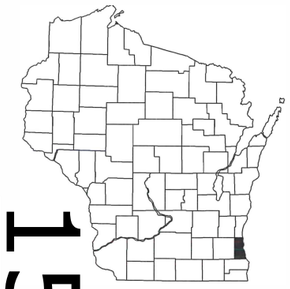
WKE JANUARY 2019

PROJECT ID WITH: N/A

2100-00-70

INDEX OF SHEETS

TOTAL SHEETS 100



15

COUNTY MILWAUKEE

DESIGN DESIGNATION

A.D.T. (2014)	=	17,900
A.D.T. (2039)	=	20,600
D.H.V.	=	1,900
D.	=	55%
T.	=	3.1%
DESIGN SPEED	=	35 M.P.H.
ESALS	=	660,819

CONVENTIONAL SIGNS

COUNTY LINE	
TOWNSHIP OR RANGE LINE	
SECTION LINE	
CORPORATE OR CITY LIMITS	
PROPERTY LINE	P.L.
STANDARD BENCH MARK	
EXISTING RIGHT OF WAY LINE	R/W
PROPOSED SEWER LATERAL	
BASE OF SURVEY LINE	
CONCRETE WALK/DWY. REMOVAL	
LIMITS OF CONCRETE PAVEMENT REMOVAL	X X X X X X
CATCH BASIN OR INLET	EXISTING PROPOSED

COMBUSTIBLE FLUIDS UNDER PRESSURE	CAUTION
RAILROADS	
FENCE	(TYPE)
FIRE & POLICE CALL BOX	
LIGHT POLE	
POWER POLE	
TELEPHONE OR TELEGRAPH POLE	
TRAFFIC SIGNAL	
TRAFFIC SIGNAL CONTROL BOX	
HYDRANT	
GAS OR WATER GATE VALVE	
MANHOLES - SEWER	UTILITY (TYPE)
TREES - EXISTING	TO BE REMOVED

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SOUTH 35TH STREET

BRIDGE OVER KINNICKINNIC RIVER

LOCAL STREET

MILWAUKEE COUNTY

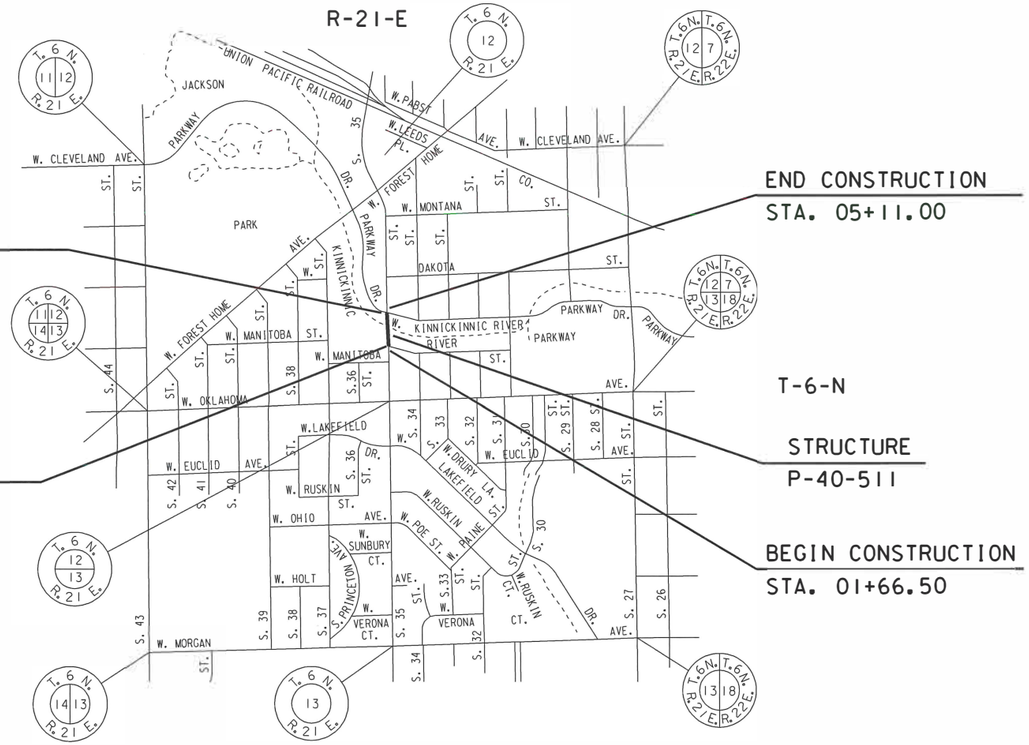
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2100-00-70	———	———

GN

STATE PROJECT NUMBER

2100-00-70

R-21-E



END PROJECT
STA. 04+06.00

BEGIN PROJECT
STA. 02+05.80
Y. = 367,645.97
X. = 2,546,298.79

END CONSTRUCTION
STA. 05+11.00

T-6-N

STRUCTURE
P-40-511

BEGIN CONSTRUCTION
STA. 01+66.50

LAYOUT

SCALE 1/4 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MILES (URBAN)

THE COORDINATES ON THIS PLAN ARE BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 27 SOUTH ZONE.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE CITY OF MILWAUKEE DATUM.

TO CONVERT ELEVATIONS SHOWN ON THIS PLAN TO NATIONAL GEODEDIC VERTICAL DATUM OF 1929, ADD 580.603 TO ELEVATIONS SHOWN ON THIS PLAN.

Accepted For
City of Milwaukee

6/26/18 (Date) Commissioner of Public Works

Original Plans Prepared By

WISCONSIN JEFFREY S. POLENSKE E-33528 MILWAUKEE WIS. PROFESSIONAL ENGINEER

6/28/18 (Date) City Engineer

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor City of Milwaukee
Designer City of Milwaukee
Management Consultant DAAR Engineering Inc.
C.O. Examiner

APPROVED FOR THE DEPARTMENT

DATE: 7/17/18 (Management Consultant Signature)

E

FILE NAME = W:\STR\B0224\2018 REHAB\APPROACH PLANS\TITLE.DGN

UTILITY CONTACTS

CITY OF MILWAUKEE - COMMUNICATIONS

MR. BRYAN PAWLAK
1440 W CANAL STREET
MILWAUKEE, WI 53233
COMMUNICATIONS DISPATCH: 414-286-3686

CITY OF MILWAUKEE - UNDERGROUND CONDUIT

MS. KAREN ROGNEY
841 N. BROADWAY, RM. 710
MILWAUKEE, WI 53202
PHONE: 414-286-3243
karen.rogney@milwaukee.gov

CITY OF MILWAUKEE - STREET LIGHTING

MR. DENNIS MILLER
1540 WEST CANAL STREET
MILWAUKEE, WI 53233
PHONE: 414-286-5942

CITY OF MILWAUKEE - SEWERS

MR. ZAFAR YOUSUF
841 N. BROADWAY, RM. 501
MILWAUKEE, WI 53202
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zafar.yousuf@milwaukee.gov

CITY OF MILWAUKEE, UTILITY COORDINATOR

MOHAMMAD ABULUGHOD
841 N. BROADWAY, RM 710
MILWAUKEE, WI 53202
PHONE: 414-286-2432
mabulu@milwaukee.gov

CITY OF MILWAUKEE, WATER WORKS

DAVE GOLDAPP
3850 N. 35TH STREET
MILWAUKEE, WI 53216
PHONE: 414-286-6301
CELL: 414-708-2695

CHARTER/ SPECTRUM

STEVE CRAMER
1320 N. DR. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: 414-277-4045
CELL: 414-688-2385
FAX: 414-277-0638

WE ENERGIES - ELECTRIC

SEND ALL CORRESPONDENCE TO:
ALEX DANTINNE
333 W. EVERTT ST.
MILWAUKEE, WI 53203
PHONE: 920-621-6903
alex.dantinne@we-energies.com

WE ENERGIES - GAS

SEND ALL CORRESPONDENCE TO:
ALEX DANTINNE
333 W. EVERTT ST.
MILWAUKEE, WI 53203
PHONE: 920-621-6903
alex.dantinne@we-energies.com

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

LARRY ANDERSON
260 W. SEEBOTH AVE.
MILWAUKEE, WI 53204
PHONE: 414-225-2241

OTHER CONTACTS

WISCONSIN DEPT. OF NATURAL RESOURCES

KRISTINA BETZOLD
2300 N. DR. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212-0436
PHONE: 414-263-8517
kristina.betzold@wisconsin.gov

MILWAUKEE COUNTY TRANSIT SYSTEM

MELANIE FLYNN
1942 N. 17TH ST.
MILWAUKEE, WI 53205
PHONE: 414-343-1764
mflynn@mcts.org

CITY OF MILWAUKEE - TRAFFIC SIGNALS

MR. AL NICHOLS
1540 W CANAL STREET
MILWAUKEE, WI 53233
PHONE: 414-286-5941

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

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	UTILITY CONTACTS	SCALE FEET	SHEET NO: 2	E

FILE NAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\UTILITY CONTACTS.DGN

GENERAL NOTES

1. ALL OPENINGS BELOW SUBGRADE, RESULTING FROM REMOVALS OR ABANDONMENTS, SHALL BE BACKFILLED WITH GRANULAR BACKFILL, INCIDENTAL TO PROJECT.

2. ALL DISTURBED AREAS, NOT SURFACED, ARE TO BE COVERED WITH 4"OF TOPSOIL, AND SODDED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. TOPSOILED AREAS SHALL BE SODDED WITHIN 5 CALENDAR DAYS.

3. NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

4. TRANSVERSE JOINTS IN THE CONCRETE WALK SHALL BE CONSTRUCTED AT INTERVALS EQUAL TO THE WIDTH OF THE CONCRETE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

5. ALL LONGITUDINAL AND TRANSVERSE JOINTS REQUIRING SEALING SHALL BE SEALED IN ACCORDANCE WITH THE DETAIL.

6. 'PAVEMENT TIES' AS SHOWN ON STANDARD DETAIL DRAWING 'CONCRETE GUTTER,CURB AND GUTTER AND PAVEMENT TIES' ARE REQUIRED TO TIE EXISTING CONCRETE TO NEW CONCRETE CURB AND GUTTER.

7. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.

8. CONSTRUCTION PERMITS FOR CONCRETE WALK &/ OR CONCRETE DRIVEWAY WORK HAVE BEEN OBTAINED, WHICH RIGHTS SHALL BE EXTENDED TO THE CONTRACTORS.

9. INLET PROTECTION IS TO BE PLACED BETWEEN THE FRAME AND GRATE OF CATCH BASINS / INLETS TO PREVENT SOIL FROM ENTERING THE SEWERS.

10. ALL CURB AND GUTTER SHALL HAVE A FLANGE THICKNESS OF 8-INCH.

11. ALL STATION AND OFFSET OF CURB REFERENCED IN THE PLANS ARE TO THE FACE OF THE CURB.

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

13. IMMEDIATELY AFTER CONSTRUCTION OF ANY INLET, CONTRACTOR SHALL INSTALL THE INLET PROTECTION TO MINIMIZE SEDIMENTATION IN THE INLET AND STORM SEWER.

14. PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

15. TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS.

16. TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

17. EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADIUS POINTS IN CURB AND GUTTER.

18. ANY MESH OR REINFORCEMENT FOUND DURING REMOVAL OF THE PAVEMENT SHALL BE CONSIDERED INCIDENTAL TO THE ITEM "REMOVING PAVEMENT".

19. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPERATELY.

20. ALL PRIVATE EXISTING UTILITIES ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED,UNLESS NOTED IN THE PLANS,

21. CURB RADII ARE MEASURED TO THE FACE OF CURB.

STANDARD ABBREVIATIONS

ASPH.	- ASPHALT
B.M.	- BENCH MARK
CTR.	- CENTER
C/L	- CENTER LINE
COMB.	- COMBINED
CONC.	- CONCRETE
C.W.	- CONCRETE WALK
COR.	- CORNER
C	- CURB
ELEV.	- ELEVATION
ENT.	- ENTRANCE
EXIST.	- EXISTING
F	- FLANGE
G	- GUTTER, OR GAS
HYD.	- HYDRANT
LT.	- LEFT
MMSD	- MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
P/L.	- PROPERTY LINE
R OR RAD.	- RADIUS
RET.	- RETAINING
RT.	- RIGHT
R/W	- RIGHT OF WAY
TEL	- AMERITECH
TES	- TRAFFIC ENGINEERING, AND ELECTRICAL SERVICES
T/L	- TRANSIT LINE
WEP	- WISCONSIN ELECTRIC POWER

3-INCH ASPHALTIC SURFACE
UPPER LAYER: 1-1/2 INCH 4LT 58-28 S
LOWER LAYER: 1-1/2 INCH 4LT 58-28 S

ORDER OF SECTION 2 SHEETS

2

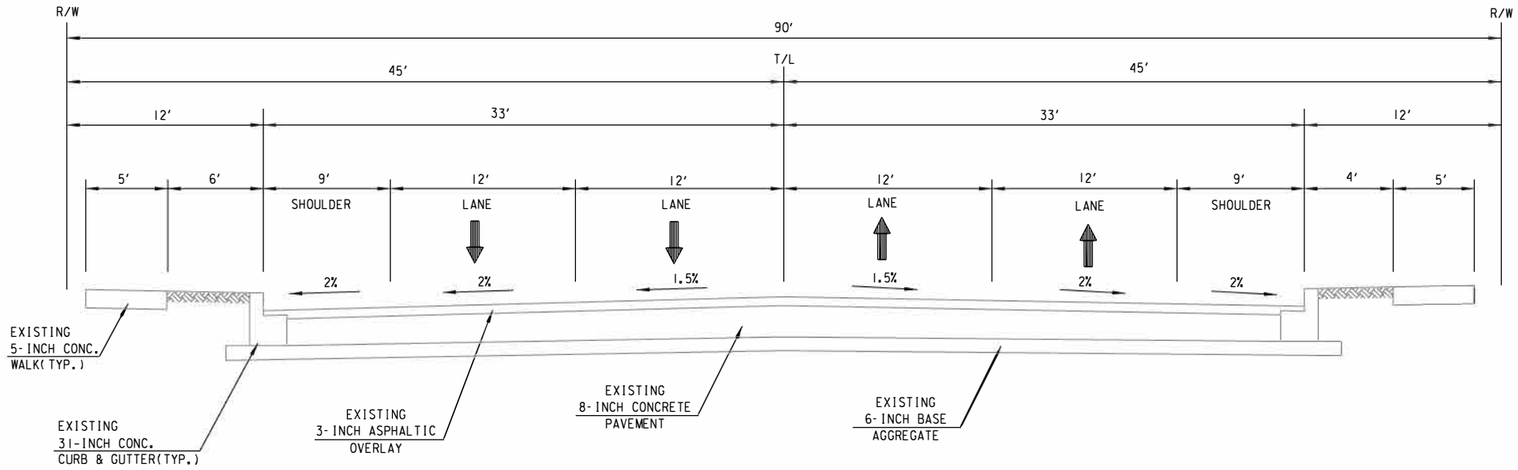
N

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SCALE FEET 0' 300'	SHEET NO: 4	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\OVERVIEW.DGN

REVISED DATE: 06-04-2018 BY DB

2



TYPICAL EXISTING SECTION

SOUTH 35TH STREET

STA. 02 + 05.80 TO STA. 02 + 55.13

STA. 03 + 61.33 TO STA. 04 +06.00

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TYPICAL SECTION	SCALE FEET NTS	SHEET NO: 5	E

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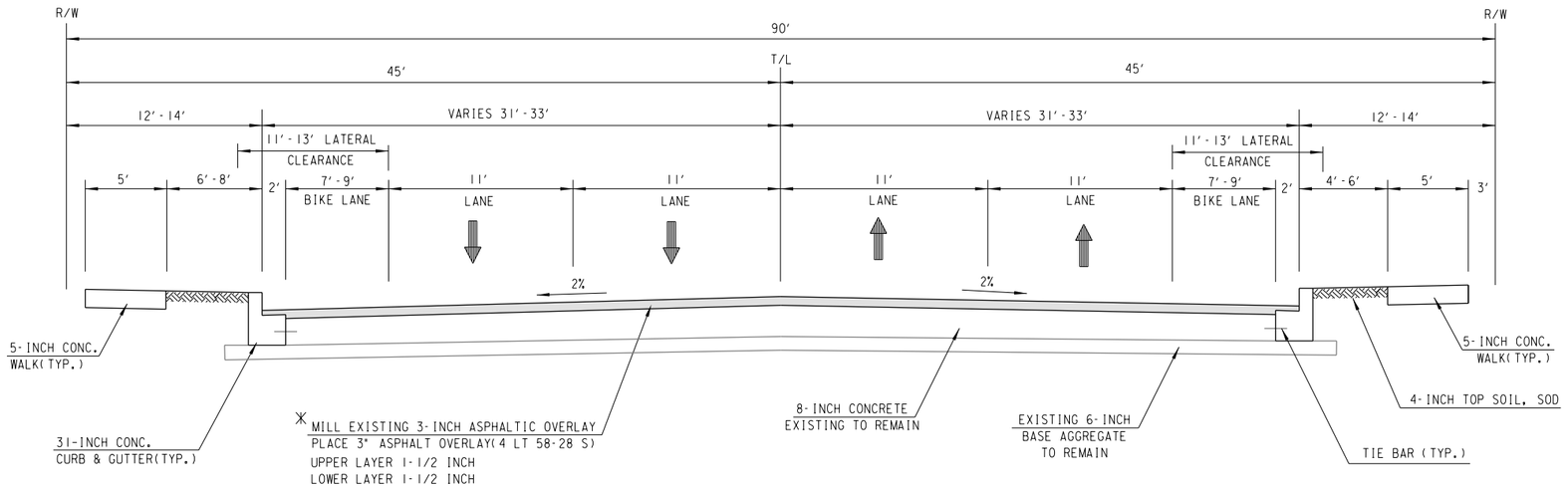
REVISED DATE: 06-04-2018 BY DB



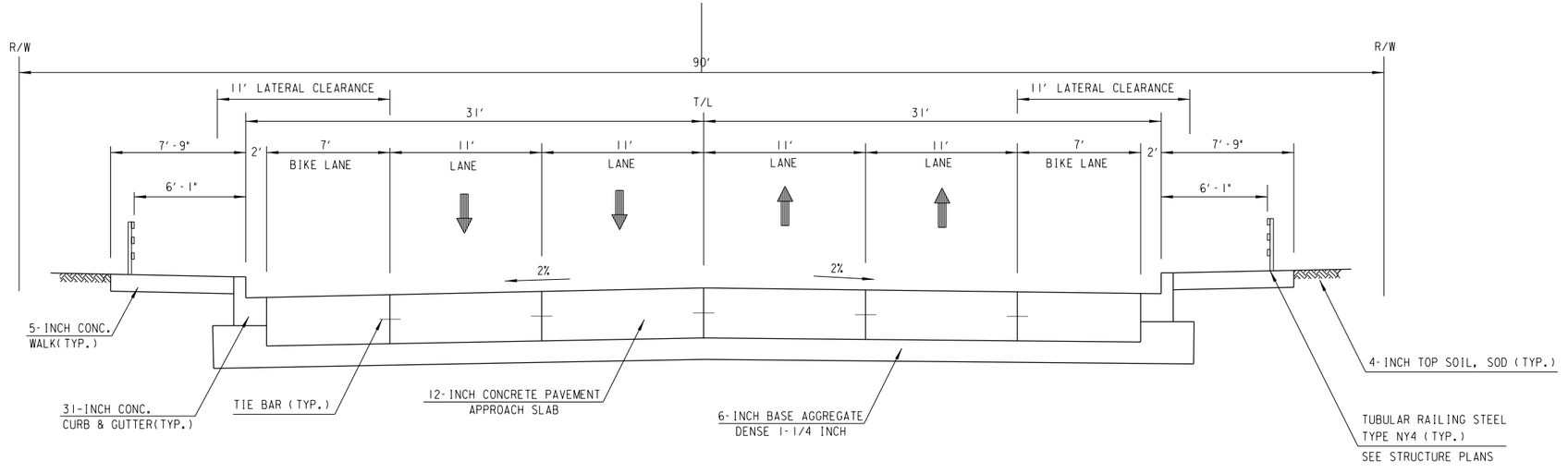
TYPICAL FINISHED SECTION

SOUTH 35TH STREET

STA. 02+05.80 TO STA. 02+20.82

STA. 03+88.13 TO STA. 04+06.00

✳ TO BE PAID UNDER
REMOVING ASPHALTIC SURFACE
BUTT JOINT



TYPICAL FINISHED SECTION

SOUTH 35TH STREET

STA. 02+20.82 TO STA. 02+50.27

STA. 03+58.69 TO STA. 03+88.13

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TYPICAL SECTION	SCALE FEET NTS	SHEET NO: 6	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TYPSEC.DGN

REVISED DATE: 10-10-2018 BY AL

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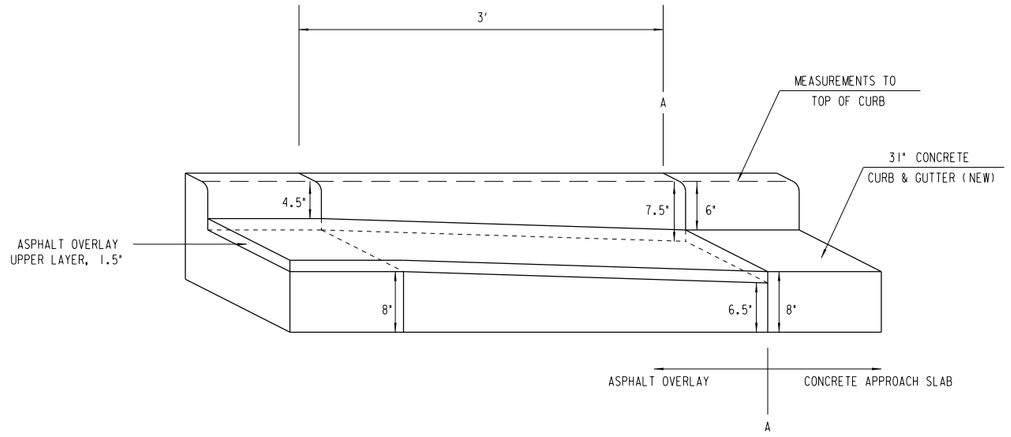
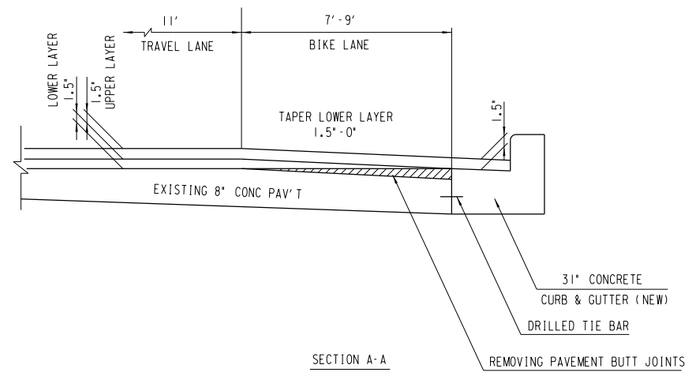


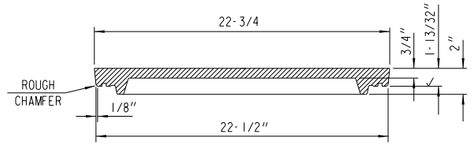


CURB AND GUTTER TRANSITION DETAIL

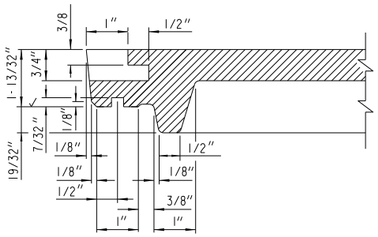
STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SCALE FEET NTS	SHEET NO: 7	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\CONSTRUCTION DETAIL.DGN

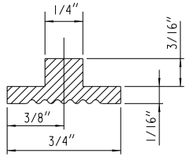
REVISED DATE: 10-10-2018 BY AL

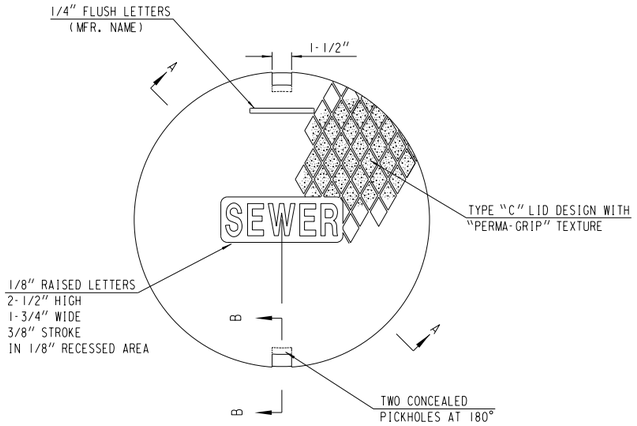


SECTION A-A

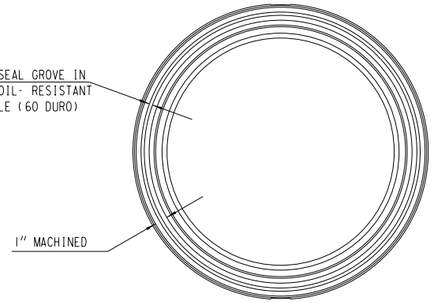


SECTION B-B





TOP VIEW



BOTTOM VIEW

MANHOLE COVER - TYPE MS 58-A

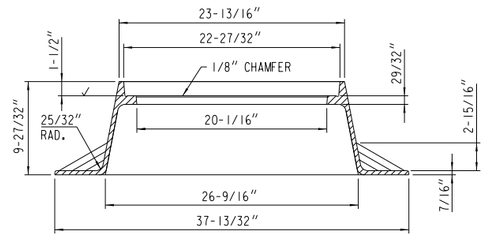
LID - 107 LBS.

NOTE:

ALL CASTINGS SHALL BEAR THE FOLLOWING IDENTIFICATION MARKS IN THE FORM OF LEGIBLE LETTERS OR NUMERALS RAISED 1/8" HAVING A DIGIT OR LETTER HEIGHT OF ONE INCH ON LOWER FACE OF LID:

1. THE INITIALS OR MONOGRAM OF THE FOUNDRY.
2. THE CONTRACT NUMBER AND YEAR MADE.
3. THE CASTING IDENTIFICATION NUMBER.
4. THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

NOTE: ALL EXTERIOR EDGES SHALL BE GROUND.



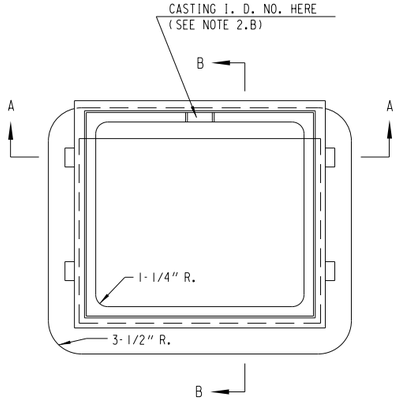
MANHOLE FRAME - TYPE MS 21

FRAME - 182 LBS.

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SCALE FEET NTS	SHEET NO: 8	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\CONSTRUCTION DETAIL.DGN

REVISED DATE: 03-01-2018 BY TK



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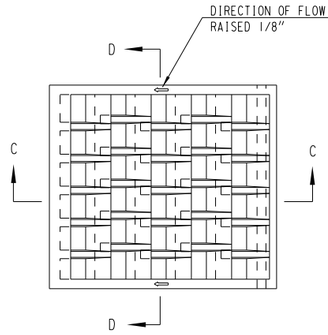
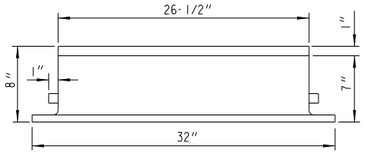
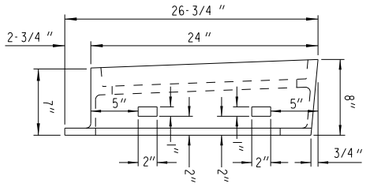
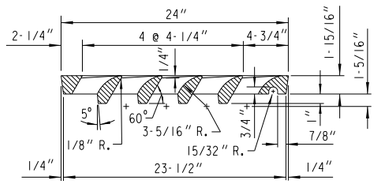


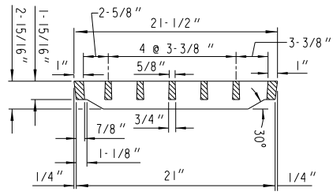
GRATE



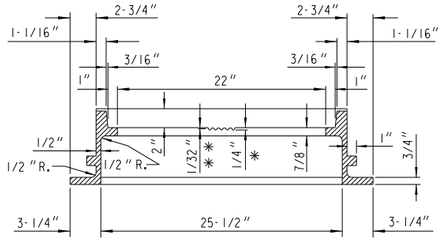




SECTION C-C



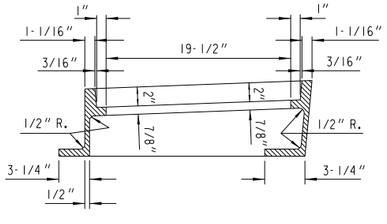
SECTION D-D



SECTION A-A

* DEPRESSION FOR LETTERS

* * CLEARANCE FROM TOP OF LETTERS TO FACE OF SEAT



SECTION B-B

GENERAL NOTES

1. ALL EDGES ARE TO BE GROUND
2. ALL CASTINGS SHALL BEAR THE FOLLOWING IDENTIFICATION MARKS IN THE FORM OF LEGIBLE LETTERS OR NUMERALS RAISED 1/8-INCH

ON THE FRAME

A) ON THE UPPER FACE OF THE FLANGE IN 1-INCH HIGH LETTERS THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

B) ON THE SEAT OF THE FRAME IN 1-INCH HIGH LETTERS, THE CASTING IDENTIFICATION NUMBER (51).

ON THE GRATE

C) ON THE UPPER SIDE OF THE GRATE IN 1-INCH HIGH LETTERS, THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE, THE CASTING IDENTIFICATION NUMBER (57) AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

INLET COVER - TYPE MS 57

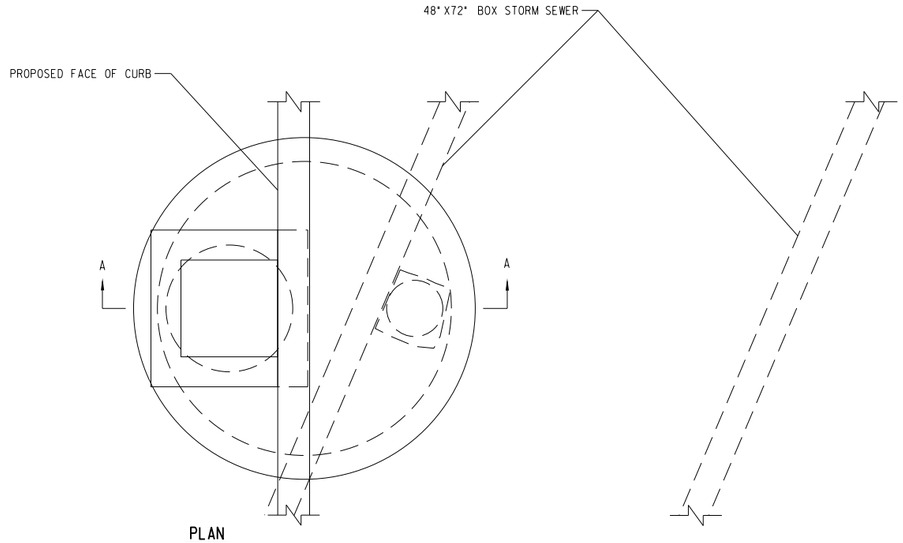
LID-145 LBS., FRAME-204 LBS.

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SCALE FEET NTS	SHEET NO: 9	E

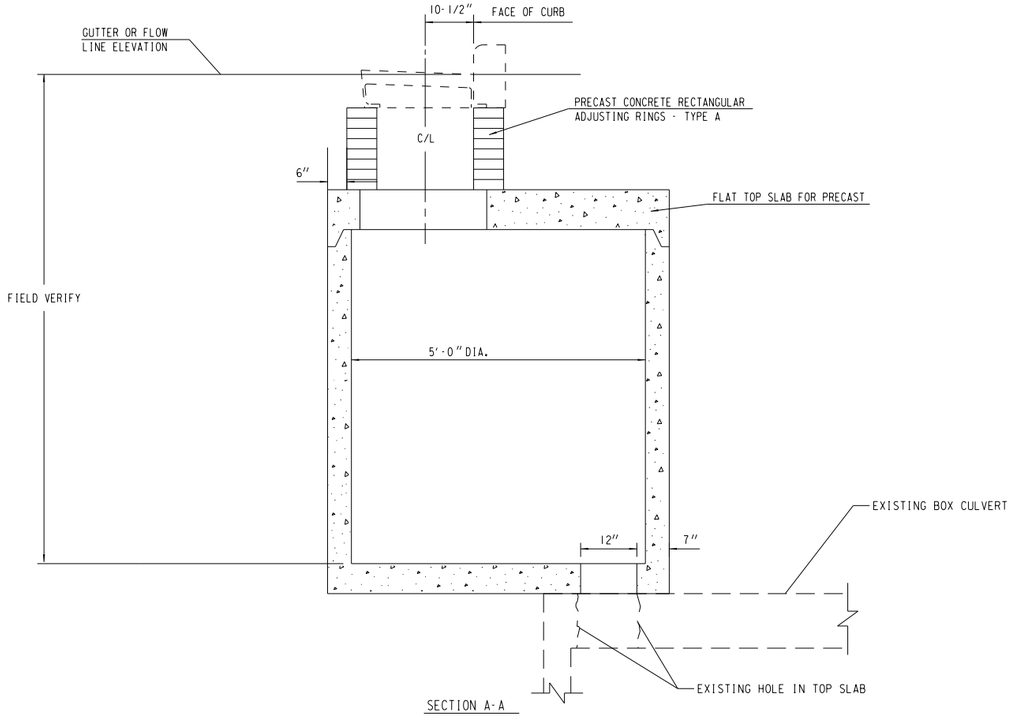
FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\CONSTRUCTION DETAIL.DGN

REVISED DATE: 03-01-2018 BY TK

2



PLAN

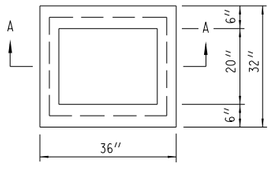


SECTION A-A

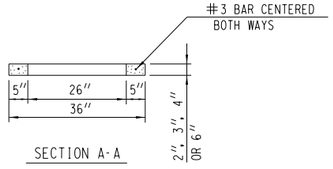
SEWER STRUCTURE NO. 4

GENERAL NOTES

1. SEE STANDARD DETAIL DRAWING 8B9 FOR MANHOLE DETAILS AND SPECIFICATIONS



PLAN



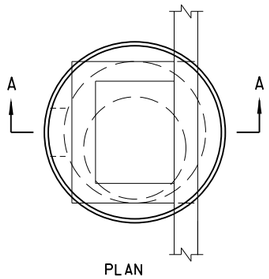
SECTION A-A

RECTANGULAR ADJUSTING RING - TYPE A

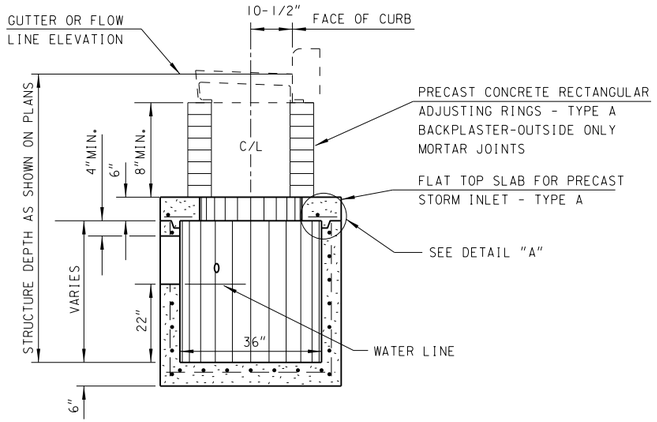
THE ADJUSTING RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 3300 P.S.I.

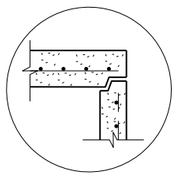
STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SCALE FEET NTS	SHEET NO: 10	E



PLAN



SECTION A-A

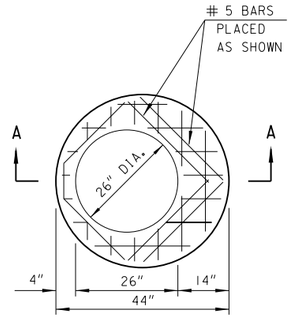


DETAIL "A"
TOP WITH TONGUE AND GROOVE JOINT

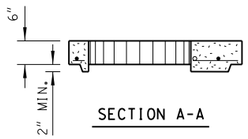
STORM INLET - TYPE 45A

GENERAL NOTES

1. PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199 AND ASTM DESIGNATION C-478 AND THESE DETAILED REQUIREMENTS WHICH SHALL GOVERN WHERE THEY ALTER THE AASHTO AND ASTM STANDARDS.
2. ALL REINFORCEMENT STEEL SHALL BE GRADE 60 OR GREATER AND EMBEDDED AT LEAST 1" CLEAR.
3. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 4 IN DEPTH WHICH MEETS REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
4. SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON PLAN.



PLAN



SECTION A-A

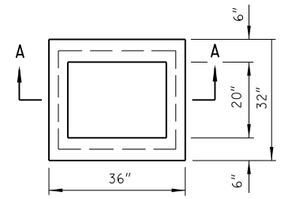
TOP SLAB - TYPE A

FLAT TOP SLAB SHALL BE 6" THICK REINFORCED WITH ONE LAYER OF STEEL WITH A MINIMUM AREA OF 0.32 SQ. IN. PER LINEAL FOOT IN BOTH DIRECTIONS, PLACED NEAR THE BOTTOM OF THE SLAB WITH 1" CLEAR COVER.

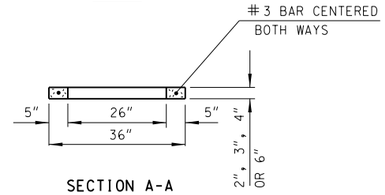
ADDITIONALLY, NO. 5 BARS SHALL BE PLACED AROUND TOP SLAB OPENING AS SHOWN.

REINFORCEMENT SHALL BE TIED OR WELDED TOGETHER.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 P.S.I.



PLAN

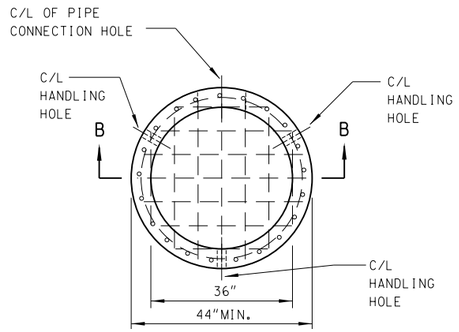


SECTION A-A

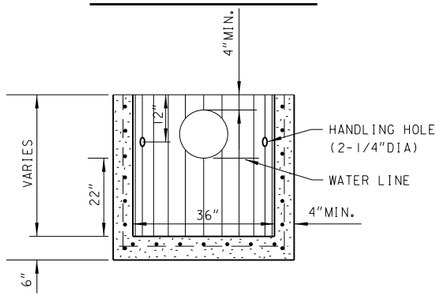
RECTANGULAR ADJUSTING RING - TYPE A

THE ADJUSTING RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 3300 P.S.I.



RISER SECTION WITH INTEGRAL BASE PLAN



SECTION B-B

CIRCUMFERENTIAL AND LONGITUDINAL REINFORCEMENT IN THE RISER SECTON SHALL EACH CONSIST OF ONE LAYER OF STEEL NOT LESS THAN 0.12 SQ. IN. PER FOOT AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.

THE BASE SLAB SHALL BE REINFORCED WITH ONE LAYER OF STEEL WITH A MINIMUM AREA OF 0.32 SQ. IN. PER FOOT IN BOTH DIRECTIONS, PLACED ABOVE THE MIDPOINT OF THE SLAB.

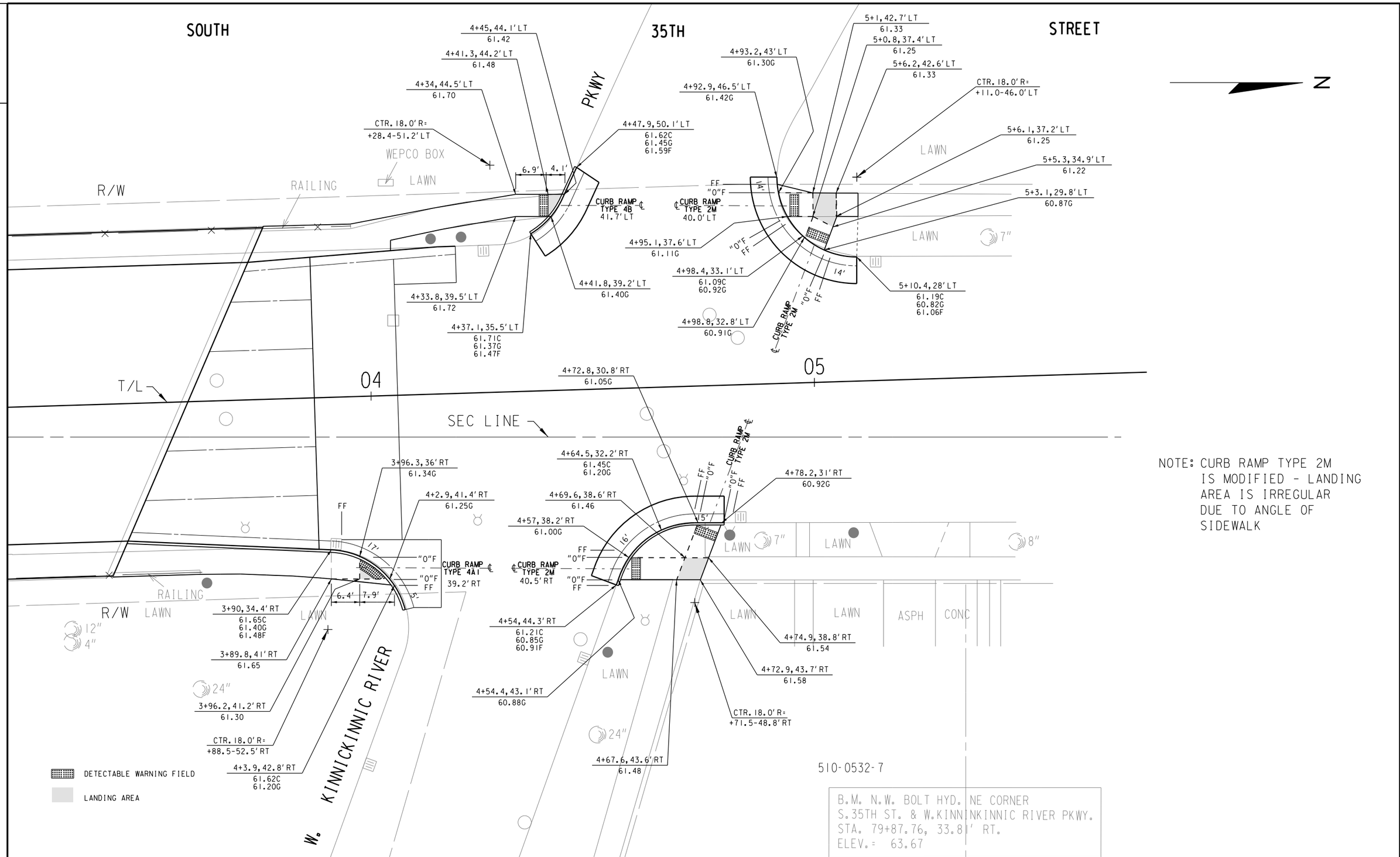
RISER SECTION AND BASE SLAB REINFORCEMENT SHALL BE TIED OR WELDED TOGETHER.

TWO TO THREE HANDLING HOLES 2-1/4" IN DIAMETER AND A PIPE CONNECTION HOLE SHALL BE CAST OR CORED IN THE RISER SECTION AT THE LOCATIONS SHOWN. LIFTING DEVICES MAY BE SUBSTITUTED FOR HANDLING HOLES.

NO JOINTS OR HOLES SHALL BE BELOW THE WATERLINE.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 P.S.I.

RISER SECTION MAY TAPER TO A 33" INTERNAL DIAMETER AT IT'S BOTTOM PROVIDED A 44" MINIMUM OUTSIDE DIAMETER IS MAINTAINED.



NOTE: CURB RAMP TYPE 2M IS MODIFIED - LANDING AREA IS IRREGULAR DUE TO ANGLE OF SIDEWALK

510-0532-7

B.M. N.W. BOLT HYD. NE CORNER
S.35TH ST. & W.KINNINKINNIC RIVER PKWY.
STA. 79+87.76, 33.81' RT.
ELEV.= 63.67

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	RAMP DETAIL	SCALE FEET 0' 20'	SHEET NO: 12	E

FILE NAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\RAMP DETAIL.DGN

REVISED DATE: 10-10-2018 BY AL

2

2

N

SOUTH 35TH STREET

P.L.

511-0608

511-9995

BLOCK WALL

LAWN

LAWN SAP

LAWN

LAWN

LAWN

LAWN

LAWN

LAWN

STONE

WEPCO BOX

MMSD VENT

RAILING

+31.0
44.1' LT

+46.2
34.7' LT

+50.2
37.9' LT

+31.2
31.2' LT

+05.8
8.4' LT

BEGIN PROJECT
02+05.80
(Y): 367,645.97
(X): 2,546,298.79

01

02

03

Y Y Y Y

+70.5
25.2' RT

+66.4
31.1' RT

+93.1
42.3' RT

+10.8
37.4' RT

+36.2
40.5' RT

BEGIN CONSTRUCTION
01+66.50

RAILING

LAWN

LAWN

LAWN

LAWN

LAWN

LAWN

ROCK WALL

BUSH

ROCK WALL

WOOD RET WALL

W. MANITOBA ST.

510-0445

510-0378

8" 7" 13"
8" 9" 8" 12"
15" 5" 4" 4"
14" 4"
27"
22"
18"

Y Y Y Y SAWING ASPHALT
× × × × SAWING CONCRETE
REMOVING ASPHALTIC SURFACE BUTT JOINTS
REMOVING PAVEMENT
REMOVING SIDEWALK
REMOVING CURB AND GUTTER

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	REMOVAL PLAN	SCALE FEET 0' 20'	SHEET NO: 13	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\REMOVAL.DGN

REVISED DATE: 10-10-2018 BY AL

SOUTH 35TH STREET

N

511-9995
+80.6
39.0' LT

+15.8
42.0' LT
RAILING

WEPCO BOX
LAWN

PKWY.

+4.1
42.6' LT

LAWN
LAWN 7"

END CONSTRUCTION
05 + 11.00

+16.2
25.0' LT

03
04
05

END PROJECT
04 + 06.00

+87.2

+14.8
32.8' RT

RAILING
LAWN
LAWN
12"
4"
24"

+60.6
43.2' RT

LAWN
+73.5
41.1' RT
LAWN
+77.6
32.9' RT
ASPH
CONC
LAWN 7"
LAWN
8"
LAWN
24"

510-0378

510-0532-7

RIVER KINNICKINNIC RIVER

P.L.

CONSTRUCTION PERMIT OBTAINED

Y Y Y Y SAWING ASPHALT

× × × × SAWING CONCRETE

REMOVING ASPHALTIC SURFACE BUTT JOINTS

REMOVING PAVEMENT

REMOVING SIDEWALK

REMOVING CURB AND GUTTER

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	REMOVAL PLAN	SCALE FEET 0' 20'	SHEET NO: 14	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\REMOVAL.DGN

REVISED DATE: 10-10-2018 BY AL

2

N

SECTION PLUG AT.
S.35TH ST. & W.CLEVELAND AVE.
IS STA. 27+49.24

SOUTH 35TH STREET

511-0608

511-9995

P.L.

BLOCK WALL

LAWN

LAWN SAP

STONE

WEPCO BOX

MMSD VENT

RAILING

R/W

WETLAND BOUNDRY

BEGIN PROJECT
2+05.80, T/L
(Y): 367,645.97
(X): 2,546,298.79

END PROJECT
STA. 4+06.00, T/L

01 02 03 04 05

SEC. LINE

ROCK WALL

BUSH

WOOD RET WALL

510-0445

B.M. N.W. BOLT HYD. SE CORNER
S.35TH ST. & W.MANITOBA ST.
STA. 99+89.76, 34.5' RT.
ELEV.= 66.87

ASPH

CONC

510-0532-7

B.M. N.W. BOLT HYD. NE CORNER
S.35TH ST. & W.KINNICKINNIC RIVER PKWY.
STA. 79+87.76, 33.81' RT.
ELEV.= 63.67

KINNICKINNIC RIVER

510-0378

LEGEND

- INLET PROTECTION TYPE A
- INLET PROTECTION TYPE C
- SILT FENCE
- EROSION MAT CLASS II TYPE B
- TURBIDITY BARRIER
- WETLAND BOUNDARY

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	EROSION CONTROL	SCALE FEET 0' 40'	SHEET NO: 15	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\EROSION CONTROL.DGN

REVISED DATE: 07-19-2018 BY JH

2

N

SECTION PLUG AT,
S.35TH ST. & W.CLEVELAND AVE.
IS STA. 27+49.24

SOUTH 35TH STREET

511-0608

511-9995

REMOVE CATCH BASIN

2+43.2
33.2' LT
01

2+43
31' LT
03

CONNECT TO EXISTING 8-INCH STORM SEWER

BEGIN PROJECT
2+05.80, T/L
(Y): 367,645.97
(X): 2,546,298.79

END PROJECT
STA. 4+06.00, T/L

SEC. LINE

CAUTION

R/W

CONNECT TO EXISTING BOX CULVERT

REMOVE CATCH BASIN

MMSD FACILITIES WILL NOT BE ADJUSTED, PAVING TO MATCH EXISTING FACILITY ELEVATIONS

3+67.1
4.1' RT
06

3+91
34.3' RT
05

2+31
30.7' RT
04

2+31.2
33' RT
02

510-0445

B.M. N.W. BOLT HYD. SE CORNER
S.35TH ST. & W.MANITOBA ST.
STA. 99+89.76, 34.5' RT.
ELEV.: 66.87

510-0378

510-0532-7

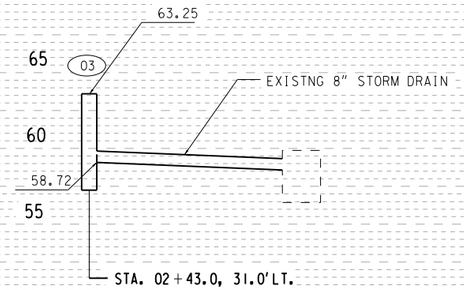
B.M. N.W. BOLT HYD. NE CORNER
S.35TH ST. & W.KINNICKINNIC RIVER PKWY.
STA. 79+87.76, 33.8' RT.
ELEV.: 63.67

THIS PLAN SHOWS UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN JUNE OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING & PERMITS SECTION AT (414) 286-2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 16	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\UTILITIES & DRAINAGE.DGN

REVISED DATE: 07-19-2018 BY JH



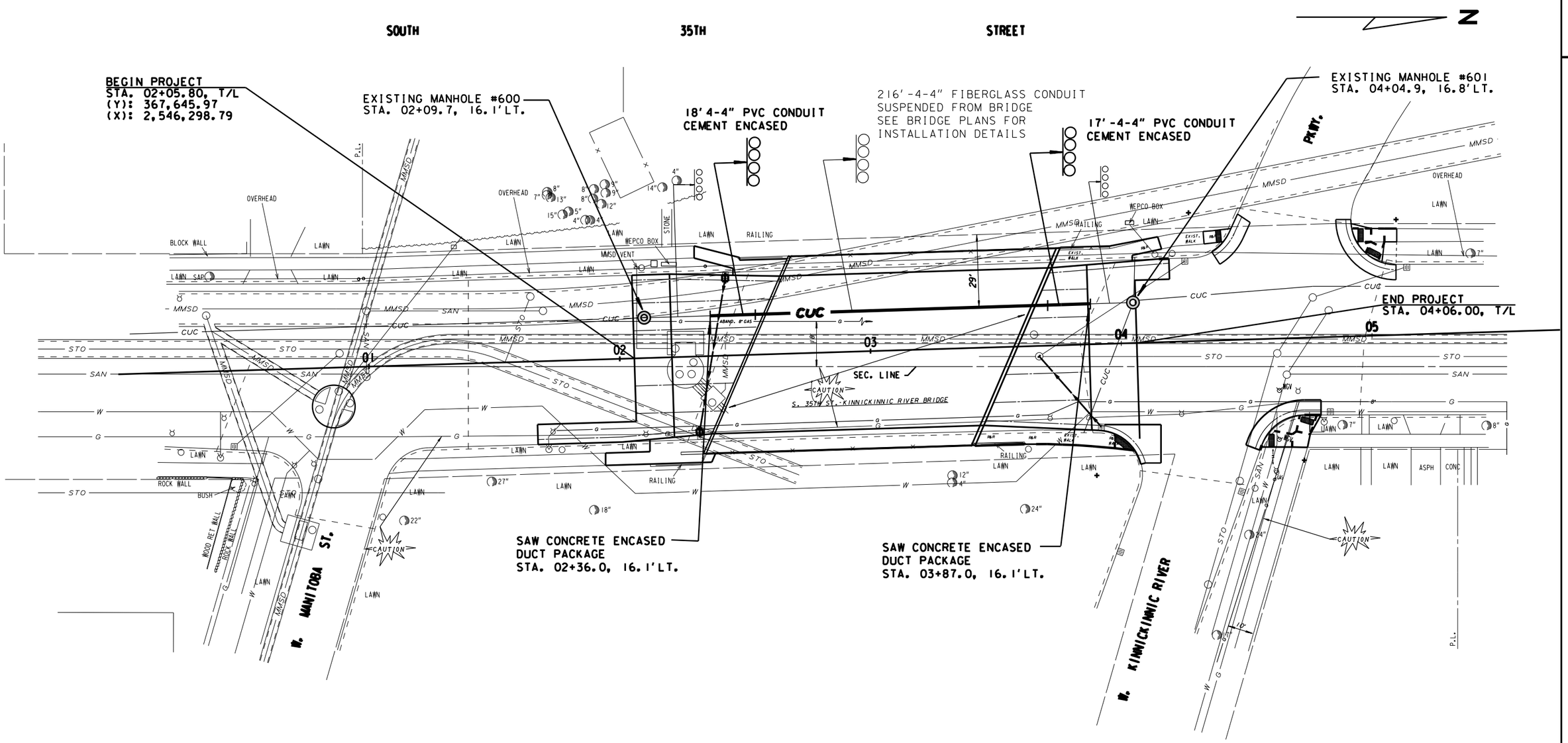
(LOOKING NORTHERLY)

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST	COUNTY: MILWAUKEE	UTILITIES AND DRAINAGE	SCALE FEET	SHEET NO: 17	E

FILE NAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\UTILITIES & DRAINAGE.DGN

REVISED DATE: 04-03-2018 BY DB

2



NOTES:

1) THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN.
2) THE LOCATION OF THE EXISTING AND PROPOSED UTILITY INSTALLATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3) DIMENSIONS SHOWN ARE TO CENTER OF MANHOLE, DUCT PACKAGE OR UTILITY.
4) MAINTAIN A STANDARD DEPTH OF 39-INCHES BETWEEN FINISHED GRADE AND TOP OF CONDUIT.

LEGEND

— CUC —	PROPOSED 4-INCH CEMENT ENCASED NONMETALLIC CONDUIT, NUMBER OF RUNS AS NOTED.
◎	EXISTING CUC MANHOLE
— CUC —	EXISTING CONDUIT
- - - -	ABANDONED CONDUIT

SHEET 1 OF 3

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT (CUC)	SCALE FEET 0' 40'	SHEET NO: 18	E

FILENAME: W:\UGD\CONDUIT WORK FILES\UCONDUIT\2018\S 35TH ST BRIDGE\CUC ON BRIDGE 0224.DGN

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS ARE IN FEET AND ARE ALONG THE R/L FOR W WISCONSIN AVE.

ALL COMPONENTS SHALL HAVE A MINIMUM 75 YEAR DESIGN LIFE.

EACH 4" DIA. CONDUIT WEIGHES 9 PLF.

ALL HORIZONTAL SUPPORT MEMBERS TO BE MADE OF BLACK FIBERGLASS PULTRUDED MATERIAL.

FIBERGLASS MEMBERS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM E-84, CLASS I FLAME RATING AND SELF-EXTINGUISHING REQUIREMENTS OF ASTM D-635, A SURFACE VEIL SHALL BE APPLIED DURING PULTRUSION TO INSURE A RESIN RICH SURFACE AND ULTRAVIOLET RESISTANCE.

ALL CUTS AND HOLES SHOULD BE PROPERLY SEALED PER MANUFACTURERS RECOMMENDATIONS TO PREVENT CORROSION.

ALL STEEL MEMBERS AND HARDWARE SHALL HAVE STAINLESS STEEL COATING.

FURNISH CONCRETE FOR BRIDGES CONFORMING TO SECTION 501. GRADE E. CONTRACTOR MAY USE PREMIXED BAG CEMENT PER ENGINEER'S APPROVAL.

