WKE DEC 2017

PROJECT ID WITH: N/A 2195-03-70

COUNTY MILWAUKEE

ORDER OF SHEETS

SECTION NO.	1	TITLE
SECTION NO.	2	TYPICAL SECTIONS AND DETAILS
SECTION NO.	3	ESTIMATE OF QUANTITIES
SECTION NO.	3	MISCELLANEOUS QUANTITIES
~~SECTION NO.~~	~~4~~	~~RIGHT OF WAY PLAT~~
SECTION NO.	5	PLAN AND PROFILE
SECTION NO.	6	STANDARD DETAIL DRAWINGS
SECTION NO.	7	SIGN PLATES
SECTION NO.	8	STRUCTURE PLANS
~~SECTION NO.~~	~~9~~	~~COMPUTER EARTHWORK DATA~~
~~SECTION NO.~~	~~9~~	~~CROSS SECTIONS~~

TOTAL: 166

12

DESIGN DESIGNATION

A.D.T. 2017	=	9,900
A.D.T. 2037	=	11,400
D.H.V.	=	1,200
D.	=	0.75
T.	=	4.0%
DESIGN SPEED	=	35
ESALS	=	730,000

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
BUILDING LIMITS
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)

CABLE TELEVISION TV
CITY UNDERGROUND CONDUIT CUC
ELECTRIC E
GAS G
TRAFFIC & ELECTRICAL SERVICES TE&ES
MILWAUKEE METRO SEWERAGE DISTRICT MMSD
STEAM STEAM
WATER W
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

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WEST WELLS STREET, CITY OF MILWAUKEE

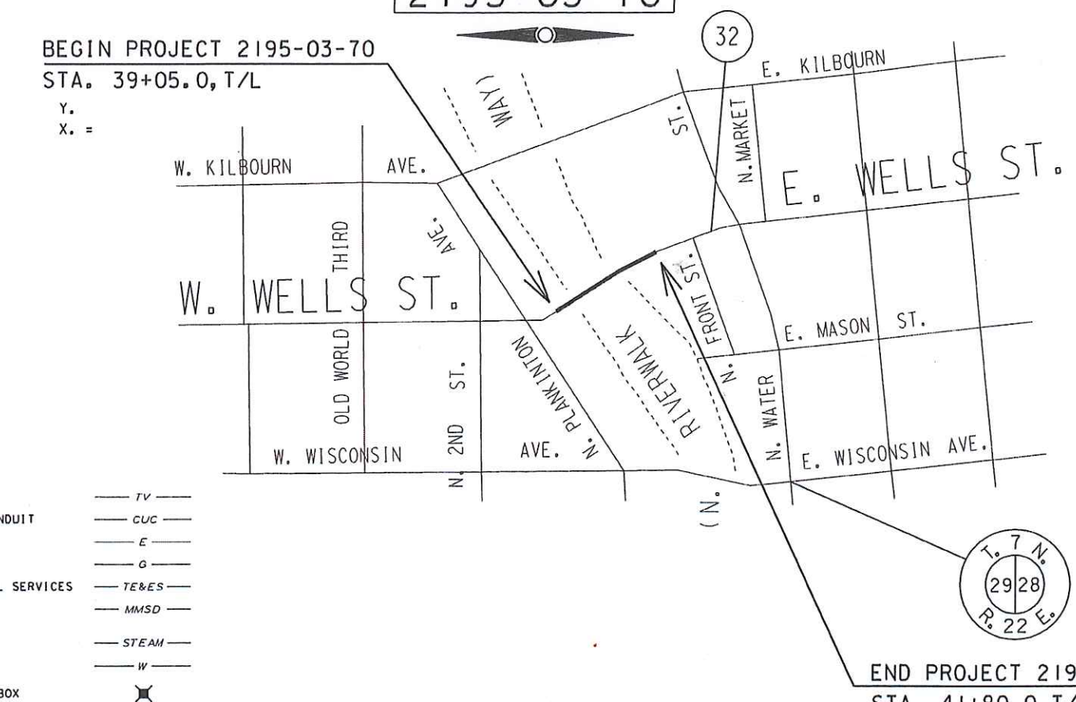
MILWAUKEE RIVER BRIDGE B-40-544

U.S.H. 18

MILWAUKEE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2195-03-70	WISC 2018009	1

STATE PROJECT NUMBER 2195-03-70



LAYOUT
SCALE 1/2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.052 MI. (URBAN)

THE COORDINATES ON THIS PLAN ARE BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 27 SOUTH ZONE.
COMBINED SCALE AND SEA LEVEL REDUCTION FACTOR .9992542

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

8/1/17 (Date) Commissioner of Public Works

Original Plans Prepared By

WISCONSIN JEFFREY S. POLENSKE E-32615 MILWAUKEE WIS PROFESSIONAL ENGINEER

8/1/17 (Date) City Engineer

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

SURVEYOR	CITY OF MILWAUKEE
DESIGNER	CITY OF MILWAUKEE
PROJECT MANAGER	CHRISTINE HANNA
DISTRICT EXAMINER	
DISTRICT SUPERVISOR	REEM SHAHIN
C.O. EXAMINER	

APPROVED FOR DISTRICT OFFICE
DATE 8/1/17 Chrishine Hanna (SIGNATURE)

E

FILE NAME: W:\STR\B0107\2017WORK\APPROACH PLANS\TITLE.DGN

REVISED DATE: 4/12/2017 BY: BB

GENERAL NOTES

1. ALL OPENINGS BELOW SUBGRADE, RESULTING FROM REMOVALS OR ABANDONMENTS, SHALL BE BACKFILLED WITH BASE AGGREGATE DENSE, 1-1/4 INCH.

2. TRANSVERSE JOINTS IN THE SIDEWALK SHALL BE CONSTRUCTED AT INTERVALS EQUAL TO THE WIDTH OF THE CONCRETE UNLESS OTHEREWISE DIRECTED BY THE ENGINEER.

3. 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.

4. INLET SCREENS ARE TO BE PLACED BETWEEN THE FRAME AND GRATE OF CATCH BASINS / INLETS TO PREVENT SOIL FROM ENTERING THE SEWERS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURES ARE NO LONGER NECESSARY.

5. HMA PAVEMENT SHALL BE PLACED BY THE FOLLOWING LIFTS:
   UPPER LAYER: HMA PAVEMENT 4 LT 58-28 S 1-3/4 INCHES
   LOWER LAYER: HMA PAVEMENT 3 LT 58-28 S 2-1/4 INCHES

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

7. ALL ELEVATIONS ARE REFERENCED TO CITY OF MILWAUKEE DATUM.

8. ASPHALT JOINT SHALL ALWAYS BE ABOVE 140°F(DEGREES) WHEN ANOTHER MAT IS PLACED ALONGSIDE.

8. ALL LONGITUDINAL AND TRANSVERSE CONCRETE PAVEMENT JOINT REQUIRING SEALING SHALL BE SEALED IN ACCORDANCE WITH THE PLAN DETAIL AND SPECIFICATIONS.

9. FOR PEDESTRIANS WITH TRIPS STARTING OR ENDING INSIDE THE WORK ZONE, NO SIGNED DETOUR IS PLANNED. AREAS UNAVAILABLE TO PEDESTRIANS DURING CONSTRUCTION WILL BE SIGNED AND MARKED AS SHOWN.

10. FOR TRAFFIC CONTROL, SEE TRAFFIC DETOUR PLAN AND PEDESTRIAN DETOUR PLAN.

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
EB	- EAST BOUND
ELEV.	- ELEVATION
ENT.	- ENTRANCE
EXIST.	- EXISTING
F	- FLANGE
G	- GUTTER, OR GAS
HYD.	- HYDRANT
LT.	- LEFT
MMSD	- MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
PGL	- PROFILE GRADE LINE
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
WB	- WEST BOUND
WEP	- WISCONSIN ELECTRIC POWER

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
UTILITY CONTACT
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
DRAINAGE DETAILS
REMOVAL PLAN
PLAN DETAILS
RAMP DETAILS
UTILITY PLAN
PERMANENT SIGNING
STREET LIGHTING DETAILS
STREET LIGHTING PLANS
RRFB TYPICAL ELEVATIONS DETAILS
RRFB LOCATION DETAIL
PAVEMENT MARKING
TRAFFIC DETOUR PLAN
PEDESTRIAN DETOUR PLAN

UTILITY CONTACTS

AT&T LOCAL NETWORK
JENNIFER NAVARRO
6070 N. FLINT RD.
GLENDALE, WI 53209
PHONE: 414-459-3564
j.navarro@northwindtech.com

AT&T WISCONSIN
JAY BULANEK
2005 PEWAUKEE RD.
WAUKESHA, WI 53188
PHONE: 262-896-7669
jb5175@att.com

CHARTER COMMUNICATIONS
STEVE CRAMER
1320 N. DR. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: 414-277-4045
steve.cramer@charter.com

CITY OF MILWAUKEE, UTILITY COORDINATOR
MOHAMMAD O. ABULUGHOD
841 N. BROADWAY, RM. 710
MILWAUKEE, WI 53202
PHONE: 414-286-2767
mabulu@milwaukee.gov

CITY OF MILWAUKEE, STREET LIGHTING
DENNIS MILLER
1540 W. CANAL ST.
MILWAUKEE, WI 53233
PHONE: 414-286-5942
MOBILE: 414-708-4251
dennis.miller@milwaukee.gov

CITY OF MILWAUKEE, DPW/ COMMUNICATIONS
BRYAN PAWLAK
1440 W. CANAL ST.
MILWAUKEE, WI 53233
DISPATCH: 414-286-3686

MCI/VERIZON BUSINESS FIELD CONTACT
THOMAS BUHER
7719 WEST 60TH PLACE
SUMMIT, IL 60501
PHONE: 708-458-6410
investigations@verizon.com

WINDSTREAM/MCLEOD/PAETEC
NATHAN BECKER
13935 BISHOP DR.
BROOKFIELD, WI 53005
PHONE: 414-313-9032
nathan.becker@windstream.com

WE ENERGIES - GAS, ELECTRIC & STEAM
DAN SANDE
333 W. EVERETT ST. - A299
MILWAUKEE, WI 53203
PHONE: 414-221-5617
dan.sande@we-energies.com

WE ENERGIES FIELD CONTACT - ELECTRIC
JOSH MOUNT
500 S. 116TH ST.
WEST ALLIS, WI 53214
PHONE: 414-218-2053
josh.mount@we-energies.com

WE ENERGIES FIELD CONTACT - GAS
JOSH MOUNT
500 S. 116TH ST.
WEST ALLIS, WI 53214
PHONE: 414-218-2053
josh.mount@we-energies.com

WE ENERGIES FIELD CONTACT - STEAM
PAUL SARTORELLI
231 W. MICHIGAN ST. P145
MILWAUKEE, WI 53203
CELL: 414-221-2495
paul.sartorelli@we-energies.com

OTHER CONTACTS

CITY OF MILWAUKEE- STRUCTURES SECTION
JERREL KRUSCHKE, P.E.
841 N. BROADWAY, RM 902
MILWAUKEE, WI 53202
PHONE: 414-286-3204
jkrusc@milwaukee.gov

CITY OF MILWAUKEE- DESIGNER CONTACT
NICK GOODWIN, P.E.
841 N. BROADWAY, RM 902
MILWAUKEE, WI 53202
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ngoodw@milwaukee.gov

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
MICKI KLAPPA-SULLIVAN
200 W. SEEBOTH ST.
MILWAUKEE, WI 53204
PHONE: 414-225-2178
mklappasullivan@mmsd.com

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT FIELD CONTACT
LARRY ANDERSON
200 W. SEEBOTH ST.
MILWAUKEE, WI 53204
PHONE: 414-225-2241
landerson@mmsd.com

MILWAUKEE COUNTY TRANSIT SYSTEM, COORDINATOR OF STREET SUPERVISION
MELANIE FLYNN
1942 N. 17TH ST.
MILWAUKEE, WI 53205
PHONE: 414-343-1764
mflynn@mcts.com

WAUKESHA METRO
BRIAN ENGELKING
TRANSIT MANAGER
2311 BADGER DRIVE
WAUKESHA, WI 53188
PHONE: 262-524-3634
bengelki@ci.waukesha.wi.us

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

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

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	UTILITY CONTACTS	SCALE FEET	SHEET NO: 3 E

FILENAME: W:\STR\BO107\2017WORK\APPROACH PLANS\GENNOTES.DGN

REVISED DATE: 7-18-2017 BY DB

2

N

RIVER

AVE.

RIVERWALK

END PROJECT 2195-03-70

STA. 41+80.0, T/L

E. WELLS STREET

ST.

PLANTER

45

40

35

ST.

N. FRONT

N. WATER

W.

N. 2ND ST.

WELLS

N. PLANKINTON

STREET

BEGIN PROJECT 2195-03-70

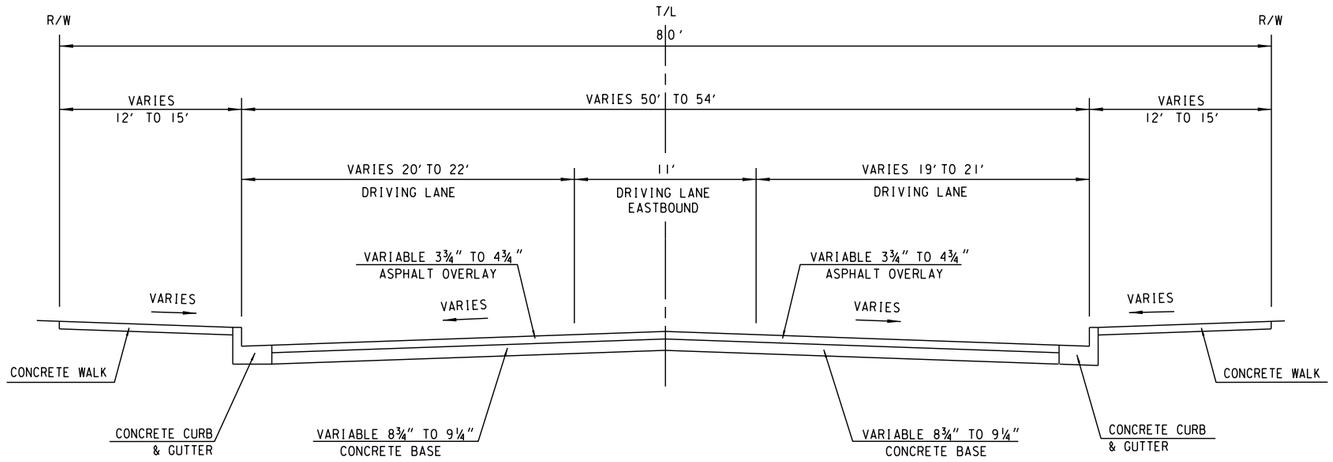
STA. 39+05.0, T/L

MILWAUKEE

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SCALE FEET 0' 80'	SHEET NO: 4	E

FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\OVERVIEW.DGN

REVISED DATE: 5-17-2017 BY SB

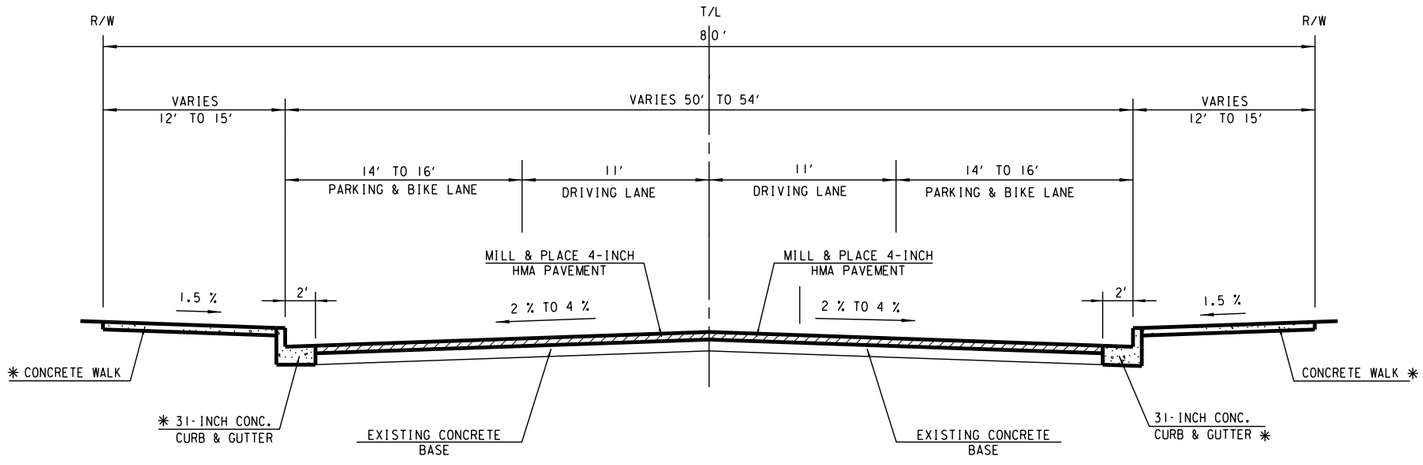


TYPICAL EXISTING SECTION

WEST WELLS STREET

(BRIDGE APPROACHES)

STA. 39+05.0 TO STA. 39+15.0
STA. 41+44.0 TO STA. 41+80.0



TYPICAL FINISHED SECTION

WEST WELLS STREET

(BRIDGE APPROACHES)

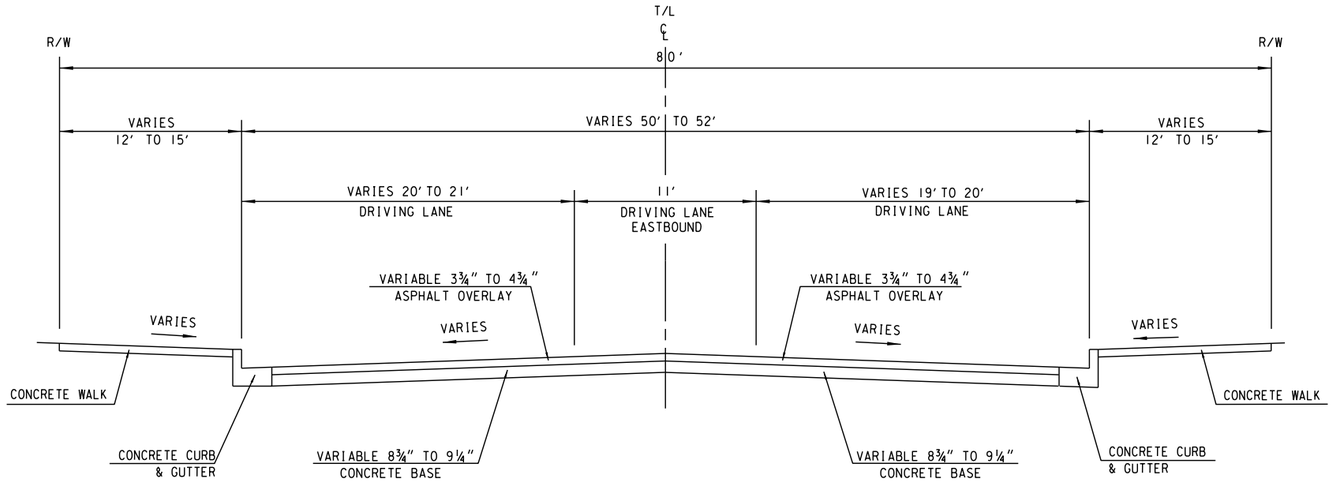
STA. 39+05.0 TO STA. 39+15.0
STA. 41+71.0 TO STA. 41+80.0

* AT LOCATIONS AS SHOWN ON PLANS

STATE PROJECT NUMBER 2195-03-70 - -	HWY: U.S.H. 18	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET 0' 40	SHEET NO: 5 E

FILENAME: W:\STR\BO107\2017WORK\APPROACH PLANS\TYPSEC.DGN

REVISED DATE: 07-10-2017 BY SB

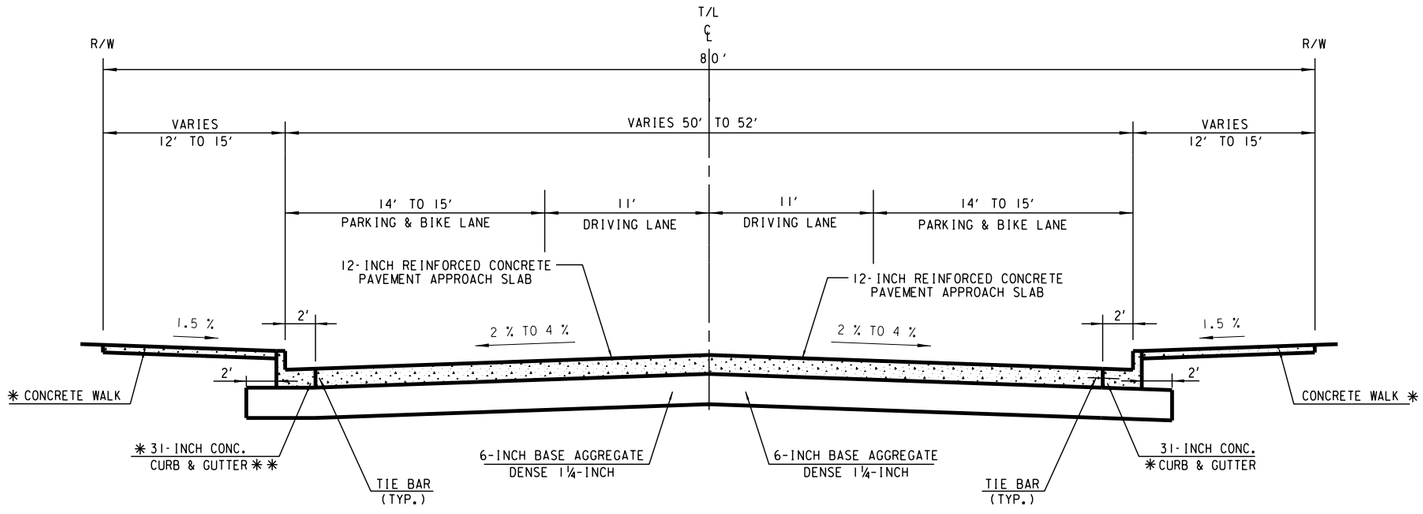


TYPICAL EXISTING SECTION

WEST WELLS STREET

(BRIDGE APPROACHES)

STA. 39+15.0 TO STA. 39+30.34
STA. 41+20.19 TO STA. 41+44.0



TYPICAL FINISHED SECTION

WEST WELLS STREET

(BRIDGE APPROACHES)

STA. 39+15.0 TO STA. 39+30.34
STA. 41+20.19 TO STA. 41+71.0

* AT LOCATIONS AS SHOWN ON PLANS

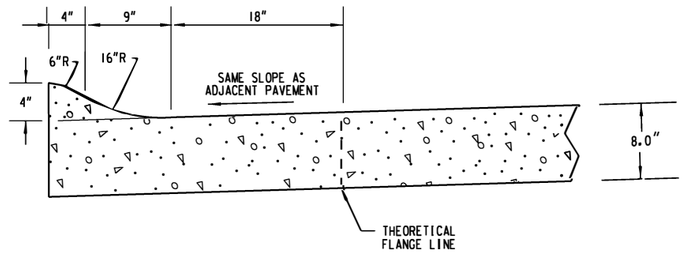
** ROAD SURFACE WITH INTEGRAL
CONCRETE CURB & GUTTER -
DONE BY WE ENERGIES STEAM CONTRACTOR

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET 0' 40	SHEET NO: 6 E

FILENAME: W:\STR\BO107\2017WORK\APPROACH PLANS\TYPSEC.DGN

REVISED DATE: 07-26-2017 BY SB

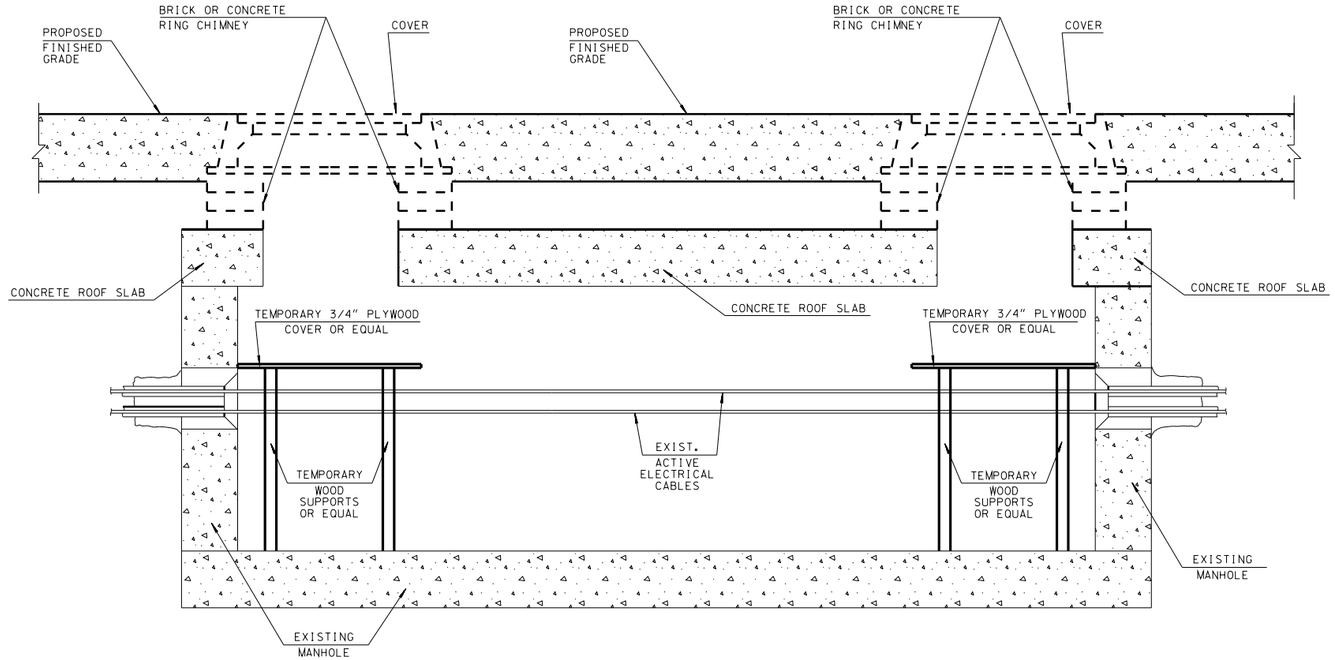
2



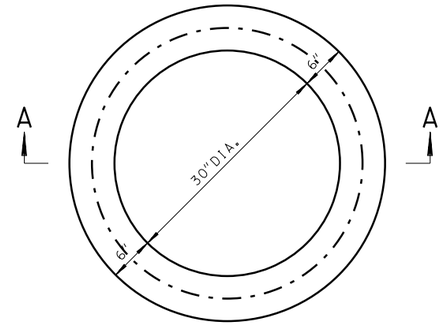
CONCRETE CURB & GUTTER 4-INCH SLOPED 31-INCH TYPE T (MODIFIED)

Ⓜ

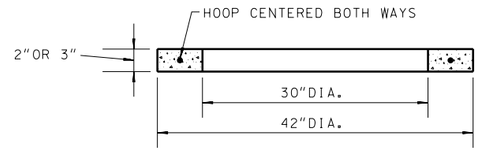
2



CONCRETE MANHOLE



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.

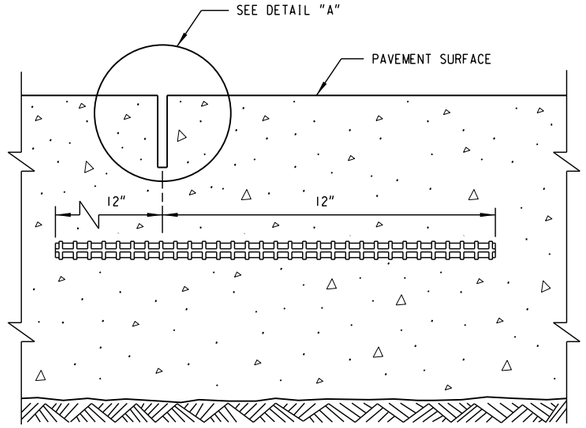
CONCRETE ADJUSTING RING

ADJUSTING TES MANHOLES

STATE PROJECT NUMBER 2195-03-70 - -	HWY: U.S.H. 18	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET	SHEET NO: 8 E

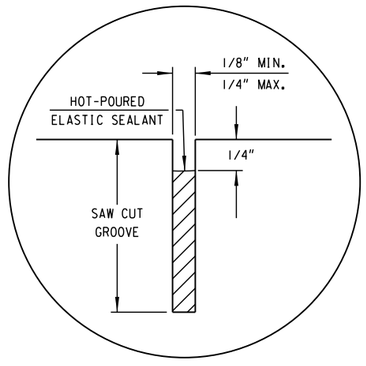
FILENAME: W:\UGD\CONDUIT WORK FILES\UCONDUIT\2017\WELLS 6TH_BROADWAY\ADJUSTING TES COVER.DGN

JOINTS WITH HOT POURED SEALANT



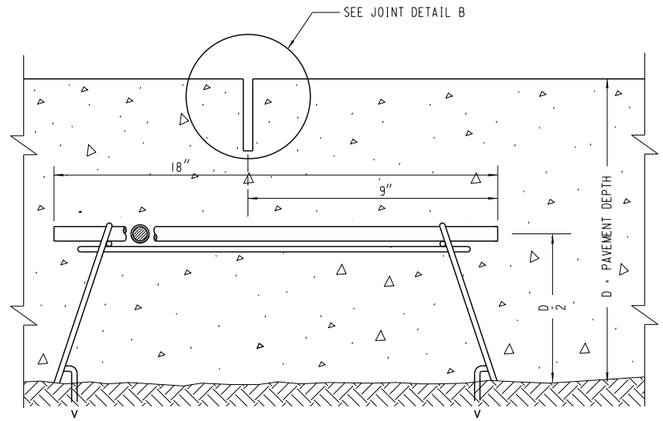
SAWED JOINT

NOTE: DETAIL 'A' SHOWN IN S.D.D. "CONCRETE PAVEMENT LONGITUDINAL JOINTS AND PAVEMENT TIES" HAS BEEN REVISED AND SHOWN AS 'JOINT DETAIL A'.



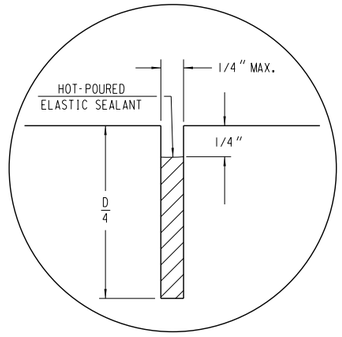
JOINT DETAIL "A"

PAVEMENT DEPTH AND JOINT SPACING TABLE	
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6"	12'
7"	14'
8"	15'
9"	15'
10" & ABOVE	18'



DOWELED CONTRACTION JOINT

NOTE: 'JOINT DETAIL' SHOWN IN S.D.D. "URBAN DOWELED CONCRETE PAVEMENT" HAS BEEN REVISED AND SHOWN AS 'JOINT DETAIL B'.

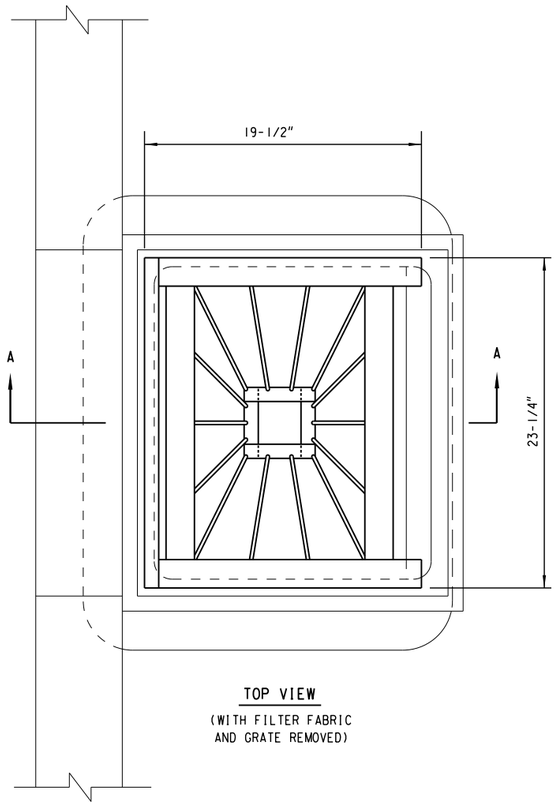


JOINT DETAIL "B"

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET 0' 40'	SHEET NO: 9 E

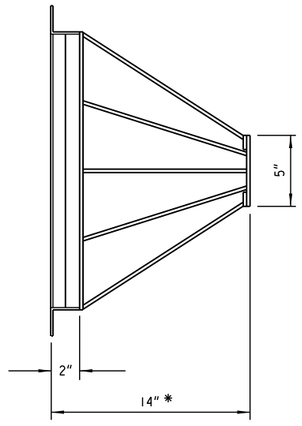
FILE NAME: W:\STR\BO107\2017WORK\APPROACH PLANS\CONDET.DGN

REVISED DATE: 04-27-2017 BY SB



TOP VIEW

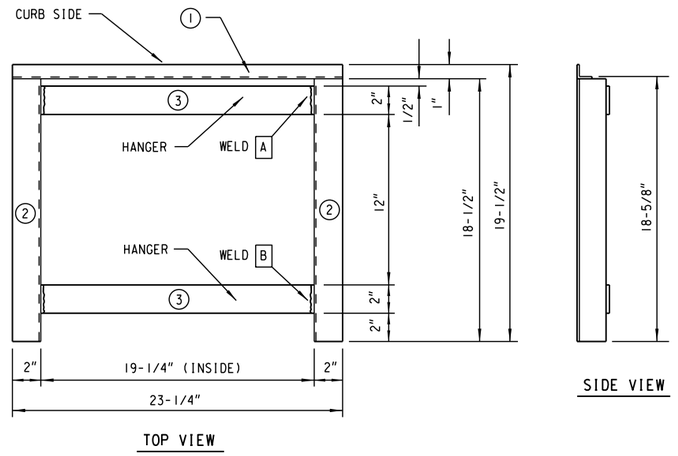
(WITH FILTER FABRIC AND GRATE REMOVED)



FRONT VIEW

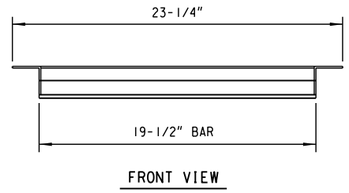
(BASKET ONLY)

* MAY BE DECREASED IF INLET IS OF INSUFFICIENT DEPTH

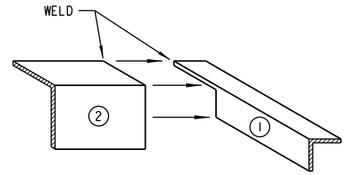


TOP VIEW

SIDE VIEW

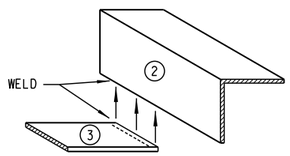


FRONT VIEW



WELD CONNECTION - A

TOP FRAME

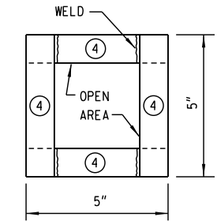


WELD CONNECTION - B

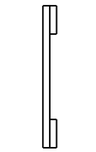
BASKET HANGER TO TOP FRAME

BAR SCHEDULE

NO.	SHAPE	SIZE	THICKNESS	LENGTH	QUANTITY
1	ANGLE	1" X 1"	1/8"	23-1/4"	1
2	ANGLE	2" X 2"	1/8"	18-1/2"	2
3	BAR	2"	1/4"	19-1/2"	2



TOP VIEW

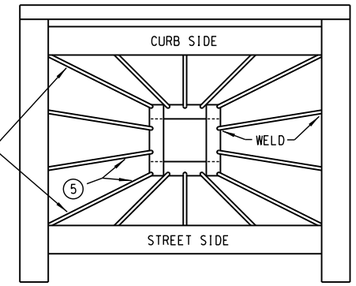


SIDE VIEW

BAR SCHEDULE

NO.	SHAPE	SIZE	THICKNESS	LENGTH	QUANTITY
4	BAR	1"	1/4"	5"	4

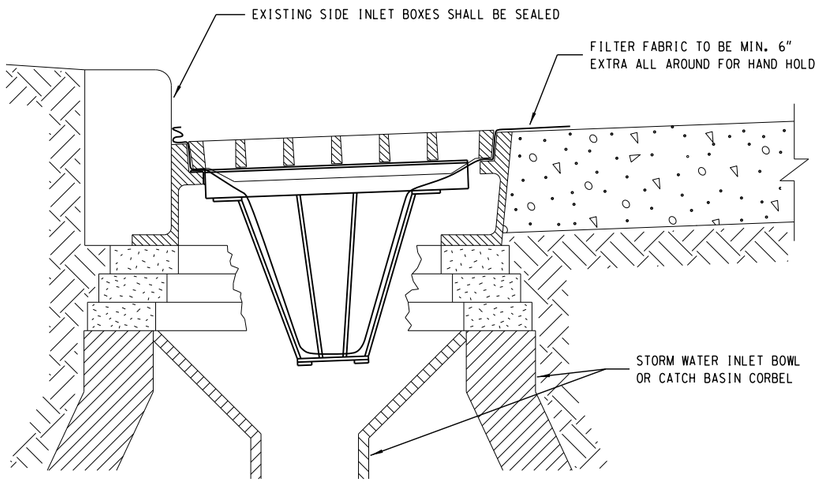
BASKET BOTTOM



ROD PLACEMENT

ROD SCHEDULE

NO.	SHAPE	SIZE	THICKNESS	LENGTH	QUANTITY
5	ROD	1/4" MIN.	1/8"	12" TO 14" (CUT TO FIT)	14



SECTION A-A

INLET SCREEN
TYPE M

STATE PROJECT NUMBER 2195-03-70 - -	HWY: U.S.H. 18	COUNTY: MILWAUKEE	DRAINAGE DETAILS	SCALE FEET 0' 40'	SHEET NO: 10 E

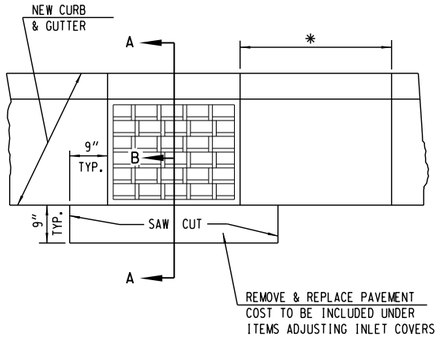
FILENAME: W:\STR\BOI07\2017WORK\APPROACH PLANS\DRAINDET.DGN

REVISED DATE: 04-27-2017 BY SB

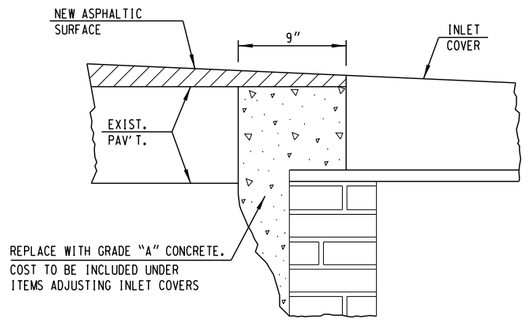
2

2

* REMOVE 3'-0" CURB & GUTTER MIN. OR TO THE NEAREST JOINT, 6'-0" MAX. UNLESS OTHERWISE DIRECTED ON THE PLAN.



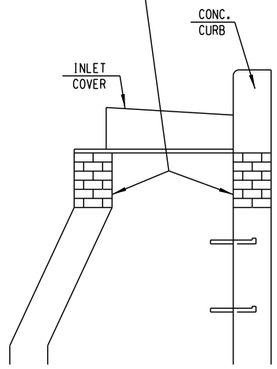
PLAN VIEW



SECTION A-B

ADJUSTING INLET COVERS

REPAIR BY REMOVING & REPLACING DAMAGED OR LOOSE BRICK OR BLOCK TO DEPTH AS DIRECTED BY ENGINEER. WORK UNDER ADJUSTING CATCH BASIN COVERS SHALL BE CONFINED TO THE BRICK SHIMMING ABOVE THE STRUCTURE CORBEL. THIS SHIMMING SHALL NOT EXCEED 1 FOOT BETWEEN THE TOP OF THE CORBEL AND THE FRAME BOTTOM. ANY WORK MORE EXTENSIVE THAN DESCRIBED IMMEDIATELY ABOVE SHALL BE CONSTRUED AS WORK UNDER RECONSTRUCTING CATCH BASINS. DEPTHS OF BRICKWORK TO BE REPAIRED, AS INDICATED ON THE PLAN, ARE ESTIMATES ONLY AND MAY VARY AT TIME OF CONSTRUCTION.



SECTION A-A

CONSTRUCTION NOTES

1. LOCATIONS OF STRUCTURES IN CURB & GUTTER SECTIONS REFER TO FACE OF CURB.
2. LOCATIONS OF STRUCTURES NOT IN CURB AND GUTTER SECTIONS REFER TO CENTERLINE OF STRUCTURE.
3. GRATE & RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF INLET COVER OR AT CENTER-LINE OF MANHOLE COVER.
4. ANY ADJUSTMENT OR REPAIR OF BRICKWORK 12" OR LESS WILL BE PAID AS ADJUSTING COVERS WHEN RESETTING EXISTING COVERS, ANY ADJUSTMENT OR REPAIR OF BRICKWORK MORE THAN 12" WILL BE PAID AS A RECONSTRUCT. MANHOLE ADJUSTMENTS IN ASPHALTIC PAVEMENT WILL BE MADE AFTER THE LOWER LAYER IS PLACED.

EAST

WELLS

STREET

RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS

RIVER WALK

BRIDGE RAIL

PLANTER

SEE BRIDGE PLAN FOR SIDEWALK REMOVAL

METAL PLATES

METAL PLATE WALK

RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS

BRIDGE GATE ARM

PLANTER

CONC WALK

RIVERWALK

CAUTION: ACTIVE WATERPROOF MEMBRANE

CAUTION: ACTIVE HOLLOW & WATERPROOF WALK MEMBRANE

CAUTION

ENT

MON

FO

ENT

ENT

SAW CUT TO BE DONE BY WE ENERGIES STEAM CONTRACTORS

PRESSURE REDUCING STATION

VAULT

ACCESS DOOR

REMOVALS TO BE DONE BY WE ENERGIES STEAM CONTRACTORS

SAW CUT TO BE DONE BY WE ENERGIES STEAM CONTRACTORS

STEAM TUNNEL

PROPOSED BRIDGE B-40-544

39 +50 CONC 40 ASPH 50' STEEL GRATE DECK +50 ASPH CONC 41 +50

STOP PLANK CHAMBER

TRANSIT LINE EXTENDED

BRIDGE EXPANSION JOINT SEE BRIDGE PLANS

BRIDGE EXPANSION JOINT SEE BRIDGE PLANS

SEE BRIDGE PLANS

STOP PLANK CHAMBER

MMSD

CUC

CUC

CUC

CUC

6"

4"

165°5'5"

STEAM

G

PLANTER

SEE BRIDGE PLAN FOR SIDEWALK REMOVAL

15 RIS

BRIDGE GATE ARM

CONC WALK

RIVERWALK

ENT

METAL ACCESS DOOR

CAUTION

ASPH

BENCH

WALK

12RIS DOWN

BRIDGE GATE ARM

ENT

BRIDGE HOUSE

BRIDGE RAIL

CAUTION

CAUTION

RIVERWALK

RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS

CAUTION: HOLLOW WALK

LEGEND

— WALK REMOVAL

(J) SAW FULL DEPTH CONCRETE

(K) SAW ASPHALT

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	REMOVAL PLAN	SCALE FEET 0' 20'	SHEET NO: 12	E

FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\REMOVAL PLAN.DGN

REVISED DATE: 7-25-2017 BY SB

2

EAST

WELLS

STREET

N

CURVE A DATA - W'LY CURB CURVE DATA	
RADIUS	150.00'
INT. ANG.	10° 30' 01"
ARC	27.49'
CHORD	27.45'
TAN	13.78'
PC	MATCH BRIDGE APPROACH
PT	41+65.91, 22.63'LT.
PI	41+65.91, 23.04'LT.

BEGIN PROJECT
STA. 39+05.0 T/L

39+5
25.5'LT

39+15.3
26.5'LT

39+36.3
40'LT

39+20
40'LT

39+98.7
36.4'LT

39+36.4
39.2'LT

39+50.4
36.4'LT

SEE RAMP DETAIL FOR ADDITIONAL INFORMATION ON CURB RAMPS

40+91.8
36.4'LT

40+73.5
36.5'LT

P.C. 150'R.
MATCH-25.0'LT

CAUTION: HOLLOW WALK

P.C. 520'R.
+44-0.0'RT

41+4.5
42.4'LT

41+52
35.3'LT

41+52.1
35.7'LT

P.C. 531'R.
+44.6-11.0'LT

CURVE "A"

P.T. 150'R.
+65.9-22.6'LT

41+80
35.3'LT

41+80
23.2'LT

12.18C
11.68G
11.76F
(PROP.)
42+00
24.1'LT

P.T. 531'R.
+41.5-14.8'LT

P.T. 520'R.
+41.5-3.8'LT

P.T. 531'R.
+32.4-2.4'RT

P.T. 520'R.
+31.9-13.4'RT

END PROJECT
STA. 41+80.0 T/L

CAUTION: HOLLOW WALK

41+80
24.3'RT

P.T. 95'R.
+74.1-26.2'RT

41+73.3
41.2'RT

P.C. 95'R.
+43.8-24.8'RT

CURVE "B"

41+38.4
35.9'RT

41+33
39.7'RT

P.C. 520'R.
+44.0-11.5'RT

41+20
36.9'RT

39+99
37'RT

P.C. 531'R.
+44-0.5'RT

39+47.3
37.1'RT

39+28.5
40'RT

39+11
40'RT

39+5
24.2'RT

39+15.3
25.7'RT

CURVE B DATA - E'LY CURB CURVE DATA	
RADIUS	95.00'
INT. ANG.	14° 21' 15"
ARC	23.80'
CHORD	23.74'
TAN	11.96'
PC	41+43.8, 24.8' RT.
PT	41+74.10, 26.23' RT.
PI	27+43.97, 121.57' RT.

BRIDGE RAIL
PLANTER
RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS
BRIDGE GATE ARM
RIVER WALK
METAL PLATES
METAL PLATE WALK
PROPOSED BRIDGE RAIL
PROPOSED BRIDGE B-40-544
STEEL GRATE DECK
BRIDGE EXPANSION JOINT SEE BRIDGE PLANS
SEE BRIDGE PLANS
STOP PLANK CHAMBER
CONC
ASPH
RIVERWALK
ENT
ACCESS DOOR
METAL ACCESS DOOR
VAULT
TRAP DOOR
PLANTERS
FULL CW
SIGN
CURB AROUND PLANTINGS
2" PINES
BENCH
BRIDGE HOUSE
CAUTION
12RIS DOWN
15 RIS
DRAIN
WMSD
STORM
WEP
CUC
N. PLANKINTON AVE.
38
39
40
41
42
+50
+63.5
P.L.
P.I.
531' R
520' R
520' R/65'

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	PLAN DETAIL	SCALE FEET 0' 40	SHEET NO: 13 E

EAST

WELLS

STREET

39+37, 39.9'LT
12.35

39+37, 33.1'LT
12.25

39+30.6, 40'LT
12.15

39+42, 38.8'LT
12.42

39+42, 33.1'LT
12.32

RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS

39+54, 36.9'LT
13.15

BRIDGE RAIL

PLANTER

39+54, 25.1'LT
12.95C
12.45G

41+70.4, 28.2'LT T/L EXT'D
12.24

41+57.8, 24'LT
12.06G

RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS

BRIDGE GATE ARM

PLANTER

41+86.0, 31.0'LT T/L EXT'D
12.48(E)

41+85.2, 18.9'LT T/L EXT'D
12.35C
11.85G

41+76.0, 31.9'LT T/L EXT'D
12.27

41+75.4, 27.5'LT T/L EXT'D
12.19

41+71.0, 32.7'LT T/L EXT'D
12.32

CAUTION: ACTIVE HOLLOW WATERPROOF WALK & MEMBRANE

CAUTION

ENT

RIVER WALK

METAL PLATES

METAL PLATE WALK

PROPOSED BRIDGE RAIL

39+37, 25'LT
11.74G

39+31.2, 25'LT
11.98C
11.48G

39+42, 25'LT
11.84G

39+64, 25'LT
13.46C
12.79G

PROPOSED BRIDGE B-40-544

PRESSURE REDUCING STATION

ACCESS DOOR

VAULT

41+43.9, 25'LT
12.72C
12.22G

41+65.6, 22.6'LT
12.44C
11.94G

STEAM TUNNEL

TRANSIT LINE EXTENDED

39 +50 CONC 40 ASPH 50' STEEL GRATE DECK +50 ASPH CONC 41 +50

STOP PLANK CHAMBER

MMSD

CUC

BRIDGE EXPANSION JOINT SEE BRIDGE PLANS

39+40, 25'RT
12.26G
12.20G

39+45, 25'RT
12.36C
12.30G

39+57, 25'RT
13.12C
12.62G

39+34, 25'RT
12.42C
11.85G

SEE BRIDGE PLANS

41+43.9, 24.9'RT
12.15C
11.65G
11.73F

STOP PLANK CHAMBER

CURB RAMP TYPE 3 ℄ +51.9

165°51'51"

STEAM

PROPOSED BRIDGE RAIL

PLANTER

39+54, 31.6'RT
13.10

39+54.1, 36.5'RT
13.20

39+34, 39.16'RT
12.70

BRIDGE GATE ARM

BRIDGE HOUSE

ENT

WALK

12RIS DOWN

15 RIS

BRIDGE RAIL

BRIDGE GATE ARM

CONC WALK

RIVERWALK

ENT

METAL ACCESS DOOR

41+74, 26.2'RT
11.76C
11.34G
11.38F

41+73.3, 34.2'RT
11.90

41+59.0, 40.4'RT
12.01

ASPH

BENCH

39+40, 33'RT
12.80

39+40, 38.2'RT
12.90

39+45, 33'RT
12.89

39+45, 37.5'RT
12.97

CAUTION

CAUTION

CAUTION

41+38.5, 35.4'RT
12.55

41+47.3, 33.0'RT
12.00

41+46.3, 37.3'RT
12.10

41+46.1, 37.8'RT
12.35C

41+52.2, 34.2'RT
11.93

41+55.7, 25.5'RT
11.99C
11.49G
11.57F

41+51.1, 38.5'RT
12.01

41+51.0, 39'RT
12.18C

CAUTION: HOLLOW WALK

RIVERWALK EXPANSION JOINT W/ COVER PLATE SEE BRIDGE PLANS

"0" FACE TYPE 3 ℄ +42.5

"0" FACE TYPE 3 ℄ +39.5

CURB RAMP TYPE 3 ℄ +71.9 T/L EXT'D

FULL FACE

6" FACE

8" FACE

DETECTABLE WARNING FIELD

LANDING AREA

(PC) CONST. CONC. CURB PEDESTRIAN

(L) SAW FULL DEPTH

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	RAMP DETAIL	SCALE FEET 0' 20'	SHEET NO: 14	E

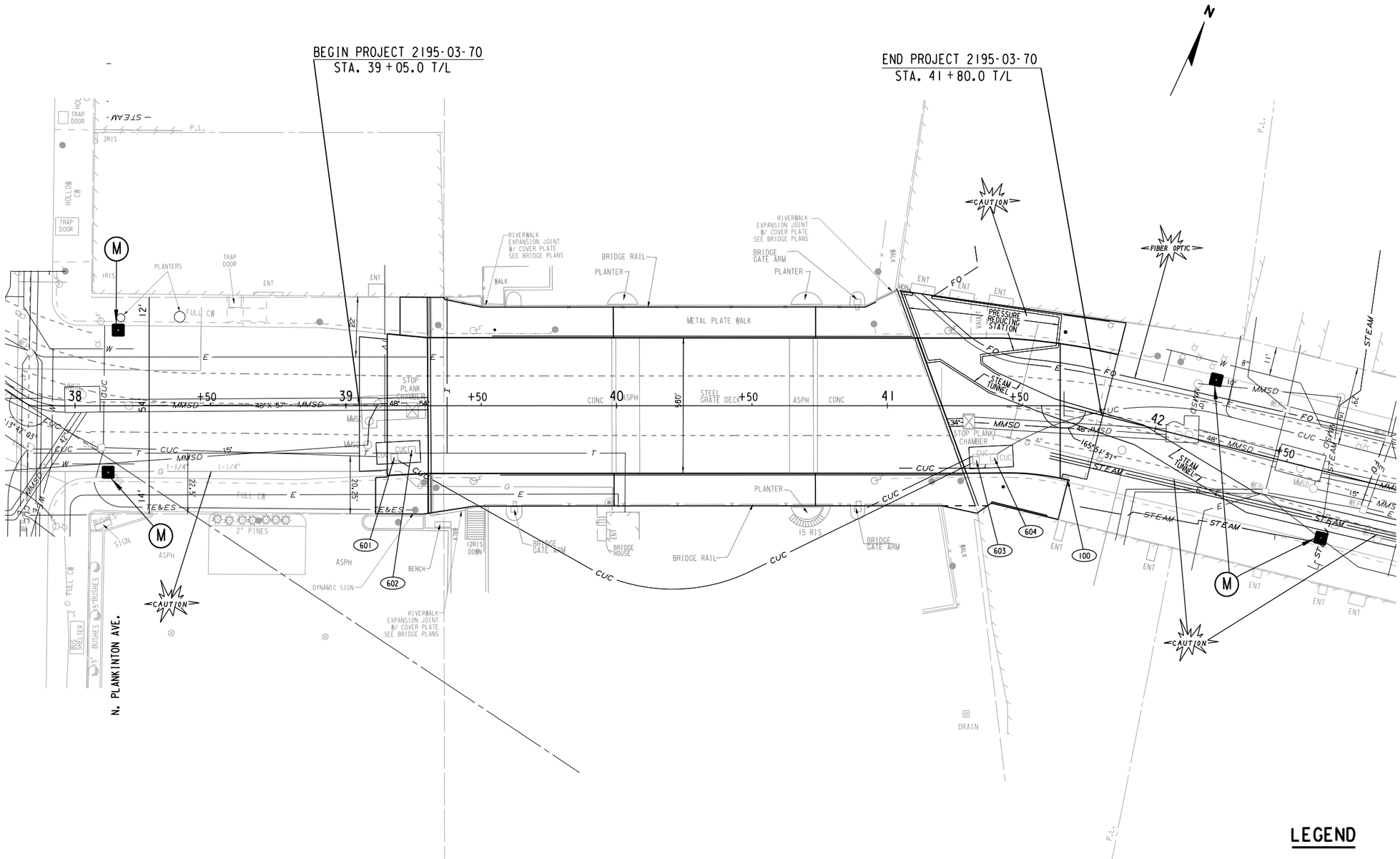
FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\RAMP DETAIL.DGN

REVISED DATE: 7-25-2017 BY SB

EAST WELLS STREET

BEGIN PROJECT 2195-03-70
STA. 39+05.0 T/L

END PROJECT 2195-03-70
STA. 41+80.0 T/L



LEGEND

M INLET SCREEN TYPE M

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	UTILITY PLAN	SCALE FEET 0' 40'	SHEET NO: 15 E

FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\UTILITY.DGN

REVISED DATE: 5-22-2017 BY SB

2

1

W11-2
30" X 30"

2

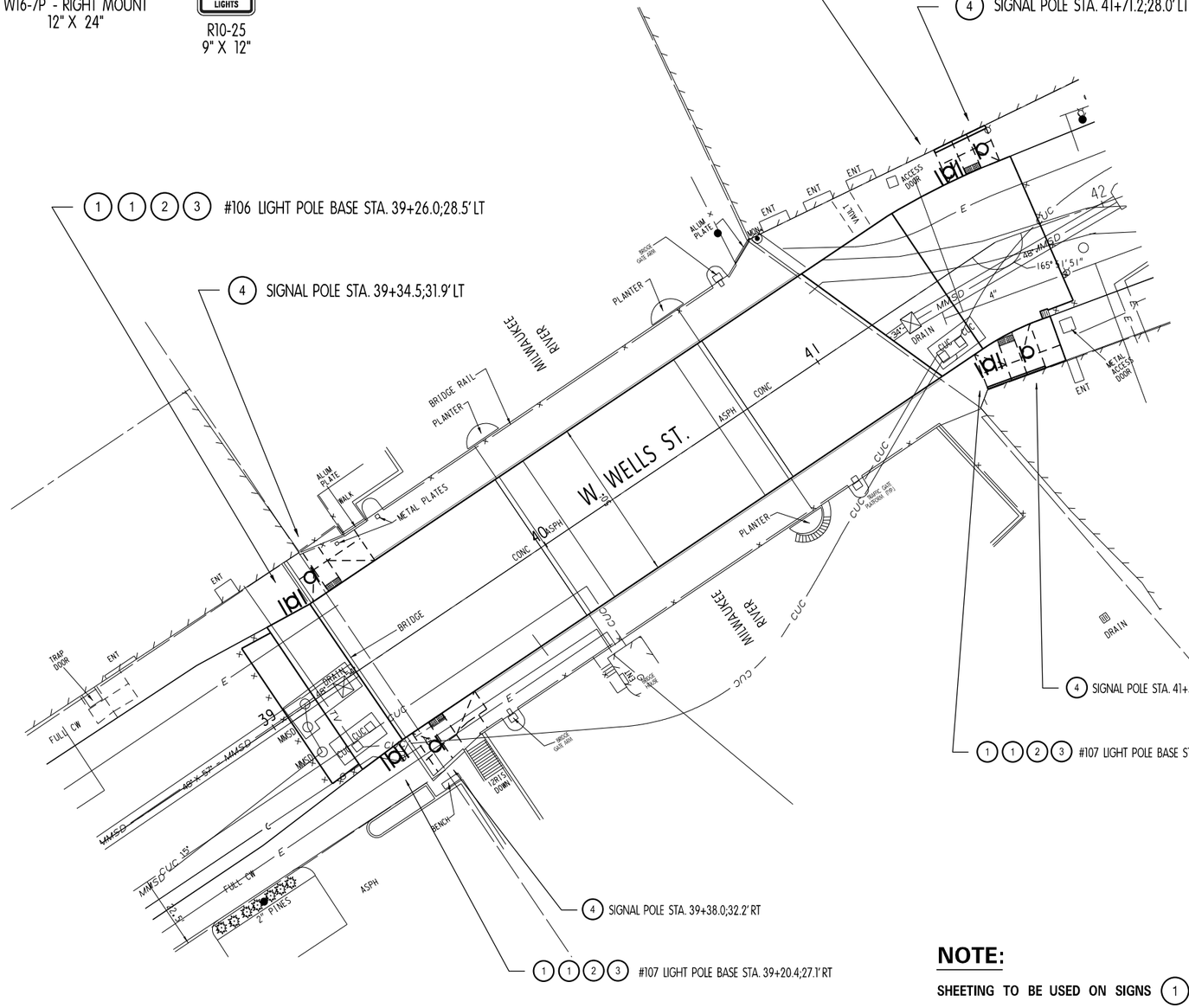
W16-7P - LEFT MOUNT
12" X 24"

3

W16-7P - RIGHT MOUNT
12" X 24"

4

R10-25
9" X 12"



NOTE:

SHEETING TO BE USED ON SIGNS (1) (2) (3) SHALL BE 3M DG³ TYPE XI 4083 – FL. YELLOW–GREEN.

SHEETING TO BE USED ON SIGNS (4) SHALL BE 3M DG³ TYPE XI 4090 – WHITE.

PROJECT NO: 2195–03–70	HWY: U.S.H.18	COUNTY: MILWAUKEE	PERMANENT SIGNING PLAN	SCALE, FEET 0 40	SHEET 16	E

2

TRAFFIC & STREET LIGHTING GENERAL NOTES:

PRIOR TO CONSTRUCTION, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE DETERMINED IN THE FIELD BY CONTACTING "DIGGERS HOTLINE."

STREET LIGHTING & TRAFFIC SIGNALS SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 EXCEPT:

THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCLUDING REPAIRS, REPLACEMENT OR RELOCATION ETC. OF STREET LIGHTING OR TRAFFIC SIGNAL FACILITIES IF THE CONTRACTOR DOES ANY DEVIATION FROM THE STREET LIGHTING OR TRAFFIC SIGNAL DESIGN WITHOUT THE STREET LIGHTING ENGINEERS SIGNED PERMISSION.

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

2 LOCATIONS OF THE PVC CONDUITS WHERE THEY ARE REQUIRED ARE IDENTIFIED IN THE PRINTS. HOWEVER, INSTALLATION MAY REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. ANY RELOCATIONS MUST BE APPROVED BY THE ENGINEER. FIELD MARK EACH CONDUIT LOCATION BY STAMPING AND PAINTING WITH RED PAINT ON TOP AND BACKSIDE OF CURB.

3 TYPICAL CONDUIT INSTALLED UP TO DIRECT BURIED STREET LIGHT POLES IS AS FOLLOWS 3-INCH OR 2.5-INCH (AS NOTED) SCHEDULE 40 RIGID PVC TO STREET LIGHTING METAL HOUSING (PEDESTAL), THE 1.5-INCH SCHEDULE 40 RIGID PVC TO STREET LIGHT POLE CABLE SLOT, AND THE 2-INCH SCHEDULE 40 RIGID PVC TO SIGNAL STANDARD BASE AND RISER FOR TRAFFIC SIGNAL ON STREET LIGHT POLE.

4 DEPTH OF CONDUIT INSTALLED BELOW THE STREETS, HIGHWAYS, ROADS, AND ALLEYS SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM. (MEASURED FROM FINISHED FLANGE LINE)

5 CONDUIT INSTALLED BEHIND CURB, AND UNDER DRIVEWAYS SHALL BE INSTALLED AT A DISTANCE OF 6 INCHES AWAY FROM THE BACK OF CURB TO THE CENTER LINE OF CONDUIT, AND 18 INCHES DOWN MEASURED FROM THE TOP OF CURB OR FINISHED GRADE TO THE TOP OF CONDUIT.

6 WHEN THERE IS MORE THAN ONE CONDUIT TO BE INSTALLED, PLACE ALL CONDUITS IN THE SAME TRENCH.

7 ANY EXCEPTION TO THE MINIMUM OR MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

8 THE CONTRACTOR OR HIS SUBCONTRACTOR MUST MAKE SURE THE AREA BEHIND CURB AND/OR TRENCH SHALL BE FREE OF DEBRIS AND OVERPOUR AND SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

9 BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

10 ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS. (SEE NEC 352.28 2008 CODE)

11 PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED IMMEDIATELY AFTER INSTALLATION WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

12 ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

13 CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX OR JUNCTION BOX OR BASE TO BASE, ETC.).

14 PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUIT.

15 ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS UNLESS OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

16 WHEN ENDS OF CONDUIT DO NOT CONNECT TO A PULL BOX / VAULT AND WILL END UP UNDER CONCRETE WALK. THE CONTRACTOR IS REQUIRED TO LEAVE A 24" X 24" BOX FORM CENTERED OVER THE END OF CONDUIT AND FILL THE BOXFORM WITH CRUSHED GRAVEL. (PER WISDOT SPEC 209.2.1(1) GRANULAR BACKFILL)

17 ALL PIPE CROSSINGS AND PULL BOXES / VAULTS SHALL BE AT LEAST SIX (6) FEET AWAY FROM FIRE HYDRANTS, UNLESS NOTED OTHERWISE, OR APPROVED BY THE STREET LIGHTING ENGINEER.

18 ALL POLES AND TRAFFIC STANDARDS IN CONCRETE ARE REQUIRED TO HAVE A 30"X30" BOX SHAPED JOINT PLACED AROUND THEM USING AN EXPANSION JOINT FILLER. UNLESS NOTED OTHERWISE (SEE DETAIL 122)

19 TYPICAL RECTANGULAR PULL BOXES / VAULTS SHOULD BE INSTALLED AS SHOWN ON PLANS, BUT WHEN IT IS NOT POSSIBLE, A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS AND FIRE HYDRANTS SHOULD BE USED, OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

TRAFFIC & STREET LIGHTING GENERAL NOTES:

20 LIGHT POLES AND TRAFFIC STANDARDS INSTALLED BEHIND THE CURB MUST MEET A MINIMUM DISTANCE OF 24 INCHES FROM THE FACE OF CURB TO THE CURB SIDE FACE OF THE POLE OR TRAFFIC STANDARD.

21 COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT, DUCT PACKAGES, AND PULL BOXES/ VAULTS/ MANHOLES WITH CITY OF MILWAUKEE STREET LIGHTING. THE CITY REQUIRES THREE WORKING DAYS ADVANCED NOTICE. CONTACT ELECTRICAL SUPERVISOR
STREET LIGHTING - DENNIS MILLER (OFFICE) 414-286-5942 (CELL) 414-708-4251 OR DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - AL NICHOLS (OFFICE) 414-286-3687 (CELL) 414-708-5148 OR DISPATCHER @ 414-286-3687

22 IMMEDIATELY AFTER THE CONTRACTOR HAS COMPLETED ALL THE ELECTRICAL PULL BOXES / VAULTS, CONDUIT AND CONDUIT CONNECTIONS, AND JUST BEFORE ELECTRICAL WORK IS COVERED UP WITH CONRETE, SOIL, OR ETC. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SHOP SUPERVISORS FOR FINAL INSPECTION AND APPROVAL OF ALL WORK.
STREET LIGHTING - DENNIS MILLER (OFFICE) 414-286-5942 (CELL) 414-708-4251
STREET LIGHTING - GEORGE BERDINE (OFFICE) 414-286-5943 (CELL) 414-708-4245
STREET LIGHTING - THOMAS HUGHES (OFFICE) 414-286-3457 (CELL) 414-708-3175
STREET LIGHTING - DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - AL NICHOLS (OFFICE) 414-286-5941 (CELL) 414-708-5148
TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

23 CONDUIT WILL ONLY BE INSTALLED AFTER THE CURB IS POURED, UNLESS APPROVED BY BOTH THE ENGINEER & STREET LIGHTING SHOP SUPERVISOR.

TRAFFIC & STREET LIGHTING GENERAL NOTES:

As-Built Guidelines:

Provide as-built drawings detailing the final placement of conduit, cabling, equipment, and geometric modifications under the contract. Provide PDF copy conforming to CMM 1-65.14, or record all changes in Red ink Only on the As-Let (Design) paper drawings. The engineer will reject as-builts with incomplete or incorrect content or not conforming to CMM standards.

It is critical that the Contractor work on the As-Built drawings while the job is progressing, so changes are documented while they are still fresh in your mind.

If there is a structure drawing, include all structures drawing sheets. It is the responsibility of the Contractor to insert any addendum or replacement drawing sheets. To do this, renumber them similarly to the original drawing sheet.

For example, "Revised Sheet 5" would replace sheet 5. However all original sheets shall remain in the As-Built. If the sheet has been replaced cross it out with an x and indicate the number of its replacement sheet. If additional sheets were added insert them in the logical location and label them with the previous sheet number followed by an "A","B","C", etc.

Note the sheet changes on the title sheet under the ORDER OF SHEETS.

The title sheet of the As-Built drawing should include the following info:

AS-BUILT DRAWING
SUPERVISER:
PROJECT MANAGER:
CONTRACTOR LEADER:
CONTRACTOR COMPANY:
WORK STARTED:
WORK COMPLETED:

Line out or cross out all changed information and write-in the corrected information above the original or close to it where ever possible. Use blank spaces on the drawing so notes are not superimposed. Drawings with excessive detail may require an alternate approach. Numbered changes or additions may-be shown on supplemental non-drawing sheets.

< Locate and clearly label all conduit runs, fittings, splice vaults, pull boxes, meter pedestals, concrete bases, transformers, poles and other appurtenances in two directions. Swing ties should be made from objects that are permanent in nature and visible on the finished surface.
< Street names shall be on all sheets.
< Show all sizes and material types of pipes and conduits, if changed or modified from original design.
< All horizontal distances shall be shown to the nearest tenth of a foot (i.e., 205.3'). All vertical distances shall be shown to the nearest inch (i.e., 24").
< Show location and elevations on pipes and fittings where changes or deflections in direction occur.
< Special detail drawings may be required where installations are not shown on approved construction drawings for whatever reason or where required for clarity.
< Typical service installation details with deviations from original plans or standard details shall be noted on as-built drawings.
< No arbitrary mark-ups will be permitted.

If there are no corrections or additions to the As-Let plan(s) put "NO CHANGE" on the sheet with other required As-Built information.

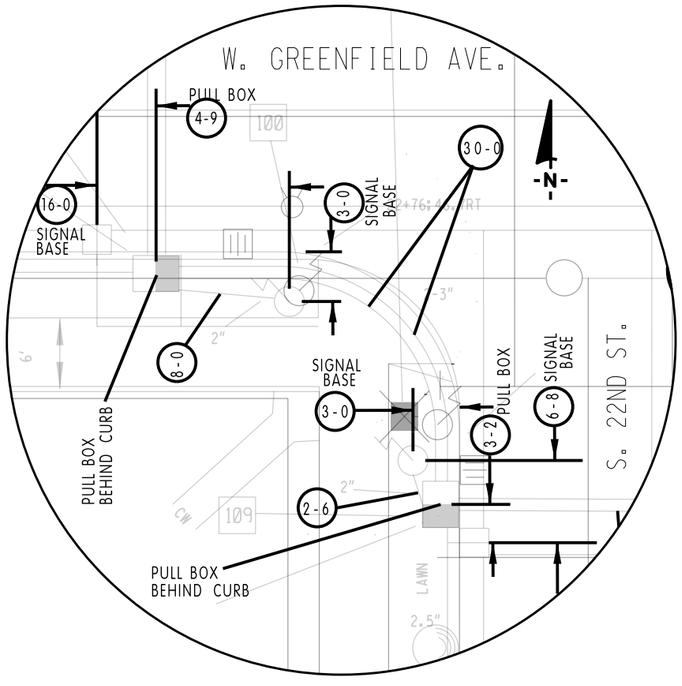
Send to:
City of Milwaukee
Infrastructure Services Division
Transportation Section
Street Lighting & CUC Engineering Manager
841 N. Broadway (Room 920)
Milwaukee, WI. 53202

USE RED INK TO DO AS-BUILTS

RECORD RETENTION GUIDELINES:

- CONTRACTOR TO LOCATE AND CLEARLY DIMENSION ALL OF THERE NEWLY INSTALLED CONDUIT RUNS, FITTINGS, SPLICE VAULTS, PULL BOXES, METER PEDESTALS, CONCRETE BASES, TRANSFORMERS, POLES AND OTHER APPURTENANCES IN TWO (2) DIRECTIONS. SWING TIES SHOULD BE MADE FROM OBJECTS THAT ARE PERMANENT IN NATURE AND VISIBLE ON THE FINISHED SURFACE.
- STREET NAMES SHALL BE ON ALL SHEETS.
- SHOW ALL SIZES AND MATERIAL TYPES OF PIPES AND CONDUITS, IF CHANGED OR MODIFIED FROM ORGINAL DESIGN.
- ALL HORIZONTAL DISTANCES SHALL BE SHOWN TO THE NEAREST TENTH OF A FOOT (I.E., 205.3').
  ALL VERTICAL DISTANCES SHALL BE SHOWN TO THE NEAREST INCH (I.E. 24").
- SHOW LOCATION AND ELEVATIONS OF PIPES AND FITTINGS WHERE CHANGES OR DEFLECTIONS IN DIRECTION OCCUR.
- SPECIAL DETAIL DRAWINGS WILL BE SUPPLIED WHERE REQUIRED FOR CLARITY.
- DEVIATIONS FROM ORIGINAL PLANS OR STANDARD DETAILS SHALL BE NOTED ON AS-BUILT DRAWINGS.
- IF THERE ARE NO CORRECTIONS OR ADDITIONS TO THE AS-LET PLAN(S) PUT "NO CHANGE" ON THE SHEET.

SUPERVISOR:_____
PROJECT MANAGER:_____
CONTRACTOR LEADER:_____
CONTRACTOR COMPANY:_____
WORK STARTED:_____
WORK COMPLETED:_____



FIELD RECORD EXAMPLE DETAIL NOT TO SCALE

TYPICAL DIMENSIONING OF CONDUIT, PULL BOXES, AND CONCRETE BASES

MEASURING GUIDE LINES

IF CONDUIT IS NOT PLACED DIRECTLY BEHIND THE CURB IN THE ISLANDS & SIDE TERRACE AREAS, A MEASURED DISTANCE FROM THE FACE OF CURB TO THE CONDUIT WILL NEED TO BE PROVIDED.

PROVIDE A MEASURED DISTANCE OF UNINTERRUPTED CONDUIT RUNS

USE PERMANENT OBJECTS LIKE HYDRANTS, CATCH BASINS, OR EVEN CURB FACE LINES EXTENED TO MEASURE OFF WHEN LOCATING CONDUIT, PULL BOXES AND CONCRETE BASES.

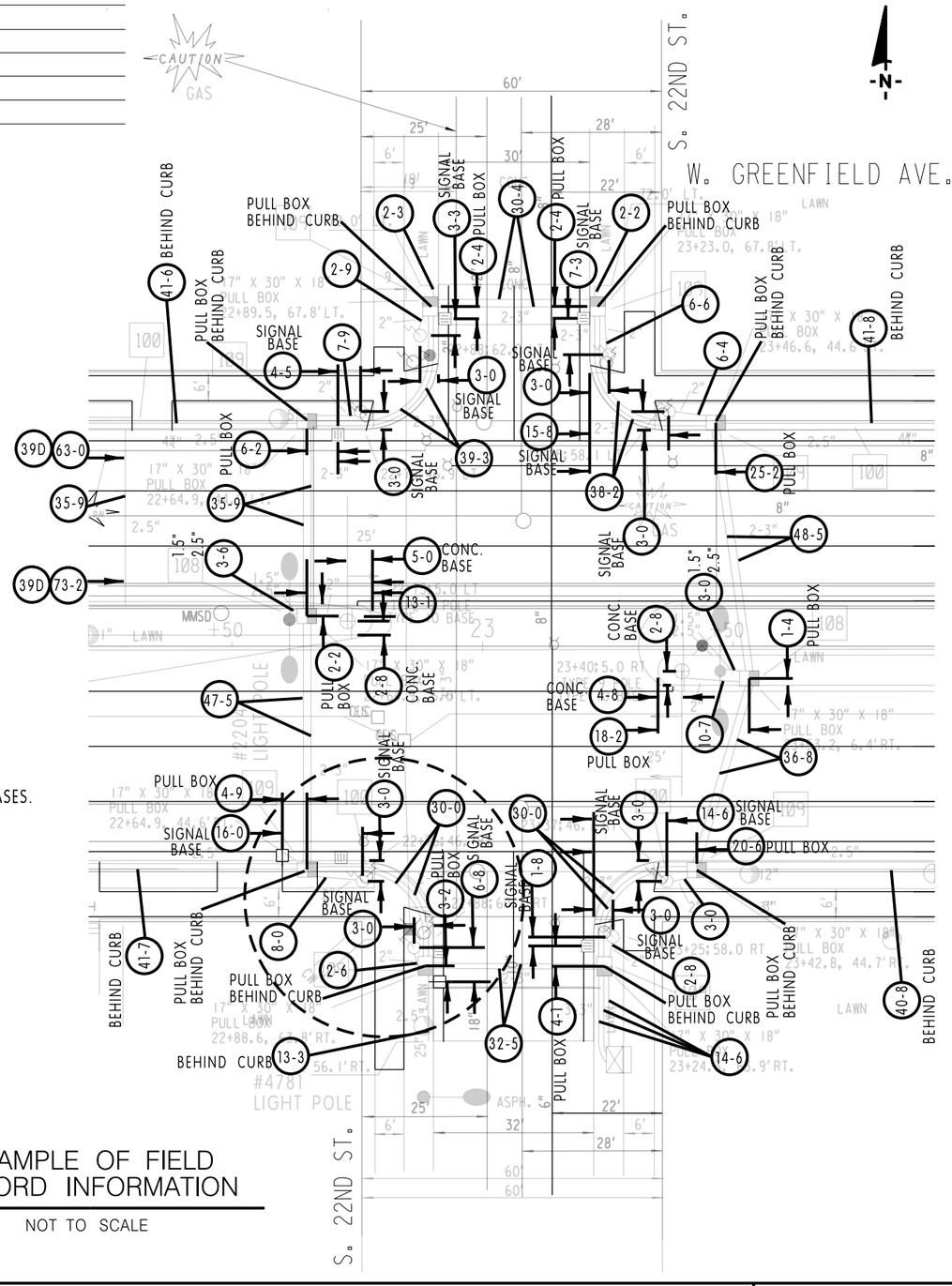
MEASURE TO OR FROM THE CENTERS OF OBJECTS FOR DISTANCE TAKING.

(39D) MEANS = CONDUIT IS 39" DEEP

(48-5) MEANS = LENGTH OF CONDUIT IS 48.5 FT. LONG (MEASURED TO NEAREST TENTH OF A FOOT)

OR

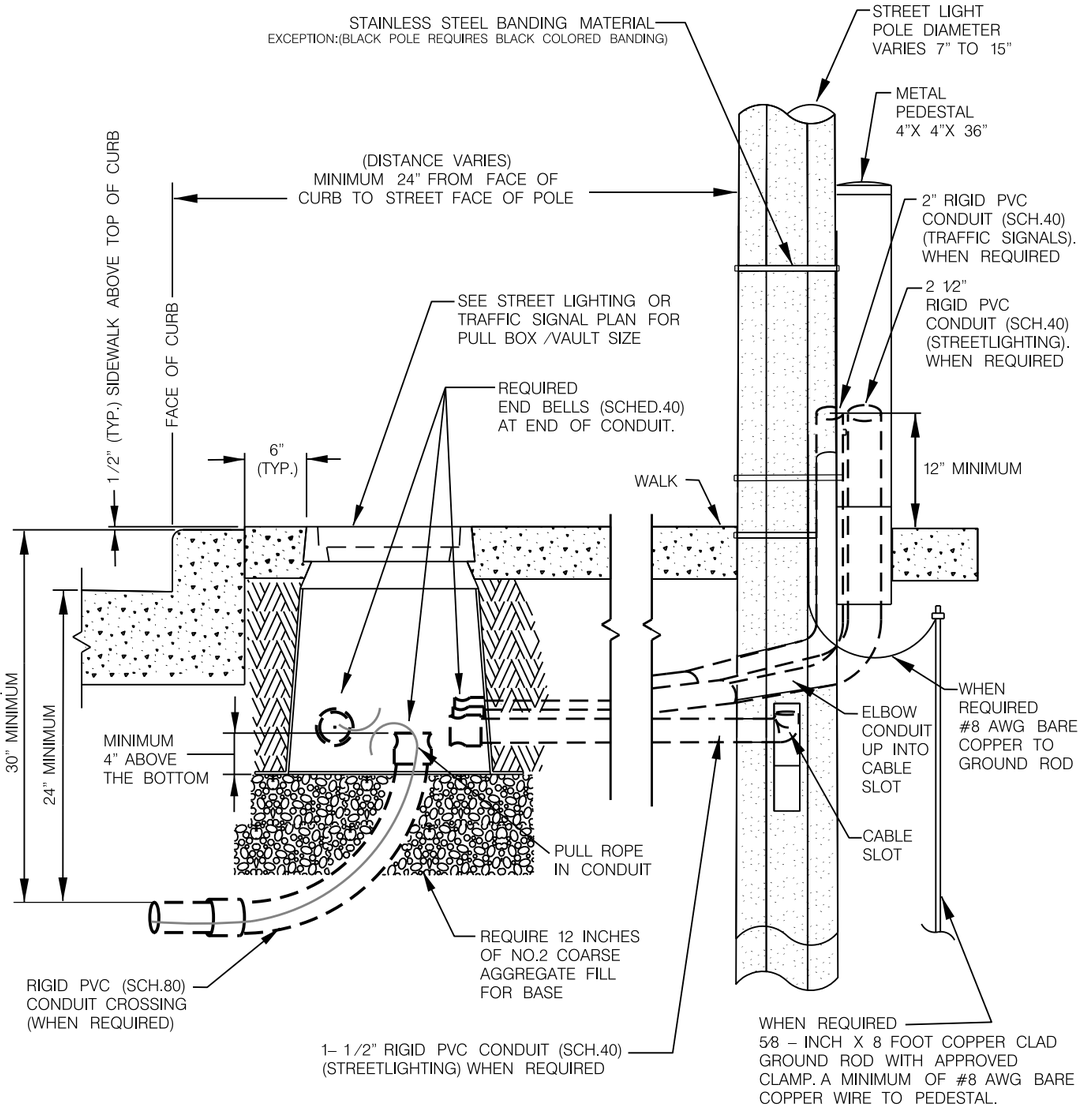
(25-6) MEANS = DISTANCE OF 25.6 FT. BETWEEN PERMANENT OBJECT OR CURB FACE TO CONDUIT, PULL BOX, AND CONCRETE BASE (MEASURED TO NEAREST TENTH OF A FOOT)



EXAMPLE OF FIELD RECORD INFORMATION

NOT TO SCALE

PROJECT NO: 2195–03–70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	STREET LIGHTING DETAILS	SHEET 19	E

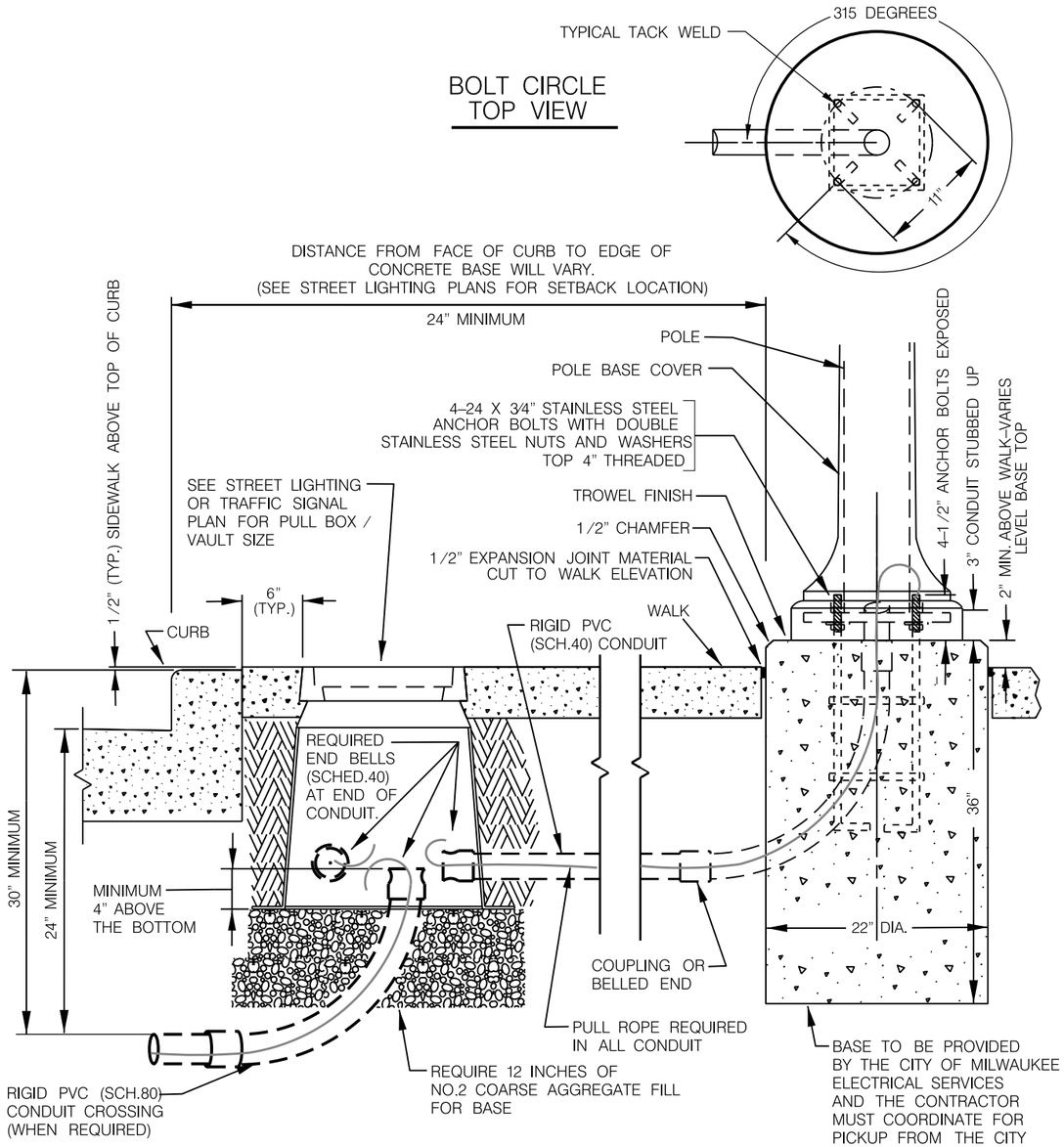


107 DETAIL VERSION

TYPICAL CONDUIT INSTALLATION FROM PULL BOX /VAULT TO POLE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

NOT TO SCALE



109 DETAIL

TYPICAL CONDUIT INSTALLATION FROM PULL BOX /VAULT TO OCTOFLUTED BASE

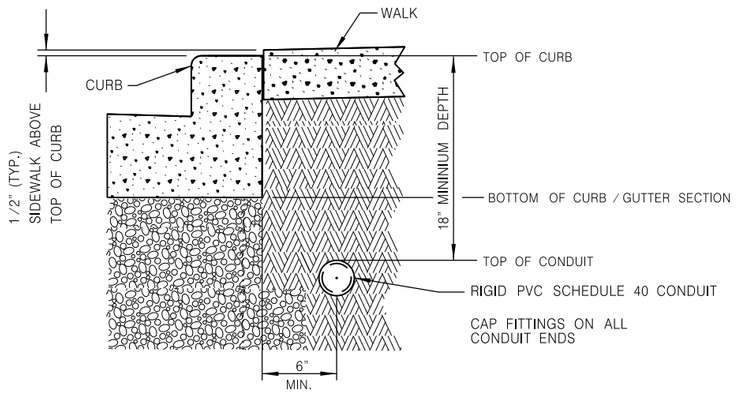
ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

NOT TO SCALE

FILE NAME : W:\bes\pavings\Bridge Work\2017 work\wWells St Bridge (2195–03–00)\Wells Str Bridge Conduit Plan.dgn
PLOT DATE : 11–MAY–2017 07:12
PLOT BY : dkozel
PLOT NAME :
PLOT SCALE : $$.....plot–scale.....$$
WISDOT/CADDS SHEET 42

2

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.
2.) CONDUIT TO BE PLACED 6 INCHES ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.



DETAIL "A"

NOT TO SCALE

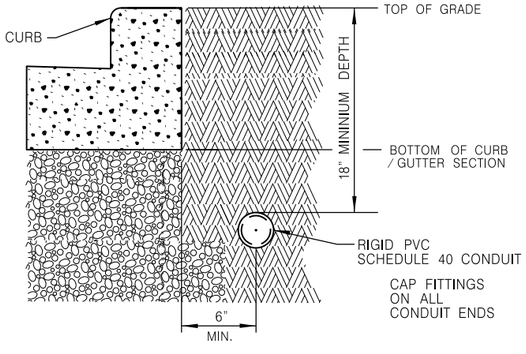
TYPICAL CONDUIT INSTALLATION BEHIND CURB

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

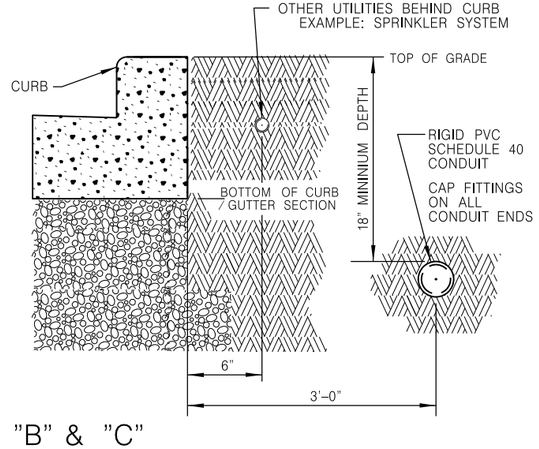
NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.

DETAIL "B"

CONDUIT TO BE PLACED 6" ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.



DETAIL "C"

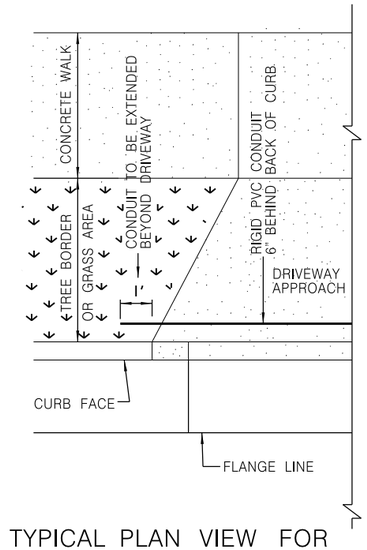


DETAIL "B" & "C"

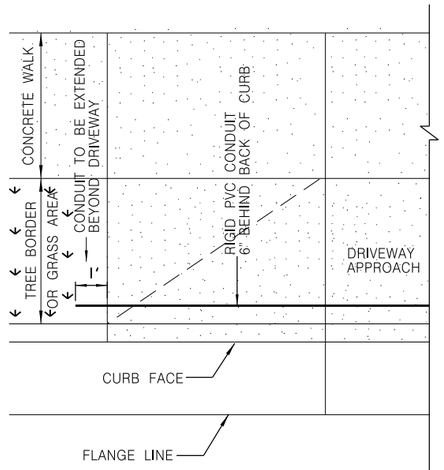
NOT TO SCALE

TYPICAL CONDUIT INSTALLATION BEHIND CURB

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

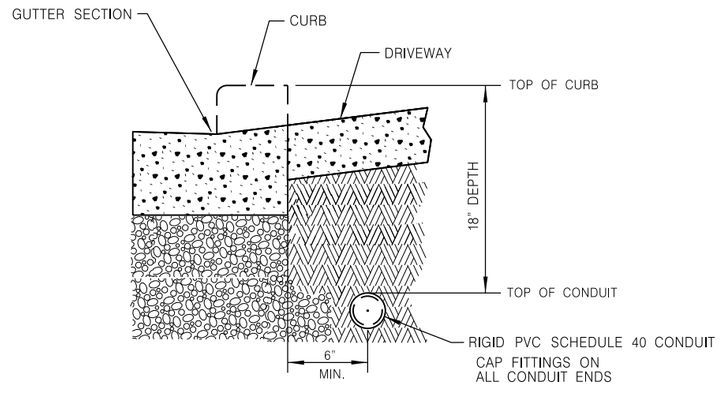


TYPICAL PLAN VIEW FOR FLARED DRIVEWAY



TYPICAL PLAN VIEW FOR DEPRESSED DRIVEWAY

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.
2.) CONDUIT TO BE PLACED 6 INCHES ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.

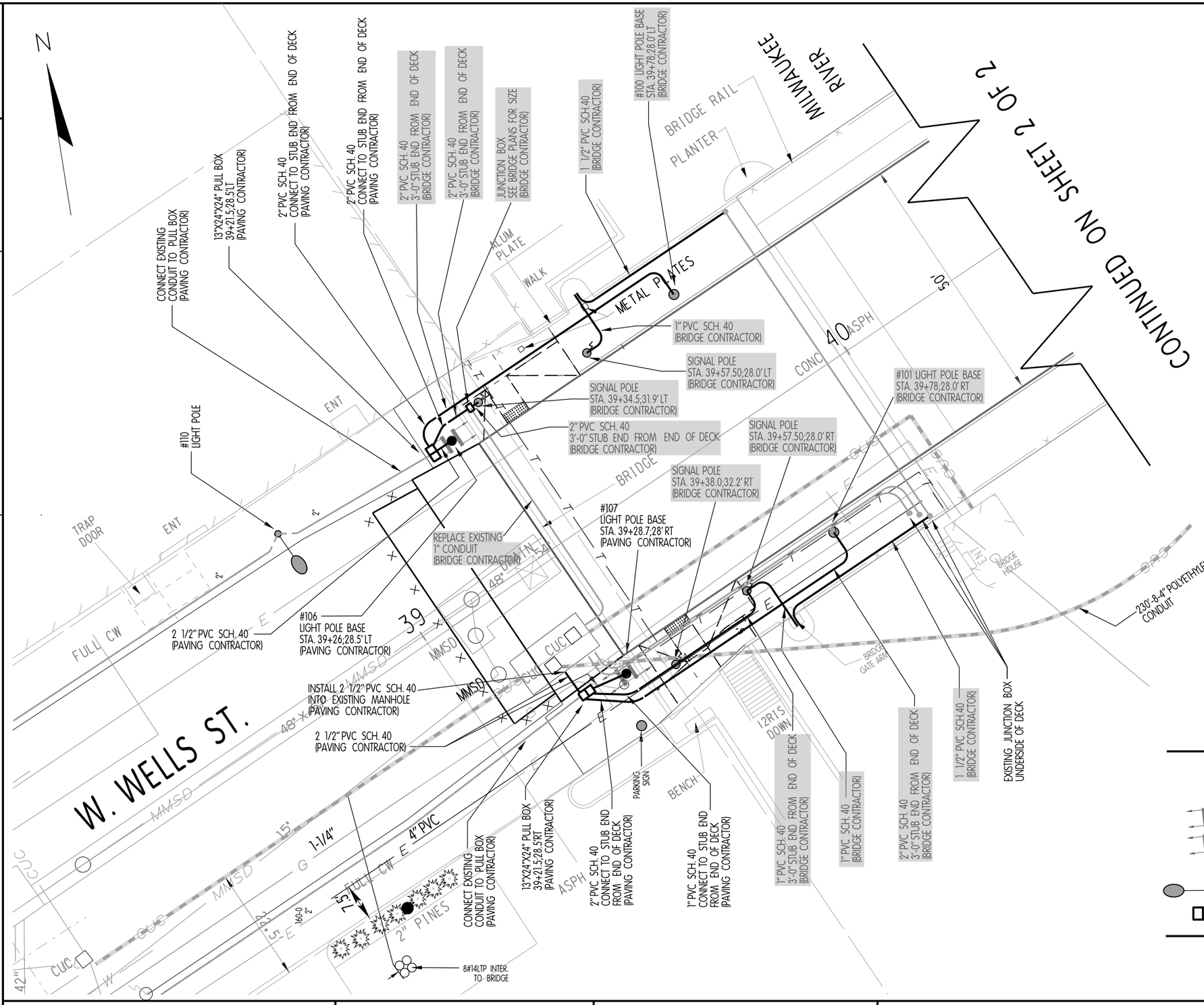


DETAIL

NOT TO SCALE

TYPICAL CONDUIT INSTALLATION UNDER DRIVEWAYS OR PEDESTRIAN RAMPS

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.



NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL PULL BOXES SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES.

COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT / DUCT PACKAGES WITH CITY OF MILWAUKEE. THIS INCLUDES EXTENDING, OR CONNECTING UP TO NEW MATERIALS. REQUIRE THREE WORKING DAYS ADVANCED NOTICE.
CONTACT STREET LIGHTING SHOP MANAGER:
DENNIS MILLER 414-286-5942 (O) 414-708-4251 (C)
OR
LIGHTING SHOP DISPATCHER 414-286-5944

DE-ENERGIZING THE PARKING SIGN LOCATED ON THE SOUTHSIDE OF WELLS ST., JUST WEST OF THE RIVER WILL NEED TWO WORKING DAYS ADVANCED NOTICE.
CONTACT TRAFFIC SIGNALS SHOP MANAGER:
AL NICHOLS 414-286-5941 (O) 414-708-5148 (C)
OR
SIGNAL SHOP DISPATCHER 414-286-3687

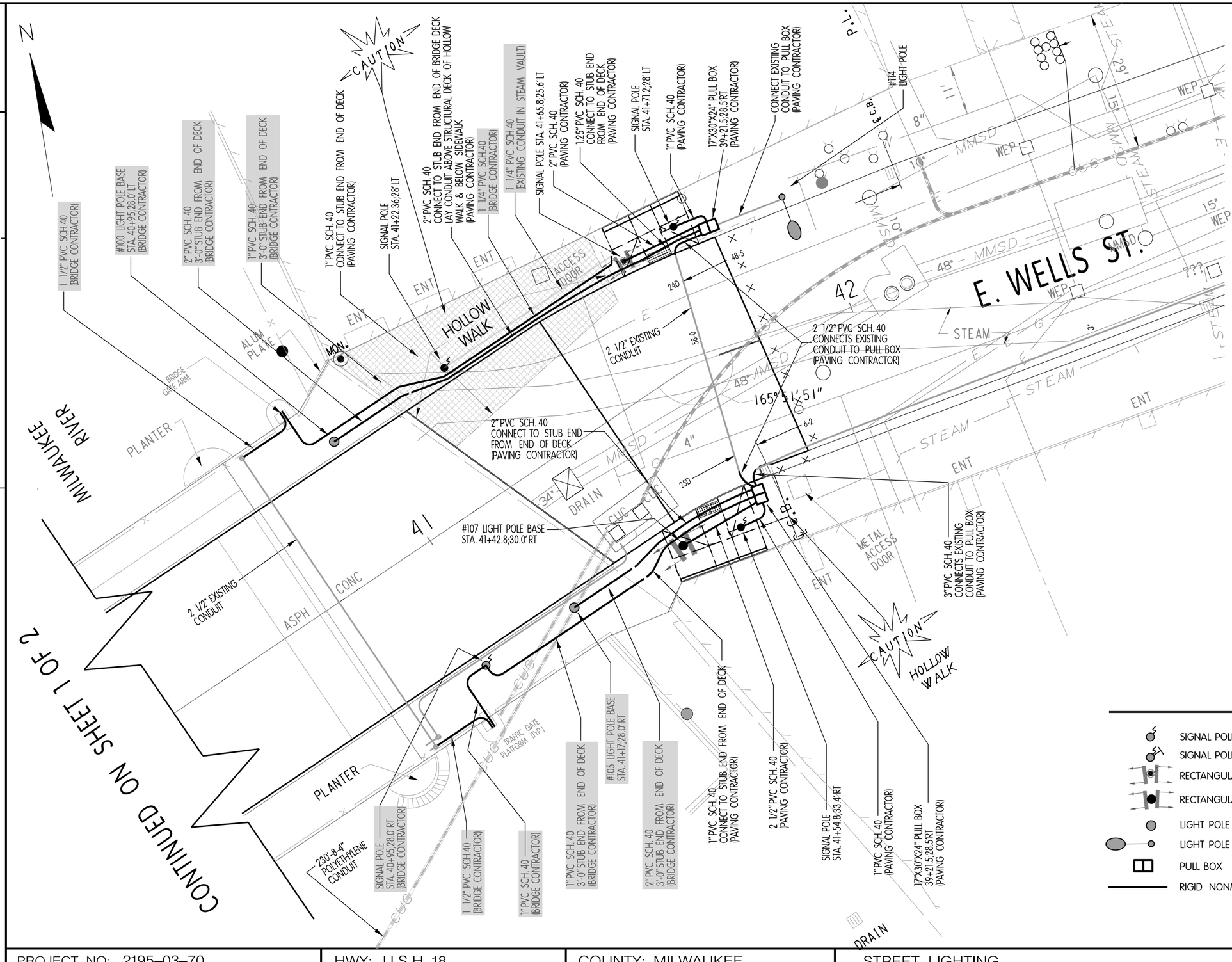
BRIDGE CONDUIT ON THIS DRAWING IS FOR REFERENCE ONLY
MUST SEE BRIDGE CONDUIT DRAWING FOR MATERIAL AND INSTALLATION INFORMATION

LEGEND

- SIGNAL POLE
- SIGNAL POLE WITH PUSH BUTTON
- RECTANGULAR RAPID FLASH BEACON ON SIGNAL POLE
- RECTANGULAR RAPID FLASH BEACON ON LIGHT POLE (HARP UNIT)
- LIGHT POLE BASE (HARP UNIT)
- LIGHT POLE
- PULL BOX
- RIGID NONMETALLIC CONDUIT (PVC)

SHEET 1 OF 2

PROJECT NO: 2195–03–70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	STREET LIGHTING	SHEET 22	E



NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL PULL BOXES SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES.

COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT / DUCT PACKAGES WITH CITY OF MILWAUKEE. THIS INCLUDES EXTENDING, OR CONNECTING UP TO NEW MATERIALS. REQUIRE THREE WORKING DAYS ADVANCED NOTICE. CONTACT STREET LIGHTING SHOP MANAGER: DENNIS MILLER 414-286-5942 (O) 414-708-4251 (C) OR LIGHTING SHOP DISPATCHER 414-286-5944

BRIDGE CONDUIT ON THIS DRAWING IS FOR REFERENCE ONLY MUST SEE BRIDGE CONDUIT DRAWING FOR MATERIAL AND INSTALLATION INFORMATION

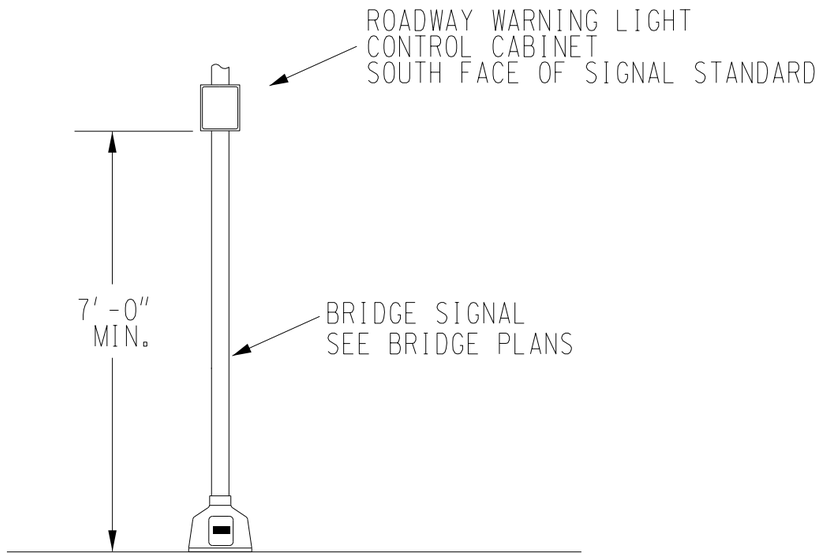
LEGEND

- SIGNAL POLE
- SIGNAL POLE WITH PUSH BUTTON
- RECTANGULAR RAPID FLASH BEACON ON SIGNAL POLE
- RECTANGULAR RAPID FLASH BEACON ON LIGHT POLE (HARP UNIT)
- LIGHT POLE BASE (HARP UNIT)
- LIGHT POLE
- PULL BOX
- RIGID NONMETALLIC CONDUIT (PVC)

SHEET 2 OF 2

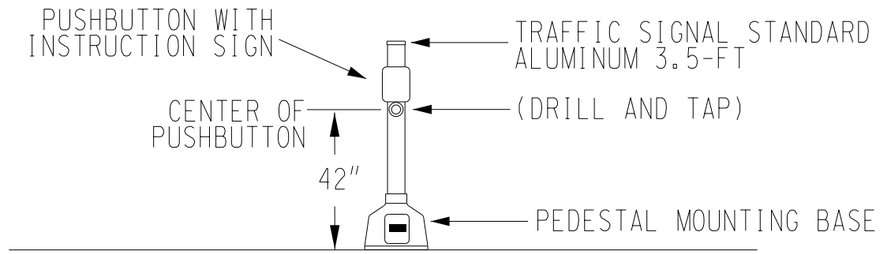
PROJECT NO: 2195–03–70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	STREET LIGHTING	SHEET 23	E

TYPICAL ELEVATIONS



ROADWAY WARNING LIGHT CONTROL CABINET LOCATION

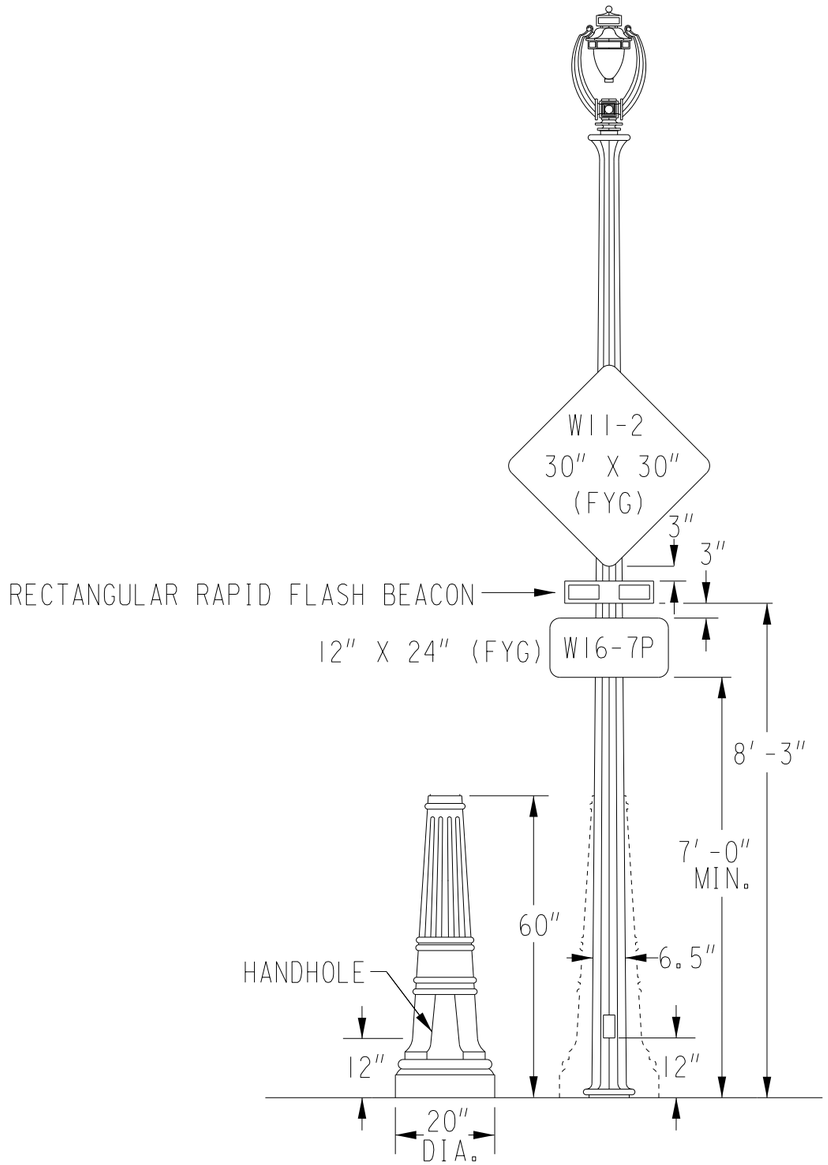
(SA)



SIGNAL STANDARD WITH PUSHBUTTON

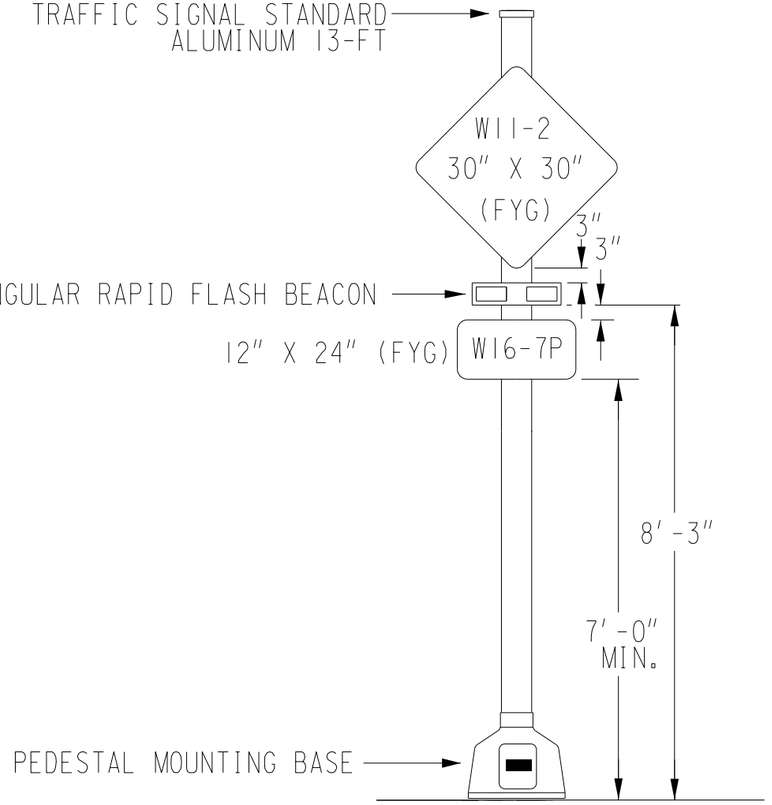
(SC)

TYPICAL ELEVATIONS



LIGHT POLE WITH FLASHING BEACON

(PB)

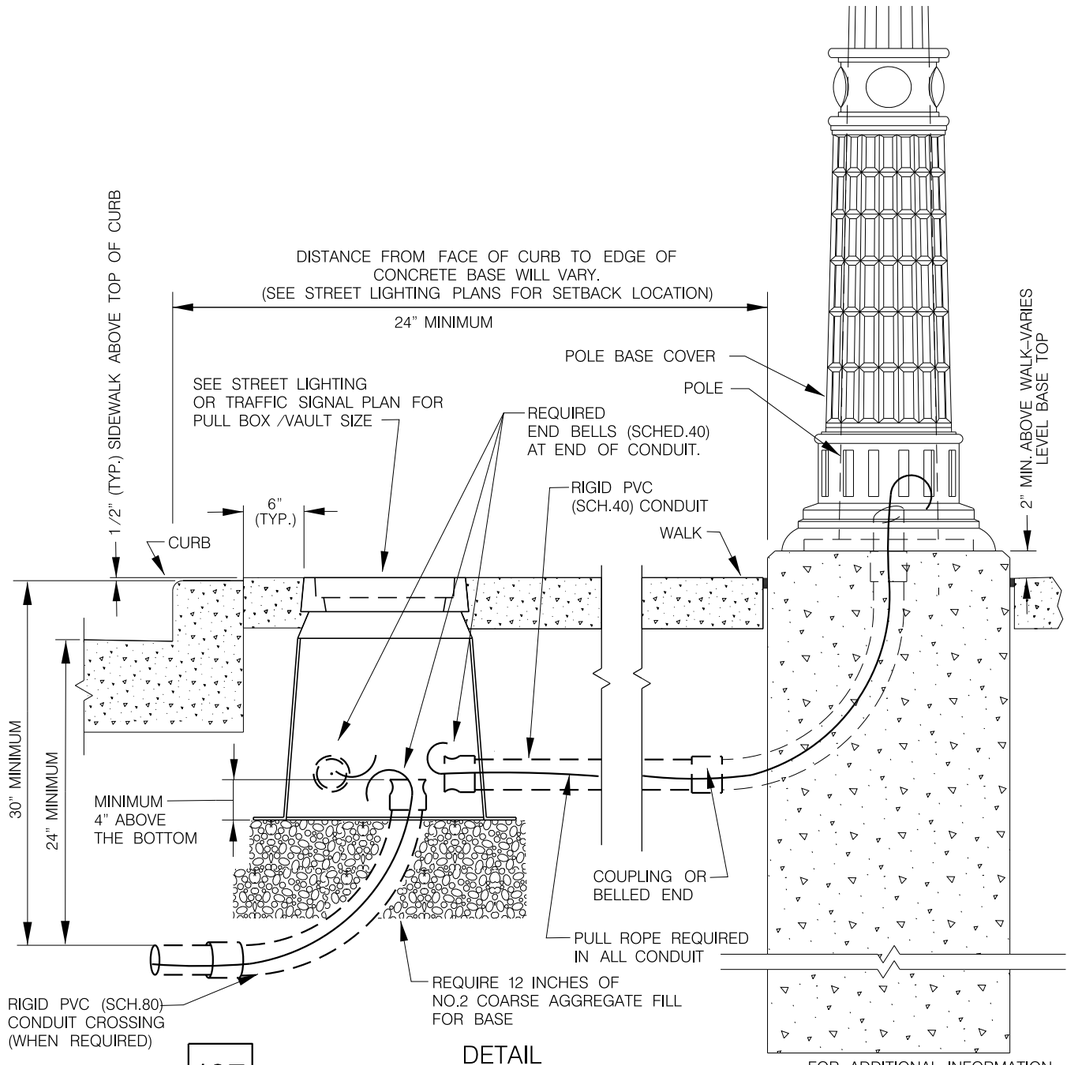


SIGNAL STANDARD WITH FLASHING BEACON

(SB)

FILENAME: DGNFILENAME

TYPICAL ELEVATIONS



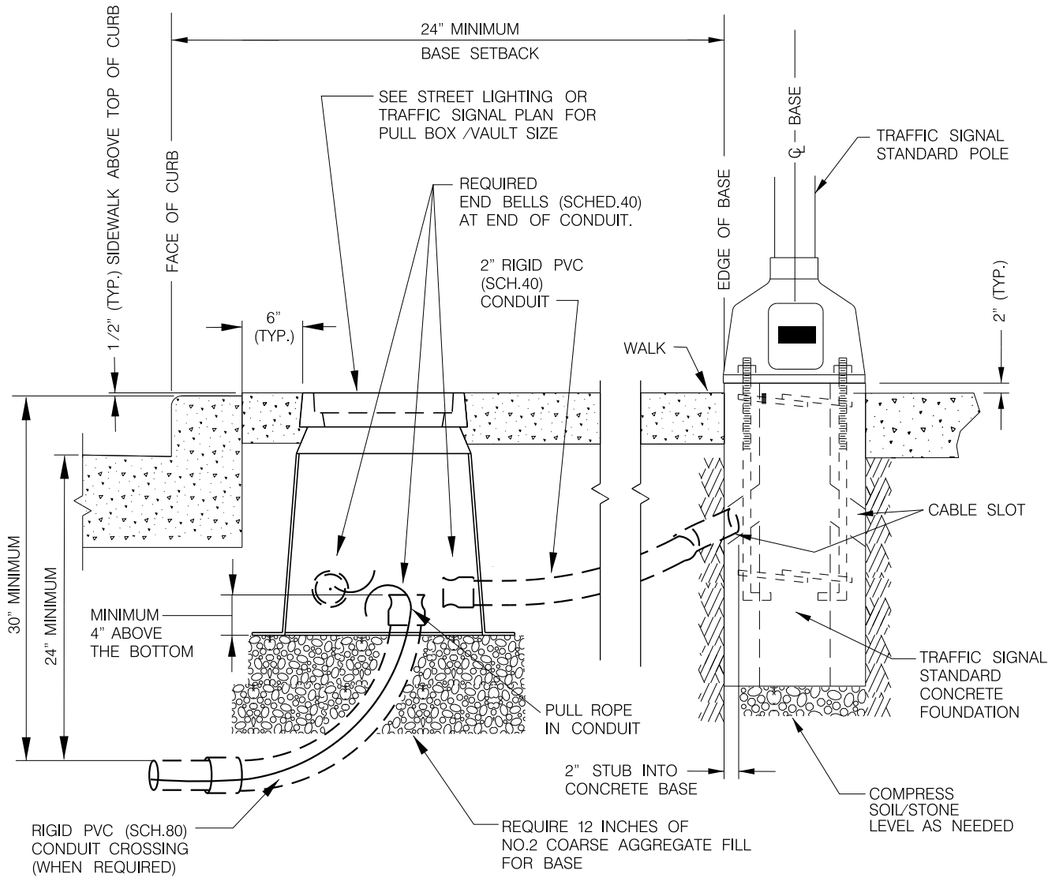
107 DETAIL

TYPICAL CONDUIT INSTALLATION FROM PULL BOX / VAULT TO DOWNTOWN HARP OR LANTERN POLE BASE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

PLOTDATE

NOT TO SCALE



109 DETAIL

TYPICAL CONDUIT INSTALLATION FROM PULL BOX / VAULT TO SIGNAL STANDARD AND TYPICAL BASE INSTALLATION

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

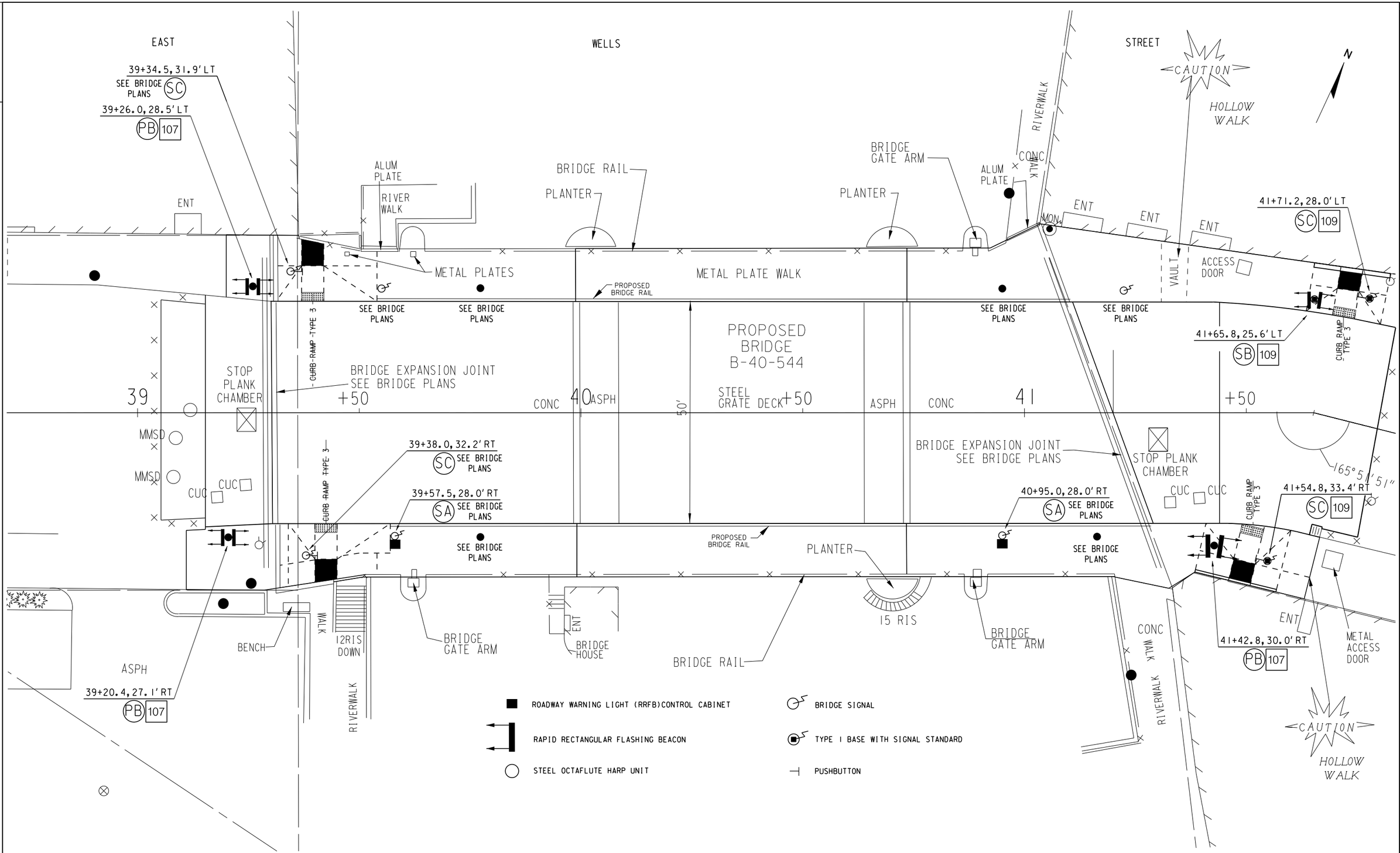
PLOTDATE

NOT TO SCALE

SHEET 3 OF 3

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	RRFB TYPICAL ELEVATIONS DETAIL	SCALE FEET	SHEET NO: 26	E

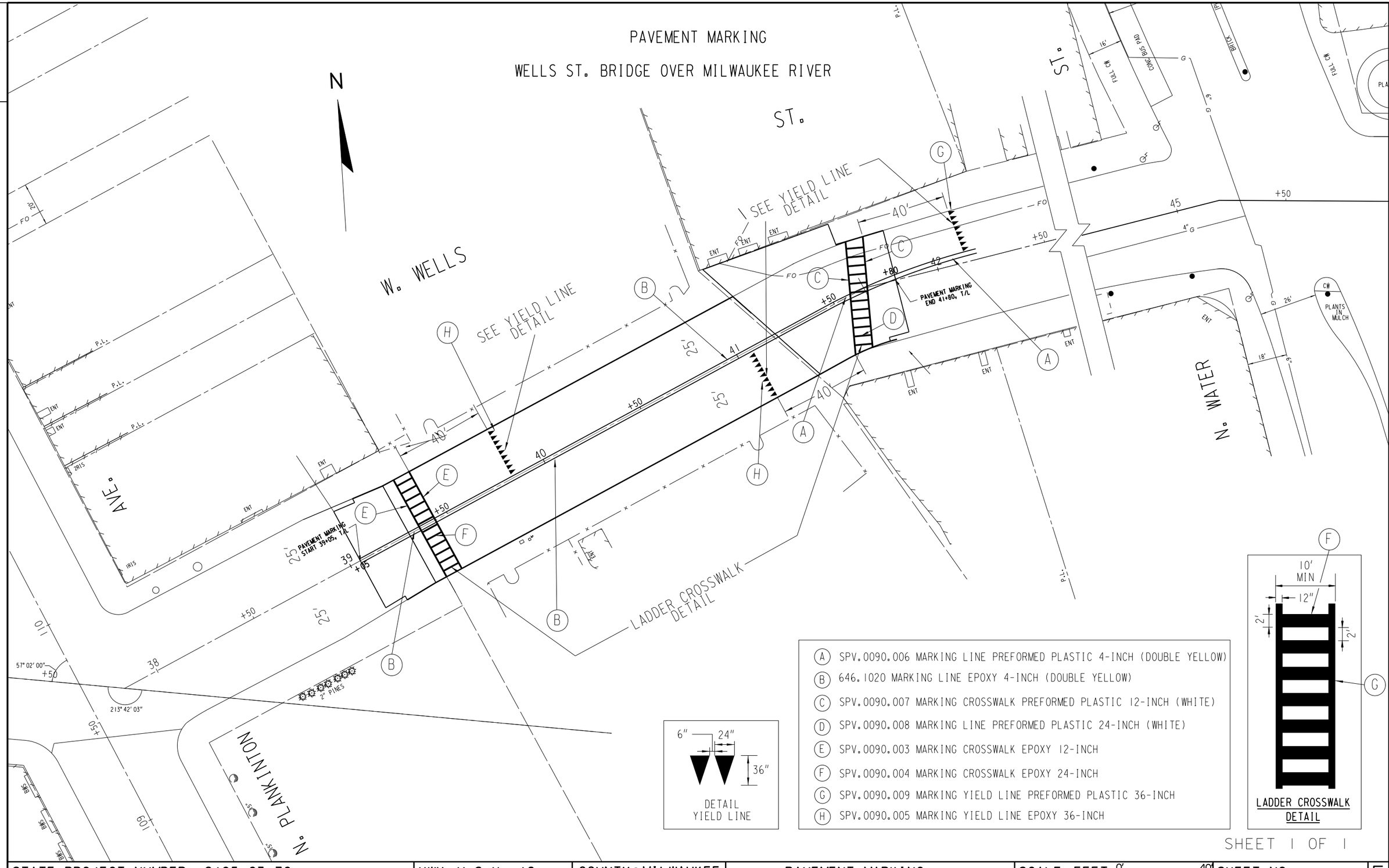
FILENAME: DGNFILENAME



PROJECT NO: 2195–03–70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	RRFB LOCATION DETAIL	SCALE, FEET 0 20	SHEET NO. 27	E

PAVEMENT MARKING

WELLS ST. BRIDGE OVER MILWAUKEE RIVER



(A)	SPV.0090.006 MARKING LINE PREFORMED PLASTIC 4-INCH (DOUBLE YELLOW)
(B)	646.1020 MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
(C)	SPV.0090.007 MARKING CROSSWALK PREFORMED PLASTIC 12-INCH (WHITE)
(D)	SPV.0090.008 MARKING LINE PREFORMED PLASTIC 24-INCH (WHITE)
(E)	SPV.0090.003 MARKING CROSSWALK EPOXY 12-INCH
(F)	SPV.0090.004 MARKING CROSSWALK EPOXY 24-INCH
(G)	SPV.0090.009 MARKING YIELD LINE PREFORMED PLASTIC 36-INCH
(H)	SPV.0090.005 MARKING YIELD LINE EPOXY 36-INCH

DETAIL
YIELD LINE

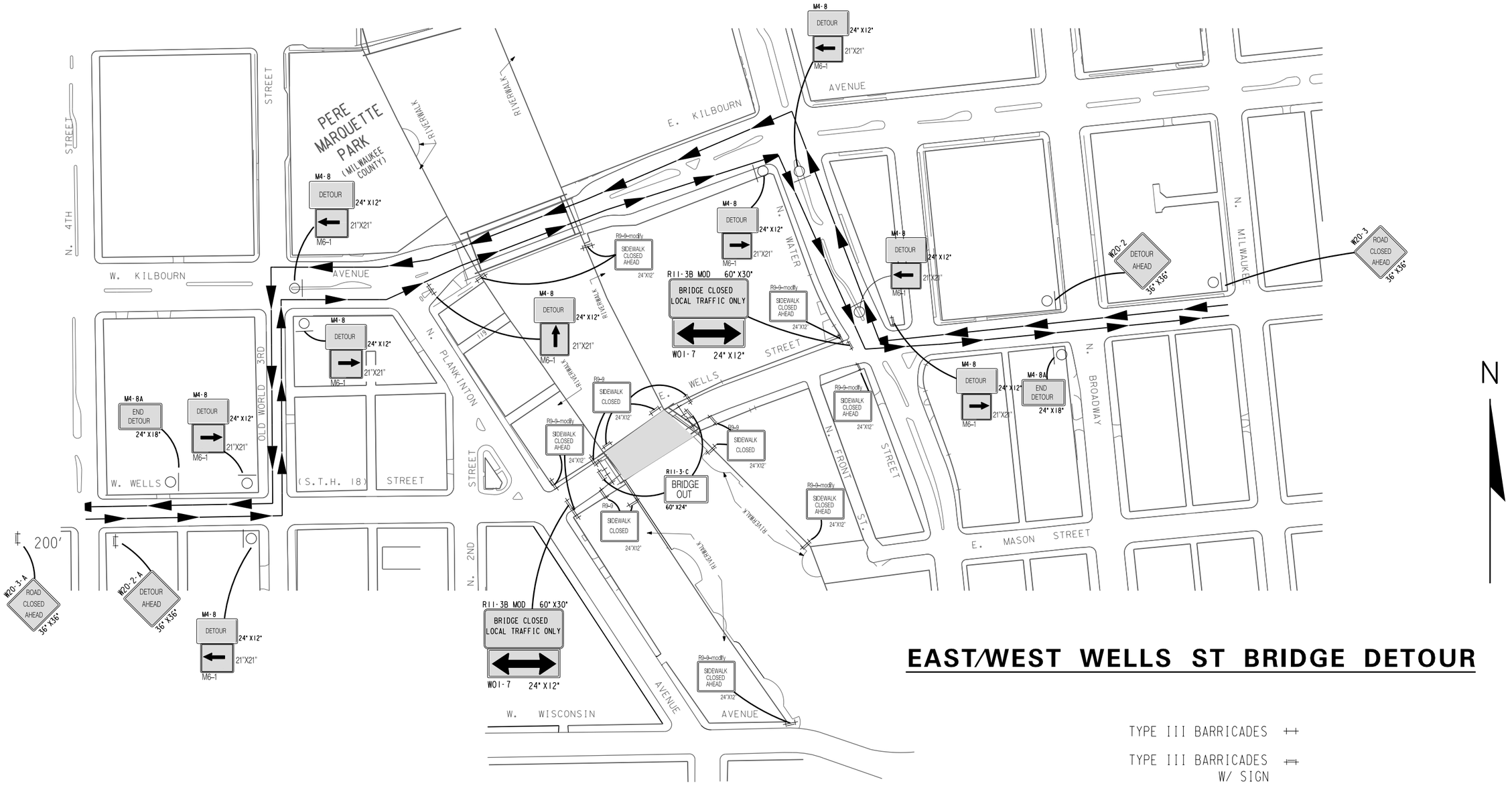
LADDER CROSSWALK
DETAIL

SHEET 1 OF 1

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 40'	SHEET NO: 28	E

FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\PAVEMARK - BRIDGE.DGN

REVISED DATE: 09-29-2017 BY DLF



EAST/WEST WELLS ST BRIDGE DETOUR

TYPE III BARRICADES

TYPE III BARRICADES W/ SIGN

SIGNS BANDED TO TRAFFIC CONTROL DEVICE

BRIDGE CLOSURE

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	TRAFFIC DETOUR PLAN	SCALE FEET 0' 220'	SHEET NO: 29	E

FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\WELLS_BRIDGE_DETOUR.DGN

REVISED DATE: 7-31-2017 BY: PRM

2

EAST/WEST WELLS ST. BRIDGE PEDESTRIAN DETOUR

TYPE III BARRICADES

TYPE III BARRICADES W/ SIGN

SIGNS BANDED TO TRAFFIC CONTROL DEVICE

BRIDGE CLOSURE

M4-9-R
DETOUR
30X24

M4-9-L
DETOUR
30"X24"

STATE PROJECT NUMBER 2195-03-70	HWY: USH 18	COUNTY: MILWAUKEE	PEDESTRIAN DETOUR PLAN	SCALE FEET 0' 220'	SHEET NO:	E

FILENAME: W:\STR\BOI07\2017WORK\APPROACH PLANS\WELLS_BRIDGE_DETOUR.DGN

REVISED DATE: 07-31-2017 BY

2195-03-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 001. 40+36.34	LS	1.000	1.000
0004	204.0100	Removing Pavement	SY	222.000	222.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	205.000	205.000
0008	204.0150	Removing Curb & Gutter	LF	42.000	42.000
0010	204.0155	Removing Concrete Sidewalk	SY	172.000	172.000
0012	205.0100	Excavation Common	CY	111.000	111.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	90.000	90.000
0016	415.0410	Concrete Pavement Approach Slab	SY	182.000	182.000
0018	455.0605	Tack Coat	GAL	5.000	5.000
0020	460.2000	Incentive Density HMA Pavement	DOL	40.000	40.000
0022	460.5223	HMA Pavement 3 LT 58-28 S	TON	27.000	27.000
0024	460.5224	HMA Pavement 4 LT 58-28 S	TON	21.000	21.000
0026	502.0100	Concrete Masonry Bridges	CY	107.000	107.000
0028	502.3100	Expansion Device (structure) 001. B-40-544	LS	1.000	1.000
0030	502.3200	Protective Surface Treatment	SY	465.000	465.000
0032	502.4205	Adhesive Anchors No. 5 Bar	EACH	169.000	169.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	21,460.000	21,460.000
0036	506.3005	Welded Stud Shear Connectors 7/8x4-Inch	EACH	496.000	496.000
0038	506.3015	Welded Stud Shear Connectors 7/8x6-Inch	EACH	264.000	264.000
0040	509.0302	Preparation Decks Type 2	SY	21.000	21.000
0042	509.1000	Joint Repair	SY	69.000	69.000
0044	509.1500	Concrete Surface Repair	SF	339.000	339.000
0046	509.5100.S	Polymer Overlay	SY	625.000	625.000
0048	509.9025.S	Epoxy Injection Crack Repair	LF	408.000	408.000
0050	509.9026.S	Cored Holes 2-Inch Diameter	EACH	2.000	2.000
0052	516.0500	Rubberized Membrane Waterproofing	SY	11.000	11.000
0054	517.0600	Painting Epoxy System (structure) 001. B-40-544	LS	1.000	1.000
0056	517.0900.S	Preparation and Coating of Top Flanges (structure) 001. B-40-544	LS	1.000	1.000
0058	517.1010.S	Concrete Staining (structure) 001. B-40-544	SF	5,373.000	5,373.000
0060	517.1800.S	Structure Repainting Recycled Abrasive (structure) 001. B-40-544	LS	1.000	1.000
0062	517.3000.S	Structure Overcoating Cleaning and Priming (structure) 001. B-40-544	LS	1.000	1.000
0064	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 001. B-40-544	LS	1.000	1.000
0066	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0068	601.0331	Concrete Curb & Gutter 31-Inch	LF	108.000	108.000
0070	601.0600	Concrete Curb Pedestrian	LF	40.000	40.000
0072	602.0410	Concrete Sidewalk 5-Inch	SF	1,800.000	1,800.000

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Line	Item	Item Description	Unit	Total	Qty
0074	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	40.000	40.000
0076	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0078	619.1000	Mobilization	EACH	1.000	1.000
0080	623.0200	Dust Control Surface Treatment	SY	200.000	200.000
0082	637.2220	Signs Type II Reflective SH	SF	69.000	69.000
0084	642.5201	Field Office Type C	EACH	1.000	1.000
0086	643.0420	Traffic Control Barricades Type III	DAY	10,648.000	10,648.000
0088	643.0705	Traffic Control Warning Lights Type A	DAY	21,296.000	21,296.000
0090	643.0900	Traffic Control Signs	DAY	16,456.000	16,456.000
0092	643.5000	Traffic Control	EACH	1.000	1.000
0094	646.1020	Marking Line Epoxy 4-Inch	LF	500.000	500.000
0096	650.4500	Construction Staking Subgrade	LF	105.000	105.000
0098	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	108.000	108.000
0100	650.6500	Construction Staking Structure Layout (structure) 001. B-40-544	LS	1.000	1.000
0102	650.7000	Construction Staking Concrete Pavement	LF	40.000	40.000
0104	650.8500	Construction Staking Electrical Installations (project) 001. 2195-03-70	LS	1.000	1.000
0106	650.9000	Construction Staking Curb Ramps	EACH	4.000	4.000
0108	652.0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	294.000	294.000
0110	652.0220	Conduit Rigid Nonmetallic Schedule 40 1 1/2-Inch	LF	98.000	98.000
0112	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	321.000	321.000
0114	652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	55.000	55.000
0116	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	10.000	10.000
0118	654.0101	Concrete Bases Type 1	EACH	3.000	3.000
0120	657.6005	Anchor Assemblies Light Poles on Structures	EACH	13.000	13.000
0122	658.0500	Pedestrian Push Buttons	EACH	4.000	4.000
0124	690.0150	Sawing Asphalt	LF	110.000	110.000
0126	690.0250	Sawing Concrete	LF	200.000	200.000
0128	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0130	715.0502	Incentive Strength Concrete Structures	DOL	762.000	762.000
0132	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
0134	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	3,600.000	3,600.000
0136	SPV.0035	Special 501. LIGHTWEIGHT CONCRETE MASONRY	CY	20.000	20.000
0138	SPV.0060	Special 001. INLET SCREEN TYPE M	EACH	5.000	5.000
0140	SPV.0060	Special 003. ADJUSTING WATER BOXES	EACH	4.000	4.000
0142	SPV.0060	Special 004. UTILITY LINE OPENING	EACH	2.000	2.000
0144	SPV.0060	Special 201. PEDESTAL BASES BLACK	EACH	5.000	5.000
0146	SPV.0060	Special 202. TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT BLACK	EACH	4.000	4.000

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Line	Item	Item Description	Unit	Total	Qty
0148	SPV.0060	Special 203. TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT BLACK	EACH	1.000	1.000
0150	SPV.0060	Special 301. FIBERGLASS/POLYMER CONCRETE PULL BOX 13-INCH x 24-INCH x 24-INCH	EACH	2.000	2.000
0152	SPV.0060	Special 302. FIBERGLASS/POLYMER CONCRETE PULL BOX 17-INCH x 30-INCH x 24-INCH	EACH	2.000	2.000
0154	SPV.0060	Special 303. INSTALLING CITY-FURNISHED CONCRETE LIGHT POLE BASE	EACH	3.000	3.000
0156	SPV.0060	Special 304. INSTALLING CONDUIT INTO EXISTING MANHOLE	EACH	1.000	1.000
0158	SPV.0060	Special 401. ADJUSTING TES MANHOLE COVER	EACH	4.000	4.000
0160	SPV.0060	Special 501. BEARING MAINTENANCE (B-40-544)	EACH	32.000	32.000
0162	SPV.0060	Special 502. REPLACING HIGH STRENGTH BOLTS	EACH	385.000	385.000
0164	SPV.0060	Special 503. JUNCTION BOX 8x8x6-INCH	EACH	1.000	1.000
0166	SPV.0060	Special 504. RIVERWALK EXPANSION JOINT	EACH	2.000	2.000
0168	SPV.0060	Special 505. RIVERWALK EXPANSION JOINT WITH COVER PLATE	EACH	2.000	2.000
0170	SPV.0085	Special 501. COUNTERWEIGHT BALLAST	LB	20,000.000	20,000.000
0172	SPV.0085	Special 502. BRIDGE STRUCTURAL STEEL	LB	31,325.000	31,325.000
0174	SPV.0090	Special 001. CONSTRUCTION STAKING CONCRETE SIDEWALK	LF	305.000	305.000
0176	SPV.0090	Special 002. CONSTRUCTION STAKING UPPER LAYER	LF	105.000	105.000
0178	SPV.0090	Special 003. MARKING CROSSWALK EPOXY 12-INCH	LF	100.000	100.000
0180	SPV.0090	Special 004. MARKING CROSSWALK EPOXY 24-INCH	LF	96.000	96.000
0182	SPV.0090	Special 005. MARKING YIELD LINE EPOXY 36-INCH	LF	24.000	24.000
0184	SPV.0090	Special 006. MARKING LINE PREFORMED PLASTIC 4-INCH	LF	55.000	55.000
0186	SPV.0090	Special 007. MARKING CROSSWALK PREFORMED PLASTIC 12-INCH	LF	100.000	100.000
0188	SPV.0090	Special 008. MARKING LINE PREFORMED PLASTIC 24-INCH	LF	96.000	96.000
0190	SPV.0090	Special 009. MARKING YIELD LINE PREFORMED PLASTIC 36-INCH	LF	24.000	24.000
0192	SPV.0090	Special 501. MARINE DOCK FENDERS	LF	324.000	324.000
0194	SPV.0090	Special 502. 2 LINE ALUMINUM RAILING	LF	323.000	323.000
0196	SPV.0090	Special 503. REMOVE, REPAIR, PAINT, AND REINSTALL EXISTING TUBULAR RAILING	LF	373.000	373.000
0198	SPV.0090	Special 504. 1-INCH FIBERGLASS REINFORCED EPOXY CONDUIT	LF	50.000	50.000
0200	SPV.0105	Special 201. RECTANGULAR RAPID FLASHING	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
		BEACON SYSTEM			
0202	SPV.0105	Special 501. BUMPER BEAMS	LS	1.000	1.000
0204	SPV.0105	Special 502. COUNTERWEIGHT MACHINERY	LS	1.000	1.000
0206	SPV.0105	Special 503. EQUALIZER MACHINERY	LS	1.000	1.000
0208	SPV.0105	Special 504. SPAN GUIDES	LS	1.000	1.000
0210	SPV.0105	Special 505. BRIDGE ELECTRICAL WORK	LS	1.000	1.000
0212	SPV.0105	Special 506. PACKAGED ENGINE GENERATOR	LS	1.000	1.000
0214	SPV.0105	Special 507. GENERATOR MECHANICAL WORK	LS	1.000	1.000
0216	SPV.0105	Special 508. BRIDGE HYDRAULIC SYSTEM	LS	1.000	1.000
0218	SPV.0105	Special 509. FIELD VERIFICATION SURVEY	LS	1.000	1.000
0220	SPV.0105	Special 510. COUNTERWEIGHT BALANCING CALCULATIONS	LS	1.000	1.000
0222	SPV.0105	Special 511. TEMPORARY LIFT SPAN SHORING	LS	1.000	1.000
0224	SPV.0105	Special 512. LIFT SPAN ROADWAY JOINT	LS	1.000	1.000
0226	SPV.0105	Special 513. LIFT SPAN SIDEWALK JOINT	LS	1.000	1.000
0228	SPV.0105	Special 514. REFURBISHING EXISTING NAME PLATES	LS	1.000	1.000
0230	SPV.0105	Special 515. NAME PLATE	LS	1.000	1.000
0232	SPV.0165	Special 501. FIBERGLASS SIDEWALK FLOOR PLATES	SF	1,776.000	1,776.000
0234	SPV.0165	Special 502. METAL PLATES FOR BIKE LANES	SF	443.000	443.000
0236	SPV.0180	Special 001. JOINT SEALING	SY	200.000	200.000

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REMOVALS

CATEGORY 0010 ITEM NO. / UNIT PAY		REMOVING PAVEMENT 204.0100 SY	REMOVING ASPHALTIC SURFACE BUTT JOINTS 204.0115 SY	REMOVING CURB & GUTTER 204.0150 LF	REMOVING CONCRETE SIDEWALK 204.0155 SY
LOCATION					
STA 39+05 TO 41+80	LT	112	115	22	92
SUB TOTALS (LEFT)		**112**	**115**	**22**	**92**
STA 39+05 TO 41+80	RT	110	90	20	80
SUB TOTALS (RIGHT)		**110**	**90**	**20**	**80**
GRAND TOTALS		**222**	**205**	**42**	**172**

CONCRETE PAVEMENT ITEMS

CATEGORY 0010 ITEM NO. / UNIT PAY		BASE AGGREGATE DENSE 1 ¼-INCH 305.0120 TON	CONCRETE PAVEMENT APPROACH SLAB 415.0410 SY
LOCATION			
STA 39+05 TO 41+80	LT	50	92
SUB TOTALS (LEFT)		**50**	**92**
STA 39+05 TO 41+80	RT	40	90
SUB TOTALS (RIGHT)		**40**	**90**
GRAND TOTALS		**90**	**182**

MISCELLANEOUS EARTHWORK ITEMS

CATEGORY 0010 ITEM NO. / UNIT PAY	EXCAVATION COMMON 205.0100 CY
LOCATION	
STA 39+05 TO 41+80	111

TACK COAT ITEM

CATEGORY 0010 ITEM NO. / UNIT PAY		TACK COAT 455.0605 GAL
LOCATION		
STA 39+05 TO 41+80	LT	3
SUB TOTALS (LEFT)		**3**
STA 39+05 TO 41+80	RT	2
SUB TOTALS (RIGHT)		**2**
GRAND TOTALS		**5**

ASPHALTIC OVERLAY ITEMS

CATEGORY 0030 ITEM NO. / UNIT PAY		HMA PAVEMENT 3 LT 58-28 S 460.5223 TON	HMA PAVEMENT 4 LT 58-28 S 460.5224 TON
LOCATION			
STA 39+05 TO 41+80	LT	17	11
SUB TOTALS (LEFT)		**17**	**11**
STA 39+05 TO 41+80	RT	10	10
SUB TOTALS (RIGHT)		10	10
GRAND TOTALS		**27**	**21**

CURB RAMP ITEMS

CATEGORY 0010		CONCRETE CURB PEDESTRIAN	CONCRETE SIDEWALK 5-INCH	CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA
ITEM NO.		601.0600	602.0410	602.0515
UNIT PAY		LF	SF	SF
LOCATION				
STA 39+05 TO 41+80	LT	20	1,110	20
SUB TOTALS (LEFT)		**20**	**1,110**	**20**
STA 39+05 TO 41+80	RT	20	690	20
SUB TOTALS (RIGHT)		**20**	**690**	**20**
GRAND TOTALS		**40**	**1,800**	**40**

DUST CONTROL ITEM

CATEGORY 0010	DUST CONTROL SURFACE TREATMENT
ITEM NO.	623.0200
UNIT PAY	SY
LOCATION	
STA 39+05 TO 41+80	200
GRAND TOTALS	**200**

CONCRETE CURB AND GUTTER ITEMS

CATEGORY 0010		CONCRETE CURB & GUTTER 31-INCH
ITEM NO.		601.0331
UNIT PAY		LF
LOCATION		
STA 39+05 TO 41+80	LT	48
SUB TOTALS (LEFT)		**48**
STA 39+05 TO 41+80	RT	60
SUB TOTALS (RIGHT)		**60**
GRAND TOTALS		**108**

DRAINAGE STRUCTURES

NUMBER	STATION	OFFSET	ADJUSTING INLET COVERS 611.8115 EACH
100		LEFT	1
GRAND TOTALS			**1**

PERMANENT SIGNS

CATEGORY 0010		SIGN CODE	SIZE W X H	SIGNS TYPE II REFLECTIVE SH 637.2220 SF	COMMENTS
LOCATION					
STA 39+26	LT	W11-2	30 X 30	6.25	
STA 39+26	LT	W11-2	30 X 30	6.25	
STA 39+26	LT	W16-7	12 X 24	2.00	LEFT MOUNT
STA 39+26	LT	W16-7	12 X 24	2.00	RIGHT MOUNT
STA 39+34.5	LT	R10-25	9 X 12	0.75	
STA 41+65.8	LT	W11-2	30 X 30	6.25	
STA 41+65.8	LT	W11-2	30 X 30	6.25	
STA 41+65.8	LT	W16-7	12 X 24	2.00	LEFT MOUNT
STA 41+65.8	LT	W16-7	12 X 24	2.00	RIGHT MOUNT
STA 41+65.8	LT	R10-25	9 X 12	0.75	
SUB TOTALS (LEFT)				**34.5**	
STA 39+20	RT	W11-2	30 X 30	6.25	
STA 39+20	RT	W11-2	30 X 30	6.25	
STA 39+20	RT	W16-7	12 X 24	2.00	LEFT MOUNT
STA 39+20	RT	W16-7	12 X 24	2.00	RIGHT MOUNT
STA 39+38.0	RT	R10-25	9 X 12	0.75	
STA 41+42.8	RT	W11-2	30 X 30	6.25	
STA 41+42.8	RT	W11-2	30 X 30	6.25	
STA 41+42.8	RT	W16-7	12 X 24	2.00	LEFT MOUNT
STA 41+42.8	RT	W16-7	12 X 24	2.00	RIGHT MOUNT
STA 41+54.8	RT	R10-25	9 X 12	0.75	
SUB TOTALS (RIGHT)				**34.5**	
				69	

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TRAFFIC CONTROL ITEMS

Traffic Control Items Required (Category 0010) Item #	Description	Stage 1 (Each) x (Days)		UNDISTRIBUTED (Each)	Total
643.0420	TRAFFIC CONTROL BARRICADES TYPE	44	242	0	10648
643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	88	242	0	21296
643.0900	TRAFFIC CONTROL SIGNS	68	242	0	16456

NOTES:

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

ALL SIGNS ARE 48-INCH X 48-INCH UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" WILL BE COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. THIS WORK WILL BE INCIDENTAL TO THE ITEM OF TRAFFIC CONTROL.

All Type III Barricades have 2 flashing yellow lights (Type A)

When placing temporary pavement marking removable tape, the tape shall be sliced or cut across its width every 25 feet. This will limit travelling.

Items	Traffic Detour	Pedestrian Detour	Size (Inch X Inch)
W20-3-A	2		36 X 36
W20-2-A	2		36 X 36
M4-8	9	4	24 X 12
M4-8-A	2		24 X 18
M4-9-R		9	30 X 24
M4-9-L		7	30 X 24
M6-1	9	4	24 X 12
WO1-7	2		24 X 12
R11-3-C	2		60 X 24
R9-9	8		24 X 12
R9-9-MODIFY	8		24 X 12
R11-3-B-MODIFY			60 X 30
Totals	44	24	

PAVEMENT MARKING ITEMS

CATEGORY 0010	MARKING LINE EPOXY 4-INCH	MARKING CROSSWALK EPOXY 12-INCH	MARKING CROSSWALK EPOXY 24-INCH	MARKING YIELD LINE EPOXY 36-INCH	MARKING LINE PREFORMED PLASTIC 4-INCH	MARKING CROSSWALK PREFORMED PLASTIC 12-INCH	MARKING LINE PREFORMED PLASTIC 24-INCH	MARKING YIELD LINE PREFORMED PLASTIC 36-INCH
ITEM NO.	646.1020	SPV.0090.003	SPV.0090.004	SPV.0090.005	SPV.0090.006	SPV.0090.007	SPV.0090.008	SPV.0090.009
UNIT PAY	LF	LF	LF	LF	LF	LF	LF	LF
	(DOUBLE YELLOW)				(DOUBLE YELLOW)	(WHITE)	(WHITE)	
LOCATION								
STA 39+05 TO 41+80	500	100	96	24	55	100	96	24
GRAND TOTALS	**500**	**100**	**96**	**24**	**55**	**100**	**96**	**24**

PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

3

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CONSTRUCTION STAKING ITEMS

CATEGORY 0010	CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	CONSTRUCTION STAKING CONCRETE PAVEMENT	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (2195-03-70)	CONSTRUCTION STAKING 650.9000	CONSTRUCTION STAKING CONCRETE SIDEWALK	CONSTRUCTION STAKING UPPER LAYER
ITEM NO.	650.4500	650.5500	650.7000	650.8500	SPV.0060.002	SPV.0090.001	SPV.0090.002
UNIT PAY	LF	LF	LF	LS	EACH	LF	LF
LOCATION							
STA 39+05 TO 41+80	105	108	40	1	4	305	105
GRAND TOTALS	**105**	**108**	**40**	**1**	**4**	**305**	**105**

TRAFFIC SIGNAL AND STREET LIGHTING WORK

CATEGORY 0010	CONCRETE BASES TYPE 1	PEDESTRIAN PUSH BUTTONS	PEDESTAL BASES BLACK	TRAFFIC SIGNAL STANDARDS ALUMINUM 3.5-FT BLACK	TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT BLACK	FIBERGLASS / POLYMER CONCRETE PULL BOX 13-INCH x 24-INCH x 24-INCH	FIBERGLASS / POLYMER CONCRETE PULL BOX 17-INCH x 30-INCH x 24-INCH	INSTALLING CITY-FURNISHED CONCRETE LIGHT POLE BASE	RECTANGULAR RAPID FLASHING BEACON SYSTEM
ITEM NO.	654.0101	658.0500	SPV.0060.201	SPV.0060.202	SPV.0060.203	SPV.0060.301	SPV.0060.302	SPV.0060.303	SPV.0105.201
UNIT PAY	EACH	LF	EA	EA	EA	EA	EA	EA	LS
LOCATION									
STA 39+05 TO 41+80	3	4	5	4	1	2	2	3	1
GRAND TOTALS	**3**	**4**	**5**	**4**	**1**	**2**	**2**	**3**	**1**

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ROADWAY CONDUIT WORK

CATEGORY 0020 ITEM NO. UNIT PAY	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 - INCH 652.0210 LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 - INCH 652.0225 LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2½-INCH 652.0230 LF	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3 - INCH 652.0235 EACH	INSTALLING CONDUIT INTO EXISTING MANHOLE SPV.0060.304 EA
LOCATION					
STA 39+05 TO 41+80	85	150	50	10	1
GRAND TOTALS	**85**	**150**	**50**	**10**	**1**

SAWCUT ITEMS

CATEGORY 0010 ITEM NO. UNIT PAY		SAWING ASPHALT 690.0150 LF	SAWING CONCRETE 690.0250 LF
LOCATION			
STA 39+05 TO 41+80	LT	60	150
SUB TOTALS (LEFT)		**60**	**150**
STA 39+05 TO 41+80	RT	50	50
SUB TOTALS (RIGHT)		**50**	**50**
GRAND TOTALS		**110**	**200**

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EROSION CONTROL

CATEGORY 0010 ITEM NO. UNIT PAY	INLET SCREEN TYPE M SPV.0060.001 EACH
LOCATION	
STA 39+05 TO 41+80	5
GRAND TOTALS	**5**

ADJUST TES MANHOLE COVERS

ADJUSTING TES MANHOLE COVERS
SPV.0060.401
EACH

NUMBER	STATION	OFFSET (FEET)		ELEVATION
601	39+17.9	19.0 RIGHT	1	11.67
602	39+24.3	16.3 RIGHT	1	11.84
603	41+32.8	20.2 RIGHT	1	12.14
604	41+39.4	19.2 RIGHT	1	12.12
		GRAND TOTALS	**4**	

CATEGORY 0010

UTILITY LINE OPENING

CATEGORY 0010 ITEM NO. UNIT PAY	UTILITY LINE OPENING SPV.0060.004 EACH
LOCATION	
STA 39+05 TO 41+80	2
GRAND TOTALS	**2**

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MISCELLANEOUS WATER BOXES

	ADJUSTING WATER BOX
CATEGORY 0020	
ITEM NO.	SPV.0060.003
UNIT PAY	EACH
LOCATION	
STA 39+05 TO 41+80	1
	1
	1
	1
GRAND TOTALS	**4**

JOINT SEALING

	JOINT SEALING
CATEGORY 0020	
ITEM NO.	SPV.0180.001
UNIT PAY	SY
LOCATION	
STA 39+05 TO 41+80	200.000
GRAND TOTALS	**200.000**

EAST

WELLS

STREET

N

DETAIL "A"
(WORK TO BE DONE BY WE ENERGIES STEAM CONTRACTORS)

BEGIN PROJECT
STA. 39+05.0 T/L

SEE RAMP DETAIL FOR ADDITIONAL INFORMATION ON CURB RAMPS

PROPOSED BRIDGE B-40-544

SEE DETAIL "A"

SEE BRIDGE PLANS

SEE PLAN DETAIL FOR CURVE DATA

CAUTION: ACTIVE HOLLOW & WATERPROOF MEMBRANE

TEMP. ASPH. SHIM IF NEEDED

CAUTION

CAUTION: HOLLOW WALK

END PROJECT
STA. 41+80.0 T/L

N. PLANKINTON AVE.

(3) CONST. CURB RAMP TYPE 3
(A) CONST. CONC. CURB & GUTTER 31-INCH (INTEGRAL)
(AB) CONST. CONC. CURB & GUTTER 31-INCH
(62) GRIND ASPHALTIC BUTT JOINT
(63) REMOVE ASPHALT PARTIAL DEPTH TO OBTAIN 4" MIN. ASPH. OVERLAY
(J) SAW FULL DEPTH CONCRETE
(K) SAW ASPHALT
(M) CONST. 31" MOUNTABLE CURB - SEE CONSTRUCTION DETAIL: CONCRETE CURB & GUTTER 4-INCH SLOPED 31-INCH TYPE T (MODIFIED)
(N) CONST. 5" CONC. SIDEWALK
(PC) CONST. CONC. CURB PEDESTRIAN
(T) SAW FULL DEPTH AT FACE OF BUILDING
(V) CONST. 12" CONCRETE APPROACH SLAB
(V2) CONST. HMA PAVEMENT

STATE PROJECT NUMBER 2195-03-70	HWY: U.S.H. 18	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0 40	SHEET NO: 41 E

FILENAME: W:\STR\B0107\2017WORK\APPROACH PLANS\37-43.DGN

REVISED DATE: 7-26-2017 BY SB

WEST PAVING NOTCH 39+30.34

EAST PAVING NOTCH 41+20.19

EXISTING ELEVATION ON CENTERLINE

PROPOSED BRIDGE B-40-544

BEGIN PROJECT

FINISHED ELEVATION CENTERLINE

END PROJECT

14
13
12
11
10

EXISTING ELEVATION ON CENTERLINE

FINISHED ELEVATION ON CENTERLINE

37	+50	38	+30.34	+50	+75	39	+5.3	+30.34	+50	+66.34	40	+2.34	+50	+70.34	41	+6.34	+20.2	+29	+44	+50	+73.3	+80	42	+20.19	+25	+50	43
10.74	10.72	10.99	11.53	11.66	11.80	12.18	12.15	12.61	13.06	13.05	13.74	13.72	13.92	13.75	13.72	13.28	13.30	13.09	13.05	12.67	12.80	12.45	12.62	12.21	12.35	12.09	12.20	11.99	11.95	11.88	11.96	11.97	12.11

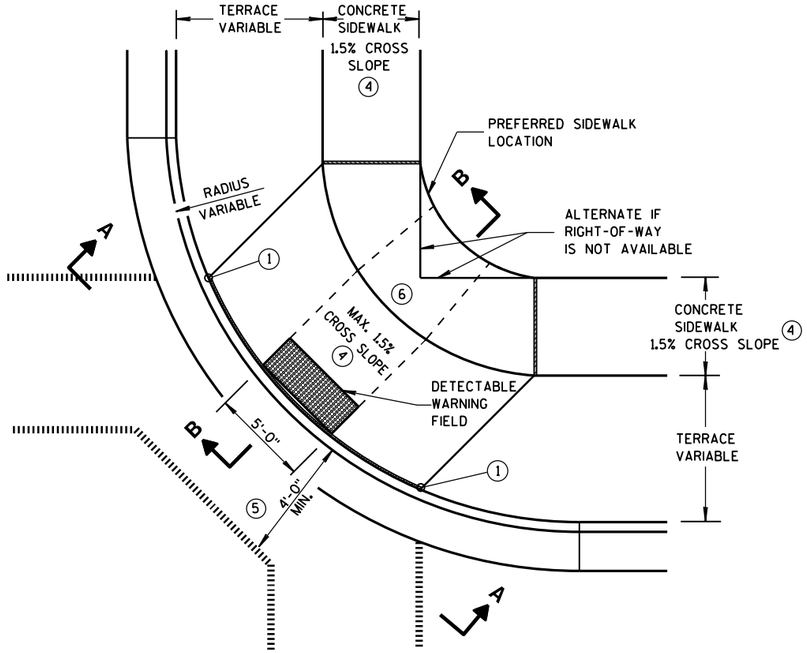
STATE PROJECT NUMBER 2195-03-70 - -	HWY: U.S.H. 18	COUNTY: MILWAUKEE	PROFILE	SCALE FEET 0' 40'	SHEET NO: 42 E

FILENAME: W:\STR\BO107\2017WORK\APPROACH PLANS\37-43.DGN

REVISED DATE: 02-24-2017 BY DLF

Standard Detail Drawing List

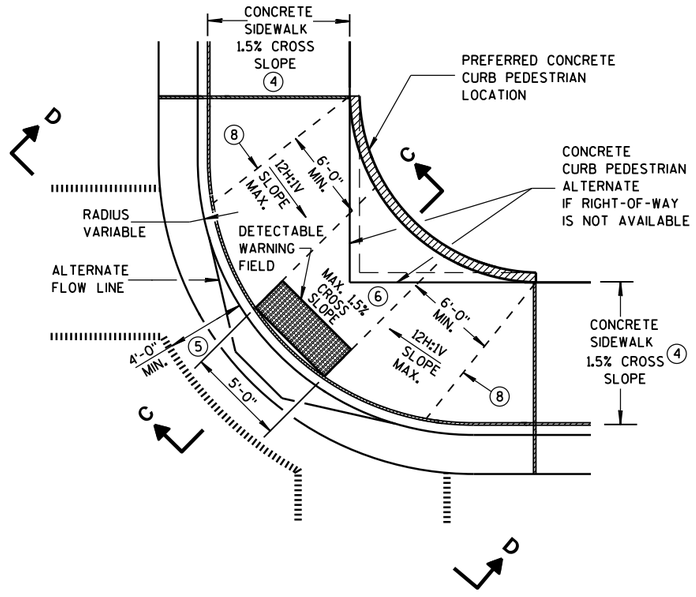
08D05-18A	CURB RAMPS TYPES 1 AND 1-A
08D05-18B	CURB RAMPS TYPES 2 AND 3
08D05-18C	CURB RAMPS TYPES 4A AND 4A1
08D05-18D	CURB RAMPS TYPE 4B AND 4B1
08D05-18E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES



PLAN VIEW

TYPE 1 RAMP

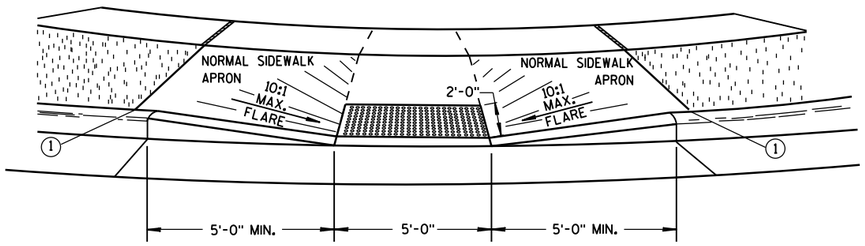
(CENTER OF CORNER RADIUS)



PLAN VIEW

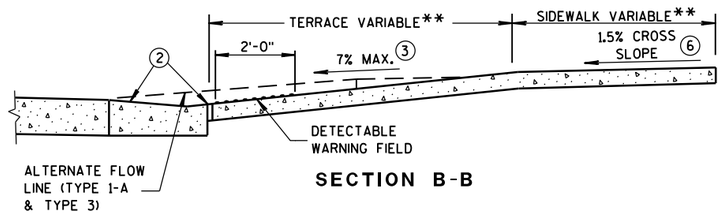
TYPE 1-A RAMP

(NO TERRACE)

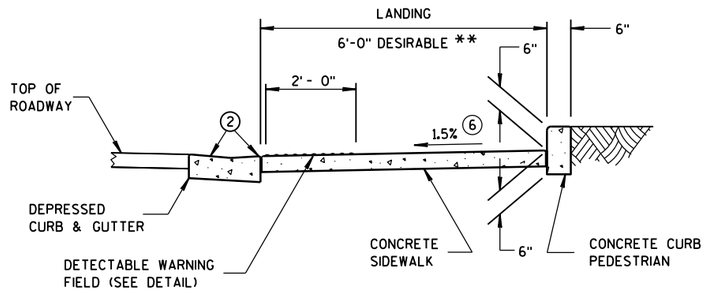


VIEW A-A

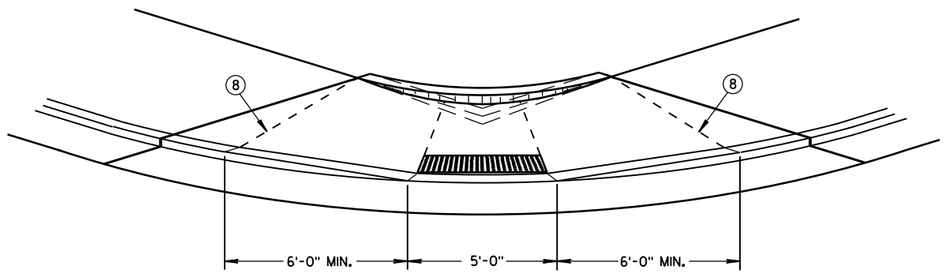
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

GENERAL NOTES

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 NOT EXCEED 7%.

(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

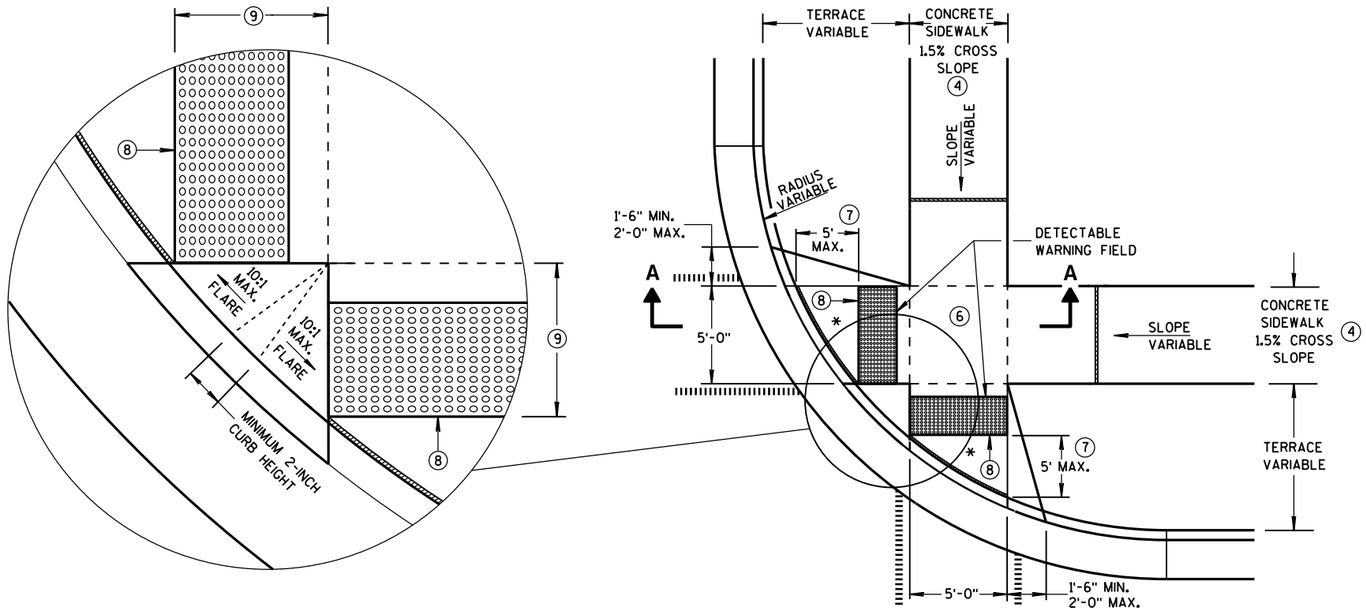
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 8 D 5-18a

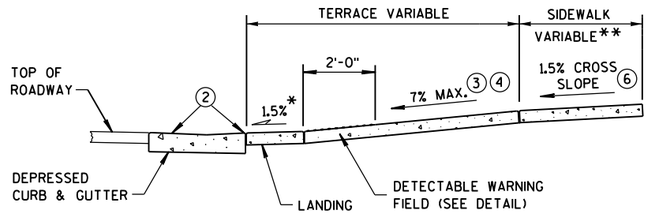


PLAN VIEW

TYPE 2 RAMP

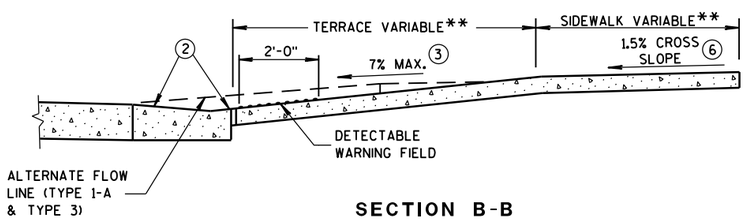
(ON LINE WITH SIDEWALK)

* 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

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 NOT EXCEED 7%.

(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.

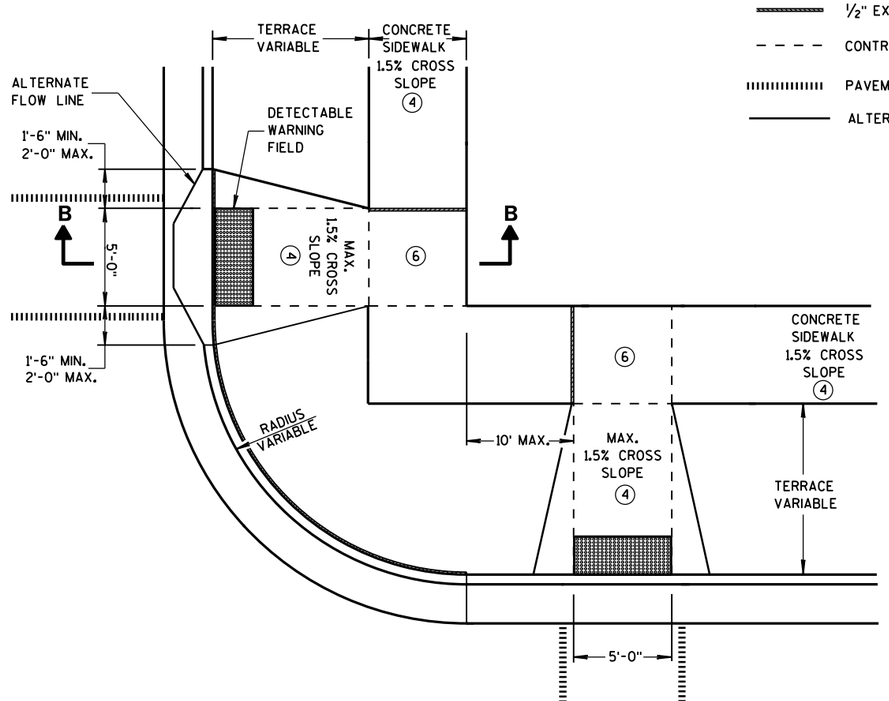
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(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

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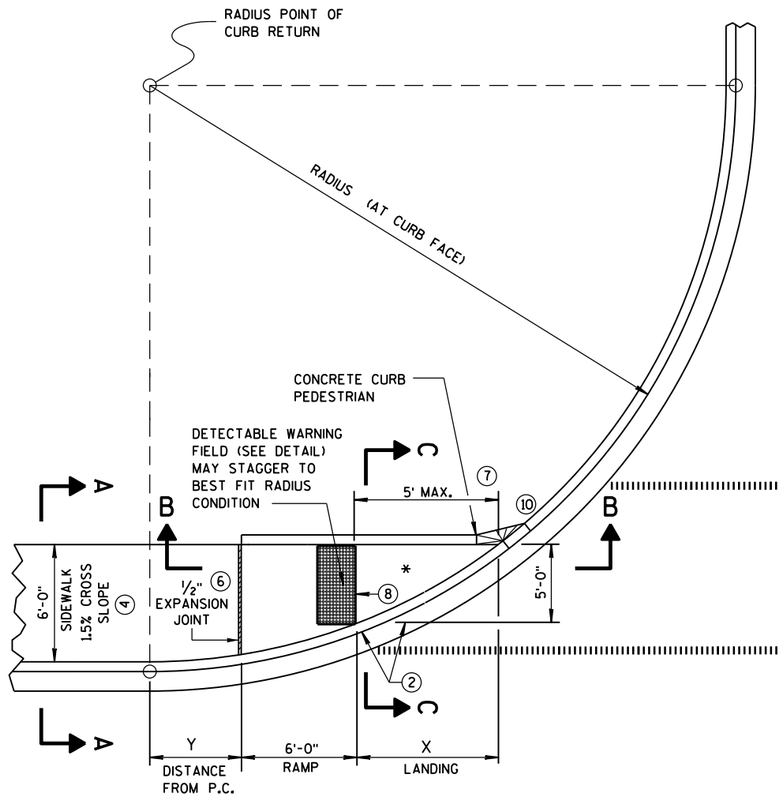
S.D.D. 8 D 5-18b

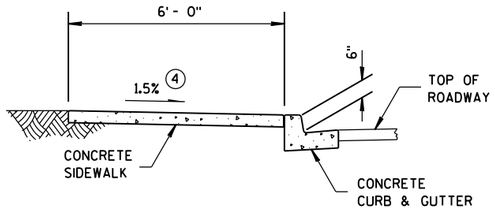


CURB RAMP TYPE 4A

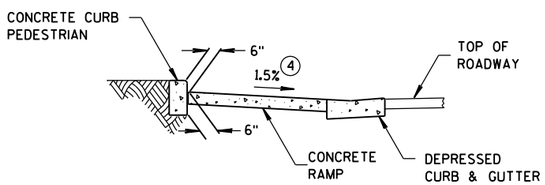
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	7'-11"	0'-2"
30 FEET	10'-2¾"	1'-7½"
40 FEET	12'-1¼"	2'-10"
50 FEET	13'-8¾"	3'-10¾"
60 FEET	15'-2"	4'-10¼"

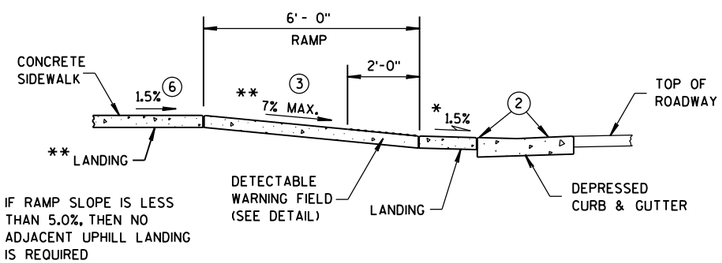
INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

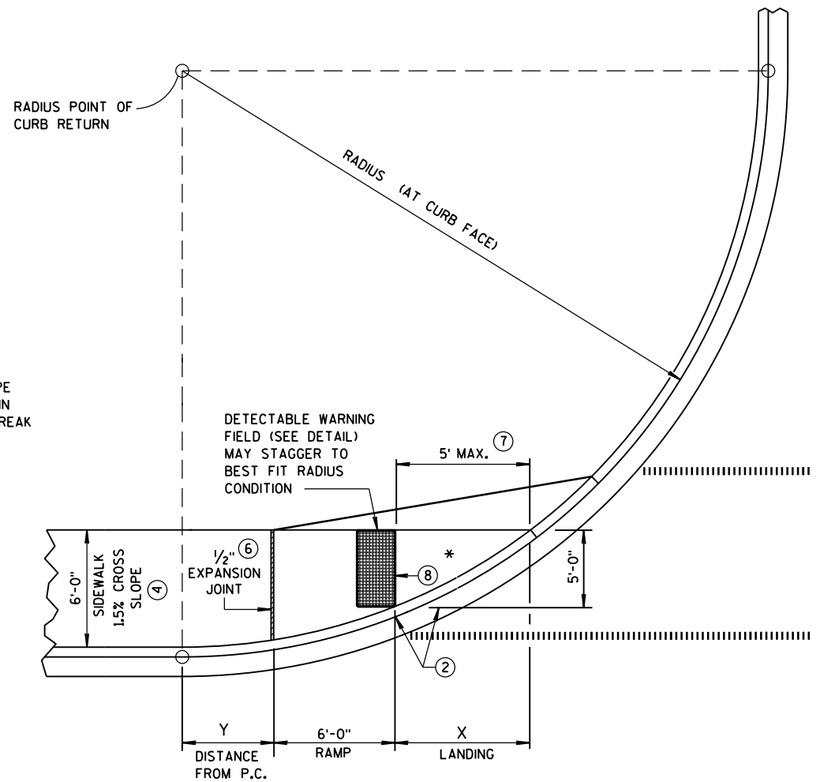


SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

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



CURB RAMP TYPE 4A1

PLAN VIEW

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 NOT EXCEED 7%.

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

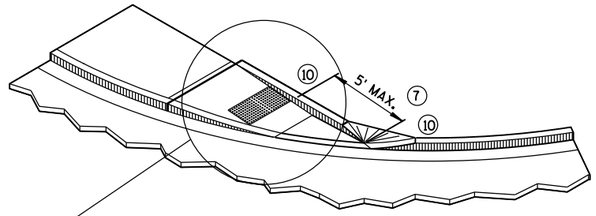
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

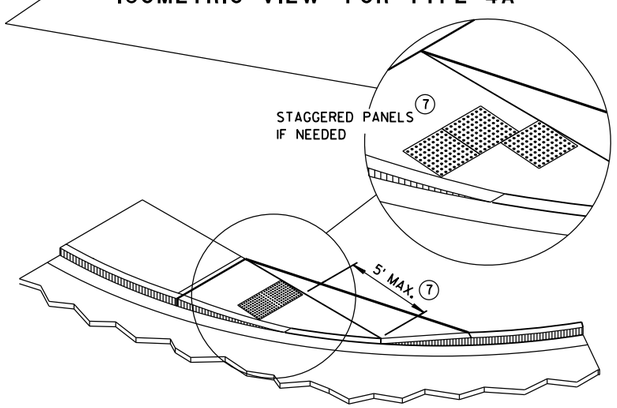
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(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



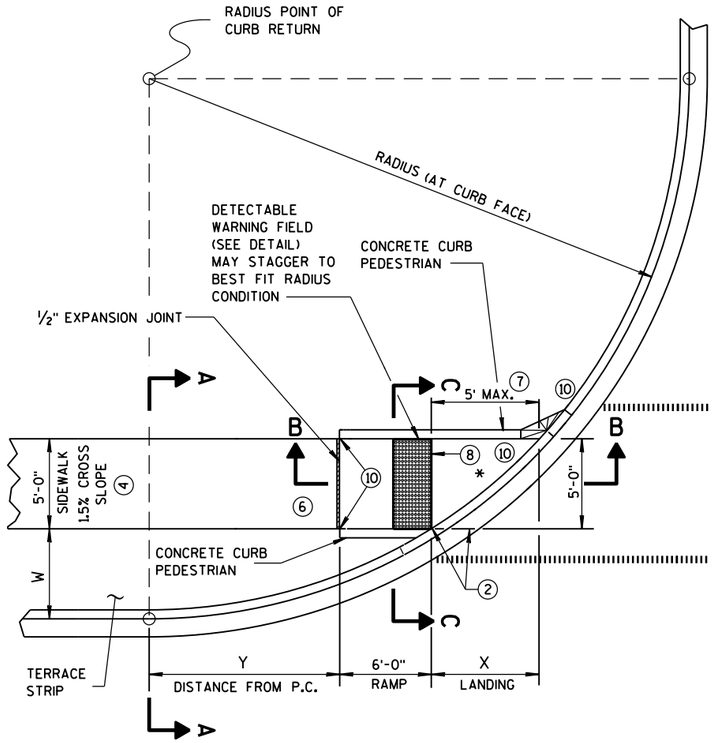
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

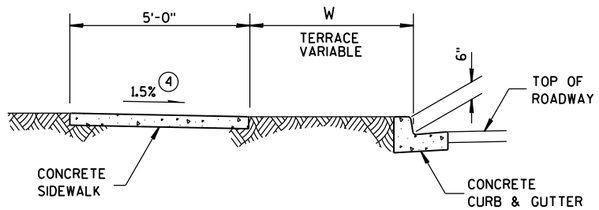
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

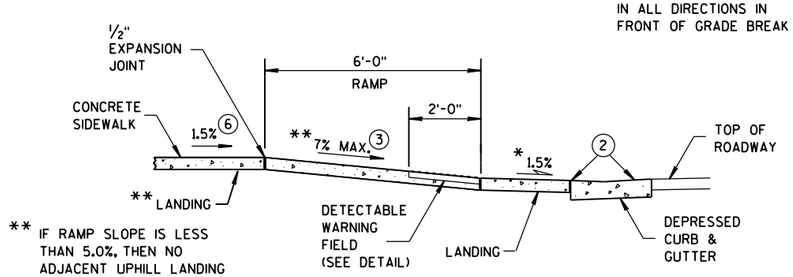
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



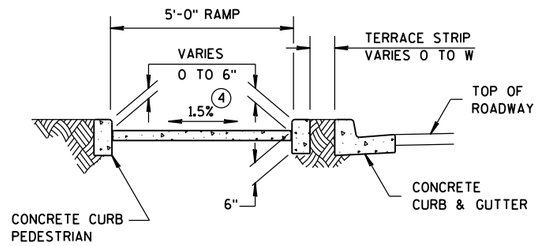
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-6¾"	3'-3"	8'-6¼"
30 FEET	7'-9¼"	5'-10½"	6'-9½"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"
40 FEET	9'-4"	7'-10"	8'-2¾"	10'-3"	7'-4¾"	12'-3¾"	6'-8½"	14'-1¼"	6'-1¾"	15'-8½"
50 FEET	10'-8"	9'-6½"	9'-5½"	12'-3¼"	8'-6½"	14'-7½"	7'-9¾"	16'-8¼"	7'-2½"	18'-6¼"
60 FEET	11'-10¼"	11'-0¾"	10'-6½"	14'-1¼"	9'-6½"	16'-8½"	8'-9¼"	18'-11¾"	8'-1½"	21'-0½"

INTERMEDIATE RADII CAN BE INTERPOLATED

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 NOT EXCEED 7%.

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

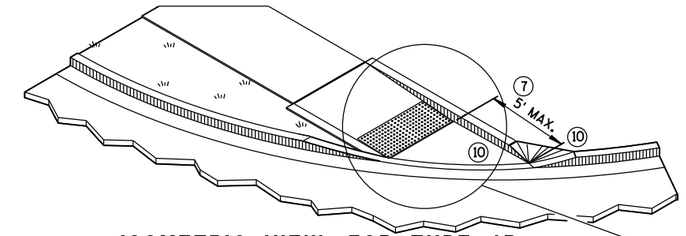
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

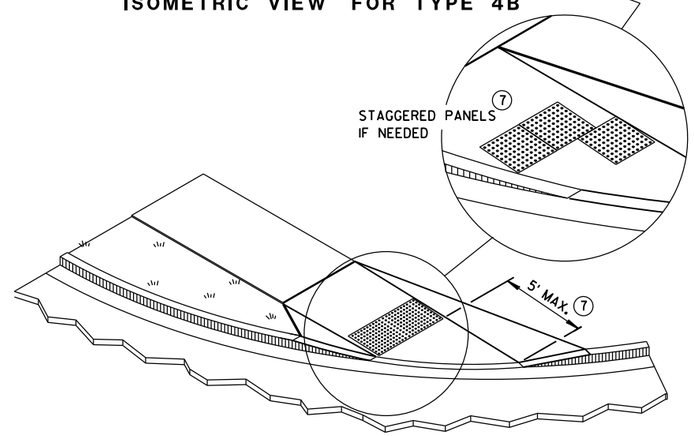
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

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

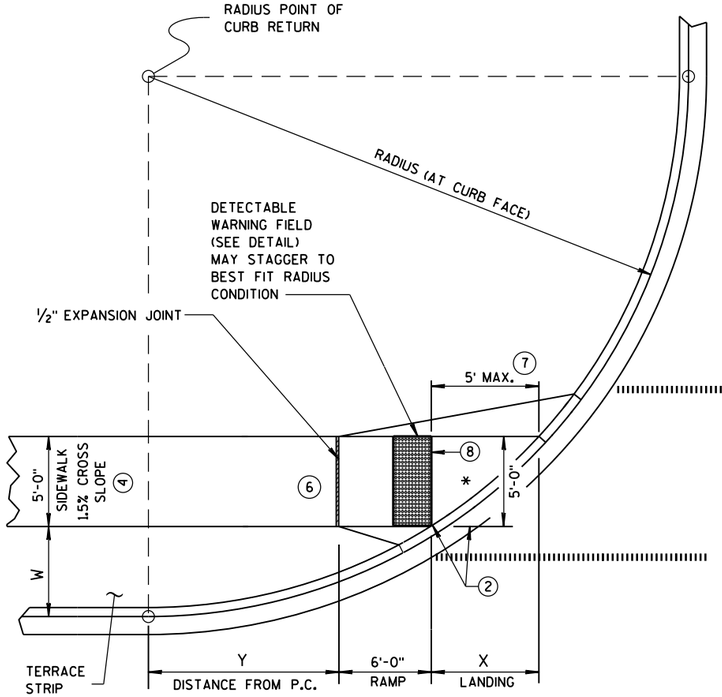
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



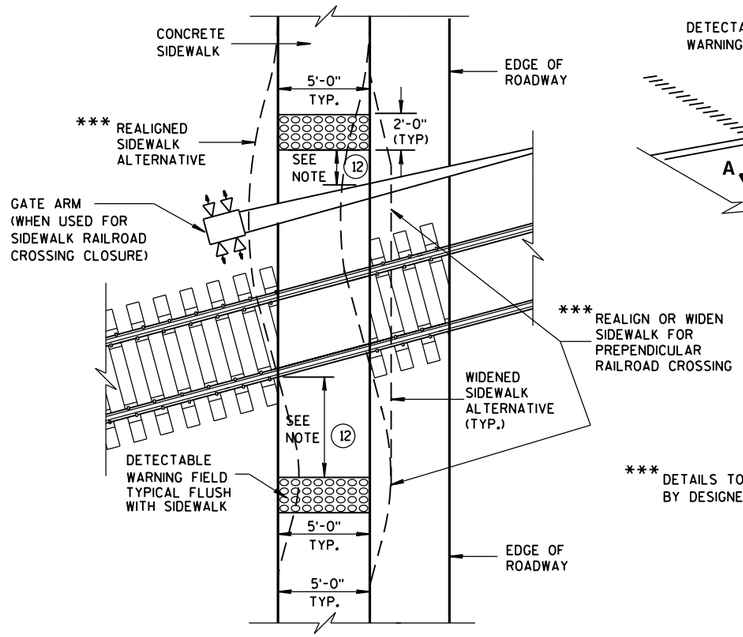
CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

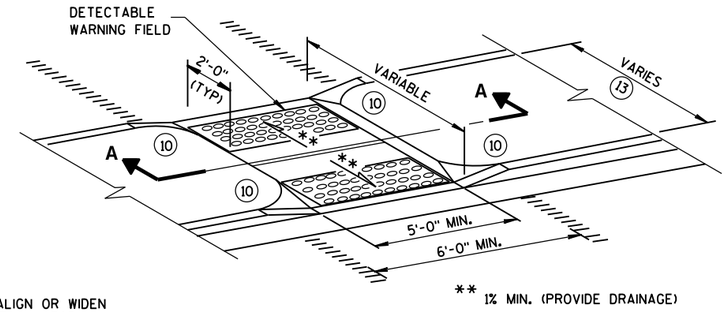
6

S.D.D. 8 D 5-18d



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(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 NOT EXCEED 7%.

(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.

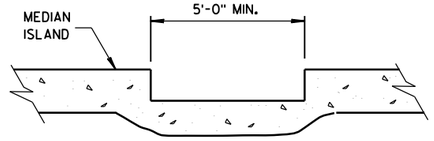
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(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.

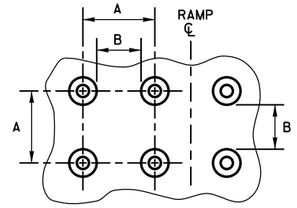
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



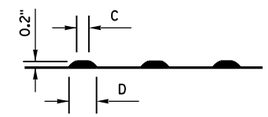
SECTION A-A

	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.

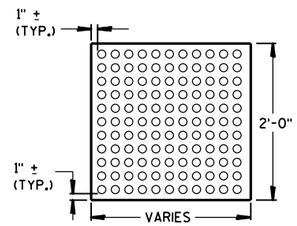


PLAN VIEW



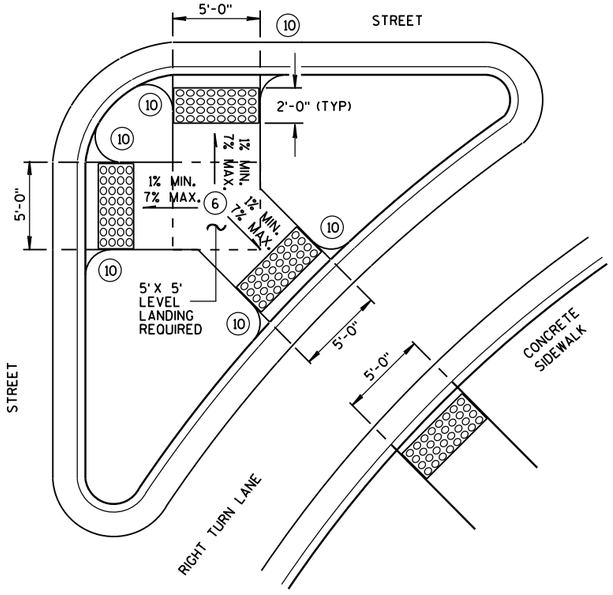
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

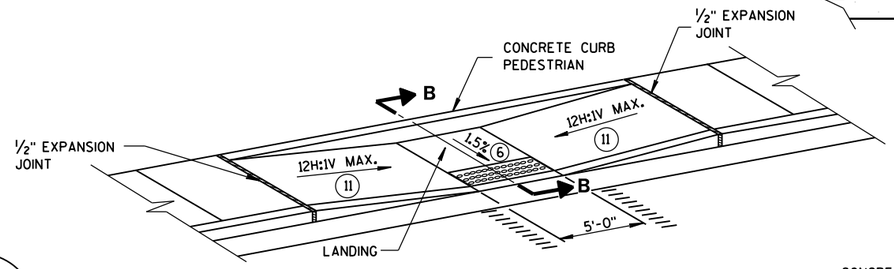


PLAN VIEW
DETECTABLE WARNING FIELD (TYPICAL)

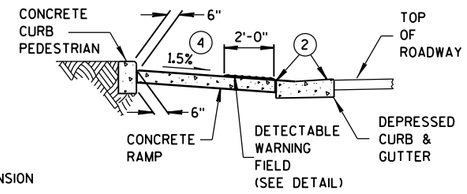
REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



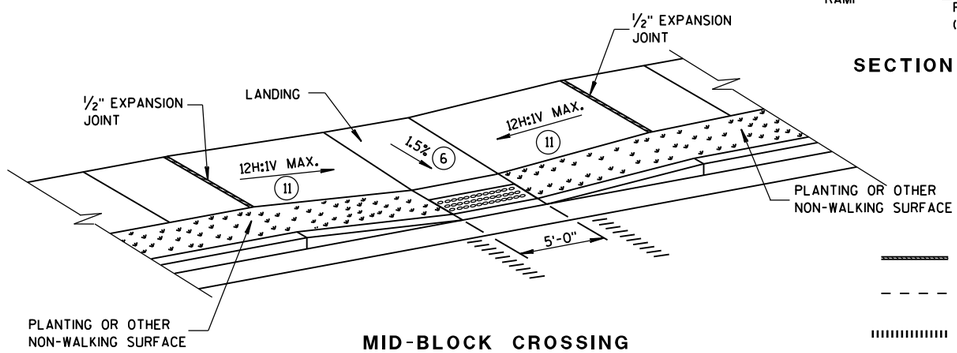
TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
FHWA

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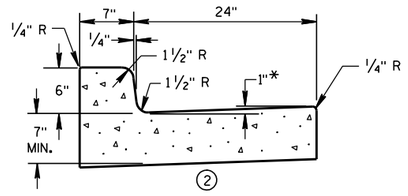
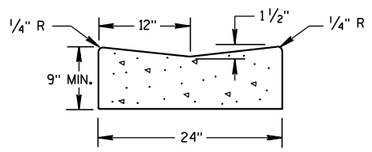
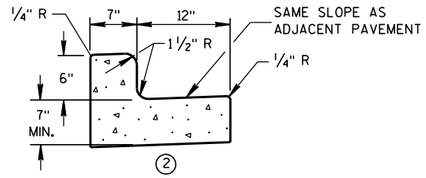
S.D.D. 8 D 5-18e



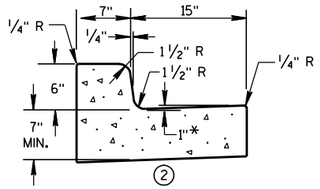
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

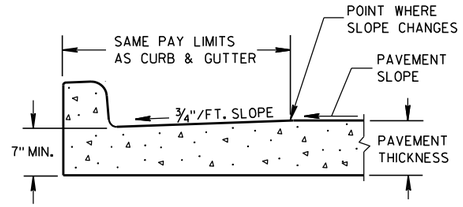


① CONCRETE CURB & GUTTER 19"



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.

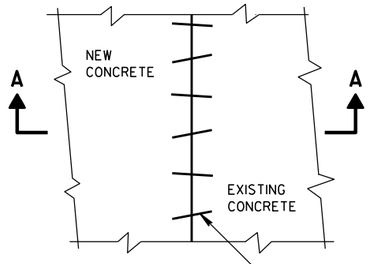
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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.

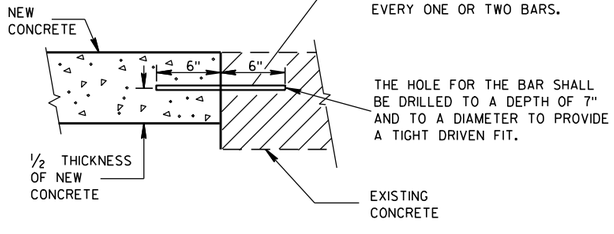
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

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

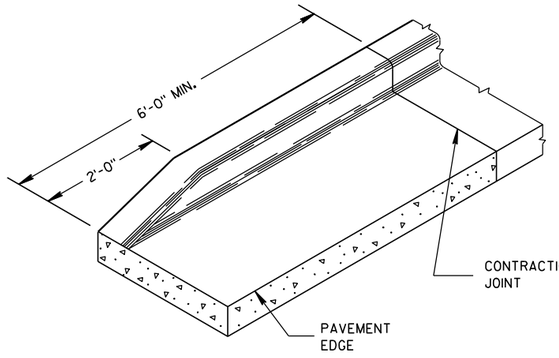
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



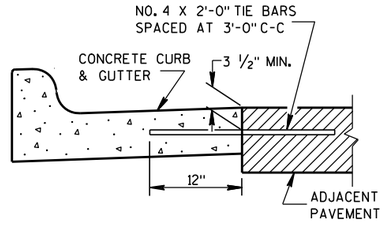
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

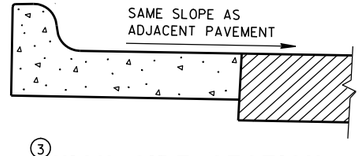
PAVEMENT TIES



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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S.D.D. 8 D 16-10

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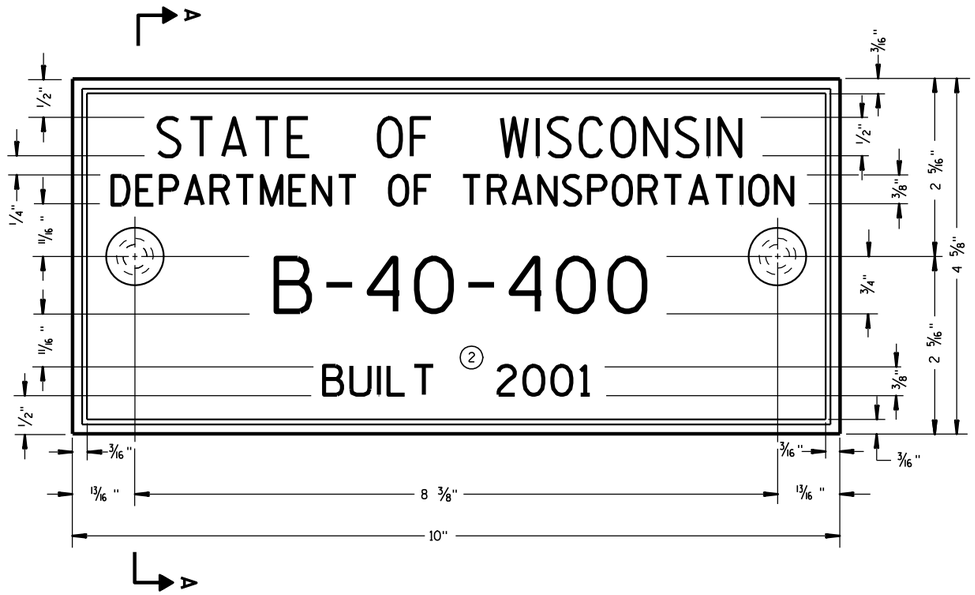
S.D.D. 8 D 16-10



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

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

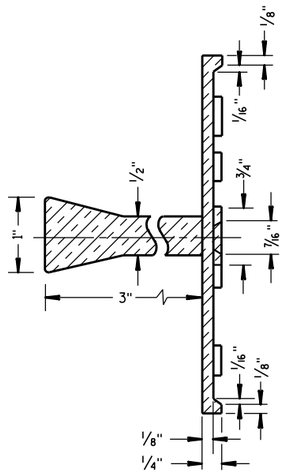
GENERAL NOTES

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

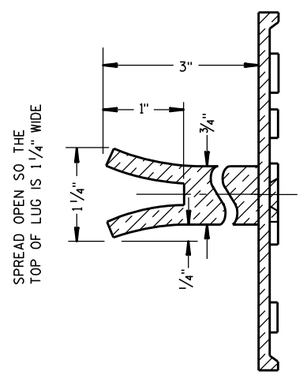
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

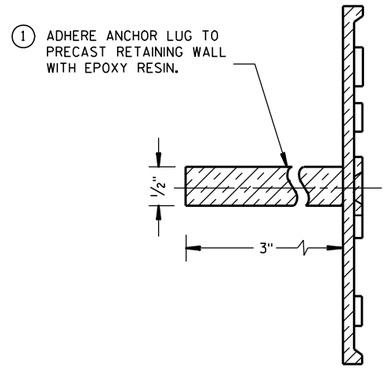
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



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 DEVELOP ENGINEER

FHWA

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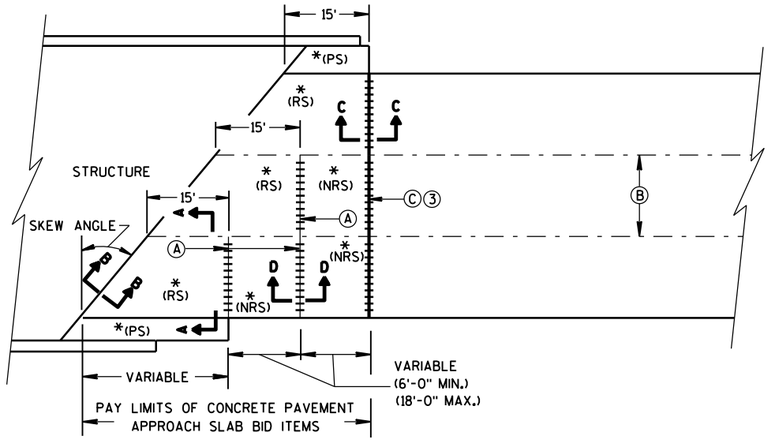
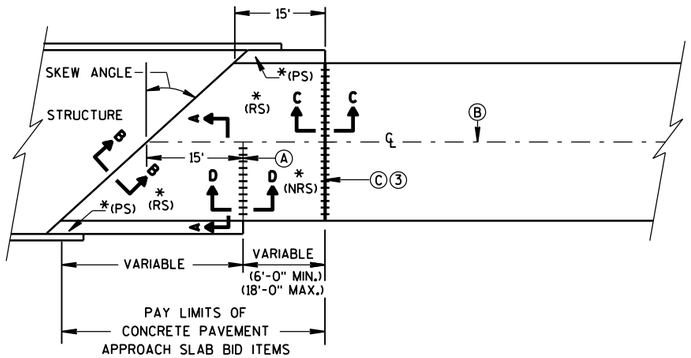
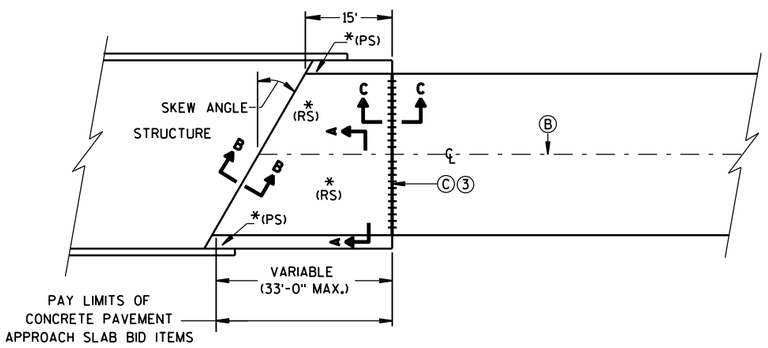
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



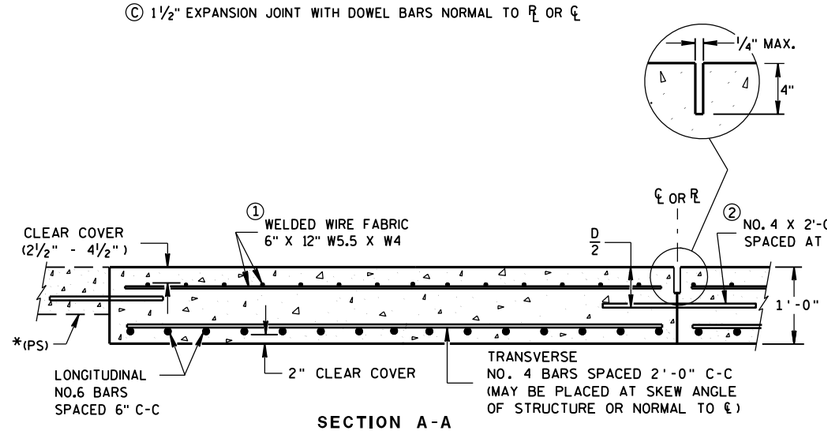
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

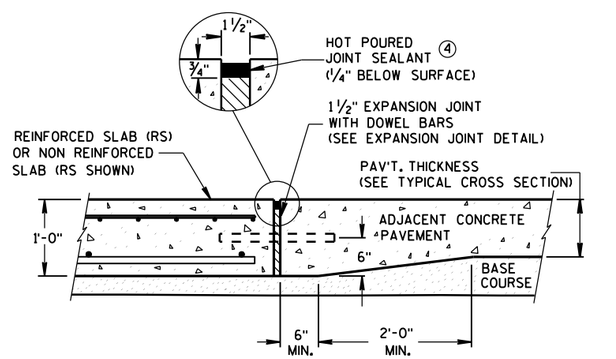
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

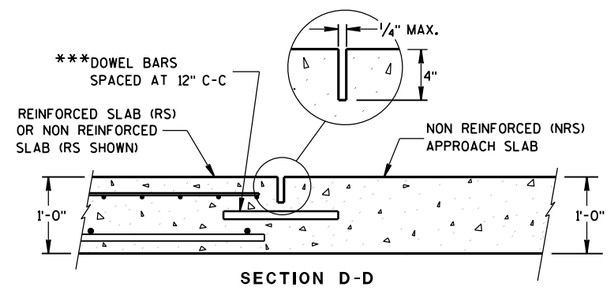
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



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.

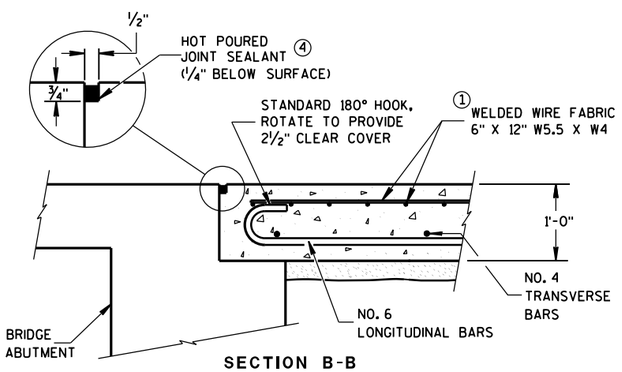
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

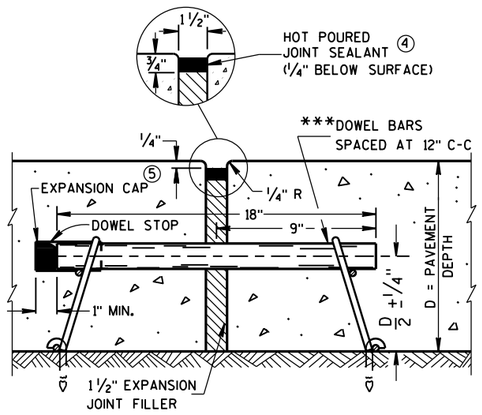
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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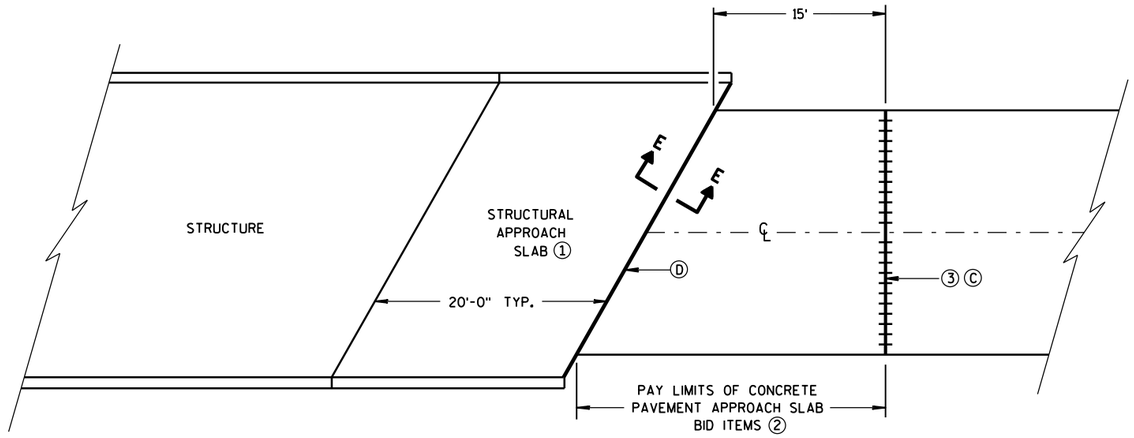
S.D.D. 13 B 2-8a



GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

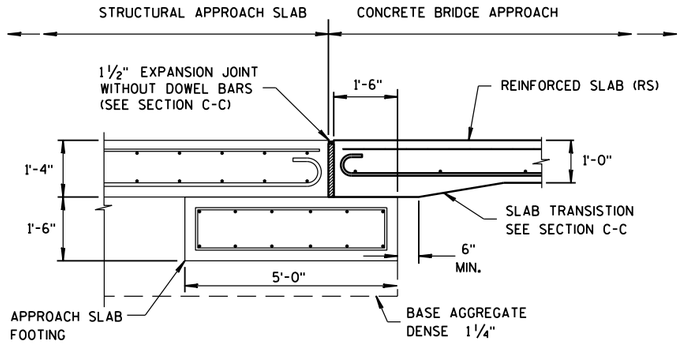
(1) SEE BRIDGE PLAN.

(2) CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

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

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

(D) 1½" EXPANSION JOINT (NO DOWELS)



SECTION E-E

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015 — DATE

/S/ Peter Kemp, P.E. — PAVEMENT SUPERV

FHWA

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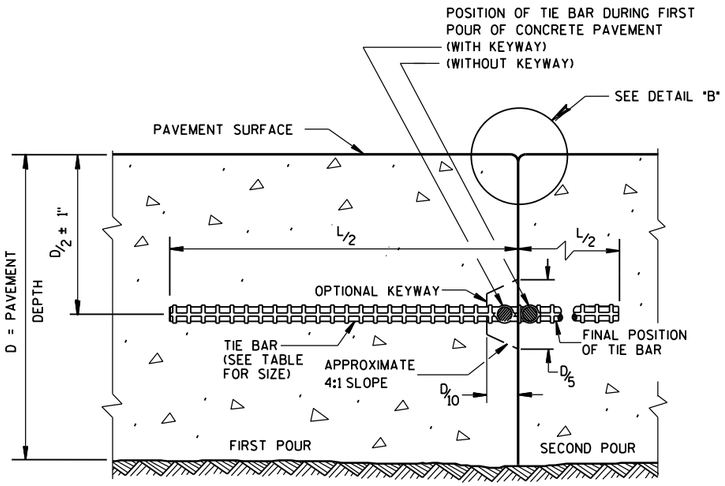
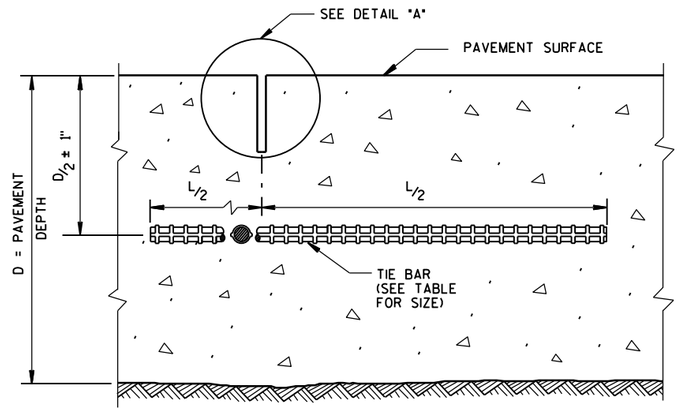
S.D.D. 13 B 2-8b



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

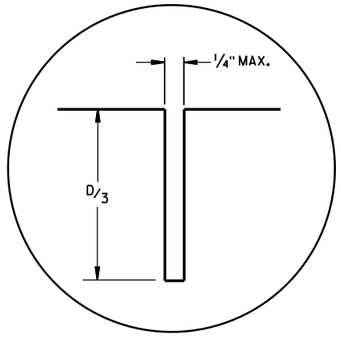
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

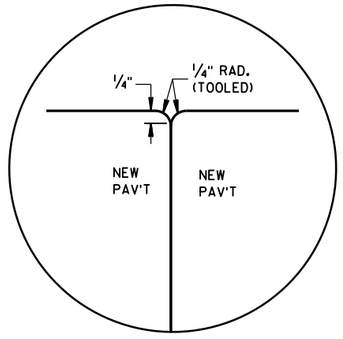
PLAN VIEW

SECTION A-A

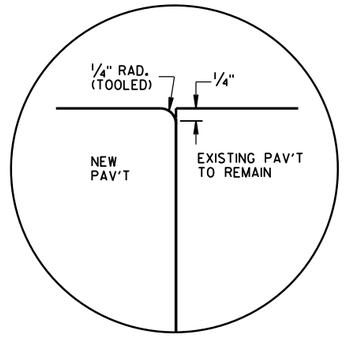
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



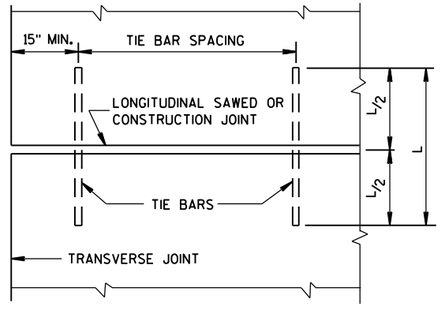
DETAIL "C"

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

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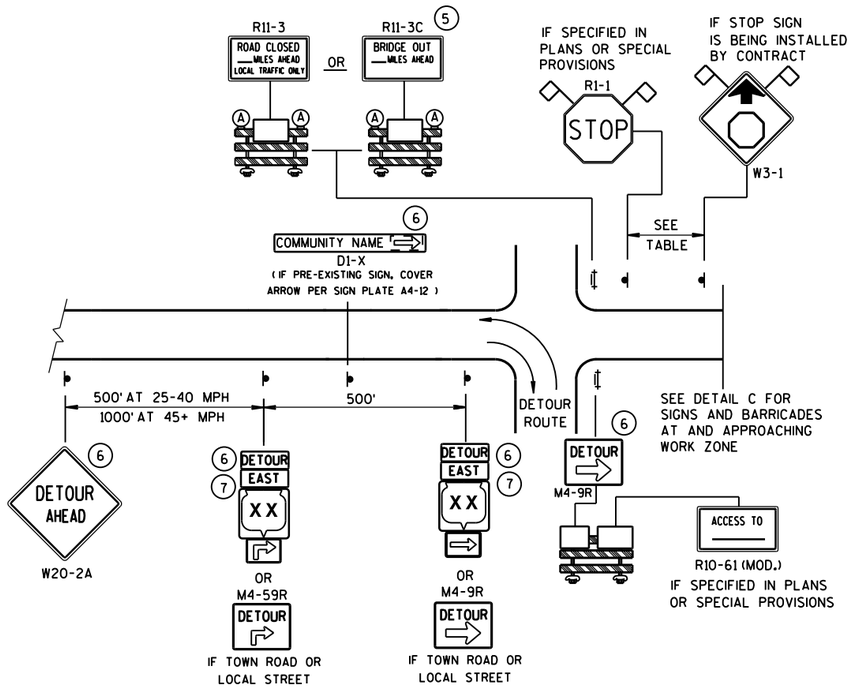
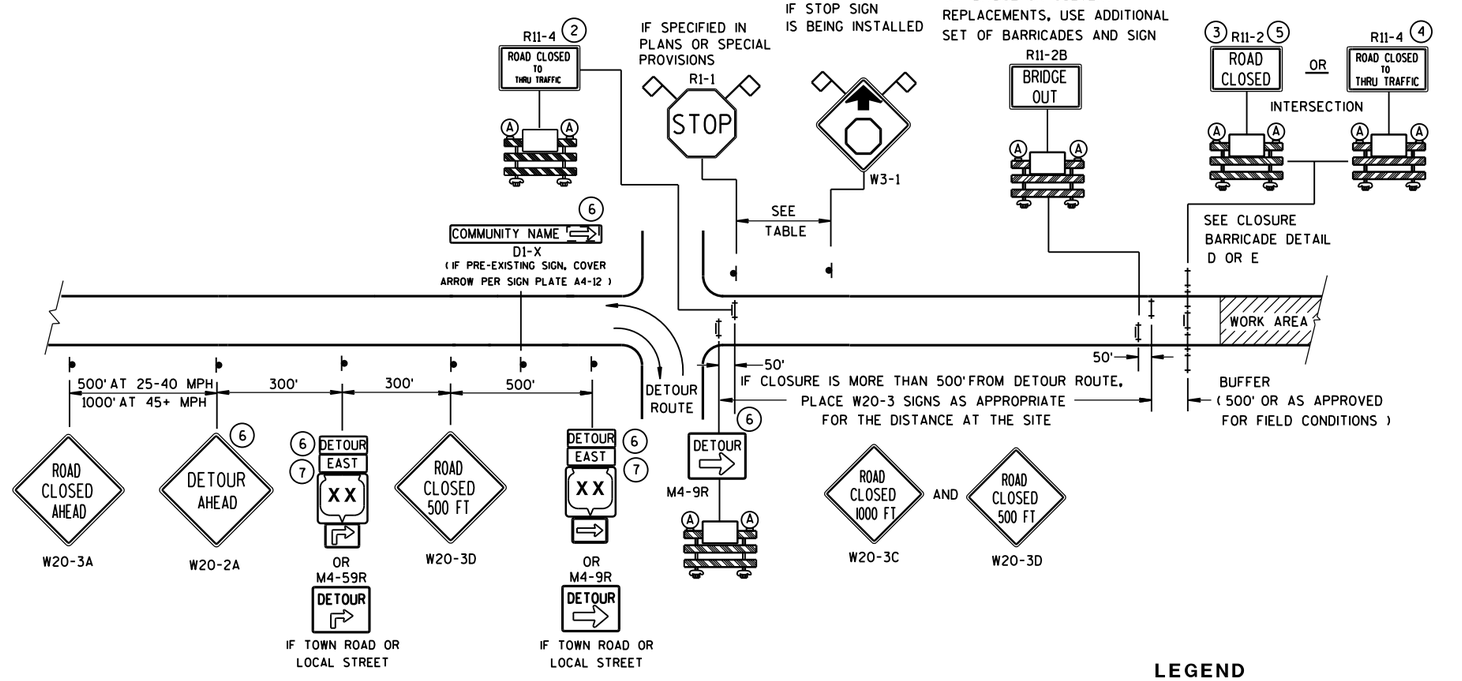
S.D.D. 13 C 1-18



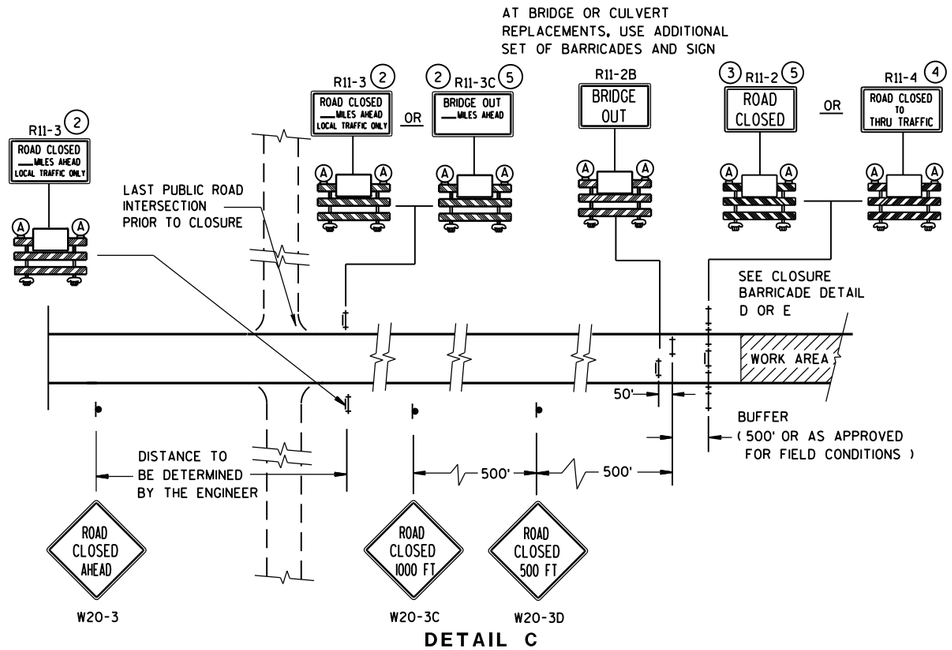
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

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)

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

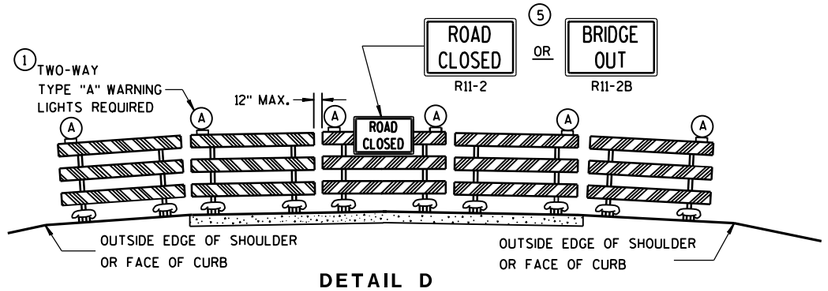
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

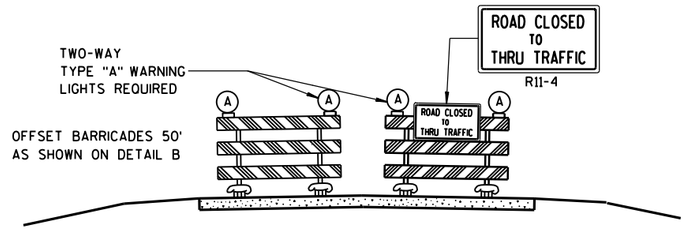
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

6

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

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

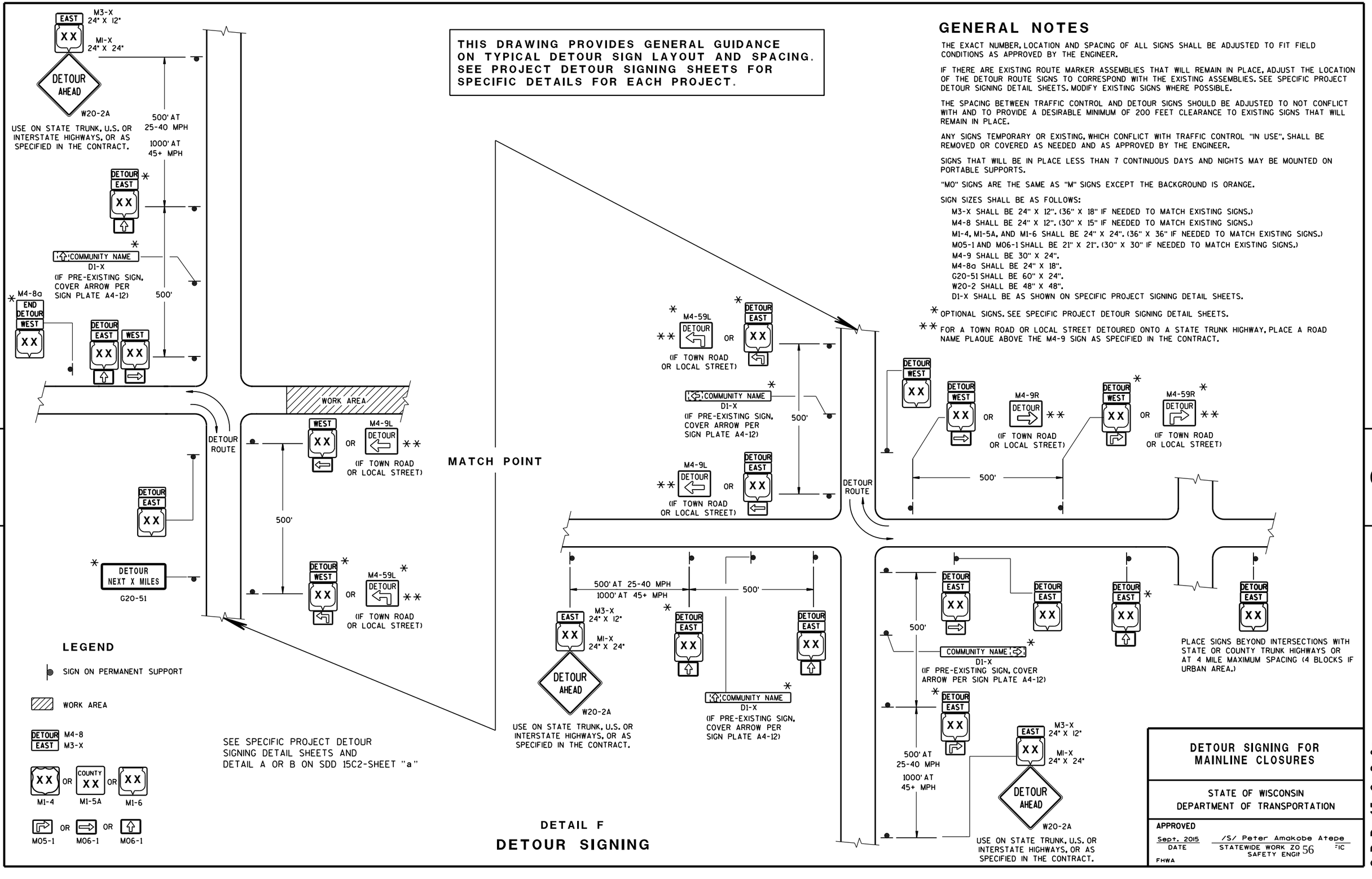
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

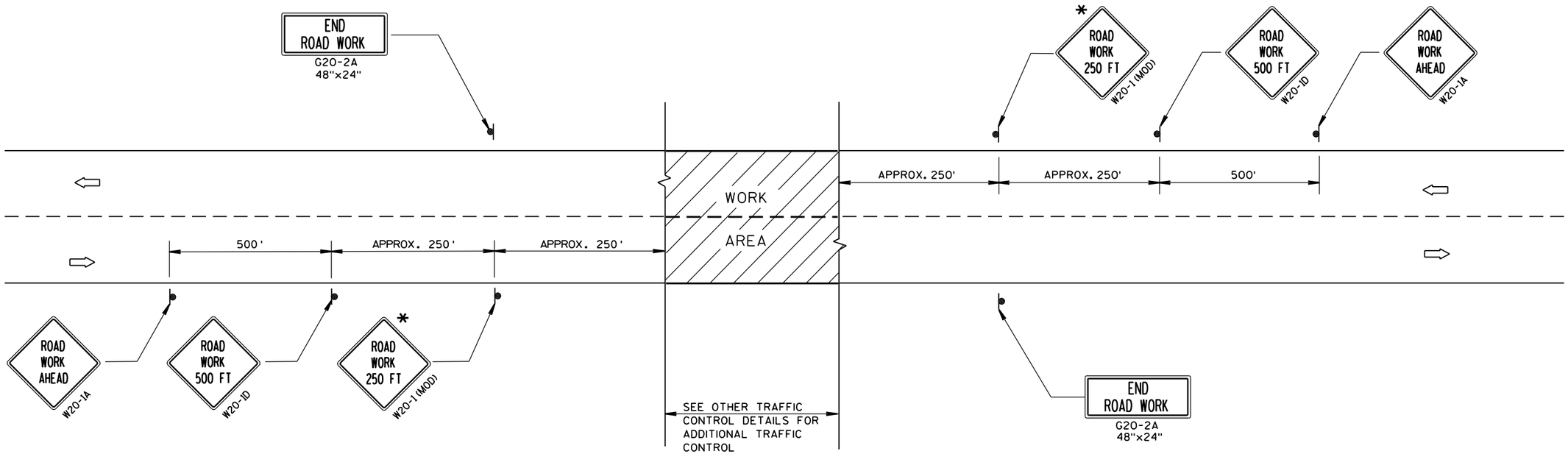
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO... SAFETY ENGI... FIC

FHWA

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

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

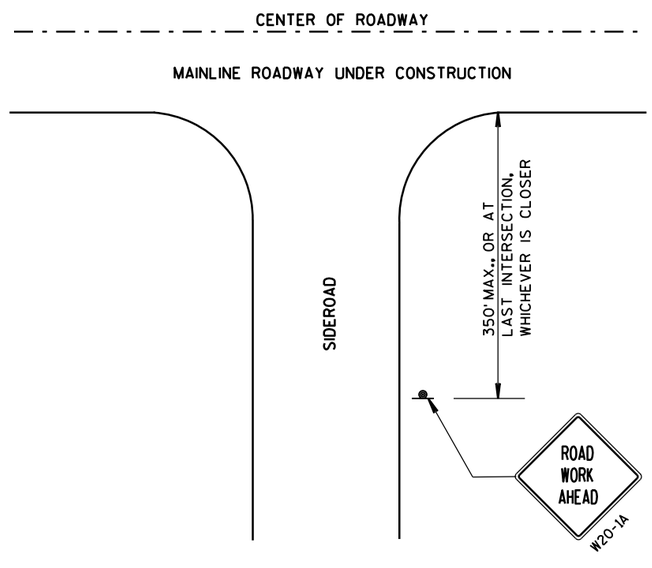
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



LEGEND

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

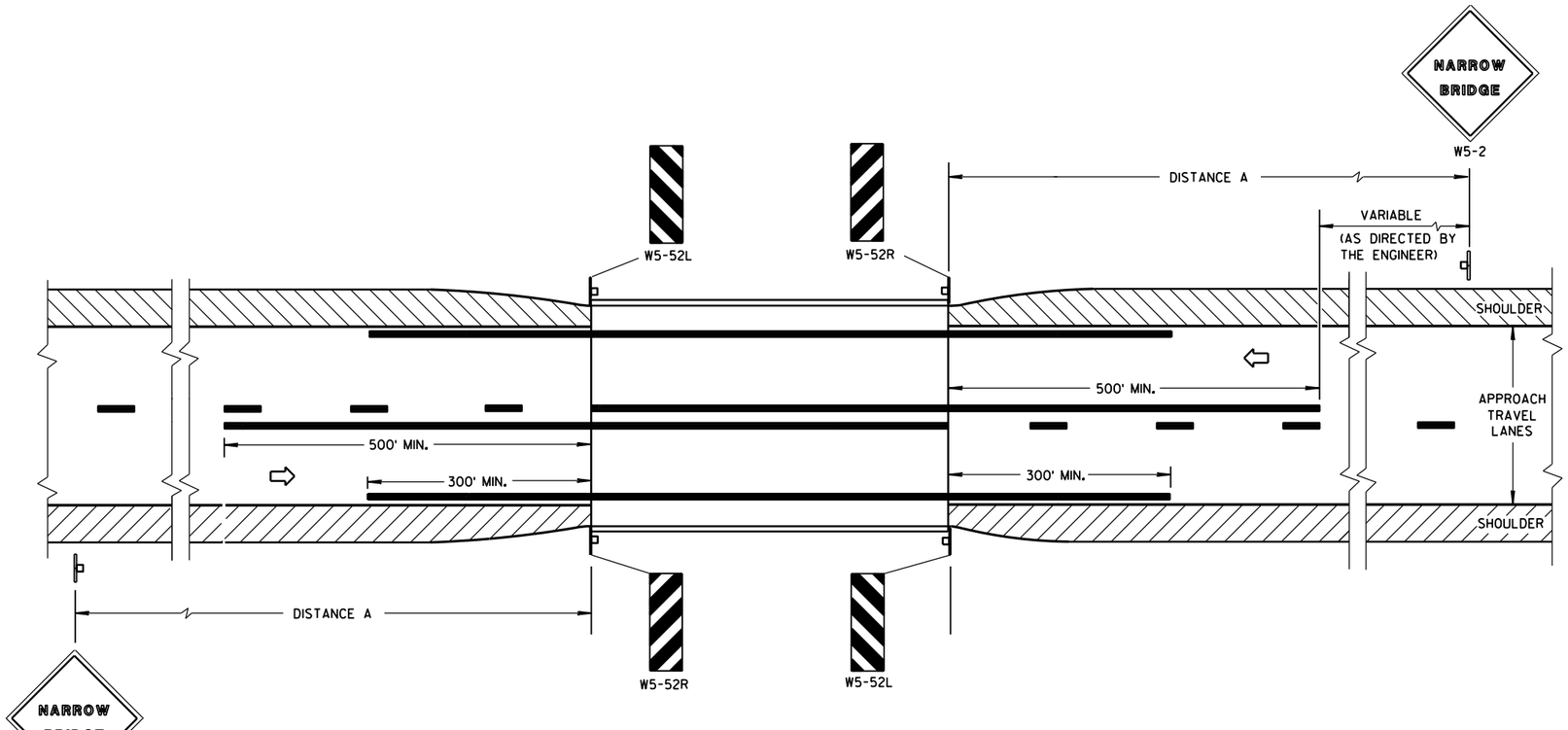
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 5-3

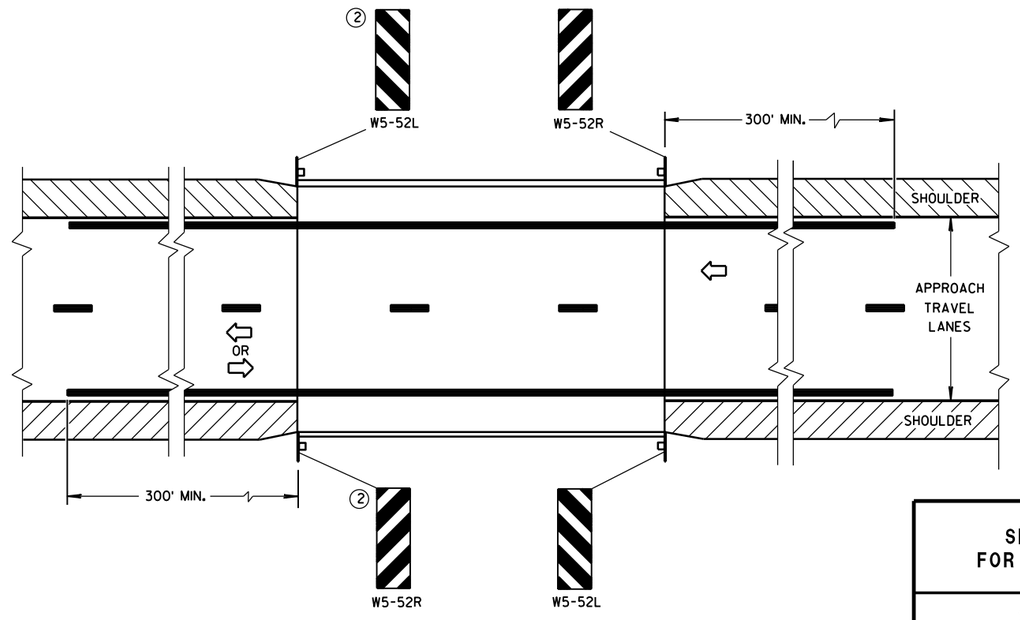


SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

GENERAL NOTES

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

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

SIGNING & MARKING FOR TWO LANE BRIDGES

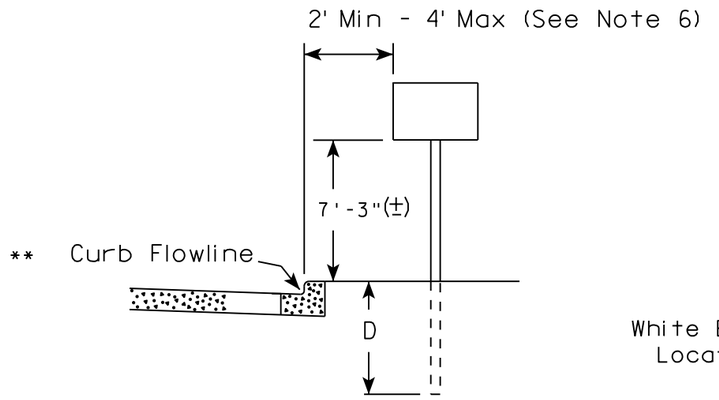
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR ...EER
FHWA

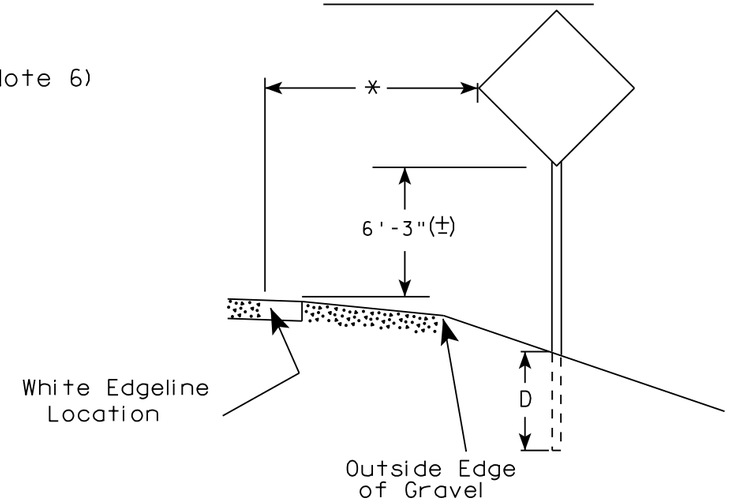
6

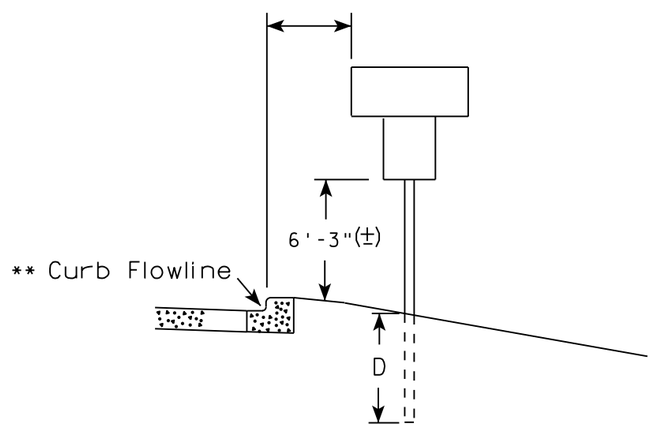
S.D.D. 15 C 6-8

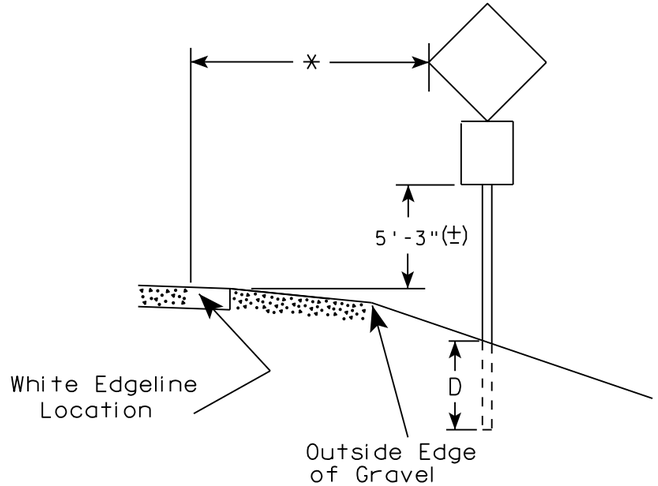
URBAN AREA



RURAL AREA (See Note 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. Offset of signs is measured from the flow line.

