWY: COUNTY: SHEET NO: 170 E

7



Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 171

E

FILE NAME : C:\Users\Projects\tr_stdp\late\M16.DGN

PLOT DATE : 13-OCT-2005 14:55

PLOT BY : DITJPH

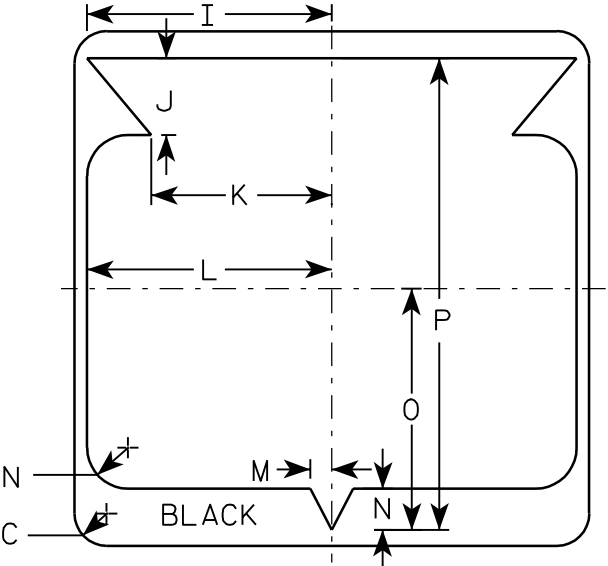
PLOT NAME :

PLOT SCALE : 6.715871:1.000000

WISDOT/CADDs SHEET 42

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
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. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

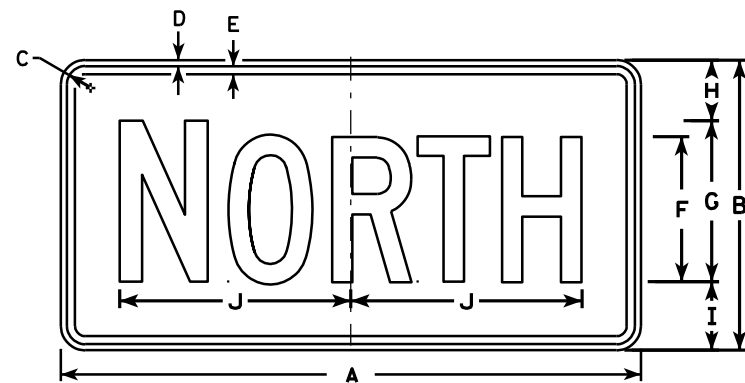
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

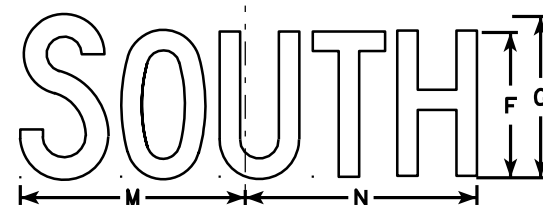
PLATE NO. M1-6.9



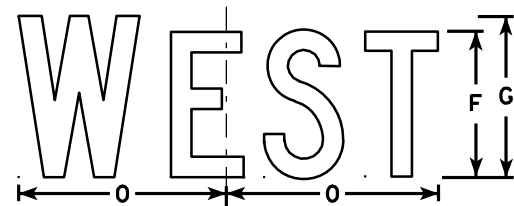
M3-1
MK3-1
M03-1



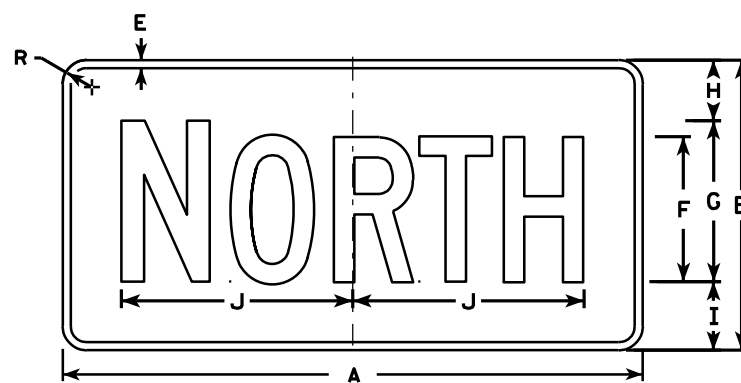
M3-2
MK3-2
M03-2



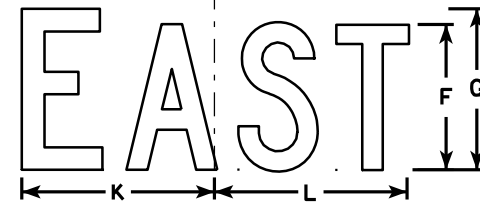
M3-3
MK3-3
M03-3



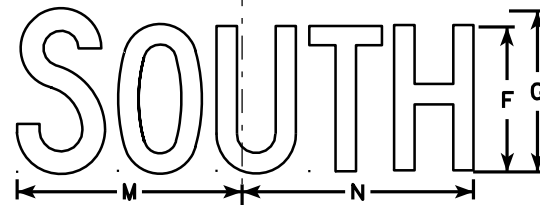
M3-4
MK3-4
M03-4



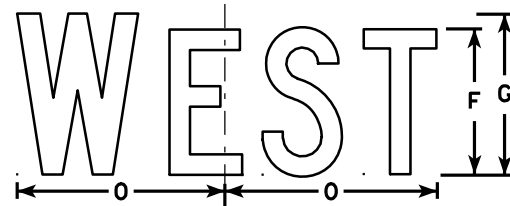
MB3-1
MG3-1
MM3-1
MN3-1



MB3-2
MG3-2
MM3-2
MN3-2



MB3-3
MG3-3
MM3-3
MN3-3



MB3-4
MG3-4
MM3-4
MN3-4

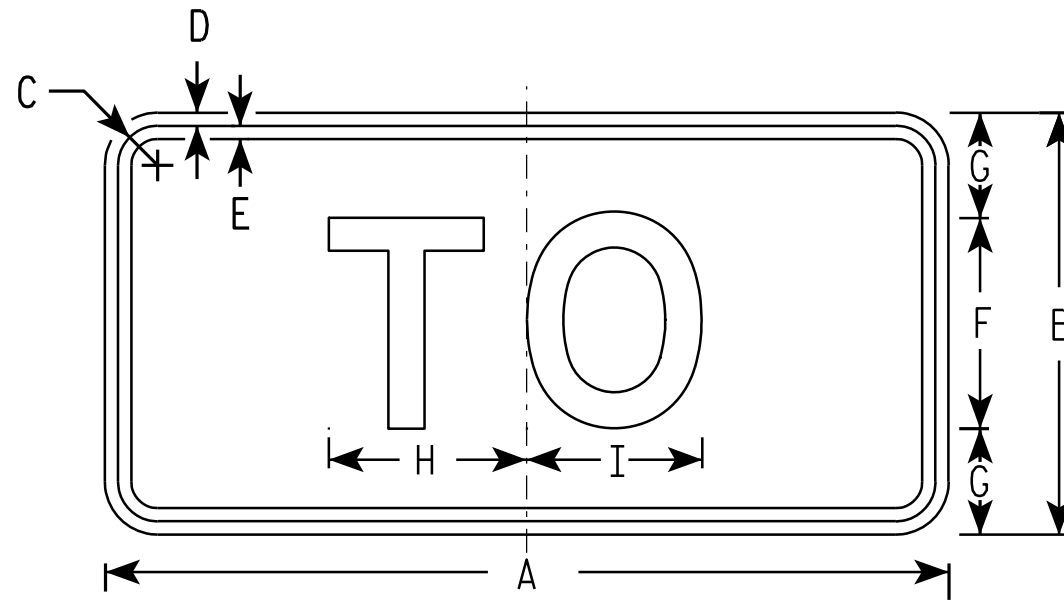
NOTES

- All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- 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.
- M3-1 thru M3-4 Background - White - Type H Reflective (Detour or temporary signs - Reflective) Message - Black
 - MB3-1 thru MB3-4 Background - Blue Message - White - Type H Reflective (Detour or temporary signs - Reflective)
 - MG3-1 thru MG3-4 Background - Green Message - White - Type H Reflective
 - MK3-1 thru MK3-4 Background - Green Message - White - Type H Reflective
 - MM3-1 thru MM3-4 Background - White - Type H Reflective Message - Green
 - MN3-1 thru MN3-4 Background - Brown Message - White - Type H Reflective
 - M03-1 thru M03-4 Background - Orange - Reflective Message - Black
- Note the first letter of each direction is larger than the remainder of the message.

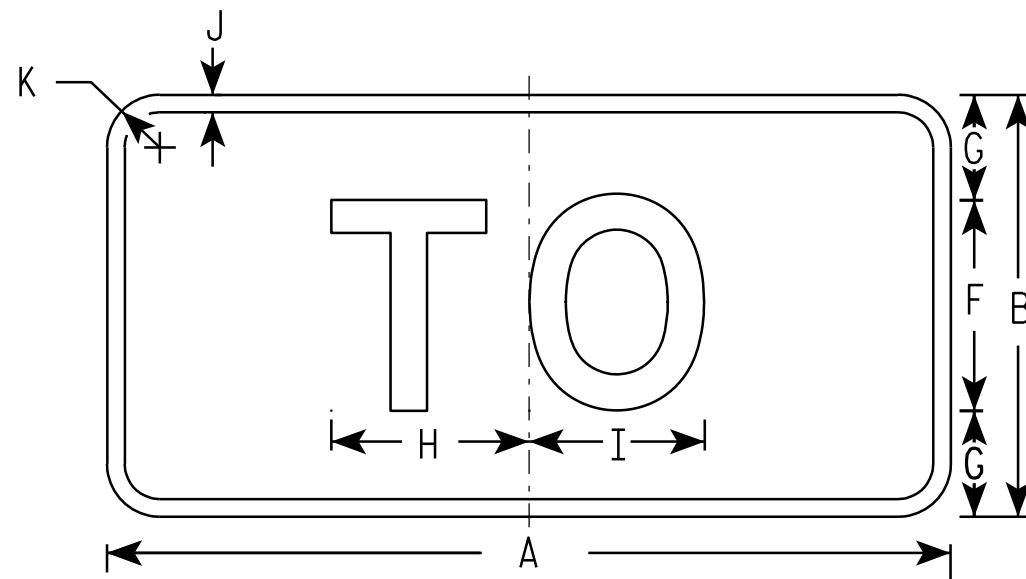
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: 172 **E**

STANDARD SIGNS M3-1 thru M3-4 SERIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/10/10	PLATE NO. M3-1.12



M4-5
MK4-5
MM4-5



MB4-5
MG4-5
MN4-5

NOTES

- Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 5
Message - See note 5
- Message Series - E
- 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.
- M4-5 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB4-5 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG4-5 Background - Green
Message - White - Type H Reflective
MK4-5 Background - Green
Message - White - Type H Reflective
MM4-5 Background - White - Type H Reflective
Message - Green
MN4-5 Background - Brown
Message - White - Type H Reflective

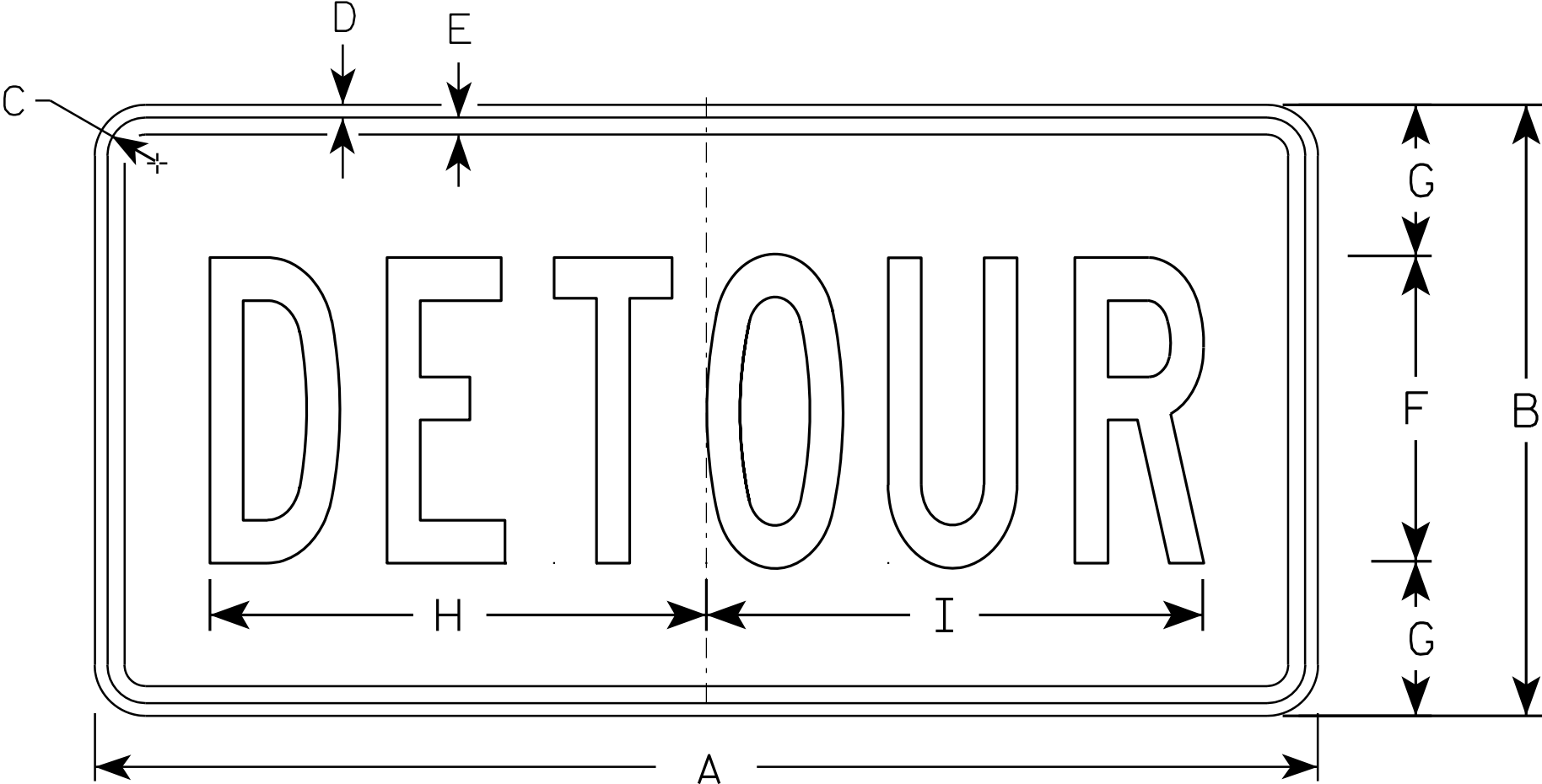
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: 173 E

STANDARD SIGN M4 - 5	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/10/10	PLATE NO. M4-5.6

NOTES

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



M4 - 8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

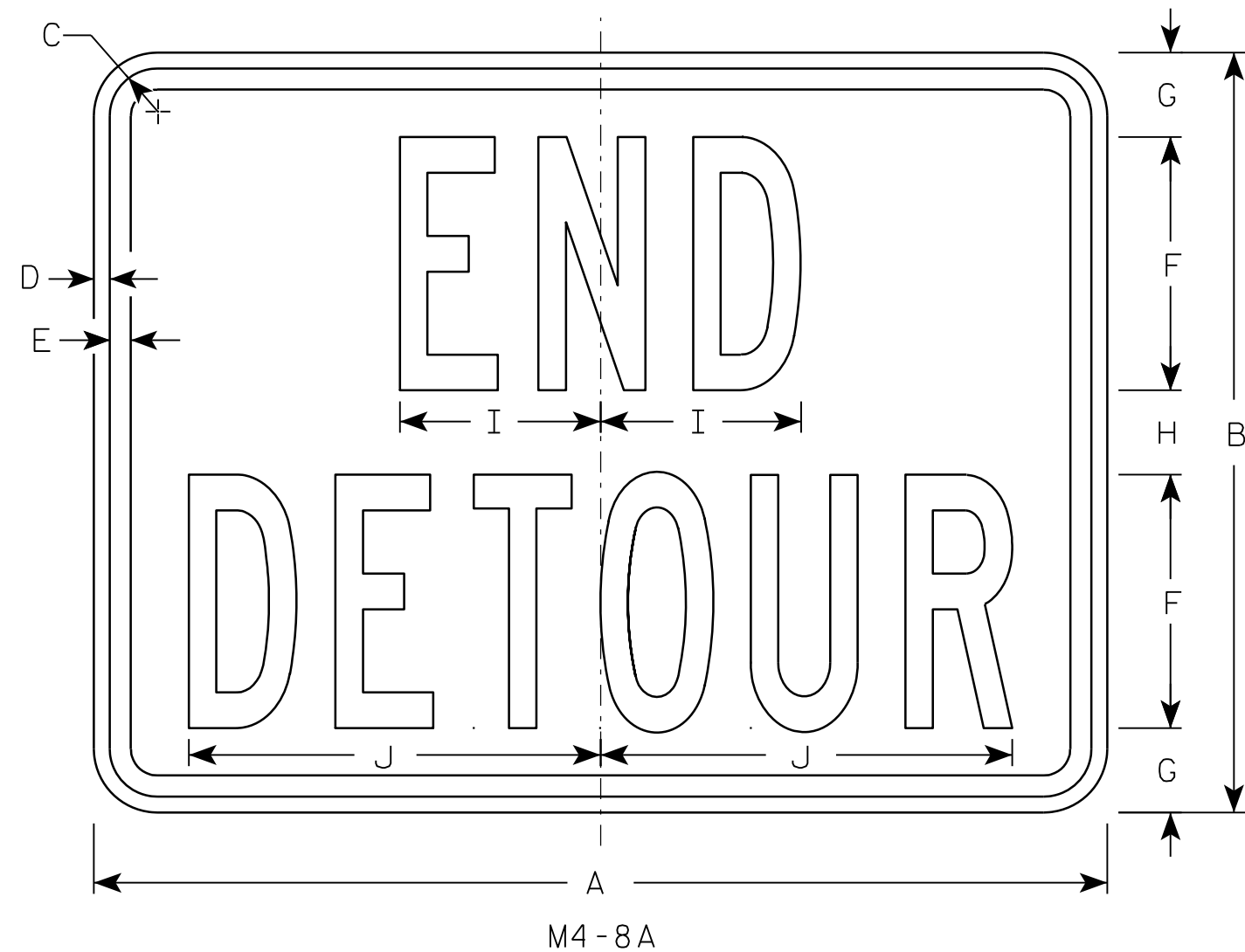
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



NOTES

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

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																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

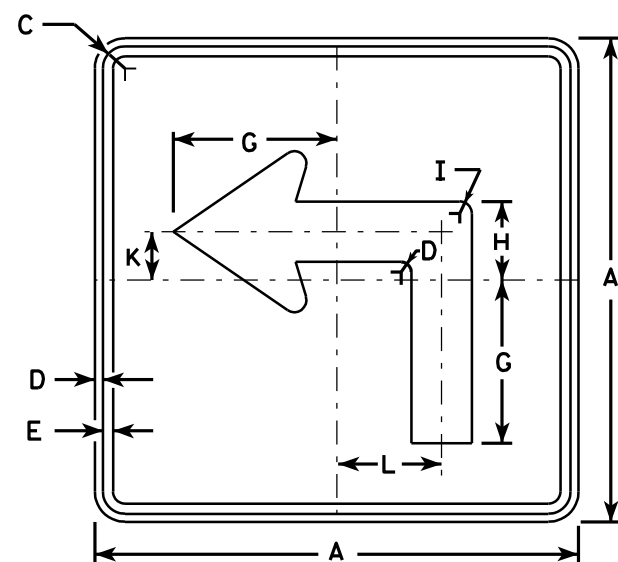
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 175	E
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STANDARD SIGN
M4-8A

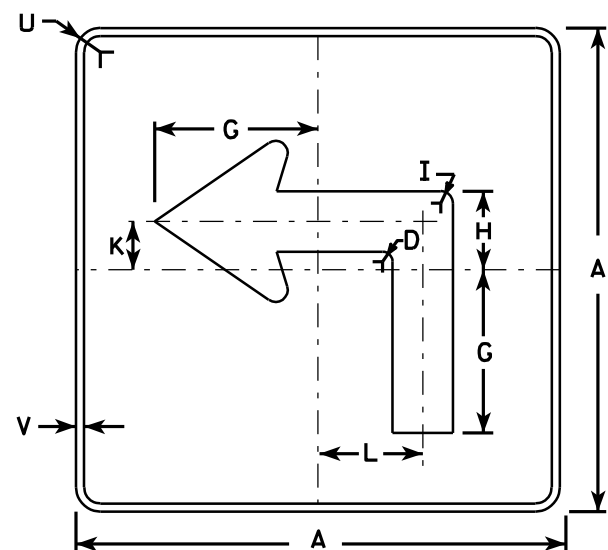
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

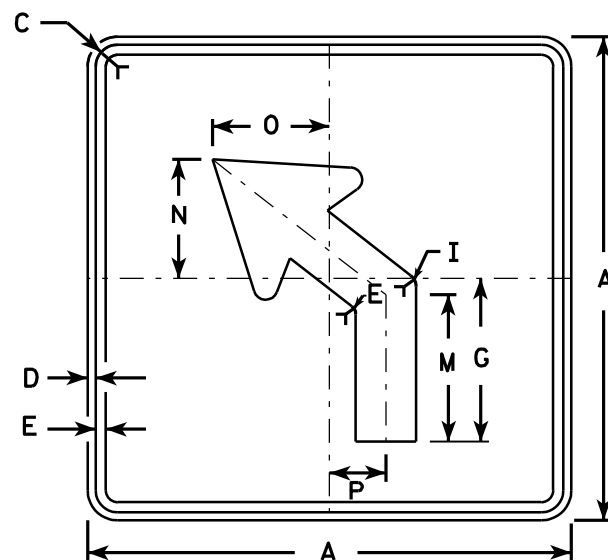
DATE 3/9/11 PLATE NO. M4-8A.2



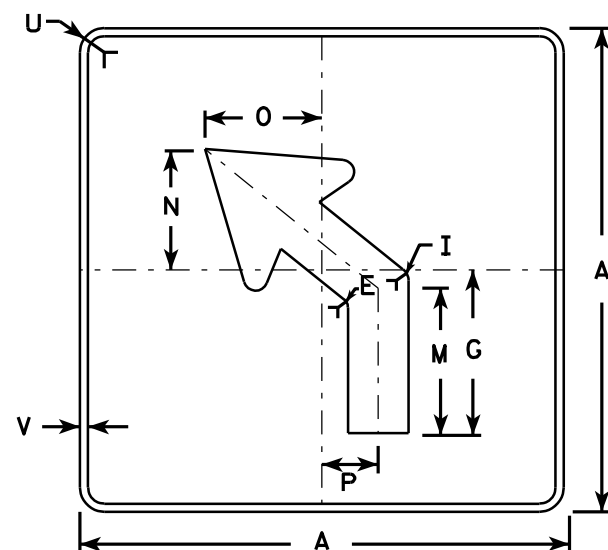
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



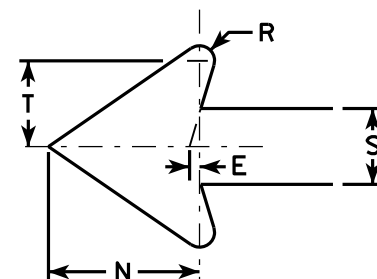
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



MB5-2L
MG5-2L
MN5-2L

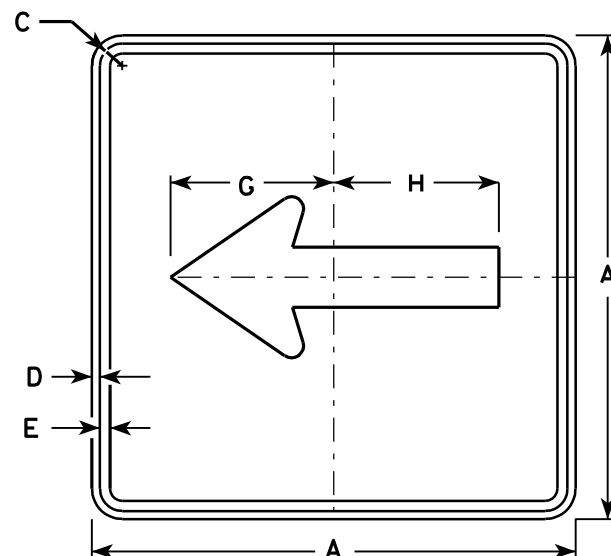


NOTES

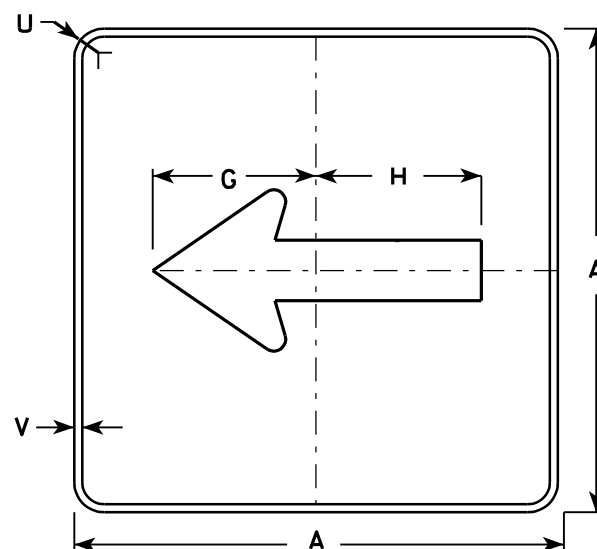
- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

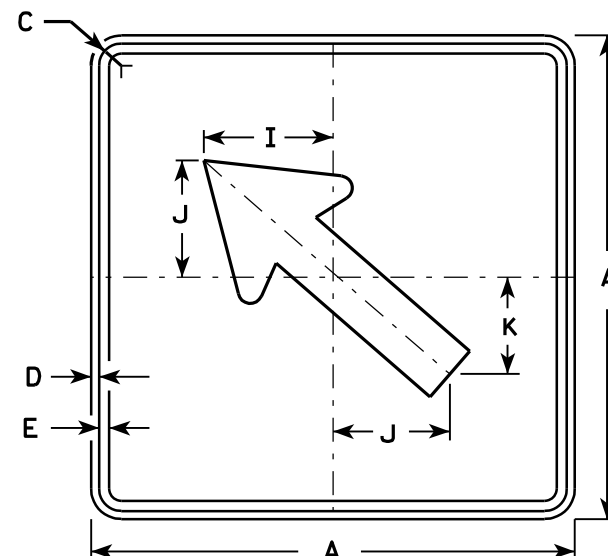
STANDARD SIGN	
M5-1 & M5-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/29/13	PLATE NO. M5-1.12



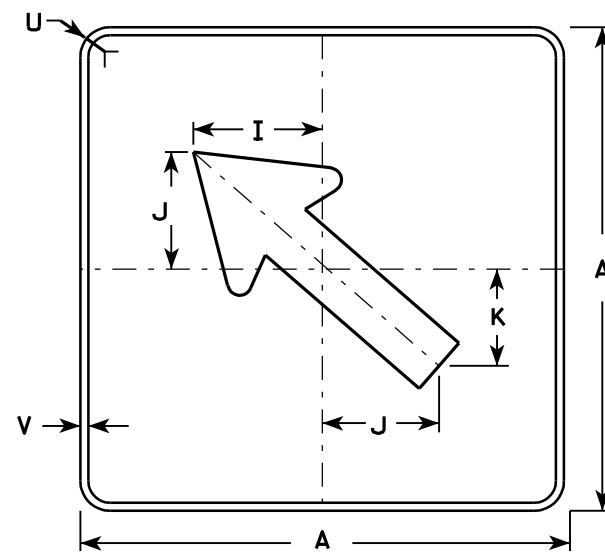
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



MB6-1
MG6-1
MN6-1



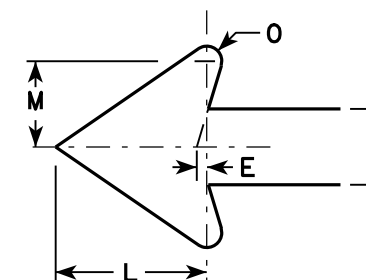
M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
 - Background - See note 4
 - Message - See note 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.
- M6-1 and M6-2 Background - White - Type H Reflective
Message - Black
 MB6-1 and MB6-2 Background - Blue
 Message - White - Type H Reflective
 MG6-1 and MG6-2 Background - Green
 Message - White - Type H Reflective
 MK6-1 and MK6-2 Background - Green
 Message - White - Type H Reflective
 MM6-1 and MM6-2 Background - White - Type H Reflective
 Message - Green
 MN6-1 and MN6-2 Background - Brown
 Message - White - Type H Reflective
 MO6-1 and MO6-2 Background - Orange - Type F Reflective
 Message - Black
 MP6-1 and MP6-2 Background - White - Type H Reflective
 Message - Blue
 MR6-1 and MR6-2 Background - Brown
 Message - Yellow - Type H Reflective



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

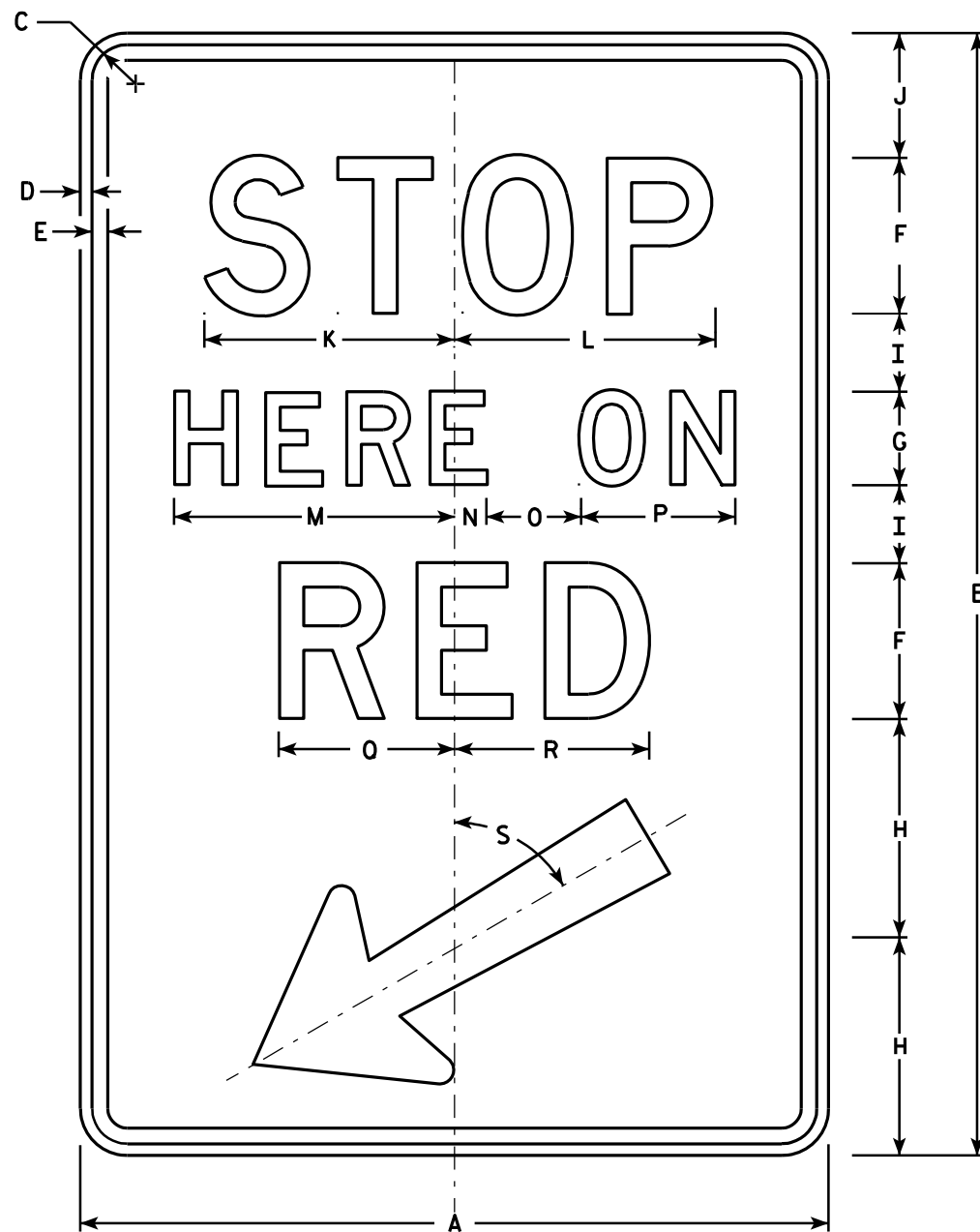
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 177

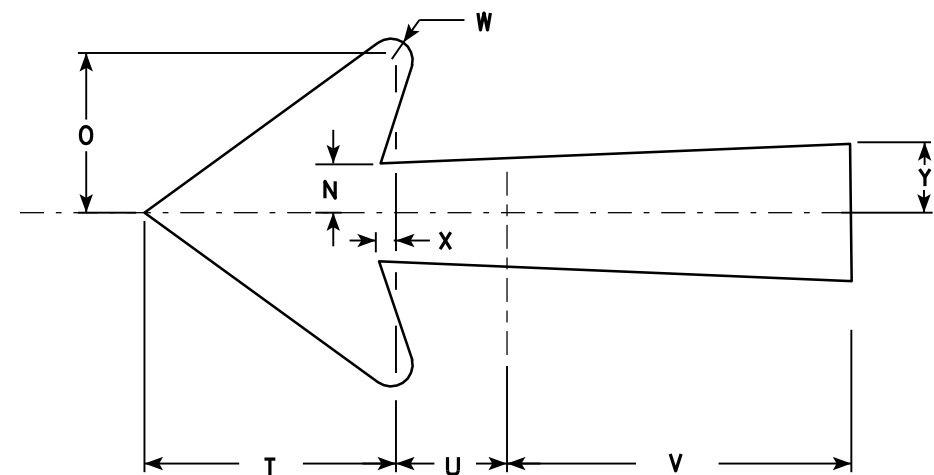
E



R10-6

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.



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	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

STANDARD SIGN R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

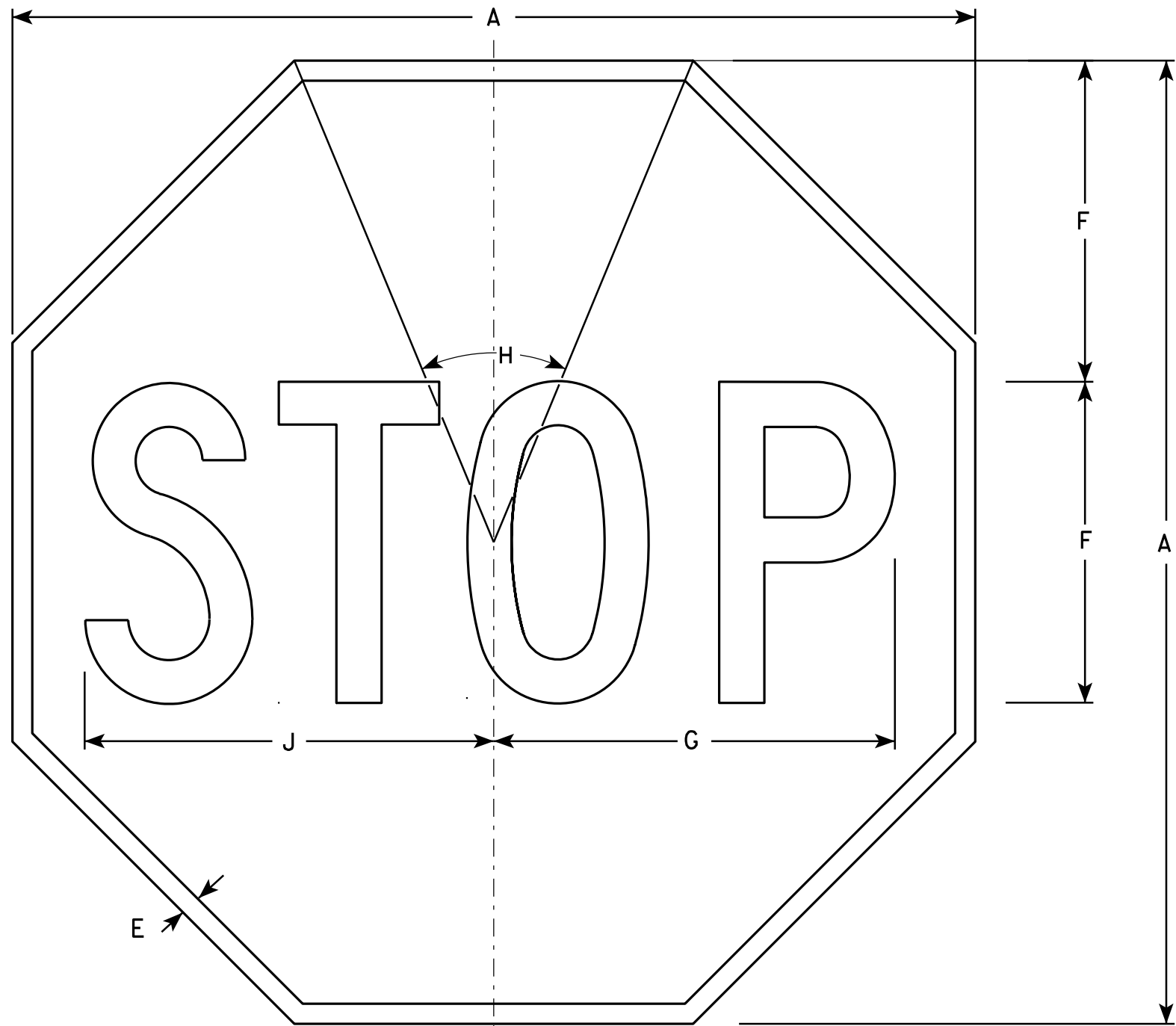
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 178

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

R1-1

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	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

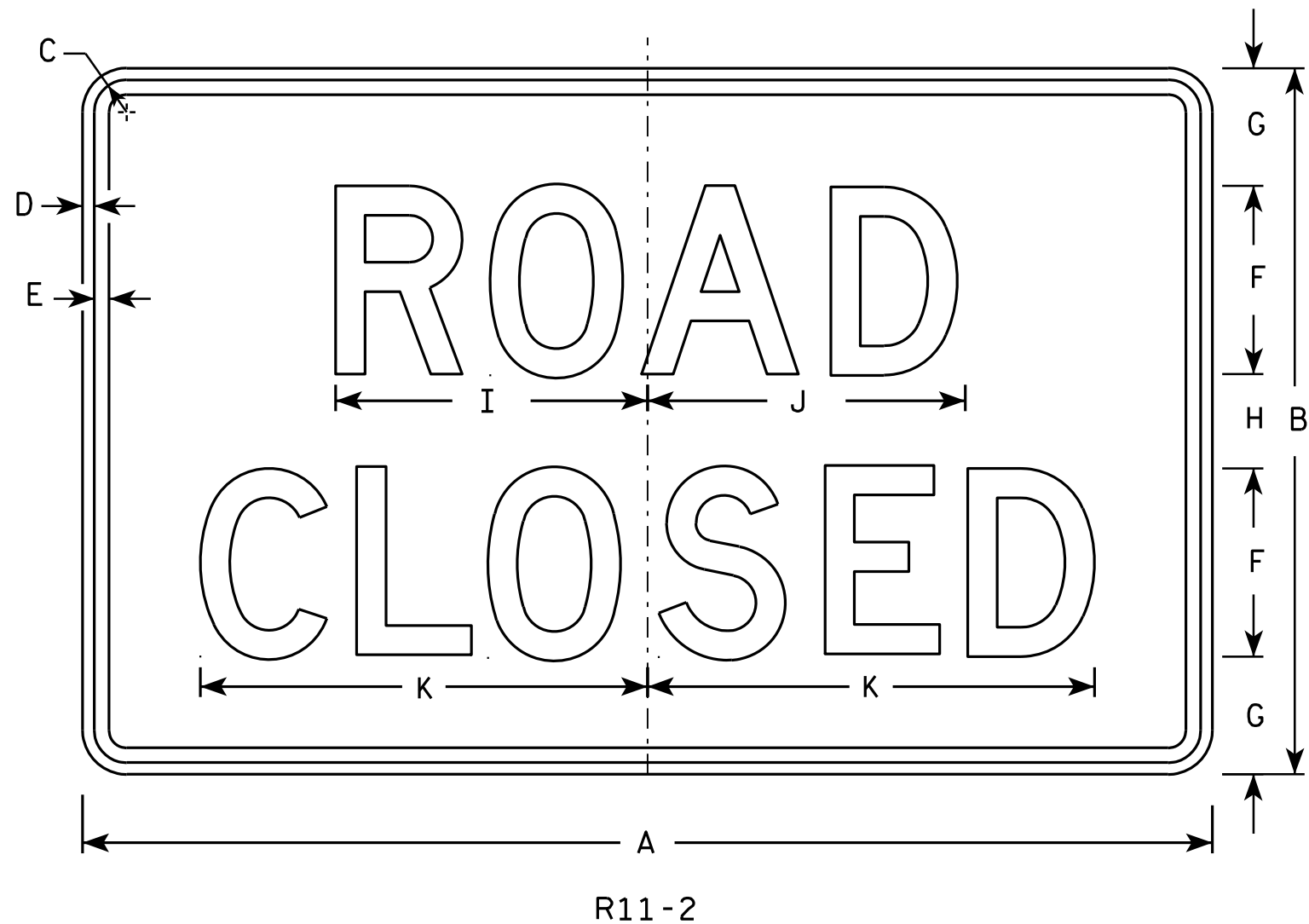
DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:

