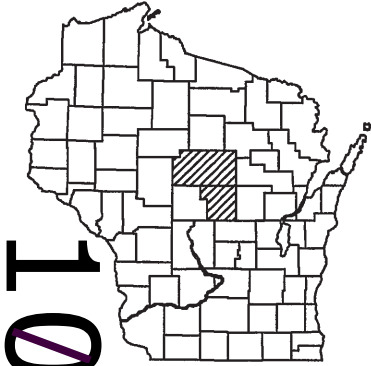


ORDER OF SHEETS

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 = 204



DESIGN DESIGNATION	PORTAGE COUNTY	MARATHON COUNTY
A.A.D.T. 2019	= 16,300	26,100
A.A.D.T. 2039	= 20,000	33,300
D.H.V.	= 2,280	3,397
D.D.	= 57/43	57/43
T.	= 16.0%	13.5%
DESIGN SPEED	= 70 MPH	70 MPH
ESALS	= 13,000,000	17,000,000

CONVENTIONAL SYMBOLS

COUNTY LINE	
CORPORATE LIMITS	
PROPERTY LINE	
LIMITED EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
FENCE	
GUARD RAIL	
SLOPE INTERCEPT	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
WETLAND AREA	
WOODED OR SHRUB AREA	
STREAM OR WATER EDGE	
BUSH	
PINE TREE	(SIZE)
TREE	(SIZE)
TRAFFIC SIGNAL CONTROL CABINET	
TRAFFIC SIGNAL	
TRAFFIC SIGNAL MAST-ARM	
TRAFFIC SIGNAL WITH LIGHT	
EXISTING PULL BOX	
BOLLARD	

COMBUSTIBLE FLUIDS

UNDERGROUND UTILITIES	
GAS	(SIZE) G
SANITARY SEWER	(SIZE) SAN
STORM SEWER	(SIZE) SS
WATER	(SIZE) W
ELECTRIC	E
TELEPHONE	T
FIBER OPTIC	FO
CABLE TELEVISION	TV
FORCE MAIN	FM

MANHOLE	MH
UTILITY PEDESTAL	UH
FIBER OPTIC HAND HOLE	HH
POWER POLE	PP
TELEPHONE POLE	TP
RAILROAD	RR
HYDRANT	H
LIGHT POLE	L
RAILROAD SIGNAL	RS
SIGN	S
TRANSMISSION TOWER	TT
VALVE	V
CURB STOP	CS
EXISTING CULVERT	EC
PROPOSED CULVERT (Box or Pipe)	PC

(SIZE) G	
(SIZE) SAN	
(SIZE) SS	
(SIZE) W	
E	
T	
FO	
TV	
FM	
MH	
UH	
HH	
PP	
TP	
RR	
H	
L	
RS	
S	
TT	
V	
CS	
EC	
PC	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

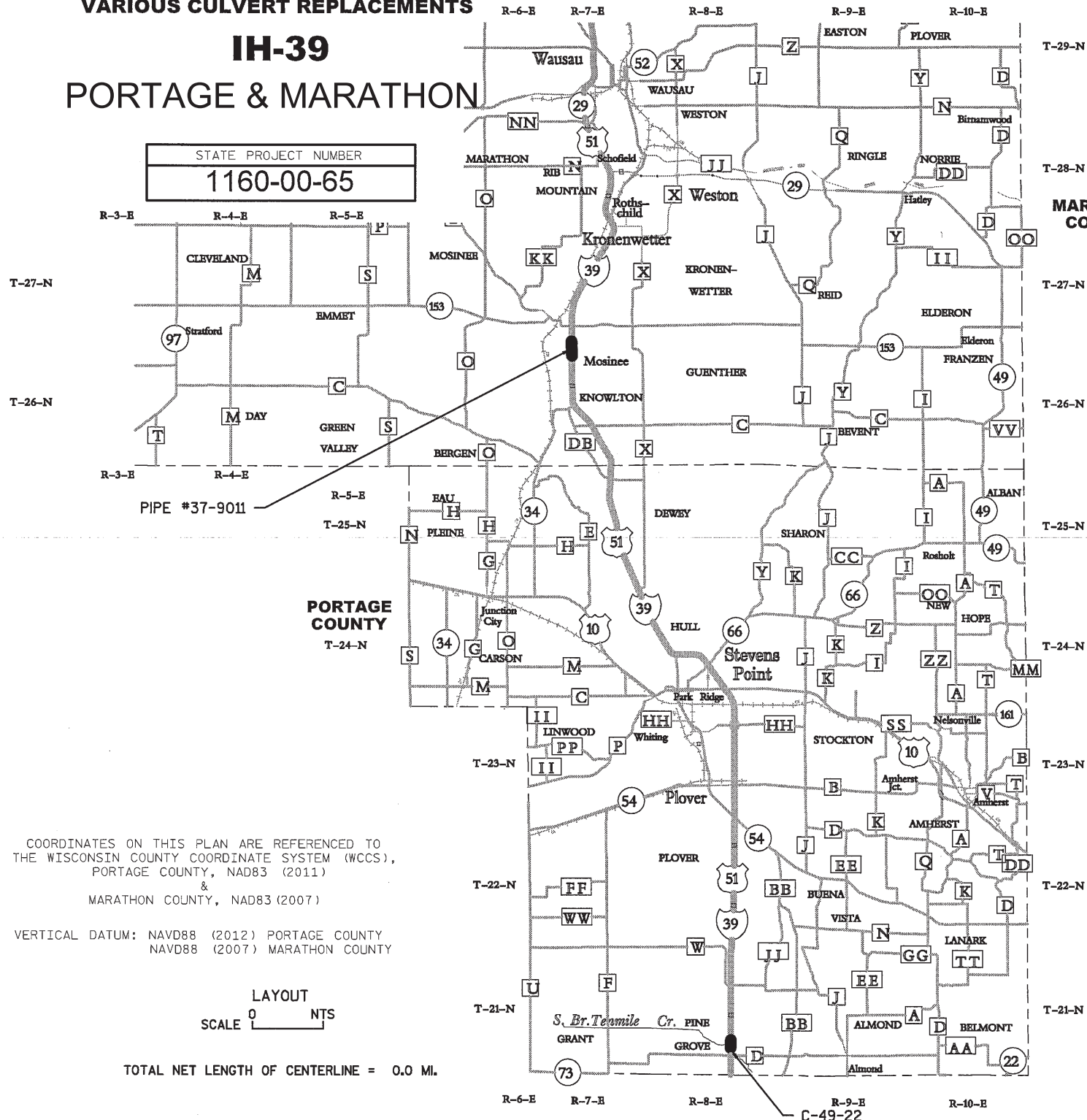
PLAINFIELD - WAUSAU

VARIOUS CULVERT REPLACEMENTS

IH-39

PORTAGE & MARATHON

STATE PROJECT NUMBER
1160-00-65



COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), PORTAGE COUNTY, NAD83 (2011) & MARATHON COUNTY, NAD83 (2007)

VERTICAL DATUM: NAVD88 (2012) PORTAGE COUNTY
NAVD88 (2007) MARATHON COUNTY

LAYOUT
SCALE 0 NTS

TOTAL NET LENGTH OF CENTERLINE = 0.0 MI.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1160-00-65		

ORIGINAL PLANS PREPARED BY
R.A. Smith National
Beyond Surveying and Engineering
www.rasmithnational.com



1/25/2016 (Date)
Brad E. Severson (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	R.A. SMITH NATIONAL
Surveyor	R.A. SMITH NATIONAL
Designer	JED PETERS
Project Manager	CHERYL SIMON
Regional Examiner	ROBIN STAFFORD
Regional Supervisor	

APPROVED FOR THE DEPARTMENT
DATE: 1/26/2016
J.P.P. (Signature)

PROJECT ID: 1160-00-65 WITH: N/A

COUNTY: PORTAGE & MARATHON

GENERAL NOTES

- 1 THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS IN THE AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.
- 2 SEE SUBSURFACE EXPLORATION REPORTS FOR SOIL BORING INFORMATION. REPORTS ARE AVAILABLE FROM THE WISDOT NC REGION BY CONTACTING JED PETERS, PROJECT MANAGER, PHONE (715) 365-5731.
- 3 HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

THICKNESS	LAYERS	MIX SPECIFICATIONS
7.5-INCH	ONE 2" UPPER LAYER TWO 2.75" LOWER LAYERS	4 MT 58-28 S 3 MT 58-28 S
3.5-INCH SHOULDERS	ONE 3.5" UPPER LAYER	4 MT 58-28 S

- 4 WHEN THE QUANTITY OF ITEMS OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- 5 STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE.

ORDER OF SECTION 2 SHEETS

- Project Overview
- Typical Sections
- Construction Details
- Erosion Control Plan
- Signing / Pavement Marking Plan
- Traffic Control / Construction Staging Plan

UTILITY CONTACTS

WAYNE CRETTON
 PACKERLAND BROADBAND - COMMUNICATION LINE
 105 KENT ST
 P.O. BOX 190
 IRON MOUNTAIN, MI 49801
 (906) 282-3768
 wayne.cretton@plbb.us

MICHAEL ALLAN BOSI
 WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
 1700 SHERMAN STREET
 WAUSAU, WI 54402
 (715) 848-7471
 MABosi@wisconsinpublicservice.com

DENNIS RUESS
 WINDSTREAM KDL, INC. - COMMUNICATION LINE
 13935 BISHOPS DRIVE
 BROOKFIELD, WI 53005
 (812) 456-1249
 dennis.ruess@windstream.com

CLAYTON VIRCKS
 WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY
 P.O. BOX 1166
 WAUSAU, WI 54402
 (715) 848-7317
 chvircks@wisconsinpublicservice.com

DNR LIAISON (ALL COUNTIES)

WIS DNR
 473 GRIFFITH AVE
 WISCONSIN RAPIDS, WI 54494
 MARC HERSHFIELD
 (715) 421-7867
 Marc.Hershfield@wisconsin.gov

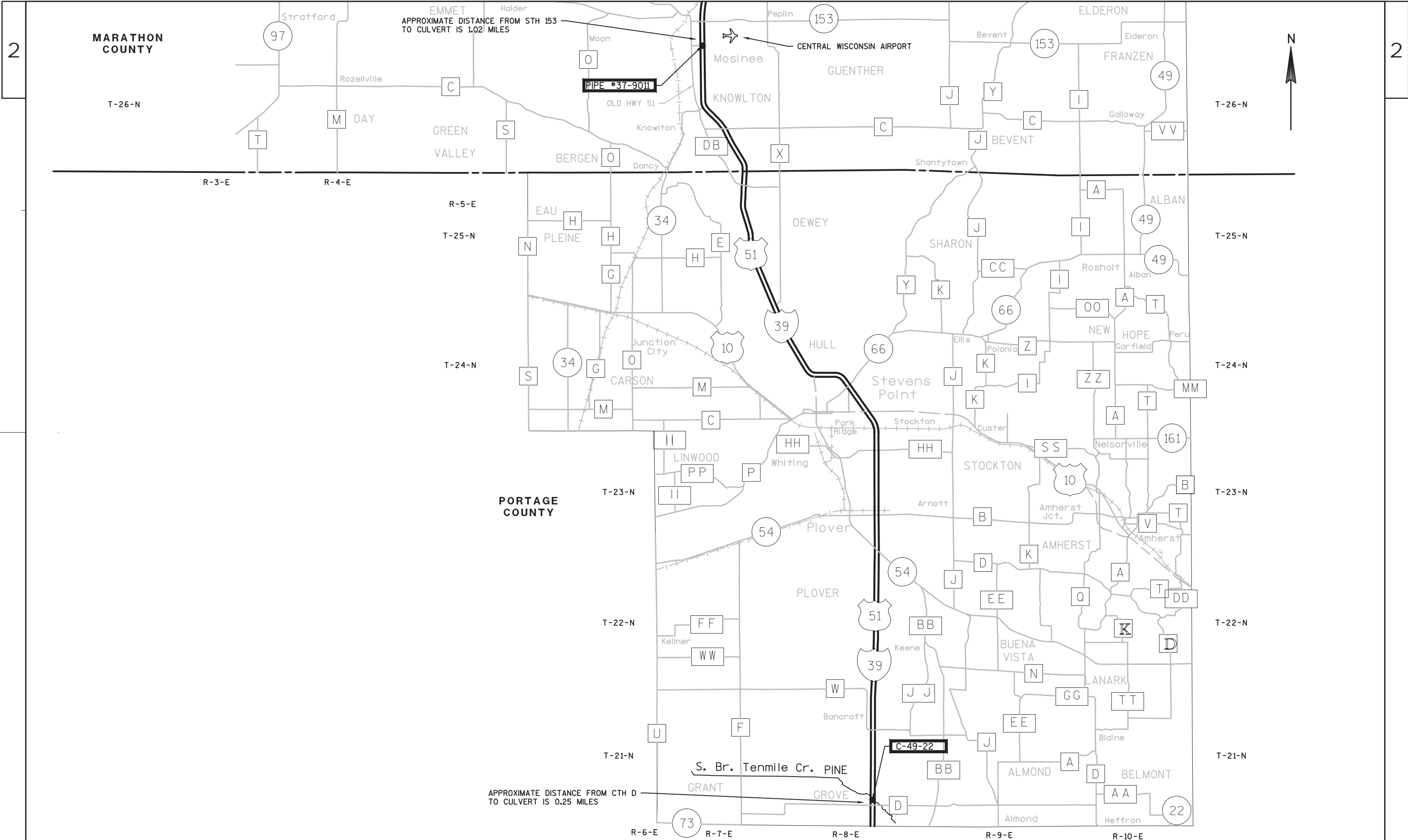
STEVE JAKUBIEC
 MOSINEE TELEPHONE COMPANY D/B/A TDS TELECOM
 SUITE 218A
 10 COLLEGE AVE
 APPLETON, WI 54911
 (920) 882-4166
 steve.jakubiec@tdstelecom.com

JAMES OLSON
 CENTRAL WISCONSIN AIRPORT DIRECTOR
 OF OPERATIONS AND MAINTENANCE
 200 CWA DRIVE
 MOSINEE, WI 54455

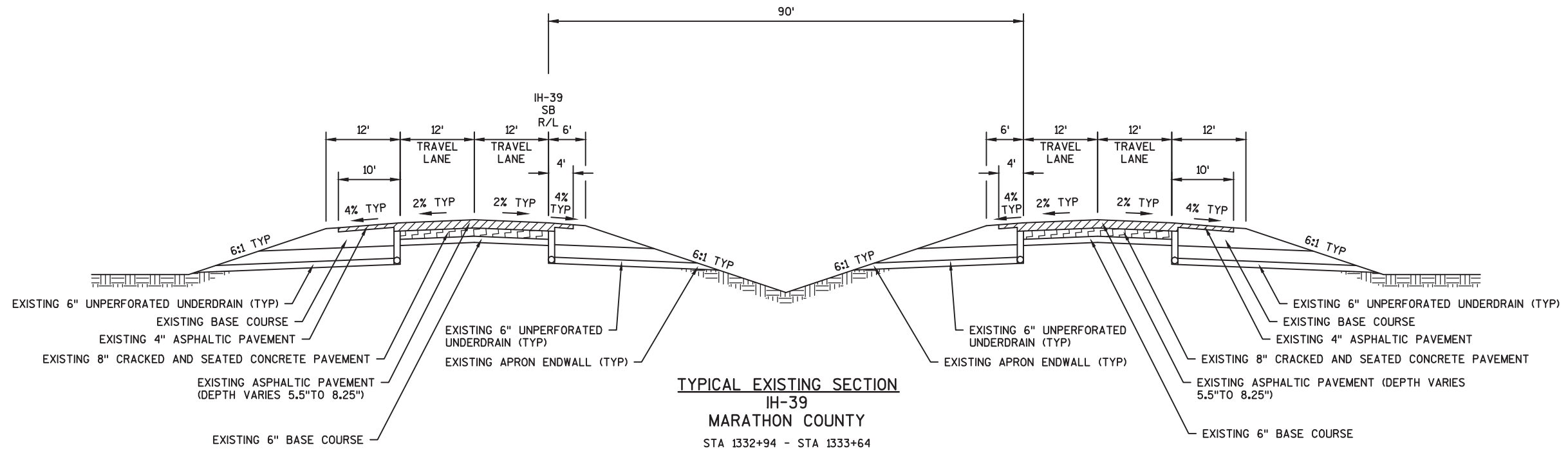
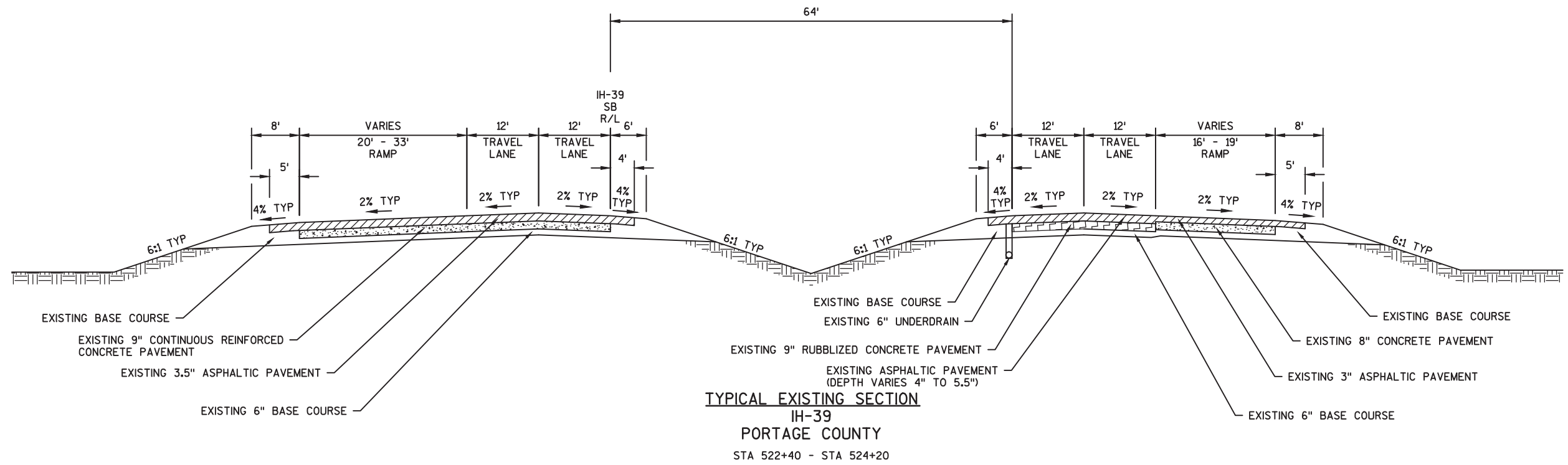
DESIGNER CONTACT

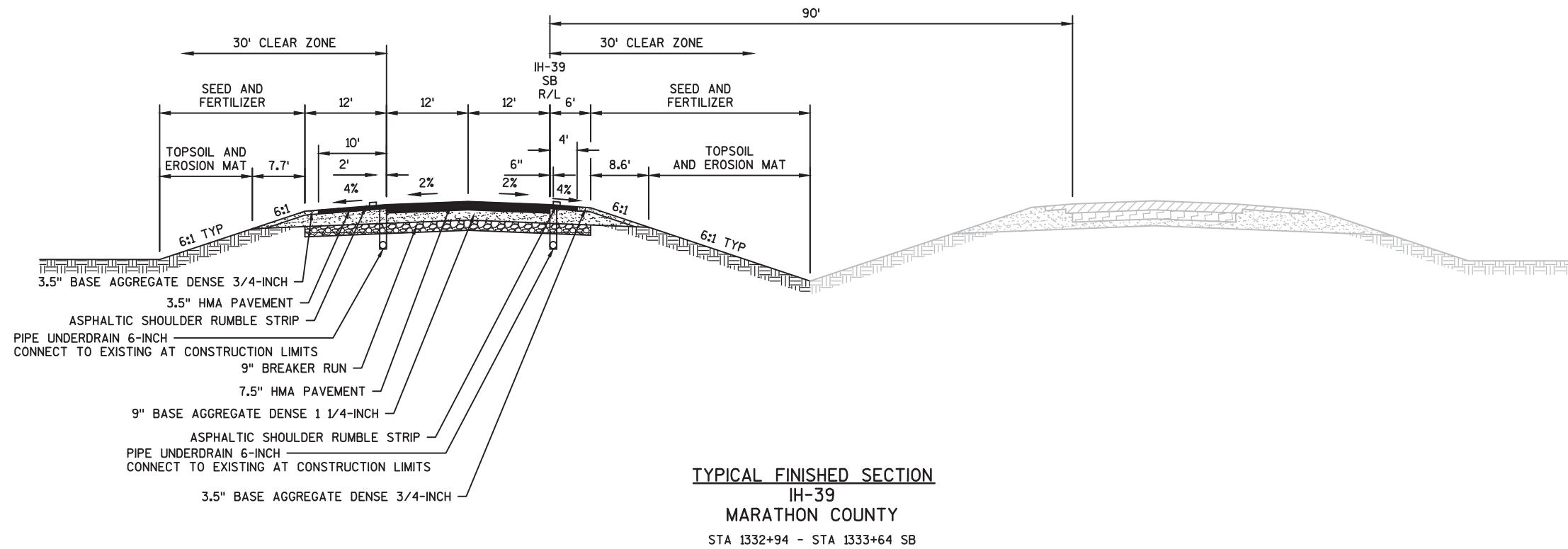
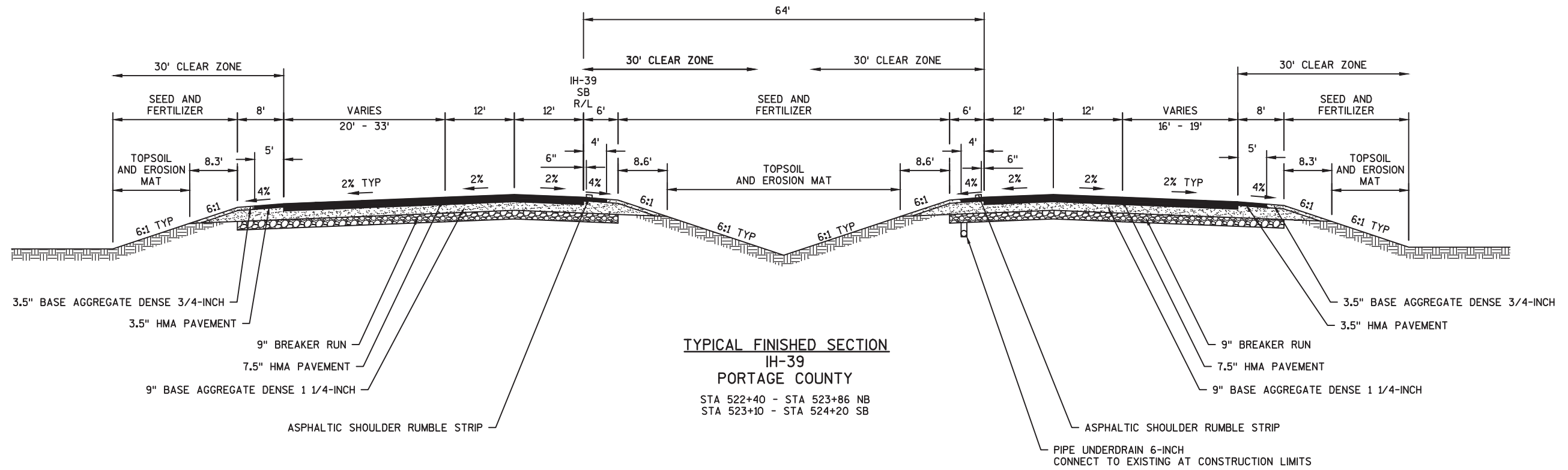
MR. BRAD SEVERSON, P.E.
 R.A.SMITH NATIONAL, INC
 100 WEST LAWRENCE STREET, SUITE 412
 APPLETON, WI 54911
 (920) 731-8397, EXT. 3410
 brad.severson@rasmithnational.com

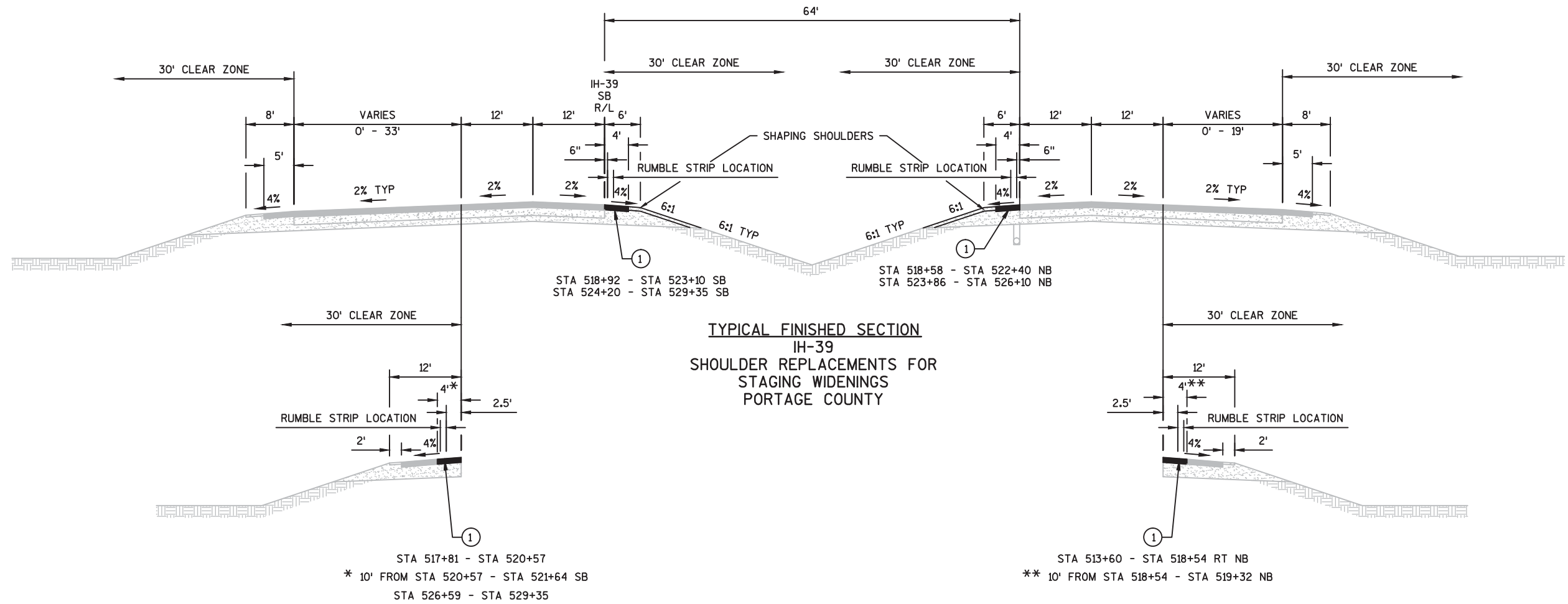




PROJECT NO: 1160-00-65	HWY: IH-39	COUNTY: VARIOUS	PROJECT OVERVIEW	SCALE, FEET ⁰ NTS	SHEET	E
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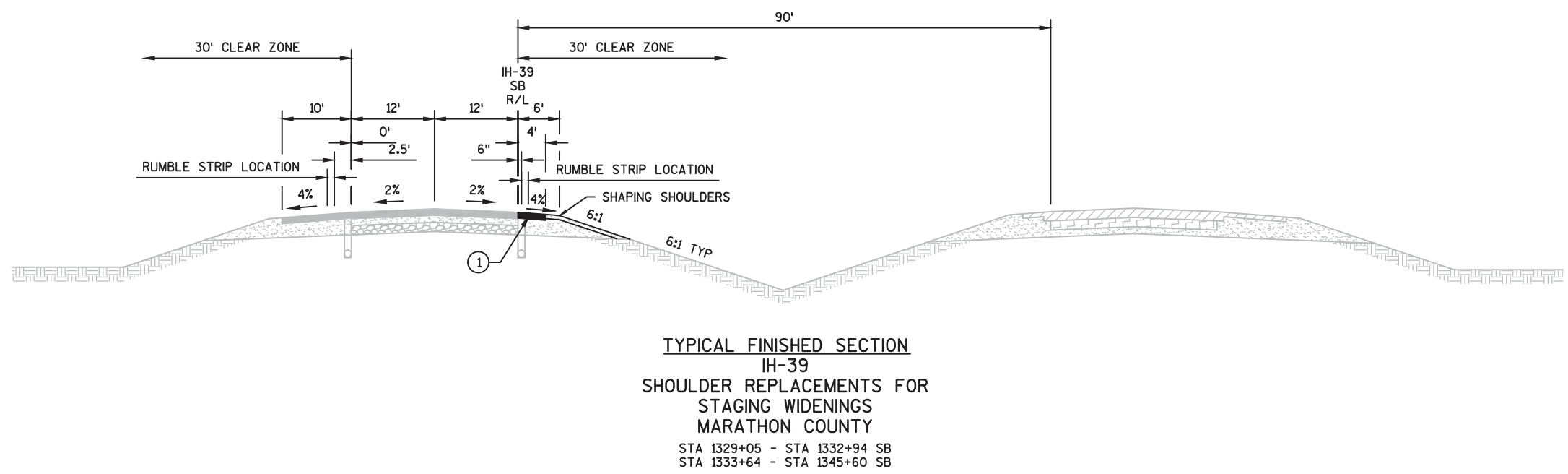


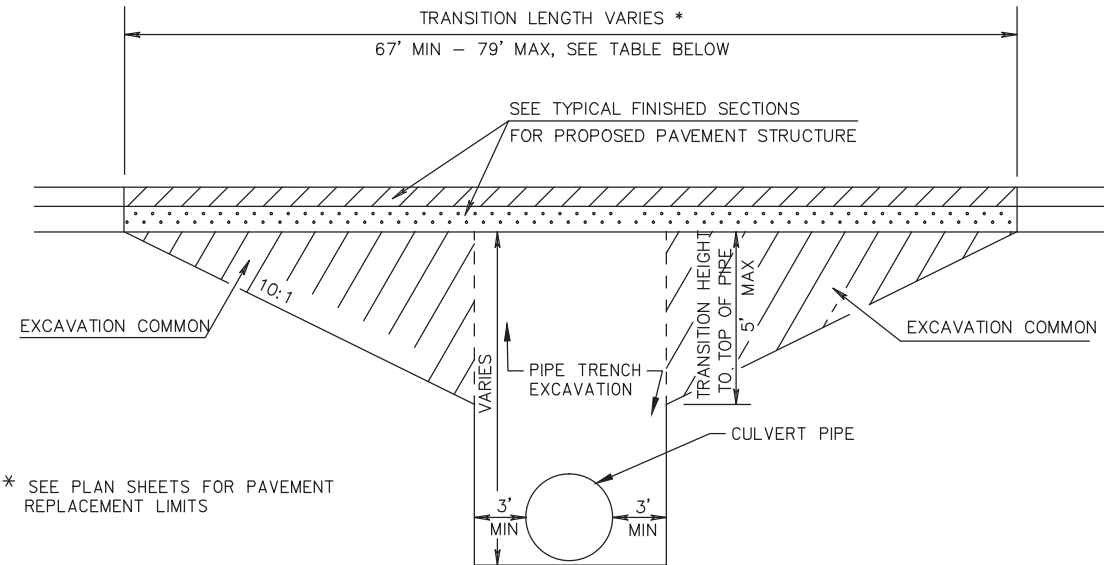




① FILL EXISTING RUMBLE STRIPS PRIOR TO SHIFTING TRAFFIC ONTO THE SHOULDERS.

AFTER TRAFFIC IS REMOVED FROM THE SHOULDER, REMOVE ASPHALTIC SURFACE MILLING TO A DEPTH OF 3.5", WIDTH OF 4' AND OVERLAY WITH 3.5" OF HMA PAVEMENT. PLACE ASPHALTIC SHOULDER RUMBLE STRIPS. SEE SDD "ASPHALTIC SHOULDER RUMBLE STRIP MILLING".





* SEE PLAN SHEETS FOR PAVEMENT REPLACEMENT LIMITS

CULVERT PIPE TRANSITION DETAIL

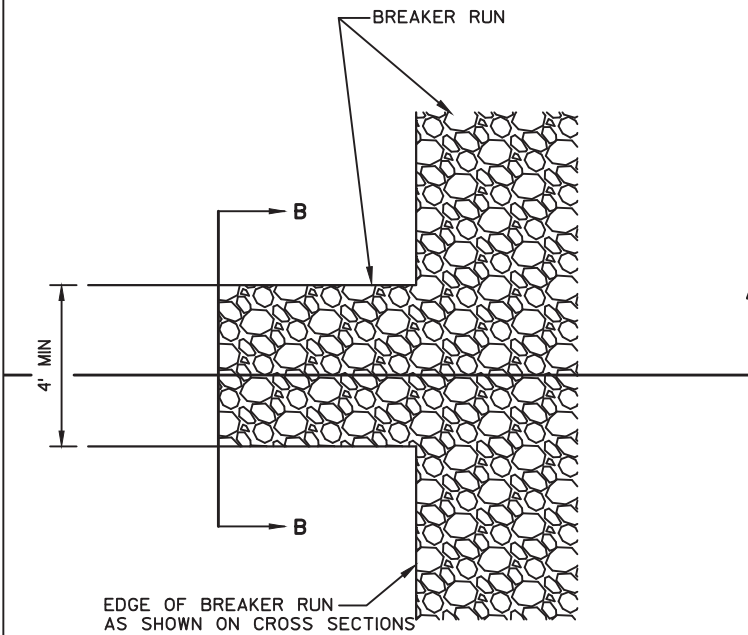
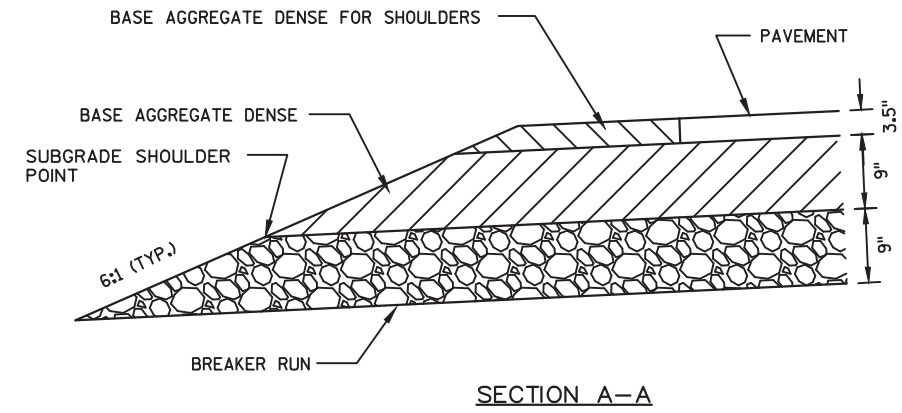
NOTES: MATERIAL REMOVED IN THE TRANSITION CUT AND PIPE TRENCH EXCAVATIONS TO BE REUSED AS BACKFILL UNLESS DETERMINED TO BE UNUSABLE BY THE ENGINEER IN WHICH CASE STRUCTURE BACKFILL WILL BE USED.

TRENCH EXCAVATION IS CONSIDERED INCIDENTAL TO INSTALLATION. TRANSITION CUT WILL BE PAID AS EXCAVATION COMMON.

RESTORE WITH TOPSOIL, TEMPORARY SEED, FERTILIZER AND EROSION MAT.

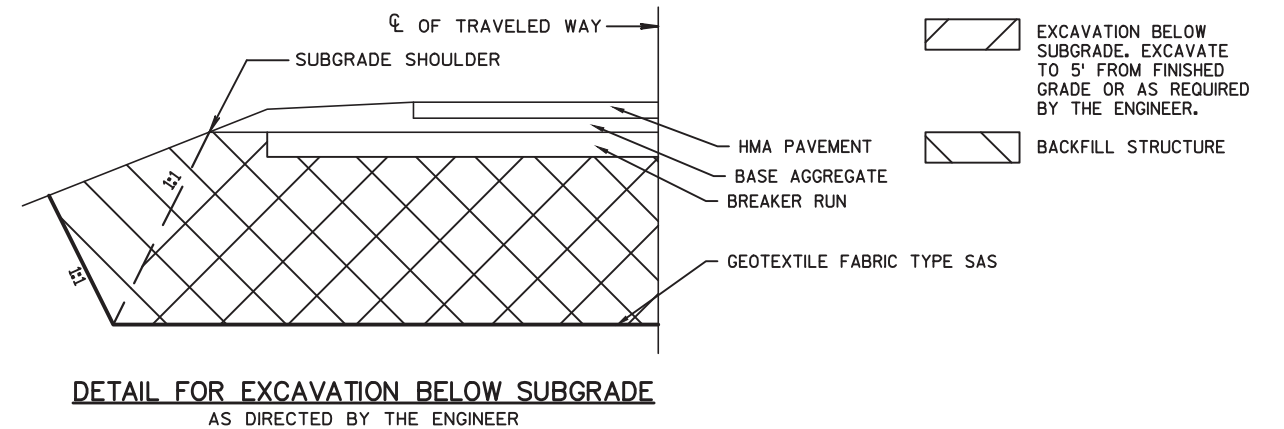
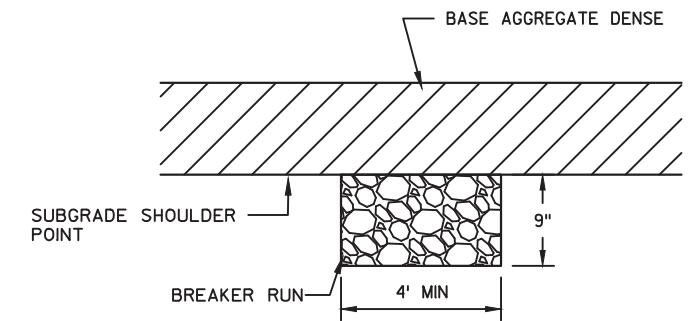
LAYOUT OF TRANSITION LIMIT IS CONSIDERED INCIDENTAL TO SAWING.

CULVERT NO	LOCATION	EXISTING SIZE	PROPOSED SIZE	ROAD CROWN TO TOP OF PIPE, FT	TRANSITION HEIGHT, FT	TRANSITION LENGTH, FT	TRANSITION WIDTH, FT
C-49-22	IH-39 NB PORTAGE COUNTY S BRANCH TENMILE CREEK	2-60"	2-58X91-INCH	3.8'	2.3'	73'	VARIES 58' - 62'
C-49-22	IH-39 SB PORTAGE COUNTY S BRANCH TENMILE CREEK	2-60"	2-58X91-INCH	4.1'	2.6'	79'	VARIES 56' - 71'
C-37-9011	IH-39 SB MARATHON COUNTY	1-42"/72"	42-INCH	4.5'	2.8'	67'	42'

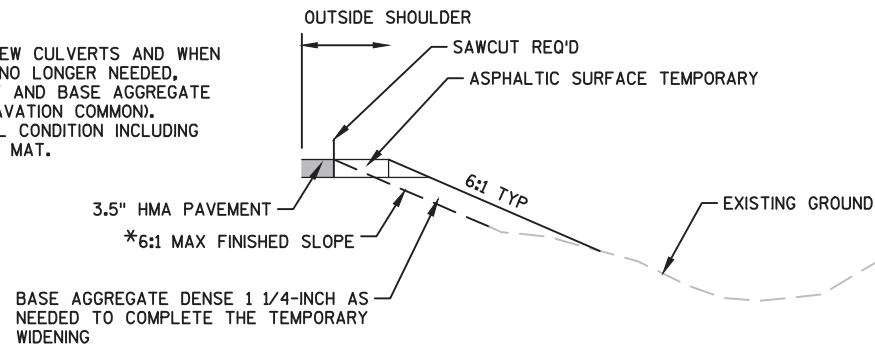


DETAIL FOR SUBGRADE DRAIN

CONSTRUCT DRAINS AT STA 524+20 SB AND AT STA 523+86 NB IN PORTAGE COUNTY AND AT STA 1332+94 IN MARATHON COUNTY

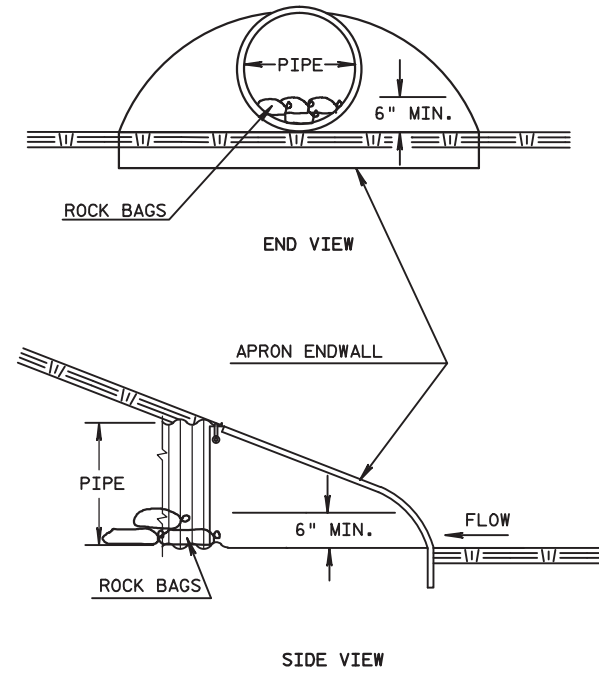


* UPON COMPLETION OF PLACING THE NEW CULVERTS AND WHEN THE TEMPORARY SHOULDER WIDENING IS NO LONGER NEEDED, REMOVE ASPHALTIC SURFACE TEMPORARY AND BASE AGGREGATE 1 1/4-INCH MATERIAL (PAID FOR AS EXCAVATION COMMON). RESTORE OUTSIDE SHOULDER TO ORIGINAL CONDITION INCLUDING TOPSOIL, SEED, FERTILIZER AND EROSION MAT.



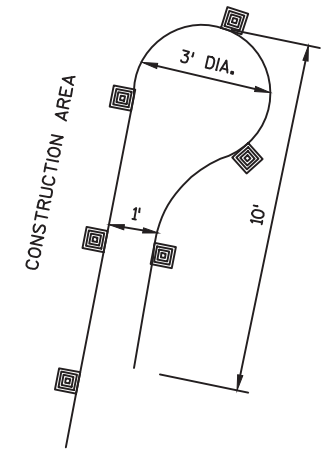
TEMPORARY SHOULDER WIDENING DETAIL

STA 518+92 - STA 529+35 SB PORTAGE CO
 STA 520+13 - STA 524+94 NB PORTAGE CO
 STA 1330+60 - STA 1344+28 SB MARATHON CO



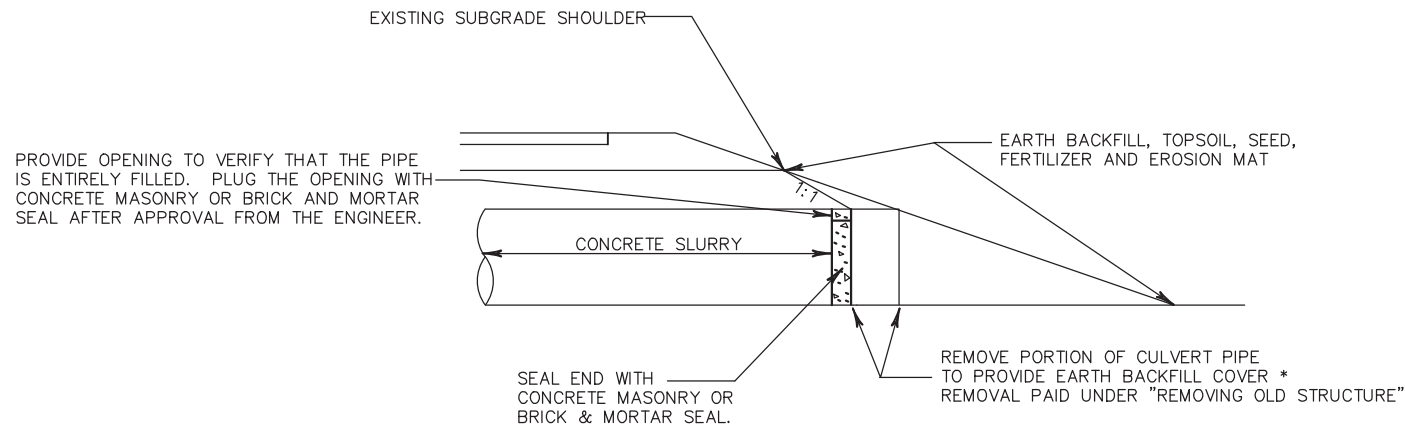
CULVERT PIPE DITCH CHECK

PORTAGE COUNTY
 STA 520+18 LT
 MARATHON COUNTY
 STA 1333+29 LT



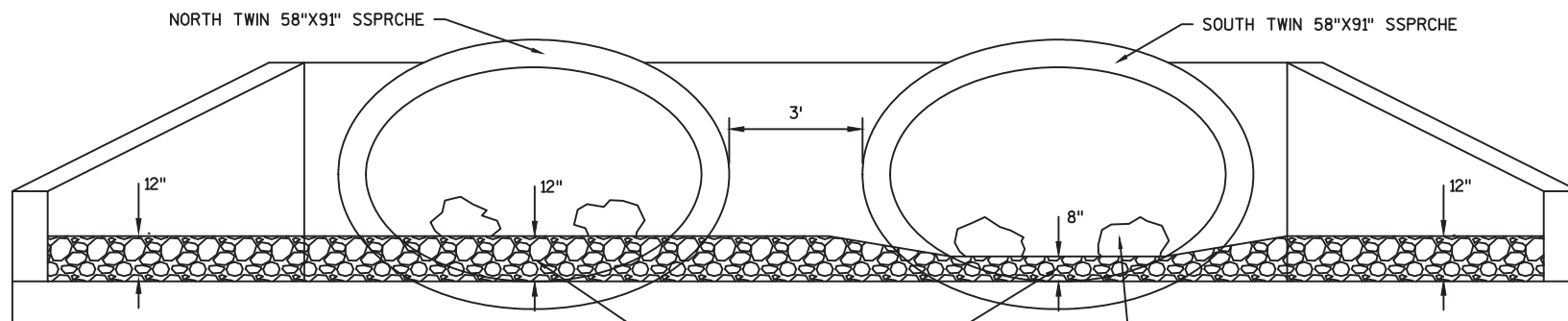
REPTILE EXCLUSION SILT FENCE DETAIL

PORTAGE COUNTY
 SILT FENCE ENDS ADJACENT TO WETLANDS



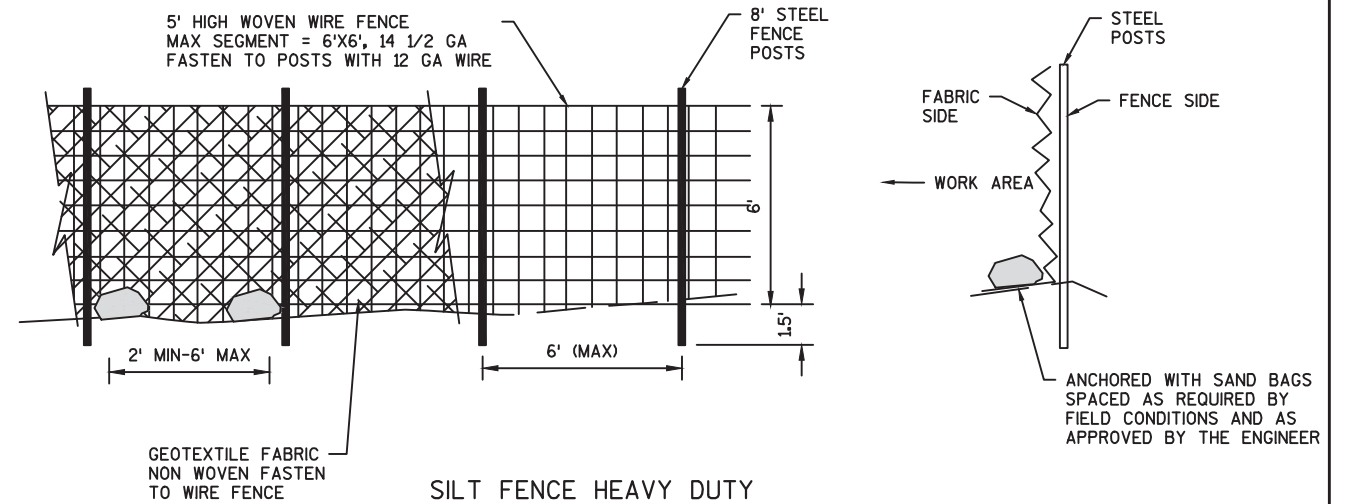
ABANDONING CULVERT PIPES SPECIAL DETAIL

PORTAGE COUNTY
 STA 522+79, 27' RT
 STA 523+37, 77' LT



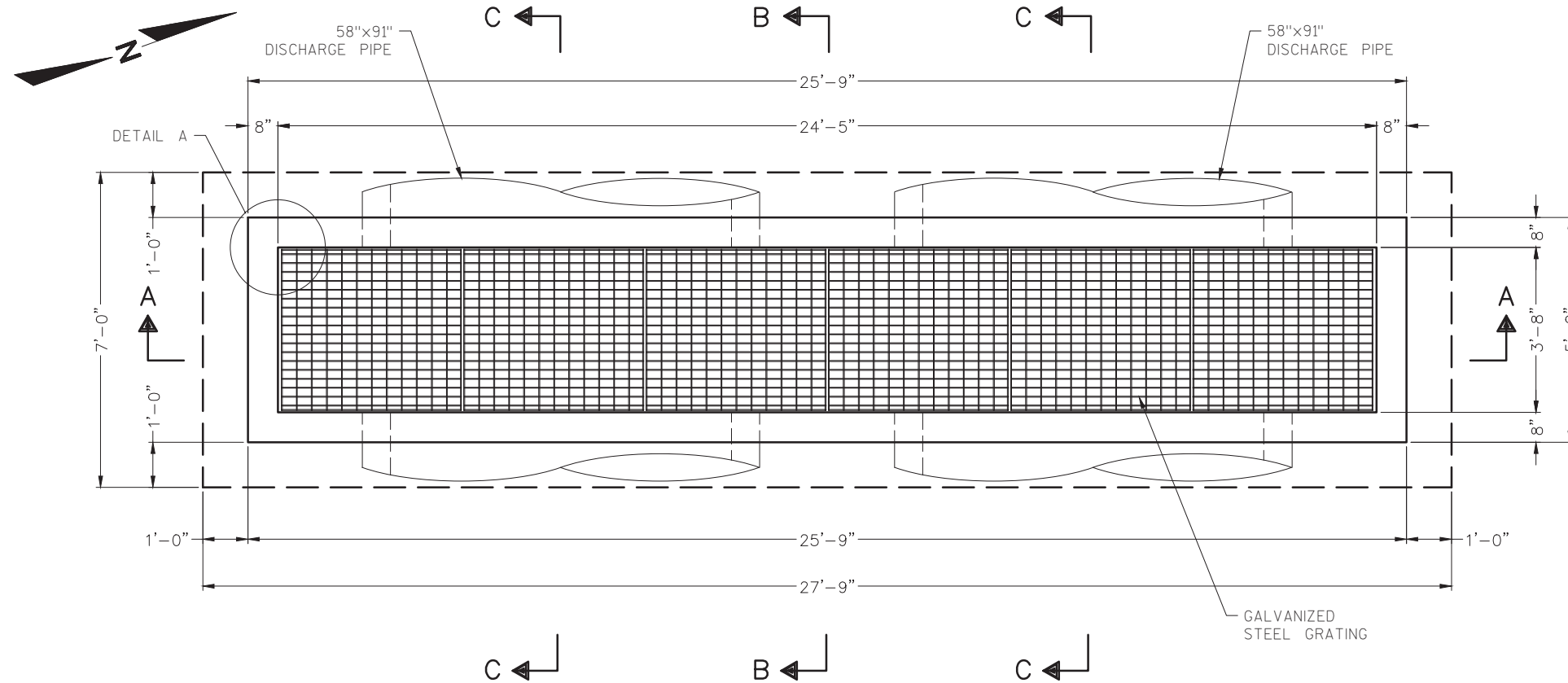
STREAM BED MEDIUM
 S BRANCH TENMILE CREEK

*CONTINUE 8" OR 12" OF STREAM BED MEDIUM THROUGH PIPES, MEDIAN INLET STRUCTURE, AND ON FLAT APRON OF MASONRY ENDWALLS



SILT FENCE HEAVY DUTY

PORTAGE COUNTY
 STA 522+20 - STA 524+06 NB



CAST-IN-PLACE REINFORCED CONCRETE INLET
PLAN

DESIGN DATA

LIVE LOAD:
HS20

MATERIAL PROPERTIES:
 CONCRETE MASONRY ----- $f'_c = 4.0$ KSI
 BAR STEEL REINFORCEMENT --- $f_y = 60.0$ KSI
 STEEL GRATING ----- $f_y = 36.0$ KSI

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

58"x91" DISCHARGE PIPES SHALL NOT BE CONTINUOUS THROUGH INLET. SAW PIPES FLUSH WITH THE INTERIOR FACES OF BOTH WALLS.

THE UPPER LIMITS OF EXCAVATION SHALL BE THE EXISTING GROUND LINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE ELEVATION AND SECTION EXISTING PRIOR TO EXCAVATION WITHIN THE LENGTH OF THE INLET.

STEEL GRATING AND EMBEDDED ANGLE NOTES

STEEL GRATING AND EMBEDDED ANGLE WITH HEADED WELDED STUDS SHALL BE SUPPLIED HOT-DIPPED GALVANIZED.

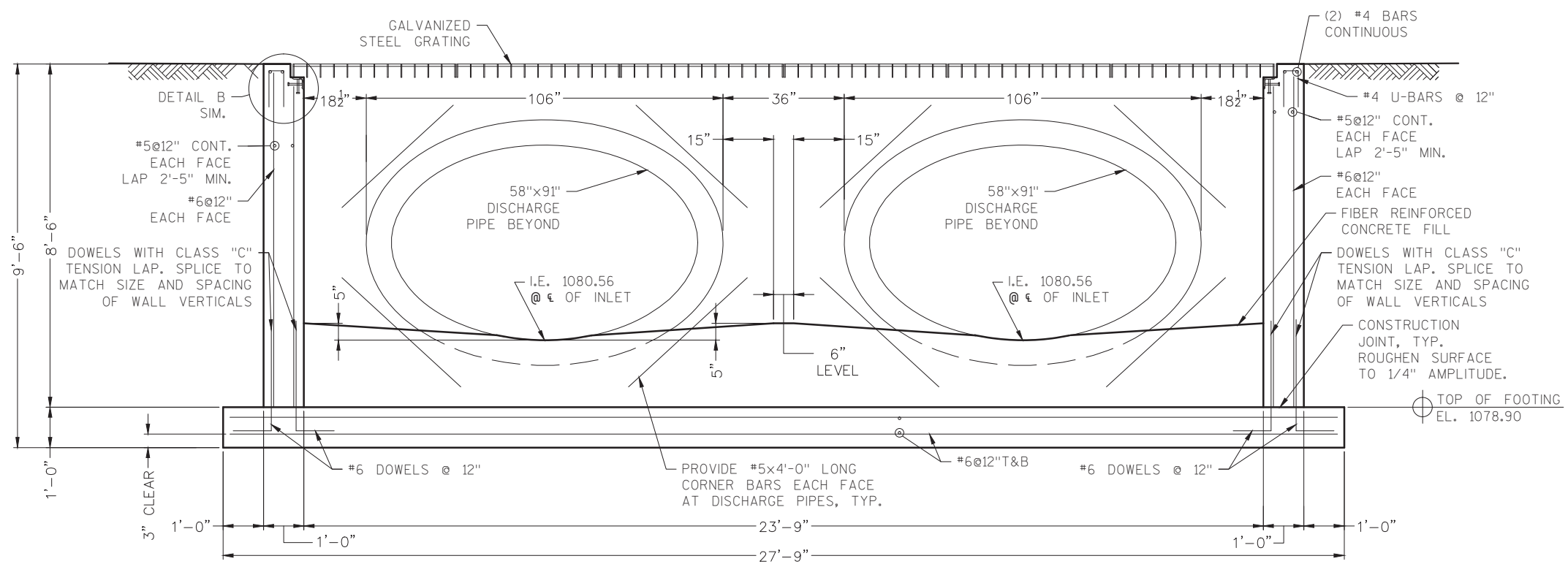
MAXIMUM CLEAR SPAN FOR GRATING EQUALS 3'-0".

STEEL GRATING SHALL SUPPORT AN HS20 TRUCK WITH AN IMPACT FACTOR OF 1.3.

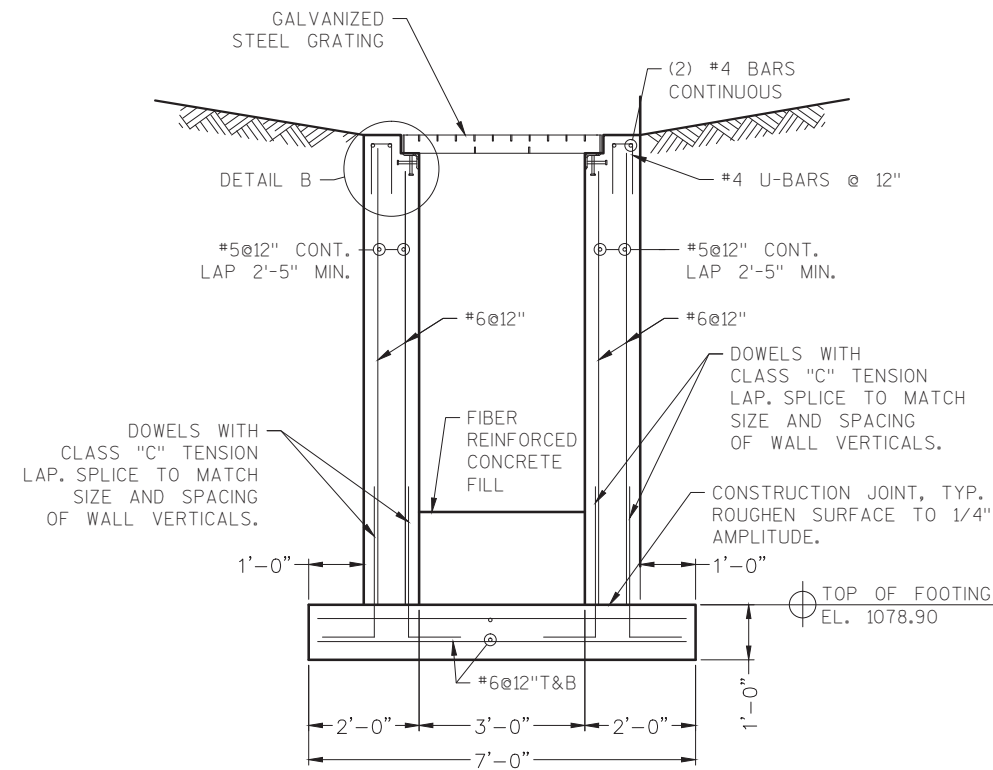
GRATING SHALL BEAR FLUSH ON ANGLES AT ENDS OF BEARING BARS. PROVIDE CLAMP CONNECTION BETWEEN GRATING AND SUPPORTING ANGLES. GRATING SHALL BE REMOVABLE.

PROVIDE SUPPLEMENTARY CROSS BARS AT 1/3 POINTS OF SPANS ON UNDERSIDE OF GRATING.

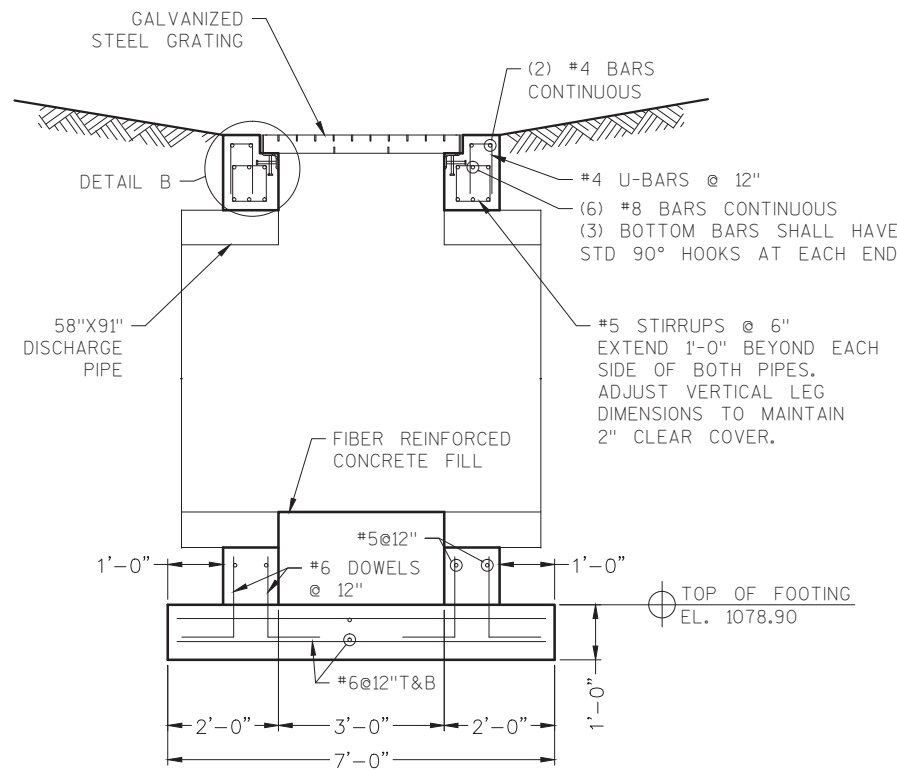
SUPPLY TRIM BANDING AT END OF GRATING PANELS WELDED FLUSH WITH THE TOP OF GRATING 1/4" LESS THAN THE DEPTH OF THE GRATING.



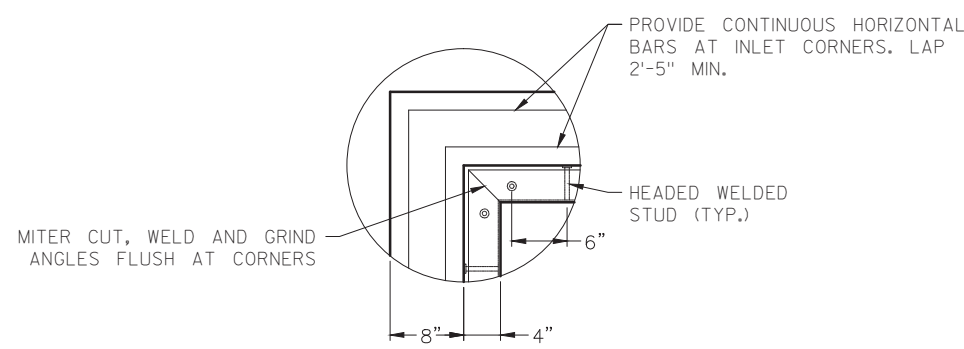
CAST-IN-PLACE REINFORCED CONCRETE INLET
SECTION A-A



CAST-IN-PLACE REINFORCED CONCRETE INLET SECTION B-B

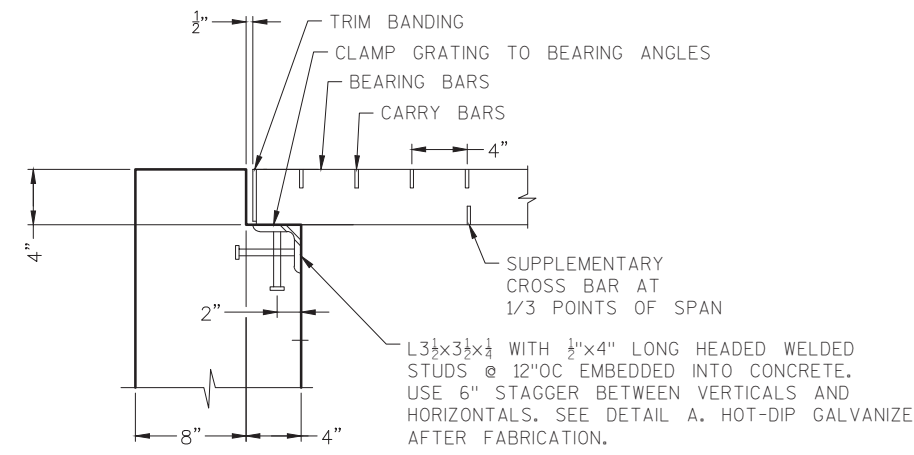


CAST-IN-PLACE REINFORCED CONCRETE INLET SECTION C-C



DETAIL A

DETAIL A NOTES:
STEEL GRATING AND VERTICAL REINFORCING NOT SHOWN FOR CLARITY.



DETAIL B

DETAIL B NOTES:
REINFORCING STEEL NOT SHOWN FOR CLARITY.

STEEL GRATING IS ROTATED ABOUT VERTICAL LINE 90° AT SIM.

DESIGN DATA

LIVE LOAD:
HS20

MATERIAL PROPERTIES:

CONCRETE MASONRY ----- $f'_c = 4.0$ KSI
BAR STEEL REINFORCEMENT --- $f_y = 60.0$ KSI

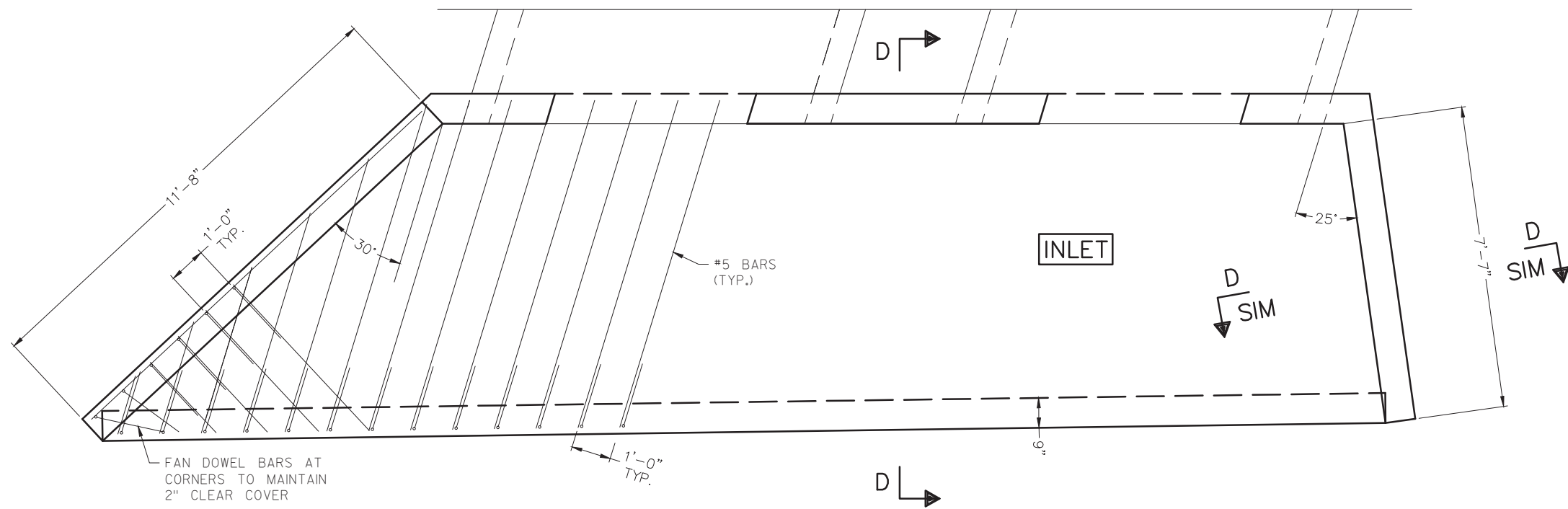
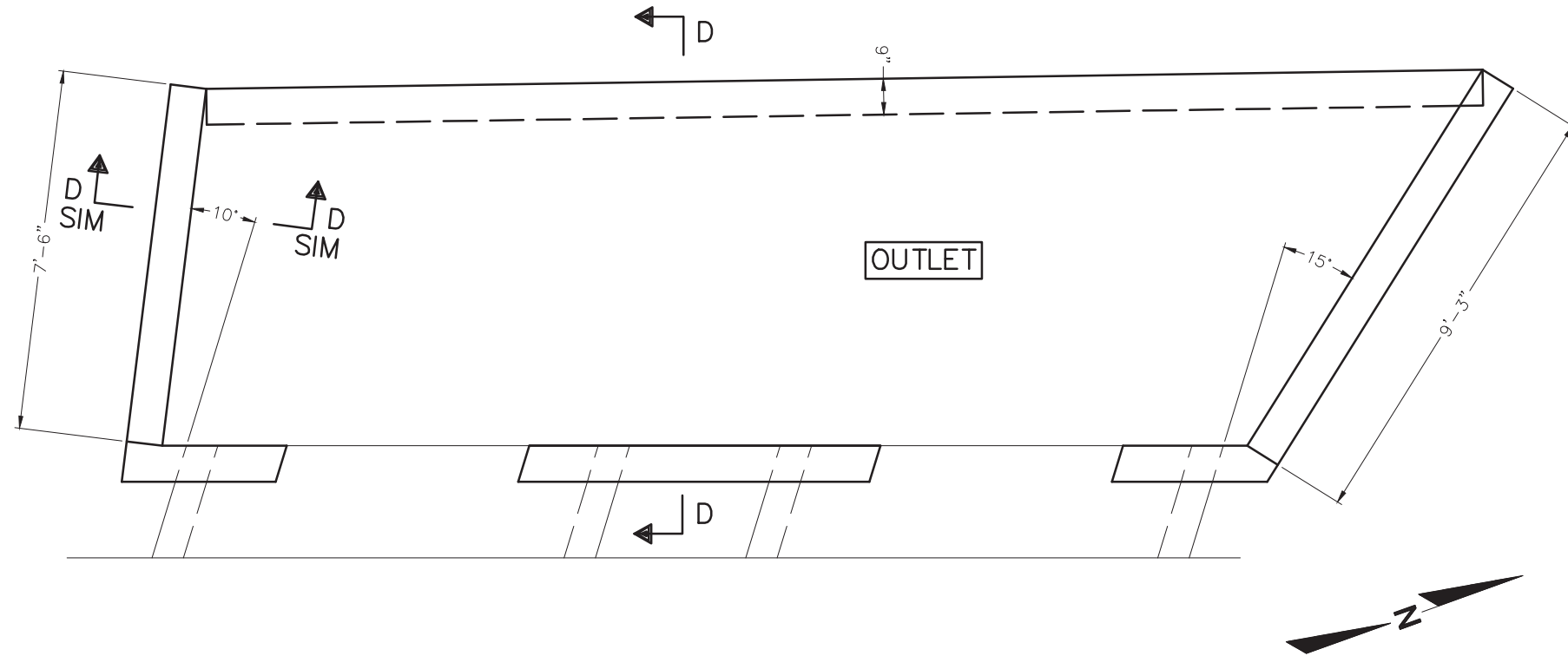
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

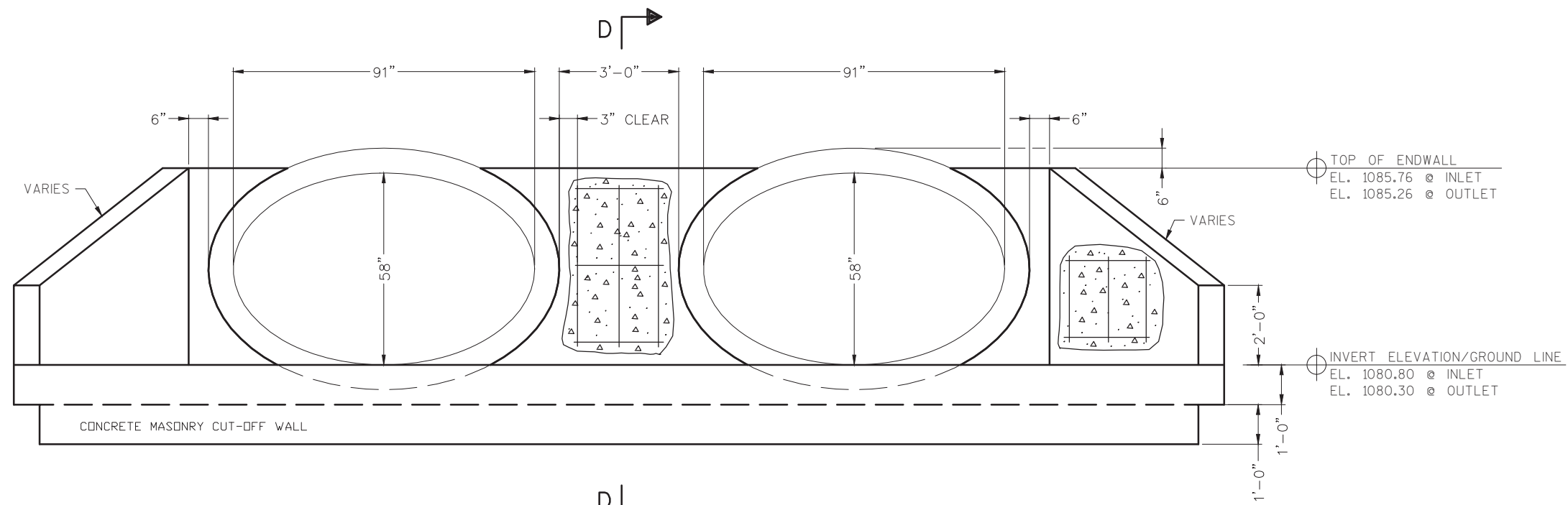
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED
2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE UPPER LIMITS OF EXCAVATION SHALL BE THE
EXISTING GROUND LINE.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE
NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE
BACKFILL TO THE ELEVATION AND SECTION EXISTING PRIOR
TO EXCAVATION WITHIN THE LENGTH OF THE ENDWALLS.

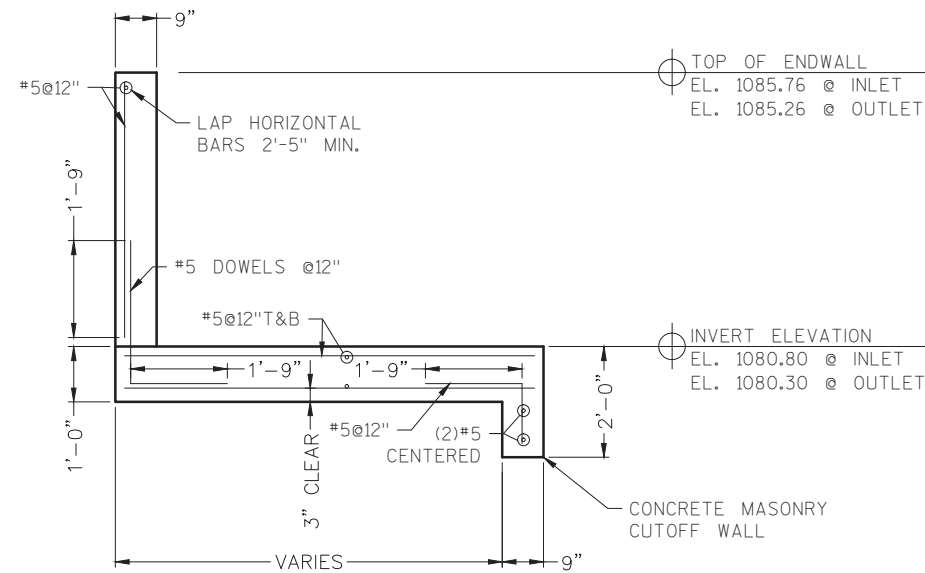


CONCRETE MASONRY ENDWALL
PLANS



CONCRETE MASONRY ENDWALL ELEVATION

REFER TO SHEET 1 FOR DESIGN DATA AND GENERAL NOTES.



CONCRETE MASONRY ENDWALL SECTION D-D

SECTION D-D NOTES:
NO CUTOFF WALL AT SIM.

RUNOFF COEFFICIENT TABLE

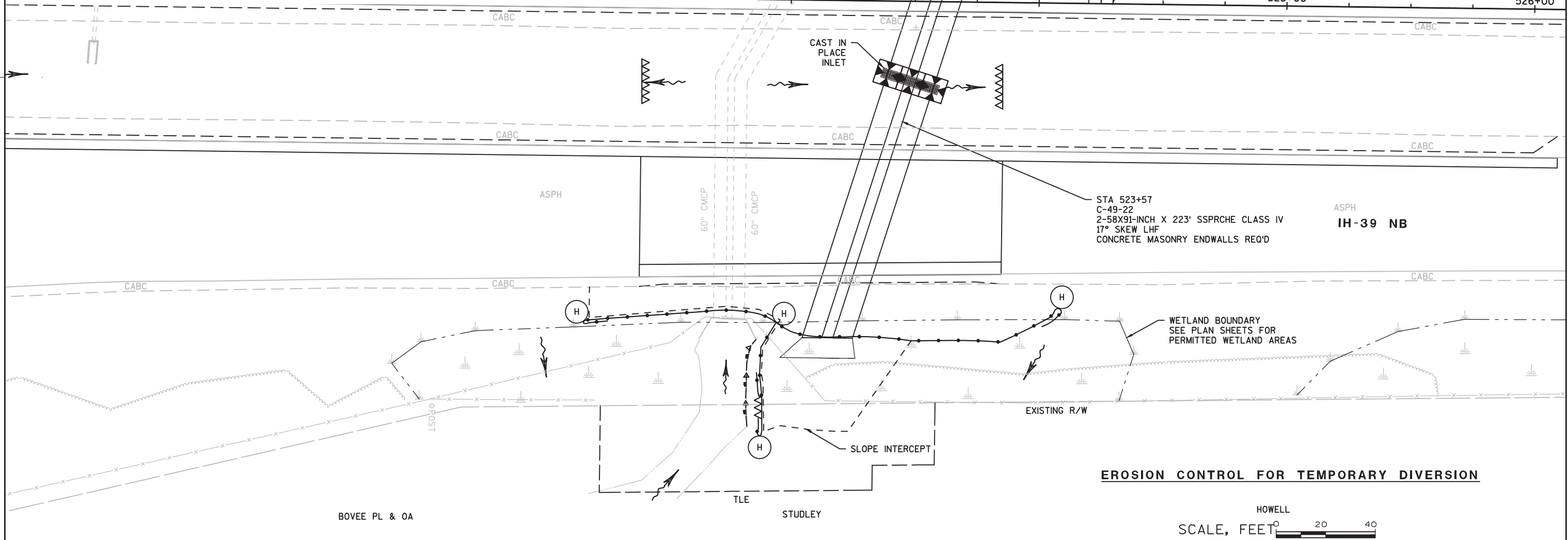
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

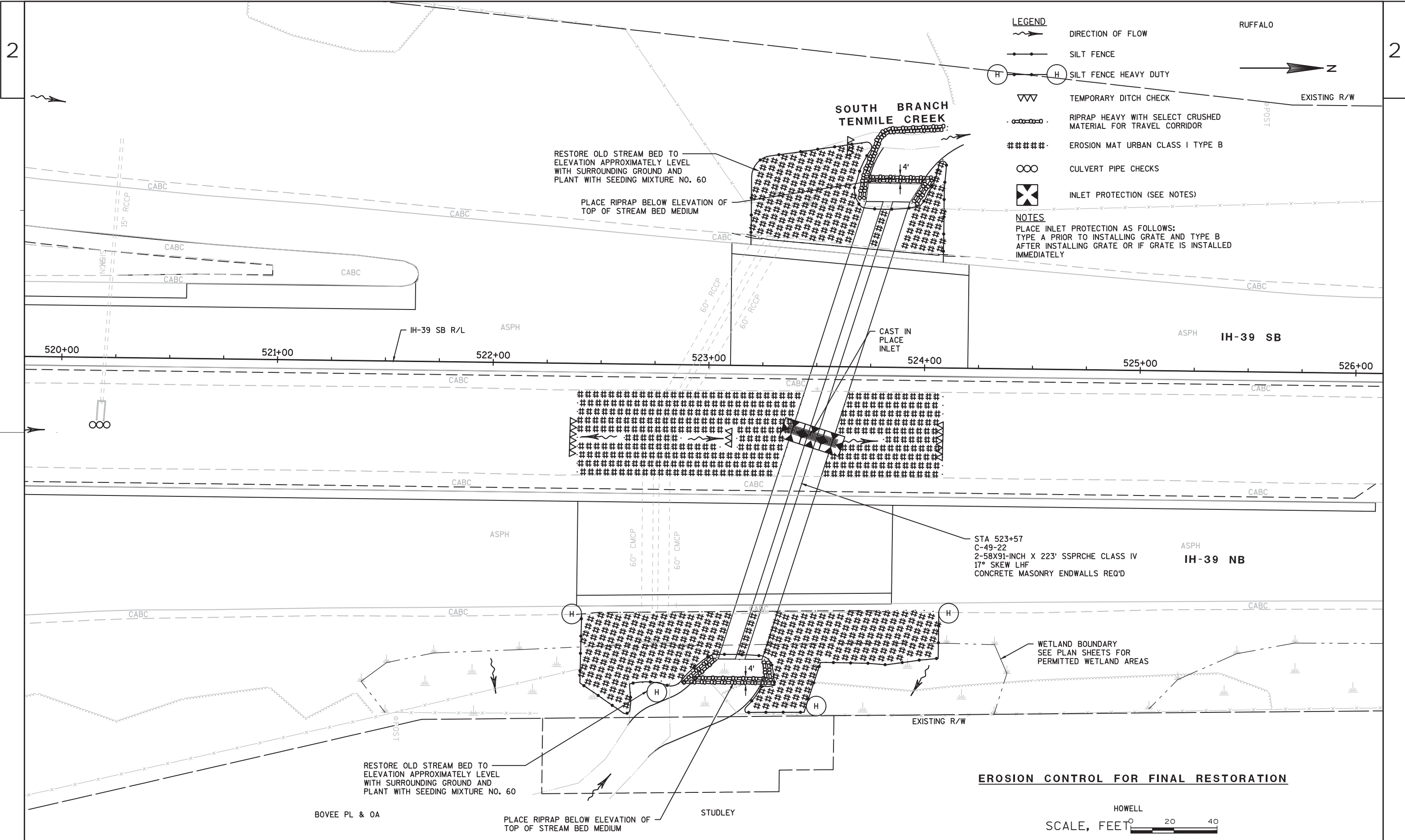
TOTAL PROJECT AREA = 14.1 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.8 ACRES

LEGEND





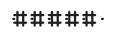


- DIRECTION OF FLOW
- SILT FENCE
- SILT FENCE HEAVY DUTY
- TEMPORARY DITCH CHECK
- EROSION MAT URBAN CLASS I TYPE B
- TURBIDITY BARRIER
- CULVERT PIPE CHECKS
- INLET PROTECTION (SEE NOTES)

NOTES
 PLACE INLET PROTECTION AS FOLLOWS:
 TYPE A PRIOR TO INSTALLING GRATE AND TYPE B AFTER INSTALLING GRATE OR IF GRATE IS INSTALLED IMMEDIATELY





NOTES
 EXISTING R/W SHOWN FROM GIS DATA PROVIDED BY PORTAGE COUNTY
 PLACE INLET PROTECTION AS FOLLOWS:
 TYPE A PRIOR TO INSTALLING GRATE AND TYPE B AFTER INSTALLING GRATE OR IF GRATE IS INSTALLED IMMEDIATELY

- LEGEND**
-  DIRECTION OF FLOW
 -   SILT FENCE HEAVY DUTY
 -  TEMPORARY DITCH CHECK
 -  EROSION MAT URBAN CLASS I TYPE B
 -  CULVERT PIPE CHECKS
 -  INLET PROTECTION (SEE NOTES)

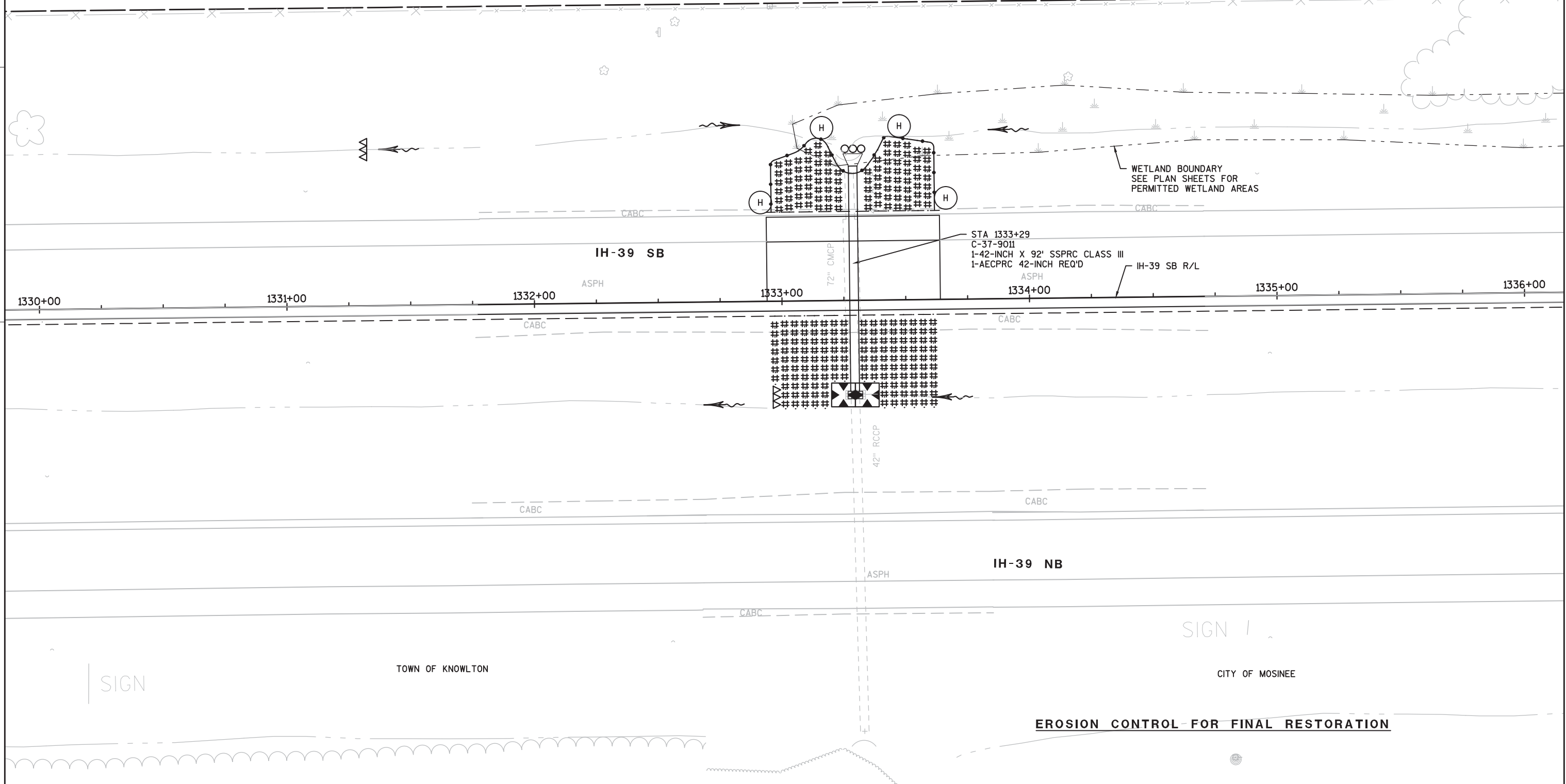
GANSER

SIGN

BIRD LANE

DUPUIS FARM LLC

EXISTING R/W



1330+00

1331+00

1332+00






1333+00

1334+00







1335+00

1336+00

SIGNING LEGEND

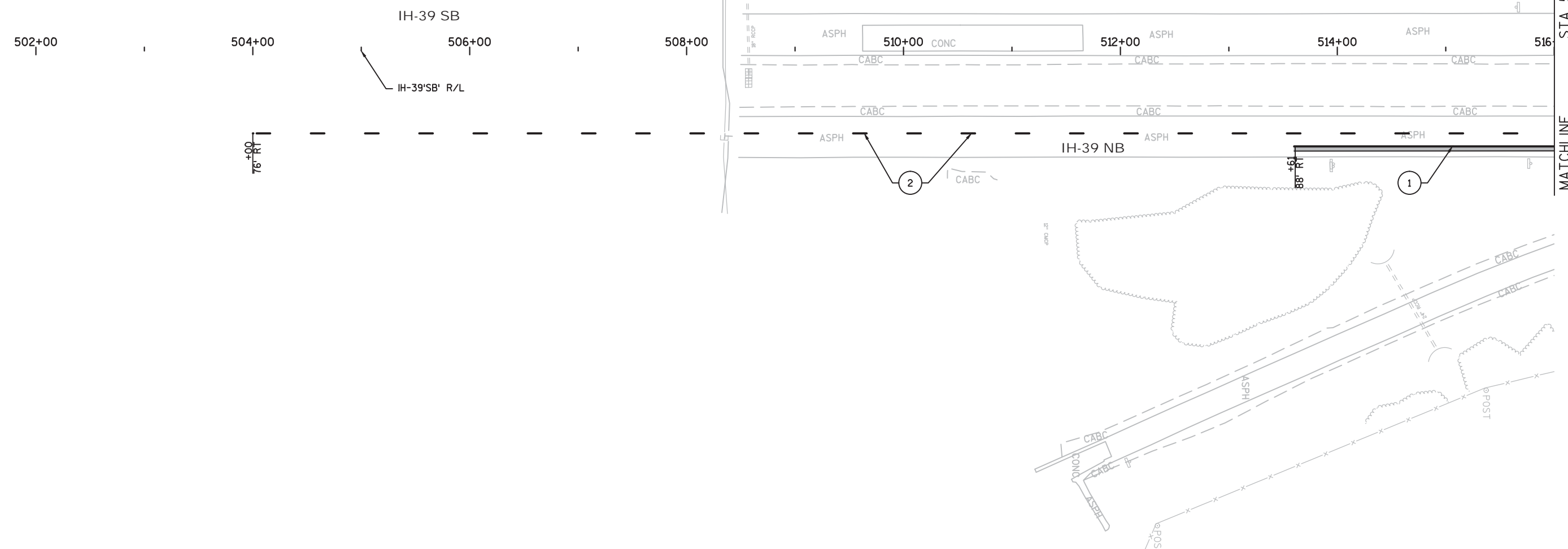
-  PROPOSED SIGN MOUNTED ON WOOD POST(S)
-  SIGN NUMBER
-  SIGN NUMBER, REMOVE
-  DOUBLE DELINEATOR (WHITE)
-  MARKER POST, FLEXIBLE

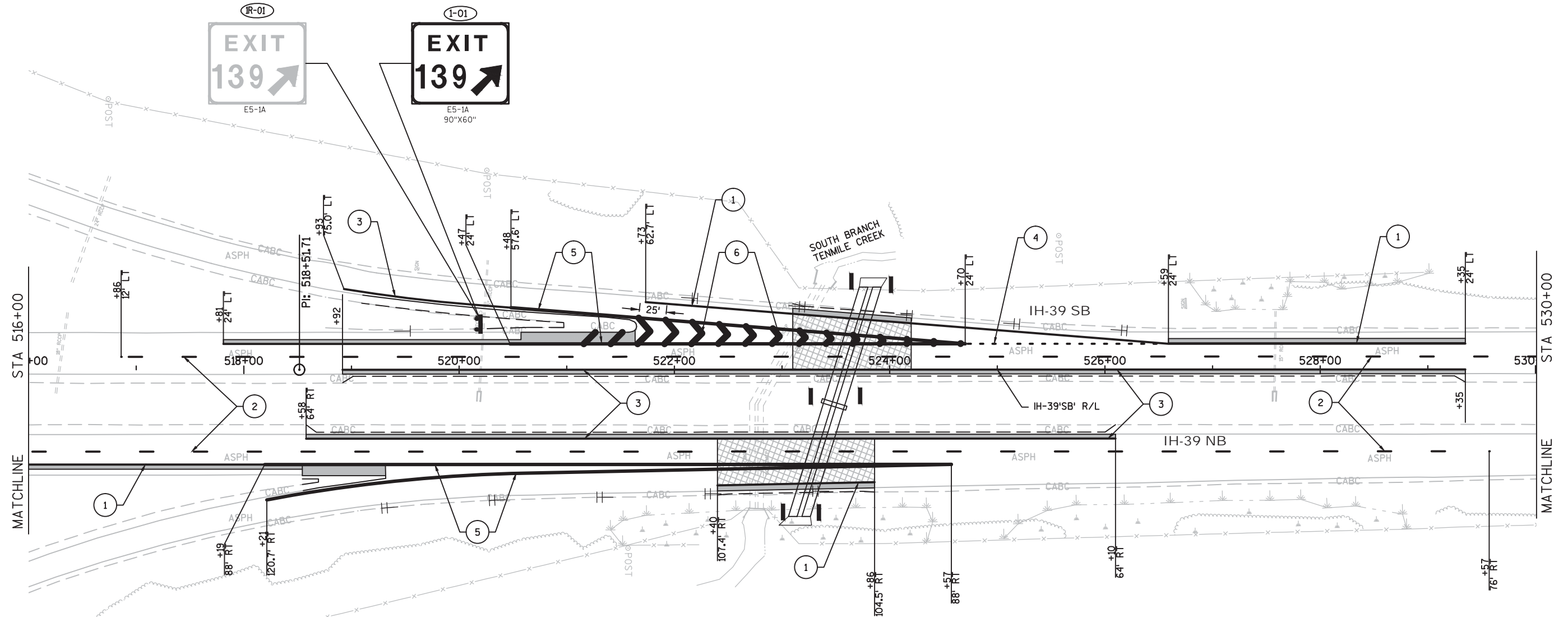
PAVEMENT MARKING LEGEND

-  1 EPOXY 4-INCH (WHITE)
-  2 SAME DAY EPOXY (WHITE) (12.5' LINE, 37.5' GAP)
-  3 EPOXY 4-INCH (YELLOW)
-  4 EPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)
-  5 GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
-  6 EPOXY 24-INCH (WHITE)

NOTE:

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATION SHALL BE PLACE IN ACCORDANCE TO DETAILS AND THE MUTCD.





SIGNING LEGEND

- PROPOSED SIGN MOUNTED ON WOOD POST(S)
- SIGN NUMBER
- SIGN NUMBER, REMOVE
- DOUBLE DELINEATOR (WHITE)
- SINGLE DELINEATOR (WHITE)
- MARKER POST, FLEXIBLE






PAVEMENT MARKING LEGEND

- 1 EPOXY 4-INCH (WHITE)
- 2 SAME DAY EPOXY (WHITE) (12.5' LINE, 37.5' GAP)
- 3 EPOXY 4-INCH (YELLOW)
- 4 EPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)
- 5 GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
- 6 EPOXY 24-INCH (WHITE)







NOTE:

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATION SHALL BE PLACE IN ACCORDANCE TO DETAILS AND THE MUTCD.

SIGNING LEGEND

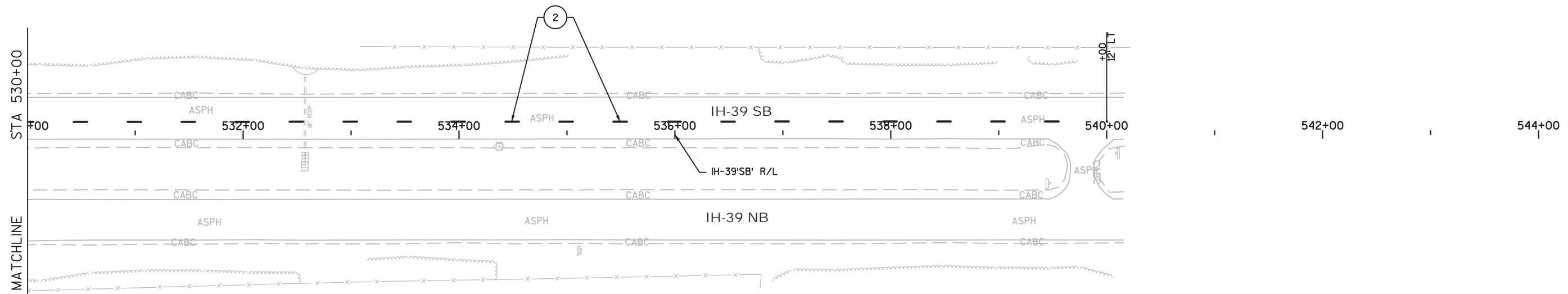
-  PROPOSED SIGN MOUNTED ON WOOD POST(S)
-  SIGN NUMBER
-  SIGN NUMBER, REMOVE
-  DOUBLE DELINEATOR (WHITE)
-  MARKER POST, FLEXIBLE

PAVEMENT MARKING LEGEND

-  1 EPOXY 4-INCH (WHITE)
-  2 SAME DAY EPOXY (WHITE) (12.5' LINE, 37.5' GAP)
-  3 EPOXY 4-INCH (YELLOW)
-  4 EPOXY 4-INCH (WHITE) (3' LINE, 9' GAP)
-  5 GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
-  6 EPOXY 24-INCH (WHITE)

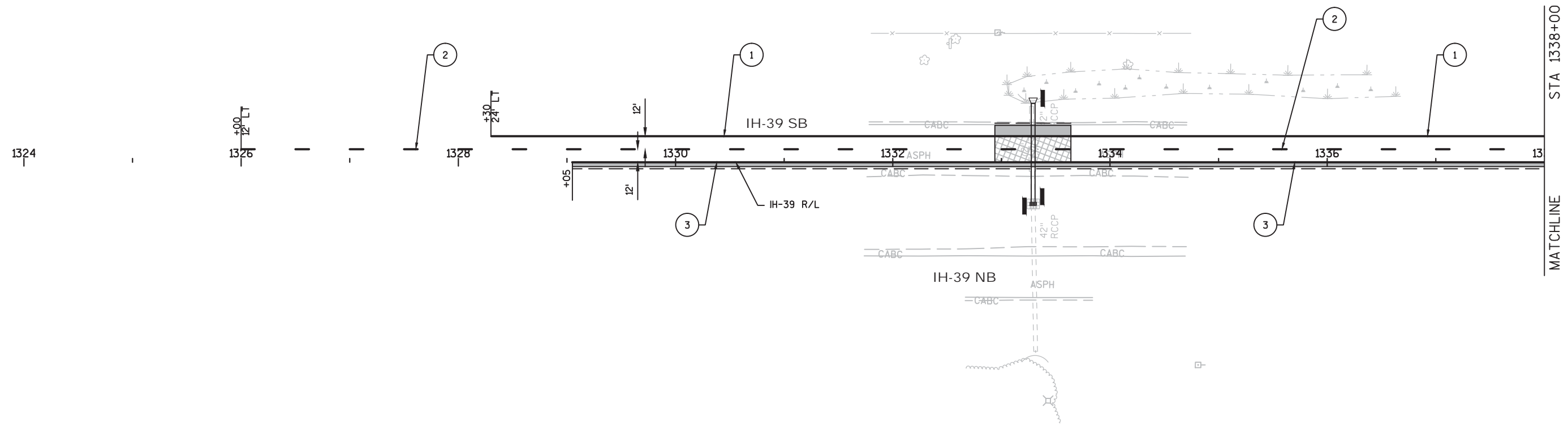
NOTE:

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATION SHALL BE PLACE IN ACCORDANCE TO DETAILS AND THE MUTCD.



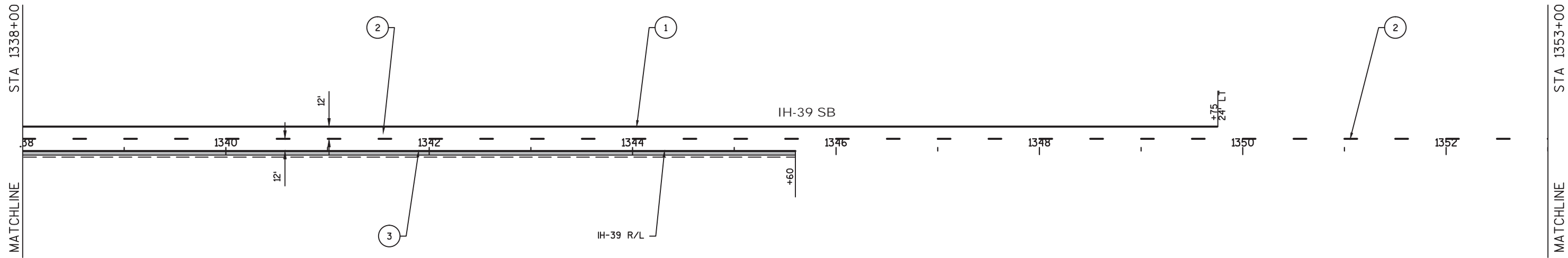
PAVEMENT MARKING LEGEND

- ① EPOXY 4-INCH (WHITE)
- ② GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)
(12.5' LINE, 37.5' GAP)
- ③ EPOXY 4-INCH (YELLOW)
- ▬ MARKER POST, FLEXIBLE



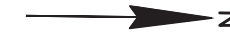
PAVEMENT MARKING LEGEND

- ① EPOXY 4-INCH (WHITE)
- ② GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)
(12.5' LINE, 37.5' GAP)
- ③ EPOXY 4-INCH (YELLOW)
- ▬ MARKER POST, FLEXIBLE



PAVEMENT MARKING LEGEND

- ① EPOXY 4-INCH (WHITE)
- ② GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE)
(12.5' LINE, 37.5' GAP)
- ③ EPOXY 4-INCH (YELLOW)
- ▬ MARKER POST, FLEXIBLE



MATCHLINE

STA 1353+00

1354

IH-39 SB
1356

1358

150
12' LT

1360

1362

1364

1366

1368

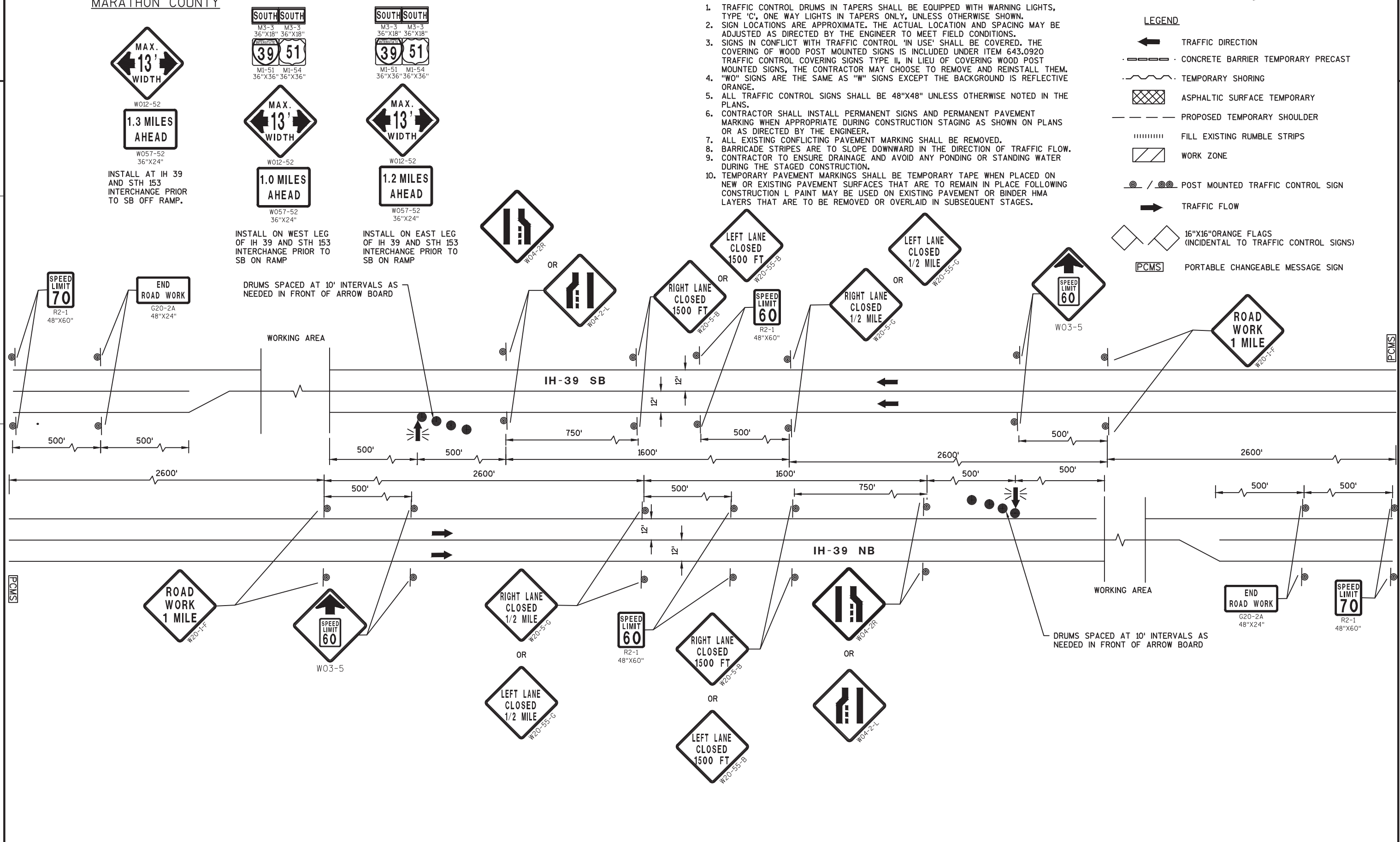
②

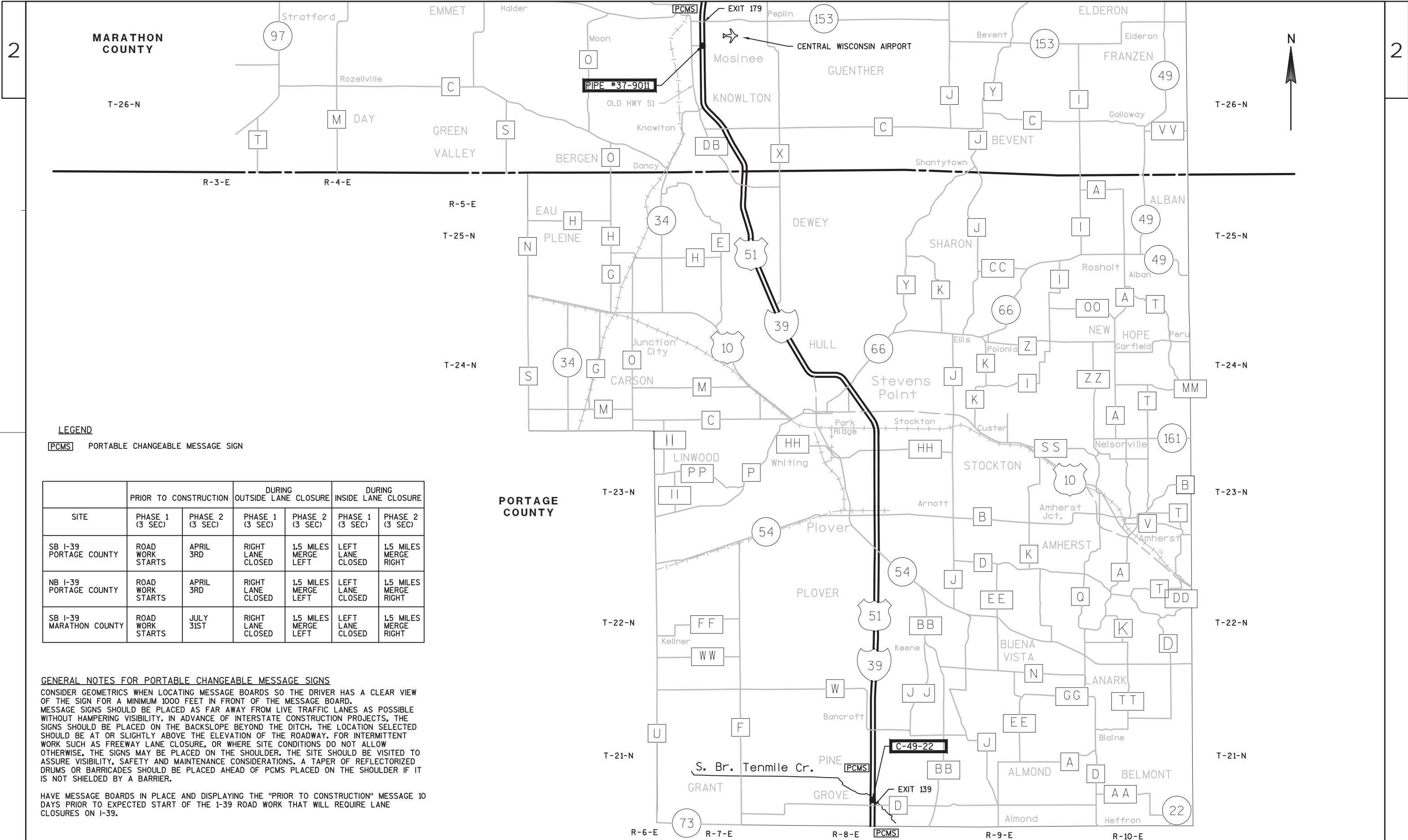
GENERAL NOTES FOR CONSTRUCTION STAGING AND TRAFFIC CONTROL

1. TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE 'C', ONE WAY LIGHTS IN TAPERS ONLY, UNLESS OTHERWISE SHOWN.
2. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
3. SIGNS IN CONFLICT WITH TRAFFIC CONTROL 'IN USE' SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS IS INCLUDED UNDER ITEM 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II, IN LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REINSTALL THEM.
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
5. ALL TRAFFIC CONTROL SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED IN THE PLANS.
6. CONTRACTOR SHALL INSTALL PERMANENT SIGNS AND PERMANENT PAVEMENT MARKING WHEN APPROPRIATE DURING CONSTRUCTION STAGING AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
7. ALL EXISTING CONFLICTING PAVEMENT MARKING SHALL BE REMOVED.
8. BARRICADE STRIPES ARE TO SLOPE DOWNWARD IN THE DIRECTION OF TRAFFIC FLOW.
9. CONTRACTOR TO ENSURE DRAINAGE AND AVOID ANY PONDING OR STANDING WATER DURING THE STAGED CONSTRUCTION.
10. TEMPORARY PAVEMENT MARKINGS SHALL BE TEMPORARY TAPE WHEN PLACED ON NEW OR EXISTING PAVEMENT SURFACES THAT ARE TO REMAIN IN PLACE FOLLOWING CONSTRUCTION L PAINT MAY BE USED ON EXISTING PAVEMENT OR BINDER HMA LAYERS THAT ARE TO BE REMOVED OR OVERLAID IN SUBSEQUENT STAGES.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ / ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC FLOW
- ◇ 16"X16"ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

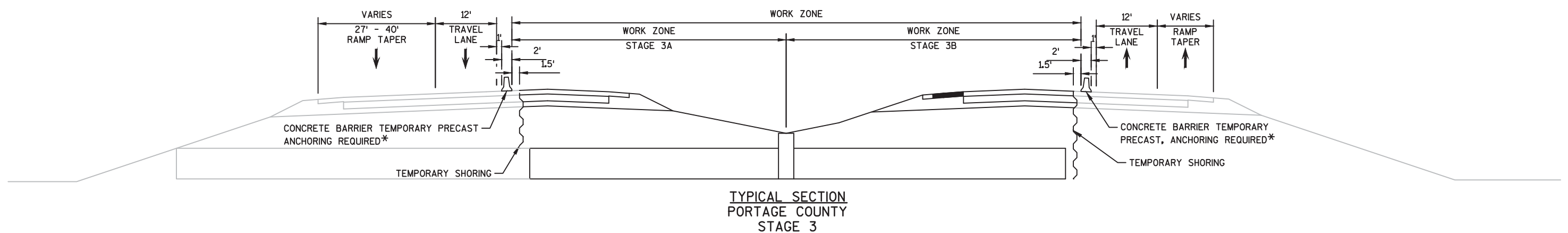
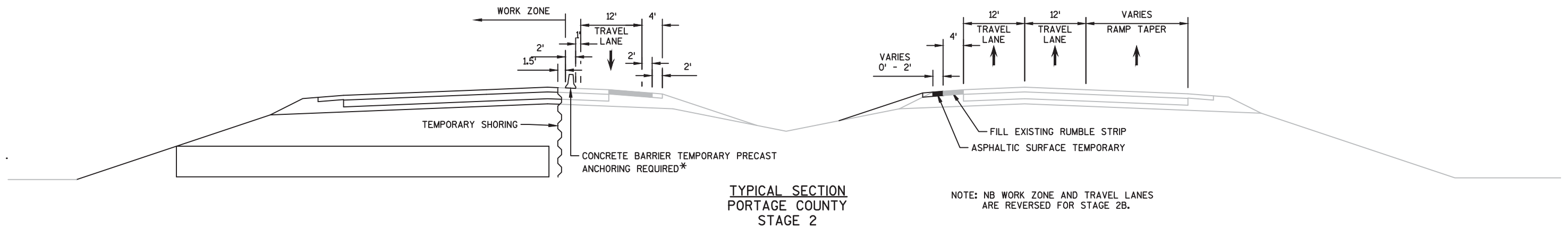
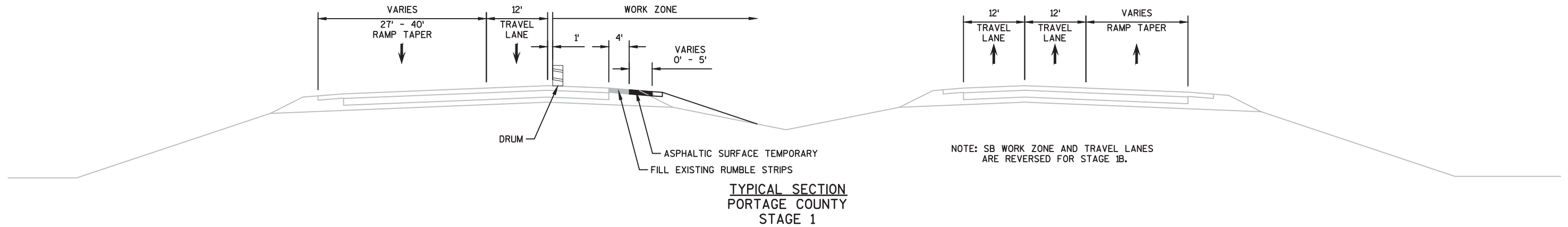


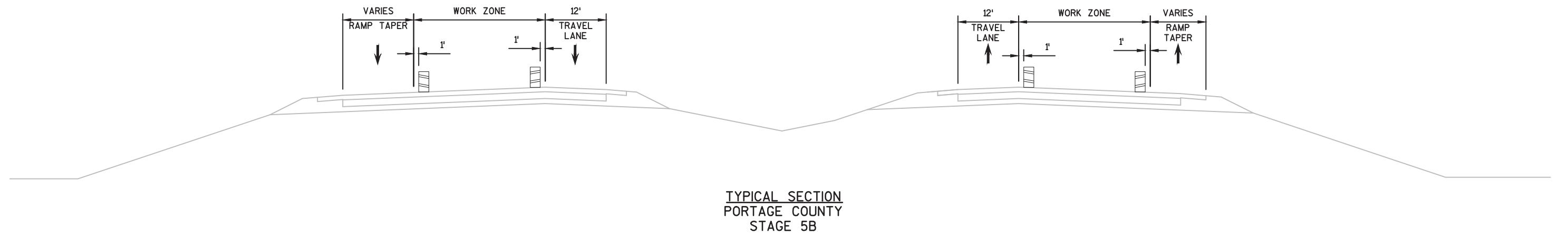
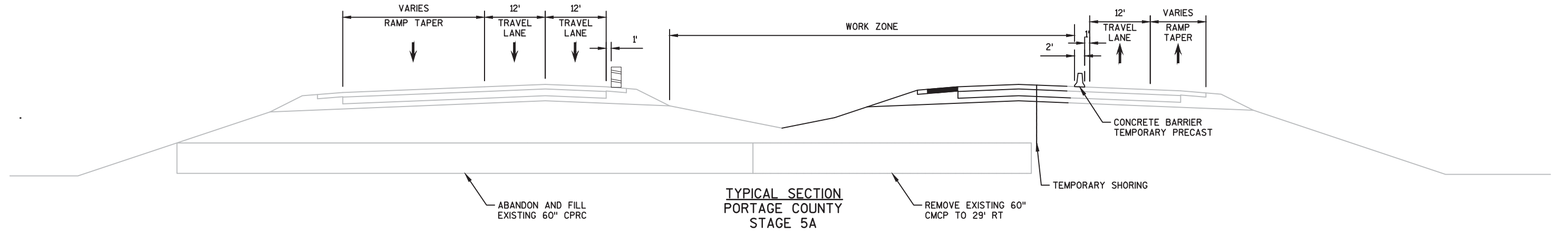
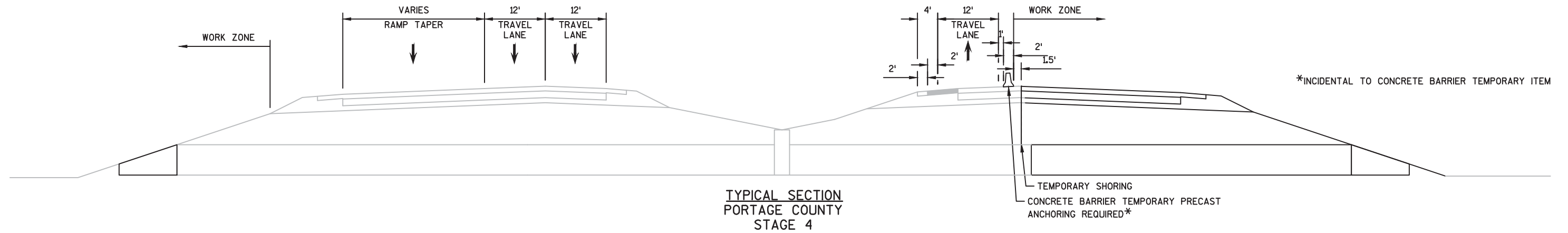


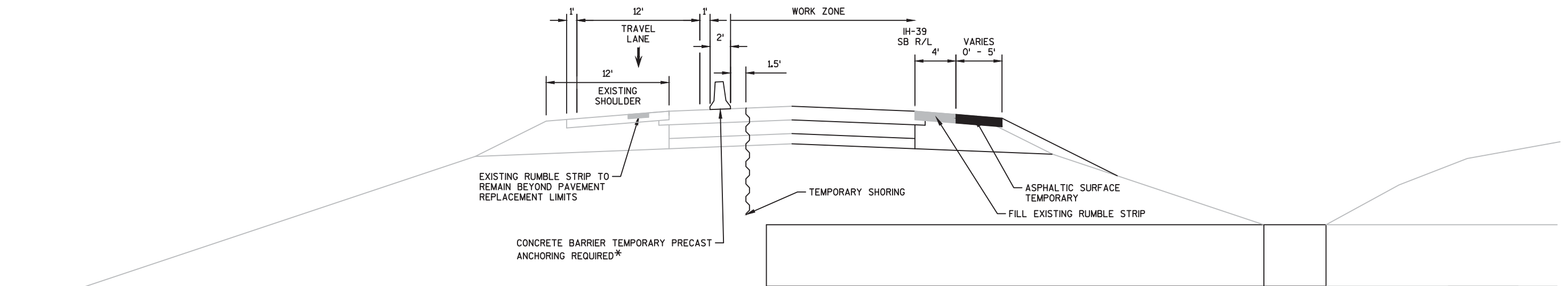
LEGEND
 [PCMS] PORTABLE CHANGEABLE MESSAGE SIGN

SITE	PRIOR TO CONSTRUCTION		DURING OUTSIDE LANE CLOSURE		DURING INSIDE LANE CLOSURE	
	PHASE 1 (3 SEC)	PHASE 2 (3 SEC)	PHASE 1 (3 SEC)	PHASE 2 (3 SEC)	PHASE 1 (3 SEC)	PHASE 2 (3 SEC)
SB I-39 PORTAGE COUNTY	ROAD WORK STARTS	APRIL 3RD	RIGHT LANE CLOSED	1.5 MILES MERGE LEFT	LEFT LANE CLOSED	1.5 MILES MERGE RIGHT
NB I-39 PORTAGE COUNTY	ROAD WORK STARTS	APRIL 3RD	RIGHT LANE CLOSED	1.5 MILES MERGE LEFT	LEFT LANE CLOSED	1.5 MILES MERGE RIGHT
SB I-39 MARATHON COUNTY	ROAD WORK STARTS	JULY 31ST	RIGHT LANE CLOSED	1.5 MILES MERGE LEFT	LEFT LANE CLOSED	1.5 MILES MERGE RIGHT

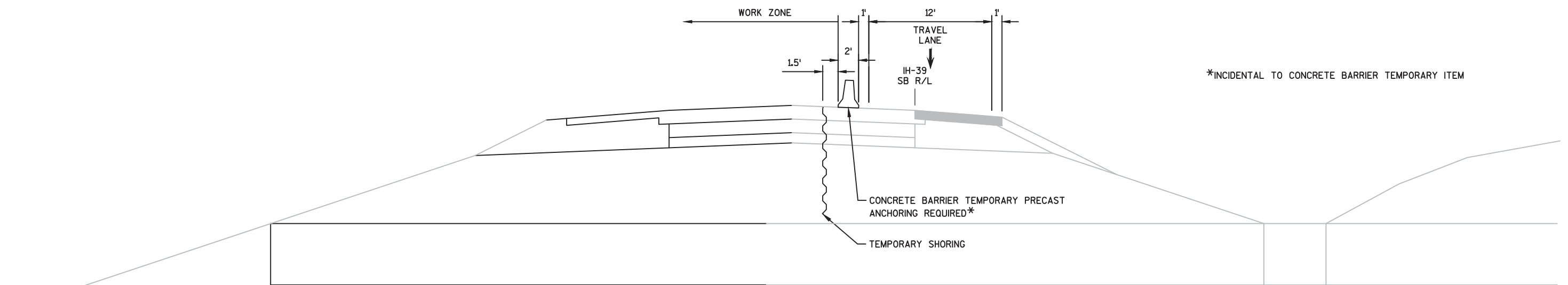
GENERAL NOTES FOR PORTABLE CHANGEABLE MESSAGE SIGNS
 CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE SIGN FOR A MINIMUM 1000 FEET IN FRONT OF THE MESSAGE BOARD. MESSAGE SIGNS SHOULD BE PLACED AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. 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 ELEVATION OF THE ROADWAY. FOR INTERMITTENT WORK SUCH AS 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 SHOULD BE PLACED AHEAD OF PCMS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.
 HAVE MESSAGE BOARDS IN PLACE AND DISPLAYING THE "PRIOR TO CONSTRUCTION" MESSAGE 10 DAYS PRIOR TO EXPECTED START OF THE I-39 ROAD WORK THAT WILL REQUIRE LANE CLOSURES ON I-39.



