

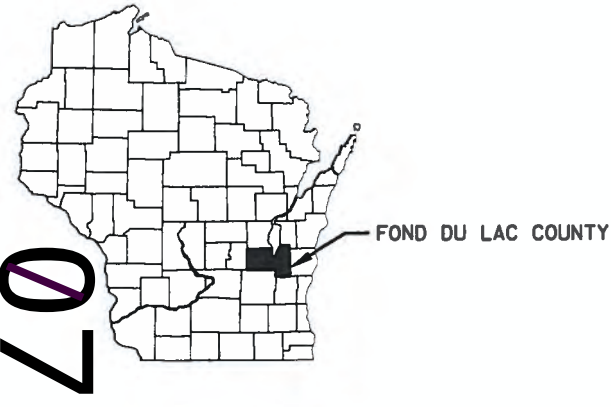
GRE

NOV 2014

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 = 118



DESIGN DESIGNATION	USH 151	DUCHARME
A.A.D.T. (2011)	= 10,500	1,700
A.A.D.T. (2025)	= 12,300	1,900
D.H.V. (2025)	= 1,550	239
D.D.	= 59/41	59/41
T. (DHV)	= 4.8	4.8
DESIGN SPEED	= 60 MPH	30 MPH
ESALS	= 1,824,270	---

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	PL + 58.1
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
CDMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	ROCK
SPECIAL DITCH	LABEL
GRADE ELEVATION	95.36
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	E
FIBER OPTIC	FO
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
TELEPHONE	T
WATER	W
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

FOND DU LAC BYPASS

DUCHARME INTERSECTION

USH 151

FOND DU LAC COUNTY

STATE PROJECT NUMBER

1420-26-71

STATE PROJECT

1420-26-71

FEDERAL PROJECT

PROJECT

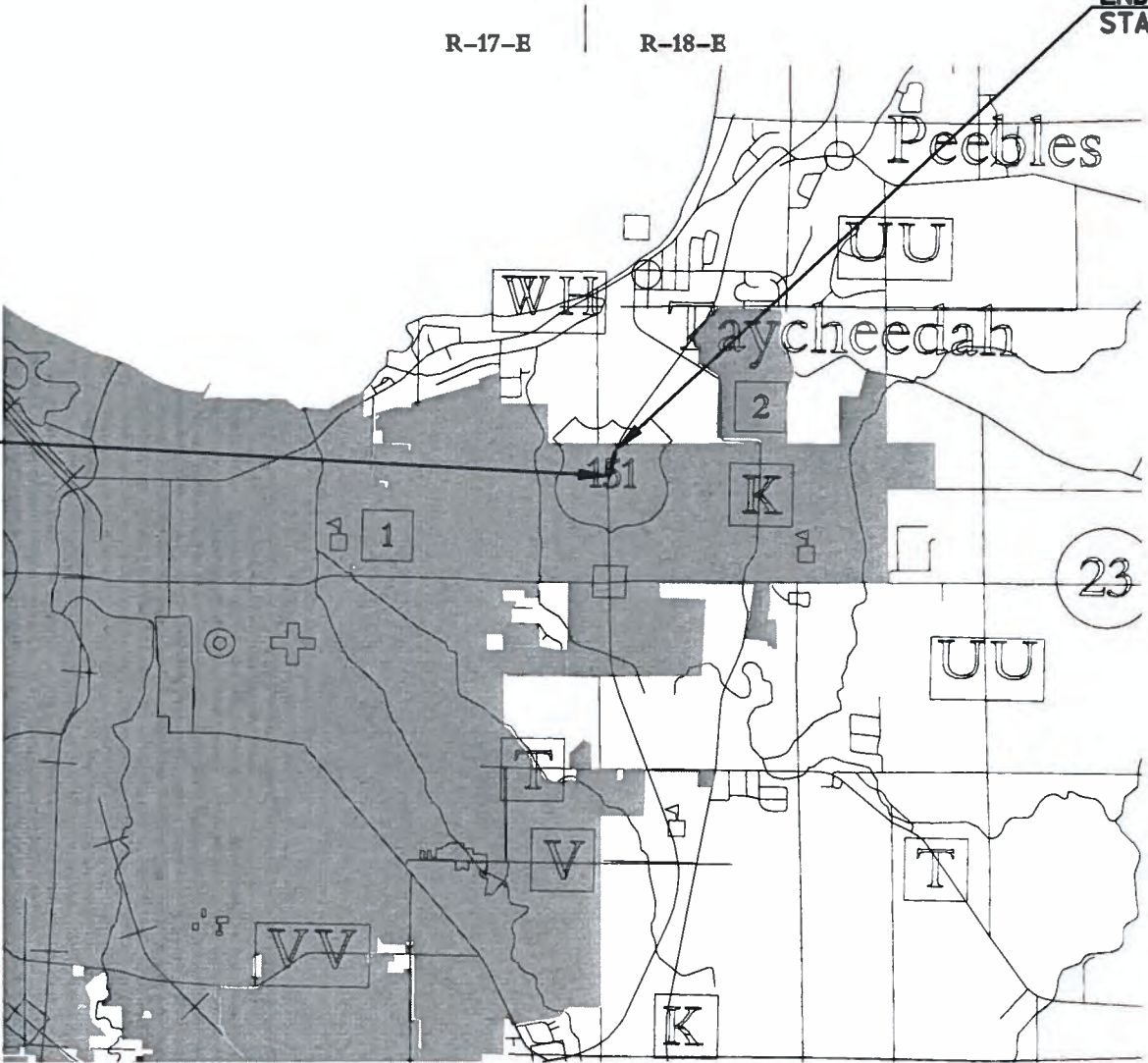
WISC 2014387

CONTRACT

1

END PROJECT 1420-26-71  
STA 401+60.17

BEGIN PROJECT 1420-26-71  
STA 392+44.93  
Y = 391172.553  
X = 829284.633



LAYOUT

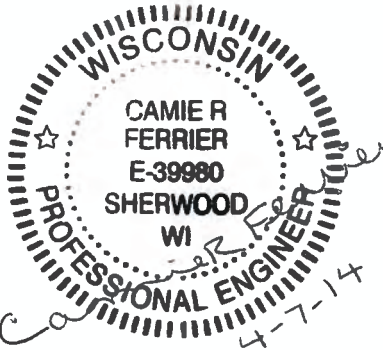
SCALE 0 1/2 MI. 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.173 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE  
WISCONSIN COUNTY COORDINATE SYSTEM (WCCS),  
FOND DU LAC COUNTY, NAD 1983 (9D)

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO  
THE NORTH AMERICAN VERTICAL DATUM OF 1988  
NAVD 88 (9D)

ORIGINAL PLANS PREPARED BY  
**OMNI**  
ASSOCIATES



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	OMNI ASSOCIATES, INC.
Project Manager	B. LEARST
Regional Examiner	-
Regional Supervisor	R. WAGNER
C.O. Examiner	-

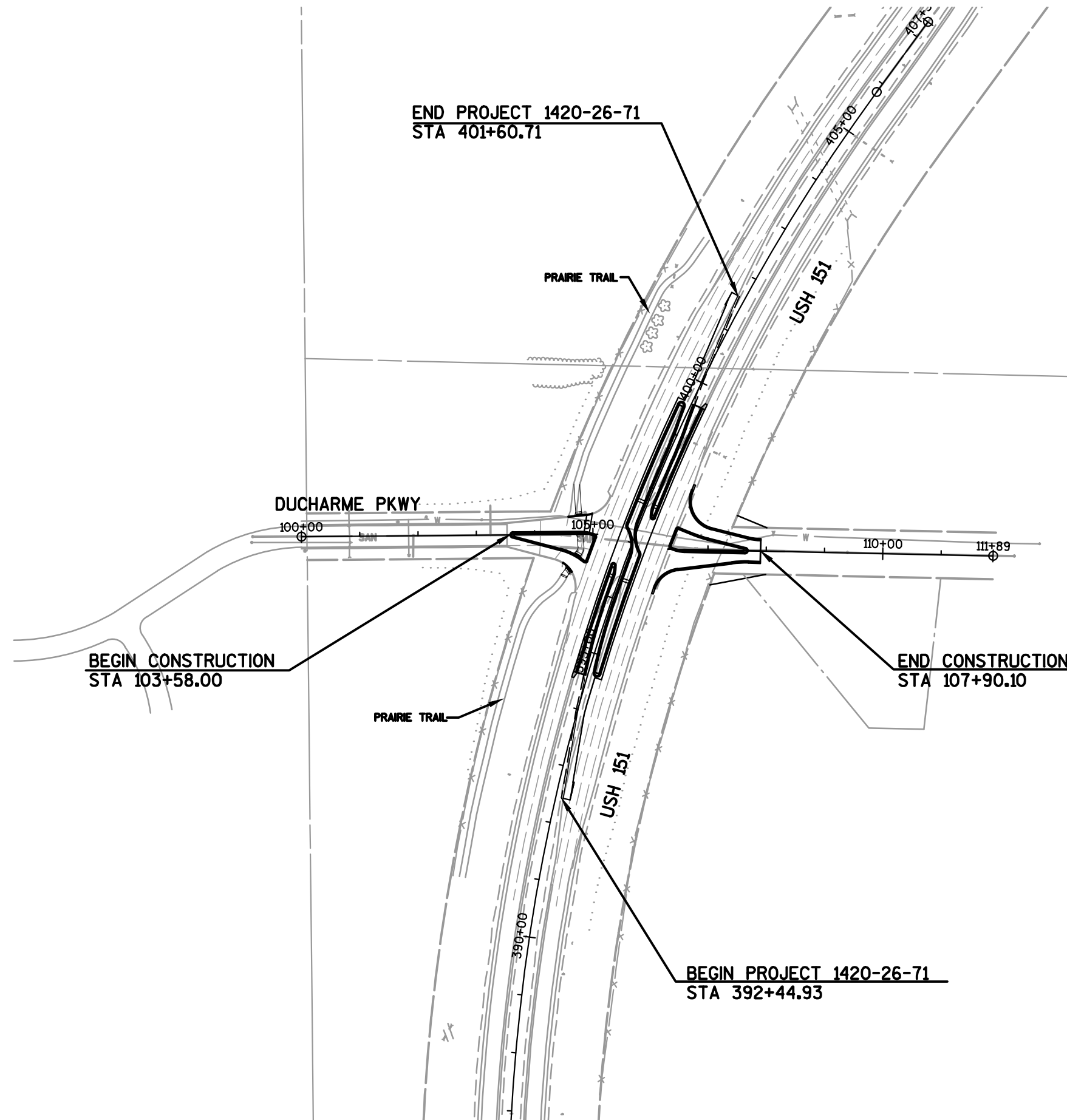
APPROVED FOR THE DEPARTMENT

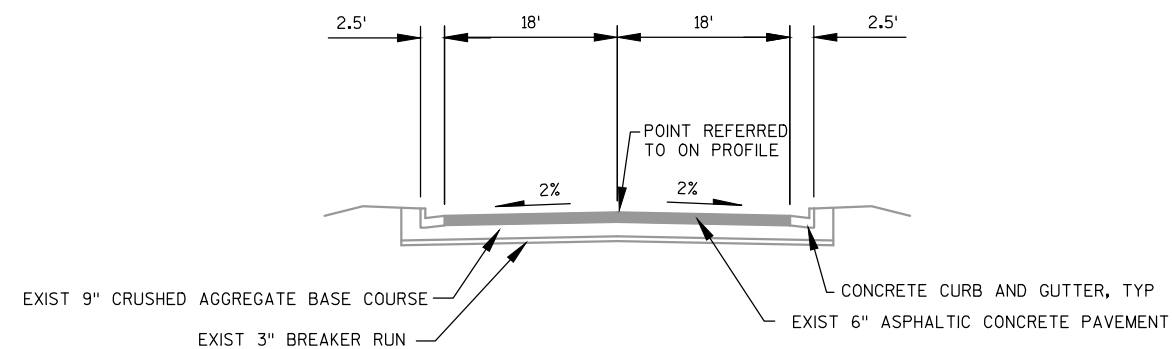
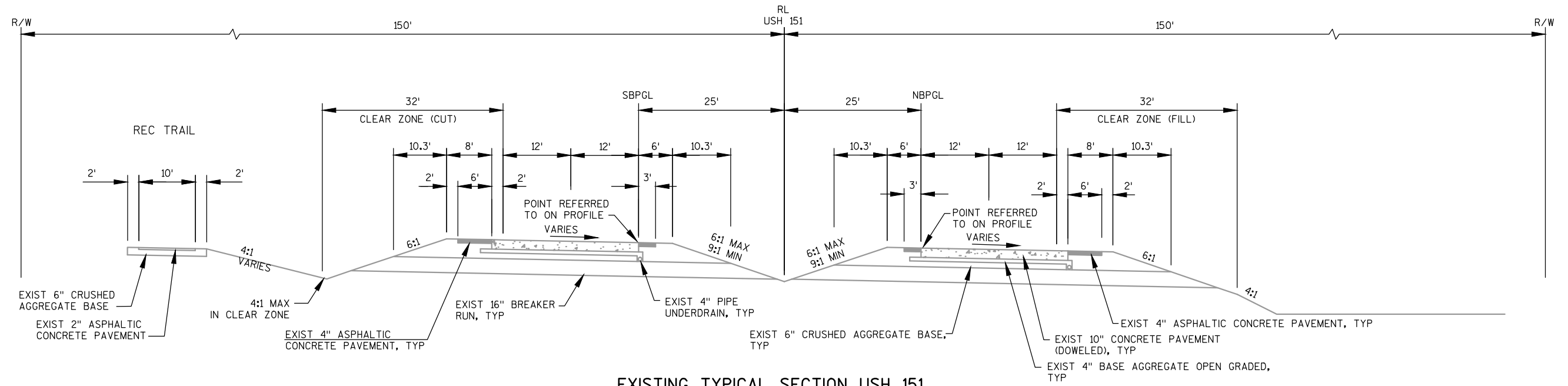
DATE: 4/7/14  
(Signature)

1

E

2	<div><div><div>GENERAL NOTES</div><div>LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.</div><div>NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.</div><div>ALL MANHOLE AND INLET OFFSETS ARE GIVEN TO THE CENTER OF THE STRUCTURE.</div><div>INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.</div><div>CULVERT PIPE FLOWLINE ELEVATIONS SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.</div><div>PRIOR TO ORDERING DRAINAGE STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.</div><div>CURB AND GUTTER RADII ARE SHOWN TO THE FLANGE LINE OF THE CURB AND GUTTER.</div><div>THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES, FIELD ENTRANCES AND COMMERCIAL ENTRANCES SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.</div><div>IMMEDIATELY AFTER CONSTRUCTION OF ANY INLET, CONTRACTOR SHALL CONSTRUCT THE EROSION CONTROL PROTECTION IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS TO MINIMIZE SEDIMENTATION IN THE INLET AND STORM SEWER.</div><div>WETLAND AREAS ARE SHOWN ON THE PLANS. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WORK WITHIN THE SLOPE INTERCEPTS IN THE WETLAND AREAS.</div><div>DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.</div><div>THE CONTRACTOR SHALL NOTIFY DIGGER'S HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGER'S HOTLINE MUST BE CONTACTED SEPERATELY.</div></div><div><div><div><div>DIGGERSHOTLINE</div><div>Dial 811 or (800) 242-8511</div><div>www.DiggersHotline.com</div></div></div></div></div>				<div><div><div>UTILITIES</div><div><div>ELECTRIC &amp; GAS</div><div>WISCONSIN POWER &amp; LIGHT COMPANY JASON HOGAN 4902 N BILTMORE LANE MADISON, WI 53718 TELEPHONE: 608-458-4871 JASONHOGAN@ALLIANTENERGY.COM</div></div><div><div>WATER</div><div>CITY OF FOND DU LAC KATHY SCHARF 160 SOUTH MACY ST FOND DU LAC, WI 54936 TELEPHONE: 920-322-3682 KSCHARF@FDL.WI.GOV</div></div><div><div>SANITARY</div><div>CITY OF FOND DU LAC PAUL DEVRIES 160 SOUTH MACY ST FOND DU LAC, WI 54936 TELEPHONE: 920-322-3473 PDEVRIES@FDL.WI.GOV</div></div><div><div>ELECTRIC</div><div>AMERICAN TRANSMISSION COMPANY, LLC MIKE OLSEN 801 O'KEEFE ROAD PO BOX 6113 DEPERE, WI 54115-6113 TELEPHONE: 920-338-6582 MOLSEN@ATCLLC.COM</div></div></div><div><div><div>OTHER CONTACTS</div><div><div>DNR LIAISON</div><div>JAY SCHIEFELBEIN DNR NORTHEAST REGIONAL HQ 2984 SHAWANO AVE GREEN BAY, WI 54313 TELEPHONE: 920-662-5130 EMAIL: JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV</div></div></div><div><div><div>ORDER OF "SECTION 2" SHEETS</div><div><div>SHEET TITLE</div><div>GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS INTERSECTION DETAILS EROSION CONTROL STORM SEWER PLAN PERMANENT SIGNING PAVEMENT MARKING TRAFFIC CONTROL AND STAGING ALIGNMENT</div></div></div></div></div></div>				2			
	PROJECT NO: 1420-26-71		HWY: USH 151		COUNTY: FOND DU LAC		GENERAL NOTES		SHEET:		E	2.1

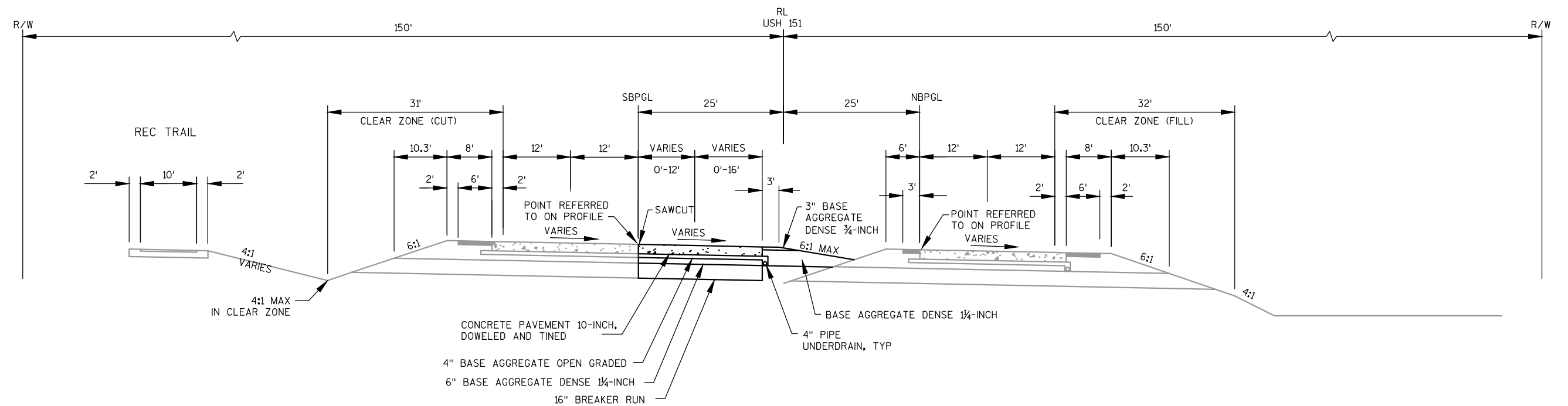




WEST OF USH 151

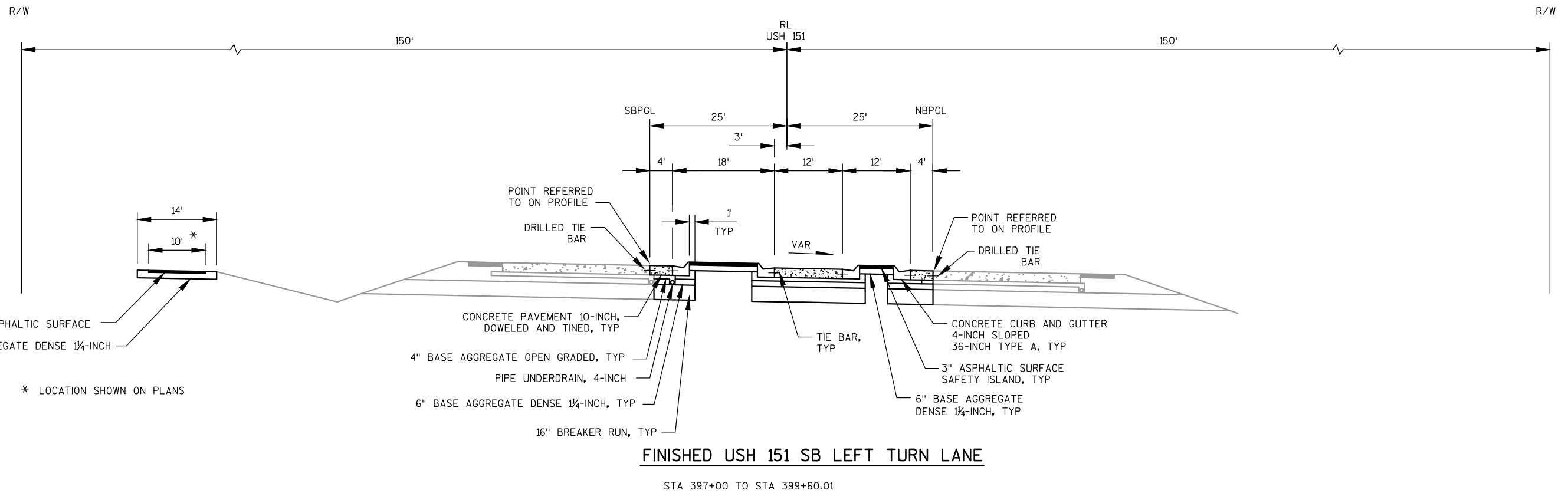
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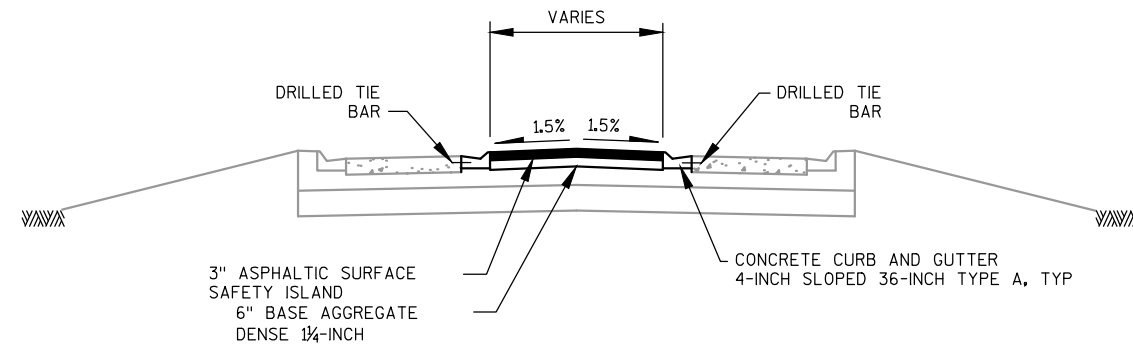
## STA 392+44.93 TO STA 394+59.77



## STA 399+60.01 TO STA 401+60.71

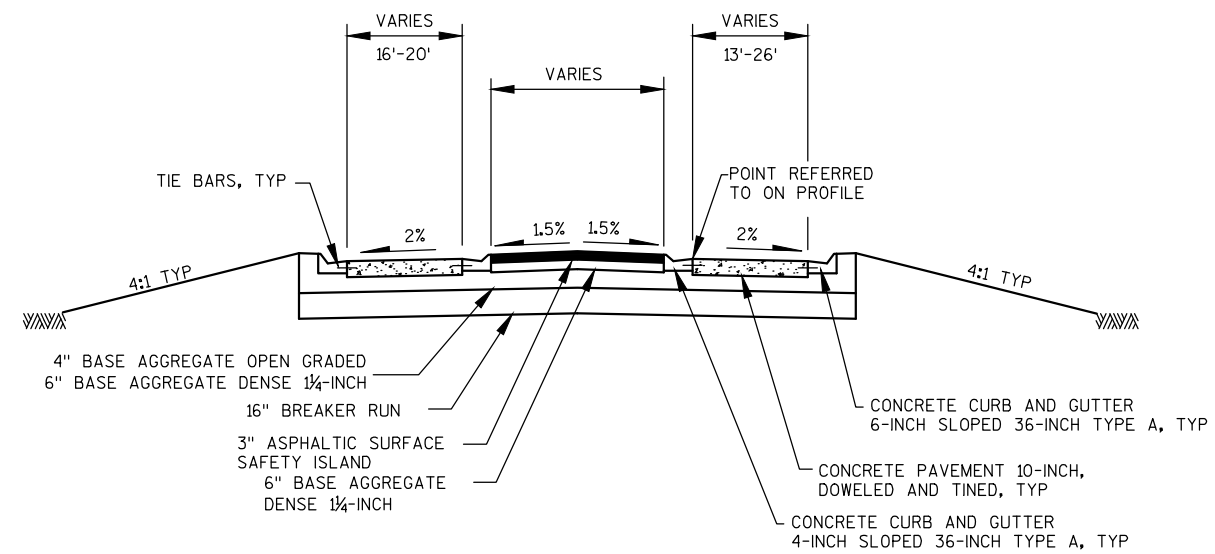
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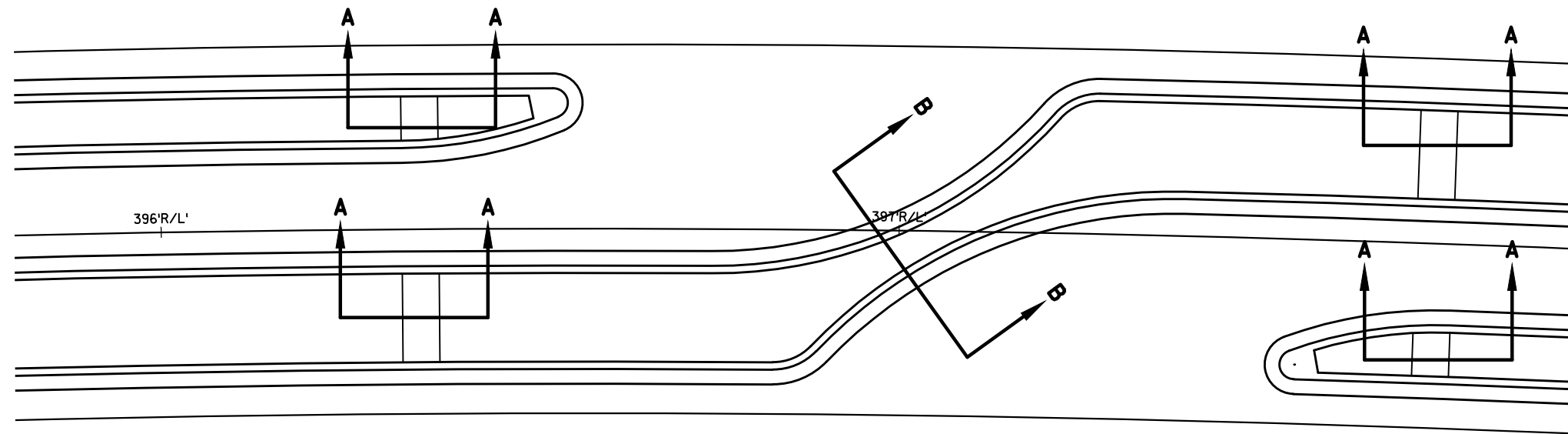
FINISHED TYPICAL SECTION DUCHARME PARKWAY

WEST APPROACH

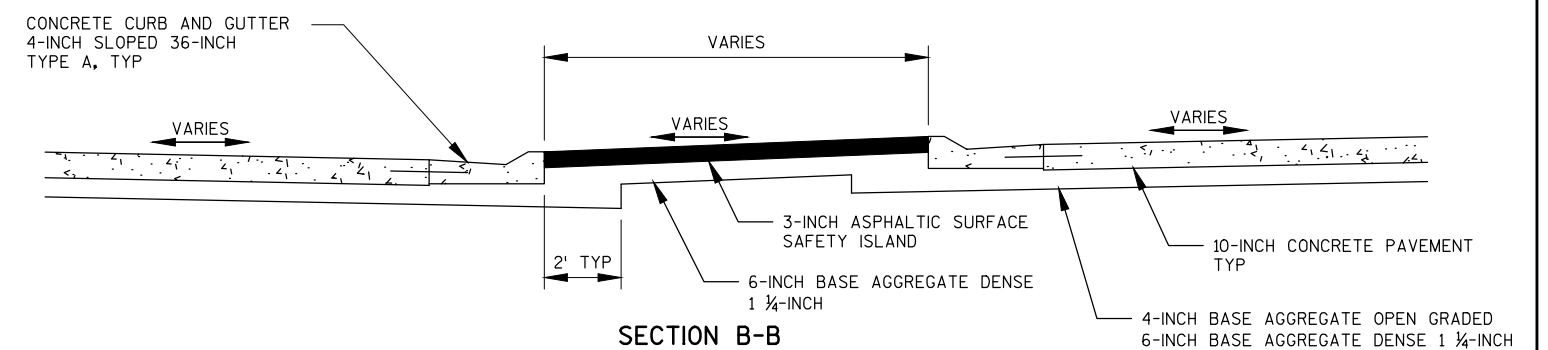
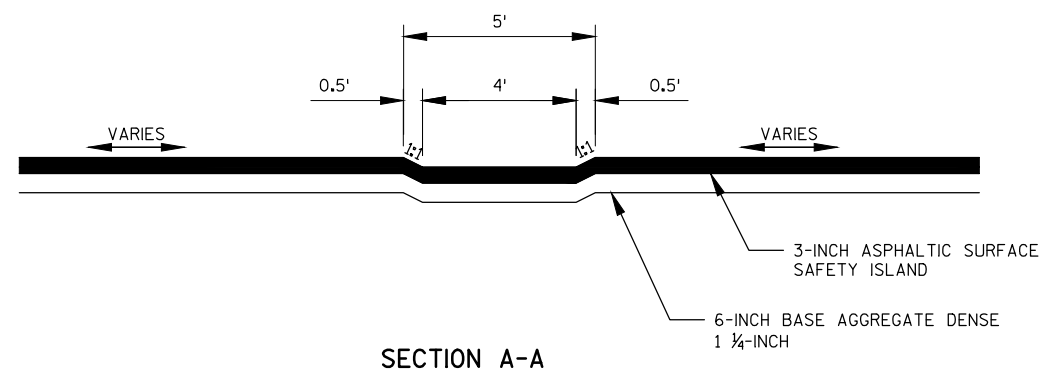


FINISHED TYPICAL SECTION DUCHARME PARKWAY

EAST APPROACH

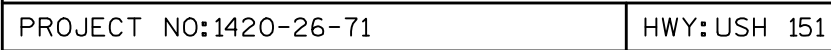
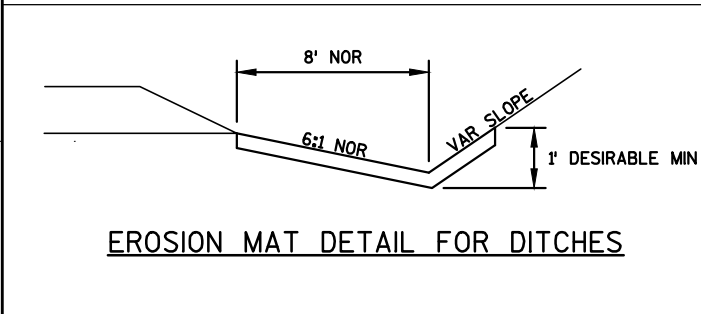


SLOTTED LEFT INTERSECTION DETAIL WITH BIKE PATH





2



SECTION A-A

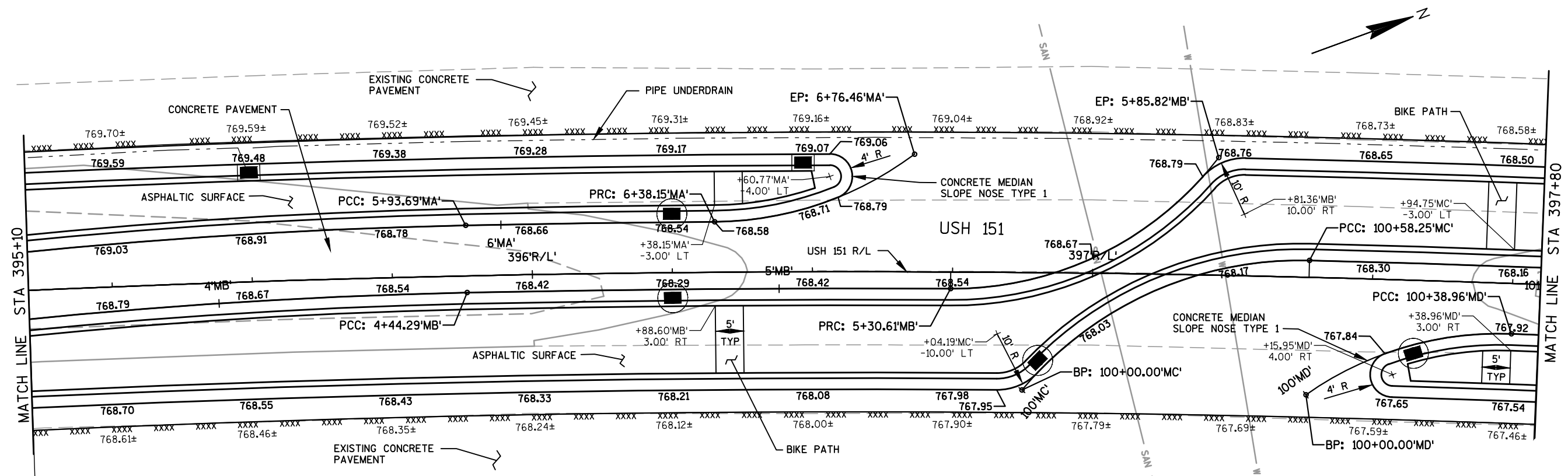
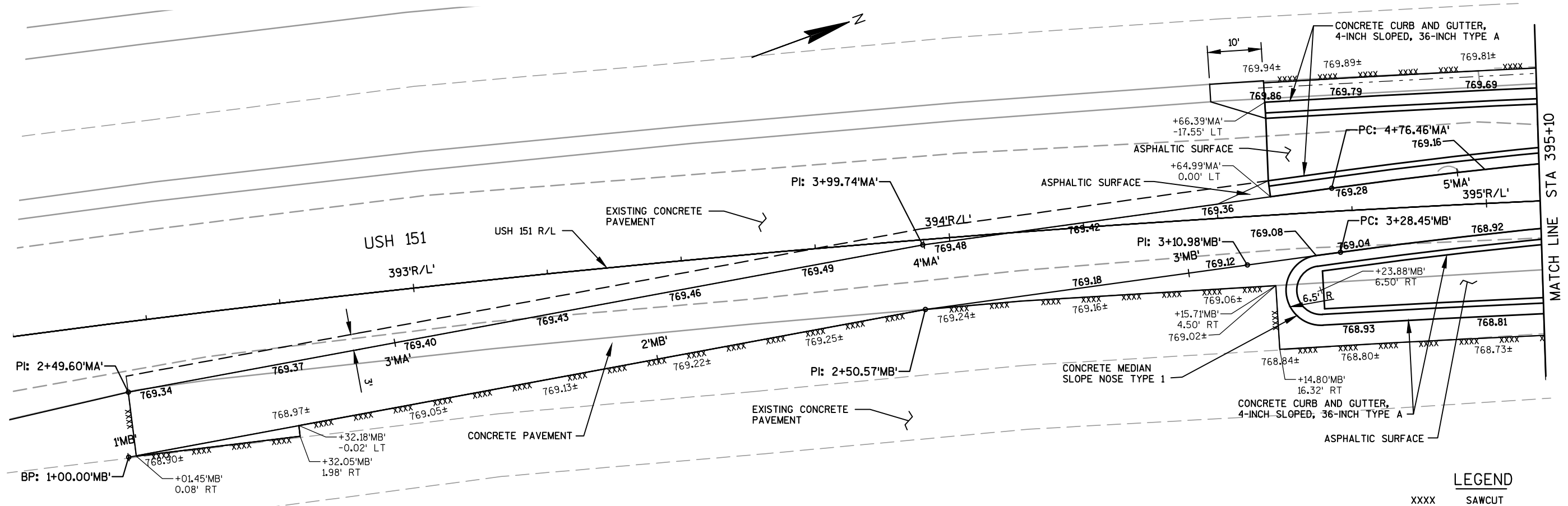
12"

18"

GEOTEXTILE FABRIC  
TYPE "HR" REQD

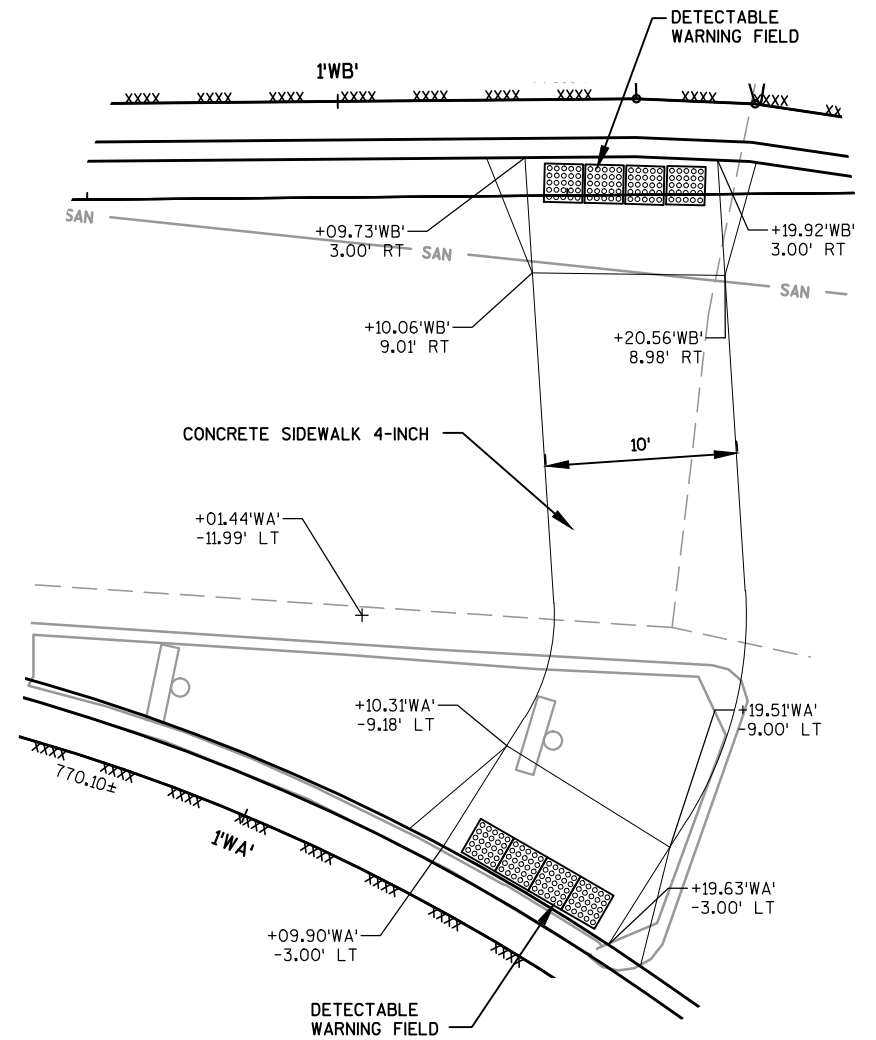


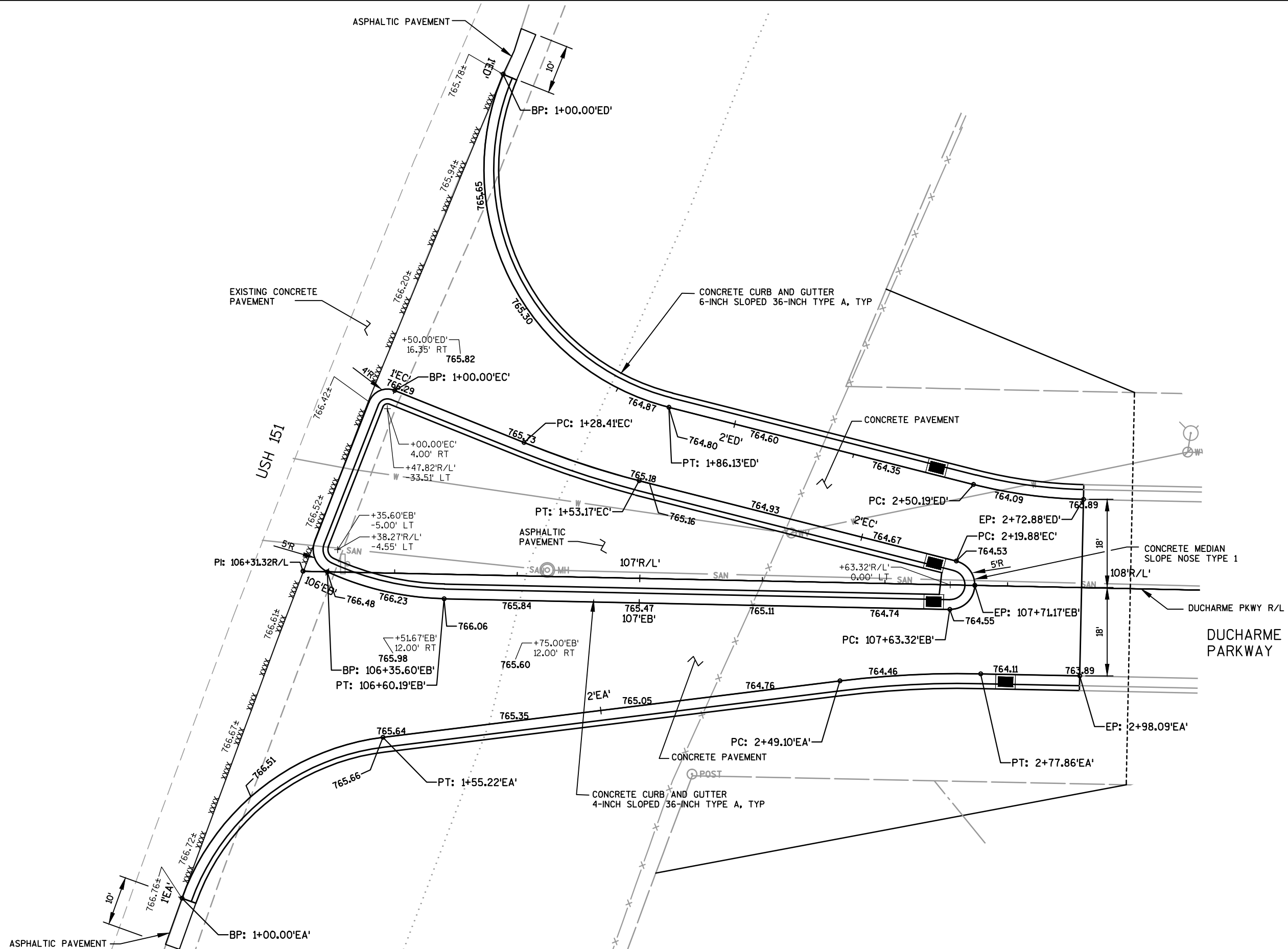
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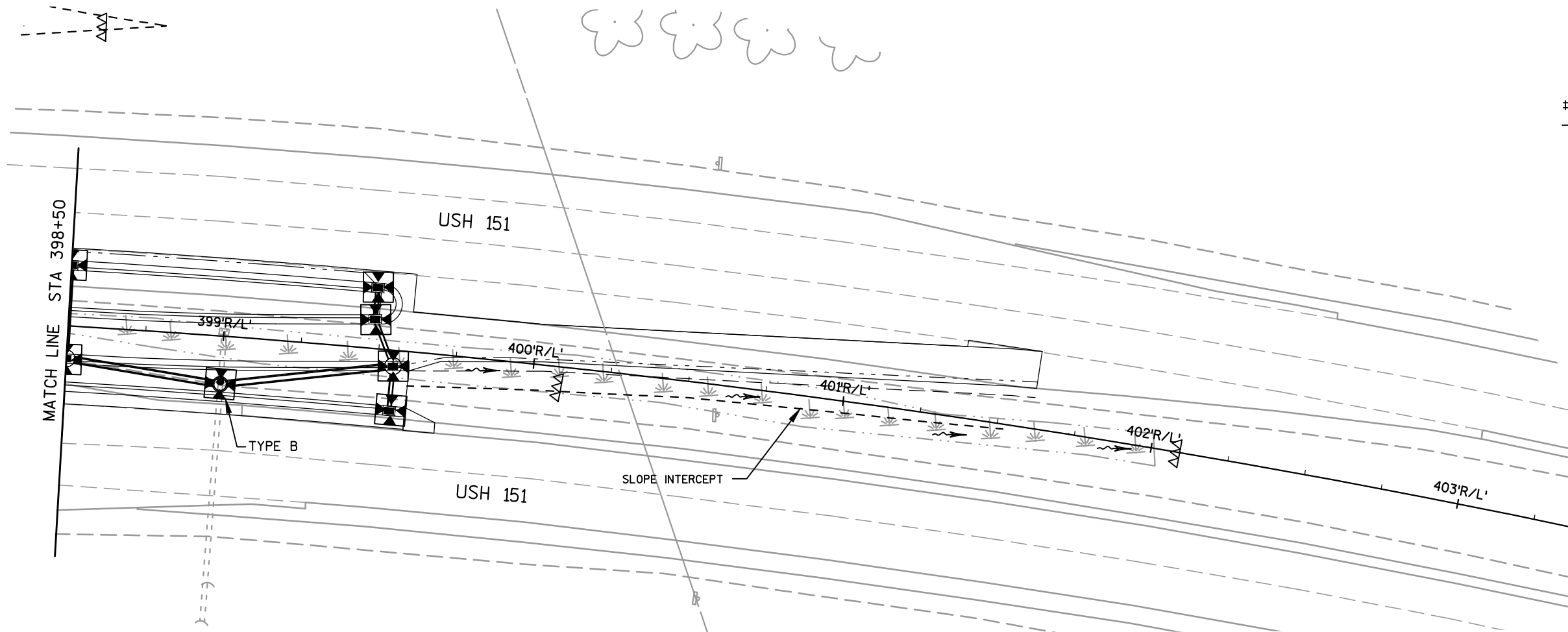
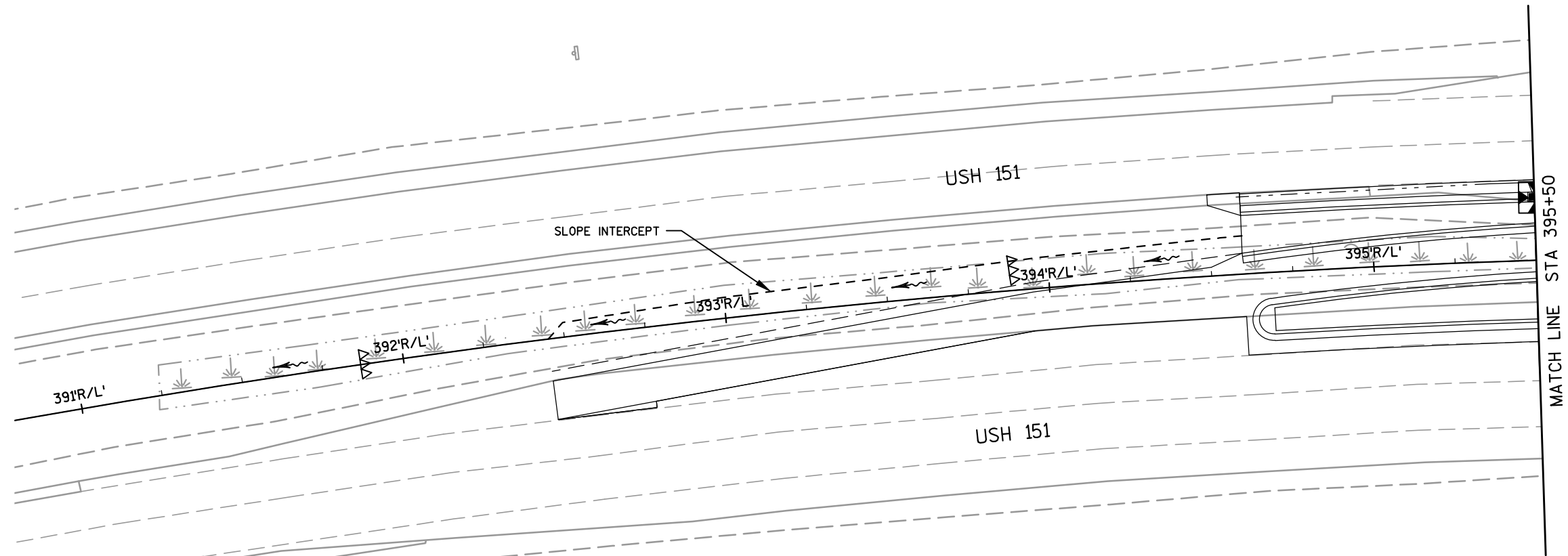
XXXX	SAWCUT
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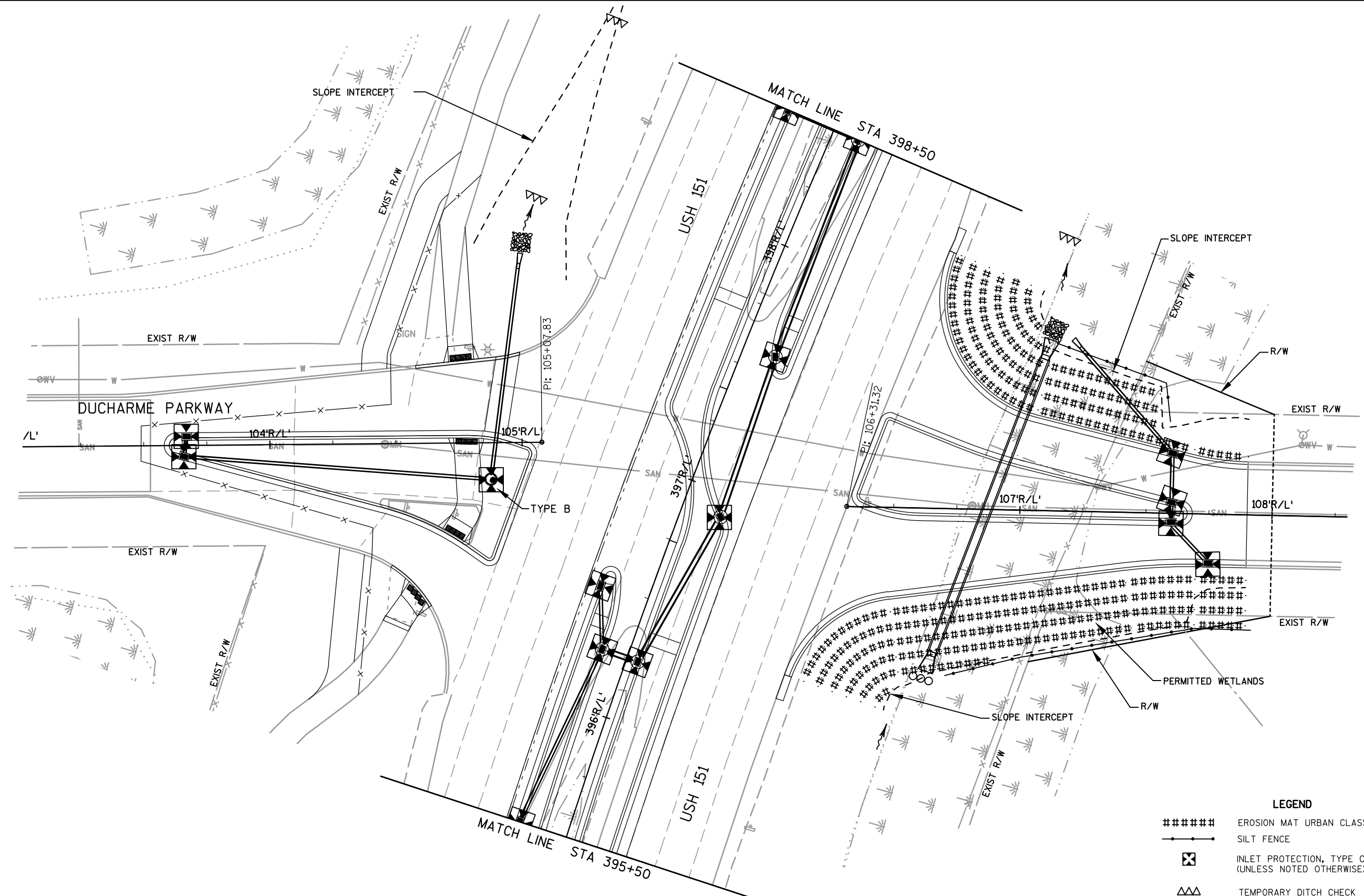


## LEGEND

XXXX SAWCUT

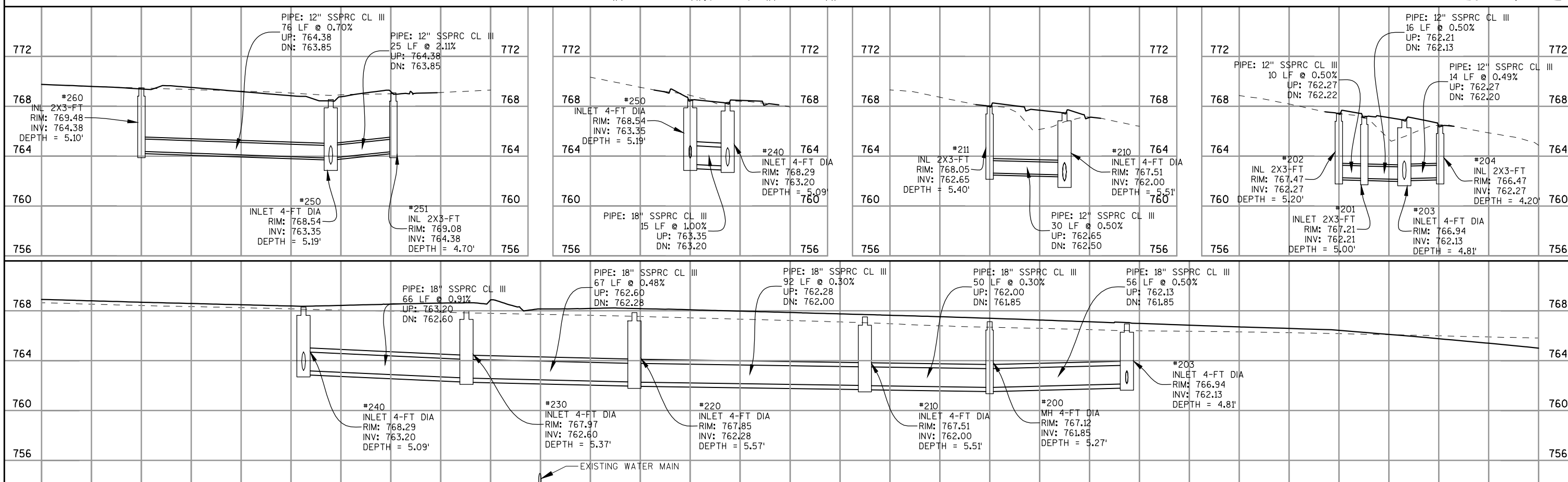
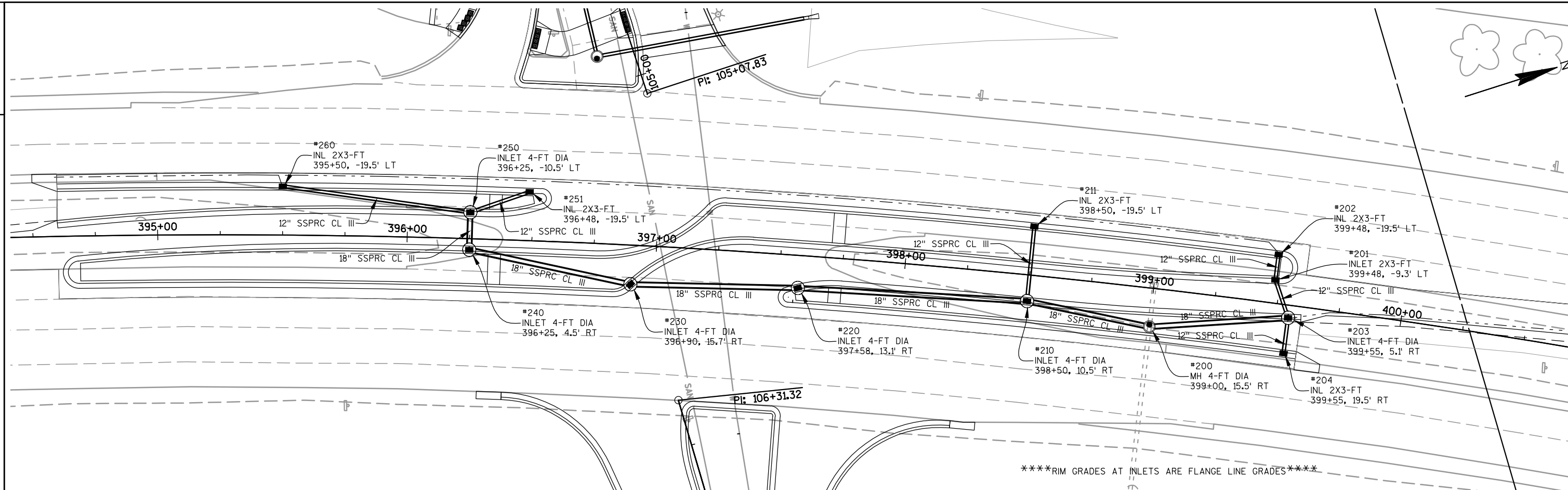


LEGEND	
#####	EROSION MAT URBAN CLASS I, TYPE B
—●—●—●—	SILT FENCE
⊠	INLET PROTECTION, TYPE C (UNLESS NOTED OTHERWISE)
△△	TEMPORARY DITCH CHECK
∞	CULVERT PIPE DITCH CHECK
~	SURFACE WATER FLOW
⊞	RIPRAP MEDIUM

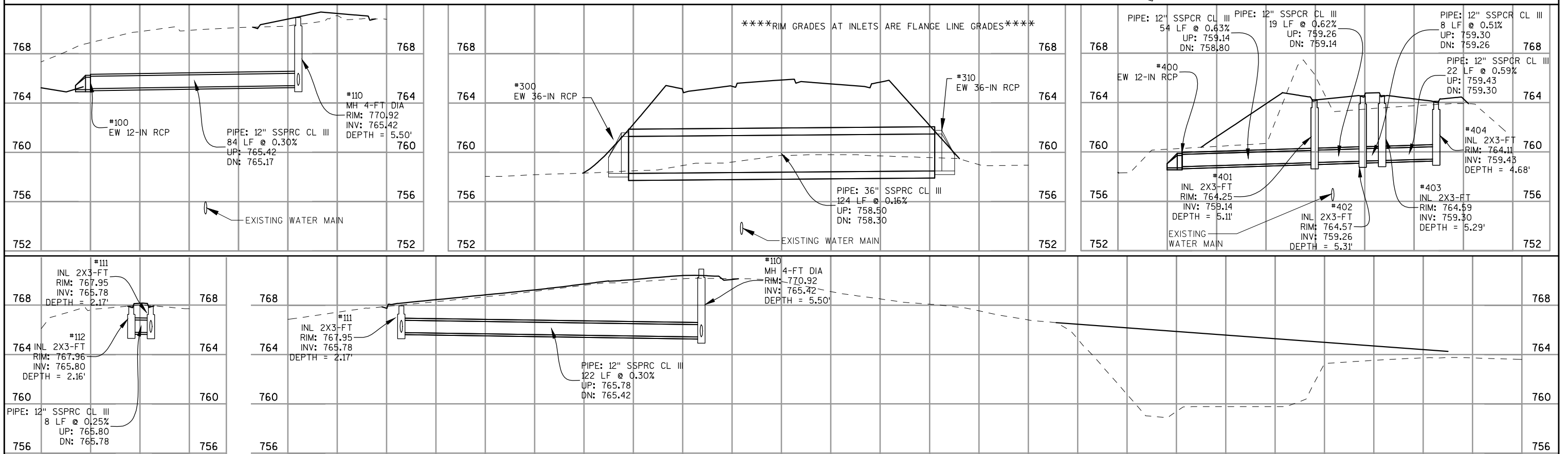
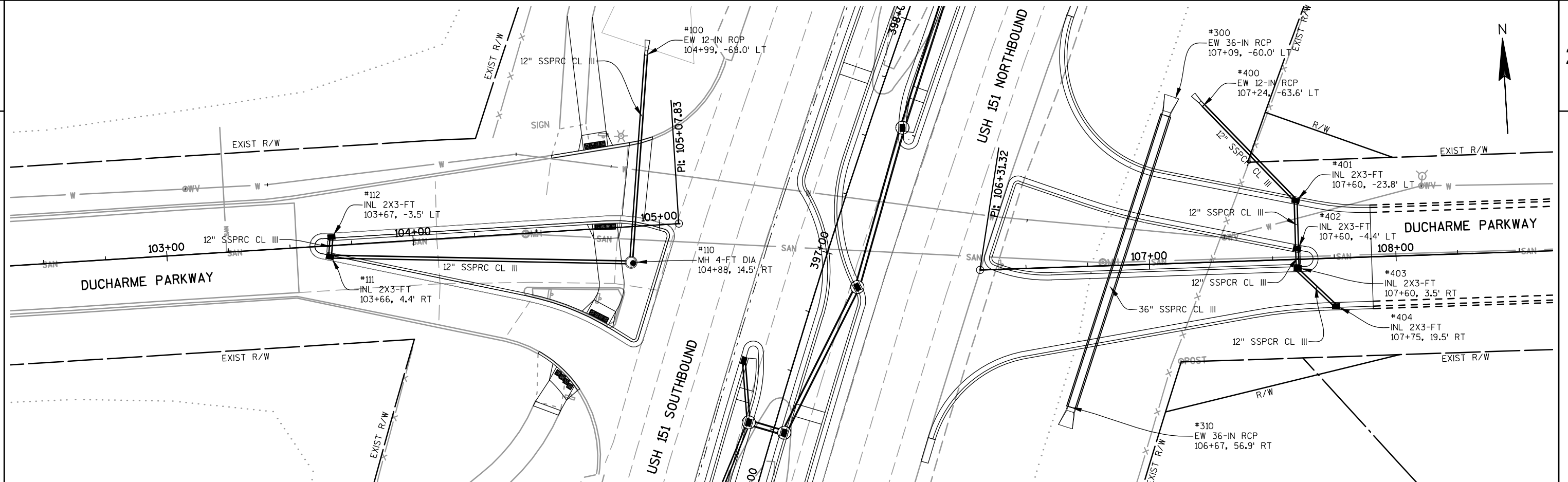


## LEGEND

#####	EROSION MAT URBAN CLASS I, TYPE B
—●—	SILT FENCE
⊗	INLET PROTECTION, TYPE C (UNLESS NOTED OTHERWISE)
△△△	TEMPORARY DITCH CHECK
∞	CULVERT PIPE DITCH CHECK
~>	SURFACE WATER FLOW
⊞	RIPRAP MEDIUM







SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE \* SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.



