WKE

MAY 2015

ORDER OF SHEETS

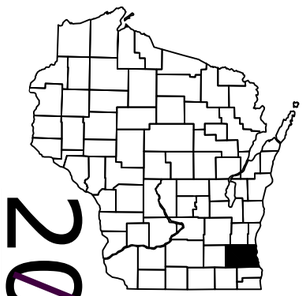
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
~~Section No.~~	~~5~~	~~Plan and Profile~~
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
~~Section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

TOTAL SHEETS = 490

PROJECT ID: 1060-35-93

WITH:

COUNTY: MILWAUKEE



N

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1060-35-93		

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

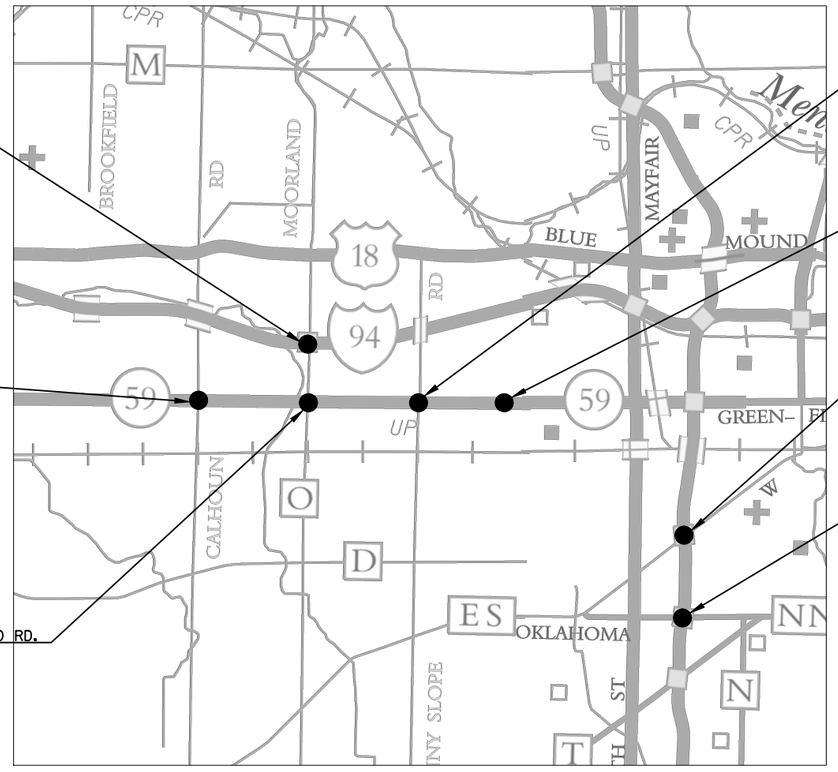
PLAN OF PROPOSED IMPROVEMENT

ZOO IC, 2015 TMP PROJECTS

VARIOUS LOCATIONS

VARIOUS HIGHWAYS
MILWAUKEE & WAUKESHA COUNTY

STATE PROJECT NUMBER
1060-35-93



S. MOORLAND RD. EB EXIT RAMP
BEGIN CONSTRUCTION 1060-35-93
STA. 10+00
X=716189.95
Y=165223.69
END CONSTRUCTION 1060-35-93
STA. 12+93

W. GREENFIELD AVE. & S. SUNNYSLOPE RD.
BEGIN CONSTRUCTION 1060-35-93
STA. 247+00
X=721636.27
Y=162994.52
END CONSTRUCTION 1060-35-93
STA. 251+00

W. GREENFIELD AVE. & S. ELM GROVE RD.
BEGIN CONSTRUCTION 1060-35-93
STA. 274+00
X=724336.17
Y=162971.06
END CONSTRUCTION 1060-35-93
STA. 278+00

W. NATIONAL AVE. NB EXIT RAMP
BEGIN CONSTRUCTION 1060-35-93
STA. 23+00
X=571959.88
Y=285041.56
END CONSTRUCTION 1060-35-93
STA. 25+25

W. OKLAHOMA AVE. NB ENTRANCE RAMP
BEGIN CONSTRUCTION 1060-35-93
STA. 10+45
X=571666.27
Y=281192.75
END CONSTRUCTION 1060-35-93
STA. 15+96

W. GREENFIELD AVE. & S. CALHOUN RD
BEGIN CONSTRUCTION 1060-35-93
STA. 141+00
X=711036.71
Y=163090.41
END CONSTRUCTION 1060-35-93
STA. 145+00

W. GREENFIELD AVE. & S. MOORLAND RD.
BEGIN CONSTRUCTION 1060-35-93
STA. 194+00
X=716336.45
Y=163037.64
END CONSTRUCTION 1060-35-93
STA. 198+00

DESIGN DESIGNATION		W. OKLAHOMA AVE. NB ON RAMP	W. NATIONAL AVE. NB OFF RAMP	S. MOORLAND RD. EB OFF RAMP	W. GREENFIELD AVE. & S. CALHOUN RD.
A.A.D.T.	=	7,090 (2009)	6,670 (2012)	12,080 (2012)	21,400 (2009)
A.A.D.T.	=				
D.H.V.	=				
D.D.	=				
T.	=				
DESIGN SPEED	=	45 MPH	35 MPH	35 MPH	45 MPH
ESALS	=				

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, 'MILWAUKEE' COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE, WISCONSIN COUNTY COORDINATES, 'WAUKESHA' COUNTY, NAD83 (2007), IN U.S. SURVEY FEET, VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FORWARD 45
Designer	BENJAMIN MCGILLCUDDY
Project Manager	CHRIS HAGER, PE
Regional Examiner	
Regional Supervisor	WILLIAM S. MOHR, PE
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 01/30/15 (Signature)

E

STANDARD ABBREVIATIONS

AEW	APRON ENDWALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
C&G	CURB AND GUTTER
$\overset{CL}{}$	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALTIC
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
M/L	MAINLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON END WALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SLV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COURSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEWS
TYPICAL SECTIONS
UTILITY INFORMATION ONLY DETAILS
PLAN DETAILS
SIDEWALK GRADE PLANS
FTMS PLANS
EROSION CONTROL PLANS
STORM SEWER PLANS
PERMANENT SIGNING PLANS
TRAFFIC SIGNAL PLANS
PAVEMENT MARKING PLANS
TRAFFIC CONTROL PLANS
ALIGNMENT PLANS

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TIME WARNER CABLE
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www.DiggersHotline.com

2

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2

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATION TO KNOWN EXISTING UTILITIES IN THE VICINITY OF THE PROJECT ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

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

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOILED AND SODDED AS DIRECTED BY THE ENGINEER.

A SAWED JOINT SHALL BE REQUIRED WHERE NEW HMA SURFACE MEETS EXISTING ASPHALTIC CONCRETE SURFACE.

CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER AT LEAST TWO WEEKS PRIOR TO DISTURBING ANY PUBLIC SURVEY MONUMENTS.

ALL ALIGNMENTS SHALL NOT BE USED FOR REAL ESTATE PURPOSES.

A CONVERSION FACTOR OF 2.10 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE.

A CONVERSION FACTOR OF 115 LBS/SY/IN IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.

INLET PROTECTION REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

WHEN THE QUANTITY OF HMA PAVEMENT OR BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

VERIFY THE EXISTING STORM SEWER SYSTEM CONNECTION LOCATIONS AND ELEVATIONS PRIOR TO ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE INFORMATION SHOWN ON THE PLANS PRIOR TO INSTALLING THE PROPOSED STORM SEWER.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

CONCRETE SIDEWALK AND CURB & GUTTER SHOULD BE REMOVED TO THE NEAREST JOINT OR AS APPROVED BY THE ENGINEER.

HMA PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

LOCATION	PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NOMINAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
W. OKLAHOMA AVENUE NB ENTRANCE RAMP	4" HMA E-10	2 1/4"	LOWER LAYER	19.0 MM	PG 64-28P
		1 3/4"	UPPER LAYER	12.5 MM	PG 64-28P
W. NATIONAL AVENUE NB EXIT RAMP	4" HMA E-10	2 1/4"	LOWER LAYER	19.0 MM	PG 64-28P
		1 3/4"	UPPER LAYER	12.5 MM	PG 64-28P

2

BEGIN CONSTRUCTION 1060-35-93
STA. 10+45

END CONSTRUCTION 1060-35-93
STA. 15+96

IH-894/USH 45

W. OKLAHOMA AVE.

SLOPE INTERCEPT

IH-894 NB ENTRANCE RAMP

PC: 13+07.25

PT: 15+23.15

PC: 15+64.55

BP: 10+00.00

74+00

75+00

76+00

77+00

11+00

12+00

13+00

14+00

15+00

16+00

MON621056
MON BRASS CAP S8-6-21
STA. 76+23.43'
N 281193.2
E 571777.1
ELEV. 777.19

PI: 76+23.46

WEPCO OWNED DOT R/W
BY EASEMENT

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 6	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\020201_PO.DWG
LAYOUT NAME - 021201_PD

PLOT DATE : 1/27/2015 5:04 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

20+00
21+00
22+00
23+00
24+00
25+00
50+00
51+00
52+00
53+00

PT: 22+59.20

IH-894 NB ENTRANCE RAMP

IH-894 NB EXIT RAMP

END CONSTRUCTION 1060-35-93
STA. 25+25

BEGIN CONSTRUCTION 1060-35-93
STA. 23+00

NOISE WALL

PI: 50+59.72

EP: 25+21.17

CP803
BERNSTEN FENO MON. W/ ALUMINUM CAP SET
ON THE NORTH SIDE OF NATIONAL AVE.
200' WEST OF 100TH STREET
AND 6 FEET NORTH OF THE BACK OF WALK
STA. 50+92.19, 65.7 LT
N 285266.2
E 571708
ELEV. 772.120

W. NATIONAL AVE.

S. 100TH ST.

SIGN

HW

W

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - W. NATIONAL AVE. NB EXIT RAMP	SHEET 7	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\020201_PO.DWG
LAYOUT NAME - 021201_pd
PLOT DATE : 1/27/2015 4:28 PM
PLOT BY : HAYNES, RONNIE
PLOT NAME :
PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

SEC620007
STA. 142+88.1'
N 163088.4
E 711224.8

BEGIN CONSTRUCTION 1060-35-93
STA. 141+00

SEC720163
STA. 143+03.98'
N 163088.3
E 711240.7

S. CALHOUN RD.

SIGN

INL

ONLY ONLY

37+00

PI: 142+88.11

PI: 143+03.98

STH59/GREENFIELD AVE.

W. GREENFIELD AVE.

140+00 141+00 142+00 EP: 35+98.27 BP: 35+98.27 143+00 144+00 145+00 146

35+00

JIFFY STOP
GAS STATION

KWIK FUEL
GAS STATION

SIGN

FLAG

MP

END CONSTRUCTION 1060-35-93
STA. 145+00

BILLARD

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 8	E

2

SEC620009
STA. 195+44.52'
N 16036.3
E 716481
ELEV. 845.27

S. MOORLAND RD.

W. GREENFIELD AVE.

W. GREENFIELD AVE

REENFIELD AVE

+00 193+00 194+00 EP: 34+27.35 BP: 34+27.35 196+00 197+00 198+00 199+00

PI: 195+44.52

PI: 196+22.58

36+00 35+00 34+00 33+00 32+00

POST

ND RD.

BEGIN CONSTRUCTION 1060-35-93
STA. 194+00

SEC720165
STA. 196+22.58
N 16036
E 716559
ELEV. 844.87

END CONSTRUCTION 1060-35-93
STA. 198+00

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 9	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\020201_PO.DWG
LAYOUT NAME - 020201_PO - 020201_PO

PLOT DATE : 1/27/2015 3:00 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

N

SEC620011
STA. 248+68.30'
N 162993.1
E 721804.7
ELEV. 838.39

SEC720167
STA. 249+44.2'
N 162992.6
E 721880.5
ELEV. 838.82'

S. SUNNYSLOPE RD.

W. GREENFIELD AVE.

35+00

34+00

33+00

32+00

247+00

248+00

249+00

250+00

251+00

252+00

PI: 248+68.30

PI: 249+44.14

EP: 33+44.32

BP: 33+44.32

BEGIN CONSTRUCTION 1060-35-93
STA. 247+00

END CONSTRUCTION 1060-35-93
STA. 251+00

SIGN

POST

CHIS

IP

XXXX

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 10	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\020202_PO.DWG
LAYOUT NAME - 020202_PO - 020202_PO

PLOT DATE : 1/27/2015 3:00 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

N

SEC620012
STA. 275+69.39'
N 162969.6
E 724505.6
ELEV. 802.06

S. ELM GROVE RD.

35+00

34+00

33+00

32+00

PI: 275+69.39

PI: 276+05.89

W. GREENFIELD AVE.

W. GREENFIELD AVE.

273+00

274+00

275+00

EP: 33+23.25

BP: 33+23.25

276+00

277+00

278+00

POST

BEGIN CONSTRUCTION 1060-35-93
STA. 274+00

END CONSTRUCTION 1060-35-93
STA. 278+00

SEC720168
STA. 276+05.89'
N 162969.3
E 724542.1
ELEV. 801.68

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - W. GREENFIELD AVE. & S. ELM GROVE RD.	SHEET 11	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\020203_PO.DWG
LAYOUT NAME - 020203_PO - 020203_PO

PLOT DATE : 1/27/2015 3:01 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

IH-94 EB ENTRANCE RAMP

POST

POST

POST

SIGN

SIGN

SIGN

END CONSTRUCTION 1060-35-93
STA. 12+93

BP: 10+00.00

10+00

11+00

12+00

13+00

13+85

IH-94 EB EXIT RAMP

BEGIN CONSTRUCTION 1060-35-93
STA. 10+00

57+00

56+00

55+00

54+00

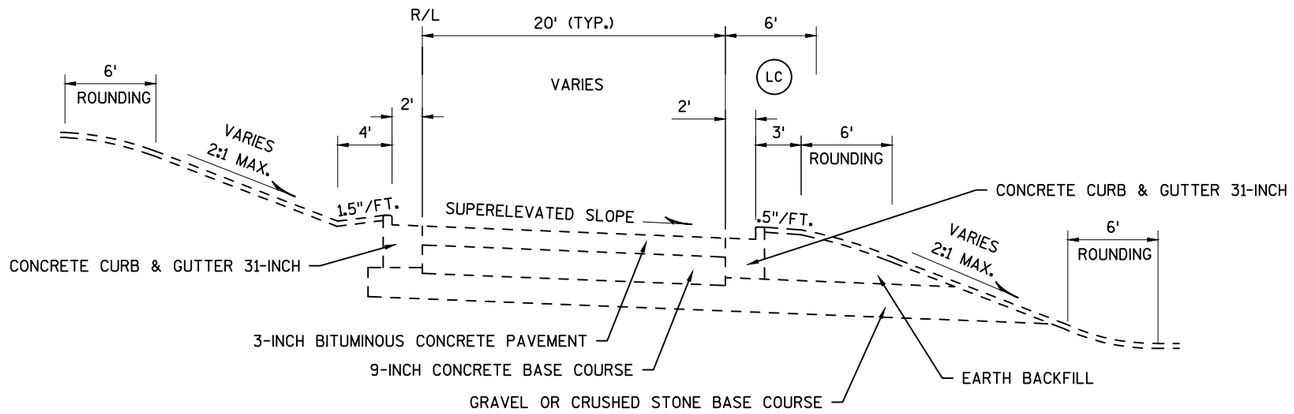
EP: 13+84.58

S. MOORLAND RD.

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PROJECT OVERVIEW - S. MOORLAND RD. EB EXIT RAMP	SHEET 12	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\MOORLAND\020201_PO.DWG
LAYOUT NAME - 021201_PD

PLOT DATE : 1/27/2015 4:13 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1" = 40'_XREF

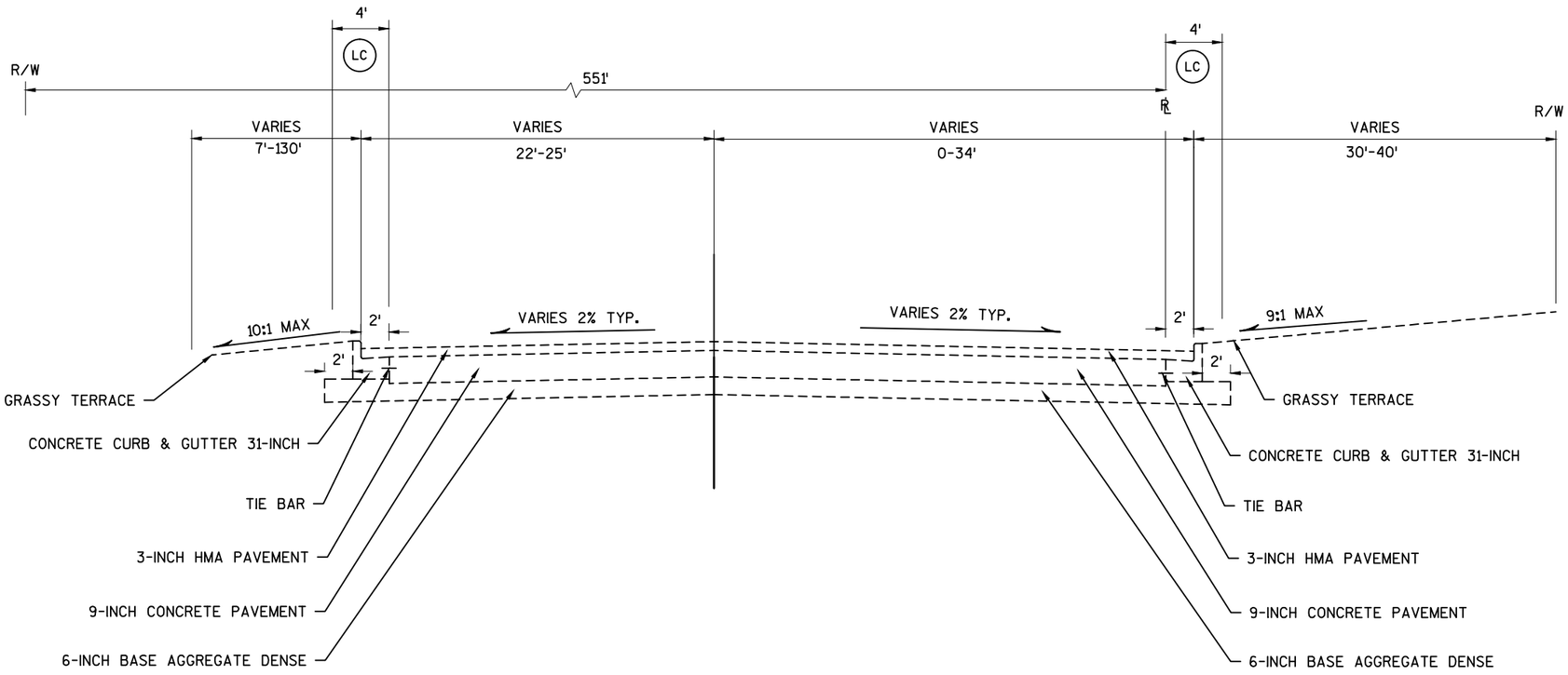


TYPICAL EXISTING SECTION
IH-894 NB ENTRANCE RAMP
STA. 10+45.0 TO STA. 15+96.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - IH-894 NB ENTRANCE RAMP	SHEET 13	E

2



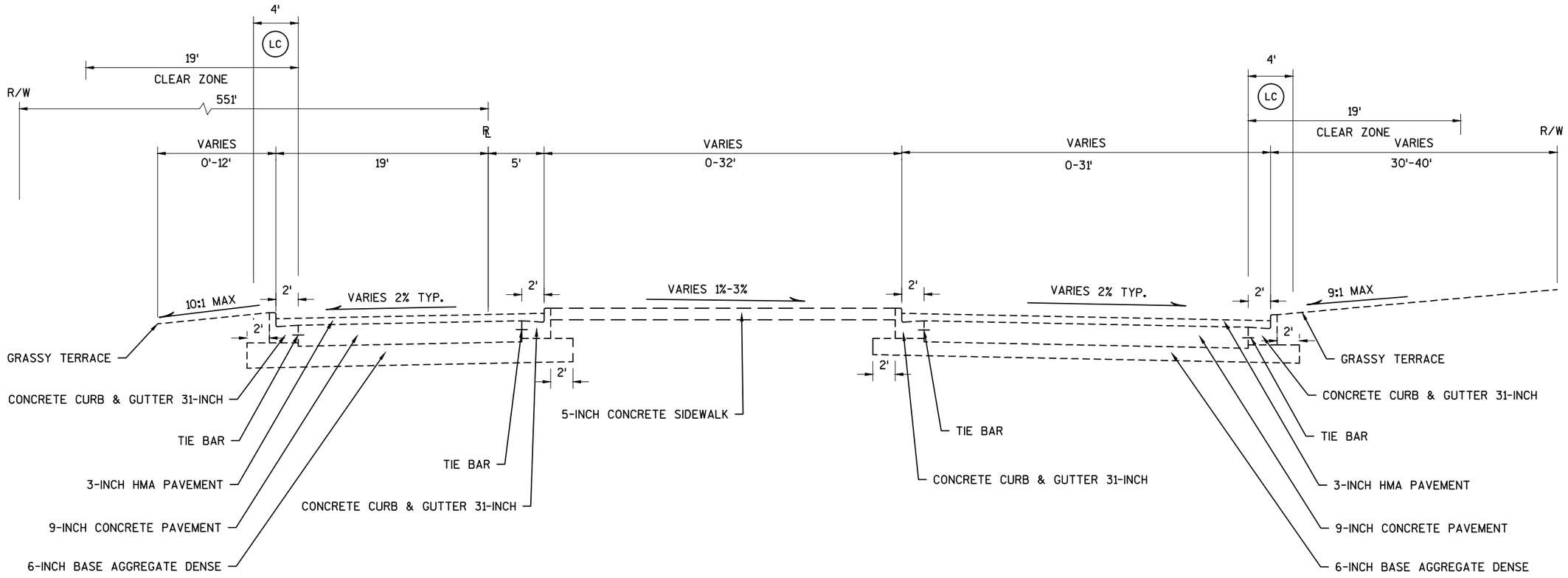
TYPICAL EXISTING SECTION
IH-894 NB EXIT RAMP
STA. 23+00 TO STA. 24+46.7

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - IH-894 NB EXIT RAMP	SHEET 14	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\020301_TS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/27/2015 4:30 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

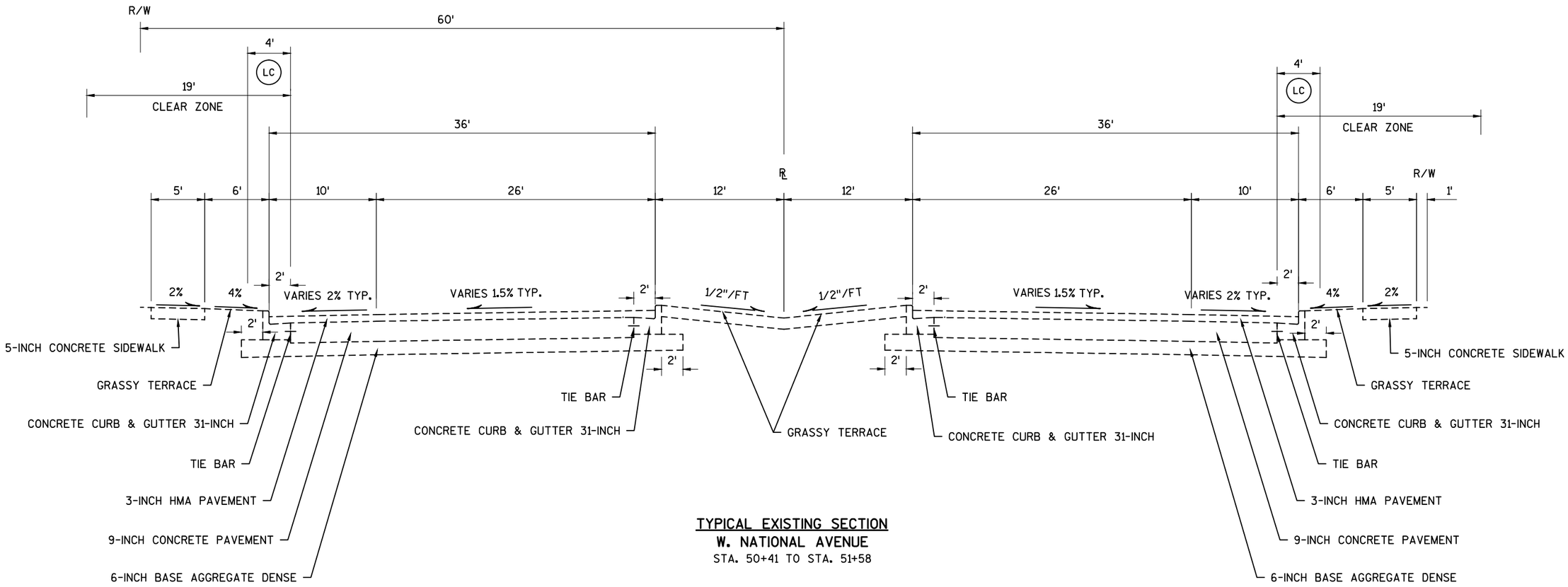


TYPICAL EXISTING SECTION
IH-894 NB EXIT RAMP
STA. 24+46.7 TO STA. 24+77

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - IH-894 NB EXIT RAMP	SHEET 15	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\020301_TS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/27/2015 4:30 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

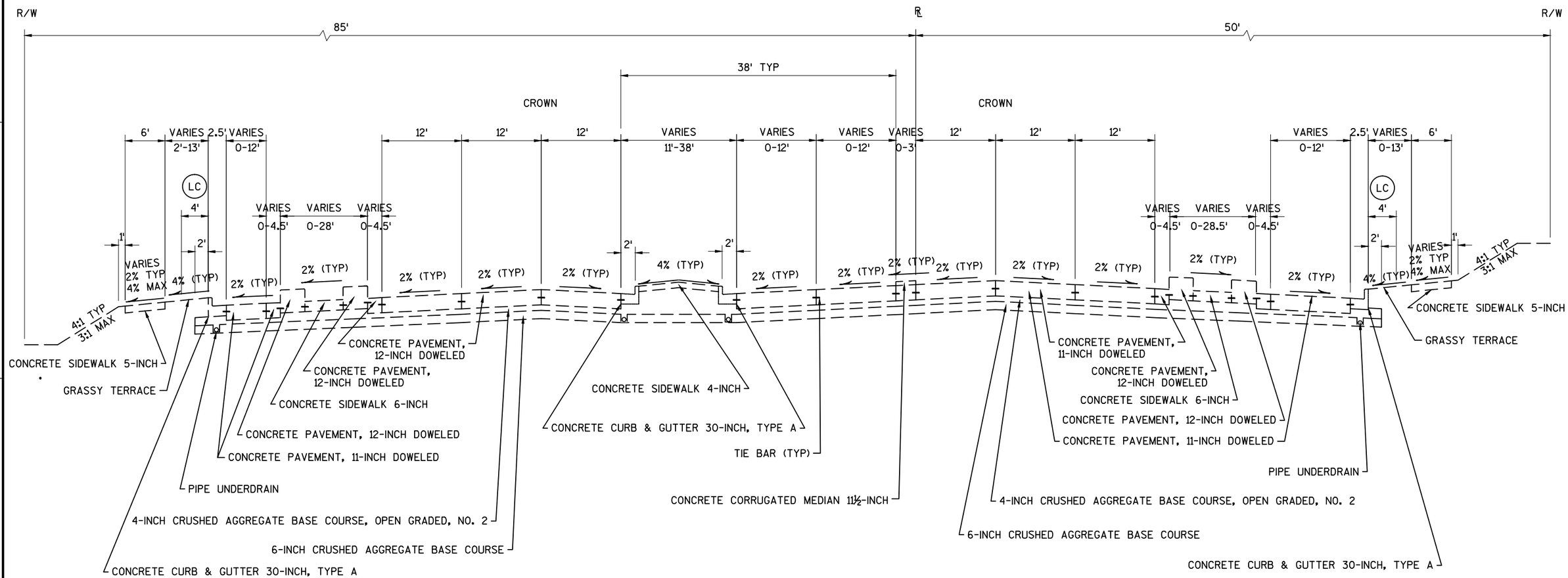


TYPICAL EXISTING SECTION
W. NATIONAL AVENUE
STA. 50+41 TO STA. 51+58

LC = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - W. NATIONAL AVENUE	SHEET 16	E

2



TYPICAL EXISTING SECTION

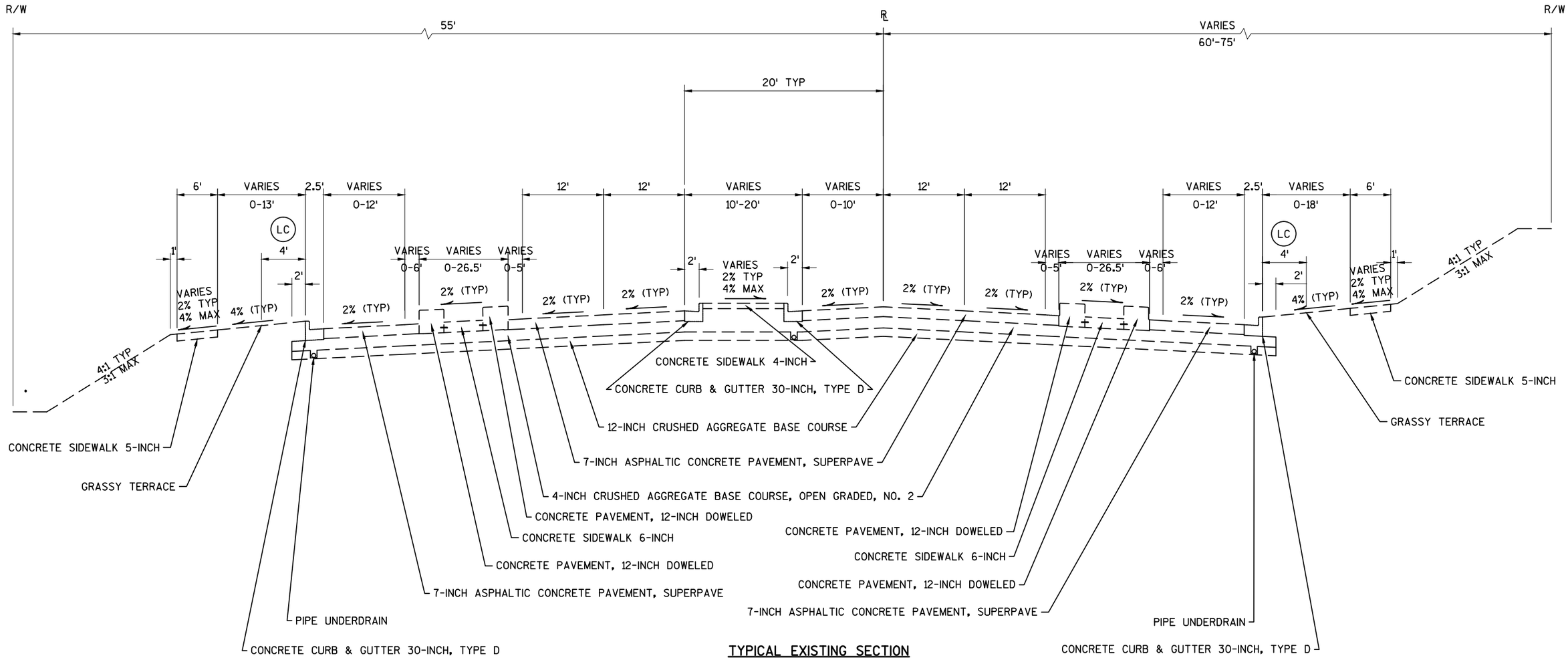
W. GREENFIELD AVENUE

STA. 194+00.0 TO STA. 198+00.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - W. GREENFIELD AVENUE	SHEET 17	E

2



TYPICAL EXISTING SECTION

W. GREENFIELD AVENUE

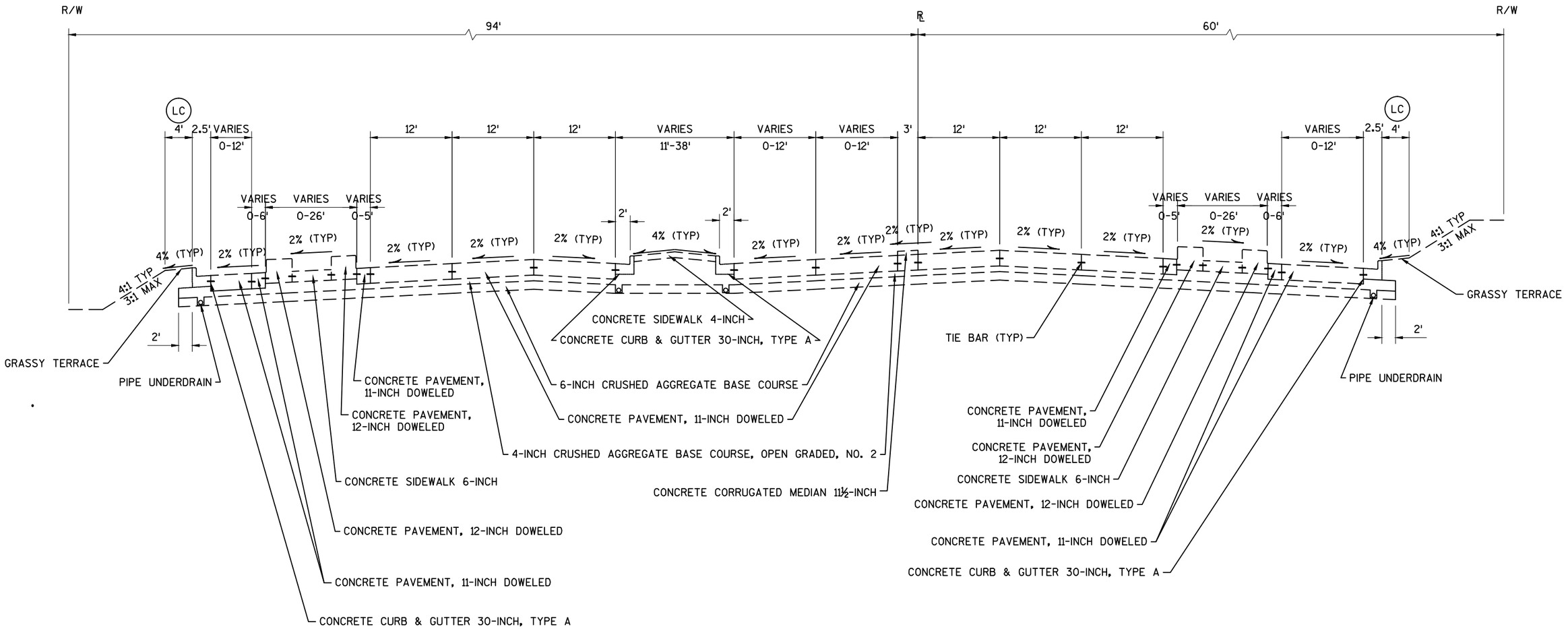
STA. 247+00.0 TO STA. 251+00.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - W. GREENFIELD AVENUE	SHEET 18	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\020301_TS.DWG
LAYOUT NAME - ****

PLOT DATE : 1/27/2015 2:03 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:10 FT



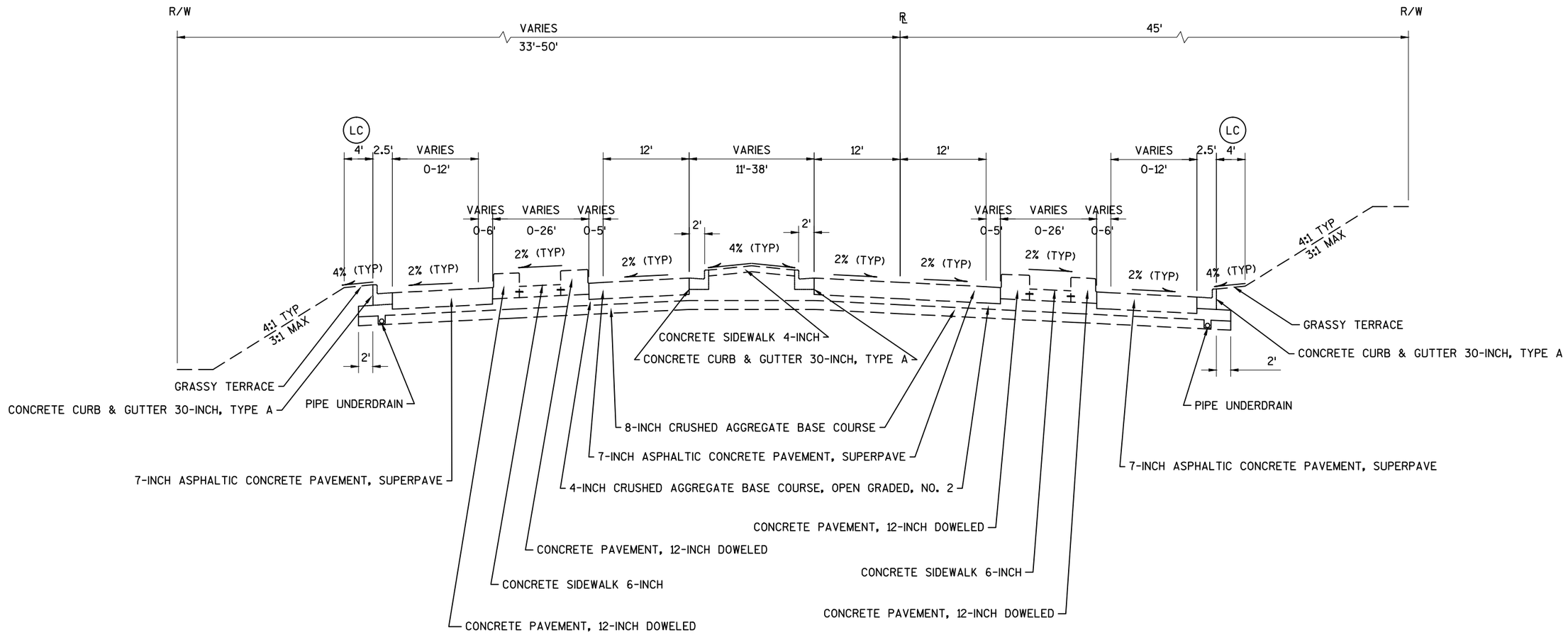
TYPICAL EXISTING SECTION
S. MOORLAND ROAD
STA. 33+00.0 TO STA. 36+00.0

LC = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - S. MOORLAND ROAD	SHEET 19	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\020301_TS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/27/2015 2:03 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

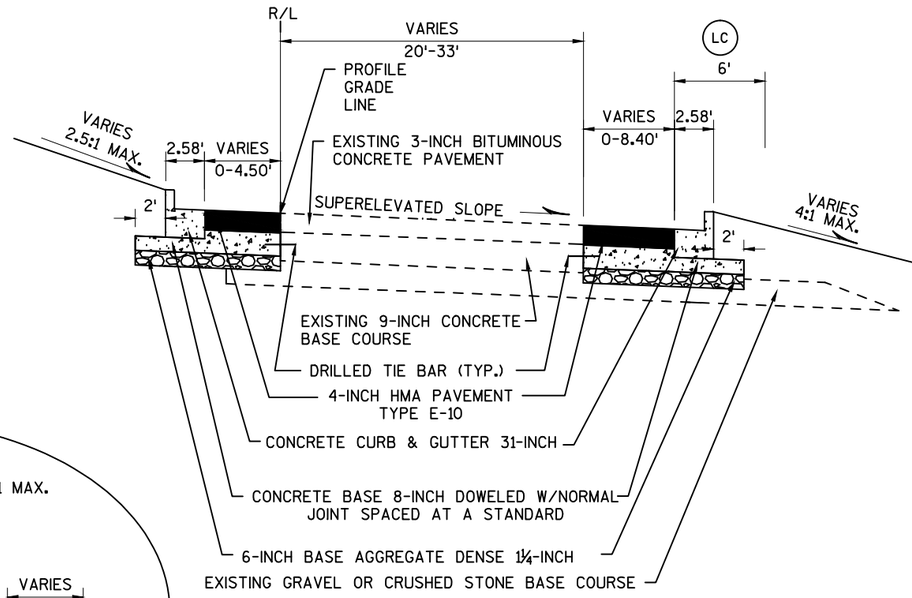
2



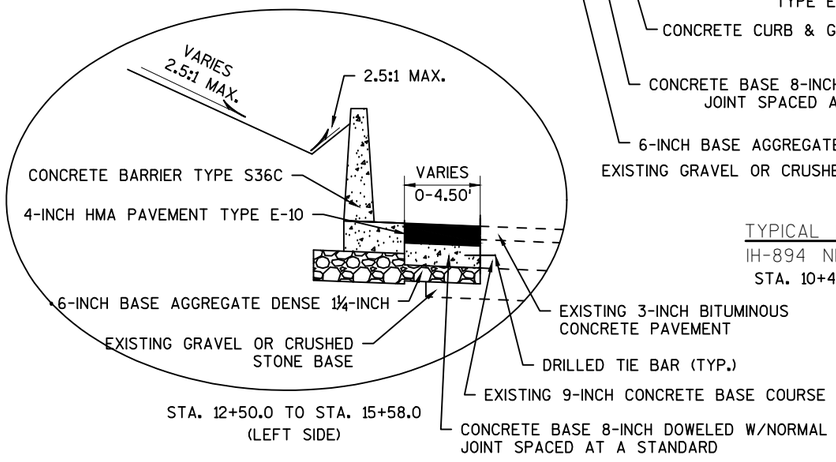
TYPICAL EXISTING SECTION
S. SUNNYSLOPE ROAD
STA. 32+00.0 TO STA. 35+00.0

(LC) = LATERAL CLEARANCE

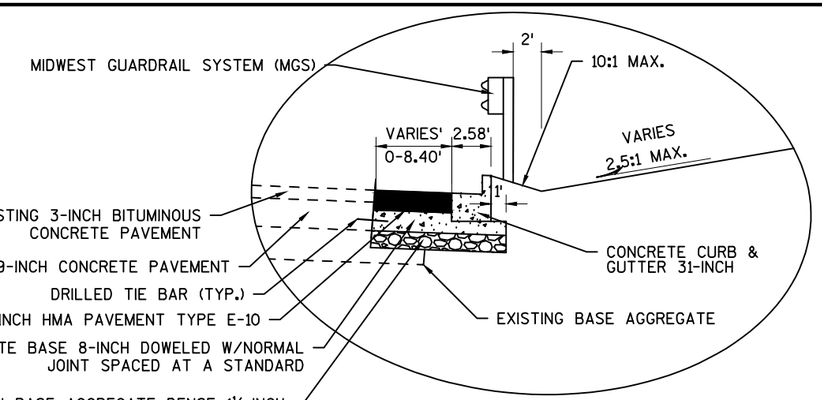
PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - S. SUNNYSLOPE ROAD	SHEET 20	E