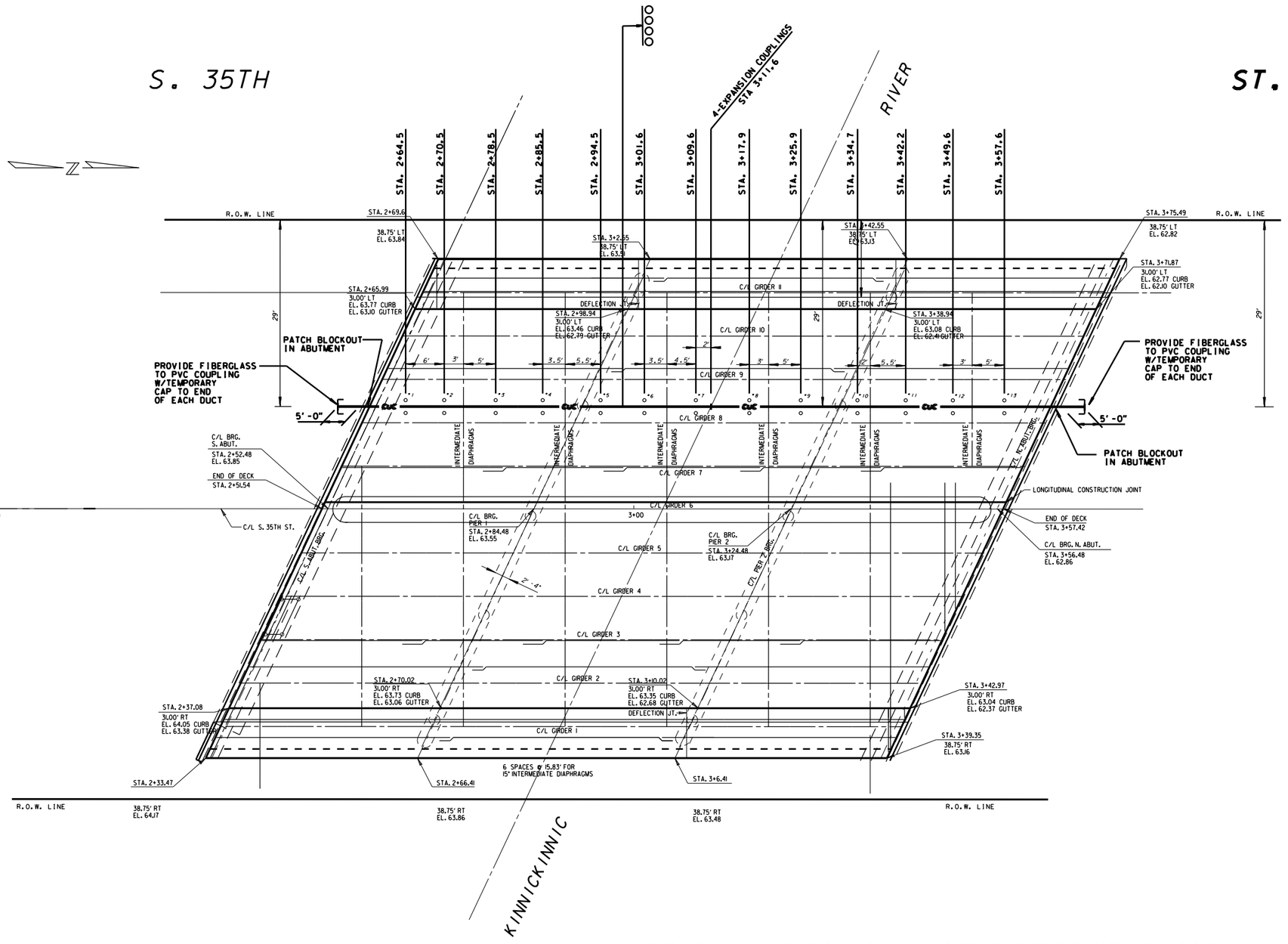
SPACE HANGERS A MAXIMUM 10'-0". LOCATE CONDUIT HANGERS BETWEEN GIRDERS. SEE BRIDGE PLANS.

ALL FIBERGLASS JOINTS SHALL BE EPOXIED PER MANUFACTURER'S SPECIFICATIONS.

EXTEND CONDUIT 5'-0" FROM BACK FACE OF ABUTMENT. PROVIDE COUPLING AND TEMPORARY CAP ON THE END OF EACH DUCT.

INSTALL EXPANSION JOINT PER LOCATION ON THE PLAN. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.

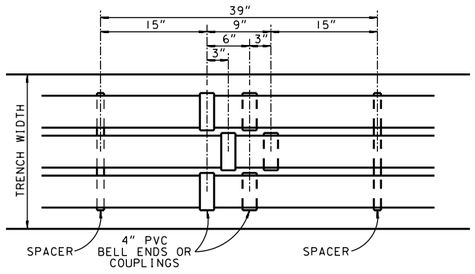
116' 4 - 4" FIBERGALSS CONDUIT



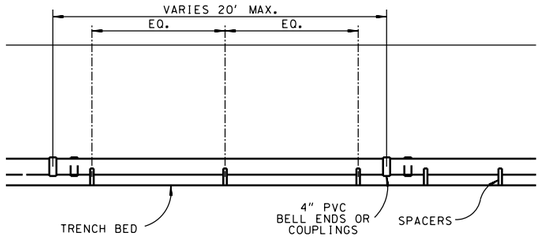
1 - 4 DUCT CITY COMMUNICATIONS PACKAGE - 116' - 5' BEYOND ABUTMENT TO 5' BEYOND ABUTMENT

SHEET 2 OF 3

STATE PROJECT NUMBER 2100-00-70	HWY: S 35TH ST	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT - BRIDGE	SCALE FEET	SHEET NO: 19	E

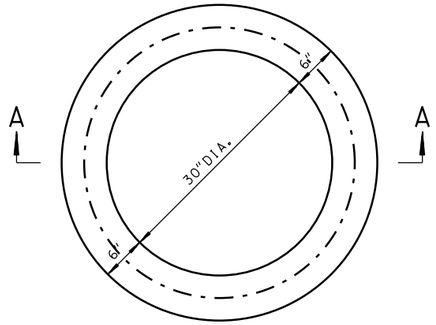


PLAN VIEW
N.T.S.

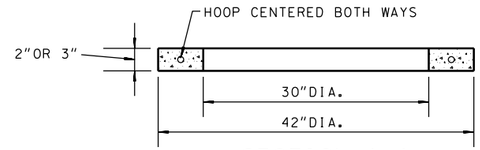


SECTION VIEW
N.T.S.

DUCT INSTALLATION DETAIL



PLAN



SECTION A-A

THE ADJUSTING RING SHALL BE 2" OR 3" IN HEIGHT.

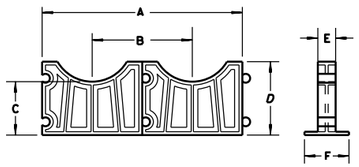
THE CIRCUMFERENTIAL STEEL SHALL BE CENTERED WITHIN THE RING.

AREA OF CIRCUMFERENTIAL STEEL = 0.07 SQ. INCH PER VERTICAL FOOT WITH A MINIMUM OF .024 SQ. INCH IN ANY ONE RING.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE CORE SHALL BE 4000 P.S.I.

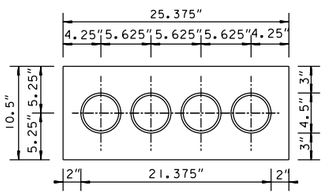
CONCRETE ADJUSTING RING

COND.	3"	4"
A	10"	11 ¼"
B	5"	5 ⅝"
C	3"	3"
D	3 ⅞"	4 ⅛"
E	1"	1"
F	2 ½"	2 ½"

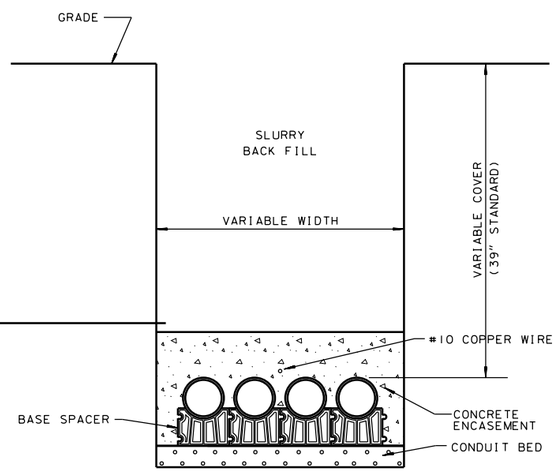


BASE SPACER

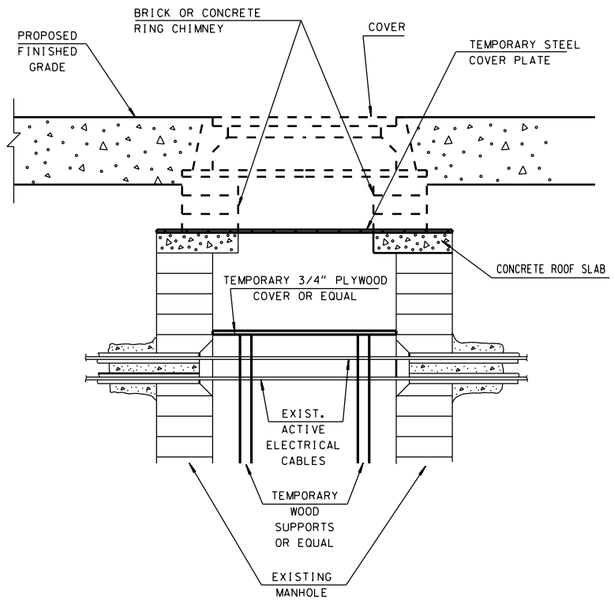
INTERMEDIATE AND BASE SPACER DETAIL



CROSS SECTION VIEW
N.T.S.



CROSS SECTION VIEW, TYP.
N.T.S.

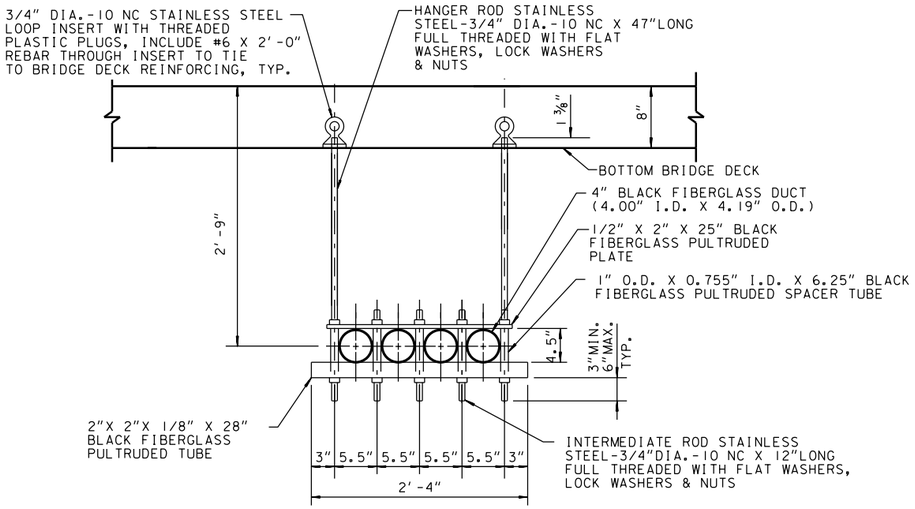


ADJUSTING CUC MANHOLES

SHEET 3 OF 3

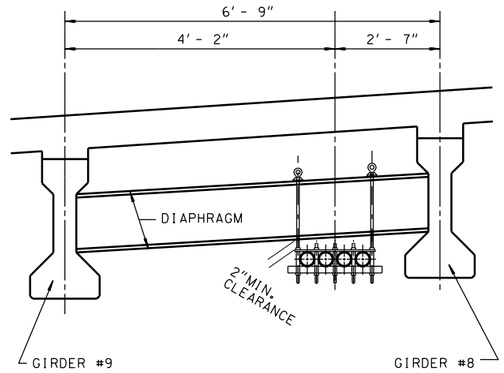
STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	CITY UNDERGROUND CONDUIT DETAILS	NOT TO SCALE	SHEET NO: 20	E

FILENAME: W:\UGD\CONDUIT WORK FILES\UCONDUIT\2018\S 35TH ST BRIDGE\CUC ON BRIDGE 0224.DGN

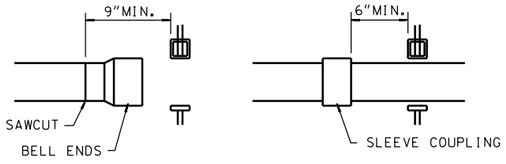


4 DUCT CITY COMMUNICATION HANGER PACKAGE DETAIL

THE CONTRACTOR SHALL FIELD VERIFY HANGER LENGTHS IN ORDER TO AVOID CONFLICTS WITH DIAPHRAM CROSSING.

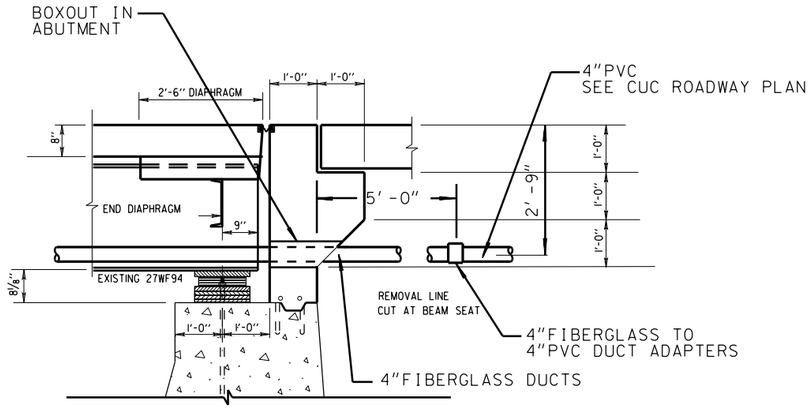


DIAPHRAGM DETAIL



CLEARANCES FOR SLEEVE COUPLINGS AND BELL ENDS

NOTES:
A BELLED END OR COUPLING SHOULD BE NO CLOSER THAN 6" ON EITHER SIDE OF A SUPPORT AS SHOWN ABOVE. A TAPE MEASURE CAN BE USED TO PREDETERMINE THESE LOCATIONS AND THE CONDUIT CAN BE SAW CUT TO THE PROPER LENGTH BEFORE IT IS THREADED THROUGH THE HANGERS AS SHOWN ABOVE.



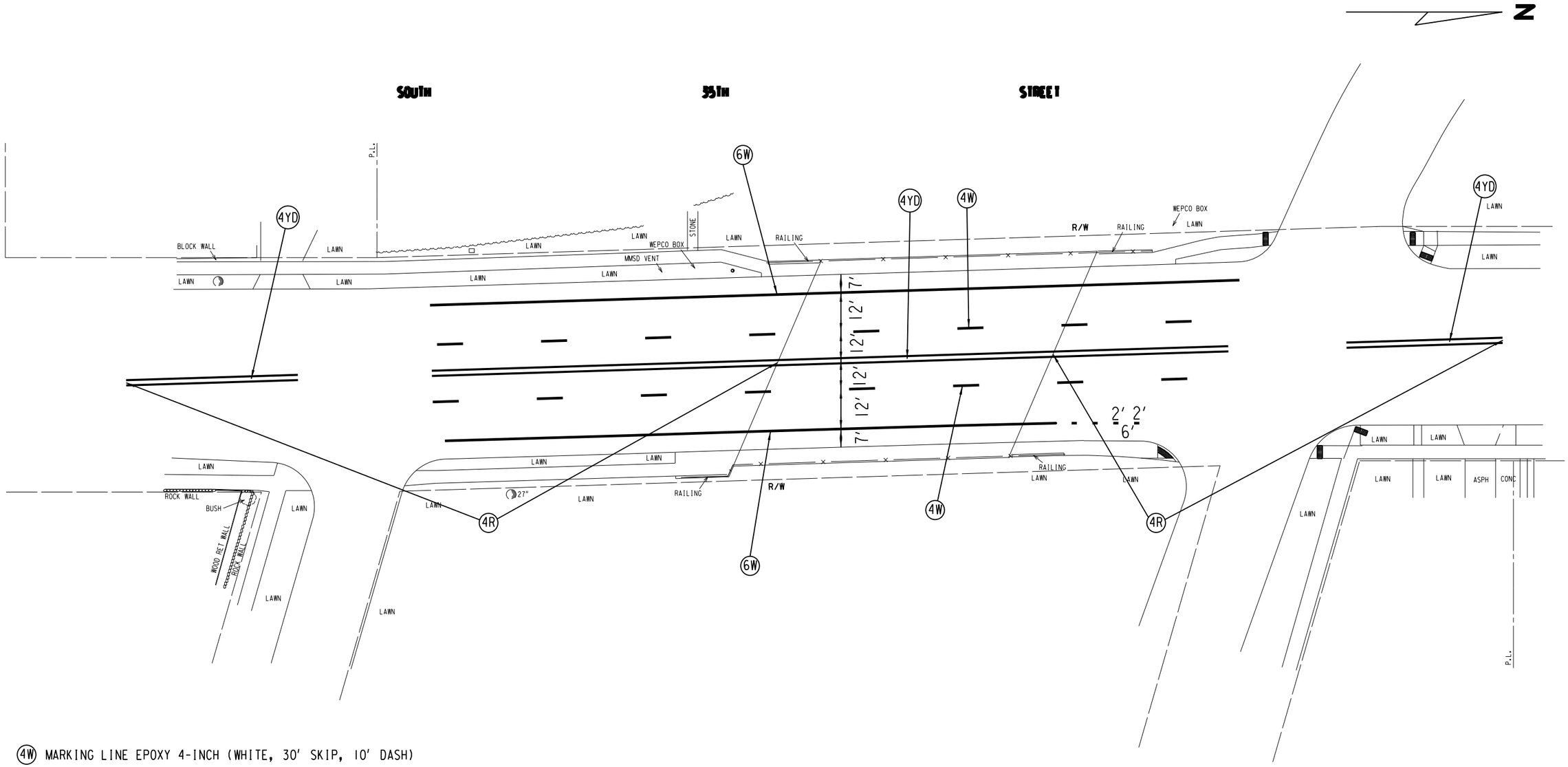
TYPICAL SECTION AT ABUTMENTS

SHEET 4 OF 4

STATE PROJECT NUMBER 2100-00-70 - -	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	CITY UG CONDUIT (TES)	NOT TO SCALE	SHEET NO: 21	E

FILENAME: W:\UGD\CONDUIT WORK FILES\UCONDUIT\2018\S 35TH ST BRIDGE\CUC ON BRIDGE 0224.DGN

2



(4W) MARKING LINE EPOXY 4-INCH (WHITE, 30' SKIP, 10' DASH)

(4YD) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)

(4R) MARKING REMOVAL LINE 4-INCH

(6W) MARKING LINE EPOXY 6-INCH (WHITE)

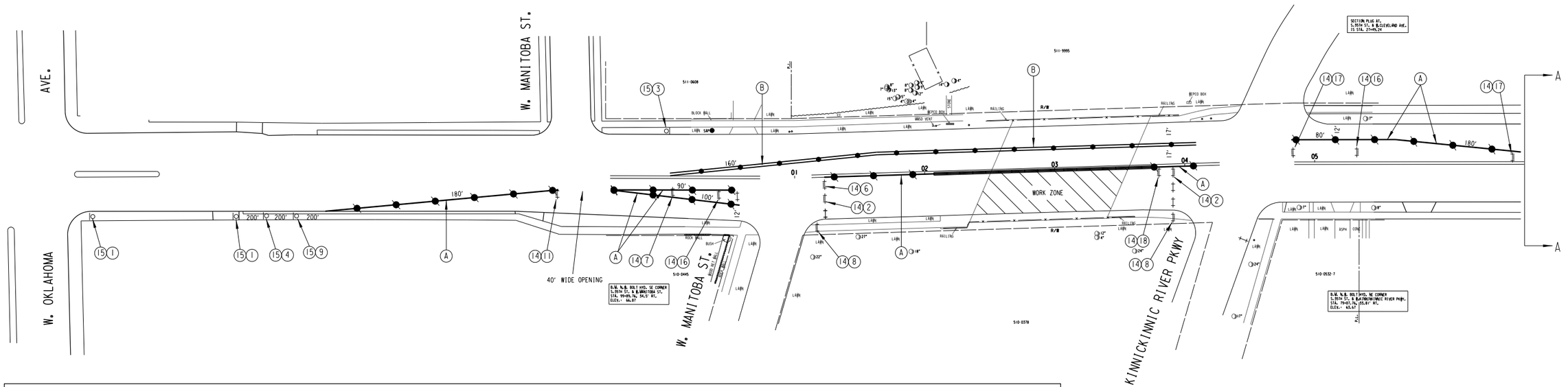
STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 40	SHEET NO: 22 E

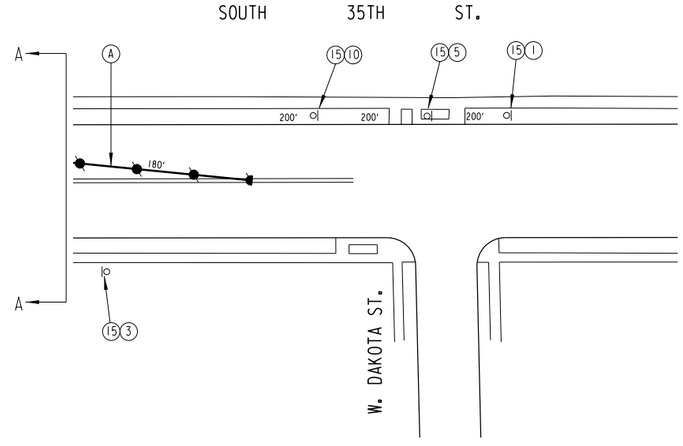
FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\PAVEMARK.DGN

REVISED DATE: 06-12-2018 BY ML

STAGE I

N





LEGEND

- DRUMS W/LIGHTS 30' SPACING — (13)
- TYPE III BARRICADES — (14)
- TYPE III BARRICADES W/ SIGN — (14)+(X)
- SIGNS BANDED TO TRAFFIC CONTROL DEVICE OR POLE — (15)
- WORK AREA
- WORK AREA UNDER TRAFFIC
- DIRECTION OF TRAFFIC
- TUBULAR MARKERS 25' SPACING
- CONCRETE JERSEY BARRIER

(A) TPM, REMOVABLE TAPE, 4" WHITE

(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

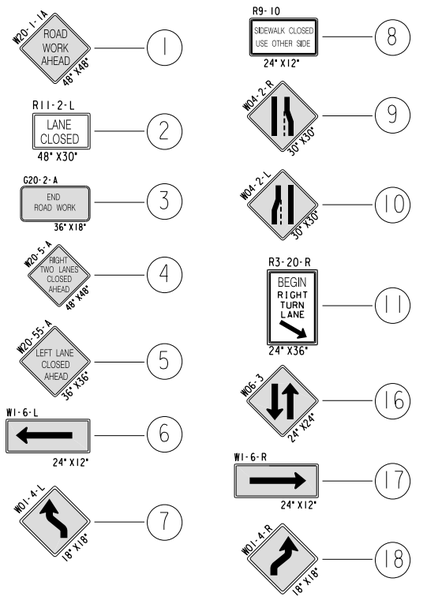
NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.

ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS.

TRAFFIC CONTROL DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

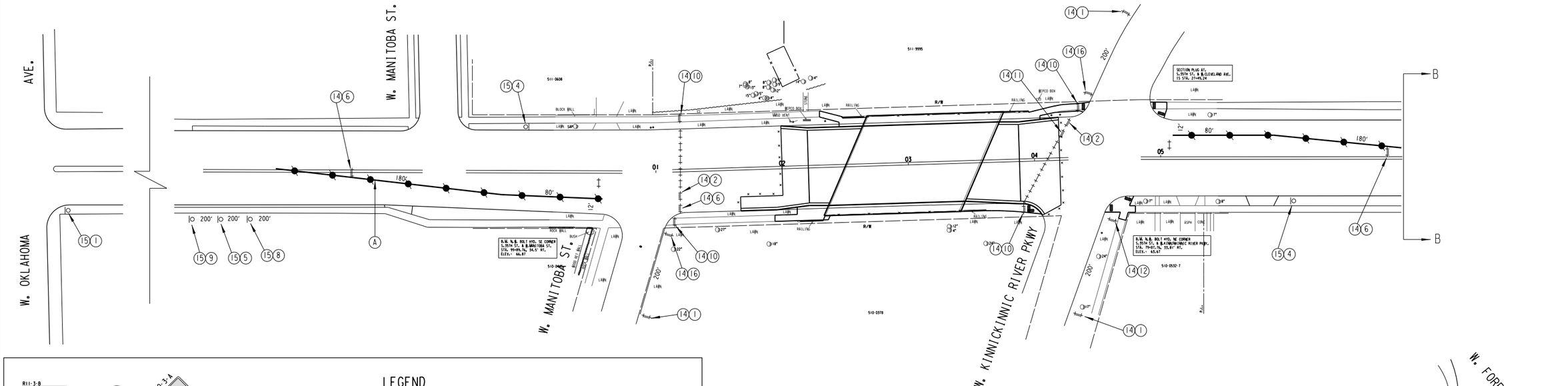


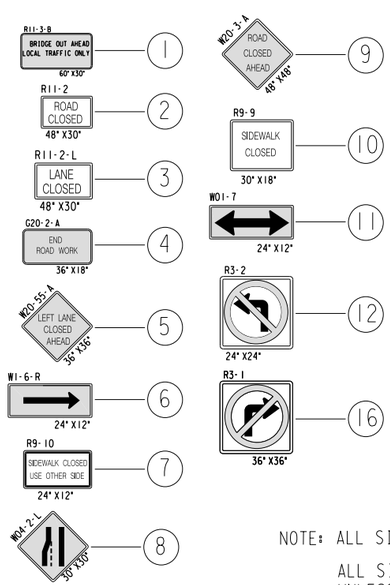
STATE PROJECT NUMBER 2100-00-70 - -	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET 0' 80'	SHEET NO: 23	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TRAFFIC CONTROL.DGN

REVISED DATE: 05-15-2018 BY DB

STAGE 2





LEGEND

- DRUMS W/LIGHTS 30' SPACING — (13)
- TYPE III BARRICADES — (14)
- TYPE III BARRICADES W/ SIGN — (14)+(X)
- SIGNS BANDED TO TRAFFIC CONTROL DEVICE OR POLE — (15)
- WORK AREA
- WORK AREA UNDER TRAFFIC
- DIRECTION OF TRAFFIC
- TUBULAR MARKERS 25' SPACING
- (A) TPM, REMOVABLE TAPE, 4" WHITE
- (B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.

ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS.

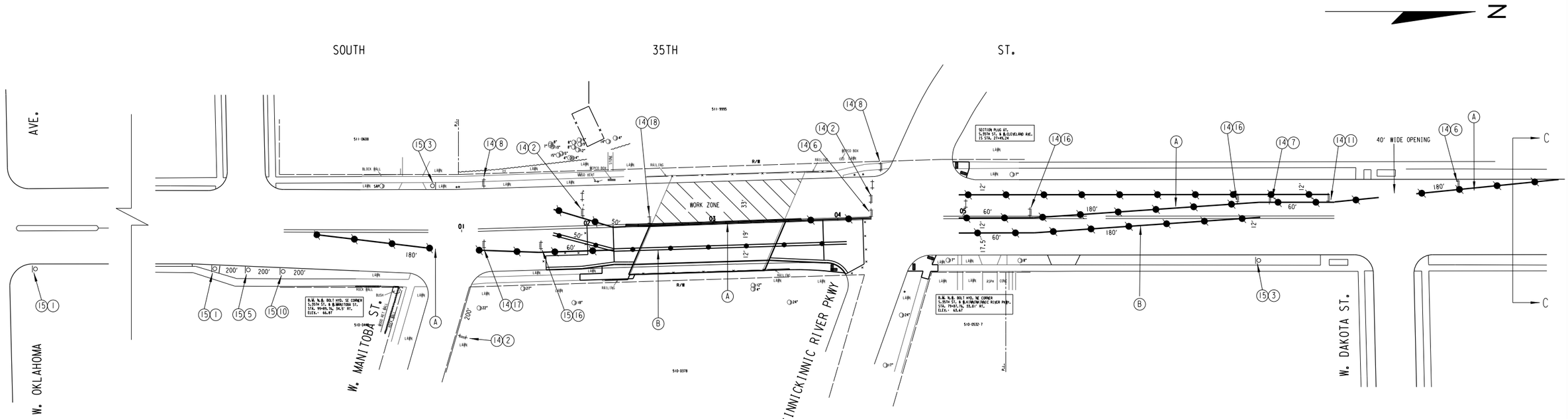
TRAFFIC CONTROL DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

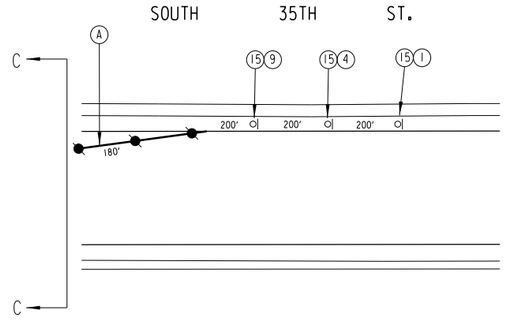
STATE PROJECT NUMBER 2100-00-70 - -	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET 0' 80'	SHEET NO: 24	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TRAFFIC CONTROL.DGN

REVISED DATE: 05-15-2018 BY DB

STAGE 3





LEGEND

- DRUMS W/LIGHTS 30' SPACING — (13)
- TYPE III BARRICADES — (14)
- TYPE III BARRICADES W/ SIGN — (14)+(X)
- SIGNS BANDED TO TRAFFIC CONTROL DEVICE OR POLE — (15)
- WORK AREA
- WORK AREA UNDER TRAFFIC
- DIRECTION OF TRAFFIC
- TUBULAR MARKERS 25' SPACING
- CONCRETE JERSEY BARRIER

(A) TPM, REMOVABLE TAPE, 4" WHITE

(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

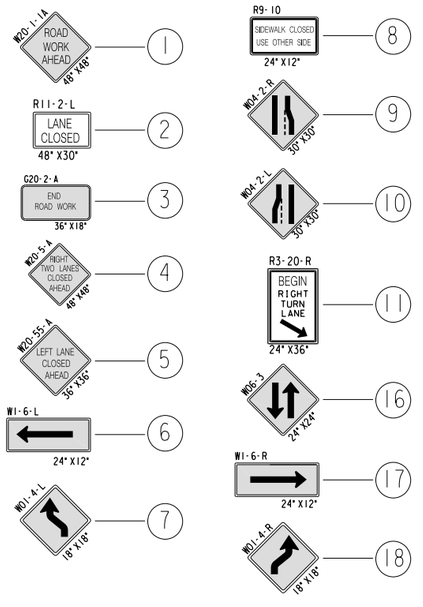
NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.

ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS.

TRAFFIC CONTROL DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

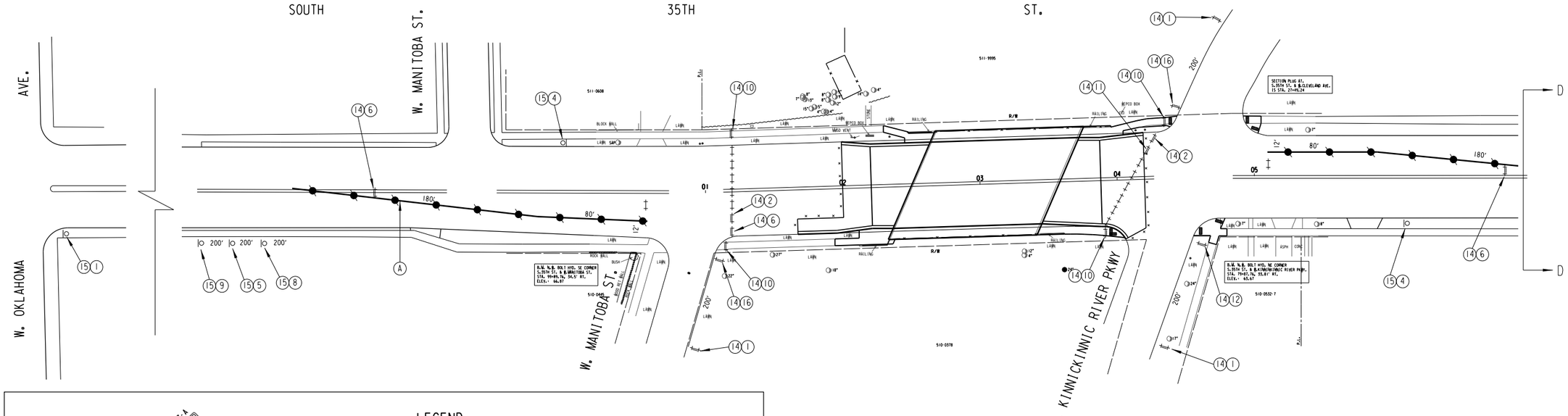


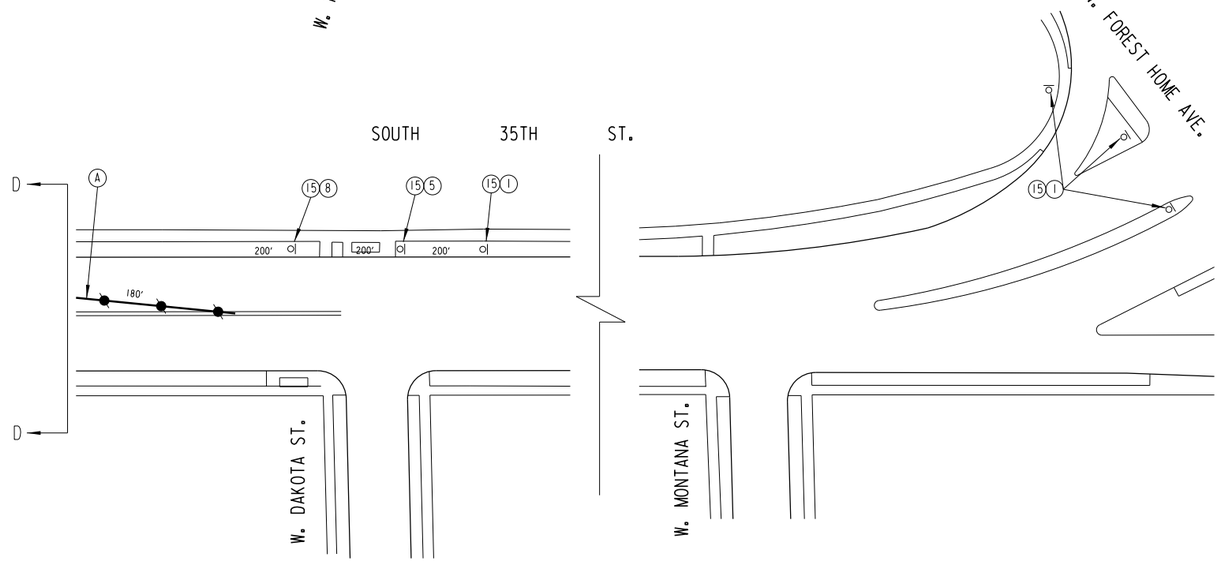
STATE PROJECT NUMBER 2100-00-70 - -	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET 0' 80'	SHEET NO: 25	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TRAFFIC CONTROL.DGN

REVISED DATE: 05-16-2018 BY DB

STAGE 4





LEGEND

- DRUMS W/LIGHTS 30' SPACING — (13)
- TYPE III BARRICADES — (14)
- TYPE III BARRICADES W/ SIGN — (14)+(X)
- SIGNS BANDED TO TRAFFIC CONTROL DEVICE OR POLE — (15)
- WORK AREA
- WORK AREA UNDER TRAFFIC
- DIRECTION OF TRAFFIC
- TUBULAR MARKERS 25' SPACING
- (A) TPM, REMOVABLE TAPE, 4" WHITE
- (B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

(1) R11-3-B BRIDGE OUT AHEAD LOCAL TRAFFIC ONLY 60" X30"
(2) R11-2 ROAD CLOSED 48" X30"
(3) R11-2-L LANE CLOSED 48" X30"
(4) G20-2-A END ROAD WORK 36" X18"
(5) W20-5-A LEFT LANE CLOSED AHEAD 36" X36"
(6) W1-6-R 24" X12"
(7) R9-10 SIDEWALK CLOSED USE OTHER SIDE 24" X12"
(8) W9A-2-L 30" X30"
(9) W20-3-A ROAD CLOSED AHEAD 48" X48"
(10) R9-9 SIDEWALK CLOSED 30" X18"
(11) W01-7 24" X12"
(12) R3-2 24" X24"
(16) R3-1 36" X36"

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.

ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS.

TRAFFIC CONTROL DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

STATE PROJECT NUMBER 2100-00-70 - -	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET 0' 80'	SHEET NO: 26	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TRAFFIC CONTROL.DGN

REVISED DATE: 05-16-2018 BY DB

2

PEDESTRIAN TRAFFIC CONTROL NOTES

ALL PEDESTRIAN TRAFFIC CONTROL MUST BE PLACED PRIOR TO THE START OF ANY SIDEWALK WORK FOR EACH STAGE.

ANY MID-BLOCK SIDEWALK REMOVALS MUST HAVE TEMPORARY ACCOMODATIONS PLACED IMMEDIATELY UPON REMOVAL. SEE SDD 15D30.

TEMPORARY OR PERMANANT ACCOMODATIONS MUST BE PLACED AT ANY AREA OF SIDEWALK REMOVALS BEFORE ANOTHER AREA OF REMOVALS MAY BEGIN.

PEDESTRIAN ACCOMODATIONS MUST BE PROVIDED TO ALL RESIDENCES AND BUSINESSES USING EXISTING, NEWLY CONSTRUCTED OR TEMPORARY ACCOMODATIONS DURING ALL STAGES OF CONSTRUCTION,

A SIGNED PEDESTRIAN DETOUR TO ROUTE PEDESTRIAN TRAFFIC AROUND THE WORK ZONE IS SHOWN ON THE FOLLOWING CONSTRUCTION STAGING PEDESTRIAN RAMPS STREETS. FOR PEDESTRIANS WITH TRIPS STARTING OR ENDING INSIDE THE WORK ZONE, NO SIGNED DETOUR IS PLANNED.

TRAFFIC CONTROL NOTES

1) MAINTAIN ONE 11' MINIMUM LANE IN BOTH DIRECTIONS AT ALL TIMES DURING STAGES 1 AND 3.

2) TRAFFIC CONTROL DRUMS ARE SPACED AT 25' O.C. EXCEPT AT DRIVEWAYS AND INTERSECTIONS, WHERE THE SPACING IS 10'.

3) THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE TRAFFIC CONTROL. PAVEMENT MARKING SHOWN IS EXISTING.

4) THE CONTRACTOR SHALL COVER ANY SIGN CONFLICTING WITH THE TRAFFIC CONTROL IN OPERATION AS NEEDED OR AS DIRECTED BY THE ENGINEER. COVERING OF SIGNS IS INCLUDED IN 'TRAFFIC CONTROL' ITEM.

5) THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, DIRECTIONAL ARROWS, LIGHTS, TEMPORARY MARKINGS, FLAGMEN, AND SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

6) DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND /OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTORS METHOD OR SEQUENCES OF OPERATION.

7) 'WO' SIGNS ARE THE SAME AS 'W' SIGNS EXCEPT THE BACKGROUND IS ORANGE.

8) ALL SIGNS ARE 48" X 48" EXCEPT OTHERWISE NOTED.

9) ANY 'STOP' SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

10) THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD LOCATIONS AS APPROVED BY THE ENGINEER IN THE FIELD.

11) BOTH STEADY BURN LIGHTS AND FLASHING LIGHTS SHALL BE ONE WAY WITH THE LIGHT SOURCE SHOWING TOWARDS ADJACENT APPROACHING TRAFFIC.

12) CHANNELIZING DEVICES SHALL BE DRUMS WITH ATTACHED TYPE 'C' STEADY BURN LIGHT.

13) CONTACT THE CITY OF MILWAUKEE TO PLACE TEMPORARY NO PARKING SIGNS WITHIN THE PROJECT LIMITS PRIOR TO SETTING UP WORK ZONES AND SHIFTING TRAFFIC. PROVIDE 5 DAY NOTICE PRIOR TO WHEN PLACEMENT OF SIGNS IS NEEDED AND FOR EACH STAGE TRANSITION.

STAGE 1

THE WEST SIDE OF THE BRIDGE WILL REMAIN FUNCTIONAL WITH ONE LANE FOR THE NORTHBOUND TRAFFIC AND ONE LANE FOR THE SOUTHBOUND TRAFFIC WHILE THE EAST SIDE OF THE BRIDGE IS CLOSED FOR CONSTRUCTION. PEDESTRIAN ACCESS WILL BE MAINTAINED ON THE WEST SIDE OF THE BRIDGE.

STAGE 2

THE ENTIRE BRIDGE IS CLOSED, FOR APPROXIMATELY SEVEN DAYS, TO ALLOW FOR THE POURING AND CURING OF THE CONCRETE DECK ON THE EAST SIDE. MAINTAIN PEDESTRIAN ACCESS FROM STAGE 1.

STAGE 3

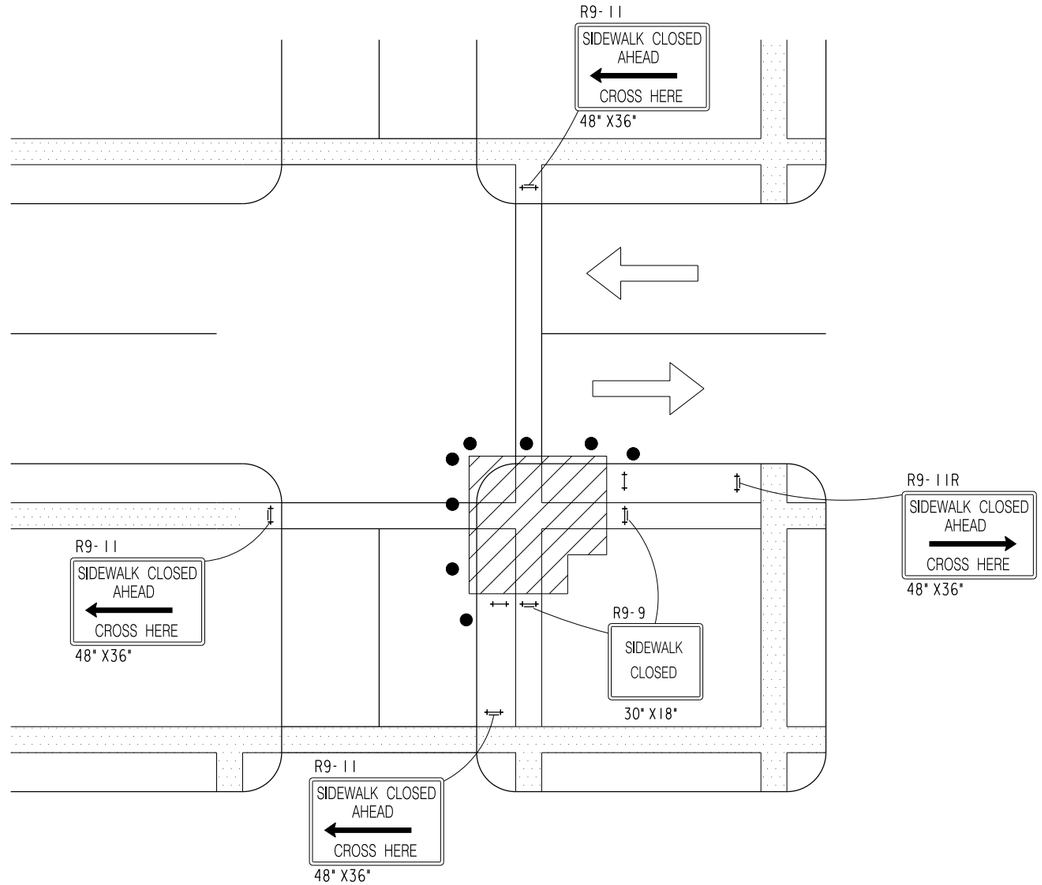
ONCE THE SECOND STAGE IS COMPLETED, THE EAST SIDE OF THE BRIDGE WILL BE OPEN WITH ONE NORTHBOUND LANE AND ONE SOUTHBOUND LANE WHILE THE WEST SIDE OF THE BRIDGE IS CLOSED. PEDESTRIAN ACCESS WILL BE MAINTAINED ON THE EAST SIDE OF THE BRIDGE.

STAGE 4

THE ENTIRE BRIDGE IS CLOSED, FOR APPROXIMATELY SEVEN DAYS, TO ALLOW FOR THE POURING AND CURING OF THE CONCRETE DECK ON THE WEST SIDE. MAINTAIN PEDESTRIAN ACCESS FROM STAGE 3.

W KINNICKINNIC RIVER PARKWAY
INTERSECTION DETAIL

N



NOTE: STAGES 1 AND 2 SHOWN, REVERSE FOR STAGES 3 AND 4.

WORK AREA

UNDER PEDESTRIAN TRAFFIC

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

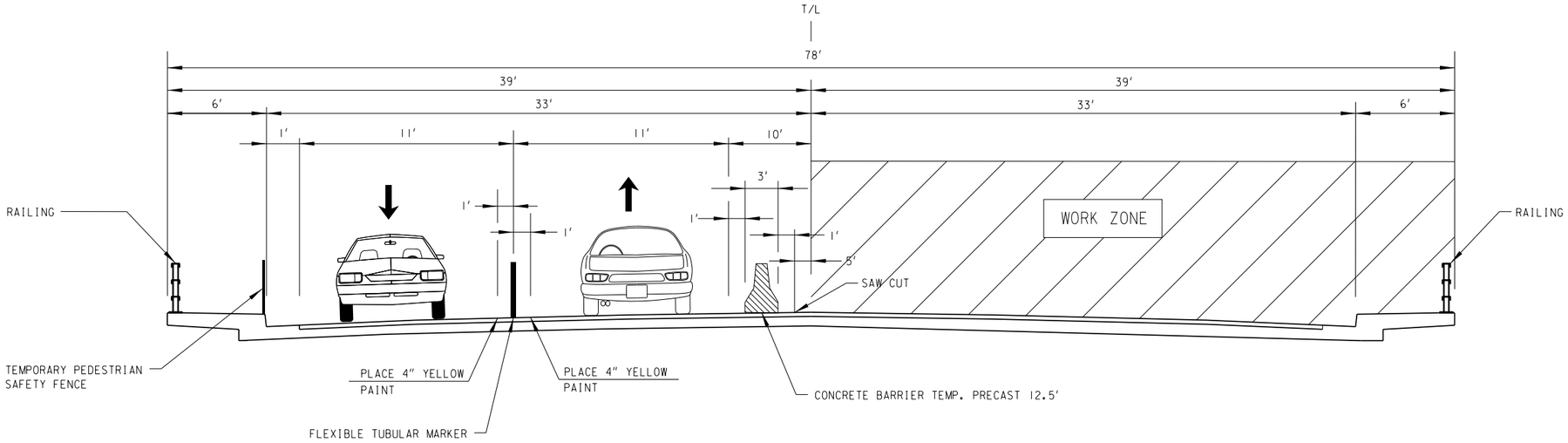
DIRECTION OF TRAFFIC

TRAFFIC CONTROL DRUM

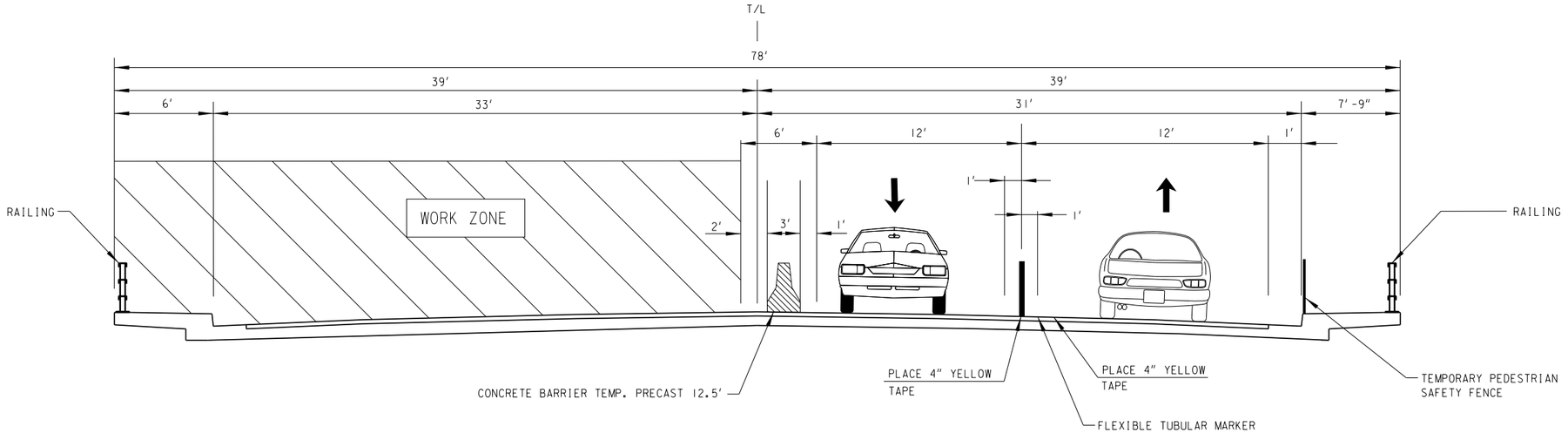
STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET	SHEET NO: 27	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TRAFFIC CONTROL.DGN

REVISED DATE: 06-05-2018 BY DB



STAGE 1



STAGE 3

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET 0' 80'	SHEET NO: 28	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\TRAFFIC CONTROL.DGN

REVISED DATE: 05-16-2018 BY DB

2

TOWNSHIP 6 NORTH, RANGE 21 EAST
MILWAUKEE COUNTY, WISCONSIN
CONCRETE MONUMENT W/ BRASS CAP

STATE PLANE COORDINATES OF QUARTER SECTION CORNER
(Y): 366,959.24
(X): 2,546,322.90

T. 6 N. R. 21 E. 13 12

STA. 1+00.00, ON T/L AND ON 1/4 SECTION LINE
(Y): 367,540.15
(X): 2,546,313.70

TOWNSHIP 6 NORTH, RANGE 21 EAST
MILWAUKEE COUNTY, WISCONSIN
CONCRETE MONUMENT W/ BRASS CAP

STATE PLANE COORDINATES OF QUARTER SECTION CORNER
(Y): 369,607.62
(X): 2,546,280.98

T. 6 N. R. 21 E. 12

W. OKLAHOMA AVE.

01 02 03 04 05

N 02° 40' 19.59" W T/L

N 00° 54' 24.59" W
1/4 SEC LINE

01° 45' 55"

W. CLEVELAND AVE.

W. MANITOBA ST.

W. KINNICKINNIC RIVER PKWY.

BEGIN PROJECT 2100-00-70
STA. 02+05.80
(Y): 367,645.97
(X): 2,546,298.79

END PROJECT 2100-00-70
STA. 4+06.00

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	ALIGNMENT PLAN	SCALE FEET NTS	SHEET NO: 29	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\ALIGNMENT.DGN

REVISED DATE: 06-05-2018 BY DB

2100-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	140.000	140.000
0004	201.0210	Grubbing	SY	140.000	140.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 001. 03+04.48	LS	1.000	1.000
0008	204.0100	Removing Pavement	SY	11.000	11.000
0010	204.0105	Removing Pavement Butt Joints	SY	20.000	20.000
0012	204.0115	Removing Asphaltic Surface Butt Joints	SY	282.000	282.000
0014	204.0150	Removing Curb & Gutter	LF	322.000	322.000
0016	204.0155	Removing Concrete Sidewalk	SY	1,624.000	1,624.000
0018	204.0175	Removing Concrete Slope Paving	SY	250.000	250.000
0020	204.0220	Removing Inlets	EACH	2.000	2.000
0022	205.0100	Excavation Common	CY	105.000	105.000
0024	206.1000	Excavation for Structures Bridges (structure) 001. P-40-511	LS	1.000	1.000
0026	210.1500	Backfill Structure Type A	TON	230.000	230.000
0028	213.0100	Finishing Roadway (project) 001. 2100-00-70	EACH	1.000	1.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	131.000	131.000
0032	415.0410	Concrete Pavement Approach Slab	SY	395.000	395.000
0034	416.0610	Drilled Tie Bars	EACH	50.000	50.000
0036	416.0620	Drilled Dowel Bars	EACH	136.000	136.000
0038	455.0605	Tack Coat	GAL	34.000	34.000
0040	460.2000	Incentive Density HMA Pavement	DOL	30.000	30.000
0042	460.5224	HMA Pavement 4 LT 58-28 S	TON	46.000	46.000
0044	502.0100	Concrete Masonry Bridges	CY	310.000	310.000
0046	502.3100	Expansion Device (structure) 001. P-40-511	LS	1.000	1.000
0048	502.3200	Protective Surface Treatment	SY	950.000	950.000
0050	502.4205	Adhesive Anchors No. 5 Bar	EACH	530.000	530.000
0052	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	67,750.000	67,750.000
0054	506.2610	Bearing Pads Elastomeric Laminated	EACH	22.000	22.000
0056	506.3015	Welded Stud Shear Connectors 7/8x6-Inch	EACH	2,508.000	2,508.000
0058	506.7050.S	Removing Bearings (structure) 001. P-40-511	EACH	22.000	22.000
0060	509.1500	Concrete Surface Repair	SF	48.000	48.000
0062	509.9025.S	Epoxy Injection Crack Repair	LF	52.000	52.000
0064	509.9026.S	Cored Holes 2-Inch Diameter	EACH	4.000	4.000
0066	511.1200	Temporary Shoring (structure) 001. P-40-511	SF	60.000	60.000
0068	513.7084	Railing Steel Type NY4 P-40-511	LF	300.000	300.000
0070	516.0100	Dampproofing	SY	130.000	130.000
0072	516.0500	Rubberized Membrane Waterproofing	SY	44.000	44.000
0074	517.0900.S	Preparation and Coating of Top Flanges (structure) 001. P-40-511	LS	1.000	1.000

2100-00-70

Line	Item	Item Description	Unit	Total	Qty
0076	517.1010.S	Concrete Staining (structure) 001. P-40-511	SF	1,740.000	1,740.000
0078	517.1800.S	Structure Repainting Recycled Abrasive (structure) 001. P-40-511	LS	1.000	1.000
0080	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 001. P-40-511	LS	1.000	1.000
0082	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0084	601.0331	Concrete Curb & Gutter 31-Inch	LF	322.000	322.000
0086	602.0410	Concrete Sidewalk 5-Inch	SF	1,624.000	1,624.000
0088	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	66.000	66.000
0090	603.8000	Concrete Barrier Temporary Precast Delivered	LF	170.000	170.000
0092	603.8125	Concrete Barrier Temporary Precast Installed	LF	310.000	310.000
0094	604.0400	Slope Paving Concrete	SY	250.000	250.000
0096	611.2005	Manholes 5-FT Diameter	EACH	1.000	1.000
0098	619.1000	Mobilization	EACH	1.000	1.000
0100	623.0200	Dust Control Surface Treatment	SY	6,720.000	6,720.000
0102	625.0100	Topsoil	SY	175.000	175.000
0104	628.1504	Silt Fence	LF	150.000	150.000
0106	628.1520	Silt Fence Maintenance	LF	150.000	150.000
0108	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0110	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0112	628.2027	Erosion Mat Class II Type C	SY	175.000	175.000
0114	628.6005	Turbidity Barriers	SY	250.000	250.000
0116	628.7005	Inlet Protection Type A	EACH	4.000	4.000
0118	628.7015	Inlet Protection Type C	EACH	11.000	11.000
0120	630.0120	Seeding Mixture No. 20	LB	6.000	6.000
0122	631.1000	Sod Lawn	SY	175.000	175.000
0124	642.5201	Field Office Type C	EACH	1.000	1.000
0126	643.0300	Traffic Control Drums	DAY	3,870.000	3,870.000
0128	643.0420	Traffic Control Barricades Type III	DAY	1,998.000	1,998.000
0130	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	21.000	21.000
0132	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	21.000	21.000
0134	643.0705	Traffic Control Warning Lights Type A	DAY	2,096.000	2,096.000
0136	643.0715	Traffic Control Warning Lights Type C	DAY	3,870.000	3,870.000
0138	643.0900	Traffic Control Signs	DAY	2,480.000	2,480.000
0140	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0142	643.5000	Traffic Control	EACH	1.000	1.000
0144	644.1601.S	Temporary Curb Ramp	EACH	1.000	1.000
0146	644.1616.S	Temporary Pedestrian Safety Fence	LF	388.000	388.000
0148	644.1810.S	Temporary Pedestrian Barricade	LF	540.000	540.000
0150	646.1020	Marking Line Epoxy 4-Inch	LF	945.000	945.000

2100-00-70

Line	Item	Item Description	Unit	Total	Qty
0152	646.9000	Marking Removal Line 4-Inch	LF	864.000	864.000
0154	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	3,670.000	3,670.000
0156	650.4000	Construction Staking Storm Sewer	EACH	3.000	3.000
0158	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	322.000	322.000
0160	650.6500	Construction Staking Structure Layout (structure) 001. P-40-511	LS	1.000	1.000
0162	650.9000	Construction Staking Curb Ramps	EACH	6.000	6.000
0164	650.9910	Construction Staking Supplemental Control (project) 001. 2100-00-70	LS	1.000	1.000
0166	652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	460.000	460.000
0168	690.0150	Sawing Asphalt	LF	349.000	349.000
0170	690.0250	Sawing Concrete	LF	758.000	758.000
0172	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0174	715.0502	Incentive Strength Concrete Structures	DOL	1,860.000	1,860.000
0176	SPV.0060	Special 102. Inlet Covers Type MS 57	EACH	3.000	3.000
0178	SPV.0060	Special 103. Manhole Cover Type MS 58-A	EACH	1.000	1.000
0180	SPV.0060	Special 112. Storm Inlet Type 45A	EACH	1.000	1.000
0182	SPV.0060	Special 400. Adjusting CUC Manhole Covers	EACH	2.000	2.000
0184	SPV.0060	Special 426. Sawing Concrete Encased Duct Package	EACH	2.000	2.000
0186	SPV.0060	Special 510. End Diaphragm Adjustment	EACH	20.000	20.000
0188	SPV.0090	Special 001. Marking Line Epoxy 6-Inch	LF	524.000	524.000
0190	SPV.0090	Special 002. Construction Staking Concrete Sidewalk	LF	167.000	167.000
0192	SPV.0090	Special 404. 4-Duct Conduit Cement Encased DB-60	LF	35.000	35.000
0194	SPV.0105	Special 400. Underdeck Utility Structure P-40-511 City of Milwaukee Communications Condu	LS	1.000	1.000

3

3

REMOVAL ITEMS

CATEGORY 0010

LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY	204.0100 REMOVING PAVEMENT SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	690.0150 SAWING ASPHALT LF	690.0250* SAWING CONCRETE LF
S. 35TH STREET	140	140	11	20	282	322	1624	349	333
PROJECT TOTAL	140	140	11	20	282	322	1,624	349	333

*QUANTITY SHOWN ELSEWHERE

ROADWAY CONSTRUCTION ITEMS

CATEGORY 0010

LOCATION	305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	601.0331 CONCRETE CURB & GUTTER 31-INCH LF	602.0410 CONCRETE WALK 5-INCH SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
S. 35TH ST	131	395	50	136	34	46	322	1624	66
PROJECT TOTAL	131	395	50	136	34	46	322	1,624	66

FINISHING ROADWAY

CATEGORY 0010

LOCATION	FINISHING ROADWAY PROJECT 2100-00-70 213.0100.001 EACH
S 35TH STREET	1
PROJECT TOTAL	1

3

EXCAVATION COMMON

CATEGORY 0010

LOCATION	205.0100 EXCAVATION COMMON CY
S. 35TH STREET	105
PROJECT TOTAL	105

EARTHWORK SUMMARY

FROM/TO STATION	LOCATION	ITEM 205.0100 EXCAVATION COMMON (1) CUT (2) CY	EBS (3) CY	SALVAGED UNUSEABLE PAVEMENT (4) CY	AVAILABLE MATERIAL (5) CY	UNEXPANDED FILL CY	EXPANDED FILL (6) CY	MASS ORDINATE (7) CY	WASTE CY	BORROW (8) CY
2100-00-70	S. 35TH STREET	105	0	105	0	0	0	0	105	0

1) Common Excavation is the sum of the Cut and EBS Columns; Item number 205.0100
2) Salvaged/Unusable Pavement Material is included in the Cut
3) EBS to be backfilled with Base Aggregate Dense 1-1/4 Inch
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) Expanded Fill Factor = 1.2
7) The Mass Ordinate + or - quantity calculated for the Division. Plus quantity indicates excess of material, minus indicates a shortage of material
8) To be bid as part of Base Aggregate Dense 1-1/4 Inch

3

3

EROSION CONTROL ITEMS

CATEGORY 0010

LOCATION	623.0200 DUST CONTROL SURFACE TREATMENT SY	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	628.6005 TUBIDITY BARRIERS SY	630.0120 SEEDING MIXTURE NO. 20 LB	631.1000 SOD LAWN SY	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH
S. 35TH STREET	6720	175	150	150	175	250	6	175	4	11
PROJECT TOTAL	6,720	175	150	150	175	250	6	175	4	11

MOBILIZATION

LOCATION	CAT 0010 619.1000 MOBILIZATION EACH
PROJECT 2100-00-70	1
TOTAL	1

MOBILIZATIONS EROSION CONTROL

CATEGORY 0010

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 2100-00-70	2	5
PROJECT TOTAL	2	5

FIELD OFFICE

LOCATION	CAT 0010 642.5201 FIELD OFFICE TYPE C EACH
PROJECT 2100-00-70	1
TOTAL	1

3

TRAFFIC CONTROL

CATEGORY 0010

		643.0300		643.0420		643.0500	643.0600	643.0705		643.0715		643.0900		643.1050	649.0150	
		TRAFFIC CONTROL DRUMS		CONTROL BARRICADES TYPE III		TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL SIGNS PCMS	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH	
LOCATION	DAYS	EACH	DAY	EACH	DAY	EACH	EACH	EACH	DAY	EACH	DAY	EACH	DAY	DAY	(WHITE) LF	(YELLOW)
STAGE 1	54	23	1242	16	864	13	13	16	864	23	1242	21	1134	0	630	410
STAGE 2	7	18	126	25	175	0	0	32	224	18	126	17	119	14	520	0
STAGE 3	54	44	2376	14	756	8	8	14	756	44	2376	20	1080	0	1310	280
STAGE 4	7	18	126	29	203	0	0	36	252	18	126	21	147	14	520	0
PROJECT TOTAL			3,870		1,998	21	21		2,096		3,870		2,480	28	3,670	

3

TRAFFIC CONTROL

LOCATION	CAT 0010 643.5000 TRAFFIC CONTROL EACH
S 35TH STREET	1
TOTAL	1

CONCRETE BARRIER

CATEGORY 0010

LOCATION	DAYS	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
STAGE 1	54	170	170
STAGE 2/4	14	--	--
STAGE 3	54	--	140
PROJECT TOTAL		170	310

PEDESTRIAN ACCOMODATION

CATEGORY 0010

		644.1601.S	644.1616.S	644.1810.S	
		TEMPORARY CURB RAMP	TEMPORARY PEDESTRIAN SAFETY FENCE	TEMPORARY PEDESTRIAN BARRICADE	
LOCATION	DAYS	EACH	LF	EACH	DAY
STAGE 1	54	1	190	10	540
STAGE 2/4	14	--	--	0	0
STAGE 3	54	--	198	0	0
PROJECT TOTAL		1	388		540

3

PAVEMENT MARKING

CATEGORY 0010

LOCATION	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) LF	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) LF	646.9000 MARKING REMOVAL LINE 4-INCH LF	SPV.0090.001 MARKING LINE EPOXY 6-INCH LF
S 35TH STREET	81	864	864	524
PROJECT TOTAL	81	864	864	524
TOTAL	945			

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

CATEGORY 0010

LOCATION	650.9910.001 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL PROJECT 2100-00-70 LS
S 35TH STREET	1
TOTAL	1

3

CONSTRUCTION STAKING

CATEGORY 0010

LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.5500 CONSTRUCTION STAKING CURB & GUTTER LF	650.9000 CONSTRUCTION STAKING CURB RAMP EACH	SPV.0090.002 CONSTRUCTION STAKING CONCRETE SIDEWALK LF
S. 35TH STREET	3	322	6	167
PROJECT TOTAL	3	322	6	167

CONSTRUCTION STAKING STRUCTURE

CATEGORY 0020

LOCATION	650.6500.001 CONSTRUCTION STAKING STRUCTURE LAYOUT P-40-511 LS
P-40-115	1
PROJECT TOTAL	1

3

INLET REMOVALS

STRUCTURE NUMBER	STATION	OFFSET	204.0220 REMOVING INLETS EACH
1	2+43	33'LT	1
2	2+31	33'RT	1
TOTAL			2

3

LOCATION: STR B0224 - S 35th St. Bridge over the Kinnickinnic River

SEWER STRUCTURES								SEWER PIPES								
STRUCTURE NUMBER	STRUCTURE TYPE	STATION	CENTERLINE OFFSET	COVER ELEV.	DEPTH[A] (FT)	FRAME & LID	STRUCTURE REMARKS	FROM STRUCTURE	TO STRUCTURE	INVERTS INLET	INVERTS OUTLET	SLOPE[B] (FT/FT)	PIPE LENGTH[C] (FT)	PLAN LENGTH[D] (FT)	PIPE SIZE (IN)	PIPE REMARKS
3	STORM INLET 45-A	2+43.0	31.0'LT	63.25	6.36	MS 57	PROPOSED	3	BOX CULVERT	58.72	---	---	---	---	8	CONNECT TO EXISTING PIPE
4	5-FT DIAMETER MANHOLE	2+31.0	30.7'RT	63.33	---	MS 57	PROPOSED	---	---	---	---	---	---	---	---	CONNECT TO EXISTING BOX CULVERT THROUGH BASE
5	STORM INLET	3+91.0	34.3'RT	61.70	---	MS 57	FRAME & COVER ONLY	---	---	---	---	---	---	---	---	
6	STORM MANHOLE	3+67.1	4.1'RT	62.62	---	MS 58-A	FRAME & COVER ONLY	---	---	---	---	---	---	---	---	

SPV.0060.112 STORM INLET TYPE 45A	SPV.0060.103 MANHOLE COVER TYPE MS 58-A	SPV.0060.102 INLET COVERS TYPE MS 57	611.2005 MANHOLE 5-FT DIAMETER
EACH	EACH	EACH	EACH
1	1	3	1

[A] DEPTH = COVER ELEVATION - LOWEST PIPE INVERT ELEVATION + SUMP(FOR CATCH BASIN)

[B] SLOPE CALCULATED BASED ON PIPE LENGTH. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE.