HWY:

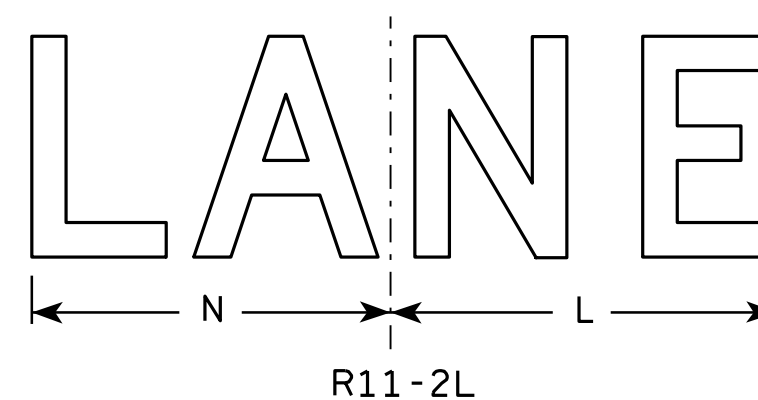
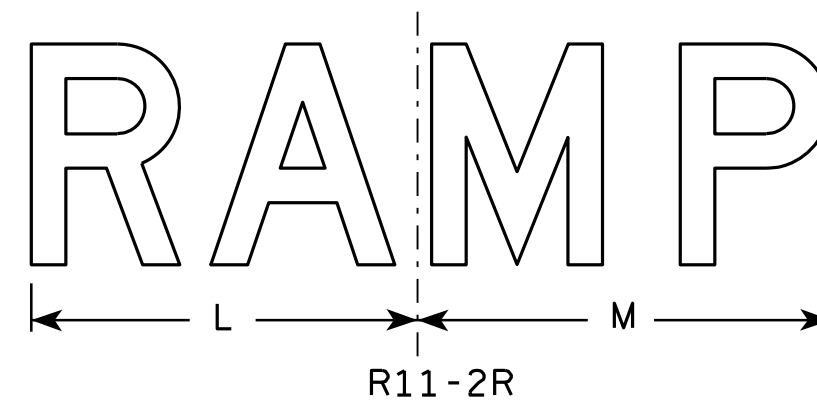
COUNTY:

SHEET NO: 179



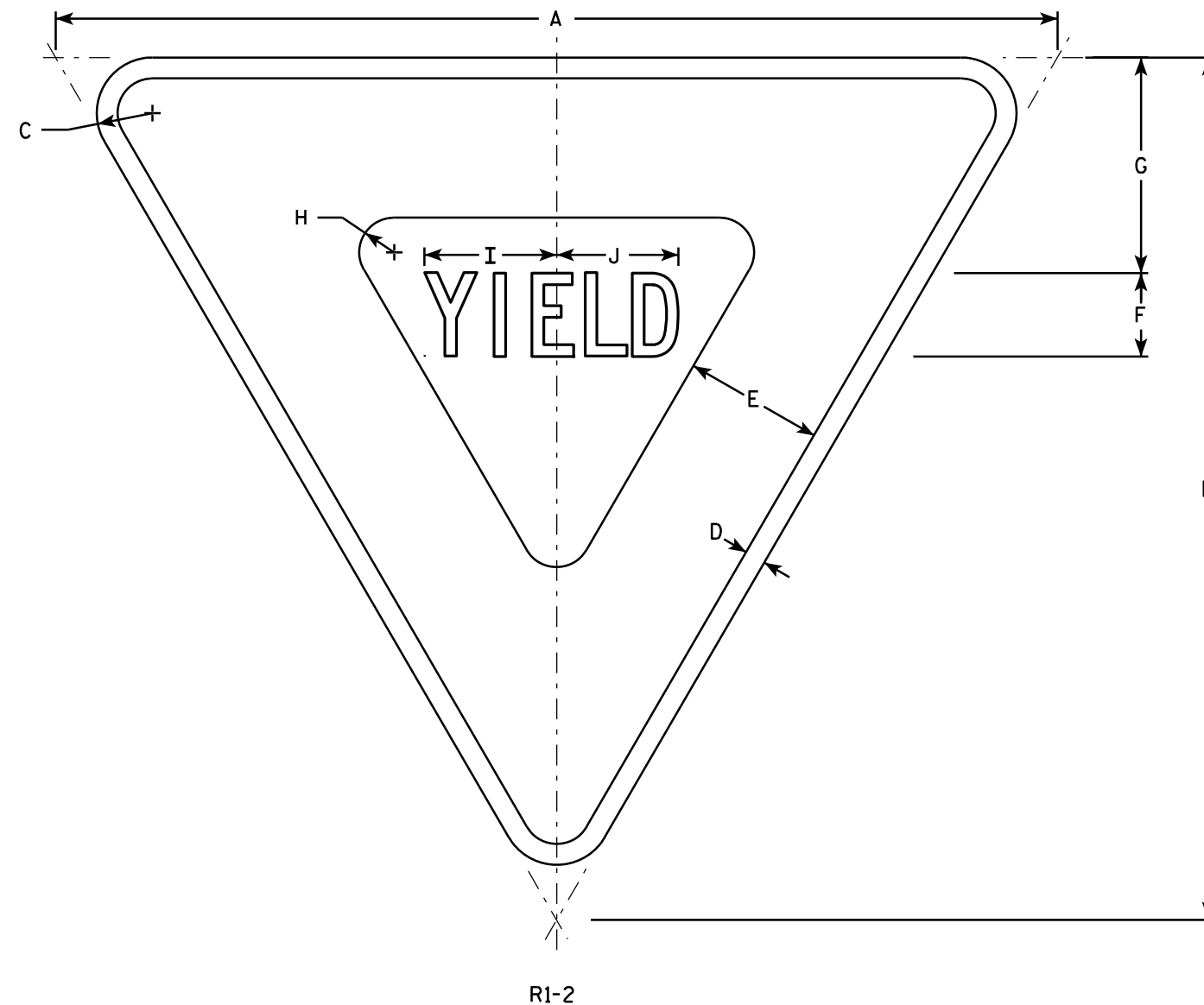
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

STANDARD SIGN R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-2.10



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

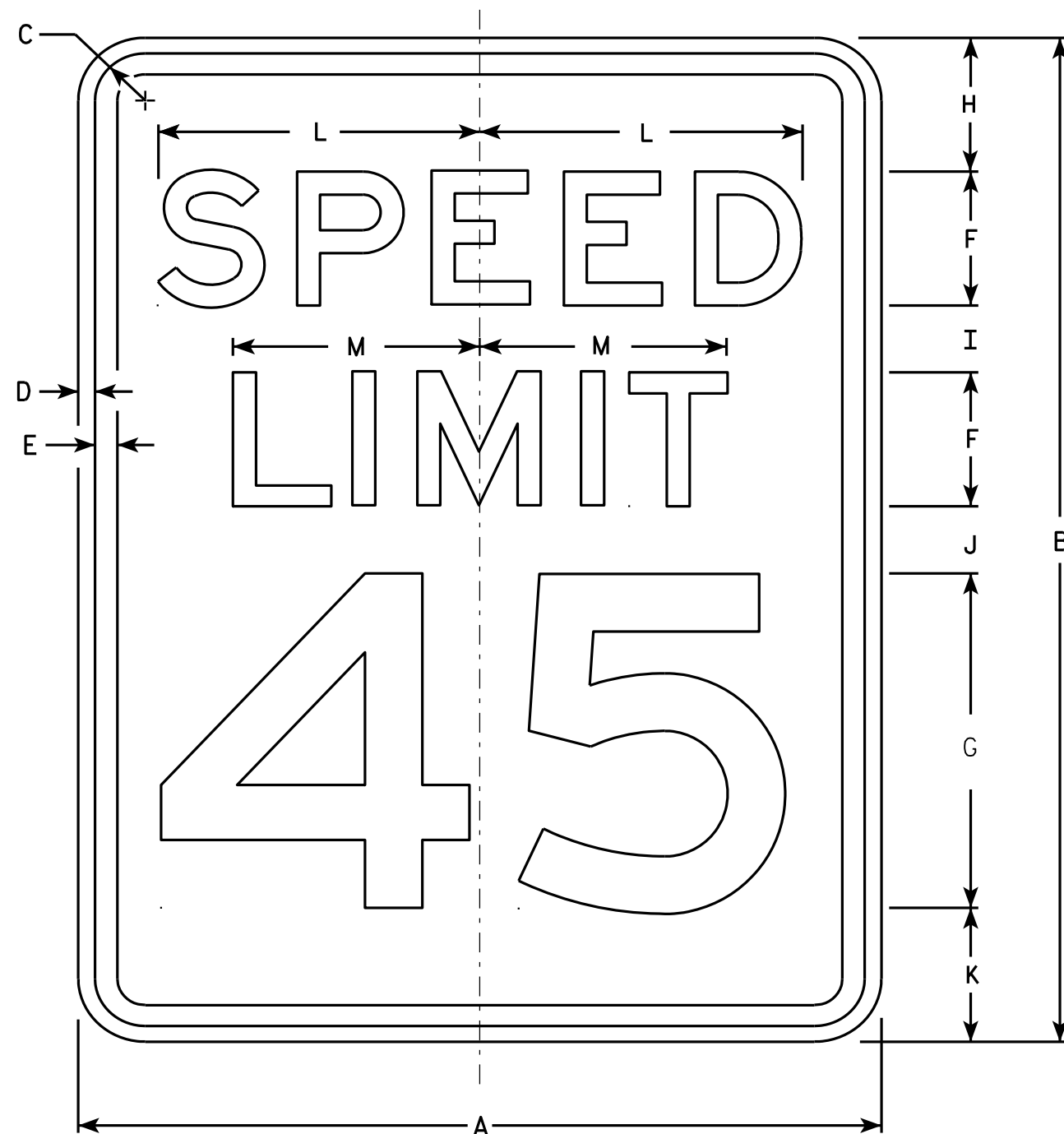
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

PROJECT NO: HWY: COUNTY: SHEET NO: 181 E



R2-1

NOTES

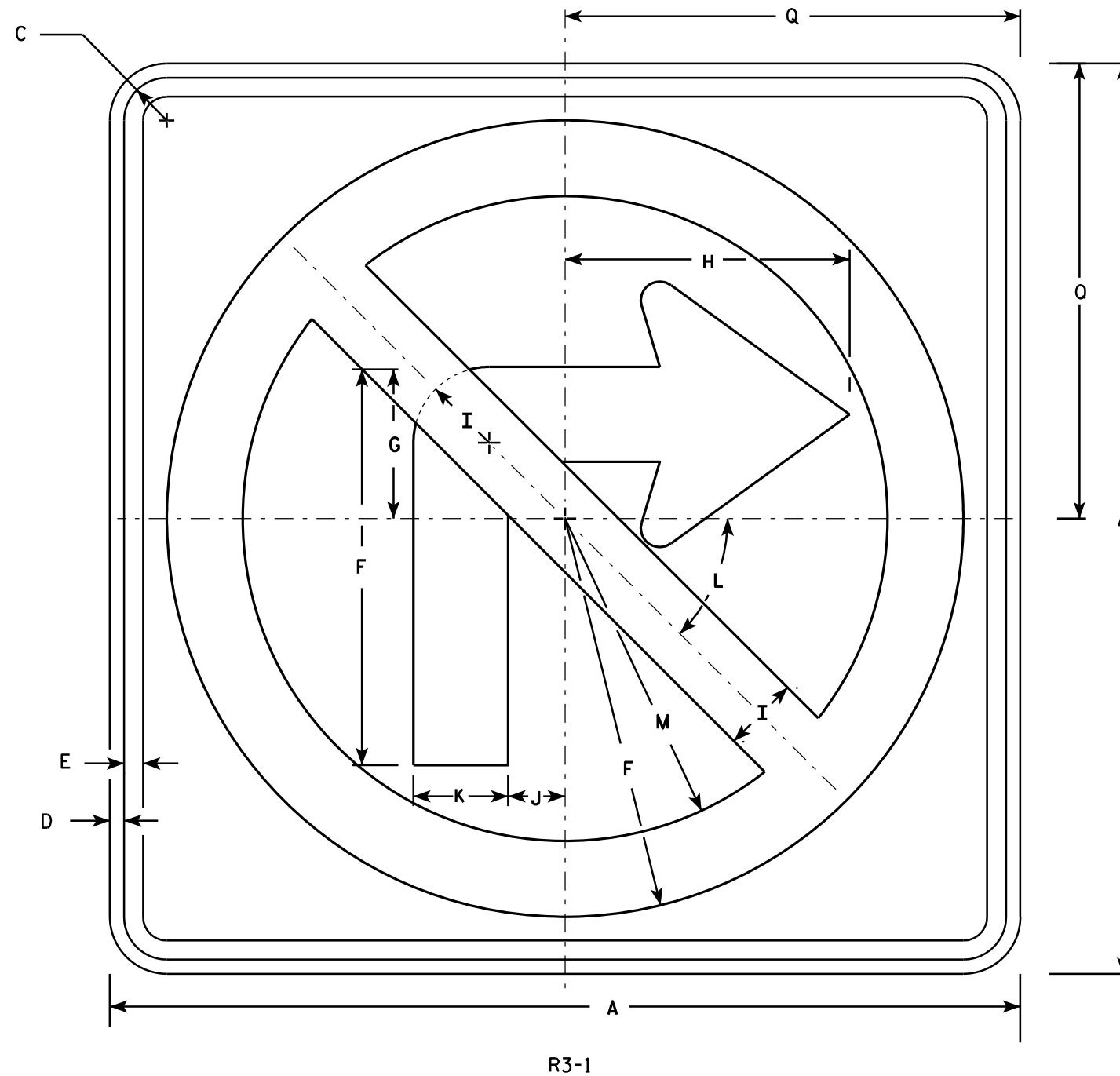
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN R2-1

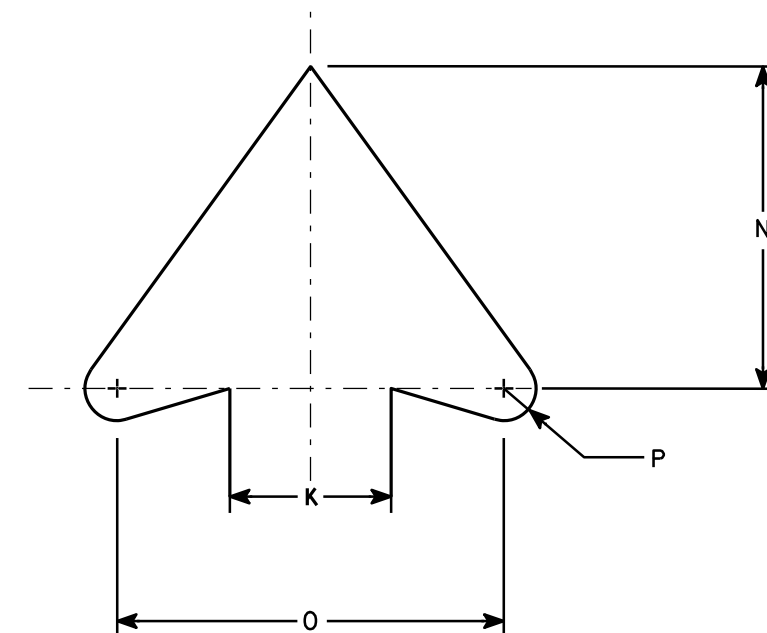
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 182 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 - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

STANDARD SIGN

R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

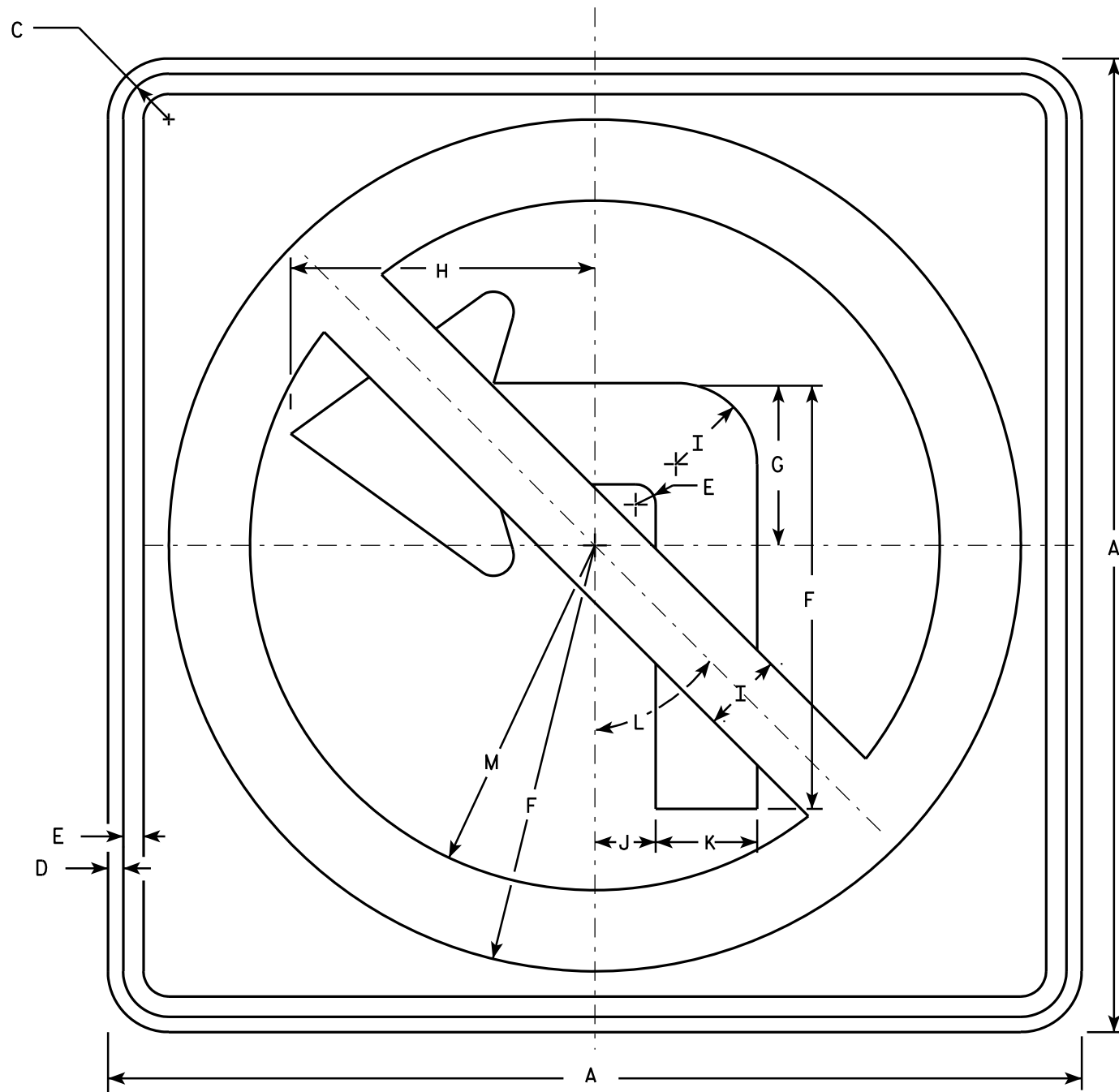
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 183

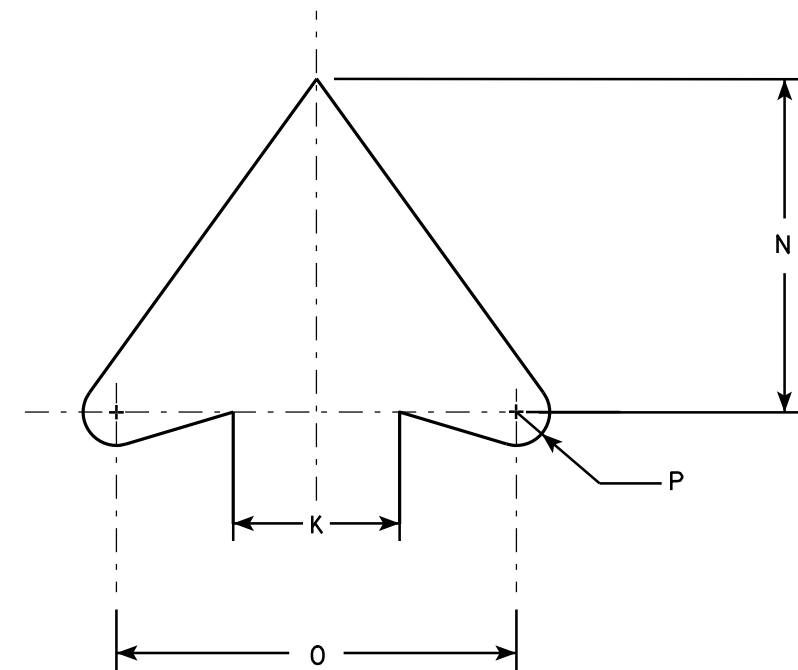
E



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

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

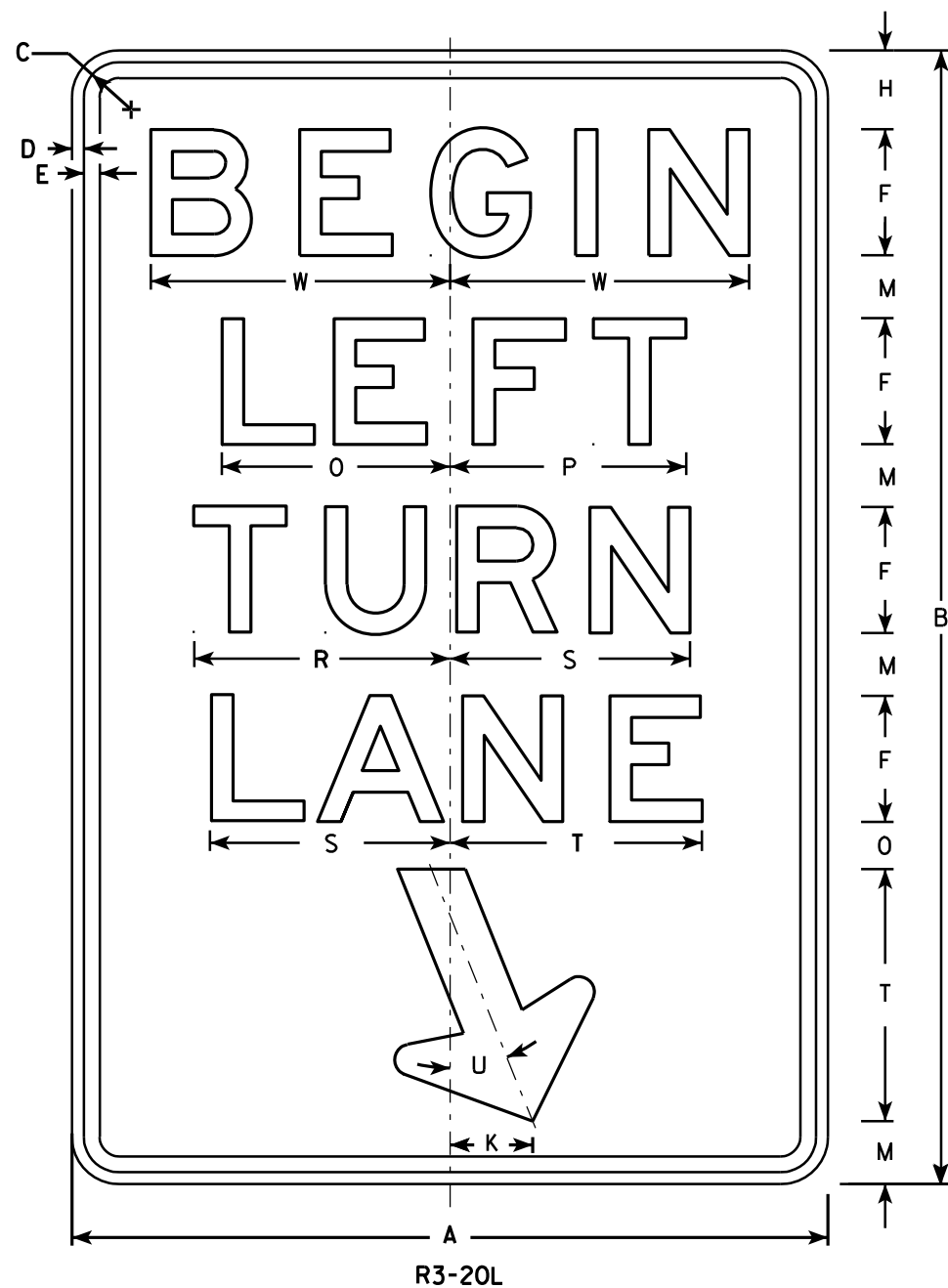
PROJECT NO:

HWY:

COUNTY:

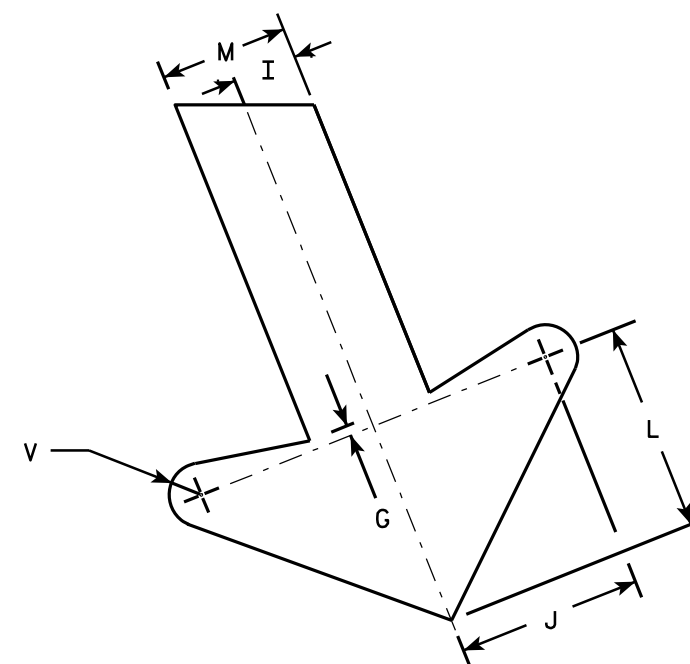
SHEET NO: 184

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.



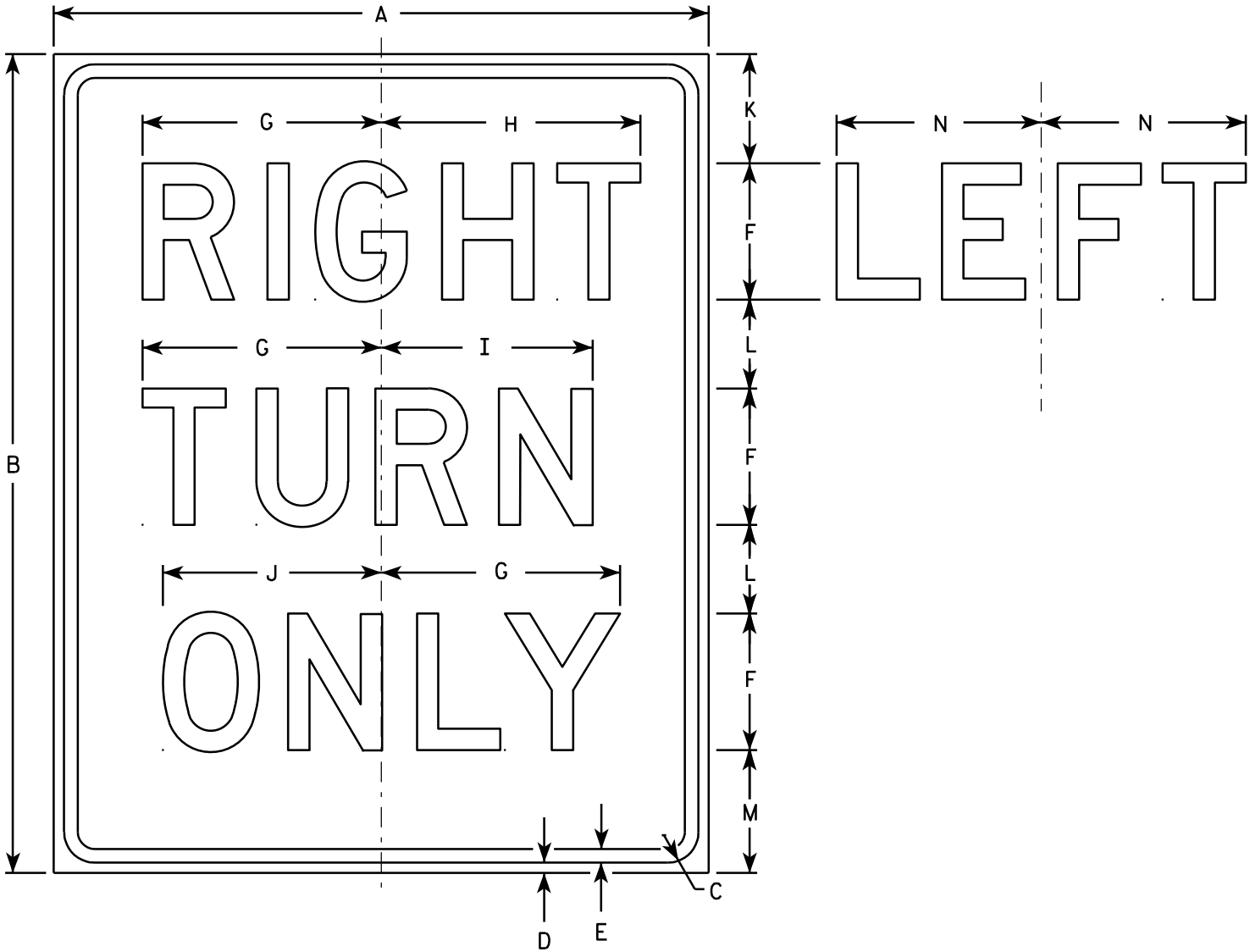
ARROW DETAIL

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	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN R3-20L	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 10/18/10	PLATE NO. R3-20L.7

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. R3-53L same as R3-53R except LEFT is substituted for RIGHT.



R3-53R

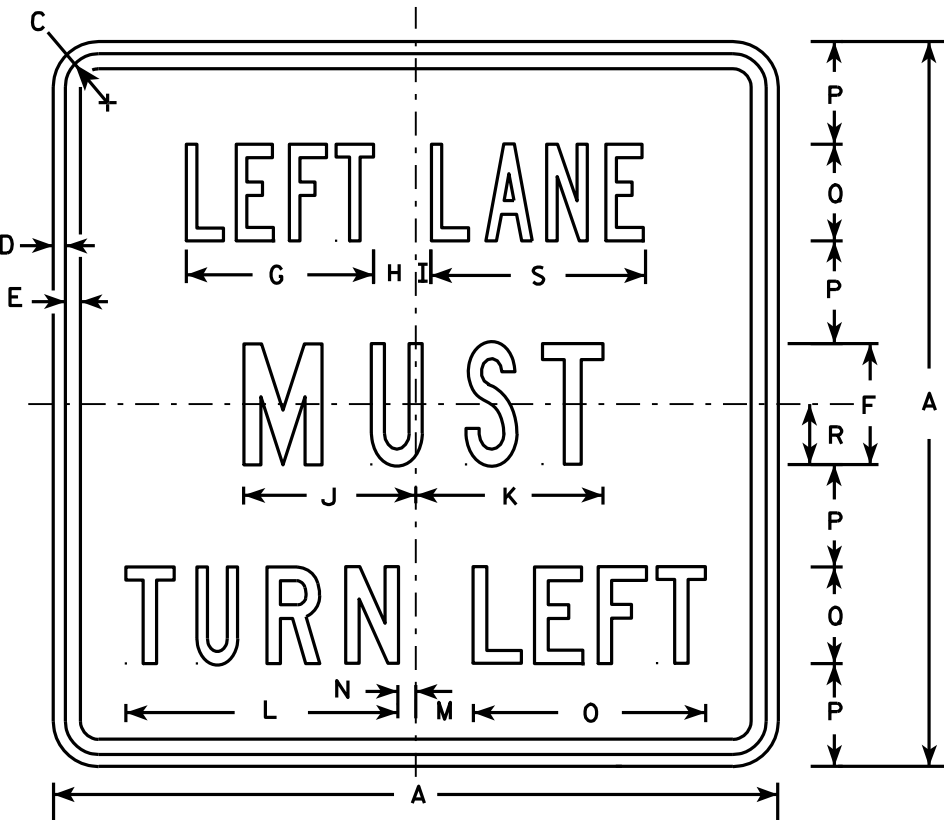
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
2M	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
3	24	30	1 1/8	3/8	1/2	5	8 3/4	9 1/2	7 3/4	8	4	3 1/4	4 1/2	7 1/2													5.0
4																											
5																											

STANDARD SIGN
R3-53

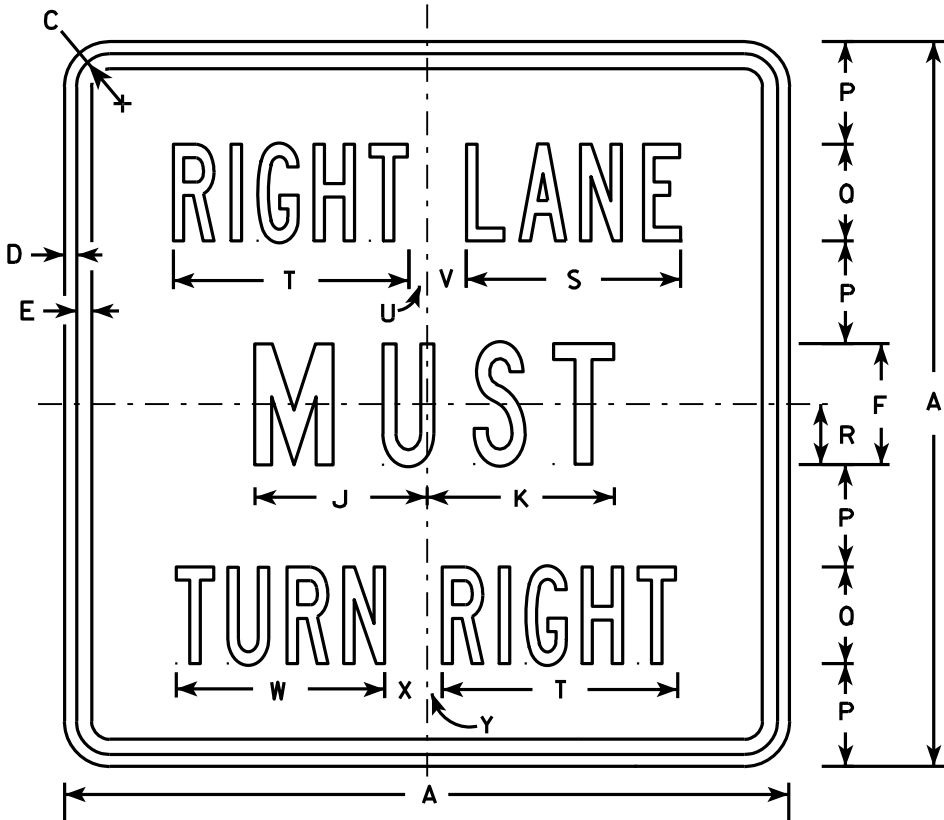
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-53.8



R3-7L



R3-7R

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 - Line 1 is Series B.
Line 2 is Series C.
Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

STANDARD SIGN
R3-7L & R3-7R

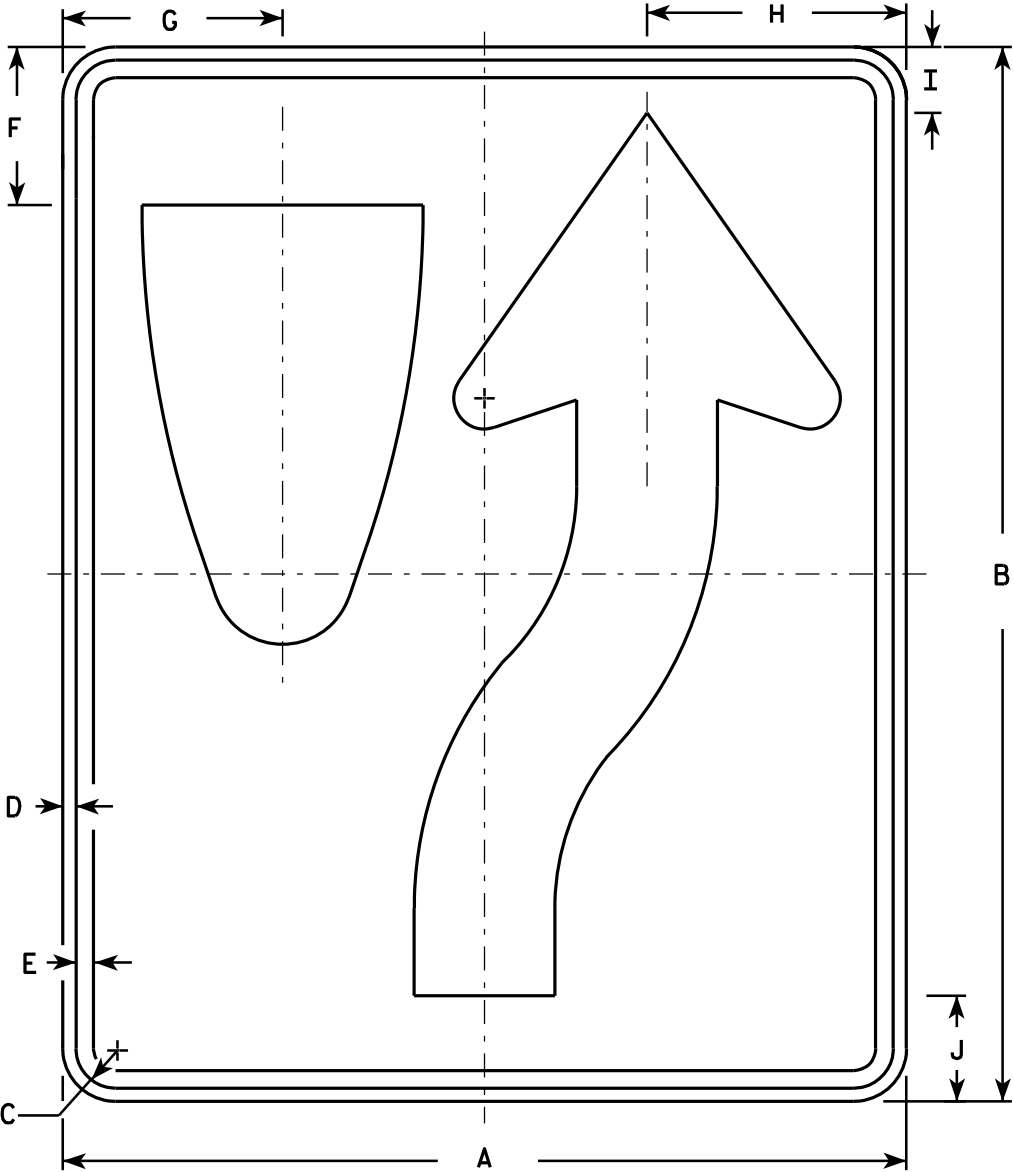
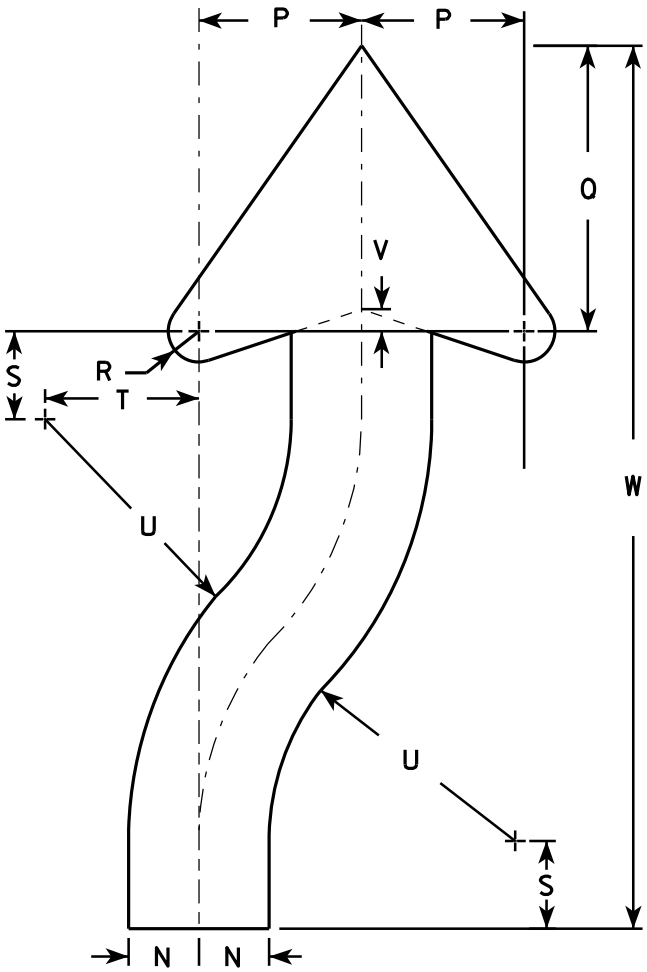
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

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.