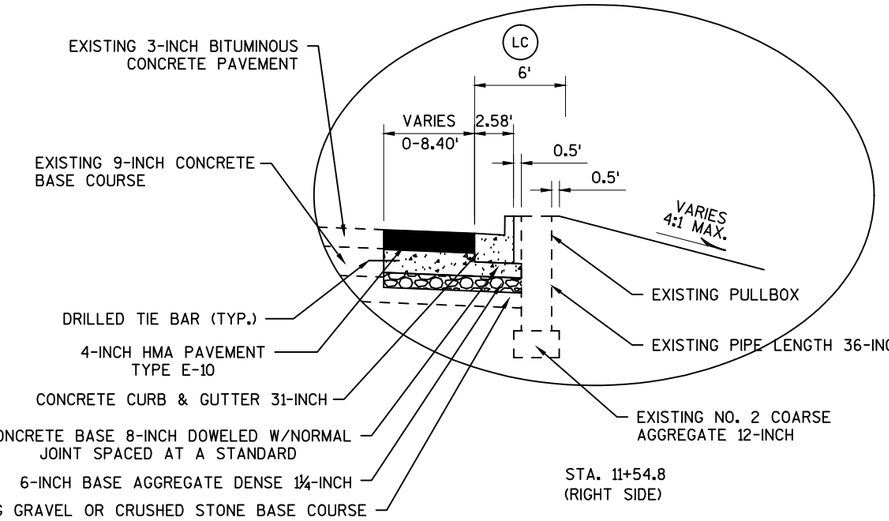
TYPICAL PROPOSED SECTION
IH-894 NB ENTRANCE RAMP
STA. 10+45.0 TO STA. 15+96.0



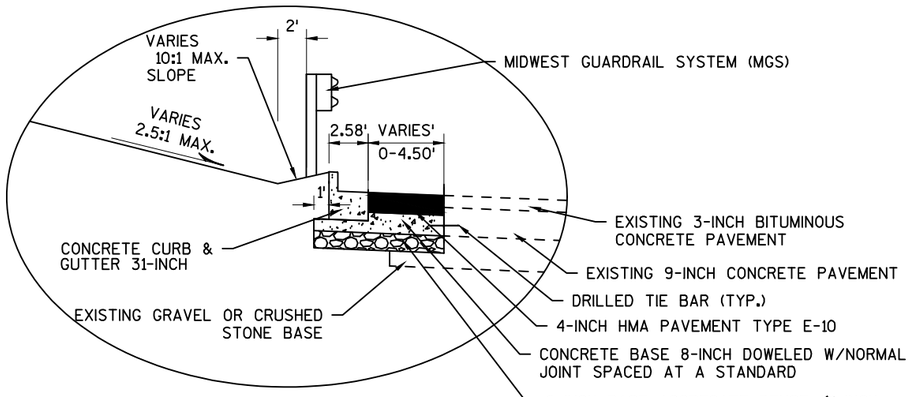
STA. 12+50.0 TO STA. 15+58.0
(LEFT SIDE)



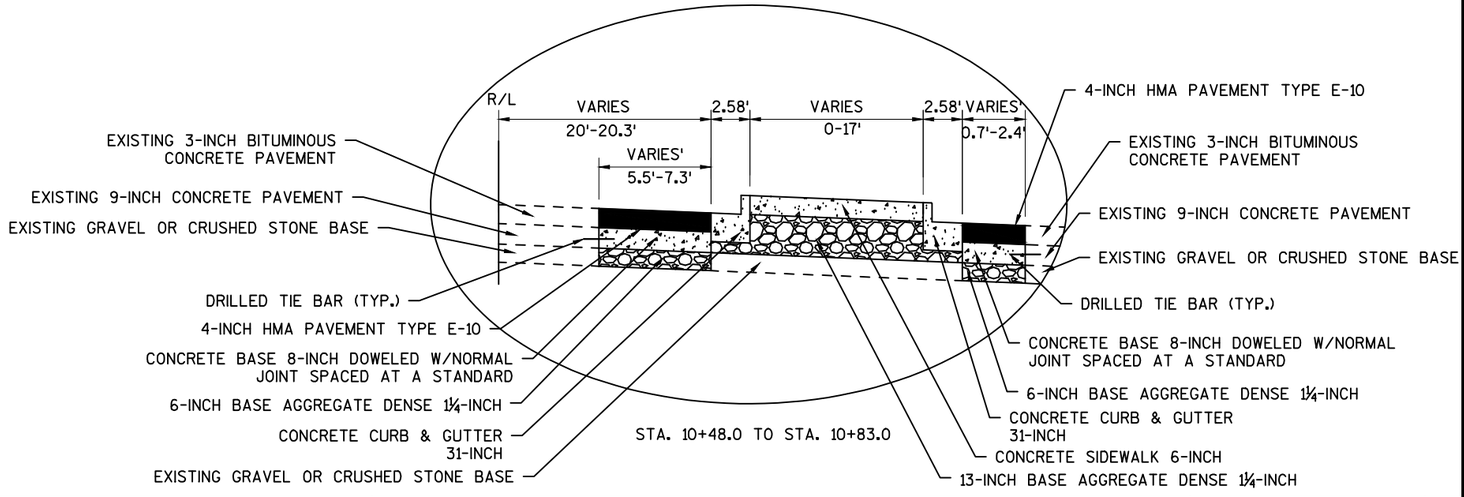
STA. 10+78.0 TO STA. 15+96.0
(RIGHT SIDE)



STA. 11+54.8
(RIGHT SIDE)



STA. 11+60.0 TO STA. 12+50.0
(LEFT SIDE)

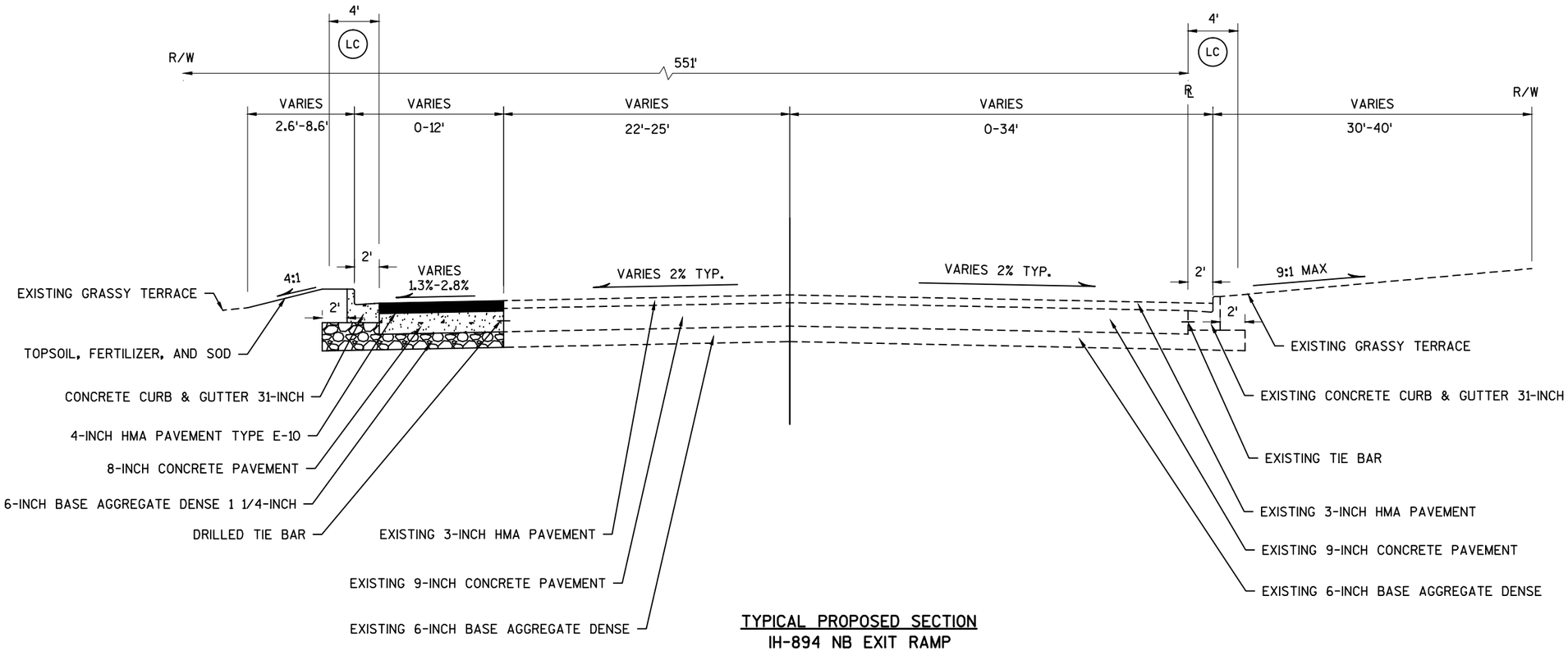


STA. 10+48.0 TO STA. 10+83.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - IH-894 NB ENTRANCE RAMP	SHEET 21	E

2

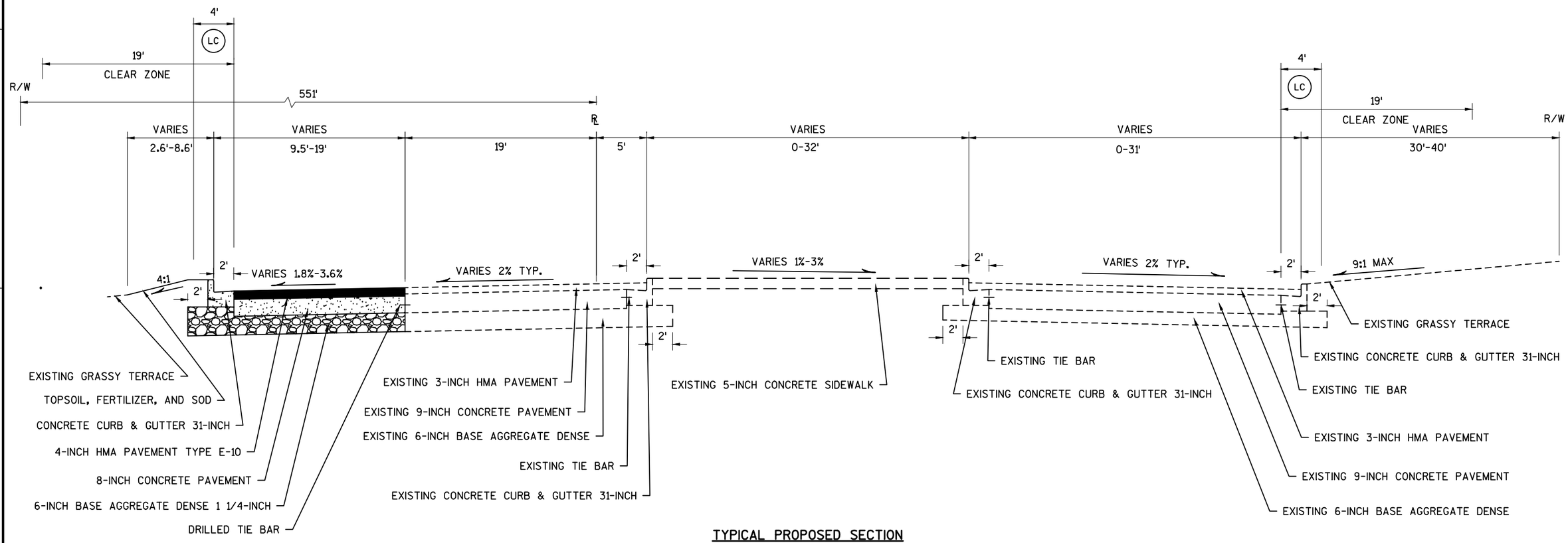


TYPICAL PROPOSED SECTION
IH-894 NB EXIT RAMP
STA. 23+00 TO STA. 24+46.7

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - IH-894 NB EXIT RAMP	SHEET 22	E

2

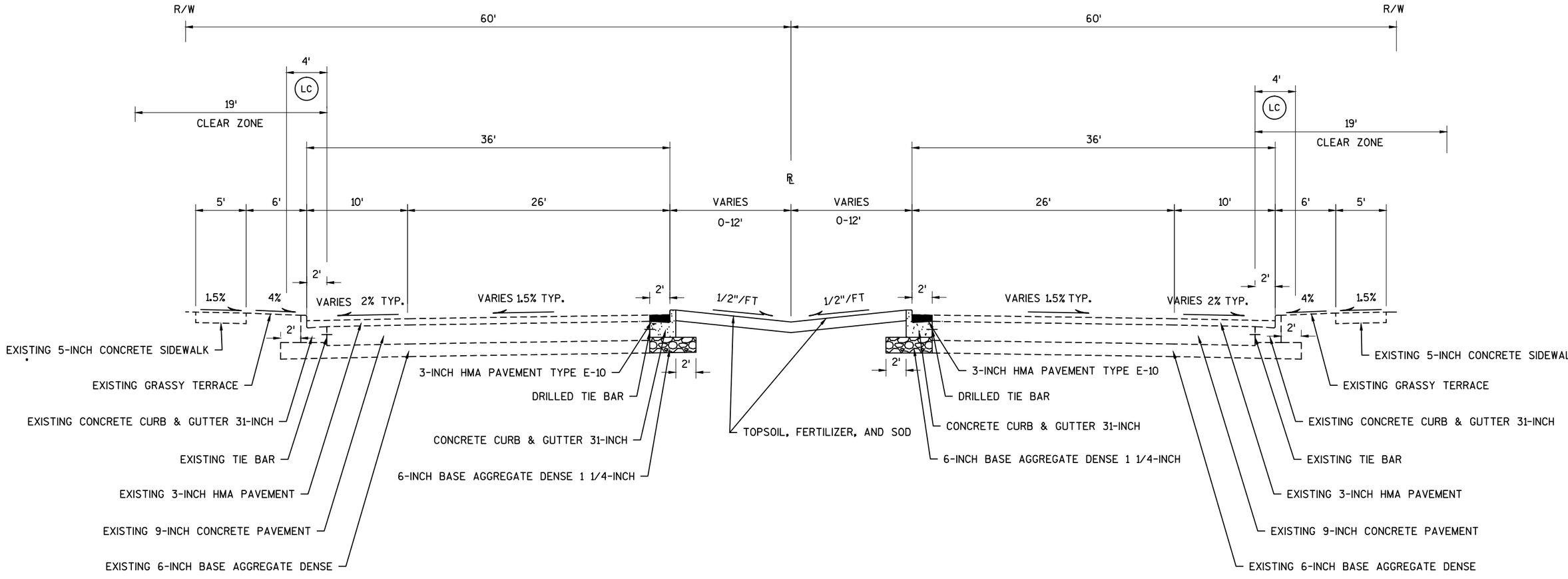


TYPICAL PROPOSED SECTION
IH-894 NB EXIT RAMP
STA. 24+46.7 TO STA. 24+77

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - IH-894 NB EXIT RAMP	SHEET 23	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\020301_TS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/27/2015 4:30 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

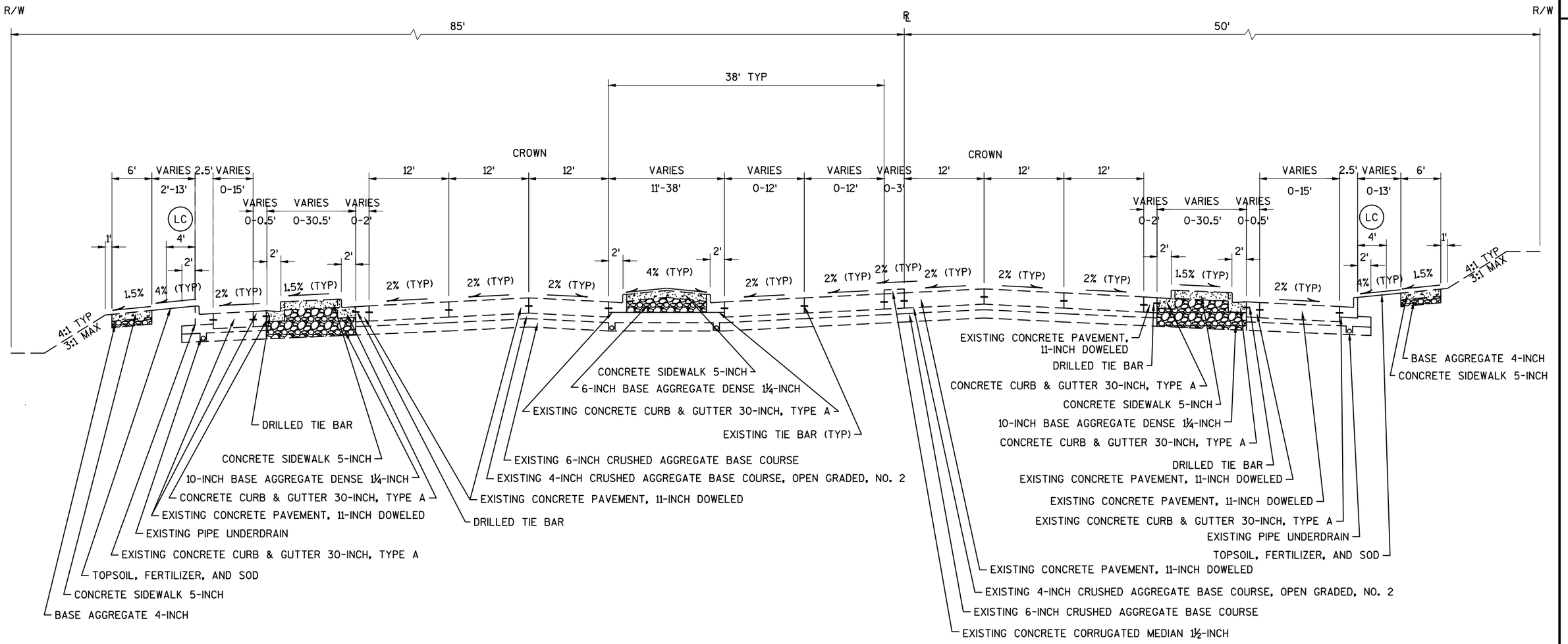


TYPICAL PROPOSED SECTION
W. NATIONAL AVENUE
STA. 50+41 TO STA. 51+58

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - W. NATIONAL AVENUE	SHEET 24	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\020301_TS.DWG
LAYOUT NAME - ****
PLOT DATE : 1/27/2015 4:30 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:10 FT



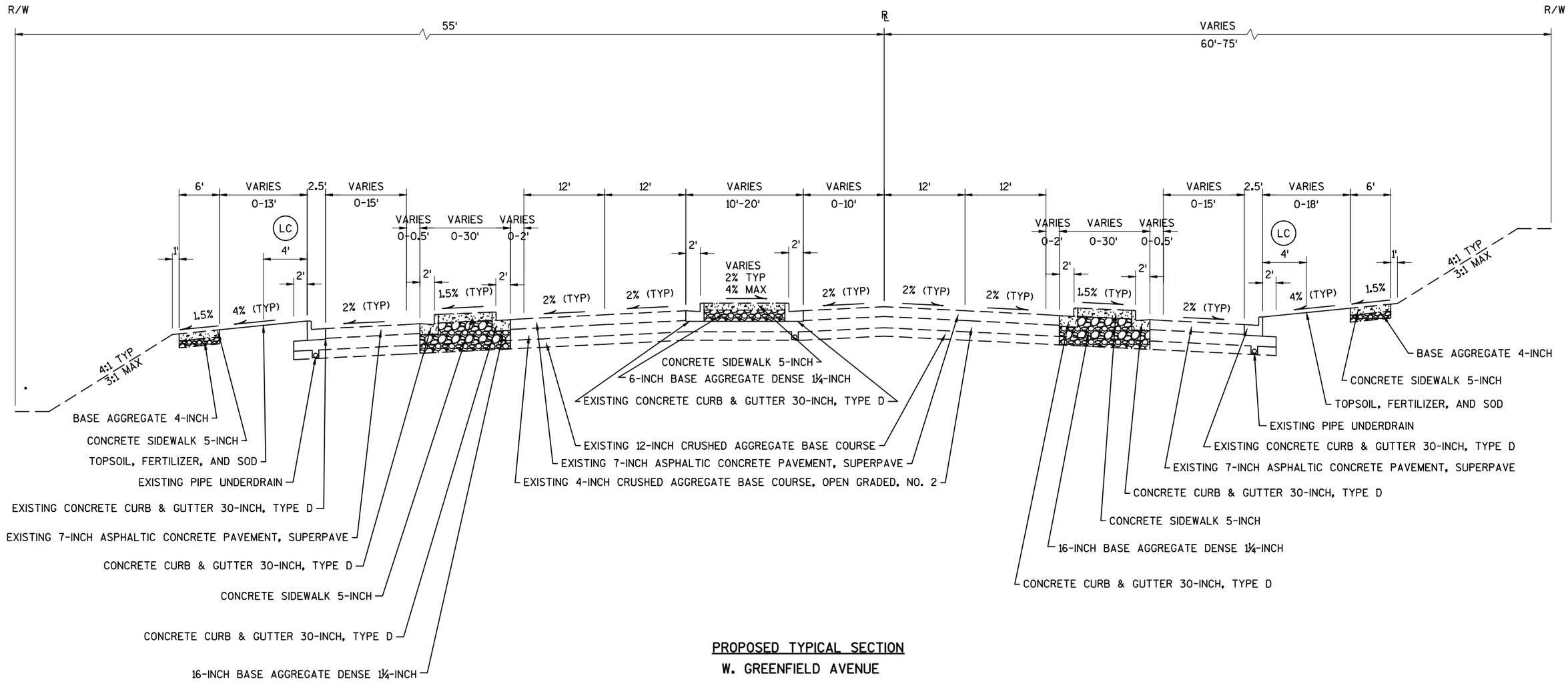
PROPOSED TYPICAL SECTION

W. GREENFIELD AVENUE

STA. 194+00.0 TO STA. 198+00.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - W. GREENFIELD AVENUE	SHEET 25	E



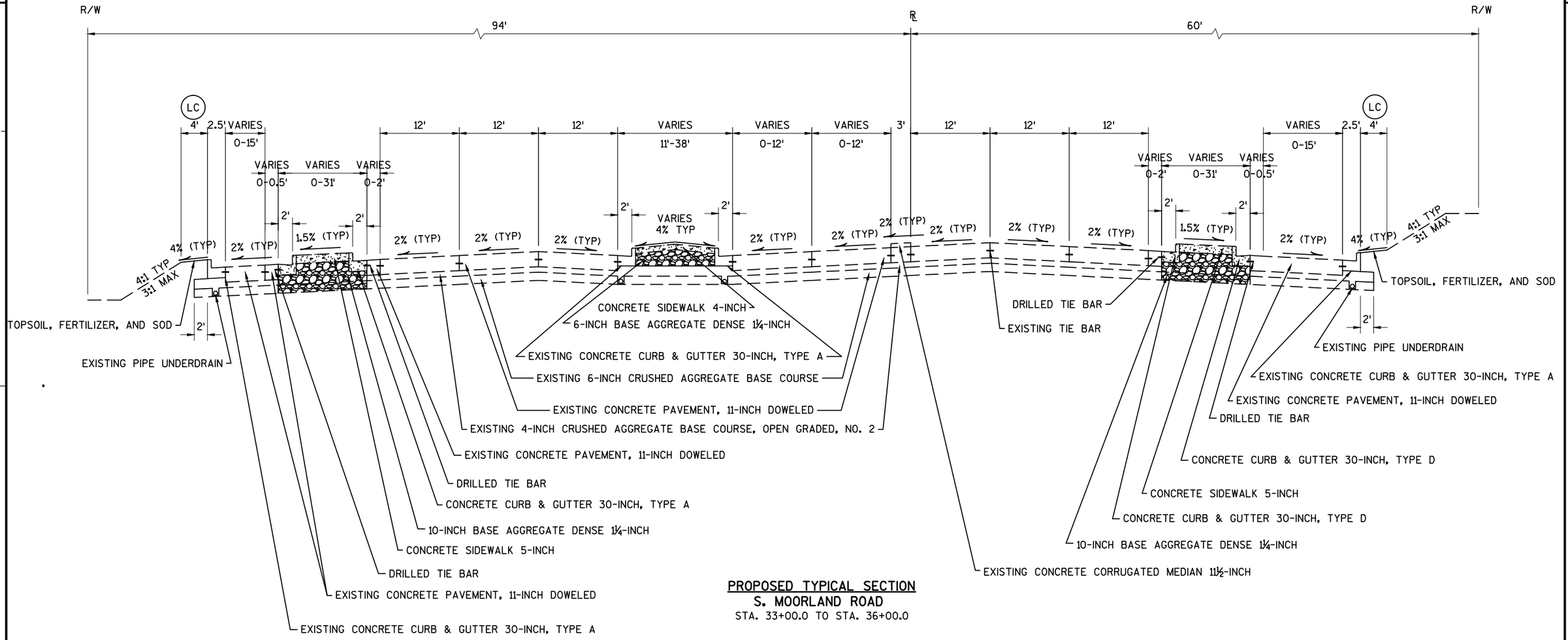
PROPOSED TYPICAL SECTION

W. GREENFIELD AVENUE

STA. 247+00.0 TO STA. 251+00.0

(LC) = LATERAL CLEARANCE

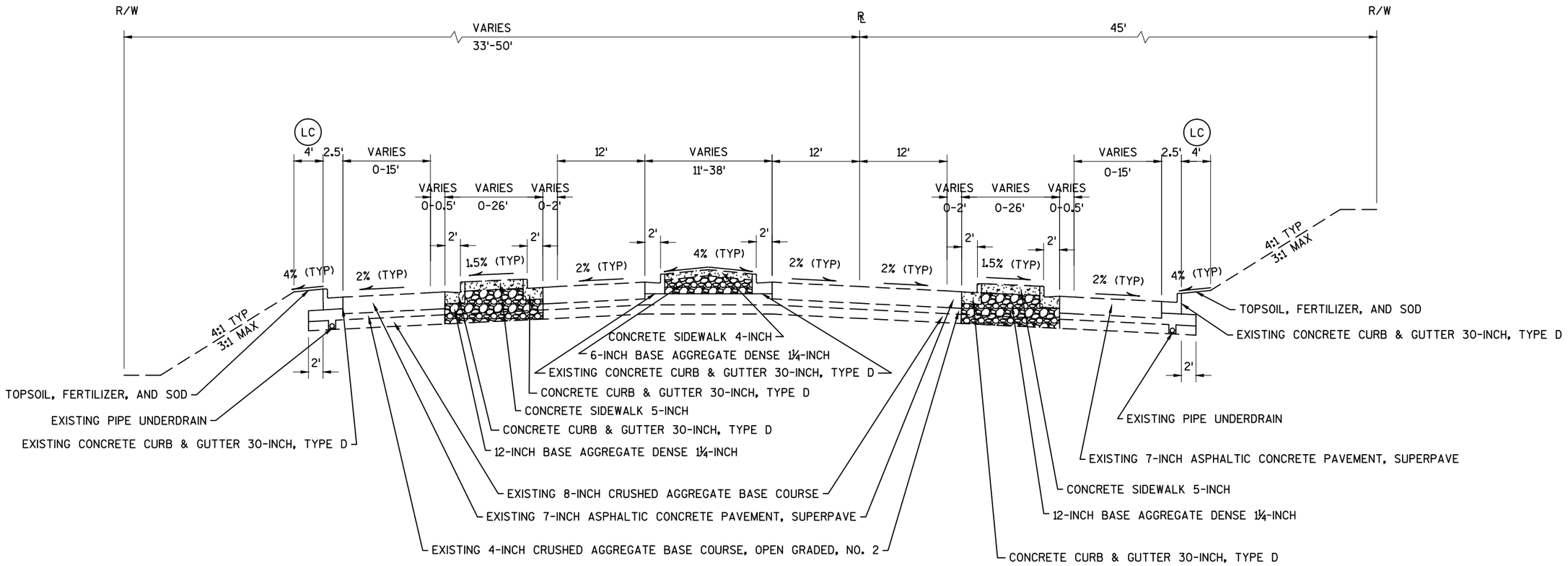
PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - W. GREENFIELD AVENUE	SHEET 26	E



PROPOSED TYPICAL SECTION
S. MOORLAND ROAD
STA. 33+00.0 TO STA. 36+00.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - S. MOORLAND ROAD	SHEET 27	E

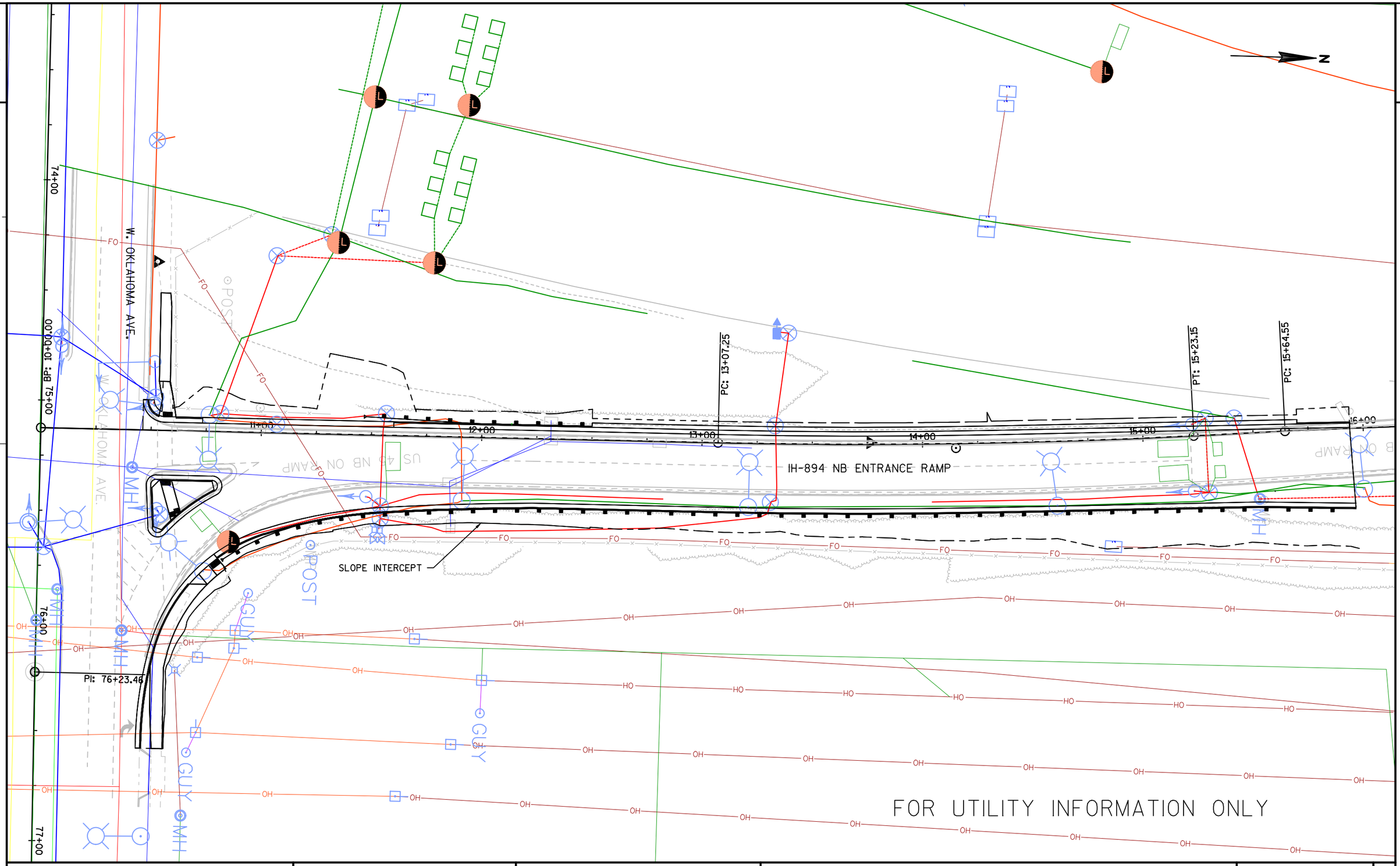


PROPOSED TYPICAL SECTION
S. SUNNYSLOPE ROAD
STA. 32+00.0 TO STA. 35+00.0

(LC) = LATERAL CLEARANCE

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TYPICAL SECTION - S. SUNNYSLOPE ROAD	SHEET 28	E

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 29	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\023001_UT.DWG
LAYOUT NAME - 023001_UT - 023001_UT
PLOT DATE : 1/27/2015 5:24 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

20+00
21+00
22+00
23+00
24+00
25+00
50+00
51+00
52+00
53+00

PI: 22+59.20
PI: 50+59.72
EP: 25+21.17

SLOPE INTERCEPT

IH-894 NB ENTRANCE RAMP

IH-894 NB EXIT RAMP

W. NATIONAL AVE.

S. 100TH ST.

FOR UTILITY INFORMATION ONLY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - W. NATIONAL AVE. NB EXIT RAMP	SHEET 30	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\023001_UT.DWG
LAYOUT NAME - 023001_UT

PLOT DATE : 1/27/2015 4:41 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

N

S. CALHOUN RD.

W. GREENFIELD AVE.

STH59/GREENFIELD AVE.

ENFIELD AVE.

140+00 141+00 142+00 143+00 144+00 145+00 146+0

371+00

Pi: 142+88.11

Pi: 143+03.98

EP: 35+88.27

BP: 35+98.27

360+00

35+00

0

JIFFY STOP GAS STATION

KWIK FUEL GAS STATION

GUY (4)

GUY (2)

FOR UTILITY INFORMATION ONLY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 31	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\023001_UT.DWG
LAYOUT NAME - 023001_UT

PLOT DATE : 1/27/2015 2:10 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

2

N

S. MOORLAND RD.

W. GREENFIELD AVE.

W. GREENFIE

36+00

35+00

34+00

33+00

194+00

195+00

196+00

197+00

198+00

199+00

PI: 195+44.52

BP: 34+27.35

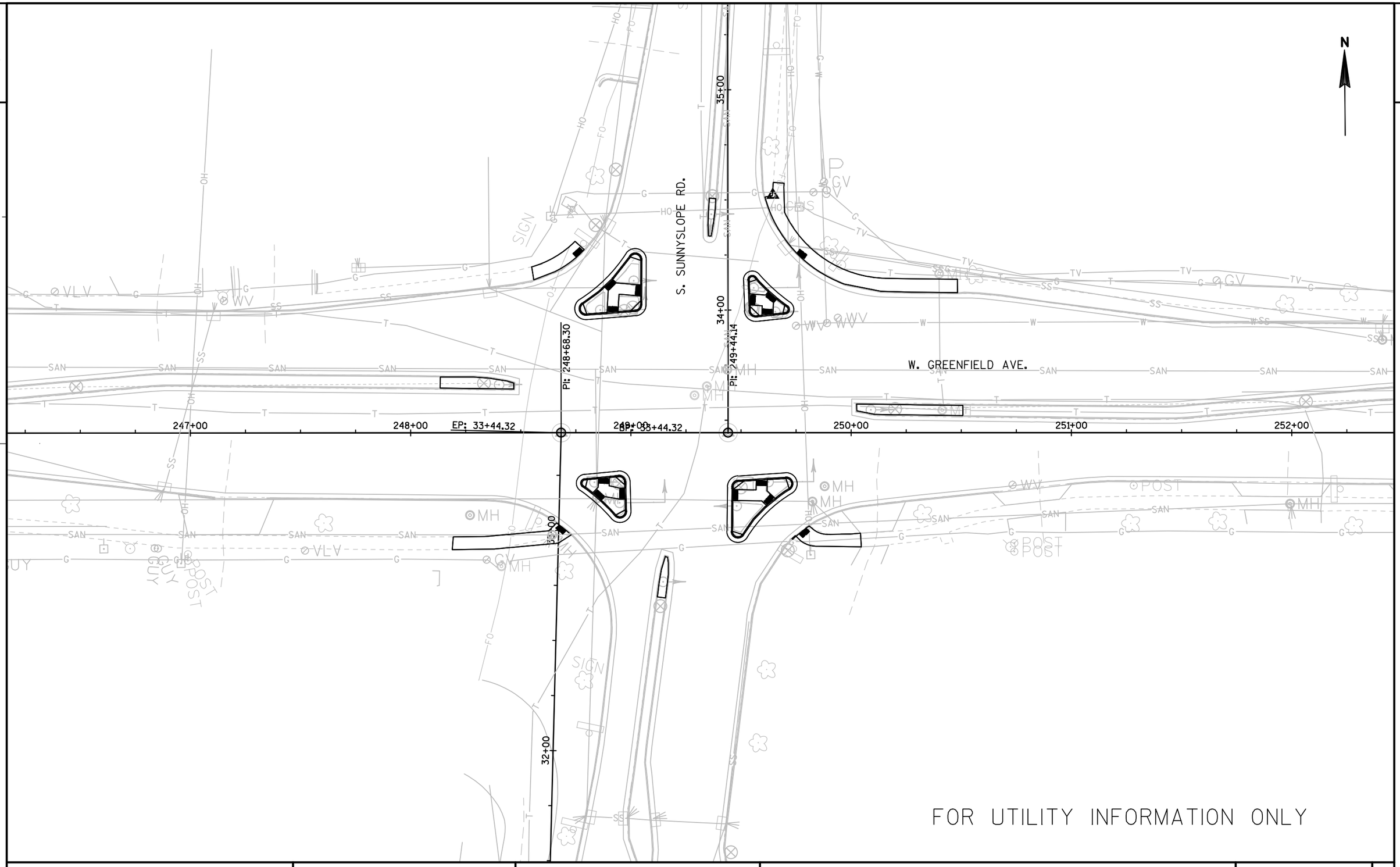
PI: 196+22.58

BP: 34+21.55

FOR UTILITY INFORMATION ONLY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 32	E

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 33	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\023002_UT.DWG
LAYOUT NAME - 023002_UT

PLOT DATE : 1/27/2015 2:57 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

N

S. ELM GROVE RD.

W. GREENFIELD AVE.

35+00
34+00
33+00
32+00

273+00 274+00 275+00 276+00 277+00 278+00 279+

PI: 275+69.39
PI: 276+05.89
FP: 33+23.25
BP: 33+23.25

FOR UTILITY INFORMATION ONLY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - W. GREENFIELD AVE. & S. ELM GROVE RD.	SHEET 34	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\023003_UT.DWG
LAYOUT NAME - 023003_UT

PLOT DATE : 1/27/2015 3:19 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

N

IH-94 EB ENTRANCE RAMP

IH-94 EB EXIT RAMP

BP: 10+00.00

EP: 13+84.58

11+00

12+00

13+00

58+00

57+00

56+00

55+00

S. MOORLAND RD.

POST

MH

SIGN

SAN

FO

G

T

E

SS

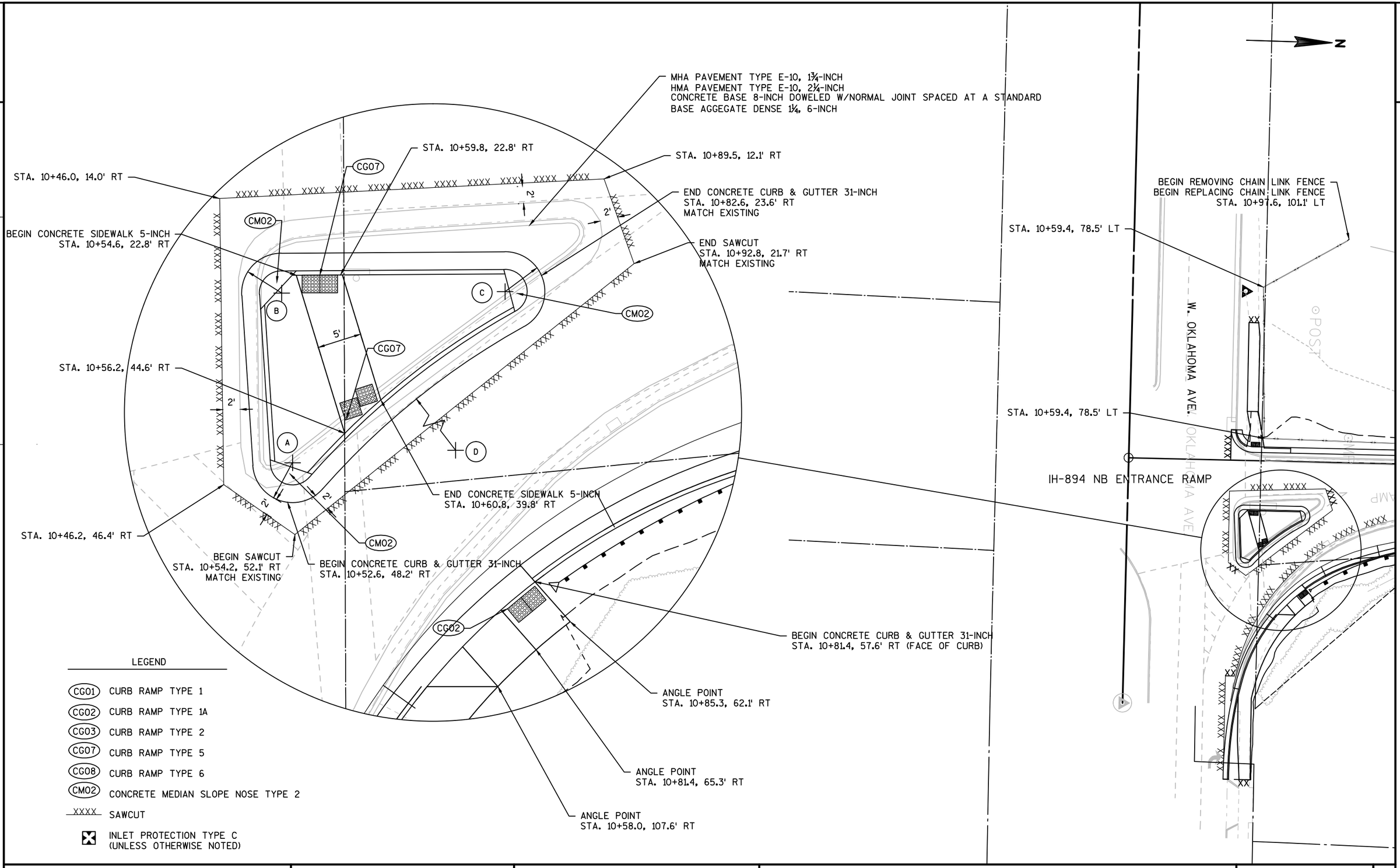
FOR UTILITY INFORMATION ONLY

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	UTILITY INFORMATION - IH-94 EB EXIT TO S. MOORLAND RD.	SHEET 35	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\MOORLAND\023001_UT.DWG
LAYOUT NAME - 023001_UT

PLOT DATE : 1/27/2015 4:23 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 36	E

BEGIN SAWCUT
BEGIN REMOVING CONCRETE CURB & GUTTER 31-INCH
BEGIN CONCRETE CURB & GUTTER 31-INCH
STA. 10+46.2, 13.8' LT
MATCH EXISTING

END CONCRETE SIDEWALK 5-INCH
STA. 10+53.2, 62.4' LT

BEGIN SAWCUT
STA. 10+53.2, 62.4' LT

END SAWCUT
STA. 10+57.6, 22.2' LT

ANGLE POINT
STA. 10+58.2, 56.4" LT

ANGLE POINT
STA. 10+58.2, 22.2' LT

ANGLE POINT
STA. 10+53.2, 22.2' LT

ANGLE POINT
STA. 10+54.8, 14.2' LT

ANGLE POINT
STA. 10+59.8, 14.2' LT

BEGIN DRIVEWAY
ENTRANCE CURB
STA. 10+73.3, 6.3' LT (FACE OF CURB)