[C] PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT TO BE USED FOR PAY QUNATITY.

[D] PLAN LENGTH OF PIPE SHOWN FOR PAY QUANTITY.

3

CITY UNDERGROUND CONDUIT

CATEGORY 0030

LOCATION			SPV.0060.400 ADJUSTING CUC MANHOLE COVERS EACH	SPV.0060.426 SAWING CONCRETE ENCASED DUCT PACKAGE EACH	SPV.0090.404 4-DUCT CONDUIT CEMENT ENCASED DB-60 LF	SPV.0105.400 UNDERDECK UTILITY STRUCTURE P-40-511 CITY OF MILWAUKEE CONDUIT LS
MANHOLE 600	TO	STA 02 + 09.7, 16.1 LT	1	--	--	--
STA 02 + 36.0,16.1 LT	TO		--	1	--	--
STA 02 + 36.0, 16.1 LT	TO	STA 02 + 54.0, 16.1 LT	--	--	18	--
STA 02 + 54.0, 16.1 LT	TO	STA 04 + 70.0, 16.1 LT	--	--	--	1
STA 03 + 70.0, 16.1 LT	TO	STA 03 + 87.0, 16.1 LT	--	--	17	--
STA 03 + 87.0, 16.1 LT	TO		--	1	--	--
MANHOLE 601	TO	STA 04 + 04.9, 16.8 LT	1	--	--	--
PROJECT TOTAL			2	2	35	1

N

SECTION PLUG AT,
S.35TH ST. & W.CLEVELAND AVE.
IS STA. 27+49.24

SOUTH 35TH STREET

511-0608

511-9995

P.L.

BLOCK WALL

LAWN SAP

LAWN

STONE

WEPCO BOX

WMSD VENT

RAILING

R/W

63.75C
63.25G
63.33F
+43.0
32.3' LT

39' LT

63.84

63.77C
63.10G

63.71C
63.21G

BEGIN PROJECT
STA. 2 + 05.80, T/L
(Y): 367,645.97
(X): 2,546,298.79

PROPOSED BRIDGE P-40-511

SEE BRIDGE PLANS

SEC. LINE

03 T/L

END PROJECT
STA. 4 + 06.00, T/L

01 02 04 05

+5.8
+20.8
+06.0

63.94
63.94
63.45
63.67
64.08
63.95
63.68
63.55
63.17
62.85
62.69
62.52
62.47
62.30
62.25
62.08
62.30
62.08

+11.0
25.0' RT

15'

64.05C
63.38G

64.00C
63.68G

63.90C
63.48G

64.05

64.14

64.17

64.00C
63.33G
63.41F
+31.0
31.5' RT 510-0378

+93.0
42.2' RT

64.02
+0.0

64.10
+0.0

64.01
+11

64.08
+11

63.86C
63.33G

64.14
+25

33' RT
+66.5

∠ PT. CURB
+0.00
33.0' RT

42' RT

62.23

62.08C
61.58G

62.33C
61.83G

62.43

62.83

CTR. 18.0' R=
+28.0-51.0' LT

PKWY.

62.76C
62.09G

33.0' LT
+20.0

25.0' LT

63.04C
62.37G

62.65

62.22

62.50C
62.00G

62.20C
61.70G

62.33

61.65C
61.40G
61.48F

61.62C
61.20G

61.65

CTR. 18.0' R=
+88.5-52.5' RT

W. KINNICKINNIC RIVER PKWY.

CTR. 18.0' R=
+11.0-46.0' LT

CTR. 18.0' R=
+71.5-48.8' RT

510-0532-7

B.M. N.W. BOLT HYD. NE CORNER
S.35TH ST. & W.KINNICKINNIC RIVER PKWY.
STA. 79+87.76, 33.8' RT.
ELEV.: 63.67

510-0445

B.M. N.W. BOLT HYD. SE CORNER
S.35TH ST. & W.MANITOBA ST.
STA. 99+89.76, 34.5' RT.
ELEV.: 66.87

W. MANITOBA ST.

ROCK WALL
BUSH
WOOD RET. WALL
ROCK WALL

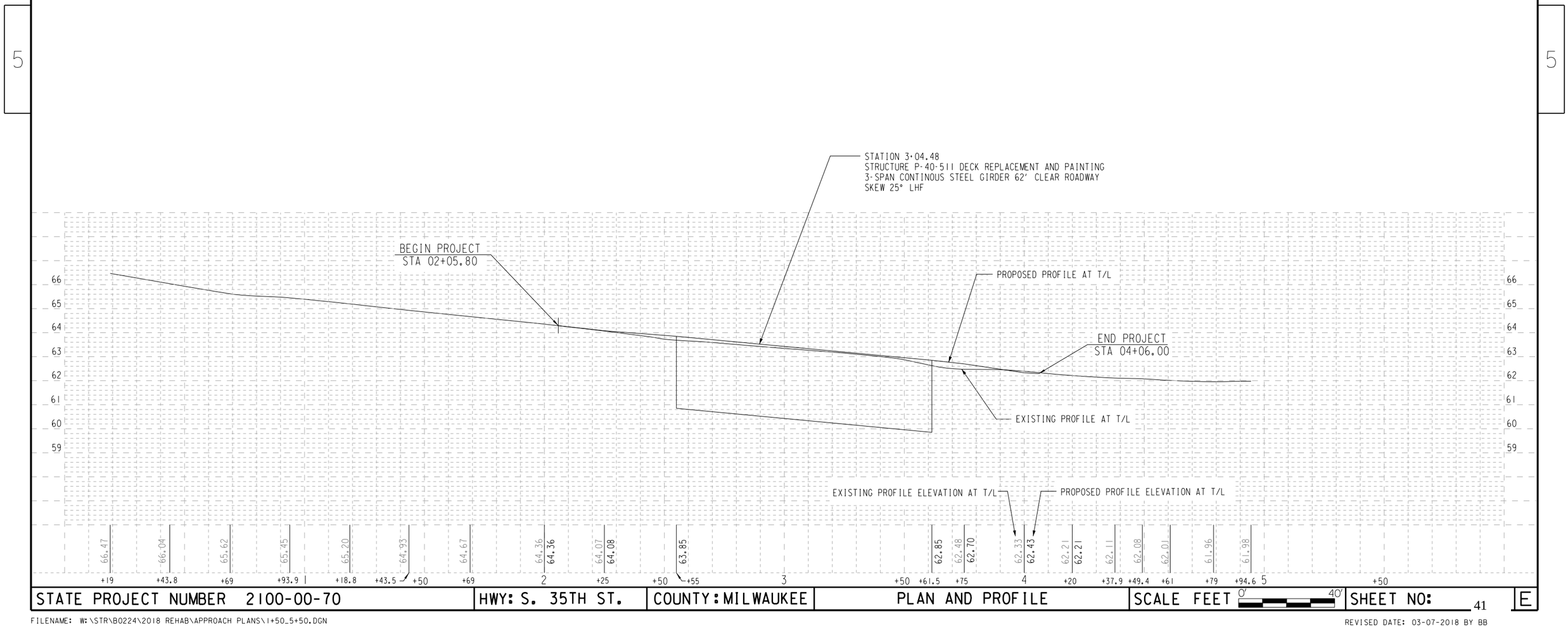
ASPH
CONC

- (A) CONST. CONC. CURB & GUTTER 31-INCH REINF.
- (AB) CONST. CONC. CURB & GUTTER 31-INCH
- (G3) 3" MIN. ASPH. OVERLAY
- (J) SAW FULL DEPTH CONCRETE
- (L) GRADE & PLACE 4" TOPSOIL, SOD & FERTILIZER
- (N) CONST. 5" CONC. SIDEWALK
- (S) SUMMIT
- (V) CONST. CONCRETE APPROACH SLAB
- (CT) CURB AND GUTTER TRANSITION
- (C2) CURB HEAD TRANSITION 6" TO 8", OVER 4'

STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 40	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\1+50_5+50.DGN

REVISED DATE: 10-10-2018 BY AL



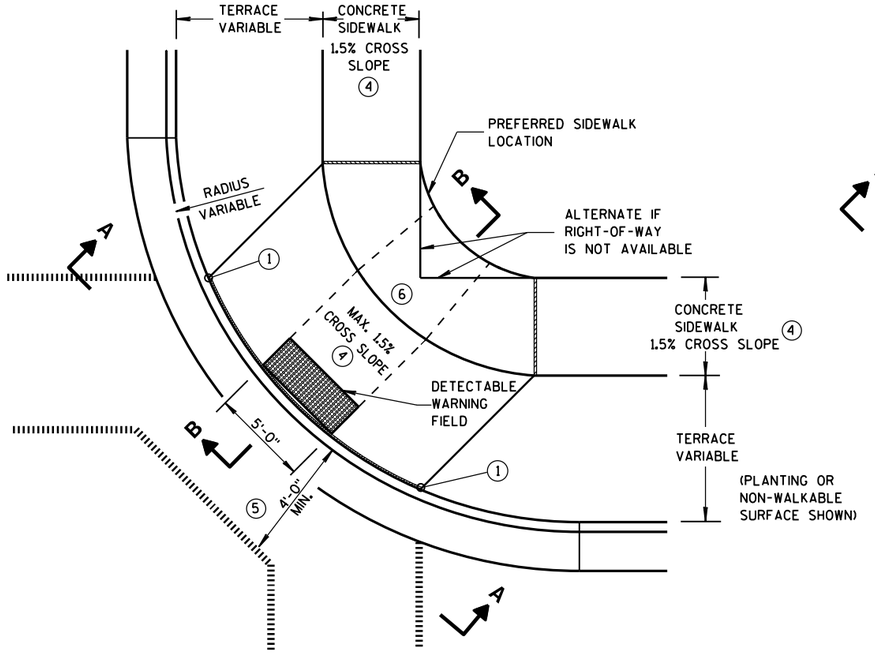
STATE PROJECT NUMBER 2100-00-70	HWY: S. 35TH ST.	COUNTY: MILWAUKEE	PLAN AND PROFILE	SCALE FEET 0' 40'	SHEET NO: 41	E

FILENAME: W:\STR\B0224\2018 REHAB\APPROACH PLANS\1+50_5+50.DGN

REVISED DATE: 03-07-2018 BY BB

Standard Detail Drawing List

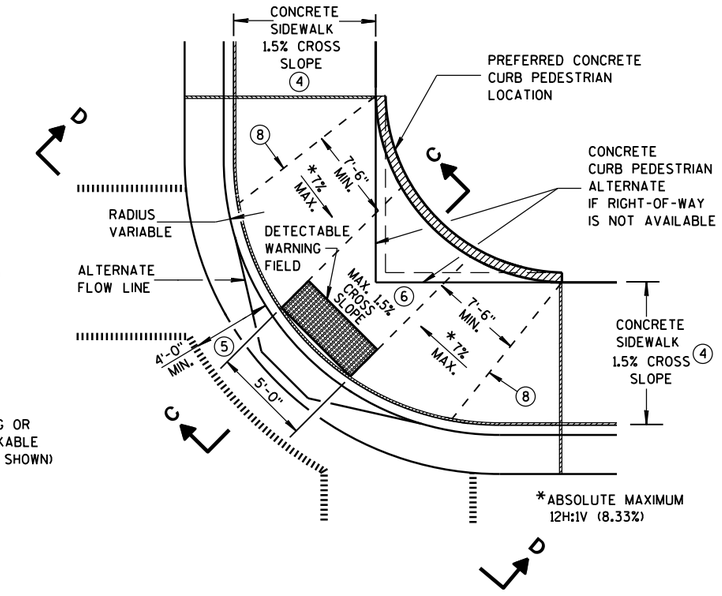
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-09	URBAN DOWELED CONCRETE PAVEMENT
13C15-06A	CONCRETE BASE
13C15-06B	CONCRETE BASE
13C18-06A	CONCRETE PAVEMENT JOINTING
13C18-06C	CONCRETE PAVEMENT JOINT TYPES
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D30-04A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-04B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-04C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



PLAN VIEW

TYPE 1 RAMP

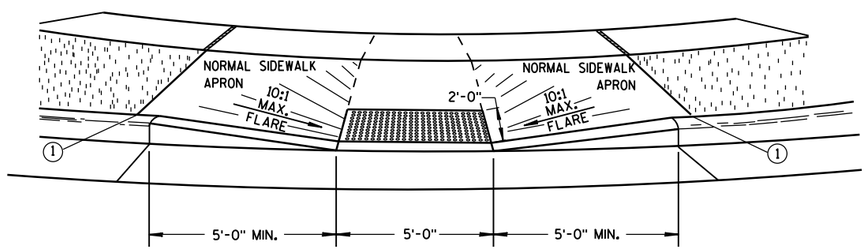
(CENTER OF CORNER RADIUS)



PLAN VIEW

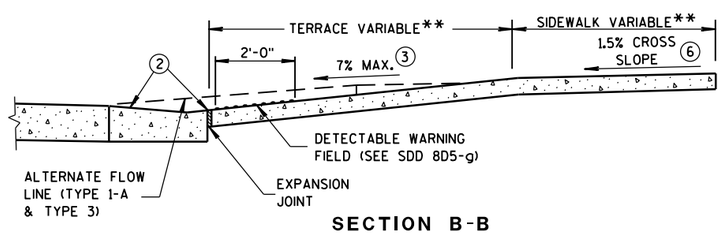
TYPE 1-A RAMP

(NO TERRACE)

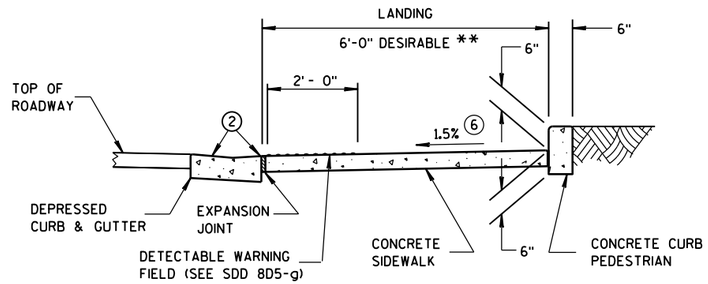


VIEW A-A

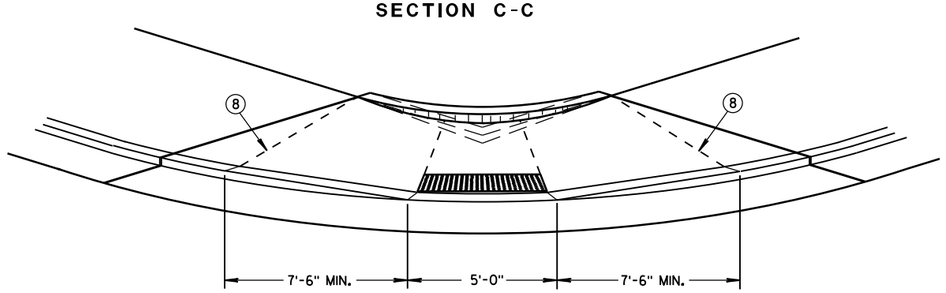
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

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

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

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

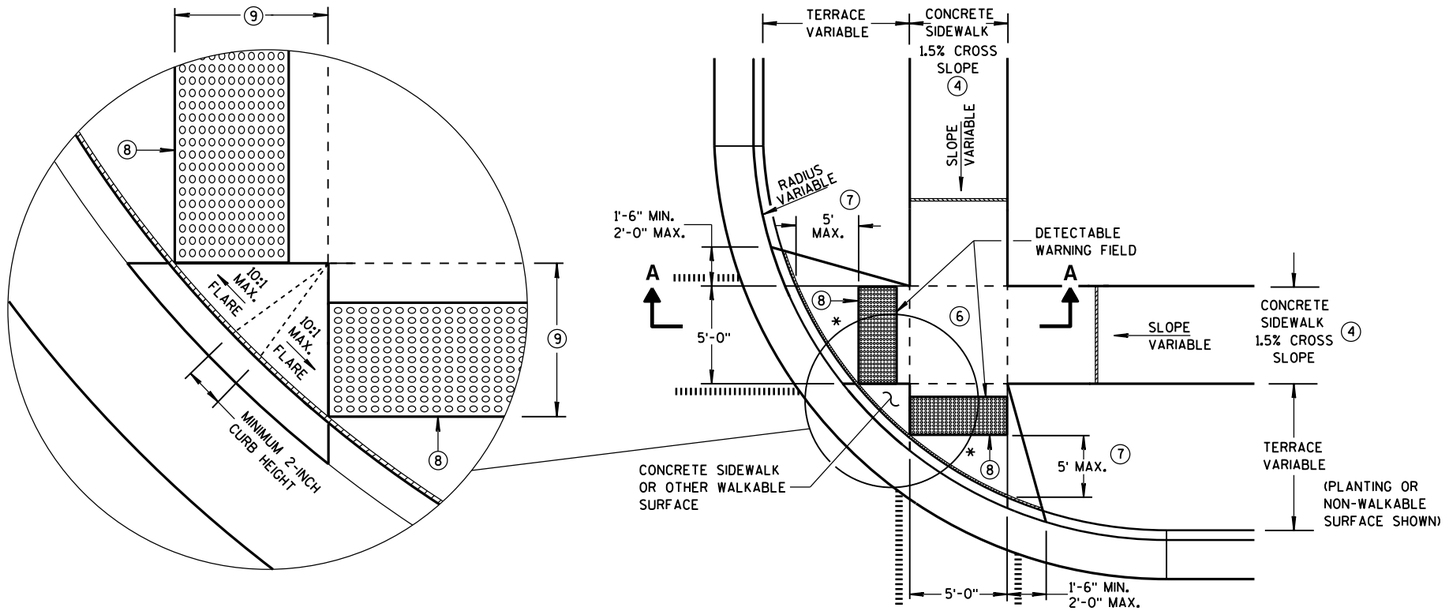
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

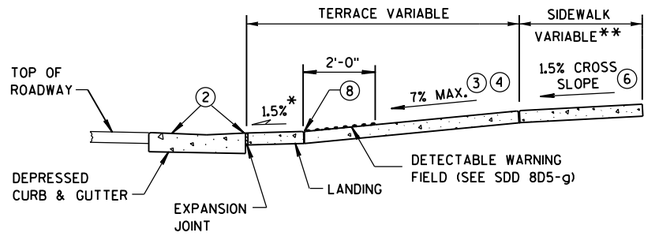
6

S.D.D. 8 D 5-19a



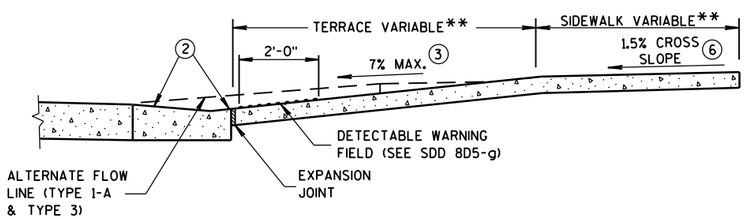
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

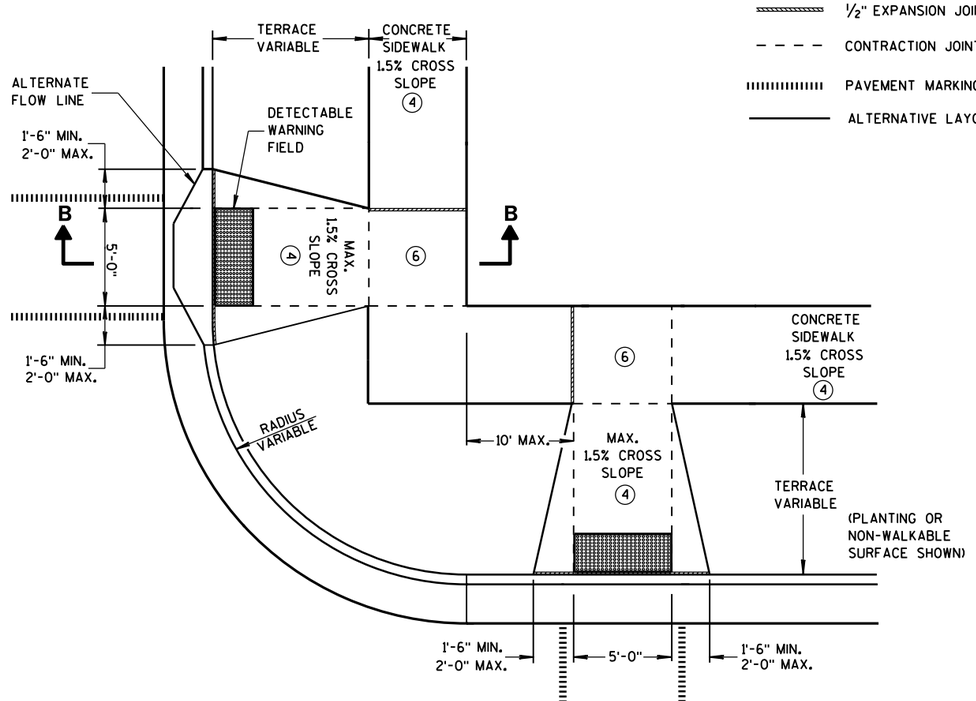
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



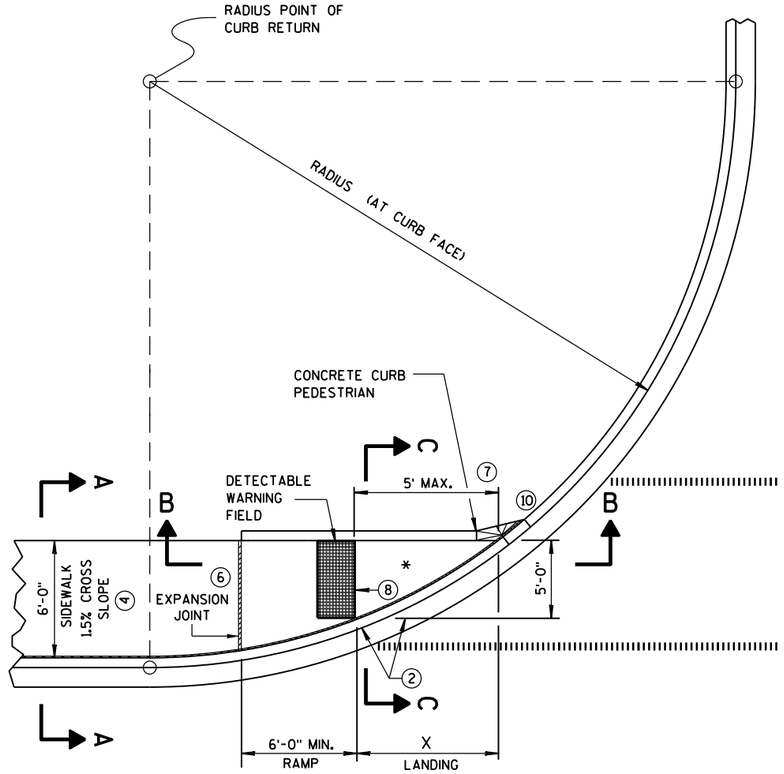
PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

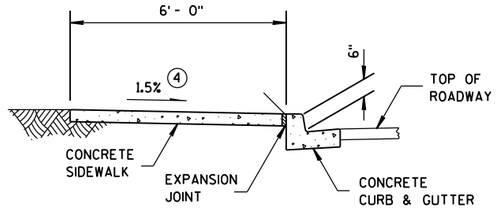
S.D.D. 8 D 5-19b



CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

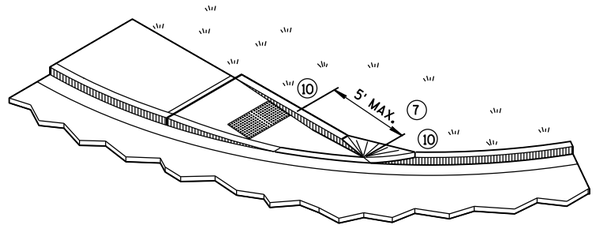
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

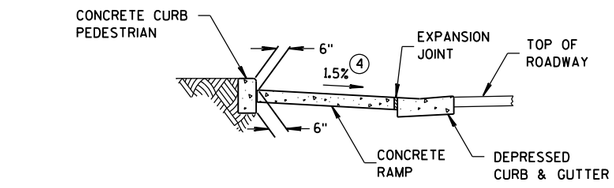
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

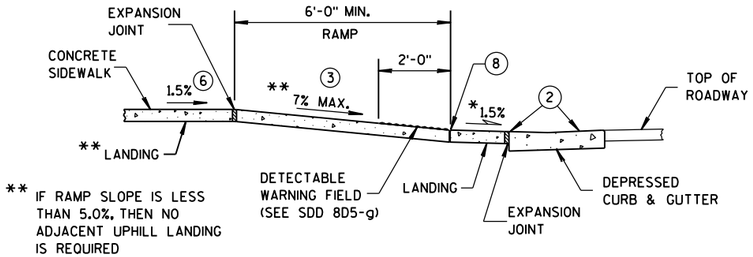
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



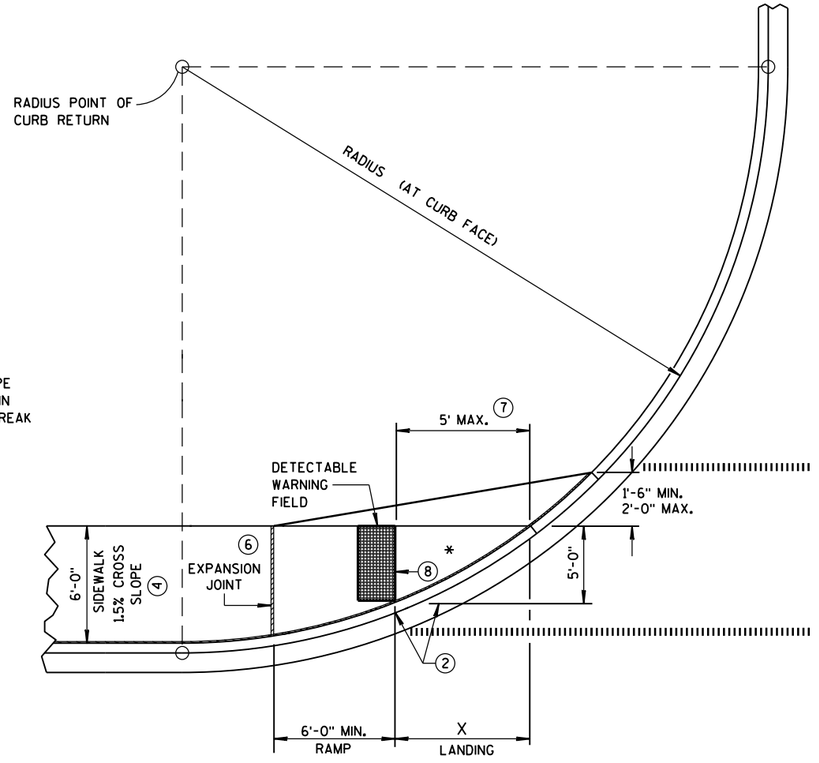
SECTION C-C FOR TYPE 4A



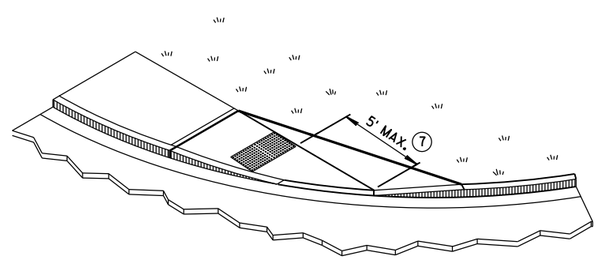
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

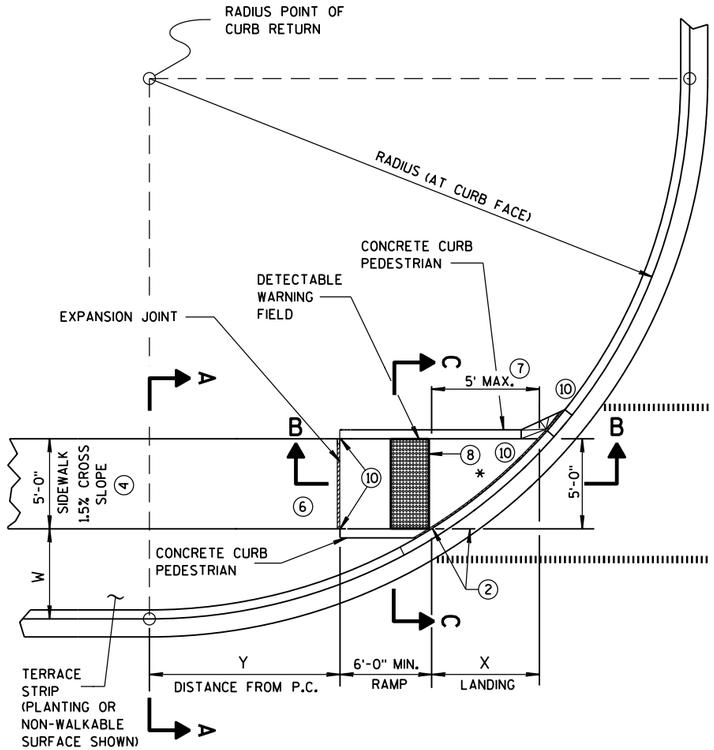
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

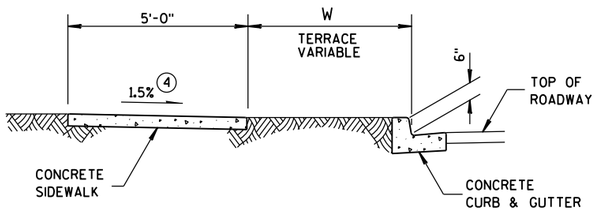
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

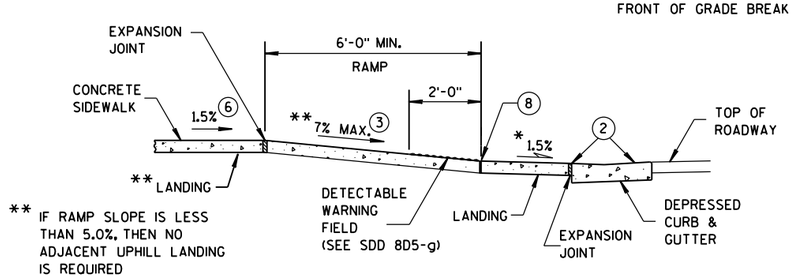
S.D.D. 8 D 5-19c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B

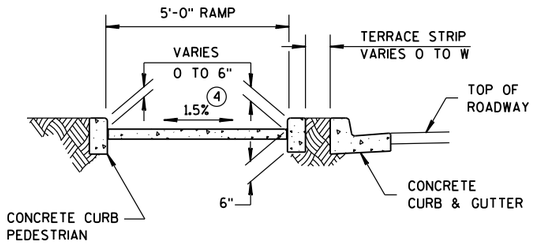


* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

SECTION B-B FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"		W = 8'-0"		W = 9'-0"		W = 10'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2'-10¼"	0'-5"	2'-1"	1'-4½"	1'-5"	2'-1"	0'-10"	2'-7½"	0'-3¼"	3'-0¼"						
15 FEET	4'-6¾"	2'-1¾"	3'-9"	3'-5¼"	3'-1¼"	4'-6"	2'-6¾"	5'-4½"	2'-1"	6'-1"	1'-8"	6'-8½"	1'-3¼"	7'-2½"	0'-10¾"	7'-7¼"
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-7"	3'-3"	8'-6½"	2'-10"	9'-4½"	2'-5½"	10'-1¼"	2'-1¼"	10'-9"
30 FEET			6'-9¼"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"	4'-5½"	13'-7¾"	4'-0¾"	14'-8½"	3'-8½"	15'-8¼"
40 FEET									6'-1¾"	15'-8½"	5'-8"	17'-2"	5'-3"	18'-5¾"	4'-10¾"	19'-8¼"
50 FEET															5'-10¼"	23'-2"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



SECTION C-C FOR TYPE 4B

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

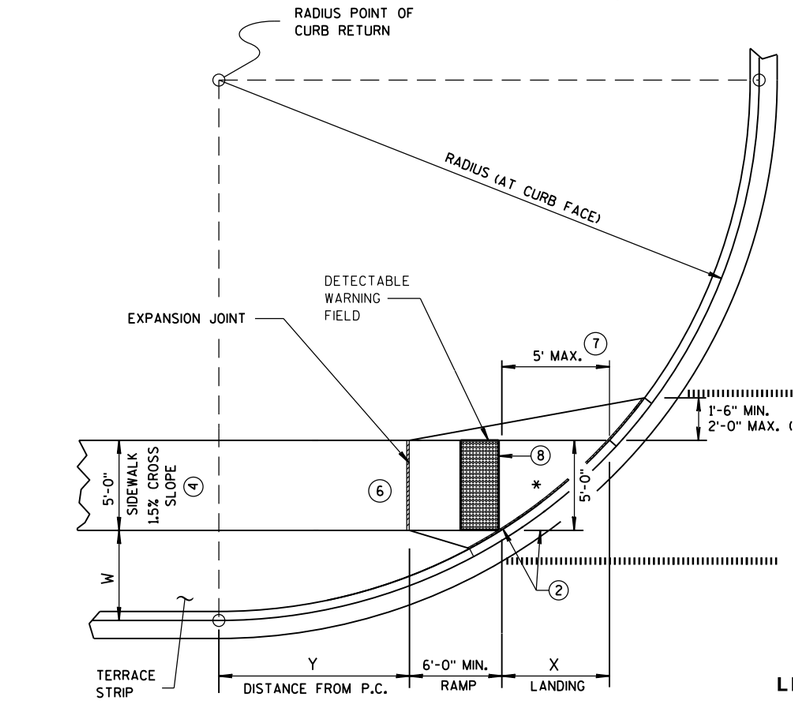
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

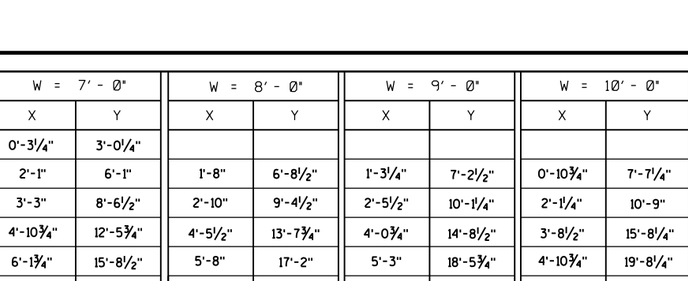
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

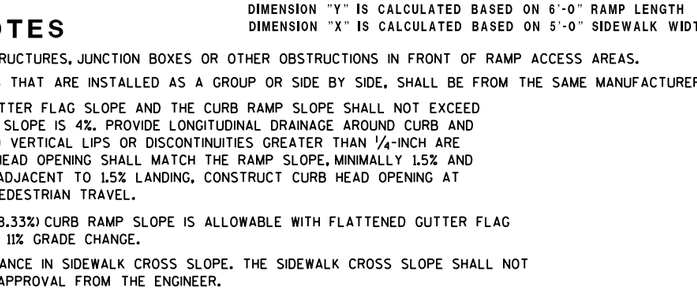
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

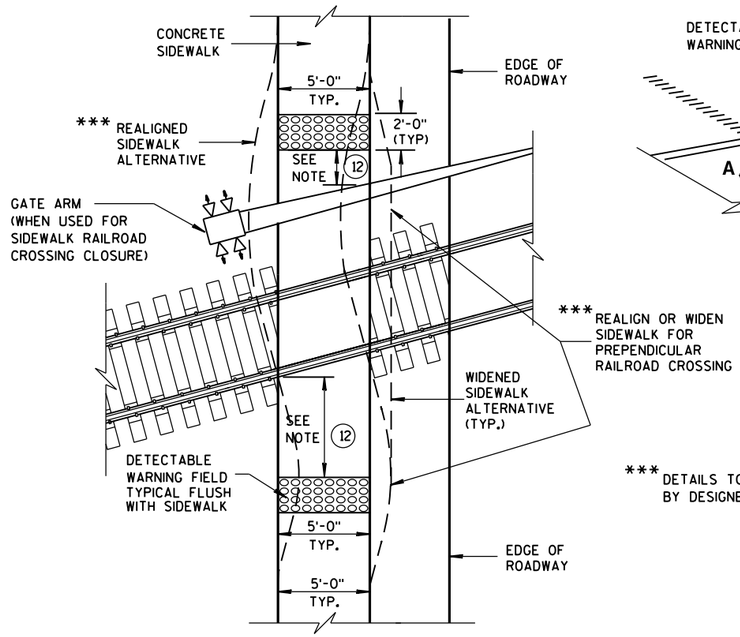
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

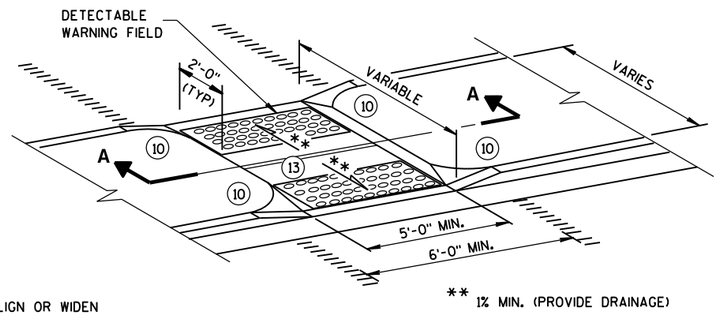
6

S.D.D. 8 D 5-19d



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

GENERAL NOTES

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

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

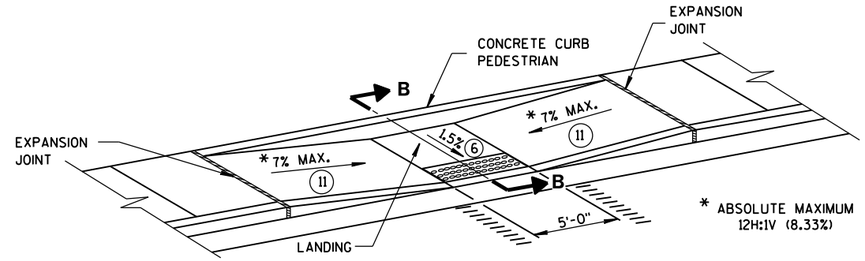
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

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

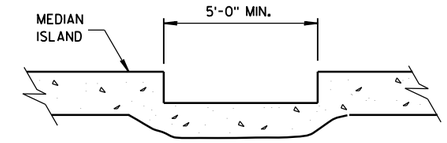
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

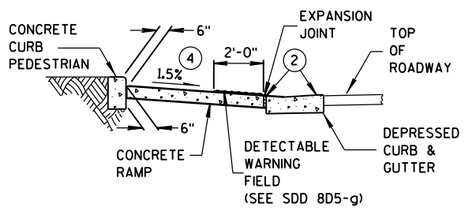
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.



MID-BLOCK CROSSING
TYPE 7A

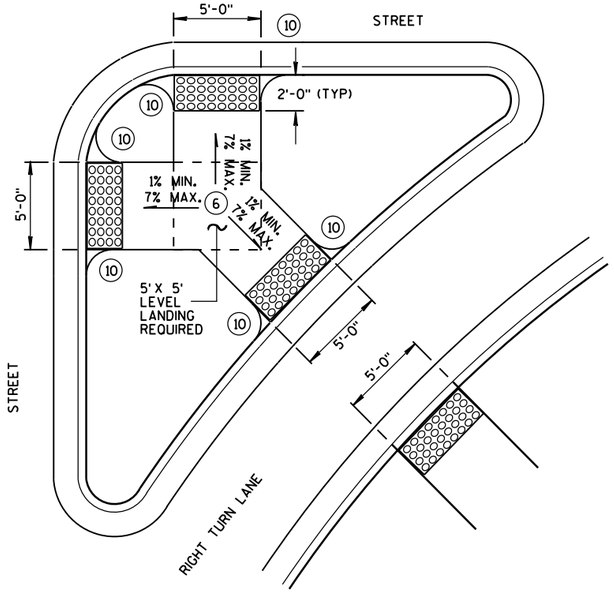


SECTION A-A

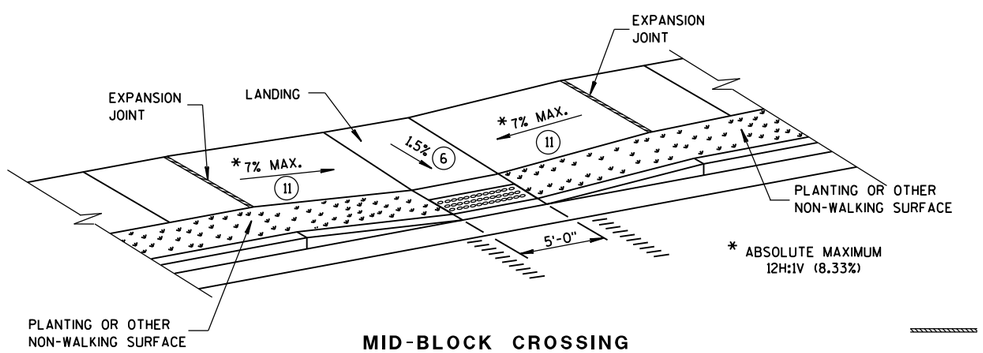


SECTION B-B

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

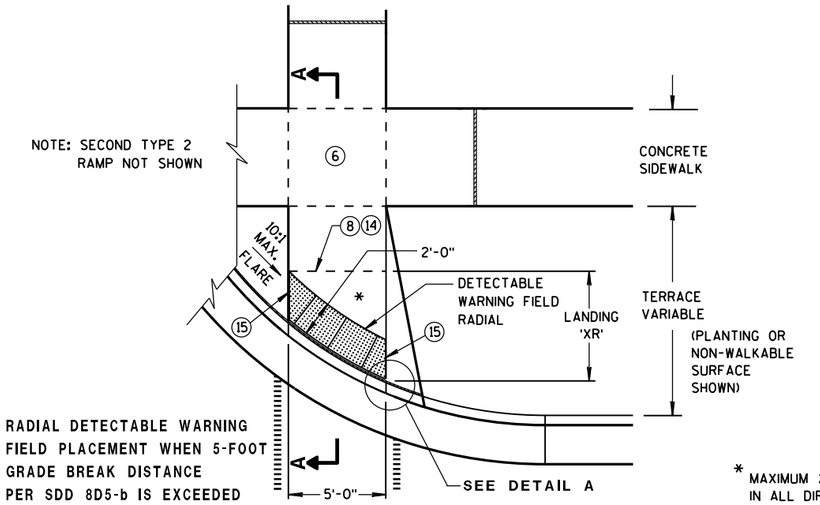
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-19e

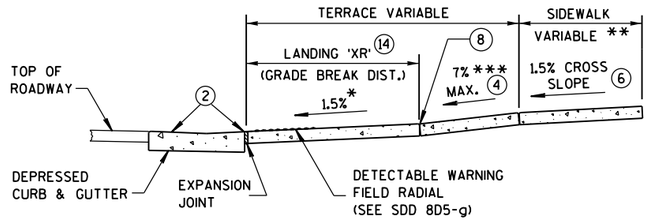


TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

LEGEND

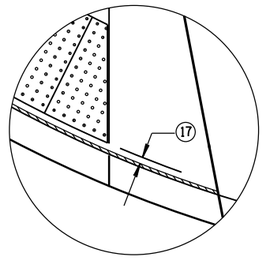
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



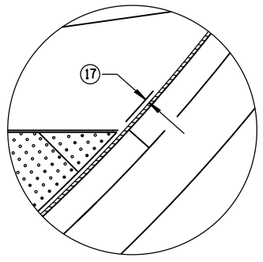
** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

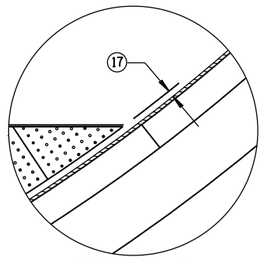
SECTION A-A



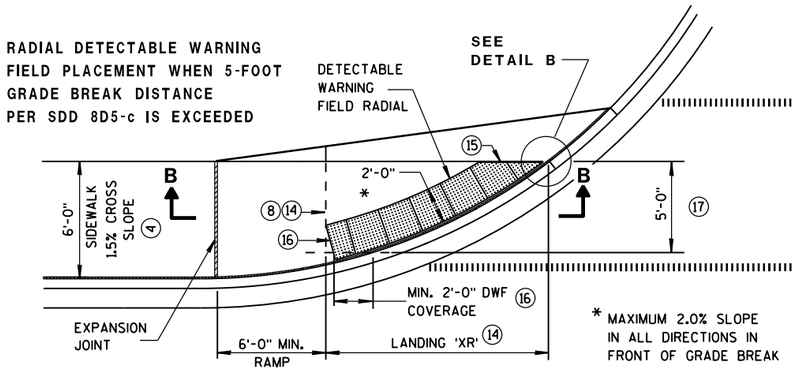
DETAIL A



DETAIL C

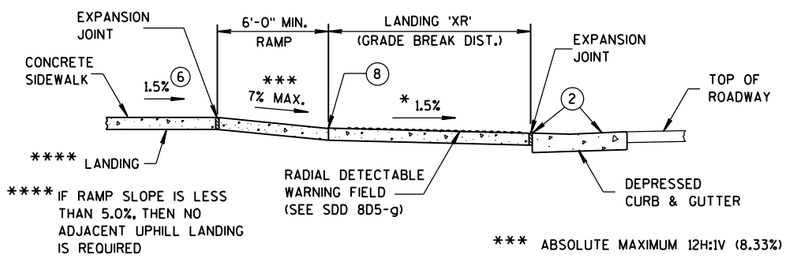


DETAIL B



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

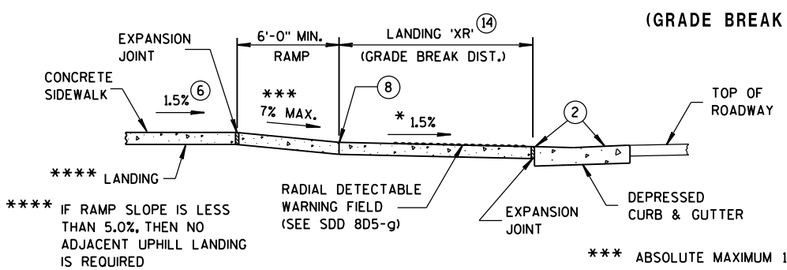
CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION B-B FOR TYPE 4A1



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION C-C FOR TYPE 4B1

GENERAL NOTES

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

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

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

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

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

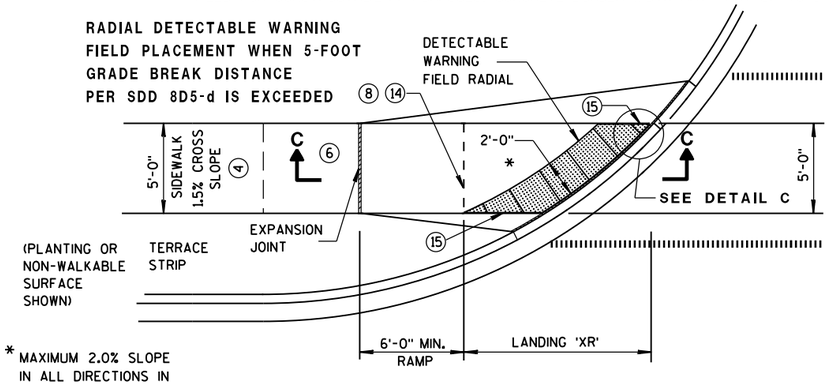
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

(17) A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

CURB RAMP TYPE 4B1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

CURB RAMPS
RADIAL DETECTABLE WARNING FIELD APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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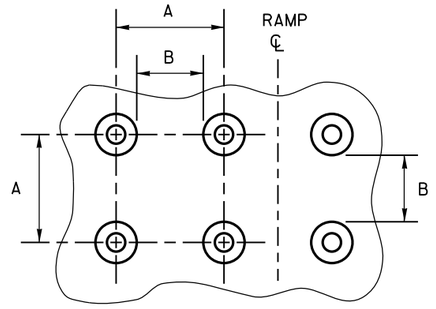
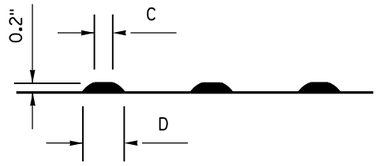
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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



PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL

GENERAL NOTES

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

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

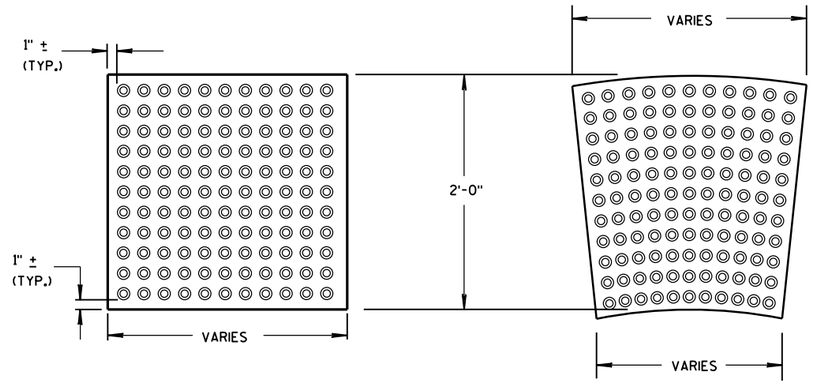
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

⑮ FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

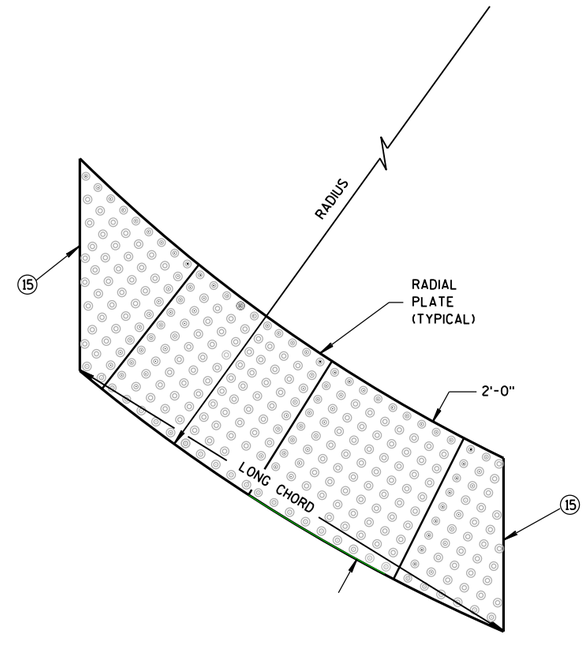


RECTANGULAR PLATES

RADIAL PLATES

DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW



RADIAL DETECTABLE WARNING FIELD ATTRIBUTES

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
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FHWA

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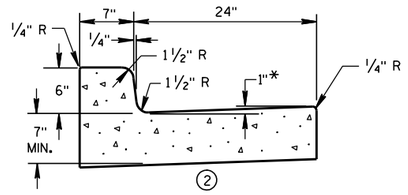
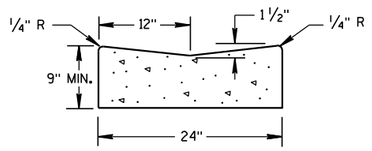
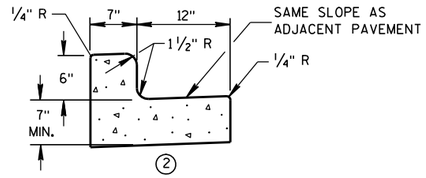


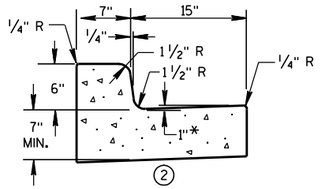
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

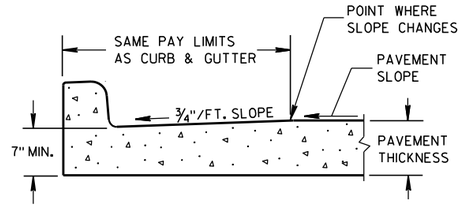


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

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.