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

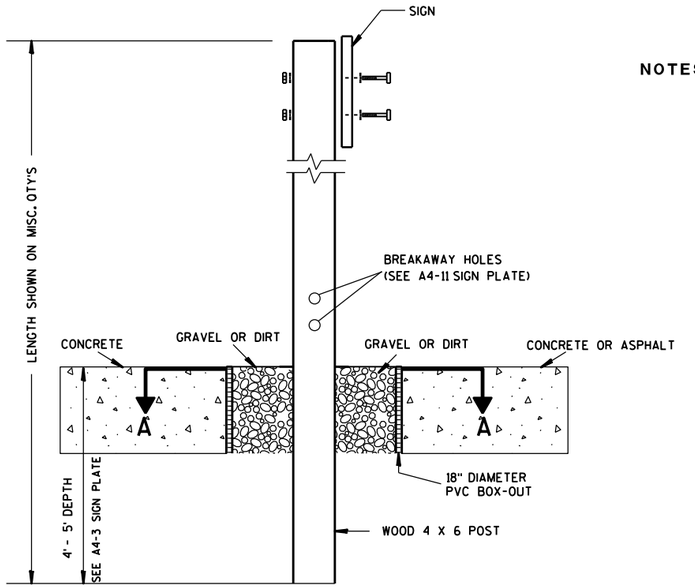
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

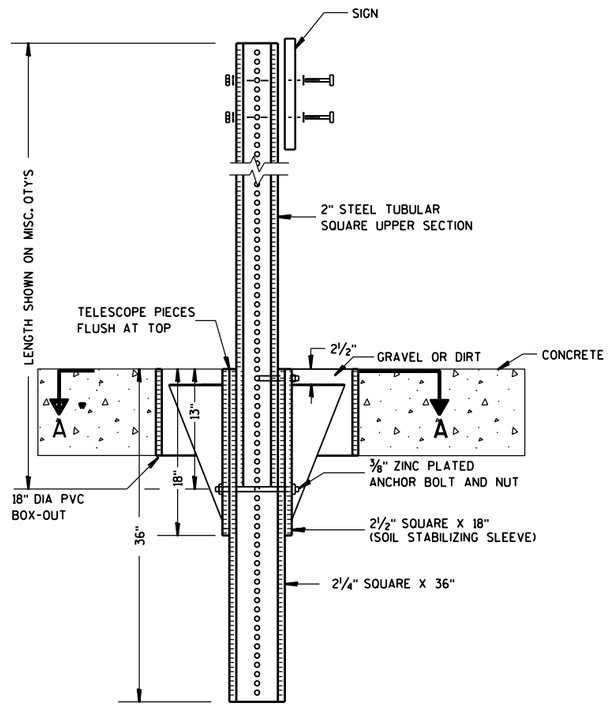
DATE 8/21/17 PLATE NO. A4-3.21



ELEVATION VIEW

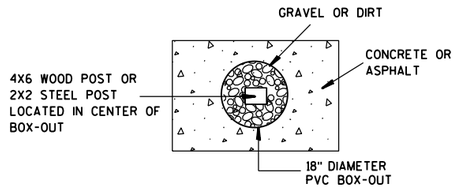
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

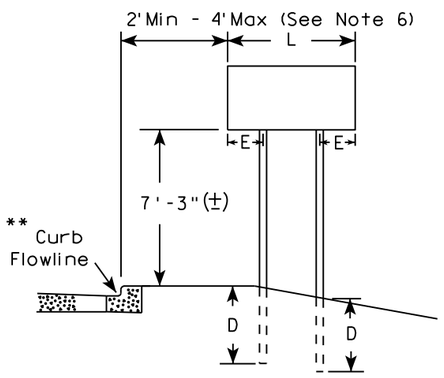
APPROVED Matthew R Rauch
for State Traffic Engineer

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

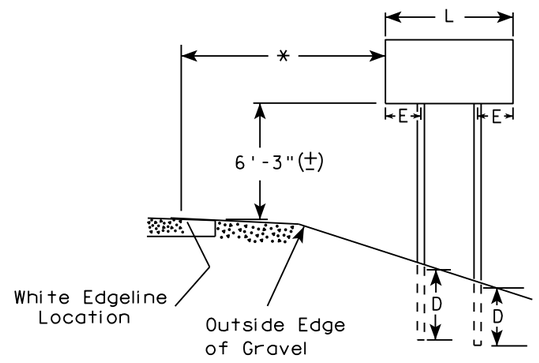
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

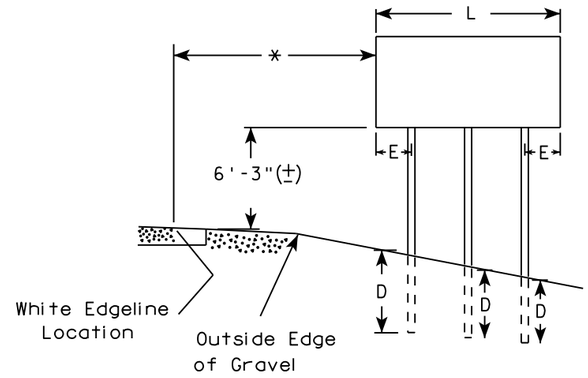
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

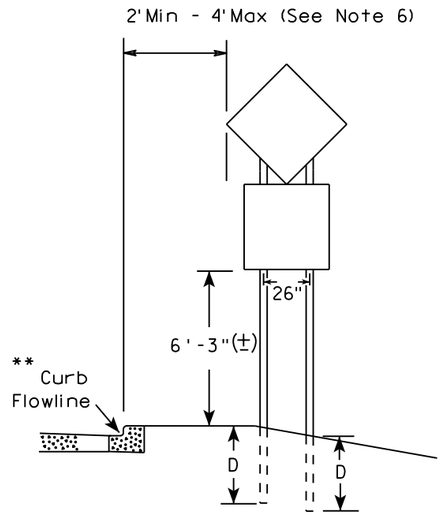
URBAN AREA



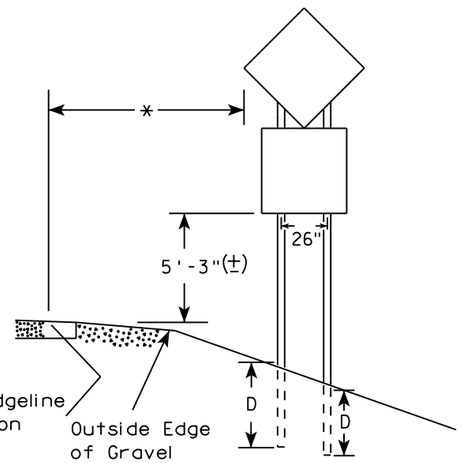
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

POST EMBEDMENT DEPTH

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

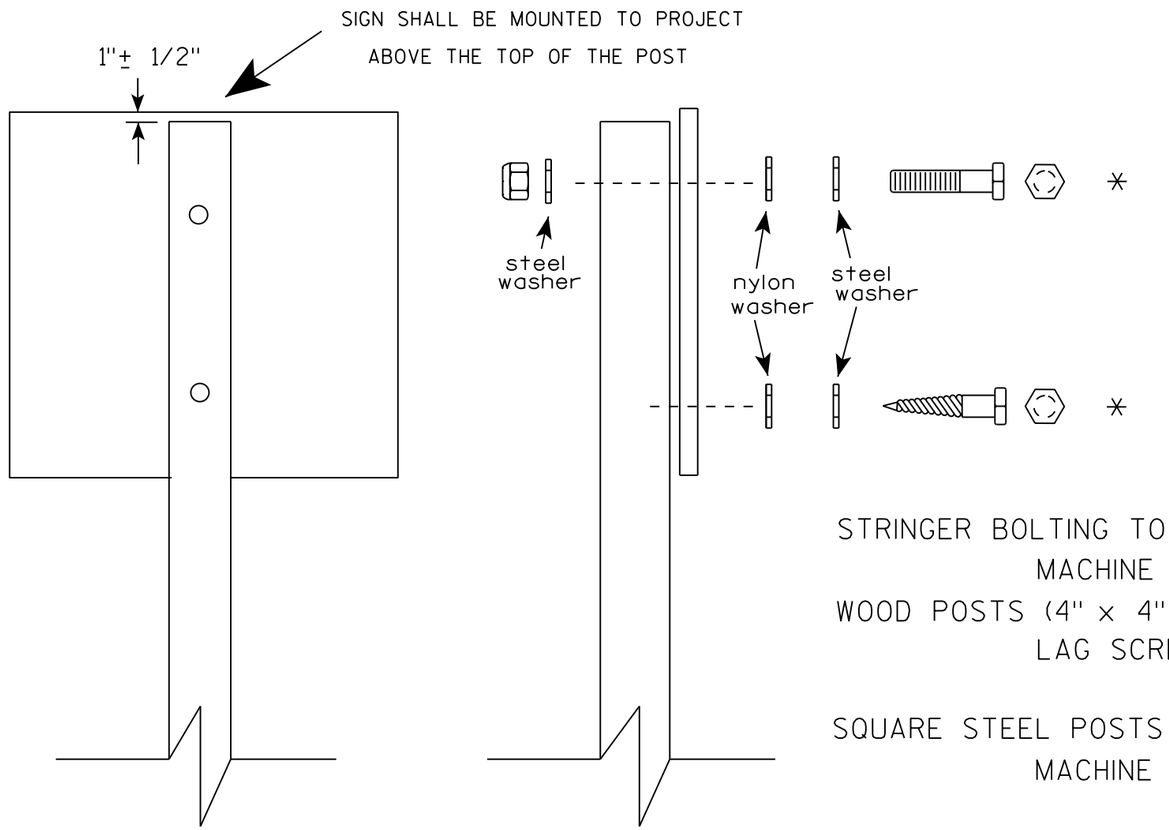
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 61	E



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

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

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

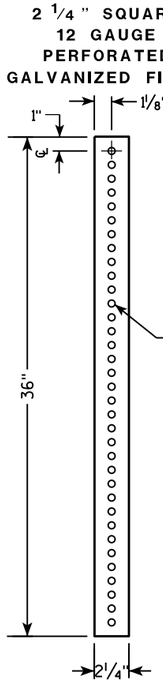
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

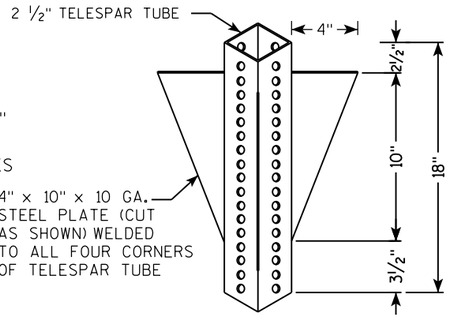
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

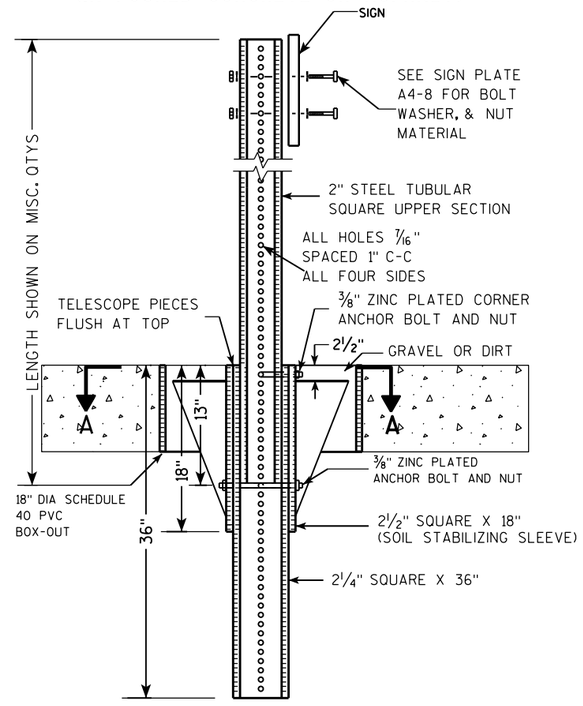
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



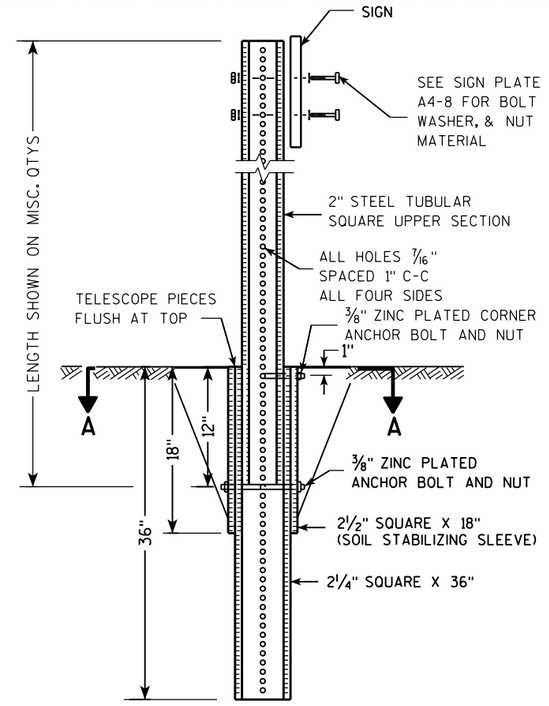
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

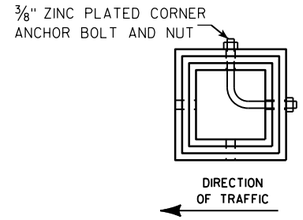


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

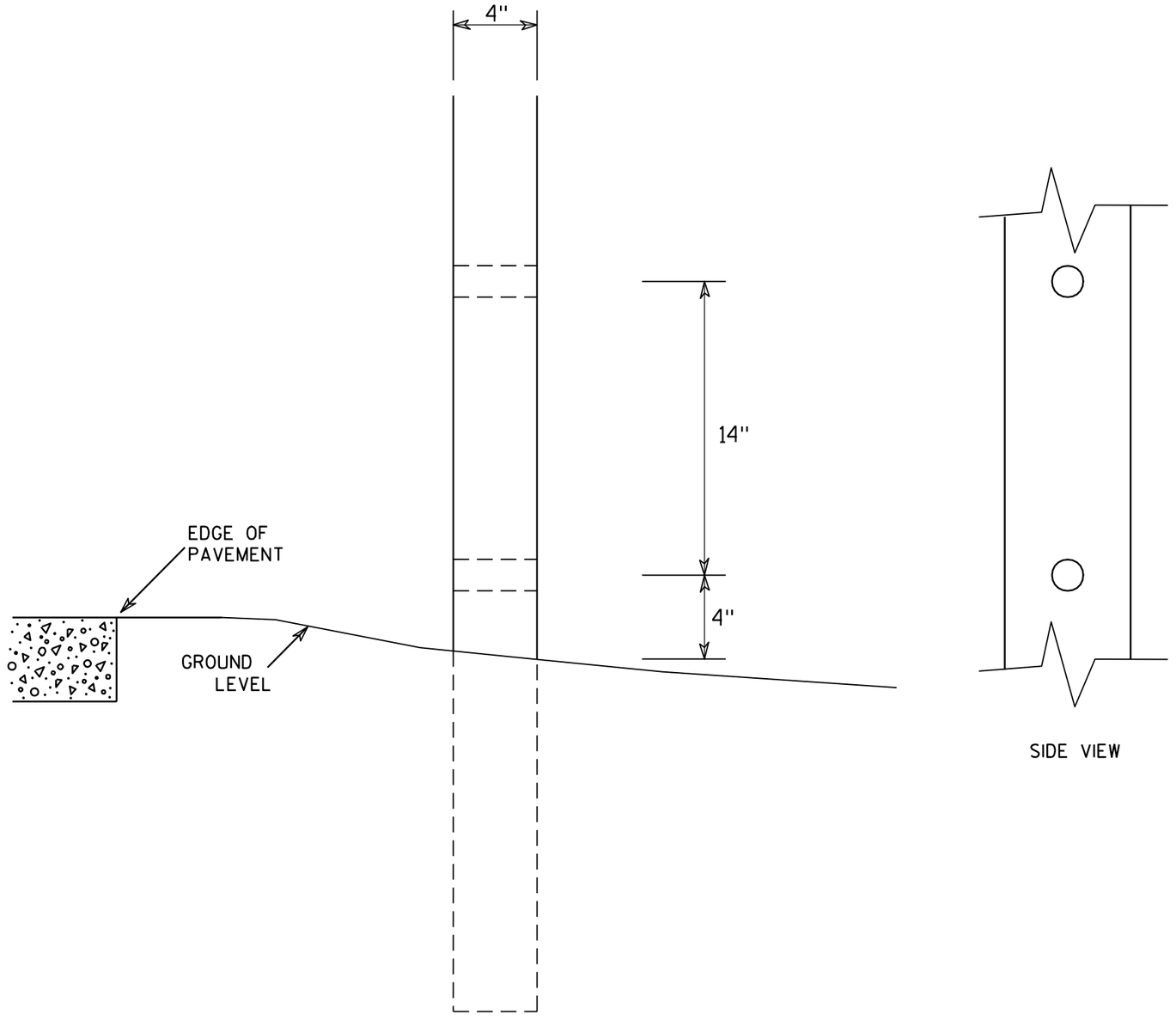
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

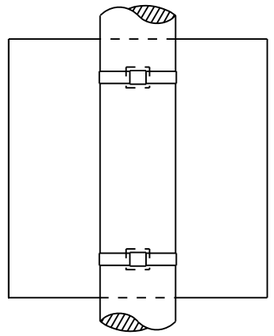
APPROVED Chester J Spang for State Traffic Engineer

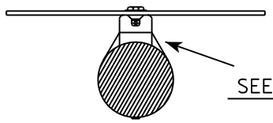
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 64	E

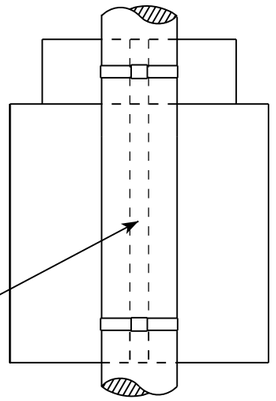
BANDING

SINGLE SIGN

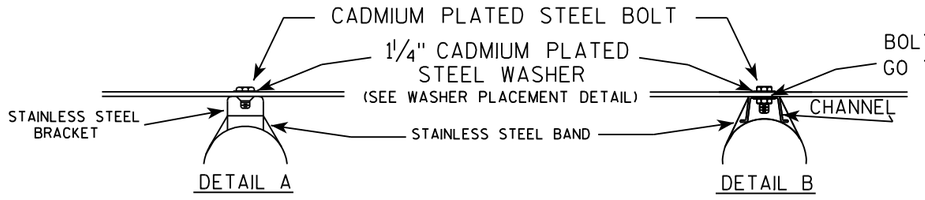




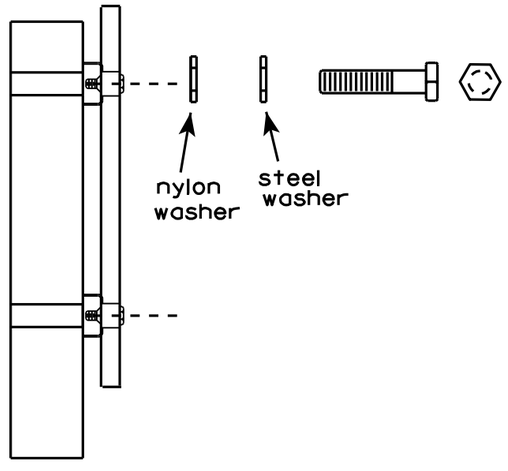
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET



WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

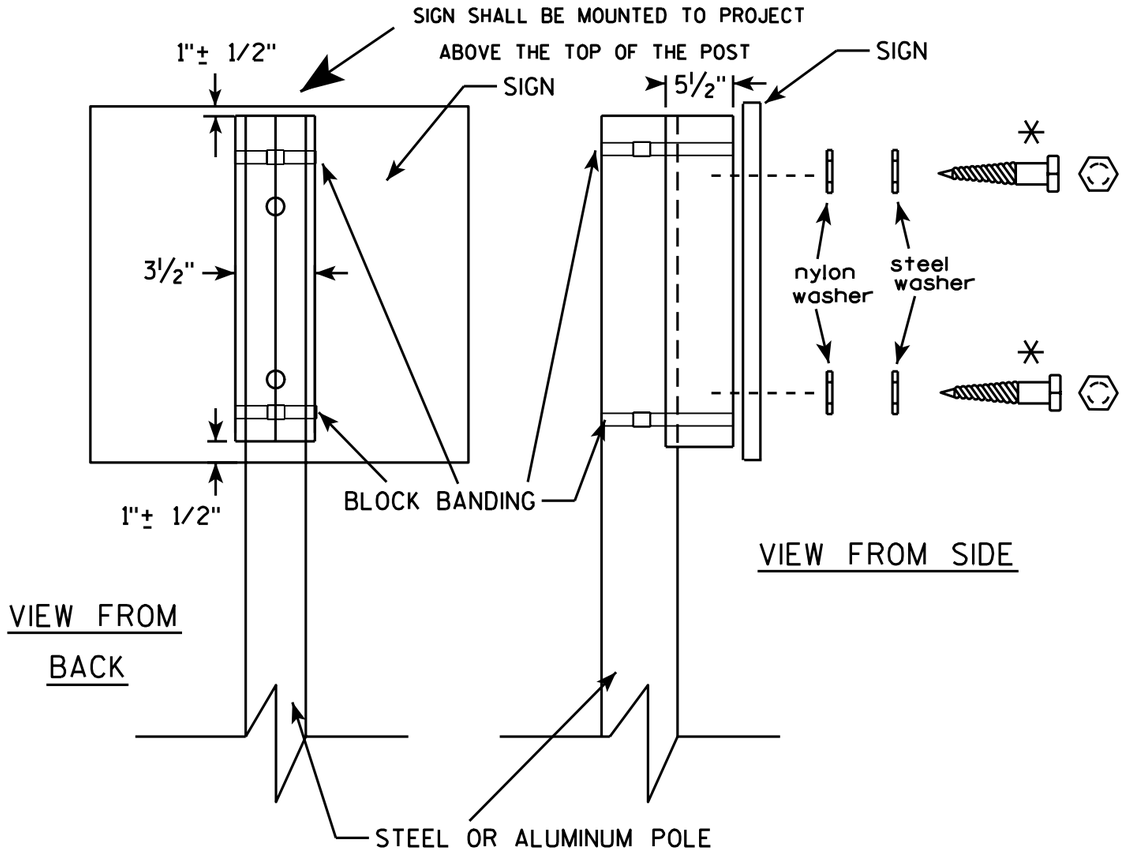
STANDARD SIGN
SIGN BANDING DETAILS

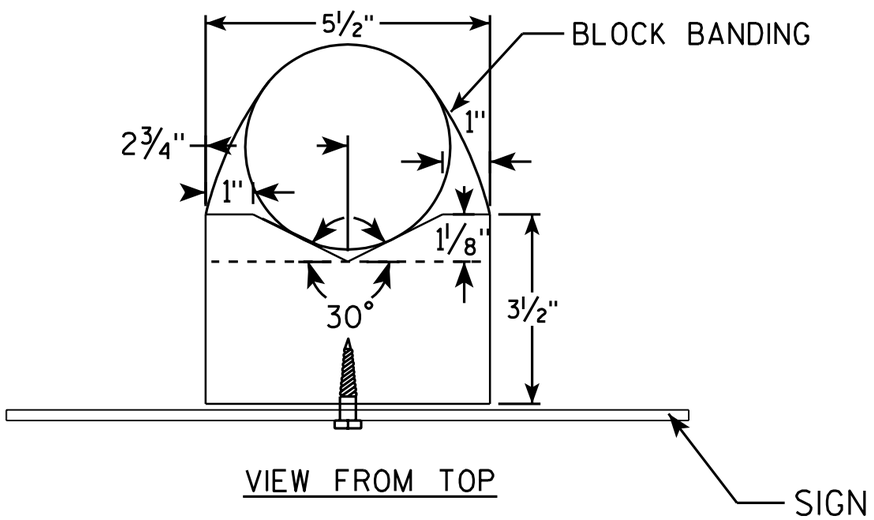
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 65	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

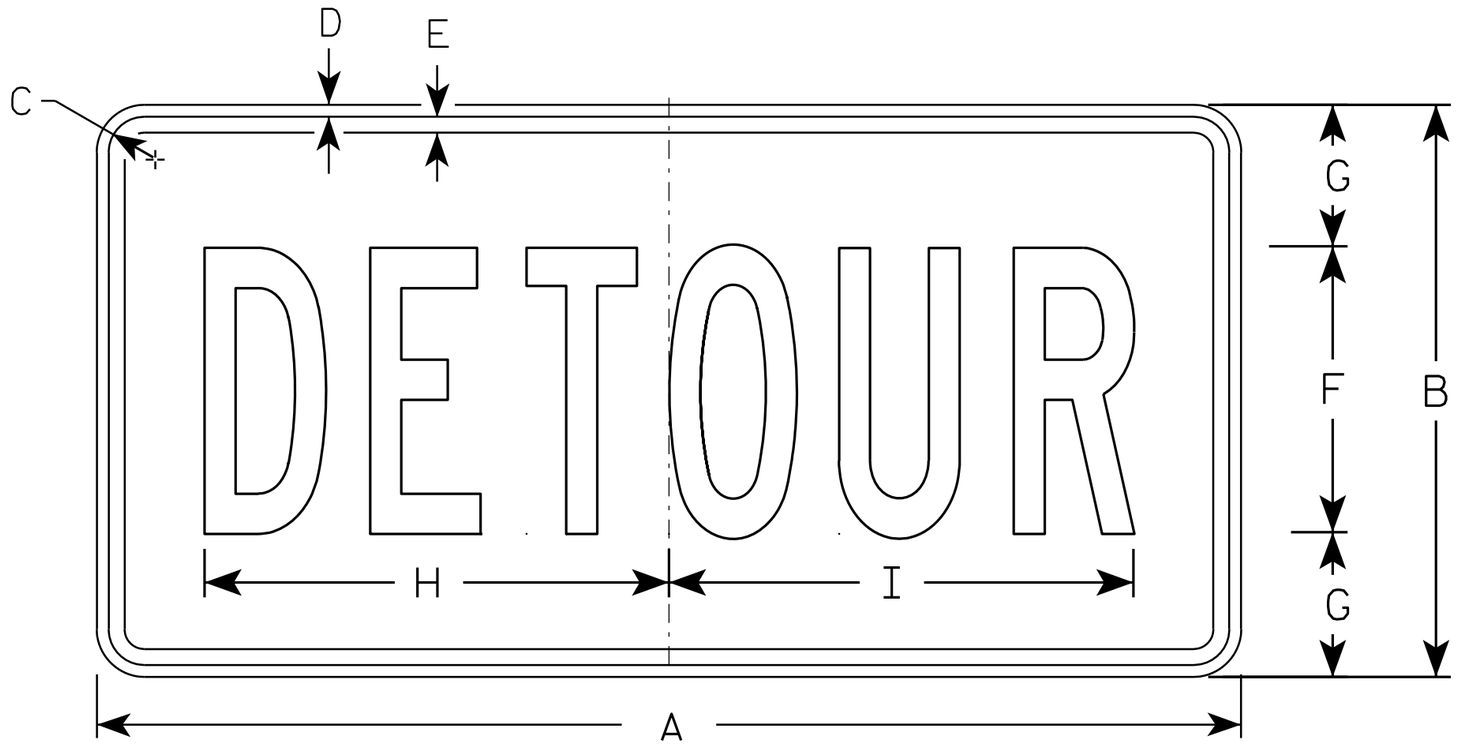
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:				SHEET NO: 66	E



M4-8

NOTES

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

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

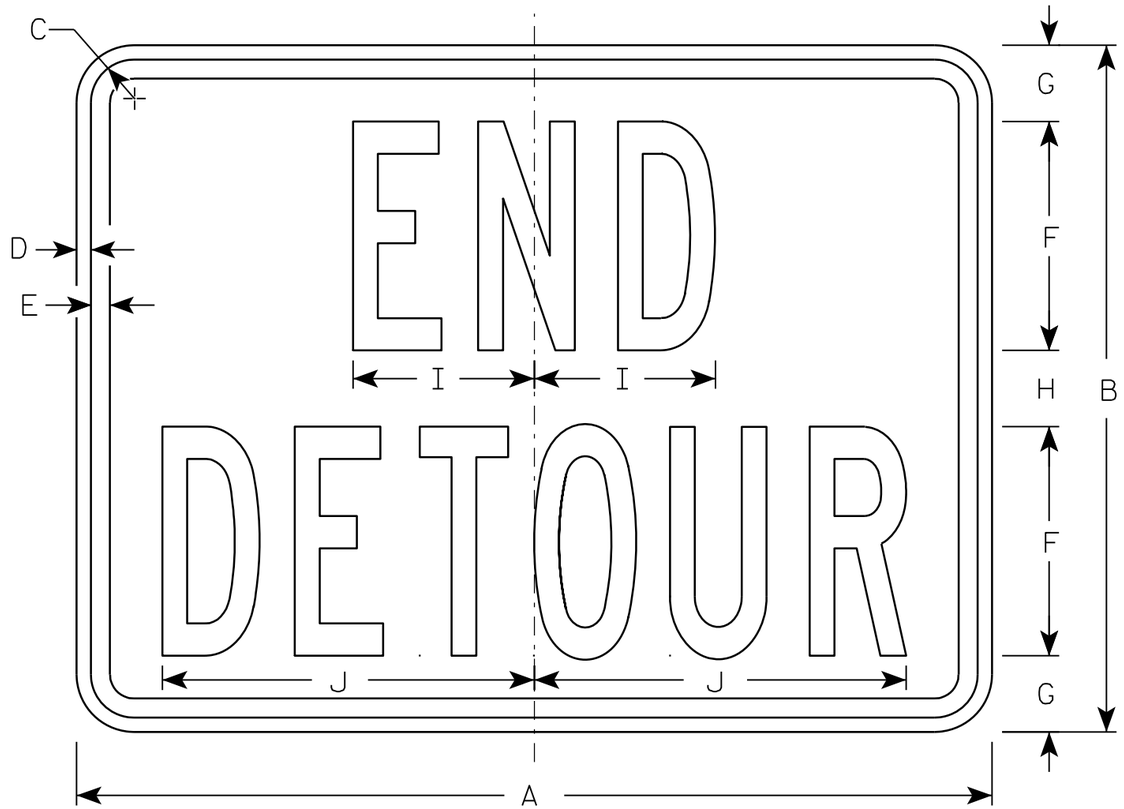
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 67	E



M4-8A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

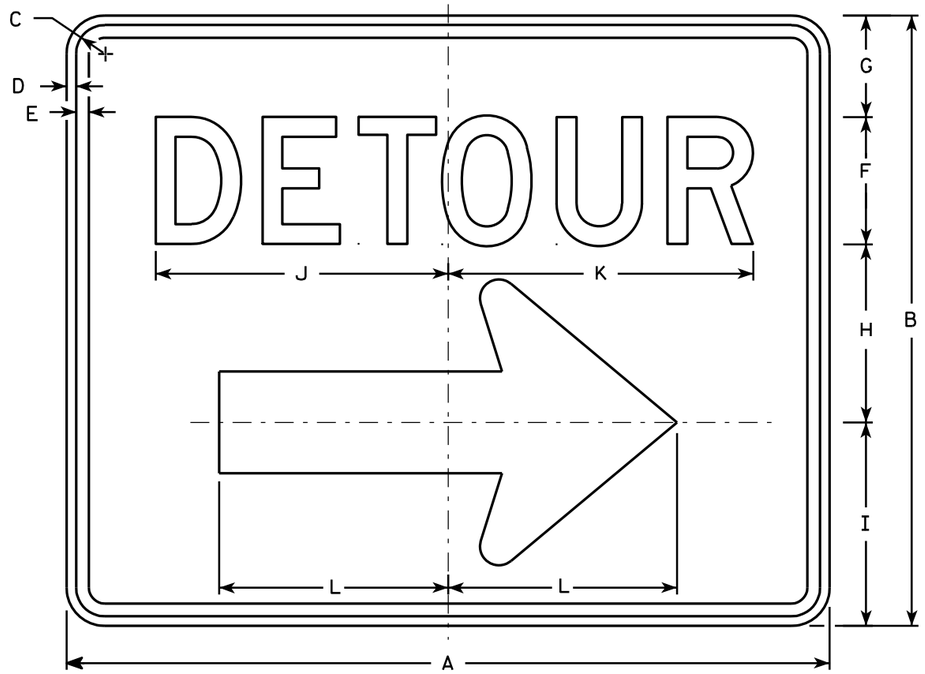
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

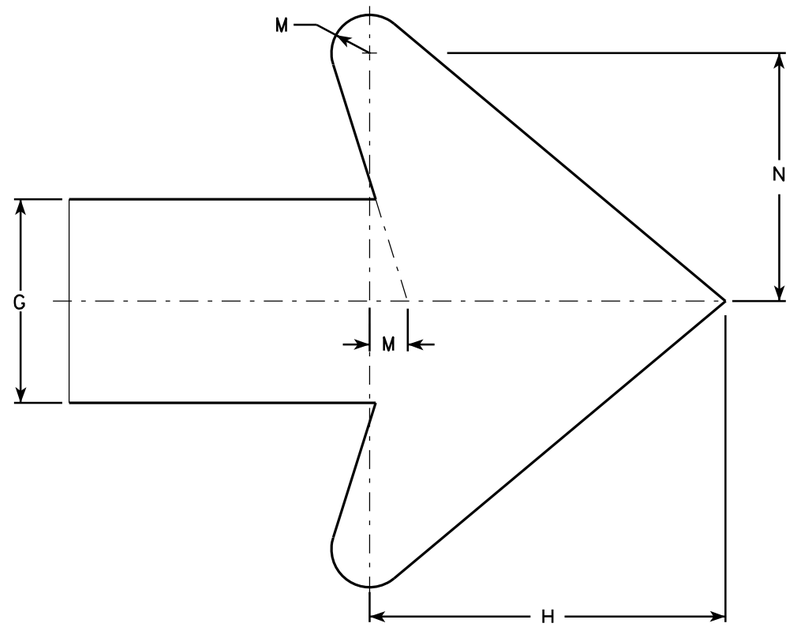
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 68	E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

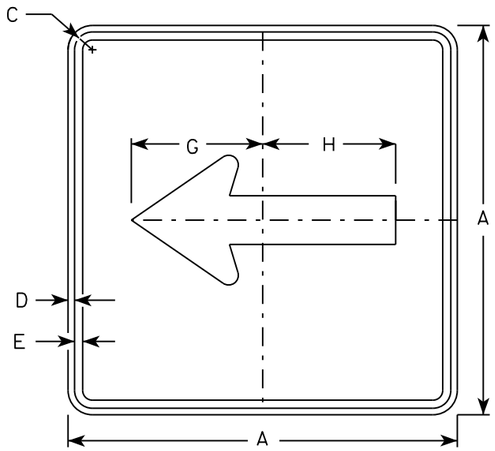
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

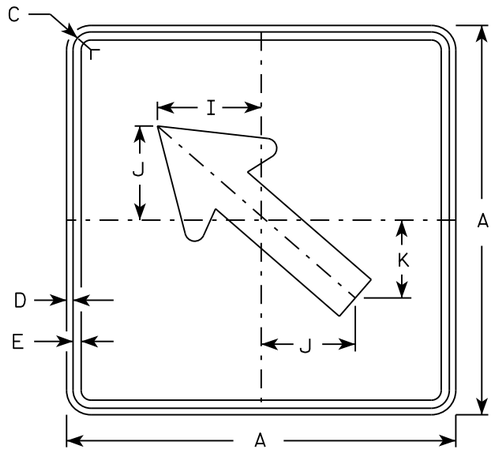
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 69	E



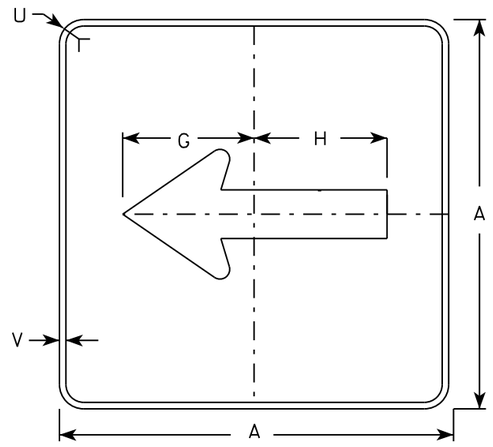
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2

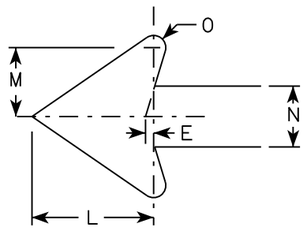
NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1

MB6-2
MK6-2
MN6-2
MR6-2



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

STANDARD SIGN M6-1 & M6-2 SERIES

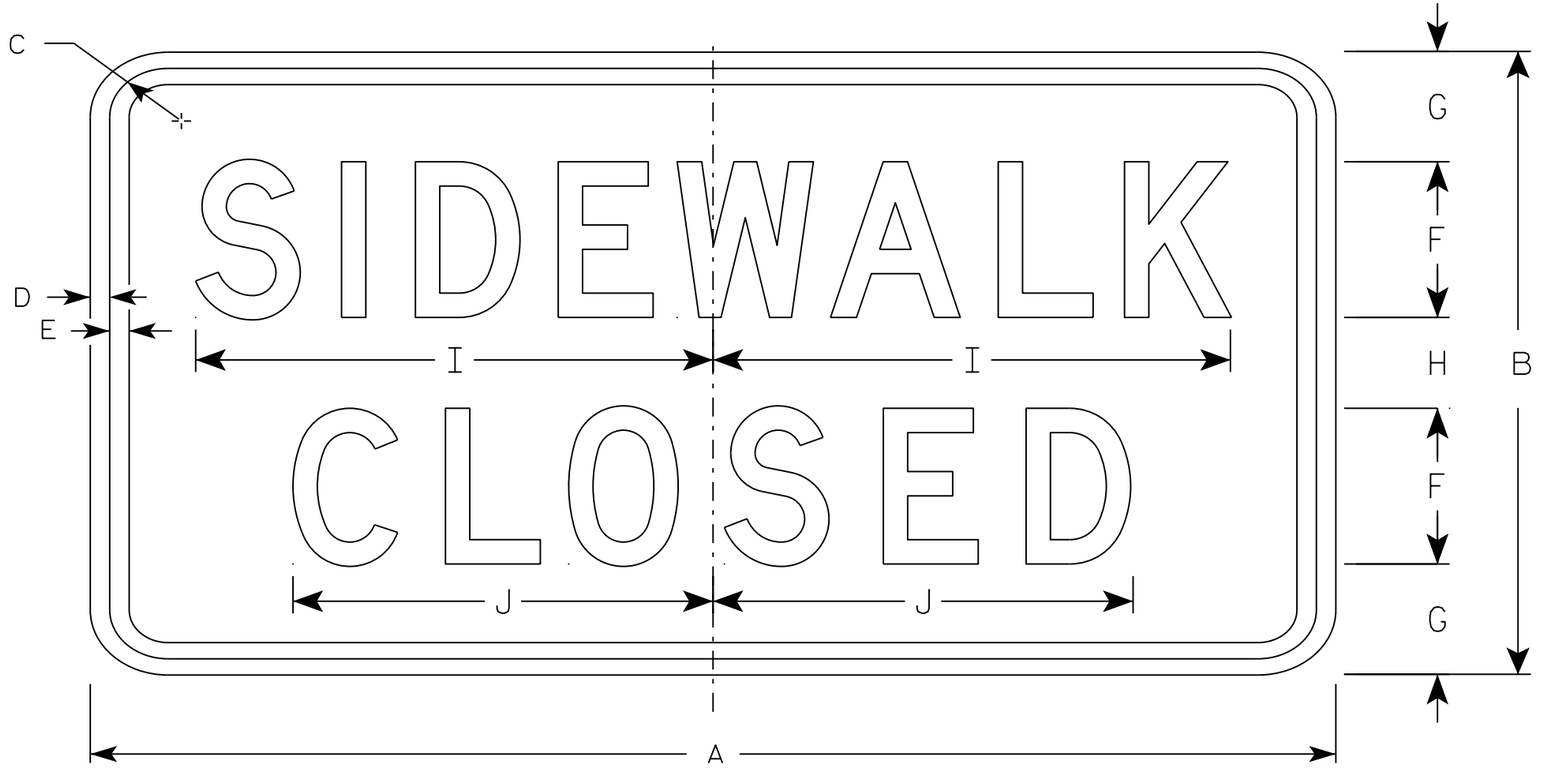
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 70 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R9-9

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN
R9-9

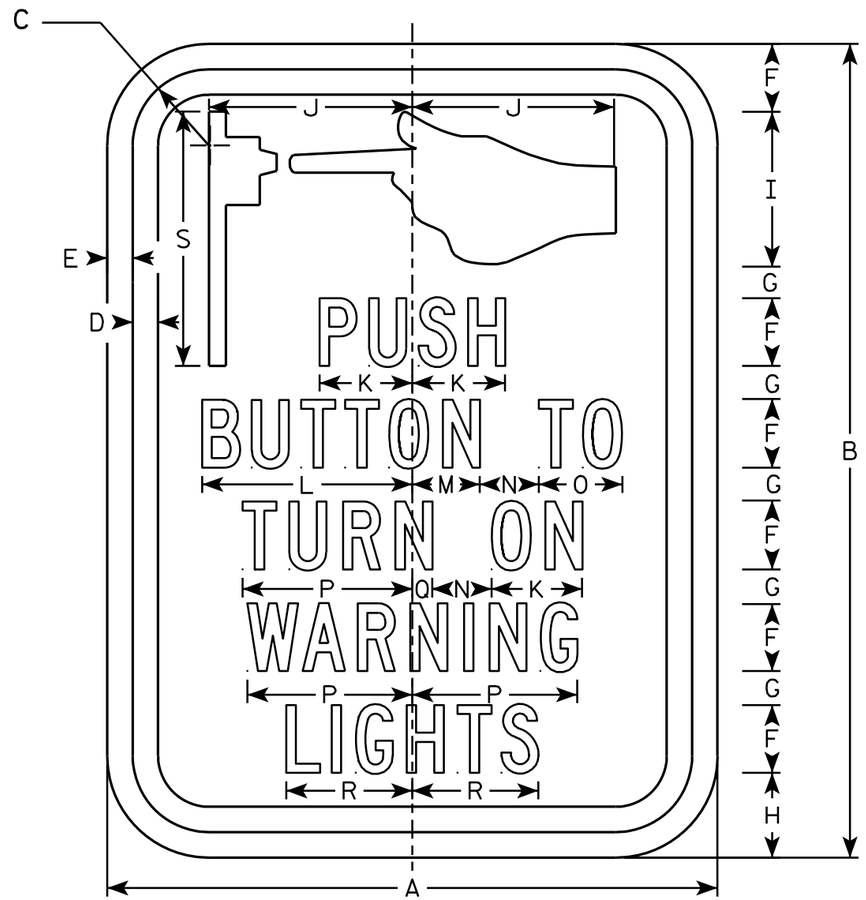
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 71 R9-9.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R10-25

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	6	9	1 1/8	3/8	3/8	3/4	3/8	1	1 3/4	2	7/8	2 1/8	5/8	5/8	7/8	1 5/8	1/4	1 1/4	2 7/8								.38
2S	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
2M	9	12	1 1/8	3/8	3/8	1	1/2	1 1/4	2 1/4	3	1 3/8	3 1/8	1	7/8	1 1/4	2 1/2	1/4	1 7/8	3 3/4								.75
3																											
4																											
5																											

STANDARD SIGN
R10-25

WISCONSIN DEPT OF TRANSPORTATION

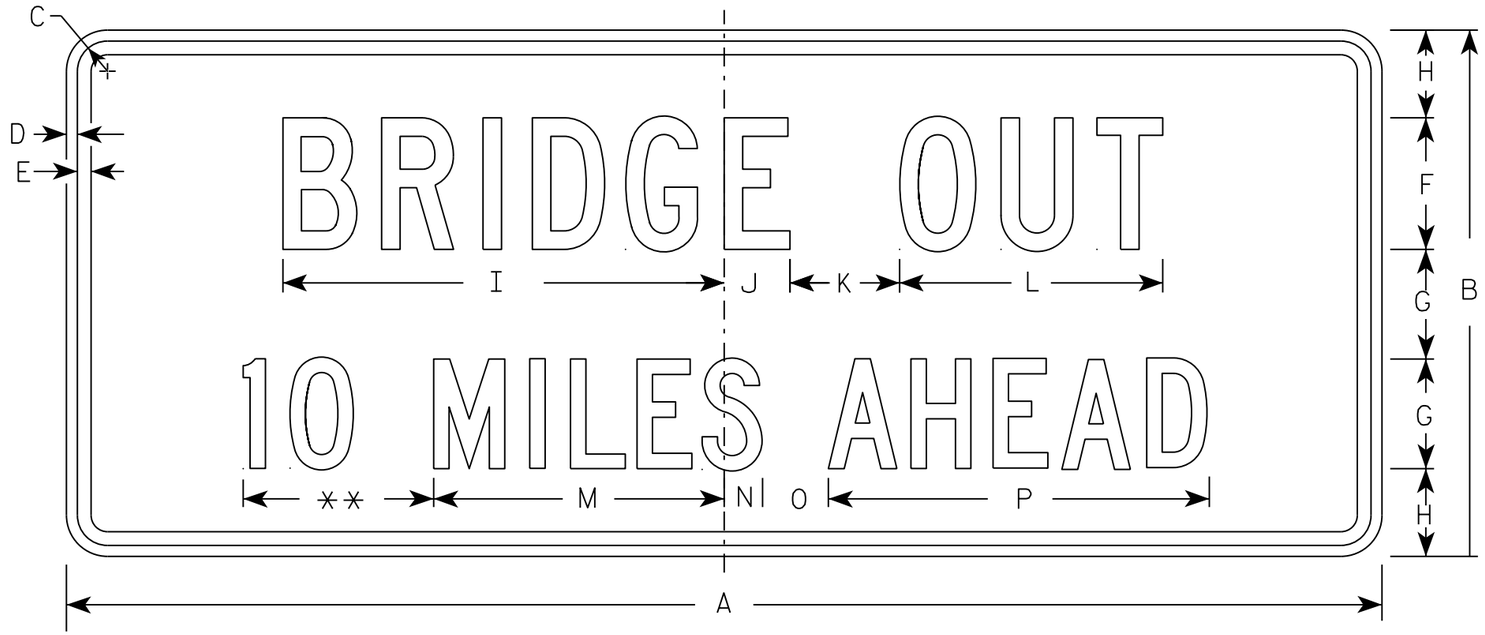
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/10 PLATE NO. R10-25.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 72	E

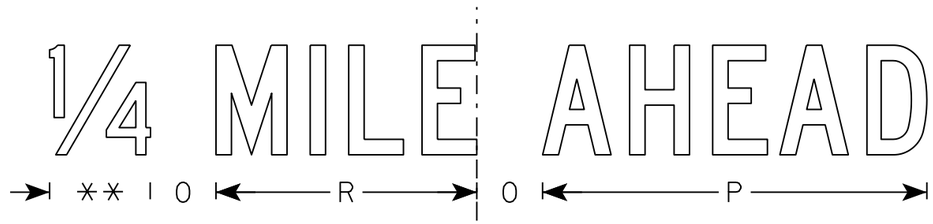
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

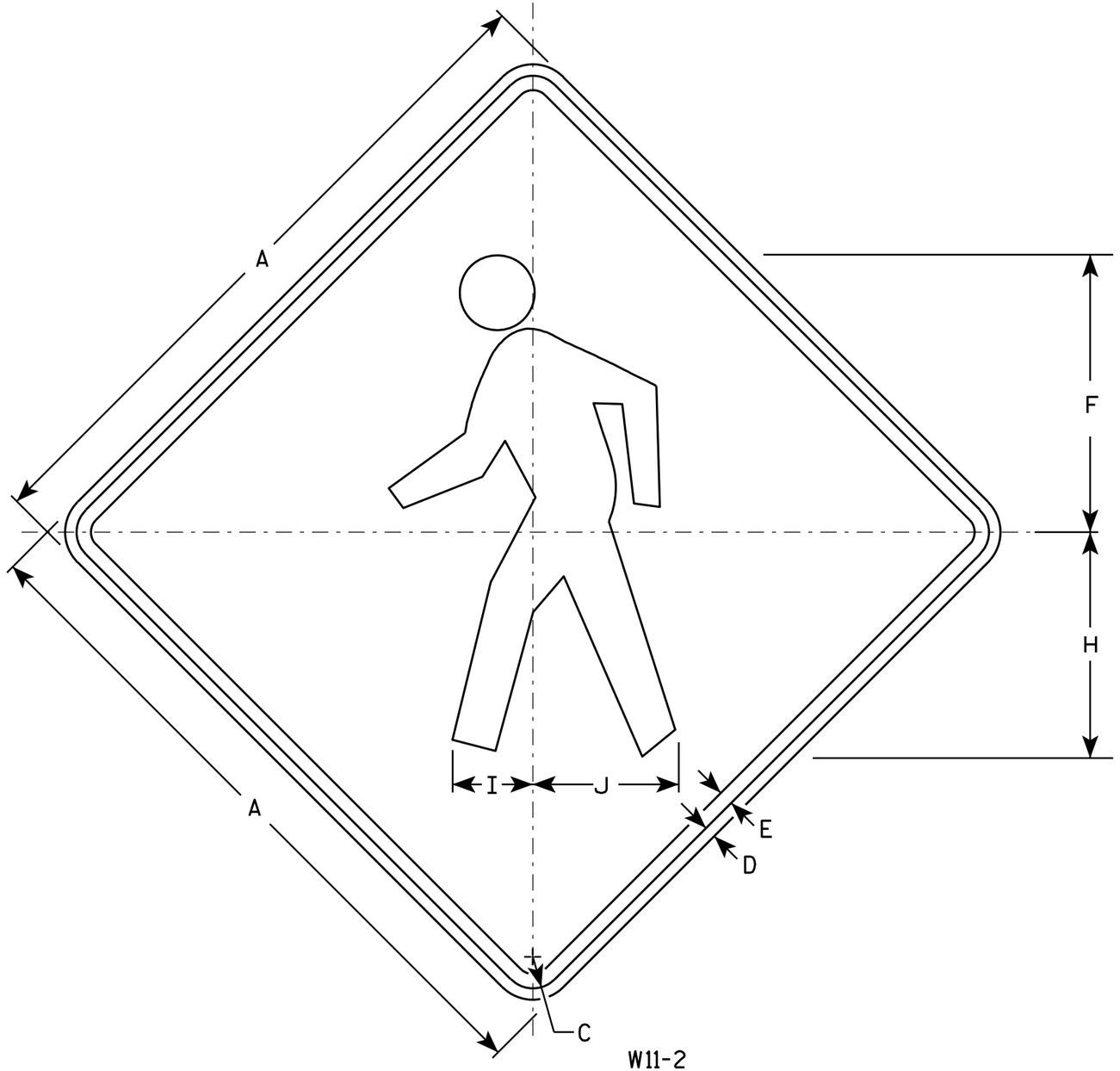
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO:

SHEET NO: 73 E



W11-2

NOTES

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

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

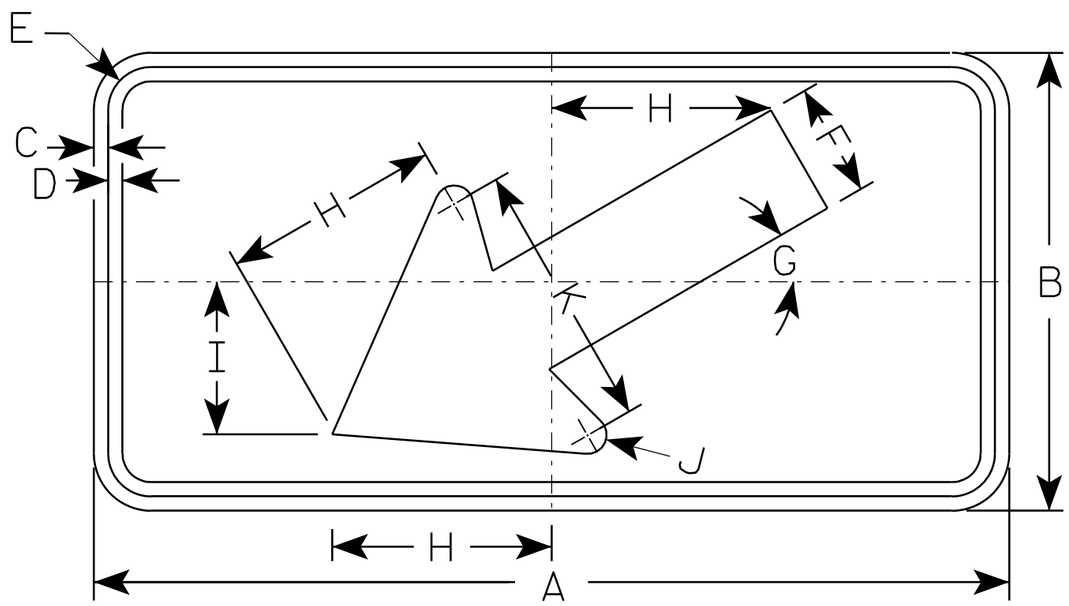
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



W16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

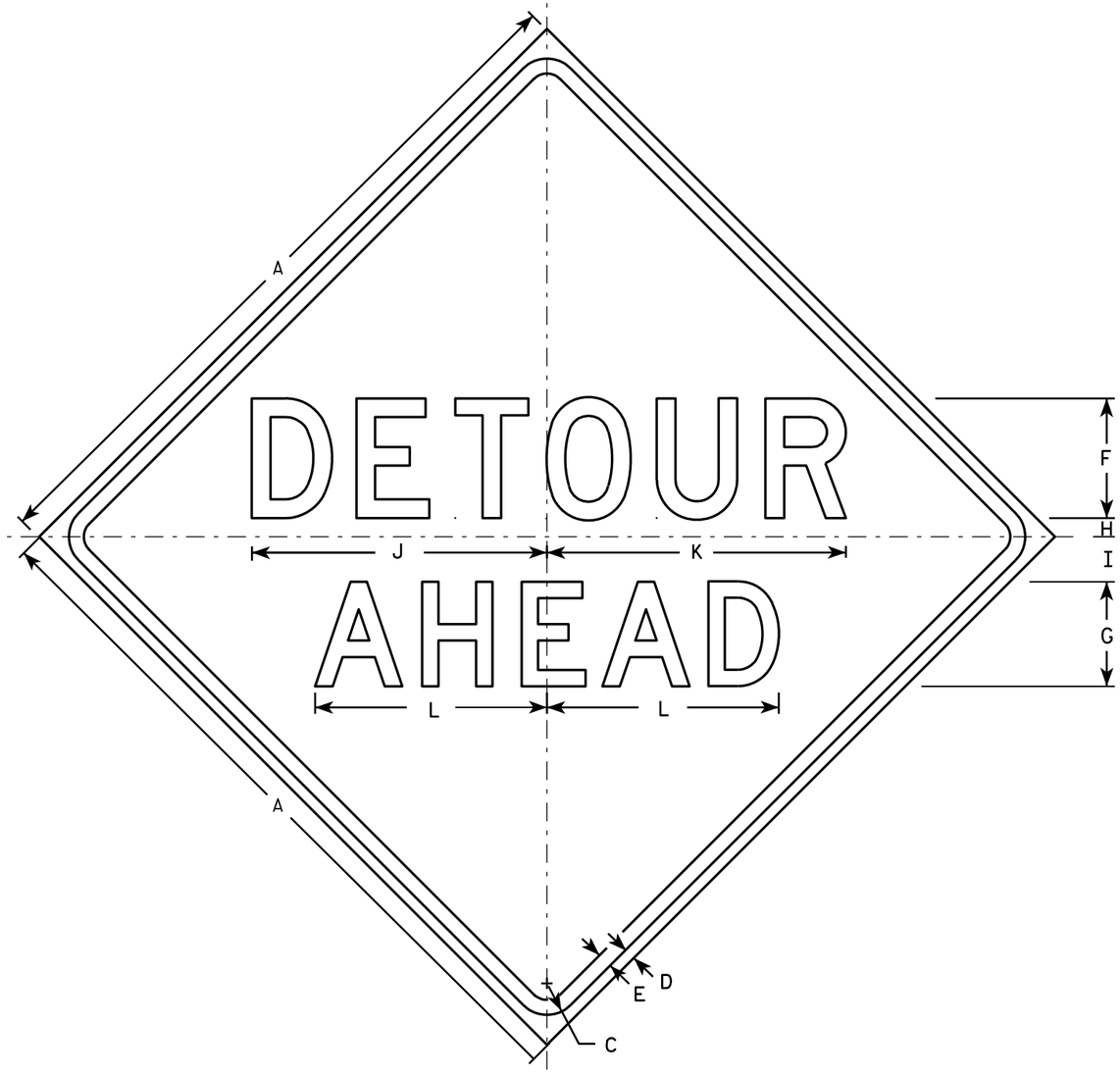
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

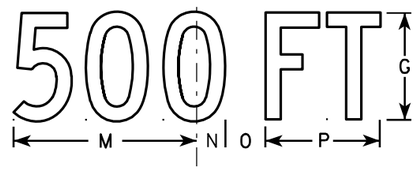
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

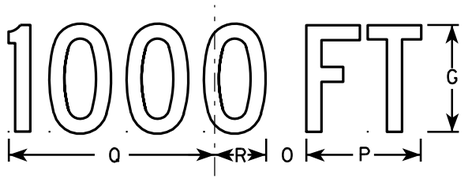
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 75	E



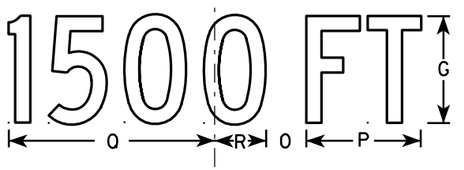
W20-2A



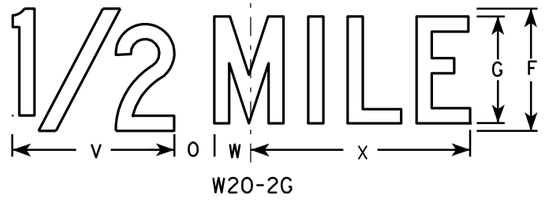
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

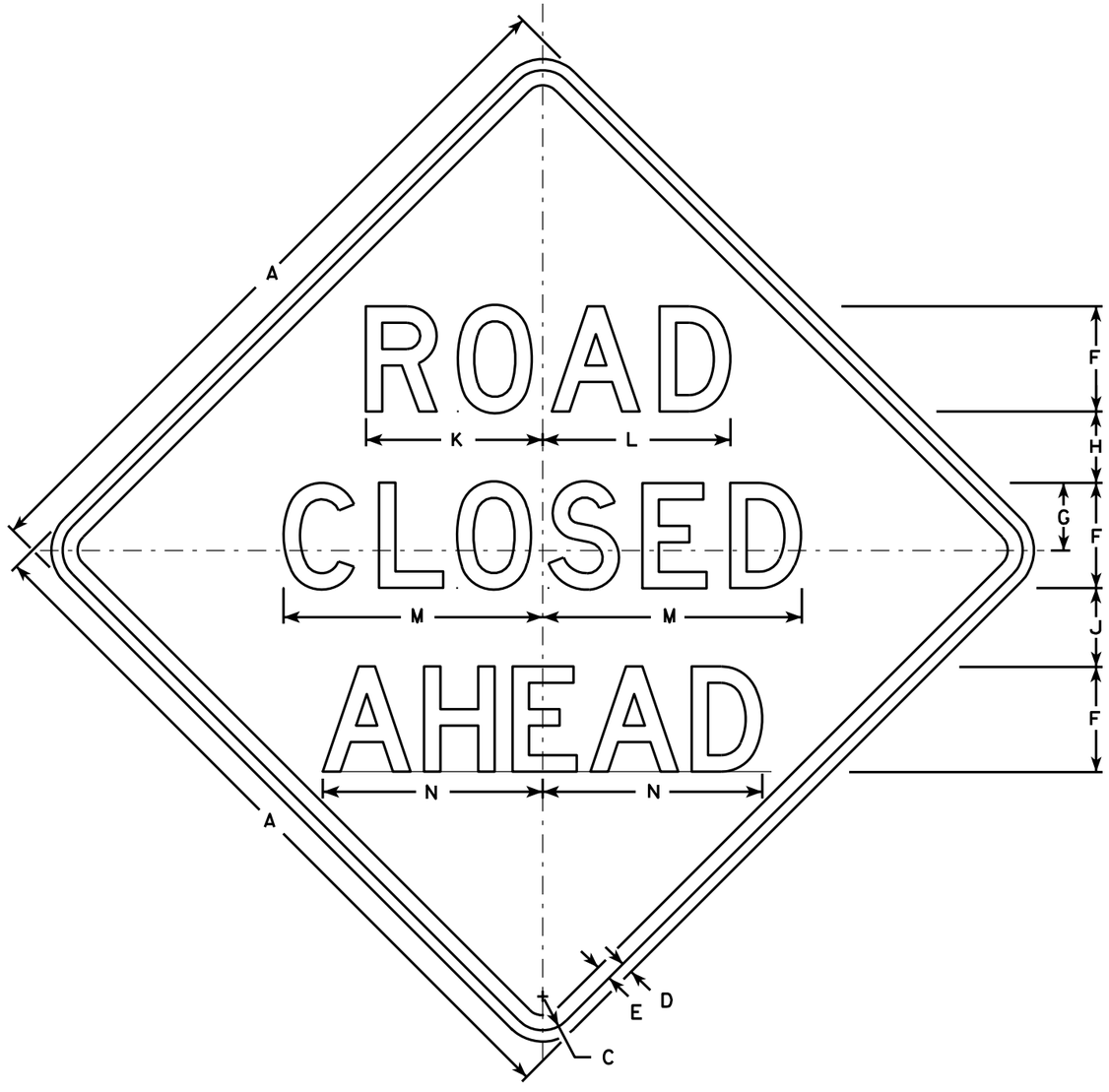
APPROVED Matthew R Rauch
for State Traffic Engineer

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

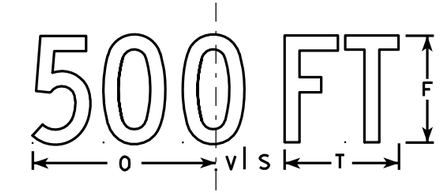
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 76 | E

7

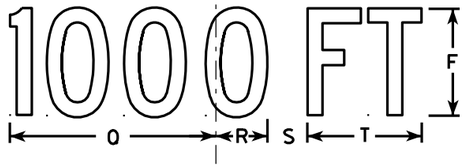
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



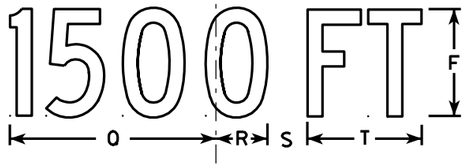
W20-3A



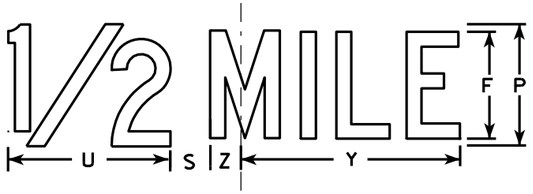
W20-3D



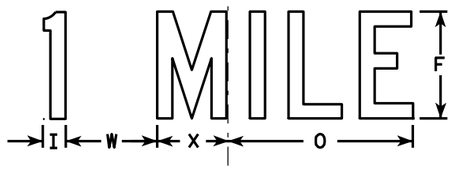
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

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

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

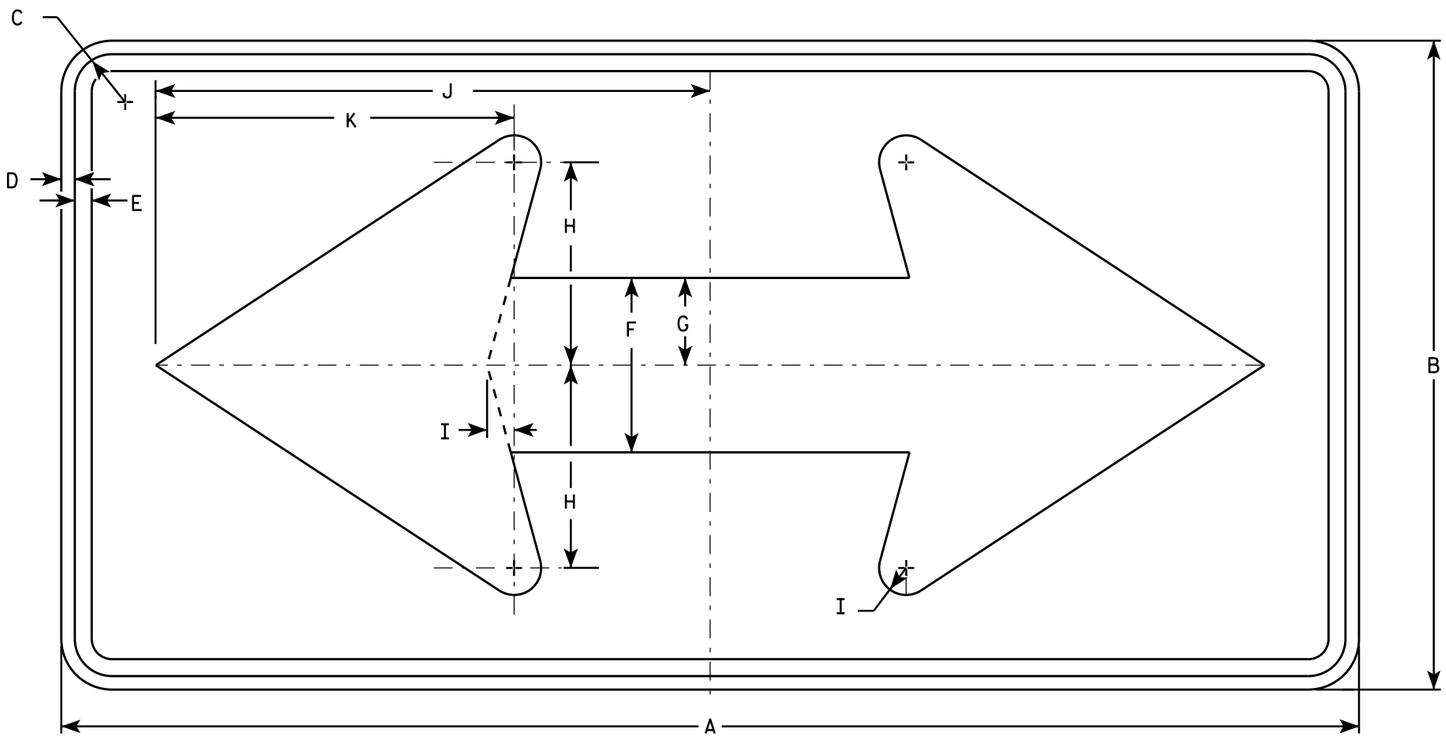
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 77 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



W01-7

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5

STANDARD SIGN
W01-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE 178 W01-7.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

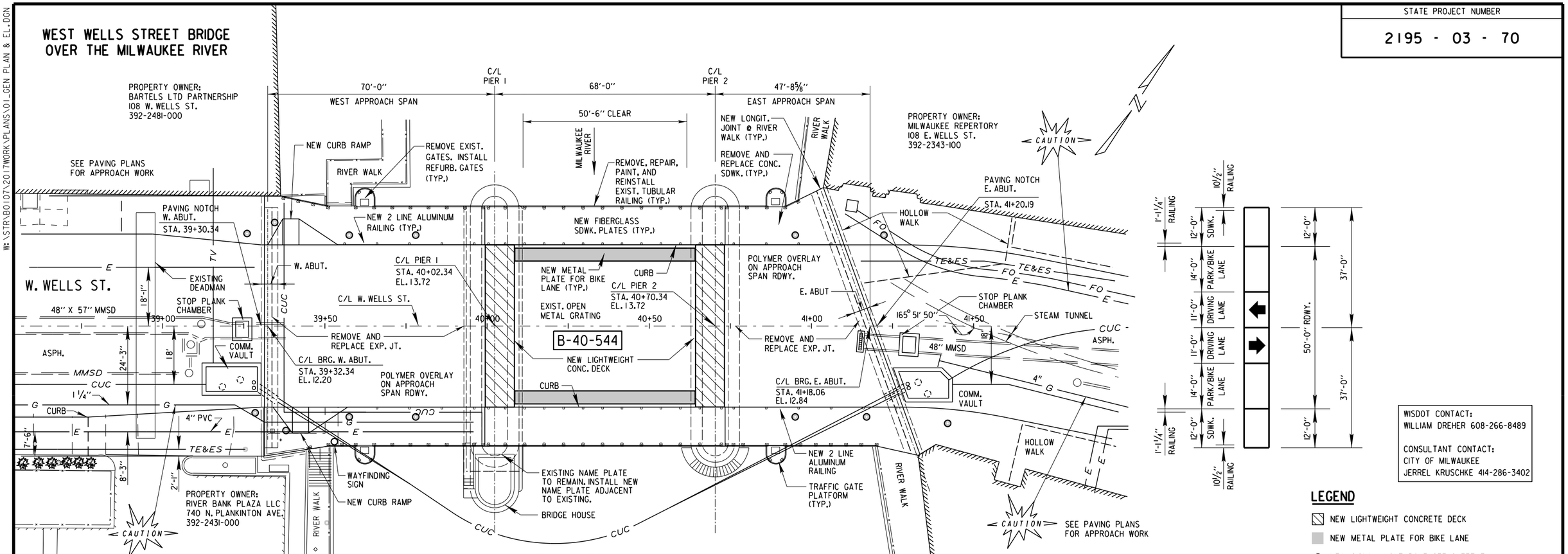
W:\STR\B0107\2017WORK\PLANS\01_GEN PLAN & EL.DGN

REVISED DATE: 10-27-2017 BY GJR

WEST WELLS STREET BRIDGE OVER THE MILWAUKEE RIVER

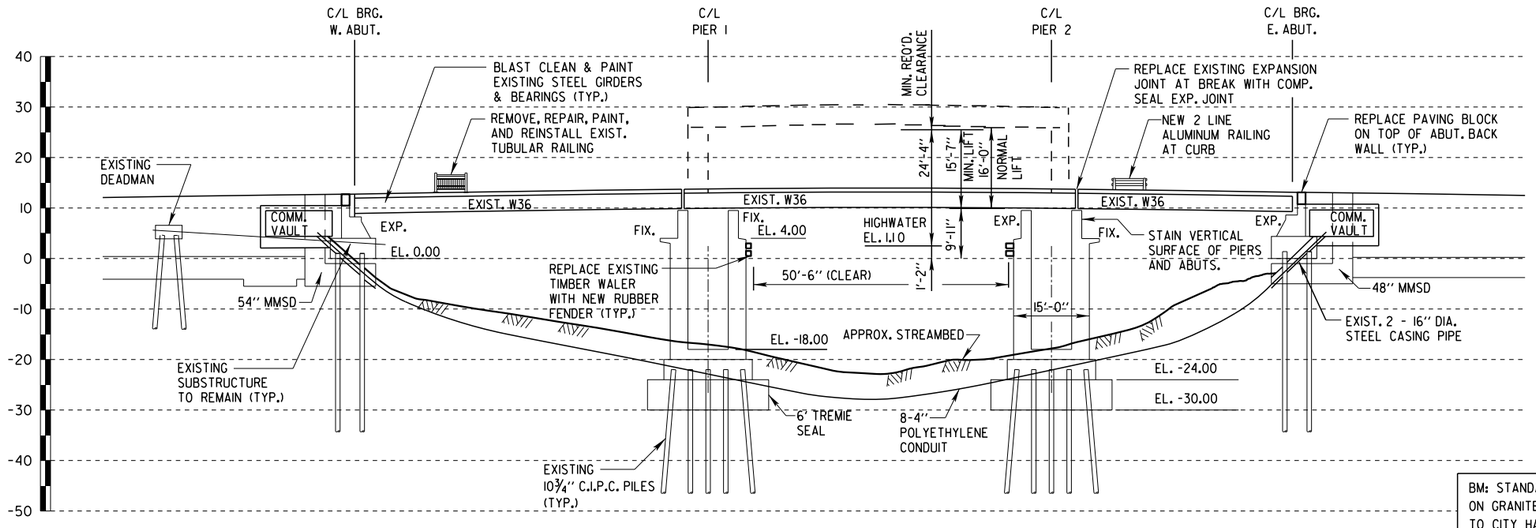
STATE PROJECT NUMBER

2195 - 03 - 70



PLAN VIEW

(STEEL FIXED SPAN - STEEL LIFT SPAN - STEEL FIXED SPAN)



ELEVATION AT C/L

(LOOKING NORTH)

WISDOT CONTACT:
WILLIAM DREHER 608-266-8489

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

LEGEND

- NEW LIGHTWEIGHT CONCRETE DECK
- NEW METAL PLATE FOR BIKE LANE
- O NEW SIGNAL/LIGHT POLE SEE SHEET 7 FOR ADDITIONAL DETAILS.

NOTE:

CONDUIT ON BRIDGE NOT SHOWN FOR CLARITY. SEE SHEET 7.

CONTRACTOR TO MAINTAIN 25'-6" VERTICAL CLEARANCE THROUGHOUT RECONSTRUCTION WORK IN THE LIFT SPAN. CONTRACTOR SHALL NOTIFY U.S. COAST GUARD WITH SUFFICIENT NOTICE IF THE 25'-6" VERTICAL CLEARANCE CANNOT BE MAINTAINED.

CONTRACTOR TO KEEP LIFT SPAN CLEAR OF BARGES WHICH MAY OBSTRUCT NAVIGATION. CONTRACTOR SHALL NOTIFY U.S. COAST GUARD WITH SUFFICIENT NOTICE IF THE SPANS CANNOT BE KEPT CLEAR OF BARGES.

BM: STANDARD BENCH MARK 104
N. PLANKINTON AVE. & W. KILBOURN AVE.
N/S OF E. ENTRANCE TO WISCONSIN HISTORICAL SOCIETY BLDG.
EL: 11.735

BM: STANDARD BENCH MARK 2, CITY HALL
ON GRANITE STONE FORMING BOTTOM OF RECESS ON E/S OF S. ENTRANCE TO CITY HALL, BEING TOP OF COPPER BOLT LEADED VERTICALLY INTO STONE, 2" BACK FROM FACE OF STONE & 3" E. OF BASE OF COLUMN, 8.5' E. OF CENTER OF S. DOORWAY, & MARKED US. IN WATER BOX.
EL. 13.863

WISCONSIN
JERREL KRUSCHKE
43536-6
MILWAUKEE, WIS.
PROFESSIONAL ENGINEER
10-30-2017

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 TAB 10/30/2017
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-544

WELLS ST. OVER MILWAUKEE RIVER

COUNTY	MILWAUKEE	~~TOWN~~/CITY/ ~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	REHABILITATION N/A		
DESIGNED BY J.D.T.	DESIGN CK'D. H.J.R.	DRAWN BY G.J.R.	PLANS CK'D. J.D.T. H.J.R.

GENERAL PLAN AND ELEVATION

SHEET 1 OF 58
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REVISED: 10/27/2017 BY: GJR

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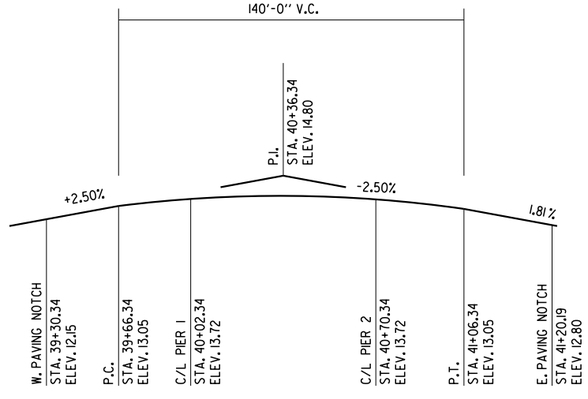
LIST OF DRAWINGS

SHEET NO.	SHEET TITLE
1	GENERAL PLAN AND ELEVATION
2	LIST OF DRAWINGS / GENERAL NOTES
3	ESTIMATED BRIDGE QUANTITIES / DESIGN DATA
4	EXISTING FRAMING PLAN
5	TYPICAL SECTION APPROACH SPAN
6	TYPICAL SECTION LIFT SPAN
7	CONDUIT PLAN
8	TRAFFIC SIGNAL DETAILS
9	WEST ABUTMENT
10	WEST ABUTMENT DETAILS AND BILL OF BARS
11	EAST ABUTMENT
12	EAST ABUTMENT DETAILS AND BILL OF BARS
13	PIER 1
14	PIER 1 AT ELEVATION +4.00
15	PIER 2
16	PIER 2 AT ELEVATION +4.00
17	BRIDGE OPERATORS HOUSE
18	CIRCULAR STAIRS AND BRIDGE HOUSE STAIRS
19	WEST APPROACH SPAN
20	EAST APPROACH SPAN
21	APPROACH SPAN DECK SECTIONS
22	APPROACH SPAN DIAPHRAGMS AND SHEAR STUDS
23	SIDEWALK RAMP DETAILS
24	NORTHWEST CORNER DETAILS
25	SOUTHWEST CORNER DETAILS
26	NORTHEAST CORNER DETAILS
27	SOUTHEAST CORNER DETAILS
28	STRIP SEAL EXPANSION JOINT SECTIONS
29	STRIP SEAL EXPANSION JOINT DETAILS (1 OF 2)
30	STRIP SEAL EXPANSION JOINT DETAILS (2 OF 2)
31	EXISTING LIFT SPAN
32	PROPOSED LIFT SPAN
33	LIFT SPAN CROSS SECTION
34	LIFT SPAN CROSS SECTION AT LIGHTWEIGHT CONCRETE
35	EXISTING LIFTING LEG AND EXPANSION JOINT
36	LIFTING LEG AND EXPANSION JOINT
37	LIFTING LEG AND EXPANSION JOINT DETAILS
38	EXISTING LIFT SPAN EXPANSION JOINT DETAIL
39	EXPANSION JOINT AT LIFT SPAN
40	EXPANSION JOINT AT LIFT SPAN DETAILS
41	LIFT SPAN GIRDER END DETAILS
42	STRINGER DETAILS (1 OF 2)
43	STRINGER DETAILS (2 OF 2)
44	PURLIN DETAILS
45	SIDEWALK FRAMING PLAN
46	CURB CHANNEL DETAILS
47	SIDEWALK STRINGERS (1 OF 2)
48	SIDEWALK STRINGERS (2 OF 2)
49	FASCIA CHANNEL DETAILS
50	EXISTING LIFT SPAN JACKING BEAM AND LIFTING LEG
51	MACHINERY SLAB
52	EXISTING COUNTERWEIGHT
53	METAL PLATES FOR BIKE LANES
54	SIDEWALK PLATE LAYOUT
55	RAILING LOCATION PLAN
56	EXISTING TUBULAR RAILING DETAILS
57	2 LINE ALUMINUM RAILING DETAILS
58	NAME PLATE
H1	HYDRAULIC DEMOLITION
H2	HYDRAULIC REHABILITATION
H3	NEW HYDRAULIC SCHEMATIC
H4	NEW HYDRAULIC POWER UNIT (HPU)
H5	HYDRAULIC JACKING CYLINDER REHAB
H6	HYDRAULIC DETAILS
M1	GENERAL MACHINERY NOTES AND SCHEDULE
M2	MACHINERY REHABILITATION GENERAL PLAN
M3	MACHINERY REHABILITATION ELEVATIONS
M4	COUNTERWEIGHT MACHINERY
M5	EQUALIZER MACHINERY ASSEMBLIES
M6	EQUALIZER MACHINERY DETAILS
M7	EQUALIZER MACHINERY CABLE DETAILS
M8	SPAN GUIDES
M9	BUMPER BEAMS 1
M10	BUMPER BEAMS 2
M11	BUMPER BEAMS 3
E1	SCHEMATIC LEGEND & SYMBOL LIST
E2	ELECTRICAL PLAN
E3	480V SWITCHBOARD CABINET
E4	ONE-LINE DIAGRAM
E5	ELECTRICAL PLAN
E6	EXISTING CONTROL CONSOLE
E7	EXISTING SCHEMATIC 1
E8	EXISTING SCHEMATIC 2
E9	EXISTING SCHEMATIC 3
E10	SCHEMATIC 4
E11	SCHEMATIC 5
E12	SCHEMATIC 6



PROFILE GRADE LINE ALONG
C/L OF W. WELLS STREET

GENERAL NOTES

ALL DETAILS, MATERIALS, AND FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION EDITION OF 2018 EXCEPT AS OTHERWISE NOTED.

EXISTING STRUCTURE (B-40-544) IS A STEEL VERTICAL LIFT BRIDGE, 189.80' LONG X 74.00' WIDE, TO BE REHABILIATED AS DETAILED IN DRAWINGS AND AS DESCRIBED IN SPECIAL PROVISIONS.

DRAWINGS SHALL NOT BE SCALED.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

STATIONS AND ELEVATIONS ARE IN FEET.

ELEVATIONS ARE REFERENCED TO CITY OF MILWAUKEE DATUM.

CITY OF MILWAUKEE DATUM = 580.6 NGVD.

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

EXISTING GROUND LINE SHALL BE UPPER LIMIT OF EXCAVATION AT ABUTMENTS.

VARIATIONS TO EXISTING GRADE LINE OVER ¼" MUST BE SUBMITTED TO FIELD ENGINEER FOR REVIEW.

ANY EXCAVATION REQUIRED TO COMPLETE THE PAVING BLOCK AT THE ABUTMENT IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "JOINT REPAIR".

AT ABUTMENT AND RETAINING WALLS, EXCAVATED VOLUME NOT OCCUPIED BY STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

FOR LIFT SPAN CONCRETE AND APPROACH SPAN DECK AND SIDEWALK AND EXPANSION JOINT CONCRETE, APPLY PROTECTIVE SURFACE TREATMENT TO TOP AND SIDES OF CONCRETE DECK AND SIDEWALKS.

JOINT FILLER SHALL CONFORM TO AASHTO DESIGNATION M153 TYPE I, II, OR III, OR AASHTO DESIGNATION M213.

EXISTING STRUCTURE REMOVALS SHOWN IN THESE DRAWINGS ARE INCLUDED IN LUMP SUM PAY ITEMS THAT COVER ALL EXISTING STRUCTURE REMOVAL REQUIRED IN THE CONTRACT. SEE SPECIAL PROVISIONS.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS, THEREFORE, PRIOR TO ACCEPTANCE, CONTRACTOR SHALL FIELD VERIFY AS SPECIFIED IN BID ITEM "FIELD VERIFICATION SURVEY". SEE SPECIAL PROVISIONS.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

PROVIDE MINIMUM RADIUS OF 1" AT ALL INTERIOR AND RE-ENTRANT CUTS, UNLESS OTHERWISE NOTED ON THE PLANS, AND NOTE ON THE SHOP DRAWINGS WHERE THEY OCCUR.

FOR NEW STRUCTURAL STEEL CONNECTION DETAILS, REFER TO ORIGINAL STRUCTURAL STEEL SHOP DRAWINGS UNLESS OTHERWISE NOTED. ORIGINAL STRUCTURAL STEEL SHOP DRAWINGS CAN BE MADE AVAILABLE TO CONTRACTOR UPON ADVANCED NOTICE AND ARE STORED IN:

FRANK P. ZEIDLER MUNICIPAL BUILDING
841 N BROADWAY, ROOM 907
MILWAUKEE, WISCONSIN

FIELD CONNECTIONS IN LIFT SPAN SHALL BE FRICTION TYPE MADE WITH ¾" DIA. GALVANIZED HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.

EXISTING ABUTMENTS, RETAINING WALLS AND PIERS ARE TO REMAIN IN PLACE AS SHOWN AND INCORPORATED INTO NEW CONSTRUCTION.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE, CLEAN, STRAIGHTEN, AND COAT EXISTING BARS

CONCRETE REMOVALS SHALL BE DEFINED BY A 1" DEEP SAW CUT.

IF THERE IS A CONFLICT BETWEEN THE STANDARD SPECIFICATIONS AND DRAWINGS OR SPECIAL PROVISIONS, THEN DRAWINGS OR SPECIAL PROVISIONS SHALL GOVERN.

IF AN ITEM IS LISTED OR DESCRIBED IN SPECIAL PROVISIONS AND IS NOT SPECIFICALLY SHOWN ON DRAWINGS, THEN IT SHALL BE CONSIDERED A PART OF THE WORK AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED, IF IT IS NOT OBVIOUS AS TO WHICH PAY ITEM IT BELONGS, THEN ENGINEER SHALL BE CONSULTED FOR INTERPRETATION, AND THE ENGINEERS DECISION SHALL GOVERN.

IF AN ITEM IS SHOWN ON DRAWINGS AND IS NOT SPECIFICALLY LISTED OR DESCRIBED IN SPECIAL PROVISIONS, THEN IT SHALL BE CONSIDERED A PART OF THE WORK AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED, IF IT IS NOT OBVIOUS AS TO WHICH PAY ITEM IT BELONGS, THEN ENGINEER SHALL BE CONSULTED FOR INTERPRETATION, AND THE ENGINEERS DECISION SHALL GOVERN.

WELDING NOT SHOWN ON THE PLANS WILL NOT BE PERMITTED, EXCEPT BY WRITTEN PERMISSION FROM THE ENGINEER AND WITH AN APPROVED WELD PROCEDURE PROVIDED BY THE CONTRACTOR.

AWS BRIDGE WELDING CODE D 1.5, LATEST EDITION.

AWS STRUCTURAL WELDING CODE - STEEL D 1.1, LATEST EDITION.

FOR BENT PLATES, CONFORM TO ASTM A143 TO PREVENT EMBRITTLEMENT CAUSED BY THE GALVANIZING PROCESS.

ALL EXISTING STRUCTURAL STEEL SHALL BE SANDBLASTED, PRIMED AND PAINTED UNLESS OTHERWISE NOTED.

PAINTING SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS. FINISH COAT COLOR FOR STRUCTURAL STEEL SHALL BE FEDERAL COLOR NO. 20095

GALVANIZED PARTS THAT ARE TO BE SHOP ASSEMBLED WITH BOLTS SHALL BE GALVANIZED BEFORE SHOP ASSEMBLY.

FIELD WELDING WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS OR AUTHORIZED IN WRITING BY THE ENGINEER.

NATURAL CAMBER OF THE ROLLED SECTIONS SHALL BE UP.

ALL INTERIOR AND RE-ENTRANT CUTS SHALL HAVE A MINIMUM RADIUS OF 1" UNLESS NOTED OTHERWISE ON THE PLANS, AND SHALL BE NOTED ON THE SHOP DRAWINGS WHERE THEY OCCUR.

ALL FLAME CUT EDGES OF PLATES THAT WILL BE PAINTED SHALL BE GROUND OR PLANED TO REMOVE THE HARDENED SURFACE CAUSED BY THE FLAME. REMOVAL OF THIS SURFACE IS NECESSARY TO OBTAIN A PROPER BLASTED SURFACE FOR THE ADHESION OF THE PAINT.

NEW STRUCTURAL STEEL SHALL BE GALVANIZED AND SHOP PAINTED WITH A TWO COAT SYSTEM FOLLOWING ASTM D6386.

NEW STEEL SECTIONS SHALL BE GALVANIZED FOLLOWING ASTM A123.

NEW STEEL HARDWARE SHALL BE GALVANIZED FOLLOWING ASTM A153.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-40-544".

PROPOSED IMPROVEMENTS

THE PROJECT AS PROPOSED CONSISTS OF:

-SURFACE REPAIRS TO THE ABUTMENTS AND PIERS.

-REPAIR OF BEARING ASSEMBLIES, AS NEEDED.

-SAND BLASTING AND PAINTING STEEL GIRDERS, FLOOR BEAMS, STRINGERS, AND PURLINS ON LIFT SPAN AND STEEL GIRDERS AND DIAPHRAGMS ON APPROACH SPANS.

-OVERCOAT EXISTING OPEN STEEL GRID FLOOR.

-REPLACING STRINGERS AND PURLINS ON THE LIFT SPAN.

-REPLACE ASPHALT FILL WITH LIGHTWEIGHT CONCRETE DECK WITH WELDED SHEAR STUDS ON LIFT SPAN.

-REMOVE AND REPLACE CONCRETE SIDEWALK ON APPROACH SPAN.

-REPLACE EXPANSION JOINTS AT THE LIFT SPAN JOINTS, ABUTMENTS, AND RIVERWALKS.

-REPLACE FIBERGLASS SIDEWALK PLATES ON LIFT SPAN.

-INSTALL NEW 2-LINE RAILING AT THE CURB

-REMOVE, REPAIR, AND PAINT EXISTING TUBULAR RAILING

-CONCRETE STAINING OF ABUTMENTS AND PIERS.

-REHABILITATING OR REPLACING ELECTRICAL, HYDRAULIC, AND MECHANICAL SYSTEM COMPONENTS.

WISCONSIN
JERREL KRUSCHKE
43536-6
MILWAUKEE, WIS.
PROFESSIONAL ENGINEER
10-30-2017

STATE PROJECT NUMBER
2195 - 03 - 70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

LIST OF DRAWINGS / GENERAL NOTES

SHEET 2 OF 58
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REVISED: 10/27/2017 BY GJR

STATE PROJECT NUMBER

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ESTIMATED BRIDGE QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	BRIDGE B-40-544								
			SUBSTRUCTURE					SUPERSTRUCTURE			TOTAL
			WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	BRIDGE HOUSE	WEST APPROACH	EAST APPROACH	LIFT SPAN	
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 40+36.34	LS									1
502.0100	CONCRETE MASONRY BRIDGES	CY	4			5		55	43		107
502.3100	EXPANSION DEVICE B-40-544	LS									1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	9			10		205	141	100	465
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	81			88					169
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	750			800		8,570	6,400	4,940	21,460
506.3005	WELDED STUD SHEAR CONNECTORS 7/8 X 4-INCH	EACH						148	148	200	496
506.3015	WELDED STUD SHEAR CONNECTORS 7/8 X 6-INCH	EACH								264	264
509.0302	PREPARATION DECKS TYPE 2	SY						10	11		21
509.1000	JOINT REPAIR	SY	33			36					69
509.1500	CONCRETE SURFACE REPAIR	SF		294	39	6					339
509.5100.S	POLYMER OVERLAY	SY						375	250		625
509.9025.S	EPOXY INJECTION CRACK REPAIR	LF	6	106	276	20					408
509.9026.S	CORED HOLES 2-INCH DIAMETER	EACH		1	1						2
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5			6					11
517.0600	PAINTING EPOXY SYSTEM B-40-544	LS									1
517.0900.S	PREPARATION AND COATING OF TOP FLANGES B-40-544	LS									1
517.1010.S	CONCRETE STAINING B-40-544	SF	335	1,800	2,020	436	300	280	202		5,373
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-40-544	LS									1
517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-40-544	LS									1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-544	LS									1
517.6001	PORTABLE DECONTAMINATION FACILITY	EA									1
652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	LF						70	139		209
652.0220	CONDUIT RIGID NONMETALLIC SCHEDULE 40 1 1/2-INCH	LF						70	28		98
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF						112	59		171
652.0230	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 1/2-INCH	LF						5			5
657.6005	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH						8	5		13
SPV.0035.501	LIGHTWEIGHT CONCRETE MASONRY	CY								20	20
SPV.0060.501	BEARING MAINTENANCE B-40-544	EACH						8	8	16	32
SPV.0060.502	REPLACING HIGH STRENGTH BOLTS	EACH								385	385
SPV.0060.503	JUNCTION BOXES 8x8x6-INCH	EACH						1			1
SPV.0060.504	RIVERWALK EXPANSION JOINT	EACH						1	1		2
SPV.0060.505	RIVERWALK EXPANSION JOINT WITH COVER PLATE	EACH						1	1		2
SPV.0085.501	COUNTERWEIGHT BALLAST	LB								20,000	20,000
SPV.0085.502	BRIDGE STRUCTURAL STEEL	LB								31,325	31,325
SPV.0090.501	MARINE DOCK FENDERS	LF		176	148						324
SPV.0090.502	2 LINE ALUMINUM RAILING B-40-544	LF						87	88	148	323
SPV.0090.503	REMOVE, REPAIR, PAINT, AND REINSTALL EXISTING TUBULAR RAILING	LF						131	94	148	373
SPV.0090.504	1-INCH FIBERGLASS REINFORCED EPOXY (FRE) CONDUIT	LF						50			50
SPV.0105.501	BUMPER BEAMS	LS									1
SPV.0105.502	COUNTERWEIGHT MACHINERY	LS									1
SPV.0105.503	EQUALIZER MACHINERY	LS									1
SPV.0105.504	SPAN GUIDES	LS									1
SPV.0105.505	BRIDGE ELECTRICAL WORK	LS									1
SPV.0105.506	PACKAGED ENGINE GENERATOR	LS									1
SPV.0105.507	GENERATOR MECHANICAL WORK	LS									1
SPV.0105.508	BRIDGE HYDRAULIC SYSTEM	LS									1
SPV.0105.509	FIELD VERIFICATION SURVEY	LS									1
SPV.0105.510	COUNTERWEIGHT BALANCING CALCULATIONS	LS									1
SPV.0105.511	TEMPORARY LIFT SPAN SHORING	LS									1
SPV.0105.512	LIFT SPAN ROADWAY JOINT	LS									1
SPV.0105.513	LIFT SPAN SIDEWALK JOINT	LS									1
SPV.0105.514	REFURBISHING EXISTING NAME PLATES	LS									1
* SPV.0105.515	NAME PLATE	LS									1
SPV.0165.501	FIBERGLASS SIDEWALK FLOOR PLATES	SF								1,776	1,776
SPV.0165.502	METAL PLATES FOR BIKE LANES	SF								443	443

* ITEM IS CATEGORY 0020

DESIGN SPECIFICATIONS

AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION.

AASHTO STANDARD SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES, SECOND EDITION, 2007, AND INTERIMS THROUGH 2017.

DESIGN DATA

DEAD LOAD

CONCRETE = 150 PCF
CONCRETE, LIGHTWEIGHT = 115 PCF
FWS = 20 PSF
EXIST. TUBULAR RAILING = 74 PLF
2-LINE ALUMINUM RAILING = 37 PLF

LIVE LOAD

DESIGN LOADING: HS-20
INVENTORY RATING: HS-22
OPERATING RATING: HS-37
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY (SUPERSTRUCTURE) f'c = 4,000 PSI
CONCRETE MASONRY, LIGHTWEIGHT (SUPERSTRUCTURE) f'c = 4,000 PSI
CONCRETE MASONRY (OTHERS) f'c = 3,500 PSI

BAR STEEL REINFORCEMENT: Fy = 60,000 PSI

NEW STEEL BEAMS/SHAPES (ASTM A709): Fy = 50,000 PSI

EXISTING STRUCTURAL STEEL (ASTM A709, GR 36): Fy = 36,000 PSI

TRAFFIC DATA

ADT (2017) = 9,900 VEHICLES/DAY
ADT (2037) = 11,400 VEHICLES/DAY
ROADWAY DESIGN SPEED = 35 MPH

HYDRAULIC DATA

100 YEAR FREQUENCY

Q100 = 14,800 CFS (SEWERPC)
VEL = 4.8 FPS (SEWERPC)
HW100 = 581.7 (NGVD 1929) (SEWERPC)
WATERWAY AREA = 3,990 SF
DRAINAGE AREA = 690 SQ.MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

10 YEAR FREQUENCY

Q10 = N/A
VEL = N/A
HW10 = EL. 580.1 (NGVD 1929)

NON-BID ITEMS

NAME PLATE
NON-BITUMINOUS JOINT FILLER
POLYETHYLENE SHEETS
PREFORMED JOINT FILLER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

ESTIMATED BRIDGE QUANTITIES / DESIGN DATA

SHEET 3 OF 58

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REVISED DATE: 07/20/2017 BY: DB

STATE PROJECT NUMBER
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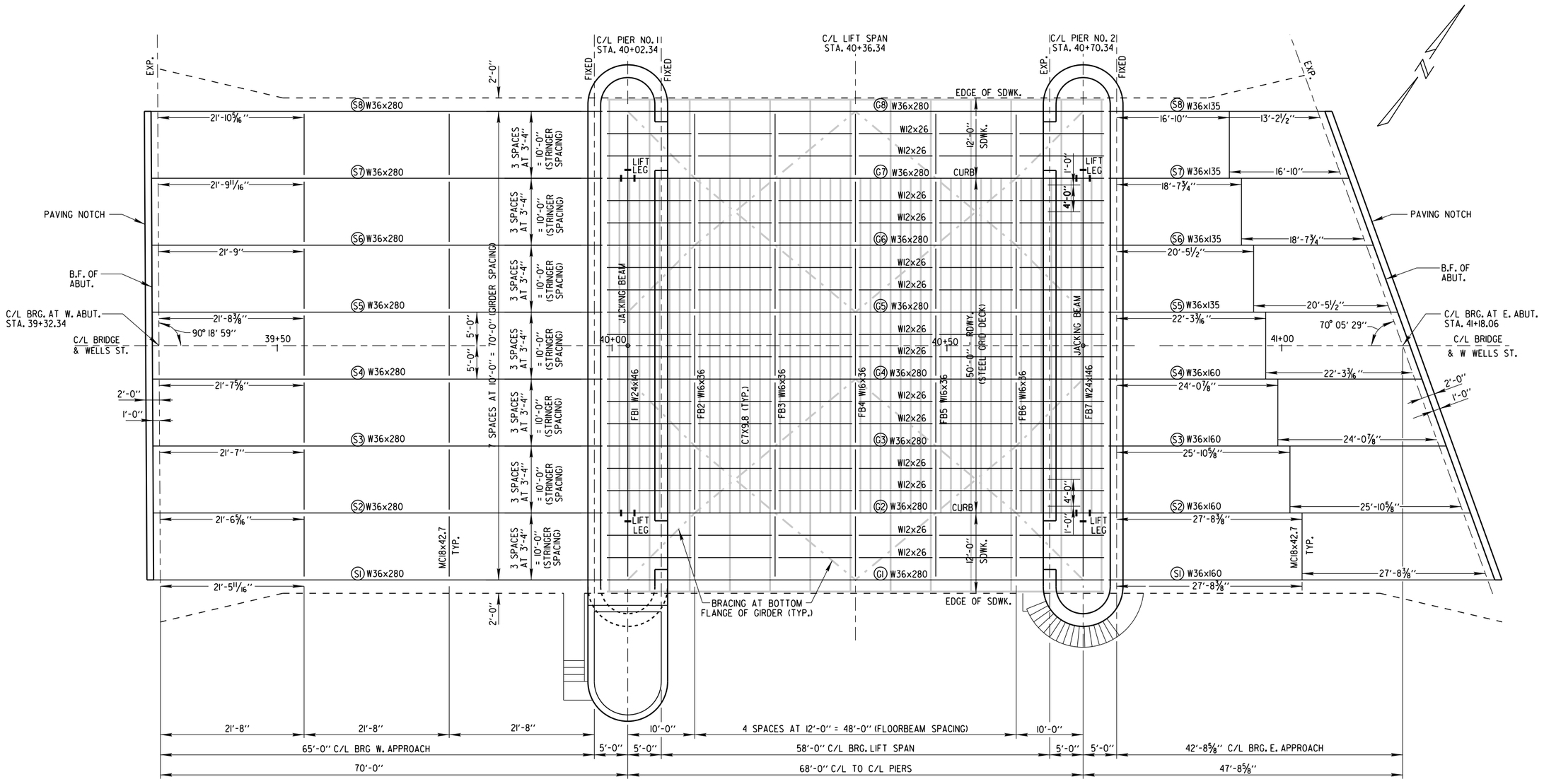

GENERAL FRAMING PLAN

NOTE:

INFORMATION SHOWN ON THIS SHEET WAS REPRODUCED FROM THE ORIGINAL DESIGN PLANS AND REPRESENTS THE BEST INFORMATION AVAILABLE. THIS INFORMATION IS NOT GUARANTEED AND THE CONTRACTOR SHALL VIEW THE STRUCTURE AND FIELD VERIFY ANY NECESSARY DIMENSIONS IN ORDER TO MAKE HIS OWN DETERMINATION OF CONDITIONS TO BE ENCOUNTERED.

SEE SHEET 32 FOR LIFTSPAN STEEL DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

EXISTING FRAMING PLAN

SHEET 4 OF 58

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STATE PROJECT NUMBER
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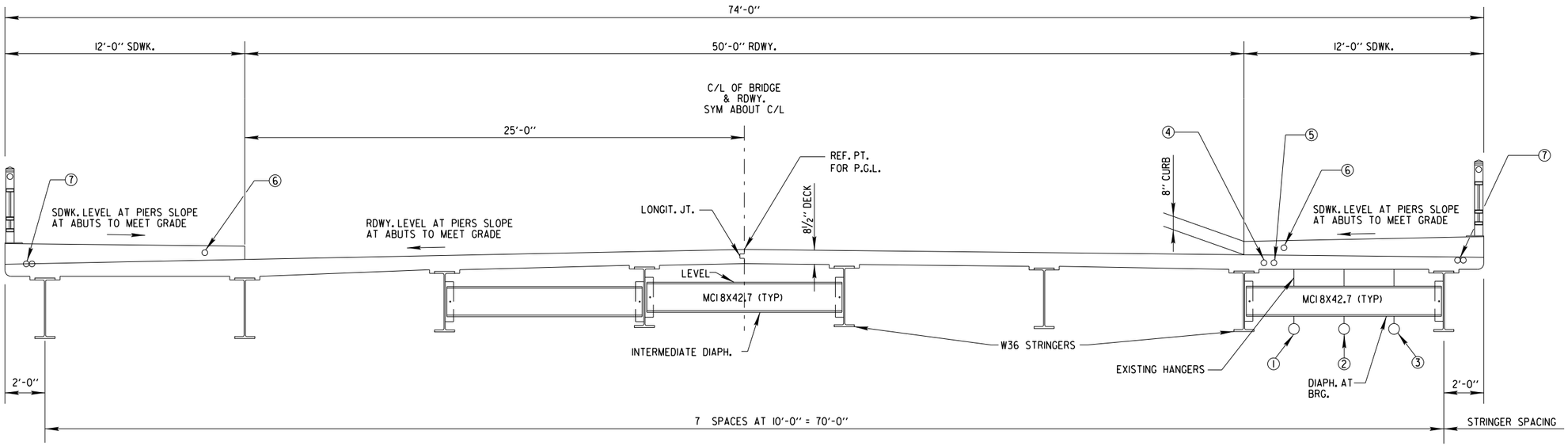
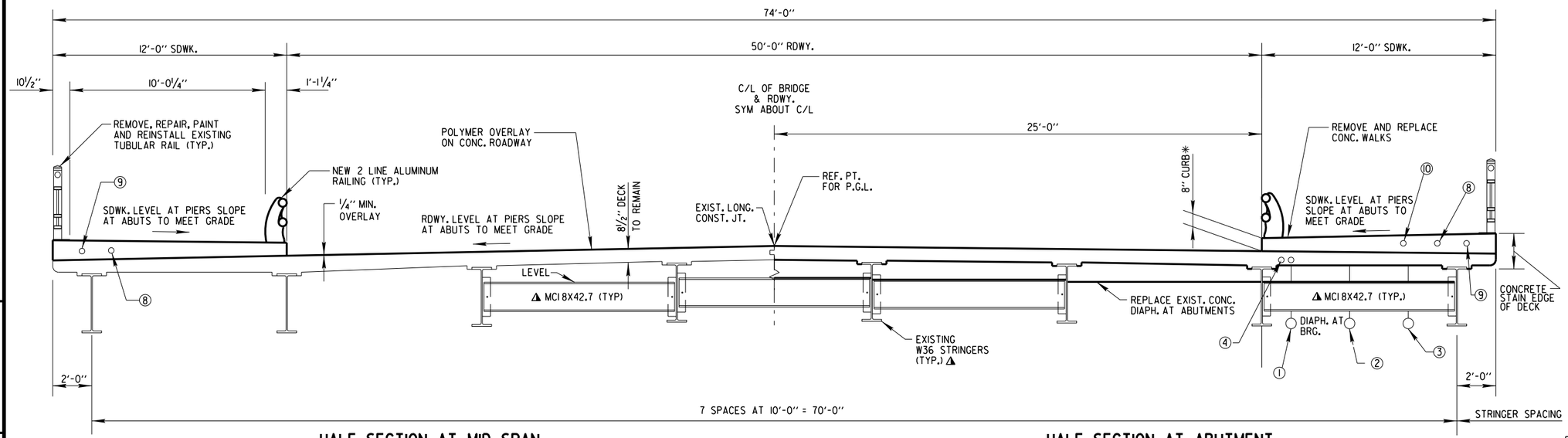


EXISTING CROSS SECTION - APPROACH SPAN

(LOOKING EAST)



HALF SECTION AT MID SPAN

HALF SECTION AT ABUTMENT

PROPOSED CROSS SECTION - APPROACH SPAN

(LOOKING EAST)

UTILITY KEY:

① EXISTING 2½" CONDUIT FROM WEST ABUTMENT TO PIER 1. TO REMAIN.

② EXISTING 1¼" GAS CONDUIT FROM WEST ABUTMENT TO PIER 1. TO REMAIN.

③ EXISTING 3½" ELECTRIC CONDUIT FROM WEST ABUTMENT TO PIER 1. TO REMAIN.

④ EXISTING 2" TRAFFIC CONTROL CONDUIT FROM WEST ABUTMENT TO PIER 1. TO REMAIN.

⑤ EXISTING 2½" COMMUNICATIONS CONDUIT FROM WEST ABUTMENT TO PIER 1. TO REMAIN.

⑥ EXISTING 2" STREET LIGHTING CONDUIT FROM WEST ABUTMENT TO STREET LIGHTS AND EAST ABUTMENT TO STREET LIGHTS TO BE REMOVED.