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

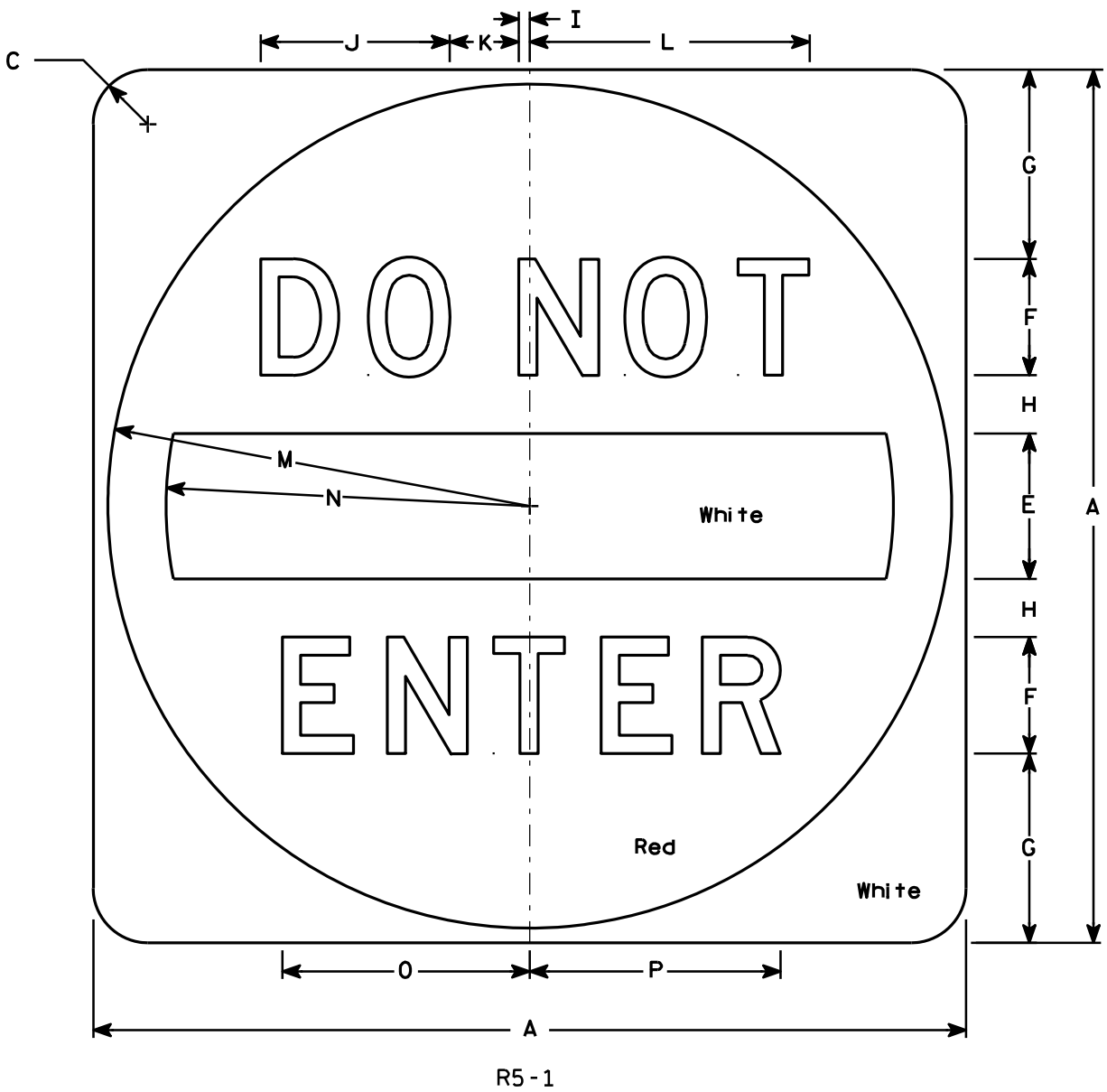
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

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.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7⁄8		5	4	6 1⁄2	2	3⁄8	6 1⁄2	2 3⁄8	9 5⁄8	14 1⁄2	12 1⁄2	8 1⁄2	8 5⁄8											6.26
2M	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
3	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
4	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
5	48		3		8	6	11	3	5⁄8	9 3⁄4	3 5⁄8	14 1⁄2	23 1⁄2	20	12 3⁄4	12 7⁄8											16.0

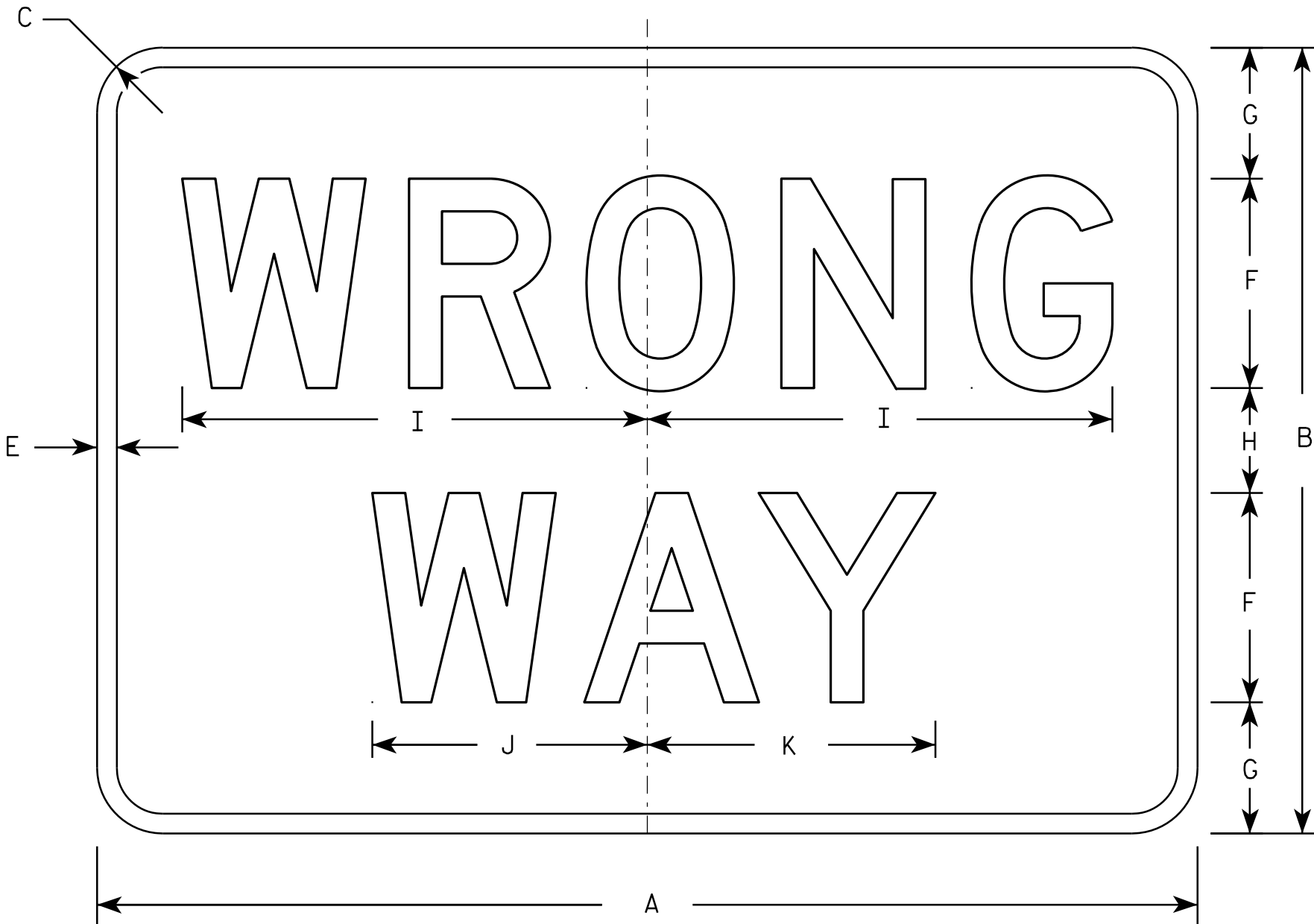
STANDARD SIGN

R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



R5-1A

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Red
 - Message - White
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

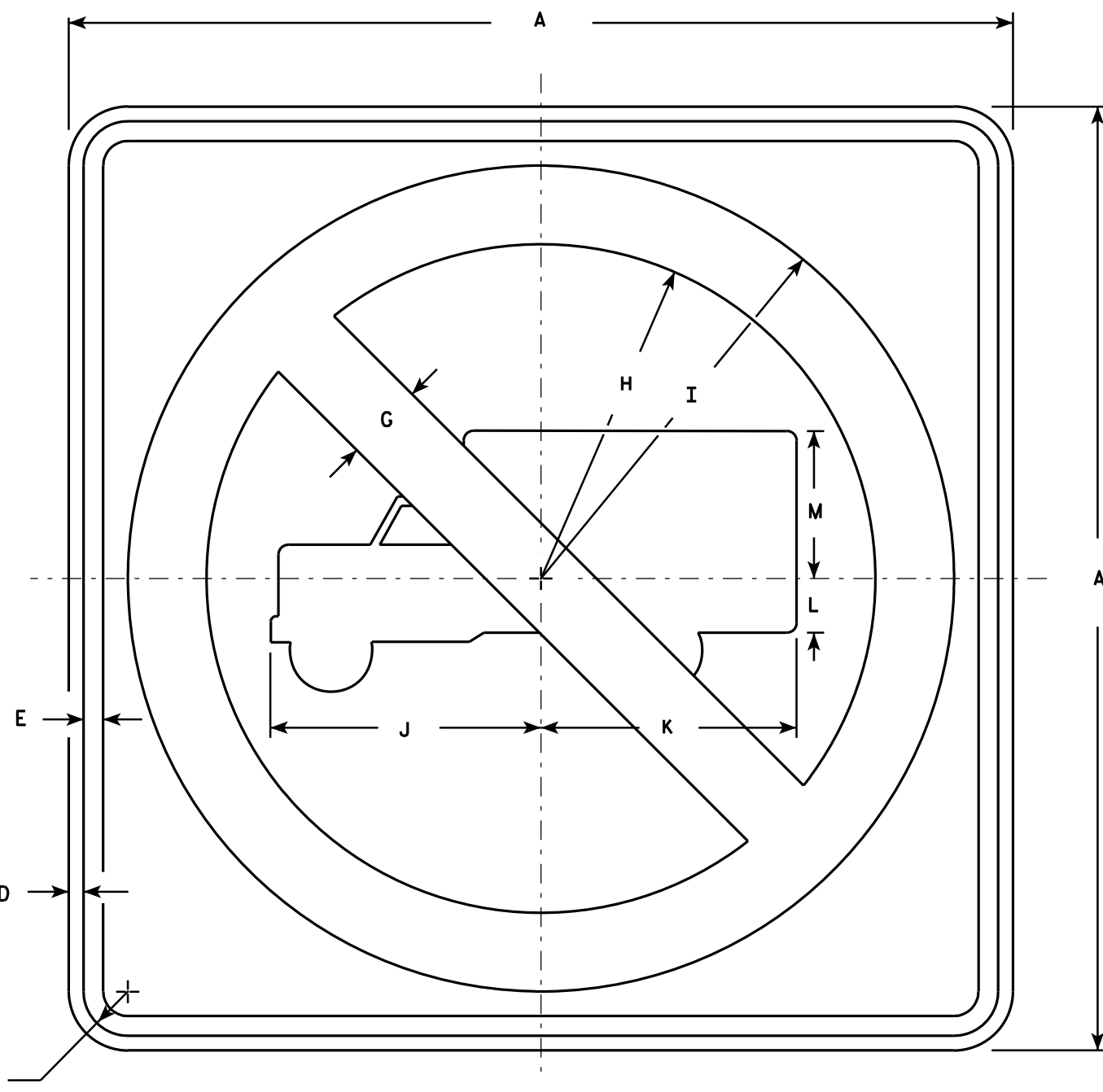
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2



R5-2

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. Circle & Diagonal - Reflective red.
Truck Symbol & Border - Non-reflective black.

7

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	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/8	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
3	30		1 3/8	1/2	5/8		2 1/2	10 5/8	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		1 5/8	5/8	3/4		3	12 3/4	15 3/4	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 5/8	13	2 5/8	7 5/8														16.0

STANDARD SIGN
R5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-2.6

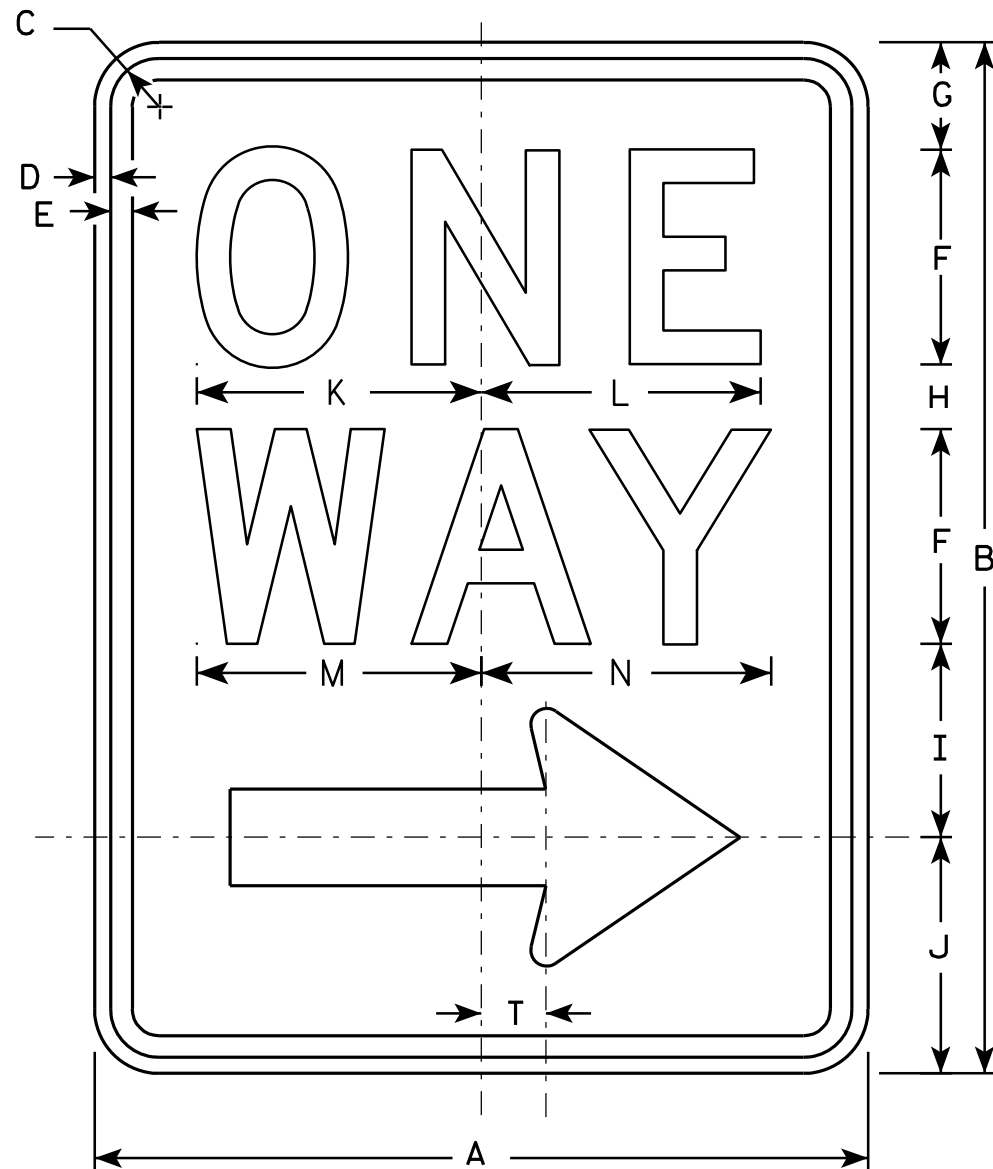
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 191

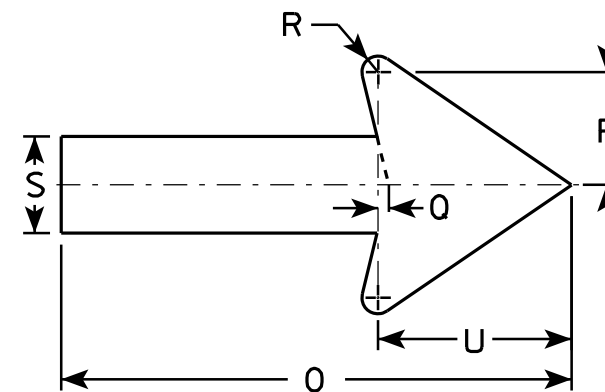
E



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	O	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																										

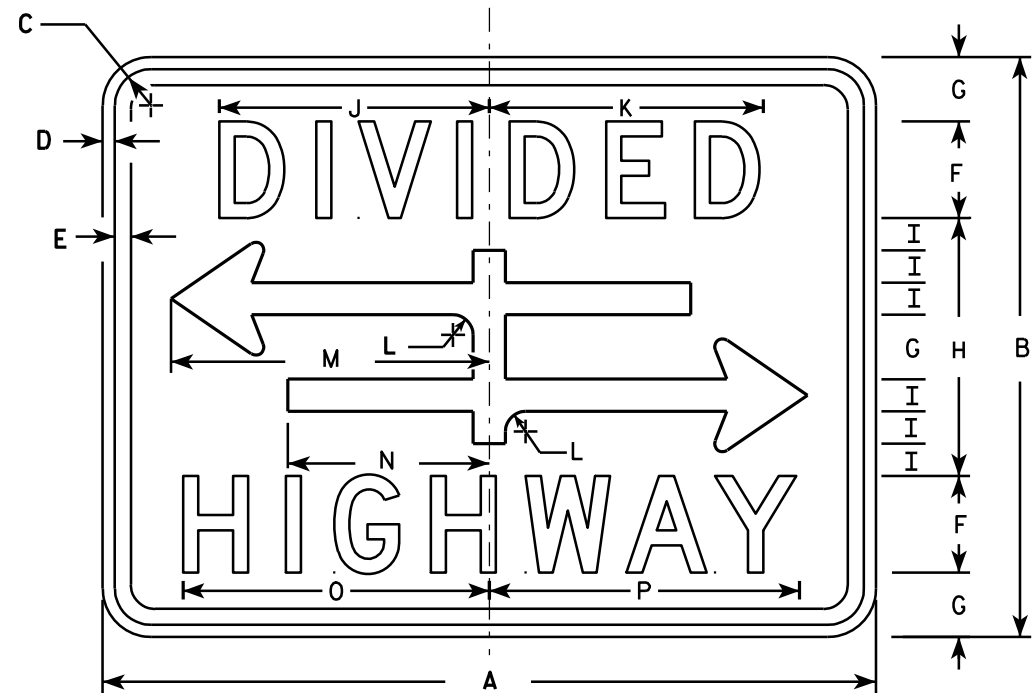
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

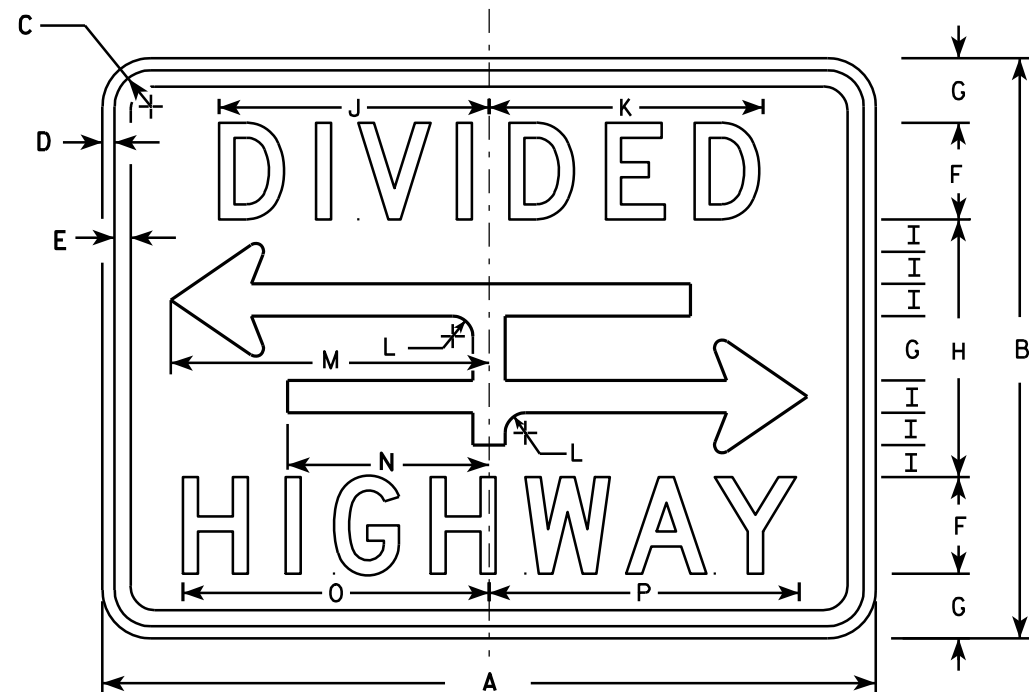
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO: HWY: COUNTY: SHEET NO: 192 E



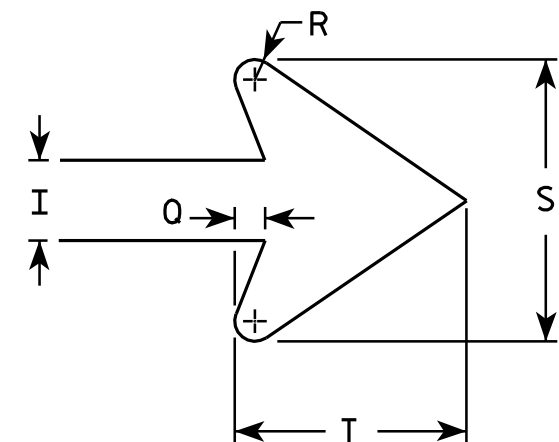
R6-3



R6-3A

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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO: 193

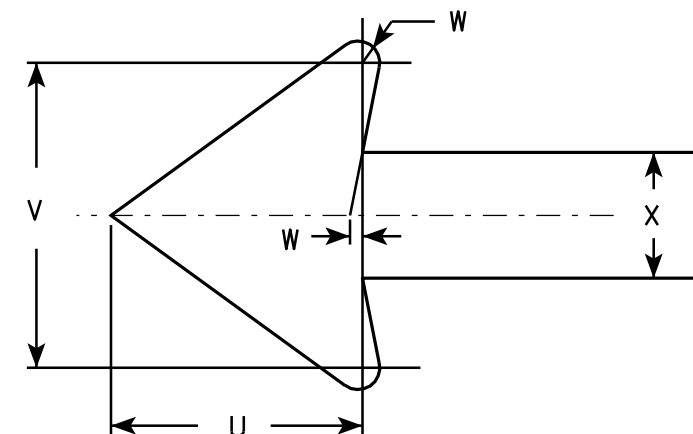
E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
R7-1L (left arrow)
R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN R7-1

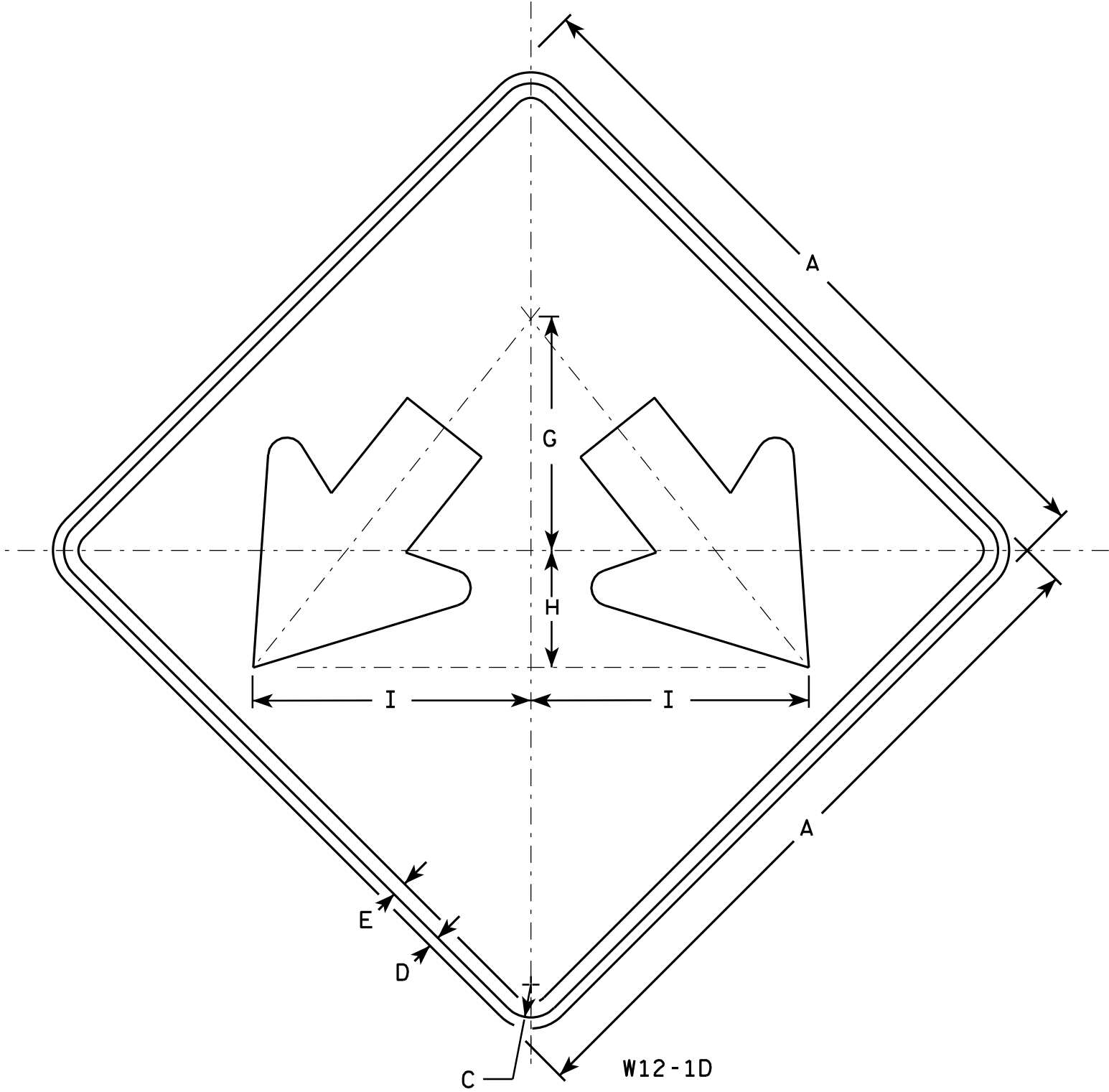
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

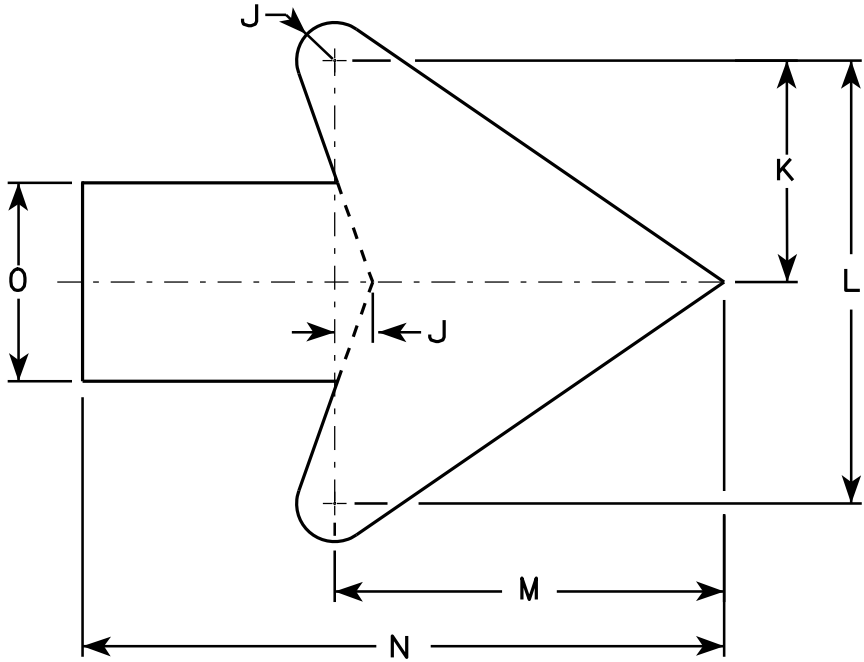
PROJECT NO: HWY: COUNTY: SHEET NO: 194 E

7



NOTES

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



Arrow Detail

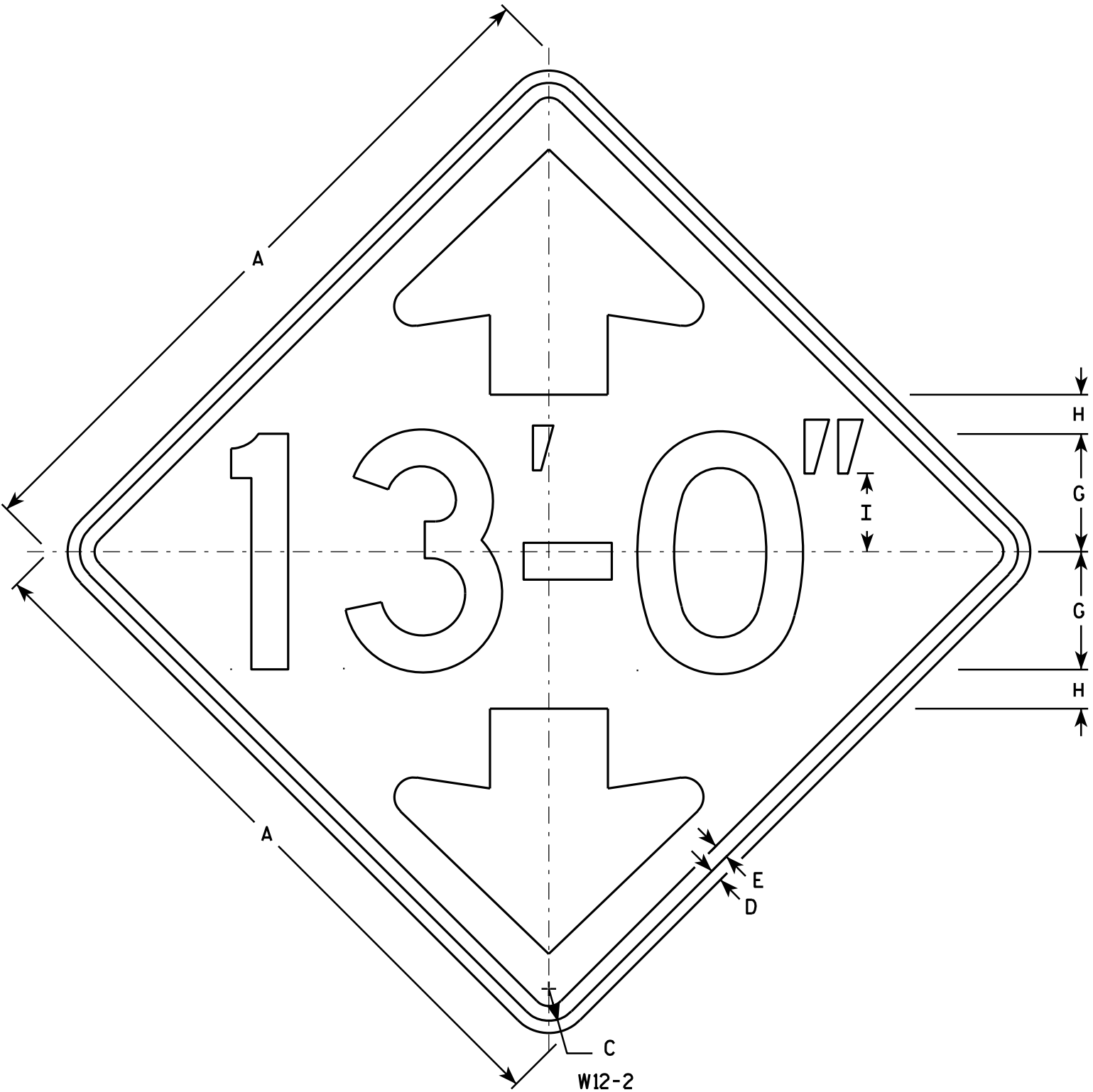
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

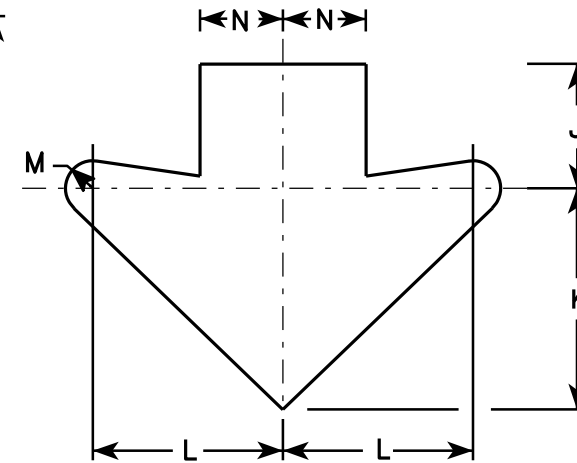
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

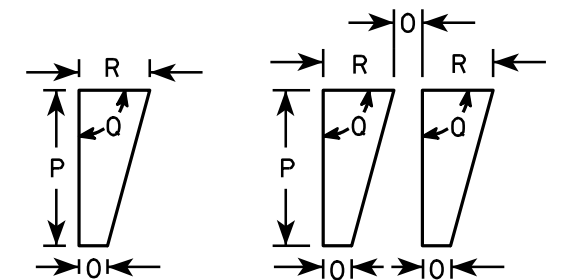


NOTES

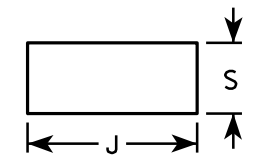
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing of numerals, hyphen, foot & inch marks to achieve proper balance.



Arrow Detail



Foot Mark & Inch Mark Detail



Hyphen Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		5	1 5/8	3 3/8	3 3/4	6 5/8	5 3/4	3/4	2 1/2	1/2	2 1/4	90°	1	1 5/8								6.25
2S	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
2M	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
3	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
4	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
5	48		2 1/4	3/4	1		8	2 5/8	5 1/2	5 7/8	10 5/8	9 1/4	1 3/8	4	5/8	3 5/8	90°	1 5/8	2 1/2								16.00

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 196

E

STANDARD SIGN
W12-2

WISCONSIN DEPT OF TRANSPORTATION

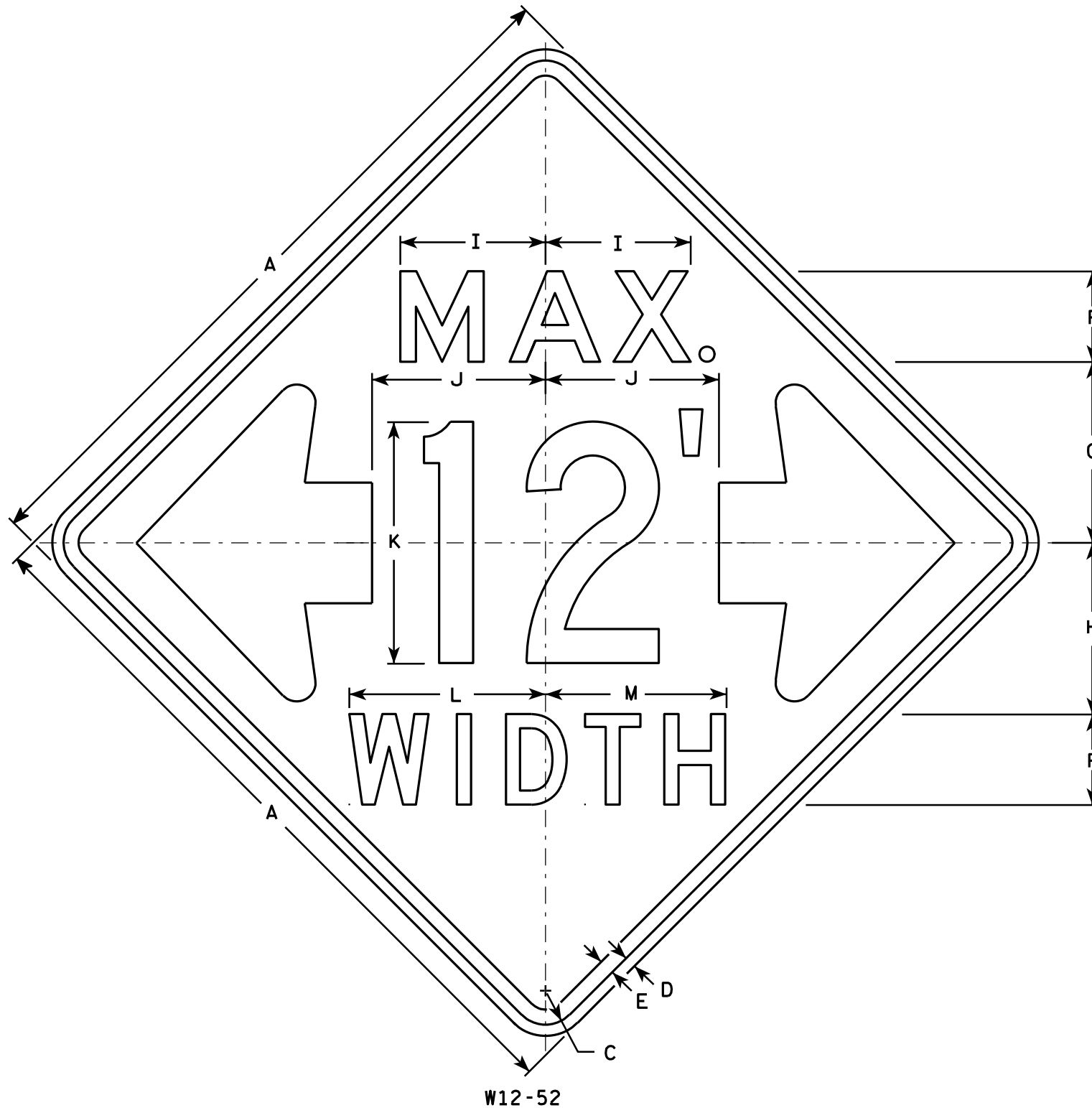
APPROVED

Matthew R. Rauch

For State Traffic Engineer

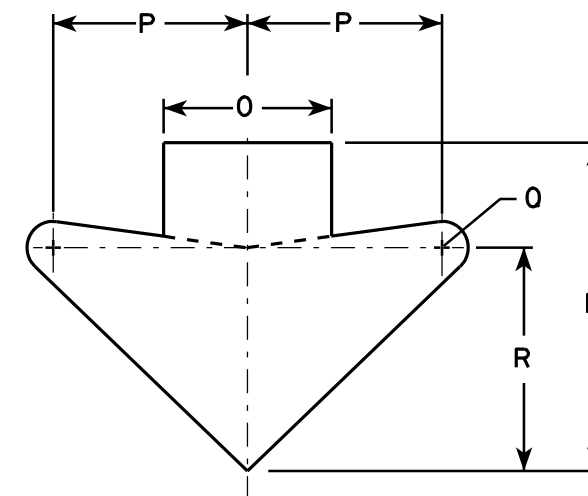
DATE 3/13/13

PLATE NO. W12-2.9



NOTES

- Sign Is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- 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.
- The top line is series E, the numerals are series C, and the bottom line is series D.
- Substitute appropriate numerals and adjust spacing as required.