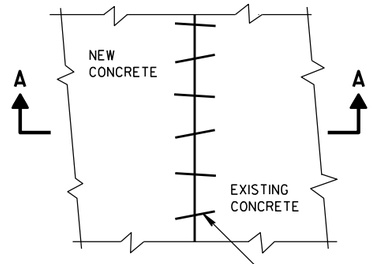
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

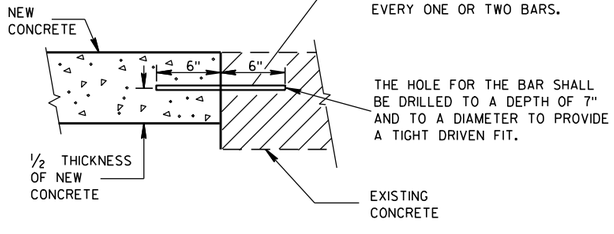
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

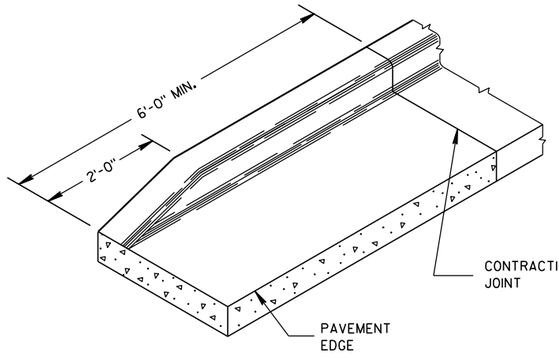
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



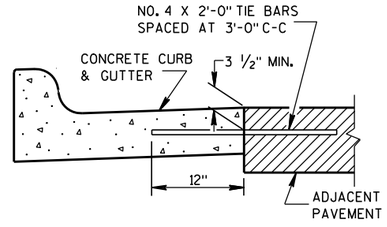
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

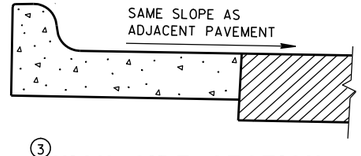
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

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FHWA

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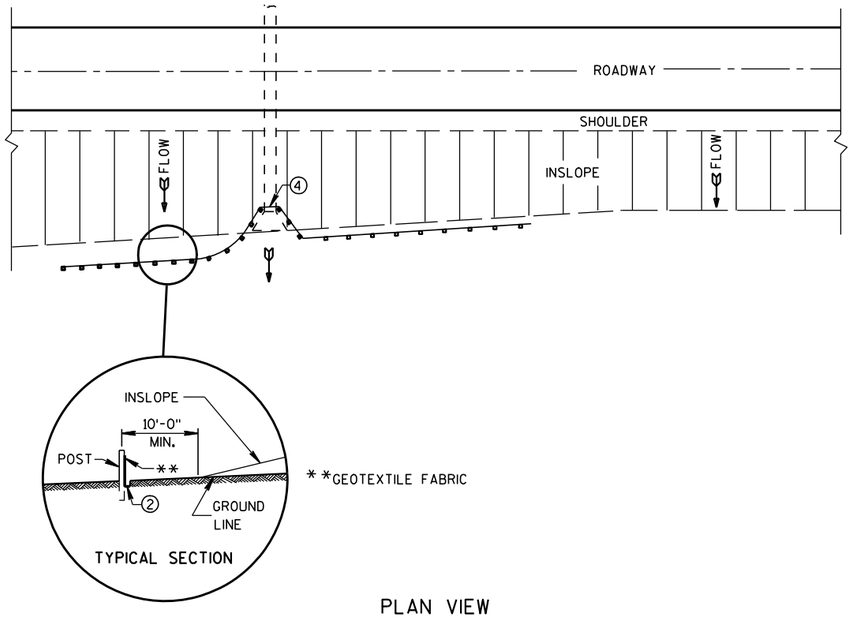
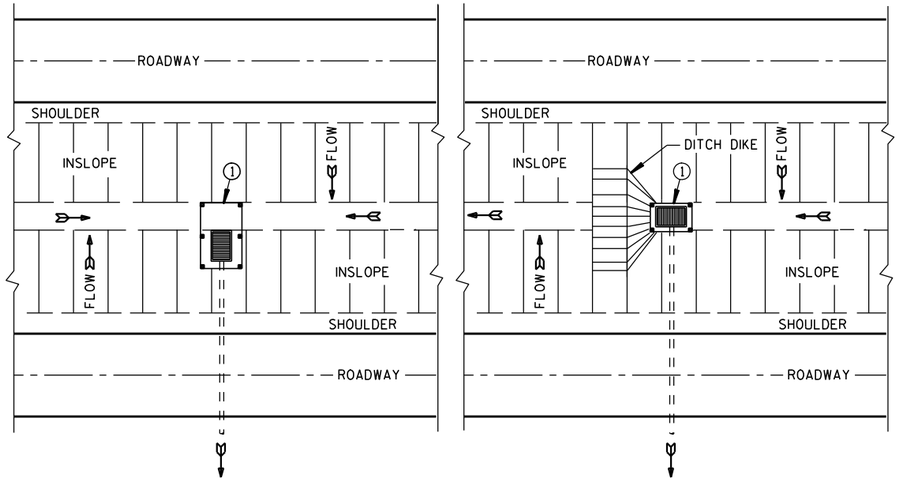


PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



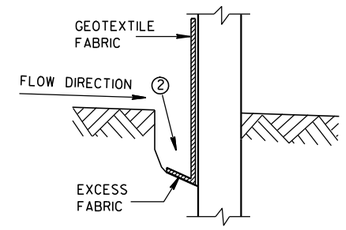
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

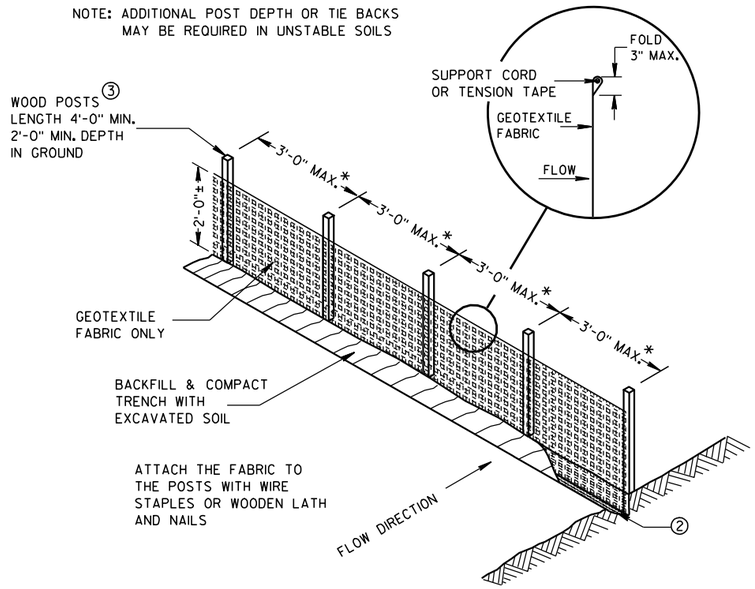
GENERAL NOTES

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

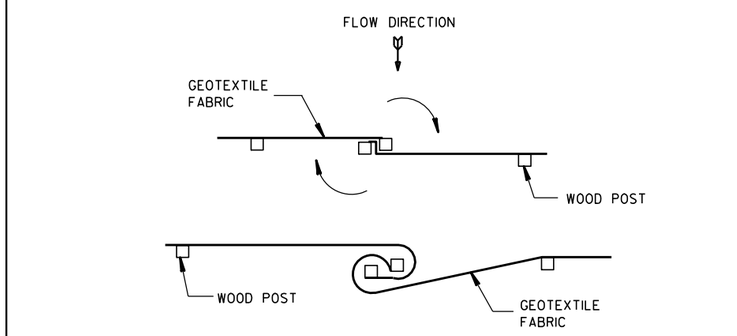
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



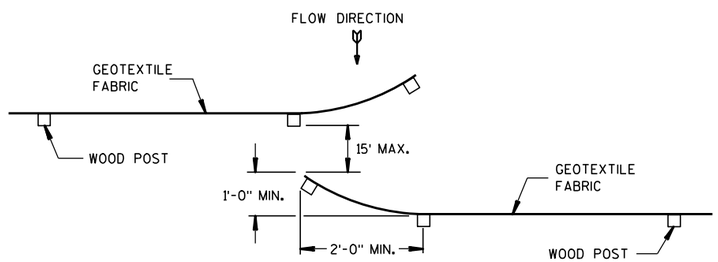
TRENCH DETAIL



SILT FENCE

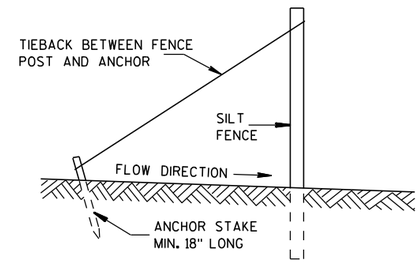


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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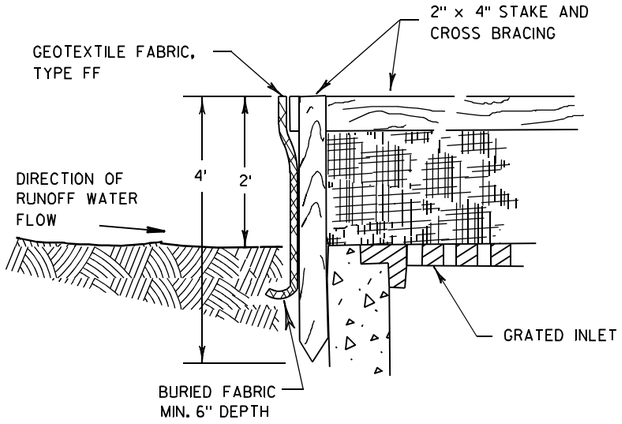
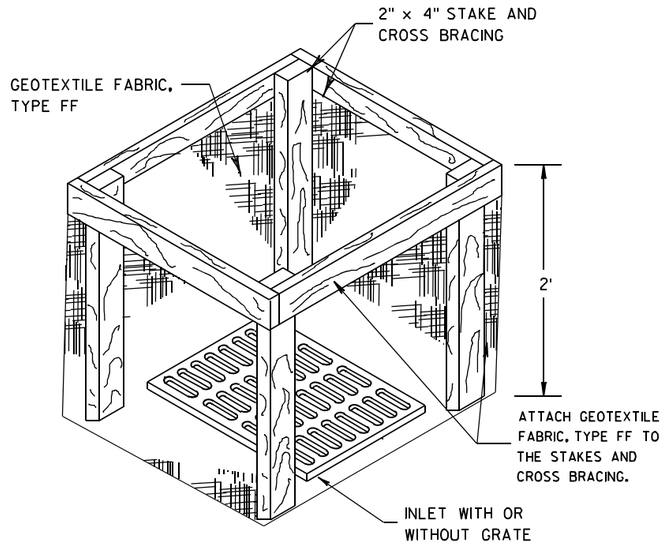
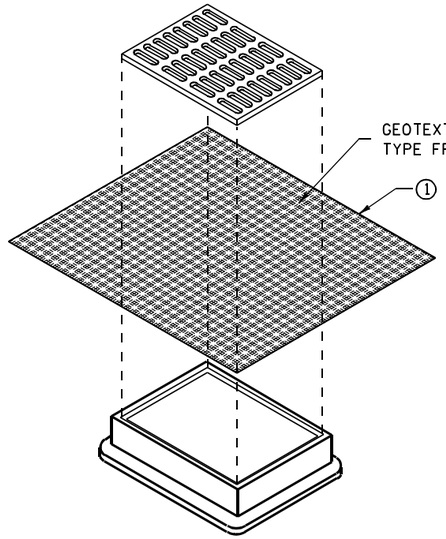
S.D.D. 8 E 9-6



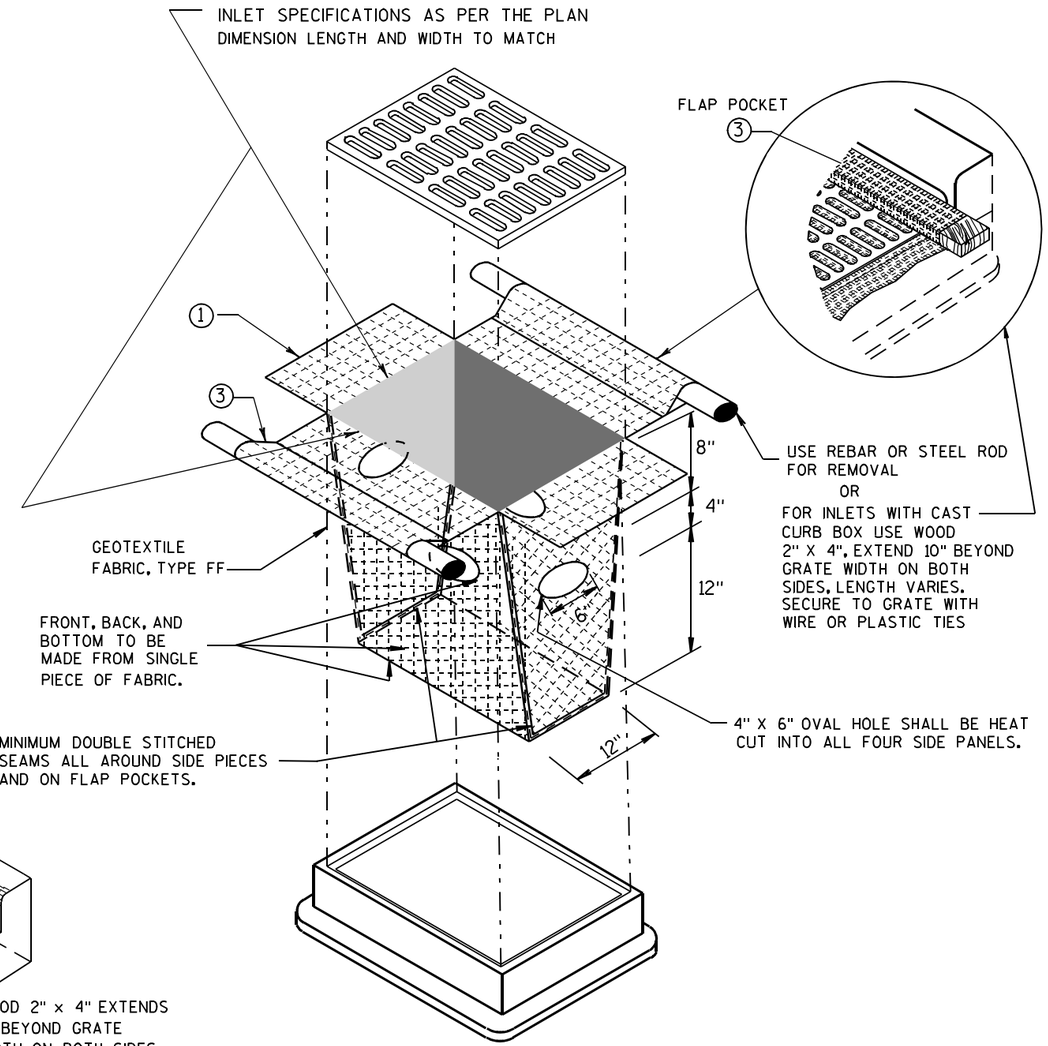


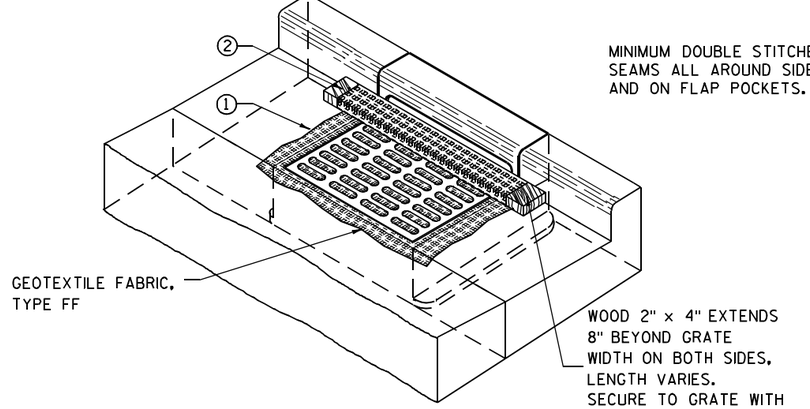
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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





INLET PROTECTION, TYPE C (WITH CURB BOX)

INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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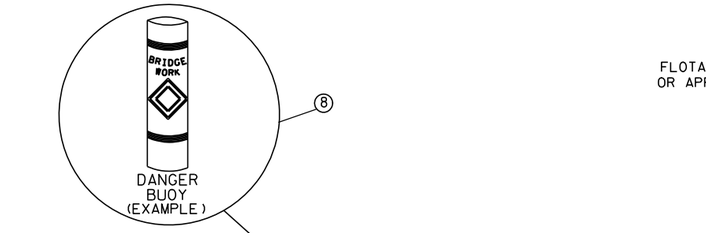
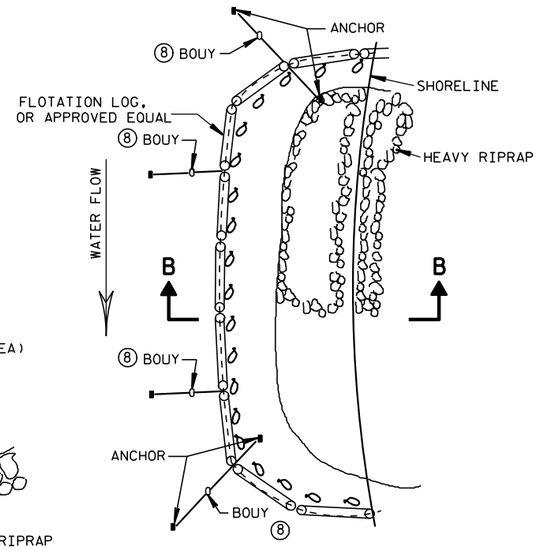
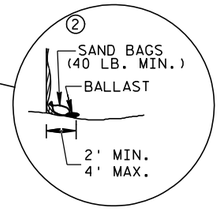
S.D.D. 8 E 10-2

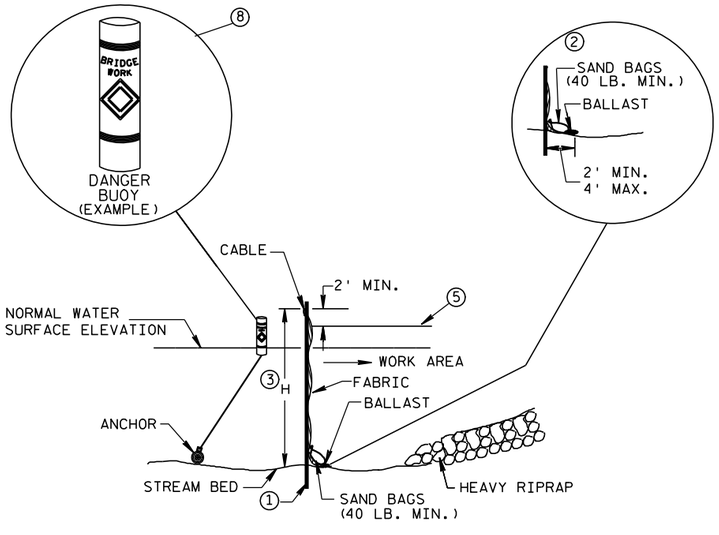


SECTION B-B

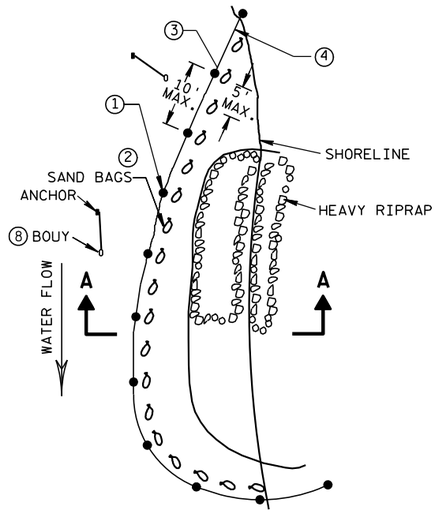




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

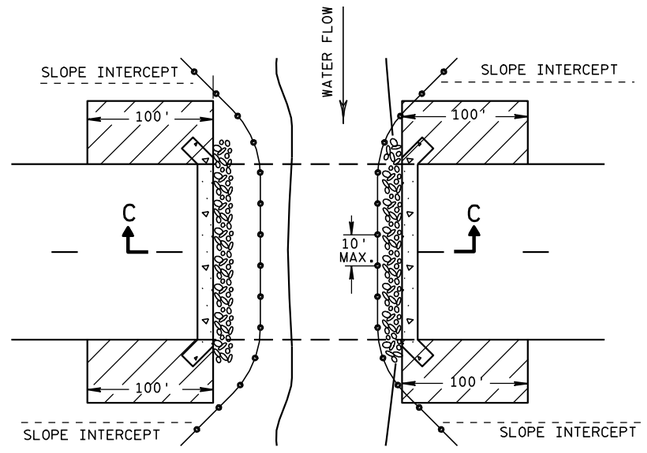
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

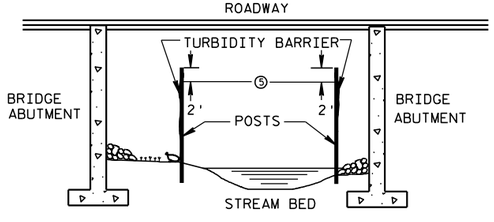
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



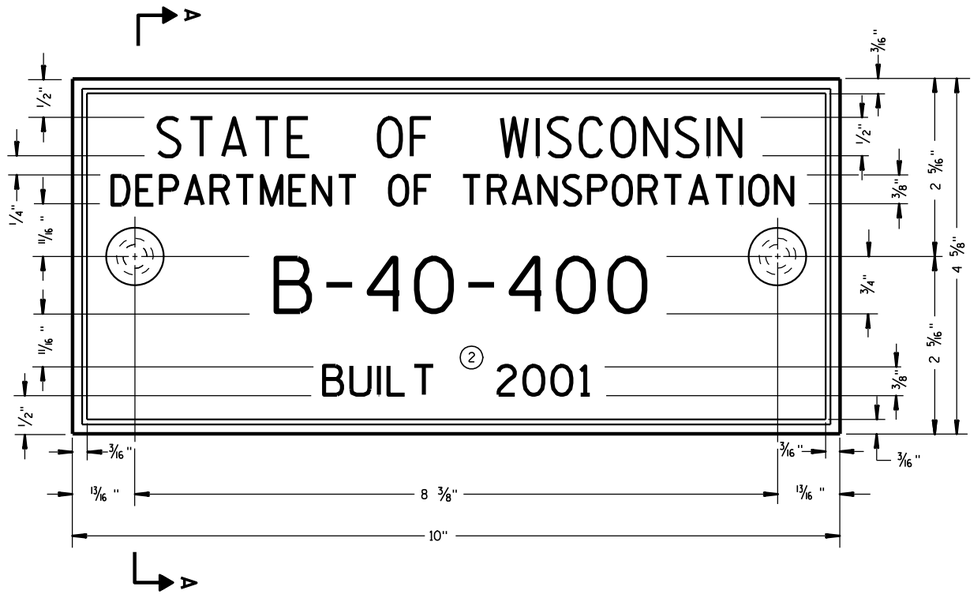
SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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

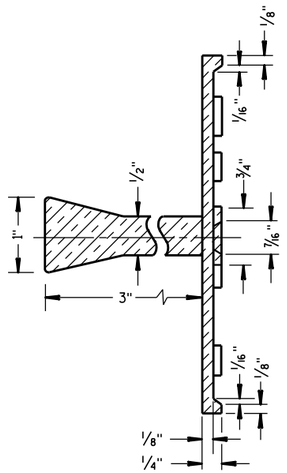
GENERAL NOTES

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

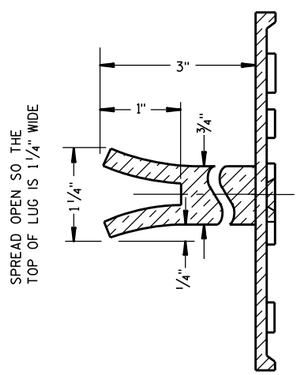
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

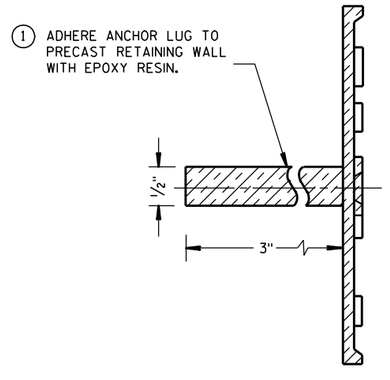
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

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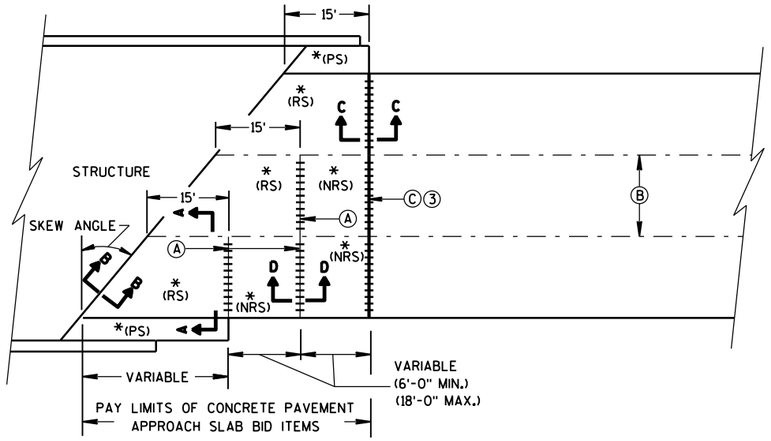
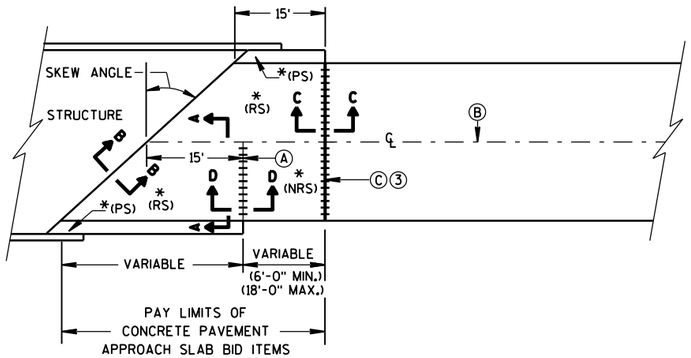
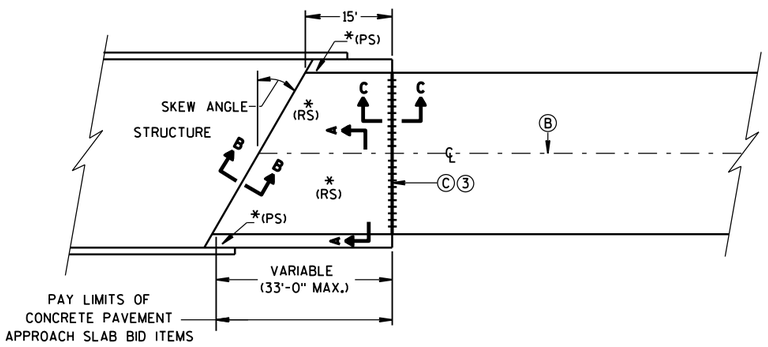


SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

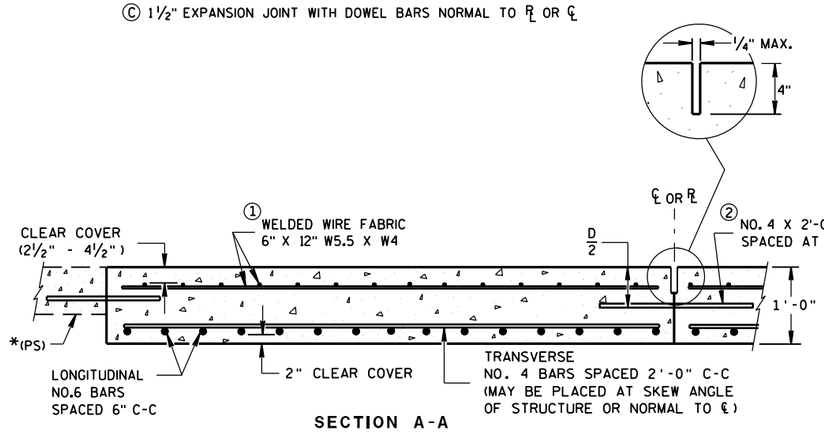
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

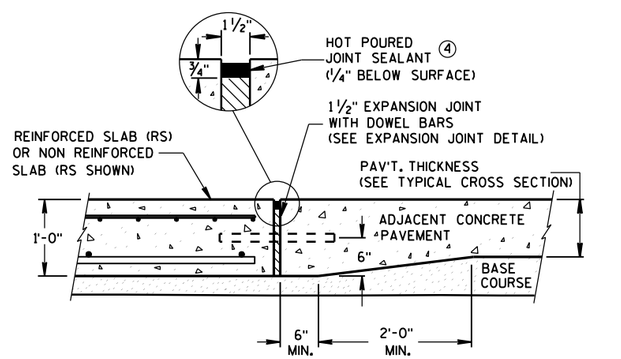
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

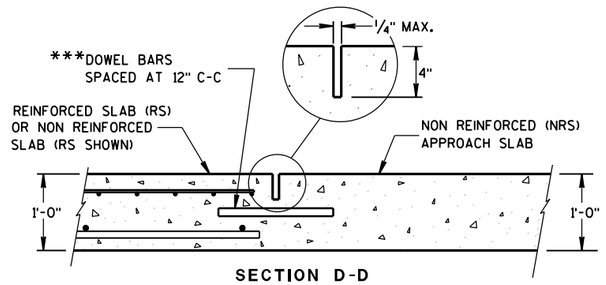
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

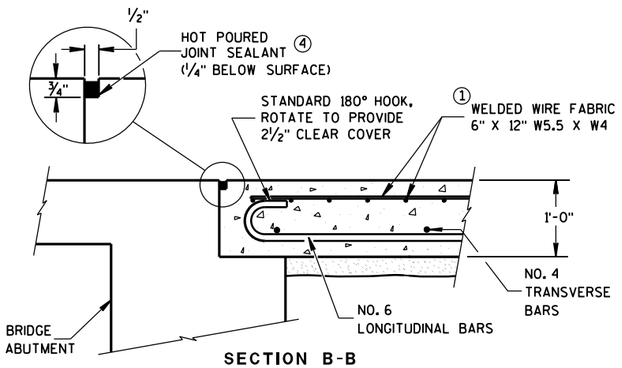
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

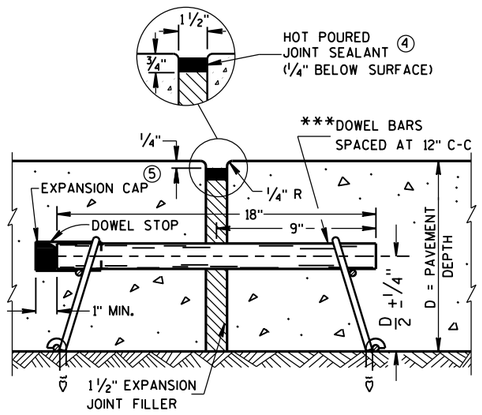
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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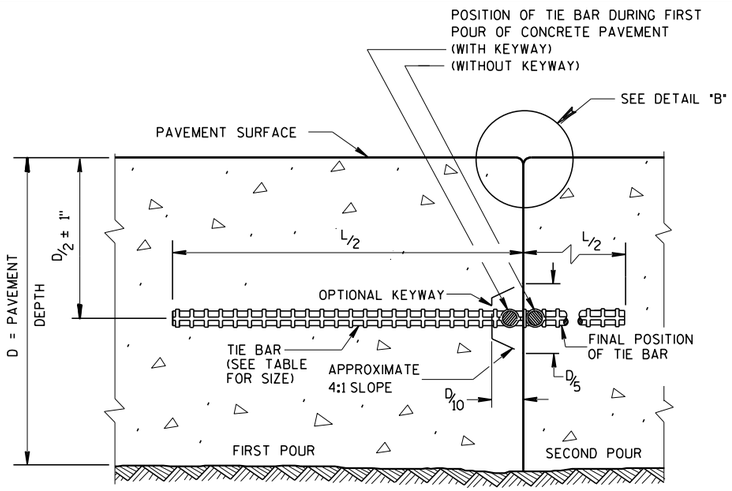
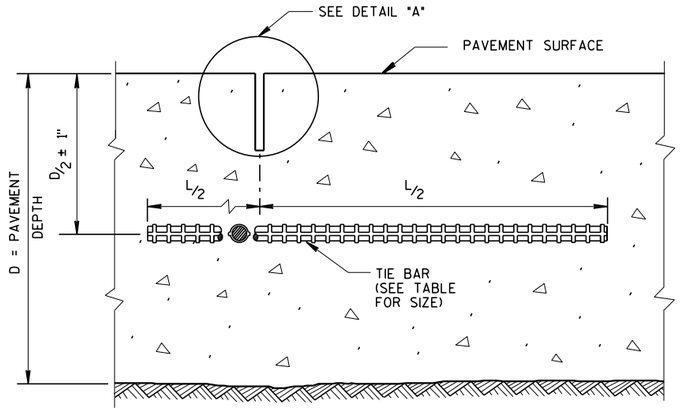
S.D.D. 13 B 2-8a



CONSTRUCTION JOINT



SAWED JOINT

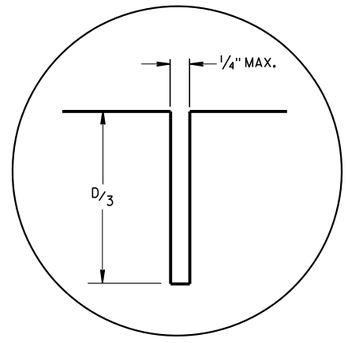
GENERAL NOTES

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.

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



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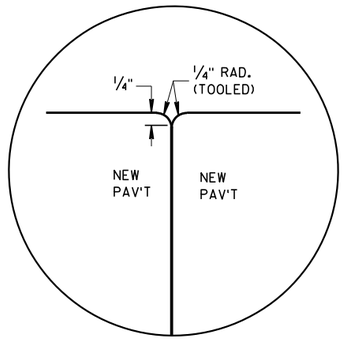
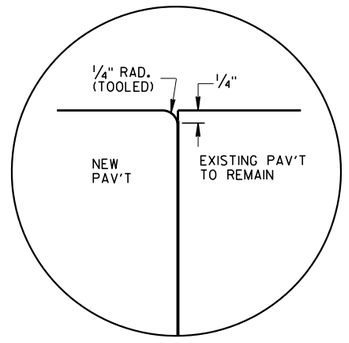
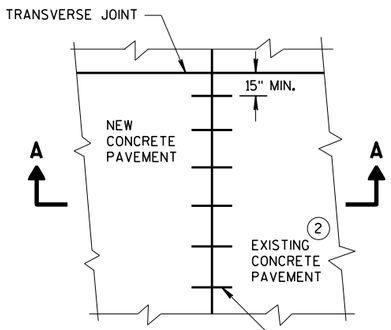


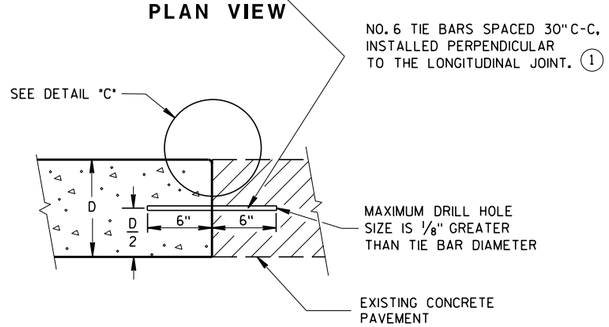
DETAIL "B"



DETAIL "C"



PLAN VIEW



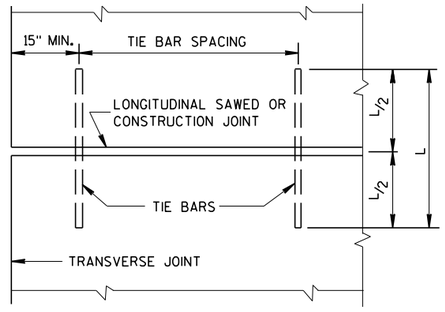
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kerr — PAVEMENT SUPE
FHWA

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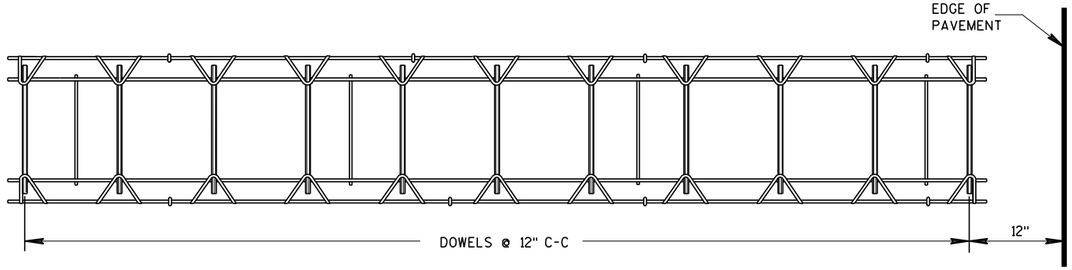
S.D.D. 13 C 1-19



PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

GENERAL NOTES

CONTRACTION JOINTS

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

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

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

CONSTRUCTION JOINTS

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

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

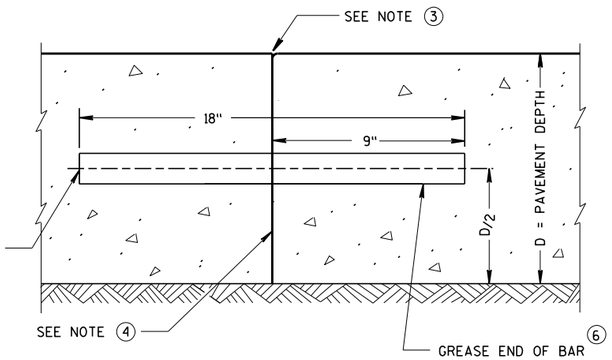
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

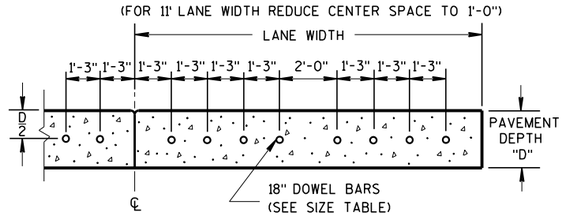
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

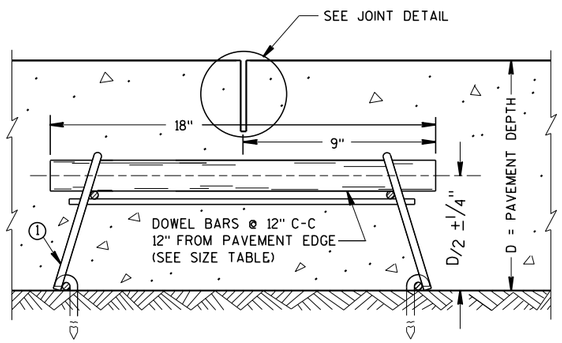
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



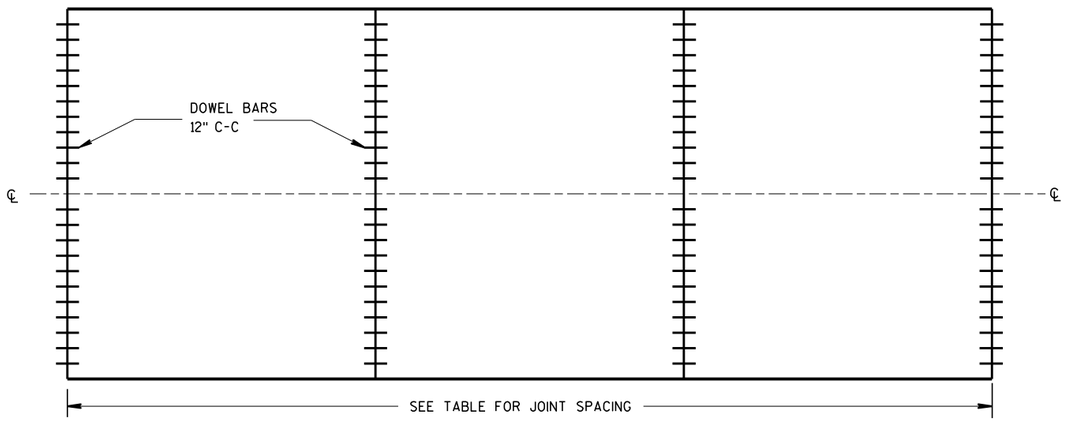
TRANSVERSE CONSTRUCTION JOINT



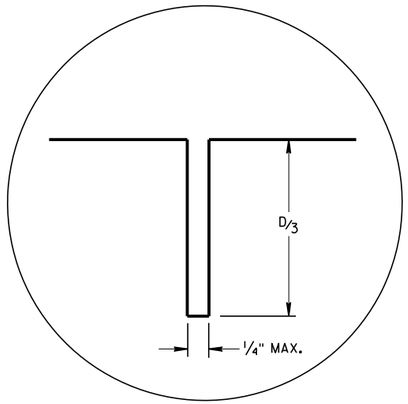
DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



DOWELED CONTRACTION JOINT



CONTRACTION JOINT LOCATIONS

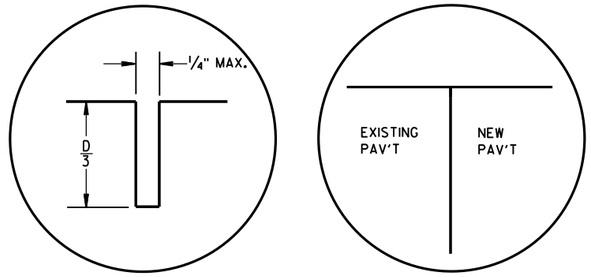


JOINT DETAIL

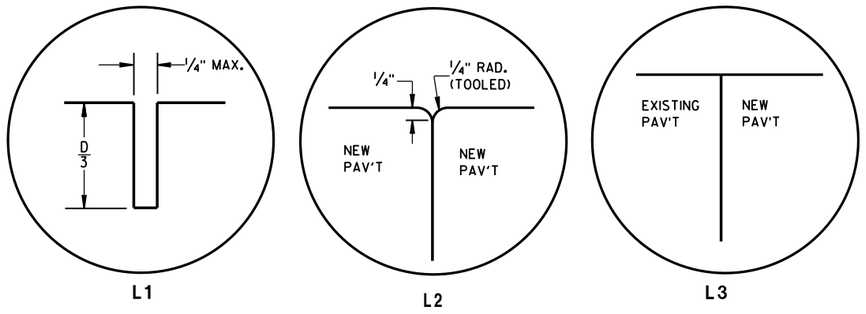
URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

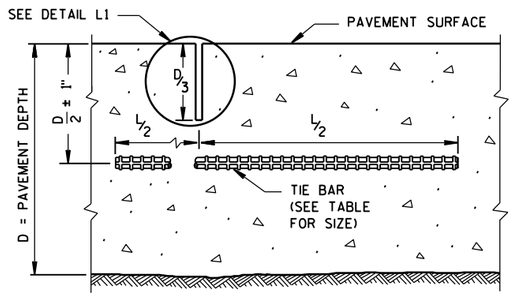
APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUP
FHWA



TRANSVERSE JOINTS

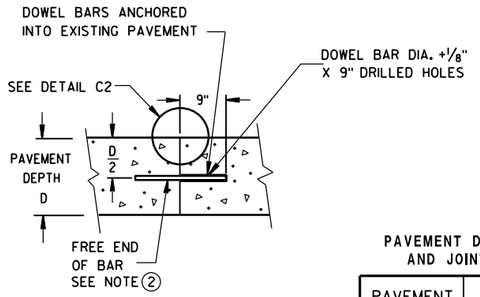


LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

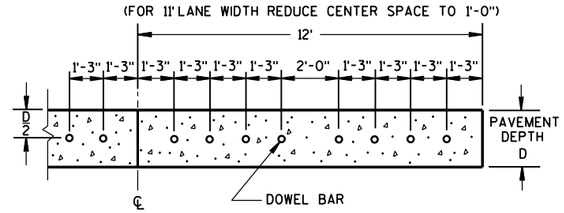
GENERAL NOTES

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

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

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

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



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

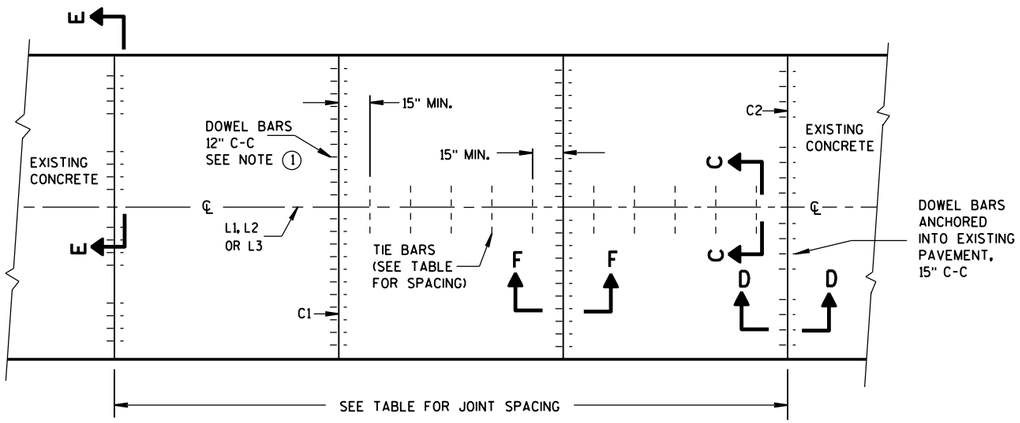
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 6, 6 ½"	NONE	12'
7, 7 ½"	1"	14'
8, 8 ½"	1 ¼"	15'
9, 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

TIE BAR TABLE

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

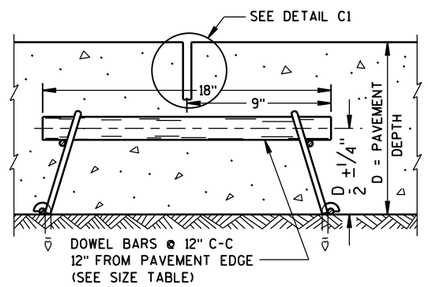
* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

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



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

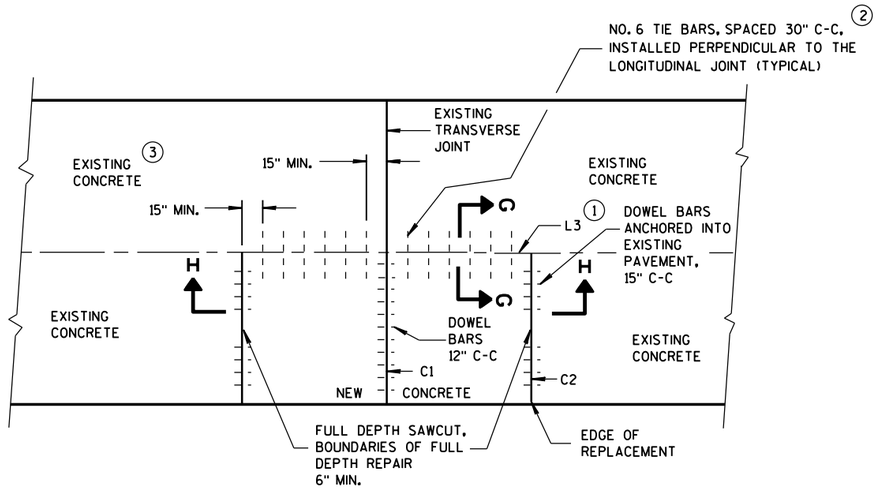
6
S.D.D. 13 C 15-6a

GENERAL NOTES

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

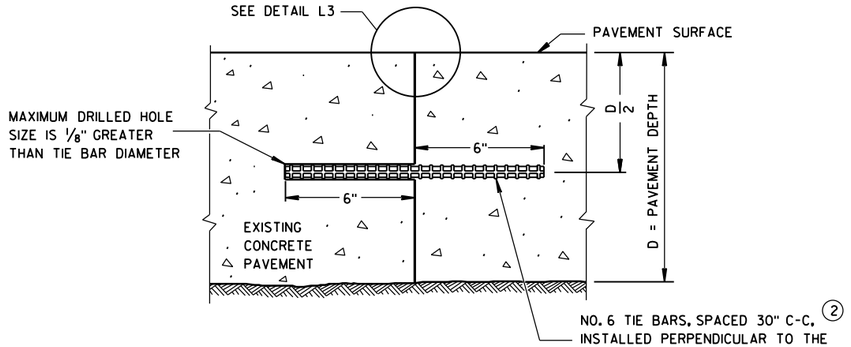
(2) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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



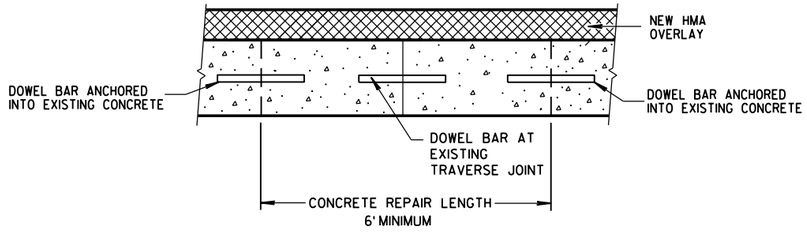
PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H-H

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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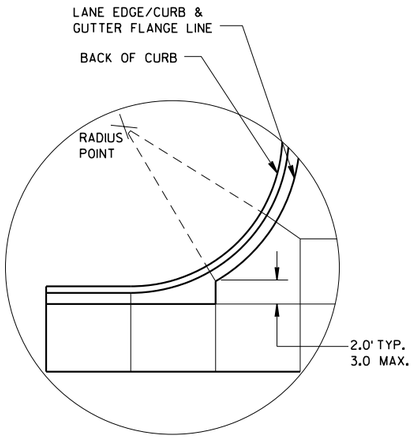
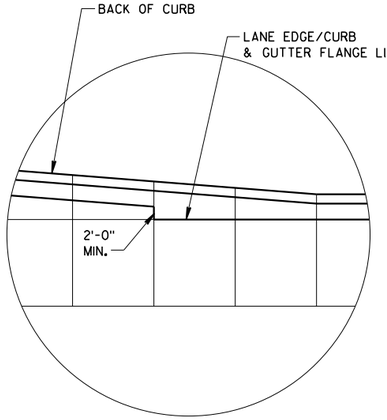
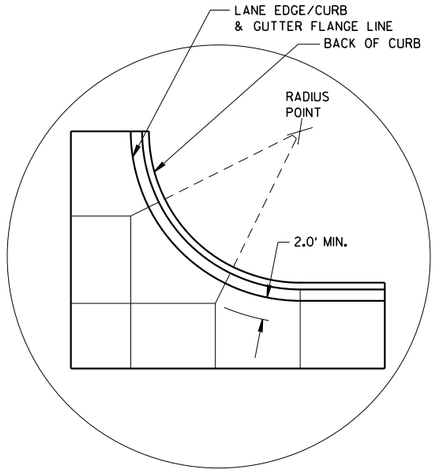
S.D.D. 13 C 15-6b



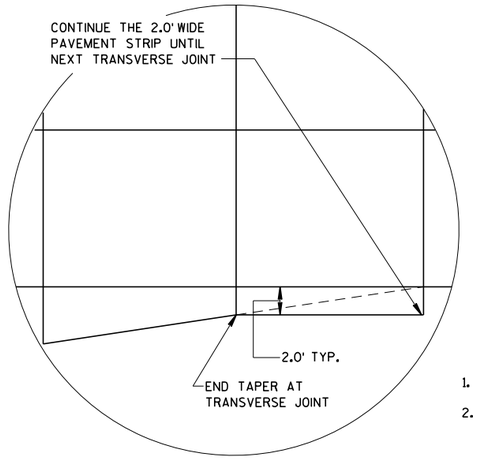
DETAIL "A"



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.