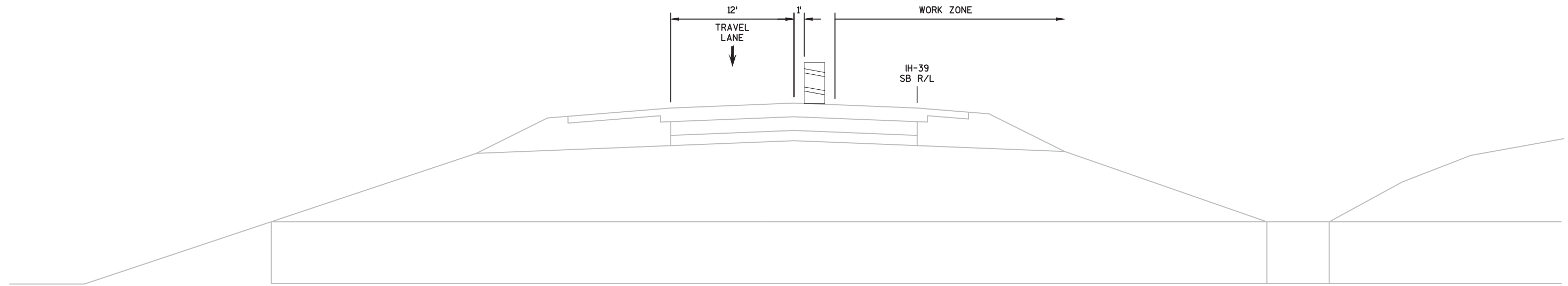




TYPICAL SECTION SB IH-39
MARATHON COUNTY
STAGE 1



TYPICAL SECTION SB IH-39
MARATHON COUNTY
STAGE 2



TYPICAL SECTION SB IH-39
 MARATHON COUNTY
 STAGE 3

STAGE 1A NOTES:

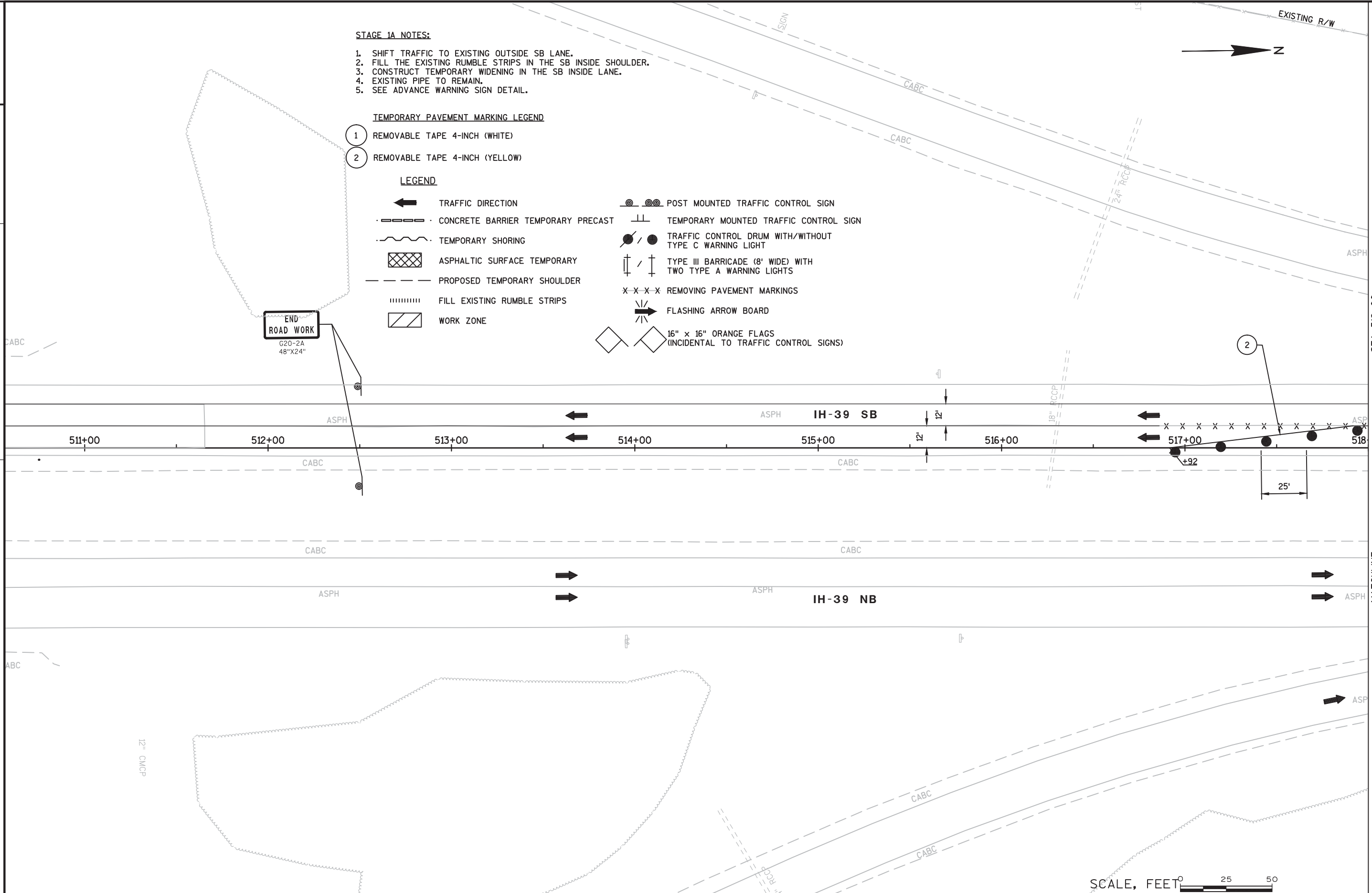
1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
3. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
4. EXISTING PIPE TO REMAIN.
5. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

STAGE 1A NOTES:

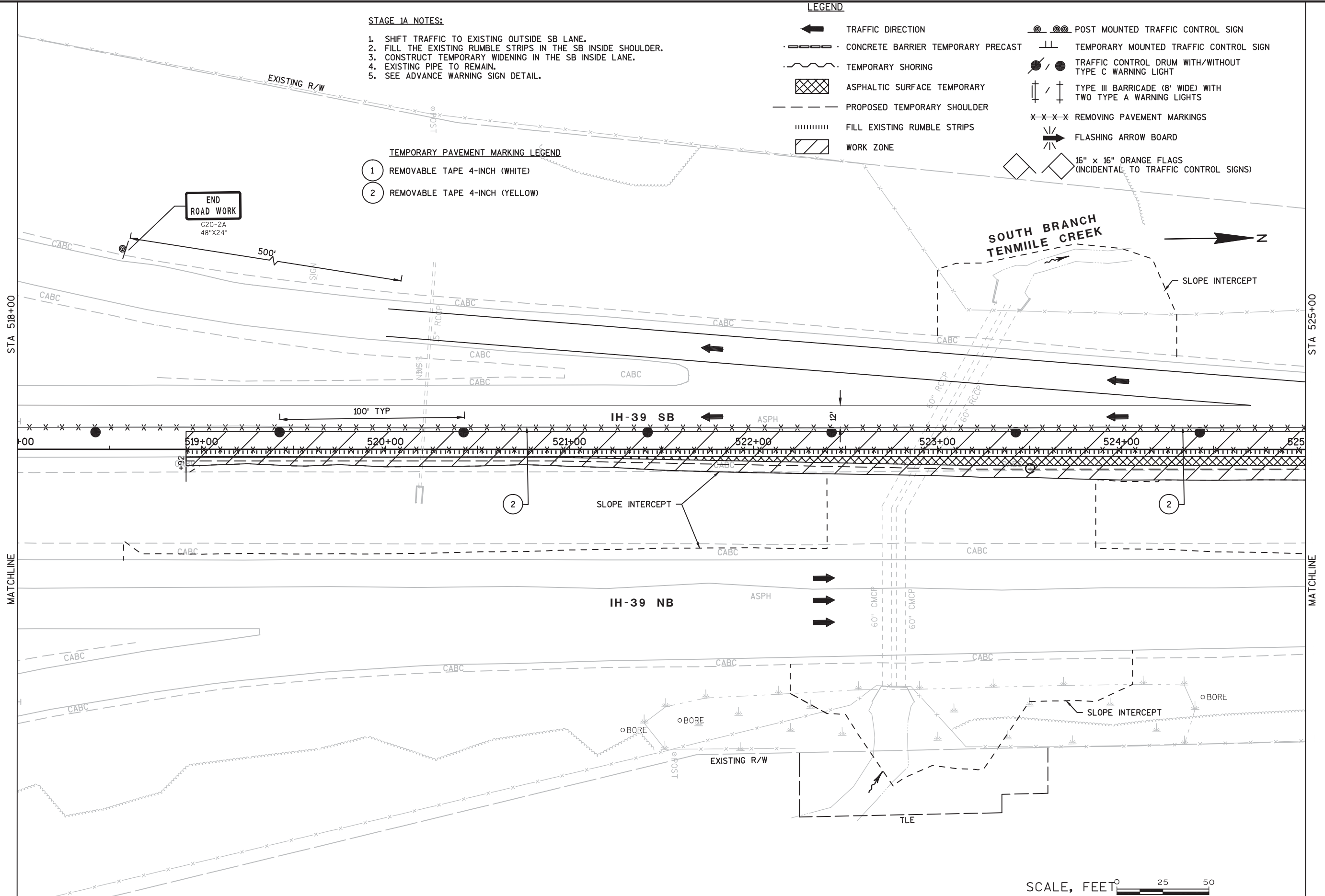
1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
3. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
4. EXISTING PIPE TO REMAIN.
5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)



SCALE, FEET 0 25 50

STAGE 1A NOTES:

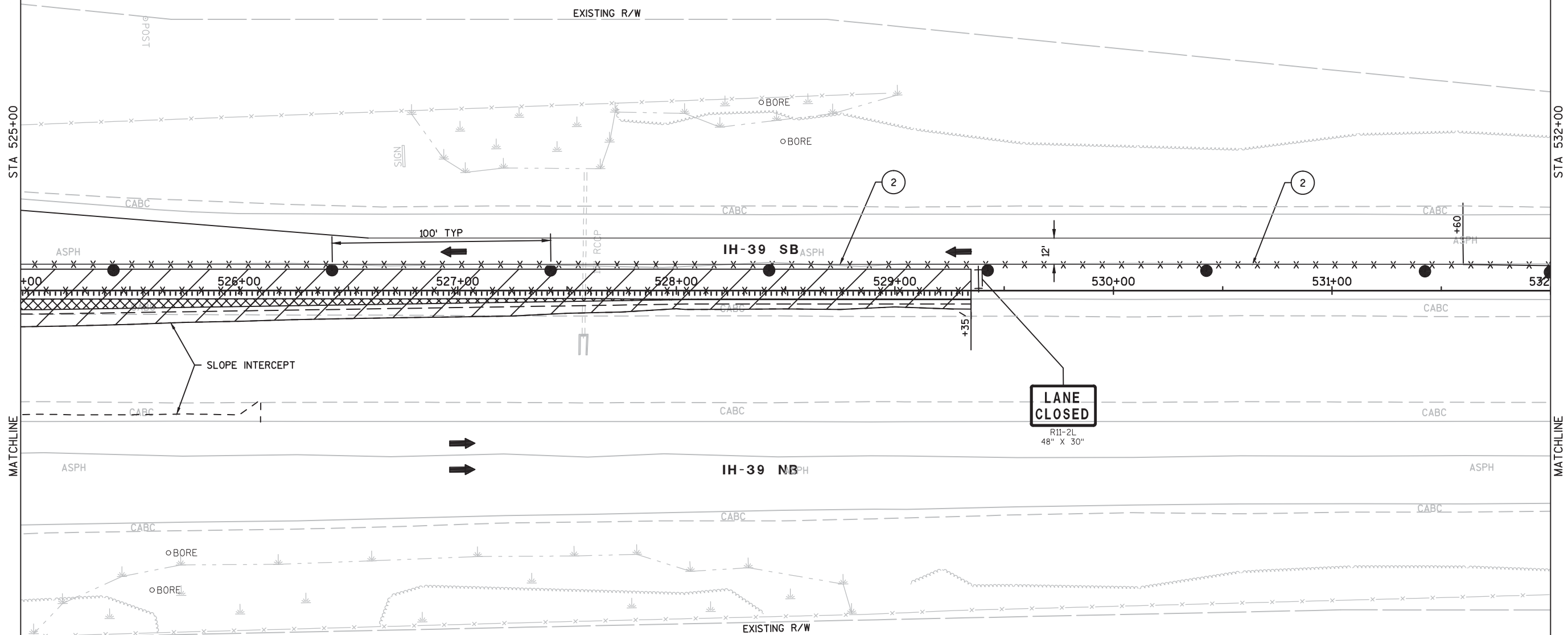
- 1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
- 2. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
- 3. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
- 4. EXISTING PIPE TO REMAIN.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

STAGE 1A NOTES:

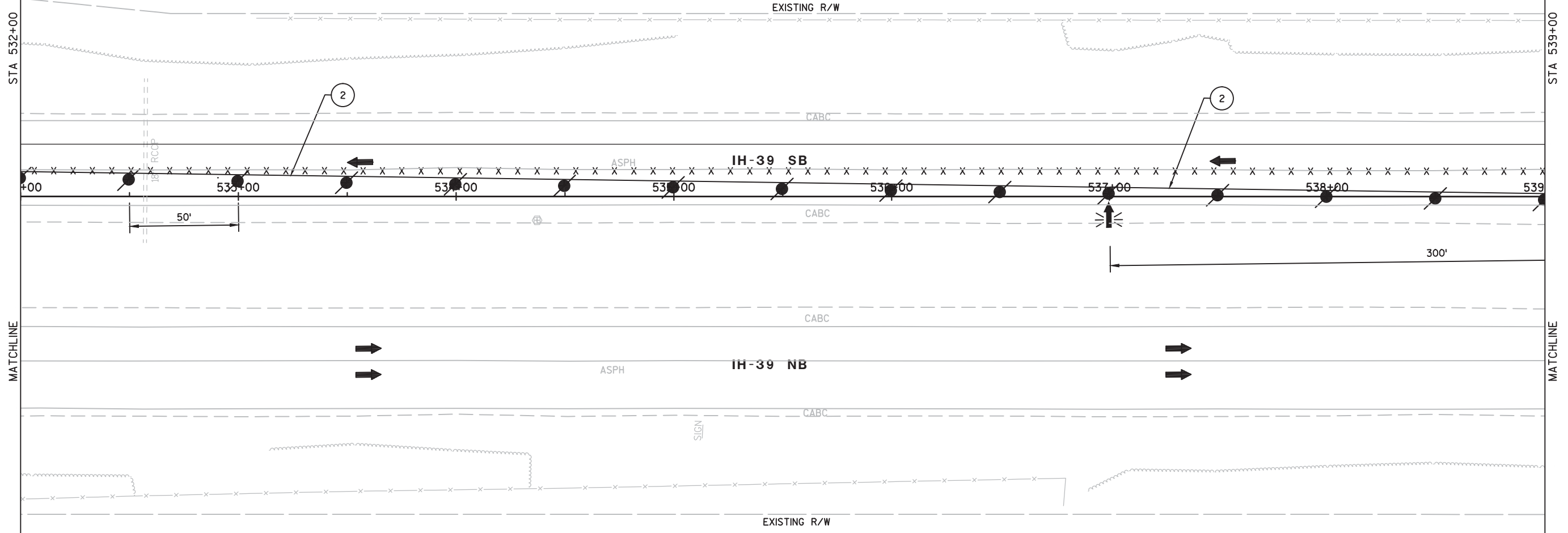
- 1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
- 2. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
- 3. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
- 4. EXISTING PIPE TO REMAIN.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- || / || TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STAGE 1A NOTES:

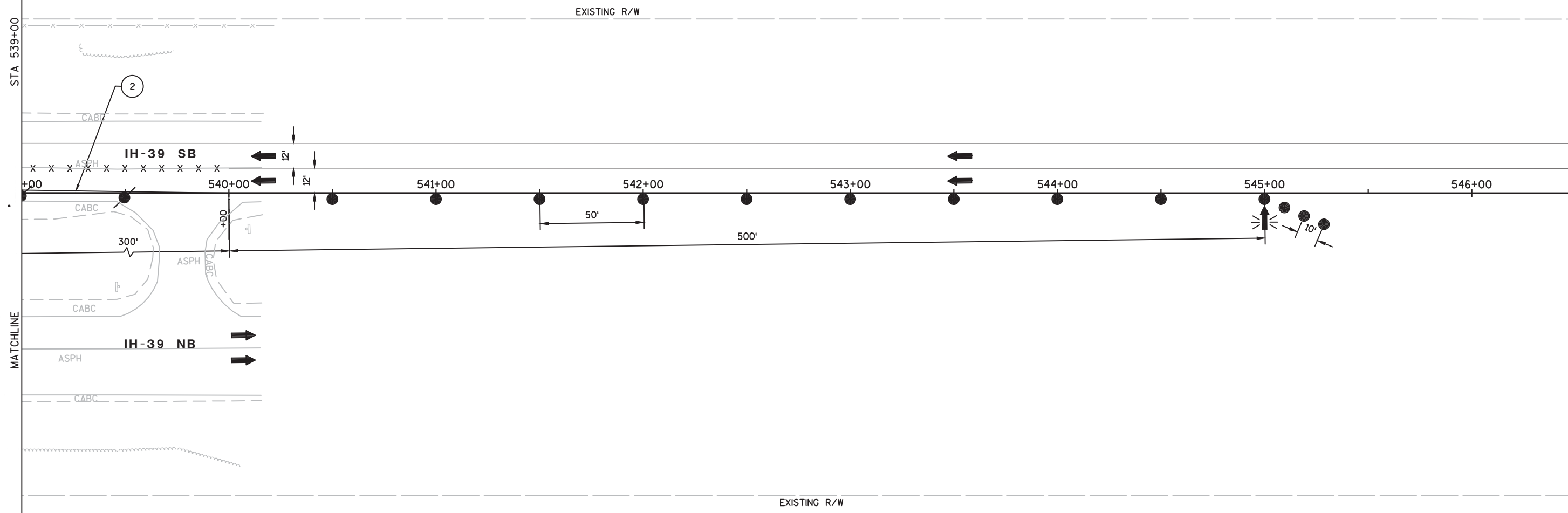
1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
3. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
4. EXISTING PIPE TO REMAIN.
5. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊕ ⊕ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊕ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊕ / ⊕ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- x-x-x-x REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

STAGE 1B NOTES:

- 1. CONSTRUCT TEMPORARY EXIT RAMP.
- 2. SHIFT TRAFFIC TO EXISTING INSIDE SB LANE.
- 3. FILL THE EXISTING RUMBLE STRIPS IN THE SB OUTSIDE SHOULDER.
- 4. SEE ADVANCE WARNING SIGN DETAIL.

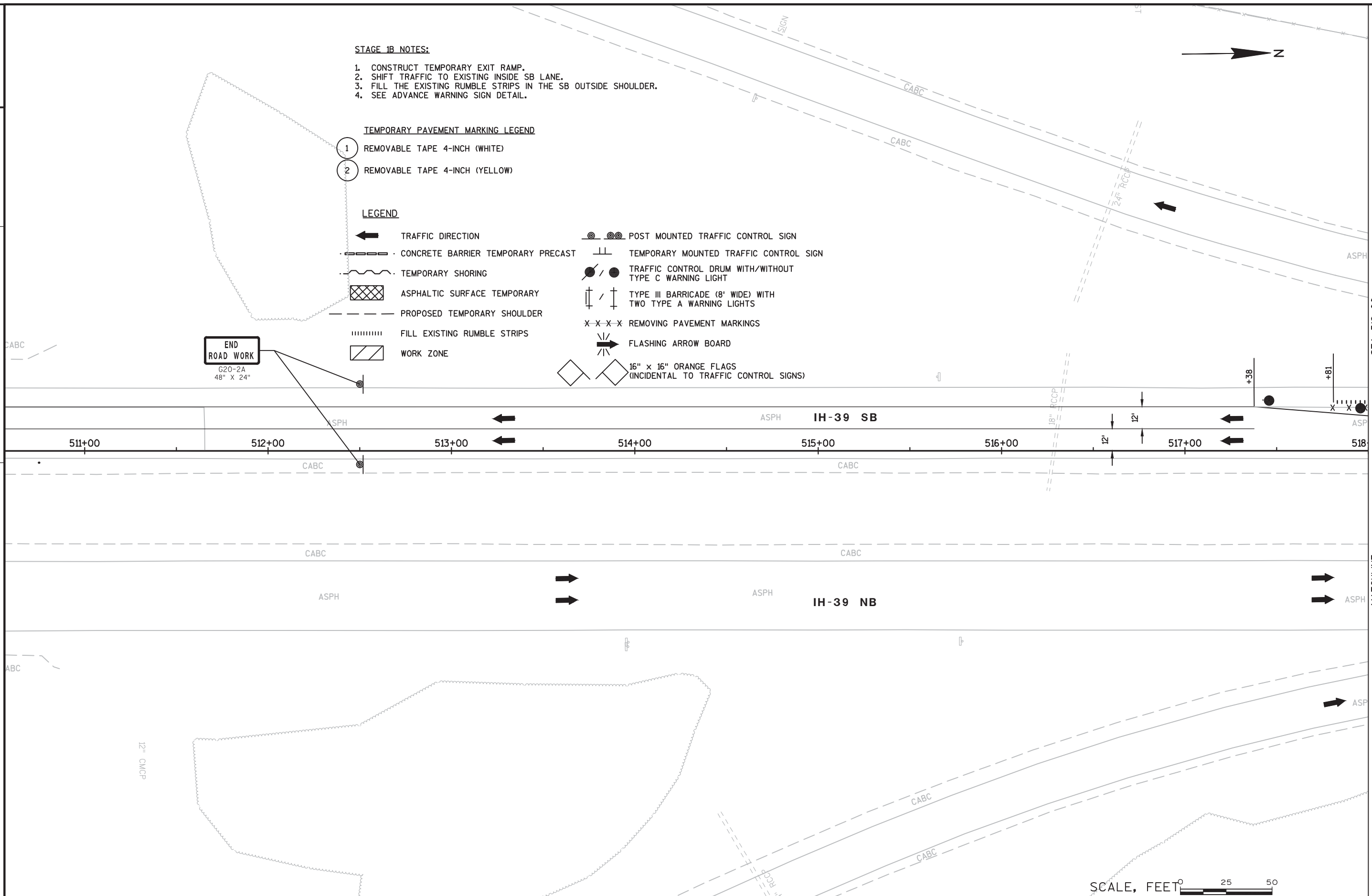
TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X X X X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

END ROAD WORK
G20-2A
48" X 24"



STAGE 1B NOTES:

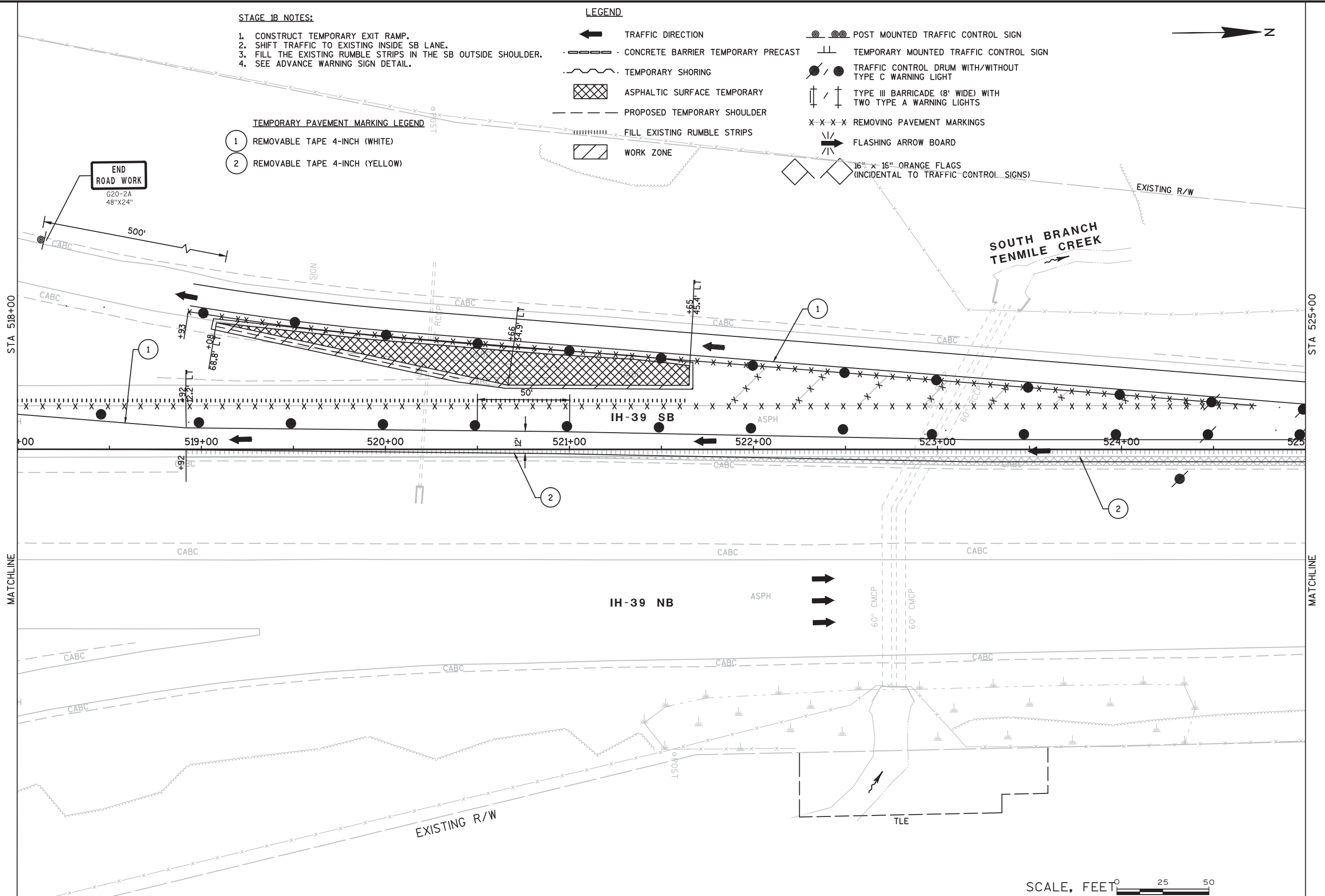
- 1. CONSTRUCT TEMPORARY EXIT RAMP.
- 2. SHIFT TRAFFIC TO EXISTING INSIDE SB LANE.
- 3. FILL THE EXISTING RUMBLE STRIPS IN THE SB OUTSIDE SHOULDER.
- 4. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X X X X REMOVING PAVEMENT MARKINGS
- ⬆ FLASHING ARROW BOARD
- ◇ 16" x 15" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)



STAGE 1B NOTES:

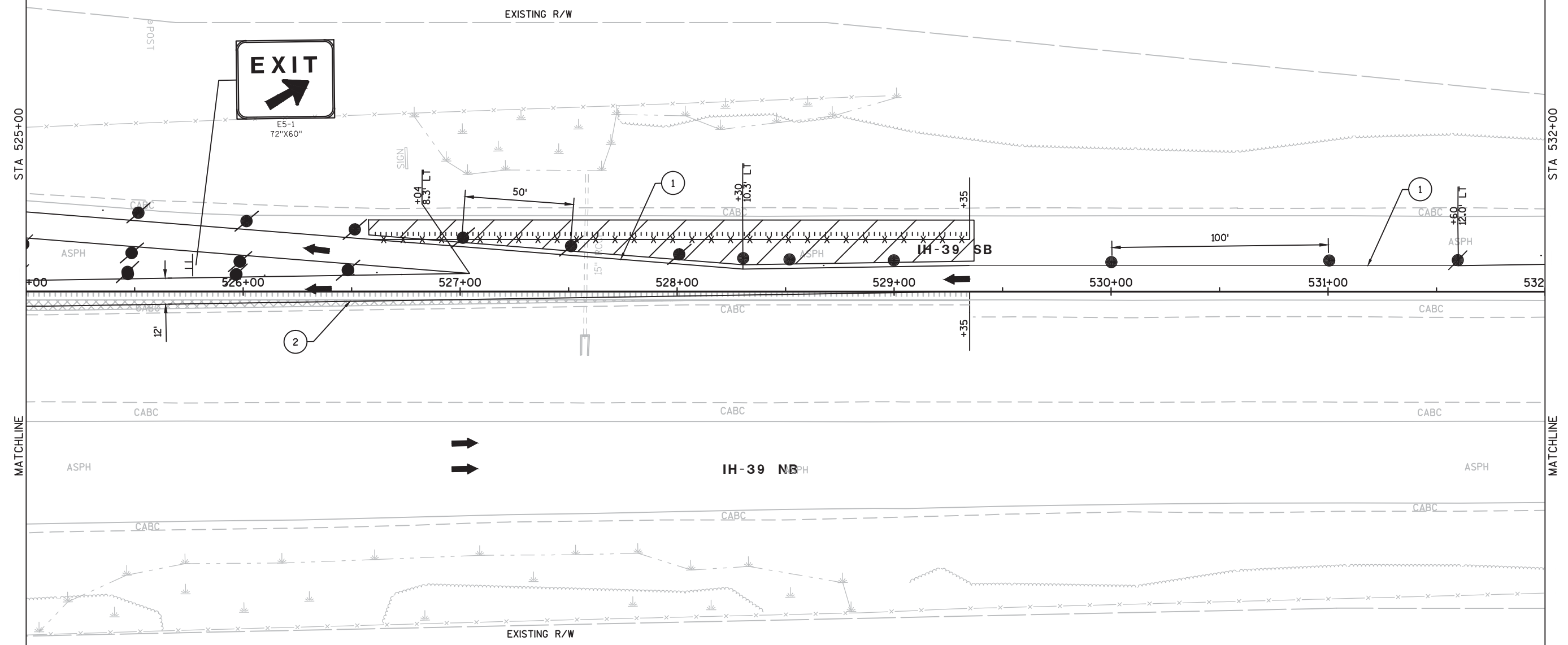
1. CONSTRUCT TEMPORARY EXIT RAMP.
2. SHIFT TRAFFIC TO EXISTING INSIDE SB LANE.
3. FILL THE EXISTING RUMBLE STRIPS IN THE SB OUTSIDE SHOULDER.
4. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

STAGE 1B NOTES:

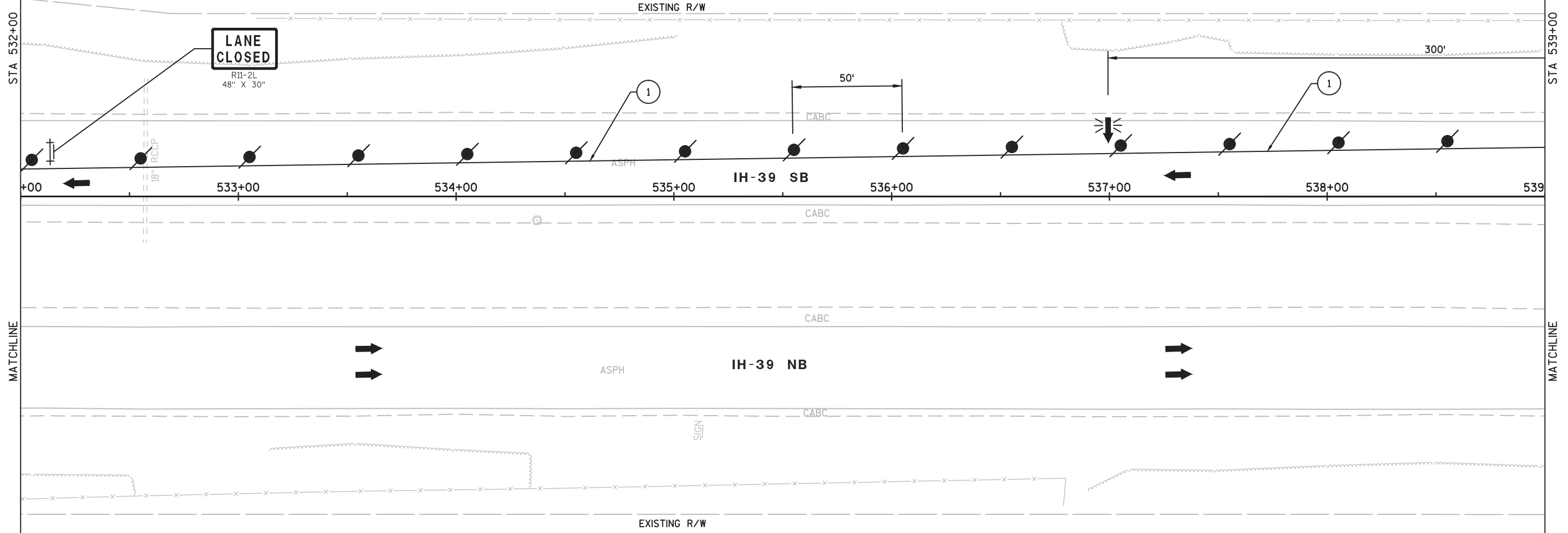
- 1. CONSTRUCT TEMPORARY EXIT RAMP.
- 2. SHIFT TRAFFIC TO EXISTING INSIDE SB LANE.
- 3. FILL THE EXISTING RUMBLE STRIPS IN THE SB OUTSIDE SHOULDER.
- 4. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
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SCALE, FEET 0 25 50

STAGE 1B NOTES:

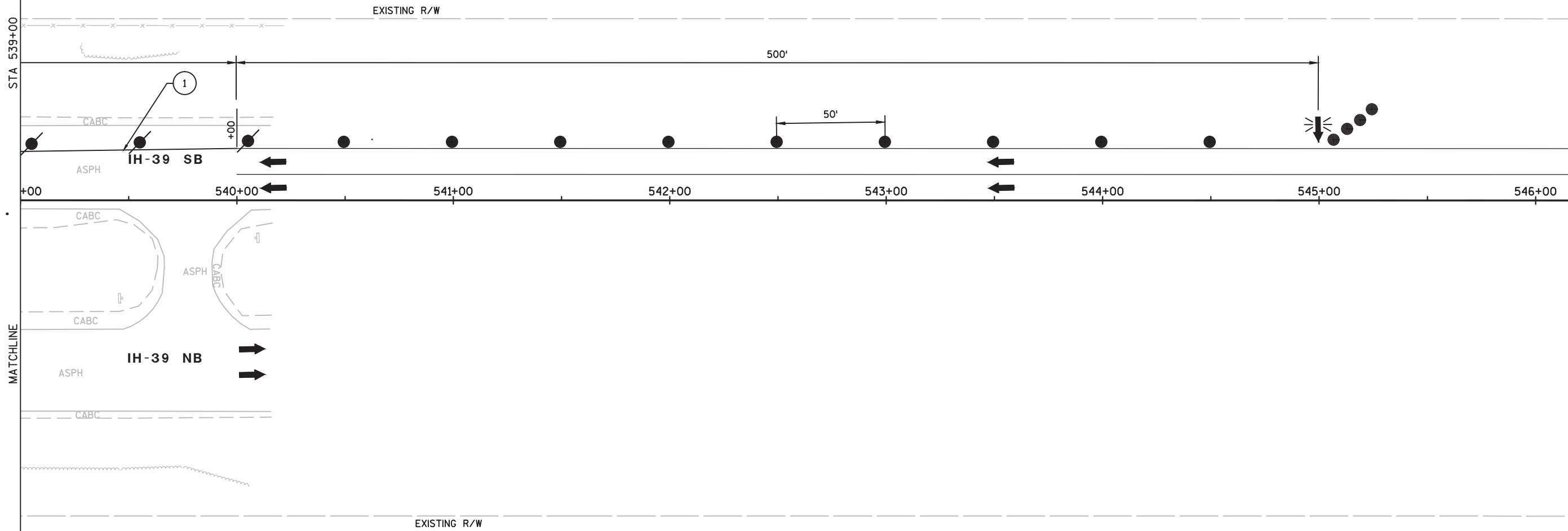
- 1. CONSTRUCT TEMPORARY EXIT RAMP.
- 2. SHIFT TRAFFIC TO EXISTING INSIDE SB LANE.
- 3. FILL THE EXISTING RUMBLE STRIPS IN THE SB OUTSIDE SHOULDER.
- 4. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- ① REMOVABLE TAPE 4-INCH (WHITE)
- ② REMOVABLE TAPE 4-INCH (YELLOW)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
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SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

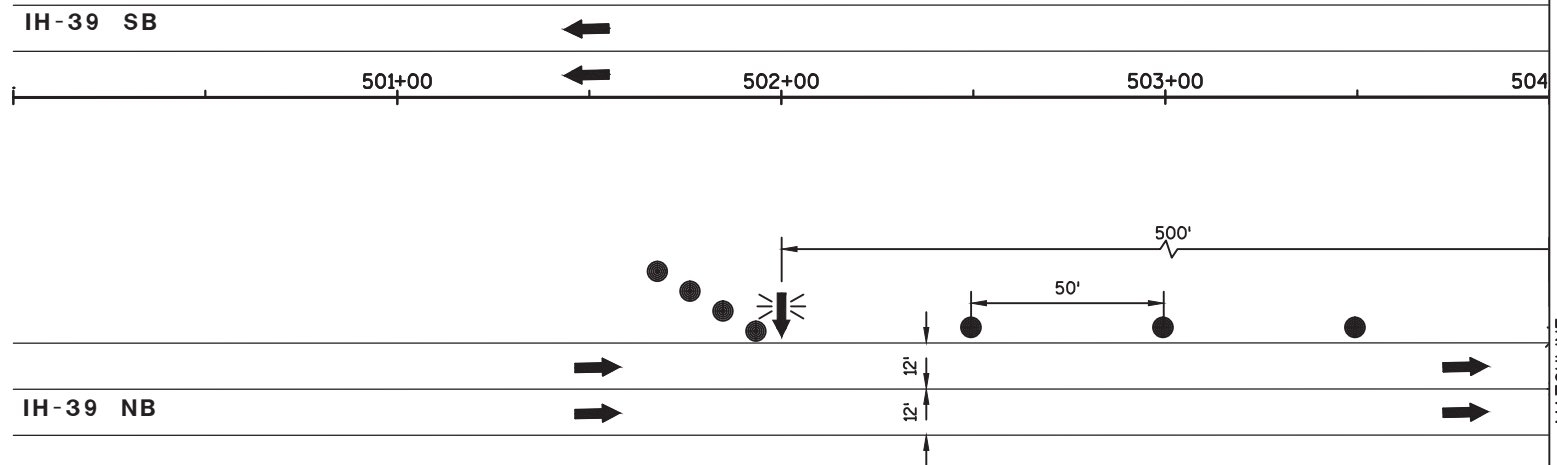
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

STAGE 2A NOTES:

1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHS FROM WEST END TO 13' LT.
3. EXISTING PIPE TO REMAIN.
4. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
5. FILL THE EXISTING RUMBLE STRIPS IN THE NB INSIDE SHOULDERS.
6. CONSTRUCT TEMPORARY WIDENING ON THE NB INSIDE LANE.
7. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- ▬ CONCRETE BARRIER TEMPORARY PRECAST
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- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
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- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

MATCHLINE

SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND STAGE 2A NOTES:

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

- 1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
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LEGEND

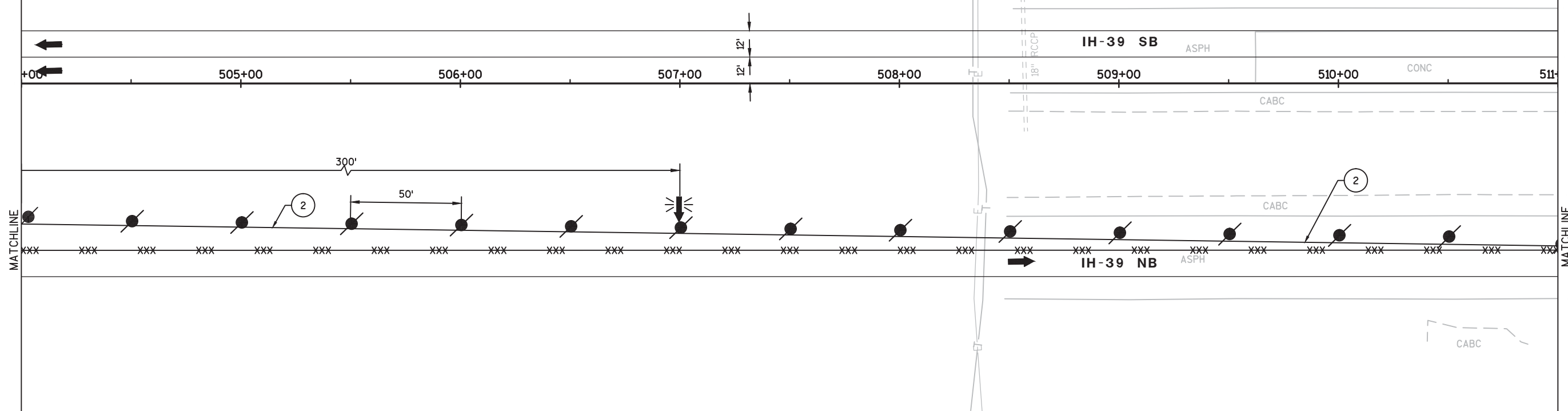
- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
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STA 504+00

STA 511+00



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

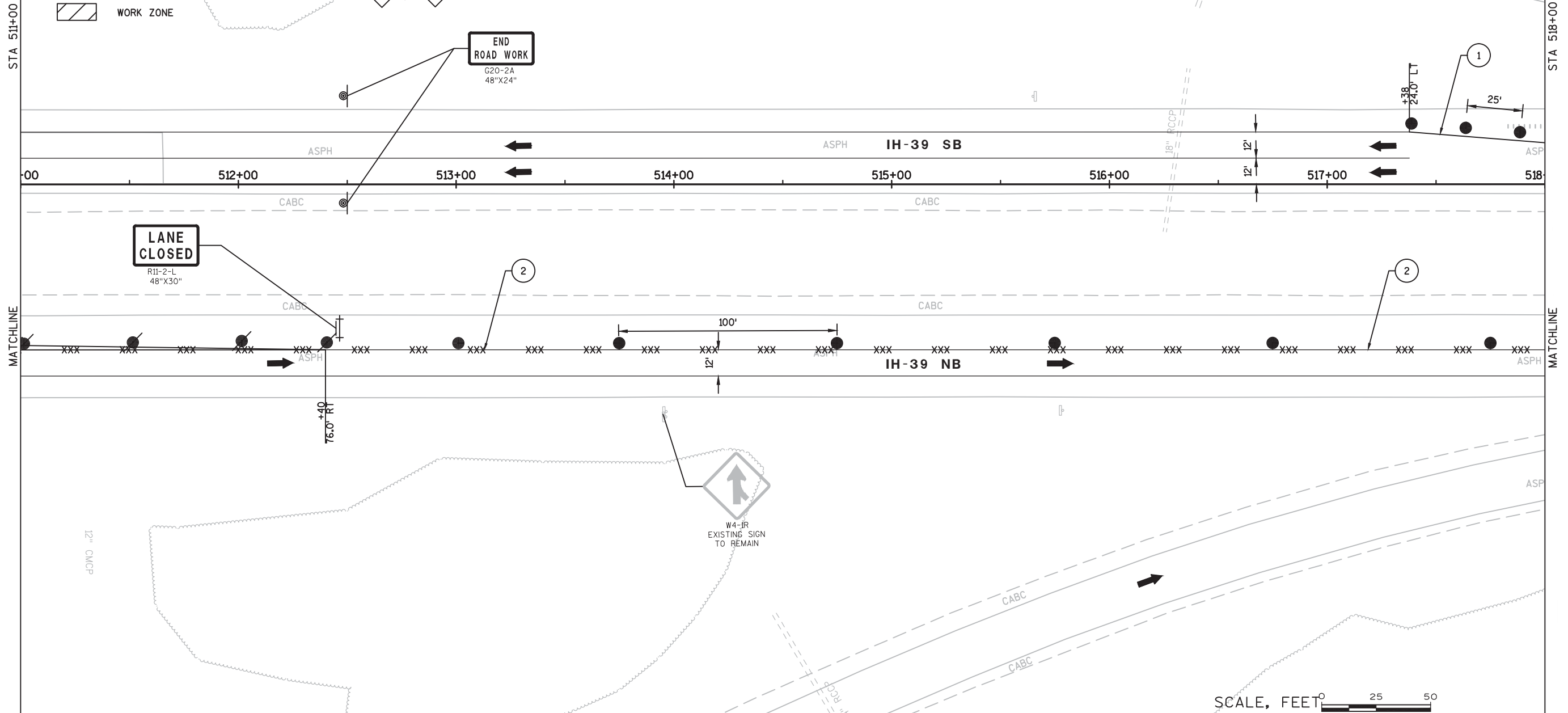
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
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STAGE 2A NOTES:

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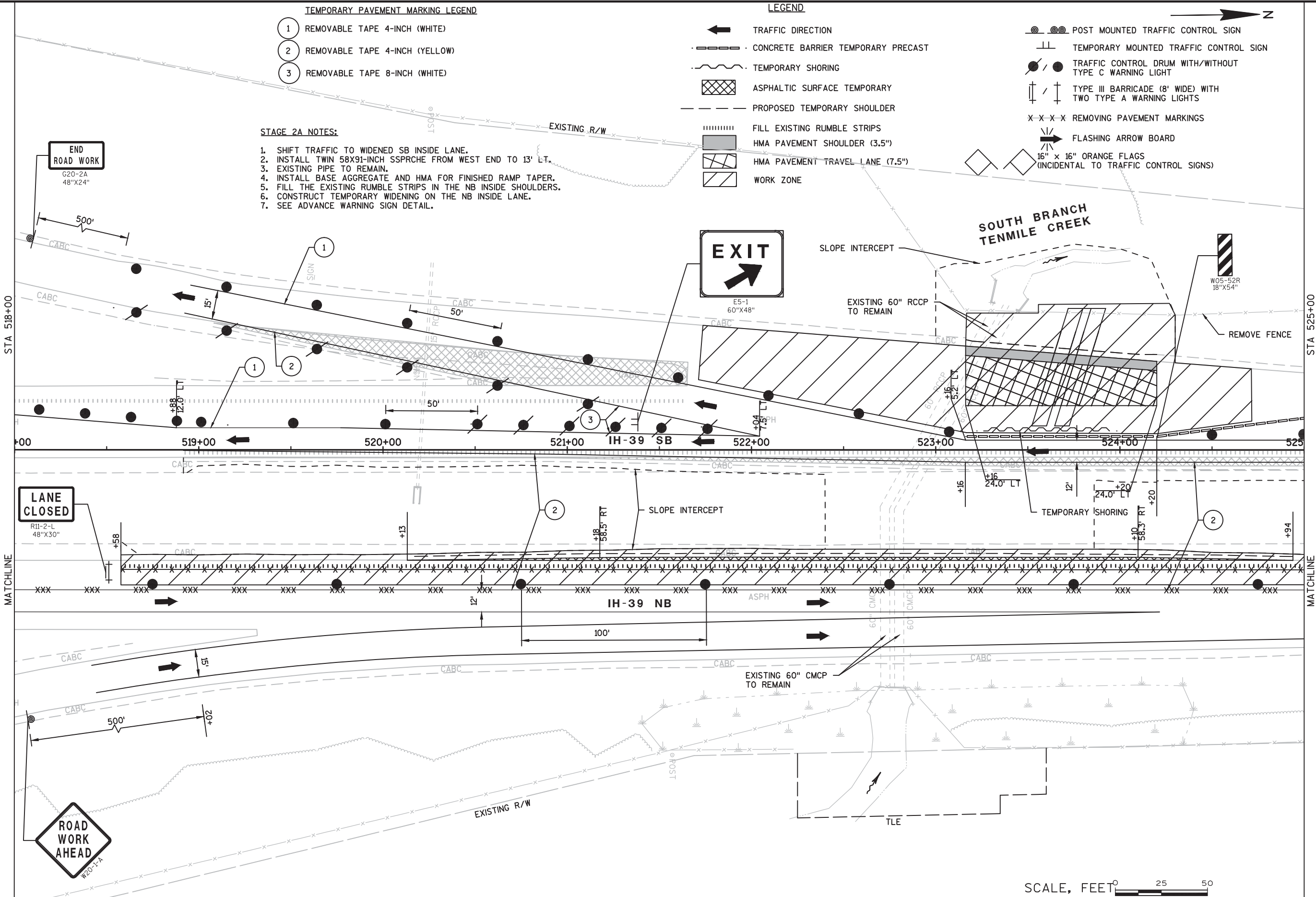
LEGEND

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SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

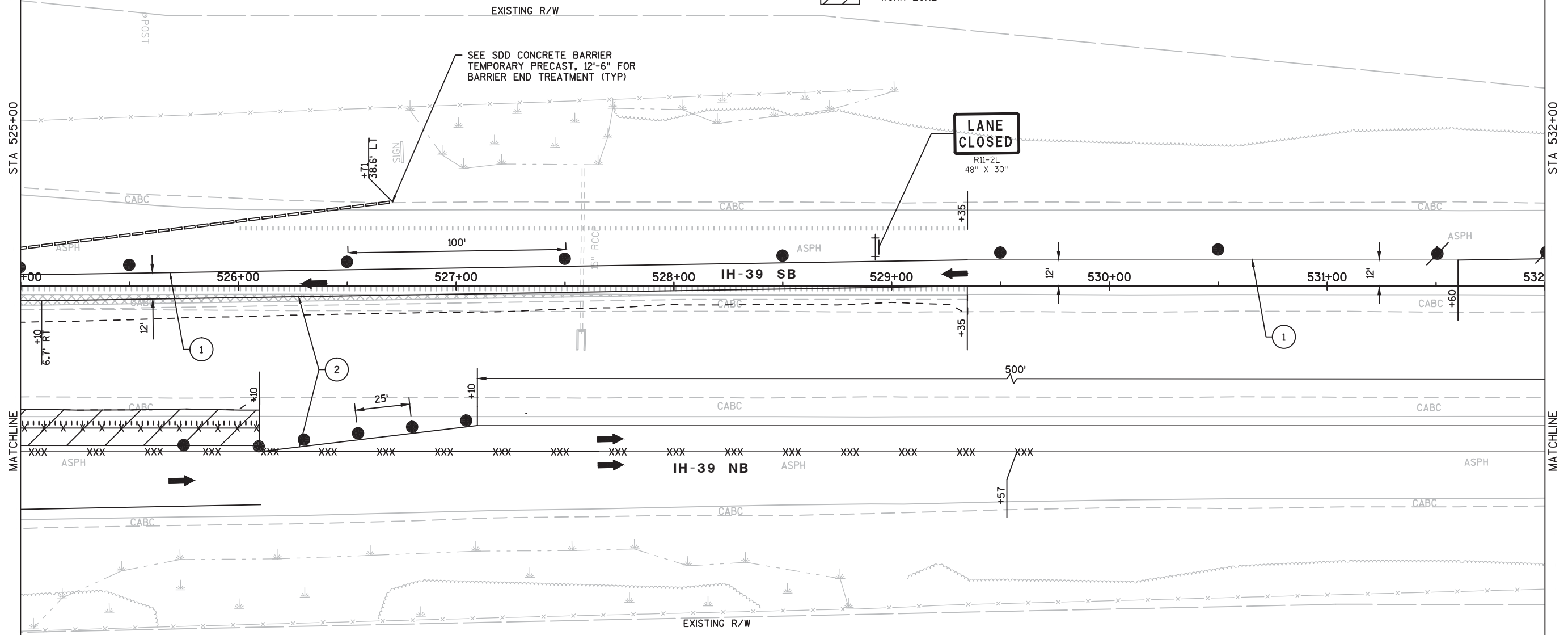
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SCALE, FEET 0 25 50

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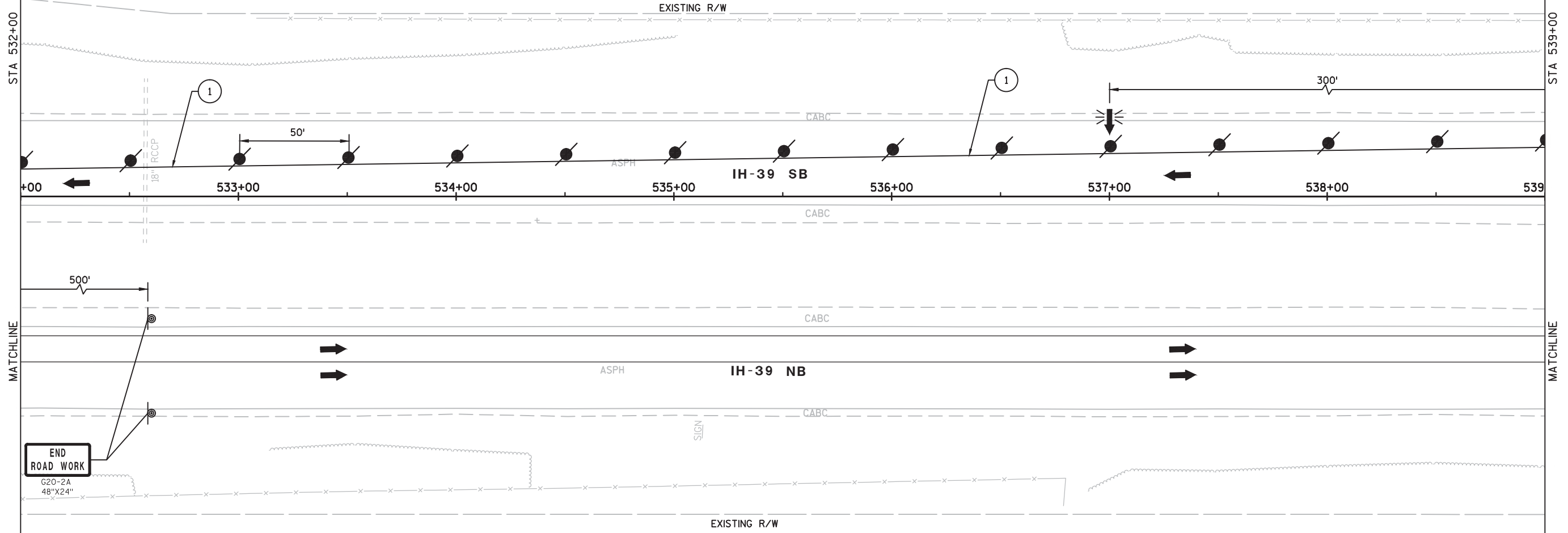
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SCALE, FEET 0 25 50



TEMPORARY PAVEMENT MARKING LEGEND

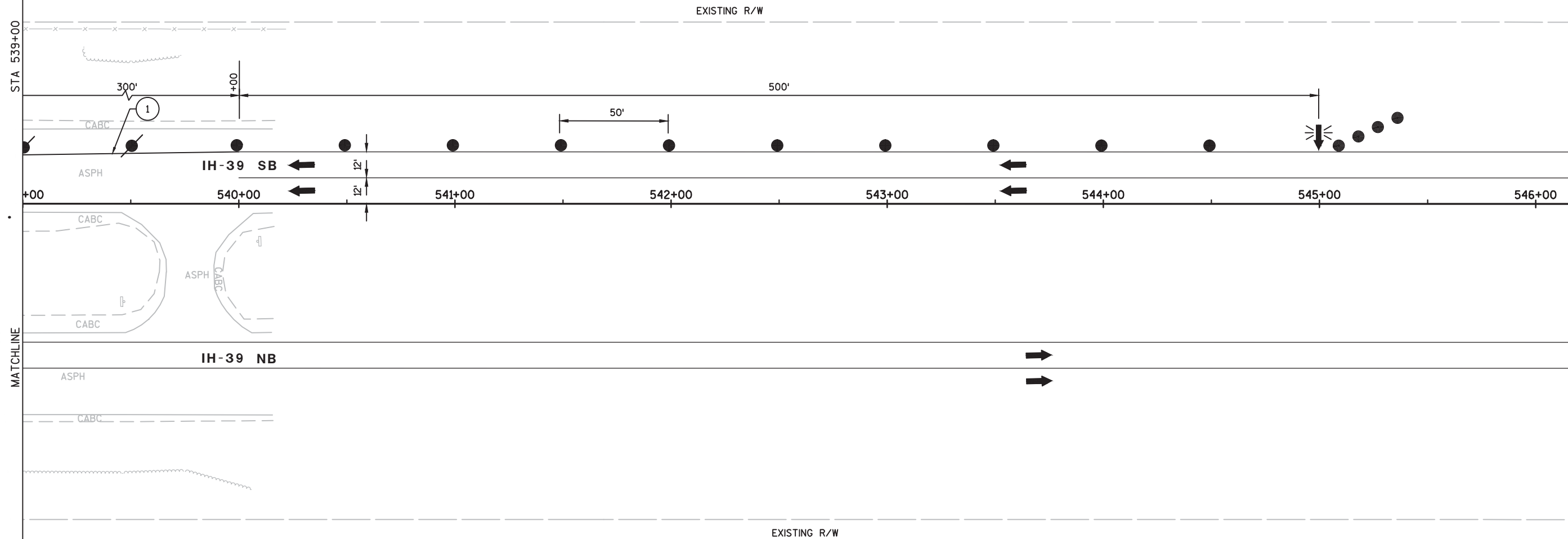
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SCALE, FEET 0 25 50



TEMPORARY PAVEMENT MARKING LEGEND

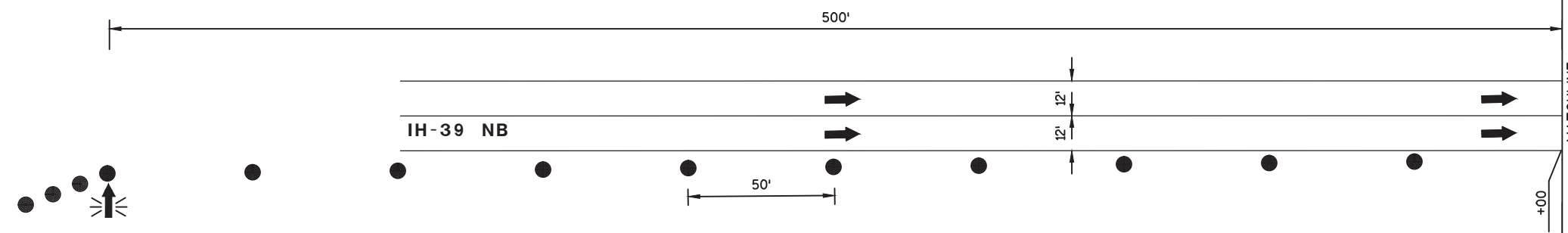
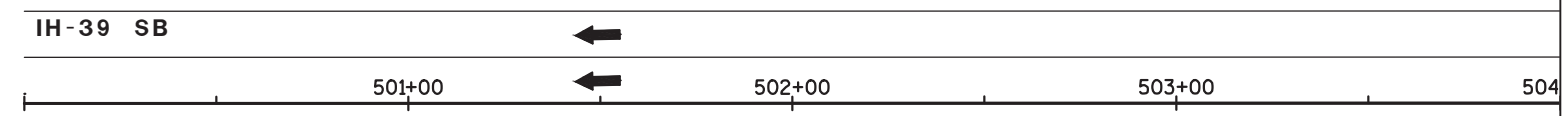
- 1 REMOVABLE TAPE 4-INCH (WHITE)
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STAGE 2B NOTES:

1. FILL THE EXISTING RUMBLE STRIPS IN THE NB OUTSIDE SHOULDERS.
2. CONSTRUCT TEMPORARY WIDENING ON THE NB RAMP GORE AREA.
3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SHORING
- ASPHALTIC SURFACE TEMPORARY
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STA 504+00

MATCHLINE

+00



STAGE 2B NOTES:

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TEMPORARY PAVEMENT MARKING LEGEND

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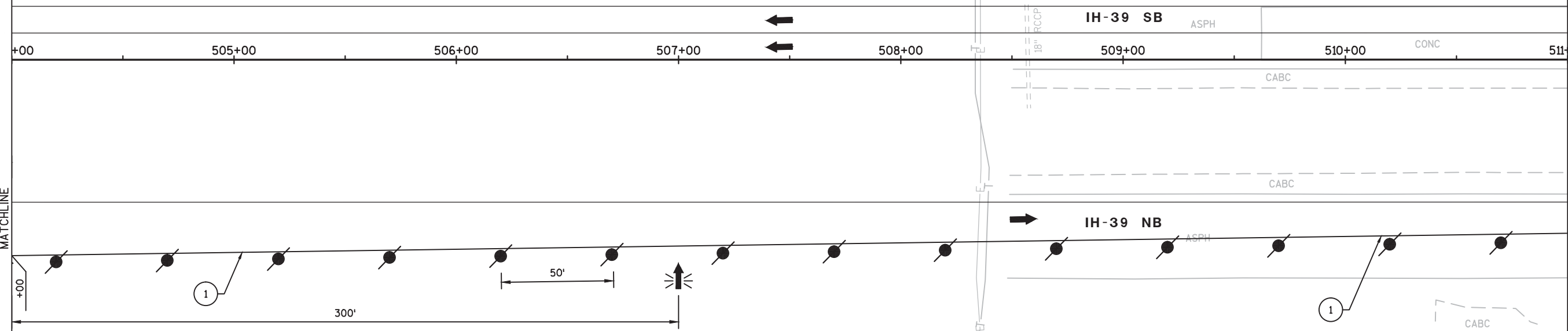
LEGEND

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STA 504+00
MATCHLINE

STA 511+00
MATCHLINE



SCALE, FEET

TEMPORARY PAVEMENT MARKING LEGEND

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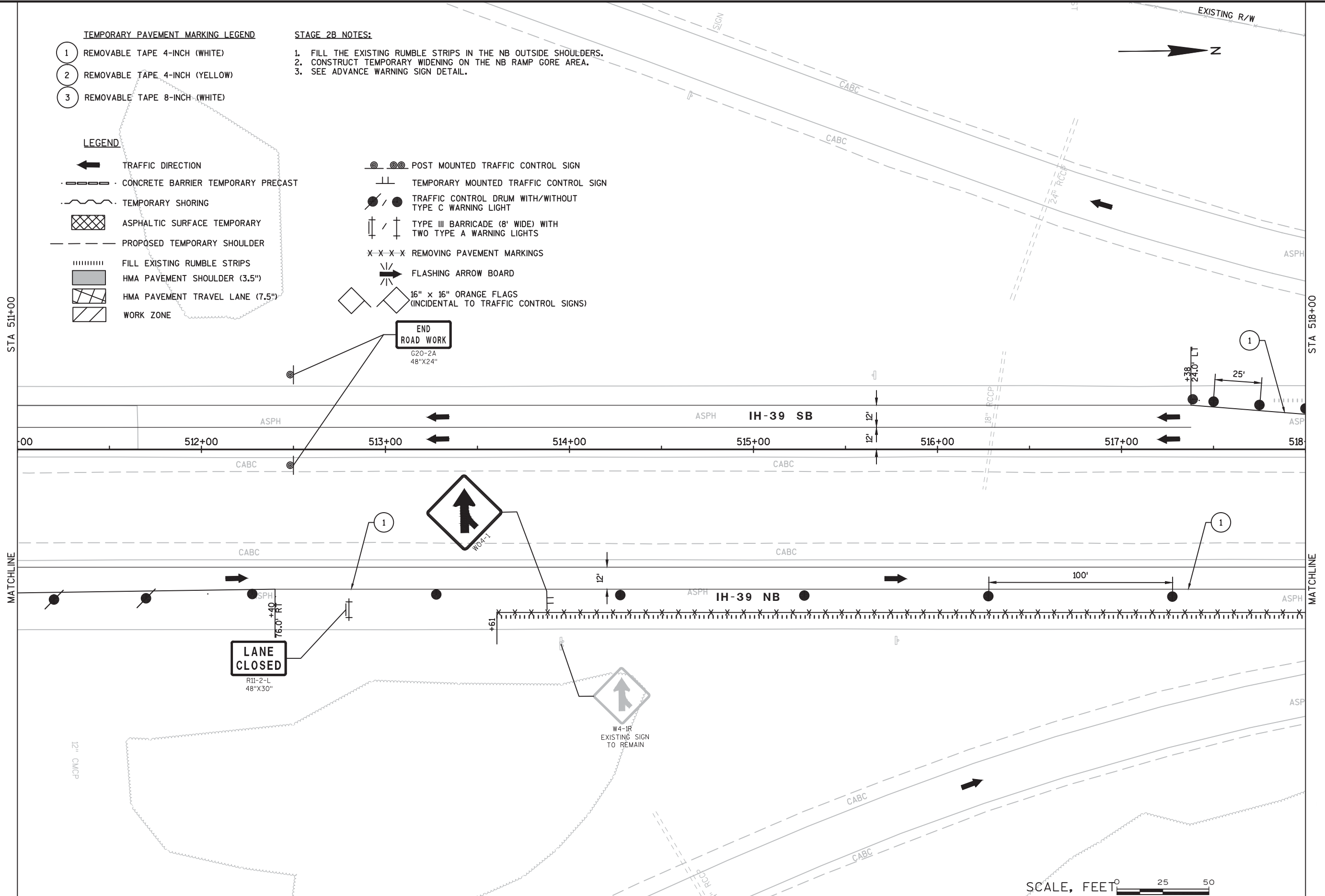
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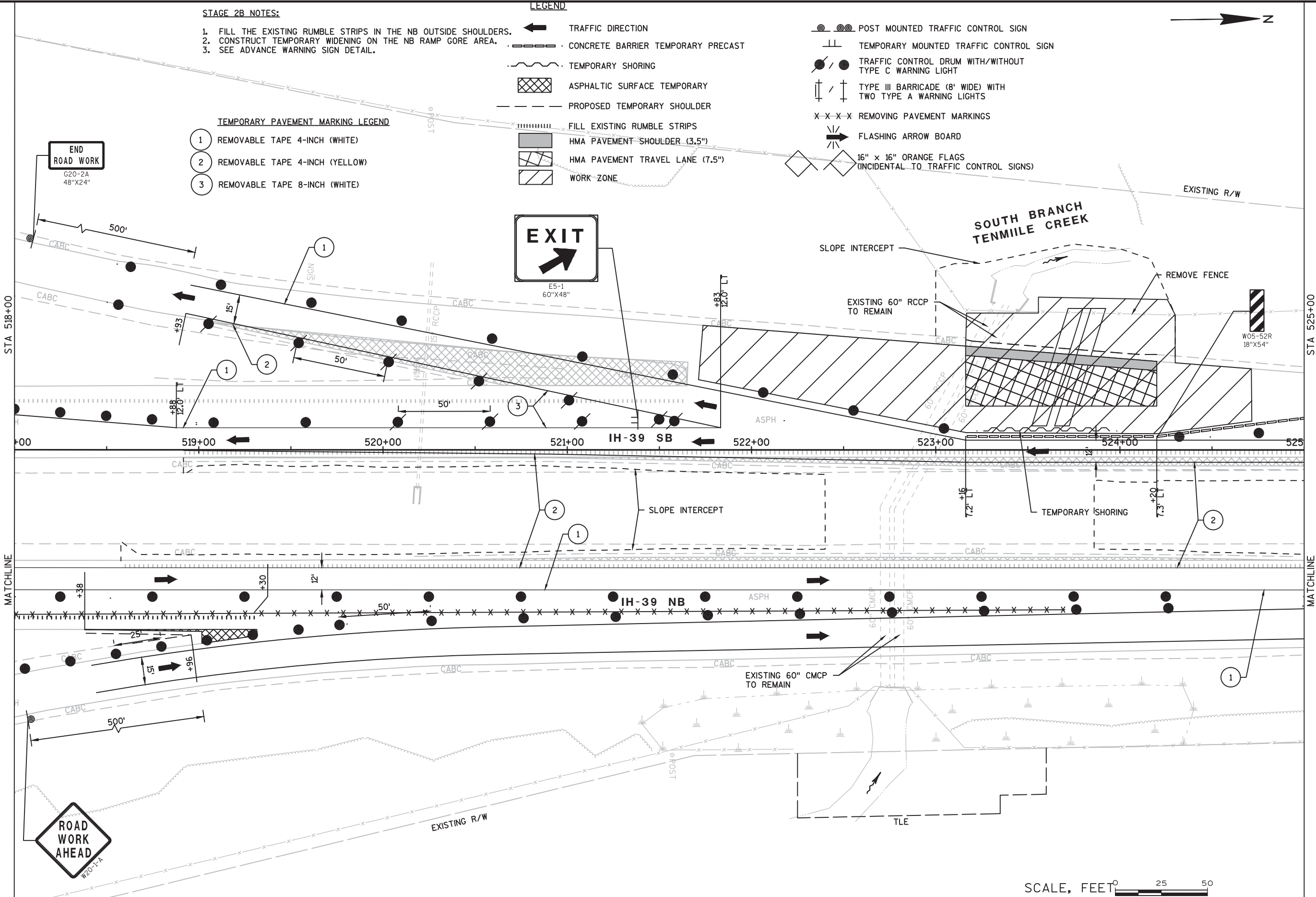
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TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
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END ROAD WORK
G20-2A
48"X24"

EXIT
E5-1
60"X48"

SOUTH BRANCH TENMILE CREEK

IH-39 SB

IH-39 NB

ROAD WORK AHEAD
W20-1-A

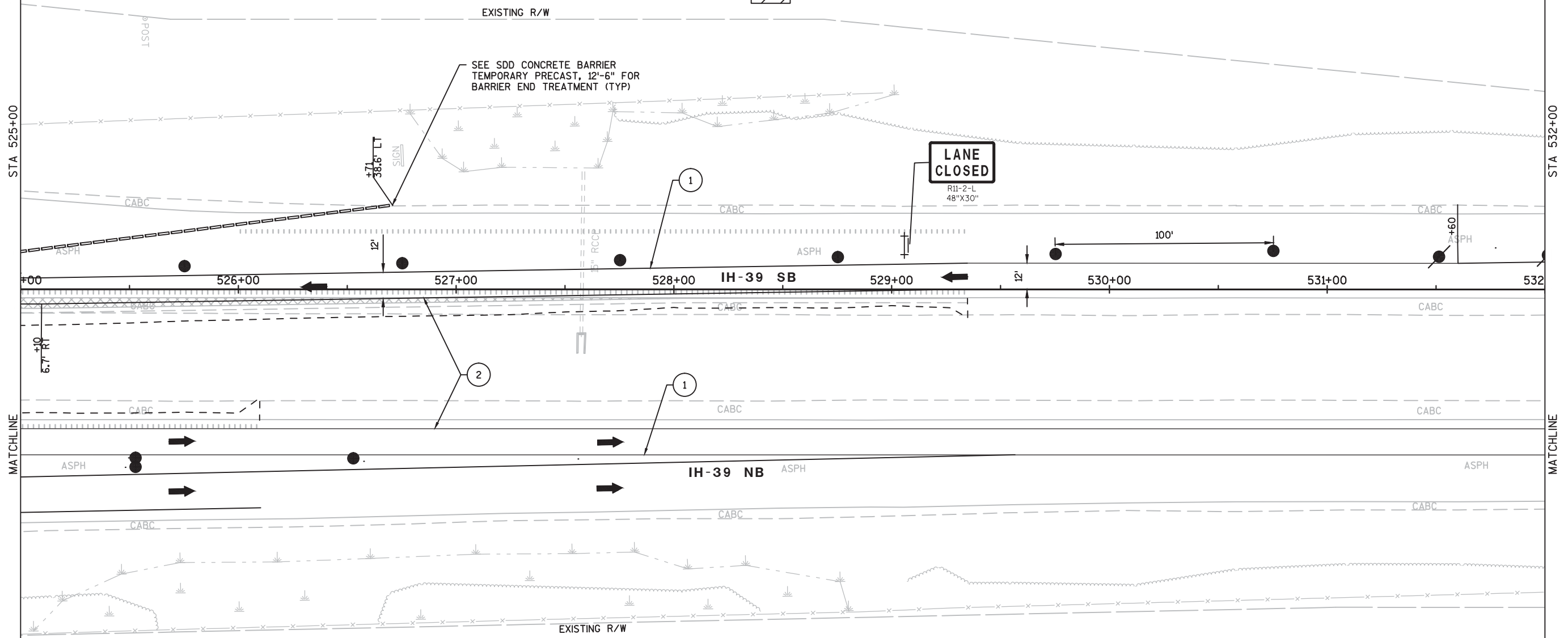
SCALE, FEET 0 25 50

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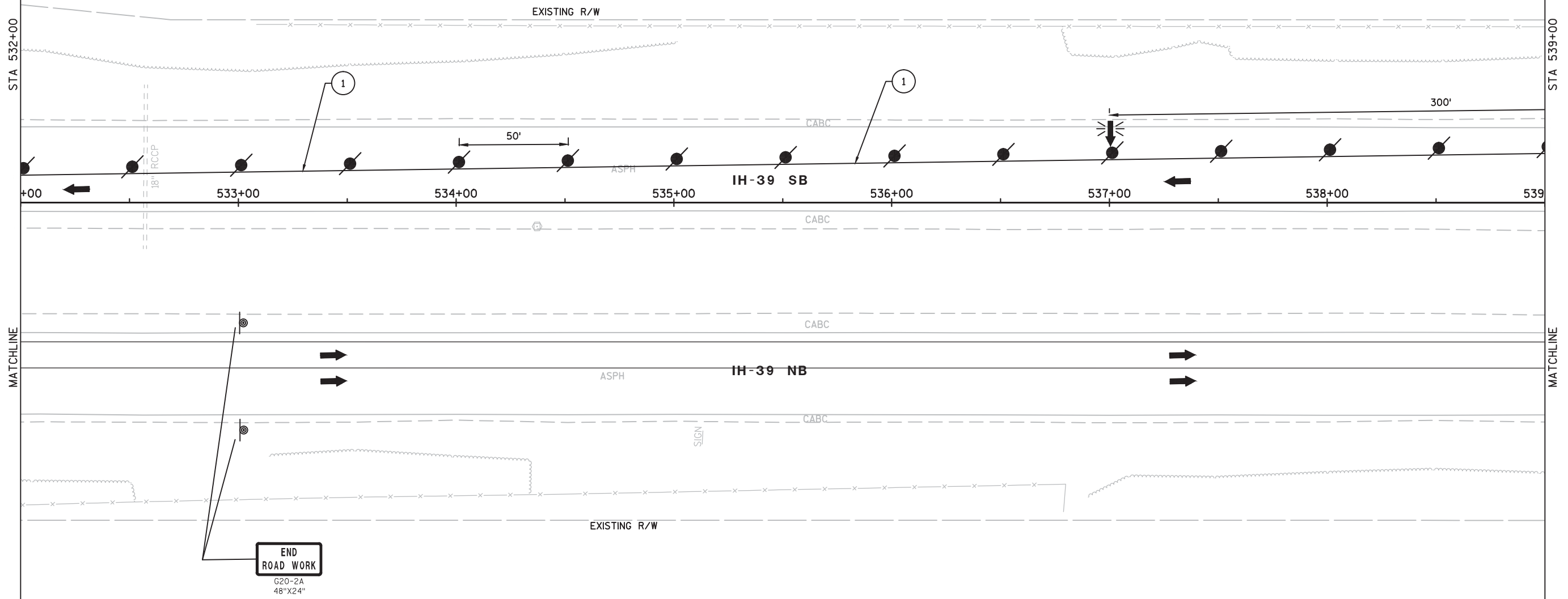
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- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

STAGE 2B NOTES:

- 1. FILL THE EXISTING RUMBLE STRIPS IN THE NB OUTSIDE SHOULDERS.
- 2. CONSTRUCT TEMPORARY WIDENING ON THE NB RAMP GORE AREA.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



END
ROAD WORK
G20-2A
48" X 24"





TEMPORARY PAVEMENT MARKING LEGEND

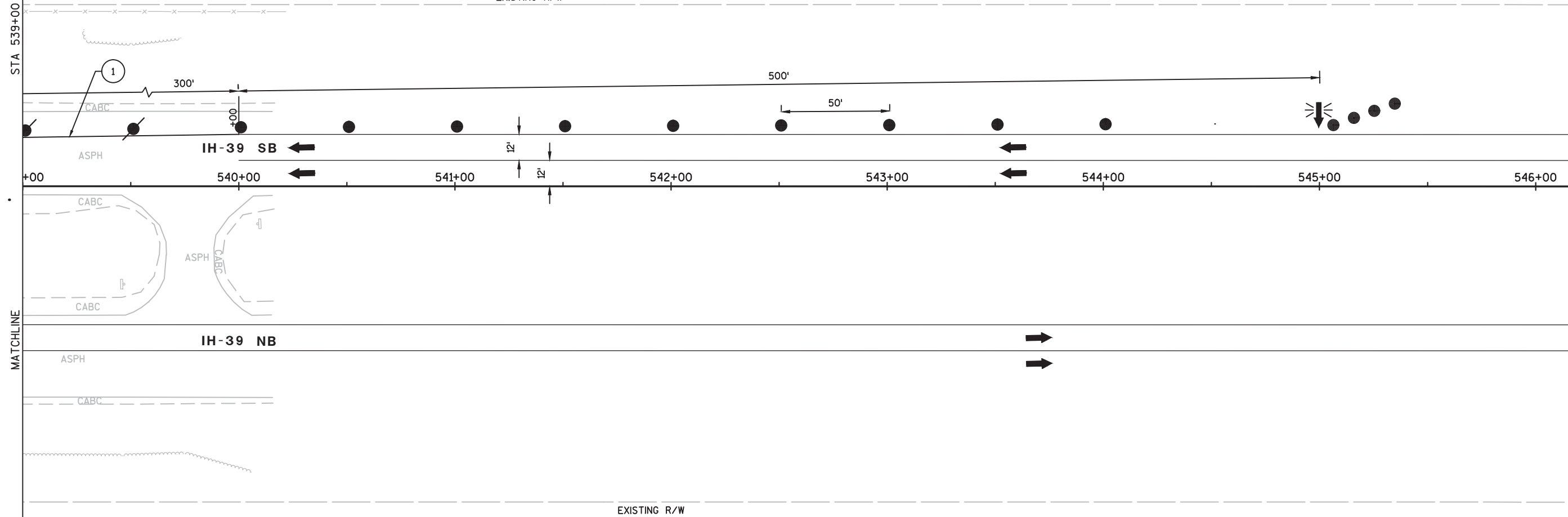
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

STAGE 2B NOTES:

1. FILL THE EXISTING RUMBLE STRIPS IN THE NB OUTSIDE SHOULDERS.
2. CONSTRUCT TEMPORARY WIDENING ON THE NB RAMP GORE AREA.
3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SHORING
- ASPHALTIC SURFACE TEMPORARY
- PROPOSED TEMPORARY SHOULDER
- FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- HMA PAVEMENT TRAVEL LANE (7.5")
- WORK ZONE
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD
- 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

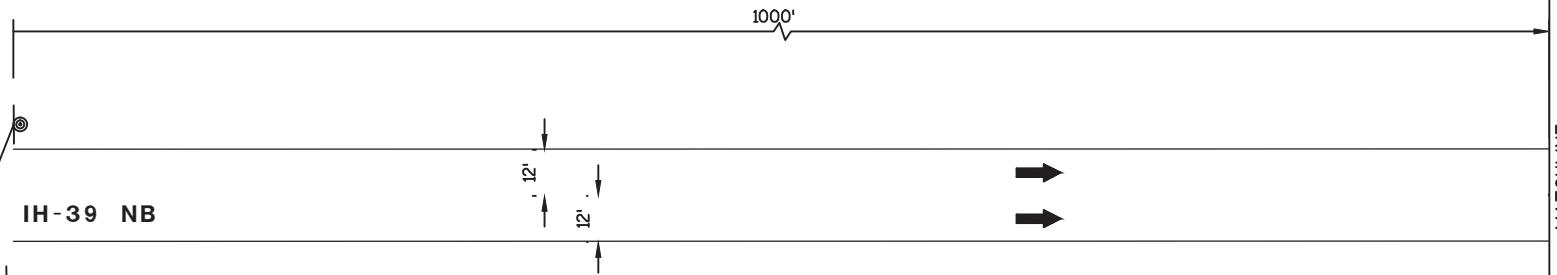
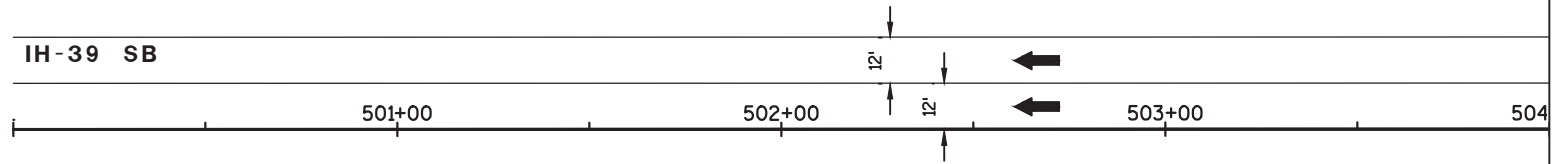


SCALE, FEET

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)
 - 3 REMOVABLE TAPE 8-INCH (WHITE)
 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 3A NOTES:**
1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
 3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
 4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
 5. SEE ADVANCE WARNING SIGN DETAIL.

- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
 - ~ TEMPORARY SHORING
 - ▨ ASPHALTIC SURFACE TEMPORARY
 - ||||| FILL EXISTING RUMBLE STRIPS
 - HMA PAVEMENT SHOULDER (3.5")
 - ▧ HMA PAVEMENT TRAVEL LANE (7.5")
 - ▩ WORK ZONE
 - ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
 - ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
 - / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
 - ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ➡ FLASHING ARROW BOARD
 - ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

MATCHLINE



TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3A NOTES:

- 1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
- 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
- 3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
- 4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

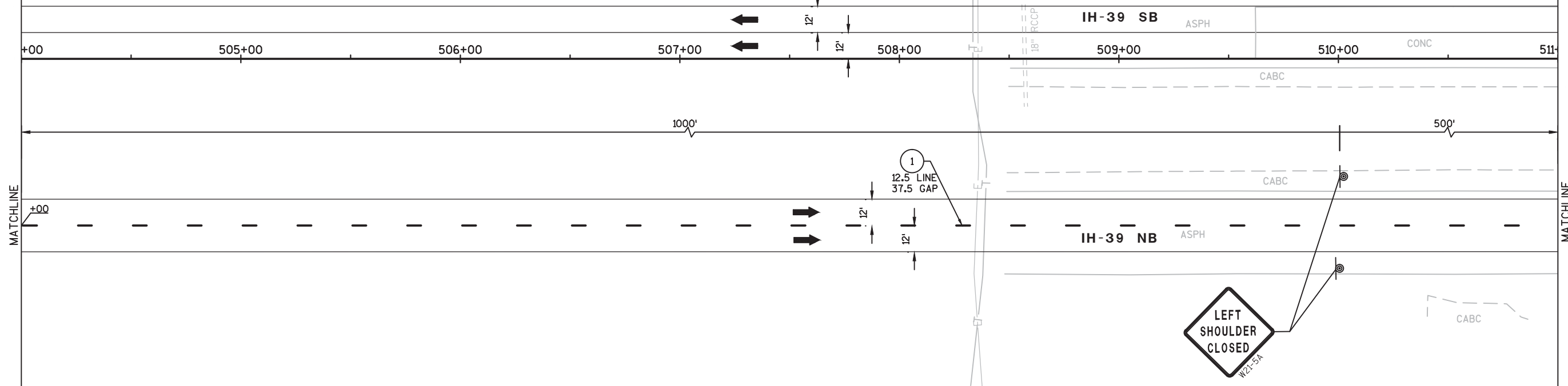
LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ↔ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

STA 511+00



LEFT SHOULDER CLOSED
WZL-5A

SCALE, FEET 0 25 50

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ HMA PAVEMENT SHOULDER (3,5")
- ▨ HMA PAVEMENT TRAVEL LANE (7,5")
- ▨ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

STAGE 3A NOTES:

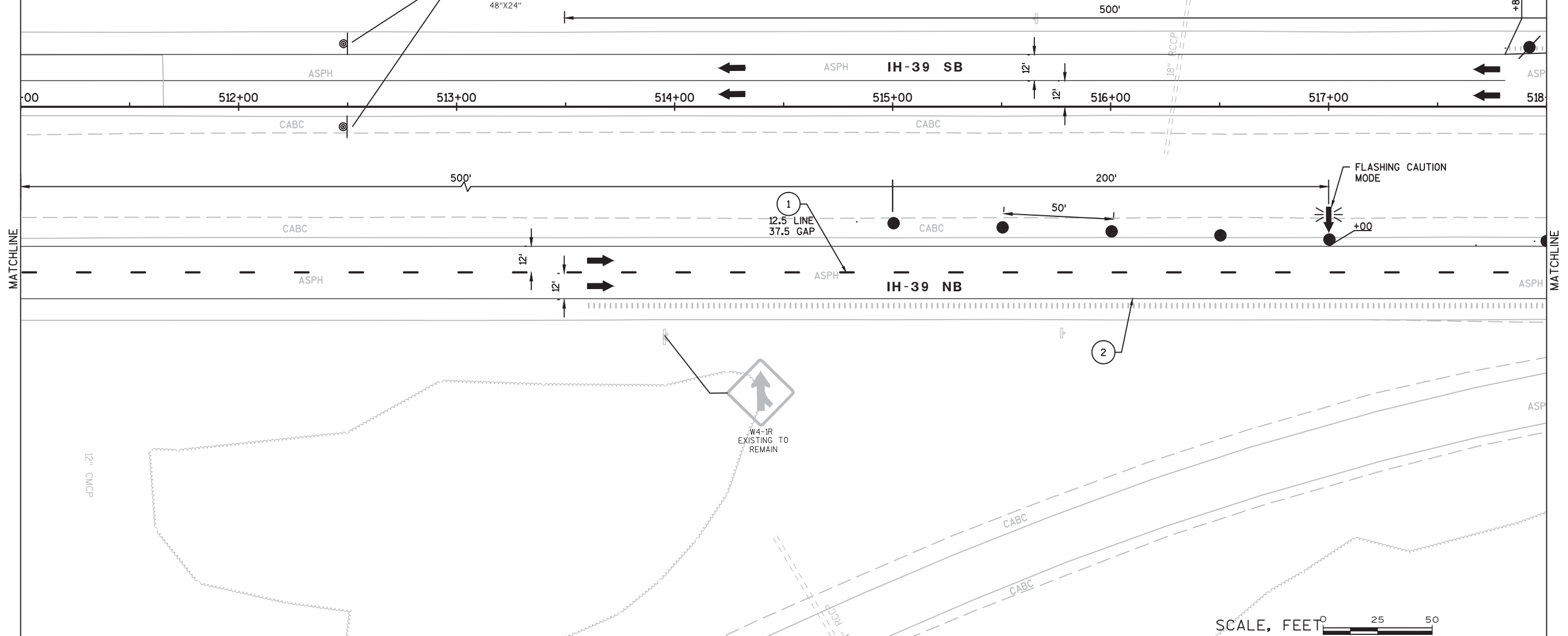
1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
5. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STA 511+00

STA 518+00



SCALE, FEET 0 25 50

STAGE 3A NOTES:

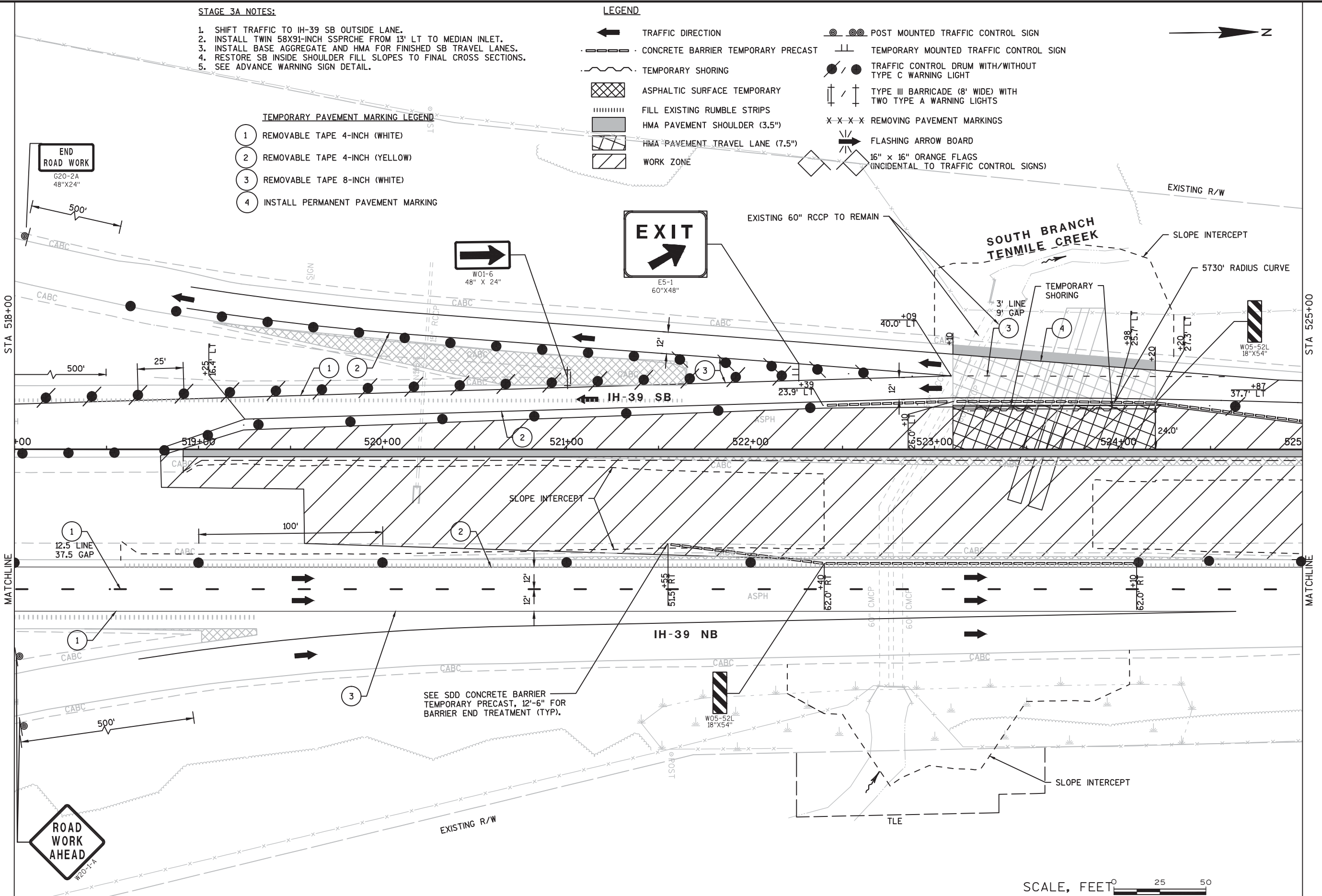
1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ▤ FILL EXISTING RUMBLE STRIPS
- ▥ HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊞ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. REMOVABLE TAPE 8-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKING



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

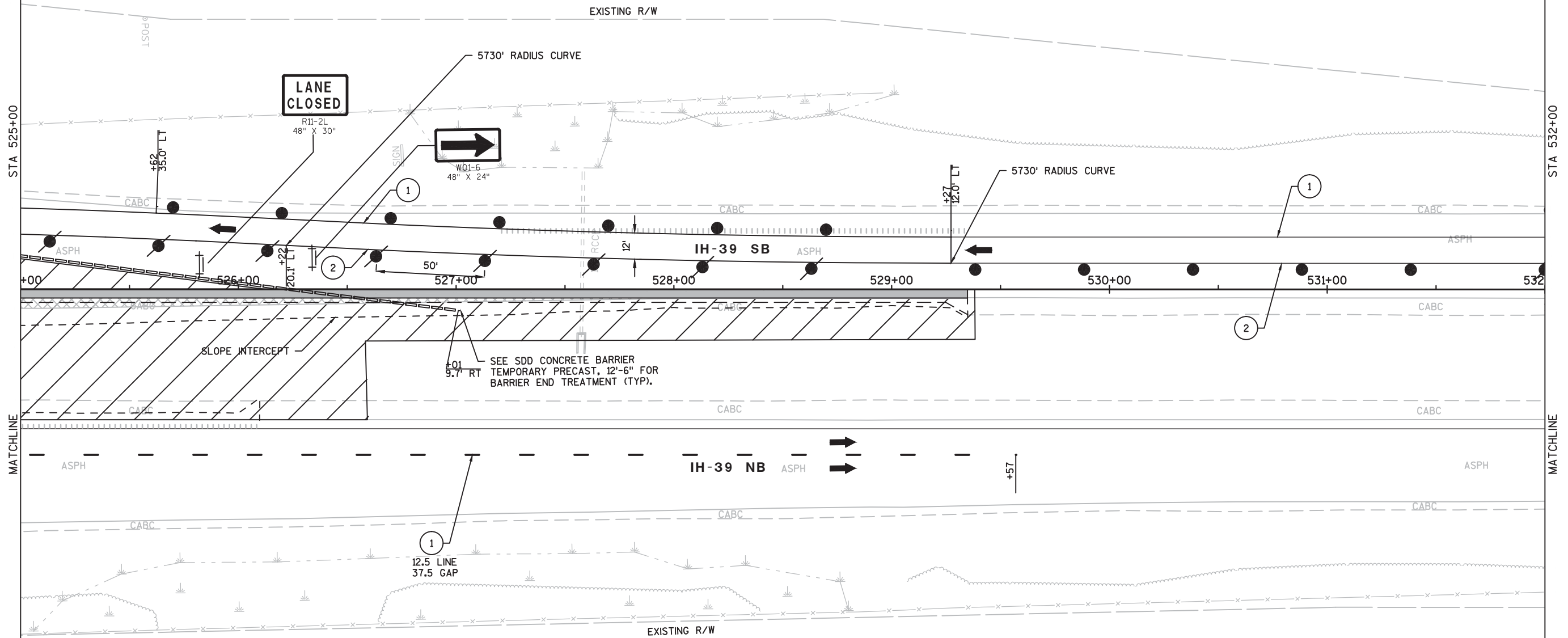
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3A NOTES:

1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

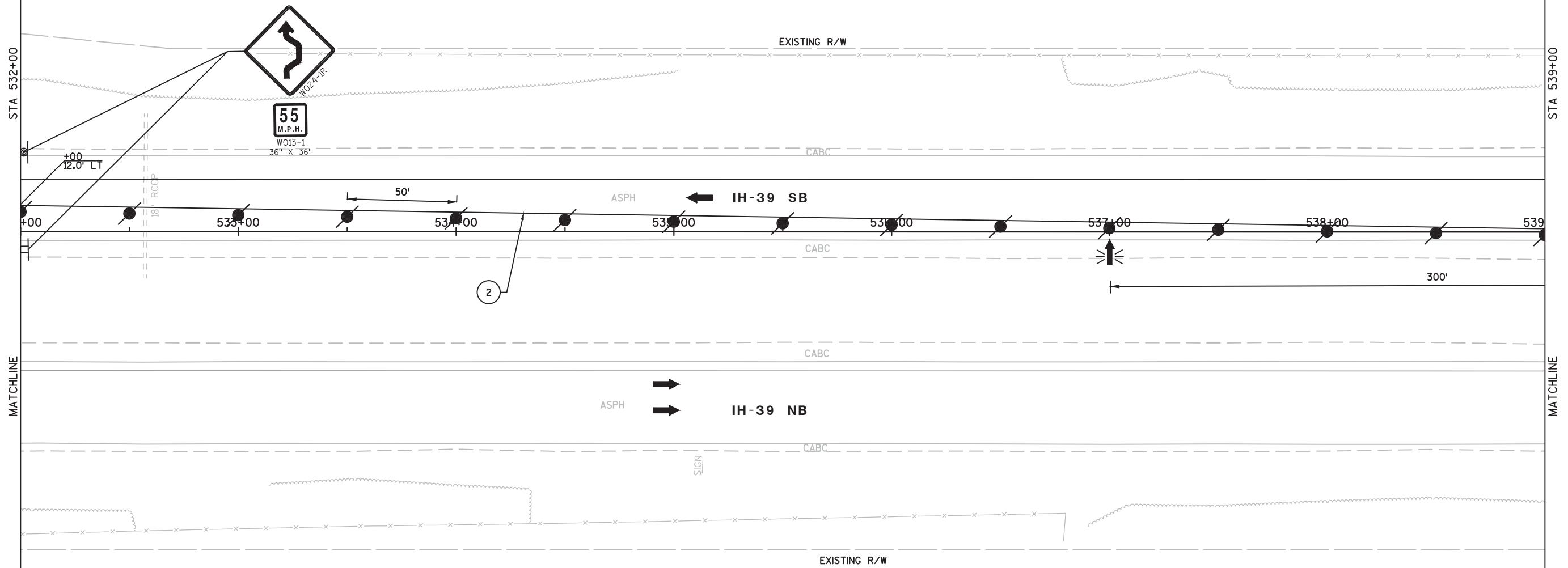
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3A NOTES:

- 1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
- 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
- 3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
- 4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
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- ▨ WORK ZONE
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- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

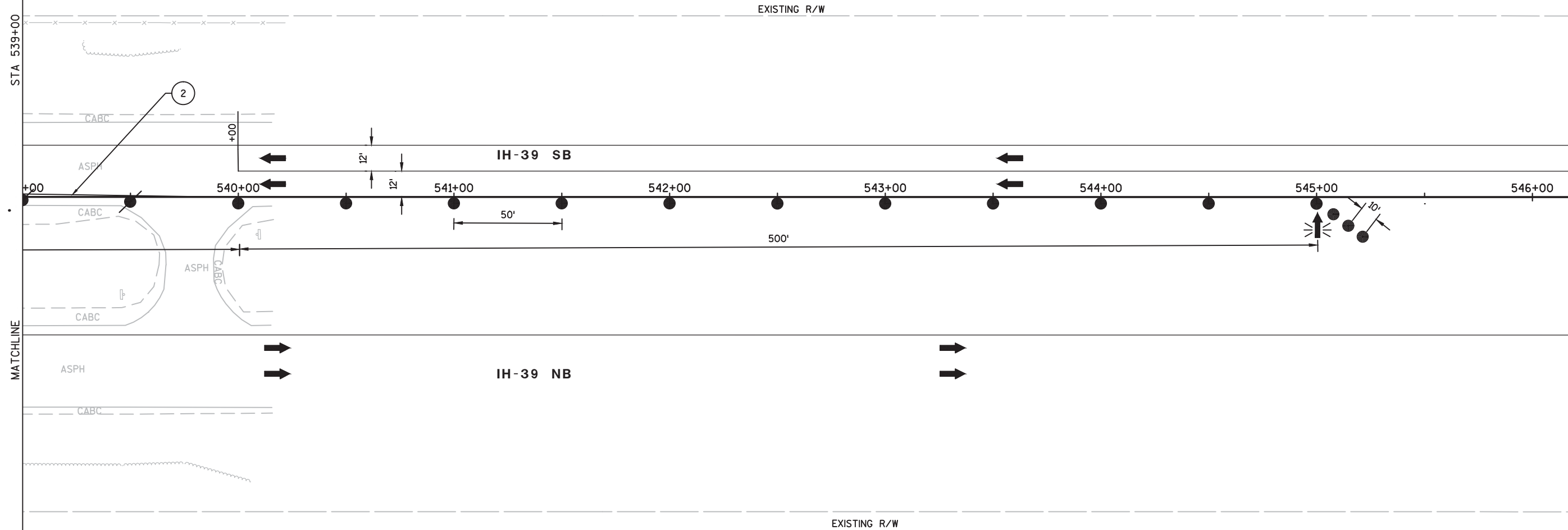
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3A NOTES:

- 1. SHIFT TRAFFIC TO IH-39 SB OUTSIDE LANE.
- 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 13' LT TO MEDIAN INLET.
- 3. INSTALL BASE AGGREGATE AND HMA FOR FINISHED SB TRAVEL LANES.
- 4. RESTORE SB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- x-x-x-x REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

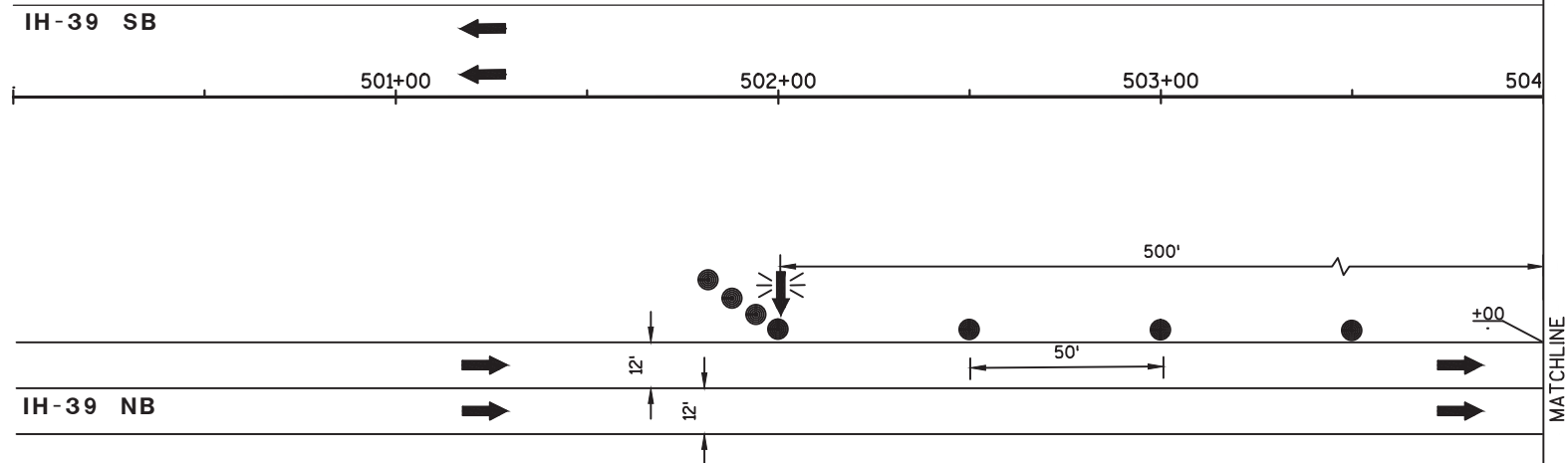
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3B NOTES:

- 1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
- 3. INSTALL CAST IN PLACE INLET.
- 4. INSTALL TWIN 58X91-INCH SSPRCHE FROM MEDIAN INLET TO 78' RT.
- 5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
- 6. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ➡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

MATCHLINE

SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3B NOTES:

- 1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
- 3. INSTALL CAST IN PLACE INLET.
- 4. INSTALL TWIN 58X91-INCH SSPRCHE FROM MEDIAN INLET TO 78' RT.
- 5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
- 6. SEE ADVANCE WARNING SIGN DETAIL.