LEAVE AS IS IN PLACE

SIS



USH 151 SB

389+00

390+00

391+00

392+00

393+00

394+00

395+00

USH 151 NB

1

Ducharme Pkwy  
←

D1-61  
114" X 30'

□ SIGN-REMOVE EXISTING

◡ SIGN-PLACE NEW

○ SIGN-REMOVE AND REPLACE

2

WRONG  
WAY

R5-1A  
42" X 30'

PLAN SHEET PRODUCED  
BY WisDOT-NE REGION



## SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

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NEW STOP SIGNS (R1-1) PLACED UNDER STAGE \* SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

LEAVE AS IS IN PLACE

23

Johnson St  
EXIT 1/2 MILE

E1-51A

Ducharme Pkwy

D1-61  
114" X 30'

44

VERTICAL IMPACT  
RECOVERY PANEL  
AND BASEWRONG  
WAYR5-1A  
42" X 30"

41

USH 151 SB

400+00

401+00

402+00

403+00

404+00

405+00

USH 151 NB

42

W9-1L  
36" X 36"

43

W9-1L  
36" X 36"

45

W4-2L  
48" X 48"

46

W4-2L  
48" X 48"

47

R3-4  
36" X 36"  
TO BE MOUNTED ON  
THE BACK OF R4-7  
"KEEP RIGHT" SIGN  
LOCATED IN THE MEDIAN

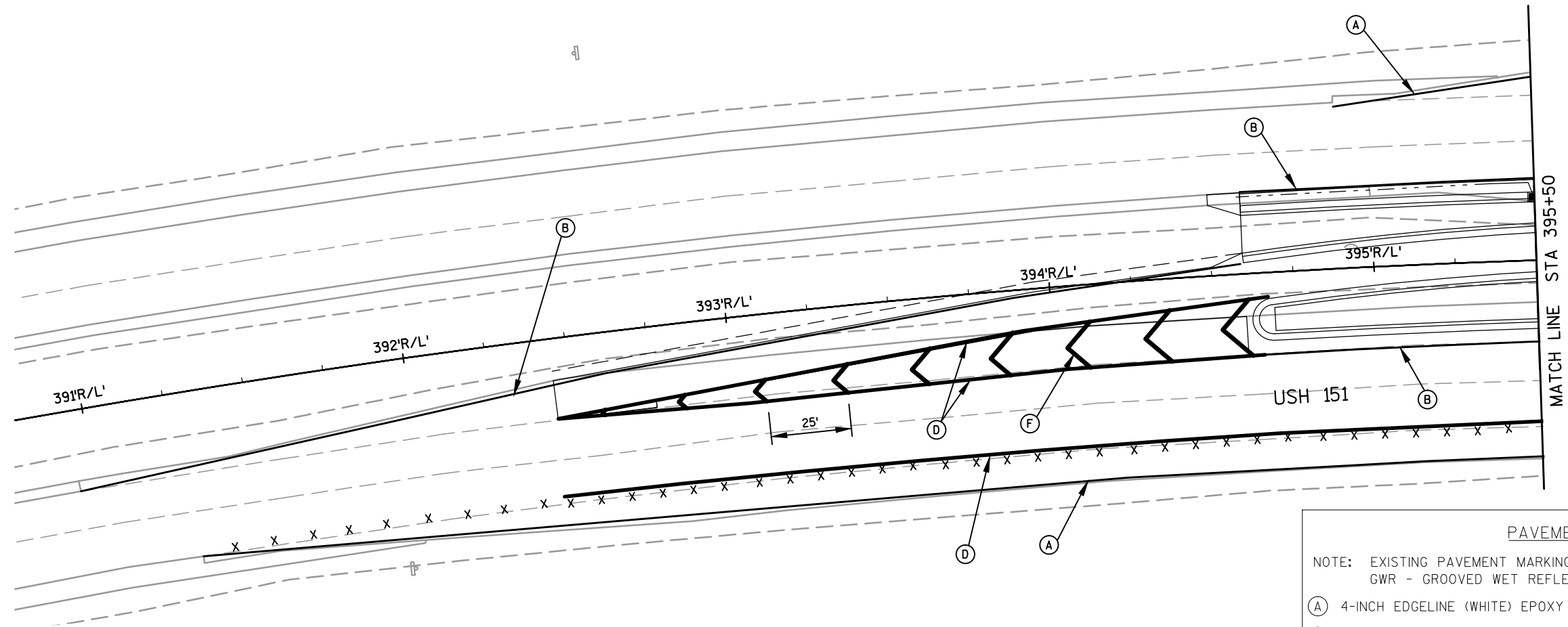
SIGN-REMOVE EXISTING

SIGN-PLACE NEW

SIGN-REMOVE AND REPLACE

PLAN SHEET PRODUCED  
BY WISDOT-NE REGION

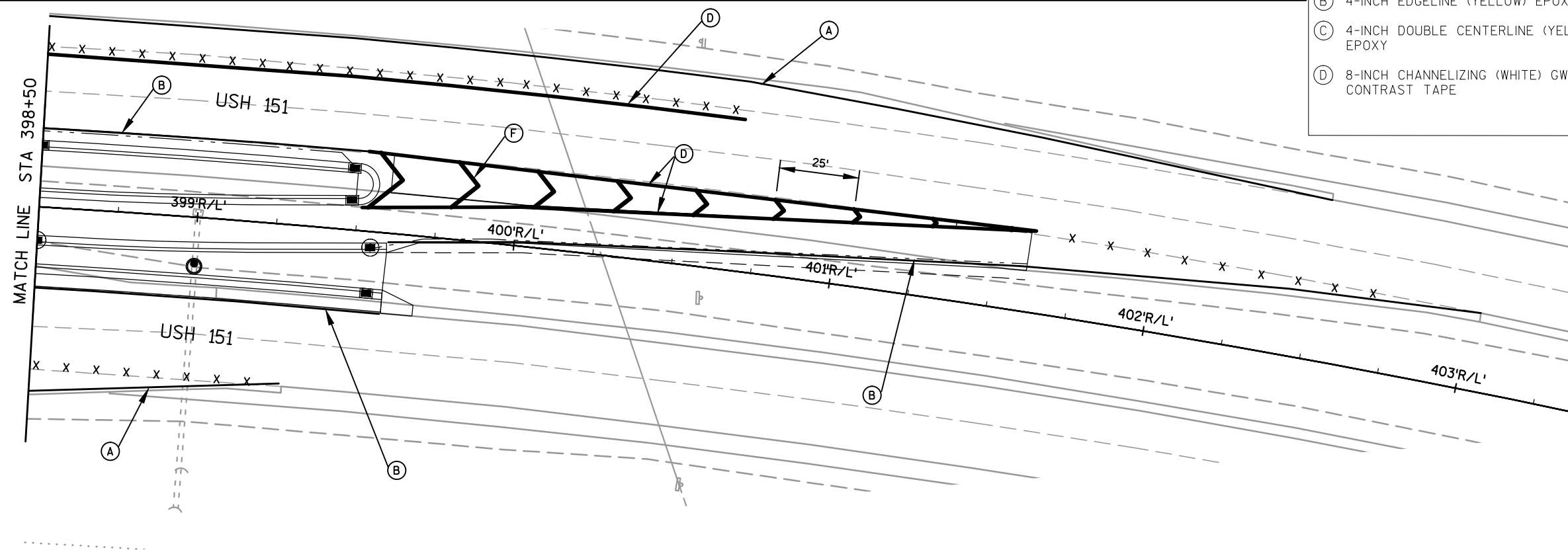
PARKWAY

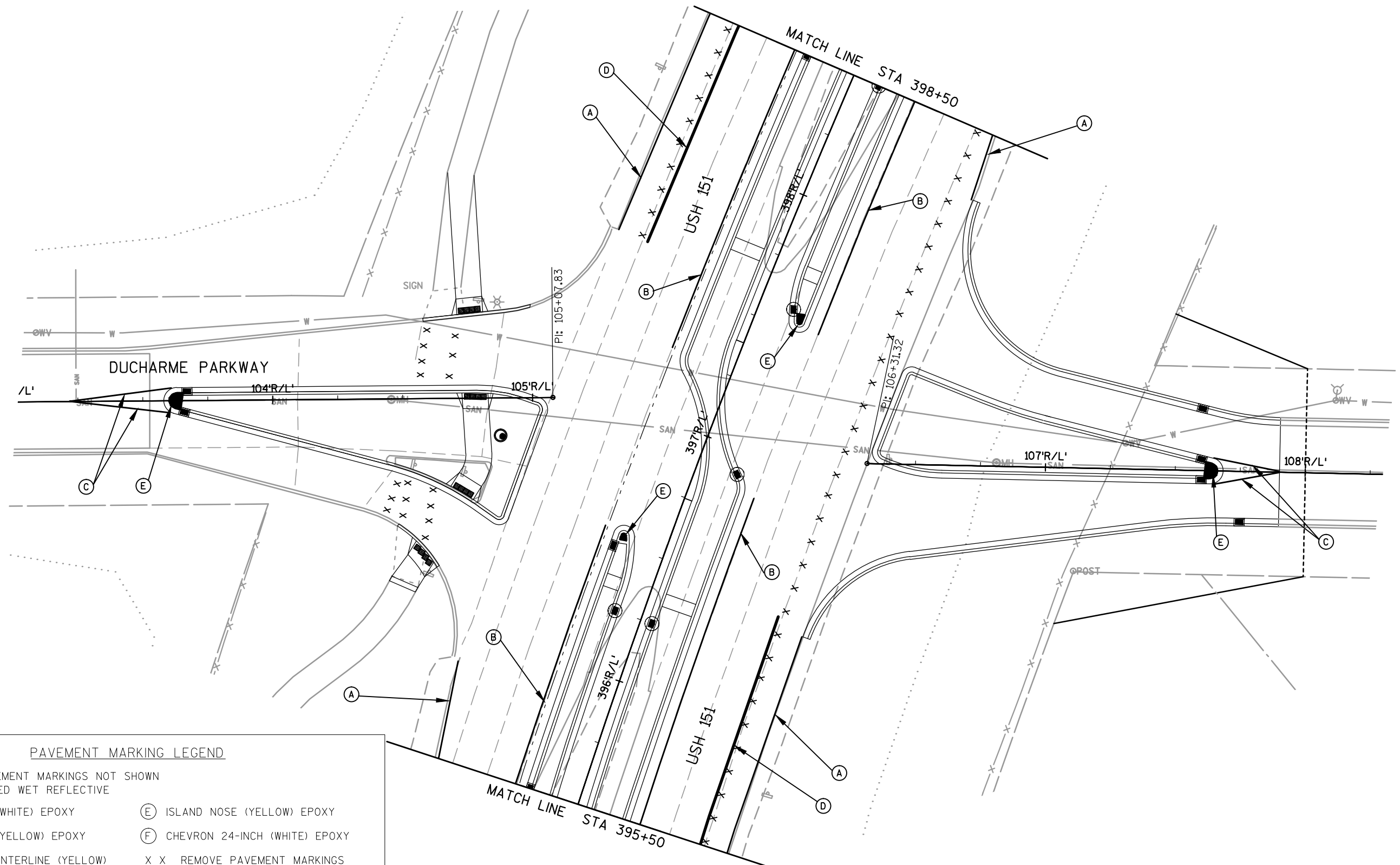


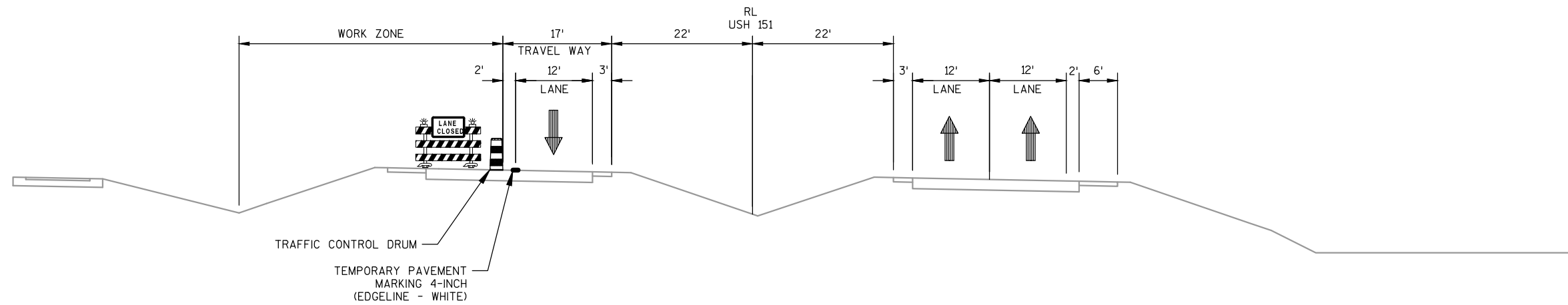
## PAVEMENT MARKING LEGEND

NOTE: EXISTING PAVEMENT MARKINGS NOT SHOWN  
GWR - GROOVED WET REFLECTIVE

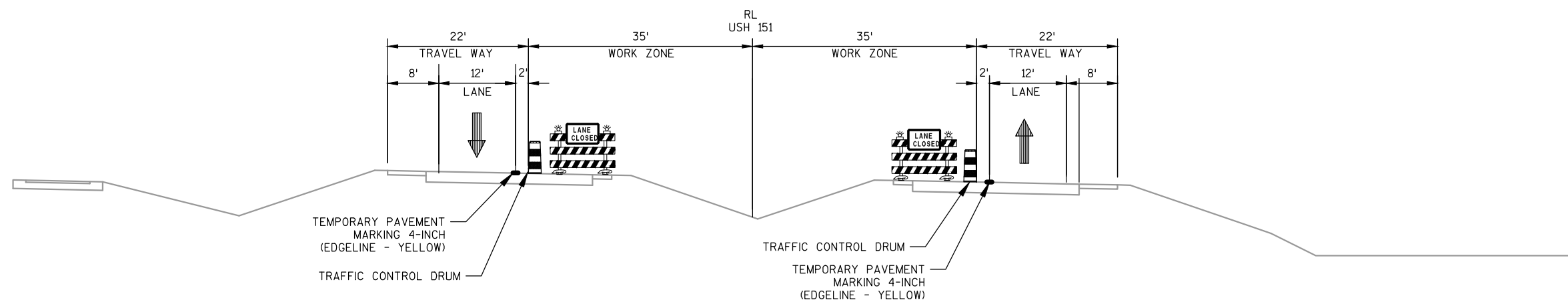
- |   |                                   |
|---|-----------------------------------|
| (A) 4-INCH EDGE LINE (WHITE) EPOXY                | (E) ISLAND NOSE (YELLOW) EPOXY    |
| (B) 4-INCH EDGE LINE (YELLOW) EPOXY               | (F) CHEVRON 24-INCH (WHITE) EPOXY |
| (C) 4-INCH DOUBLE CENTERLINE (YELLOW) EPOXY       | X X REMOVE PAVEMENT MARKINGS      |
| (D) 8-INCH CHANNELIZING (WHITE) GWR CONTRAST TAPE |                                   |



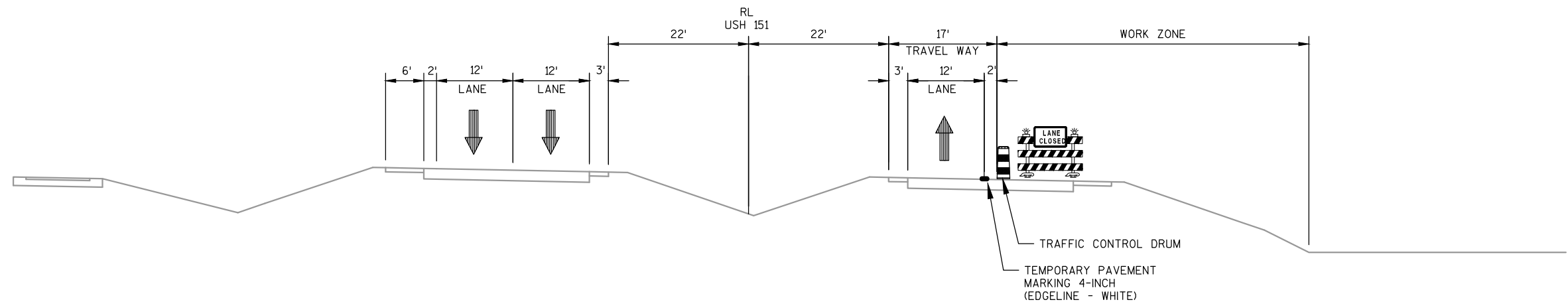




USH 151 TYPICAL SECTION - STAGE 1



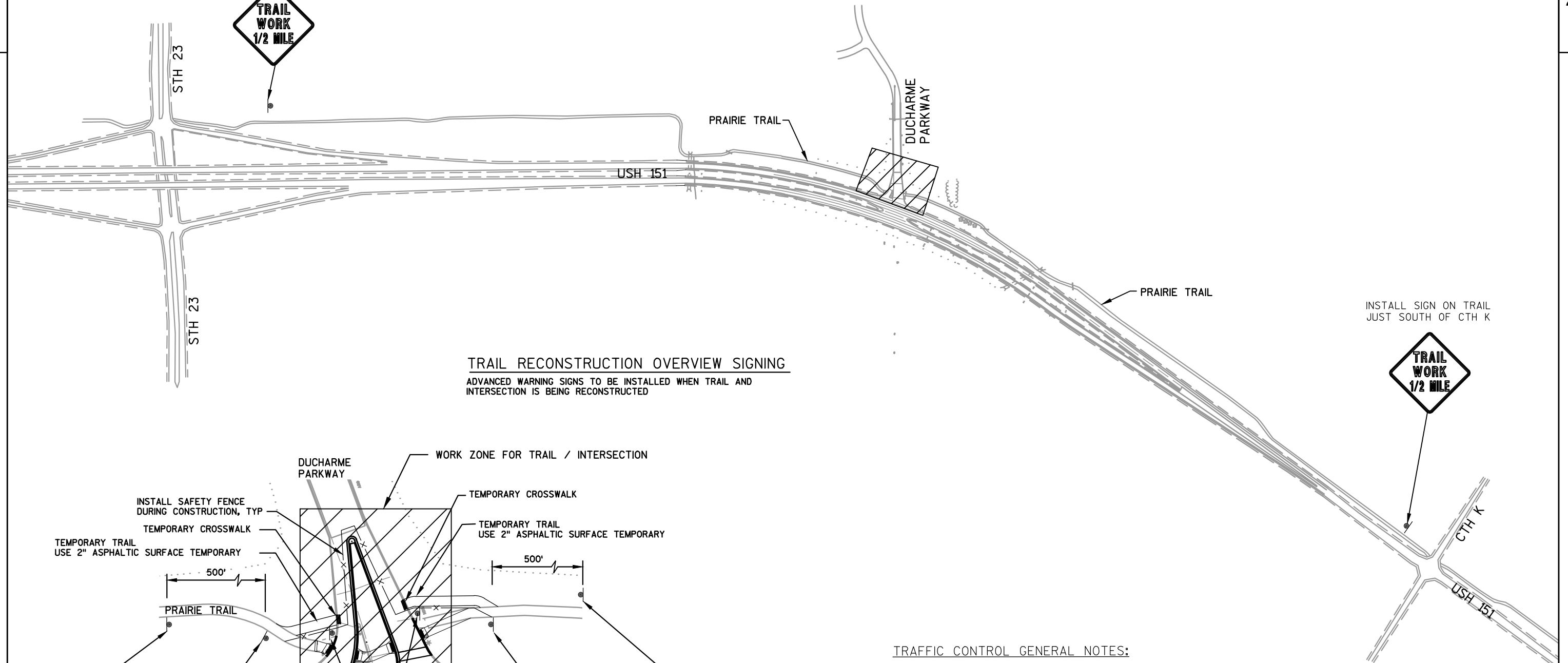
USH 151 TYPICAL SECTION - STAGE 2



USH 151 TYPICAL SECTION - STAGE 3

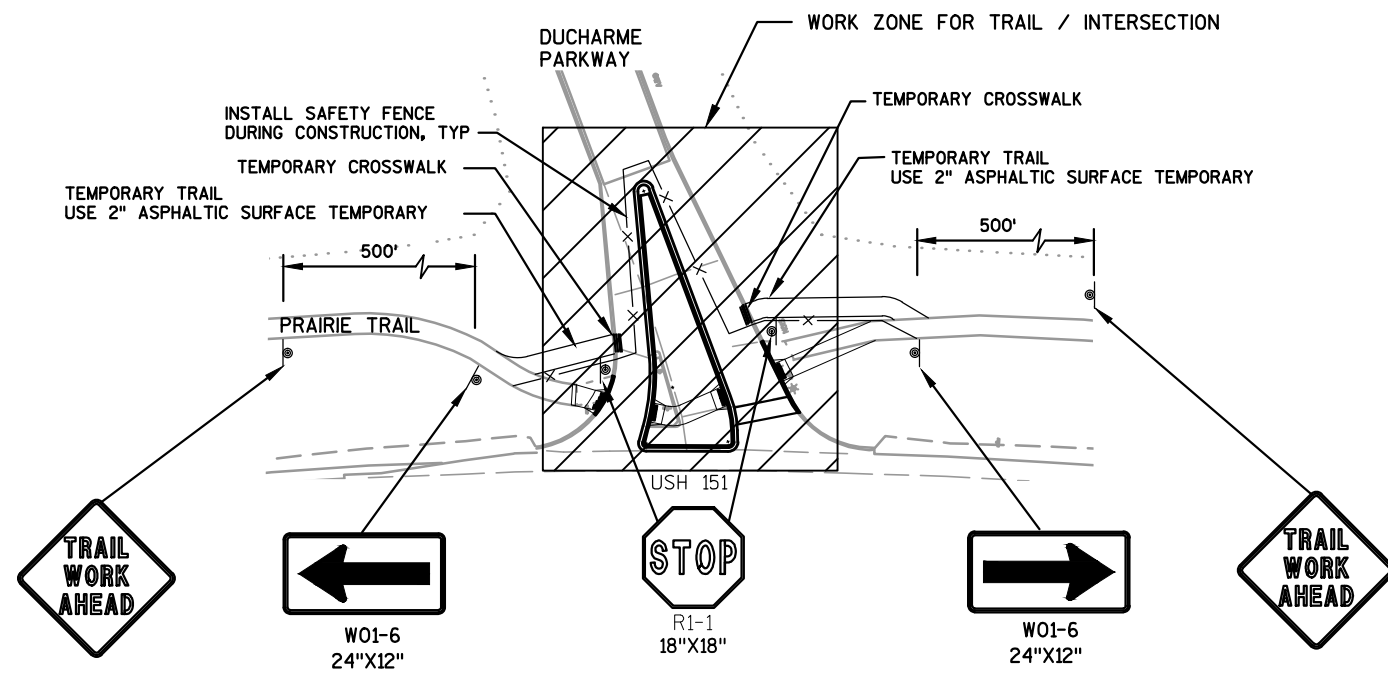


INSTALL SIGN ON TRAIL  
JUST NORTH OF STH 23



### TRAIL RECONSTRUCTION OVERVIEW SIGNING

ADVANCED WARNING SIGNS TO BE INSTALLED WHEN TRAIL AND  
INTERSECTION IS BEING RECONSTRUCTED



### INTERSECTION DETAIL

TYPICAL AT SIDE ROAD OF DUCHARME PARKWAY

### TRAFFIC CONTROL GENERAL NOTES:

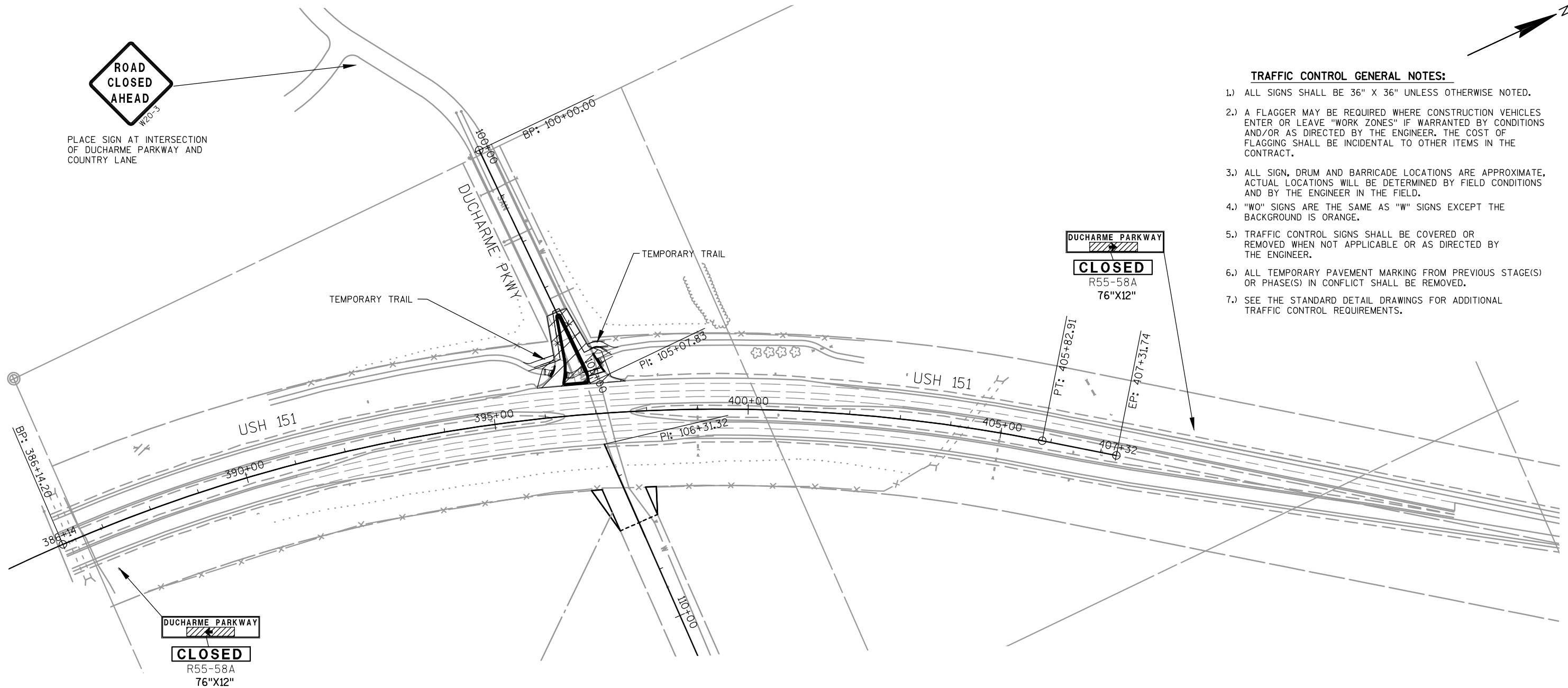
- 1) ALL SIGNS SHALL BE 36" X 36" UNLESS OTHERWISE NOTED.
- 2) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK ZONES" IF WARRANTED BY CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER. THE COST OF FLAGGING SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.
- 3) ALL SIGN, DRUM AND BARRICADE LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS WILL BE DETERMINED BY FIELD CONDITIONS AND BY THE ENGINEER IN THE FIELD.
- 4) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 5) TRAFFIC CONTROL SIGNS SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE OR AS DIRECTED BY THE ENGINEER.
- 6) ALL TEMPORARY PAVEMENT MARKING FROM PREVIOUS STAGE(S) OR PHASE(S) IN CONFLICT SHALL BE REMOVED.
- 7) SEE THE STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.



PLACE SIGN AT INTERSECTION  
OF DUCHARME PARKWAY AND  
COUNTRY LANE

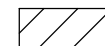
**TRAFFIC CONTROL GENERAL NOTES:**

- 1.) ALL SIGNS SHALL BE 36" X 36" UNLESS OTHERWISE NOTED.
- 2.) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK ZONES" IF WARRANTED BY CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER. THE COST OF FLAGGING SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.
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- 7.) SEE THE STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.



DUCHARME PARKWAY  
**CLOSED**  
R55-58A  
76"X12"

DUCHARME PARKWAY  
**CLOSED**  
R55-58A  
76"X12"



STAGE 1  
WORK AREA

**USH 151**

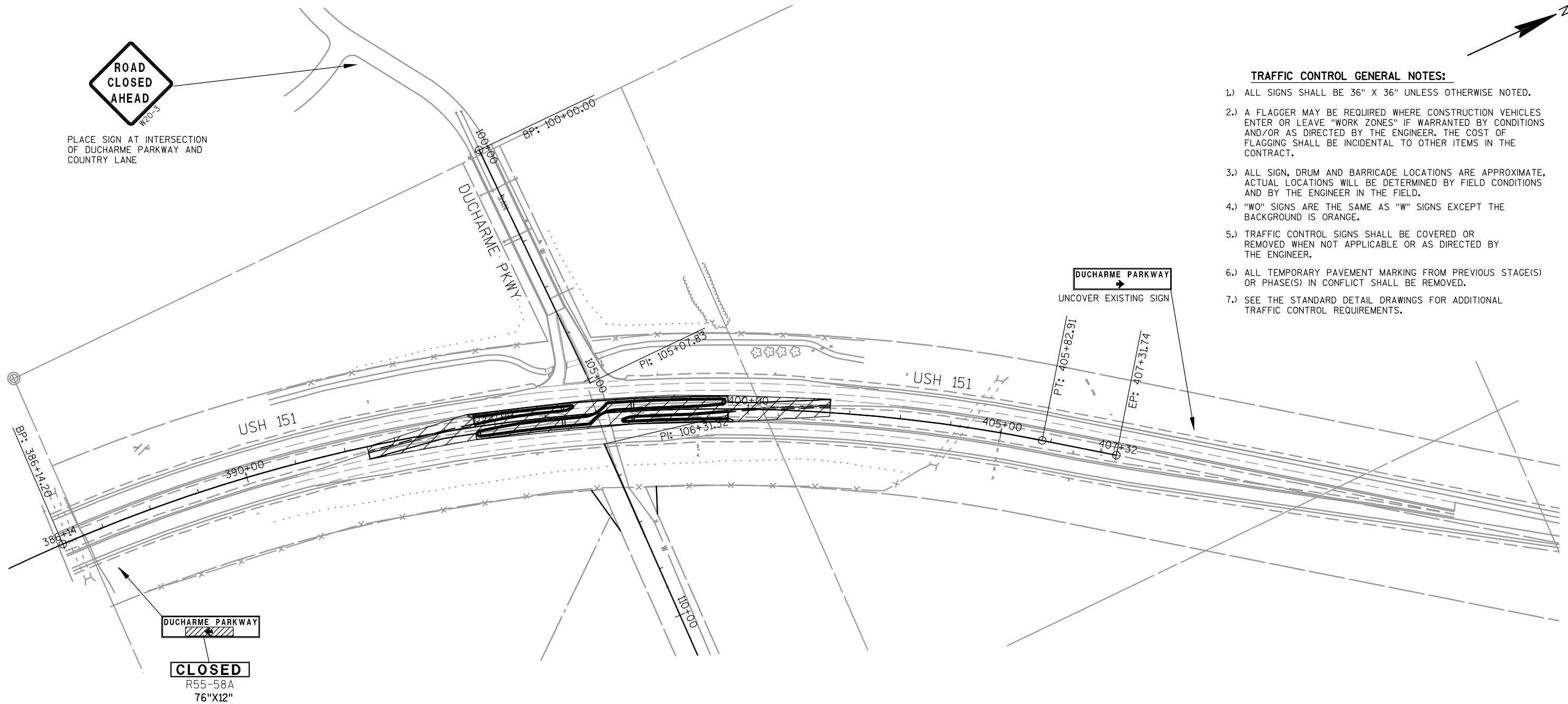
1. CLOSE SOUTHBOUND RIGHT TURNLANE AND SOUTHBOUND OUTSIDE THRU LANE AND CLOSE NORTHBOUND LEFT TURN LANE PER SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH".
2. SOUTHBOUND OUTSIDE THRU LANE CLOSURE WILL START AT LIMITS OF EXISTING 2-LANE UNDIVIDED HIGHWAY NORTH OF DUCHARME PARKWAY.

**DUCHARME PARKWAY**


1. CLOSE WEST LEG OF DUCHARME PARKWAY PER SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES".



PLACE SIGN AT INTERSECTION  
OF DUCHARME PARKWAY AND  
COUNTRY LANE

**TRAFFIC CONTROL GENERAL NOTES:**

- 1.) ALL SIGNS SHALL BE 36" X 36" UNLESS OTHERWISE NOTED.
- 2.) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK ZONES" IF WARRANTED BY CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER. THE COST OF FLAGGING SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.
- 3.) ALL SIGN, DRUM AND BARRICADE LOCATIONS ARE APPROXIMATE, ACTUAL LOCATIONS WILL BE DETERMINED BY FIELD CONDITIONS AND BY THE ENGINEER IN THE FIELD.
- 4.) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 5.) TRAFFIC CONTROL SIGNS SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE OR AS DIRECTED BY THE ENGINEER.
- 6.) ALL TEMPORARY PAVEMENT MARKING FROM PREVIOUS STAGE(S) OR PHASE(S) IN CONFLICT SHALL BE REMOVED.
- 7.) SEE THE STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.

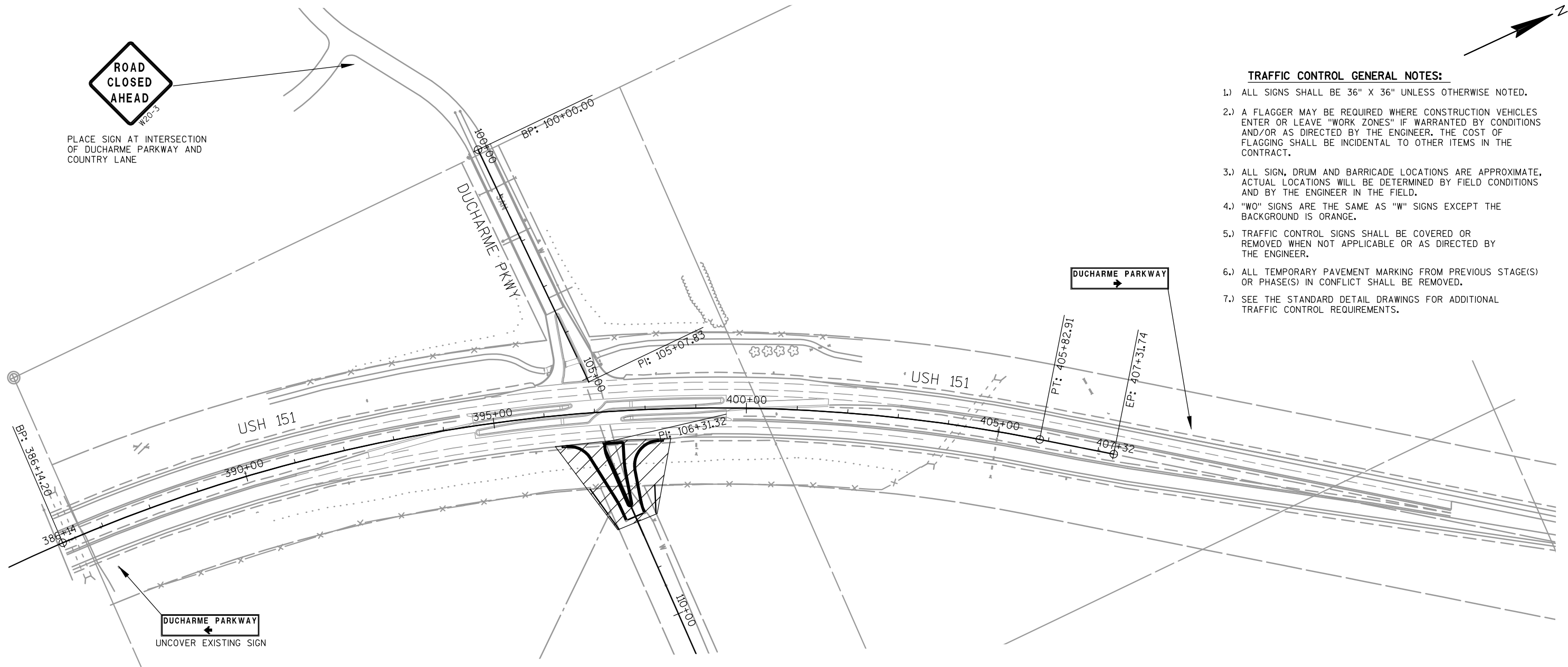
 STAGE 2  
WORK AREA

**USH 151**

1. CLOSE NORTHBOUND AND SOUTHBOUND INSIDE THRU LANES AND NORTHBOUND LEFT TURN LANE PER SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH".
2. SOUTHBOUND INSIDE THRU LANE CLOSURE WILL START AT LIMITS OF EXISTING 2-LANE UNDIVIDED HIGHWAY.
3. NORTHBOUND INSIDE THRU LANE CLOSURE WILL START 1500' SOUTH OF STH 23 NB ENTRANCE RAMP PER SDD "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE".



PLACE SIGN AT INTERSECTION  
OF DUCHARME PARKWAY AND  
COUNTRY LANE



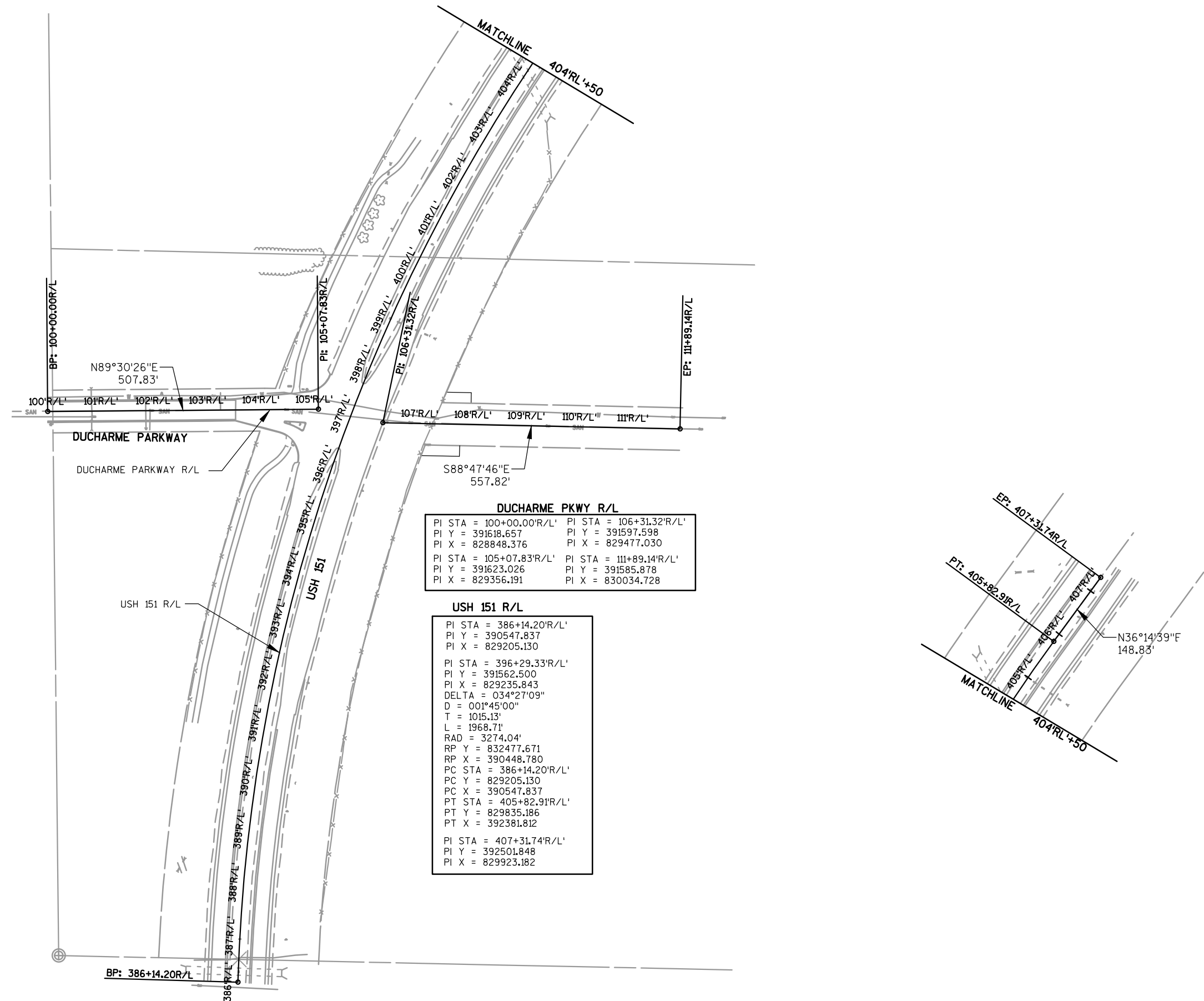
STAGE 3  
WORK AREA

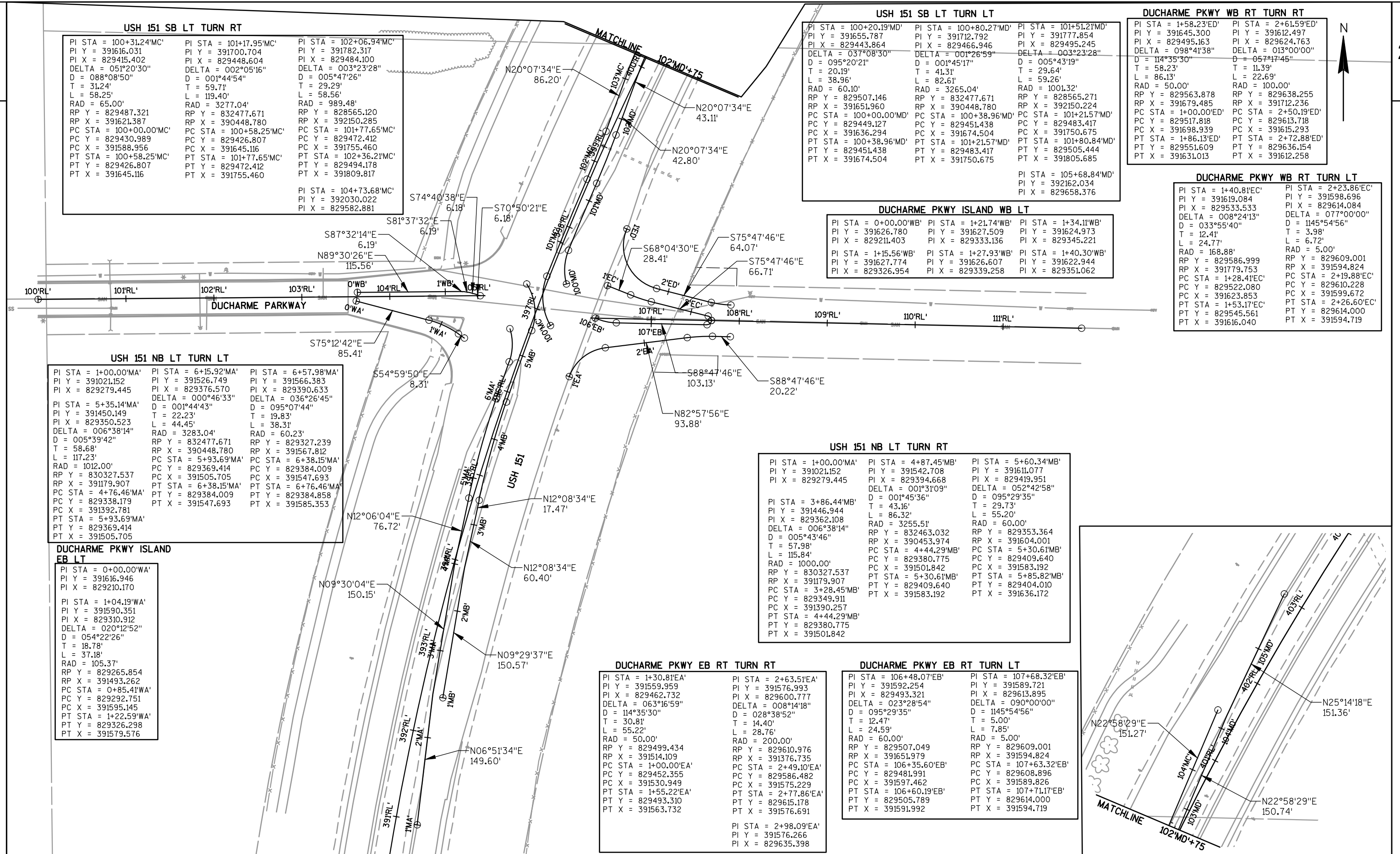
#### USH 151

1. CLOSE NORTHBOUND OUTSIDE THRU LANE AND SOUTHBOUND LEFT TURN LANE PER SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH".
2. NORTHBOUND OUTSIDE THRU LANE CLOSURE WILL START 1500' SOUTH OF STH 23 NB ENTRANCE RAMP, PER SDD "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE".

#### TRAFFIC CONTROL GENERAL NOTES:

- 1.) ALL SIGNS SHALL BE 36" X 36" UNLESS OTHERWISE NOTED.
- 2.) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE "WORK ZONES" IF WARRANTED BY CONDITIONS AND/OR AS DIRECTED BY THE ENGINEER. THE COST OF FLAGGING SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.
- 3.) ALL SIGN, DRUM AND BARRICADE LOCATIONS ARE APPROXIMATE, ACTUAL LOCATIONS WILL BE DETERMINED BY FIELD CONDITIONS AND BY THE ENGINEER IN THE FIELD.
- 4.) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 5.) TRAFFIC CONTROL SIGNS SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE OR AS DIRECTED BY THE ENGINEER.
- 6.) ALL TEMPORARY PAVEMENT MARKING FROM PREVIOUS STAGE(S) OR PHASE(S) IN CONFLICT SHALL BE REMOVED.
- 7.) SEE THE STANDARD DETAIL DRAWINGS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.





DATE 26AUG14		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	1420-26-71 QUANTITY
0010	204.0100	REMOVING PAVEMENT	SY	2,300.000	2,300.000
0020	204.0110	REMOVING ASPHALTIC SURFACE	SY	50.000	50.000
0030	204.0150	REMOVING CURB & GUTTER	LF	64.000	64.000
0040	204.0155	REMOVING CONCRETE SIDEWALK	SY	35.000	35.000
0050	204.0170	REMOVING FENCE	LF	128.000	128.000
0060	205.0100	EXCAVATION COMMON	CY	3,269.000	3,269.000
0070	213.0100	FINISHING ROADWAY (PROJECT) 01. 1420-26-70	EACH	1.000	1.000
0080	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	106.000	106.000
0090	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	3,036.000	3,036.000
0100	310.0110	BASE AGGREGATE OPEN GRADED	TON	993.000	993.000
0110	311.0110	BREAKER RUN	TON	3,574.000	3,574.000
0120	415.0100	CONCRETE PAVEMENT 10-INCH	SY	2,644.000	2,644.000
0130	416.0610	DRILLED TIE BARS	EACH	801.000	801.000
0140	416.0620	DRILLED DOWEL BARS	EACH	85.000	85.000
0150	455.0605	TACK COAT	GAL	50.000	50.000
0160	465.0105	ASPHALTIC SURFACE	TON	7.000	7.000
0170	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	15.000	15.000
0180	465.0305	ASPHALTIC SURFACE SAFETY ISLANDS	TON	250.000	250.000
0190	522.1012	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	EACH	2.000	2.000
0200	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	2.000	2.000
0210	601.0551	CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A	LF	2,493.000	2,493.000
0220	601.0555	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A	LF	435.000	435.000
0230	602.0405	CONCRETE SIDEWALK 4-INCH	SF	658.000	658.000
0240	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	72.000	72.000
0250	606.0200	RIPRAP MEDIUM	CY	5.000	5.000
0260	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	488.000	488.000
0270	608.0318	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	LF	346.000	346.000
0280	608.0336	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	124.000	124.000
0290	611.0530	MANHOLE COVERS TYPE J	EACH	2.000	2.000
0300	611.0627	INLET COVERS TYPE HM	EACH	18.000	18.000
0310	611.2004	MANHOLES 4-FT DIAMETER	EACH	2.000	2.000
0320	611.3004	INLETS 4-FT DIAMETER	EACH	6.000	6.000
0330	611.3230	INLETS 2X3-FT	EACH	12.000	12.000
0340	612.0104	PIPE UNDERDRAIN 4-INCH	LF	701.000	701.000
0350	616.0700.S	FENCE SAFETY	LF	377.000	377.000
0360	619.1000	MOBILIZATION	EACH	1.000	1.000
0370	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	166.000	166.000
0380	624.0100	WATER	MGAL	19.000	19.000
0390	625.0100	TOPSOIL	SY	4,152.000	4,152.000
0400	627.0200	MULCHING	SY	4,152.000	4,152.000
0410	628.1504	SILT FENCE	LF	250.000	250.000
0420	628.1520	SILT FENCE MAINTENANCE	LF	250.000	250.000
0430	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0440	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	4.000	4.000
0450	628.2008	EROSION MAT URBAN CLASS I TYPE B	SY	1,170.000	1,170.000
0460	628.7010	INLET PROTECTION TYPE B	EACH	2.000	2.000

DATE 26AUG14		E S T I M A T E O F Q U A N T I T I E S			
LINE					1420-26-71
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0470	628.7015	INLET PROTECTION TYPE C	EACH	18.000	18.000
0480	628.7504	TEMPORARY DITCH CHECKS	LF	123.000	123.000
0490	628.7555	CULVERT PIPE CHECKS	EACH	5.000	5.000
0500	629.0210	FERTILIZER TYPE B	CWT	3.000	3.000
0510	630.0130	SEEDING MIXTURE NO. 30	LB	49.000	49.000
0520	630.0140	SEEDING MIXTURE NO. 40	LB	26.000	26.000
0530	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	10.000	10.000
0540	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	12.000	12.000
0550	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	6.000	6.000
0560	637.2210	SIGNS TYPE II REFLECTIVE H	SF	261.220	261.220
0570	637.2230	SIGNS TYPE II REFLECTIVE F	SF	50.000	50.000
0580	638.2602	REMOVING SIGNS TYPE II	EACH	20.000	20.000
0590	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	18.000	18.000
0600	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0610	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1420-26-71	EACH	1.000	1.000
0620	643.0300	TRAFFIC CONTROL DRUMS	DAY	8,453.000	8,453.000
0630	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	336.000	336.000
0640	643.0453	TRAFFIC CONTROL BARRICADES PERMANENT TYPE III	EACH	8.000	8.000
0650	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	630.000	630.000
0660	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	1,465.000	1,465.000
0670	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	158.000	158.000
0680	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,334.000	1,334.000
0690	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	14.000	14.000
0700	645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	458.000	458.000
0710	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	19.000	19.000
0720	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	2,881.000	2,881.000
0730	646.0600	REMOVING PAVEMENT MARKINGS	LF	1,572.000	1,572.000
0740	646.0843. S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	1,568.000	1,568.000
0750	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	4.000	4.000
0760	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	LF	235.000	235.000
0770	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	17,440.000	17,440.000
0780	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	24.000	24.000
0790	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	1,224.000	1,224.000
0800	650.5000	CONSTRUCTION STAKING BASE	LF	149.000	149.000
0810	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	343.000	343.000
0820	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	1,075.000	1,075.000
0830	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1420-26-71	LS	1.000	1.000
0840	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	1,224.000	1,224.000
0850	690.0150	SAWING ASPHALT	LF	22.000	22.000
0860	690.0250	SAWING CONCRETE	LF	2,065.000	2,065.000
0870	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500.000
0880	ASP. 1TOA	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	150.000	150.000
0890	ASP. 1TOG	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	300.000	300.000
0900	SPV. 0060	SPECIAL 01. TEMPORARY CROSSWALK ACCESS	EACH	1.000	1.000
0910	SPV. 0060	SPECIAL 02. ADJUST SANITARY MANHOLE COVER	EACH	1.000	1.000
0920	SPV. 0060	SPECIAL 03. RECONSTRUCT SANITARY SEWER MANHOLE	EACH	1.000	1.000



DATE 26AUG14		E S T I M A T E O F Q U A N T I T I E S				
LINE						1420-26-71
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0930	SPV. 0060	SPECIAL 04. VERTICAL IMPACT RECOVERY PANEL	EACH	17.000	17.000	
0940	SPV. 0060	SPECIAL 05. VERTICAL IMPACT RECOVERY PANEL BASE	EACH	17.000	17.000	
0950	SPV. 0105	SPECIAL 01. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000	

REMOVING PAVEMENT

			204.0100
STATION TO STATION	DIR	LOCATION	SY
CATEGORY 0010			
103+53 - 105+07	ISLAND	DUCHARME	470
104+85 - 104+94	LT	DUCHARME	30
392+45 - 393+95	MEDIAN	US 151	110
394+60 - 399+60	MEDIAN	US 151	1580
400+02 - 401+61	MEDIAN	US 151	110

PROJECT TOTAL 2300

REMOVING ASPHALTIC SURFACE

				204.0110
STATION TO STATION	DIR	LOCATION	SF	REMOVING ASPHALTIC SURFACE SY
CATEGORY 0010				
104+62 - 104+73	LT	DUCHARME TRAIL	461	50

PROJECT TOTAL 50

REMOVING CURB & GUTTER

			204.0150
STATION TO STATION	DIR	LOCATION	REMOVING CURB & GUTTER LF
CATEGORY 0010			
104+48 - 104+63	RT	DUCHARME	22
104+58 - 104+99	LT	DUCHARME	42

PROJECT TOTAL 64

REMOVING CONCRETE SIDEWALK

			204.0155
STATION TO STATION	DIR	LOCATION	REMOVING CONCRETE SIDEWALK SY
CATEGORY 0010			
104+48 - 104+58	RT	DUCHARME	20
104+58 - 104+74	LT	DUCHARME	15

PROJECT TOTAL 35

REMOVING FENCE

			204.0170
STATION TO STATION	DIR	LOCATION	REMOVING FENCE LF
CATEGORY 0010			
396+79 - 398+13	RT	US 151	128

PROJECT TOTAL 128

AGGREGATE

SHOULDER						
		305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	310.0110 BASE AGGREGATE OPEN GRADED TON	311.0110 BREAKER RUN TON	624.0100 WATER MGAL
STATION TO STATION	LOCATION					
CATEGORY 0010						
382+45 - 394+60	USH 151 MEDIAN	91	1,383	71	272	9
394+60 - 399+60	USH 151 MEDIAN	---	729	524	1,850	4
399+60 - 401+61	USH 151 MEDIAN	15	310	82	252	2
103+53 - 105+07	WEST LEG OF DUCHARME	---	122	---	---	1
104+27 - 104+37	DUCHARME TRAIL	---	1	---	---	0
104+37 - 104+47	DUCHARME TRAIL	---	19	---	---	0
104+85 - 104+91	WEST LEG OF DUCHARME	---	11	7	27	0
106+34 - 107+90	EAST LEG OF DUCHARME	---	462	308	1,174	3

PROJECT TOTAL 106 3,036 993 3,574 19

CONCRETE PAVEMENT

		415.0100 CONCRETE PAVEMENT 10-INCH	416.0610 DRILLED TIE BARS	416.0620 DRILLED DOWEL BARS
STATION TO STATION	LOCATION	SY	EACH	EACH
CATEGORY 0010				
392+45 - 401+60	US 151 MEDIAN	1856	564	38
103+53 - 103+63	DUCHARME	6	---	---
103+53 - 105+07	DUCHARME ISLAND	---	141	---
104+85 - 104+94	DUCHARME	30	24	47
106+34 - 107+90	DUCHARME	753	72	---

PROJECT TOTALS 2,644 801 85

EARTHWORK SUMMARY

From/To Station	Location	Excavation Common 205.0100 (1)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (6)	Mass Ordinate +/- (7)	Waste	Borrow 208.0100 (8)	Comment:
		Cut (2)	EBS Excavation (3)				Factor  1.25				
392+50 TO 401+50	USH 151	2,643	0	437	2,206	71	89	2,117	2,117	0	
106+50 TO 107+75	DUCHARME EAST	205	0	0	205	362	452	-247	0	-247	
103+50 TO 105+00	DUCHARME WEST	422	0	117	305	0	0	305	305	0	
SUBTOTAL		3,269	0	554	2,715	433	541	2,174	2,421	-247	
	PROJECT TOTALS	3,269		554	2,715	433	541	2,174	2,421	-247	

- 1) Excavation Common is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Breaker Run Material. EBS material shall not be used for fill on the project.
- 4) Salvaged/Unusable Pavement Material is not shown in the cross sections.
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 6) Expanded Fill. Factor = 1.25 (Unexpanded Fill x Fill Factor)
- 7) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.  
Mass Ordinate = Cut - Salvaged/ Unusable Pavement Material - (Unexpanded Fill \* Fill Factor)
- 8) Borrow will be paid only if there is insufficient waste material within the project.

ASPHALT ITEMS

		455.0605	465.0105	465.0125	465.0305
		TACK COAT	ASPHALTIC SURFACE	ASPHALTIC SURFACE TEMPORARY	ASPHALTIC SURFACE SAFETY ISLAND
STATION TO STATION	LOCATION	GAL	TON	TON	TON
CATEGORY 0010					
394+69 - 399+49	USH 151 MEDIAN	15	---	---	101
394+60 - 396+50	USH 151 MEDIAN	4	---	---	26
394+57 - 399+60	USH 151 MEDIAN	4	---	---	27
103+65 - 105+03	DUCHARME WEST	8	---	---	52
106+36 - 107+61	DUCHARME EAST	6	---	---	45
104+27 - 104+37	DUCHARME TRAIL	1	1	6	---
104+37 - 104+47	DUCHARME TRAIL	4	6	11	---
PROJECT TOTAL		50	7	15	250

CONCRETE SIDEWALK

			602.0405	602.0505
			CONCRETE SIDEWALK 4-INCH	CURB RAMP DETECTABLE WARNING FIELD YELLOW
STATION TO STATION	DIR	LOCATION	SF	SF
CATEGORY 0010				
104+48 - 104+58	RT	DUCHARME TRAIL	162	18
104+54 - 104+68	LT & RT	DUCHARME MEDIAN	424	36
104+58 - 104+74	LT	DUCHARME TRAIL	72	18
PROJECT TOTAL			658	72

CONCRETE CURB AND GUTTER

		601.0551 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A	601.0555 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE A
STATION TO STATION	LOCATION	LF	LF
CATEGORY 0010			
394+60 - 396+57	US 151 MEDIAN LT	401	---
394+62 - 399+56	US 151 MEDIAN LT & RT	1018	---
397+50 - 399+60	US 151 MEDIAN RT	424	---
103+58 - 105+05	DUCHARME ISLAND	343	---
104+48 - 104+63	DUCHARME RT	---	22
104+58 - 104+99	DUCHARME LT	---	42
106+70 - 107+90	DUCHARME LT	---	173
106+34 - 107+68	DUCHARME ISLAND	307	---
106+21 - 107+90	DUCHARME RT	---	198
PROJECT TOTALS		2,493	435

FENCE SAFETY

			616.0700.S
			FENCE SAFETY
STATION TO STATION	DIR	LOCATION	LF
CATEGORY 0010			
103+49 - 104+75	LT & RT	DUCHARME	377
PROJECT TOTAL			377

PIPE UNDERDRAIN

			612.0104	645.0111	
			PIPE UNDERDRAIN	GEOTEXTILE	
			4-INCH	FABRIC TYPE DF	
STATION TO STATION	DIR	LOCATION	LF	SY	REMARKS
CATEGORY 0010					
394+59 - 399+48	LT	USH 151	494	343	NOTE A
399+55 - 401+61	RT & LT	USH 151	207	115	NOTE B
PROJECT TOTAL			701	458	

NOTE A WIDTH FOR GEOTEXTILE FABRIC BASED ON URBAN PAVING INSTALLATION  
NOTE B WIDTH FOR GEOTEXTILE FABRIC BASED ON RURAL PRE-PAVING INSTALLATION

CONCRETE MEDIAN

			620.0300
			CONCRETE
			MEDIAN
			SLOPED
			NOSE
STATION TO STATION	DIR	LOCATION	SF
CATEGORY 0010			
394+64 - 394+69	RT	USH 151	36
396+50 - 396+55	LT	USH 151	20
397+52 - 397+57	RT	USH 151	20
399+49 - 399+54	LT	USH 151	36
103+60 - 103+65	MEDIAN	DUCHARME	27
107+61 - 107+66	MEDIAN	DUCHARME	27
PROJECT TOTAL			166

LANDSCAPING ITEMS

			625.0100	627.0200	629.0210	630.0130	630.0140
			TOPSOIL	MULCHING	FERTILIZER	SEEDING	SEEDING
			SY	SY	TYPE B	MIXTURE	MIXTURE
STATION TO STATION	DIR	LOCATION			CWT	NO. 30	NO. 40
						LB	LB
CATEGORY 0010							
104+23 - 105+08	LT	DUCHARME	1,003	1,003	0.6	---	18
104+22 - 105+08	RT	DUCHARME	153	153	0.1	---	3
392+45 - 394+60	LT & RT	USH 151	426	426	0.3	8	---
399+60 - 401+61	LT & RT	USH 151	387	387	0.2	7	---
106+31 - 108+00	RT	DUCHARME	715	715	0.5	13	---
106+31 - 108+00	LT	DUCHARME	637	637	0.4	11	---
SUBTOTAL			3,321	3,321	2	39	21
UNDISTRIBUTED			830	830	1	10	5
PROJECT TOTALS			4,152	4,152	3	49	26

STORM SEWER STRUCTURES

STRUCT NUM					522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0627 INLET COVERS TYPE HM EACH	611.2004 MANHOLES 4-FT DIA EACH	611.3004 INLETS 4-FT DIA EACH	611.3230 INLETS 2 X 3-FT EACH
	STA	RL	DIST.	DIR							
CATEGORY 0010											
EW 100	104+99.	DUCHARME	69.0	LT	1						
MH 110	104+88.	DUCHARME	14.5	RT			1		1		
INL 111	103+66.	DUCHARME	4.4	RT				1			1
INL 112	103+67.	DUCHARME	3.5	LT				1			1
MH 200	399+00.	USH 151	15.5	RT			1		1		
INL 201	399+48.	USH 151	9.3	LT				1			1
INL 202	399+48.	USH 151	19.5	LT				1			1
INL 203	399+55.	USH 151	5.1	RT				1		1	
INL 204	399+55.	USH 151	19.5	RT				1			1
MH 210	398+50.	USH 151	10.5	RT				1		1	
INL 211	398+50.	USH 151	19.5	LT				1			1
MH 220	397+58.	USH 151	13.1	RT				1		1	
MH 230	396+90.	USH 151	15.7	RT				1		1	
MH 240	396+25.	USH 151	4.5	RT				1		1	
MH 250	396+25.	USH 151	10.5	LT				1		1	
INL 251	396+48.	USH 151	19.5	LT				1			1
INL 260	395+50.	USH 151	19.5	LT				1			1
EW 300	107+09.	DUCHARME	60.0	LT		1					
EW 310	106+67.	DUCHARME	56.9	RT		1					
EW 400	107+24.	DUCHARME	63.6	LT	1						
INL 401	107+60.	DUCHARME	23.8	LT				1			1
INL 402	107+60.	DUCHARME	4.4	LT				1			1
INL 403	107+60.	DUCHARME	3.5	RT				1			1
INL 404	107+75.	DUCHARME	19.5	RT				1			1
PROJECT TOTALS					2	2	2	18	2	6	12

GENERAL NOTES: LOCATION REFERS TO THE CENTER OF STRUCTURE

STORM SEWER PIPE

STRUCTURE		608.0312 REIN. CONC. CLASS III 12-INCH LF	608.0318 REIN. CONC. CLASS III 18-INCH LF	608.0336 REIN. CONC. CLASS III 36-INCH LF
FROM	TO			
CATEGORY 0010				
INL 112	INL 111	8		
INL 111	MH 110	122		
MH 110	EW 100	84		
INL 260	MH 250	76		
INL 251	MH 250	25		
MH 250	MH 240		15	
MH 240	MH 230		66	
MH 230	MH 220		67	
MH 220	MH 210		92	
MH 210	MH 200		50	
MH 203	MH 200		56	
INL 211	INL 210	30		
INL 202	MH 201	10		
INL 201	INL 203	16		
INL 204	MH 203	14		
EW 320	EW 300			124
INL 404	INL 403	22		
INL 403	INL 402	8		
INL 402	INL 401	19		
INL 401	EW 400	54		
		488	346	124

EROSION CONTROL

		606.0200	628.1504	628.1520	628.1905	628.1910	628.2008	628.7010	628.7015	628.7504	628.7555	645.0120
		RIPRAP	SILT	SILT FENCE	MOBILIZATIONS	MOBILIZATIONS	EROSION MAT	INLET	INLET	TEMPORARY	CULVERT	GEOTEXTILE
		MEDIUM	FENCE	MAINTENANCE	EROSION	EMERGENCY	URBAN	PROTECTION	PROTECTION	DITCH	PIPE	FABRIC
					CONTROL	EROSION	CLASS 1	TYPE B	TYPE C	CHECKS	CHECKS	TYPE HR
STATION TO STATION	LOCATION	CY	LF	LF	EACH	EACH	SY	EA	EA	LF	EA	SY
CATEGORY 0010												
391+50 - 397+00	USH 151	---	---	---	---	---	---	---	5	28	---	---
397+00 - 401+60	USH 151	---	---	---	---	---	---	1	7	70	---	---
103+58 - 105+00	DUCHARME	1	---	---	---	---	---	1	2	---	---	5
106+31 - 107+90	DUCHARME	3	185	185	---	---	934	---	4	---	5	11
UNDISTRIBUTED		1	65	65	4	4	236	---	---	25	---	4
PROJECT TOTALS		5	250	250	4	4	1,170	2	18	123	5	19

TRAFFIC CONTROL

		EST. SERVICE PERIOD	643.0300	643.0420	643.0705	643.0715	643.0800	643.0900	643.1050	
		DAYS	DRUMS	BARRICADES TYPE III	WARNING LIGHTS TYPE A	WARNING LIGHTS TYPE C	ARROW BOARDS	SIGNS	SIGNS PCMS	
STAGE	LOCATION	DAYS	NO DAYS	NO DAYS	NO DAYS	NO DAYS	NO DAYS	NO DAYS	NO DAYS	REMARKS
CATEGORY 0010										
1	USH 151 NORTHBOUND	20	27 540	1 20	0	0	0	1 20	1 7	NOTE A
1	USH 151 SOUTHBOUND	20	45 900	2 40	4 80	13 260	2 40	6 120	1 7	NOTE A
1	DUCHARME WEST	20	0	3 60	6 120	0	0	2 40	0	
1	DUCHARME WEST - PRAIRIE TRAIL	20	0	0	0	0	0	10 200	0	
STAGE 1 SUBTOTALS			1,440	120	200	260	40	380	14	
2	USH 151 NORTHBOUND	35	82 2,870	3 105	6 210	14 490	2 70	13 455	0	
2	USH 151 SOUTHBOUND	35	40 1,400	1 35	2 70	11 385	0	5 175	0	
2	DUCHARME WEST	35	0	0	0	0	0	0	0	
STAGE 2 SUBTOTALS			4,270	140	280	875	70	630	0	
3	USH 151 NORTHBOUND	20	103 2,060	3 60	6 120	13 260	2 40	13 260	0	
3	USH 151 SOUTHBOUND	20	14 280	0	0	0	0	0	0	
3	DUCHARME WEST	20	0	0	0	0	0	0	0	
STAGE 3 SUBTOTALS			2,340	60	120	260	40	260	0	
	SUBTOTAL	75	8050	320	600	1395	150	1270	14	
---	UNDISTRIBUTED	---	403	16	30	70	8	64	0	
PROJECT TOTALS			8,453	336	630	1,465	158	1,334	14	

NOTE A: INSTALL PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) ONE WEEK IN ADVANCE OF INITIAL LANE CLOSURE APPROXIMATELY ONE MILE IN ADVANCE OF PROJECT.