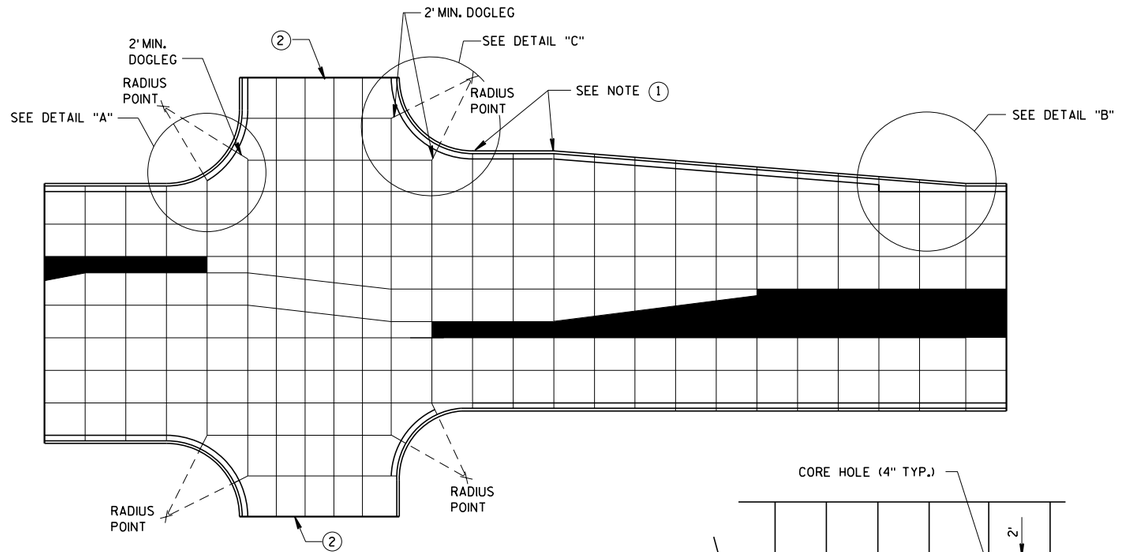
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

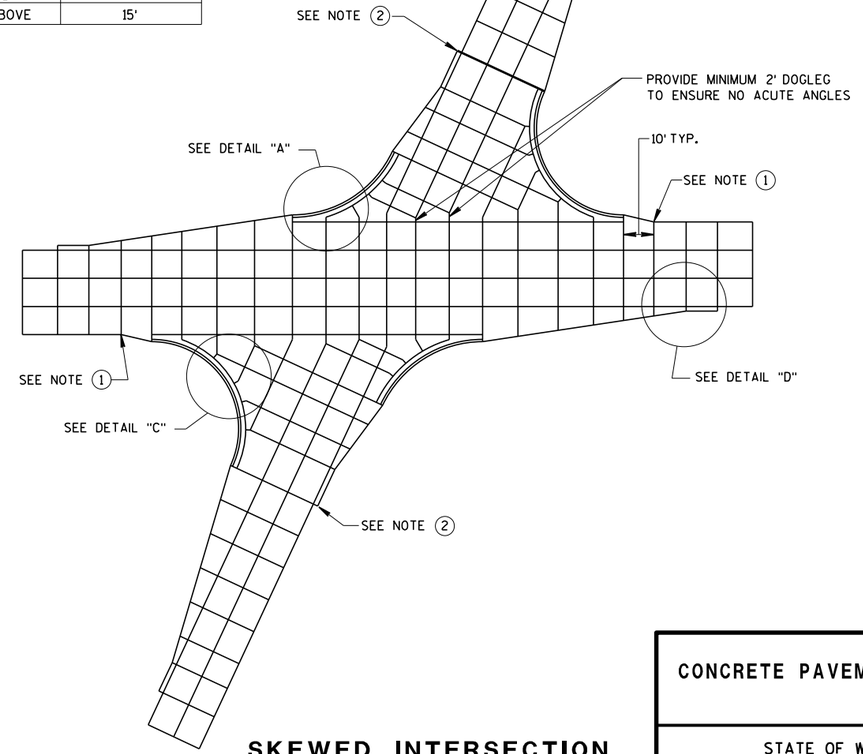
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



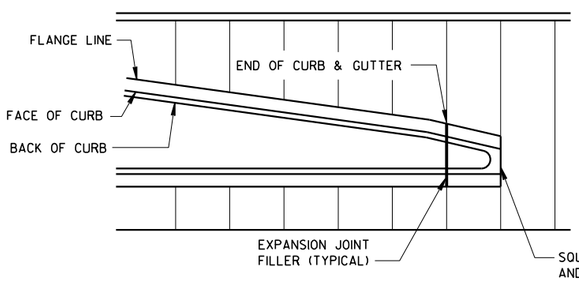
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

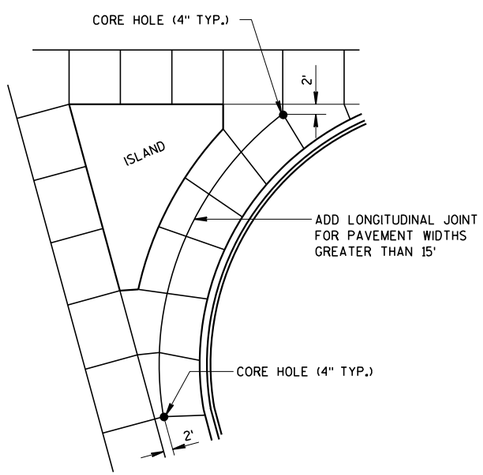
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN

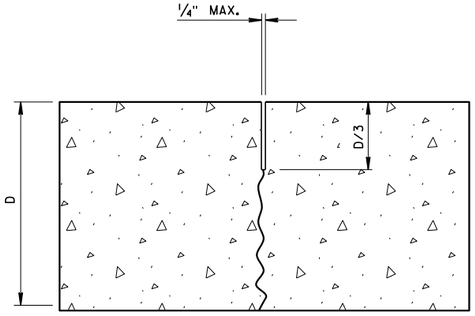


LARGE RIGHT TURN

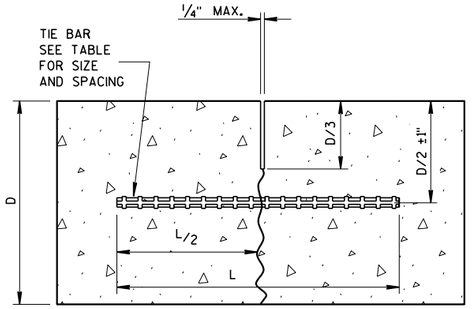
CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

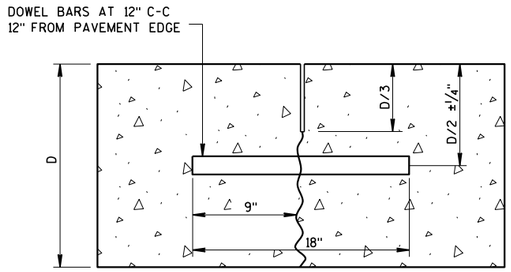
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

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

GENERAL NOTES

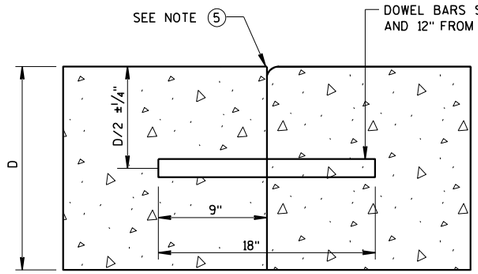
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



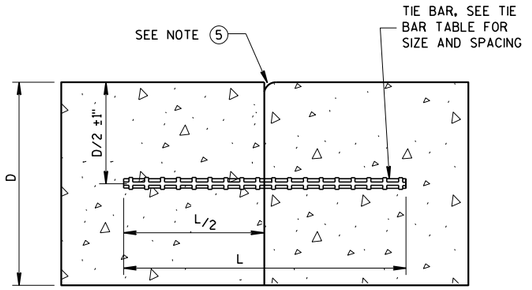
DOWELED-TRANSVERSE

CONTRACTION JOINTS

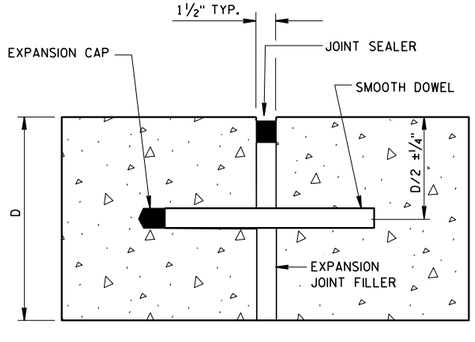
SEE NOTE (2)



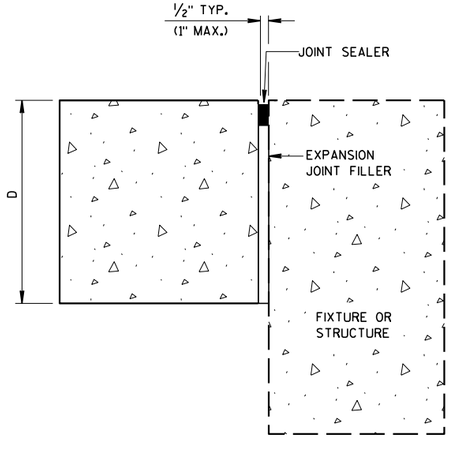
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL

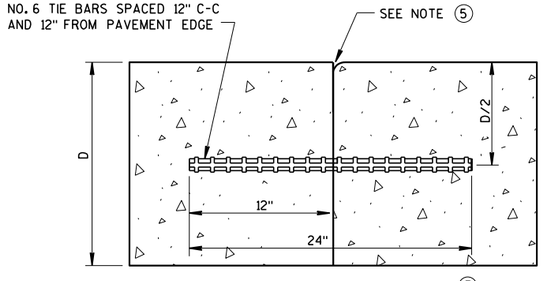


DOWELED-TRANSVERSE
SEE NOTE (1)

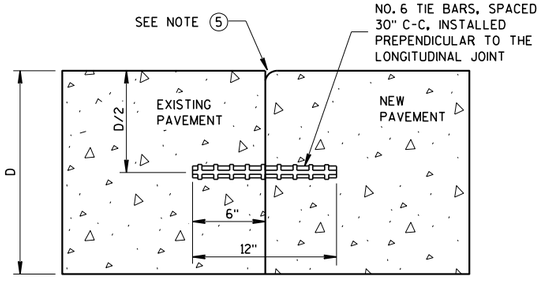


UNTIED-LONGITUDINAL

EXPANSION JOINTS



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (4)

CONCRETE PAVEMENT
JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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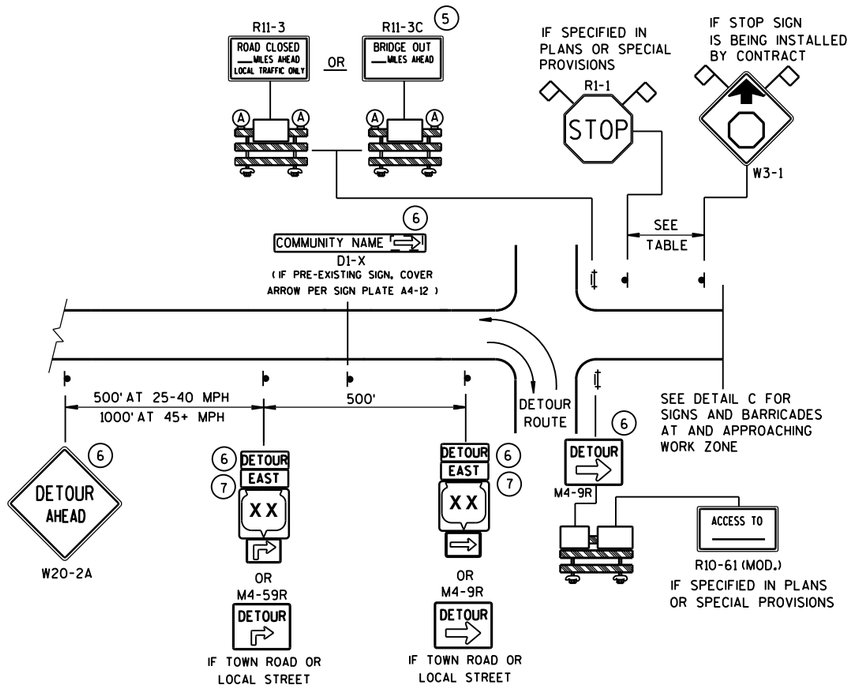
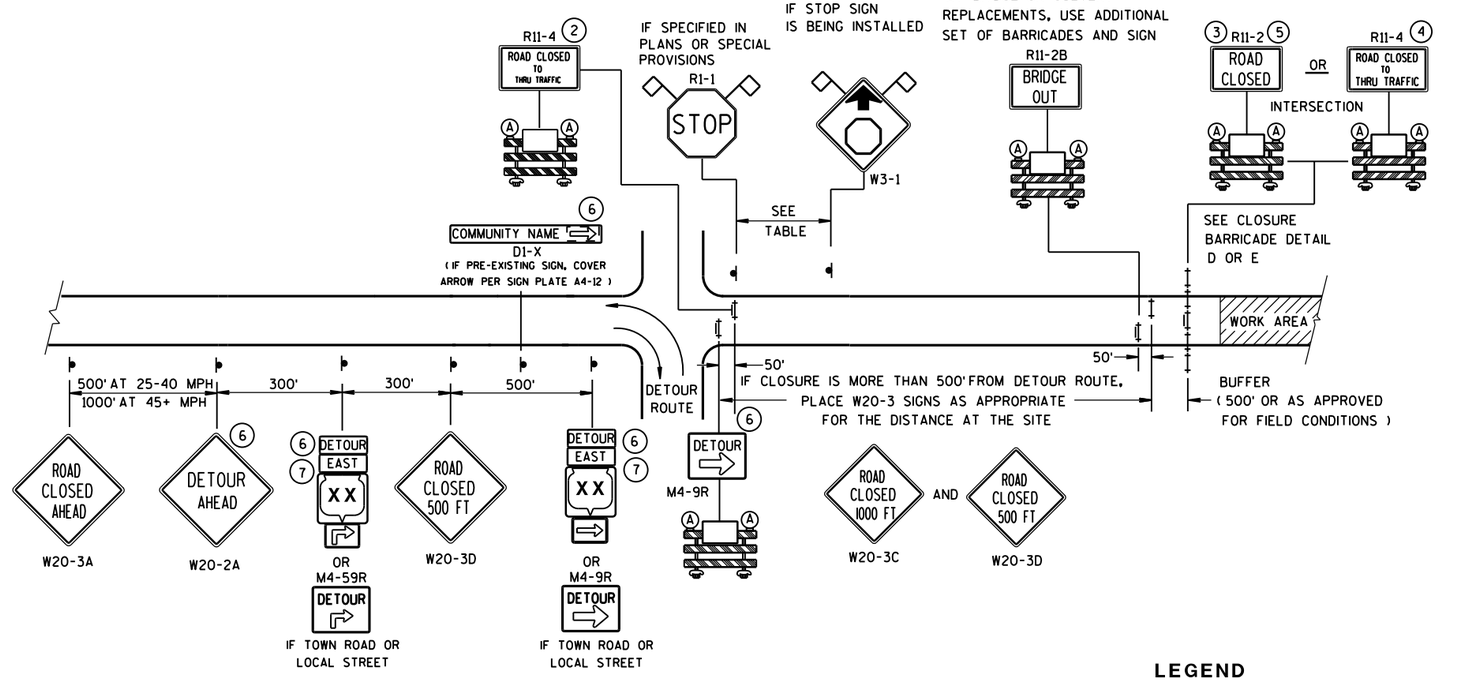
S.D.D. 13 C 18-6c



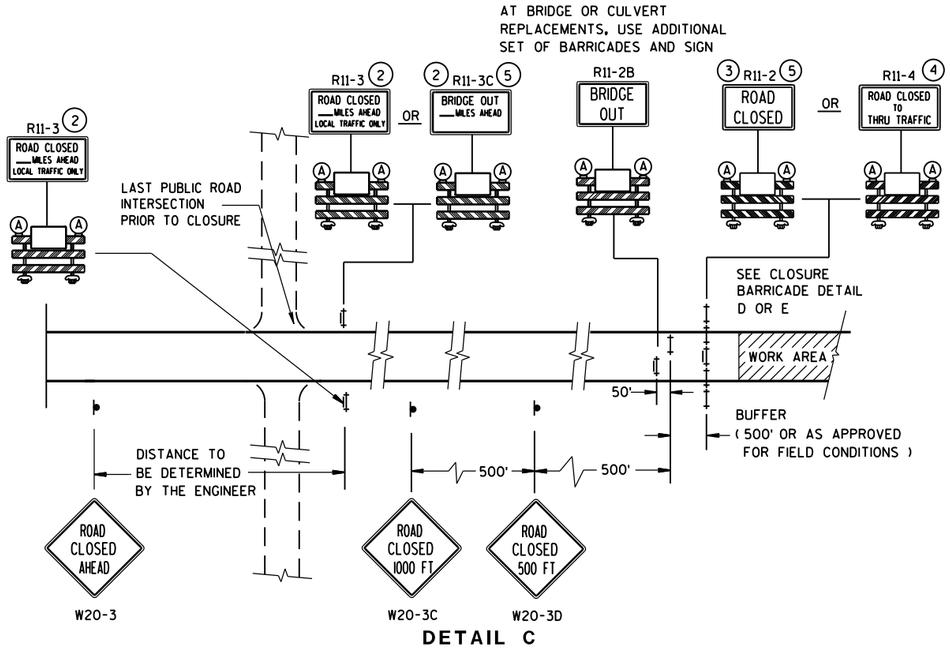
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

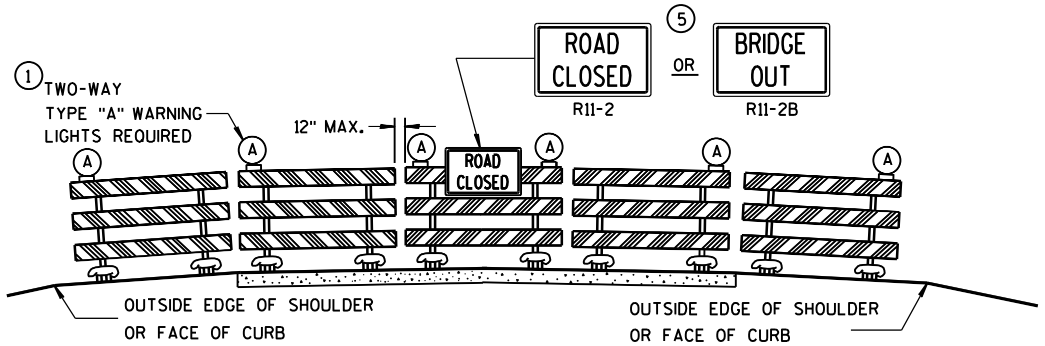
6

S.D.D. 15 C 2-6a

6

S.D.D. 15 C 2-6a

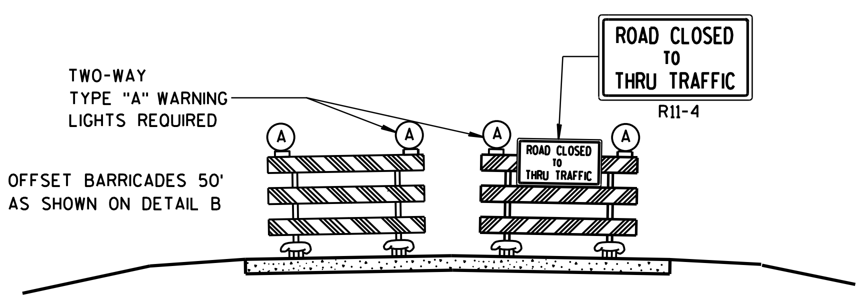
6



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.

6

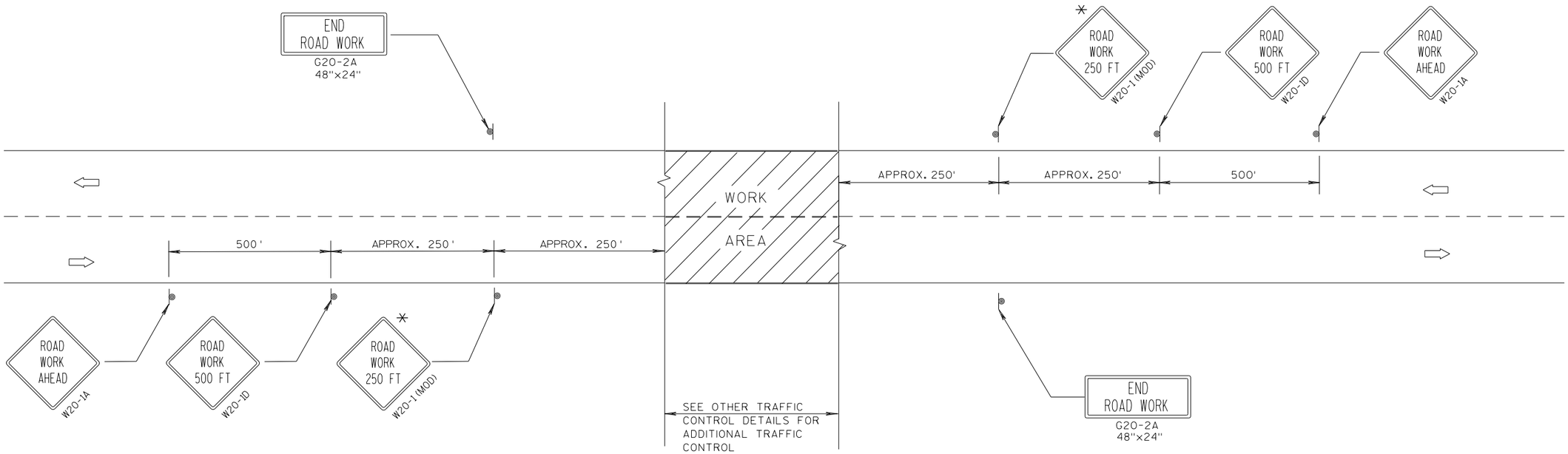
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZO… FIC SAFETY ENGI…
FHWA	

S.D.D. 15 C 2-6b

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

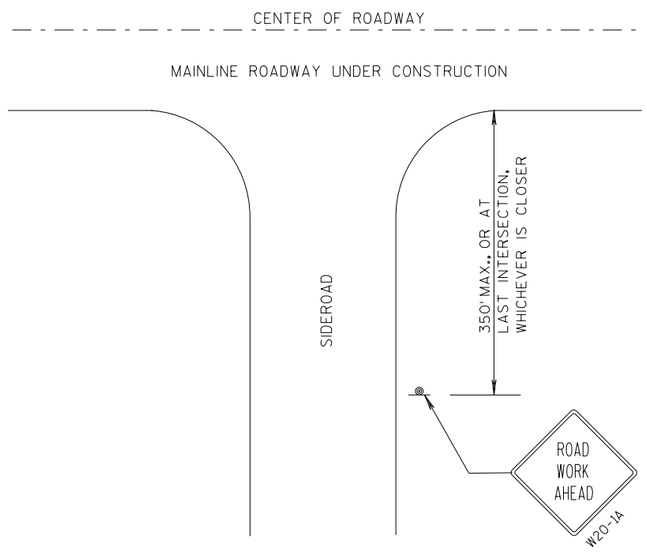
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

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

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/S/ Andrew Heldtke
WORK ZONE ENGI

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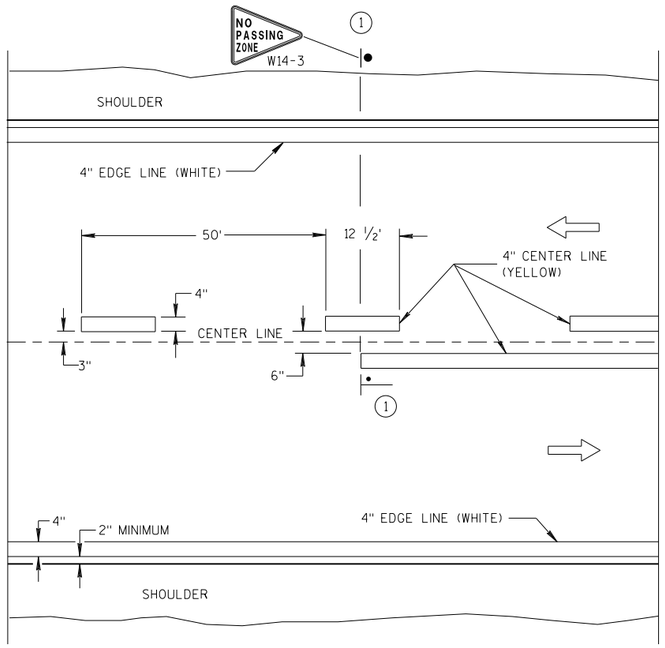
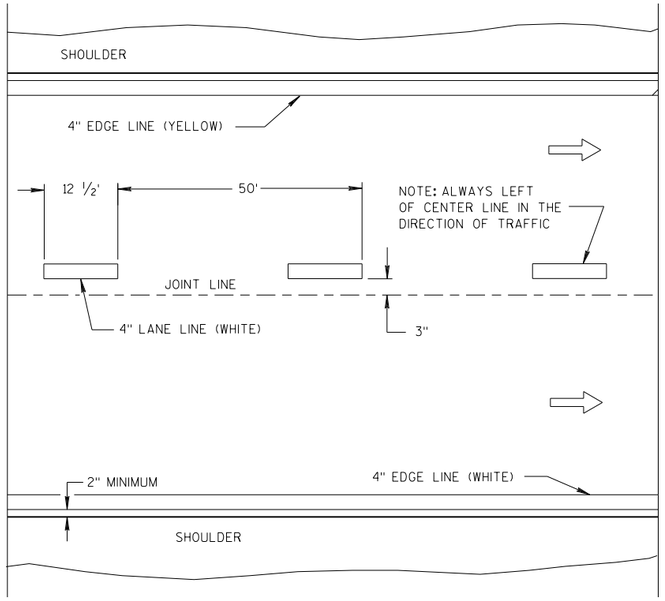


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

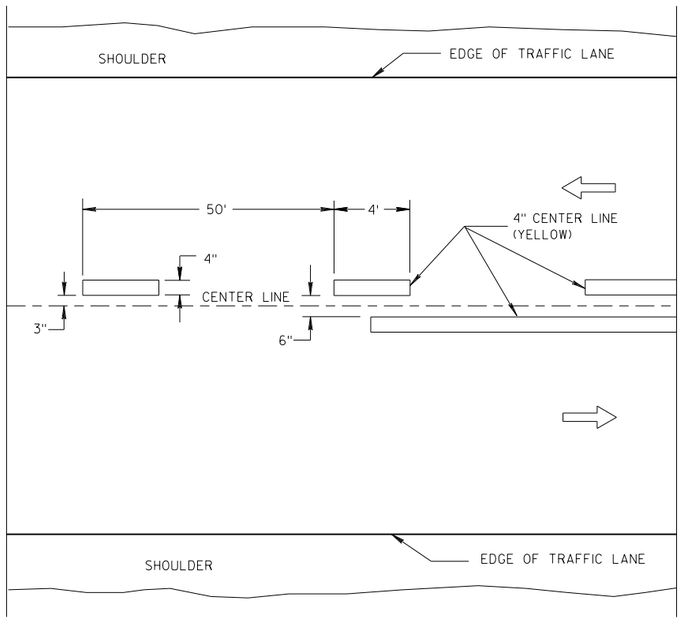
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

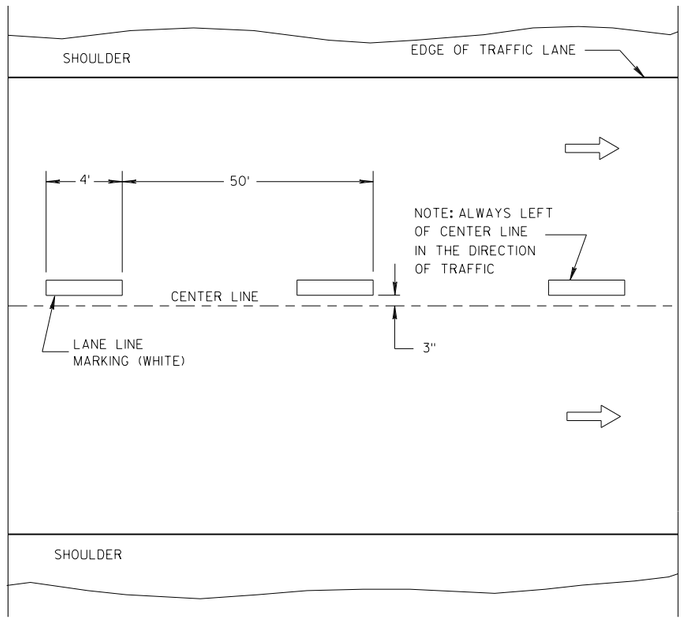
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

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/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

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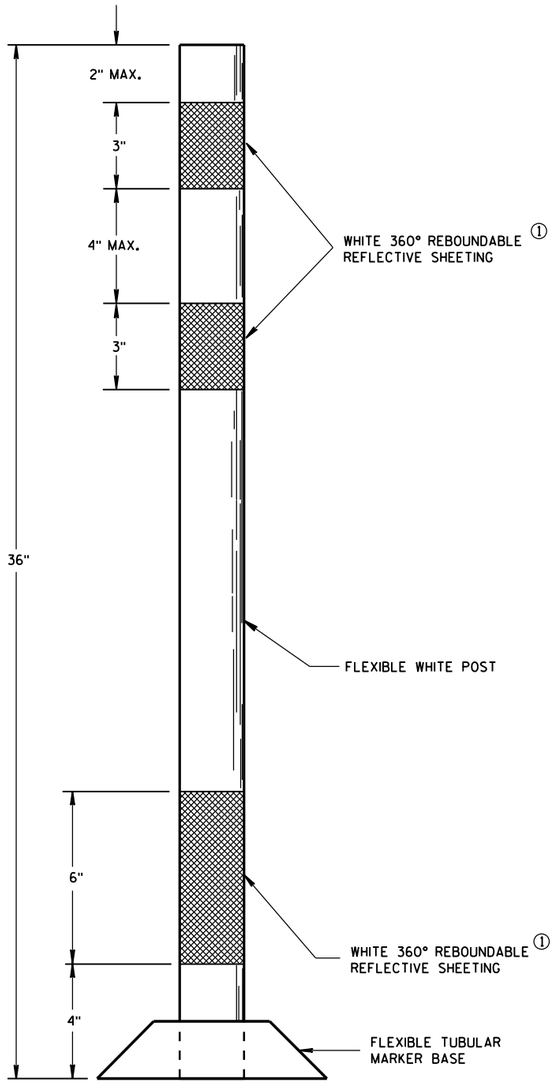
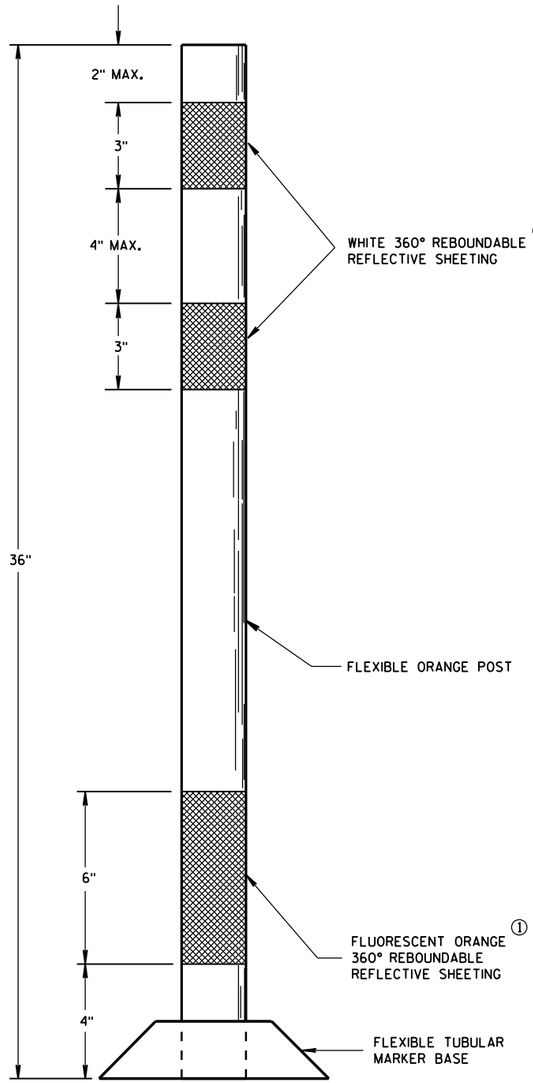
S.D.D. 15 C 8-19a



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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/S/ Andrew Heldtke — WORK ZONE ENGR
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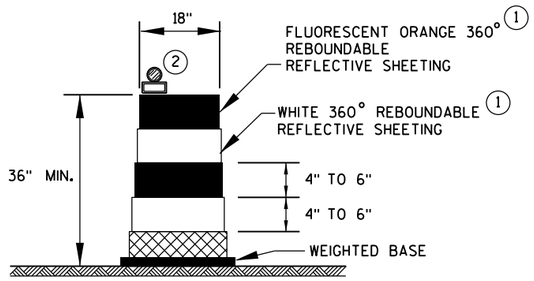
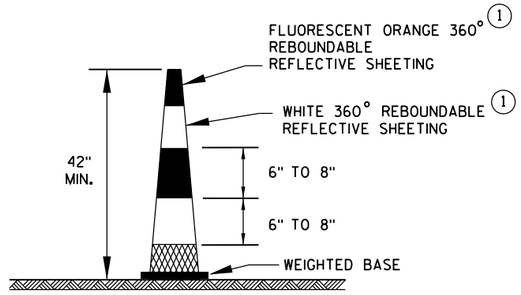


DRUM

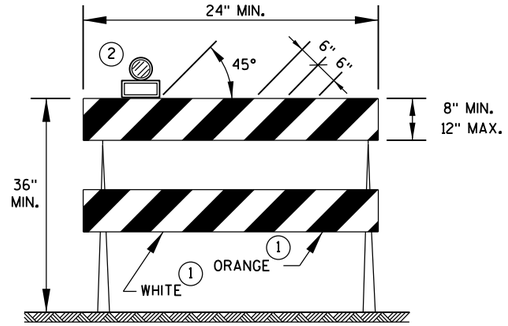


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

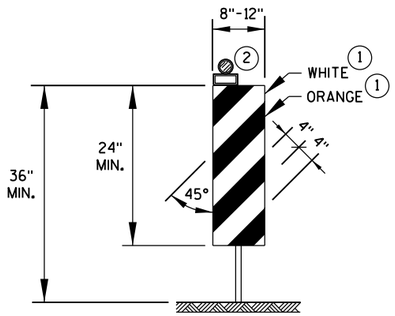
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



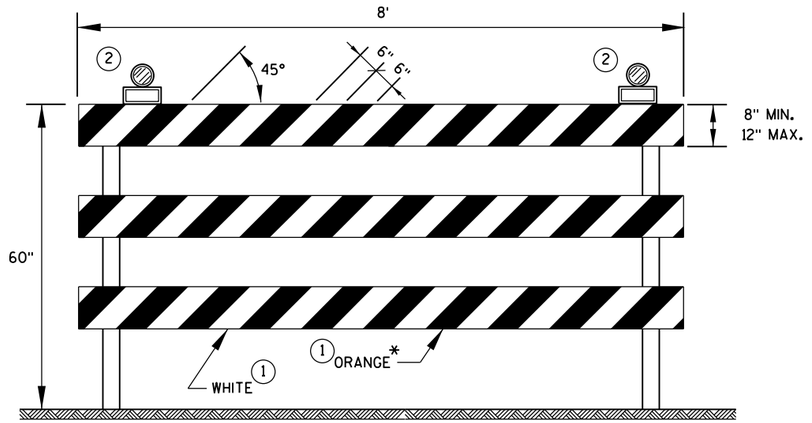
TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES AND VERTICAL PANELS

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DEPARTMENT OF TRANSPORTATION

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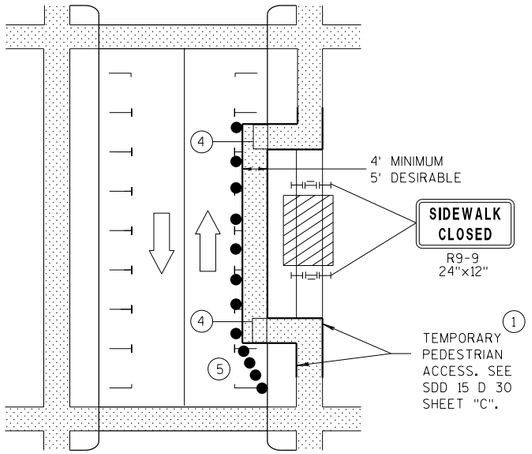
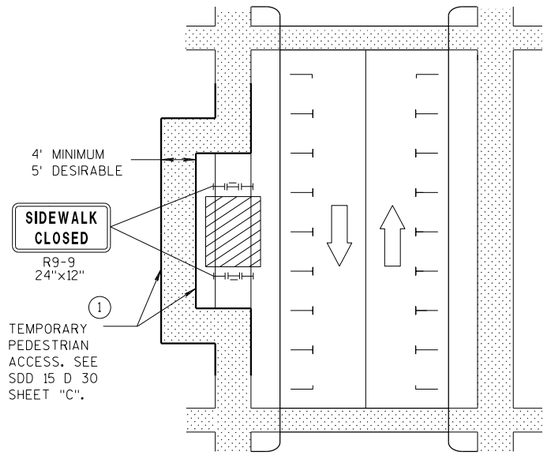
NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

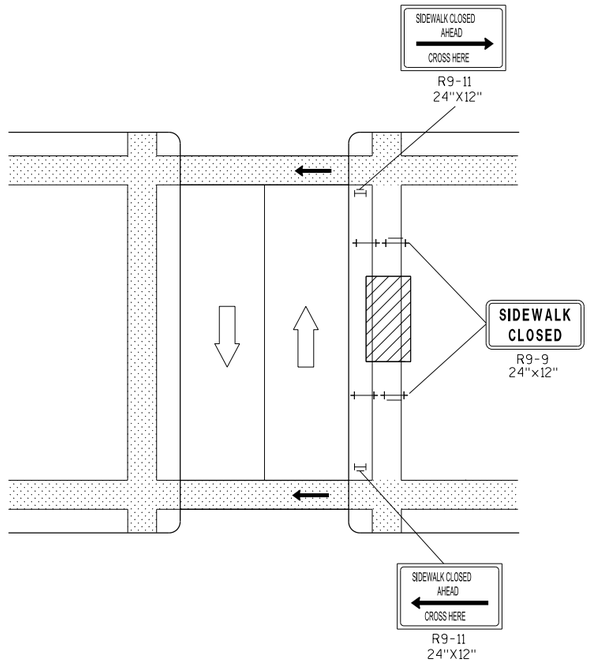


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

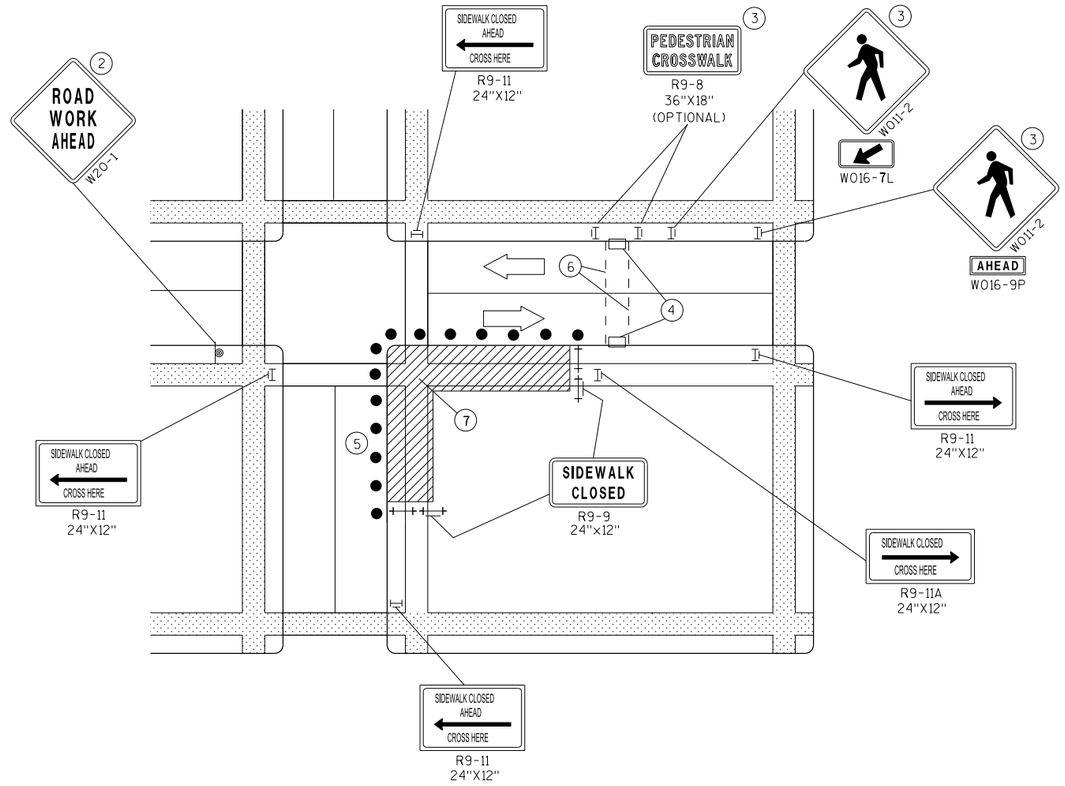
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

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

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

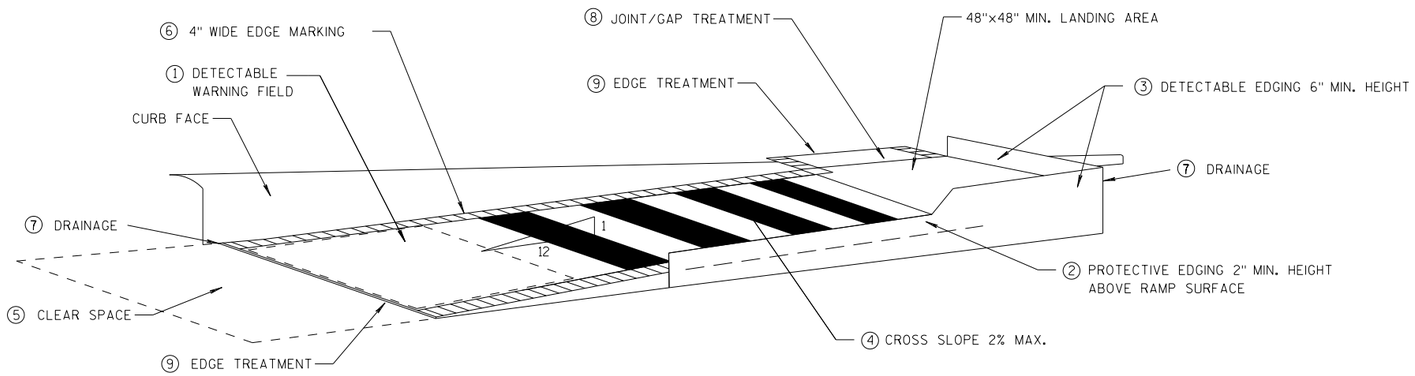
LEGEND

- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

S.D.D. 15 D 30-4a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

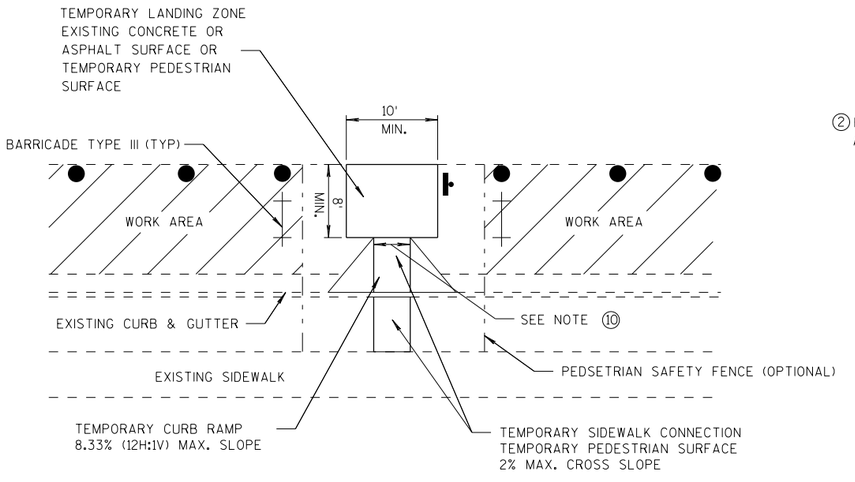
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

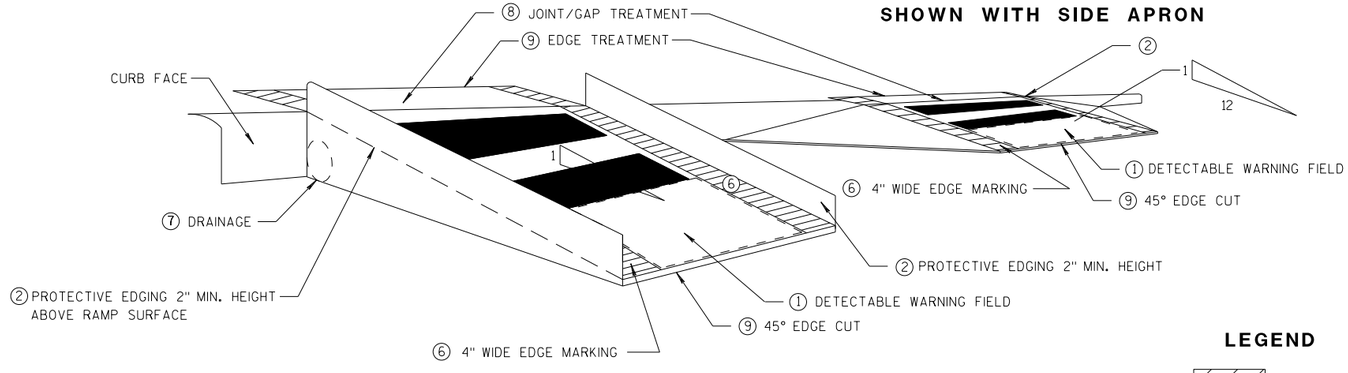
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

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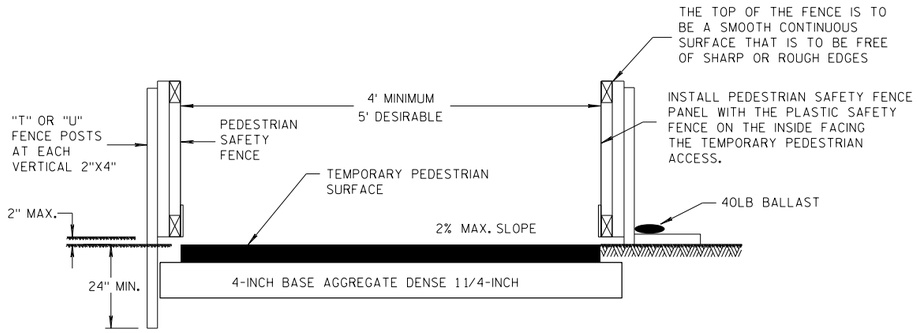
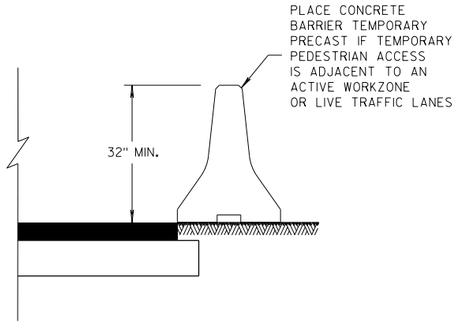
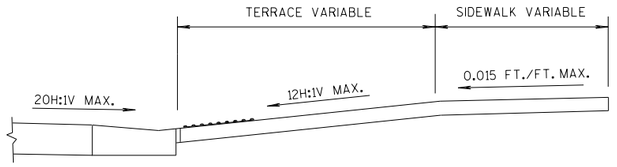




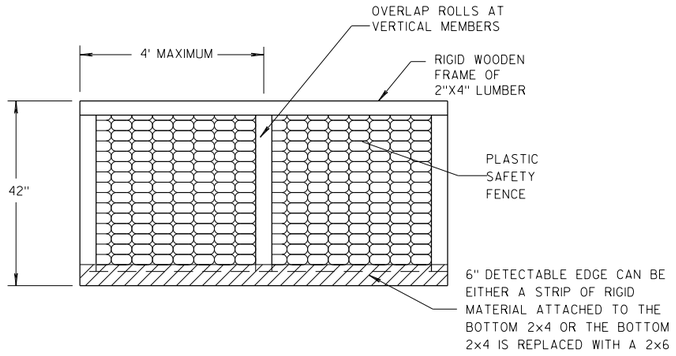
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

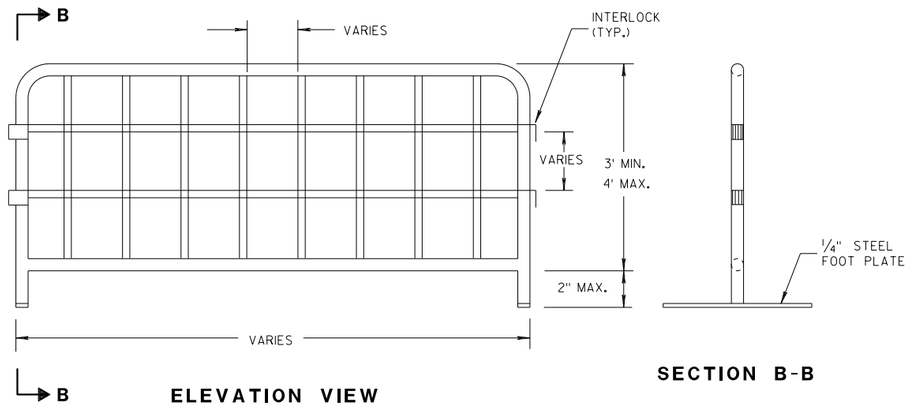
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



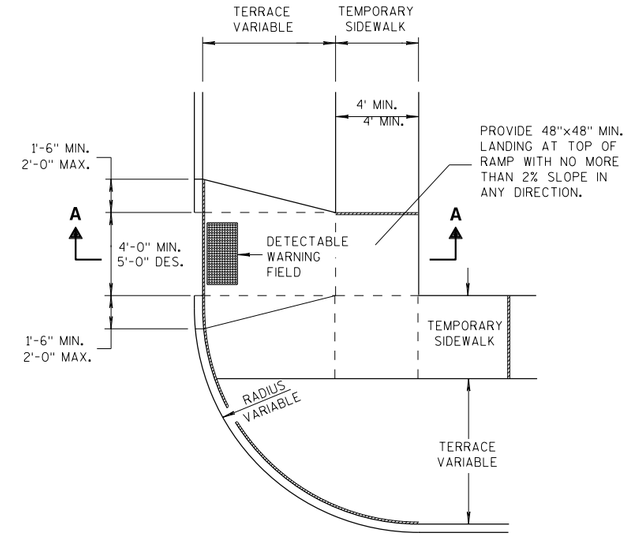
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

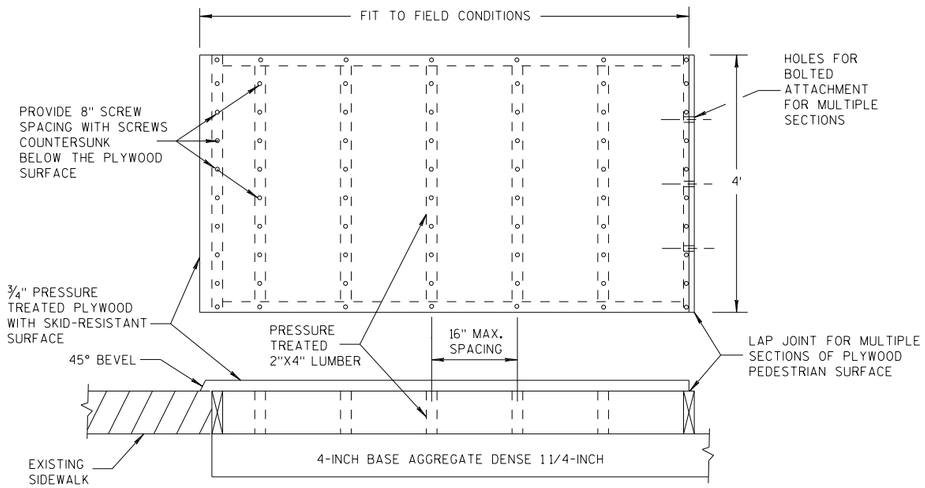
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



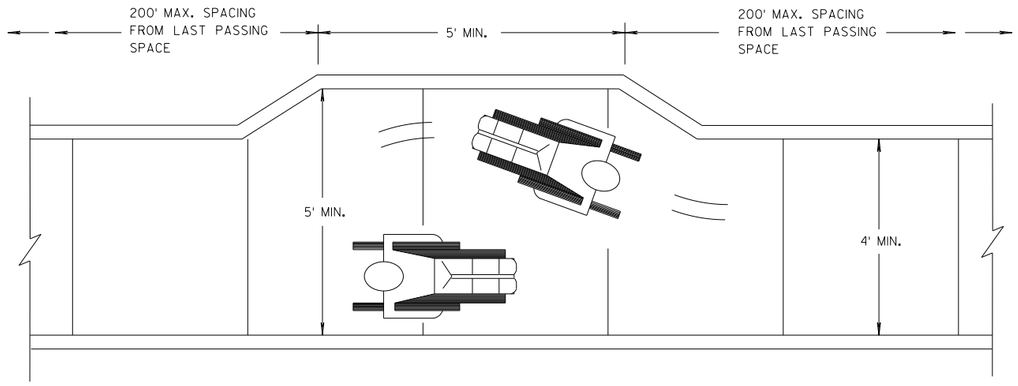
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENG

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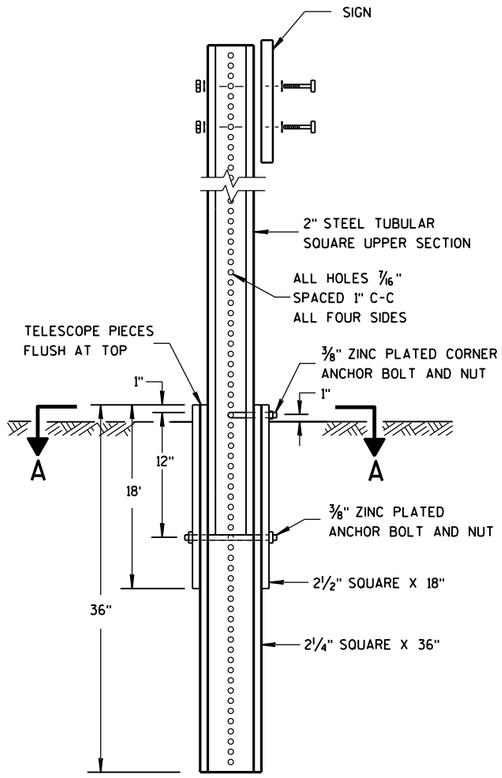
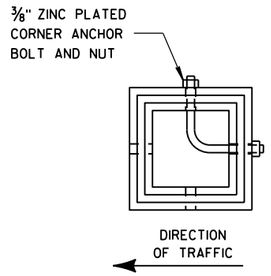
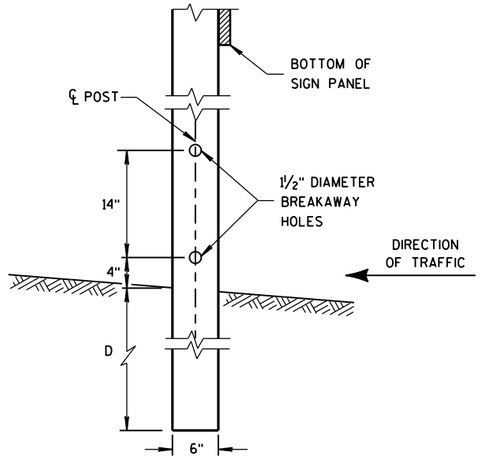


DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



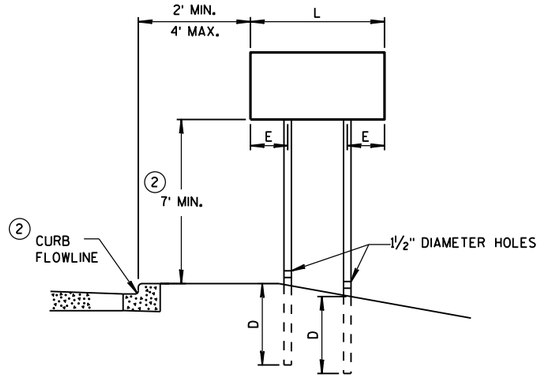
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

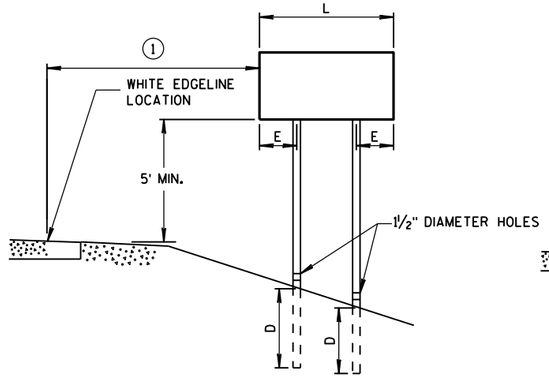
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

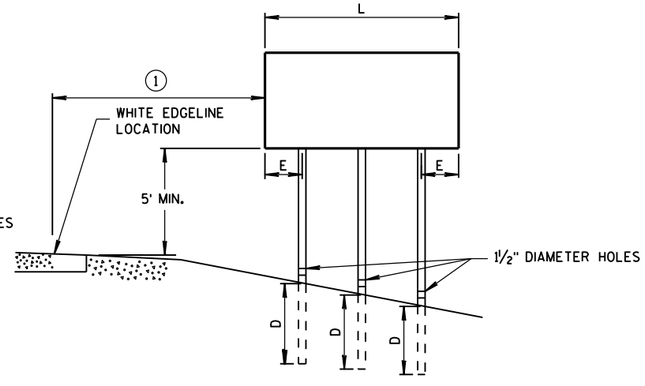
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

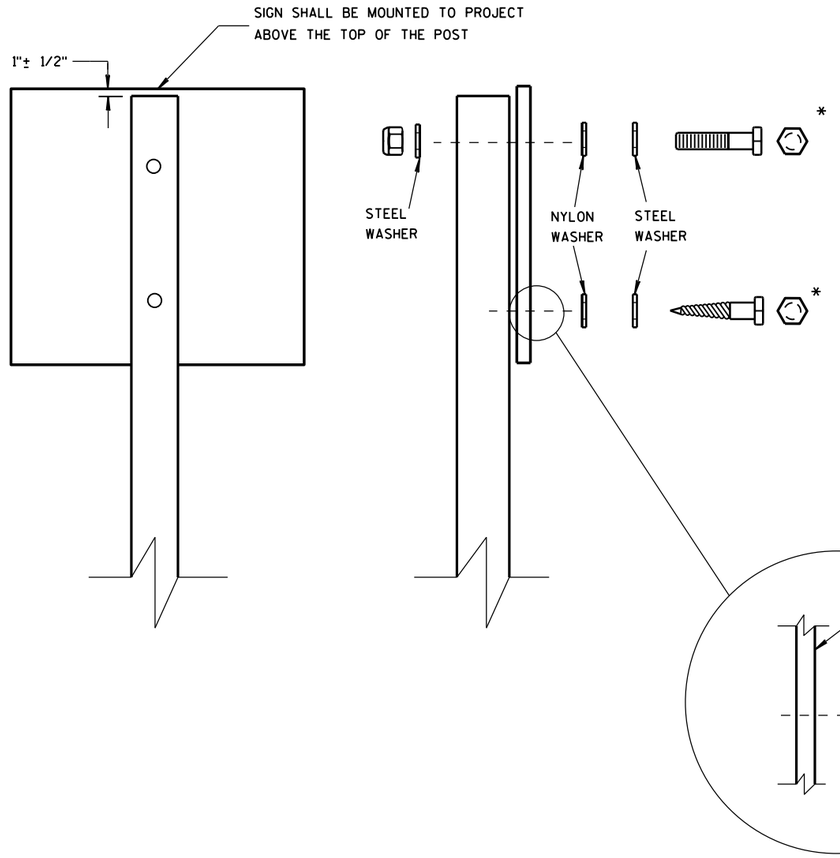
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

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

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

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

W:\STRUCTURES\B0224\2018 REHAB\PLANS\01_SITE & ELEVATION.DGN

REVISED: 10-12-2018 BY GJR

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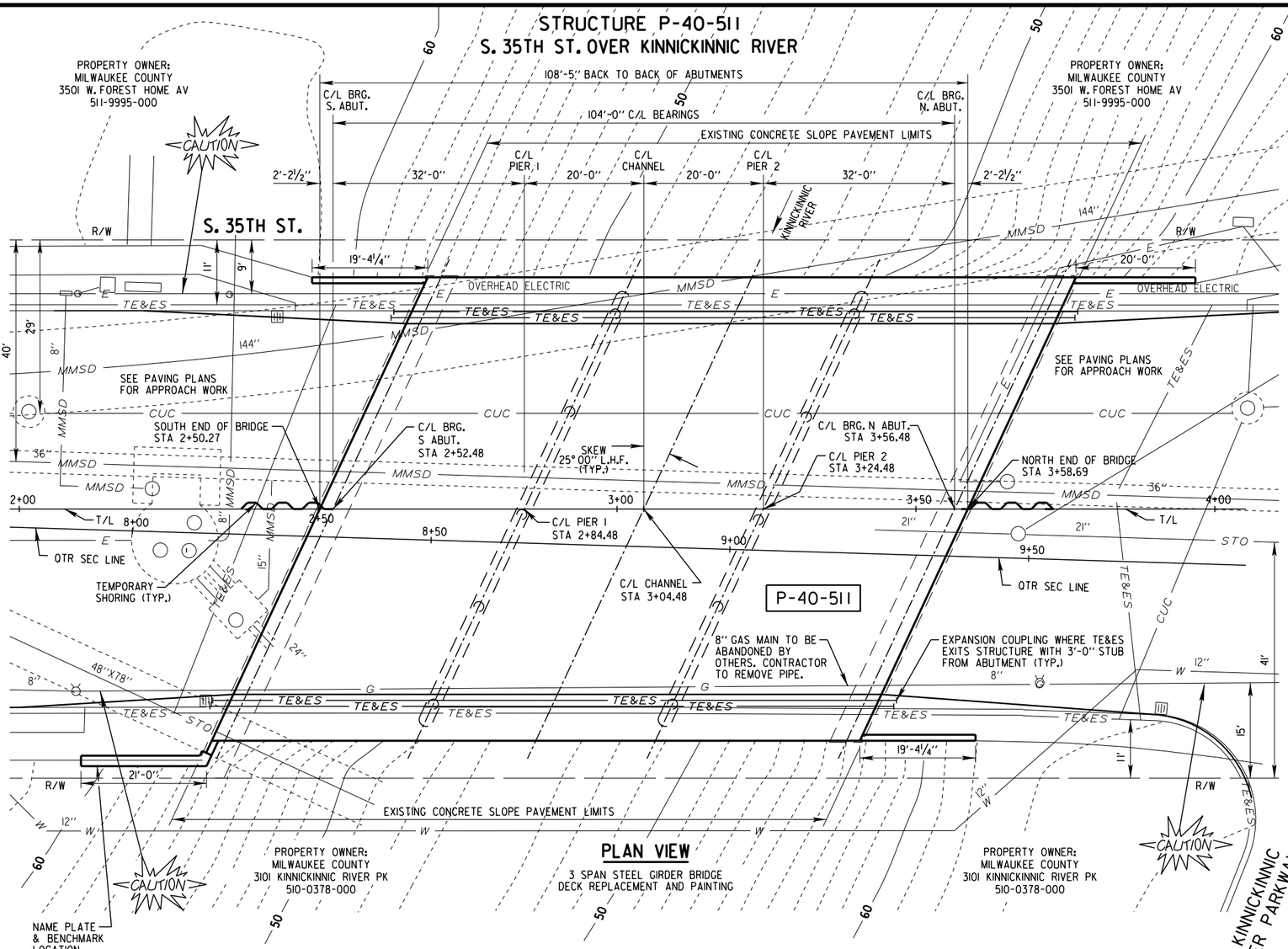
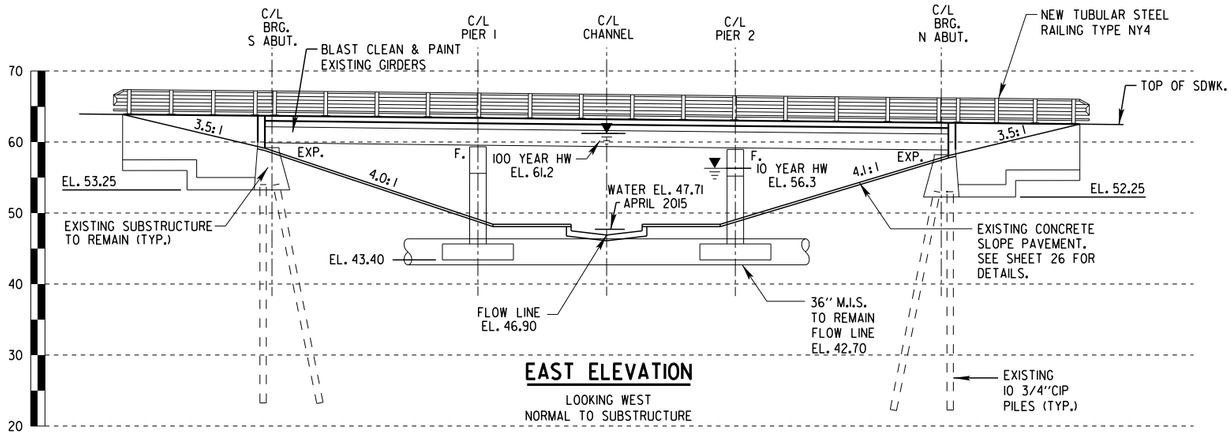
STRUCTURE P-40-511
S. 35TH ST. OVER KINNICKINNIC RIVER



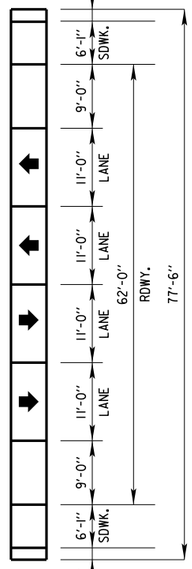
PLAN VIEW

3 SPAN STEEL GIRDER BRIDGE
DECK REPLACEMENT AND PAINTING



EAST ELEVATION

LOOKING WEST
NORMAL TO SUBSTRUCTURE



STATE PROJECT NUMBER

2100 - 00 - 70

LIST OF DRAWINGS

WISDOT BRIDGE OFFICE CONTACT:
WILLIAM DREHER 608-266-8489

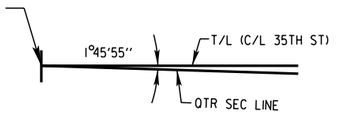
CITY OF MILWAUKEE CONTACT:
JERREL KRUSCHKE 414-286-3402

BENCH MARK:
(1) S.E. CORNER OF S. 35TH ST. & W. MANITOBA ST.
HYDRANT (N.W. BOLT) ELEV. 66.87
(2) N.E. CORNER OF S. 35TH ST. & W. KINNICKINNIC RIVER PARKWAY
HYDRANT (N.W. BOLT) ELEV. 63.67

WISCONSIN
JERREL KRUSCHKE
43536-6
MILWAUKEE, WIS.
PROFESSIONAL ENGINEER

10-15-2018

ANGLE POINT
QTR. SEC STA 6+81.02
T/L STA 1+00.00



TRANSIT LINE PLAN

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE SERVICES DIVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 10/16/18
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE P-40-511

S. 35TH ST. OVER KINNICKINNIC RIVER

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
S.S.R.	J.D.T.	G.J.R.	S.S.R. J.D.T.