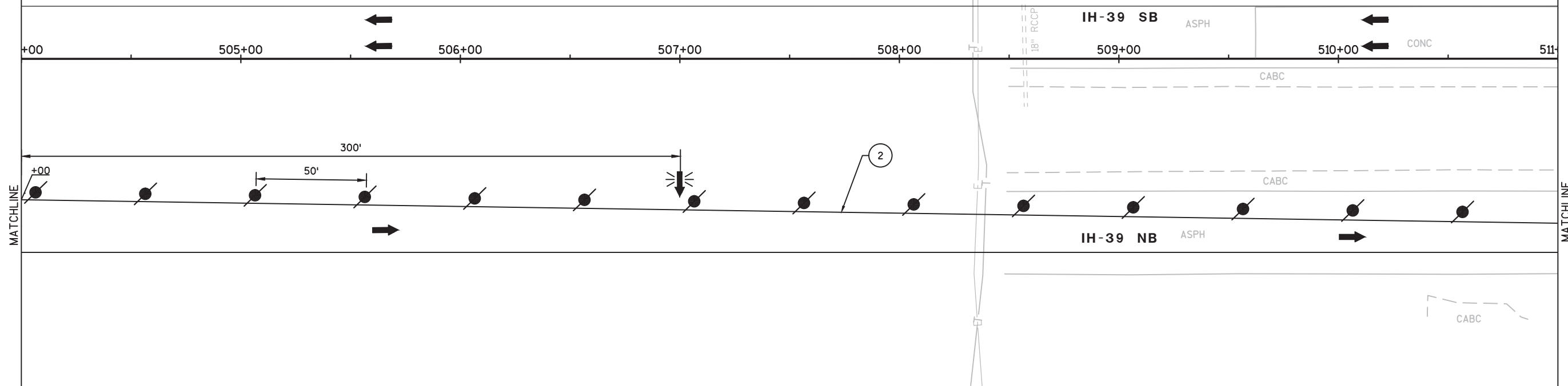
LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ↔ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

STA 511+00



MATCHLINE

MATCHLINE

SCALE, FEET 0 25 50

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

STAGE 3B NOTES:

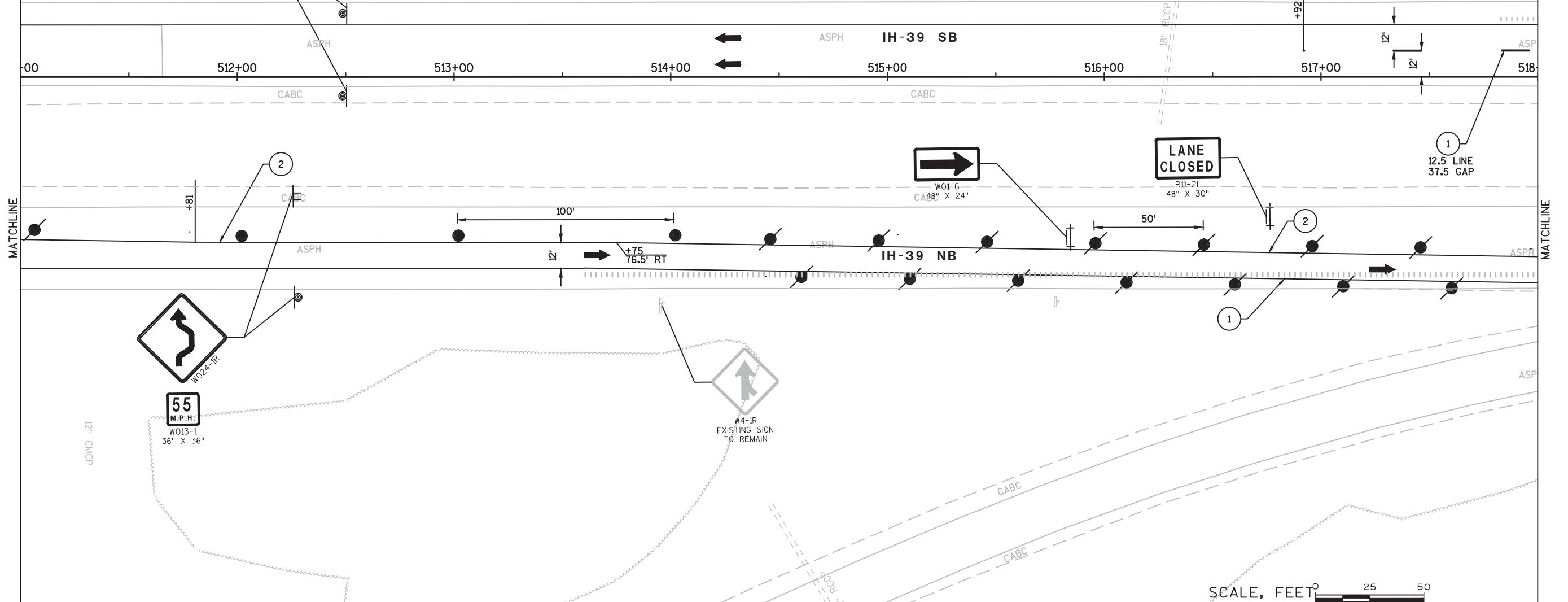
1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
3. INSTALL CAST IN PLACE INLET.
4. INSTALL TWIN 58X91-INCH SSPRCHE FROM MEDIAN INLET TO 78' RT.
5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
6. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STA 511+00

STA 518+00



SCALE, FEET 0 25 50

STAGE 3B NOTES:

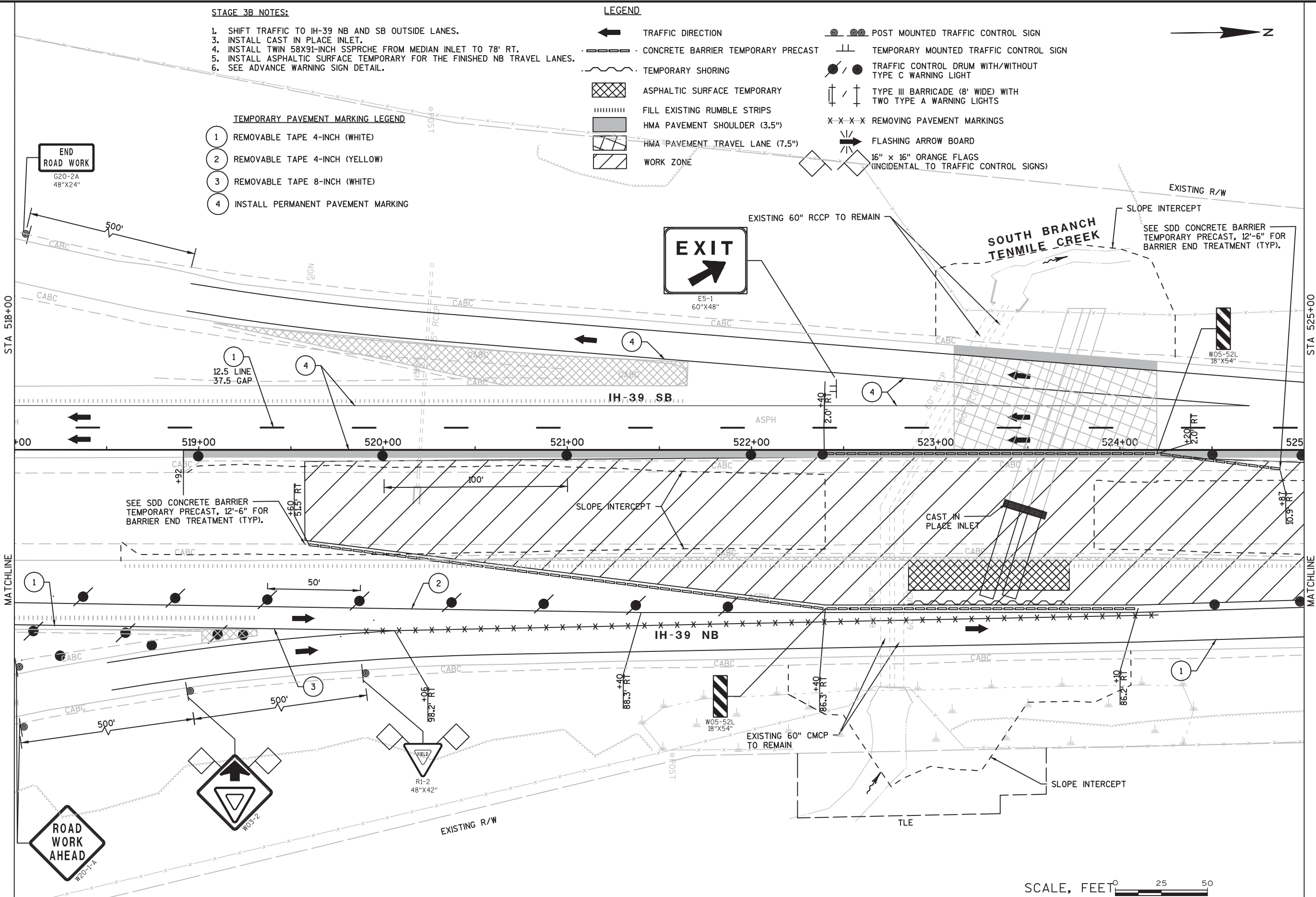
- 1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
- 3. INSTALL CAST IN PLACE INLET.
- 4. INSTALL TWIN 58X91-INCH SSPRCHE FROM MEDIAN INLET TO 78' RT.
- 5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
- 6. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ▤ FILL EXISTING RUMBLE STRIPS
- ▧ HMA PAVEMENT SHOULDER (3.5")
- ▩ HMA PAVEMENT TRAVEL LANE (7.5")
- ▭ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊕ ⊕ ⊕ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

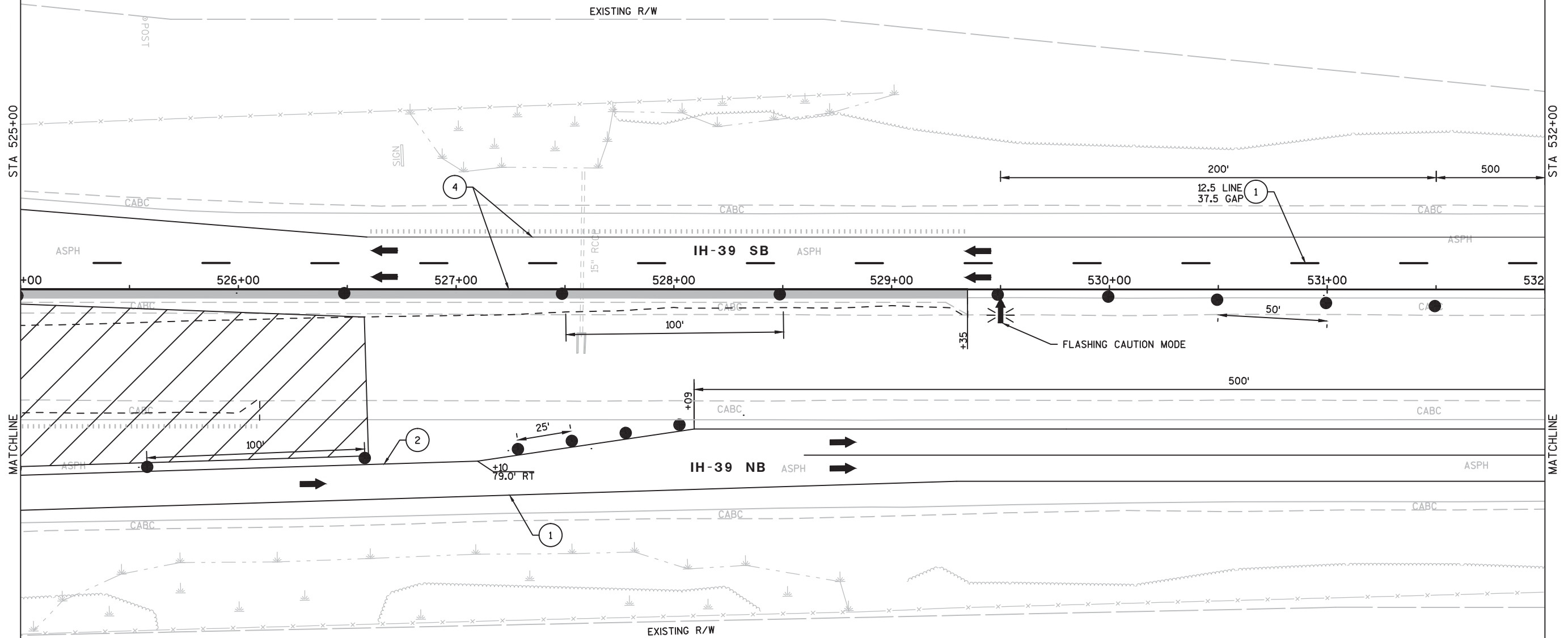
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3B NOTES:

- 1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
- 3. INSTALL CAST IN PLACE INLET.
- 4. INSTALL TWIN 58X91-INCH SSPRCHE FROM MEDIAN INLET TO 78' RT.
- 5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
- 6. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

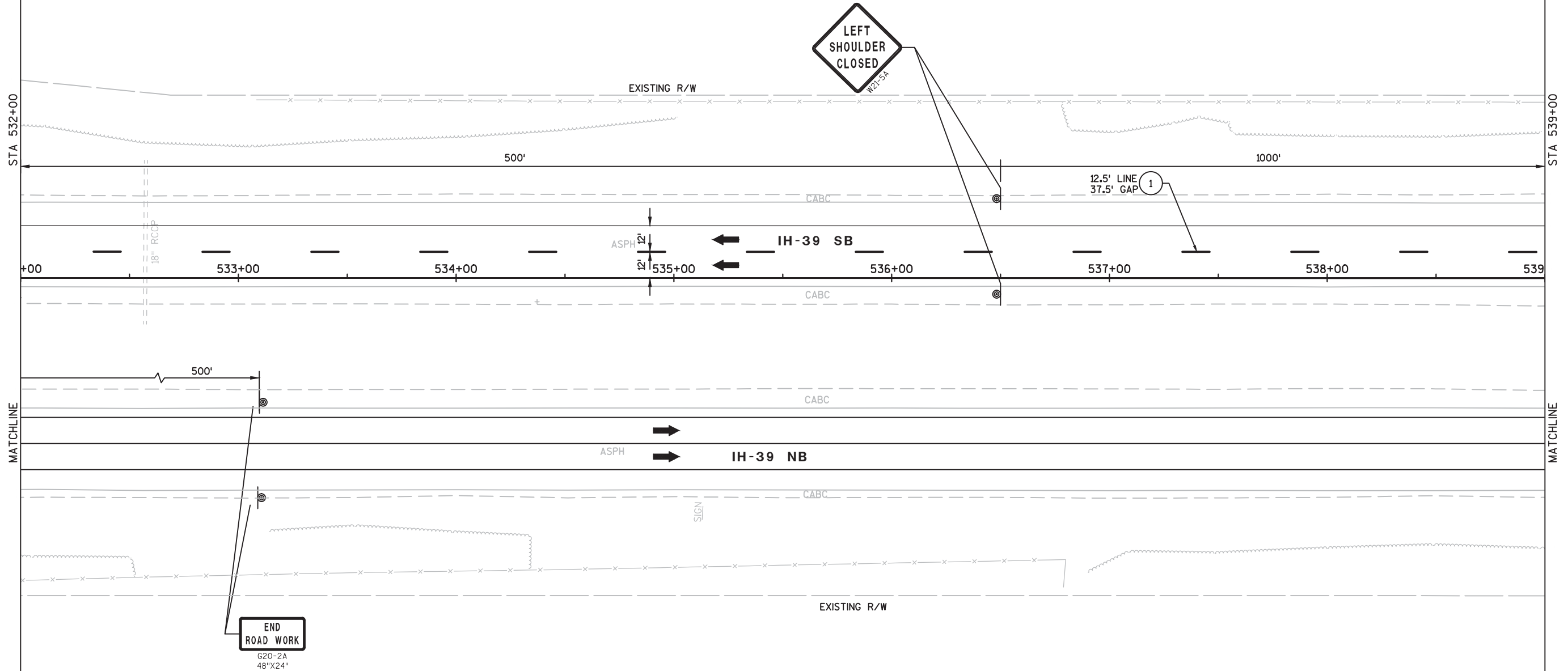
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3B NOTES:

- 1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
- 3. INSTALL CAST IN PLACE INLET.
- 4. INSTALL TWIN 58X91-INCH SSPRCH FROM MEDIAN INLET TO 78' RT.
- 5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
- 6. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

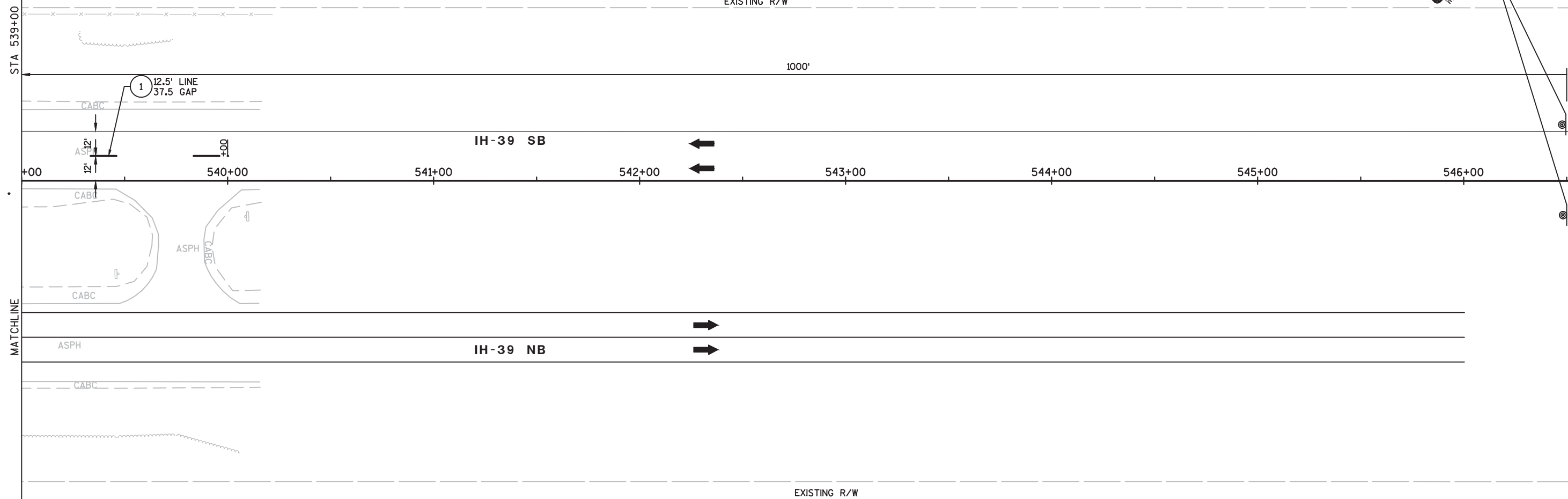
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3B NOTES:

- 1. SHIFT TRAFFIC TO IH-39 NB AND SB OUTSIDE LANES.
- 3. INSTALL CAST IN PLACE INLET.
- 4. INSTALL TWIN 58X91-INCH SSPRCHE FROM MEDIAN INLET TO 78' RT.
- 5. INSTALL ASPHALTIC SURFACE TEMPORARY FOR THE FINISHED NB TRAVEL LANES.
- 6. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- x-x-x-x REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STAGE 4 NOTES:

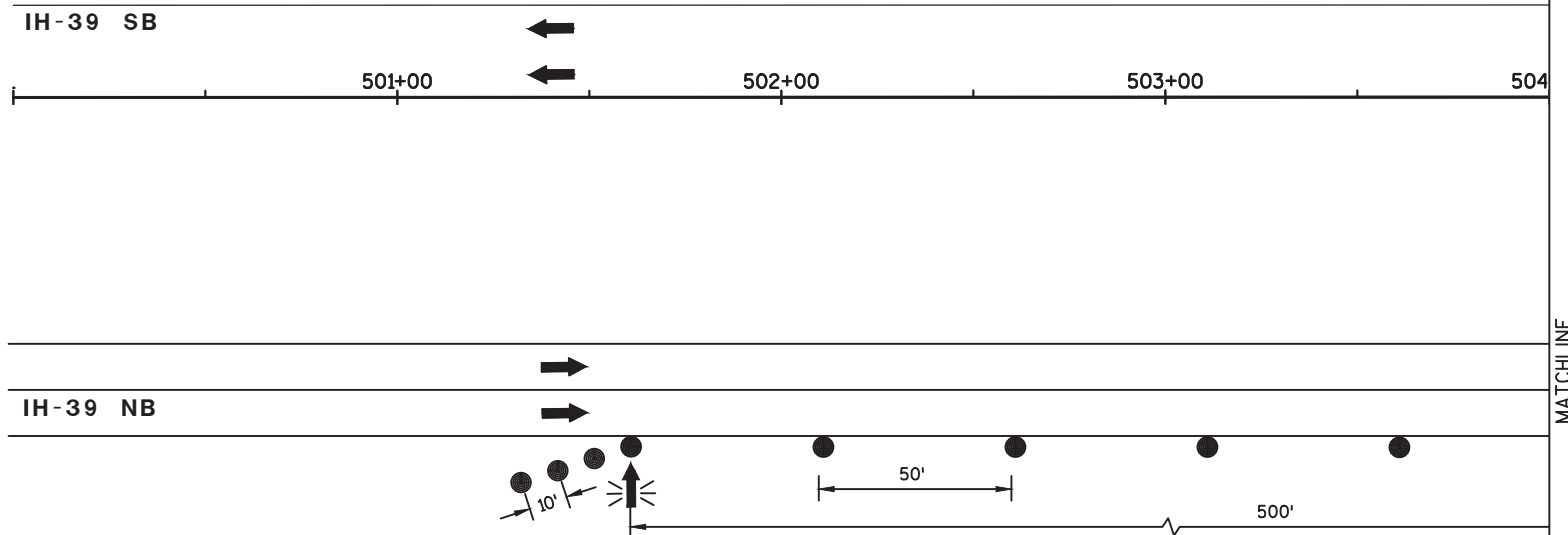
1. SHIFT TRAFFIC TO NB INSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 78' RT TO EAST END.
3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHE.
5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
8. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- x-x-x-x REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

MATCHLINE

SCALE, FEET

STAGE 4 NOTES:

1. SHIFT TRAFFIC TO NB INSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 78' RT TO EAST END.
3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHE.
5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
8. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

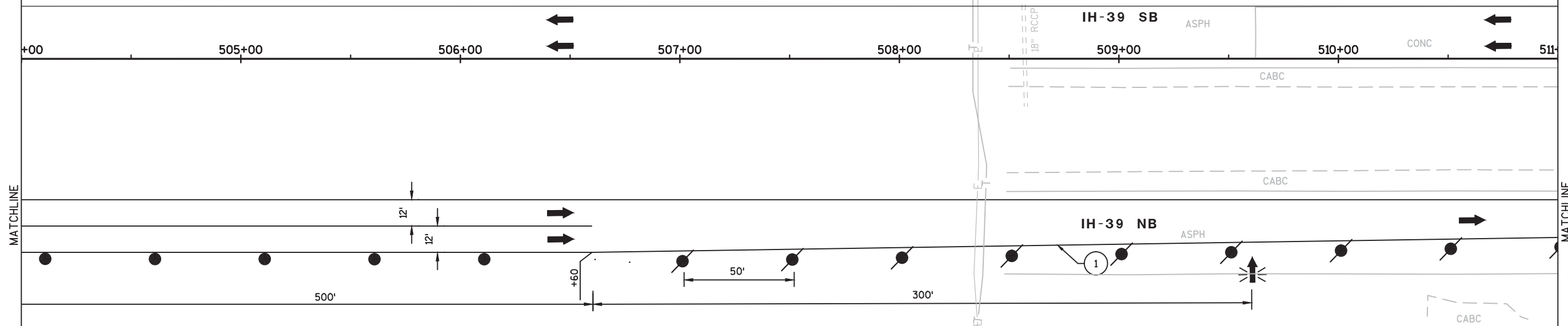
LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

STA 511+00



SCALE, FEET 0 25 50

LEGEND

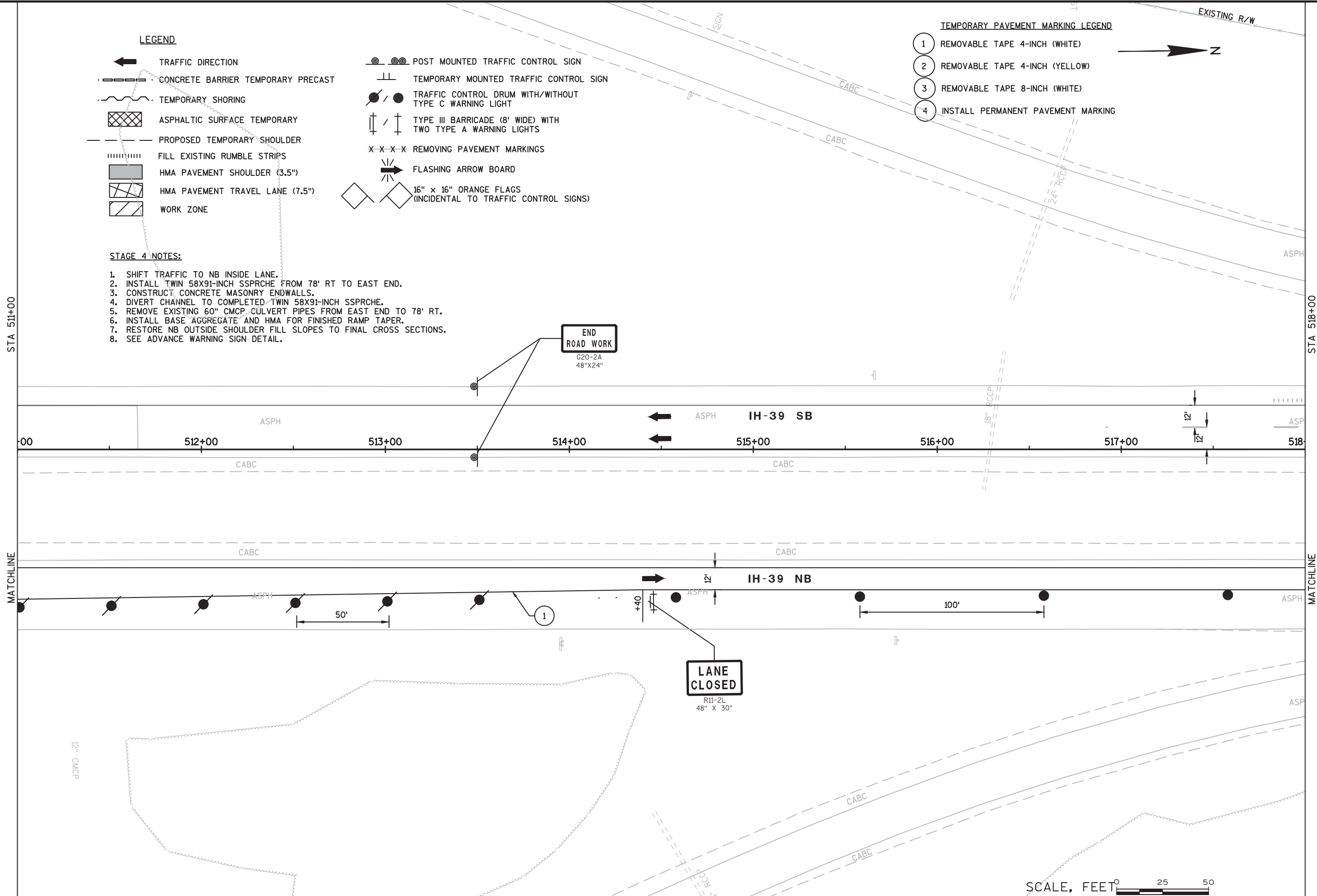
- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- - - TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- - - REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

STAGE 4 NOTES:

1. SHIFT TRAFFIC TO NB INSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHS FROM 78' RT TO EAST END.
3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHS.
5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
8. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- ① REMOVABLE TAPE 4-INCH (WHITE)
- ② REMOVABLE TAPE 4-INCH (YELLOW)
- ③ REMOVABLE TAPE 8-INCH (WHITE)
- ④ INSTALL PERMANENT PAVEMENT MARKING



STAGE 4 NOTES:

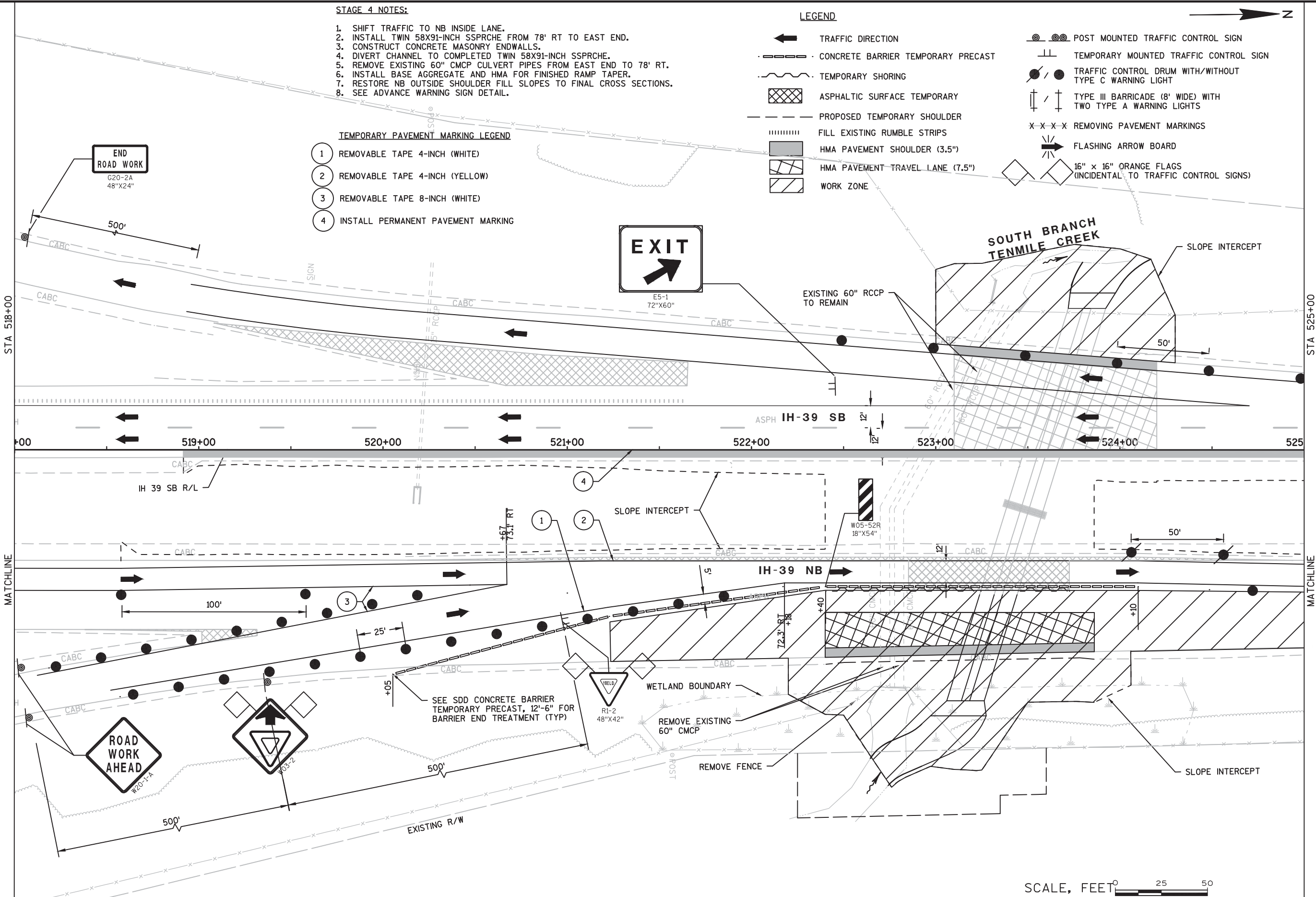
1. SHIFT TRAFFIC TO NB INSIDE LANE.
2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 78' RT TO EAST END.
3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHE.
5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
8. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. REMOVABLE TAPE 8-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKING

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊕ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊕ / ⊕ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

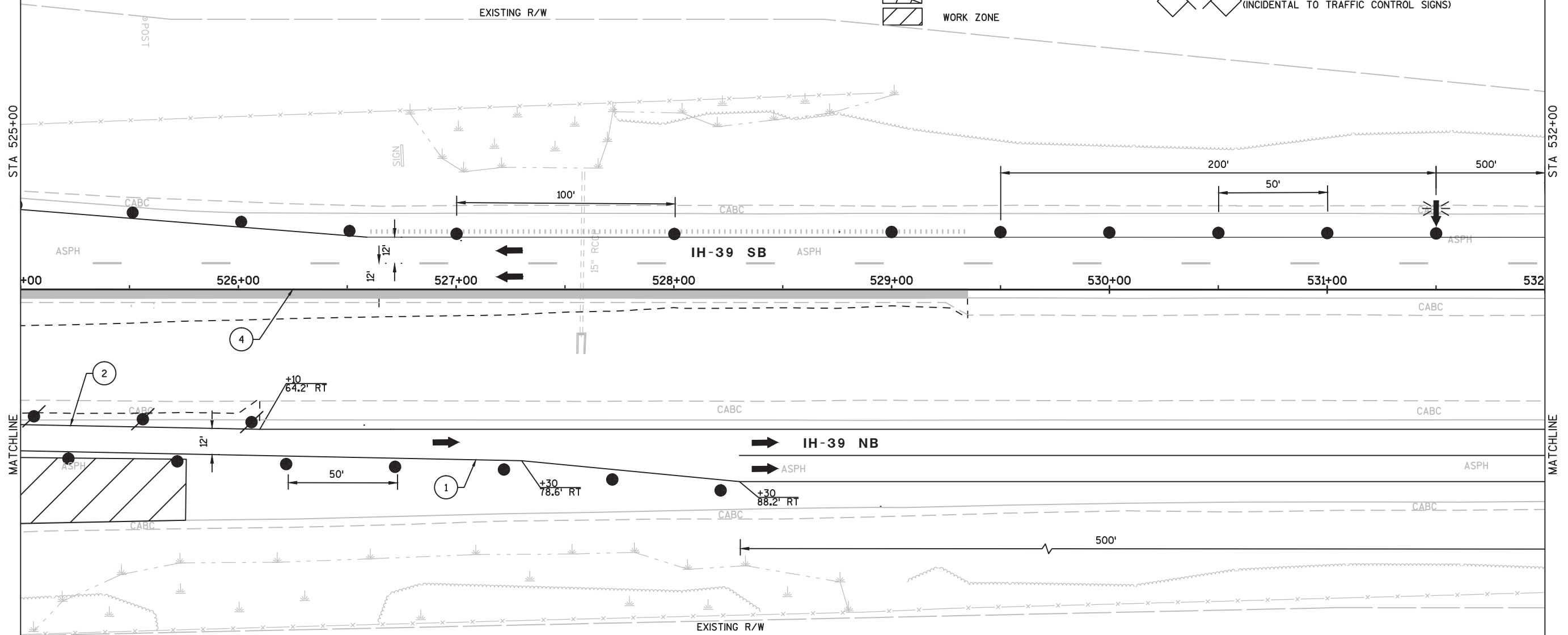


SCALE, FEET 0 25 50

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)
 - 3 REMOVABLE TAPE 8-INCH (WHITE)
 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 4 NOTES:**
1. SHIFT TRAFFIC TO NB INSIDE LANE.
 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 78' RT TO EAST END.
 3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
 4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHE.
 5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
 6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
 7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
 8. SEE ADVANCE WARNING SIGN DETAIL.

- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
 - - - TEMPORARY SHORING
 - ▨ ASPHALTIC SURFACE TEMPORARY
 - - - PROPOSED TEMPORARY SHOULDER
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 - ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
 - ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
 - / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
 - ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ⚡ FLASHING ARROW BOARD
 - ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET

TEMPORARY PAVEMENT MARKING LEGEND

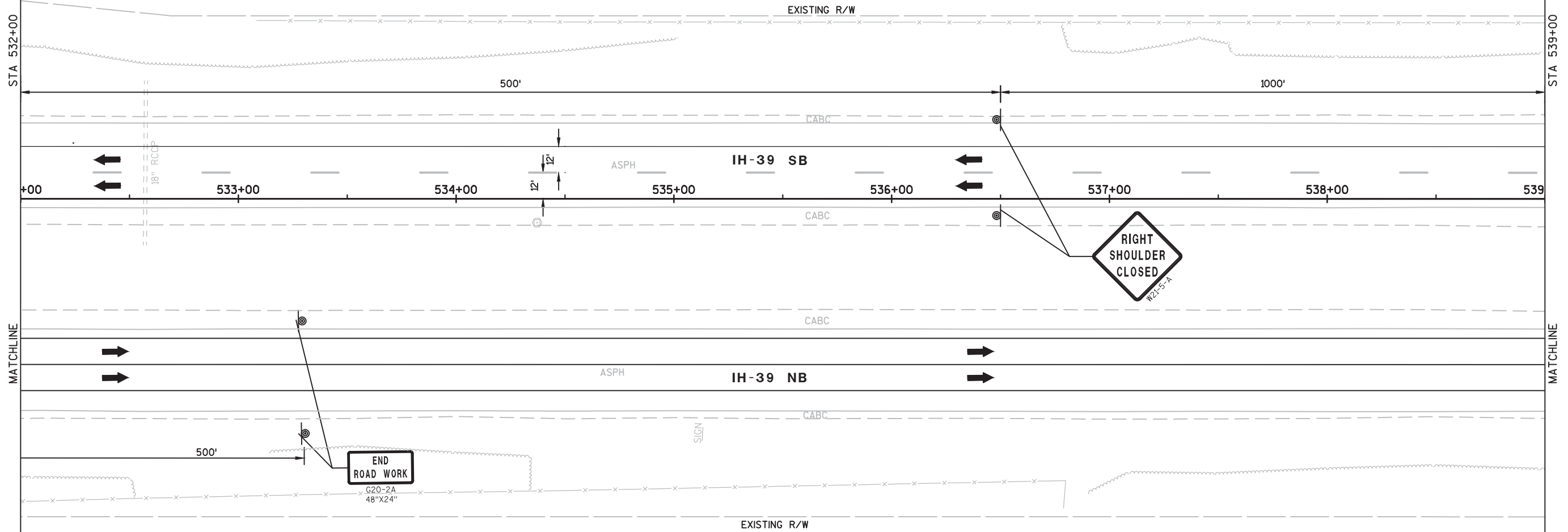
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 4 NOTES:

- 1. SHIFT TRAFFIC TO NB INSIDE LANE.
- 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 78' RT TO EAST END.
- 3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
- 4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHE.
- 5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
- 6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
- 7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
- 8. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
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- - - PROPOSED TEMPORARY SHOULDER
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- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
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- X-X-X-X REMOVING PAVEMENT MARKINGS
- ↔ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

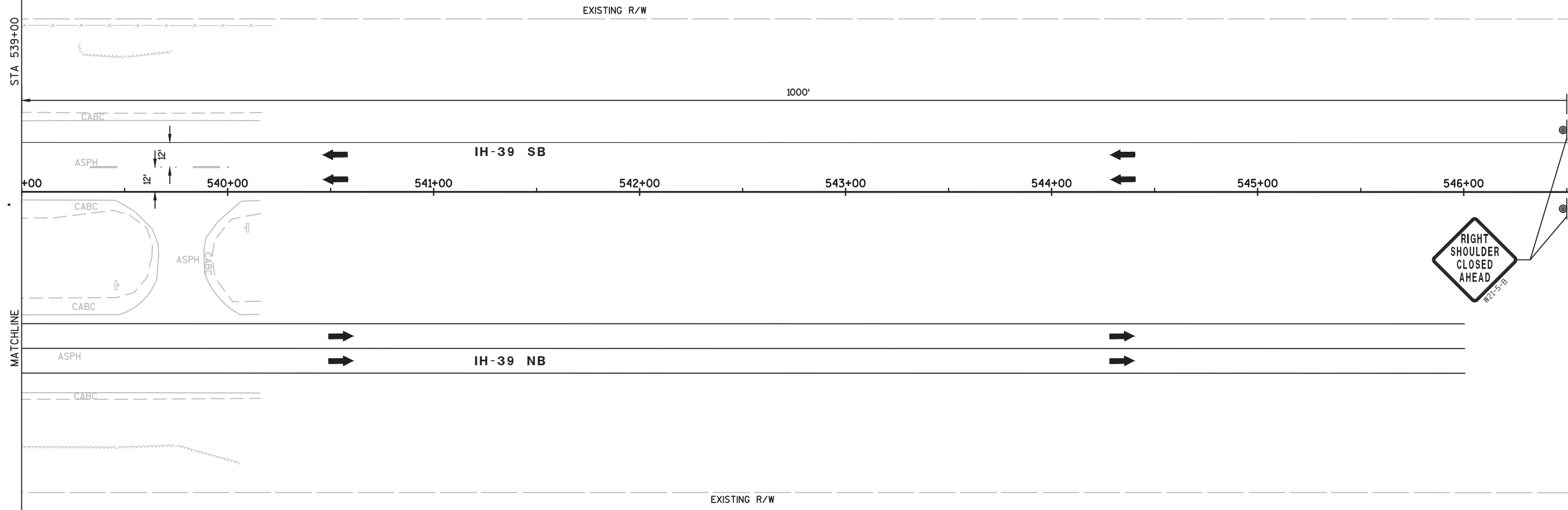


SCALE, FEET 0 25 50

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)
 - 3 REMOVABLE TAPE 8-INCH (WHITE)
 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 4 NOTES:**
1. SHIFT TRAFFIC TO NB INSIDE LANE.
 2. INSTALL TWIN 58X91-INCH SSPRCHE FROM 78' RT TO EAST END.
 3. CONSTRUCT CONCRETE MASONRY ENDWALLS.
 4. DIVERT CHANNEL TO COMPLETED TWIN 58X91-INCH SSPRCHE.
 5. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM EAST END TO 78' RT.
 6. INSTALL BASE AGGREGATE AND HMA FOR FINISHED RAMP TAPER.
 7. RESTORE NB OUTSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
 8. SEE ADVANCE WARNING SIGN DETAIL.

- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
 - ~ TEMPORARY SHORING
 - ▨ ASPHALTIC SURFACE TEMPORARY
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 - ▩ WORK ZONE
 - ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
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 - / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
 - ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ⚡ FLASHING ARROW BOARD
 - ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)





TEMPORARY PAVEMENT MARKING LEGEND

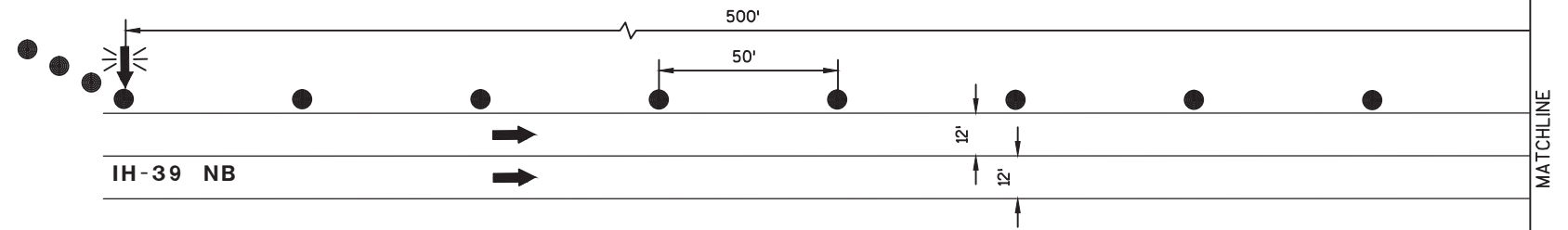
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

STAGE 5A NOTES:

1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
2. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM 78' RT TO BEND.
3. REMOVE EXISTING 60" RCCP CULVERT PIPE ENDS AND ENDWALL TO 66' LT AND 29' RT.
4. FILL EXISTING 60" RCCP CULVERT PIPES UNDER SB LANES WITH CONCRETE SLURRY AND ABANDON PIPE.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED NB TRAVEL LANES.
6. RESTORE NB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
7. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SHORING
- ASPHALTIC SURFACE TEMPORARY
- PROPOSED TEMPORARY SHOULDER
- FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- HMA PAVEMENT TRAVEL LANE (7.5")
- WORK ZONE
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD
- 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

MATCHLINE

SCALE, FEET

STAGE 5A NOTES:

1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
2. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM 78' RT TO BEND.
3. REMOVE EXISTING 60" RCCP CULVERT PIPE ENDS AND ENDWALL TO 66' LT AND 29' RT.
4. FILL EXISTING 60" RCCP CULVERT PIPES UNDER SB LANES WITH CONCRETE SLURRY AND ABANDON PIPE.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED NB TRAVEL LANES.
6. RESTORE NB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
7. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

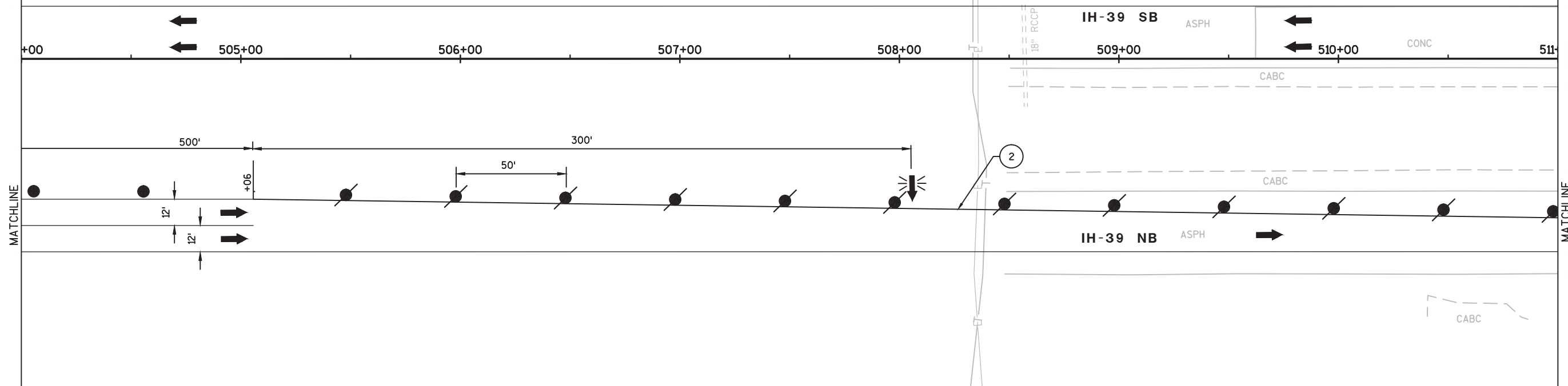
LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
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- WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
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- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

STA 511+00



SCALE, FEET 0 25 50

LEGEND

- TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SHORING
- ASPHALTIC SURFACE TEMPORARY
- PROPOSED TEMPORARY SHOULDER
- FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
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- WORK ZONE

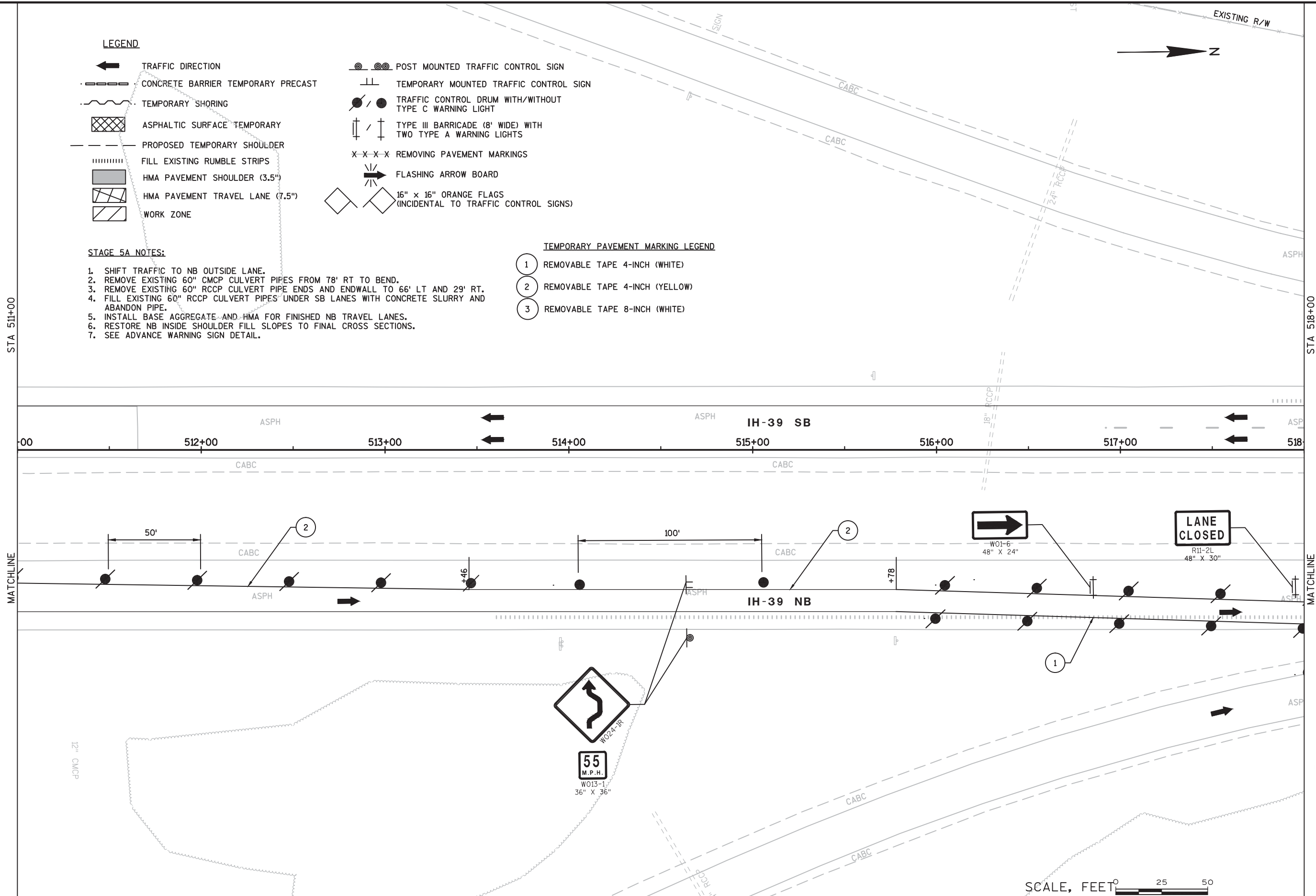
- POST MOUNTED TRAFFIC CONTROL SIGN
- TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD
- 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

STAGE 5A NOTES:

1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
2. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM 78' RT TO BEND.
3. REMOVE EXISTING 60" RCCP CULVERT PIPE ENDS AND ENDWALL TO 66' LT AND 29' RT.
4. FILL EXISTING 60" RCCP CULVERT PIPES UNDER SB LANES WITH CONCRETE SLURRY AND ABANDON PIPE.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED NB TRAVEL LANES.
6. RESTORE NB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
7. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)



STAGE 5A NOTES:

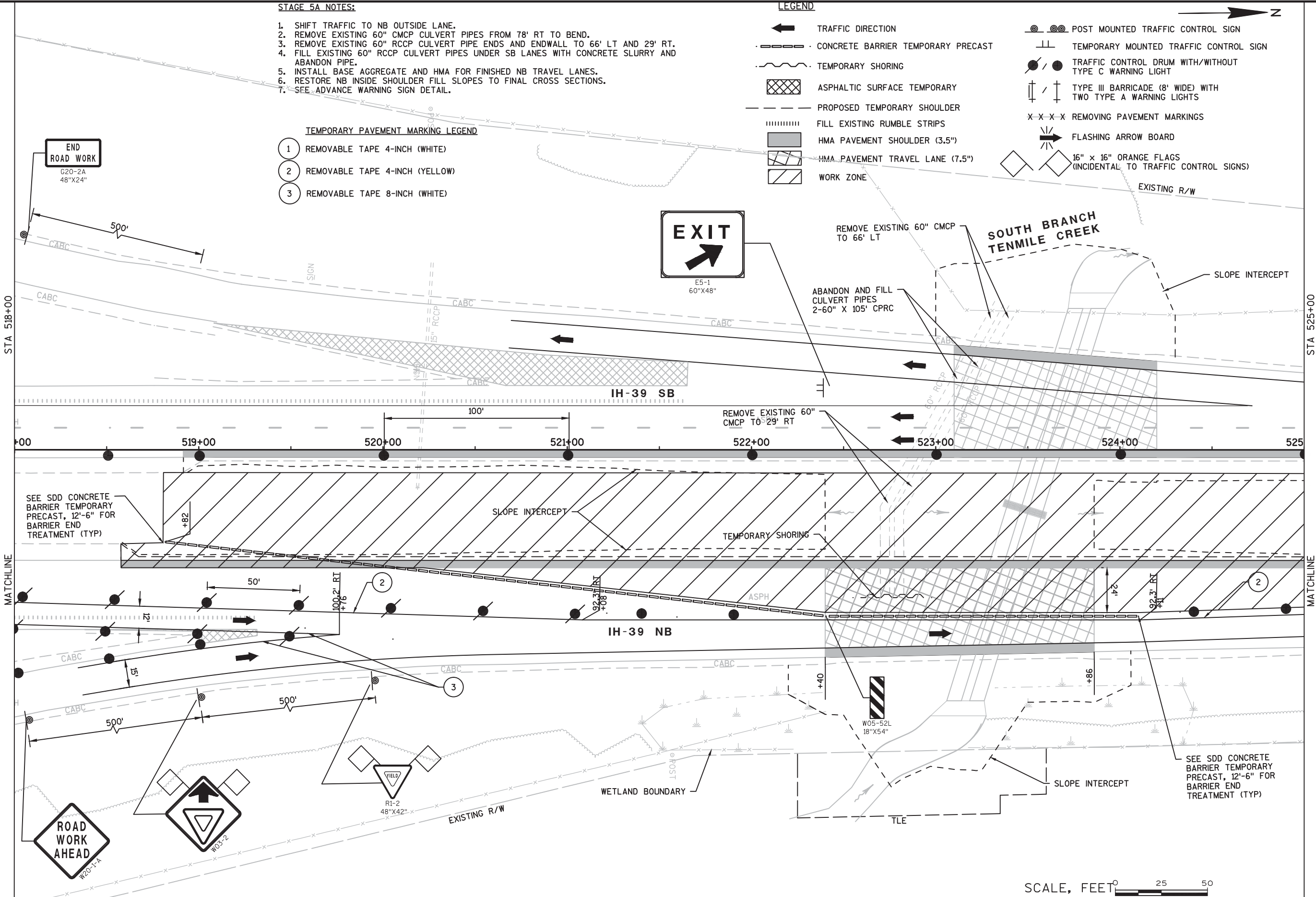
1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
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TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. REMOVABLE TAPE 8-INCH (WHITE)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- - - TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
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- ▨ HMA PAVEMENT SHOULDER (3.5")
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- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- x-x-x-x REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

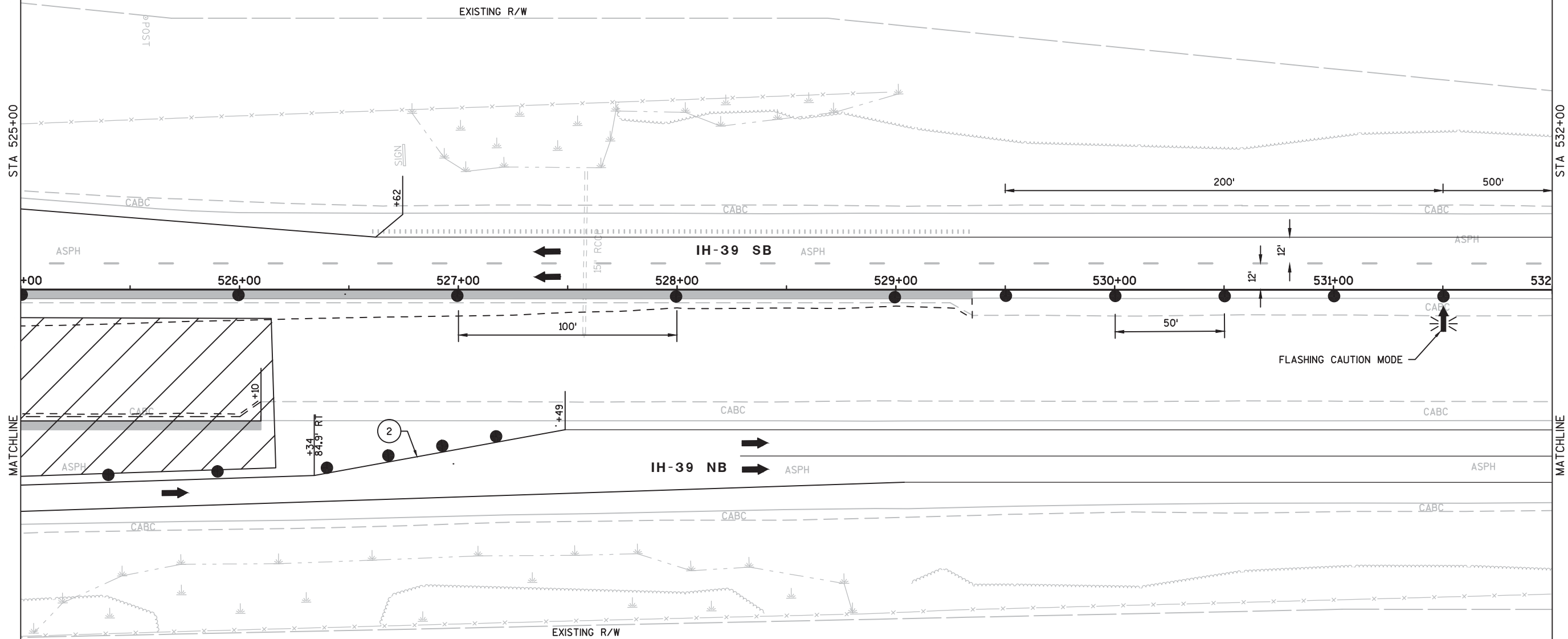
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

STAGE 5A NOTES:

1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
2. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM 78' RT TO BEND.
3. REMOVE EXISTING 60" RCCP CULVERT PIPE ENDS AND ENDWALL TO 66' LT AND 29' RT.
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5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED NB TRAVEL LANES.
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LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▩ HMA PAVEMENT TRAVEL LANE (7.5")
- ▧ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

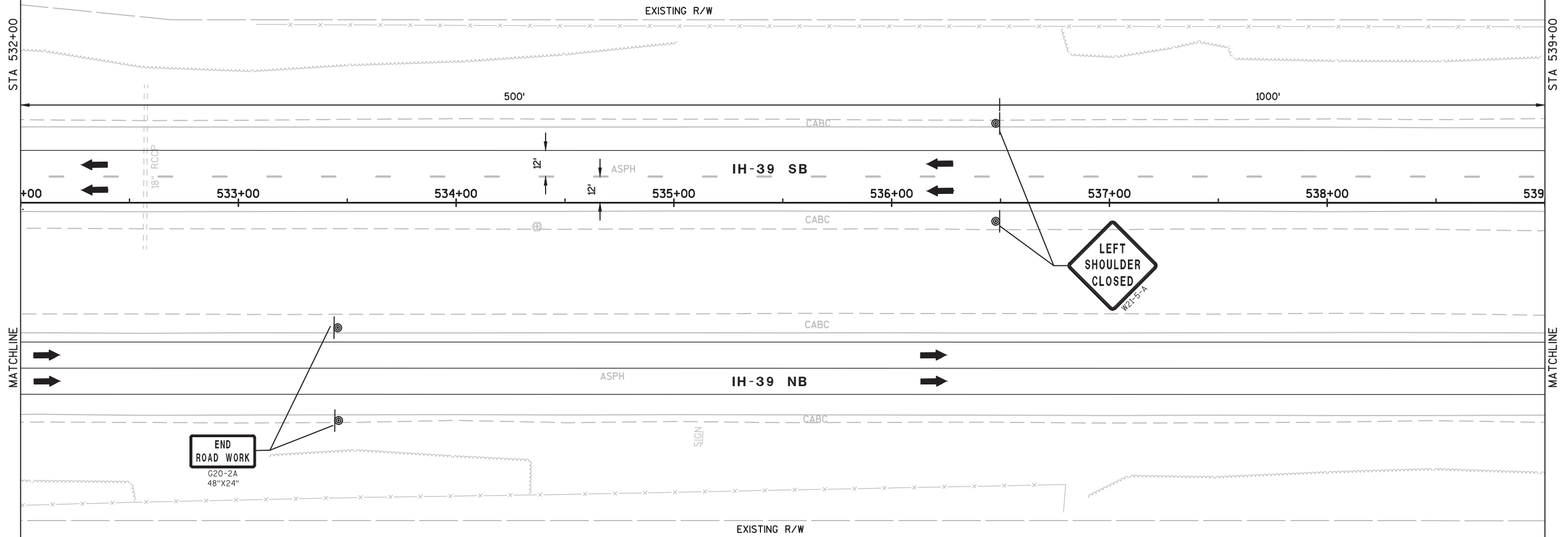
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

STAGE 5A NOTES:

1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
2. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM 78' RT TO BEND.
3. REMOVE EXISTING 60" RCCP CULVERT PIPE ENDS AND ENDWALL TO 66' LT AND 29' RT.
4. FILL EXISTING 60" RCCP CULVERT PIPES UNDER SB LANES WITH CONCRETE SLURRY AND ABANDON PIPE.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED NB TRAVEL LANES.
6. RESTORE NB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
7. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

STAGE 5A NOTES:

1. SHIFT TRAFFIC TO NB OUTSIDE LANE.
2. REMOVE EXISTING 60" CMCP CULVERT PIPES FROM 78' RT TO BEND.
3. REMOVE EXISTING 60" RCCP CULVERT PIPE ENDS AND ENDWALL TO 66' LT AND 29' RT.
4. FILL EXISTING 60" RCCP CULVERT PIPES UNDER SB LANES WITH CONCRETE SLURRY AND ABANDON PIPE.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED NB TRAVEL LANES.
6. RESTORE NB INSIDE SHOULDER FILL SLOPES TO FINAL CROSS SECTIONS.
7. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- x-x-x-x REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 539+00

EXISTING R/W

1000'

+00

540+00

541+00

542+00

543+00

544+00

545+00

546+00

IH-39 SB

IH-39 NB



MATCHLINE

SCALE, FEET 0 25 50

STAGE 5B NOTES:

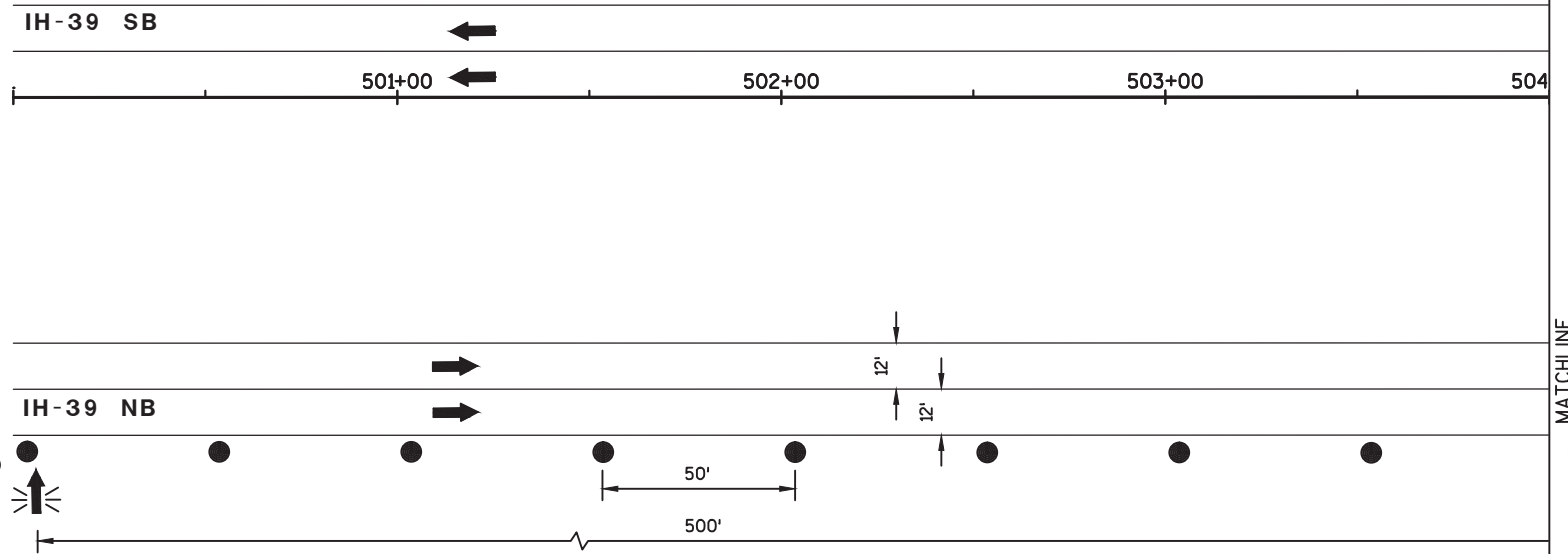
1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
2. RESTORE NB AND SB OUTSIDE SHOULDER.
3. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

MATCHLINE

SCALE, FEET

STAGE 5B NOTES:

- 1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
- 2. RESTORE NB AND SB OUTSIDE SHOULDER.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

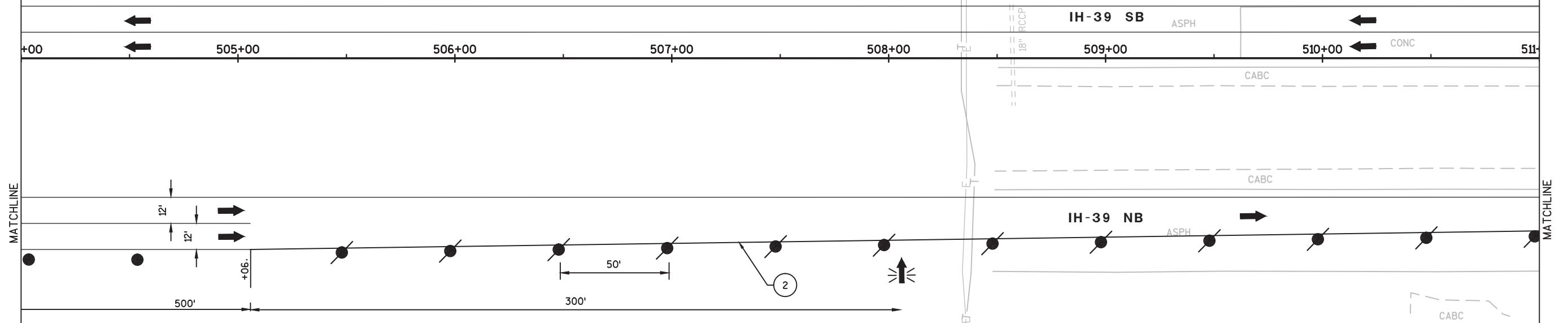
LEGEND

- ← TRAFFIC DIRECTION
- - - CONCRETE BARRIER TEMPORARY PRECAST
- - - TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



STA 504+00

STA 511+00



MATCHLINE

MATCHLINE

SCALE, FEET

LEGEND

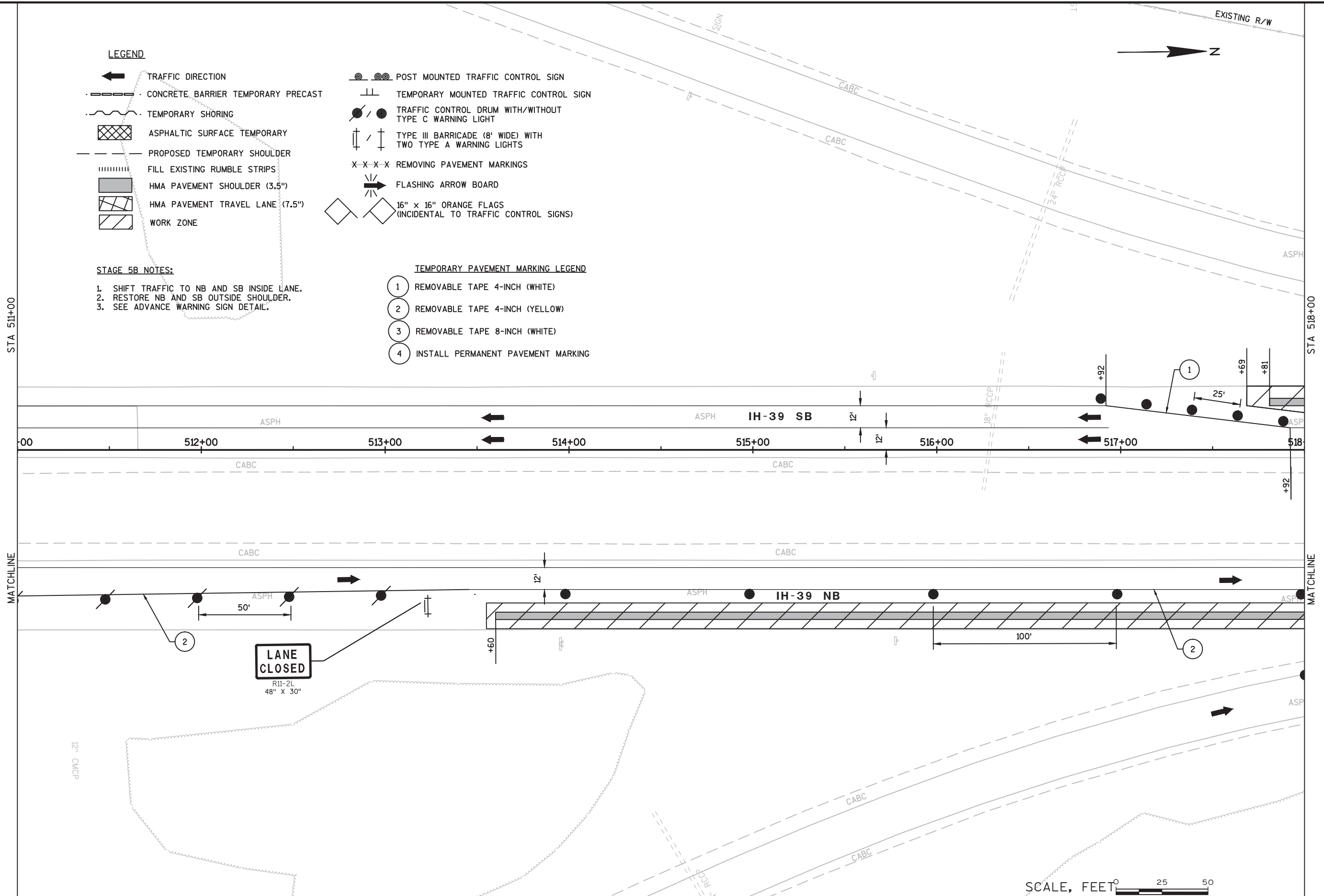
- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- - - TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

STAGE 5B NOTES:

1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
2. RESTORE NB AND SB OUTSIDE SHOULDER.
3. SEE ADVANCE WARNING SIGN DETAIL.

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING



SCALE, FEET 0 25 50

STAGE 5B NOTES:

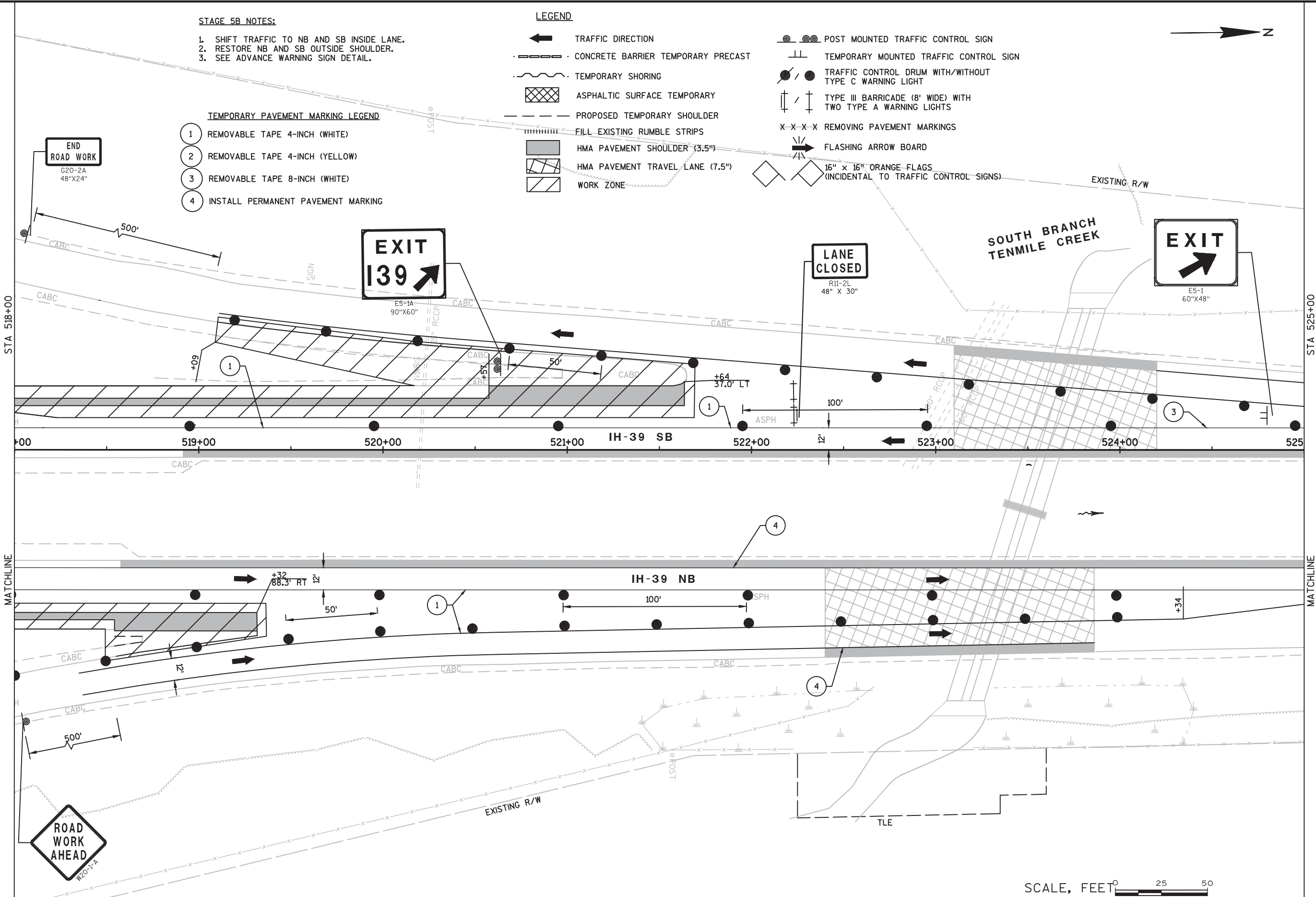
1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
2. RESTORE NB AND SB OUTSIDE SHOULDER.
3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ||| TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⬆ FLASHING ARROW BOARD
- ◇ ◇ 16" X 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)

TEMPORARY PAVEMENT MARKING LEGEND

1. REMOVABLE TAPE 4-INCH (WHITE)
2. REMOVABLE TAPE 4-INCH (YELLOW)
3. REMOVABLE TAPE 8-INCH (WHITE)
4. INSTALL PERMANENT PAVEMENT MARKING



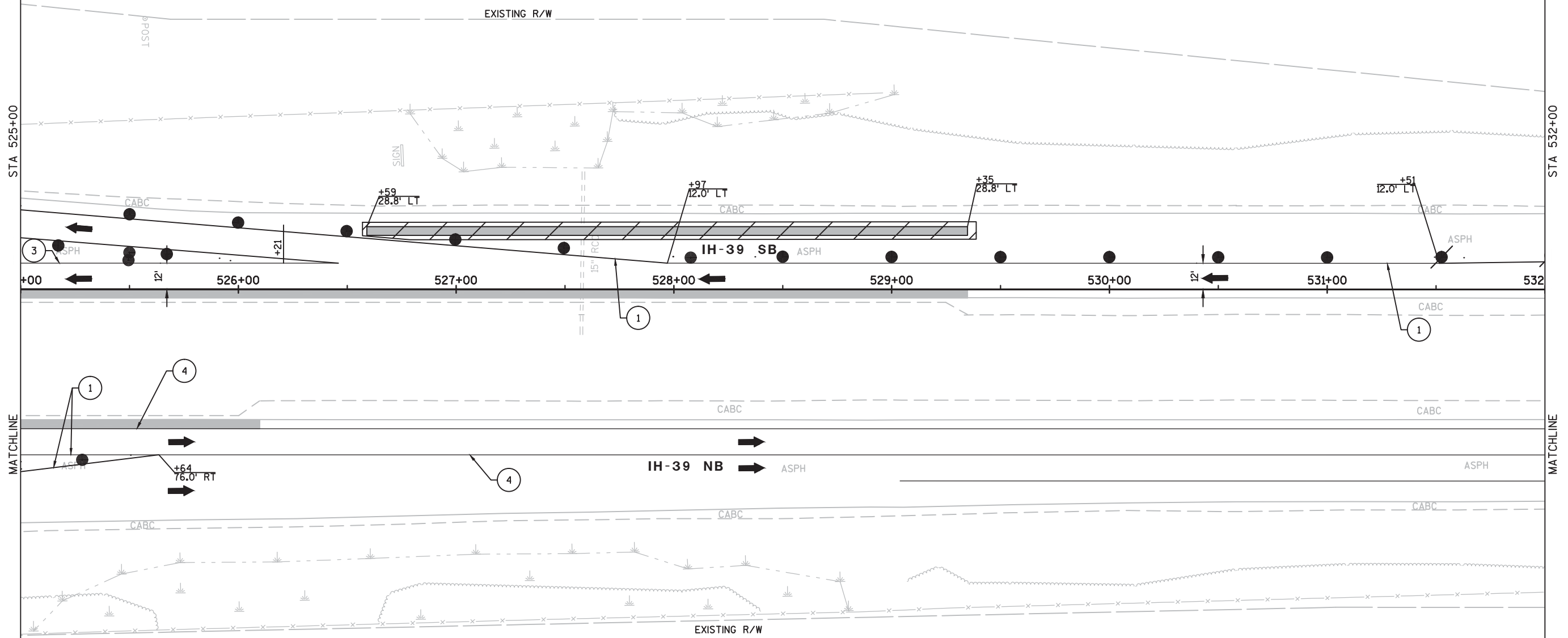
SCALE, FEET 0 25 50

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)
 - 3 REMOVABLE TAPE 8-INCH (WHITE)
 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 5B NOTES:**
1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
 2. RESTORE NB AND SB OUTSIDE SHOULDER.
 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ▨ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

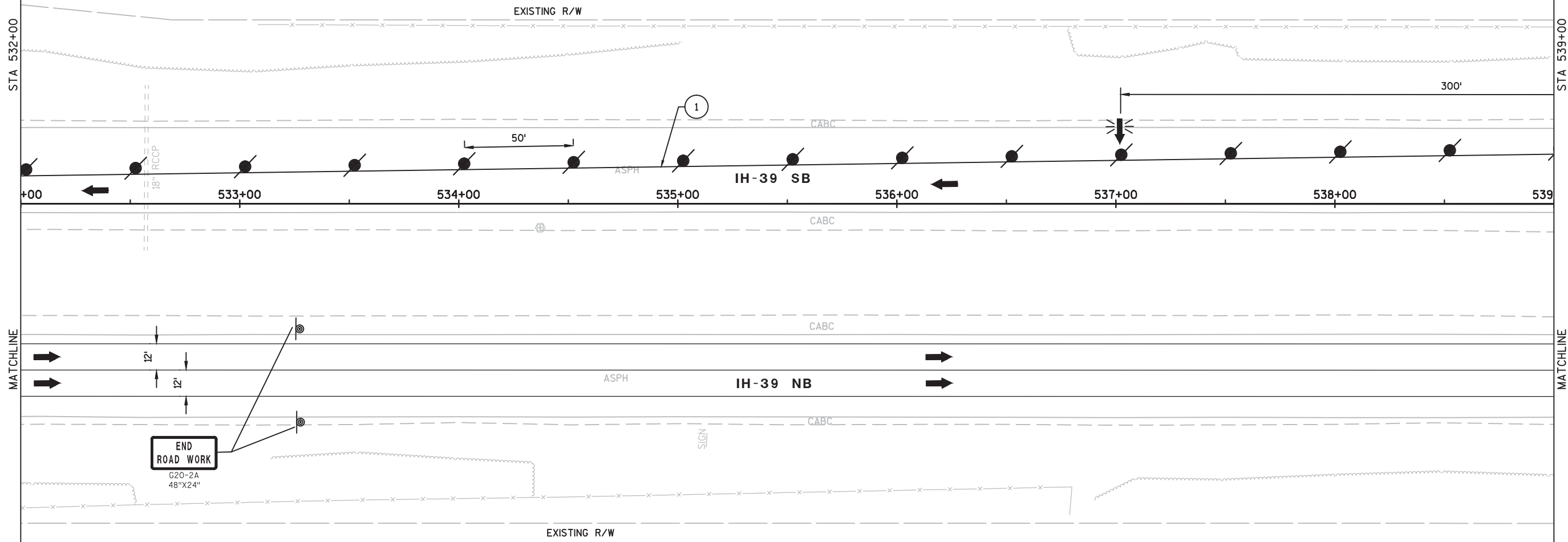
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 5B NOTES:

- 1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
- 2. RESTORE NB AND SB OUTSIDE SHOULDER.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



END ROAD WORK

G20-2A
48"X24"

SCALE, FEET

TEMPORARY PAVEMENT MARKING LEGEND

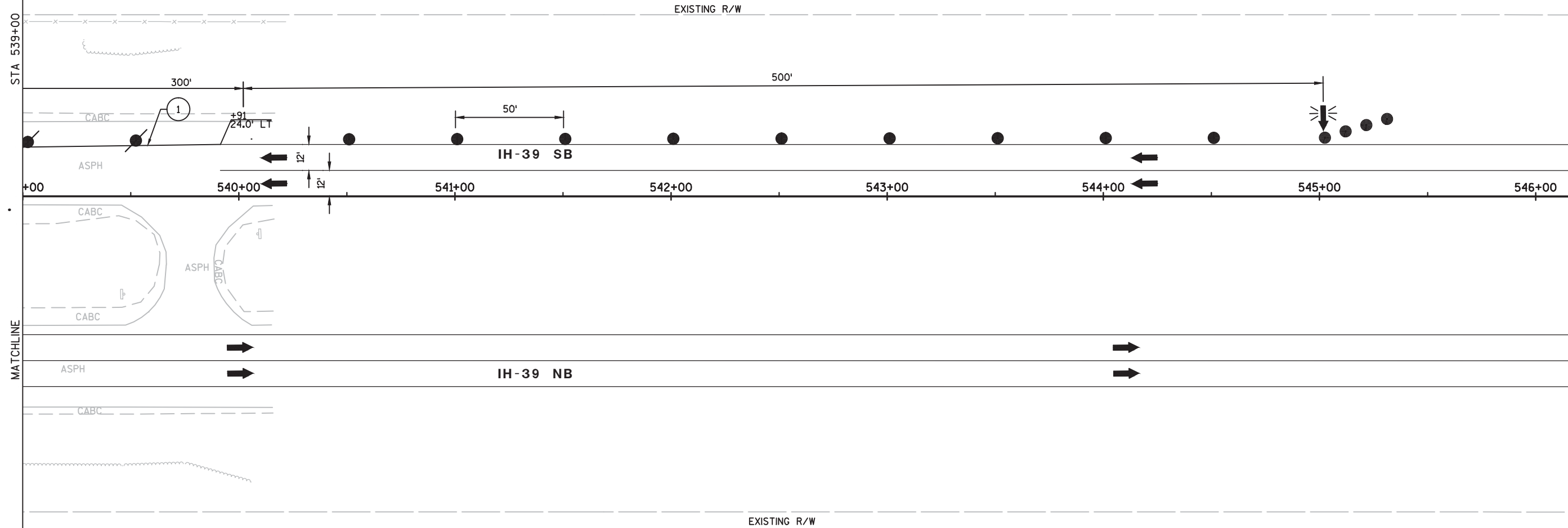
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 3 REMOVABLE TAPE 8-INCH (WHITE)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 5B NOTES:

- 1. SHIFT TRAFFIC TO NB AND SB INSIDE LANE.
- 2. RESTORE NB AND SB OUTSIDE SHOULDER.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- HMA PAVEMENT SHOULDER (3.5")
- ▧ HMA PAVEMENT TRAVEL LANE (7.5")
- ▩ WORK ZONE
- ⊙ ⊙⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊥ TEMPORARY MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD
- ◇ 16" x 16" ORANGE FLAGS (INCIDENTAL TO TRAFFIC CONTROL SIGNS)



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

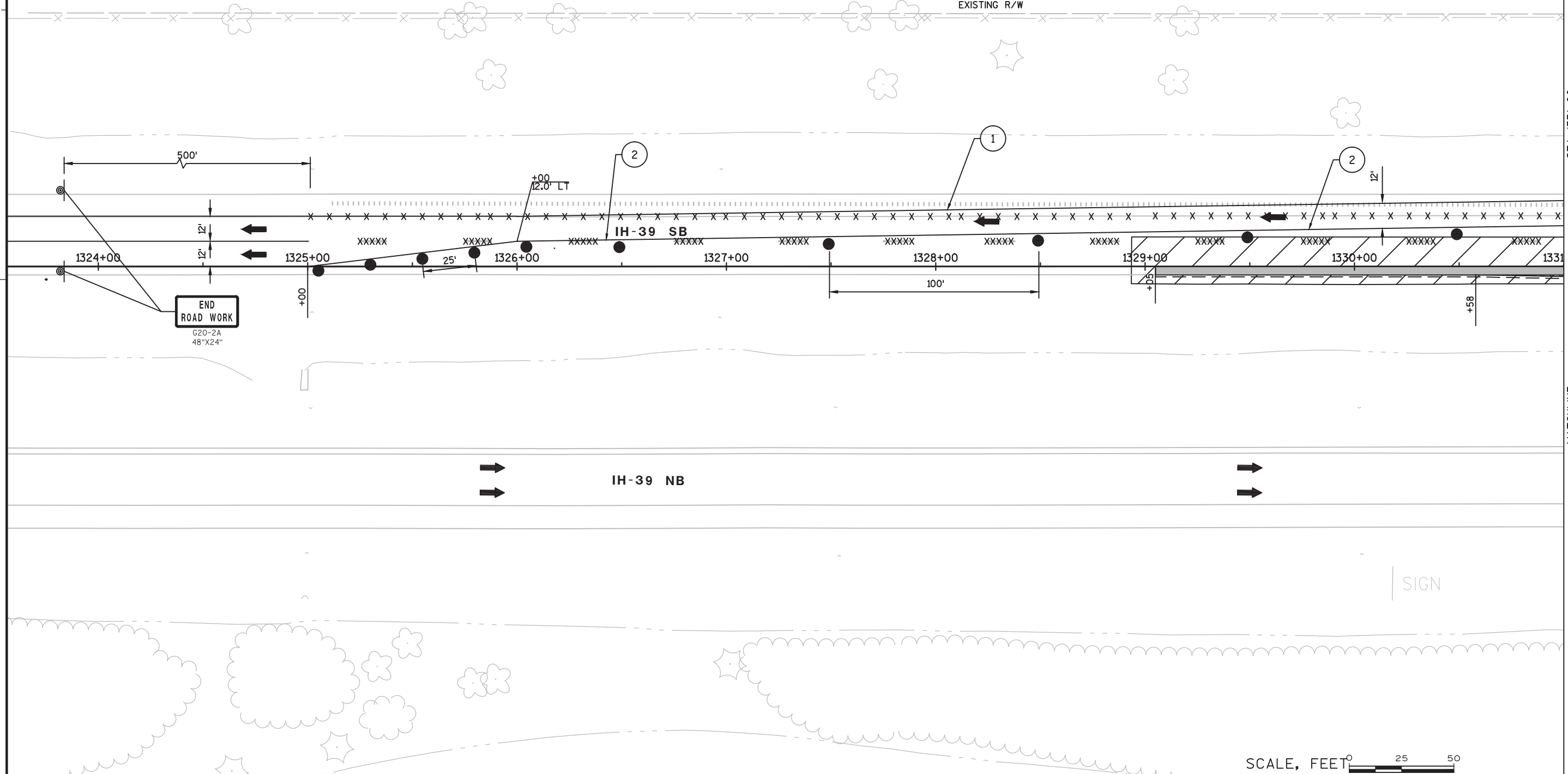
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

STAGE 1 NOTES:

1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. REMOVE EAST HALF OF EXISTING 42" AND 72" CULVERT PIPE TO 15' LT.
3. INSTALL MEDIAN INLET.
4. INSTALL EAST HALF OF 42-INCH SSPRC.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED INSIDE TRAVEL LANE.
6. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
7. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
8. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ WORK ZONE
- ▨ HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- EXISTING R/W
- ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ||| TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ➡ FLASHING ARROW BOARD



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

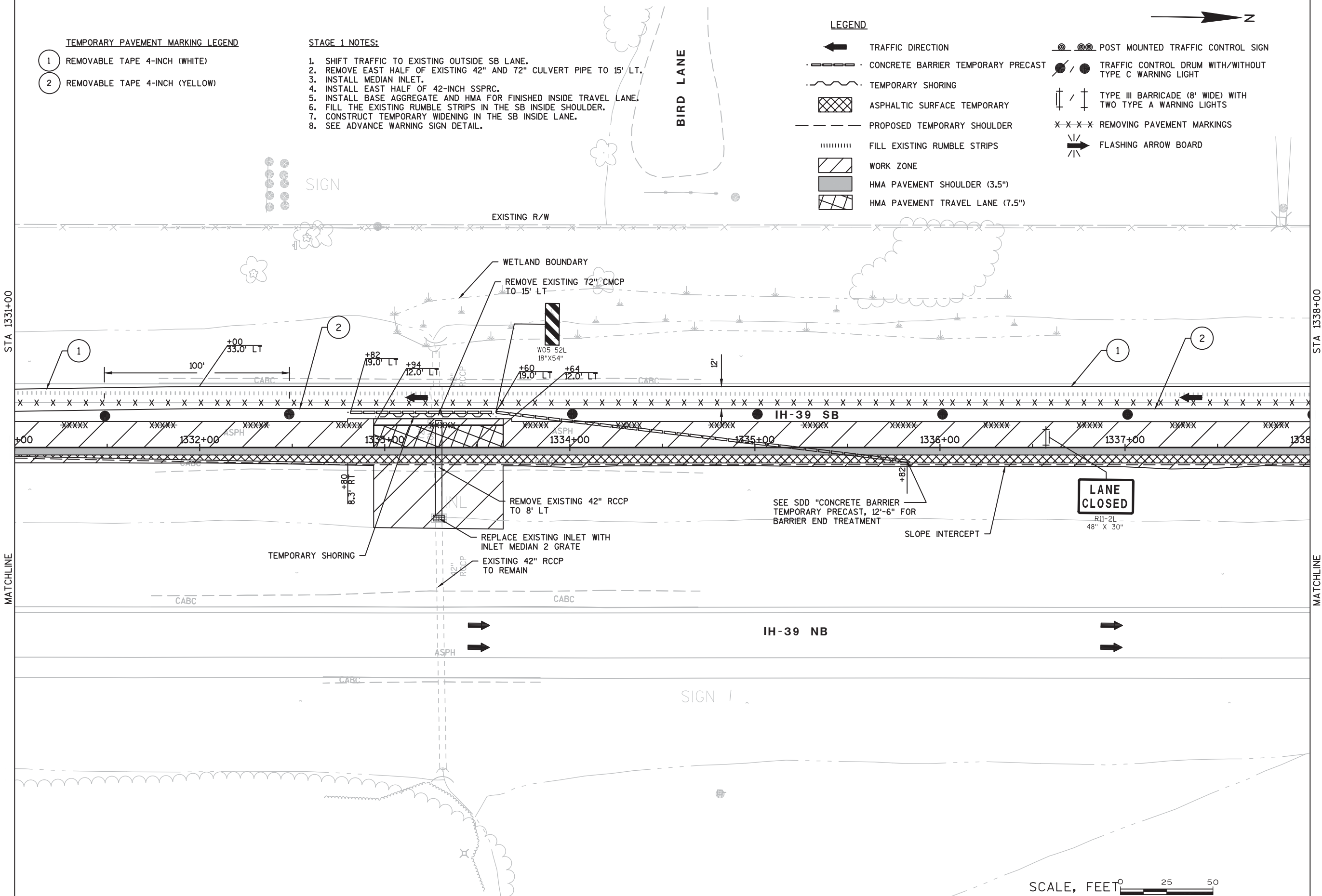
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

STAGE 1 NOTES:

1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. REMOVE EAST HALF OF EXISTING 42" AND 72" CULVERT PIPE TO 15' LT.
3. INSTALL MEDIAN INLET.
4. INSTALL EAST HALF OF 42-INCH SSRPC.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED INSIDE TRAVEL LANE.
6. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
7. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
8. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
- ▩ HMA PAVEMENT SHOULDER (3.5")
- ▨ HMA PAVEMENT TRAVEL LANE (7.5")
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ⊙ / ⊙ TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ / ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD



LANE CLOSED

SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

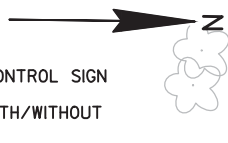
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

STAGE 1 NOTES:

1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. REMOVE EAST HALF OF EXISTING 42" AND 72" CULVERT PIPE TO 15' LT.
3. INSTALL MEDIAN INLET.
4. INSTALL EAST HALF OF 42-INCH SSPRC.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED INSIDE TRAVEL LANE.
6. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
7. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
8. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ WORK ZONE
- ▨ HMA PAVEMENT SHOULDER (3.5')
- ▨ HMA PAVEMENT TRAVEL LANE (7.5')
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- || / || TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ➡ FLASHING ARROW BOARD

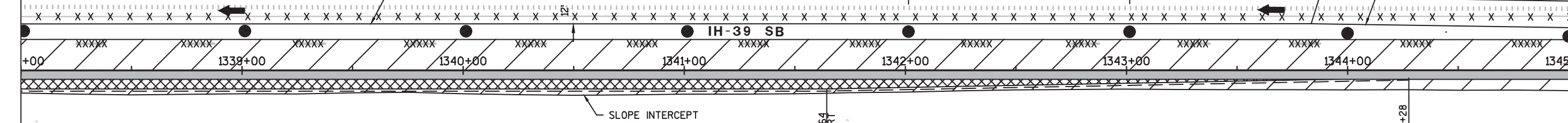


SIGN

SIGN

STA 1338+00

STA 1345+00



MATCHLINE

MATCHLINE



IH-39 NB



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)

STAGE 1 NOTES:

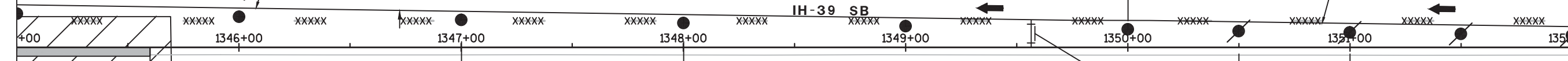
1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
2. REMOVE EAST HALF OF EXISTING 42" AND 72" CULVERT PIPE TO 15' LT.
3. INSTALL MEDIAN INLET.
4. INSTALL EAST HALF OF 42-INCH SSPRC.
5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED INSIDE TRAVEL LANE.
6. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
7. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
8. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- - - TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▨ WORK ZONE
- ▨ HMA PAVEMENT SHOULDER (3.5')
- ▨ HMA PAVEMENT TRAVEL LANE (7.5')
- ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
- ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ||| TYPE III BARRICADE (8' WIDE) WITH TWO TYPE 'A' WARNING LIGHTS
- X X X X REMOVING PAVEMENT MARKINGS
- ⇒ FLASHING ARROW BOARD

STA 1345+00

STA 1352+00



MATCHLINE

MATCHLINE

IH-39 NB

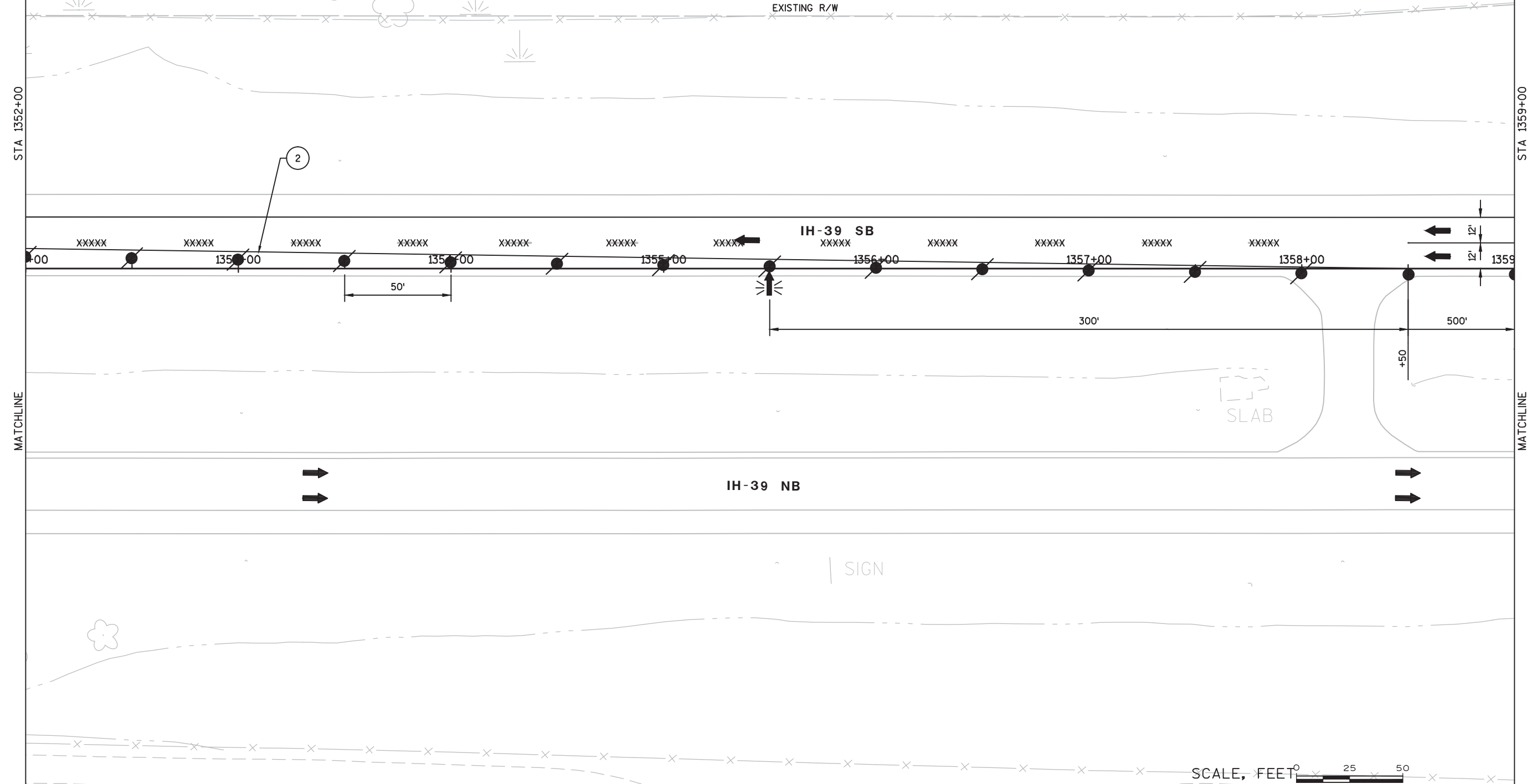
SIGN



- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)

- STAGE 1 NOTES:**
1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
 2. REMOVE EAST HALF OF EXISTING 42" AND 72" CULVERT PIPE TO 15' LT.
 3. INSTALL MEDIAN INLET.
 4. INSTALL EAST HALF OF 42-INCH SSPRC.
 5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED INSIDE TRAVEL LANE.
 6. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
 7. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
 8. SEE ADVANCE WARNING SIGN DETAIL.

- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
 - ~ TEMPORARY SHORING
 - ▨ ASPHALTIC SURFACE TEMPORARY
 - - - PROPOSED TEMPORARY SHOULDER
 - ||||| FILL EXISTING RUMBLE STRIPS
 - ▩ WORK ZONE
 - HMA PAVEMENT SHOULDER (3.5")
 - ▧ HMA PAVEMENT TRAVEL LANE (7.5")
 - ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
 - / ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
 - || / || TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ↔ FLASHING ARROW BOARD

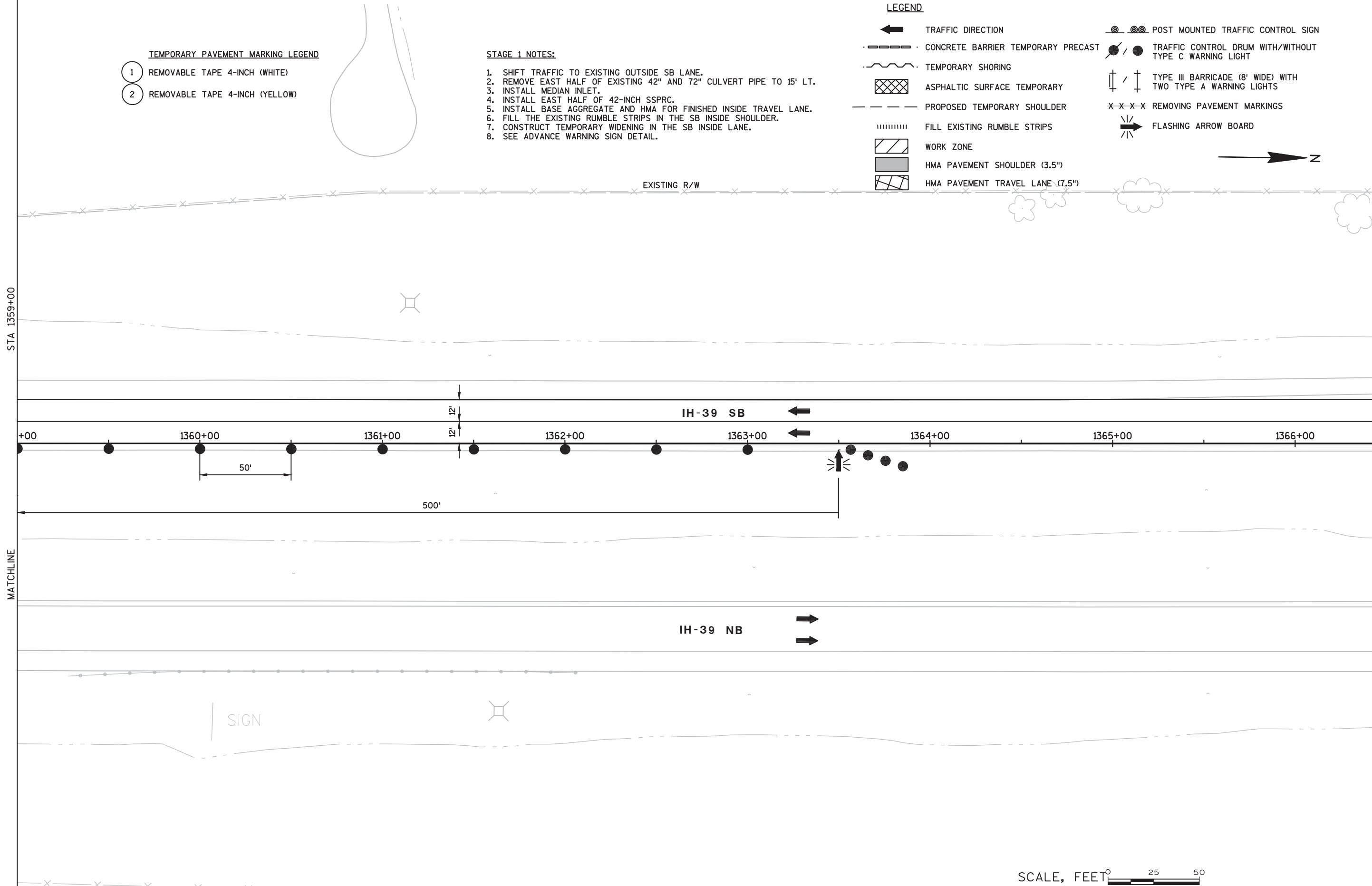


SCALE, FEET

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)

- STAGE 1 NOTES:**
1. SHIFT TRAFFIC TO EXISTING OUTSIDE SB LANE.
 2. REMOVE EAST HALF OF EXISTING 42" AND 72" CULVERT PIPE TO 15' LT.
 3. INSTALL MEDIAN INLET.
 4. INSTALL EAST HALF OF 42-INCH SSPRC.
 5. INSTALL BASE AGGREGATE AND HMA FOR FINISHED INSIDE TRAVEL LANE.
 6. FILL THE EXISTING RUMBLE STRIPS IN THE SB INSIDE SHOULDER.
 7. CONSTRUCT TEMPORARY WIDENING IN THE SB INSIDE LANE.
 8. SEE ADVANCE WARNING SIGN DETAIL.

- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
 - ~ TEMPORARY SHORING
 - ▨ ASPHALTIC SURFACE TEMPORARY
 - - - PROPOSED TEMPORARY SHOULDER
 - ||||| FILL EXISTING RUMBLE STRIPS
 - ▧ WORK ZONE
 - HMA PAVEMENT SHOULDER (3.5")
 - ▩ HMA PAVEMENT TRAVEL LANE (7.5")
 - ⊙ ⊙ ⊙ POST MOUNTED TRAFFIC CONTROL SIGN
 - ● TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
 - ⊥ ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ➡ FLASHING ARROW BOARD



TEMPORARY PAVEMENT MARKING LEGEND

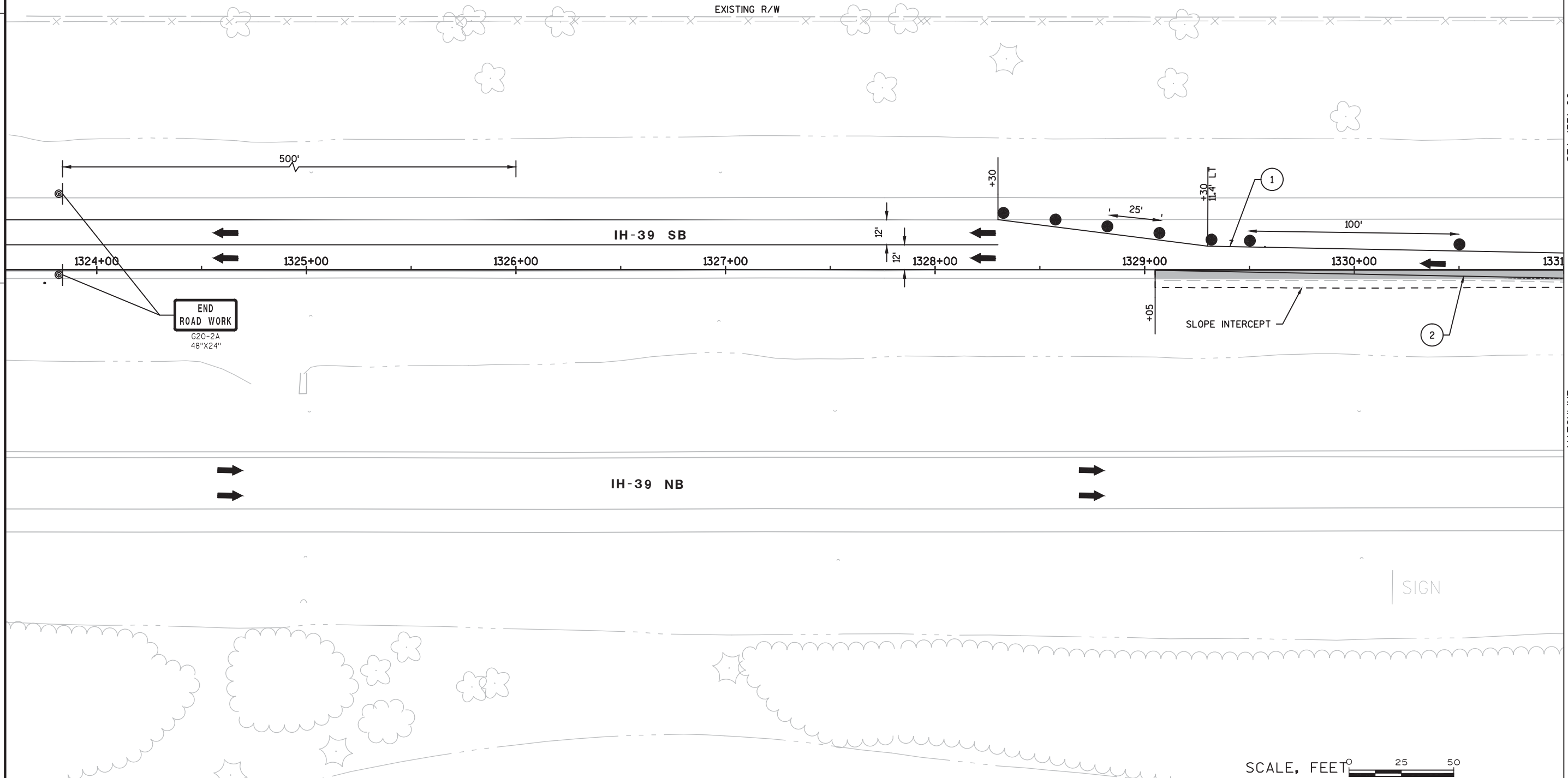
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 2 NOTES:

- 1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
- 2. REMOVE WEST HALF OF EXISTING 42" AND 72" CULVERT PIPE.
- 3. INSTALL WEST HALF OF 42-INCH SSPRC.
- 4. INSTALL BASE AGGREGATE AND HMA FOR FINISHED TRAVEL LANE AND SHOULDER.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- ~ TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
- ▧ WORK ZONE
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- ▩ HMA PAVEMENT TRAVEL LANE (7.5")
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- ||| / ||| TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD



STA 1331+00
MATCHLINE



TEMPORARY PAVEMENT MARKING LEGEND

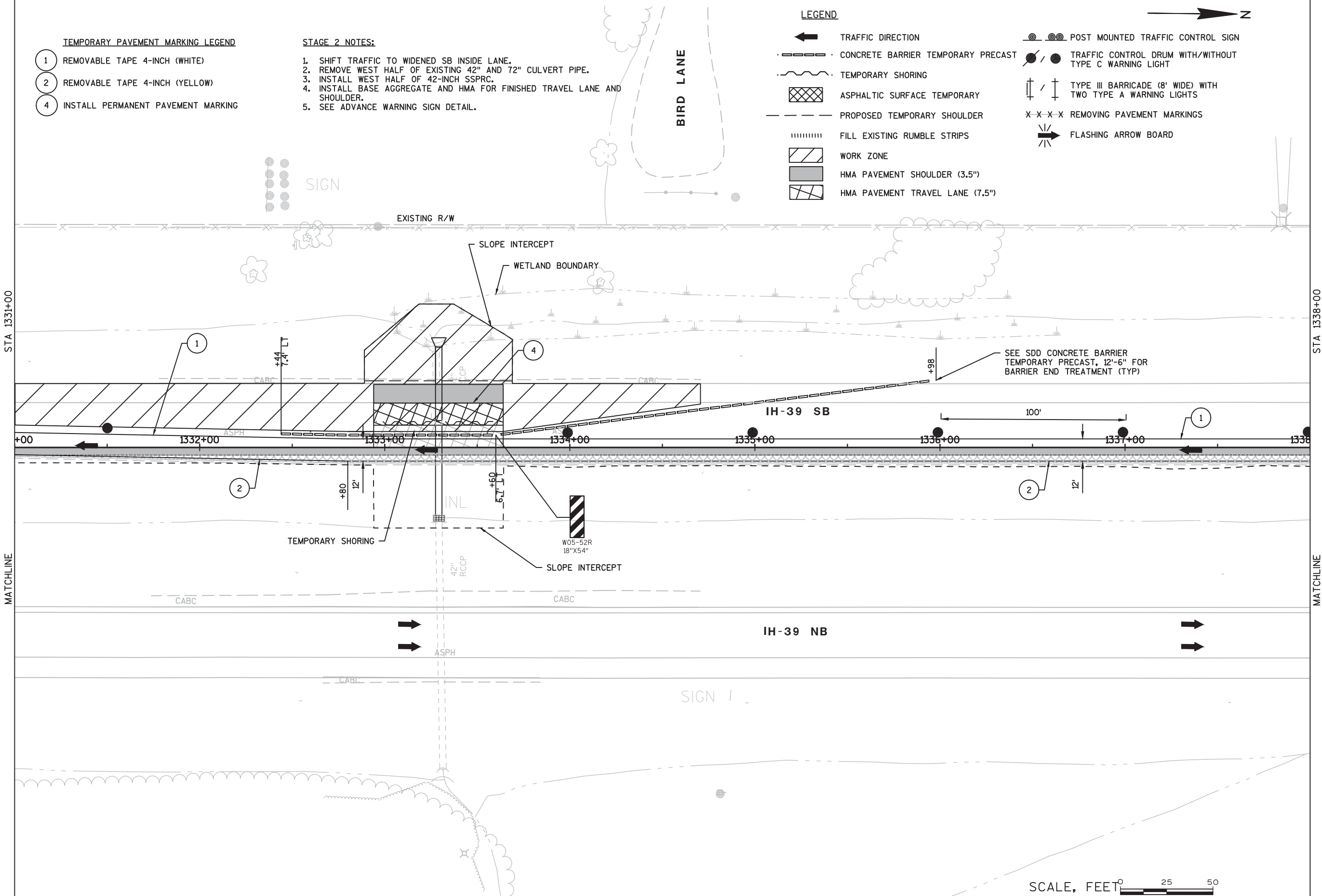
- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 2 NOTES:

- 1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
- 2. REMOVE WEST HALF OF EXISTING 42" AND 72" CULVERT PIPE.
- 3. INSTALL WEST HALF OF 42-INCH SSPRC.
- 4. INSTALL BASE AGGREGATE AND HMA FOR FINISHED TRAVEL LANE AND SHOULDER.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- - - TEMPORARY SHORING
- ▨ ASPHALTIC SURFACE TEMPORARY
- - - PROPOSED TEMPORARY SHOULDER
- ||||| FILL EXISTING RUMBLE STRIPS
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- ||| TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ↔ FLASHING ARROW BOARD



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 2 NOTES:

- 1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
- 2. REMOVE WEST HALF OF EXISTING 42" AND 72" CULVERT PIPE.
- 3. INSTALL WEST HALF OF 42-INCH SSPRC.
- 4. INSTALL BASE AGGREGATE AND HMA FOR FINISHED TRAVEL LANE AND SHOULDER.
- 5. SEE ADVANCE WARNING SIGN DETAIL.