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	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
 For State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

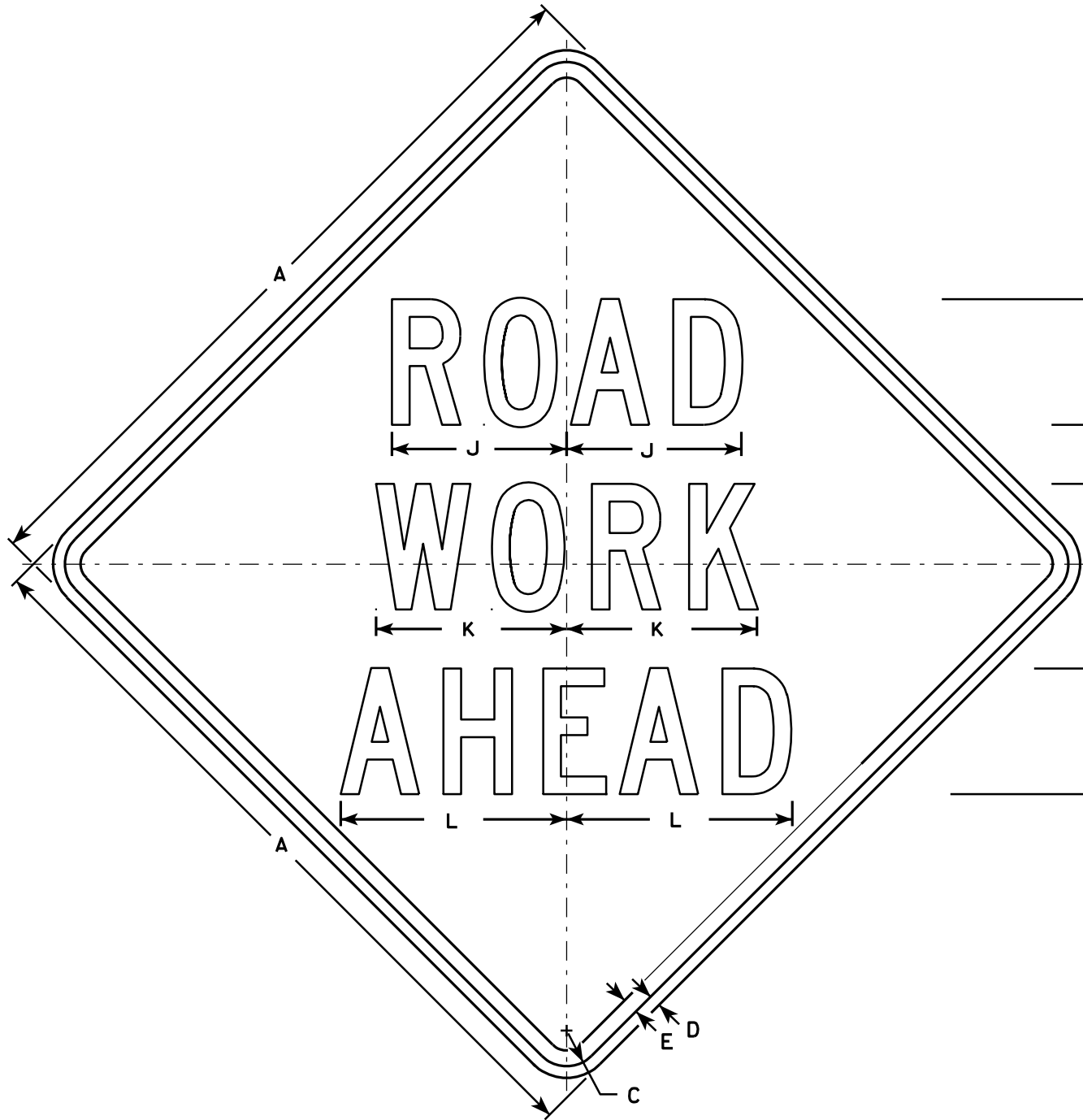
PROJECT NO:

HWY:

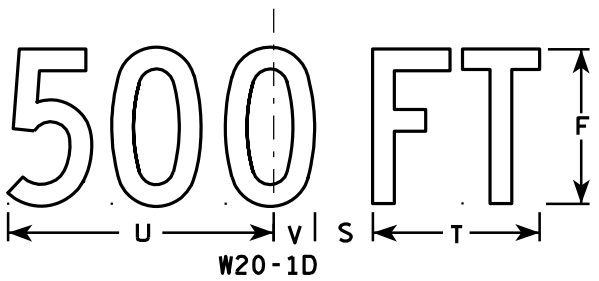
COUNTY:

SHEET NO: 197

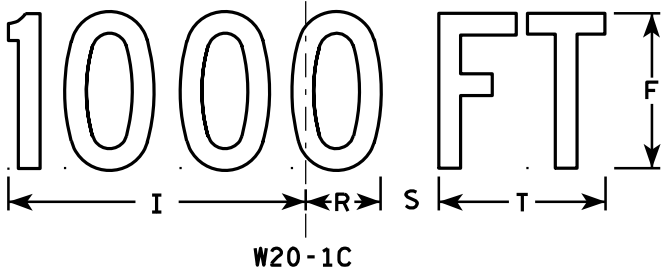
E



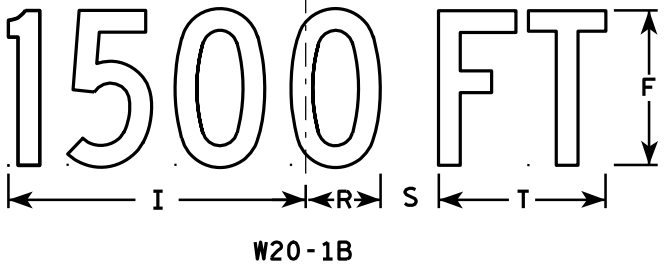
W20-1A



W20-1D



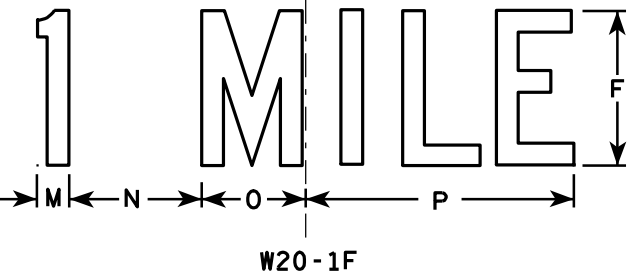
W20-1C



W20-1B



W20-1G



W20-1F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

PROJECT NO:

SHEET NO: 198

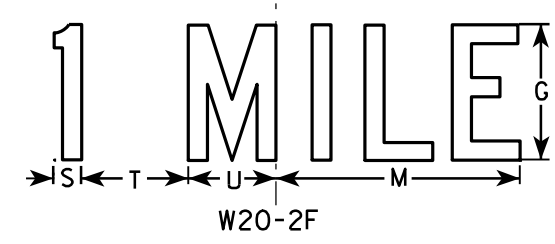
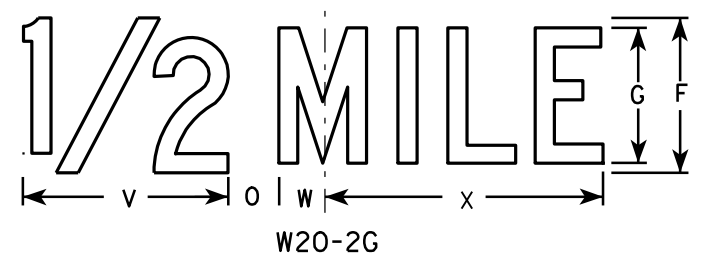
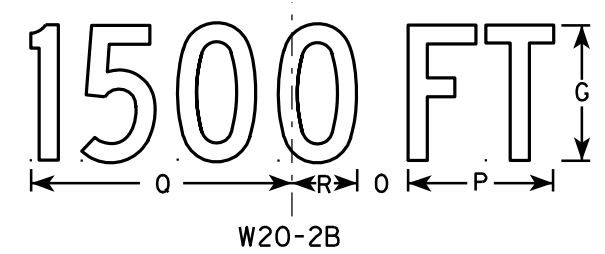
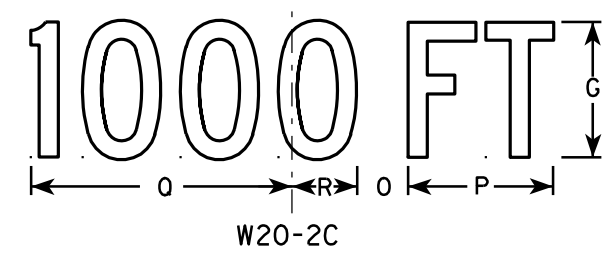
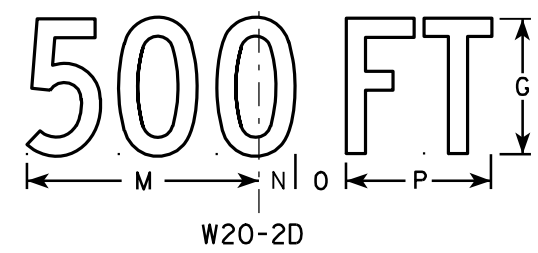
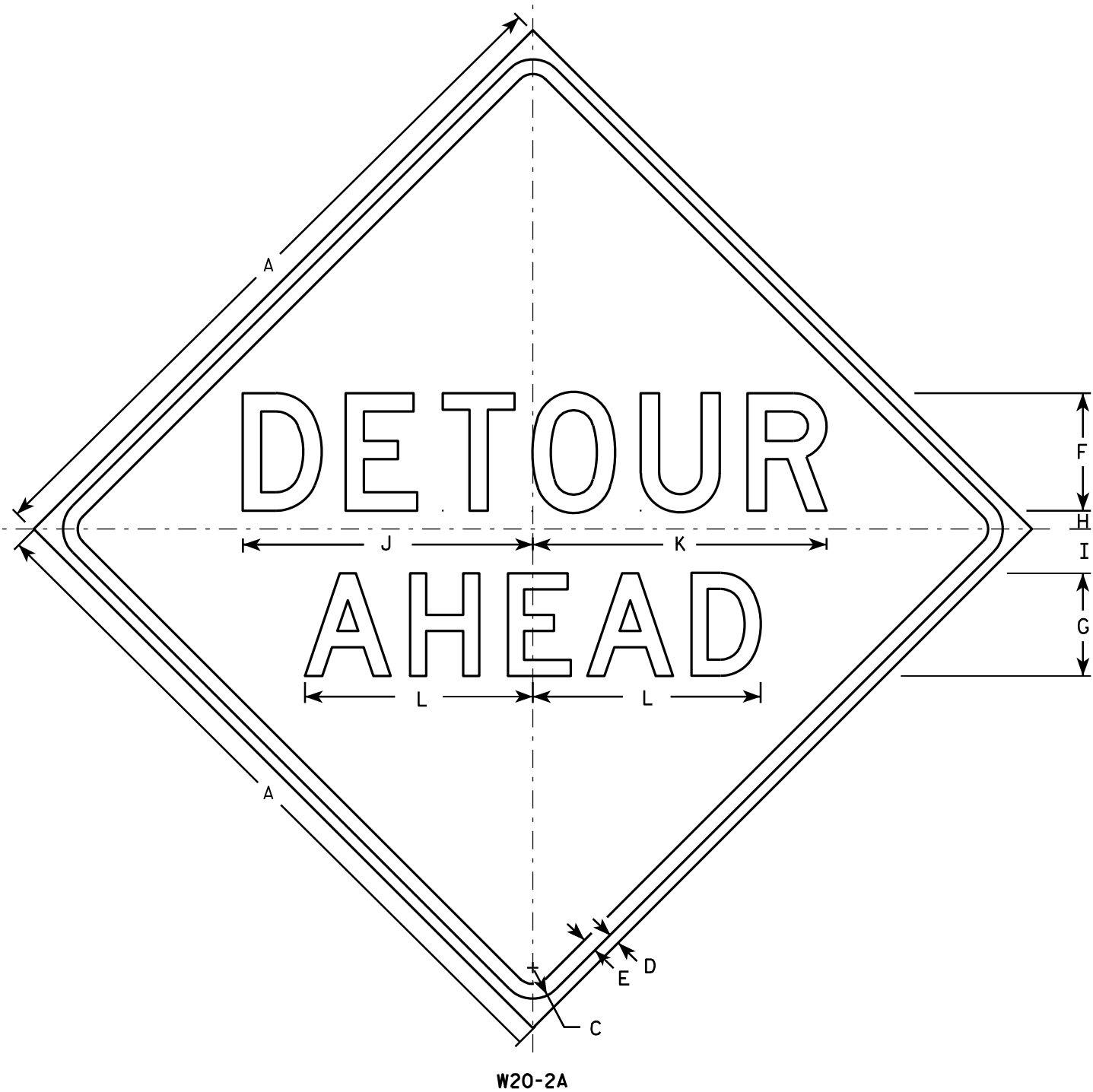
E

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 3/18/11
PLATE NO. W20-1.9



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

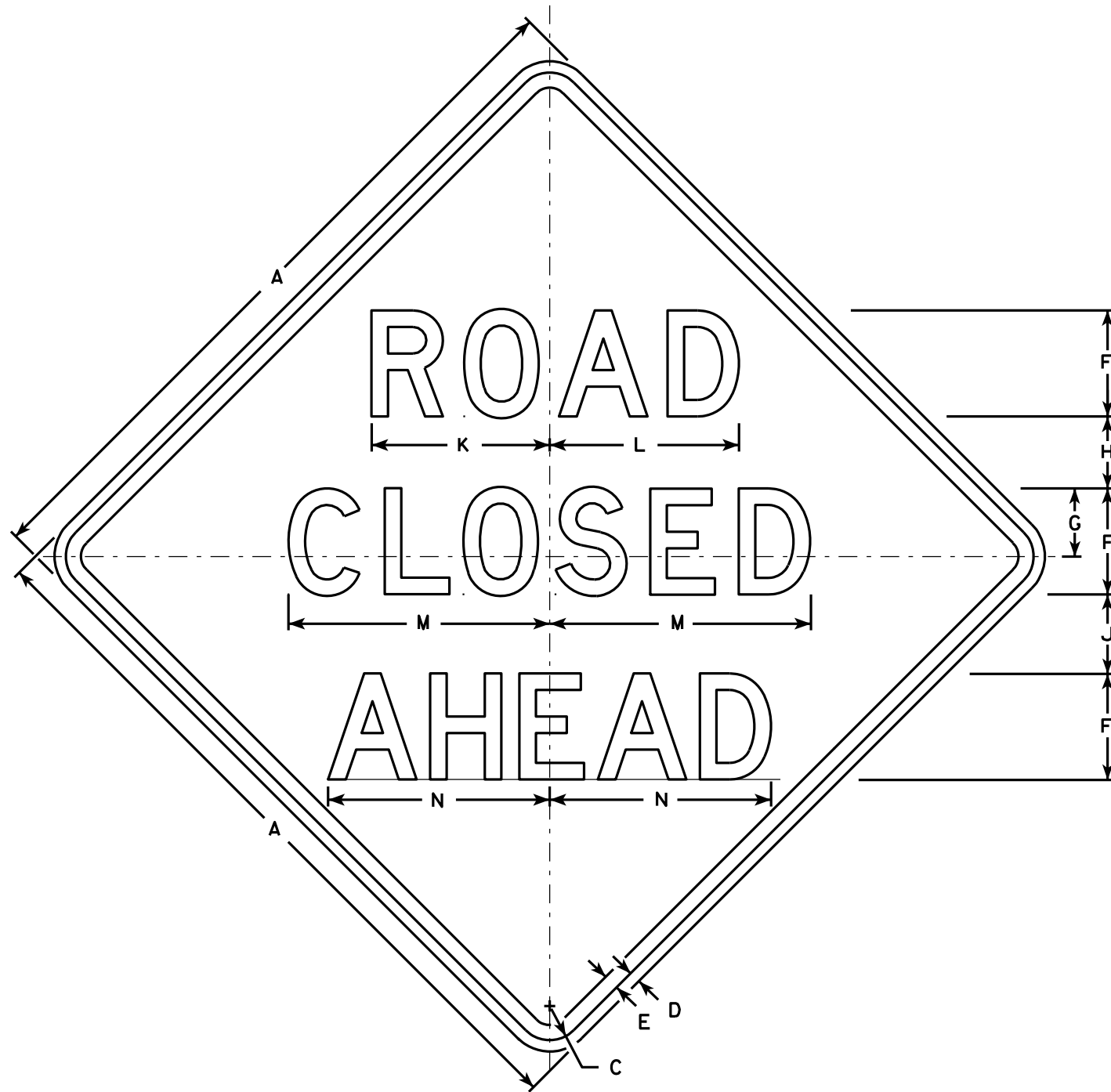
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 199

E



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

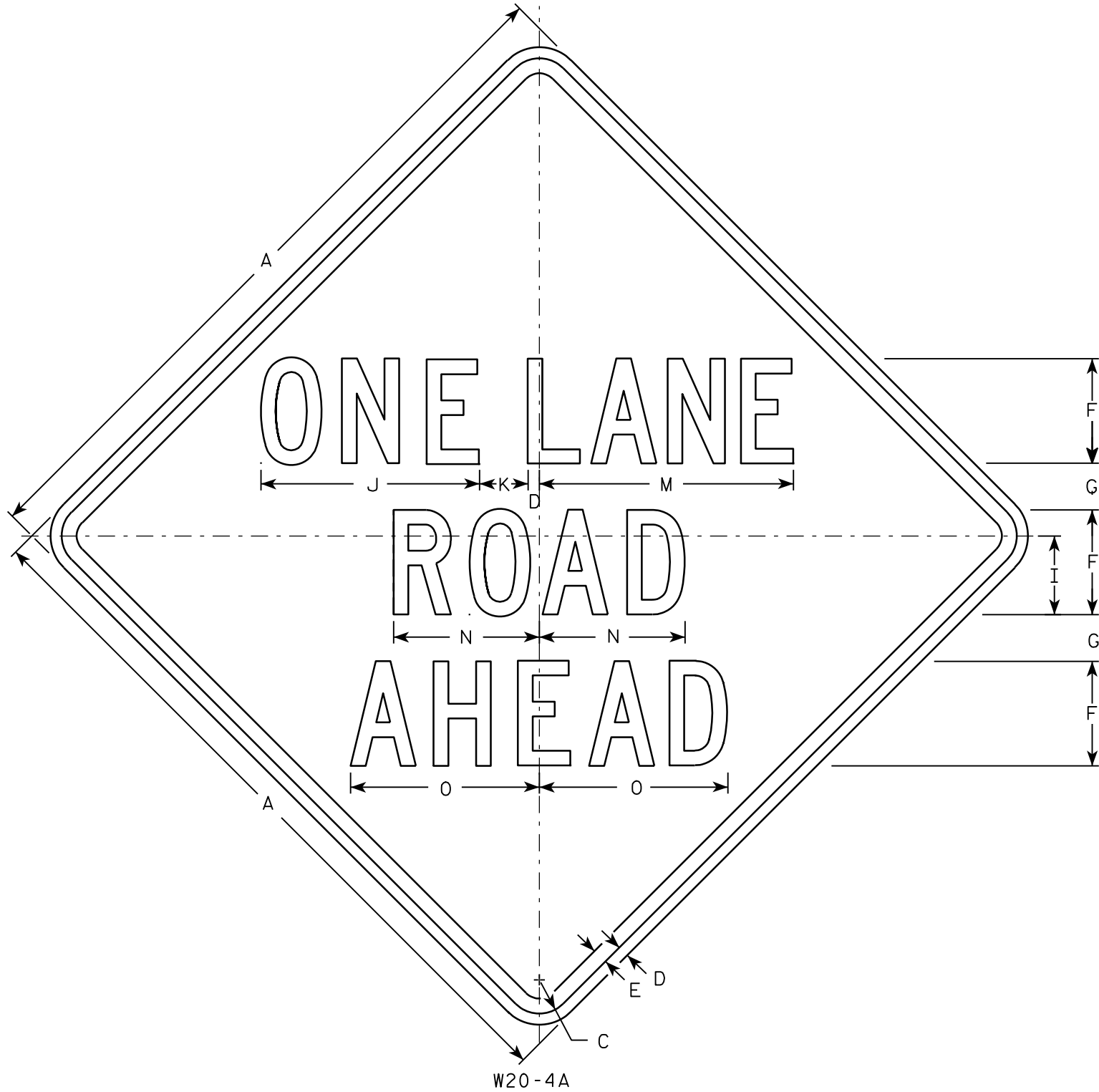
PROJECT NO:

HWY:

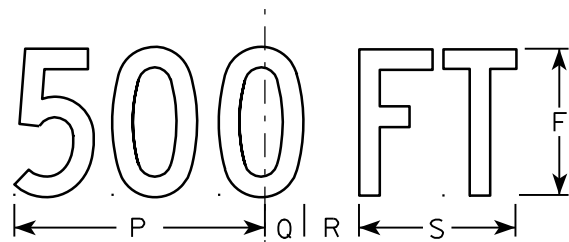
COUNTY:

SHEET NO: 200

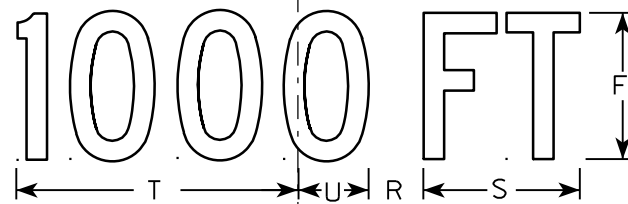
E



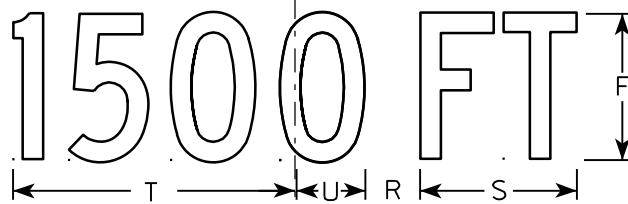
W20-4A



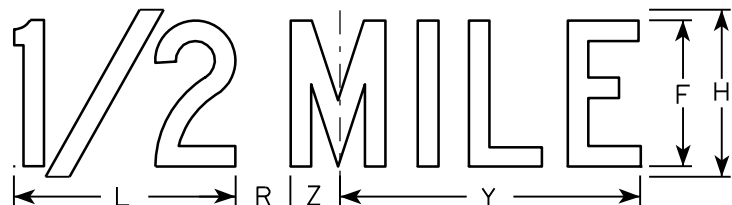
W20-4D



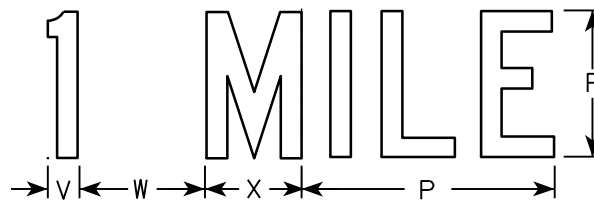
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

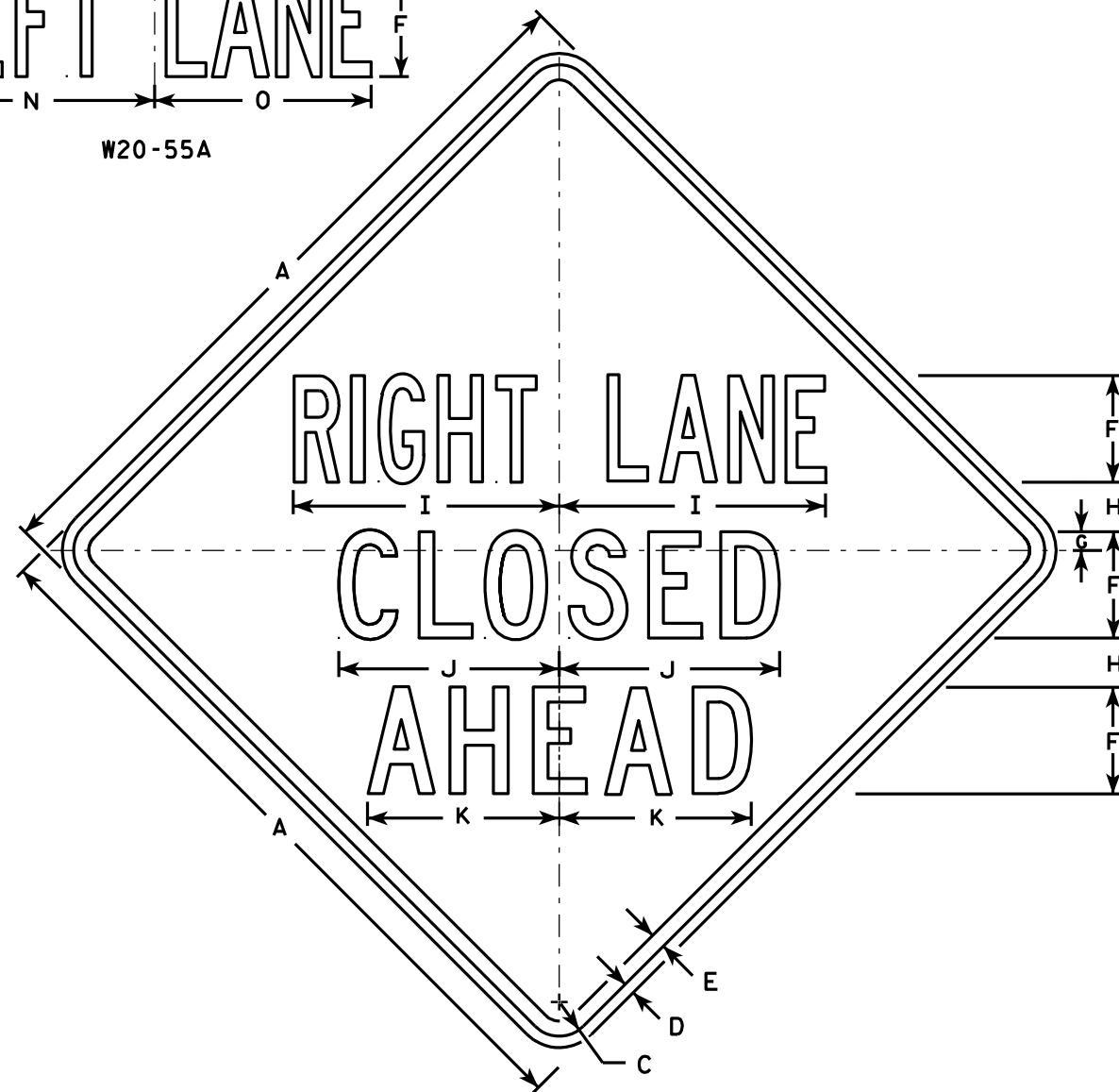
DATE 3/18/11 PLATE NO. W20-4.9

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. "----- LANE" is Series B.
All other copy is 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	36	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

PROJECT NO:

HWY:

COUNTY:

STANDARD SIGN
W20-5A, B, C, D, F & G

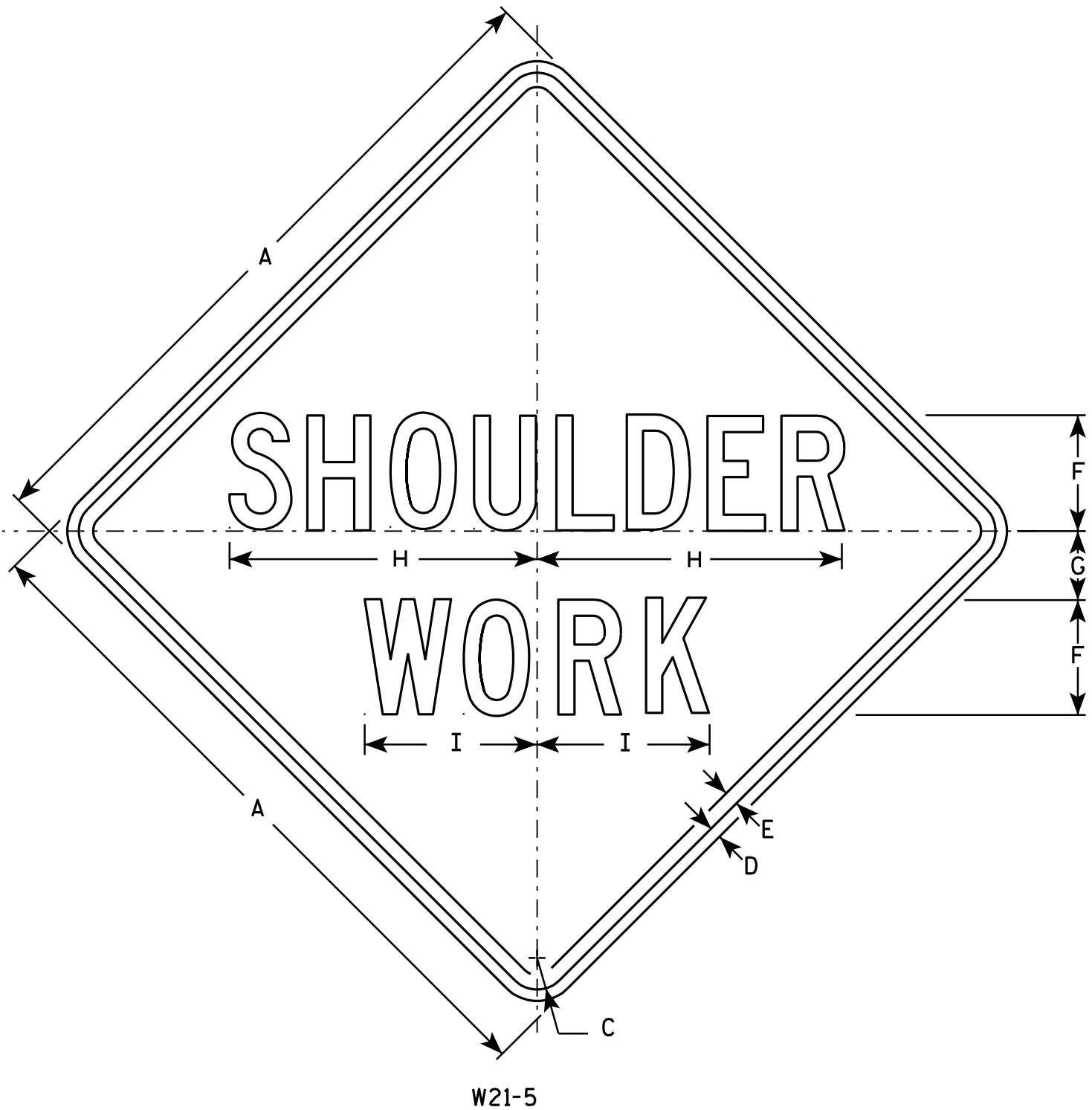
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

SHEET NO: 202

E



NOTES

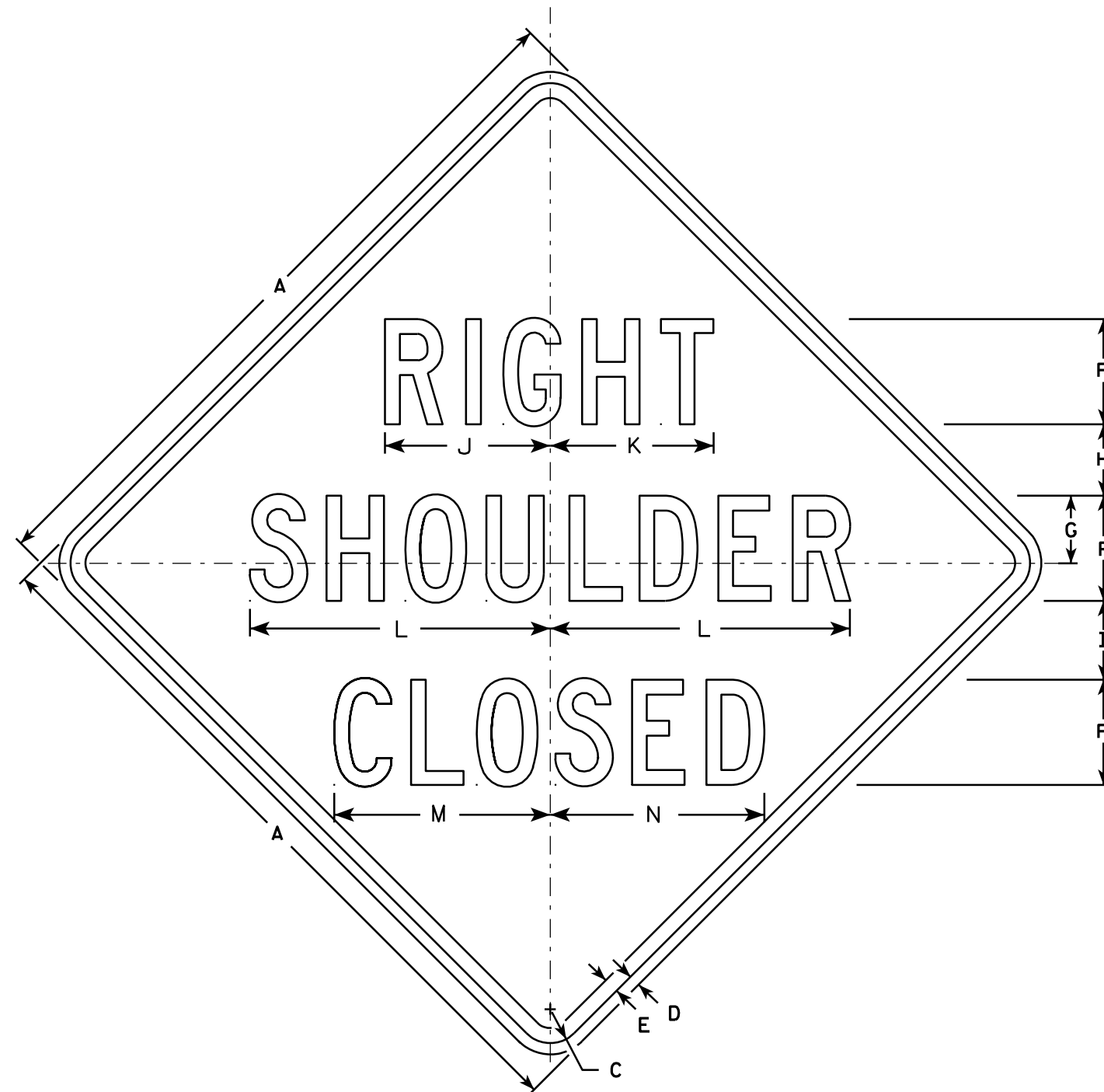
- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

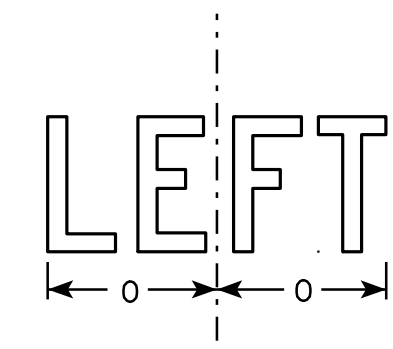
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/21/11 PLATE NO. W21-5.5



W21-5A

NOTES

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



W21-5AL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	4	7 7/8	7 3/4	14 1/4	10 1/4	10 1/8	6 1/4												9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	5 1/4	11	10 7/8	20	14 3/8	14 1/4	8 3/4												16.0

STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

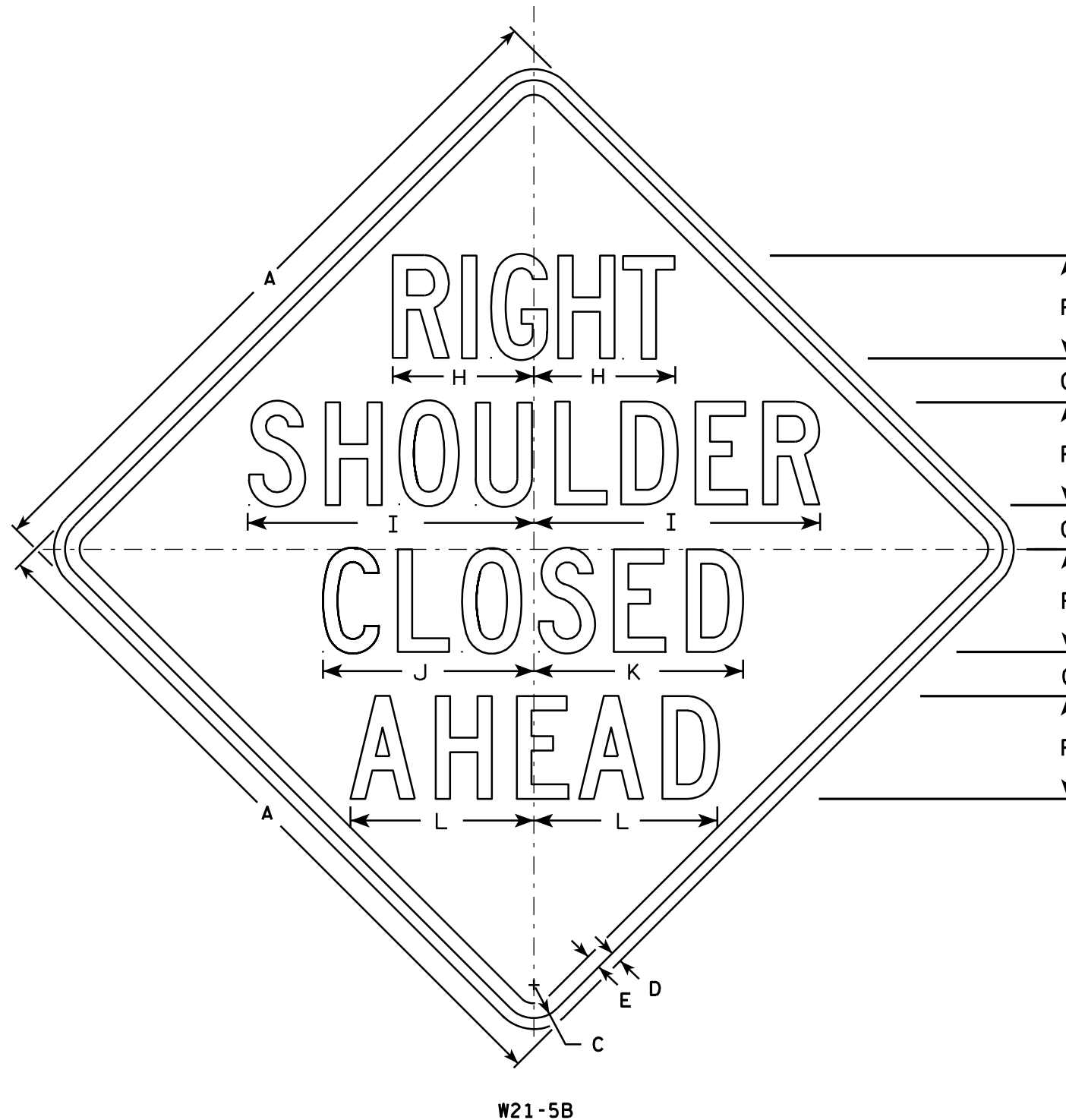
PROJECT NO:

HWY:

COUNTY:

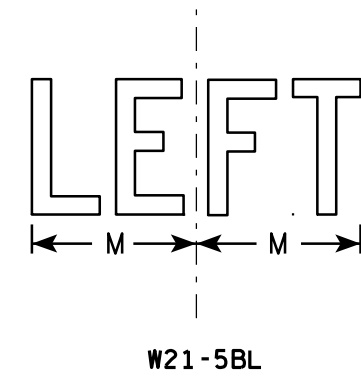
SHEET NO: 204

E



NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 1/4	7 3/8	14 1/4	10 1/4	10 1/8	8 7/8	6 1/4														9.0
2S	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
2M	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
3	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
4	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0
5	48		2 1/4	3/4	1	7	3	9 5/8	19 1/2	14 3/8	14 1/4	12 1/2	8 1/2														16.0

STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

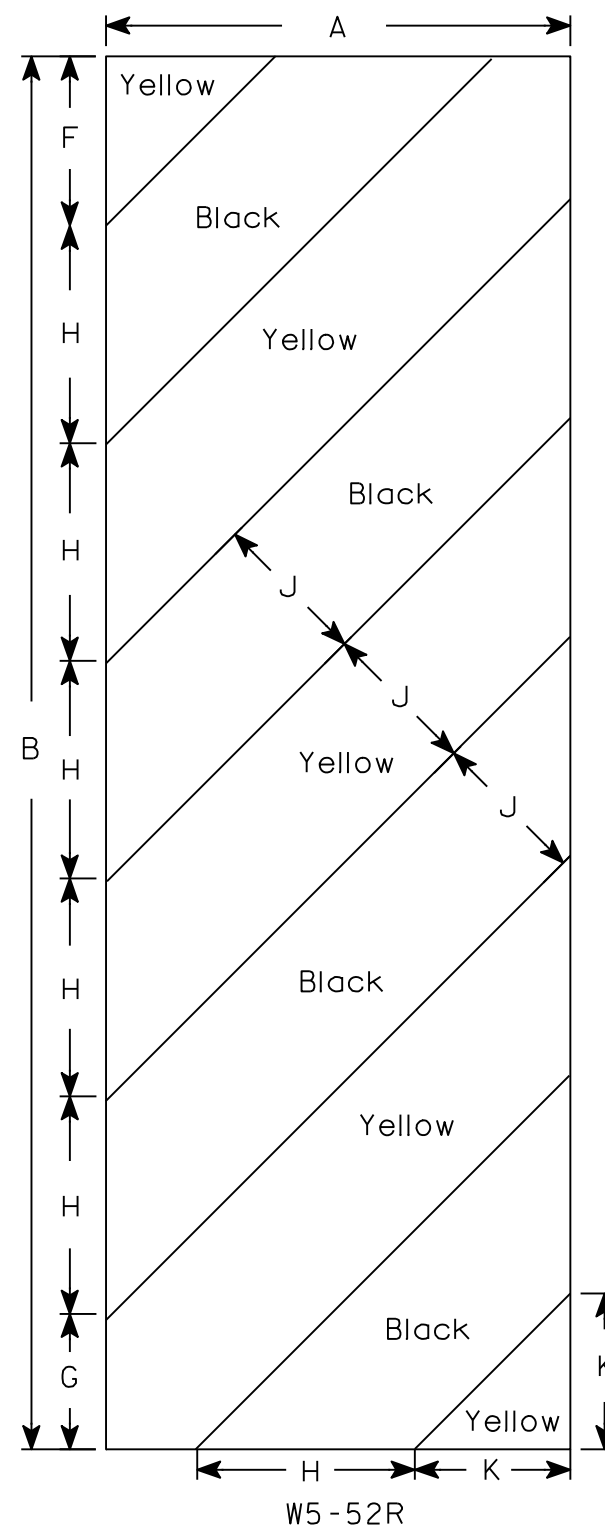
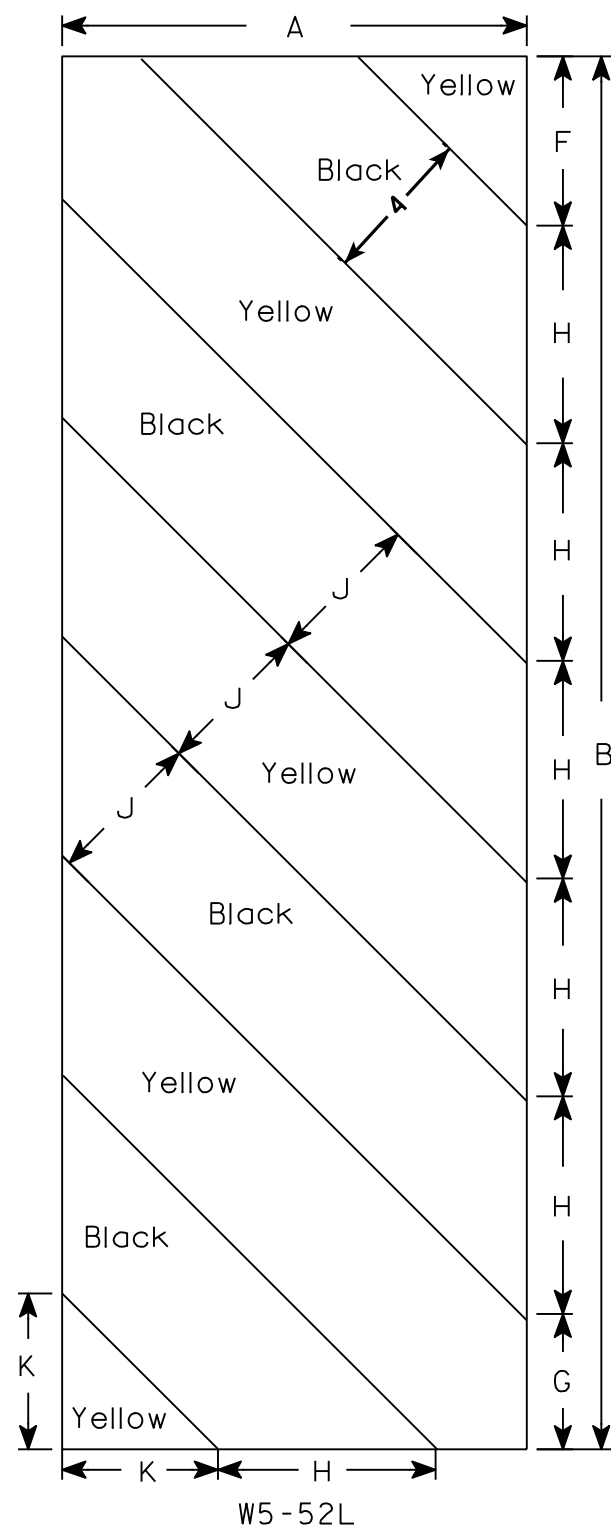
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 205

E



NOTES

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

[illegible]

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/29/12 PLATE NO. W5-52.9

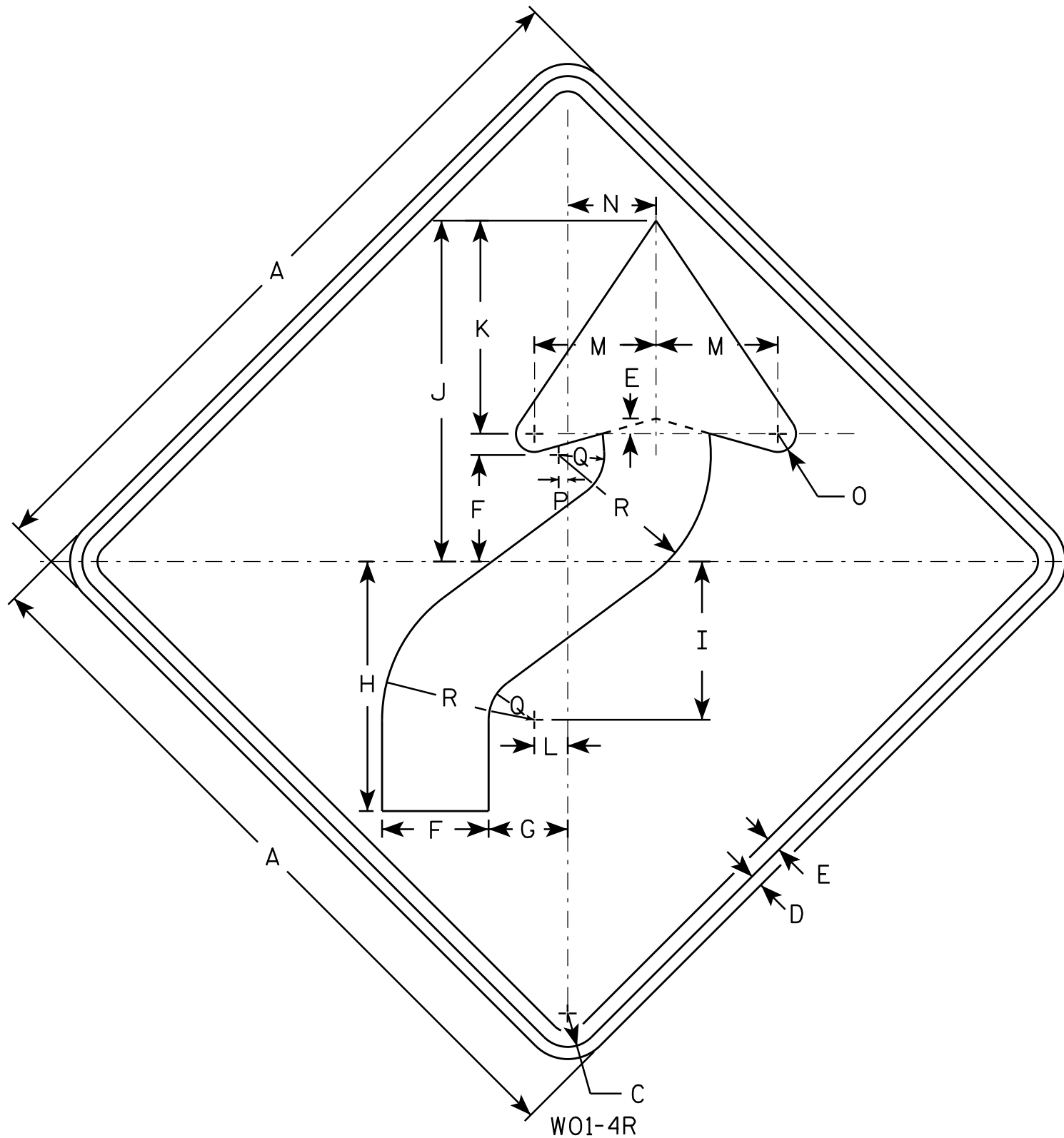
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 206

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

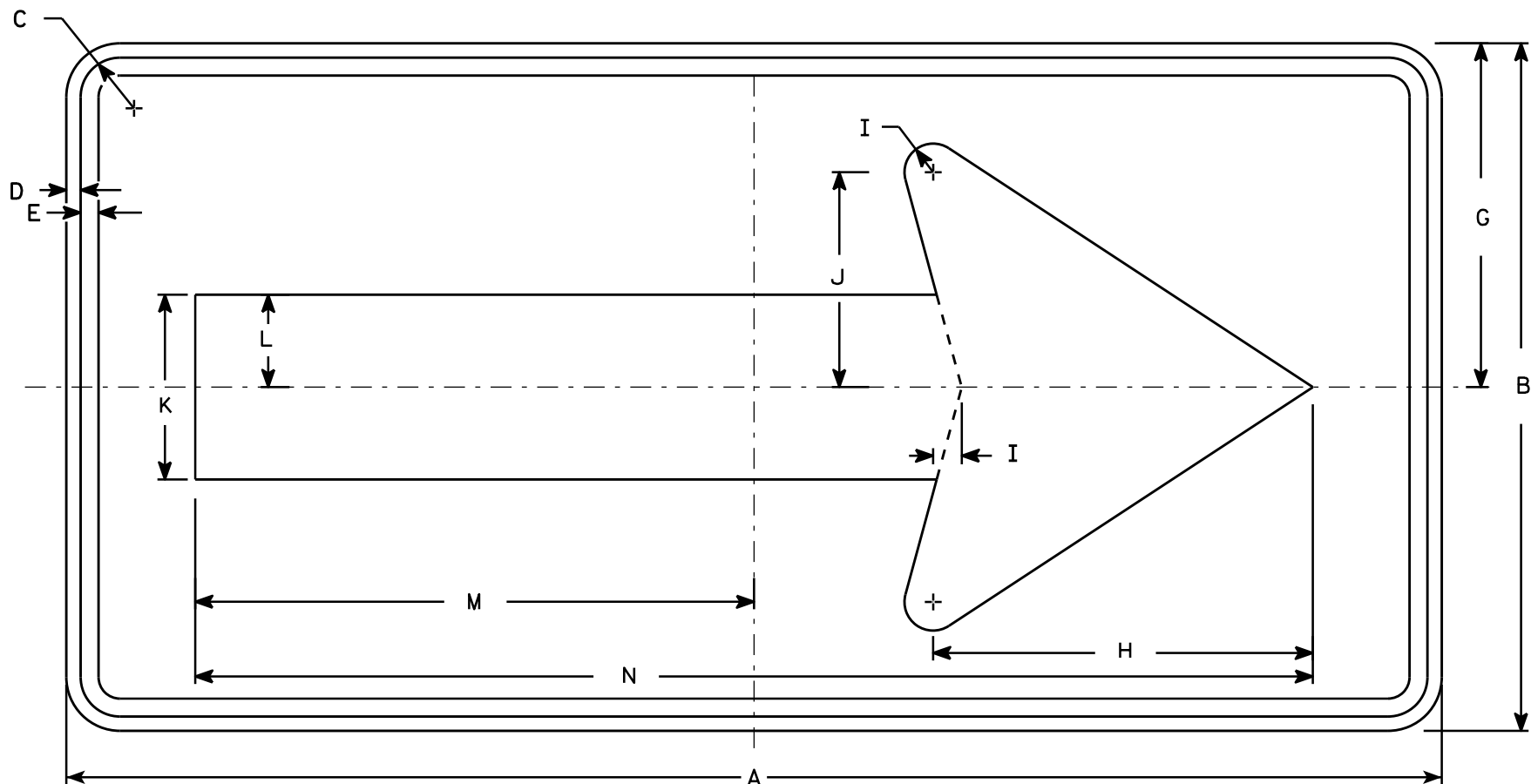
STANDARD SIGN W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1
207

PROJECT NO: HWY: COUNTY: SHEET NO: E



W01-6

NOTES

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

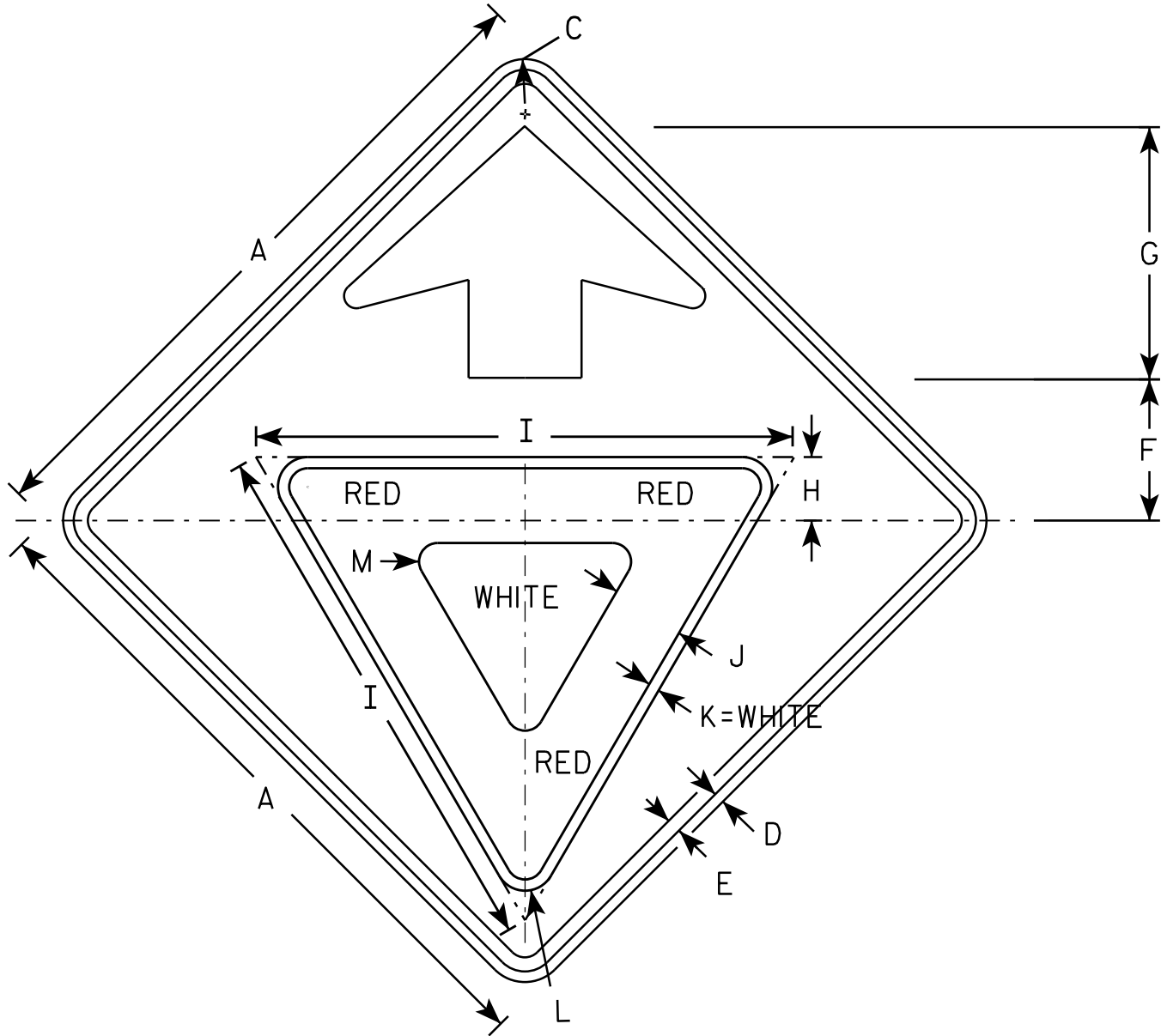
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3⁄8	1⁄2	5⁄8		12	13 1⁄4	1	7 1⁄2	6 1⁄2	3 1⁄4	19 1⁄2	39													8.0
2M	48	24	1 3⁄8	1⁄2	5⁄8		12	13 1⁄4	1	7 1⁄2	6 1⁄2	3 1⁄4	19 1⁄2	39													8.0
3	60	30	1 3⁄8	1⁄2	5⁄8		15	16 1⁄4	1 1⁄4	9 1⁄4	8	4	24 3⁄8	48 3⁄4													12.5
4	60	30	1 3⁄8	1⁄2	5⁄8		15	16 1⁄4	1 1⁄4	9 1⁄4	8	4	24 3⁄8	48 3⁄4													12.5
5	60	30	1 3⁄8	1⁄2	5⁄8		15	16 1⁄4	1 1⁄4	9 1⁄4	8	4	24 3⁄8	48 3⁄4													12.5

STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

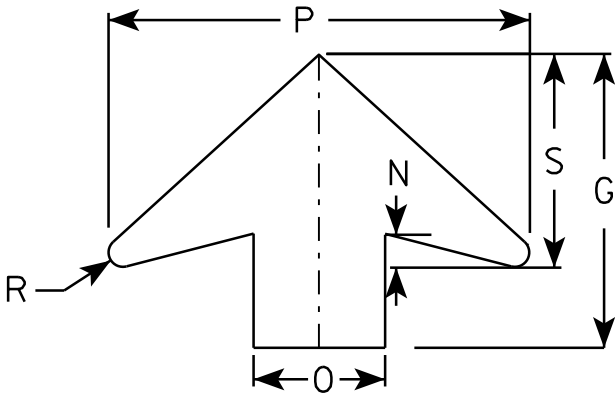
DATE 11/18/13 PLATE NO. 208 W01-6.1



W03-2

NOTES

- 1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - ORANGE
 - Arrow & Border - BLACK
 - Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

PROJECT NO:

STANDARD SIGN
W03-2

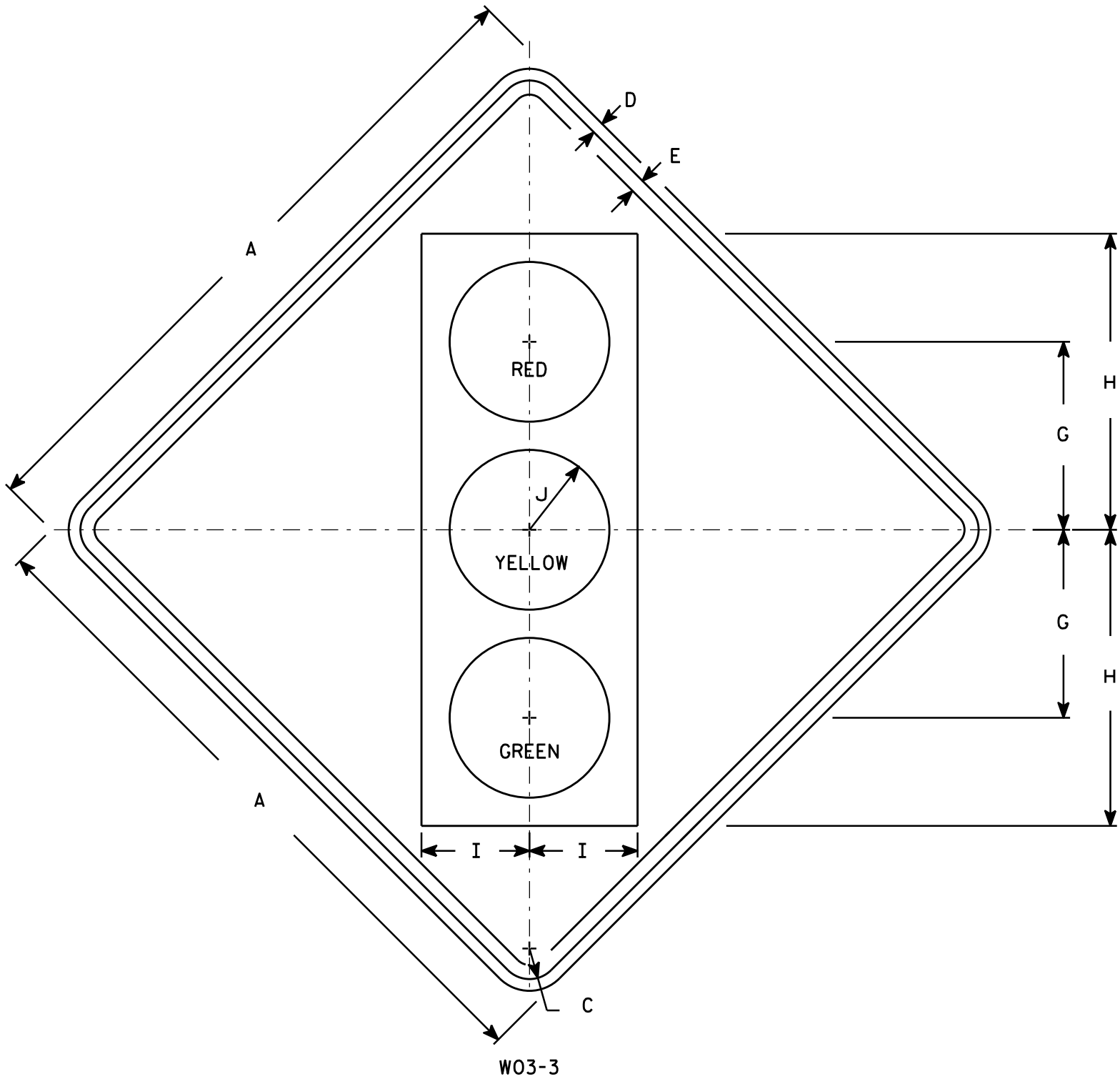
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 209 W03-2.1

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
Top circle - Type H Reflectorized Red
Center circle - Same as background
Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2S	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
2M	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
3	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

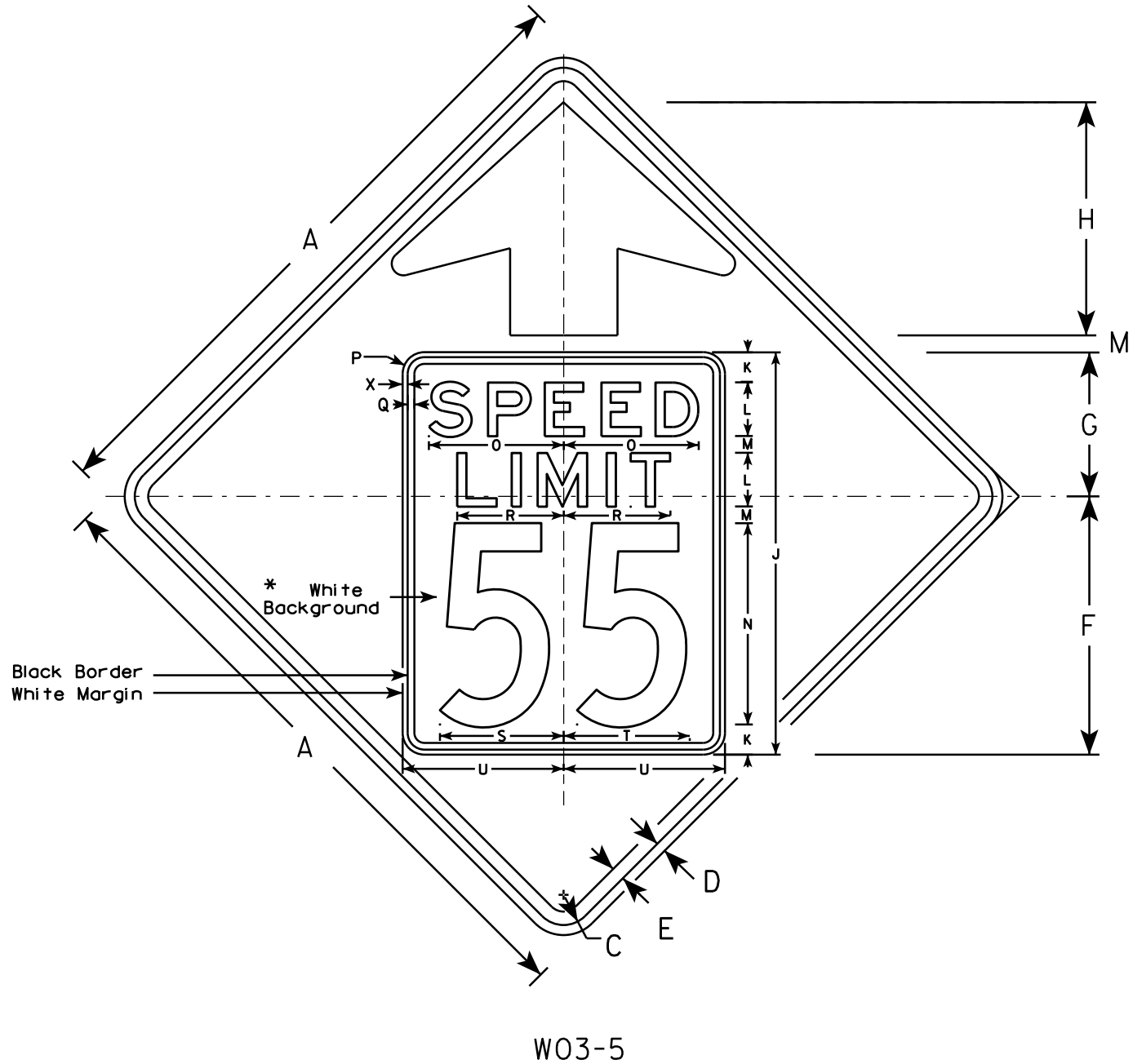
STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLAT 210 "03-3.1

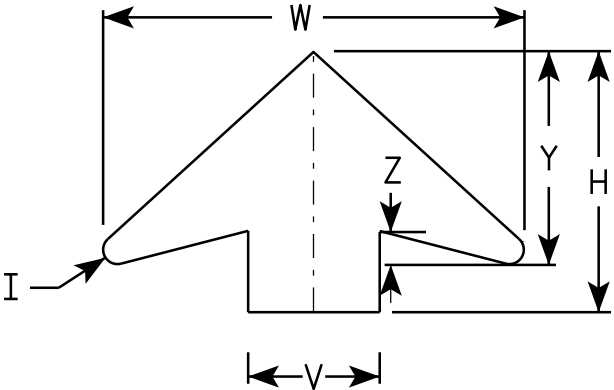
SHEET NO: E



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color: *
Background - ORANGE*
Message - BLACK
- 3. Message Series - C for numbers Series E for wording
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

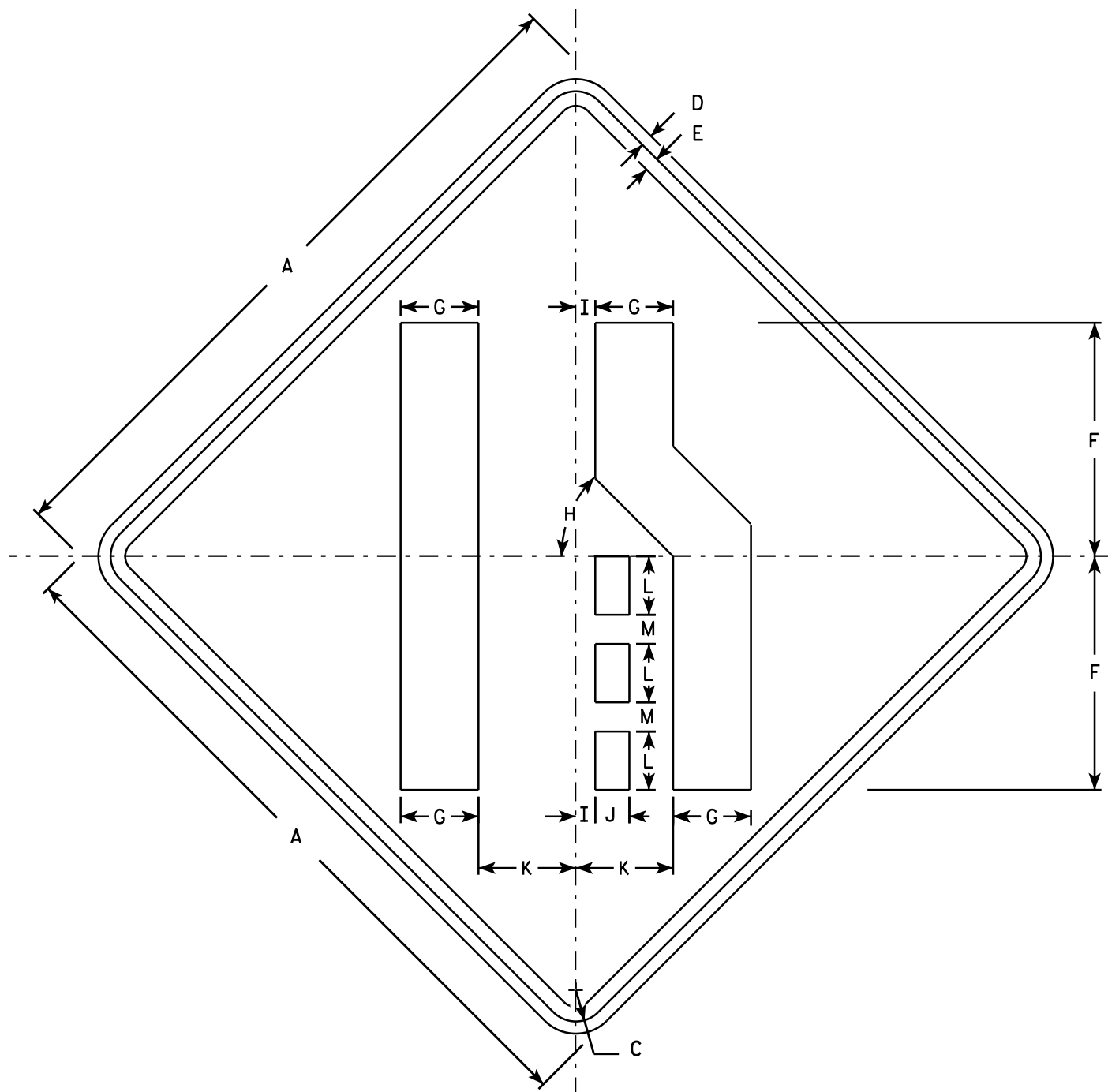
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 211 W03-5.1

PROJECT NO:

SHEET NO:

E



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN

W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch

For State Traffic Engineer

DATE 11/20/13

PLATE 212

W04-2.1

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE COLOR OF THE FINISH TOP COAT SHALL BE LIGHT GRAY, (FEDERAL STANDARD COLOR NO. 26293) OR SIMILAR COLOR APPROVED BY THE ENGINEER.

DIMENSIONS ARE BASED ON EXISTING PLANS.

TOTAL ESTIMATED QUANTITIES

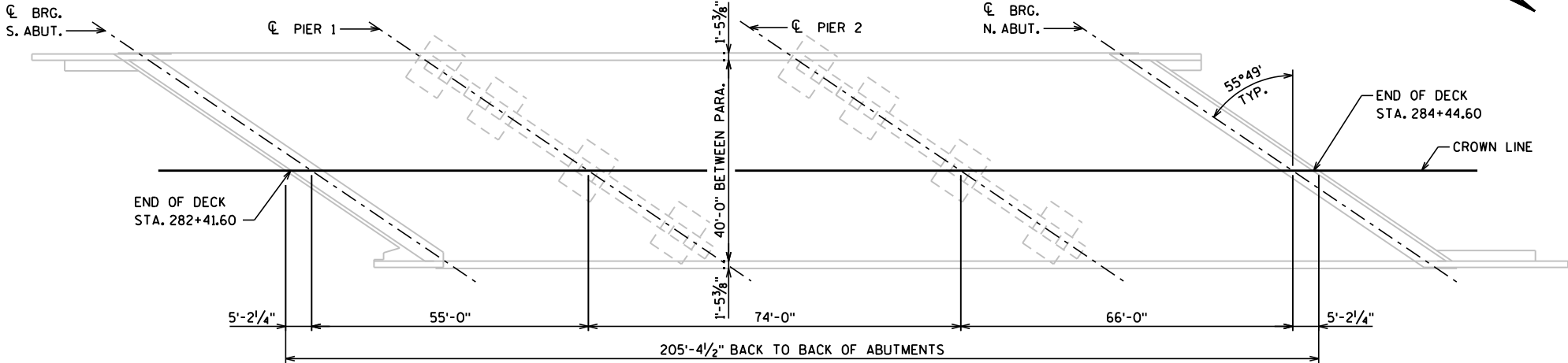
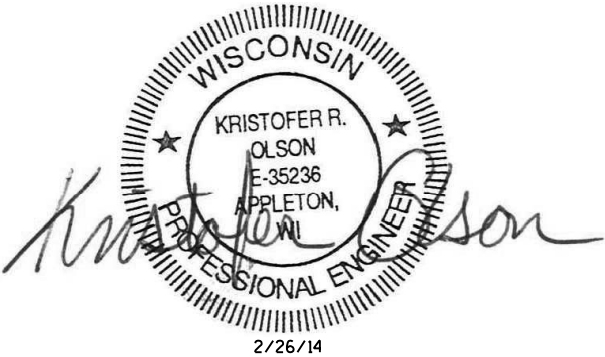
ITEM NO.	BID ITEMS	UNIT	TOTALS
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-69-7	LS	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-69-7	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1

BRIDGE OFFICE
CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT
CONTACT

KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900



PLAN

RATINGS (FROM HSI 2/26/14):

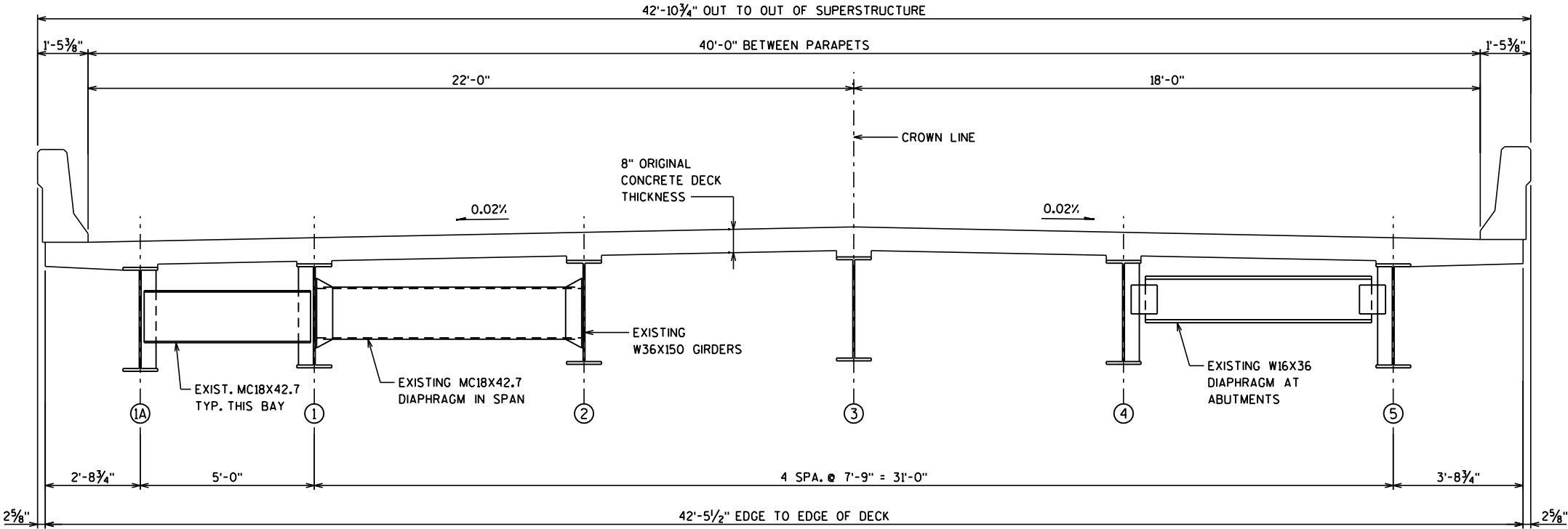
DESIGN LOADING ————— HS20

INVENTORY RATING ————— HS20

OPERATING RATING ————— HS33

WISCONSIN STANDARD

PERMIT VEHICLE (Wis-SPV) ——— 220 KIPS



TYPICAL CROSS SECTION
(LOOKING NORTH)

NO.	DATE	REVISION		BY	
ORIGINAL PLANS PREPARED BY					
OMNI ASSOCIATES					
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
ACCEPTED	<i>William C. Dreher</i> KAR			05/07/14	
CHIEF STRUCTURES DESIGN ENGINEER				DATE	
STRUCTURE B-69-7					
IH 39/USH 51 SB OVER CTH CH					
COUNTY		WAUSHARA		VILLAGE	
				COLOMA	
DESIGN SPEC. REHABILITATION N/A					
DESIGNED BY	BRE	DESIGN CK'D.	KRO	DRAWN BY	BRE
			PLANS CK'D.	KRO	
GENERAL PLAN				SHEET 1 OF 1	
				213	

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

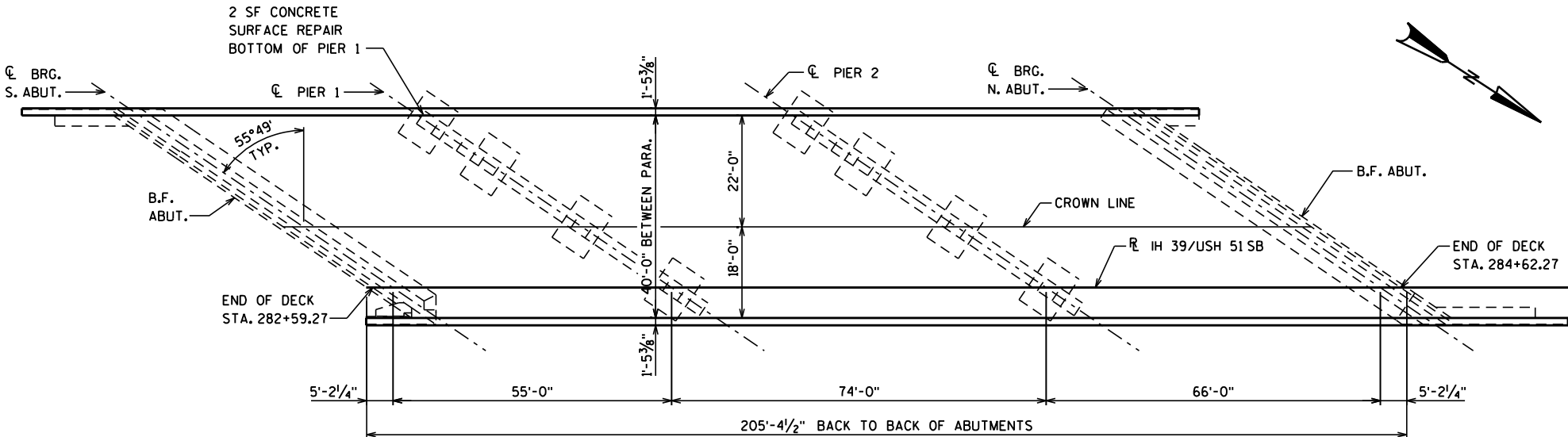
PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE DECK, THE ENTIRE FRONT FACES AND TOPS OF BOTH EXISTING WING & DECK PARAPETS.