SITE PLAN & ELEVATION

SHEET 1 OF 27
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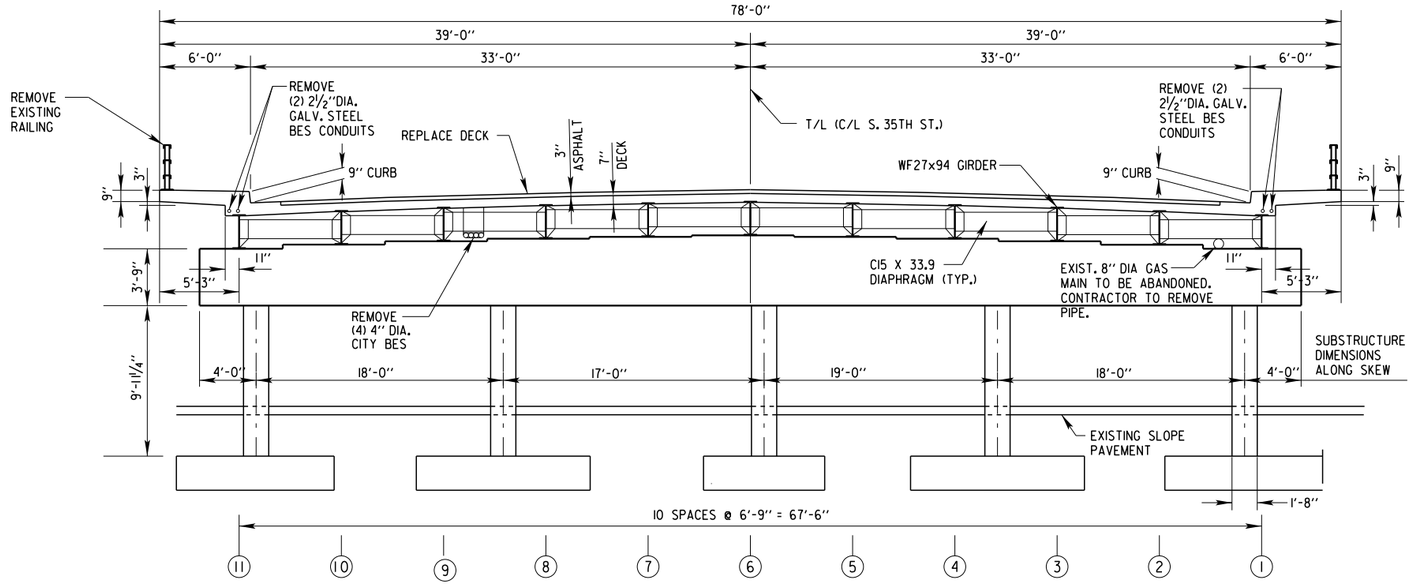
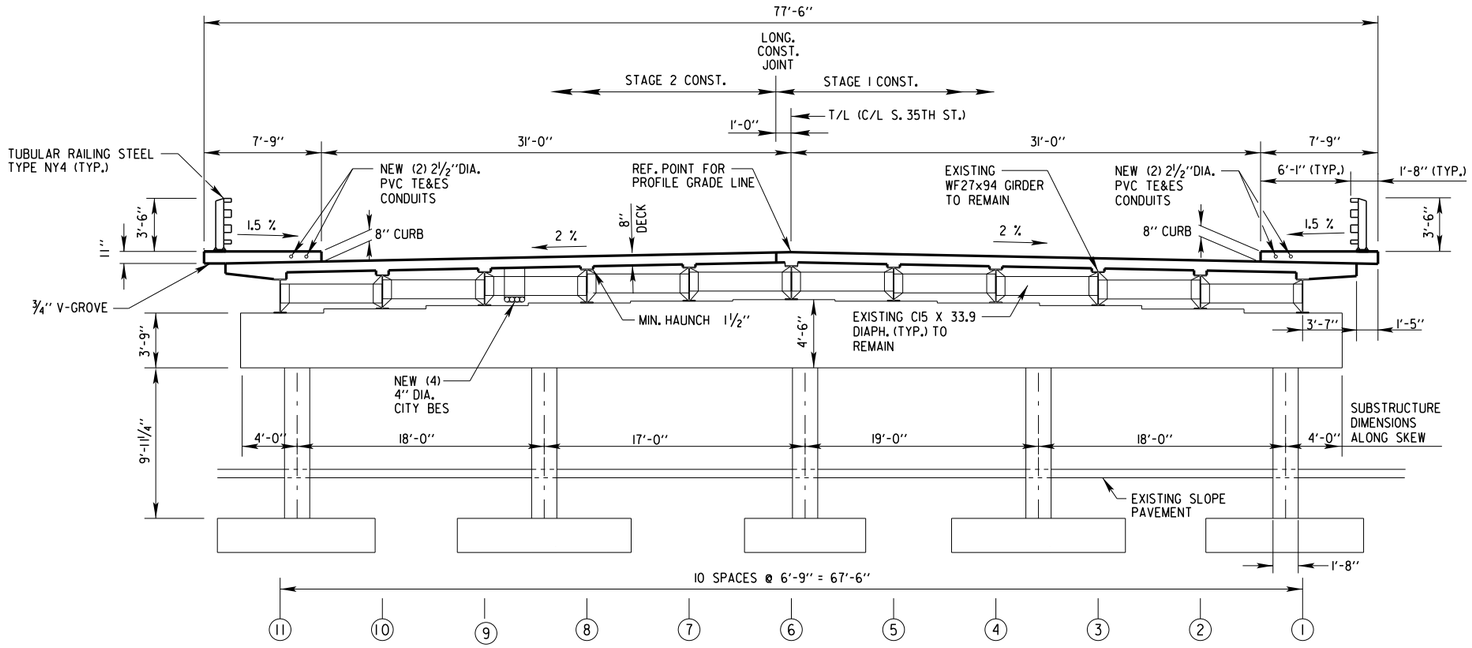
REVISED: 05-09-2018 BY DLF

STATE PROJECT NUMBER

2100 - 00 - 70



EXISTING SECTION THRU BRIDGE LOOKING NORTH



PROPOSED SECTION THRU BRIDGE LOOKING NORTH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY D.B. | PLANS CK'D. S.S.R. J.D.T.

SUPERSTRUCTURE CROSS SECTIONS

SHEET 2 OF 27

W:\STR\80224\2018 REHAB\PLANS\03-ESTIMATE OF QUANTITIES.DGN

REVISED: 10-12-2018 BY GJR

STATE PROJECT NUMBER

2100 - 00 - 70

GENERAL NOTES

DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION OF STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION EDITION OF 2019 EXCEPT AS OTHERWISE NOTED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS.

ELEVATIONS ARE REFERRED TO CITY OF MILWAUKEE DATUM: 580.6 NGVD.

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED CONCRETE EDGES 1" UNLESS OTHERWISE NOTED.

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

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY 1 INCH DEEP SAW CUT.

EXISTING GROUND LINE SHALL BE USED AS UPPER LIMITS OF EXCAVATION FOR STRUCTURE.

SPACES EXCAVATED AND NOT OCCUPIED BY NEW CONSTRUCTION SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

JOINT FILLER SHALL CONFORM TO AASHTO DESIGNATION M 153 TYPE I, II, OR III, OR AASHTO DESIGNATION M213.

SEE ROADWAY PLANS FOR EXISTING AND PROPOSED UTILITY LOCATIONS.

PAINT FOR STEEL GIRDERS AND RAILING TO MATCH FEDERAL STANDARD NO. 595C, COLOR NO. 14062.

CONCRETE STAIN COLOR TO MATCH FEDERAL STANDARD NO. 595C, COLOR NO. 30318.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE P-40-511".

VARIATIONS TO NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY FIELD ENGINEER TO STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

ALL EXISTING STEEL SHALL BE SANDBLASTED AND PAINTED UNDER BID ITEMS 517.0900.S "PREPARATION AND COATING OF TOP FLANGES P-40-511", 517.1800.S "STRUCTURE REPAINTING RECYCLED ABRASIVE P-40-511", AND 517.4500.S "NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS P-40-511."

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

ESTIMATE OF QUANTITIES

	ITEM NUMBER	BID ITEMS	UNIT	SOUTH ABUT.	PIER 1	PIER 2	NORTH ABUT.	SUPER.	TOTAL
	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 3+04.48	LS						1
	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	175			75		250
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES P-40-511	LS						1
	210.1500	BACKFILL STRUCTURE TYPE A	TON	115			115		230
	502.0100	CONCRETE MASONRY BRIDGES	CY	28			27	255	310
	502.3100	EXPANSION DEVICE P-40-511	LS					1	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY					950	950
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	268			262		530
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,950			3,930	59,870	67,750
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	11			11		22
	506.3015	WELDED STUD SHEAR CONNECTORS 7/8 X 6-INCH	EACH					2,508	2,508
	506.7050.S	REMOVING BEARINGS, P-40-511	EACH	11			11		22
	509.1500	CONCRETE SURFACE REPAIR	SF	21	5	20	2		48
	509.9025.S	EPOXY INJECTION CRACK REPAIR	LF	12	6	13	21		52
	509.9026.S	CORED HOLES 2-INCH DIAMETER	EACH	1	1	1	1		4
	511.1200	TEMPORARY SHORING P-40-511	SF	30			30		60
	513.7084	RAILING STEEL TYPE NY4	LF	46			42	212	300
	516.0100	DAMPPROOFING	SY	65			65		130
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	22			22		44
	517.0900.S	PREPARATION AND COATING OF TOP FLANGES P-40-511	LS					1	1
	517.1010.S	CONCRETE STAINING P-40-511	SF	215			200	1,325	1,740
	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE P-40-511	LS					1	1
	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS P-40-511	LS					1	1
	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH						1
	604.0400	SLOPE PAVING CONCRETE	SY	175			75		250
	652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF					460	460
*	690.0250	SAWING CONCRETE	LF	213			212		425
	SPV.0060.510	END DIAPHRAGM ADJUSTMENT	EACH	10			10		20
		NON-BID ITEMS							
		FELT JOINT FILLER 1-INCH							
		NAME PLATE							
		NON-BITUMINOUS JOINT FILLER							
		PLASTIC OR ZINC SHEETS 1/8-INCH							
		POLYETHLENE SHEETS							

* QUANTITY SHOWN ELSEWHERE

DESIGN DATA

DEAD LOAD

CONCRETE = 150 PCF
F.W.S. = 20 PSF
RAILING = 75 PLF

LIVE LOAD

DESIGN LOADING: HS-20
INVENTORY RATING HS-39
OPERATING RATING HS-51
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

MATERIAL PROPERTIES

CONCRETE SUPERSTRUCTURE f'_c = 4000 PSI
CONCRETE SUBSTRUCTURE f'_c = 3500 PSI
BAR STEEL REINFORCEMENT f_y = 60,000 PSI

HYDRAULIC DATA

INSTANTANEOUS PEAK DISCHARGE 100 YEAR: 3,730 CFS

VELOCITY THRU BRIDGE: 5.0 FPS

WATERWAY AREA THRU BRIDGE: 752 SF

DRAINAGE AREA: 5.7 SQ.MI.

2-YEAR WATER SURFACE EL.: N/A

10-YEAR WATER SURFACE EL.: 56.3

100-YEAR WATER SURFACE EL.: 61.2

REGULATORY FLOOD STAGE (PER 2008 FIS): 55.2

SCOUR CRITICAL CODE = 5

TRAFFIC VOLUME

ADT (2014) = 17,900
ADT (2039) = 20,600
R.D.S. = 35 MPH

UTILITIES

EXISTING UTILITIES ARE TO BE KEPT IN SERVICE AND PROTECTED DURING THE REHABILITATION PROJECT. SEE PROJECT SPECIAL PROVISION FOR DETAILS ON UTILITY WORK.

BRIDGE REMOVAL AND CONSTRUCTION NOTES

EXISTING BRIDGE PLANS ARE ON FILE IN CITY OF MILWAUKEE INFRASTRUCTURE SERVICES DIVISION'S STRUCTURAL DESIGN UNIT, ROOM 907, FRANK P. ZEIDLER MUNICIPAL BUILDING, 841 N. BROADWAY, MILWAUKEE, WI 53202 PHONE (414)-286-3402.

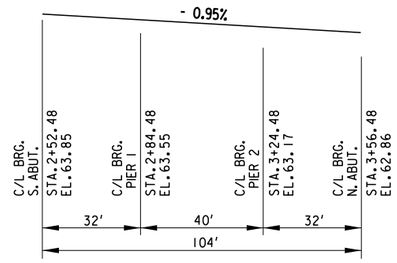
EXISTING BRIDGE WILL BE REMOVED IN TWO STAGES TO KEEP S. 35TH STREET OPEN FOR 2-WAY TRAFFIC DURING CONSTRUCTION. EXISTING NORTHBOUND ROADWAY IS TO BE REMOVED FIRST WHILE 2-WAY TRAFFIC IS TO BE CARRIED BY EXISTING SOUTHBOUND ROADWAY. AFTER PROPOSED NORTHBOUND ROADWAY IS COMPLETED TRAFFIC WILL BE DIVERTED TO NEWLY FINISHED NORTHBOUND ROADWAY AND PROPOSED SOUTHBOUND ROADWAY WILL BE CONSTRUCTED.

AVOID PERMANENT OR LONG-TERM DEBRIS DEPOSITION IN WATERWAY. LIMIT MATERIAL DEPOSITION WITHIN WATERWAY. MAINTAIN UNIMPEDED NATURAL STREAM FLOW THROUGH STRUCTURE TO MAINTAIN STREAM ENVIRONMENT INTEGRITY.

REMOVE EXISTING BRIDGE DECK P-40-511 OVER KINNICKINNIC RIVER IN LARGE SECTIONS AND CONFORMING TO CONTRACTOR'S APPROVED STRUCTURE REMOVAL AND CLEAN-UP PLAN. DURING SUBSTRUCTURE REMOVAL, PREVENT LARGE PIECES AND MINIMIZE SMALL PIECES FROM ENTERING WATERWAY.

PROPOSED IMPROVEMENTS

PROJECT AS PROPOSED CONSISTS OF: REMOVAL OF EXISTING BRIDGE DECK AND RAILINGS; CONCRETE SURFACE REPAIR OF ABUTMENTS AND PIERS AS DIRECTED BY ENGINEER; EXPANSION BEARING REPLACEMENT; PREPPING AND PAINTING STEEL SUPERSTRUCTURE; INSTALLATION OF GIRDER SHEAR STUD CONNECTORS; PLACEMENT OF NEW CONCRETE BRIDGE DECK; INSTALLATION OF NEW BRIDGE RAILING; NEW EXPANSION JOINTS; SLOPE PAVING REPAIR.



PROFILE GRADE LINE (P.G.L.)
ALONG C/L OF
SOUTH 35TH STREET BRIDGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY G.J.R. | PLANS CK'D. S.S.R. J.D.T.

ESTIMATE OF QUANTITIES

SHEET 3 OF 27
75

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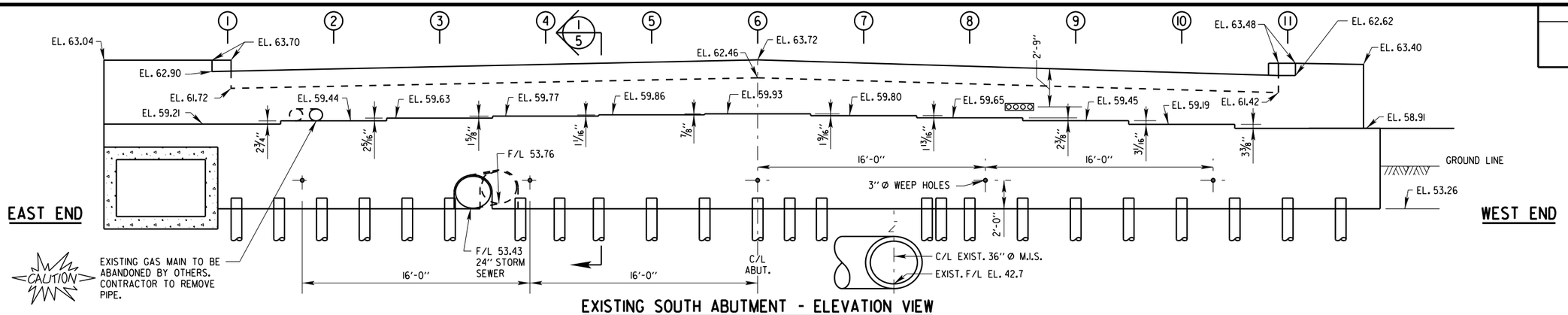
REVISED: 05-30-2018 BY GJR

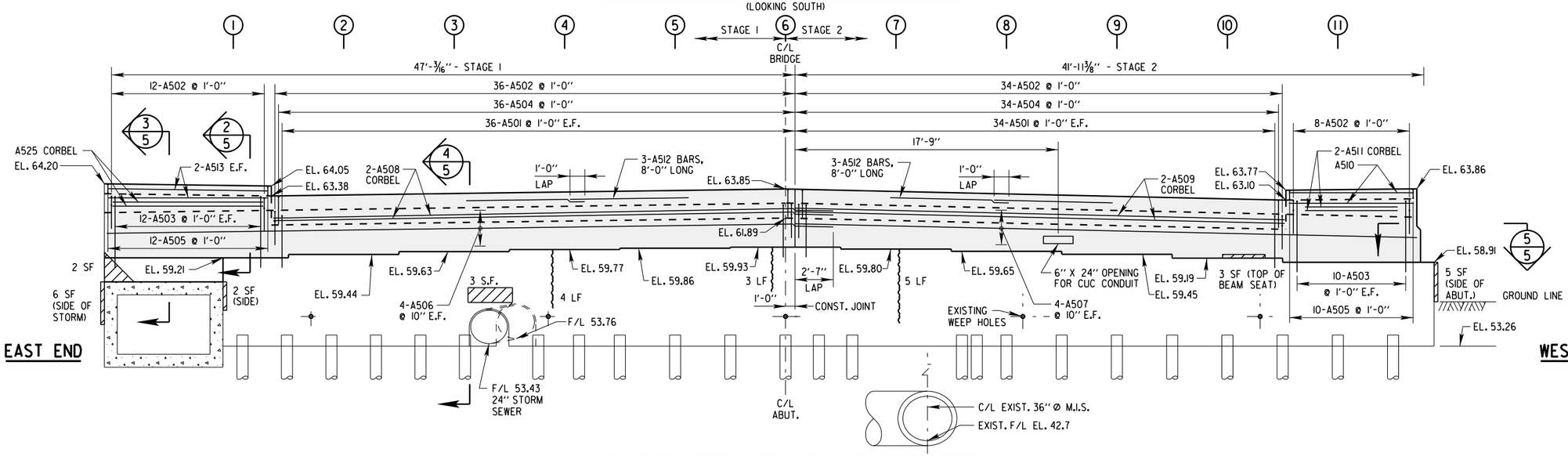
STATE PROJECT NUMBER

2100 - 00 - 70



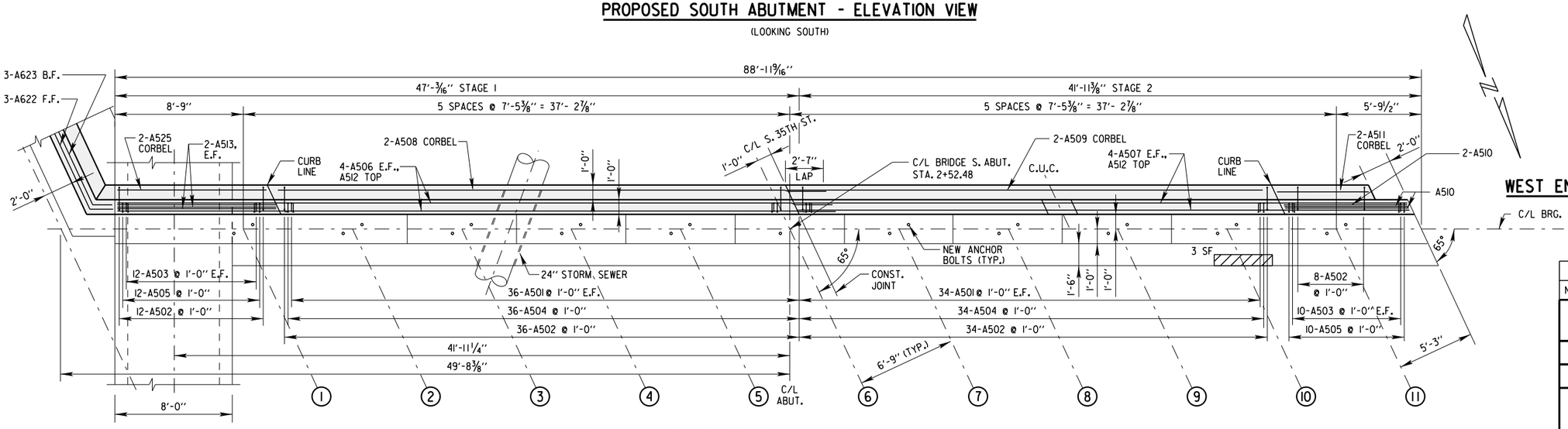
EXISTING SOUTH ABUTMENT - ELEVATION VIEW

(LOOKING SOUTH)



PROPOSED SOUTH ABUTMENT - ELEVATION VIEW

(LOOKING SOUTH)



PROPOSED SOUTH ABUTMENT - PLAN VIEW

LEGEND

- EPOXY INJECTION CRACK REPAIR (LF)
- CONCRETE SURFACE REPAIR (SF)

F.F FRONT FACE
B.F. BACK FACE
E.F. EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY G.J.R. | PLANS CK'D. S.S.R. J.D.T.

SOUTH ABUTMENT ELEVATION AND PLAN VIEW

SHEET 4 OF 27

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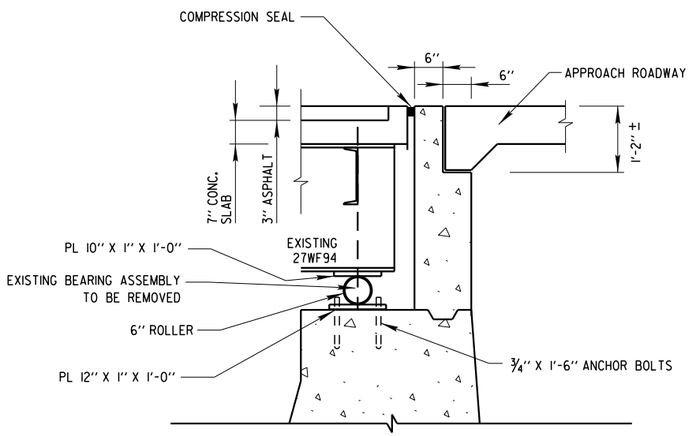
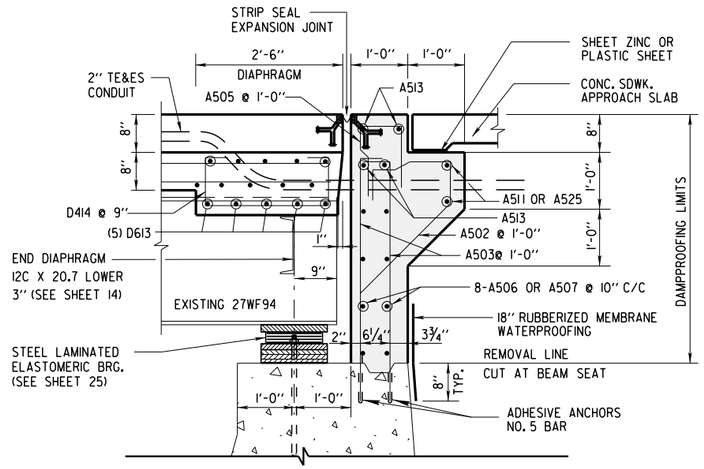
REVISED: 07-16-2018 BY GJR

STATE PROJECT NUMBER

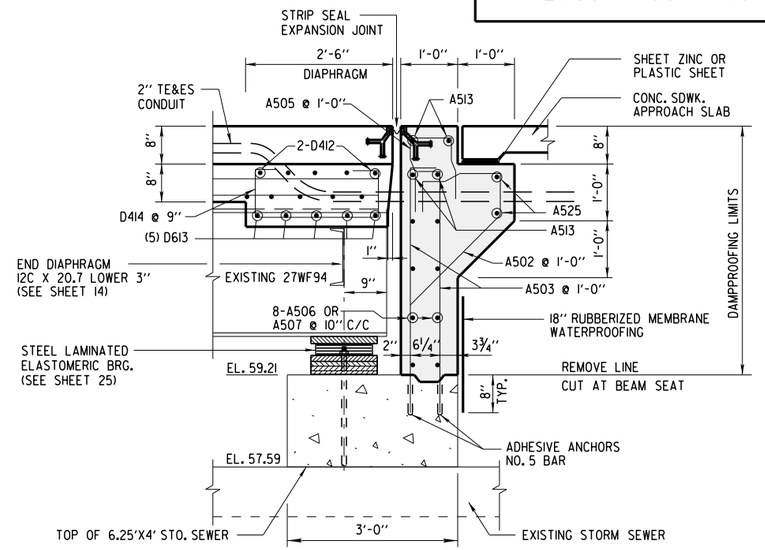
2100 - 00 - 70



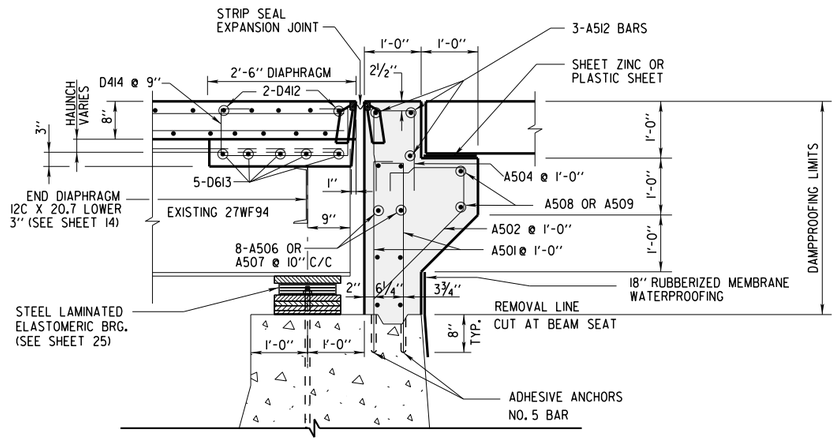
1/4 SECTION EXISTING ABUTMENT AT ROADWAY



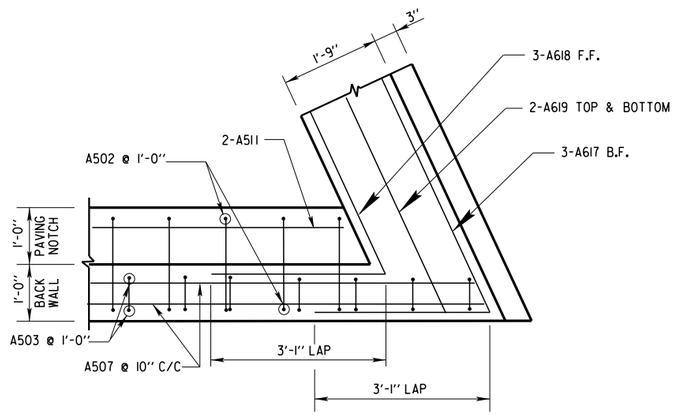
2/4 SECTION PROPOSED ABUTMENT AT SIDEWALK



3/4 SECTION PROPOSED ABUTMENT AT STORM SEWER



4/4 SECTION PROPOSED ABUTMENT AT ROADWAY



5/4 SECTION ABUTMENT AT WEST END

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY	G.J.R.	PLANS CK'D.	S.S.R. J.D.T.

SOUTH ABUTMENT SECTION DETAILS

SHEET 5 OF 27

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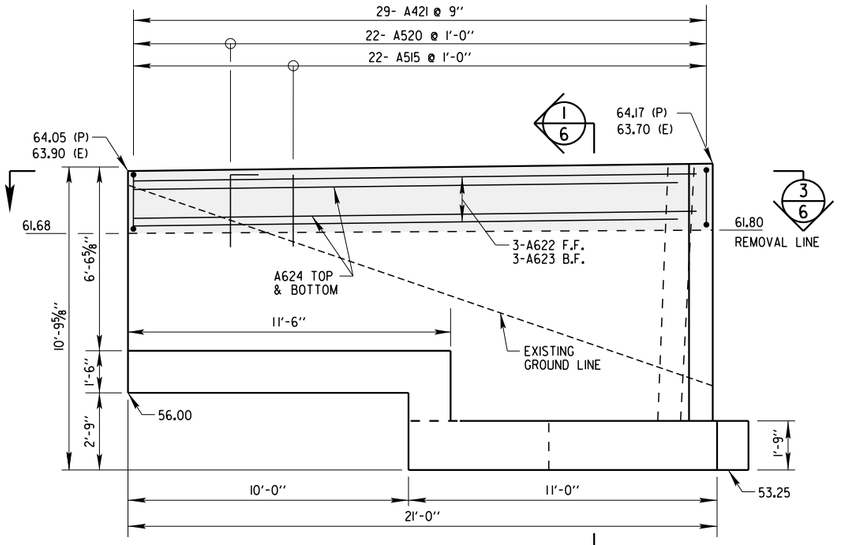
W:\STR\B0224\2018 REHAB\PLANS\06-SABUT WING WALL DET.DGN

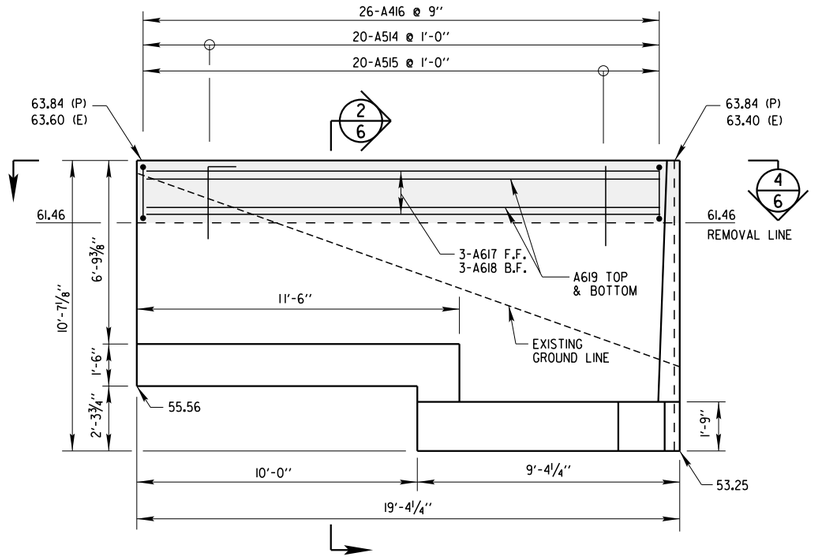
REVISED DATE: 06-01-2018 BY GJR

STATE PROJECT NUMBER

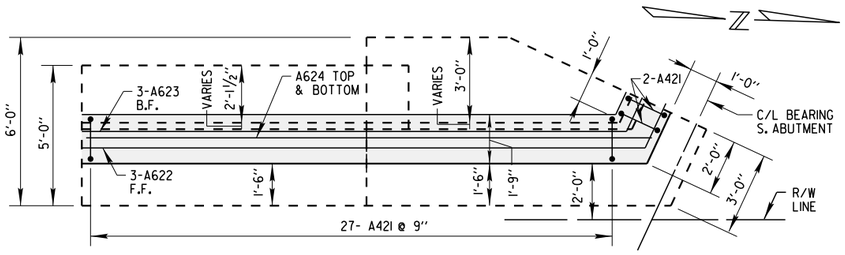
2100 - 00 - 70



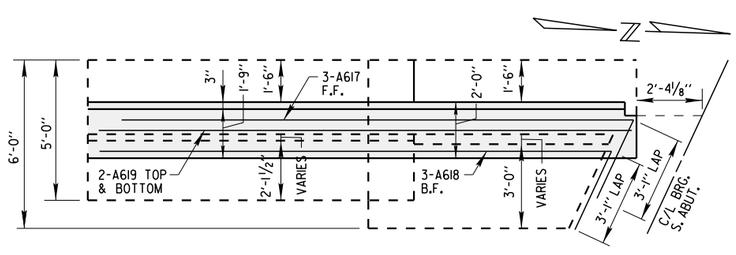
ELEVATION S.E. RETAINING WALL



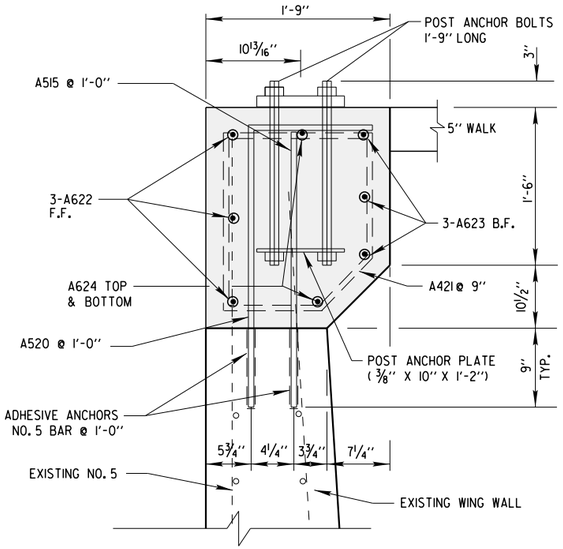
ELEVATION S.W. RETAINING WALL



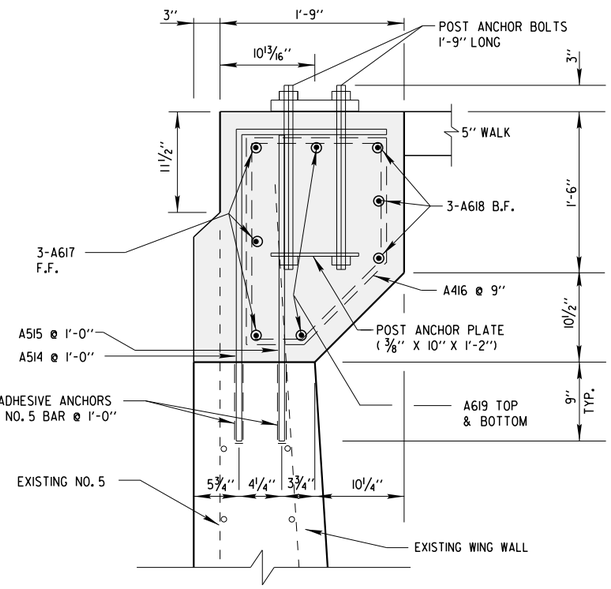
PLAN S.E. RETAINING WALL 3/6



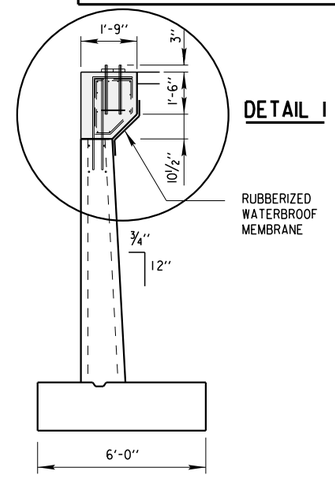
PLAN S.W. RETAINING WALL 4/6



DETAIL 1 (S.E. RETAINING WALL)

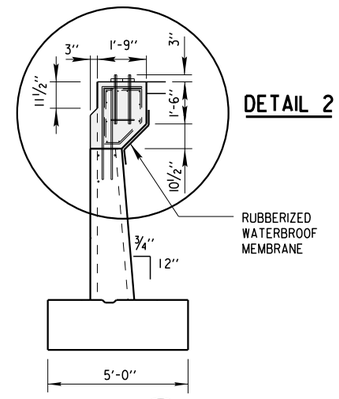


DETAIL 2 (S.W. RETAINING WALL)



DETAIL 1

SECTION 1/6



DETAIL 2

SECTION 2/6

NOTES:

REMOVAL AND REINSTALLATION OF FILL MATERIAL AT WING WALLS IS INCIDENTAL TO "EXCAVATION FOR STRUCTURES BRIDGES". MATCH EXISTING GRADE.

APPLY CONCRETE STAIN TO EXPOSED FACE OF WING WALLS.

LEGEND

	EXISTING CONCRETE
	NEW CONCRETE
(P)	PROPOSED ELEVATION
(E)	EXISTING ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY G.J.R. | PLANS CK'D. S.S.R. J.D.T.

SOUTH ABUTMENT WING WALL DETAILS

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STATE PROJECT NUMBER
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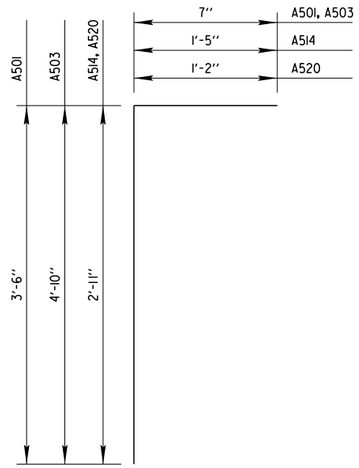
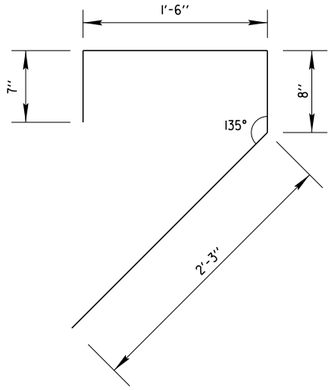
BILL OF BARS - SOUTH ABUTMENT AND WING WALLS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A501	X	140	4'-0"	X	STAGE 1 & 2 - BACKWALL DOWEL - RDWY.
A502	X	90	4'-8"	X	STAGE 1 & 2 - RDWY. & SDWK. CORBEL
A503	X	44	5'-4"	X	STAGE 1 & 2 - BACKWALL DOWEL - SDWK.
A504	X	70	4'-0"	X	STAGE 1 & 2 - TOP BACKWALL DOWEL - RDWY.
A505	X	22	3'-4"	X	STAGE 1 & 2 - TOP BACKWALL DOWEL - SDWK.
A506	X	8	49'-4"		STAGE 1 - BACKWALL HORIZ. F.F. & B.F.
A507	X	8	41'-8"		STAGE 2 - BACKWALL HORIZ. F.F. & B.F.
A508	X	2	38'-0"		STAGE 1 - RDWY. HORIZ. CORBEL
A509	X	2	32'-10"		STAGE 2 - RDWY. HORIZ. CORBEL
A510	X	4	8'-4"		STAGE 2 - SDWK. TRAN.
A511	X	2	6'-3"		STAGE 2 - SDWK. TRAN. CORBEL
A512	X	30	8'-0"		STAGE 1 & 2 - BARS FOR STRIP SEAL ANCHORS
A513	X	4	10'-10"		STAGE 1 - BACKWALL HORIZ. SDWK.
A514	X	20	4'-2"	X	WING WALL - VERT. DOWEL (S.W.)
A515	X	42	3'-0"		WING WALL - VERT. DOWEL S.W. & S.E.
A416	X	26	6'-6"	X	WING WALL - STIRRUPS (S.W.)
A617	X	3	22'-2"	X	WING WALL - HORIZ. FRONT FACE CAP (S.W.)
A618	X	3	21'-4"	X	WING WALL - HORIZ. BACK FACE CAP (S.W.)
A619	X	2	19'-0"		WING WALL - HORIZ. TOP & BOTTOM CAP (S.W.)
A520	X	22	3'-11"	X	WING WALL - VERT. DOWEL (S.E.)
A421	X	29	6'-7"	X	WING WALL - STIRRUPS (S.E.)
A622	X	3	21'-11"	X	WING WALL - HORIZ. FRONT FACE (S.E.)
A623	X	3	20'-10"	X	WING WALL - HORIZ. BACK FACE CAP (S.E.)
A624	X	2	20'-2"		WING WALL - HORIZ. TOP & BOTTOM CAP (S.E.)
A525	X	2	10'-2"		STAGE 1 - SDWK. TRAN. CORBEL



A501, A503, A514, A520



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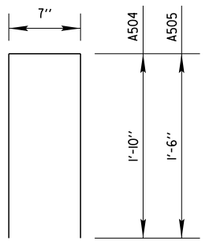
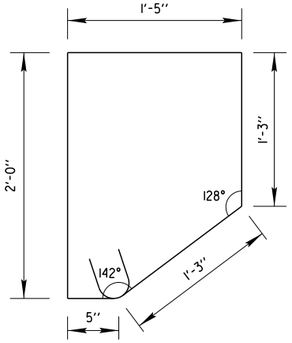


A504, A505



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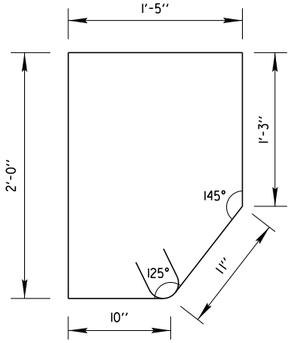

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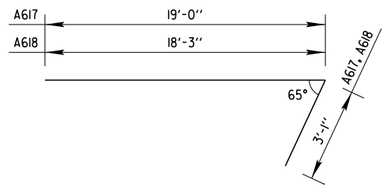
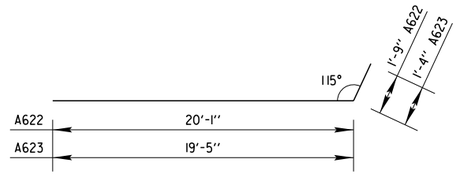


A617, A618



A622, A623

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY G.J.R. | PLANS CK'D. S.S.R. J.D.T.

SOUTH ABUTMENT AND WING WALL BILL OF BARS

SHEET 7 OF 27

W:\STR\B0224\2018 REHAB\PLANS\08_NABUT ELEV & PLAN.DGN

REVISED: 05-30-2018 BY GJR

STATE PROJECT NUMBER

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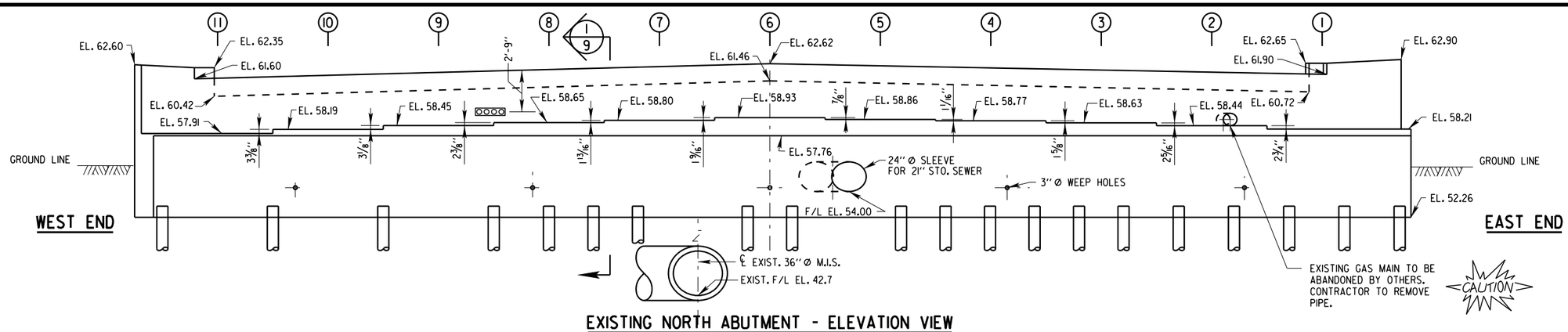
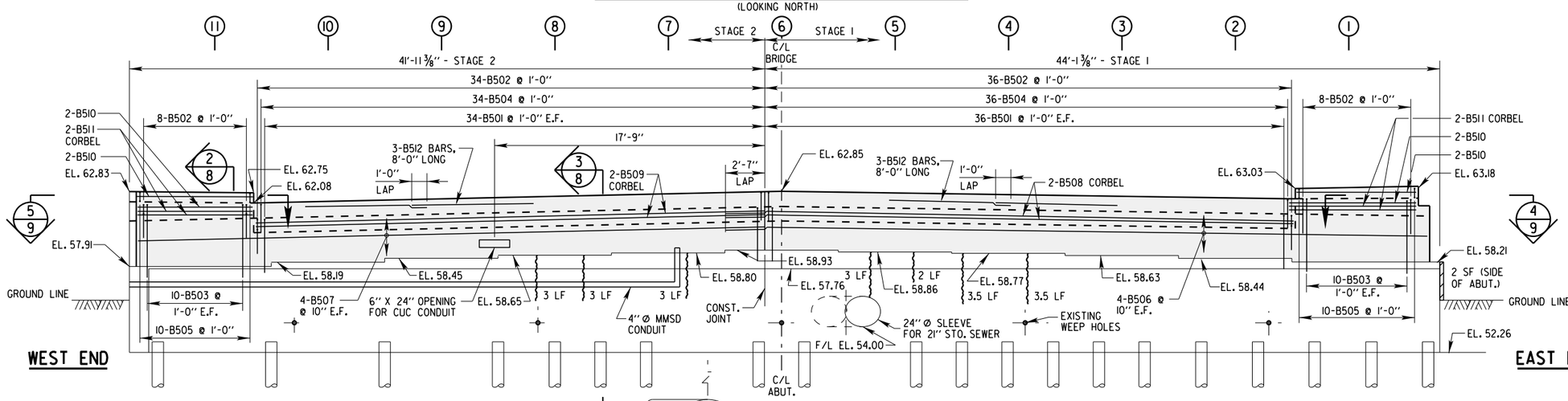


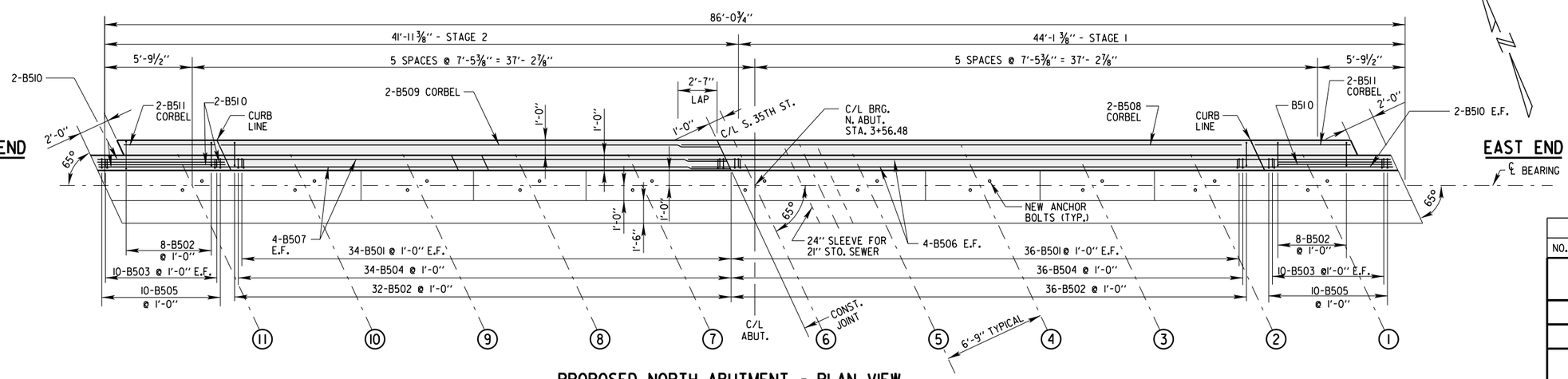
EXISTING NORTH ABUTMENT - ELEVATION VIEW

(LOOKING NORTH)



PROPOSED NORTH ABUTMENT - ELEVATION VIEW

(LOOKING NORTH)



PROPOSED NORTH ABUTMENT - PLAN VIEW

LEGEND

- EPOXY INJECTION CRACK REPAIR (LF)
- CONCRETE SURFACE REPAIR (SF)

F.F FRONT FACE
B.F. BACK FACE
E.F. EACH FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY	G.J.R.	PLANS CK'D.	S.S.R. J.D.T.

NORTH ABUTMENT ELEVATION AND PLAN VIEW

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W:\STR\B0224\2018 REHAB\PLANS\09_NABUT SECTION DET.DGN

REVISED: 05-30-2018 BY GJR

STATE PROJECT NUMBER

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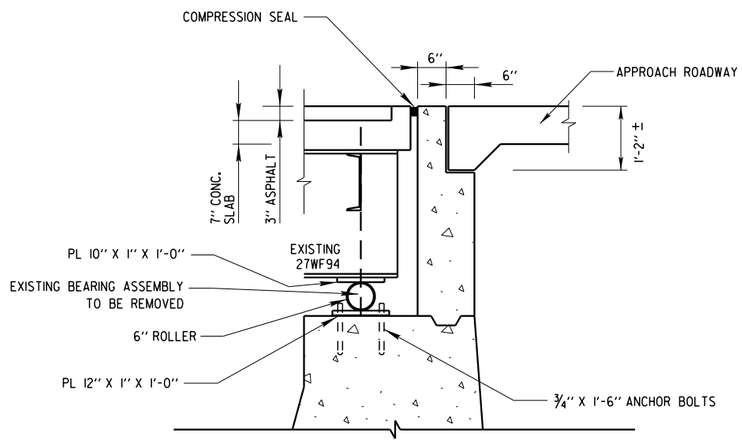
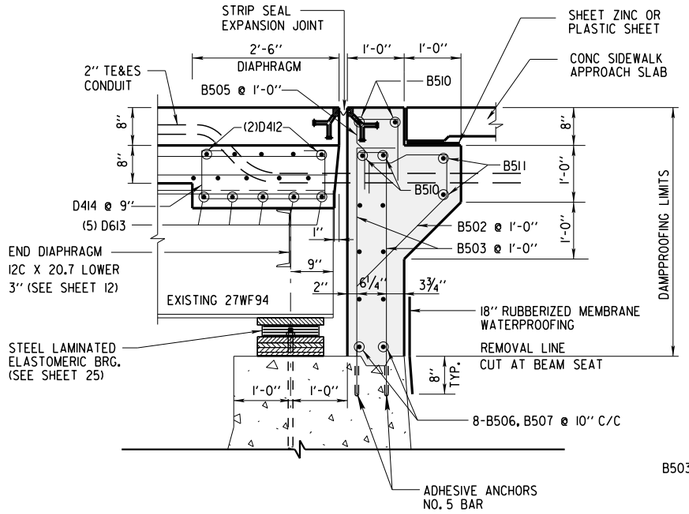
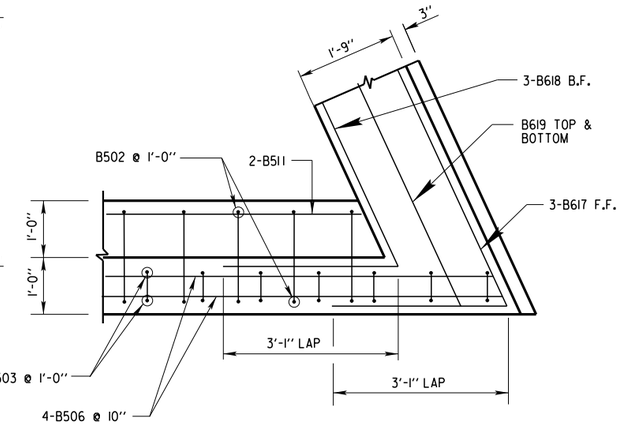


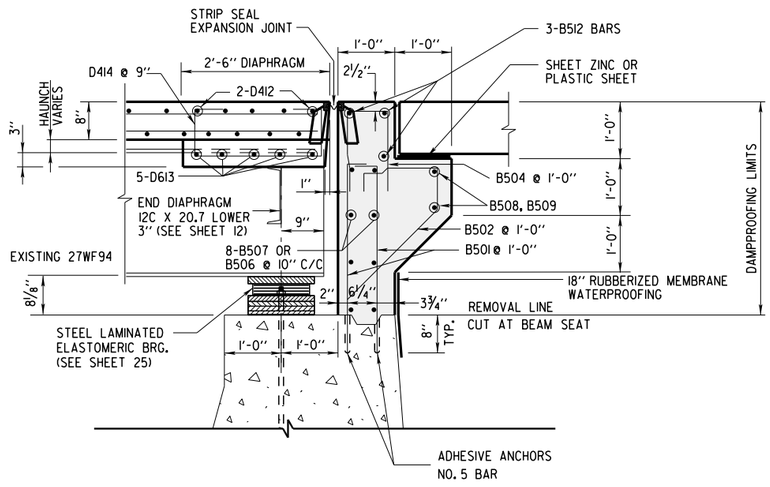
1/8 SECTION EXISTING ABUTMENT AT ROADWAY



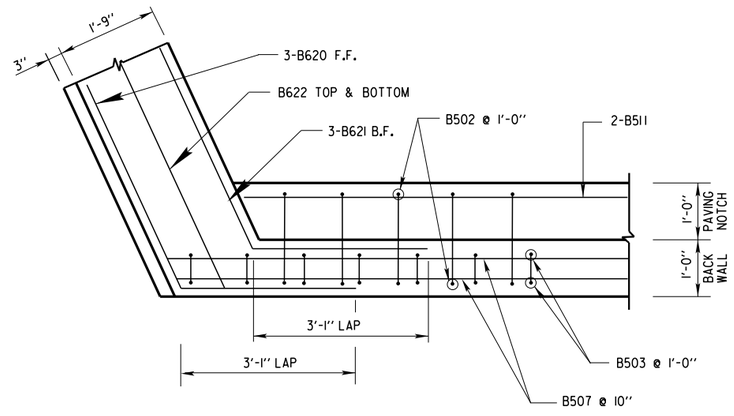
2/8 SECTION PROPOSED NORTH ABUTMENT AT SIDEWALK



4/8 SECTION



3/8 SECTION PROPOSED NORTH ABUTMENT AT ROADWAY



5/8 SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY	G.J.R.	PLANS CK'D.	S.S.R. J.D.T.