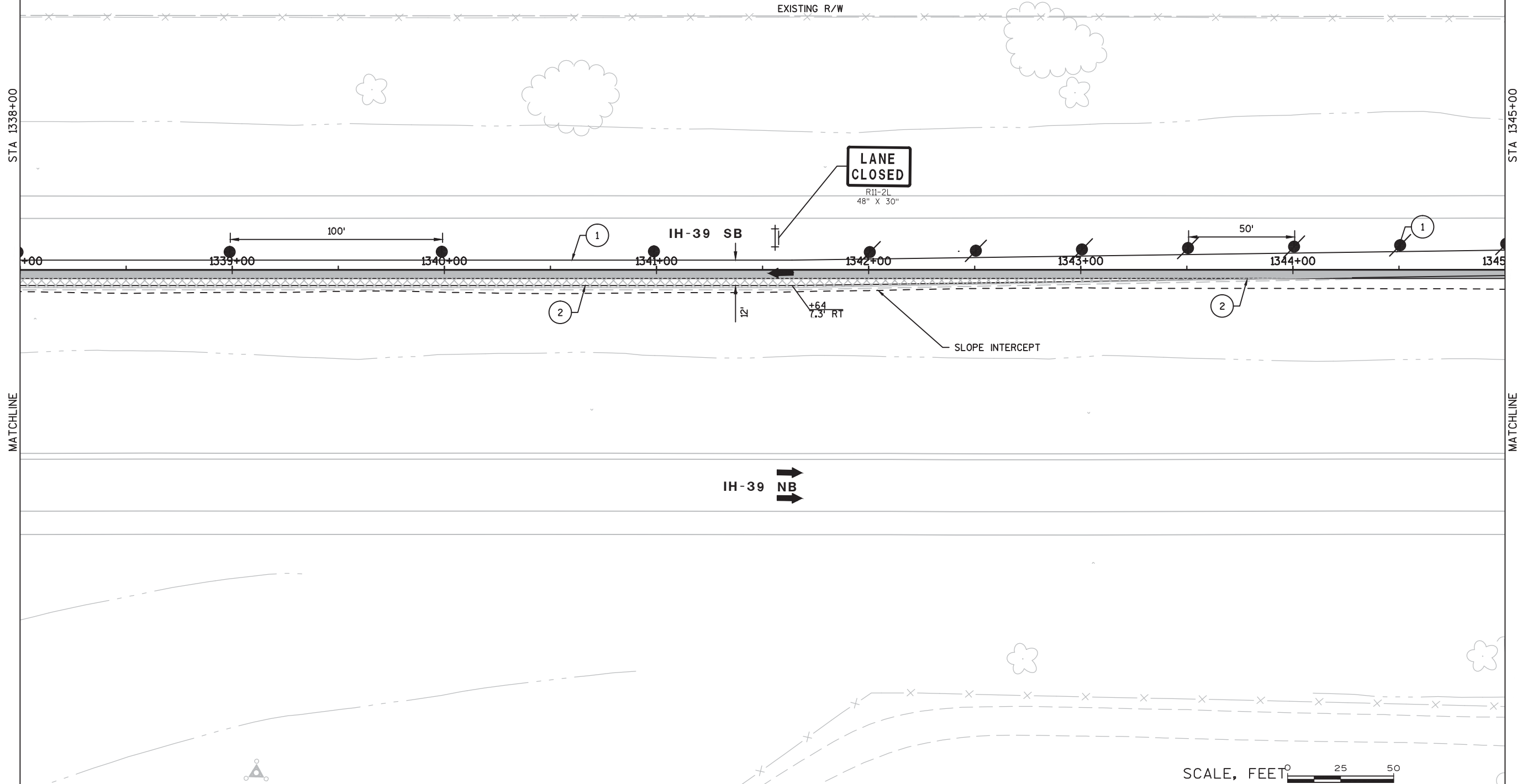
LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY SHORING
- ASPHALTIC SURFACE TEMPORARY
- PROPOSED TEMPORARY SHOULDER
- FILL EXISTING RUMBLE STRIPS
- WORK ZONE
- HMA PAVEMENT SHOULDER (3.5")
- HMA PAVEMENT TRAVEL LANE (7.5")
- POST MOUNTED TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD



SIGN

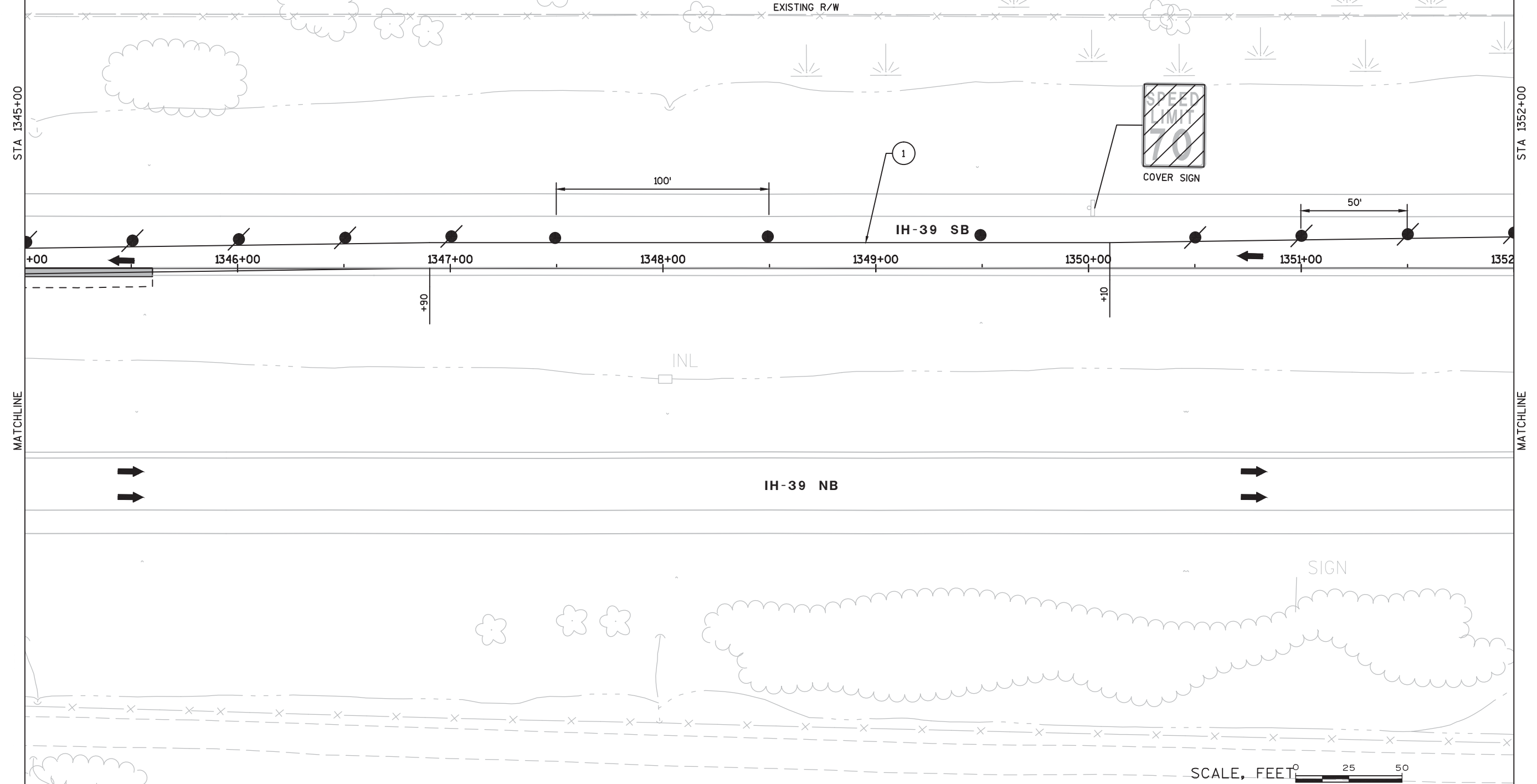
SIGN



- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)
 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 2 NOTES:**
1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
 2. REMOVE WEST HALF OF EXISTING 42" AND 72" CULVERT PIPE.
 3. INSTALL WEST HALF OF 42-INCH SSPRC.
 4. INSTALL BASE AGGREGATE AND HMA FOR FINISHED TRAVEL LANE AND SHOULDER.
 5. SEE ADVANCE WARNING SIGN DETAIL.

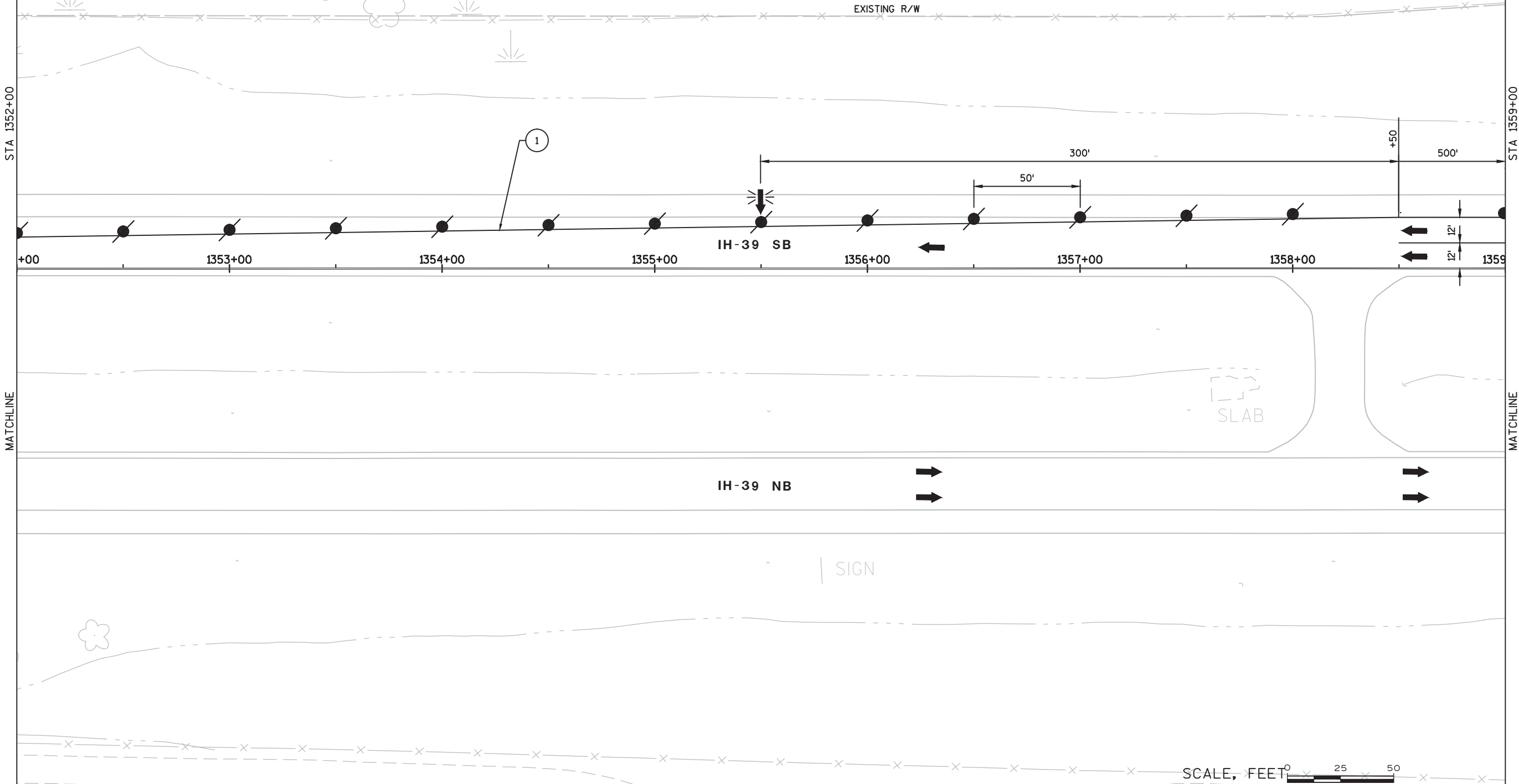
- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
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 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ➡ FLASHING ARROW BOARD



- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
 - 2 REMOVABLE TAPE 4-INCH (YELLOW)
 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 2 NOTES:**
1. SHIFT TRAFFIC TO WIDENED SB INSIDE LANE.
 2. REMOVE WEST HALF OF EXISTING 42" AND 72" CULVERT PIPE.
 3. INSTALL WEST HALF OF 42-INCH SSRPC.
 4. INSTALL BASE AGGREGATE AND HMA FOR FINISHED TRAVEL LANE AND SHOULDER.
 5. SEE ADVANCE WARNING SIGN DETAIL.

- LEGEND**
- ← TRAFFIC DIRECTION
 - CONCRETE BARRIER TEMPORARY PRECAST
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 - X-X-X-X REMOVING PAVEMENT MARKINGS
 - ➡ FLASHING ARROW BOARD

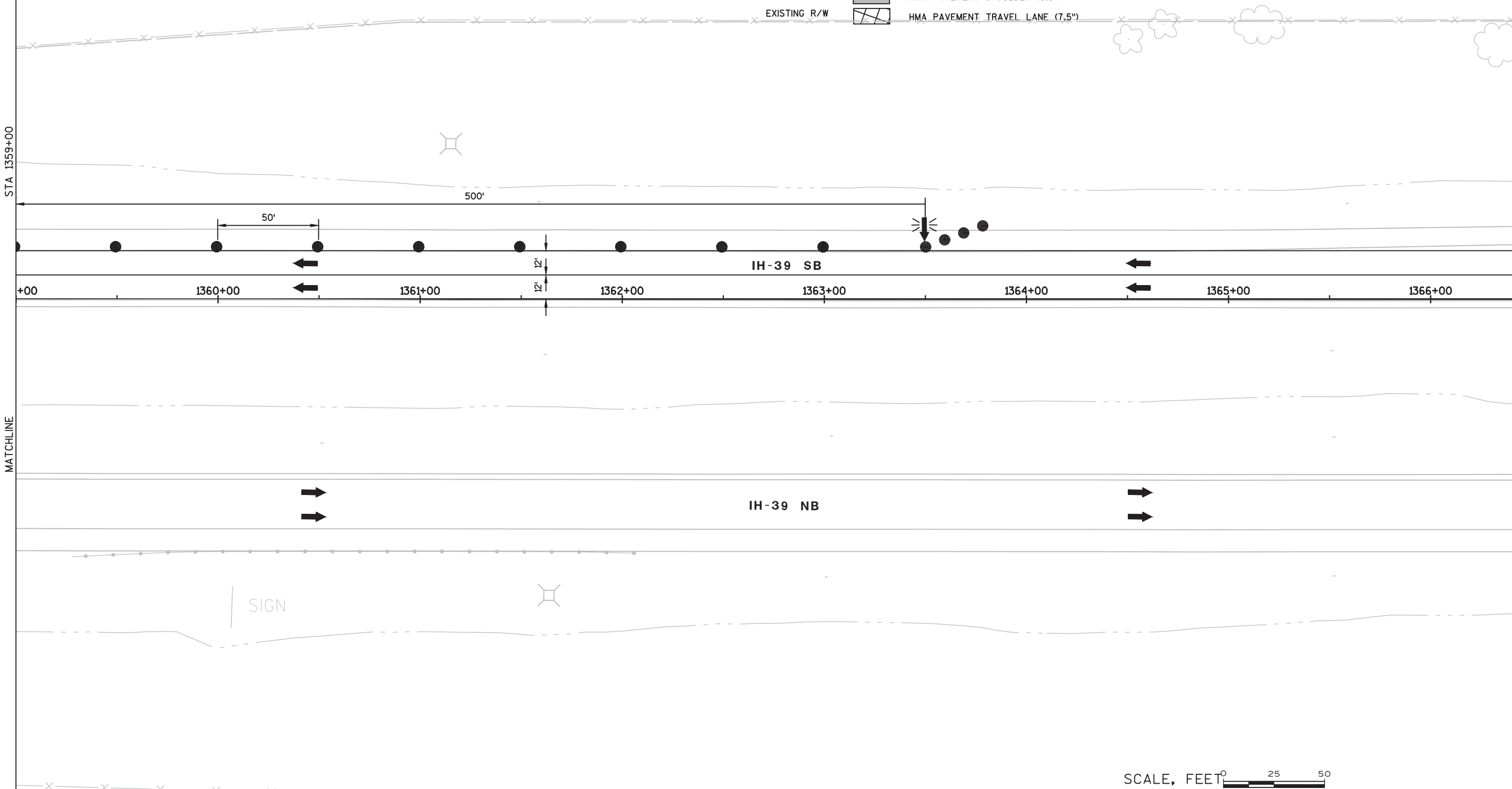


SCALE, FEET

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
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 - 4 INSTALL PERMANENT PAVEMENT MARKING

- STAGE 2 NOTES:**
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 3. INSTALL WEST HALF OF 42-INCH SSPRC.
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 5. SEE ADVANCE WARNING SIGN DETAIL.

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SCALE, FEET

TEMPORARY PAVEMENT MARKING LEGEND

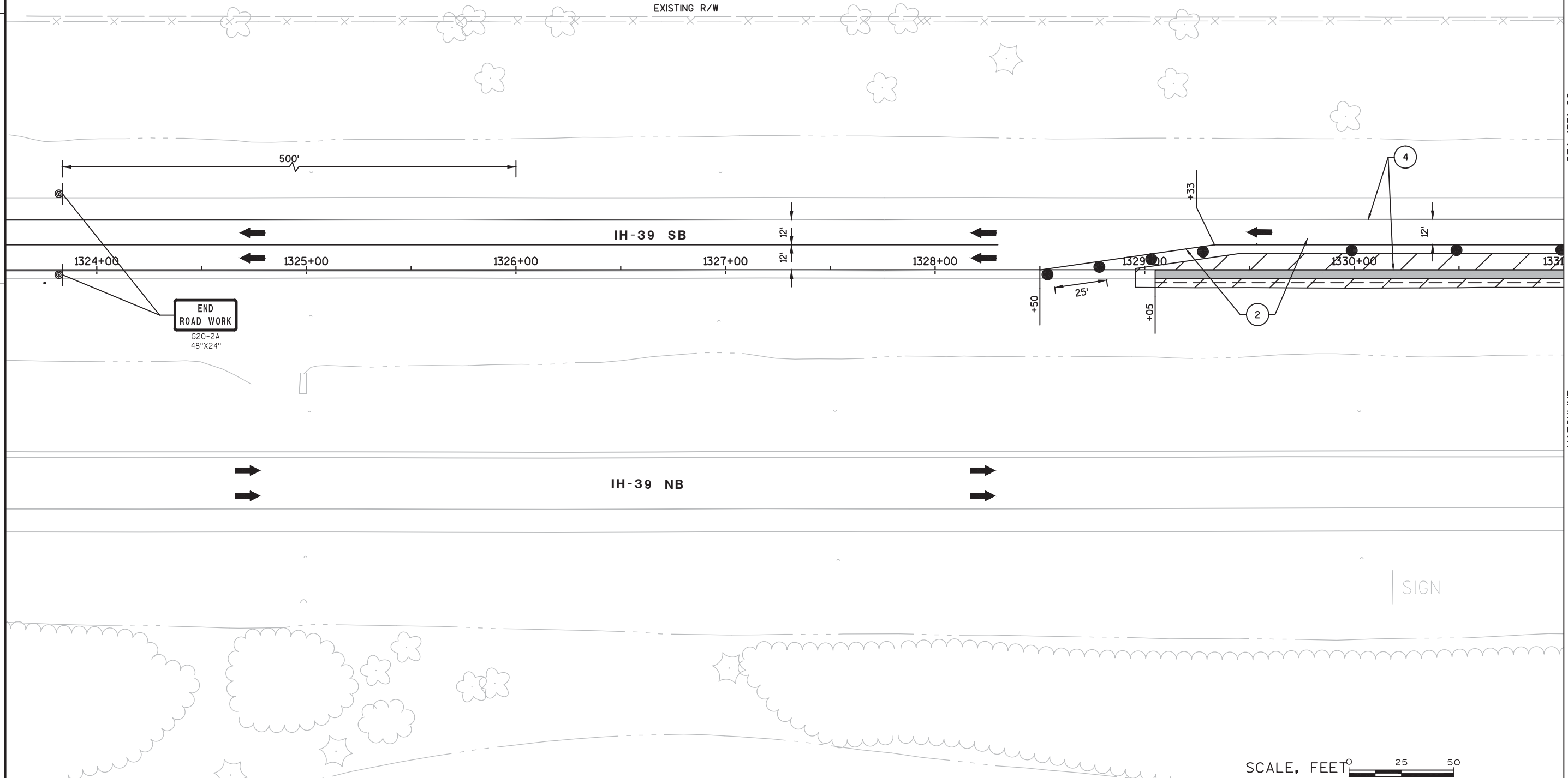
- 1 REMOVABLE TAPE 4-INCH (WHITE)
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- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3 NOTES:

- 1. SHIFT TRAFFIC TO SB OUTSIDE LANE.
- 2. REMOVE TEMPORARY WIDENING ON SB INSIDE LANE AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

- ← TRAFFIC DIRECTION
- CONCRETE BARRIER TEMPORARY PRECAST
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- ↔ FLASHING ARROW BOARD



STA 1331+00
MATCHLINE

END ROAD WORK
G20-2A
48"X24"

SIGN



TEMPORARY PAVEMENT MARKING LEGEND

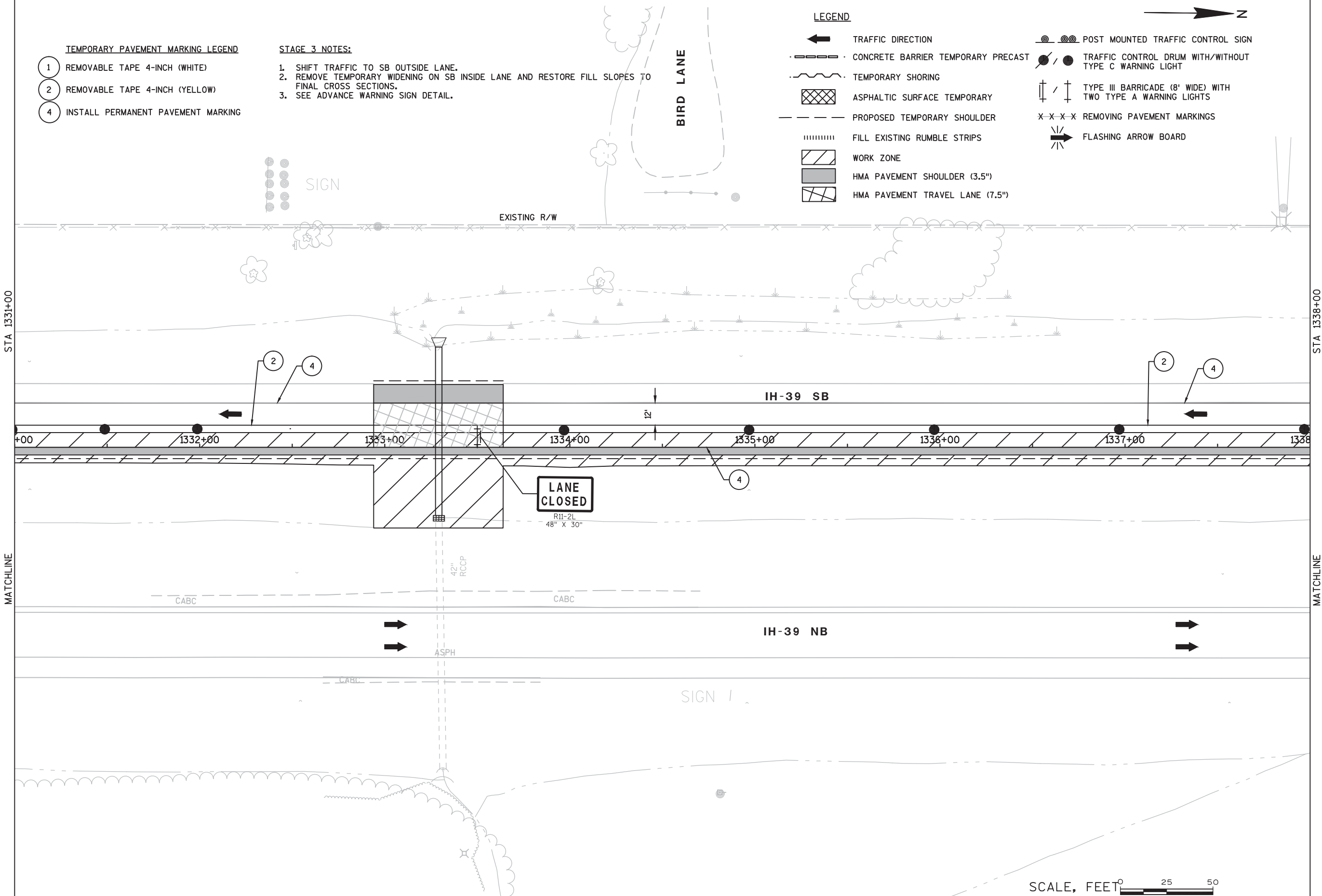
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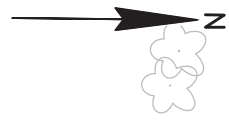


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 2. REMOVE TEMPORARY WIDENING ON SB INSIDE LANE AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS.
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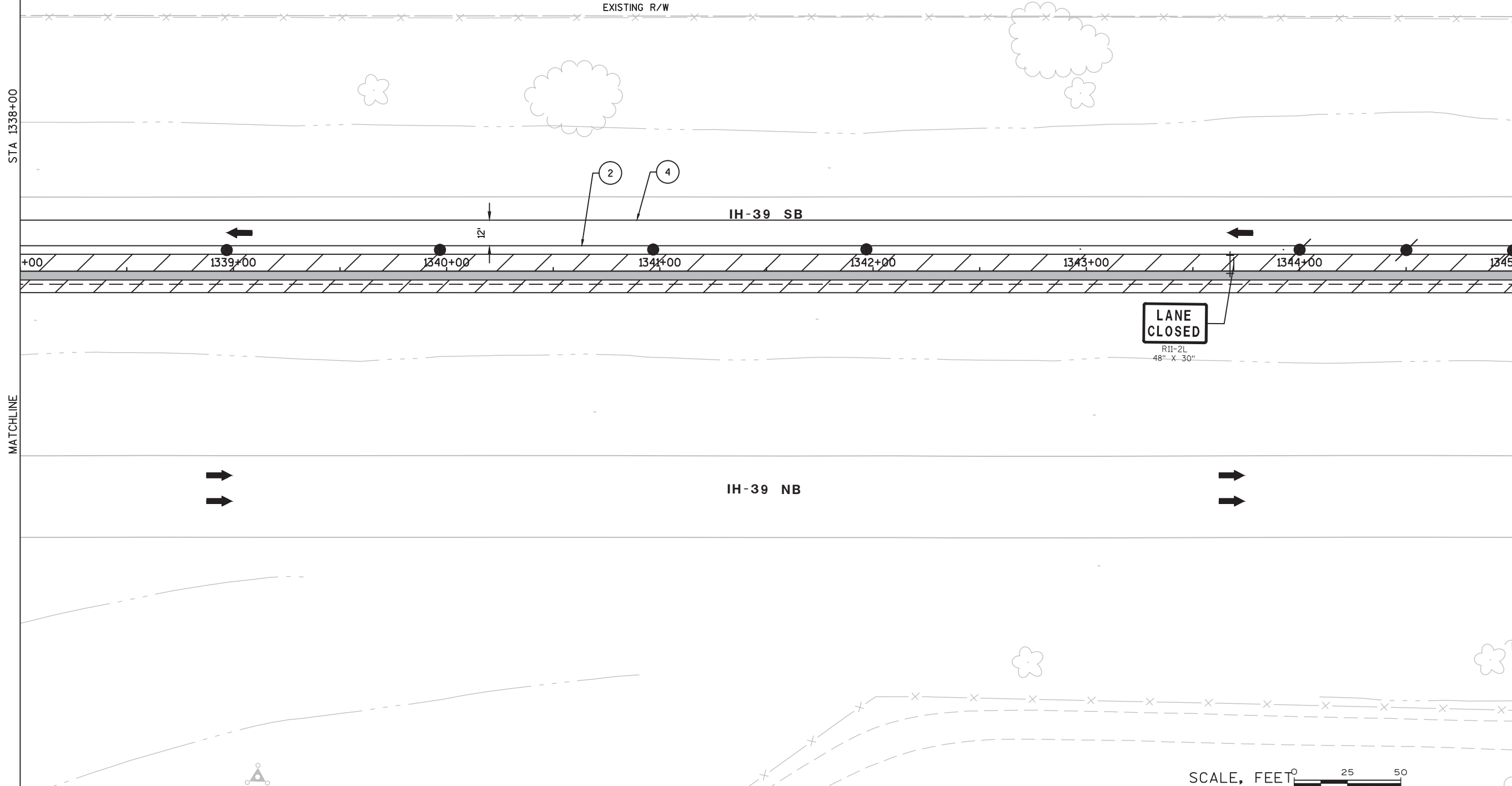
LEGEND

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- X X X X REMOVING PAVEMENT MARKINGS
- FLASHING ARROW BOARD



SIGN

SIGN



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3 NOTES:

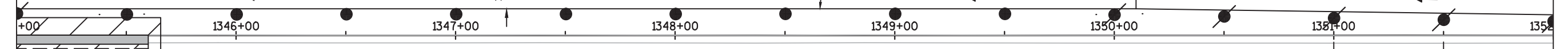
- 1. SHIFT TRAFFIC TO SB OUTSIDE LANE.
- 2. REMOVE TEMPORARY WIDENING ON SB INSIDE LANE AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

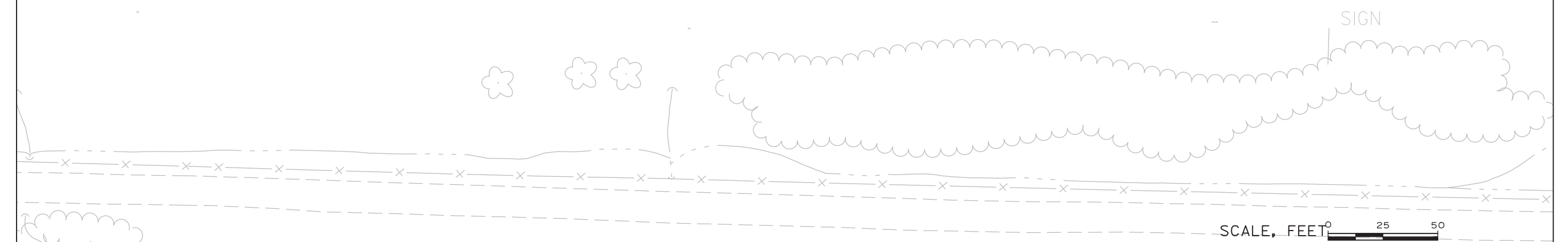
- ← TRAFFIC DIRECTION
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- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C WARNING LIGHT
- ⊥ TYPE III BARRICADE (8' WIDE) WITH TWO TYPE A WARNING LIGHTS
- X-X-X-X REMOVING PAVEMENT MARKINGS
- ➡ FLASHING ARROW BOARD

STA 1345+00

STA 1352+00



MATCHLINE



SCALE, FEET 0 25 50

TEMPORARY PAVEMENT MARKING LEGEND

- 1 REMOVABLE TAPE 4-INCH (WHITE)
- 2 REMOVABLE TAPE 4-INCH (YELLOW)
- 4 INSTALL PERMANENT PAVEMENT MARKING

STAGE 3 NOTES:

- 1. SHIFT TRAFFIC TO SB OUTSIDE LANE.
- 2. REMOVE TEMPORARY WIDENING ON SB INSIDE LANE AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS.
- 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

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- CONCRETE BARRIER TEMPORARY PRECAST
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- X-X-X-X REMOVING PAVEMENT MARKINGS
- ⚡ FLASHING ARROW BOARD

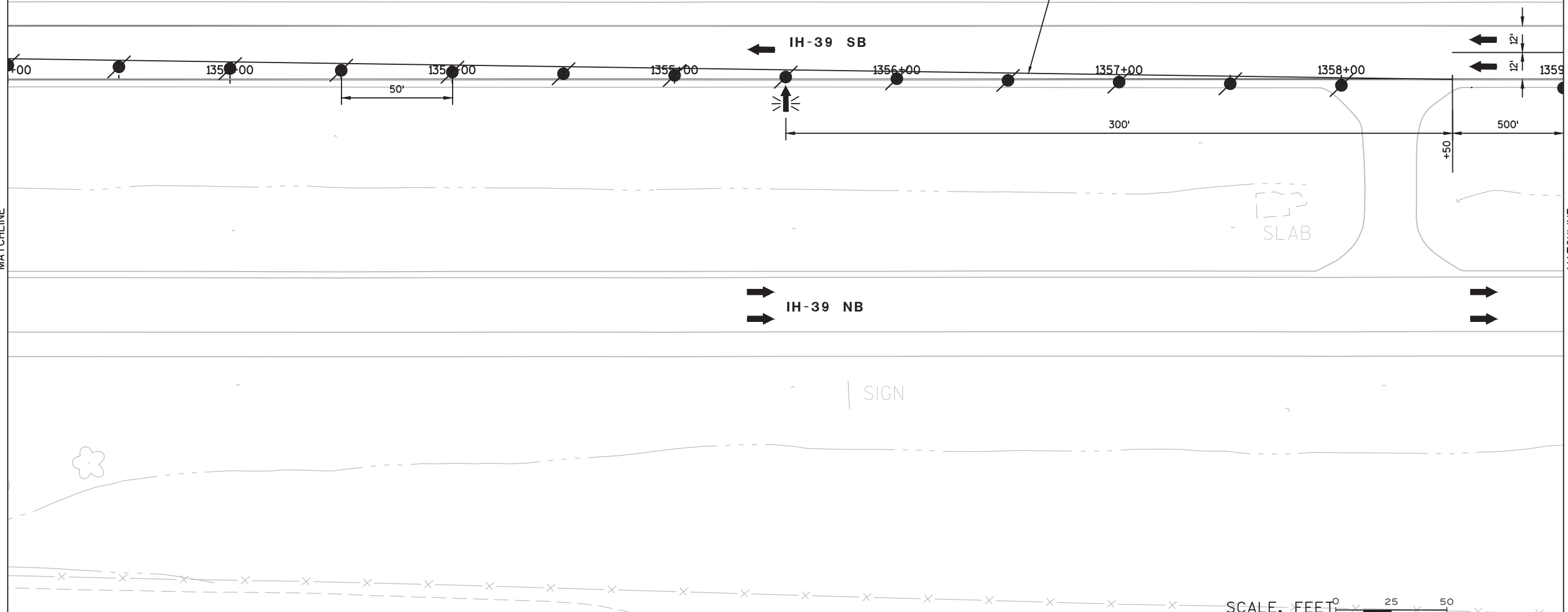


STA 1352+00

STA 1359+00

MATCHLINE

MATCHLINE



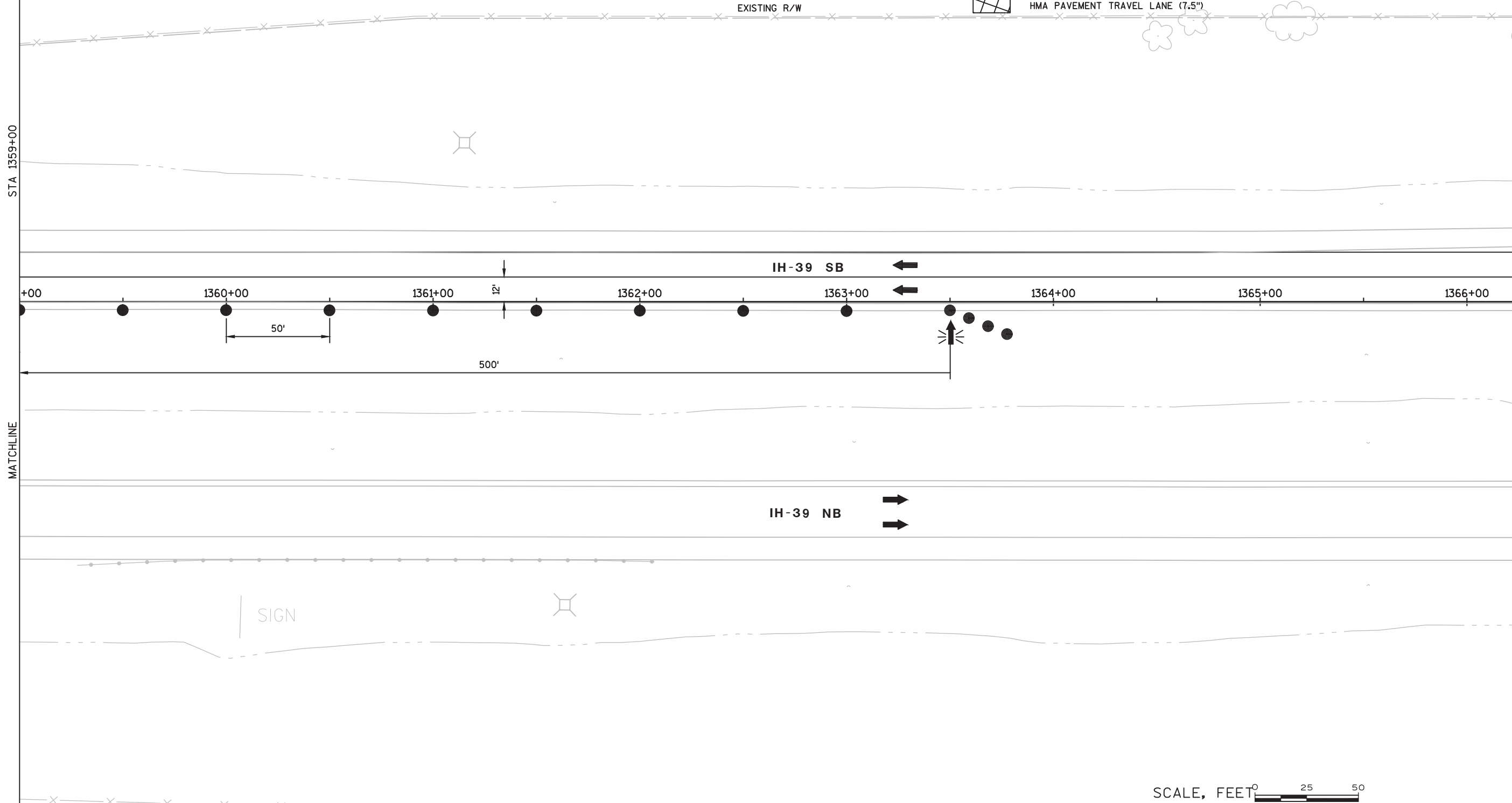
SCALE, FEET 0 25 50

- TEMPORARY PAVEMENT MARKING LEGEND**
- 1 REMOVABLE TAPE 4-INCH (WHITE)
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- STAGE 3 NOTES:**
1. SHIFT TRAFFIC TO SB OUTSIDE LANE.
 2. REMOVE TEMPORARY WIDENING ON SB INSIDE LANE AND RESTORE FILL SLOPES TO FINAL CROSS SECTIONS.
 3. SEE ADVANCE WARNING SIGN DETAIL.

LEGEND

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- X-X-X-X REMOVING PAVEMENT MARKINGS
- ➡ FLASHING ARROW BOARD



SCALE, FEET

DATE 17AUG16

ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1160-00-65 QUANTITY
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0120	Clearing	ID	120.000	120.000
0030	201.0205	Grubbing	STA	4.000	4.000
0040	203.0200	Removing Old Structure (station) 001. South Branch Ten Mile Creek 522+72	LS	1.000	1.000
0050	203.0200	Removing Old Structure (station) 002. South Branch Ten Mile Creek 522+80	LS	1.000	1.000
0060	203.0200	Removing Old Structure (station) 003. South Branch Ten Mile Creek 523+34	LS	1.000	1.000
0070	203.0200	Removing Old Structure (station) 004. South Branch Ten Mile Creek 522+42	LS	1.000	1.000
0080	203.0200	Removing Old Structure (station) 005. Marathon County 1333+27	LS	1.000	1.000
0090	204.0100	Removing Pavement	SY	1,455.000	1,455.000
0100	204.0120	Removing Asphaltic Surface Milling	SY	2,220.000	2,220.000
0110	204.0170	Removing Fence	LF	305.000	305.000
0120	204.0180	Removing Delineators and Markers	EACH	11.000	11.000
0130	204.0220	Removing Inlets	EACH	1.000	1.000
0140	204.0245	Removing Storm Sewer (size) 001. 42-Inch	LF	48.000	48.000
0150	205.0100	Excavation Common	CY	3,133.000	3,133.000
0160	210.0100	Backfill Structure	CY	474.000	474.000
0170	213.0100	Finishing Roadway (project) 001. 1160-00-65	EACH	1.000	1.000
0180	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,250.000	1,250.000
0190	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,130.000	3,130.000
0200	305.0500	Shaping Shoulders	STA	46.000	46.000
0210	311.0110	Breaker Run	TON	900.000	900.000
0220	455.0605	Tack Coat	GAL	480.000	480.000
0230	460.2000	Incentive Density HMA Pavement	DOL	720.000	720.000
0240	460.6223	HMA Pavement 3 MT 58-28 S	TON	460.000	460.000
0250	460.6224	HMA Pavement 4 MT 58-28 S	TON	660.000	660.000
0260	465.0125	Asphaltic Surface Temporary	TON	315.000	315.000
0270	465.0400	Asphaltic Shoulder Rumble Strips	LF	4,680.000	4,680.000
0280	504.0900	Concrete Masonry Endwalls	CY	24.400	24.400
0290	511.1100	Temporary Shoring	SF	2,285.000	2,285.000
0300	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	1.000	1.000
0310	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,350.000	1,350.000
0320	603.8125	Concrete Barrier Temporary Precast Installed	LF	3,700.000	3,700.000
0330	606.0300	Riprap Heavy	CY	50.000	50.000
0340	608.0342	Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	LF	92.000	92.000
0350	610.0158	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 58x91-Inch	LF	446.000	446.000
0360	611.0642	Inlet Covers Type MS	EACH	2.000	2.000
0370	611.3902	Inlets Median 2 Grate	EACH	1.000	1.000
0380	612.0106	Pipe Underdrain 6-Inch	LF	286.000	286.000
0390	616.0100	Fence Woven Wire (height) 001. 4-FT	LF	305.000	305.000
0400	619.1000	Mobilization	EACH	1.000	1.000
0410	624.0100	Water	MGAL	75.000	75.000
0420	625.0100	Topsoil	SY	2,200.000	2,200.000
0430	628.1104	Erosion Bales	EACH	35.000	35.000
0440	628.1504	Silt Fence	LF	500.000	500.000

DATE 17AUG16

ESTIMATE OF QUANTITIES

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1160-00-65 QUANTITY
0450	628.1520	Silt Fence Maintenance	LF	500.000	500.000
0460	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0470	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0480	628.2008	Erosion Mat Urban Class I Type B	SY	2,500.000	2,500.000
0490	628.6005	Turbidity Barriers	SY	50.000	50.000
0500	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0510	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0520	628.7504	Temporary Ditch Checks	LF	180.000	180.000
0530	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0540	628.7570	Rock Bags	EACH	35.000	35.000
0550	629.0210	Fertilizer Type B	CWT	4.000	4.000
0560	630.0120	Seeding Mixture No. 20	LB	45.000	45.000
0570	630.0160	Seeding Mixture No. 60	LB	4.000	4.000
0580	630.0300	Seeding Borrow Pit	LB	30.000	30.000
0590	631.0300	Sod Water	MGAL	55.000	55.000
0600	633.0100	Delineator Posts Steel	EACH	11.000	11.000
0610	633.0500	Delineator Reflectors	EACH	21.000	21.000
0620	633.5200	Markers Culvert End	EACH	9.000	9.000
0630	634.0620	Posts Wood 4x6-Inch X 20-FT	EACH	2.000	2.000
0640	637.2210	Signs Type II Reflective H	SF	37.500	37.500
0650	638.2602	Removing Signs Type II	EACH	1.000	1.000
0660	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0670	642.5001	Field Office Type B	EACH	1.000	1.000
0680	643.0100	Traffic Control (project) 001. 1160-00-65	EACH	1.000	1.000
0690	643.0300	Traffic Control Drums	DAY	15,025.000	15,025.000
0700	643.0420	Traffic Control Barricades Type III	DAY	320.000	320.000
0710	643.0705	Traffic Control Warning Lights Type A	DAY	590.000	590.000
0720	643.0715	Traffic Control Warning Lights Type C	DAY	4,470.000	4,470.000
0730	643.0800	Traffic Control Arrow Boards	DAY	450.000	450.000
0740	643.0900	Traffic Control Signs	DAY	5,155.000	5,155.000
0750	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0760	643.1050	Traffic Control Signs PCMS	DAY	325.000	325.000
0770	645.0120	Geotextile Type HR	SY	75.000	75.000
0780	645.0140	Geotextile Type SAS	SY	390.000	390.000
0790	646.0106	Pavement Marking Epoxy 4-Inch	LF	7,550.000	7,550.000
0800	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	1,225.000	1,225.000
0810	646.0600	Removing Pavement Markings	LF	9,900.000	9,900.000
0820	646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF	825.000	825.000
0830	646.0883.S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF	2,150.000	2,150.000
0840	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	300.000	300.000
0850	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	47,550.000	47,550.000
0860	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	1,950.000	1,950.000
0870	650.4000	Construction Staking Storm Sewer	EACH	5.000	5.000
0880	650.5000	Construction Staking Base	LF	326.000	326.000
0890	650.9910	Construction Staking Supplemental Control (project) 001. 1160-00-65	LS	1.000	1.000
0900	650.9920	Construction Staking Slope Stakes	LF	326.000	326.000
0910	690.0150	Sawing Asphalt	LF	3,610.000	3,610.000
0920	690.0250	Sawing Concrete	LF	835.000	835.000

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DATE 17AUG16

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	1160-00-65 QUANTITY
0930	SPV.0035	Special 001. Abandon and Fill Culvert Pipes	CY	160.000	160.000
0940	SPV.0035	Special 002. Stream Bed Medium	CY	80.000	80.000
0950	SPV.0045	Special 001. Portable Changeable Message Sign PCMS Cellular Communications	DAY	325.000	325.000
0960	SPV.0060	Special 001. Cast in Place Reinforced Concrete Inlet	EACH	1.000	1.000
0970	SPV.0090	Special 001. Fill Existing Rumble Strips	LF	4,690.000	4,690.000
0980	SPV.0090	Special 002. Silt Fence Heavy Duty	LF	585.000	585.000
0990	SPV.0105	Special 001. Temporary Water Diversion - South Branch Ten Mile Creek	LS	1.000	1.000
1000	SPV.0105	Special 002. Temporary Water Diversion - Marathon County	LS	1.000	1.000
1010	SPV.0195	Special 001. Select Crushed Material for Travel Corridor	TON	25.000	25.000

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CLEARING AND GRUBBING

LOCATION	201.0105 CLEARING STA	201.0120 CLEARING ID	201.0205 GRUBBING STA
PORTAGE COUNTY (CAT 0010)			
522+00 - 524+00 RT	2	---	2
523+00 - 525+00 LT*	2	120	2
TOTAL	4	120	4

*ON THE LT SIDE ONLY, CUT TREES IDENTIFIED BY THE ENGINEER INTO 8-FOOT SECTIONS AND STOCKPILE THEM ALONGSIDE THE RIGHT OF WAY FENCE. CUT AND STOCKPILED LOGS WILL BE MEASURED AND PAID BY THE INCH OF DIAMETER.

REMOVING OLD STRUCTURE

LOCATION	DESCRIPTION	203.0200 LS
SOUTH BRANCH TENMILE CREEK (CAT 0010)		
01. 522+72 29' RT - 129' RT	60" X 100' CMCP	1
02. 522+80 29' RT - 129' RT	60" X 100' CMCP	1
03. 523+34 65' LT - 80' LT	60" X 15' CPRC	1
04. 523+42 64' LT - 77' LT	60" X 13' CPRC	1

MARATHON COUNTY (CAT 0020)

05. 1333+27 33' LT - 8' RT	72" X 41' CMPC	1
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REMOVING PAVEMENT

LOCATION	204.0100 SY
PORTAGE COUNTY (CAT 0010)	1,265
MARATHON COUNTY (CAT 0020)	190
TOTAL	1,455

REMOVING DELINEATORS AND MARKERS

LOCATION	204.0180 EACH
PORTAGE COUNTY (CAT 0010)	11
TOTAL	11

REMOVING ASPHALTIC SURFACE MILLING

LOCATION	204.0120 SY
PORTAGE COUNTY (CAT 0010)	1,480
MARATHON COUNTY (CAT 0020)	740
TOTAL	2,220

EARTHWORK SUMMARY

Division	From/To Station	Location	A		B		C		D		E		F		G		H		Waste (CY)	Comment:
			Cut (2) (CY)	EBS Excavation (3)(4) (CY)	Salvaged/ Unusable Pavement Material (5) (CY)	Available Material (6) (CY)	Expanded EBS Backfill = Backfill Structure (7) Factor 1.20 (CY)	Unexpanded Fill (CY)	Expanded Fill (8) Factor 1.20 (CY)	Mass Ordinate +/- (9) (CY)										
Subtotal CAT 0010			2,272	195	203	2,069	234	236	283	1,786	2,012									
IH-39 Portage South Branch Ten Mile Creek	522+40 - 524+20	Roadway	1,633	0	172	1,461	0	192	231	1,230	1,230									
	518+58 - 529+35	Temporary Widening	108	0	0	108	0	44	52	56	56									
	518+58 - 529+35	Temp. Widening Removal	31	0	31	0	0	0	0	0	31									
		Culvert Pipe Transition	500	0	0	500	0	0	0	0	500	500	See Construction Detail							
		Undistributed EBS	0	195	0	0	234	0	0	0	195									
Subtotal CAT 0020			666	0	107	559	0	58	70	489	541									
Project Total			2,938	195	310	2,628	234	294	353	2,275	2,553									
Total Common Exc			3,133																	

- 1) Common Excavation is the sum of the Cut (A) and EBS Excavation (B) columns.
- 2) Salvaged/Unusable Pavement Material (C) is included in Cut (A).
- 3) EBS Excavation (E) to be backfilled with Structure Backfill material.
- 4) EBS Excavation material (B) shall be removed from the site and shall not be used as fill material. EBS Excavation material is not included in the mass ordinate.
- 5) Salvaged/Unusable Pavement Material (C) is included in Cut (A). This assumes the existing pavement is salvaged or wasted by the contractor. The existing pavement structure is not shown in the cross sections.
- 6) Available Material (D) = Cut (A) - Salvaged/Unusable Pavement Material (C)
- 7) Expanded EBS Backfill (E) - This is to be filled with Structure Backfill material. EBS Backfill factor 1.20. Item # 210.0100
- 8) Expanded Fill (G) = Unexpanded Fill (F) * Expanded Fill Factor (1.20)
- 9) The Mass Ordinate (H) = Available Material (D) - Expanded Fill (G). + or- Qty calculated for the division. Plus (+) quantity indicates an excess of material within the Division. Minus (-) indicates a shortage of material within the Division.

*NOT A BID ITEM. COLUMN SHOW FOR INFORMATION ONLY.

**ADDITIONAL QUANTITIES SHOWN ELSEWHERE.

PROJECT NO: 1160-00-65

HWY: IH-39

COUNTY: VARIOUS

MISCELLANEOUS QUANTITIES

SHEET NO:

E

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<u>REMOVING FENCE</u>	
LOCATION	204.0170 LF
PORTAGE COUNTY (CAT 0010)	
521+58 - 523+48 RT	210
523+15 - 524+10 LT	95
TOTAL	305

<u>REMOVING INLETS</u>	
LOCATION	204.0220 EACH
MARATHON COUNTY (CAT 0020)	
1333+29	1
TOTAL	1

<u>BASE COURSE ITEMS</u>			
LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON
PORTAGE COUNTY (CAT 0010)			
	840	1,900	750
MARATHON COUNTY (CAT 0020)			
	410	1,230	150
TOTAL	1,250	3,130	900

<u>HMA PAVEMENT ITEMS</u>			
LOCATION	455.0605 TACK COAT GAL	460.6223 3MT58-28S TON	460.6224 4MT58-28S TON
PORTAGE COUNTY (CAT 0010)			
	380	400	470
MARATHON COUNTY (CAT 0020)			
	100	60	190
TOTAL	480	460	660

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<u>REMOVING STORM SEWER 42-INCH</u>		
LOCATION	DESCRIPTION	204.0245 LF
MARATHON COUNTY (CAT 0020)		
1333+27	42" X 29' CPRC	29
1333+27	42" X 19' CPRC	19
TOTAL		48

<u>SHAPING SHOULDERS</u>	
LOCATION	305.0500 STA
PORTAGE COUNTY (CAT 0010)	
	30
MARATHON COUNTY (CAT 0020)	
	16
TOTAL	46

<u>ASPHALTIC SURFACE TEMPORARY</u>	
LOCATION	465.0125 TON
PORTAGE COUNTY (CAT 0010)	
	190
MARATHON COUNTY (CAT 0020)	
	125
TOTAL	315

<u>ASPHALTIC SHOULDER RUMBLE STRIPS</u>	
LOCATION	465.0400 LF
PORTAGE COUNTY (CAT 0010)	
	3,025
MARATHON COUNTY (CAT 0020)	
	1,655
TOTAL	4,680

<u>BACKFILL STRUCTURE*</u>	
LOCATION	210.0100 CY
PORTAGE COUNTY (CAT 0010)	
	240
TOTAL	240

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
NOTE: USED FOR BACKFILLING INLET AND ENDWALLS

<u>STORM SEWER</u>												
LOCATION	INLET* STATION	INLET* OFFSET	INLET ELEV	DISCH* STATION	DISCH* OFFSET	DISCH ELEV	SLOPE %	GRATE ELEV	608.0342 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH LF	610.0158 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 58 x 91-INCH LF	611.0642 INLET COVERS TYPE MS EACH	611.3902 INLETS MEDIAN 2 GRATE SINGLE SLOPE OPTION EACH
PORTAGE COUNTY (CAT 0010)	523+16	136' RT	1080.80	523+82	77' LT	1080.30	0.22%	1087.40	---	446	---	---
MARATHON COUNTY (CAT 0020)	1333+29	54' LT	1254.00	1333+29	38' RT	1253.04	1.04%	1257.30	92	---	2	1
TOTAL									92	446	2	1

*PORTAGE COUNTY INLET/OUTLET STATION AND OFFSET GIVEN TO CENTER OF 3' SPACE BETWEEN THE TWIN PIPES AT THE HEADWALL OF THE MASONRY ENDWALLS

<u>TEMPORARY SHORING</u>	
LOCATION	511.1100 SF
PORTAGE COUNTY (CAT 0010)	
	1,845
MARATHON COUNTY (CAT 0020)	
	440
TOTAL	2,285

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ENDWALLS

LOCATION	504.0900 CONCRETE MASONRY ENDWALLS CY	522.1042 AEW FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH EACH
<u>PORTAGE COUNTY (CAT 0010)</u>		
523+16 RT	12.9	---
523+82 LT	11.5	---
SUBTOTAL CAT 0010	24.4	0
<u>MARATHON COUNTY (CAT 0020)</u>		
1333+29	---	1
SUBTOTAL CAT 0010	0	1
TOTAL	24.4	1

CONCRETE BARRIER TEMPORARY PRECAST

LOCATION	603.8000 DELIVERED LF	603.8125 INSTALLED LF
<u>PORTAGE COUNTY (CAT 0010)</u>		
	1,000	3,060
<u>MARATHON COUNTY (CAT 0020)</u>		
	350	640
TOTAL	1,350	3,700

RIPRAP HEAVY

LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY	SPV.0195.01 SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR TON
<u>PORTAGE COUNTY (CAT 0010)</u>			
	50	75	25
TOTAL	50	75	25

PIPE UNDERDRAIN 6-INCH

LOCATION	612.0106 LF
<u>PORTAGE COUNTY (CAT 0010)</u>	
NB 522+40 - 523+86	146
<u>MARATHON COUNTY (CAT 0020)</u>	
SB 1332+94 - 1333+64	140
TOTAL	286

FENCE WOVEN WIRE 4-FT

LOCATION	616.0100 LF
<u>PORTAGE COUNTY (CAT 0010)</u>	
521+58 - 523+48 RT	210
523+15 - 524+10 LT	95
TOTAL	305

RESTORATION ITEMS

LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0300 SEEDING BORROW PIT LB	631.0300 SOD WATER MGAL
<u>PORTAGE COUNTY (CAT 0010)</u>						
UNDISTRIBUTED	160	1	7	1	25	4
SUBTOTAL CAT 0010	1,720	3	35	4	25	43
<u>MARATHON COUNTY (CAT 0020)</u>						
UNDISTRIBUTED	45	0.5	2	---	5	1
SUBTOTAL CAT 0020	480	1	10	0	5	12
TOTAL	2,200	4	45	4	30	55

EROSION CONTROL ITEMS

LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EACH	628.1910 MOBILIZATIONS EMERGENCY EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	SPV.0090.02 SILT FENCE HEAVY DUTY LF
<u>PORTAGE COUNTY (CAT 0010)</u>													
UNDISTRIBUTED	25	100	100	7	4	390	---	---	---	35	---	25	---
SUBTOTAL CAT 0010	25	500	500	7	4	1,950	50	1	1	160	5	25	585
<u>MARATHON COUNTY (CAT 0020)</u>													
UNDISTRIBUTED	10	---	---	1	1	115	---	---	---	5	---	10	---
SUBTOTAL CAT 0020	10	0	0	1	1	550	0	1	1	20	10	10	0
TOTAL	35	500	500	8	5	2,500	50	2	2	180	15	35	585

PROJECT NO: 1160-00-65

HWY: IH-39

COUNTY: VARIOUS

MISCELLANEOUS QUANTITIES

SHEET NO:

E

3

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WATER

LOCATION	624.0100 MGAL
PORTAGE COUNTY (CAT 0010)	29
UNDISTRIBUTED / DUST CONTROL	26
SUBTOTAL CAT 0010	55
MARATHON COUNTY (CAT 0020)	11
UNDISTRIBUTED / DUST CONTROL	9
SUBTOTAL CAT 0020	20
TOTAL	75

DELINEATORS

LOCATION	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS EACH
PORTAGE COUNTY (CAT 0010)	11	21
TOTAL	11	21

PERMANENT SIGNING

SIGN #	SIGN CODE	SIGN SIZE	SIGN SIZE (IN)	637.2210 SIGN TYPE II REFLECTIVE H SF	634.0620 POSTS WOOD 4X6-INCH X 20 FT EACH	REMARKS
<u>PORTAGE (CAT 0010)</u>						
1-01	E5-1A	(5)	90X60	37.50	2	EXIT 139
SUBTOTAL CAT 0010				37.50	2	
TOTAL				37.50	2	

MARKERS CULVERT END

LOCATION	633.5200 EACH
PORTAGE COUNTY (CAT 0010)	6
MARATHON COUNTY (CAT 0020)	3
TOTAL	9

REMOVING AND MOVING SIGNS

SIGN #	SIGN CODE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
<u>PORTAGE (CAT 0010)</u>				
1R-01	E5-1A	1	2	EXIT 139
SUBTOTAL CAT 0010		1	2	
TOTAL		1	2	

TRAFFIC CONTROL ITEMS

LOCATION	* DAYS PER LOCATION	643.0300 DRUMS	643.0420 BARRICADES TYPE III	643.0705 WARNING LIGHTS TYPE A	643.0715 WARNING LIGHTS TYPE C	643.0800 ARROW BOARDS	643.0900 SIGNS	** 643.1050 SIGNS PCMS	** SPV.0045.01 PCMS CELLULAR COMMUNICATIONS DAY
<u>PORTAGE COUNTY (CAT 0010)</u>									
STAGE 1A	5	290	5	10	80	10	120	30	30
STAGE 1B	6	520	10	15	145	12	145	12	12
STAGE 2A	9	1,100	30	55	300	36	345	18	18
STAGE 2B	9	1,315	20	40	300	36	355	18	18
STAGE 3A	15	1,815	45	90	645	30	585	30	30
STAGE 3B	16	1,410	35	65	640	48	640	32	32
STAGE 4	28	2,690	30	60	535	84	1,010	56	56
STAGE 5A	14	1,275	30	60	505	42	505	28	28
STAGE 5B	14	1,880	45	60	465	56	520	28	28
UNDISTRIBUTED		1,230	25	50	365	46	425	33	33
SUBTOTAL CAT 0010	116	13,525	275	505	3,980	400	4,650	285	285
<u>MARATHON COUNTY (CAT 0020)</u>									
STAGE 1	7	450	15	30	115	14	155	17	17
STAGE 2	7	450	10	15	190	14	150	7	7
STAGE 3	7	460	15	30	140	14	150	7	7
UNDISTRIBUTED		140	5	10	45	8	50	9	9
SUBTOTAL CAT 0020	21	1,500	45	85	490	50	505	40	40
TOTAL	---	15,025	320	590	4,470	450	5,155	325	325

COVERING SIGNS TYPE II

LOCATION	* NUMBER OF CYCLES	* NUMBER OF SIGNS	643.0920 EACH
MARATHON COUNTY (CAT 0020)	2	1	2
TOTAL			2

*NON-BID ITEM (FOR INFORMATION ONLY)

GEOTEXTILE FABRIC TYPE SAS

LOCATION	645.0140 SY
PORTAGE COUNTY (CAT 0010)	390
TOTAL	390

*NON-BID ITEM (FOR INFORMATION ONLY)

**QUANTITIES INCLUDE SIGNS PLACED PRIOR TO CONSTRUCTION

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PAVEMENT MARKING

LOCATION	646.0106 EPOXY 4-INCH (WHITE) LF	646.0106 EPOXY 4-INCH (YELLOW) LF	646.0406 SAME DAY EPOXY 4-INCH (WHITE) LF	646.0881.S GROOVED WET REFLECTIVE TAPE 4-INCH (WHITE) LF	646.0883.S GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE) LF	647.0746 DIAGONAL EPOXY 24-INCH (WHITE) LF
PORTAGE COUNTY (CAT 0010)	1,700	2,000	1,225	---	2,150	300
SUBTOTAL CAT 0010	3,700					
MARATHON COUNTY (CAT 0020)	2,150	1,700	---	825	---	---
SUBTOTAL CAT 0020	3,850					
TOTAL	7,550		1,225	825	2,150	300

REMOVING PAVEMENT MARKINGS

LOCATION	646.0600 LF
PORTAGE COUNTY (CAT 0010)	
STAGE 1A	1,630
STAGE 1B	1,690
STAGE 2A	1,350
STAGE 2B	1,300
STAGE 3A	---
STAGE 3B	580
STAGE 4	---
STAGE 5A	---
STAGE 5B	---
SUBTOTAL CAT 0010	6,550
MARATHON COUNTY (CAT 0020)	
STAGE 1	3,350
STAGE 2	---
STAGE 3	---
SUBTOTAL CAT 0020	3,350
TOTAL	9,900

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

LOCATION	649.0400 4-INCH (WHITE) LF	649.0400 4-INCH (YELLOW) LF	649.0801 8-INCH (WHITE) LF
PORTAGE COUNTY (CAT 0010)			
STAGE 1A	---	2,310	---
STAGE 1B	1,230	1,350	---
STAGE 2A	950	2,680	210
STAGE 2B	3,870	760	100
STAGE 3A	2,070	1,380	590
STAGE 3B	1,430	2,420	240
STAGE 4	2,290	820	360
STAGE 5A	1,370	2,250	250
STAGE 5B	5,630	640	200
SUBTOTAL CAT 0010	33,450		1,950
MARATHON COUNTY (CAT 0020)			
STAGE 1	---	3,250	---
STAGE 2	1,790	3,030	---
STAGE 3	3,010	3,020	---
SUBTOTAL CAT 0020	14,100		0
TOTAL	47,550		1,950

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CONSTRUCTION STAKING STORM SEWER*

LOCATION	650.4000 EACH
PORTAGE COUNTY (CAT 0010)	
INLET	1
ENDWALL	2
SUBTOTAL CAT 0010	3
MARATHON COUNTY (CAT 0020)	
INLET	1
ENDWALL	1
SUBTOTAL CAT 0020	2
TOTAL	5

*ADDITIONAL STAKING ITEMS SHOWN ELSEWHERE

CONSTRUCTION STAKING*

LOCATION	650.5000 BASE LF	650.9920 SLOPE STAKES LF
PORTAGE COUNTY (CAT 0010)		
NB 522+40 - 523+86	146	146
SB 523+10 - 524+20	110	110
SUBTOTAL CAT 0010	256	256
MARATHON COUNTY (CAT 0020)		
SB 1332+94 - 1333+64	70	70
SUBTOTAL CAT 0020	70	70
TOTAL	326	326

*ADDITIONAL STAKING ITEMS SHOWN ELSEWHERE

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL*

LOCATION	650.9910 LS
PORTAGE COUNTY (CAT 0010)	0.8
MARATHON COUNTY (CAT 0020)	0.2
TOTAL	1

*ADDITIONAL STAKING ITEMS SHOWN ELSEWHERE

SAWING CONCRETE

LOCATION	690.0250 LF
PORTAGE COUNTY (CAT 0010)	645
MARATHON COUNTY (CAT 0020)	190
TOTAL	835

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SAWING ASPHALT

LOCATION	690.0150 LF
<u>PORTAGE COUNTY (CAT 0010)</u>	
522+40 NB	55
523+10 SB	50
523+86 NB	60
524+20 SB	55
NB SHOULDER WIDENING REMOVAL	485
SB SHOULDER WIDENING REMOVAL	1,045
STAGING	255
SHOULDERS	75
<u>SUBTOTAL CAT 0010</u>	<u>2,080</u>
<u>MARATHON COUNTY (CAT 0020)</u>	
1332+94 SB	40
1333+64 SB	40
SB SHOULDER WIDENING REMOVAL	1,370
STAGING	70
SHOULDERS	10
<u>SUBTOTAL CAT 0020</u>	<u>1,530</u>
TOTAL	3,610

ABANDON AND FILL CULVERT PIPES

LOCATION	DESCRIPTION	SPV.0035.01 CY
<u>PORTAGE COUNTY (CAT 0010)</u>		
523+10 66' LT - 29' RT	60" X 105' CPRC	80
523+17 64' LT - 29' RT	60" X 105' CPRC	80
TOTAL		160

STREAMBED MEDIUM

LOCATION	SPV.0035.02 CY
<u>PORTAGE COUNTY (CAT 0010)</u>	
	80
TOTAL	80

CAST IN PLACE REINFORCED CONCRETE INLET

LOCATION	SPV.0060.01 EACH
<u>SOUTH BRANCH TENMILE CREEK (CAT 0010)</u>	
	1
TOTAL	1

FILL EXISTING RUMBLE STRIPS

LOCATION	SPV.0090.01 LF
<u>PORTAGE COUNTY (CAT 0010)</u>	
	3,030
<u>MARATHON COUNTY (CAT 0020)</u>	
	1,660
TOTAL	4,690

TEMPORARY WATER DIVERSION

LOCATION	SPV.0105.01 LS	SPV.0105.02 LS
<u>SOUTH BRANCH TENMILE CREEK (CAT 0010)</u>		
	1	---
<u>MARATHON COUNTY (CAT 0020)</u>		
	---	1
TOTAL	1	1

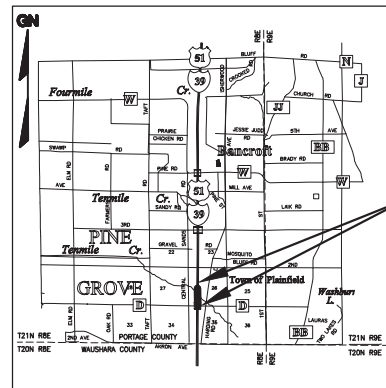
HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
IH-39	WIS-DOT ID.1163-01-21, USH-51	VARIES	1976
IH-39	F 05-3 (43)	VARIES	1956
CTH D	WIS-DOT ID.1163-01-21, USH-51	VARIES	1976

PARCEL NUMBER	OWNER	INTEREST REQUIRED	AREAS ACRES REQUIRED			TLE ACRES	PLE ACRES
			NEW	EXISTING	TOTAL		
1	BOVEE PL & OA, TRUST DATED DEC. 11, 1997	TLE	-	-	-	0.030	-
2	PETER R. & ANNE C. STUDLEY	TLE	-	-	-	0.073	-

SCHEDULE OF LANDS & INTEREST REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

LOCATION MAP



NOT TO SCALE

SCALE, FEET



R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
1160-00-25	4.1	
FEDERAL PROJECT NUMBER		
PLAT OF RIGHT OF WAY REQUIRED FOR		
IH-39		
CTH D - SOUTH BRANCH TENMILE CREEK		
IH-39	PORTAGE COUNTY	
CONSTRUCTION NO.		

NOTES:

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

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION CONTACT THE PLANNING DEPARTMENT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WISCONSIN RAPIDS.

EXISTING ACCESS CONTROL FOR IH-39 ESTABLISHED FROM PREVIOUS RIGHT OF WAY PROJECT ID.1163-01-21, 1976 AND PROJECT F05-3(43).

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER "SURVEYS OF PUBLIC RECORD".

CONVENTIONAL SYMBOLS	
FOUND IRON PIPE/PIN	(IP UNLESS NOTED)
R/W MONUMENT	● (SET)
R/W STANDARD	▲ (SET)
SIGN	ISIGN
SECTION CORNER MONUMENT	⊕
SECTION CORNER SYMBOL	⊙
TEMPORARY LIMITED EASEMENT	TEMPORARY LIMITED EASEMENT
R/W BOUNDARY POINT	⊕
PARCEL NUMBER	⊕
UTILITY NUMBER	⊕
TLE POINT NUMBER	⊕

CONVENTIONAL ABBREVIATIONS		
ACRES	AC.	SOUTHEAST SE
CERTIFIED SURVEY MAP	CSM	SOUTHWEST SW
CORNER	COR.	STATION STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT TLE
EASEMENT	EASE.	VOLUME V.
MONUMENT	MON.	POINT OF INTERSECTION PI
NORTHEAST	NE	
NORTHWEST	NW	
PAGE	P.	
PROPERTY LINE	PL	
RECORDED AS	(100)	
REFERENCE LINE	R/L	

ORIGINAL PLAT PREPARED BY

R.A. Smith National

16745 W. Blumound Road, Brookfield WI 53005
262-781-1000 Fax 262-781-8466
www.rasmithnational.com

Beyond Surveying and Engineering

WISCONSIN LAND SURVEYOR

NATHAN A. VAUGHN
S-2986
JOHNSON CREEK, WI

DATE: 11/18/2015

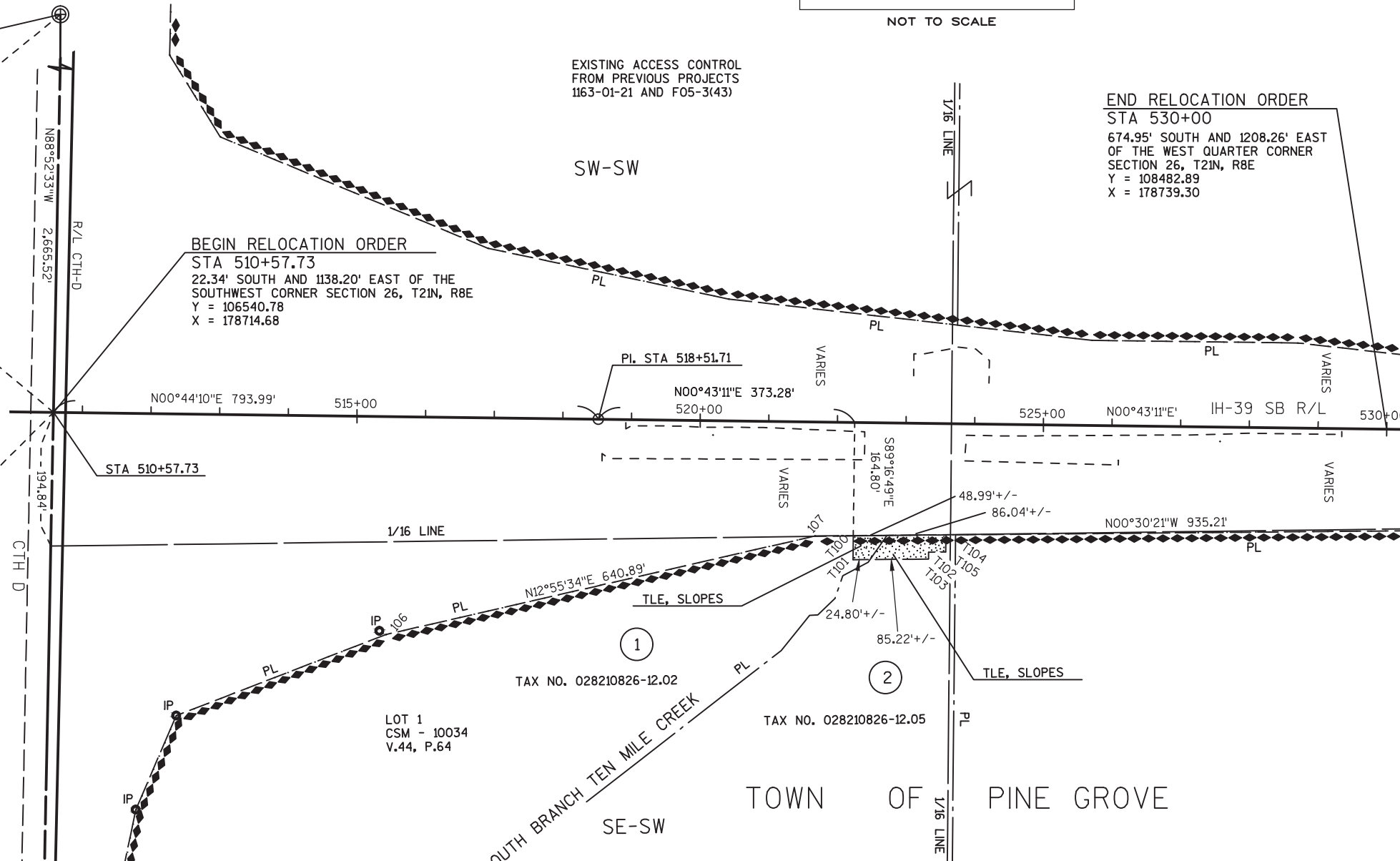
Nathan A. Vaughn
LAND SURVEYOR

REVISION DATE: 10-5-15

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR DISTRICT OFFICE:

DATE: _____ (Signature)



COURSE TABLE		
T100-T101	S89°16'49"E	35.00'
T101-T103	N00°30'21"W	110.02'
T103-T102	N89°16'49"W	10.00'
T102-T105	N00°30'21"W	25.00'
T105-T104	N89°16'49"W	25.00'
T105-T101	S00°30'21"E	135.03'

R/W STATION & OFFSET TABLE		
T100	522+25.00	164.80'
T101	522+25.00	199.81'
T102	523+35.00	187.45'
T103	523+35.00	197.45'
T104	523+60.00	161.91'
T105	523+60.00	186.92'
106	515+46.18	317.28'
107	521+68.89	166.00'

R/L IH-39
CURVE DATA
PI = 518+51.71
Y = 107,334.70
X = 178,724.88
DELTA = 00°00'59" LT
D.B. = N00°44'10"E
D.A. = N00°43'11"E

4

4

LEGEND

- XXXXXXX SAWCUT
- DIRECTION OF FLOW
- [Hatched Box] PERMITTED WETLAND DISTURBANCE
- [Solid Grey Box] HMA PAVEMENT SHOULDER (3.5")
- [Grid Pattern Box] HMA PAVEMENT TRAVEL LANE (7.5")

NOTES

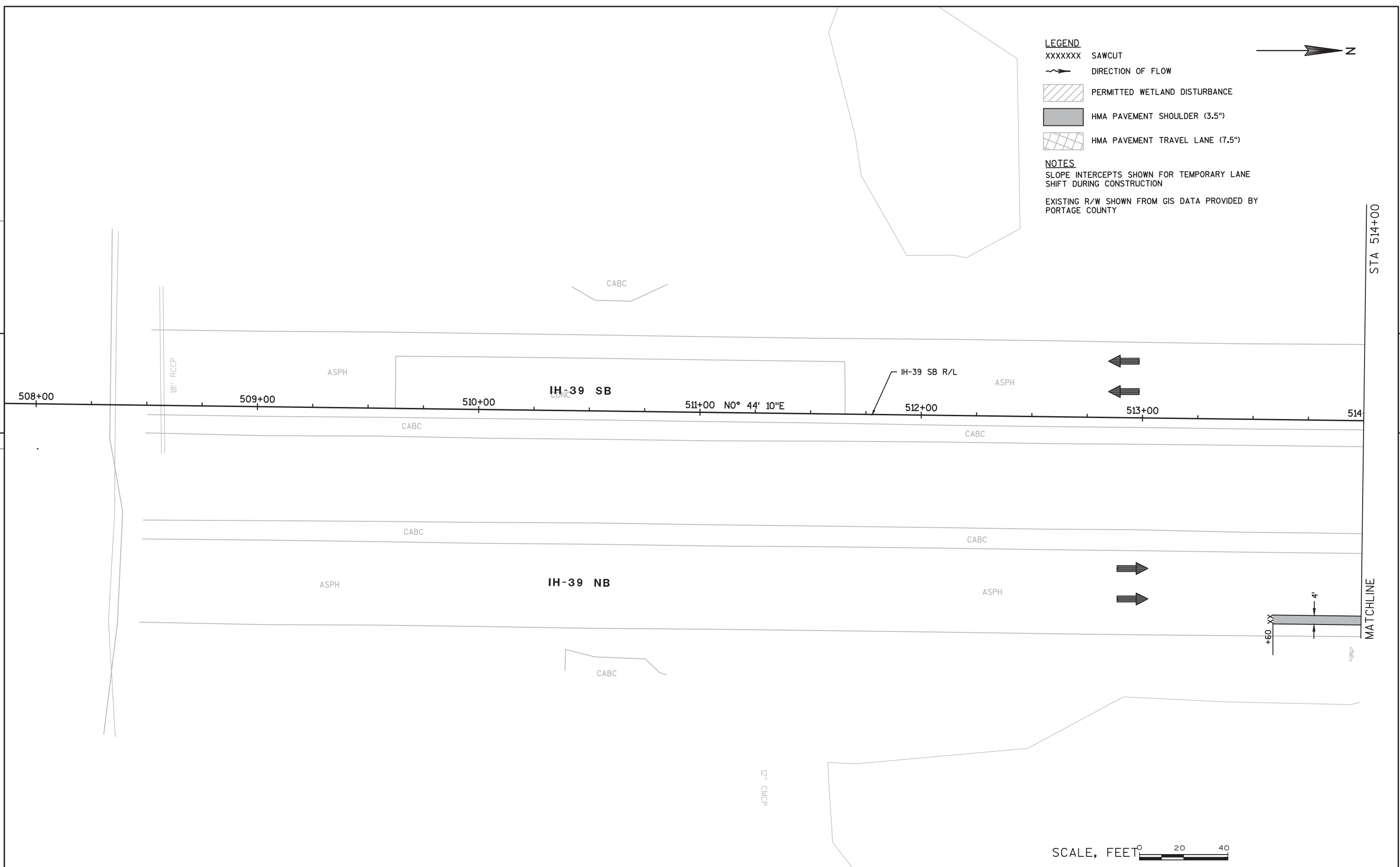
SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION

EXISTING R/W SHOWN FROM GIS DATA PROVIDED BY PORTAGE COUNTY



5

5



PROJECT NO: 1160-00-65	HWY: IH-39	COUNTY: PORTAGE	PLAN SHEET - SOUTH BRANCH TENMILE CREEK	SHEET	E
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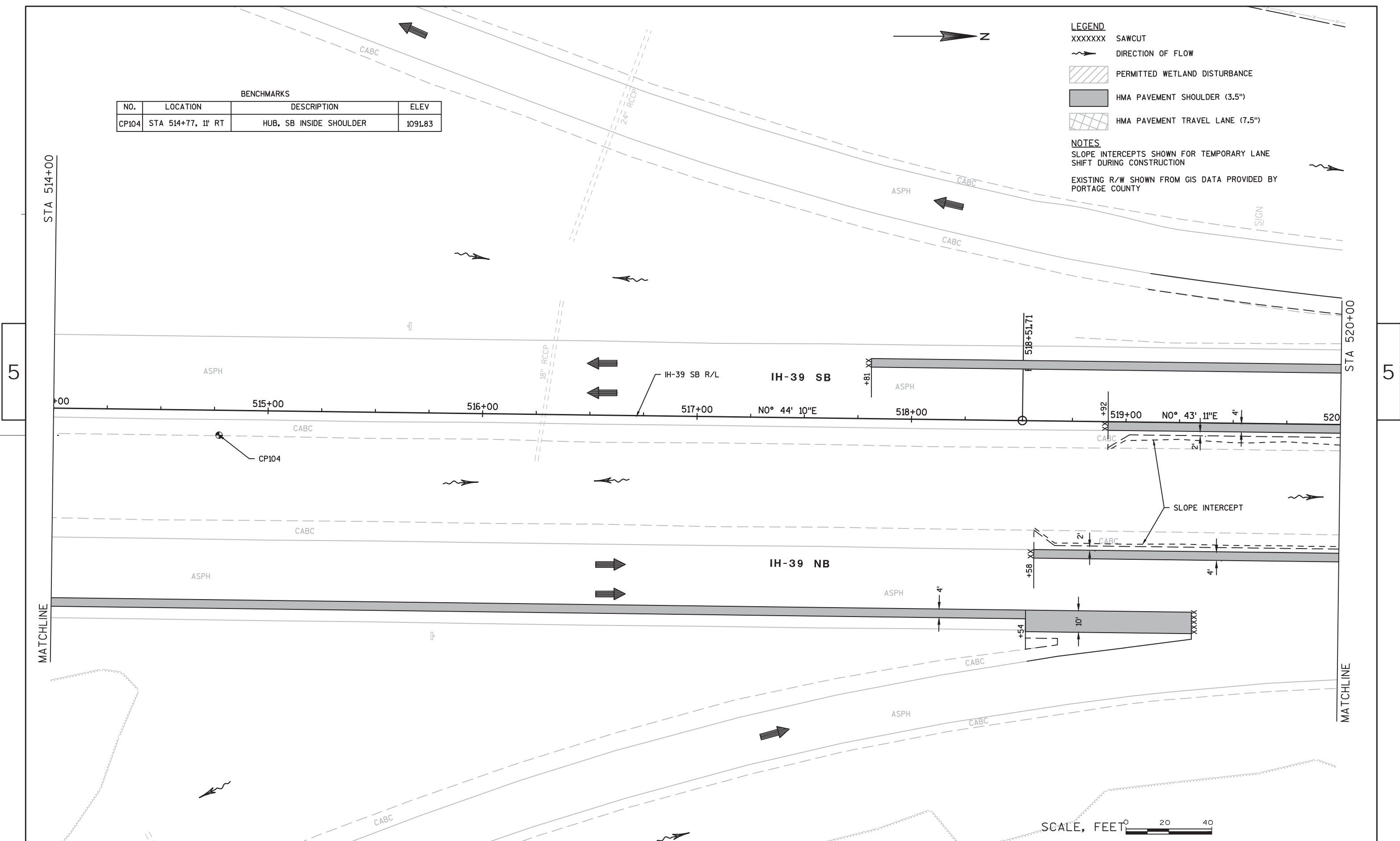
BENCHMARKS			
NO.	LOCATION	DESCRIPTION	ELEV
CP104	STA 514+77, 11' RT	HUB, SB INSIDE SHOULDER	1091.83

LEGEND

- XXXXXXX SAWCUT
- ~> DIRECTION OF FLOW
- [Hatched Box] PERMITTED WETLAND DISTURBANCE
- [Solid Grey Box] HMA PAVEMENT SHOULDER (3.5")
- [Grid Box] HMA PAVEMENT TRAVEL LANE (7.5")

NOTES

- SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION
- EXISTING R/W SHOWN FROM GIS DATA PROVIDED BY PORTAGE COUNTY



BENCHMARKS			
NO.	LOCATION	DESCRIPTION	ELEV
CP103	STA 523+50, 10' RT	HUB, SB INSIDE SHOULDER	1088.67
CP107	STA 524+06, 55' RT	HUB, NB INSIDE SHOULDER	1089.24

RESTORE OLD STREAM BED TO ELEVATION APPROXIMATELY LEVEL WITH SURROUNDING GROUND AND PLANT WITH SEEDING MIXTURE NO. 60

REMOVE OLD STRUCTURE STA 523+42 1-60"X13' CPRC SEE CONSTRUCTION DETAIL

REMOVE OLD STRUCTURE STA 523+34 1-60"X15' CPRC SEE CONSTRUCTION DETAIL

ABANDON AND FILL CULVERT PIPES FROM 66' LT TO 29' RT 2-60"X105' CPRC SEE CONSTRUCTION DETAIL

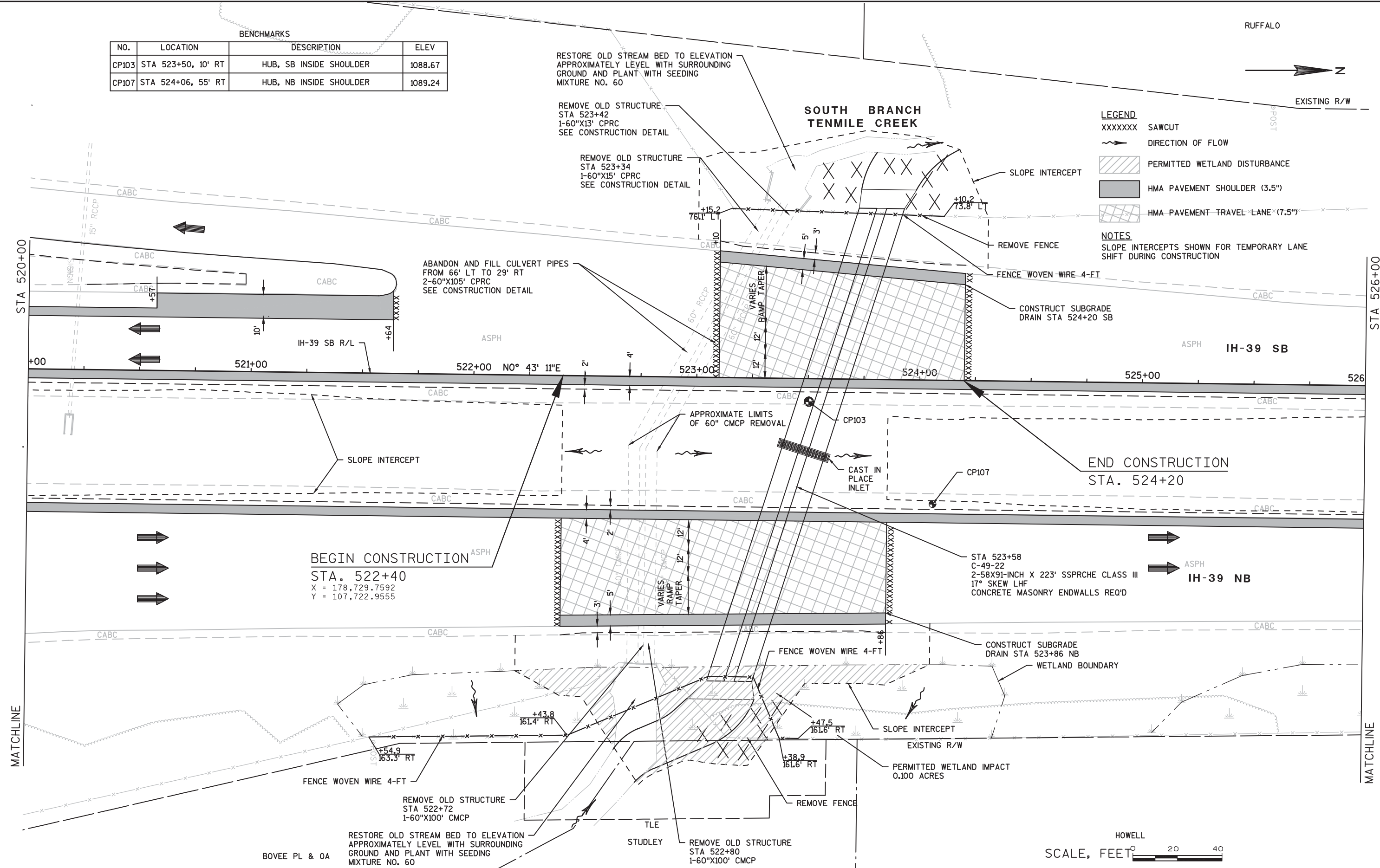
SOUTH BRANCH TENMILE CREEK

LEGEND

- XXXXXXX SAWCUT
- DIRECTION OF FLOW
- [Hatched Box] PERMITTED WETLAND DISTURBANCE
- [Solid Grey Box] HMA PAVEMENT SHOULDER (3.5")
- [Grid Box] HMA PAVEMENT TRAVEL LANE (7.5")

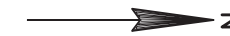
NOTES

SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION



BENCHMARKS

NO.	LOCATION	DESCRIPTION	ELEV
CP102	STA 534+37, 11' RT	HUB, SB INSIDE SHOULDER	1090.42



LEGEND

- XXXXXX SAWCUT
- ~> DIRECTION OF FLOW
- [Hatched Box] PERMITTED WETLAND DISTURBANCE
- [Solid Grey Box] HMA PAVEMENT SHOULDER (3.5")
- [Grid Box] HMA PAVEMENT TRAVEL LANE (7.5")

NOTES

SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION
 EXISTING R/W SHOWN FROM GIS DATA PROVIDED BY PORTAGE COUNTY

RUFFALO

EXISTING R/W

STA 526+00

5

SIGN

WETLAND BOUNDARY

IH-39 SB

ASPH

IH-39 SB R/L

ASPH

5

+00 527+00 528+00 529+00 530+00 N0° 43' 11"E 531+00 532+00

SLOPE INTERCEPT

CABC

CABC

IH-39 NB

ASPH

ASPH

CABC




CABC

MATCHLINE

EXISTING R/W

HOWELL

SCALE, FEET

- LEGEND**
- XXXXXXX SAWCUT
 - ~> DIRECTION OF FLOW
 -  PERMITTED WETLAND DISTURBANCE
 -  HMA PAVEMENT SHOULDER (3.5")
 -  HMA PAVEMENT TRAVEL LANE (7.5")

- NOTES**
- SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION
 - EXISTING R/W LOCATION IS APPROXIMATE



GANSER

EXISTING R/W

5

5

1324+00 1325+00 1326+00 1327+00 N0° 39' 04"W 1328+00 1329+00 1330+00

IH-39 SB

IH-39 SB R/L

SLOPE INTERCEPT

STA 1330+00
MATCHLINE



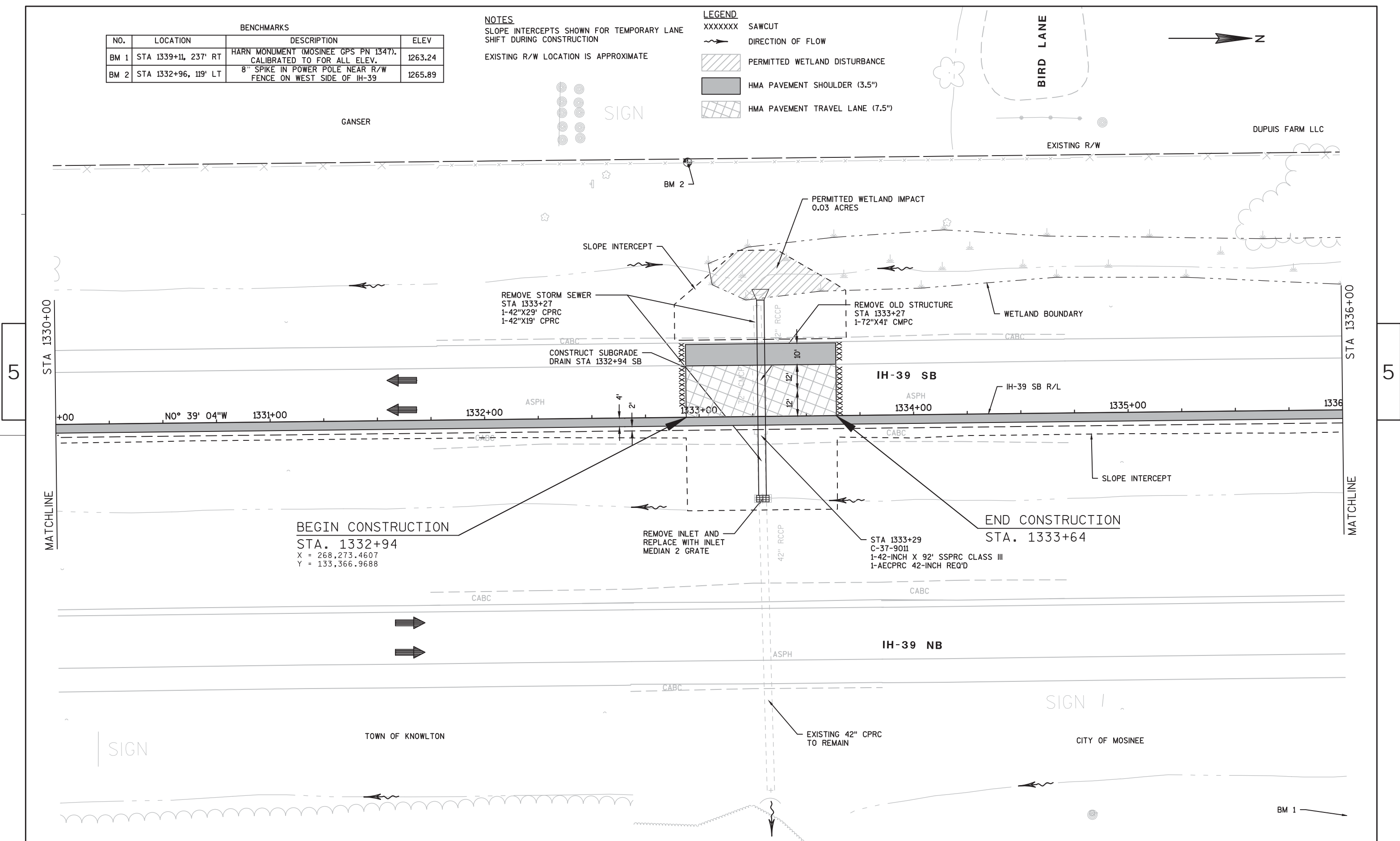
IH-39 NB

TOWN OF KNOWLTON

BENCHMARKS			
NO.	LOCATION	DESCRIPTION	ELEV
BM 1	STA 1339+11, 237' RT	HARN MONUMENT (MOSINEE GPS PN 1347). CALIBRATED TO FOR ALL ELEV.	1263.24
BM 2	STA 1332+96, 119' LT	8" SPIKE IN POWER POLE NEAR R/W FENCE ON WEST SIDE OF IH-39	1265.89

NOTES
 SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION
 EXISTING R/W LOCATION IS APPROXIMATE

- LEGEND**
- XXXXXXX SAWCUT
 - ~> DIRECTION OF FLOW
 - [Hatched Box] PERMITTED WETLAND DISTURBANCE
 - [Solid Grey Box] HMA PAVEMENT SHOULDER (3.5")
 - [Cross-hatched Box] HMA PAVEMENT TRAVEL LANE (7.5")



5

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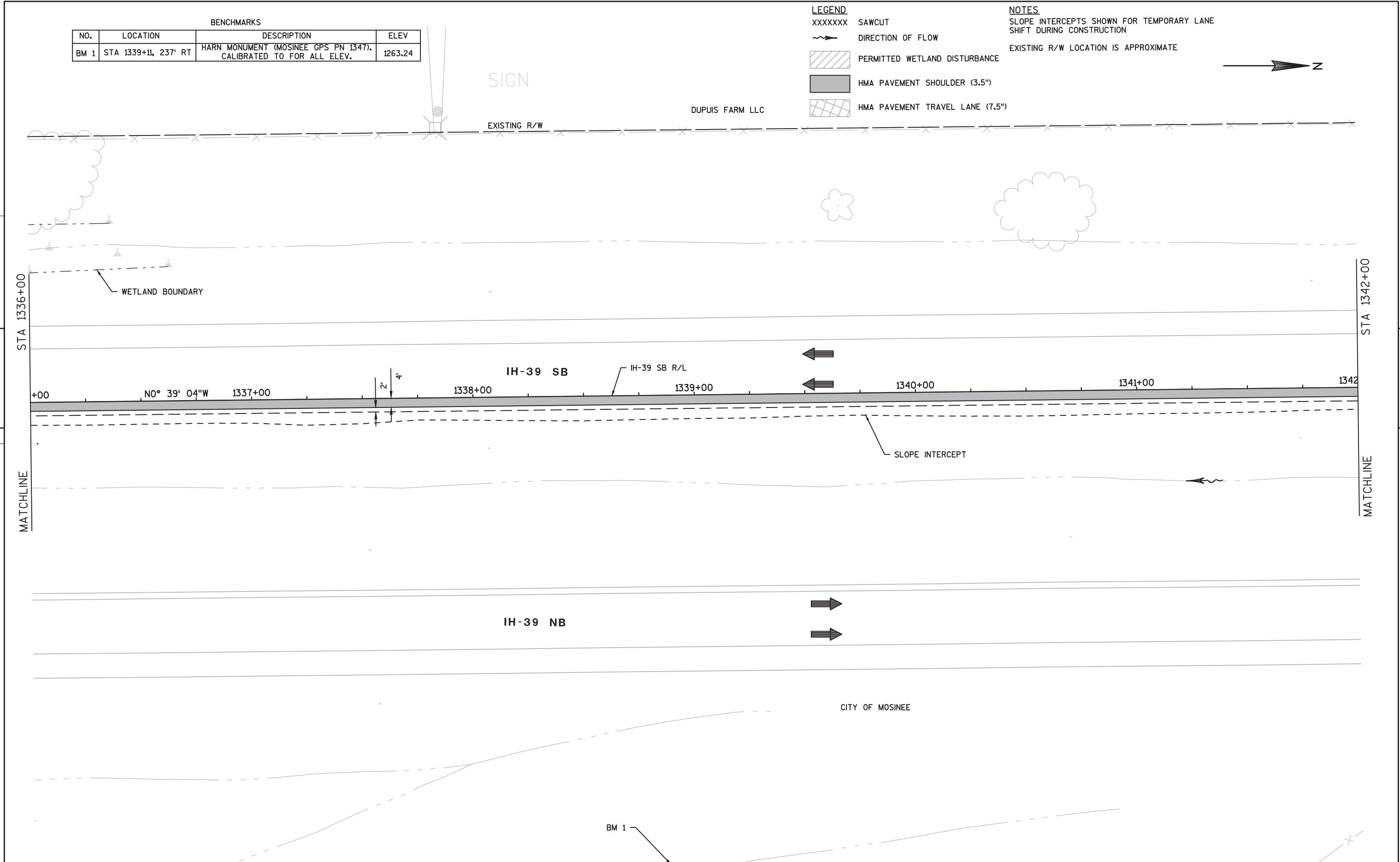
BENCHMARKS			
NO.	LOCATION	DESCRIPTION	ELEV
BM 1	STA 1339+11, 237' RT	HARN MONUMENT (MOSINEE GPS PN 1347). CALIBRATED TO FOR ALL ELEV.	1263.24

- LEGEND**
- XXXXXXX SAWCUT
 - ~> DIRECTION OF FLOW
 - [Hatched Box] PERMITTED WETLAND DISTURBANCE
 - [Solid Grey Box] HMA PAVEMENT SHOULDER (3.5")
 - [Cross-hatched Box] HMA PAVEMENT TRAVEL LANE (7.5")

NOTES

SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION

EXISTING R/W LOCATION IS APPROXIMATE



5

5

- LEGEND**
- XXXXXXX SAWCUT
 - DIRECTION OF FLOW
 - [Hatched Box] PERMITTED WETLAND DISTURBANCE
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 - [Cross-hatched Box] HMA PAVEMENT TRAVEL LANE (7.5")

NOTES

SLOPE INTERCEPTS SHOWN FOR TEMPORARY LANE SHIFT DURING CONSTRUCTION

EXISTING R/W LOCATION IS APPROXIMATE

CITY OF MOSINEE

EXISTING R/W

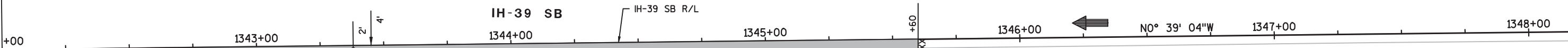
SIGN

→ Z

STA 1342+00

5

MATCHLINE



5

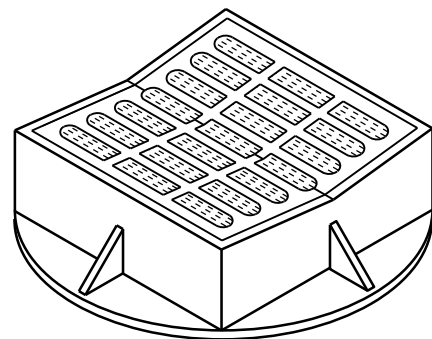
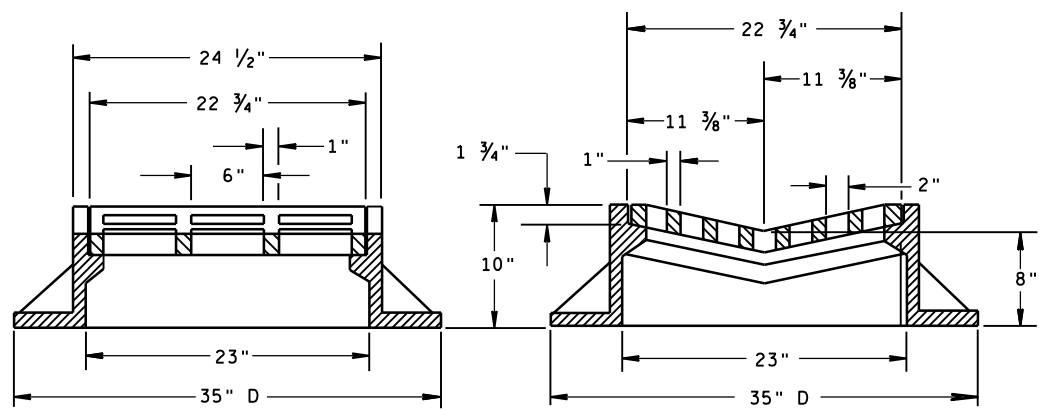
INL

IH-39 NB

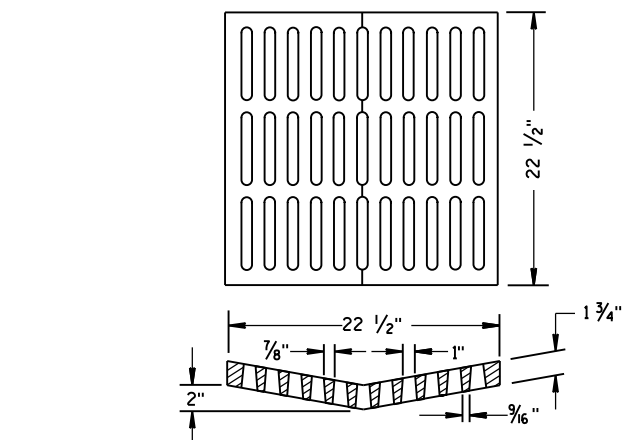
CITY OF MOSINEE

Standard Detail Drawing List

08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A06-02	DELINEATOR LAYOUT
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-03C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15D03-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D12-06B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

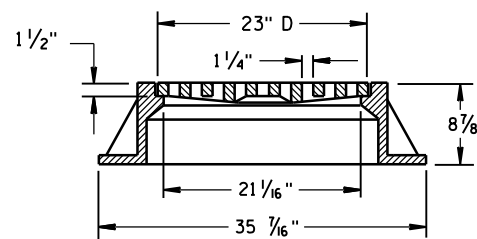
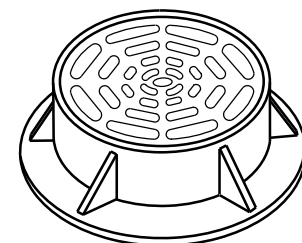
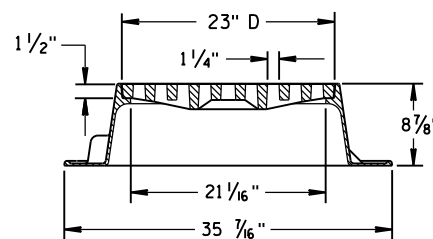
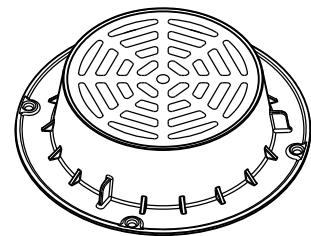


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

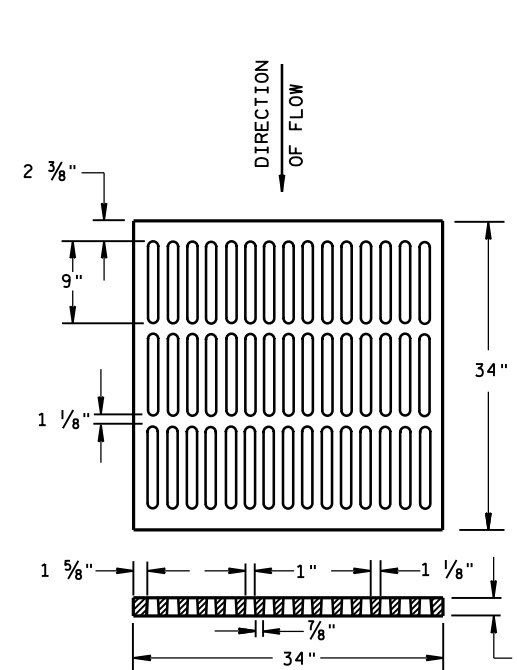
NOTE: EITHER CASTING IS ACCEPTABLE

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.

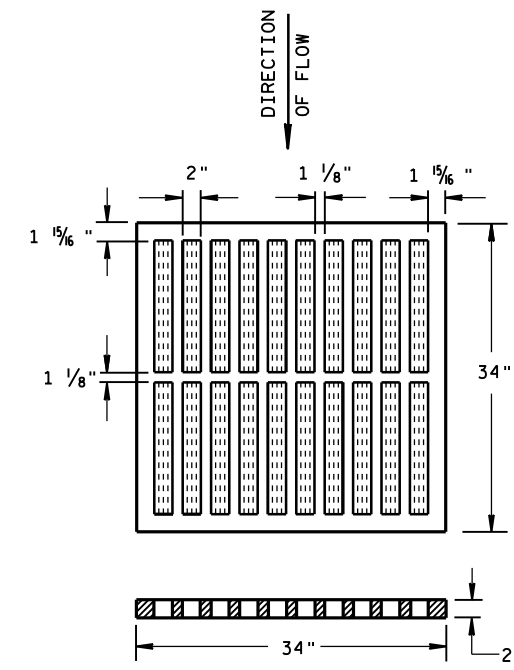
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



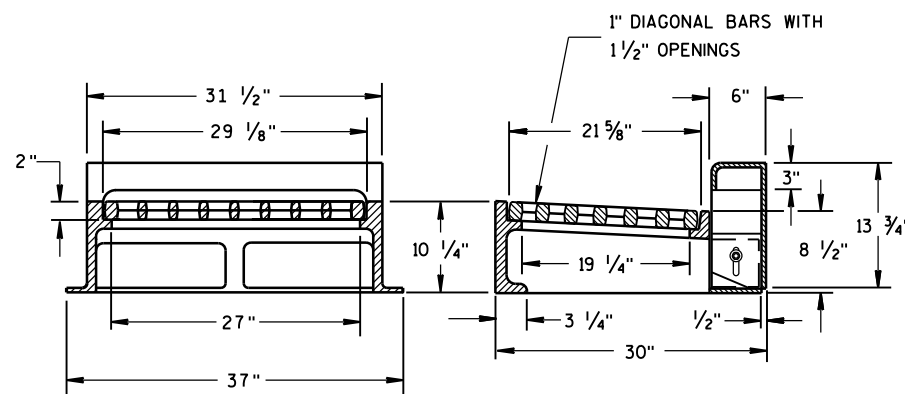
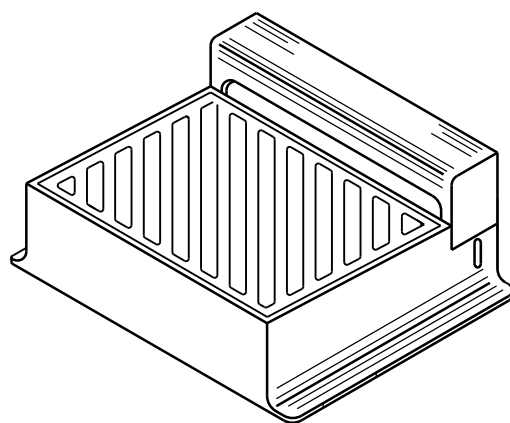
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

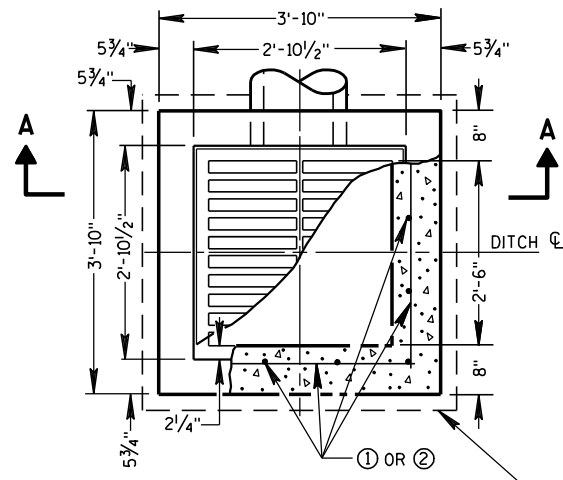
TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.

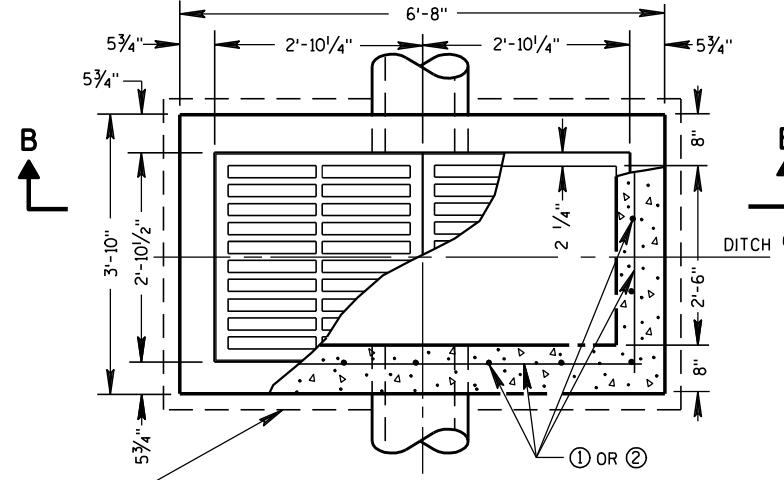
**INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

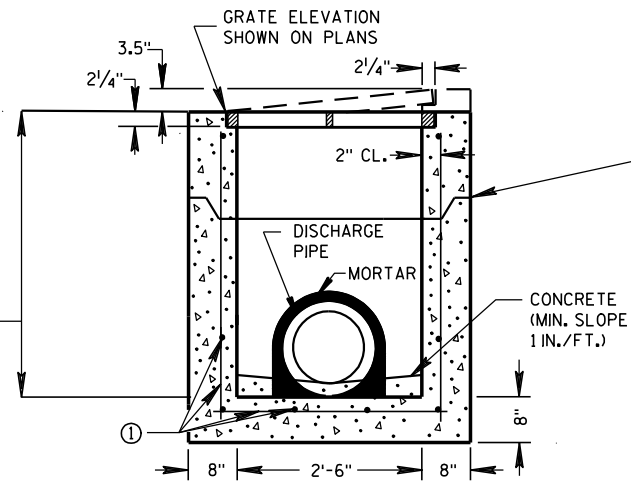


PLAN VIEW

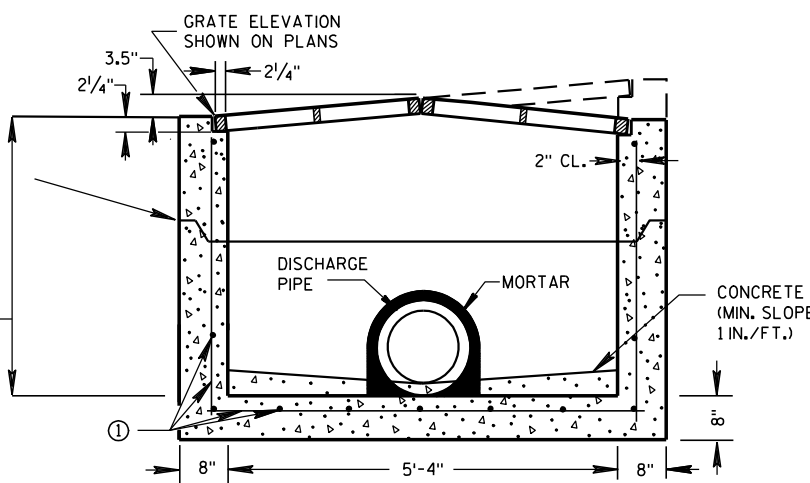


PLAN VIEW

4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



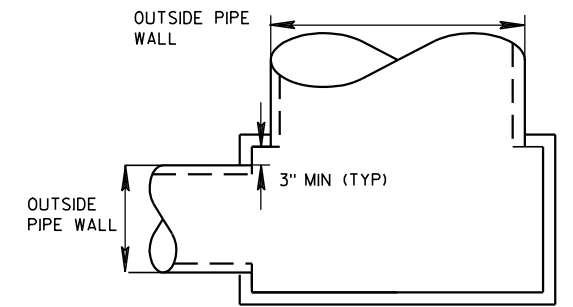
PRECAST REINFORCED CONCRETE SECTION A-A



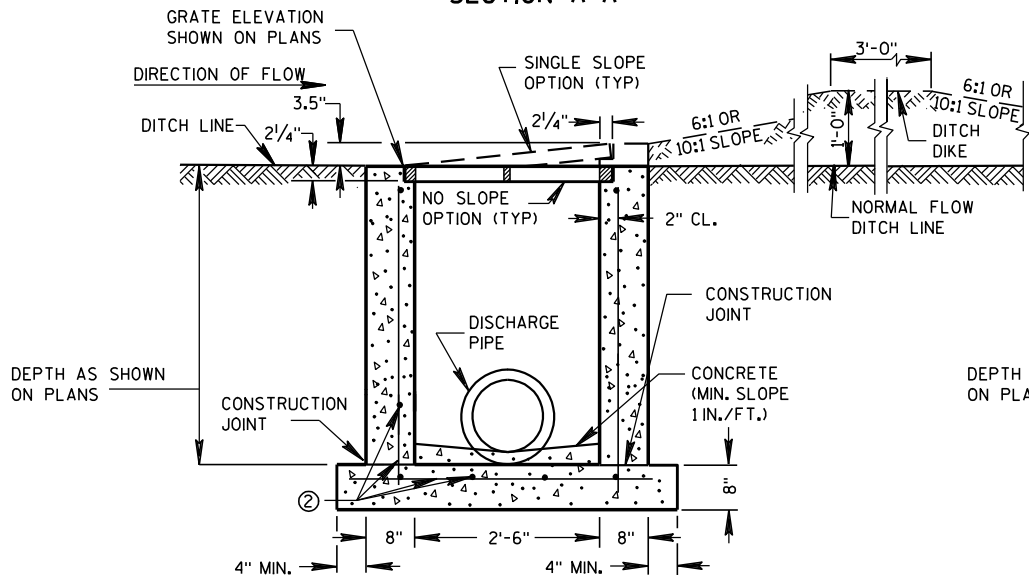
PRECAST REINFORCED CONCRETE SECTION B-B

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

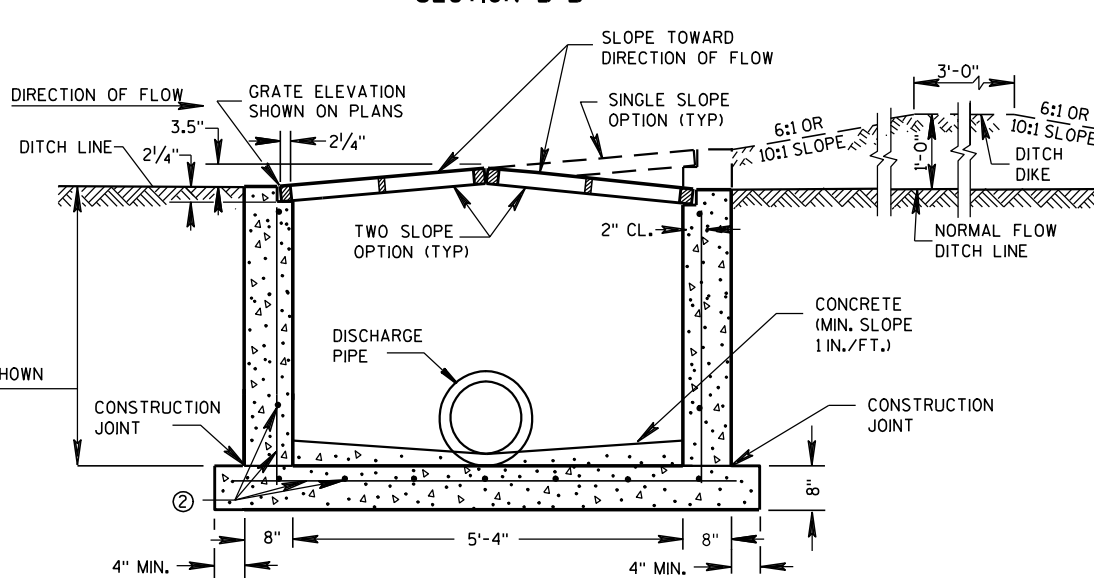


DETAIL "A"



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

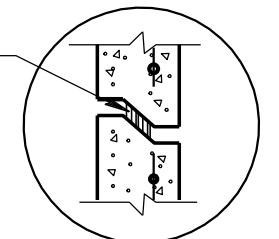
INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

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



DETAIL "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.