10+56.2
6.3' LT

BEGIN CONCRETE
SIDEWALK 5-INCH
STA. 10+53.5, 6.9' LT

STA. 10+46.2, 3.8' RT

STA. 10+46.4, 97.7' RT

END REMOVING CHAIN LINK FENCE
END REPLACING CHAIN LINK FENCE
STA. 11+31.16, 9.07' LT

BEGIN MIDWEST GUARDRAIL SYSTEM (MGS) TERMINAL EAT
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL 3
MGS POST NO. 1
STA. 11+47.5, 8.3' LT

END DRIVEWAY
ENTRANCE CURB
STA. 11+60, 6.3' LT (FACE OF CURB)

END REMOVING CONCRETE CURB & GUTTER 31-INCH
END SAWCUT
END CONCRETE CURB & GUTTER 36-INCH (6-INCH SLOPED CURB)
STA. 15+93.8, 2.9' LT
MATCH EXISTING

BEGIN REMOVING CONCRETE CURB & GUTTER 31-INCH
BEGIN CONCRETE CURB & GUTTER 36-INCH (6-INCH SLOPED CURB)
STA. 15+70.1, 3.5' LT (FACE OF CURB)

END MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL 3
BEGIN MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION
STA. 12+00.6, 6.3' LT

END CONCRETE CURB & GUTTER 31-INCH
STA. 12+50, 7.6' LT

END SINGLE SLOPE ROADSIDE RETAINING WALL TYPE S36C
STA. 15+70.1, 5.0' LT

BEGIN SINGLE SLOPE ROADSIDE RETAINING WALL TYPE S36C
STA. 12+50, 7.6' LT

MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION:
CONNECTION TO SINGLE SLOPE ROADSIDE RETAINING WALL TYPE S36C
STA. 12+52.5, 5.75' LT

IH-894 NB ENTRANCE RAMP

W. OKLAHOMA AVE.

HMA PAVEMENT TYPE E-10, 1¾-INCH
HMA PAVEMENT TYPE E-10, 2¼-INCH
CONCRETE BASE 8-INCH DOWELED W/NORMAL JOINTS SPACED AT A STANDARD
BASE AGGREGATE DENSE 1¼, 6-INCH

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL 3
MGS POST NO. 9
STA. 11+29.3, 38.9' RT

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL 3
MGS POST NO. 5
STA. 11+05.1, 46.1' RT

END CONCRETE SIDEWALK 5-INCH
STA. 10+85.3, 62.1' RT

BEGIN MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL 3
MGS POST NO. 1
STA. 10+84.1, 57.7' RT

END REMOVING CONCRETE SIDEWALK 5-INCH
STA. 10+69.3, 74.3' RT

ANGLE POINT
STA. 10+58, 107.6' RT

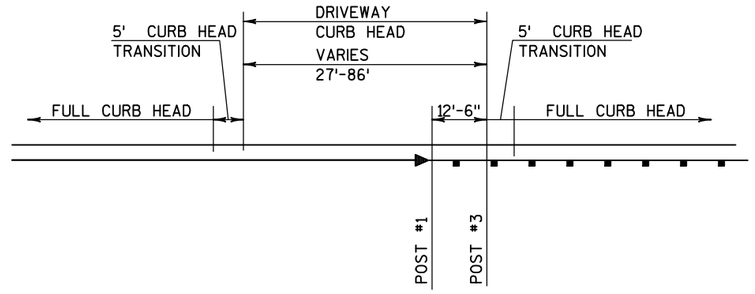
END SAWCUT
STA. 10+58.2, 144.5' RT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 10+53.2, 144.5' RT
MATCH EXISTING

BEGIN REMOVING CONCRETE CURB & GUTTER 31-INCH
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 31-INCH
STA. 10+46, 144.5' RT
MATCH EXISTING

LEGEND

CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)



DRIVEWAY CURB HEAD AT GUARDRAIL

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 37	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\021201_PD.DWG
LAYOUT NAME - 021201_PD
PLOT DATE : 1/29/2015 9:22 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

2

BEGIN CONCRETE CURB & GUTTER 36-INCH (6-INCH SLOPED CURB)
STA. 15+70.1, 3.5' LT (FACE OF CURB)

END SINGLE SLOPE ROADSIDE RETAINING WALL TYPE S36C
STA. 15+70.1, 5.0' LT

EXISTING WISDOT FOC MANHOLE TO BE BURIED
DO NOT DISTURB EXISTING FOC

END REMOVING CONCRETE CURB & GUTTER 31-INCH
END SAWCUT
END CONCRETE CURB & GUTTER 36-INCH (6-INCH SLOPED CURB)
STA. 15+93.8, 2.9' LT
MATCH EXISTING

US 45 NB ON RAMP

SI

EXISTING WISDOT FOC MANHOLE TO BE BURIED
DO NOT DISTURB EXISTING FOC

END CONCRETE CURB & GUTTER 31-INCH
STA. 15+95.4 36.6' RT (FACE OF CURB)

END MIDWEST GUARDRAIL SYSTEM (MGS) POST #1
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
STA. 15+95.4, 36.6' RT

LEGEND

- (CG01) CURB RAMP TYPE 1
- (CG02) CURB RAMP TYPE 1A
- (CG03) CURB RAMP TYPE 2
- (CG07) CURB RAMP TYPE 5
- (CG08) CURB RAMP TYPE 6
- (CM02) CONCRETE MEDIAN SLOPE NOSE TYPE 2
- XXXX SAWCUT
- INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 38	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\021201_PD.DWG
LAYOUT NAME - 021201_PD

PLOT DATE : 1/29/2015 9:22 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

W. OKLAHOMA AVE. NB ENTRANCE RAMP

	STATION, OFFSET	RADIUS
A		
PC	STA. 10+49.5, 44.2' RT	
RADIUS	STA. 10+54.0, 44.0' RT	4.5'
PC	STA. 10+57.4, 46.9' RT	
B		
PC	STA. 10+52.9, 20.3' RT	
RADIUS	STA. 10+52.9, 24.7' RT	4.5'
PC	STA. 10+48.4, 25.0' RT	
C		
PC	STA. 10+78.2, 20.3' RT	
RADIUS	STA. 10+78.2, 24.7' RT	4.5'
PC	STA. 10+80.4, 28.7' RT	
D		
PC	STA. 10+57.4, 46.9' RT	
RADIUS	STA. 11+20.9, 103.3' RT	84.9'
PC	STA. 10+80.4, 28.7' RT	
E		
PC	STA. 10+46.0, 141.2' RT	
RADIUS	STA. 12+17.0, 141.2' RT	171.0'
PC	STA. 10+51.3, 98.7' RT	
F		
PC	STA. 10+51.3, 98.7' RT	
RADIUS	STA. 11+27.9, 118.4' RT	79.0'
PC	STA. 10+68.4, 66.3' RT	
G		
PC	STA. 10+68.4, 66.3' RT	
RADIUS	STA. 11+27.2, 117.8' RT	78.2'
PC	STA. 11+01.8, 43.9' RT	
H		
PC	STA. 11+01.8, 43.9' RT	
RADIUS	STA. 11+72.4, 249.1' RT	217.0'
PC	STA. 11+56.5, 32.0' RT	
I		
PC	STA. 11+56.5, 32.0' RT	
RADIUS	STA. 12+64.0, 1493.2' RT	1464.5'
PC	STA. 12+23.6, 29.3' RT	

	STATION, OFFSET	
J		
PC	STA. 10+46.2, 13.8' LT	
RADIUS	STA. 10+56.2, 13.8' LT	10.0'
PC	STA. 10+56.2, 3.8' LT	

2

2

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 24+66.1, 37.2' LT
MATCH EXISTING

HMA PAVEMENT TYPE E-10, 1¾-INCH
HMA PAVEMENT TYPE E-10, 2¼-INCH
CONCRETE BASE 8-INCH DOWELED W/NORMAL JOINT SPACED AT A STANDARD
6-INCH BASE AGGREGATE DENSE 1¼-INCH

ANGLE POINT
STA. 23+91.6, 32.6' LT

BEGIN SAWCUT
STA. 24+61.4, 37.0' LT
MATCH EXISTING

ADJUSTING MANHOLE COVERS
STA. 23+70.0, 36.4' LT

REPLACE SANITARY MANHOLE
STA. 23+76.0, 31.0' LT

IH-894 NB ENTRANCE RAMP

PT: 22+59.20

IH-894 NB EXIT RAMP

22+00
23+00
24+00
25+00

BEGIN REMOVING CONCRETE CURB & GUTTER 31-INCH
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 31-INCH
BEGIN HMA PAVEMENT
STA. 23+08.9, 20.5' LT
MATCH EXISTING

BEGIN CONCRETE SIDEWALK 5-INCH
STA. 24+59.2, 30.5' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
STA. 24+60.8, 24.4' LT

STA. 24+76.8, 18.6' LT

STA. 51+17.9, 12.4' RT

STA. 51+39.1, 2.5' RT

BEGIN REMOVING CONCRETE CURB & GUTTER 31-INCH
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 31-INCH
BEGIN HMA PAVEMENT
STA. 51+47.0, 2.7' RT
MATCH EXISTING

END REMOVING CONCRETE CURB & GUTTER 31-INCH
END SAWCUT
END CONCRETE CURB & GUTTER 31-INCH
END HMA PAVEMENT
STA. 24+77.0, 37.7' LT
MATCH EXISTING

END REMOVING CONCRETE CURB & GUTTER 31-INCH
END SAWCUT
END CONCRETE CURB & GUTTER 31-INCH
END HMA PAVEMENT
STA. 50+97.7, 12.4' RT
MATCH EXISTING

BEGIN REMOVING CONCRETE CURB & GUTTER 31-INCH
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 31-INCH
BEGIN HMA PAVEMENT
STA. 50+41.2, 13.0' LT
MATCH EXISTING

PI: 50+59.72

EP: 25+21.17

HMA PAVEMENT TYPE E-10, 1¾-INCH
HMA PAVEMENT TYPE E-10, 2¼-INCH
CONCRETE BASE 8-INCH DOWELED W/NORMAL JOINT SPACED AT A STANDARD
6-INCH BASE AGGREGATE DENSE 1¼-INCH

STA. 51+17.9, 15.4' LT

STA. 51+39.1, 15.7' LT

HMA PAVEMENT TYPE E-10, 1¾-INCH
HMA PAVEMENT TYPE E-10, 2¼-INCH
CONCRETE BASE 8-INCH DOWELED W/NORMAL JOINT SPACED AT A STANDARD
6-INCH BASE AGGREGATE DENSE 1¼-INCH

END REMOVING CONCRETE CURB & GUTTER 31-INCH
END SAWCUT
END CONCRETE CURB & GUTTER 31-INCH
END HMA PAVEMENT
STA. 51+57.2, 15.6' LT
MATCH EXISTING

IH-894 NB

50+00
51+00
52+00
53+00

W. NATIONAL AVE.

S. 100TH ST.

A
B
C
D

CG03

LEGEND

CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. NATIONAL AVE. NB EXIT RAMP	SHEET 40	E

W. NATIONAL AVE. NB EXIT RAMP		
	STATION, OFFSET	RADIUS
A		
PC	STA. 24+64.9, 28.4' LT	
RADIUS	STA. 24+65.0, 40.4' LT	12.0'
PC	STA. 24+77.0, 39.6' LT	
B		
PC	STA. 50+97.7, 12.4 RT	
RADIUS	STA. 50+97.8, 7.9' RT	5.0'
PC	STA. 51+01.0, 4.7' RT	
C		
PC	STA. 50+41.3, 15.5' LT	
RADIUS	STA. 50+43.3, 43.3' RT	92.5'
PC	STA. 51+01.0, 4.7' RT	
D		
PC	STA. 51+47.0, 2.7' RT	
RADIUS	STA. 51+57.2, 3.6' LT	12.0'
PC	STA. 51+57.2, 15.6' LT	

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 142+12.9, 79.3' LT
MATCH EXISTING

BEGIN SAWCUT
STA. 142+08.9, 82.3' LT

B

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 141+77.1, 64.9' LT
MATCH EXISTING

END SAWCUT
STA. 141+77.6, 60.2' LT

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 141+65.9, 18.0' LT
MATCH EXISTING

CG01

CG07

END SAWCUT
STA. 141+65.9, 13.0' LT

END REMOVING CONCRETE SIDEWALK 4-INCH
END CONCRETE SIDEWALK 4-INCH
STA. 141+99.8, 13.2' LT
MATCH EXISTING

END SAWCUT
STA. 141+97.2, 46.1' RT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 141+94.3, 50.9' RT
MATCH EXISTING

CG01

A

STA. 142+06.3, 60.9' RT

END REMOVING CONCRETE SIDEWALK 5-INCH
END CONCRETE SIDEWALK 5-INCH
STA. 142+10.5, 57.5' RT
MATCH EXISTING

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 142+66.9, 76.1' RT
MATCH EXISTING

END SAWCUT
STA. 142+73.2, 76.0' RT

S. CALHOUN RD.

PI: 142+88.11

PI: 143+03.98

EP: 35+98.27

BP: 35+98.27

37+00

35+00

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 142+24.6, 61.0' LT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 142+37.1, 67.2' LT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 142+35.1, 63.2' LT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 142+28.9, 62.5' LT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 142+20.6, 48.4' LT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 142+24.5, 50.5' LT

W. GREENFIELD AVE.

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 142+16.2, 26.7' RT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 142+20.3, 28.5' RT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 142+25.3, 39.6' RT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 142+34.5, 42.4' RT

END REMOVING CONCRETE SIDEWALK 4-INCH
END CONCRETE SIDEWALK 4-INCH
STA. 142+70.4, 53.6' RT
MATCH EXISTING

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 142+21.1, 38.2' RT

CG07

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 142+36.6, 46.4' RT

LEGEND

CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 42	E

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 143+31.8, 66.4' LT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 143+29.8, 62.4' LT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 143+36.3, 67.8' LT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 143+45.0, 47.3' LT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 143+49.0, 47.3' LT

CG07

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 143+40.3, 65.8' LT

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 142+95.1, 100.8' LT
MATCH EXISTING

END SAWCUT
STA. 143+00.8, 100.8' LT

END REMOVING CONCRETE SIDEWALK 4-INCH
END CONCRETE SIDEWALK 4-INCH
STA. 142+99.5, 72.4' LT
MATCH EXISTING

END SAWCUT
STA. 143+47.1, 125.2' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA, 143+41.2, 124.7' LT
MATCH EXISTING

D

CG01

BEGIN SAWCUT
STA. 143+64.8, 78.9' LT

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 143+60.5, 74.9' LT
MATCH EXISTING

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 143+64.0, 8.1' LT
MATCH EXISTING

BEGIN SAWCUT
STA. 143+96.2, 8.1' LT

END REMOVING CONCRETE SIDEWALK 4-INCH
END SAWCUT
END CONCRETE SIDEWALK 4-INCH
STA. 143+96.3, 3.1' LT
MATCH EXISTING

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 143+49.8, 63.4' RT
MATCH EXISTING

BEGIN SAWCUT
STA. 143+91.2, 38.7' RT

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 143+91.8, 44.4' RT
MATCH EXISTING

CG01

C

STA. 143+54.6, 66.2' RT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 143+45.6, 26.7' RT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 143+29.5, 41.5' RT

CG07

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 143+49.6, 28.7' RT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 143+43.5, 39.1' RT

END REMOVING CONCRETE SIDEWALK 6-INCH
END SAWCUT
END CONCRETE SIDEWALK 6-INCH
END DETECTABLE WARNING FIELD
STA. 143+31.5, 45.4' RT

BEGIN REMOVING CONCRETE SIDEWALK 6-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 6-INCH
BEGIN DETECTABLE WARNING FIELD
STA. 143+39.1, 39.5' RT

S. CALHOUN RD.
W. GREENFIELD AVE.
STH59/GREENFIELD AVE.
INL
JIFFY STOP GAS STATION
KWIK FUEL GAS STATION
PI: 142+88.11
PI: 143+03.98
EP: 35+98.27
BP: 35+98.27
35+00
37+00
140+00
141+00
142+00
143+00
144+00
145+00
ONLY
CONC
ASPH
SIGN

N

LEGEND

CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 43	E

W. GREENFIELD AVE. & S. CALHOUN RD.		
	STATION, OFFSET	RADIUS
A		
PC	STA. 141+94.3, 50.9' RT	
RADIUS	STA. 141+67.0, 95.8' RT	48.9'
PC	STA. 142+06.3, 60.9' RT	
B		
PC	STA. 141+77.1, 64.9' LT	
RADIUS	STA. 141+69.2, 117.1' LT	53.5'
PC	STA. 142+08.9, 82.3' LT	
C		
PC	STA. 143+54.6, 66.2' RT	
RADIUS	STA. 143+97.3, 92.1' RT	48.3'
PC	STA. 143+92.6, 44.3' RT	
D		
PC	STA. 143+47.1, 125.3' LT	
RADIUS	STA. 144+07.7, 121.8' LT	60.5'
PC	STA. 143+64.2, 79.5' LT	

2

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 195+18.4, 160.2' LT
MATCH EXISTING

BEGIN SAWCUT
STA. 195+13.4, 160.1' LT

N

M

STA. 194+98.8, 100.8' LT

STA. 195+02.5, 105.0' LT

STA. 195+06.1, 102.2' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 194+91.6, 101.6' LT
MATCH EXISTING

S. MOORLAND RD.

5.0'

END SAWCUT
STA. 194+95.0, 97.4' LT

STA. 195+01.9, 97.7' LT

END REMOVING CONCRETE SIDEWALK 4-INCH
END CONCRETE SIDEWALK 4-INCH
STA. 195+18.0, 32.4' LT
MATCH EXISTING

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 194+88.1, 35.1' LT
MATCH EXISTING

END SAWCUT
STA. 194+88.0, 29.6' LT

PI: 195+44.52

36+00

35+00

PI: 196+22.58

STA. 195+21.2, 88.0' LT

BEGIN CONCRETE SIDEWALK 5-INCH
STA. 194+60.6, 141.9' LT

F

GG

G

CM02

HH

STA. 195+34.9, 90.4' LT

II

END CONCRETE SIDEWALK 5-INCH
STA. 195+35.2, 85.4' LT

BEGIN REMOVING CONCRETE SAFETY ISLAND
BEGIN REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 30-INCH
STA. 195+12.2, 82.8' LT

2.0'

CG08

2.0'

2.0'

END REMOVING CONCRETE SAFETY ISLAND
END REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
END SAWCUT
END CONCRETE CURB & GUTTER 30-INCH
STA. 195+38.0, 79.9' LT

FF

CM02

CM02

H

E

JJ

W. GREENFIELD AVE.

W. GRE

STA. 195+16.0, 74.0' LT

STA. 195+25.6, 77.4' LT

193+00

194+00

195+00

197+00

198+00

199+00

BP: 34+27.35

BP: 34+21.95

STA. 194+90.3, 56.3' RT

L

STA. 194+89.8, 57.2' RT

K

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 194+80.3, 53.0' RT

5.0'

34+00

END SAWCUT
STA. 194+78.3, 58.5' RT

I

J

STA. 195+08.7, 67.7' RT

END REMOVING CONCRETE SIDEWALK 5-INCH
END CONCRETE SIDEWALK 5-INCH
STA. 195+15.1, 73.7' RT

POST

33+00

BEGIN CONCRETE SIDEWALK 5-INCH
STA. 195+19.6, 39.6' RT

STA. 195+24.5, 39.2' RT

CM02

BB

CM02

A

B

2.0'

2.0'

CG08

CC

STA. 195+34.2, 50.1' RT

BEGIN REMOVING CONCRETE SAFETY ISLAND
BEGIN REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 30-INCH
STA. 195+08.3, 44.8' RT

AA

END CONCRETE SIDEWALK 5-INCH
STA. 195+34.6, 55.1' RT

2.0'

DD

D

END REMOVING CONCRETE SAFETY ISLAND
END REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
END SAWCUT
END CONCRETE CURB & GUTTER 30-INCH
STA. 195+37.7, 60.7' RT

EE

C

STA. 195+25.1, 54.5' RT

STA. 195+28.6, 58.0' RT

CM02

LEGEND

- CG01 — CURB RAMP TYPE 1
- CG02 — CURB RAMP TYPE 1A
- CG03 — CURB RAMP TYPE 2
- CG07 — CURB RAMP TYPE 5
- CG08 — CURB RAMP TYPE 6
- CM02 — CONCRETE MEDIAN SLOPE NOSE TYPE 2
- XXXX — SAWCUT
- INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 45	E

BEGIN REMOVING CONCRETE SAFETY ISLAND
BEGIN REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 30-INCH
STA. 196+47.4, 96.1' LT

STA. 196+61.5, 91.3' LT

END CONCRETE SIDEWALK 5-INCH
STA. 196+65.3, 88.0' LT

BEGIN CONCRETE SIDEWALK 5-INCH
STA. 196+50.5, 89.8' LT

STA. 196+51.0, 84.8' LT

END REMOVING CONCRETE SAFETY ISLAND
END REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
END SAWCUT
END CONCRETE CURB & GUTTER 30-INCH
STA. 196+77.5, 82.3' LT

END REMOVING CONCRETE SIDEWALK 4-INCH
END CONCRETE SIDEWALK 4-INCH
STA. 196+07.0, 92.9' LT
MATCH EXISTING

STA. 196+58.5, 76.1' LT

STA. 196+64.5, 76.6' LT

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 196+04.2, 159.4' LT
MATCH EXISTING

END SAWCUT
STA. 196+10.4, 159.4' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 196+56.3, 158.2' LT
MATCH EXISTING

END SAWCUT
STA. 196+61.4, 158.4' LT

STA. 196+76.2, 111.9' LT

STA. 196+73.7, 107.6' LT

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 196+86.1, 111.5' LT
MATCH EXISTING

BEGIN SAWCUT
STA. 196+82.8, 107.0' LT

STA. 196+79.4, 102.8' LT

S. MOORLAND RD.

W. GREENFIELD AVE.

PI: 195+44.52

PI: 196+22.58

BP: 34+27.35

BP: 34+27.35

193+00 194+00 195+00 196+00 197+00 198+00 199+00

36+00 35+00 34+00 33+00

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 196+68.03, 7.5' LT
MATCH EXISTING

BEGIN SAWCUT
STA. 197+03.2, 7.3' LT

END REMOVING CONCRETE SIDEWALK 4-INCH
END SAWCUT
END CONCRETE SIDEWALK 4-INCH
STA. 197+03.2, 2.1' LT
MATCH EXISTING

STA. 196+59.6, 40.0' RT

END CONCRETE SIDEWALK 5-INCH
STA. 196+64.6, 39.5' RT

BEGIN REMOVING CONCRETE SAFETY ISLAND
BEGIN REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
BEGIN SAWCUT
BEGIN CONCRETE CURB & GUTTER 30-INCH
STA. 196+47.7, 43.5' RT

BEGIN CONCRETE SIDEWALK 5-INCH
STA. 196+50.8, 51.4' RT

STA. 196+51.2, 56.4' RT

STA. 196+60.2, 55.9' RT

STA. 196+57.2, 60.1' RT

STA. 196+75.7, 69.7' RT

BEGIN SAWCUT
STA. 196+84.8, 69.7' RT

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 196+88.0, 72.5' RT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 196+71.9, 75.5' RT

END REMOVING CONCRETE SAFETY ISLAND
END REMOVING CONCRETE PAVEMENT 11-INCH, DOWELED
END SAWCUT
END CONCRETE CURB & GUTTER 30-INCH
STA. 196+73.6, 45.3' RT

LEGEND

CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 46	E

2

N

W. GR

2

PI: 195+44.52

PI: 196+22.58

193+00

194+00

195+00

BP: 34+27.35

BP: 34+21.85

196+00

197+00

198+00

199+00

W. GREENFIELD AVE.

34+00

33+00

32+00

CM02

STA. 195+82.0, 58.3' RT

STA. 195+78.9, 57.9' RT

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 195+78.0, 60.9' RT
MATCH EXISTING

BEGIN SAWCUT
STA. 195+76.3, 90.5' RT

BEGIN REMOVING CONCRETE SIDEWALK 4-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 4-INCH
STA. 195+72.1, 221.8' RT
MATCH EXISTING

BEGIN SAWCUT
STA. 195+70.1, 255.7' RT

STA. 195+81.9, 60.9' RT

END REMOVING CONCRETE SIDEWALK 4-INCH
END SAWCUT
END CONCRETE SIDEWALK 4-INCH
STA. 195+82.2, 90.6' RT
MATCH EXISTING

END REMOVING CONCRETE SIDEWALK 4-INCH
END SAWCUT
END CONCRETE SIDEWALK 4-INCH
STA. 195+77.8, 222.0' RT
MATCH EXISTING

END SAWCUT
STA. 195+75.9, 266.0' RT

POST

S. MOORLAND RD.

S. MOORLAND RD.

LEGEND

CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 47	E

W. GREENFIELD AVE. & S. MOORLAND RD.

	STATION, OFFSET	RADIUS
A		
PC	STA. 195+00.4, 68.3' RT	
RADIUS	STA. 195+04.6, 64.8' RT	5.5'
PC	STA. 195+05.5, 70.2' RT	
B		
PC	STA. 195+30.7, 36.2' RT	
RADIUS	STA. 195+31.1, 41.2' RT	5.0'
PC	STA. 195+36.0, 40.8' RT	
C		
PC	STA. 195+30.9, 63.8' RT	
RADIUS	STA. 195+33.7, 61.0' RT	4.0'
PC	STA. 195+37.7, 60.7' RT	
D		
PC	STA. 195+07.8, 44.8' RT	
RADIUS	STA. 194+57.3, 129.6' RT	98.7'
PC	STA. 195+30.9, 63.9' RT	
E		
PC	STA. 195+12.3, 82.8' LT	
RADIUS	STA. 195+15.4, 79.0' LT	5.0'
PC	STA. 195+15.9, 74.0' LT	
F		
PC	STA. 195+12.2, 82.8' LT	
RADIUS	STA. 194+60.6, 141.9' LT	78.4'
PC	STA. 195+29.1, 103.6' LT	
G		
PC	STA. 195+29.1, 103.6' LT	
RADIUS	STA. 195+32.5, 101.6' LT	4.0'
PC	STA. 195+36.5, 101.8' LT	
H		
PC	STA. 195+34.5, 75.7' LT	
RADIUS	STA. 195+34.0, 79.6' LT	4.0'
PC	STA. 195+38.0, 79.9' LT	
I		
PC	STA. 194+78.3, 58.5' RT	
RADIUS	STA. 194+61.1, 93.0' RT	40.5'
PC	STA. 194+92.8, 67.9' RT	

	STATION, OFFSET	RADIUS
J		
PC	STA. 194+89.8, 57.5' RT	
RADIUS	STA. 194+76.2, 79.1' RT	25.8'
PC	STA. 194+97.9, 65.2' RT	
K		
PC	STA. 195+00.4, 68.3' RT	
RADIUS	STA. 195+04.6, 64.8' RT	5.5'
PC	STA. 195+05.5, 70.2' RT	
L		
PC	STA. 194+92.8, 67.9' RT	
RADIUS	STA. 195+07.3, 58.8' RT	17.1'
PC	STA. 195+13.2, 74.9' RT	
M		
PC	STA. 194+91.6, 101.2' LT	
RADIUS	STA. 194+50.6, 149.1' LT	62.6'
PC	STA. 195+13.5, 159.7' LT	
N		
PC	STA. 194+95.1, 101.3' LT	
RADIUS	STA. 194+45.9, 150.6' LT	72.4'
PC	STA. 195+18.5, 159.8' LT	
O		
PC	STA. 196+49.3, 63.9' RT	
RADIUS	STA. 196+53.3, 63.6' RT	4.0'
PC	STA. 196+56.8, 65.7' RT	
P		
PC	STA. 196+47.7, 43.5' RT	
RADIUS	STA. 196+52.7, 43.4' RT	5.0'
PC	STA. 196+52.2, 38.4' RT	
Q		
PC	STA. 196+70.1, 36.6' RT	
RADIUS	STA. 196+70.1, 41.7' RT	5.0'
PC	STA. 196+73.6, 45.3' RT	
R		
PC	STA. 196+55.6, 63.7' RT	
RADIUS	STA. 197+33.9, 112.4' RT	87.4'
PC	STA. 196+73.6, 45.3' RT	

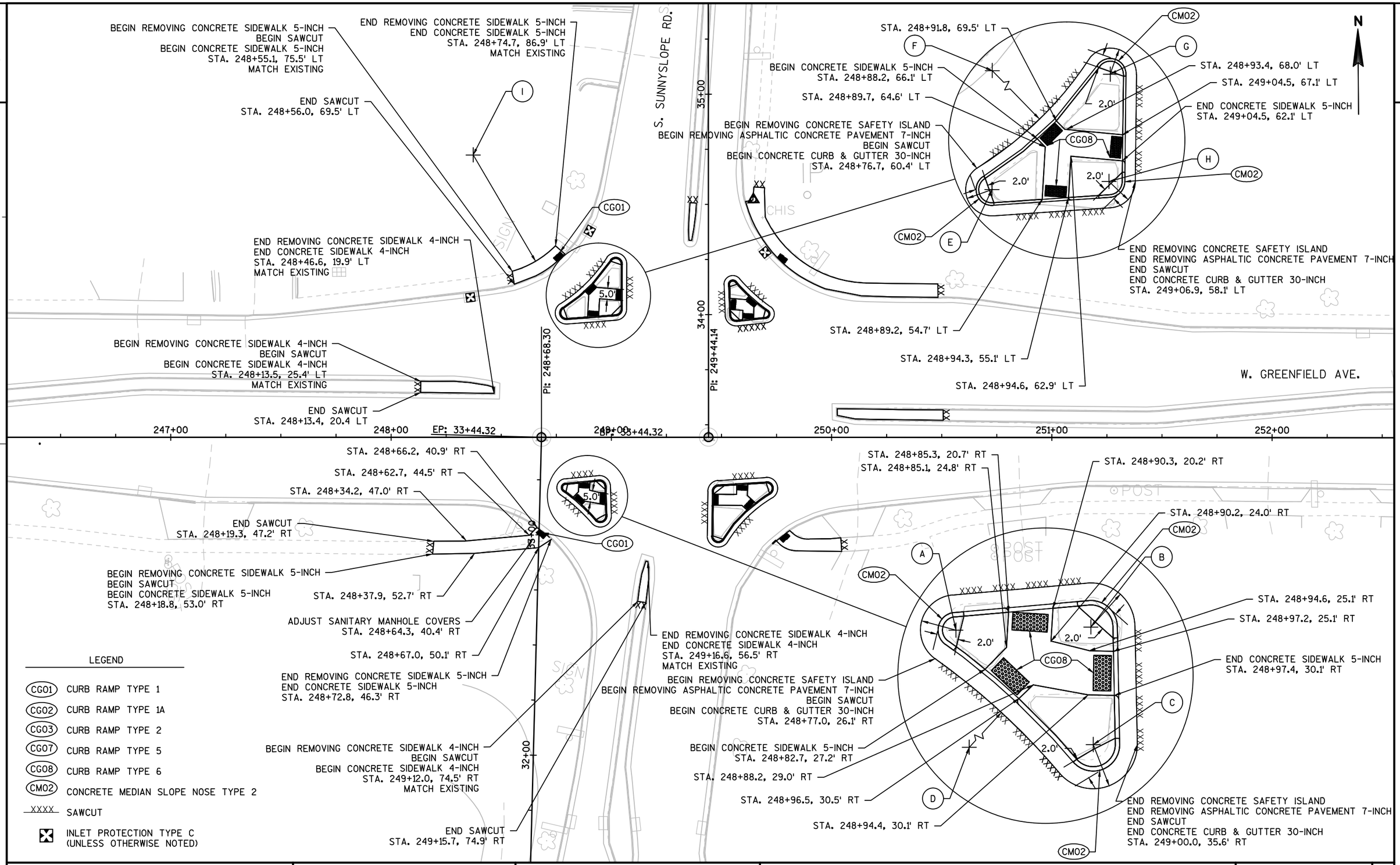
	STATION, OFFSET	RADIUS
S		
PC	STA. 196+49.1, 77.8' LT	
RADIUS	STA. 196+54.1, 78.2' LT	5.0'
PC	STA. 196+54.4, 73.3' LT	
T		
PC	STA. 196+47.4, 96.1' LT	
RADIUS	STA. 196+52.4, 96.5' LT	5.0'
PC	STA. 196+56.2, 100.0' LT	
U		
PC	STA. 196+56.2, 100.0' LT	
RADIUS	STA. 197+30.1, 168.3' LT	95.9'
PC	STA. 196+77.5, 82.3' LT	
V		
PC	STA. 196+75.7, 75.0' LT	
RADIUS	STA. 196+75.4, 78.9' LT	4.0'
PC	STA. 196+77.5, 82.3' LT	
W		
PC	STA. 196+71.9, 75.5' RT	
RADIUS	STA. 196+77.6, 62.0' RT	15.0'
PC	STA. 196+88.4, 72.5' RT	
X		
PC	STA. 196+75.7, 69.7' RT	
RADIUS	STA. 196+77.5, 54.0' RT	15.7'
PC	STA. 196+84.8, 68.0' RT	
Y		
PC	STA. 196+61.4, 158.4' LT	
RADIUS	STA. 197+20.3, 158.2' LT	60.9'
PC	STA. 196+86.1, 111.4' LT	
Z		
PC	STA. 196+56.3, 158.2' LT	
RADIUS	STA. 197+19.8, 159.2' LT	64.0'
PC	STA. 196+76.2, 111.9' LT	
AA		
PC	STA. 195+19.6, 44.8' RT	
RADIUS	STA. 195+20.1, 44.8' RT	0.5'
PC	STA. 195+19.7, 45.1' RT	

	STATION, OFFSET	RADIUS
BB		
PC	STA. 195+24.6, 42.7' RT	
RADIUS	STA. 195+25.1, 42.7' RT	0.5'
PC	STA. 195+24.7, 43.0' RT	
CC		
PC	STA. 195+31.8, 49.9' RT	
RADIUS	STA. 195+32.2, 49.5' RT	0.5'
PC	STA. 195+32.2, 50.0' RT	
DD		
PC	STA. 195+31.8, 55.2' RT	
RADIUS	STA. 195+32.1, 55.5' RT	0.5'
PC	STA. 195+32.1, 55.0' RT	
EE		
PC	STA. 195+26.9, 52.8' RT	
RADIUS	STA. 195+26.6, 52.4' RT	0.5'
PC	STA. 195+26.9, 52.1' RT	
FF		
PC	STA. 195+20.4, 82.0' LT	
RADIUS	STA. 195+20.1, 81.6' LT	0.5'
PC	STA. 195+20.6, 81.6' LT	
GG		
PC	STA. 195+22.8, 86.6' LT	
RADIUS	STA. 195+23.1, 87.0' LT	0.5'
PC	STA. 195+23.4, 86.6' LT	
HH		
PC	STA. 195+27.7, 90.4' LT	
RADIUS	STA. 195+28.0, 90.0' LT	0.5'
PC	TA. 195+28.0, 90.5' LT	
II		
PC	STA. 195+29.6, 85.4' LT	
RADIUS	STA. 195+29.9, 85.0' LT	0.5'
PC	STA. 195+29.9, 85.5' LT	
JJ		
PC	STA. 195+25.6, 81.6' LT	
RADIUS	STA. 195+26.1, 81.6' LT	0.5'
PC	STA. 195+25.8, 82.0' LT	

W. GREENFIELD AVE. & S. MOORLAND RD.

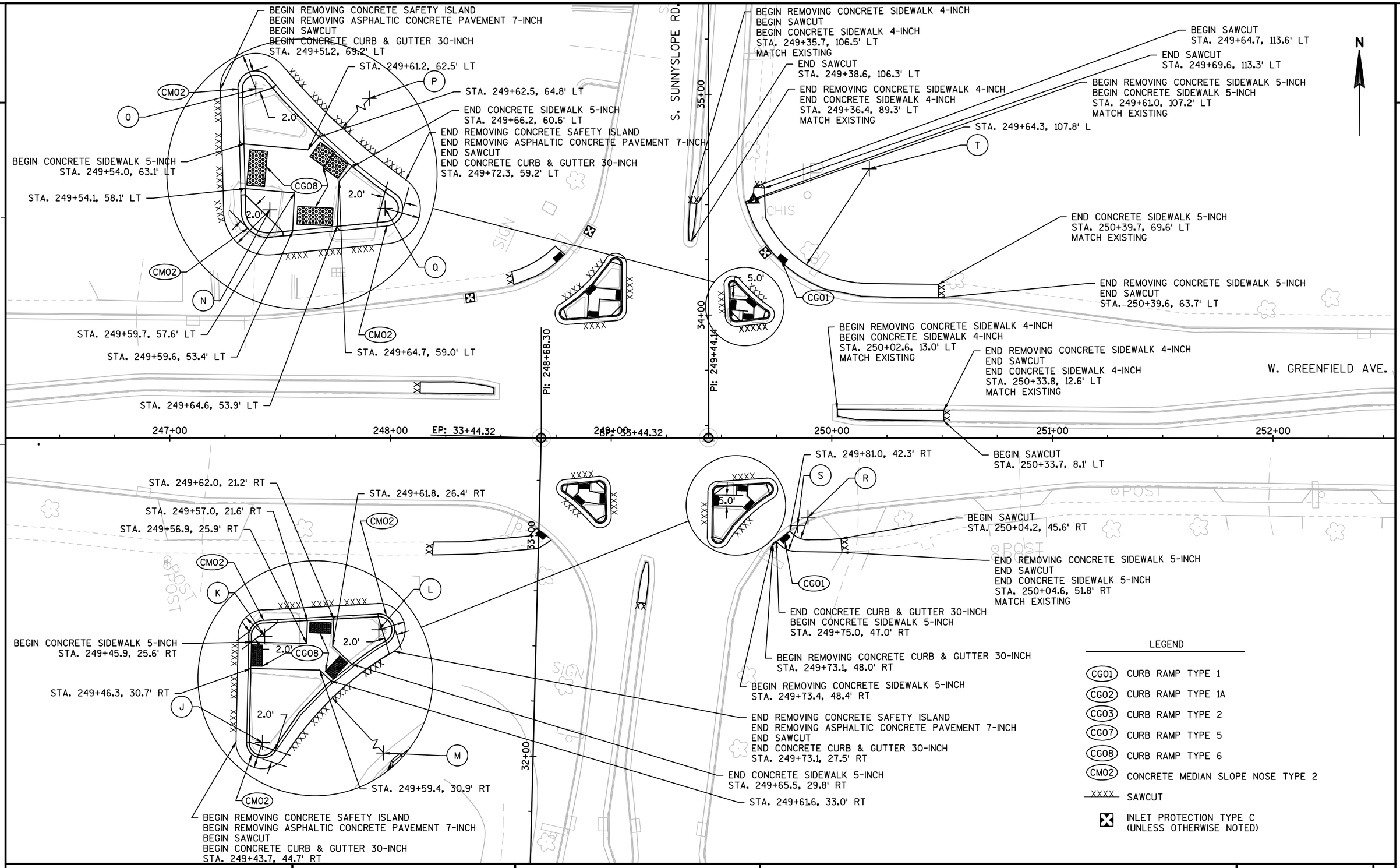
	STATION, OFFSET	RADIUS
KK		
PC	STA. 196+53.1, 56.7' RT	
RADIUS	STA. 196+53.0, 57.1' RT	0.5'
PC	STA. 196+53.4, 56.8' RT	
LL		
PC	STA. 196+52.8, 51.7' RT	
RADIUS	STA. 196+52.8, 51.2' RT	0.5'
PC	STA. 196+53.2, 51.5' RT	
MM		
PC	STA. 196+59.5, 43.3' RT	
RADIUS	STA. 196+59.2, 43.0' RT	0.5'
PC	STA. 196+59.2, 43.0' RT	
NN		
PC	STA. 196+64.5, 45.0' RT	
RADIUS	STA. 196+64.2, 44.7' RT	0.5'
PC	STA. 196+64.7, 44.7' RT	
OO		
PC	STA. 196+58.0, 54.2' RT	
RADIUS	STA. 196+58.3, 53.8' RT	0.5'
PC	STA. 196+57.9, 53.5' RT	
PP		
PC	STA. 196+58.5, 79.1' LT	
RADIUS	STA. 196+58.0, 78.9' LT	0.5'
PC	STA. 196+58.5, 78.9' LT	
QQ		
PC	STA. 196+57.1, 83.5' LT	
RADIUS	STA. 196+56.9, 83.0' LT	0.5'
PC	STA. 196+57.4, 83.1' LT	
RR		
PC	STA. 196+53.9, 84.4' LT	
RADIUS	STA. 196+53.8, 83.9' LT	0.5'
PC	STA. 196+54.0, 84.4' LT	
SS		
PC	STA. 196+54.6, 89.4' LT	
RADIUS	STA. 196+54.6, 88.9' LT	0.5'
PC	STA. 196+54.7, 89.4' LT	

	STATION, OFFSET	RADIUS
TT		
PC	STA. 196+58.7, 88.2' LT	
RADIUS	STA. 196+58.9, 88.7' LT	0.5'
PC	STA. 196+59.3, 88.4' LT	
UU		
PC	STA. 196+63.1, 84.9' LT	
RADIUS	STA. 196+63.6, 85.0' LT	0.5'
PC	STA. 196+63.2, 85.3' LT	
VV		
PC	STA. 196+64.5, 79.6' LT	
RADIUS	STA. 196+64.0, 79.5' LT	0.5'
PC	STA. 196+64.5, 79.5' LT	



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 50	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\021202_PD.DWG
LAYOUT NAME - 021202_PD
PLOT DATE : 1/27/2015 2:48 PM
PLOT BY : HAYNES, RONNIE
PLOT NAME :
PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 51	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\021202A_PD.DWG
LAYOUT NAME - 021202A_PD
PLOT DATE : 1/27/2015 2:49 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

W. GREENFIELD AVE. & S. SUNNYSLOPE RD.

	STATION, OFFSET	RADIUS
A		
PC	STA. 248+77.0, 26.1' RT	
RADIUS	STA. 248+79.3, 22.9' RT	4.0'
PC	STA. 248+79.0, 18.9' RT	
B		
PC	STA. 248+94.2, 17.4' RT	
RADIUS	STA. 248+94.7, 22.4' RT	5.0'
PC	STA. 248+99.7, 22.3' RT	
C		
PC	STA. 248+91.3, 39.0' RT	
RADIUS	STA. 248+95.0, 35.7' RT	5.0'
PC	STA. 249+00.0, 35.6' RT	
D		
PC	STA. 248+77.0, 26.1' RT	
RADIUS	STA. 248+33.2, 88.9' RT	73.8'
PC	STA. 248+91.3, 39.0' RT	
E		
PC	STA. 248+76.7, 60.4' LT	
RADIUS	STA. 248+79.6, 56.4' LT	5.0'
PC	STA. 248+79.7, 51.4' LT	
F		
PC	STA. 248+76.7, 60.4' LT	
RADIUS	STA. 248+40.0, 118.9' LT	72.3'
PC	STA. 248+98.1, 81.7' LT	
G		
PC	STA. 248+98.1, 81.7' LT	
RADIUS	STA. 249+02.0, 78.7' LT	5.0'
PC	STA. 249+07.01, 78.6' LT	
H		
PC	STA. 249+02.3, 53.1' LT	
RADIUS	STA. 249+02.0, 58.1' LT	5.0'
PC	STA. 249+06.9, 58.1' LT	
I		
PC	STA. 248+55.1, 75.5' LT	
RADIUS	STA. 248+42.9, 118.5' LT	44.8'
PC	STA. 248+74.7, 86.9' LT	