NORTH ABUTMENT SECTION DETAILS

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W:\STR\B0224\2018 REHAB\PLANS\10_NABUT WING WALL DET.DGN

REVISED DATE: 06-01-2018 BY GJR

STATE PROJECT NUMBER

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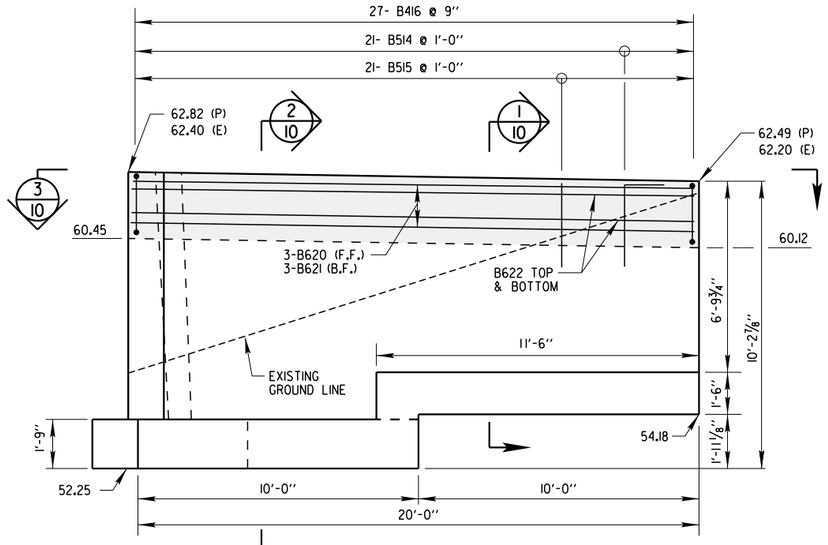
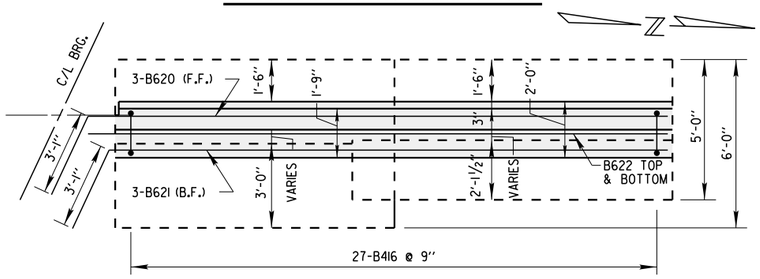
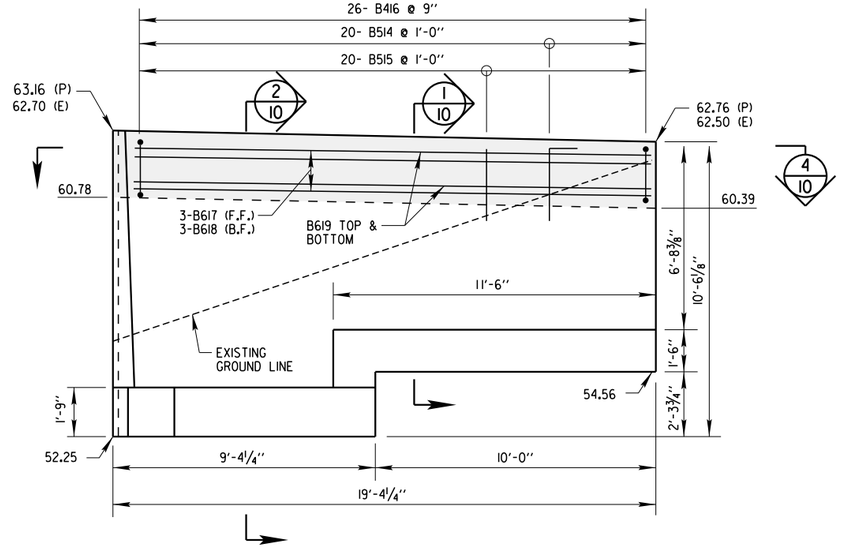


ELEVATION N.W. RETAINING WALL



PLAN N.W. RETAINING WALL 3/10



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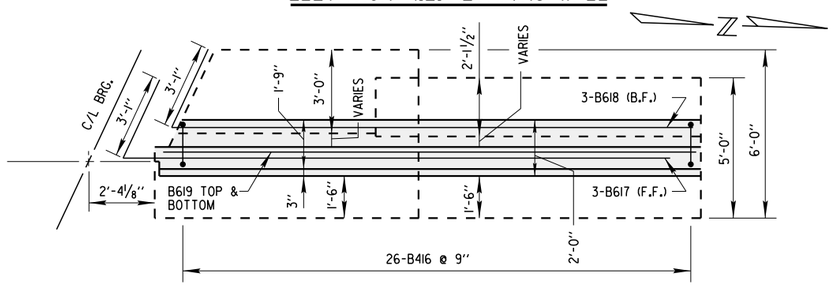
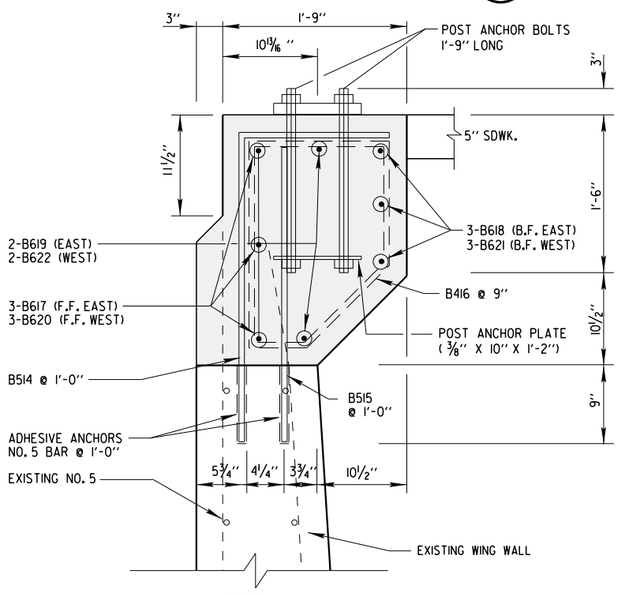
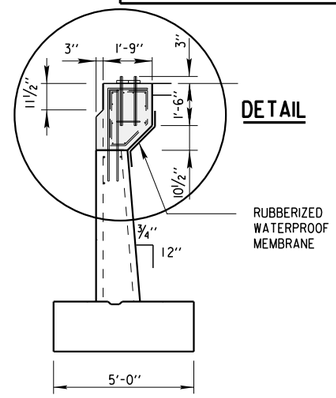


PLAN N.E. RETAINING WALL 4/10

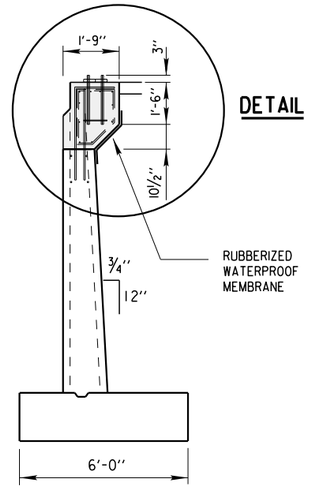


DETAIL



DETAIL

SECTION 1/10



SECTION 2/10

NOTES:

REMOVAL AND REINSTALLATION OF FILL MATERIAL AT WING WALLS IS INCIDENTAL TO "EXCAVATION FOR STRUCTURES BRIDGES". MATCH EXISTING GRADE.

APPLY CONCRETE STAIN TO EXPOSED FACE OF WING WALLS.

LEGEND

	EXISTING CONCRETE
	NEW CONCRETE
(P)	PROPOSED ELEVATION
(E)	EXISTING ELEVATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY G.J.R. | PLANS CK'D. S.S.R. J.D.T.

NORTH ABUTMENT WING WALL DETAILS

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W:\STR\B0224\2018 REHAB\PLANS\11_NABUT WING WALL BILL OF BARS.DGN

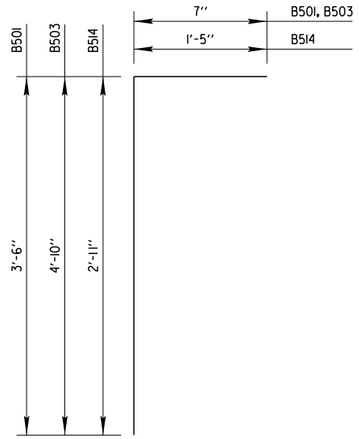
REVISED: 05/30/2018 BY G.J.R.

STATE PROJECT NUMBER

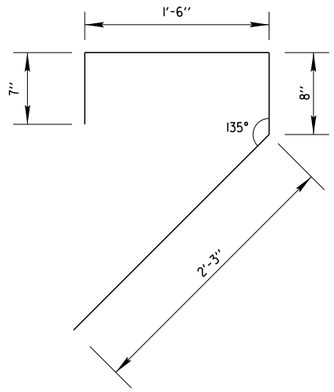
2100 - 00 - 70

BILL OF BARS - NORTH ABUTMENT AND WING WALLS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B501	X	140	4'-0"	X	STAGE I & 2 - BACKWALL DOWEL - RDWY.
B502	X	86	4'-8"	X	STAGE I & 2 - RDWY. & SDWK. CORBEL
B503	X	40	5'-4"	X	STAGE I & 2 - BACKWALL DOWEL - SDWK.
B504	X	70	4'-0"	X	STAGE I & 2 - TOP BACKWALL DOWEL - RDWY.
B505	X	20	3'-4"	X	STAGE I & 2 - TOP BACKWALL DOWEL - SDWK.
B506	X	8	46'-0"		STAGE I - BACKWALL HORIZ. F.F. & B.F.
B507	X	8	42'-3"		STAGE 2 - BACKWALL HORIZ. F.F. & B.F.
B508	X	2	37'-9"		STAGE I - RDWY. HORIZ. CORBEL
B509	X	2	32'-10"		STAGE 2 - RDWY. HORIZ. CORBEL
B510	X	8	8'-6"		STAGE I & 2 - SDWK. TRAN.
B511	X	4	6'-4"		STAGE I & 2 - SDWK. TRAN. CORBEL
B512	X	30	8'-0"		STAGE I & 2 - BARS FOR STRIP SEAL ANCHORS - RDWY.
B514	X	41	4'-2"	X	WING WALL - VERT. DOWEL (N.E. & N.W.)
B515	X	41	3'-0"		WING WALL - VERT. DOWEL (N.E. & N.W.)
B416	X	53	6'-6"	X	WING WALL - STIRRUPS (N.E. & N.W.)
B617	X	3	22'-6"	X	WING WALL - HORIZ. FRONT FACE CAP (N.E.)
B618	X	3	21'-8"	X	WING WALL - HORIZ. BACK FACE CAP (N.E.)
B619	X	2	18'-8"		WING WALL - HORIZ. CAP (N.E.)
B620	X	4	23'-9"	X	WING WALL - HORIZ. FRONT FACE CAP (N.W.)
B621	X	3	23'-0"	X	WING WALL - HORIZ. BACK FACE CAP (N.W.)
B622	X	2	19'-8"		WING WALL - HORIZ. CAP (N.W.)



B501, B503, B514



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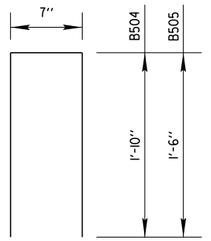
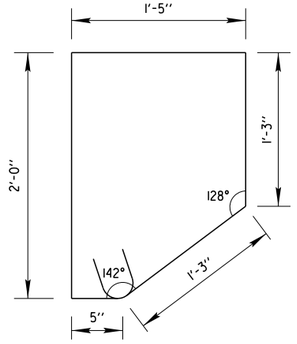


B504, B505



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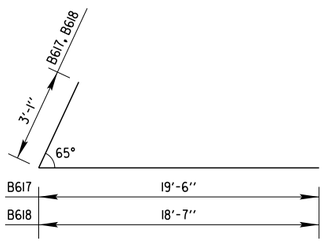

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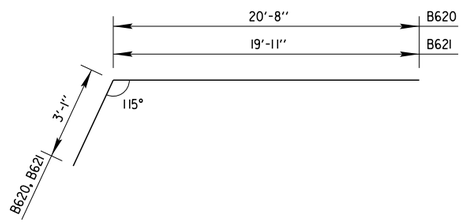

B620, B621

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY G.J.R. | PLANS CK'D. S.S.R. J.D.T.

NORTH ABUTMENT AND WING WALL BILL OF BARS

SHEET 11 OF 27

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W:\STRVB0224\2018 REHAB\PLANS\12_PIER 1 CONC SURF REPAIR.DGN

REVISED: 05-09-2018 BY DLF

STATE PROJECT NUMBER
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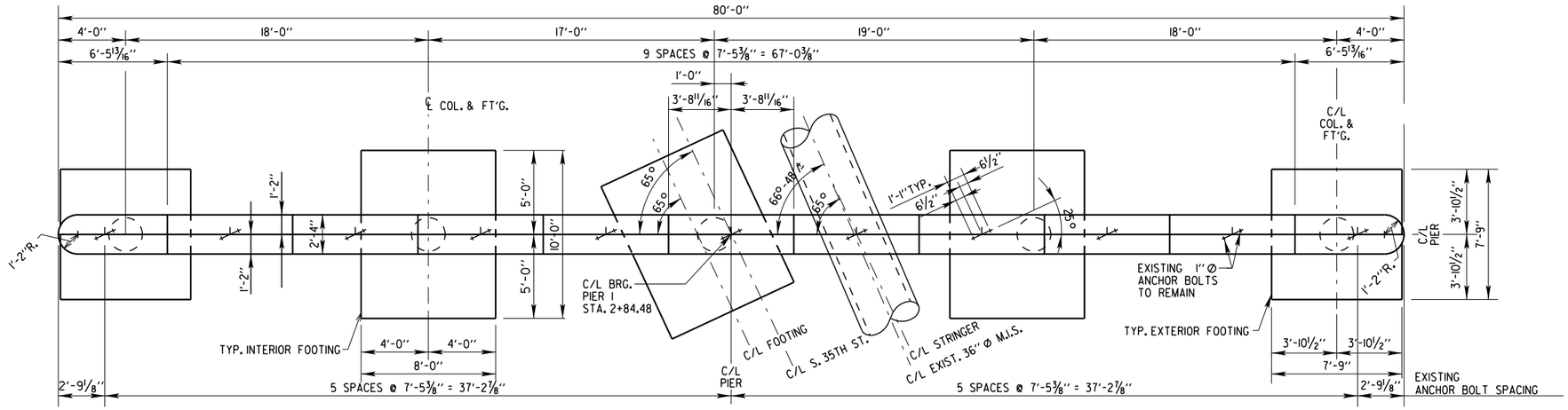
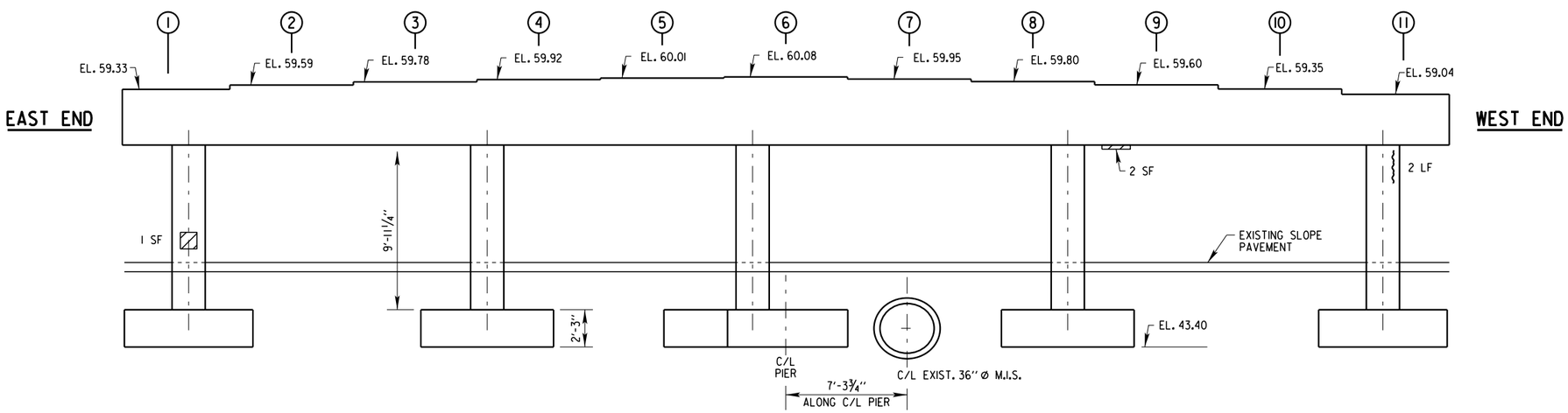
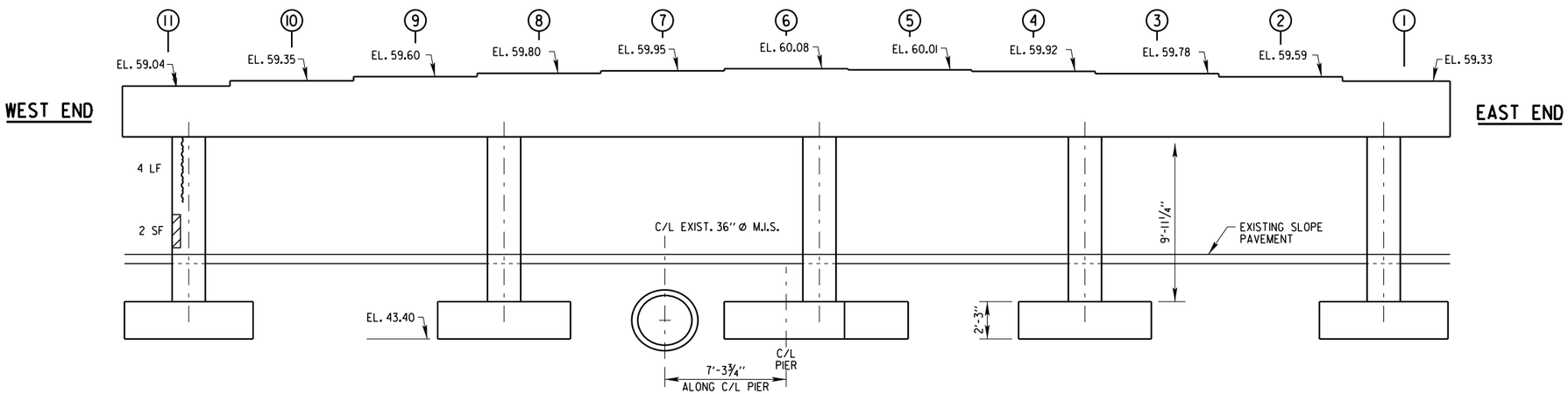


PIER 1- PLAN VIEW



PIER 1- NORTH ELEVATION

LOOKING SOUTH



PIER 1- SOUTH ELEVATION

LOOKING NORTH

LEGEND

EPOXY INJECTION CRACK REPAIR (LF)

CONCRETE SURFACE REPAIR (SF)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

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PIER 1 CONCRETE SURFACE REPAIRS

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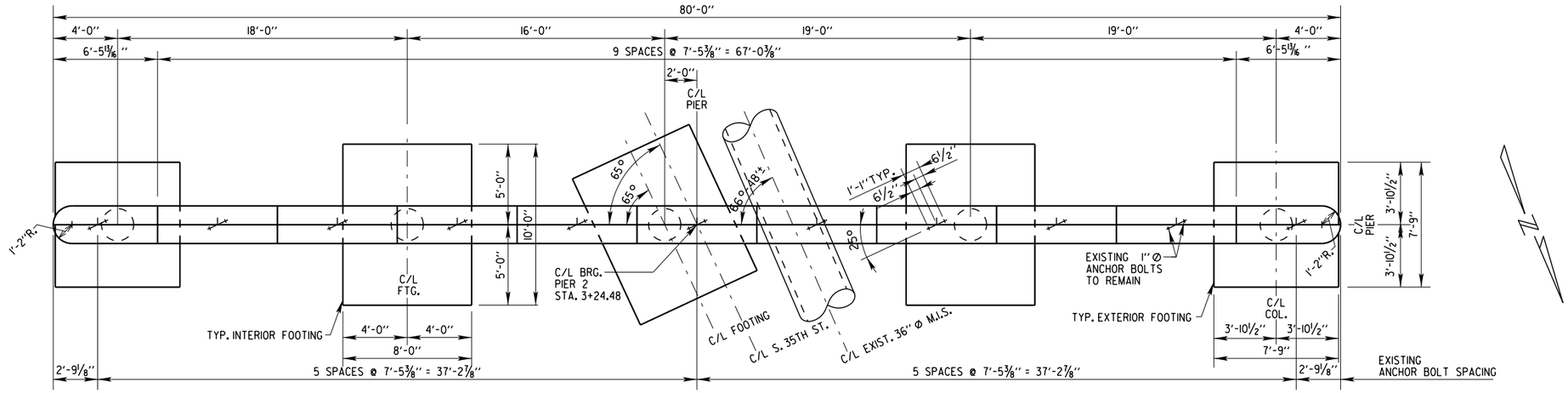

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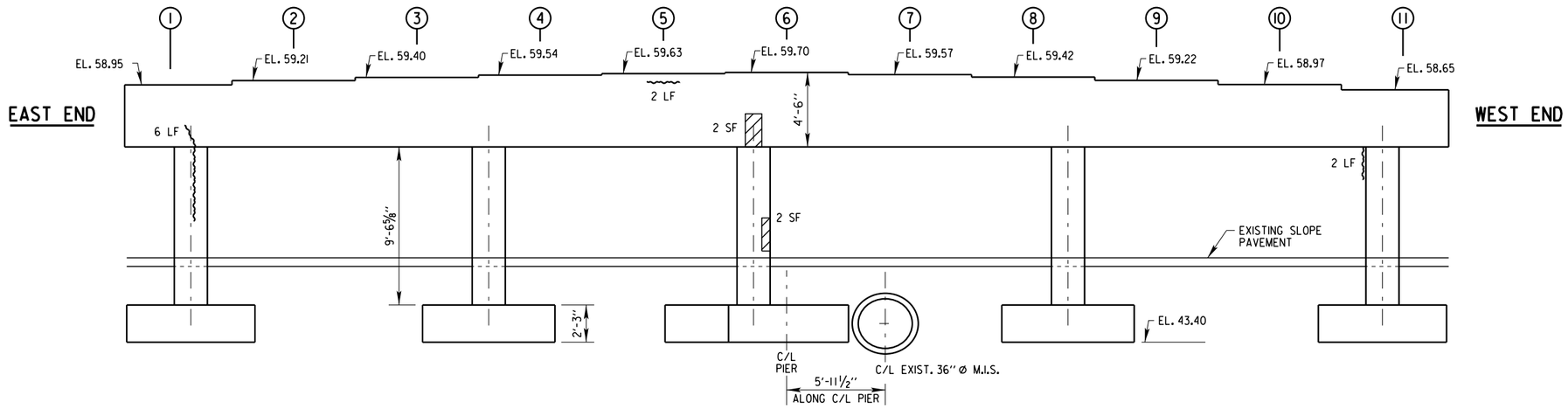
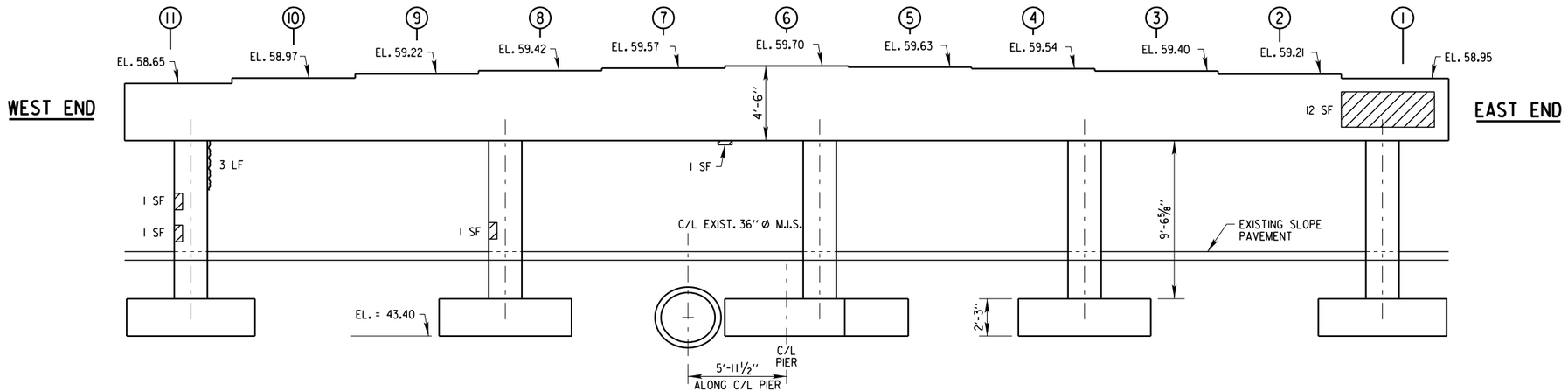


PIER 2 - NORTH ELEVATION

LOOKING SOUTH



PIER 2 - SOUTH ELEVATION

LOOKING NORTH

LEGEND

EPOXY INJECTION CRACK REPAIR (LF)

CONCRETE SURFACE REPAIR (SF)

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

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PIER 2 CONCRETE SURFACE REPAIRS

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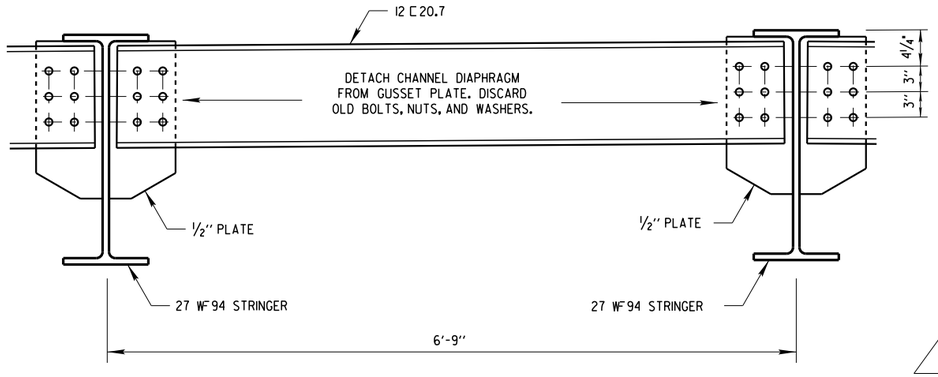
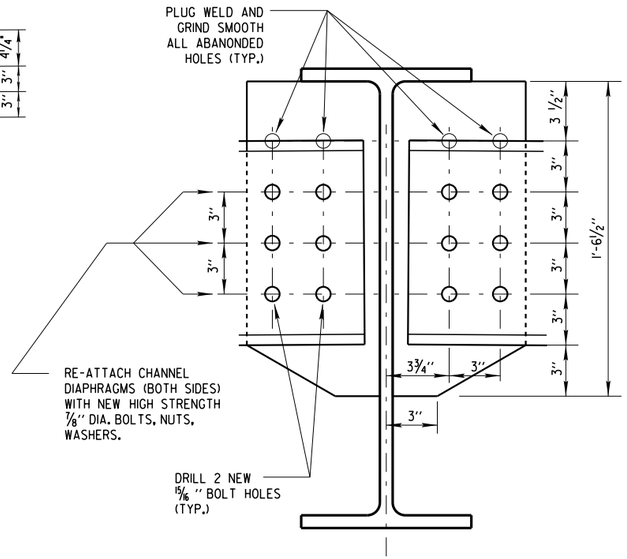
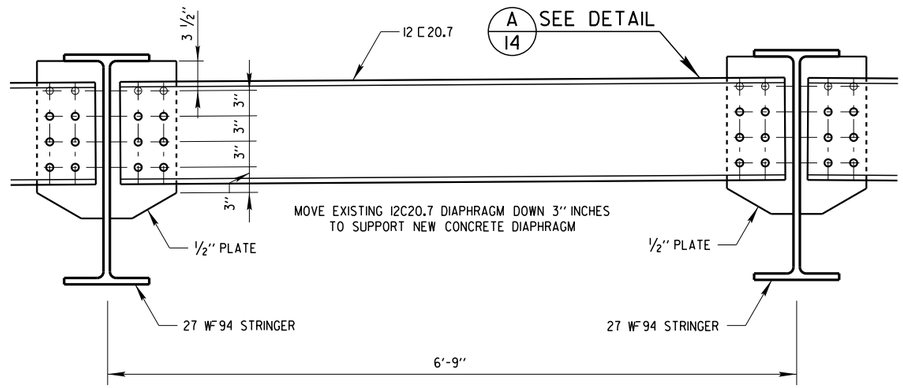


EXISTING GIRDER END DIAPHRAGM

BETWEEN GIRDERS (TYP.)



A/14 MODIFIED GIRDER END DIAPHRAGM DETAIL



MODIFIED GIRDER END DIAPHRAGM

BETWEEN GIRDERS (TYP.)

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

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MODIFIED GIRDER END DIAPHRAGMS

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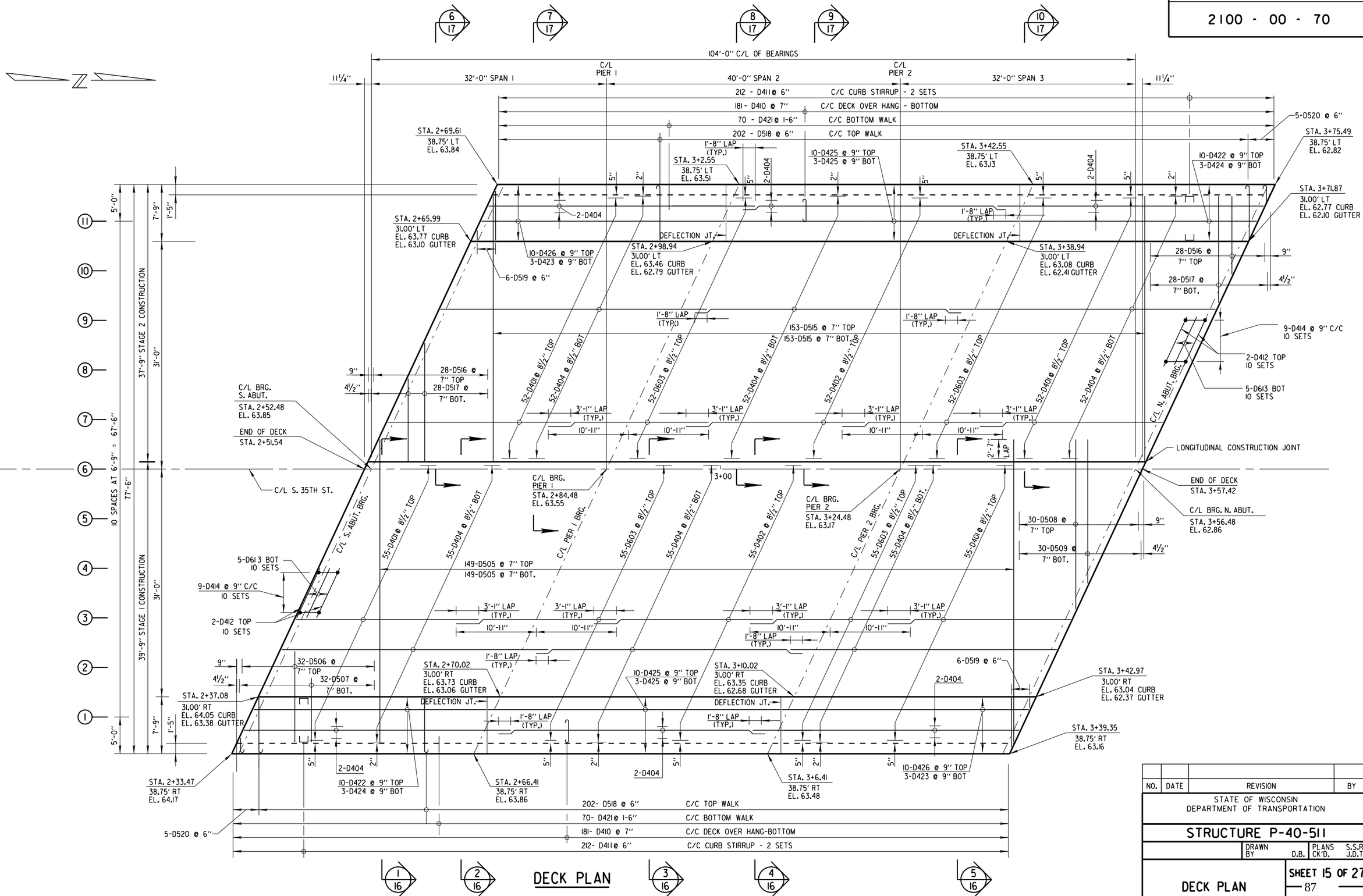

1/16 2/16 **DECK PLAN** 3/16 4/16 5/16

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

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DECK PLAN

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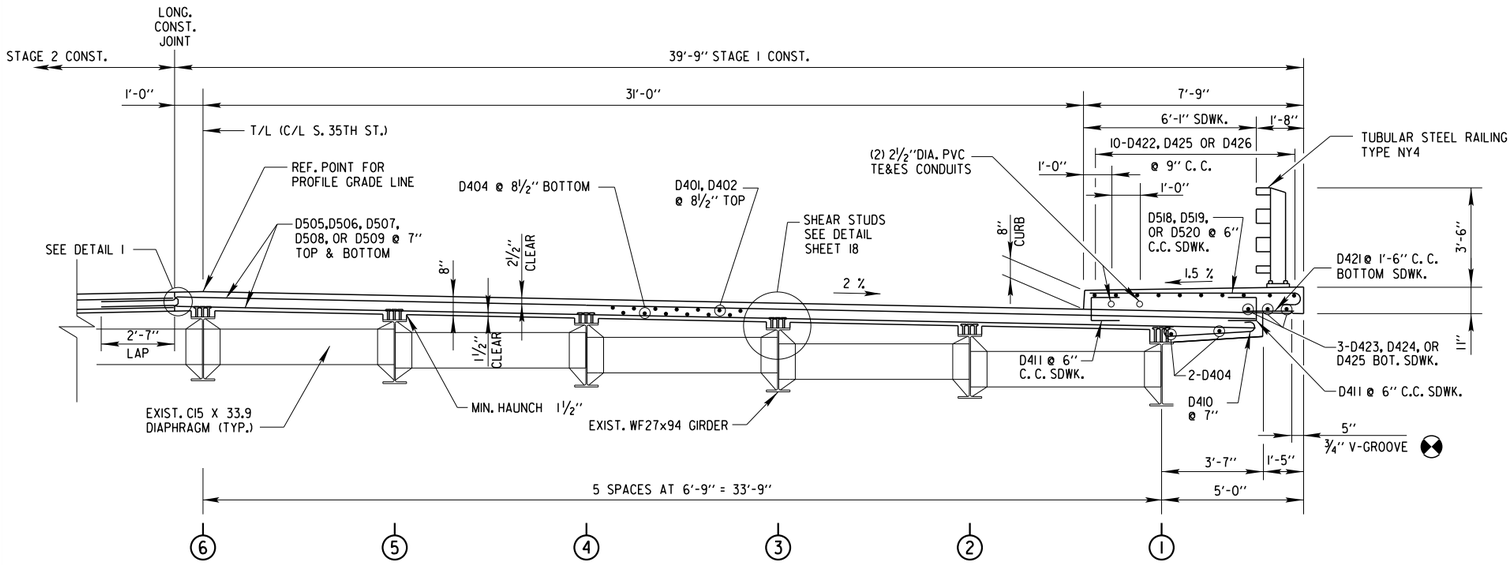
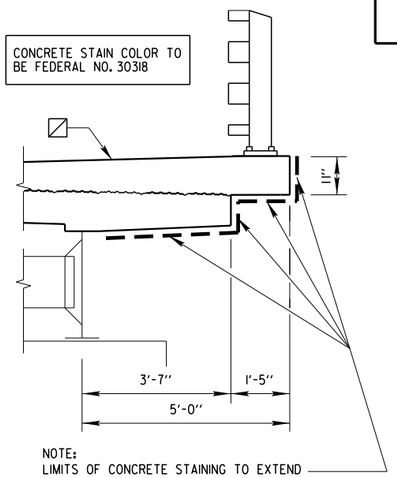


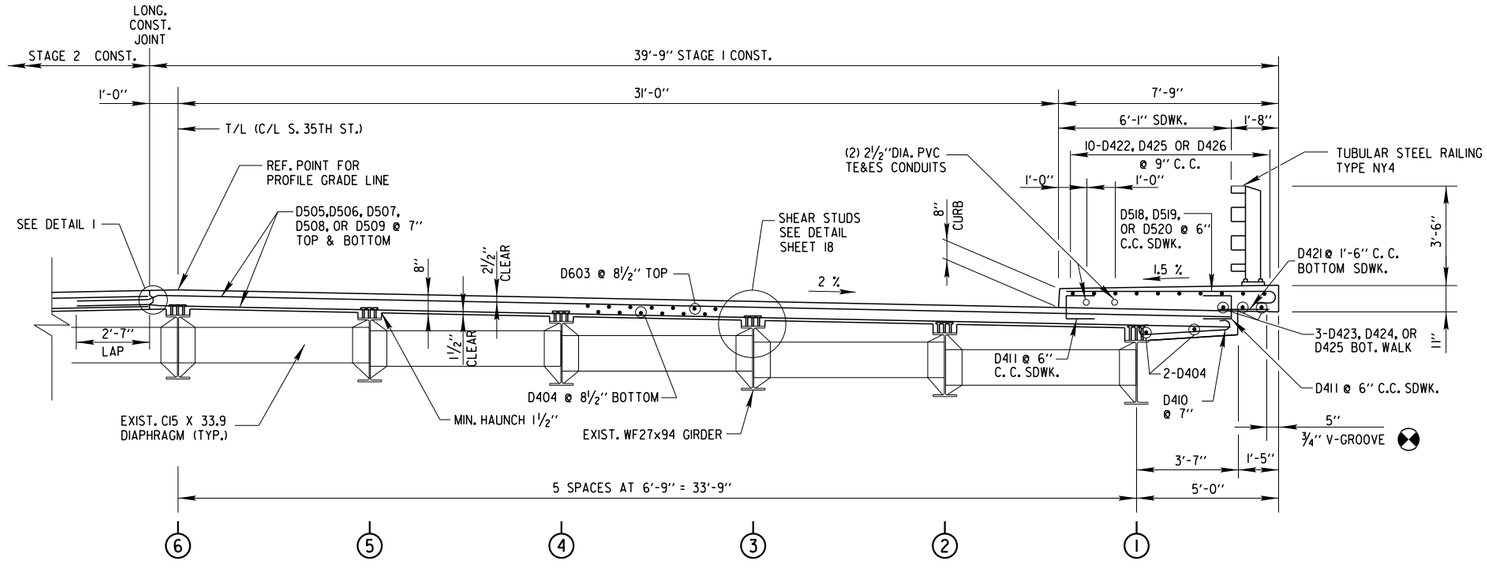
1/15 3/15 5/15 CROSS SECTION OF STAGE 1 ALL SPANS

LOOKING NORTH NEAR MIDSPAN



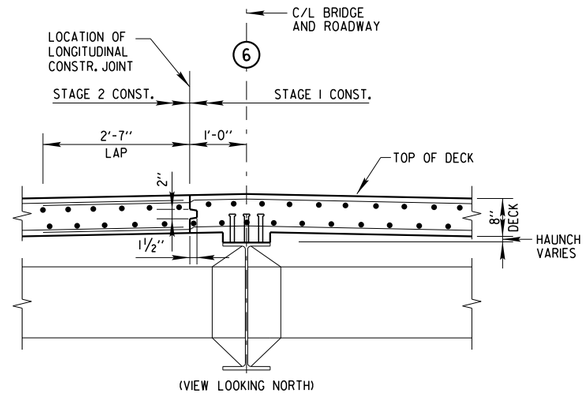
NOTE:
LIMITS OF CONCRETE STAINING TO EXTEND ALONG VERTICAL EDGE/SIDE OF SIDEWALK, UNDERSIDE OF SIDEWALK, VERTICAL EDGE/SIDE OF DECK SLAB, AND UNDERSIDE OF DECK AND TO TERMINATE AT EXTERIOR GIRDER.

TYP. FOR SHEETS 16 AND 17



2/15 4/15 CROSS SECTION OF STAGE 1 ALL SPANS

LOOKING NORTH NEAR PIERS



(VIEW LOOKING NORTH)

DETAIL 1- DECK LONGITUDINAL CONSTRUCTION JOINT

NOTES:

- ¾" V-GROOVE REQ'D. EXTEND TO 2'-0" FROM F.F. OF ABUT. BODY.
- COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER STANDARD SPECIFICATIONS (ROADWAY, CURB, TOP OF WALK AND TOP OF WING WALL)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

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STAGE 1 CONSTRUCTION CROSS SECTIONS

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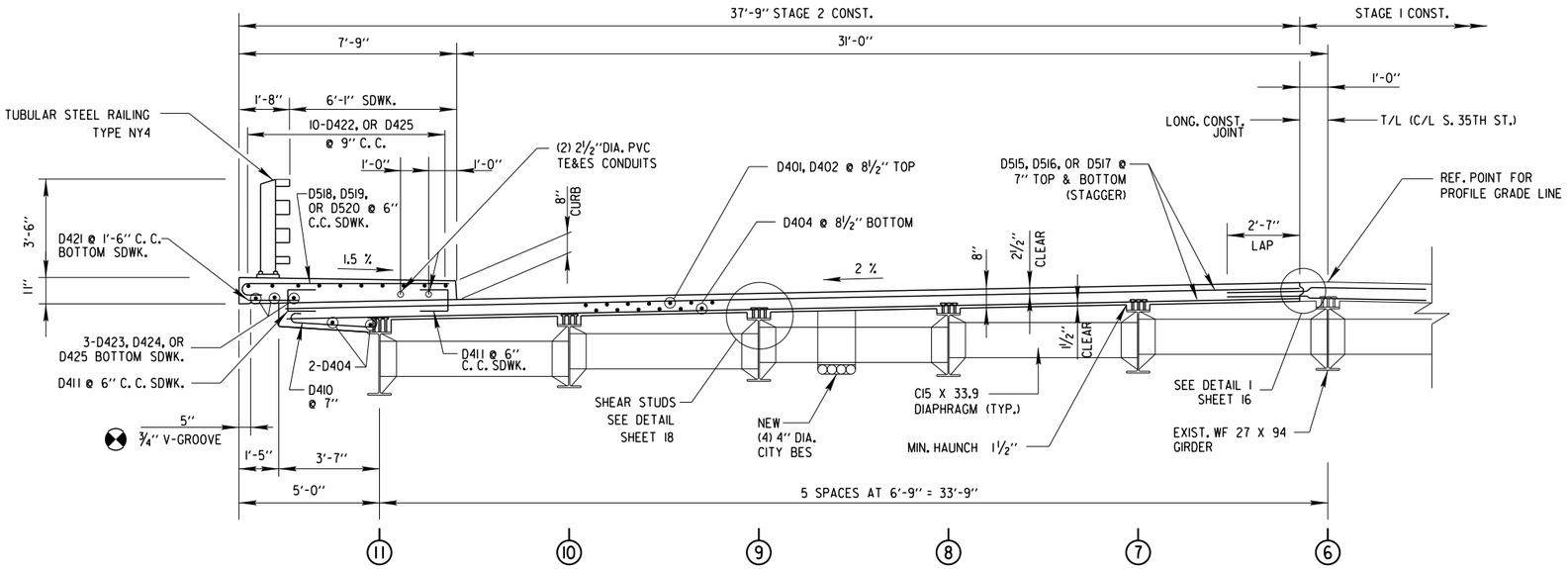
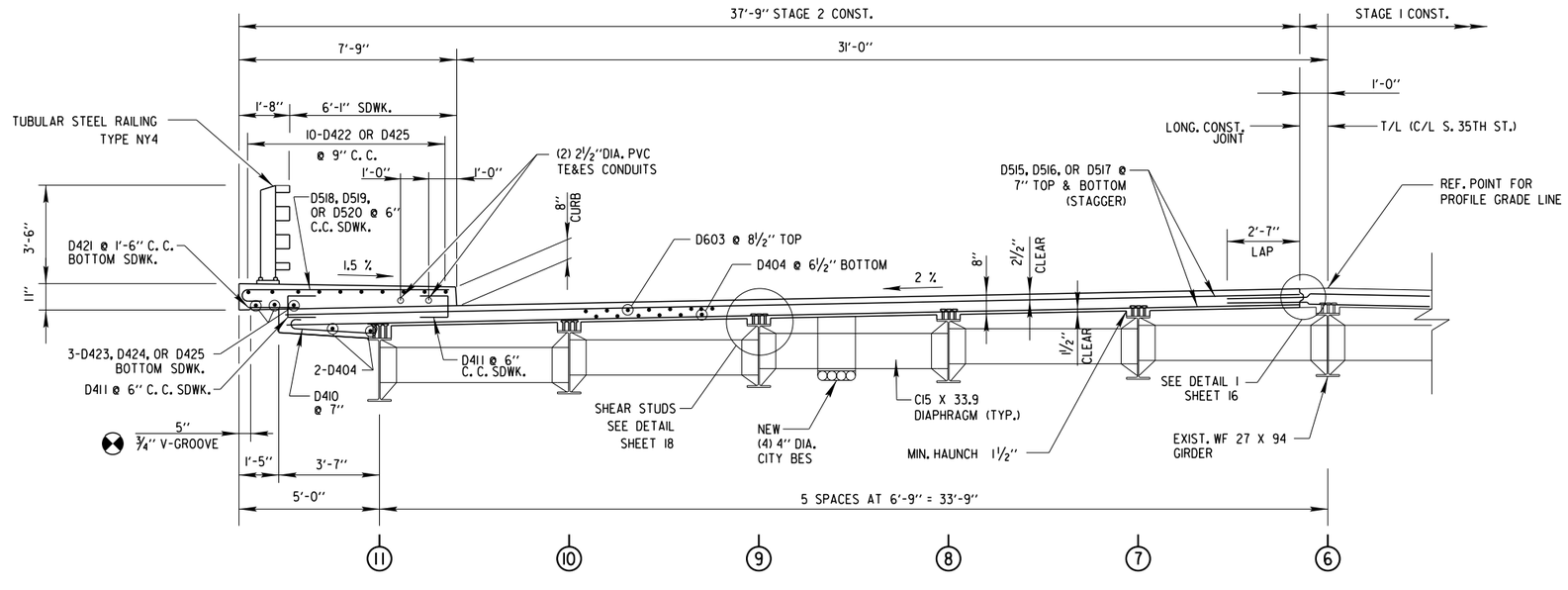


6/15 8/15 10/15 **CROSS SECTION OF STAGE 2 ALL SPANS**

LOOKING NORTH NEAR MIDSPAN



7/15 9/15 **CROSS SECTION OF STAGE 2 ALL SPANS**

LOOKING NORTH NEAR PIERS

NOTES:

SEE SHEET 16 FOR ADDITIONAL DETAILS AND NOTES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY	D.B.	PLANS CK'D.	S.S.R. J.D.T.

STAGE 2 CONSTRUCTION CROSS SECTIONS

SHEET 17 OF 27

W:\STR\B0224\2018 REHAB\PLANS\18_DECK BILL OF BAR & CONNECTOR LAYOUT.DGN

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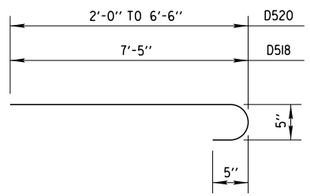
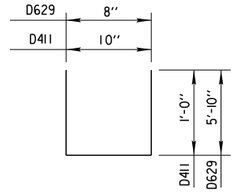
BILL OF BARS - DECK STAGE 1 & 2

BAR MARK	COATED	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
D401	X	214	24'-11"			STAGE 1 & 2 - LONGITUDINAL TOP - SPAN 1 & 3
D402	X	107	24'-4"			STAGE 1 & 2 - LONGITUDINAL TOP - SPAN 2
D603	X	214	21'-10"			STAGE 1 & 2 - LONGITUDINAL TOP OVER PIER
D404	X	333	36'-4"			STAGE 1 & 2 - LONGITUDINAL BOTTOM
D505	X	298	40'-9"			STAGE 1 - TRANSVERS TOP & BOTTOM
D506	X	32	20'-3"		△	STAGE 1 - TRANSVERSE TOP SPAN 1
D507	X	32	20'-9"		△	STAGE 1 - TRANSVERSE BOTTOM SPAN 1
D508	X	30	21'-9"		△	STAGE 1 - TRANSVERSE TOP SPAN 3
D509	X	30	22'-5"		△	STAGE 1 - TRANSVERSE BOTTOM SPAN 3
D410	X	362	4'-8"	X		STAGE 1 & 2 - TRANSVERSE DECK OVERHANG
D411	X	848	2'-8"	X		STAGE 1 & 2 - CURB STIRRUP
D412	X	40	6'-6"			STAGE 1 & 2 - TOP END DIAPHRAGM
D613	X	100	6'-6"			STAGE 1 & 2 - BOTTOM END DIAPRAGM
D414	X	180	4'-8"	X		STAGE 1 & 2 - END DIAPHRAGM
D515	X	306	36'-1"			STAGE 2 - TRANSVERSE TOP & BOTTOM
D516	X	56	17'-11"		△	STAGE 2 - TRANSVERSE TOP SPAN 1 & 3
D517	X	56	18'-7"		△	STAGE 2 - TRANSVERSE BOTTOM SPAN 1 & 3
D518	X	404	8'-1"	X		STAGE 1 & 2 - SIDEWALK TRANSVERSE TOP
D519	X	12	4'-0"		△	STAGE 1 & 2 - SIDEWALK TRANSVERSE TOP
D520	X	10	4'-10"	X	△	STAGE 1 & 2 - SIDEWALK TRANSVERSE TOP
D421	X	140	2'-8"			STAGE 1 & 2 - SIDEWALK TRANSVERSE BOTTOM
D422	X	20	32'-3"		△	STAGE 1 & 2 - SIDEWALK LONGITUDINAL TOP SPAN 1 & 3
D423	X	6	31'-2"		△	STAGE 1 & 2 - SIDEWALK LONGITUDINAL BOTTOM SPAN 1 & 3
D424	X	6	34'-0"		△	STAGE 1 & 2 - SIDEWALK LONGITUDINAL BOTTOM SPAN 1 & 3
D425	X	26	39'-10"			STAGE 1 & 2 - SIDEWALK LONGITUDINAL TOP & BOTTOM SPAN 2
D426	X	20	32'-11"		△	STAGE 1 & 2 - SIDEWALK LONGITUDINAL TOP SPAN 1 & 3
D627	X	112	6'-0"			STAGE 1 & 2 - RAILING LONGITUDINAL
D628	X	4	12'-0"	X		STAGE 1 & 2 - RAILING TRANSVERSE SE & NW
D629	X	52	12'-0"	X		STAGE 1 & 2 - RAILING TRANSVERSE

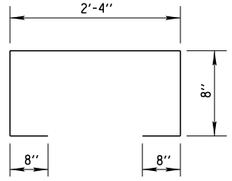
× × × LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



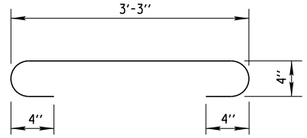
D518, D520



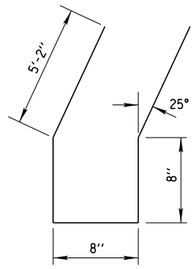
D411, D629



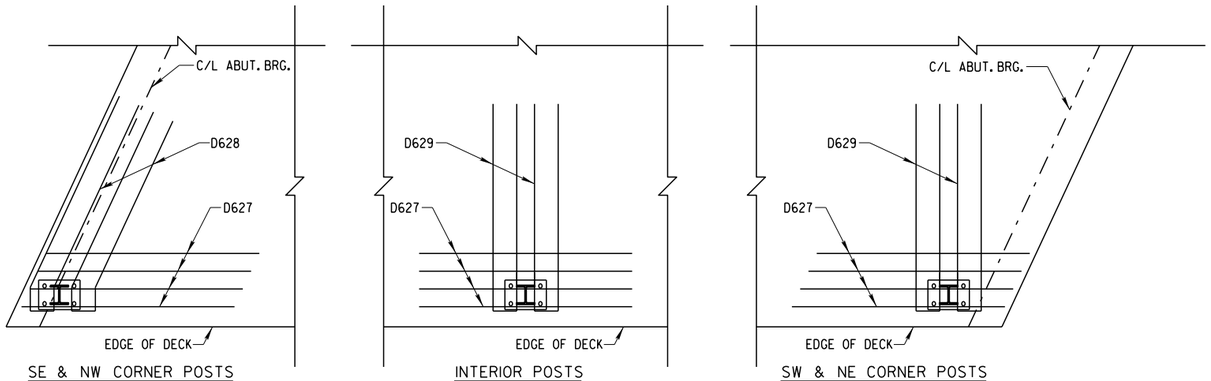
D414



D410

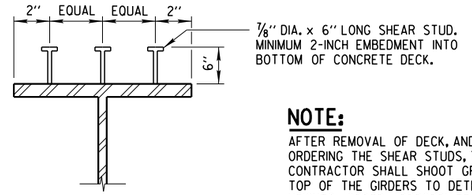


D628



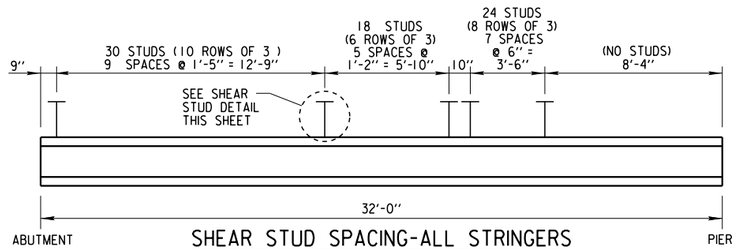
SE & NW CORNER POSTS | INTERIOR POSTS | SW & NE CORNER POSTS

RAILING ANCHOR DETAIL



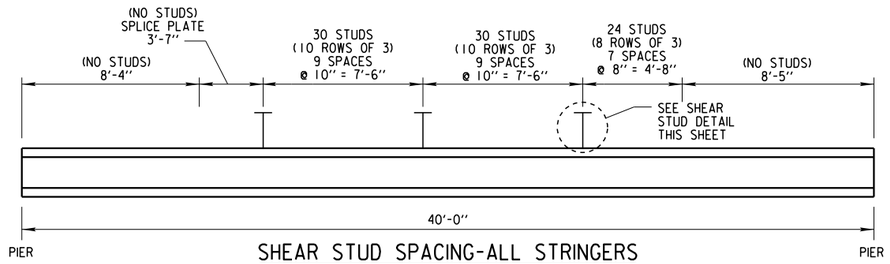
SHEAR STUD DETAIL

NOTE:
AFTER REMOVAL OF DECK, AND BEFORE ORDERING THE SHEAR STUDS, THE CONTRACTOR SHALL SHOOT GRADES OF THE TOP OF THE GIRDERS TO DETERMINE HAUNCH HEIGHTS. ORDER APPROPRIATE SIZE STUDS AS NEEDED TO ACHIEVE MINIMUM 2" EMBEDMENT INTO BOTTOM OF NEW DECK SLAB.



SHEAR STUD SPACING-ALL STRINGERS

END SPANS (SPAN 1 AND SPAN 3)



SHEAR STUD SPACING-ALL STRINGERS

CENTER SPAN (SPAN 2)

BAR SERIES TABLE		
MARK	NO. REQUIRED	LENGTH
D506	1 SERIES OF 32	1'-0" TO 39'-6"
D507	1 SERIES OF 32	1'-4" TO 40'-1"
D508	1 SERIES OF 30	3'-7" TO 39'-10"
D509	1 SERIES OF 30	4'-3" TO 40'-6"
D516	2 SERIES OF 28	1'-1" TO 34'-8"
D517	2 SERIES OF 28	1'-8" TO 35'-6"
D519	2 SERIES OF 6	1'-4" TO 6'-8"
D520	2 SERIES OF 5	2'-7" TO 7'-1"
D422	2 SERIES OF 10	30'-10" TO 33'-8"
D423	2 SERIES OF 3	30'-10" TO 31'-7"
D424	2 SERIES OF 3	33'-8" TO 34'-4"
D426	2 SERIES OF 10	31'-6" TO 34'-4"

BUNDLE AND TAG EACH SERIES SEPARATELY

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY D.B. | PLANS CK'D. S.S.R. J.D.T.