3

REMOVING PAVEMENT MARKINGS

STA.	TO	STA.	LOCATION	LENGTH	646.0600 REMOVING PAVEMENT MARKINGS LF	NOTES
CATEGORY 0010						
104+45	-	104+49	DUCHARME	18	54	EXISTING WIDTH = 12"
104+49	-	104+52	DUCHARME	19	38	EXISTING WIDTH = 6"
104+58	-	104+62	DUCHARME	23	46	EXISTING WIDTH = 6"
391+06	-	399+30	USH 151	812	812	EXISTING WIDTH = 4"
397+61	-	400+67	USH 151	311	622	EXISTING WIDTH = 8"
TOTAL					1,572	

PAVEMENT MARKING

STATION - STATION	LOCATION	646.0106  PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	646.0106  PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE) LF	647.0606  ISLAND NOSE EPOXY (YELLOW) EACH	647.0746  PAVEMENT MARKING DIAGONAL EPOXY 24-INCH (WHITE) LF	NOTES
CATEGORY 0010							
103+22 - 103+60	DUCHARME		78				DOUBLE YELLOW
103+22 - 103+61	DUCHARME		80				DOUBLE YELLOW
103+60 -	DUCHARME				1		
107+66 -	DUCHARME				1		
107+65 - 107+90	DUCHARME		52				DOUBLE YELLOW
107+65 - 107+90	DUCHARME		50				DOUBLE YELLOW
390+95 - 394+59	USH 151		364				EDGE LINE
391+30 - 396+40	USH 151	501					EDGE LINE
392+44 - 396+44	USH 151			394			CHANNELIZING LINE
392+45 - 394+67	USH 151			221			CHANNELIZING LINE
392+45 - 394+65	USH 151			218			CHANNELIZING LINE
392+45 - 394+65	USH 151					131	CHEVRONS
394+65 396+84	USH 151		217				EDGE LINE
394+60 396+55	USH 151		196				EDGE LINE
394+90 395+87	USH 151	100					EDGE LINE
396+51	USH 151				1		
397+53	USH 151				1		
397+27 399+56	USH 151		227				EDGE LINE
397+61 400+67	USH 151			311			CHANNELIZING LINE
397+61 402+51	USH 151	499					EDGE LINE
397+52 399+60	USH 151		206				EDGE LINE
399+52 401+62	USH 151			212			CHANNELIZING LINE
399+51 401+62	USH 151			212			CHANNELIZING LINE
399+51 401+62	USH 151					104	CHEVRONS
397+52 399+60	USH 151		206				EDGE LINE
398+23 399+30	USH 151	105					EDGE LINE
PROJECT TOTAL		1,205	1,676	1,568	4	235	

TEMPORARY PAVEMENT MARKING

STAGE	STATION	TO	STATION	LOCATION	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LF	NOTES
CATEGORY 0010						
1	395+15	-	414+50	USH 151 SOUTHBOUND	1935	EDGE LINE WHITE
STAGE 1 SUBTOTALS					1935	
2	347+45	-	419+45	USH 151 NORTHBOUND	6200	EDGE LINE YELLOW
2	390+00	-	419+45	USH 151 SOUTHBOUND	2945	EDGE LINE YELLOW
STAGE 2 SUBTOTALS					9145	
3	359+65	-	381+30	USH 151 NORTHBOUND	2165	EDGE LINE WHITE
3	378+90	-	381+30	USH 151 NORTHBOUND	240	EDGE LINE WHITE
3	378+85	-	418+40	USH 151 NORTHBOUND	3955	EDGE LINE WHITE
STAGE 3 SUBTOTALS					6360	

PROJECT TOTALS 17,440

TRAFFIC CONTROL - BARRICADES PERMANENT

LOCATION	643.0453 TRAFFIC CONTROL BARRICADES PERMANENT TYPE III EACH
CATEGORY 0010	
DUCHARME EAST LEG	8

PROJECT TOTAL 8

3



CONSTRUCTION STAKING

STATION TO STATION		REFERENCE LINE	650.4000 STORM SEWER *** EACH	650.4500 SUBGRADE LF	650.5000 BASE LF	650.5500 CURB, GUTTER, AND CURB & GUTTER LF	650.7000 CONCRETE PAVEMENT LF	650.9910 SUPPLEMENTAL CONTROL LF	650.9920 SLOPE STAKES LF
CATEGORY 0010									
PROJECT 1420-26-71			---	---	---	---	---	1	---
392+45	-	401+61	USH 151	13	916	---	---	916	---
103+58	-	105+07	DUCHARME	4	149	149	343	---	149
106+31	-	107+90	DUCHARME	7	159	---	---	159	---
PROJECT TOTAL			24	1,224	149	343	1,075	1	1,224

\*\*\* SEE STORM SEWER STRUCTURES TABLE FOR LOCATIONS

SAWING CONCRETE

			690.0250 SAWING CONCRETE
STATION TO STATION	DIR	LOCATION	LF
CATEGORY 0010			
392+45 - 401+61	MEDIAN	US 151	1469
103+53 - 105+07	ISLAND	DUCHARME	354
104+85 104+85	LT	DUCHARME	30
104+91 - 104+91	LT	DUCHARME	32
106+21 - 106+70	LT & RT	DUCHARME	180
PROJECT TOTAL			2065

VERTICAL IMPACT RECOVERY PANEL AND BASES

STATION			LOCATION	SPV.0060.04 VERTICAL IMPACT RECOVERY PANEL EACH	SPV.0060.05 VERTICAL IMPACT RECOVERY PANEL BASE EACH
CATEGORY 0010					
396+90	-	397+50	USH 151	3	3
399+56	-	402+87	USH 151	14	14
TOTAL				17	17

SAWING ASPHALT

			690.0150 SAWING ASPHALT
STATION TO STATION	DIR	LOCATION	LF
CATEGORY 0010			
104+62 - 104+73	LT	DUCHARME TRAIL	11
104+45 - 104+55	RT	DUCHARME TRAIL	11
PROJECT TOTAL			22

TEMPORARY CROSSWALK ACCESS

STATION	LOCATION	SPV.0060.01 TEMPORARY CROSSWALK ACCESS EACH
CATEGORY 0010		
104+27	DUCHARME	1
TOTAL		1

SANITARY SEWER

STATION	LOCATION	SPV.0060.02 ADJUST SANITARY MANHOLE COVER EACH	SPV.0060.03 RECONSTRUCT SANITARY SEWER MANHOLE EACH
CATEGORY 0020			
104+46	DUCHARME	1	
106+81	DUCHARME		1
TOTAL		1	1

ERECTION AND REMOVAL OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1	USH 151, S. OF DUCHARME PKWY	D1-61	114" X 30"	23.75		2			1	2	DUCHARME PKWY, SEE SIGN DETAIL SHEET
2	"	R5-1A	42" X 30"	8.75		1			1	1	
3	"	R5-1	36" X 36"	9.00		1			1	1	
4	USH 151, LEFT TURN LANES AT DUCHARME	R6-1L	54" X 18"	6.75				1			
5	"	R1-2	48" X 42"	7.00							MOUNT BELOW SIGN #4
6	"	R5-1	36" X 36"	9.00		1					
7	"	R6-1L	54" X 18"	6.75				1			
8	"	R1-2	48" X 42"	7.00							MOUNT BELOW SIGN #7
9	DUCHARME PKWY	R4-7	36" X 48"	12.00			1				
10	USH 151, LEFT TURN LANES AT DUCHARME	R5-1	36" X 36"	9.00		1					
11	DUCHARME PKWY	R6-2L							1	1	
12	"	R4-7	24" X 30"	5.00		1					
13	"	R6-1R	36" X 12"	3.00				1			
14	"	R1-1	30" X 30"	5.18							MOUNT BELOW SIGN #13
15	"	R6-1L	36" X 12"	3.00							MOUNT ON BACK OF SIGN #13
16	"	R6-1R	36" X 12"	3.00				1			
17	"	R1-1	30" X 30"	5.18							MOUNT BELOW SIGN #16
18	USH 151, LEFT TURN LANES AT DUCHARME	R6-1R	54" X 18"	6.75							MOUNT ON BACK OF SIGN #19
19	"	R6-1L	54" X 18"	6.75				1			
20	"	R1-2	48" X 42"	7.00							MOUNT BELOW SIGN #19
21	"	R6-1R	54" X 18"	6.75							MOUNT ON BACK OF SIGN #4
22	DUCHARME PKWY	R1-1							1	1	
23	"	W4-4P							1		
24	"	W6-3A							1		
25	"	R6-1R	36" X 12"	3.00			1				
26	"	R1-1	30" X 30"	5.18							MOUNT BELOW SIGN #25
27	"	R6-1L	36" X 12"	3.00							MOUNT ON BACK OF SIGN #28
28	"	R6-1R	36" X 12"	3.00			1				
29	"	R1-1	30" X 30"	5.18							MOUNT BELOW SIGN #28
30	"	R4-7	24" X 30"	5.00		1					
31	"	W12-1D							1	1	
32	"	R1-1							1	1	
33	"	W4-4P							1		
34	"	R6-3A							1		
35	"	R4-7	36" X 48"	12.00			1				
36	"	R1-1							1	1	
PAGE SUBTOTALS				186.97	0.00	8	4	5	12	9	

PLAN SHEET PRODUCED  
BY WisDOT - NE REGION

ERECTION AND REMOVAL OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
37	USH 151, LEFT TURN LANES AT DUCHARME	R6-1L	54" X 18"	6.75				1			
38	"	R1-2	48" X 42"	7.00							MOUNT BELOW SIGN #37
39	"	R4-7							1	1	
40	USH 151, N. OF DUCHAME PARKWAY	R5-1	36" X 36"	9.00		1			1	1	
41	"	R5-1A	42" X 30"	8.75		1			1	1	
42	"	W9-1L	36" X 36"		9.00		1		1	1	
43	"	W9-1L	36" X 36"		9.00		1		1	1	
44	"	D1-61	114" X 30"	23.75			2		1	2	DUCHARME PKWY, SEE SIGN DETAIL SHEET
45	"	W4-2L	48" X 48"		16.00		2		1	1	
46	"	W4-2L	48" X 48"		16.00		2		1	1	
47	"	R3-4	36" X 36"	9.00							MOUNT ON BACK OF KEEP RIGHT SIGN AT END OF MEDIAN
48	DUCHARME PKWY	R11-2	48" X 30"	10.00							MOUNT ON PERMANENT BARRICADE
PAGE SUBTOTALS				74.25	50.00	2	8	1	8	9	
PROJECT TOTALS				261.22	50.00	10	12	6	20	18	

PLAN SHEET PRODUCED  
BY WisDOT - NE REGION

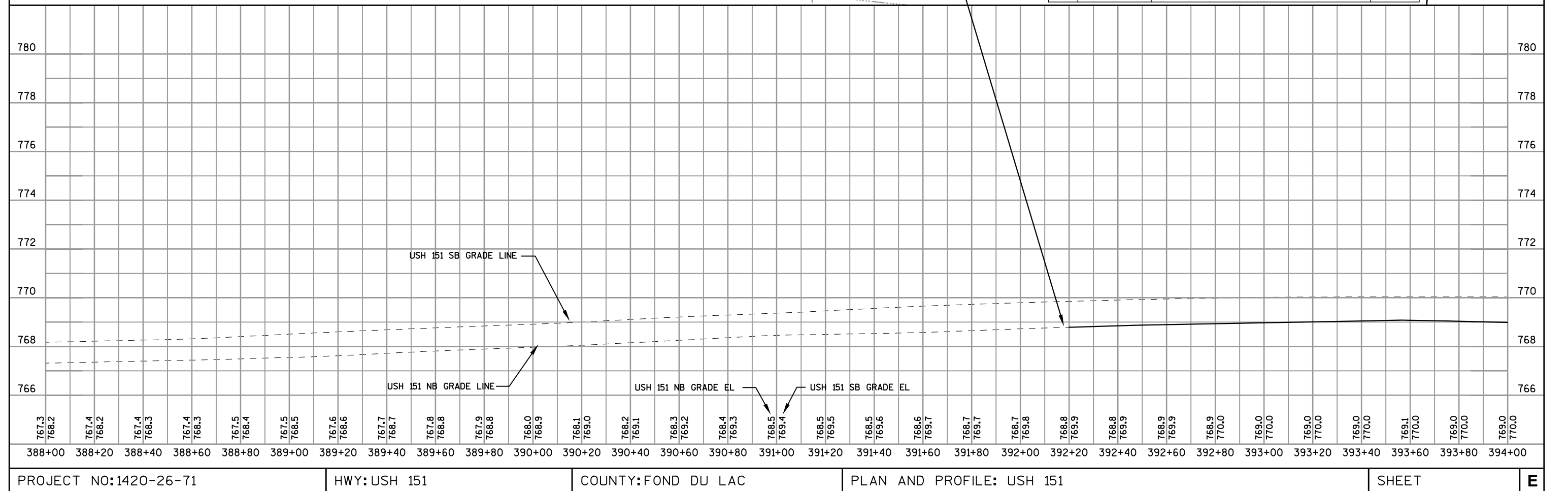
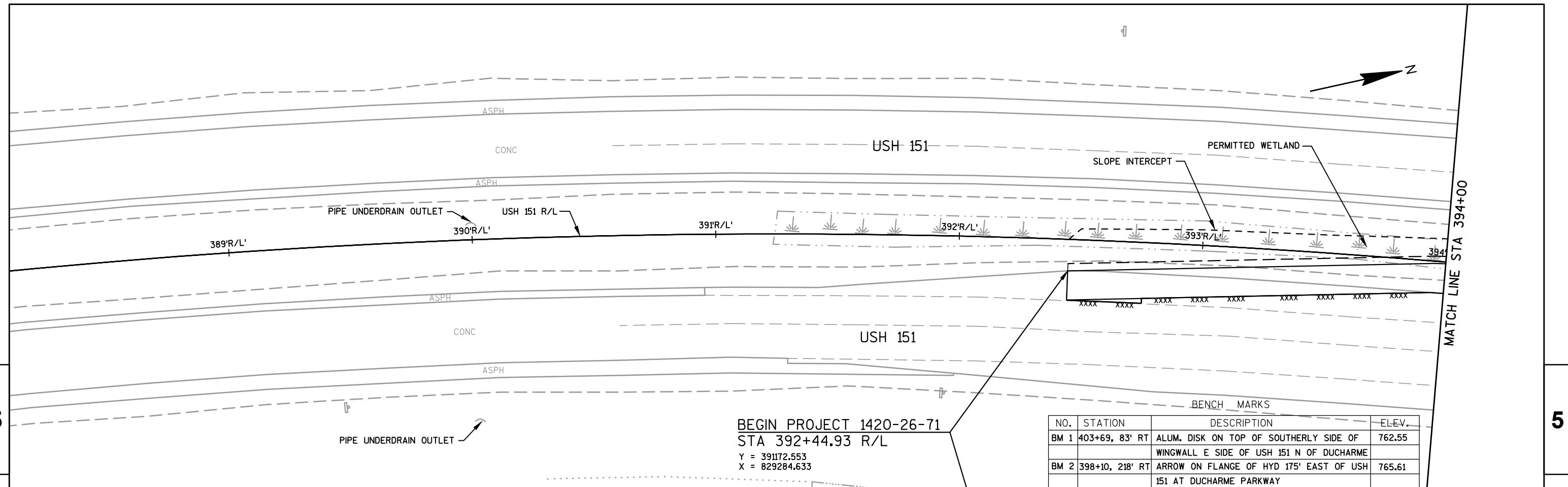
FOUND IRON PIPE/PIN  
R/W MONUMENT  
R/W STANDARD  
SIGN  
SECTION CORNER MONUMENT  
SECTION CORNER SYMBOL  
  
FEE (HATCH VARIES)  
TEMPORARY LIMITED  
EASEMENT  
PERMANENT LIMITED  
EASEMENT  
R/W BOUNDARY POINT  
PARCEL NUMBER  
UTILITY PARCEL NUMBER  
SIGN NUMBER  
(OFF PREMISE)

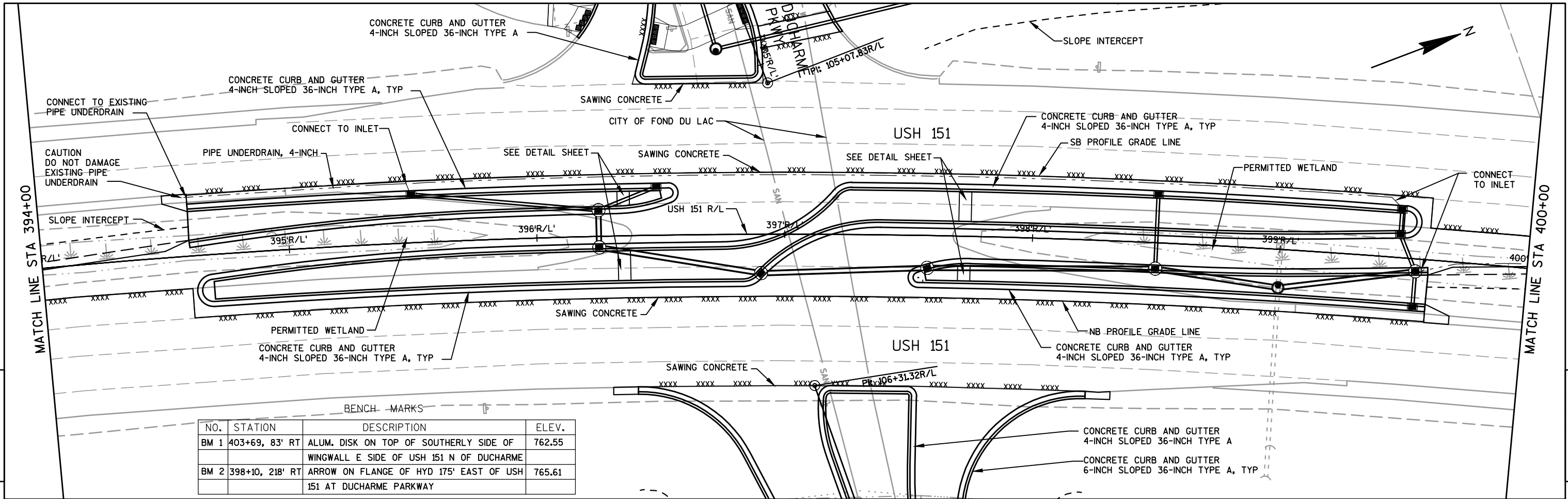
### CONVENTIONAL UTILITY SYMBOLS

WATER	—W—
GAS	—G—
TELEPHONE	—T—
OVERHEAD TRANSMISSION LINES	—OH—
ELECTRIC CABLE TELEVISION	—E—
FIBER OPTIC	—FO—
SANITARY SEWER	—SAN—
STORM SEWER	—SS—

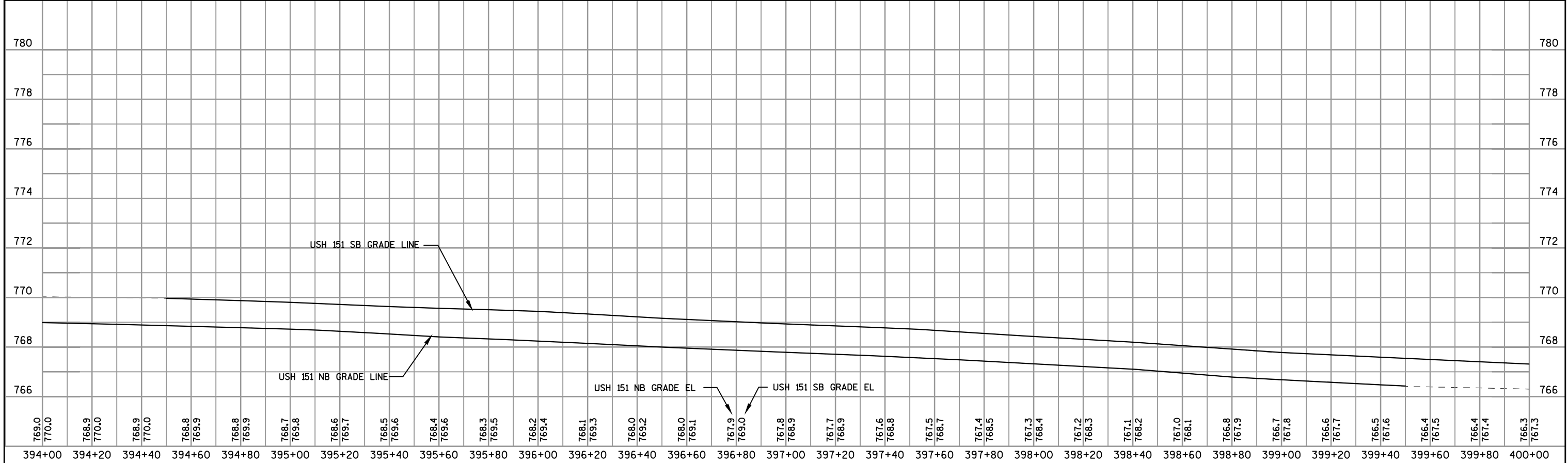
NON COMPENSABLE COMPENSABLE

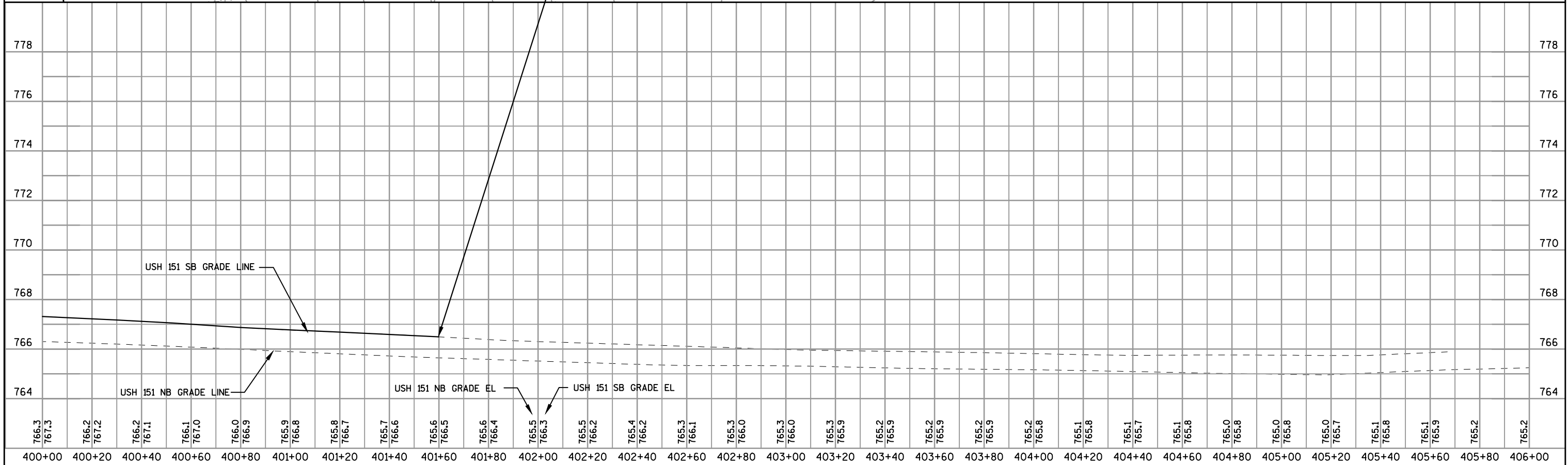
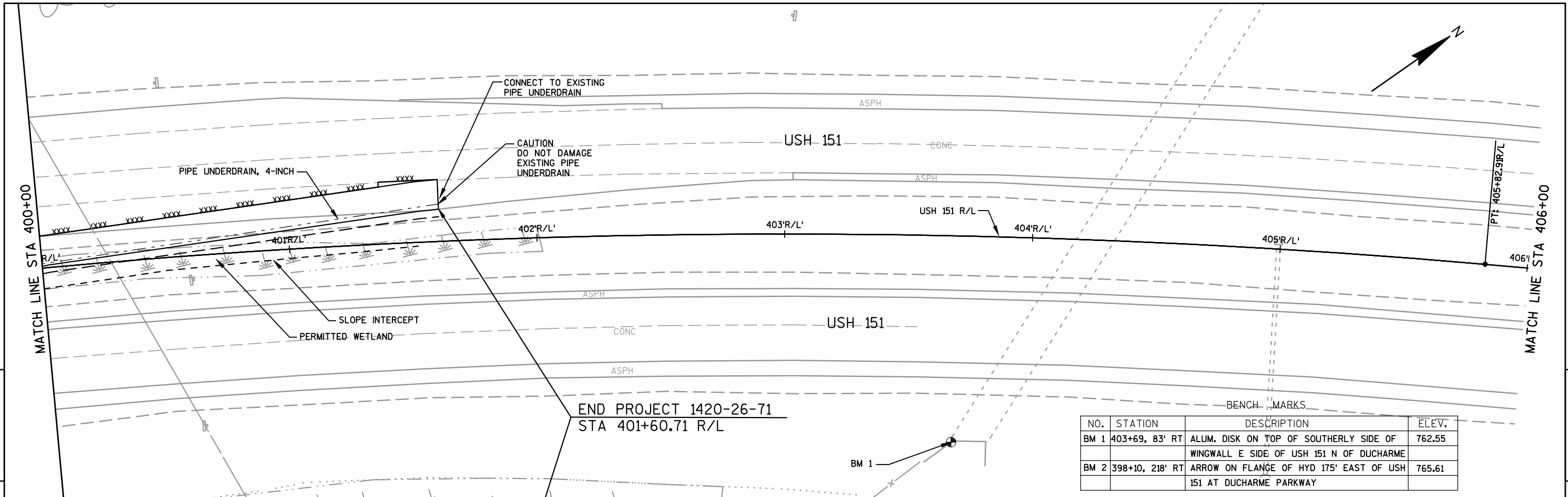
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		





BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM 1	403+69, 83' RT	ALUM. DISK ON TOP OF SOUTHERLY SIDE OF WINGWALL E SIDE OF USH 151 N OF DUCHARME	762.55
BM 2	398+10, 218' RT	ARROW ON FLANGE OF HYD 175' EAST OF USH 151 AT DUCHARME PARKWAY	765.61





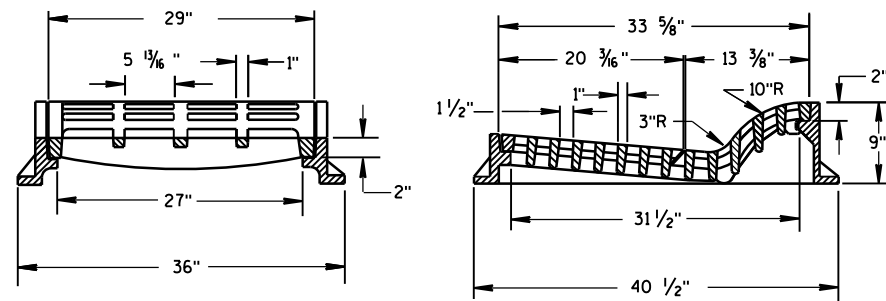
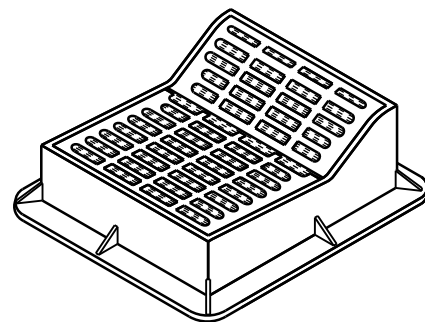
PROJECT NO:1420-26-71	HWY:USH 151	COUNTY:FOND DU LAC	PLAN AND PROFILE: USH 151	SHEET	E
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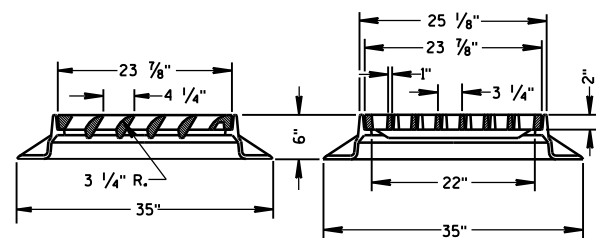
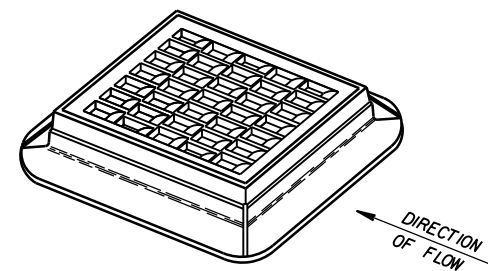
Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
11B02-02	CONCRETE MEDIAN NOSE
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-11A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-11C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

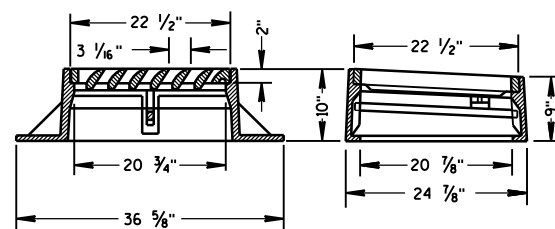
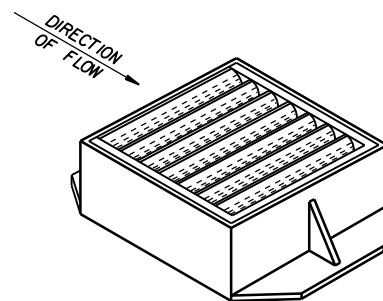


TYPE "F"

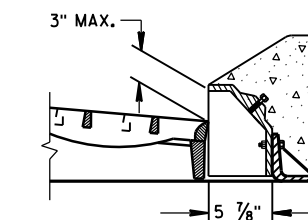
USE WITH TYPES A &amp; D CONCRETE CURB &amp; GUTTER, 36 INCH.



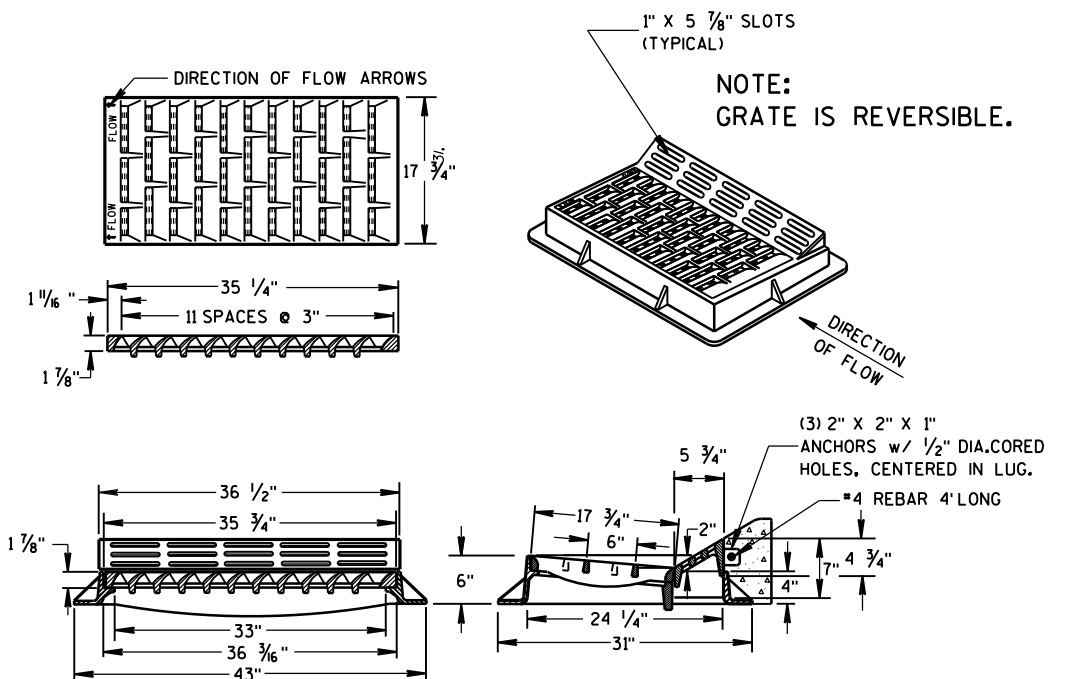
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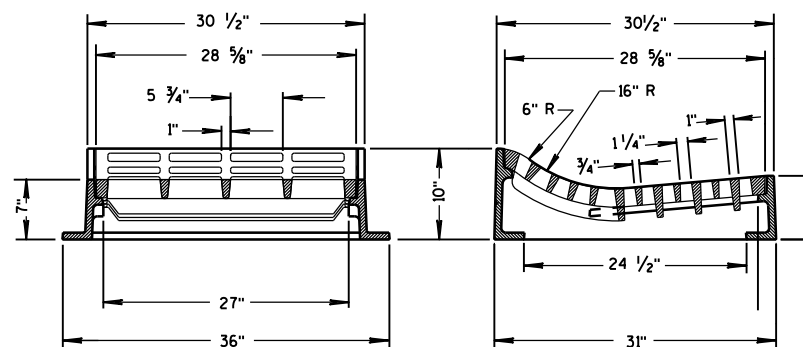
TYPE "V"

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

## GENERAL NOTES

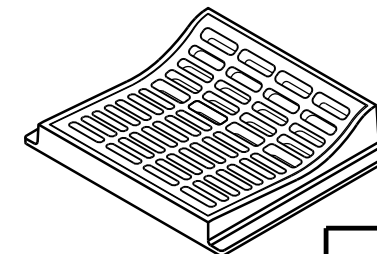
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING  
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND  
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED  
TO THE ENGINEER FOR APPROVAL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

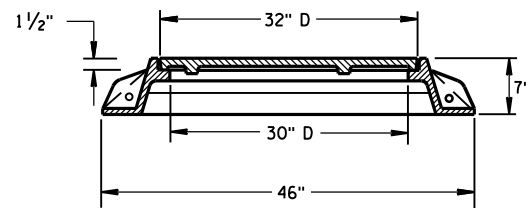
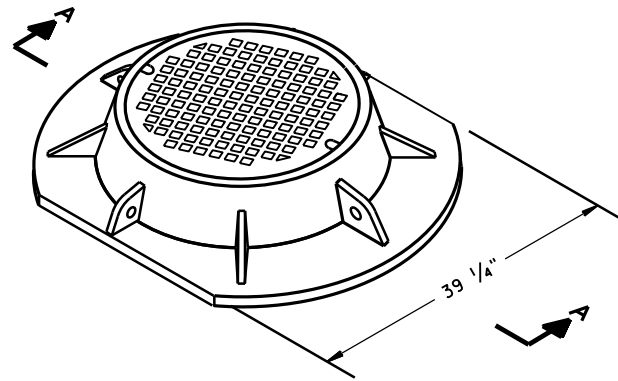
TYPE "HM"

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

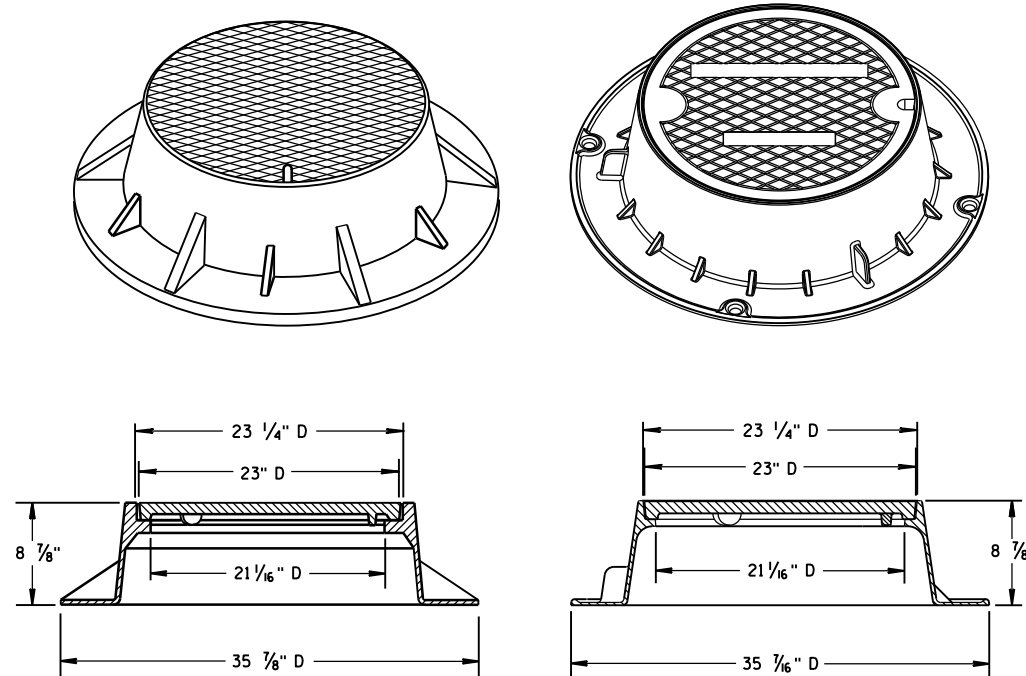
TYPE "T"

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

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

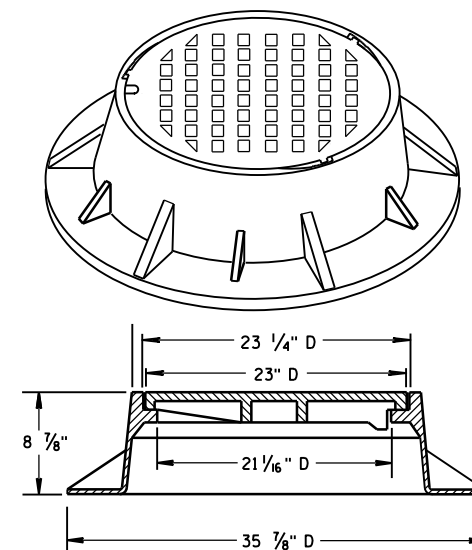
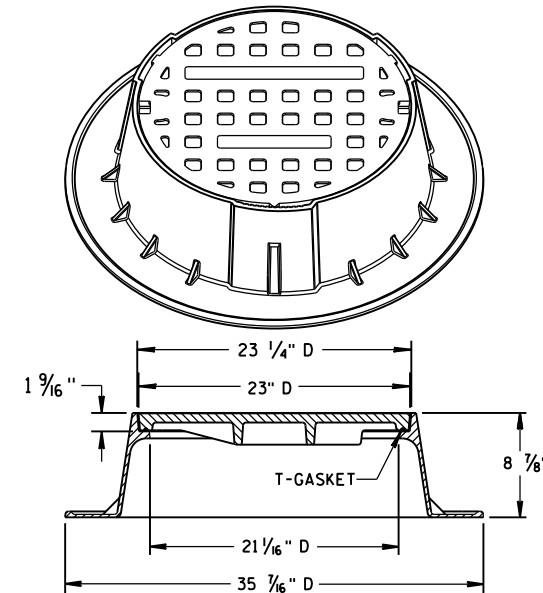


SECTION A-A  
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

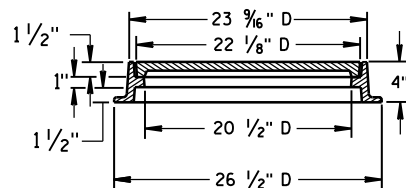
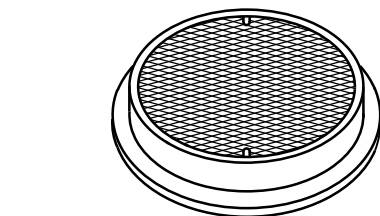


TYPE "J" SPECIAL

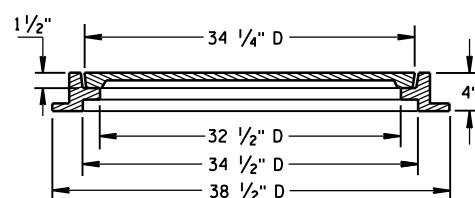
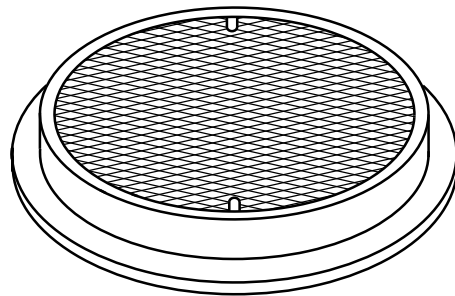
TYPE "B" NON-ROCKING SELF-SEAL LID

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

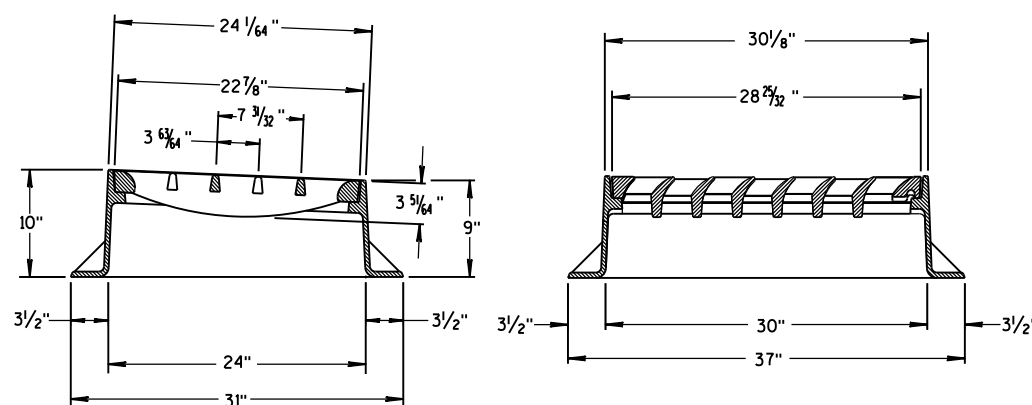
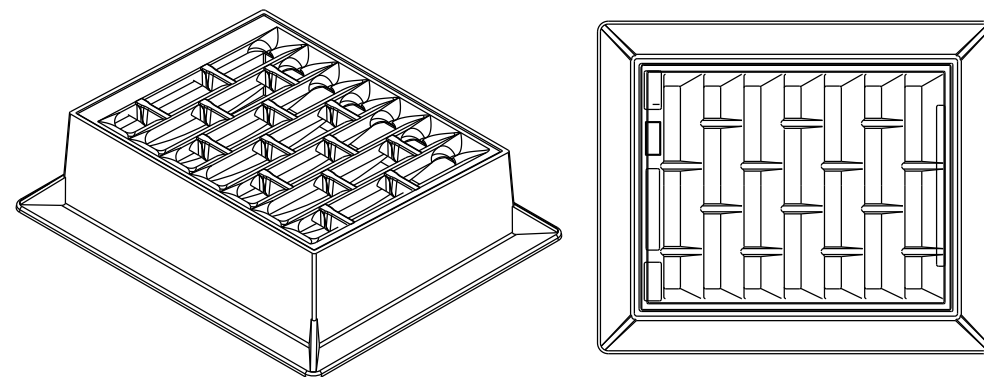
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

## GENERAL NOTES

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

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

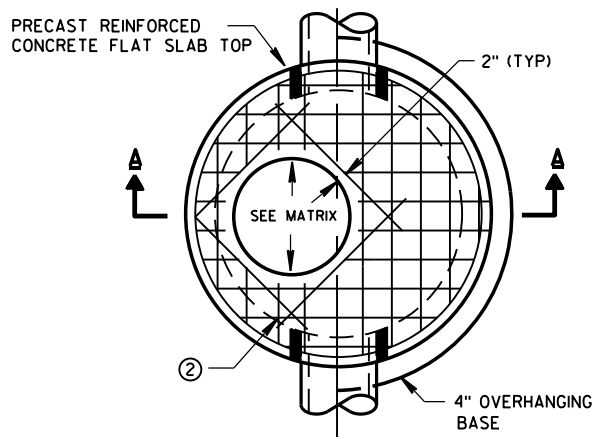
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

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

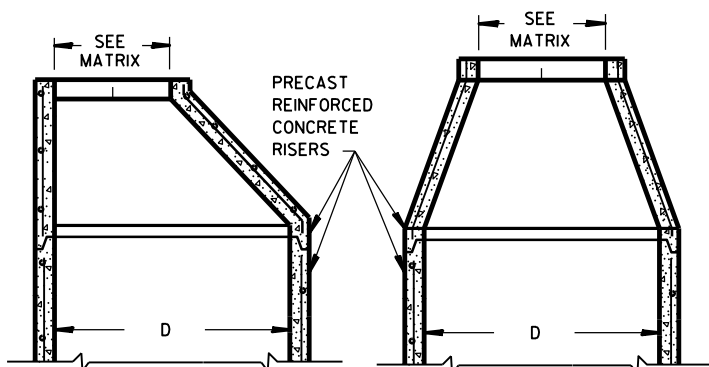
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/27/2013  
DATE  
FHWA

/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

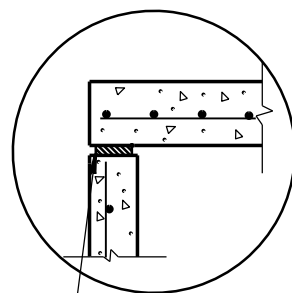


PLAN VIEW CIRCULAR OPENING

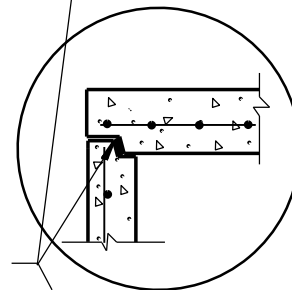


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

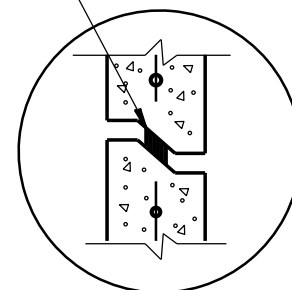
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



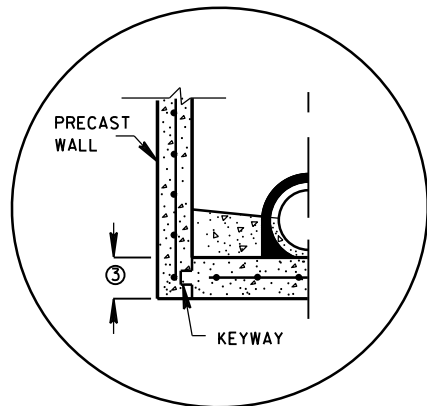
TOP WITH TONGUE AND GROOVE JOINT



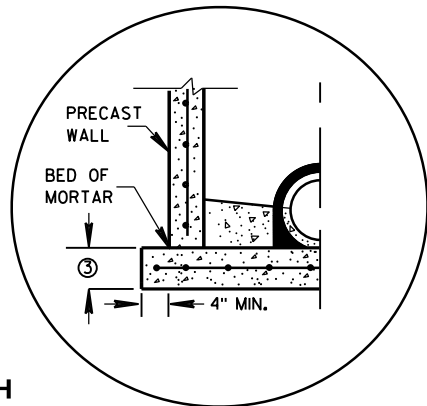
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

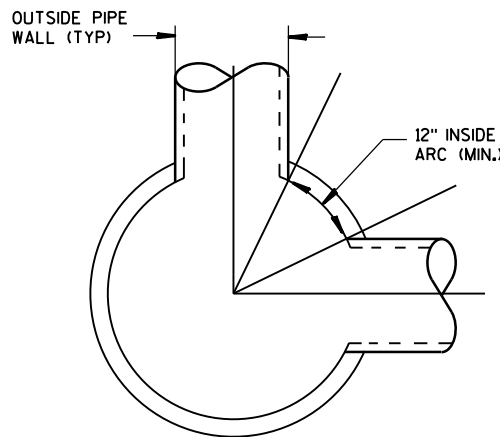


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

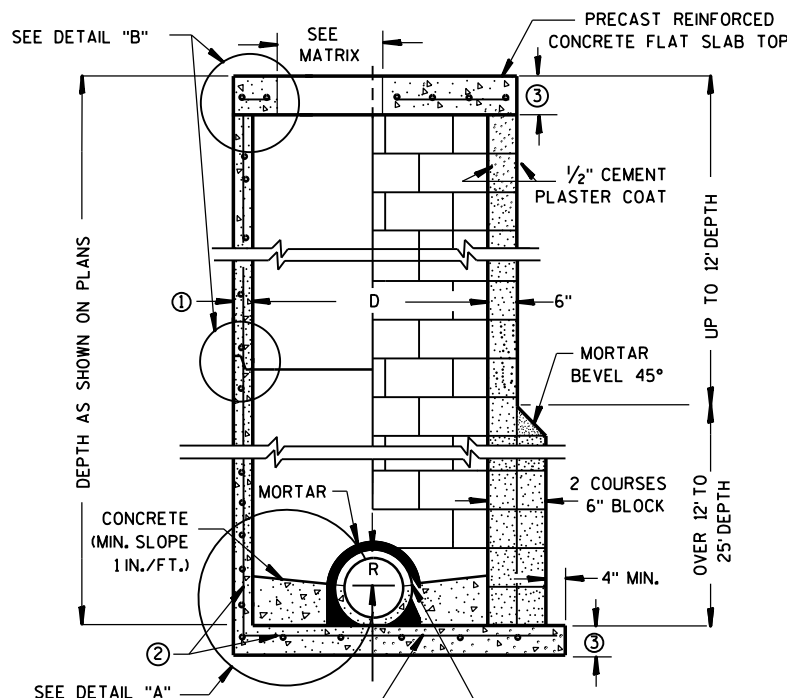


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

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

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

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

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

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

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

MANHOLE COVER OPENING MATRIX

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

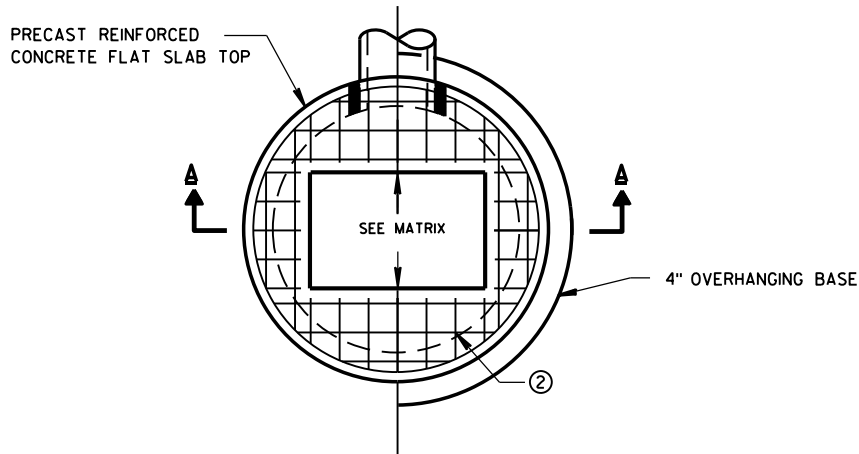
PIPE MATRIX

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

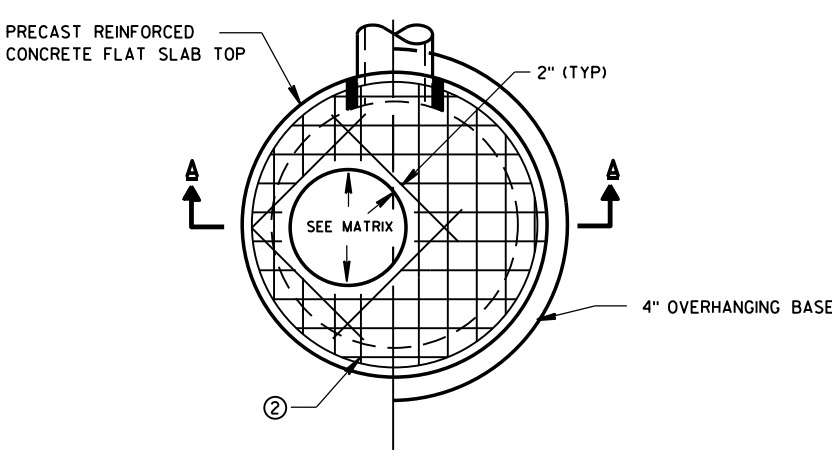
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

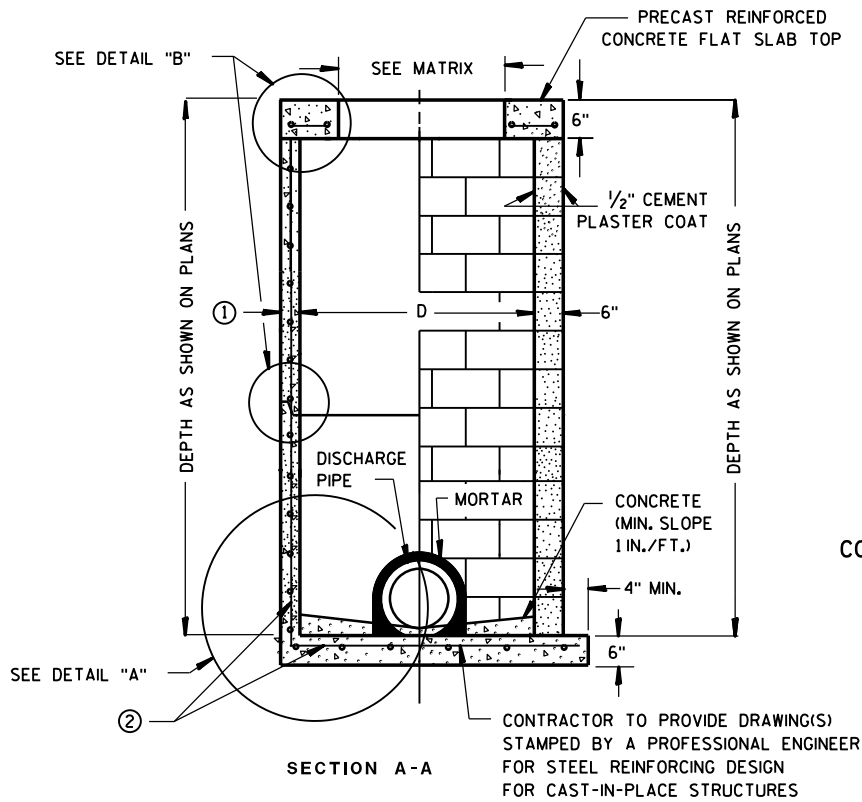


PLAN VIEW RECTANGULAR OPENING



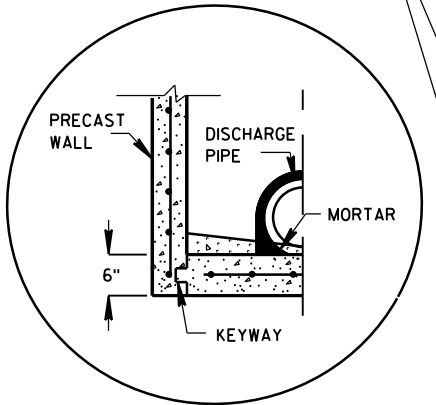
PLAN VIEW CIRCULAR OPENING

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

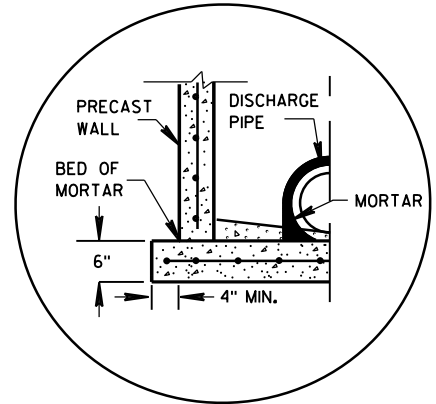


**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**      **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

CIRCULAR INLETS W/ FLAT TOP

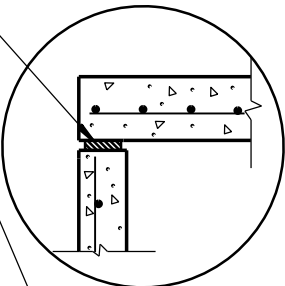


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

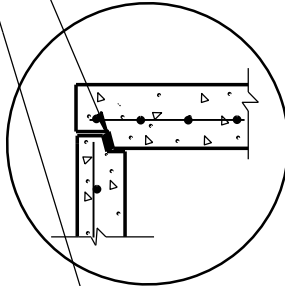


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

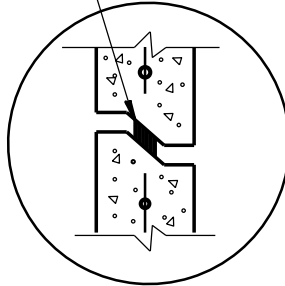
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

GENERAL NOTES

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

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

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

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

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

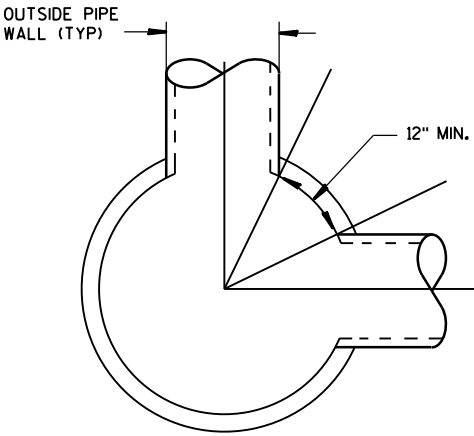
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X	X	X	X	
	2X2.5			X								
	2X3						X					
	2.5X3					X						



DETAIL "C"

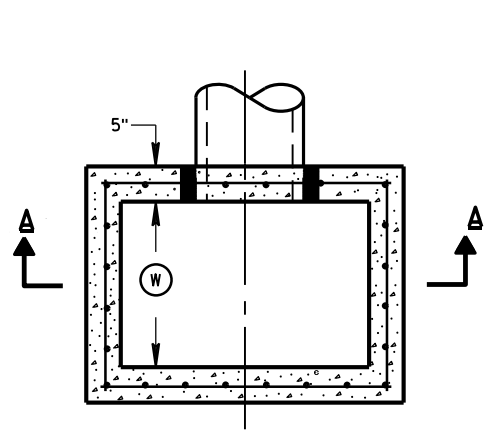
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

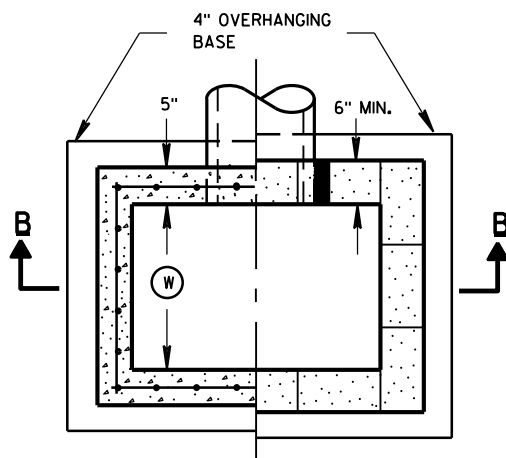
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

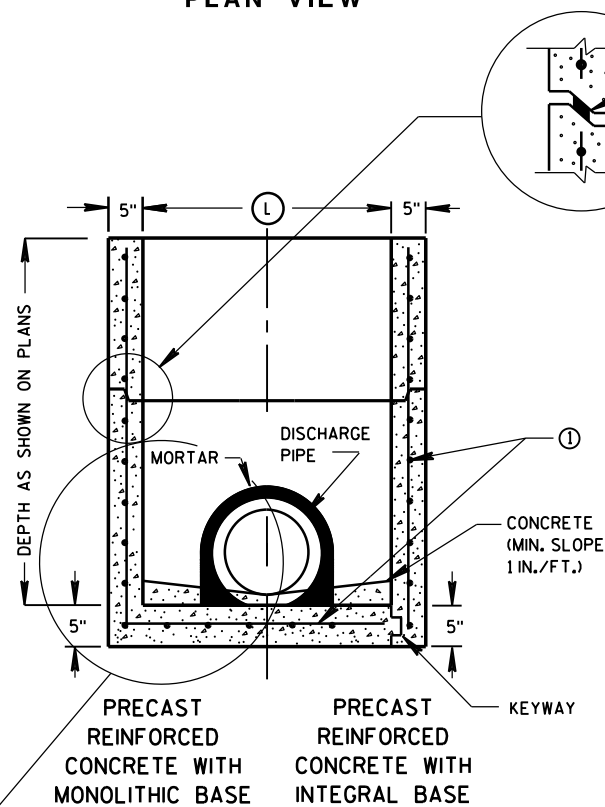


PLAN VIEW

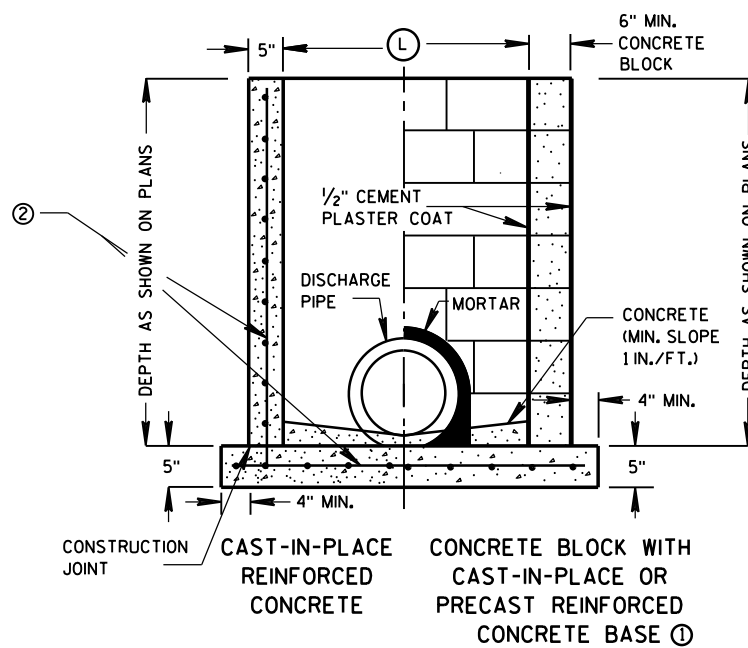


PLAN VIEW

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



SECTION A-A



SECTION B-B

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

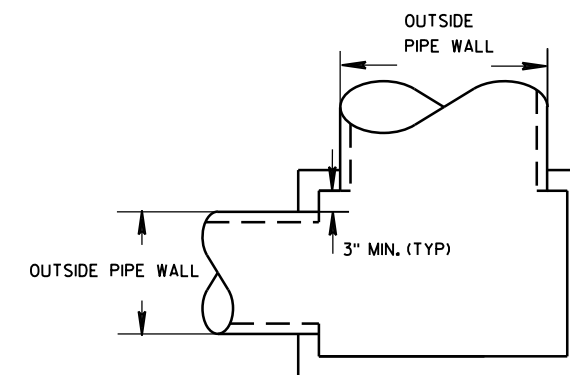
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

## INLET COVER MATRIX

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

## PIPE MATRIX

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

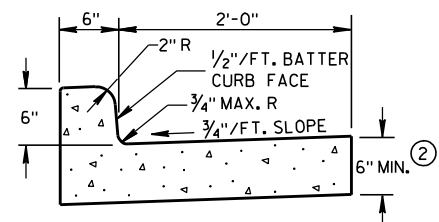


DETAIL "A"

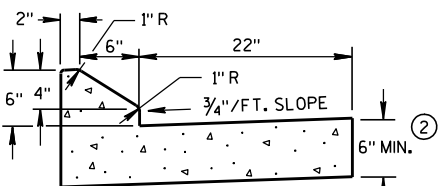
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

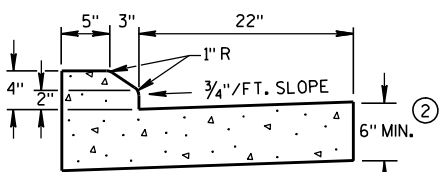
APPROVED  
6/5/2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA ENGINEER



TYPES A &amp; D ①

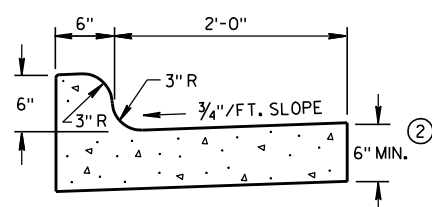


6" SLOPED CURB TYPES G &amp; J ①

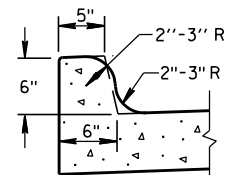
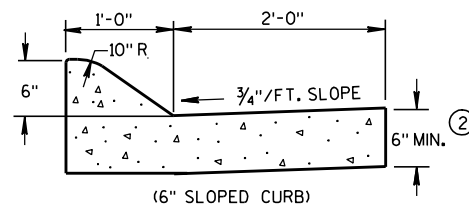


4" SLOPED CURB TYPES G &amp; J ①

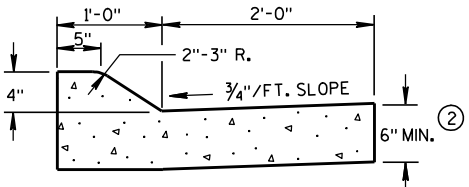
CONCRETE CURB &amp; GUTTER 30"



TYPES K &amp; L ①

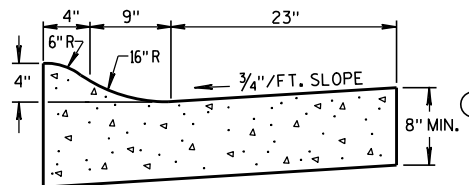
OPTIONAL CURB SHAPE  
FOR TYPES K & L ①

(6" SLOPED CURB)

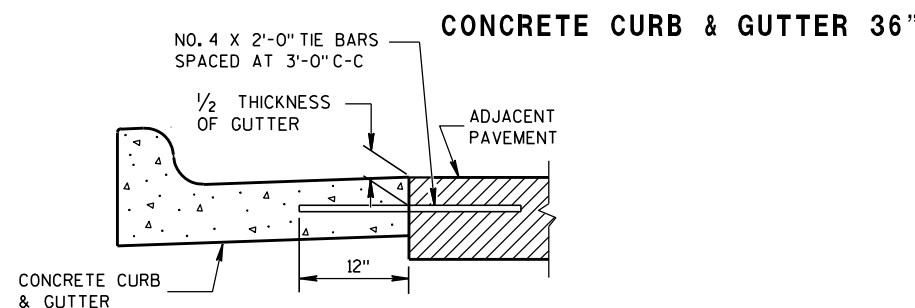


(4" SLOPED CURB)

TYPES A &amp; D ①

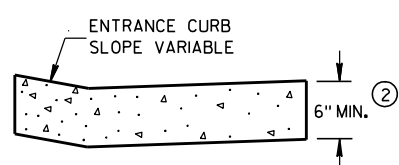


4" SLOPED CURB TYPES R &amp; T ① ④



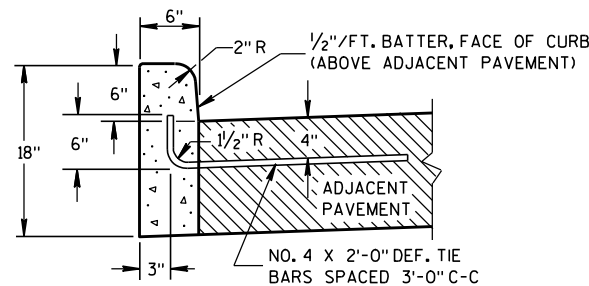
CONCRETE CURB &amp; GUTTER 36"

TYPICAL TIE BAR LOCATION ①



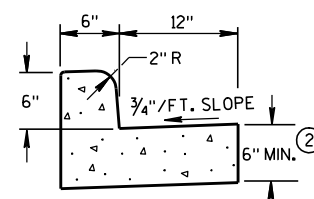
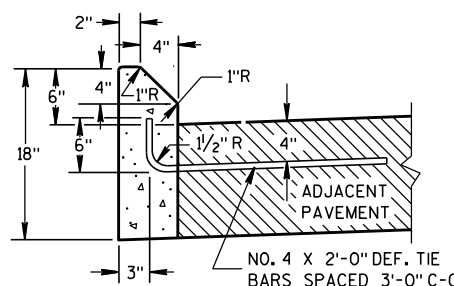
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



TYPES A &amp; D ①

CONCRETE CURB

TYPES A & D  
CONCRETE CURB & GUTTER 18"

TYPES G &amp; J ①

## GENERAL NOTES

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

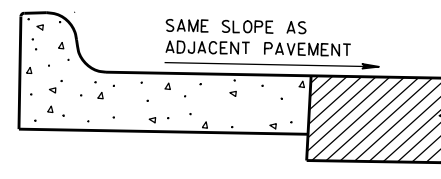
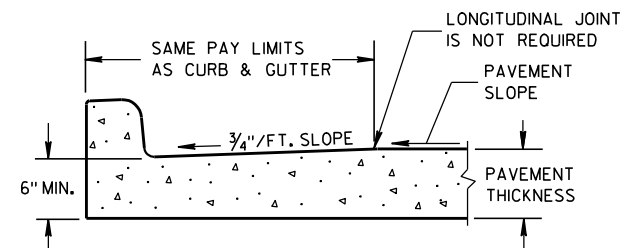
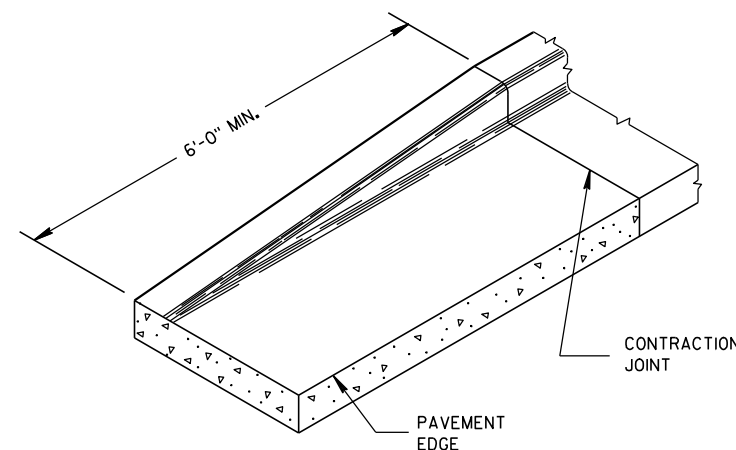
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

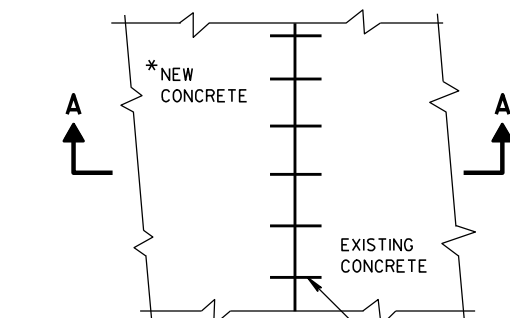
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

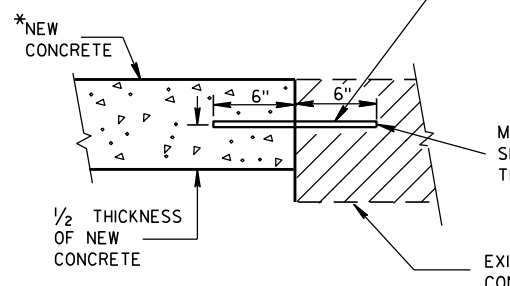
REVERSE SLOPE GUTTER ⑤  
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT  
WITH INTEGRAL CURB & GUTTER

END SECTION CURB &amp; GUTTER



PLAN VIEW

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

SECTION A-A  
TIE BARS DRILLED  
INTO EXISTING PAVEMENT

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

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

EXISTING  
CONCRETE

CONCRETE CURB, CONCRETE  
CURB & GUTTER AND TIES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

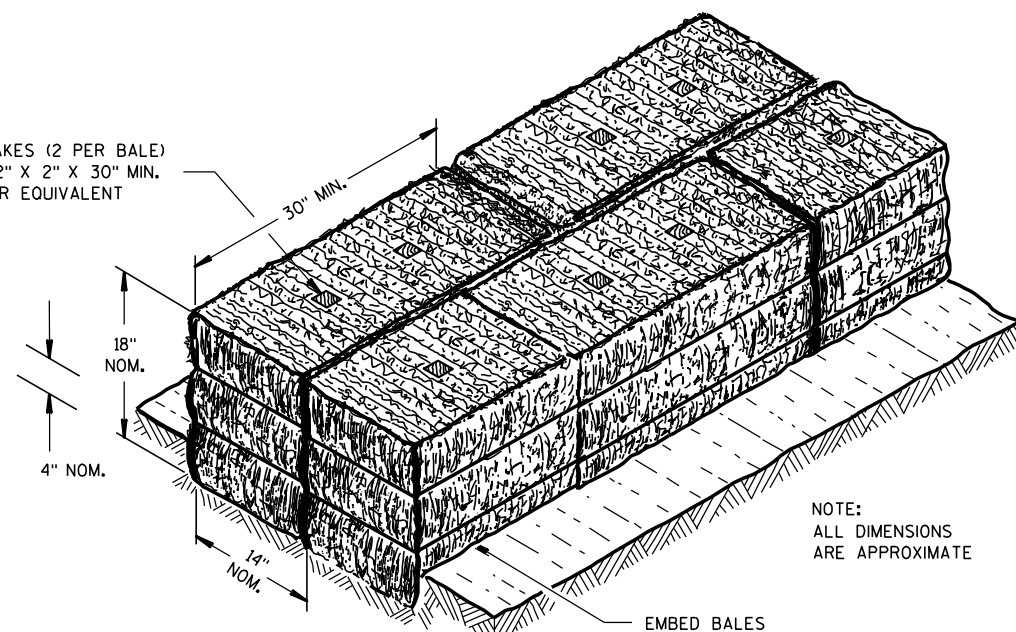
9/4/08

DATE

FHWA

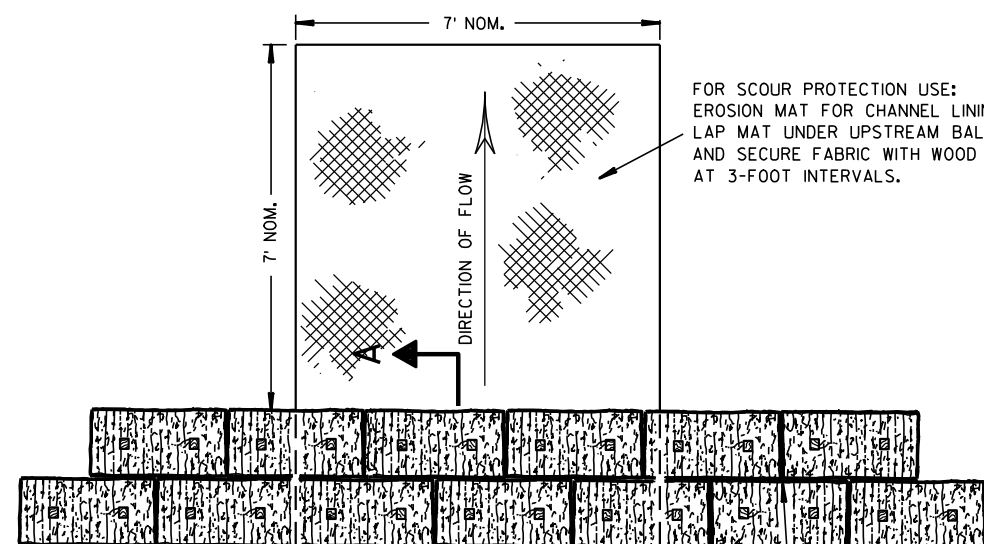
/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

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



SECTION A-A

NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

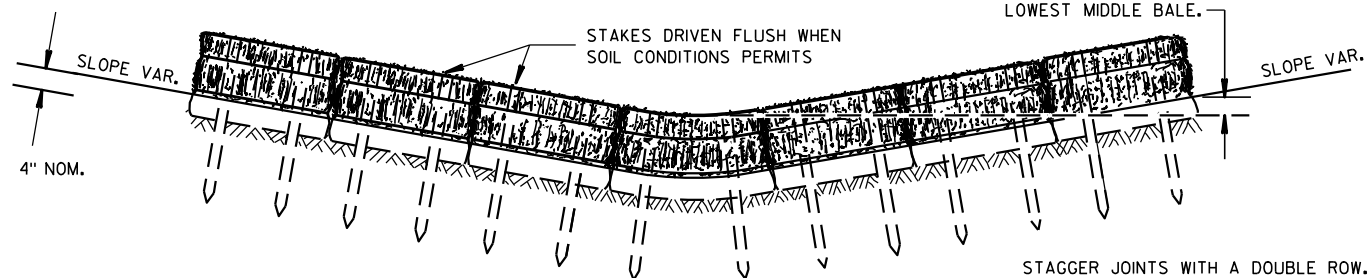


PLAN VIEW

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.