⑦ EXISTING 2" GATE CONTROL CONDUIT FROM PIER 1. TO GATES AND PIER 2 TO GATES TO BE REMOVED.

⑧ NEW 2" STREET LIGHTING CONDUIT FROM WEST ABUTMENT TO LIGHT POLE AND EAST ABUTMENT TO LIGHT POLE.

⑨ NEW 1½" OR 1" GATE CONTROL CONDUIT FROM PIER 1 TO GATES AND PIER 2 TO GATES.

⑩ NEW 1" CONDUIT FROM GATE TO SIGNAL POLE

NOTE:

▲ SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BEAMS, STRINGERS)

PROVIDE TEMPORARY SUPPORT FOR EXISTING UTILITIES AS REQUIRED

* CURB HEIGHT BASED ON FINISHED CONC. ELEV. AND VARIES NEAR LIFT SPAN AND CURB RAMPS. SEE SHEET 19 - 27 FOR ADDITIONAL DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

TYPICAL SECTION
APPROACH SPAN

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REVISED: 07/20/2017 BY DB

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STATE PROJECT NUMBER

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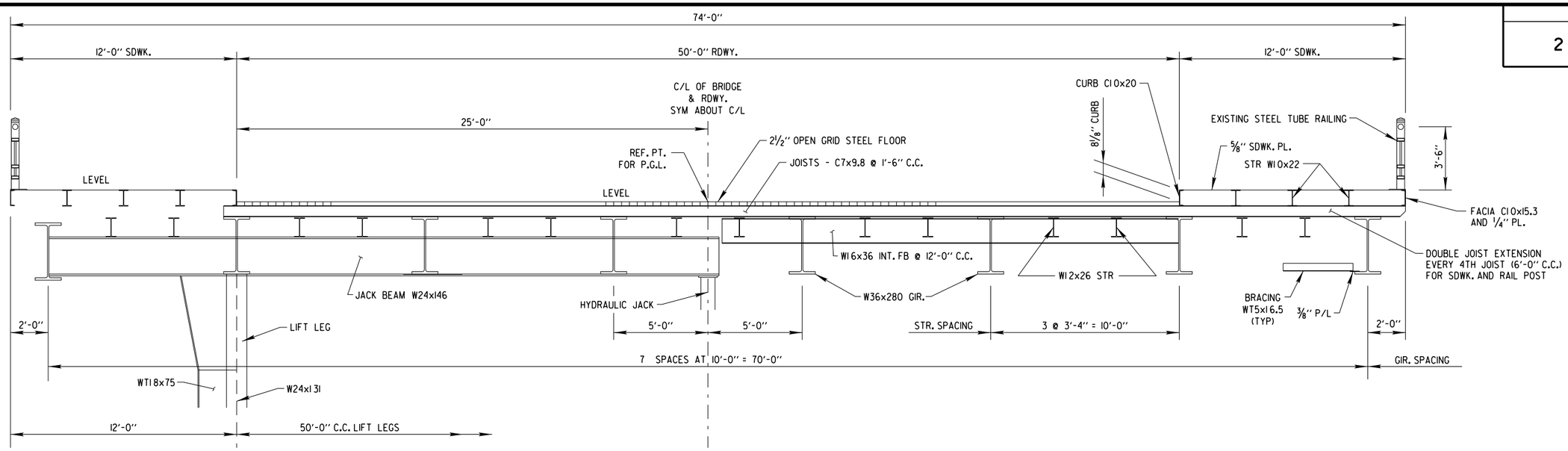
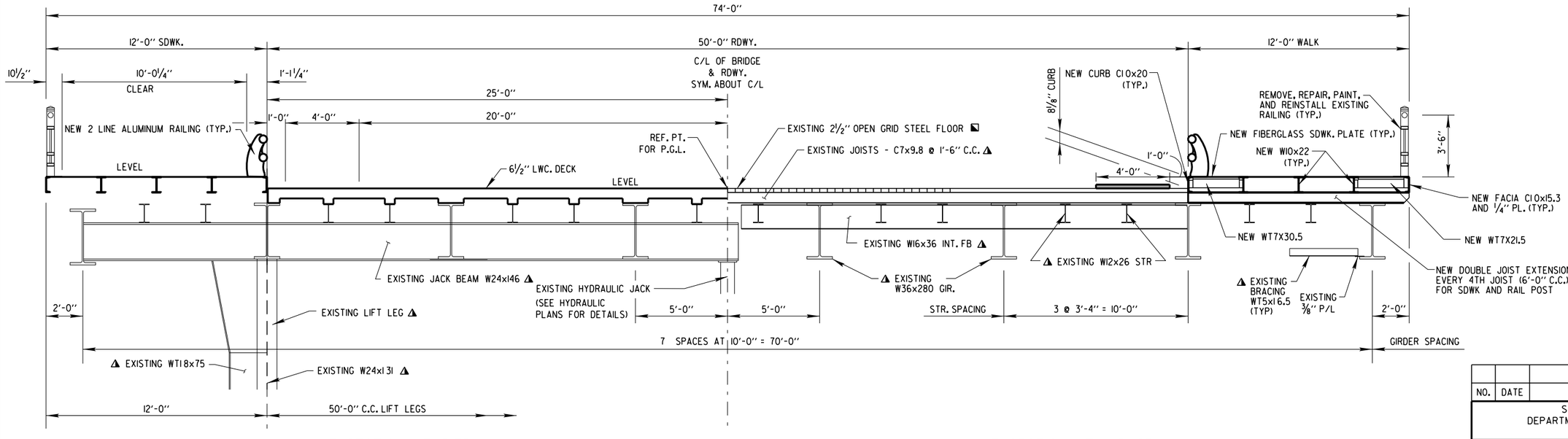


HALF SECTION AT PIER

HALF SECTION AT MID SPAN

EXISTING CROSS SECTION - LIFT SPAN

(LOOKING EAST)



HALF SECTION AT PIER

HALF SECTION AT MID SPAN

PROPOSED CROSS SECTION - LIFT SPAN

(LOOKING EAST)

NOTE:

▲ SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BEAMS, STRINGERS, JOISTS)

◪ OVERCOAT EXISTING OPEN GRID STEEL FLOOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	J.D.T. H.J.R.

TYPICAL SECTION LIFT SPAN

SHEET 6 OF 58

REVISED DATE: 07/26/2017 BY DB

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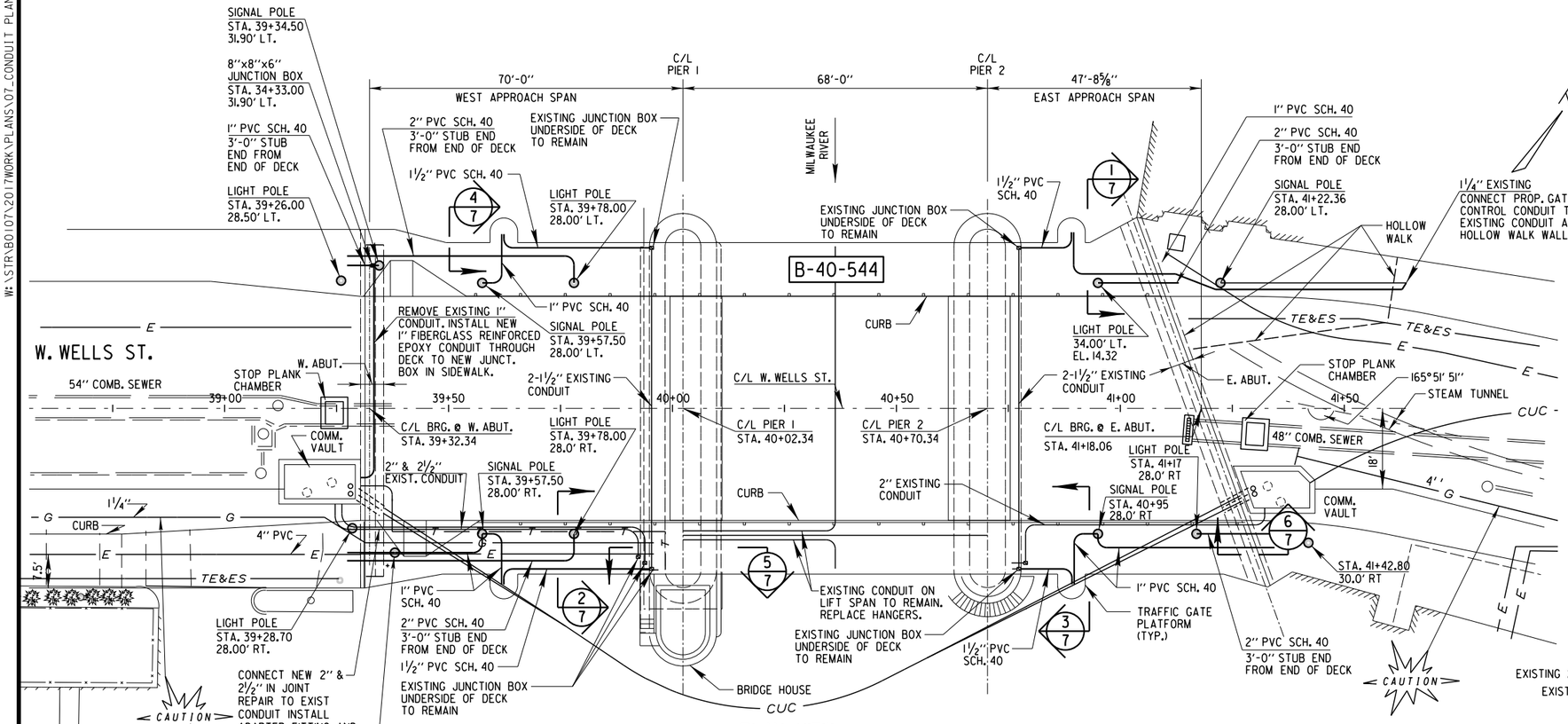
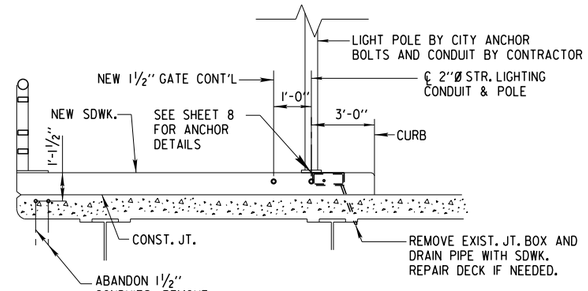
REVISED: 07/20/2017 BY DB

STATE PROJECT NUMBER

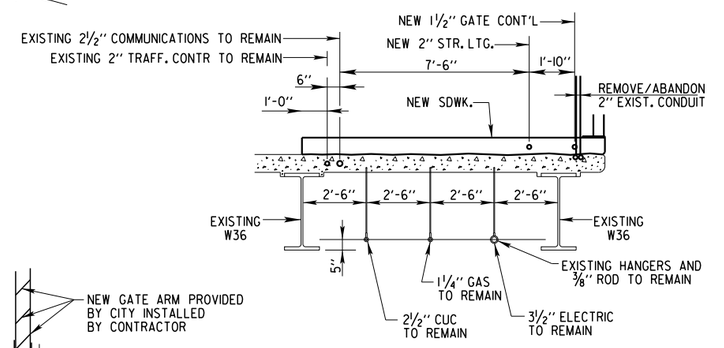
2195 - 03 - 70



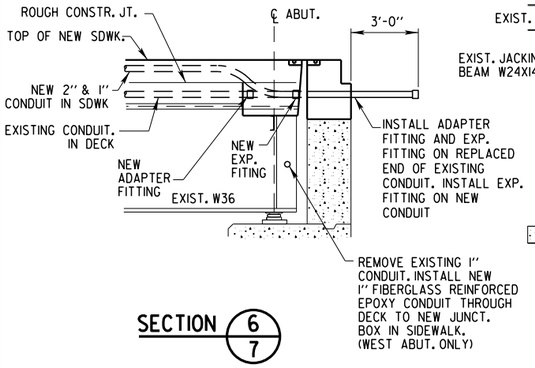
PLAN VIEW



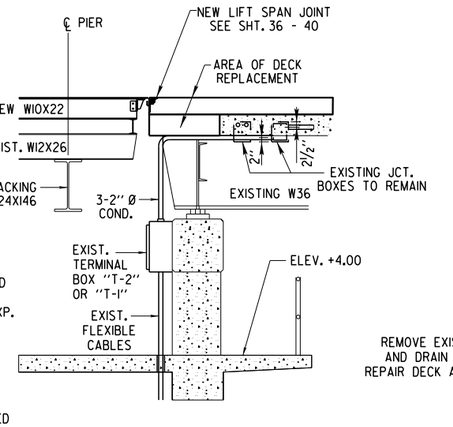
SECTION 1/7



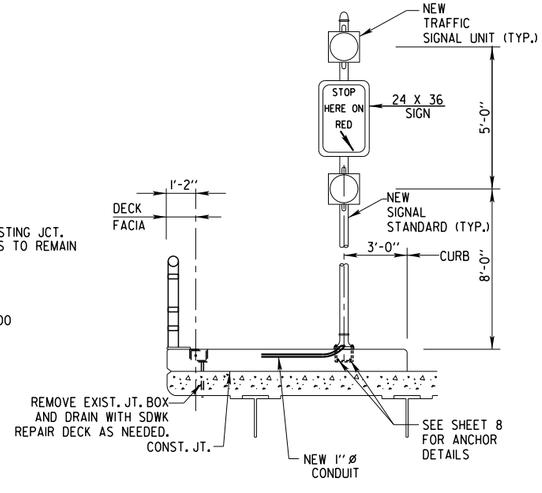
SECTION 2/7



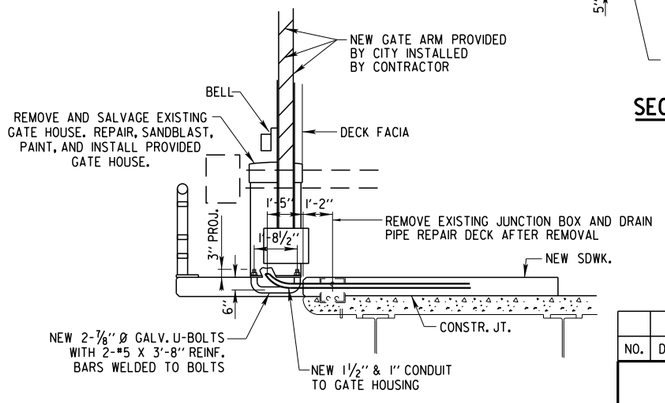
SECTION 6/7



SECTION 5/7



SECTION 4/7



SECTION 3/7

NOTE:

WORK FOR BRIDGE SIGNAL STANDARDS, AND GATE HOUSES WILL BE PAID UNDER BRIDGE ELECTRICAL WORK.

CONDUIT, JUNCTION BOX, AND ANCHOR ASSEMBLIES WILL BE PAID UNDER EACH INDIVIDUAL BID ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	J.D.T. H.J.R.

CONDUIT PLAN

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STATE PROJECT NUMBER

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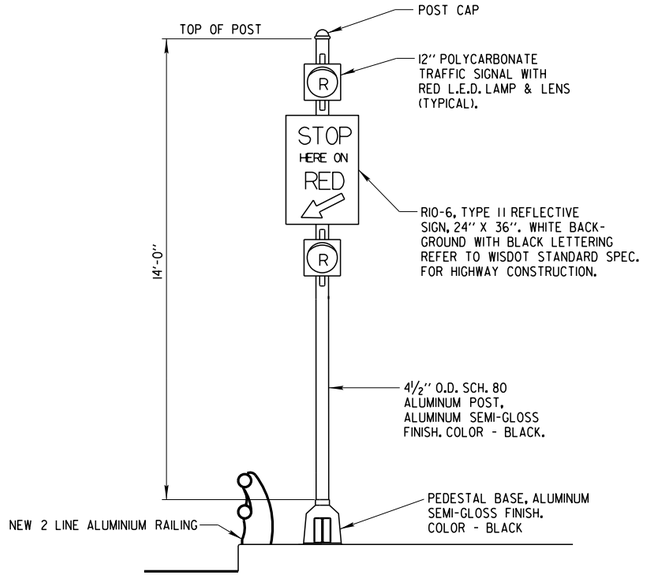
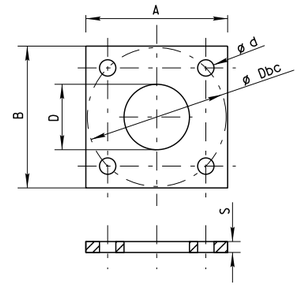


BRIDGE TRAFFIC SIGNAL POLE ASSEMBLY

(TYPICAL 4 INSTALLATIONS / 3 ON APPROACH AND 1 ON HOLLOW WALK)



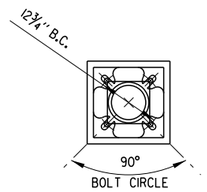
	A	B	Dbc	D	d	S
LIGHT POLE	10¾"	10¾"	11"	6"	1⅛"	1"
TRAFFIC SIGNAL•	1'-0"	1'-0"	1'-0¾"	6"	1"	¼"

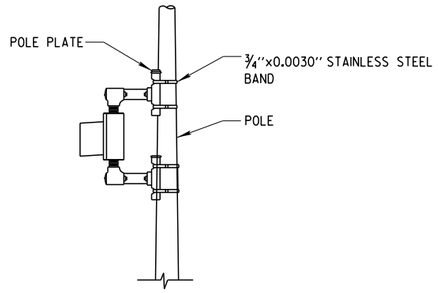
• TACK WELD NUT TO ANCHOR PLATE AT 3 PLACES.

ANCHOR PLATES

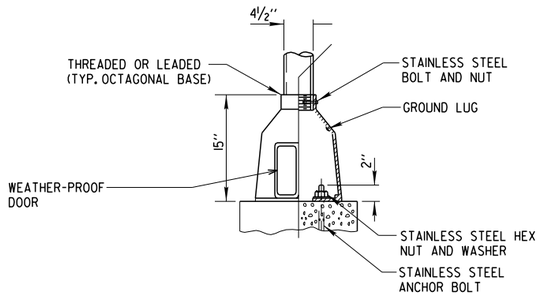
NOTE:

ALL ANCHOR PLATES TO BE HOT DIPPED GALVANIZED.

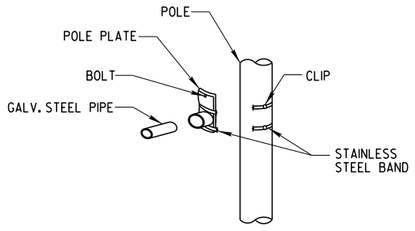




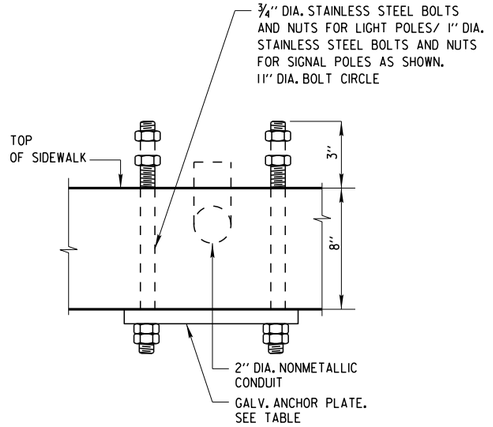
VERTICAL POLE BRACKET MOUNT



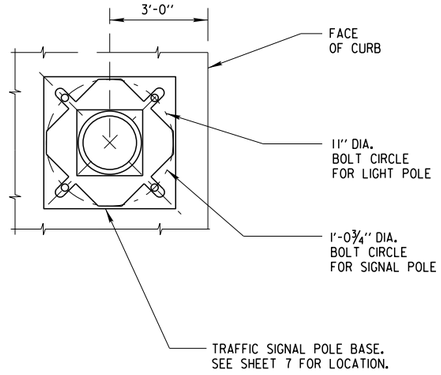
TRAFFIC SIGNAL PEDESTAL BASE



POLE PLATE MOUNTING DETAIL



ANCHORAGE FOR LIGHT POLE



NOTES:

ANCHORAGE FOR LIGHT POLES AND SIGNAL POLES PAID AS ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES. SIGNAL POLES PROVIDED BY CONTRACTOR, LIGHT POLES PROVIDED BY CITY.

SEE SHEET 7 FOR LOCATION DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

TRAFFIC SIGNAL DETAILS

SHEET 8 OF 58

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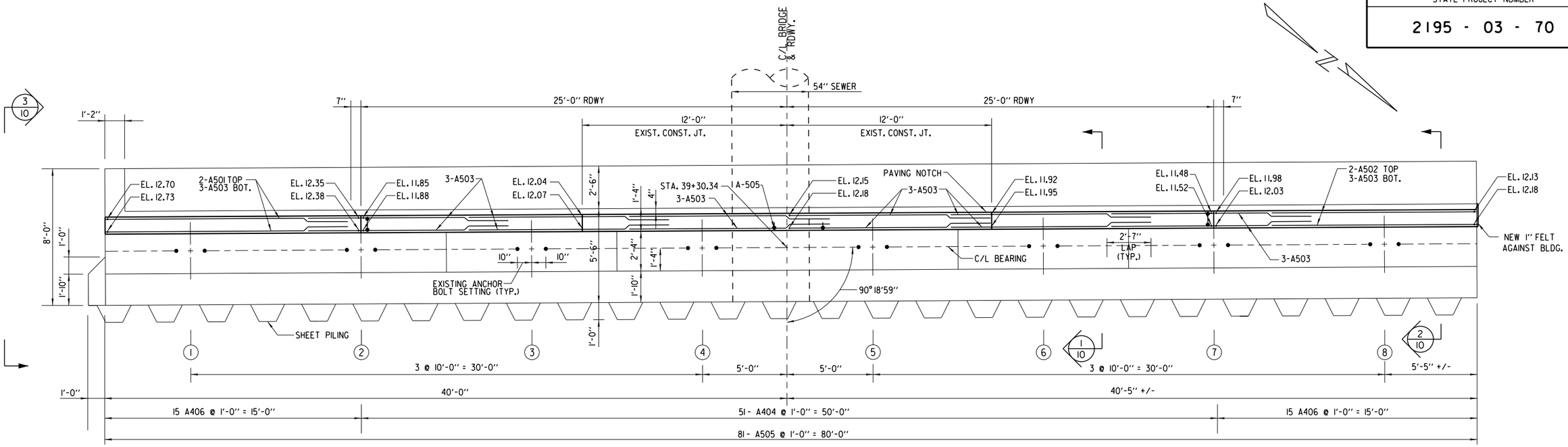
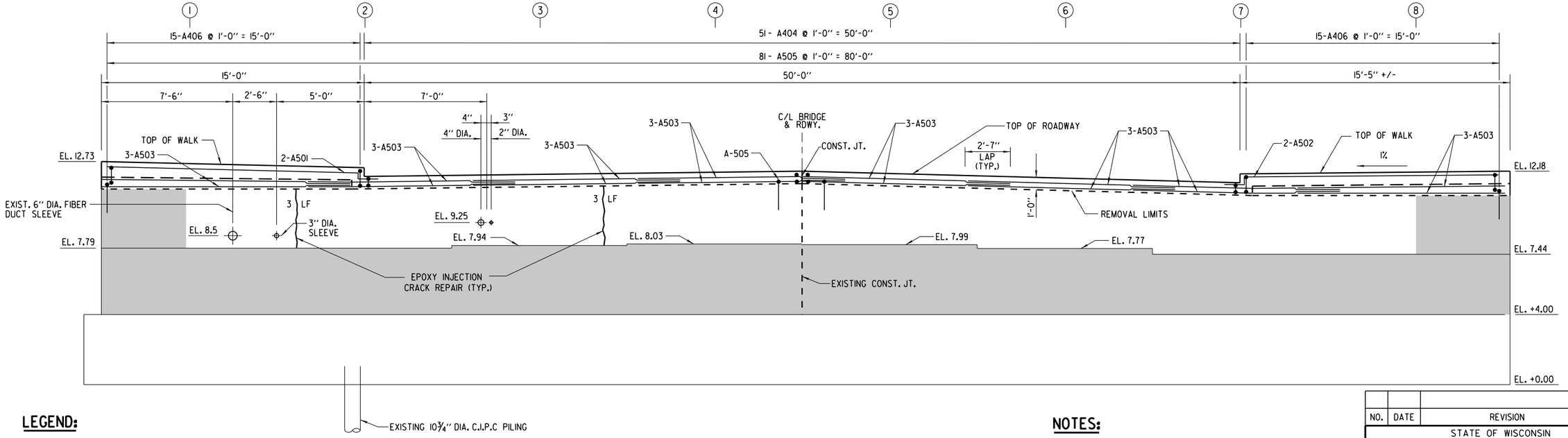
REVISED DATE: 07/27/2017 BY GJR

STATE PROJECT NUMBER

2195 - 03 - 70



WEST ABUTMENT-PLAN VIEW



WEST ABUTMENT-ELEVATION

(LOOKING WEST)

LEGEND:

CRACK FOR EPOXY INJECTION

LIMITS FOR CONCRETE STAINING

NOTES:

EXISTING STIRRUPS TO BE REUSED. CLEAN AND RECOAT WITH EPOXY.

DAMAGED STIRRUPS IN BACKWALL TO BE REPLACED AS REQUIRED.

SEE SHEET 19 TO 21 FOR APPROACH SPAN DETAILS.

SEE SHEET 24 TO 25 FOR ADDITIONAL DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

WEST ABUTMENT

SHEET 9 OF 58

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REVISED DATE: 07/27/2017 BY: GJR

STATE PROJECT NUMBER

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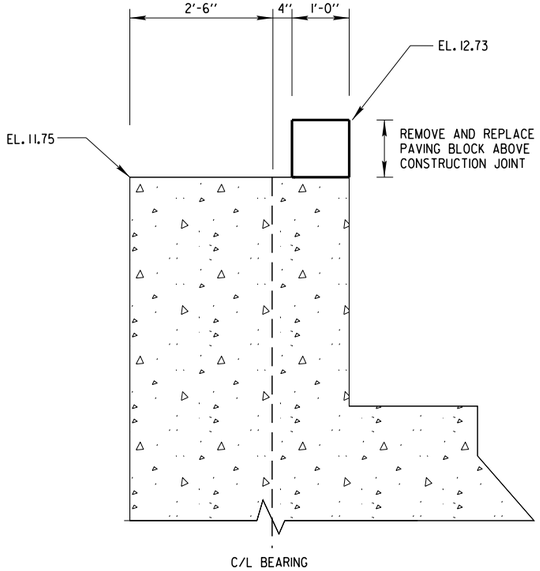
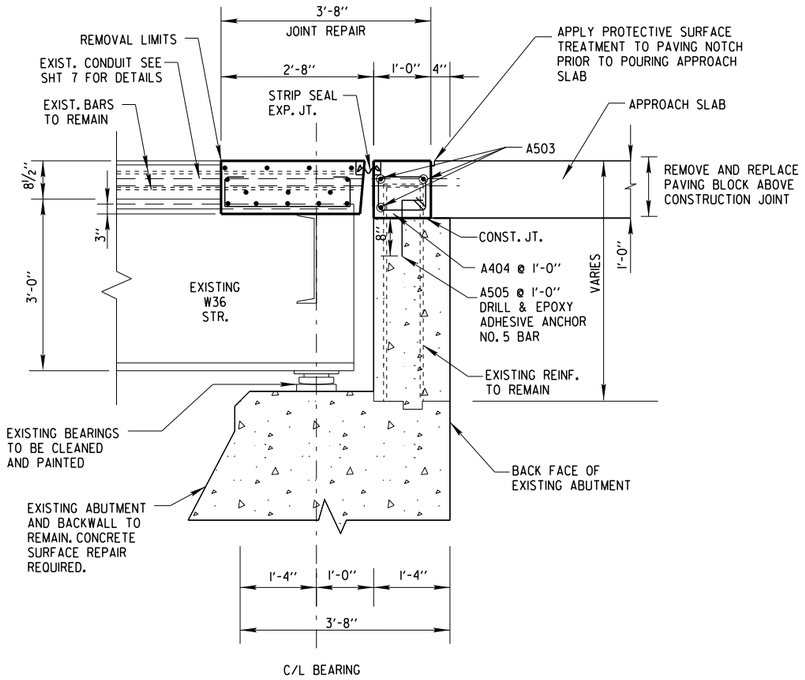
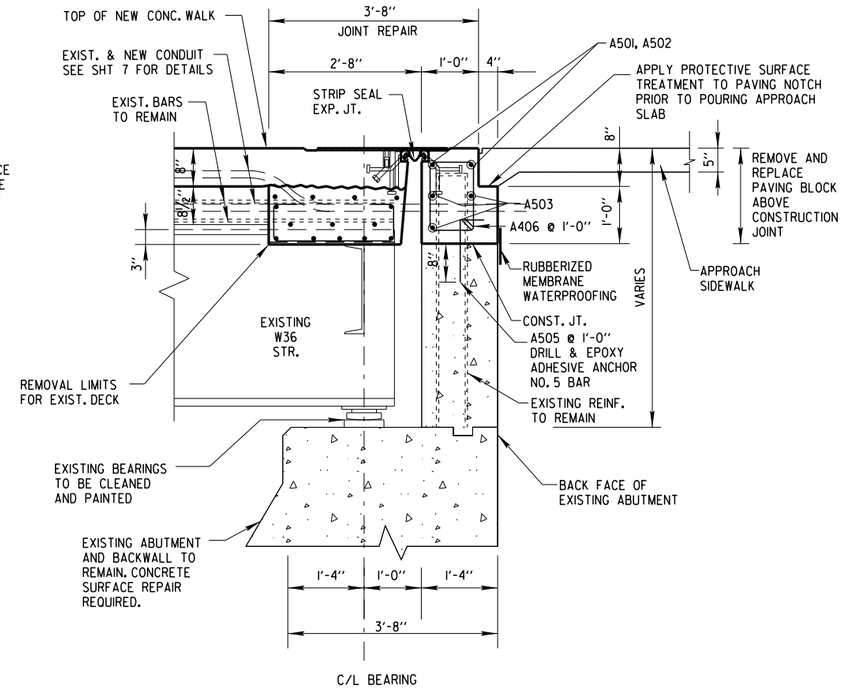


3/9 SECTION AT SW CORNER OF WEST ABUTMENT



1/9 SECTION AT ROADWAY WEST ABUTMENT

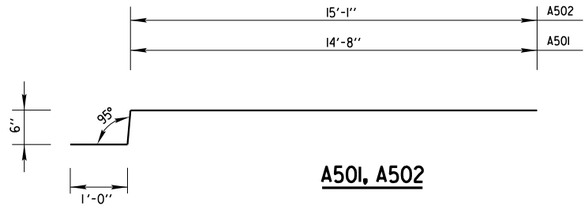


2/9 SECTION AT SIDEWALK WEST ABUTMENT

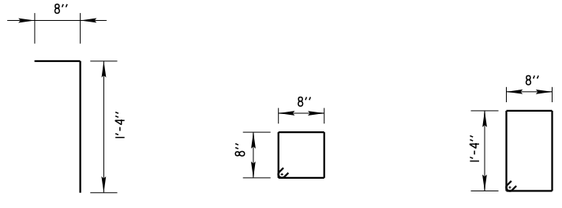
BILL OF BARS - WEST ABUTMENT

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	A501	X	2	16' - 4"	X		PAVING BLOCK - SIDEWALK - HORIZONTAL
	A502	X	2	15' - 11"	X		PAVING BLOCK - SIDEWALK - HORIZONTAL
	A503	X	24	12' - 3"			PAVING BLOCK - HORIZONTAL
	A404	X	51	3' - 2"	X		PAVING BLOCK - VERTICAL STIRRUP
	A505	X	81	1' - 11"	X		PAVING BLOCK - VERTICAL
	A406	X	30	4' - 5"	X		PAVING BLOCK - SIDEWALK - VERTICAL STIRRUP
*	A407	X	2	13' - 7"			SOUTHWEST CORNER - EXP. JT. - HORIZONTAL

* SEE SHEET 27 FOR ADDITIONAL DETAILS



A501, A502



A505 A404 A406

NOTES:

ADHESIVE ANCHORS NO. 5 BAR, EMBED 8" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

SEE SHEETS 19-21 FOR DECK REINFORCEMENT.

SEE SHEET 28-30 FOR STRIP SEAL DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY M.L. | PLANS CK'D. M.S.A. J.D.T.

WEST ABUTMENT DETAILS AND BILL OF BARS

SHEET 10 OF 58

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REVISED DATE: 05-11-2017 BY DLF

STATE PROJECT NUMBER
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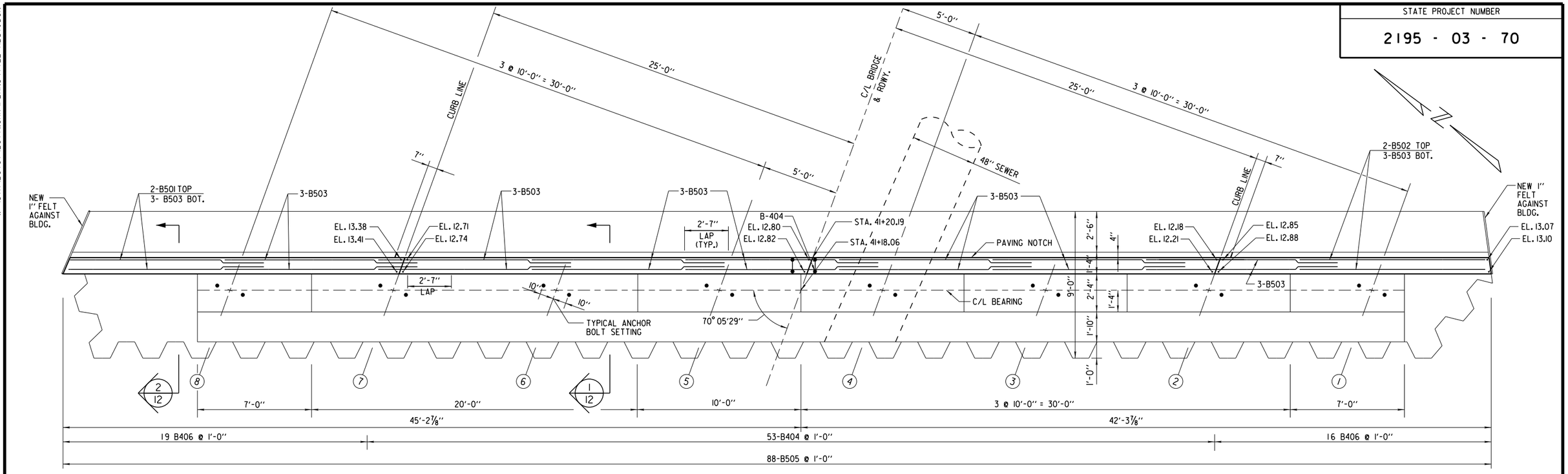
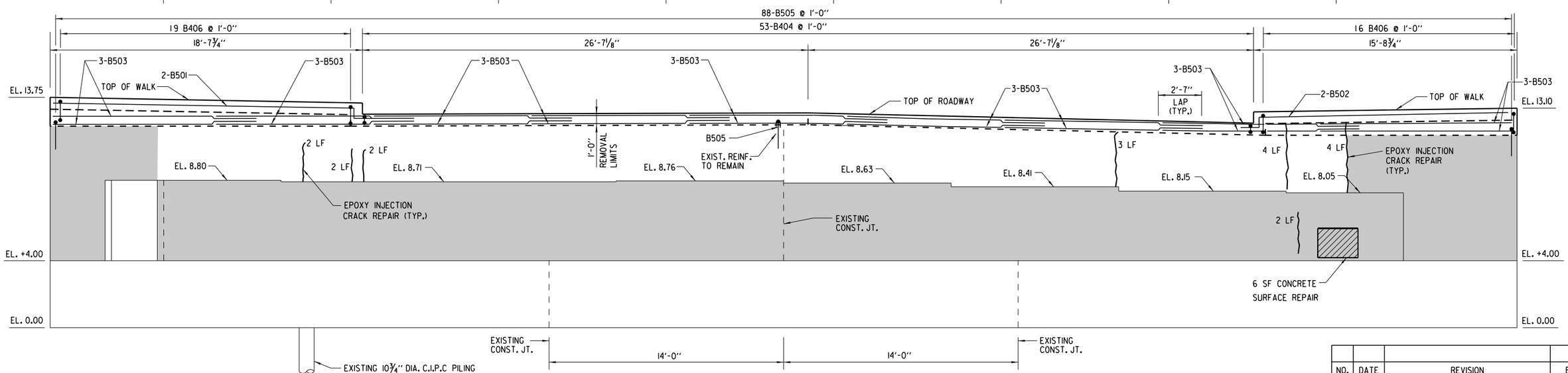


EAST ABUTMENT-PLAN VIEW



EAST ABUTMENT-ELEVATION

(LOOKING EAST)

LEGEND:

- CRACK FOR EPOXY INJECTION
- LIMITS FOR CONCRETE STAINING
- FORMED CONCRETE REPAIR

NOTES:

EXISTING STIRRUPS TO BE REUSED. CLEAN AND RECOAT WITH EPOXY.
DAMAGED STIRRUPS IN BACK WALL TO BE REPLACED AS REQUIRED.
SEE SHEET 19 TO 21 FOR APPROACH SPAN DETAILS.
SEE SHEET 26 TO 27 FOR ADDITIONAL DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	M.S.A. J.D.T.

EAST ABUTMENT

SHEET 11 OF 58
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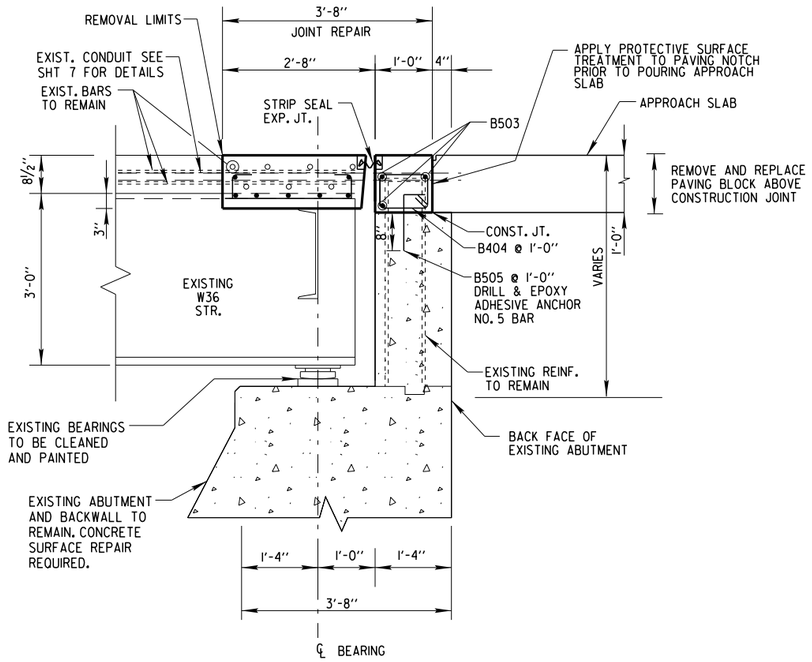
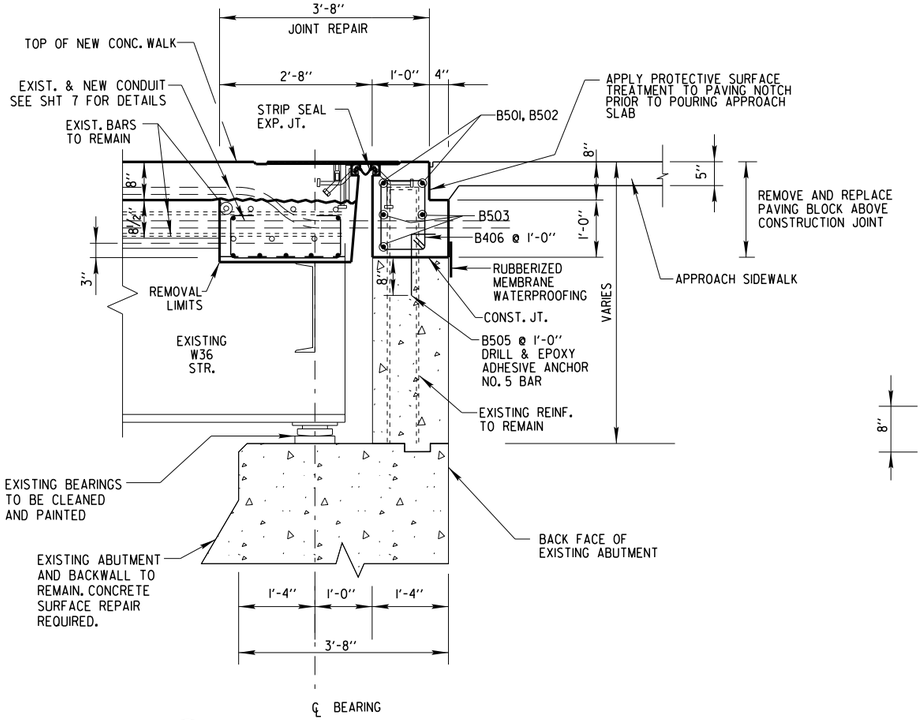
REVISED DATE: 07/20/2017 BY: DB

STATE PROJECT NUMBER

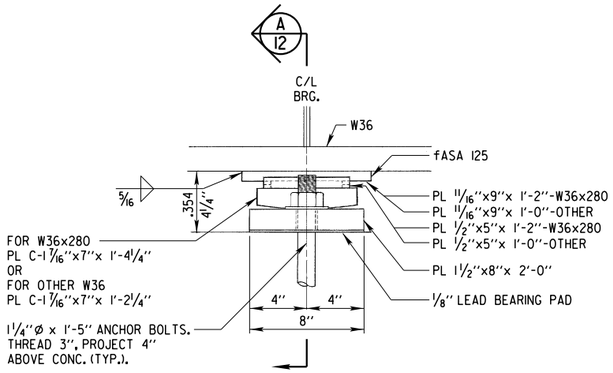
2195 - 03 - 70



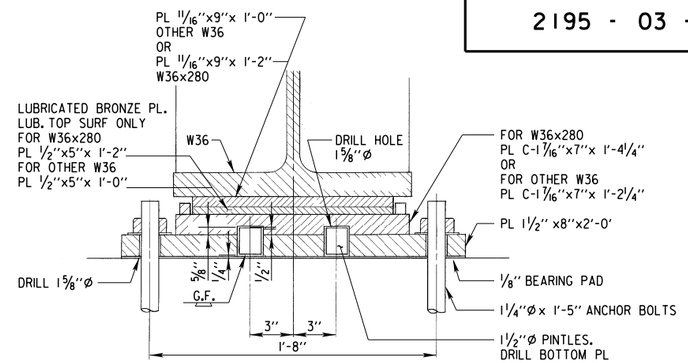
1/11 SECTION AT ROADWAY EAST ABUTMENT



2/11 SECTION AT SIDEWALK EAST ABUTMENT

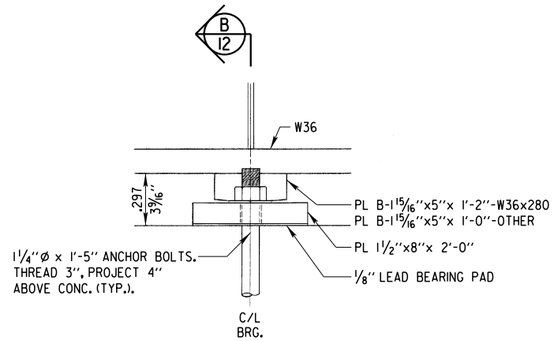


EXISTING EXPANSION BEARING AT ABUTMENTS

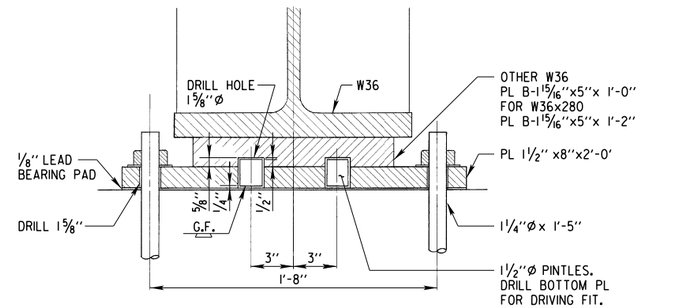


NOTE: EXPANSION BEARINGS AT ABUTMENTS TO BE CLEANED AND PAINTED. WORK IS INCIDENTAL TO STRUCTURE REPAINTING RECYCLED ABRASIVE B-40-544.

SECTION A/12

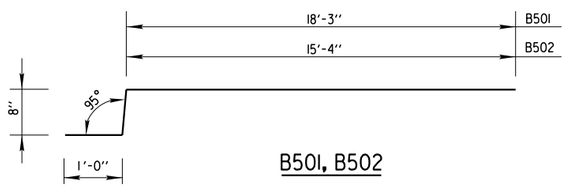


EXISTING APPROACH SPAN FIXED BEARINGS - PIERS

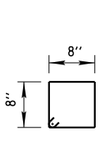


NOTE: FIXED BEARINGS AT PIER 1 & 2 INCLUDED IN BEARING MAINTENANCE B-40-544

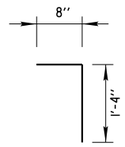
SECTION B/12



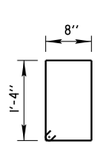
B501, B502



B404



B505



B406

NOTES:

ADHESIVE ANCHORS NO. 5 BAR, EMBED 8" IN CONCRETE. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

SEE SHEETS 19-21 FOR DECK REINFORCEMENT.

SEE SHEETS 28-30 FOR STRIP SEAL DETALS.

BILL OF BARS - EAST ABUTMENT

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	2	19'-9"	X		PAVING BLOCK - SIDEWALK - HORIZONTAL
B502	X	2	16'-10"	X		PAVING BLOCK - SIDEWALK - HORIZONTAL
B503	X	27	12'-1"			PAVING BLOCK - HORIZONTAL
B404	X	53	3'-2"	X		PAVING BLOCK - VERTICAL STIRRUP
B505	X	88	1'-11"	X		PAVING BLOCK - VERTICAL
B406	X	35	4'-5"	X		PAVING BLOCK - SIDEWALK - VERTICAL STIRRUP

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY M.L. | PLANS CK'D. M.S.A. J.D.T.

EAST ABUTMENT DETAILS AND BILL OF BARS

SHEET 12 OF 58

90

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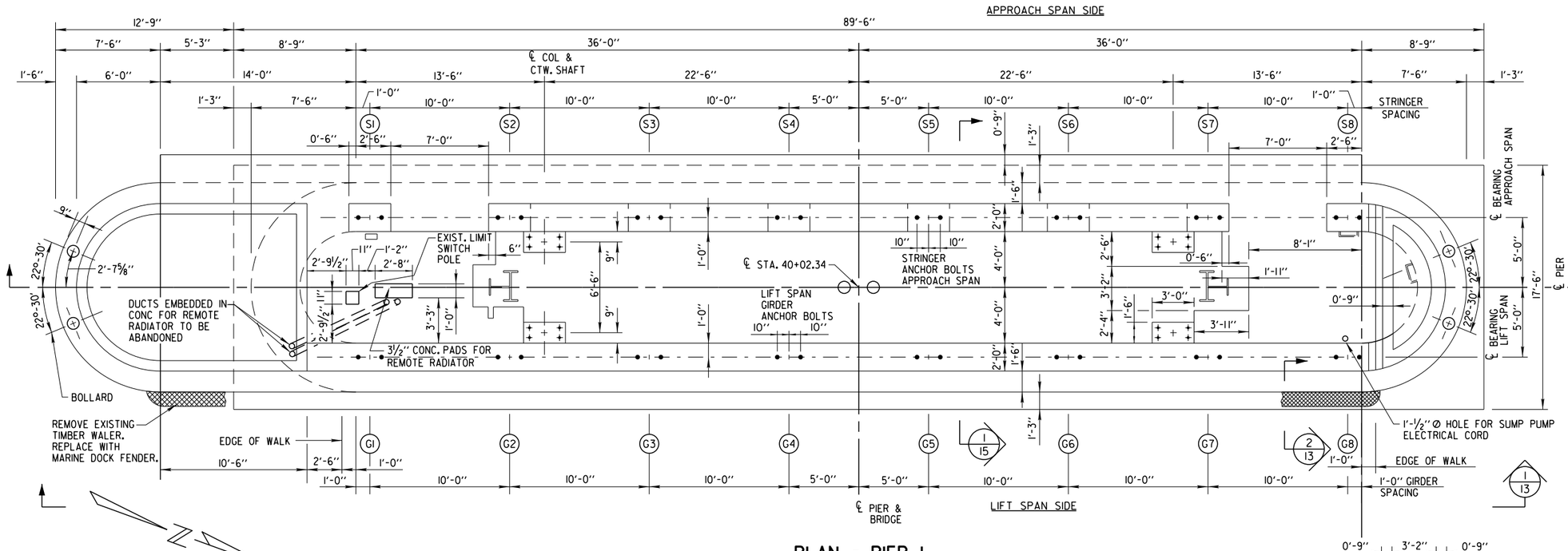
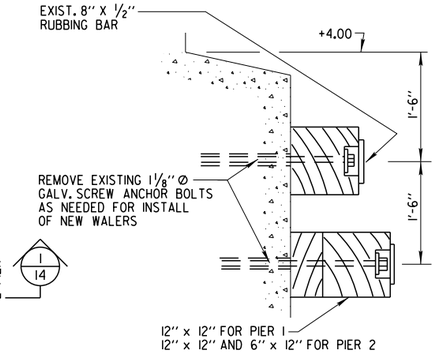
W:\STR\B0107\2017WORKPLANS\13_PIER 1.DGN

REVISED: 05/10/2017 BY: DB

STATE PROJECT NUMBER

2195 - 03 - 70

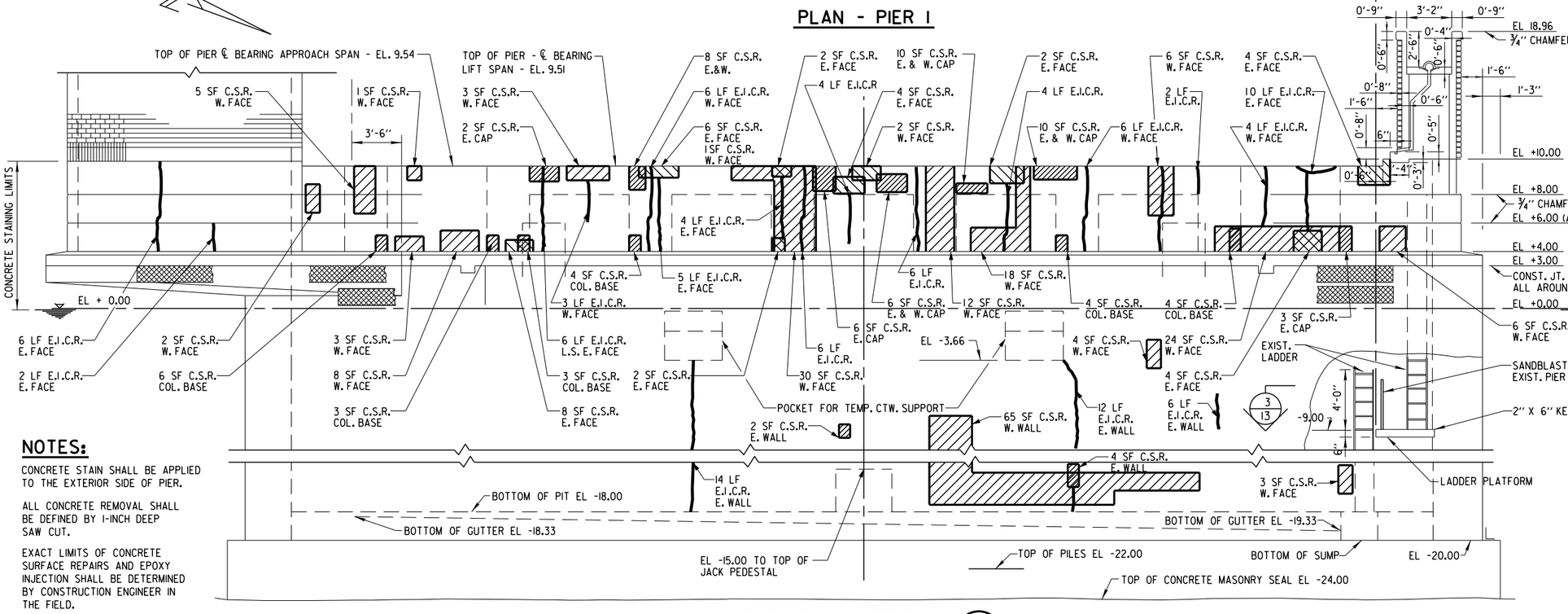




EXISTING WALER DETAIL (2/13)

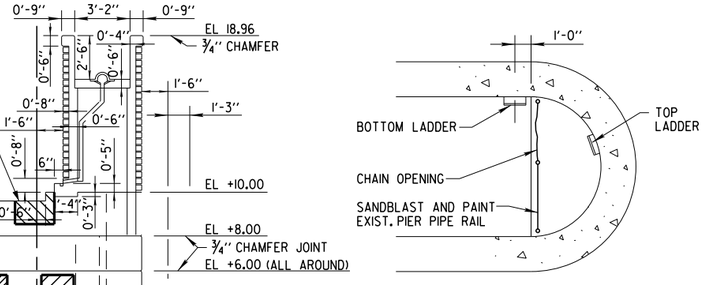
(TO BE REMOVED. SEE SHEET 16 FOR NEW FENDER DETAIL)

PLAN - PIER 1



ELEVATION - PIER 1 (1/13)

LOOKING WEST



LADDER PLATFORM AT -9.00

(TYPICAL EACH PIER)

SECTION (3/13)

LEGEND

C.S.R = CONCRETE SURFACE REPAIR

E.I.C.R. = EPOXY INJECTION CRACK REPAIR

CONCRETE SURFACE REPAIR LIFT SPAN WALL

CONCRETE SURFACE REPAIR APPROACH SPAN WALL

NOTES:

CONCRETE STAIN SHALL BE APPLIED TO THE EXTERIOR SIDE OF PIER.

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

EXACT LIMITS OF CONCRETE SURFACE REPAIRS AND EPOXY INJECTION SHALL BE DETERMINED BY CONSTRUCTION ENGINEER IN THE FIELD.

REMOVE DEBRIS FROM THE PIER PIT FLOOR, DRAIN, AND SUMP. COST OF REMOVAL AND DEBRIS CLEANING INCLUDED IN BID ITEM "ENVIRONMENTAL CLEAN UP OF EAST AND WEST PIT"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

PIER 1

SHEET 13 OF 58

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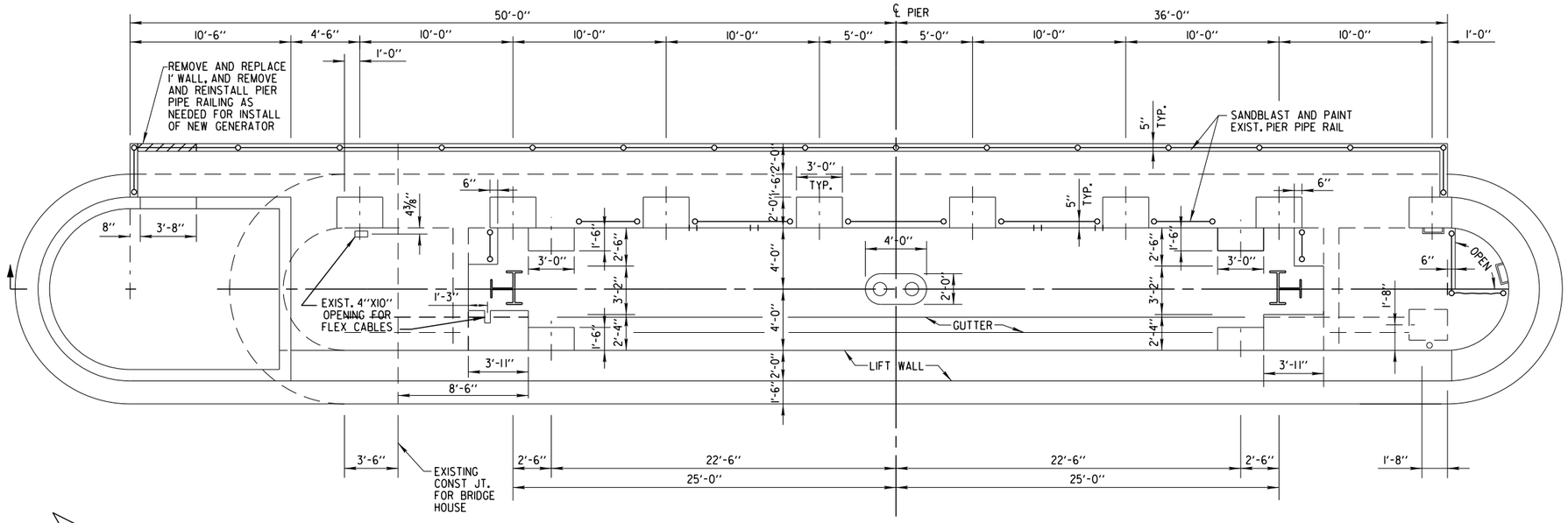
8

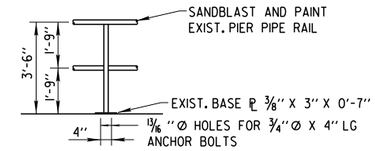
W:\STR\B0107\2017WORK\PLANS\14_PIER 1 @ EL +4.00.DGN

REVISED: 10/20/2016 BY ML

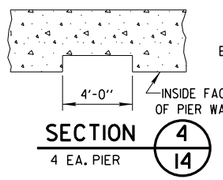
STATE PROJECT NUMBER
2195 - 03 - 70



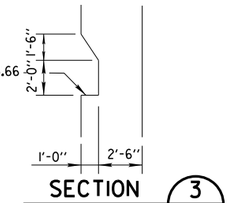
PLAN PIER 1 AT ELEV. +4.00



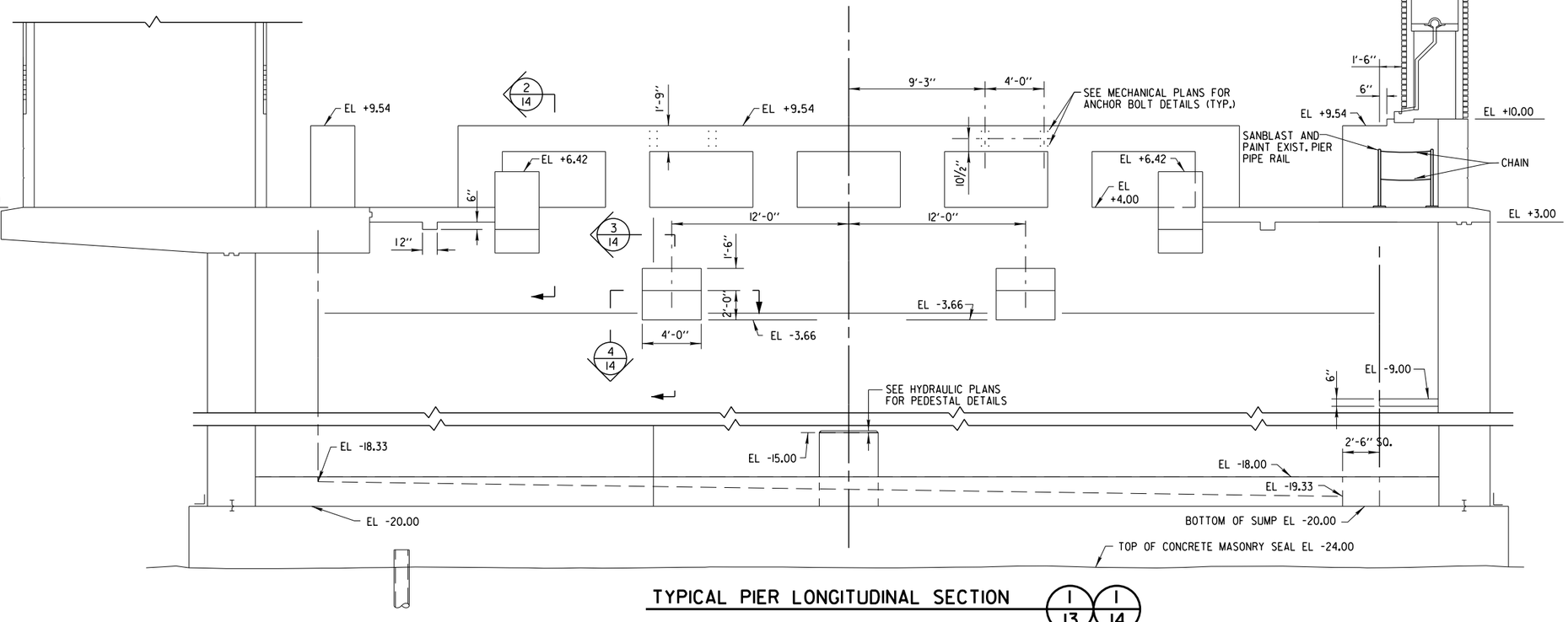
EXISTING PIER PIPE RAIL



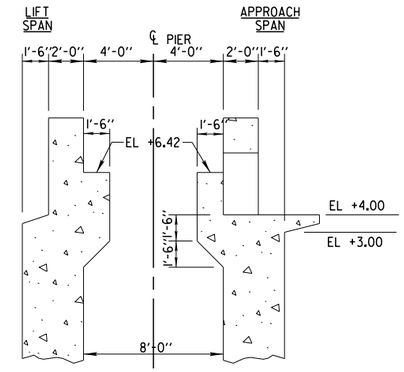
SECTION 4/14
4 EA. PIER



SECTION 3/14
POCKET FOR TEMP. CTW. SUPPORT



TYPICAL PIER LONGITUDINAL SECTION 1/13 1/14



SECTION 2/14

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

PIER 1 AT ELEVATION +4.00

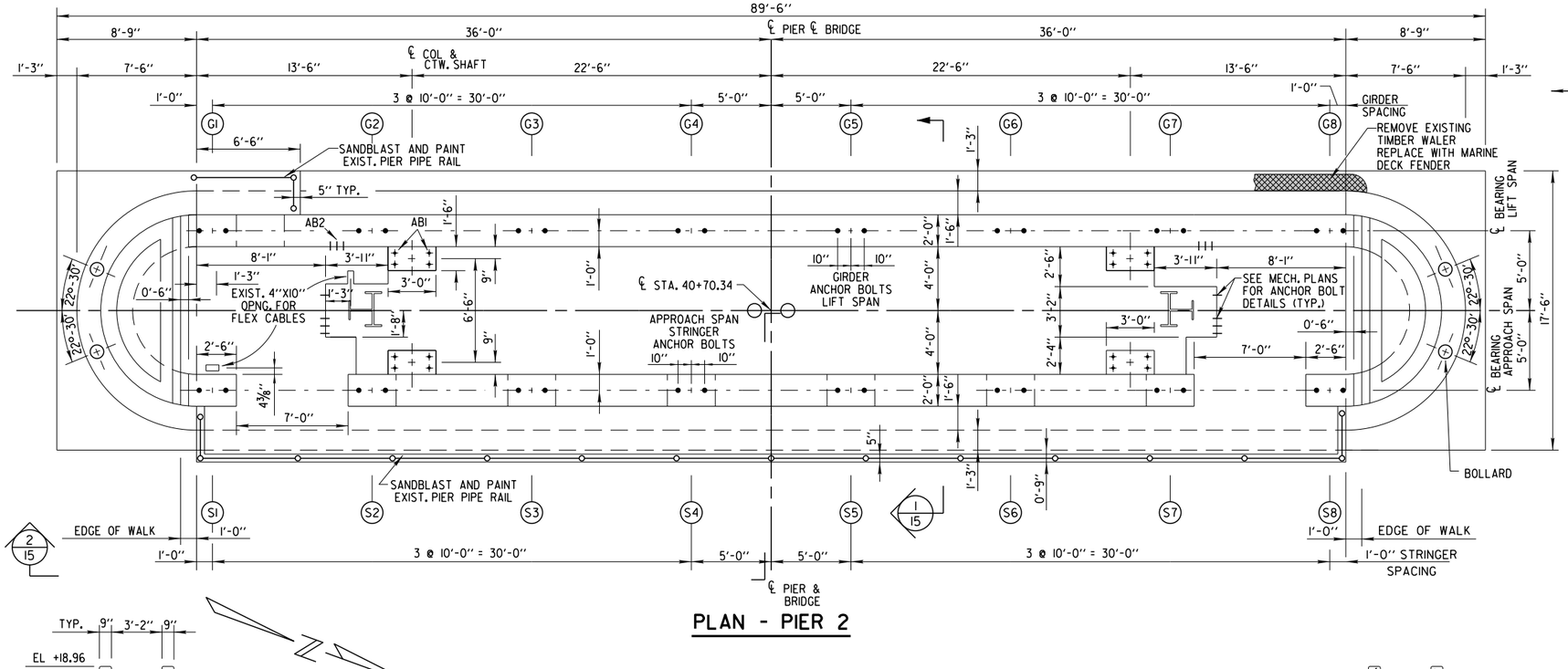
SHEET 14 OF 58

W:\STR\B0107\2017WORKPLANS\15_PIER 2.DGN

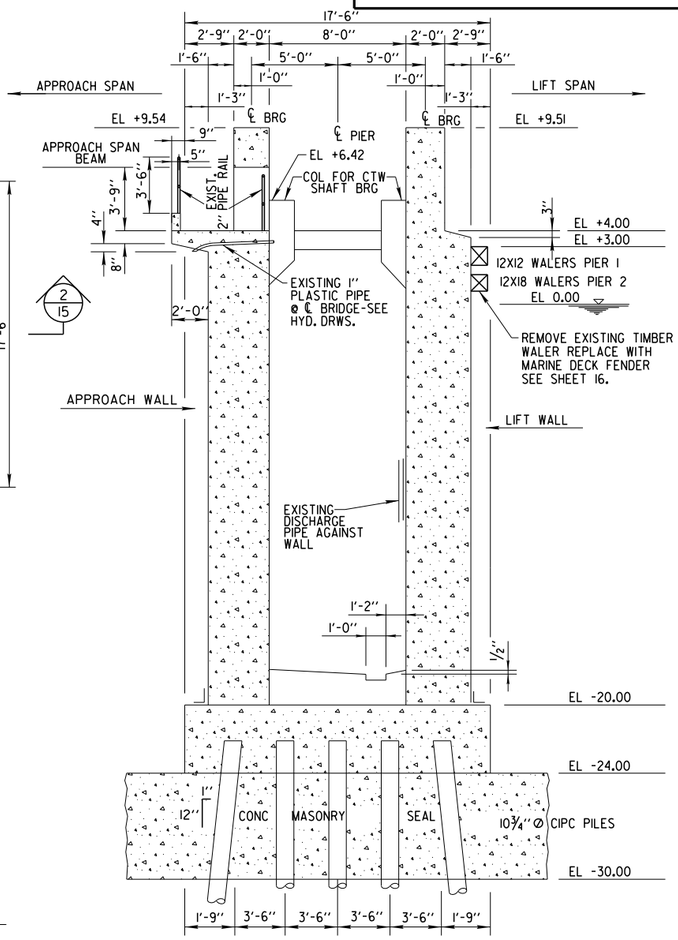
REVISED: 04/28/2017 BY: TPW

STATE PROJECT NUMBER

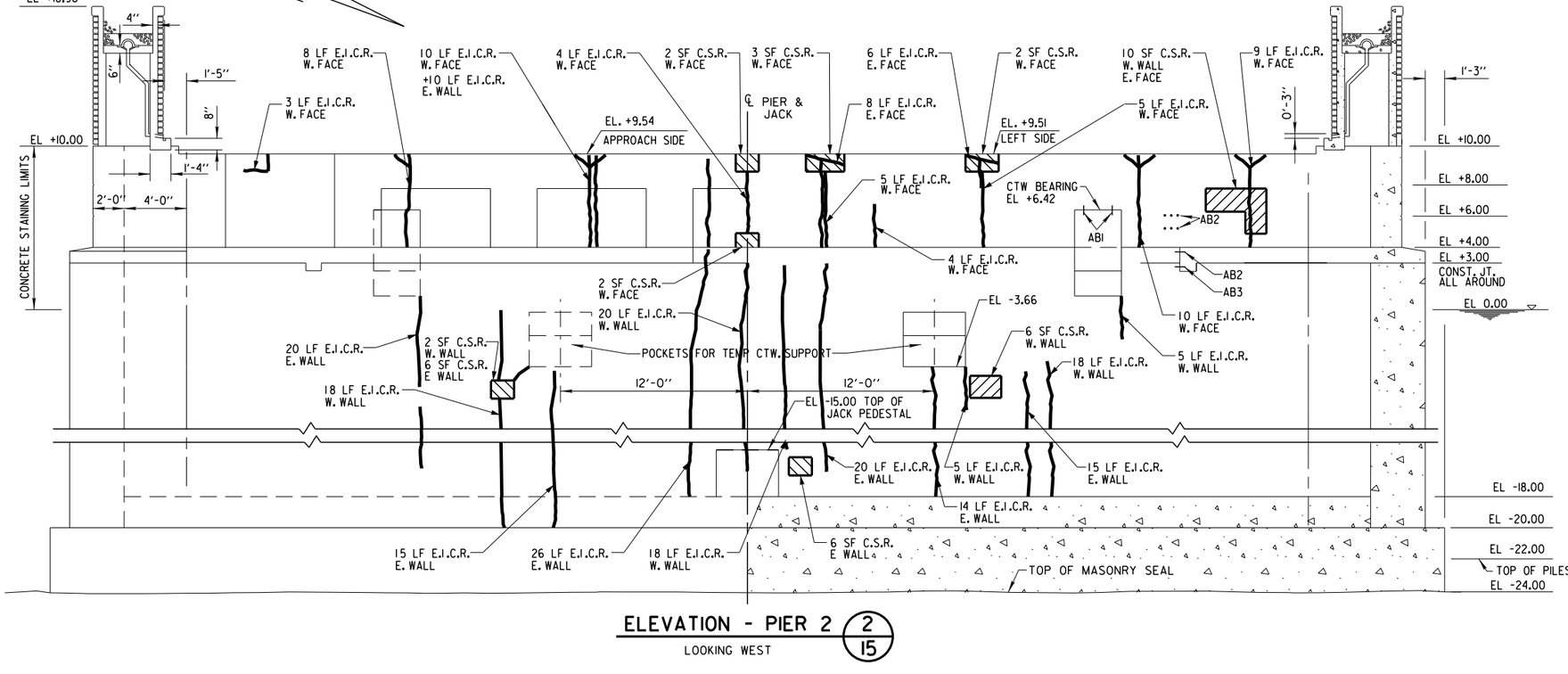
2195 - 03 - 70



PLAN - PIER 2



PIERS 1 & 2 TYPICAL SECTION (1/13) (1/15)



ELEVATION - PIER 2 (2/15)

LOOKING WEST

NOTE:

SEE SHEET 13 FOR NOTES AND LEGEND.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

PIER 2

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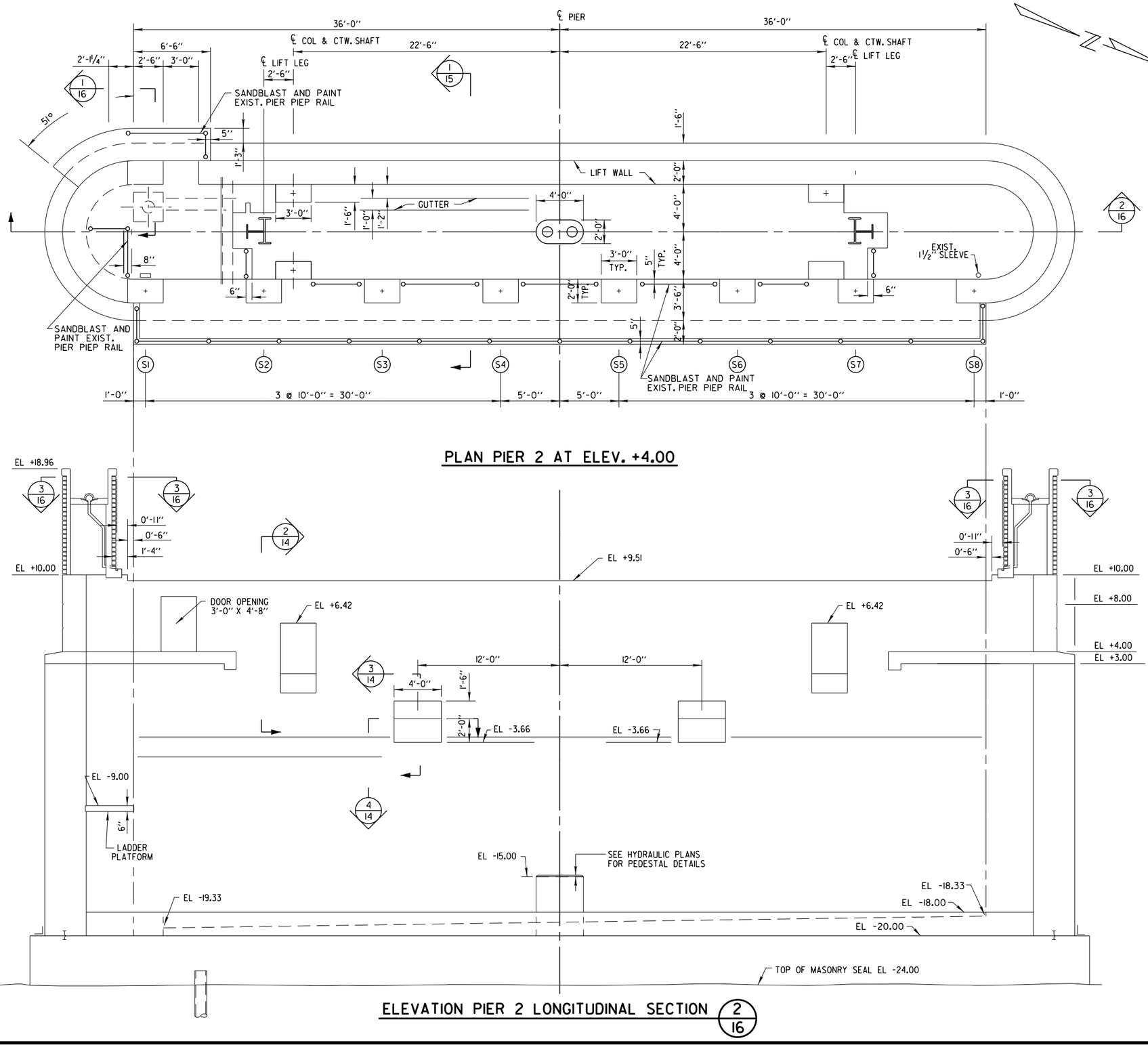
W:\STR\B0107\2017WORK\PLANS\16_PIER 2 @ EL +4.00.DGN

REVISED: 10/20/2016 BY M.L.

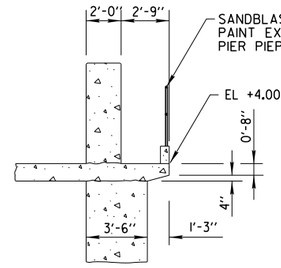
STATE PROJECT NUMBER

2195 - 03 - 70

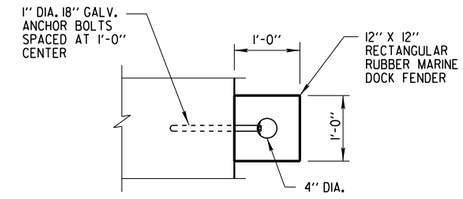


PLAN PIER 2 AT ELEV. +4.00

ELEVATION PIER 2 LONGITUDINAL SECTION 2/16



SECTION 1/16

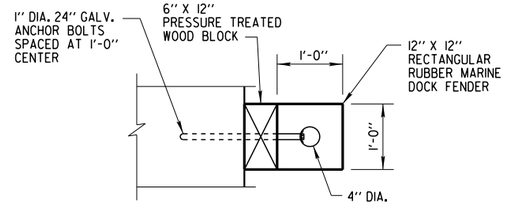


PIER 1 (WEST PIER) MARINE DOCK FENDER DETAIL

(ESTIMATED LENGTH EACH ROW = 88 FT)
(TWO ROWS TOTAL LENGTH = 176 FT)

NOTE:

NEW RUBBER MARINE DOCK FENDERS TO BE INSTALLED IN THE SAME LOCATIONS AS THE EXISTING WOOD WALERS.



PIER 2 (EAST PIER) MARINE DOCK FENDER DETAIL

(ESTIMATED LENGTH EACH ROW = 74 FT)
(TWO ROWS TOTAL LENGTH = 148 FT)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

PIER 2 AT ELEVATION +4.00

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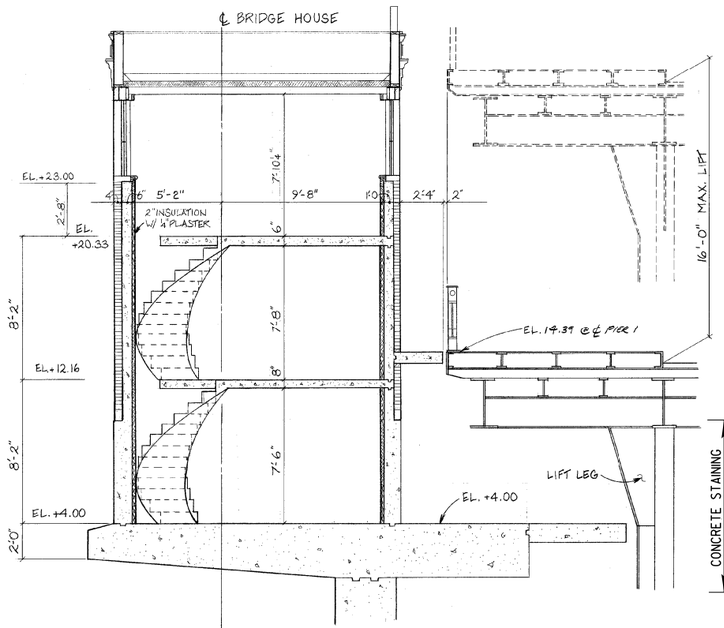
W:\STR\B0107\2017WORK\PLANS\17_BRDG OPERATORS HOUSE.DGN

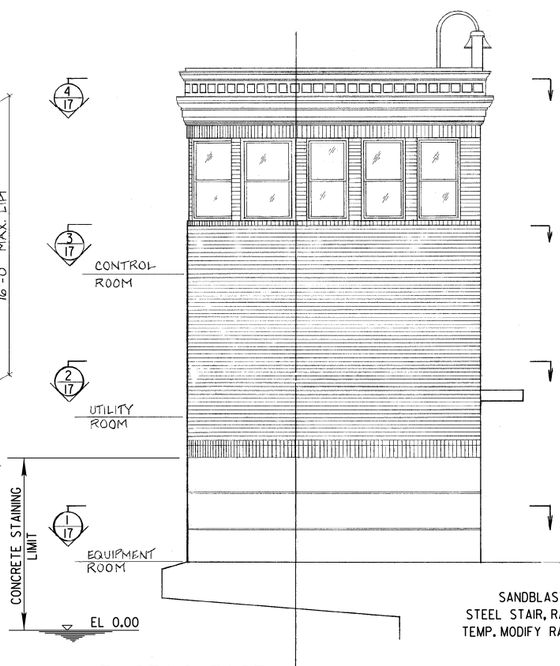
REVISED DATE: 05-11-17 BY: DB

STATE PROJECT NUMBER

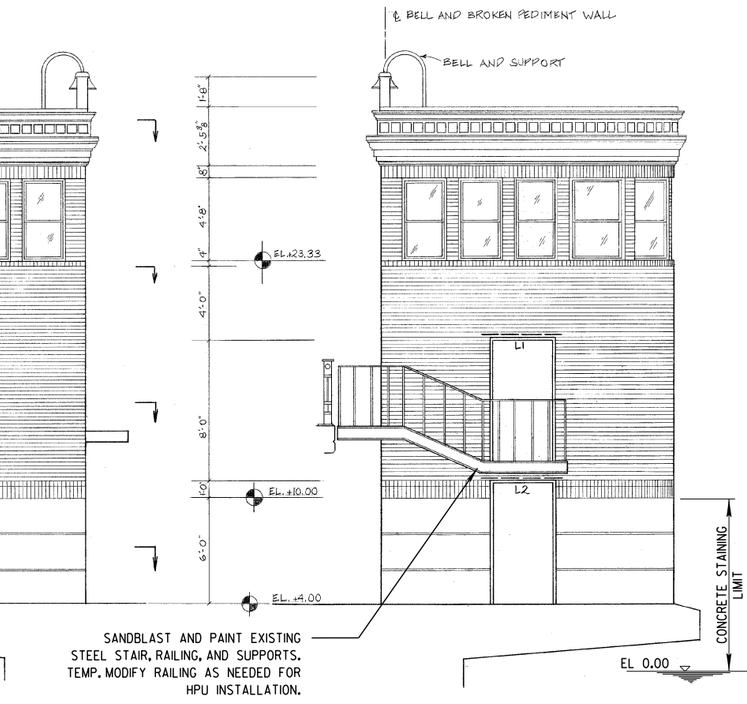
2195 - 03 - 70



EXISTING SECTION 5/17

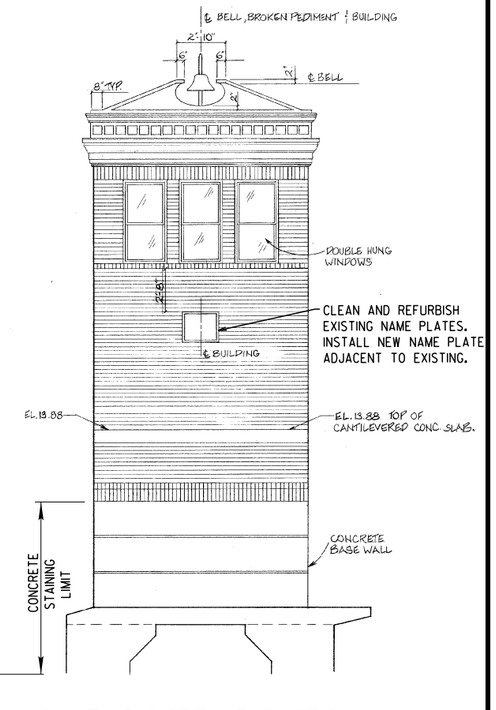


EXISTING EAST ELEVATION

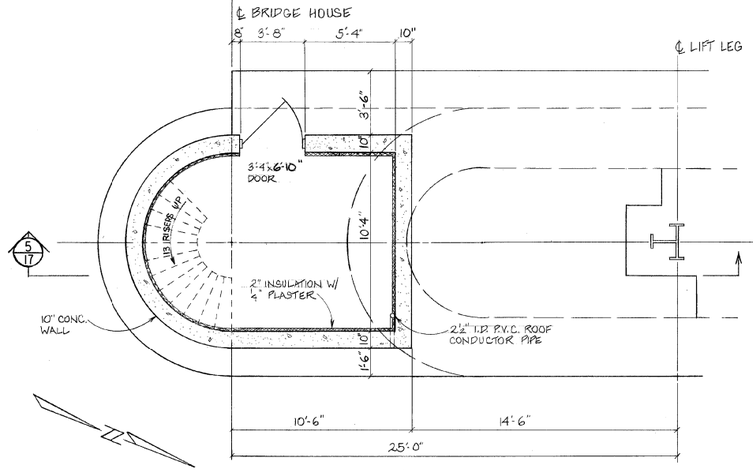


EXISTING WEST ELEVATION

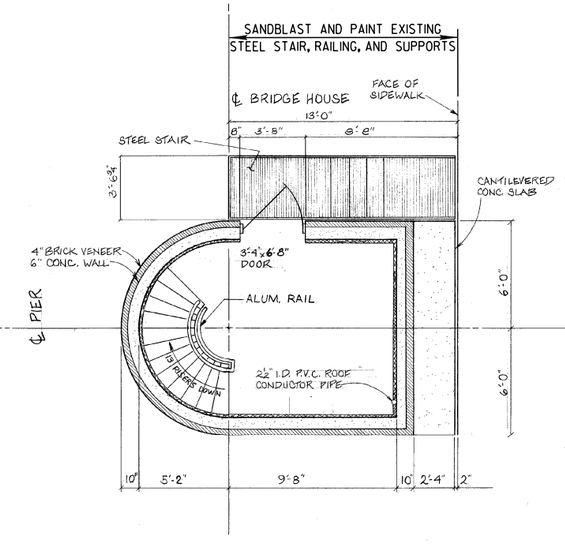
NOTE: TEMPORARY MODIFICATIONS TO RAILING ARE INCIDENTAL TO BRIDGE HYDRAULIC SYSTEM



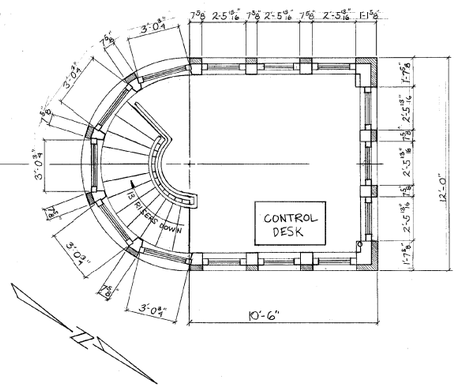
EXISTING NORTH ELEVATION



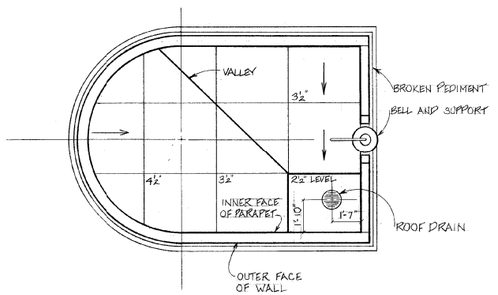
EXISTING EQUIPMENT ROOM PLAN 1/17



EXISTING UTILITY ROOM PLAN 2/17



EXISTING CONTROL ROOM PLAN 3/17



EXISTING ROOF PLAN 4/17

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	J.D.T. H.J.R.

BRIDGE OPERATORS HOUSE

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STATE PROJECT NUMBER
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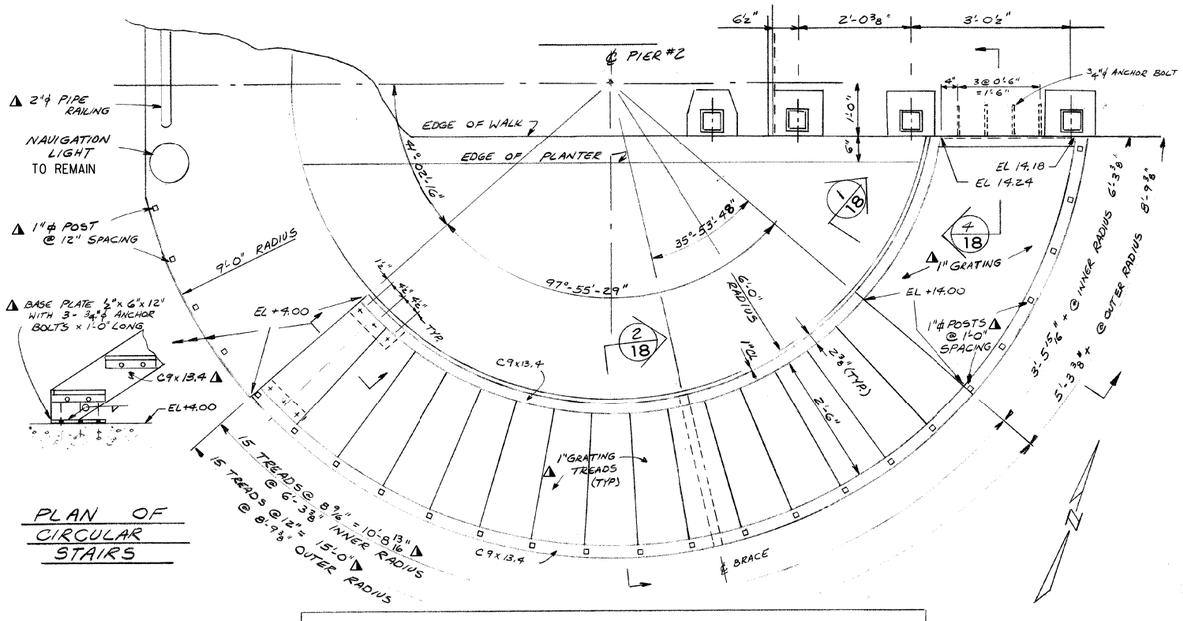
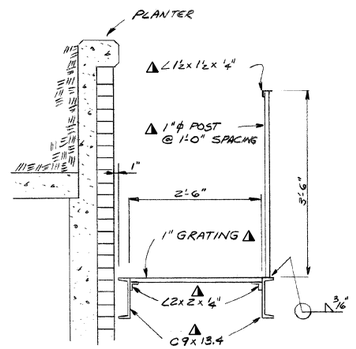
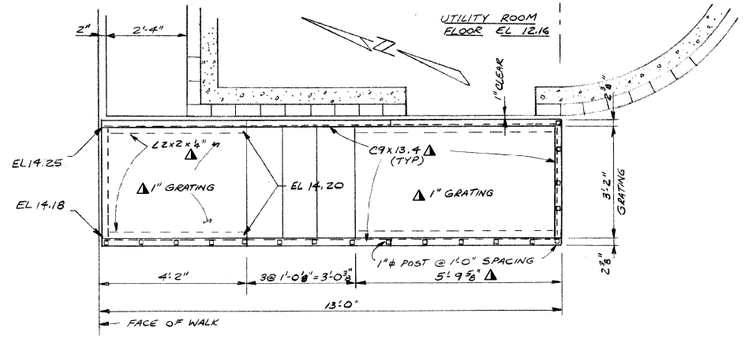


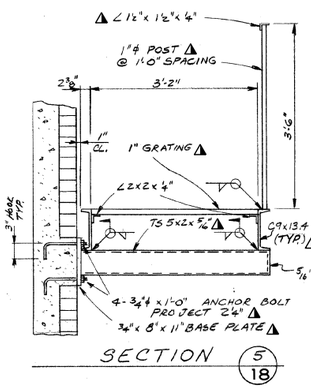
PLAN OF CIRCULAR STAIRS



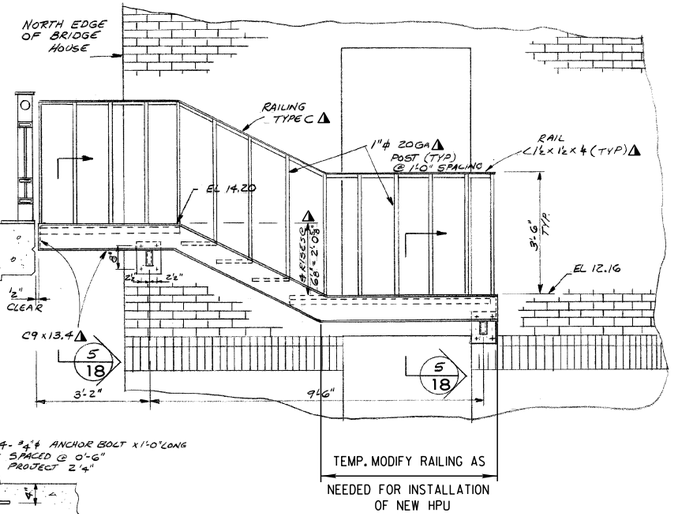
SECTION 1/18

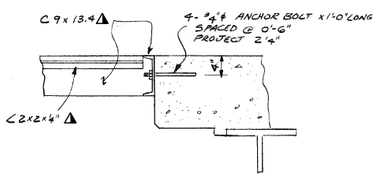


PLAN OF EXTERIOR OPERATOR'S HOUSE STAIRS

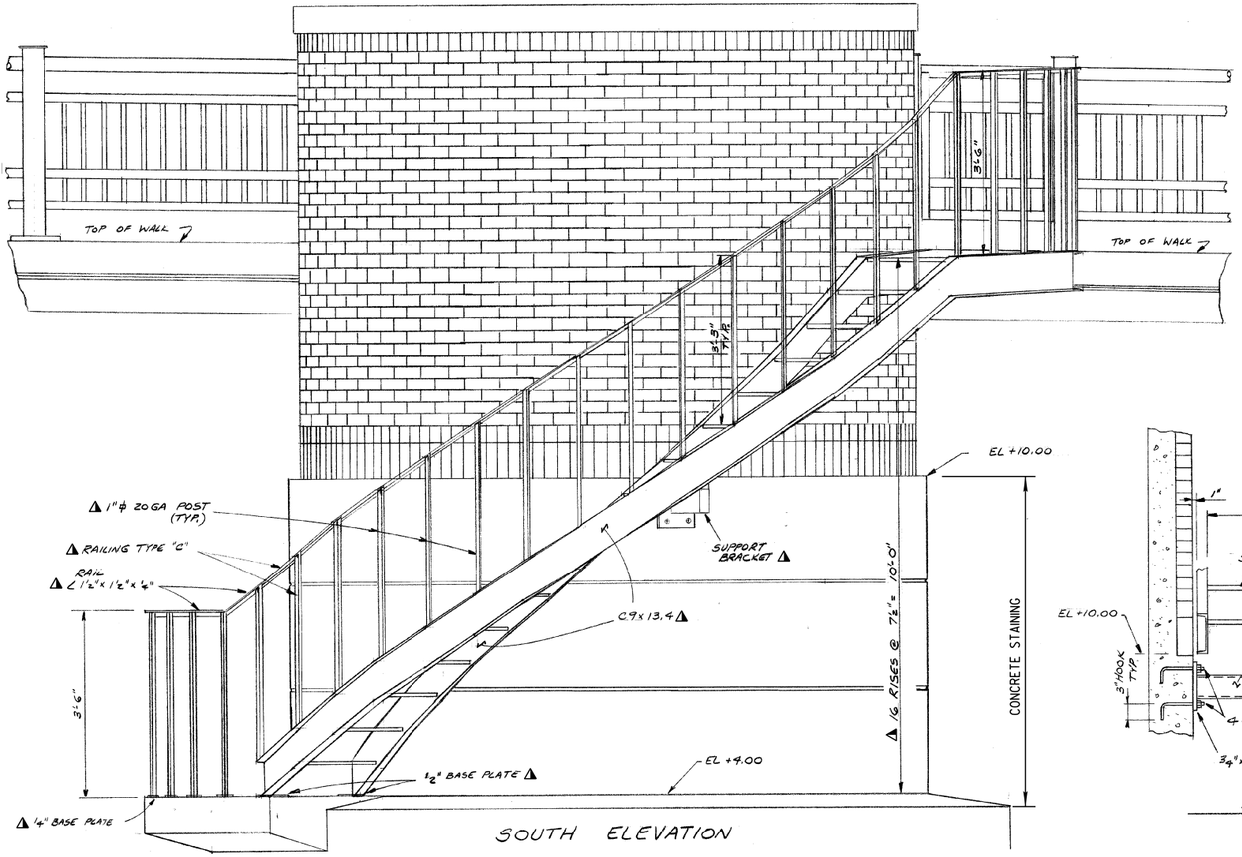


SECTION 5/18

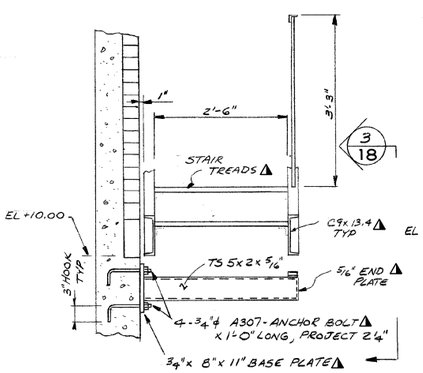




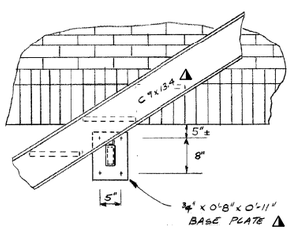
SECTION 4/18



SOUTH ELEVATION



SECTION 2/18



SECTION 3/18

NOTES:

∆ SANDBLAST AND PAINT ALL EXISTING STEEL

SANDBLAST AND PAINTING OF STEEL AT STAIRS INCLUDED IN STRUCTURE REPAINTING RECYCLED ABRASIVE B-40-544

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

CIRCULAR STAIRS AND BRIDGE HOUSE STAIRS

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REVISED DATE 05-11-2017 BY: DB

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W:\STR\B0107\2017WORKPLANS\19_W APPROACH SPAN.DGN

REVISED DATE: 10/27/2017 BY: GJR

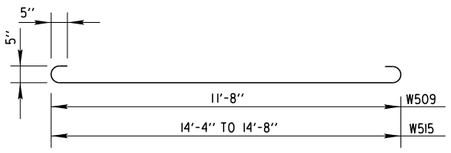
BILL OF BARS - WEST APPROACH SPAN

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
W401	×	77	3'-8''	×		DECK - END DIAPHRAGM
W402	×	14	8'-5''			DECK - END DIAPHRAGM
W603	×	35	8'-5''			DECK - END DIAPHRAGM
W604	×	7	43'-1''			DECK - W. END TRANSVERSE
W605	×	3	40'-1''			DECK - E. END TRANSVERSE BOT.
W606	×	3	36'-8''			DECK - E. END TRANSVERSE BOT.
W607	×	4	40'-9''	×		DECK - E. END TRANSVERSE TOP
W608	×	4	37'-4''	×		DECK - E. END TRANSVERSE TOP
W509	×	182	12'-10''	×		SDWK. - MAIN TRANSVERSE
W610	×	28	16'-10''	×	△	SDWK. - CANTILEVER SEC. TRANSVERSE
W411	×	22	12'-2''	×		SDWK. - CURB RAMP TRANSVERSE
W412	×	36	13'-9''	×	△	SDWK. - N. CURB RAMP TRANSVERSE
W413	×	12	15'-7''	×		SDWK. - N. TRANSVERSE
W414	×	42	13'-6''	×	△	SDWK. - S. CURB RAMP TRANSVERSE
W515	×	5	15'-8''	×	△	SDWK. - S.W. TRANSVERSE
W416	×	34	23'-4''			SDWK. - MAIN LONGITUDINAL
W417	×	34	21'-6''			SDWK. - MAIN LONGITUDINAL
W418	×	9	22'-0''			SDWK. - S. CURB RAMP LONGITUDINAL
W419	×	8	22'-0''			SDWK. - S.W. LONGITUDINAL
W420	×	4	10'-10''		△	SDWK. - S.W. LONGITUDINAL
W421	×	8	5'-10''			SDWK. - CANTILEVER SEC. LONGITUDINAL
W422	×	4	9'-10''		△	SDWK. - N.W. LONGITUDINAL
W423	×	11	22'-5''			SDWK. - N. CURB RAMP LONGITUDINAL
W424	×	6	22'-5''			SDWK. - N. MAIN LONGITUDINAL
W625	×	7	39'-10''			DECK - W. END TRANSVERSE
W426	×	8	3'-11''		△	SDWK- CANTILEVER SEC. LONGITUDINAL
W527	×	24	2'-0''			RAILING ANCHOR - LONGITUDINAL
W528	×	48	5'-2''	×		RAILING ANCHOR - STIRRUP

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

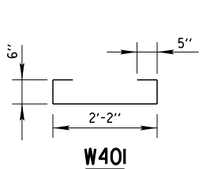
BAR SERIES TABLE

MARK	NO. REQ'D.	LENGTH
W610	4 SERIES OF 7	15'-9'' TO 17'-10''
W412	1 SERIES OF 36	12'-2'' TO 15'-3''
W414	1 SERIES OF 42	12'-2'' TO 14'-10''
W515	1 SERIES OF 5	15'-6'' TO 15'-10''
W420	1 SERIES OF 4	3'-4'' TO 18'-4''
W422	1 SERIES OF 4	5'-3'' TO 14'-5''
W426	2 SERIES OF 4	2'-1'' TO 5'-8''

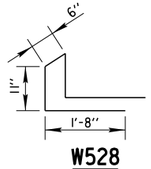


W509, W515

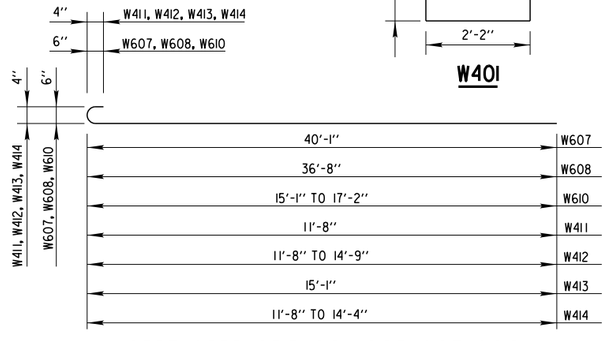
FIELD BEND BARS IN RAMP AREA TO FIT.



W401



W528



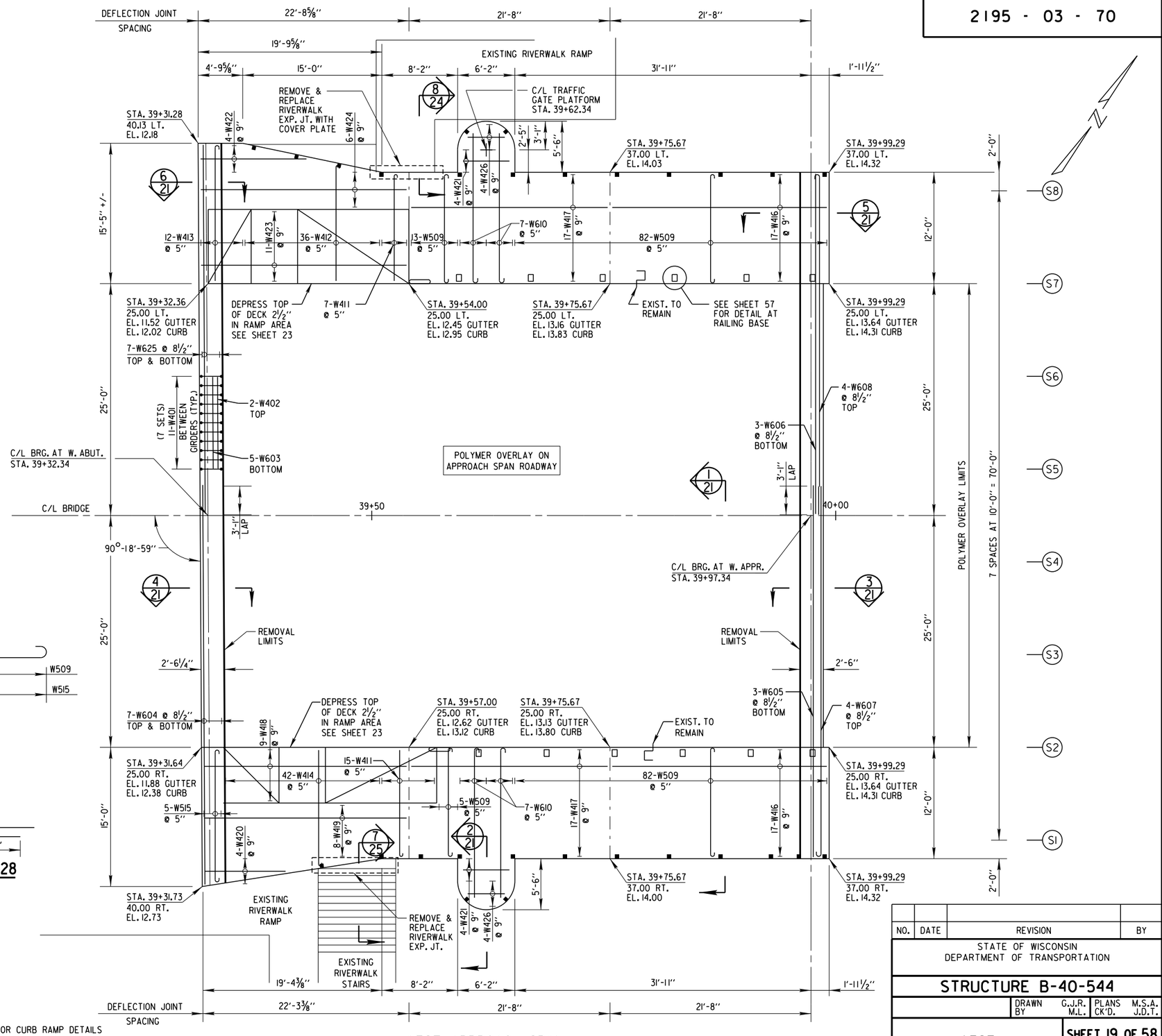
W607, W608, W610, W411, W412, W413, W414

NOTES:

SEE SHEET 23 FOR CURB RAMP DETAILS

MATCH EXISTING GRADES OF RIVERWALK

UTILITIES NOT SHOWN FOR CLARITY- SEE SHEET 7



WEST APPROACH SPAN

STATE PROJECT NUMBER

2195 - 03 - 70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

WEST APPROACH SPAN

SHEET 19 OF 58

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W:\STR\B0107\2017WORKPLANS\20-E APPROACH SPAN.DGN

REVISED: 10/27/2017 BY: GJR

STATE PROJECT NUMBER

2195 - 03 - 70

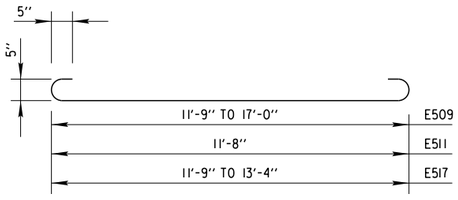
BILL OF BARS - EAST APPROACH SPAN

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
E401	×	77	3'-10"	×		DECK - END DIAPHRAGM
E402	×	14	9'-0"			DECK - END DIAPHRAGM
E603	×	35	9'-0"			DECK - END DIAPHRAGM
E604	×	3	40'-1"			DECK - W. END TRANSVERSE BOT.
E605	×	3	36'-8"			DECK - W. END TRANSVERSE BOT.
E606	×	4	40'-9"	×		DECK - W. END TRANSVERSE TOP
E607	×	4	37'-4"	×		DECK - W. END TRANSVERSE TOP
E508	×	14	9'-10"	×	△	SDWK. - N.E. TRANSVERSE
E509	×	27	15'-7"	×	△	SDWK. - N.E. TRANSVERSE
E610	×	28	16'-7"	×	△	SDWK. - CANTILEVER SEC. TRANSVERSE
E511	×	131	12'-10"	×		SDWK. - MAIN TRANSVERSE
E412	×	17	18'-5"			SDWK. - N. LONGITUDINAL
E413	×	17	15'-2"		△	SDWK. - N. LONGITUDINAL
E414	×	6	6'-6"		△	SDWK. - N. LONGITUDINAL
E415	×	8	5'-10"			SDWK. CANTILEVER SEC. LONGITUDINAL
E516	×	12	7'-11"	×	△	SDWK. - S.E. TRANSVERSE
E517	×	18	13'-9"	×	△	SDWK. - S.E. TRANSVERSE
E418	×	17	26'-9"		△	SDWK. - S. LONGITUDINAL
E419	×	17	29'-3"			SDWK. - S. LONGITUDINAL
E420	×	4	6'-2"		△	SDWK. - SE LONGITUDINAL
E421	×	8	3'-11"		△	SDWK. - CANTILEVER SEC. LONGITUDINAL
E522	×	24	2'-0"			RAILING ANCHOR - LONGITUDINAL
E523	×	48	5'-2"			RAILING ANCHOR - STIRRUP

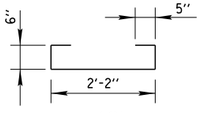
△ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTH.

BAR SERIES TABLE

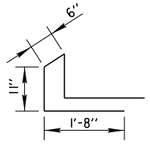
MARK	NO. REQ'D.	LENGTH
E508	1 SERIES OF 14	2'-4" TO 17'-3"
E509	1 SERIES OF 27	12'-11" TO 18'-2"
E610	4 SERIES OF 7	15'-4" TO 17'-10"
E413	1 SERIES OF 17	13'-0" TO 17'-4"
E414	1 SERIES OF 6	1'-6" TO 11'-6"
E516	1 SERIES OF 12	2'-1" TO 13'-9"
E517	1 SERIES OF 18	12'-11" TO 14'-6"
E418	1 SERIES OF 17	24'-7" TO 28-11"
E420	1 SERIES OF 4	1'-8" TO 10'-7"
E421	2 SERIES OF 4	2'-1" TO 5'-8"



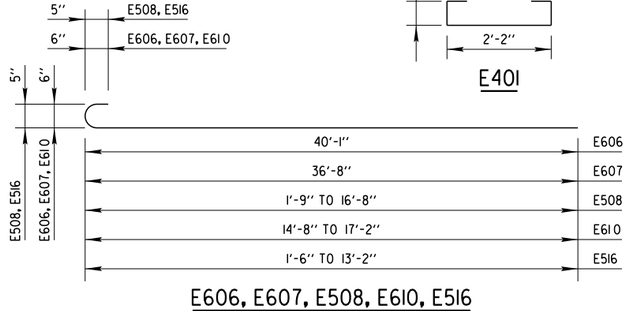
E509, E511, E517



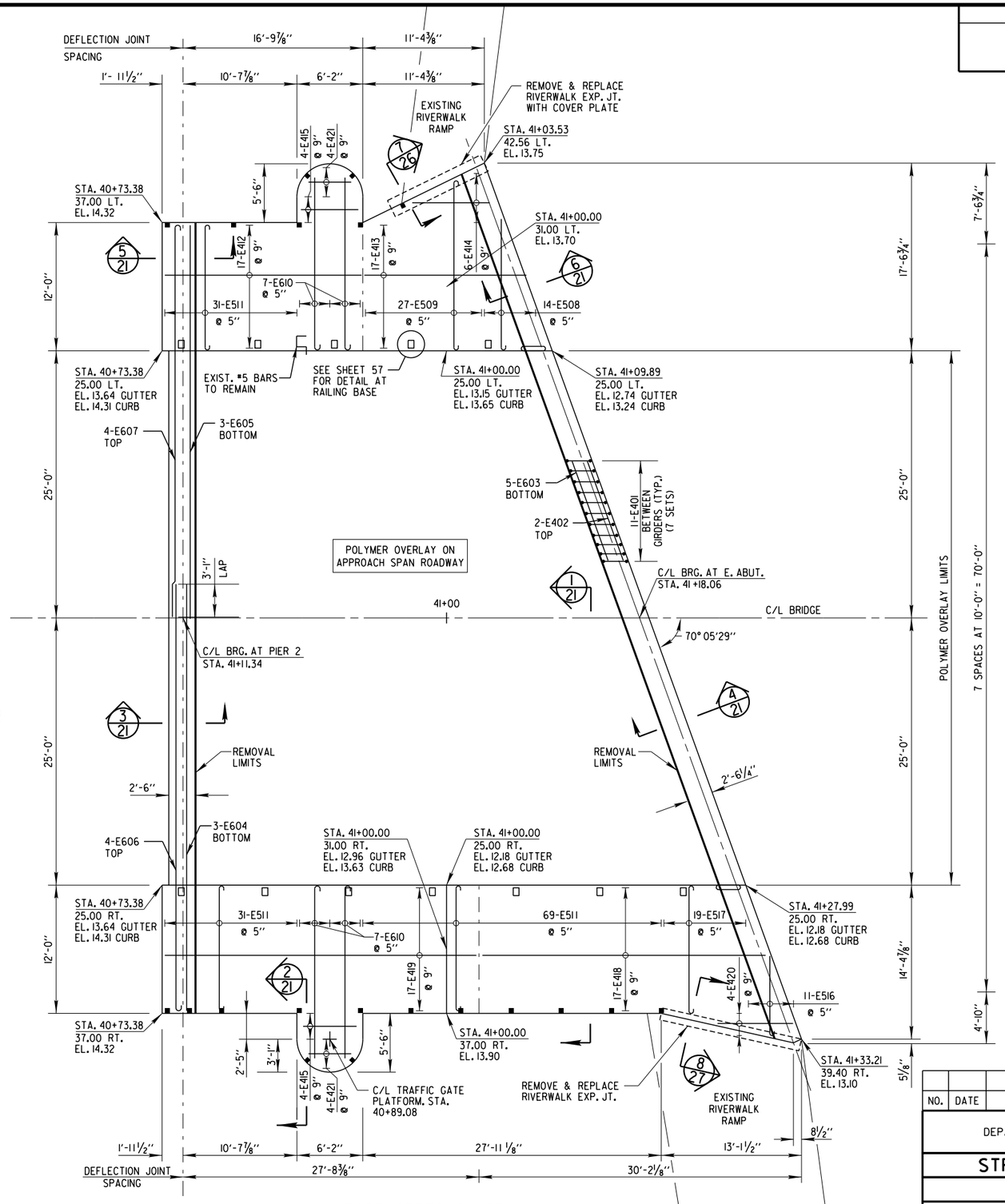
E401



E523



E606, E607, E508, E610, E516



EAST APPROACH SPAN

NOTE:

MATCH EXISTING GRADES OF RIVERWALK

UTILITIES NOT SHOWN FOR CLARITY- SEE SHEET 7

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

EAST APPROACH SPAN

SHEET 20 OF 58

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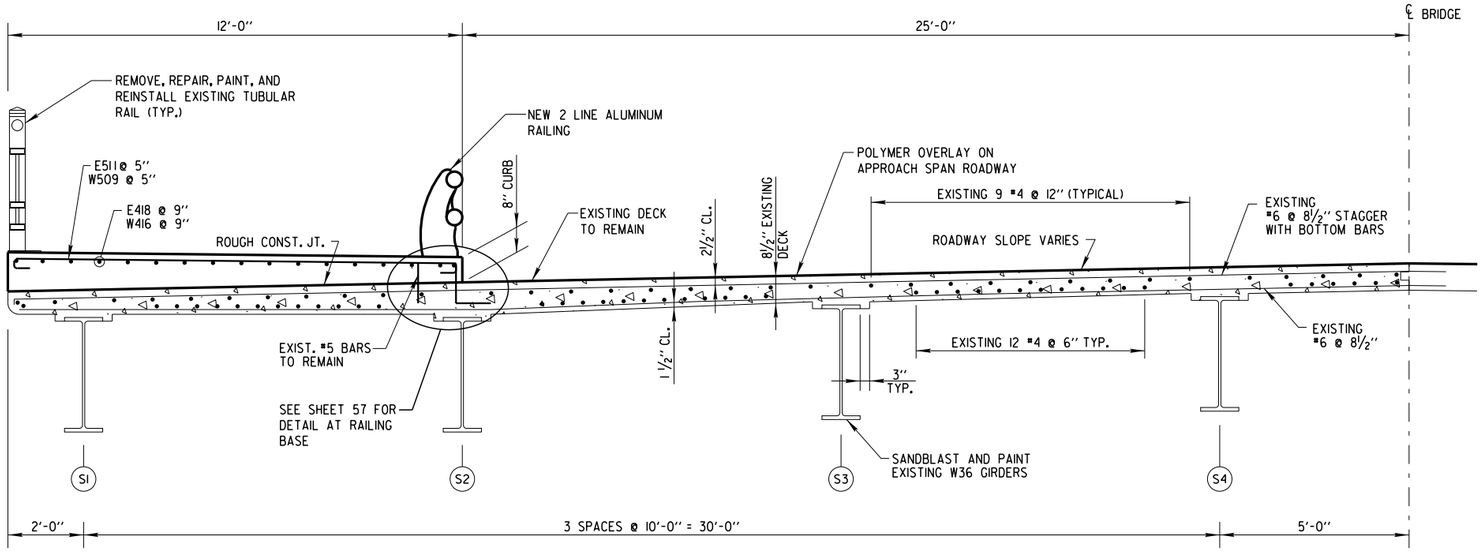
W:\STR\B0107\2017WORKPLANS\21_APPROACH SPAN DECK SEC.DGN

REWSED DATE: 07-26-2017 BY: DB

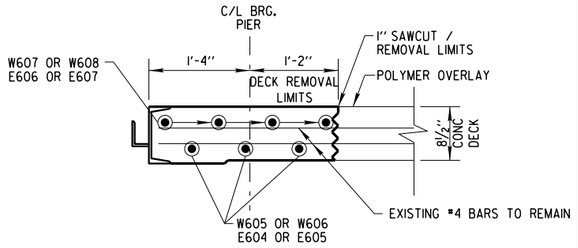
STATE PROJECT NUMBER

2195 - 03 - 70



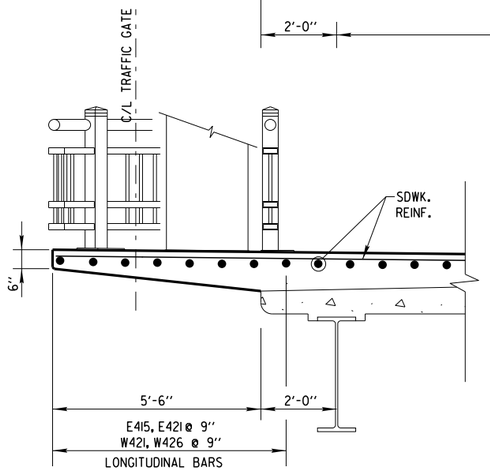
APPROACH SPAN - HALF DECK CROSS SECTION (1/19) (1/20)

(UTILITIES NOT SHOWN FOR CLARITY)



END OF DECK AT LIFT SPAN ROADWAY (3/19) (3/20)

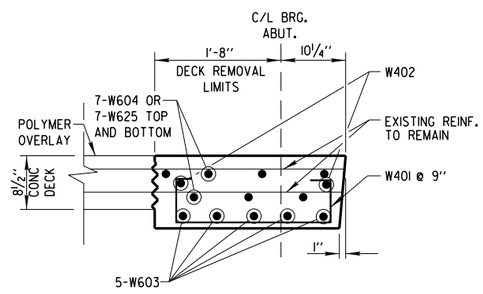
SEE SHEET 36 FOR ADDITIONAL JOINT DETAILS



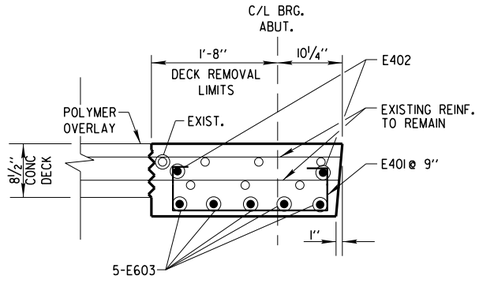
TRAFFIC GATE PLATFORM (2/19) (2/20)

NOTE:
EXISTING TRAFFIC GATE TO BE REMOVED AND SALVAGED.