THE ENTIRE EXISTING DECK AND WING PARAPETS SHALL BE CLEANED BEFORE THE PROTECTIVE SURFACE TREATMENT IS APPLIED. WORK SHALL BE UNDER THE BID ITEM "CLEANING PARAPETS".

WORK ABOVE DECK SHALL BE COMPLETED DURING STAGE 4.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	190
509.1500	CONCRETE SURFACE REPAIR	SF	6
509.9050.S	CLEANING PARAPETS	LF	470
SPV.0180.01	POLYMER OVERLAY MODIFIED	SY	902



PLAN

RATINGS (FROM HSI 2/26/14):

DESIGN LOADING ————— HS20

INVENTORY RATING ————— HS20

OPERATING RATING ————— HS33

WISCONSIN STANDARD

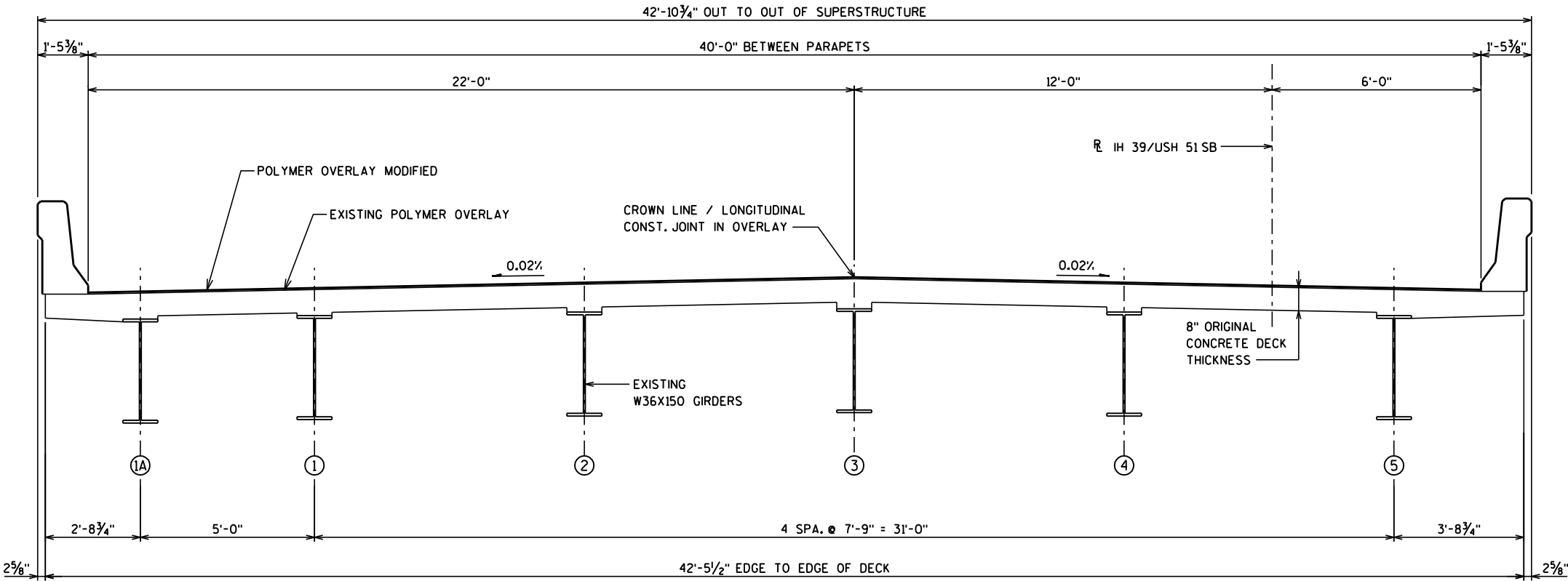
PERMIT VEHICLE (Wis-SPV) ——— 220 KIPS

BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

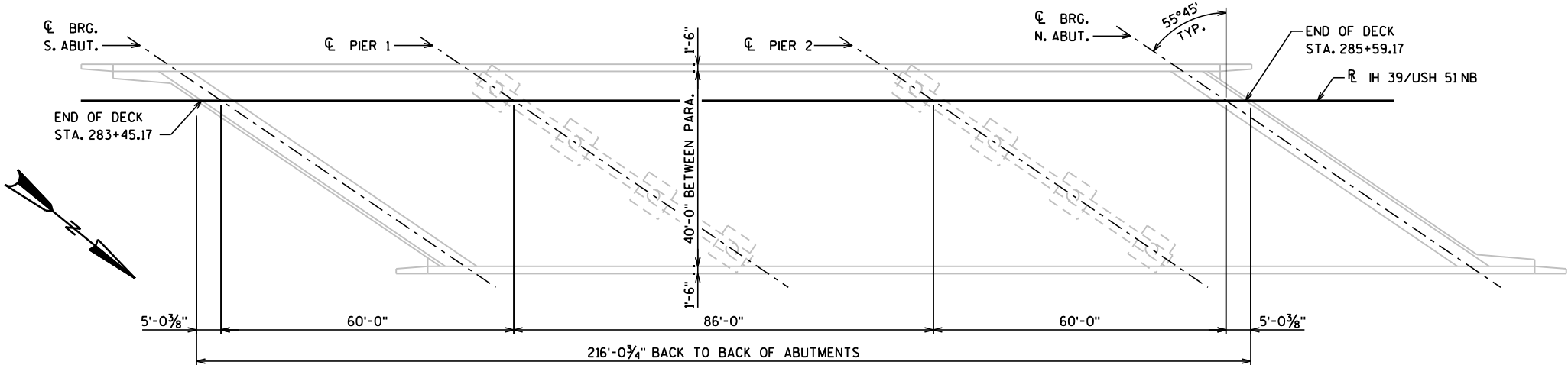
CONSULTANT CONTACT

KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900



TYPICAL CROSS SECTION

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
Omni ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> KAR CHIEF STRUCTURES DESIGN ENGINEER		05/07/14 DATE
STRUCTURE B-69-7			
IH 39/USH 51 SB OVER CTH CH			
COUNTY	WAUSHARA		VILLAGE COLOMA
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	BRE	DESIGN CK'D. KRO	DRAWN BY BRE
			PLANS CK'D. KRO
GENERAL PLAN			SHEET 1 OF 1
			214



PLAN

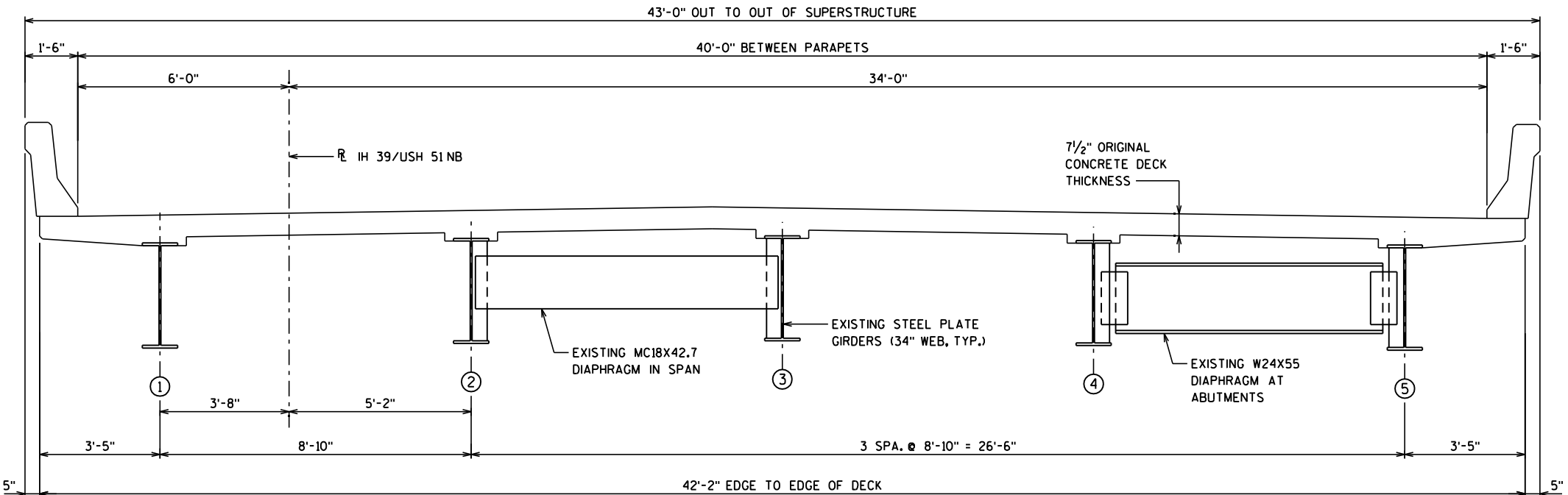
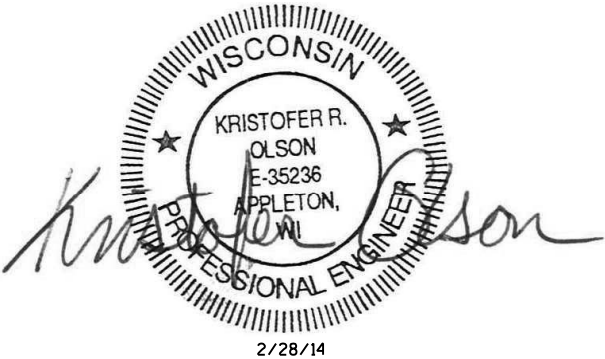
RATINGS (FROM HSI 2/26/14):
DESIGN LOADING ————— HS20
INVENTORY RATING ————— HS23
OPERATING RATING ————— HS34
WISCONSIN STANDARD
PERMIT VEHICLE (Wis-SPV) — 190 KIPS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
THE COLOR OF THE FINISH TOP COAT SHALL BE LIGHT GRAY,
(FEDERAL STANDARD COLOR NO. 26293) OR SIMILAR COLOR
APPROVED BY THE ENGINEER.
DIMENSIONS ARE BASED ON EXISTING PLANS.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTALS
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-69-19	LS	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-69-19	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	10

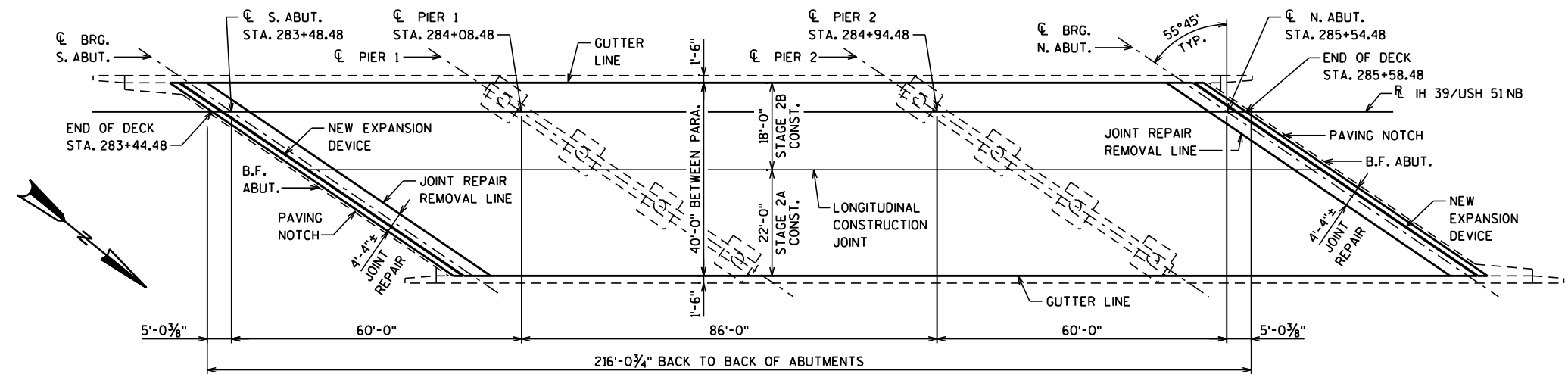


TYPICAL CROSS SECTION
(LOOKING NORTH)

BRIDGE OFFICE
CONTACT
WILLIAM DREHER
(608) 266-8489

CONSULTANT
CONTACT
KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
Omni ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i>	KAR	05/07/14
DATE			
STRUCTURE B-69-19			
IH 39/USH 51 NB OVER CTH CH			
COUNTY	WAUSHARA	VILLAGE	COLOMA
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	KRO	DESIGN CK'D.	JAW
DRAWN BY	BRE	PLANS CK'D.	KRO
GENERAL PLAN			SHEET 1 OF 1
			215



PLAN

DESIGN DATA

LIVE LOAD:

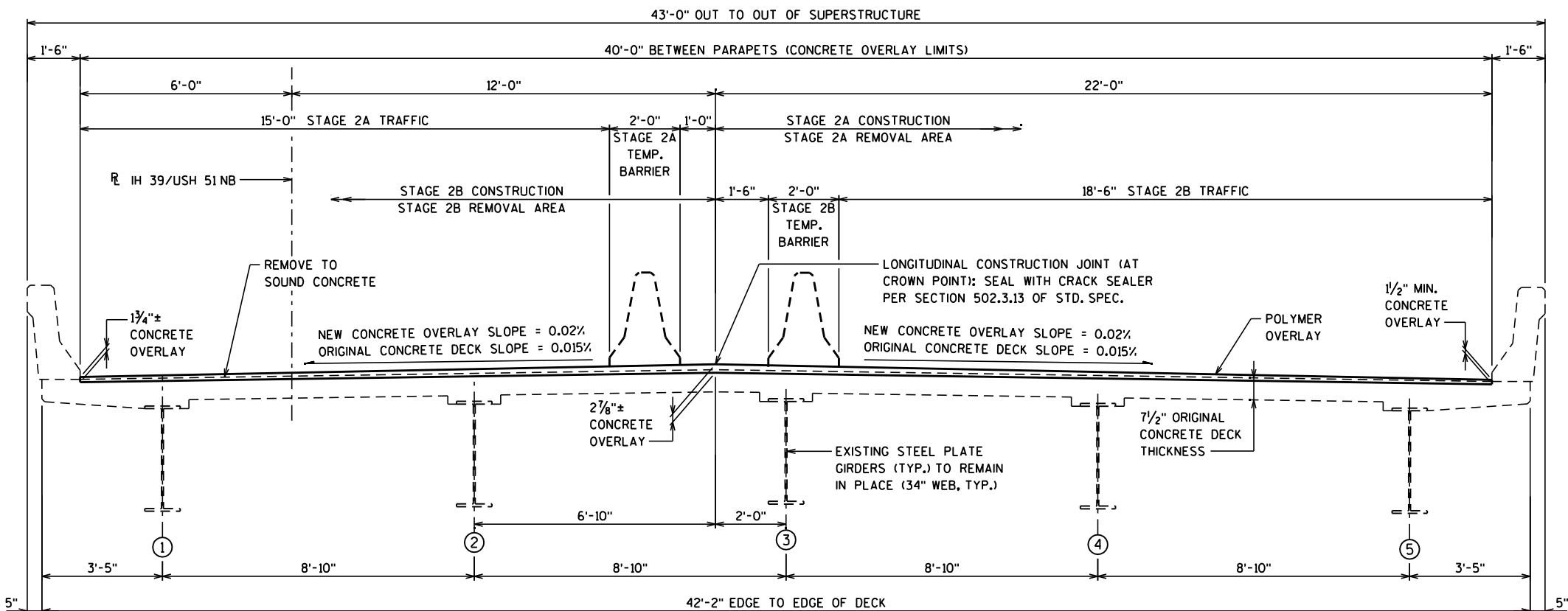
DESIGN RATING _____ HS20
INVENTORY RATING _____ HS20
OPERATING RATING _____ HS33
WISCONSIN STANDARD
PERMIT VEHICLE (Wis-SPV) _____ 210 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY
OVERLAY DECKS: _____ $f'_c = 4,000$ PSI
BAR STEEL
REINFORCEMENT, GRADE 60: _____ $f_y = 60,000$ PSI

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES & DETAILS
3. JOINT REPAIR
4. EXPANSION DEVICE
5. COVER PLATE DETAILS



TYPICAL CROSS SECTION

(LOOKING NORTH)

GENERAL NOTES

STATE PROJECT NUMBER

1166-07-64

DRAWINGS SHALL NOT BE SCALED.

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

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

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-69-19".

A MINIMUM OF 1-INCH OF CONCRETE AND THE EXISTING EPOXY OVERLAY SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN 1/2".

PREPARATION DECKS TYPE 1 & 2, FULL-DEPTH DECK REPAIR, AND CONCRETE SURFACE REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

THE ENTIRE EXISTING DECK AND WING PARAPETS SHALL BE CLEANED BEFORE THE PROTECTIVE SURFACE TREATMENT IS APPLIED. WORK SHALL BE UNDER THE BID ITEM "CLEANING PARAPETS".

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH EXISTING WING & DECK PARAPETS.



BRIDGE OFFICE
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CONSULTANT
CONTACT

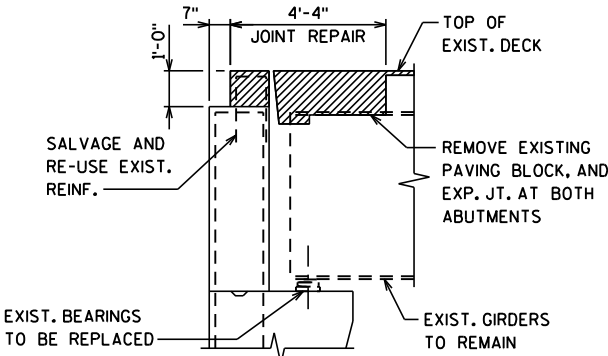
KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
Omni ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i>	KAR	05/07/14
CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-69-19			
IH 39/USH 51 NB OVER CTH CH			
COUNTY	WAUSHARA	VILLAGE	COLOMA
DESIGN SPEC.	REHABILITATION N/A		
DESIGNED BY	BRE	DESIGN CK'D.	KRO
DRAWN BY	BRE	PLANS CK'D.	KRO
GENERAL PLAN			SHEET 1 OF 5
			216

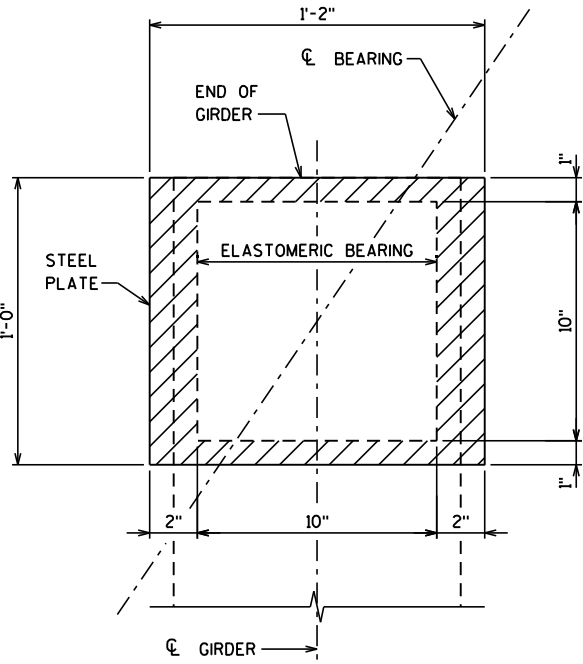
TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER	S.ABUT.	PIER 1	PIER 2	N.ABUT.	TOTALS
502.3100	EXPANSION DEVICE B-69-19	LS	---	---	---	---	---	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	200	---	---	---	---	200
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	---	72	---	---	72	144
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	5390	---	---	---	---	5,390
505.0905	BAR COUPLERS NO. 5	EACH	---	3	---	---	3	6
505.0906	BAR COUPLERS NO. 6	EACH	22	---	---	---	---	22
505.0907	BAR COUPLERS NO. 7	EACH	10	---	---	---	---	10
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	---	5	---	---	5	10
506.7050.S	REMOVING BEARINGS B-69-19	EACH	---	5	---	---	5	10
509.0301	PREPARATION DECKS TYPE 1	SY	96	---	---	---	---	96
509.0302	PREPARATION DECKS TYPE 2	SY	38	---	---	---	---	38
509.0500	CLEANING DECKS	SY	960	---	---	---	---	960
509.1000	JOINT REPAIR	SY	---	34	---	---	34	68
509.1500	CONCRETE SURFACE REPAIR	SF	5	15	---	---	---	20
509.2000	FULL-DEPTH DECK REPAIR	SY	1	---	---	---	---	1
* 509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	83	---	---	---	---	83
509.5100.S	POLYMER OVERLAY	SY	960	---	---	---	---	960
509.9050.S	CLEANING PARAPETS	LF	480	---	---	---	---	480

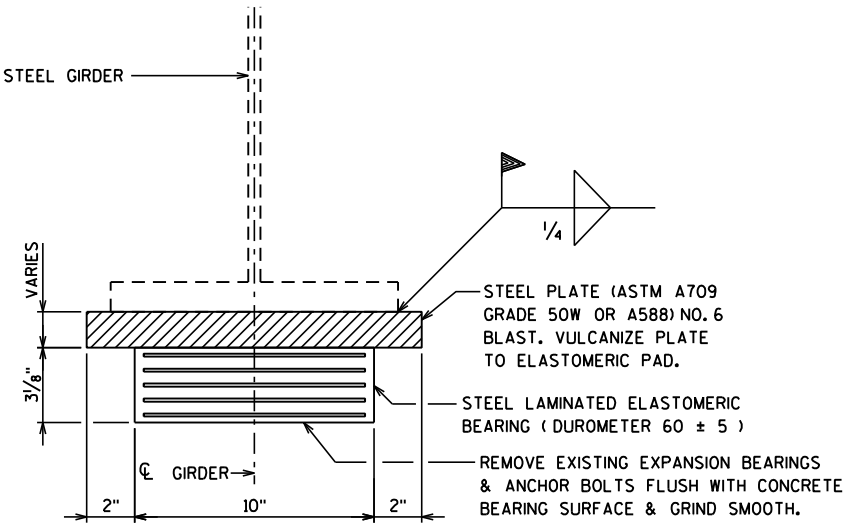
* BID ITEM ALSO INCLUDES CONCRETE FOR PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, JOINT REPAIR, AND FULL-DEPTH DECK REPAIR.



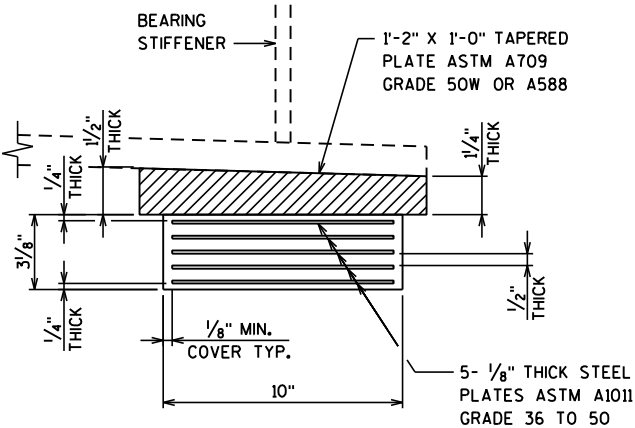
TYPICAL SECTION THRU ABUTMENT



ELASTOMERIC BEARING PLAN VIEW



ELASTOMERIC BEARING END VIEW
(PARALLEL TO GIRDER)



SECTION THRU ELASTOMERIC BEARING
(PERPENDICULAR TO GIRDER)

BEARING NOTES

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

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

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACE IN CONTACT WITH ELASTOMER TO 200°F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-19			
DRAWN BY		BRE	PLANS CK'D. KRO
QUANTITIES & DETAILS		SHEET 2 OF 5	
		217	

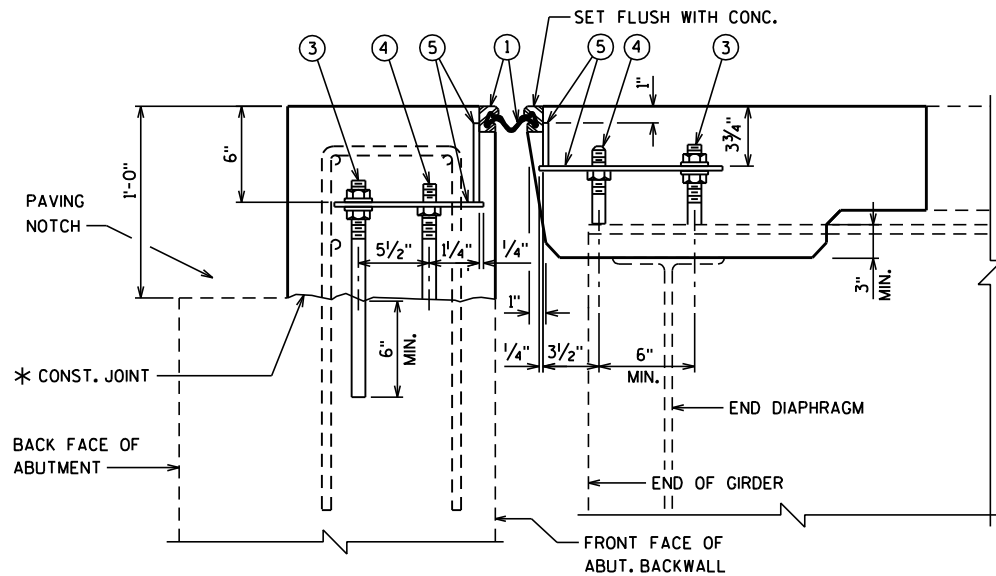


SECTION THRU PARAPET
REPLACEMENT ON WING

TYPICAL PARAPET ELEVATION

- (A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND
EXTEND FULL LENGTH INTO NEW WORK.
- (S10) BAR COUPLERS USED. BAR LENGTH COMPUTED TO $\frac{1}{2}$
OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR
COUPLER MANUFACTURERS RECOMMENDATIONS.
- (MO2) LONGIT. CONST. JOINT IN JOINT REPAIR. TRAFFIC TO
BE MAINTAINED DURING CONSTRUCTION.

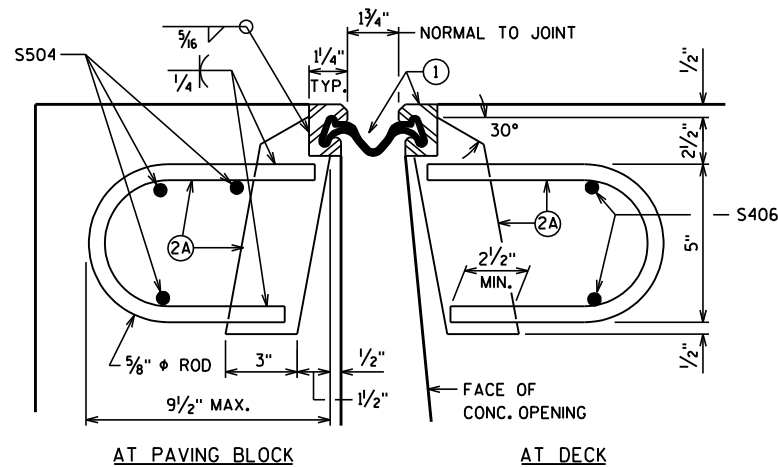
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-19			
DRAWN BY		BRE	PLANS CK'D. KRO
JOINT REPAIR		SHEET 3 OF 5	
		218	



* POUR CONCRETE ABOVE THIS JOINT
AFTER SUPERSTRUCTURE IS IN PLACE.
STRIKE OFF AND LEAVE ROUGH.

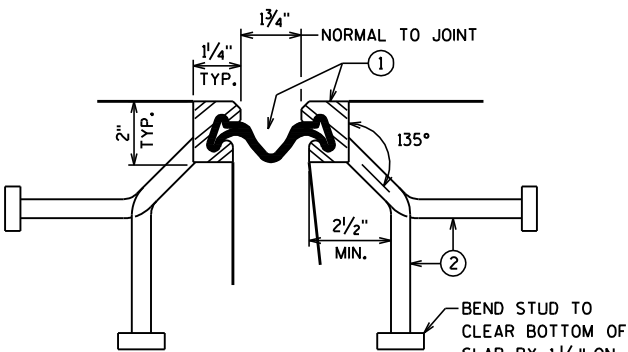
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ϕ SUBSTRUCTURE



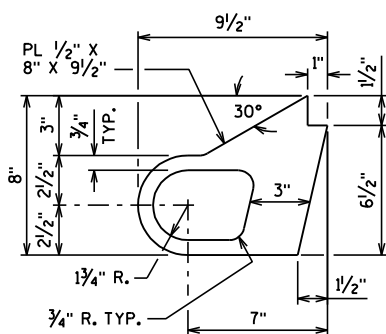
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

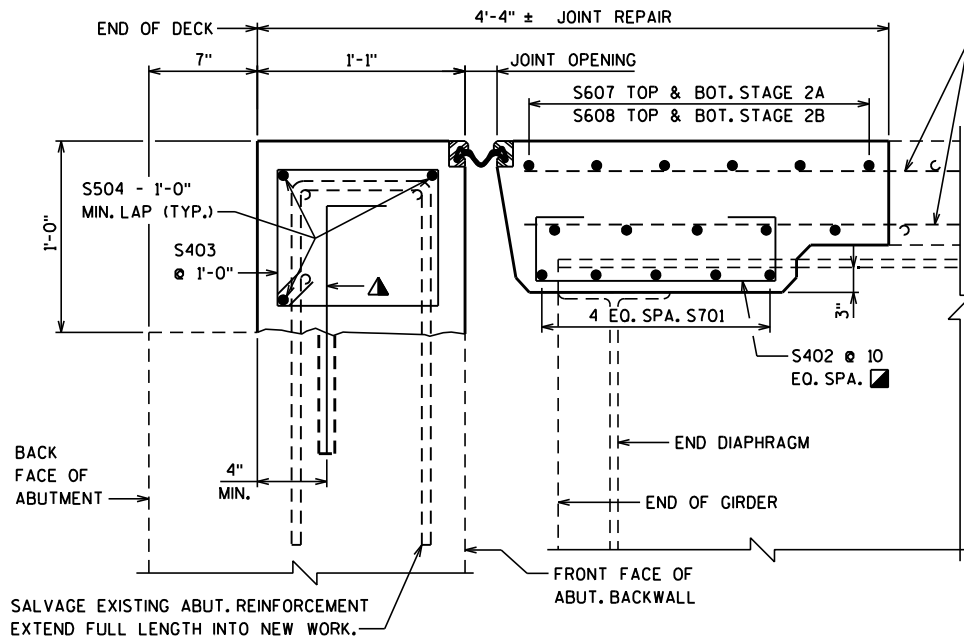


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND
AT PARAPETS, MEDIANS AND SIDEWALKS



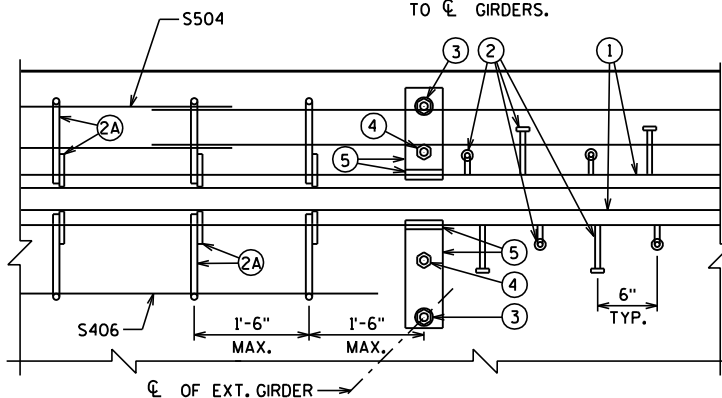
ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ϕ SUBSTRUCTURE

■ BARS PLACED PARALLEL TO
GIRDERS. SPACING PERPENDICULAR
TO ϕ GIRDERS.



PART PLAN

BILL OF BARS

BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	LOCATION
S701	X	20	20	13'-3"		DECK - DIAPHRAGM
S402	X	44	44	5'-6"	X	DECK - DIAPHRAGM
S403	X	72	72	3'-4"	X	PAVING BLOCK
S504	X	30	30	8'-0"		PAVING BLOCK
S505	X	72	72	3'-0"	X	PAVING BLOCK ANCHOR
S406	X	8	8	13'-3"		END OF DECK
S607	X	11	11	38'-9"		SLAB TRANSVERSE STAGE 2A
S608	X	11	11	31'-8"		SLAB TRANSVERSE STAGE 2B
S409	X	13	13	4'-3"	X	PARAPET VERTICAL
S410	X	20	20	4'-10"	X	PARAPET VERTICAL
S411	X	7	7	2'-8"	X	PARAPET VERTICAL
S412	X	7	7	2'-0"		PARAPET VERTICAL

☆ COUPLED BAR LENGTHS ARE GIVEN AS END TO END AND MAKE
NO ALLOWANCE FOR GAPS REQUIRED BY THE COUPLER CHOSEN.
ADJUST LENGTH AS REQUIRED FOR COUPLER PLACEMENT.

▲ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO
EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS
NECESSARY TO FIT.

● FIELD CUT AT CONSTRUCTION JOINT AND USE BAR COUPLER.

SALVAGE TRANS. &
LONGIT. REINF. AND
EXTEND FULL LENGTH
INTO NEW WORK.

LEGEND

- NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.
- STUDS $\frac{5}{8}$ " ϕ X $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- $\frac{1}{2}$ " THICK ANCHOR PLATE WITH $\frac{5}{8}$ " ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- $\frac{3}{4}$ " ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- $\frac{3}{4}$ " ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$ " BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE $\frac{1}{2}$ " ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
- GALVANIZED PLATE $\frac{3}{8}$ " X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
- $\frac{3}{4}$ " ϕ X $1\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$ " BELOW PLATE SURFACE.
- $\frac{3}{4}$ " ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- $\frac{3}{4}$ " ϕ X 2'-4" GALVANIZED THREADED COUPLER.
- 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

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

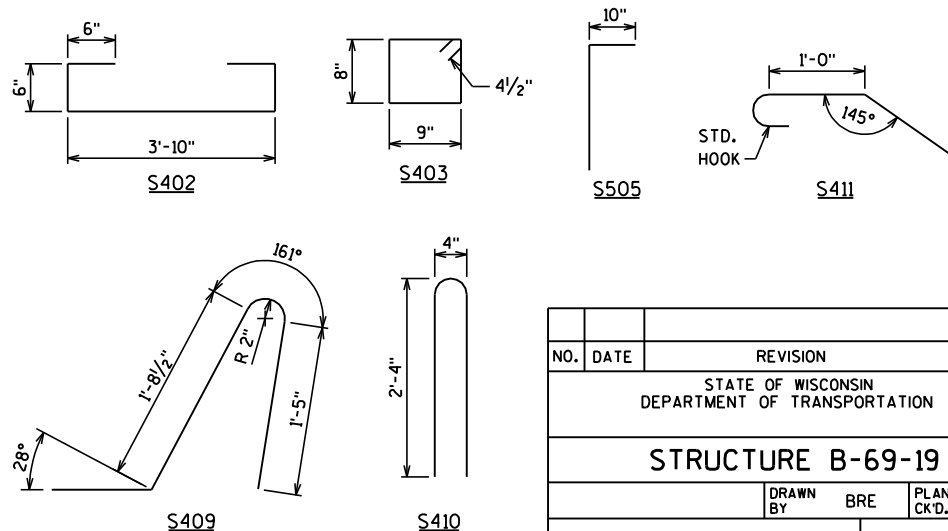
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

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

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

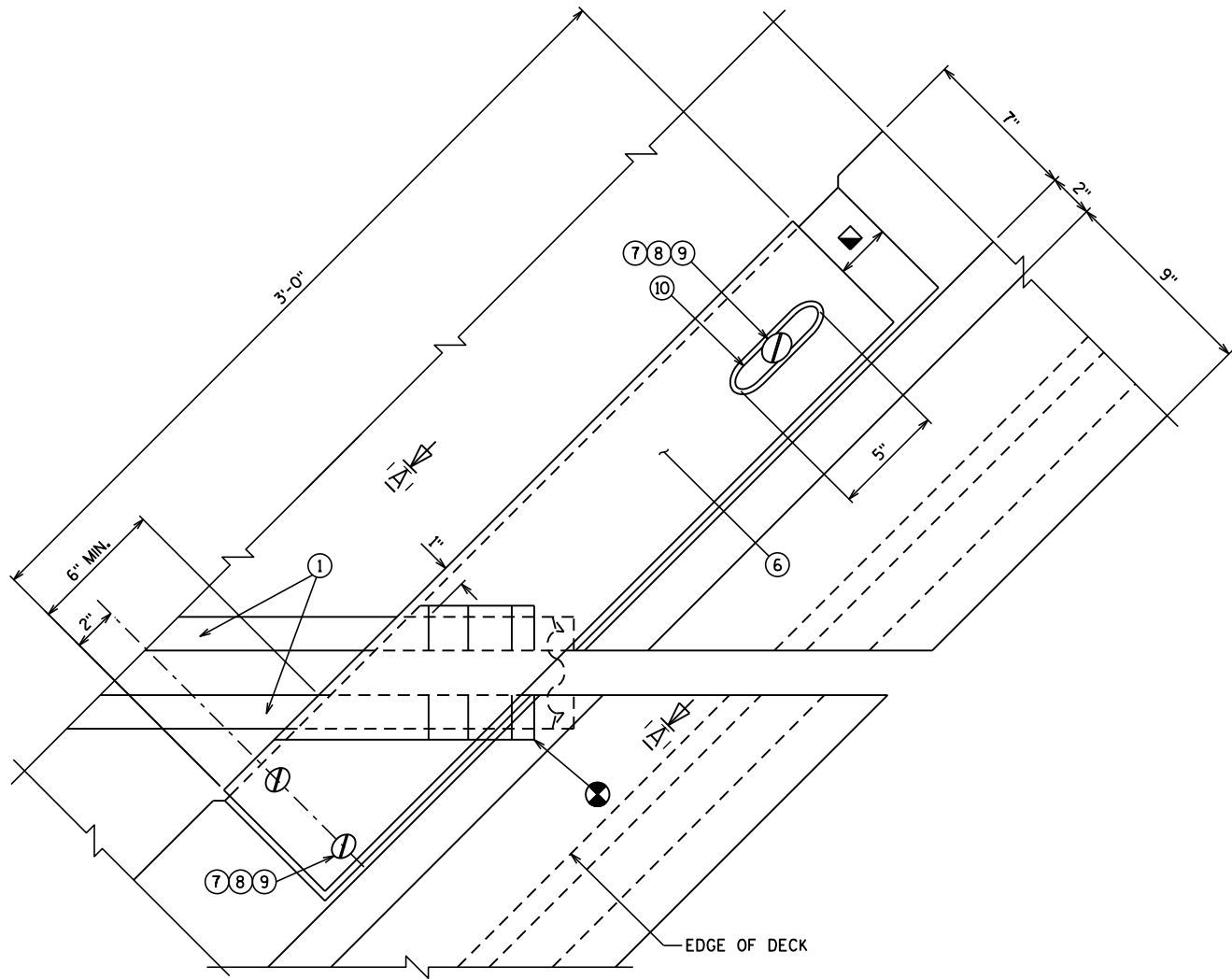
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-69-19".