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



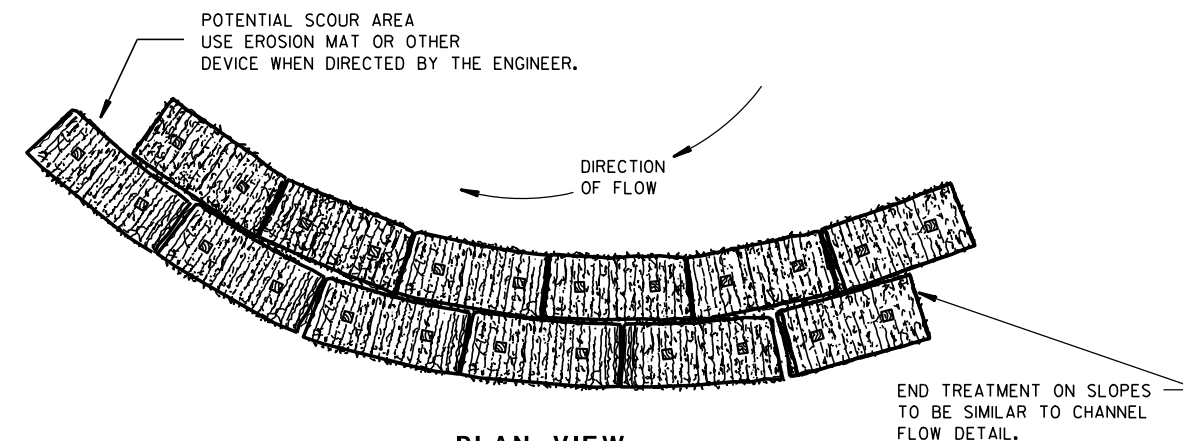
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

## GENERAL NOTES

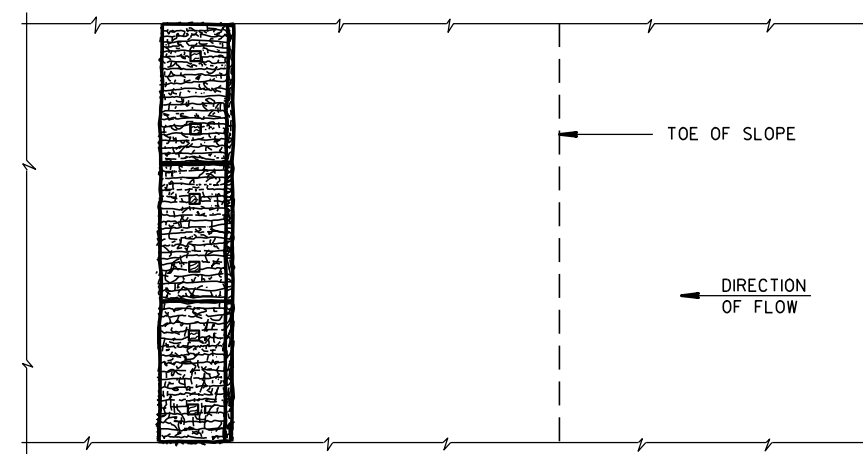
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

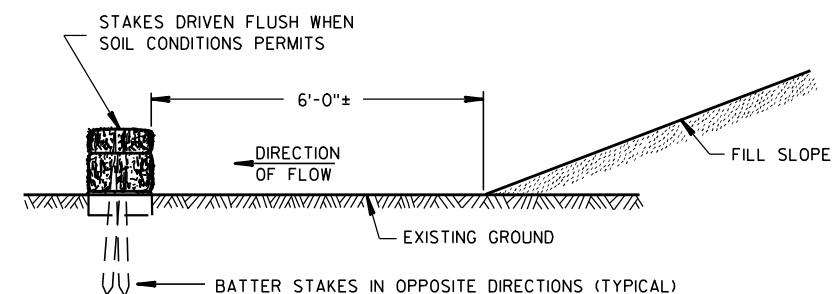


PLAN VIEW

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  
DATE

FHWA

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER

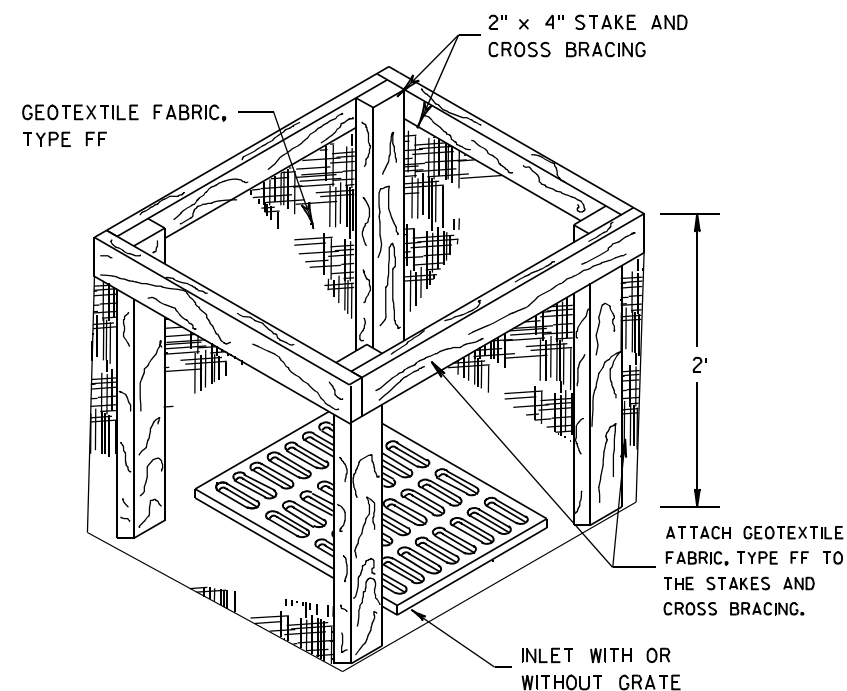
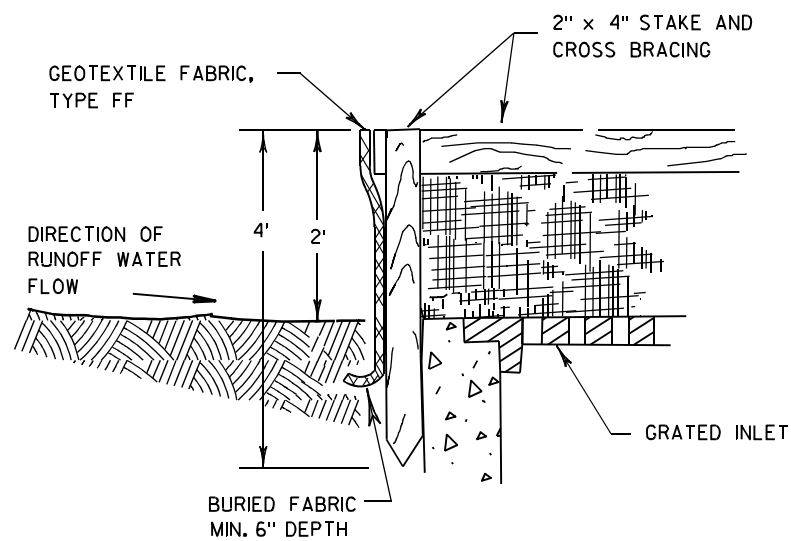




- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



<b>SILT FENCE</b>	
<b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b>	
<b>APPROVED</b> <u>4-29-05</u> <b>DATE</b>	<u>/S/ Beth Cannestra</u> <b>CHIEF ROADWAY DEVELOPMENT ENGINEER</b>



**INLET PROTECTION, TYPE A**

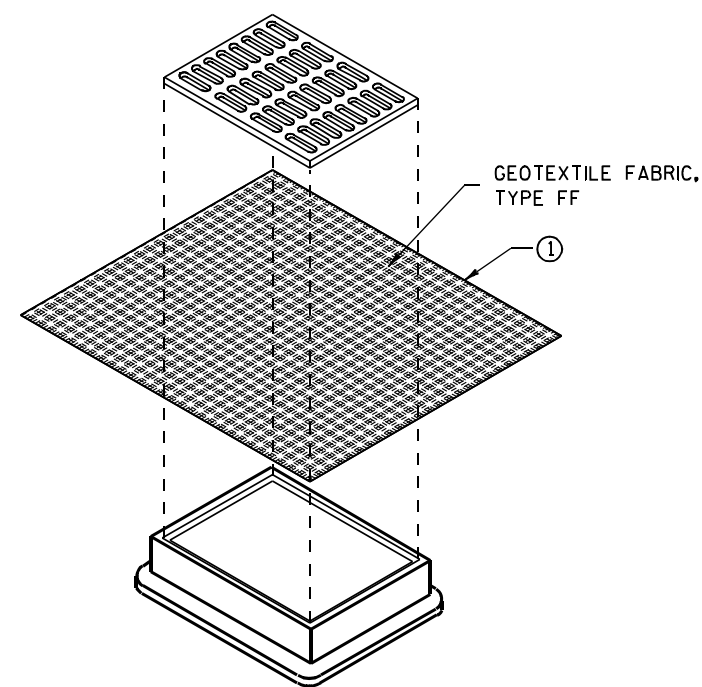
**GENERAL NOTES**

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

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

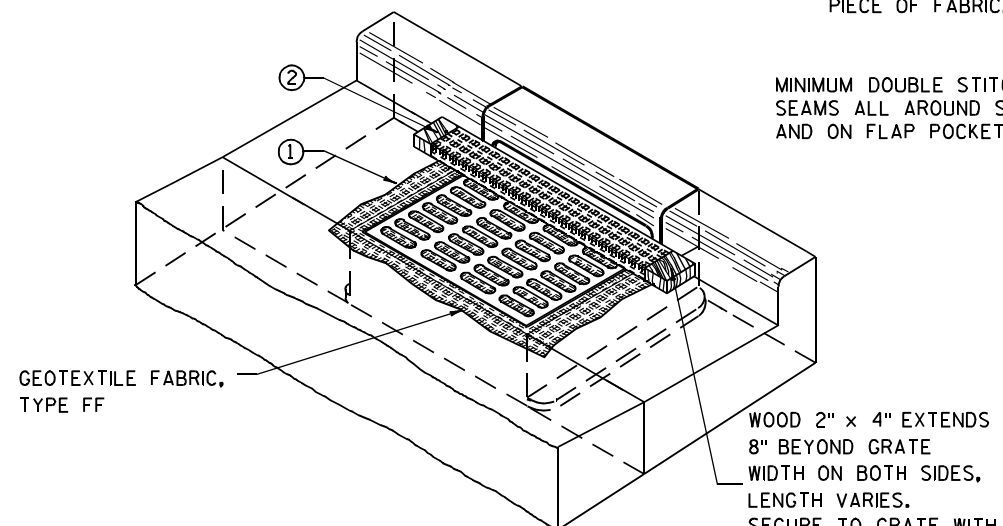
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

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

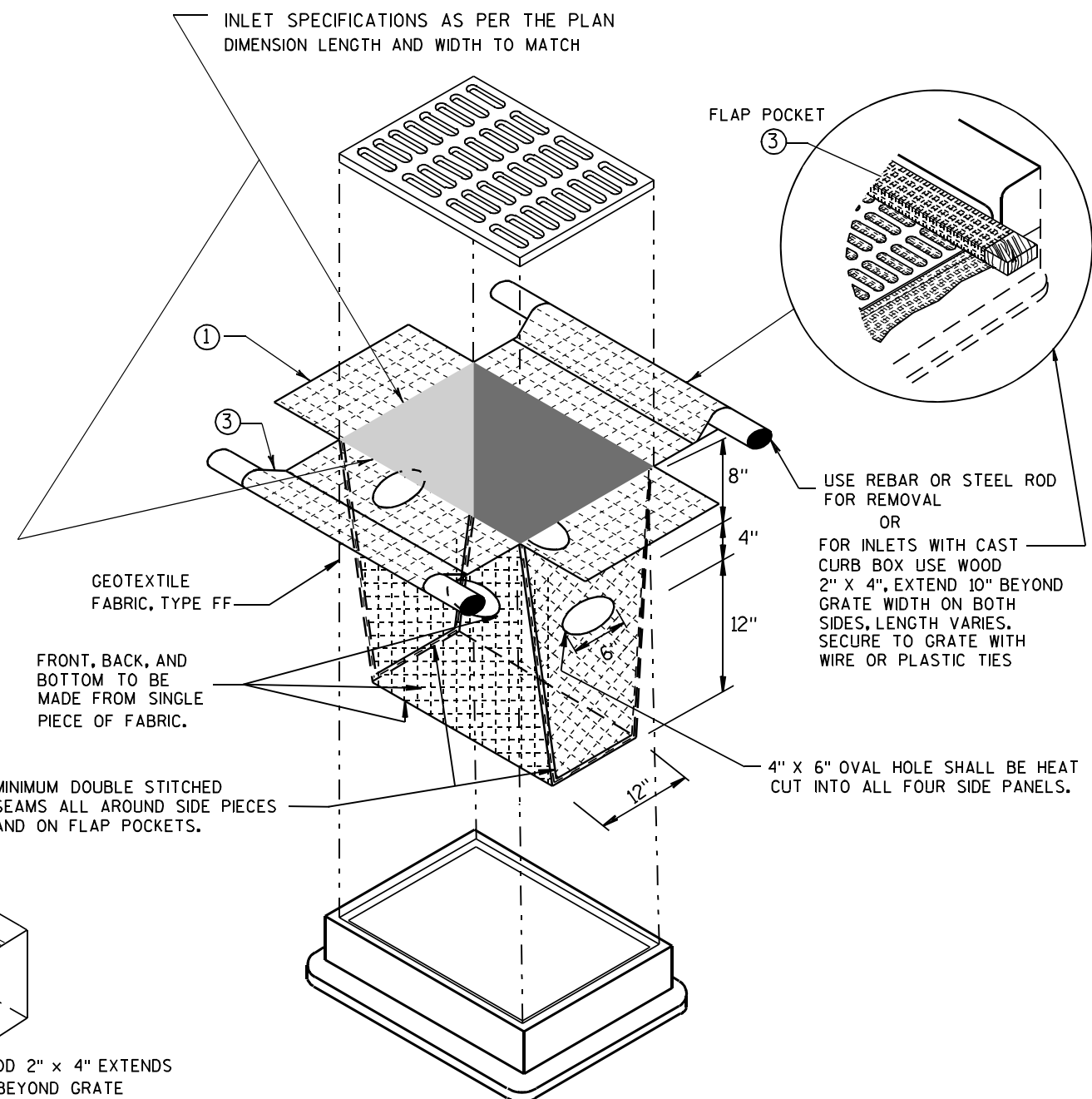
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

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

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

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



**INLET PROTECTION, TYPE D**

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

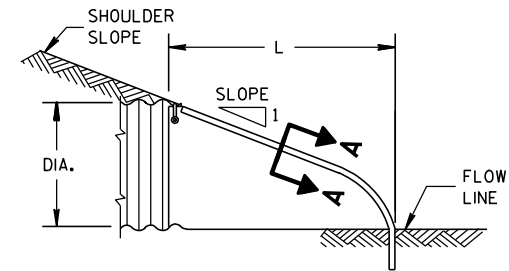
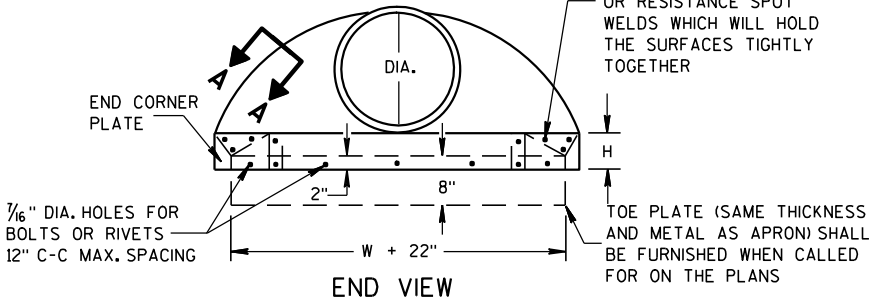
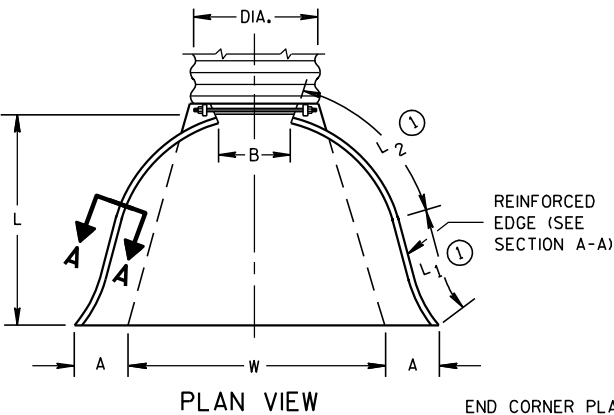
**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

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")	L <sub>1</sub> ①	L <sub>2</sub> ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.	
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.	
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.	
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.	
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.	

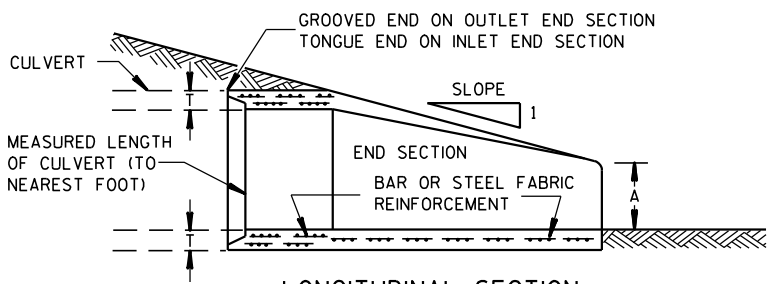
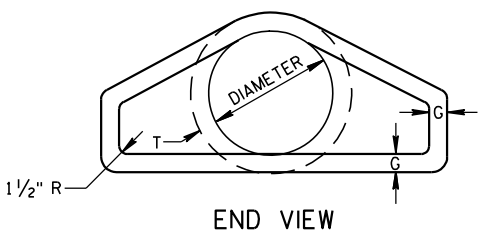
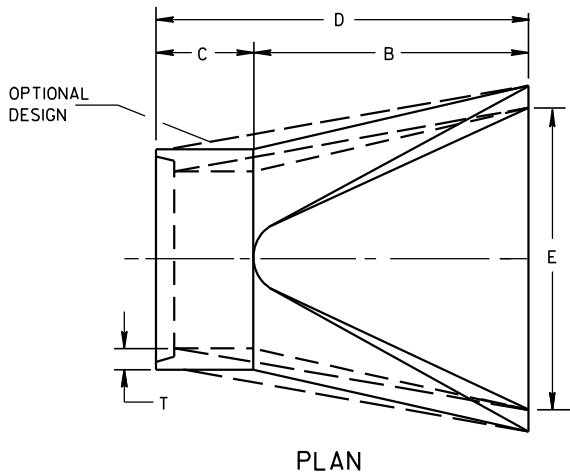
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



METAL ENDWALLS

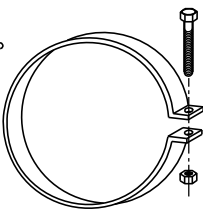
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 <sup>7</sup> / <sub>8</sub>	72 <sup>7</sup> / <sub>8</sub>	24	2	3 to 1
15	2 <sup>1</sup> / <sub>4</sub>	6	27	46	73	30	2 <sup>1</sup> / <sub>4</sub>	3 to 1
18	2 <sup>2</sup>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

\*MINIMUM  
\*\*MAXIMUM

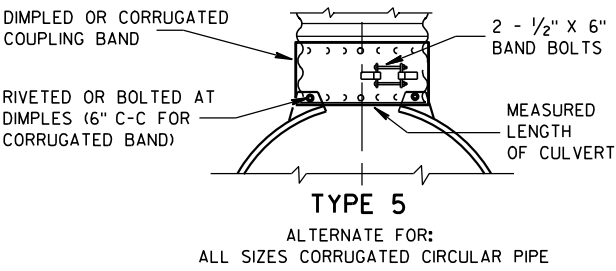
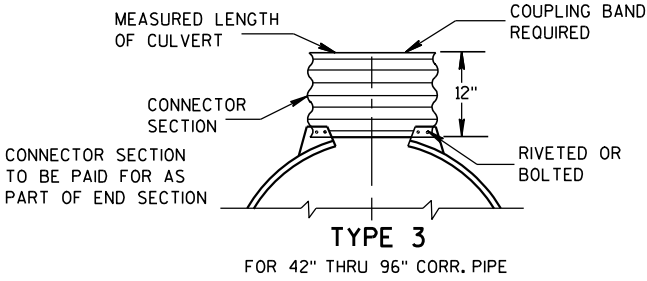
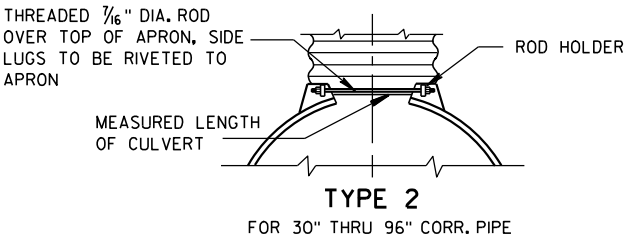
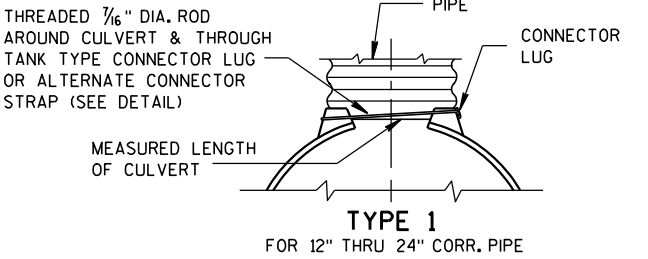


CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



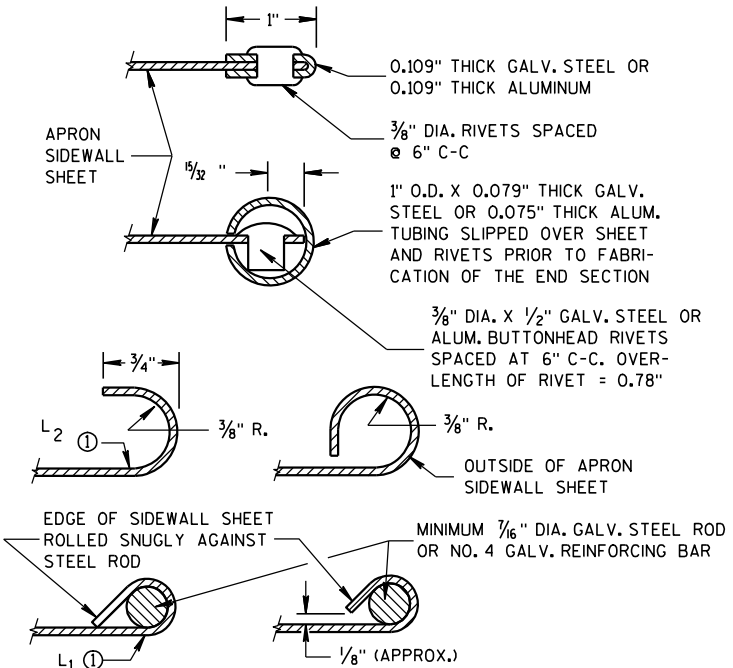
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

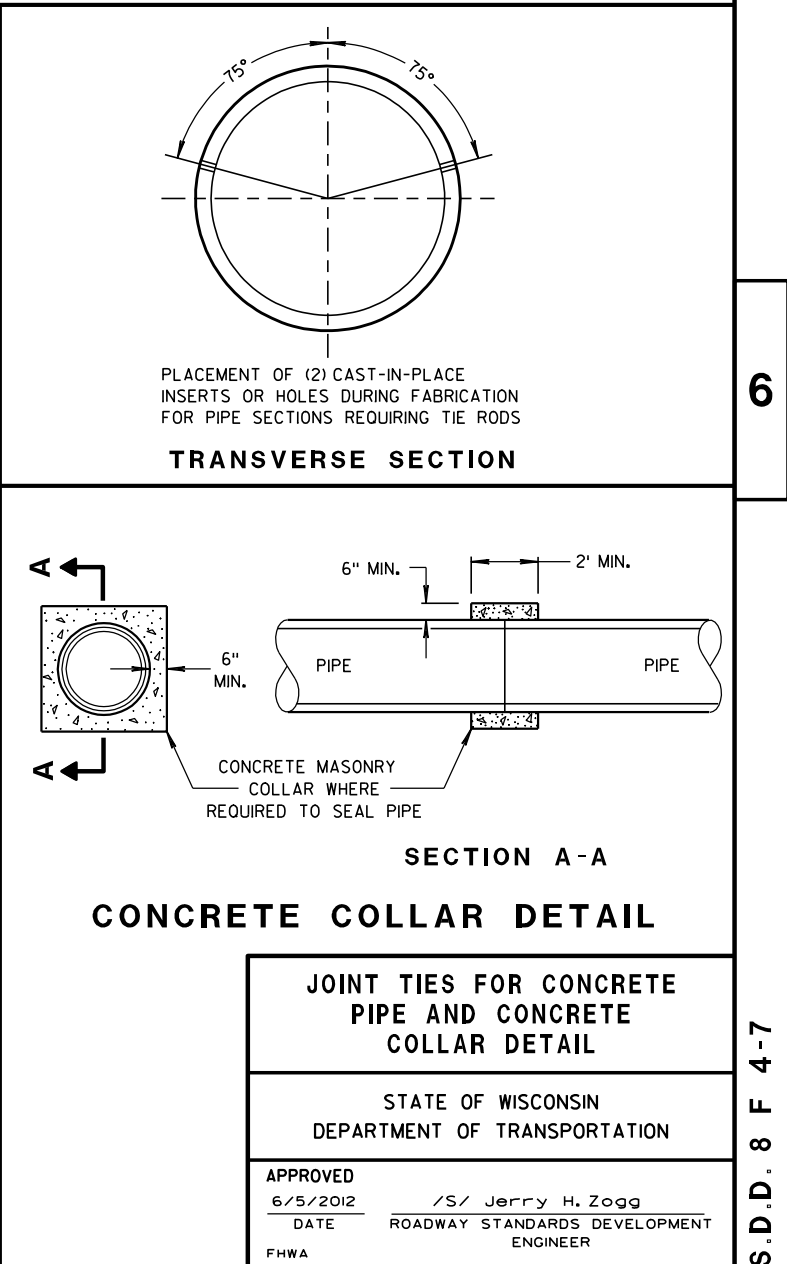
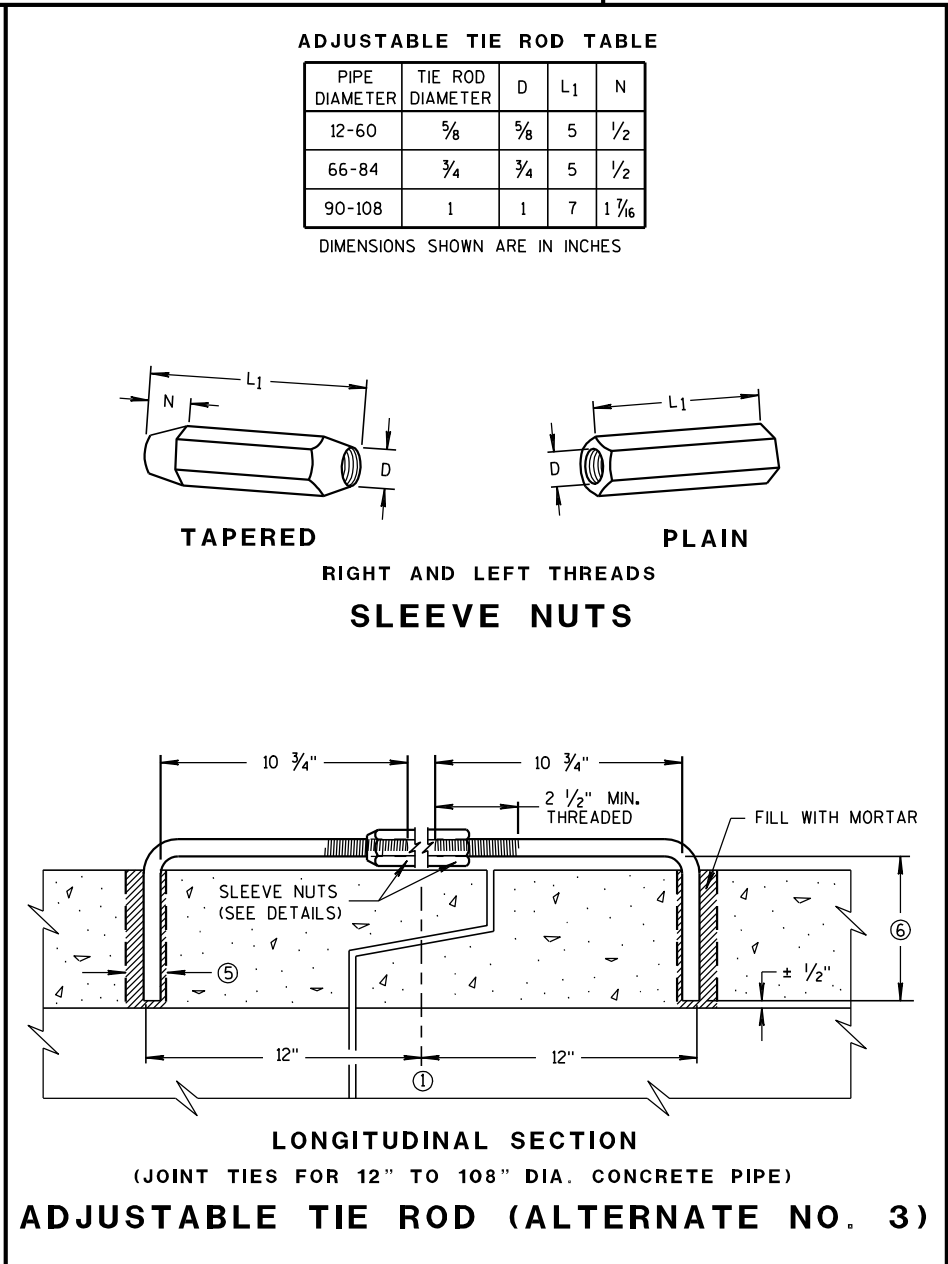
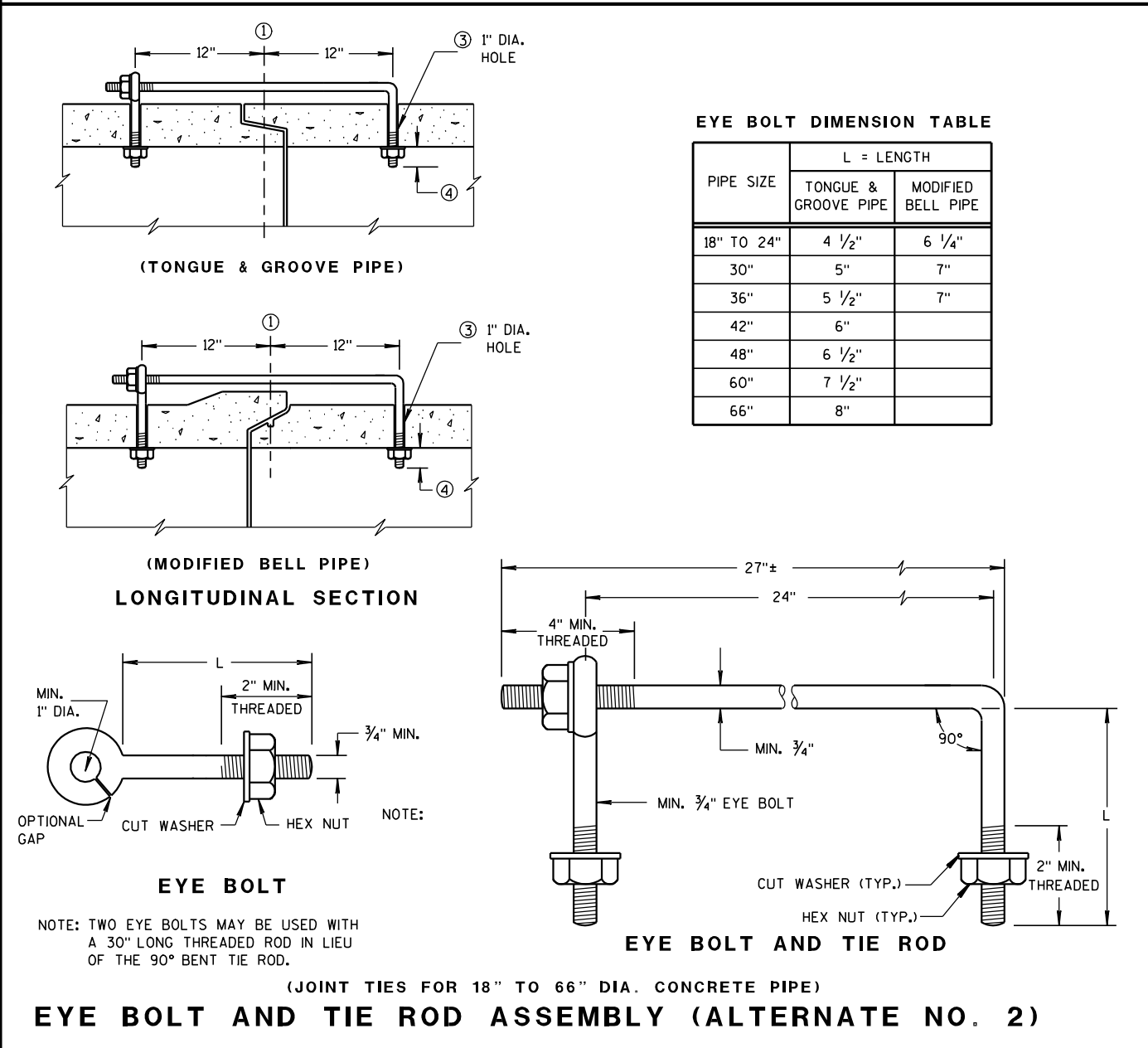
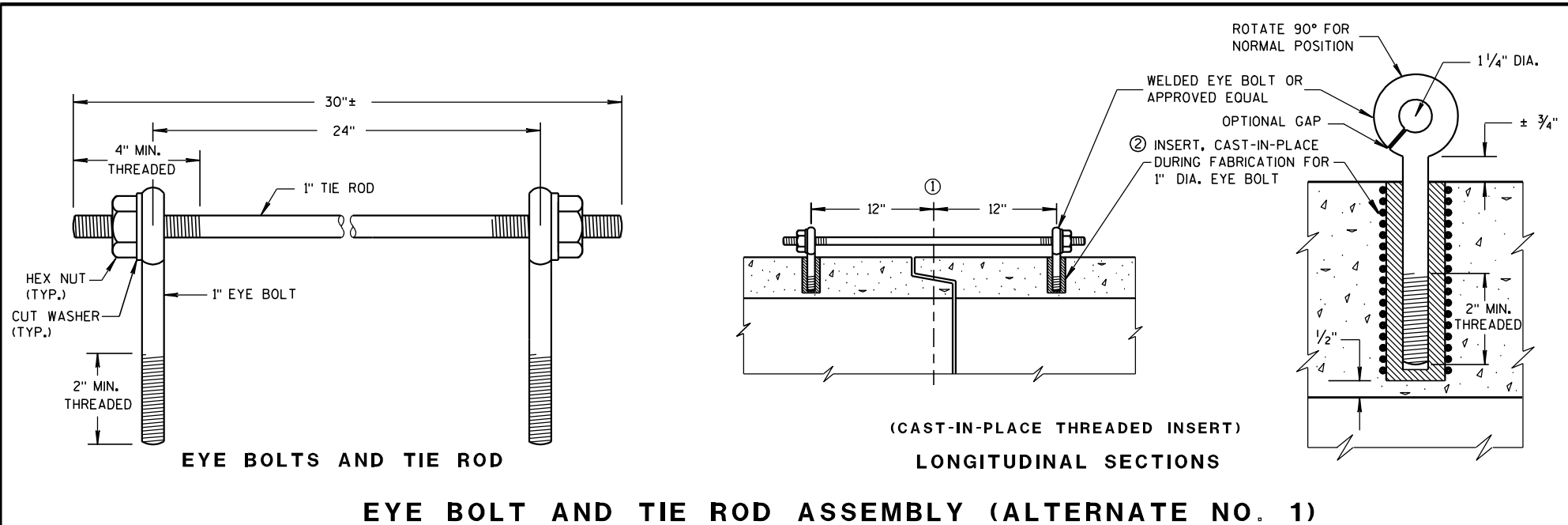
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

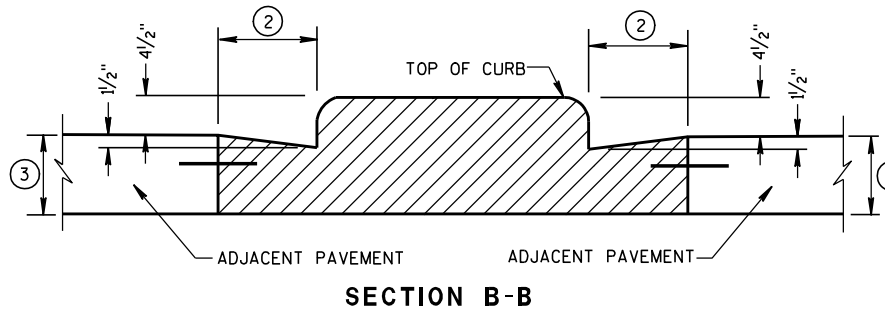
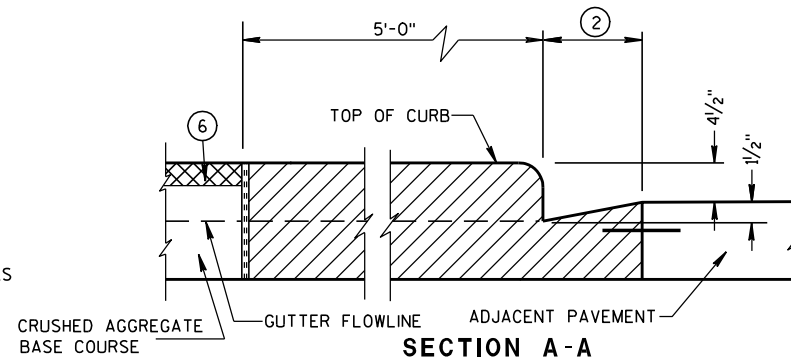
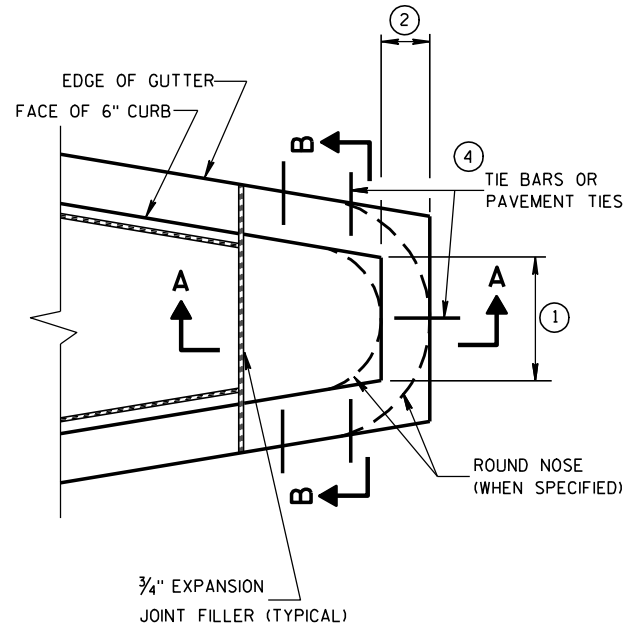
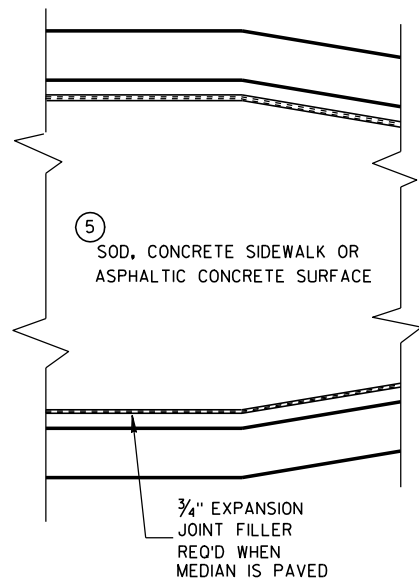
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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

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

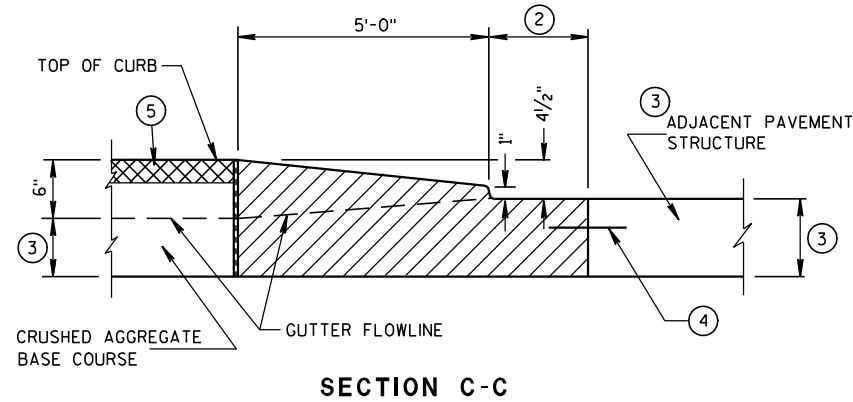
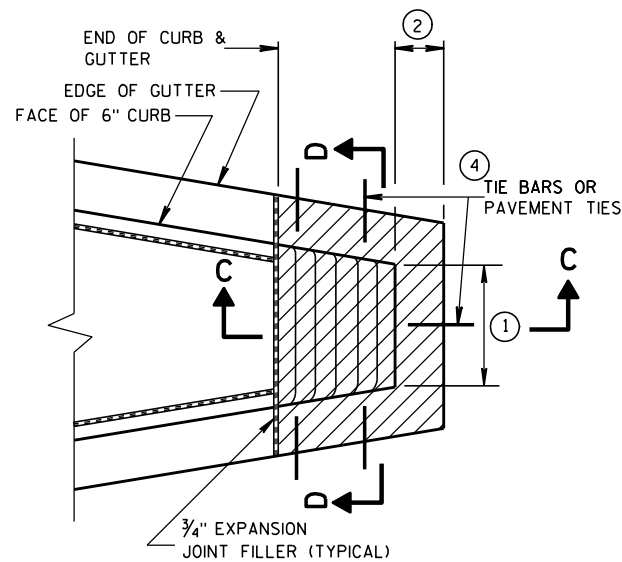
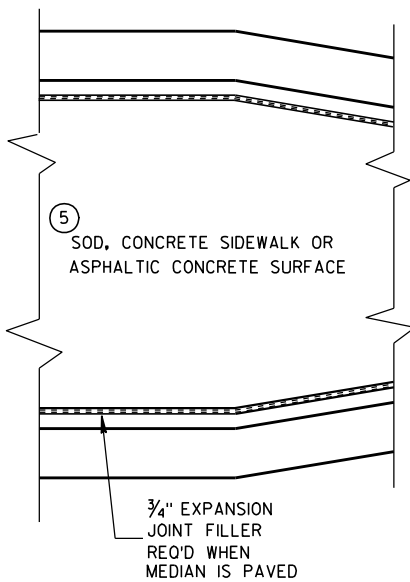
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

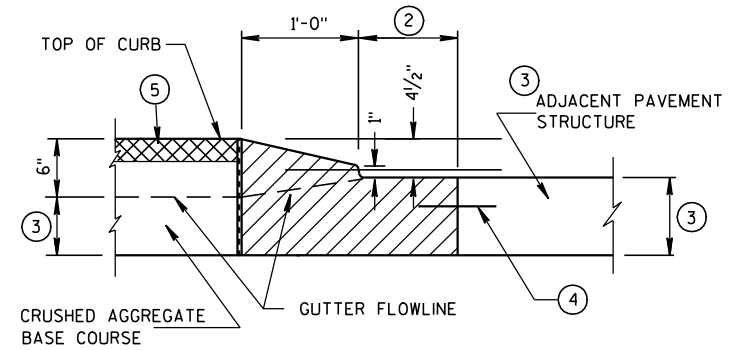
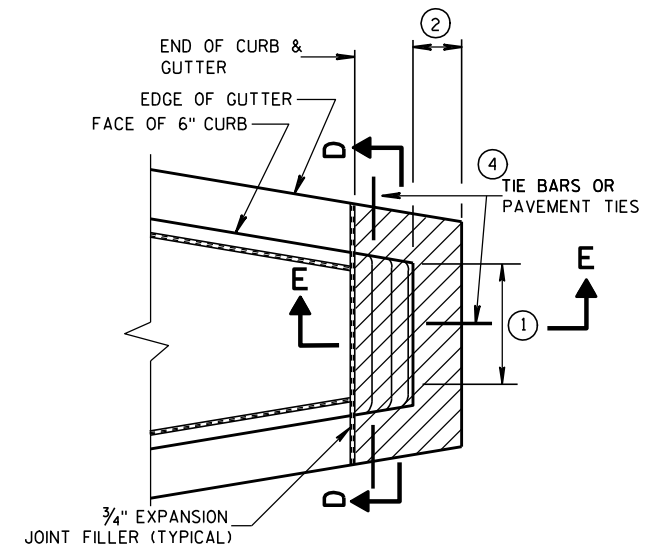




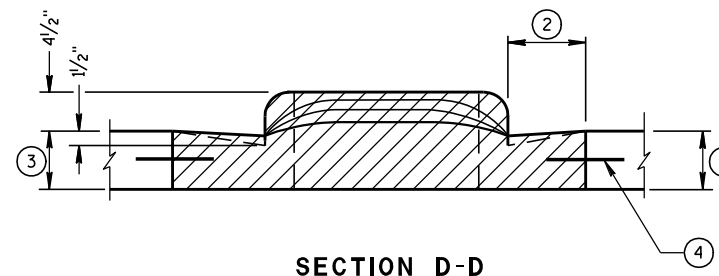
**CONCRETE MEDIAN BLUNT NOSE DETAIL**



**CONCRETE MEDIAN SLOPED NOSE TYPE 1**



**CONCRETE MEDIAN SLOPED NOSE TYPE 2**



**GENERAL NOTES**

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

- ① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
  - (1) NEW OR EXISTING CONCRETE PAVEMENT.
  - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
  - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

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

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

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

**CONCRETE MEDIAN NOSE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

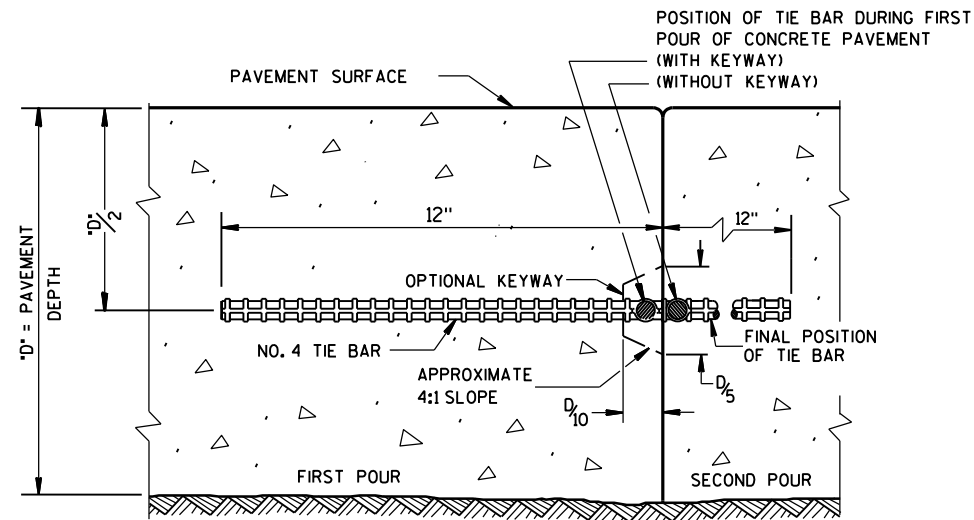
APPROVED

6/8/2006

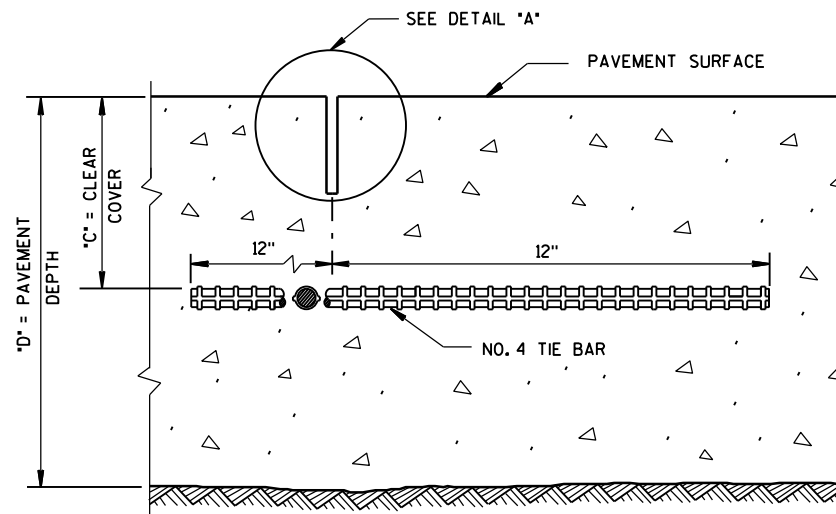
DATE

FHWA

/S/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



CONSTRUCTION JOINT



SAWED JOINT

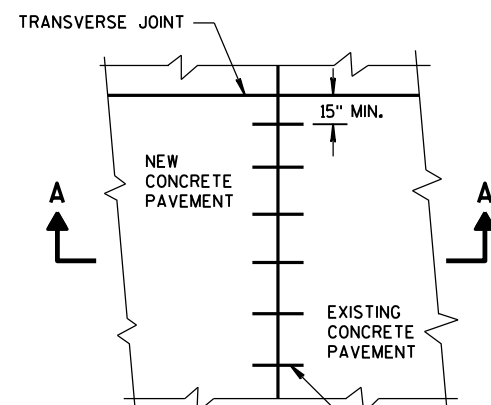
## GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

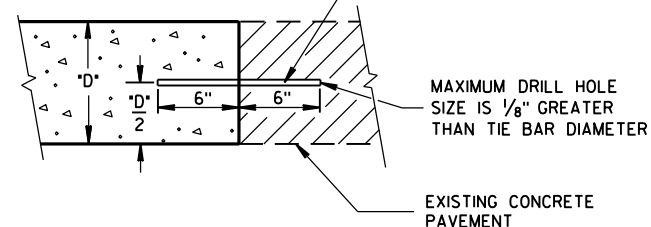
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

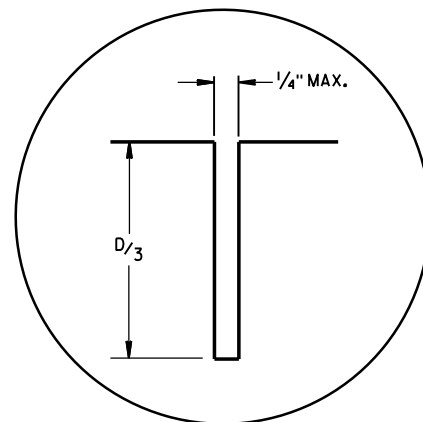


PLAN VIEW

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



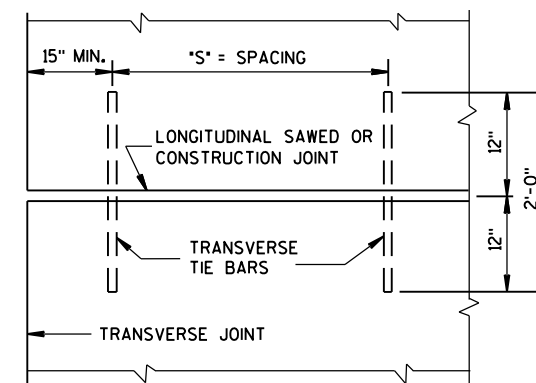
SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

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



PLAN VIEW  
SHOWING LOCATION OF TIE BARS

## CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

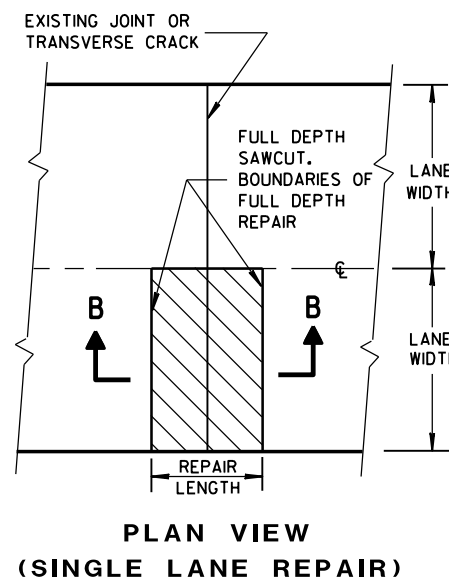
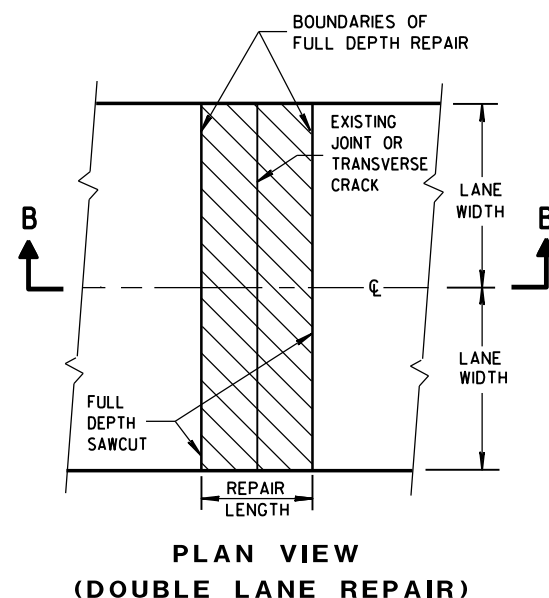
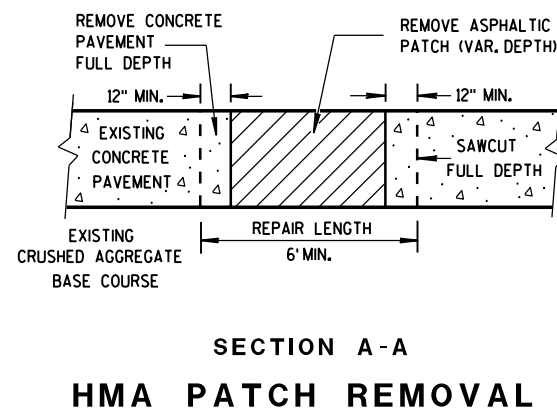
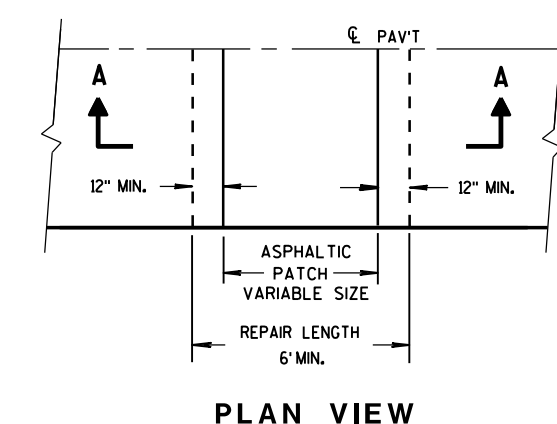
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

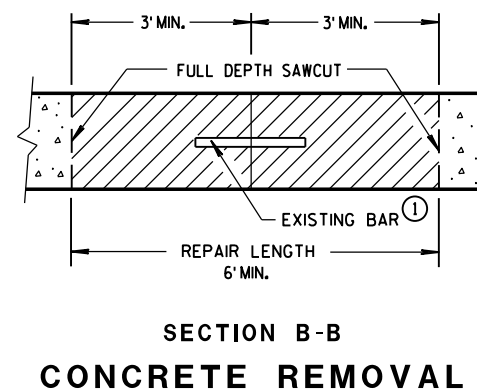
5-3-2013  
DATE

/S/ Deb Bischoff  
PAVEMENT POLICY & DESIGN ENGINEER

FHWA



**FULL DEPTH CONCRETE PAVEMENT REMOVAL**  
(SEE NOTE)



**GENERAL NOTES**

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

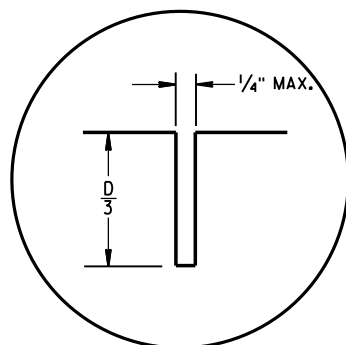
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

① DOWEL BARS MIGHT NOT EXIST.