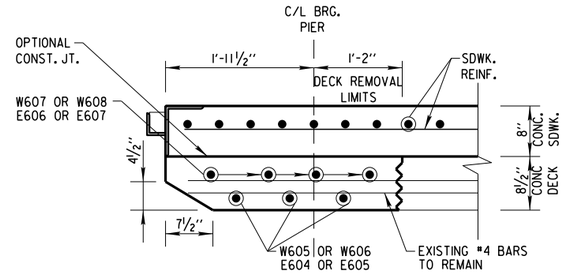
REHAB AND INSTALL GATES PROVIDED BY CITY.



END OF DECK AT W. ABUTMENT ROADWAY (4/19)

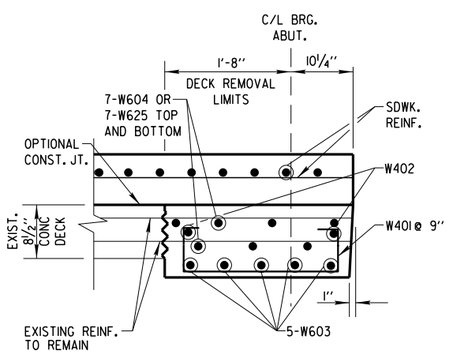


END OF DECK AT E. ABUTMENT ROADWAY (4/20)

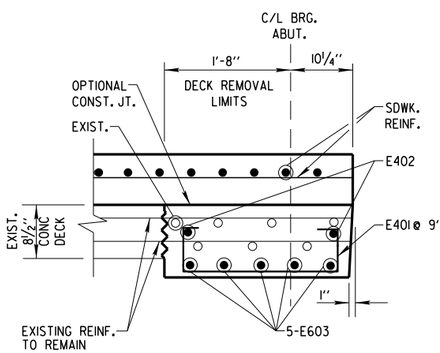


END OF DECK AT LIFT SPAN SIDEWALK (3/19) (3/20)

SEE SHEET 40 FOR ADDITIONAL JOINT DETAILS



END OF DECK AT W. ABUTMENT SIDEWALK (6/19)



END OF DECK AT E. ABUTMENT SIDEWALK (6/20)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY S.J.S. | PLANS CK'D. M.S.A. J.D.T.

APPROACH SPAN DECK SECTIONS

SHEET 21 OF 58

8

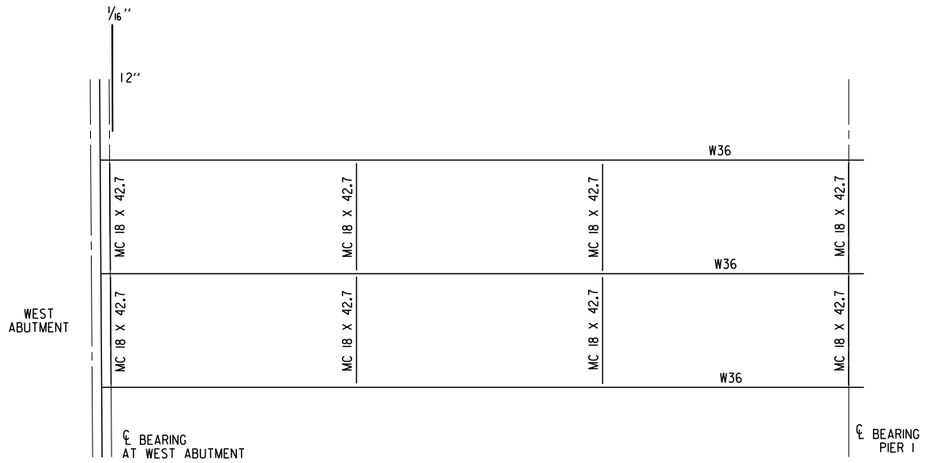
8

W:\STR\B0107\2017WORK\PLANS\22_APPROACH SPAN DIAPH & SHEAR STUDS.DGN

REVISED DATE: 07-20-2017 BY: DB

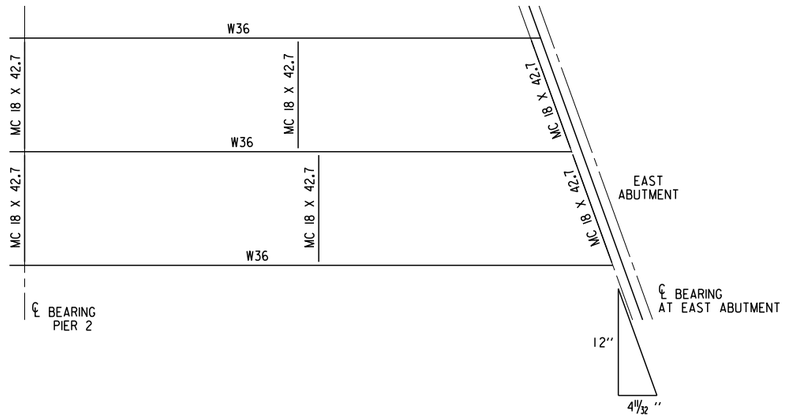
STATE PROJECT NUMBER

2195 - 03 - 70



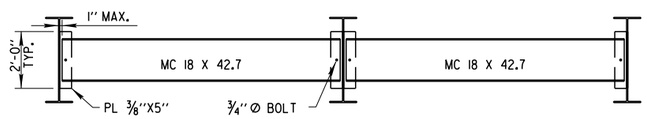
PARTIAL PLAN - EXISTING DIAPHRAGMS - WEST APPROACH

NOTE: SANDBLAST AND PAINT ALL EXISTING GIRDERS AND DIAPHRAGMS



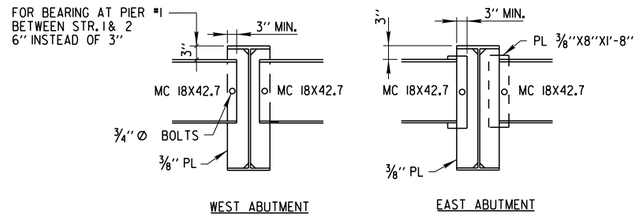
PARTIAL PLAN - EXISTING DIAPHRAGMS - EAST APPROACH

NOTE: SANDBLAST AND PAINT ALL EXISTING GIRDERS AND DIAPHRAGMS



EXISTING INTERMEDIATE DIAPHRAGM DETAILS

NOTE: SAND BLAST AND PAINT ALL EXISTING GIRDERS AND DIAPHRAGMS



EXISTING BEARING DIAPHRAGM DETAILS

NOTE: SAND BLAST AND PAINT ALL EXISTING GIRDERS AND DIAPHRAGMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY S.J.S. | PLANS CK'D. M.S.A. J.D.T.

APPROACH SPAN DIAPHRAGMS AND SHEAR STUDS

SHEET 22 OF 58

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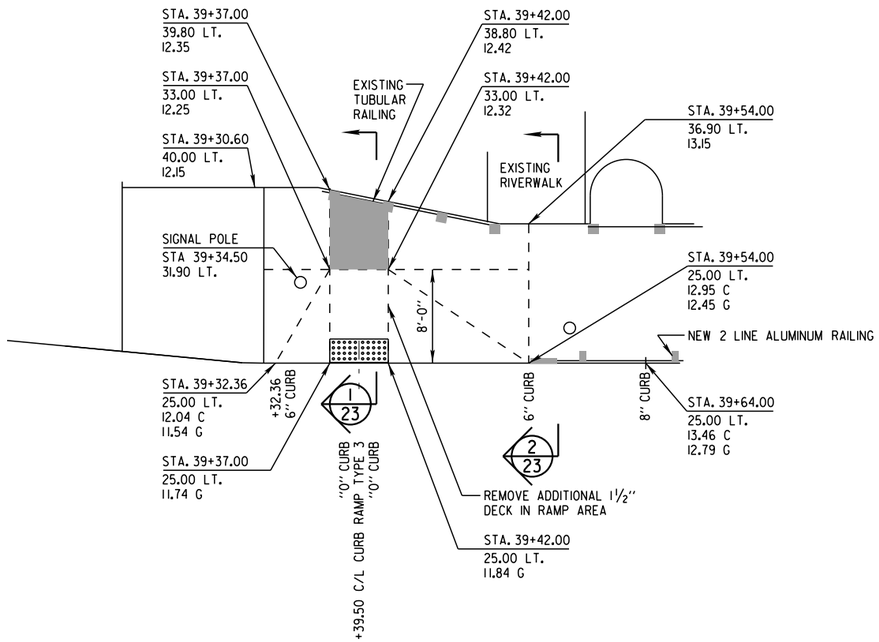
W:\STRUB1017\2017WORK\PLANS\23_SDWK_RAMP.DGN

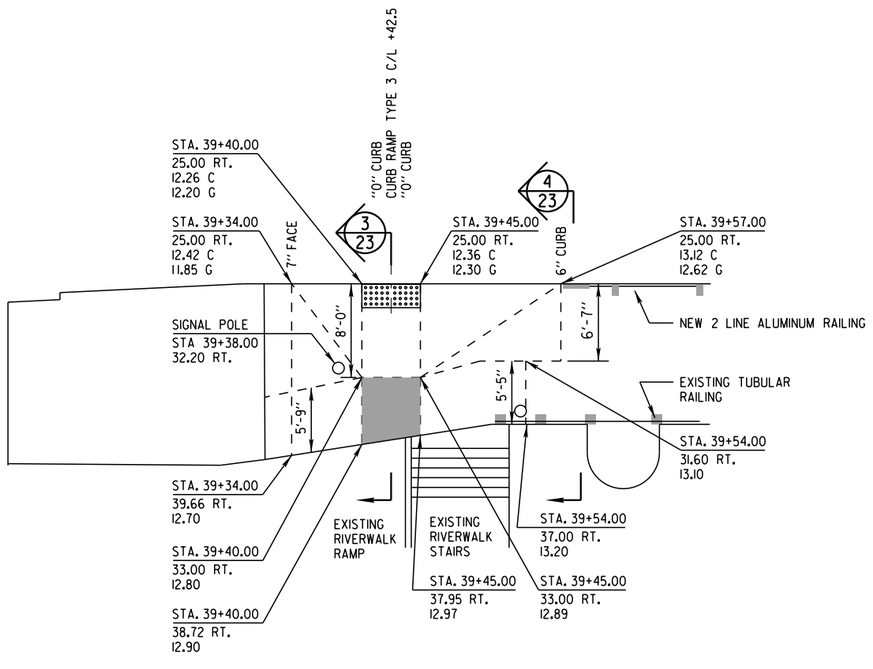
REVISED DATE: 05-11-2017 BY: DB

STATE PROJECT NUMBER

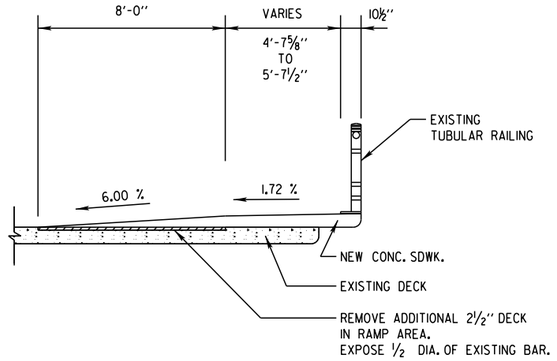
2195 - 03 - 70



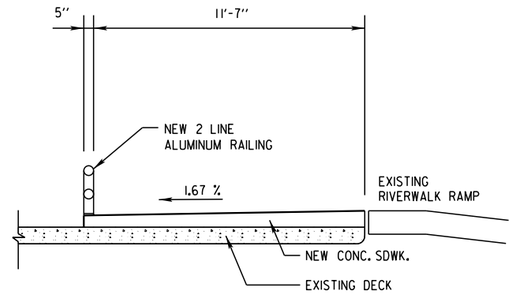
NORTHWEST SIDEWALK PLAN



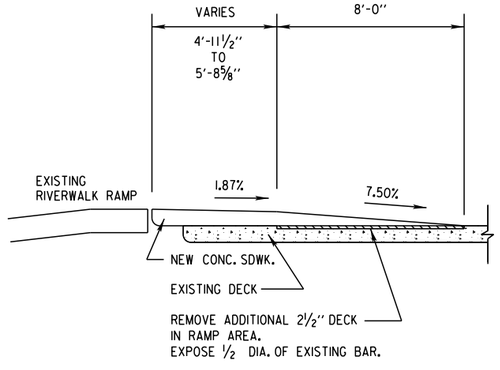
SOUTHWEST SIDEWALK PLAN



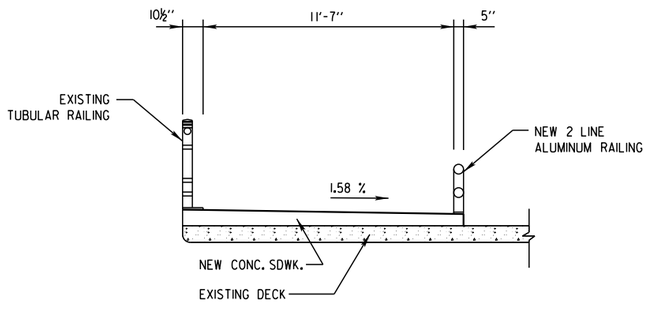
1/23 SECTION



2/23 SECTION



3/23 SECTION



4/23 SECTION

NOTE:

LEAVE CONCRETE ROUGH IN REMOVAL AREA.
CLEAN AND RECOAT EXPOSED REBAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY D.L.F. | PLANS CK'D. J.D.T. H.J.R.

SIDEWALK RAMP DETAILS

SHEET 23 OF 58

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8

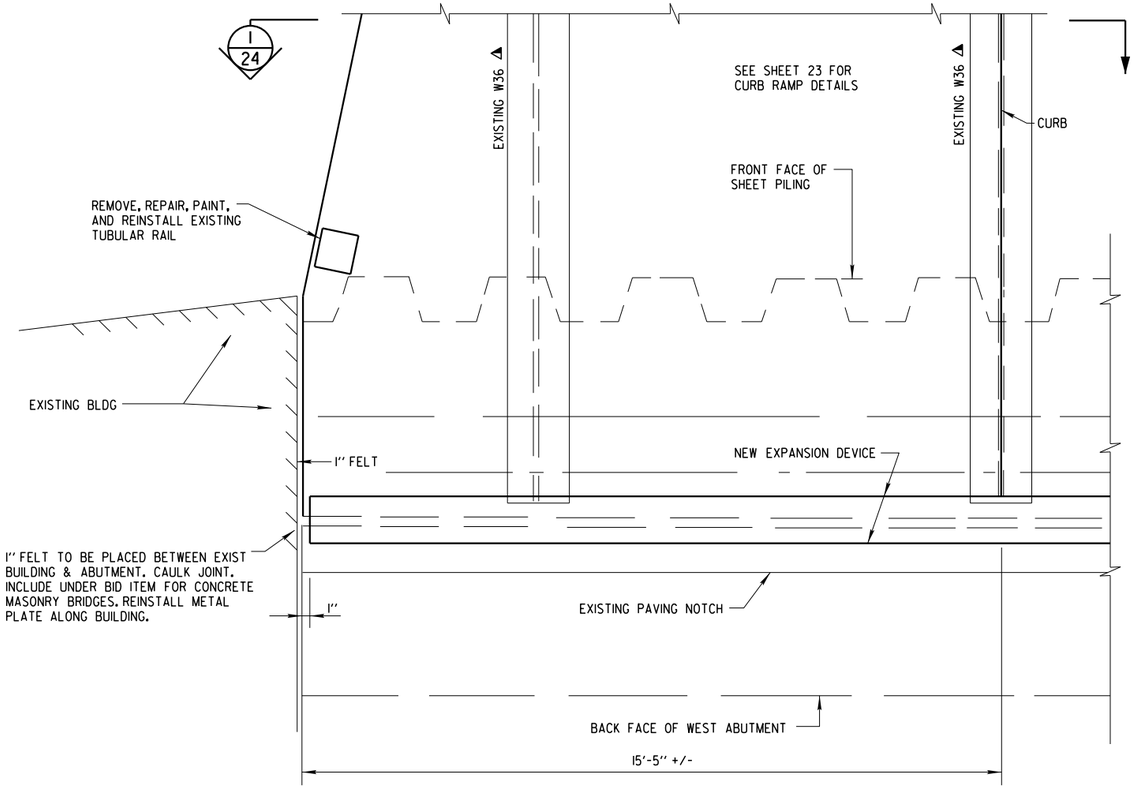
8

W:\STR\BO107\2017WORK\PLANS\24_NW CORNER DETAILS.DGN

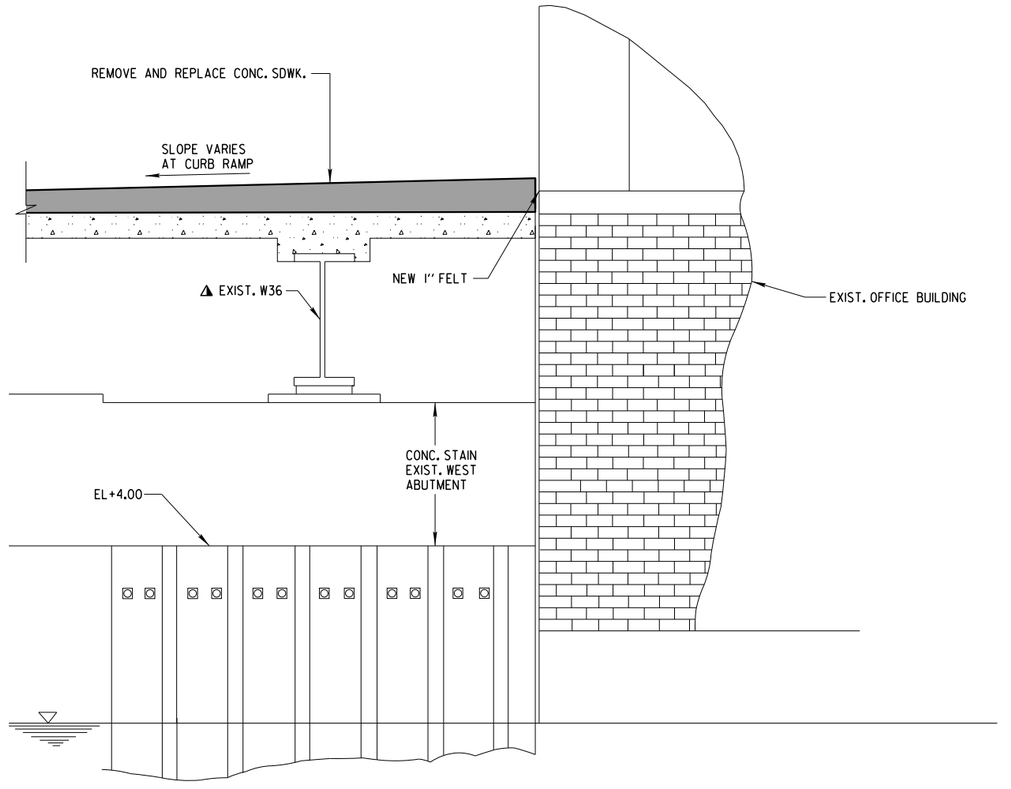
REVISED DATE: 07/27/2017 BY: CJR

STATE PROJECT NUMBER

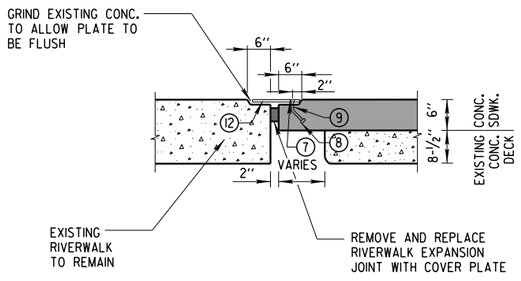
2195 - 03 - 70



PLAN OF N.W. CORNER

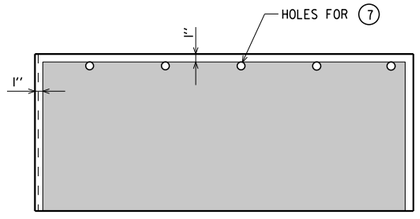


SECTION I / 24



8 / 19 NORTHWEST CORNER AT RIVERWALK

(APPROXIMATE LENGTH = 8 LF)



PLAN OF RIVERWALK EXPANSION JOINT COVER PLATE WITH SLIP-RESISTANT SURFACE

NOTES:

▲ SANDBLAST & PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BEAMS, STRINGERS)

(7) 3/4" DIA. x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK. HOLE RECESS 1/16" BELOW PLATE SURFACE. MAX. SPACING I'-0"

(8) 3/4" DIA. x 4" GALVANIZED HEX HEAD BOLT. BEND 45°. MAX. SPACING I'-0"

(9) 3/4" DIA. x 2 1/4" GALVANIZED THREADED COUPLING. MAX. SPACING I'-0"

(12) GALVANIZED SIDEWALK PLATE 3/8" x I'-0" WIDE X LIMITS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	M.L.	PLANS CK'D.	M.S.A. J.D.T.

NORTHWEST CORNER DETAILS

SHEET 24 OF 58

8

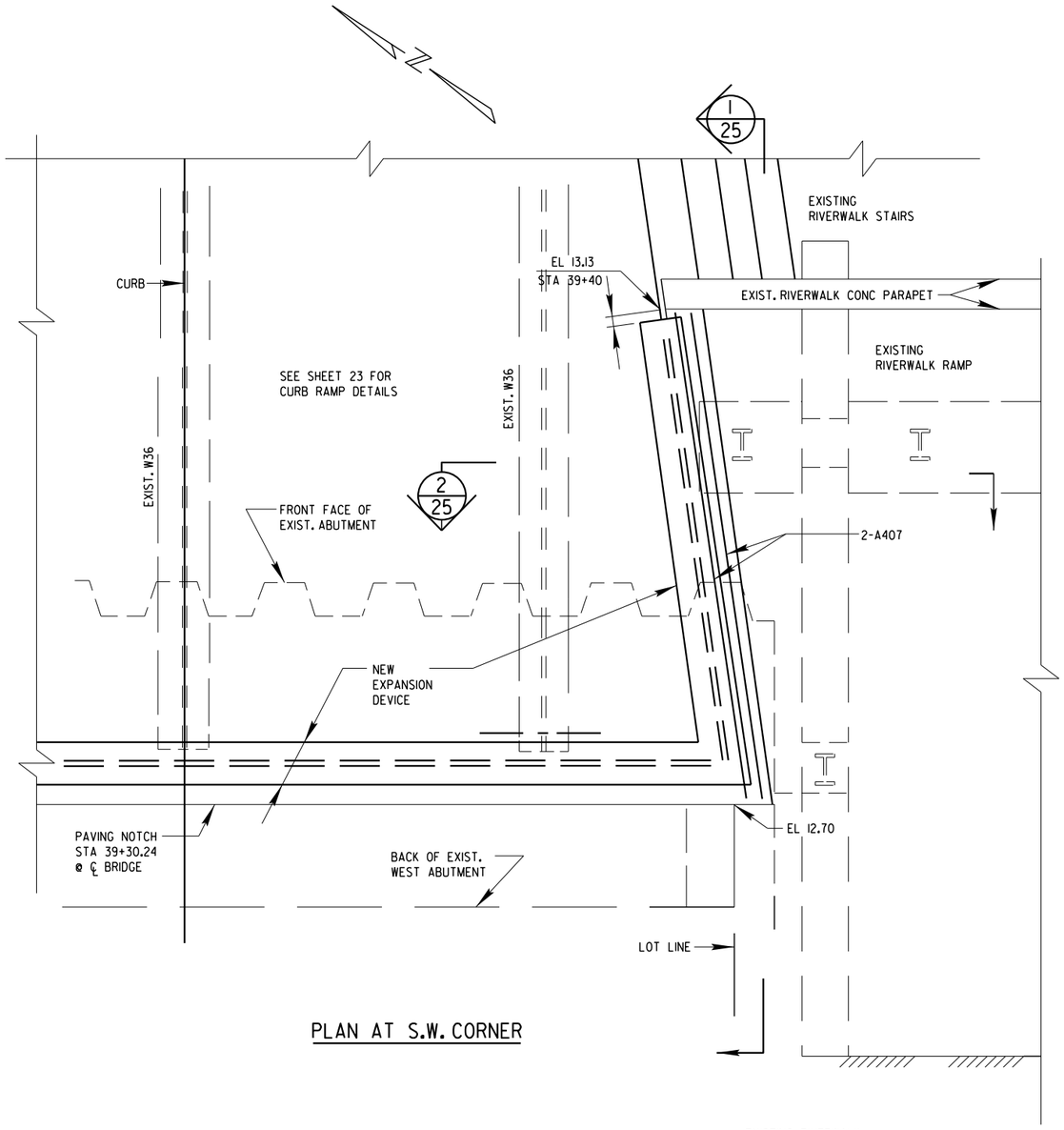
8

W:\STR\B0107\2017WORK\PLANS\25_SW CORNER DETAILS.DGN

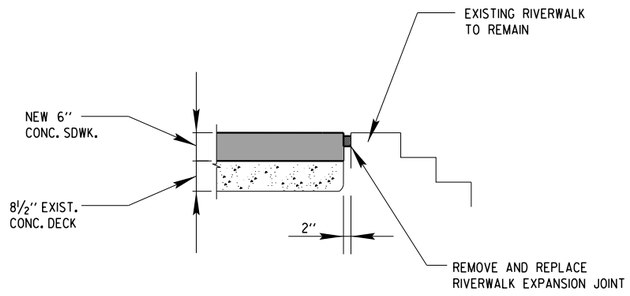
REVISED DATE: 07/20/2017 BY: DB

STATE PROJECT NUMBER

2195 - 03 - 70

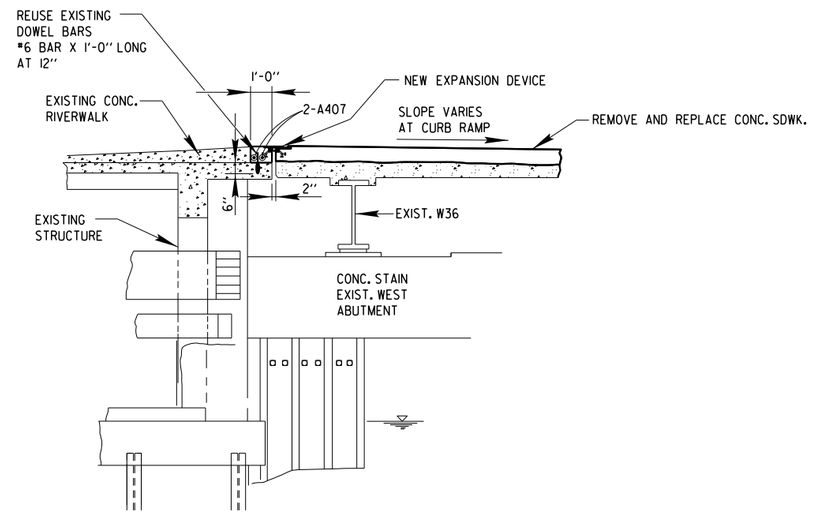


PLAN AT S.W. CORNER

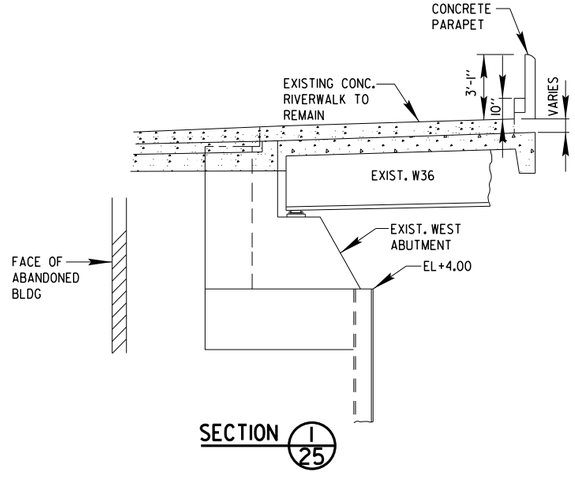


7/19 SOUTHWEST CORNER AT RIVERWALK STAIRS

(APPROXIMATE LENGTH = 7 LF)



SECTION 2/25



SECTION 1/25

NOTES:

NEW EXPANSION DEVICE B-40-544 INCLUDES LONGITUDINAL DEVICE AT SOUTHWEST CORNER

RIVERWALK EXPANSION JOINT INCLUDES LONGITUDINAL JOINT AT STAIRS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY M.L. | PLANS CK'D. M.S.A. J.D.T.

SOUTHWEST CORNER DETAILS

SHEET 25 OF 58

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8

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REVISED DATE: 07/20/2017 BY DB

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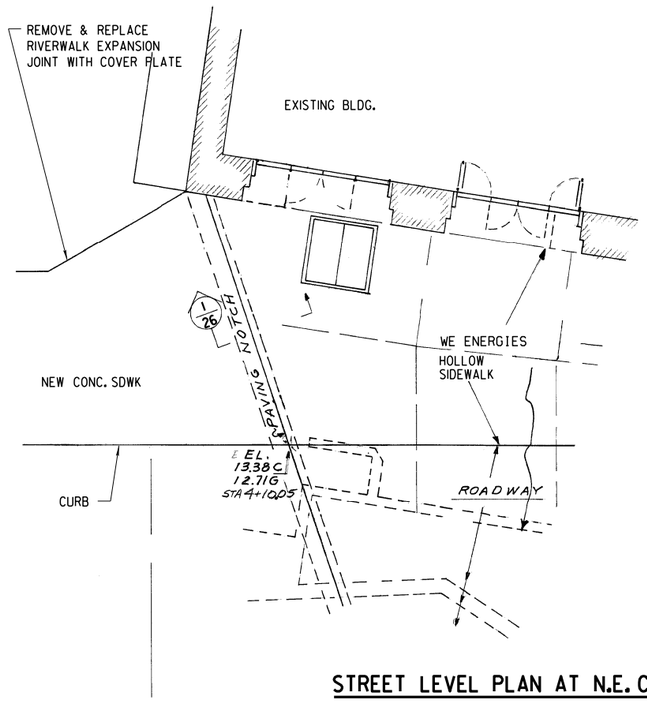
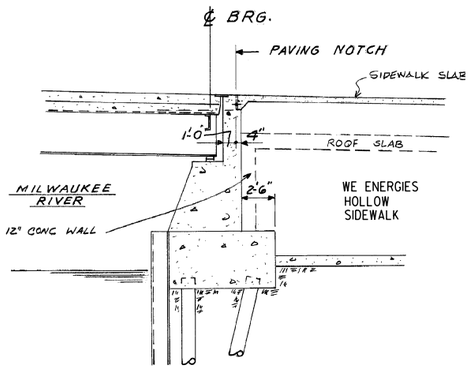


STREET LEVEL PLAN AT N.E. CORNER

NOTE:

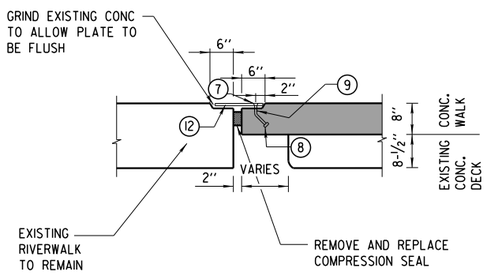
WORK ON HOLLOW WALK BY OTHERS
SEE PAVING PLAN FOR ADDITIONAL DETAILS.



SECTION 1/26

NOTE:

WORK ON HOLLOW WALK BY OTHERS



7/20 NORTHEAST CORNER AT RIVERWALK

(SEE SHEET 24 FOR LEGEND)
(APPROXIMATE LENGTH = 9'-6")

8

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	M.L.	PLANS CK'D.	M.S.A. J.D.T.

NORTHEAST CORNER DETAILS

SHEET 26 OF 58

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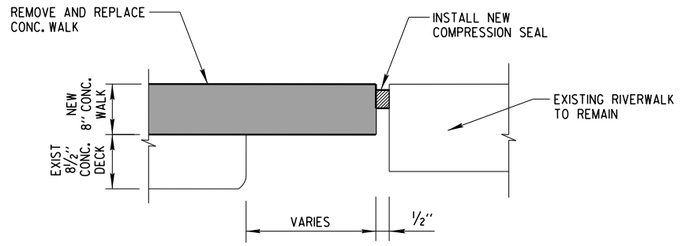
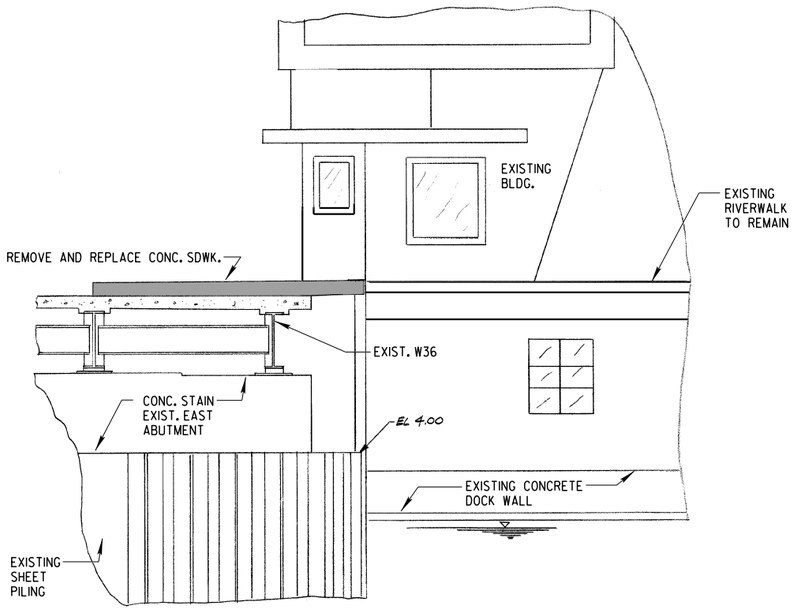
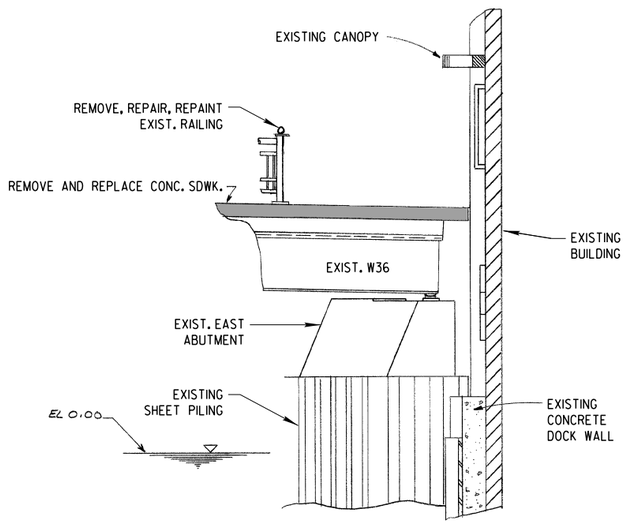


8/20 SOUTHEAST CORNER AT RIVERWALK

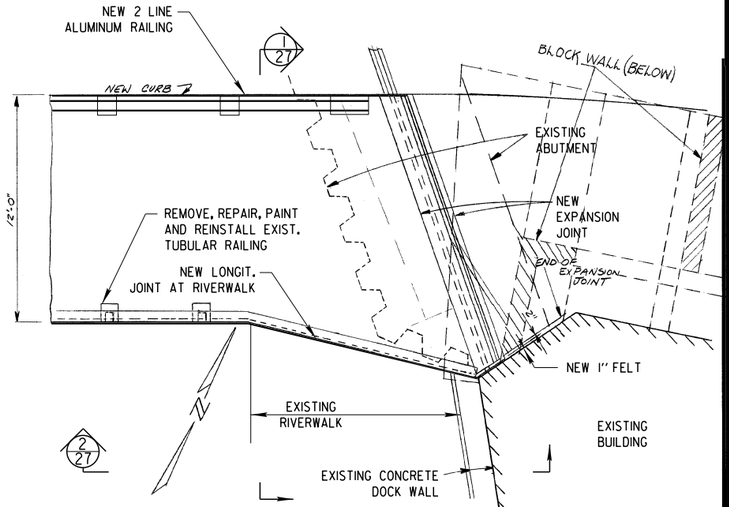
(APPROXIMATE LENGTH = 13'-6")



SECTION 1/27



SECTION 2/27



PLAN AT S.E CORNER - NEW

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STRUCTURE B-40-544

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SOUTHEAST CORNER DETAILS

SHEET 27 OF 58

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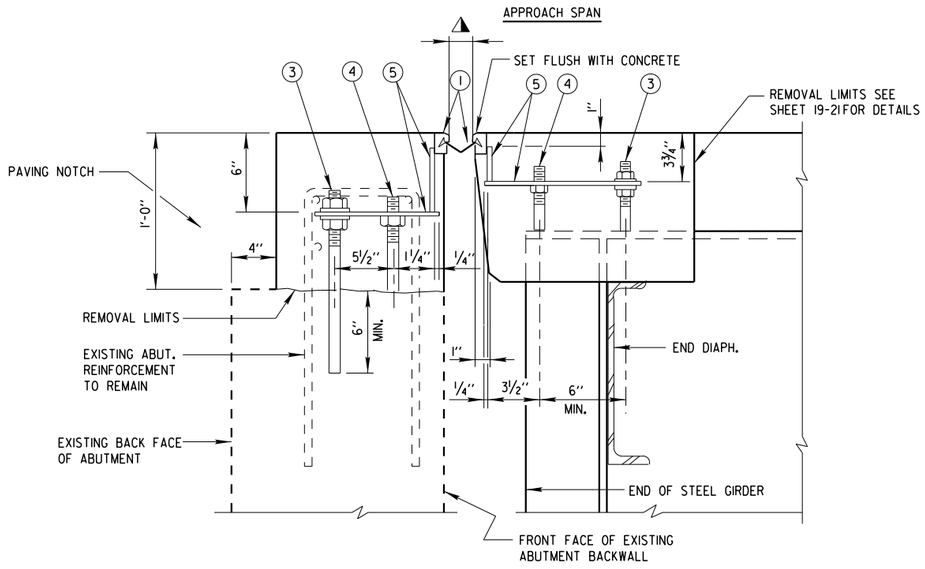
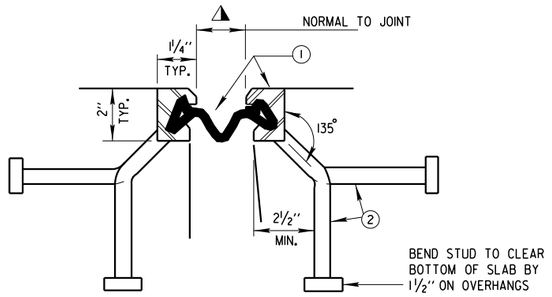


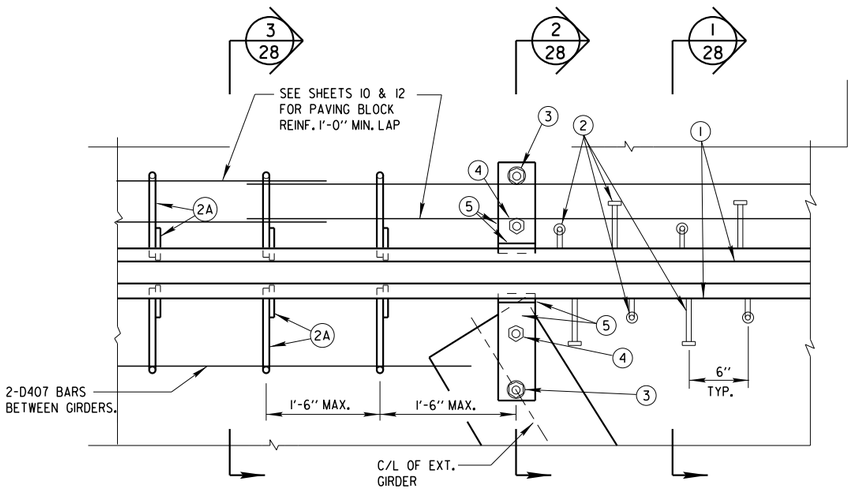
SECTION THRU JOINT AT STEEL GIRDER (2/28)

NORMAL TO C/L SUBSTRUCTURE



SECTION THRU JOINT (1/28)

AT SIDEWALKS



PARTIAL PLAN STRIP SEAL EXPANSION JT.

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 BAR 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) GALVANIZED PLATE ⅜" x 10" x (2'-2" LONG FOR SKEWS 10 °TO 45 °AND 3'-0" FOR SKEWS > 45°) WITH HOLES FOR NO. 7.

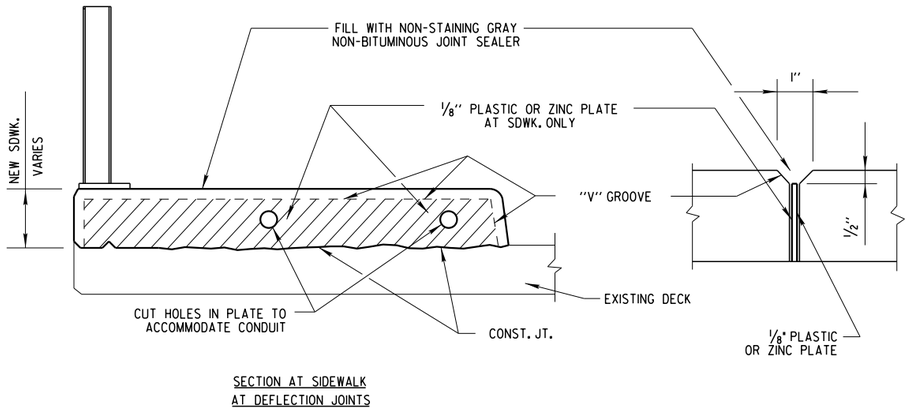
(7) ¾" DIA. x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK. HOLE RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. x 2¼" GALVANIZED THREADED COUPLING.

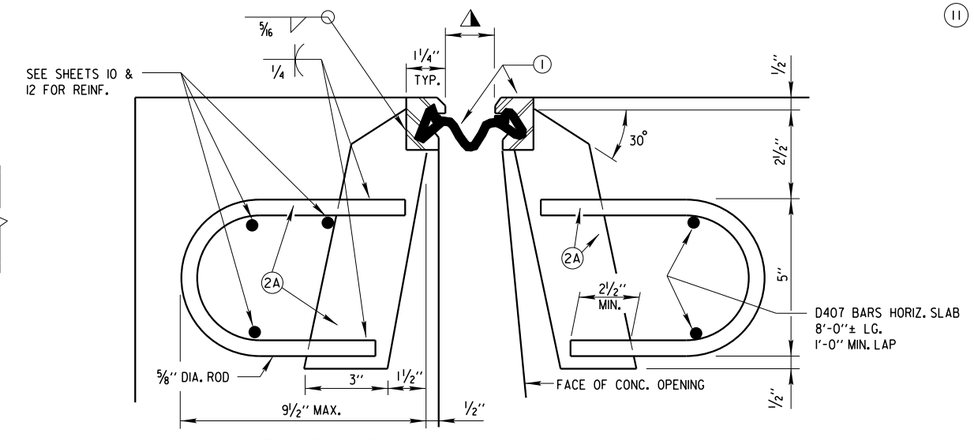
(10) 1" x 5" SLOTTED CSK. HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

(11) GALVANIZED SIDEWALK PLATE ⅜" x 2'-0" WIDE X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK PLATE WITH HOLES FOR NO. 7 GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.



SECTION AT SIDEWALK AT DEFLECTION JOINTS

DEFLECTION JOINT DETAILS



AT PAVING BLOCK AT DECK

SECTION THRU JOINT (3/28)

ROADWAY TRAFFIC AREA BETWEEN GIRDERS

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

STRIP SEAL EXPANSION JOINT SECTIONS

SHEET 28 OF 58

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REVISED DATE: 05/11/2017 BY: DB

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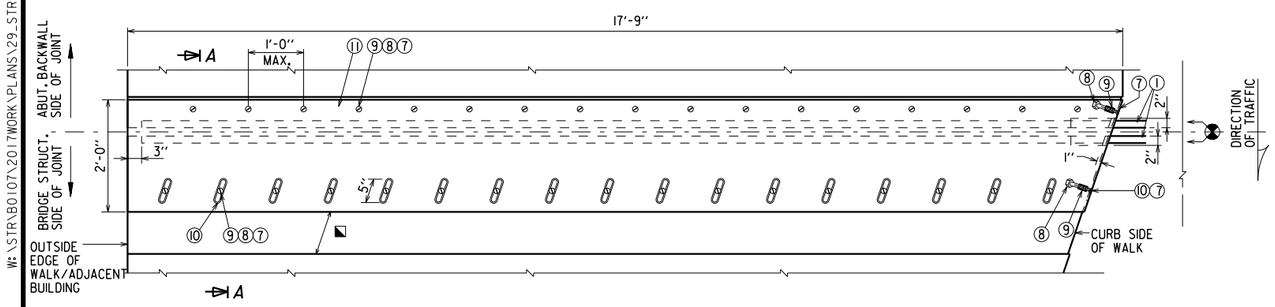
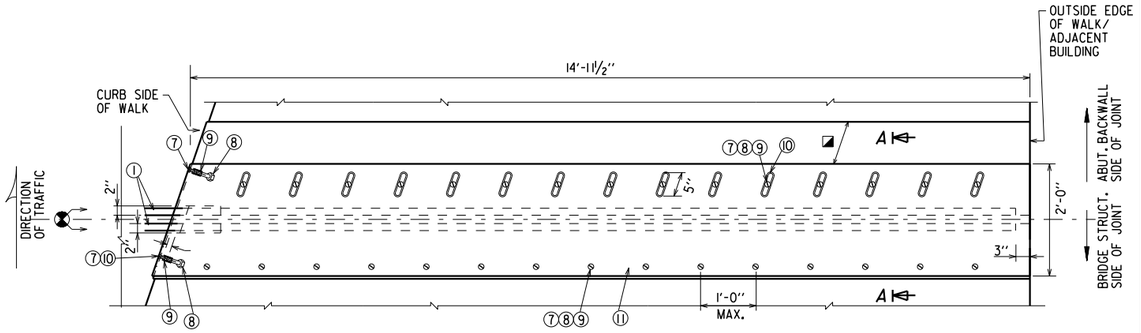
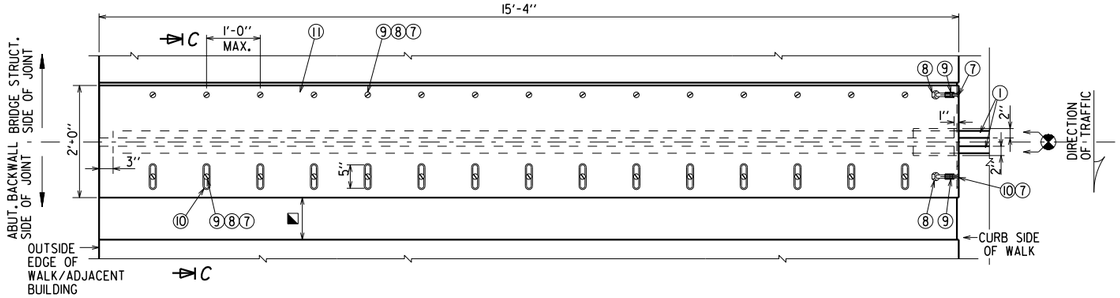


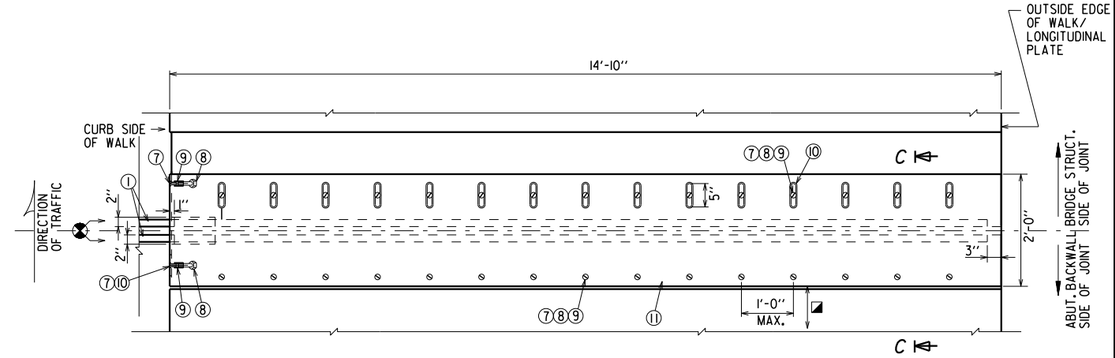
PLAN AT SIDEWALK
AT N.E. CORNER OF EAST ABUTMENT - WESTBOUND TRAFFIC



PLAN AT SIDEWALK
S.E. CORNER OF EAST ABUTMENT - EASTBOUND TRAFFIC



PLAN AT SIDEWALK
AT N.W. CORNER OF WEST ABUTMENT - WESTBOUND TRAFFIC



PLAN AT SIDEWALK
S.W. CORNER OF WEST ABUTMENT - EASTBOUND TRAFFIC

8

8

NO.	DATE	REVISION	BY

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STRUCTURE B-40-544

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STRIP SEAL EXPANSION JOINT DETAILS (1 OF 2)

SHEET 29 OF 58

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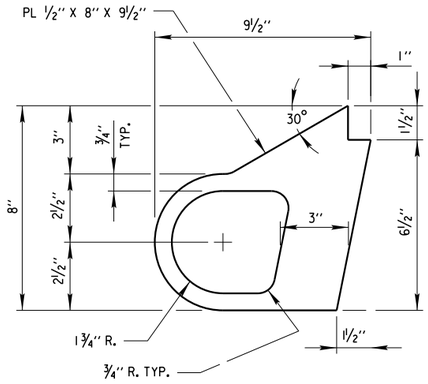
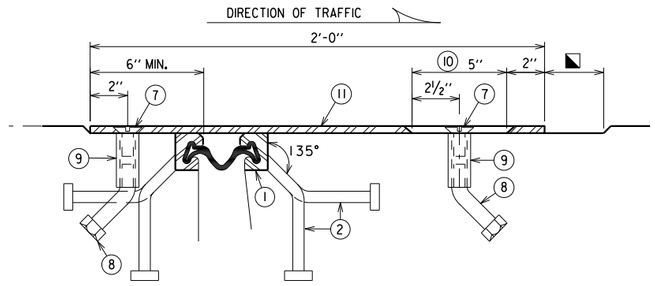
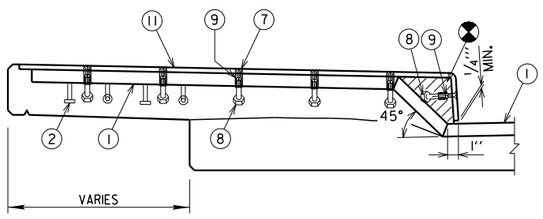


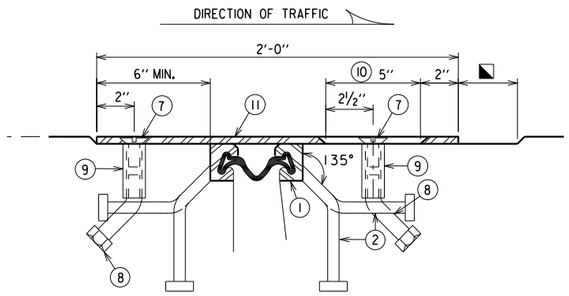
ALTERNATE STRIP SEAL ANCHOR



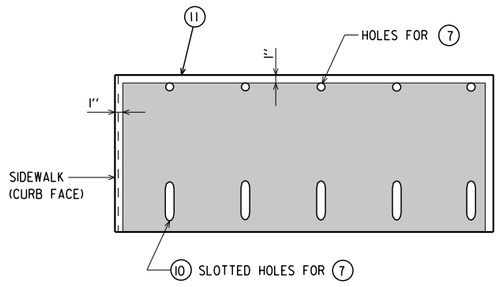
SECTION A-A



SECTION AT SIDEWALK



SECTION C-C



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).

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 28 LEGEND AND GENERAL NOTES.

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

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"

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 & 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. 8 & NO. 9 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 B-40-544".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

STRIP SEAL EXPANSION JOINT DETAILS (2 OF 2)

SHEET 30 OF 58

W:\STR\B0107\2017WORK\PLANS\31_EXIST LIFT SPAN.DGN

REVISED DATE: 07-20-2017 BY GJR

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3 @ 1'-3" = 3'-9" | 4 @ 1'-6" = 6'-0" | 9" 9" | 7 @ 1'-6" = 10'-6" | 9" 9" | 7 @ 1'-6" = 10'-6" | 9" 9" | 7 @ 1'-6" = 10'-6" | 9" 9" | 7 @ 1'-6" = 10'-6" | 9" 9" | 4 @ 1'-6" = 6'-0" | 3 @ 1'-3" = 3'-9" | C7 X 9.8 JOIST SPACING

C/L BEARING APPROACH SPAN

C/L PIER NO. 1 STA. 40+02.34

C/L LIFT SPAN STA. 40+36.34

C/L PIER NO. 2 STA. 40+70.34

C/L BEARING APPROACH SPAN

FIXED | FIXED | EXP. | FIXED

(S1) REMOVE STRINGER

REMOVE (S2) STRINGER

REMOVE EXISTING SDWK. PLATES

REMOVE (S2) STRINGER

REMOVE C10x15.3

C10x15.3 FASCIA CHANNEL

EDGE OF WALK

2'-0"

12'-0" SDWK.

CURB

REMOVE W10x22

REMOVE WT7x21.5

W12x26 BELOW

REMOVE C10x20 CURB CHANNEL

LIFT LEG | LIFT LEG

(G8) W36x280

(G7) W36x280

(G6) W36x280

(G5) W36x280

(G4) W36x280

(G3) W36x280

(G2) W36x280

(G1) W36x280

W12x26

W12x26 TYP. BELOW

2½" OPEN STEEL GRID FLOOR

C7x9.8

JACKING BEAM | JACKING BEAM

A 35

B 35

REMOVE STUB END BEAM

REMOVE STUB END BEAM

REMOVE STUB END BEAM

REMOVE STUB END BEAM

REMOVE STRINGER (S4)

REMOVE STRINGER (S4)

REMOVE BOLTS AT BRACING CONNECTION

REMOVE EXP. JT.

REMOVE EXP. JT.

REMOVE (S3) STRINGER

C/L BRIDGE & W WELLS ST.

C/L BRIDGE & W. WELLS ST.

+00

40+50

50'-0" - ROWY. (STEEL GRID DECK)

7 SPACES AT 10'-0" = 70'-0" (GIRDER SPACING)

5'-0" | 5'-0"

3 SPACES AT 3'-4" = 10'-0" (STRINGER SPACING)

2 SPACES AT 3'-0" = 6'-0" (SDWK. STRINGER SPACING)

FB1 W24x146 | FB2 W16x36 | FB3 W16x36 | FB4 W16x36 | FB5 W16x36 | FB6 W16x36 | FB7 W24x146

REMOVE (S2) STRINGER

REMOVE EXISTING SDWK. PLATES

REMOVE (S2) STRINGER

REMOVE C10x15.3

REMOVE DOUBLE PURLIN IN SDWK AREA (TYP.) (P1) / (P3)

BRACING AT BOTTOM FLANGE OF GIRDER (TYP.)

8'-9"

REMOVE BITUMINOUS CONCRETE FILL ON PLATE OVER PIER

8'-9"

REMOVE BITUMINOUS CONCRETE FILL ON PLATE OVER PIER

10'-0" | 4 SPACES AT 12'-0" = 48'-0" (FLOORBEAM SPACING) | 10'-0"

5'-0" | 5'-0" | 58'-0" C/L BRG. LIFT SPAN | 5'-0" | 5'-0"

68'-0" C/L TO C/L PIERS

LEGEND

- EXISTING 2½" OPEN STEEL GRID
- EXISTING SIDEWALK PLATES
- EXISTING STEEL TO REMAIN
- EXISTING STEEL TO BE REMOVED

LIFT SPAN PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

EXISTING LIFT SPAN

SHEET 31 OF 58

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W:\STR\B0107\2017WORK\PLANS\32_PROPOSED LIFT SPAN.DGN

REVISED DATE: 07/20/2017 BY GJR

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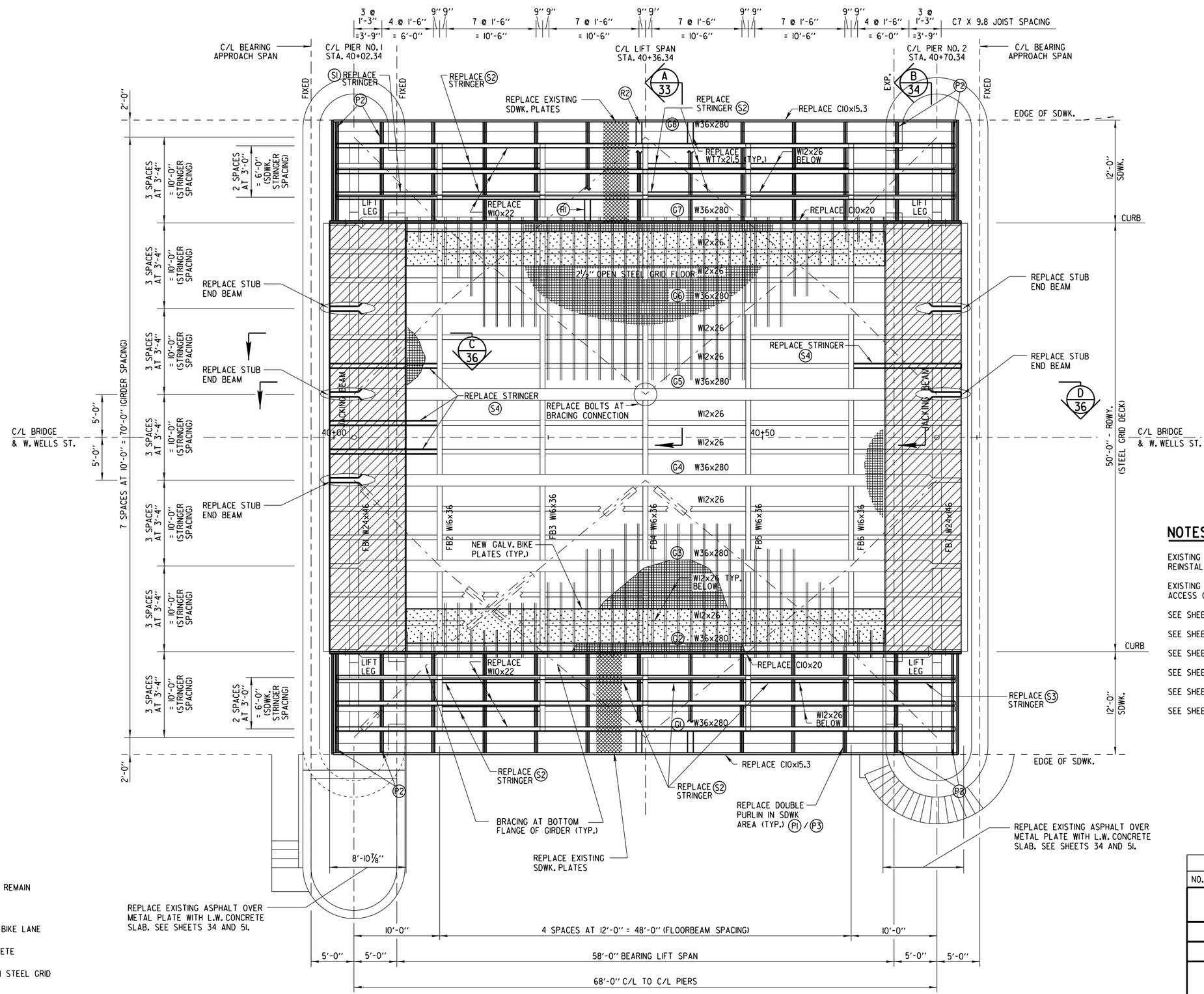

LIFT SPAN PLAN

NOTES:

EXISTING 2½" OPEN STEEL GRATING TO BE REMOVED AND REINSTALLED AS NEEDED.

EXISTING PURLIN TO BE REMOVED AND REINSTALLED TO ACCESS OTHER STEELWORK AS NEEDED.

SEE SHEET 41 FOR STUB END BEAM DETAILS

SEE SHEET 42 - 43 FOR STRINGER DETAILS

SEE SHEET 44 FOR PURLIN DETAILS

SEE SHEET 45 - 49 FOR SIDEWALK FRAMING DETAILS

SEE SHEET 53 FOR METAL PLATE FOR BIKE LANE DETAILS

SEE SHEET 54 FOR SIDEWALK PLATE DETAILS

LEGEND

- EXISTING STEEL TO REMAIN
- NEW STEEL
- METAL PLATE FOR BIKE LANE
- LIGHTWEIGHT CONCRETE
- EXISTING 2½" OPEN STEEL GRID
- SIDEWALK PLATES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

PROPOSED LIFT SPAN

SHEET 32 OF 58

W:\STR\BO107\2017WORKPLANS\33_LIFT SPAN X-SEC.DGN

REVISED DATE: 07-25-2017 BY DLF

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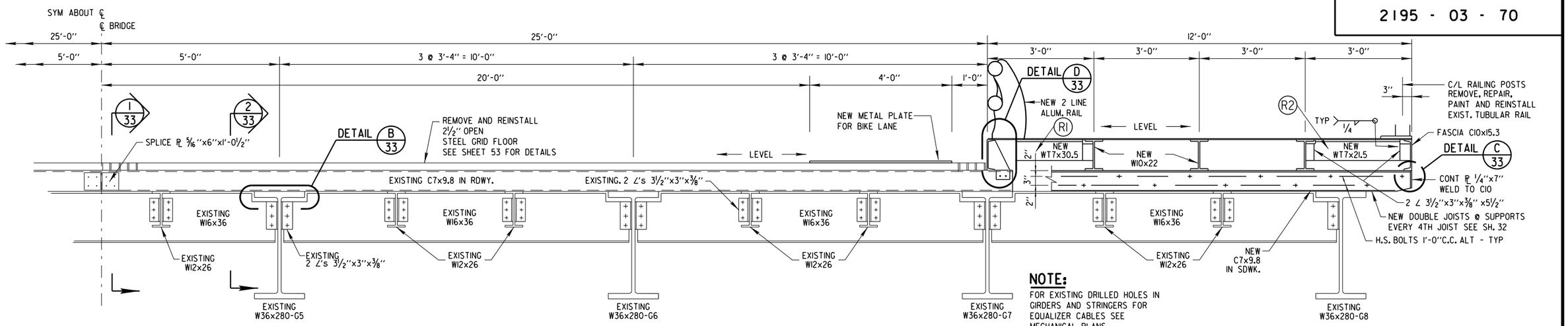
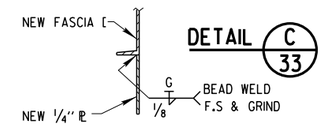
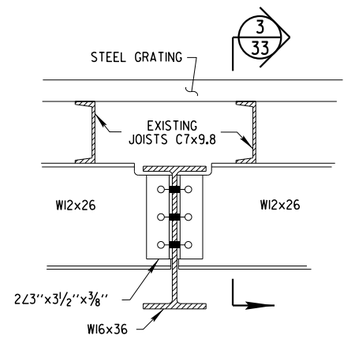


NOTE:
FOR EXISTING DRILLED HOLES IN GIRDERS AND STRINGERS FOR EQUALIZER CABLES SEE MECHANICAL PLANS.

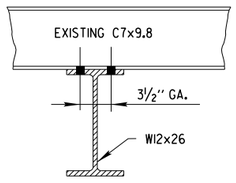
INTERIOR FLOORBEAM - SECTION F.B.2 THRU F.B.6 (A 32)

FOR EXTERIOR (JACKING BEAM) FLOOR BEAM SEE SH. 51





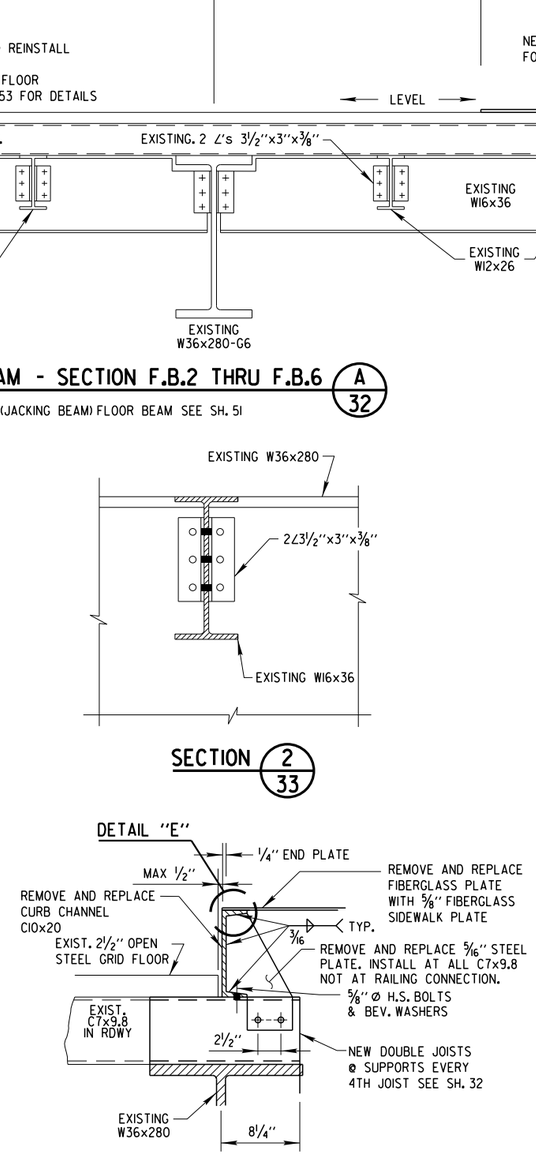
SECTION 1 33



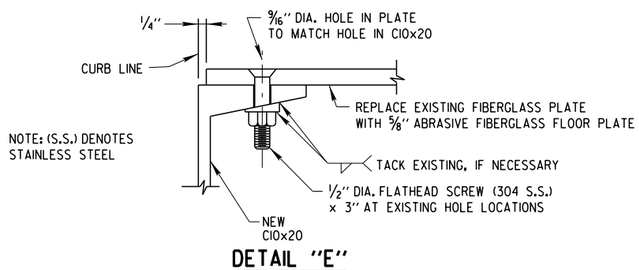
SECTION 3 33

SECTION 2 33

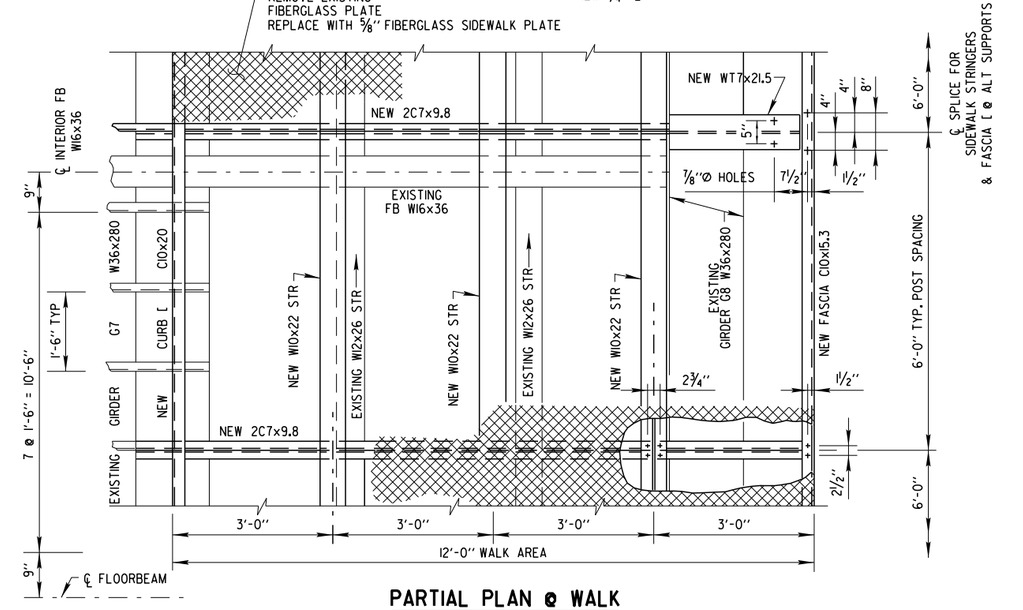
SHIM PLATE @ GIRDERS - DETAIL (B 33)



ROADWAY CURB DETAIL (D 33)



DETAIL "E"



PARTIAL PLAN @ WALK

NOTE:
SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BEAMS, STRINGERS, PURLINS).

OVERCOAT EXISTING OPEN STEEL GRID FLOOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

LIFT SPAN CROSS SECTION

SHEET 33 OF 58

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REVISED DATE: 07/20/2017 BY GJR

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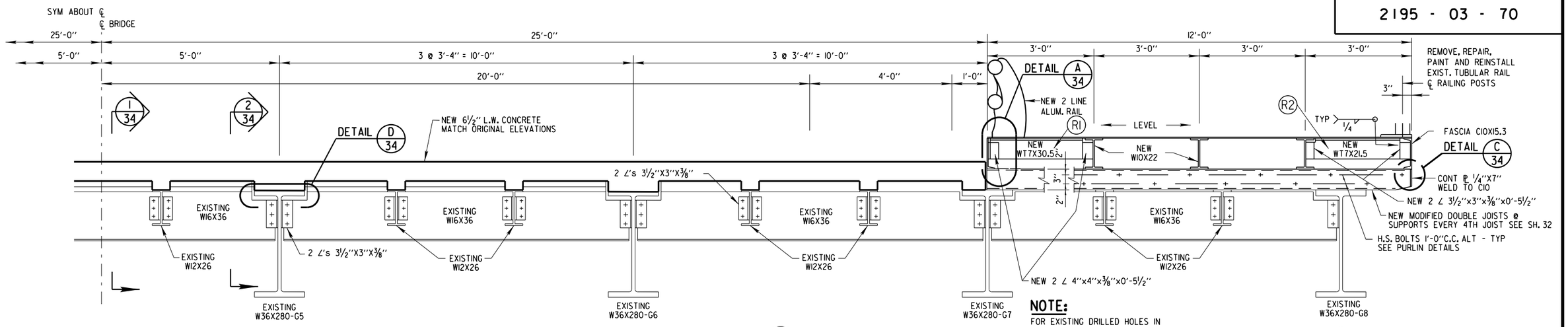
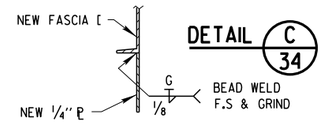
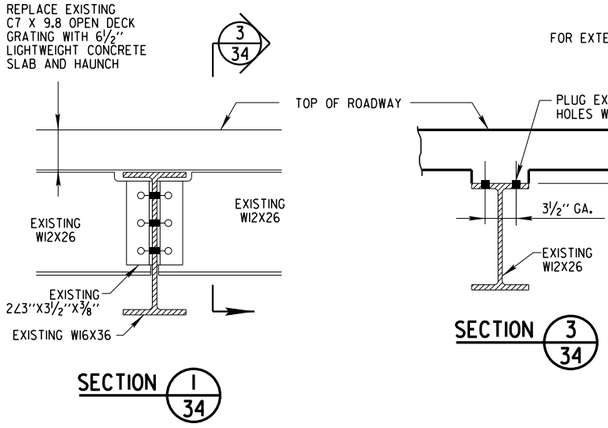


SECTION AT LIGHTWEIGHT CONCRETE DECK (B 32)

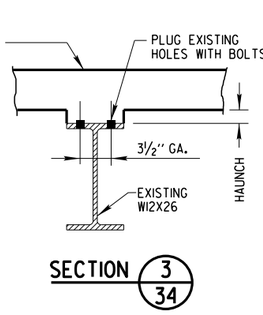
FOR EXTERIOR (JACKING BEAM) FLOOR BEAM SEE SH. 51

NOTE:
FOR EXISTING DRILLED HOLES IN GIRDERS AND STRINGERS FOR EQUALIZER CABLES SEE MECHANICAL PLANS.





SECTION (1 34)



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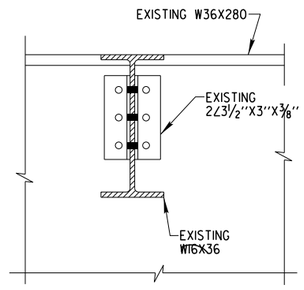

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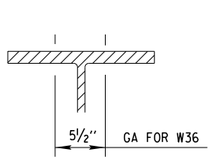
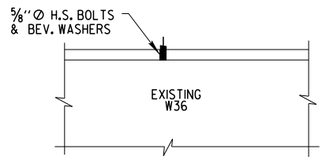
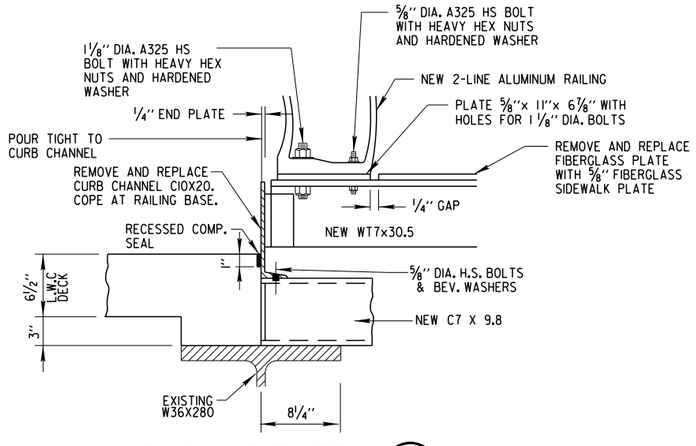




SHIM PLATE @ GIRDERS - DETAIL (D 34)



ROADWAY CURB DETAIL (A 34)

REHAB NOTES:

1. POUR NEW LIGHTWEIGHT CONCRETE SLABS FOR MACHINERY PIT COVERS.
2. PLUG ABANDONED HOLES IN TOP FLANGES OR STRINGERS, FLOOR BEAMS AND GIRDERS (BELOW NEW CONCRETE HAUNCHES) WITH BOLTS.
3. REPLACE STRUCTURAL STEEL ELEMENTS (JOISTS, STRINGERS, GUSSET PLATES, CONNECTIONS, ETC. AS NOTED) WITH PAINTED GALVANIZED STEEL.
4. EXISTING W36 GIRDERS AND W24 JACKING BEAMS TO REMAIN FOR SANDBLASTING AND PAINTING.
5. PROVIDE OVERSIZED HOLES (7/8" DIAMETER HOLES FOR 3/4" DIAMETER BOLTS) IN NEW GALVANIZED STEEL TYPICALLY WHERE NEW GALVANIZED STEEL IS FIELD BOLTED TO ORIGINAL STEEL.
6. PROVIDE OVERSIZED HOLES (1" DIAMETER FOR 7/8" DIAMETER BOLTS) IN NEW GALVANIZED STEEL WHERE NEW GALVANIZED IS FIELD BOLTED TO NEW GALVANIZED STEEL.
7. USE BOLT PLATE CONNECTIONS FOR DECK GRATING TO FRAMES.
8. TOUCH UP WELDED AREAS OF GALVANIZED ELEMENTS WHERE APPLICABLE.
9. INSTALL OPEN GRATING AND LIFT SPAN COMPRESSION SEAL JOINT PRIOR TO POURING LIGHTWEIGHT LIFT SPAN CONCRETE SLAB MACHINERY PIT COVERS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	J.D.T. H.J.R.

LIFT SPAN CROSS SECTION AT LIGHTWEIGHT CONCRETE

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W:\STR\B0107\2017WORK\PLANS\35_EXIST LIFTING LEG & EXP JT.DGN

REVISED: 07-20-17 BY:DB

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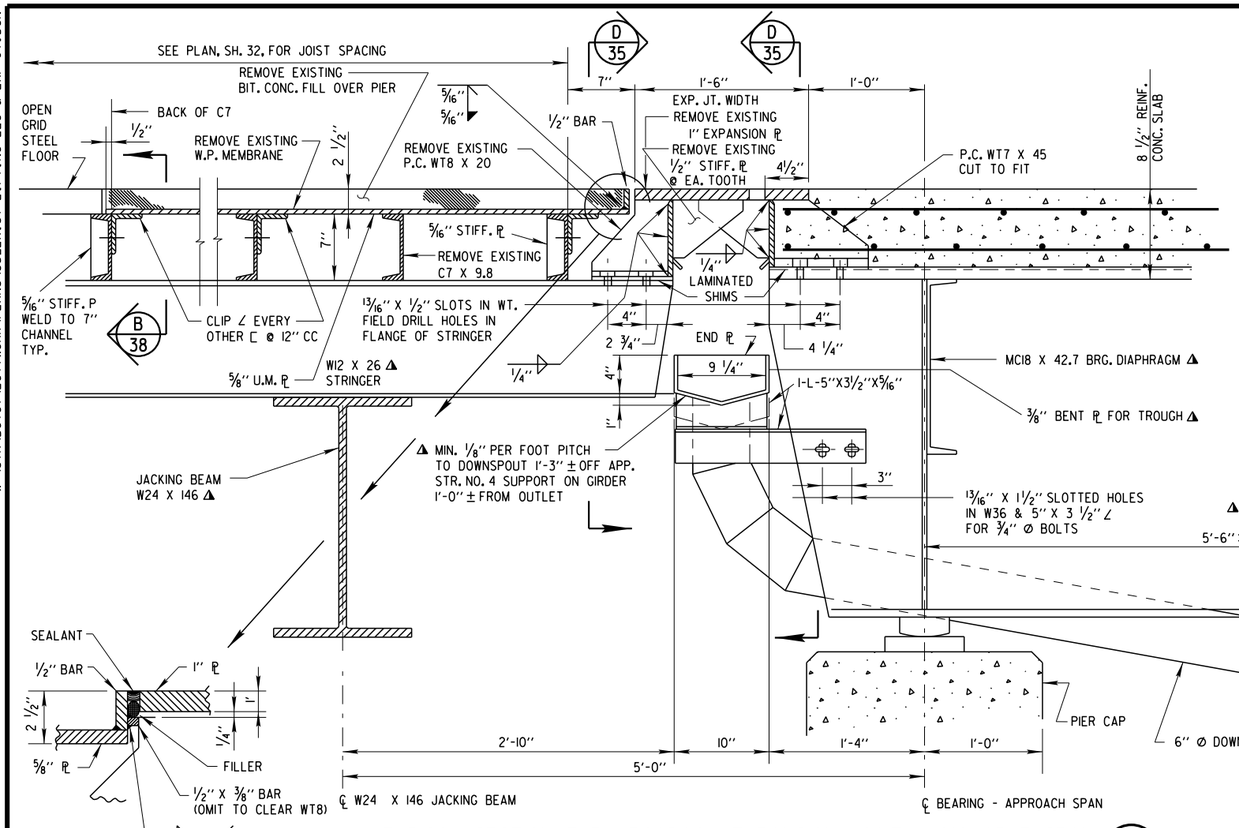
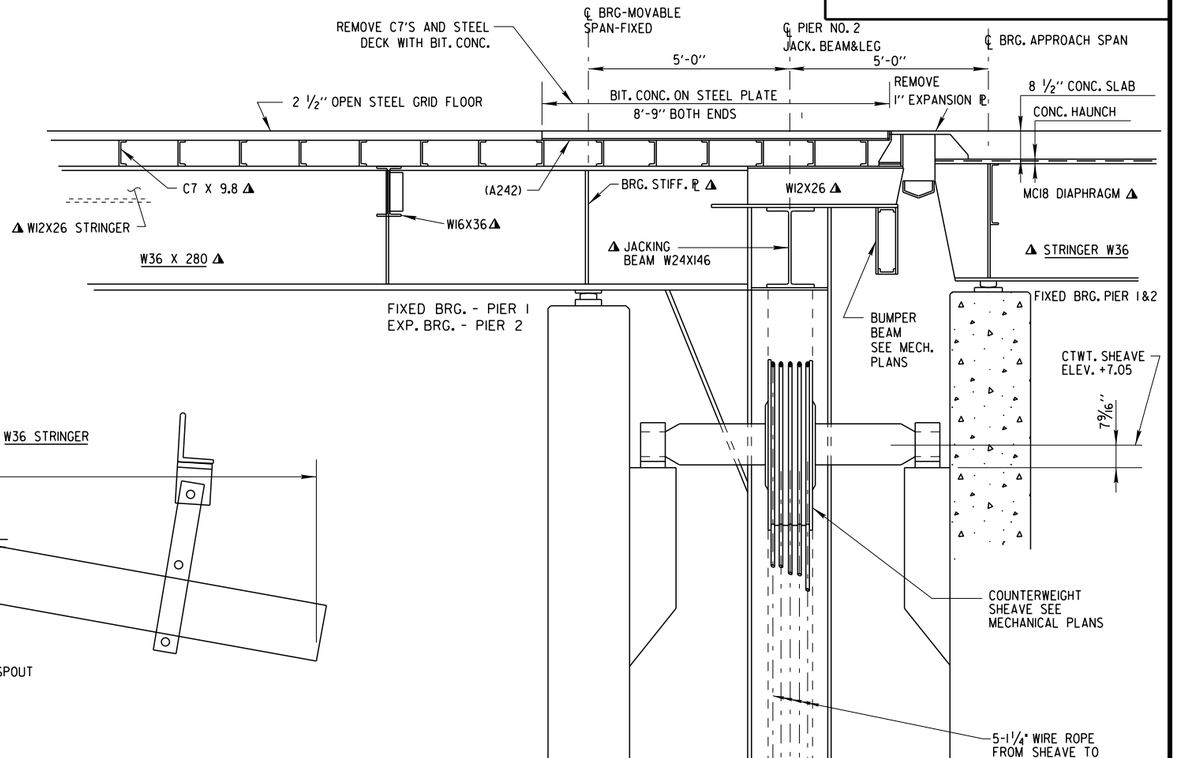
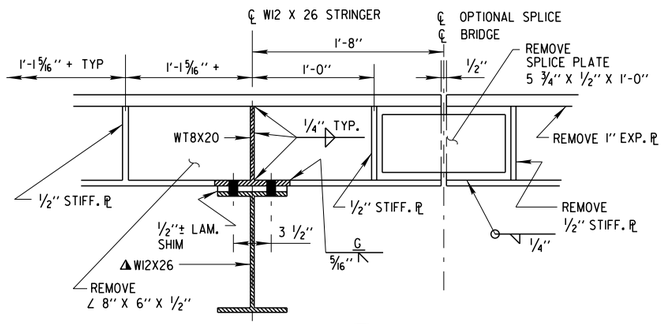


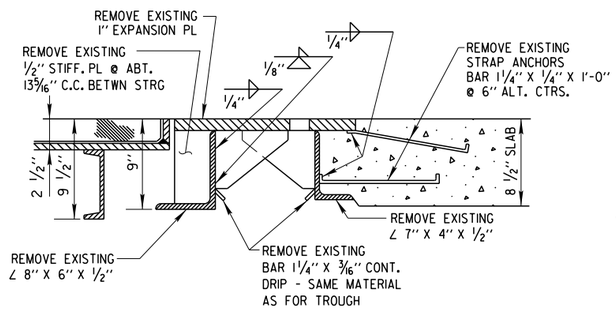
TYPICAL SECTION THRU ROADWAY EXPANSION JOINT @ MOVABLE SPAN (A / 31)



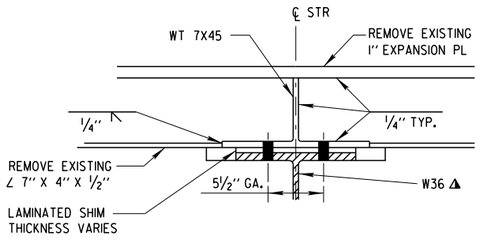
TYPICAL END SECTION (B / 31)



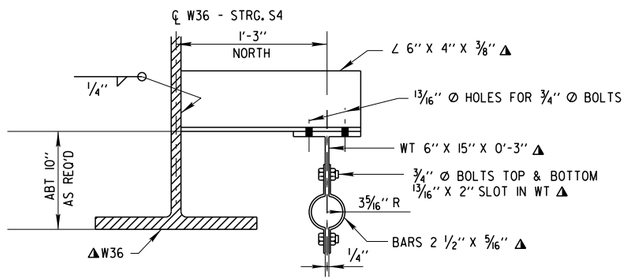
SECTION (D / 35)



EXPANSION JOINT DETAIL BETWEEN STRINGERS



SECTION (C / 35)



DOWNSPOUT HANGER DETAIL

NOTE:

▲ SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BEAMS, STRINGERS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY D.L.F. | PLANS CK'D. J.D.T. H.J.R.

EXISTING LIFTING LEG AND EXPANSION JOINT

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REVISED DATE: 07/26/2017 BY DB

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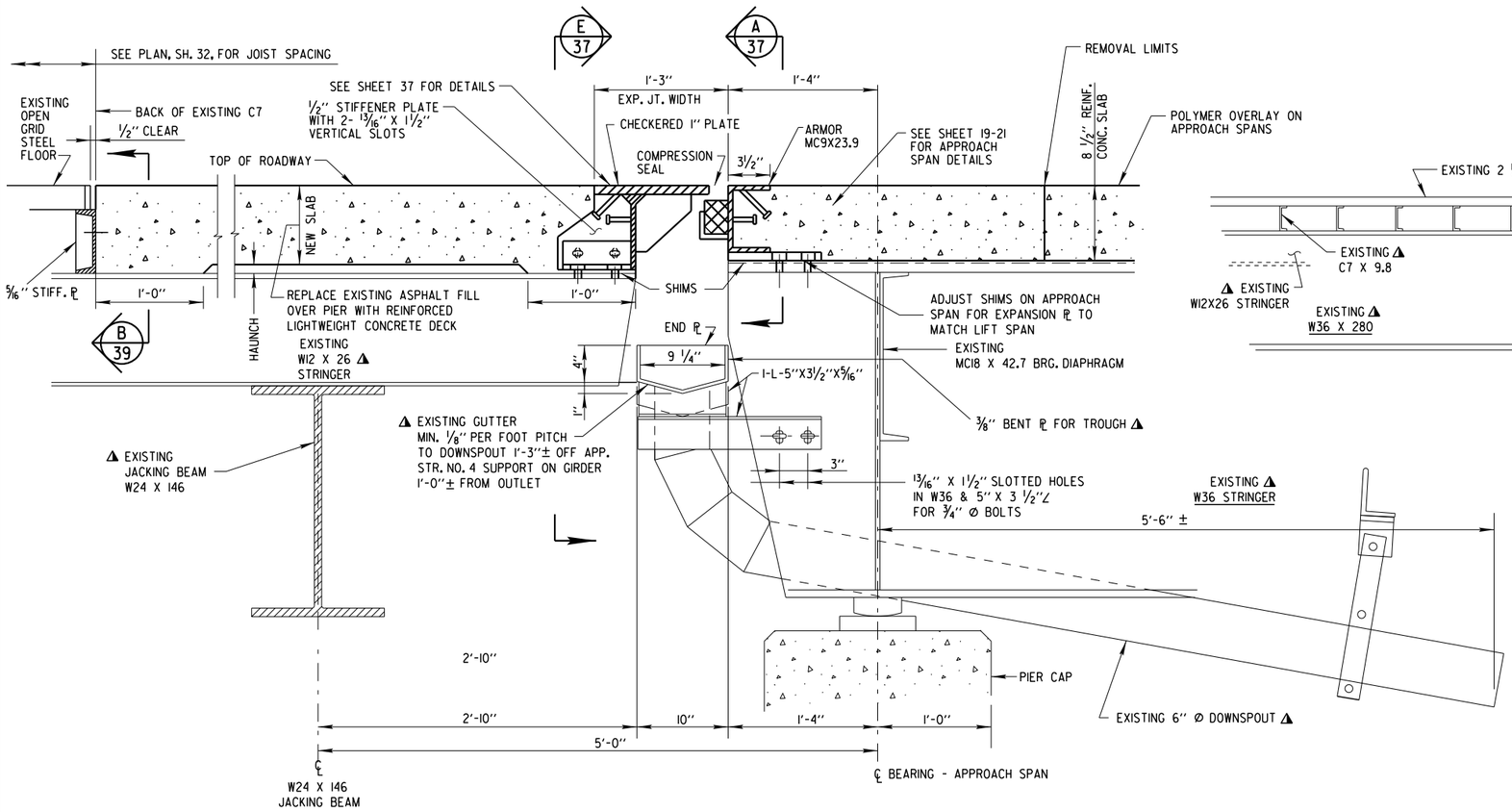
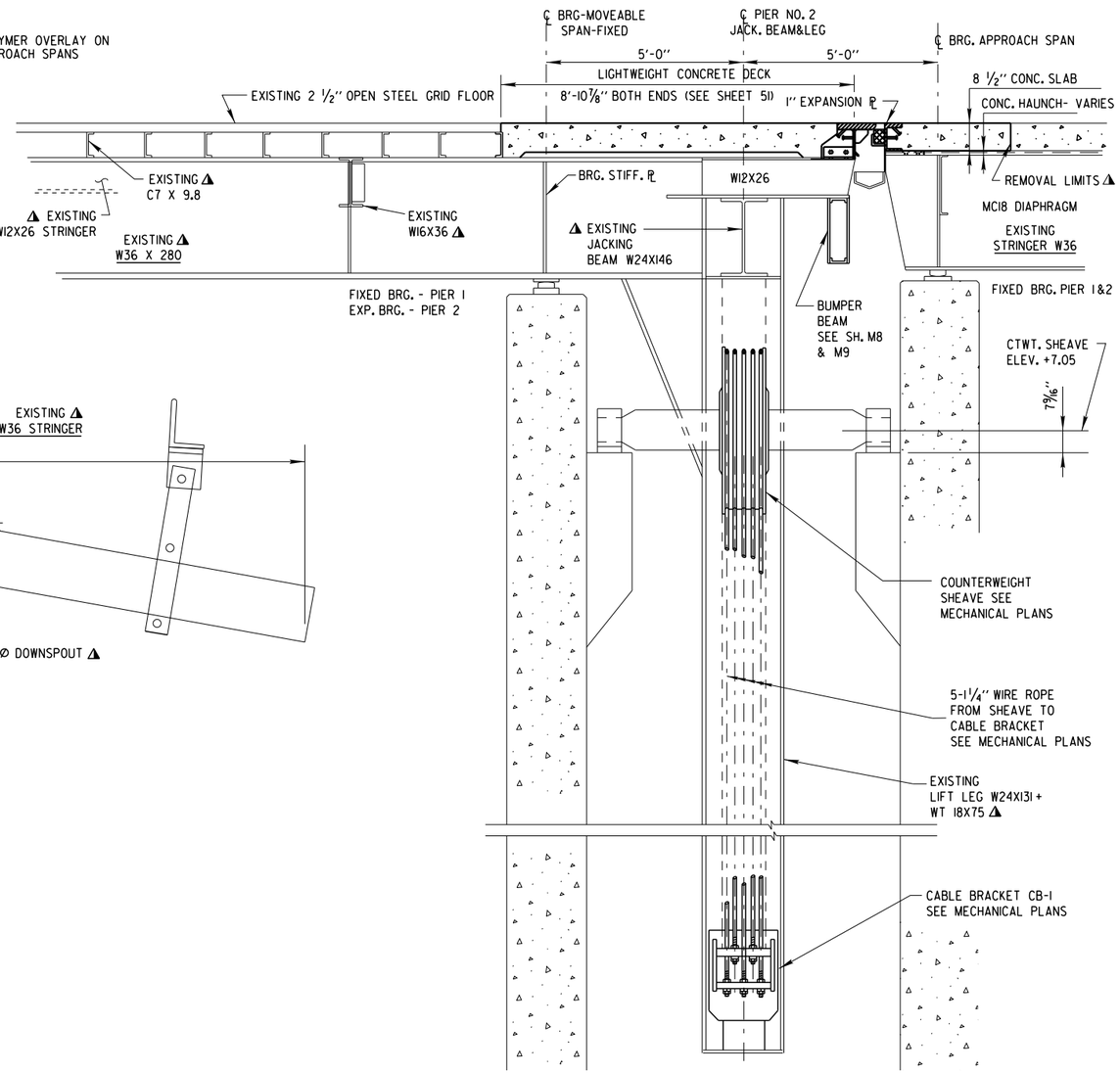


TYPICAL SECTION THRU ROADWAY EXPANSION JOINT @ MOVABLE SPAN C 32



TYPICAL END SECTION D 32

NOTE:

SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BOOMS, STRINGERS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

LIFTING LEG AND EXPANSION JOINT

SHEET 36 OF 58

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REVISED DATE: 07-27-2017 BY: GJR

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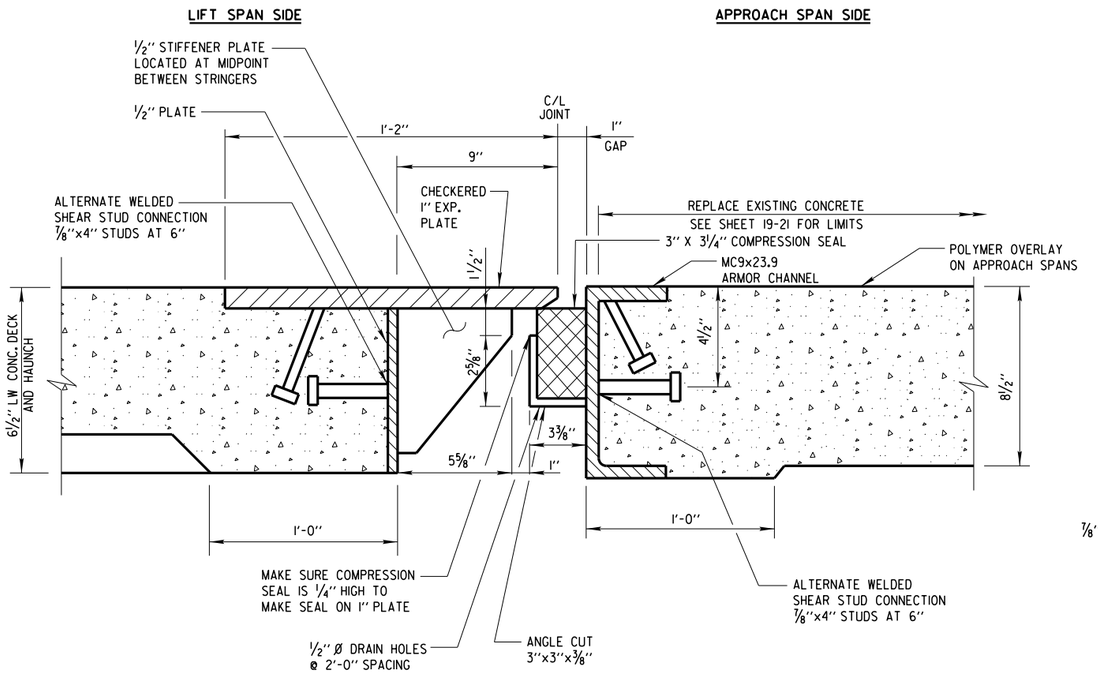
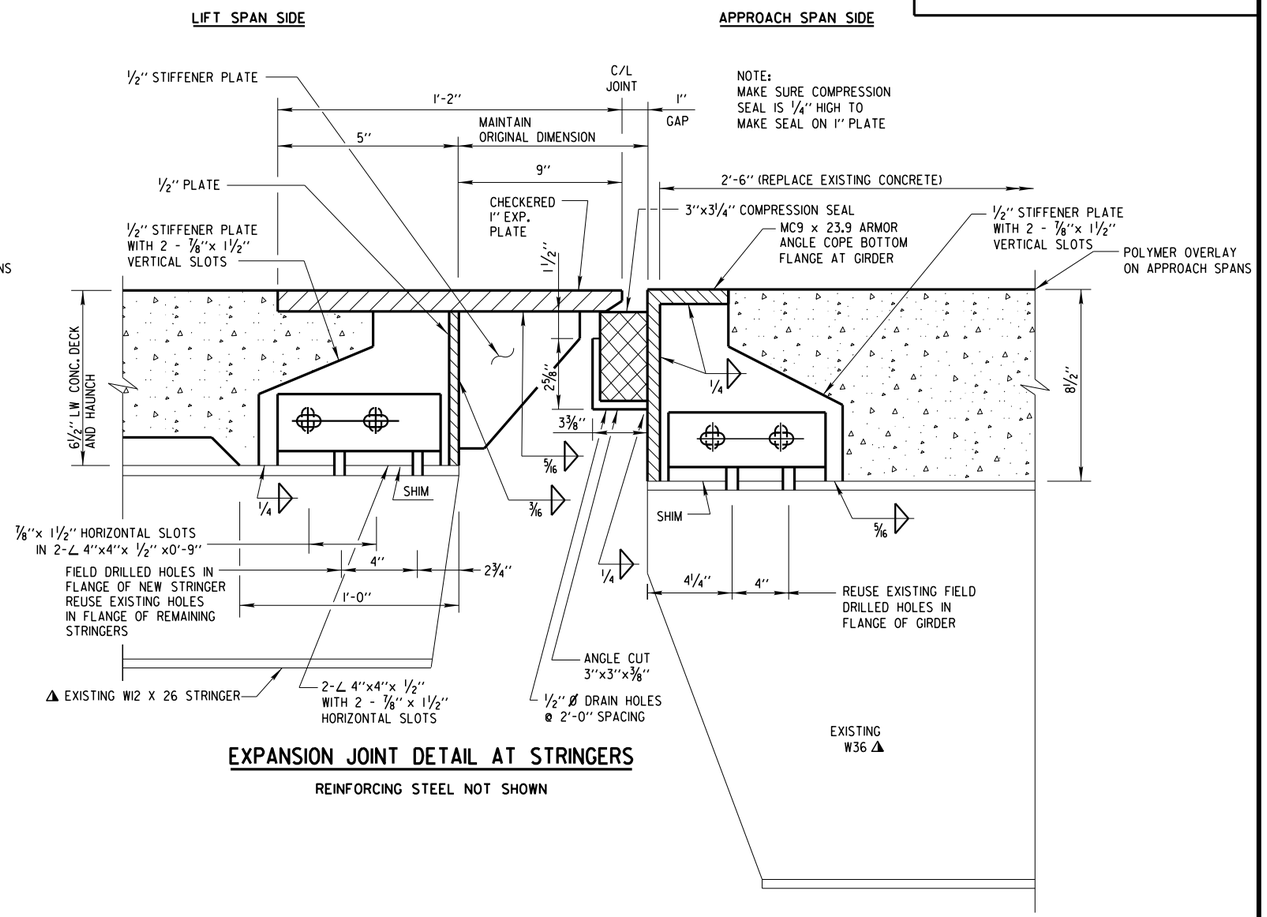


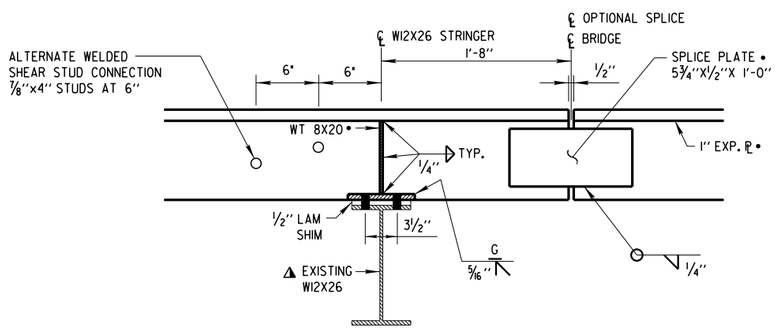
EXPANSION JOINT DETAIL BETWEEN STRINGERS

REINFORCING STEEL NOT SHOWN

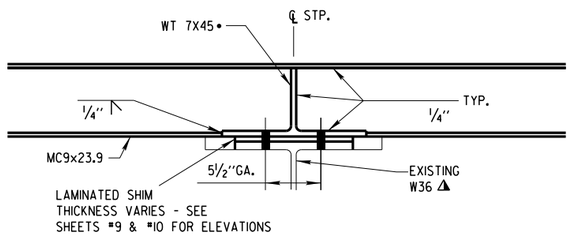


EXPANSION JOINT DETAIL AT STRINGERS

REINFORCING STEEL NOT SHOWN



SECTION E / 36



SECTION A / 36

NOTE:

▲ SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BOOMS, STRINGERS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY D.L.F. | PLANS CK'D. J.D.T. H.J.R.

LIFTING LEG AND EXPANSION JOINT DETAILS

SHEET 37 OF 58

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W:\STR\B0107\2017WORK\PLANS\38_EXIST LIFT SPAN EXP JT DET.DGN

REVISED DATE: 07-20-2017 BY DB

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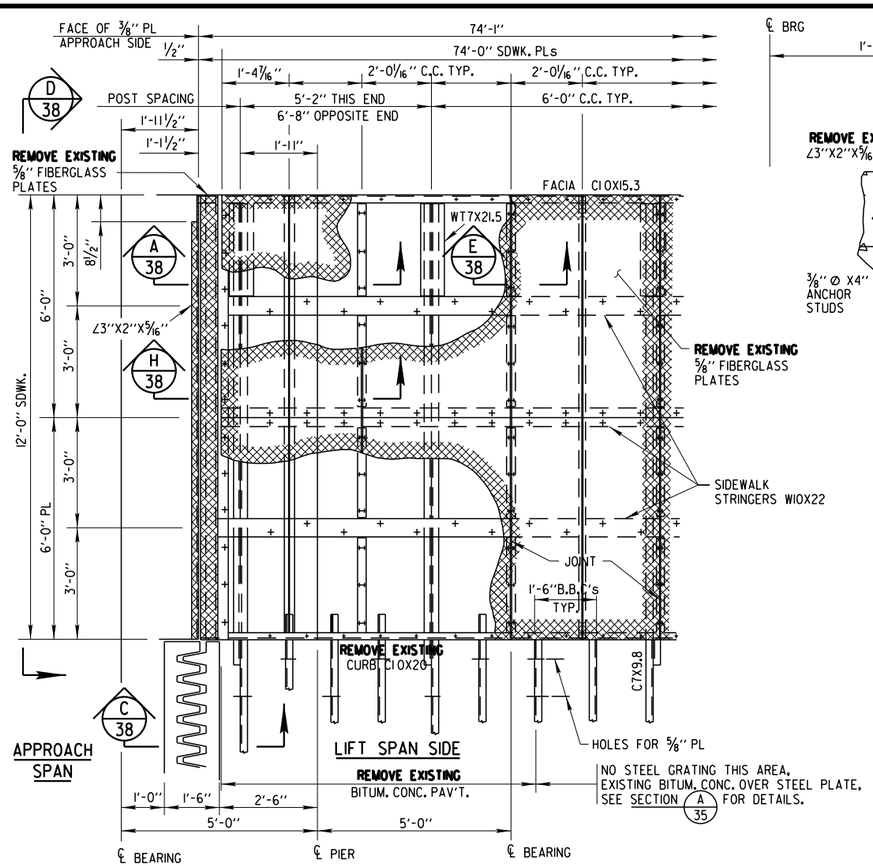
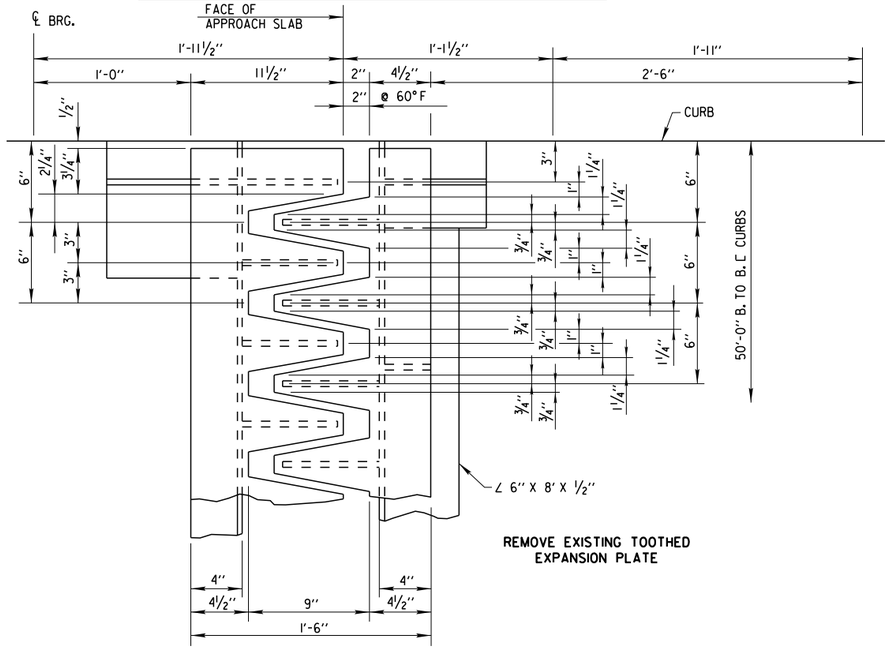
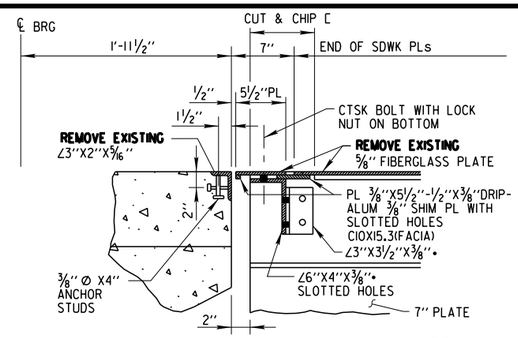


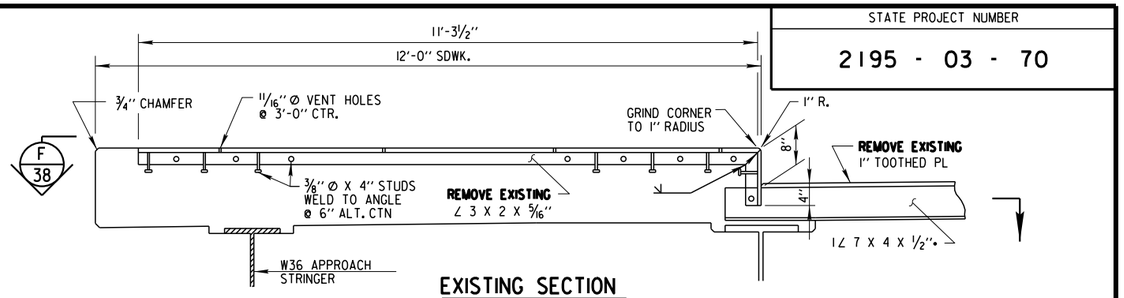
EXISTING PLAN AT SIDEWALK EXPANSION JOINT



EXISTING TOOTHED EXPANSION PLATE DETAIL



EXISTING SECTION A 38



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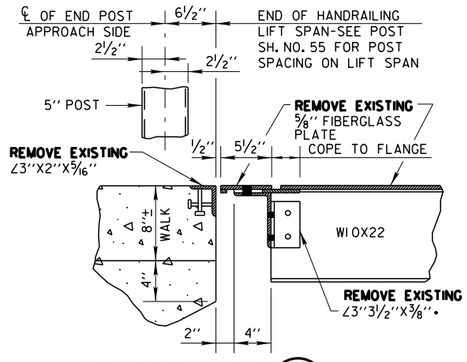

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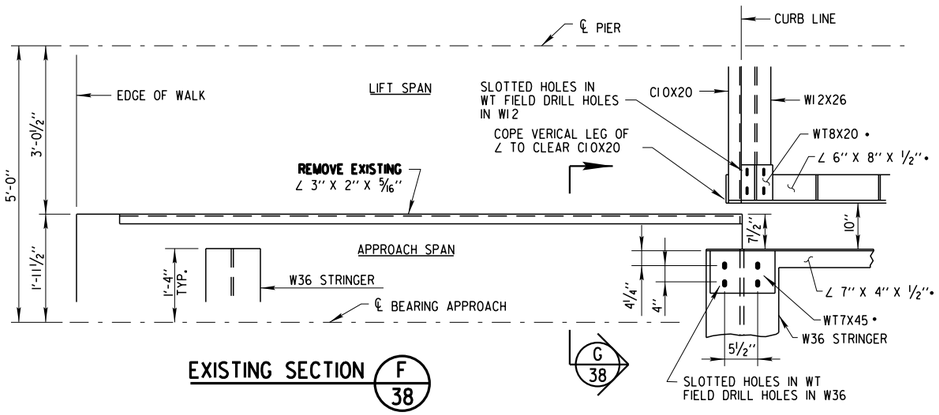

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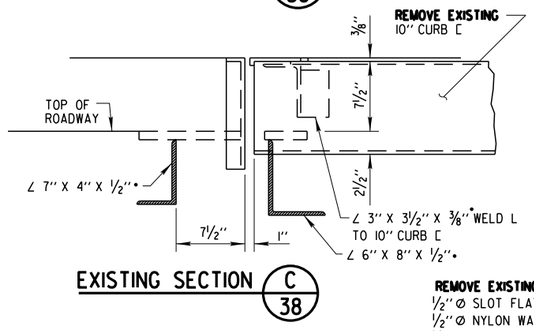

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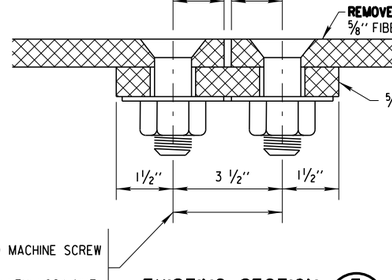
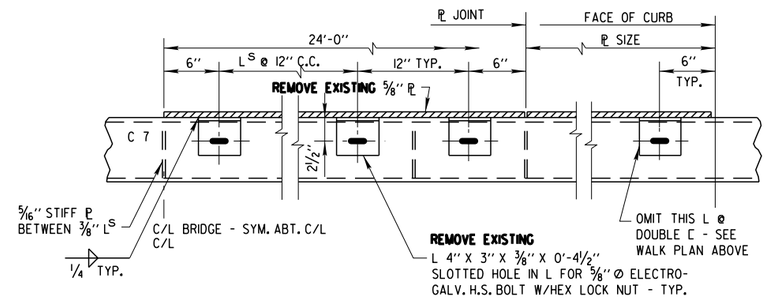


REMOVE EXISTING
1/2" @ SLOT FLATHEAD MACHINE SCREW
1/2" @ NYLON WASHER
1/2" NYLON PLUG TYPE HEX LOCK NUT
USE BEVELED WASHERS @ CHANNELS
ALL BOLTS TO BE STAINLESS STEEL

EXISTING SECTION E 38



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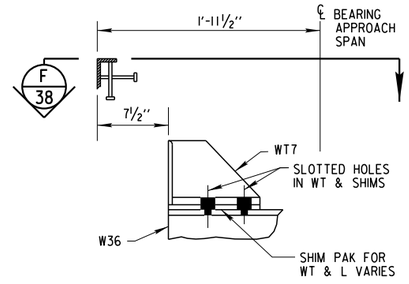

EXISTING SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY D.L.F. | PLANS CK'D. J.D.T. H.J.R.