	STATION, OFFSET	RADIUS
J		
PC	STA. 249+43.7, 44.7' RT	
RADIUS	STA. 249+48.7, 44.8' RT	5.0'
PC	STA. 249+52.8, 47.6' RT	
K		
PC	STA. 249+43.9, 24.5' RT	
RADIUS	STA. 249+48.9, 24.6' RT	5.0'
PC	STA. 249+48.6, 19.6' RT	
L		
PC	STA. 249+70.2, 18.2' RT	
RADIUS	STA. 249+70.5, 23.2' RT	5.0'
PC	STA. 249+73.1, 27.5' RT	
M		
PC	STA. 249+52.8, 47.6' RT	
RADIUS	STA. 250+03.6, 78.7' RT	59.6'
PC	STA. 249+73.1, 27.5' RT	
N		
PC	STA. 249+51.7, 55.4' LT	
RADIUS	STA. 249+56.7, 55.6' LT	5.0'
PC	STA. 249+56.8, 50.6' LT	
O		
PC	STA. 249+51.2, 69.2' LT	
RADIUS	STA. 249+55.2, 69.4' LT	4.0'
PC	STA. 249+58.2, 72.0' LT	
P		
PC	STA. 249+58.2, 72.0' LT	
RADIUS	STA. 250+18.2, 123.9' LT	77.1'
PC	STA. 249+72.3, 59.2' LT	
Q		
PC	STA. 249+70.4, 52.0' LT	
RADIUS	STA. 249+70.0, 56.0' LT	4.0'
PC	STA. 249+72.3, 59.2' LT	
R		
PC	STA. 249+92.3, 43.4' RT	
RADIUS	STA. 249+89.3, 35.9' RT	10.2'
PC	STA. 249+90.2, 46.1' RT	

	STATION, OFFSET	RADIUS
S		
PC	STA. 249+76.8, 48.8' RT	
RADIUS	STA. 249+84.4, 39.7' RT	17.3'
PC	STA. 249+84.5, 51.5' RT	
T		
PC	STA. 249+69.8, 100.2' LT	
RADIUS	STA. 250+16.9, 122.0' LT	51.7'
PC	STA. 250+27.7, 70.0' LT	

2

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 275+65.5, 73.4' LT
MATCH EXISTING

STA. 275+58.0, 60.4' LT

STA. 275+56.5, 59.1' LT

STA. 275+52.5, 57.9' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
STA. 275+48.7, 57.7' LT
MATCH EXISTING

END SAWCUT
STA. 275+49.0, 51.9' LT

END SAWCUT
STA. 275+22.0, 50.0' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
STA. 275+13.9, 46.8' LT
MATCH EXISTING

STA. 275+14.2, 38.8' LT

STA. 275+22.3, 38.7' LT

STA. 275+52.3, 52.1' LT

STA. 275+60.5, 50.7' LT

BEGIN SAWCUT
STA. 275+59.9, 74.1' LT

S. ELM GROVE RD.

35+00

34+00

33+00

32+00

PI: 275+69.39

PI: 276+05.89

CG01

CG03

W. GREENFIELD AVE.

273+00

274+00

275+00

EP: 33+23.25

BP: 33+23.25

276+00

277+00

278+00

END CONCRETE SIDEWALK 5-INCH
STA. 275+19.7, 40.6' RT
MATCH EXISTING

CG01

STA. 275+13.6, 39.0' RT

END SAWCUT
STA. 274+98.6, 45.7' RT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
BEGIN SAWCUT
BEGIN CONCRETE SIDEWALK 5-INCH
STA. 274+98.4, 51.7' RT
MATCH EXISTING

STA. 275+13.4, 45.6' RT

STA. 275+19.7, 51.5' RT

BEGIN CONCRETE PEDESTRIAN CURB
STA. 275+19.7, 52.5' RT

STA. 275+63.3, 58.1' LT

STA. 275+65.3, 57.5' LT

BEGIN CONCRETE CURB & GUTTER 30-INCH
STA. 276+22.1, 53.4' LT

BEGIN REMOVING CONCRETE SIDEWALK 5-INCH
STA. 276+22.5, 53.6' LT

END CONCRETE CURB & GUTTER 30-INCH
STA. 276+23.4, 52.3' LT

BEGIN CONCRETE SIDEWALK 5-INCH
STA. 276+23.4, 52.3' LT

STA. 276+28.1, 46.9' LT

C

BEGIN SAWCUT
STA. 276+74.1, 44.5' LT

END REMOVING CONCRETE SIDEWALK 5-INCH
END SAWCUT
END CONCRETE SIDEWALK 5-INCH
STA. 276+74.1, 38.8' LT
MATCH EXISTING

STA. 276+58.5, 38.8' LT

STA. 276+58.4, 39.9' LT

CG01

B

A

BEGIN CONCRETE CURB & GUTTER 30-INCH
STA. 275+39.0, 55.8' RT

END CONCRETE CURB & GUTTER 30-INCH
STA. 275+43.1, 62.9' RT

END REMOVING CONCRETE SIDEWALK 5-INCH
STA. 275+42.4, 62.5' RT

END CONCRETE PEDESTRIAN CURB
STA. 275+20.1, 44.5' RT

N

LEGEND

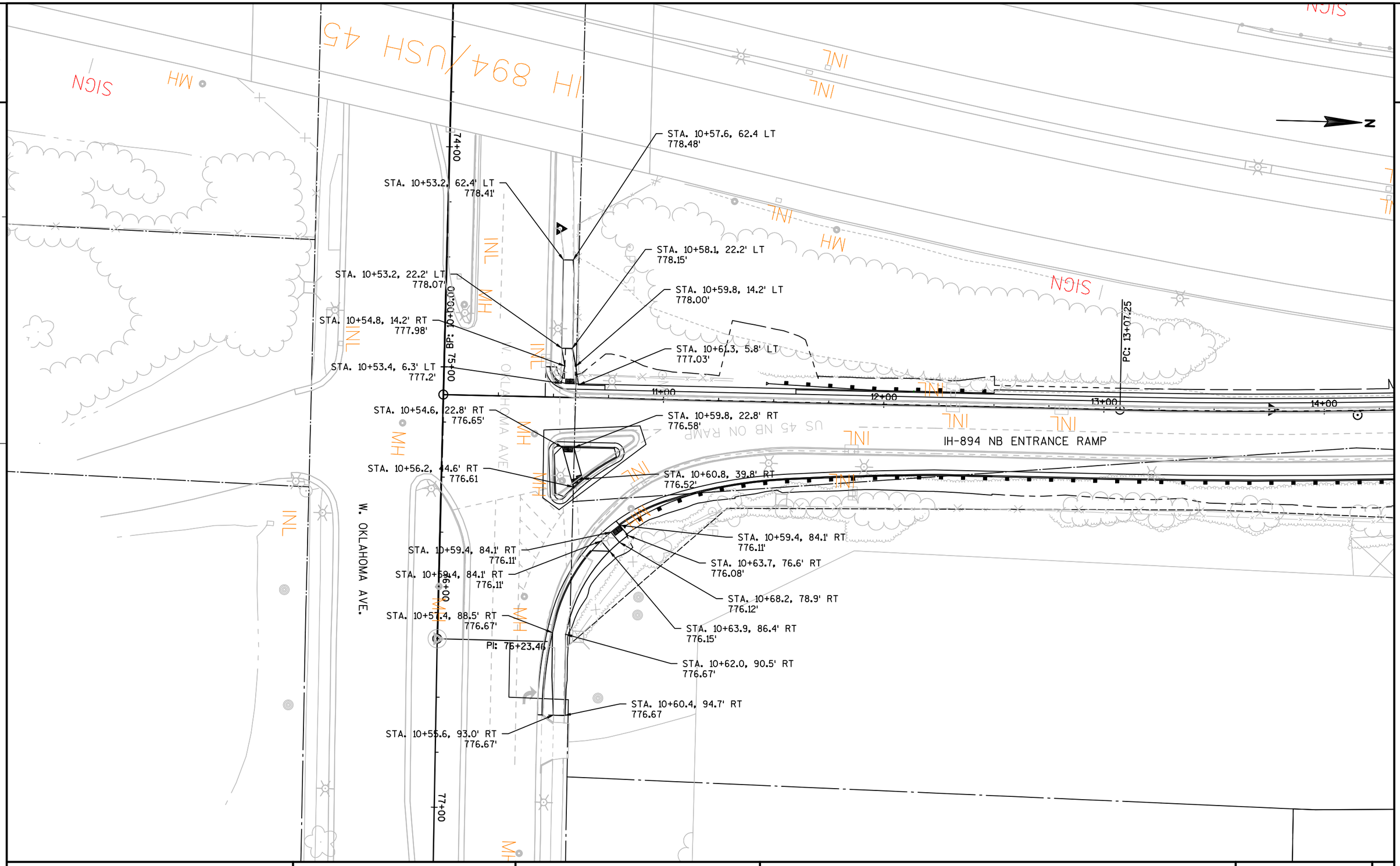
CG01	CURB RAMP TYPE 1
CG02	CURB RAMP TYPE 1A
CG03	CURB RAMP TYPE 2
CG07	CURB RAMP TYPE 5
CG08	CURB RAMP TYPE 6
CM02	CONCRETE MEDIAN SLOPE NOSE TYPE 2
XXXX	SAWCUT
	INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PLAN DETAIL - W. GREENFIELD AVE. & S. ELM GROVE RD.	SHEET 53	E

2

W. GREENFIELD AVE. & S. ELM GROVE RD.		
	STATION, OFFSET	RADIUS
A		
PC	STA. 276+30.8, 51.7' LT	
RADIUS	STA. 276+17.8, 82.2' RT	134.5'
PC	STA. 276+61.1, 45.2' LT	
B		
PC	STA. 276+31.8, 46.6' LT	
RADIUS	STA. 276+25.6, 33.5' RT	80.4'
PC	STA. 276+58.4, 39.9' LT	
C		
PC	STA. 276+61.1, 45.2' LT	
RADIUS	STA. 276+66.8, 70.4' LT	25.8'
PC	STA. 276+66.0, 44.6' LT	

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	SIDEWALK GRADES - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 55	E

2

IH-894 NB ENTRANCE RAMP

IH-894 NB EXIT RAMP

IH-894 NB

W. NATIONAL AVE.

S. 100TH ST.

PT: 22+59.20

STA. 24+65.8, 33.1' LT
772.63'

STA. 24+66.1, 37.2' LT
772.83'

STA. 24+61.4, 37.0' LT
772.88'

STA. 24+61.8, 33.1' LT
772.65'

STA. 24+59.3, 31.0' LT
772.98'

STA. 24+68.2, 31.5' LT
772.90'

PI: 50+59.72

EP: 25+21.17

22+00

23+00

24+00

25+00

50+00

51+00

52+00

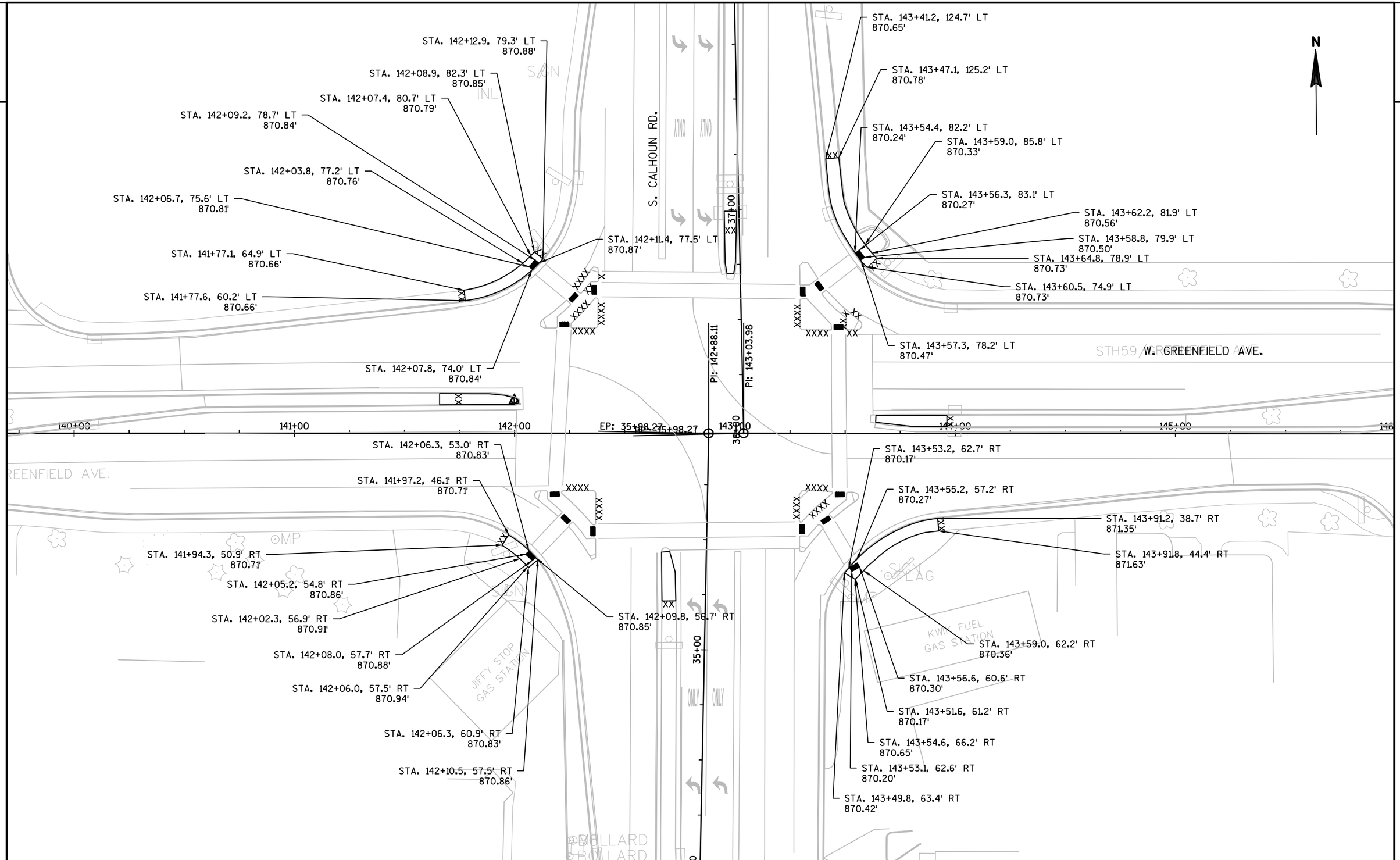
53+00

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	SIDEWALK GRADES - W. NATIONAL AVE. NB EXIT RAMP	SHEET 56	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\022101_GR.DWG
LAYOUT NAME - 021201_pd

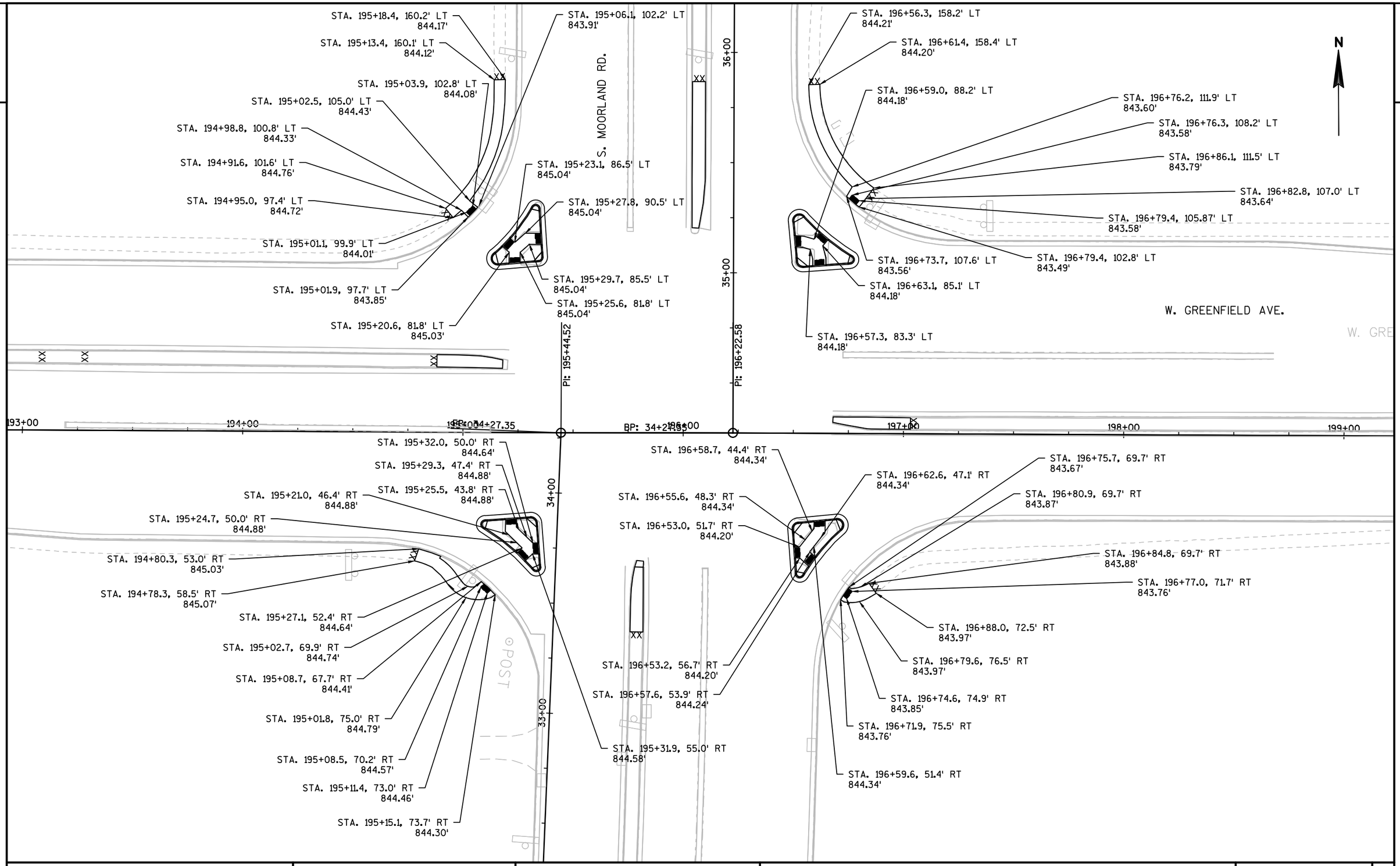
PLOT DATE : 1/29/2015 9:05 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	SIDEWALK GRADES - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 57	E

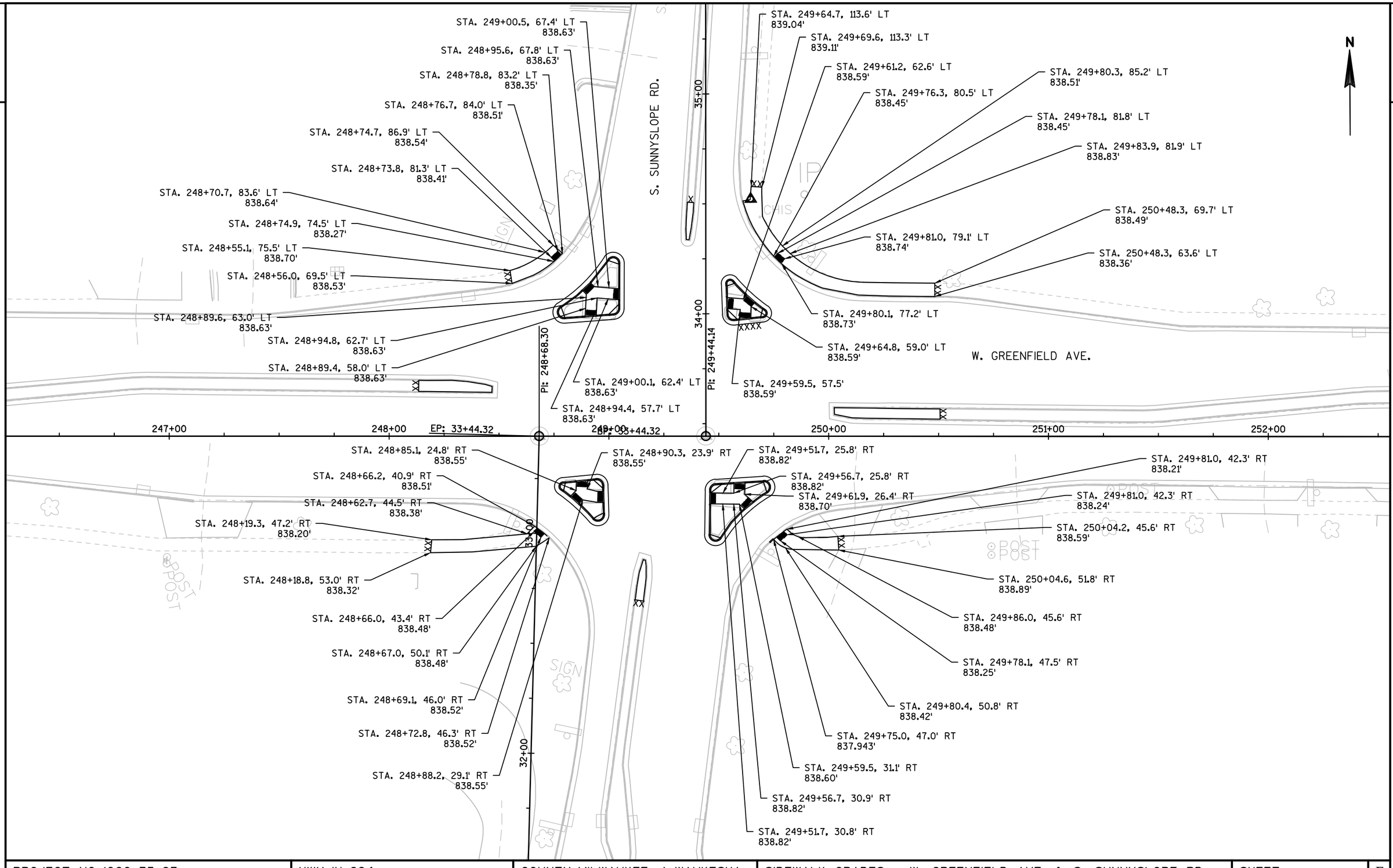
2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	SIDEWALK GRADES - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 58	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\021220_GD.DWG
LAYOUT NAME - 021220_GD
PLOT DATE : 1/27/2015 3:04 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	SIDEWALK GRADES - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 59	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\021221_GD.DWG
LAYOUT NAME - 021221_GD
PLOT DATE : 1/27/2015 3:04 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

STA. 275+65.5, 73.4' LT
803.74'
STA. 275+65.3, 57.5' LT
803.04'
STA. 275+59.9, 74.1' LT
803.82'
STA. 275+63.3, 58.1' LT
803.12'
STA. 275+61.6, 57.0' LT
803.07'
STA. 275+58.6, 58.2' LT
803.18'
STA. 275+58.0, 60.5' LT
803.16'
STA. 275+60.1, 55.1' LT
803.05'
STA. 275+48.7, 57.7' LT
803.79'
STA. 275+49.0, 51.9'
803.65'
STA. 275+60.3, 50.7' LT
803.02'
STA. 275+22.0, 50.0' LT
803.79'
STA. 275+13.9, 46.8' LT
803.80'
STA. 275+22.1, 43.8' LT
803.25'
STA. 275+14.1, 43.6' LT
803.28'
STA. 275+16.3, 40.9' LT
803.00'
STA. 275+14.2, 38.8' LT
802.97'
STA. 275+22.3, 38.7' LT
802.88'
STA. 275+20.3,
802.91'
40.9' LT

S. ELM GROVE RD.

35+00
34+00
PI: 275+69.39
PI: 276+05.89

STA. 276+23.4, 52.3' LT
802.78'
STA. 276+28.1, 51.4' LT
802.58'
STA. 276+30.8, 51.7' LT
802.43'
STA. 276+74.1, 44.5' LT
801.23'
STA. 276+74.1, 38.8' LT
801.11'
STA. 276+31.8, 46.6' LT
802.35'
STA. 276+29.7, 47.2' LT
802.34'
STA. 276+28.1, 46.9' LT
802.38'

W. GREENFIELD AVE.

N

273+00
274+00
275+00
EP: 33+23.25
BP: 33+23.25
276+00
277+00
278+00

STA. 275+13.5, 39.2' RT
802.59'
STA. 275+19.5, 40.7' RT
802.44'
STA. 275+18.5, 42.5' RT
802.47'

33+00

STA. 275+14.5, 42.0' RT
802.62'
STA. 274+98.6, 45.7' RT
803.18'
STA. 274+98.4, 51.7' RT
803.38'
STA. 275+13.4, 45.6' RT
802.64'
STA. 275+19.7, 45.5' RT
802.55'
STA. 275+19.7, 51.5' RT
802.58'

32+00

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	SIDEWALK GRADES - W. GREENFIELD AVE. & S. ELM GROVE RD.	SHEET 60	E

2

N

W. OKLAHOMA AVE.

OKLAHOMA AVE.

POST

US 45 NB ON RAMP

US 45 NB ON RAMP

IH-894 NB ENTRANCE RAMP

STA. 12+30.0

TYPE A

PC: 13+07.25

PT: 15+23.15

PC: 15+64.55

11+00

12+00

13+00

14+00

15+00

16+00

STA. 11+50.0

TYPE A

TYPE A

STA. 15+96.6, 36.2' RT

PI: 76+23.46

LEGEND

EROSION MAT CLASS I, TYPE A

EROSION MAT URBAN, TYPE 1A

EROSION MAT URBAN TYPE 1B

INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

SILT FENCE

SLOPE INTERCEPT

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	EROSION CONTROL - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 61	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\022001_EC.DWG
LAYOUT NAME - 022001_EC

PLOT DATE : 2/24/2015 4:17 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

IH-894 NB ENTRANCE RAMP

IH-894 NB EXIT RAMP

W. NATIONAL AVE.

S. 100TH ST.

TYPE A

TYPE A

PT: 22+59.20

PI: 50+59.72

EP: 25+21.17

21+00

22+00

23+00

24+00

25+00

50+00

51+00

52+00

53+00

LEGEND

EROSION MAT CLASS I, TYPE A

EROSION MAT URBAN, TYPE 1A

EROSION MAT URBAN TYPE 1B

INLET PROTECTION TYPE C (UNLESS OTHERWISE NOTED)

SILT FENCE

SLOPE INTERCEPT

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	EROSION CONTROL - W. NATIONAL AVE. NB EXIT RAMP	SHEET 62	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\022001_EC.DWG
LAYOUT NAME - ****

PLOT DATE : 2/24/2015 4:17 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

IH-894/USH 45

W. OKLAHOMA AVE.

IH-984 NB ENTRANCE RAMP

STA. 10+90.7, 40.3' RT
RECONSTRUCTING INLETS
MANHOLE COVER TYPE K
RIM 775.4
INVERT 772.0
2

STA. 12+31.5, 1.4' LT
RECONSTRUCTING INLETS
MANHOLE TYPE K
RIM 775.1
5

STA. 12+31.4, 6.3' LT
ADJUSTING INLET COVERS
RIM 775.4
6

STA. 12+80.8, 5.8' LT
INLET 2X2
INLET COVER TYPE BW
RIM 775.5
INVERT 771.0
8

PC: 13+07.25

PT: 15+23.15

PC: 15+64.55

STA. 10+96, 48.3' RT
INLET 2X2
INLET COVER TYPE A
RIM 776.1
INVERT 772.2
1

STA. 11+85.9, 32.8' RT
INLET 2X2
INLET COVER TYPE A
RIM 775.4
INVERT 770.3
3

STA. 11+85.8, 22.7' RT
RECONSTRUCTING INLETS
MANHOLE COVER TYPE K
RIM 775.2
INVERT 770.2
4

STA. 12+80.8, 1.3' LT
RECONSTRUCTING INLETS
MANHOLE COVER TYPE K
RIM 775.6
INVERT 770.9
7

STA. 14+83.5, 48.6' RT
ADJUSTING INLET COVER
RIM 776.8
9

PI: 76+23.46

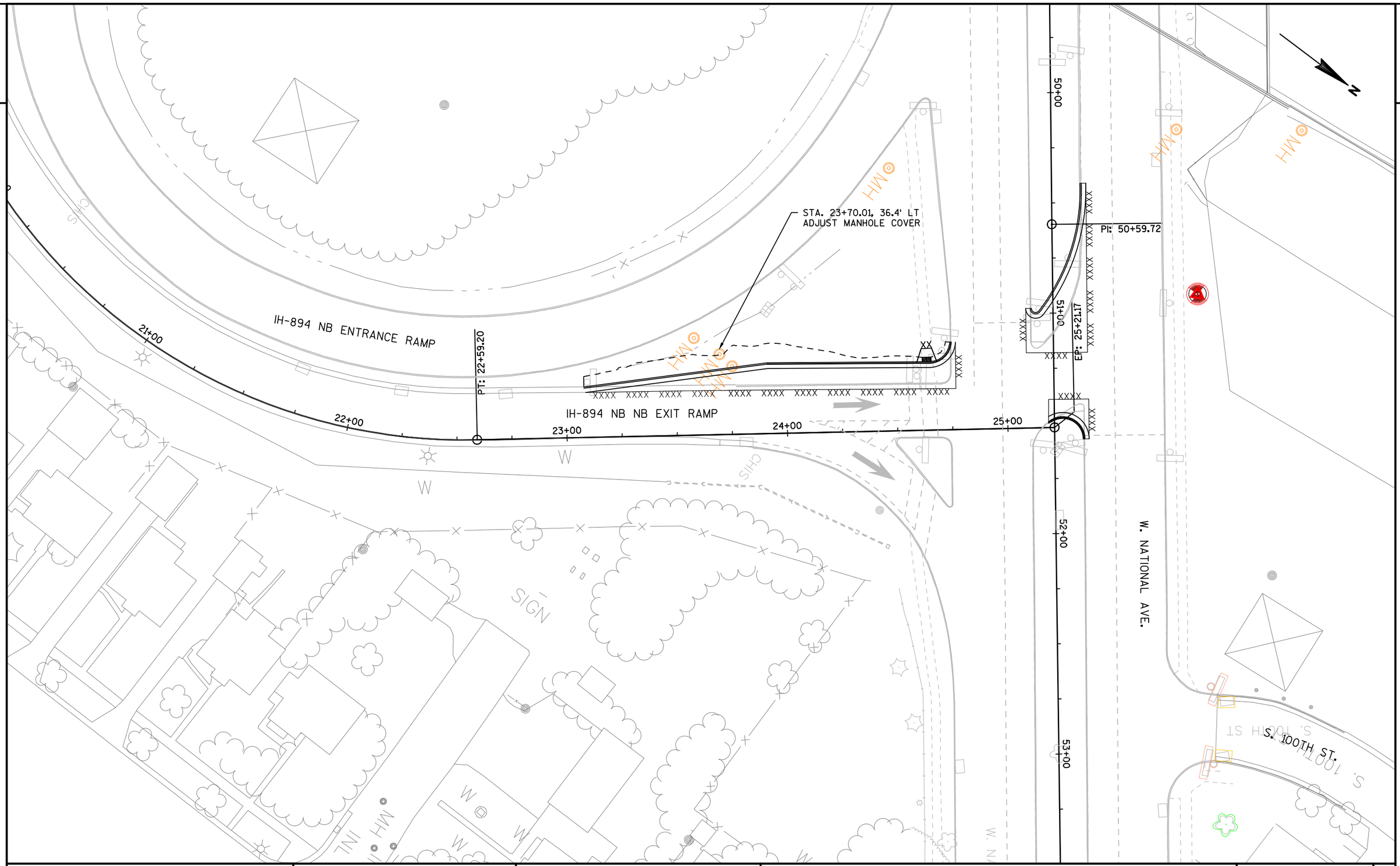
NOTE: PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	STORM SEWER - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 63	E

FILE NAME : W:\PDS\C3D\CAD\1060330T\93\OKLAHOMA\022501_SS.DWG
LAYOUT NAME - 022501_SS

PLOT DATE : 1/27/2015 5:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	STORM SEWER - W. NATIONAL AVE. NB EXIT RAMP	SHEET 64	E

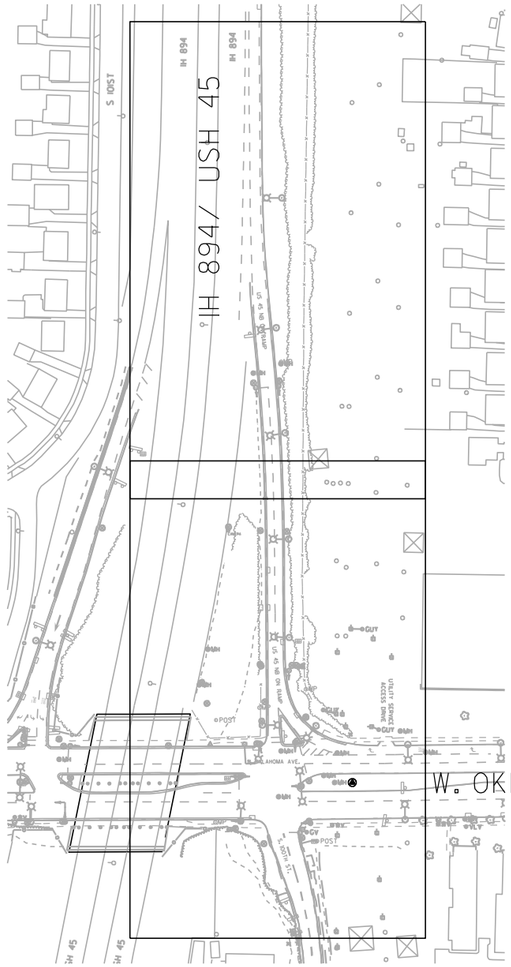
FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\0225 - 01_SS.DWG
LAYOUT NAME - 022501_SS
PLOT DATE : 1/29/2015 11:36 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

2

LEGEND — EXISTING

FTMS CONVENTIONAL SYMBOLS

- JUNCTION BOX
- CCTV CAMERA AND POLE
- FTMS FIELD CABINET AND BASE
- METER BREAKER PEDESTAL
- STEEL PULL BOX
- MANHOLE
- ADVANCE FLASHER ASSEMBLY
- FTMS (ITS) CONDUIT
- BREAKER DISCONNECT BOX
- COMMUNICATIONS VAULT, TYPE 1
- RAMP METER SIDEMOUNT SIGNAL
- LOOP DETECTOR



FTMS STANDARD ABBREVIATIONS

CB	CONTROLLER CABINET
CCTV	CLOSED CIRCUIT TELEVISION SITE
CV	COMMUNICATIONS VAULT
FY	ADVANCE FLASHER (ASSEMBLY)
PB	PULL BOX
MH	MANHOLE
RM	RAMP METER
WP	TEMPORARY WOOD POLE
SH	RAMP METER SIGNAL HEAD
SB	SIGN BASE
EX	EXISTING

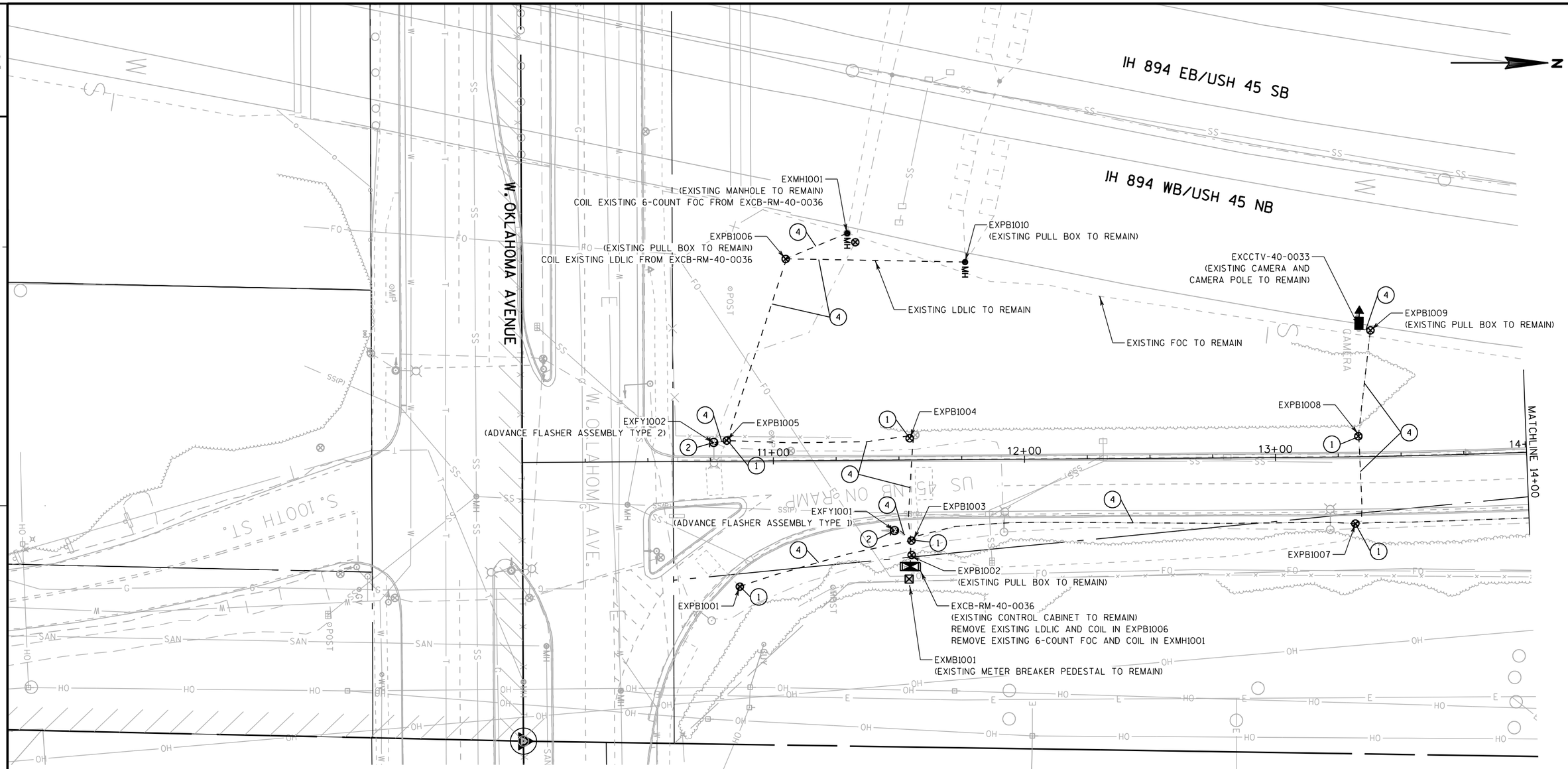
FTMS GENERAL NOTES

1. THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.
2. BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.
3. BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.
4. NO TREES (AND/OR SHRUBS) SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
5. AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED, AND EROSION MAT, AND SHALL BE INCLUDED IN THE COST OF INSTALLING FTMS ITEMS. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION SHALL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS.
6. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
7. DUE TO RAMP, LANE, SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.
8. THE CONTRACTOR IS FULLY RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.
9. THE CONTRACTOR SHALL CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.
10. ALL LOOP DETECTORS ARE STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.
11. HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.
12. VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

2

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS REMOVAL PLANS - OVERVIEW	SHEET	E

2



LEGEND

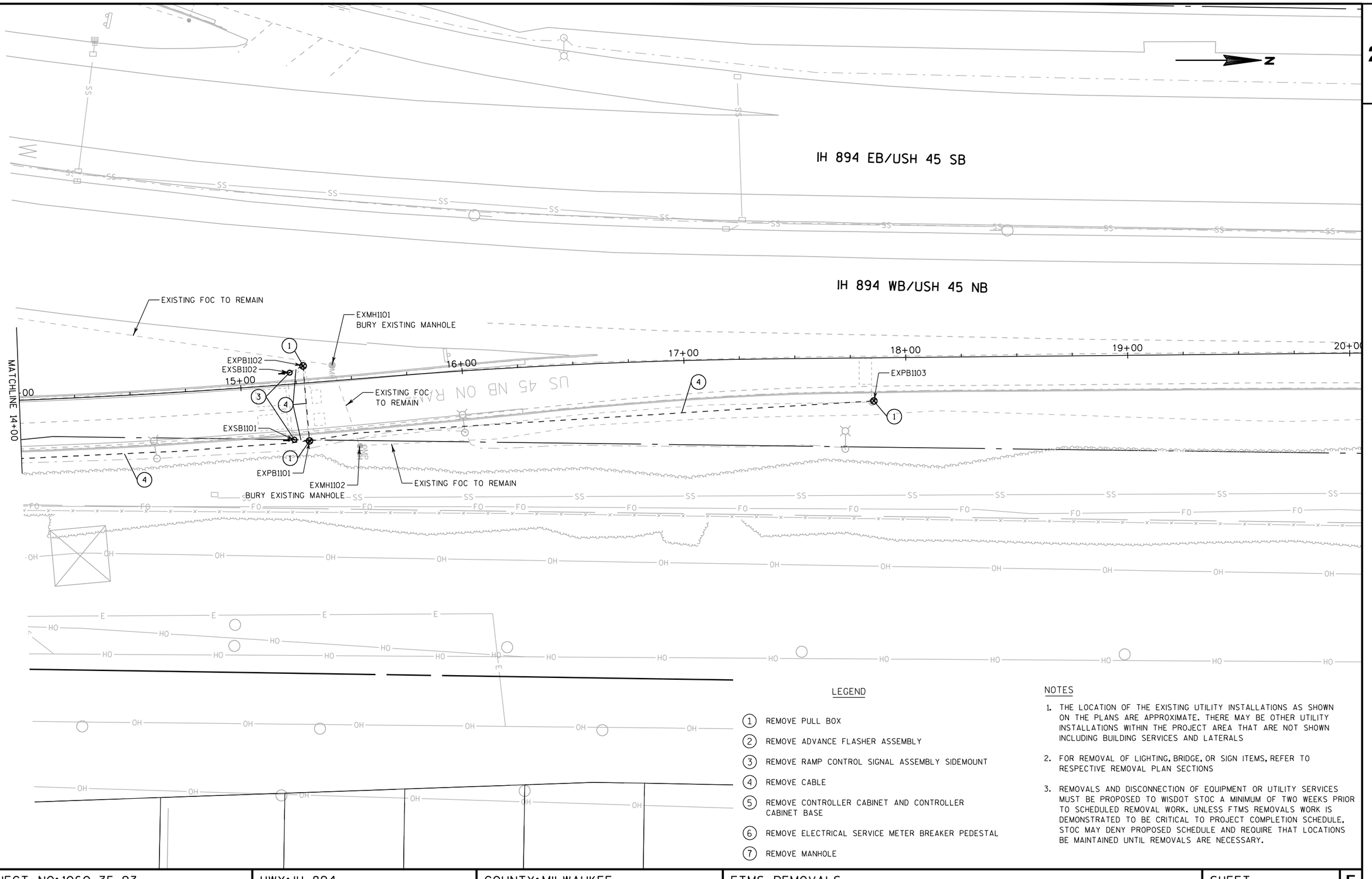
1. REMOVE PULL BOX
2. REMOVE ADVANCE FLASHER ASSEMBLY
3. REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
4. REMOVE CABLE
5. REMOVE CONTROLLER CABINET AND CONTROLLER CABINET BASE
6. REMOVE ELECTRICAL SERVICE METER BREAKER PEDESTAL
7. REMOVE MANHOLE

NOTES

1. THE LOCATION OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN INCLUDING BUILDING SERVICES AND LATERALS
2. FOR REMOVAL OF LIGHTING, BRIDGE, OR SIGN ITEMS, REFER TO RESPECTIVE REMOVAL PLAN SECTIONS
3. REMOVALS AND DISCONNECTION OF EQUIPMENT OR UTILITY SERVICES MUST BE PROPOSED TO WISDOT STOC A MINIMUM OF TWO WEEKS PRIOR TO SCHEDULED REMOVAL WORK. UNLESS FTMS REMOVALS WORK IS DEMONSTRATED TO BE CRITICAL TO PROJECT COMPLETION SCHEDULE, STOC MAY DENY PROPOSED SCHEDULE AND REQUIRE THAT LOCATIONS BE MAINTAINED UNTIL REMOVALS ARE NECESSARY.