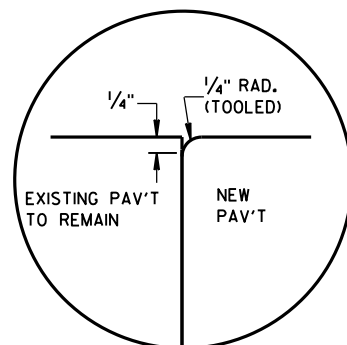


TIE BAR TABLE

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

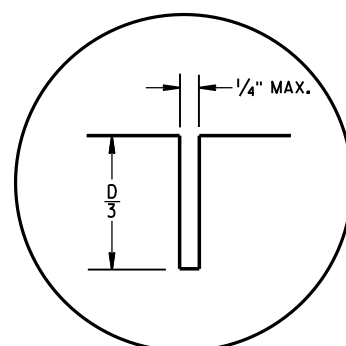


C1

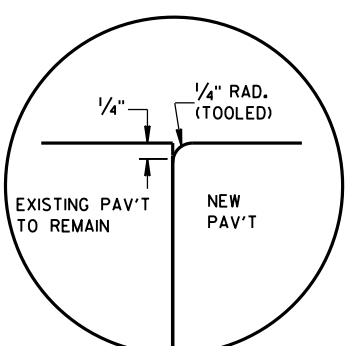


C2

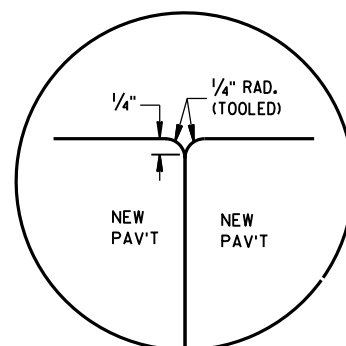
## TRANSVERSE JOINTS



L1

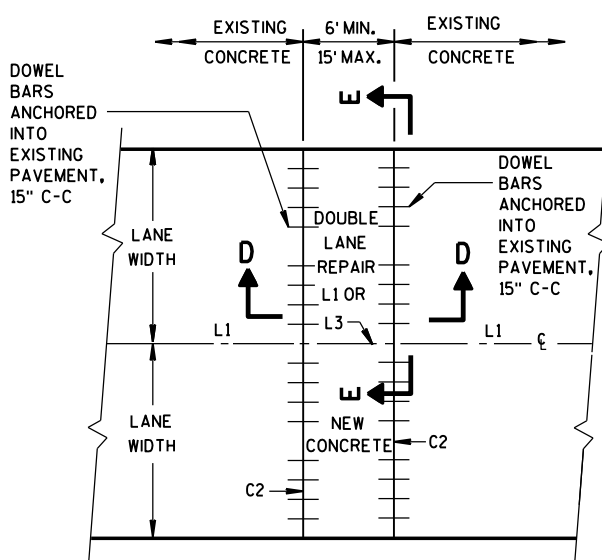


L2



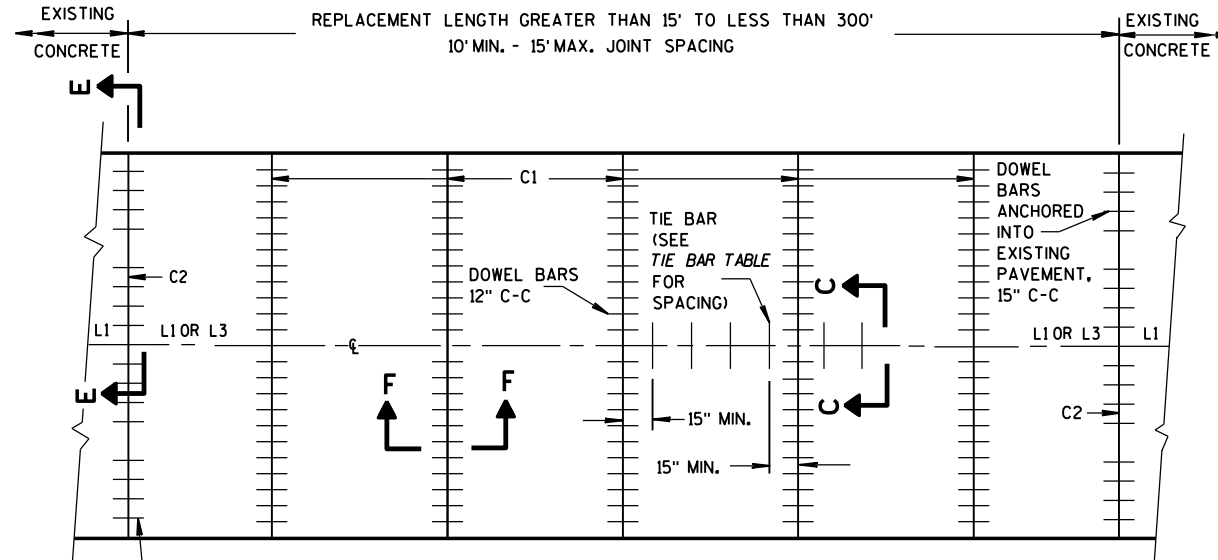
L3

## LONGITUDINAL JOINTS



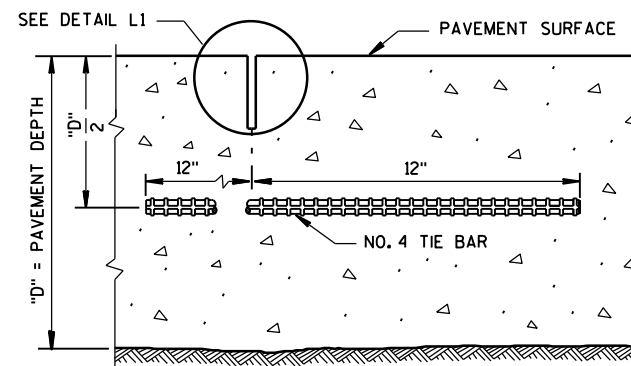
PLAN VIEW

## MULTI-LANE CONCRETE PAVEMENT REPAIR



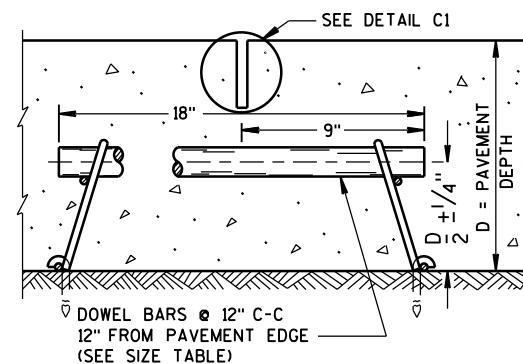
PLAN VIEW

## MULTI-LANE CONCRETE PAVEMENT REPLACEMENT



SECTION C-C

## SAWED LONGITUDINAL JOINT

SECTION F-F  
CONTRACTION JOINT

## GENERAL NOTES

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

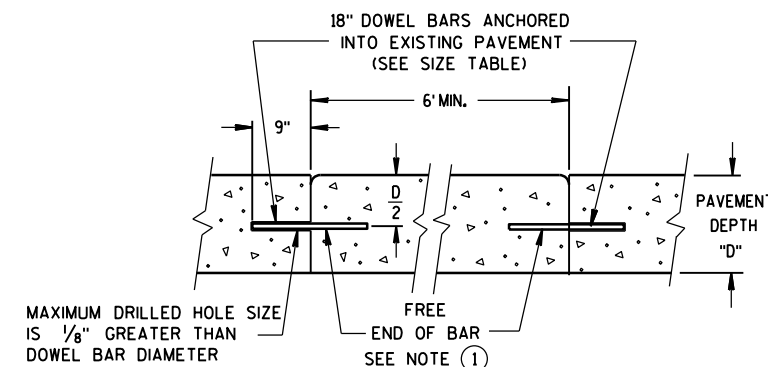
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

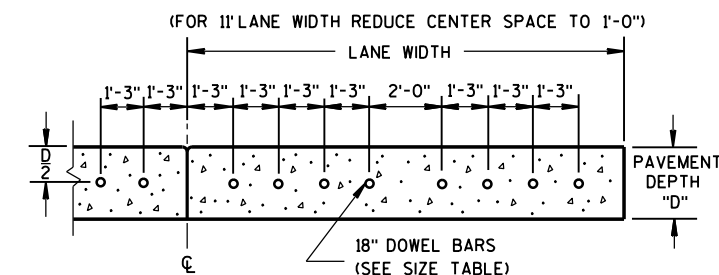
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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



SECTION D-D



SECTION E-E

## DRILLED DOWEL BAR CONSTRUCTION JOINT

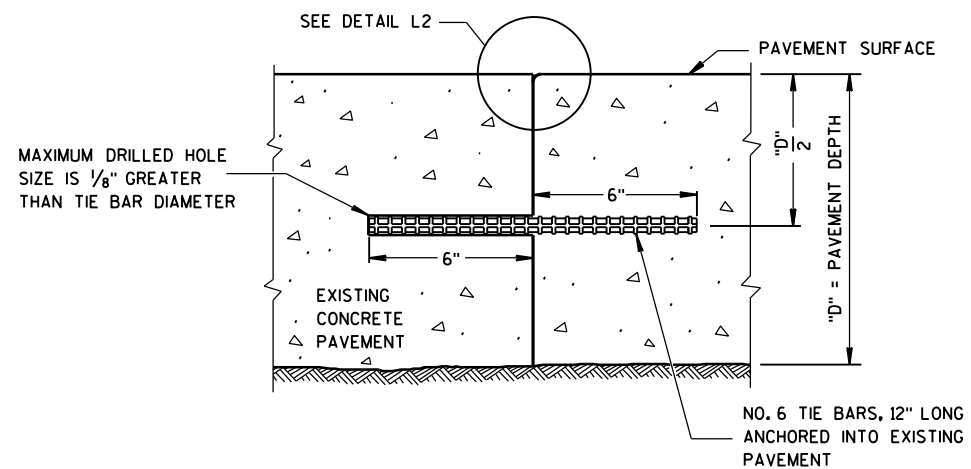
PAVEMENT DEPTH, DOWEL BAR SIZE  
AND JOINT SPACING TABLE

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

CONCRETE PAVEMENT  
REPAIR AND REPLACEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

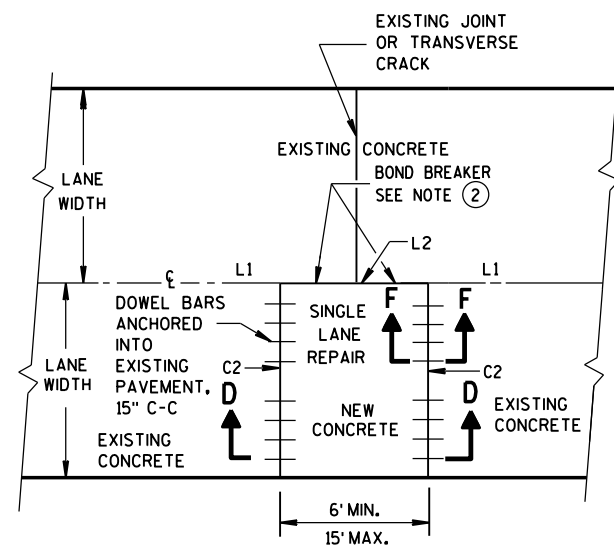




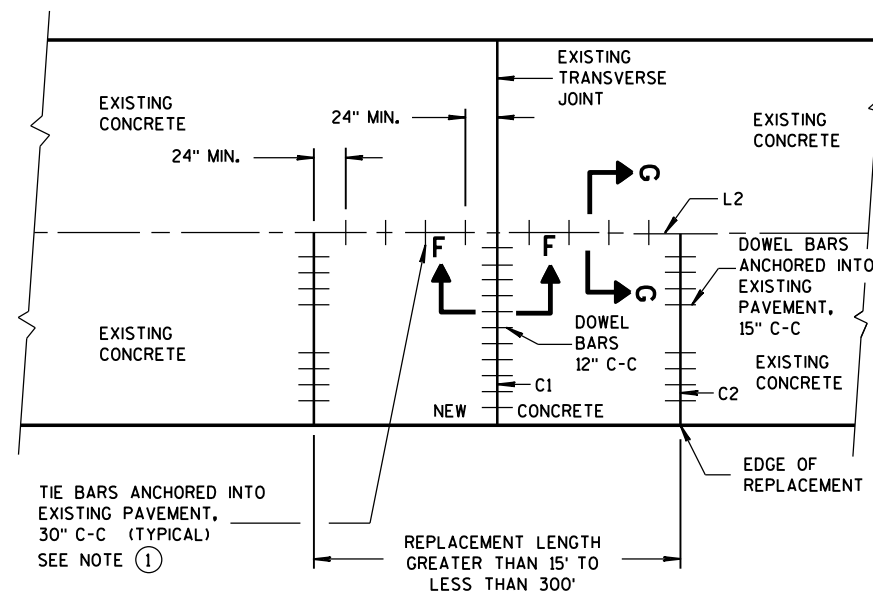
SECTION G-G  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT

## GENERAL NOTES

- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW  
SINGLE LANE  
CONCRETE PAVEMENT REPAIR



PLAN VIEW  
SINGLE LANE  
CONCRETE PAVEMENT REPLACEMENT

## CONCRETE PAVEMENT REPAIR AND REPLACEMENT

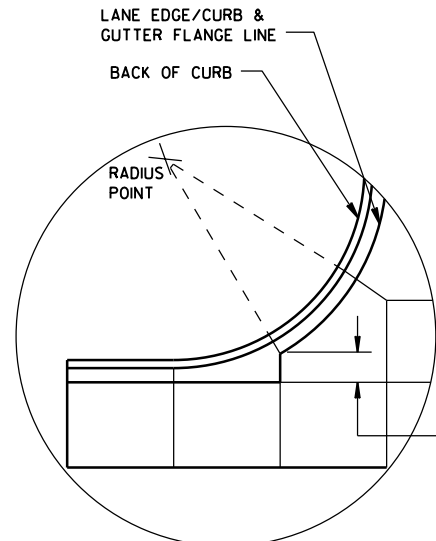
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

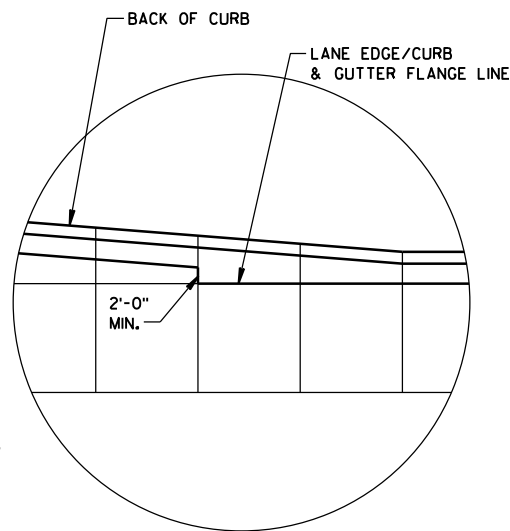
12-2013  
DATE

FHWA

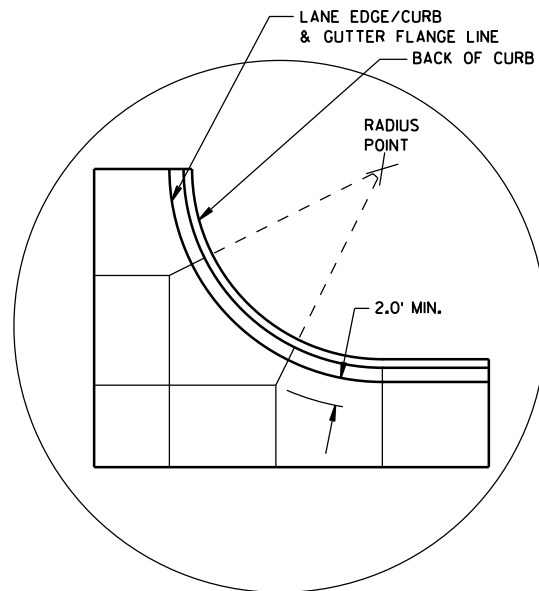
/S/ Deb Bischoff  
PAVEMENT POLICY & DESIGN ENGINEER



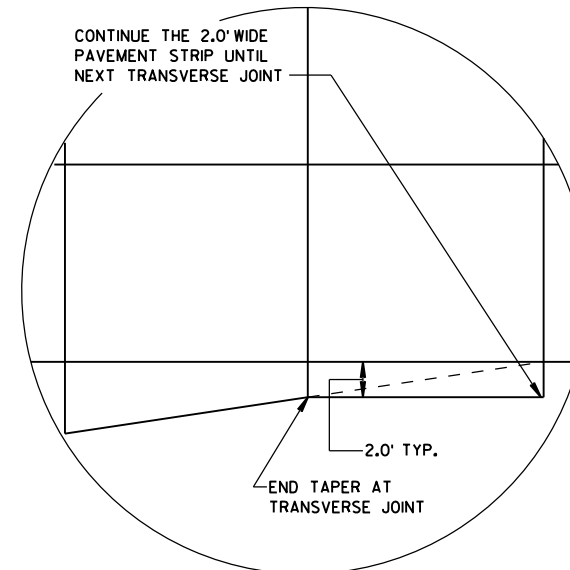
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

## GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

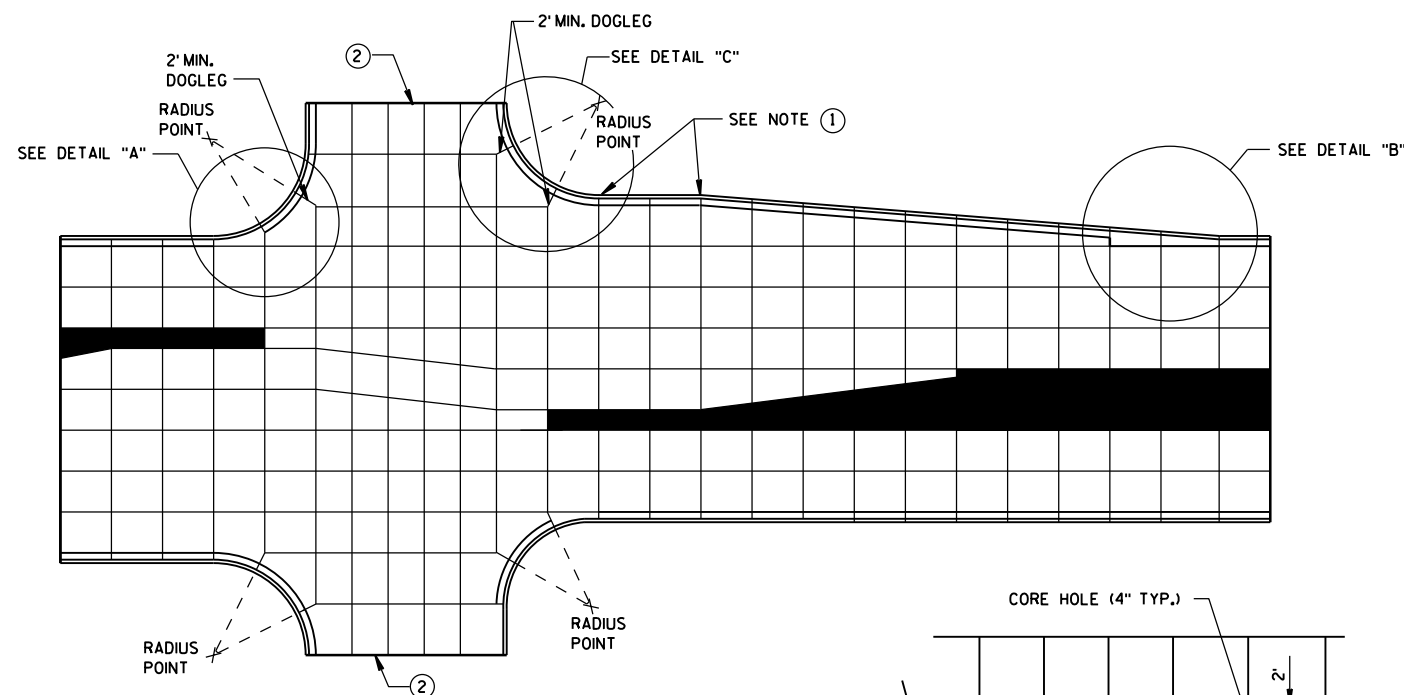
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

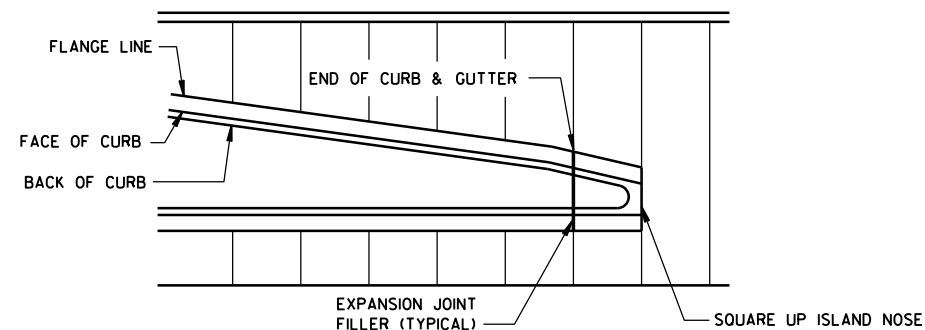
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

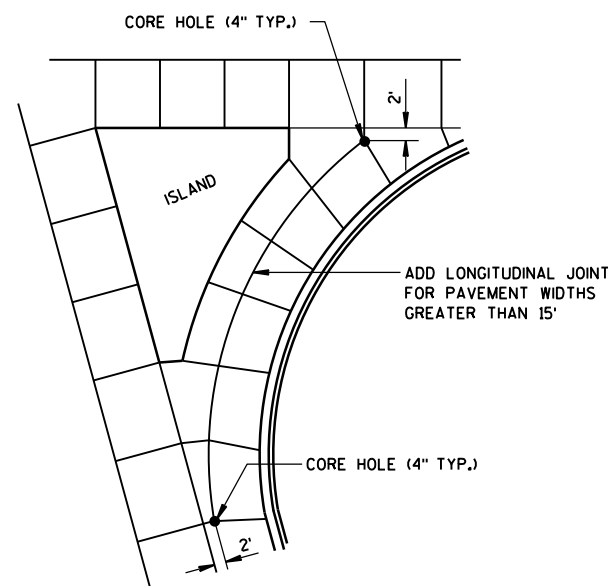
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



STANDARD INTERSECTION



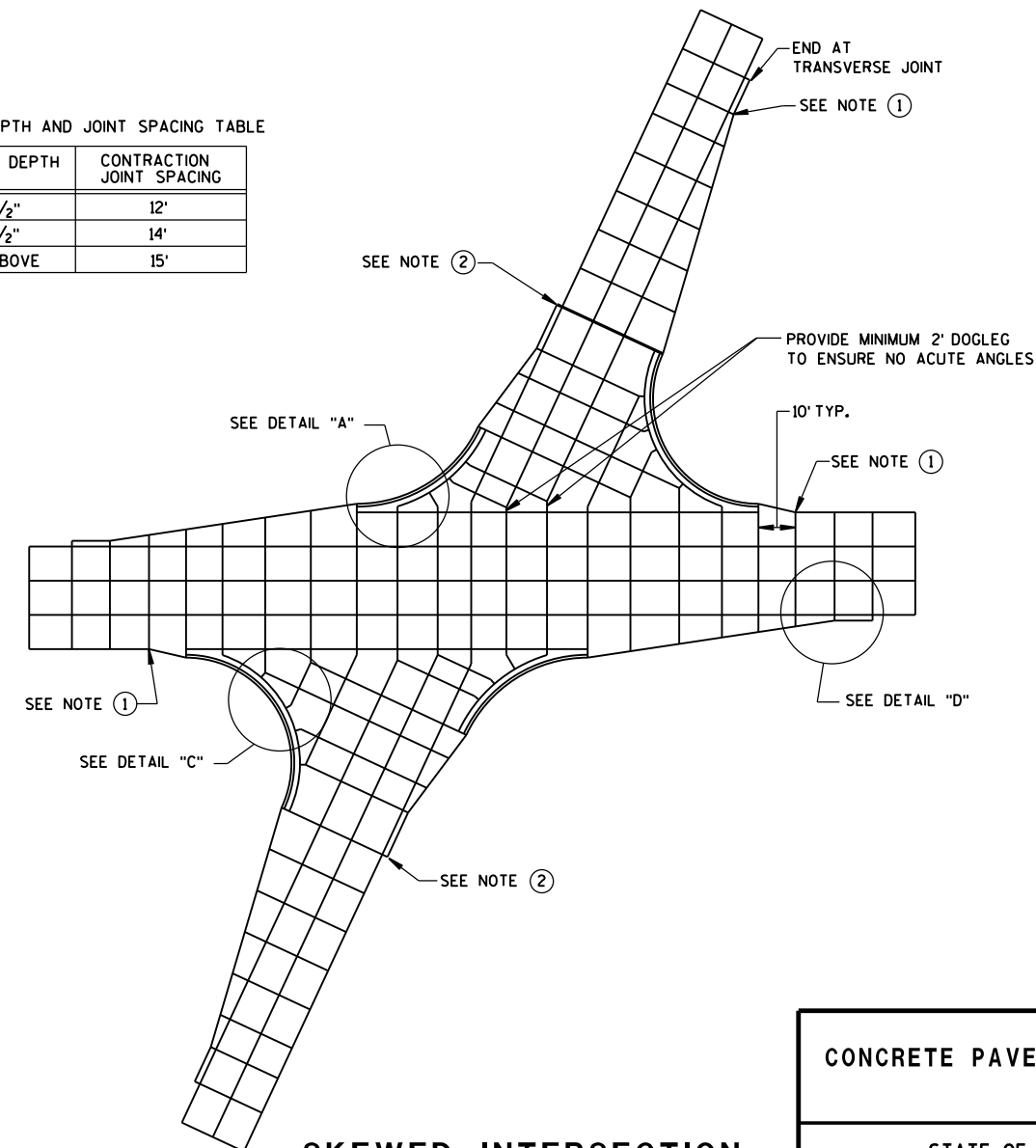
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

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



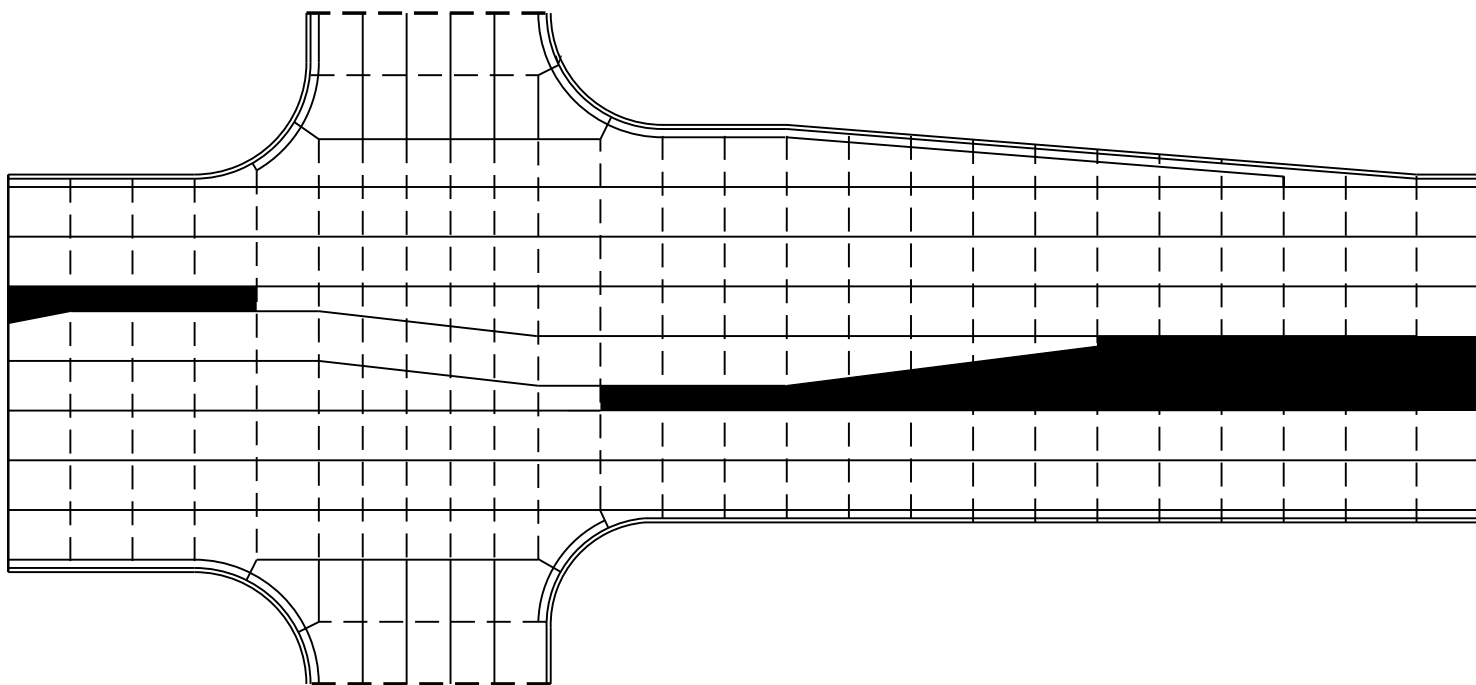
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**LEGEND**

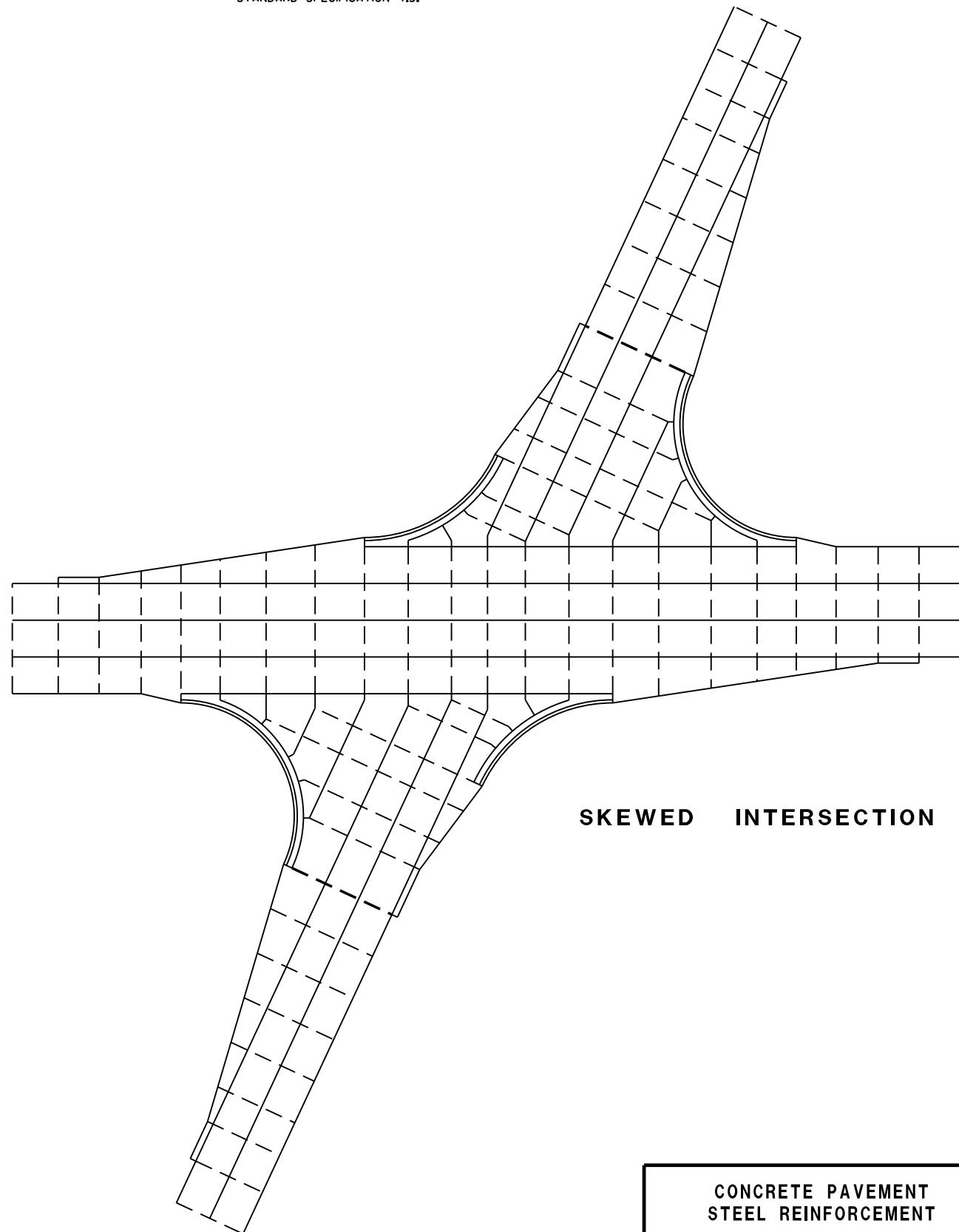
- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- TIED JOINT



**STANDARD INTERSECTION**

**GENERAL NOTES**

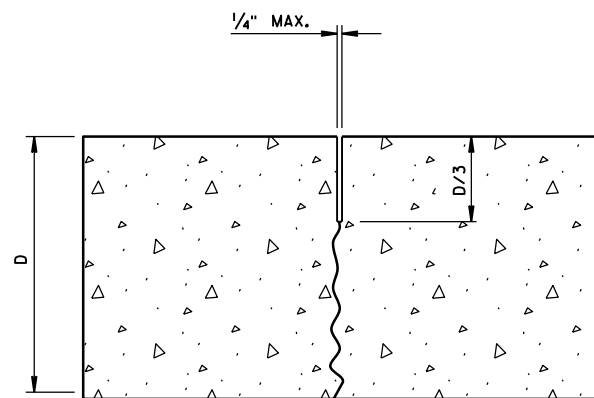
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



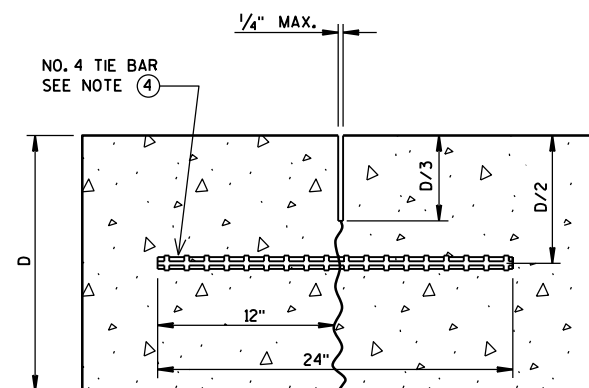
**SKewed INTERSECTION**

CONCRETE PAVEMENT  
STEEL REINFORCEMENT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

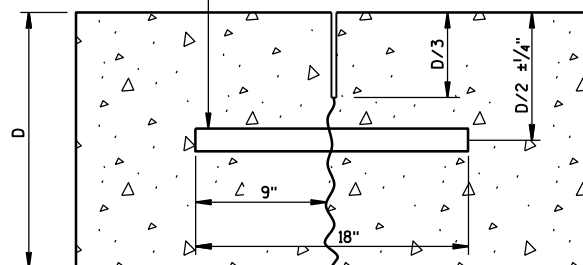


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

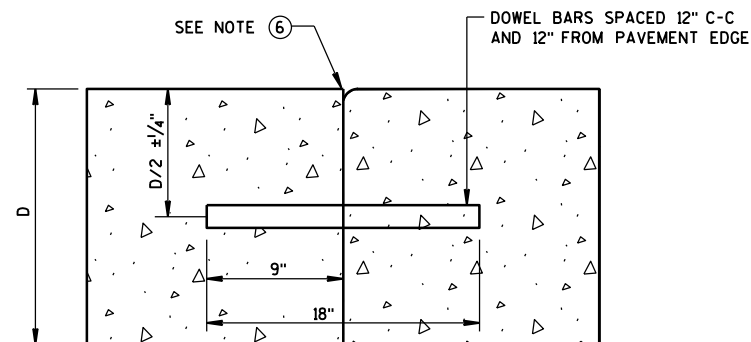
DOWEL BARS AT 12" C-C  
12" FROM PAVEMENT EDGE



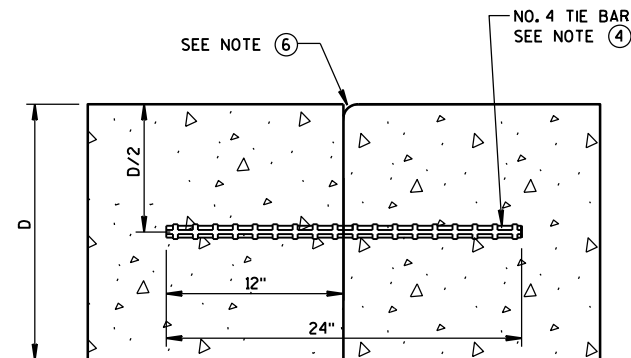
DOWELED-TRANSVERSE

## CONTRACTION JOINTS

SEE NOTE ②

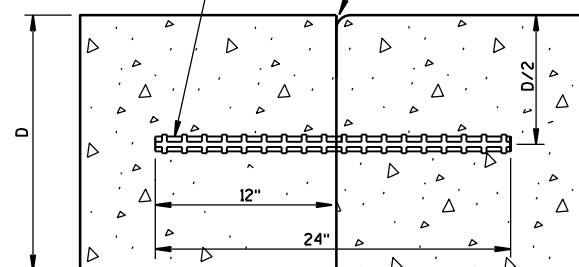
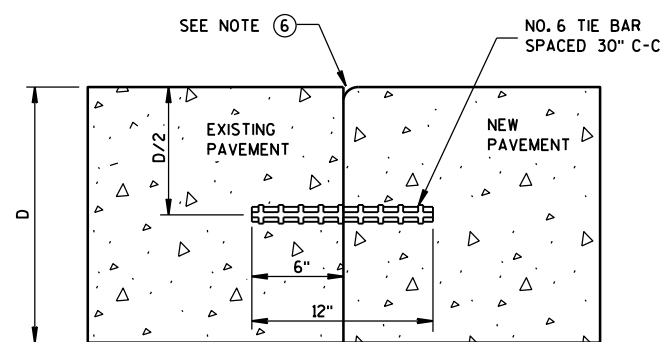


DOWELED TRANSVERSE



TIED LONGITUDINAL

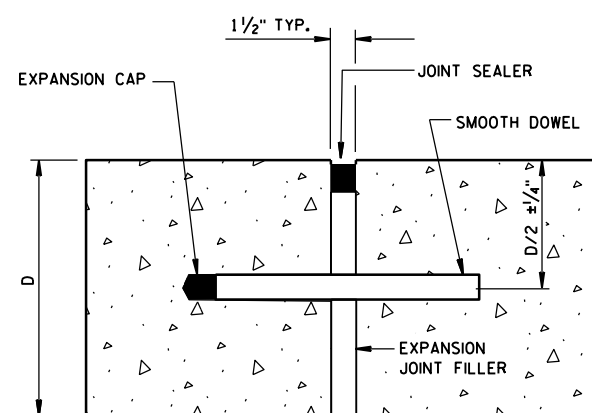
NO. 6 TIE BARS SPACED 12" C-C  
AND 12" FROM PAVEMENT EDGE

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

TIED LONGITUDINAL TO EXISTING

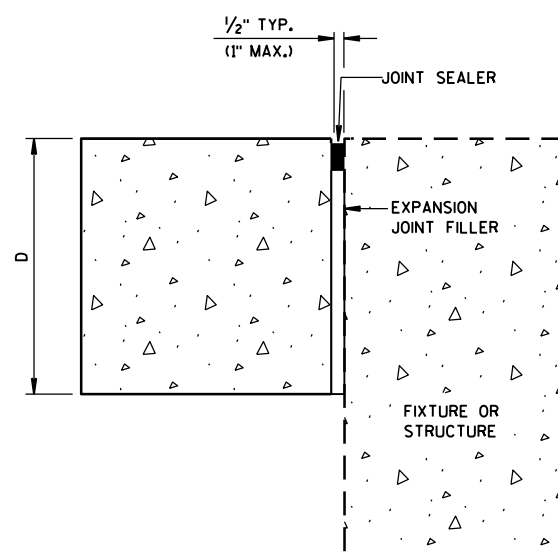
## CONSTRUCTION JOINTS

SEE NOTE ⑤



DOWELED-TRANSVERSE

SEE NOTE ①



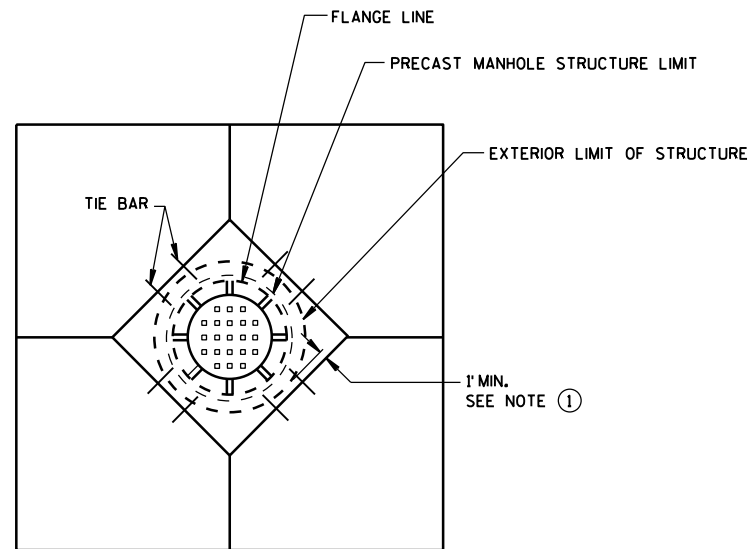
UNTIED-LONGITUDINAL

## EXPANSION JOINTS

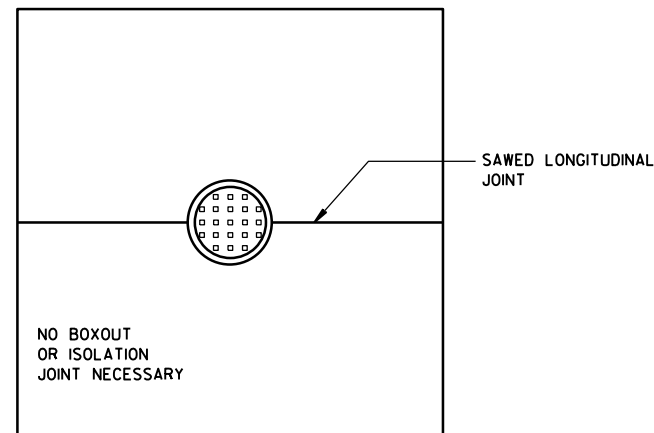
## GENERAL NOTES

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

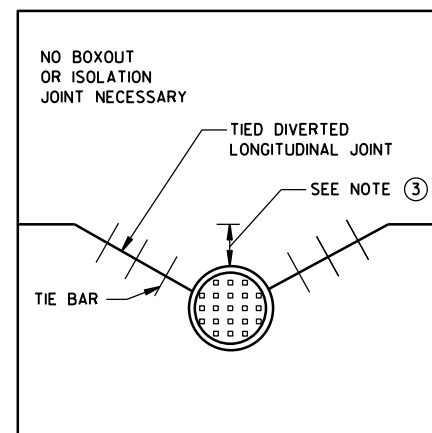
CONCRETE PAVEMENT  
JOINT TYPESSTATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



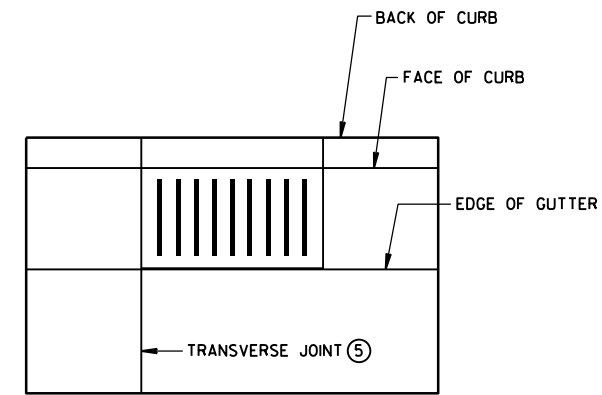
**DIAGONAL MANHOLE BOXOUT  
FOR CONSTRUCTION JOINTS**



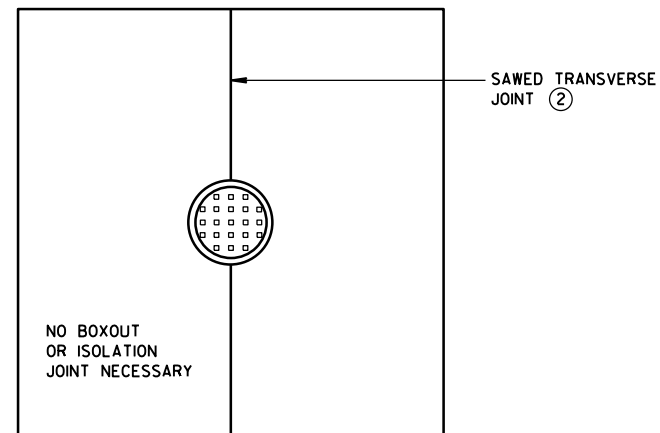
**MANHOLE WITH  
LONGITUDINAL JOINT**



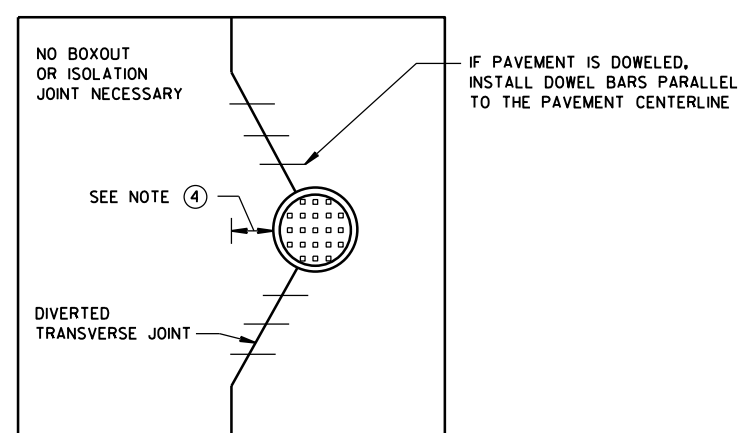
**MANHOLE WITH DIVERTED  
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH  
TRANSVERSE JOINT**



**MANHOLE WITH  
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED  
TRANSVERSE CONTRACTION JOINT**

**GENERAL NOTES**

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

**CONCRETE PAVEMENT  
JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

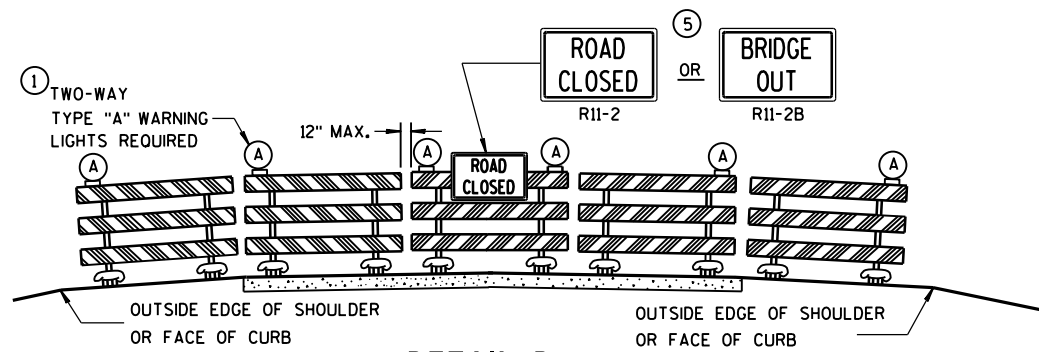
APPROVED

5-3-2013  
DATE

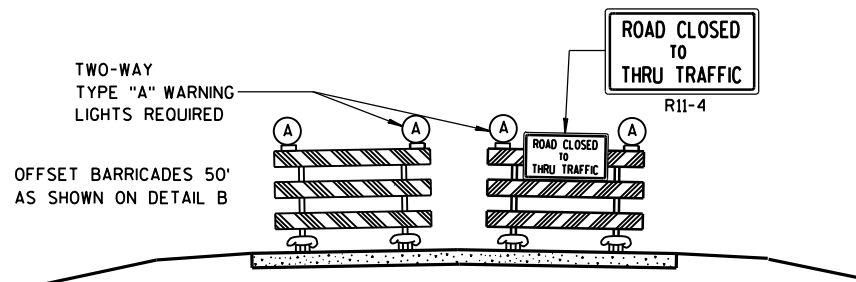
FHWA

/S/ Deb Bischoff  
PAVEMENT POLICY & DESIGN ENGINEER





DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW



DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

### GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

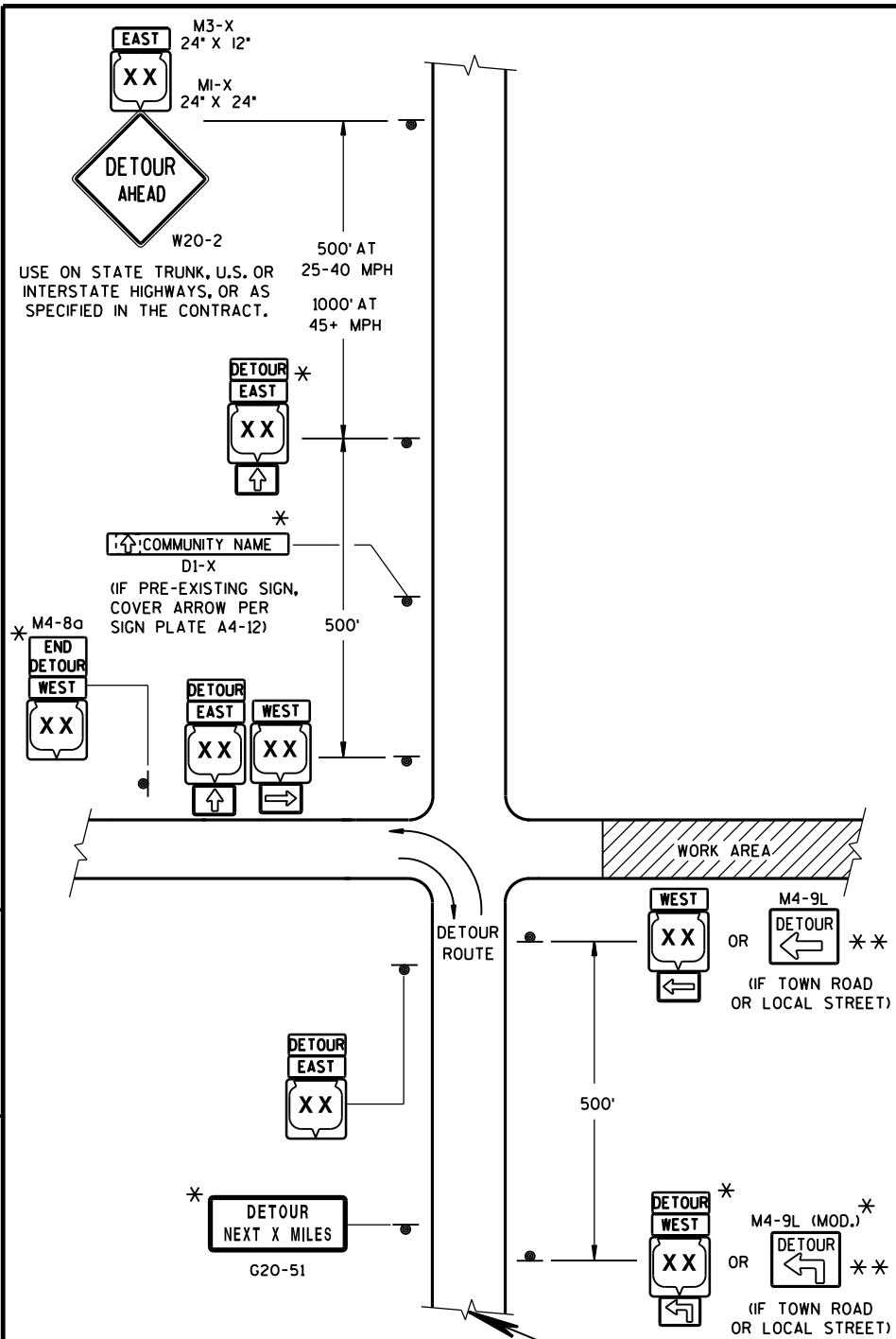
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS  
FOR  
MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



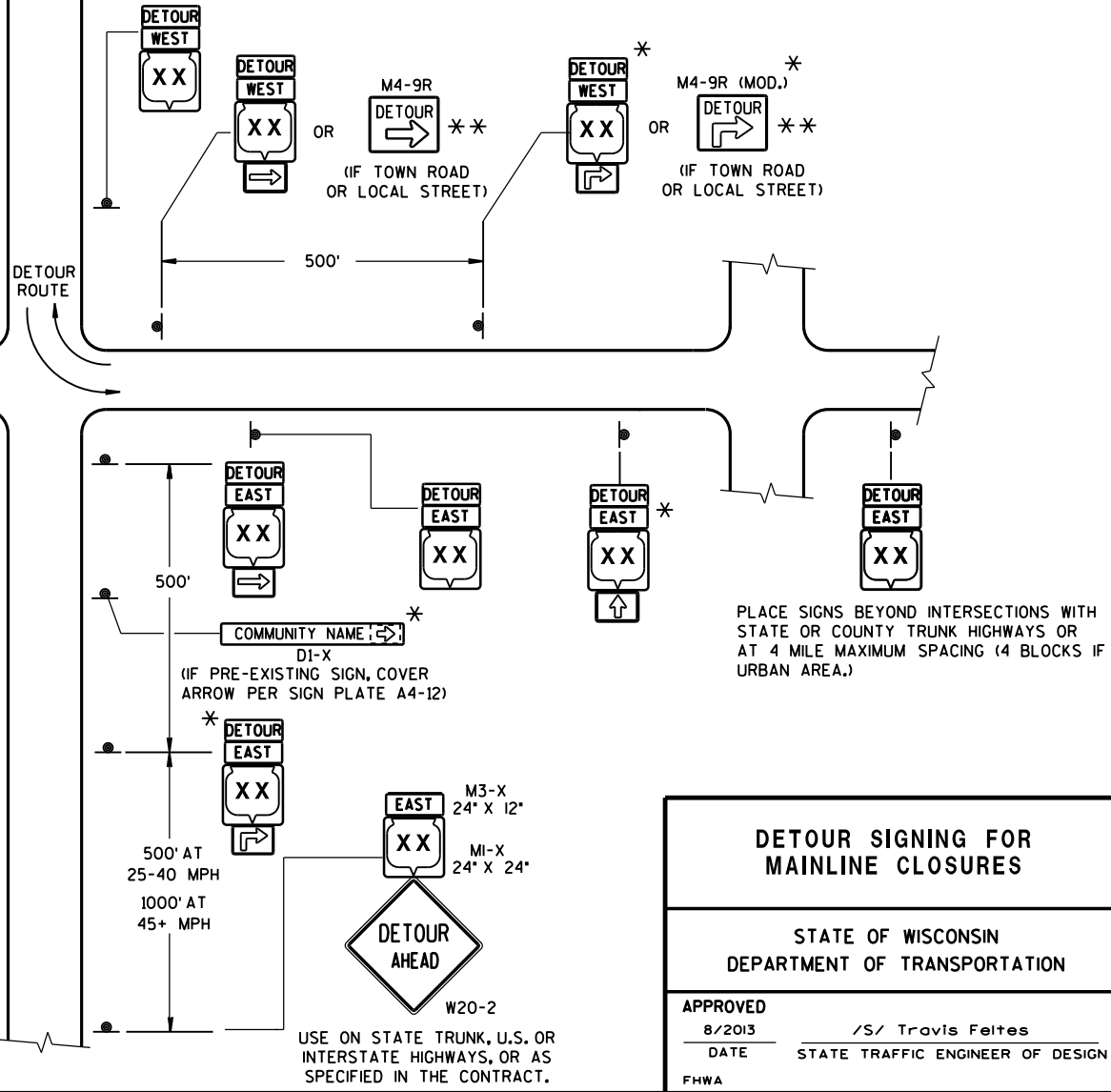
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

DETAIL F  
DETOUR SIGNING

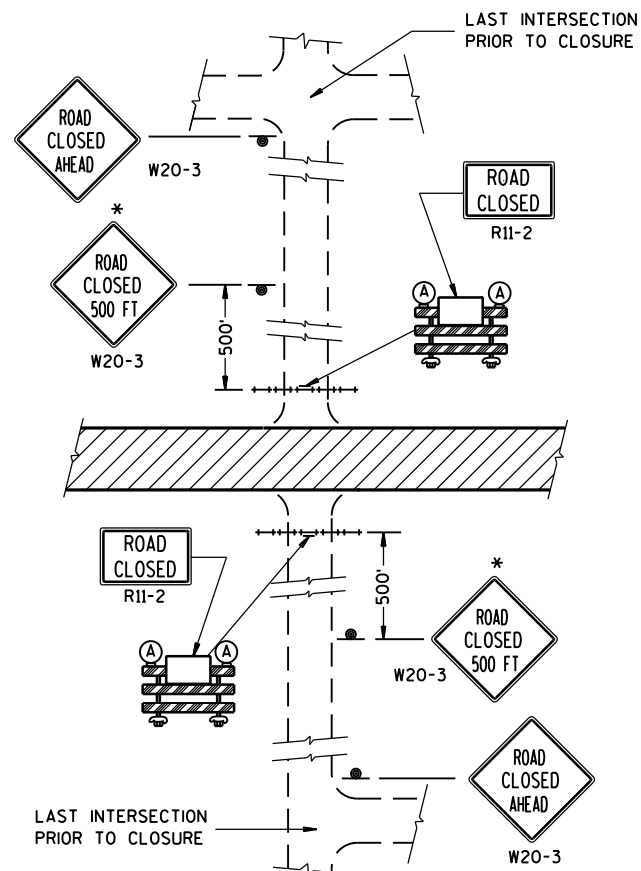
GENERAL NOTES

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

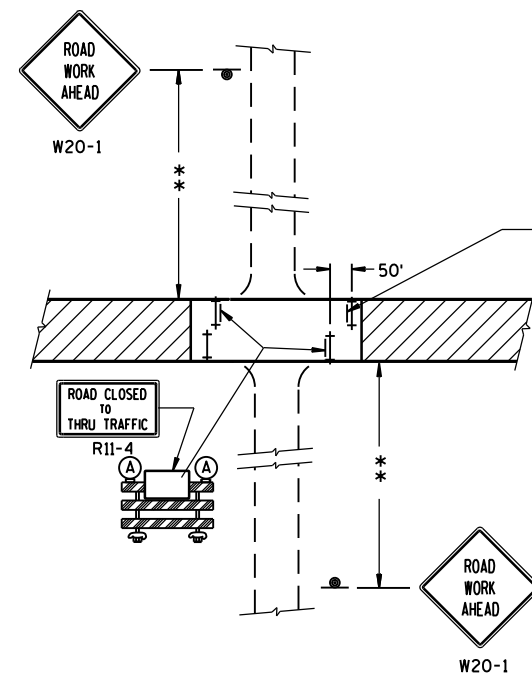


DETOUR SIGNING FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

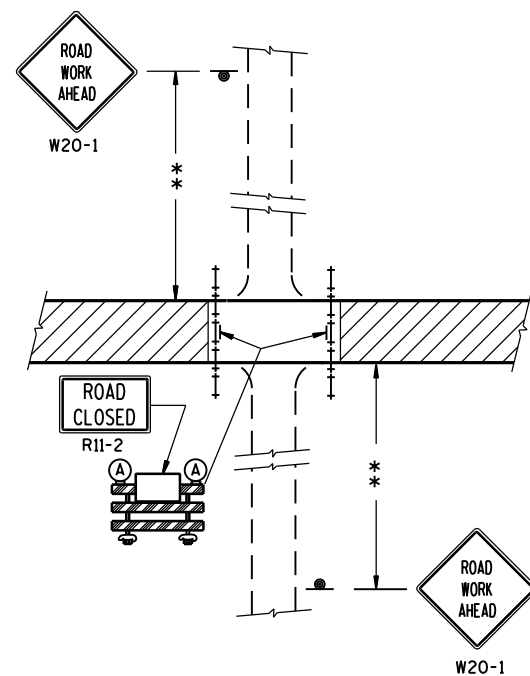




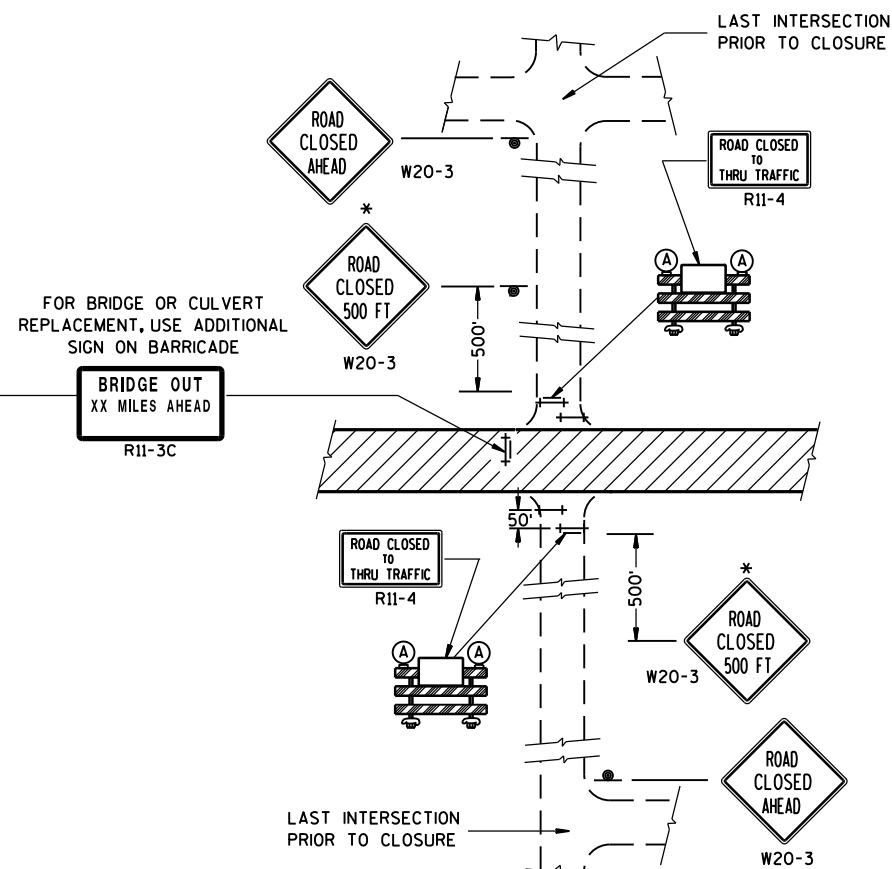
**DETAIL 1**  
(NO ACCESS TO PROJECT)



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



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



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

## GENERAL NOTES

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

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

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

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

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

## LEGEND

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

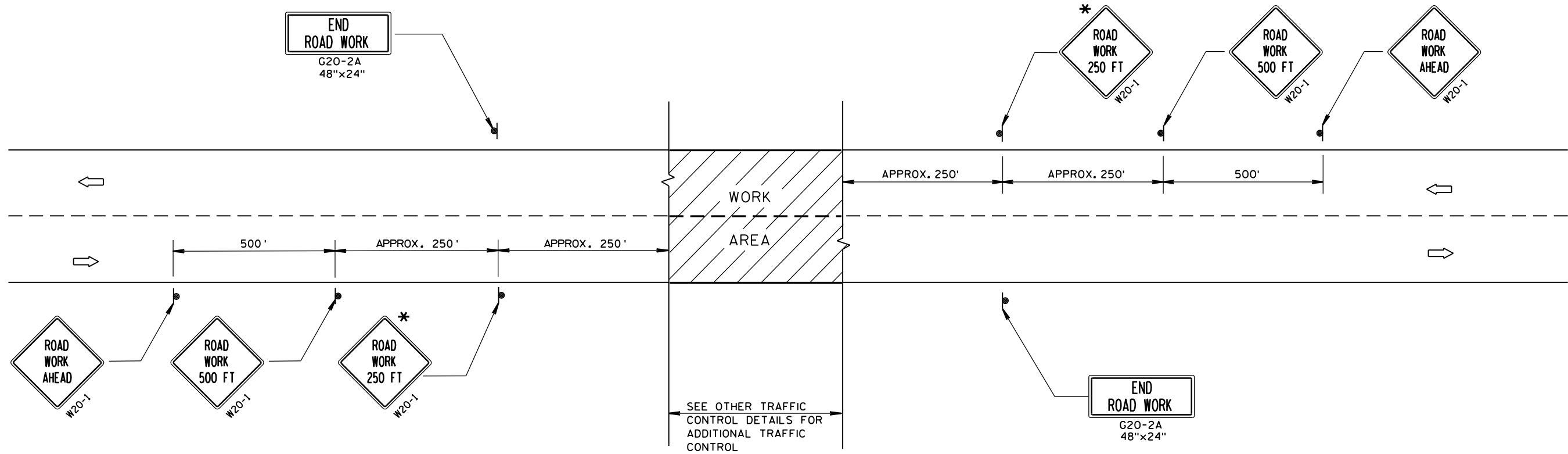
## BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

## GENERAL NOTES

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

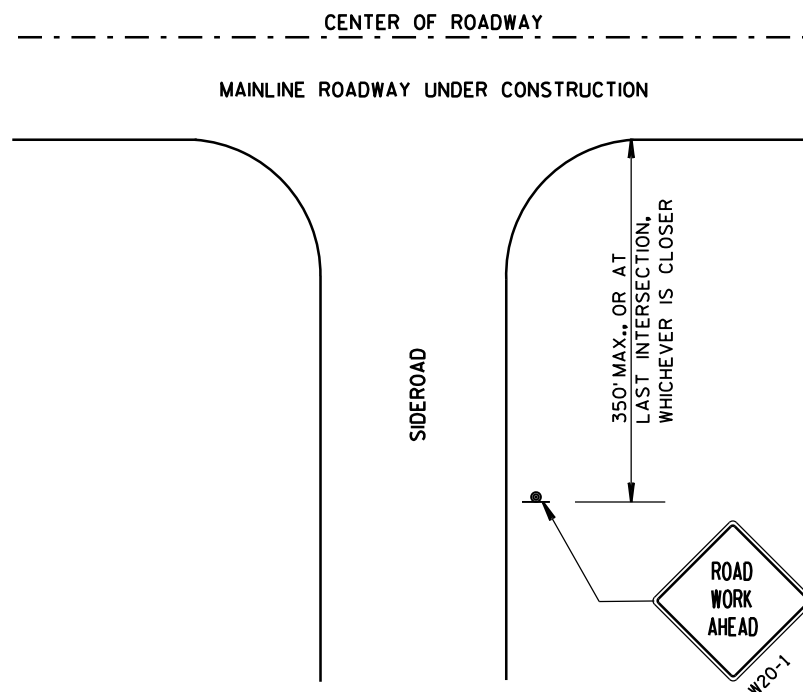
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