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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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.

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

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

- ① FOR PRECAST 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.

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

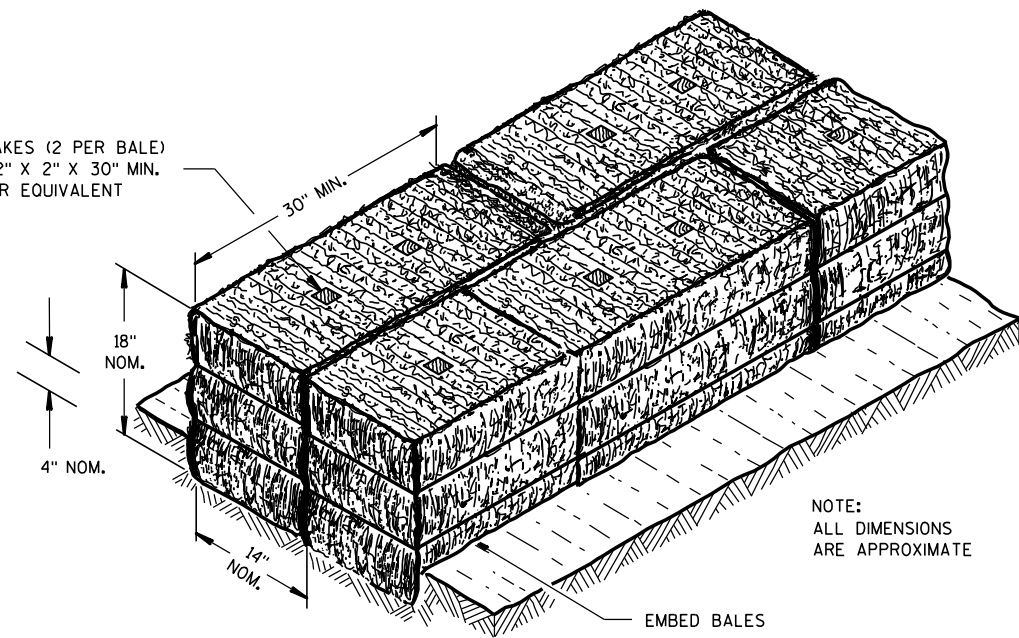
6/5/2012

DATE

FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

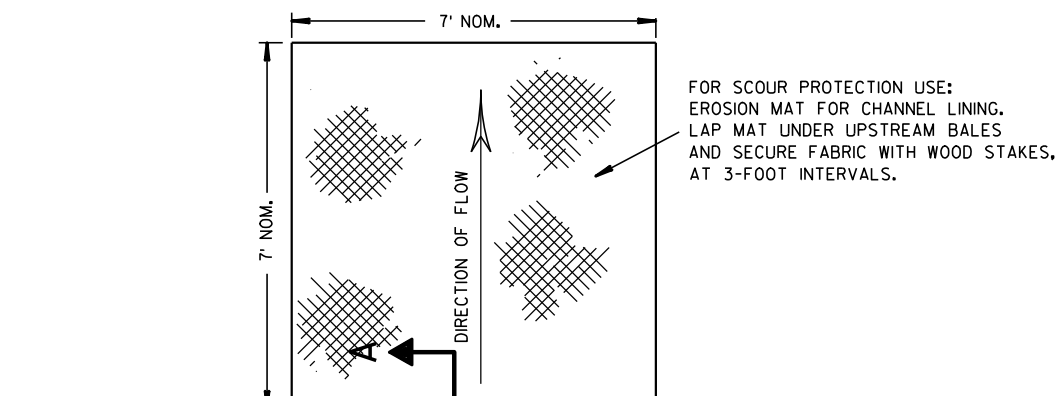
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



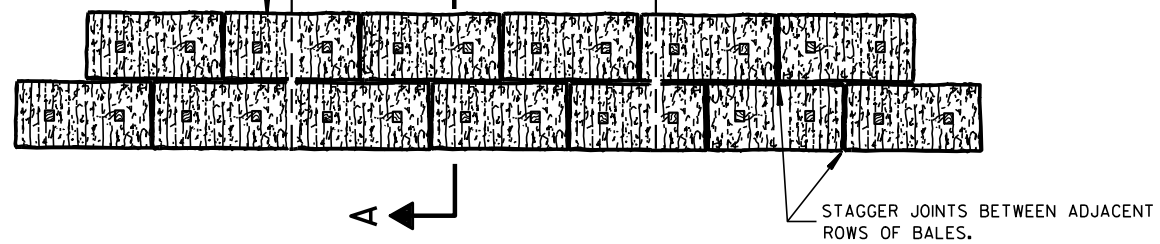
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

SECTION A-A



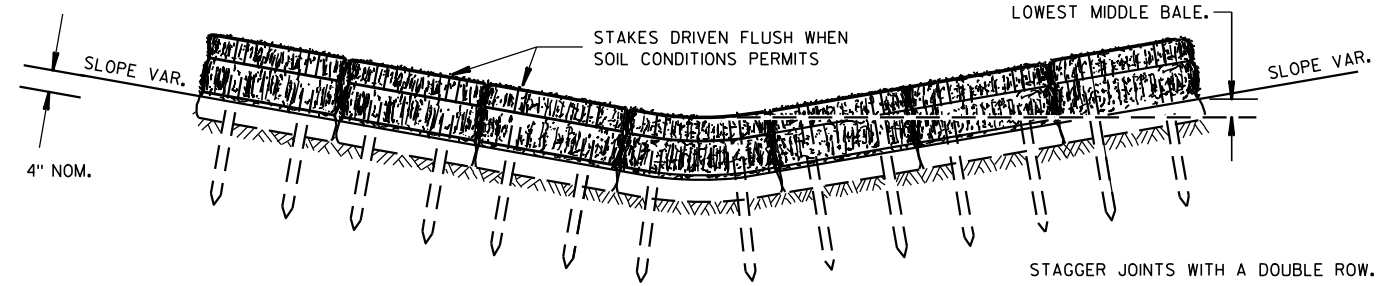
FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.



STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



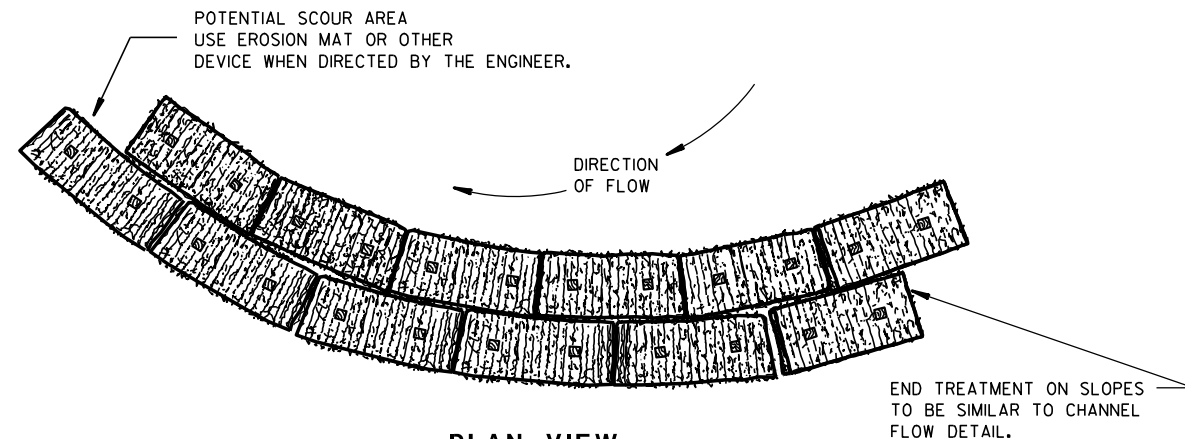
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

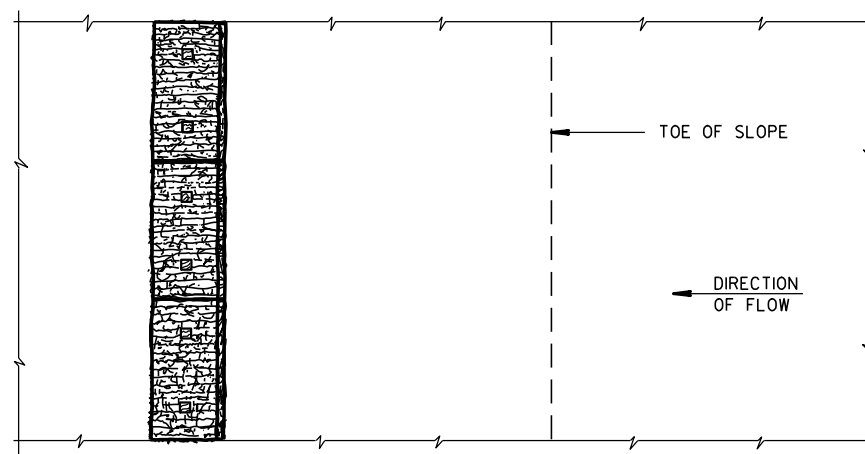
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

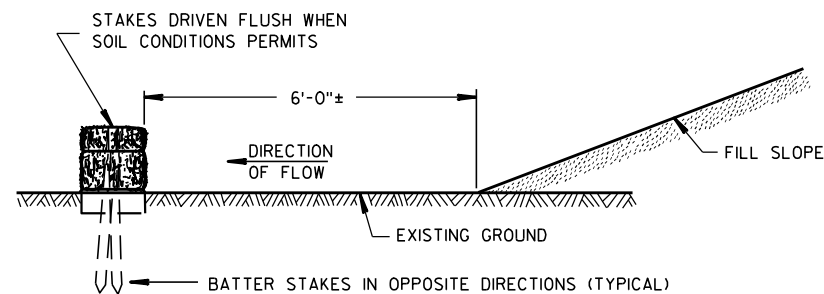


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

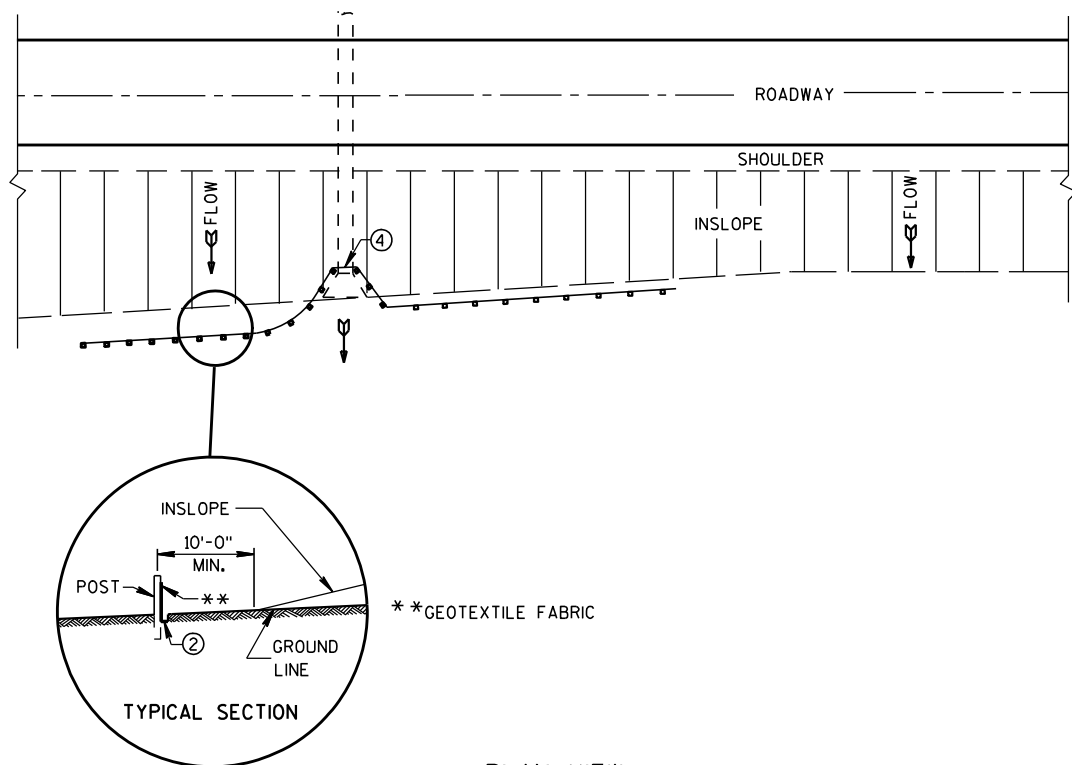
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

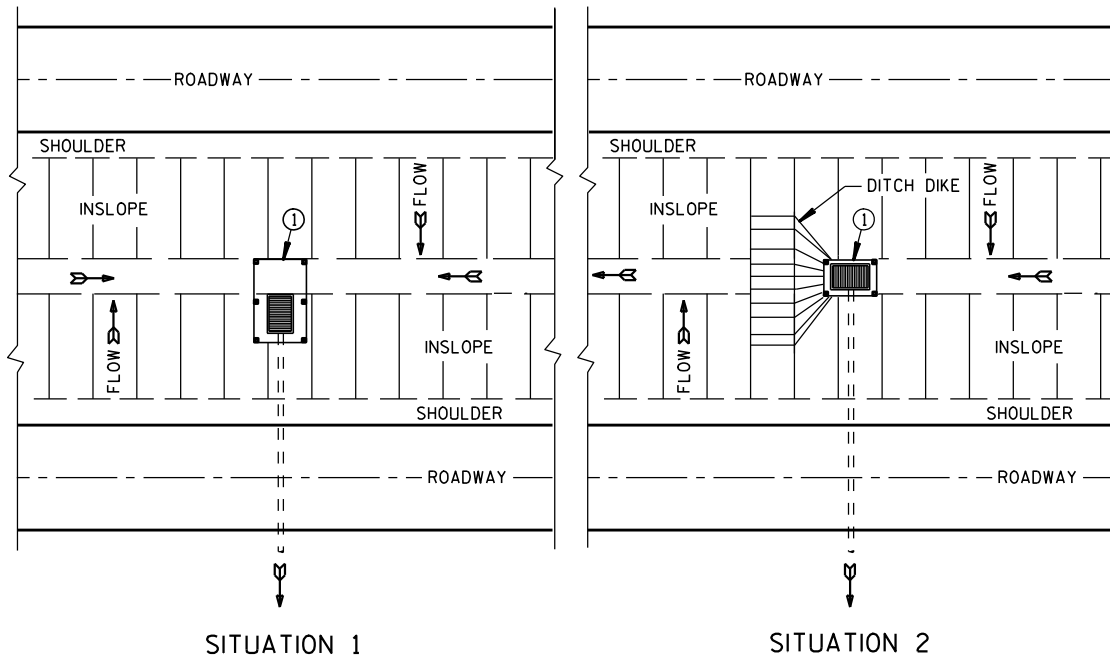
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

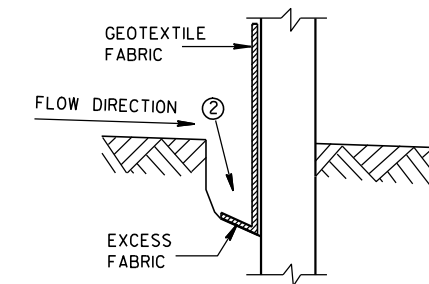


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

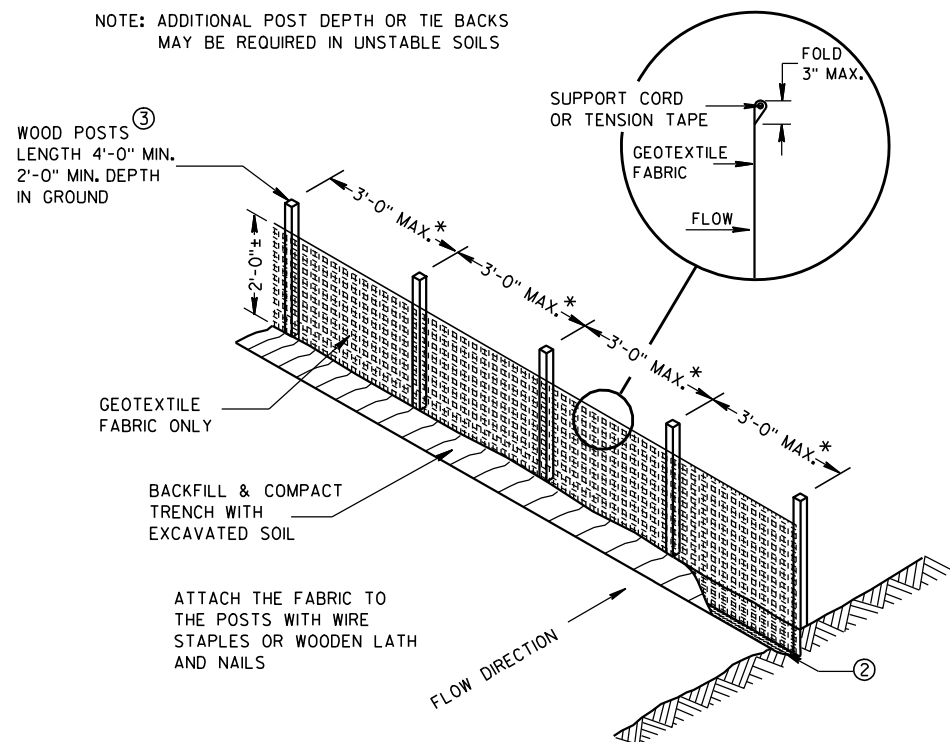
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



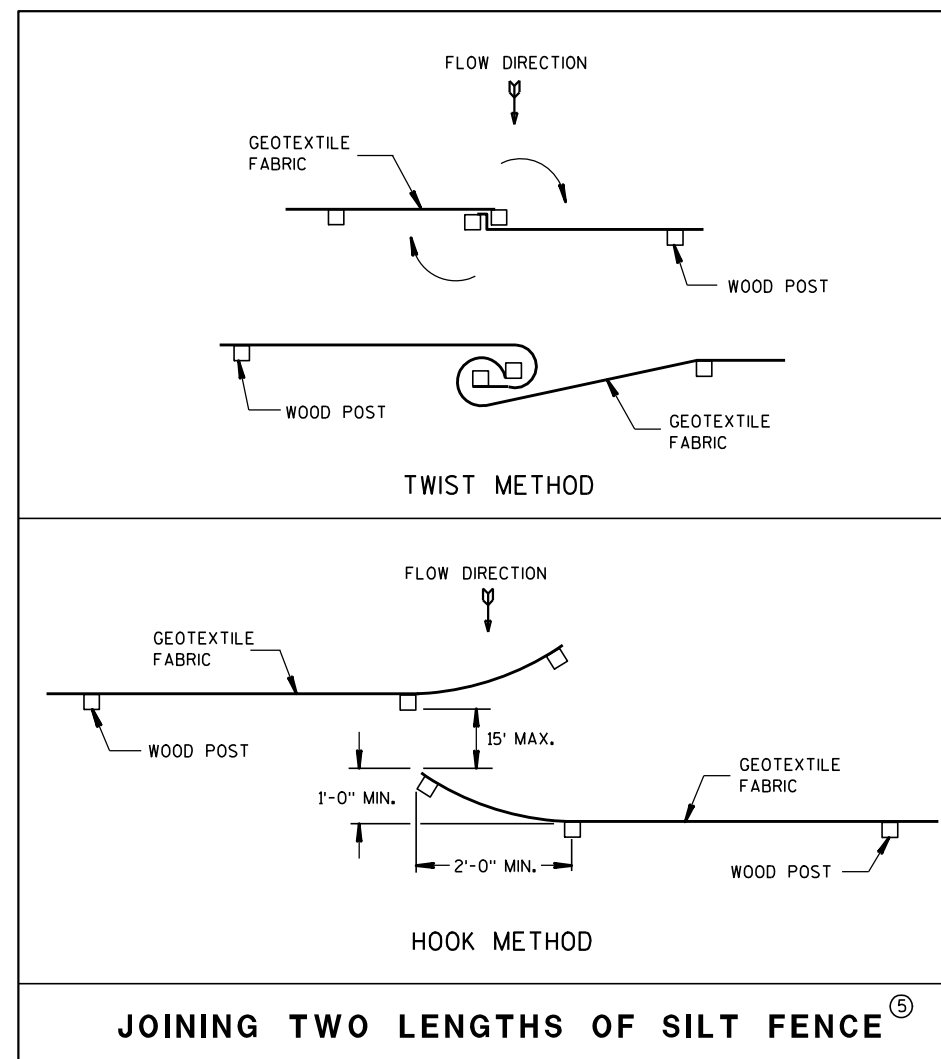
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

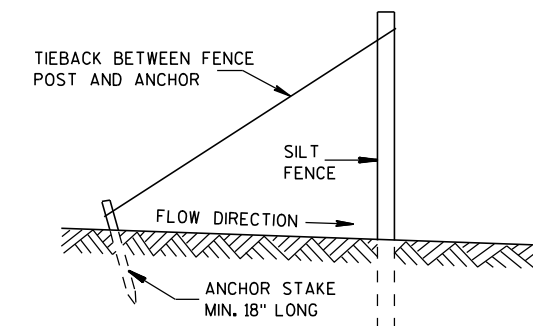


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.



JOINING TWO LENGTHS OF SILT FENCE ⑤

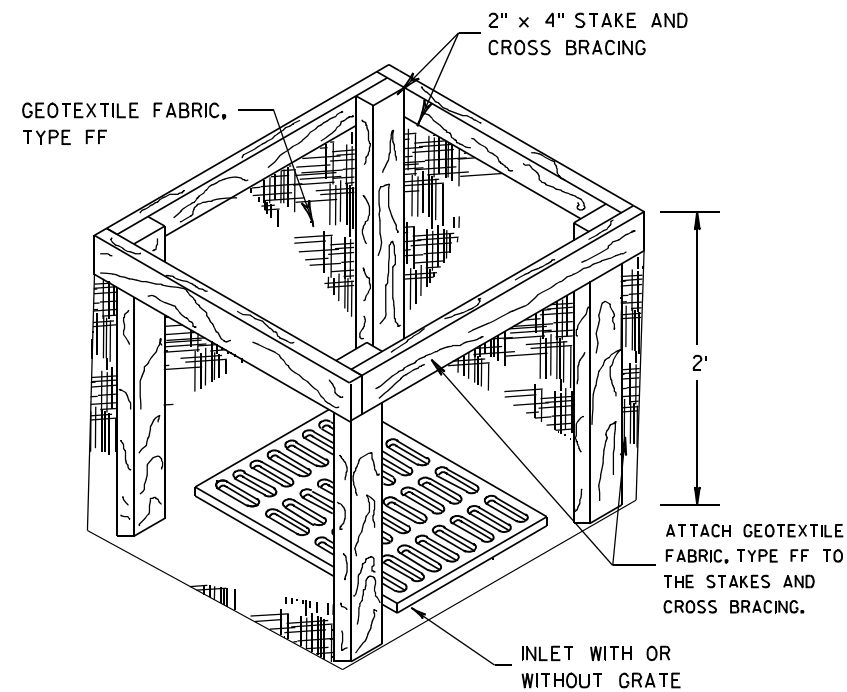
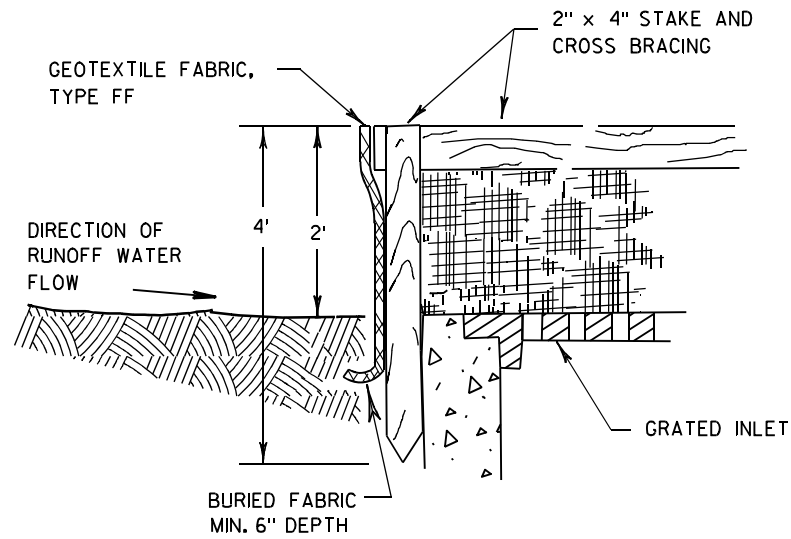


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

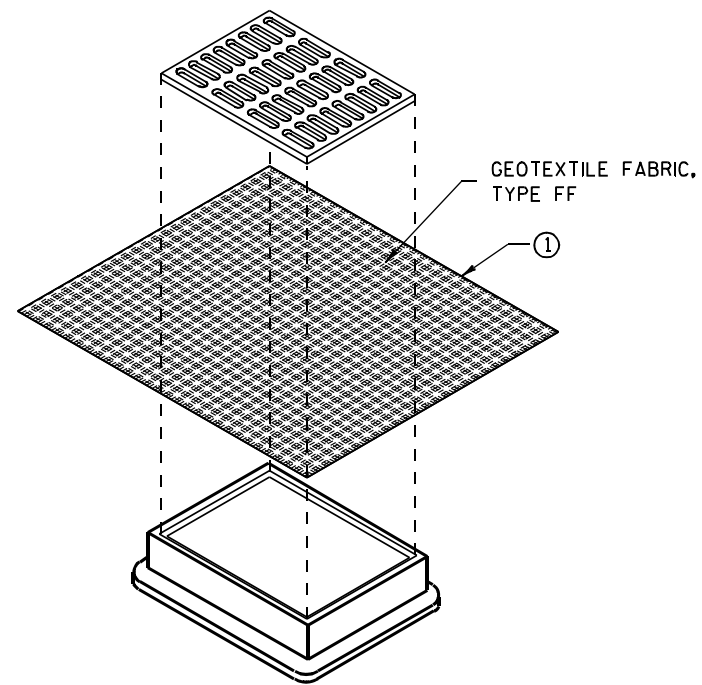
GENERAL NOTES

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.

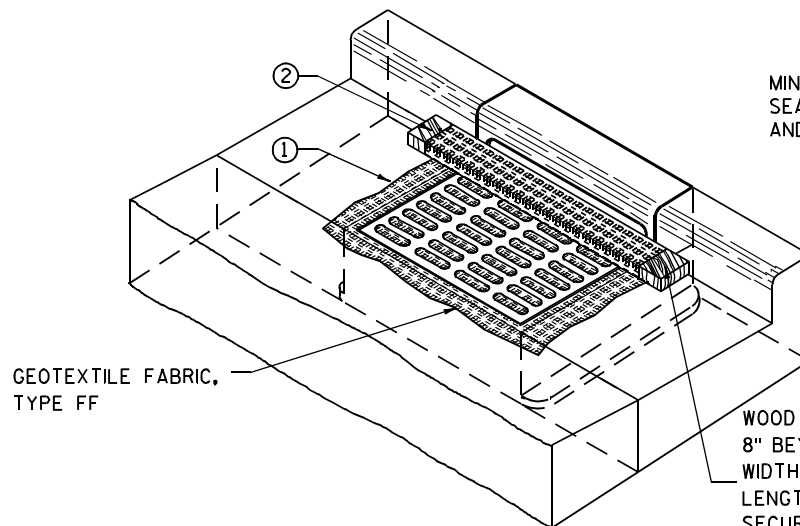
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

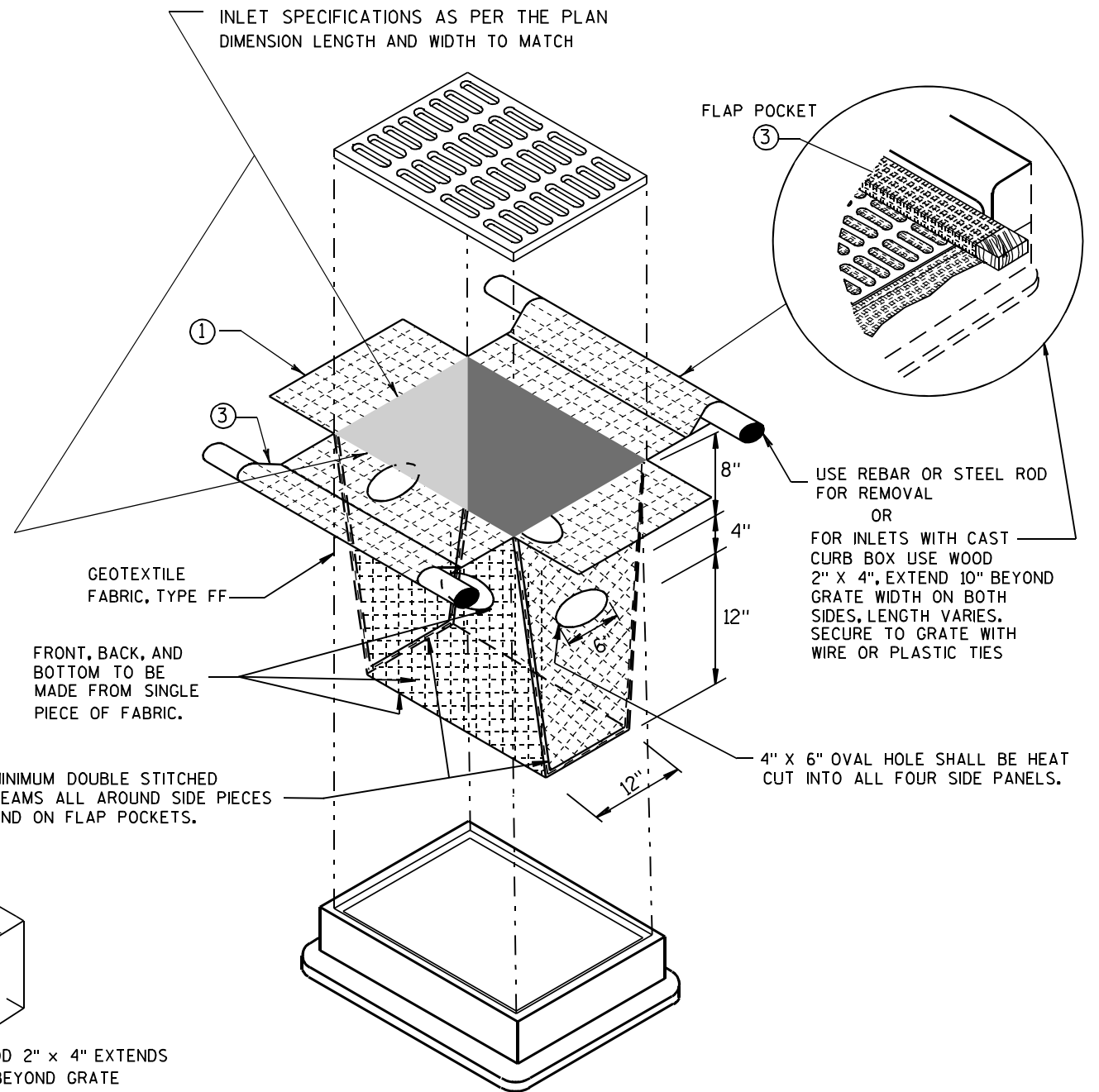


**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

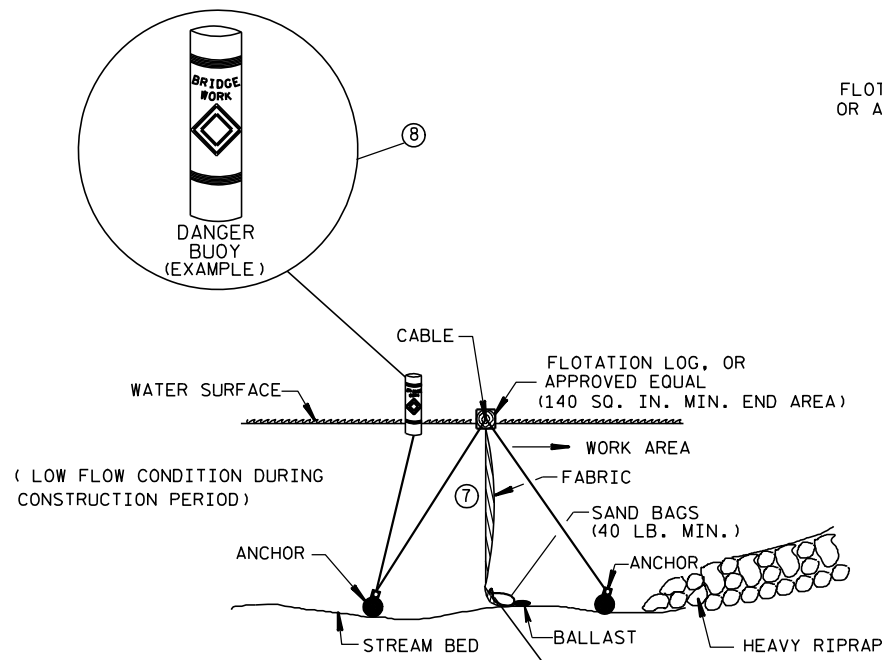
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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

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

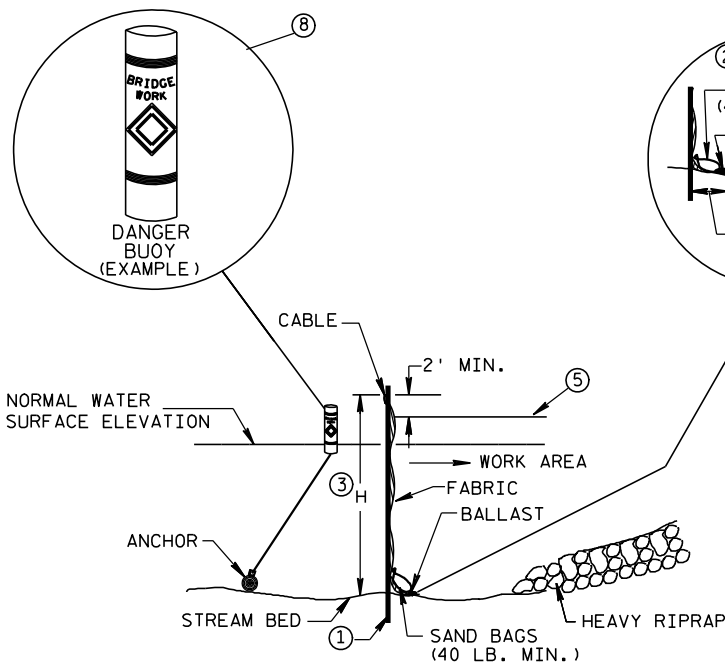
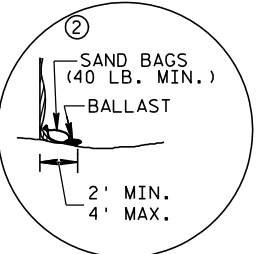
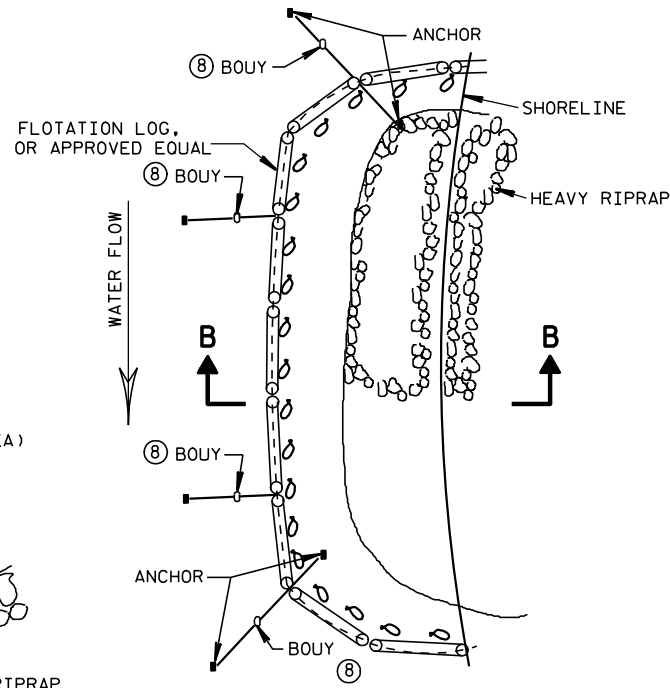
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



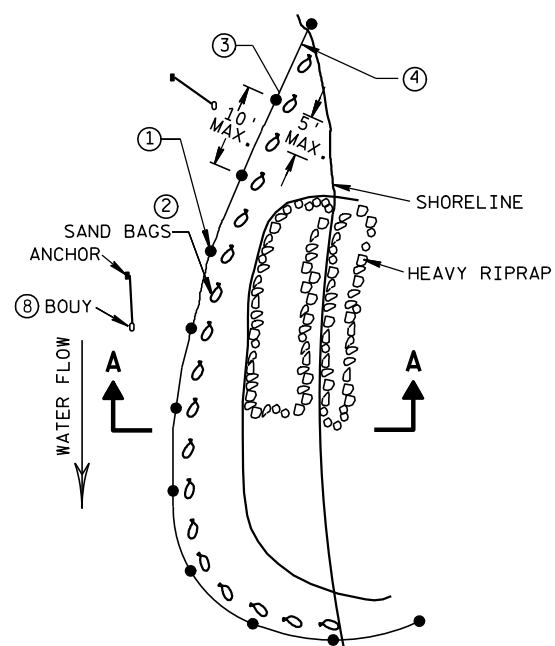
SECTION B-B

TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A

TURBIDITY BARRIER STANDARD POST INSTALLATION



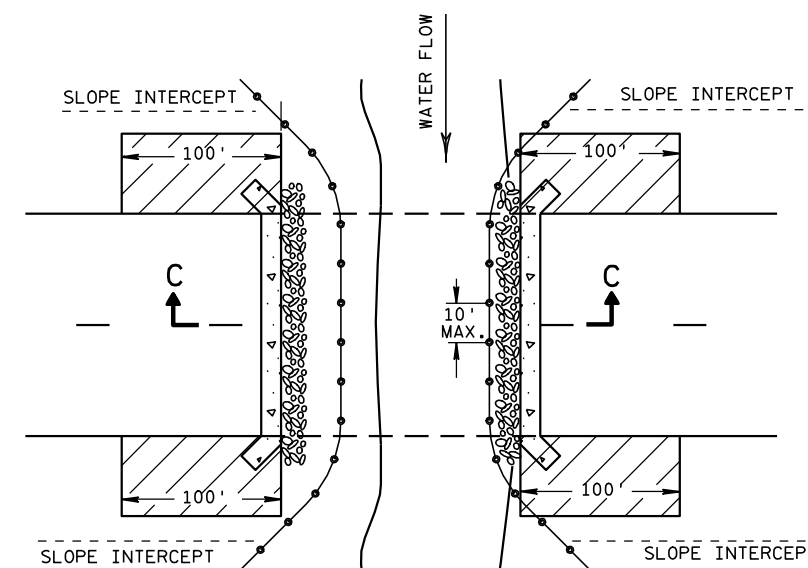
PLAN VIEW

GENERAL NOTES

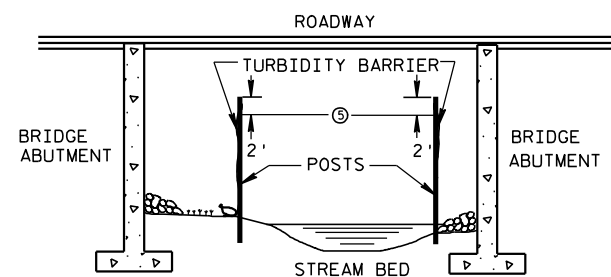
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

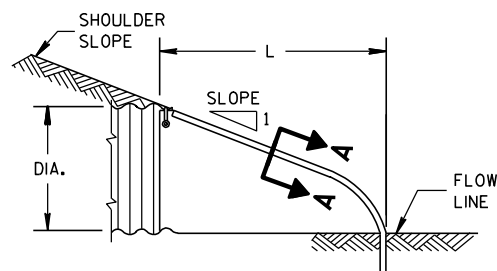
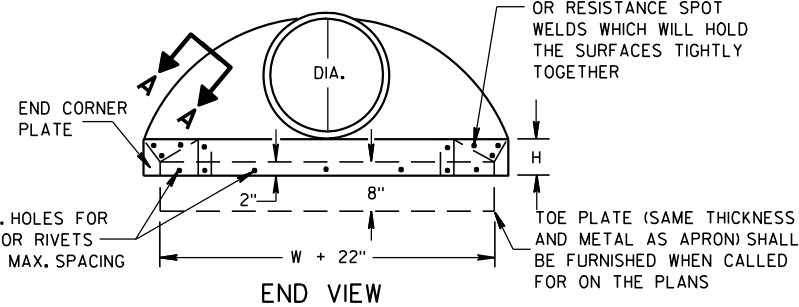
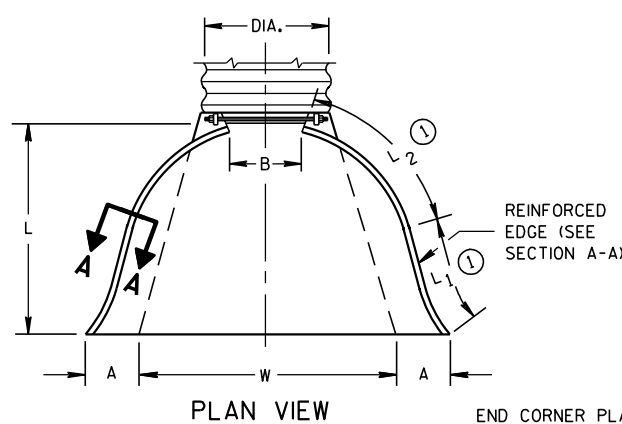
APPROVED
6/04/02 DATE /S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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	L2	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.

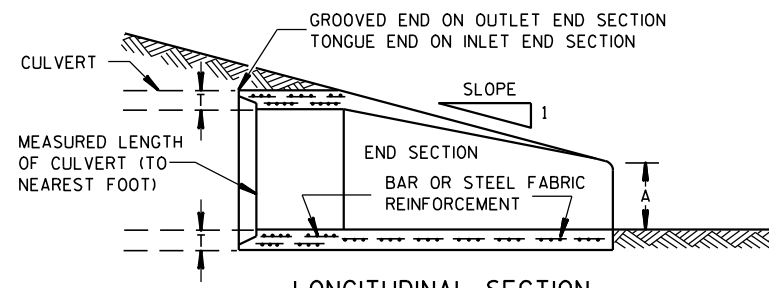
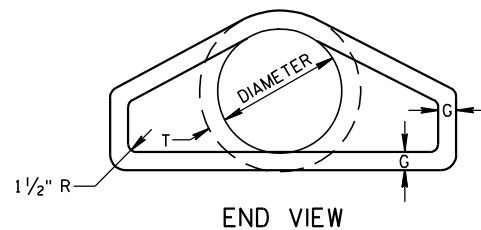
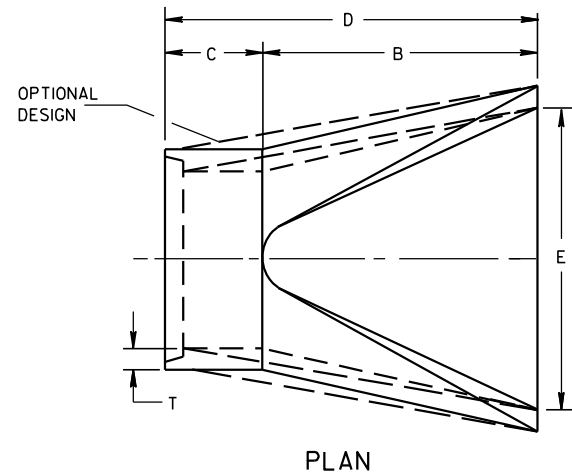
* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	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 1/2 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

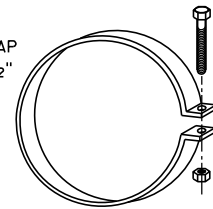


SIDE ELEVATION
METAL ENDWALLS

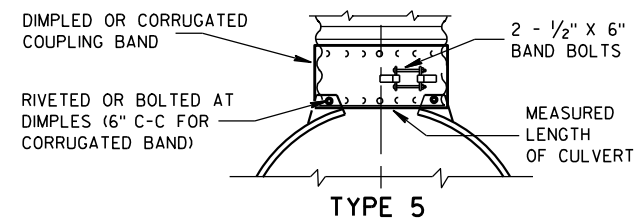
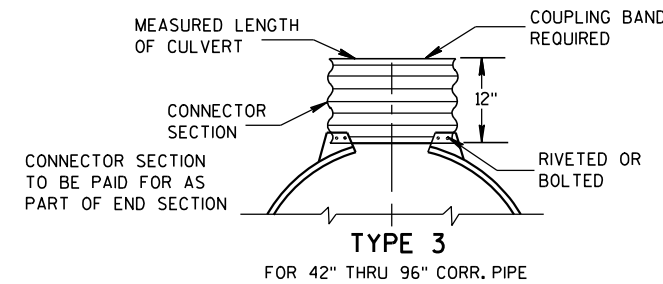
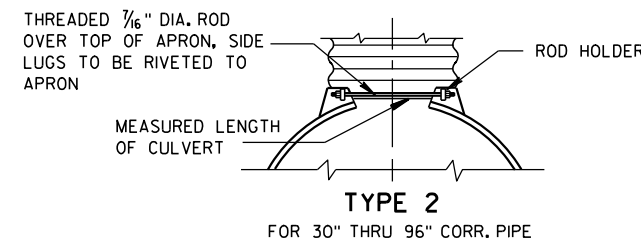
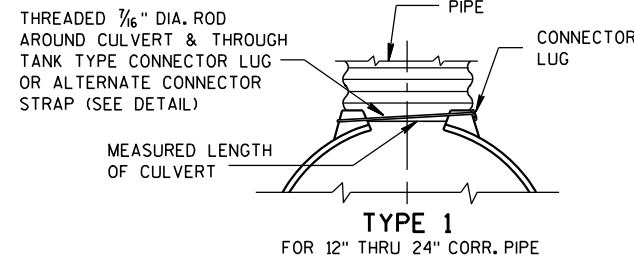


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



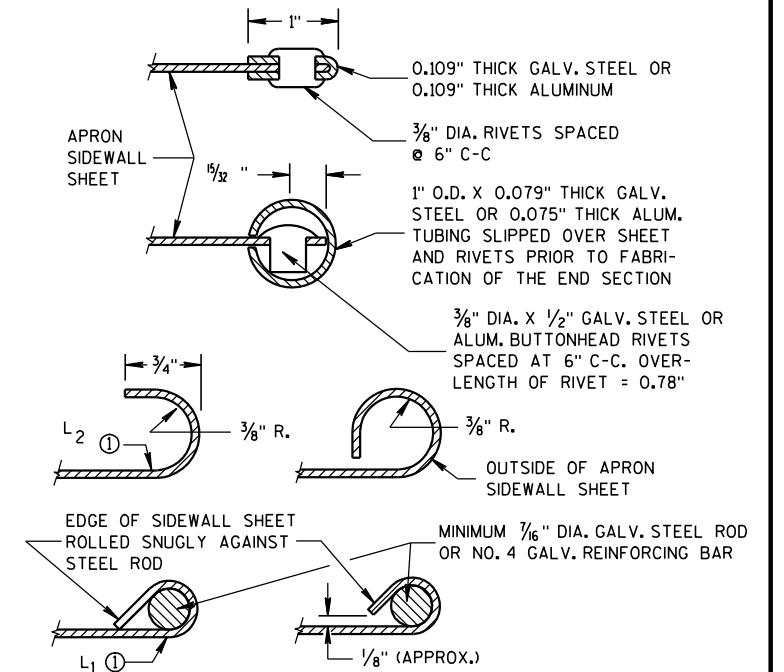
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

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

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

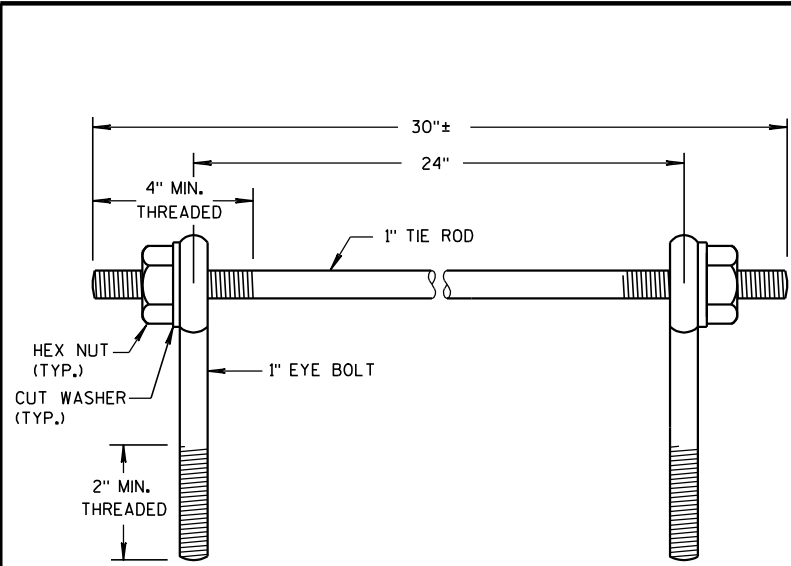
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR
CULVERT PIPE

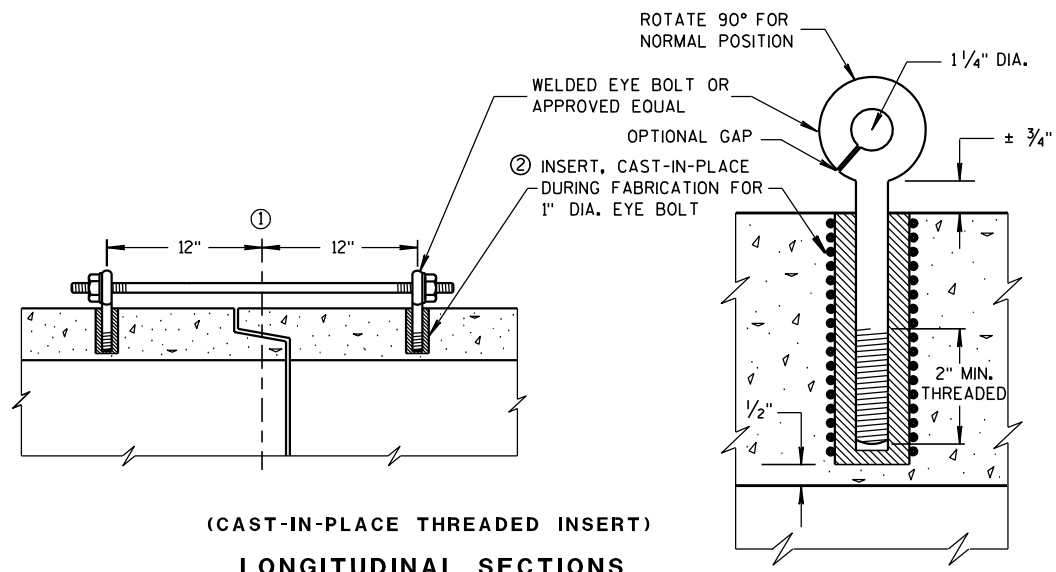
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST-IN-PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

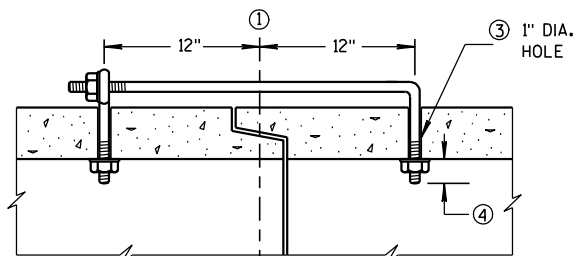
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

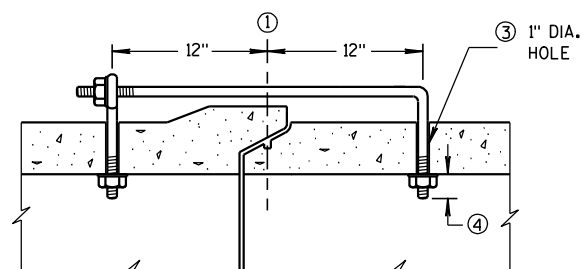
DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① ϕ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ϕ OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)



(MODIFIED BELL PIPE)
LONGITUDINAL SECTION

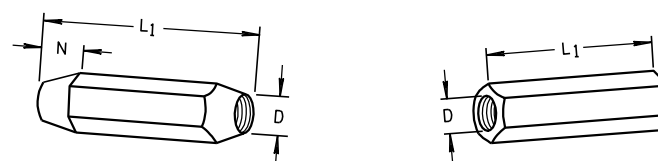
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

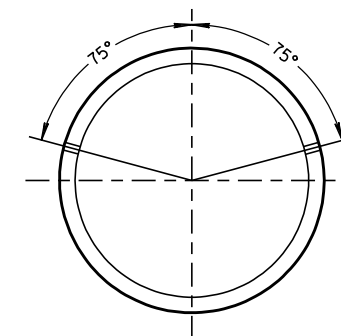
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/6

DIMENSIONS SHOWN ARE IN INCHES

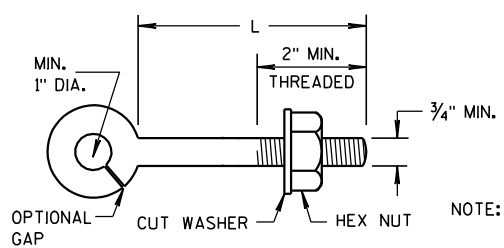


TAPERED PLAIN
RIGHT AND LEFT THREADS
SLEEVE NUTS



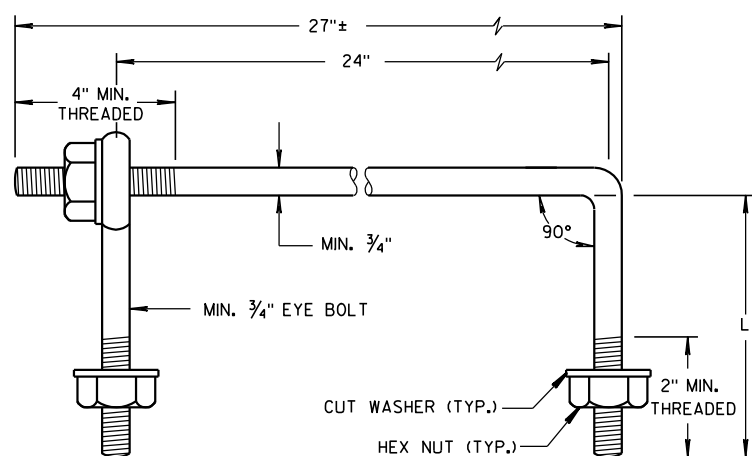
PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



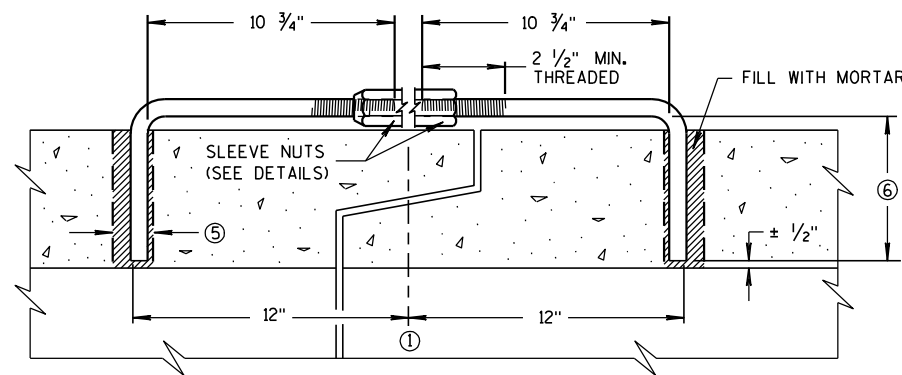
EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.

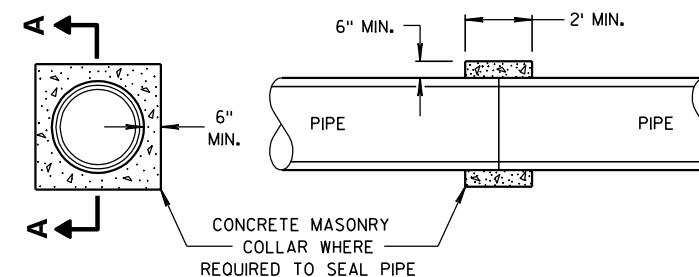


EYE BOLT AND TIE ROD

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)
EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



LONGITUDINAL SECTION
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)
ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

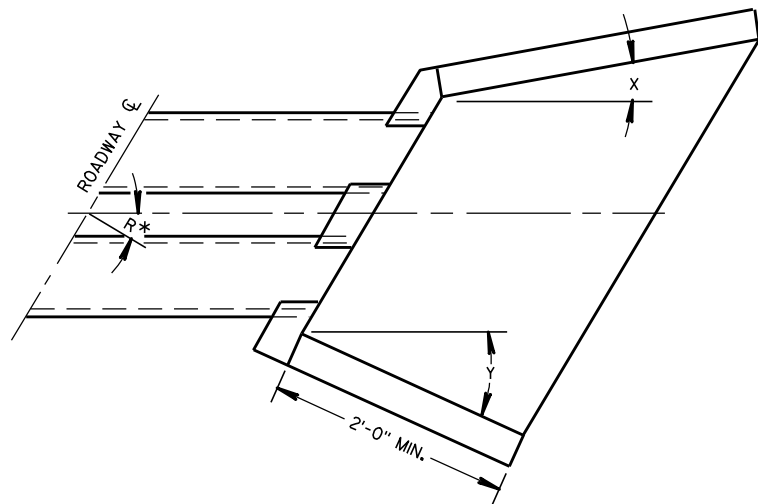


SECTION A-A
CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

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.

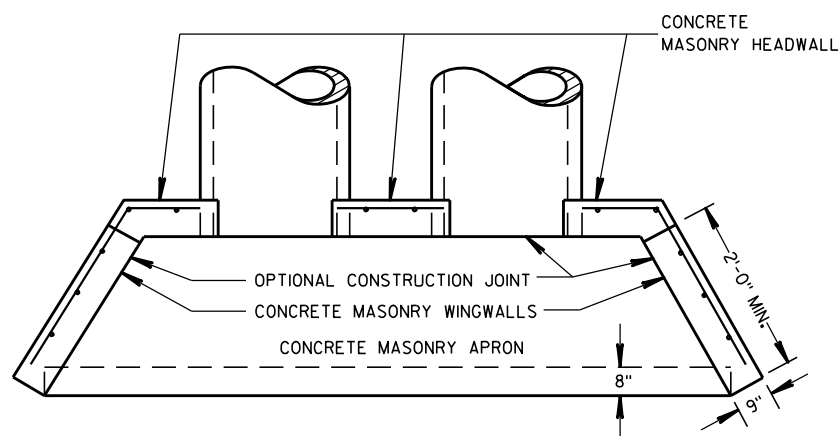
FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

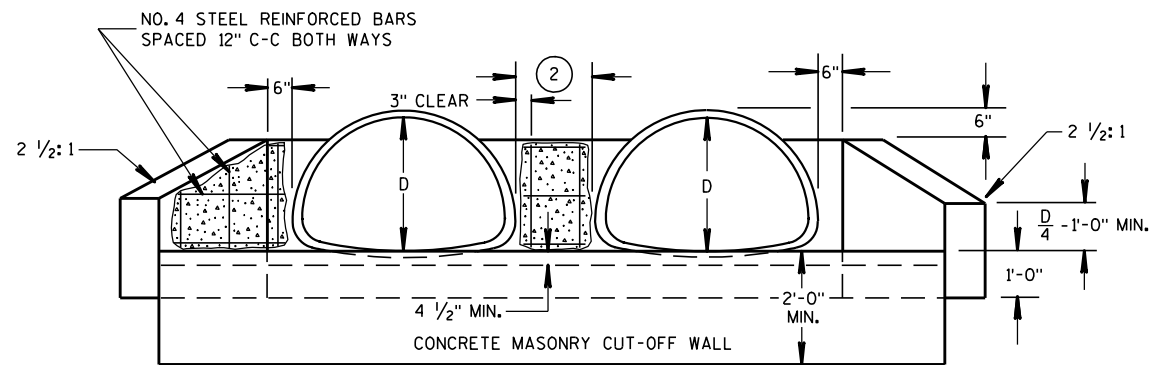
1 MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

2 THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

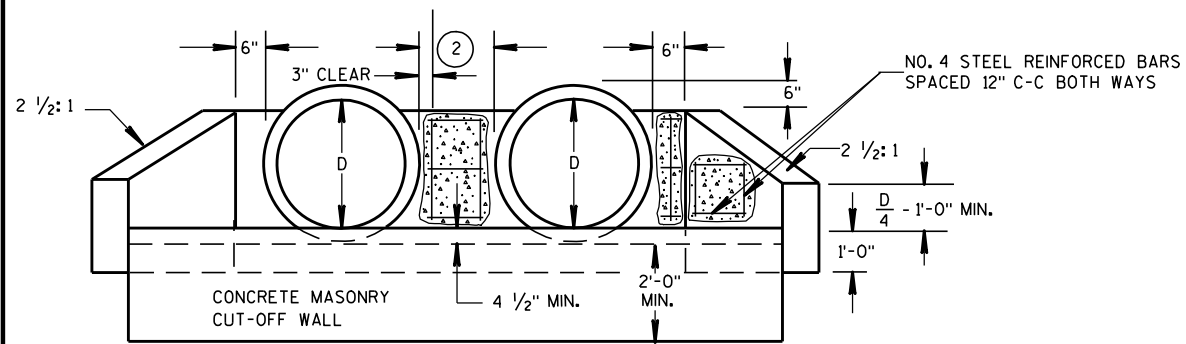
DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3'-0"



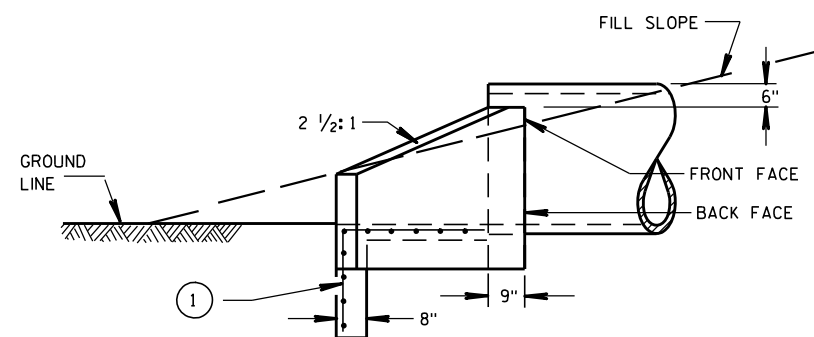
**PLAN VIEW
CULVERT PIPE AND PIPE ARCH**



**END ELEVATION
PIPE ARCH**



**END ELEVATION
CULVERT PIPE**



**SIDE ELEVATION
CULVERT PIPE AND PIPE ARCH**

6

6

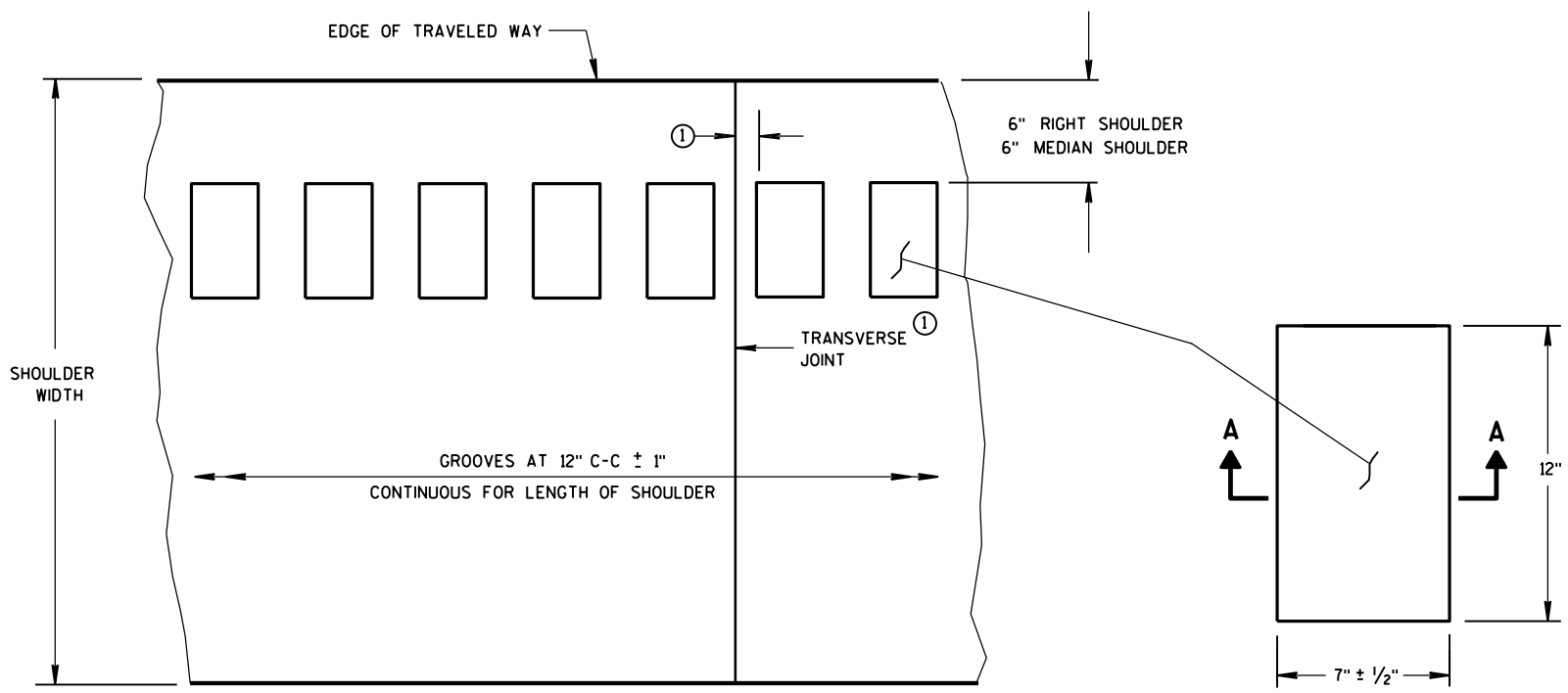
S.D.D. 8 F 10-1

S.D.D. 8 F 10-1

**CONCRETE MASONRY ENDWALLS
FOR CULVERT PIPE AND
PIPE ARCH**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/98 /S/ Rory L. Rhinesmith
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

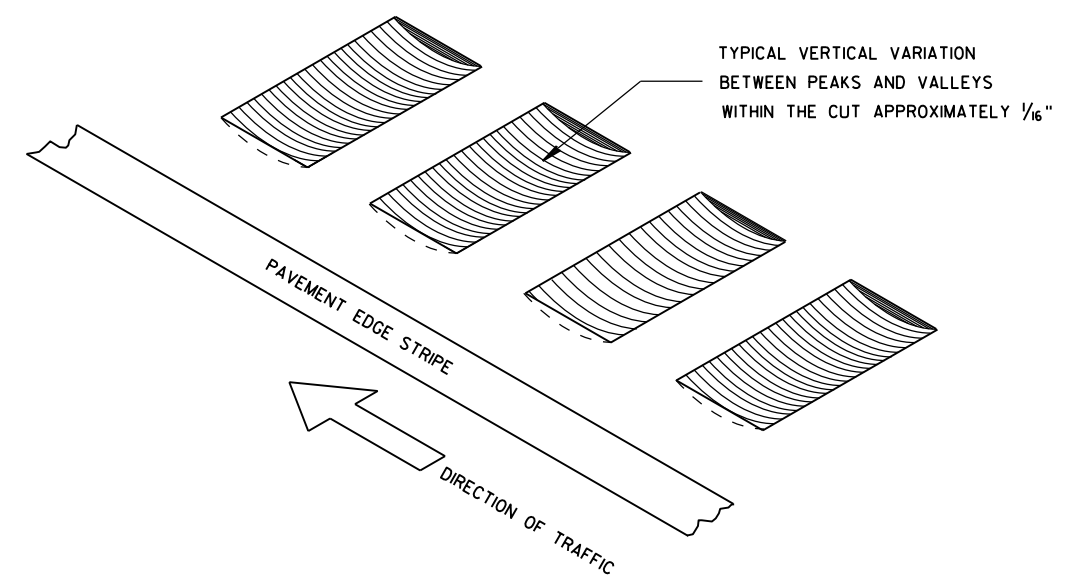
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

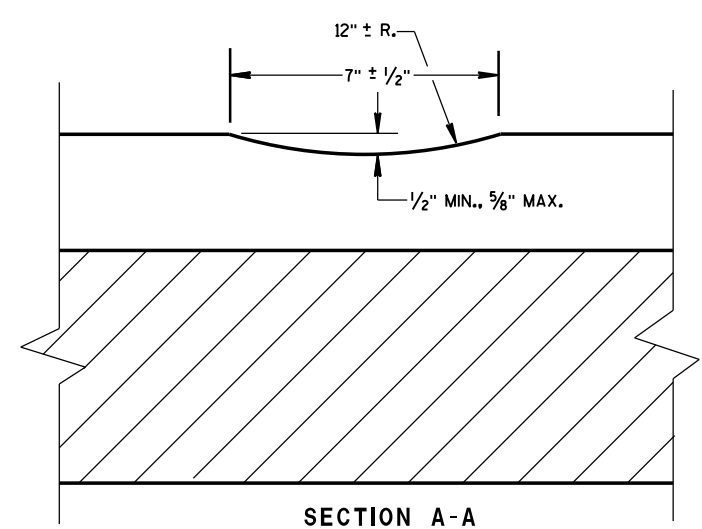
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

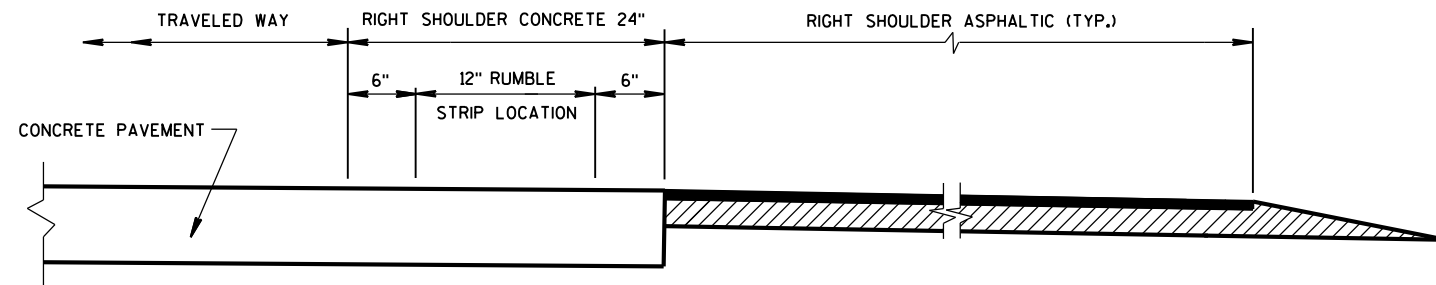
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



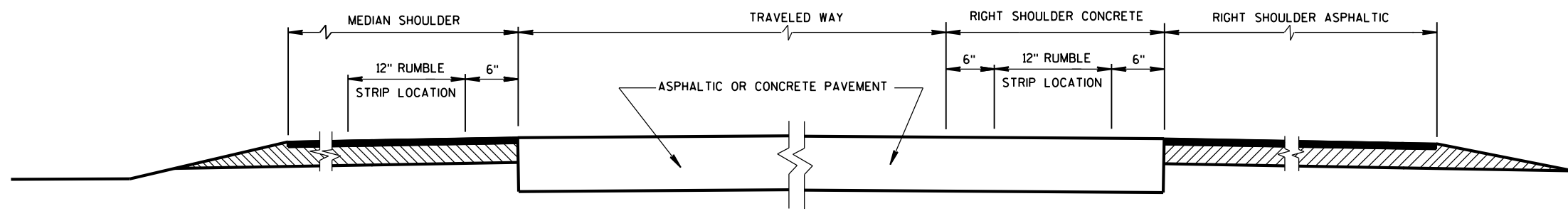
ISOMETRIC



SECTION A-A



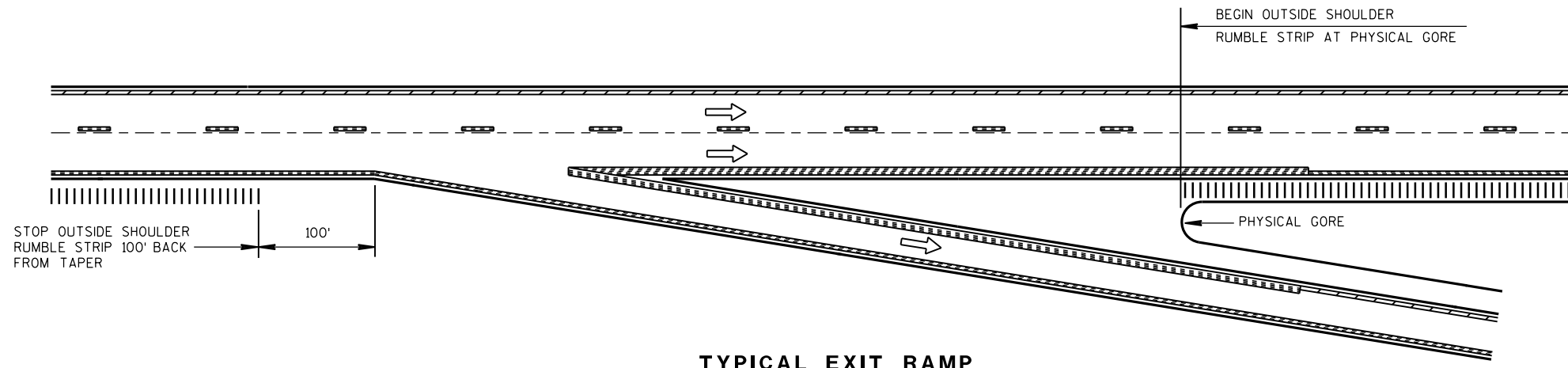
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



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

SHOULDER RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

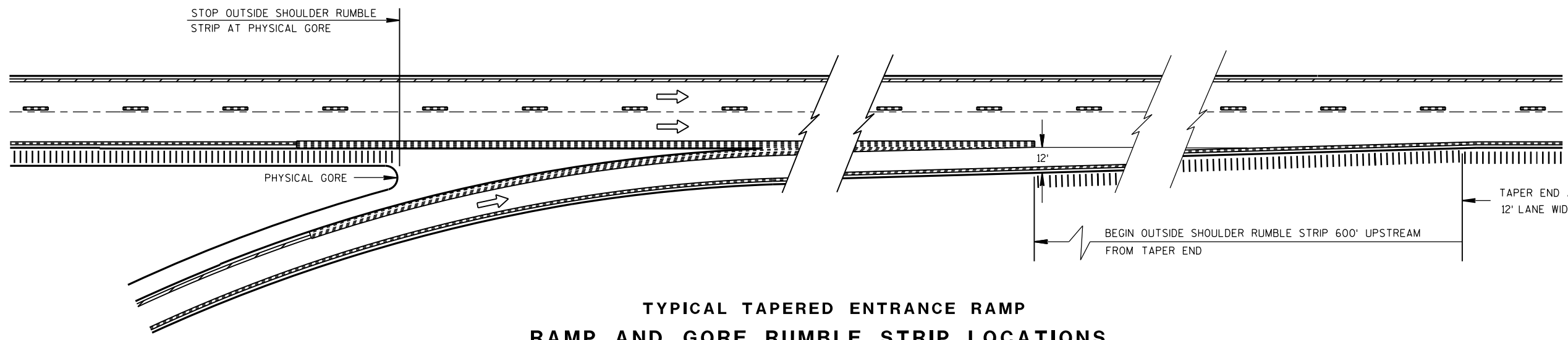


TYPICAL EXIT RAMP

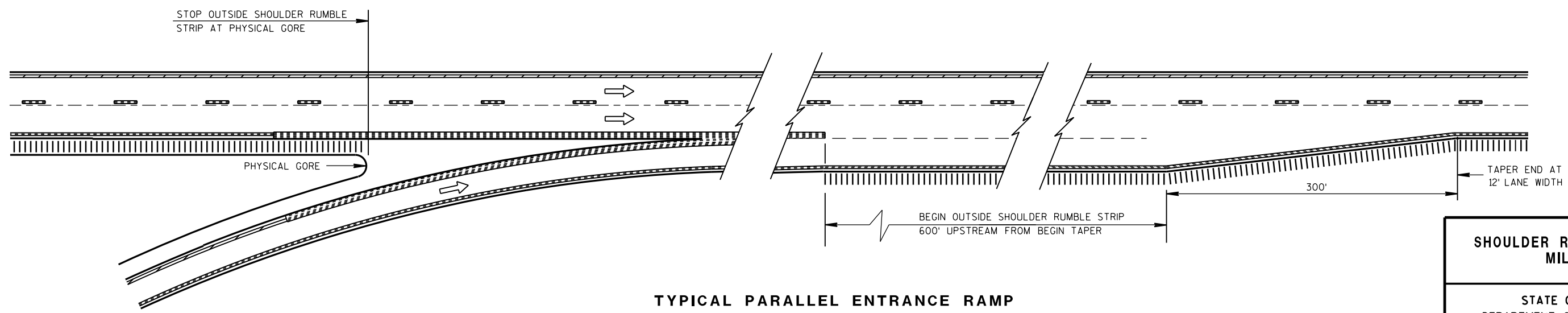
NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMP, 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

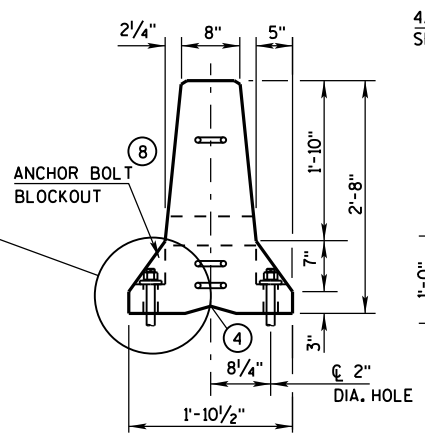
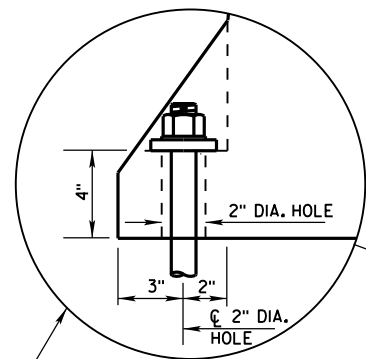
SHOULDER RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 12/17/2012 FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

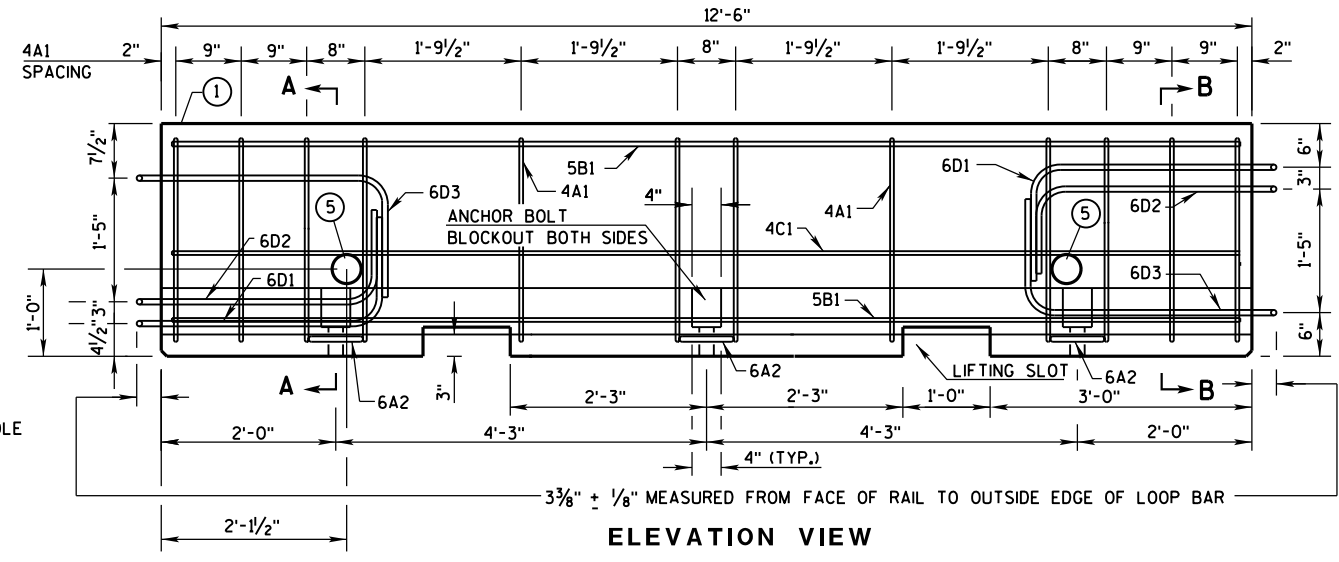
6

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

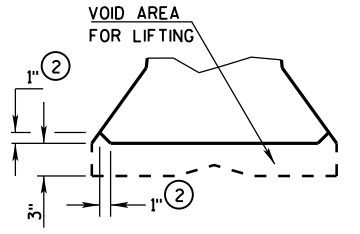
S.D.D. 13 A 5-5b



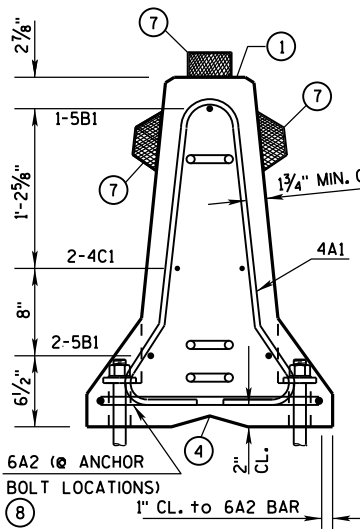
END VIEW



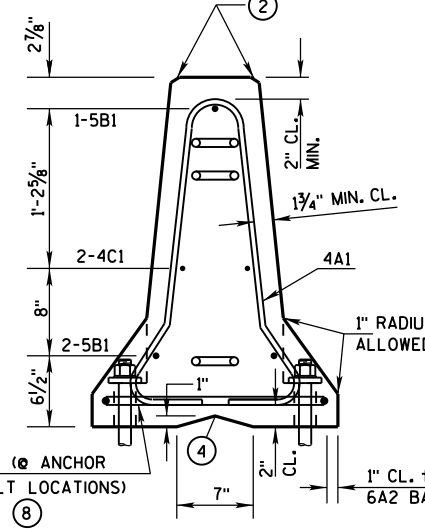
ELEVATION VIEW



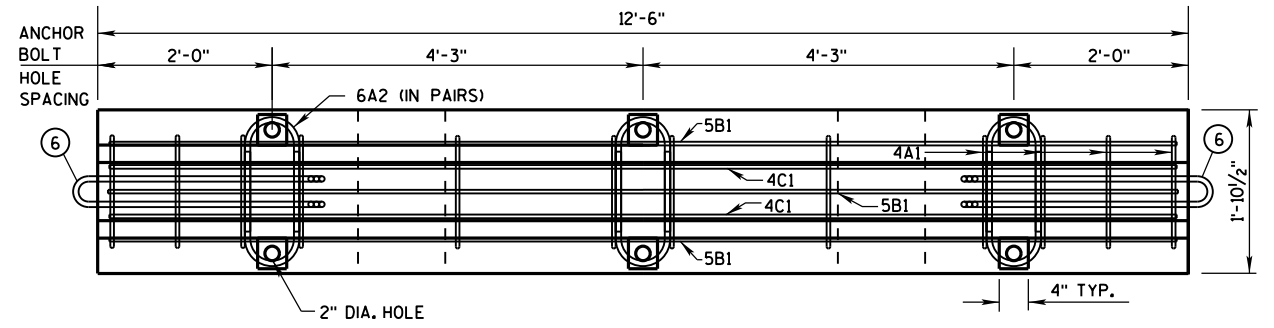
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

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

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

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

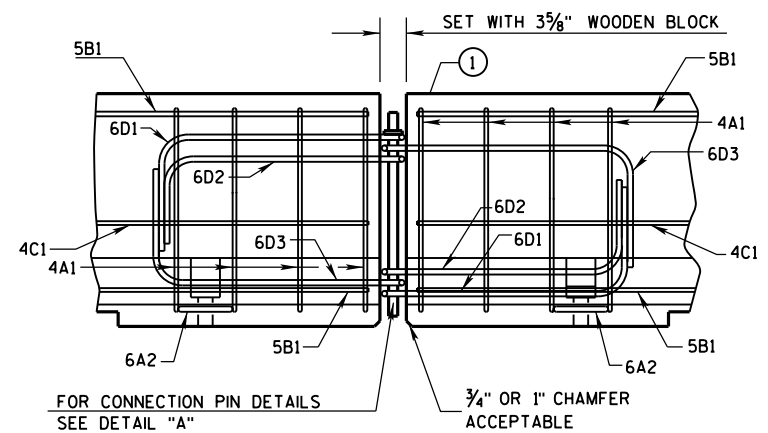
LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND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

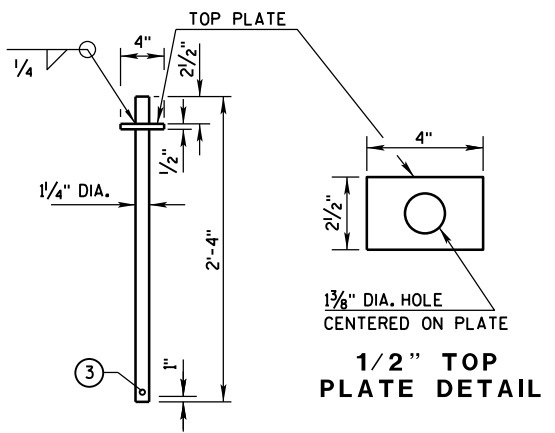
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

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

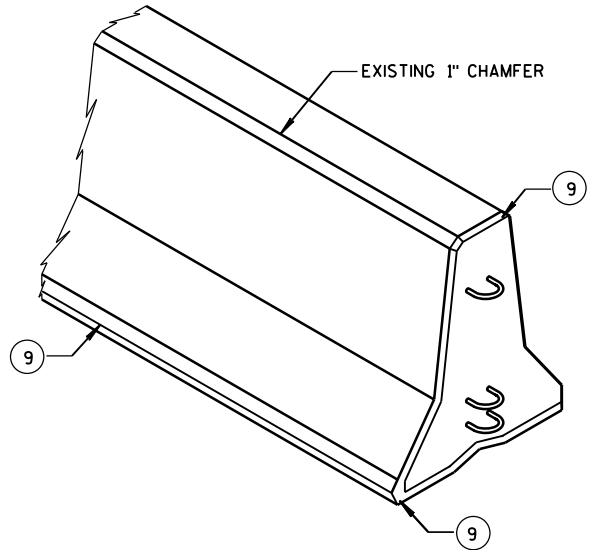
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: W/CBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO 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.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.



DETAILS OF BARRIER CONNECTION



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



CONCRETE BARRIER
TEMPORARY PRCAST, 12'-6"

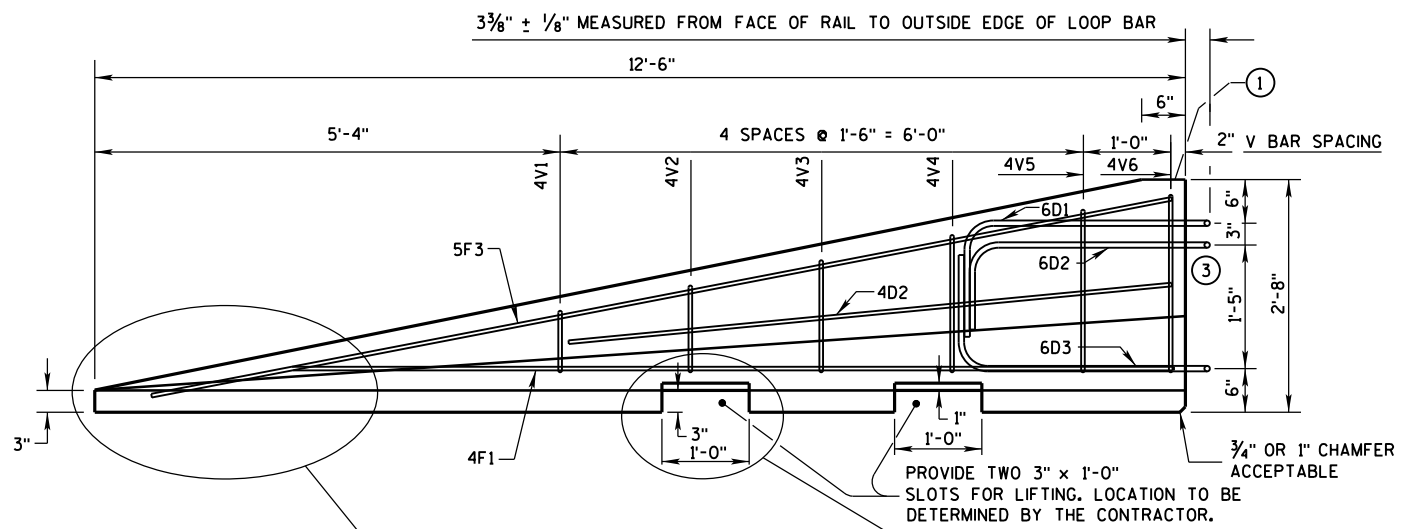
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

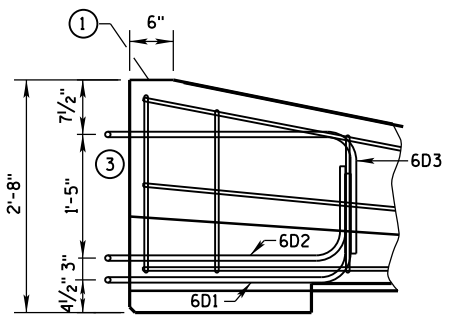
6

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

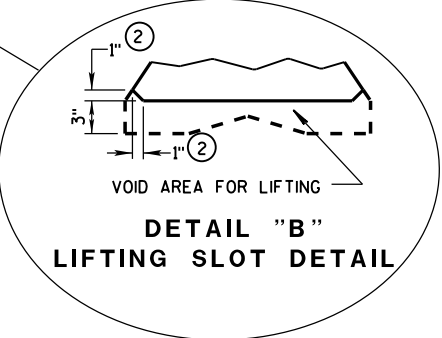
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



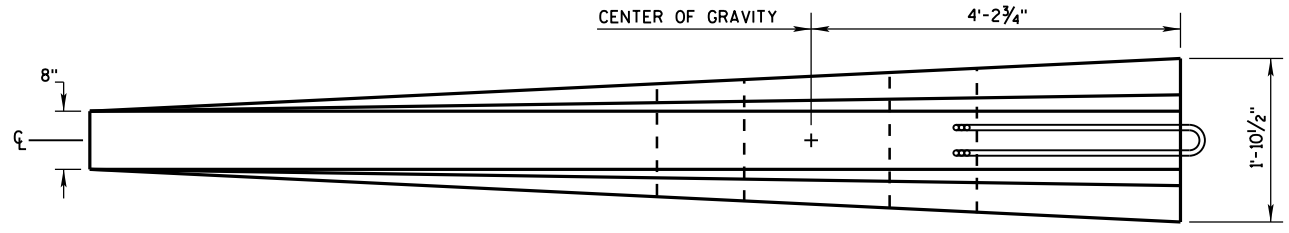
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)



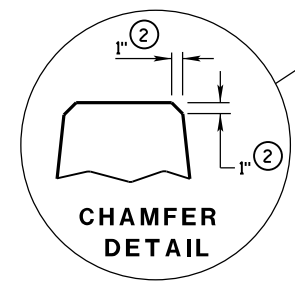
DETAIL "B"
LIFTING SLOT DETAIL

GENERAL NOTES

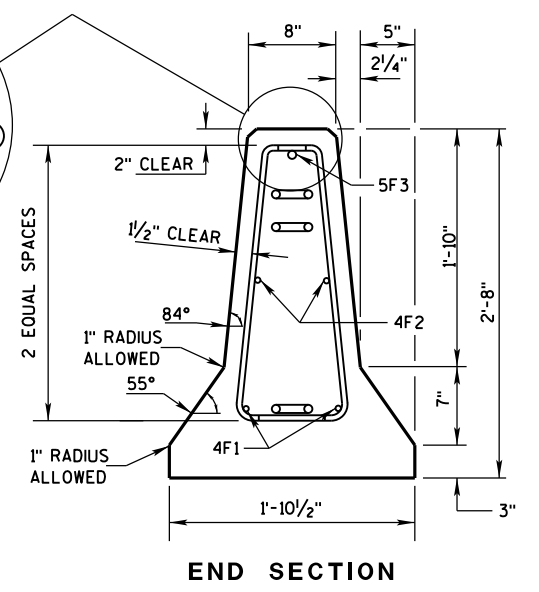
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
a. TYPE WICBTP
b. MANUFACTURER
c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



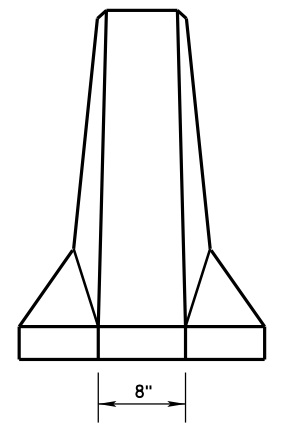
PLAN VIEW



CHAMFER DETAIL

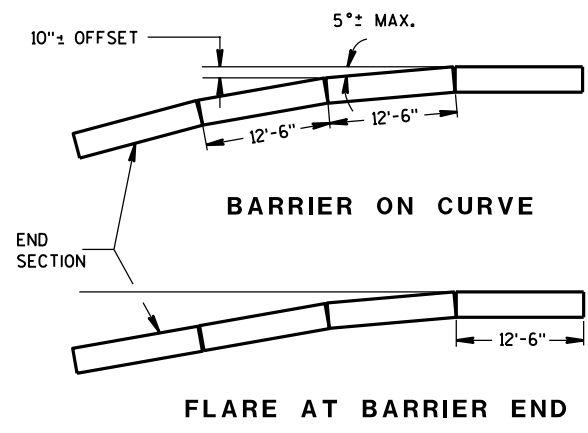


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION



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

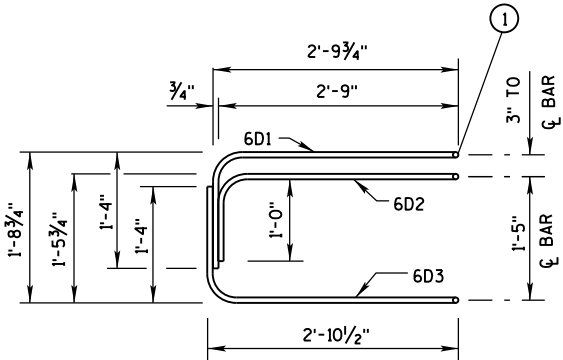
GENERAL NOTES

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

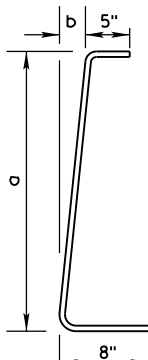
**BARRIER TAPER SECTION
BILL OF MATERIALS**
(PER 12'-6" BARRIER TAPER SECTION)

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			
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"

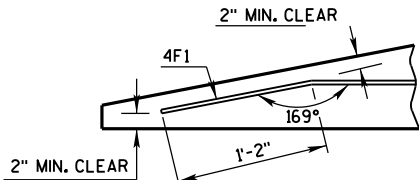


**ELEVATION
LOOP BAR ASSEMBLY**



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"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY



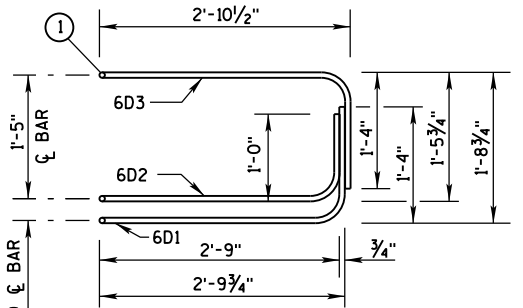
**DETAIL "C"
BENT BAR DETAIL**

TAPER BARRIER SECTION

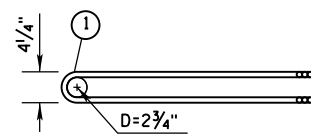
**BARRIER SECTION
BILL OF MATERIALS**
(PER 12'-6" BARRIER SECTION)

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"

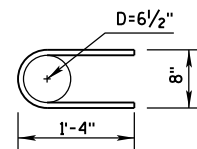
LOOP ASSEMBLY			
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



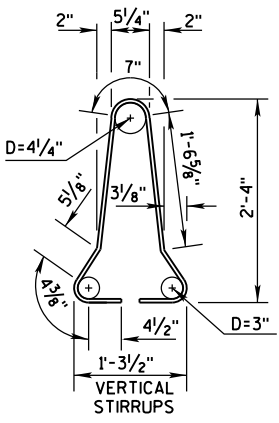
ELEVATION VIEW



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



6A2

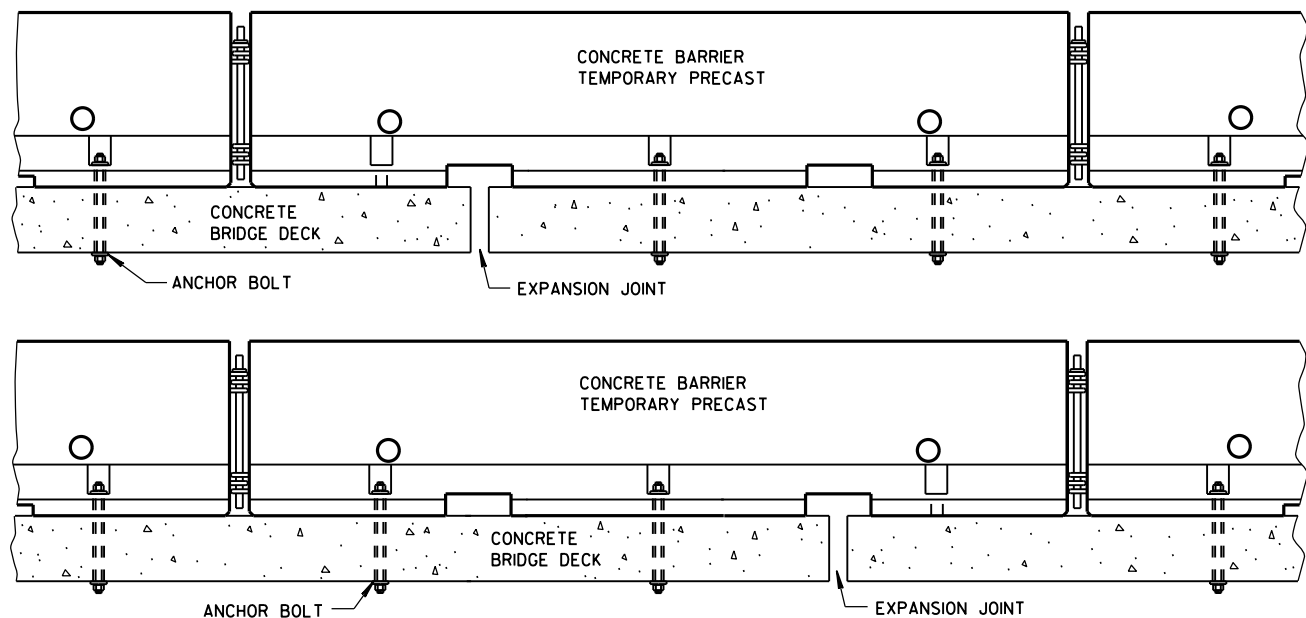


4A1

BARRIER SECTION

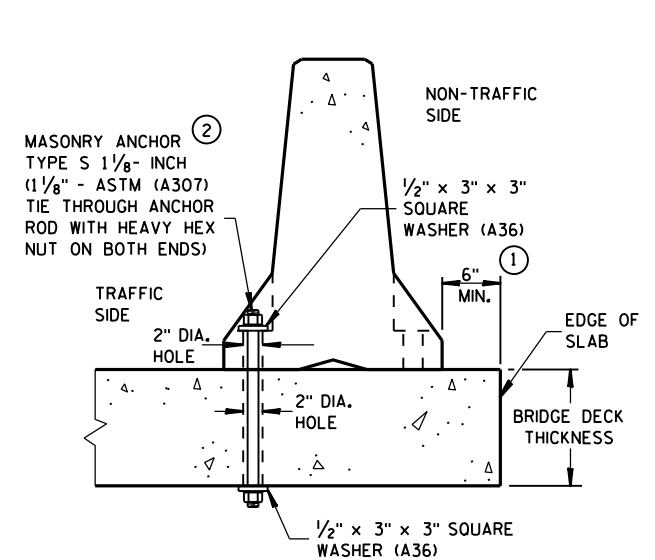
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



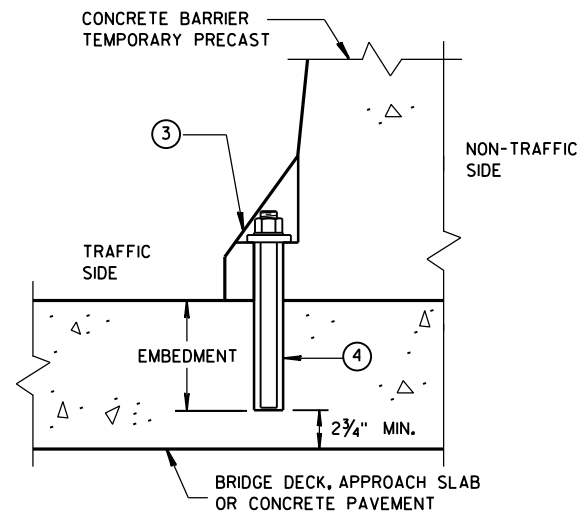
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)



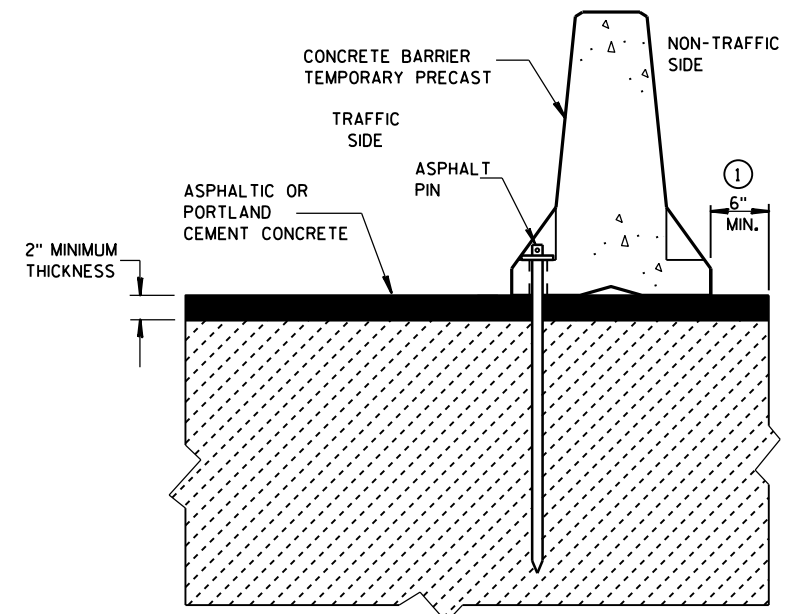
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

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



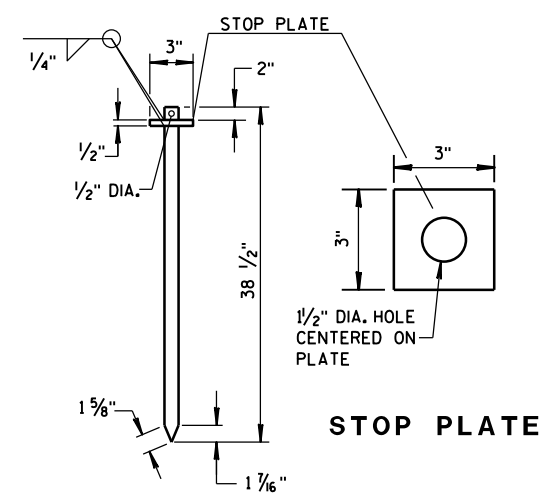
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

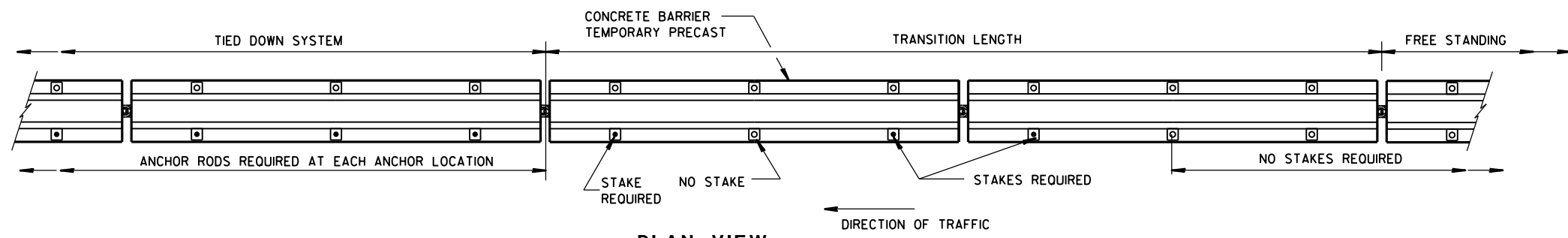
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN (ASTM A36 STEEL)

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 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 MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- ③ 1/8" DIAMETER A307 THREADED ROD, 1/2" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

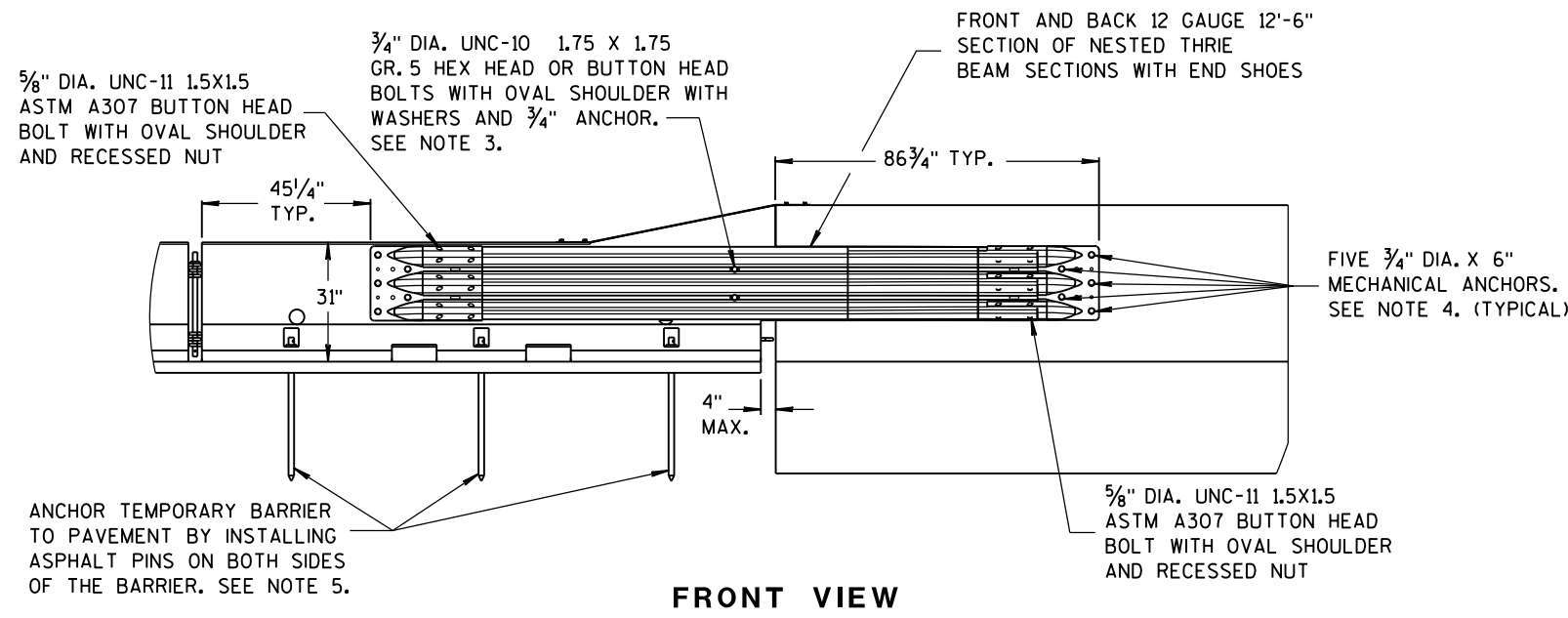


FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

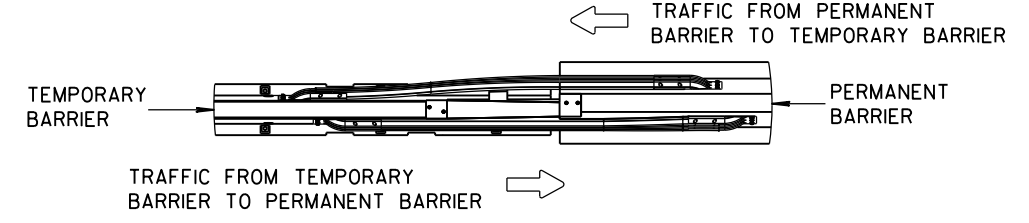
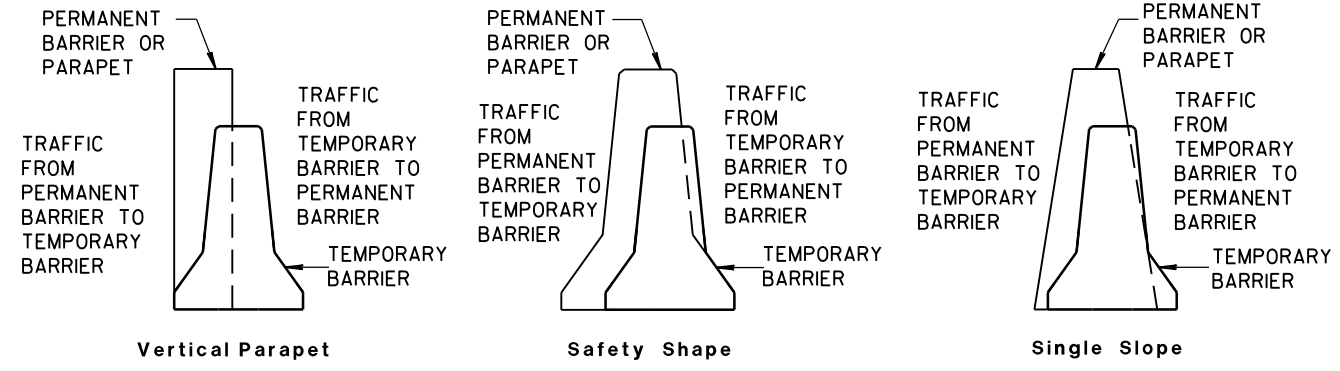
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