BAR BENDING DIAGRAMS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-19			
DRAWN BY		BRE	PLANS CK'D. KRO
EXPANSION DEVICE		SHEET 4 OF 5	
		219	

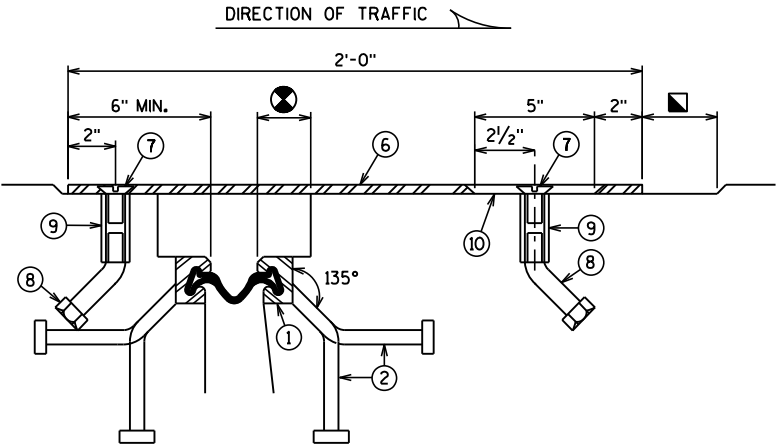


PLAN

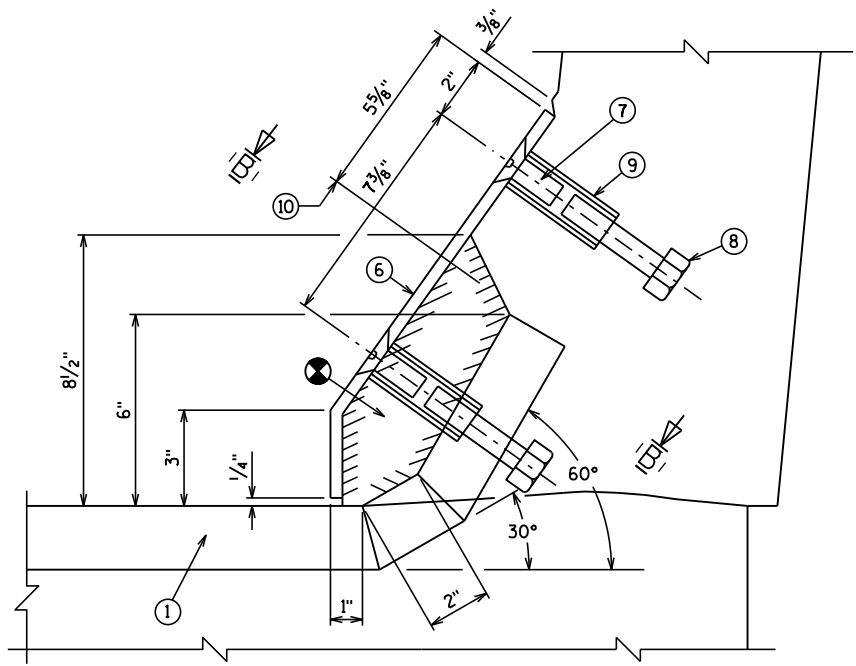
SEE SHEET 4 FOR LEGEND AND NOTES.

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

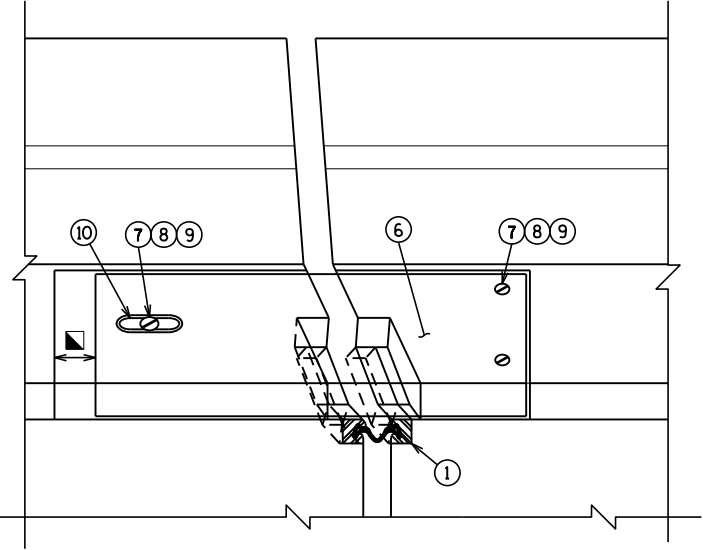
▣ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".



SECTION B-B

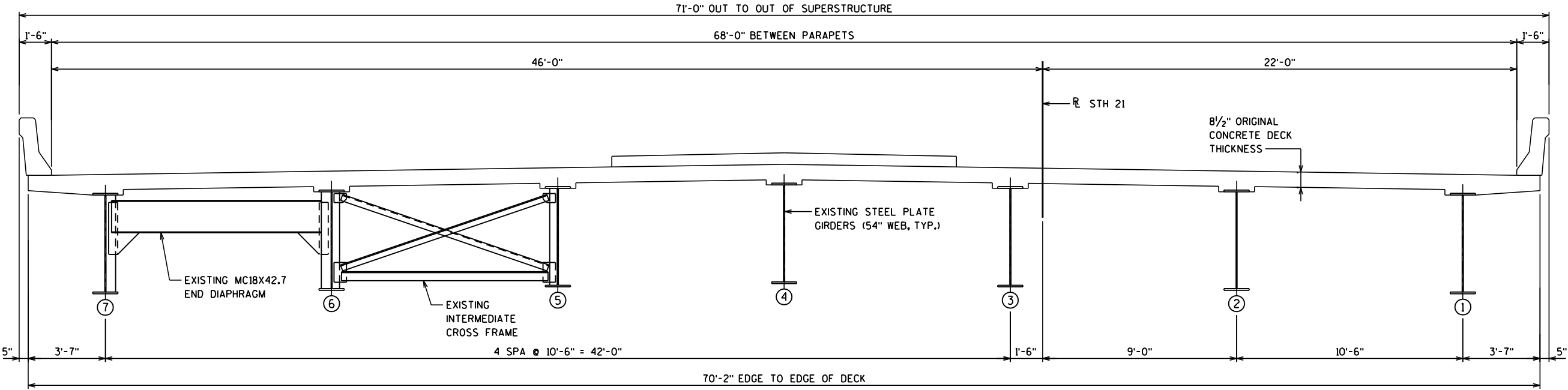


SECTION A-A



VIEW OF PARAPET PLATE
FROM ROADWAY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-19			
DRAWN BY		BRE	PLANS CK'D. KRO
COVER PLATE DETAILS		SHEET 5 OF 5	
		220	



TYPICAL CROSS SECTION
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTALS
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-69-20	LS	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-69-20	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	7

GENERAL NOTES

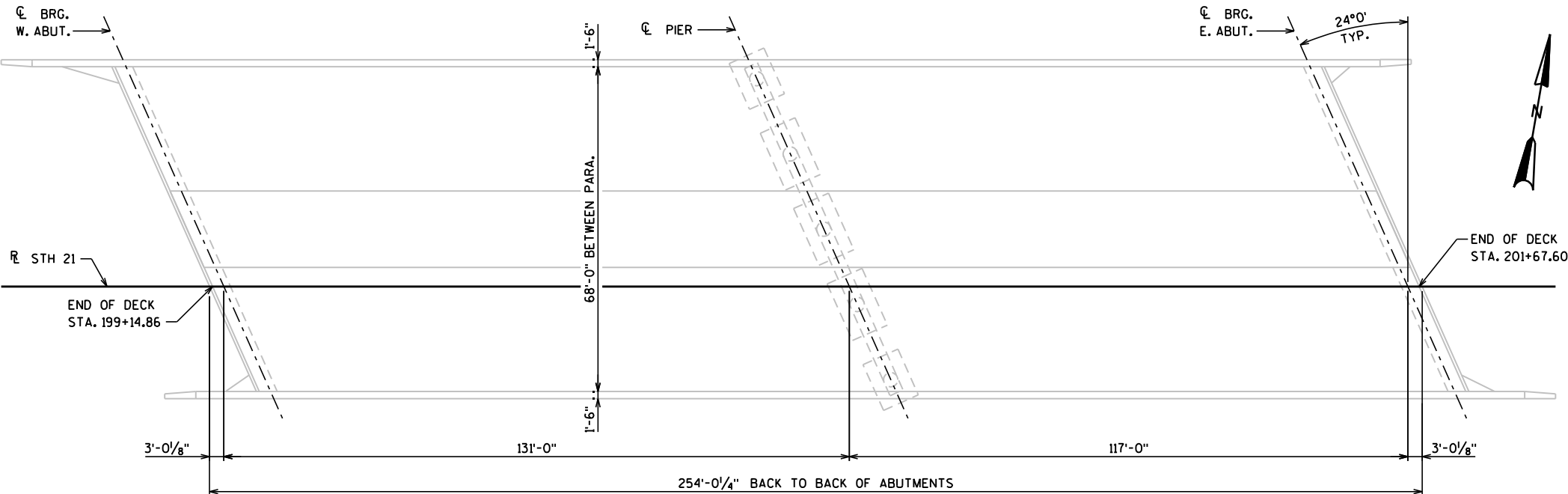
DRAWINGS SHALL NOT BE SCALED.

THE COLOR OF THE FINISH TOP COAT SHALL BE LIGHT GRAY, (FEDERAL STANDARD COLOR NO. 26293) OR SIMILAR COLOR APPROVED BY THE ENGINEER.

DIMENSIONS ARE BASED ON EXISTING PLANS.

RATINGS (FROM HSI 2/26/14):

DESIGN LOADING ——— HS20
INVENTORY RATING ——— HS30
OPERATING RATING ——— HS51
WISCONSIN STANDARD
PERMIT VEHICLE (Wis-SPV) ——— 250 KIPS



PLAN

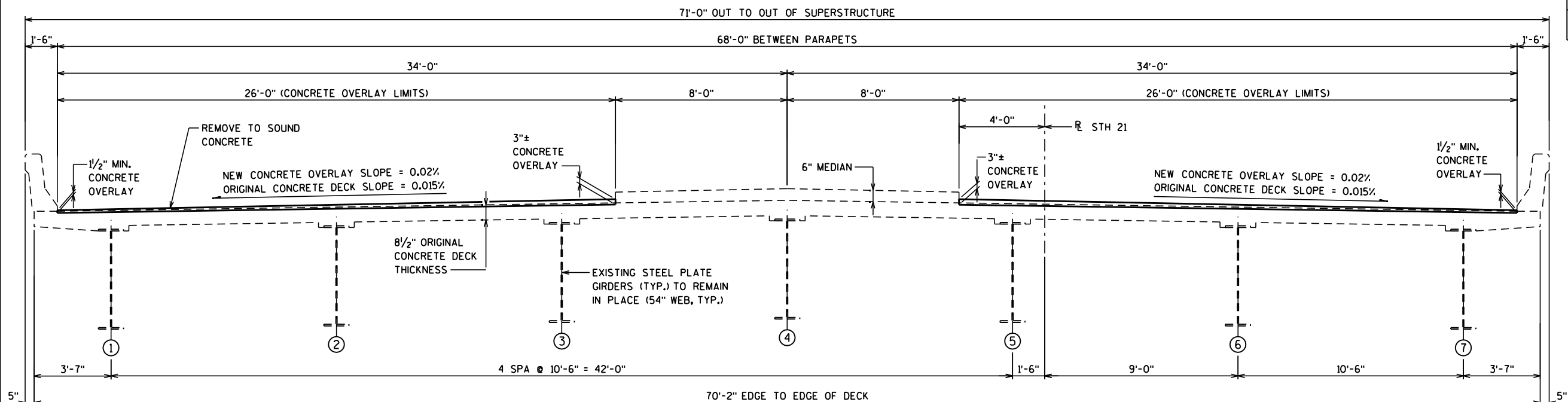
BRIDGE OFFICE
CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT
CONTACT

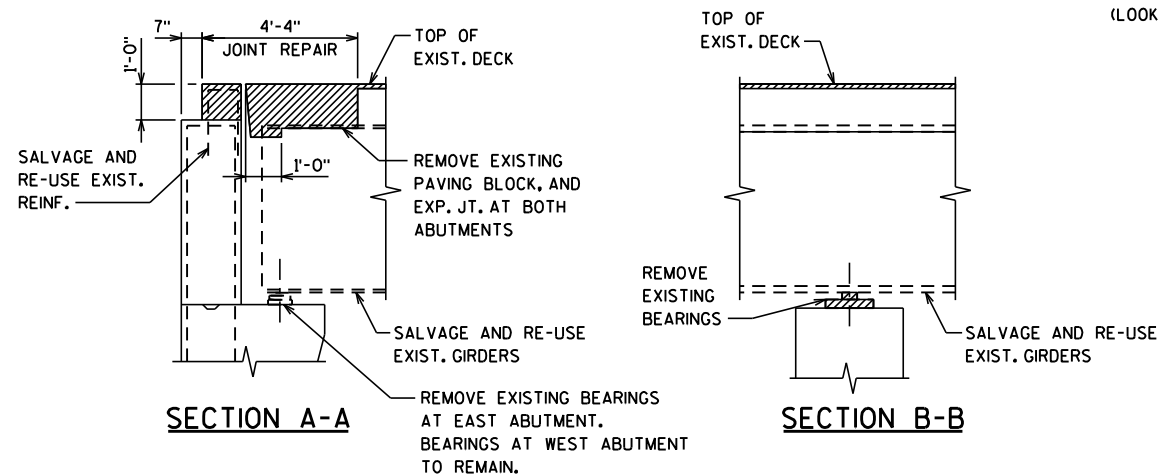
KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
Omni ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> KAR		05/07/14	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-69-20			
STH 21 OVER USH 51/IH 39			
COUNTY	WAUSHARA	VILLAGE	COLOMA
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	KRO	DESIGN CK'D.	JAW
DRAWN BY	BRE	PLANS CK'D.	KRO
GENERAL PLAN			SHEET 1 OF 1
			221



TYPICAL CROSS SECTION

(LOOKING EAST)



DESIGN DATA

LIVE LOAD:

DESIGN RATING _____ HS20
 INVENTORY RATING _____ HS26
 OPERATING RATING _____ HS44
 WISCONSIN STANDARD
 PERMIT VEHICLE (Wis-SPV) _____ 250 KIPS

ULTIMATE DESIGN STRESSES:

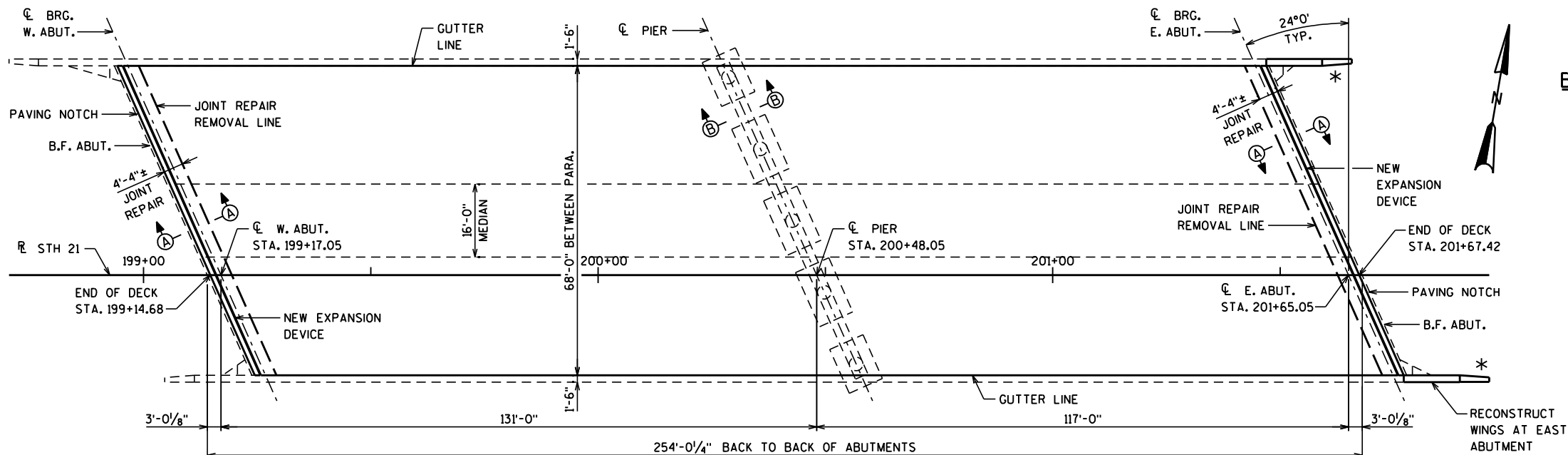
CONCRETE MASONRY
 SUPERSTRUCTURE/OVERLAY DECKS: — $f'_c = 4,000$ PSI
 ALL OTHERS: — $f'_c = 3,500$ PSI
 BAR STEEL
 REINFORCEMENT, GRADE 60: — $f_y = 60,000$ PSI

LIST OF DRAWINGS

1. CONCRETE OVERLAY & RAISING
2. QUANTITIES, NOTES, & PROFILE
3. WEST ABUTMENT
4. WEST ABUTMENT DETAILS
5. EAST ABUTMENT
6. EAST ABUTMENT DETAILS
7. EAST ABUTMENT BEARING DETAILS
8. EAST ABUTMENT EXPANSION JOINT
9. EAST ABUTMENT EXP. JT. DETAILS
10. EAST ABUTMENT PARAPET TYPE 'B'
11. COVER PLATE DETAILS
12. PIER



5/14/14

* PROVIDE FOR THREE BEAM
GUARD RAIL ATTACHMENT

PLAN

BRIDGE OFFICE
CONTACT

WILLIAM DREHER
 (608) 266-8489

CONSULTANT
CONTACT

KRISTOFER OLSON
 OMNI ASSOCIATES
 (920) 735-6900

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher	05/15/14	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-69-20			
STH 21 OVER USH 51/1H 39			
COUNTY	WAUSHARA	VILLAGE	COLOMA
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	KRO	DESIGN CK'D.	JAW
DRAWN BY	BRE	PLANS CK'D.	KRO
CONCRETE OVERLAY & RAISING			SHEET 1 OF 12
			222

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE EXISTING STRUCTURE, B-69-20, IS A 2 SPAN, STEEL DECK GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 71 FEET AND AN OVERALL LENGTH OF 254 FEET.

AT ABUTMENTS, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN 1/2".

PREPARATION DECKS TYPE 1 & 2, FULL-DEPTH DECK REPAIR, CONCRETE SURFACE REPAIR AREAS, AND EPOXY CRACK SEALING SHALL BE DETERMINED BY THE FIELD ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS" INCLUDES CONCRETE FOR PREPARATION DECKS TYPE 1 & 2, FULL DEPTH DECK REPAIR, AND CONCRETE PLACED FOR THE JOINT REPAIR.

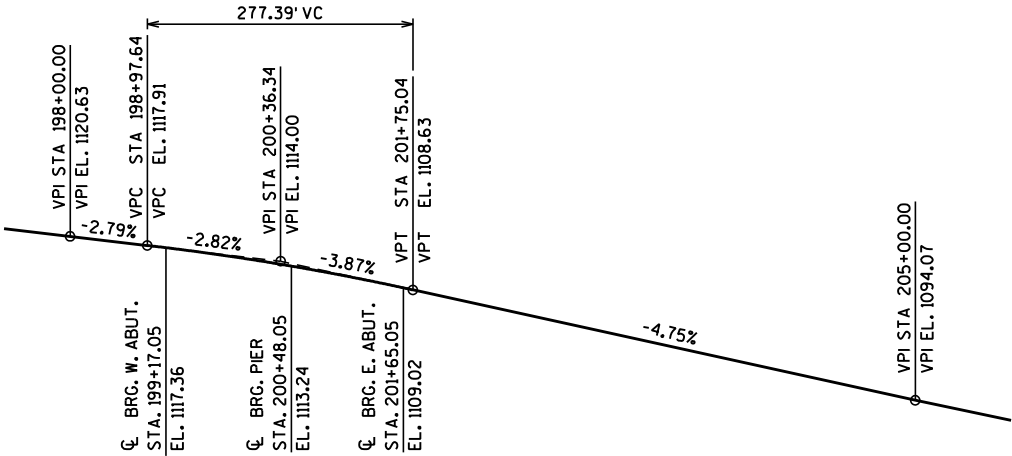
USE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY, THE ENTIRE FRONT FACES AND TOPS OF BOTH EXISTING WING & DECK PARAPETS.

THE ENTIRE EXISTING DECK AND WING PARAPETS SHALL BE CLEANED BEFORE THE PROTECTIVE SURFACE TREATMENT IS APPLIED. WORK SHALL BE UNDER THE BID ITEM "CLEANING PARAPETS".

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER	WEST ABUT.	PIER	EAST ABUT.	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 200+50	LS	---	---	---	---	1
502.0100	CONCRETE MASONRY BRIDGES	CY	---	---	---	12	12
502.3100	EXPANSION DEVICE B-69-20	LS	---	---	---	---	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2,180	---	---	---	2,180
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	304	---	---	---	304
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	---	3,030	---	4,720	7,750
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	---	---	---	7	7
506.5000	BEARING ASSEMBLIES FIXED B-69-20	EACH	---	---	7	---	7
506.7050.S	REMOVING BEARINGS B-69-20	EACH	---	---	7	7	14
506.7060.S	BRIDGE JACKING B-69-20	LS	---	---	---	---	1
509.0301	PREPARATION DECKS TYPE 1	SY	146	---	---	---	146
509.0302	PREPARATION DECKS TYPE 2	SY	58	---	---	---	58
509.0500	CLEANING DECKS	SY	1,460	---	---	---	1,460
509.1000	JOINT REPAIR	SY	---	36	---	36	73
509.1500	CONCRETE SURFACE REPAIR	SF	5	15	---	---	20
509.2000	FULL-DEPTH DECK REPAIR	SY	1	---	---	---	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	103	---	---	---	103
509.9020.S	EPOXY CRACK SEALING	LF	---	15	---	20	35
509.9050.S	CLEANING PARAPETS	LF	545	---	---	---	545
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	---	---	21	21
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	---	---	---	2
SPV.0060.02	PRECAST CONCRETE BEARING BLOCK	EACH	---	---	7	7	14



PROFILE GRADE LINE - STH 21

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
		DRAWN BY	BRE
		PLANS CK'D.	KRO
QUANTITIES, NOTES, & PROFILE		SHEET 2 OF 12	
		223	



DIMENSIONS ARE FOR REFERENCE ONLY MATCH
EXISTING PARAPET EDGES.

- (A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A23) MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0".

SEE SHEET 4 FOR SECTION THROUGH JOINT AT
ABUTMENT.

- (A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND
EXTEND FULL LENGTH INTO NEW WORK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
WEST ABUTMENT		SHEET 3 OF 12	
		224	

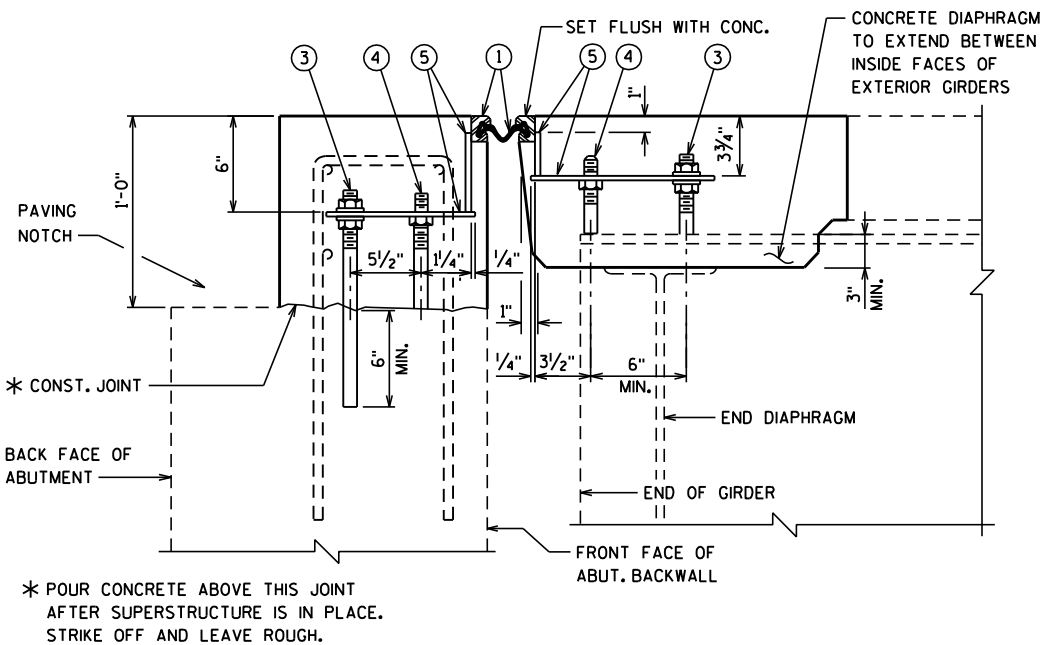
NOTE

SEE SHEET 9 FOR EXPANSION JOINT
LEGEND AND NOTES.

BILL OF BARS

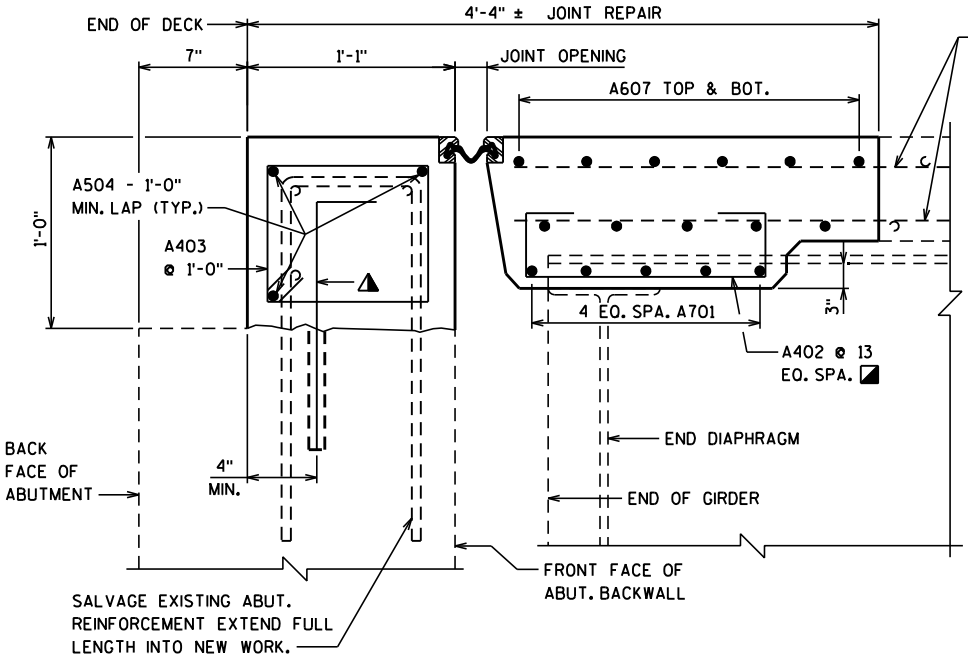
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
A701	X	30	10'-0"		DECK - DIAPHRAGM
A402	X	84	3'-11"	X	DECK - DIAPHRAGM
A403	X	58	3'-4"	X	PAVING BLOCK
A504	X	24	8'-0"		PAVING BLOCK
A505	X	75	3'-0"	X	PAVING BLOCK ANCHOR
A406	X	12	10'-0"		END OF DECK
A607	X	22	38'-10"		SLAB TRANSVERSE
A408	X	12	4'-3"	X	PARAPET VERTICAL
A409	X	18	4'-10"	X	PARAPET VERTICAL
A410	X	6	2'-8"	X	PARAPET VERTICAL
A411	X	6	2'-0"		PARAPET VERTICAL
A412	X	6	1'-11"	X	MEDIAN ANCHOR
A413	X	3	17'-1"		MEDIAN TRANSVERSE
A514	X	4	11'-1"	X	MEDIAN PAVING BLOCK HORIZ.
A515	X	18	3'-7"	X	MEDIAN PAVING BLOCK VERT.

▲ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO
EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS
NECESSARY TO FIT.



SECTION THRU JOINT AT ABUTMENT

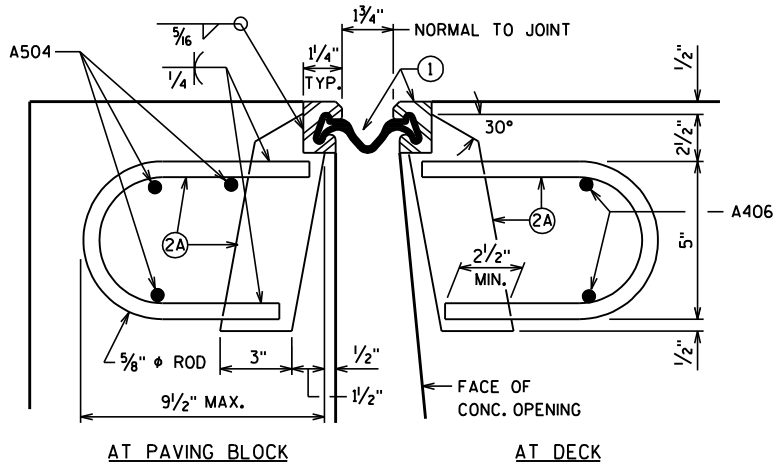
NORMAL TO CL SUBSTRUCTURE



SECTION THRU JOINT AT ABUTMENT

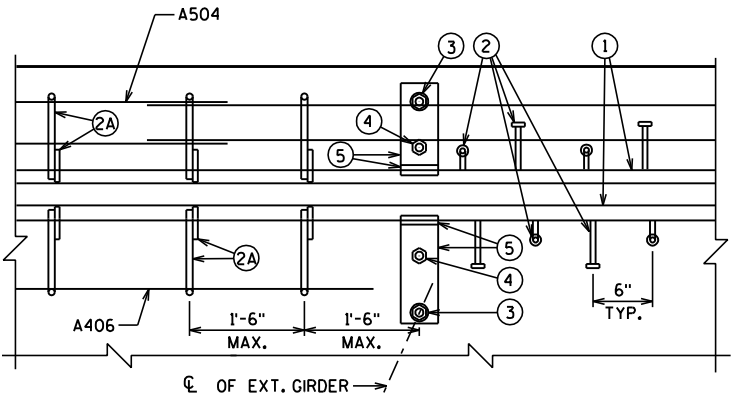
NORMAL TO CL SUBSTRUCTURE

■ BARS PLACED PARALLEL TO
GIRDERS. SPACING PERPENDICULAR
TO CL GIRDERS.

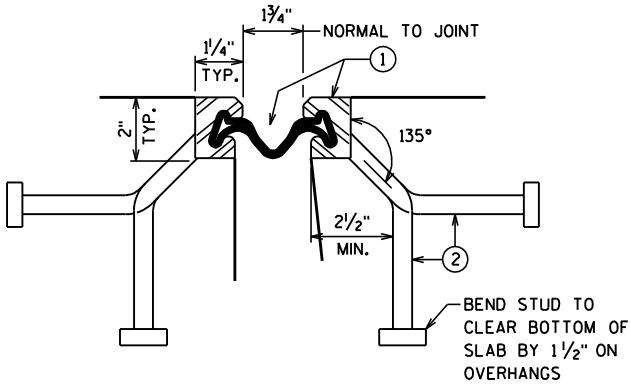


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

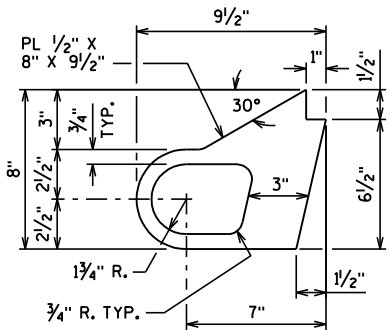


PART PLAN

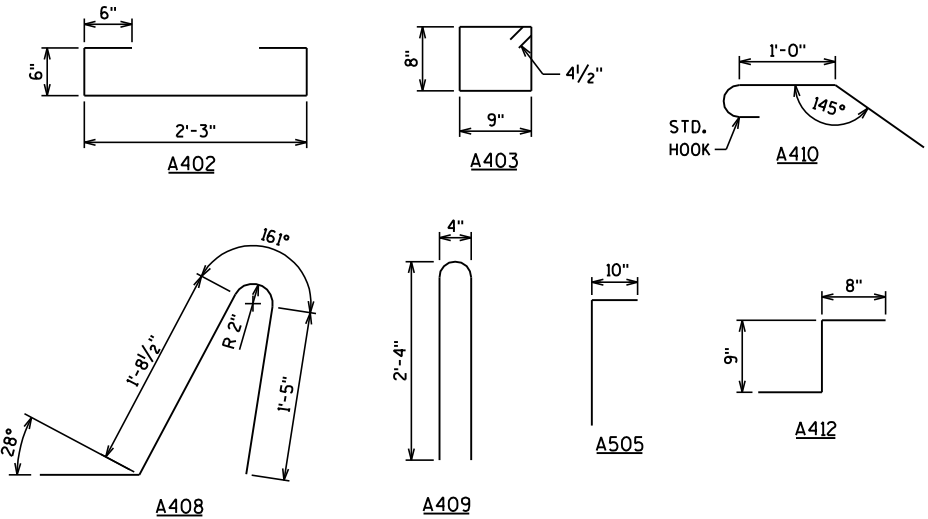


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND
AT PARAPETS, MEDIANS AND SIDEWALKS

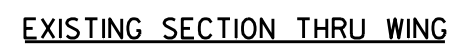
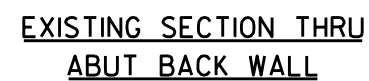
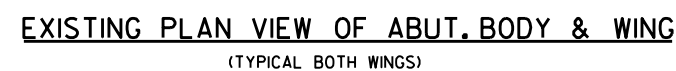


ALTERNATE STRIP SEAL ANCHOR



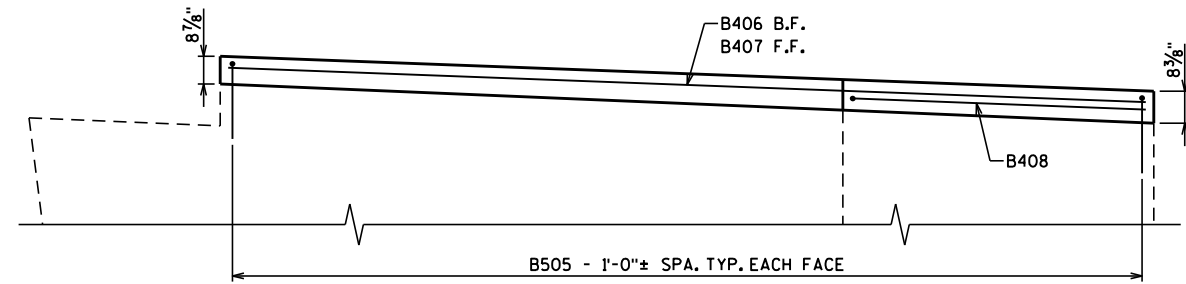
BAR BENDING DIAGRAMS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
WEST ABUTMENT DETAILS		SHEET 4 OF 12	
		225	

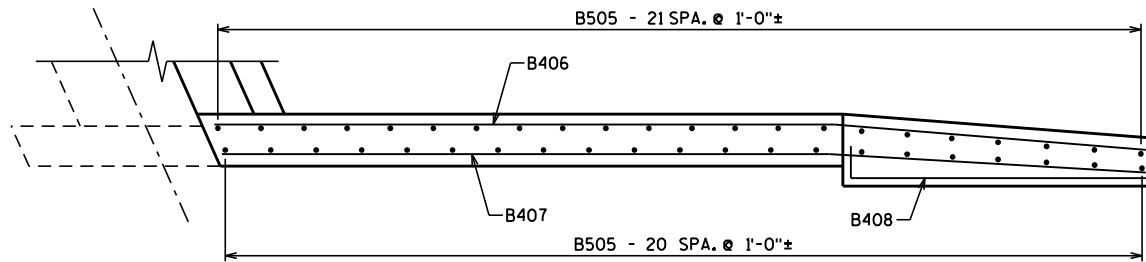


- (A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.
-  REMOVAL LIMITS

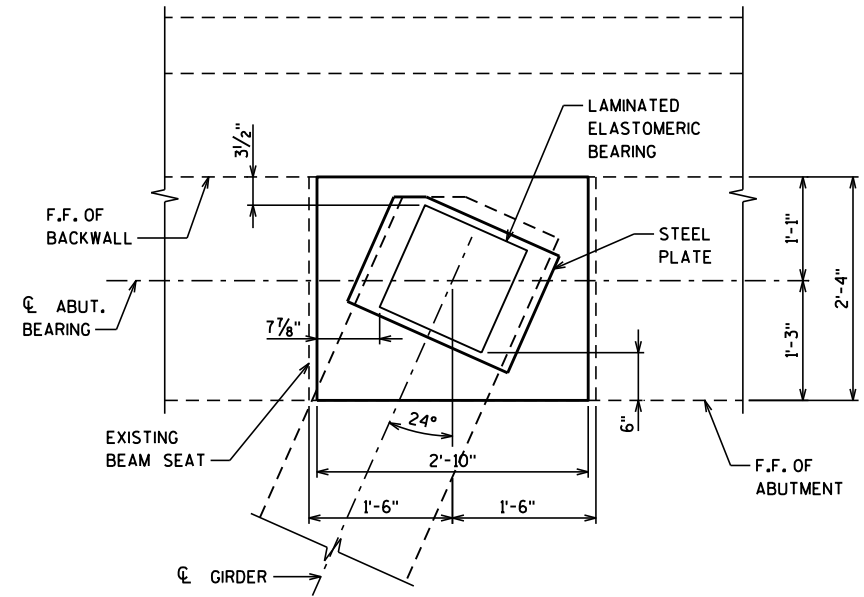
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
EAST ABUTMENT		SHEET 5 OF 12	
		226	



TYPICAL WING ELEVATION



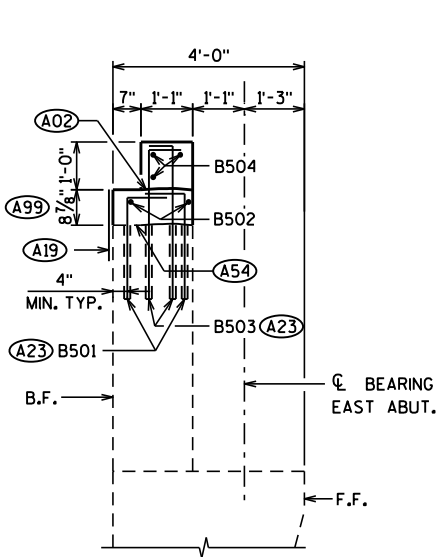
TYPICAL WING PLAN



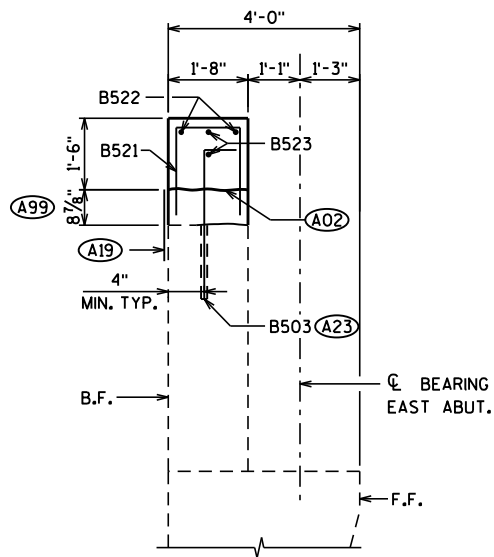
TYPICAL BEARING PAD LAYOUT

NOTES:

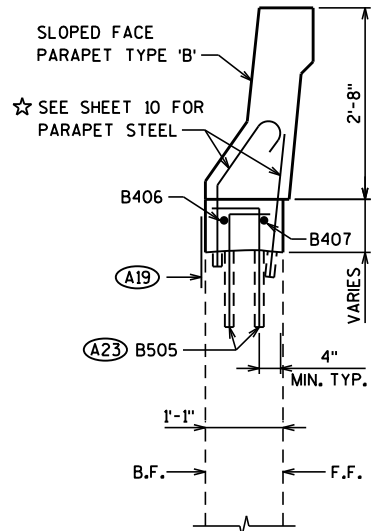
- (A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING (RMW) SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A23) MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.
- ☆ DRILL AND EPOXY ANCHOR PARAPET STEEL AS REQUIRED FOR VERTICAL PLACEMENT.
- (A54) ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MIN. ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.
- (A99) THIS DIMENSION SHALL BE THE MINIMUM HEIGHT FOR THE RAISING OF THIS SUBSTRUCTURAL UNIT.