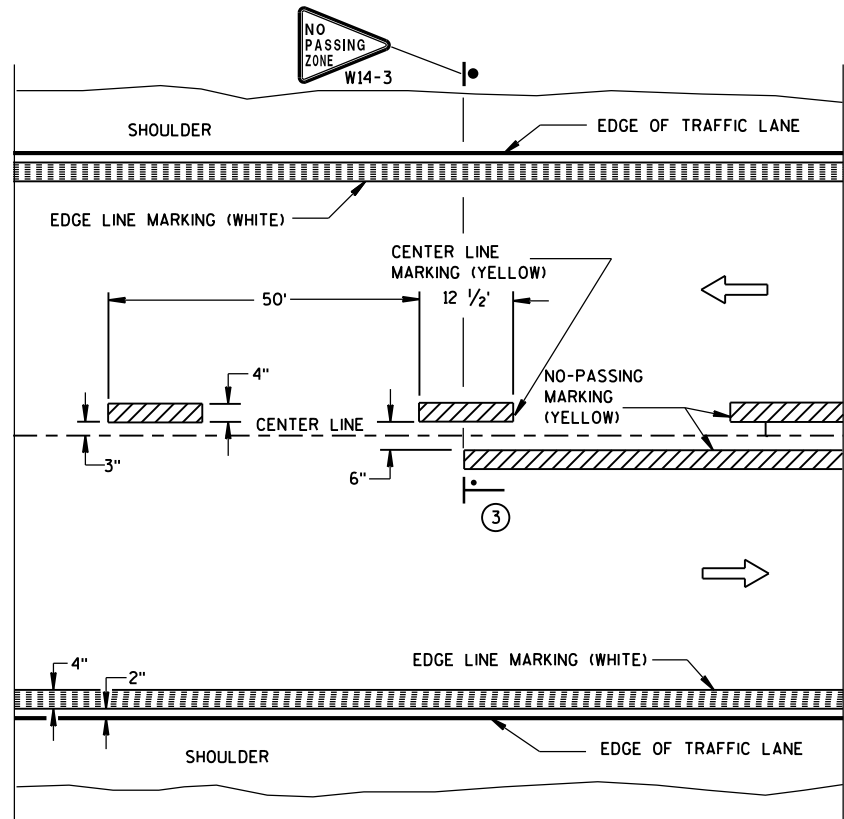
## LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

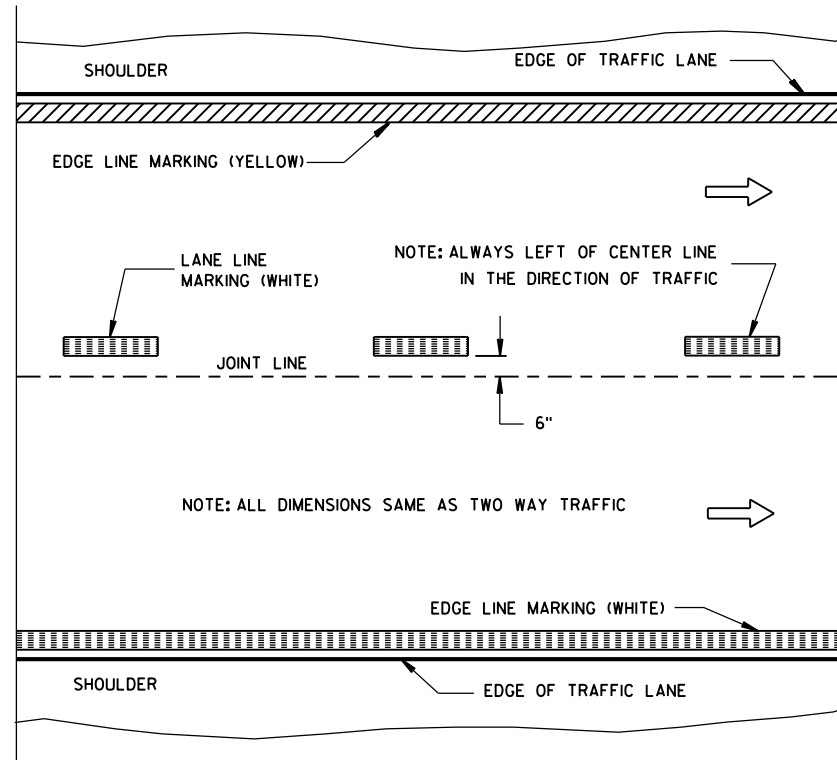
TRAFFIC CONTROL, ADVANCE  
WARNING SIGNS 40 M.P.H.  
OR LESS TWO-WAY UNDIVIDED  
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

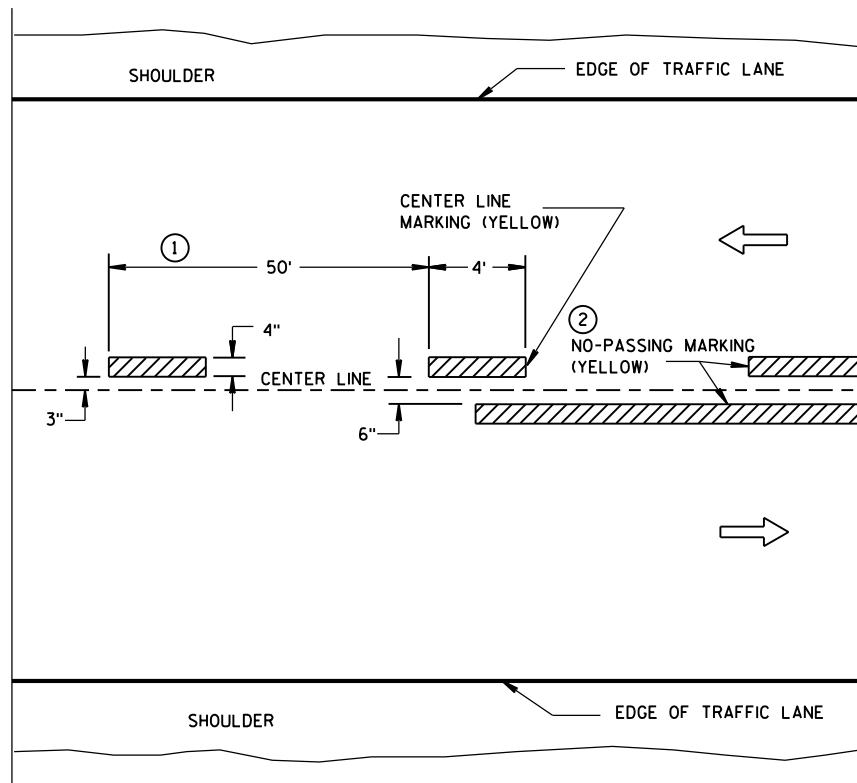


TWO WAY TRAFFIC

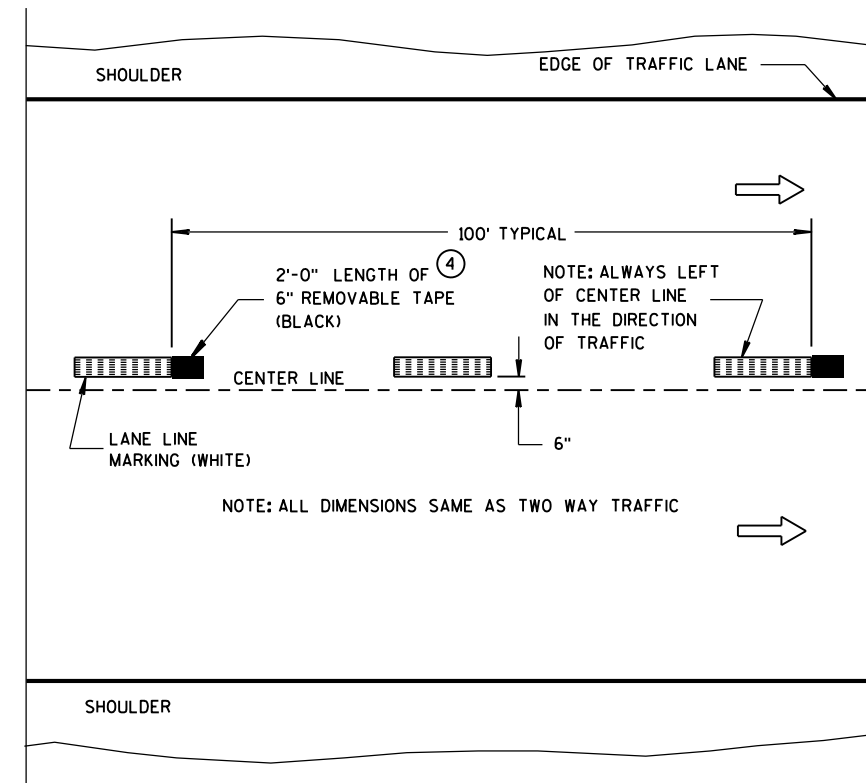


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

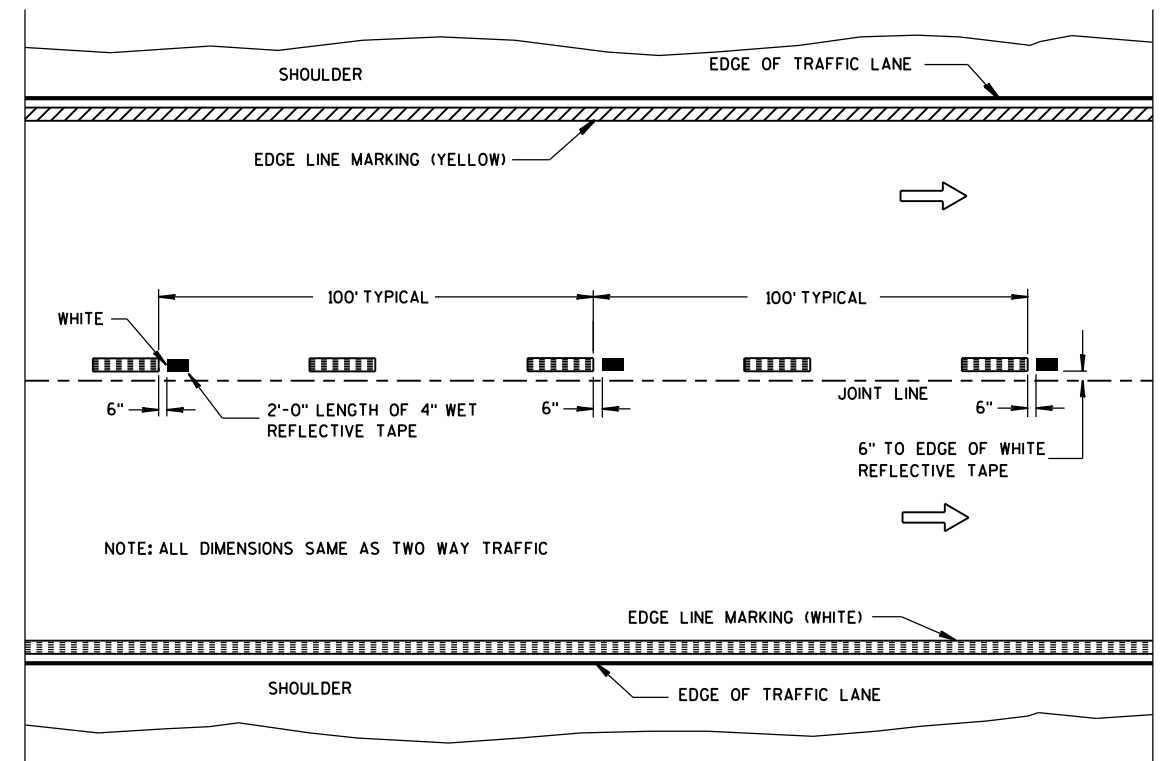
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

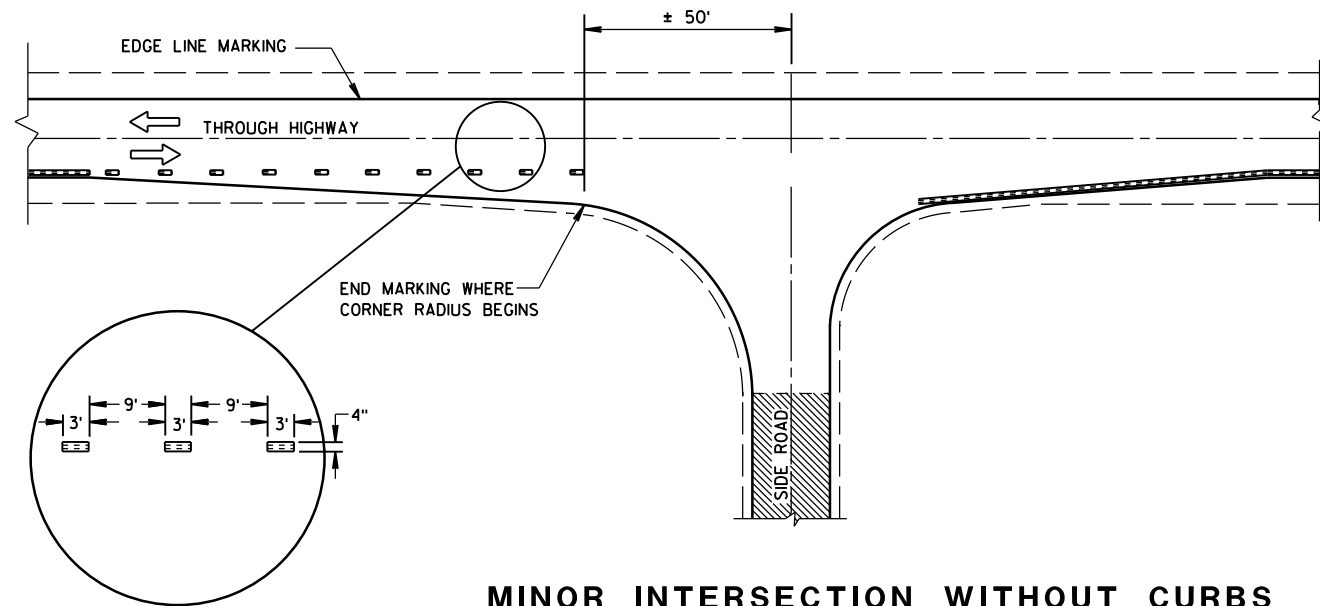
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

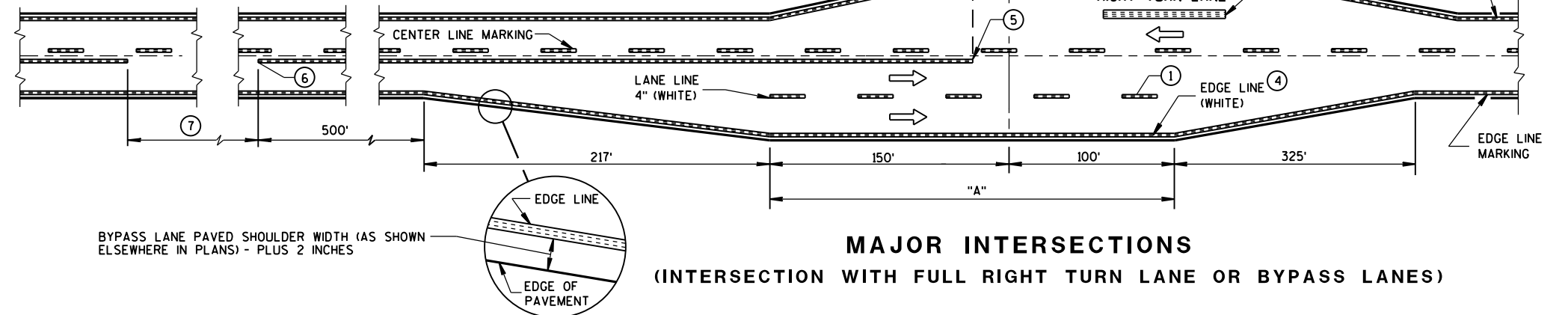
APPROVED  
5-13-2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER  
FHWA



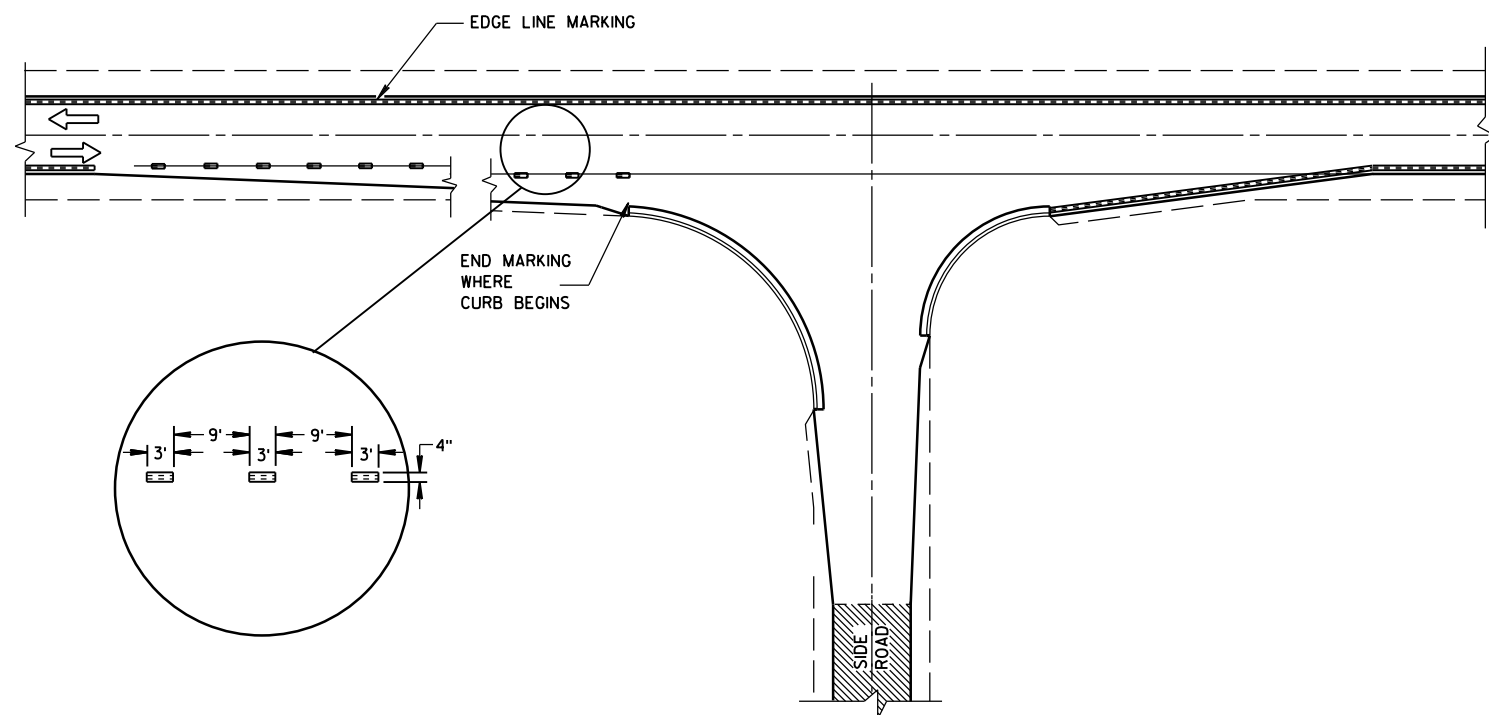
**MINOR INTERSECTION WITHOUT CURBS**

⑦

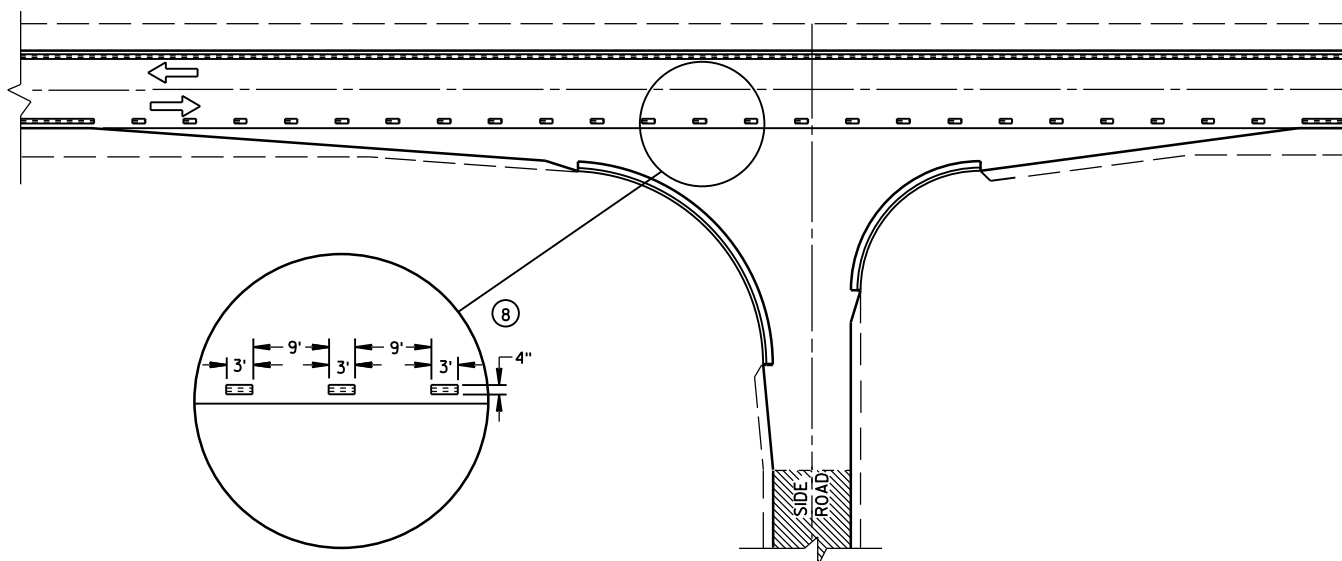
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



**MINOR INTERSECTION WITH CURBS**  
(TYPICAL MARKING)



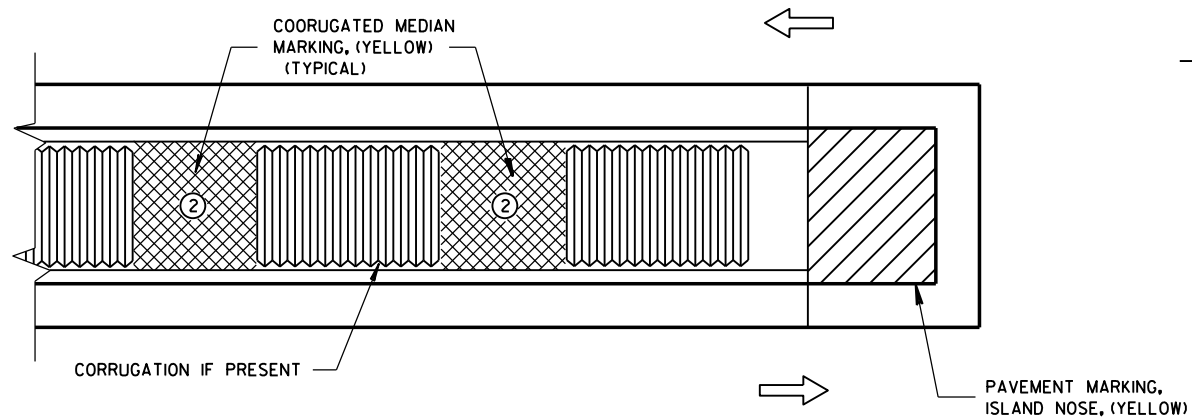
**MINOR INTERSECTION WITH CURBS**  
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

## GENERAL NOTES

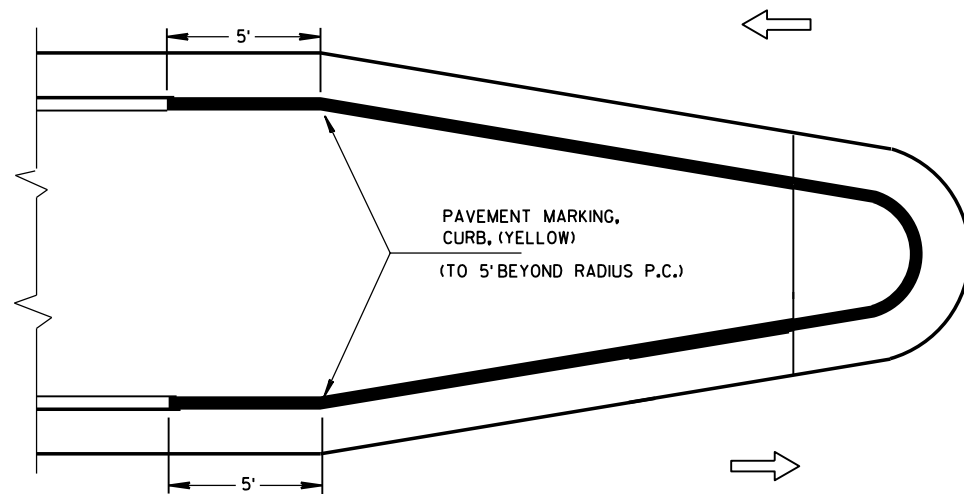
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
  - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
  - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
  - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
  - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
  - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
  - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
  - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL ( → ) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING  
(INTERSECTIONS)

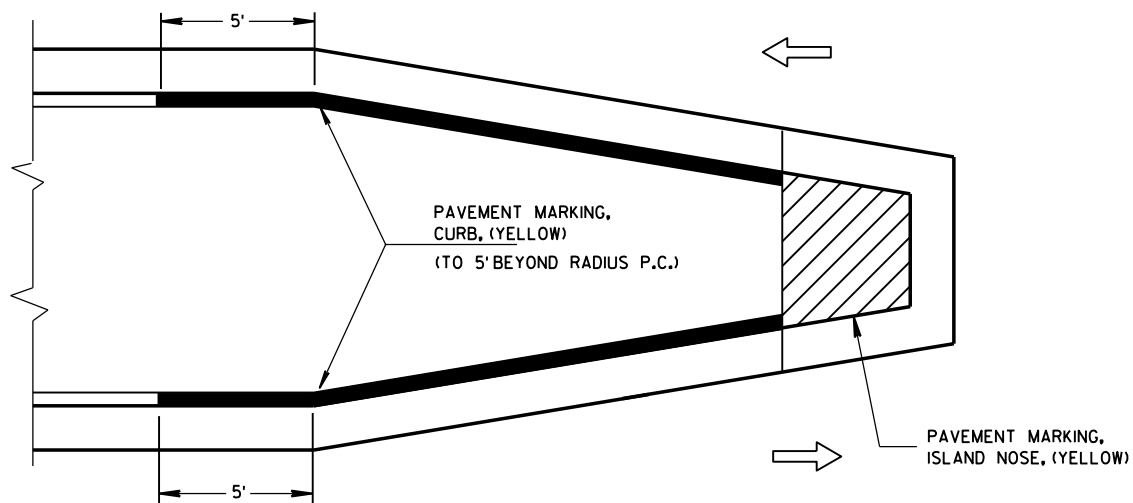
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

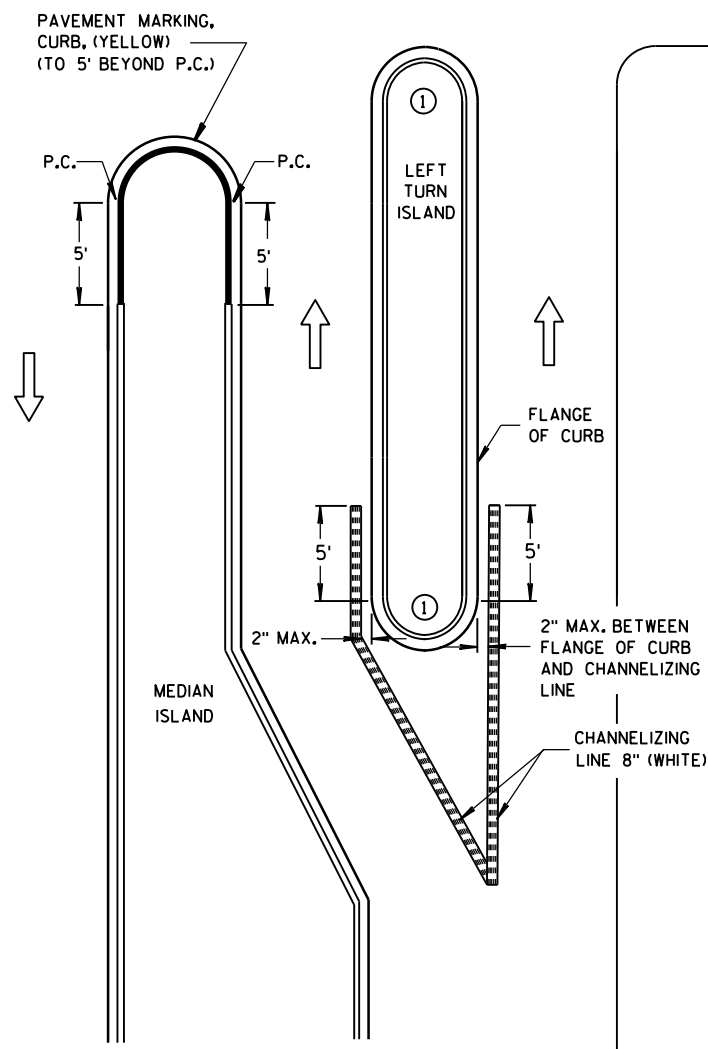


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

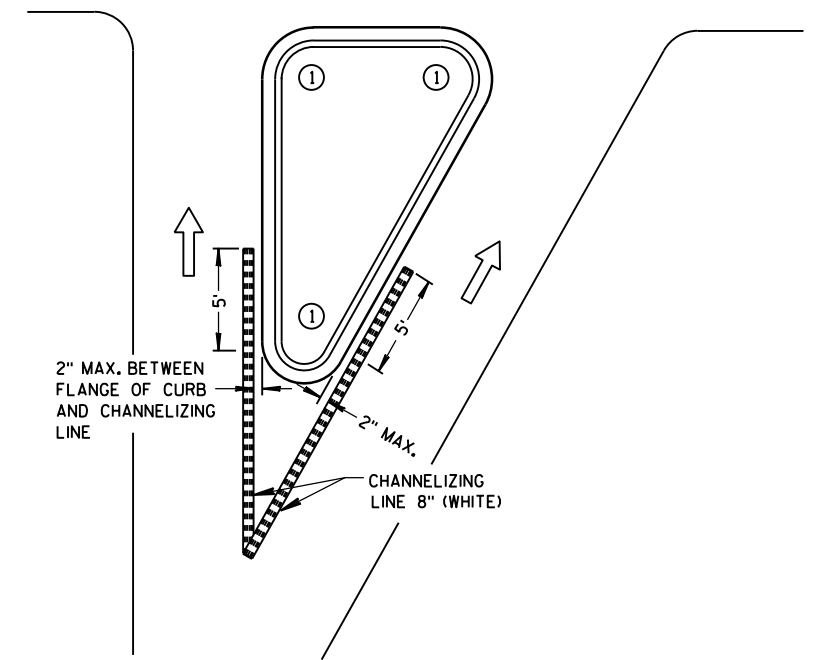
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

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



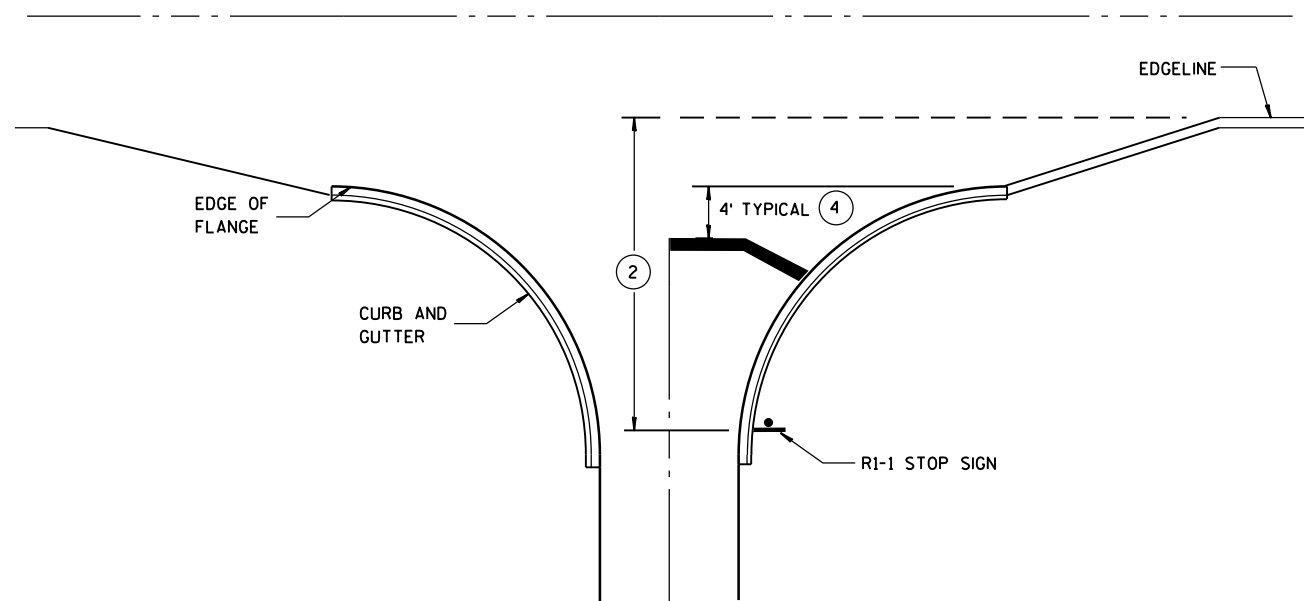
RIGHT TURN ISLAND

LEGEND

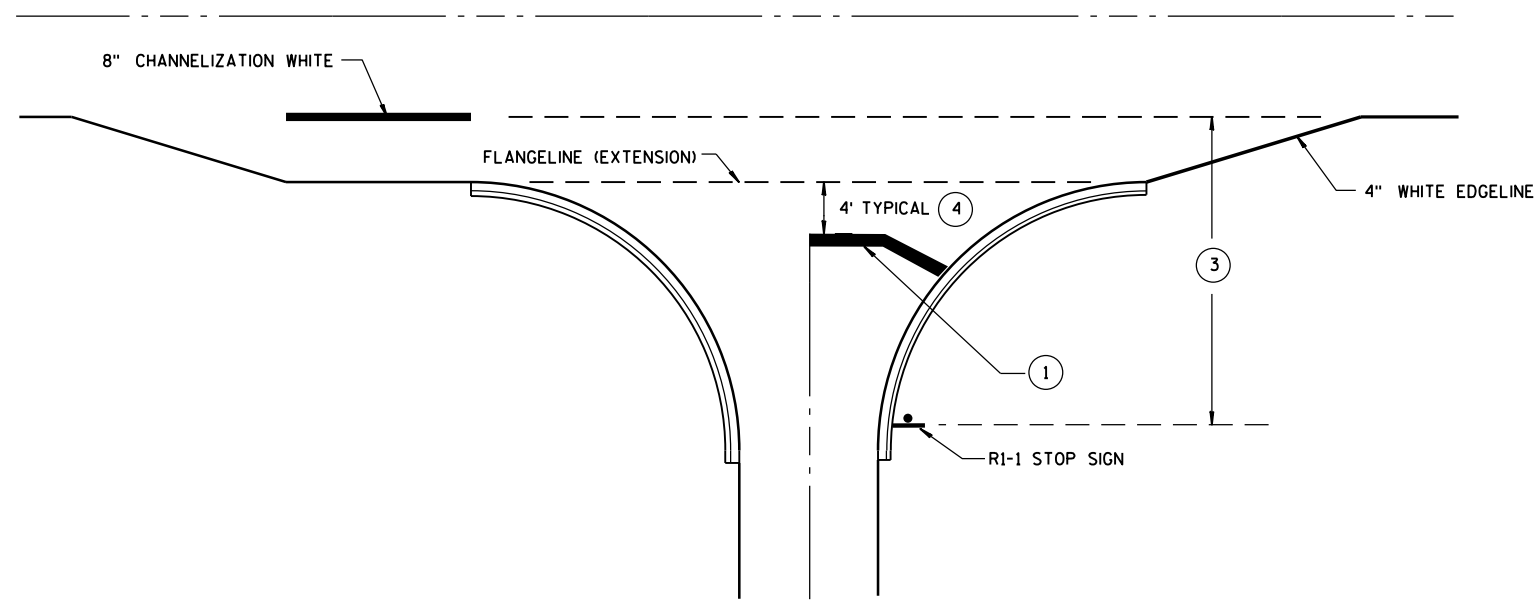
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS)

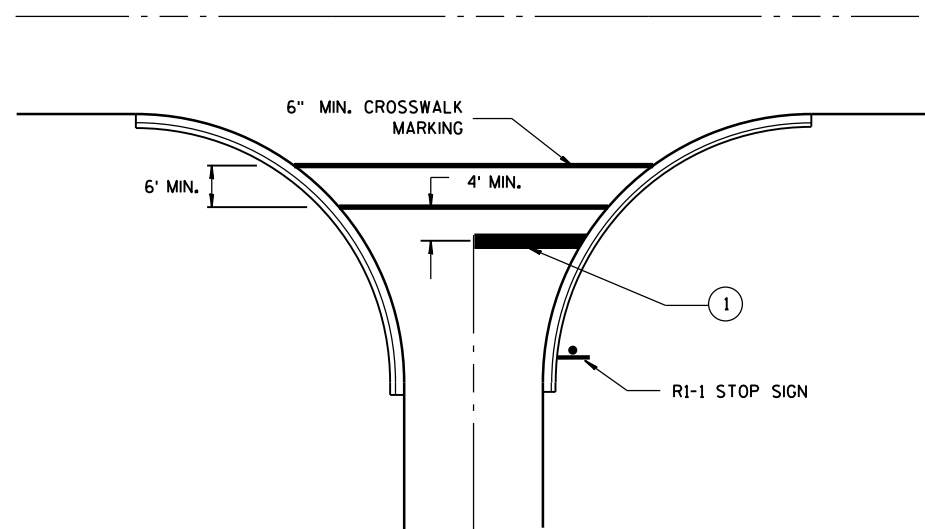
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



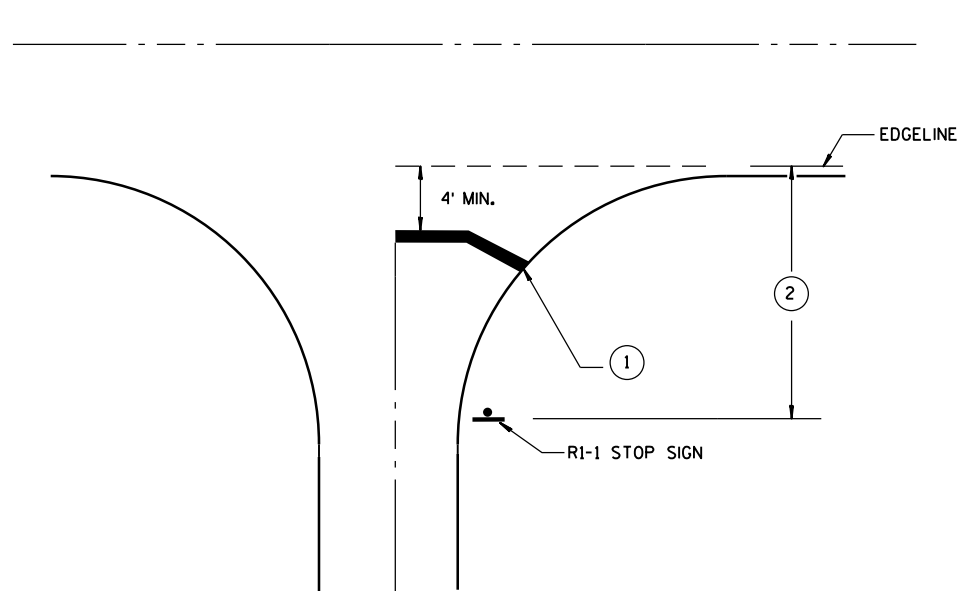
**TYPICAL STOP LINE PAVEMENT MARKING  
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH CROSSWALK MARKING**



**TYPICAL STOP LINE PAVEMENT MARKING  
WITHOUT CURB AND GUTTER**

### GENERAL NOTES

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

### STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013  
DATE

FHWA

/S/ Travis Feltz  
STATE TRAFFIC ENGINEER

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.

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

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

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

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

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

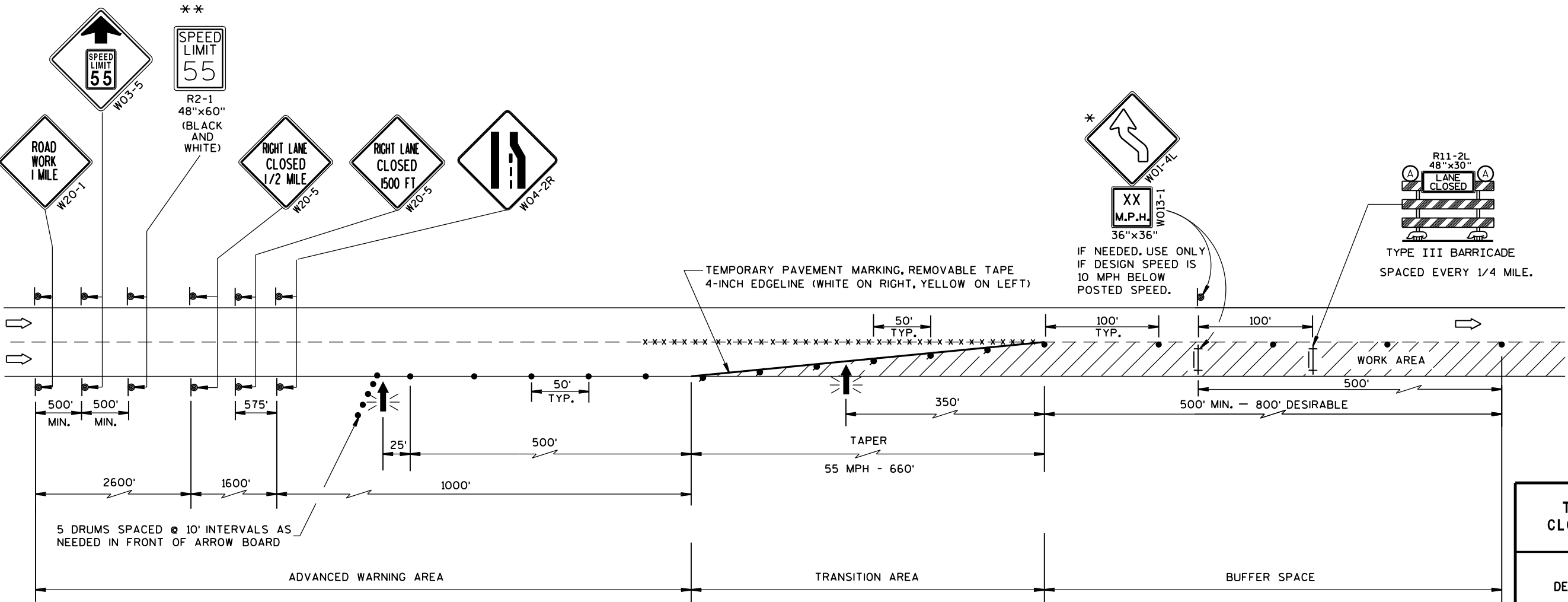
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

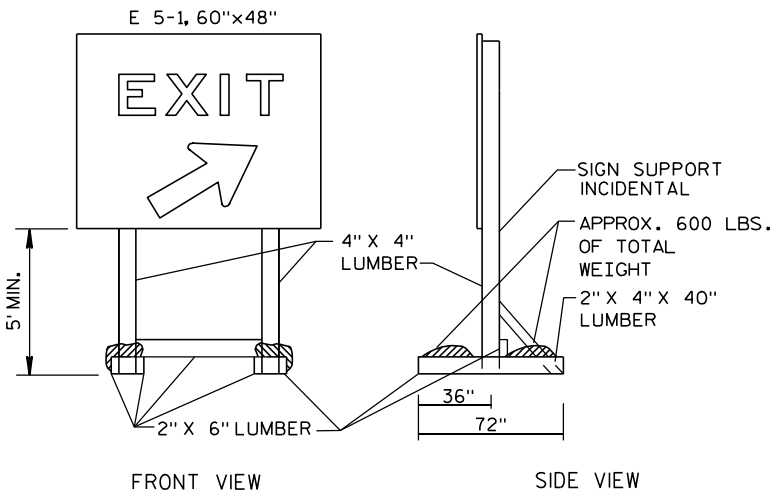
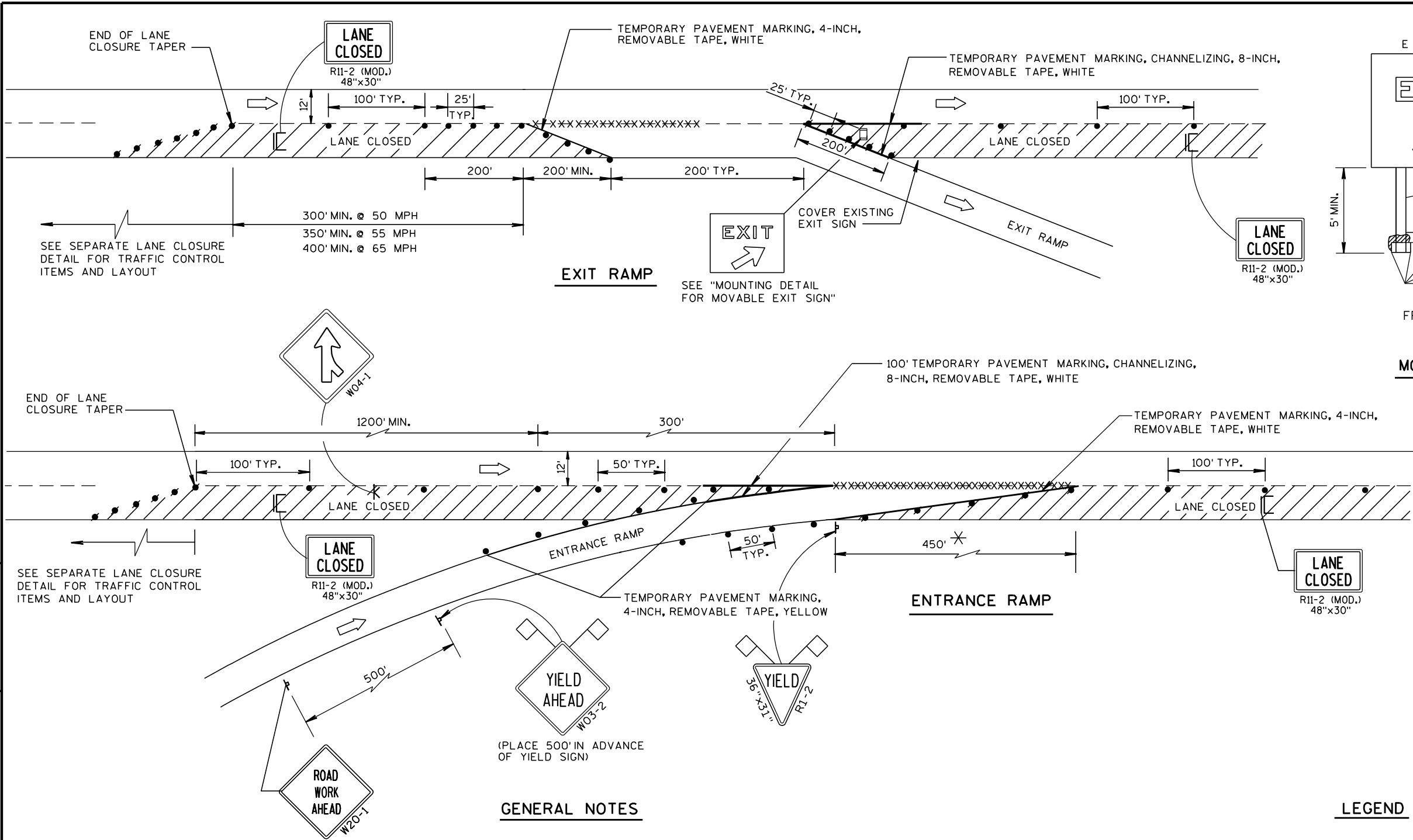
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN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

\* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

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



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



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL  
**MOUNTING DETAIL FOR MOVABLE EXIT SIGN**

**GENERAL NOTES**

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

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

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

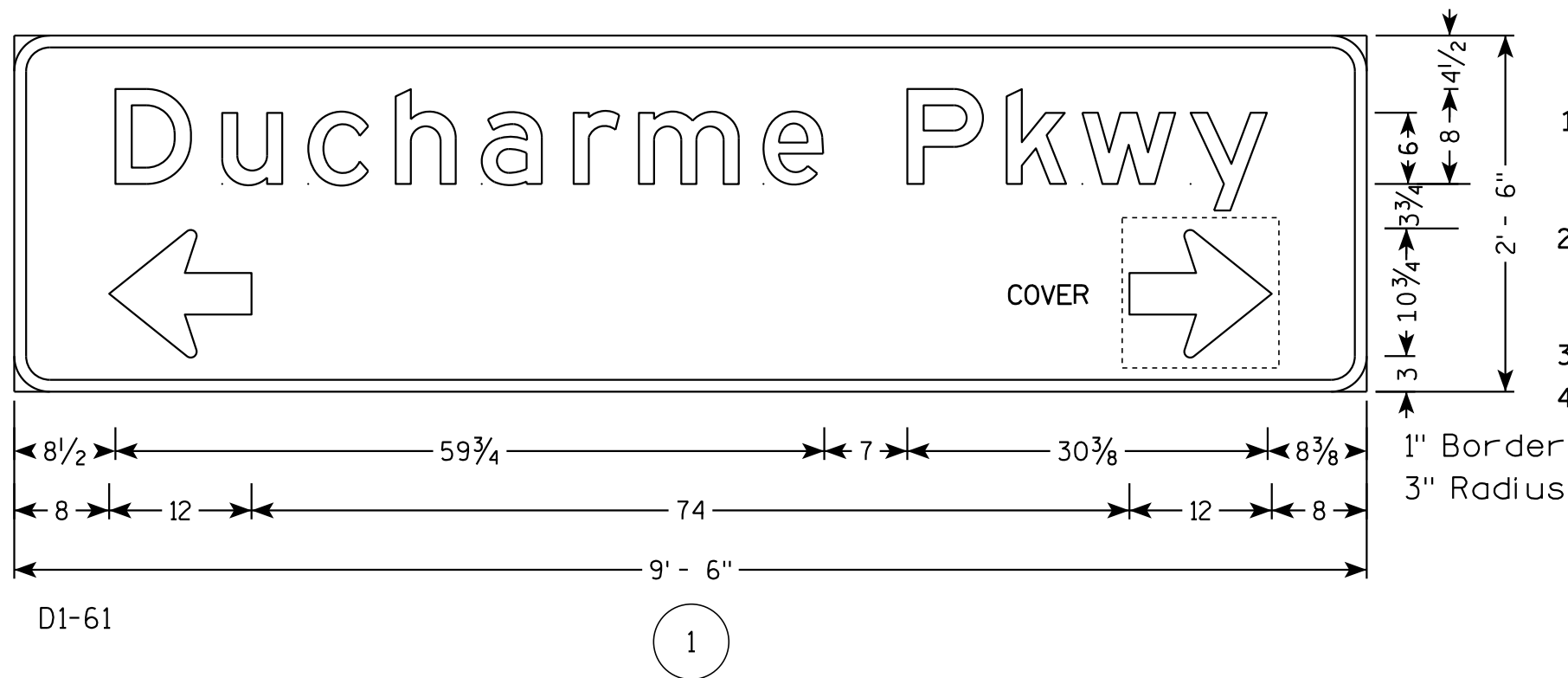
\* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

**LEGEND**

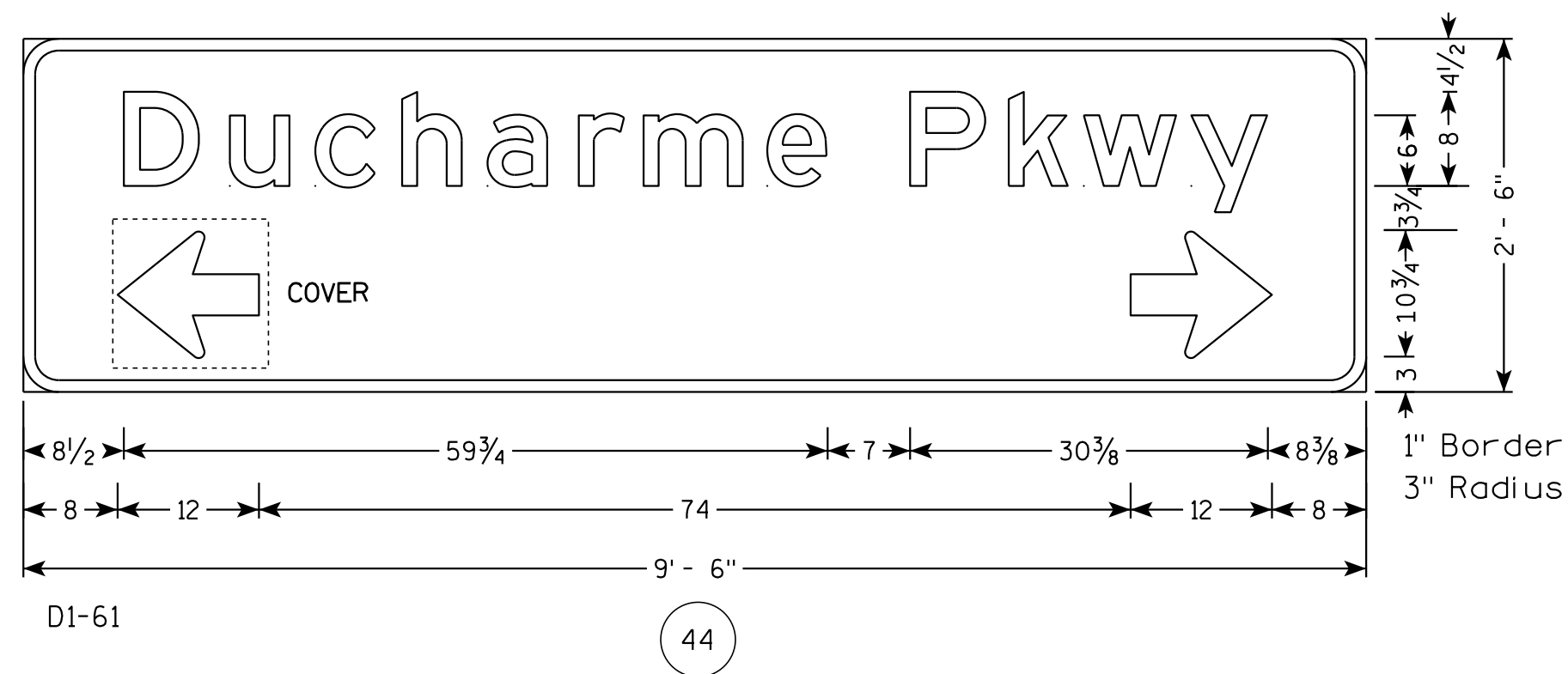
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/24/2000 DATE	/S/ Chester J. Spang CHIEF SIGNS AND MARKING ENGINEER
FHWA	

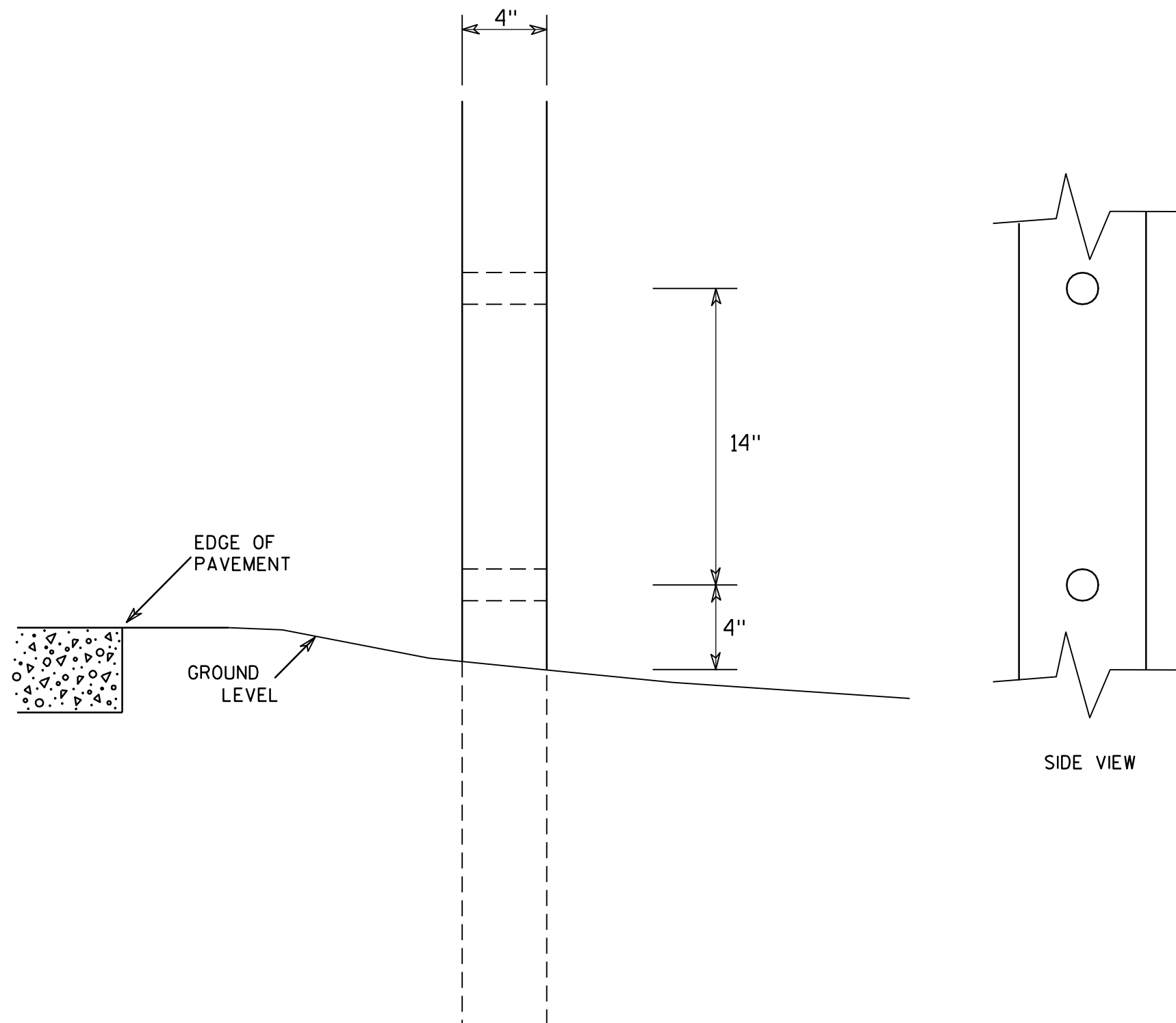




- NOTES
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
  2. Color:  
Background - GREEN  
Message - WHITE
  3. Message Series - E
  4. Covers shall conform to WIS DOT Standard Specification 643.2.9.4.3 and shall match the background sheeting of the sign.