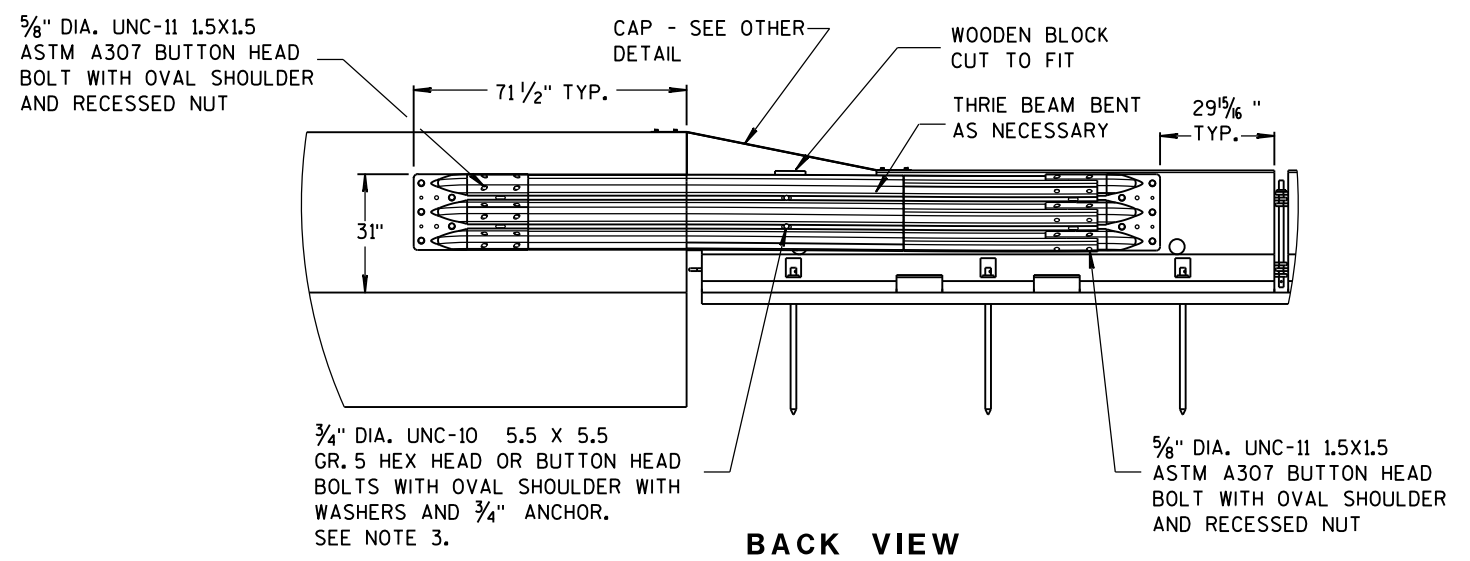
FRONT VIEW



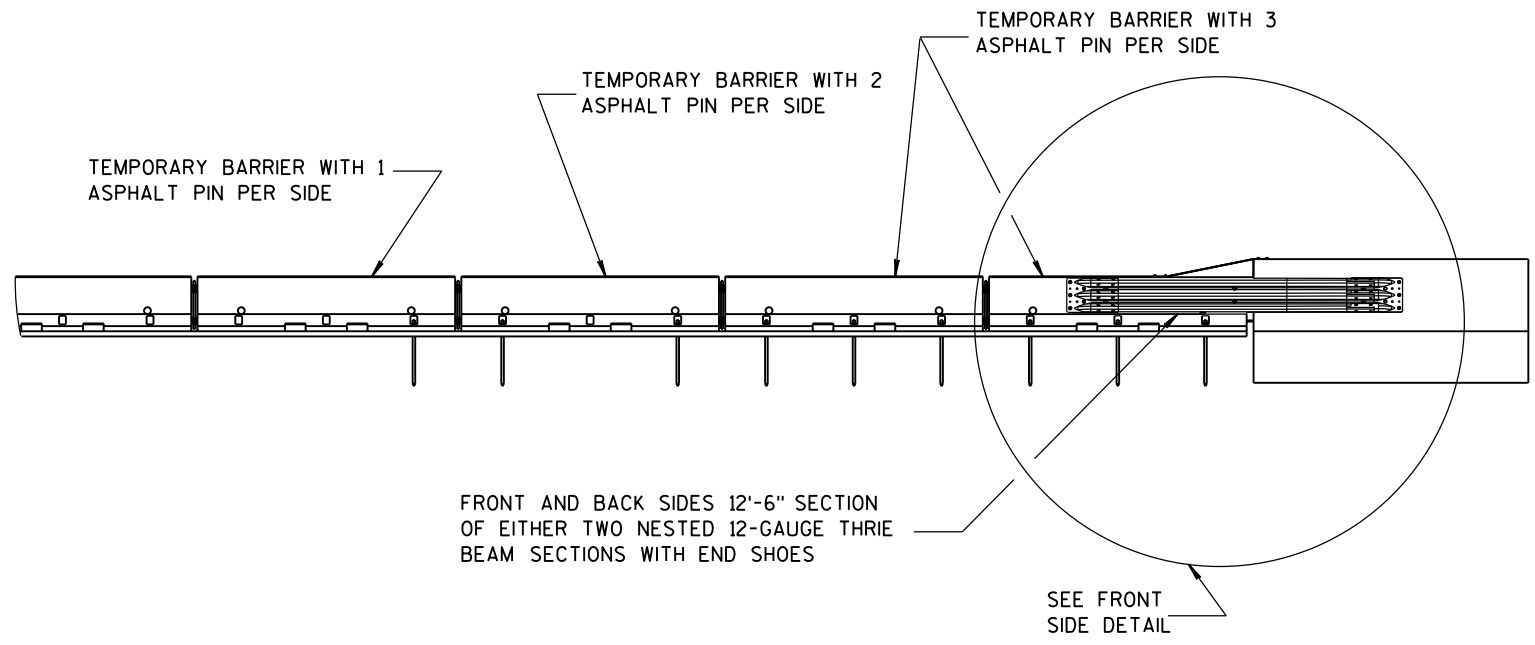
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

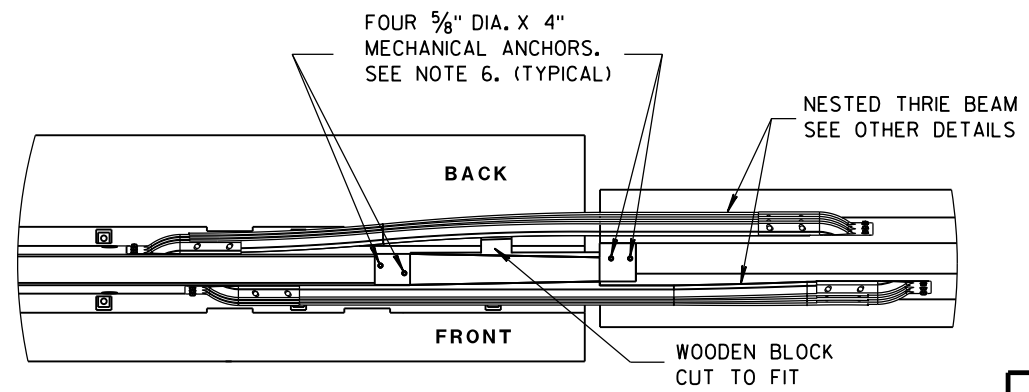
- NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.
- CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
 - THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
 - MINIMUM MECHANICAL OR ADHESIVE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



BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

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

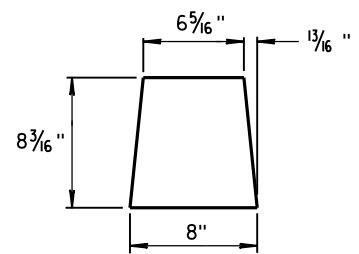
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

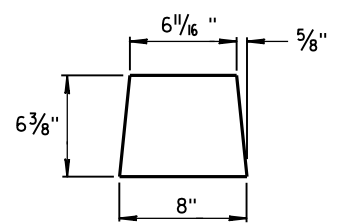
6

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

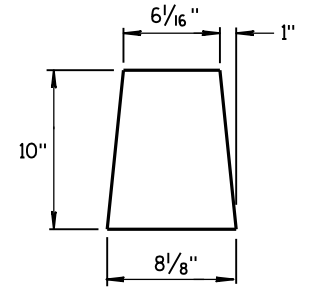
S.D.D. 14 B 7-14e



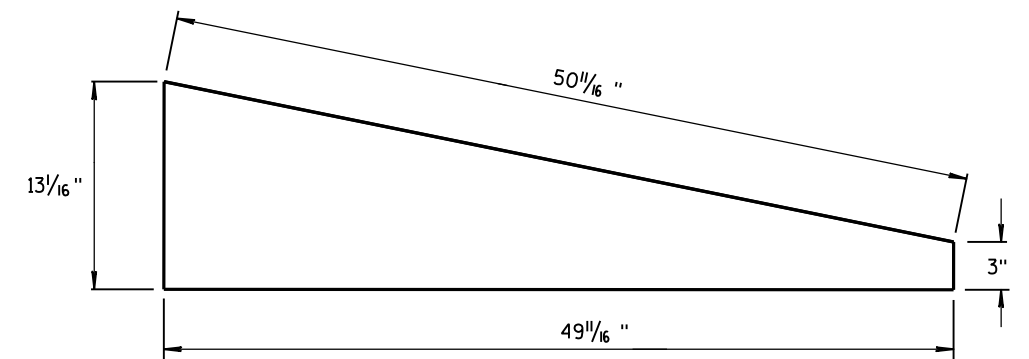
GUSSET 1



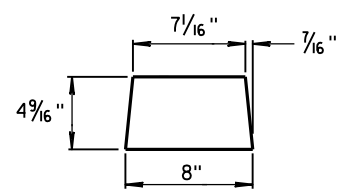
GUSSET 2



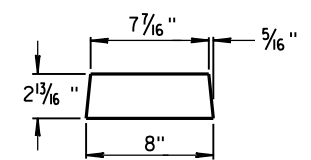
END PLATE



SIDE PLATE

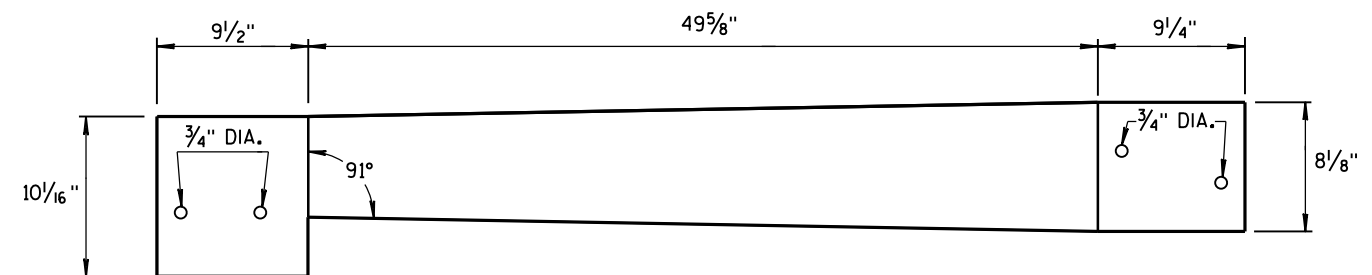


GUSSET 3

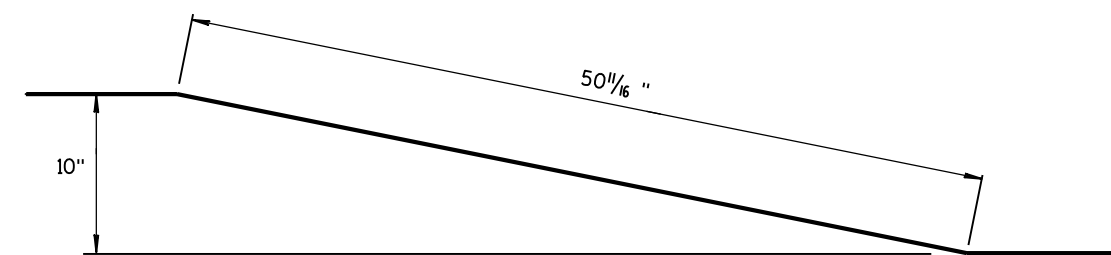


GUSSET 4

GUSSETS

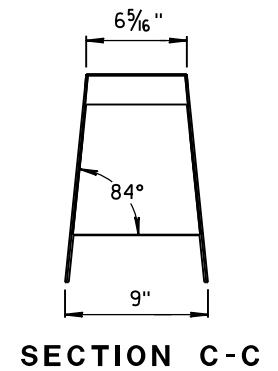
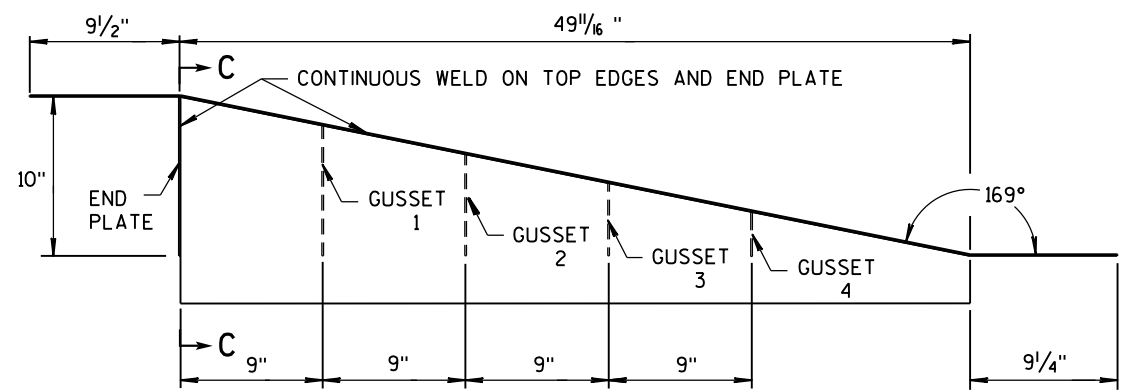
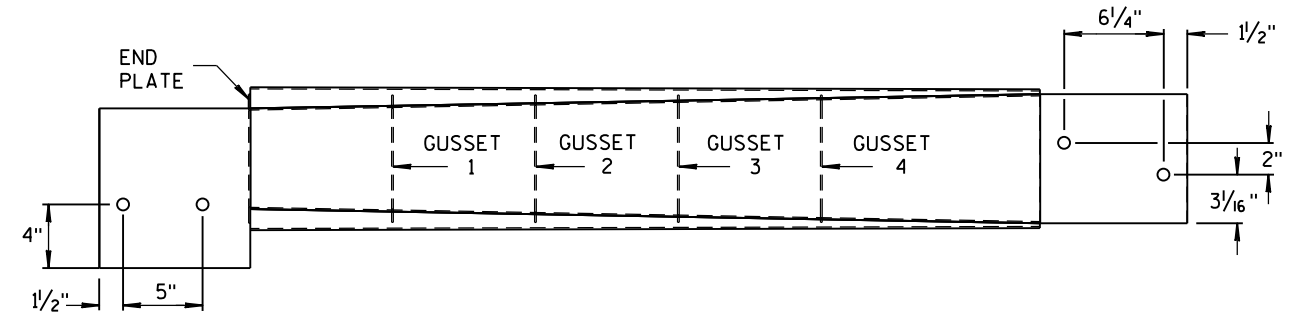


TOP PLATE



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

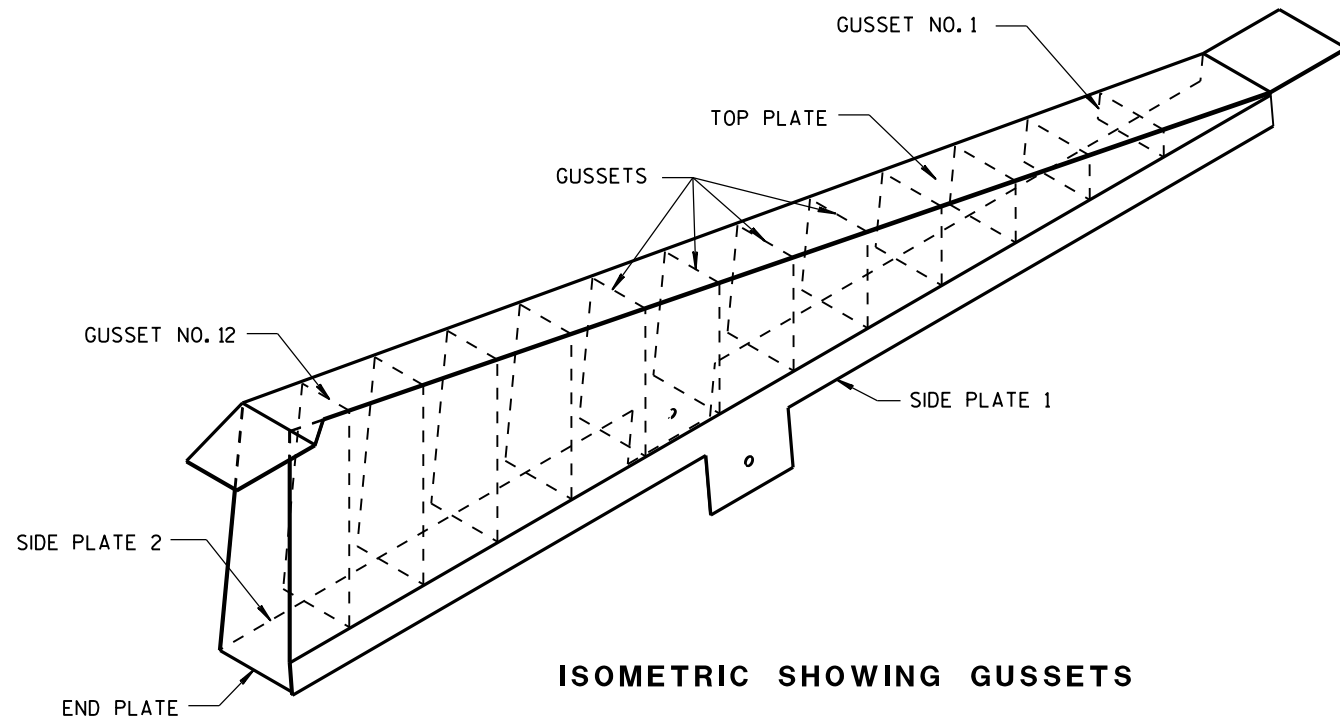
NOTES

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.

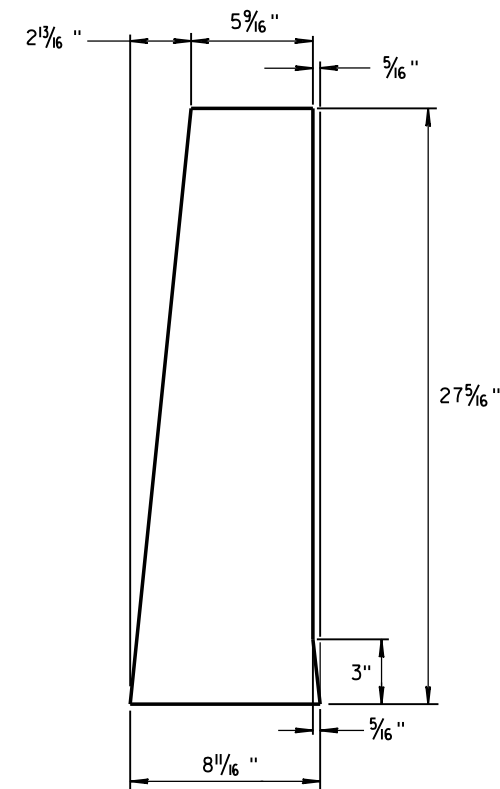
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

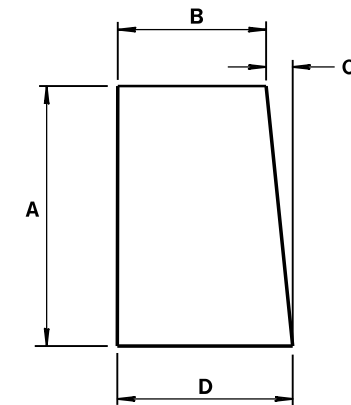


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

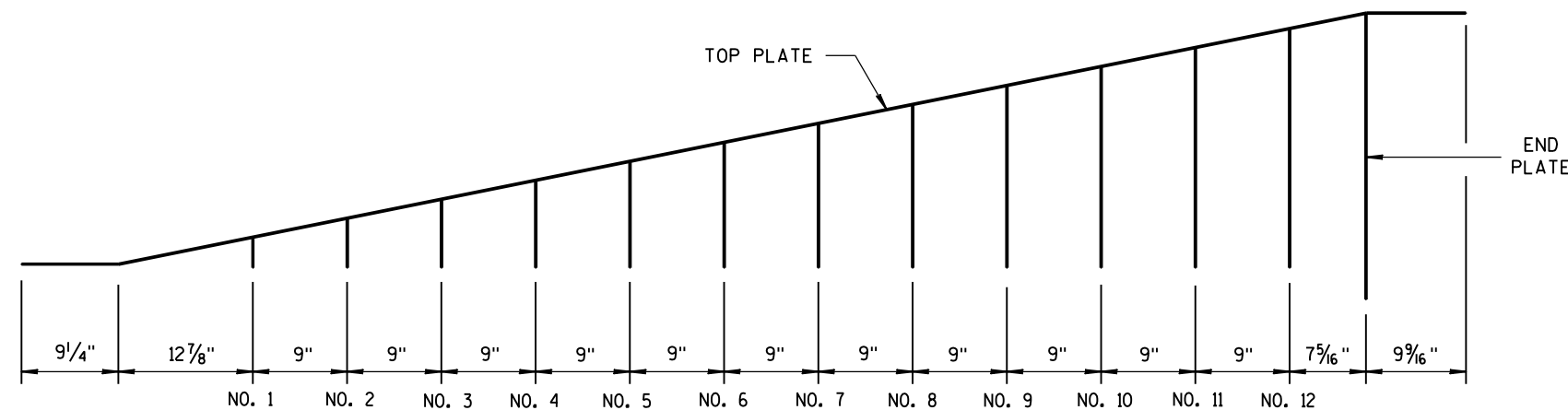
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS

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

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

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

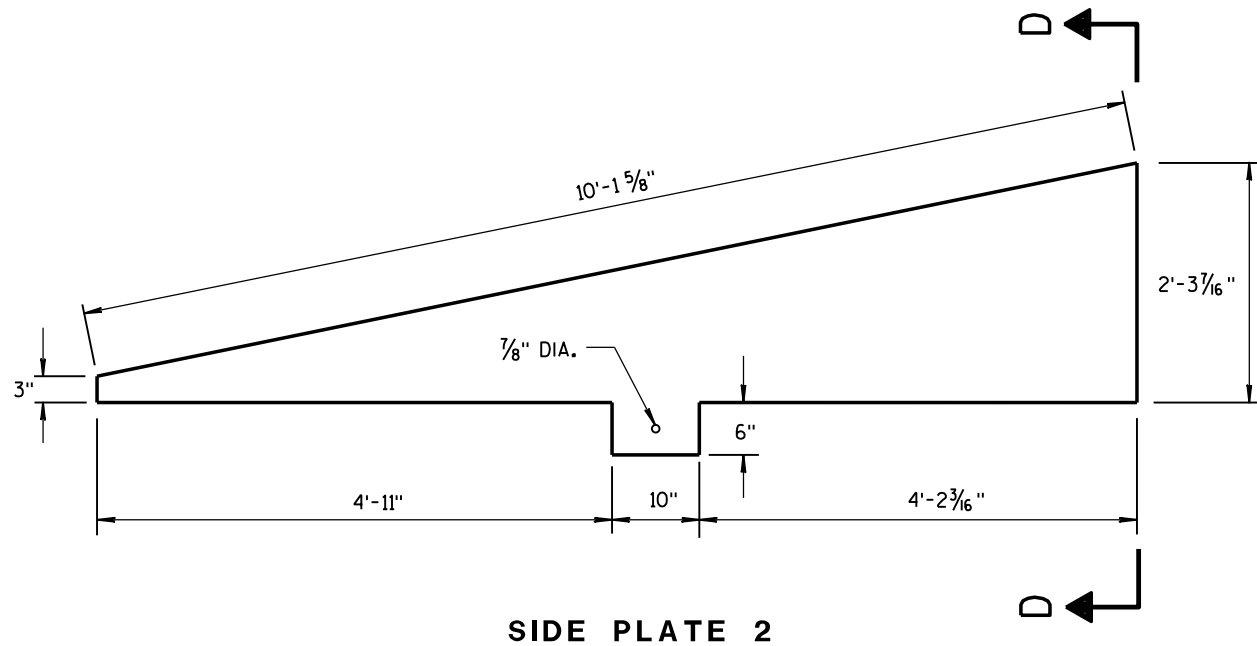


GUSSET LOCATION

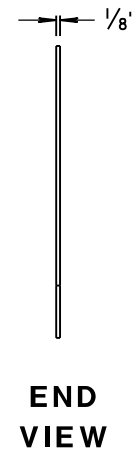
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

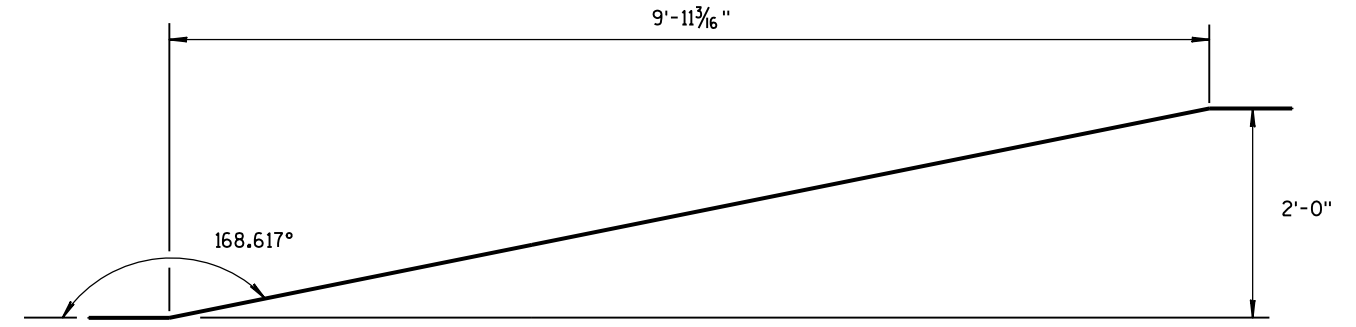
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



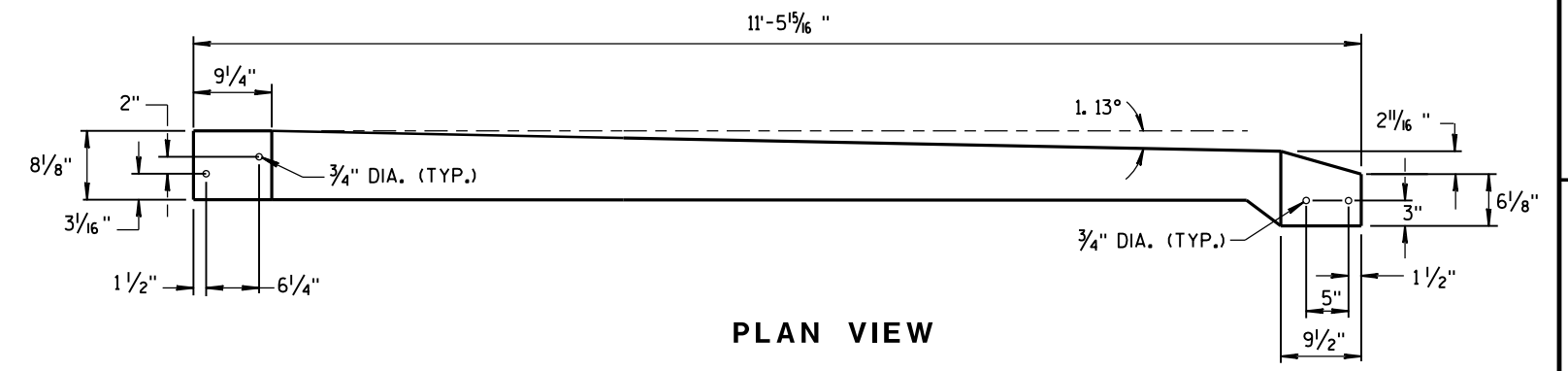
SIDE PLATE 2



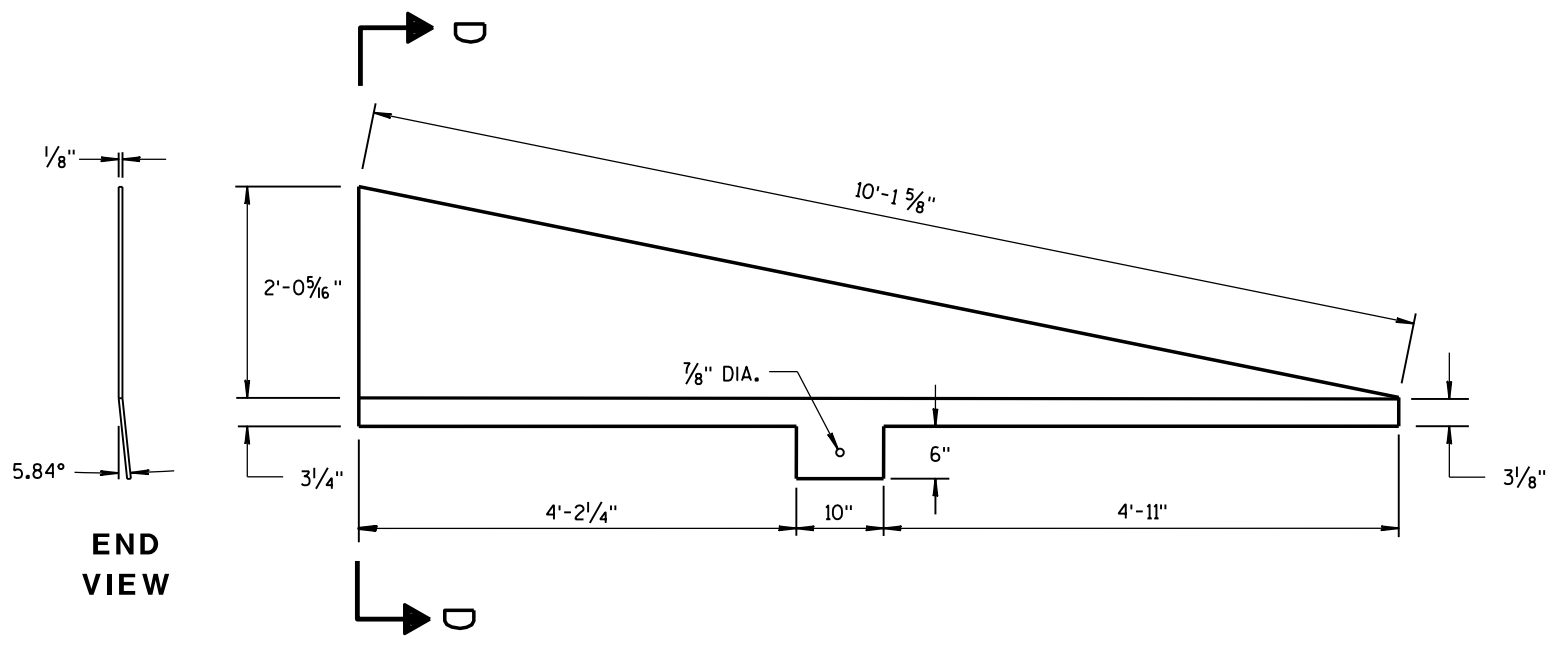
END VIEW



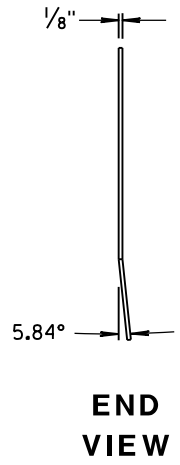
**SIDE VIEW
TOP PLATE**



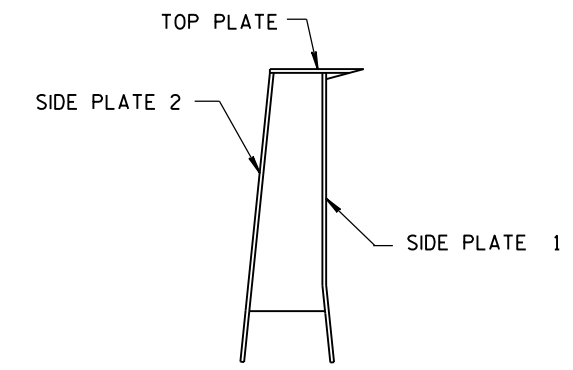
**PLAN VIEW
TOP PLATE**



SIDE PLATE 1



END VIEW



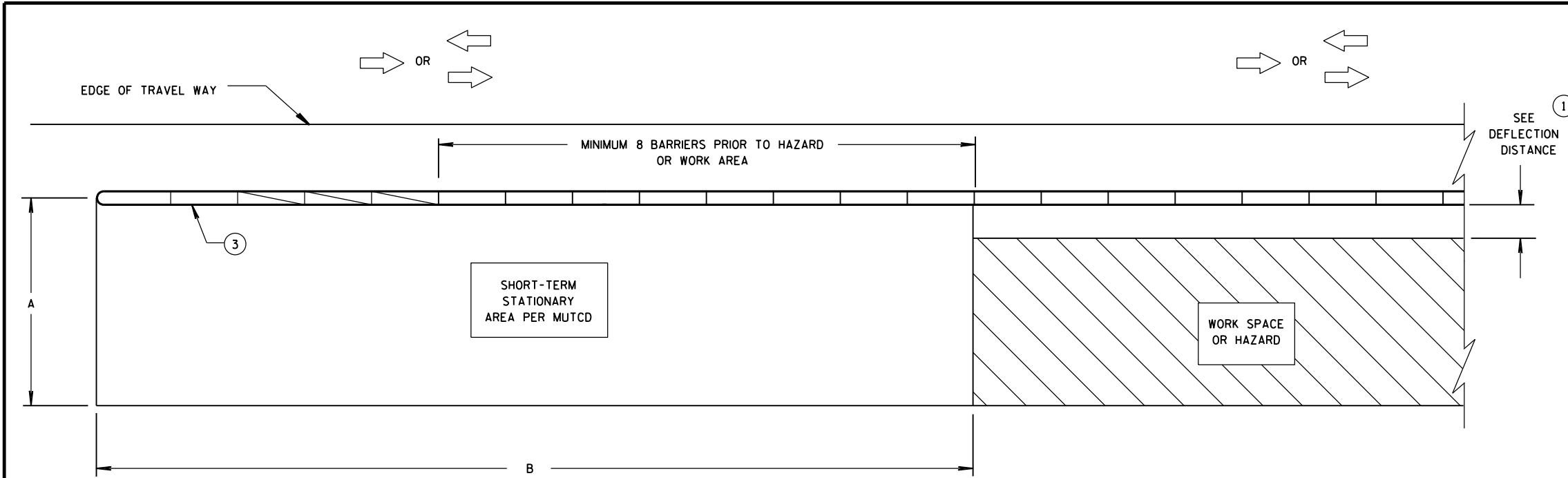
SECTION D-D

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



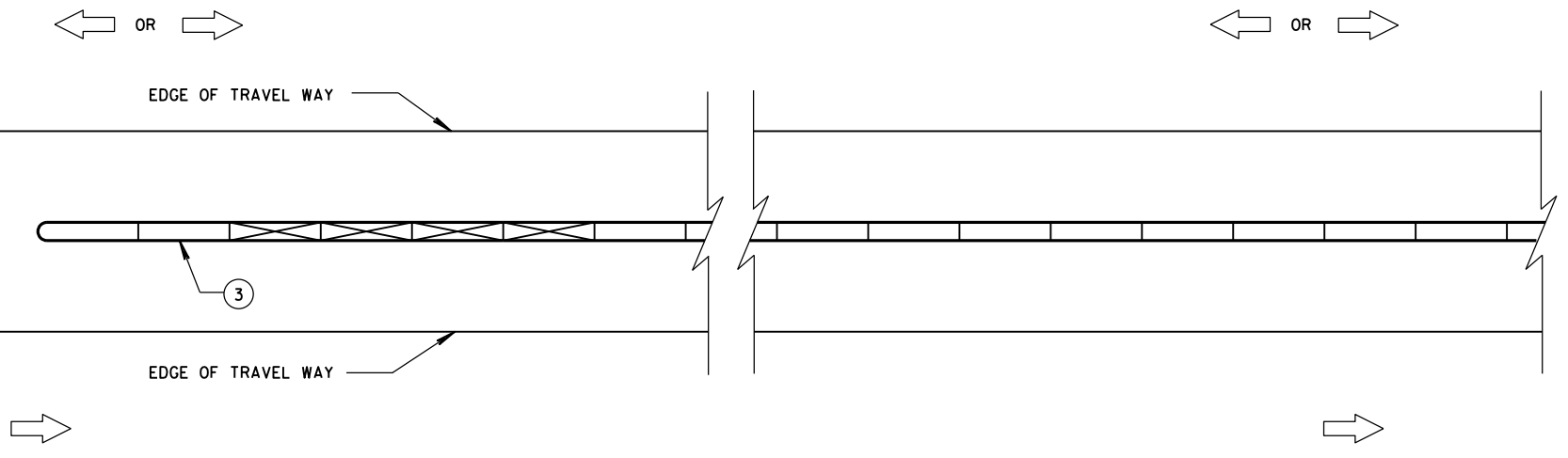
DIMENSION A TABLE ②

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

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

DIMENSION B TABLE ②

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

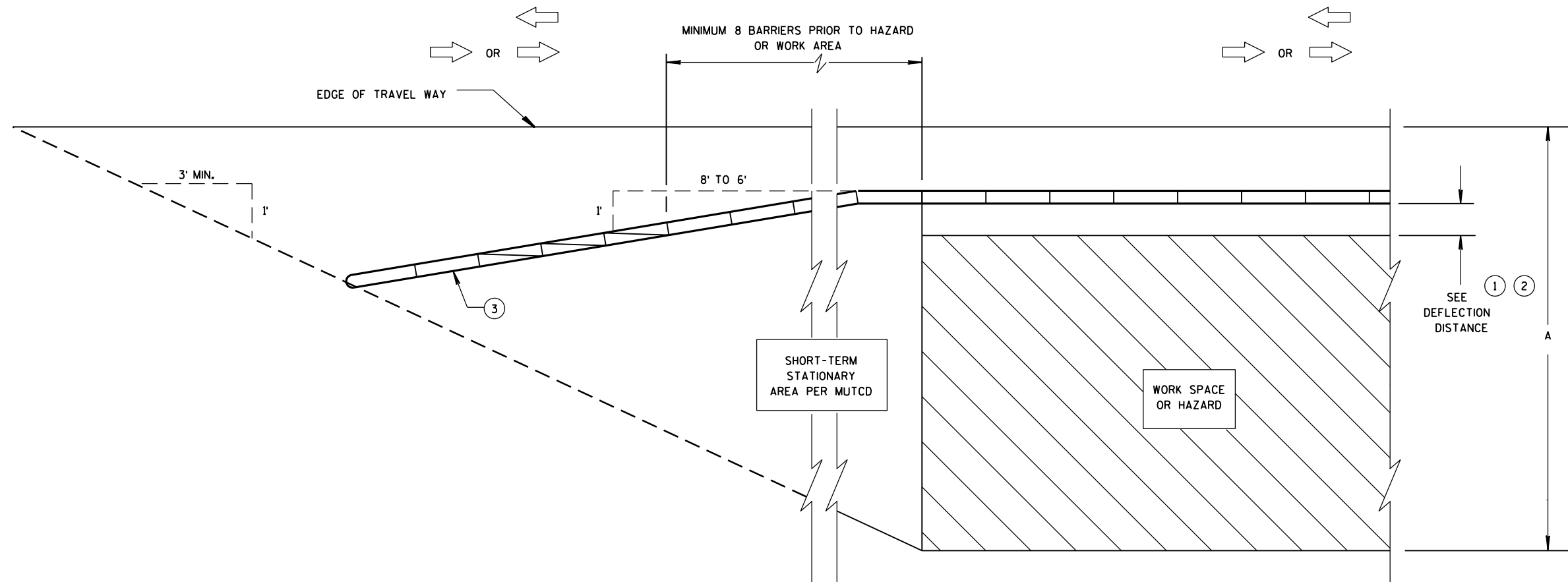
- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

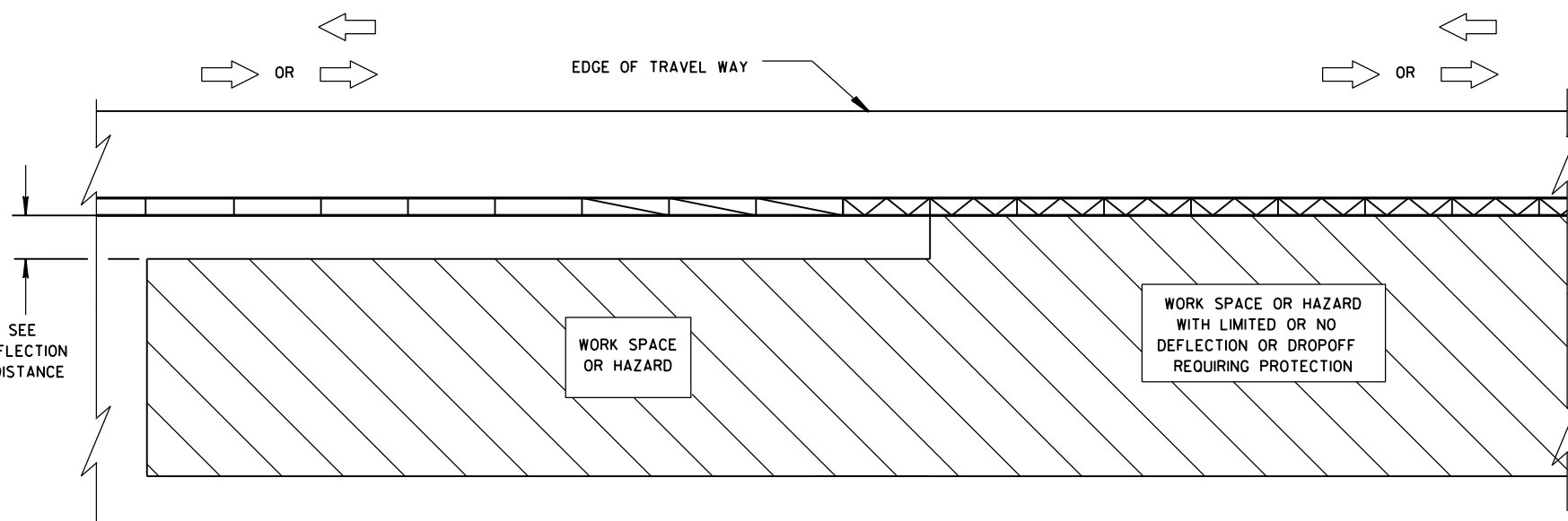
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 8-2a

S.D.D. 14 B 8-2a



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



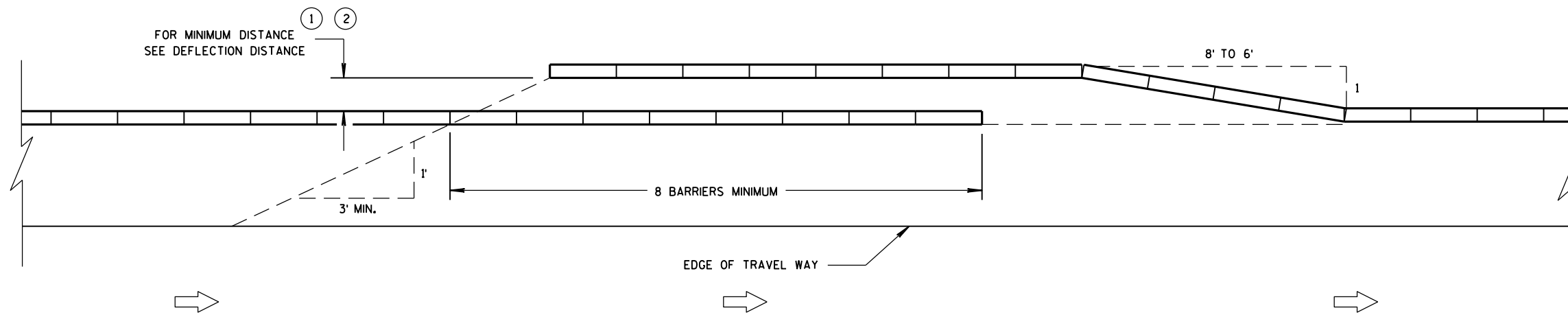
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

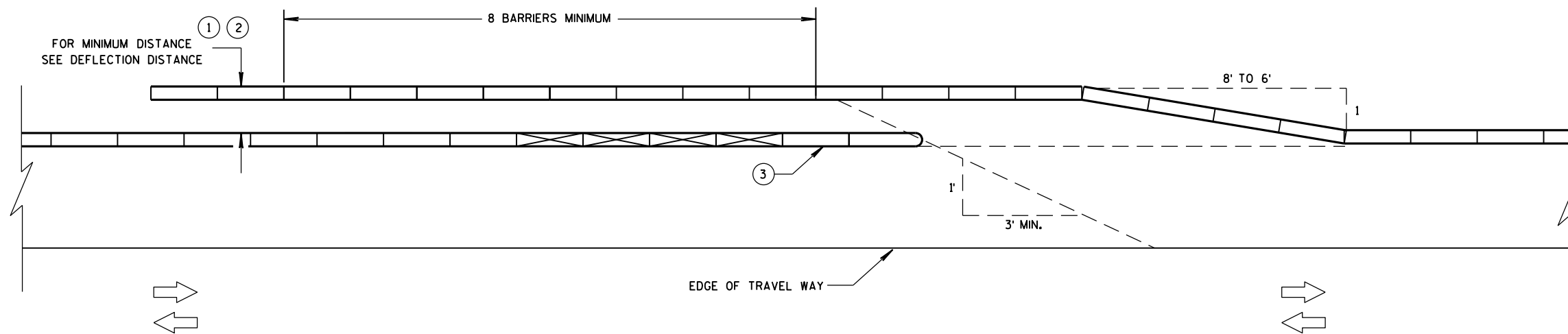
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

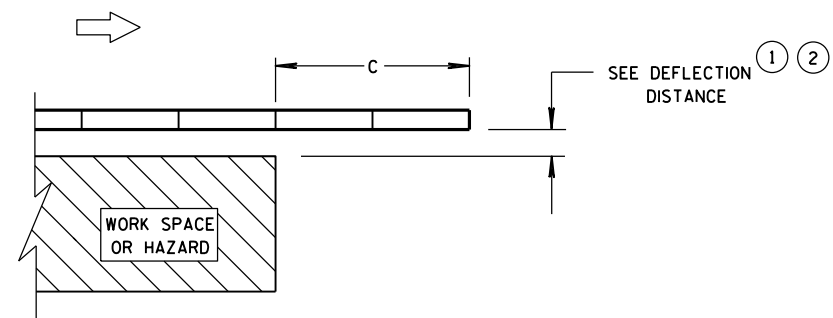
STATE OF WISCONSIN
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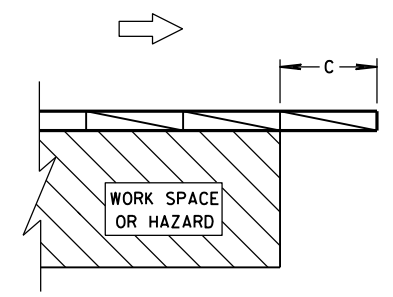
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

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

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

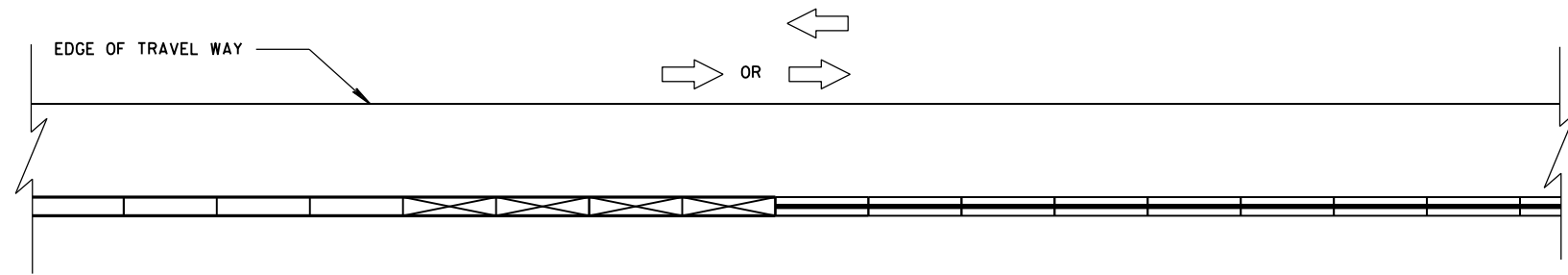
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

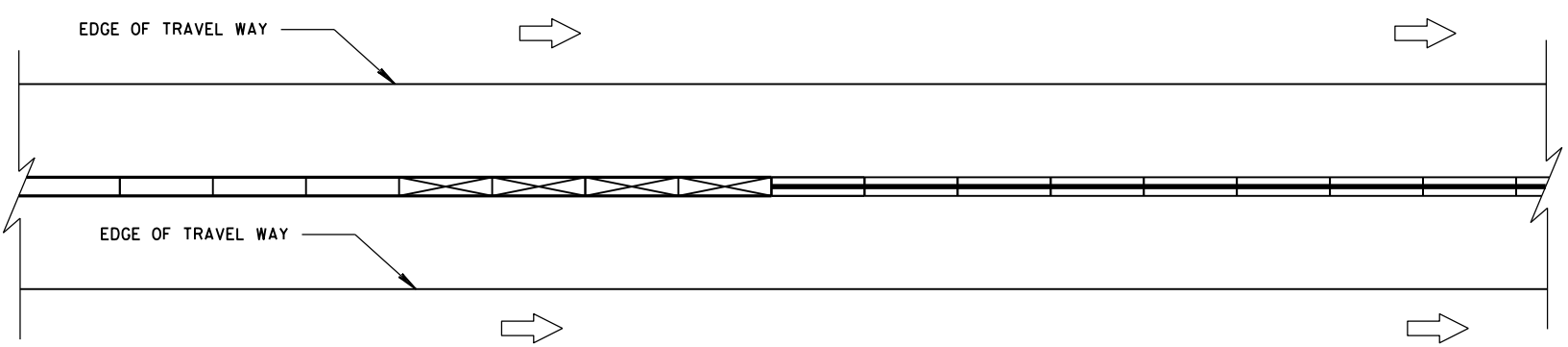
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S.D.D. 14 B 8-2c

S.D.D. 14 B 8-2c



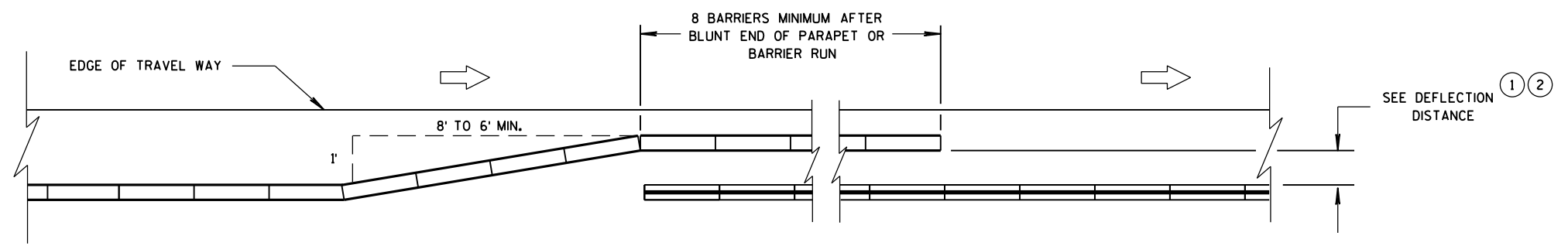
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE**



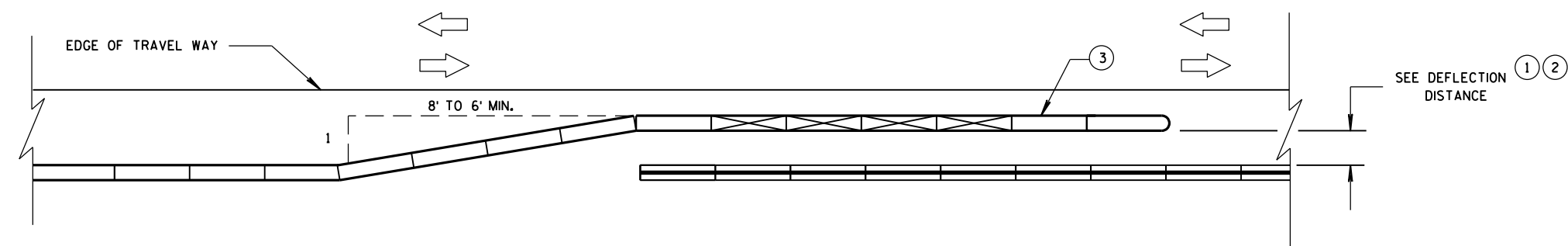
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES**

LEGEND

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



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



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

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

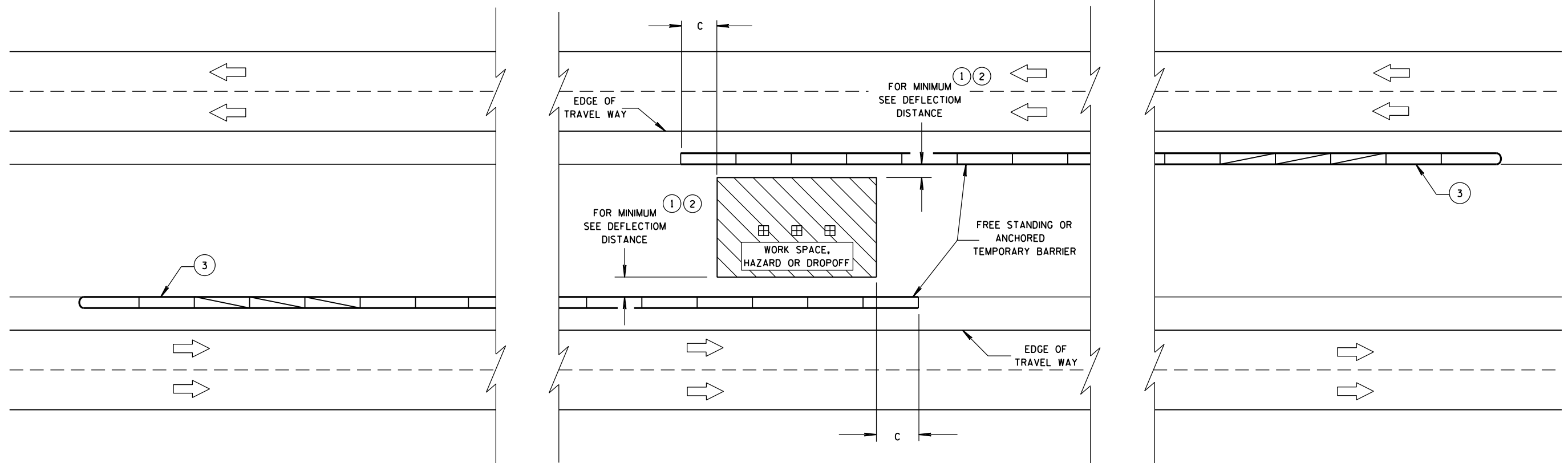
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

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

DIMENSION C TABLE ²

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



6

6

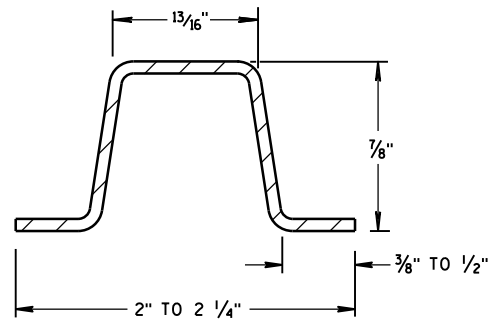
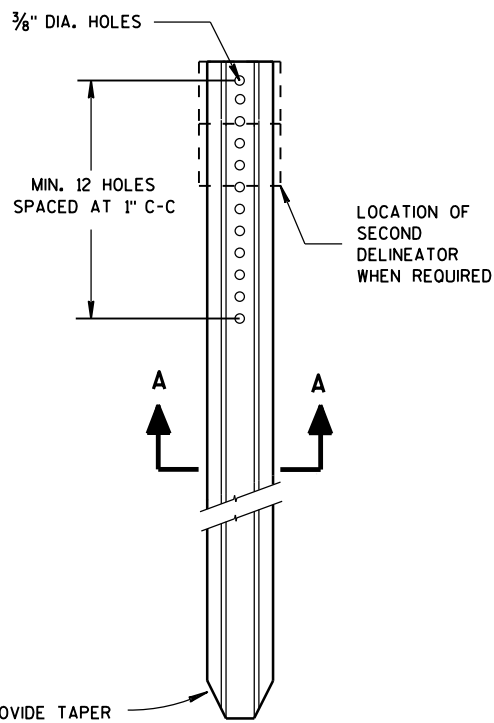
S.D.D. 14 B 8-2e

S.D.D. 14 B 8-2e

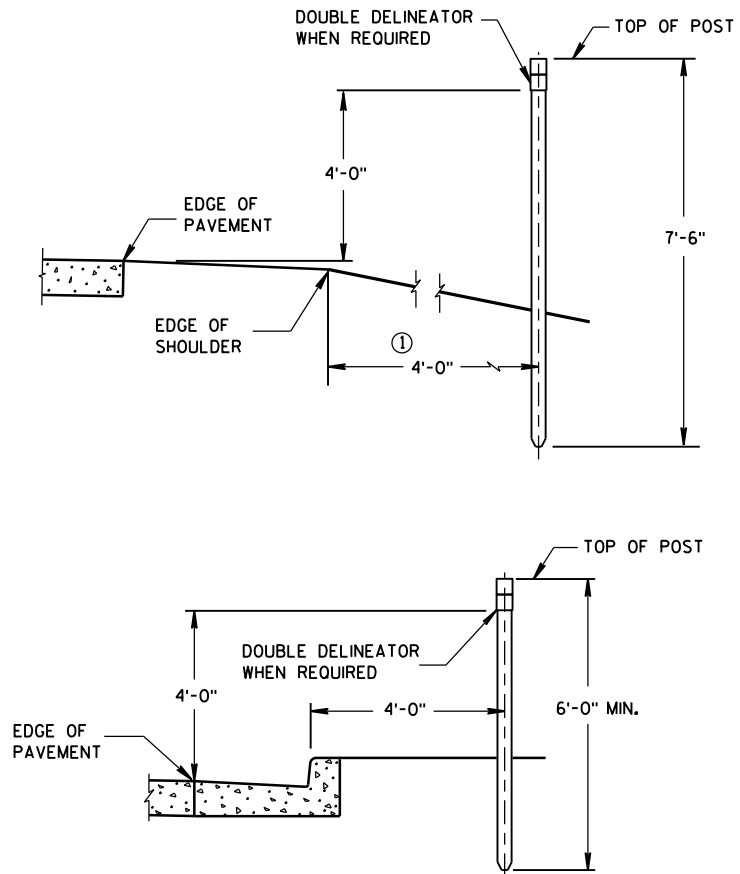
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 DATE /S/ Jerry H. Zogg
FHWA ROADWAY STANDARDS DEVELOPMENT ENGINEER



SECTION A-A
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

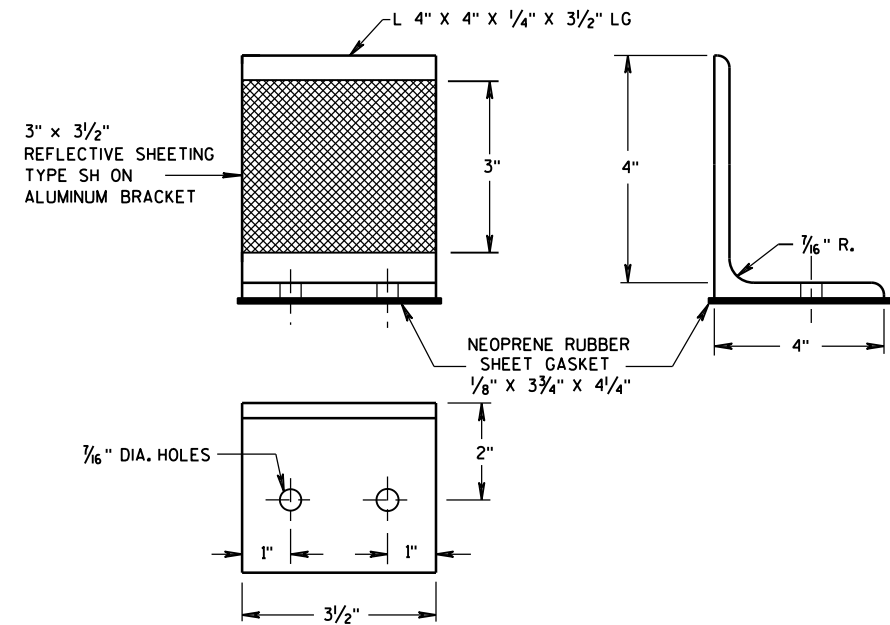


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

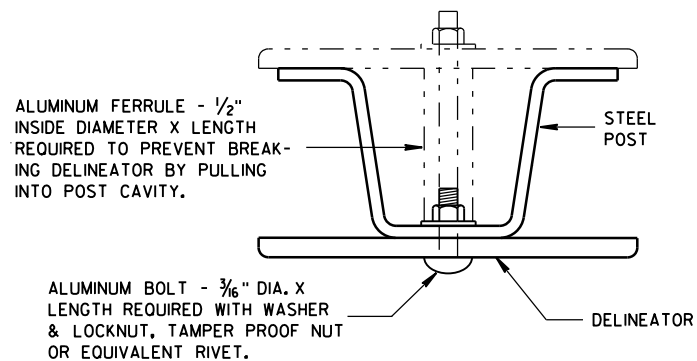
GENERAL NOTES

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

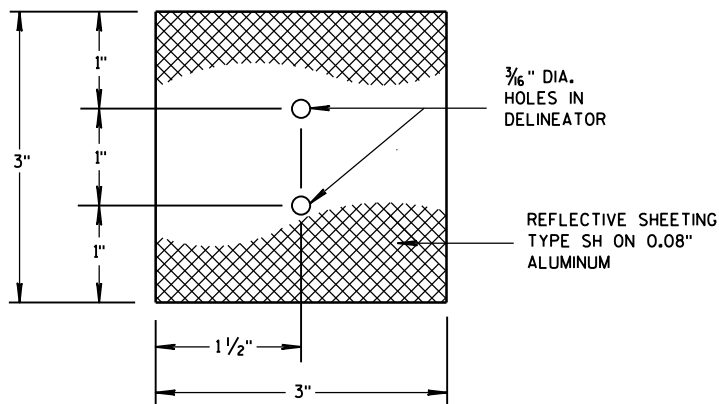
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



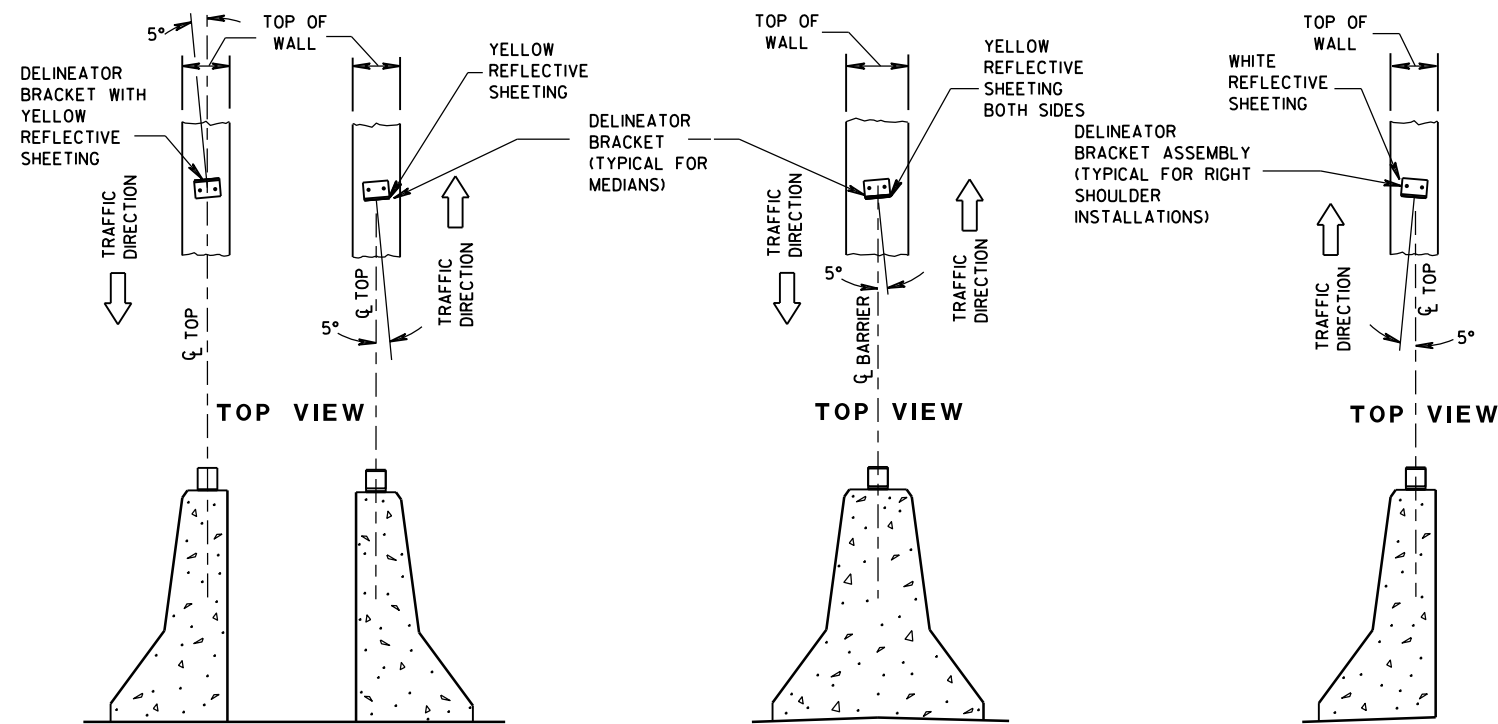
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



3" X 3" DELINEATOR

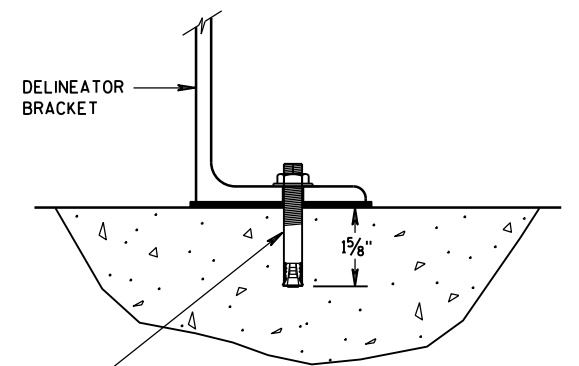


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS

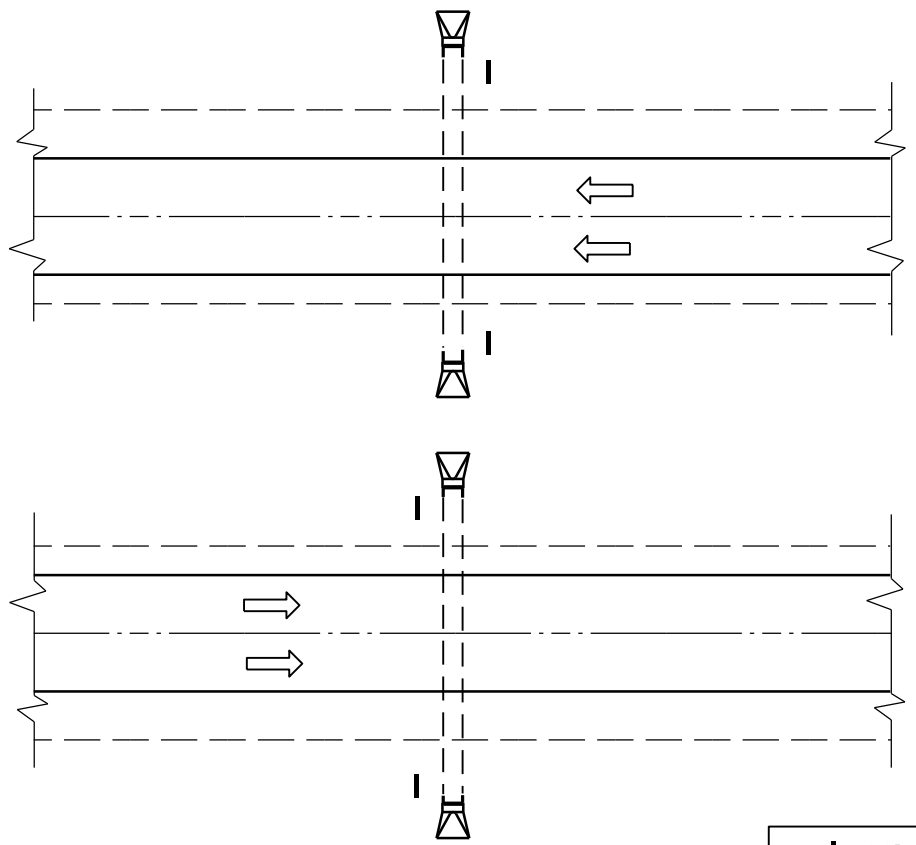


DELINEATOR BRACKET MOUNTING DETAIL

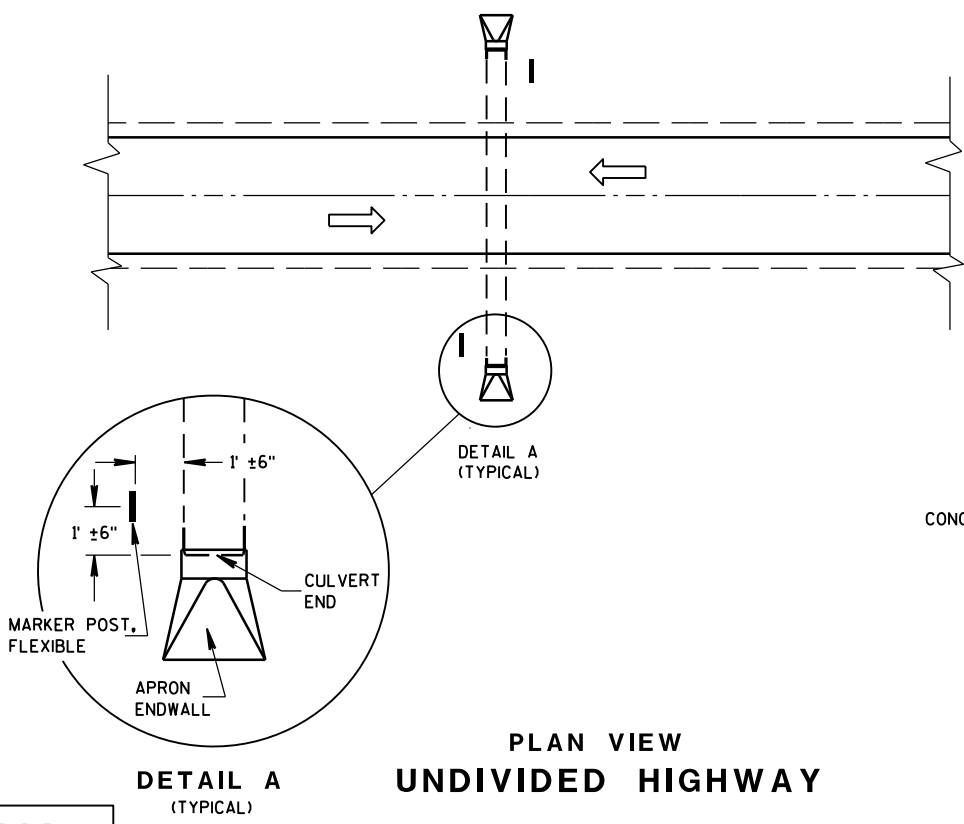
DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 DATE /s/ Travis Feltes
STATE TRAFFIC ENGINEER
FHWA

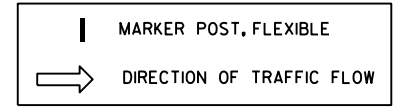


PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

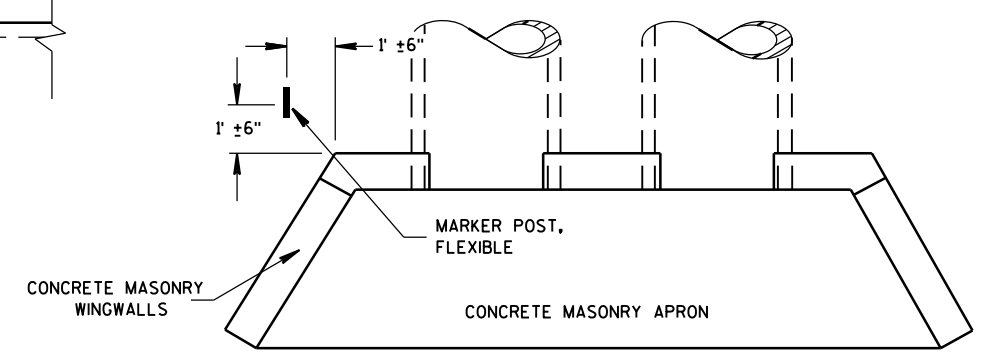
DETAIL A
(TYPICAL)



FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

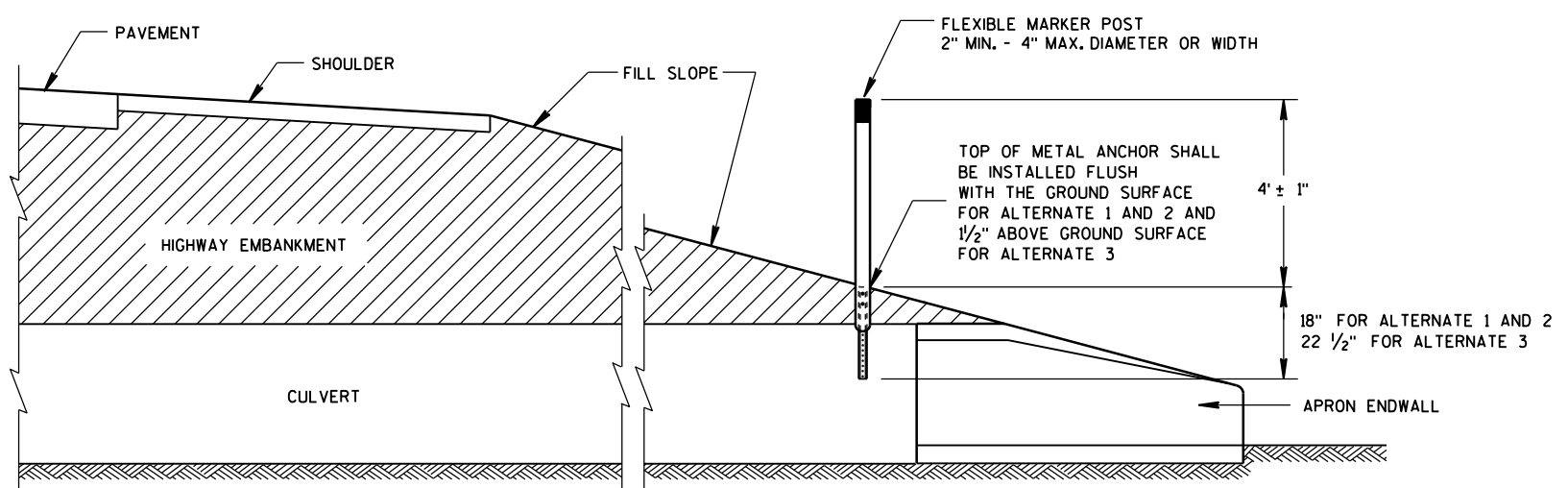
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

6

6



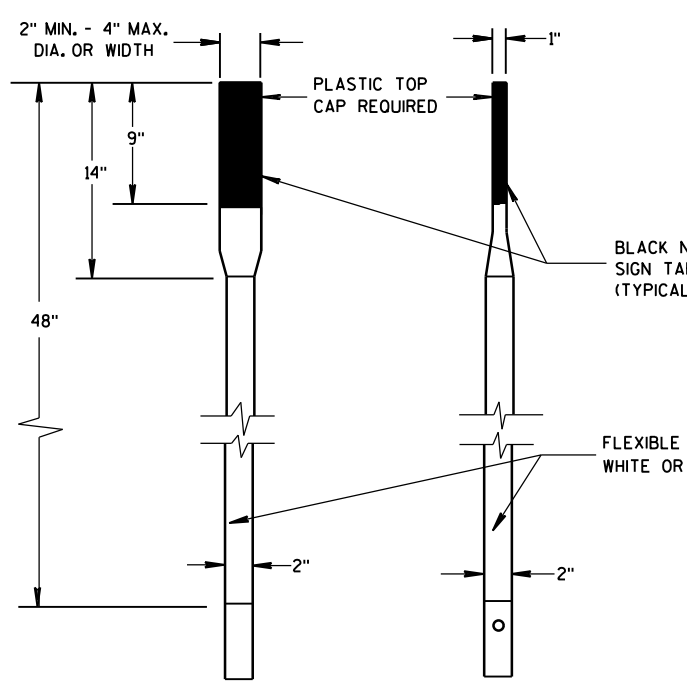
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

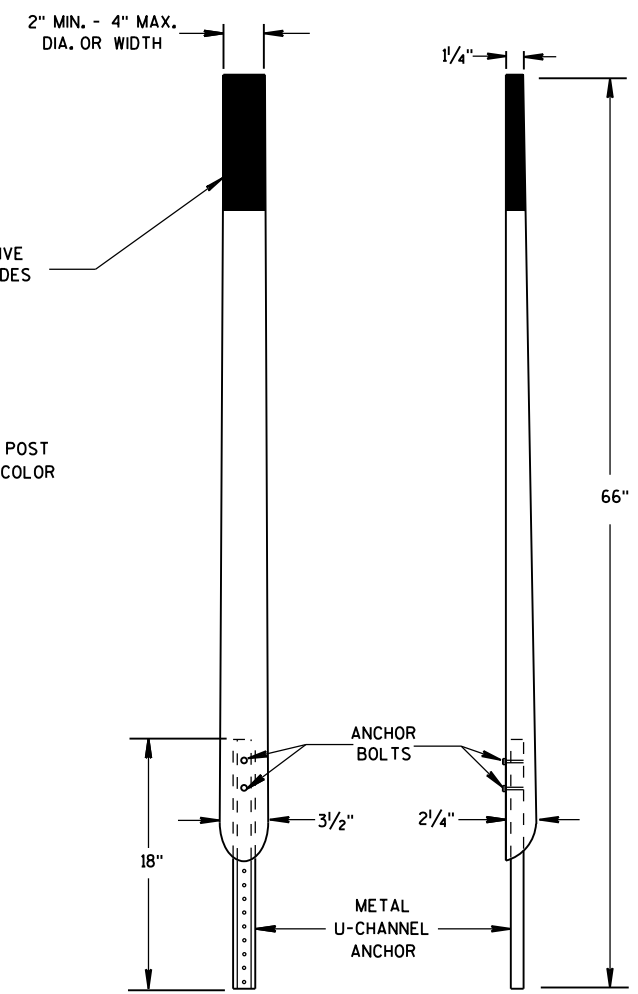
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 A 3-2a

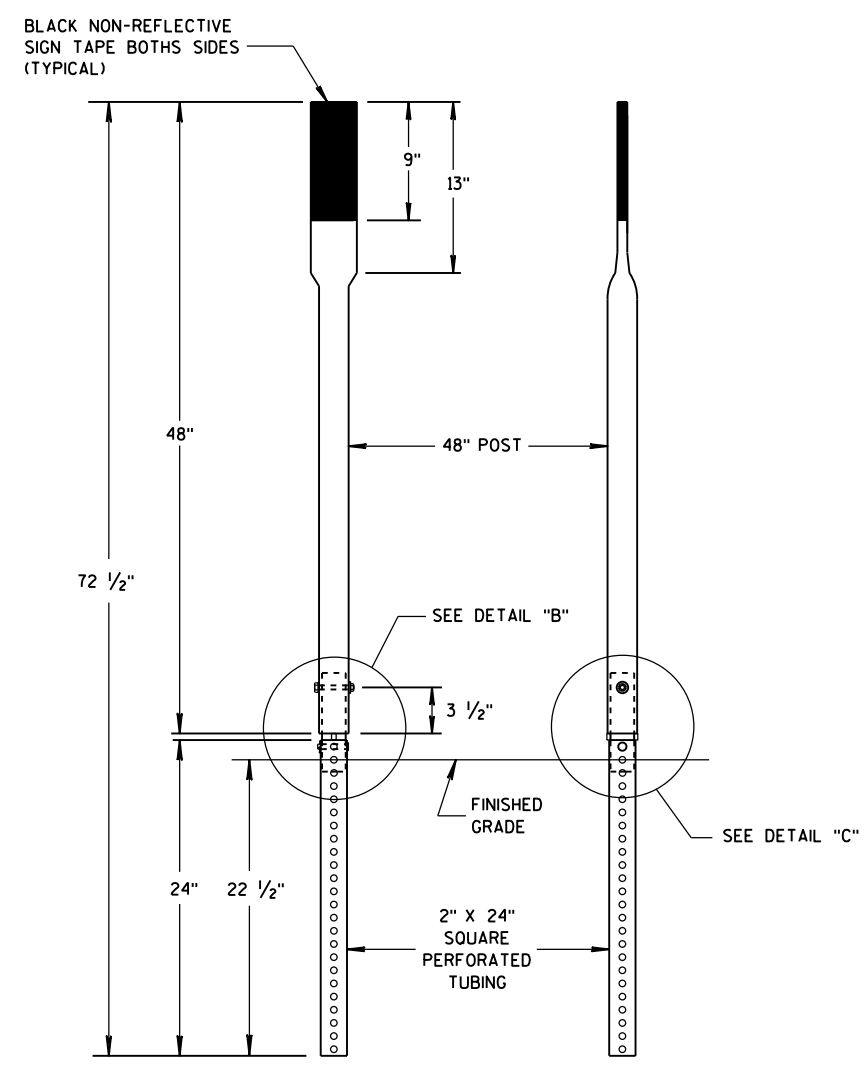
S.D.D. 15 A 3-2a



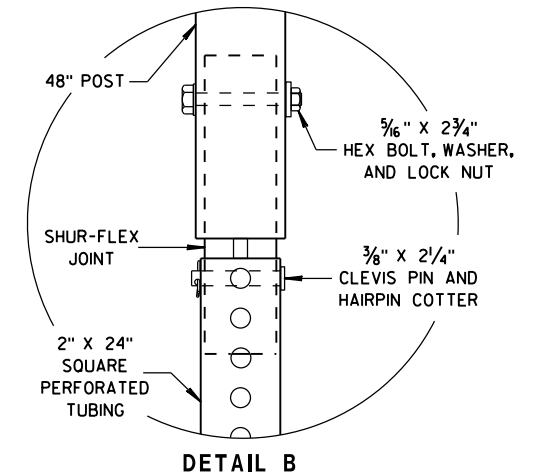
FRONT VIEW SIDE VIEW
ALTERNATE 1



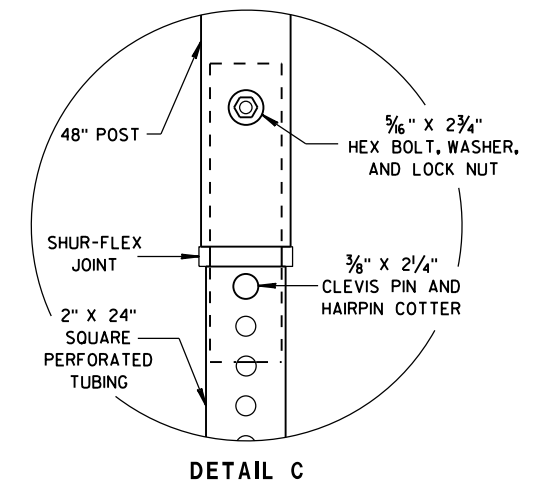
FRONT VIEW SIDE VIEW
ALTERNATE 2



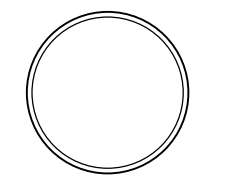
FRONT VIEW SIDE VIEW
ALTERNATE 3



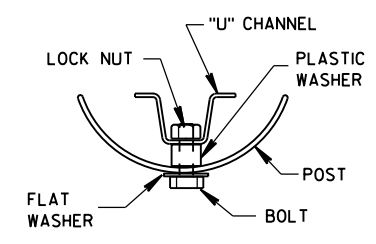
DETAIL B



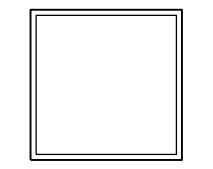
DETAIL C



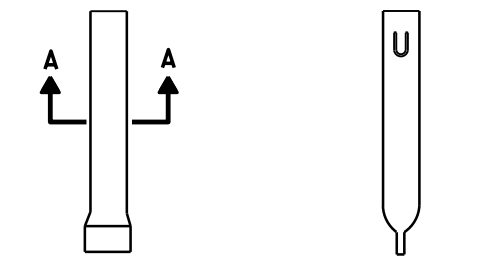
SECTION A-A



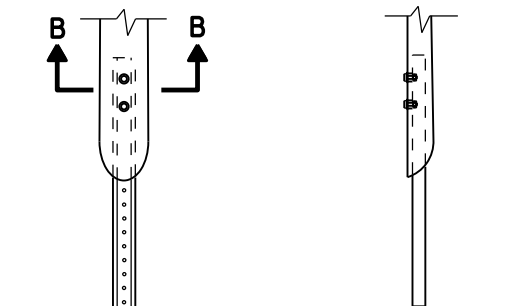
SECTION B-B



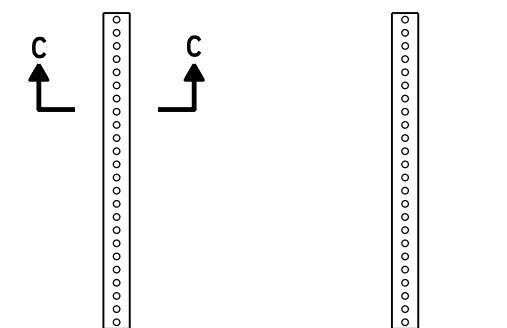
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 1



FRONT VIEW SIDE VIEW
ALTERNATE 2



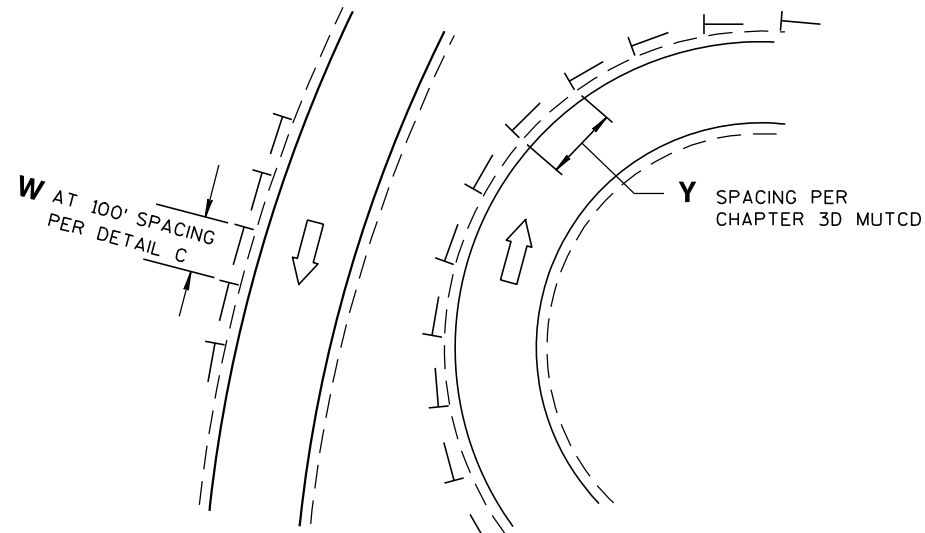
FRONT VIEW SIDE VIEW
ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

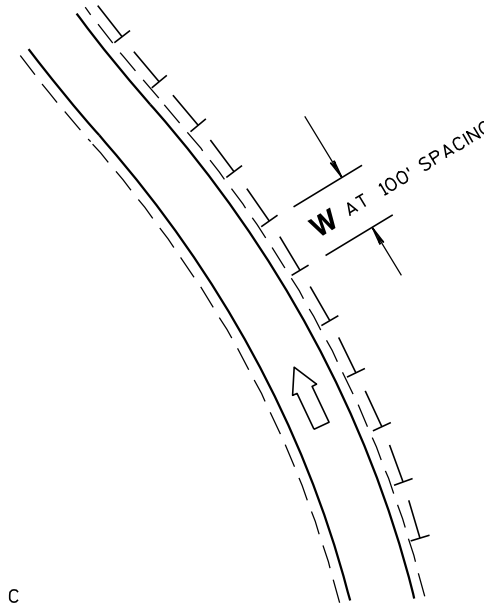
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

GENERAL NOTES

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



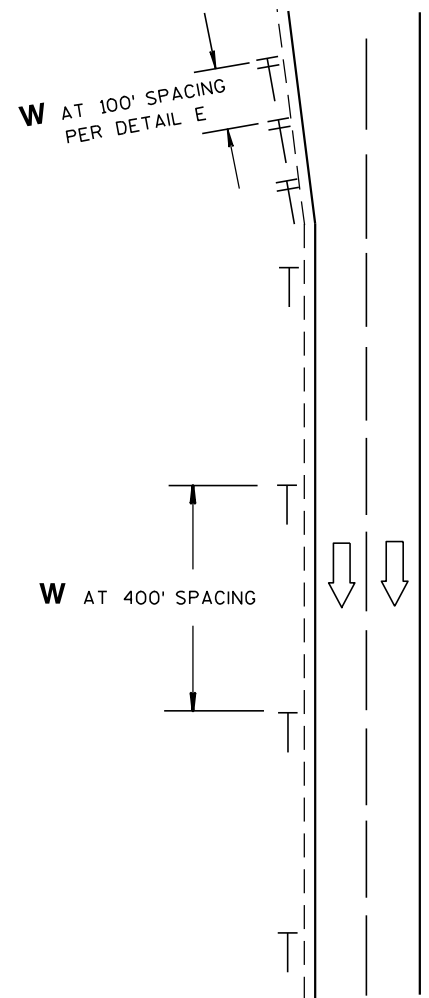
**DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP**



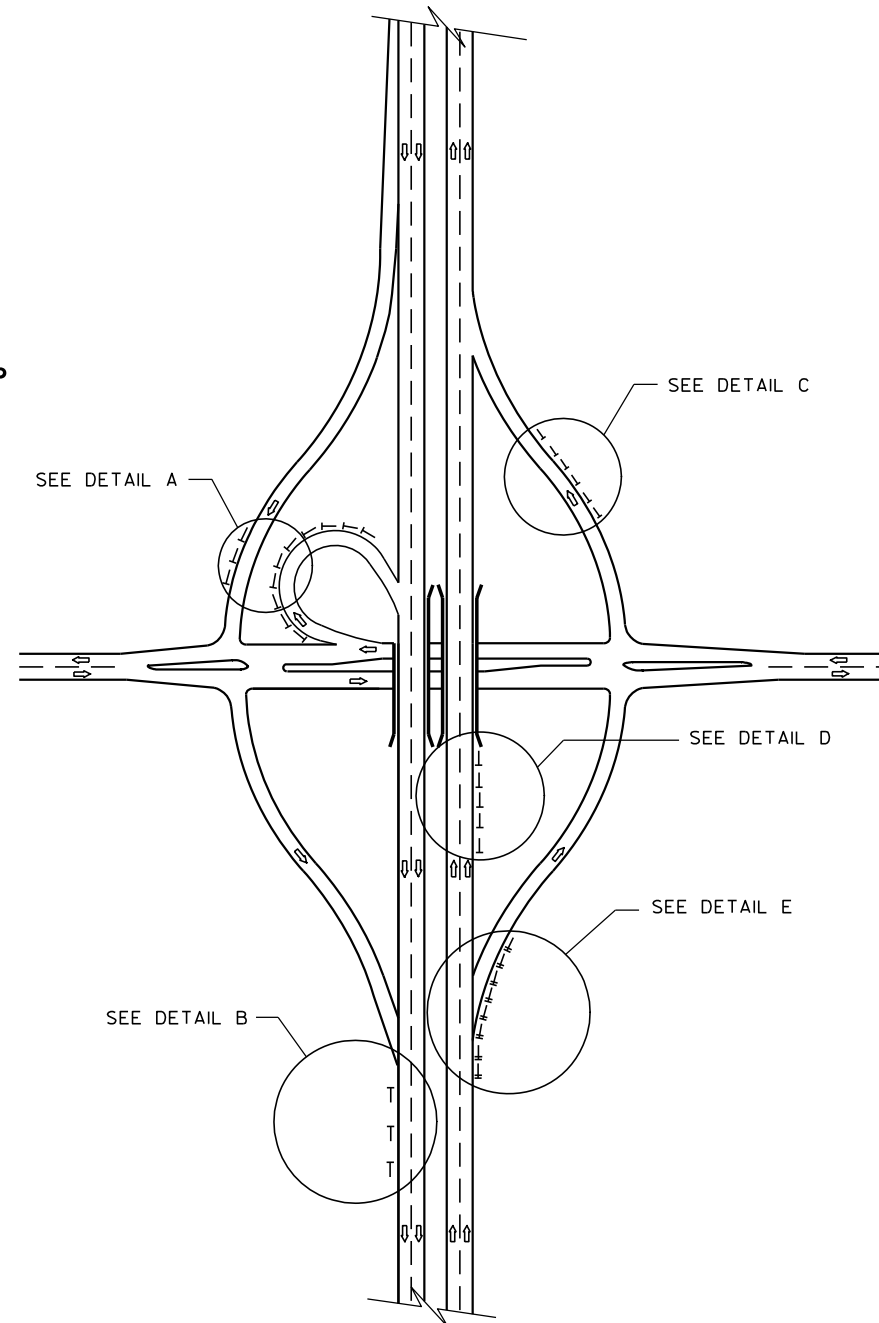
**DETAIL C
DELINEATOR LAYOUT ALONG RAMP**

LEGEND

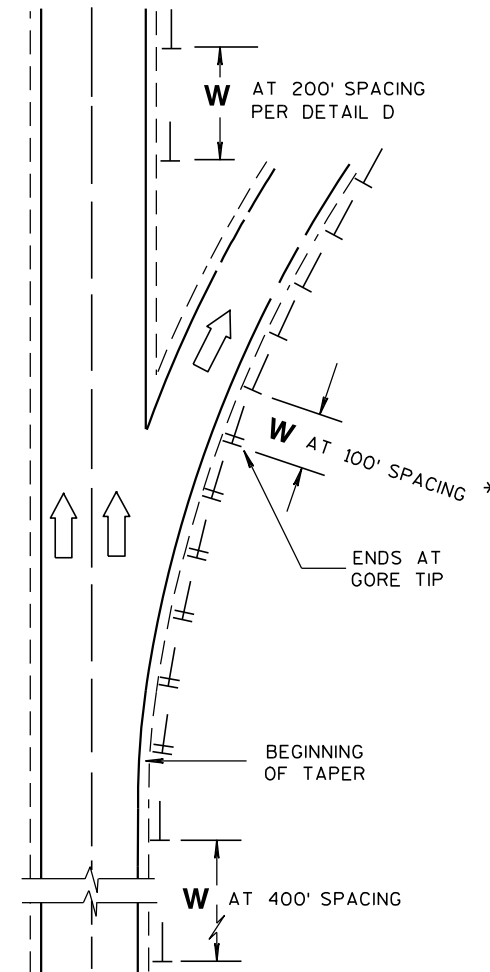
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W** WHITE
- Y** YELLOW



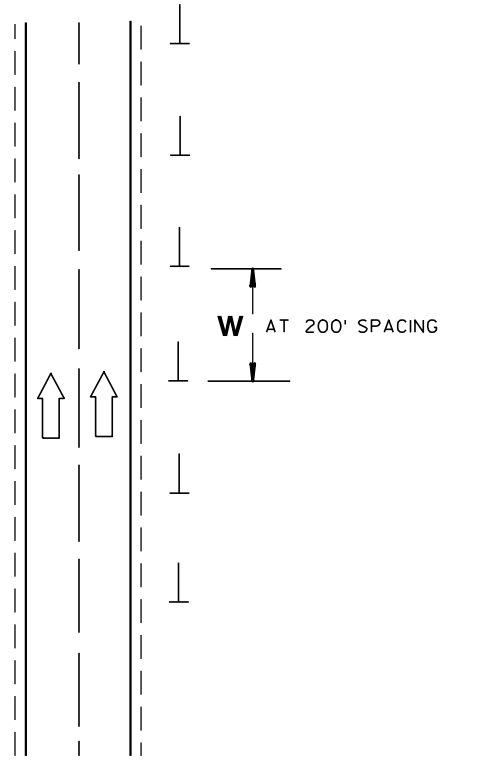
**DETAIL B
DELINEATOR LAYOUT
ALONG MAINLINE**



DELINEATOR LAYOUT



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



**DETAIL D
DELINEATOR LAYOUT
BETWEEN INTERCHANGE RAMPS**

6

6

DELINEATOR LAYOUT

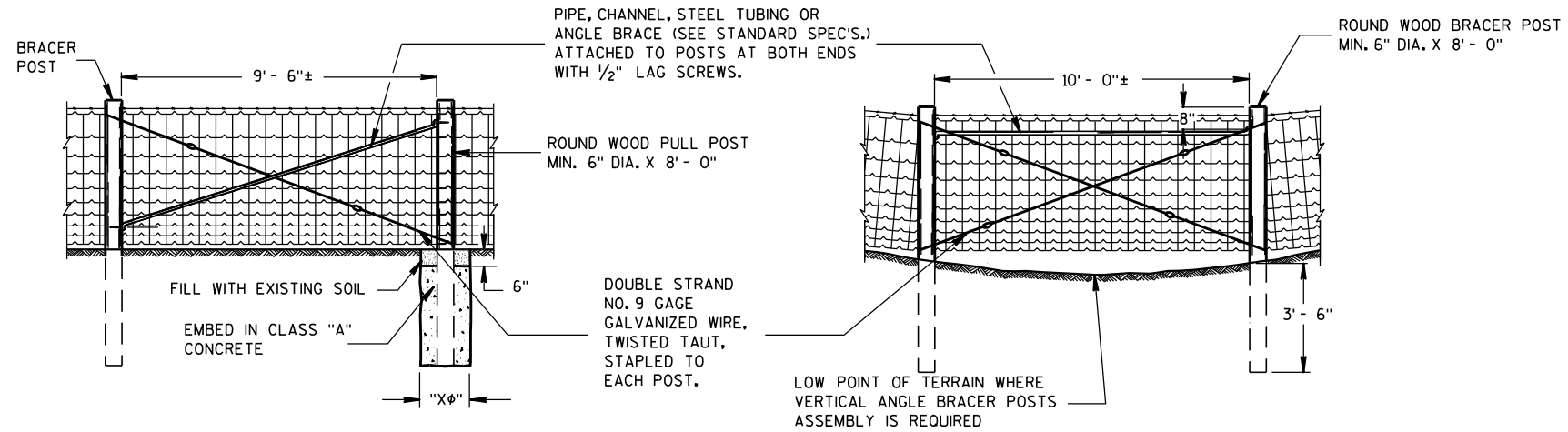
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 /S/ Thomas N. Notbohm
DATE STATE TRAFFIC ENGINEER OF DESIGN

FHWA

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

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



PULL OR STRETCHER POSTS ASSEMBLY

VERTICAL ANGLE BRACER POSTS ASSEMBLY

GENERAL NOTES

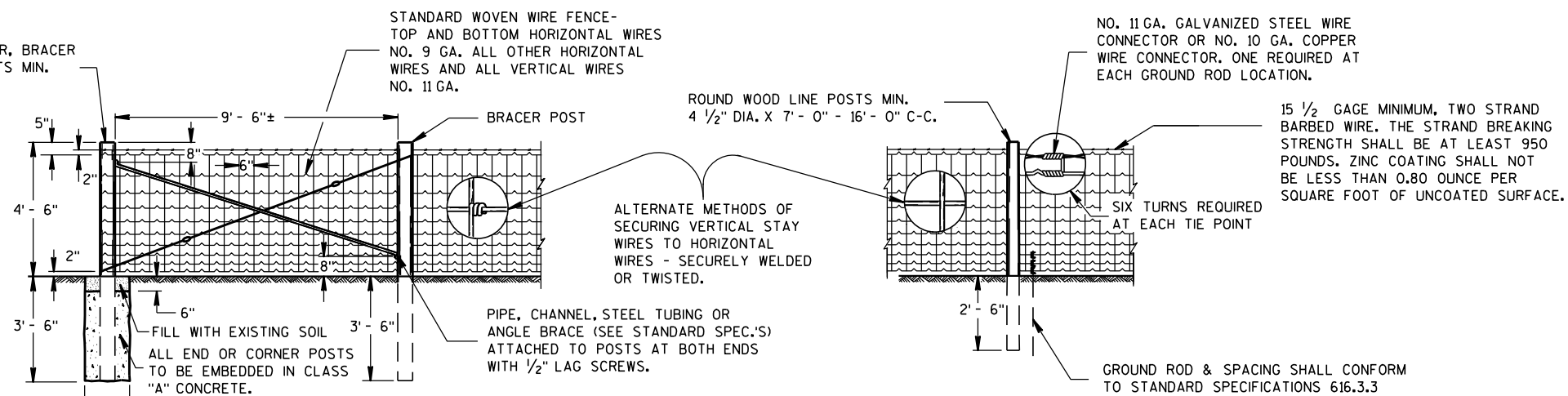
"Xφ" = DIAMETER OF THE POST PLUS 12".

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

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

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

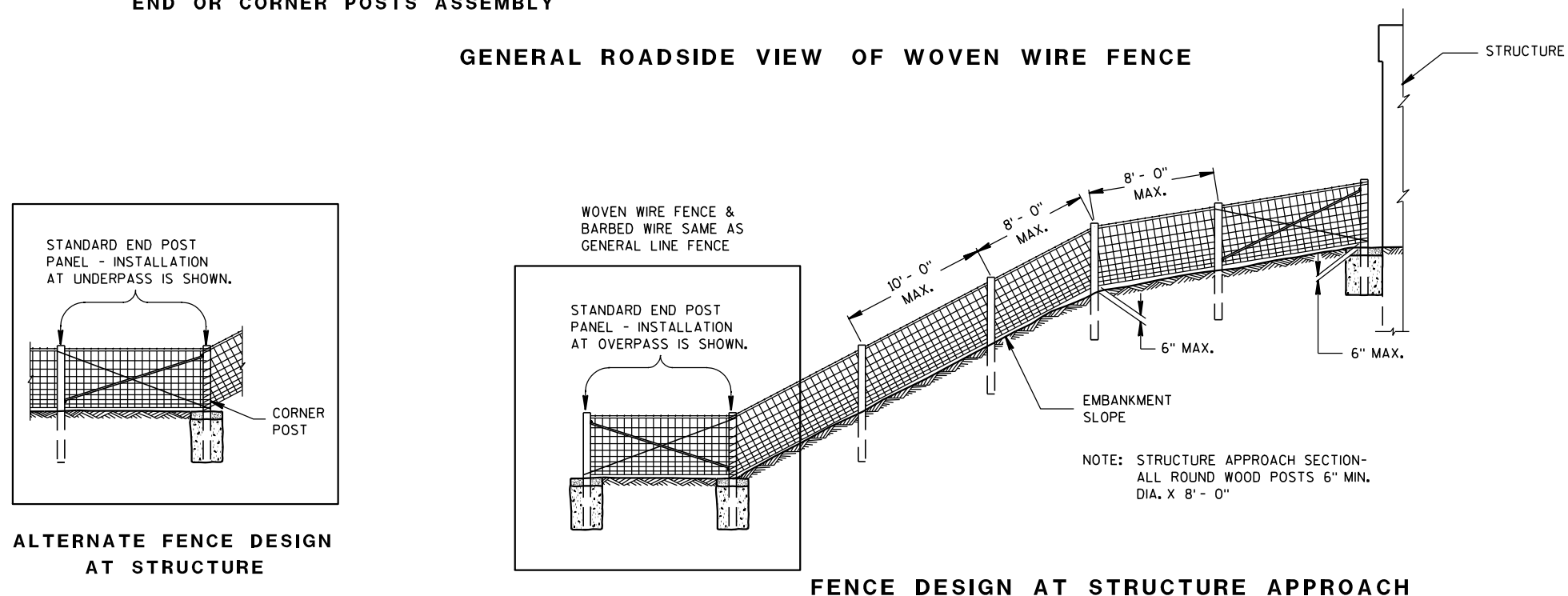
ROUND WOOD END, CORNER, BRACER OR VERTICAL ANGLE POSTS MIN. 6" DIA. X 8'-0"



END OR CORNER POSTS ASSEMBLY

LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



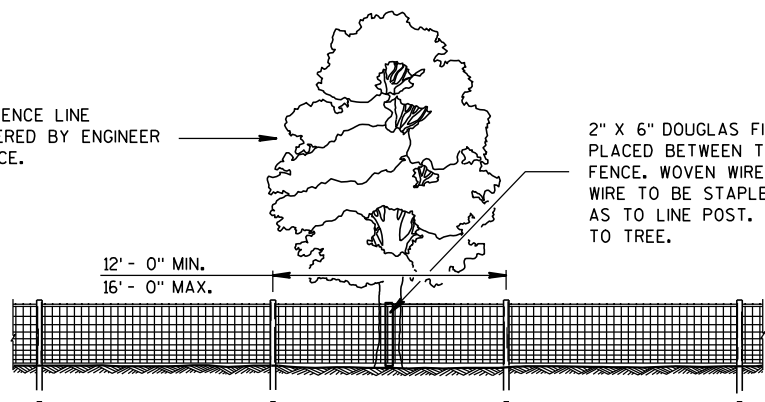
ALTERNATE FENCE DESIGN AT STRUCTURE

FENCE DESIGN AT STRUCTURE APPROACH

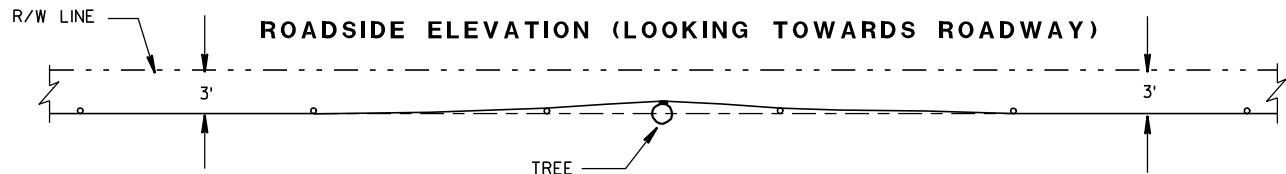
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

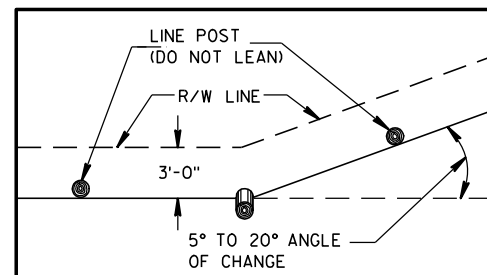
NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.