SECTION THRU ABUTMENT
BACK WALL



SECTION THRU BACK
WALL AT MEDIAN

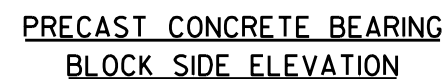
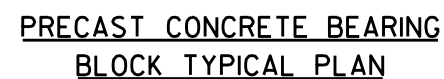


SECTION THRU WING WALL

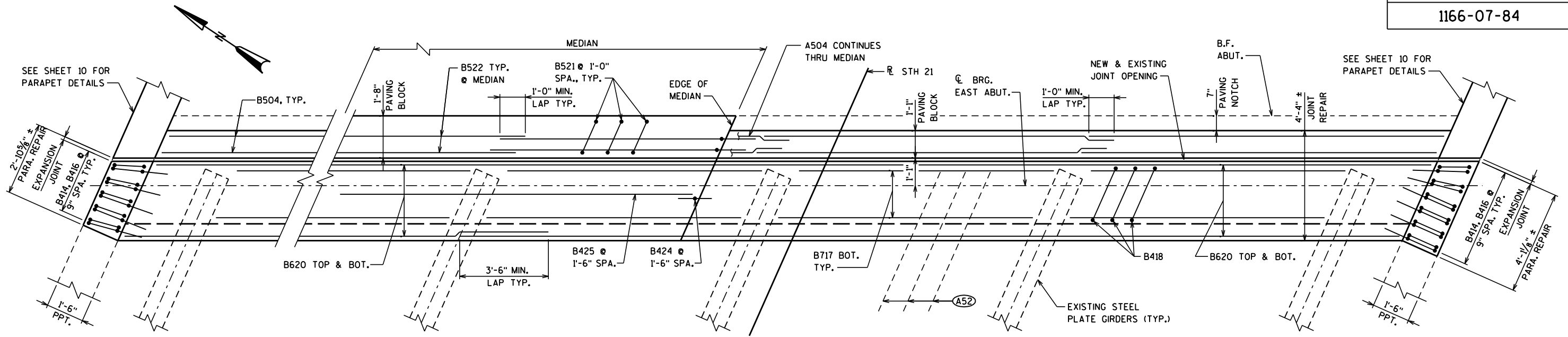
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
		DRAWN BY	BRE
		PLANS CK'D.	KRO
EAST ABUTMENT DETAILS		SHEET 6 OF 12	
		227	



THE CONTRACTOR MAY FURNISH CAST IN PLACE BEARING BLOCKS WITH THE APPROVAL OF THE ENGINEER AND BUREAU OF STRUCTURES. CONSTRUCT CAST IN PLACE BEARING BLOCK IN ACCORDANCE WITH SECTIONS 501, 502, AND 505 OF THE STANDARD SPECIFICATIONS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
EAST ABUTMENT BEARING DETAILS		SHEET 7 OF 12	
		228	

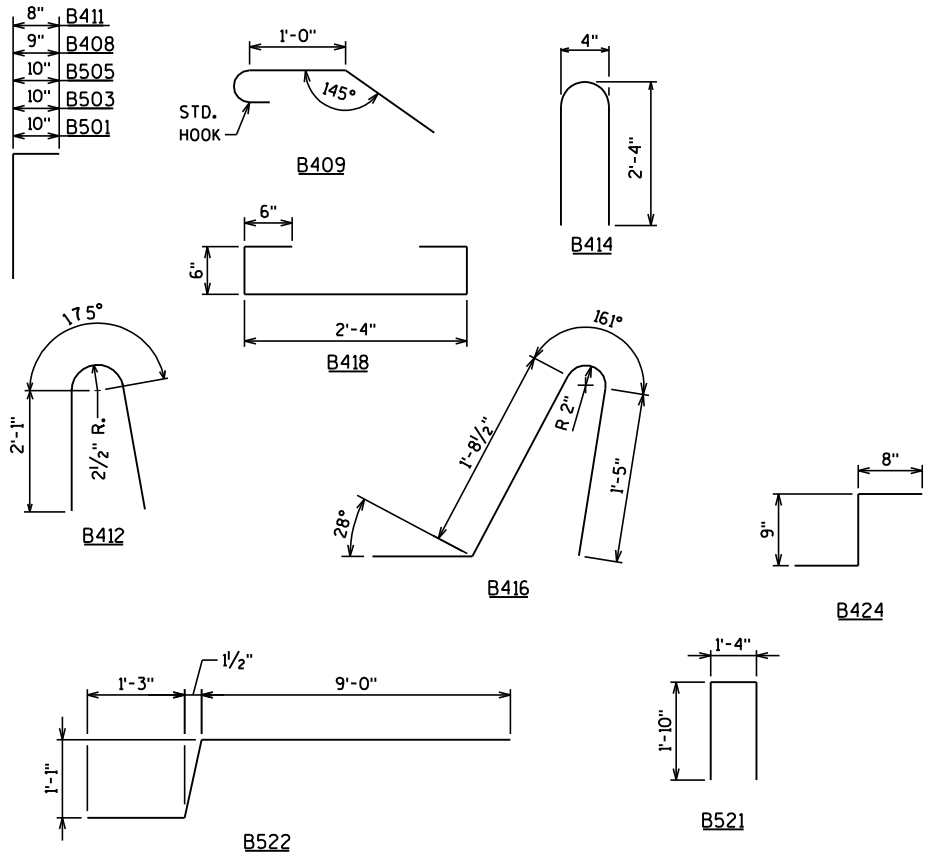


EAST ABUTMENT "JOINT REPAIR" PLAN

BILL OF BARS

BAR MARK	CONT	NO. REQ'D	LENGTH	BENT	LOCATION
▲ B501	X	116	2'-10"	X	TOP OF BACK WALL
B502	X	16	8'-0"		TOP OF BACK WALL
▲ B503	X	134	3'-10"	X	PAVING BLOCK
B504	X	24	8'-0"		PAVING BLOCK
▲ B505	X	86	2'-9"	X	WING WALL - VERTICAL
B406	X	2	19'-6"		WING WALL - HORIZONTAL
B407	X	2	19'-4"		WING WALL - HORIZONTAL
B408	X	2	7'-1"	X	WING WALL - HORIZONTAL
B409	X	46	3'-1"	X	PARAPET - VERTICAL
B410	X	38	2'-0"		PARAPET - VERTICAL
B411	X	60	2'-8"	X	PARAPET - VERTICAL
B412	X	30	4'-9"	X	PARAPET - VERTICAL
B513	X	12	6'-2"		PARAPET - HORIZONTAL
B414	X	50	4'-10"	X	PARAPET - VERTICAL
B515	X	10	16'-0"		PARAPET - HORIZONTAL
B416	X	12	4'-3"	X	PARAPET - VERTICAL
B717	X	30	10'-0"		DECK DIAPHRAGM
B418	X	84	4'-0"	X	DECK DIAPHRAGM
B419	X	12	10'-0"		END OF DECK
B620	X	22	38'-10"		SLAB TRANSVERSE
B521	X	18	4'-9"	X	PAVING BLOCK @ MEDIAN - VERT.
B522	X	4	11'-1"	X	PAVING BLOCK @ MEDIAN - HORIZ.
B523	X	4	9'-0"		PAVING BLOCK @ MEDIAN - HORIZ.
B424	X	6	1'-11"	X	MEDIAN ANCHOR
B425	X	3	17'-1"		MEDIAN TRANSVERSE

▲ MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED MIN. 1'-6" INTO EXISTING CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.



BAR BENDING DIAGRAMS

SEE SHEET 9 FOR SECTION THROUGH JOINT AT ABUTMENT.

(A52) SALVAGE EXIST. LONGITUDINAL REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
EAST ABUTMENT EXPANSION JOINT		SHEET 8 OF 12	
		229	



- STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-69-20".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
		DRAWN BY	BRE
		PLANS CK'D.	KRO
EAST ABUTMENT EXP. JT. DETAILS		SHEET 9 OF 12	
		230	

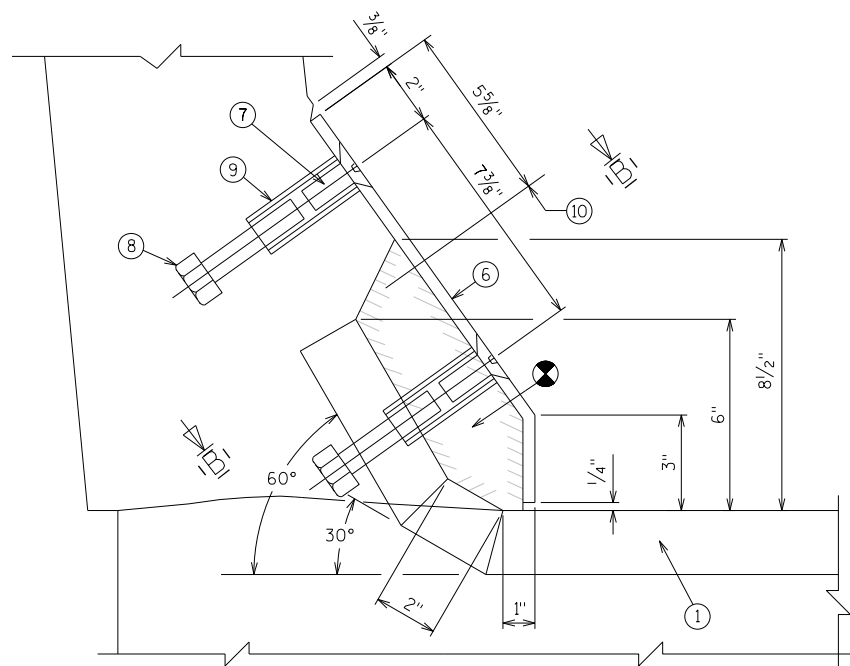


⊗ CONST. JOINT - STRIKE OFF
AS SHOWN.

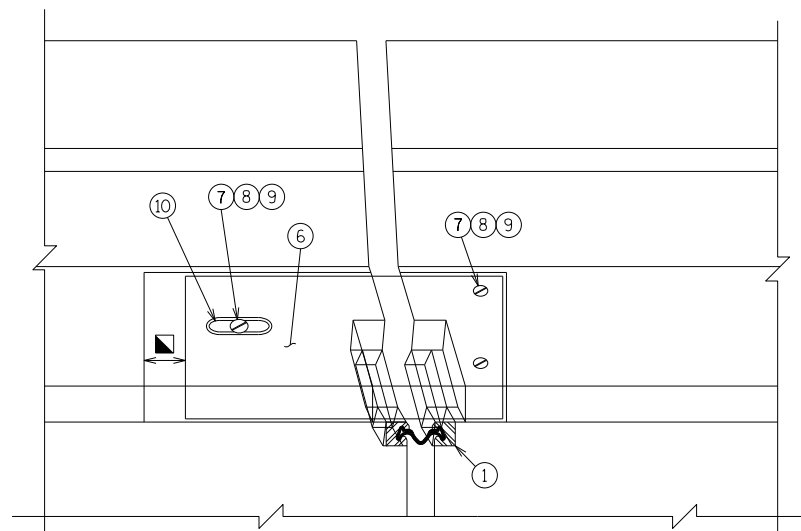
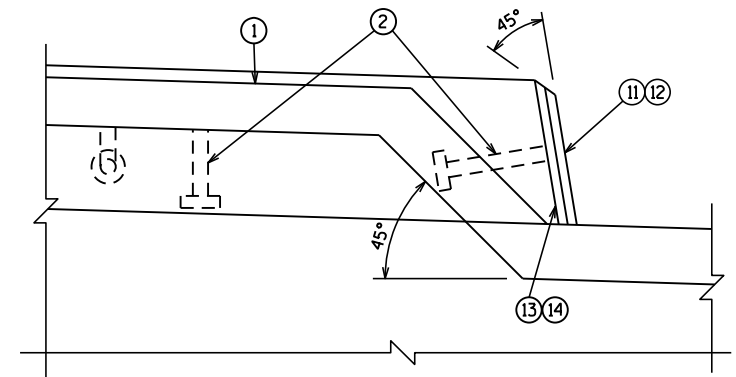


DIMENSIONS ARE FOR REFERENCE ONLY
MATCH EXISTING PARAPET EDGES.

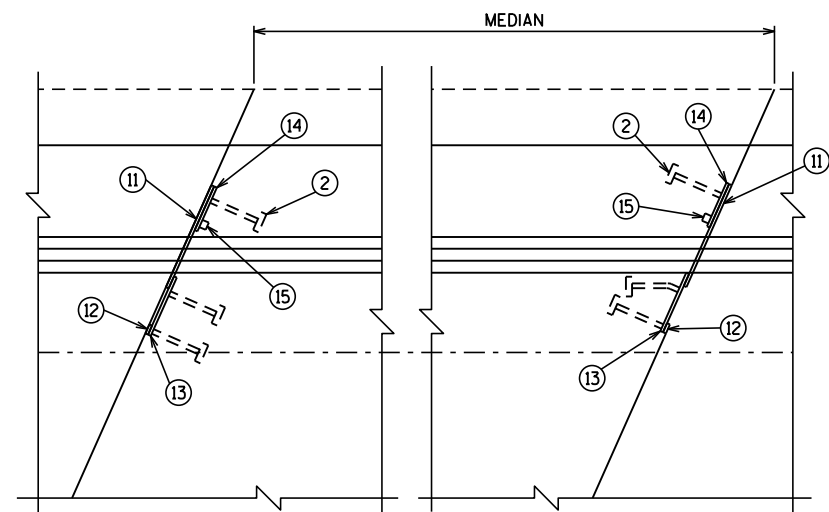
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
EAST ABUTMENT PARAPET TYPE 'B'		SHEET 10 OF 12	
		231	



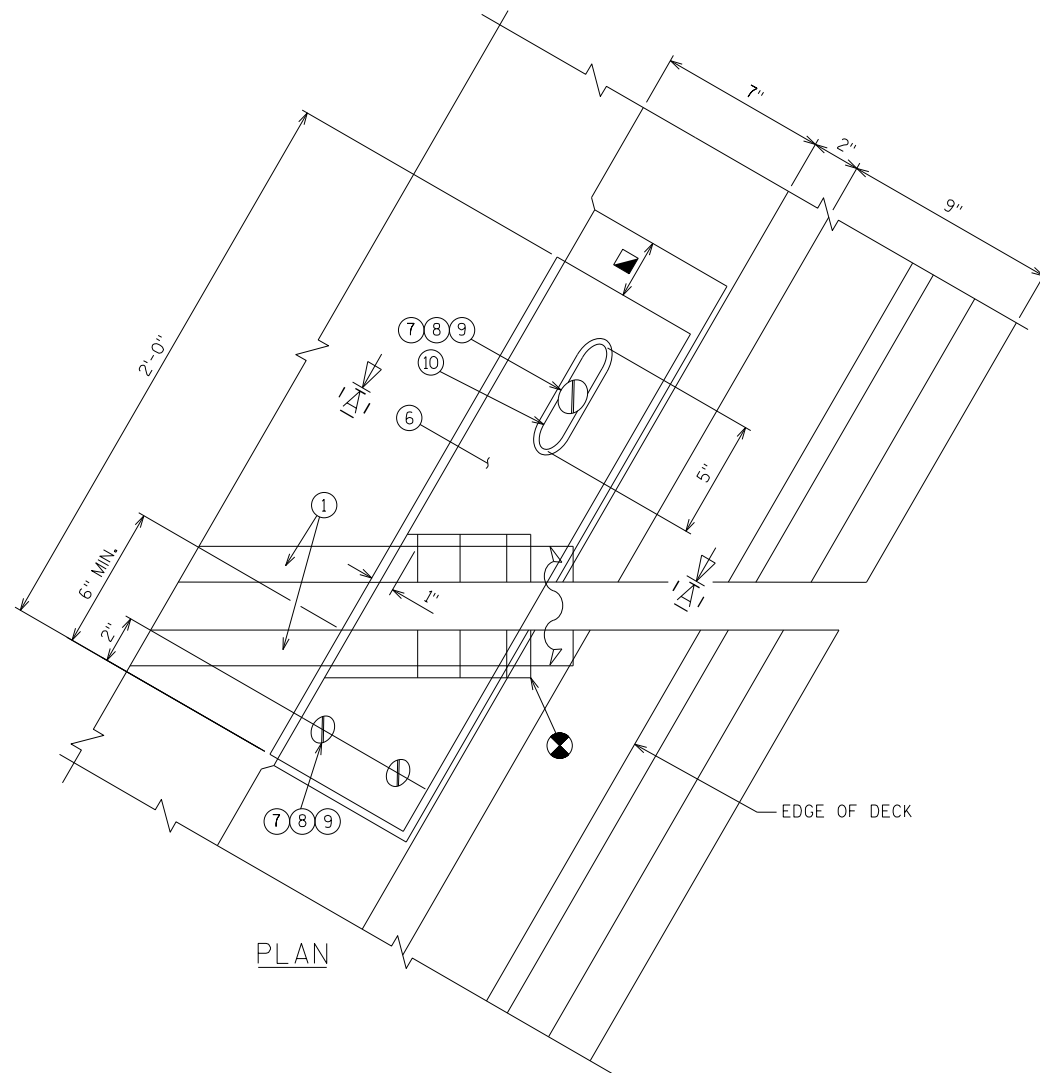
SECTION A-A

VIEW OF PARAPET PLATE
FROM ROADWAY

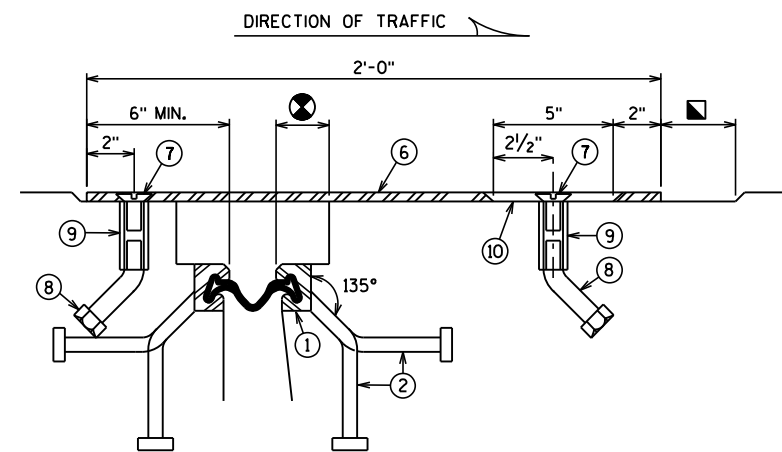
SECTION AT MEDIAN



PLAN AT MEDIAN



PLAN



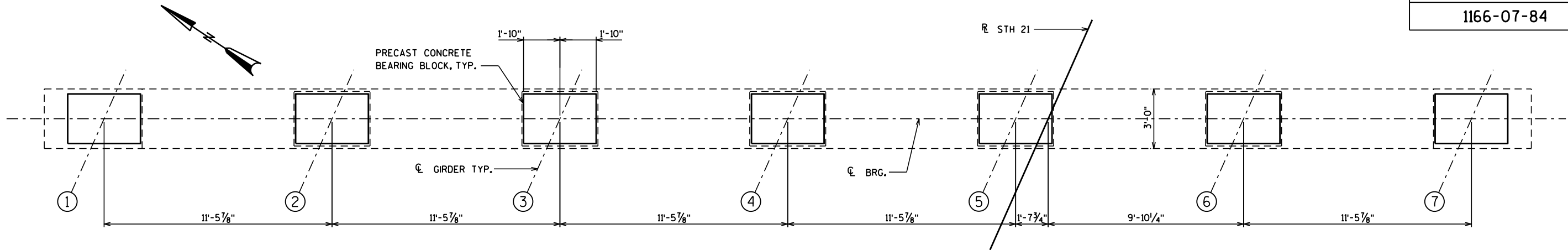
SECTION B-B

SEE SHEET 9 FOR LEGEND AND NOTES.

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-69-20			
DRAWN BY		BRE	PLANS CK'D. KRO
COVER PLATE DETAILS		SHEET 11 OF 12	
		232	



PIER CAP PLAN

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ϕ OF GIRDER AND ϕ OF BEARING.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. BOLT LENGTH TO BE 1'-5 FOR 1 1/4" ϕ AND 1'-10 FOR 1 1/2" ϕ BOLTS. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES FIXED B-69-20", EACH.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

FIXED BEARINGS:
ROCKER PLATE "C" SHALL BE SHOP PAINTED WITH A WELDABLE PRIMER. MASONRY PLATE "D" SHALL BE GALVANIZED.

FINISH THESE SURFACES TO ANSI 250 IF "Y" DIMENSION IS GREATER THAN 2".

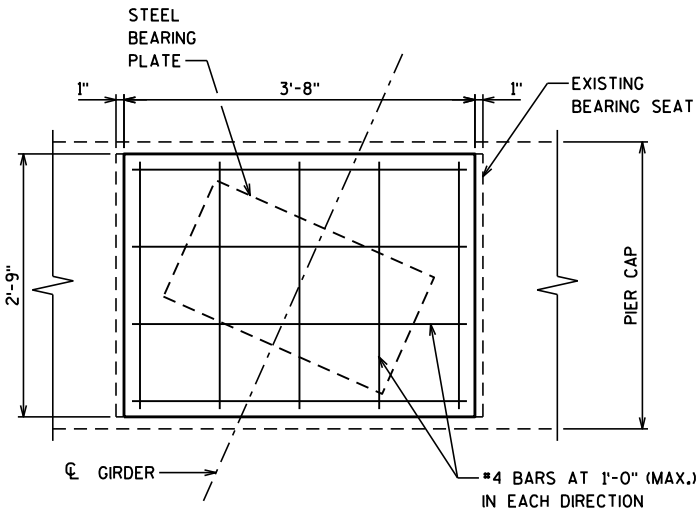
ANCHOR PRECAST BEARING BLOCK IN AT LEAST 4 LOCATIONS (ANCHORS INCLUDE EPOXY ANCHORS, ANCHOR BOLTS, OR COMBINATION).

GROUT 1/4" BENEATH PRECAST ELEMENT TO ELIMINATE STRESS CONCENTRATION AND REDUCE CRACKING.

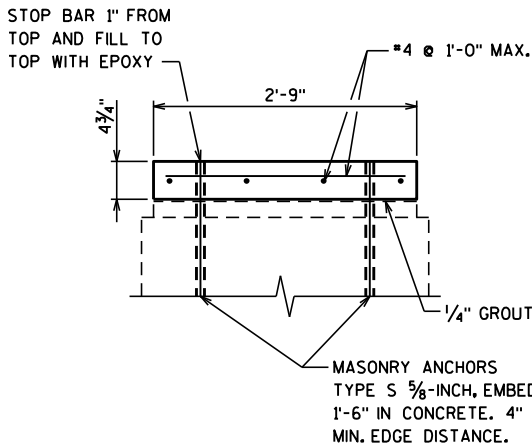
BURN EXISTING ANCHOR BOLTS OFF FLUSH WITH BEAM SEAT.

THE BID ITEM PRECAST CONCRETE BEARING BLOCK INCLUDES ALL MATERIAL (CONCRETE, REINFORCEMENT, ANCHOR BOLTS, TYPE S EPOXY ANCHORS, ETC.) SHOWN IN DETAILS UNLESS OTHERWISE NOTED.

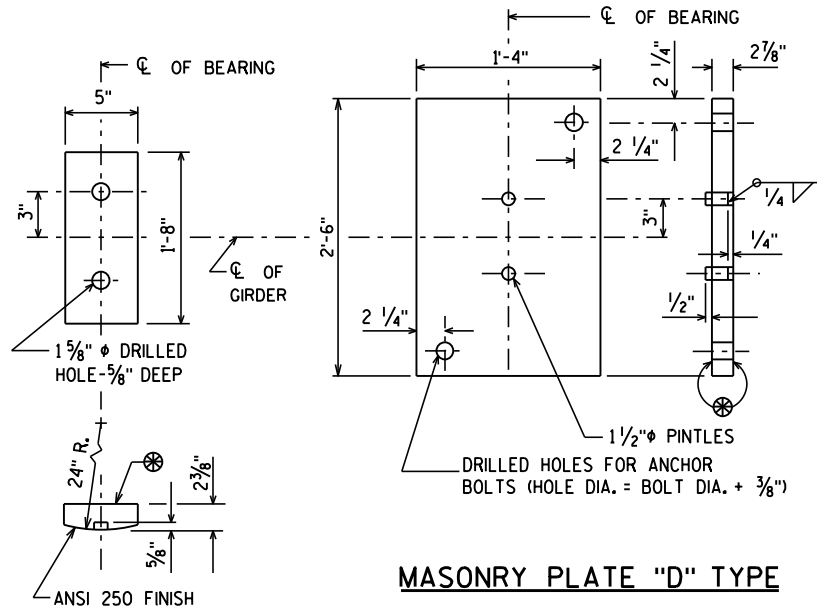
THE CONTRACTOR MAY FURNISH CAST IN PLACE BEARING BLOCKS WITH THE APPROVAL OF THE ENGINEER AND BUREAU OF STRUCTURES. CONSTRUCT CAST IN PLACE BEARING BLOCK IN ACCORDANCE WITH SECTIONS 501, 502, AND 505 OF THE STANDARD SPECIFICATIONS.



PRECAST CONCRETE BEARING BLOCK TYPICAL PLAN



PRECAST CONCRETE BEARING BLOCK SIDE ELEVATION



ROCKER PLATE "C"

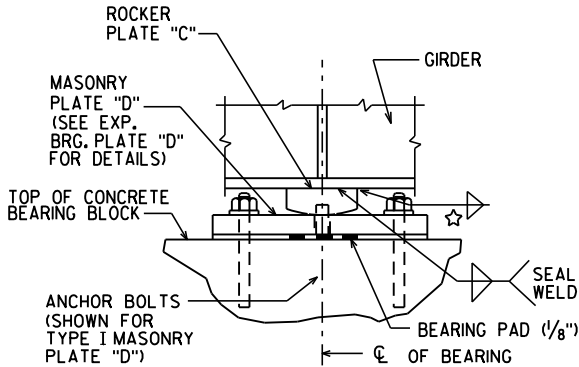
MASONRY PLATE "D" TYPE

☆ TABLE OF FILLET WELD SIZES

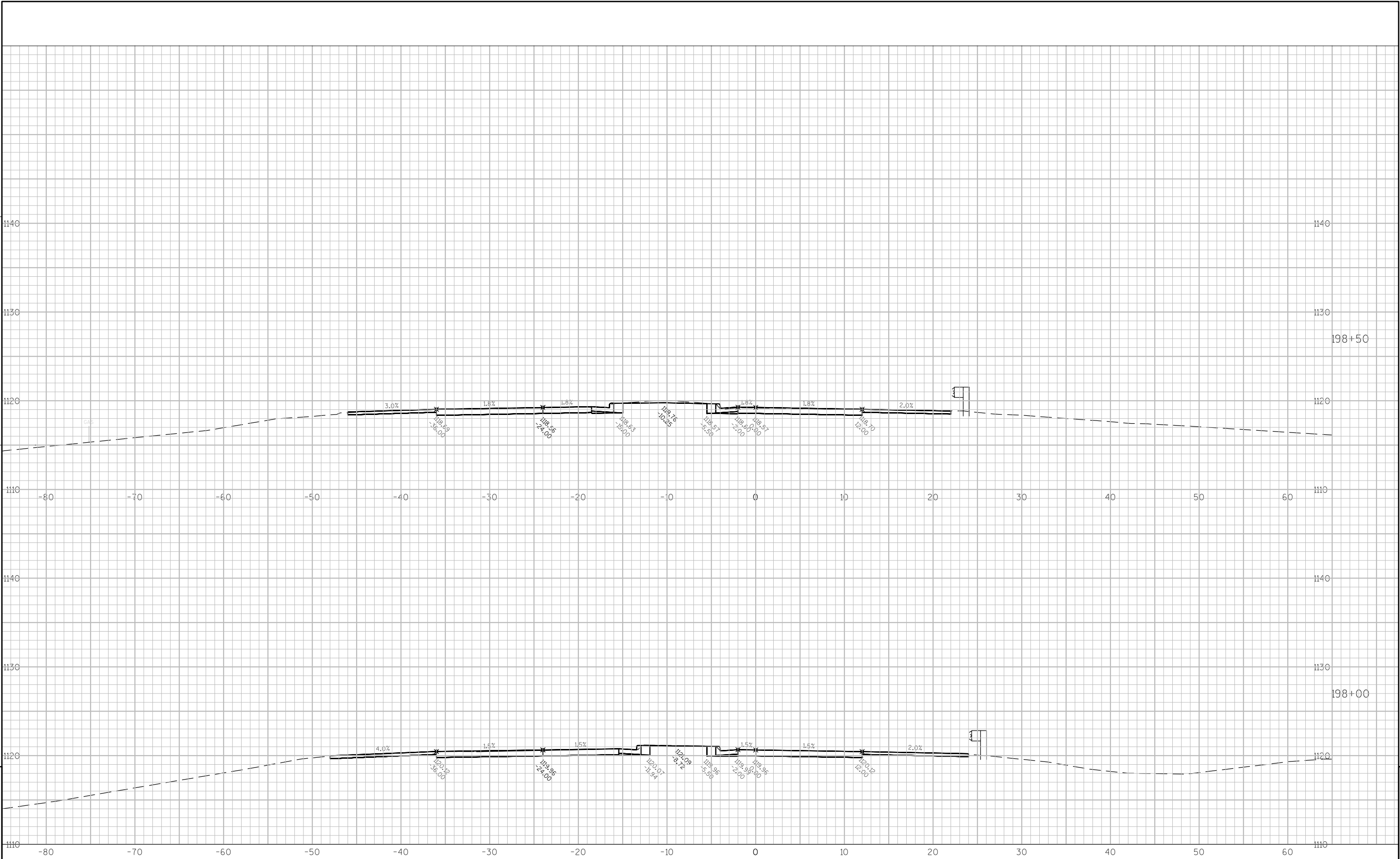
MATERIAL THICKNESS OF THICKER PART JOINED.	MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	5/16"
OVER 1 1/2" TO 2 1/4"	3/8"
OVER 2 1/4" TO 6"	1/2"

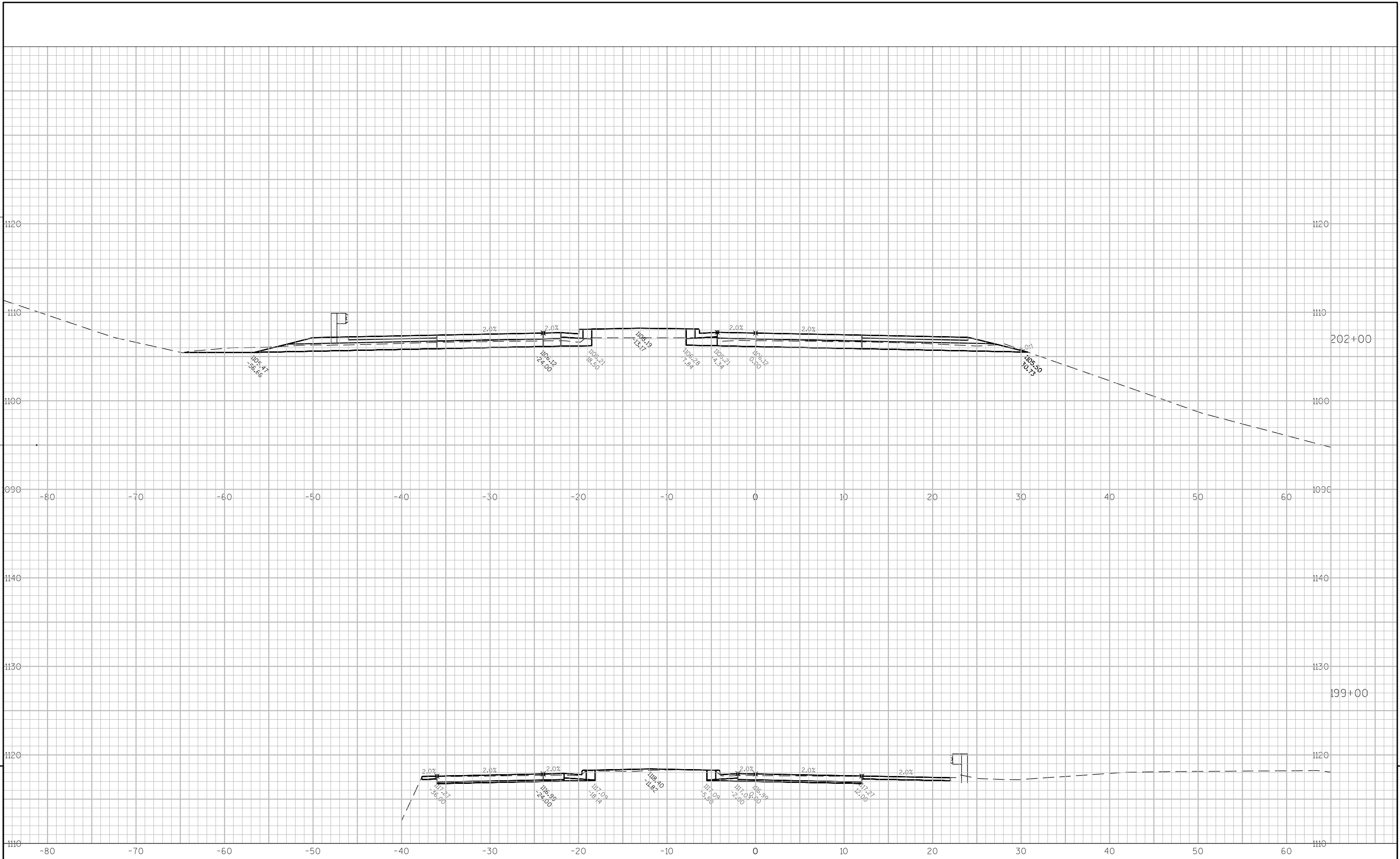
† EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

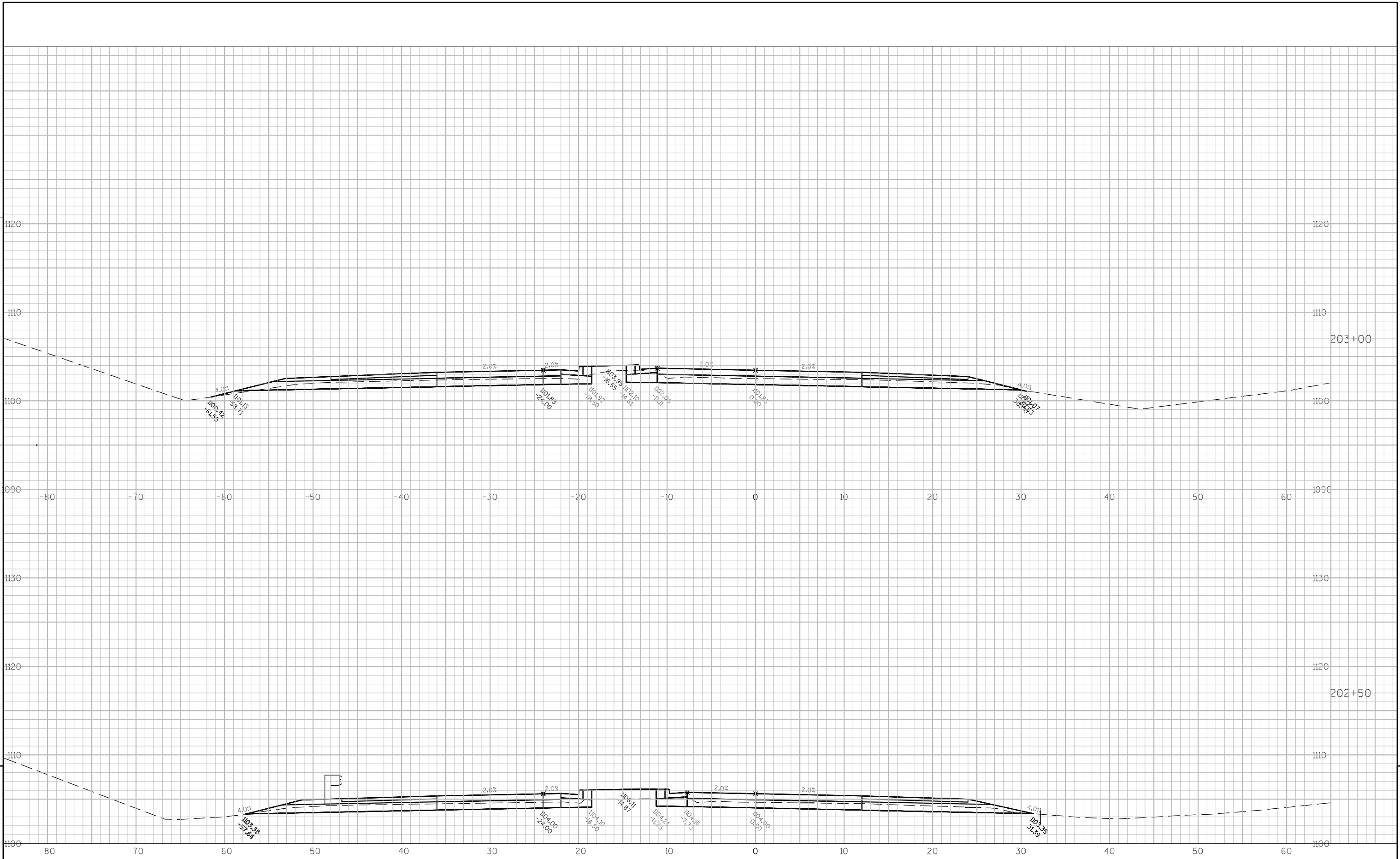
△ MIN. PASS SIZE IS 5/16"



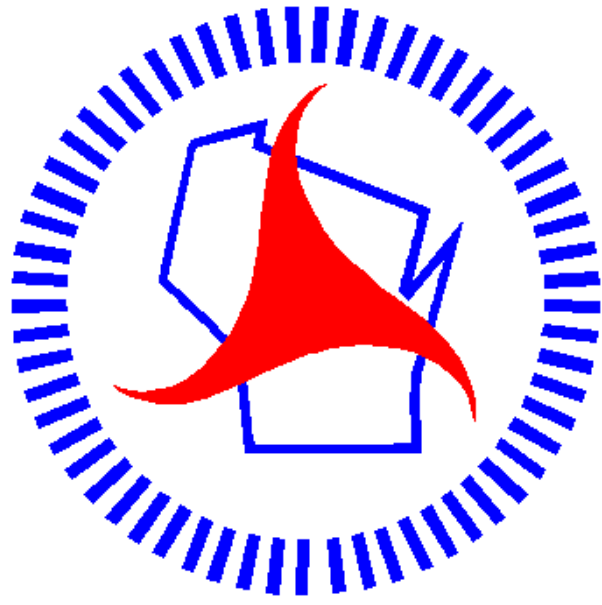
FIXED BEARING ASSEMBLY







Notes



Wisconsin Department of Transportation

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