7



### GENERAL NOTES

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

7

### 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

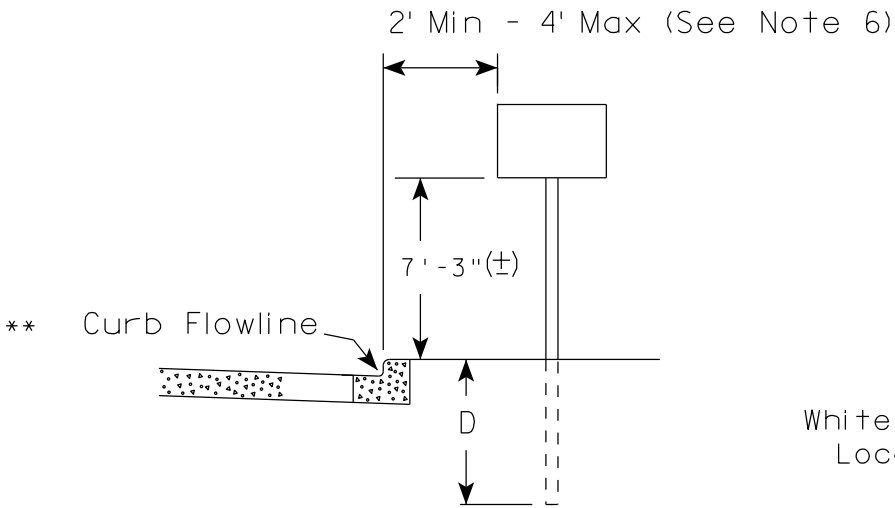
HWY:

COUNTY:

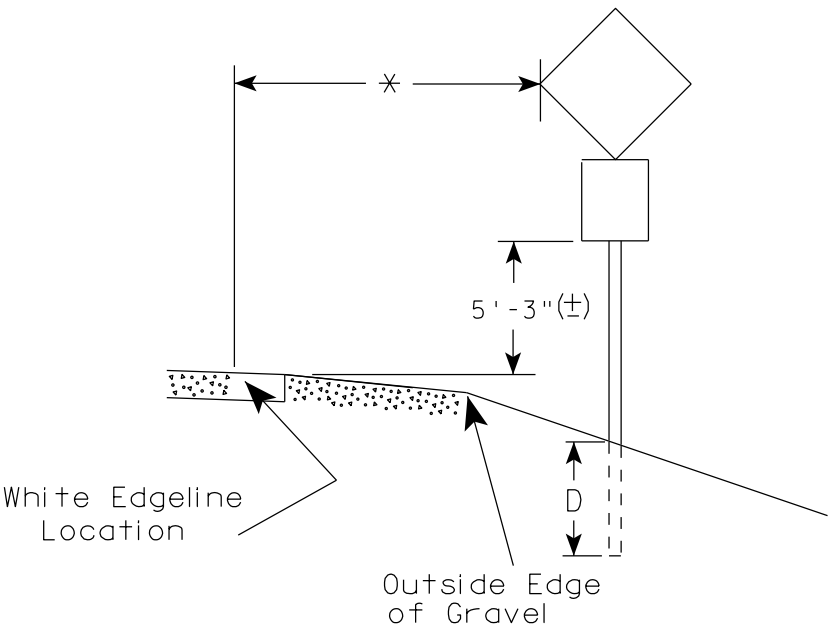
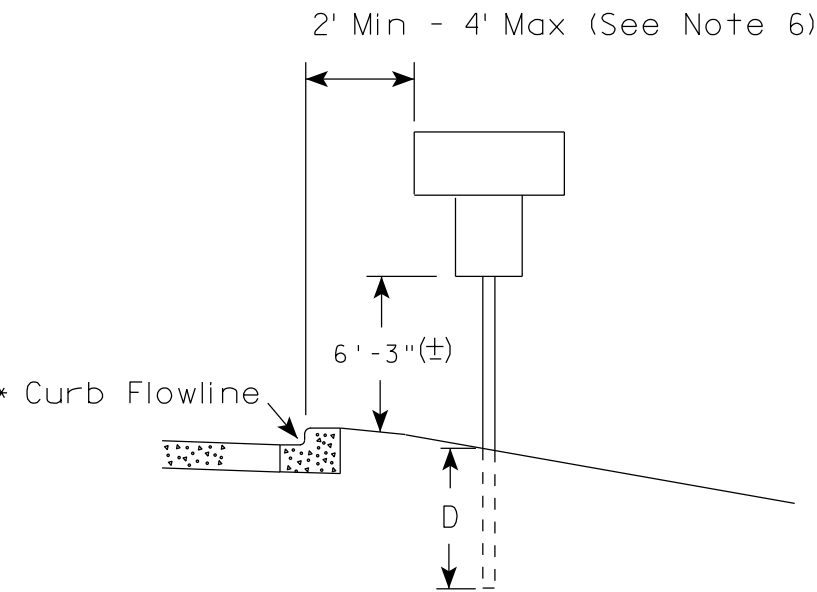
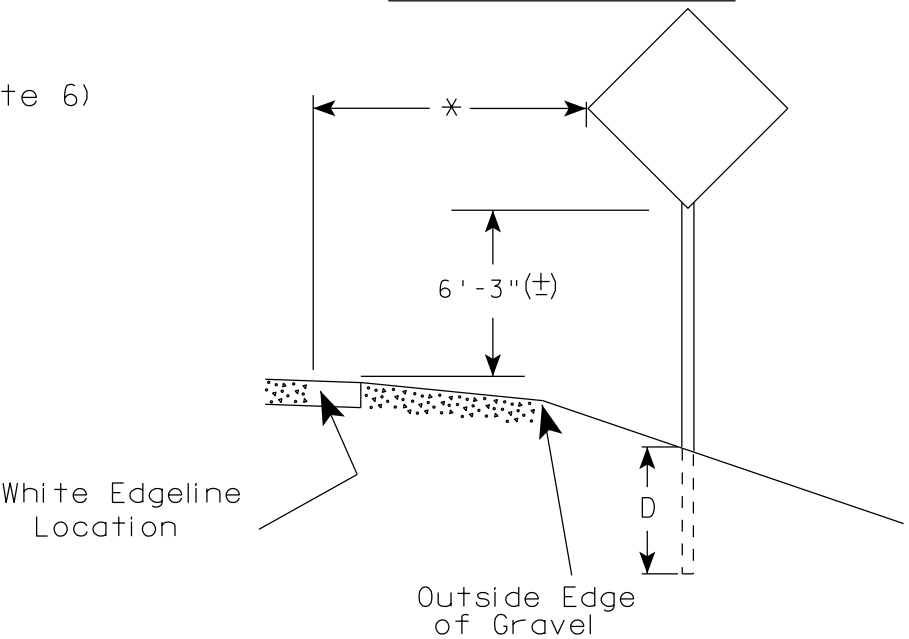
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

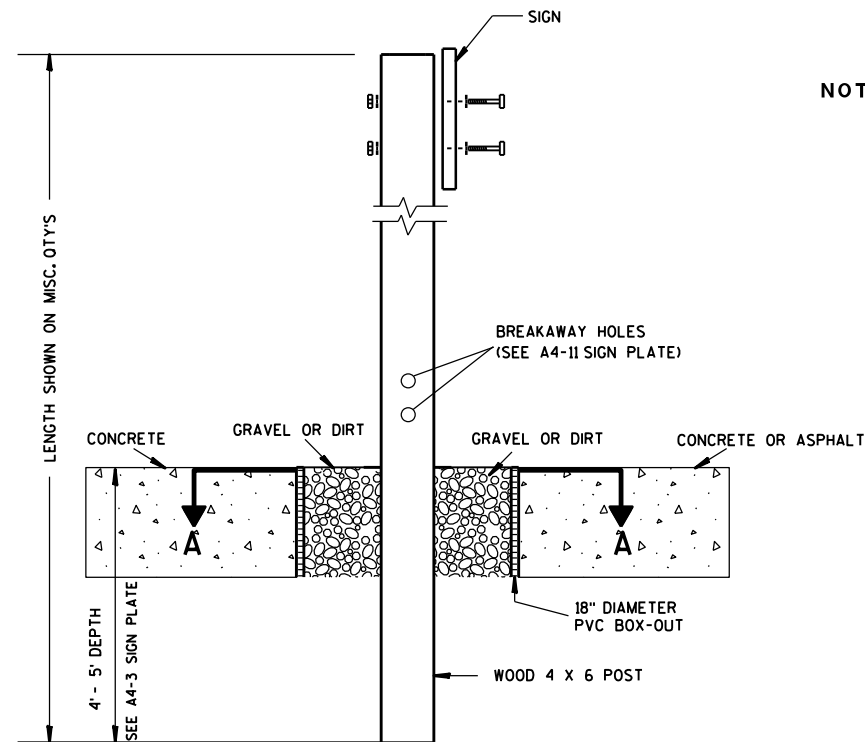
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

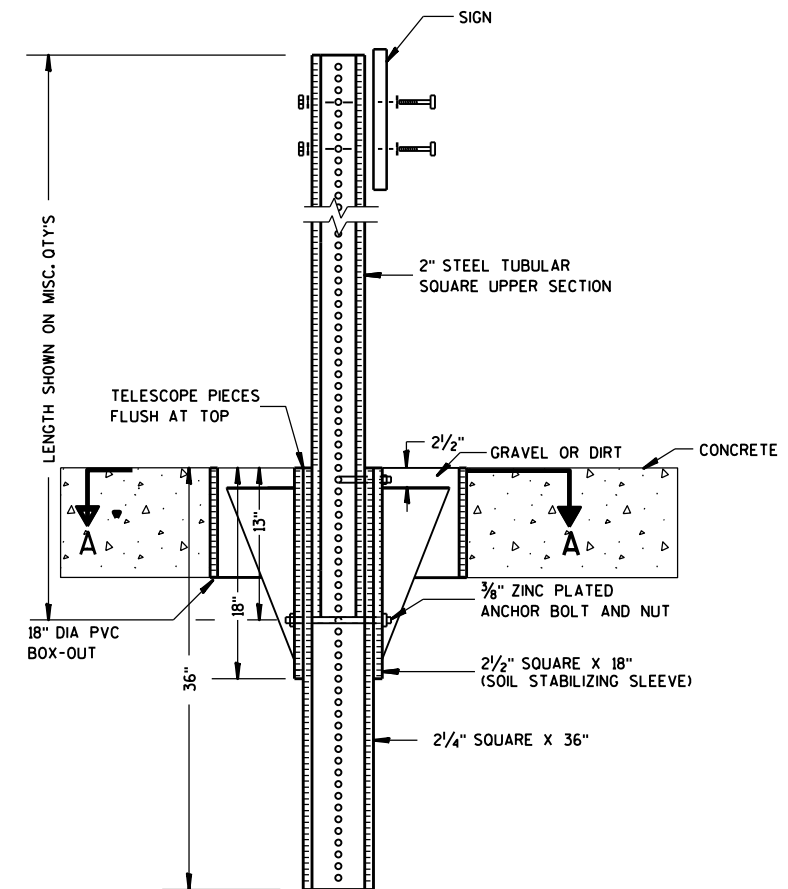
DATE 9/30/13 PLATE NO. A4-3.18



### ELEVATION VIEW

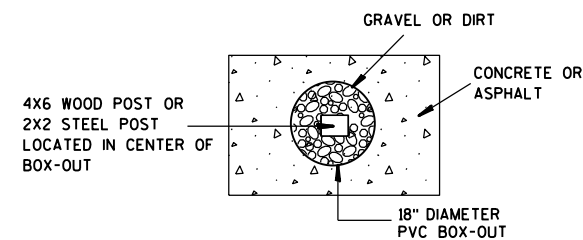
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



### ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



### PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST  
BOX-OUTS  
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

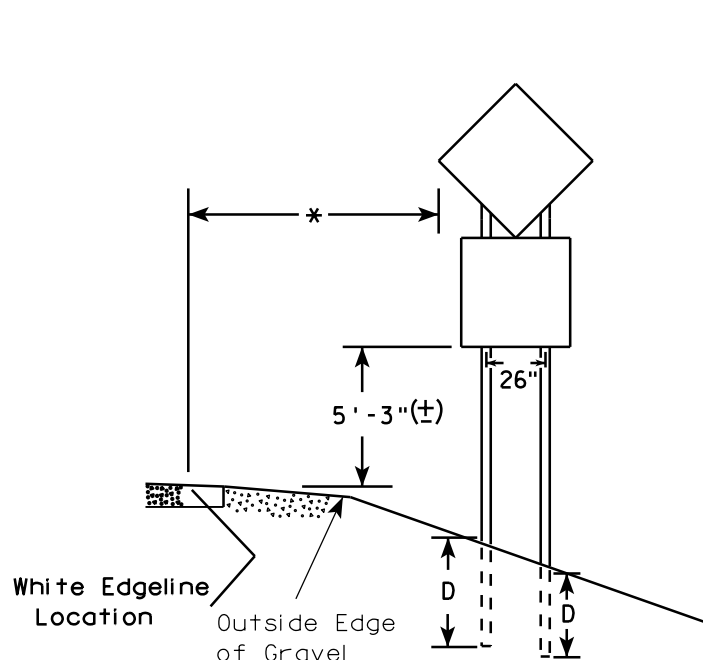
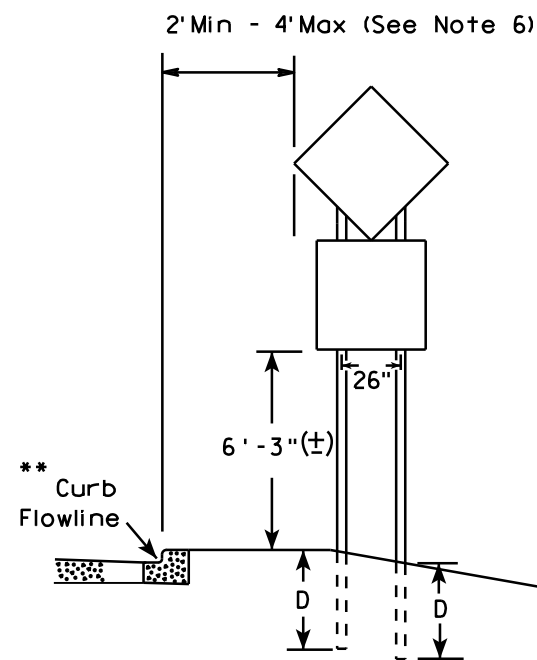
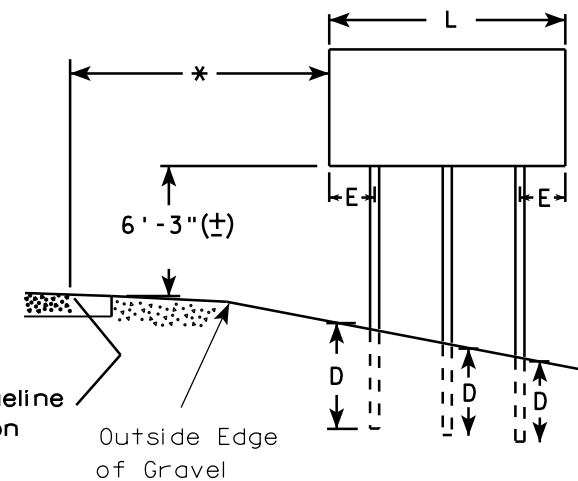
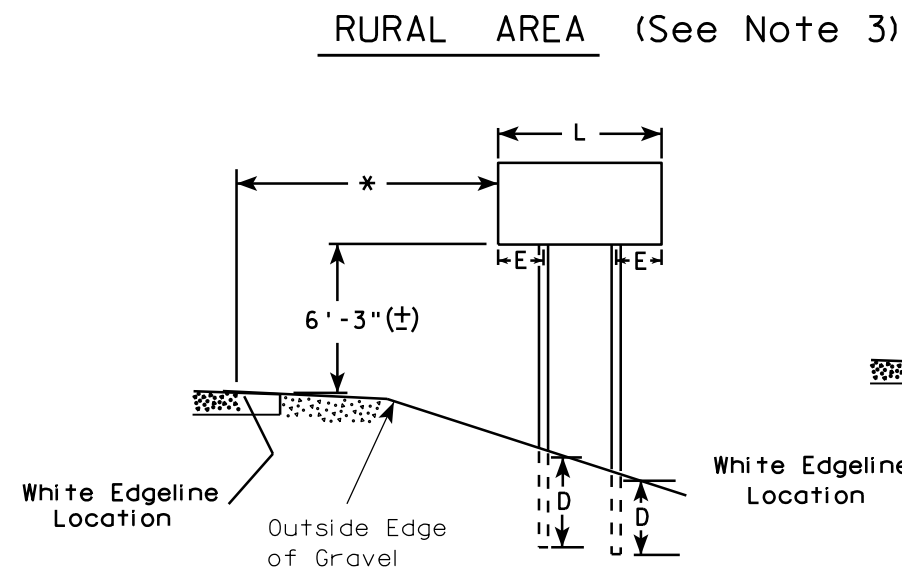
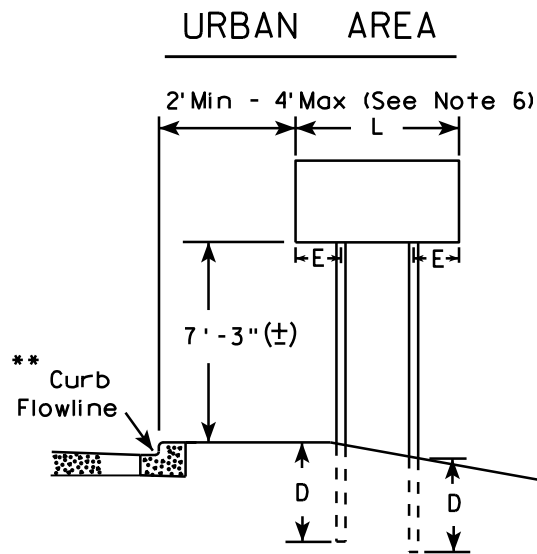
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
  2. See tables below for required number of posts.
  3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
  4. The (±) tolerance for mounting height is 3 inches.
  5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
  6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
  7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
  8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

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

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

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

\*\*\*

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

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

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

POST EMBEDMENT DEPTH

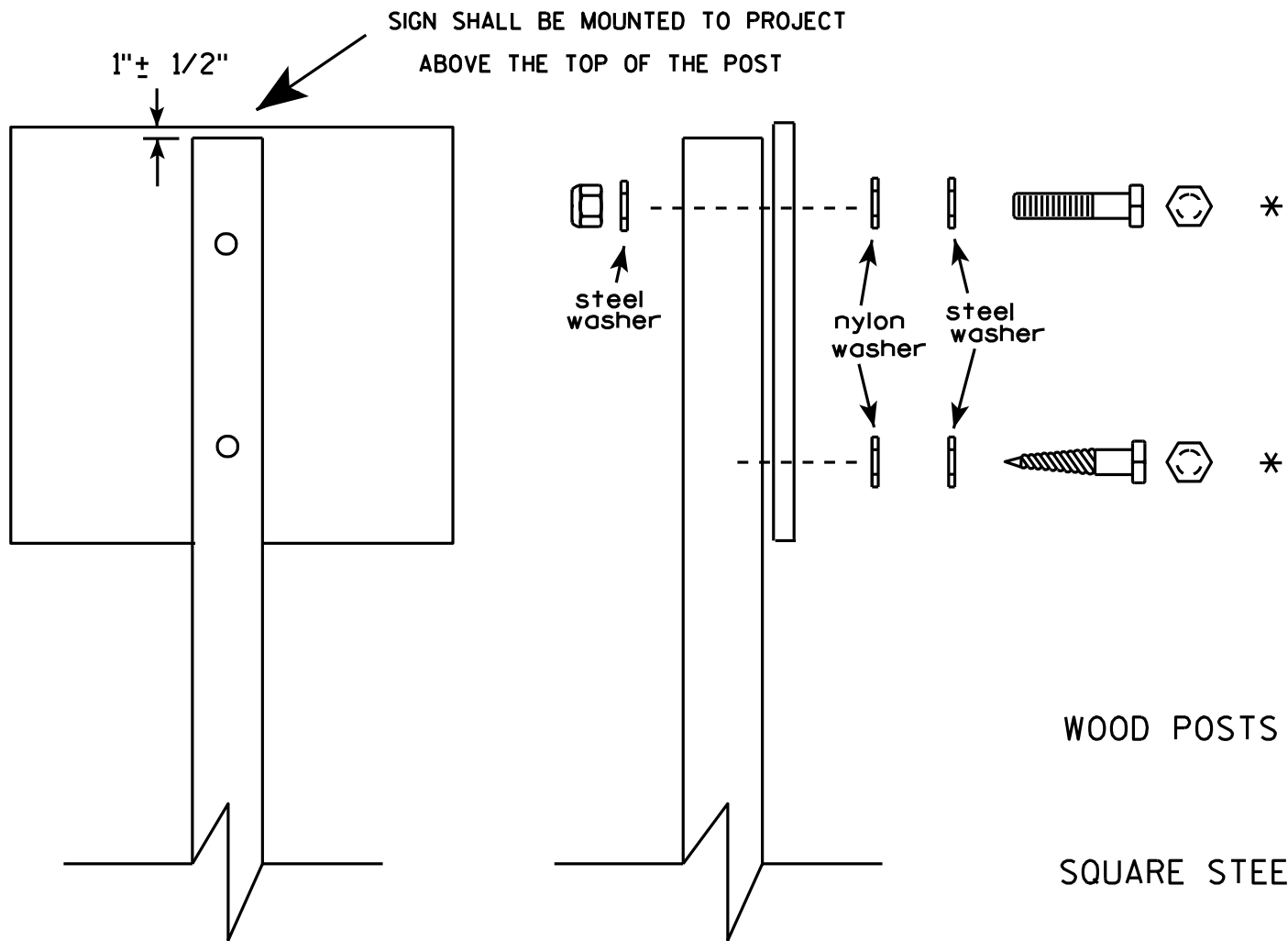
Area of Sign Installation ( Sq. Ft. )	D ( Min )
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION  
OF TYPE II SIGNS  
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/29/14 PLATE NO. A4-4.13

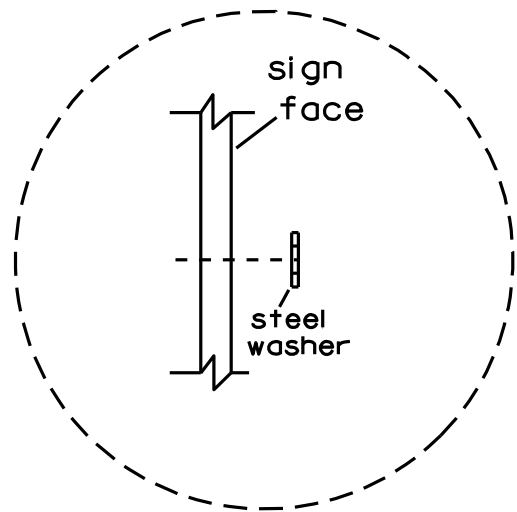


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

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



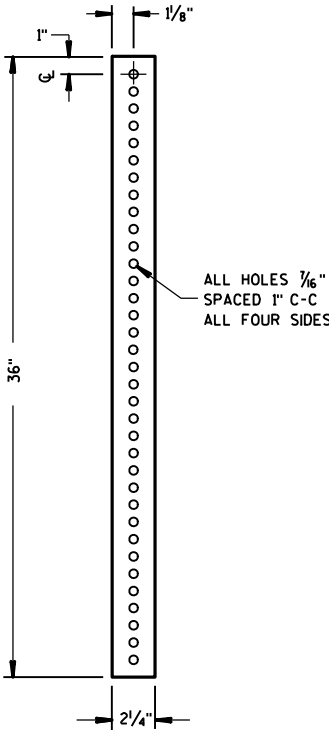
Washer Placement when Sign Has Other Than Type H or Type F Face

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

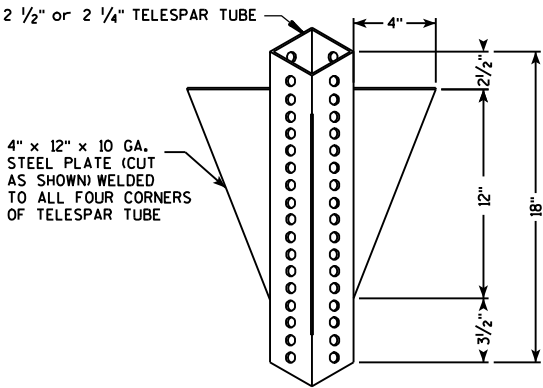
ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM

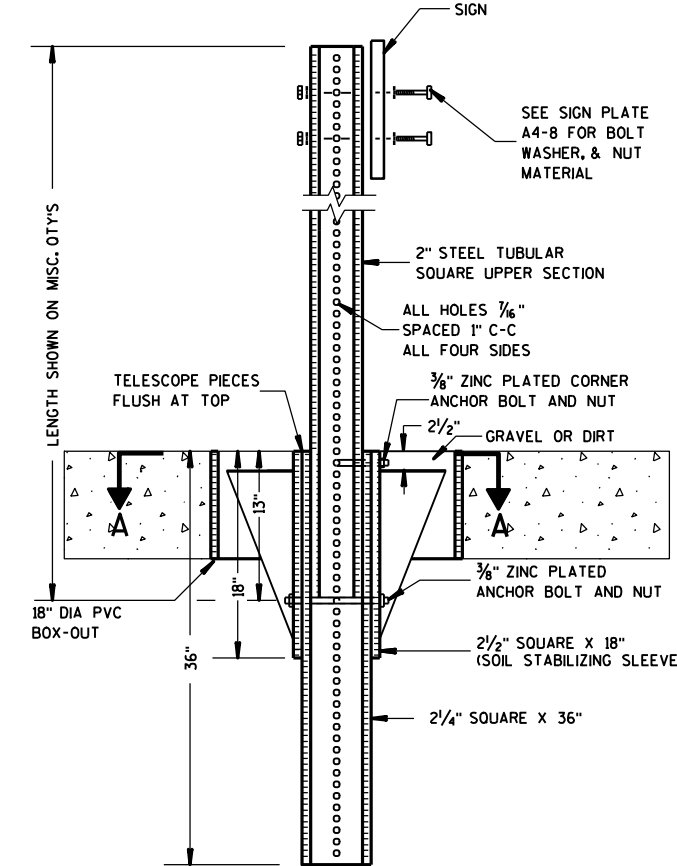
2 1/4 " SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



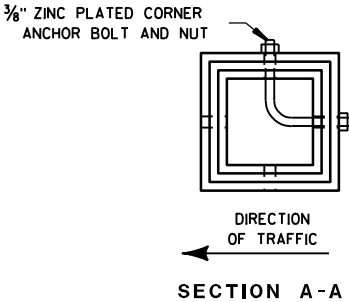
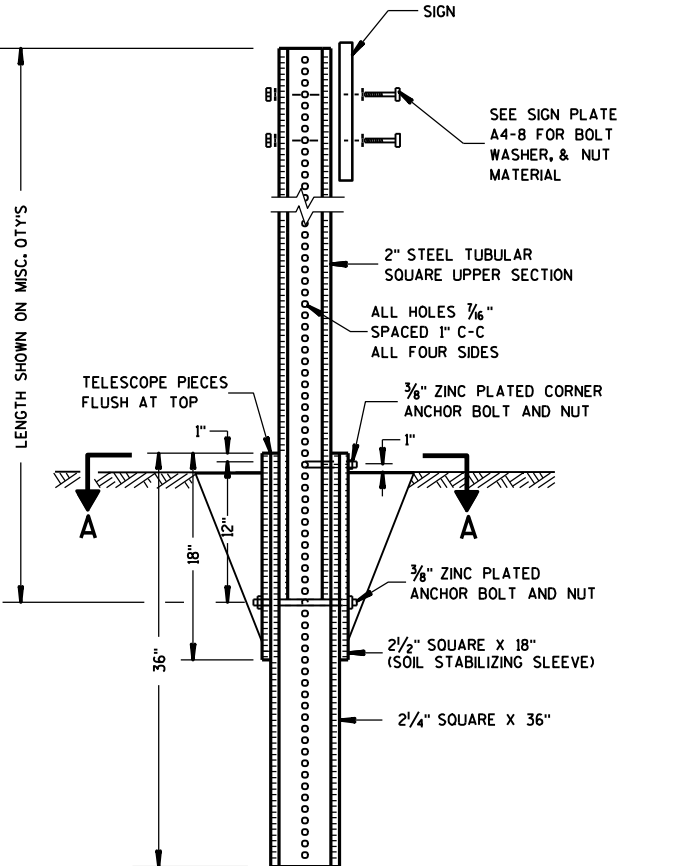
2 1/2 " SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



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



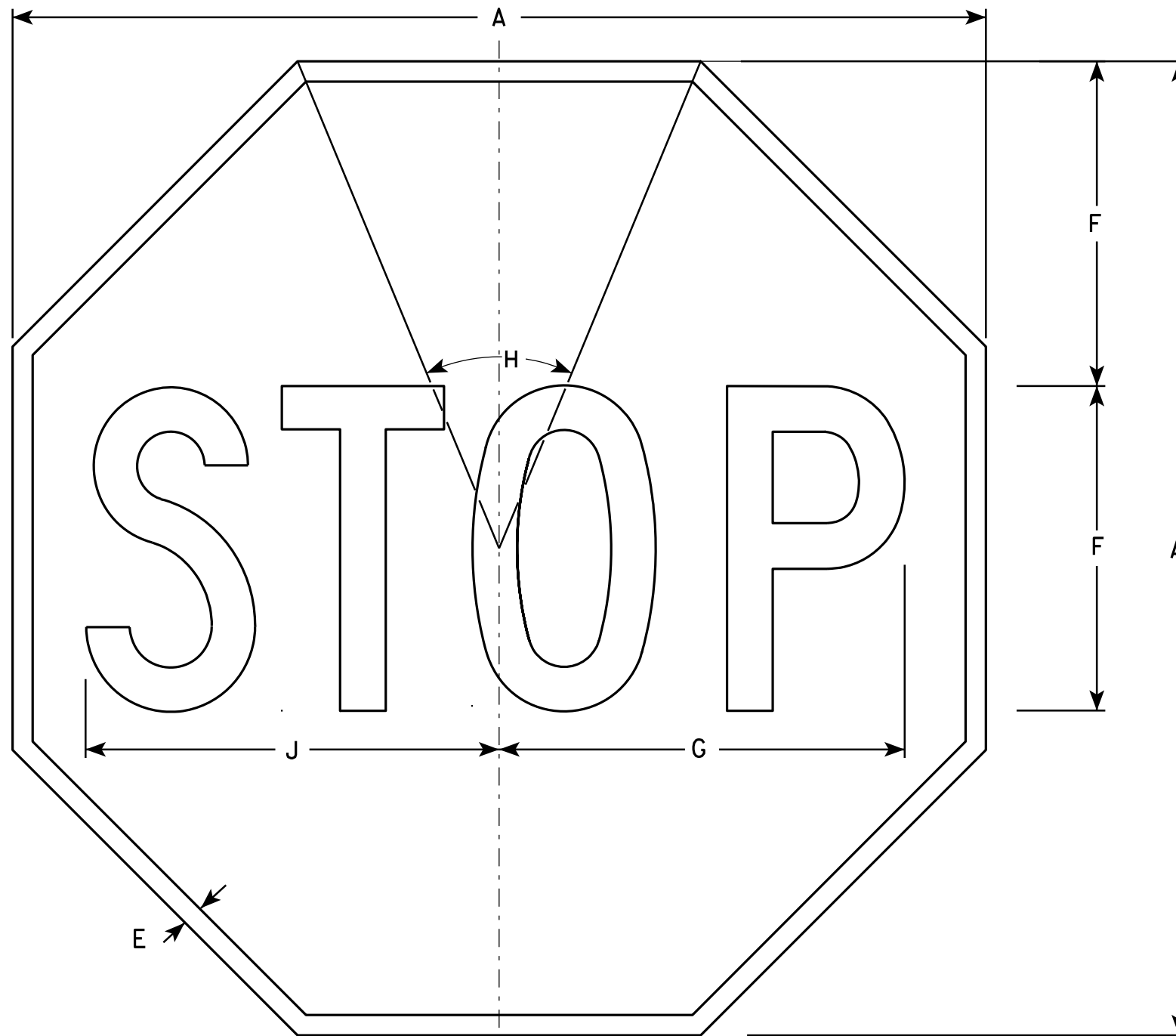
DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

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

TUBULAR STEEL SIGN POST A4-9	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 5/30/12	PLATE NO. A4-9.7



**NOTES**

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
  - Background - Red
  - Message - White
- 3. Message Series - C

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN  
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

PROJECT NO:

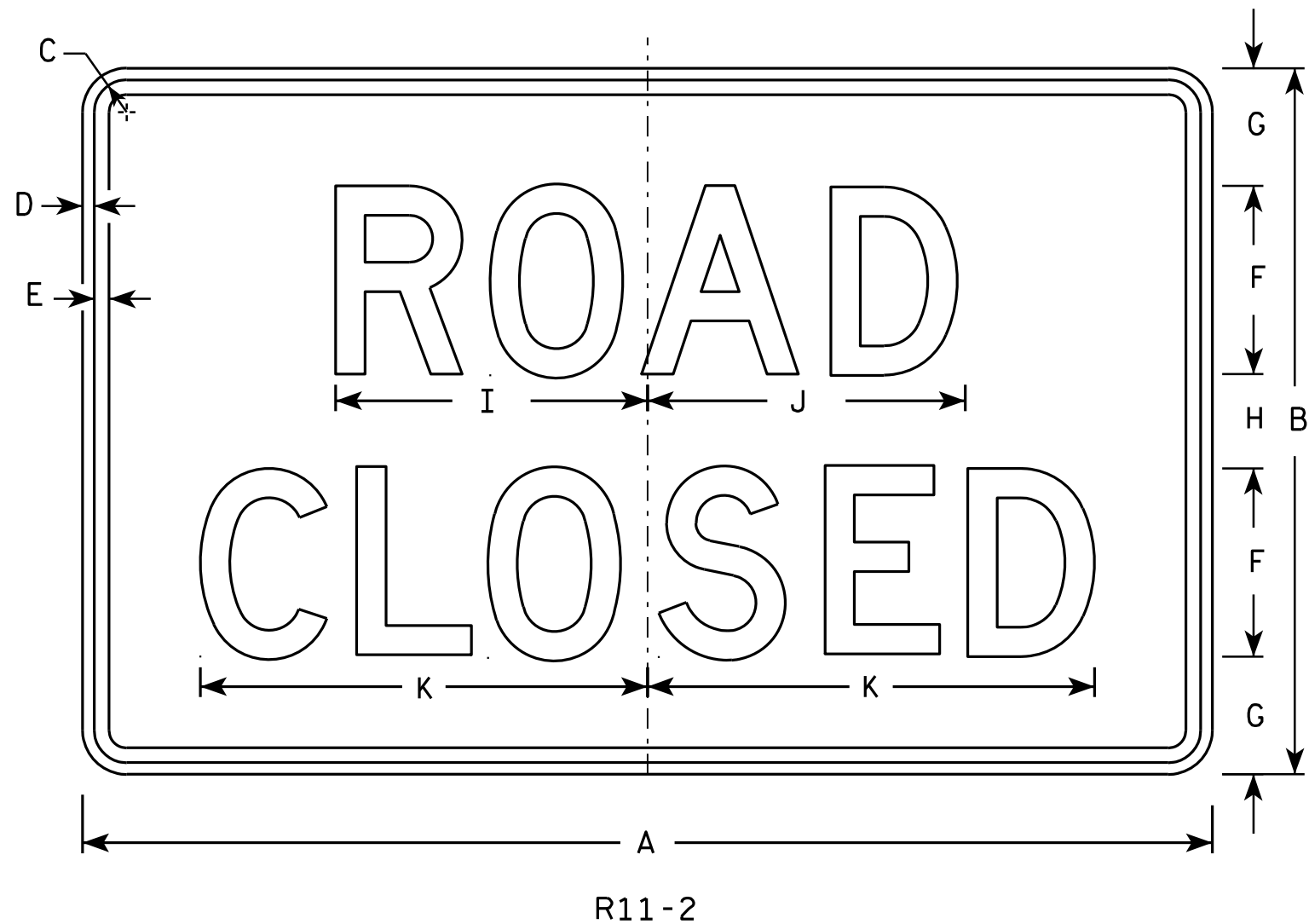
HWY:

COUNTY:

SHEET NO:

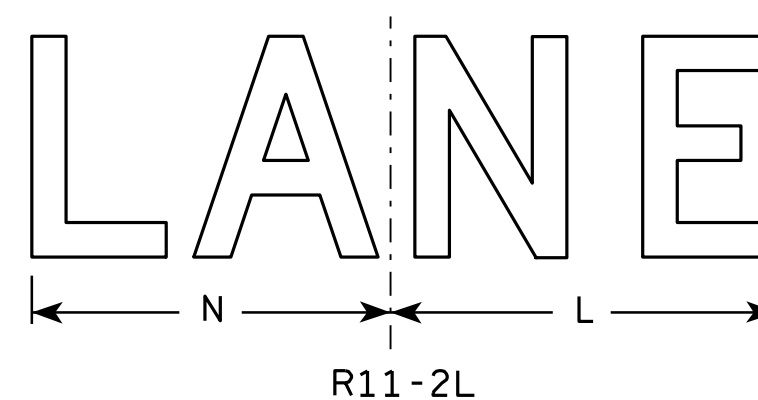
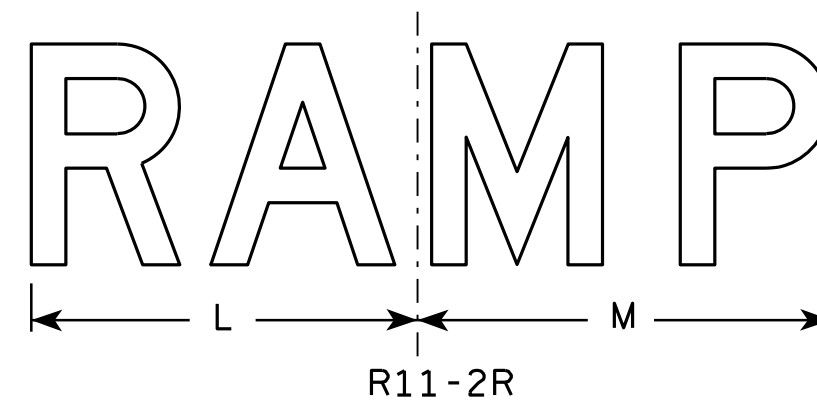
E





### 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.

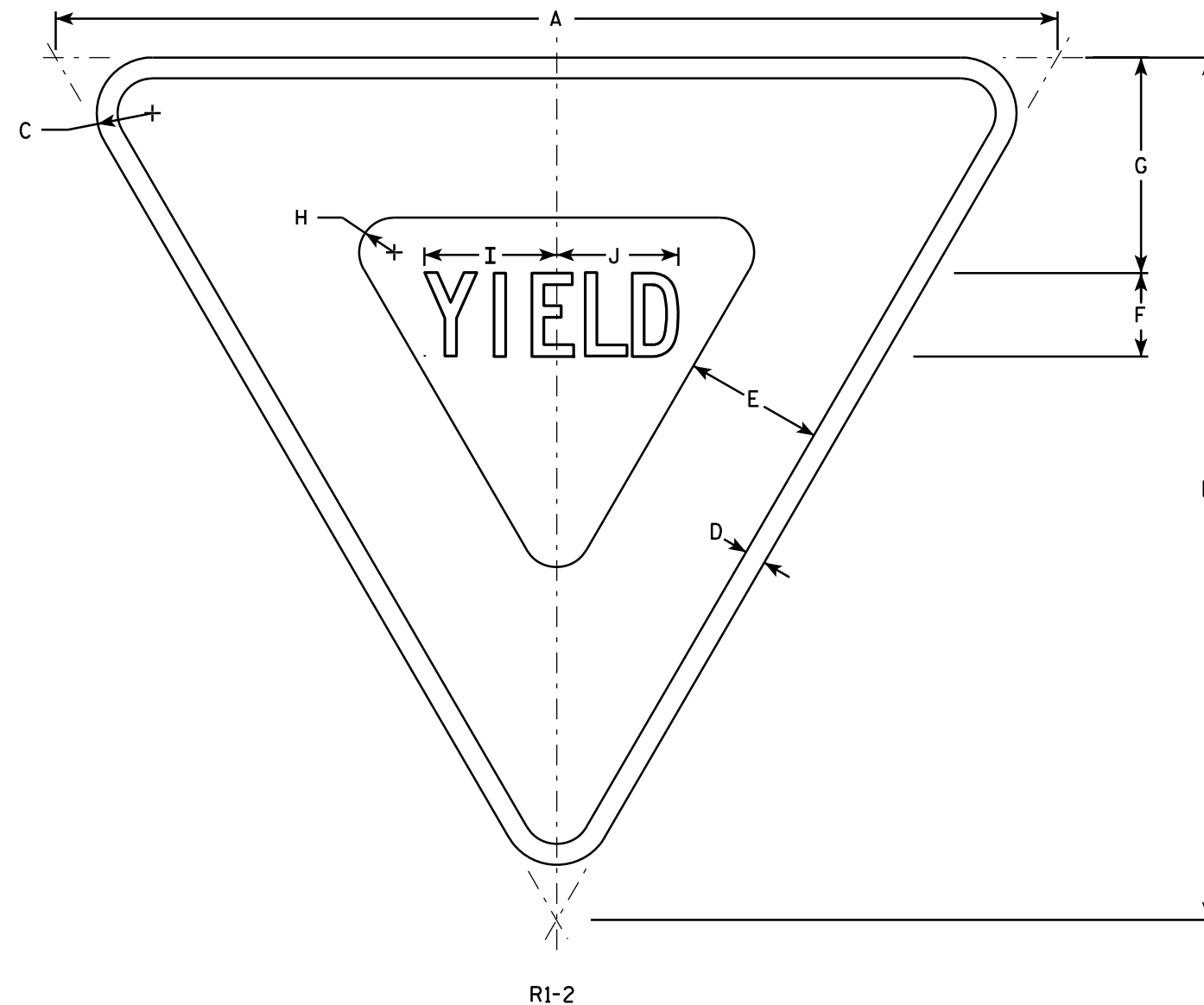


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13				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



NOTES

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

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

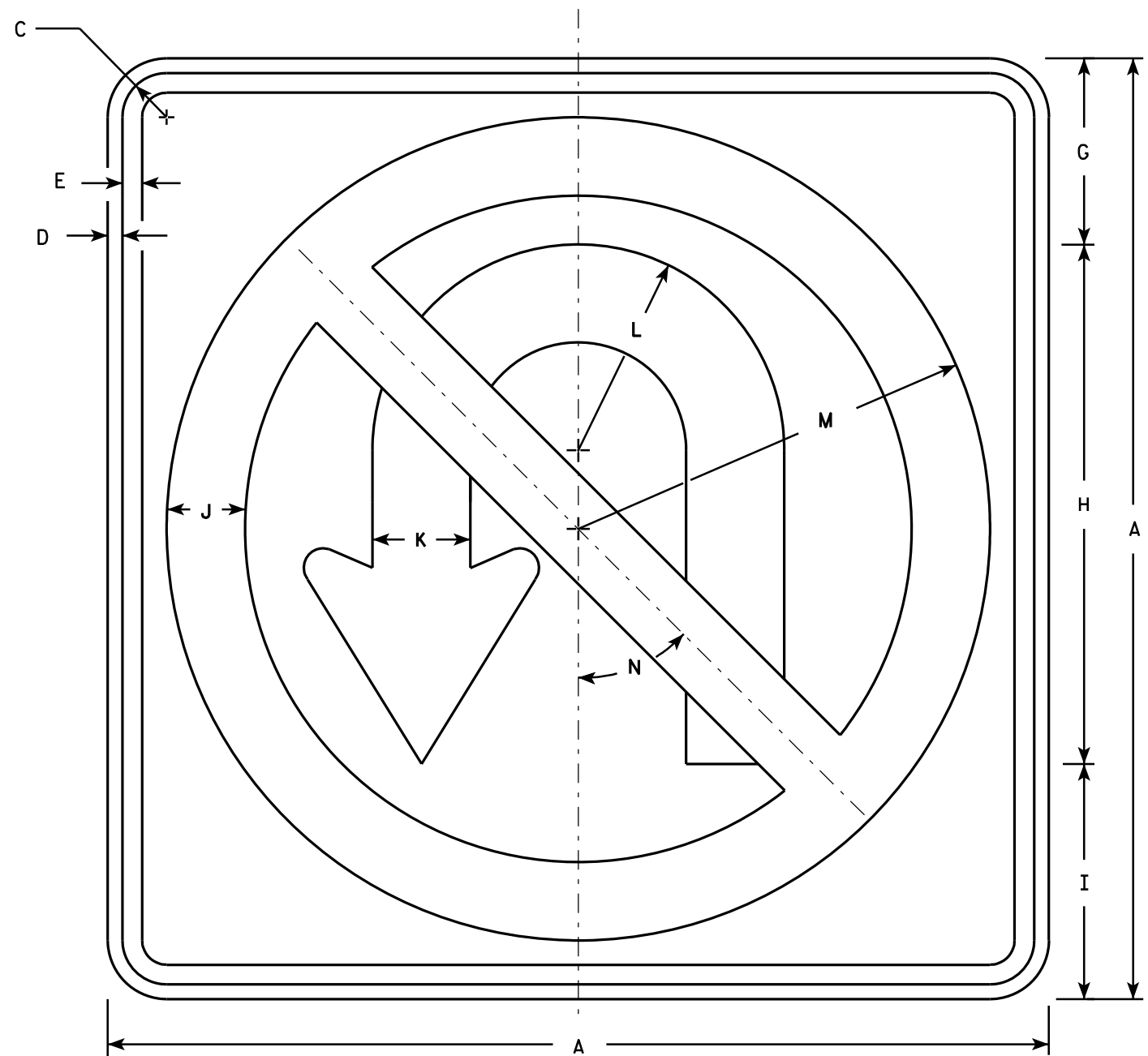
STANDARD SIGN  
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

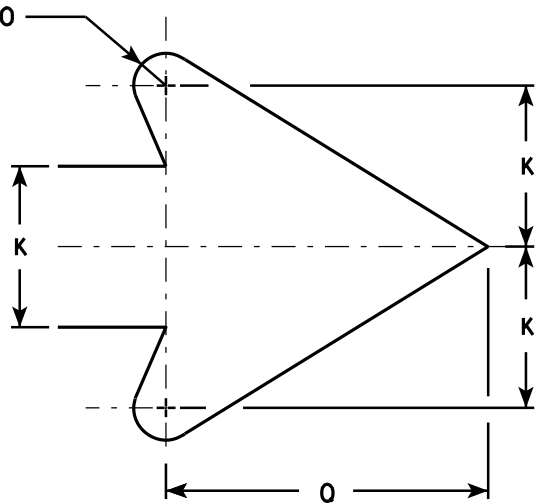
PROJECT NO: HWY: COUNTY: SHEET NO: E



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

STANDARD SIGN  
R3-4

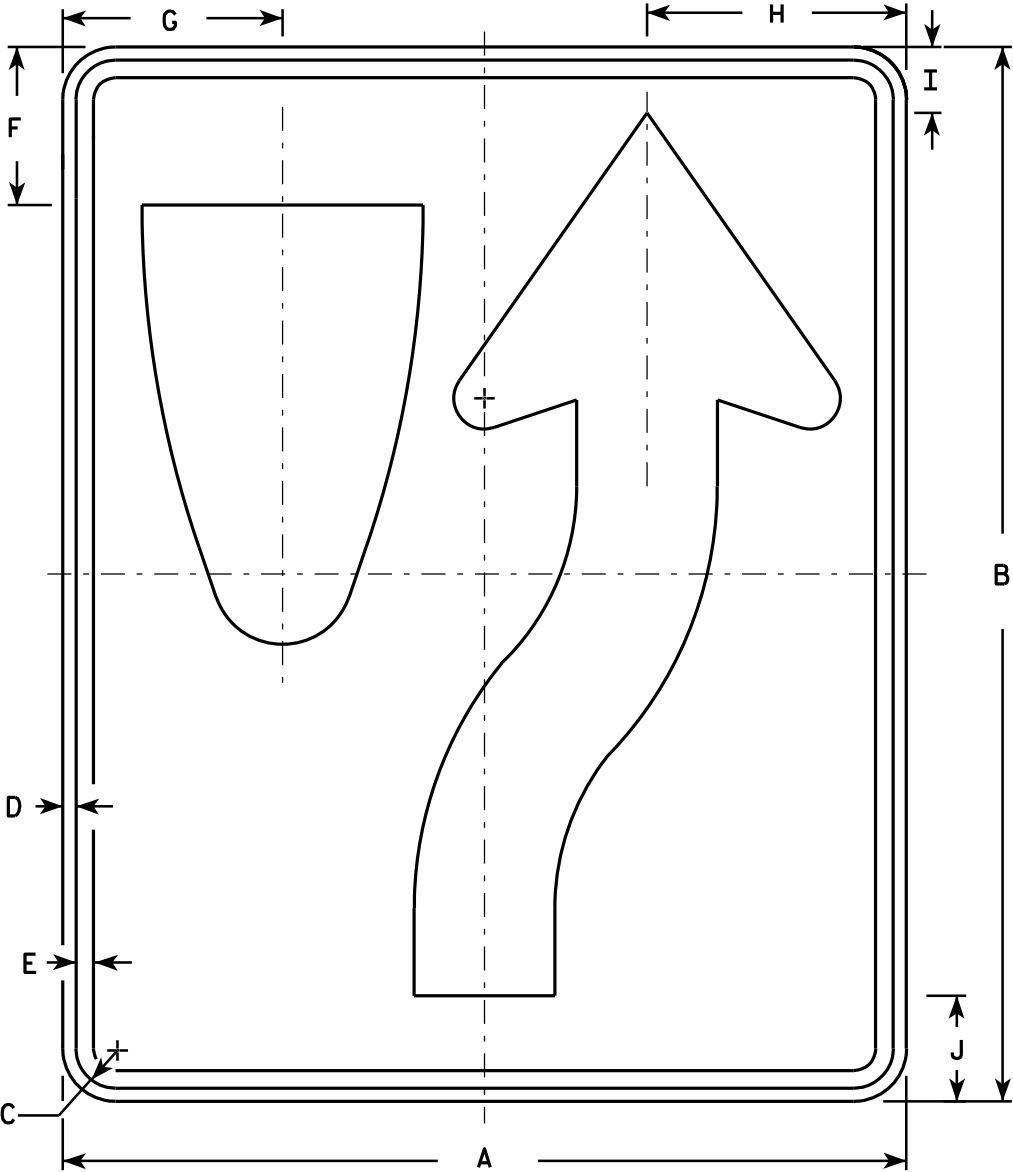
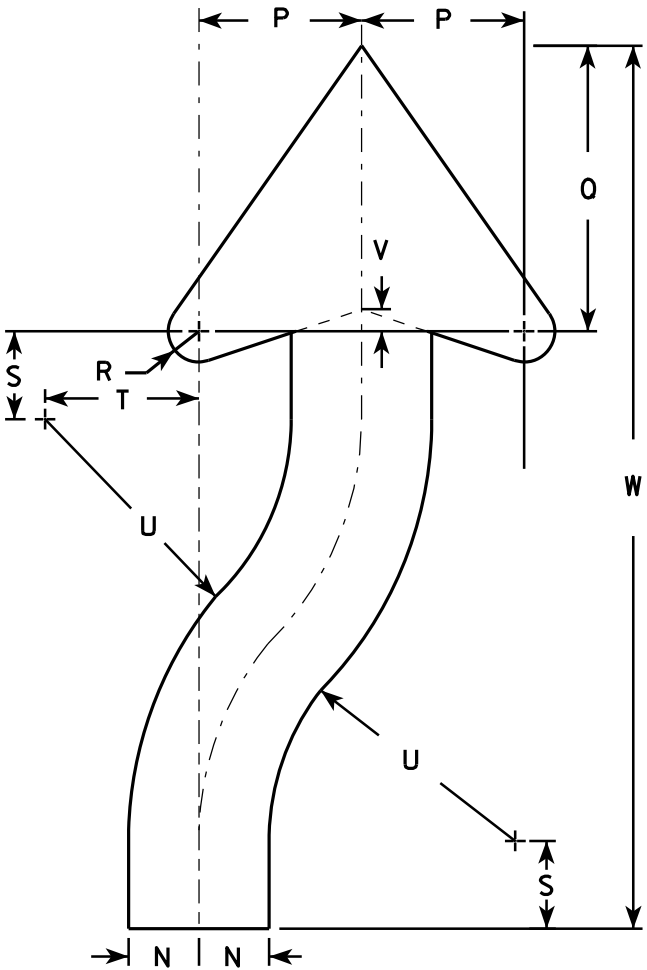
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:  
Background - White  
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN  
R4-7 & R4-8

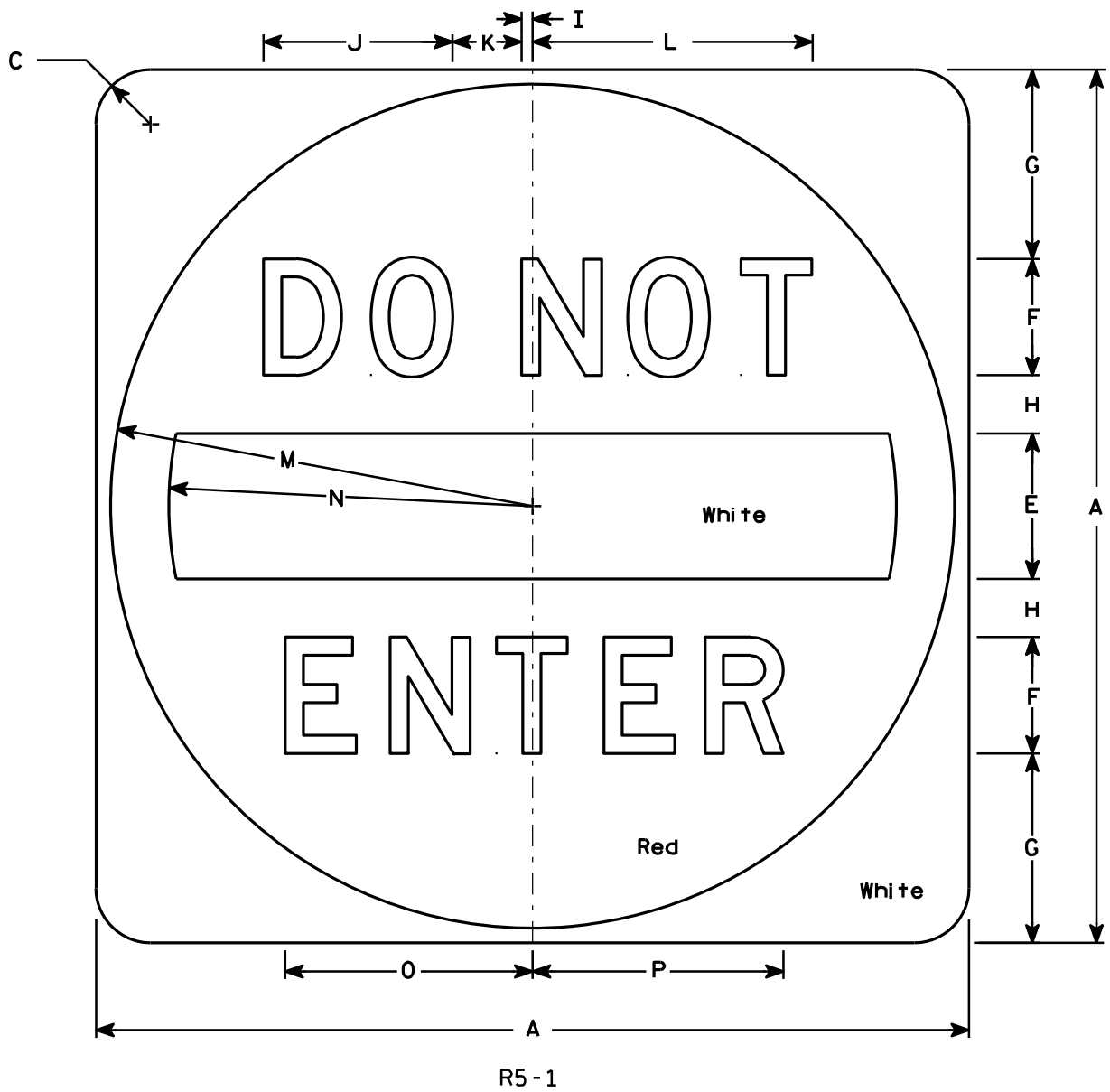
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

NOTES

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



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

STANDARD SIGN

R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

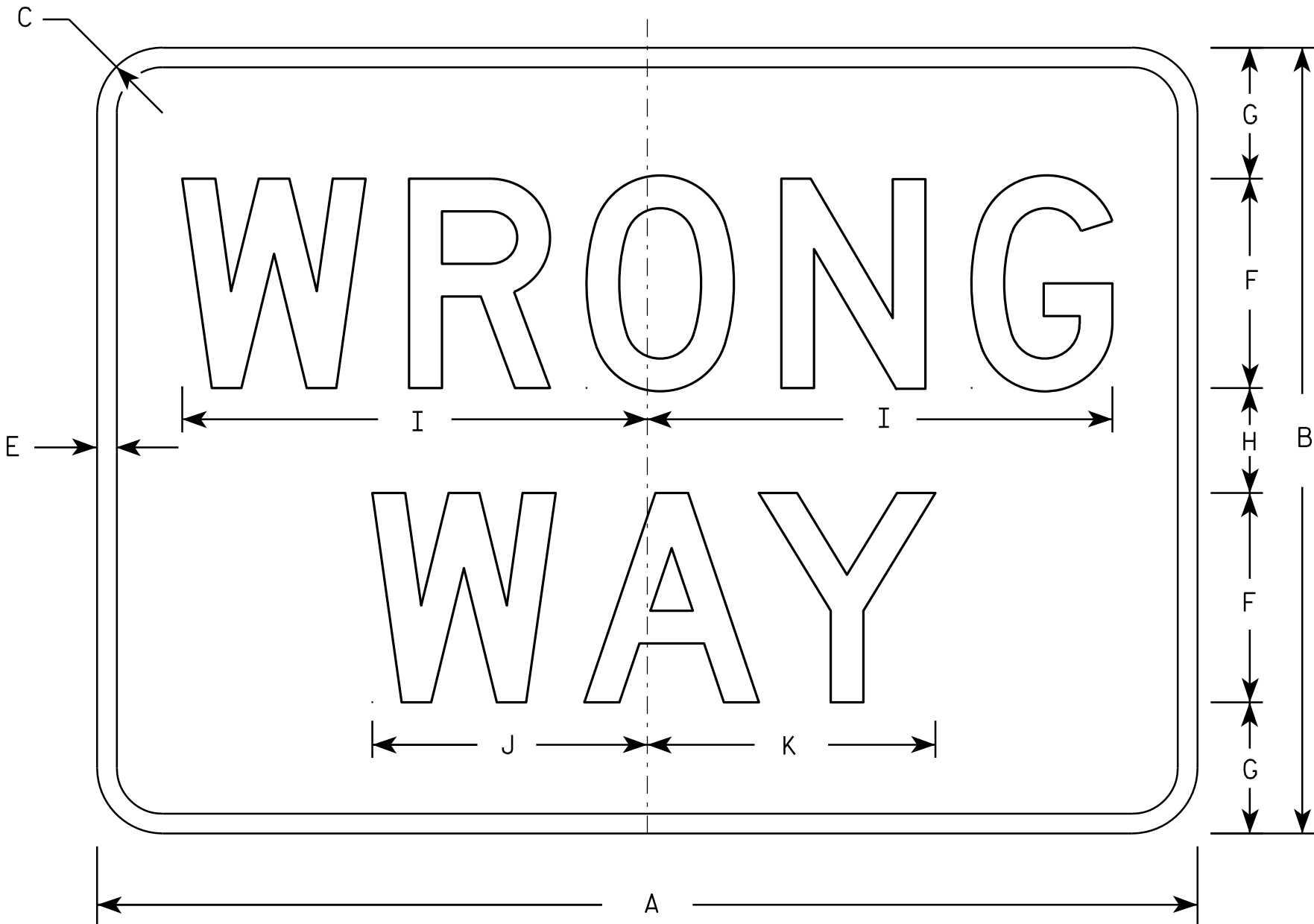
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R5-1A

NOTES

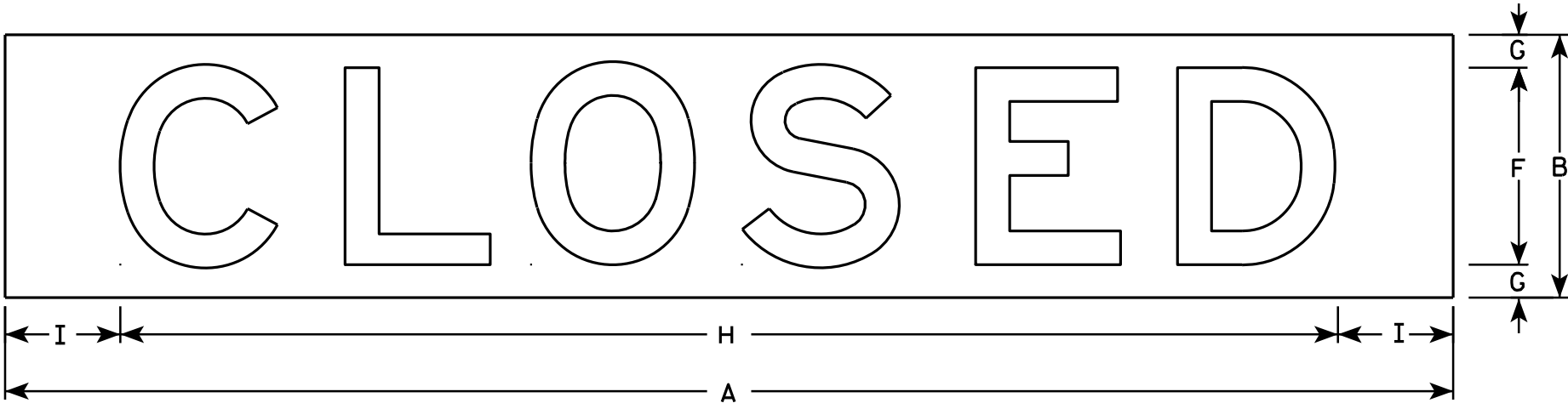
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
  - Background - Red
  - Message - White
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall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

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

STANDARD SIGN R5-1A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/17/10	PLATE NO. R5-1A.2

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - Yellow  
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. This plaque to be used with the D5-61& D5-62 for wayside closures.



R55 - 58A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	44	8				6	1	37	3 1/2																		2.4
2M	44	8				6	1	37	3 1/2																		2.4
3																											
4	76	12				10	1	58	9																		6.3
5	108	18				15	1 1/2	92 1/2	7 3/4																		13.5

STANDARD SIGN  
R55 - 58A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/10/12 PLATE NO. R55-58A.6

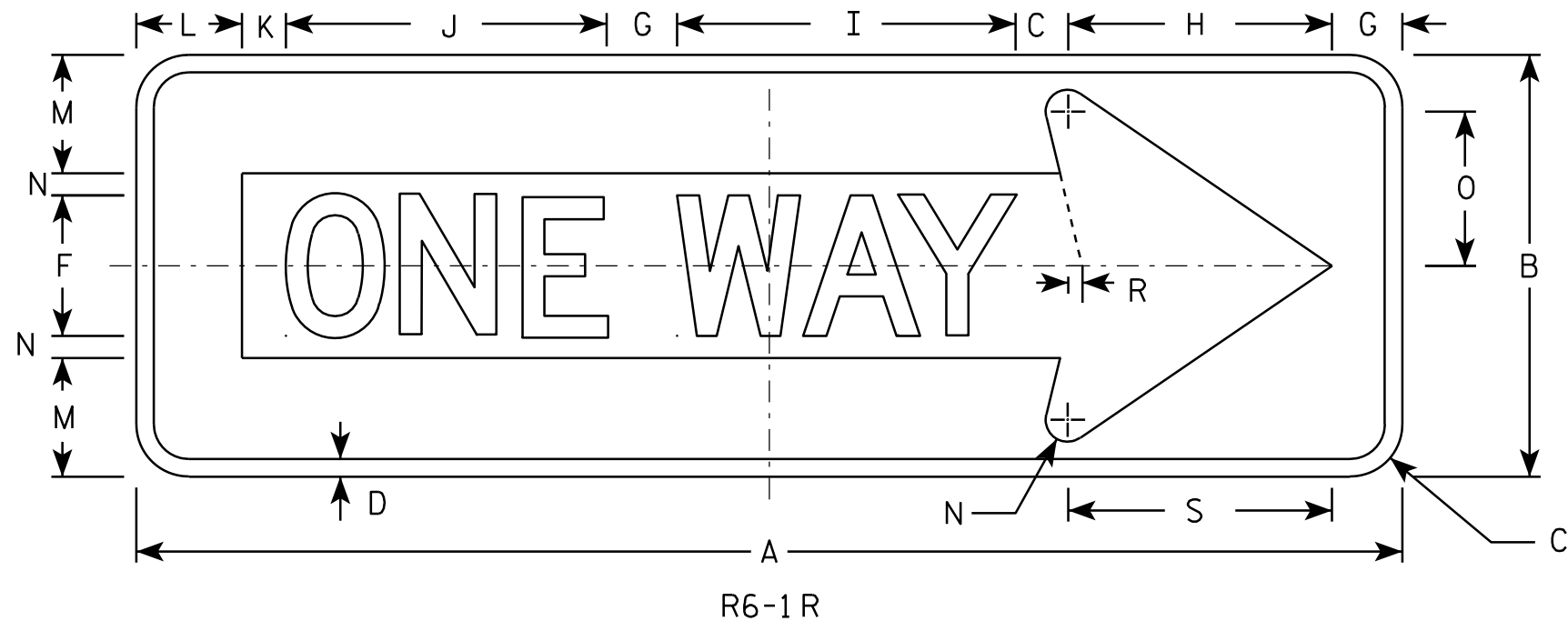
PROJECT NO:

HWY:

COUNTY:

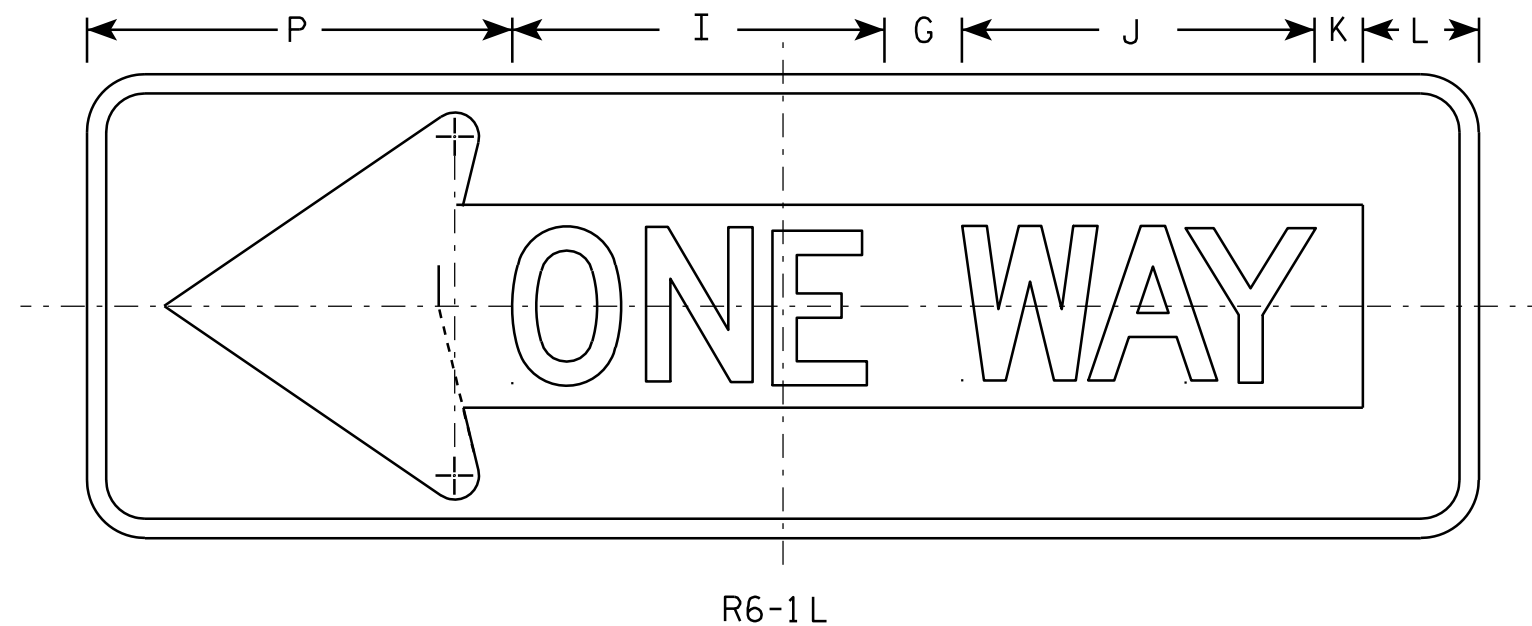
SHEET NO:

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 - BLACK  
Message - BLACK LEGEND & WHITE ARROW & BORDER
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R6-1 L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2								3.0
2M	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
3	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
4	54	18	2 1/4	3/4		6	3	11 1/4	14 1/2	13 5/8	1 7/8	4 1/2	5	1	6 1/2	16 1/2		5/8	11 1/4								6.75
5																											

### STANDARD SIGN R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

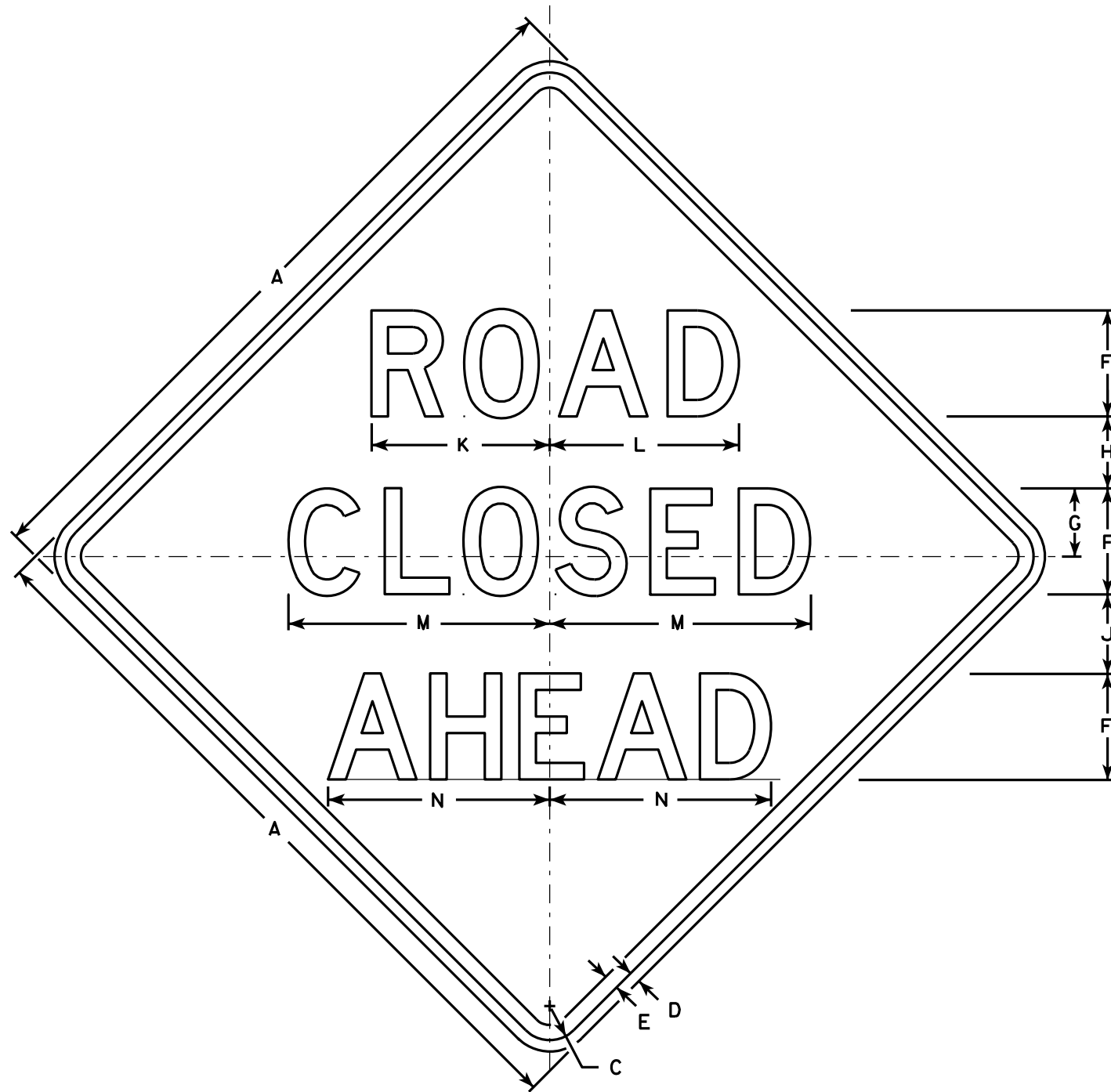
DATE 12/17/10 PLATE NO. R6-1.2

PROJECT NO:

SHEET NO:

E





W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

**NOTES**

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

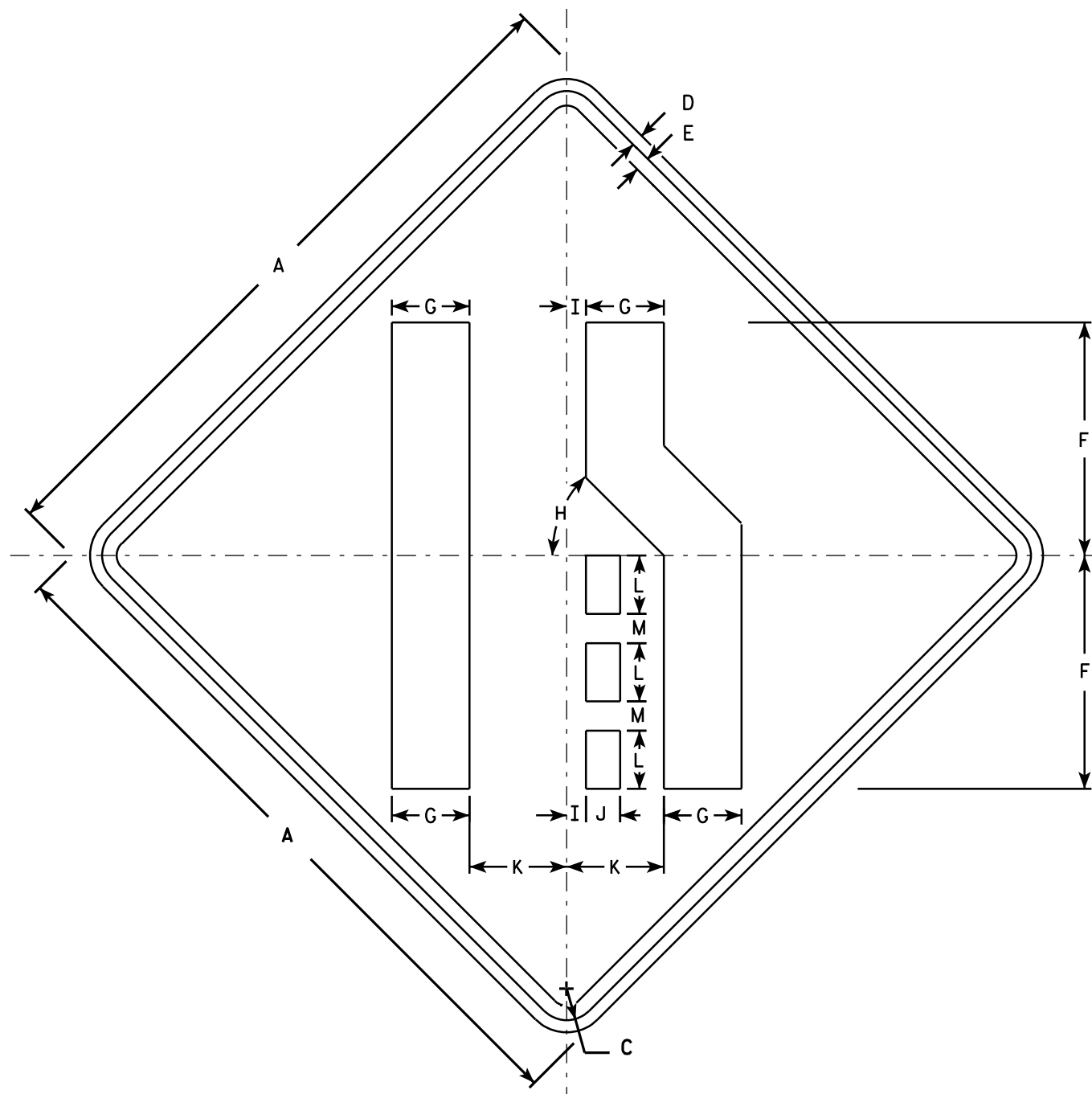
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W4-2R

# NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbols is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3⁄8	1⁄2	5⁄8	10	3 3⁄8	45°	7⁄8	1 1⁄2	4 1⁄4	2 1⁄2	1 1⁄4														6.25
2S	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
2M	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
3	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
4	48		2 1⁄4	3⁄4	1	16	5 3⁄8	45°	1 1⁄4	2 3⁄8	6 3⁄4	4	2														16.0
5	48		2 1⁄4	3⁄4	1	16	5 3⁄8	45°	1 1⁄4	2 3⁄8	6 3⁄4	4	2														16.0

## STANDARD SIGN W4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

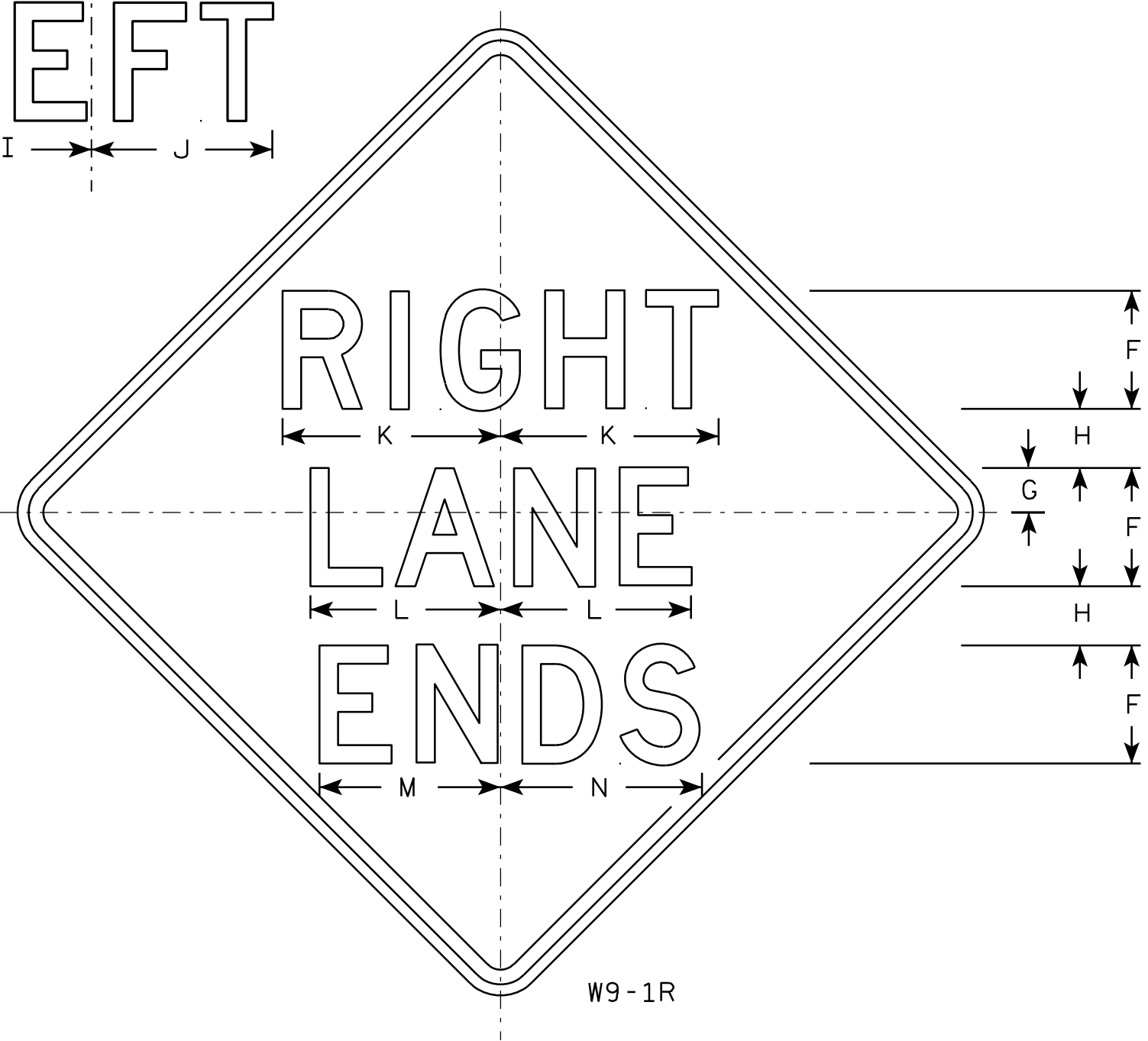
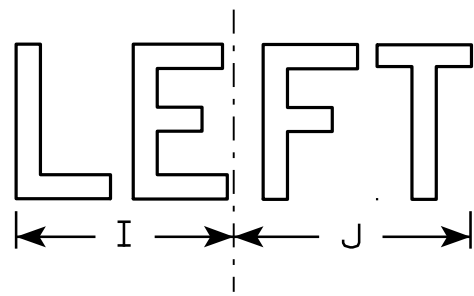
DATE 3/12/13

PLATE NO. W4-2.14

PROJECT NO:

SHEET NO:

E



W9-1R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. W9-1L same as W9-1R except the word Left replaces Right.