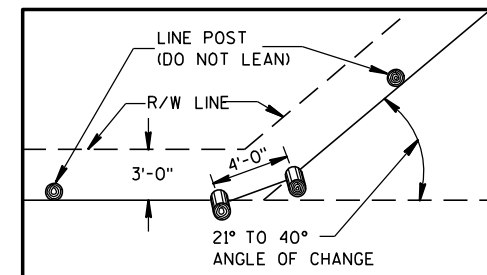
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

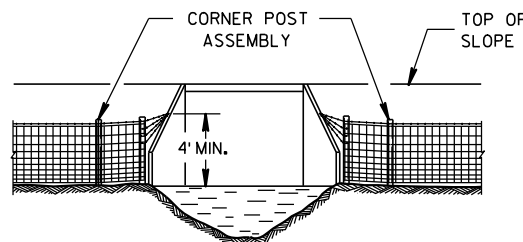


PLAN VIEW
DOUBLE POST CORNER

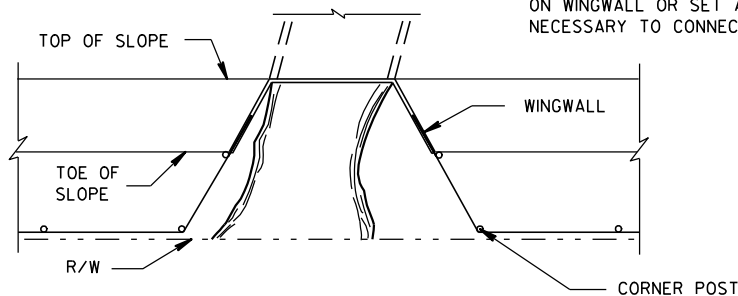
RIGHT OF WAY LINE CHANGE 40° AND LESS

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

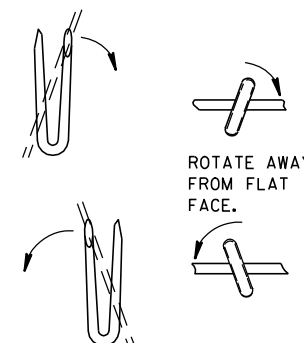
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



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

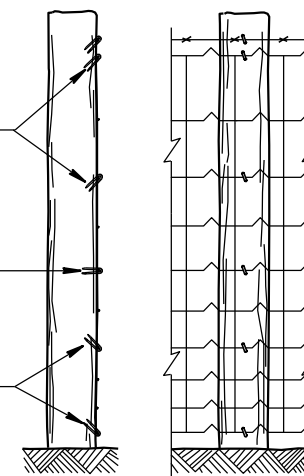


FENCE INSTALLATION TO WINGWALLS

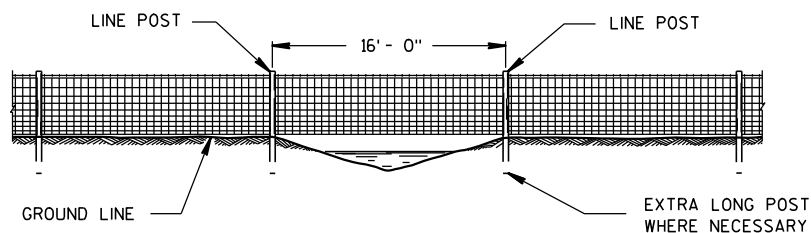


LINE POST

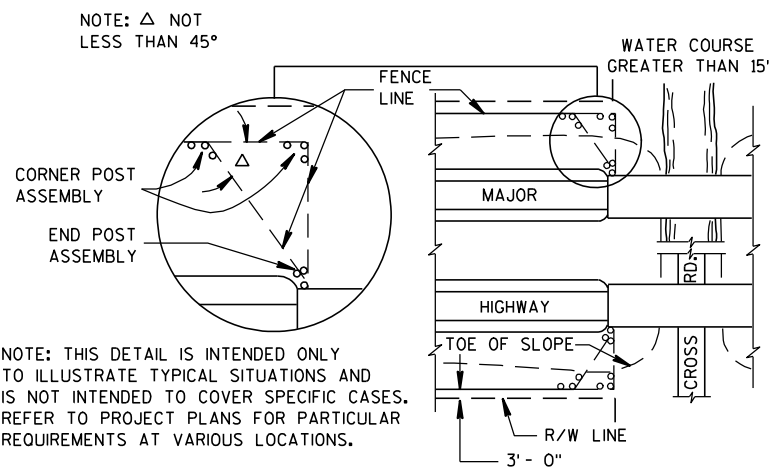
NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



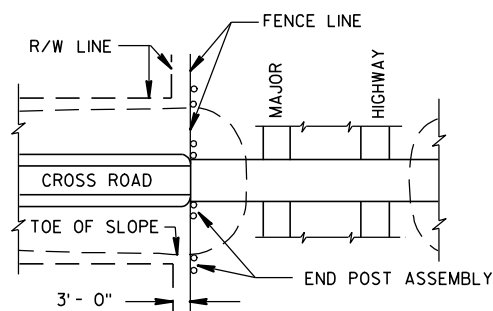
END ELEVATION FARM SIDE ELEVATION
FENCE MOUNTING DETAIL



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



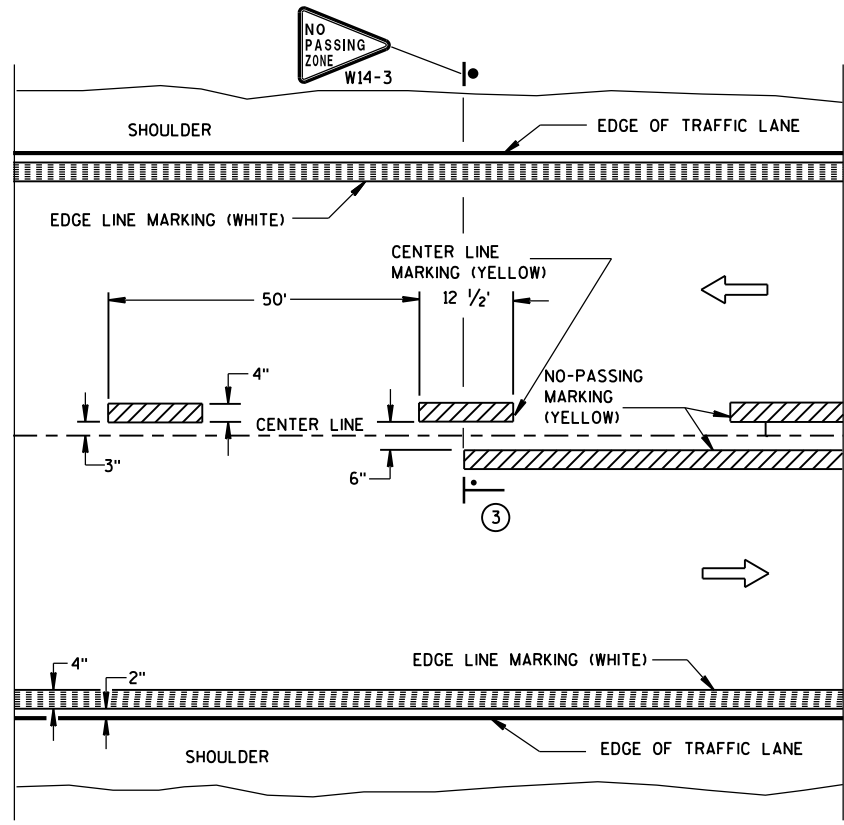
PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH



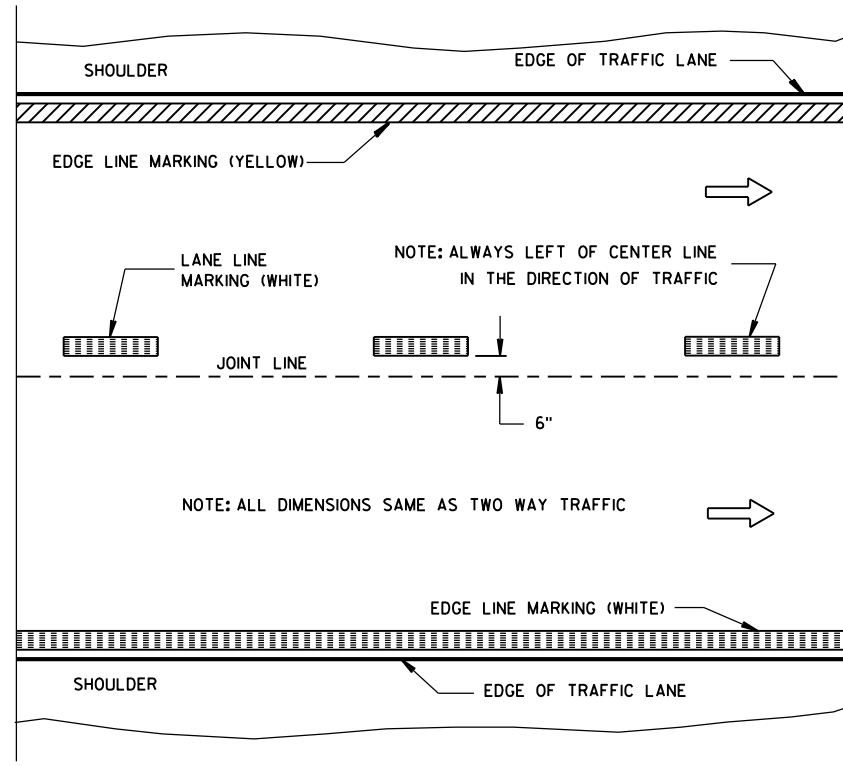
PLAN VIEW
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/4/2008 DATE	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

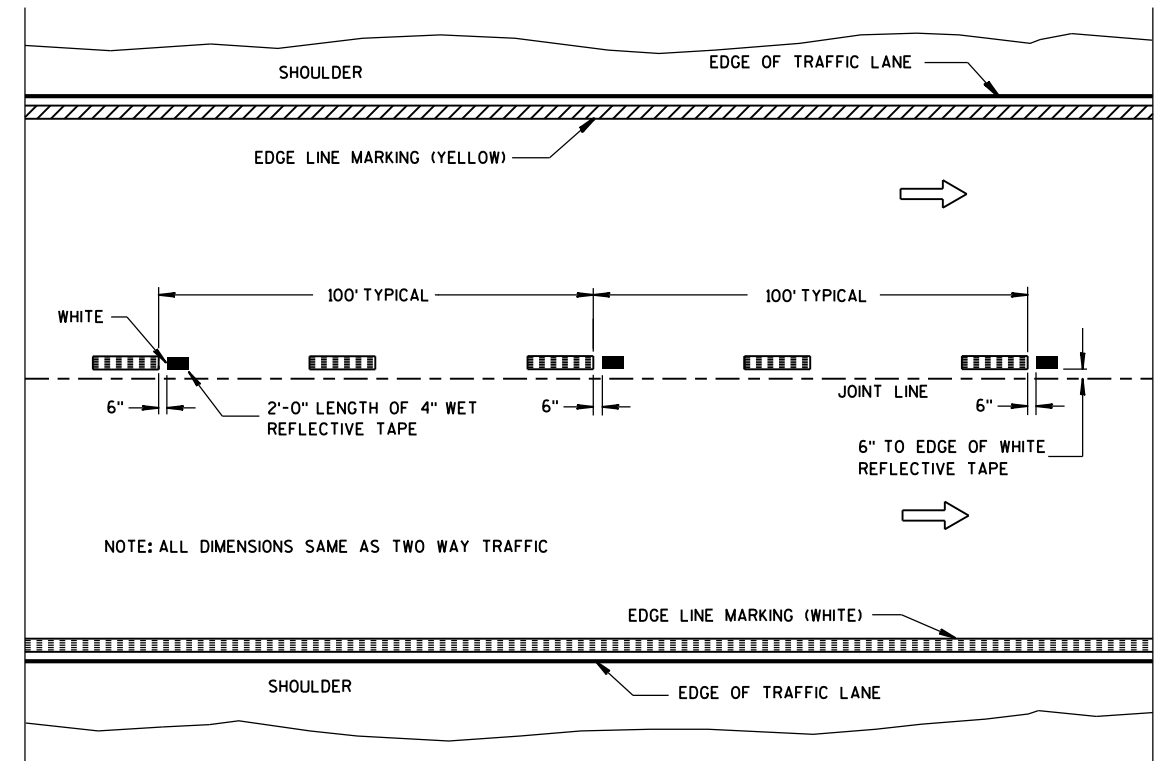
GENERAL NOTES

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

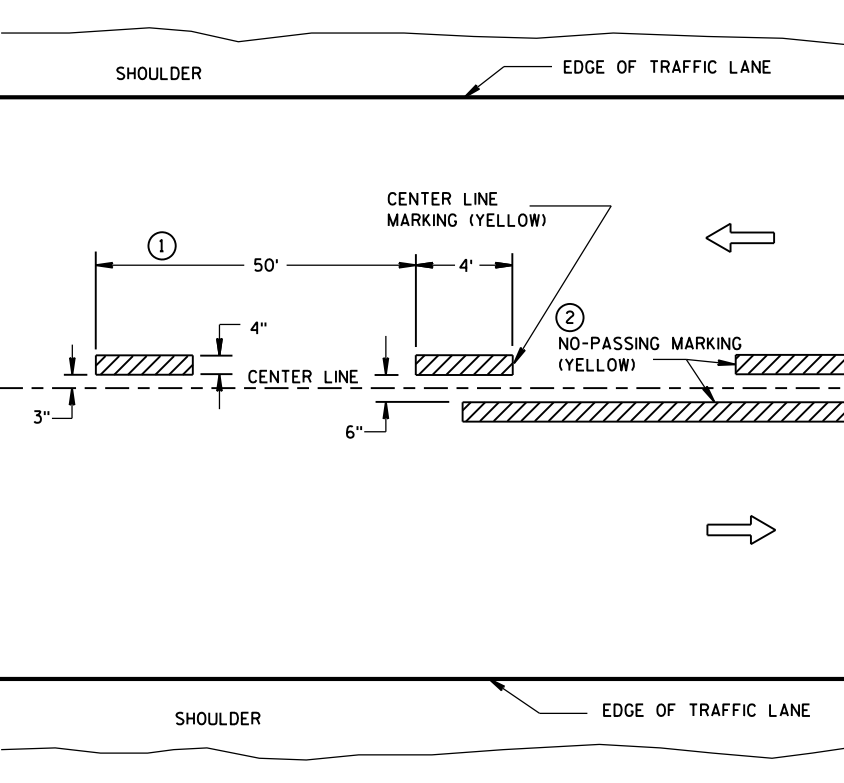
- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING 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

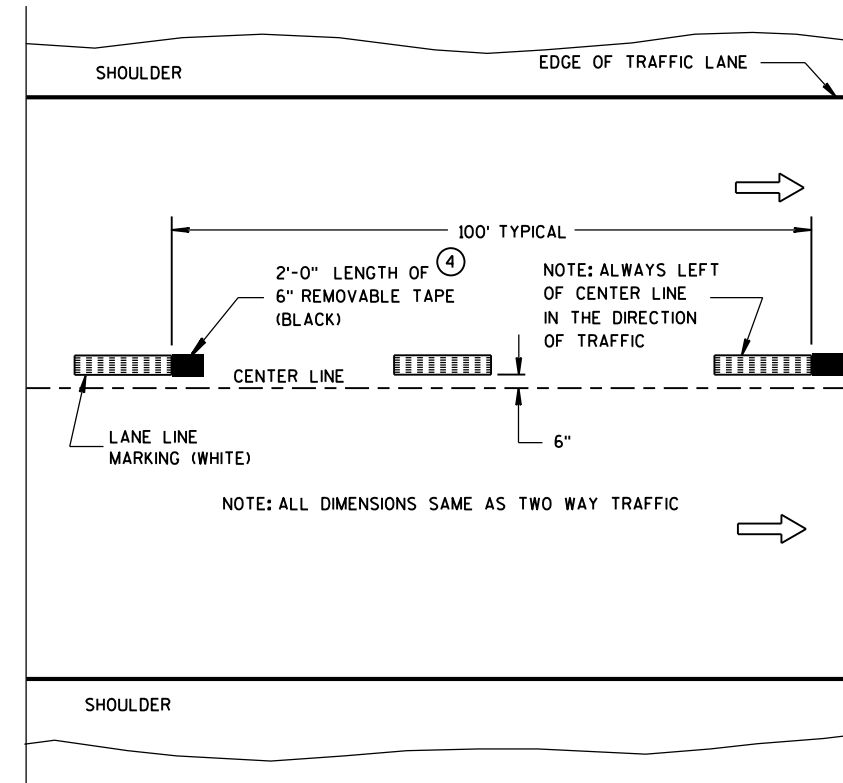
ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

LEGEND





- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA

LEGEND

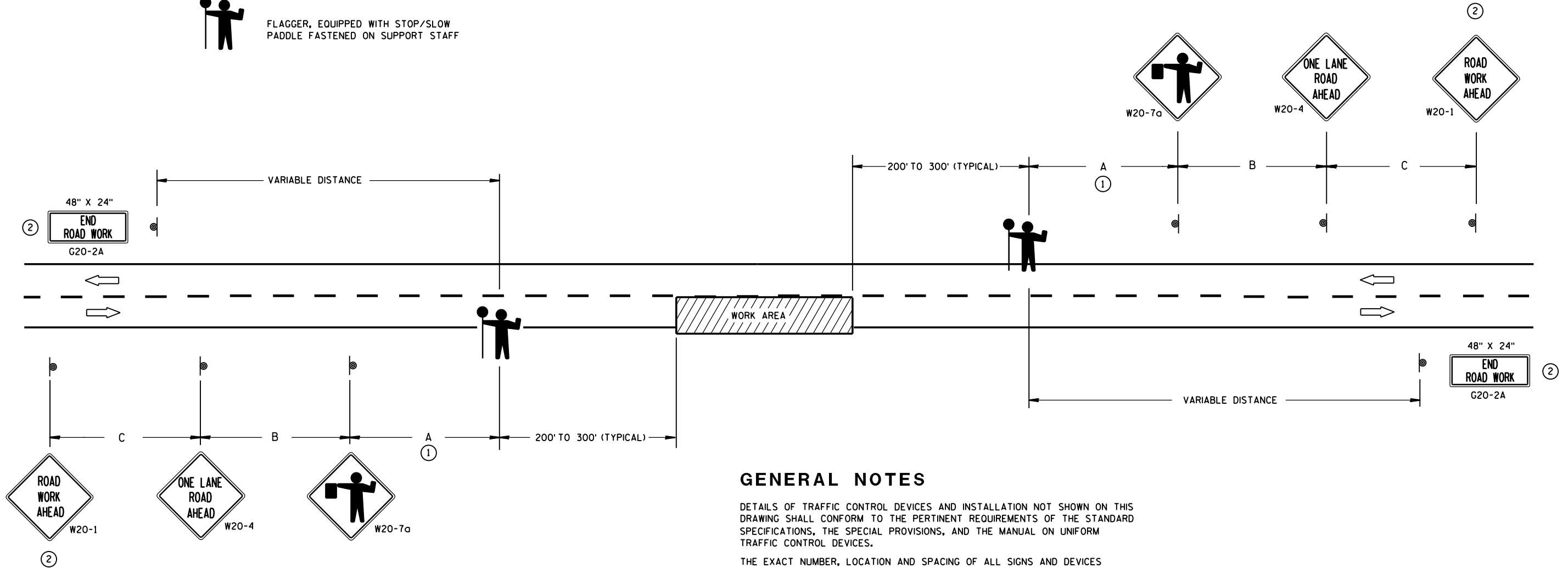
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
 ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
 ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
 IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.
 ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

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

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

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
 FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

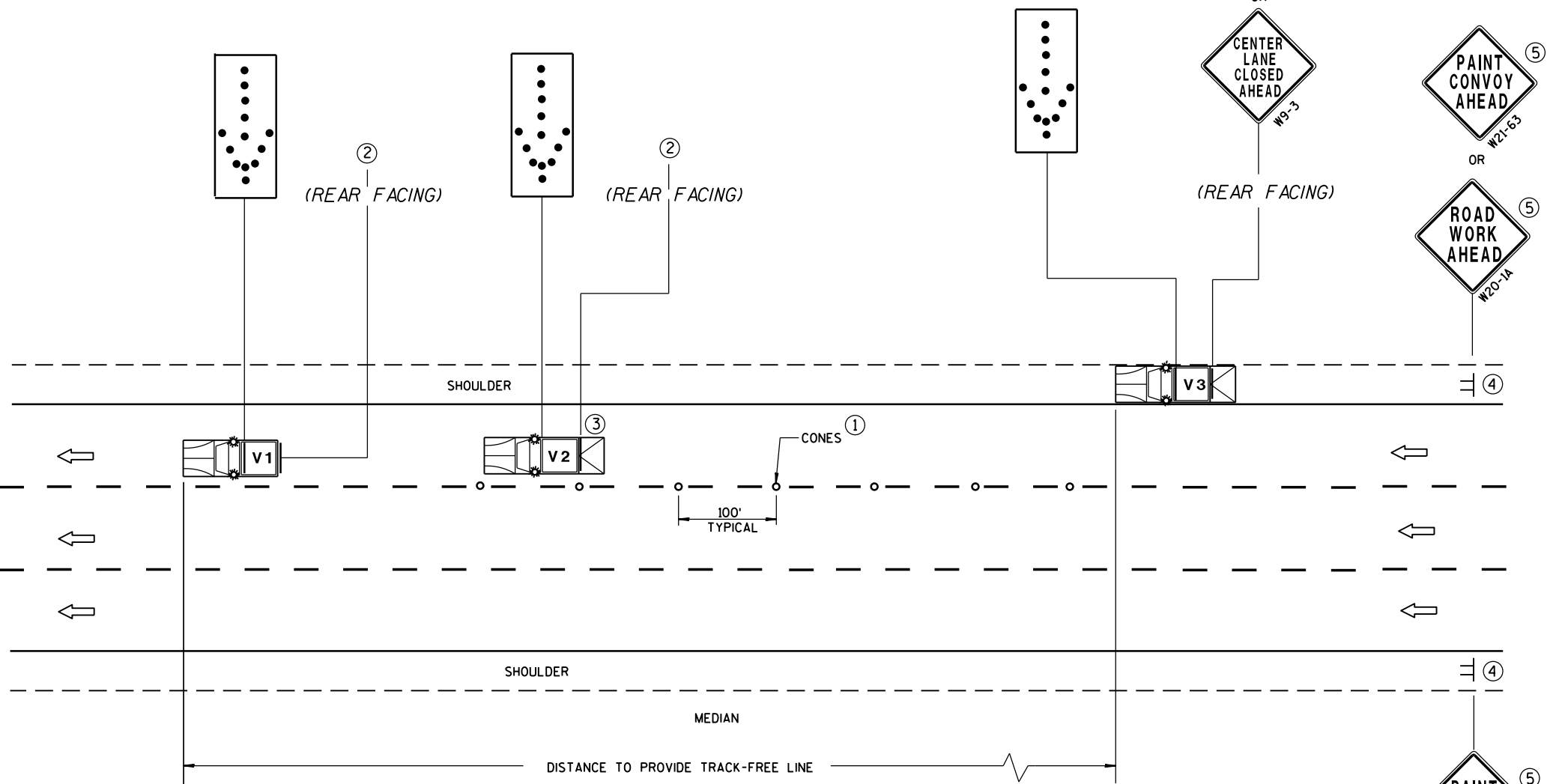
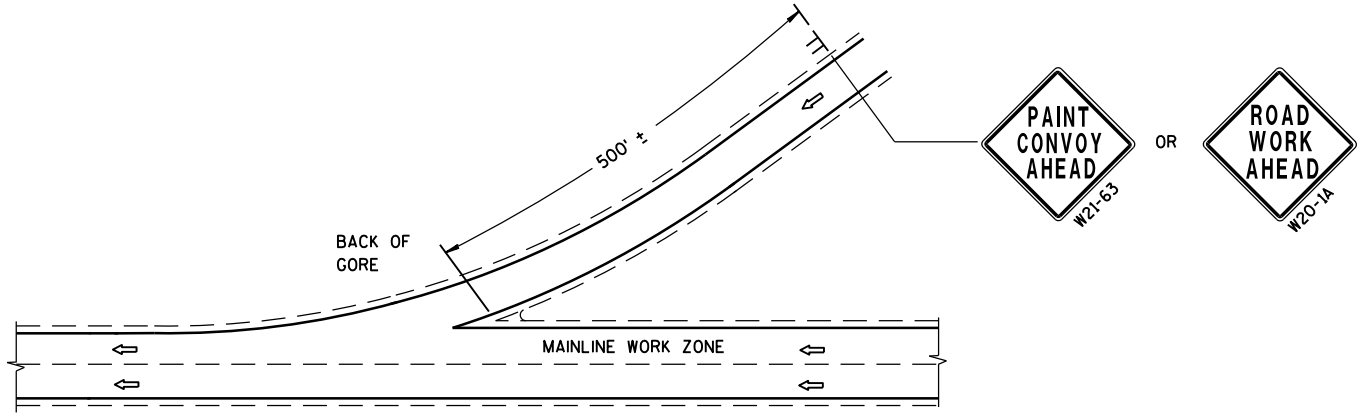
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

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

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

- V 1** LEAD VEHICLE
- V 2** SHADOW VEHICLE
- V 3** TRAIL VEHICLE WITH TMA
- TMA** TRUCK-MOUNTED ATTENUATOR
- ⊥** SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (MERGE)

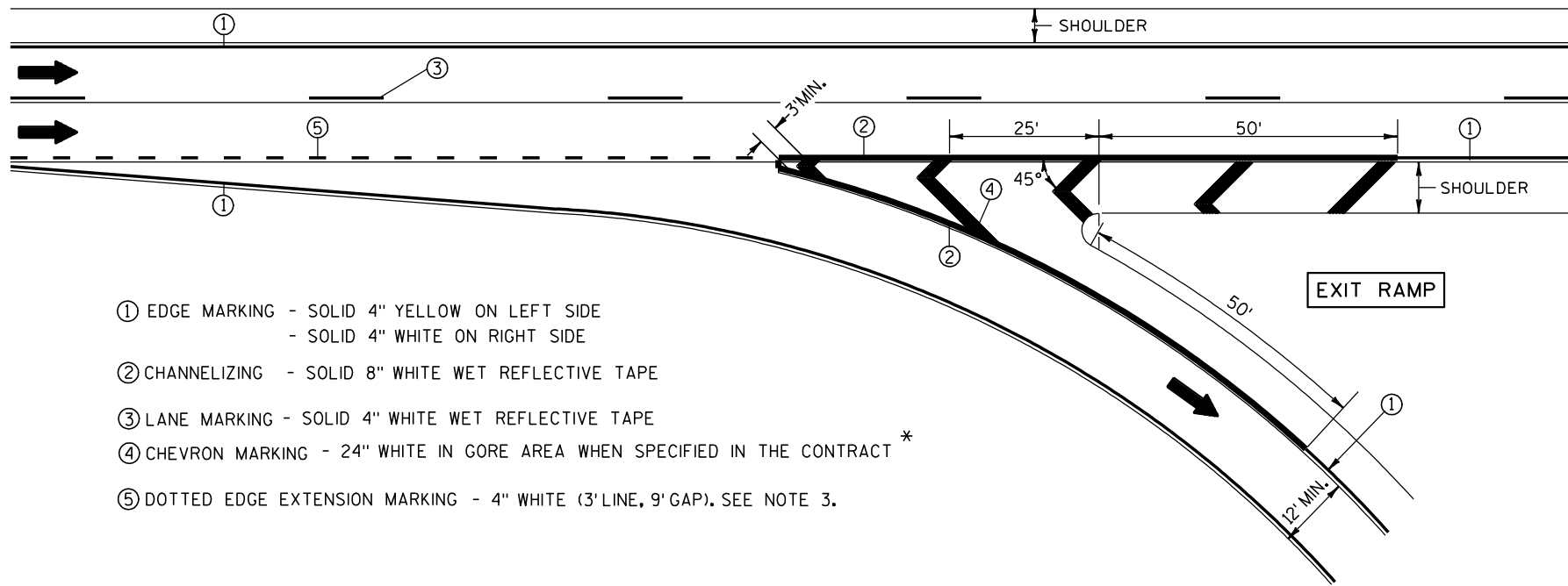


**MOVING PAVEMENT MARKING OPERATIONS
 MULTI-LANE DIVIDED ROADWAY**

**MOVING PAVEMENT MARKING
 OPERATION
 MULTI-LANE DIVIDED ROADWAY**

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 DATE: Sept. 2015 /S/ Peter Amakobe Atepe
 STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
 FHWA

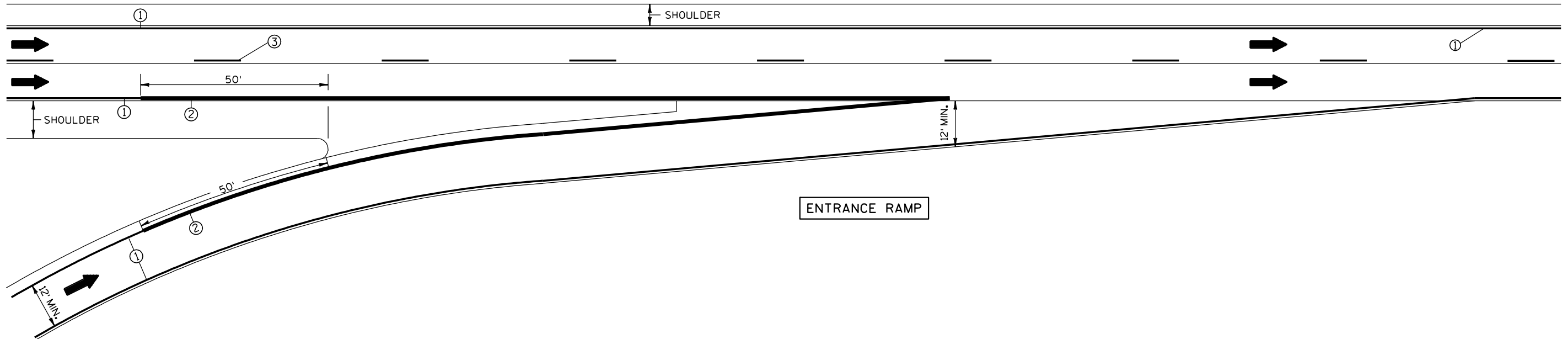


- ① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE
- ② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE
- ③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE
- ④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *
- ⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

- 1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
- 2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
- 3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- 4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.








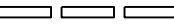


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6

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SPEED (MPH)	L. TAPER LENGTH (MPH)								
	W. LATERAL OFFSET (FT)								
	10	11	12	13	14	15	16	17	18
45	450	495	540	585	630	675	720	765	810
50	500	550	600	650	700	750	800	850	900
55	550	605	660	715	770	825	880	935	990
60	600	660	720	780	840	900	960	1020	1080
65	650	715	780	845	910	975	1040	1105	1170
70	700	770	840	910	980	1050	1120	1190	1260



W12-52P
42"x36"
EACH LANE

OR

W057-52
48"x36"
XX MILES AHEAD

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).



SPEED LIMIT 60

OR



SPEED LIMIT 55

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

R2-1
48"x60"
(BLACK AND WHITE)
LOCATED 500 FEET BEYOND W20-5G SIGN.

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.

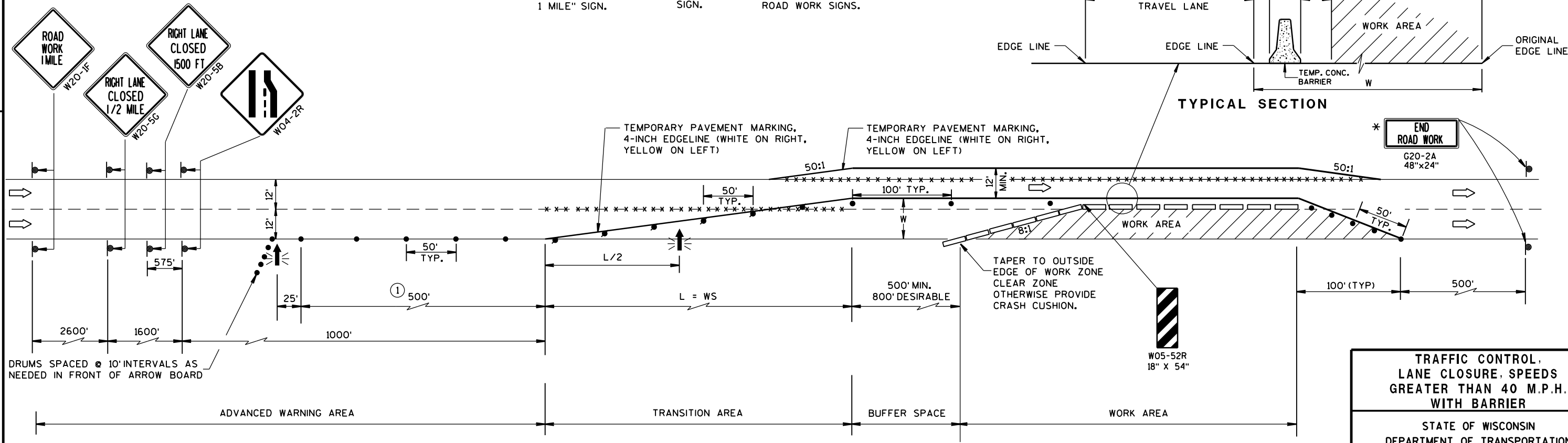
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

6



DRUMS SPACED @ 10' INTERVALS AS NEEDED IN FRONT OF ARROW BOARD

ADVANCED WARNING AREA

TRANSITION AREA

BUFFER SPACE

WORK AREA

TYPICAL SECTION

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










STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 D 3-3

S.D.D. 15 D 3-3

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.

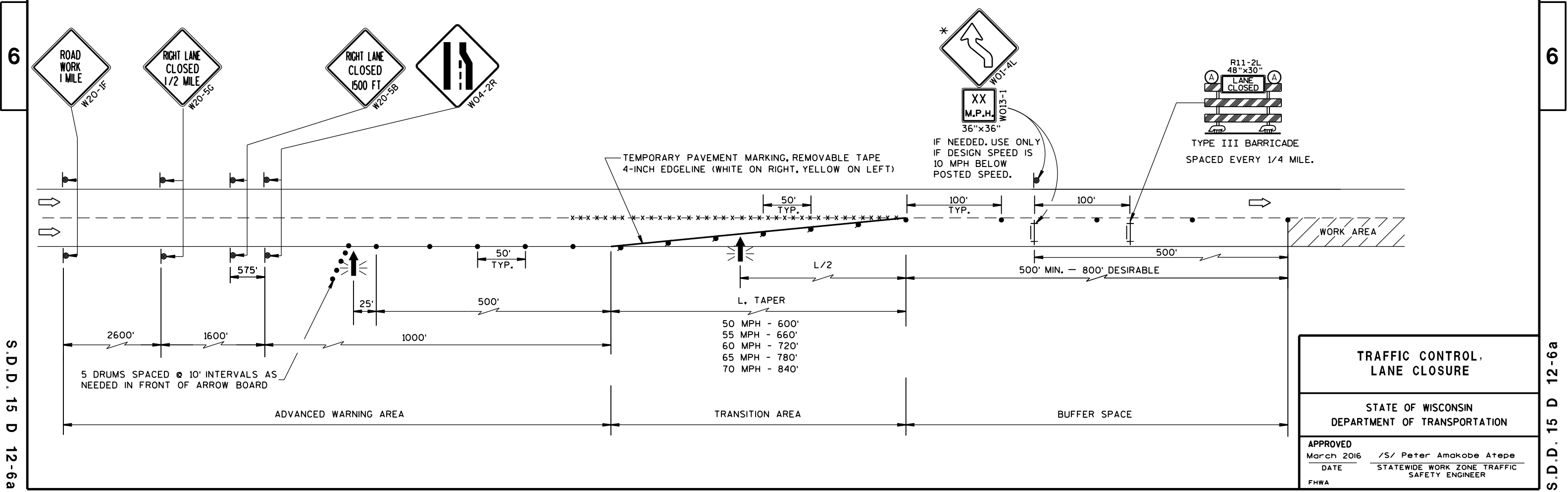
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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 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.



S.D.D. 15 D 12-6a

S.D.D. 15 D 12-6a

TRAFFIC CONTROL, LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
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.

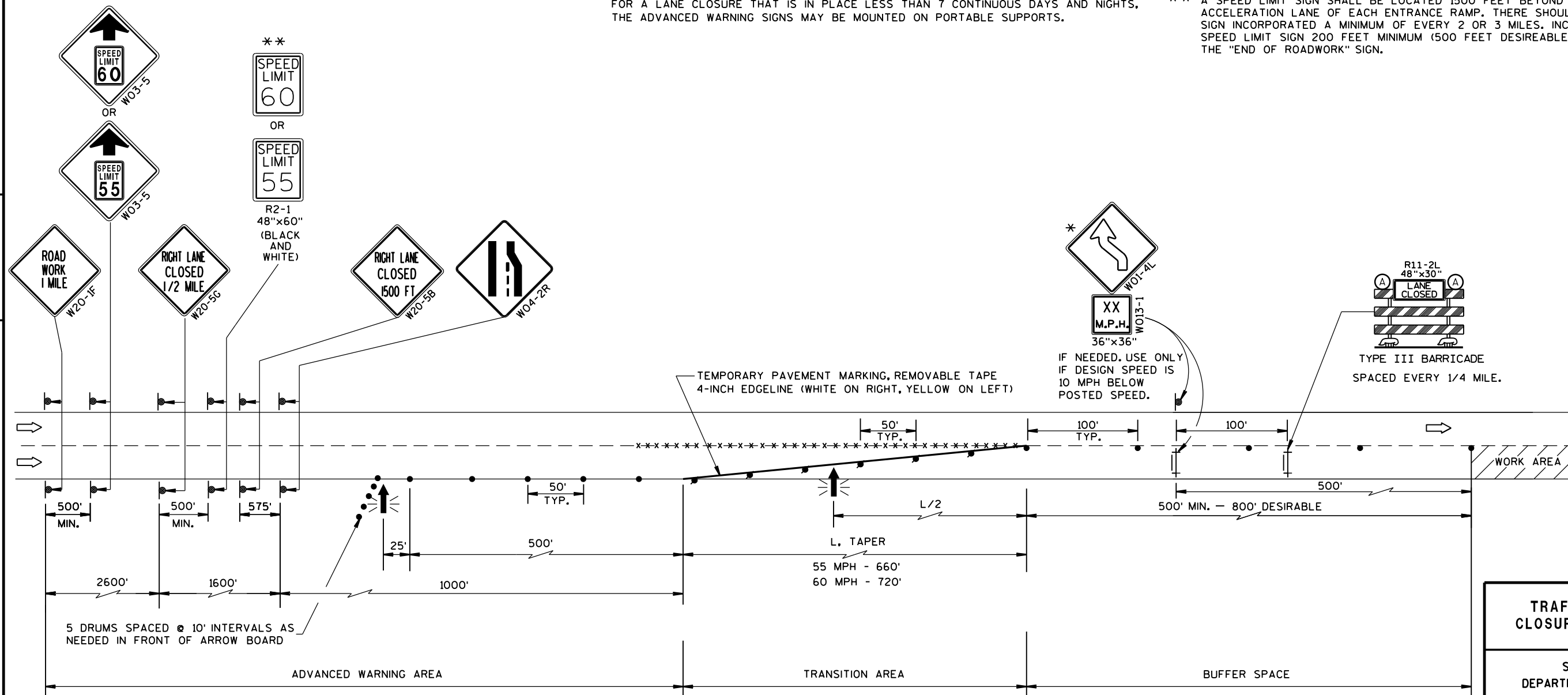
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT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

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

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

6

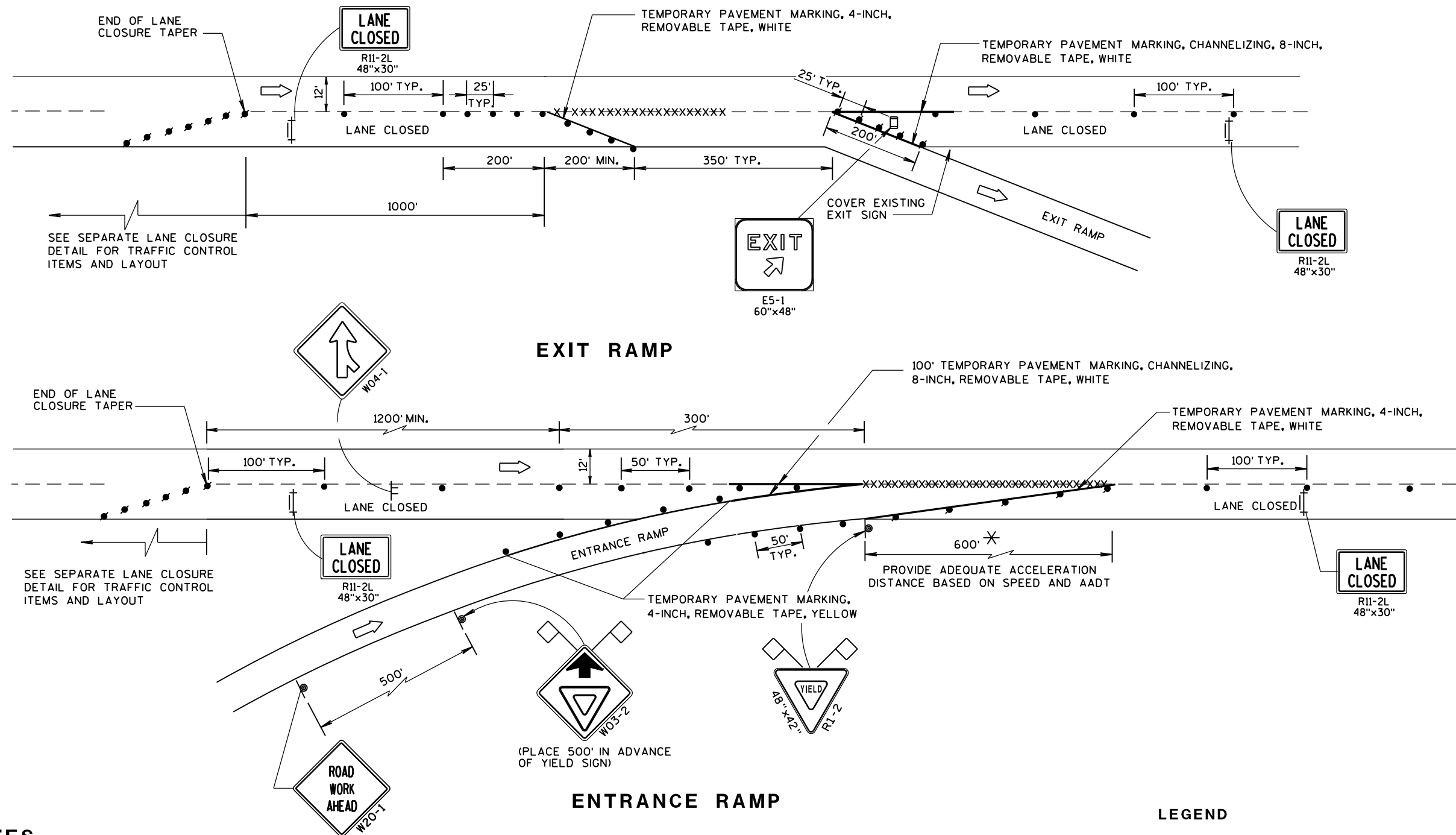
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TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2016 DATE	/s/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

S.D.D. 15 D 12-6b

S.D.D. 15 D 12-6b



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 R11-2L "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

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

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.

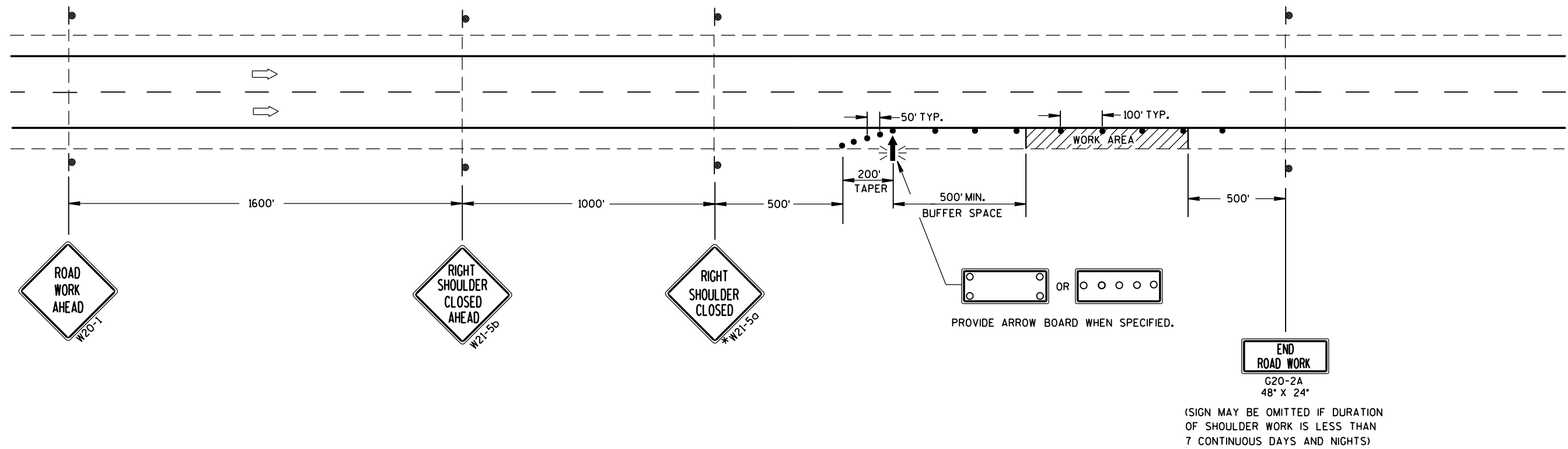
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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 W21-50 SIGN MAY BE OMITTED.

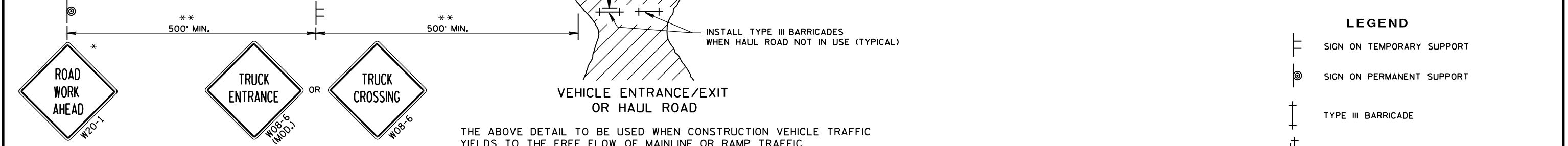
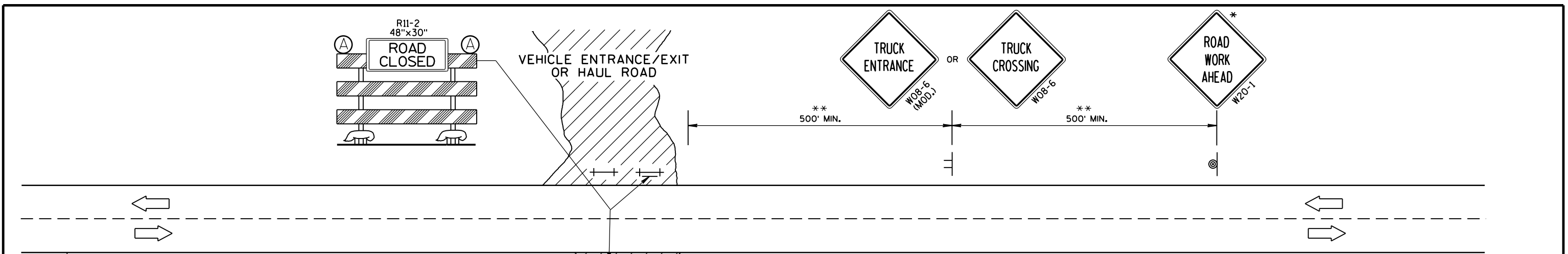
LEGEND

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



(SIGN MAY BE OMITTED IF DURATION OF SHOULDER WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS)

TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



GENERAL NOTES

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

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

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

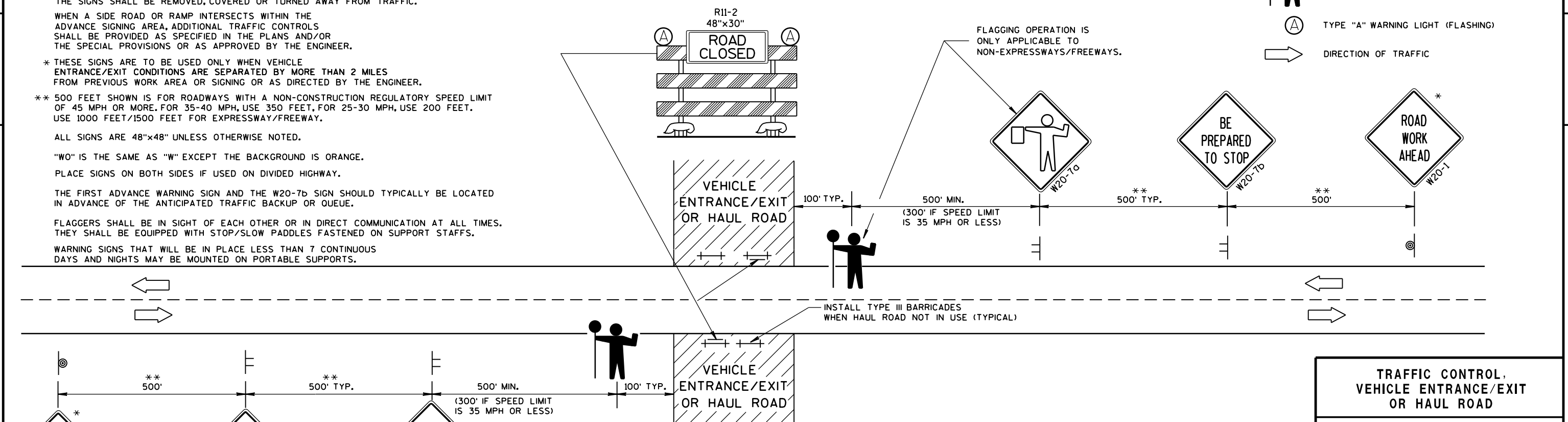
PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

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

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

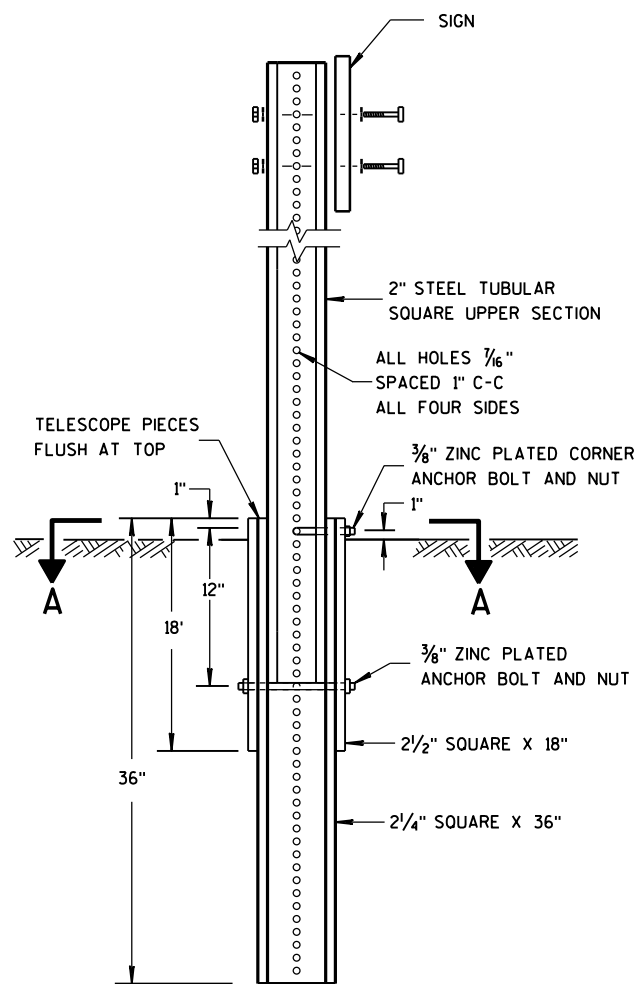
WARNING SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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



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

TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



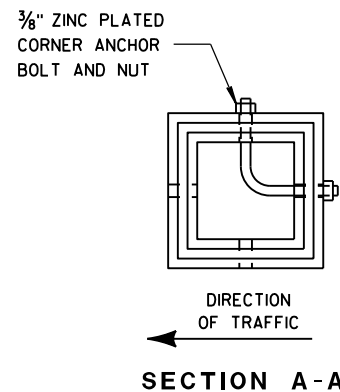
DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

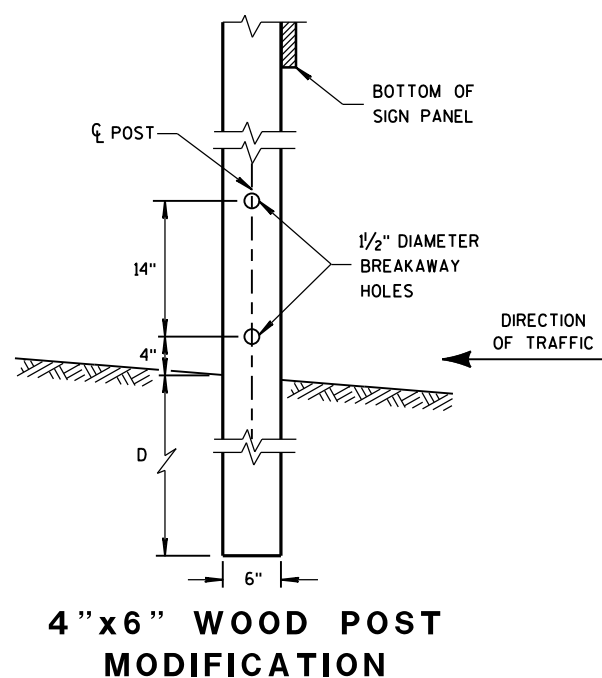
AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

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

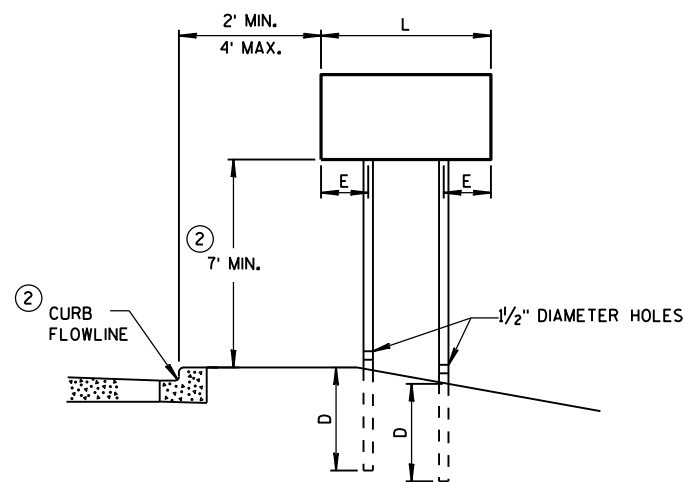
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



SECTION A-A



4" X 6" WOOD POST MODIFICATION

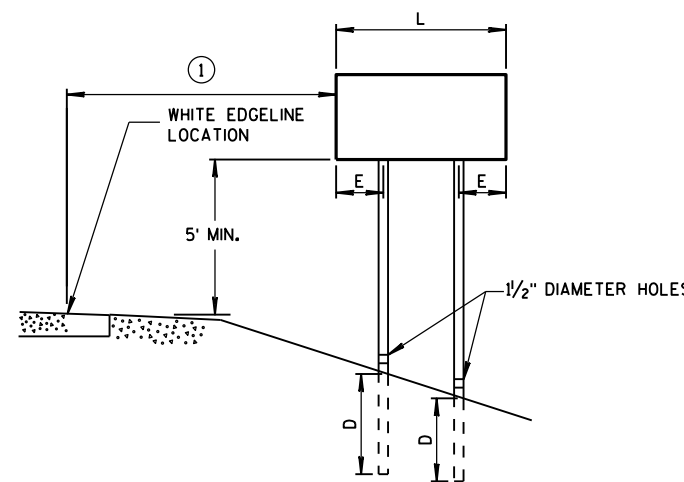


URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

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



RURAL AREA

4" X 6" WOOD POST

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

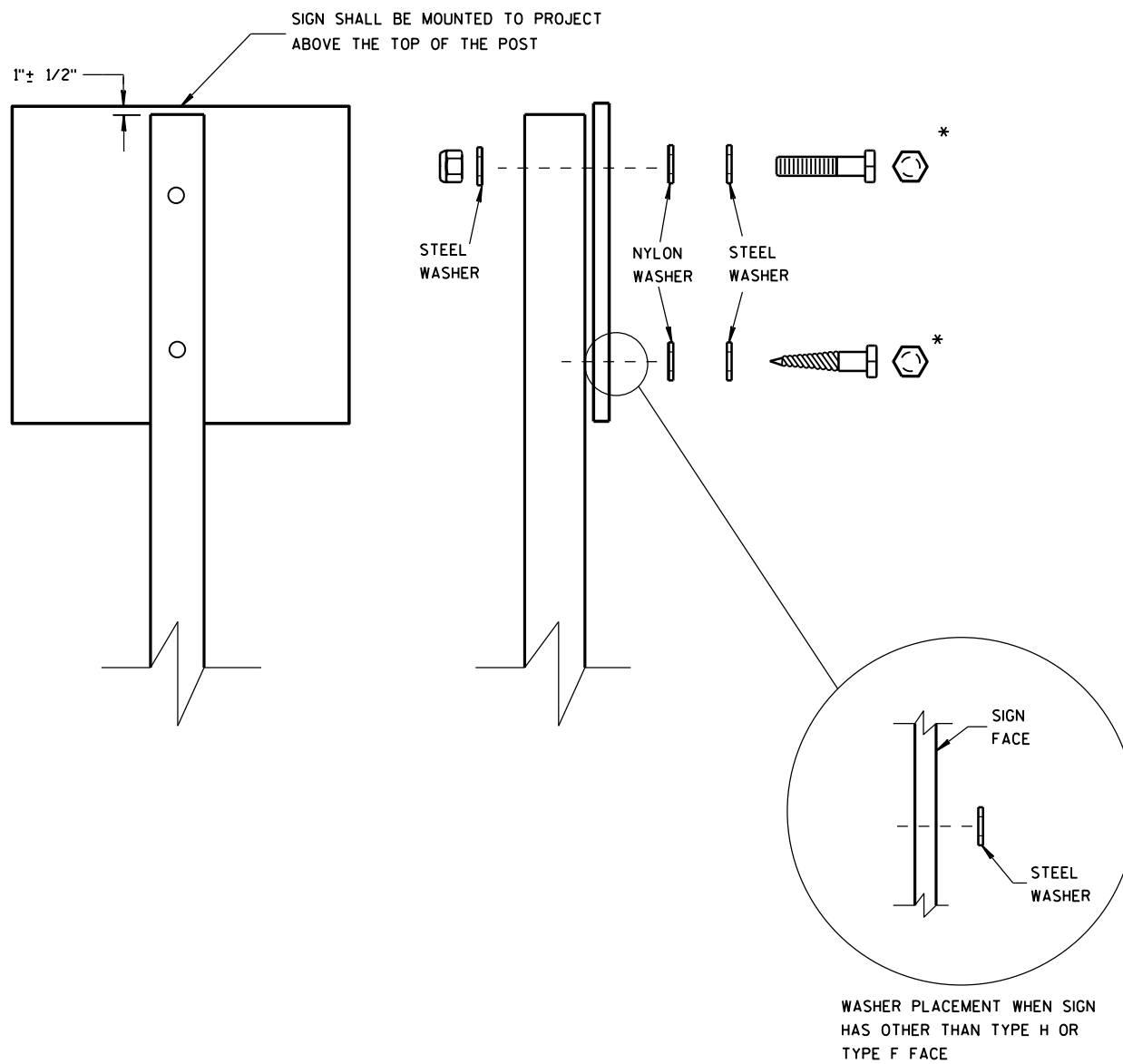
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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 - 5/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

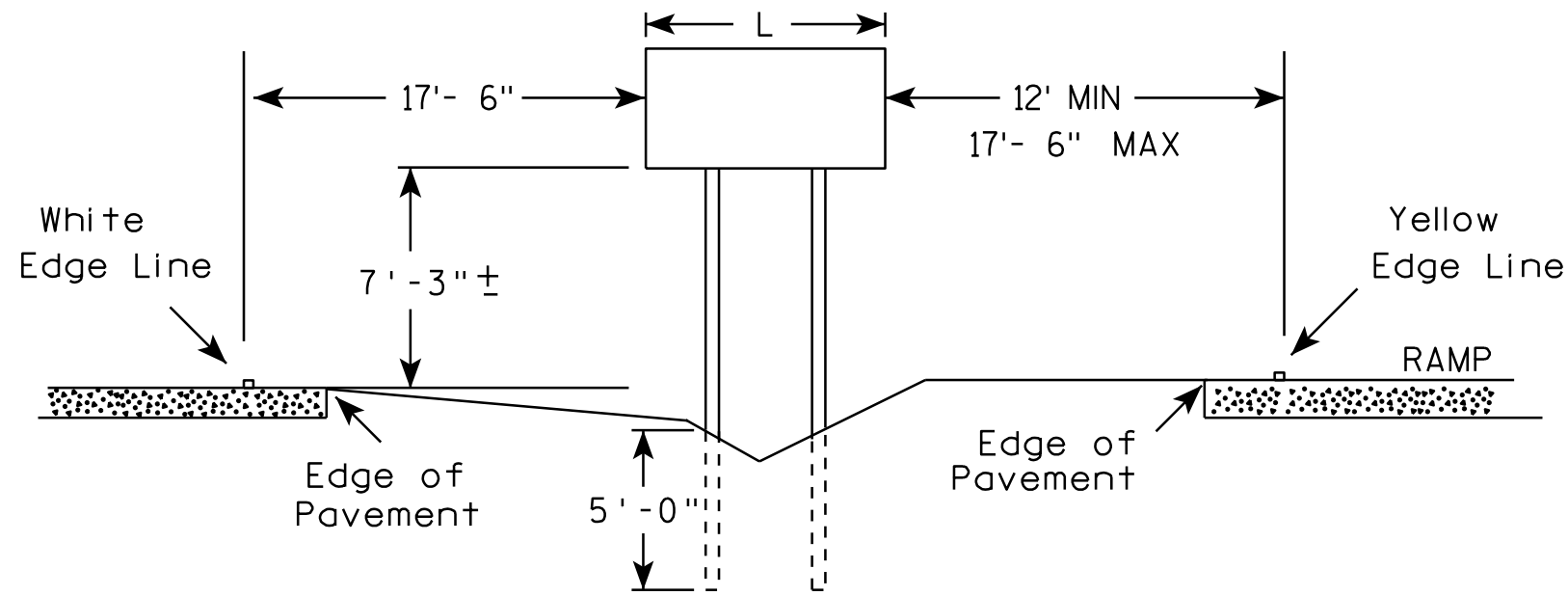
WASHERS (ALL POSTS) -

1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL

1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

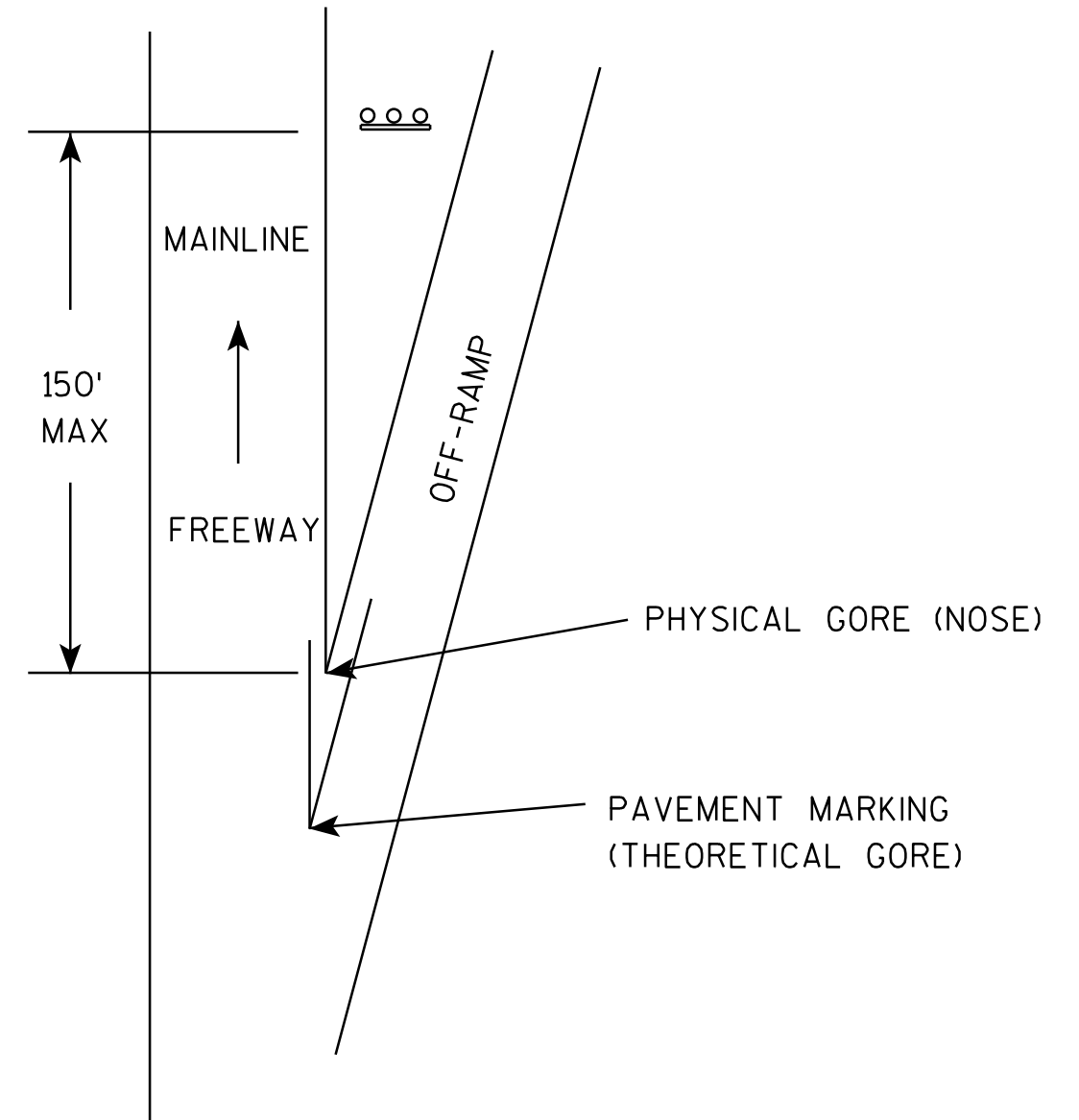
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Feb. 2015 DATE	/s/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The ($\bar{\pm}$) tolerance for the mounting height is 3 inches.

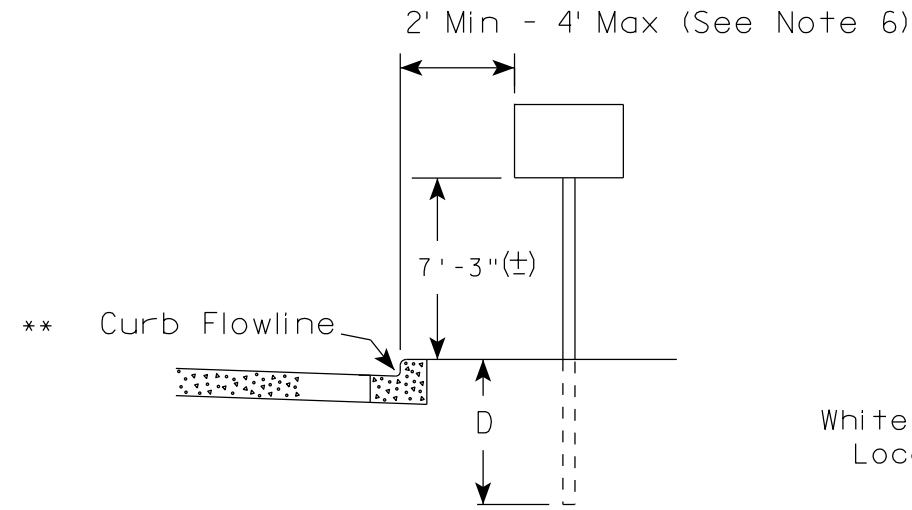


7

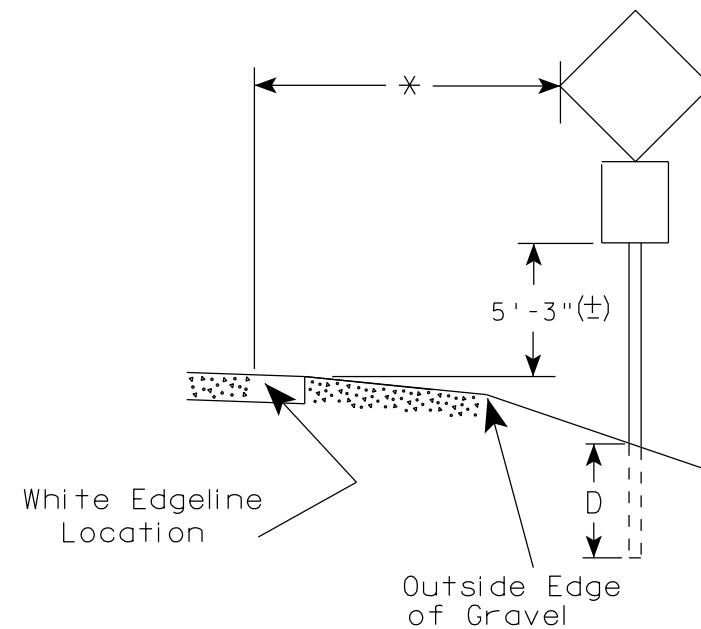
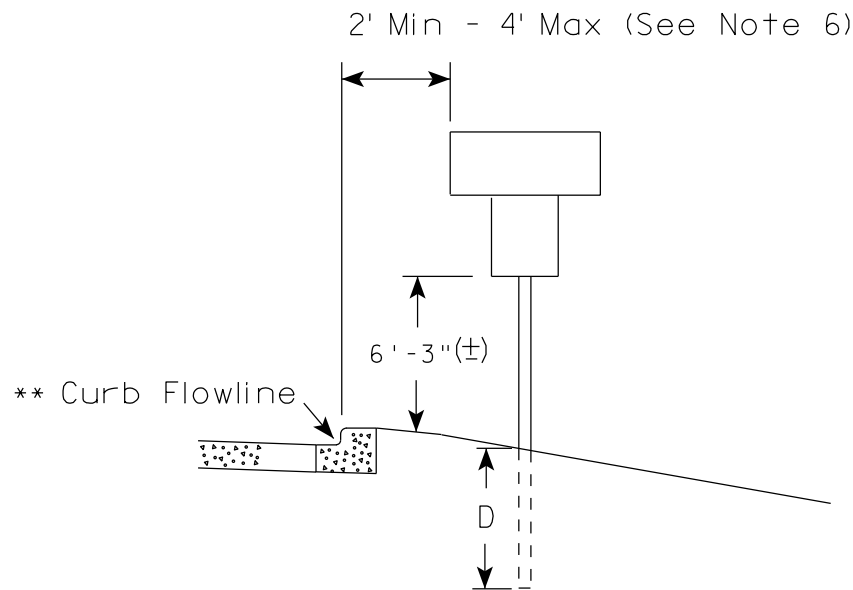
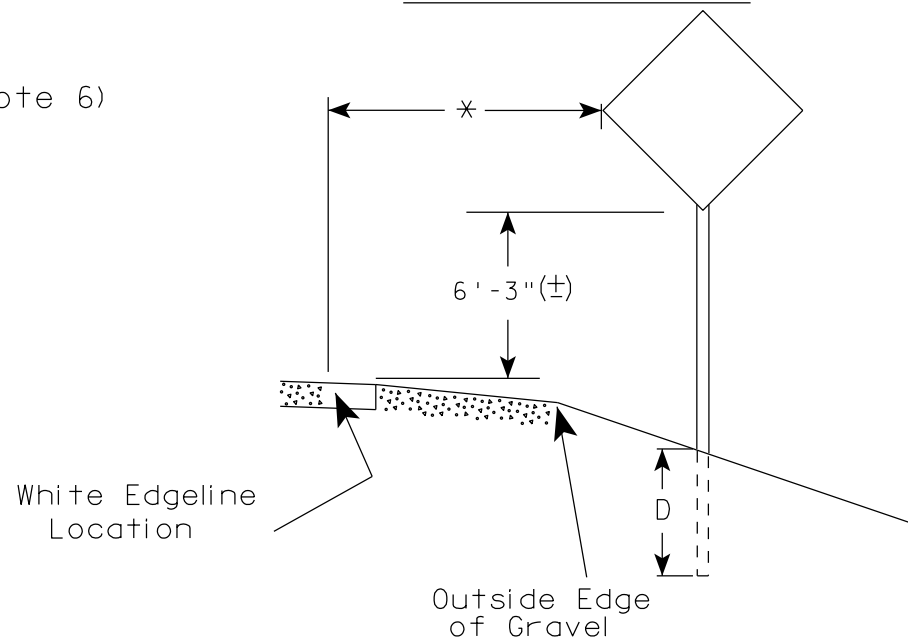
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TYPICAL INSTALLATION OF TYPE II SIGNS ON WOOD POSTS IN GORE	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Raush</i> for State Traffic Engineer
DATE 2/06/14	PLATE NO. A4-2.3

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) 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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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.

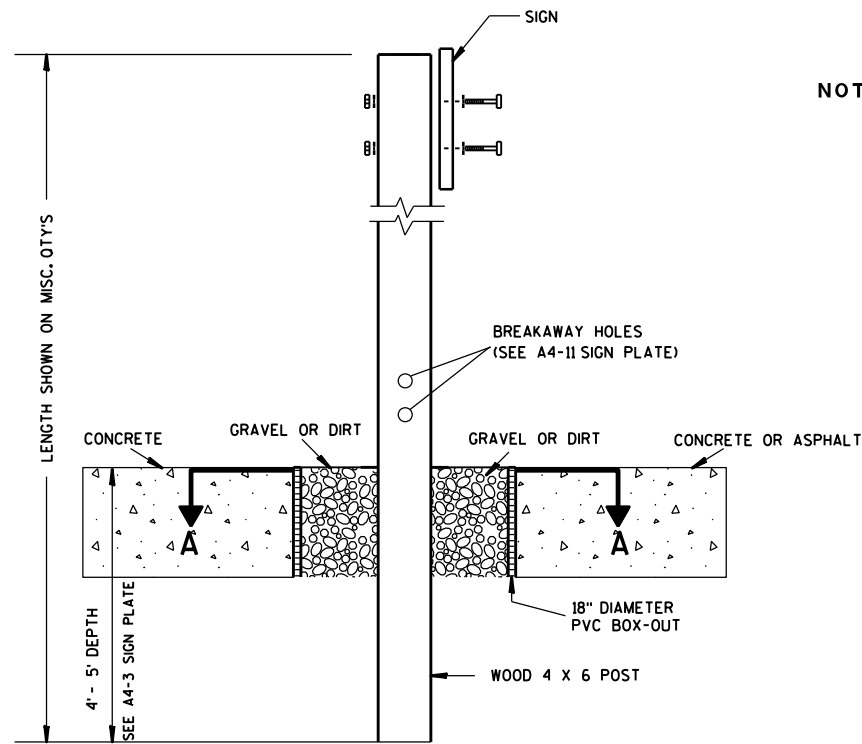
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

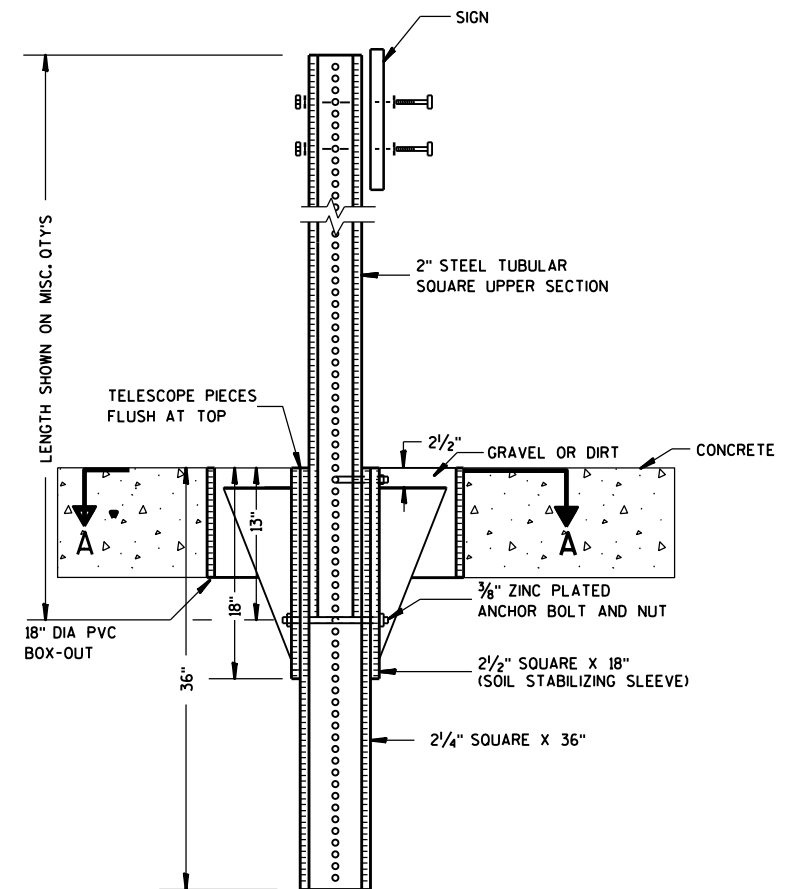
DATE 7/23/15 PLATE NO. A4-3.20



ELEVATION VIEW

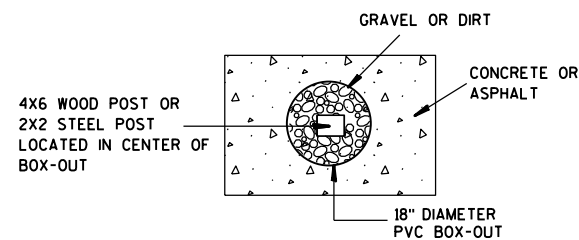
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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



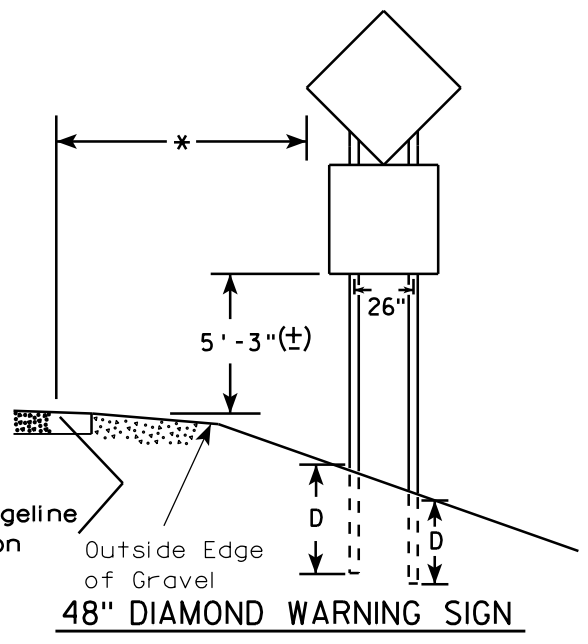
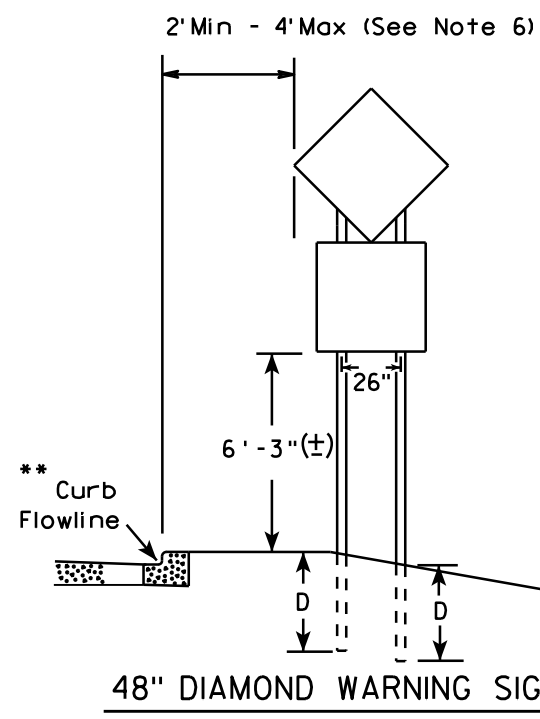
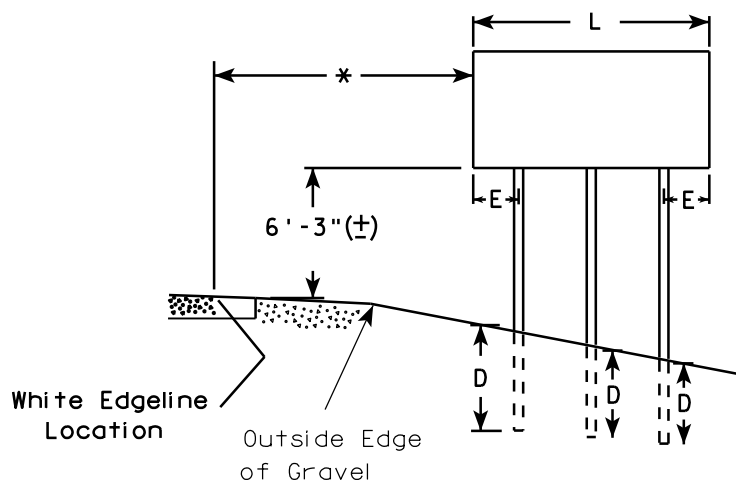
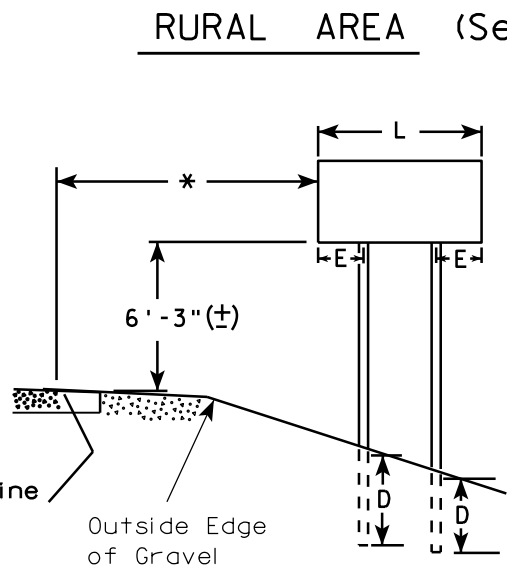
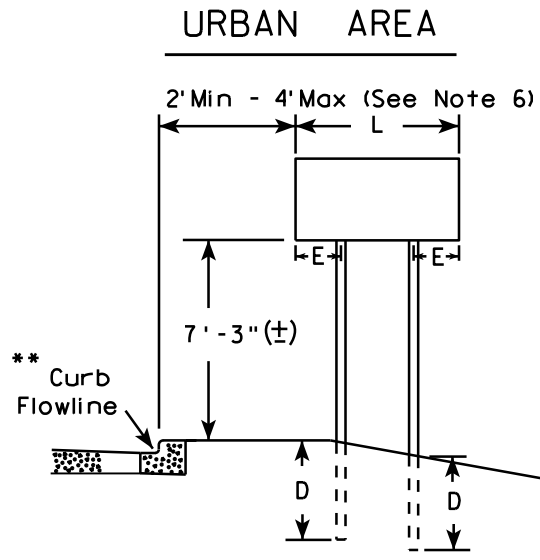
PLAN VIEW

FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>

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 (A2-1S) 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 signs 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).



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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

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

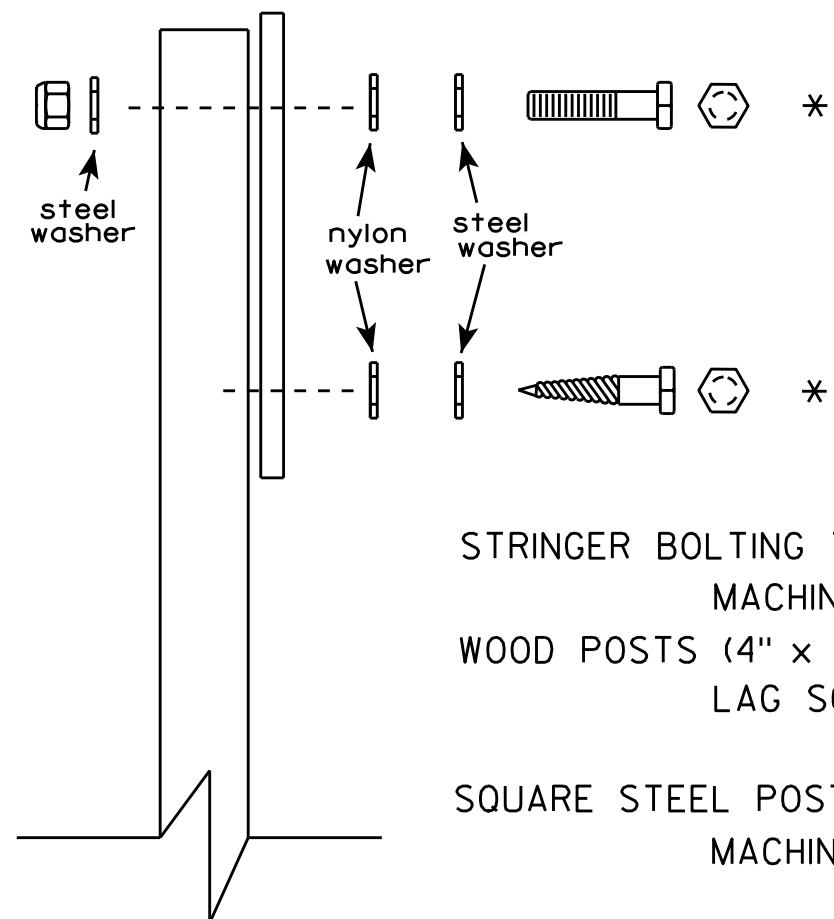
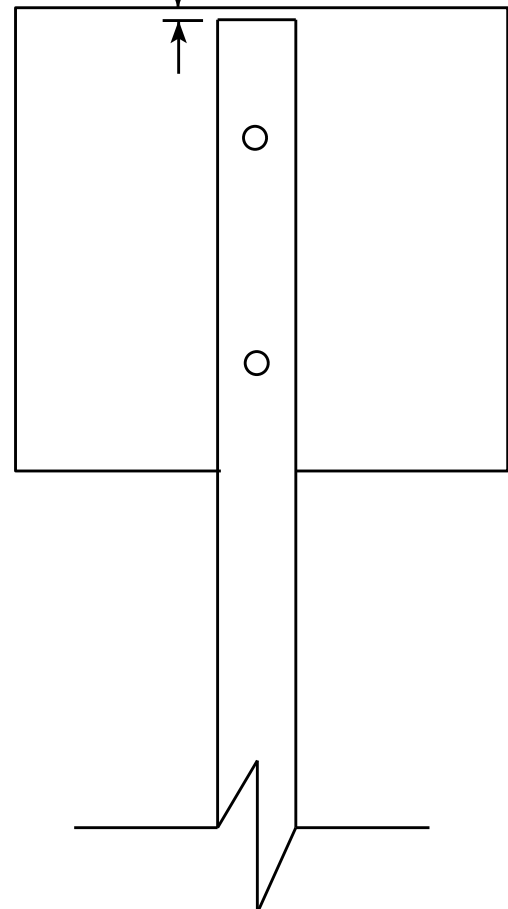
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4.14

1"± 1/2"

SIGN SHALL BE MOUNTED TO PROJECT ABOVE THE TOP OF THE POST



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

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

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

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

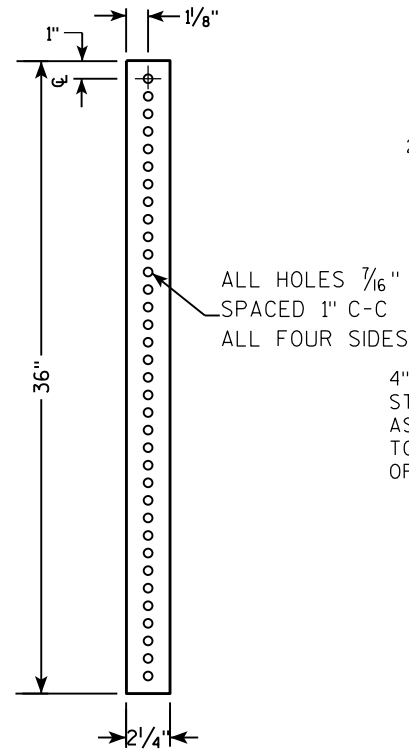
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/27/16	PLATE NO. A4-8.8

7

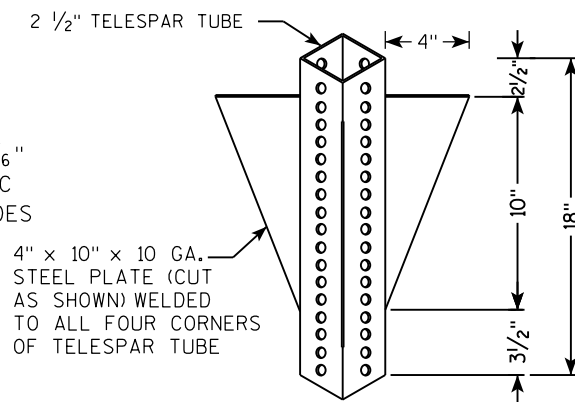
7

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

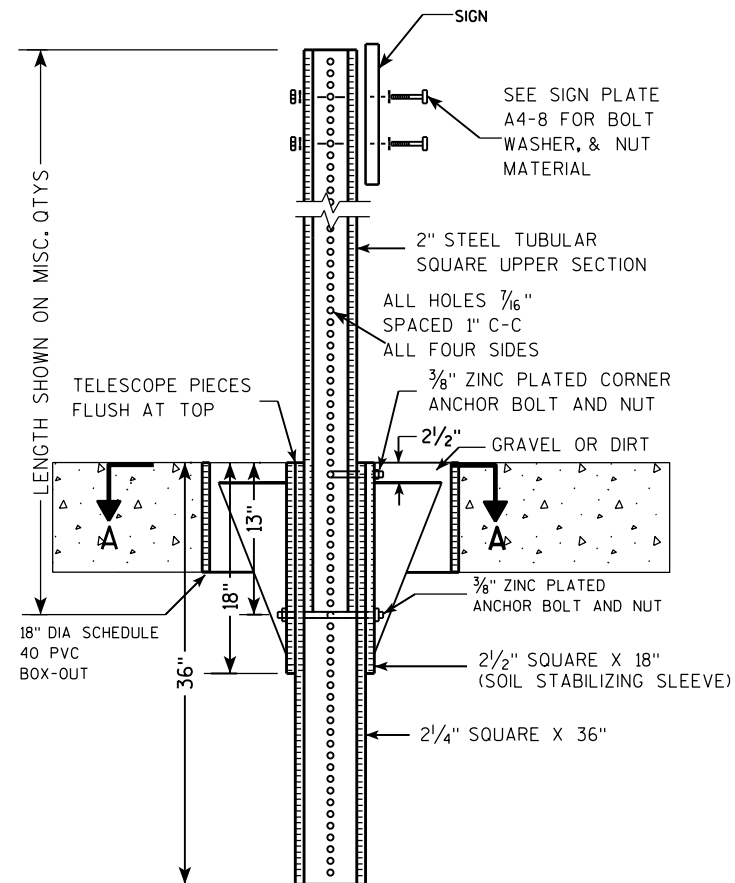
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



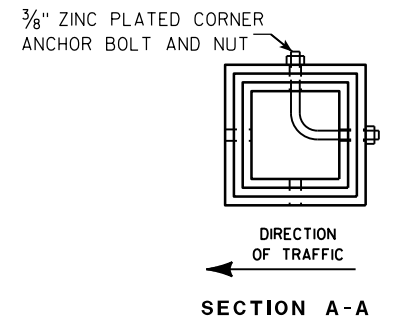
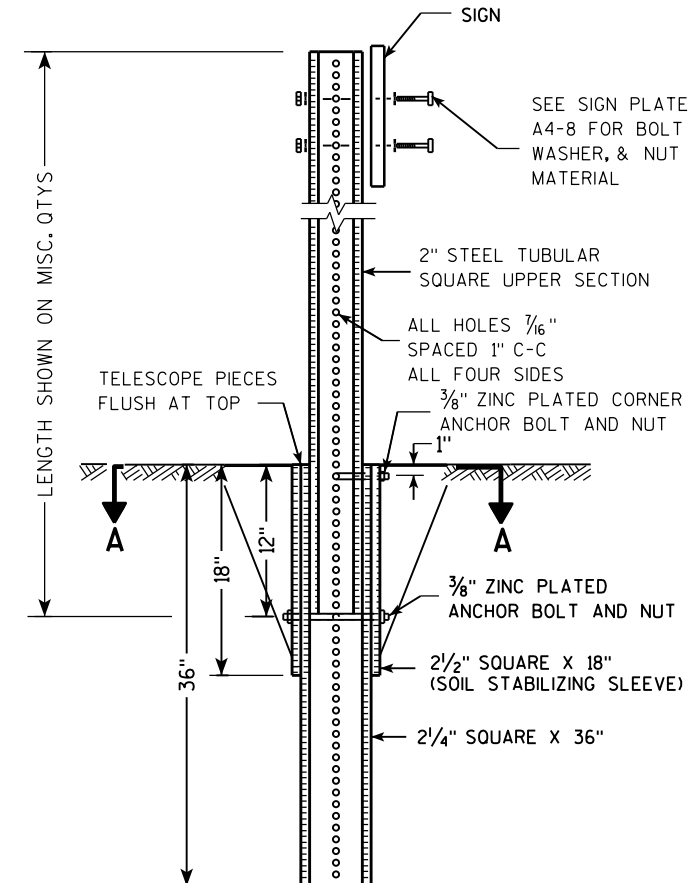
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**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 2/05/15 PLATE NO. A4-9.9

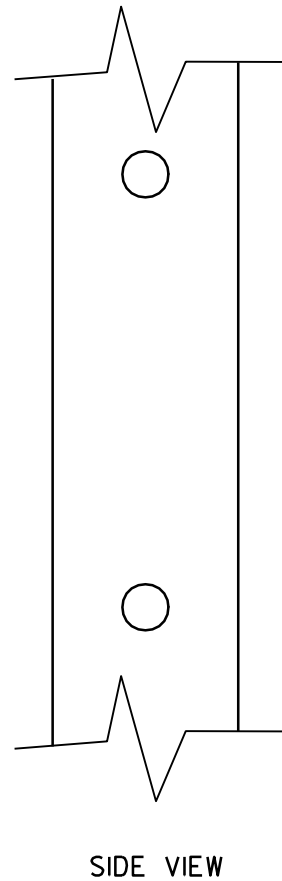
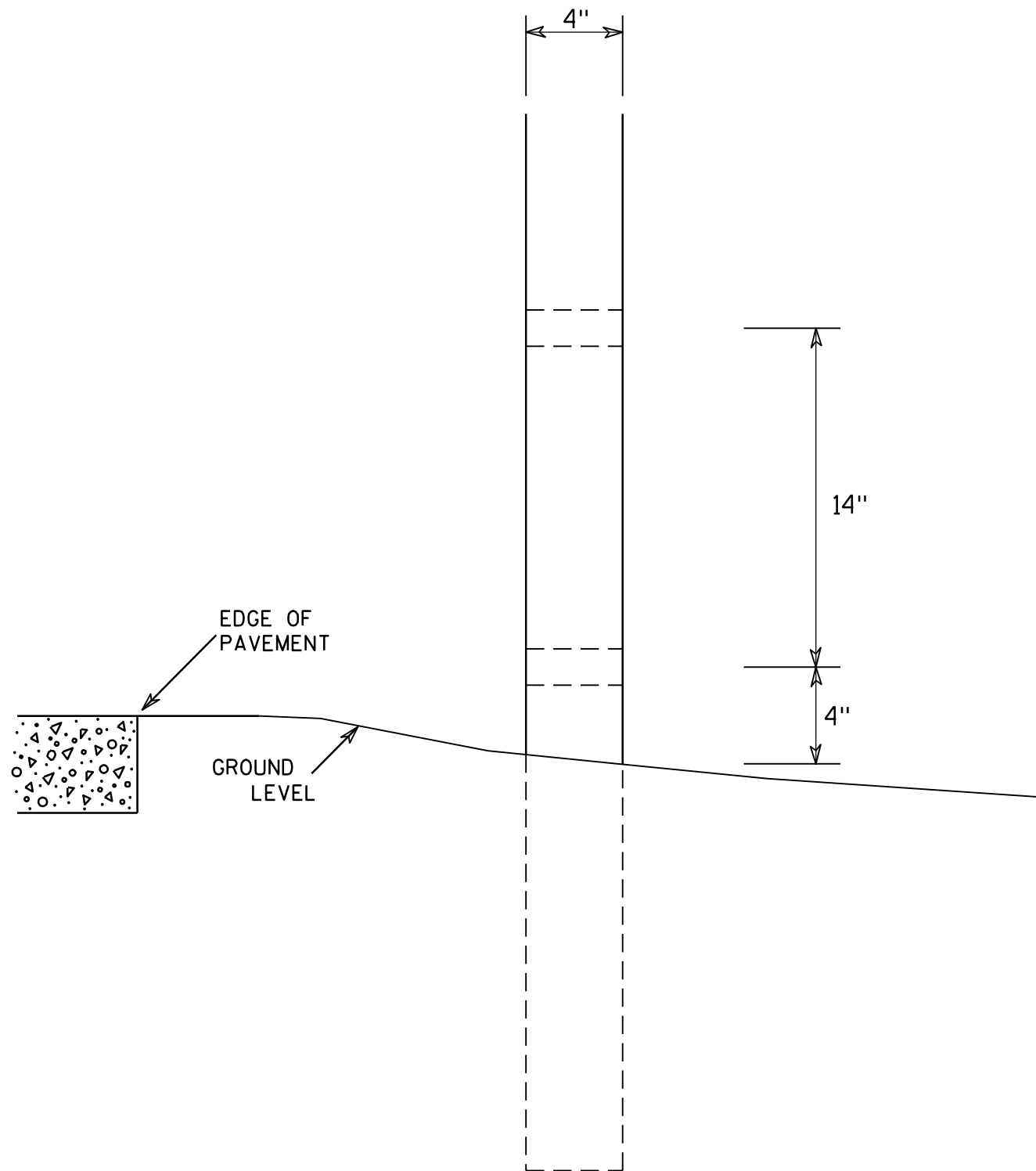
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

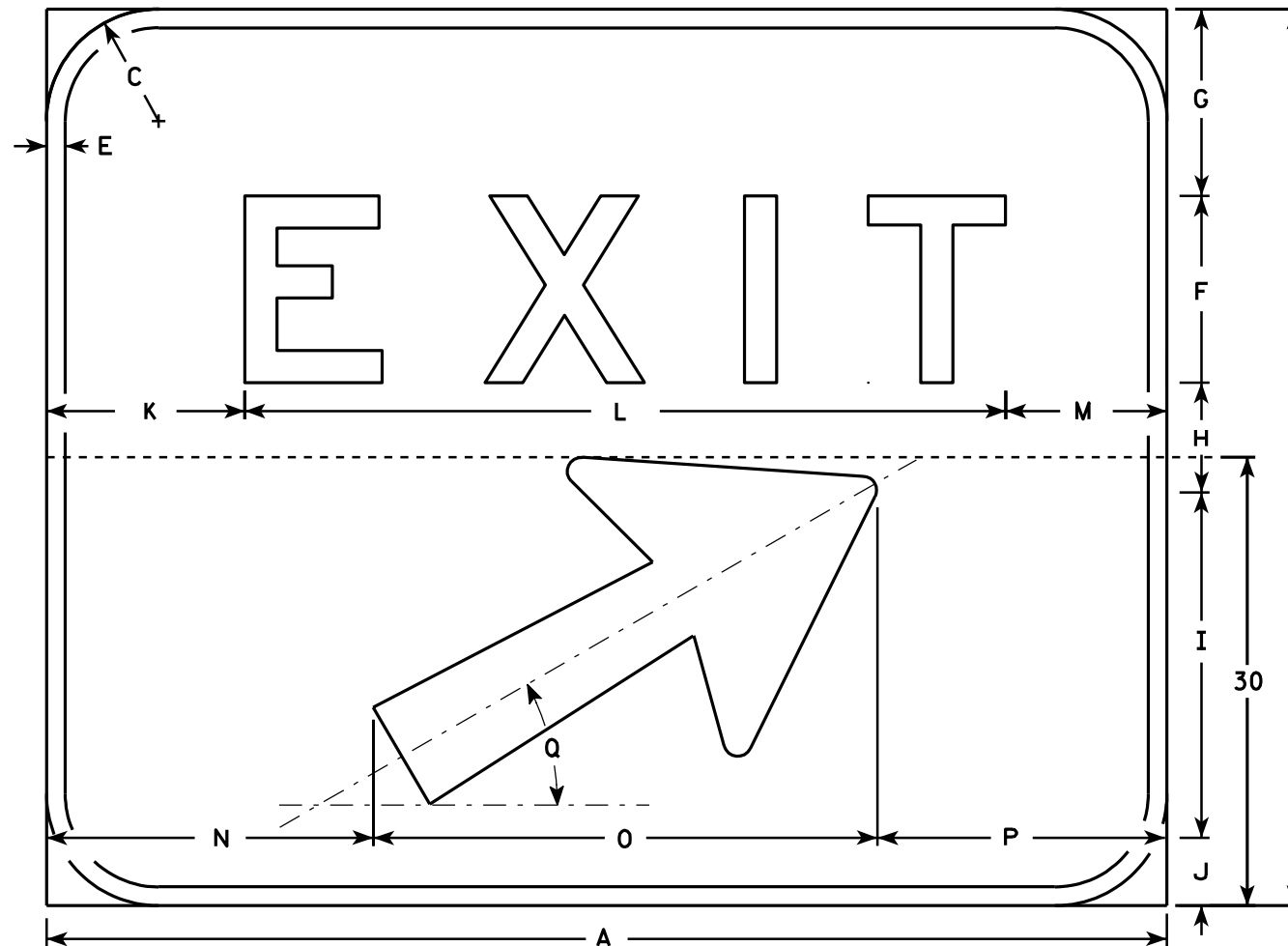
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7

4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE 3/27/97	PLATE NO. A4-11.2

NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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 separate 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.



E5-1

7

7

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 *Chester J. Spang*
for State Traffic Engineer

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

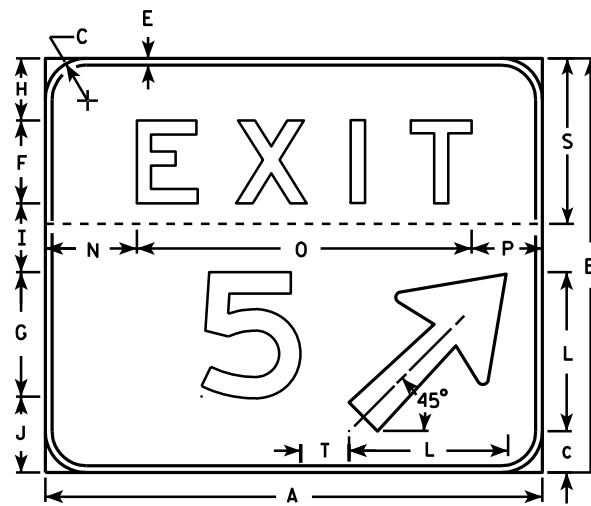
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

NOTES

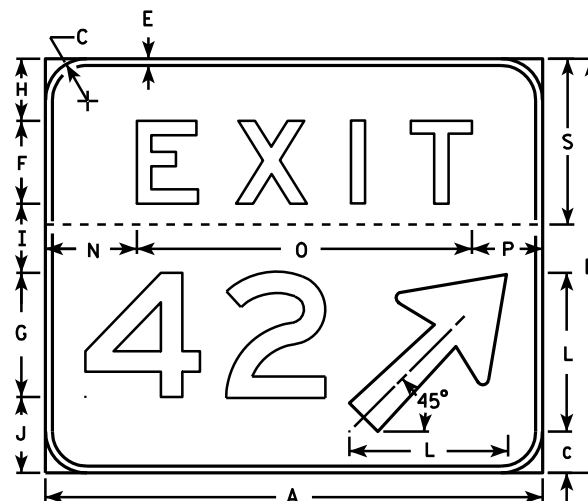
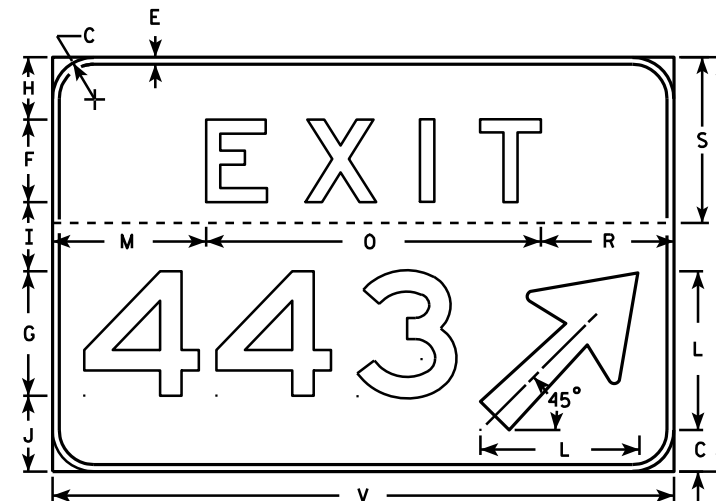
1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Green
Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two separate pieces as shown on each detail by the dashed line (- - - - -).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.

SPACING CHART FOR 18" NUMERALS

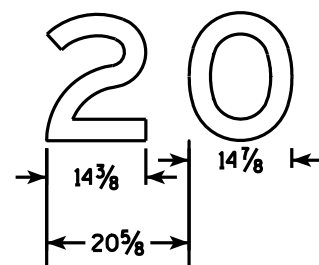
NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8			
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14			
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8			
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4			
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8			
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8			
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8			
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4			
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8			
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4			
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4



NOTE: T dimension shall be measured from the back of the number to the front of the arrow



EXAMPLE FOR USING SPACING CHART



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
2																										
3																										
4																										
5	72	60	6		1	12	18	9	10	11	8 7/8	23	22 1/4	13 1/4	48 1/2	10 1/4		19 1/4	24	7		90		96	7 1/2	

1-2 Digit Bid Area	3 Digit Bid Area
Sq. Ft.	
30	37.5

STANDARD SIGN E5-1A

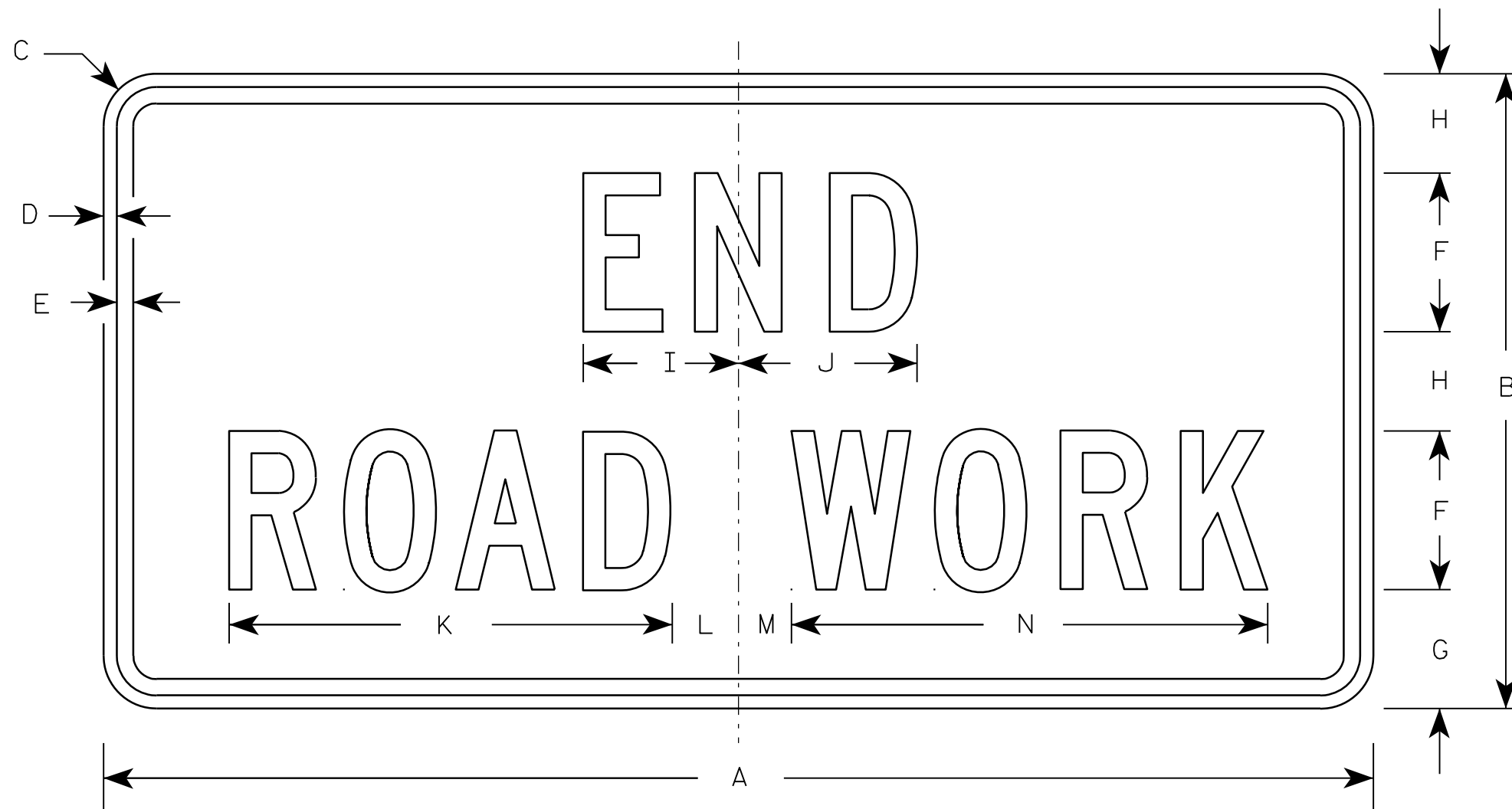
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/11/10 PLATE NO. E5-1A.12

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.



G20-2A

7

7

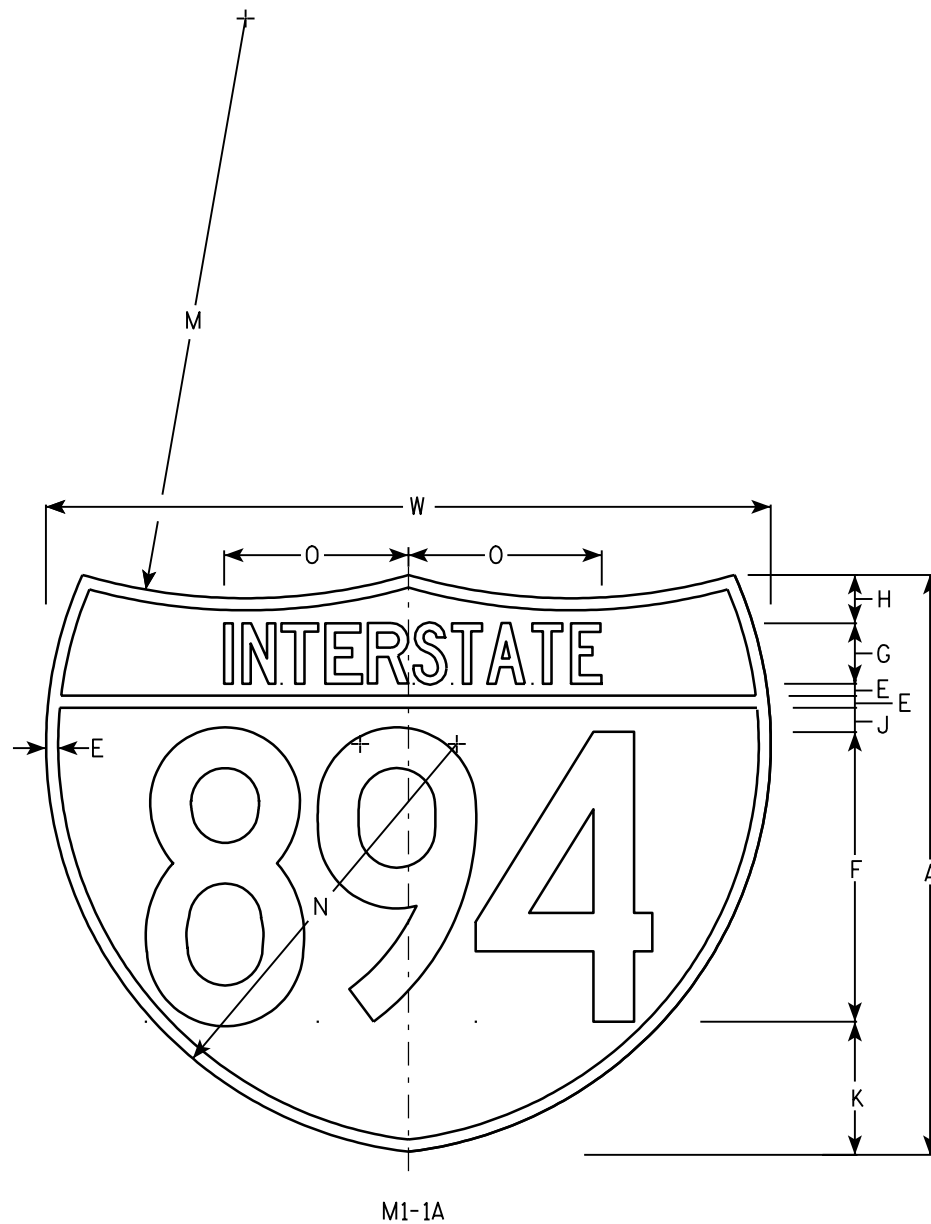
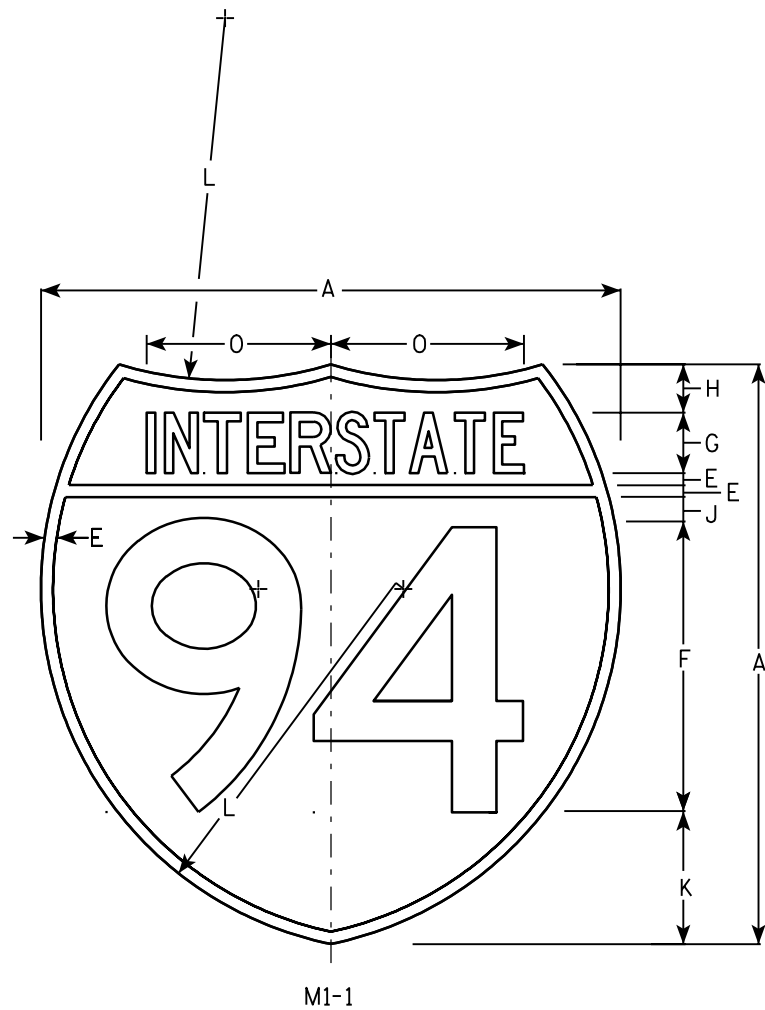
Metric equivalent for this sign is:

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

STANDARD SIGN G20-2A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/30/09	PLATE NO. G20-2A.8

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



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

7

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	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m ²	M1-1A 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

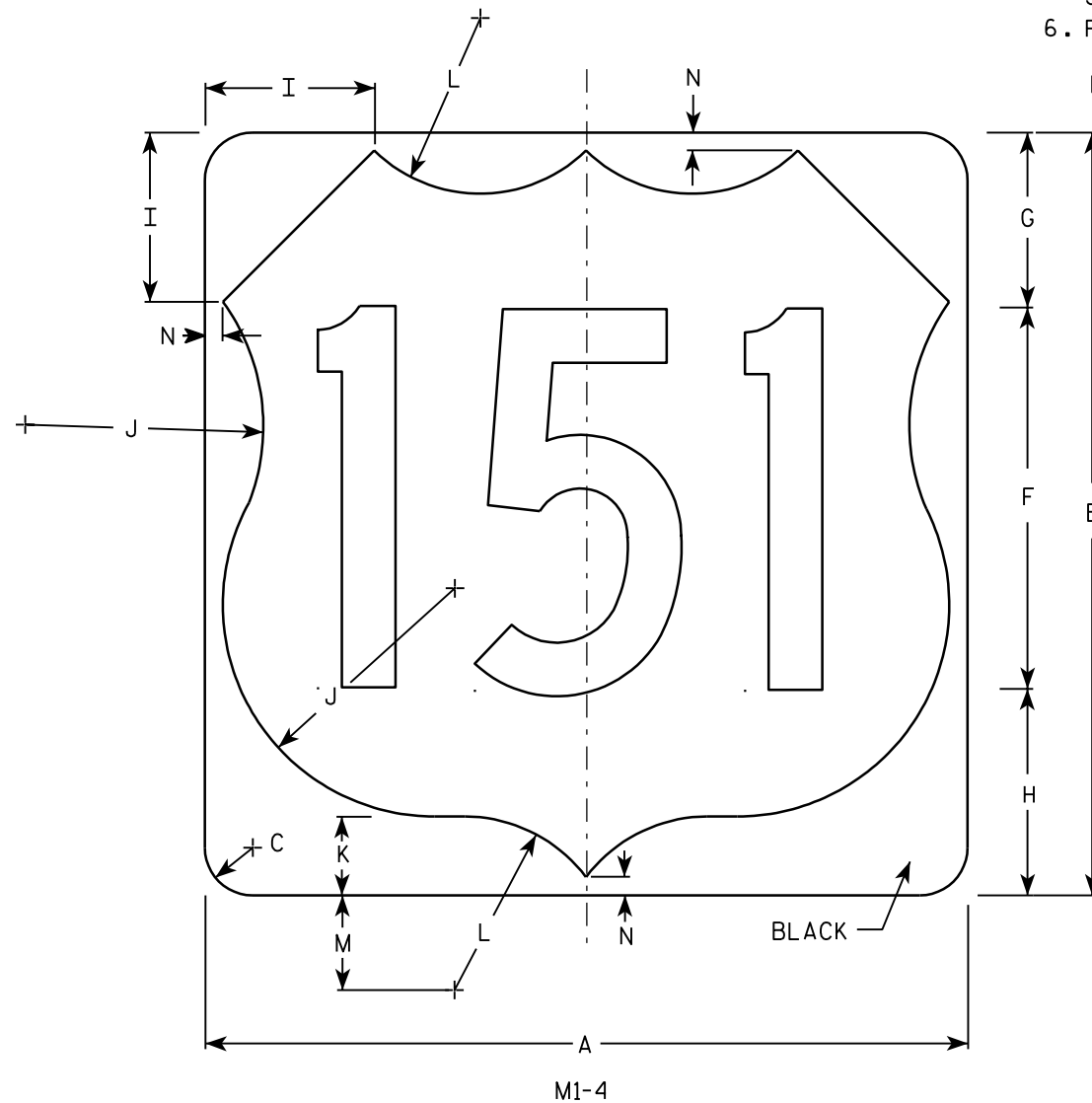
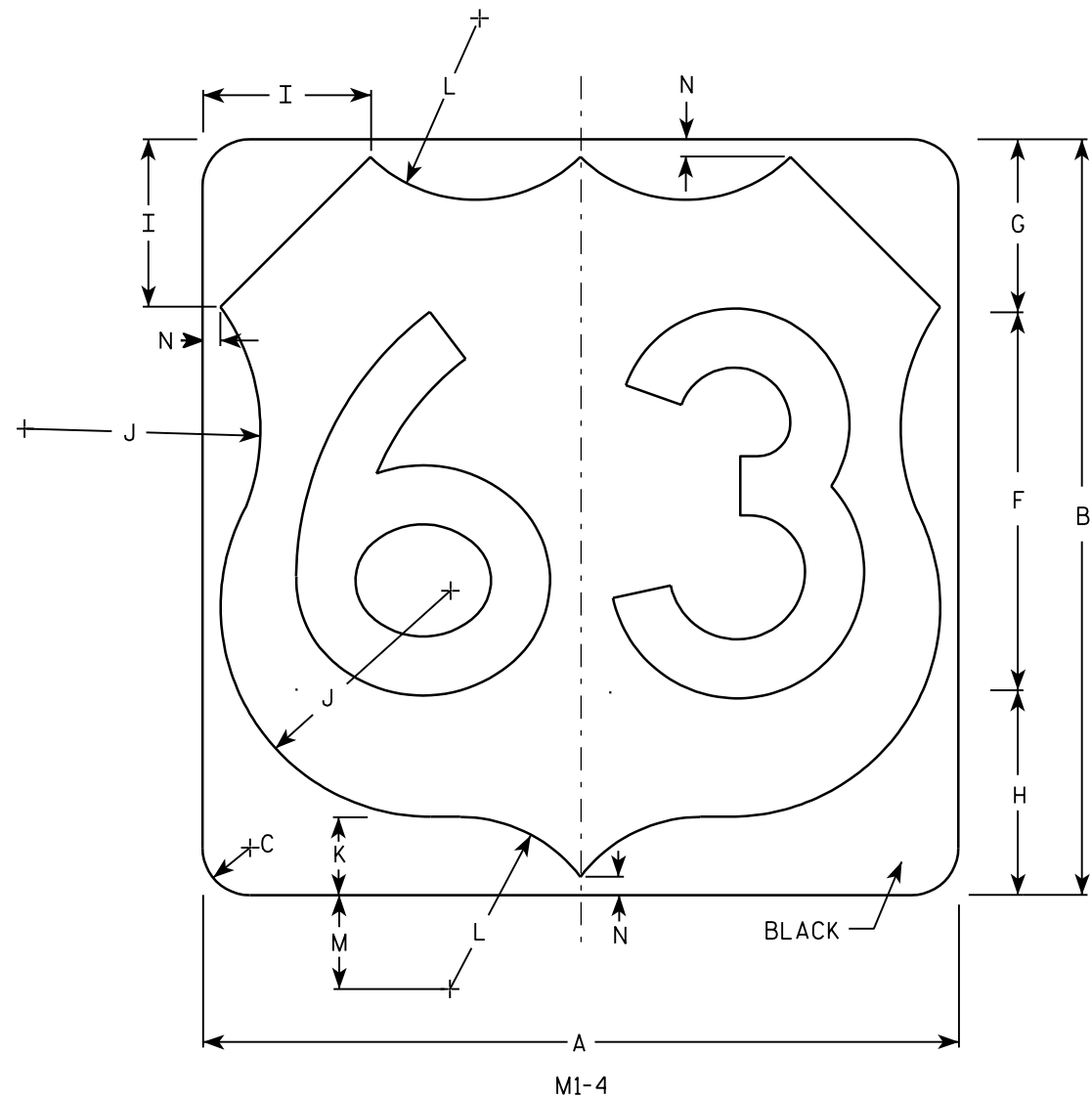
APPROVED *Matthew R Rauch*
for State Traffic Engineer

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

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

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	Area 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

USH MARKER
M1-4 FOR ASSEMBLIES

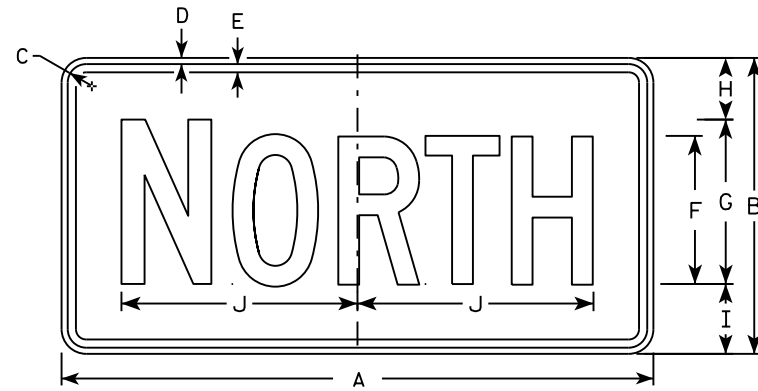
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

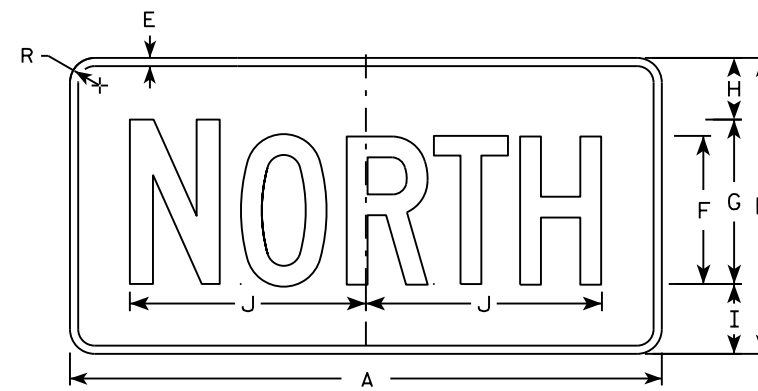
DATE 08/25/05 PLATE NO. M1-4.9

NOTES

- All Signs Type II - Type H
- 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
 Message - Black
 MB3-1 thru MB3-4 Background - Blue
 Message - White
 MK3-1 thru MK3-4 Background - Green
 Message - White
 MM3-1 thru MM3-4 Background - White
 Message - Green
 MN3-1 thru MN3-4 Background - Brown
 Message - White
 MP3-1 thru MP3-4 Background - White
 Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.