EXISTING LIFT SPAN EXPANSION JOINT DETAIL

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REVISED: 07/20/2017 GJR

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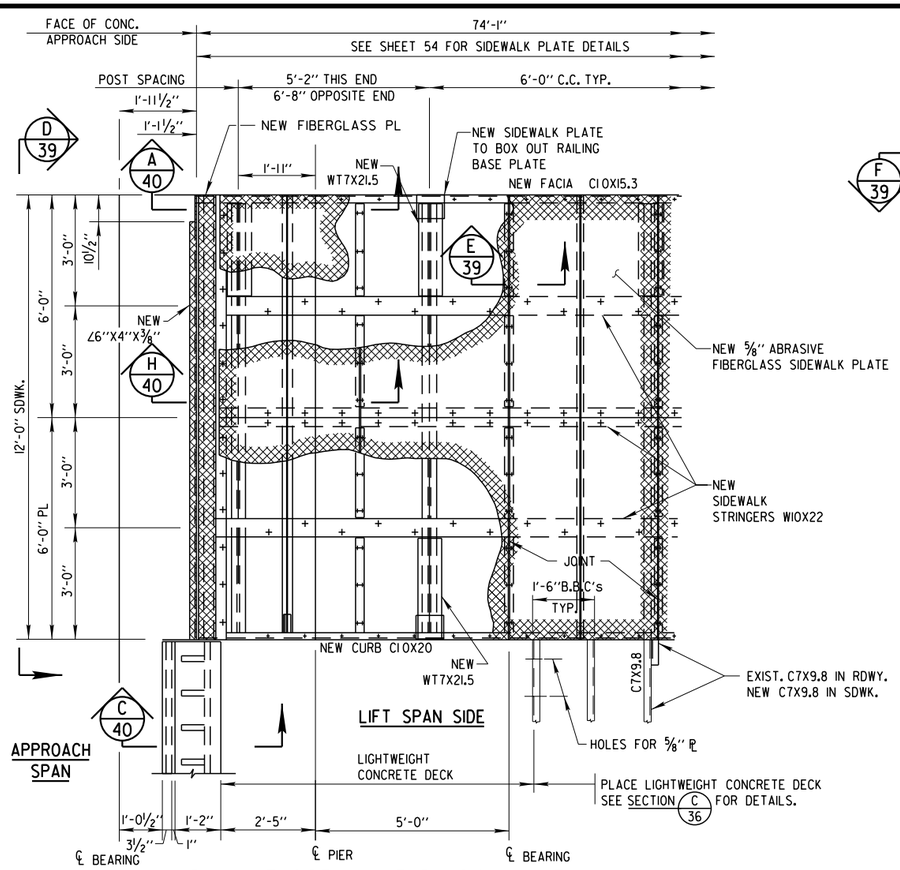
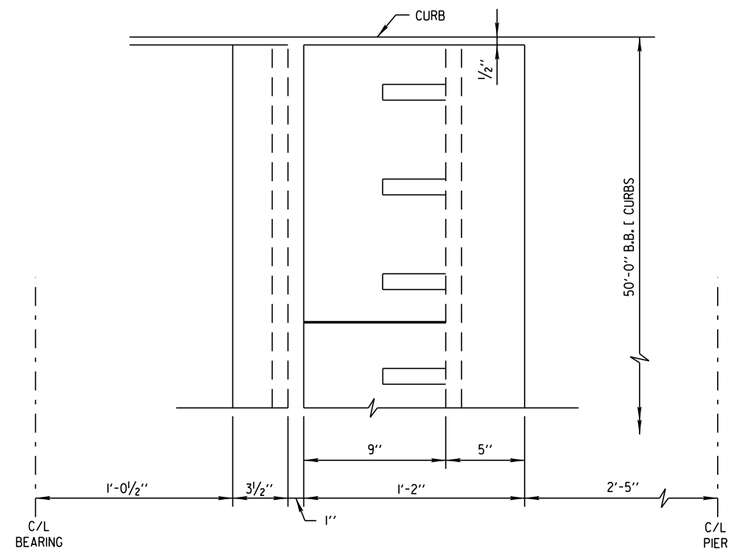
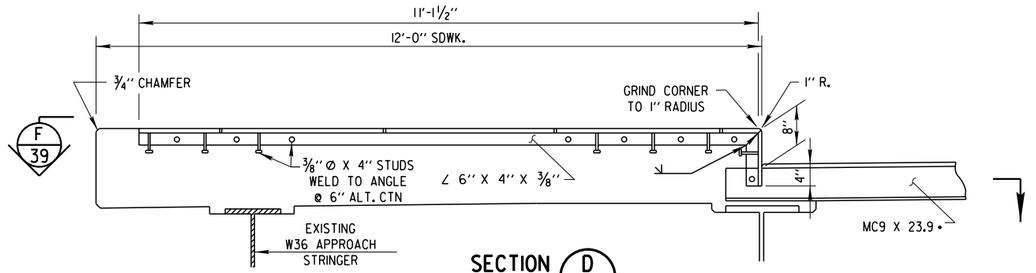


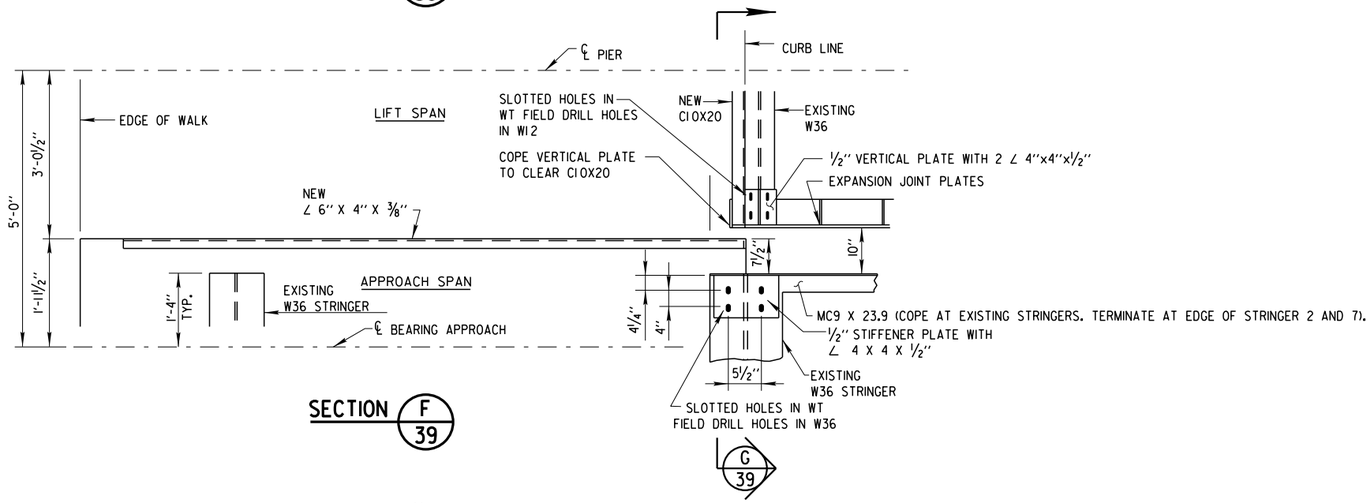
PLAN AT SIDEWALK EXPANSION JOINT



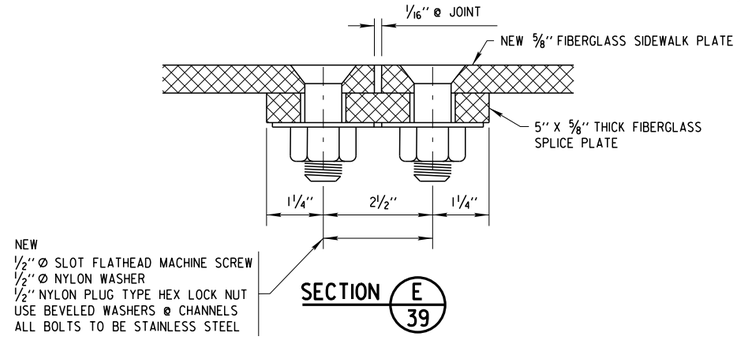
EXPANSION PLATE DETAIL AT BREAK PLAN



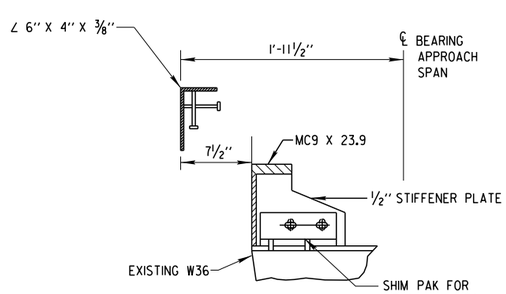
SECTION D 39



SECTION F 39

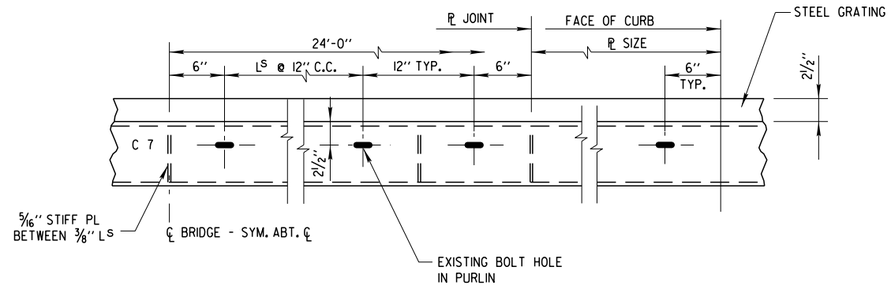


SECTION E 39



SECTION G 39

SEE SHEET 35-40 FOR ADDITIONAL EXPANSION JOINT DETAILS.



SECTION B 36

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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EXPANSION JOINT AT LIFT SPAN

SHEET 39 OF 58

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W:\STR\BO107\2017WORK\PLANS\40_EXP JT @ LIFT SPAN DET.DGN

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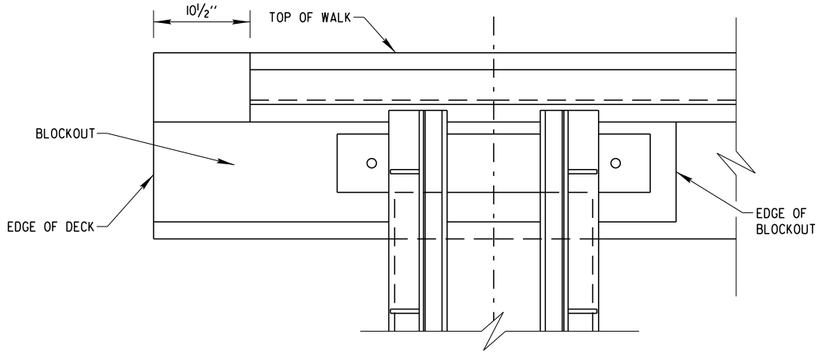
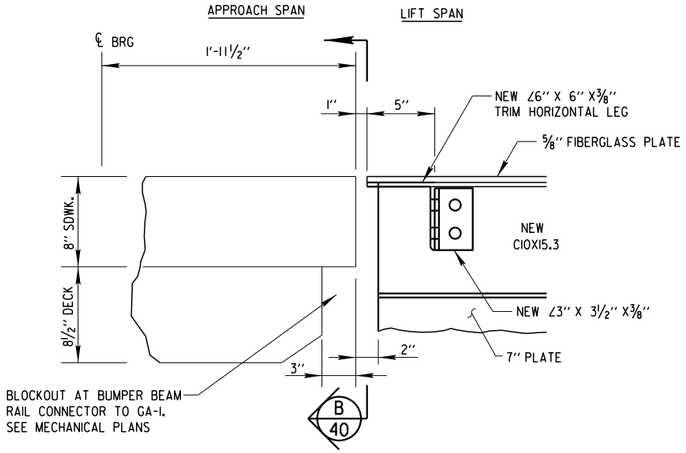
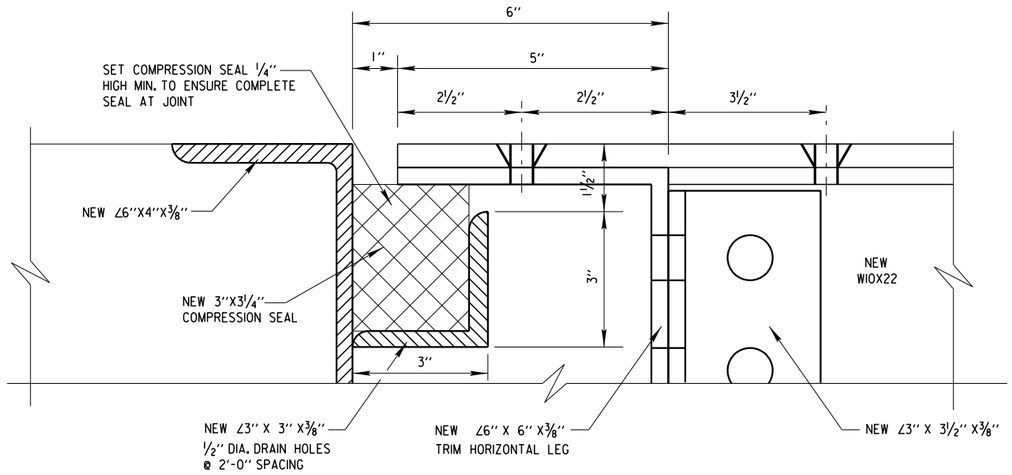


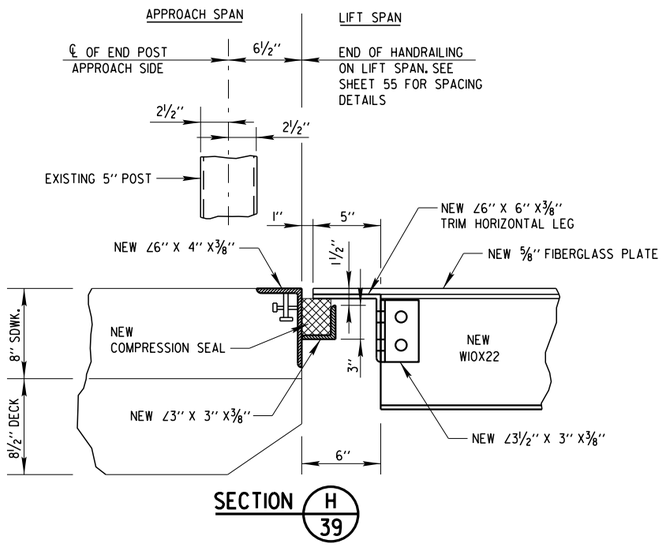
SECTION B / 40



SECTION A / 39

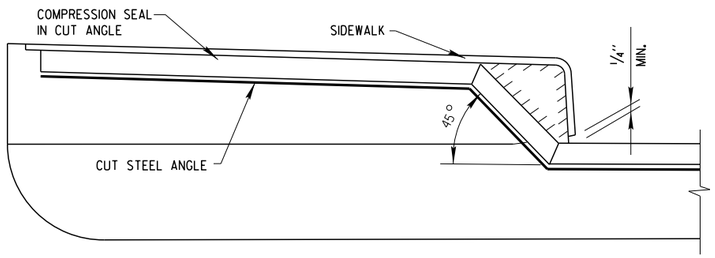


DETAIL A

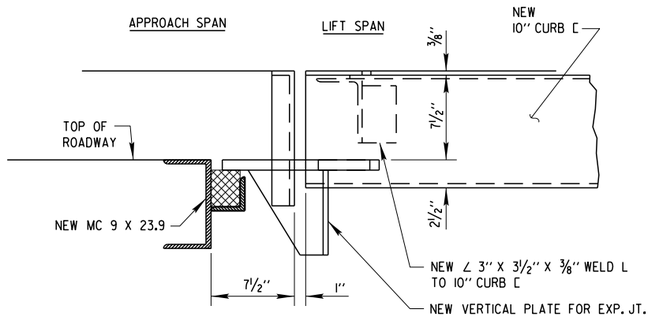


SECTION H / 39

SEE DETAIL 'A' FOR ADDITIONAL DETAILS



NEW PARTIAL ELEVATION
SECTION AT PARTIAL SIDEWALK



SECTION C / 39

NOTES:

STRUCTURAL STEEL SHOWN ON THIS SHEET (EXCEPT FASCIA AND STRINGERS) WILL BE INCLUDED UNDER "LIFT SPAN SIDEWALK JOINTS".

ALL SHOP CONNECTIONS WELDED.

ALL FIELD CONNECTIONS GALVANIZED HIGH STRENGTH BOLTS.

EXPANSION JOINT MATERIAL MARKED THUS SHALL BE ASTM A242 - ALL OTHER STEEL SHALL BE ASTM A36

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	K.P.S.	PLANS CK'D.	J.D.T. H.J.R.

EXPANSION JOINT AT LIFT SPAN

SHEET 40 OF 58

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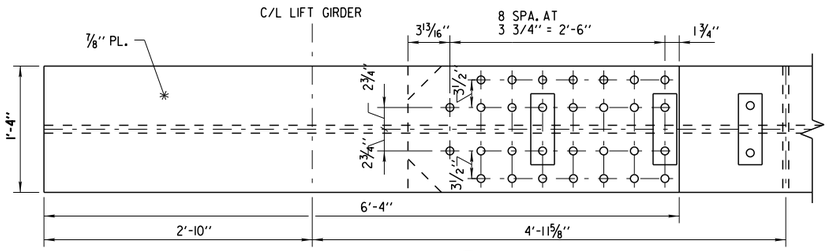
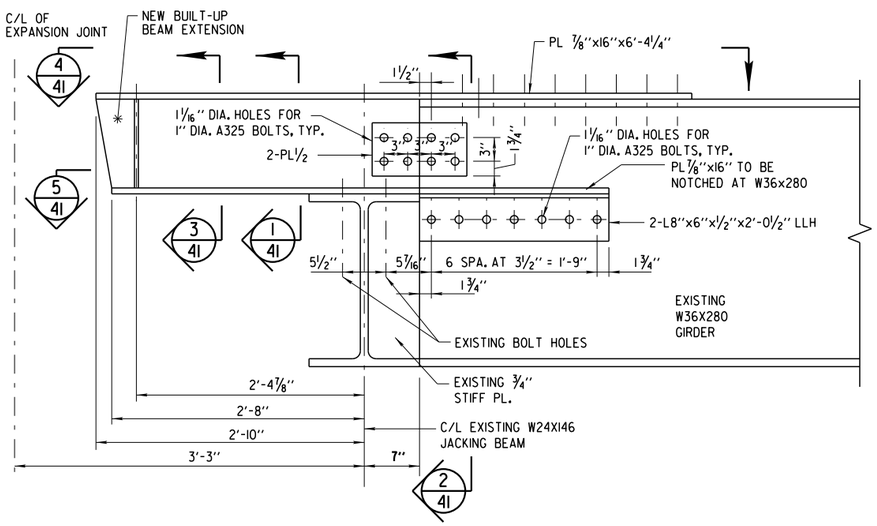


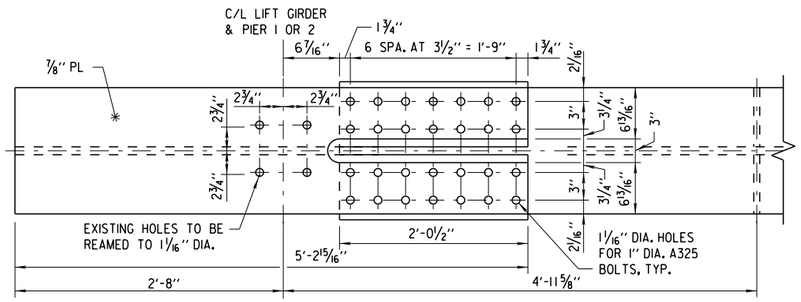
SECTION 4/41

AT GIRDERS 'G4' 'G5' AND 'G6'



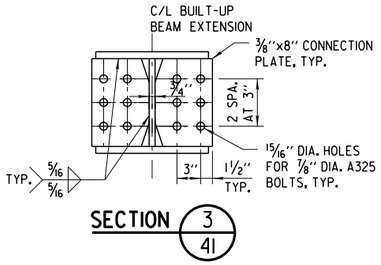
ELEVATION

AT GIRDERS 'G4' 'G5' AND 'G6'

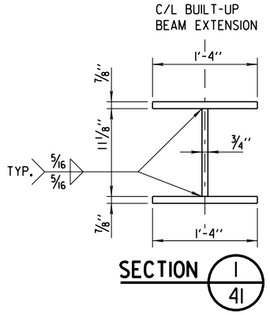


SECTION 5/41

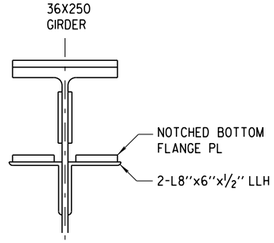
AT GIRDERS 'G4' 'G5' AND 'G6'



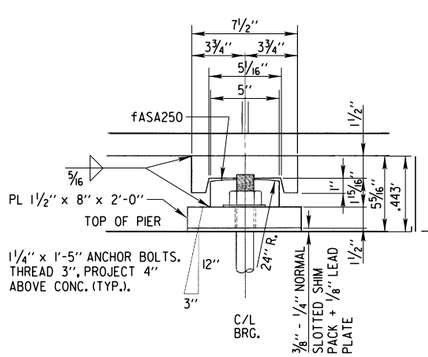
SECTION 3/41



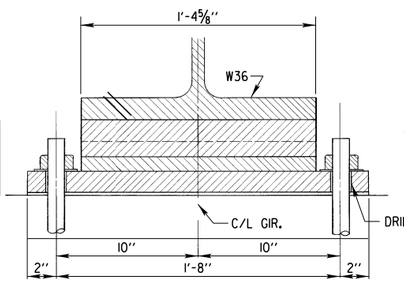
SECTION 1/41



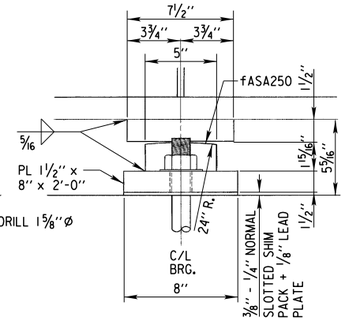
SECTION 2/41



EXISTING FIXED BEARING
LIFT SPAN



EXISTING FIXED BEARING SECTION
EXPANSION BEARING SIMILAR



EXISTING EXPANSION BEARING
LIFT SPAN

NOTES:

PLAN DIMENSION AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS.

NEW STUB END STEEL SHALL BE PAID FOR UNDER BID ITEM "BRIDGE STRUCTURAL STEEL"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

LIFT SPAN GIRDER END DETAILS

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REVISED DATE 07-20-17 BY: DB

8

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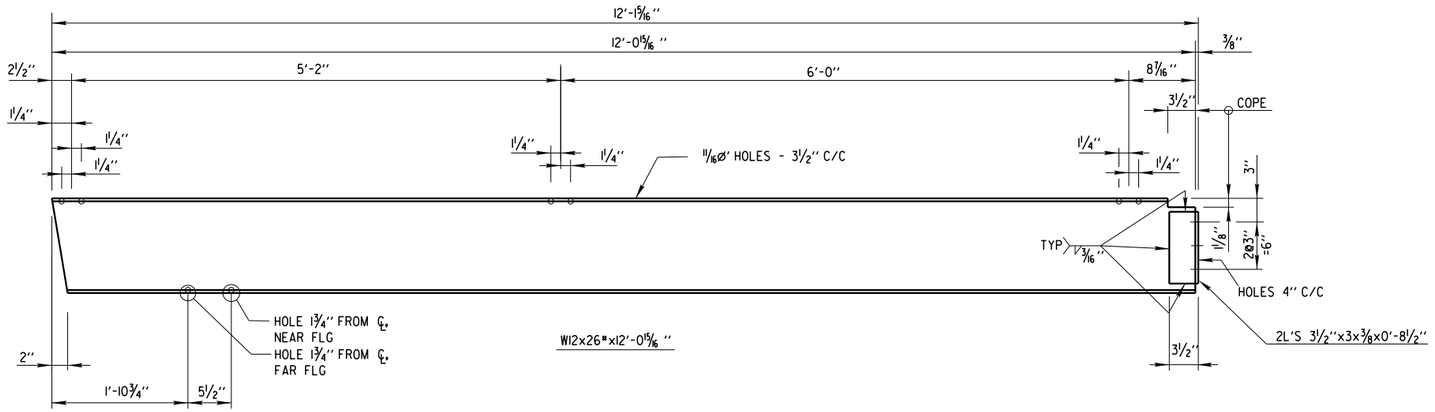
W:\STR\BO107\2017WORK\PLANS\42_STRINGER DET (1 OF 2).DGN

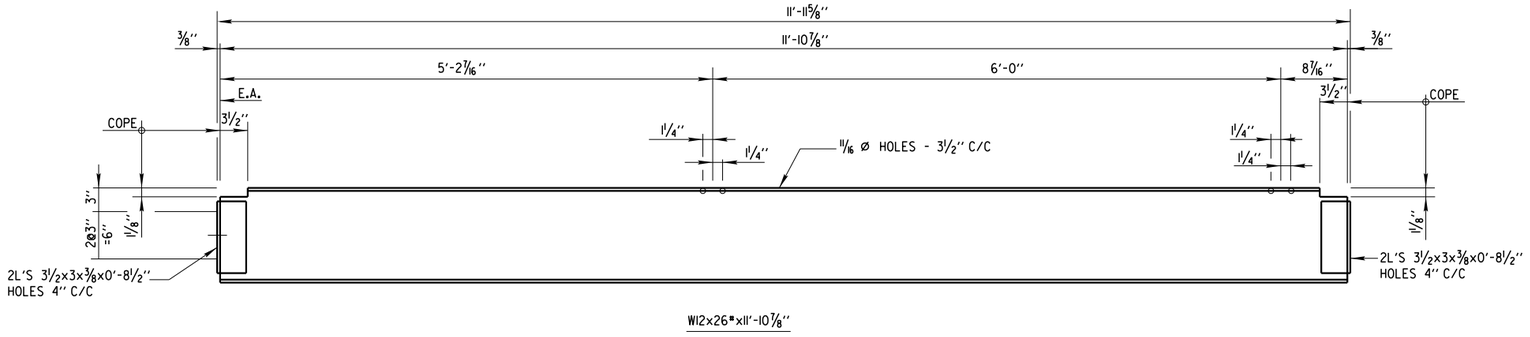
REVISED DATE: 07-20-2017 BY DB

STATE PROJECT NUMBER

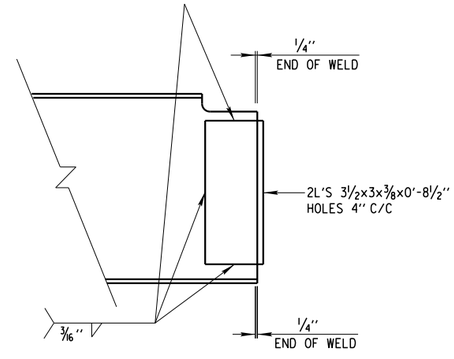
2195 - 03 - 70



STRINGER - S1 (QTY: 1)



STRINGER - S2 (QTY: 11)



TYPICAL CONNECTION ANGLE WELD DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	M.S.A. J.D.T.

STRINGER DETAILS (1 OF 2)

SHEET 42 OF 58

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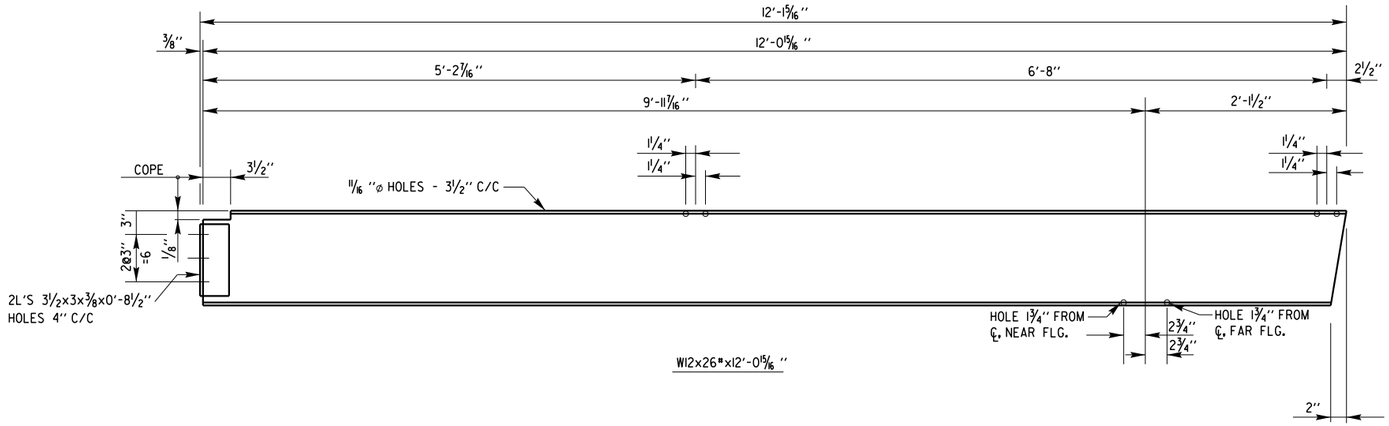
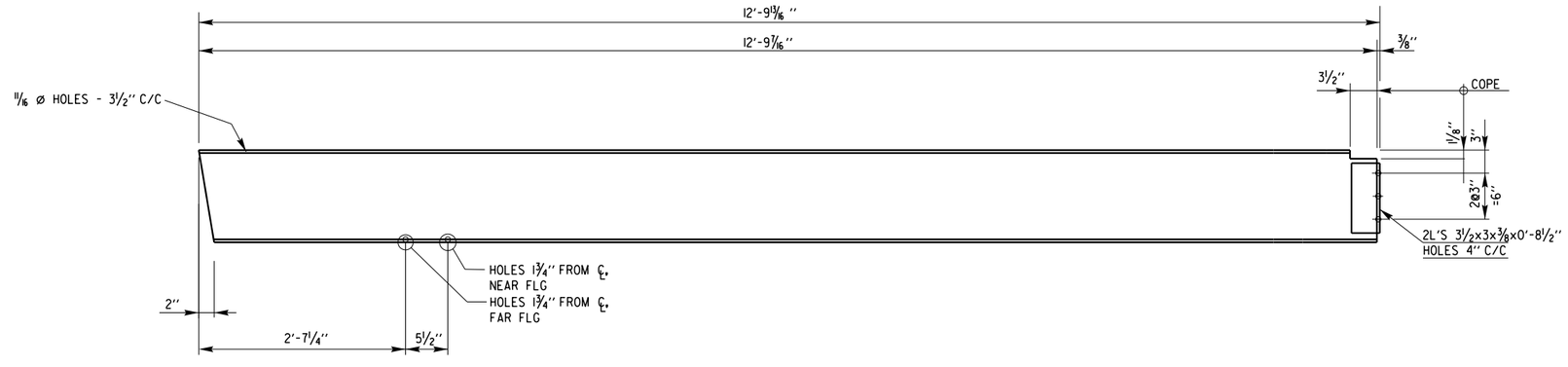
W:\STR\BO107\2017WORK\PLANS\43_STRINGER DET (2 OF 2).DGN

REVISED DATE: 07/20/2017 BY: DB

STATE PROJECT NUMBER
2195 - 03 - 70



STRINGER - S3 (QTY: 1)



STRINGER - S4 (QTY:4)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	M.S.A. J.D.T.

STRINGER DETAILS (2 OF 2)

SHEET 43 OF 58

W:\STR\BO107\2017WORK\PLANS\44_PURLIN DET.DGN

REVISED DATE: 05/11/2017 BY: DLF

STATE PROJECT NUMBER

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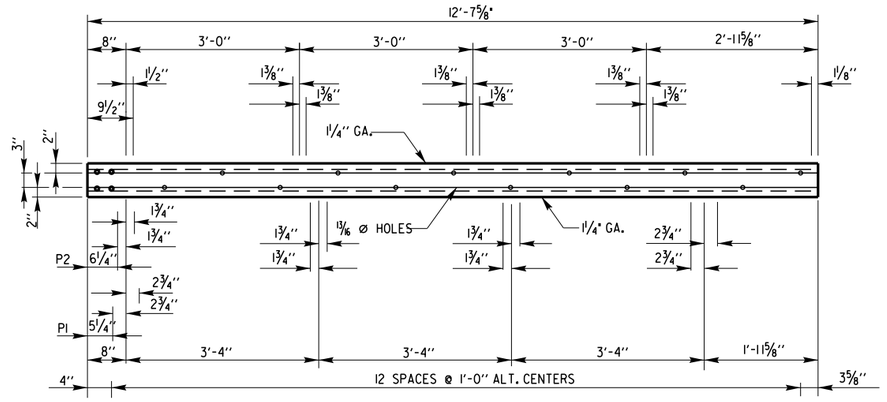
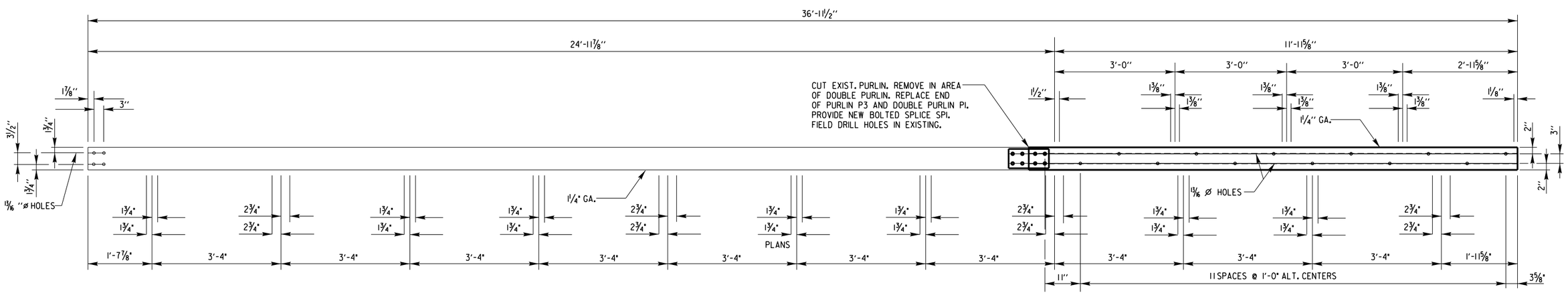


C7X9.8#X12'-7 5/8"

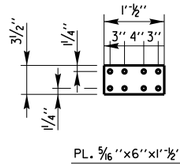
PURLIN P1 (QTY:18) **PURLIN P2 (QTY:16)**

(CREATE NEW 8 DOUBLE PURLINS)



C7X9.8#X36'-11 1/2"

PURLIN P3 (QTY: 18)



PL. 5/16"x6"x1'-1/2"

SPLICE PLATE SP1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	M.S.A. J.D.T.

PURLIN DETAILS

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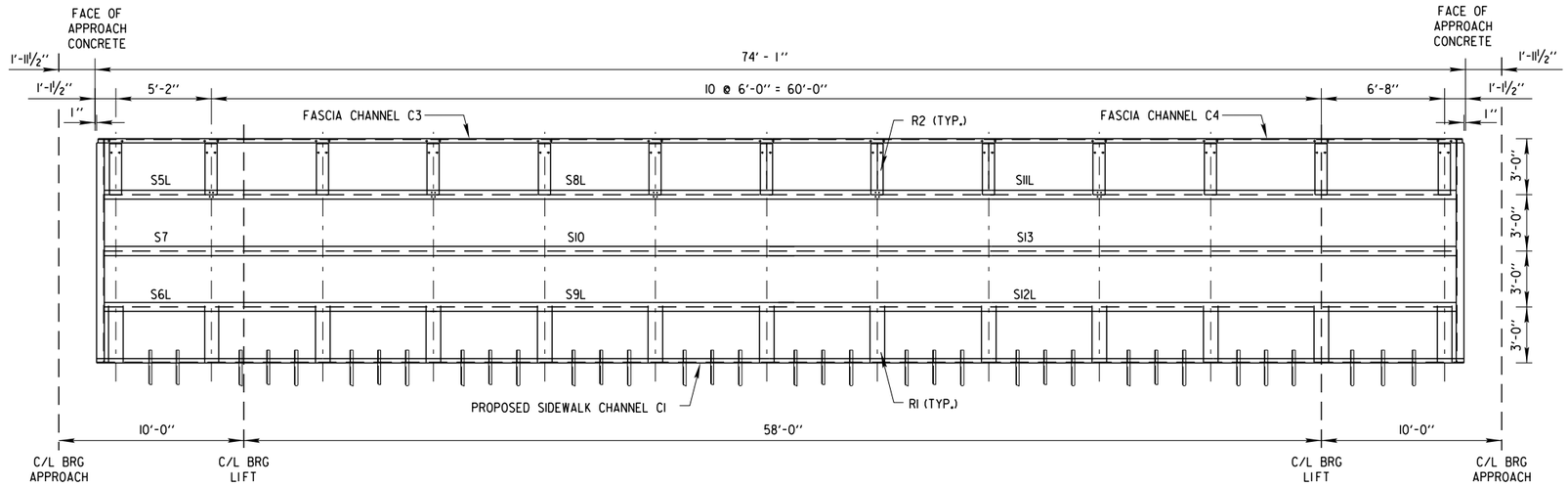
W:\STR\BO107\2017WORK\PLANS\45_SDWK FRAMING PLAN.DGN

REVISED DATE: 05-11-2017 BY DLF

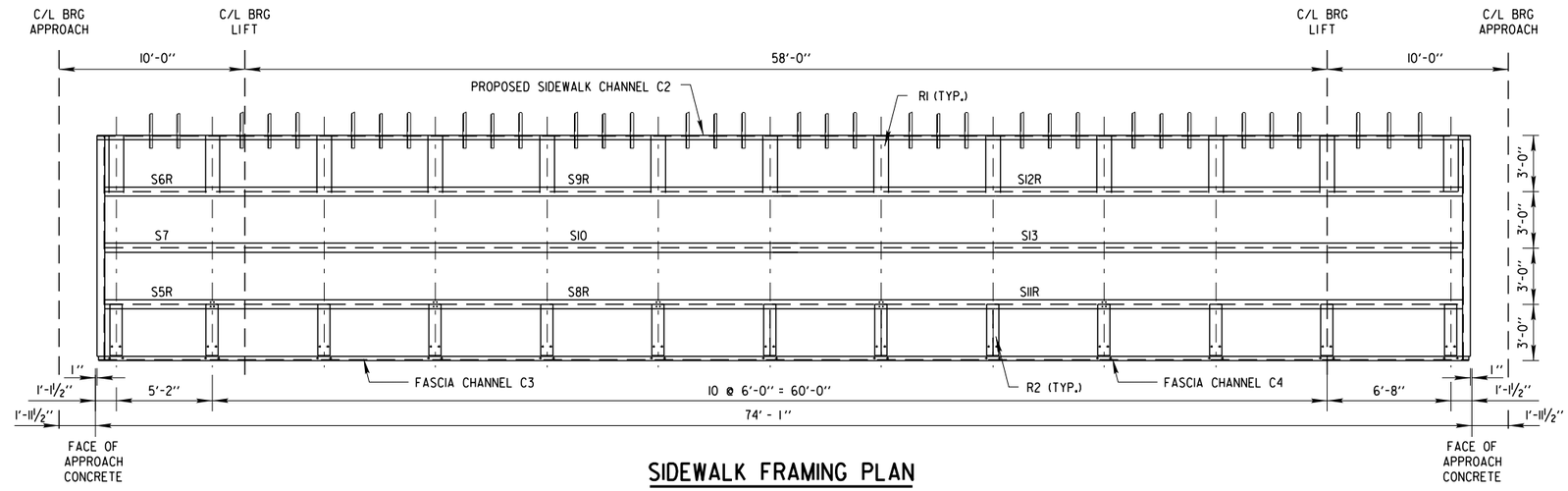
STATE PROJECT NUMBER

2195 - 03 - 70



SIDEWALK FRAMING PLAN

NORTH SIDEWALK



SIDEWALK FRAMING PLAN

SOUTH SIDEWALK

NOTE:

PROPOSED HOLES IN EXISTING STEEL TO BE FIELD DRILLED.

SEE SHEETS 46-49 FOR DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.B.	PLANS CK'D.	M.S.A. J.D.T.

SIDEWALK FRAMING PLAN

SHEET 45 OF 58

8

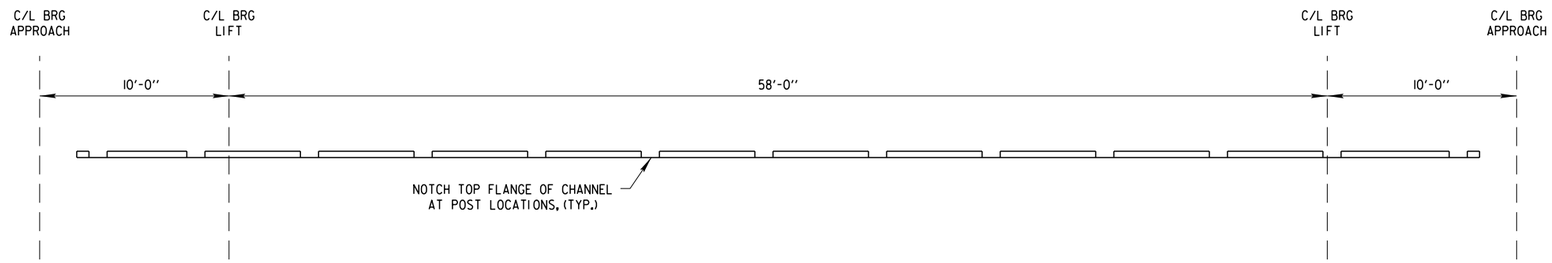
8

W:\STR\BO107\2017WORK\PLANS\46_CURB CHNL DET.DGN

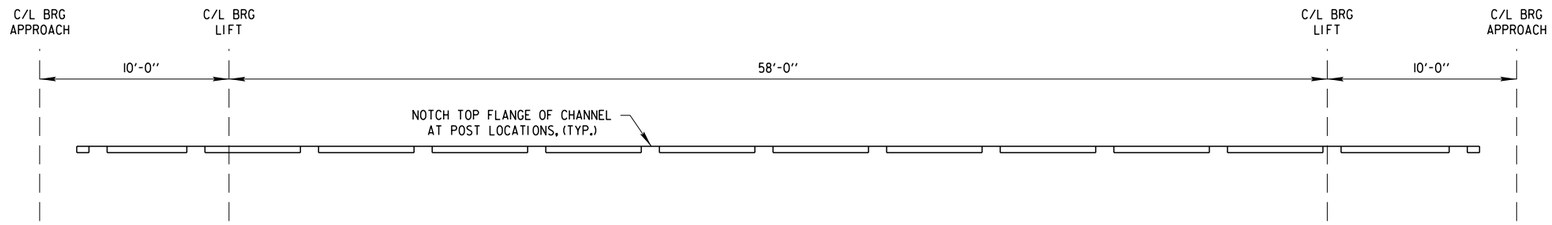
REVISED DATE: 07/20/2017 GJR

STATE PROJECT NUMBER

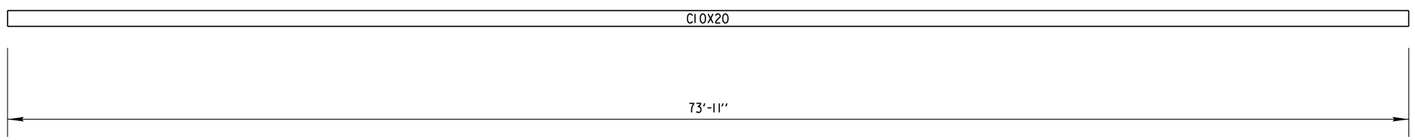
2195 - 03 - 70



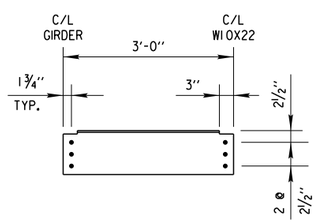
PLAN - C1 (QTY: 1)
(NORTH CURB)



PLAN - C2 (QTY: 1)
(SOUTH CURB)

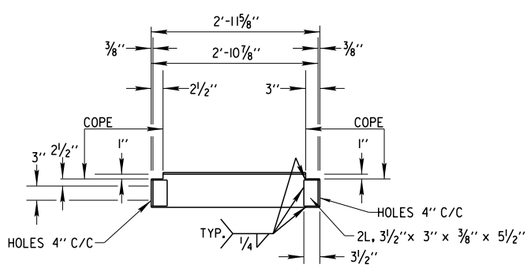


ELEVATION
SIDEWALK CHANNEL



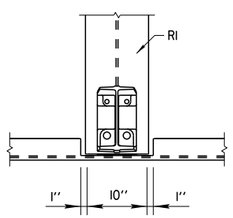
WT7 X 30.5

ELEVATION R1 (QTY: 26)



WT7 X 21.5# X 2'-10 7/8"

ELEVATION R2 (QTY: 26)



CURB CHANNEL NOTCH

NOTE:
BOLT HOLES IN CHANNEL WEB FOR WT7X30.5 BRACING NOT SHOWN FOR CLARITY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	PLANS CK'D.
S.J.S.	M.S.A. J.D.T.

CURB CHANNEL DETAILS

SHEET 46 OF 58

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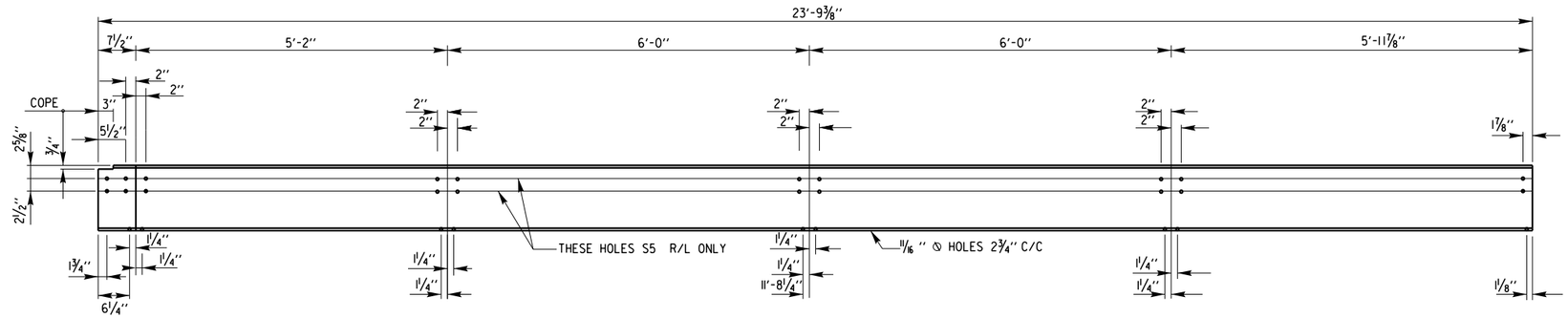
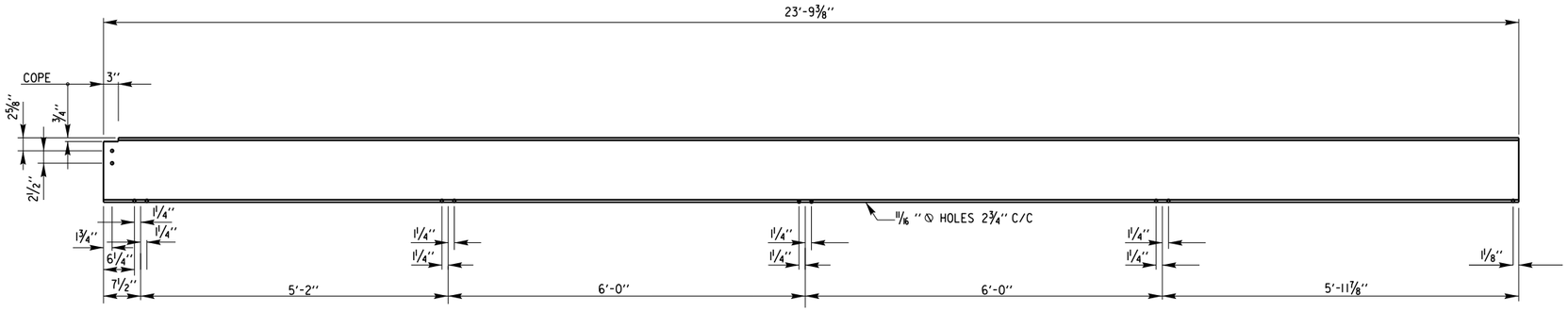


W10X22* X 23'-9 3/8"

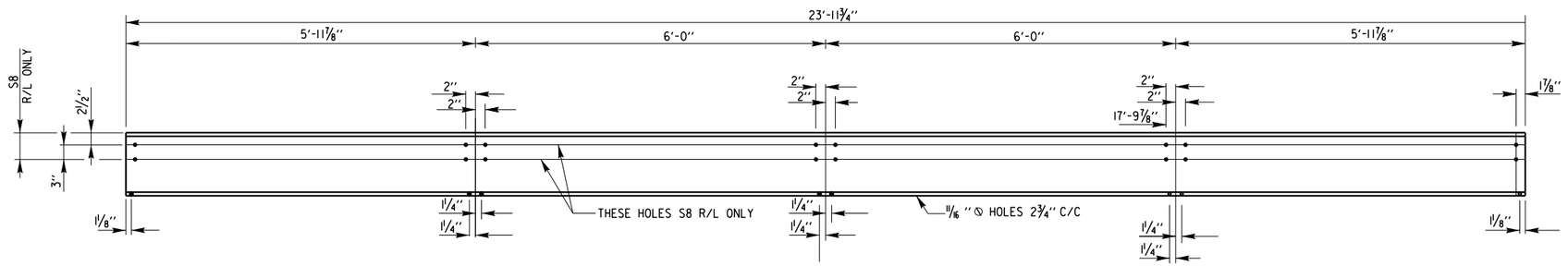
SIDEWALK STRINGER - S5R/L (QTY:2)

SIDEWALK STRINGER - S6R/L (QTY:2)



W10X22* X 23'-9 3/8"

SIDEWALK STRINGER - S7 (QTY.2)



W10X22* X 23'-11 3/4"

SIDEWALK STRINGER - S8R/L (QTY:2)

SIDEWALK STRINGER - S9R/L (QTY:2)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

SIDEWALK STRINGERS (1 OF 2)

SHEET 47 OF 58

8

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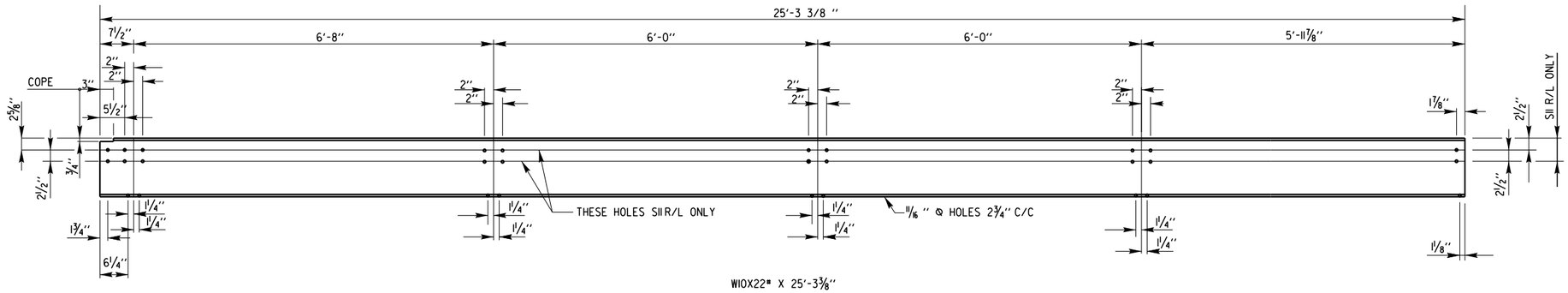
W:\STRUBO107\2017WORK\PLANS\48_SDWK STRINGERS (2 OF 2).DGN

REVISED DATE 05/10/2017 BY: DLF

STATE PROJECT NUMBER

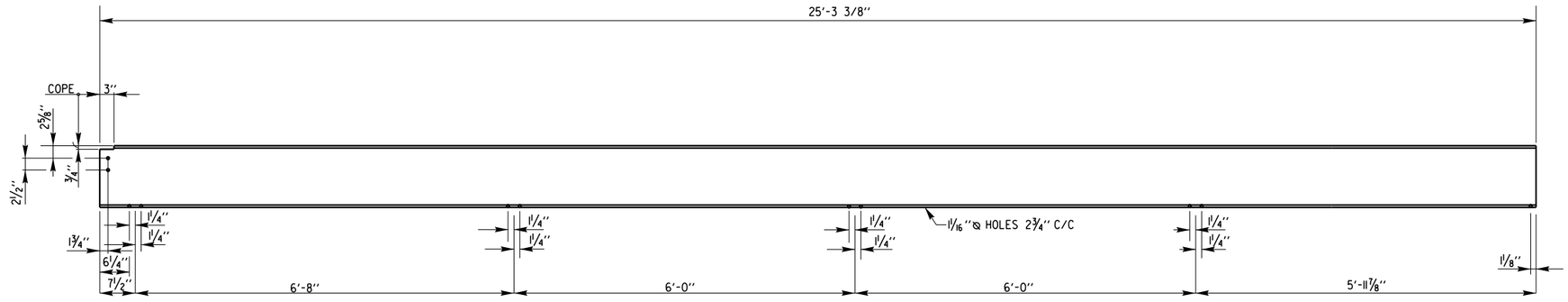
2195 - 03 - 70



W10X22# X 25'-3 3/8''

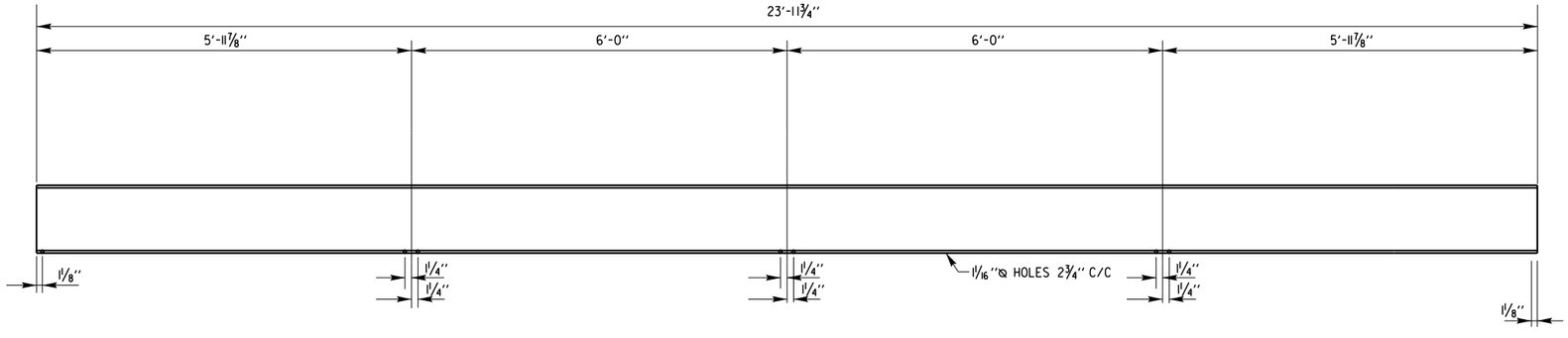
SIDEWALK STRINGER - S11R/L (QTY:2)

SIDEWALK STRINGER - S12R/L (QTY:2)



W10X22# X 25'-3 3/8''

SIDEWALK STRINGER - S13 (QTY.2)



W10X22# X 23'-11 3/4''

SIDEWALK STRINGER - S10 (QTY:2)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY M.L. | PLANS CK'D. M.S.A. J.D.T.

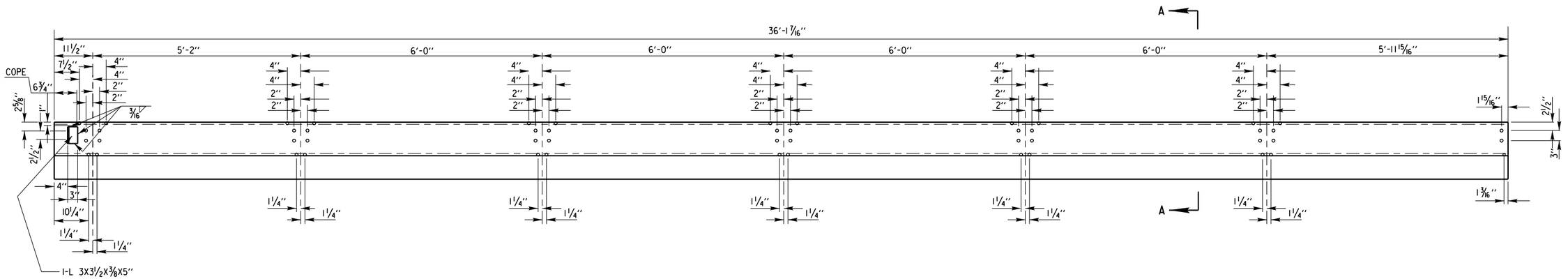
SIDEWALK STRINGERS (2 OF 2)

SHEET 48 OF 58

W:\STRUBO107\2017WORK\PLANS\49_FASCIA CHANNEL DETAILS .DGN

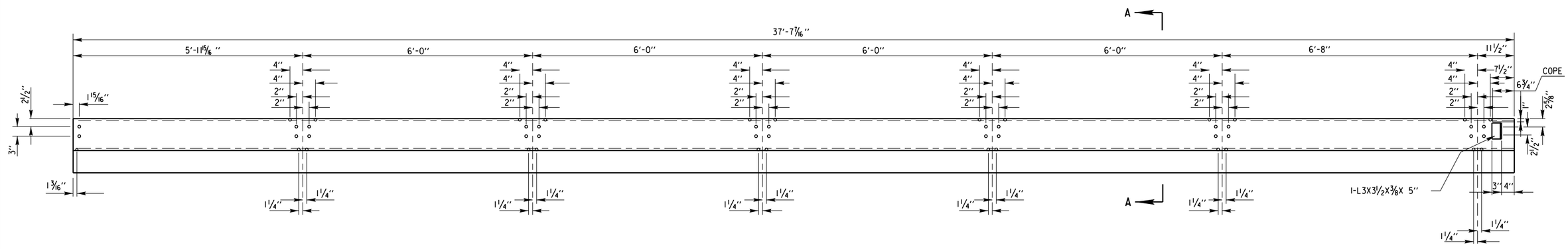
REVISED DATE: 05-21-2017 BY: CJR

STATE PROJECT NUMBER
2195 - 03 - 70



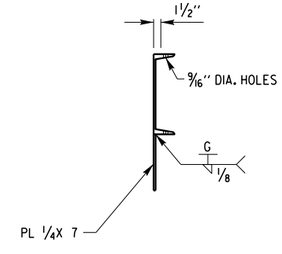
C10 X 15.3 # X 36'-1 7/16"

FASCIA CHANNEL - C3 (QTY:2) R L



C10 X 15.3 # X 37'-7 7/16"

FASCIA CHANNELS - C4 (QTY:2) R L



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.B.	PLANS CK'D.	M.S.A. J.D.T.

FASCIA CHANNEL DETAIL

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STATE PROJECT NUMBER

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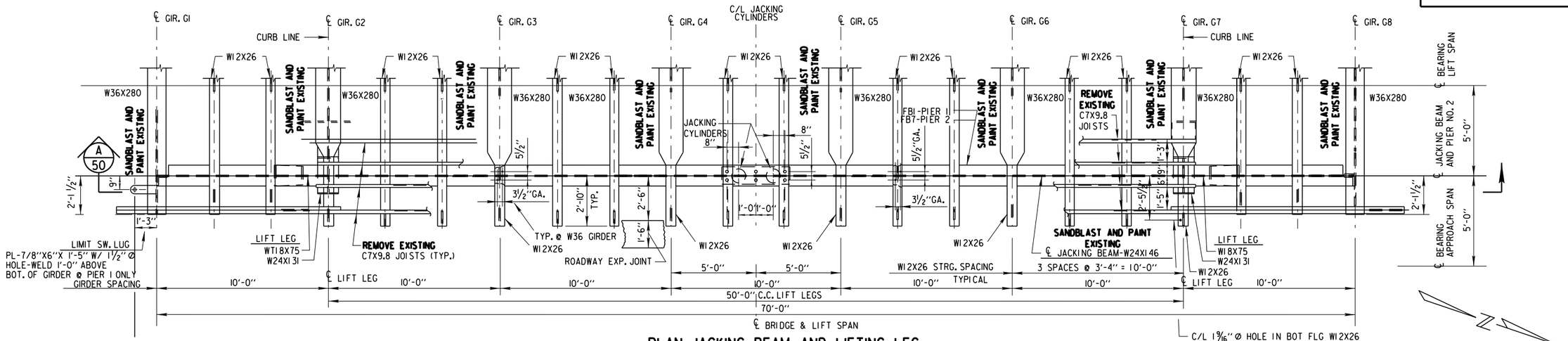
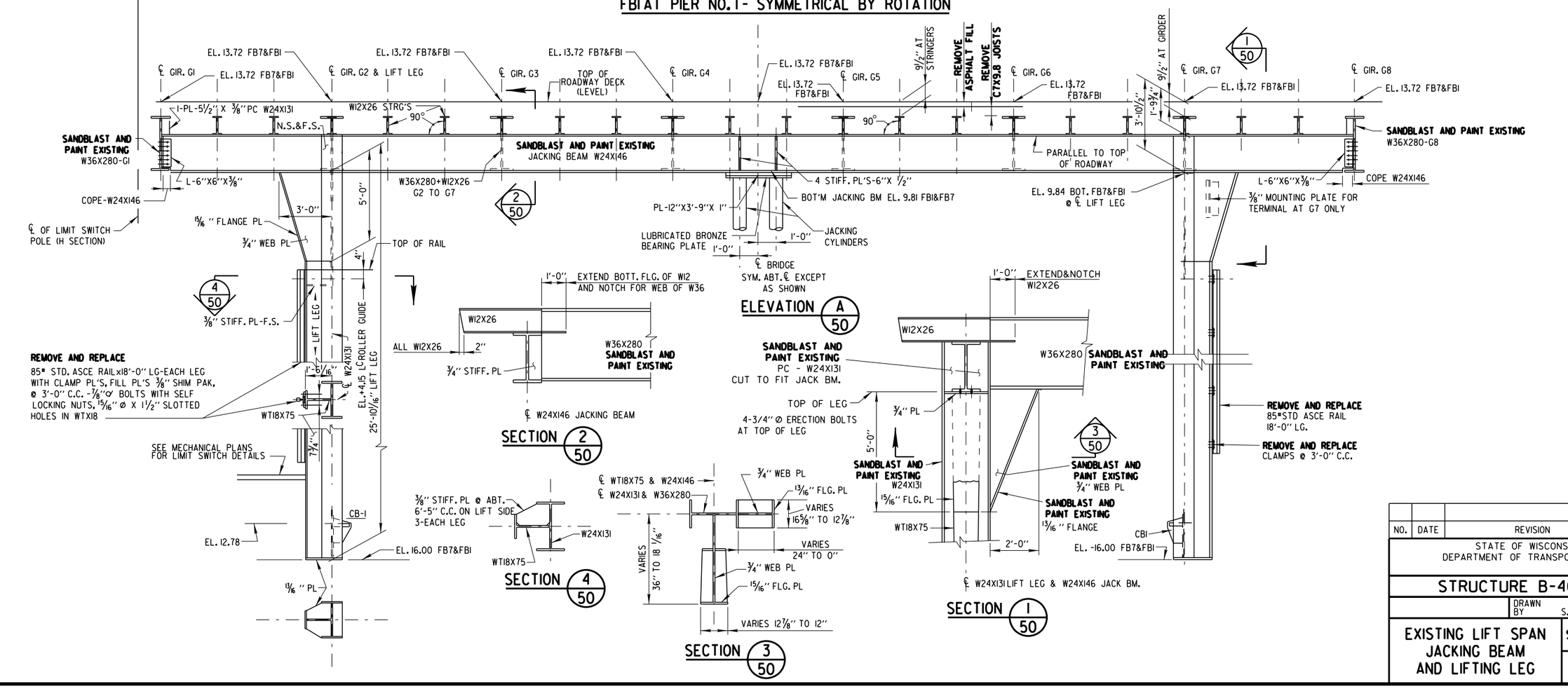


PLAN-JACKING BEAM AND LIFTING LEG
FB7 AT PIER NO. 2 - SHOWN
FB1 AT PIER NO. 1 - SYMMETRICAL BY ROTATION



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

EXISTING LIFT SPAN JACKING BEAM AND LIFTING LEG

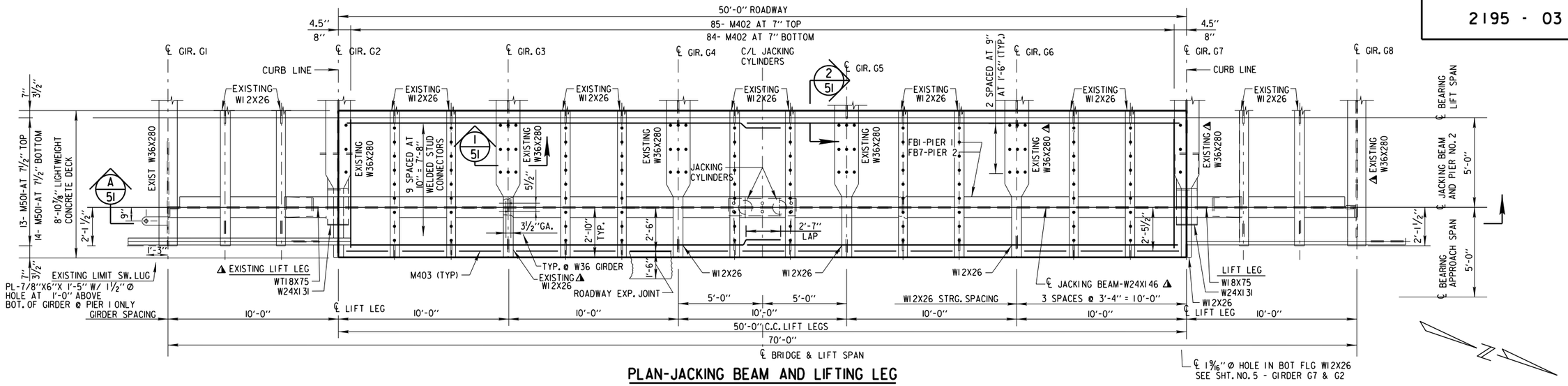
SHEET 50 OF 58

W:\STR\B0107\2017WORK\PLANS\51_MACHINERY SLAB.DGN

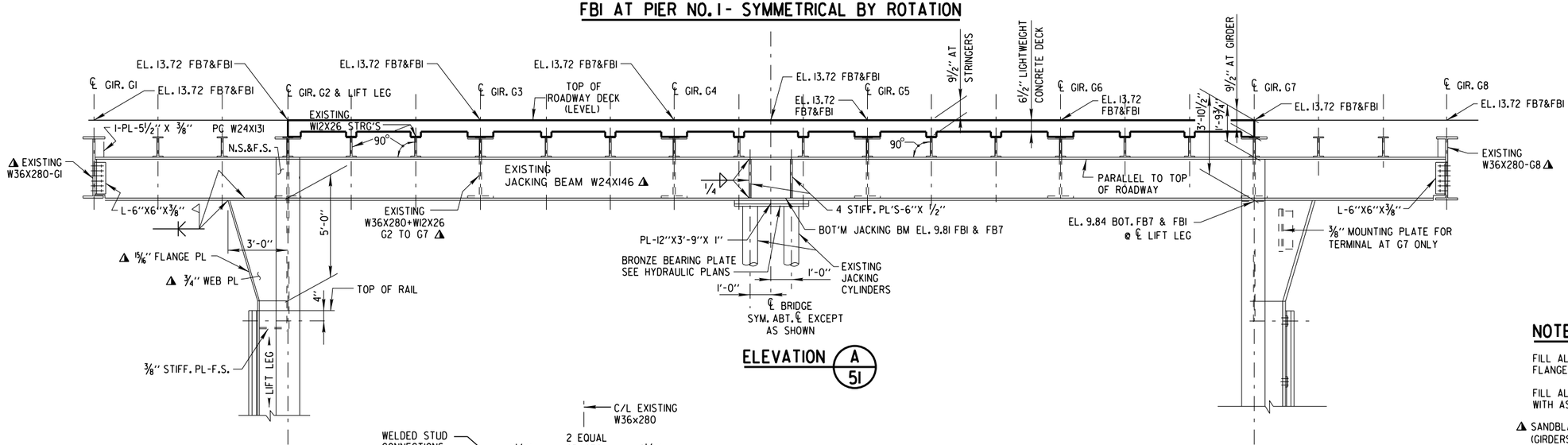
REVISED DATE: 05-21-2017 BY: GJR

STATE PROJECT NUMBER

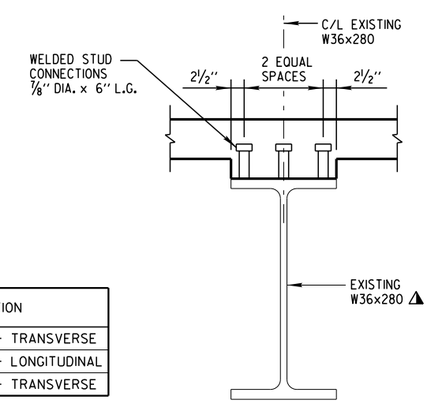
2195 - 03 - 70



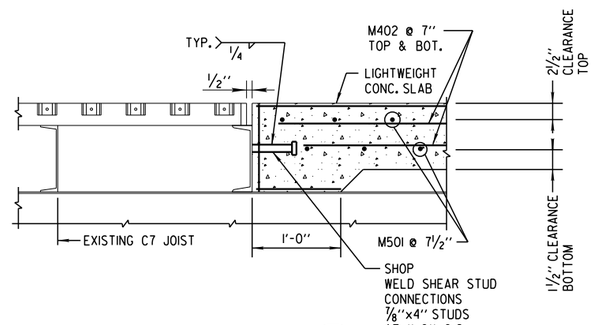
PLAN-JACKING BEAM AND LIFTING LEG
FB7 AT PIER NO. 2 - SHOWN
FB1 AT PIER NO. 1- SYMMETRICAL BY ROTATION



ELEVATION A / 51



SECTION 1 / 51



SECTION 2 / 51

BILL OF BARS - MACHINERY SLAB

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
M501	X	108	26'-2"			MACHINERY SLAB- TRANSVERSE
M402	X	338	8'-7"			MACHINERY SLAB- LONGITUDINAL
M403	X	30	2'-6"			MACHINERY SLAB- TRANSVERSE

NOTES:

FILL ALL OPEN HOLES IN GIRDER TOP FLANGE WITH ASTM A307 BOLTS.

FILL ALL OPEN HOLES IN GIRDER WEB WITH ASTM A325 BOLTS.

▲ SANDBLAST AND PAINT ALL EXISTING STEEL (GIRDERS, FLOOR BOOMS, STRINGERS, JACKING BEAM, LIFT LEG)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY D.L.F. | PLANS CK'D. J.D.T. H.J.R.

MACHINERY SLAB

SHEET 51 OF 58

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W:\STR\B0107\2017WORKPLANS\52-EXISTING CTWT.DGN

REVISED DATE: 07/20/2017 GJR

STATE PROJECT NUMBER

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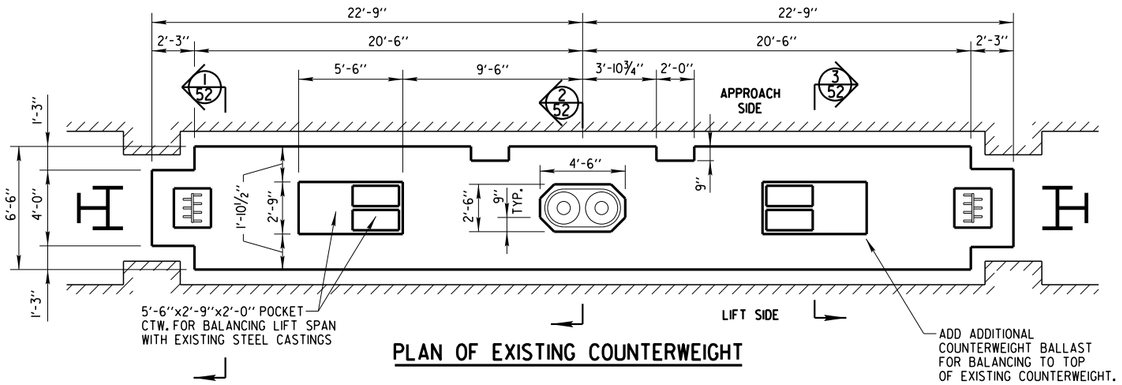
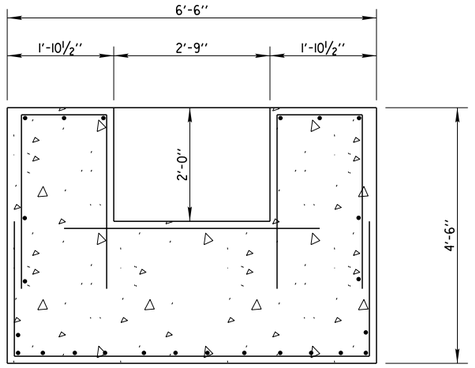
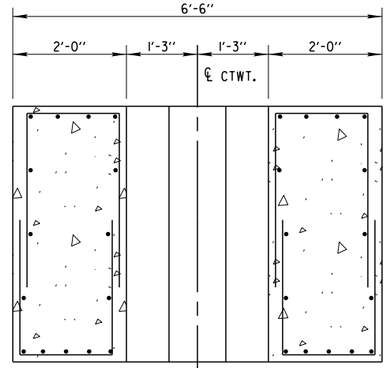


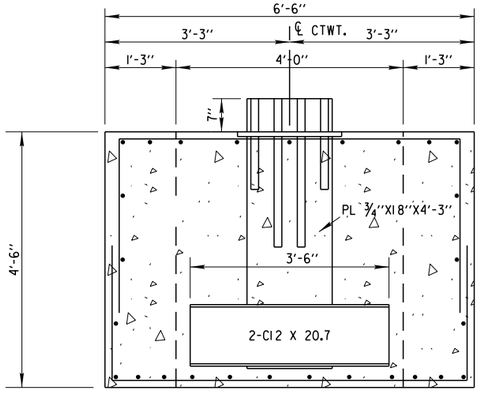
PLAN OF EXISTING COUNTERWEIGHT



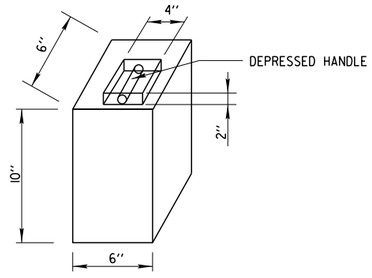
SECTION 3/52



SECTION 2/52



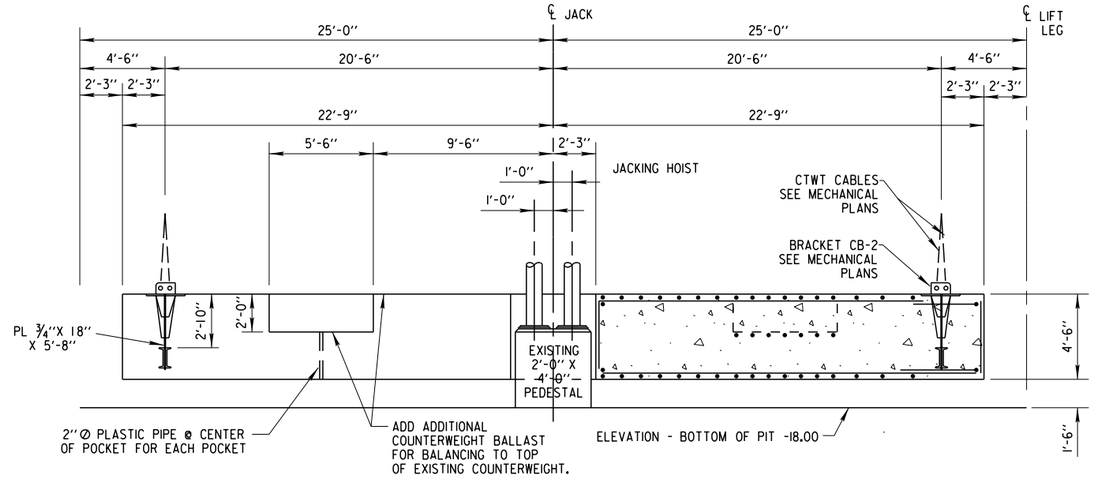
SECTION 1/52



NOTE: CASTING MUST BE MADE OF SOLID MATERIAL WITH NO BUILT UP SECTIONS.

NEW CAST IRON OR STEEL BALANCE BLOCK DETAIL

100 BLOCKS REQUIRED AT 85 LBS. PER BLOCK AS PART OF COUNTERWEIGHT BALLAST. REMAINING BALLAST CAN BE LARGER PLATES OR BLOCKS BASED ON BALANCING CALCULATIONS.



SECTION ELEVATION

NOTES:

1. CONTRACTOR MUST PERFORM FINAL BALANCING CALCULATIONS TO DETERMINE FINAL DIMENSIONS OF PROPOSED COUNTERWEIGHT BALLAST.
2. PROPOSED BALLAST DIMENSIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON BALANCING CALCULATION RESULTS AND INSTALLATION METHODS. BLOCKS SHALL BE PAINTED.
3. COUNTERWEIGHT BALLAST IS NOT REQUIRED TO BE ONE BLOCK. THE CONTRACTOR MUST SUBMIT INFORMATION ON HOW THE BLOCKS WILL BE SECURED IN THE COUNTERWEIGHT POCKET, OR ON TOP OF THE COUNTERWEIGHT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY	D.L.F.	PLANS CK'D.	J.D.T. H.J.R.

EXISTING COUNTERWEIGHT

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W:\STR\BO107\2017WORK\PLANS\53_METAL PL FOR BIKE LANES.DGN

REVISED DATE: 07/26/2017 DB

STATE PROJECT NUMBER

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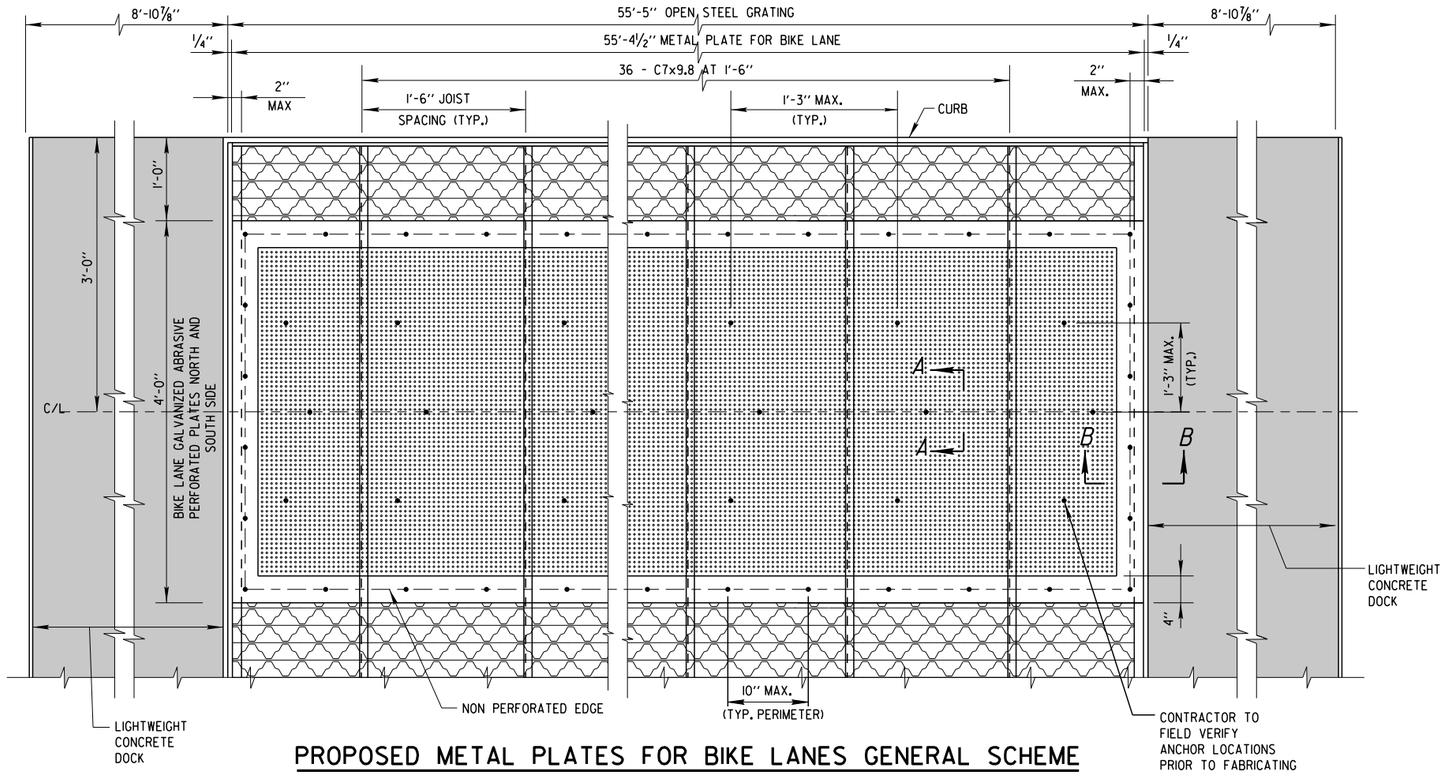
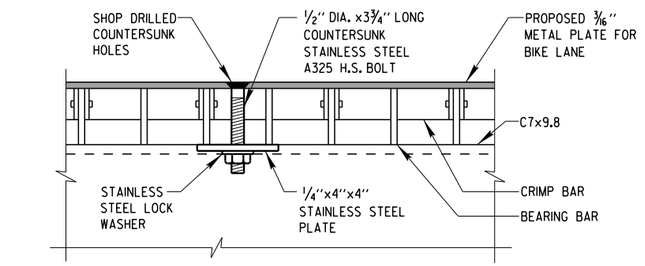
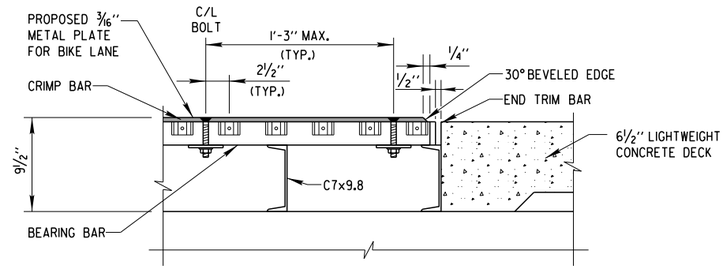


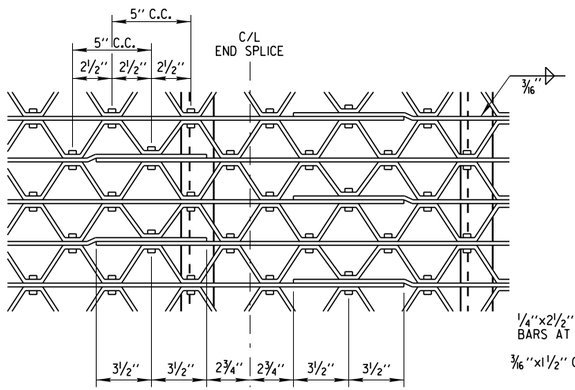
PROPOSED METAL PLATES FOR BIKE LANES GENERAL SCHEME
NORTH BICYCLE LANE SHOWN, SOUTH BICYCLE LANE SIMILAR



SECTION A-A



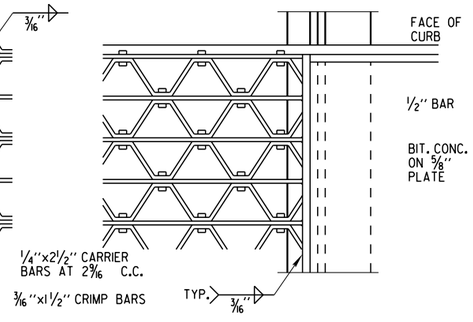
SECTION B-B



DETAIL OF SIDE & END SPLICE FOR EXISTING STEEL GRATING

NOTE:
EXISTING GRATING TO BE REMOVED AND REINSTALLED. AS NEEDED TO COMPLETE WORK

OVERCOAT EXISTING GRATING



EXISTING GRATING END DETAIL

PERFORATED PLATE NOTES:

1. ⅜" PLATE SHALL CONFORM TO ASTM A36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
2. ABRASIVE COATING SHALL BE APPLIED TO TOP SURFACE OF BICYCLE PLATE ACCORDING TO MANUFACTURER'S SPECIFICATIONS. PLATE IS TO BE HOT DIP GALVANIZED AFTER APPLICATION OF ABRASIVE COATING.
3. ALL WELD SURFACES AND THE ADJACENT PLATE AREAS WHERE THE GALVANIZED COATING IS DAMAGED BY THE FIELD-WELDING PROCESS SHALL RECEIVE A GALVANIZED REPAIR PAINT ACCORDING TO ASTM A780 AND MANUFACTURER'S WRITTEN INSTRUCTIONS.
4. EXTERIOR EDGE SHALL BE BEVELED.
5. PERIMETER BOLT SPACING APPLIES TO THE EDGE OF EACH INDIVIDUAL PLATE.
6. CONNECTION PLATES SHALL BEAR ON THE GRATING BEARING BAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY M.L. | PLANS CK'D. J.D.T. H.J.R.

METAL PLATES FOR BIKE LANES

SHEET 53 OF 58

8

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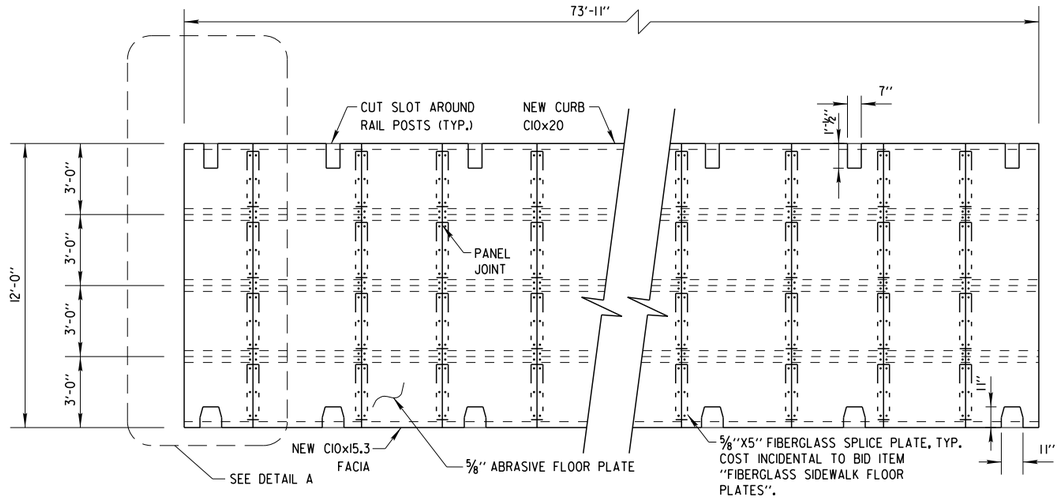
W:\STR\B0107\2017WORK\PLANS\54_SDWK PL LAYOUT.DGN

REVISED DATE 07-20-2017 BY: DB

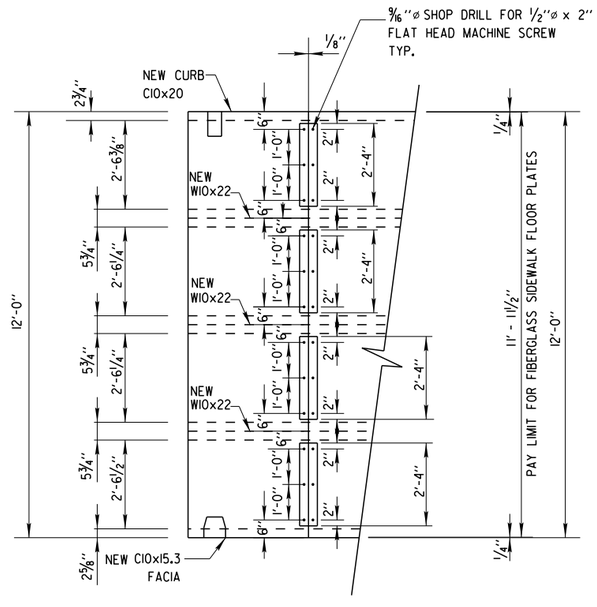
STATE PROJECT NUMBER

2195 - 03 - 70



PLAN VIEW SIDEWALK PLATES

(SOUTH SHOWN NORTH SIMILAR - CONTRACTOR TO DETAIL INDIVIDUAL PLATE DIMENSION)



DETAIL A

NOTES:

ALL HARDWARE TO BE STAINLESS STEEL.

HOLES IN SPLICE PLATES AND CORRESPONDING SIDEWALK PLATES TO BE SHOP DRILLED. ALL OTHERS TO BE FIELD DRILLED.

PLATES TO BE CUT AROUND RAILING BASE PLATES.

SEE SHEET 39 FOR ADDITIONAL DETAILS.

FIELD CUTTING OF PLATES FOR RAILING BASE PLATES IS NOT ALLOWED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-40-544

DRAWN BY D.L.F. | PLANS CK'D. J.D.T. H.J.R.

SIDEWALK PLATE LAYOUT

8

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W:\STRYB0107\2017WORK\PLANS\55_RAILING LOC PLAN.DGN

REVISED DATE 08-01-2017 BY: GJR

STATE PROJECT NUMBER
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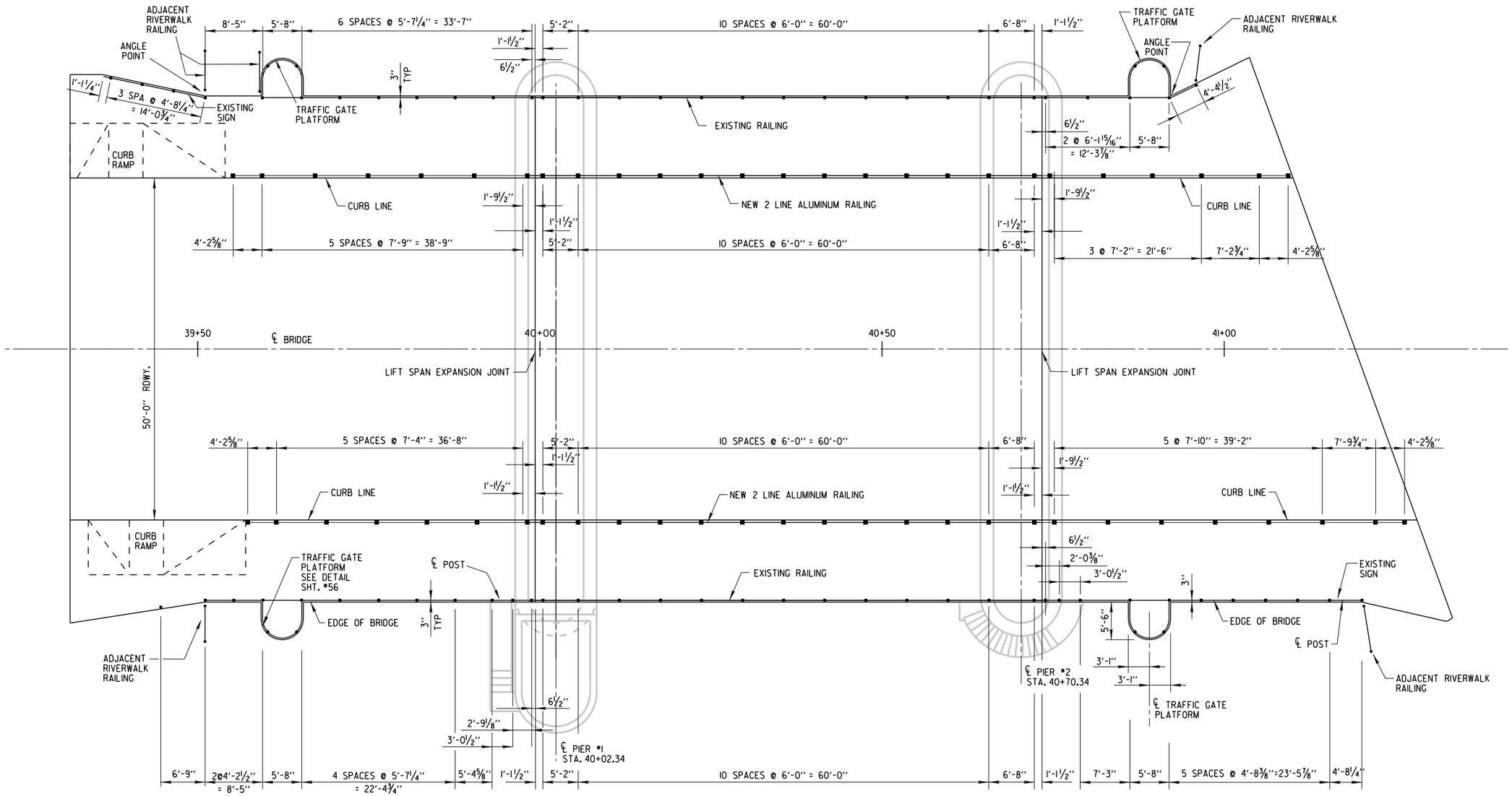

NOTES:

SEE SHEET 57 FOR 2 LINE ALUMINUM RAILING DETAILS

SEE SHEET 56 FOR EXISTING TUBULAR RAILING DETAILS

EXISTING RAILING TO BE REMOVED, REPAIRED, REPAINTED AND REINSTALLED ON NEW SIDEWALK.

EXISTING SIGNS TO BE SALVAGED AND REINSTALLED BY THE CONTRACTOR.

RAILING PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

RAILING LOCATION PLAN

SHEET 55 OF 58

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W:\STR\B0107\2017WORK\PLANS\56-EXIST RAILING DET.DGN

REVISED DATE 05-10-2017 BY: DLF

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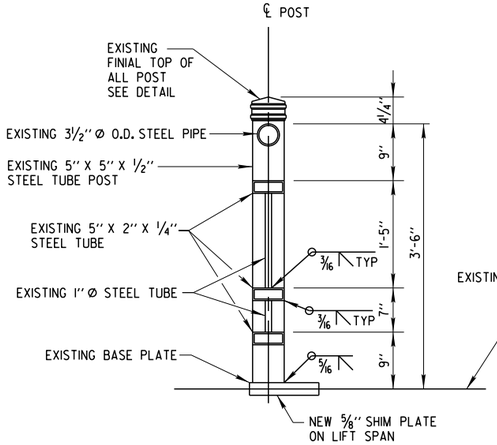
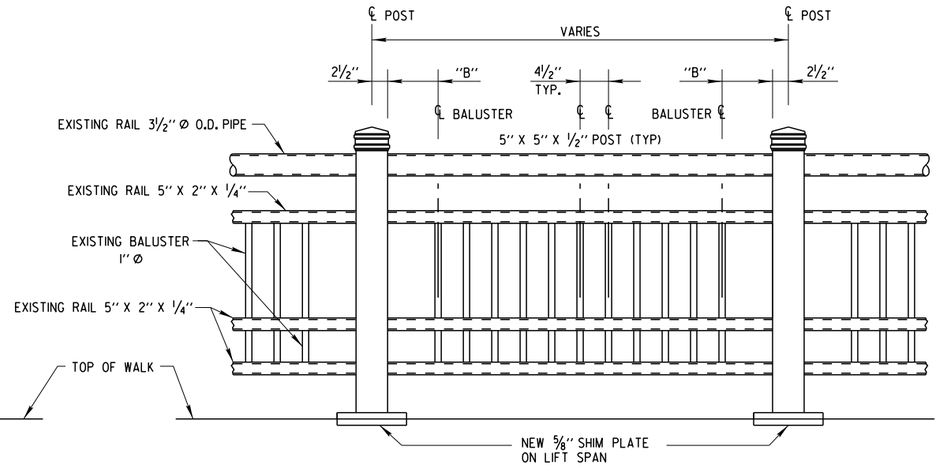
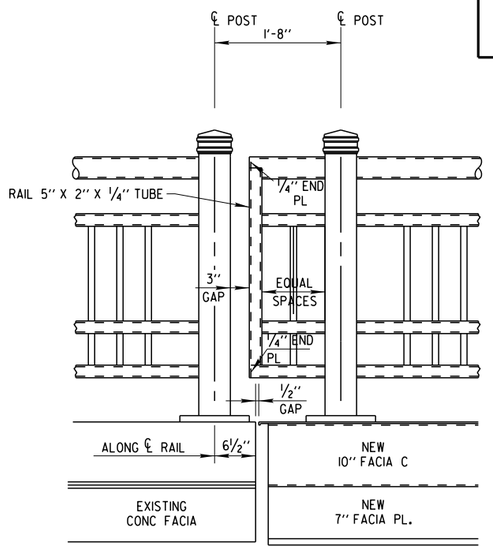


TYPICAL EXISTING RAILING SECTION TYPE "A"



TYPICAL EXISTING RAILING ELEVATION TYPE "A"



EXISTING DETAIL AT JOINT BETWEEN APPROACH AND LIFT SPAN

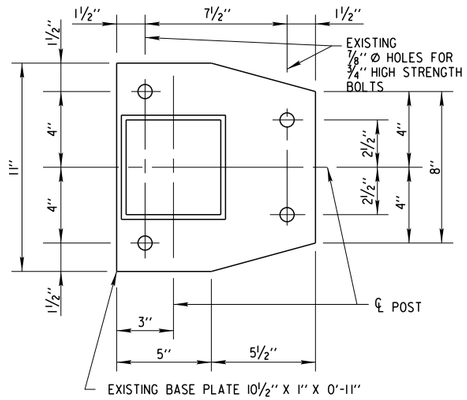
NOTES:

EXISTING RAILING TO BE REMOVED, REPAIRED, PAINTED, AND REINSTALLED.

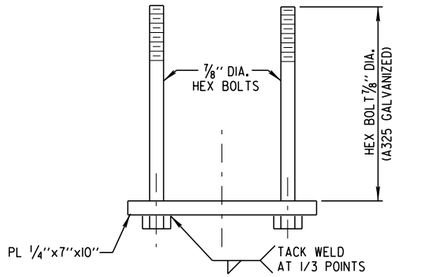
PROVIDE NEW ANCHOR BOLTS.

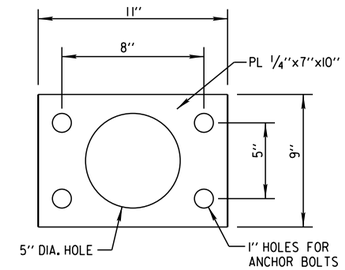
PAINTING OF EXISTING RAILING TO UTILIZE SAME PAINT SYSTEM DESCRIBED IN STRUCTURE REPAINTING RECYCLED ABRASIVE. THE RAILING SHALL BE PAINTED LAKE TERRACE GREEN.

NEW RAIL POST SHIM PLATE IS INCIDENTAL TO EXISTING RAILING BID ITEM.

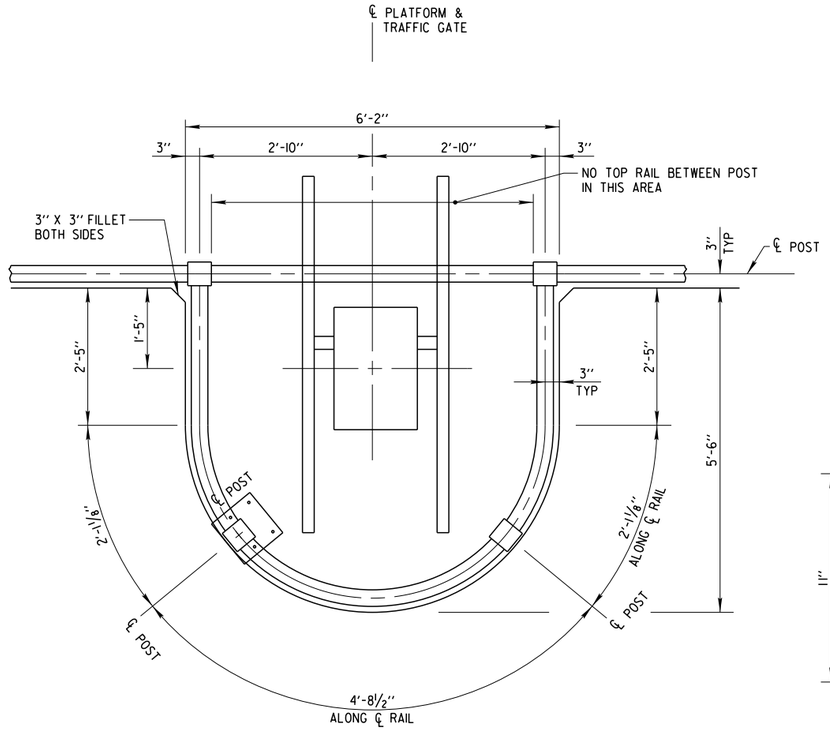


EXISTING RAIL POST BASE PLATE LIFT SPAN

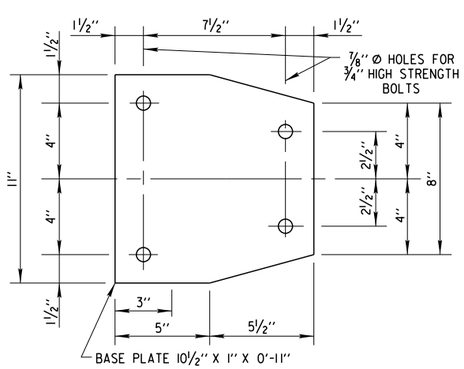




ANCHORAGE DETAIL AT APPROACHES

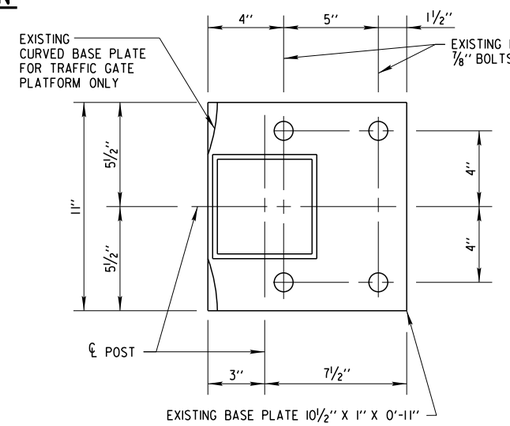


PLAN - EXISTING TRAFFIC GATE PLATFORM



NEW RAIL POST SHIM PLATE LIFT SPAN

(QTY : 26)



EXISTING RAIL POST BASE PLATE APPROACH SPAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

EXISTING TUBULAR RAILING DETAILS

SHEET 56 OF 58

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W:\STR\B01071\2017WORK\PLANS\57_2 LINE RAILING DET.DGN

REVISED BY 05-21-2017 BY G.J.R.

STATE PROJECT NUMBER

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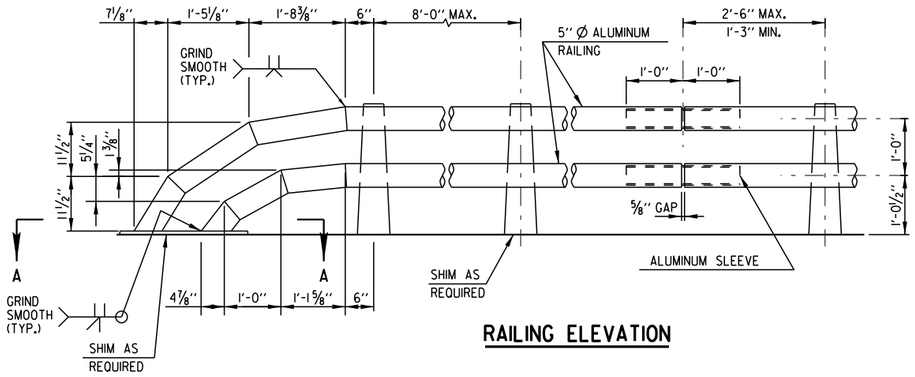
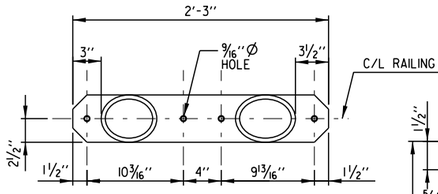
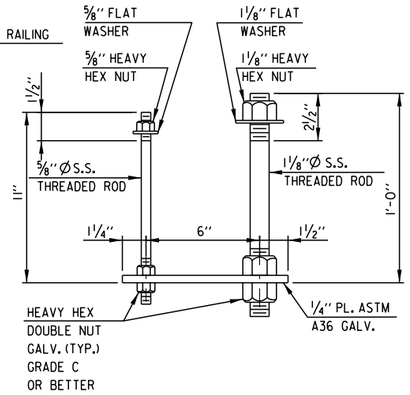


RAILING ELEVATION



BASE PLATE DETAIL SECTION A-A



NOTES:

1. THIS RAILING IS BASED ON THE AASHTO CRASH TESTED BR2 TYPE A ALUMINUM RAILING.
2. ELECTRODES FOR WELDING SHALL CONFORM TO AWS A5.10, ALLOY ER.
3. ALL WELDS TO BE SMOOTH AND FREE FROM SHARP EDGES AND/OR BURRS.
4. POST TO BE ALUMINUM ALLOY PERMANENT CASTING CONFORMING TO AASHTO DESIGNATION M193 (ASTM B 108, ALLOY A444).
5. RAILS AND SPLICE SLEEVES SHALL BE ASTM B221, ALLOY 6061-T6.
6. ALL POSTS SHALL BE SET NORMAL TO THE PGL.RAILS SHALL BE ATTACHED TO A MINIMUM OF 4 POSTS.
7. ALL RAILS SHALL BE FREE FROM SHARP EDGES OR BURRS THAT COULD CAUSE INJURY.
8. HOLES FOR BOLTS IN RAILS ARE TO BE FIELD DRILLED TO INSURE PROPER FIT.
9. DECK CONCRETE REMOVAL AT RAILING POSTS WILL BE PAID UNDER "PREPARATION DECKS TYPE 2".

RAIL TO POST HARDWARE:

RAILING BOLT ASSEMBLY MATERIALS SHALL BE AS FOLLOWS:

STAINLESS STEEL THREADED RODS SHALL BE ASTM A276 TYPE 304, ANNEALED COLD FINISHED. MIN TENSILE STRENGTH SHALL BE 90 KSI.

STAINLESS STEEL HEX NUTS AND WASHERS SHALL BE ASTM A276 TYPE 300 SERIES

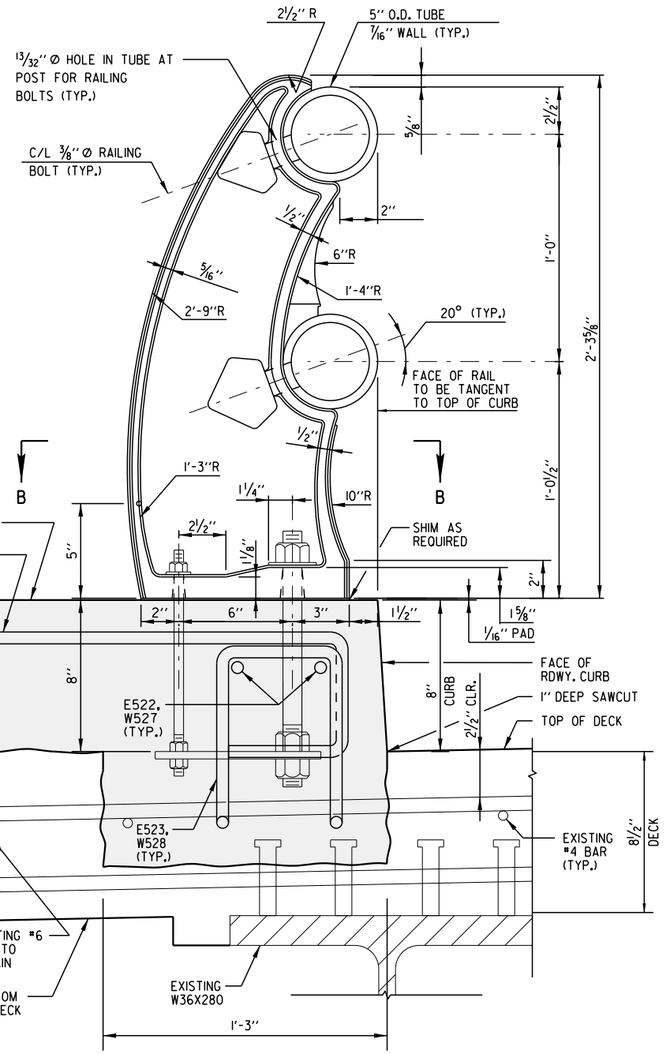
ANCHOR HARDWARE:

ALL THREADED RODS SHALL BE STAINLESS STEEL ASTM A276 TYPE 300 OR 400 SERIES WITH A MIN. TENSILE STRENGTH OF 90 KSI, MIN. YIELD STRENGTH OF 35 KSI AND MIN ELONGATION OF 15% IN 2 INCHES.

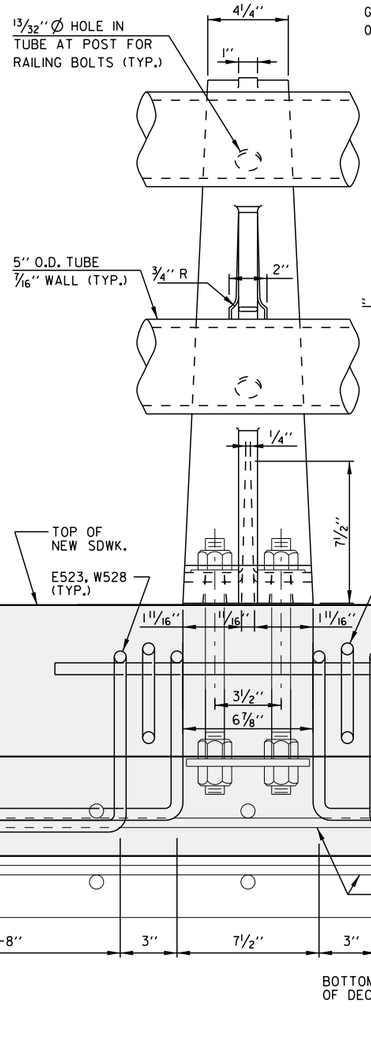
ALL HEAVY HEX NUTS AND WASHERS SHALL BE STAINLESS STEEL U.N.O.

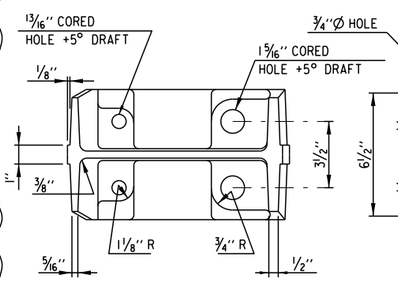
NEOPRENE PADS SHALL HAVE A NOMINAL DUROMETER HARDNESS OF 60 ± 5

SHIM MATERIAL SHALL BE ASTM B209, ALLOY 1100-0.