DECK BILL OF BARS AND SHEAR CONNECTOR LAYOUT

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TOP OF DECK ELEVATIONS SPAN 1													
SPAN LENGTH "L"	GIRDER NO.	DESC.	C/L BEARING S.ABUT.	0.10 SPAN	0.20 SPAN	0.30 SPAN	0.40 SPAN	0.50 SPAN	0.60 SPAN	0.70 SPAN	0.80 SPAN	0.90 SPAN	C/L BEARING PIER 1
32'-0"	TYP. INTERIOR AND EXTERIOR DEAD LOAD DEFLECTION (IN.)		0.00	0.03	0.05	0.06	0.07	0.07	0.06	0.04	0.02	0.01	0.00
	WEST EDGE	T. DECK	62.94	62.91	62.88	62.85	62.82	62.79	62.76	62.73	62.70	62.67	62.64
	11	T. DECK	63.03	63.00	62.96	62.93	62.90	62.87	62.84	62.81	62.78	62.75	62.72
	10	T. DECK	63.19	63.16	63.13	63.10	63.07	63.04	63.01	62.98	62.95	62.92	62.89
	9	T. DECK	63.36	63.32	63.29	63.26	63.23	63.20	63.17	63.14	63.11	63.08	63.05
	8	T. DECK	63.52	63.49	63.46	63.43	63.40	63.37	63.34	63.31	63.28	63.25	63.22
	7	T. DECK	63.69	63.65	63.62	63.59	63.56	63.53	63.50	63.47	63.44	63.41	63.38
	CONST. JOINT	T. DECK	63.83	63.80	63.76	63.73	63.70	63.67	63.64	63.61	63.58	63.55	63.52
	6	T. DECK	63.85	63.82	63.79	63.76	63.73	63.70	63.67	63.64	63.61	63.58	63.55
	5	T. DECK	63.74	63.71	63.68	63.65	63.62	63.59	63.56	63.53	63.50	63.47	63.44
	4	T. DECK	63.64	63.61	63.58	63.55	63.52	63.49	63.46	63.43	63.50	63.37	63.34
	3	T. DECK	63.53	63.50	63.47	63.44	63.41	63.38	63.35	63.32	63.29	63.26	63.23
	2	T. DECK	63.43	63.40	63.37	63.34	63.31	63.28	63.25	63.22	63.19	63.16	63.13
	1	T. DECK	63.32	63.29	63.26	63.23	63.20	63.17	63.14	63.11	63.08	63.05	63.02
	EAST EDGE	T. DECK	63.27	63.24	63.21	63.18	63.15	63.12	63.09	63.06	63.03	63.00	62.97

TOP OF DECK ELEVATIONS SPAN 2													
SPAN LENGTH "L"	GIRDER NO.	DESC.	C/L BEARING PIER 1	0.10 SPAN	0.20 SPAN	0.30 SPAN	0.40 SPAN	0.50 SPAN	0.60 SPAN	0.70 SPAN	0.80 SPAN	0.90 SPAN	C/L BEARING PIER 2
40'-0"	TYP. INTERIOR AND EXTERIOR DEAD LOAD DEFLECTION (IN.)		0.00	0.01	0.04	0.06	0.08	0.09	0.08	0.06	0.04	0.02	0.00
	WEST EDGE	T. DECK	62.64	62.60	62.56	62.52	62.49	62.45	62.41	62.37	62.33	62.30	62.26
	11	T. DECK	62.72	62.68	62.65	62.61	62.57	62.53	62.49	62.46	62.42	62.38	62.34
	10	T. DECK	62.89	62.85	62.81	62.77	62.73	62.70	62.66	62.62	62.58	62.54	62.51
	9	T. DECK	63.05	63.01	62.98	62.94	62.90	62.86	62.82	62.79	62.75	62.71	62.67
	8	T. DECK	63.22	63.18	63.14	63.10	63.06	63.03	62.99	62.95	62.91	62.87	62.84
	7	T. DECK	63.38	63.34	63.31	63.27	63.23	63.19	63.15	63.12	63.08	63.04	63.00
	CONST. JOINT	T. DECK	63.52	63.48	63.45	63.41	63.37	63.33	63.29	63.26	63.22	63.18	63.14
	6	T. DECK	63.55	63.51	63.47	63.43	63.39	63.36	63.32	63.28	63.24	63.20	63.17
	5	T. DECK	63.44	63.40	63.36	63.33	63.29	63.25	63.21	63.17	63.14	63.10	63.06
	4	T. DECK	63.34	63.30	63.26	63.22	63.18	63.15	63.11	63.07	63.03	62.99	62.96
	3	T. DECK	63.23	63.19	63.15	63.12	63.08	63.04	63.00	62.96	62.93	62.89	62.85
	2	T. DECK	63.13	63.09	63.05	63.01	62.97	62.94	62.90	62.86	62.82	62.78	62.75
	1	T. DECK	63.02	62.98	62.94	62.91	62.87	62.83	62.79	62.75	62.72	62.68	62.64
	EAST EDGE	T. DECK	62.97	62.93	62.89	62.85	62.82	62.78	62.74	62.70	62.66	62.63	62.59

TOP OF DECK ELEVATIONS SPAN 3													
SPAN LENGTH "L"	GIRDER NO.	DESC.	C/L BEARING PIER 2	0.10 SPAN	0.20 SPAN	0.30 SPAN	0.40 SPAN	0.50 SPAN	0.60 SPAN	0.70 SPAN	0.80 SPAN	0.90 SPAN	C/L BEARING N. ABUT.
32'-0"	TYP. INTERIOR AND EXTERIOR DEAD LOAD DEFLECTION (IN.)		0.00	0.01	0.02	0.04	0.06	0.07	0.07	0.06	0.05	0.03	0.00
	WEST EDGE	T. DECK	62.26	62.23	62.20	62.17	62.14	62.11	62.07	62.04	62.01	61.98	61.95
	11	T. DECK	62.34	62.31	62.28	62.25	62.22	62.19	62.16	62.13	62.10	62.07	62.04
	10	T. DECK	62.51	62.48	62.45	62.42	62.38	62.35	62.32	62.29	62.26	62.23	62.20
	9	T. DECK	62.67	62.64	62.61	62.58	62.55	62.52	62.49	62.46	62.43	62.40	62.37
	8	T. DECK	62.84	62.81	62.78	62.75	62.71	62.68	62.65	62.62	62.59	62.56	62.53
	7	T. DECK	63.00	62.97	62.94	62.91	62.88	62.85	62.82	62.79	62.76	62.73	62.70
	CONST. JOINT	T. DECK	63.14	63.11	63.08	63.05	63.02	62.99	62.96	62.93	62.90	62.87	62.84
	6	T. DECK	63.17	63.14	63.11	63.07	63.04	63.01	62.98	62.95	62.92	62.89	62.86
	5	T. DECK	63.06	63.03	63.00	62.97	62.94	62.91	62.88	62.85	62.82	62.79	62.76
	4	T. DECK	62.96	62.93	62.90	62.86	62.83	62.80	62.77	62.74	62.71	62.68	62.65
	3	T. DECK	62.85	62.82	62.79	62.76	62.73	62.70	62.67	62.64	62.61	62.58	62.55
	2	T. DECK	62.75	62.72	62.68	62.65	62.62	62.59	62.56	62.53	62.50	62.47	62.44
	1	T. DECK	62.64	62.61	62.58	62.55	62.52	62.49	62.46	62.43	62.40	62.37	62.34
	EAST EDGE	T. DECK	62.59	62.56	62.53	62.50	62.47	62.44	62.41	62.38	62.34	62.31	62.28

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY D.L.F | PLANS CK'D. S.S.B J.D.T

DECK GRADES

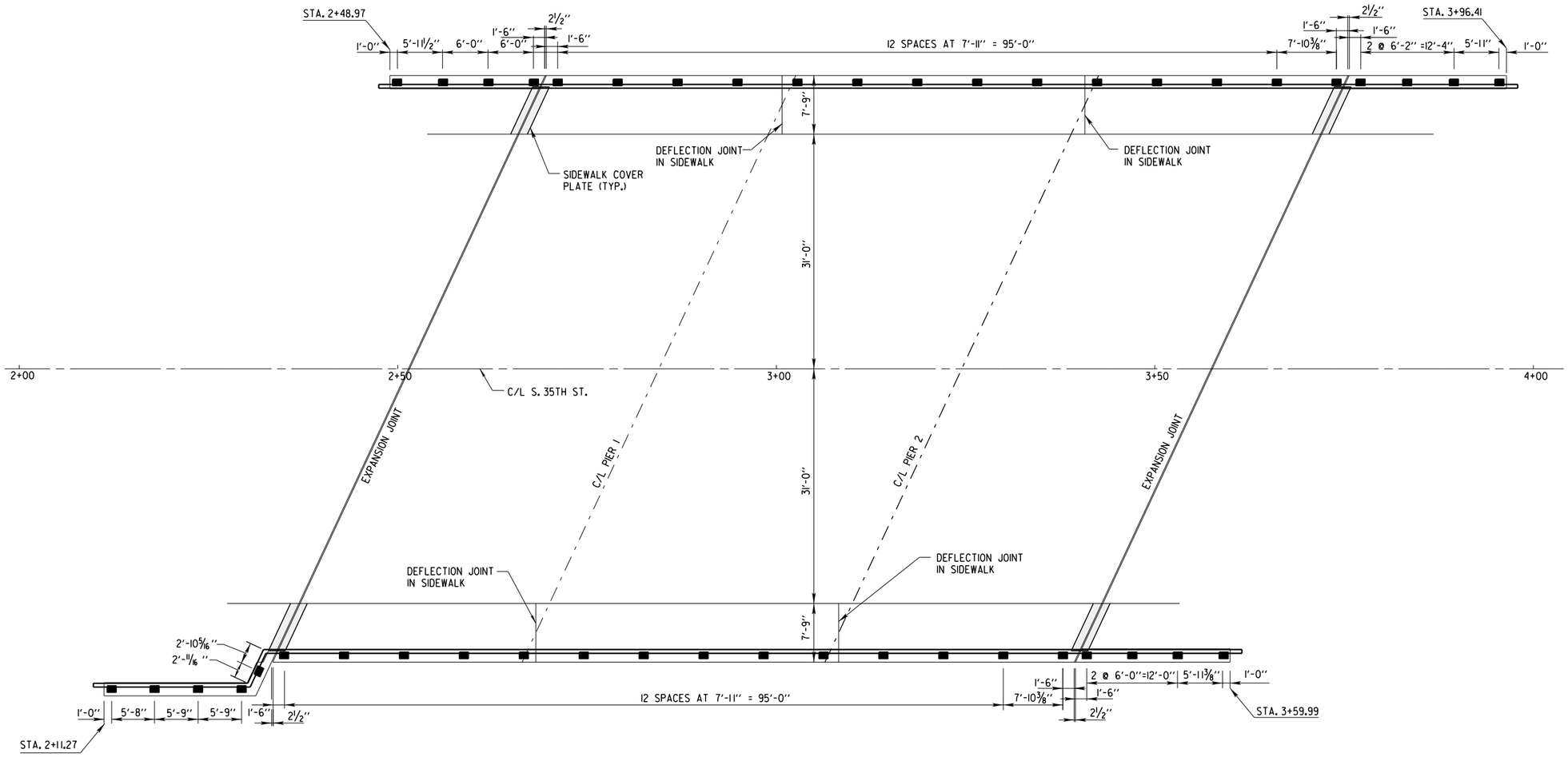
SHEET 19 OF 27

W:\STR\B0224\2018 REHAB\PLANS\20_RAILING PLAN.DGN

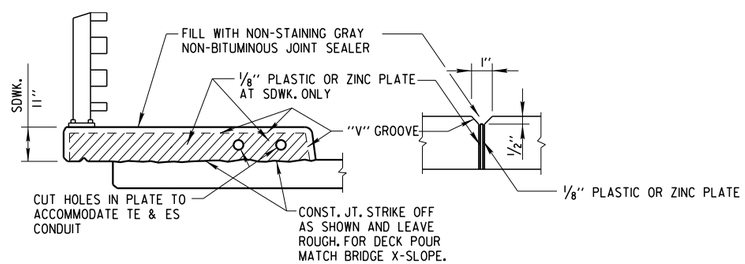
REVISED DATE: 05-09-2018 BY DLF

STATE PROJECT NUMBER

2100 - 00 - 70



RAILING PLAN



SECTION AT SIDEWALK ABOVE PIERS 1 & 2

DEFLECTION JOINT DETAIL

SIDEWALK COVER PLATE DETAIL

◪ = AREA OF MOVEMENT OF THE COVER PLATE. ORIENT TO ALIGN WITH DIRECTION OF TRAFFIC.

NOTE:
SEE SHEET NO. 24 FOR DETAILS REGARDING ORIENTATION OF COVER PLATE MOVEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY D.B. | PLANS CK'D. S.S.R. J.D.T.

RAILING PLAN

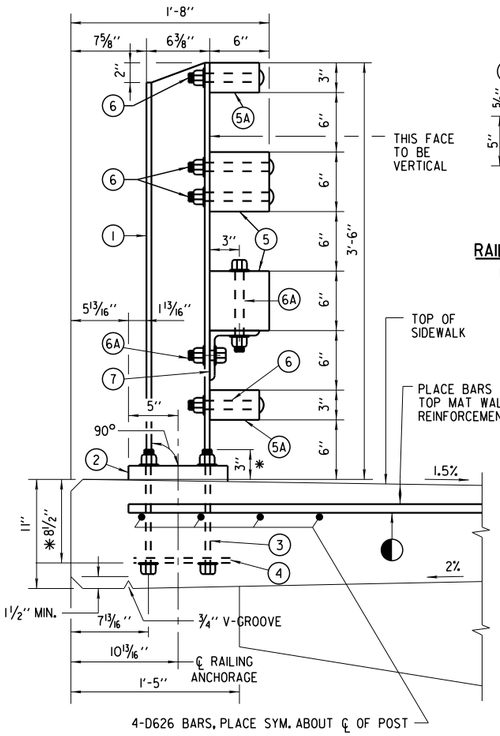
SHEET 20 OF 27

8

8

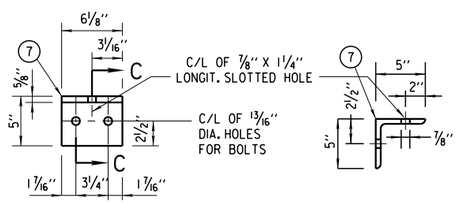
STATE PROJECT NUMBER

2100 - 00 - 70



SECTION THRU RAILING ON SIDEWALK

* NORMAL TO BASE PLATE

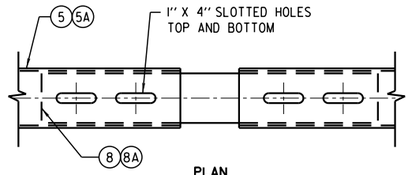


RAILING ANGLE DETAIL

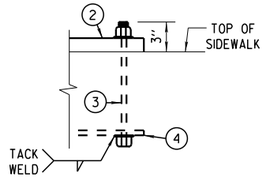
INTERIOR ELEVATION

SECTION C-C

ANGLE SECTION

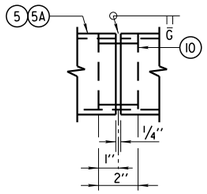


FIELD ERECTION JOINT DETAIL



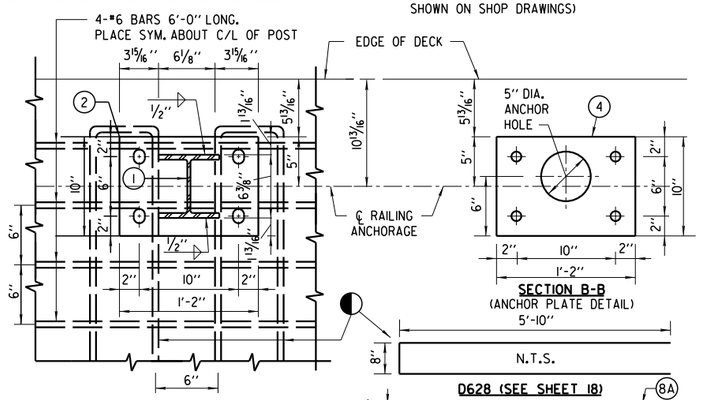
ANCHOR BOLTS

FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.



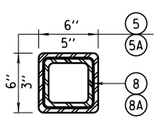
SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

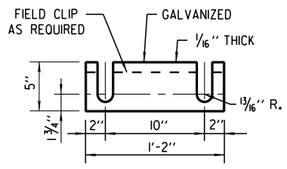


SECTION A-A

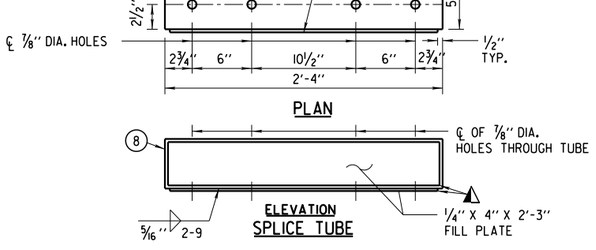
BASE PLATE DETAIL



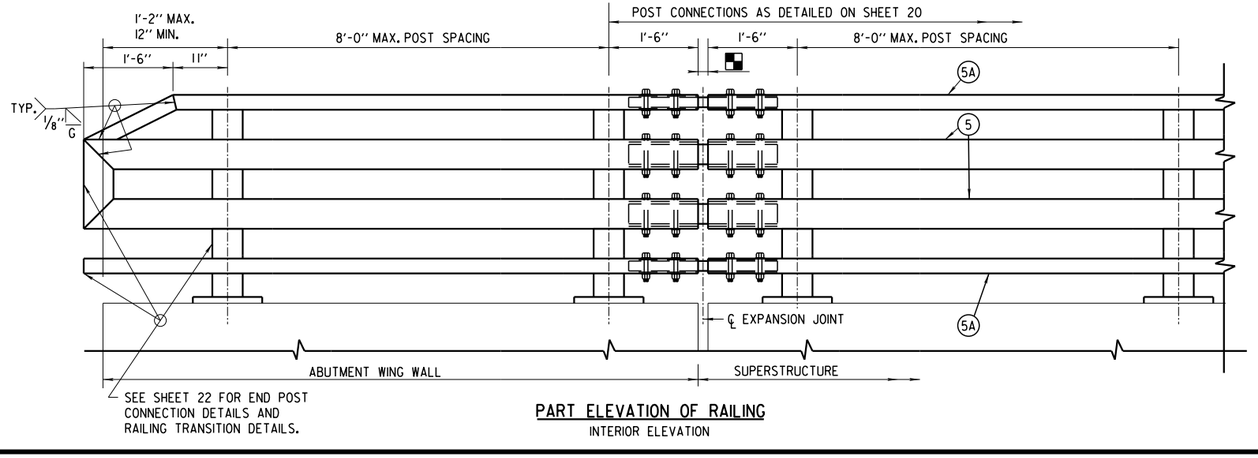
SECTION D-D



POST SHIM DETAIL

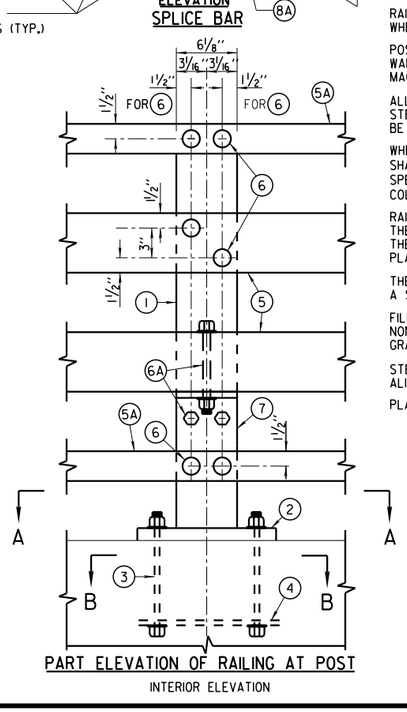


SPLICE TUBE



PART ELEVATION OF RAILING

INTERIOR ELEVATION



PART ELEVATION OF RAILING AT POST

INTERIOR ELEVATION

LEGEND

(1) W6 X 25 WITH 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES ON EACH SIDE OF POST FOR BOLT NO. 6 AT TOP TWO RAILS. USE 1" DIA. HOLES FOR BOLT NO. 6 AT BOTTOM NO. 5A & FOR BOLT NO. 6A AT NO. 7. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1¼" X 10" X 1'-2" WITH 1⅛" X 1⅞" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1" DIA. ANCHOR BOLTS WITH HEAVY HEX NUT AND 2" O.D. HARDENED WASHER (ALL GALVANIZED). 4 REQUIRED PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 11½" LONG BOLT FOR CONCRETE SIDEWALKS. USE 1'-9" LONG IN ABUTMENT WINGS. (AN EQUIVALENT THREADED ROD WITH HEAVY HEX NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQUIRED FOR CONSTRUCTABILITY).

(4) ⅜" X 10" X 1'-2" ANCHOR PLATE (GALVANIZED) WITH 1⅛" DIA. HOLES FOR ANCHOR BOLTS NO. 3.

(5) TS 6 X 6 X ⅜" STRUCTURAL TUBING, USE 1" DIA. HOLES FOR BOLT NO. 6 (FRONT & BACK) & ⅞" DIA. HOLES FOR BOLT NO. 6A (TOP & BOTTOM).

(5A) TS 5 X 3 X ¼" STRUCTURAL TUBING, USE 1" DIA. HOLES FOR BOLT NO. 6 IN TOP RAIL (FRONT & BACK). USE 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.

(6) ⅞" DIA. A449 SLOTTED ROUND HEADBOLT WITH HEX NUT, ⅜" X 1¾" X 1¾" WASHER, AND SPRING LOCK WASHER (2 REQUIRED AT RAIL TO POST LOCATIONS SHOWN.

(6A) ¾" DIA. A325 BOLT WITH HEX NUT AND SPRING LOCK WASHER (1 REQUIRED AT RAIL TO ANGLE AND 2 REQUIRED AT ANGLE POST LOCATIONS SHOWN WITH ⅜" X 1¾" X 1¾" WASHER).

(7) L5 X 5 X ⅝" STRUCTURAL ANGLE. ATTACH TO NO. 1 AND NO. 5 AS SHOWN.

(8) TS 5 X 5 X ⅝" X 2'-4" LONG SPLICE TUBE. 1 PER RAIL. USED IN NO. 5.

(8A) 4¼" X 2⅛" X 2'-4" LONG SPLICE BAR. 1 PER RAIL. USED IN NO. 5A.

(9) ¾" DIA. A325 FULLY THREADED BOLTS, 7½" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5.

(9A) ¾" DIA. A325 FULLY THREADED BOLTS, 4½" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5A.

(10) SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

■ ROADWAY OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT, SPLICES ARE REQUIRED IN ANY RAILING SPAN BETWEEN POSTS THAT CONTAINS A SUPERSTRUCTURE EXPANSION JOINT.

⚠ PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE RAILS, SPLICE TUBES AND FILL PLATES.

◐ D627 OR D628 BARS X 12'-0" LONG. BEND AS SHOWN. TIE TO TOP MAT OF STEEL. (THIS BAR INCLUDED IN DECK BILL OF BARS).

NOTES

BID ITEM SHALL BE "RAILING STEEL TYPE NY4", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION, PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS, ANGLES, SPLICE TUBES, SPLICE BARS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.

WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & NO. 4) SHALL BE PAINTED OVER GALVANIZING WITH AN APPROVED TIE COAT AND TOP COAT AS SPECIFIED IN THE CONTRACT DOCUMENTS. THE RAILING SHALL BE PAINTED FEDERAL COLOR NO. 14062.

RAIL POST, BASE PLATES, SPLICE BAR, ANGLES AND SPLICE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED fy=50 KSI. ANCHOR PLATES AND SHIMS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.

THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.

FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. CAULK AROUND PERIMETER OF NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

STEEL SHIMS SHALL BE PROVIDED & USED UNDER PLATE NO. 2 WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

PLACE FIRST BOTTOM LONGITUDINAL REINFORCING BAR CLEAR OF DRIP GROOVE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY	D.B.	PLANS CK'D.	S.S.R. J.D.T.

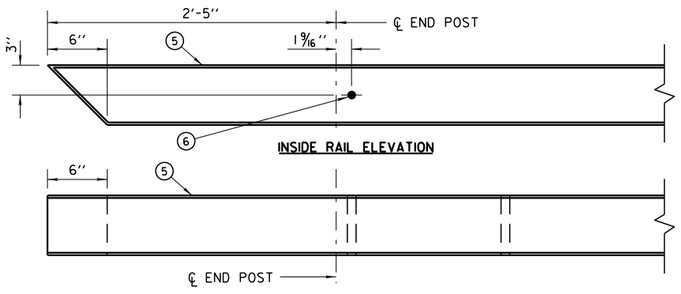
TUBULAR STEEL RAILING TYPE NY4

SHEET 21 OF 27

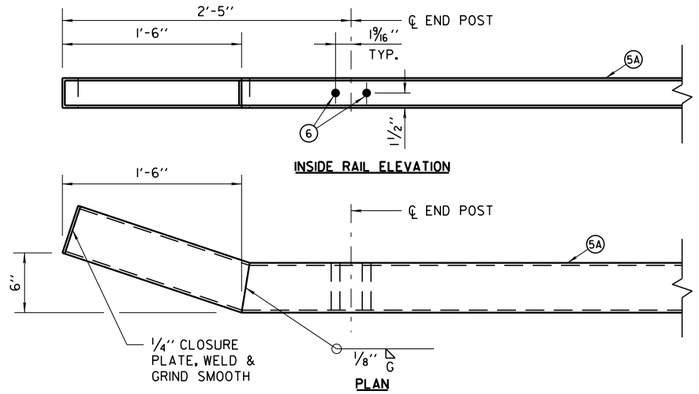
NOTES

STRUCTURAL STEEL RAILING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED fy=50 KSI. STRUCTURAL ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50.

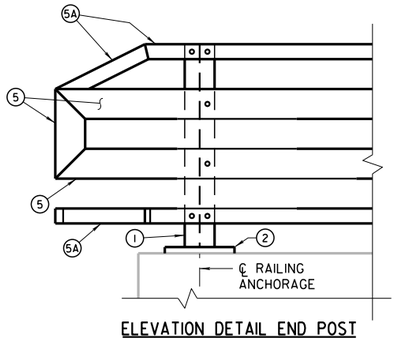
REFER TO SHEET 21 FOR LEGEND



TOP RAIL ⑤ DETAILS

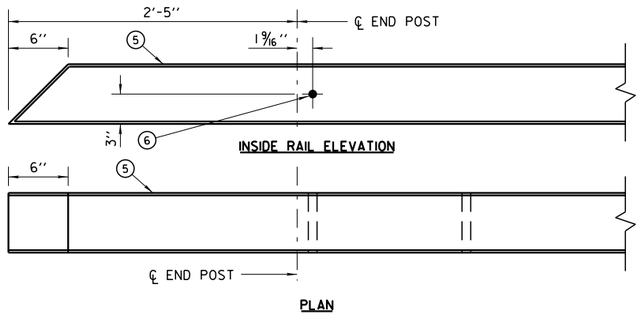


BOTTOM RAIL ⑤A DETAILS

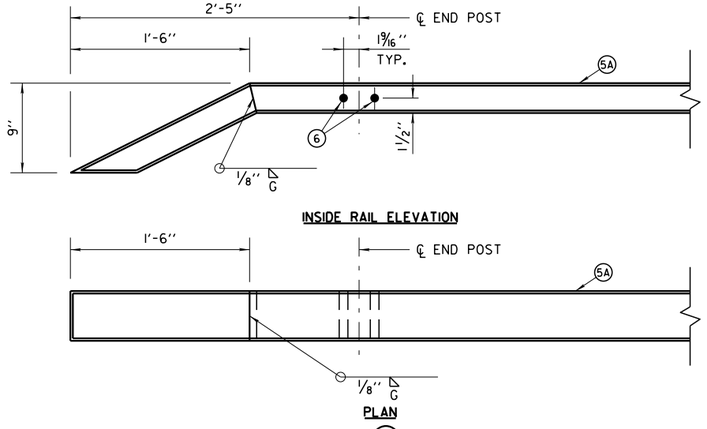


ELEVATION DETAIL END POST

INTERIOR ELEVATION



BOTTOM RAIL ⑤ DETAILS



TOP RAIL ⑤A DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

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END POST DETAILS FOR TUBULAR STEEL RAILING TYPE NY4

SHEET 22 OF 27

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STATE PROJECT NUMBER
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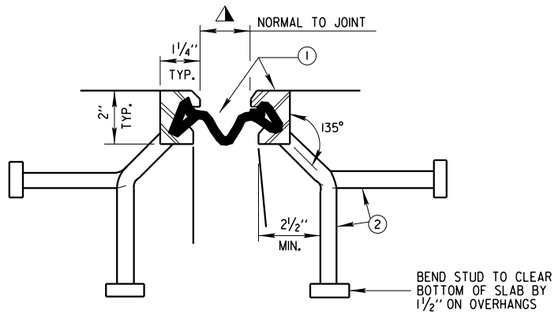
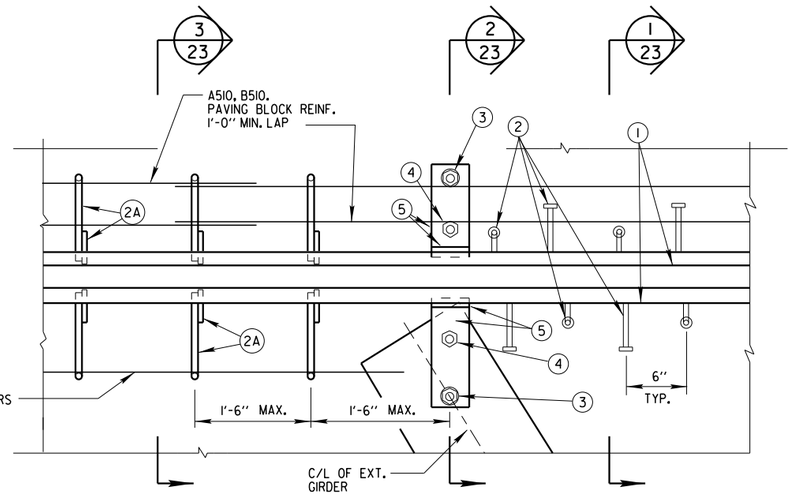
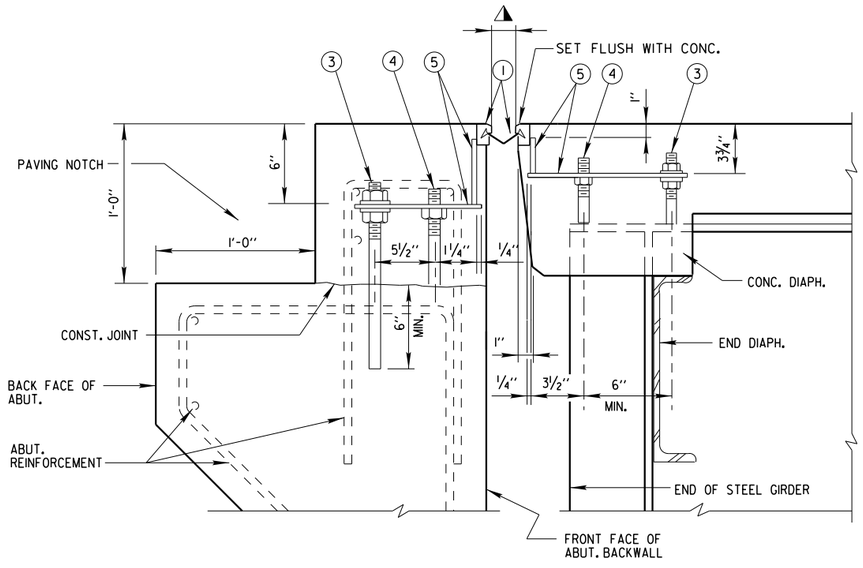


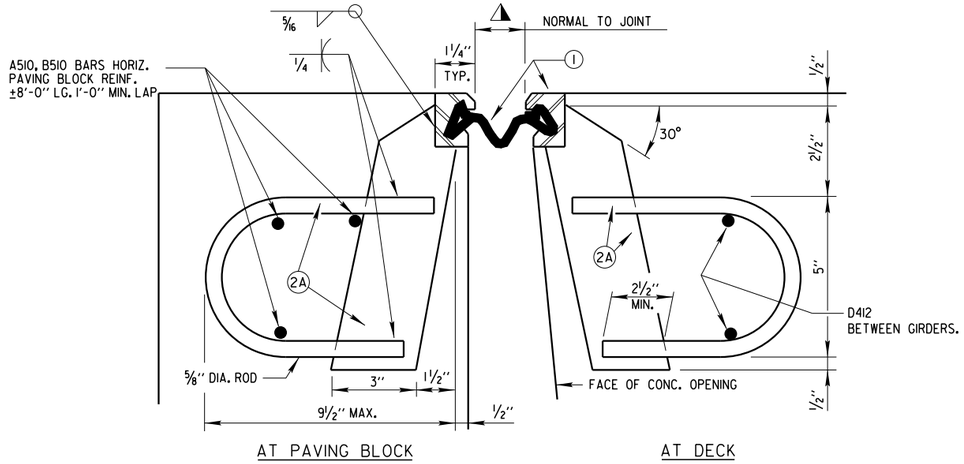
SECTION THRU JOINT AT SIDEWALKS — 1/23



PARTIAL PLAN STRIP SEAL EXPANSION JOINT



SECTION THRU JOINT AT STEEL GIRDER — 2/23
NORMAL TO C/L SUBSTRUCTURE



AT PAVING BLOCK AT DECK

SECTION THRU JOINT — 3/23
ROADWAY TRAFFIC AREA BETWEEN GIRDERS

LEGEND

1. NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. SET JOINT OPENING TO 1¾".
2. STUDS ⅝" DIA. x 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.
6. ¾" DIA. x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE RECESS 1/16" BELOW PLATE SURFACE.
7. ¾" DIA. x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
8. ¾" DIA. x 2¼" GALVANIZED THREADED COUPLING.
9. SIDEWALK COVER PLATE ⅜" x 2'-0" WIDE X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 6 GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.
10. 1" x 5" SLOTTED CSK. HOLE FOR NO. 6. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

REVISED DATE: 05-09-2018 BY DLF

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY D.B. | PLANS CK'D. S.S.R. J.D.T.

STRIP SEAL EXPANSION JOINT SECTIONS

W:\STRVB0224\2018 REHAB\PLANS\24_STRIP SEAL DET.DGN

REVISED DATE: 05-09-2018 BY DLF

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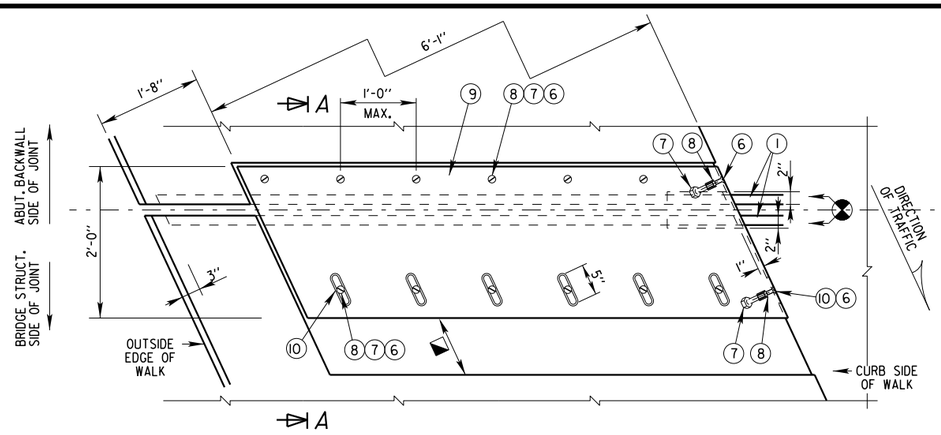
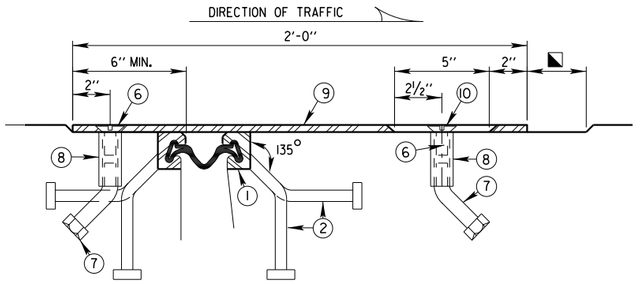
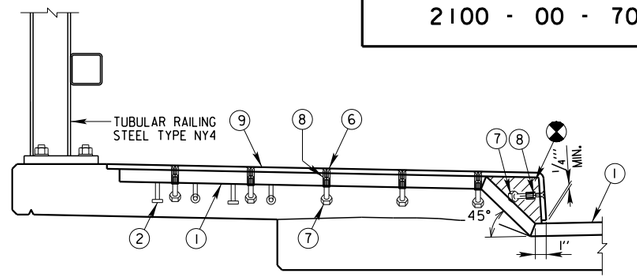


PLAN AT SIDEWALK
AT N.W. CORNER OF NORTH ABUTMENT - SOUTHBOUND TRAFFIC
AND S.E. CORNER OF SOUTH ABUTMENT - NORTHBOUND TRAFFIC



SECTION A-A



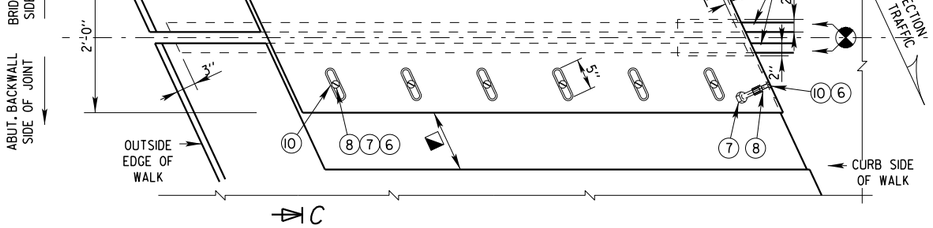
SECTION AT SIDEWALK

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

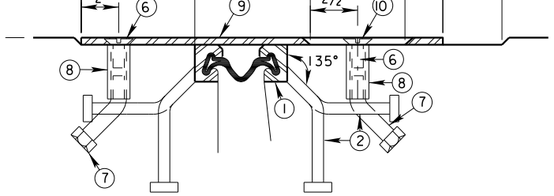
SEE SHEET 23 LEGEND AND GENERAL NOTES.

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

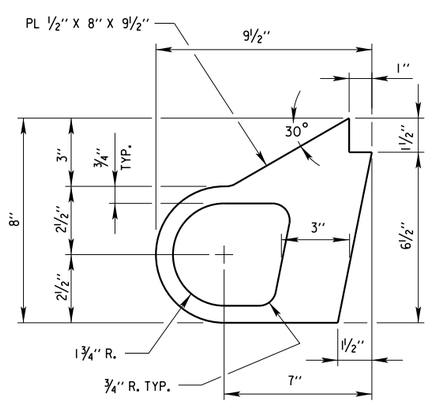
◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"



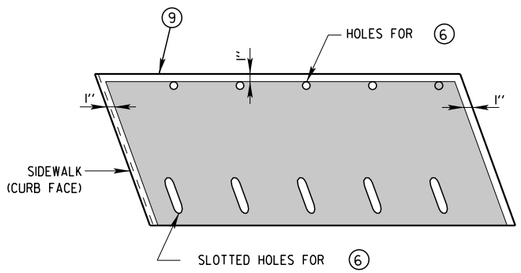
PLAN AT SIDEWALK
AT S.W. CORNER OF SOUTH ABUTMENT - SOUTHBOUND TRAFFIC
AND N.E. CORNER OF NORTH ABUTMENT - NORTHBOUND TRAFFIC



SECTION C-C



ALTERNATE STRIP SEAL ANCHOR



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

GENERAL NOTES

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

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

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

SANDBLAST PLATES SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 7 & NO. 8 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE P-40-511".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE P-40-511

DRAWN BY D.B. | PLANS CK'D. S.S.R. J.D.T.

STRIP SEAL EXPANSION JOINT DETAILS

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REVISED: 07-12-2018 BY GJR

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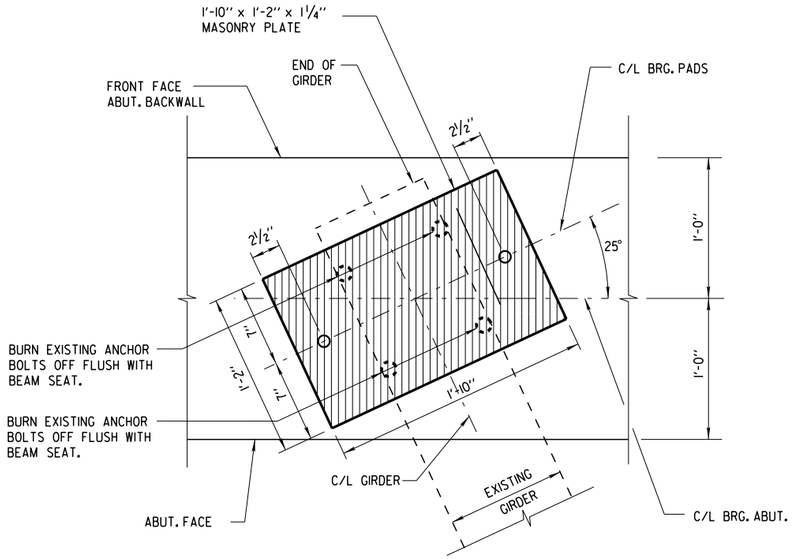
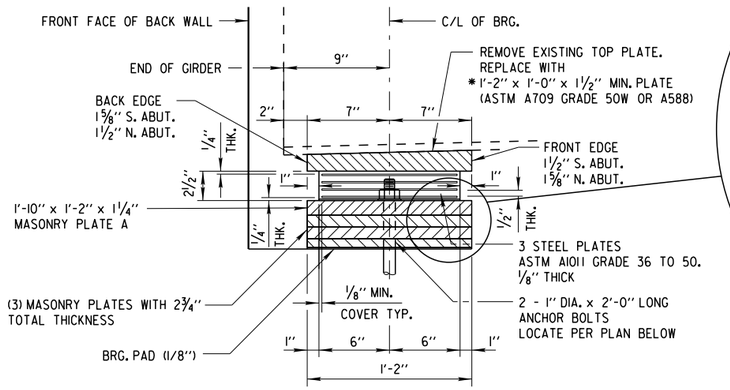
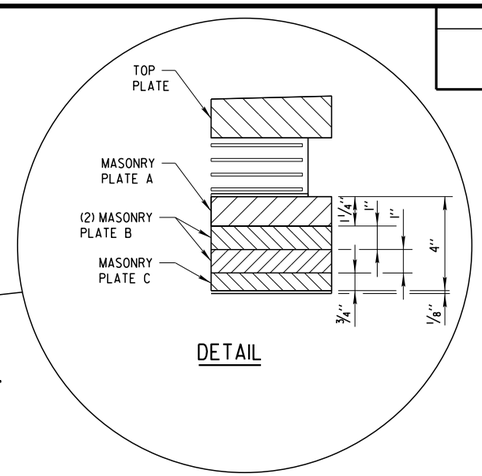


CLEARANCE DIAGRAM AT ABUTMENTS

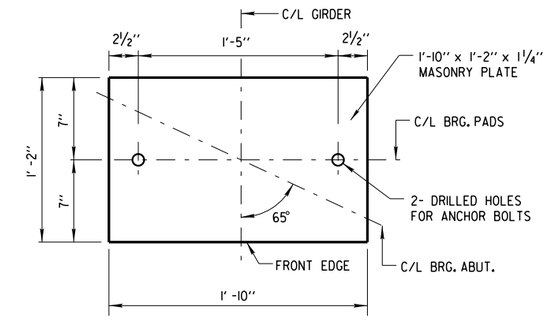


SECTION THRU ELASTOMERIC BEARING

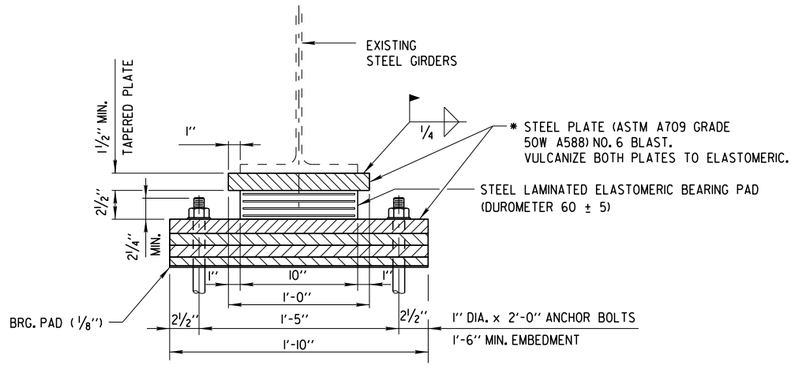


DETAIL

✱ INDICATES TAPERED PLATE SEE THICKNESS TABLE



ANCHOR BOLT PLAN AT EXIST. GIRDERS



FRONT ELEVATION

✱ INDICATES TAPERED PLATE SEE THICKNESS TABLE

TAPERED TOP PLATE THICKNESS

LOCATION	THICKNESS AT BACK EDGE	THICKNESS AT FRONT EDGE	EACH
S. ABUTMENT	1⅝"	1½"	11
N. ABUTMENT	1½"	1⅝"	11

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

BEARING NOTES

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W OR A588.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, EPOXY ANCHORS, ANCHOR BOLTS, STEEL PLATES, AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ANCHOR BOLTS FOR BEARINGS SHALL BE THREADED 3", PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. BOLT LENGTH TO BE 2'-0" FOR 1" DIA. BOLTS. PROJECT ANCHOR BOLTS, MASONRY PLATE THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

PROVIDE ⅛" THICK BEARING PAD SAME SIZE AS MASONRY PLATE FOR BEARINGS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT.

ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AS REQUIRED BY ASTM DESIGNATION A153, CLASS C.

NEW ELASTOMERIC BEARINGS TO BE PLACED AT ALL GIRDERS ON SOUTH AND NORTH ABUTMENT.

BURN EXISTING ANCHOR BOLTS OFF FLUSH WITH BEAM SEAT.

GRIND EXISTING WELD THAT ATTACHED EXISTING TOP PLATE TO EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH

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STATE OF WISCONSIN
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STRUCTURE P-40-511

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ELASTOMERIC BEARINGS REPLACEMENT DETAILS

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REVISED: 05-23-2018 BY GJR

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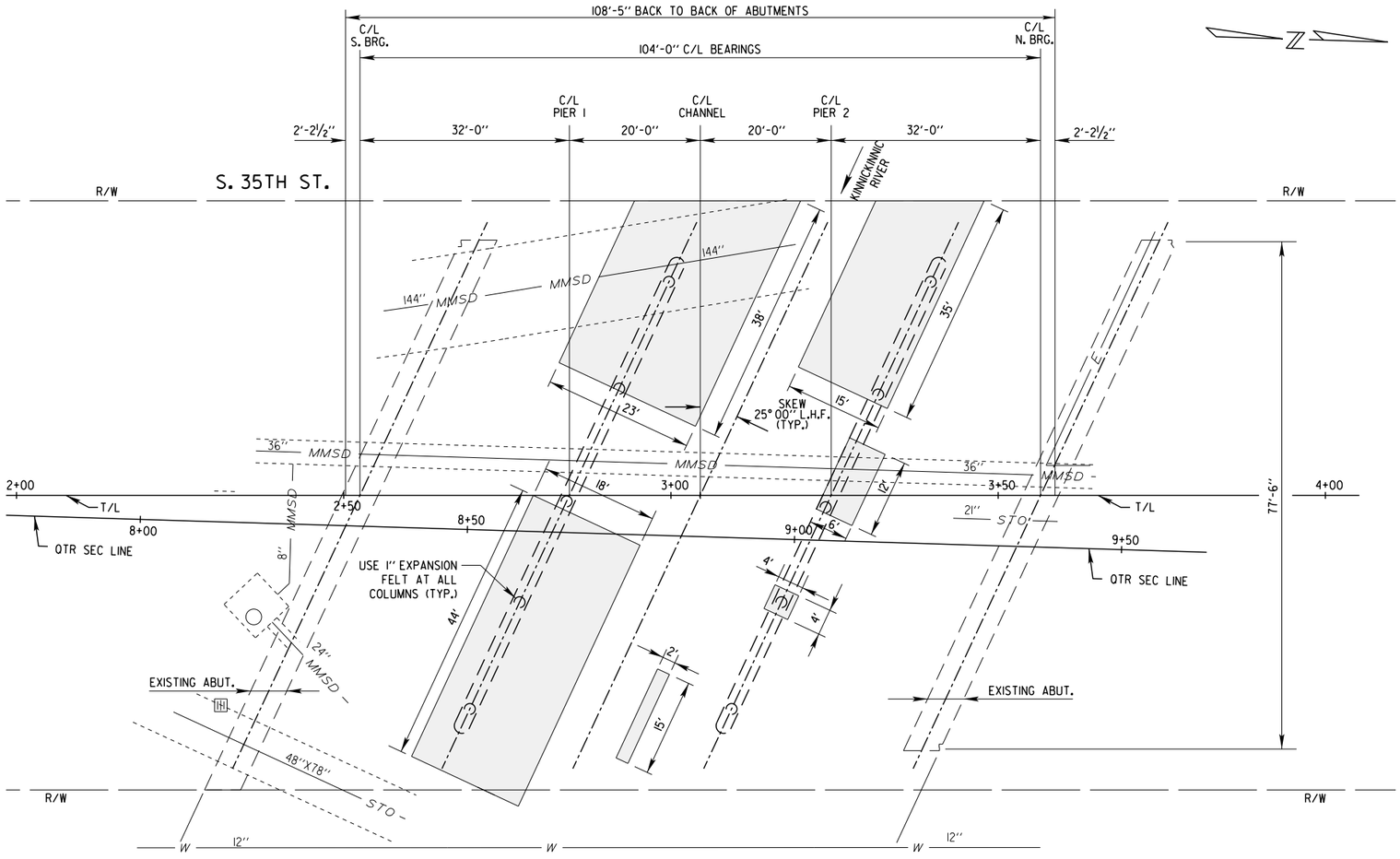
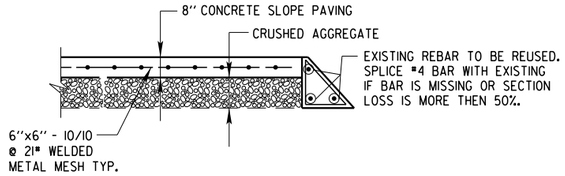
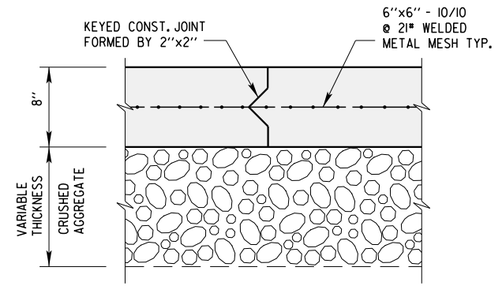


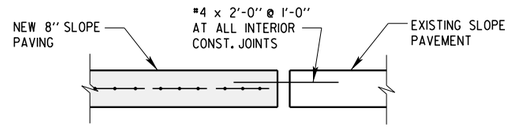
SLOPE PAVING REPAIR PLAN VIEW



TYPICAL SECTION



CONSTRUCTION JOINT DETAIL

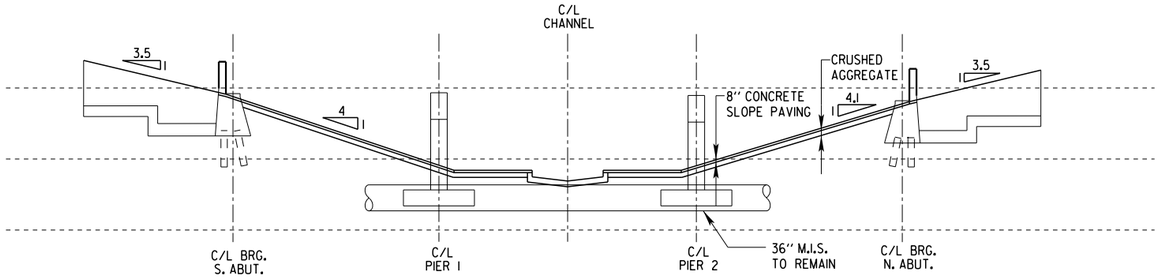


TYPICAL INTERIOR CONSTRUCTION JOINT

NOTES

NOTE NO. 1 - FORM PLANES OF WEAKNESS OR FALSE JOINTS IN THE CONCRETE BY SCORING THE FINISHED SURFACE AT LEAST ½" DEEP WITH A JOINT TOOL.

NOTE NO. 2 - CONSTRUCT JOINT PARALLEL TO EXISTING JOINTS



SLOPE PAVING REPAIR SECTION/ ELEVATION VIEW

LOOKING WEST
NORMAL TO SUBSTRUCTURE

GENERAL NOTES:

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

EXISTING SLOPE PAVING HAS VARIABLE DEPTH (4"-8"), MATCH EXISTING GRADES AND MAINTAIN EXISTING CROSS SLOPES. BID ITEM 305.0 120 BASE AGGREGATE DENSE 1-¼ INCH TO BE USED IF LEVELING OF EXISTING CRUSHED AGGREGATE IS NEEDED.

REMOVE TO EXISTING SLOPE PAVEMENT JOINTS WHEN JOINT IS NEAR REPAIR AREA.

KEY

REMOVE AND REPLACE EXISTING SLOPE PAVING WITH 8" DEPTH NEW CONCRETE SLOPE PAVING ON CRUSHED AGGREGATE BASE.

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STRUCTURE P-40-511

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SLOPE PAVING REPAIR

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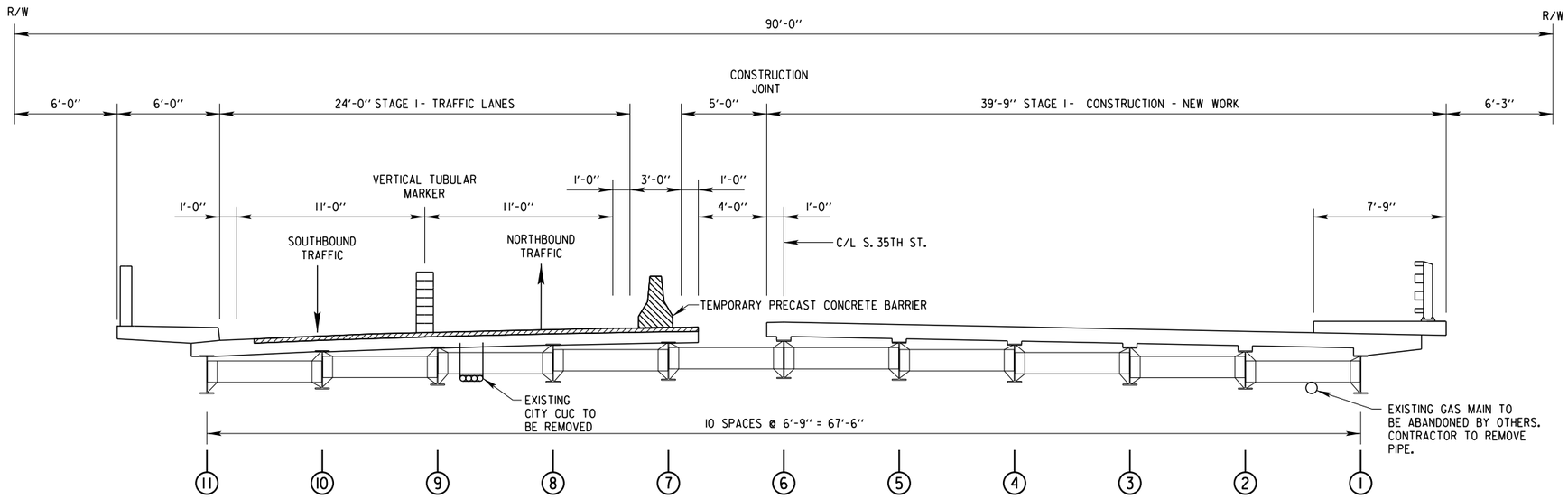
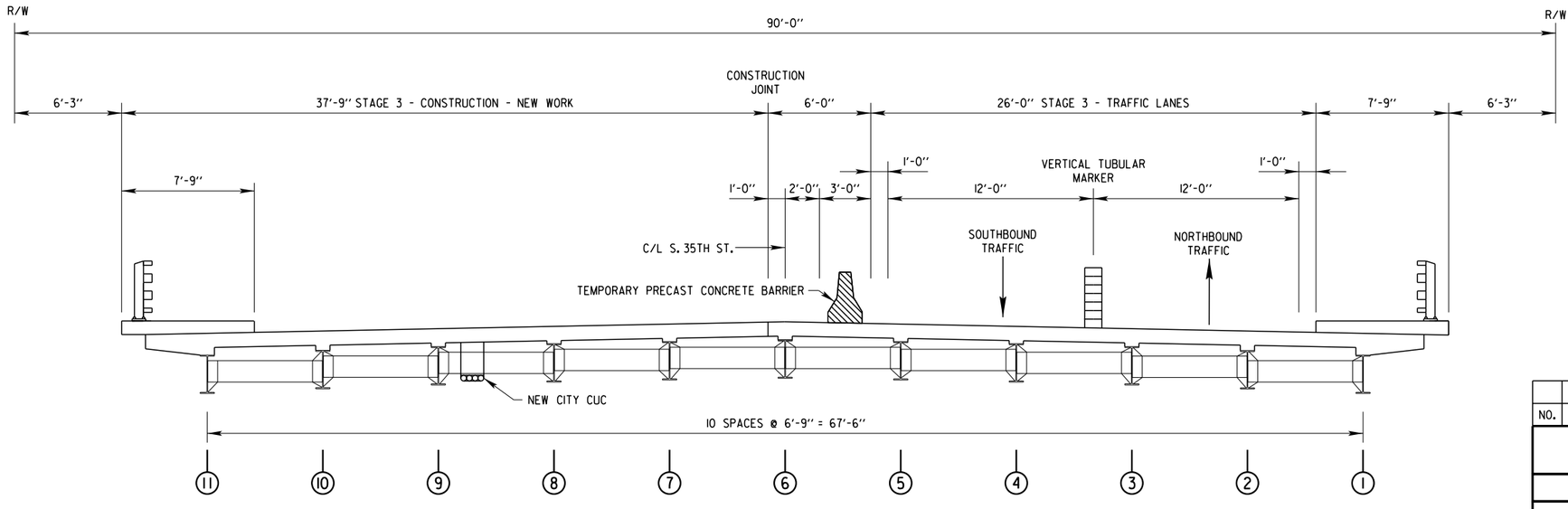
TRAFFIC CONTROL CONSTRUCTION
STAGES 1 & 3



STAGE 1- SECTION (LOOKING NORTH)



STAGE 3 - SECTION (LOOKING NORTH)

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STRUCTURE P-40-511

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STAGED CONSTRUCTION TRAFFIC CONTROL

SHEET 27 OF 27

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