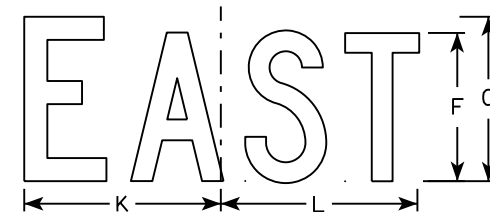
M3-1
MM3-1
MP3-1



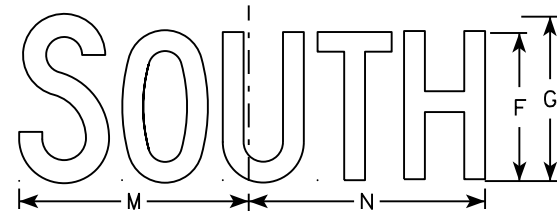
MB3-1
MK3-1
MN3-1



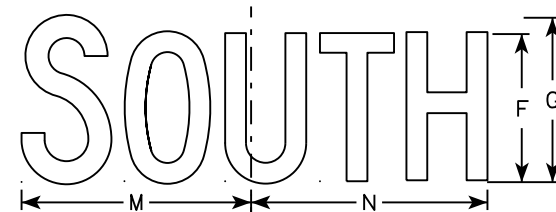
M3-2
MM3-2
MP3-2



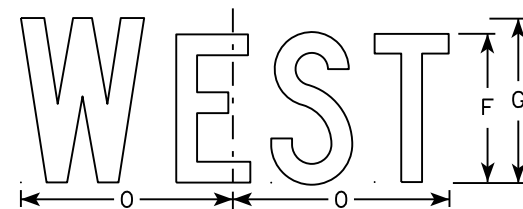
MB3-2
MK3-2
MN3-2



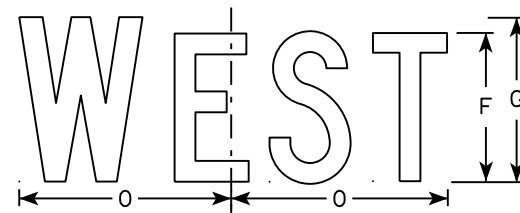
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

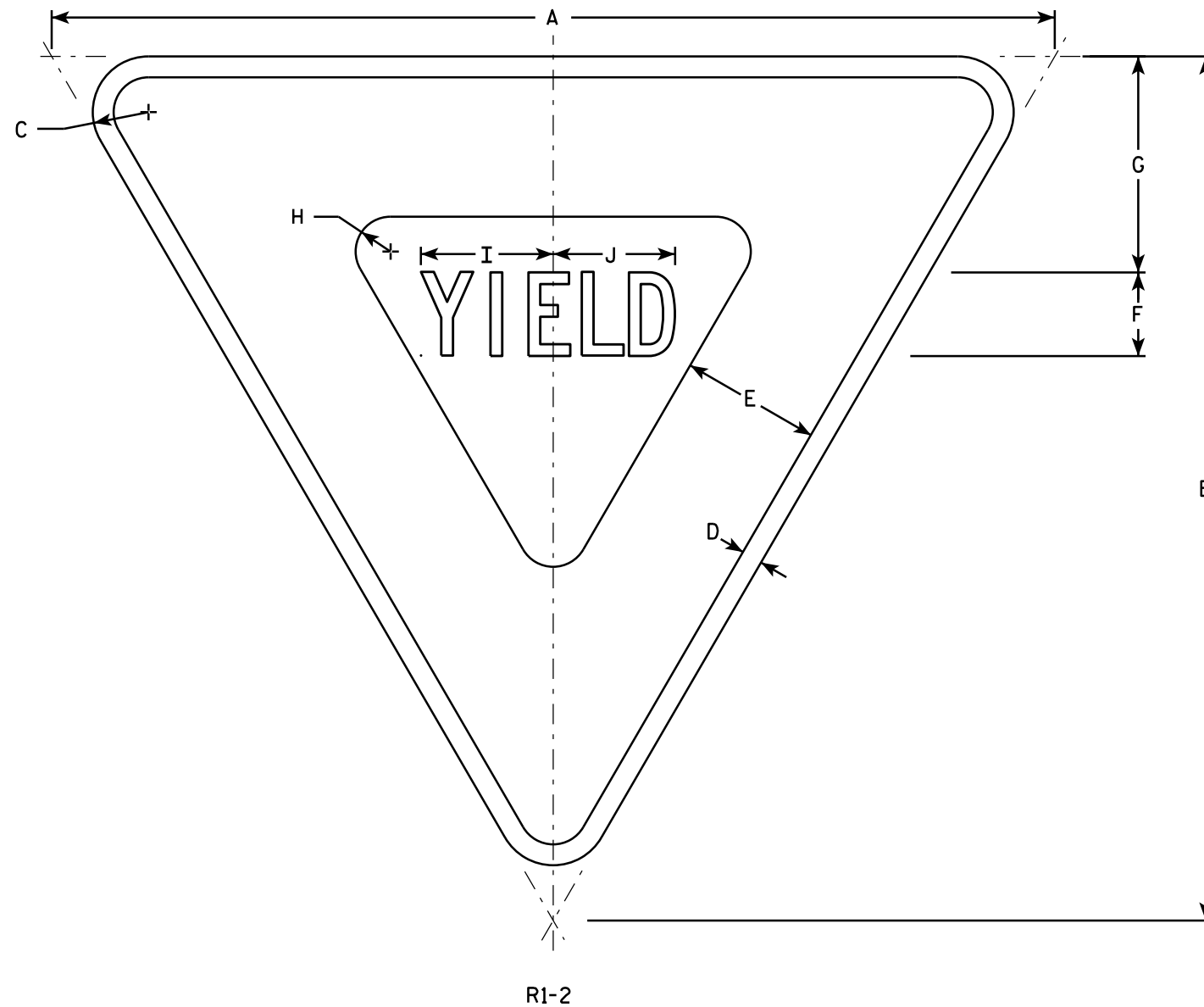
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

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.



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	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

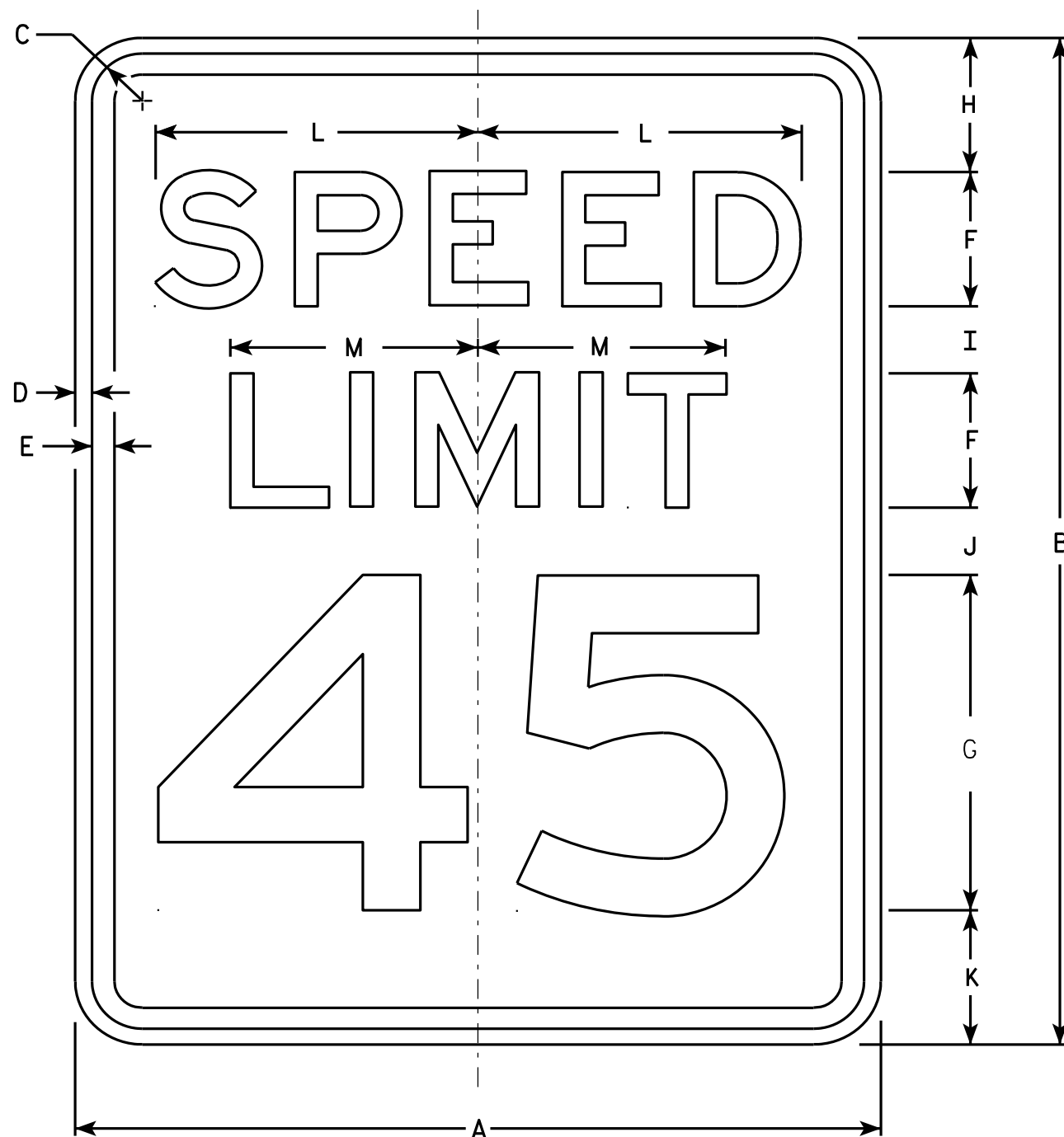
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ 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.

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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

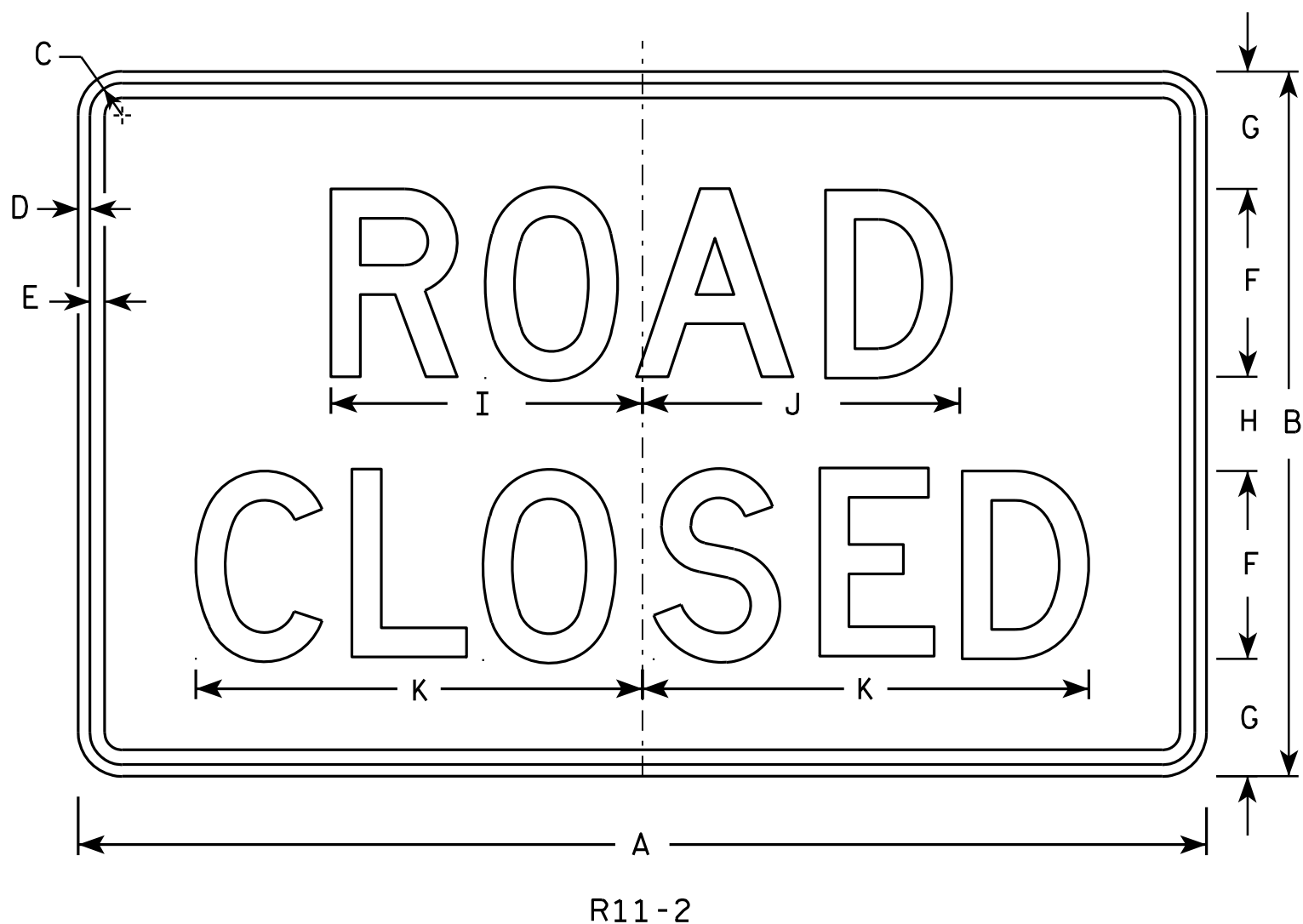
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

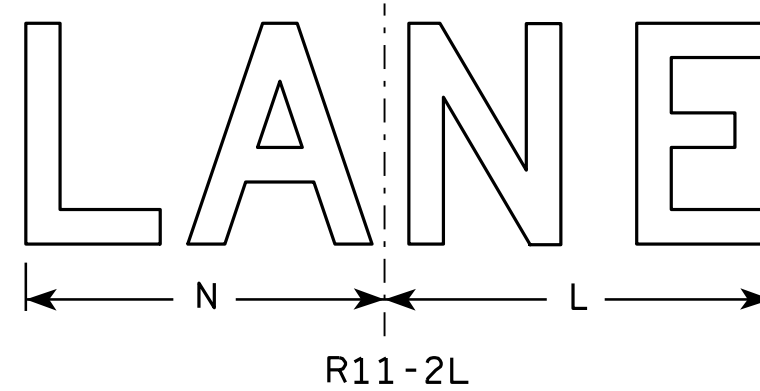
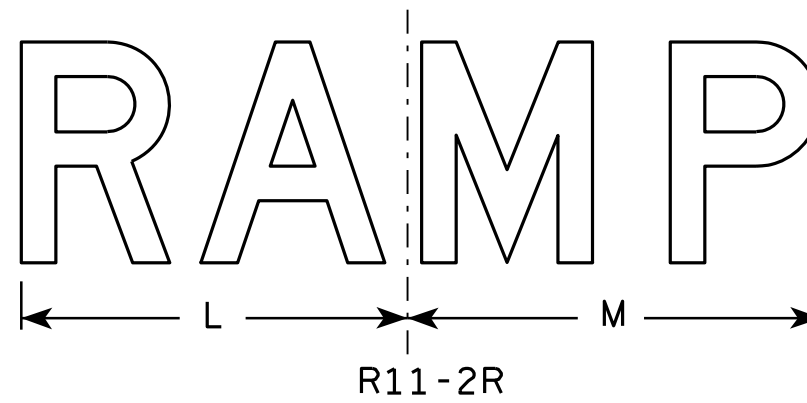
DATE 5/26/10 PLATE NO. R2-1.13

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



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.



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	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

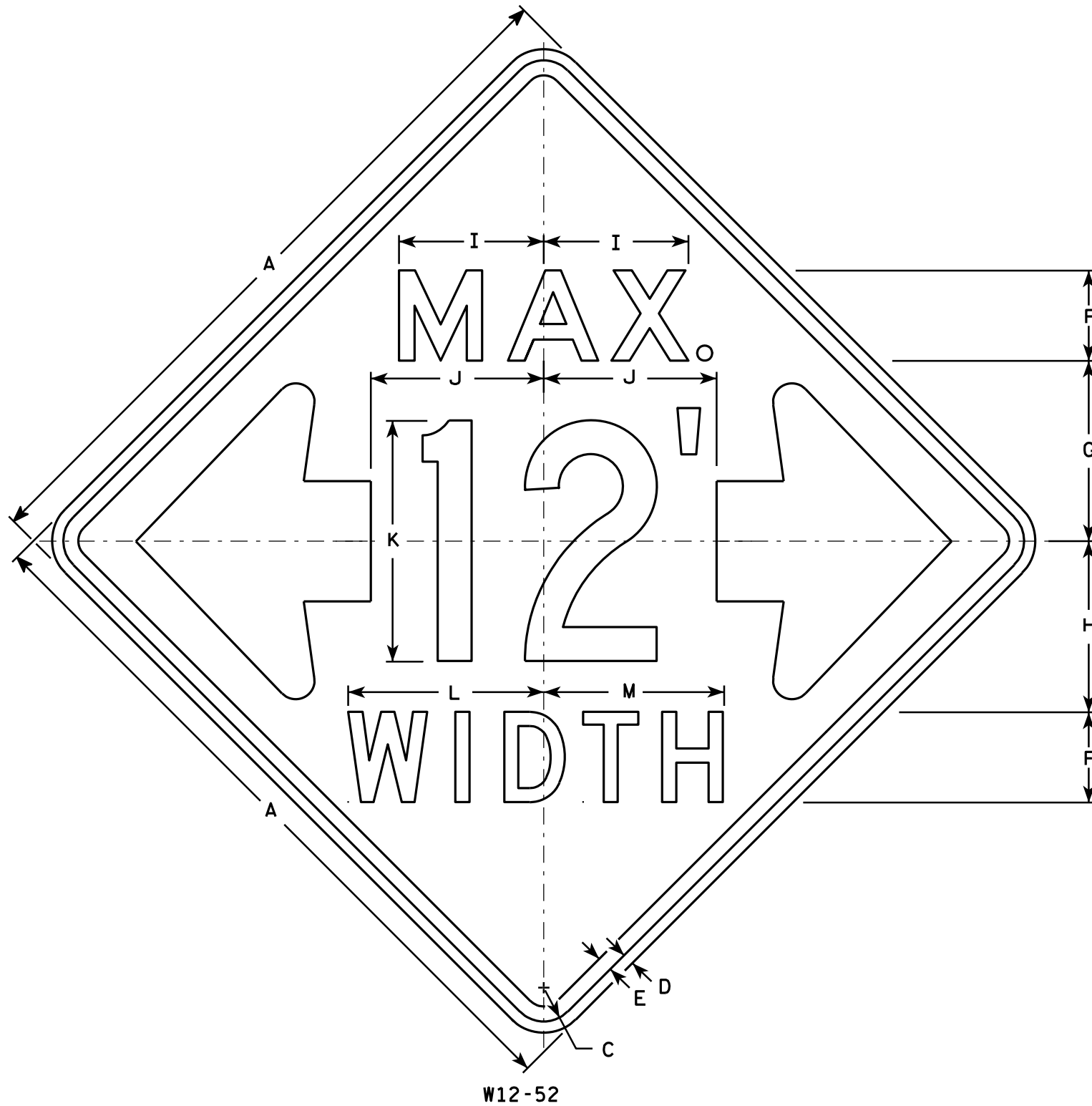
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

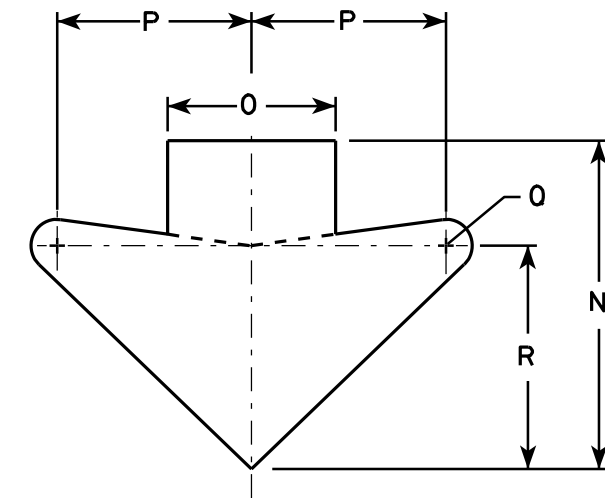
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



W12-52

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. The top line is series E, the numerals are series C, and the bottom line is series D.
6. 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

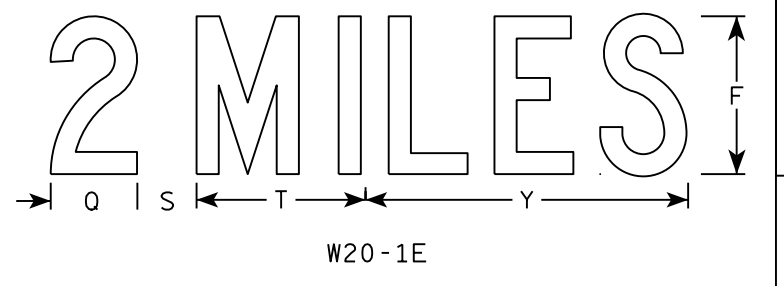
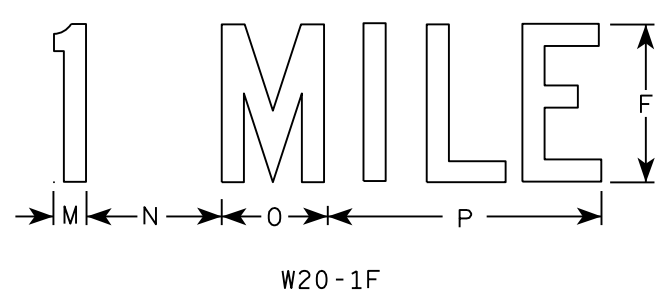
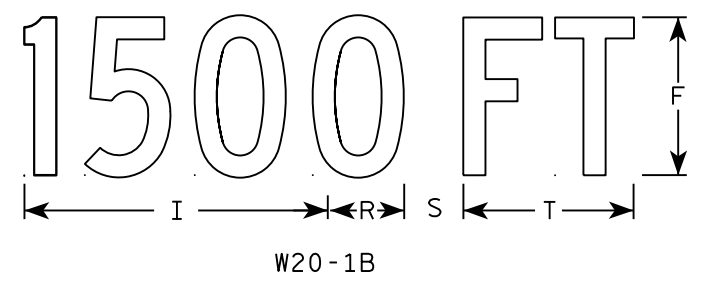
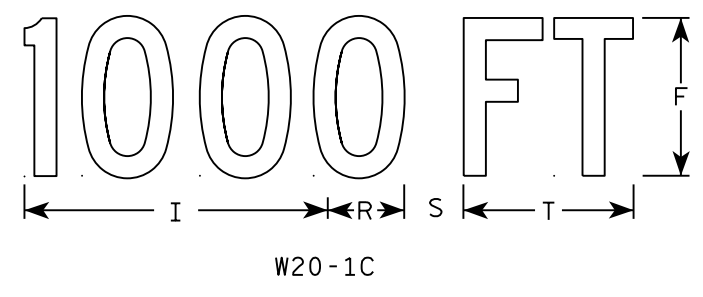
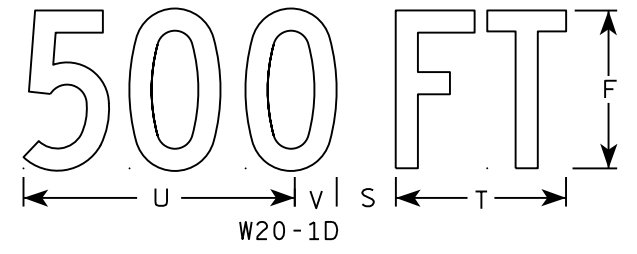
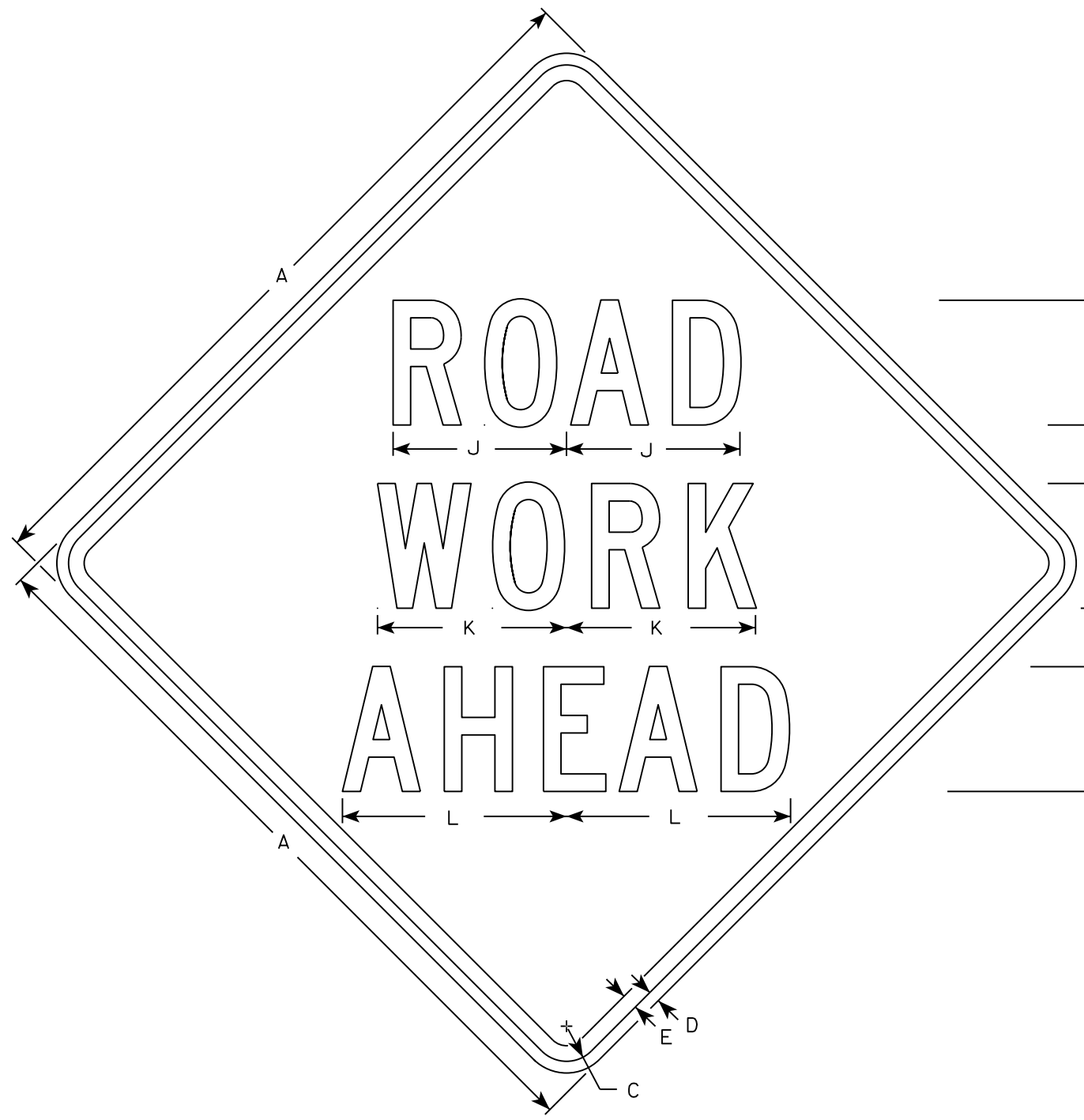
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

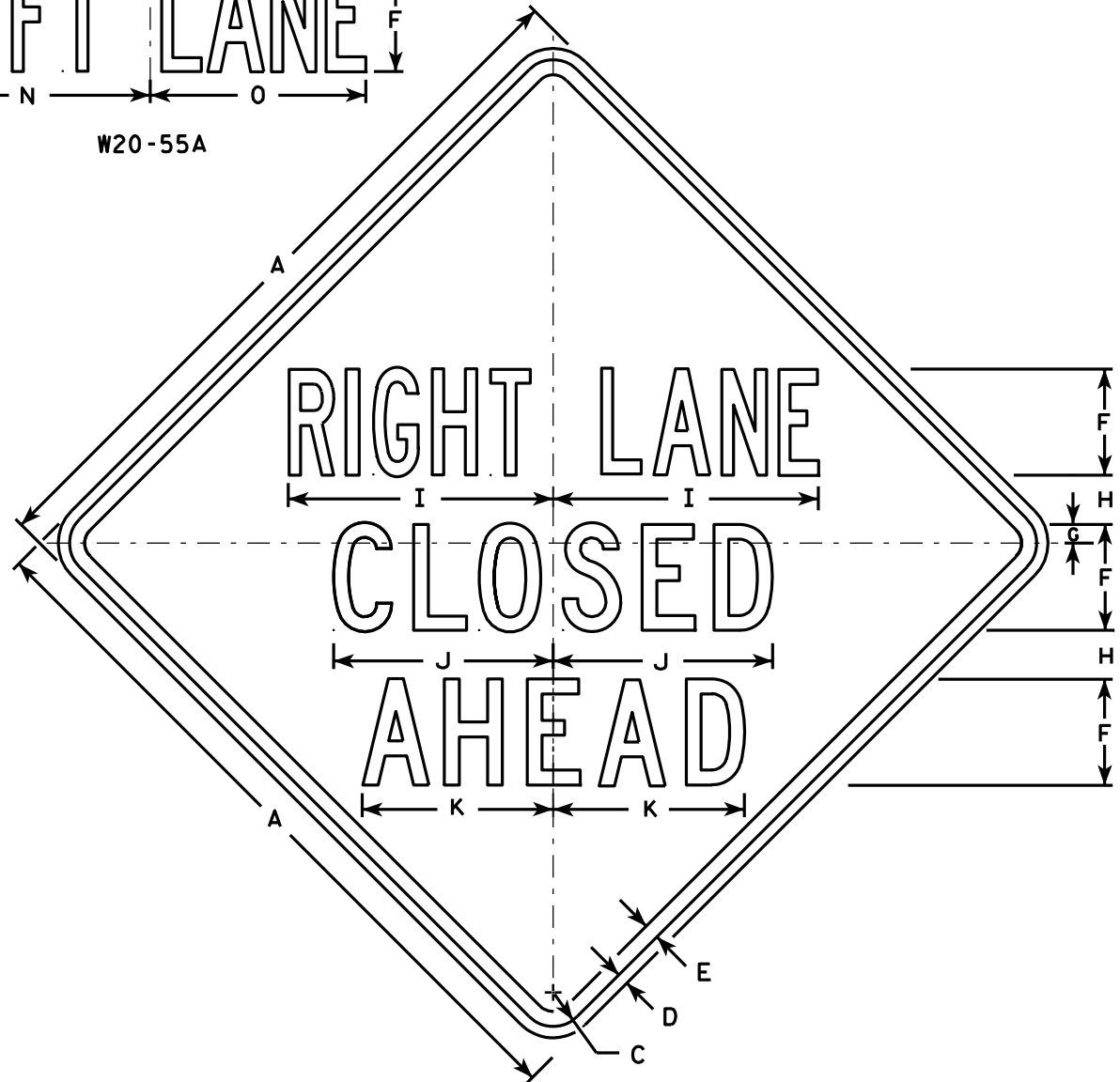
DATE 5/07/15 PLATE NO. W20-1.10

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

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 - 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.

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

W20-5F

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	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

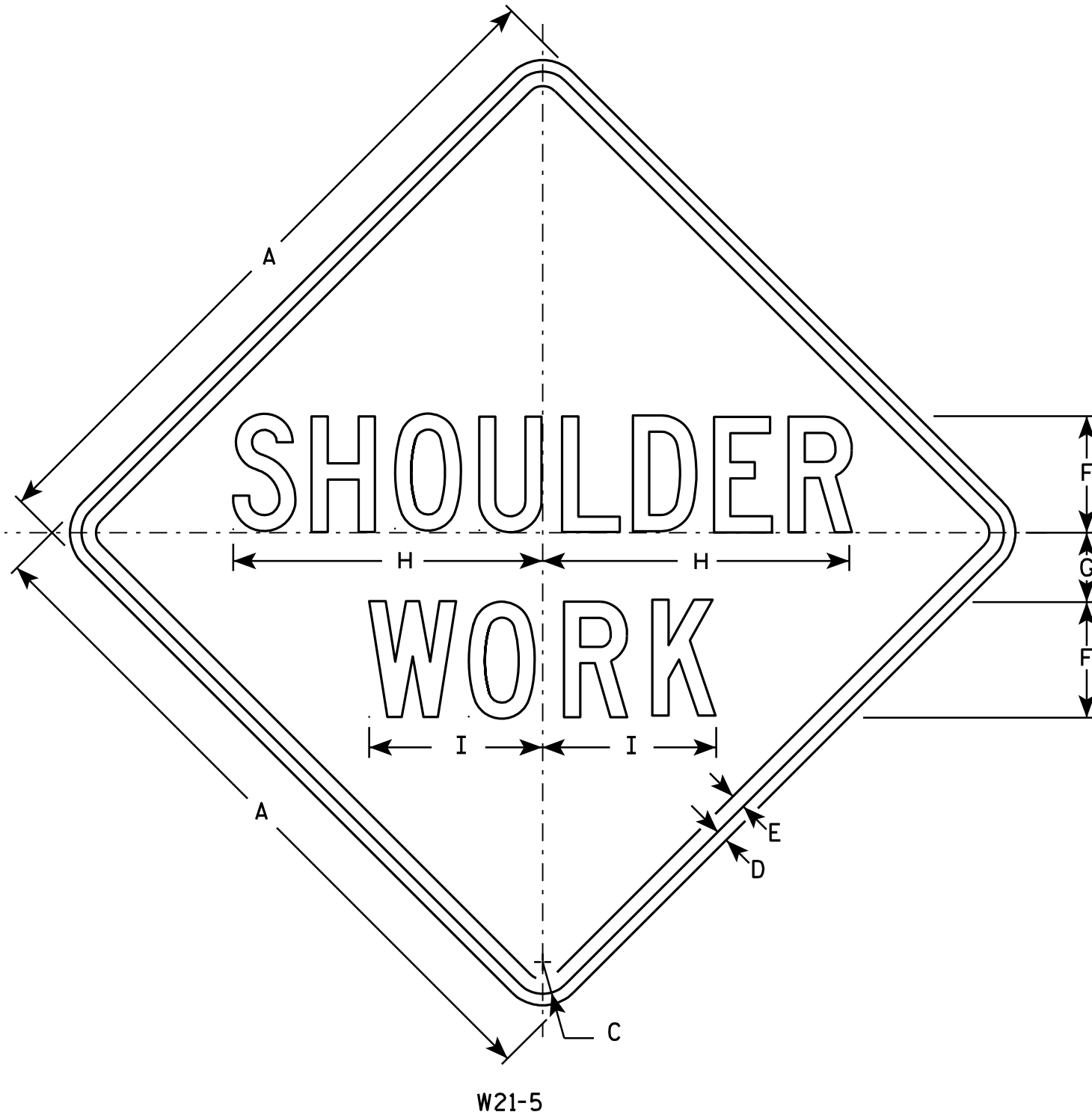
STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

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

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



W21-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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.

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	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

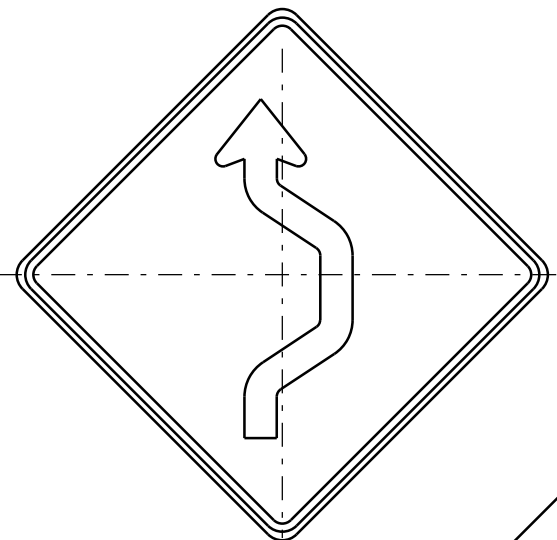
STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

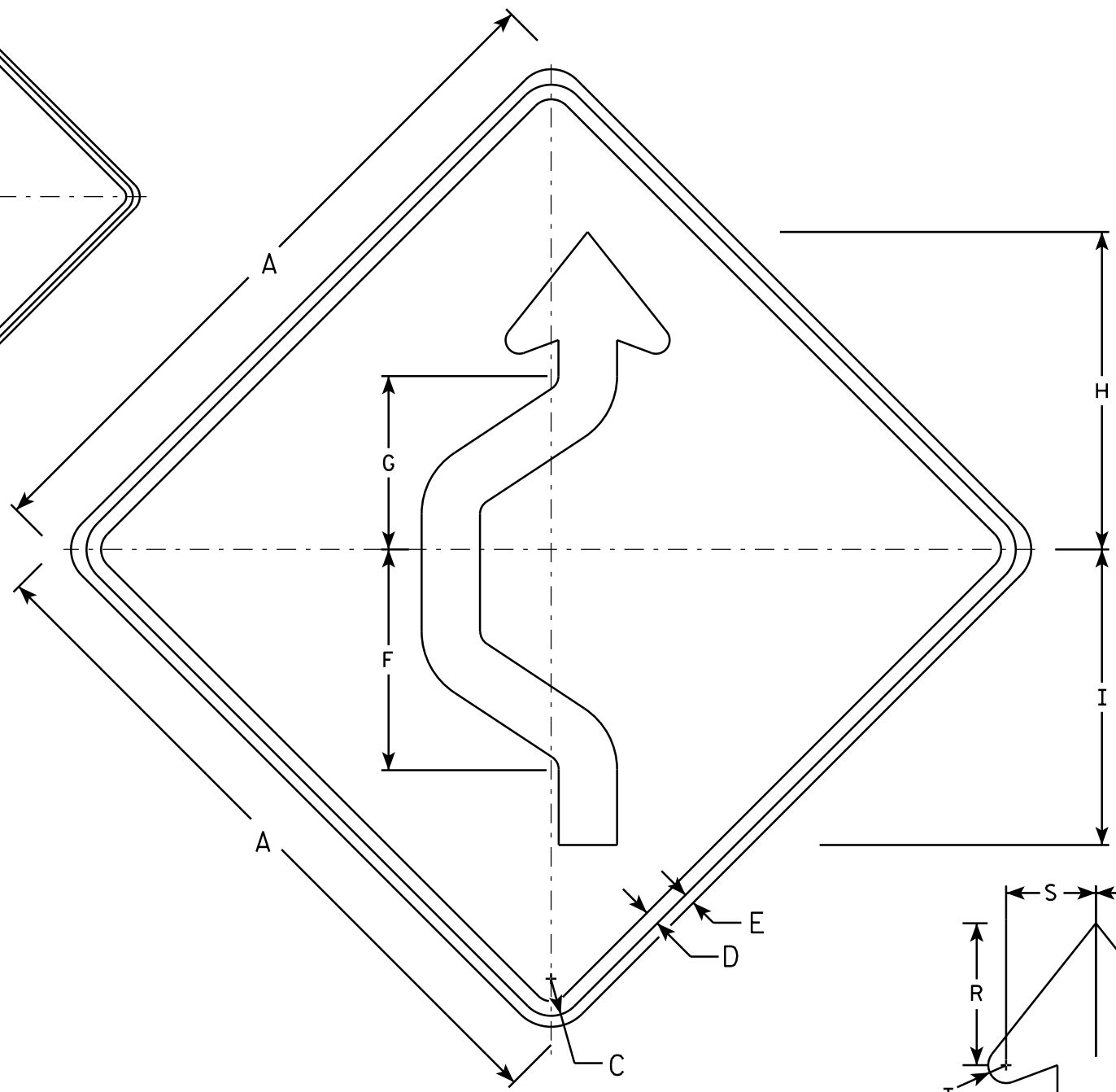
APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

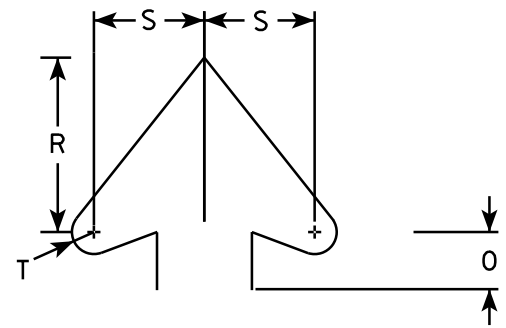
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



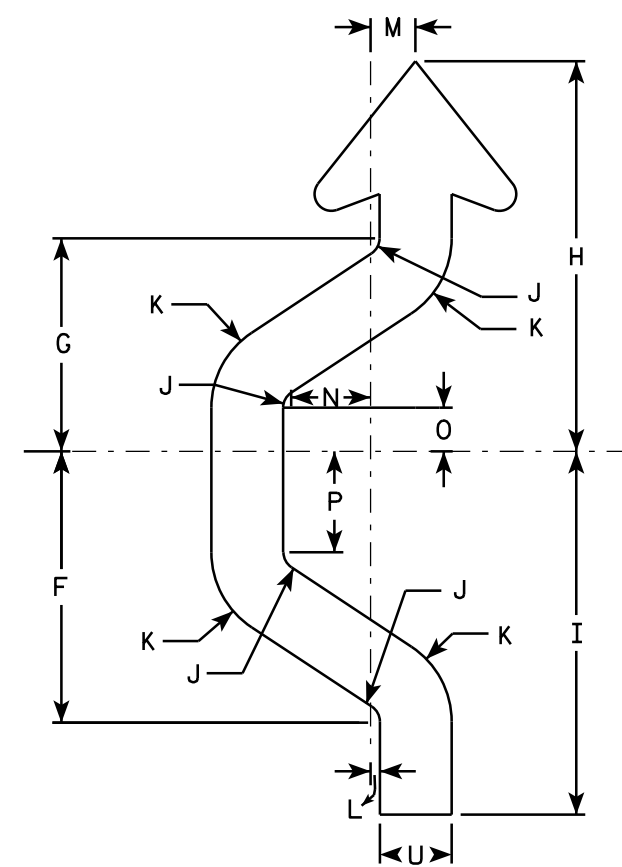
W24-1R



W24-1L



Arrowhead Detail



Arrow Detail

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. W24-1R is the same as W24-1L except reversed along the vertical centerline.

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	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2M	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
3																											
4																											
5																											

STANDARD SIGN
W24-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

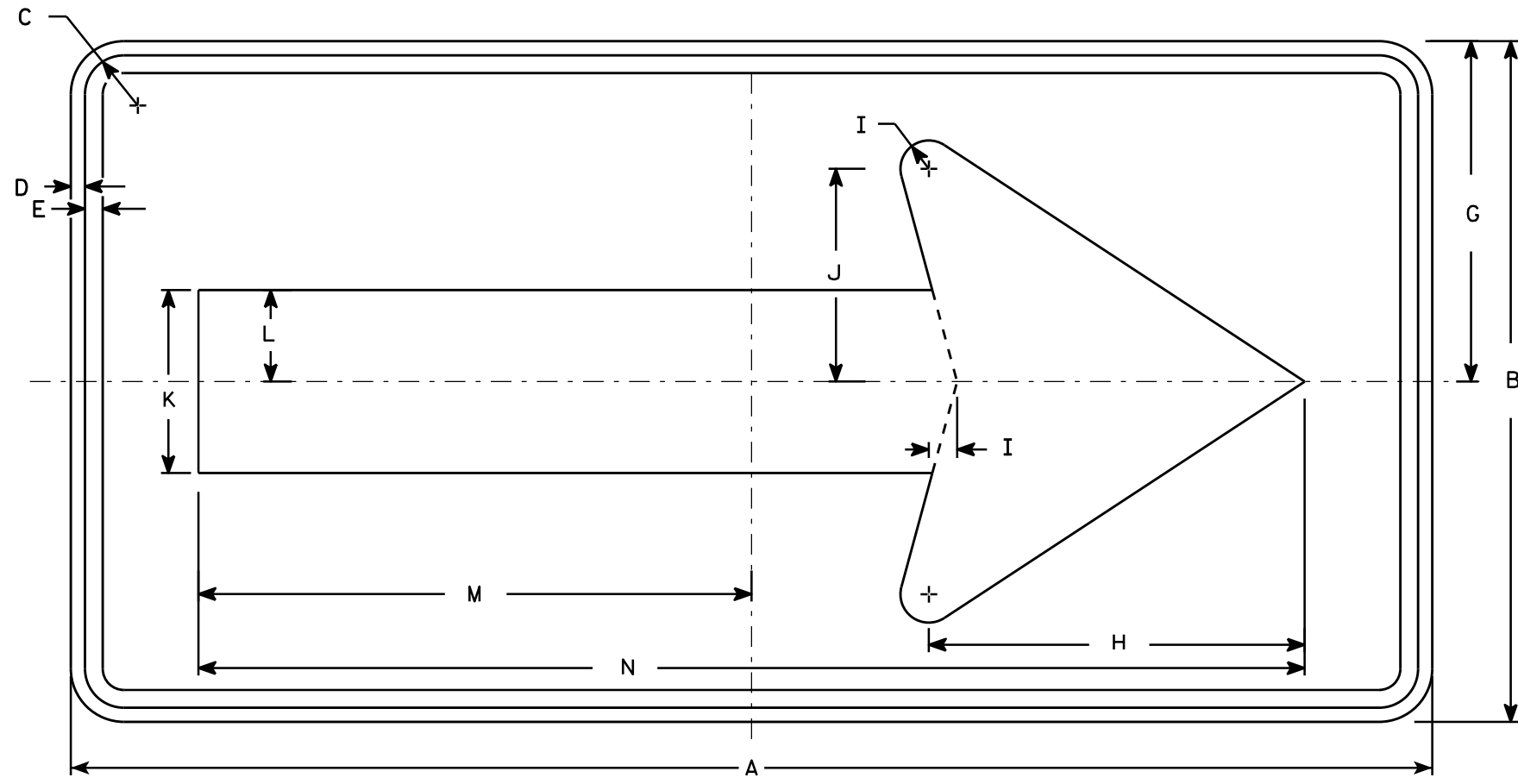
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/25/2013 PLATE NO. W24-1.3

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

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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.



W01-6

7

7

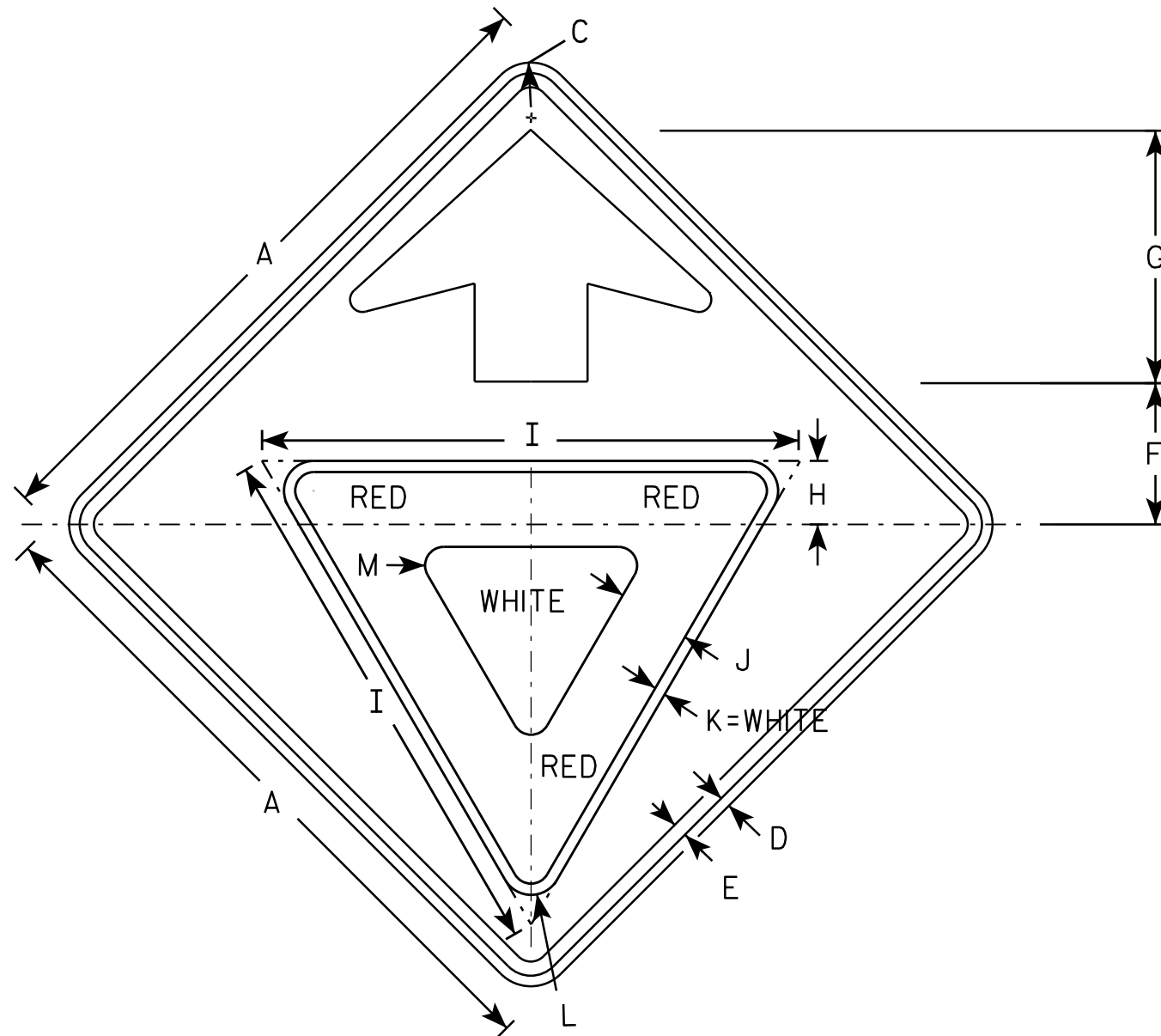
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4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

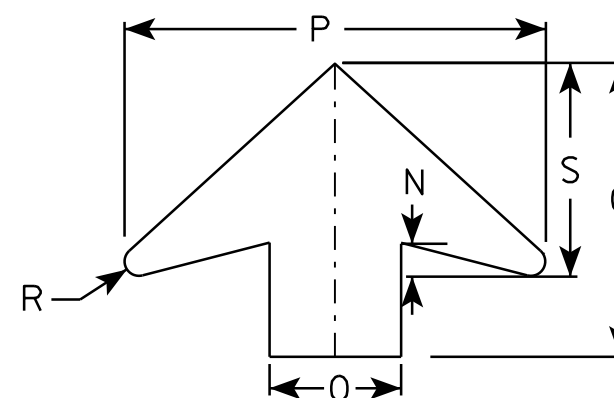
DATE 11/18/13 PLATE NO. W01-6.1



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

7

7

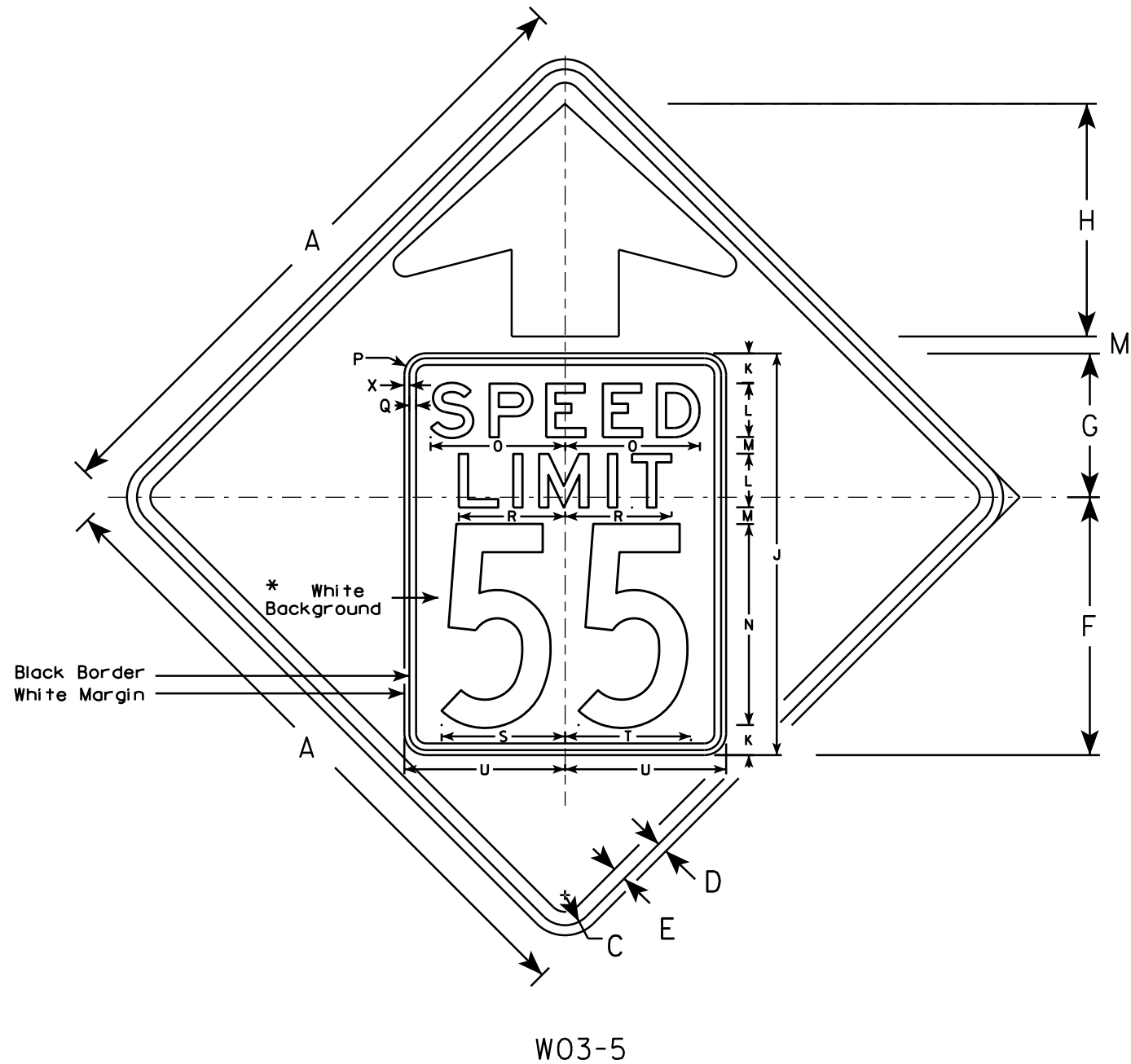
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		2 1/4	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8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

STANDARD SIGN
W03-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

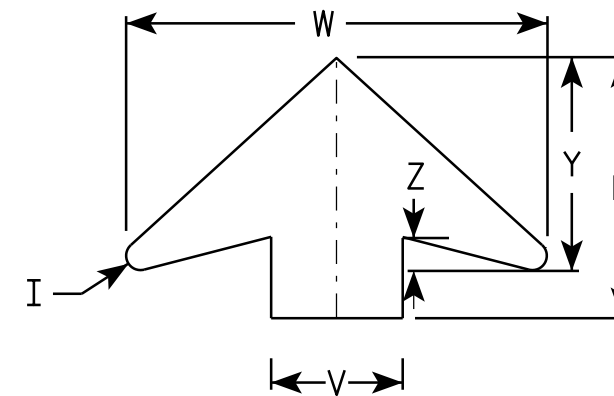
DATE 11/20/13 PLATE NO. W03-2.1



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
Background - 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

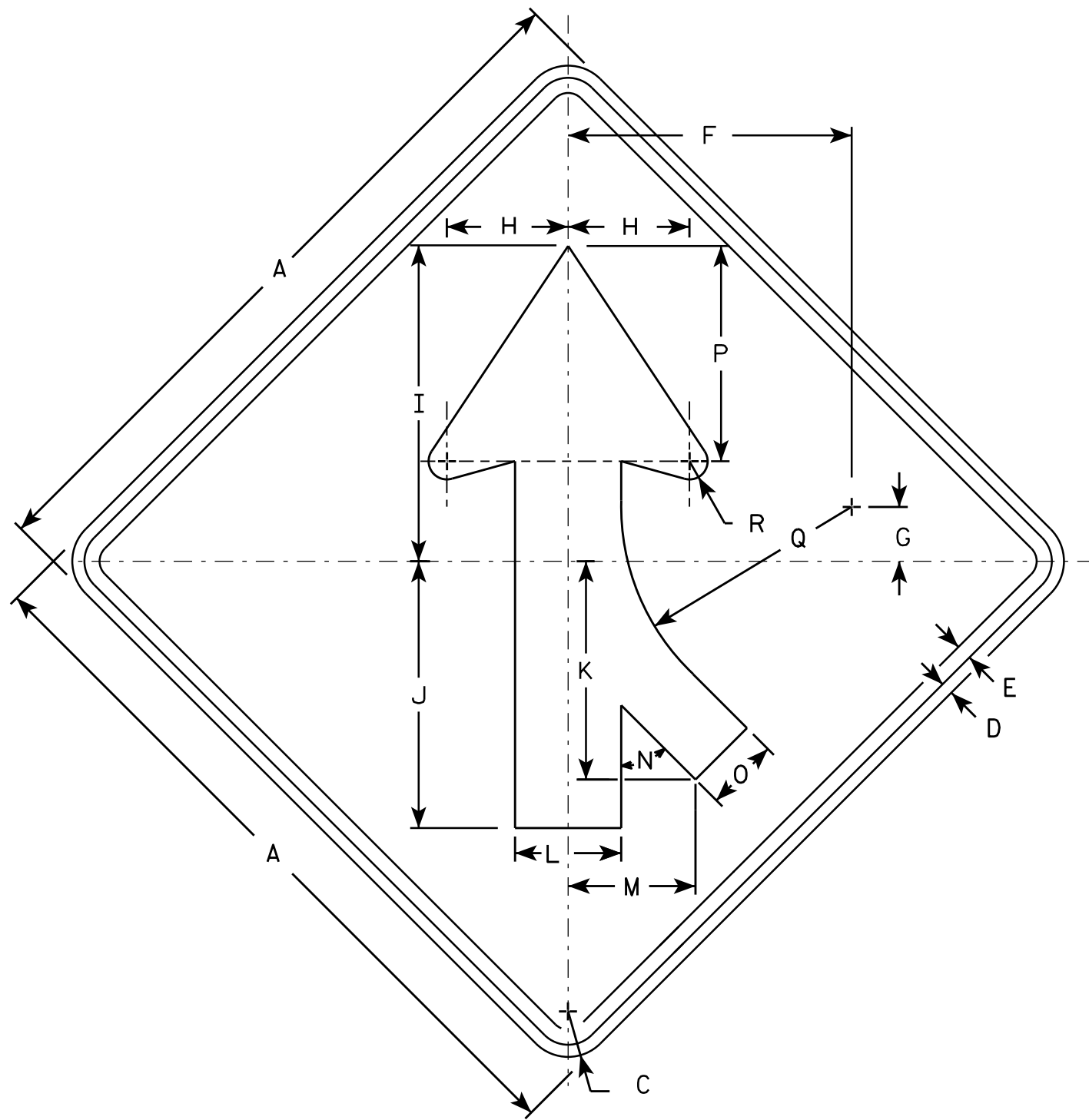
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	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 NO. W03-5.1



W04-1R

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. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

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	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

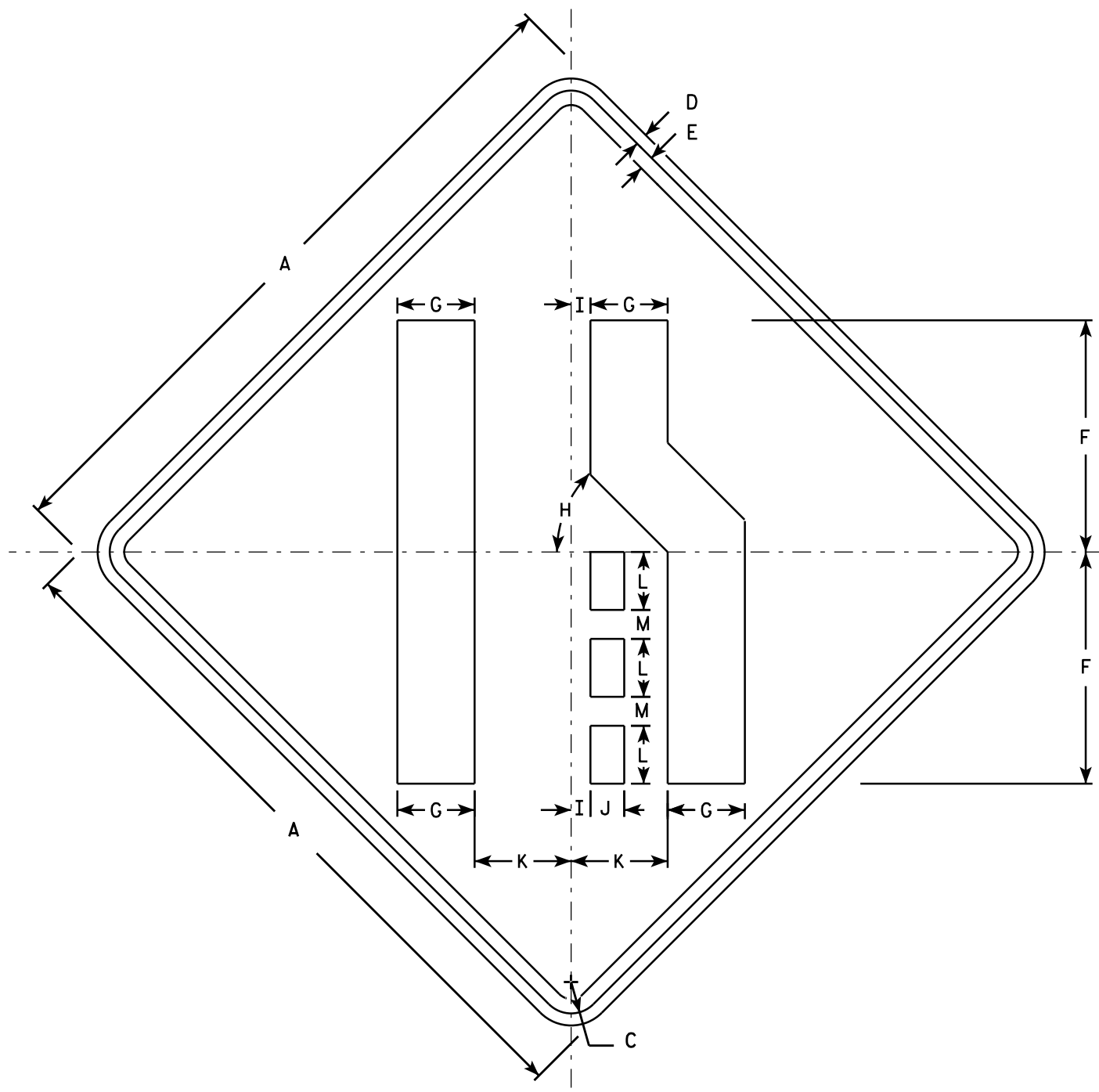
STANDARD SIGN
W04-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-1.1

PROJECT NO: _____ HWY: _____ COUNTY: _____ 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 symbols is reversed along the vertical centerline.

7

7

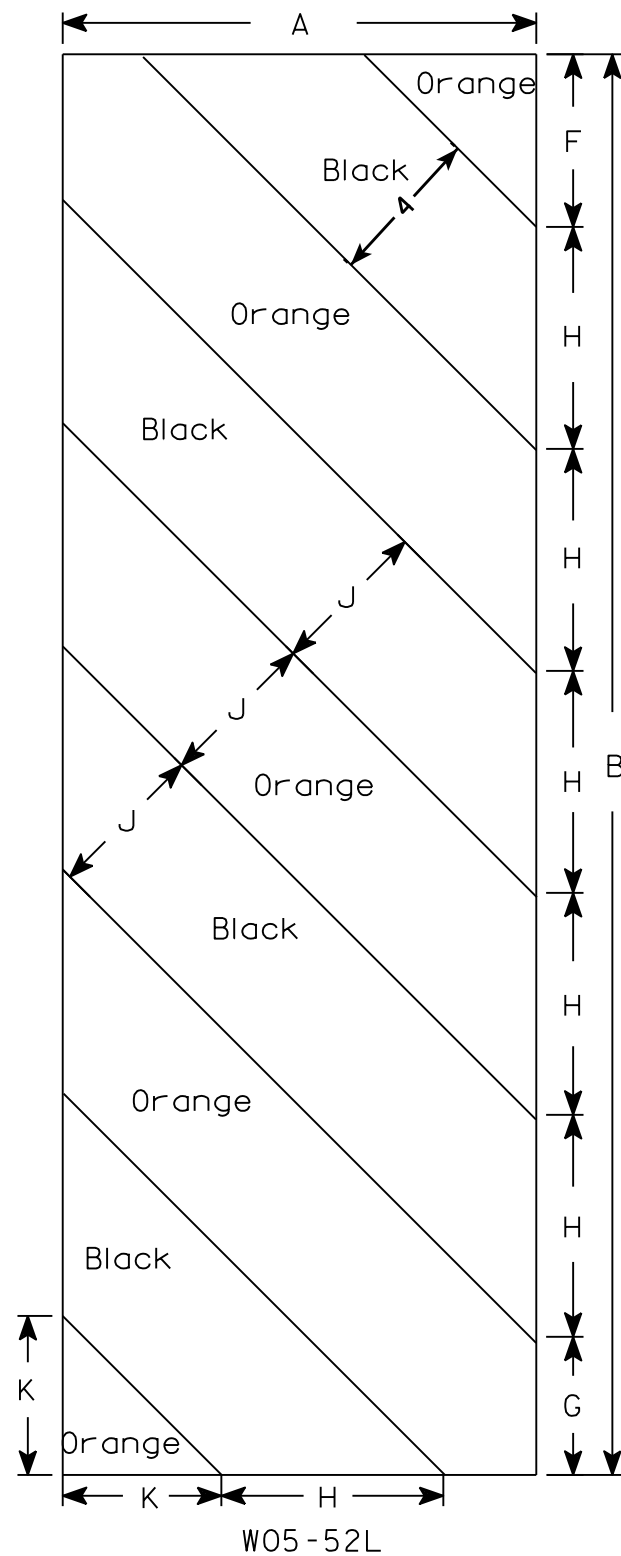
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5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

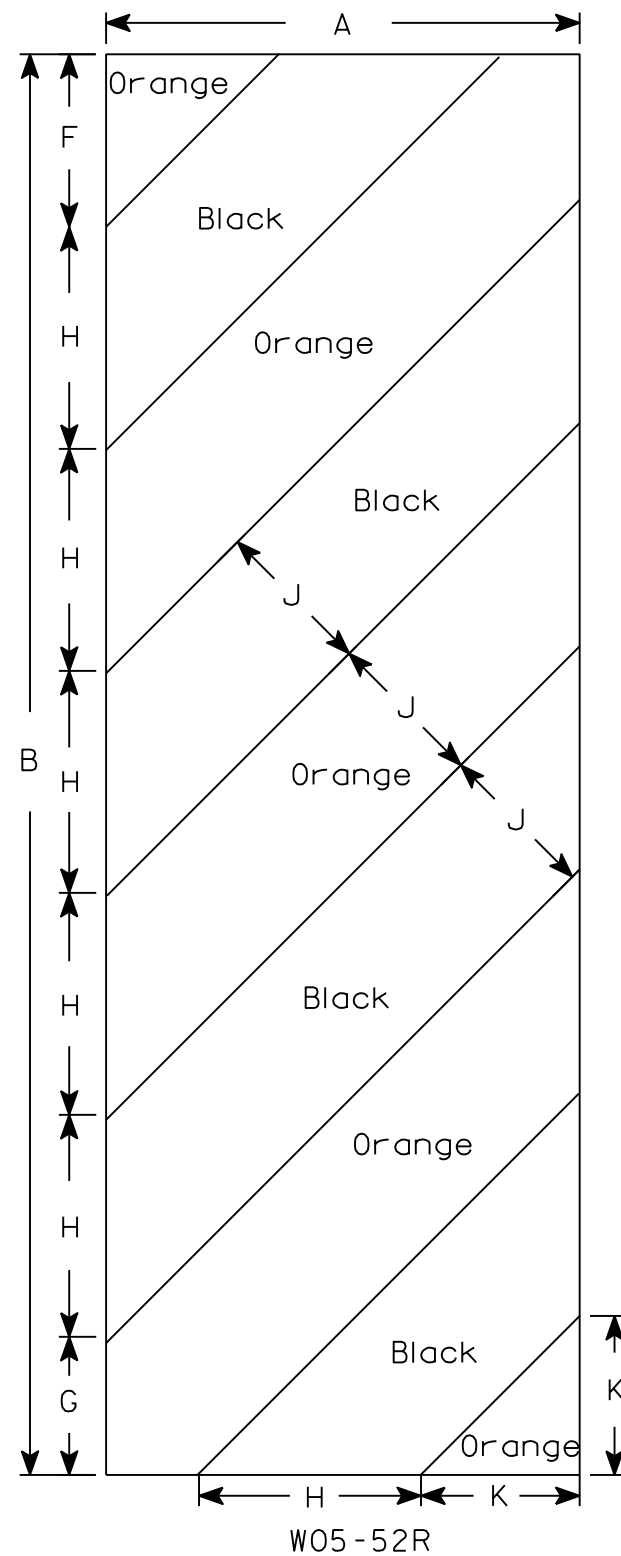
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/20/13 PLATE NO. W04-2.1



W05-52L



W05-52R

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. Alternate colors of stripes as shown.

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

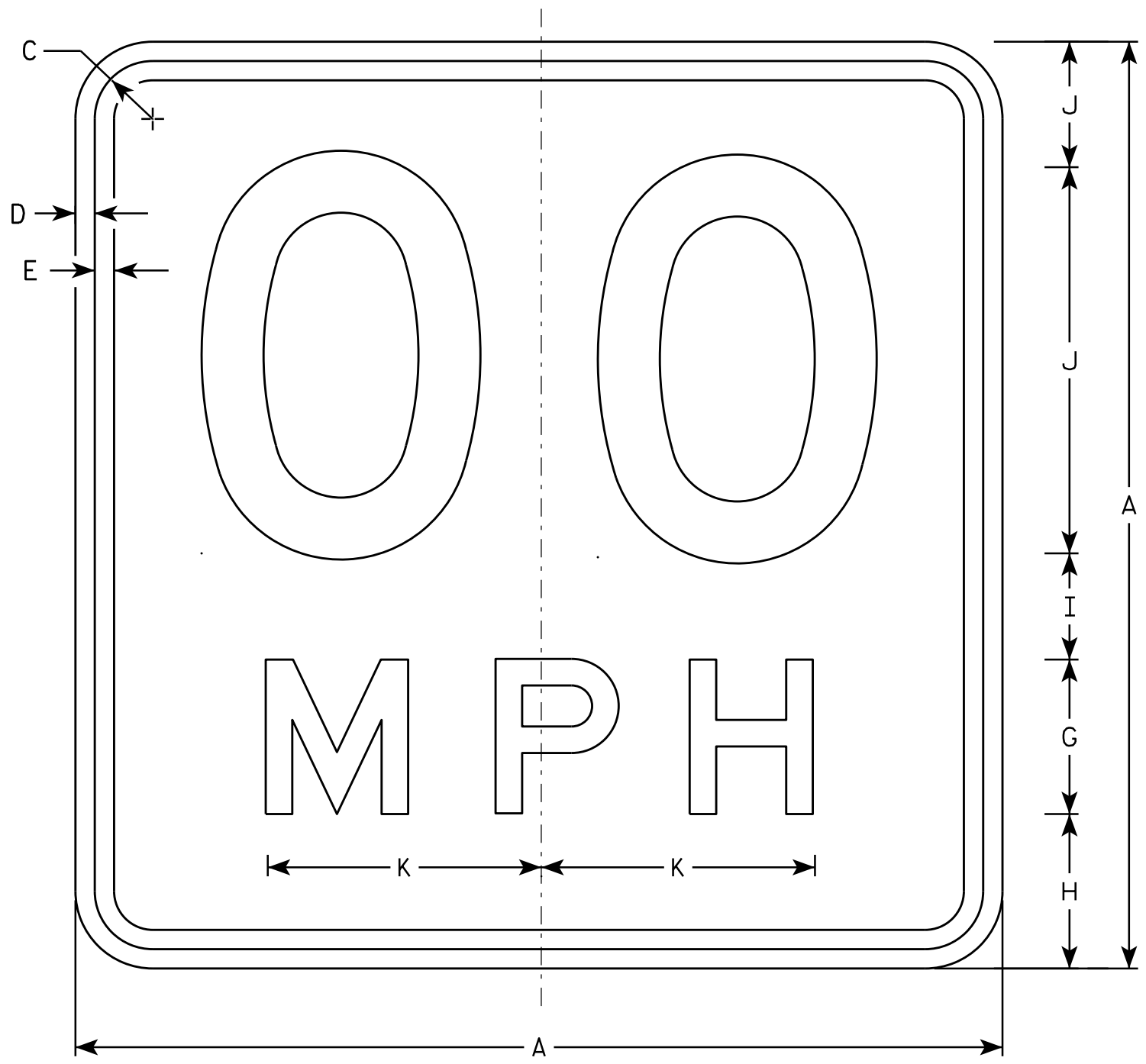
STANDARD SIGN
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W05-52.1

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



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
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. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

7

7

W013-1

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	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

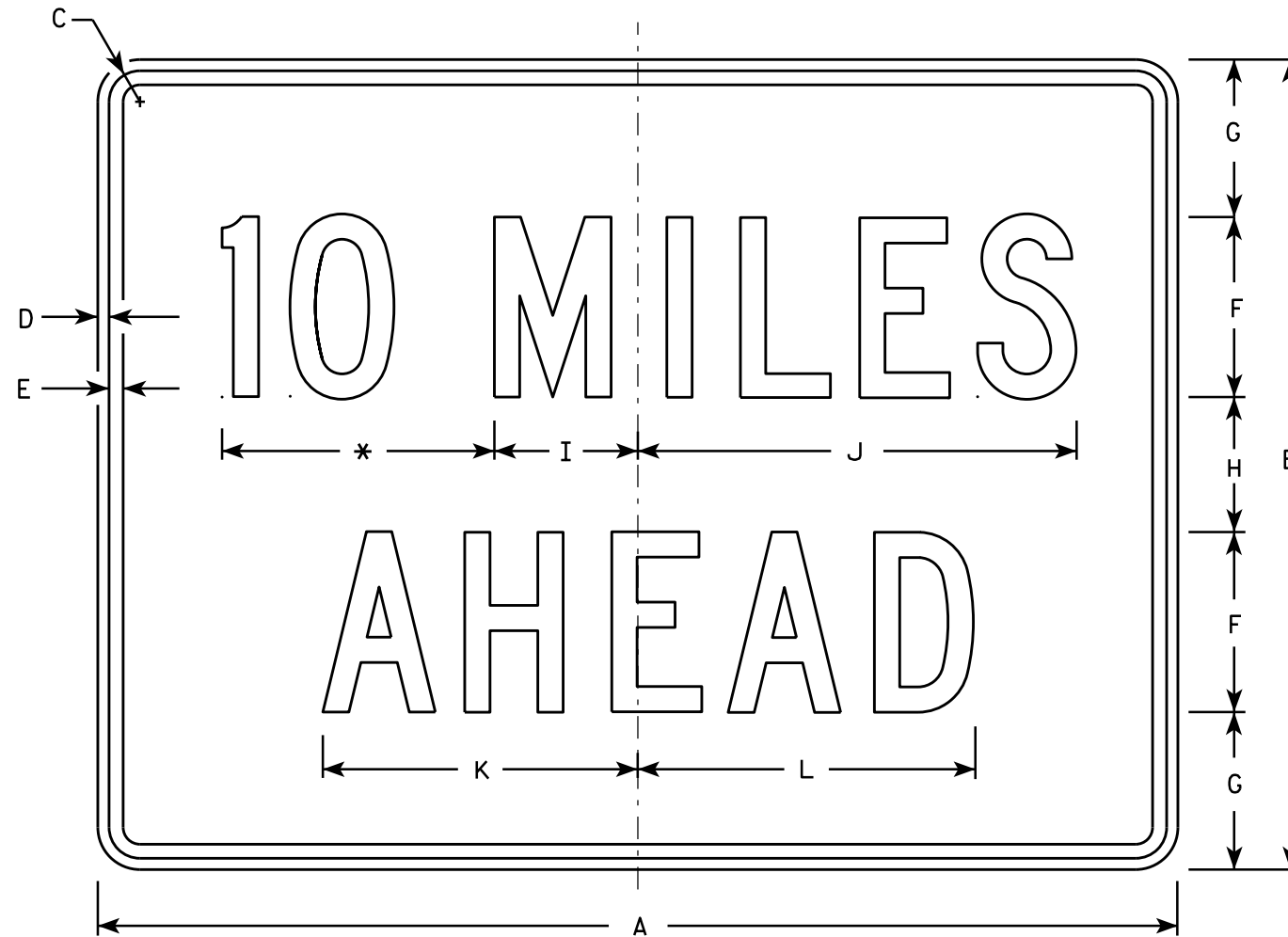
STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

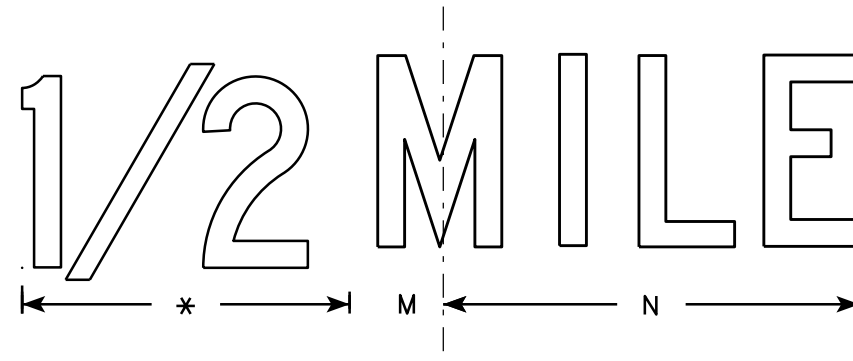
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 11/21/13 PLATE NO. W013-1.1

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



W057-52



* See note 5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. 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	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W057-52.1

IH-39 PORTAGE COUNTY

STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.20	
522+40	0.00	131.09	20.06	0	0	0	0	0.00
522+50	10.00	129.78	18.92	48	7	48	9	39.65
523+00	50.00	199.58	17.77	305	34	353	49	303.85
523+10	10.00	370.28	31.19	106	9	459	60	398.50
523+22	12.00	374.42	40.92	165	16	624	80	544.76
523+50	28.00	279.12	91.96	339	69	963	162	800.95
523+75	25.00	318.02	11.61	276	48	1,240	220	1,019.86
523+86	11.00	330.92	14.01	132	5	1,372	226	1,145.79
524+00	14.00	211.80	0.00	141	4	1,513	230	1,282.13
524+10	10.00	147.80	0.02	67	0	1,579	230	1,348.72
524+20	10.00	141.84	1.47	54	0	1,633	231	1,402.03

COLUMN TOTALS: 1,633 192

IH-39 MARATHON COUNTY

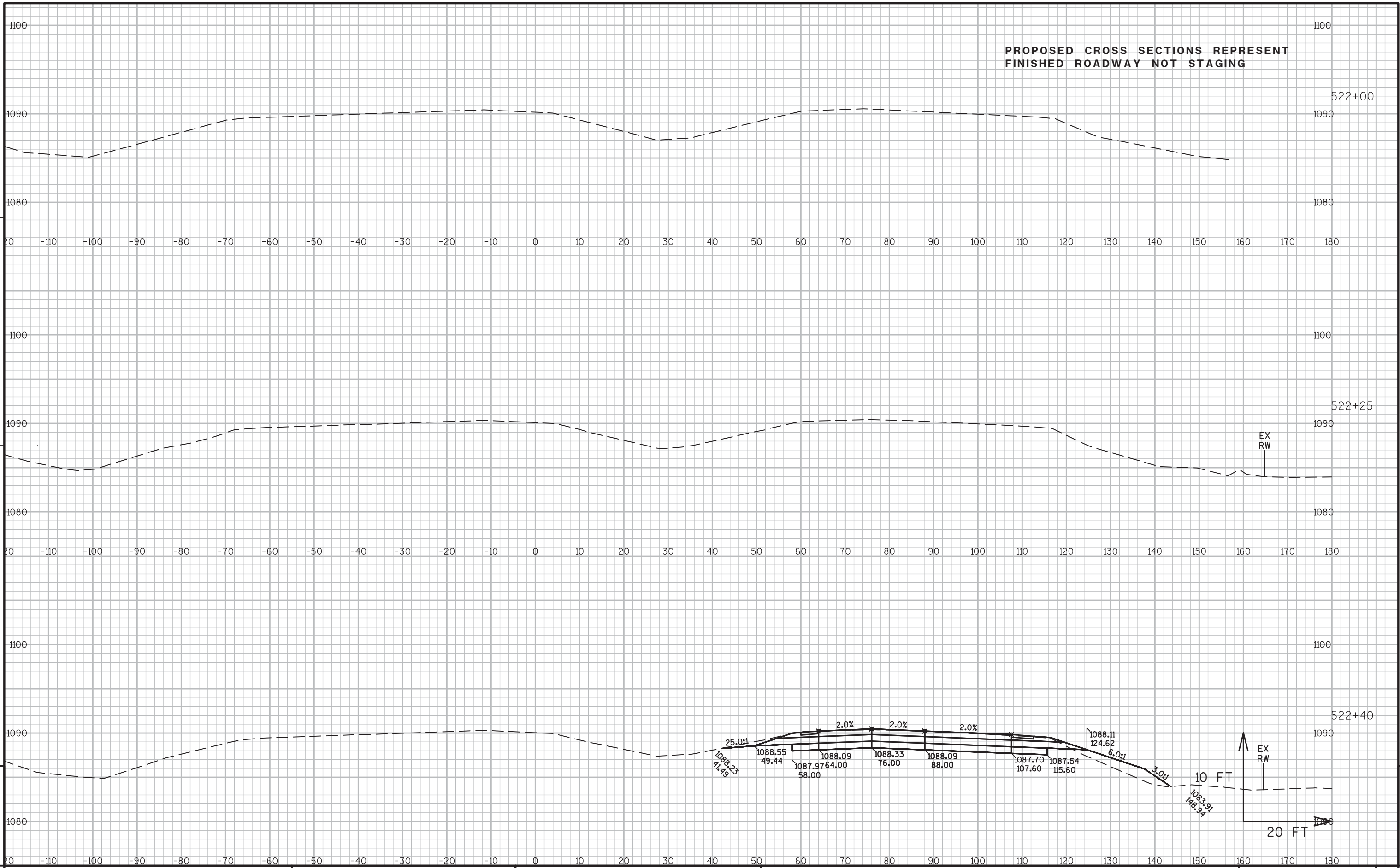
STATION	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.20	
1332+94	0.00	104.11	1.66	0	0	0	0	0.00
1333+00	6.00	103.25	3.98	23	1	23	1	22.29
1333+29	29.00	106.70	32.34	113	20	136	24	111.63
1333+50	21.00	98.86	17.17	80	19	216	47	168.47
1333+64	14.00	98.27	13.42	51	8	267	57	210.06

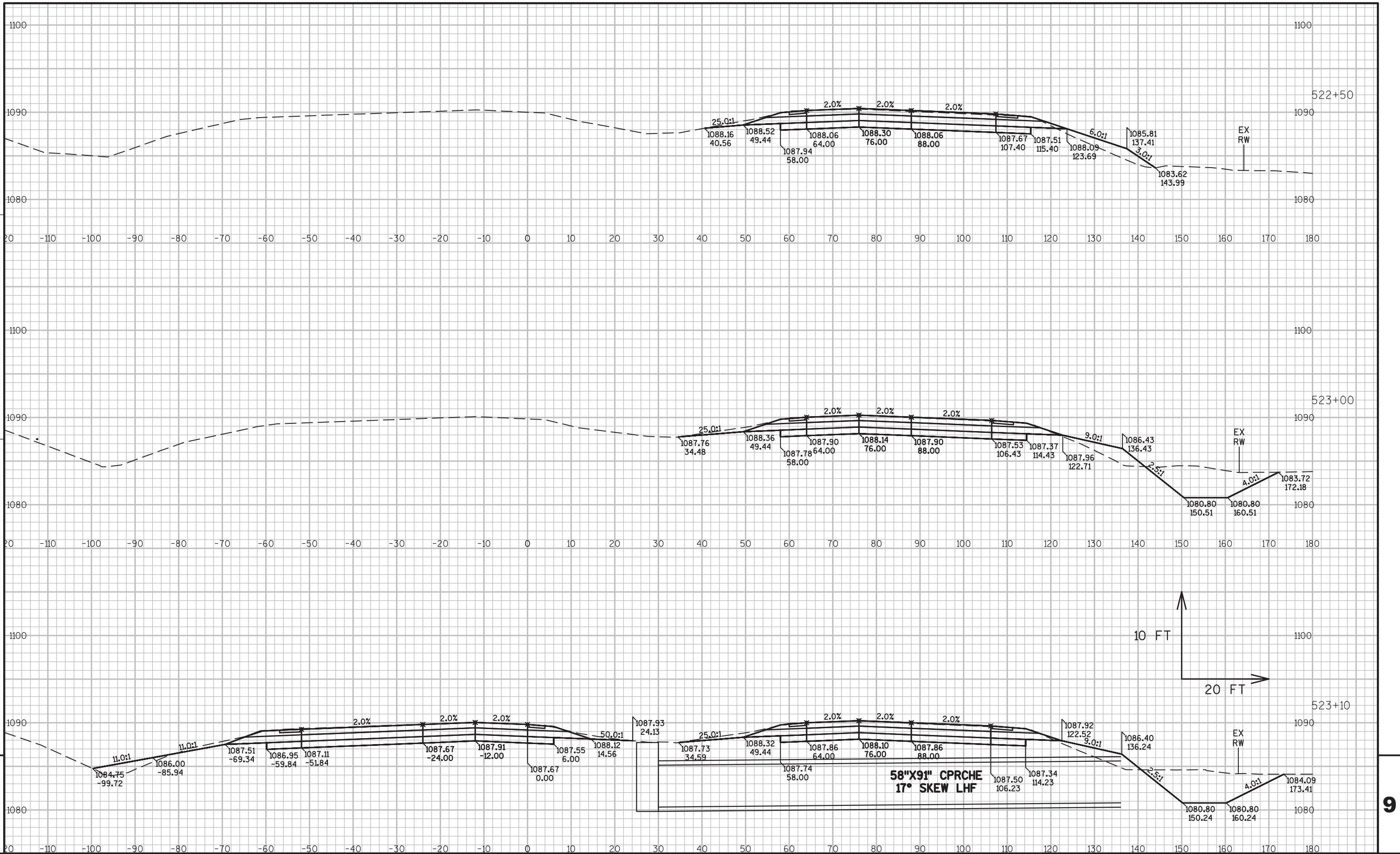
COLUMN TOTALS: 267 47

- 1) Cut Volume includes Salvaged/Unusable Pavement Material.
- 2) This assumes the existing pavement is salvaged or wasted by the contractor.
The existing pavement structure is not shown in the cross sections.
- 3) Expanded Fill = Unexpanded Fill * Expanded Fill Factor.
- 4) Mass Ordinate = Cut - Expanded Fill. Mass Ordinate is a + or - Qty calculated for the Division
Plus quantity indicates a waste volume of material within the Division.
Minus indicates a shortage of material within the Division.

9

9





PROJECT NO: 1160-00-65

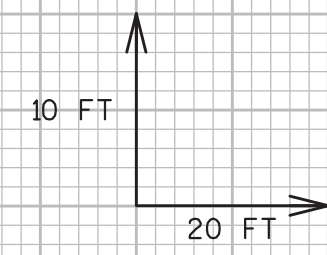
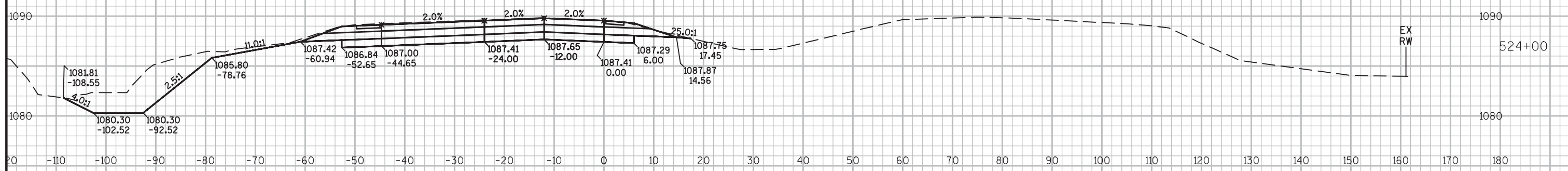
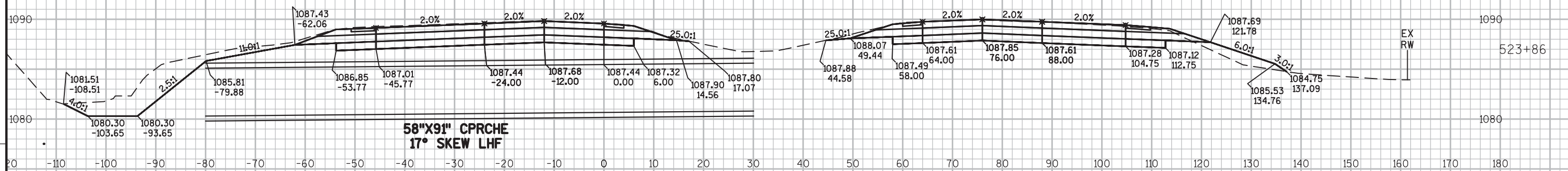
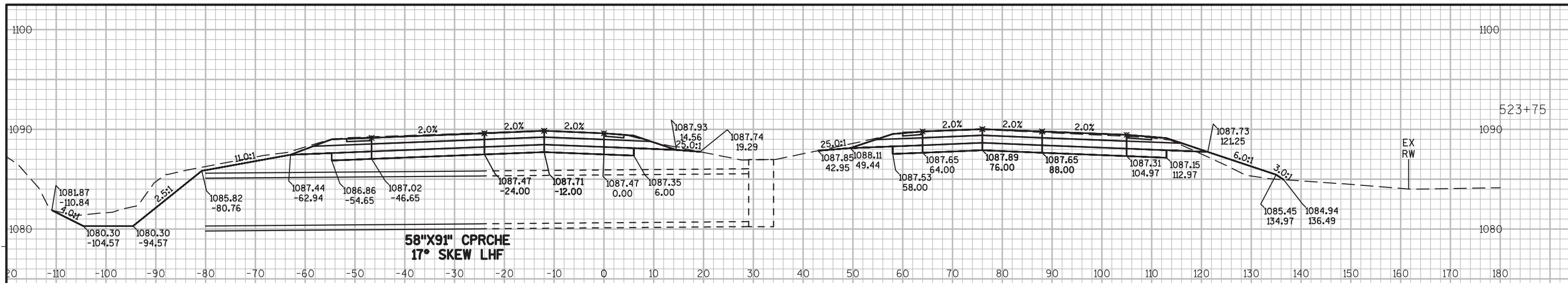
HWY: IH-39

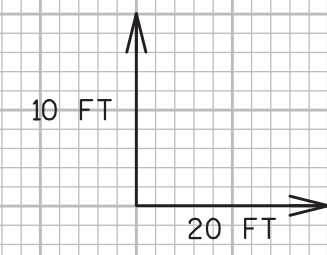
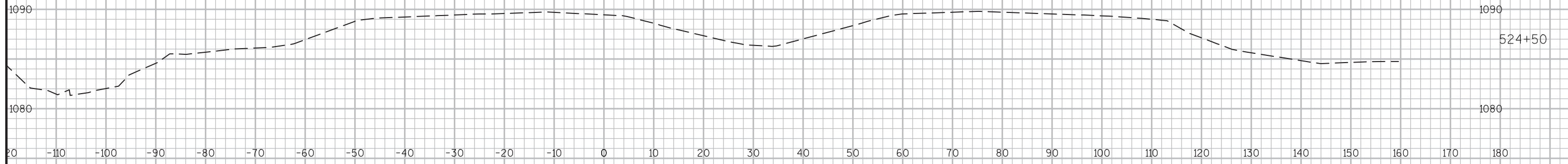
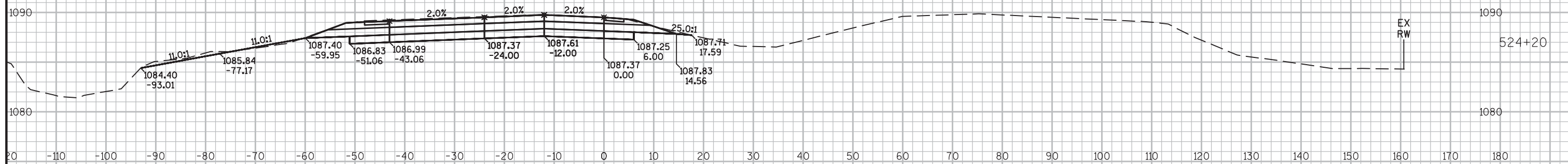
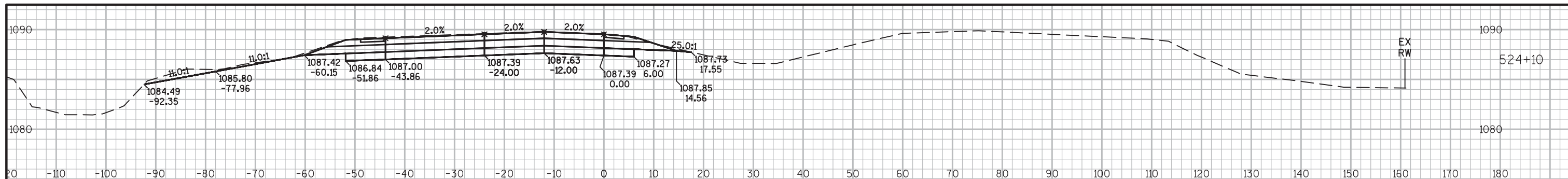
COUNTY: PORTAGE

CROSS SECTIONS: SOUTH BRANCH TENMILE CREEK

SHEET

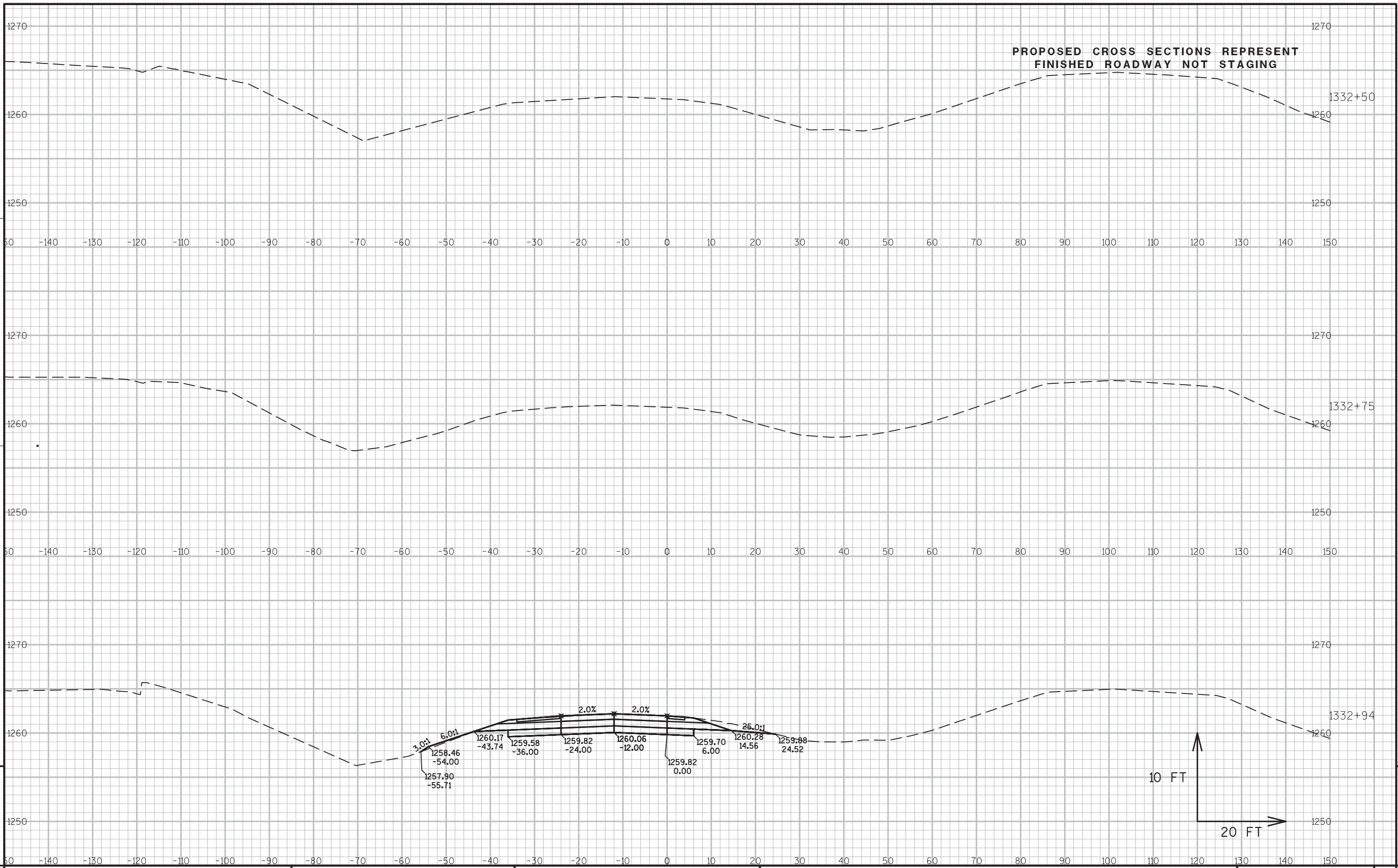
E



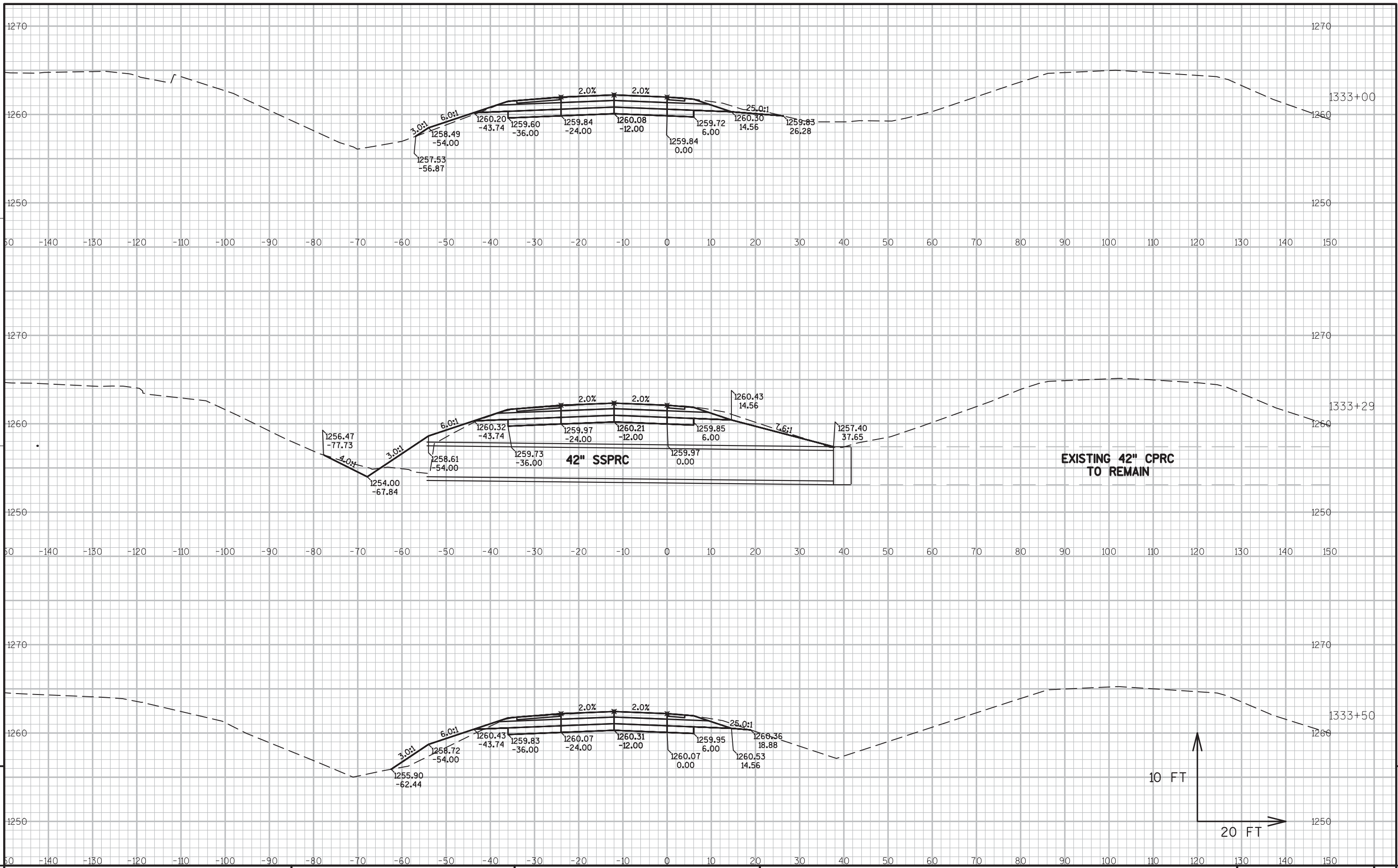


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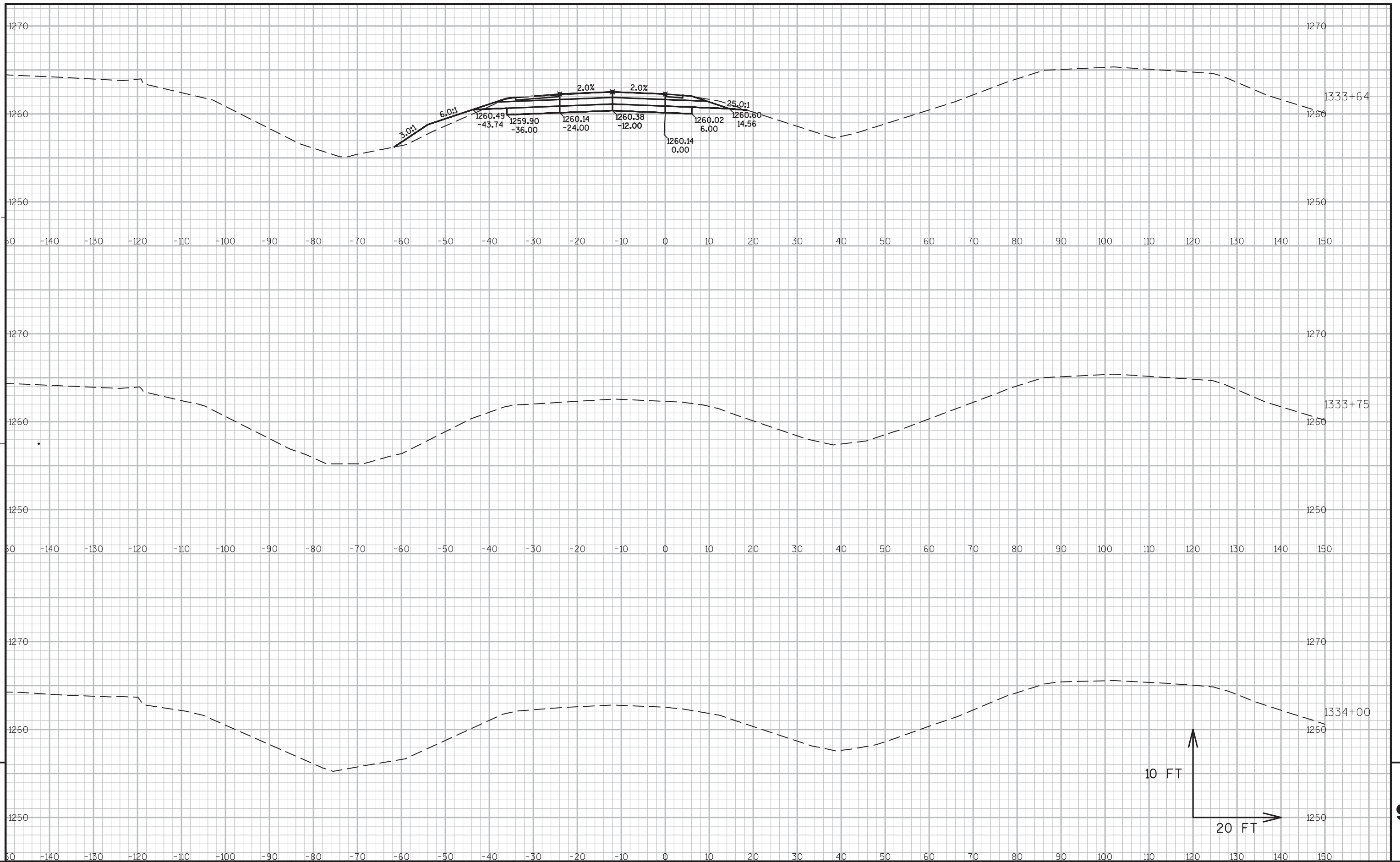
9



PROJECT NO: 1160-00-65 HWY: IH-39 COUNTY: MARATHON CROSS SECTIONS: MARATHON COUNTY SHEET **9**



PROJECT NO: 1160-00-65 HWY: IH-39 COUNTY: MARATHON CROSS SECTIONS: MARATHON COUNTY SHEET **9**



9

9

PROJECT NO: 1160-00-65

HWY: IH-39

COUNTY: MARATHON

CROSS SECTIONS: MARATHON COUNTY

SHEET

E



Wisconsin Department of Transportation

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