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS REMOVALS	SHEET	E

2



LEGEND

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PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS REMOVALS	SHEET	E

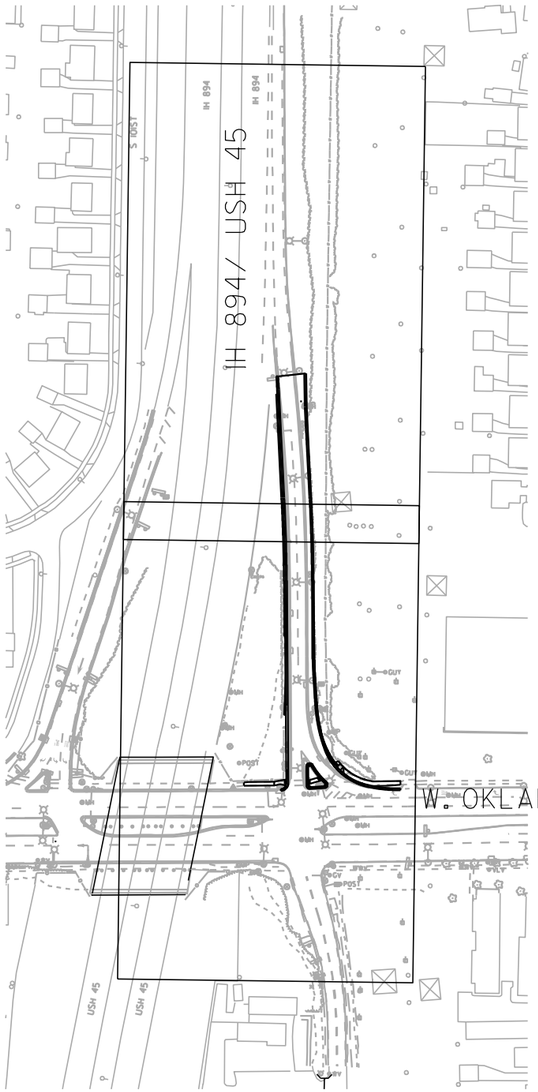
2

LEGEND

	EXISTING	PROPOSED
FTMS CONVENTIONAL SYMBOLS		
JUNCTION BOX		
CCTV CAMERA AND POLE		
FTMS FIELD CABINET AND BASE		
METER BREAKER PEDESTAL		
24"X36" STEEL PULL BOX		
24"X42" STEEL PULL BOX		
MANHOLE		
ADVANCE FLASHER ASSEMBLY		
FTMS (ITS) CONDUIT		
BREAKER DISCONNECT BOX		
COMMUNICATIONS VAULT, TYPE 1		
RETAINING WALL		
RAMP METER SIDEMOUNT SIGNAL		
RAMP METER OVERHEAD SIGNAL		
LOOP DETECTOR		
DETECTION ZONE		
TEMPORARY VEHICLE DETECTOR ASSEMBLY		
PORTABLE VIDEO SURVEILLANCE SYSTEM		
WIRELESS TRAFFIC SENSOR		
WIRELESS TRAFFIC SENSOR ACCESS POINT		
WIRELESS TRAFFIC SENSOR REPEATER		

FTMS STANDARD ABBREVIATIONS

CB	CONTROLLER CABINET
CCTV	CLOSED CIRCUIT TELEVISION SITE
CV	COMMUNICATIONS VAULT
FY	ADVANCE FLASHER (ASSEMBLY)
PB	PULL BOX
MH	MANHOLE
RM	RAMP METER
WP	TEMPORARY WOOD POLE
SH	RAMP METER SIGNAL HEAD
SB	SIGN BASE
WTS	WIRELESS TRAFFIC SENSOR
WTSAP	WIRELESS TRAFFIC SENSOR ACCESS POINT
WTSR	WIRELESS TRAFFIC SENSOR REPEATER
TMD	TEMPORARY VEHICLE DETECTOR
TCCTV	PORTABLE VIDEO SURVEILLANCE SYSTEM

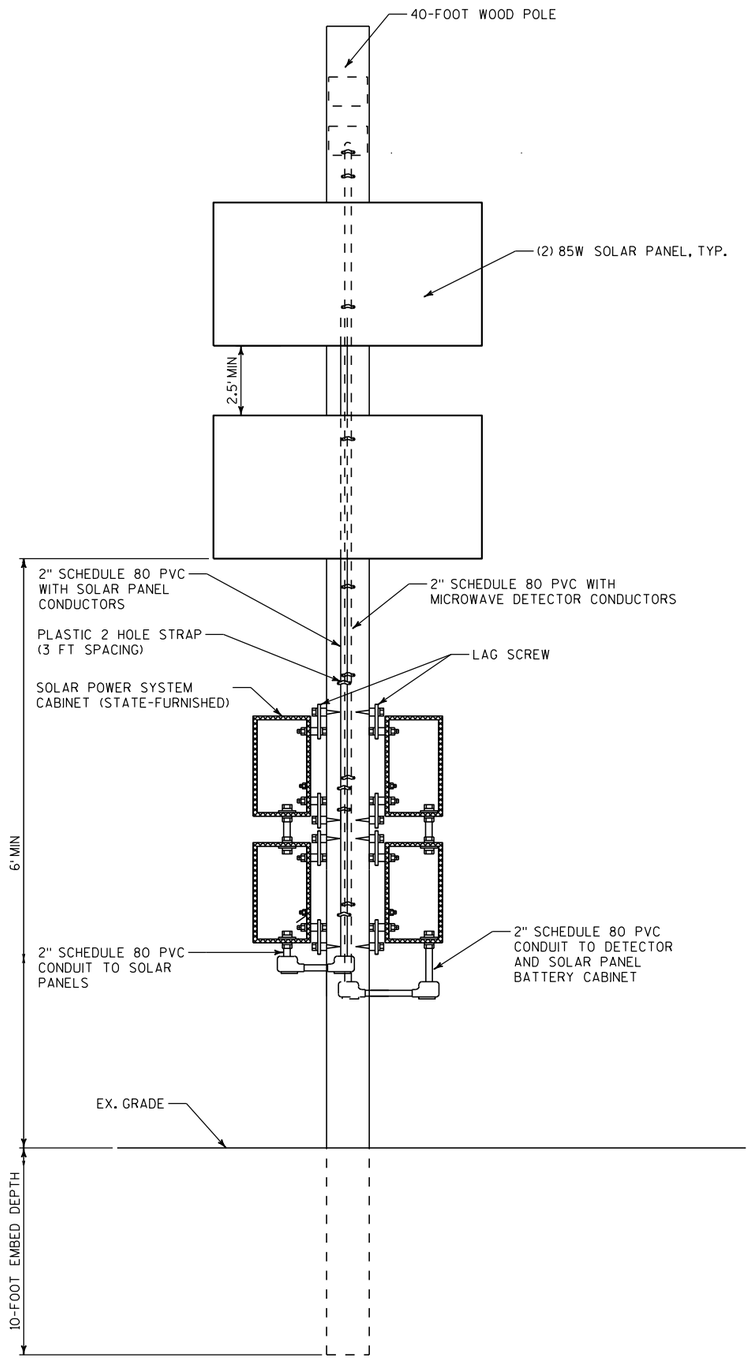


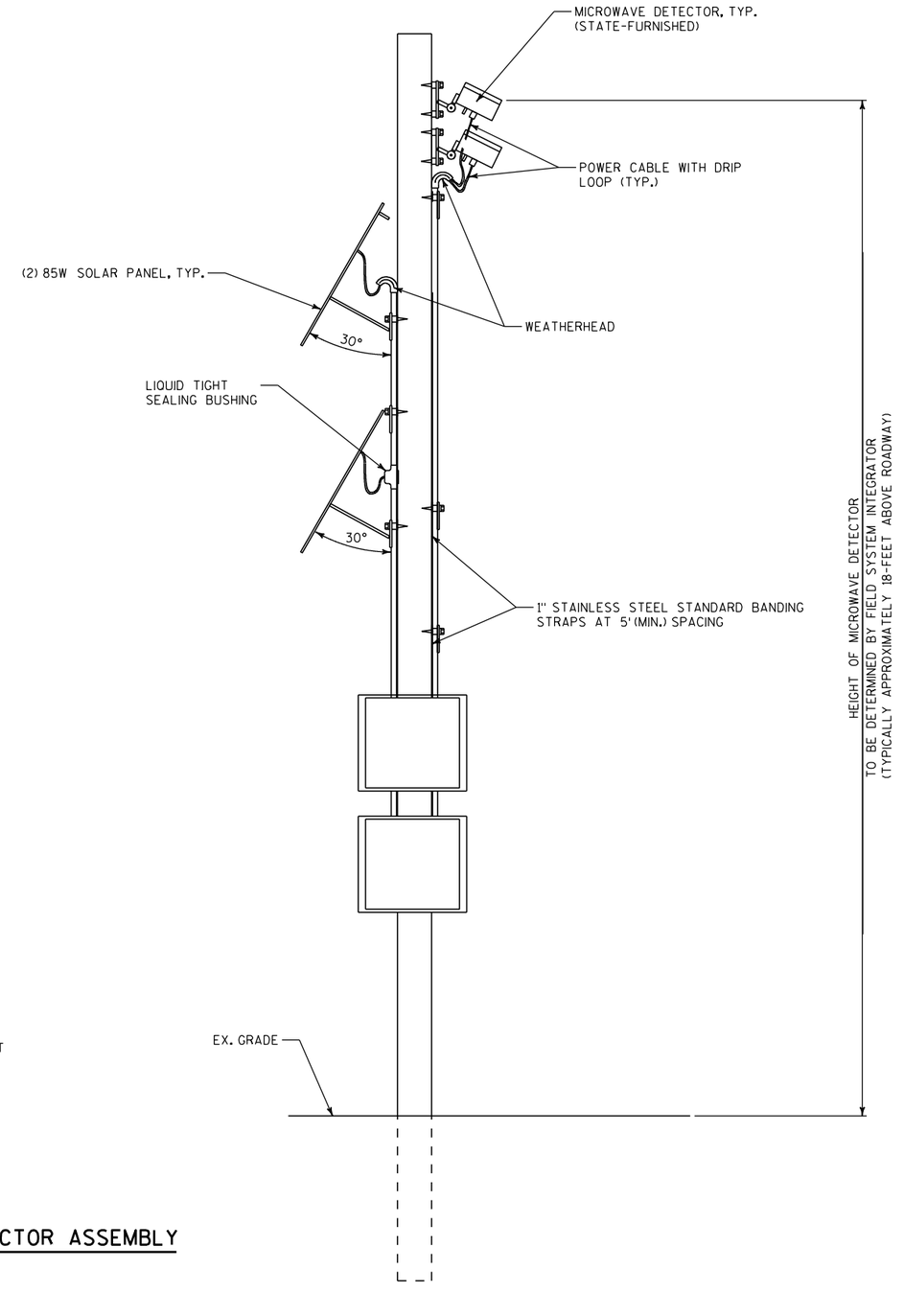
FTMS GENERAL NOTES

1. THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.
2. BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.
3. BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.
4. NO TREES (AND/OR SHRUBS) SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
5. AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION SHALL BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED, AND EROSION MAT, AND SHALL BE INCLUDED IN THE COST OF INSTALLING FTMS ITEMS. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION SHALL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS.
6. THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
7. DUE TO RAMP, LANE, SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.
8. THE CONTRACTOR IS FULLY RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.
9. THE CONTRACTOR SHALL CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.
10. ALL LOOP DETECTORS ARE STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.
11. HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.
12. VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

2

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS PLANS - OVERVIEW	SHEET	E



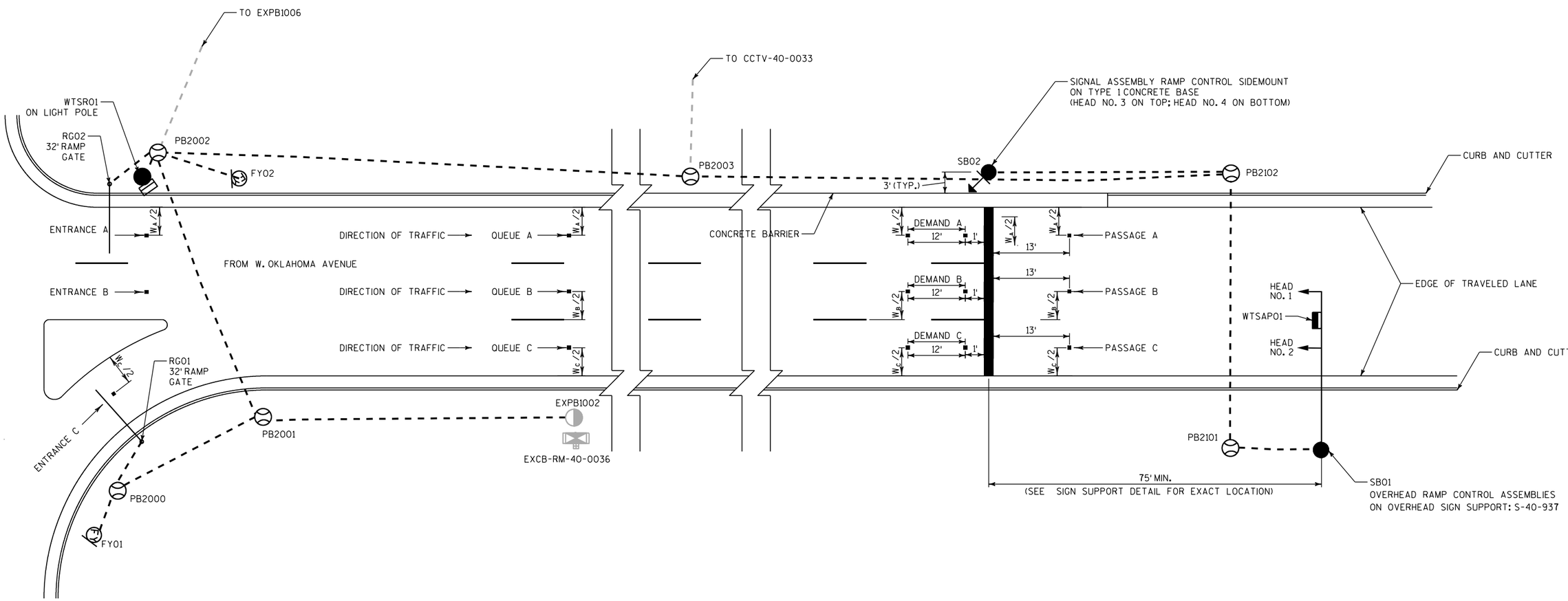


NOTES

1. ALL WIRES ENTERING CONDUIT, LB'S AND SERVICE CAPS SHALL HAVE AN ESTABLISHED DRIP LOOP TO PREVENT WATER FROM ENTERING CONDUIT.
2. ANY LB OPENINGS THAT ARE NOT ATTACHED TO CONDUIT SHALL BE WEATHERPROOFED USING A SILICONE SEAL.
3. SOLAR PANELS MUST FACE DUE SOUTH.
4. COORDINATE SOLAR PANEL LOCATIONS WITH VEHICLE DETECTORS, GIVING PRIORITY TO VEHICLE DETECTORS.
5. CONTRACTOR SHALL PROVIDE REQUIRED SETTING DEPTH AND ADEQUATE POLE HEIGHT ABOVE MONITORED ROAD SURFACE TO MEET VEHICLE DETECTOR MANUFACTURER'S SPECIFICATIONS.
6. CONTRACTOR TO DETERMINE MOUNTING HEIGHT OF MICROWAVE DETECTOR ABOVE ROADWAY BEING DETECTED. NOMINAL HEIGHT IS APPROXIMATELY 18-FEET ABOVE ROADWAY.

INSTALLING TEMPORARY VEHICLE DETECTOR ASSEMBLY

2



CONDUCTOR CHART

FROM	TO	CABLE SIZE	HEAD NO.	COLOR CODE
EXCB-RM-40-0036	SB01	9C	1	ORANGE, BLUE, WHITE-BLK
EXCB-RM-40-0036	SB01	9C	2	RED-BLK, GREEN-BLK, BLACK
SB01	SB02	7C	3	WHITE, RED, GREEN
SB01	SB02	7C	4	RED, GREEN

DEMAND/PASSAGE LAYOUT

W. OKLAHOMA AVENUE NB ENTRANCE RAMP
(RM-40-0036)
NOT TO SCALE

NOTES:

1. SIGNAL HEADS:
A. SIGNALS MAY BE TAKEN FROM ITEM "REMOVE RAMP CONTROL SIGNAL ASSEMBLY".

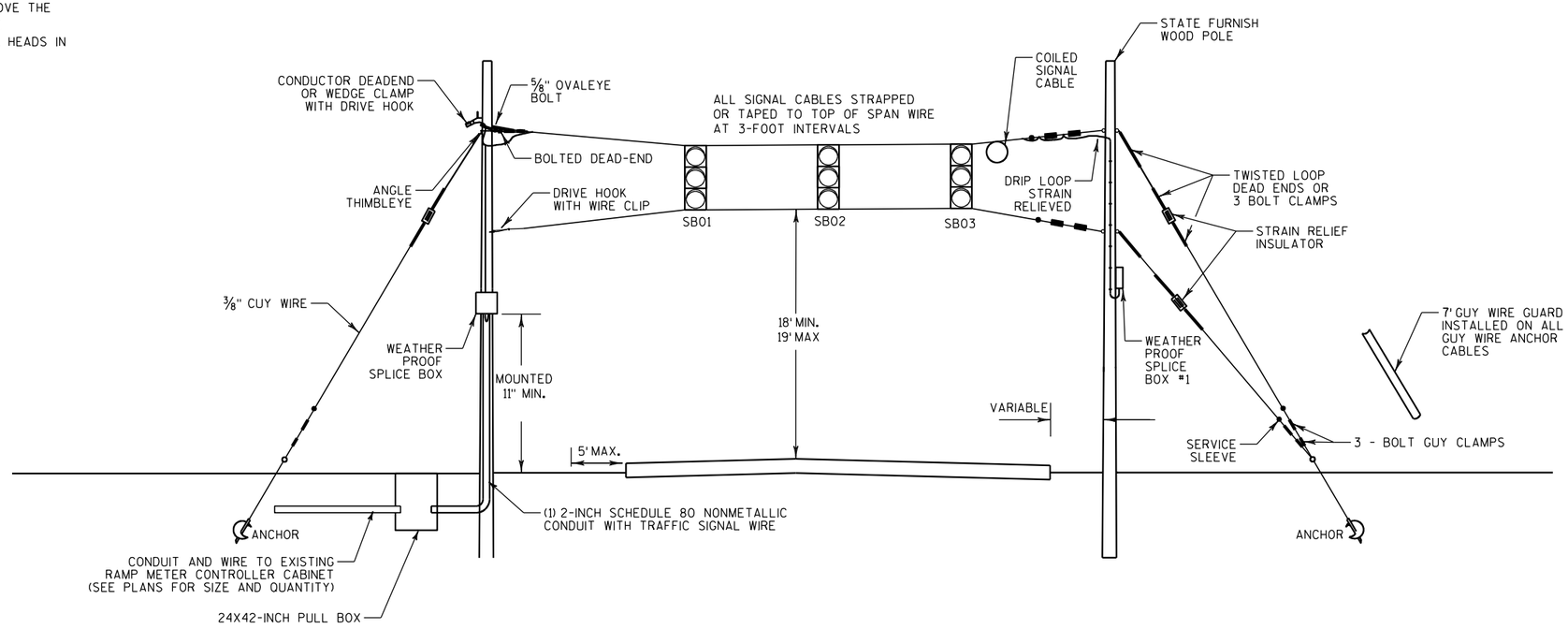
B. EACH SIGNAL ASSEMBLY SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.

C. DISPLAY SIGNAL ASSEMBLIES AS SHOWN ON THE TEMPORARY RAMP METER STAGING PLANS. COVER SIGNAL ASSEMBLIES NOT IN USE.

2. SPAN WIRE:
A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.

B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.

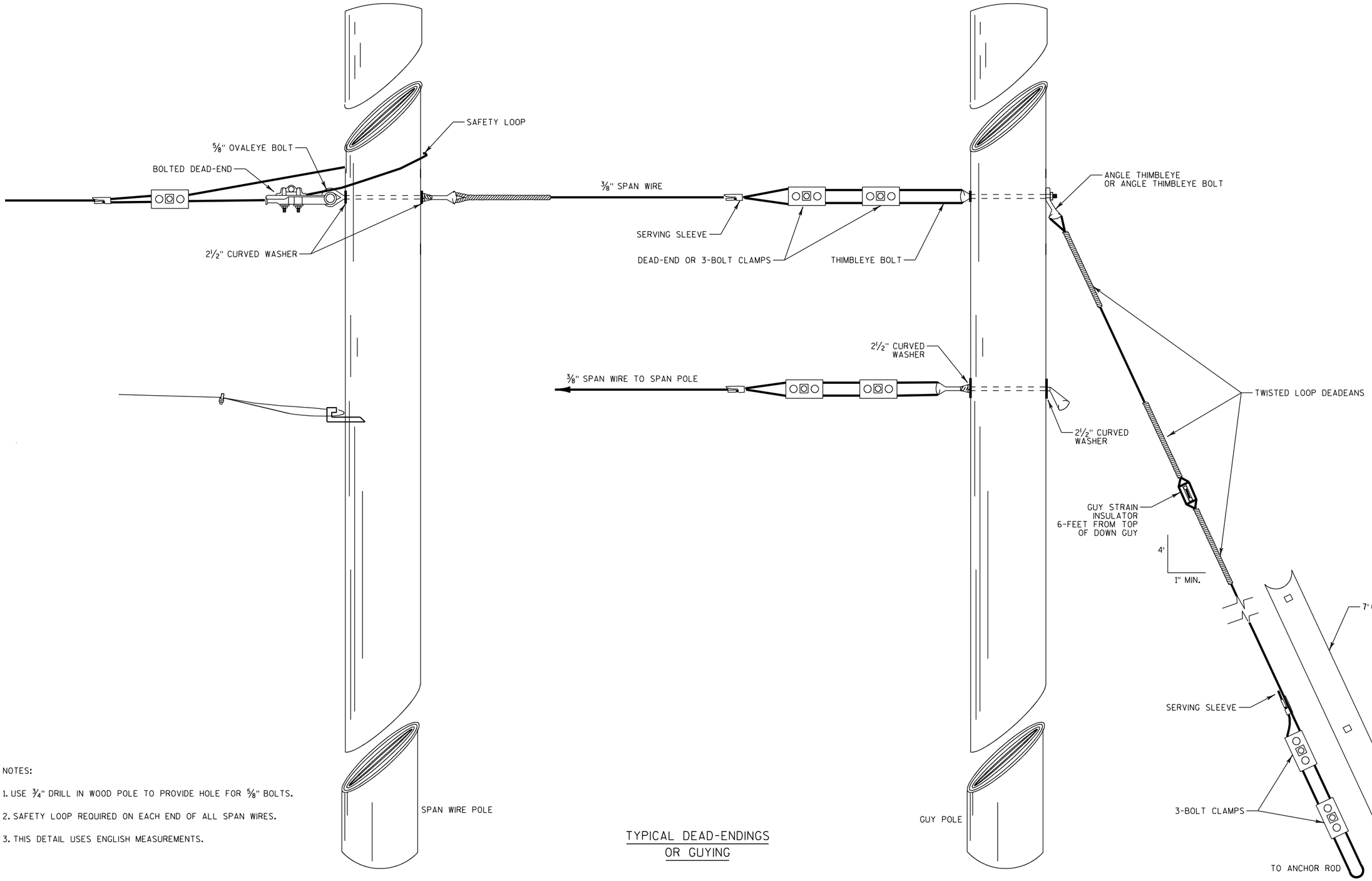
C. THE LOWER SPAN WIRE SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL HEADS IN PLACE.



MINIMUM POLE LENGTHS	POLE BURIAL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE
TEMPORARY SIGNALS

2



NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.
3. THIS DETAIL USES ENGLISH MEASUREMENTS.

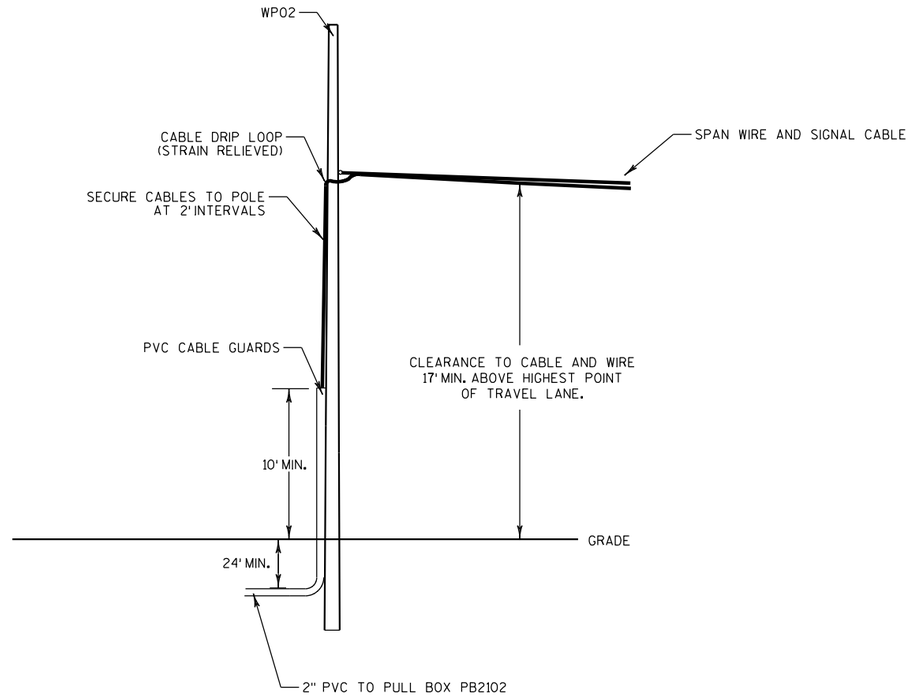
TYPICAL DEAD-ENDINGS
OR GUYING

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS DETAILS	SHEET	E

2

CONDUCTOR CHART

FROM	TO	CABLE SIZE	HEAD NO.	COLOR CODE
CB-RM-40-0036	WP02	12C	1	WHITE, RED, GREEN
			2	ORANGE, BLUE, WHITE-BLACK
			3	RED-BLACK, GREEN-BLACK, ORANGE-BLACK



2

N

W. OKLAHOMA AVENUE

IH 894 EB/USH 45 SB

IH 894 WB/USH 45 NB

IH 894 WB/USH 45 NB ENTRANCE RAMP

EXMH1001
(6) F.O. SPLICES IN EXISTING F.O. SPLICE ENCLOSURE

IN EXISTING CONDUIT
(1) WITH (1) 6-COUNT FOC (SALVAGED)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

IN EXISTING CONDUIT
(1) WITH (1) 6-COUNT FOC (SALVAGED)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) REINSTALL CABLE (LDLIC)

EXPB1006

EXPB1010

EXISTING 72-COUNT FOC

72-COUNT FOC
INSTALLED BY OTHERS

(4) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) WTS ACCESS POINT CABLE

(4) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) WTS ACCESS POINT CABLE

IN EXISTING CONDUIT
(1) NO. 12 AWG TRAFFIC SIGNAL WIRE

EXCCTV-40-0033
NOT RECONNECTED WITH THIS PROJECT

IN EXISTING CONDUIT
(1) NO. 12 AWG TRAFFIC SIGNAL WIRE

EXPB1009

CB1 (TRAFFIC SIGNAL)
(1) INSTALL CONTACT CLOSURE
RADIO SYSTEM (S-F)

PB2002
INSTALL PULL BOX OVER EXISTING CONDUIT

WTSR01
ON LIGHT POLE
(1) WIRELESS TRAFFIC SENSOR REPEATER

(1) 2-INCH NONMETALLIC CONDUIT
(1) WITH (1) 2C NO. 12 UF CABLE

PB2003
INSTALL PULL BOX OVER EXISTING CONDUIT

MATCHLINE 14+00

(2) 2-INCH NONMETALLIC CONDUITS
(1) WITH (1) 5C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

11+00 12+00 13+00 14+

RG02
32' RAMP GATE

WTS ARRAY

FY02
(1) CONCRETE BASE TYPE 1
(1) SIGNAL ASSEMBLY
ADVANCE FLASHER TYPE 1

WTS ARRAY

EXPB1002
(1) INSTALL CONDUIT INTO EXISTING PULL BOX

(5) 3-INCH CONDUITS SPECIAL
(1) WITH (1) 6-COUNT FOC (SALVAGED)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) 5C AND (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) 2C NO. 12 UF CABLE
(1) WITH (1) WTS ACCESS CABLE
(1) WITH (1) REINSTALL CABLE (LDLIC)

WTS

RG01
32' RAMP GATE

PB2001

IN EXISTING CONDUIT
(1) WITH (1) 6-COUNT FOC (SALVAGED)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) 5C AND (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (2) 2C NO. 12 UF CABLES
(1) WITH (1) WTS ACCESS POINT CABLE
(1) WITH (1) REINSTALL CABLE (LDLIC)

EXCB-RM-40-0036
(1) INSTALL CONTACT CLOSURE
RADIO SYSTEM (S-F)

(2) 3-INCH NONMETALLIC CONDUITS
(1) WITH (2) 5C NO. 14 AWG TRAFFIC SIGNAL CABLES
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
AND (1) 2C NO. 12 UF CABLE

PB2000

(1) 2-INCH NONMETALLIC CONDUIT
(1) WITH (1) 2C NO. 12 UF CABLE

(5) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 6-COUNT FOC (SALVAGED)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) 5C AND (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (2) 2C NO. 12 UF CABLES
(1) WITH (1) WTS ACCESS CABLE
(1) WITH (1) REINSTALL CABLE (LDLIC)

FY01
(1) CONCRETE BASE TYPE 1
(1) SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1

(2) 2-INCH NONMETALLIC CONDUITS
(1) WITH (2) 5C NO. 14 AWG TRAFFIC SIGNAL CABLES
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

EXCB-RM-40-0036 CABINET CONTENT ITEMS	DETAILS QTY.
ETHERNET SWITCH (S-F)	1
WIRELESS MODEM (S-F)	1
WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE	1
WIRELESS TRAFFIC SENSOR CONTACT CLOSURE ENTENSION CARD	5
FIBER OPTIC TERMINATION	6

CITY OF MILWAUK

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS PLANS	SHEET	E

2

2

N

TMD01
TEMPORARY VEHICLE DETECTOR ASSEMBLY

IH 894 SB/USH 45 SB

IH 894 WB/USH 45 NB

SB02
(1) CONCRETE BASE TYPE 1
(1) SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT

72-COUNT FOC
INSTALLED BY OTHERS

(2) 2-INCH NONMETALLIC CONDUITS
(1) WITH (1) 7C AND (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

(4) 3-INCH NONMETALLIC CONDUITS
(1) WITH (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) WTS ACCESS POINT CABLE

FUTURE COMMUNICATION VAULT
BY OTHERS

EXISTING 72-COUNT FOC

PB2102

16+00

15+00

00

MATCHLINE 14+00

WTS ARRAY

17+00

18+00

19+00

20+00

(4) 3-INCH CONDUITS SPECIAL
(1) WITH (1) 7C AND (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) WTS ACCESS POINT CABLE

WTSAP01
(1) WTS ACCESS POINT

72-COUNT FOC
INSTALLED BY OTHERS

TCCTV01
PORTABLE VIDEO SURVEILLANCE SYSTEM

SB01
ON OVERHEAD SIGN SUPPORT: S-40-937
(1) WTS ACCESS POINT
(2) OVERHEAD RAMP CONTROL
SIGNAL ASSEMBLIES

PB2101

EXISTING 72-COUNT FOC

(3) 2-INCH NONMETALLIC CONDUITS
(1) WITH (1) 7C AND (1) 9C NO. 14 AWG TRAFFIC SIGNAL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) WTS ACCESS POINT CABLE

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS PLANS	SHEET	E

2

2

N

S. CALHOUN ROAD

W. GREENFIELD AVENUE

REMOVE EXISTING CAMERA CABLE
AND BLUETOOTH DETECTOR CABLE

IN EXISTING SIGNAL CONDUIT
(1) CAMERA CABLE
(1) BLUETOOTH DETECTOR CABLE

CCTV-67-0200
ON TRAFFIC SIGNAL POLE
(1) RELOCATE EXISTING CCTV CAMERA
(1) RELOCATE EXISTING BLUETOOTH DETECTOR

EXISTING CCTV CAMERA AND
BLUETOOTH DETECTOR

REMOVE EXISTING CAMERA CABLE
AND BLUETOOTH DETECTOR CABLE

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: WAUKESHA	FTMS PLANS	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\021422_fm.dgn PLOT DATE : 26-JAN-2015 08:28 PLOT BY : MSCKKC PLOT NAME : 021422_fm PLOT SCALE : 40:1

2

2

IH 894 EB/USH 45 SB

IH 894 WB/USH 45 NB

W. OKLAHOMA AVENUE

EXMH1001

MH

POST

CAMERA

15

IH 894 WB/USH 45 NB ENTRANCE RAMP

EXPB1003

EXFY1001

EXPB1002

EXCB-RM-40-0036

EXPB1007

EXSB1101

EXPB1101

HW

GUY

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS PLANS - TEMPORARY RAMP METER STAGE 1	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\021425_fm.dgn PLOT DATE : 26-JAN-2015 08:28 PLOT BY : MSCKKC PLOT NAME : 021425_fm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

IH 894 EB/USH 45 SB

IH 894 WB/USH 45 NB

W. OKLAHOMA AVENUE

EXMH1001

EXPB1006

WTSRO1
ON LIGHT POLE
(1) WIRELESS TRAFFIC SENSOR REPEATER

PB2002

FY02

PB2003

WTSAP01
(1) WIRELESS TRAFFIC SENSOR
ACCESS POINT ON WP02

WP02
TEMPORARY RAMP METER
(USE EXCB-RM-40-0036)

PB2102

SB2102

SH01

WTS ARRAY

WP01

11+00 12+00 13+00 14+00 15+00 16+00

WTS

IH 894 WB/USH 45 NB ENTRANCE RAMP

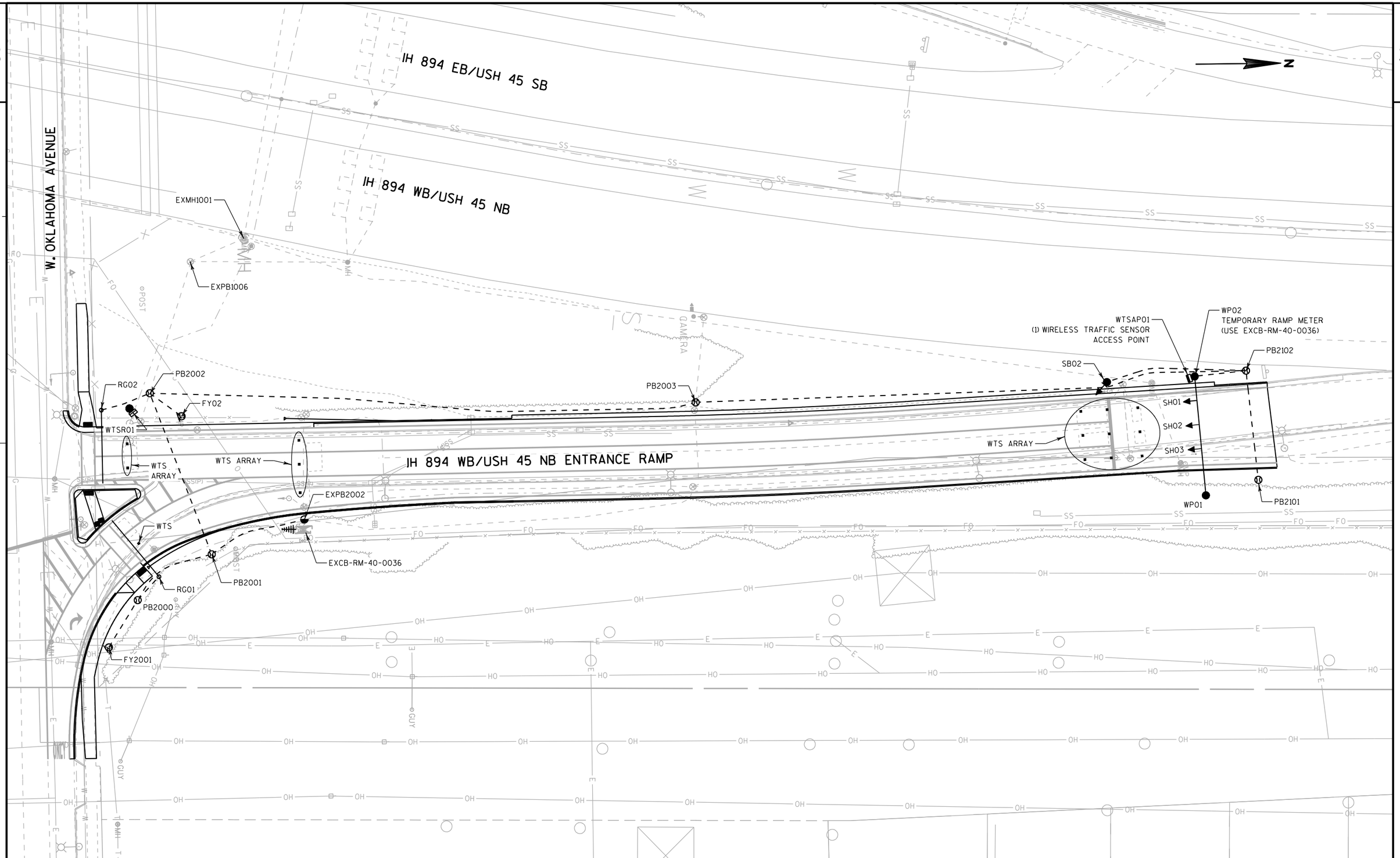
EXPB1002

EXCB-RM-40-0036

PB2001

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS PLANS - TEMPORARY RAMP METER STAGE 2	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\021426_fm.dgn PLOT DATE : 26-JAN-2015 08:28 PLOT BY : MSCKKC PLOT NAME : 021426_fm PLOT SCALE : 40:1



PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	FTMS PLANS - TEMPORARY RAMP METER STAGE 3	SHEET	E

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WISDOT/CADDS SHEET 42

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

When an existing stop sign support is to be removed and a new stop sign and support erected, the work shall be done concurrently. For other signs and supports that are to be removed and new signs and supports erected, the removal of the existing sign/support and erection of the new sign/support should be done as concurrently as possible. In no case shall a new sign/support be down for more than 24 hours and there shall not be more than one sign of the same legend missing in a row.

Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

N

2

2

CALHOUN ROAD

INL

N. ADELMANN AVE

GUY POLE

OV

VLV

CONC ASPH

MH

STH59 / GREENFIELD AVENUE

STH59/GREENFIELD AVE.

ASPH

OH

GUY (4)

GUY (2)

JIFFY STOP GAS STATION

CONC

1-1 S Calhoun Rd REMOVE — S Calhoun Rd M1-94H ON MAST ARM

1-2 ONE WAY R6-2-L (2M)

1-3 STOP REMOVE — STOP R1-1F (3)

1-4 R4-7 (2M) ON SIGNAL POLE — REMOVE

1-5 DO NOT ENTER R5-1 (2M) ON SIGNAL POLE

1-6 STOP REMOVE — STOP R1-1F (3) ON SIGNAL POLE

1-7 YIELD REMOVE — YIELD R1-2 (2S)

1-38 LEFT TURN YIELD ON FLASHING YELLOW ARROW R10-50 (2M) HIGH ON SIGNAL POLE

V1 V2 V3

30'

ONLY

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

GREENFIELD AVENUE AT CALHOUN ROAD

SHEET 1 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 80	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS

PLOT DATE : 1/30/2015 9:24 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

2

CALHOUN ROAD

ONLY ONLY

N

ONE WAY 1-19
R6-2-L (2M)

W Greenfield Ave
REMOVE

W Greenfield Ave 1-20
M1-94H
ON MAST ARM

30°

YIELD 1-18
R1-2 (2S)

YIELD
REMOVE

1-8
DO NOT ENTER
R5-1 (2M)
ON SIGNAL POLE

1-9
DO NOT ENTER
R5-1 (2M)
ON SIGNAL POLE

1-17
STOP
R1-1F (3)

STOP
REMOVE

LEFT TURN YIELD ON FLASHING YELLOW ARROW 1-37
R10-5D (2M)
HIGH ON SIGNAL POLE

1-16
R4-7 (2M)
ON SIGNAL POLE

REMOVE

STH59/GREENFIELD AVE.

STH59 / GREENFIELD AVENUE

1-10
DO NOT ENTER
R5-1 (2M)
ON SIGNAL POLE

ONE WAY 1-14
R6-2-L (2M)
ON SIGNAL POLE

S Calhoun Rd 1-13
M1-94H
ON MAST ARM

S Calhoun Rd
REMOVE

ONE WAY
R6-2-L (2M)
1-11

W Greenfield Ave 1-12
M1-94H
ON MAST ARM

W Greenfield Ave
REMOVE

ONLY ONLY

KWIK FUEL
GAS STATION

S. 171ST ST.

ASPH

ASPH
CONC

CONC

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

When an existing stop sign support is to be removed and a new stop sign and support erected, the work shall be done concurrently. For other signs and supports that are to be removed and new signs and supports erected, the removal of the existing sign/support and erection of the new sign/support should be done as concurrently as possible. In no case shall a new sign/support be down for more than 24 hours and there shall not be more than one sign of the same legend missing in a row.

Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

GREENFIELD AVENUE AT CALHOUN ROAD

SHEET 2 OF 24

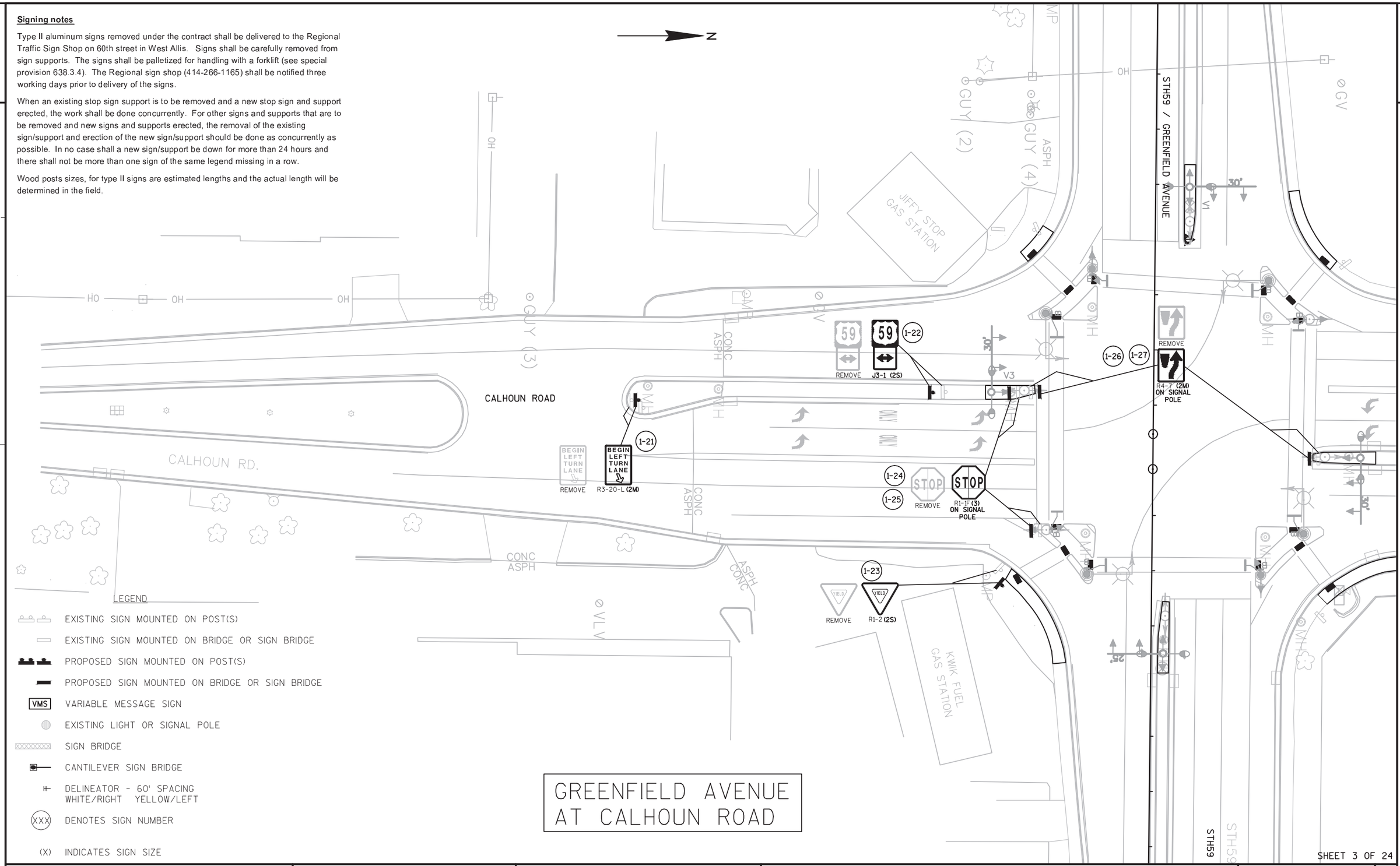
PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 81 E

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

GREENFIELD AVENUE AT CALHOUN ROAD

SHEET 3 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023201_PS.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 1/30/2015 9:24 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

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N

STH59 / GREENFIELD AVENUE

CALHOUN ROAD

CALHOUN RD.

W. ELIZABETH DR.

1-28 RIGHT LANE ENDS W9-1R (2M)

REMOVE RIGHT LANE ENDS

1-29 REMOVE YIELD R1-2 (2S)

1-30 REMOVE 59 J3-1 (2S)

1-31 STOP R1-1F (3) ON SIGNAL POLE

1-32 REMOVE STOP

1-33 59 J3-1 (2S)

REMOVE 59

1-34 REMOVE W11-8 (3)

1-35 REMOVE BEGIN LEFT TURN LANE R3-20-L (2M)

1-36 R4-7 (2M) ON SIGNAL POLE

REMOVE

LEFT TURN LANE ESTR

ESTR

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

GREENFIELD AVENUE AT CALHOUN ROAD

SHEET 4 OF 24

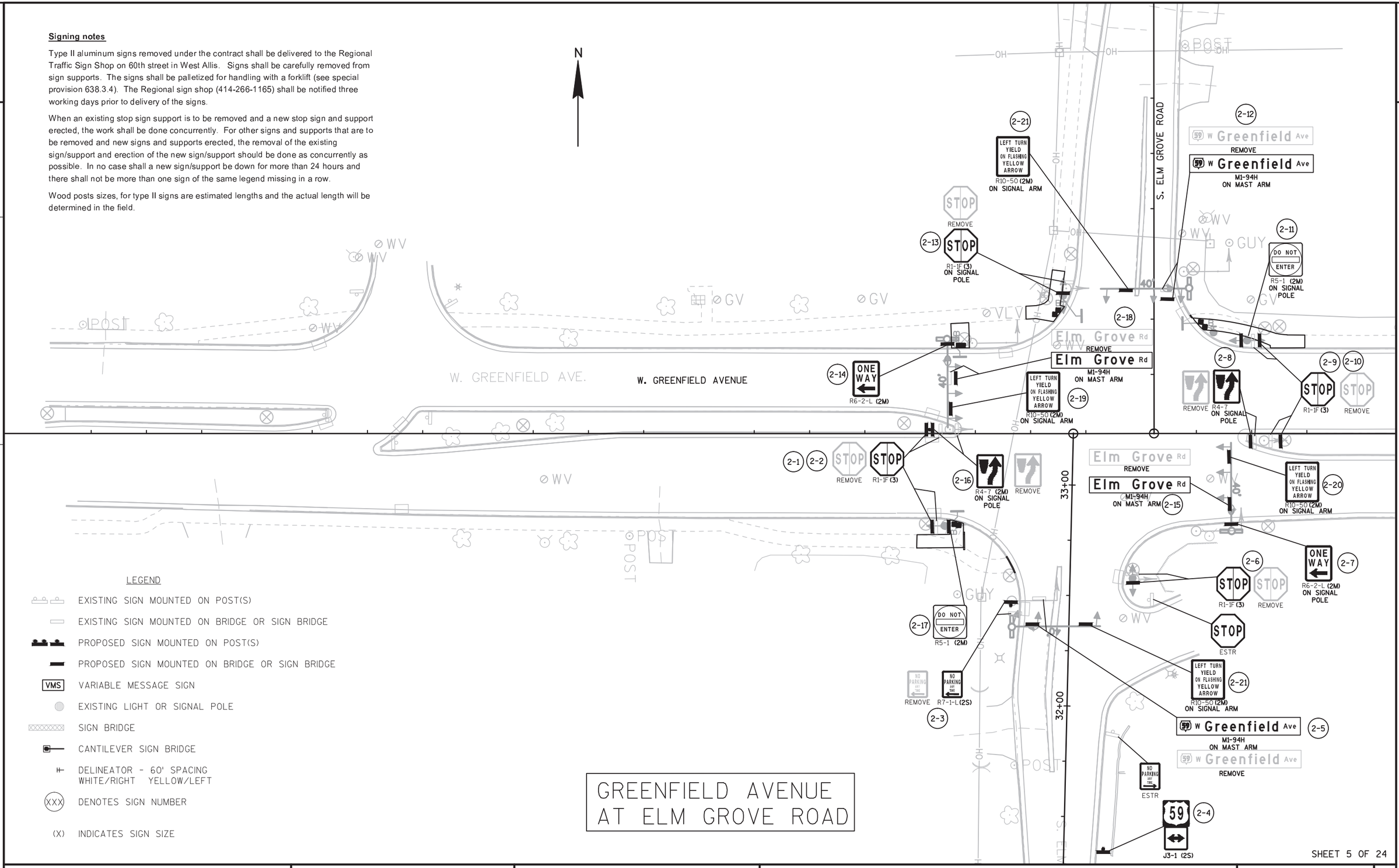
PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 83	E

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

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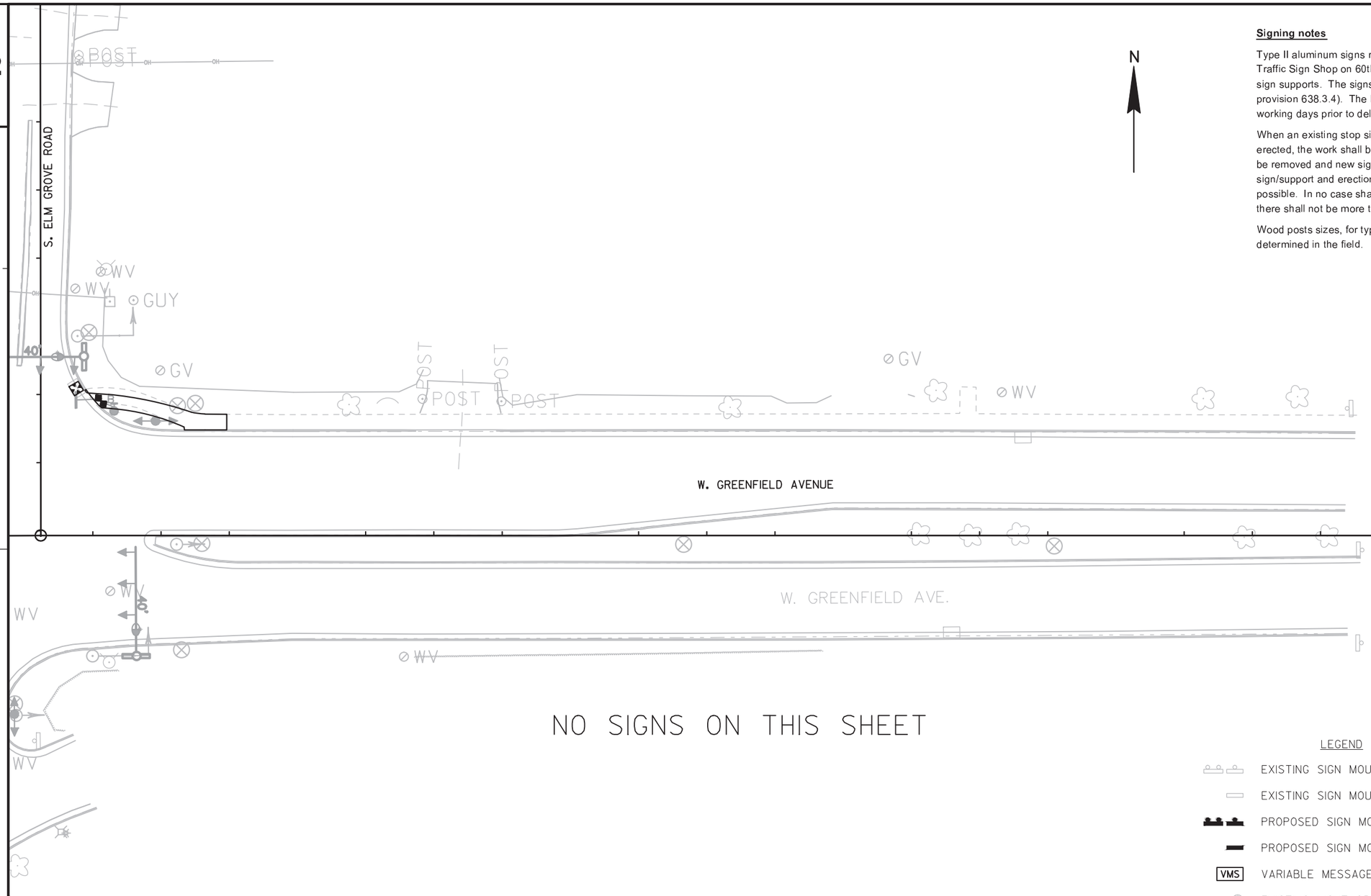
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

GREENFIELD AVENUE AT ELM GROVE ROAD

SHEET 5 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 84	E



N

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

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Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

NO SIGNS ON THIS SHEET

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

GREENFIELD AVENUE
AT ELM GROVE ROAD

Signing notes

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N

W. GREENFIELD AVE

W. GREENFIELD AVE.

3-1 BEGIN LEFT TURN LANE — R3-20-L (2M)

3-2 MB4-5 TO / M1-1 94 / MB6-1 / M3-1 NORTH / M1-5A COUNTY O / M6-1 / JV3-1

3-3 W Greenfield Ave — M1-94H ON MAST ARM

3-4 MB4-5 TO SOUTH M3-3 / M1-1 94 COUNTY O M1-5A / MB6-1 M6-1 / J3-2

3-5 R1-2 (2S) YIELD — REMOVE

3-6 ONE WAY — R6-2-L (2M) ON SIGNAL POLE

3-7 STOP — R1-1F (3) ON SIGNAL POLE

3-8 STOP — REMOVE

3-9 R4-7 (2M) ON SIGNAL POLE

3-10 DO NOT ENTER — R5-1 (2M) ON SIGNAL POLE

3-11 R1-2 (2S) YIELD — REMOVE

3-12 ONE WAY — R6-2-L (2M) ON SIGNAL POLE

3-13 S Moorland Rd — M1-94H ON MAST ARM

S Moorland Rd — REMOVE

3-14 W Greenfield Ave — M1-94H ON MAST ARM

W Greenfield Ave — REMOVE

3-15 DO NOT ENTER — R5-1 (2M) ON SIGNAL POLE

3-16 STOP — REMOVE

3-17 STOP — R1-1F (3) ON SIGNAL POLE

3-20 DO NOT ENTER — R5-1 (2M) ON SIGNAL POLE

3-21 ONE WAY — R6-2-L (2M) ON SIGNAL POLE

3-22 STOP — REMOVE

3-23 STOP — R1-1F (3) ON SIGNAL POLE

3-24 DO NOT ENTER — R5-1 (2M) ON SIGNAL POLE

3-25 YIELD — REMOVE

3-26 ONE WAY — R6-2-L (2M) ON SIGNAL POLE

3-17 R4-7 (2M) ON SIGNAL POLE — REMOVE

3-37

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
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- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

GREENFIELD AVENUE AT MOORLAND ROAD

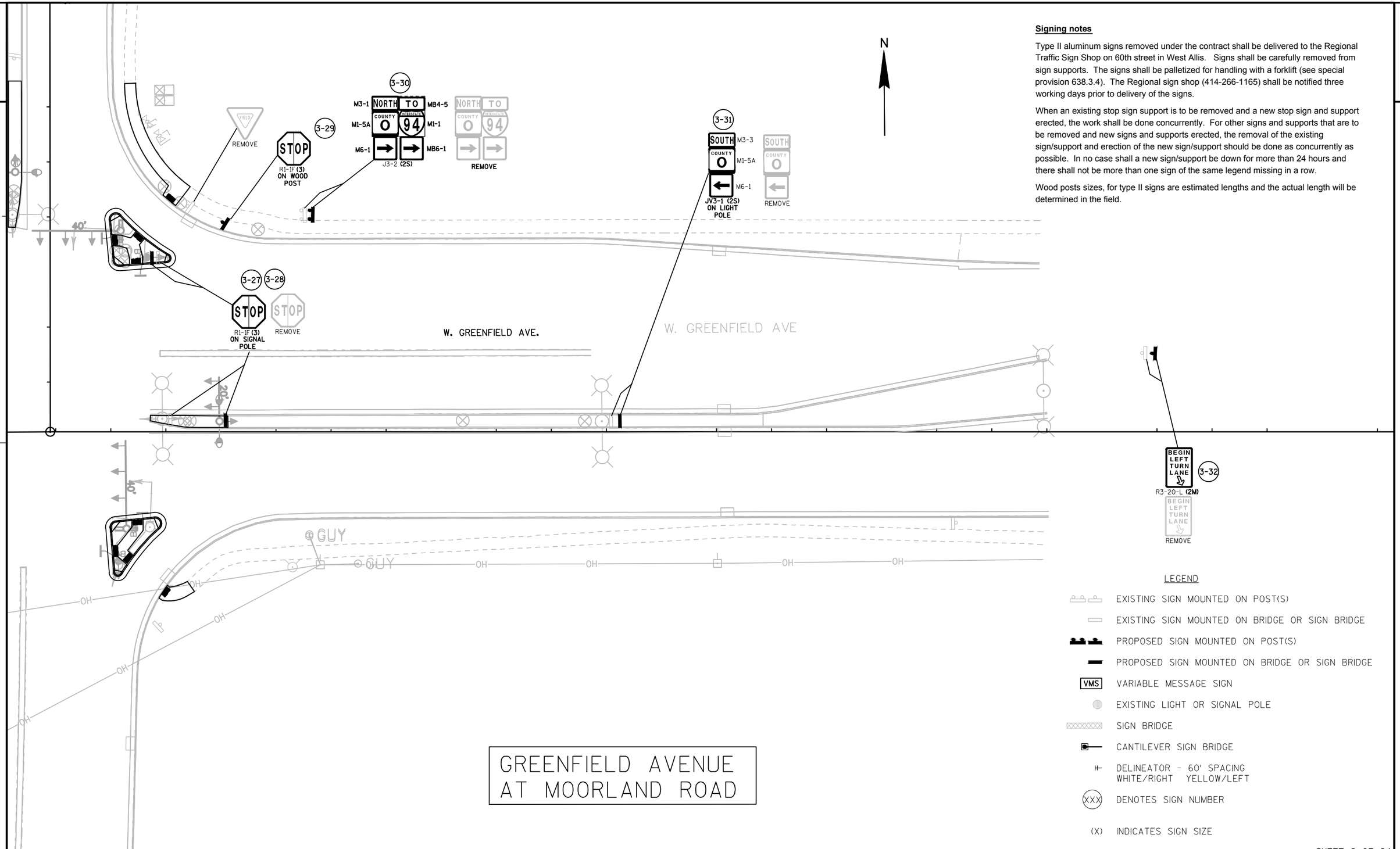
SHEET 7 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 86	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023221_PS.DWG
LAYOUT NAME - 023221_PS

PLOT DATE : 12/19/2014 10:17 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42



Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

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LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

GREENFIELD AVENUE AT MOORLAND ROAD

2

N

29+00

30+00

31+00

32+00

33+00

34+00

S. MOORLAND RD.

S. MOORLAND RD.

BEGIN LEFT TURN LANE

3-33

R3-20-L (2M)

BEGIN LEFT TURN LANE

REMOVE

59

REMOVE

59

3-34

J3-1 (2S) ON LIGHT POLE

20'

40'

40'

20'

40'

20'

POST

GUY

GUY

GREENFIELD AVENUE AT MOORLAND ROAD

SHEET 9 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 88 E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023221_PS.DWG
LAYOUT NAME - 023223_PS

PLOT DATE : 12/19/2014 10:17 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

2

N

S. MOORLAND RD.

S. MOORLAND RD.

34+00

20'

40'

40'

20'

40'

20'

3-36

59

J3-1 (2S)

59

REMOVE

3-35

59

J3-1 (2S)

59

REMOVE

GUY

GUY

GUY

ASPHALT

CONCRETE

ASPHALT

GREENFIELD AVENUE AT MOORLAND ROAD

SHEET 10 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 89	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023221_PS.DWG
LAYOUT NAME - 023224_PS

PLOT DATE : 12/19/2014 10:17 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

LEGEND

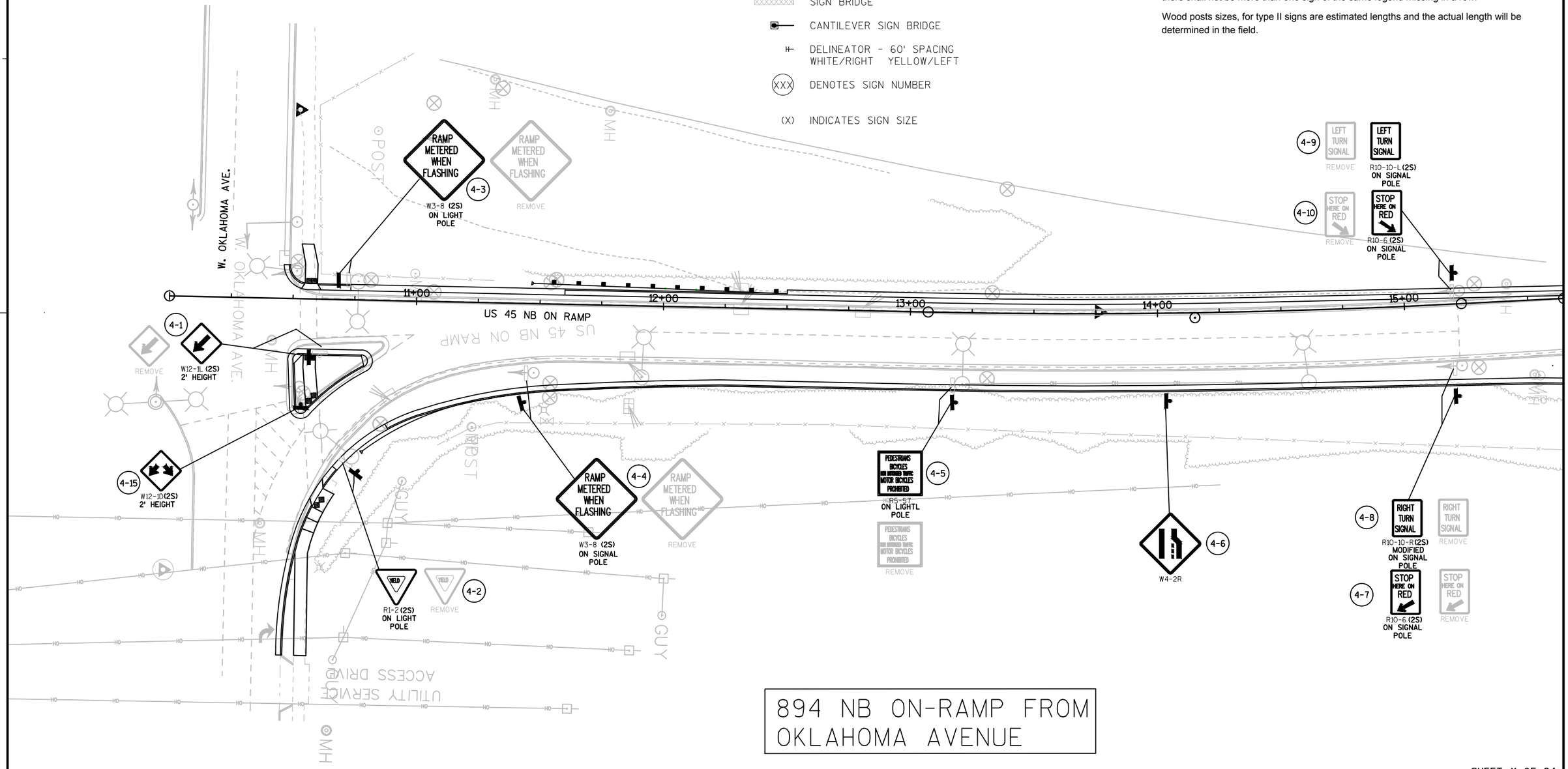
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING — WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

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Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.



894 NB ON-RAMP FROM OKLAHOMA AVENUE

SHEET 11 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 90	E

2

LEGEND

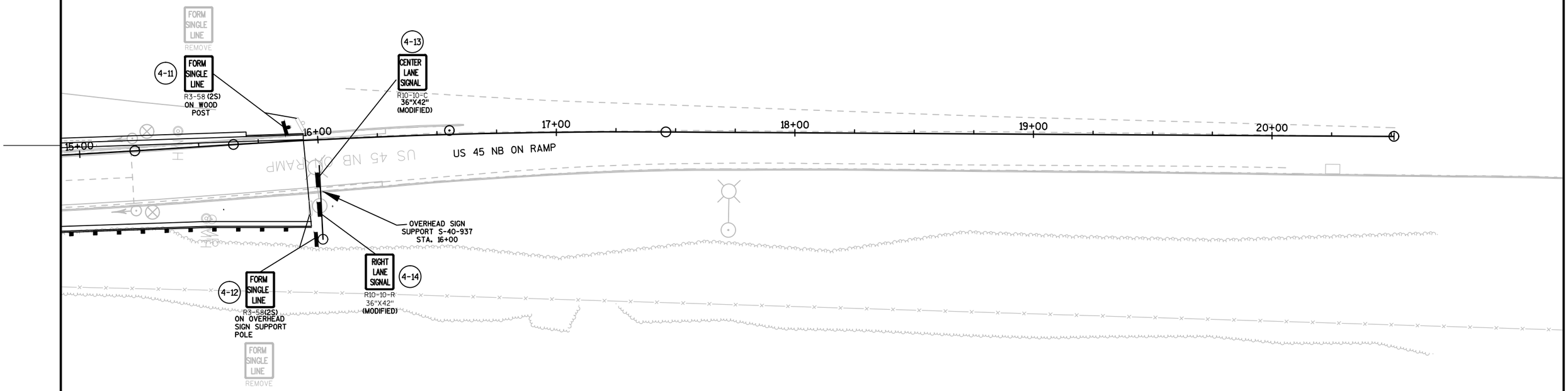
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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894 NB ON-RAMP FROM OKLAHOMA AVENUE

SHEET 12 OF 24

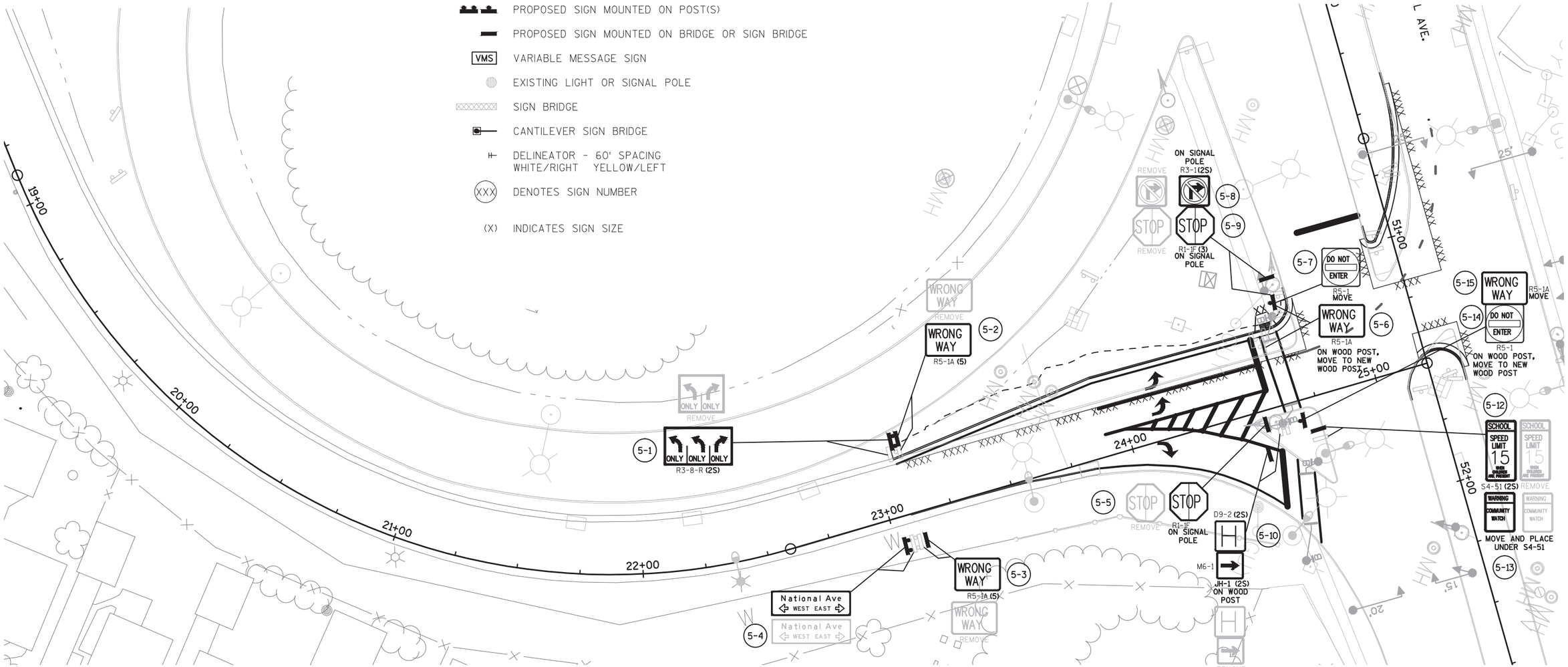
PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 91	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023231_PS.DWG
LAYOUT NAME - 023232_PS

PLOT DATE : 1/26/2015 10:31 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
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  WHITE/RIGHT YELLOW/LEFT
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- (X) INDICATES SIGN SIZE



Signing notes

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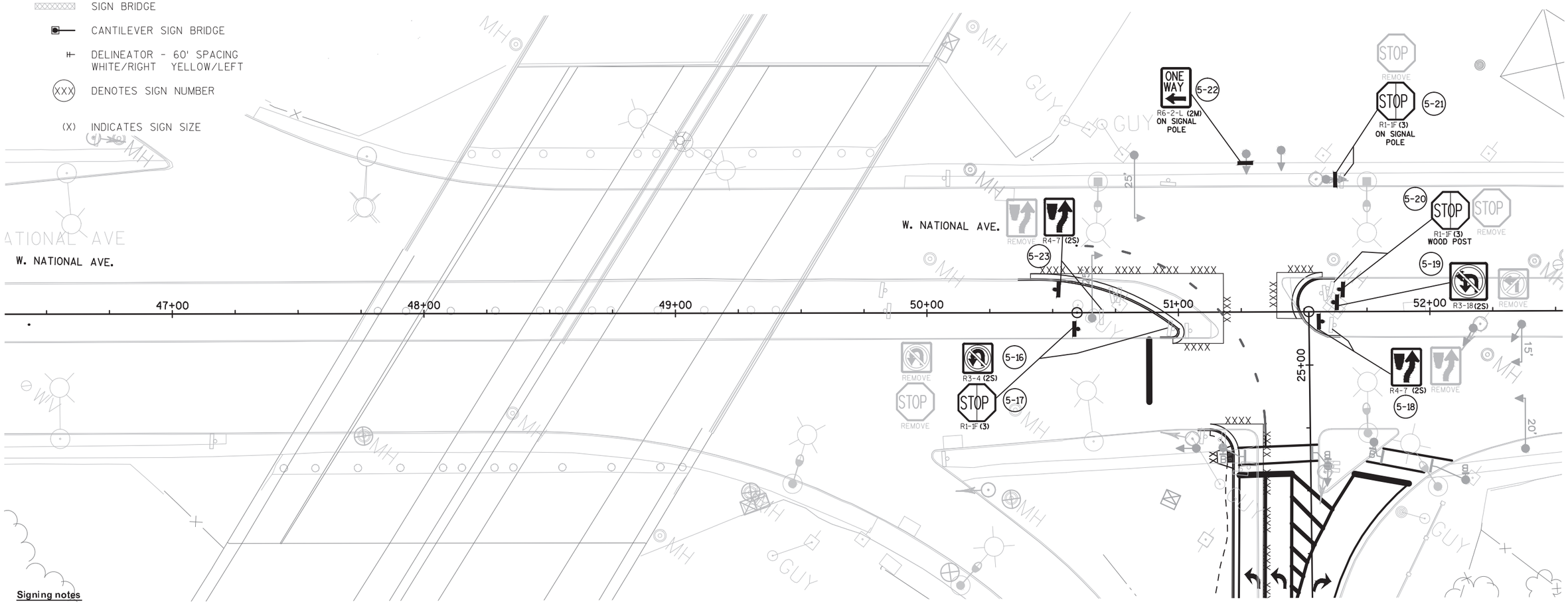
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I-894 NB EXIT TO NATIONAL AVE

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



Signing notes

Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

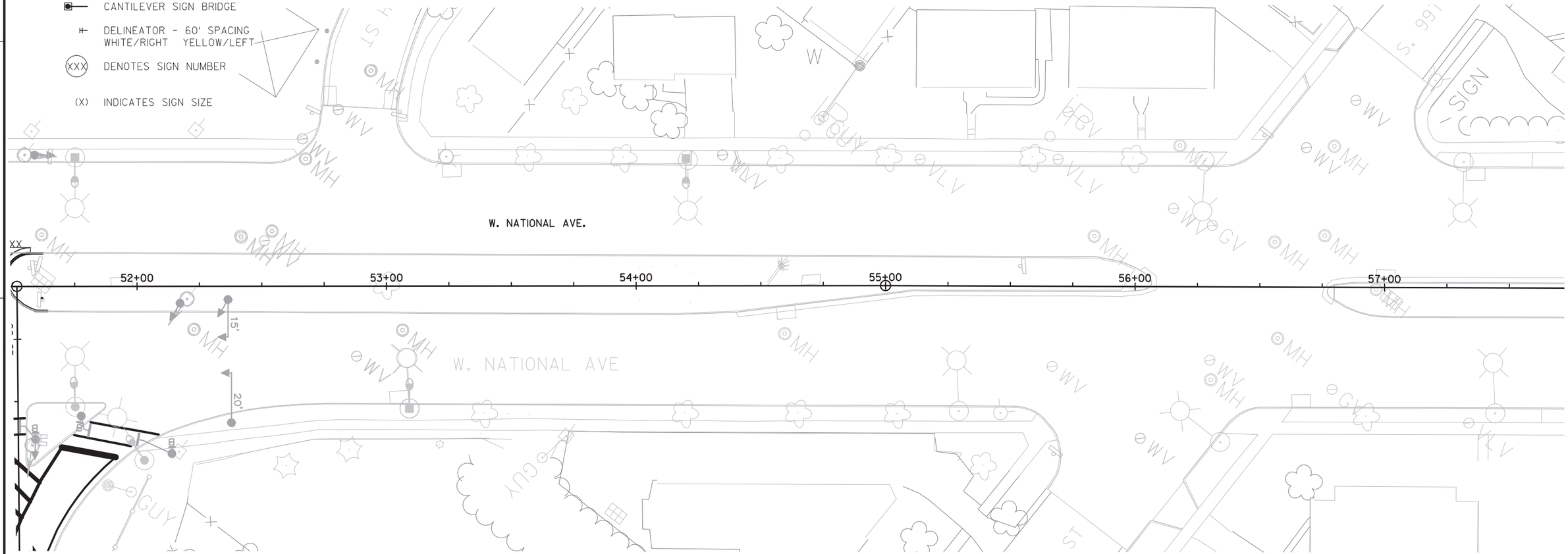
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Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

I-894 NB EXIT TO NATIONAL AVE

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
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Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

NO SIGNS ON THIS SHEET

I-894 NB EXIT TO NATIONAL AVE

SHEET 15 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 94 E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023241_PS.DWG
LAYOUT NAME - 023243_PS

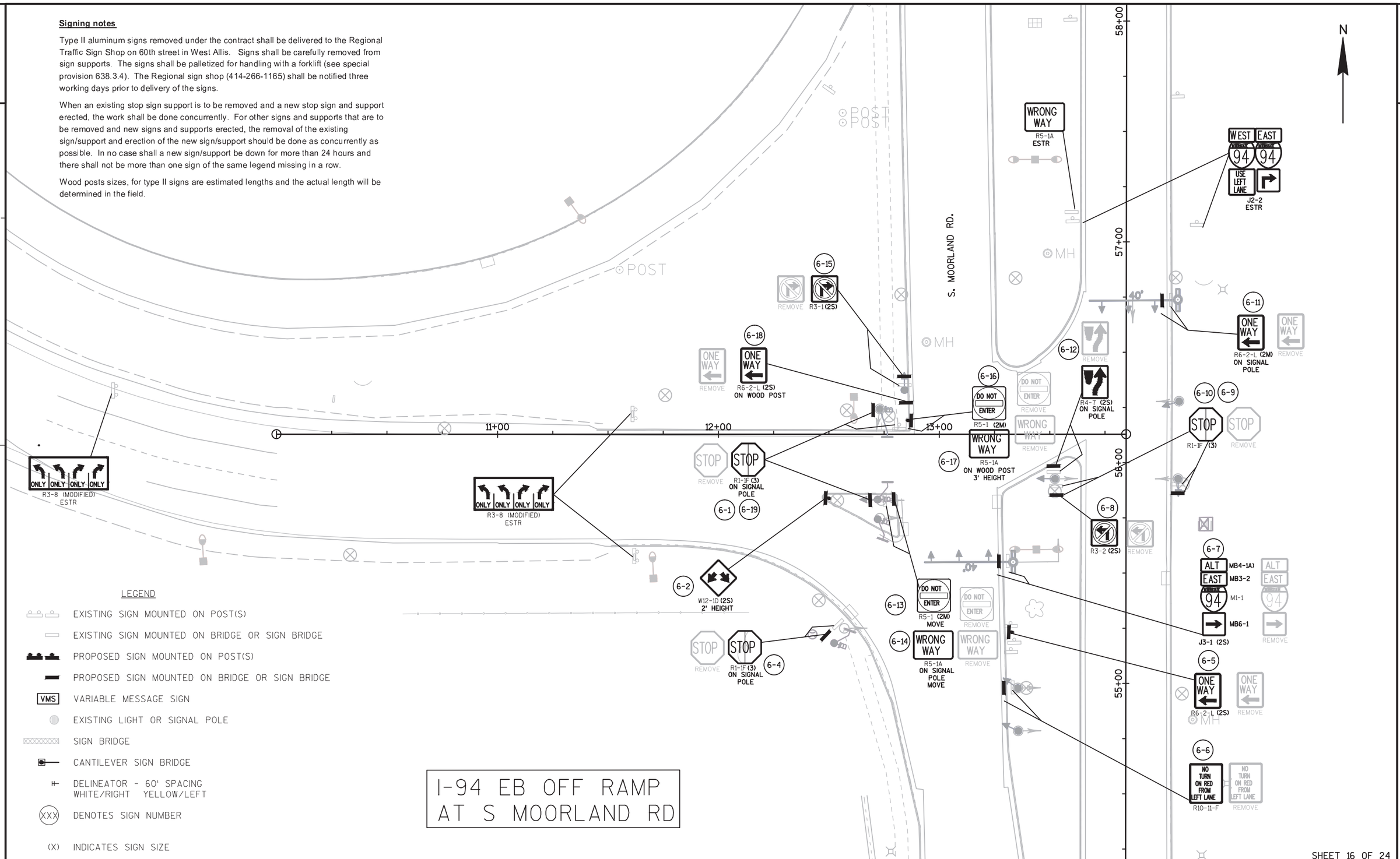
PLOT DATE : 12/19/2014 10:21 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

Signing notes

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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE

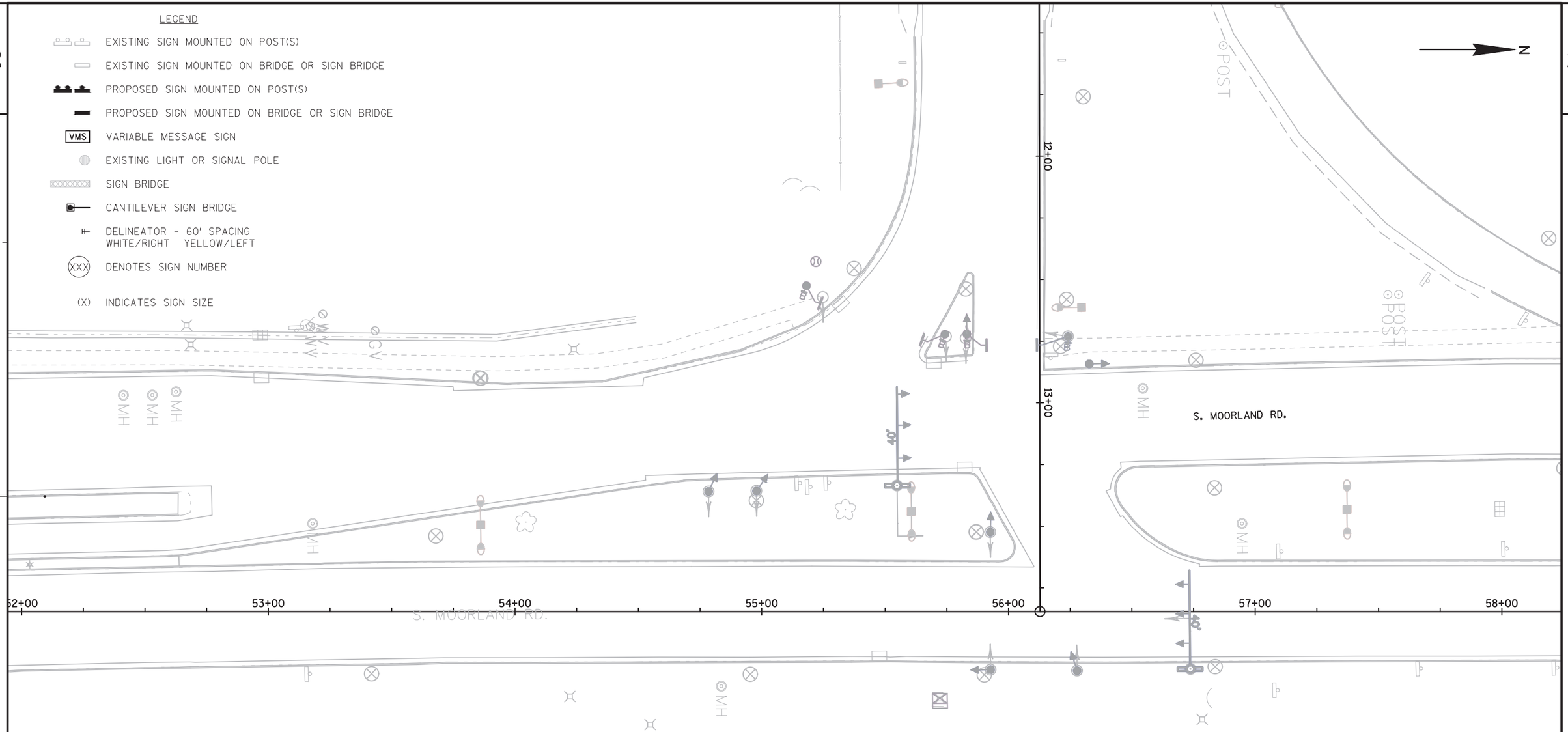
I-94 EB OFF RAMP AT S MOORLAND RD

SHEET 16 OF 24

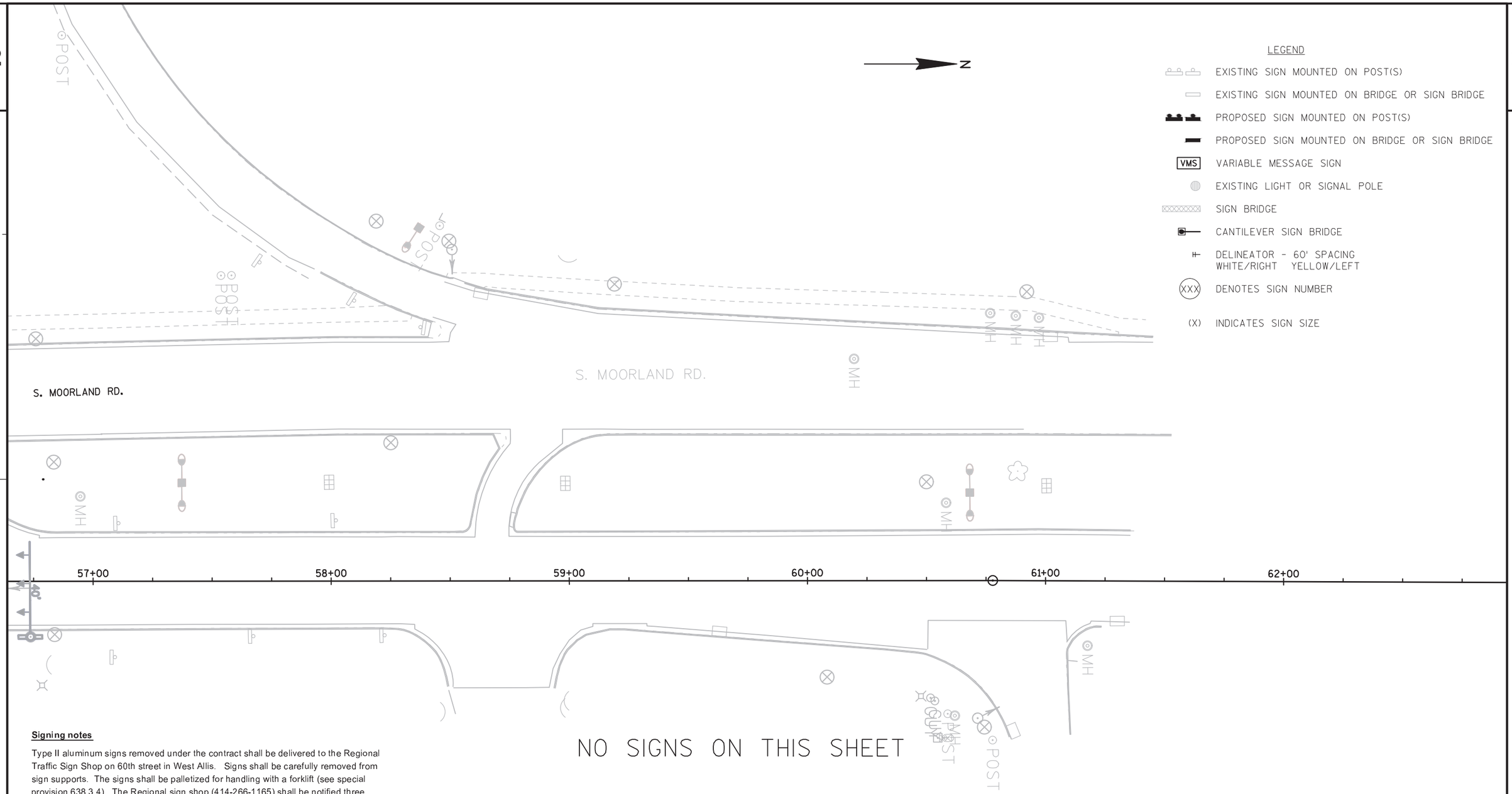
PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 95	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE


N
POST
POST
MH
MH
MH

2



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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Signing notes

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Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

NO SIGNS ON THIS SHEET

I-94 EB OFF RAMP
AT S MOORLAND RD

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- DELINEATOR - 60' SPACING
  WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

IH-94 WB

IH-94 EB

IH-94 EB OFF RAMP

7-1 REMOVE

7-3 W3-3 (2S)

7-2 W3-3 (2S)

7-4 DO NOT ENTER R5-1 (2M)

7-5 WRONG WAY R5-1A 3' HEIGHT MOVE

7-6 REMOVE R3-1 (2S)

7-21 STOP REMOVE R1-1

7-7 7-8 STOP R1-1F (3)

7-9 DO NOT ENTER R5-1

7-10 WRONG WAY R5-1A 3' HEIGHT MOVE

7-22 STOP REMOVE R1-1

S 61ST ST

S 60TH ST

HAWLEY RD

W ADLER ST

Signing notes

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I-94 EB OFF EXIT AT HAWLEY RD

SHEET 19 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 98 E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023261_PS.DWG
LAYOUT NAME - 023261_PS
PLOT DATE : 12/19/2014 10:21 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

LEGEND

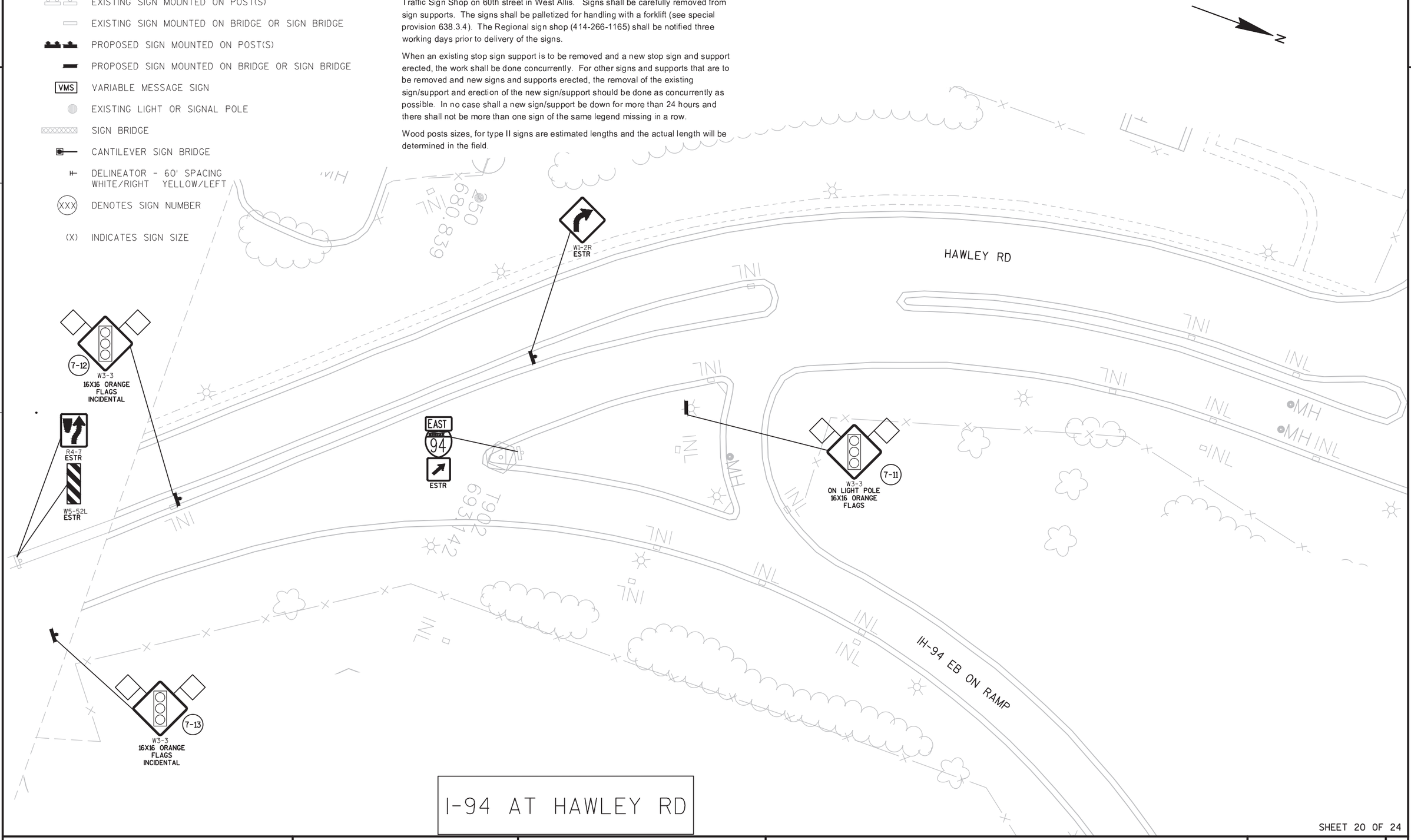
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- (X) INDICATES SIGN SIZE

Signing notes

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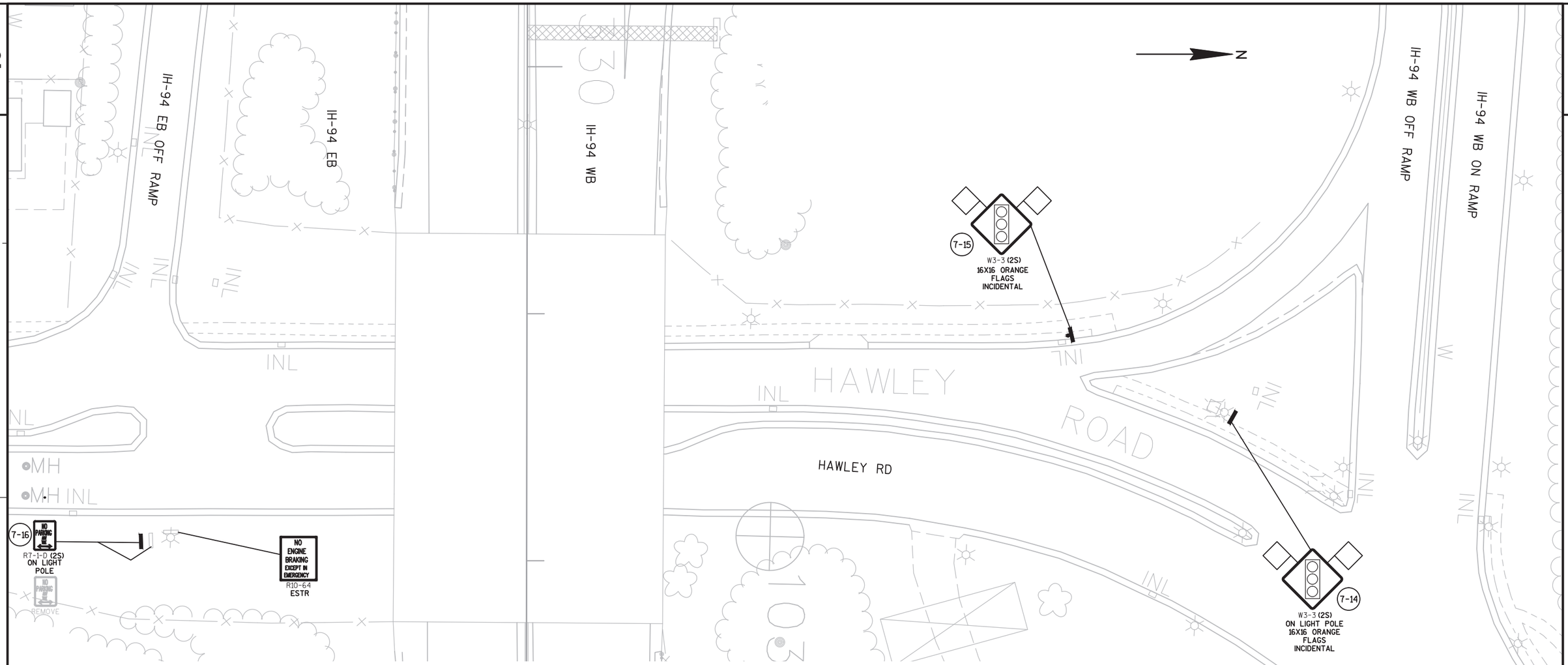
Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.



I-94 AT HAWLEY RD

SHEET 20 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 99	E



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
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I-94 AT HAWLEY RD

SHEET 21 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 100	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
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- (X) INDICATES SIGN SIZE

IH-94 WB

IH-94 EB

IH-94 EB OFF RAMP

HAWLEY RD

S 60TH ST

W ADLER ST

STOP

7-17 7-19 7-18 7-20

R1-1F (3) FOR TEMPORARY SIGNAL

N

2

Signing notes

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I-94 EB OFF EXIT AT HAWLEY RD

SHEET 22 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 101	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023261_PS.DWG
LAYOUT NAME - 023264_PS

PLOT DATE : 12/19/2014 10:22 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

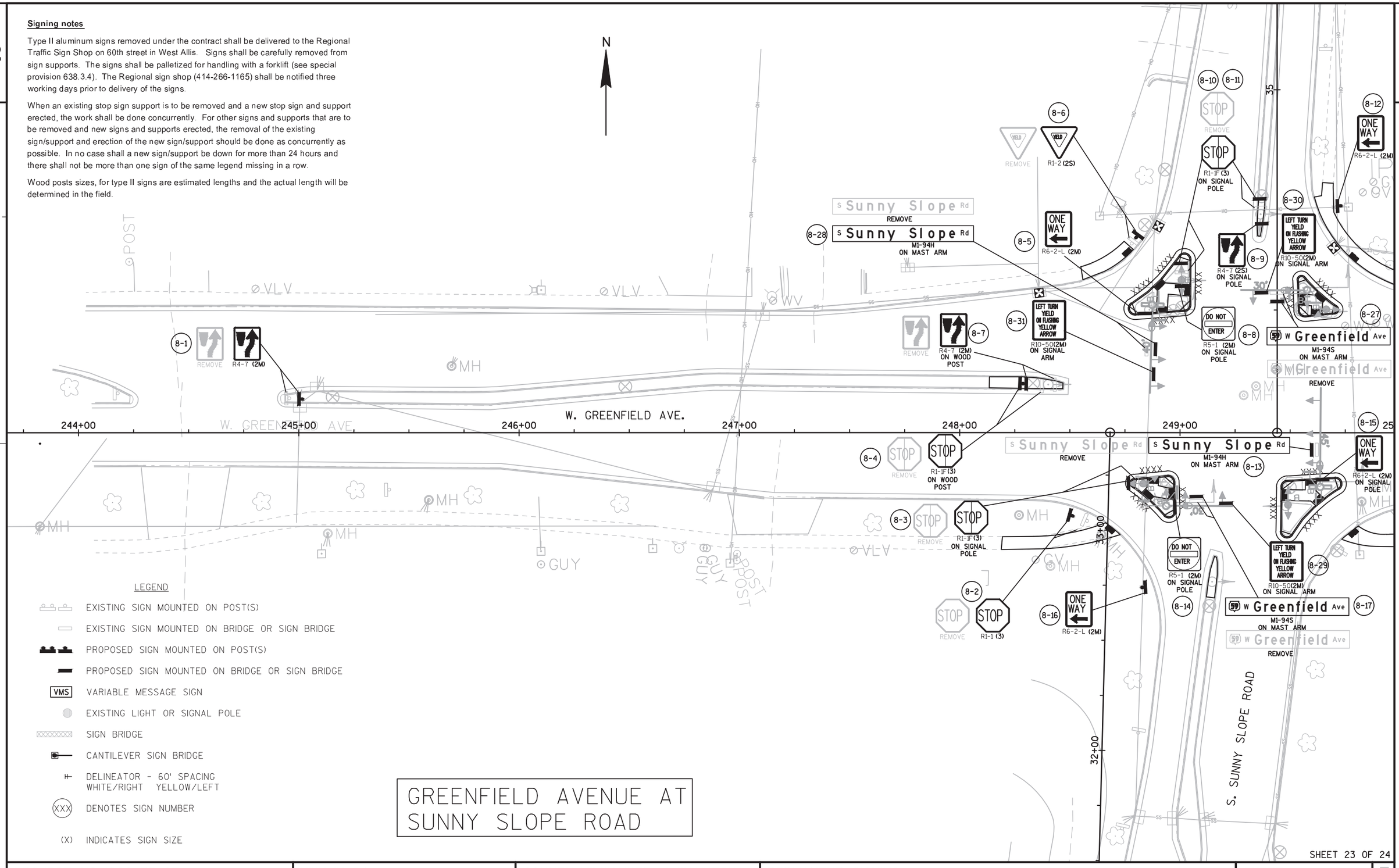
WISDOT/CADDS SHEET 42

Signing notes

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LEGEND

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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

GREENFIELD AVENUE AT SUNNY SLOPE ROAD

SHEET 23 OF 24

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PERMANENT SIGNING	SHEET 102 E

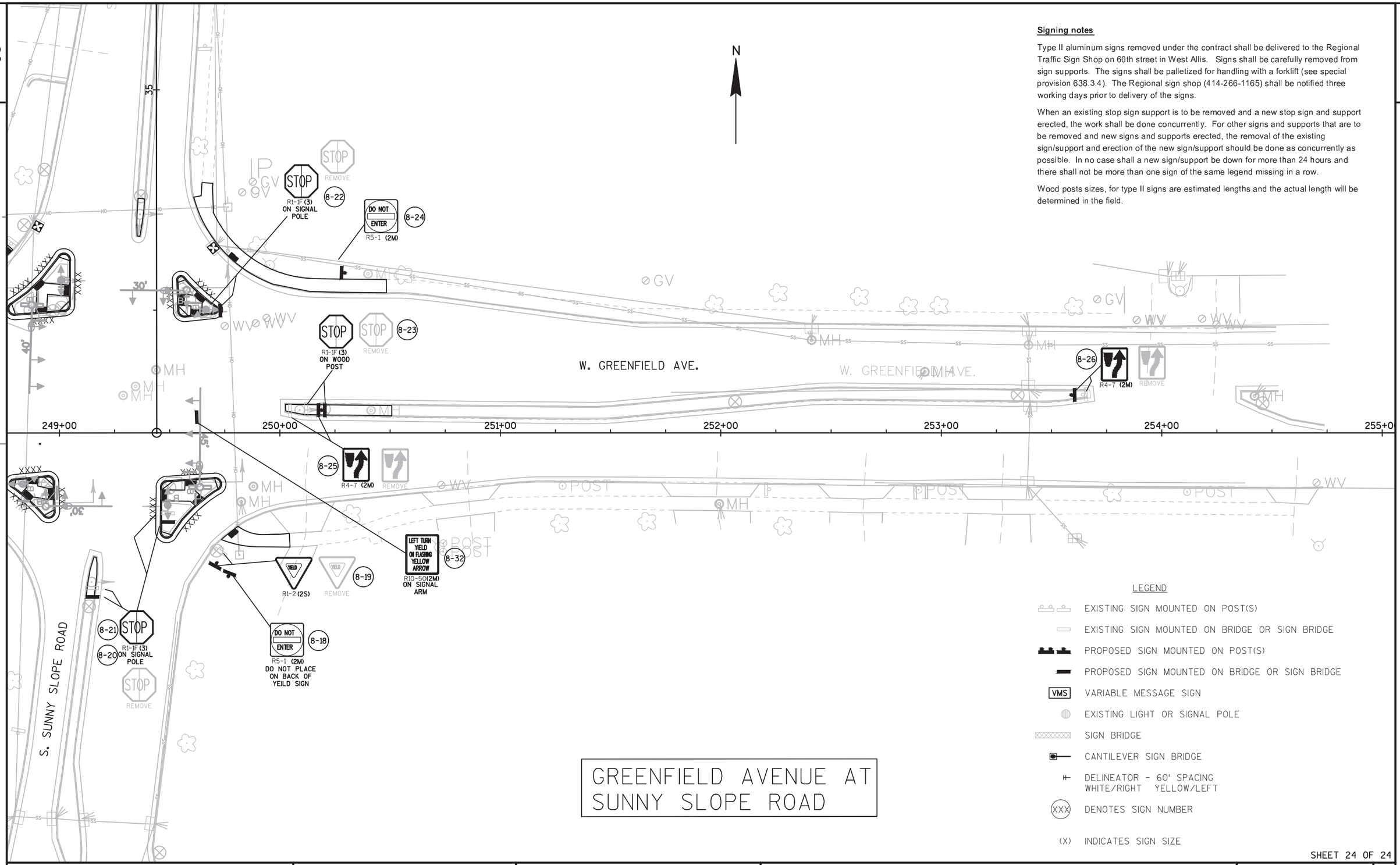
2

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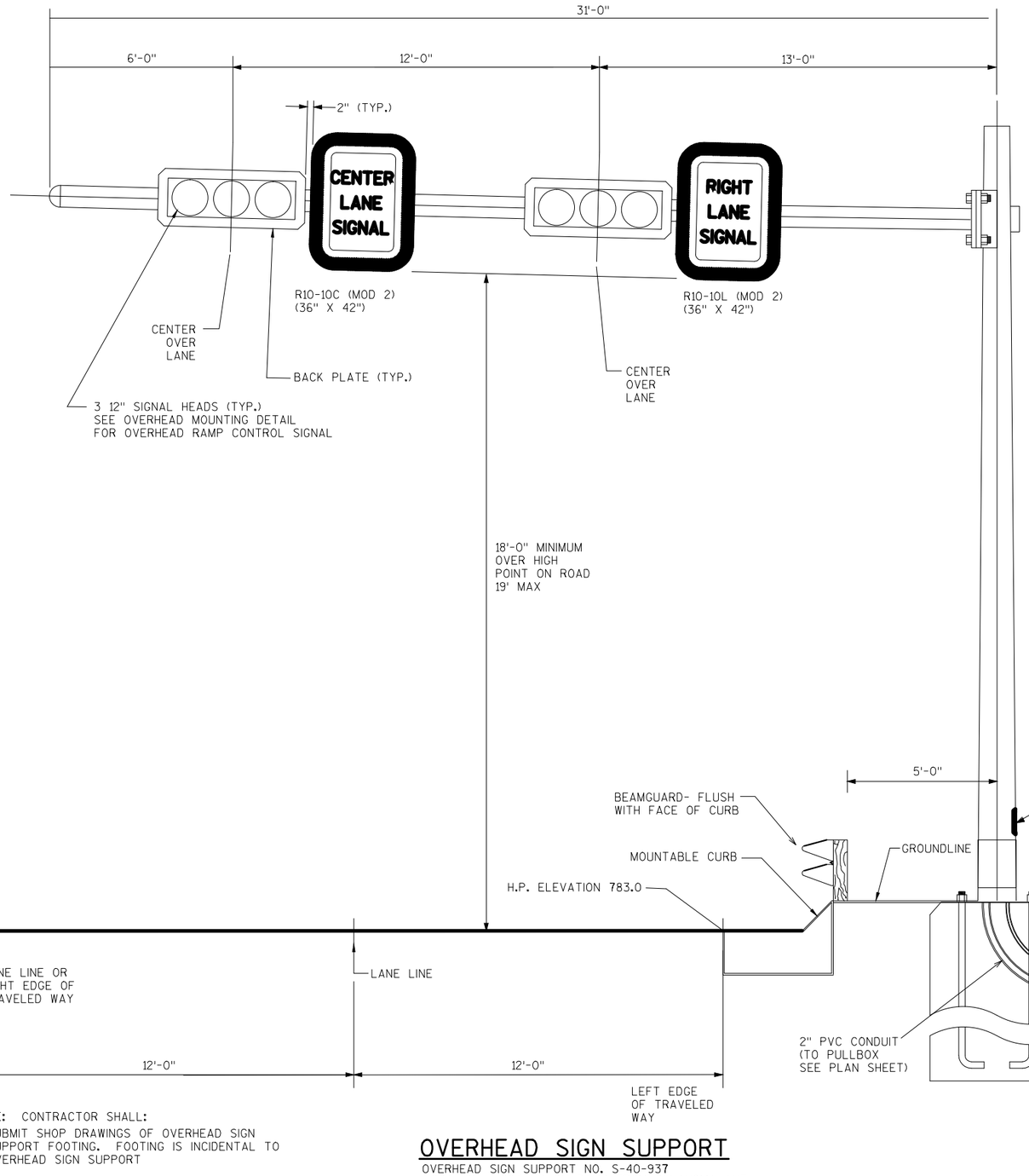
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GREENFIELD AVENUE AT SUNNY SLOPE ROAD

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DELINEATOR - 60' SPACING WHITE/RIGHT YELLOW/LEFT
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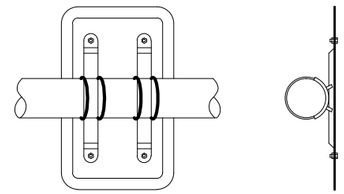


OVERHEAD SIGN SUPPORT

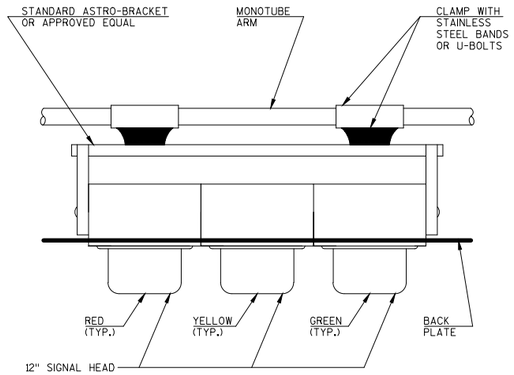
OVERHEAD SIGN SUPPORT NO. S-40-937
LOCATION: I-894 NB ON RAMP FROM OKLAHOMA AVE.
STATION: 16+00

NOTE: CONTRACTOR SHALL:

1) SUBMIT SHOP DRAWINGS OF OVERHEAD SIGN SUPPORT FOOTING. FOOTING IS INCIDENTAL TO OVERHEAD SIGN SUPPORT
2) PROVIDE DESIGN CALCULATION
3) SHOW SIGN ON SHOP DRAWINGS



VERTICAL MOUNTING DETAIL FOR OVERHEAD SIGNS



HORIZONTAL MOUNTING DETAIL FOR OVERHEAD RAMP CONTROL SIGNAL

NOTE: SEE "36" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE" FOR FOOTING DETAIL INCIDENTAL TO STRUCTURE

NOTE: "MOUNTING BRACKETS FOR SIGN SHALL BE PER APPROVED PRODUCT LIST"

GENERAL NOTES

DRAWINGS NOT TO SCALE

DESIGN ACCORDING TO AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS".

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT 2 SIGNS WEIGHING 180 LBS EACH PLACED AS SHOWN.

WIND VELOCITIES 85 M/H

BAR STEEL REINFORCMENT SHALL BE EMBBEDED 3" CLEAR UNLESS DETAILED OTHERWISE.

ALLOWABLE DESIGN STRESSES

CONCRETE MASONRY	FC=35000 PSI
HIGH STRENGTH BAR STEEL REINFORCMENT, GRADE 60	FY=60,000PSI

FOUNDATION DATA

ALLOWABLE SOIL BEARING PREASURE = 3000 PSF

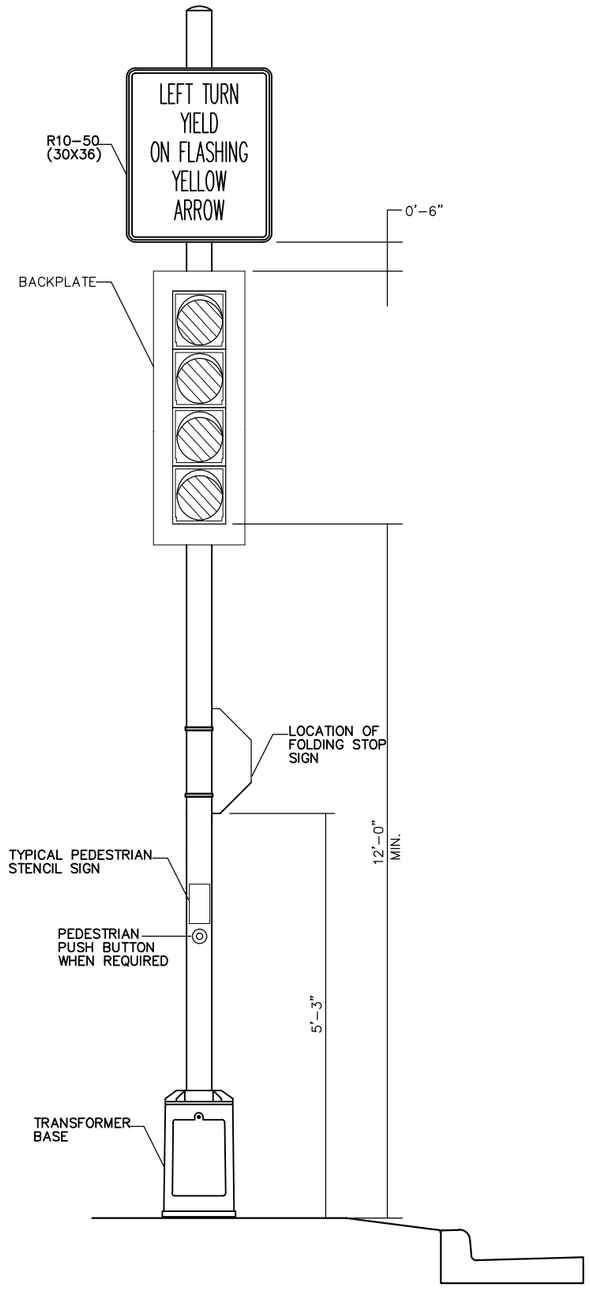
SHEET 1 OF 2

PROJECT NO:1060-35-93	HWY:I894 NB AT OKLAHOMA AVE.	COUNTY:MILWAUKEE / WAUKESHA	OVERHEAD SIGN SUPPORT - S-40-937	SHEET 104	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023401_PS.DWG
LAYOUT NAME - 023401_PS

PLOT DATE : 1/26/2015 10:33 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : *********

WISDOT/CADDS SHEET 42



FAR INDICATIONS
TYPE 2 OR TYPE 3 POLE
TYPE 2 CONCRETE BASE

PROJECT NO: 1060-35-93	HWY: I-94	COUNTY: MILWAUKEE	FLASHING YELLOW ARROW SIGN DETAIL	SHEET 105	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\SIGN\023401_PS.DWG
LAYOUT NAME - 023402_PS
PLOT DATE : 1/30/2015 12:03 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : *********
WISDOT/CADDS SHEET 42

2

N

LIGHTING REMOVAL PLAN LEGEND

- LIGHTING CONDUIT TO BE REMAIN
- LIGHTING CONDUIT TO BE REMOVED
- MUNICIPAL POLE TO BE REMOVED
- MUNICIPAL LIGHT POLE TO REMAIN
- DOT TWIN LIGHT TO BE REMOVED
- DOT TWIN LIGHT POLE TO REMAIN

S. MOORLAND

W. GREENFIELD AVE.

W. GREE

W. GREENFIELD AVE.

36+00
35+00
34+00
33+00
3+00
194+00
195+00
196+00
197+00
198+00
199+00

LPB204
LPB203
LPB202
LPB201
LPB200

CID:
#4 E,F,N
#8 G

#4 E,F,N
#8 G

#12 PHOTO CONTROL
#4 A,B,N
#4 C,D,N
#4 E,F,N
#8 G

#4 A,B,N
#4 C,D,N
#8 G

CID:
#4 A,B,N
#8 G

#4 C,D,N
#8 G

#4 A,B,N
#8 G

CID:
#4 A,B,N
#8 G

#4 A,B,H
#8 G

CID:
#4 A,D,N
#8 G

OH
GUY
POST

GREENFIELD AVENUE AT MOORLAND ROAD

SHEET 1 OF 2

PROJECT NO: 1060-35-93	HWY: STH 59 & MOORLAND RD	COUNTY: WAUKESHA	LIGHTING REMOVAL PLANS	SHEET 106	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\LIGHTING\023501_LP.DWG
LAYOUT NAME - 023501_LP

PLOT DATE : 1/26/2015 9:50 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

LIGHTING REMOVAL PLAN LEGEND

- LIGHTING CONDUIT TO BE REMAIN
- LIGHTING CONDUIT TO BE REMOVED
- MUNICIPAL POLE TO BE REMOVED
- MUNICIPAL LIGHT POLE TO REMAIN
- DOT TWIN LIGHT TO BE REMOVED
- DOT TWIN LIGHT POLE TO REMAIN

S. MOORLAND RD.

ASPHALT

32+00 33+00 34+00 35+00 36+00 37+00

195+00 196+00 197+00 198+00

LPB200 LPB201 LPB202 LPB203 LPB204

CID:
#4 A,B,N
#8 G

CID:
#4 E,F,N
#8 G

CID:
#4 C,D,N
#8 G

#12 PHOTO CONTROL
#4 A,B,N
#4 C,D,N
#4 E,F,N
#8 G

HO OH POST GUY

GREENFIELD AVENUE AT MOORLAND ROAD

SHEET 2 OF 2

PROJECT NO: 1060-35-93	HWY: STH 59 & MOORLAND RD	COUNTY: WAUKESHA	LIGHTING REMOVAL PLANS	SHEET 107	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\LIGHTING\023501_LP.DWG
LAYOUT NAME - 023502_LP
PLOT DATE : 1/26/2015 9:50 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

SEE SIGNAL PLAN FOR
ADDITION STREET LIGHTING
AT THIS INTERSECTION

LEGEND

— — — CONDUIT - 2" UNLESS OTHERWISE SHOWN

EXISTING MUNICIPAL LIGHT POLE

EXISTING POLE BOX

PROPOSED LIGHTING POLE BOX

S. MOORLAND RD.

W. GREENFIELD AVE.

W. GREENFIELD AVE.

CID:
#4 E,F,N
#8 G

#4 E,F,N
#8 G

#12 PHOTO CONTROL
#4 A,B,N
#4 C,D,N
#4 E,F,N
#8 G

#4 A,B,N
#4 C,D,N
#8 G

CID:
#4 A,B,N
#8 G

#4 C,D,N
#8 G

#4 A,B,N
#8 G

#4 C,D,N
#8 G

#4 A,B,H
#8 G

LPB200
LPB201
LPB202
LPB203
LPB204
LPB205

GUY
OH
POST

193+00
194+00
195+00
196+00
197+00
198+00
199+00

36+00
35+00
34+00
33+00

GREENFIELD AVENUE
AT MOORLAND ROAD

SHEET 1 OF 1

PROJECT NO: 1060-35-93	HWY: STH 59 & MOORLAND RD	COUNTY: WAUKESHA	PERMANENT LIGHTING	SHEET 108	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\LIGHTING\023601_LP.DWG
LAYOUT NAME - 023601_LP

PLOT DATE : 1/26/2015 9:47 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

S. 101ST STREET

IH 894 EB/USH 45 SB

IH 894 WB/USH 45 NB

IH 894 WB/USH 45 NB ON RAMP

W. OKLAHOMA AVENUE

DCL7

DCL8

DCL9

DCL10

DCL11

DCL12

DCL13

S. 99TH STREET

NOTE

1. HL-40-CL IS LOCATED 240-FT NORTH OF CLEVELAND AVENUE ON THE EAST SIDE OF 101ST STREET.

REMOVAL LEGEND

- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- XX — DENOTES THE REMOVAL STAGE NUMBER
- XYYZ — EXISTING SINGLE ARM FREEWAY LIGHTING UNIT
  X - CIRCUIT
  YY - DISTRIBUTION CENTER
  Z - POLE/LUMINAIRE ID NUMBER
- XYYZ / XYYZ — EXISTING TWIN ARM FREEWAY LIGHTING UNIT
  X - CIRCUIT
  YY - DISTRIBUTION CENTER
  Z - POLE/LUMINAIRE ID NUMBER
- XXYZ — EXISTING SINGLE ARM LOCAL LIGHTING UNIT
  XX - DISTRIBUTION CENTER
  Y - CIRCUIT (AS NOTED)
  Z - POLE/LUMINAIRE ID NUMBER
- DISTRIBUTION CENTER
- TRANSFORMER
- ELECTRIC METER SOCKET
- EXISTING HANDHOLE
- EXISTING PULLBOX
- EXISTING UDL (UNDER DECK LIGHTING)
- PHOTOCELL
- X/Y/ZZ — HIGH MAST LIGHTS
  HML-40-W
  X/Y/ZZ
  X&Y-CKT
  ZZ-LIGHTING CABINET
  W-ID NUMBER

PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	LIGHTING PLANS - REMOVAL	SHEET	E

2

LEGEND

- CID (CABLE IN DUCT)
- CABLE IN CONDUIT - SIZE AS NOTED
- PROPOSED SINGLE ARM FREEWAY LIGHTING UNIT
- PROPOSED TWIN ARM FREEWAY LIGHTING UNIT
- EXISTING FREEWAY LIGHTING UNIT TO REMAIN
- DISTRIBUTION CENTER
- PULL BOX 24" x 36"
- PULL BOX 24" x 42"
- ELECTRIC METER SOCKET
- SM DENOTES STRUCTURE MOUNTED
- XX DENOTES THE CONSTRUCTION STAGE FOR INSTALLATION
- STUBOUT
- LUMINAIRE IDENTIFICATION

STATION - OFFSET
LED-X-X(T)-4-XYYZ

- LUMINAIRE NUMBER, DISTRIBUTION CENTER, CIRCUIT — PLAQUE SEQUENCE INDENTIFICATION
- LUMINAIRE ARM LENGTH
- POLE TYPE, (T) WITH TRANSFORMER BASE BREAKAWAY
- LUMINAIRE UTILITY CATEGORY
- LUMINAIRE TYPE SOURCE

S. 101ST STREET

IH 894 EB/USH 45 SB

IH 894 WB/USH 45 NB ON RAMP

IH 894 WB/USH 45 NB

W. OKLAHOMA AVENUE

STA. 10+81.0, 22.3' LT
PB-CL-01
NOTES 1, 2
WET SPLICE

2"C,2#8,D,N
FROM PC-CL-01
TO DCL8, NOTE 1

STA. 10+76.4, 14.2' LT
RELOCATED DCL7
SEE NOTE 3.

STA. 11+68.9, 13.5' LT
PB-CL-02

STA. 11+95.3, 38.0' RT
RELOCATED DCL8
SEE NOTE 3.

STA. 13+21.4, 36.1' RT
RELOCATED DCL9
SEE NOTE 3.

STA. 14+60.4, 35.8' RT
RELOCATED DCL10
TOP OF BASE EL 781.25
SEE NOTE 4.

STA.16+17.12, 44.79' RT
RELOCATED DCL11
SEE NOTE 4.
TOP OF BASE EL 781.25

STA 17+84.0, 40.3' RT
RELOCATED DCL12
TOP OF BASE EL 779.25
SEE NOTE 4.

2"C,2#8,D,N
TO DCL12, NOTE 1

STA. 10+88.8, 59.4' RT
RELOCATED DCL13
SEE NOTE 3.

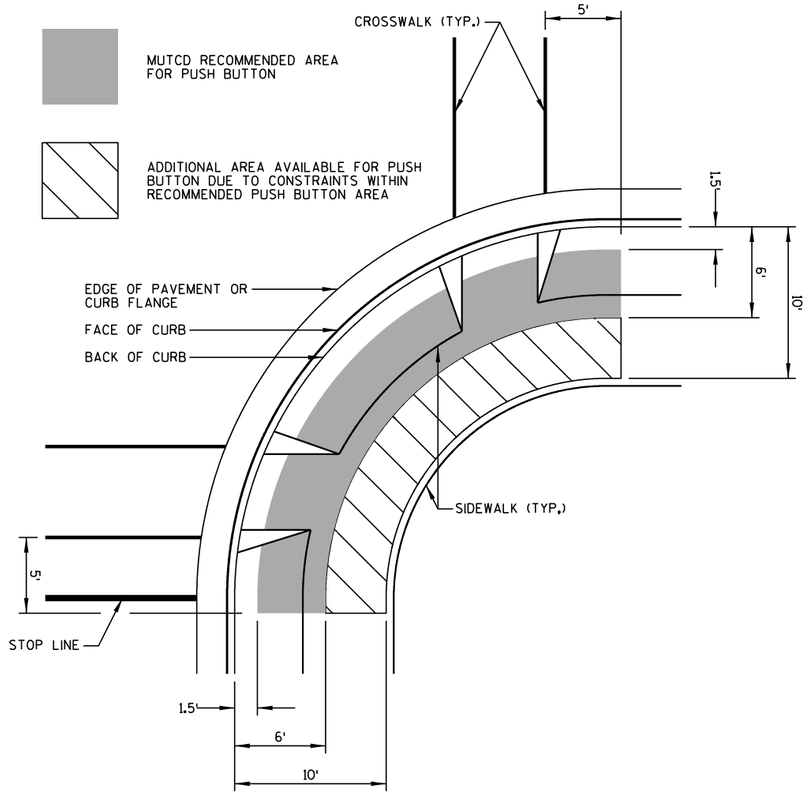
EPS

S. 99TH STREET

NOTES

1. HL-40-CL IS LOCATED 240-FT NORTH OF CLEVELAND AVENUE ON THE EAST SIDE OF 101ST STREET.
2. INTERCEPT EXISTING 2#8,D,N CID AND WET SPLICE.
3. TYPE 5 BASE.
4. TYPE 2 BASE. FUTURE FILL AROUND THIS BASE. SEE TOP OF BASE ELEVATION. CONDUIT TO ENTER BASE 4'-6" FROM TOP.

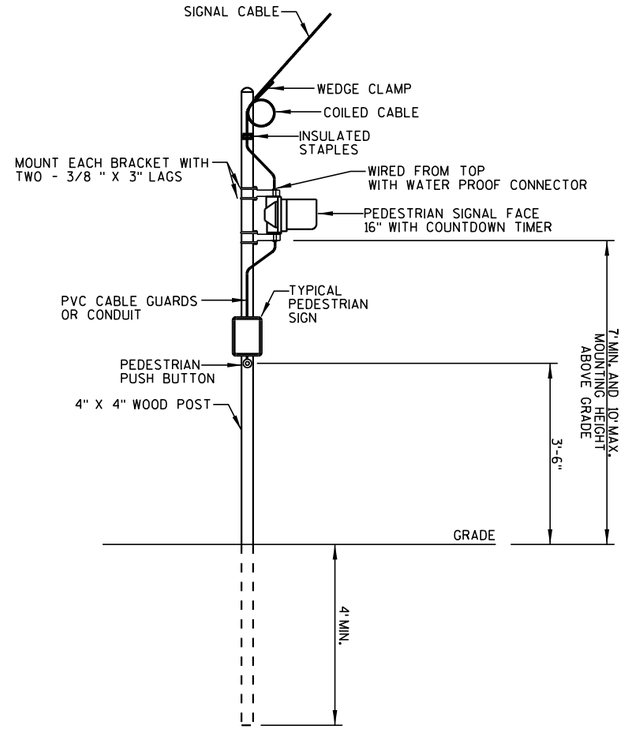
PROJECT NO: 1060-35-93	HWY: IH 894	COUNTY: MILWAUKEE	LIGHTING PLANS - FINAL LIGHTING	SHEET	E



PUSH BUTTON LOCATION NOTES:

1. PUSHBUTTONS SHOULD BE CAPABLE OF EASY ACTIVATION AND CONVENIENTLY LOCATED NEAR EACH END OF CROSSWALK OR CROSSING AREA.
2. PUSHBUTTONS SHOULD BE PLACED UNOBSTRUCTED AND ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR.
3. PUSHBUTTONS SHOULD BE PLACED WHERE THERE IS AN ALL-WEATHER SURFACE, A WHEELCHAIR ACCESSIBLE ROUTE FROM THE PUSHBUTTON TO THE RAMP.
4. PUSHBUTTONS SHOULD BE PLACED BETWEEN THE EDGE OF THE CROSSWALK LINE (EXTENDED) FARTHEST FROM THE CENTER OF THE INTERSECTION AND THE SIDE OF A CURB RAMP (IF PRESENT), BUT NOT GREATER THAN 5-FEET FROM SAID CROSSWALK LINE.
5. PUSHBUTTONS SHOULD BE PLACED BETWEEN 1.5-FEET AND 6-FEET FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT. IF THERE ARE PHYSICAL CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5-FEET AND 6-FEET FORM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FARTHER THAN 10-FEET FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
6. PUSHBUTTONS SHOULD BE PLACED WITH THE FACE OF THE PUSH BUTTON PARALLEL TO THE CROSSWALK TO BE USED.
7. PUSHBUTTONS ON THE SAME CORNER OF AN INTERSECTION SHOULD BE SEPARATED BY A DISTANCE OF AT LEAST 10-FEET. WHERE THERE ARE PHYSICAL CONSTRAINTS ON A PARTICULAR CORNER THAN MAKE IT IMPRACTICAL TO PROVIDE THE 10-FOOT SEPARATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.
8. PUSHBUTTON POLES SHALL BE PLACED SO THAT ALL EQUIPMENT ATTACHED TO THE POLE (PEDESTRIAN SIGNAL HEAD, PUSHBUTTON, SIGN, ETC.) IS OUTSIDE THE MINIMUM LATERAL CLEARANCE DISTANCE OF 2-FEET FROM FACE OF CURB OR EDGE OF TRAVELED WAY.
9. PUSHBUTTONS SHOULD BE PLACED SO THE THE REACH DISTANCE FROM THE EDGE OF THE FLAT SURFACE ADJACENT TO THE PUSHBUTTON DOES NOT EXCEED THE MAXIMUM ADA REACH DISTANCE OF 2-FEET.