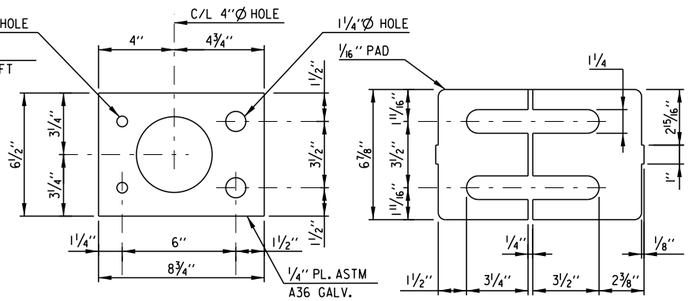


ALUMINUM RAILING POST TYPICAL NEW DESIGN SECTION





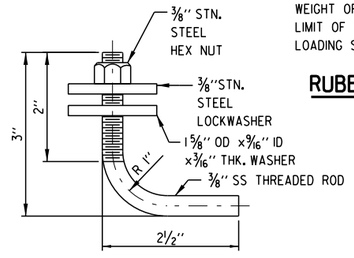
SECTION B-B



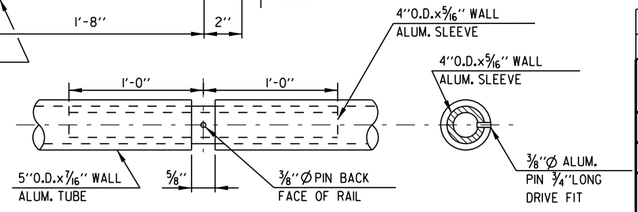
ANCHORAGE DETAIL

NOTE: PREFORMED PADS SHALL CONSIST OF COTTON FIBERS BONDED WITH NATURAL OR SYNTHETIC RUBBER. WEIGHT OF FIBER SHALL BE APPROX. 50% OF THE TOTAL WEIGHT OF THE PAD. ULTIMATE BREAKDOWN LIMIT OF THE PAD UNDER COMPRESSIVE LOADING SHALL BE AT LEAST 10,000 P.S.I.

RUBBER FIBER PAD



⅜" Ø RAILING BOLT



ALUMINUM SLEEVE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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

2 LINE ALUMINUM RAILING DETAILS

SHEET 57 OF 58

8

8

W:\STR\B0107\2017WORK\PLANS\58_NAME PLATE.DGN

REVISED: 05-10-2017 BY DLF

STATE PROJECT NUMBER

2195 - 03 - 70

SPECIFICATION FOR NAME PLATE
ONE (1) REQUIRED:

CONFORM TO 506.2.4 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION AND AS HEREIN MODIFIED.

MATERIAL: CAST BRONZE

BORDER STYLE: SINGLE-LINE BEVELED EDGE

LETTER STYLE: BLOCK

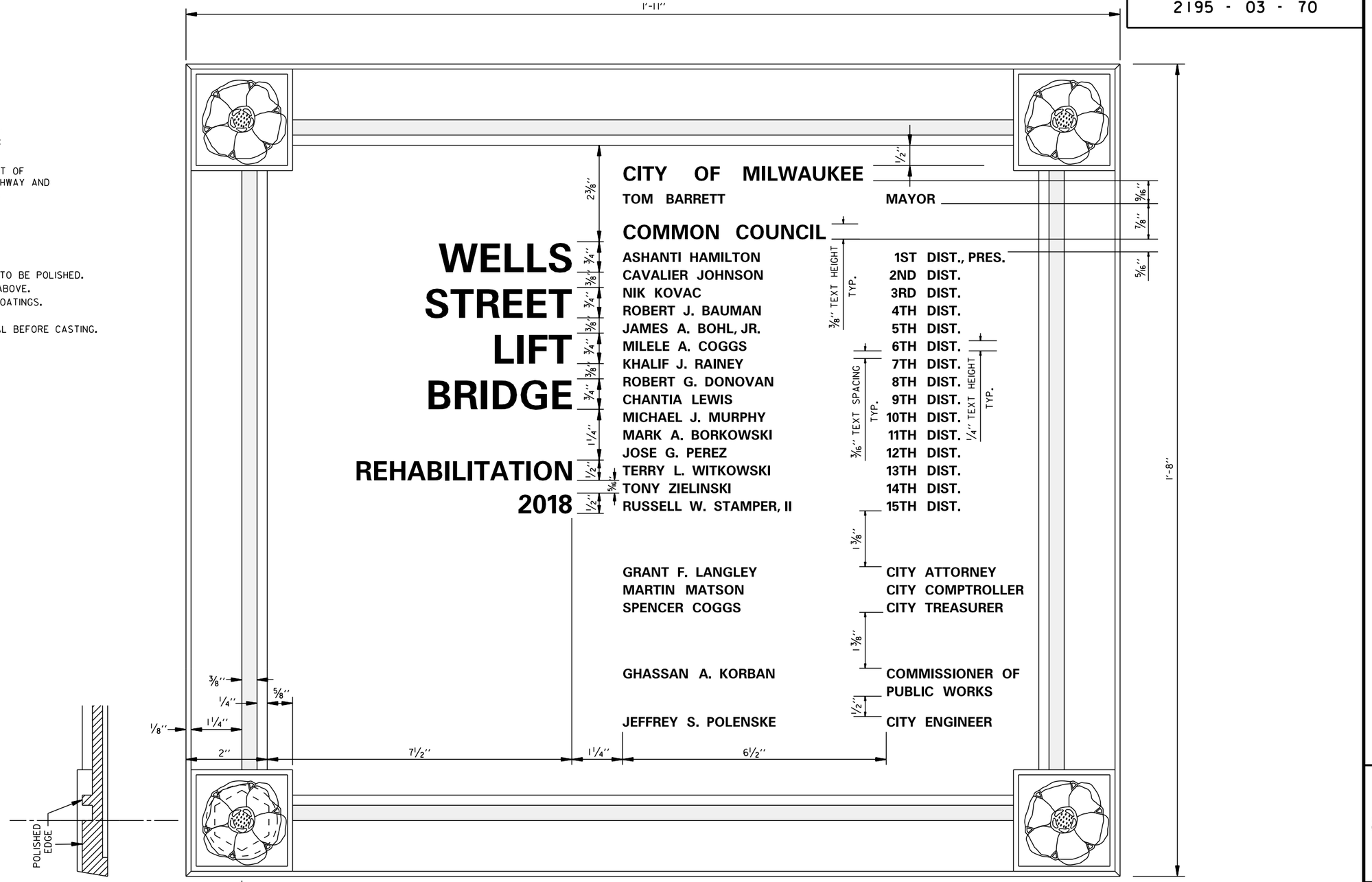
BACKGROUND TEXTURE: LEATHERETTE

BACKGROUND COLOR: MEDIUM STATUARY-MAT

FINISH: LETTER FACES AND RAISED LINE OF BORDER TO BE POLISHED.
REMAINING SURFACES LACQUERED TO COLOR ABOVE.
GIVE ENTIRE FACE TWO (2) CLEAR CHEMICAL COATINGS.

MOUNTING: AS SHOWN

FURNISH THREE (3) COPIES OF RUBBING FOR APPROVAL BEFORE CASTING.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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NAME PLATE

SHEET 58 OF 58

8

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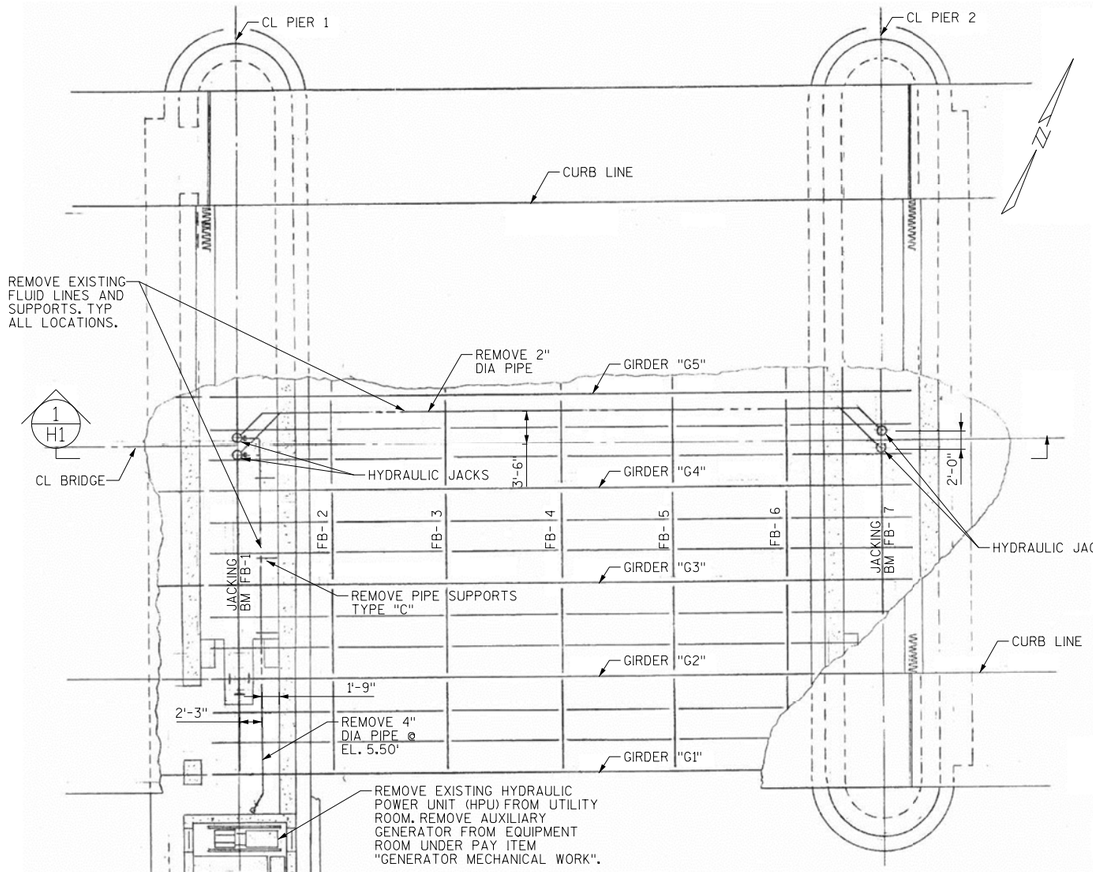
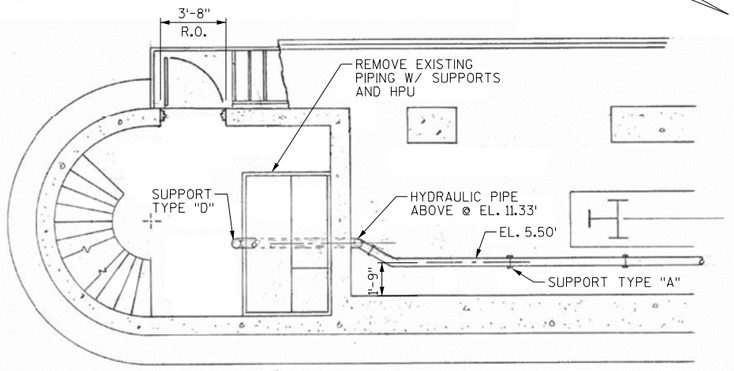
STATE PROJECT NUMBER
2195-03-00



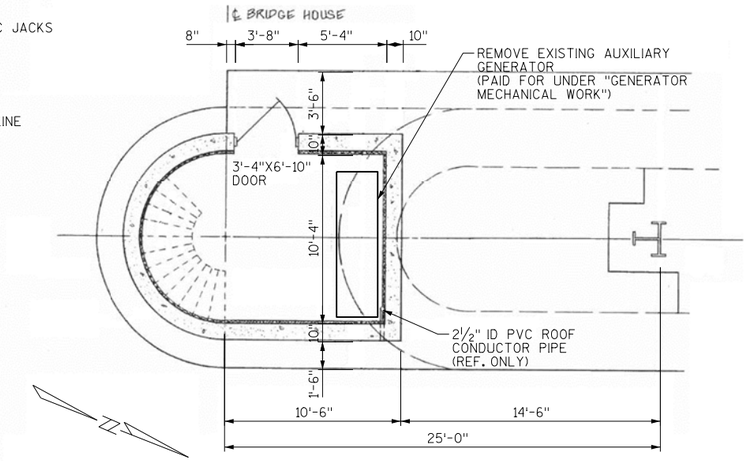
PLAN OF HYDRAULIC REMOVAL

(NO SCALE)



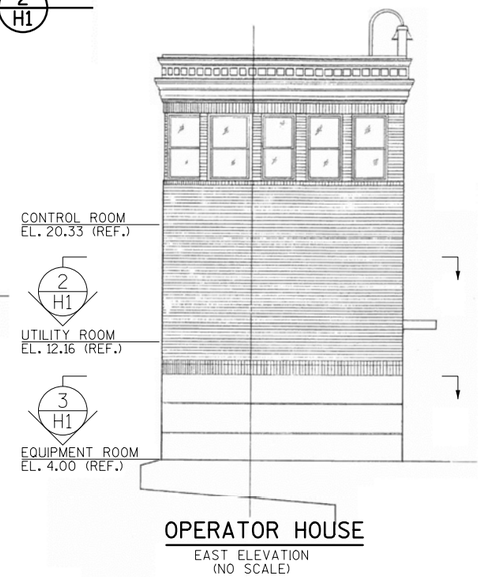
PLAN OF EXISTING HPU AND PIPING IN UTILITY ROOM 2 H1

(NO SCALE)



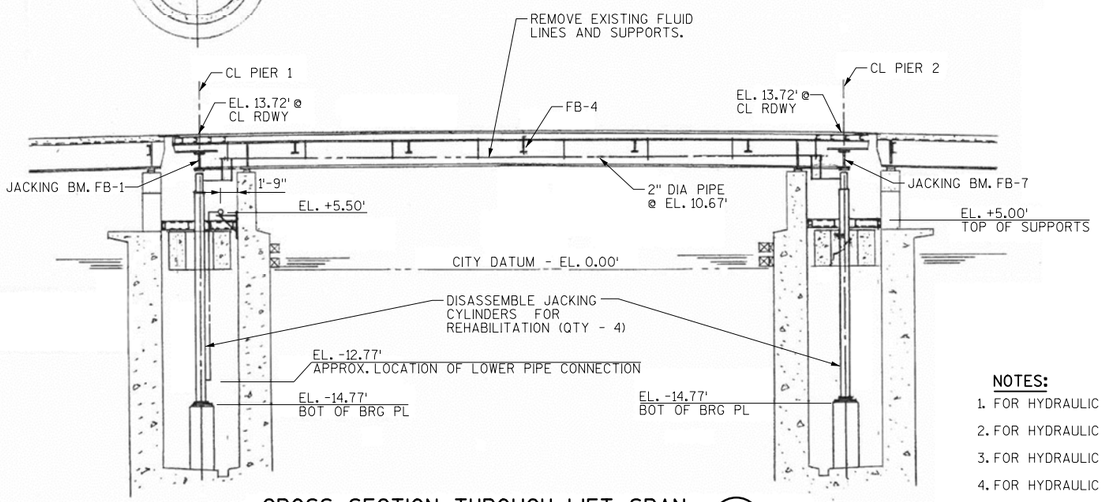
EQUIPMENT ROOM PLAN 3 H1

(NO SCALE)



OPERATOR HOUSE

EAST ELEVATION
(NO SCALE)



CROSS SECTION THROUGH LIFT SPAN 1 H1

(NO SCALE)

NOTES:

1. FOR HYDRAULIC SYSTEM REHABILITATION WORK, SEE SHEET H2.
2. FOR HYDRAULIC SCHEMATIC INCLUDING PIPE SIZES, SEE SHEET H3.
3. FOR HYDRAULIC POWER UNIT INSTALLATION, SEE SHEET H4.
4. FOR HYDRAULIC CYLINDER REHABILITATION, SEE SHEET H5.
5. FOR FLUID LINE SUPPORT DETAILS, SEE SHEET H6.
6. FOR REHABILITATION OF ELECTRICAL SYSTEM, SEE ELECTRICAL SHEETS.
7. FOR MECHANICAL SYSTEM REHABILITATION, SEE MECHANICAL SHEETS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY: GPD | PLANS CK'D.: WEN

HYDRAULIC DEMOLITION

SHEET H1 OF H6
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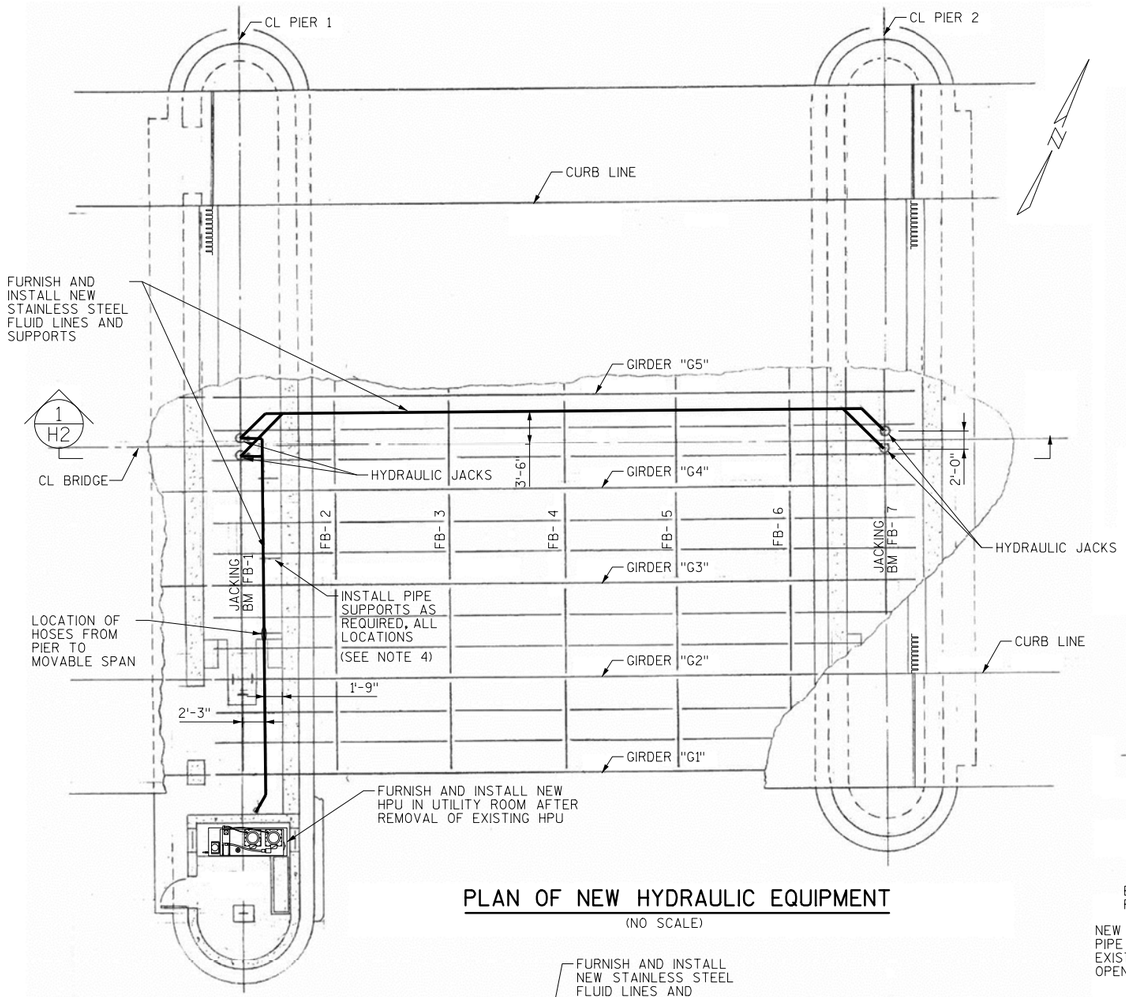
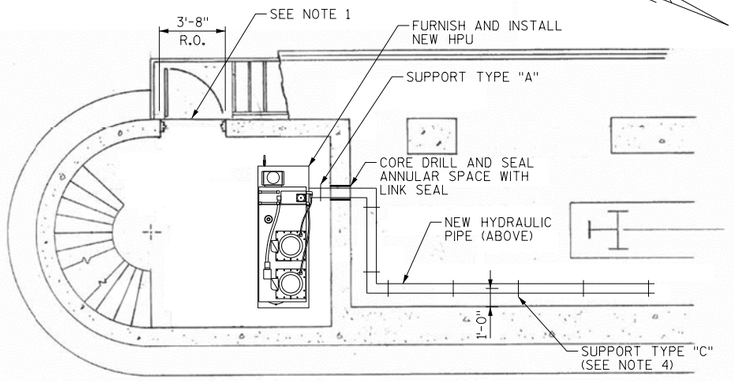
STATE PROJECT NUMBER

2195-03-00



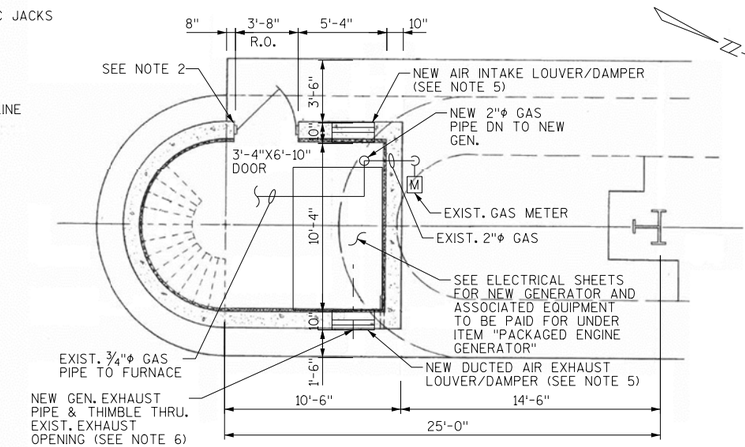
PLAN OF NEW HYDRAULIC EQUIPMENT

(NO SCALE)



PLAN OF UTILITY ROOM 2 H2

(NO SCALE)

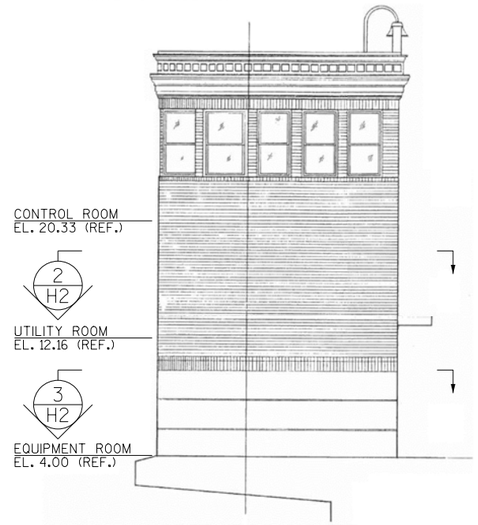


EQUIPMENT ROOM PLAN 3 H2

(NO SCALE)

NOTES:

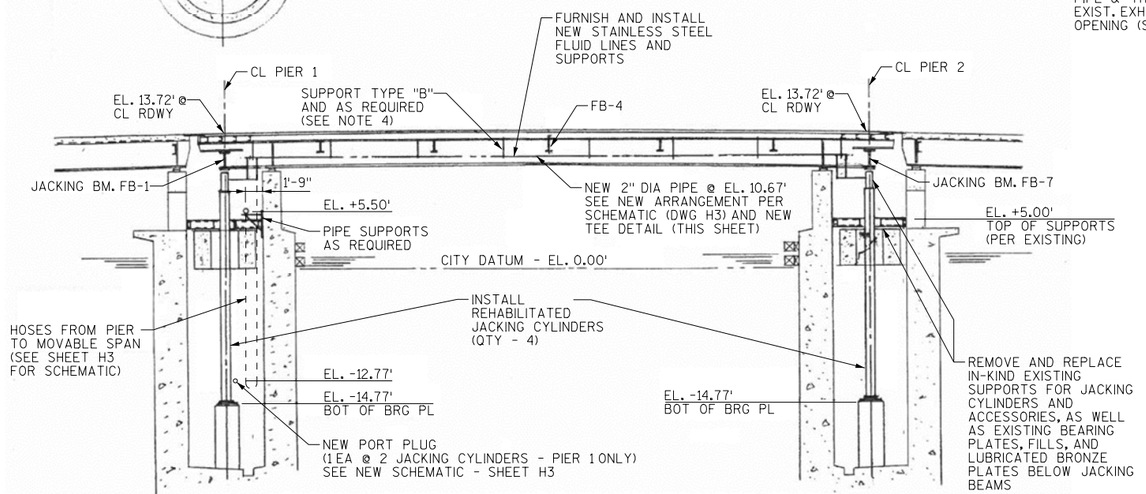
1. DOORWAY AND STAIR RAILING TO BE REMOVED/MODIFIED AND RESTORED AS REQUIRED TO ACCOMMODATE PASSAGE OF HPU DURING CONSTRUCTION.
2. DOORWAY AND OUTSIDE WALL/RAILING TO BE REMOVED/MODIFIED AND RESTORED AS REQUIRED TO ACCOMODATE PASSAGE OF NEW GENERATOR DURING CONSTRUCTION.
3. ELECTRICAL CONTROL SYSTEM WILL BE PROVIDED FOR NEW HYDRAULIC SYSTEM.
4. APPROXIMATE SUPPORT SPACING SHALL CONFORM TO REQUIREMENTS OF ISO 4413. FOR PIPE SUPPORT DETAILS REFER TO SHEET H6.
5. NEW MOTORIZED AIR INTAKE/EXHAUST COMBINATION LOUVER/DAMPERS TO BE INSTALLED IN EXISTING 30"W x 36"H ROUGH OPENINGS IN WALLS. ALL WORK TO BE INCLUDED UNDER ITEM "GENERATOR MECHANICAL WORK."
6. NEW GENERATOR EXHAUST PIPE AND THIMBLE TO BE INSTALLED IN EXISTING EXHAUST WALL OPENING. ALL WORK TO BE INCLUDED UNDER ITEM "PACKAGED ENGINE GENERATOR."
7. THE CONTRACTOR SHALL EMPLOY THE SERVICES OF A LICENSED GAS FITTER AND ADHERE TO ALL LOCAL CODES ASSOCIATED WITH THE AUTHORITIES HAVING JURISDICTION, TO INSTALL GALVANIZED BLACK IRON PIPE, VALVES, BRASS FLEXIBLE LINES, DRIP LEGS, STRAINERS, REGULATORS, AND OTHER EQUIPMENT TO ALLOW FOR A NATURAL GAS SERVICE TO THE GENERATOR. THE CONTRACTOR SHALL INCLUDE ALL PERMITS AND FEES ASSOCIATED WITH THIS WORK WHERE APPLICABLE. THE GAS PIPE SHALL ROUTE FROM EXISTING TEE FITTING SHOWN ON THE PLANS TO THE GENERATOR ENCLOSURE. ALL WORK TO BE INCLUDED UNDER ITEM "GENERATOR MECHANICAL WORK."
8. PIPE PENETRATIONS AND LOUVER OPENINGS THROUGH WALLS SHALL BE SEALED TO PREVENT ENTRANCE OF WATER OR RODENTS.



OPERATOR HOUSE

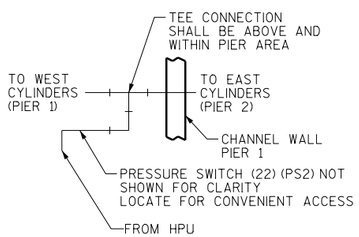
EAST ELEVATION

(NO SCALE)



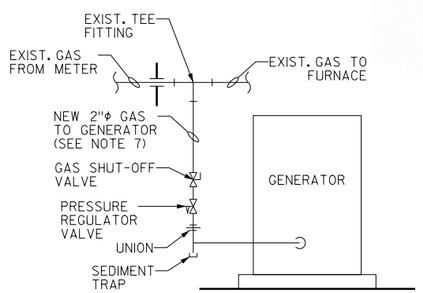
CROSS SECTION THROUGH LIFT SPAN 1 H2

(NO SCALE)



NEW TEE DETAIL

(NO SCALE)



GAS PIPING SCHEMATIC

(NO SCALE)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY GPD | PLANS CK'D. WEN

HYDRAULIC REHABILITATION

SHEET H2 OF H6

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8

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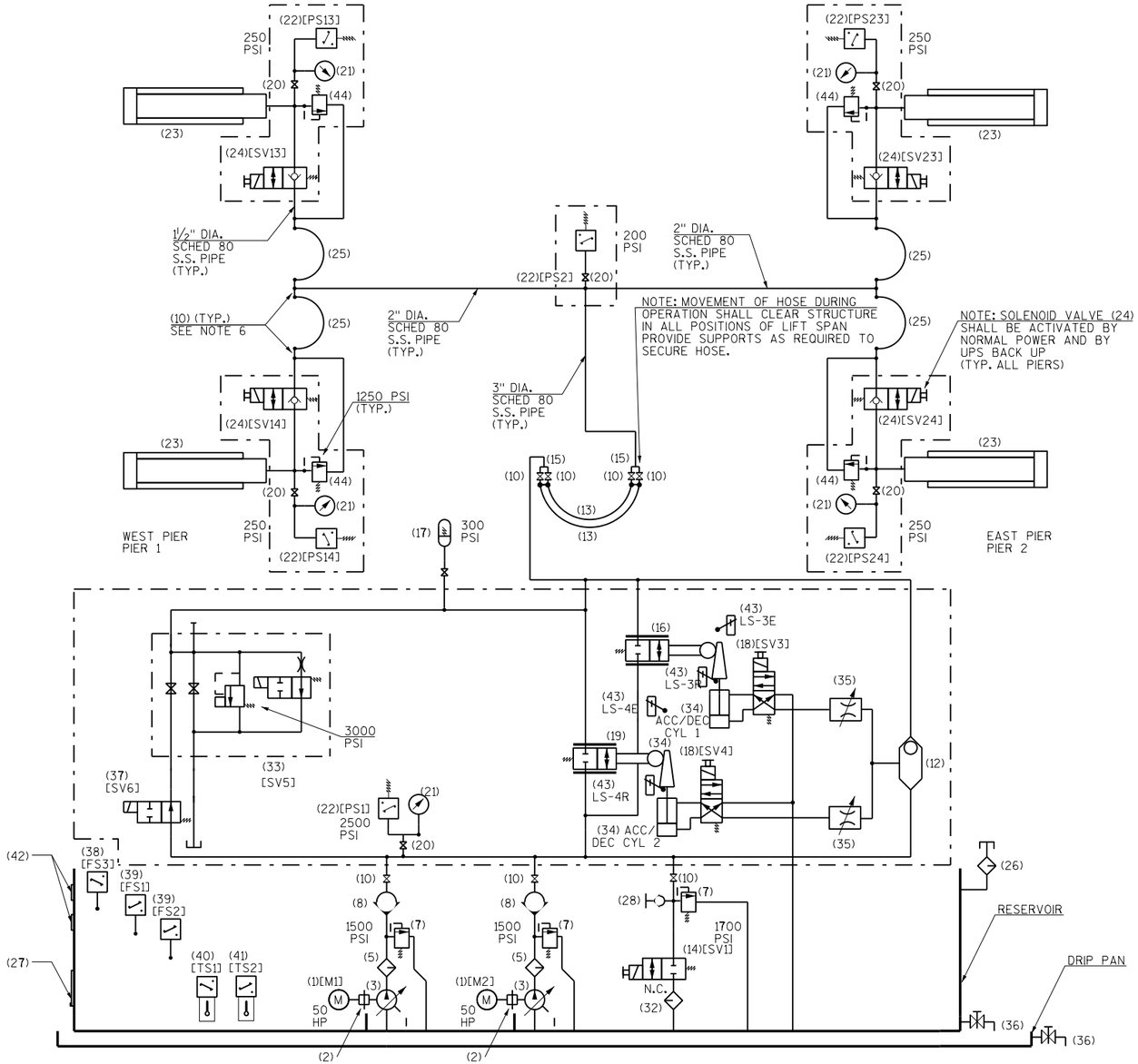


HYDRAULIC SYSTEM-FLOW DIAGRAM

HYDRAULIC BILL OF MATERIALS

ITEM	QTY.	DESCRIPTION
1	2	MAIN MOTOR (C-FACED W/ ADAPTOR)
2	2	SHAFT COUPLING WITH GUARD
3	2	MAIN PUMP WITH MOUNTING/SUPPORT
4		(NOT USED)
5	2	MAIN PUMP PRESSURE FILTER
6		(NOT USED)
7	3	PRESSURE RELIEF VALVE
8	2	CHECK VALVE
9		(NOT USED)
10		SHUTOFF VALVE (SEE NOTE 6) *
11		(NOT USED)
12	1	SHUTTLE VALVE
13	2	2" I.D. HOSE ASSEMBLY WITH CONNECTION
14	1	SOLENOID VALVE-TWO POSITION
15	2	HOSE CONNECTION MANIFOLD
16	1	ACCEL/DECEL VALVE - UP-START/LEVELING**
17	1	ACCUMULATOR
18	2	SOLENOID VALVE - TWO POSITION
19	1	ACCEL/DECEL VALVE- FULL SPEED**
20	6	SHUTOFF VALVE
21	5	PRESSURE GAUGE
22	6	PRESSURE SWITCH (1-N.O, 1-NC)
23	4	JACKING CYLINDER (REHAB EXISTING)
24	4	SOLENOID VALVE - TWO POSITION
25	4	1½" I.D. HOSE ASSEMBLY WITH CONNECTION FITTINGS
26	1	BREATHER/FILTER
27	1	FLUID LEVEL/TEMPERATURE GAUGE
28	1	FLUID SAMPLING POINT
29		NOT USED
30		
31		
32	1	RETURN LINE FILTER
33	1	ACCUMULATOR SAFETY BLOCK
34	2	ACCEL/DECEL ACTUATOR
35	2	FLOW CONTROL
36	2	DRAIN VALVE
37	1	SOLENOID VALVE - TWO POSITION
38	1	FLOAT SWITCH (1 N.O. & 1 N.C. CONTACT) NC CONTACT OPENS AT HIGH FLUID LEVEL
39	2	FLOAT SWITCH (1 N.O. & 1 N.C. CONTACT) NC CONTACT OPENS AT LOW FLUID LEVEL
40	1	HIGH TEMP SWITCH (1 N.O. & 1 N.C. CONTACT) NC CONTACT OPENS AT HIGH TEMP
41	1	LOW TEMP SWITCH (1 N.O. & 1 N.C. CONTACT) NC CONTACT OPENS AT LOW TEMP
42	2	PORTS IN RESERVOIR FOR FUTURE HEAT EXCHANGER INSTALLATION
43	4	LIMIT SWITCH - 1 N.O. AND 1 N.C. CONTACT
44	4	PRESSURE RELIEF VALVE

* SIZES AND QUANTITIES SHALL BE AS REQUIRED

** SEE NOTE 2 REGARDING QUANTITY AND SIZES OF VALVES (16) AND (19)

NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIREMENTS OF HYDRAULIC POWER UNIT AND HYDRAULIC SYSTEM, AND FOR REQUIRED CAPACITIES AND FEATURES OF ALL COMPONENTS LISTED.
2. TOTAL FLOW CAPACITY THROUGH VALVES (16) AND (19) SHALL BE AS STATED IN THE SPECIAL PROVISIONS FOR JACK CYLINDER DETAILED ON SHEET H5. CONTRACTOR MAY USE PAIRS OF SMALLER VALVES FOR EACH TO OBTAIN THE REQUIRED FLOW CAPACITY.
3. SEE SHEET H4 FOR HPU ARRANGEMENT AND DETAILS.
4. RESERVOIR AND ALL HYDRAULIC LINES AND VALVES SHALL BE STAINLESS STEEL. PIPE SHALL BE SCHEDULE 80 (MIN). ALL FLUID LINES SHALL BE RATED 3000 PSI MIN WORKING PRESSURE. SEALED FLANGE CONNECTIONS OR WELDED JOINTS SHALL BE LISTED FOR ALL FLUID LINES OVER WATER.
5. HYDRAULIC CYLINDER VALVES (24) SHALL STOP SPAN AND HOLD IN POSITION IN CASE OF PIPE FAILURE AUTOMATICALLY, AND UPON DEMAND.
6. PROVIDE SHUT OFF VALVES (10) AT ALL HOSE CONNECTIONS (NOT ALL SHOWN, FOR CLARITY).

KEY:

HYDRAULIC COMPONENTS: (N) AND (NN)

ELECTRICAL COMPONENTS: [XXN] AND [XXNN]
SINGLE DIGIT NUMERALS - AT HPU
10-SERIES - PIER 1
20-SERIES - PIER 2

N = NUMERIC DESIGNATION
X = ALPHABETICAL DESIGNATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY ELT | PLANS CK'D. WEN

NEW HYDRAULIC SCHEMATIC

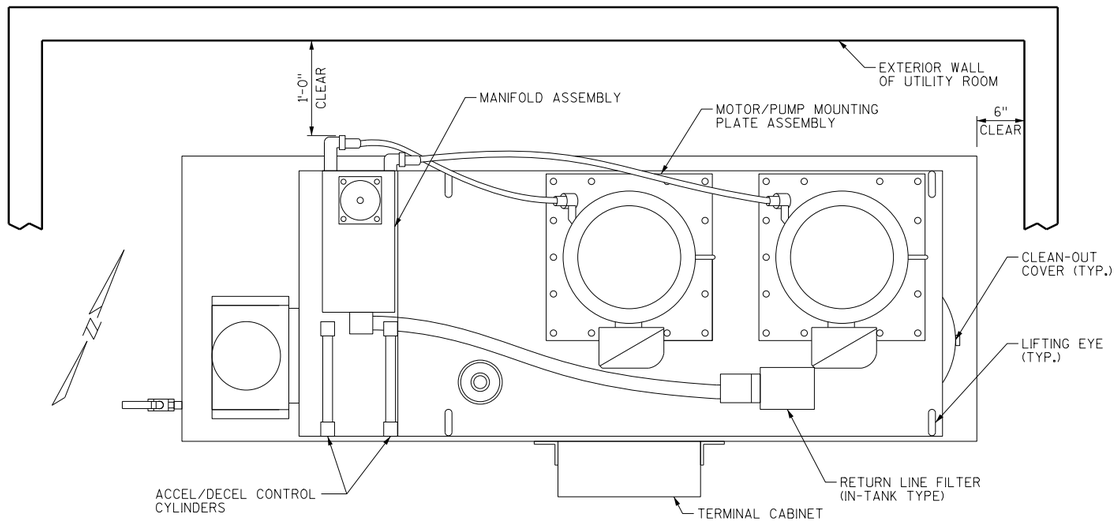
SHEET H3 OF H6
139

8

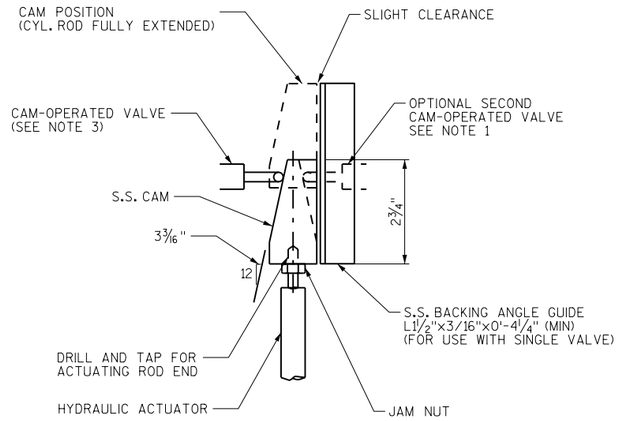
8

STATE PROJECT NUMBER

2195-03-00



PLAN

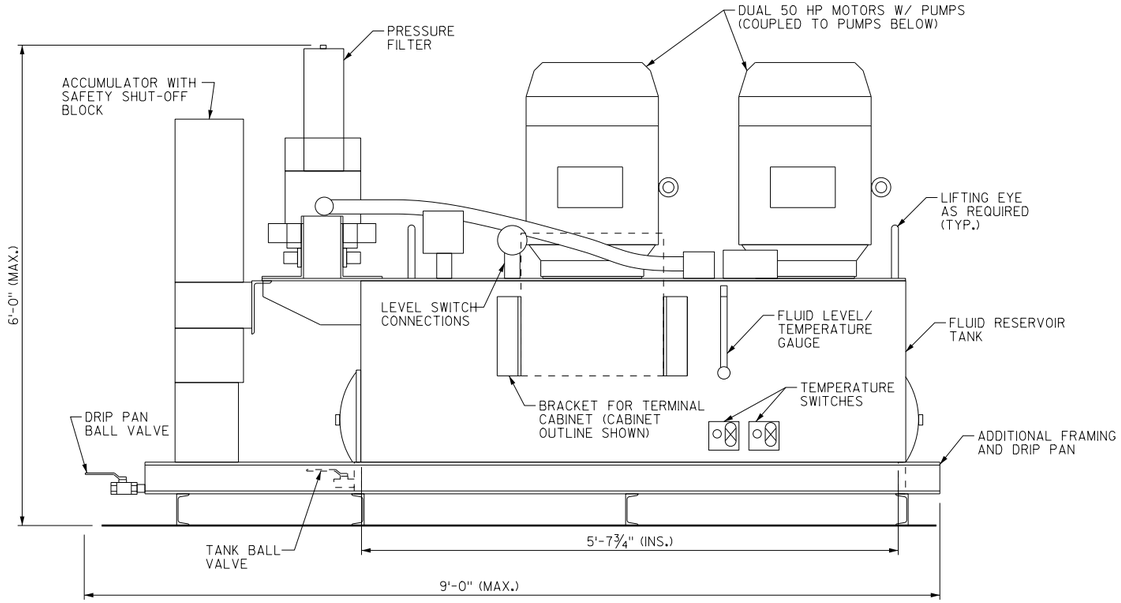


HYDRAULIC ACTUATOR ON HPU

LIMIT SWITCHES NOT SHOWN FOR CLARITY, SEE NOTES 1-3

ACTUATOR NOTES:

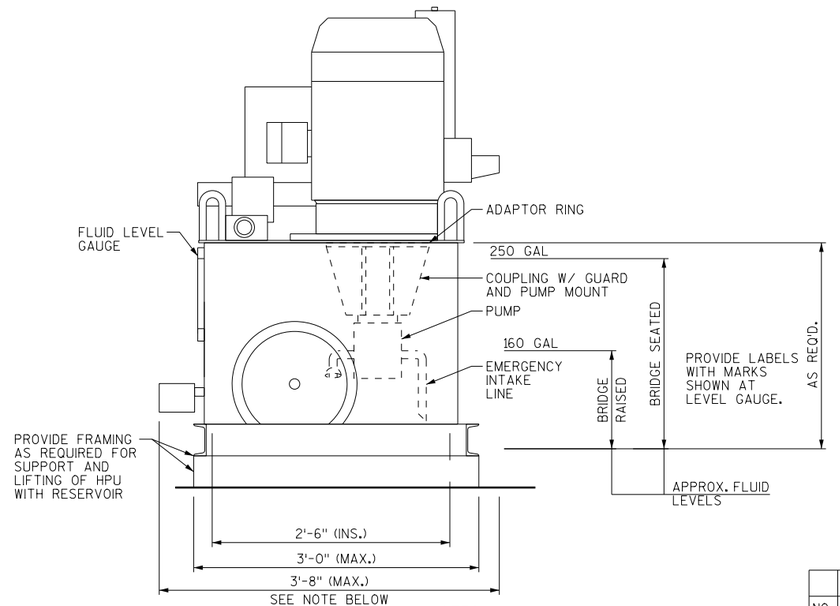
1. EACH VALVE ACTUATOR ASSEMBLY, ONE FOR FAST AND ONE FOR SLOW SPEEDS, SHALL CONSIST OF A HYDRAULIC ACTUATOR WITH WEDGE CAM ATTACHMENT, PLUS TWO ADJUSTABLE LIMIT SWITCHES (ONE AT EACH END OF STROKE), AND ONE OR TWO CAM-OPERATED VALVES MOUNTED ON STAINLESS STEEL MOUNTING PLATE. IF ONE VALVE IS USED, STAINLESS STEEL BACKING ANGLE SHALL BE PROVIDED TO PREVENT SIDE LOADING OF ACTUATOR ROD. CAM SHALL NOT BE ALLOWED TO ROTATE. ALL FABRICATED COMPONENTS SHALL BE STAINLESS STEEL.
2. ACTUATOR CAMS, VALVE PLUNGERS, AND LIMIT SWITCHES SHALL BE EFFECTIVELY GUARDED BY A BOLTED STEEL GUARD.
3. CAM POSITION AND LIMIT SWITCHES SHALL BOTH BE ADJUSTED FOR SMOOTH OPERATION, ACCELERATION, AND DECELERATION OF SPAN. CONTROL OF EACH CAM OPERATED VALVESHALL BE ADJUSTED TO FULLY EXTEND AND FULLY RETRACT OVER PERIODS OF 3-5 SECONDS, AS DIRECTED BY THE ENGINEER.
4. HPU RESERVOIR, REMOVABLE DOORS, ENCLOSURE, AND DRIP PAN SHALL BE STAINLESS STEEL. ENCLOSURE DOORS SHALL BE 10 GAUGE MINIMUM THICKNESS, SUITABLY REINFORCED FOR RIGIDITY, AND PROVIDED WITH STAINLESS STEEL HARDWARE. HPU SKID FRAMING SHALL BE STRUCTURAL STEEL.
5. SUGGESTED ARRANGEMENT IS SHOWN FOR RESERVOIR AND MOUNTED COMPONENTS ON HPU SKID. LOCATE MOTORS, PUMPS, MANIFOLD AND ALL SERVICEABLE COMPONENTS IN ACCESSIBLE LOCATIONS ON SKID WITH RESPECT TO INSTALLED POSITION WITHIN UTILITY ROOM.



NOTE:

CONTRACTOR SHALL VERIFY CLEARANCES IN UTILITY ROOM INCLUDING ACCESS THROUGH PIER STRUCTURE AND DOORWAYS.

ELEVATION



RIGHT VIEW

NOTES:

1. TEMPERATURE SWITCH, ETC., MUST BE REMOVED FOR PASSAGE THROUGH DOOR OF UTILITY ROOM, AND MUST CLEAR BACK OF ROOM FOR NECESSARY CLEARANCES AND ACCESS FOR HPU MAINTENANCE.
2. CONTRACTOR SHALL RELOCATE WALL MOUNTED EQUIPMENT AS REQUIRED FOR INSTALLATION OF HPU UNDER ELECTRICAL PAY ITEM "NEW GENERATOR".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY GPD | PLANS CK'D. WEN

NEW HYDRAULIC POWER UNIT (HPU)

SHEET H4 OF H6

8

8

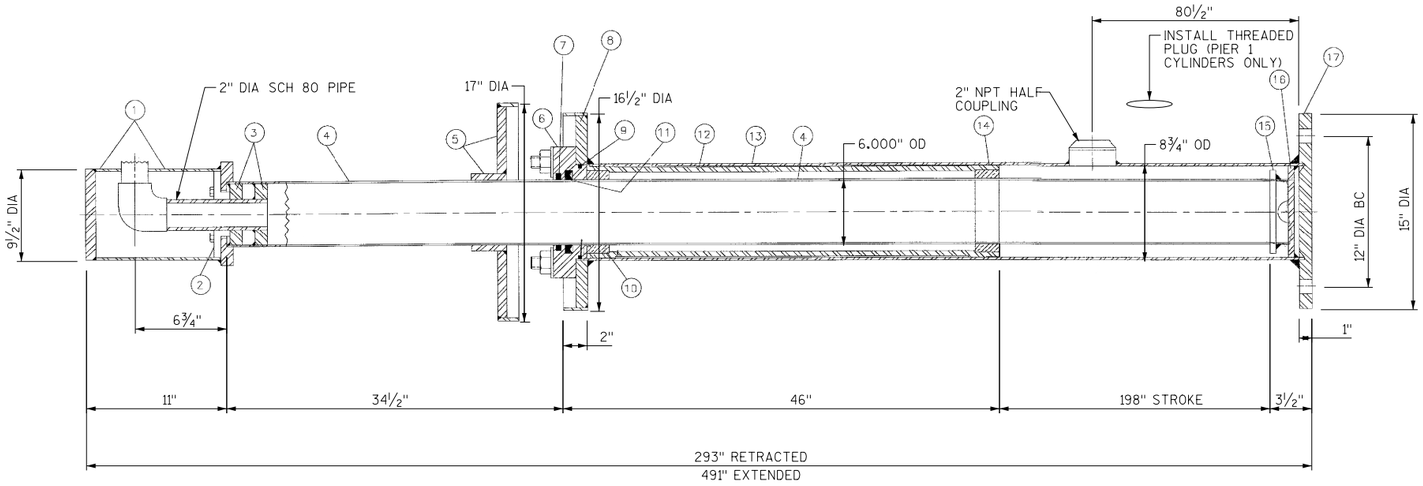
STATE PROJECT NUMBER
2195-03-00

JACKING CYLINDER BILL OF MATERIAL

KEY	QTY.	DESCRIPTION	MATERIAL	KEY	QTY.	DESCRIPTION	MATERIAL
1	1	REMOVABLE JACK HEAD	STEEL	10	1	BEARING	BRONZE
2	3	RETAINER	STEEL	(11)	1	PACKING	URETHANE
3	2	SUPPORT PLATE	STEEL	12	1	GUIDE	STEEL
4	1	PLUNGER	STEEL	13	1	TUBE	STEEL
5	1	SUPPORT PLATE	STEEL	14	1	BEARING	BRONZE
6	1	PACKING GLAND	DUCTILE IRON	15	1	PISTON STOP	STEEL
(7)	1	ROD WIPER	URETHANE	16	1	BEARING PLATE	STEEL
8	1	FLANGE PLATE	STEEL	17	1	BEARING PLATE	STEEL
(9)	1	O-RING	BUNA-N	18	1	THREADED PLUG	STEEL

← NEW (PIER 1 JACKING CYLINDERS ONLY)

(○) = REPLACE IN-KIND ALL COMPONENTS WITH CIRCLED ITEM NUMBERS. (REMAINDER OF NUMBERED ITEMS FOR REFERENCE ONLY)



REHABILITATE 4 EXISTING JACKING CYLINDERS

(MATCH MARK ALL ITEMS DISASSEMBLED)

NOTES:

1. DISASSEMBLE PLUNGERS FROM EXISTING JACKING CYLINDER ASSEMBLIES (PROTECT ALL ITEMS AGAINST CORROSION AND DAMAGE).
2. REHABILITATE CYLINDERS IN ACCORDANCE WITH SPECIAL PROVISIONS.
3. REPLACE ROD WIPERS (7), O-RING (9), AND PACKING (11).
4. REASSEMBLE AND REINSTALL JACKING CYLINDER ASSEMBLIES IN ORIGINAL LOCATIONS.
5. ONE OR MORE JACKING CYLINDERS MAY BE SLIGHTLY DIFFERENT THAN THE OTHERS, REQUIRING SLIGHTLY DIFFERENT REPLACEMENT COMPONENTS. VERIFY AND NOTE ANY REQUIREMENT THAT MAY BE DIFFERENT PRIOR TO REPLACEMENT.

INSTALLATION NOTES:

1. MATCH MARK EXISTING JACKING CYLINDER ASSEMBLIES AND THE PEDESTALS WHICH SUPPORT THEM. VERIFY THAT ½" TO 1" GAP EXISTS BETWEEN TOP OF CYLINDER (WITH DEDUCTION FOR APPARENT RUST PACKING). A GAP OF ½" TO 1" IS REQUIRED AT THIS LOCATION AT COMPLETION OF CONSTRUCTION, REQUIRING POSSIBLE ADJUSTMENT FROM EXISTING CONDITIONS AT NO COST TO THE OWNER. REMOVE JACKING CYLINDER ASSEMBLIES TO SHOP FOR REHABILITATION.
2. DISASSEMBLE AND REMOVE FROM THE BRIDGE STRUCTURE EXISTING STEEL JACKING CYLINDER SUPPORT FRAMING LOCATED ABOVE THE LIFT SPAN COUNTERWEIGHTS.
3. DISASSEMBLE AND REMOVE FROM SITE EXISTING FILL PLATES AND LUBRICATED BRONZE PLATES CURRENTLY ATTACHED TO THE LIFTING GIRDERS LOCATED ABOVE THE JACKING CYLINDERS, UPON WHICH THE CYLINDER HEADS OF THE JACKING CYLINDERS BEAR DURING LIFT SPAN OPERATION AND WHEN THE LIFT SPAN IS HELD OPEN.
4. THOROUGHLY EXAMINE FOR DAMAGE THE MOUNTING SURFACES ON JACKING CYLINDER PEDESTALS IN THE PIT, ON THE SURFACES AT THE INSIDE OF THE PIER WHERE THE FRAMING MEMBERS ARE MOUNTED, AND ON THE JACKING GIRDER WHERE THE FILL PLATES AND LUBRICATED BRONZE PLATES ARE MOUNTED. ALL EXISTING ANCHOR BOLTS TO BE REUSED SHALL BE CHECKED FOR DAMAGE AND INTEGRITY WITH THE HOST CONCRETE OR MASONRY. STEEL AND CONCRETE DAMAGE FOUND ON THE MOUNTING SURFACES OR AT ANCHOR BOLTS SHALL BE RESTORED TO LIKE-NEW CONDITION. REMOVE OLD GROUT AT JACKING CYLINDER PEDESTALS (LOCATED IN THE COUNTERWEIGHT PIT BENEATH THE JACKING CYLINDERS) IF GROUT IS CRACKED OR OTHERWISE DAMAGED.
5. AFTER RESTORATION OF STEEL CONTACT SURFACES, USE PAINT PRIMER TO COAT STEEL MOUNTING SURFACES AT THE TOP OF THE PEDESTALS AND AT THE LOWER FLANGES OF THE LIFTING GIRDERS. EXISTING BOLT PATTERNS SHALL BE NOTED FOR DUPLICATION WHEN PROVIDING NEW COMPONENTS. ALL EXISTING ANCHOR BOLTS TO BE REUSED SHALL BE CLEANED OF ALL CORROSION EXISTING ANCHOR BOLTS TO BE REUSED SHALL BE COATED WITH ZINC. ALL CLEANED AND REHABILITATED SURFACES OF COMPONENTS AT THE STRUCTURE SHALL BE FULLY PROTECTED AGAINST THE ELEMENTS UNTIL REINSTALLATION OF ASSOCIATED COMPONENTS IS PERFORMED.
6. JACKING CYLINDER REHABILITATION CONSISTS OF
   - COMPLETE DISASSEMBLY AND INSPECTION OF THE ASSEMBLIES.
   - REPAIR AND POLISHING OF THE CYLINDER RAMS AND BORES AS REQUIRED FOR COMPATIBILITY WITH NEW RETAINERS, SEALS O-RINGS, AND ROD WIPERS.
   - VISUAL EXAMINATION OF ALL ASSEMBLY COMPONENTS AND REPAIR OF ANY DAMAGE.
   - REMOVAL OF CORROSION FROM ALL EXTERIOR SURFACES AND RESTORATION OF THESE SURFACES SO THAT THEY ARE COMPATIBLE FOR RE-PAINTING.
   - REPLACEMENT OF WEARING COMPONENTS AS NOTED IN THE TABLE AT LEFT. IN ADDITION, ALL EXISTING ACCORDION-TYPE PROTECTIVE BOOTS PROTECTING THE JACKING CYLINDER RAMS SHALL BE REPLACED IN KIND.
   - COMPLETE REASSEMBLY AND TESTING OF THE JACKING CYLINDER ASSEMBLIES. JACKING CYLINDER ASSEMBLIES SHALL BE TESTED TO RATED WORKING PRESSURE USING THE TYPE OF HYDRAULIC FLUID USED FOR OPERATION AT THE STRUCTURE. THEY SHALL ALSO BE TESTED FOR SMOOTHNESS OF OPERATION AND FOR FULL EXTENSION AND RETRACTION DURING OPERATION WHILE IN THE SHOP.
   - CLEANING AND REPAINTING OF ALL PAINTED SURFACES. PRIMING OF ALL SURFACES THAT WILL JOIN WITH MOUNTING SURFACES AT THE STRUCTURE. LUBRICATION OF ALL LUBRICATED SURFACES. PROTECTION OF ALL SURFACES DURING STORAGE AND TRANSPORT TO THE STRUCTURE.
7. EXISTING STEEL SUPPORT FRAMING LOCATED ABOVE THE COUNTERWEIGHTS SHALL BE REPLACED IN KIND WITH NEW SUPPORT FRAMING, EXCEPT AS NOTED. EXISTING MEMBER SIZES SHALL BE DUPLICATED FOR THESE ASSEMBLIES. MATERIALS FOR THE NEW FRAMING MEMBERS SHALL BE STRUCTURAL STEEL THAT IS BOTH GALVANIZED AND PAINTED. NEW GALVANIZED HIGH STRENGTH BOLTS SHALL BE USED FOR CONNECTIONS INTEGRAL TO THE NEW FRAMING. NEW GALVANIZED HIGH STRENGTH NUTS AND GALVANIZED HARD WASHERS SHALL BE PROVIDED FOR USE AT EXISTING ANCHOR BOLTS.
8. EXISTING FILL PLATES AND LUBRICATED BRONZE PLATES CONNECTED TO THE LIFTING GIRDERS SHALL BE REPLACED IN KIND WITH NEW FILL PLATES AND LUBRICATED BRONZE PLATES, EXCEPT AS NOTED. NEW STRUCTURAL STEEL SHALL BE GAVANIZED AND PAINTED EXCEPT FOR MOUNTING SURFACES WHICH SHALL BE COATED WITH PAINT PRIMER. ALL EXISTING MEMBER SIZES AND DIMENSIONS SHALL BE DUPLICATED FROM THE COMPONENTS EXISTING. NEW GALVANIZED HIGH STRENGTH BOLTS SHALL BE USED WITH HARD GALVANIZED WASHERS AND TWO GALVANIZED HIGH STRENGTH NUTS AT EACH OF THE CONNECTIONS.
9. INSTALL REHABILITATED JACKING CYLINDERS ATOP EXISTING CONCRETE PEDESTALS AS DESCRIBED ABOVE AND AS PREVIOUSLY MATCH-MARKED. SUPPORT WITH NEW STRUCTURAL STEEL GALVANIZED AND PAINTED FRAMING MEMBERS LOCATED ABOVE THE TOPS OF THE COUNTERWEIGHTS IN PLACE OF EXISTING. INSTALL NEW FILL PLATES AND BEARING PLATES BELOW THE LOWER FLANGE OF THE LIFTING GIRDERS IN PLACE OF EXISTING. JACKING CYLINDERS SHALL BE PLUMB, SECURED AGAINST MOVEMENT OF THEIR HOUSING UNDER LOAD, AND A ½" TO 1" GAP SHALL EXIST BETWEEN THE TOP OF THE REMOVABLE JACK HEAD AND THE BOTTOM OF THE LUBRICATED BRONZE PLATE UPON COMPLETION OF INSTALLATION.
10. INSTEAD OF THE EXISTING ARRANGEMENT IN WHICH THE PIER 1 JACKING CYLINDERS ARE CONNECTED TO THE HYDRAULIC SYSTEM THROUGH A PORT IN THE LOWER PORTION OF THE HOUSING, ALL 4 JACKING CYLINDERS SHALL NOW BE CONNECTED TO THE HYDRAULIC SYSTEM BY MEANS OF PIPING THROUGH THE JACK HEADS AND TOPS OF THE JACKING CYLINDERS ONLY. TEE CONNECTIONS BETWEEN THE TWO PIERS AND BETWEEN THE JACKING CYLINDERS ON EACH PIER SHALL DISTRIBUTE HYDRAULIC PRESSURE AND FLOW TO ALL CYLINDERS IN THE SAME MANNER.
11. AS IS NOW THE CASE WITH THE EXISTING HYDRAULIC POWER UNIT (HPU), HYDRAULIC PRESSURE AND FLOW WILL BE PROVIDED BY THE NEW HPU TO RAISE THE LIFT SPAN, AND THE LIFT SPAN SHALL BE LOWERED BY GRAVITY WHILE METERING OUT THE HYDRAULIC FLUID FROM THE CYLINDERS BACK TO THE RESERVOIR OF THE HPU.

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STRUCTURE B-40-544

DRAWN BY GPD | PLANS CK'D. WEN

HYDRAULIC JACKING CYLINDER REHAB

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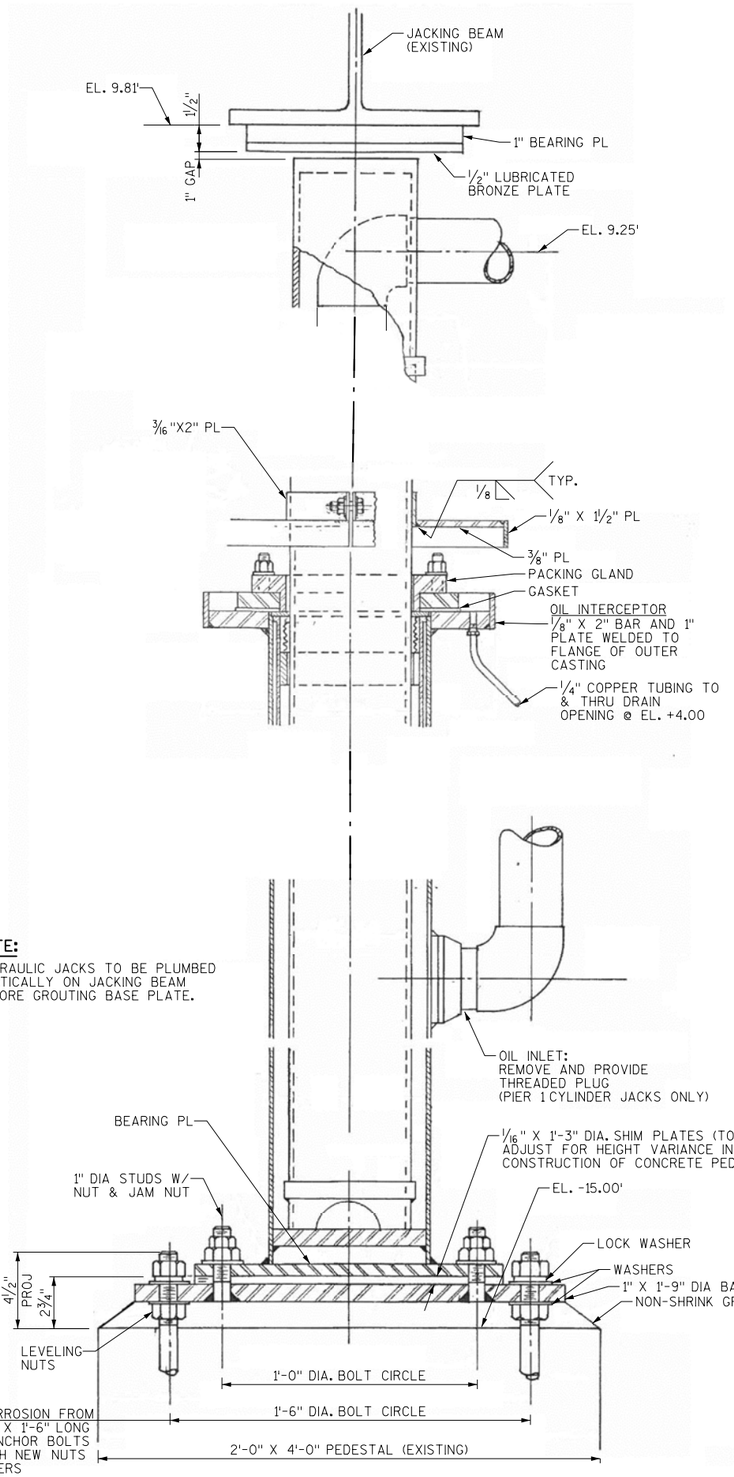
STATE PROJECT NUMBER

2195-03-00



HOISTING MECHANISM ASSEMBLY DETAILS

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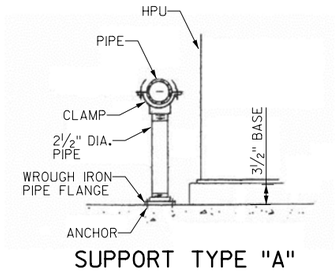

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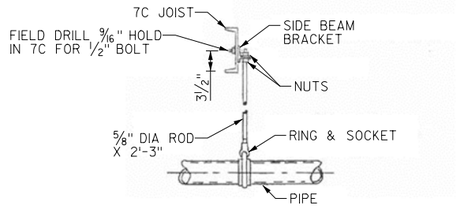

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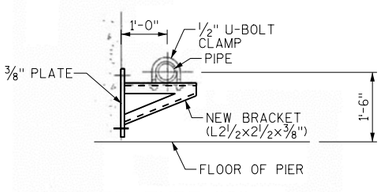

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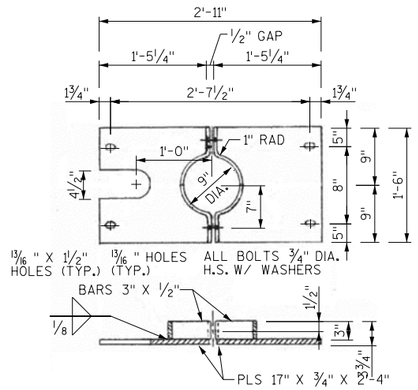
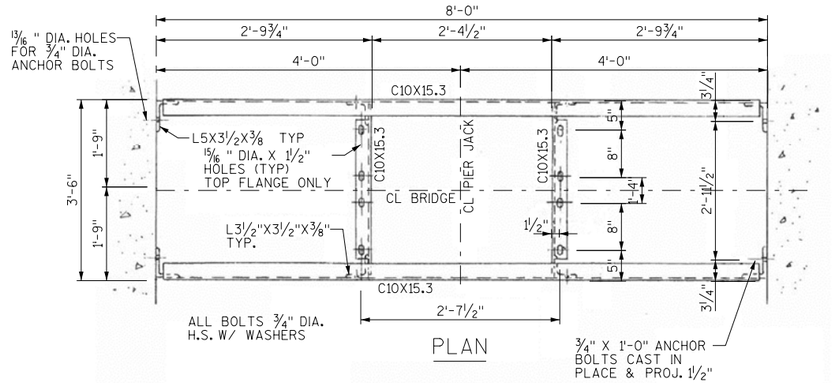
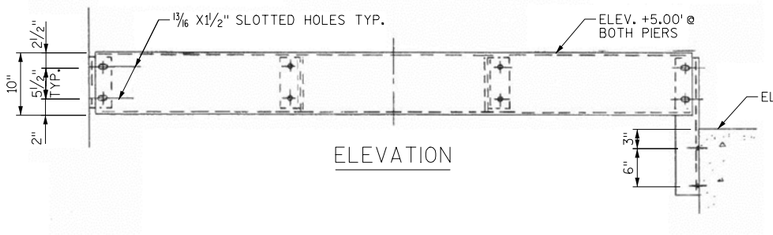


JACK SUPPORT PLATE (4 REQUIRED)

(NO SCALE)



PLAN



ELEVATION

JACK SUPPORT FRAME (2 REQUIRED)

(NO SCALE)

GENERAL NOTES:

1. ALL PIPING CONNECTIONS OVER WATER SHALL BE WELDED.
2. ALL NEW ITEMS MADE OF STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED AND PAINTED.
3. SEE SPECIFICATIONS FOR PIPE SUPPORTS AND HANGERS.
4. FOR PIPE AND PIPE SUPPORT LOCATIONS ON PIER 1 SEE SHEET H2.
5. MATERIAL FOR SUPPORT TYPES "A," "B," AND "C" SHALL BE STAINLESS STEEL. MATERIAL FOR JACK SUPPORT PLATES AND JACK SUPPORT FRAMES SHALL BE STRUCTURAL STEEL.
6. PIPE/TUBE SUPPORT SPACING SHALL CONFORM TO REQUIREMENTS OF ISO 4413.

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STRUCTURE B-40-544

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HYDRAULIC DETAILS

SHEET H6 OF H6

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GENERAL MACHINERY NOTES

GENERAL:

A. ALL NEW MACHINERY SHALL CONFORM TO THE AASHTO LRFD MOVABLE HIGHWAY BRIDGE DESIGN SPECIFICATIONS 2ND EDITION, 2007 WITH INTERIM REVISIONS THROUGH 2017. HEREIN REFERRED TO AS AASHTO SPECIFICATIONS.
B. ALL WORK SHOWN ON SHEETS M1-M11 ARE PAID FOR UNDER THE LUMP SUM BID ITEMS BUMPER BEAMS (SPV.0105.501), COUNTERWEIGHT MACHINERY (SPV.0105.502), EQUALIZER MACHINERY (SPV.0105.503), AND SPAN GUIDES (SPV.0105.504).
C. SEE MACHINERY SPECIAL PROVISIONS FOR ADDITIONAL MACHINERY REQUIREMENTS.

ALTERNATE EQUIPMENT:

A. WHERE A PARTICULAR MANUFACTURER'S PRODUCT HAS BEEN SPECIFIED AS SUITABLE EQUIPMENT, ANOTHER MANUFACTURER'S EQUIVALENT PRODUCT MAY BE SUBSTITUTED SUBJECT TO THE APPROVAL OF THE ENGINEER.
B. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH MODIFICATIONS OR ADJUSTMENT TO ALTERNATE EQUIPMENT REQUIRED TO MEET THE REQUIREMENTS OF THE CONTRACT.

MACHINERY ATTACHMENT:

A. ALL MACHINERY CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS, NUTS, AND WASHERS CONFORMING TO THE REQUIREMENTS OF ASTM A449, ASTM A563, AND ASTM F436 RESPECTIVELY, GALVANIZED PER ASTM B695.
B. FULL SIZE SHIMS SHALL BE PROVIDED AS REQUIRED AT THE MACHINERY SUPPORTS. THE SHIMS SHALL BE THE THICKNESS NECESSARY FOR ALIGNMENT OF MACHINERY UNDER FULL SPAN DEAD LOAD CONDITIONS.

FITS AND FINISHES:

FIT AND FINISHES OF ALL MACHINERY ITEMS AND MACHINERY SUPPORTS SHALL BE AS SPECIFIED IN THE AASHTO SPECIFICATIONS AND CONFORM TO ANSI B4.1 AND ANSI B46.1, RESPECTIVELY.

MISCELLANEOUS:

A. WHERE WELDS ARE NOT SHOWN USE 5/16" FILLET WELDS FOR SHOP FABRICATION.
B. SHIM PACKS SHALL BE CAPABLE OF ADJUSTMENT FROM 0 INCHES TO TWICE THE NOMINAL SHIM PACK DIMENSION IN 1/64" INCREMENTS. FOR EXAMPLE: EACH 1/2" NOMINAL SHIM PACK SHALL CONSIST OF FULL LENGTH AND WIDTH PLATES WITH HOLES DRILLED IN ALL PLATES. FURNISH ONE 1/2", ONE 1/4", ONE 1/8", ONE 1/16", ONE 1/32", AND TWO 1/64" PLATES. THE CONTRACTOR SHALL AUGMENT SHIM PACKS WITH PRECISION THICKNESS AND/OR TAPERED SHIMS IF REQUIRED FOR ALIGNMENT.
C. SHIM PLATES AND FILL PLATES LESS THAN 1/4" THICK SHALL BE STAINLESS STEEL MEETING THE REQUIREMENTS OF ASTM A240.
D. MISCELLANEOUS SHIMS AND BOLTS IN ADDITION TO THOSE DETAILED ON THE PLANS WILL BE REQUIRED AND SHALL BE PROVIDED BY THE CONTRACTOR.
E. KEYS SHALL BE PROVIDED WHEREVER KEYWAYS ARE SHOWN. MISCELLANEOUS KEYS MAY BE REQUIRED AND SHALL BE PROVIDED BY THE CONTRACTOR PER THE MANUFACTURER'S RECOMMENDATIONS.
F. ALL MISCELLANEOUS HARDWARE WHICH IS SPECIFIED TO BE GALVANIZED SHALL BE COATED IN CONFORMANCE WITH ASTM A153 AFTER FABRICATION. DAMAGED GALVANIZED COATS THAT ARE NOT TO BE EMBEDDED IN MORE THEN 3" OF CONCRETE SHALL BE REPAIRED WITH COLD APPLIED ZINC RICH, ORGANIC PAINT, USING AN APPROVED METHOD OF REPAIR.

TO BE FABRICATED OR PURCHASED NEW

MK	ITEM	QTY.	MATERIAL/MANUFACTURER
	COUNTERWEIGHT MACHINERY		
C-1	COUNTERWEIGHT CABLE (LONG)	12	1 1/4" DIA. DGXIP 6X25 FW IWRC
C-2	COUNTERWEIGHT CABLE (SHORT)	8	1 1/4" DIA. DGXIP 6X25 FW IWRC
P-1	COUNTERWEIGHT CABLE PIN FOR CB-2 (LONG)	4	ASTM A668 CLASS G
P-2	COUNTERWEIGHT CABLE PIN FOR CB-2 (SHORT)	4	ASTM A668 CLASS G
TB-1	COUNTERWEIGHT SHAFT THRUST BEARING	8	ASTM B438
---	ALL REQUIRED BOLTS, NUTS, WASHERS	AS REQ'D	ASTM A449, A563, F436 GALVANIZED
---	ALL REQUIRED SHIMS	AS REQ'D	ASTM A240
---	GREASE FITTINGS AND TUBING	AS REQ'D	
	EQUALIZER MACHINERY		
C-3	EQUALIZER CABLE	8	3/4" DIA. DGXIP 6X25 FW IWRC
GB-1	CABLE GUIDE BUSHING	32	ASTM B438
B-1	EQUALIZER SHEAVE BUSHING	24	ASTM B22 C91300
SP-1	COMPRESSION SPRING	8	ASTM A401
SP-2	SPRING RETAINER	4	ASTM A36, GALVANIZED & PAINTED
TR-1	THREADED ROD	8	1 3/8" DIA. - 6 UNC. - 2'-0" LONG ASTM A449, GALV.
---	TURNBUCKLE	8	1 3/8" DIA. - 6 UNC w/ 12" TAKE UP, GALV.
---	ALL REQUIRED BOLTS, NUTS, WASHERS	AS REQ'D	ASTM A449, A563, F436 GALVANIZED
---	GREASE FITTINGS AND TUBING	AS REQ'D	
---	KEYS	AS REQ'D	
---	CABLE COVERS	20	ASTM F628, D2661, S.S.
	SPAN GUIDE		
RB-1	ROLLER GUIDE BRACKET	4	ASTM A36, GALVANIZED & PAINTED
R-1	SPAN GUIDE ROLLER - EXPANSION END	2	ASTM A668 CLASS G
R-2	SPAN GUIDE ROLLER - FIXED END	2	ASTM A668 CLASS G
S-5	SPAN GUIDE ROLLER SHAFT	4	ASTM A668 CLASS G
B-3	SPAN GUIDE ROLLER BEARING	8	LINK BELT 1039Z
TB-5	SPAN GUIDE THRUST BEARING	8	ASTM B438
GR-1	SPAN GUIDE RAIL	4	ASCE STD. 85
---	ALL REQUIRED SHIM PACKS	AS REQ'D	ASTM A36, A240
---	ALL REQUIRED BOLTS, NUTS, WASHERS	AS REQ'D	ASTM A449, A563, F436 GALVANIZED
---	KEYS	AS REQ'D	
---	GREASE FITTINGS AND TUBING	AS REQ'D	
---	ANCHOR BOLT ASSEMBLIES	AS REQ'D	1" DIA. HILTI HVU/HAS S.S.
	BUMPER BEAM		
C-4	BUMPER BEAM COUNTERWEIGHT CABLE	8	1/2" DGXIP 6x25 FW IWRC
S-4	BUMPER BEAM SHEAVE SHAFT	8	ASTM A668 CLASS G
TB-6	BUMPER BEAM THRUST WASHER	16	ASTM B438
B-2	BUMPER BEAM SHEAVE BUSHING	8	ASTM B22 C91300
B-4	BUMPER BEAM ROLLER BEARING	64	LINK BELT FC225K1-14S
BB-2	BUMPER BEAM BRACKET MODIFICATION	4	ASTM A36, GALV. AND PAINTED
BP-1	BRONZE PLATE - ROD GUIDE	4	ASTM A438
BP-2	BRONZE PLATE - BUMPER BRACKET PLATE	4	ASTM A438
EB-1	EYE BOLT	8	ASTM A36, GALV.
PW-1	PLATE WASHER	8	ASTM A36, GALV.
---	BUMPER BEAM COUNTERWEIGHT STEEL SLAB	4	
---	ALL REQUIRED BOLTS, NUTS, WASHERS	AS REQ'D	
---	GREASE FITTINGS AND TUBING	AS REQ'D	
---	ANCHOR BOLT ASSEMBLIES	AS REQ'D	1" DIA. HILTI HVU/HAS S.S.

TO BE REFURBISHED

MK	ITEM	QTY.
	COUNTERWEIGHT MACHINERY	
SX-1	COUNTERWEIGHT SHEAVE	4
S-1	COUNTERWEIGHT SHAFT	4
CB-1	LOWER COUNTERWEIGHT CABLE BRACKET	8
CB-2	UPPER COUNTERWEIGHT CABLE BRACKET	8
	EQUALIZER MACHINERY	
---	UPPER EQUALIZER SHEAVE ASSEMBLY	8
---	LOWER EQUALIZER SHEAVE ASSEMBLY	4
CB-3	EQUALIZER CABLE BRACKET	4
	BUMPER BEAM	
BB-1	BUMPER BEAM	2
SB-1	SHEAVE BRACKET ASSEMBLY	4
SB-2	SHEAVE BRACKET ASSEMBLY	4
SX-4	BUMPER BEAM SHEAVE	8
GA-1	ROLLER GUIDE ASSEMBLY (TRANSVERSE)	4
GA-2	ROLLER GUIDE ASSEMBLY (LONGITUDINAL)	4
---	ROLLER ASSEMBLY	32
---	ROD GUIDE BRACKET	4

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2. MACHINERY REHABILITATION GENERAL PLAN M2
3. MACHINERY REHABILITATION ELEVATIONS M3
4. COUNTERWEIGHT MACHINERY M4
5. EQUALIZER MACHINERY ASSEMBLIES M5
6. EQUALIZER MACHINERY DETAILS M6
7. EQUALIZER CABLE DETAILS M7
8. SPAN GUIDE M8
9. BUMPER BEAMS 1 ..... M9
10. BUMPER BEAMS 2 ..... M10
11. BUMPER BEAMS 3 ..... M11

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GENERAL MACHINERY NOTES AND SCHEDULE

SHEET M1 OF M11

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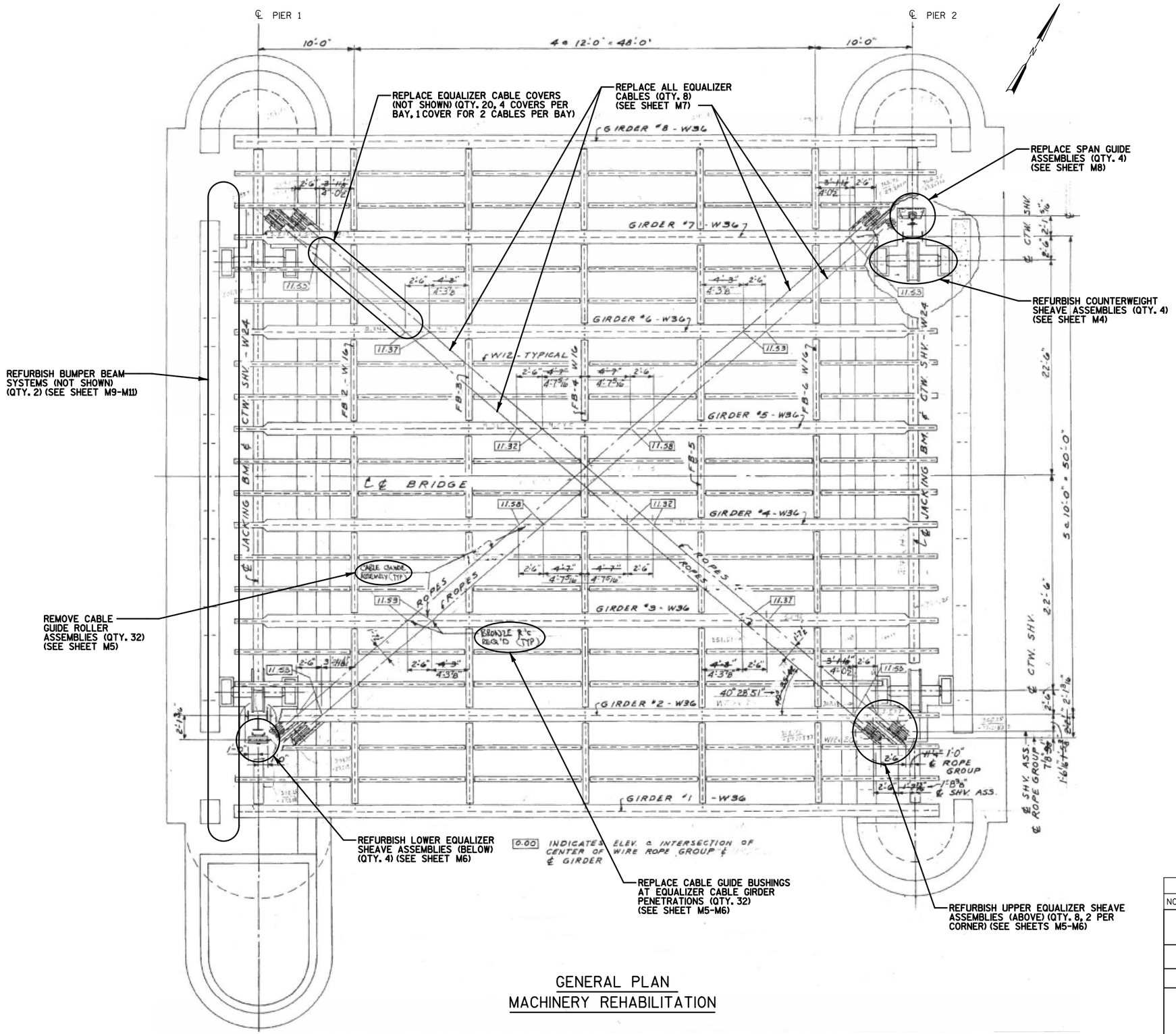
STATE PROJECT NUMBER
2195-03-00



GENERAL PLAN
MACHINERY REHABILITATION

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MACHINERY REHABILITATION GENERAL PLAN

SHEET M2 OF M11
144

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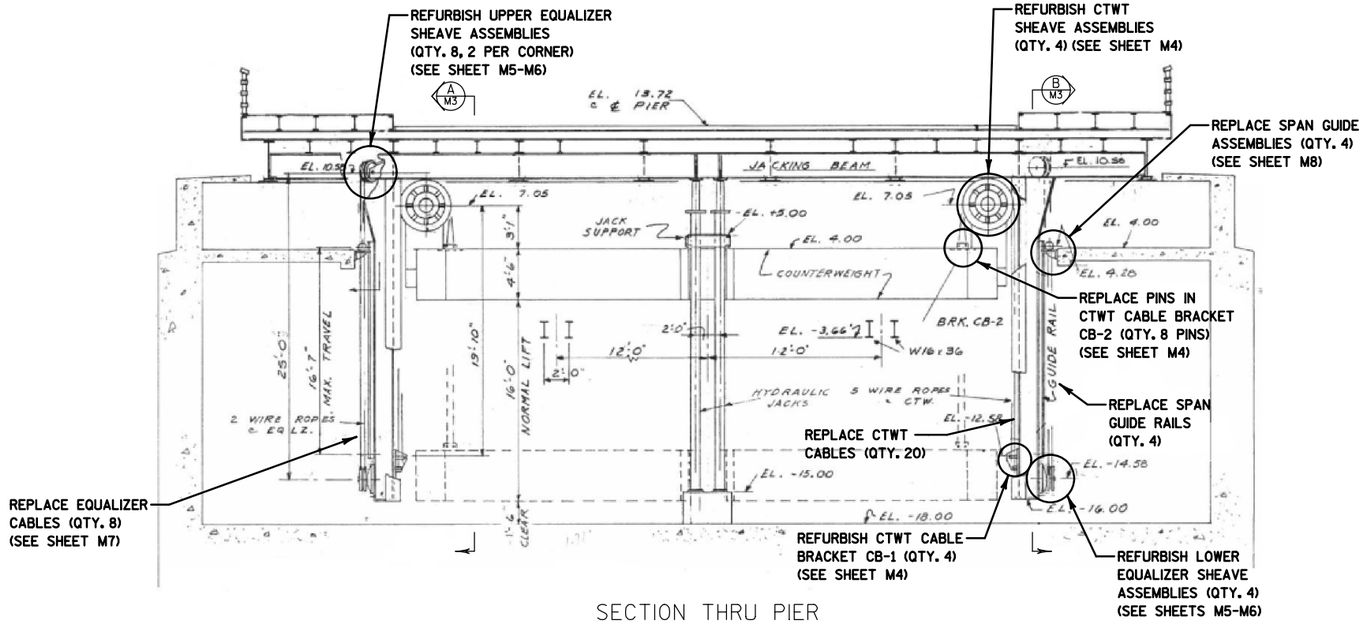
STATE PROJECT NUMBER
2195-03-00



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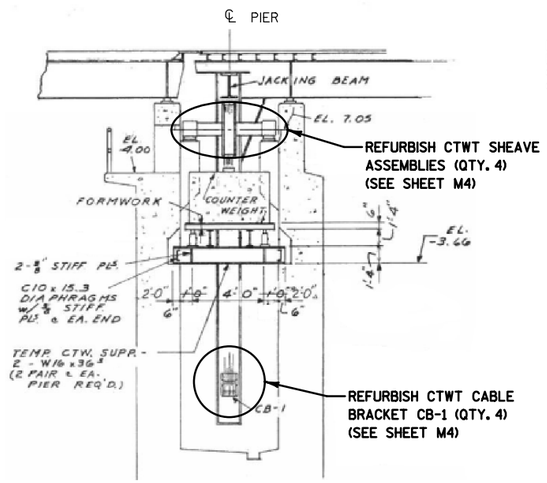
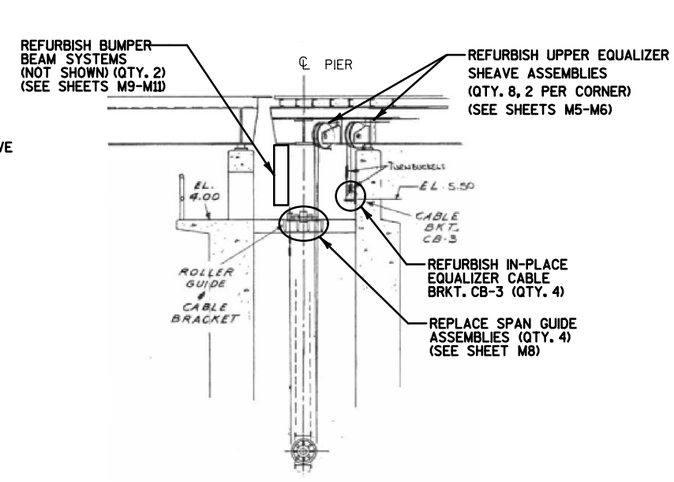


SECTION A M3



SECTION B M3

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STRUCTURE B-40-544

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MACHINERY REHABILITATION ELEVATIONS

SHEET M3 OF M11

8

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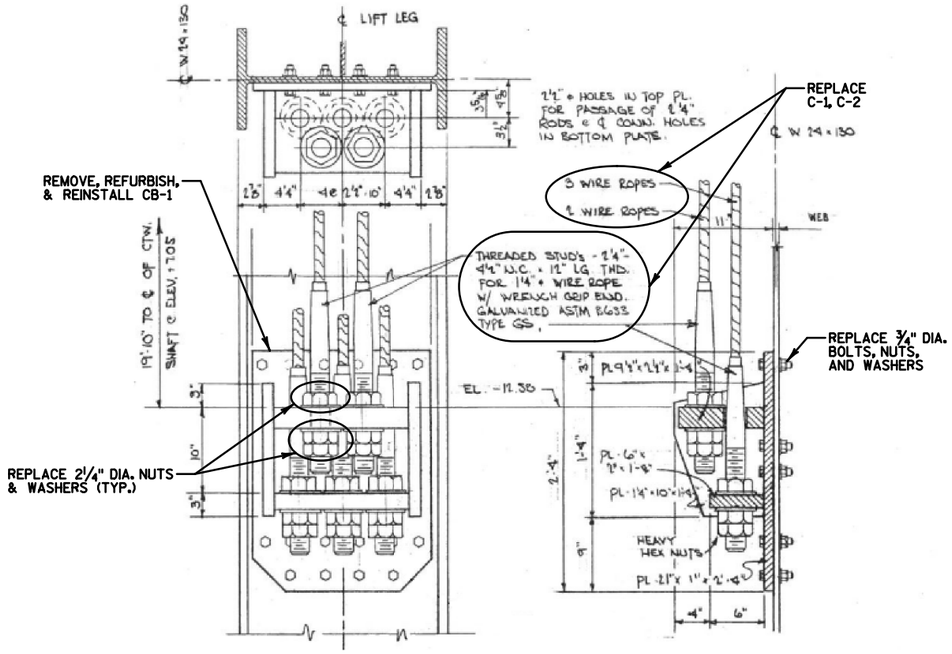
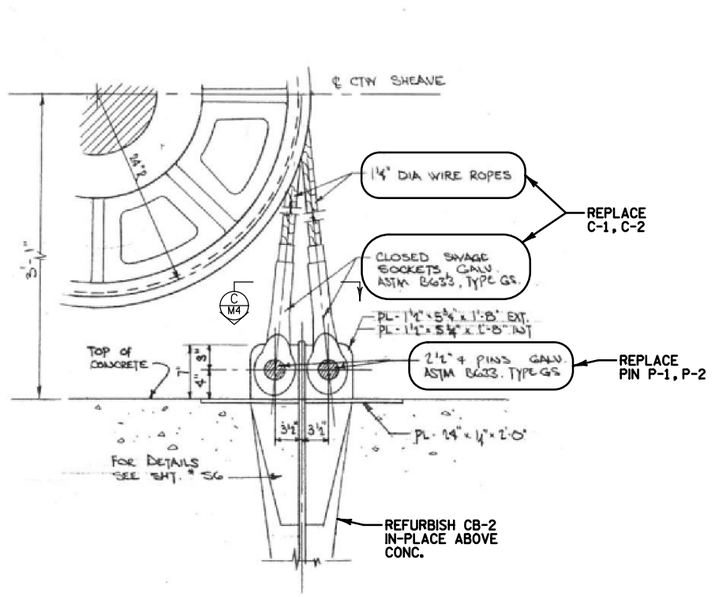
2195-03-00



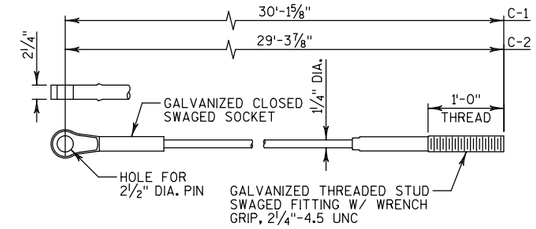
LOWER COUNTERWEIGHT CABLE BRACKET CB-1

QUANTITY: 4



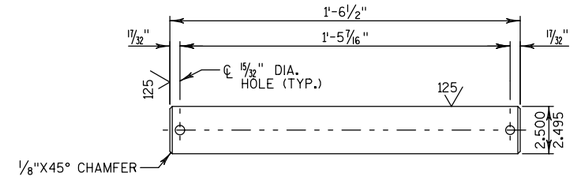
UPPER COUNTERWEIGHT CABLE BRACKET CB-2

QUANTITY: 4



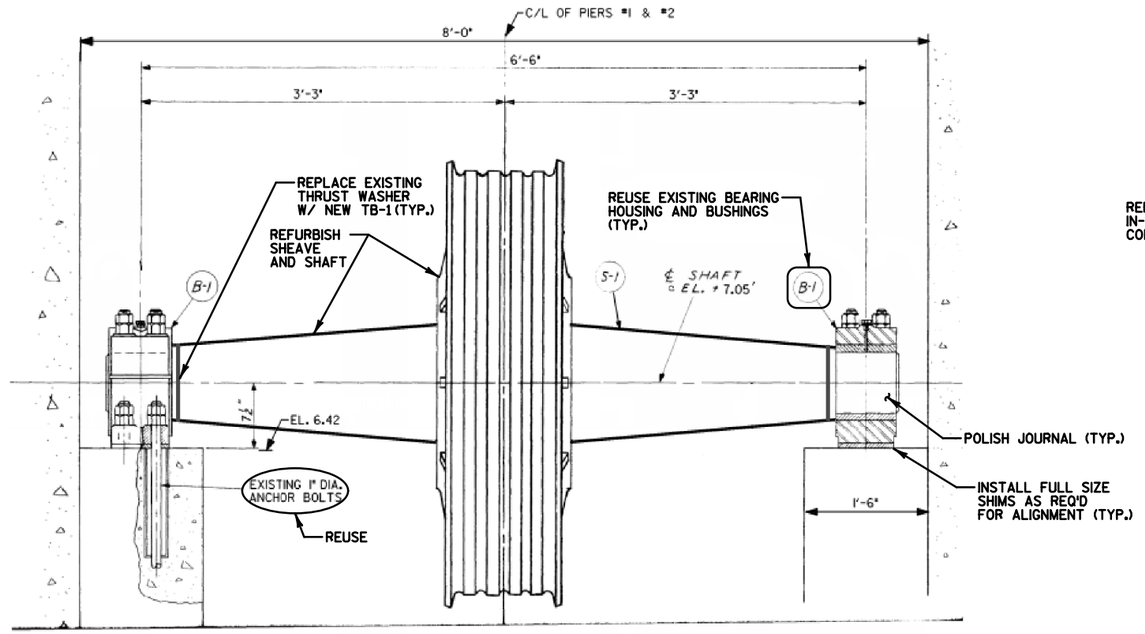
COUNTERWEIGHT CABLES - C-1 & C-2

QUANTITY: 12 (C-1) & 8 (C-2)
MATERIAL: 1¼" DIA. DGXIP 6x25 FW IWRC



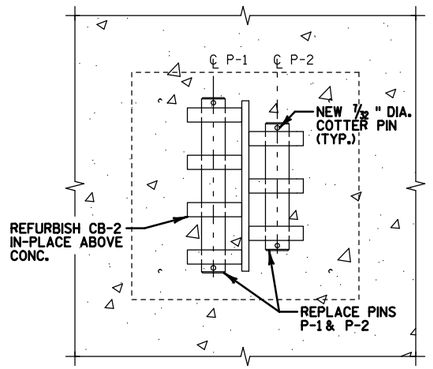
COUNTERWEIGHT CABLE PIN P-1

QUANTITY: 4
MATERIAL: ASTM A668 CLASS G



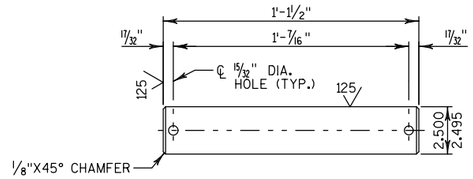
COUNTERWEIGHT SHEAVE ASSEMBLY

QUANTITY: 4



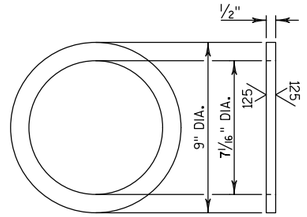
SECTION C M4

CABLE SOCKETS NOT SHOWN FOR CLARITY



COUNTERWEIGHT CABLE PIN P-2

QUANTITY: 4
MATERIAL: ASTM A668 CLASS G



THRUST BEARING TB-1

QUANTITY: 8
MATERIAL: ASTM B438

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY AMS | PLANS CK'D. DGA

COUNTERWEIGHT MACHINERY

SHEET M4 OF M11

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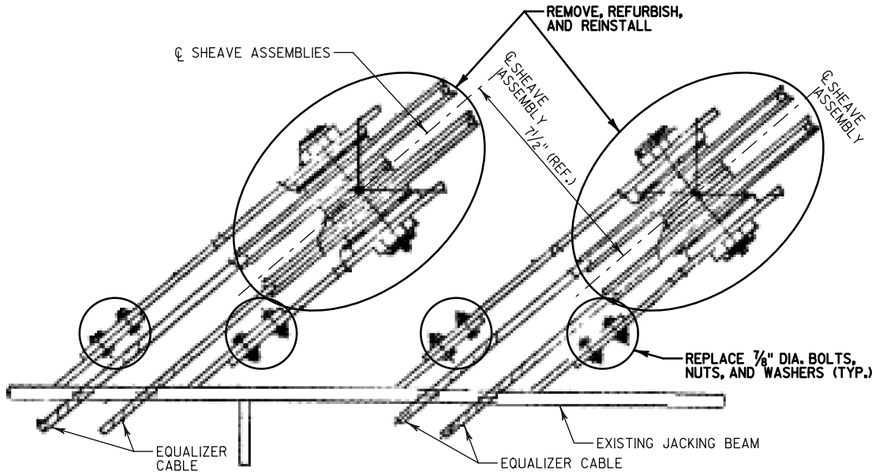
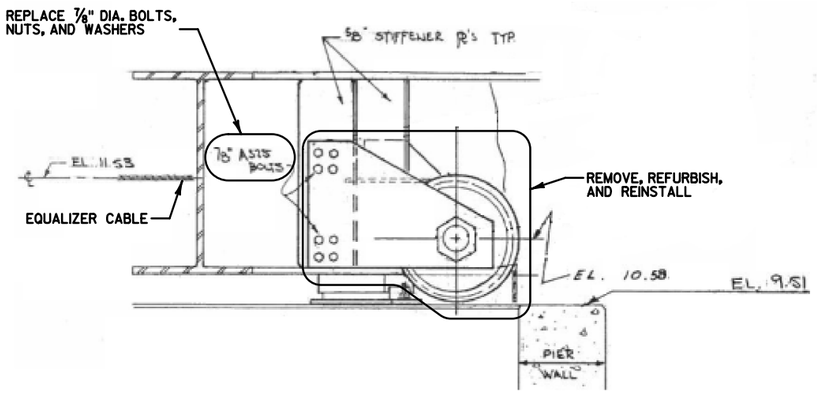
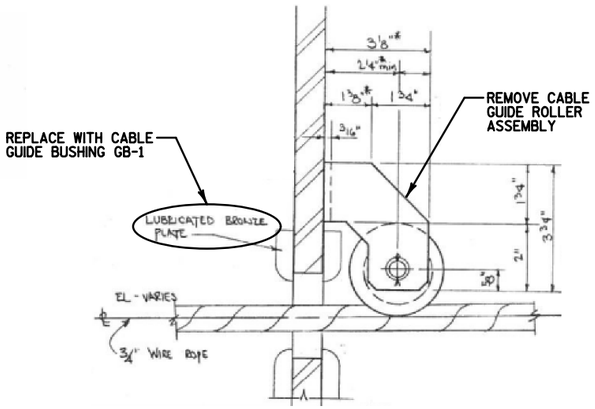


UPPER EQUALIZER SHEAVE ASSEMBLY - TYPICAL PLAN



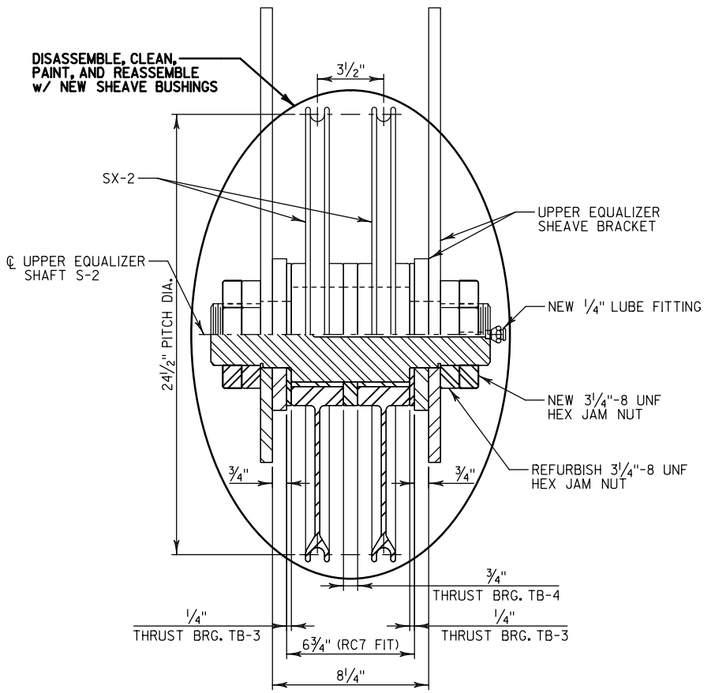
UPPER EQUALIZER SHEAVE ASSEMBLY

QUANTITY: 8 (2 PER CORNER)



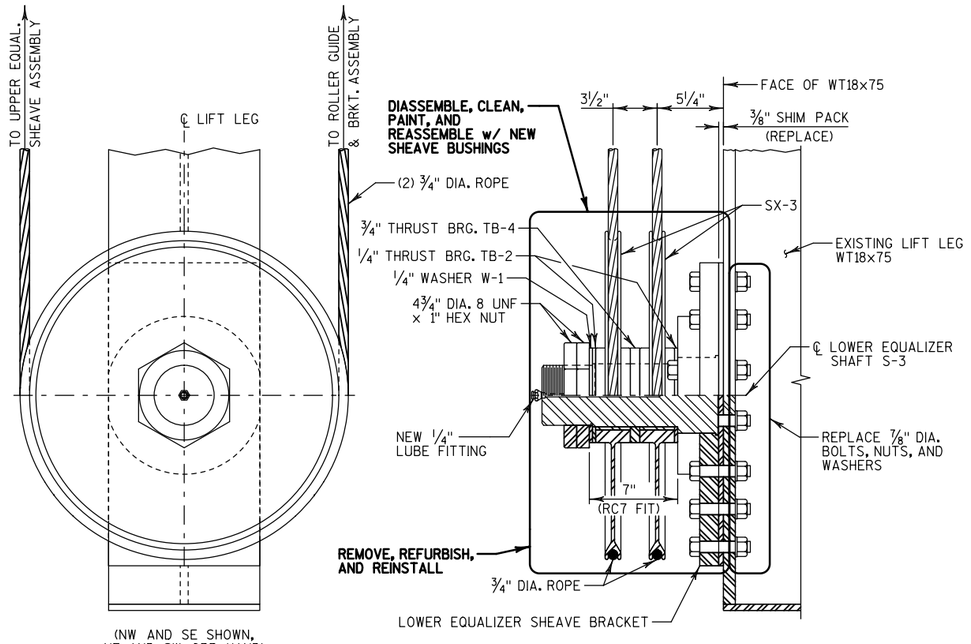
CABLE GUIDE ASSEMBLY

FOR REFERENCE



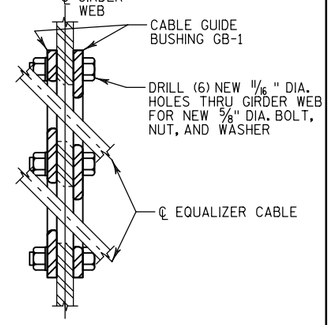
UPPER EQUALIZER SHEAVE ASSEMBLY DETAIL

QUANTITY: 8



LOWER EQUALIZER SHEAVE ASSEMBLY

QUANTITY: 4



NEW CABLE GUIDE BUSHING (GB-1) ASSEMBLY - PLAN

QUANTITY: 16

VERTICALLY POSITION ℄ OF NEW GUIDE BUSHINGS w/ ℄ OF EXISTING GIRDER HOLES

HORIZONTALLY POSITION NEW GUIDE BUSHINGS TO MAXIMIZE CLEARANCE BETWEEN CABLES AND GIRDER

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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EQUALIZER MACHINERY ASSEMBLIES

SHEET M5 OF M11

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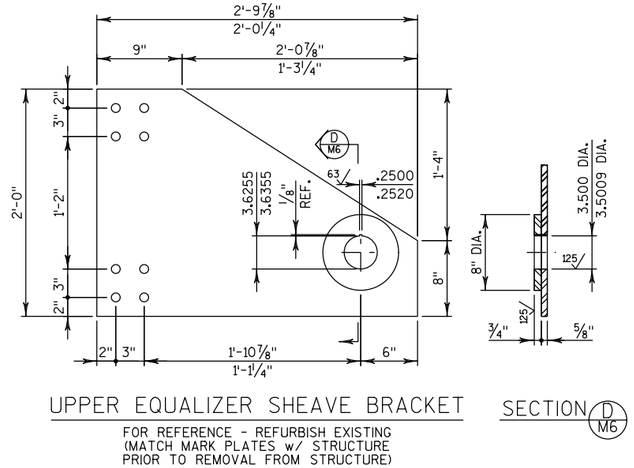
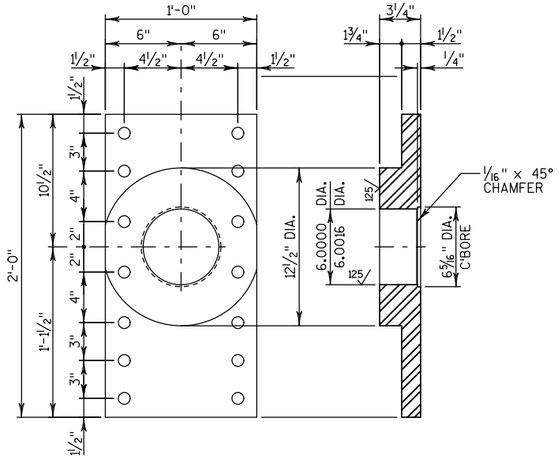


UPPER EQUALIZER SHEAVE BRACKET

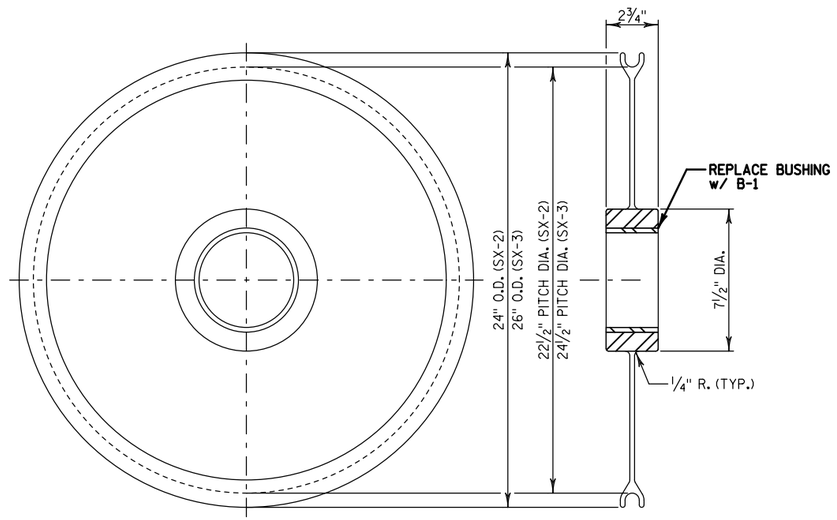
FOR REFERENCE - REFURBISH EXISTING
(MATCH MARK PLATES w/ STRUCTURE
PRIOR TO REMOVAL FROM STRUCTURE)

SECTION D M6



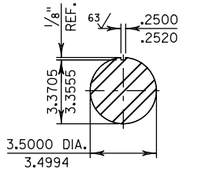
LOWER EQUALIZER BRACKET

FOR REFERENCE - REFURBISH EXISTING

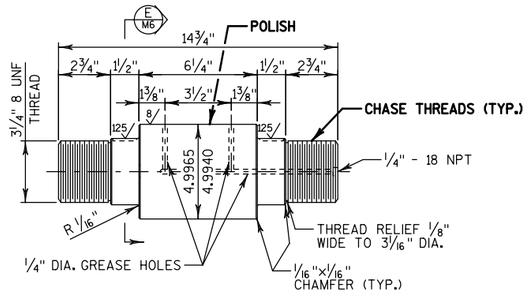


UPPER EQUALIZER SHEAVE SX-2
LOWER EQUALIZER SHEAVE SX-3

FOR REFERENCE - REFURBISH EXISTING
QUANTITY: SX-2 (16), SX-3 (8)

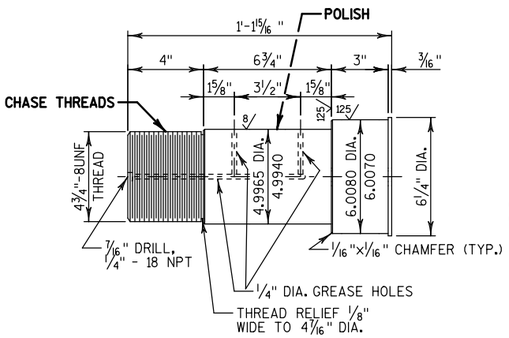


SECTION E M6



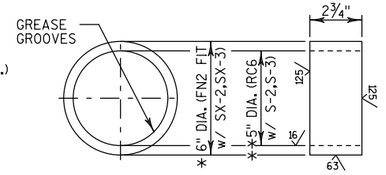
UPPER EQUALIZER SHAFT S-2

FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 8



LOWER EQUALIZER SHAFT S-3

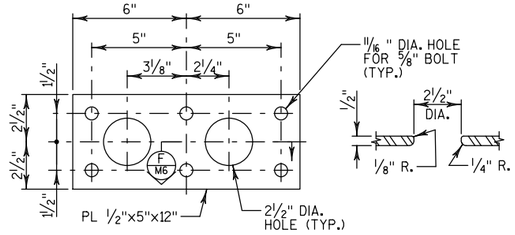
FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 4



EQUALIZER SHEAVE BUSHING B-1

QUANTITY: 24
MATERIAL: ASTM B22 C91300

* MEASURE BORE OF SHEAVE.
FABRICATE BUSHING FOR FN2 FIT
** MEASURE DIA. OF POLISHED SHAFT JOURNAL.
FABRICATE BUSHING FOR RC6 FIT.

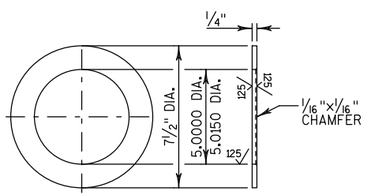


CABLE GUIDE BUSHING GB-1

QUANTITY: 32
MATERIAL: ASTM B438

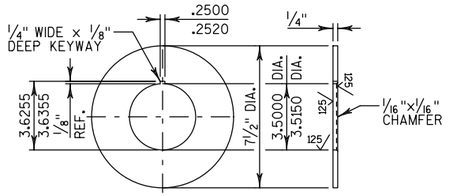
SECTION F M6

NOTE: DIMENSIONS PROVIDED ON REFURBISHED ITEMS FOR REFERENCE. NOTIFY ENGINEER OF ANY DIMENSIONS WHICH ARE OUTSIDE OF TOLERANCES.