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		1 <sup>3</sup> / <sub>8</sub>	1/2	<sup>5</sup> / <sub>8</sub>	5	1 1/2	2 1/2	7 1/8	7 5/8	9 1/4	8 1/8	7 5/8	8 5/8													6.25
2S	36		1 <sup>5</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
2M	36		1 <sup>5</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
3	36		1 <sup>5</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
4	36		1 <sup>5</sup> / <sub>8</sub>	<sup>5</sup> / <sub>8</sub>	<sup>3</sup> / <sub>4</sub>	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
5	48		2 1/4	<sup>3</sup> / <sub>4</sub>	1	8	3	4	11 1/4	12 1/4	14 3/4	12 7/8	12 1/4	13 5/8													16.0

PROJECT NO:

SHEET NO:

E

STANDARD SIGN

W9-1

WISCONSIN DEPT OF TRANSPORTATION

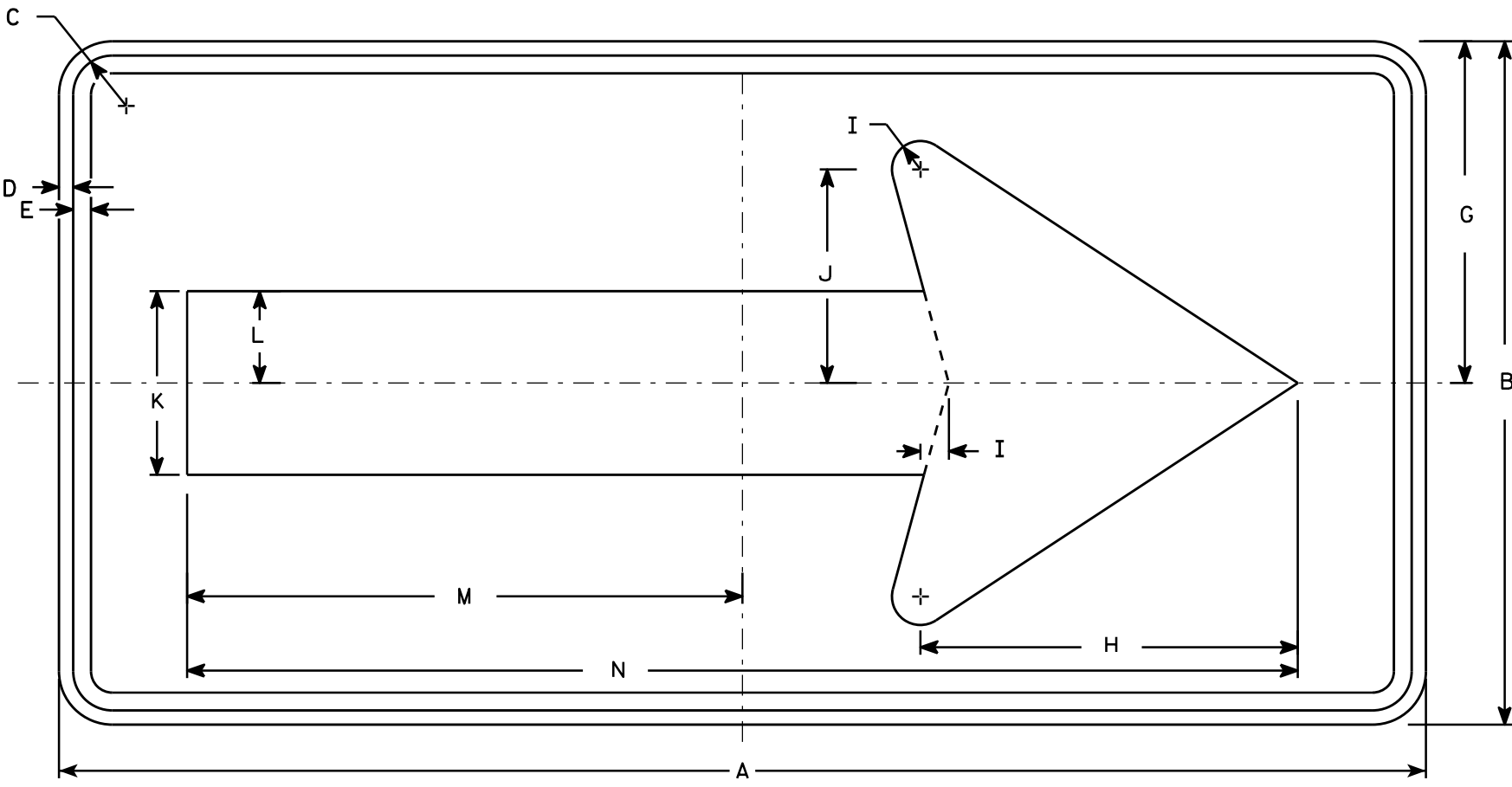
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 03/18/13

PLATE NO. W9-1.8

NOTES

1. Sign is Type II - Type F Reflective - reference  
WIS DOT Standard Specification for HIGHWAY  
and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. 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

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

USH 151

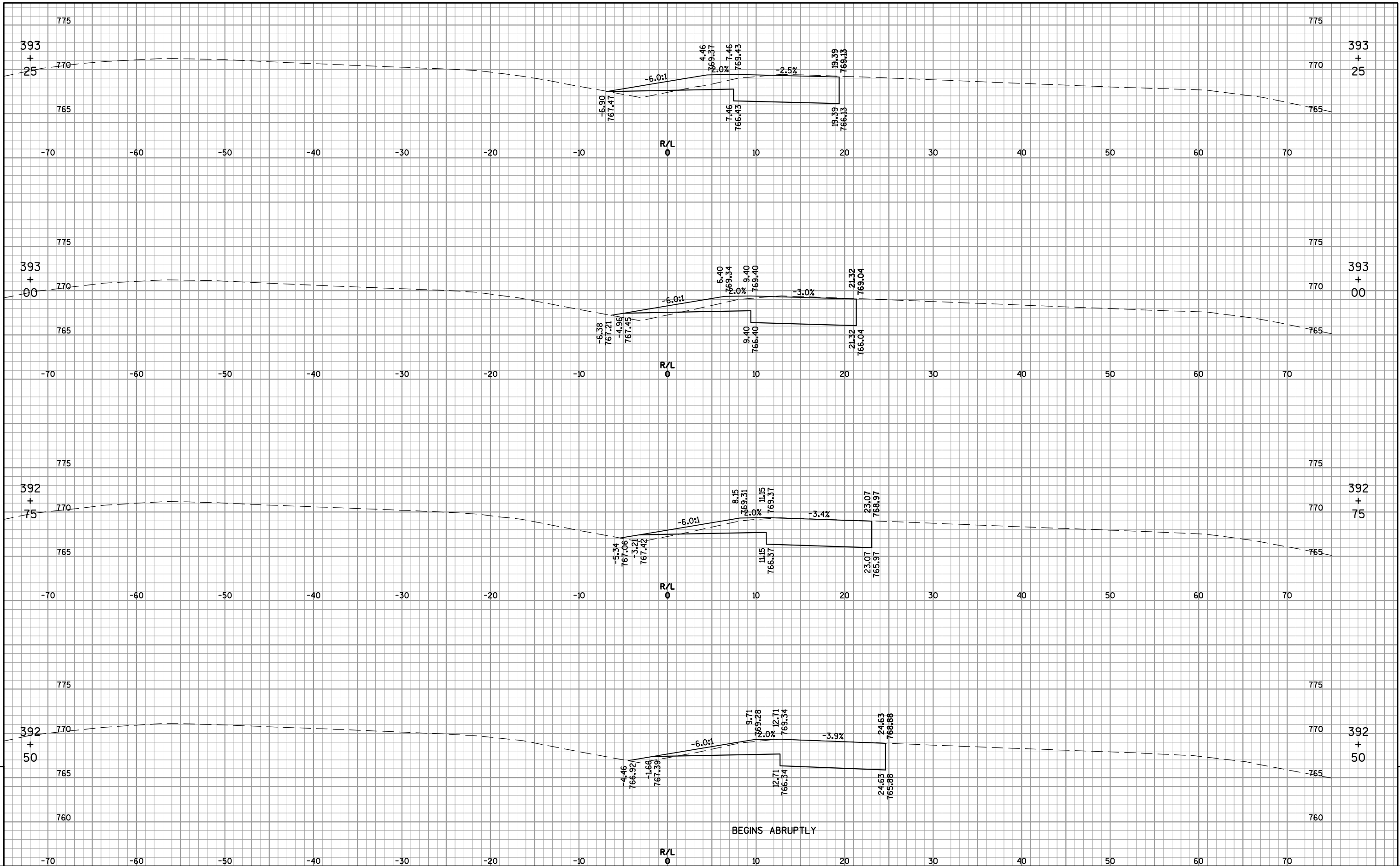
STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)	
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25
392+50	39250.00	0.00	47.18	0.00	0.61	0	0	0	0	0
392+75	39275.00	25.00	44.88	0.00	1.85	43	0	1	43	1
393+00	39300.00	25.00	42.21	0.00	3.34	40	0	2	83	4
393+25	39325.00	25.00	38.88	0.00	3.03	38	0	3	120	8
393+50	39350.00	25.00	36.13	0.00	2.03	35	0	2	155	11
393+75	39375.00	25.00	33.77	0.00	2.49	32	0	2	188	14
394+00	39400.00	25.00	27.88	0.00	10.07	29	0	6	216	21
394+25	39425.00	25.00	30.09	0.00	8.03	27	0	8	243	31
394+50	39450.00	25.00	32.91	0.00	6.13	29	0	7	272	40
394+75	39475.00	25.00	94.24	12.25	1.89	59	6	4	331	44
395+00	39500.00	25.00	96.60	12.50	0.49	88	11	1	419	46
395+25	39525.00	25.00	102.62	12.83	0.00	92	12	0	512	46
395+50	39550.00	25.00	108.08	15.33	0.00	98	13	0	609	46
395+75	39575.00	25.00	117.13	18.58	0.00	104	16	0	713	46
396+00	39600.00	25.00	125.78	22.00	0.00	112	19	0	826	46
396+25	39625.00	25.00	131.62	29.50	0.00	119	24	0	945	46
396+50	39650.00	25.00	132.86	41.50	0.00	122	33	0	1,067	46
396+75	39675.00	25.00	126.05	41.58	0.00	120	38	0	1,187	46
397+00	39700.00	25.00	143.28	41.67	0.00	125	39	0	1,312	46
397+25	39725.00	25.00	130.64	41.67	0.00	127	39	0	1,439	46
397+50	39750.00	25.00	128.54	41.67	0.00	120	39	0	1,559	46
397+75	39775.00	25.00	122.93	32.75	0.00	116	34	0	1,675	46
398+00	39800.00	25.00	113.86	23.00	0.00	110	26	0	1,785	46
398+25	39825.00	25.00	108.06	18.17	0.00	103	19	0	1,888	46
398+50	39850.00	25.00	101.25	15.25	0.00	97	15	0	1,985	46
398+75	39875.00	25.00	98.20	12.42	0.00	92	13	0	2,077	46
399+00	39900.00	25.00	97.77	12.92	0.00	91	12	0	2,168	46
399+25	39925.00	25.00	100.15	12.92	0.05	92	12	0	2,259	46
399+50	39950.00	25.00	109.94	13.00	0.23	97	12	0	2,356	46
399+75	39975.00	25.00	31.42	0.00	3.63	65	6	2	2,422	48
400+00	40000.00	25.00	27.43	0.00	5.08	27	0	4	2,449	53
400+25	40025.00	25.00	30.29	0.00	5.36	27	0	5	2,476	59
400+50	40050.00	25.00	32.72	0.00	4.97	29	0	5	2,505	65
400+75	40075.00	25.00	34.75	0.00	4.42	31	0	4	2,536	71
401+00	40100.00	25.00	37.36	0.00	7.14	33	0	5	2,570	78
401+25	40125.00	25.00	39.78	0.00	5.44	36	0	6	2,605	85
401+50	40150.00	25.00	40.76	0.00	2.34	37	0	4	2,643	89
TOTAL						2,643	437	71		

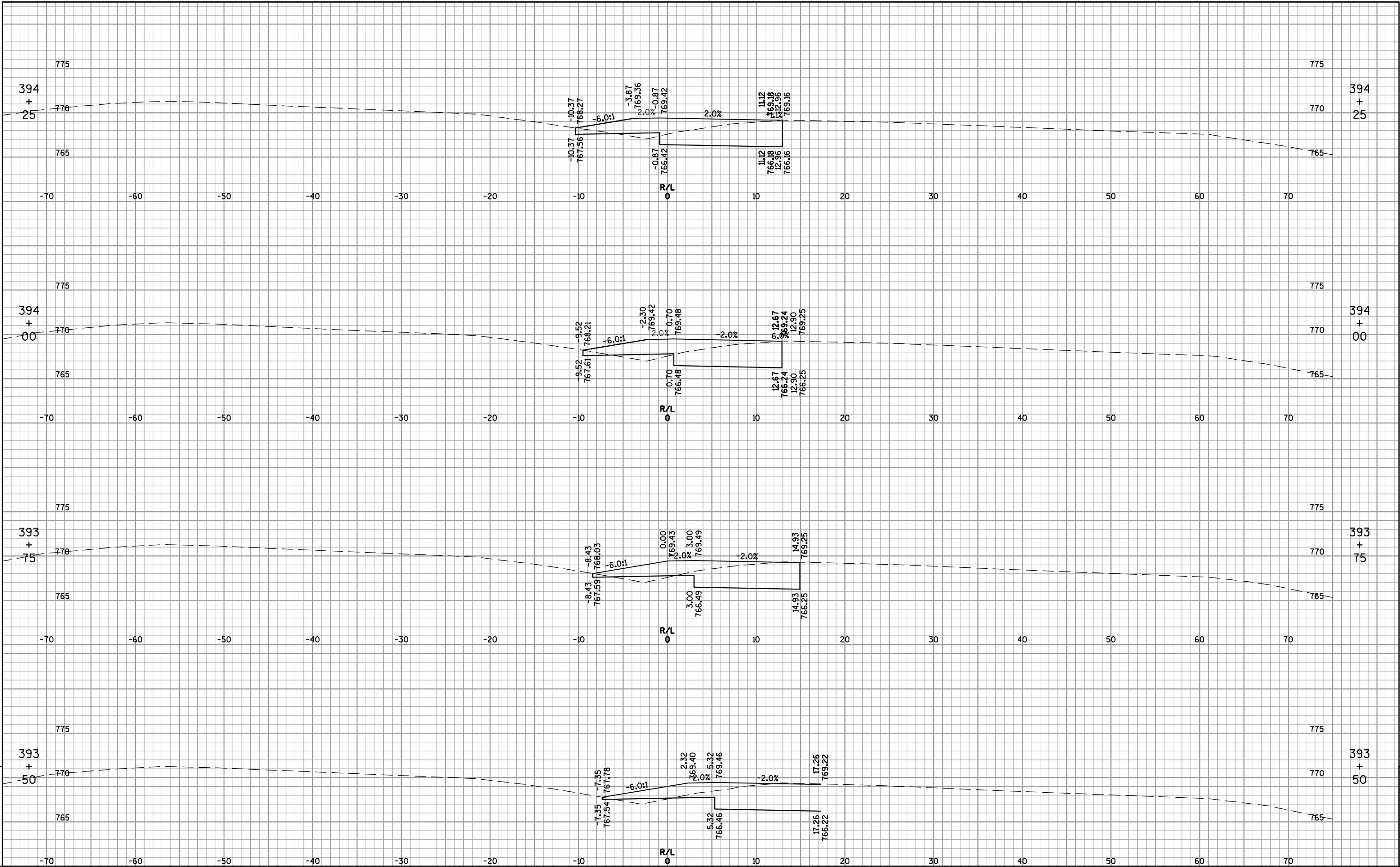
DUCHARME EAST

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	
106+50	10650.00	0.00	77.87	0.00	179.82	0	0	0	0	0	0.00
106+75	10675.00	25.00	0.00	0.00	0.00	36	0	83	36	104	-68.01
107+00	10700.00	25.00	0.00	0.00	0.00	0	0	0	36	104	-68.01
107+25	10725.00	25.00	0.00	0.00	238.58	0	0	110	36	242	-206.08
107+50	10750.00	25.00	97.48	0.00	60.39	45	0	138	81	415	-333.97
107+75	10775.00	25.00	169.54	0.00	3.38	124	0	30	205	452	-247.25
TOTAL						205	0	362			

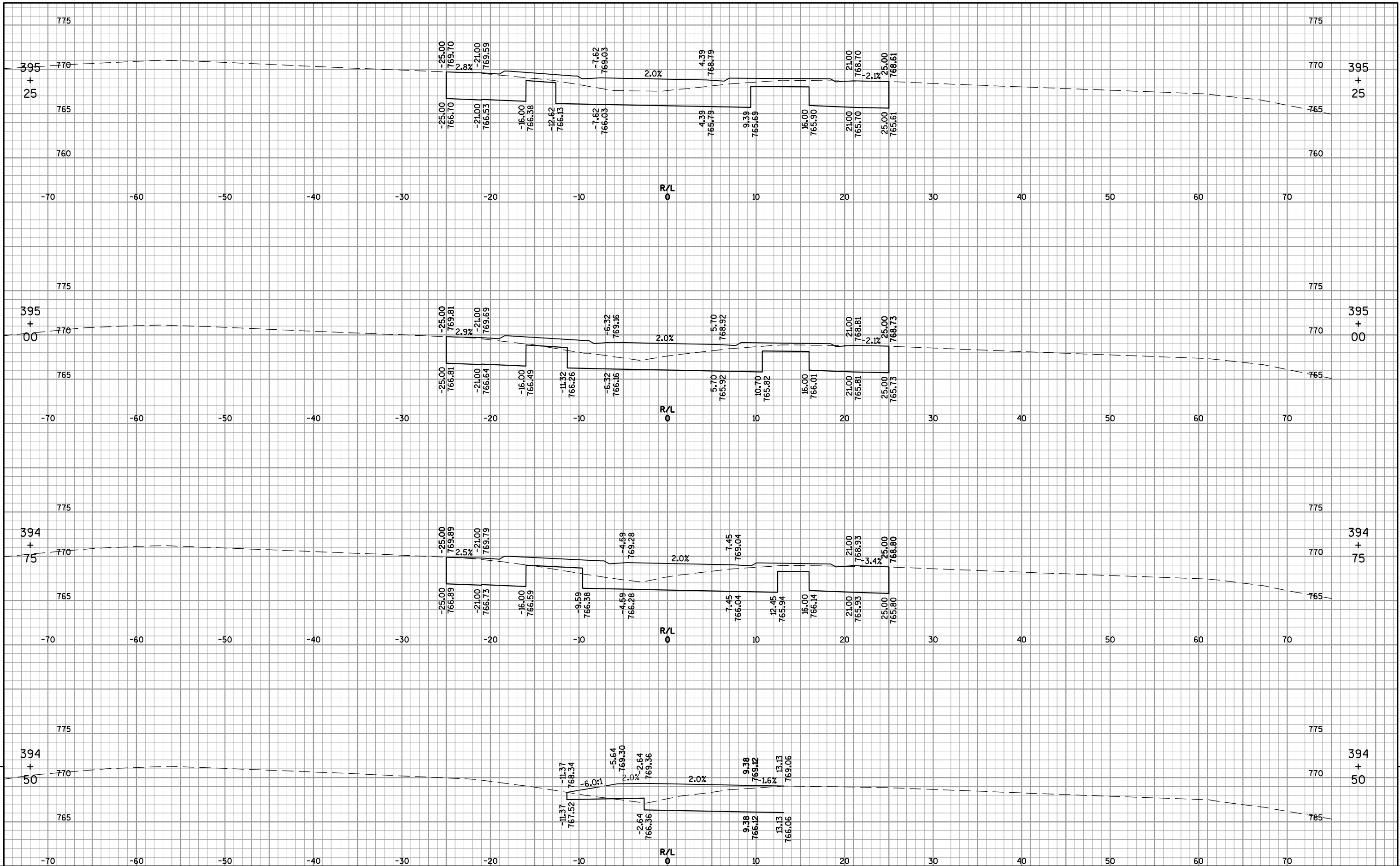
DUCHARME WEST

STATION	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	Cut 1.00 Note 1	Expanded Fill 1.25	
103+50	10350.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0.00
103+75	10375.00	25.00	40.08	11.08	0.00	19	5	0	19	0	13.43
104+00	10400.00	25.00	60.15	17.00	0.00	46	13	0	65	0	46.83
104+25	10425.00	25.00	80.87	22.50	0.00	65	18	0	130	0	93.83
104+50	10450.00	25.00	100.87	28.33	0.00	84	24	0	214	0	154.43
104+75	10475.00	25.00	141.78	38.33	0.00	112	31	0	327	0	235.91
105+00	10500.00	25.00	63.20	18.42	0.00	95	26	0	422	0	304.53
TOTAL						422	117	0			

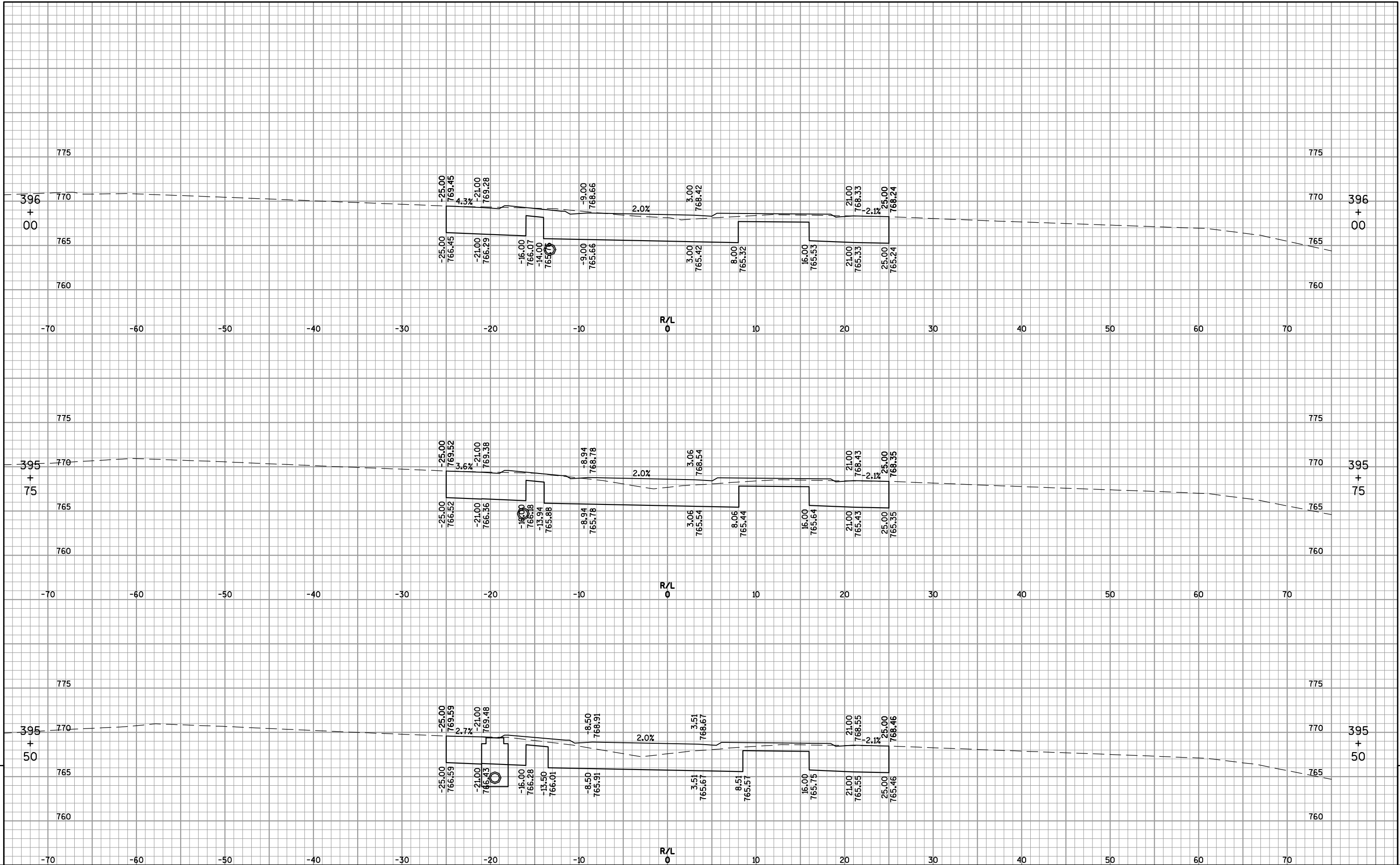




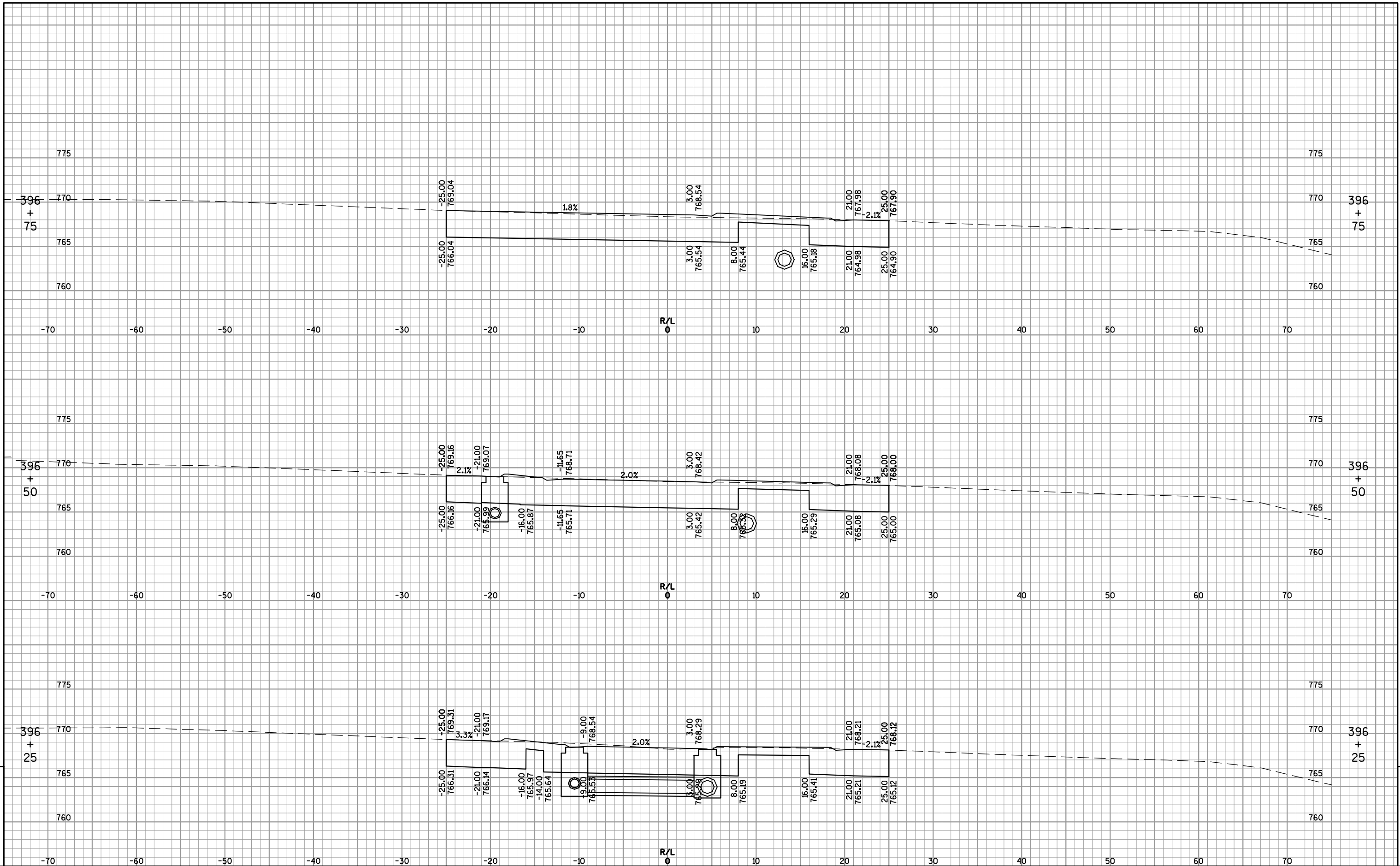


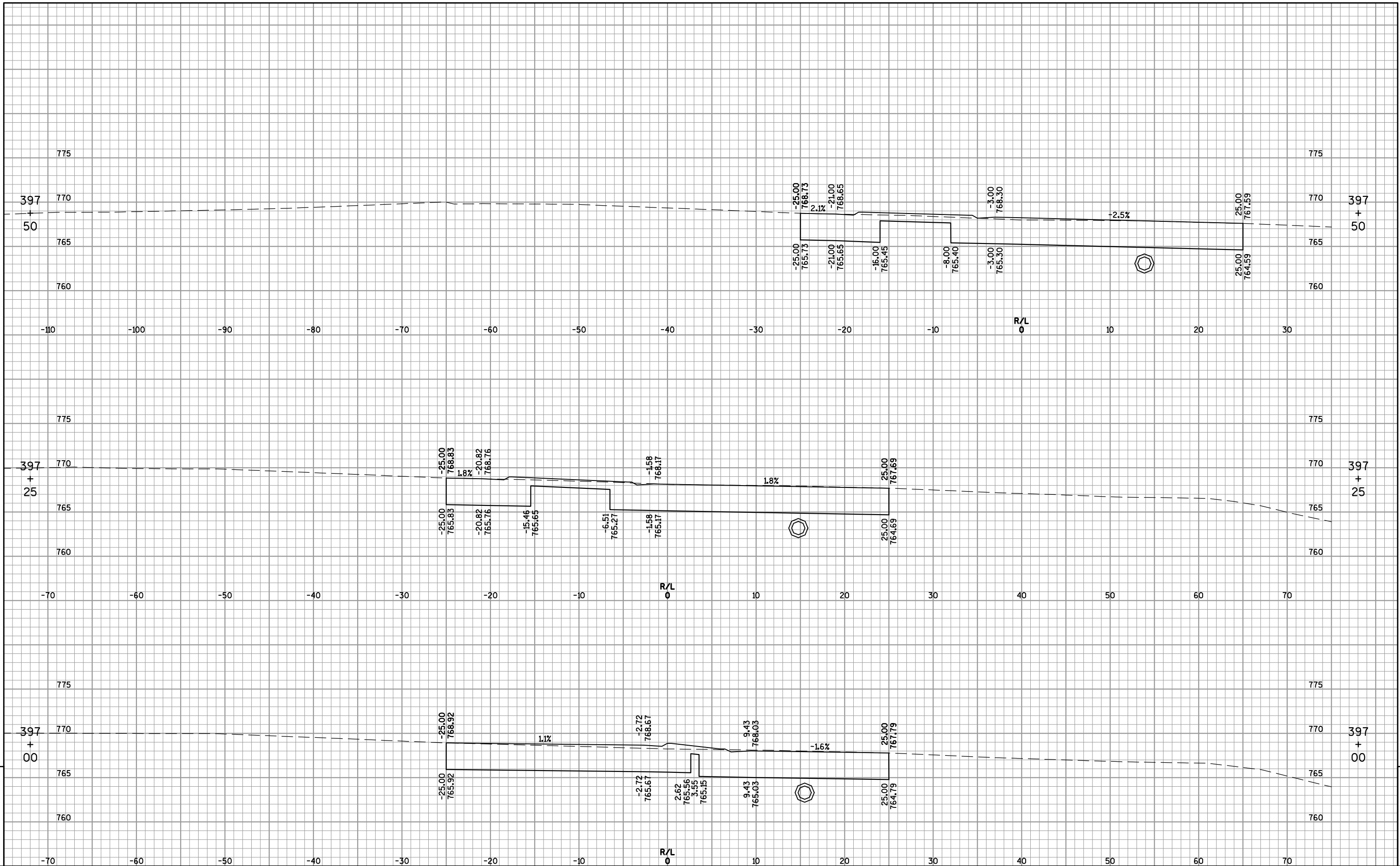


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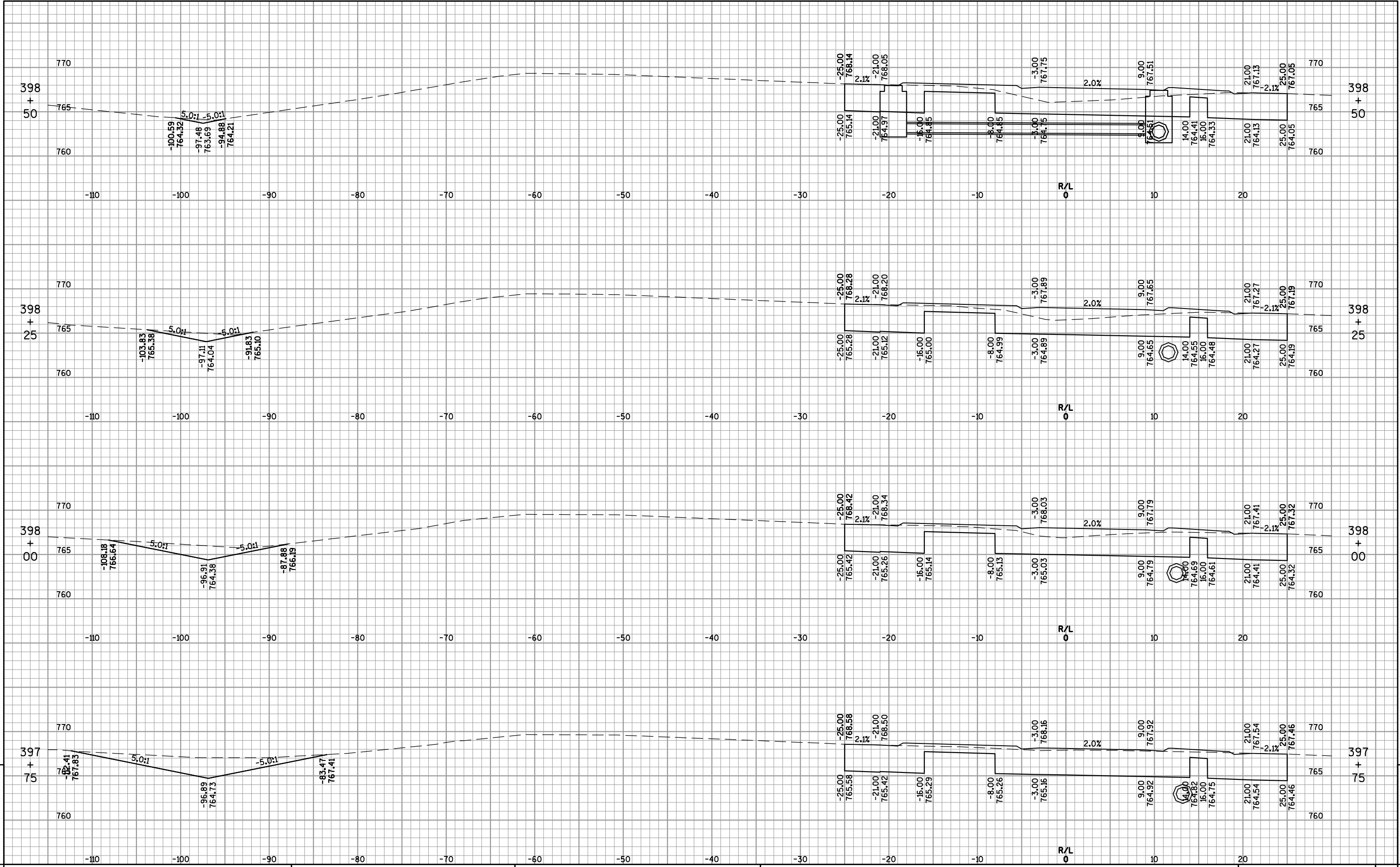


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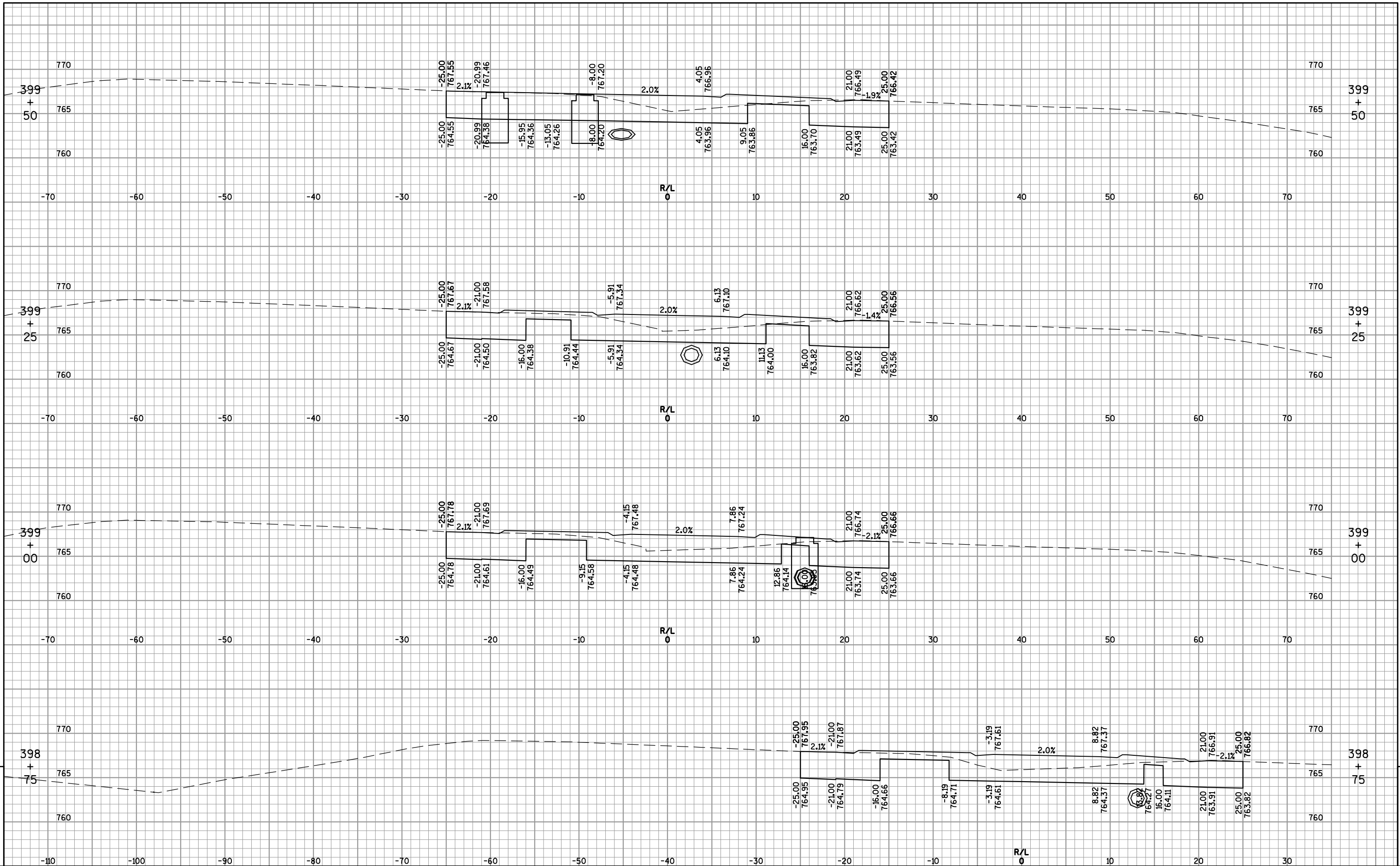




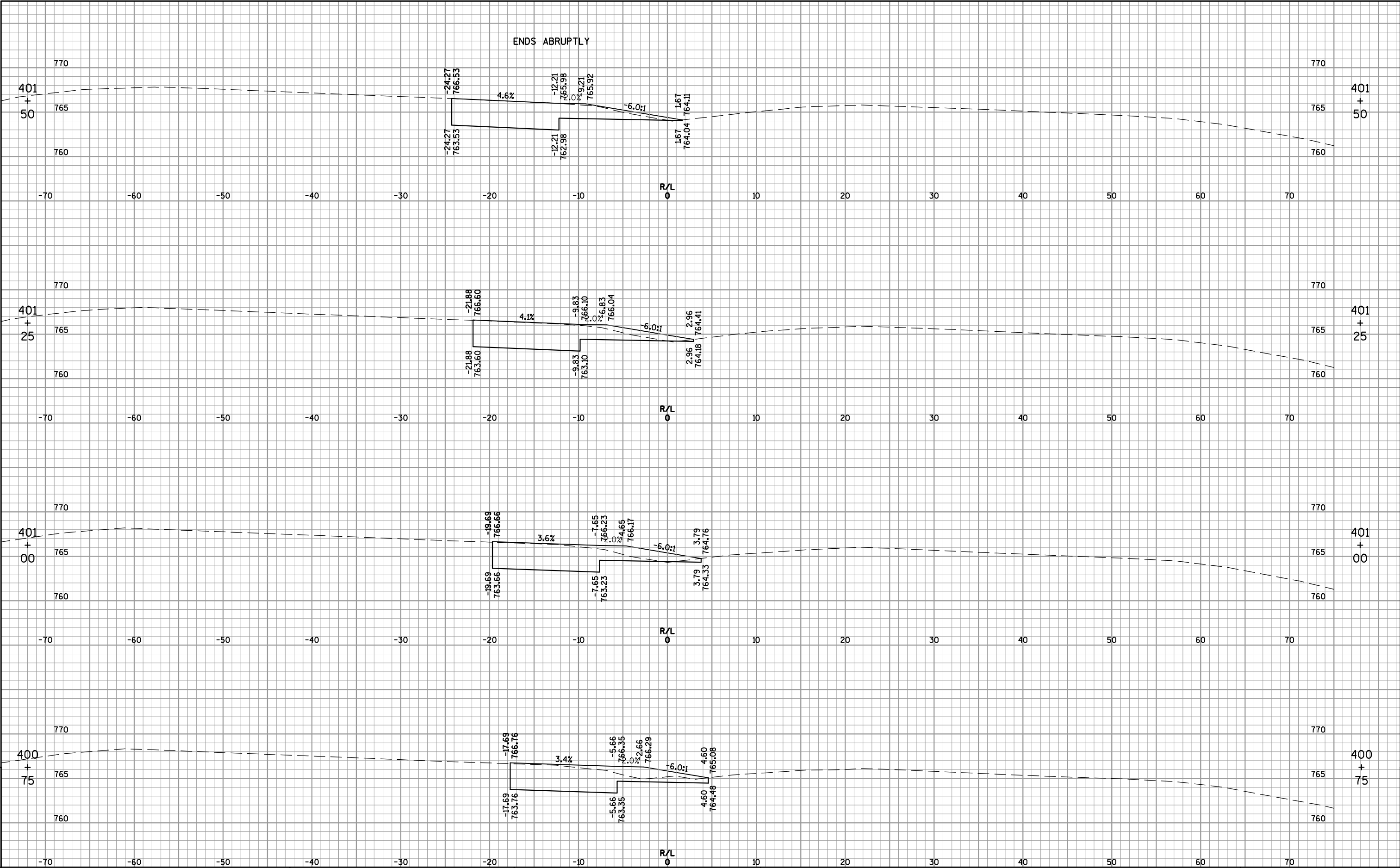
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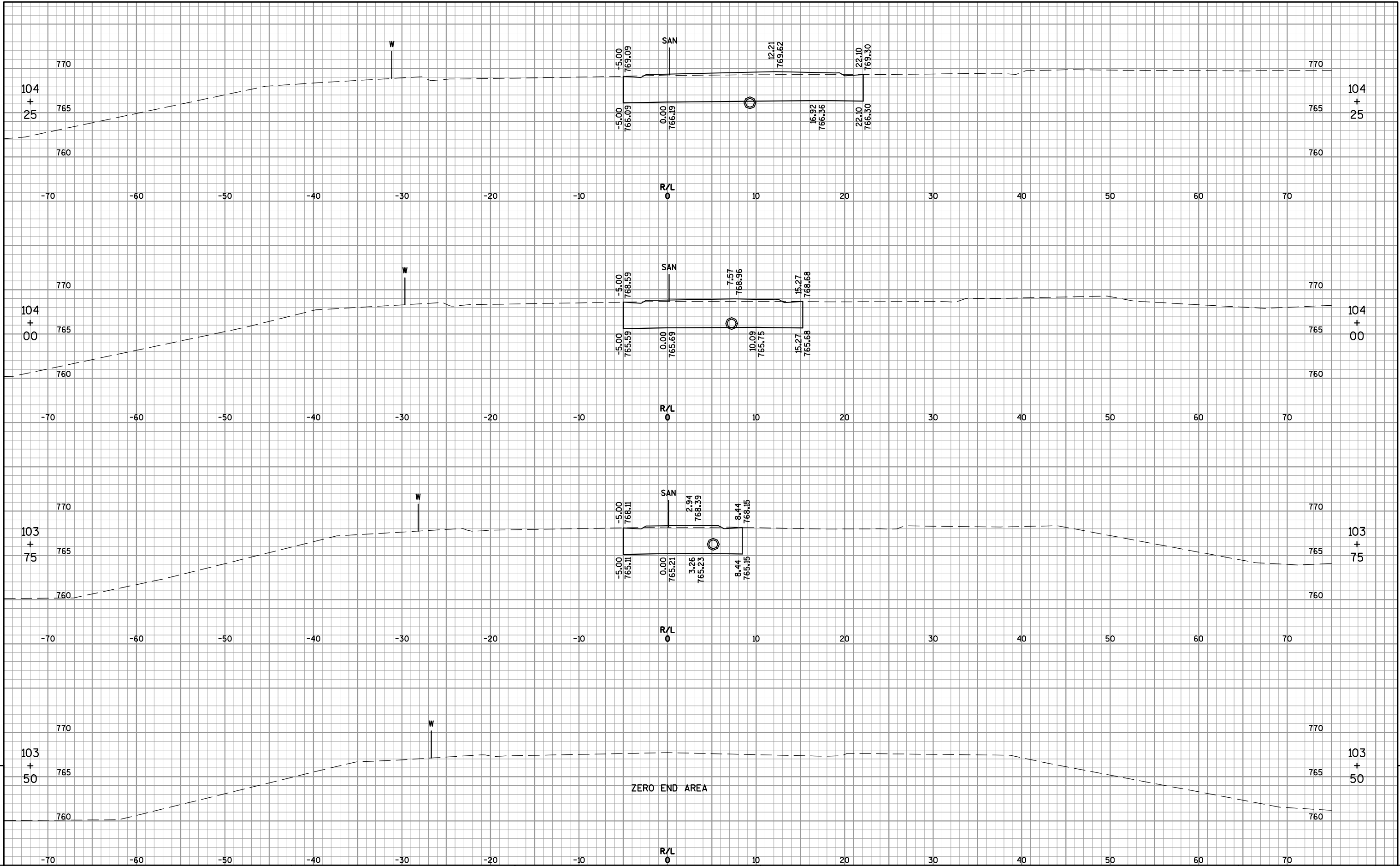


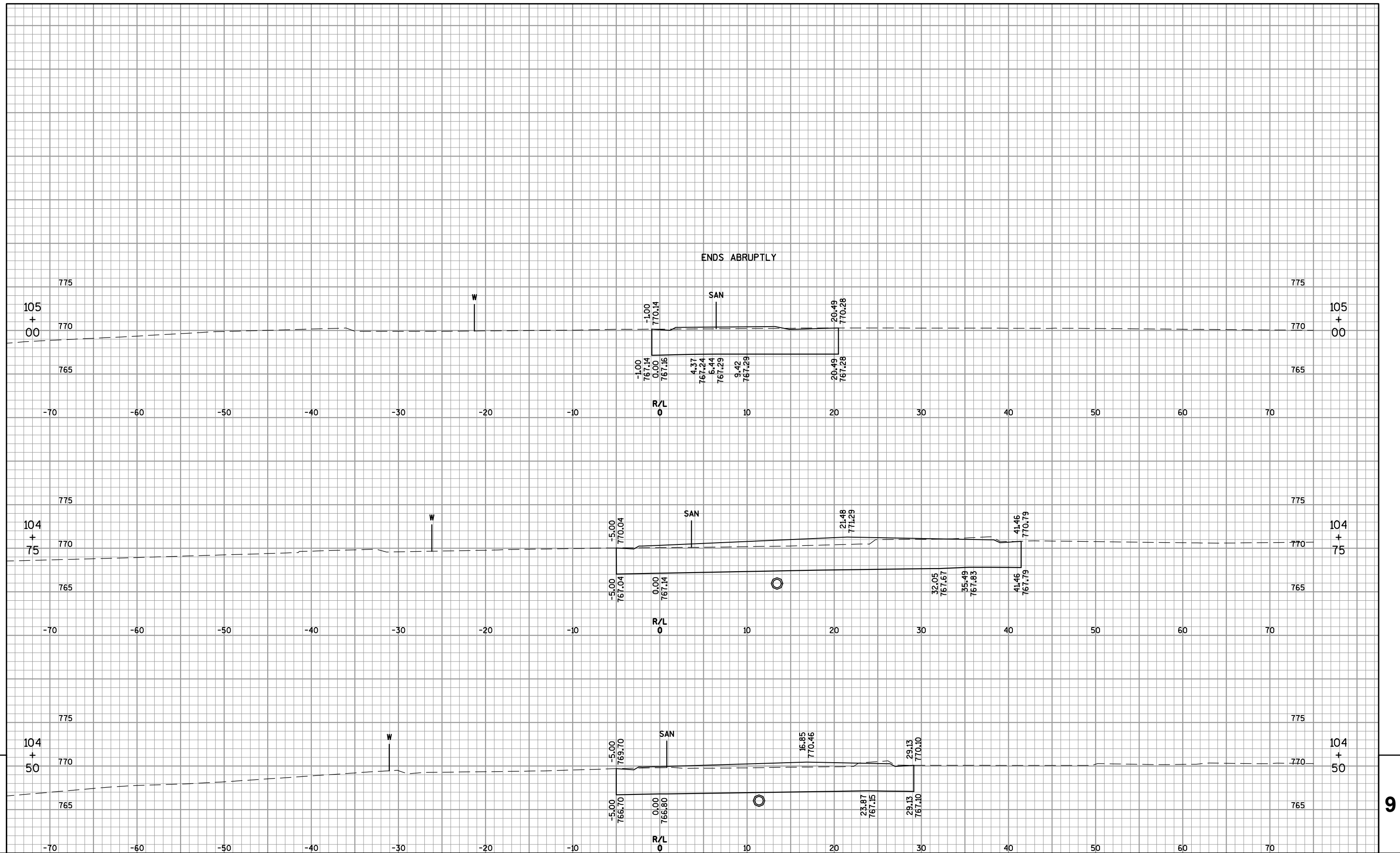


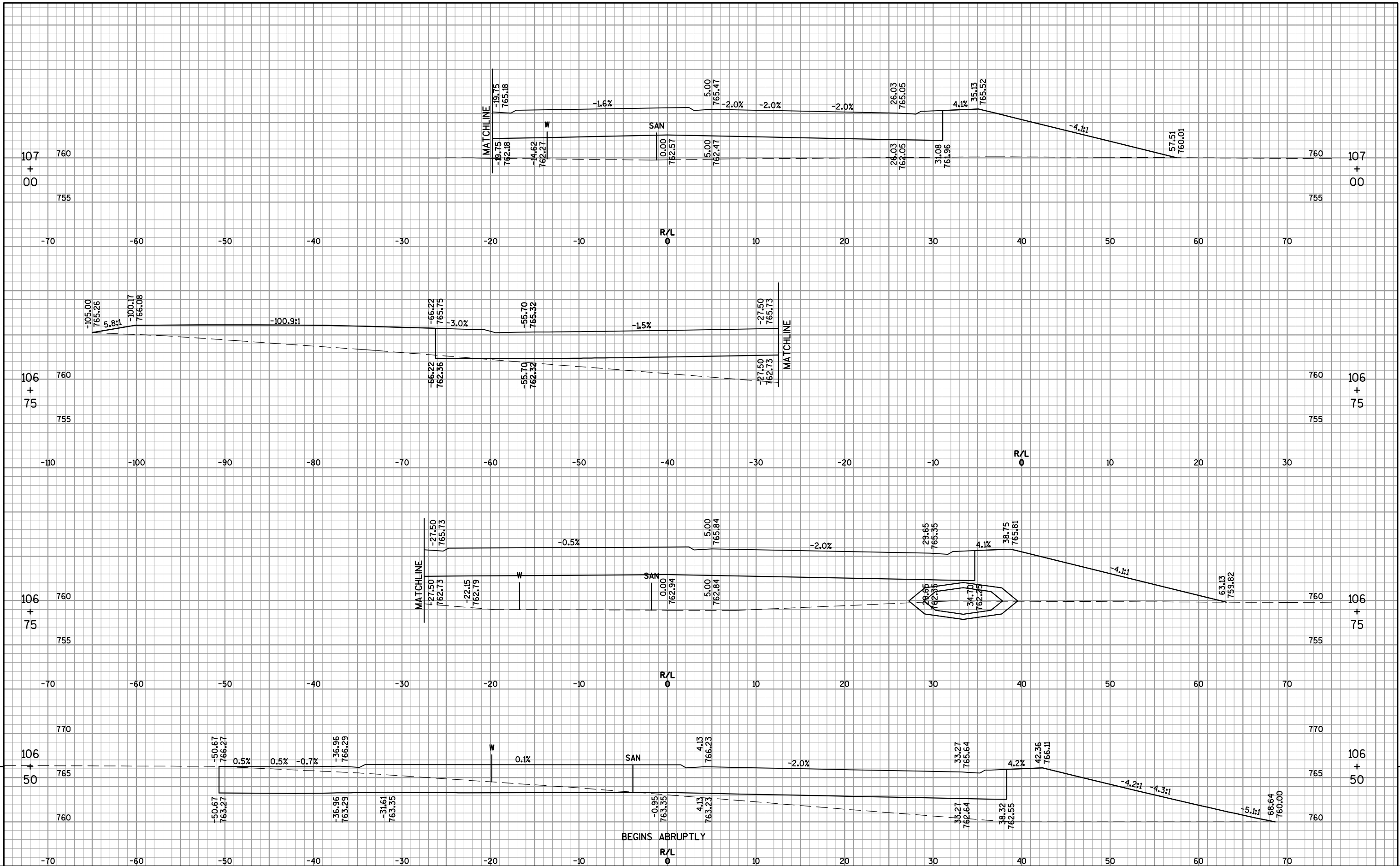
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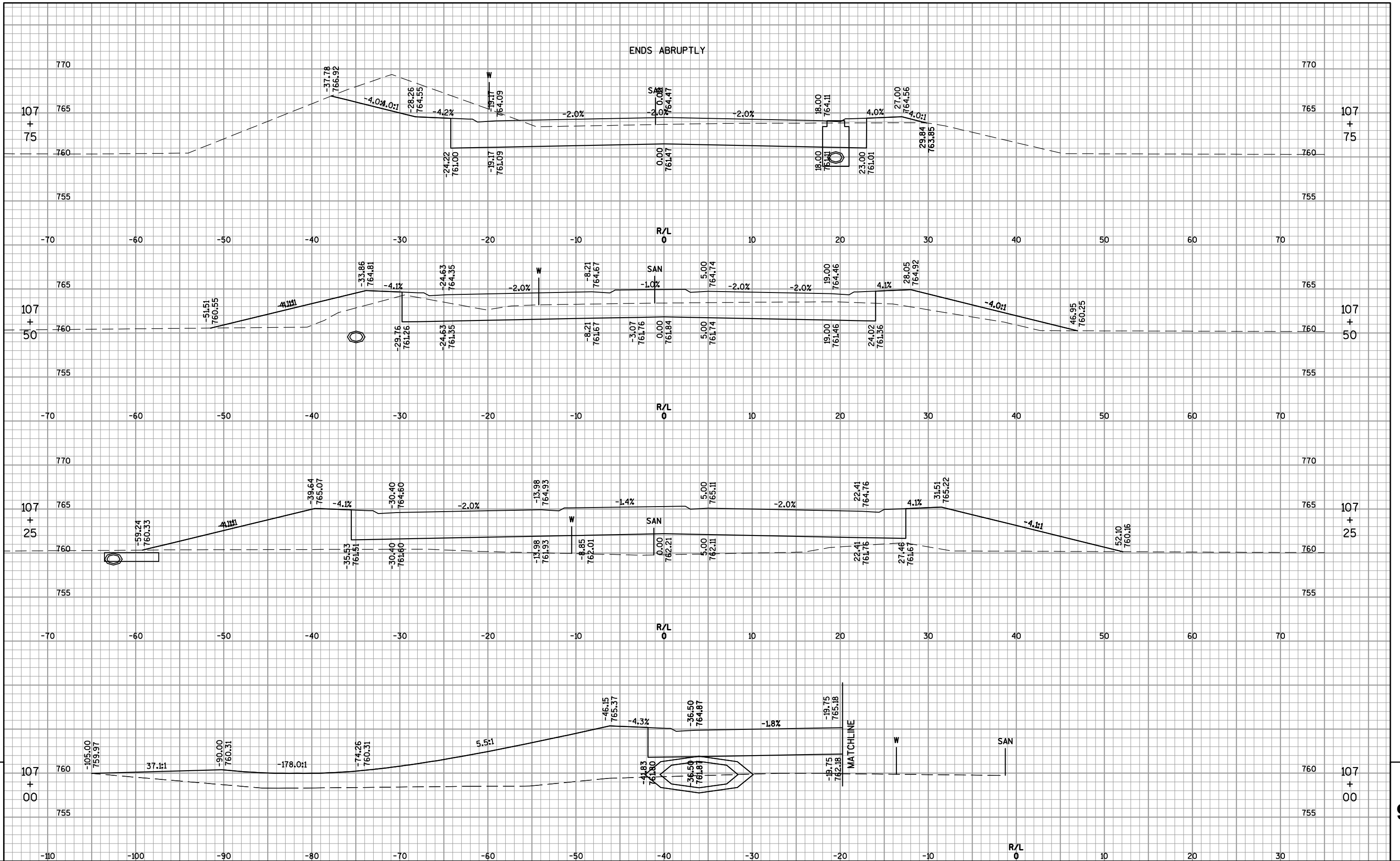
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## Notes



## *Wisconsin Department of Transportation*

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through innovation and exceptional service.

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