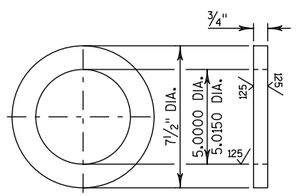
THRUST BEARING TB-2

FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 8



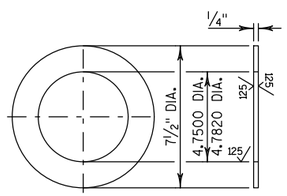
THRUST BEARING TB-3

FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 16



THRUST BEARING TB-4

FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 12



WASHER W-1

FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY AMS | PLANS CK'D. DGA

EQUALIZER MACHINERY DETAILS

SHEET M6 OF M11

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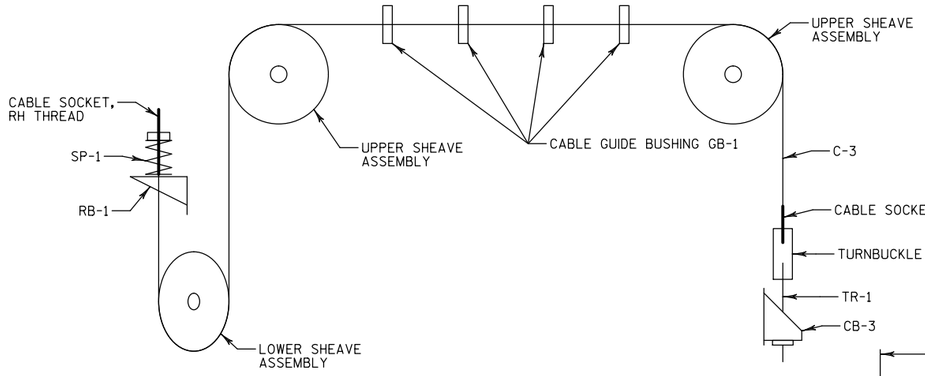
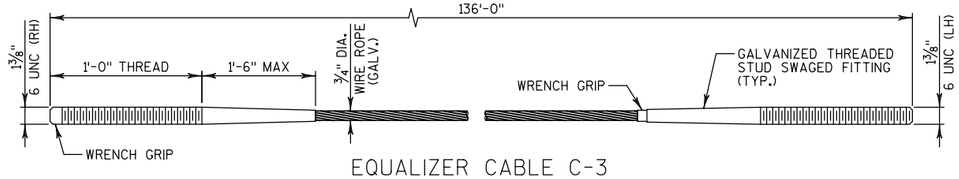
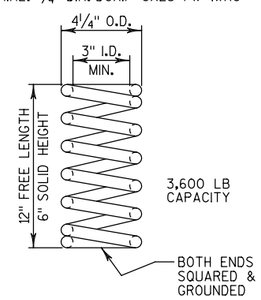


EQUALIZER CABLE SCHEMATIC



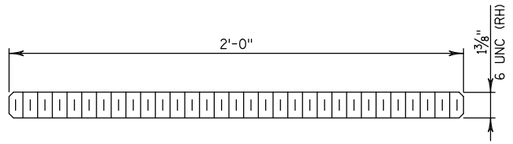
EQUALIZER CABLE C-3

QUANTITY: 8
MATERIAL: 3/4" DIA. DGXIP 6x25 FW IWRC



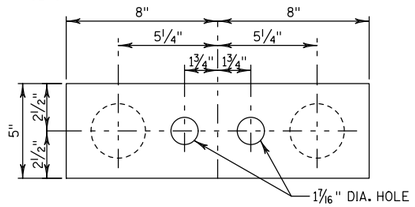
COMPRESSION SPRING SP-1

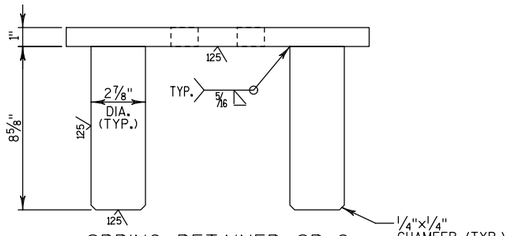
QUANTITY: 16
MATERIAL: ASTM A401



THREADED ROD TR-1

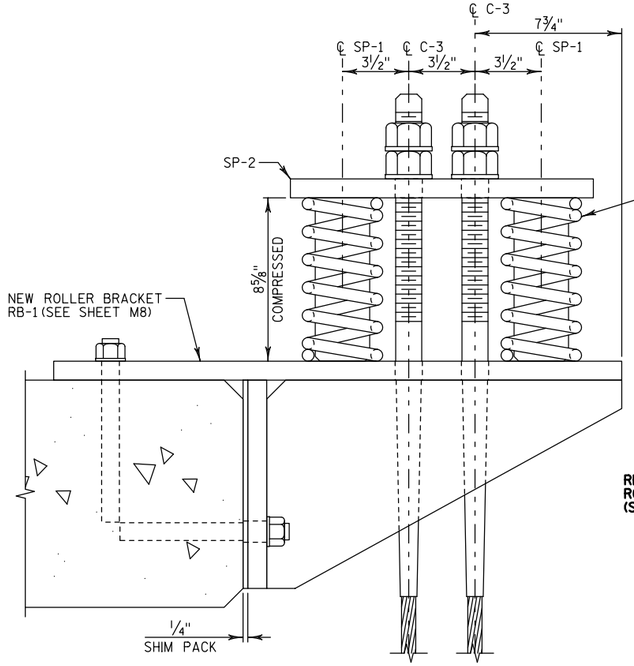
QUANTITY: 8
MATERIAL: ASTM A449, GALVANIZED
(PROVIDE WRENCH GRIP AT ONE END
BY GRINDING THREADS FLAT ON TWO SIDES)





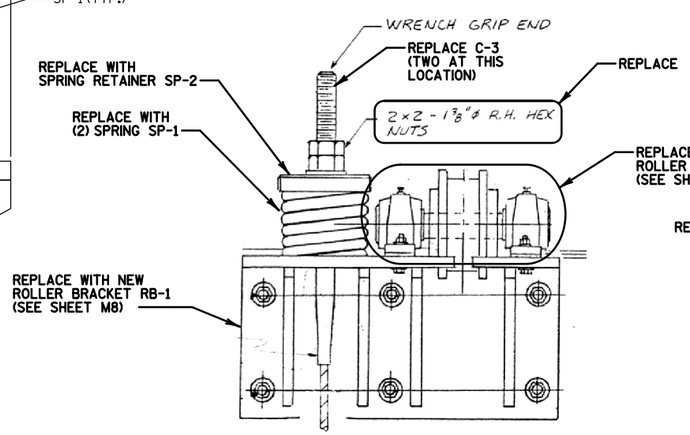
SPRING RETAINER SP-2

QUANTITY: 8
MATERIAL: ASTM A36, GALVANIZED



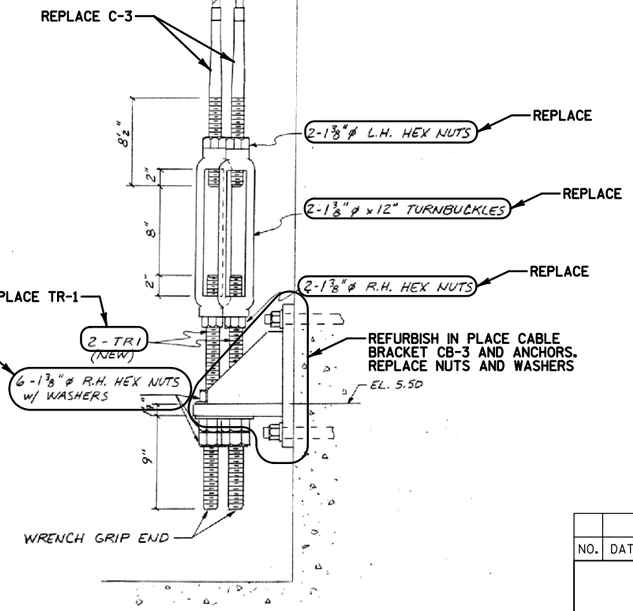
CABLE TERMINATION AT ROLLER BRACKET RB-1
SIDE ELEVATION

SPAN GUIDE ROLLER NOT SHOWN FOR CLARITY



CABLE TERMINATION AT ROLLER BRACKET RB-1

QUANTITY: 2 AS SHOWN (NW & SE)
2 OPP. HAND (NE & SW)



EQUALIZER CABLE BRACKET CB-3 ASSEMBLY

QUANTITY: 4

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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EQUALIZER MACHINERY CABLE DETAILS

SHEET M7 OF M11

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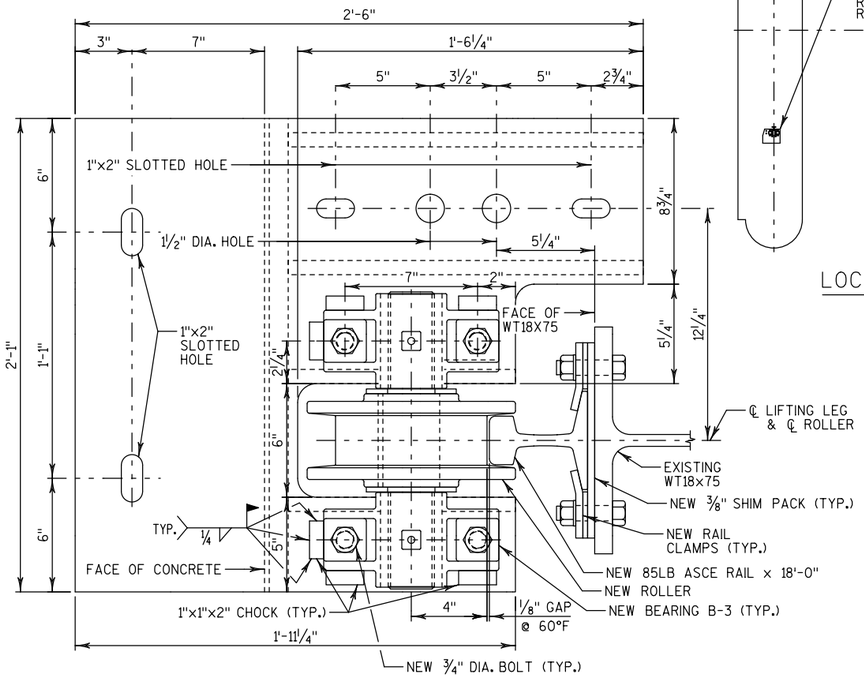
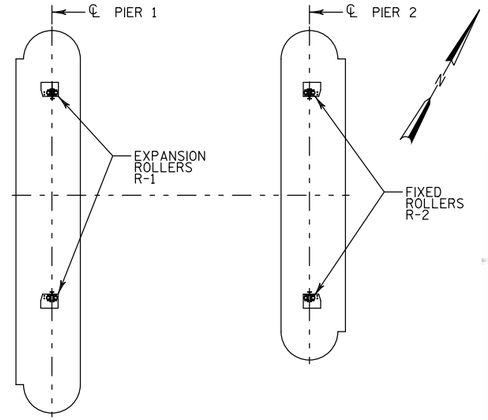
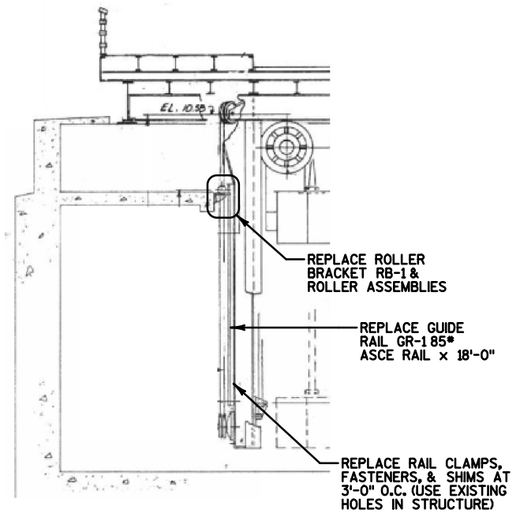


PLAN

(FIXED ROLLER SHOWN, EXPANSION ROLLER SIMILAR)

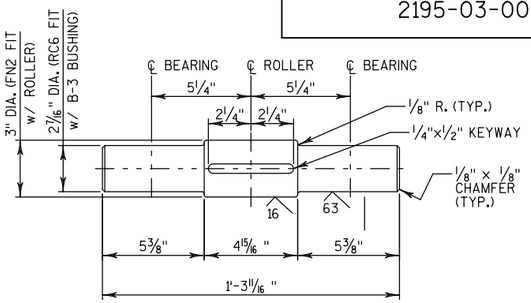


LOCATION MAP



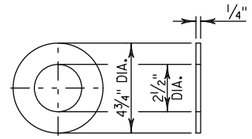
SPAN GUIDE - ELEVATION

QUANTITY: 4



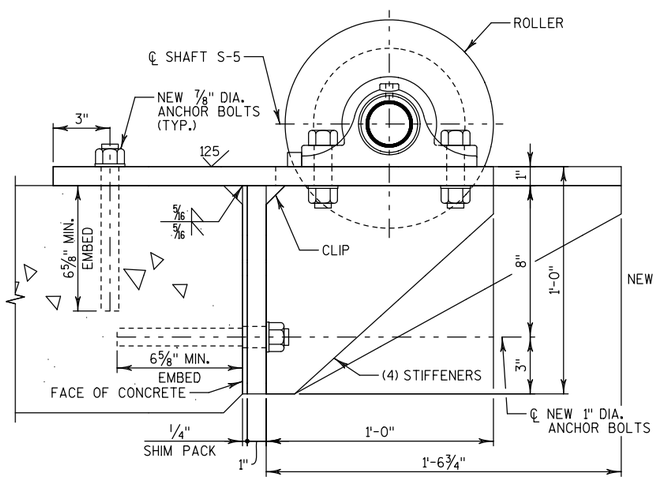
ROLLER GUIDE SHAFT S-5

QUANTITY: 4
MATERIAL: ASTM A668 CLASS G



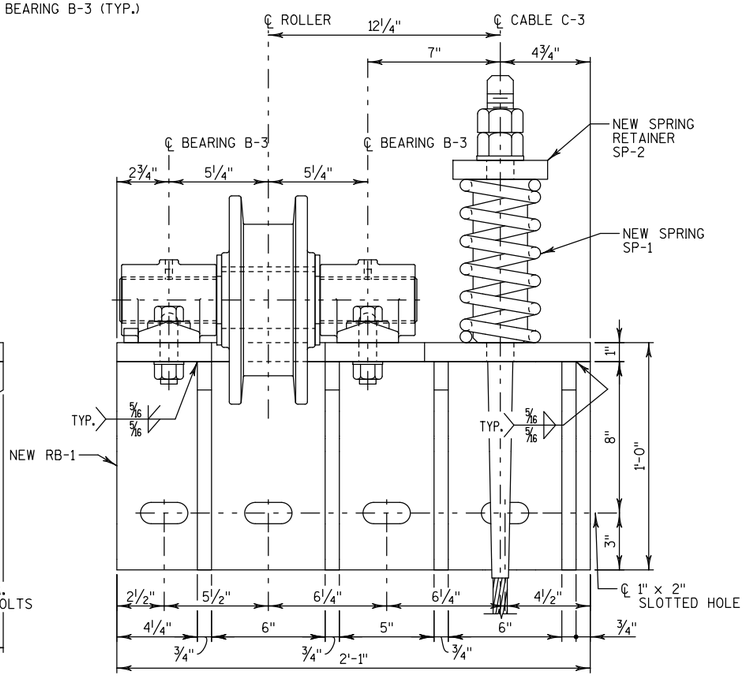
ROLLER GUIDE THRUST BEARING TB-5

QUANTITY: 8
MATERIAL: ASTM B438



SIDE ELEVATION

(FIXED ROLLER SHOWN, EXPANSION ROLLER SIMILAR)

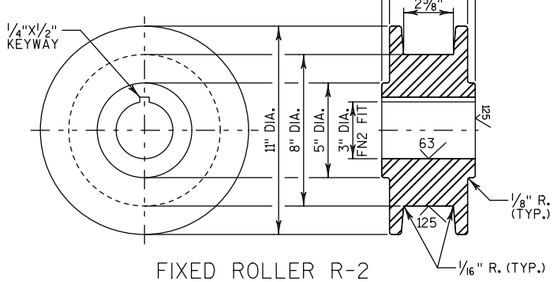


FRONT ELEVATION

(FIXED ROLLER SHOWN, EXPANSION ROLLER SIMILAR)

SPAN GUIDE ASSEMBLY

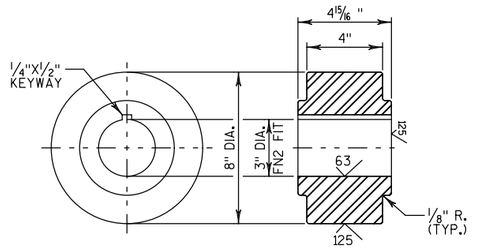
QUANTITY: 2 AS SHOWN (NE & SW)
2 OPP. HAND (NW & SE)



FIXED ROLLER R-2

QUANTITY: 2
MATERIAL: ASTM A668 CLASS G

NOTE:
DRILL HOLES FOR BEARING B-3 BOLTS IN SUPPORT AFTER FINAL ALIGNMENT



EXPANSION ROLLER R-1

QUANTITY: 2
MATERIAL: ASTM A668 CLASS G

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

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SPAN GUIDES

SHEET M8 OF M11

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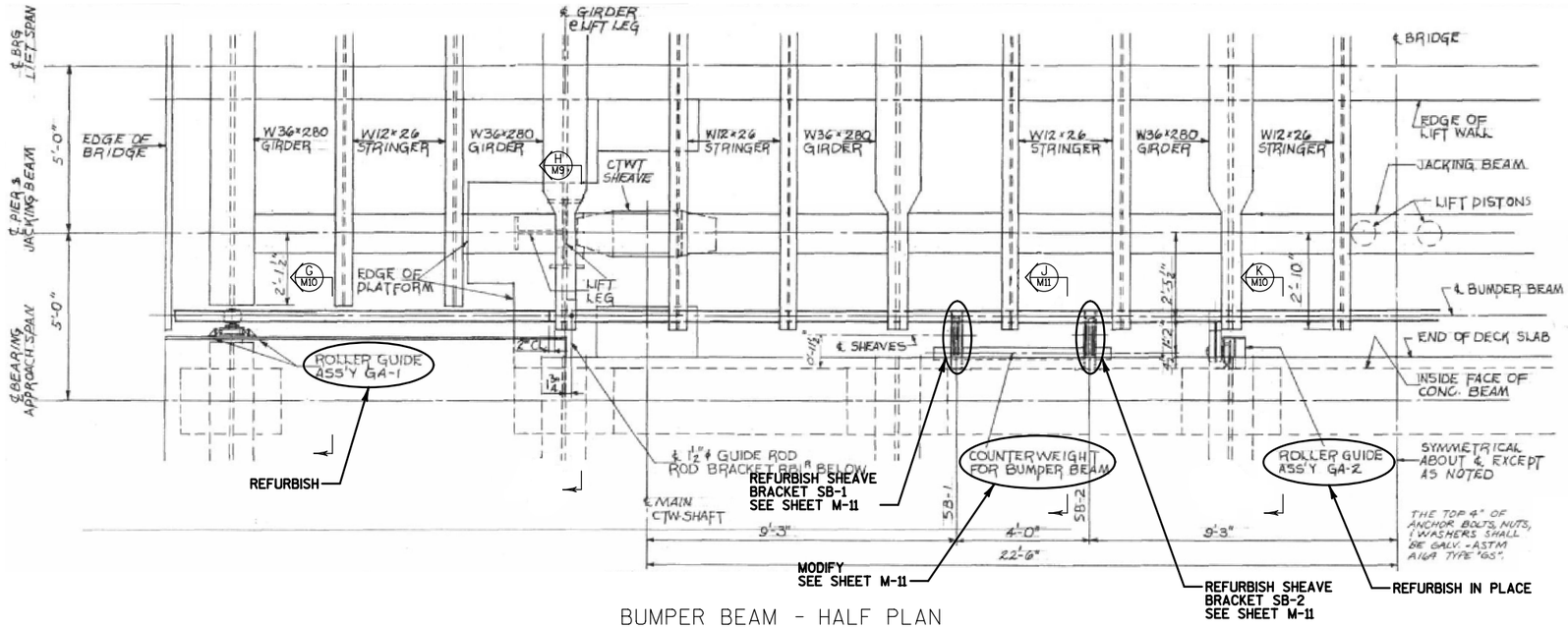
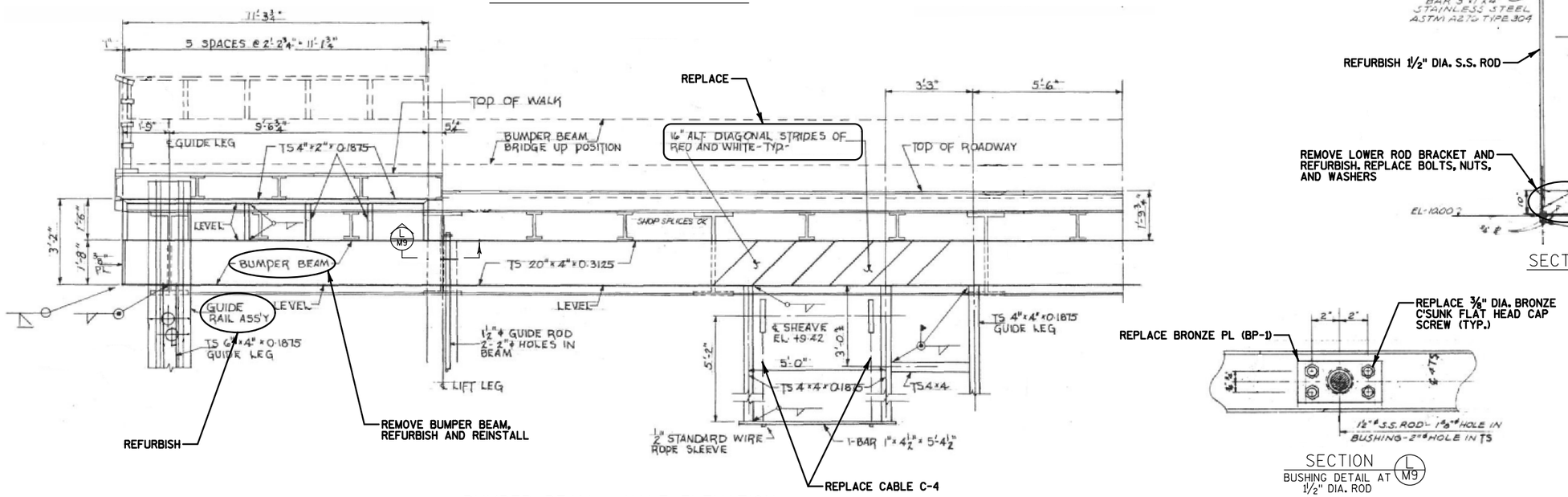
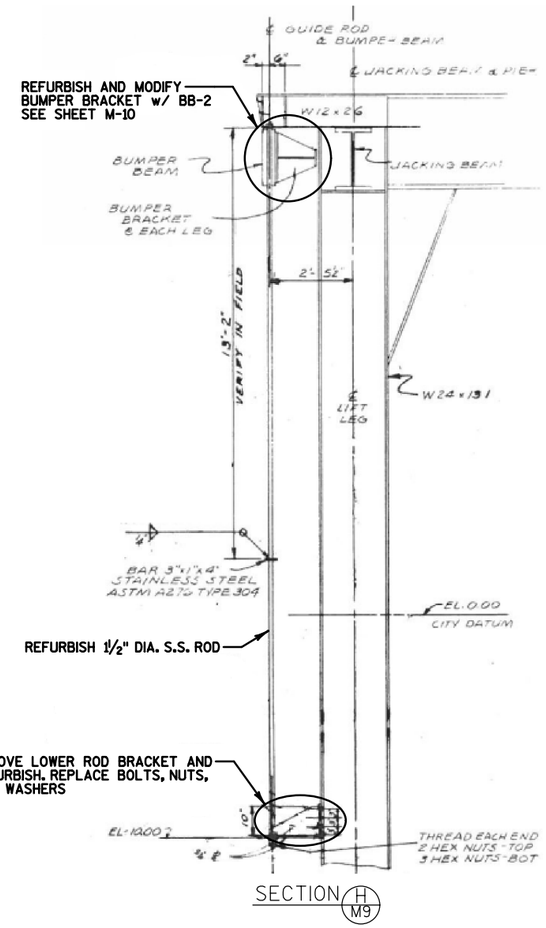
2195-03-00



BUMPER BEAM - HALF PLAN

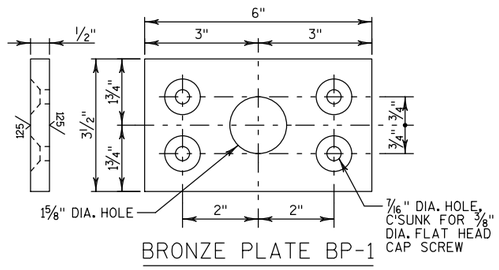


BUMPER BEAM - HALF ELEVATION



SECTION H M9

SECTION
BUSHING DETAIL AT L M9
1½" DIA. ROD



BRONZE PLATE BP-1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-544

DRAWN BY AMS | PLANS CK'D. DGA

BUMPER BEAMS 1

SHEET M9 OF M11

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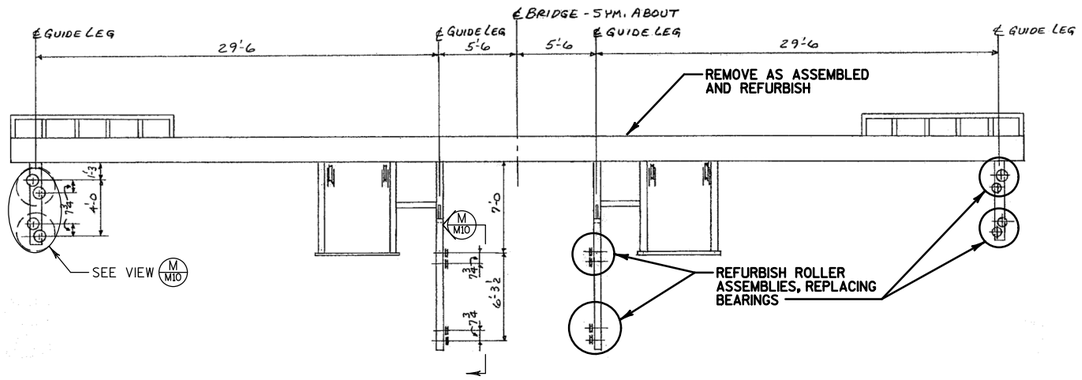
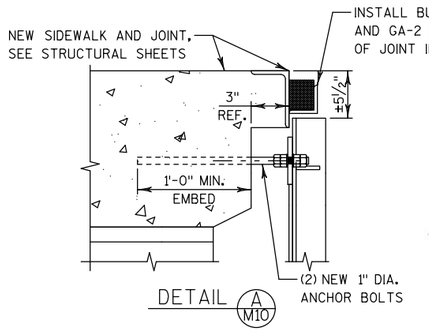
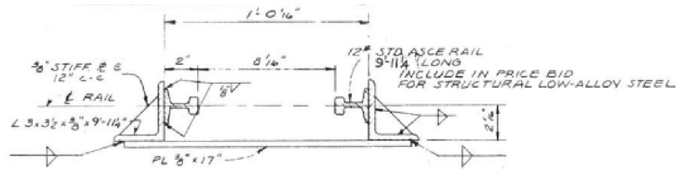


BUMPER BEAM DETAIL

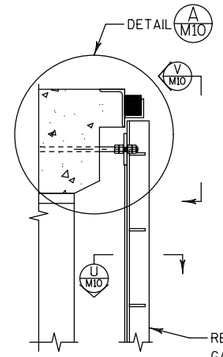
QUANTITY: 2 (1 PER PIER)

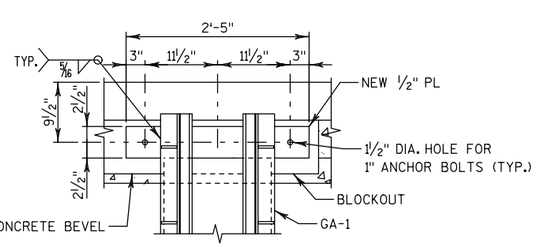


DETAIL A M10

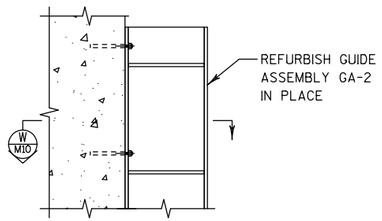


SECTION U M10
(FOR REFERENCE)



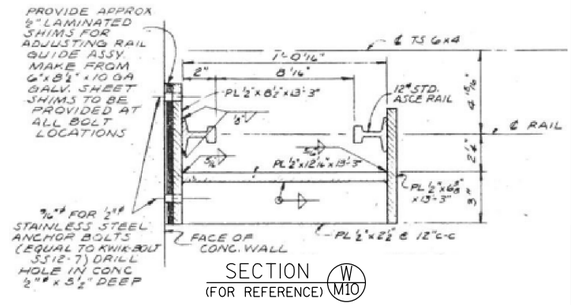


SECTION V M10



SECTION
ROLLER GUIDE ASSEMBLY GA-1 G M9

SECTION
ROLLER GUIDE ASSEMBLY GA-2 K M9



SECTION W M10
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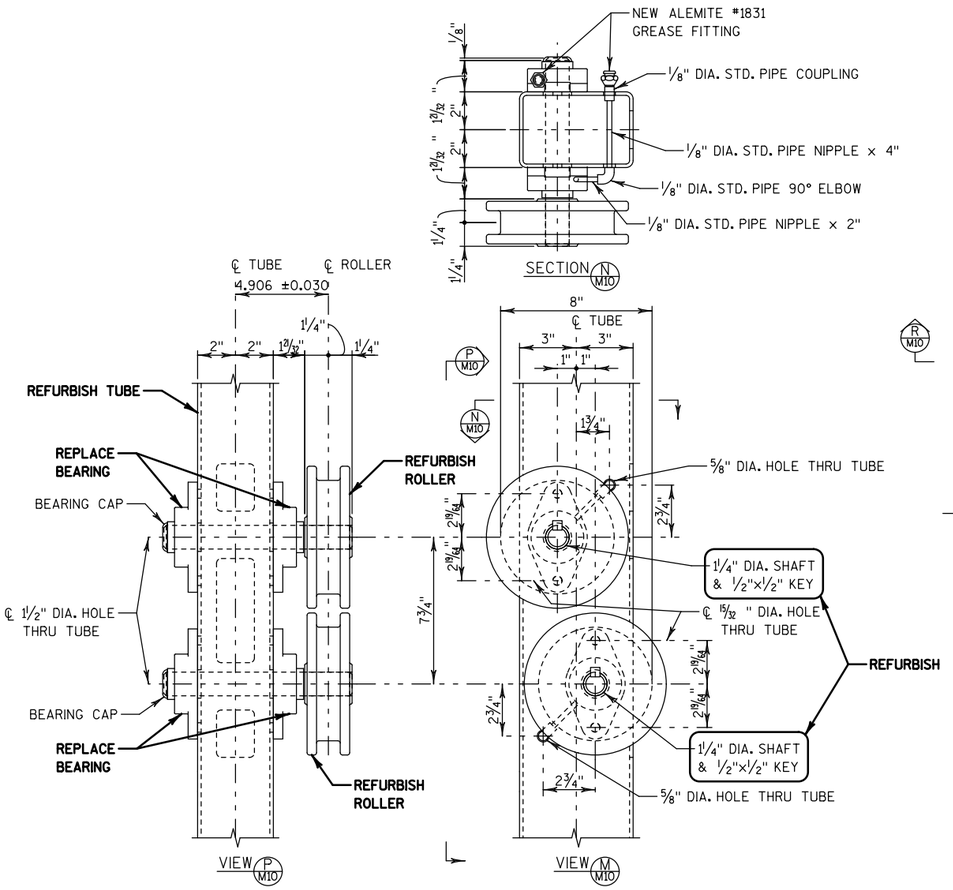
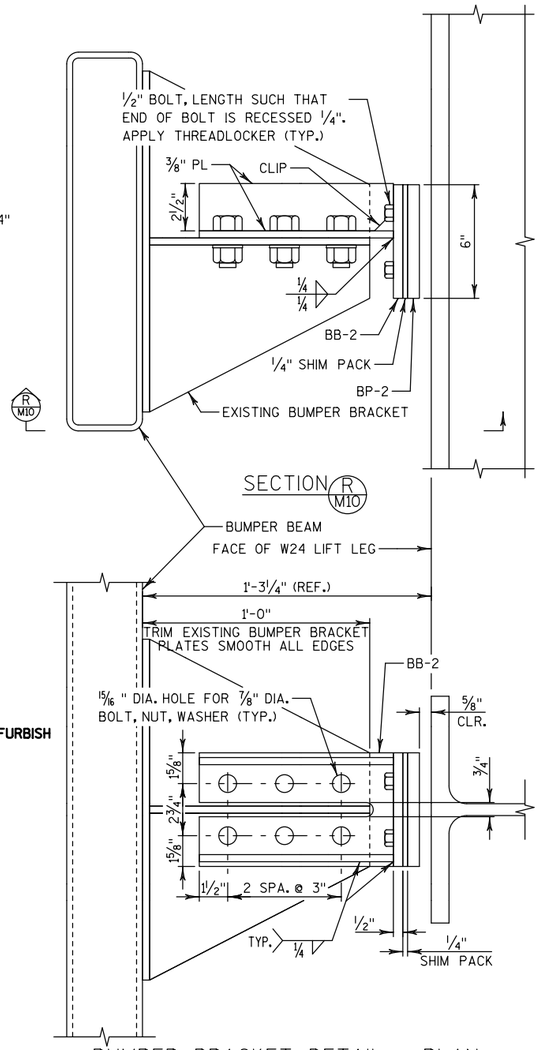


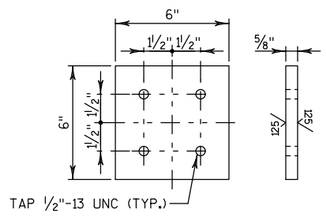
BUMPER BEAM ROLLER DETAIL

QUANTITY: 32 ROLLERS
(8 PAIRS PER BUMPER BEAM)



BUMPER BRACKET DETAIL - PLAN

QUANTITY: 4



BRONZE PLATE BP-2

QUANTITY: 4
MATERIAL: ASTM B436

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BUMPER BEAMS 2

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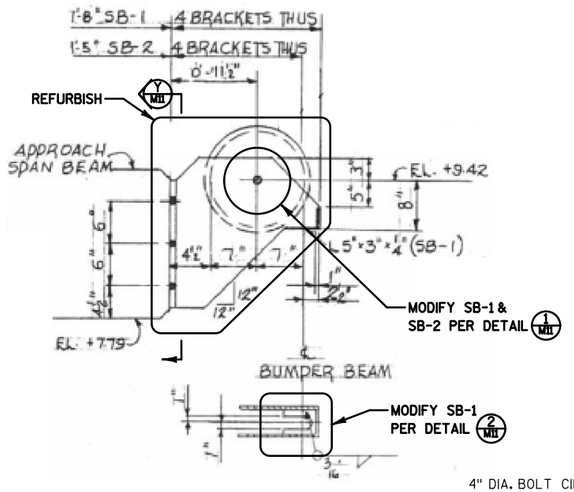
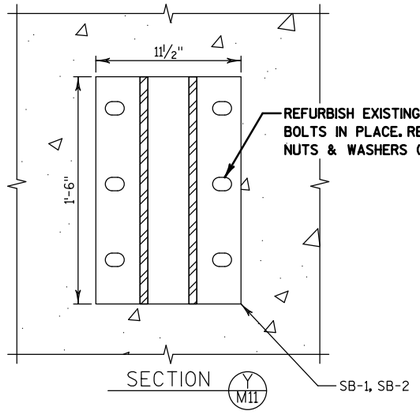
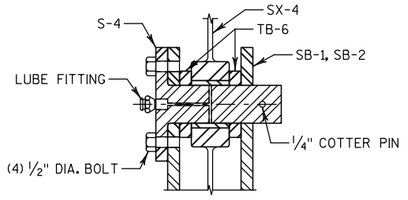


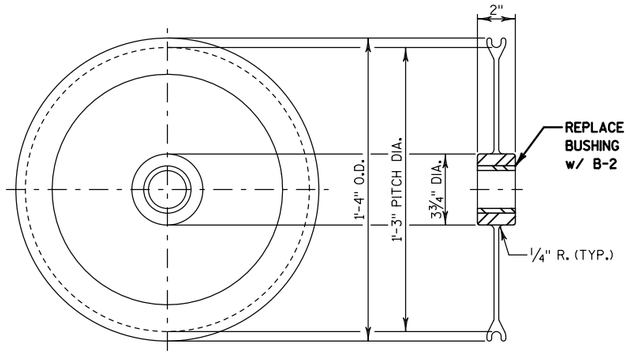
SHEAVE BRACKET SB-1, SB-2

QUANTITY: 4 SB-1
4 SB-2



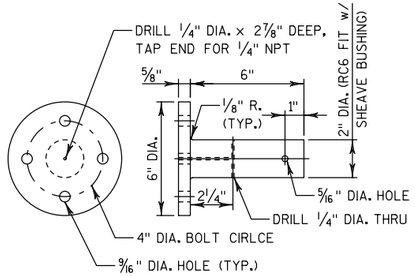


BUMPER BEAM SHEAVE ASSEMBLY



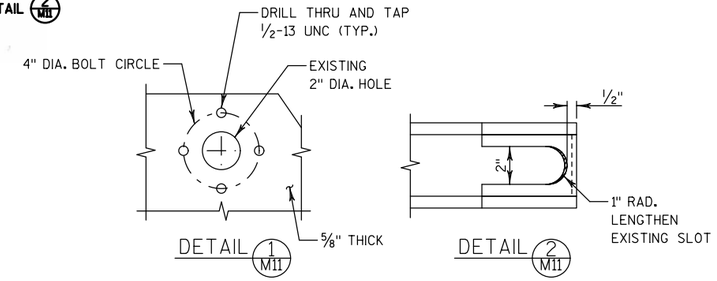
BUMPER BEAM SHEAVE SX-4

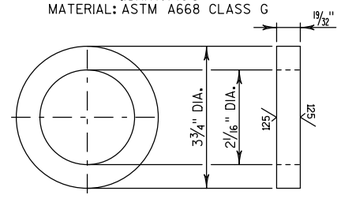
FOR REFERENCE - REFURBISH EXISTING
QUANTITY: 8



BUMPER BEAM SHEAVE SHAFT S-4

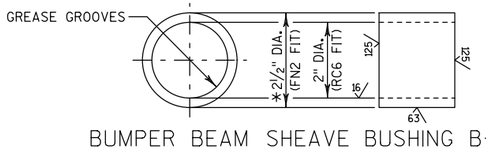
QUANTITY: 8
MATERIAL: ASTM A668 CLASS G





THRUST BEARING TB-6

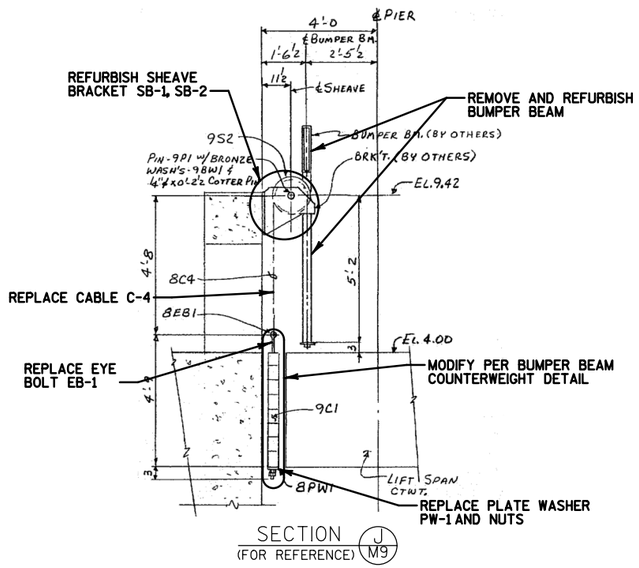
QUANTITY: 16
MATERIAL: ASTM B436

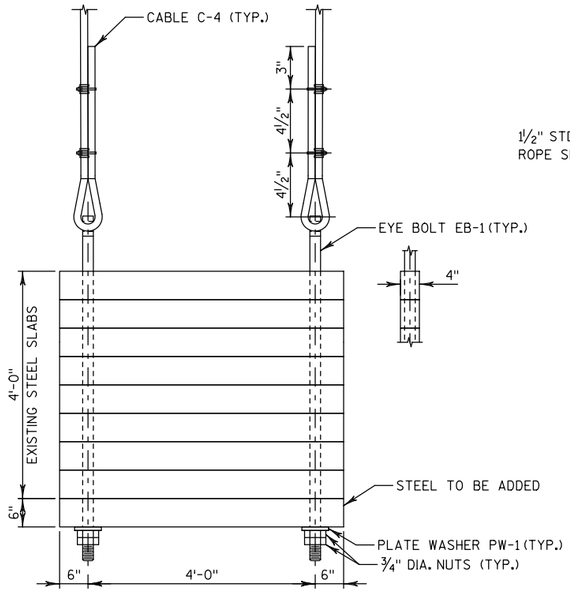


BUMPER BEAM SHEAVE BUSHING B-2

QUANTITY: 8
MATERIAL: ASTM B22 C91300

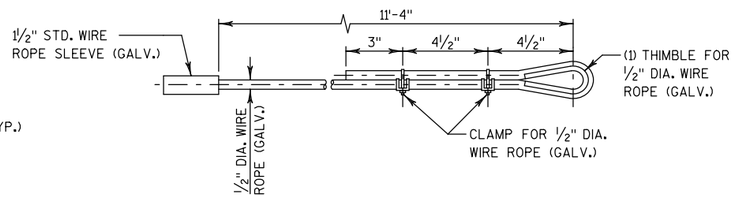
* MEASURE BORE OF SHEAVE. FABRICATE BUSHING FOR FN2 FIT





BUMPER BEAM COUNTERWEIGHT DETAIL

QUANTITY: 4



BUMPER BEAM COUNTERWEIGHT CABLE - C-4

QUANTITY: 8
MATERIAL: ½" DGXIP 16x25 FW IWRC

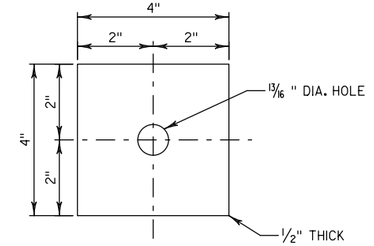
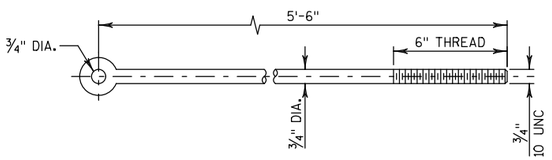


PLATE WASHER PW-1

QUANTITY: 8
MATERIAL: ASTM A36, GALV.



EYE BOLT EB-1

QUANTITY: 8
MATERIAL: ASTM A36, GALV.

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BUMPER BEAMS 3

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SWITCHES

PUSHBUTTON (MOMENTARY)

COMBINATION SELECTOR SWITCH WITH PUSHBUTTON
ARROWS INDICATE SPRING RETURN TO POSITION SHOWN
X INDICATES SWITCH CLOSURE IN EACH POSITION
CS-3 INDICATES SWITCH NUMBER-SEE CONTROL PANEL VIEWS FOR SWITCH LOCATIONS.

LIMIT SWITCH, (LS-) NORMALLY CLOSED

LIMIT SWITCH, (LS-) NORMALLY OPEN

BYPASS SWITCH (KS-) MAINTAINED CONTACT

BYPASS SWITCH (KS-) MOMENTARY CONTACT

PRESSURE SWITCH (PS-) NORMALLY OPEN

PRESSURE SWITCH (PS-) NORMALLY CLOSED

TEMPERATURE SWITCH (TS-) NORMALLY OPEN

FOOT SWITCH

RELAYS

RELAY COIL, ON SCHEMATIC 3, LINE 2. REFERENCE NUMBERS:
7 INDICATES A NORMALLY OPEN CONTACT OF R2 ON LINE 7.
UNDERLINED 34 INDICATES A NORMALLY CLOSED CONTACT ON
ON LINE 34. EACH SCHEMATIC SHEET HAS 99 OR FEWER LINES.
THE 725 INDICATES A CONTACT ON LINE 25 OF SCHEMATIC SHEET 7.

R302 — NORMALLY OPEN INSTANTANEOUS CONTACT OF RELAY R2. COIL IS ON SAME SHEET AS CONTACT.

R702 — NORMALLY CLOSED INSTANTANEOUS CONTACT OF RELAY WHOSE COIL IS ON SCHEMATIC SHEET 7, LINE 2.

R63 — MACHINE TOOL RELAY

ABBREVIATIONS

KS	KEY SWITCH
CB	CIRCUIT BREAKER
HPU	HYDRAULIC POWER UNIT
(E)	EXISTING

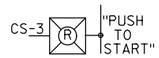
MISC. DEVICES

TRANSFORMER SECONDARY

FUSE

GROUND CONNECTION

LAMP



LAMP ON PANEL. R INDICATES RED LENSE. CS-3 INDICATES DEVICE NUMBER. SEE CONTROL PANEL VIEWS FOR SWITCH LOCATIONS. WORDS IN MARGIN INDICATE LENSE ENGRAVING.

WARNING HORN

STEP DOWN TRANSFORMER
WITH ELECTROSTATIC SHIELDS

SOLENOID VALVE (SV-)

WIRING

LINE CONNECTIONS

LINES CROSSING WITHOUT BEING CONNECTED

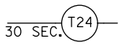
WIRING TERMINAL--SEE TERMINAL LOCATION LEGEND

HEAVY LINE INDICATES FIELD WIRING BETWEEN TERMINAL POINTS

TIMING RELAYS

NORMALLY OPEN, TIME DELAY CLOSING

NORMALLY CLOSED, TIME DELAY OPENING



TIME RELAY-30 SEC. DENOTES TIMING INTERVAL

TERMINAL LOCATION LEGEND

- ○ TERMINAL IN EXISTING CONTROL CABINET
- ◒ TERMINAL IN EXISTING MAIN CONTROL DESK
- ● TERMINAL IN NEW HPU CABINET
- ■ TERMINAL IN NEW 480V SWITCHBOARD CABINET

REVISE TERMINAL BLOCK NUMBERS ON CONTROL PLANS TO WHAT IS AVAILBE IN FIELD FOR EXISTING CONTROL DESK AND EXISTING RELAY CABINET.

SWITCHES, RECEPTACLES AND CIRCUITRY

$ — SINGLE POLE SWITCH

$D — DIMMER SWITCH, 600V

$3 — THREE WAY SWITCH

$WP — SWITCH IN WEATHERPROOF HOUSING

20A, 125V, DUPLES CONVIENCE OUTLET

GFCI — 20A, 125V, GROUNDFAULT INTERRUPTER OUTLET

WP — 20A, 120V, WEATHERPROOF OUTLET

JB — JUNCTION/PULL BOX

HOME RUN TO PANELBOARD CIRCUIT BREAKER INDICATED WITH 1 CIRCUIT CONDUCTOR, 1 CIRCUIT NEUTRAL AND 1 CIRCUIT GROUND CONDUCTOR IN CIRCUIT CONDUIT

CIRCUIT RUN WITH 3 CIRCUIT CONDUCTORS, 1 NEUTRAL AND 1 CIRCUIT GROUND. EACH SMALL MARK TYPICAL FOR A SINGLE CIRCUIT CONDUCTOR

SWITCH CIRCUIT WITH TWO (2) CIRCUIT CONDUCTORS

A — FLUORESCENT LIGHT FIXTURE, RECESSED, SUSPENDED OR SURFACE MOUNTED, LETTER DESIGNATES TYPE AS SHOWN ON LIGHTING FIXTURE SHEET

A — SURFACE MOUNTED LIGHT FIXTURE, LETTER DESIGNATES TYPE AS SHOWN ON LIGHTING FIXTURE SHEET

A — CEILING MOUNTED LIGHT FIXTURE, LETTER INDICATES TYPE

CONDUIT - TURN DOWN

CONDUIT - TURN UP

3 — CIRCUIT BREAKER, # OF PHASES SHOWN

GENERAL NOTES

1. LIMITED SPACE IF AVAILABLE FOR EQUIPMENT. CONTRACTOR SHALL VERIFY EQUIPMENT WILL FIT IN AVAILABLE SPACE BEFORE PURCHASING EQUIPMENT.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS.
3. CONTROL WIRING DRAWINGS SHOWN ARE FROM 1984 SHOP DRAWINGS. CHANGES SINCE THEN ARE VERY POSSIBLE. FIELD VERIFY WIRING.
4. ALL INTERLOCKING SHALL BE TESTED AND ASSURED COMPLETELY FUNCTIONAL UPON COMPLETION OF INSTALLATION. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THIS REQUIREMENT UPON DELIVERY OF SYSTEM TO OWNER.
5. ALL EXTERIOR CONDUIT SHALL BE PVC COATED GALVANIZED RIGID CONDUIT.
6. THE CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC IN NATURE AND SHOW RELATIVE LOCATIONS OF DEVICES AND EQUIPMENT. COORDINATE WITH THE ACTUAL EQUIPMENT INSTALLED. MODIFIATIONS MAY BE REQUIRED FOR CONDUIT ROUTING, AND CONDUIT AND BOX SUPPORTS TO AVOID INTERFERENCE WITH STRUCTURES AND OTHER EQUIPMENT.
7. COORDINATE WORK WITH OTHER TRADES.

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SCHEMATIC LEGEND & SYMBOL LIST

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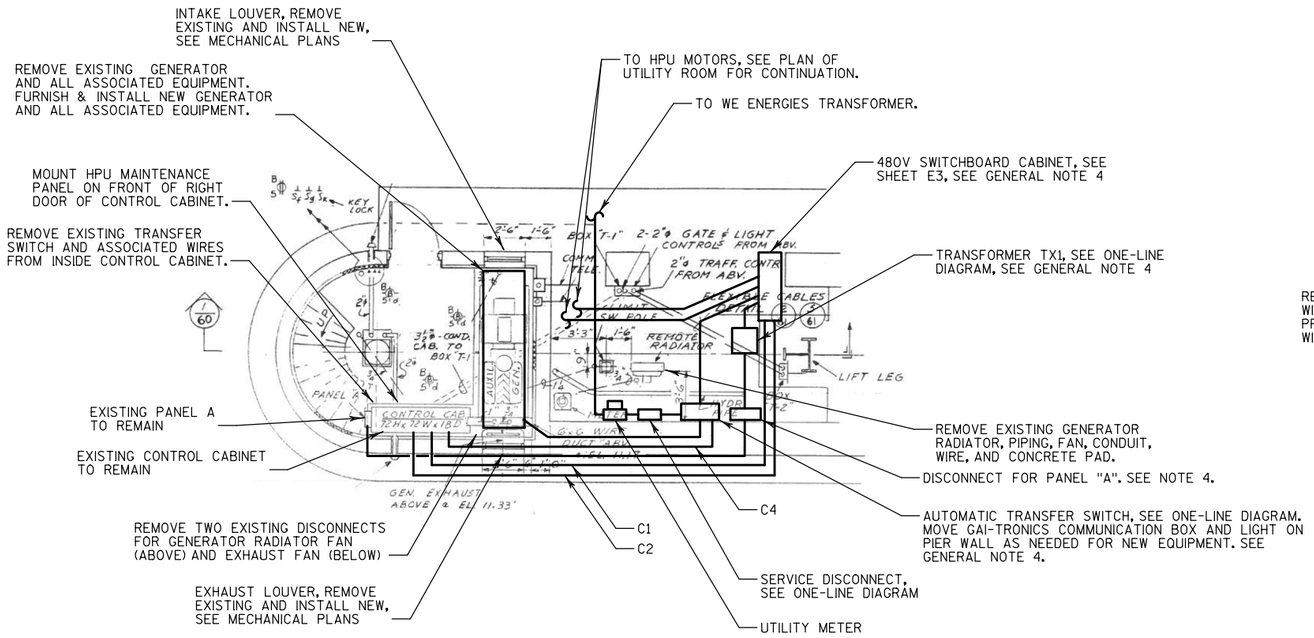
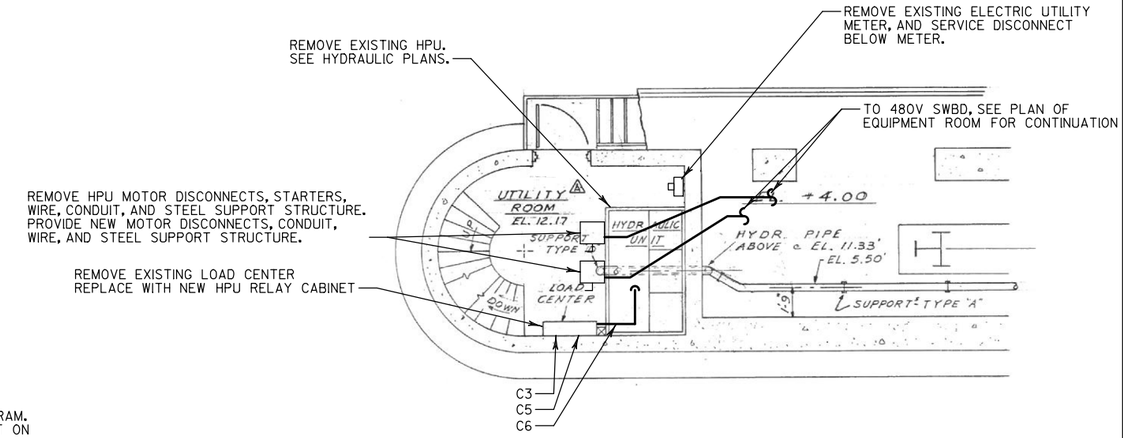
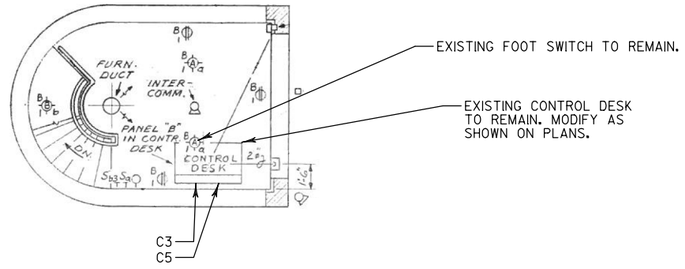


PLAN OF EQUIPMENT ROOM
(PIER LEVEL)



PLAN OF UTILITY ROOM
(STREET LEVEL)



PLAN OF CONTROL ROOM

CONTROL CIRCUIT SCHEDULE					
CIRCUIT ID	CONDUIT SIZE	WIRE SIZE/QUANTITY	FROM	TO	NOTES
C1	1" C.	6-#12	480V SWBD	CONTROL DESK	
C2	1" C.	9-#12	480V SWBD	NEW HPU RELAY CABINET	
C3	USE EXISTING WIRE WAY	8-#12	NEW HPU RELAY CABINET	EXISTING CONTROL CABINET	
C4	1" C.	3-#12	AUTOMATIC TRANSFER SWITCH	NEW HPU RELAY CABINET	
C5	USE EXISTING WIREWAY AND CONDUIT	29-#12	NEW HPU RELAY CABINET	CONTROL DESK	
C6	1-1/2" C.	40-#12	NEW HPU RELAY CABINET	HPU	1

CIRCUIT SCHEDULE NOTES:
1. CAN USE MULTIPLE SMALLER CONDUITS AS REQUIRED.

GENERAL NOTES:

1. EQUIPMENT LOCATIONS ARE RECOMMENDATIONS ONLY. CONTRACTOR SHALL VERIFY EQUIPMENT WILL FIT IN LOCATIONS INDICATED PRIOR TO EQUIPMENT PURCHASE. ALTERNATE LOCATIONS ARE ALLOWED WITH THE APPROVAL OF THE ENGINEER. ALTERNATE LOCATIONS FROM WHAT IS SHOWN SHALL BE APPROVED BY ENGINEER BEFORE INSTALLATION BEGINS.
2. SEE ONE-LINE DIAGRAM FOR POWER CONDUIT AND WIRE SIZES NOT SHOWN.
3. REUSE EXISTING CONDUIT AND WIREWAY FOR NEW CONTROL WIRES.
4. ALL OUTSIDE EQUIPMENT ENCLOSURES SHALL BE STAINLESS STEEL NEMA 4X. FLOOR MOUNTED EQUIPMENT SHALL HAVE FEET.

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ELECTRICAL PLAN

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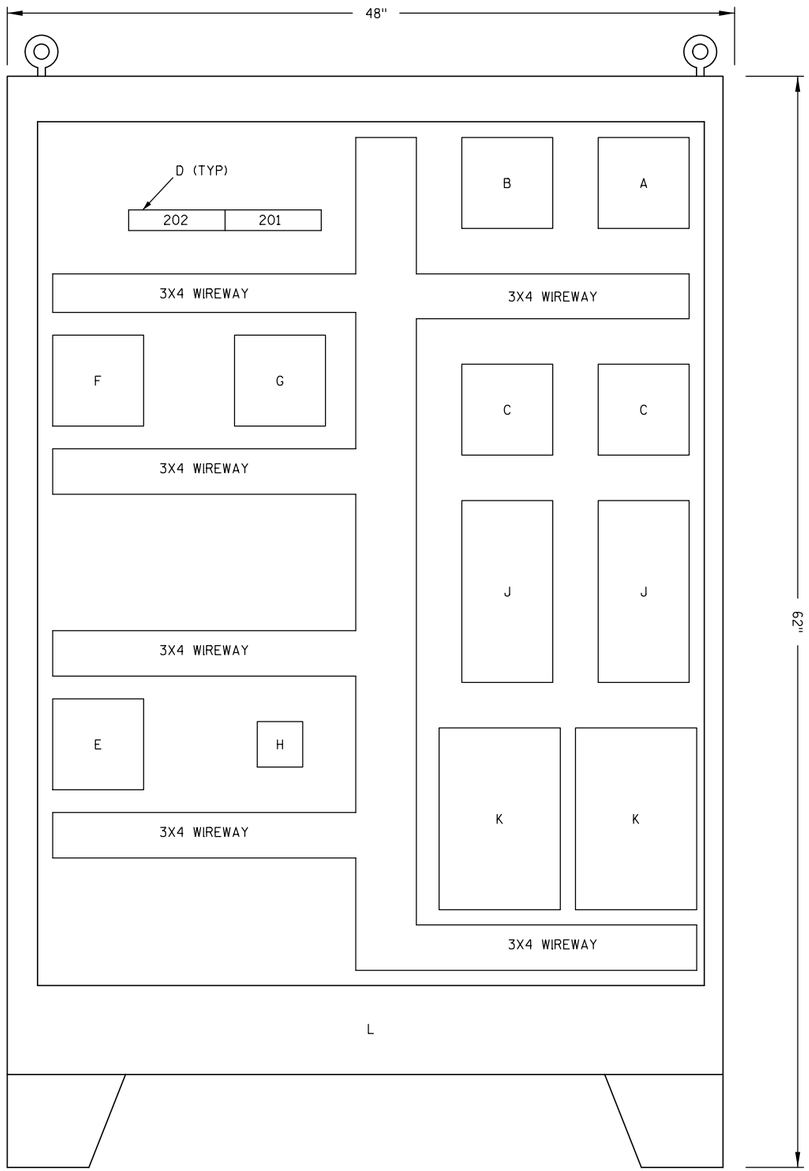

480 VOLT SWITCHBOARD CABINET

EQUIPMENT DESIGNATION KEY

A MAIN 480 VOLT CABINET CB - 200A, 100% RATED BREAKER

B SPD CB - 30A - CUTLER HAMMER FS340030A

C HYDRAULIC PUMP MOTOR CB's

D TERMINAL BLOCK - 12 POINT - DIN RAIL MOUNTED - ALLEN BRADLEY CAT. NO. 1492-CA1 WITH END CAP BARRIERS

E TRANSFORMER TX1 CB

F CT/PT EQUIPMENT

G SPD MODULE NLP CORP MODULE XA-04-20-E1

H PHASE REVERSE/LINE LOSS RELAY - TIME MARK MODEL 269

J HYDRAULIC PUMP MOTOR STARTER - NEMA 3NR - CUTLER HAMMER AN16KNOC

K PUMP MOTOR SOFT START MODULE - ALLEN BRADLEY 150-F85NBD

L 480 VOLT STAINLESS STEEL 316 CABINET ENCLOSURE WITH FEET - HOFFMAN CAT. NO. A62H4812SS6LP3PT WITH A60P48G BACK PANEL

NOTE:

MANUFACTURER AND CATALOG NUMBERS ARE SHOWN TO ESTABLISH THE QUALITY STANDARDS REQUIRED AND IS NOT INTENDED TO EXCLUDE PRODUCTS EQUAL IN QUALITY AND SIMILAR IN DESIGN, THE TERM "OR APPROVED EQUAL" SHALL BE IMPLIED.

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480 V SWITCHBOARD CABINET

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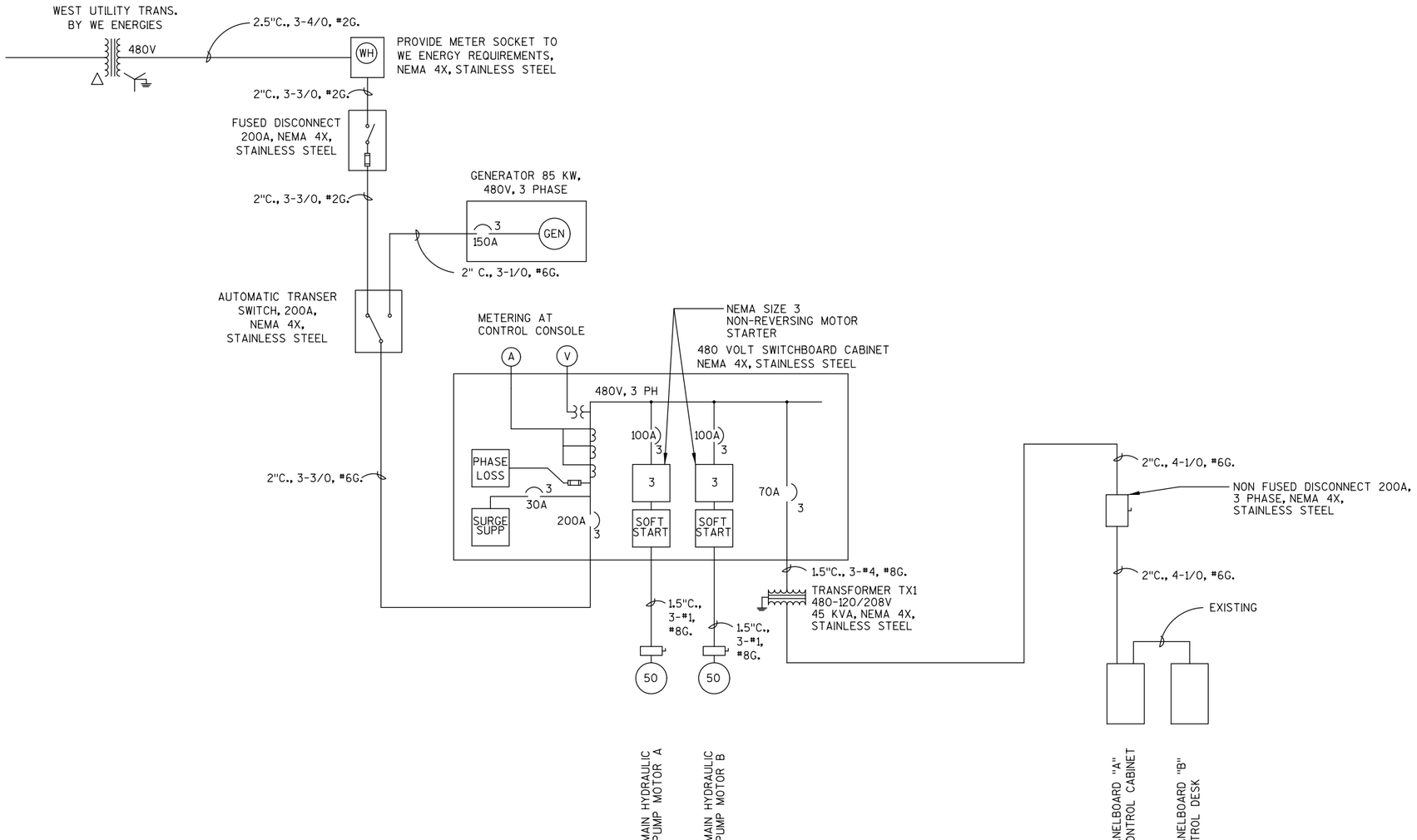

NOTES:

1. PROVIDE INSIGHT DISCONNECT SWITCHES FOR MOTORS SIZED IN ACCORDANCE WITH THE NEC AND LOCAL CODES. MOUNT SWITCHES NEAR MOTORS AS REQUIRED.

2. PROVIDE GENERATOR SIZING DESIGN CALCULATION REPORT INDICATING ABILITY TO START AND RUN LOADS. ONLY ONE HYDRAULIC MOTOR TO OPERATE WHEN GENERATOR IS RUNNING.

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ONE-LINE DIAGRAM

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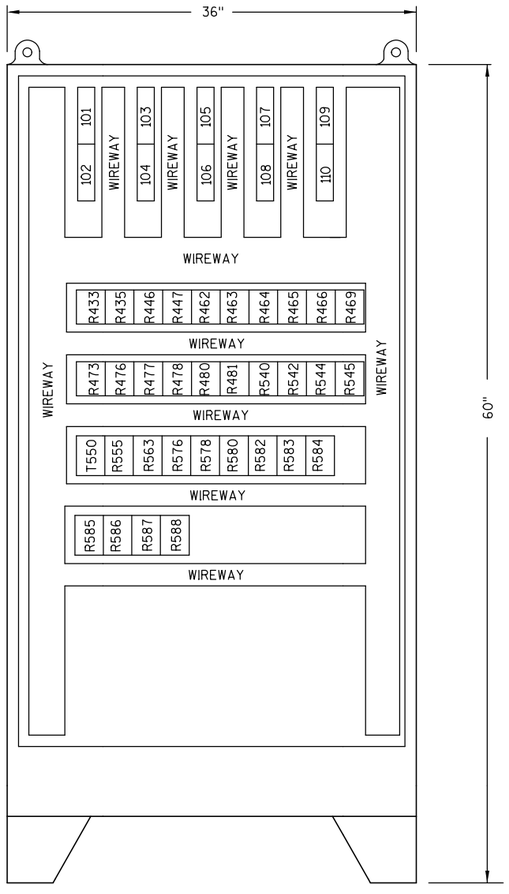
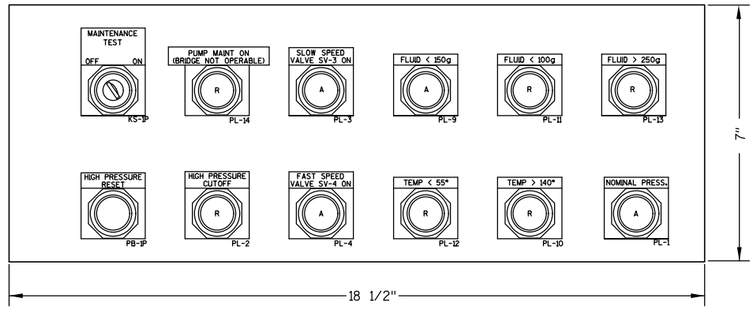


CABINET SHALL BE HOFFMAN ENGINEERING CATALOG NUMBER A-60361BFSD WITH BACK PANEL A-60P36F1 OR APPROVED EQUAL.

HPU RELAY CABINET

(MOUNT ON EQUIPMENT ROOM LEVEL)



HPU MAINTENANCE PANEL

(MOUNT ON FRONT DOOR OF HPU RELAY CABINET)

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HPU RELAY CABINET

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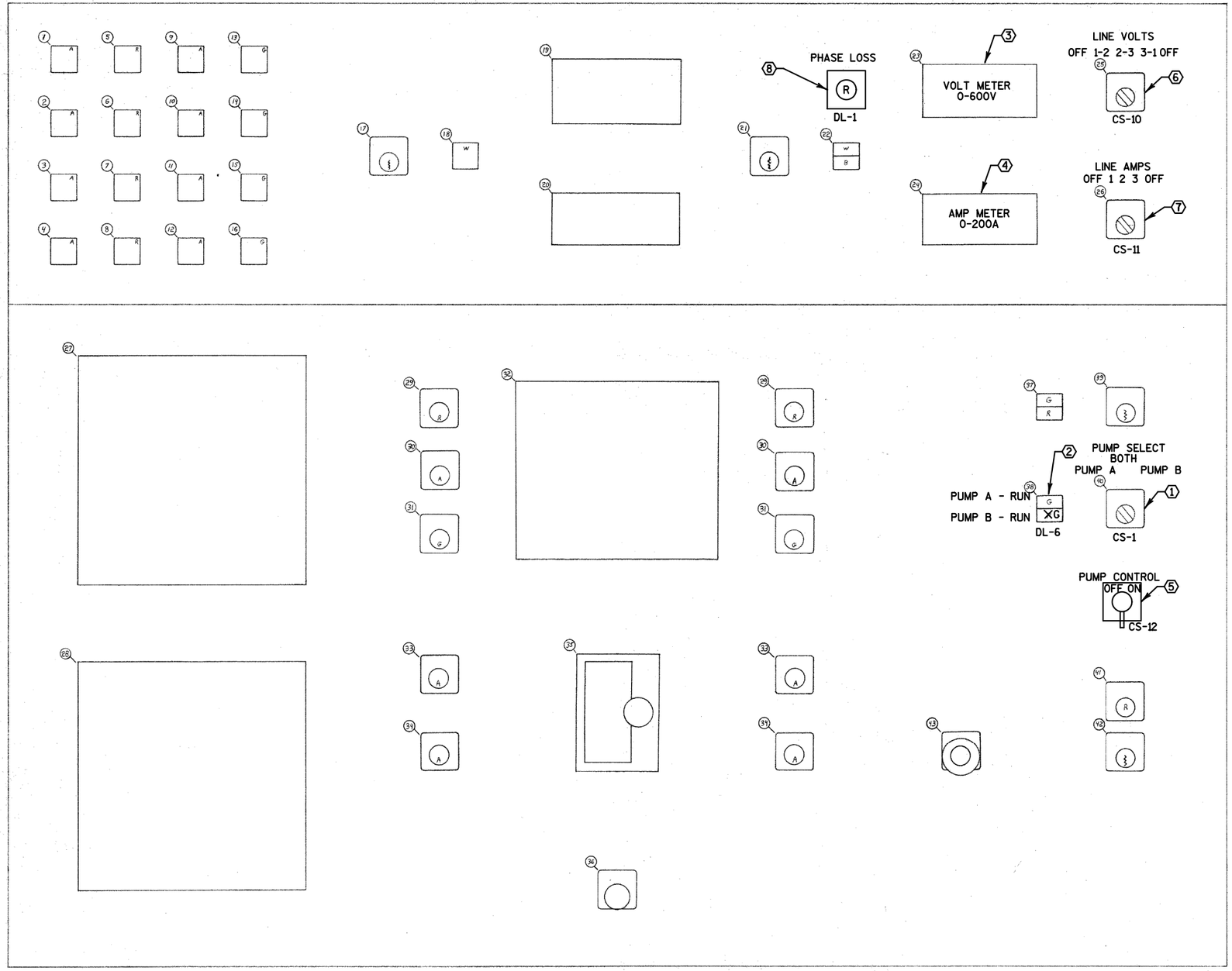

MATERIAL LIST

SYM. NO.	QUAN.	I.D.	DESCRIPTION
1-4 9-12	8		SWITCH W/ AMBER LIGHT MICRO PMHC135T4CB-00
5-8	4		PILOT LIGHT - RED MICRO PMLC135R2-00
13-16	4		PILOT LIGHT - GREEN MICRO PMLC135G2-00
17	1		KEY LOCK SWITCH C.H. 1025OT15113 *KEYED ALIKE
18	1		SWITCH W/ WHITE LIGHT MICRO PMDC135W2-00
19	1		ILLUMINATED DIGITAL CLOCK LED. DISPLAY
20	1		6 DIGIT COUNTER DURANT 6-Y-13-RMF-PM
22	1		SWITCH W/ WHITE+BLUE LIGHT MICRO PMLC132BW2-00
23	1		ILLUMINATED A.C. VOLT METER WEST. GA352 0-300V.
24	1		ILLUMINATED AMP METER WEST. GA352 0-200A.
25	1		SWITCH MICRO PTS EB2-02-GF
26	1		SWITCH MICRO PTS EC2-02-CC
27	1		INTERCOM
28	1		INSTRUCTION NAME PLATE, STAINLESS STEEL 9"x9"
29	2		PILOT LIGHT - RED MICRO PTL 2133 B00
30, 33, 34	6		PILOT LIGHT - AMBER MICRO PTL 2134 B00
31	2		PILOT LIGHT - GREEN MICRO PTL 2136 B00
32	1		SPAN INDICATOR
35	1		JOY STICK 5 POS. OEM MS4
36	1		SWITCH MICRO PTM 33D-B00
37+38	1		PILOT LIGHT - GREEN+RED MICRO PMLC132GR2-00
39	1		KEY LOCK SWITCH C.H. 1025OT15232 ***KEYED ALIKE
40	1		SWITCH MICRO PTS BC202-D-B00
41	1		PILOT LIGHT - RED MICRO PTL 2133-B00
42	1		KEY LOCK SWITCH C.H. 1025OT15112 **KEYED ALIKE
43	1		SWITCH MICRO PTY 2133B00-B
21	1		KEY LOCK SWITCH C.H. 1025OT15237 ****KEYED ALIKE

NAME PLATES

1.) FAR ONCM DOWN
2.) NEAR ONCM DOWN
3.) FAR OFFG DOWN
4.) NEAR OFFG DOWN
5.-8.) GATE FULLY DOWN
9.) FAR ONC UP
10.) NEAR ONC UP
11.) FAR OFFG UP
12.) NEAR OFFG UP
13.-16.) GATE FULLY UP
17.) ACCENT LIGHTS OFF ON
18.) ACCENT LIGHTS
21.) NAV. LIGHTS OFF SPAN SPAN/PIER
22.) SPAN PIER
25.) LINE VOLTS 1-2 2-3 3-1
26.) LINE AMPS 1 2 3
29.) NEARLY OPEN
30.) IN MOTION
31.) NEARLY CLOSED
32.) RAISE
34.) LOWER
36.) HORN
37.) MAIN POWER EMER. POWER
38.) MAIN PUMP EMER. PUMP
39.) TRAFFIC SEL. SWITCH OFF ON BELL OFF
40.) MOTORS MAIN EMERGENCY
41.) BY PASS
42.) BY PASS OFF ON
43.) EMERGENCY STOP

* RETRACTABLE KEY MD-2
** NON RETRACTABLE KEY MD-2
*** NON RETRACTABLE KEY MD-1
**** RETRACTABLE KEY MD-1

GENERAL NOTES

1. BACKGROUND DRAWING FROM 1984 SHOP DRAWING. DRAWING NO. 4748-2

KEYED NOTES

1. REMOVE EXISTING SWITCH, PROVIDE NEW SWITCH AND NAMEPLATE.
2. REMOVE EXISTING PLOT LIGHTS AND PROVIDE NEW PILOT LIGHTS AND NAMEPLATE.
3. PROVIDE NEW ILLUMINATED WESHLER VOLTMETER 0-600V. CONNECT TO NEW PT'S IN 480V SWITCHBOARD CABINET. DEMO EXITING PT'S & ASSOCIATED EQUIPMENT IN EXISTING RELAY CABINET.
4. CALIBRATE AMP METER TO READ CORRECT AMPS AT 480V. CONNECT TO NEW CT'S IN 480V SWITCHBOARD CABINET. DEMO EXISTING CT'S IN EXISTING RELAY CABINET.
5. PROVIDE NEW SWITCH WITH NAME PLATE "PUMP CONTROL" "OFF - ON".
6. PROVIDE NEW VOLTAGE PHASE SELECTOR SWITCH AND NAMEPLATE.
7. PROVIDE NEW AMMETER SELECTOR SWITCH AND NAMEPLATE.
8. PROVIDE NEW DESK LIGHT FOR PHASE LOSS MONITOR AND NAMEPLATE.

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EXISTING CONTROL CONSOLE

SHEET E6 OF E12

159

8

8

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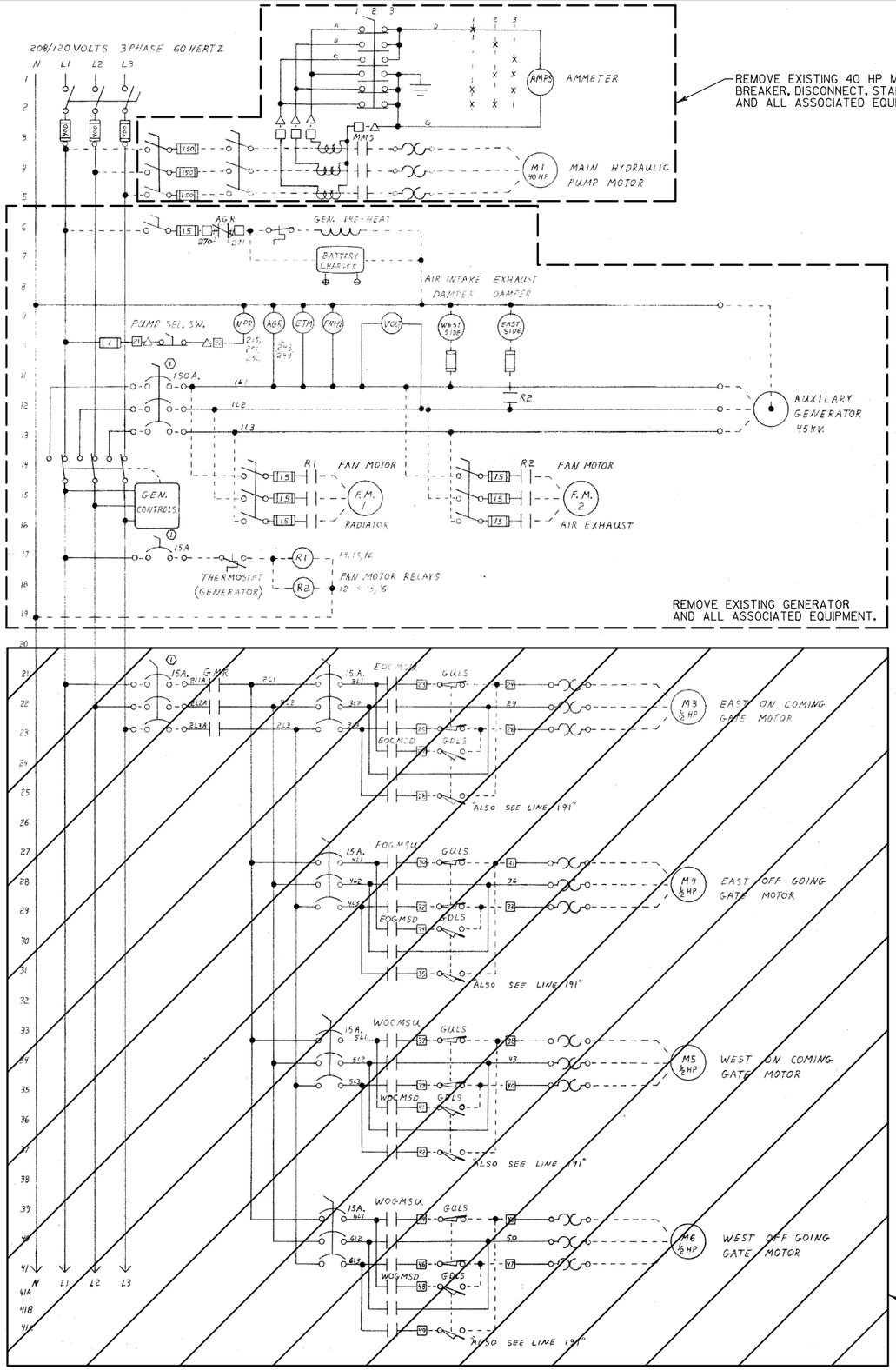

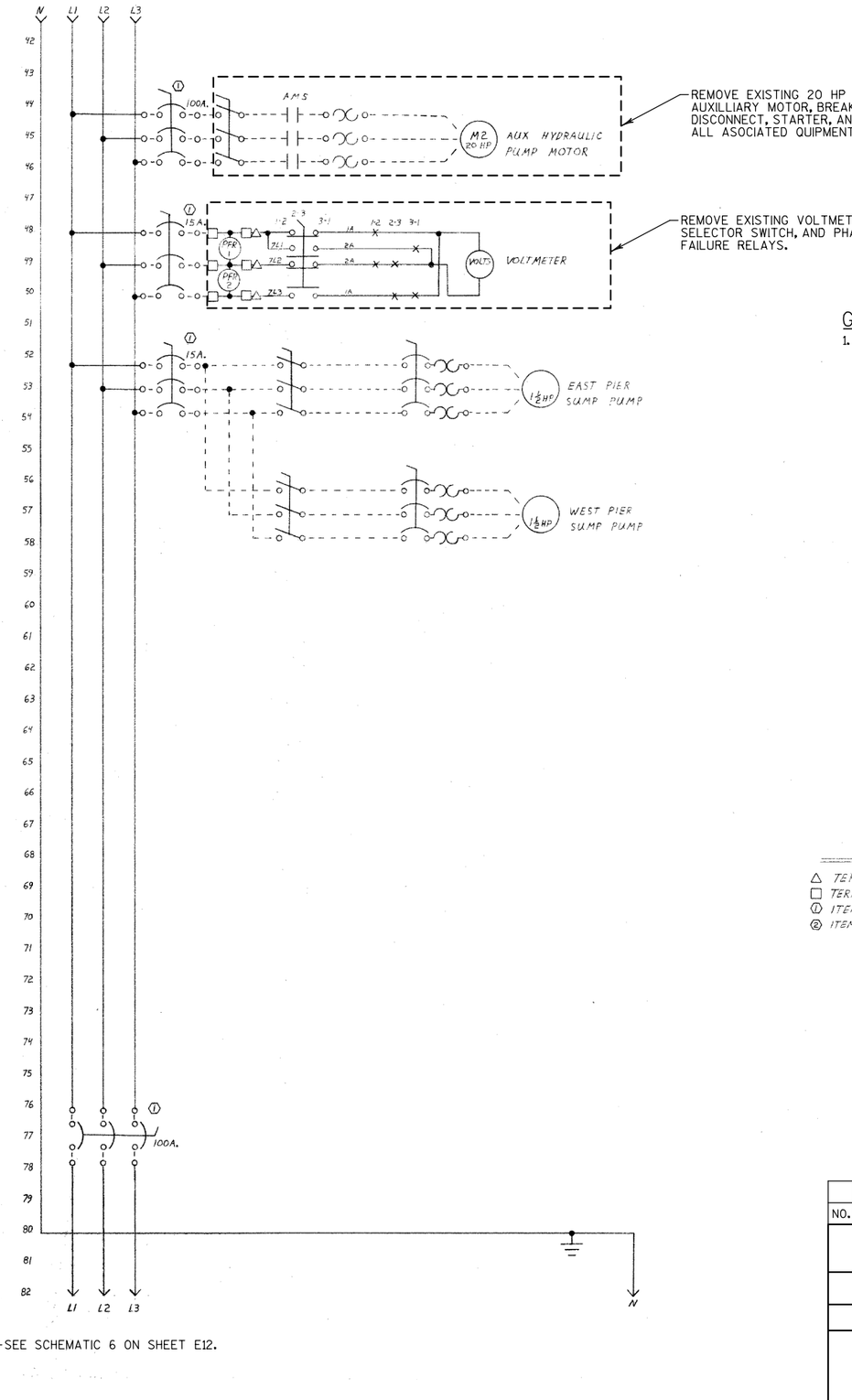

SEE SCHEMATIC 6 ON SHEET E12.

GENERAL NOTE

1. BACKGROUND DRAWING FROM 1984 SHOP DRAWINGS. DRAWING NO. 4748-8.

NOTES

△ TERMINALS LOCATED IN THE CONTROL DESK
□ TERMINALS LOCATED IN THE CONTROL CABINET
① ITEMS LOCATED IN PANEL "A"
② ITEMS LOCATED REMOTE

8

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EXISTING SCHEMATIC 1

SHEET E7 OF E12

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GENERAL NOTES:

1. BACKGROUND DRAWING FROM 1984 SHOP DRAWINGS. DRAWING NO. 4748-9.

KEYED NOTES

① REMOVE EXISTING CONTROL CIRCUITS.

② CONTINUE NEW CONTROL CIRCUITS FROM HERE. SEE SCHEMATIC 4 LINE 31

③ SEE SCHEMATIC 6 ON SHEET E12

CB 2+9 TRAFFIC SEL. SW. #39 — BELL TIME DELAY 10 SEC. ON 86,86,137,240 GATE BELLS — BRIDGEHOUSE BELL — HORN #36 — HORN

CB 6 TRAFFIC SEL. SW. #39 — F. OC. U. — EOCMSD EOCMSU — EAST ON COMING GATE MOTOR STARTER 21,22,23 UP 24,25,26 DN

F. OC. D. — EOCMSU EOCMSD

F. OG. U. — EOGMSD EOGMSU — EAST OFF GOING GATE MOTOR STARTER 27,28,29 UP 30,31,32 DN

F. OG. D. — EOGMSU EOGMSD

N. OC. U. — WOCMSD WOCMSU — WEST ON COMING GATE MOTOR STARTER 33,34,35 UP 36,37,38 DN

N. OC. D. — WOCMSU WOCMSD

N. OG. U. — WOGMSD WOGMSU — WEST OFF GOING GATE MOTOR STARTER 39,40,41 UP 41A,41B,41C DN

N. OG. D. — WOGMSU WOGMSD

CB 8 TRAFFIC SEL. SW. #39 CLOSED WHEN BRIDGE IS DOWN — DN. STOP LS — SFCR — SPAN FULLY CLOSED RELAY 281

LSLR GLR SLDR — LSLR LATCH OFF — LIFT SPAN LATCH RELAY 113,138,149,193, 219,223,222,228

DSTD — DOWN STOP TIME DELAY 5 SEC. ON 111,121,208

US DS — SIMR — SPAN IN MOTION RELAY 289

SNOR — SPAN NEARLY OPEN RELAY 287

UP SLOW LS — SFOR — SPAN BELL

DN. SLOW LS — SNCR — SPAN NEARLY CLOSED RELAY 295

UP STOP LS — SFOR — SPAN FULLY OPEN RELAY 121,284

CB10 NAV. LIGHTS #6 — EAST + WEST PIER LIGHTS — NAVIGATION LIGHTS, GREEN — NAVIGATION LIGHTS, RED

CB12 TRAFFIC SEL. SW. #39 — BYPASS OFF ON #42 — TCR — TRAFFIC CONTROL RELAY 185,243

SR2 — LTDR — 20 SEC. — LIFT TIME DELAY RELAY 140,143

GLR — LCR1 — LIGHT CONTROL RELAY 151,152,153,154 156,157,158,159

LTDR — LCR2 — LIGHT CONTROL RELAY 163,164,165,166 175,176,177,178

SLDR — 5 SEC. — SPAN LIFT DELAY RELAY 113,183,164,193

SR1 GLR — GLR — GATE LIFT RELAY 113,141,147,152, 187

LSLR — LSLR LATCH ON — LIFT SPAN LATCH RELAY

SR1 GLR SLDR — LCR1 — ETLF — EAST TRAFFIC LIGHT FLASHER

LCR1 — WTLF — WEST TRAFFIC LIGHT FLASHER

SR2 SLDR — LCR2 — EGLF — EAST GATE LIGHT FLASHER

SENSOR RELAY (DEAD BULB) 196

SENSOR RELAY (DEAD BULB) 139

LCR2 — WGLF — WEST GATE LIGHT FLASHER — R KS1 — 432,506,511,516,521

CB14 TRAFFIC SEL. SW. #39 EM. STOP #43 — TCR — TO B.E.S. TRAFFIC SIGNALS IN STREET INTERSECTION

R460 PHASE LOSS MONITOR — GLR — DN. STOP LS CLOSED WHEN BRIDGE IS DOWN — GMR — GATE MOTOR RELAY 21,22,23,189

GMR — UP STOP LS — NLR — NAVIGATION LIGHT RELAY 130,131

HYD. JACKS OPEN W/JACKS DN. — GATE LS'S CLOSED W/GATES DN. — BYPASS #92 — COUNTER

LSLR SLDR — JS — UV — UNDER VOLTAGE RELAY 196

UV US DS UF DF — JSUR FSR — UP SLOW — UP SLOW RELAY 116,120,126,217 222,224,297

UP STOP LS OPENS WHEN BRIDGE IS FULLY OPEN — UP FAST RELAY 126,215,224

JSDR FSR — DN. SLOW — JOY STICK UP RELAY 197,200

DN. STOP LS OPEN WHEN BRIDGE IS DOWN — DSDR — DOWN SLOW RELAY 118,122,126,215, 219,224,299

DSTD C.T.O. — DOWN FAST RELAY 126,215,226

JOY STICK DOWN RELAY

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EXISTING SCHEMATIC 2

SHEET E8 OF E12

161

8

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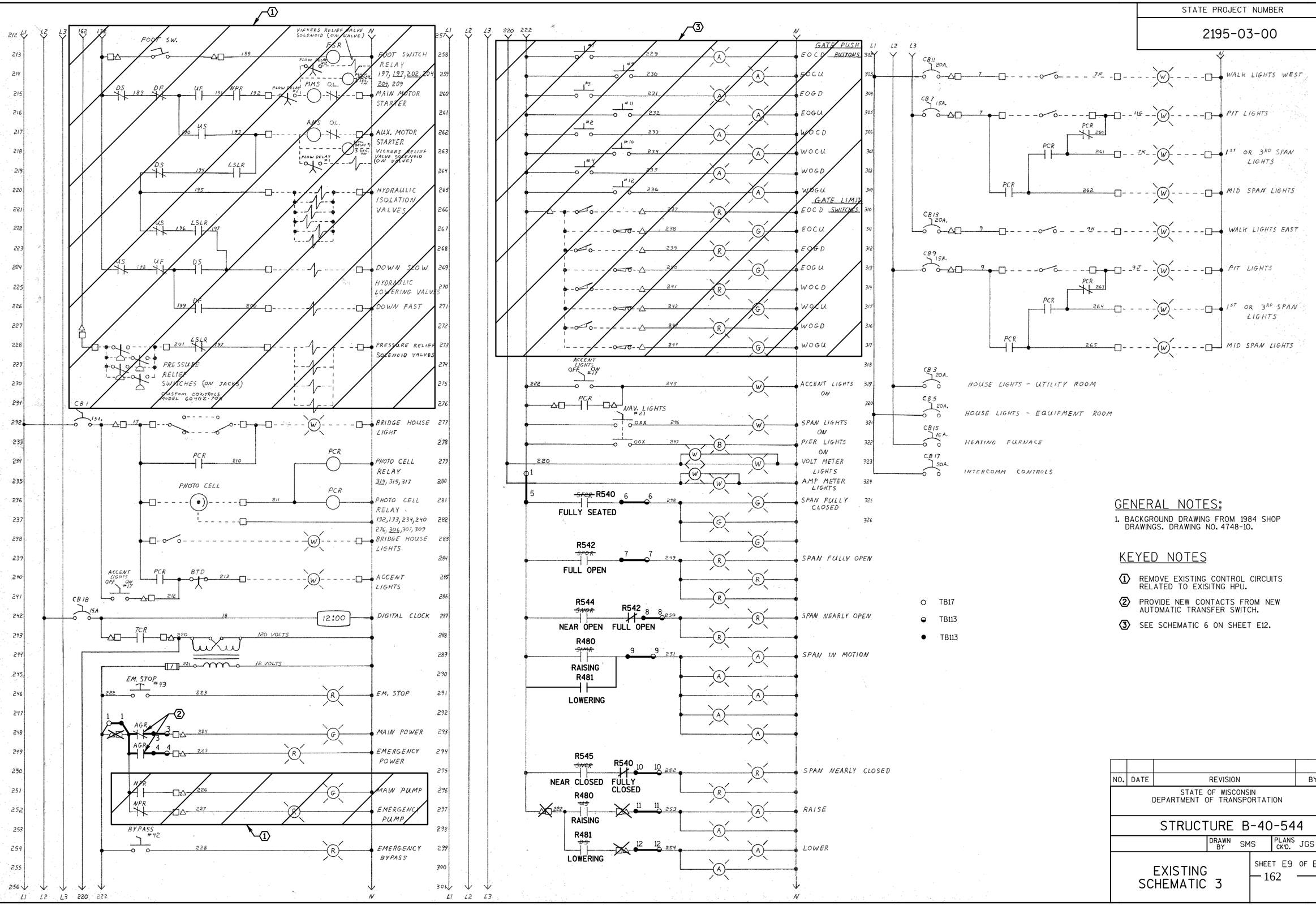

GENERAL NOTES:

1. BACKGROUND DRAWING FROM 1984 SHOP DRAWINGS. DRAWING NO. 4748-10.

KEYED NOTES

① REMOVE EXISTING CONTROL CIRCUITS RELATED TO EXISITNG HPU.

② PROVIDE NEW CONTACTS FROM NEW AUTOMATIC TRANSFER SWITCH.

③ SEE SCHEMATIC 6 ON SHEET E12.

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EXISTING SCHEMATIC 3

SHEET E9 OF E12

162

8

8

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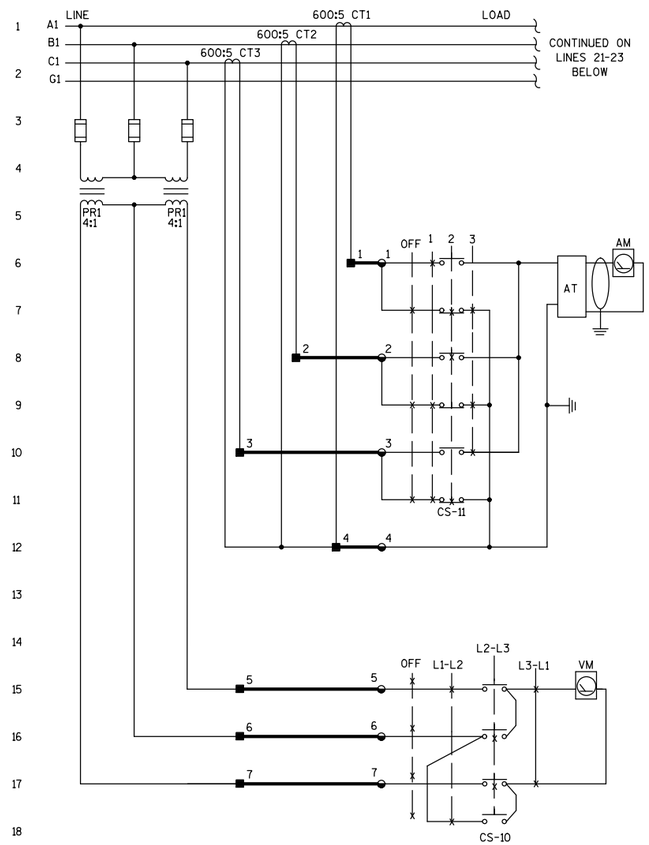
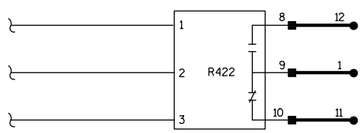


POWER LINE METERING

TB1
TB107
TB201



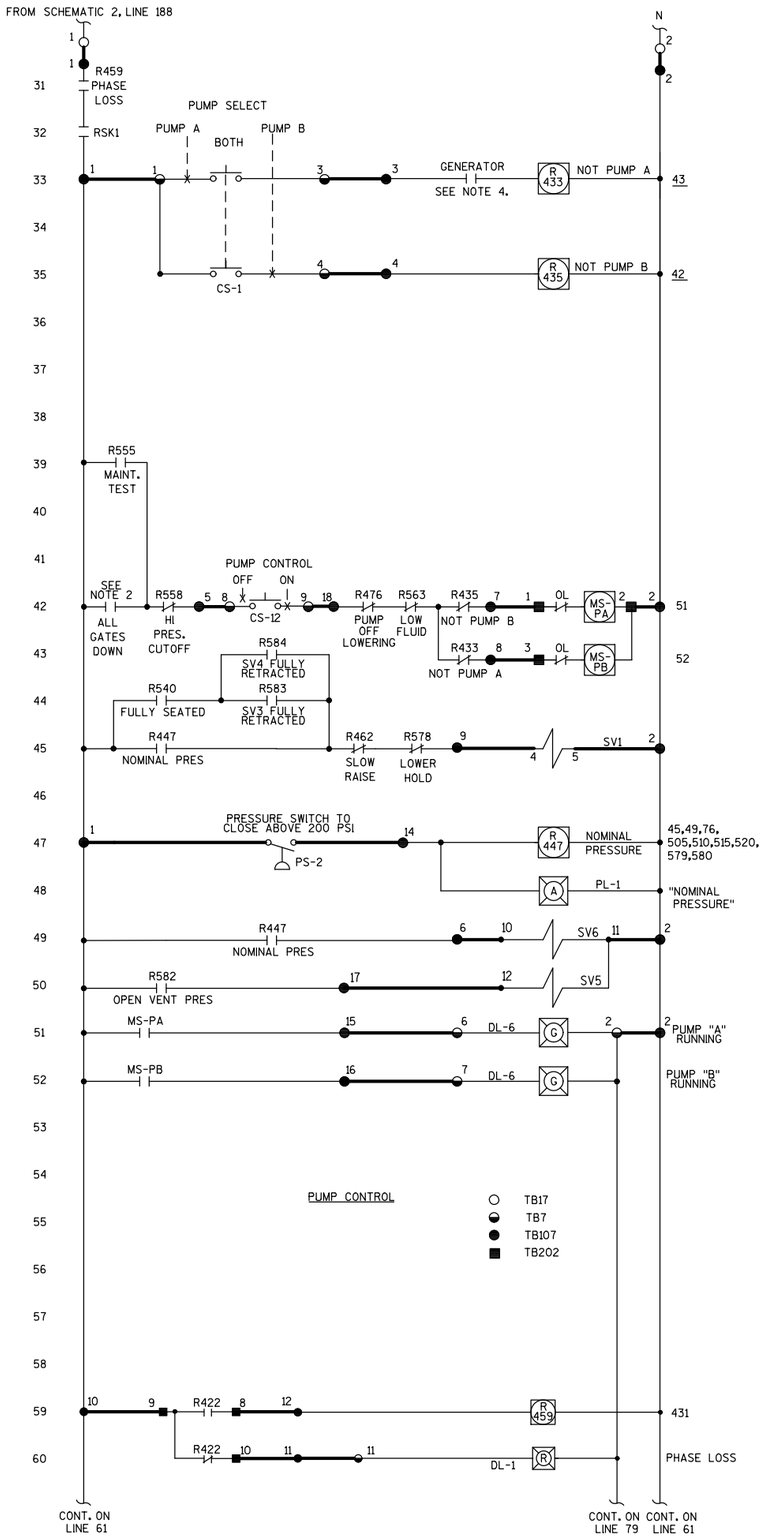
3 PHASE LINE MONITOR, TIME MARK MODEL 269

SOLENOID VALVE SV3 LIMIT SWITCHES

CONTACT	FULLY RETRACTED	OPERATOR POSITION	FULLY EXTENDED	FUNCTION THIS DWG OR DWG WHERE CONTACT IS SHOWN
LS-SV3E1	— — —	— — —	———	LINE 74 THIS SHEET
LS-SV3E2	———	———	— — —	NOT USED
LS-SV3R1	———	— — —	— — —	SCHEM 5, LINE 83
LS-SV3R2	— — —	———	———	NOT USED

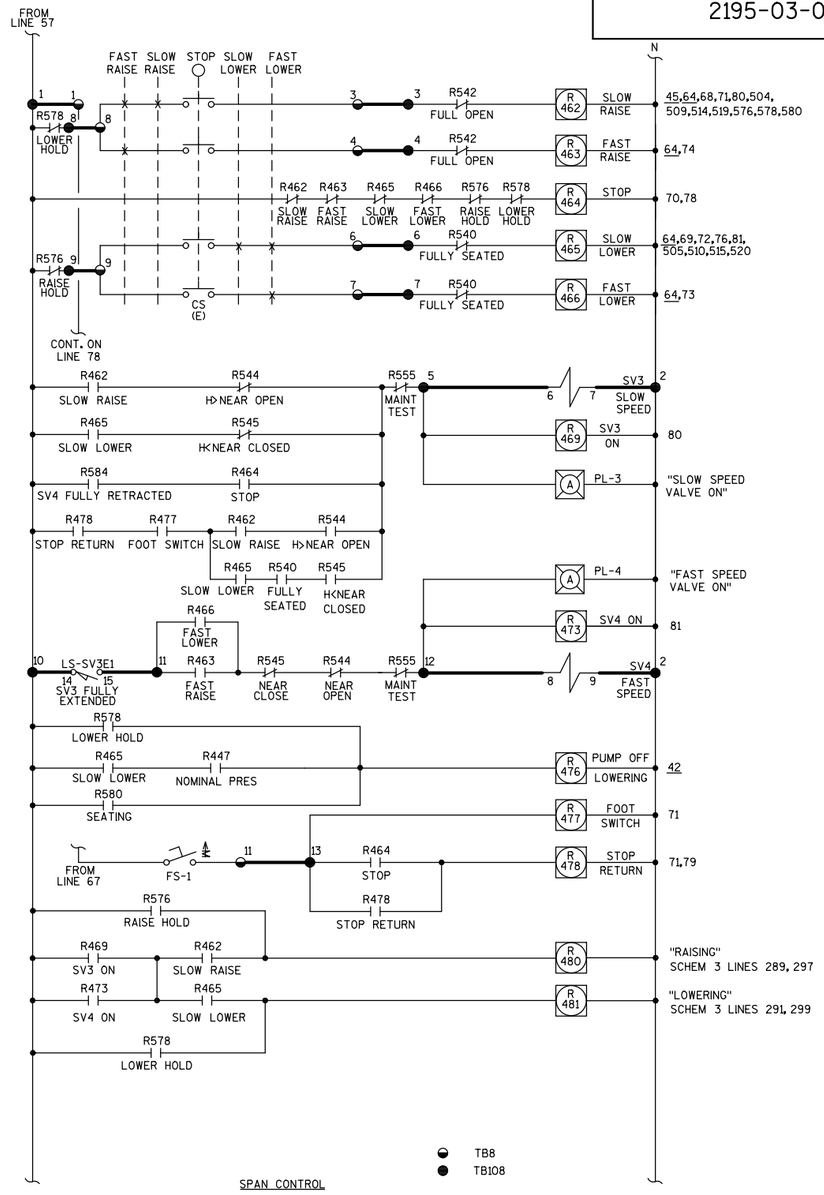
SOLENOID VALVE SV4 LIMIT SWITCHES

CONTACT	FULLY RETRACTED	OPERATOR POSITION	FULLY EXTENDED	FUNCTION THIS DWG OR DWG WHERE CONTACT IS SHOWN
LS-SV4E1	— — —	— — —	———	NOT USED
LS-SV4E2	———	———	— — —	NOT USED
LS-SV4R1	———	— — —	— — —	SCHEM 5, LINE 84
LS-SV4R2	— — —	———	———	NOT USED



PUMP CONTROL

TB17
TB7
TB107
TB202



TB8
TB108

SPAN CONTROL

NOTES:

1. REVISE TERMINAL BLOCK NUMBERS TO WHAT IS AVAILABLE IN THE FIELD.
2. SEE LINE 42 THIS SHEET. ADD RELAY IF NECESSARY TO MAKE THIS CONTACT. PICK UP LIMIT SWITCHES ON LINE 191 (SCHEMATIC SHEET 2). REPLACE LINE 191 LIMIT SWITCHES WITH CONTACT IF NECESSARY.
3. CONTROL DIAGRAMS SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR FINAL DESIGN CONNECTING TO EXISTING CONTROL LOGIC AND PROVIDING LOGIC TO CONTROL THE NEW HYDRAULIC POWER UNIT.
4. PROVIDE CONTACT FROM GENERATOR OR AUTOMATIC TRANSFER SWITCH SO ONLY ONE HYDRAULIC PUMP MOTOR RUNS WHILE GENERATOR IS RUNNING.

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SCHEMATIC 4

SHEET E10 OF E12

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8

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PANEL A CIRCUIT 16
UNSWITCHED

N

R580 SEATING
R462 SLOW RAISE
R447 NOM. PRES.
R465 SLOW LOWER
R540 FULLY SEATED
R555 MAINT
3 SV13 2
R540 FULLY SEATED
RKS1
4 PS-13
N.W. CYLINDER

R580 SEATING
R462 SLOW RAISE
R447 NOM. PRES.
R465 SLOW LOWER
R540 FULLY SEATED
R555 MAINT
7 SV14 6
R540 FULLY SEATED
RKS1
8 PS-14
S.W. CYLINDER

R580 SEATING
R462 SLOW RAISE
R447 NOM. PRES.
R465 SLOW LOWER
R540 FULLY SEATED
R555 MAINT
11 SV23 10
R540 FULLY SEATED
RKS1
12 PS-23
N.E. CYLINDER

R580 SEATING
R462 SLOW RAISE
R447 NOM. PRES.
R465 SLOW LOWER
R540 FULLY SEATED
R555 MAINT
15 SV24 14
R540 FULLY SEATED
RKS1
16 PS-24
S.E. CYLINDER

● TB109

NOTE: PRESSURE SWITCHES PS-13, PS-14,
PS-23 AND PS-24 SHALL CLOSE AT 200 PSI

CONT. ON LINE 31

LIFT CYLINDERS

FROM LINE 30

2
2

T 539 2 SEC
1 DN STOP (E) FULL CLOSED
3 T539
R 540 FULLY SEATED
40
5,6,10,11,15,16,20, 21,80,444,465,466,472 SCHEM 3, LINE 281,295

UP STOP (E) FULL OPEN
4
R 542
462,463, SCHEM 3, LINE 284,287

UP SLOW (E) NEAR OPEN
5
R 544
51,468,471,474, SCHEM 3, LINE 287

DN SLOW (E) NEAR CLOSED
6
R 545
52,469,472,474 SCHEM 3, LINE 295

✳ CLOSED ABOVE SET POINT
CLOSED BELOW SET POINT

● TB10
● TB110

FROM LINE 486

T 550 3 SEC
52
R544 NEAR OPEN
R545 NEAR CLOSED
T550
7
7
BELL (E) IN CONTROL DESK

SPAN POSITION

MAINT. TEST
OFF ON
KS-1P
R 555
5,10,15,20, 439,468,474

PL-14
"PUMP MAINT. ON BRIDGE NOT OPERABLE"

PS-1 CLOSES AT 2500 PSI
1 8
1 3
RESET
PB-1P
R 558 HIGH PRESSURE LATCH
59, 440

R558 LATCH
PL-2
"HIGH PRESSURE CUT OFF"

CON'T. ON LINE 61

MAINTENANCE PANEL

● TB10
● TB110

FROM LINE 60

1 FS-1 3 PL-9 "FLUID < 150g"
20 21
CLOSES AT < 150 GALS

FS-2 4 R 563 442
22 23
CLOSES AT < 100 GALS
PL-11 "FLUID < 100g"

FS-3 5 PL-13 "FLUID > 250g"
24 25
CLOSES AT > 250 GALS

TS-1 6 PL-10 "TEMP > 140° F"
26 27
CLOSES AT > 140° F

TS-2 7 PL-12 "TEMP < 55° F"
28 29
CLOSES AT < 55° F

HYD. SYSTEM INDICATIONS

● TB112

R583 SV3 RETRACTED
R584 SV4 RETRACTED
R462 RAISE SLOW
R576 RH
R 576 RAISE HOLD 77,80,82,464,479

R462 RAISE SLOW
R578 LH
R447 NOM. PRES.
R 578 LOWER HOLD 79,82,477,464,482

R447 NOM. PRES.
R462 RAISE SLOW
R540 FULLY SEATED
R580 SEATING
R576 RH
R 580 SEATING 3,8,13,18, 21,82,477

580 SEATING
R578 LH
R576 RH
R 582 OPEN ACC VENT UNIT PRESSURE DRAINED 450

1 LS-SV3R1 RETRACTED 8
R 583 SV3 FULLY RETRACTED 76,444

LS-SV4R1 RETRACTED 9
R 584 SV4 FULLY RETRACTED 77,443,470

R 585 SPARE
R 586 SPARE
R 587 SPARE
R 588 SPARE

SPAN CONTROL

● TB112

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SCHEMATIC 5

SHEET E11 OF E12
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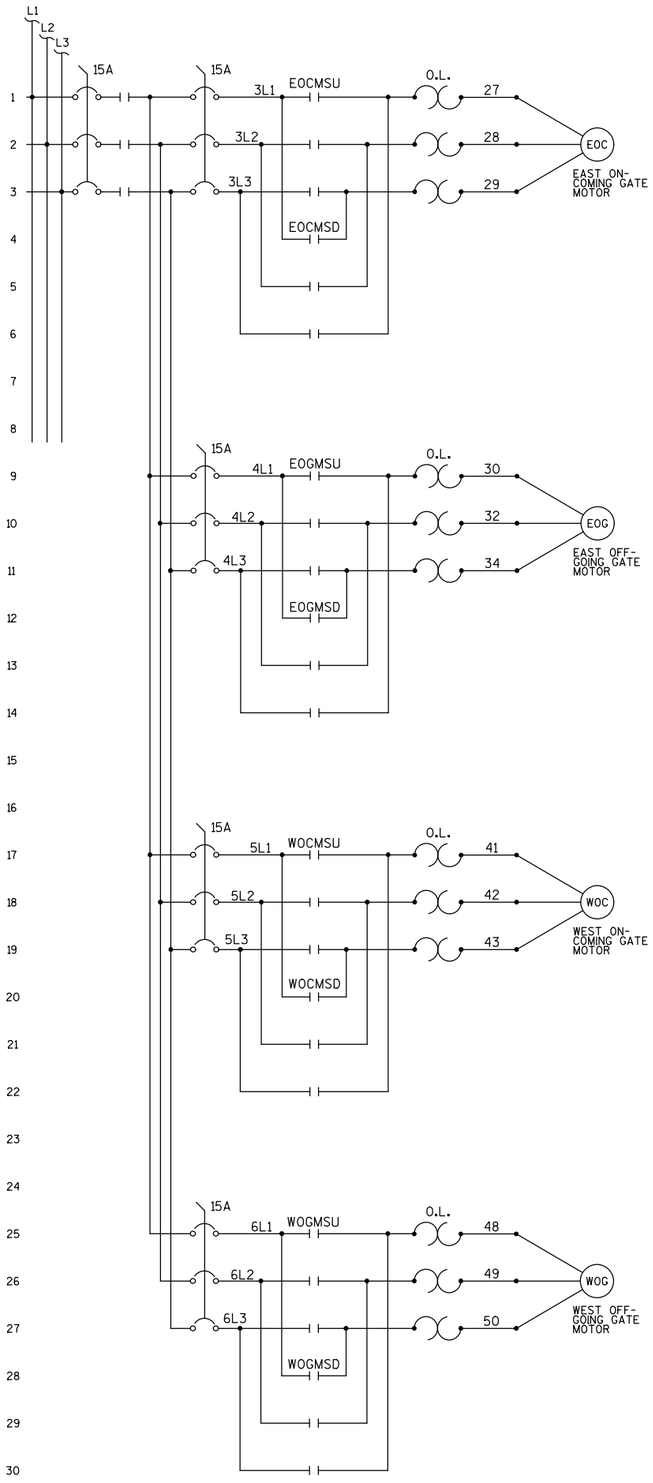
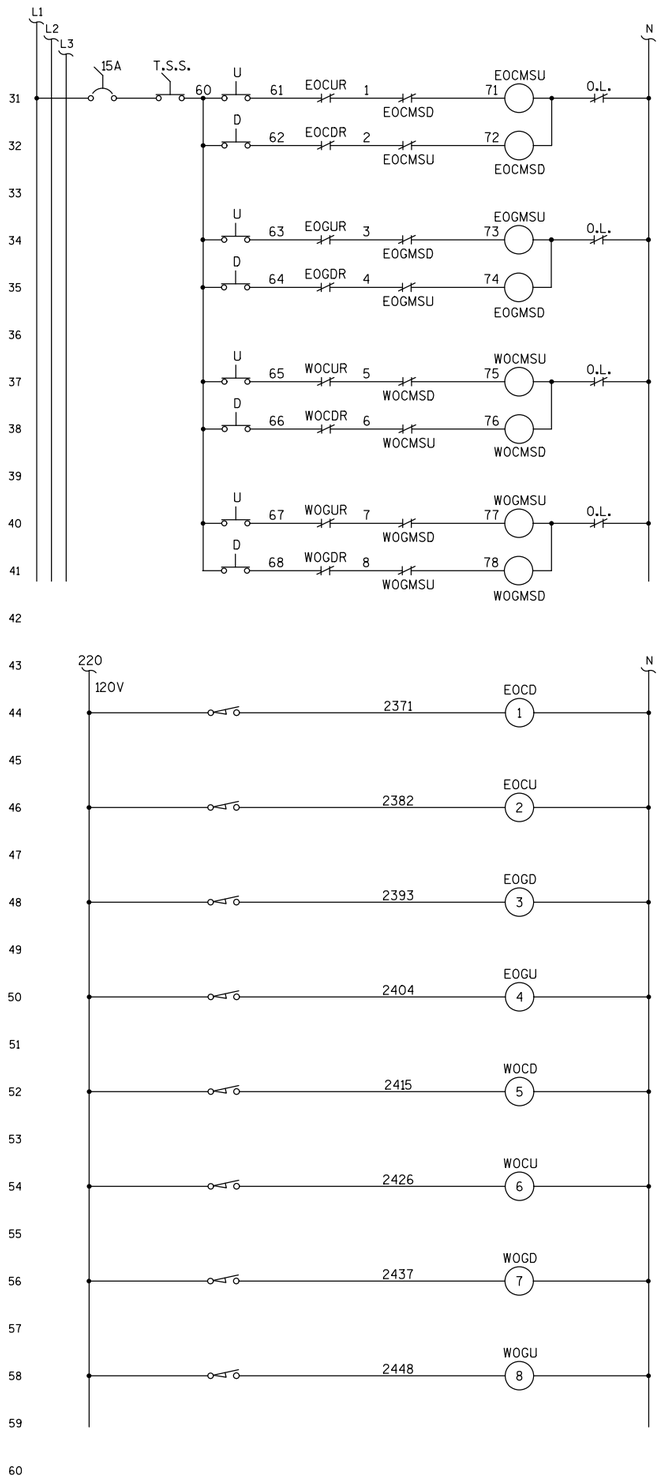
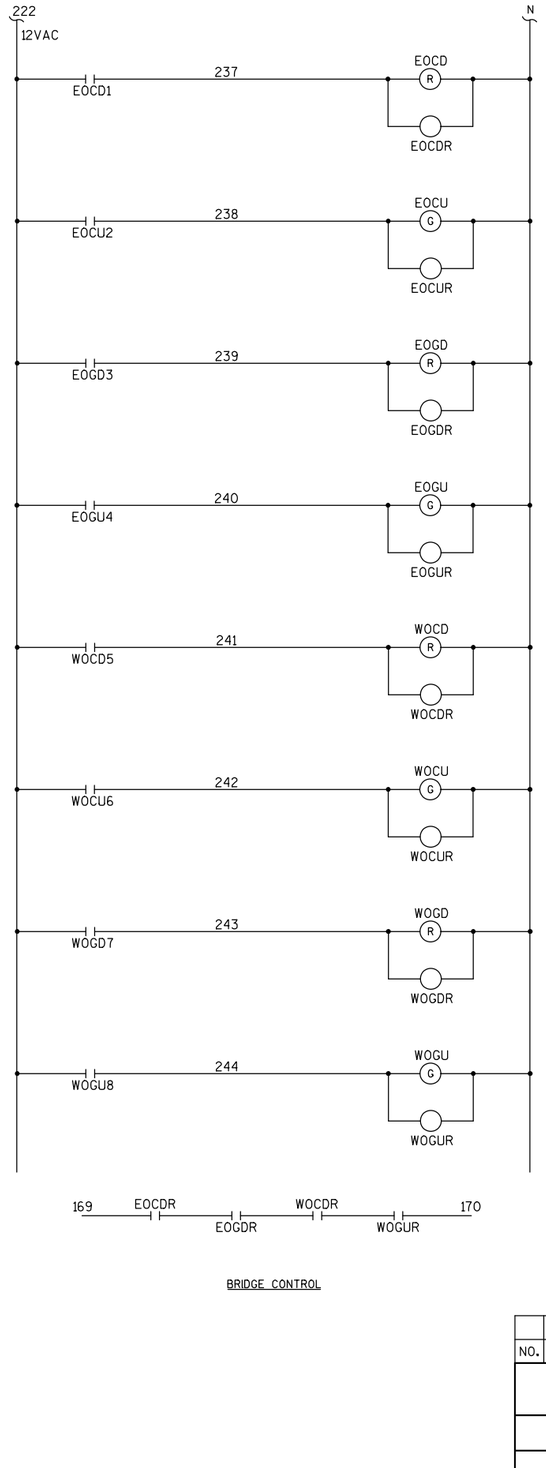


TRAFFIC GATES





BRIDGE CONTROL

8

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SCHEMATIC 6

SHEET E12 OF E12

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