TEMPORARY PEDESTRIAN SIGNAL AREA



WOOD POST

TEMPORARY PEDESTRIAN SIGNAL NOTES:

1. SIGNAL DROP CABLES SHALL BE PLACED A MINIMUM OF 12-FEET ABOVE GROUND NOT SUBJECT TO VEHICULAR TRAFFIC.
2. SIGNAL DROP CABLES SHALL BE PLACED A MINIMUM OF 17-FEET ABOVE GROUND SUBJECT TO VEHICULAR TRAFFIC, INCLUDING CONSTRUCTION VEHICLES.
3. MAXIMUM REACH DISTANCE FROM THE EDGE OF THE PEDESTRIAN AREA TO THE PUSH BUTTON SHALL NOT EXCEED THE MAXIMUM ADA REACH DISTANCE OF 2-FEET.
4. PUSHBUTTONS SHOULD BE PLACED AT A MOUNTING HEIGHT OF 3.5-FEET ABOVE THE WALKING SURFACE.
5. MAINTAIN ADA ACCESSIBLE ROUTE AND PEDESTRIAN ACCESSIBILITY REQUIREMENTS FOR ALL ACTIVE PEDESTRIAN SIGNAL INDICATION CROSSING AREAS.
6. MAINTAIN TEMPORARY PEDESTRIAN SIGNALS THROUGHOUT CONSTRUCTION TO ENSURE THAT THE PLACEMENT OF THE TEMPORARY PEDESTRIAN SIGNALS COMPLIES WITH ALL APPLICABLE ADA AND MUTCD SIGNAL PLACEMENT REQUIREMENTS.

TEMPORARY PEDESTRIAN SIGNAL

2



PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PROJECT OVERVIEW - STH 59	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023901_sp_tmp_po.dgn PLOT DATE : 29-JAN-2015 02:53 PLOT BY : MSCD1S PLOT NAME : PLOT SCALE : 1125:1

LEGEND

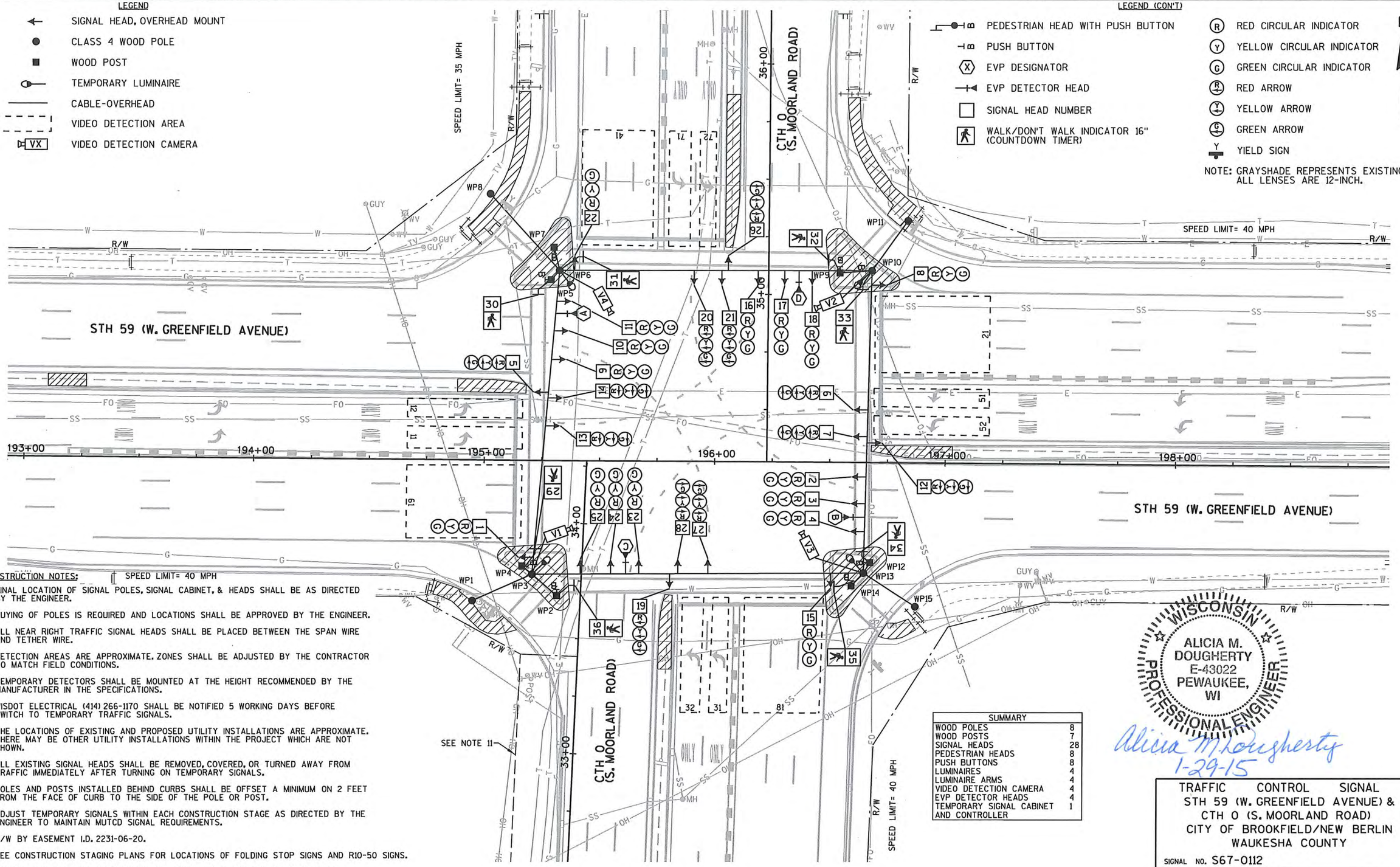
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW
- (G) GREEN ARROW
- Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES: ‖ SPEED LIMIT= 40 MPH

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414) 266-1170 SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.
7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM ON 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
11. R/W BY EASEMENT I.D. 2231-06-20.
12. SEE CONSTRUCTION STAGING PLANS FOR LOCATIONS OF FOLDING STOP SIGNS AND R10-50 SIGNS.
13. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.
14. MAINTAIN 12-FOOT VERTICAL CLEARANCE BETWEEN SIDEWALK AND OVERHEAD LINES.

SUMMARY	
WOOD POLES	8
WOOD POSTS	7
SIGNAL HEADS	28
PEDESTRIAN HEADS	8
PUSH BUTTONS	8
LUMINAIRES	4
LUMINAIRE ARMS	4
VIDEO DETECTION CAMERA	4
EVP DETECTOR HEADS	4
TEMPORARY SIGNAL CABINET AND CONTROLLER	1

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023921_sp_tmp.dgn PLOT DATE : 29-JAN-2015 02:58 PLOT BY : MSCD1S PLOT NAME : 023921_sp_tmp PLOT SCALE : 40:1
WISDOT/CADDS SHEET 42

LEGEND

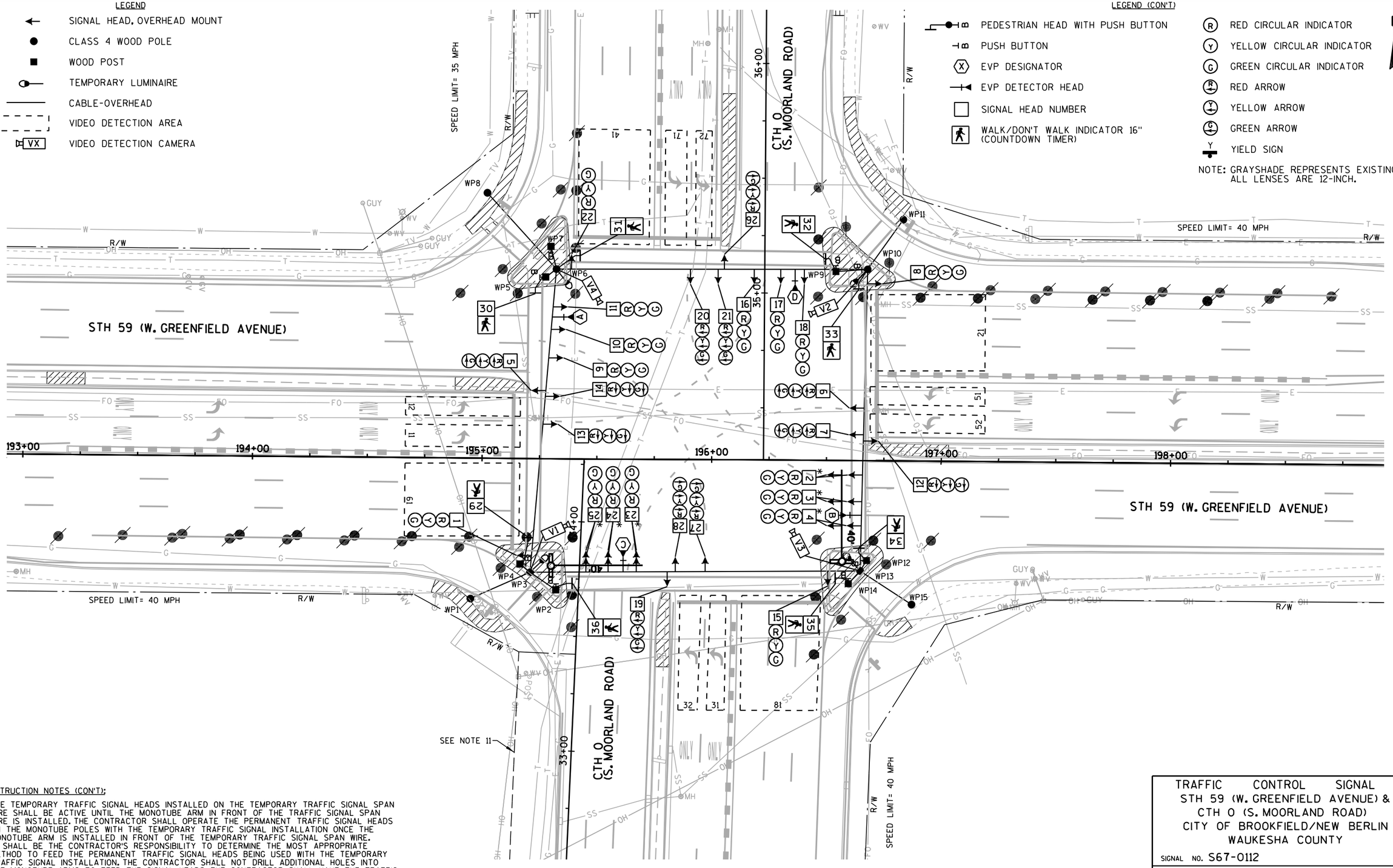
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES (CON'T):

* THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARM IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE IS INSTALLED. THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION ONCE THE MONOTUBE ARM IS INSTALLED IN FRONT OF THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023922_sp_tmp.dgn PLOT DATE : 29-JAN-2015 08:56 PLOT BY : mscoxw PLOT NAME : 023922_sp_tmp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

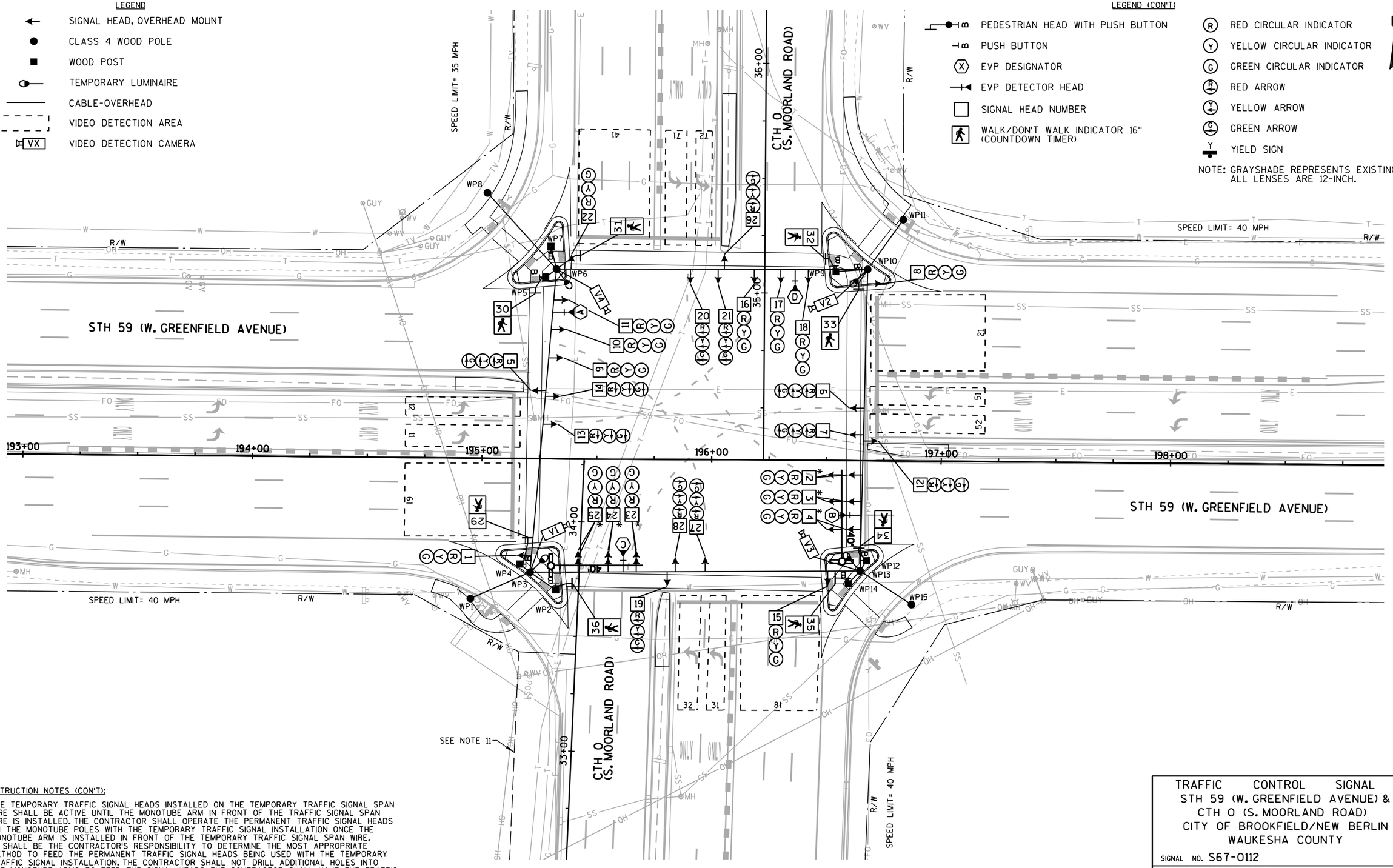
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RA RED ARROW
- YA YELLOW ARROW
- GA GREEN ARROW
- Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES (CON'T):

* THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARM IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE IS INSTALLED. THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION ONCE THE MONOTUBE ARM IS INSTALLED IN FRONT OF THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 3 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - POST CONSTRUCTION	SHEET E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023923_sp_tmp.dgn PLOT DATE : 29-JAN-2015 09:58 PLOT BY : mscoxw PLOT NAME : 023923_sp_tmp PLOT SCALE : 40:1

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO **	Ø2 R/W	Ø2 CLEAR TO **	Ø3 R/W	Ø3 CLEAR TO **	Ø4 R/W	Ø4 CLEAR TO **	FLASH
Ø1	5,6,7	G	Y R	R	R R	R	R R	R	R R	R
Ø2	8,9,10,11	R	R R	G	Y R	R	R R	R	R R	R
Ø3	19,20,21	R	R R	R	R R	G	Y R	R	R R	R
Ø4	22,23,24,25	R	R R	R	R R	R	R R	G	Y R	R
Ø5	12,13,14	R	R R	R	R R	R	R R	R	R R	R
Ø6	1,2,3,4	R	R R	R	R R	R	R R	R	R R	R
Ø7	26,27,28	R	R R	R	R R	R	R R	R	R R	R
Ø8	15,16,17,18	R	R R	R	R R	R	R R	R	R R	R
Ø2P	31,32	D	D D	*	D D	D	D D	D	D D	
Ø4P	29,30	D	D D	D	D D	D	D D	*	D D	
Ø6P	35,36	D	D D	D	D D	D	D D	D	D D	
Ø8P	33,34	D	D D	D	D D	D	D D	D	D D	

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO **	Ø6 R/W	Ø6 CLEAR TO **	Ø7 R/W	Ø7 CLEAR TO **	Ø8 R/W	Ø8 CLEAR TO **
Ø1	5,6,7	R	R R	R	R R	R	R R	R	R R
Ø2	8,9,10,11	R	R R	R	R R	R	R R	R	R R
Ø3	19,20,21	R	R R	R	R R	R	R R	R	R R
Ø4	22,23,24,25	R	R R	R	R R	R	R R	R	R R
Ø5	12,13,14	G	Y R	R	R R	R	R R	R	R R
Ø6	1,2,3,4	R	R R	G	Y R	R	R R	R	R R
Ø7	26,27,28	R	R R	R	R R	G	Y R	R	R R
Ø8	15,16,17,18	R	R R	R	R R	R	R R	G	Y R
Ø2P	31,32	D	D D	D	D D	D	D D	D	D D
Ø4P	29,30	D	D D	D	D D	D	D D	D	D D
Ø6P	35,36	D	D D	*	D D	D	D D	D	D D
Ø8P	33,34	D	D D	D	D D	D	D D	*	D D

BARRIER

N

DETECTOR LOGIC

DETECTOR NUMBER	AMPLIFIER CHANNEL NUMBER	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11		X			1	1					VIDEO
12		X			1	1					VIDEO
21		X			2	2					VIDEO
31		X			3	3					VIDEO
32		X			3	3					VIDEO
41		X			4	4					VIDEO
51		X			5	5					VIDEO
52		X			5	5					VIDEO
61		X			6	6					VIDEO
71		X			7	7					VIDEO
72		X			7	7					VIDEO
81		X			8	8					VIDEO

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2		6	MIN.	X
3		8		X
4		8		X
5		2		X
6		2	MIN.	X
7		4		X
8		4		X

OVERLAPS

O.L. "A" =
O.L. "B" =
O.L. "C" =
O.L. "D" =

TYPE OF INTERCONNECT COMMUNICATION	
NONE	
TBC	X
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM *:	SS- -

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	CHANNEL A	CHANNEL B	CHANNEL C	CHANNEL D
MOVEMENT	←	↱	↓	↑
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.

AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	5 OR 6	2,3,4,7,8
2	5 OR 6	1,3,4,7,8
3	7 OR 8	1,2,4,5,6
4	7 OR 8	1,2,3,5,6
5	1 OR 2	3,4,6,7,8
6	1 OR 2	3,4,5,7,8
7	3 OR 4	1,2,5,6,8
8	3 OR 4	1,2,5,6,7

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1.)

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

CONTROLLER TYPE: TEMP

DATE 01/15

PAGE NO. 4 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY SEQUENCE OF OPERATIONS - ALL STAGES	SHEET E

LEGEND

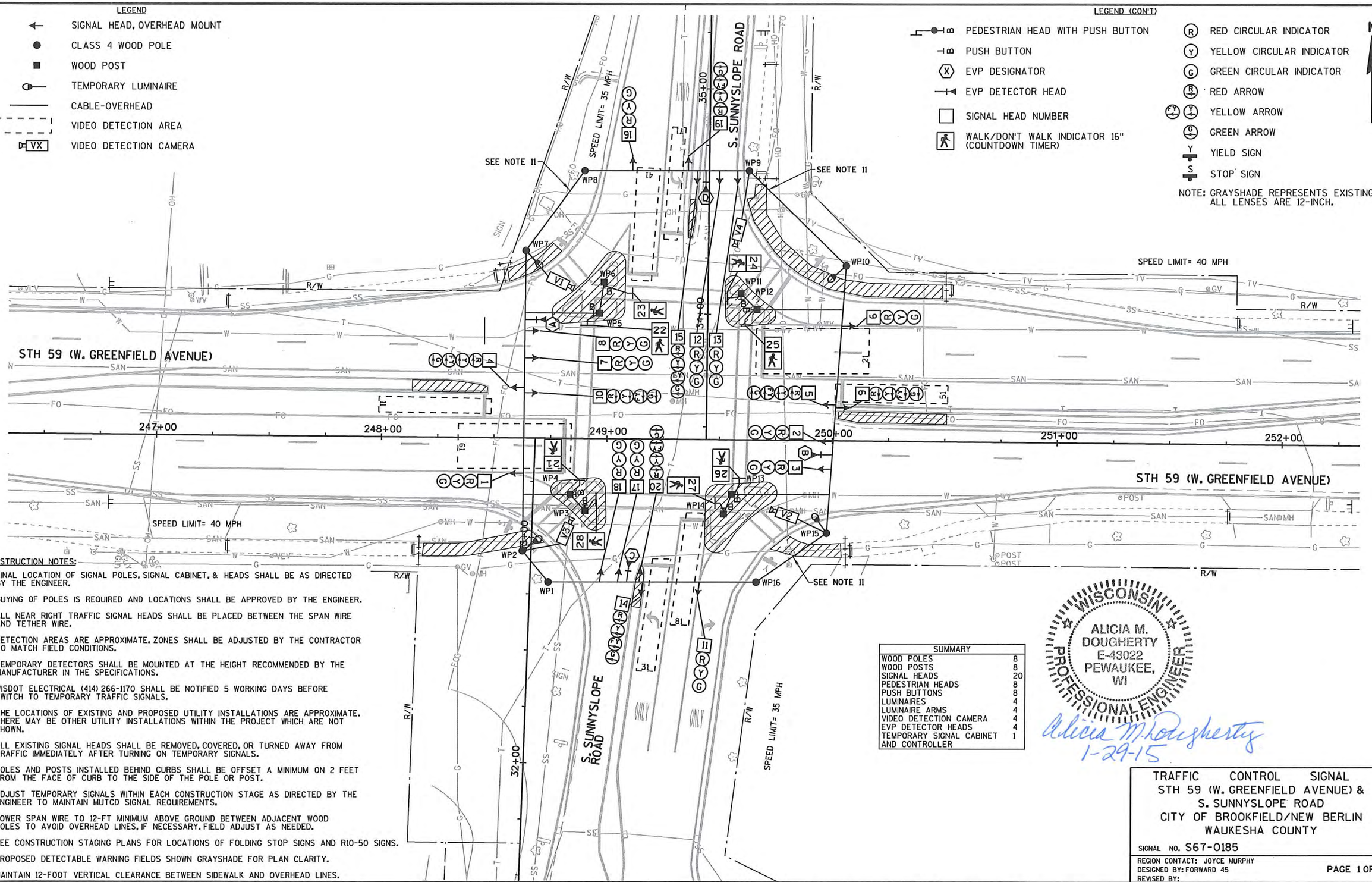
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- Y YIELD SIGN
- S STOP SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES:

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414) 266-1170 SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.
7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM ON 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
11. LOWER SPAN WIRE TO 12-FT MINIMUM ABOVE GROUND BETWEEN ADJACENT WOOD POLES TO AVOID OVERHEAD LINES, IF NECESSARY. FIELD ADJUST AS NEEDED.
12. SEE CONSTRUCTION STAGING PLANS FOR LOCATIONS OF FOLDING STOP SIGNS AND R10-50 SIGNS.
13. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.
14. MAINTAIN 12-FOOT VERTICAL CLEARANCE BETWEEN SIDEWALK AND OVERHEAD LINES.

SUMMARY	
WOOD POLES	8
WOOD POSTS	8
SIGNAL HEADS	20
PEDESTRIAN HEADS	8
PUSH BUTTONS	8
LUMINAIRES	4
LUMINAIRE ARMS	4
VIDEO DETECTION CAMERA	4
EVP DETECTOR HEADS	4
TEMPORARY SIGNAL CABINET AND CONTROLLER	1

WISCONSIN PROFESSIONAL ENGINEER
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0185

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023931_sp_tmp.dgn PLOT DATE : 29-JAN-2015 03:12 PLOT BY : MSCD1S PLOT NAME : 023931_sp_tmp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

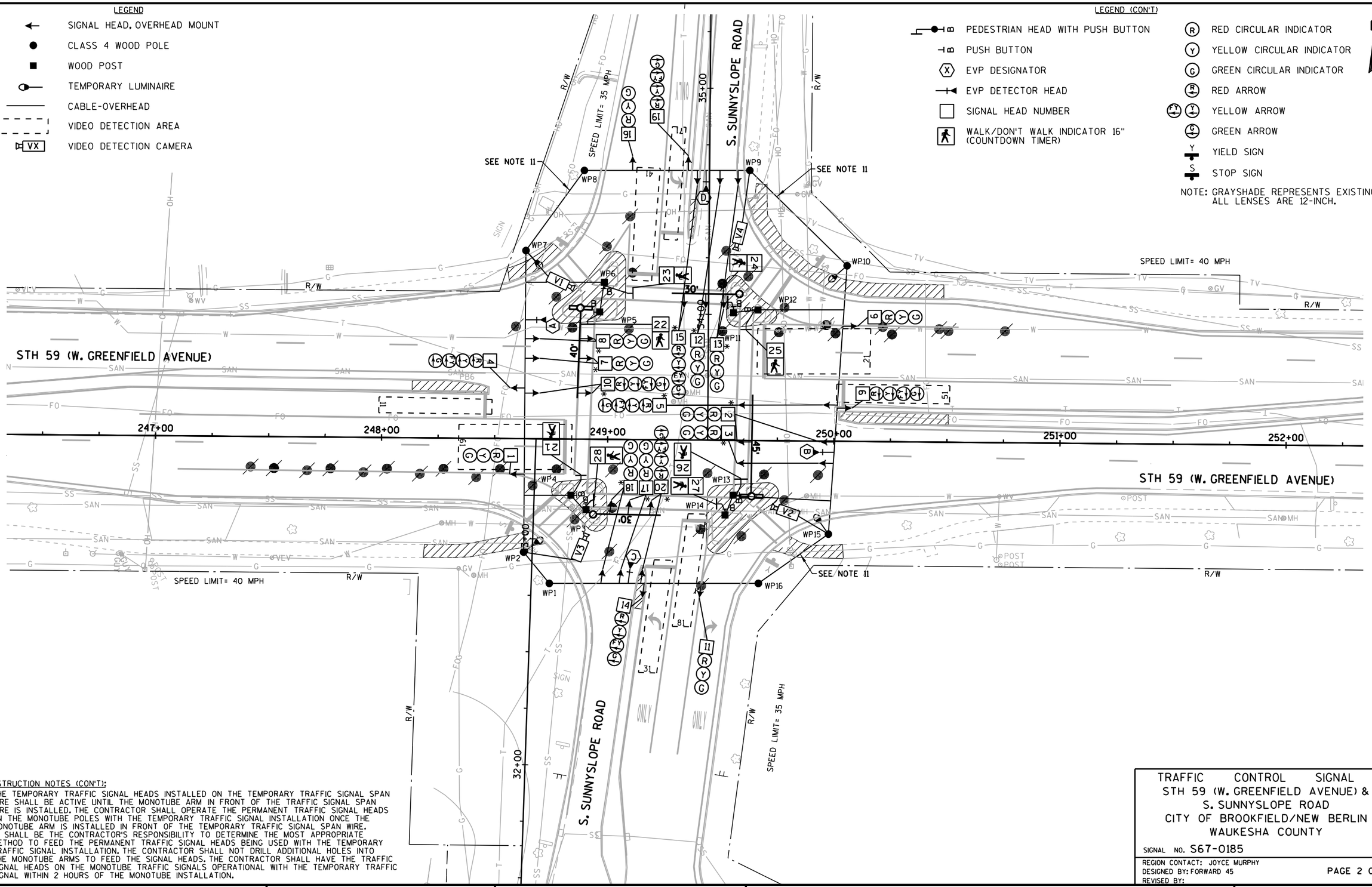
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- Y YELLOW ARROW
- G GREEN ARROW
- Y YIELD SIGN
- S STOP SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES (CON'T):

* THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARM IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE IS INSTALLED. THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION ONCE THE MONOTUBE ARM IS INSTALLED IN FRONT OF THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0185

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 2	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023932_sp_tmp.dgn PLOT DATE : 29-JAN-2015 09:01 PLOT BY : mscoxw PLOT NAME : 023932_sp_tmp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

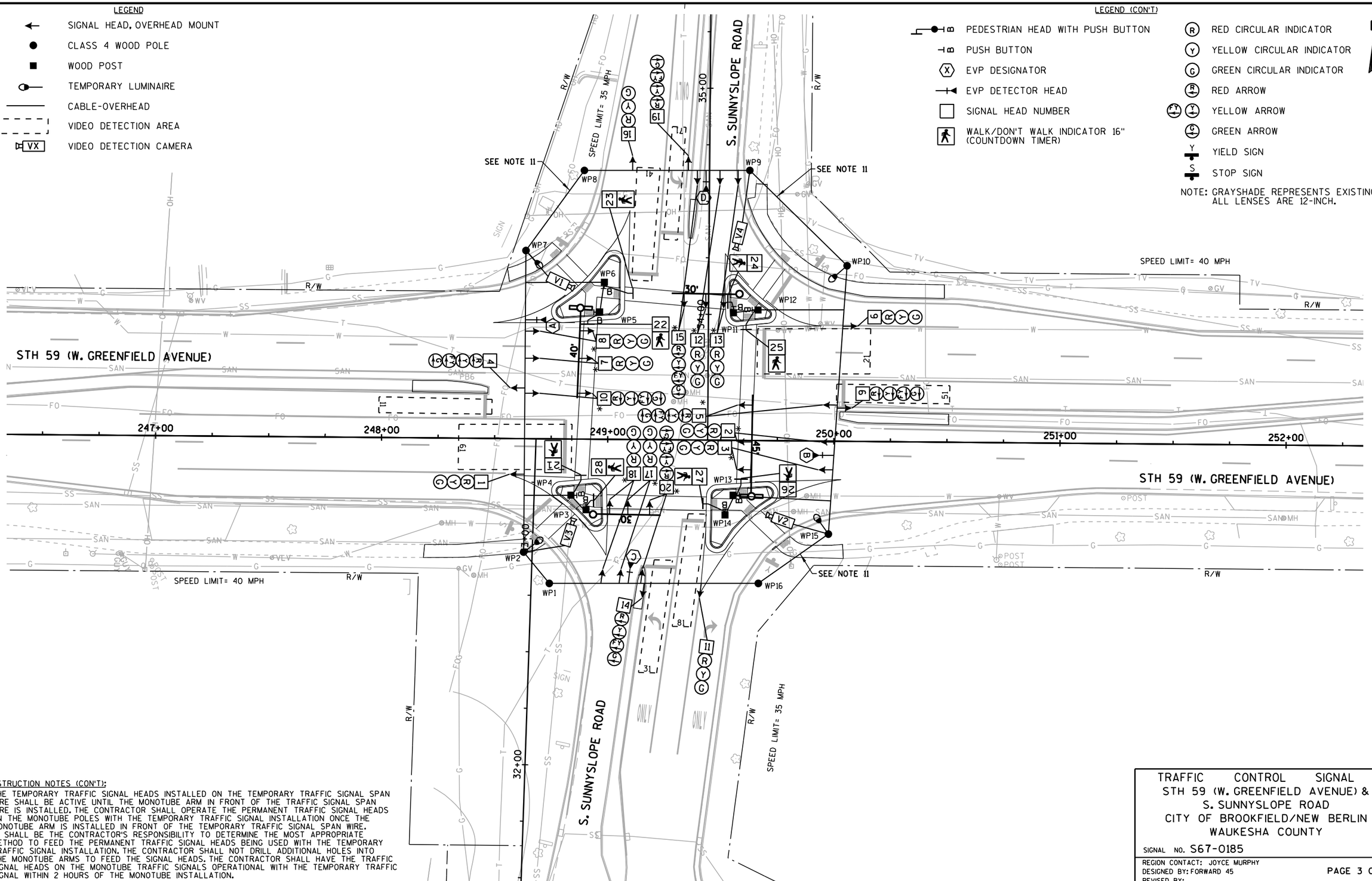
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW
- (G) GREEN ARROW
- Y YIELD SIGN
- S STOP SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES (CON'T):

* THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARM IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE IS INSTALLED. THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION ONCE THE MONOTUBE ARM IS INSTALLED IN FRONT OF THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0185

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 3 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - POST CONSTRUCTION	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023933_sp_tmp.dgn PLOT DATE : 29-JAN-2015 09:03 PLOT BY : mscoxw PLOT NAME : 023933_sp_tmp PLOT SCALE : 40:1

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 R/W	Ø1 CLEAR TO	Ø2 R/W	Ø2 CLEAR TO	Ø3 R/W	Ø3 CLEAR TO	Ø4 R/W	Ø4 CLEAR TO	FLASH
Ø1	4,5	G	- -	-	- -	-	- -	-	- -	-
Ø2	6,7,8	R	R R	G	Y R	R	R R	R	R R	R
Ø3	14,15	-	- -	-	- -	G	- -	-	- -	-
Ø4	16,17,18	R	R R	R	R R	R	R R	G	Y R	R
Ø5	9,10	-	- -	-	- -	-	- -	-	- -	-
Ø6	1,2,3	R	R R	R	R R	R	R R	R	R R	R
Ø7	19,20	-	- -	-	- -	-	- -	-	- -	-
Ø8	11,12,13	R	R R	R	R R	R	R R	R	R R	R
OLA	4,5	-	Y R	FY	Y R	R	R R	R	R R	R
OLB	14,15	R	R R	R	R R	-	Y R	FY	Y R	R
OLC	9,10	R	R R	R	R R	R	R R	R	R R	R
OLD	19,20	R	R R	R	R R	R	R R	R	R R	R
Ø2P	23,24	D	D D	*	D D	D	D D	D	D D	
Ø4P	21,22	D	D D	D	D D	D	D D	*	D D	
Ø6P	27,28	D	D D	D	D D	D	D D	D	D D	
Ø8P	25,26	D	D D	D	D D	D	D D	D	D D	

N

RING 2

	HEAD NUMBERS	Ø5 R/W	Ø5 CLEAR TO	Ø6 R/W	Ø6 CLEAR TO	Ø7 R/W	Ø7 CLEAR TO	Ø8 R/W	Ø8 CLEAR TO
Ø1	4,5	-	- -	-	- -	-	- -	-	- -
Ø2	6,7,8	R	R R	R	R R	R	R R	R	R R
Ø3	14,15	-	- -	-	- -	-	- -	-	- -
Ø4	16,17,18	R	R R	R	R R	R	R R	R	R R
Ø5	9,10	G	- -	-	- -	-	- -	-	- -
Ø6	1,2,3	R	R R	G	Y R	R	R R	R	R R
Ø7	19,20	-	- -	-	- -	G	- -	-	- -
Ø8	11,12,13	R	R R	R	R R	R	R R	G	Y R
OLA	4,5	R	R R	R	R R	R	R R	R	R R
OLB	14,15	R	R R	R	R R	R	R R	R	R R
OLC	9,10	-	Y R	FY	Y R	-	Y R	FY	Y R
OLD	19,20	R	R R	R	R R	R	R R	R	R R
Ø2P	23,24	D	D D	D	D D	D	D D	D	D D
Ø4P	21,22	D	D D	D	D D	D	D D	D	D D
Ø6P	27,28	D	D D	*	D D	D	D D	D	D D
Ø8P	25,26	D	D D	D	D D	D	D D	*	D D

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11		X			1	1					VIDEO
21		X			2	2					VIDEO
31		X			3	3					VIDEO
41		X			4	4					VIDEO
51		X			5	5					VIDEO
61		X			6	6					VIDEO
71		X			7	7					VIDEO
81		X			8	8					VIDEO

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2		6	MIN.	X
3		8		X
4		8		X
5		2		X
6		2	MIN.	X
7		4		X
8		4		X

SPECIAL OVERLAPS

	PROTECTIVE	PERMISSIVE
O.L. "A" =	1	2
O.L. "B" =	3	4
O.L. "C" =	5	6
O.L. "D" =	7	8

TYPE OF INTERCONNECT COMMUNICATION	
NONE	
TBC	x
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM #:	SS- -

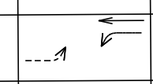
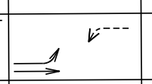
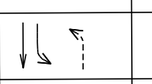
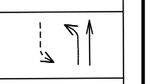
TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	x
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	x
IN SEPARATE DOT LIGHTING CABINET	

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	5 OR 6	2,3,4,7,8
2	5 OR 6	1,3,4,7,8
3	7 OR 8	1,2,4,5,6
4	7 OR 8	1,2,3,5,6
5	1 OR 2	3,4,6,7,8
6	1 OR 2	3,4,5,7,8
7	3 OR 4	1,2,5,6,8
8	3 OR 4	1,2,5,6,7

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	CHANNEL A	CHANNEL B	CHANNEL C	CHANNEL D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6

AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASE 4+8.

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1.)

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0185

CONTROLLER TYPE: TEMP

DATE 01/15 PAGE NO. 4 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY SEQUENCE OF OPERATIONS - ALL STAGES	SHEET E

LEGEND

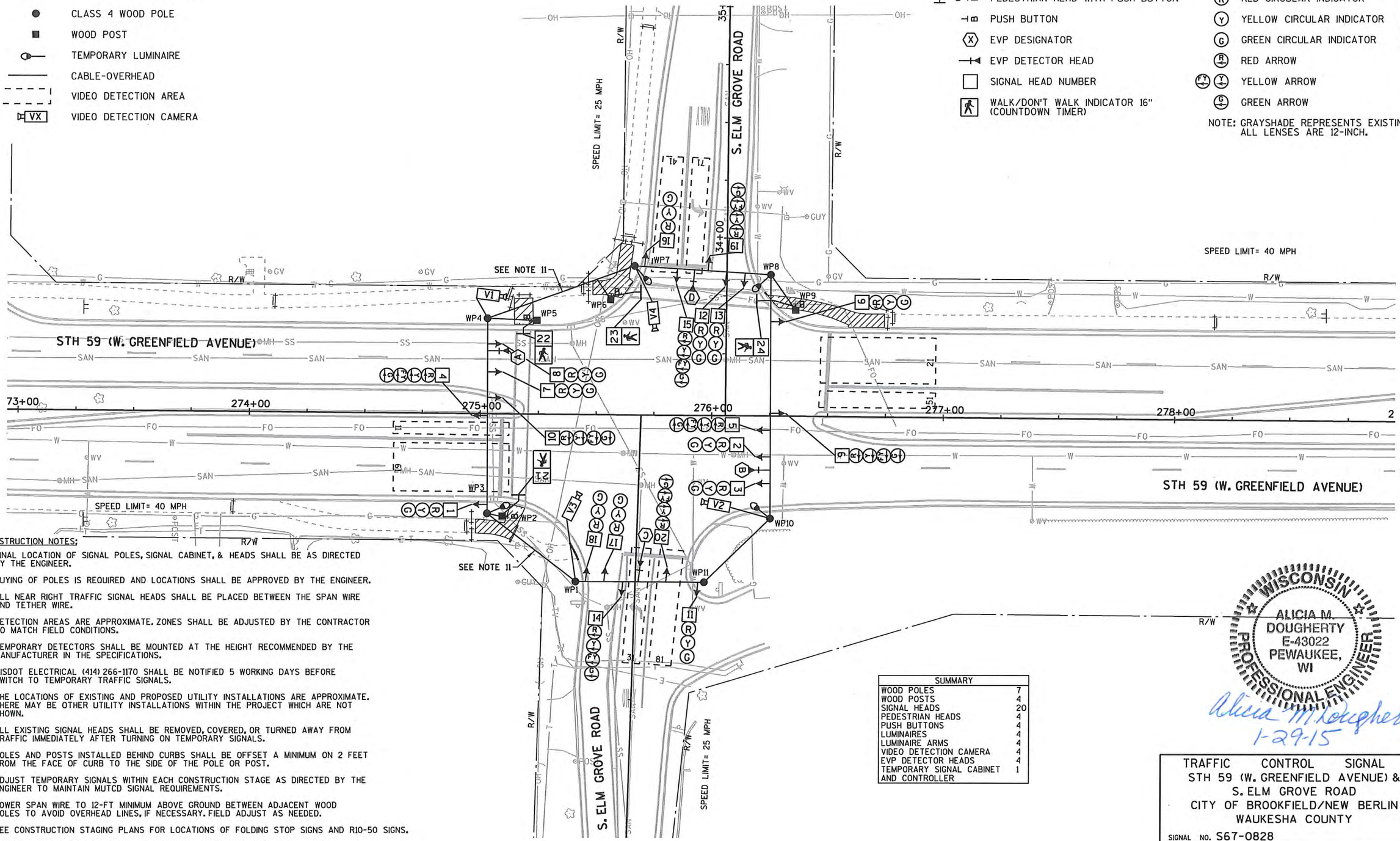
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW
- (G) GREEN ARROW

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES;

1. FINAL LOCATION OF SIGNAL POLES, SIGNAL CABINET, & HEADS SHALL BE AS DIRECTED BY THE ENGINEER.
2. GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
3. ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
4. DETECTION AREAS ARE APPROXIMATE. ZONES SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH FIELD CONDITIONS.
5. TEMPORARY DETECTORS SHALL BE MOUNTED AT THE HEIGHT RECOMMENDED BY THE MANUFACTURER IN THE SPECIFICATIONS.
6. WISDOT ELECTRICAL (414) 266-1170 SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.
7. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
8. ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED, OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.
9. POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM ON 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POLE OR POST.
10. ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
11. LOWER SPAN WIRE TO 12-FT MINIMUM ABOVE GROUND BETWEEN ADJACENT WOOD POLES TO AVOID OVERHEAD LINES, IF NECESSARY. FIELD ADJUST AS NEEDED.
12. SEE CONSTRUCTION STAGING PLANS FOR LOCATIONS OF FOLDING STOP SIGNS AND R10-50 SIGNS.
13. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.
14. MAINTAIN 12-FOOT VERTICAL CLEARANCE BETWEEN SIDEWALK AND OVERHEAD LINES.

SUMMARY	
WOOD POLES	7
WOOD POSTS	4
SIGNAL HEADS	20
PEDESTRIAN HEADS	4
PUSH BUTTONS	4
LUMINAIRES	4
LUMINAIRE ARMS	4
VIDEO DETECTION CAMERA	4
EVP DETECTOR HEADS	4
TEMPORARY SIGNAL CABINET AND CONTROLLER	1

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0828

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET 121	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023941_sp_tmp.dgn PLOT DATE : 29-JAN-2015 03:28 PLOT BY : MSCD1S PLOT NAME : 023941_sp_tmp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

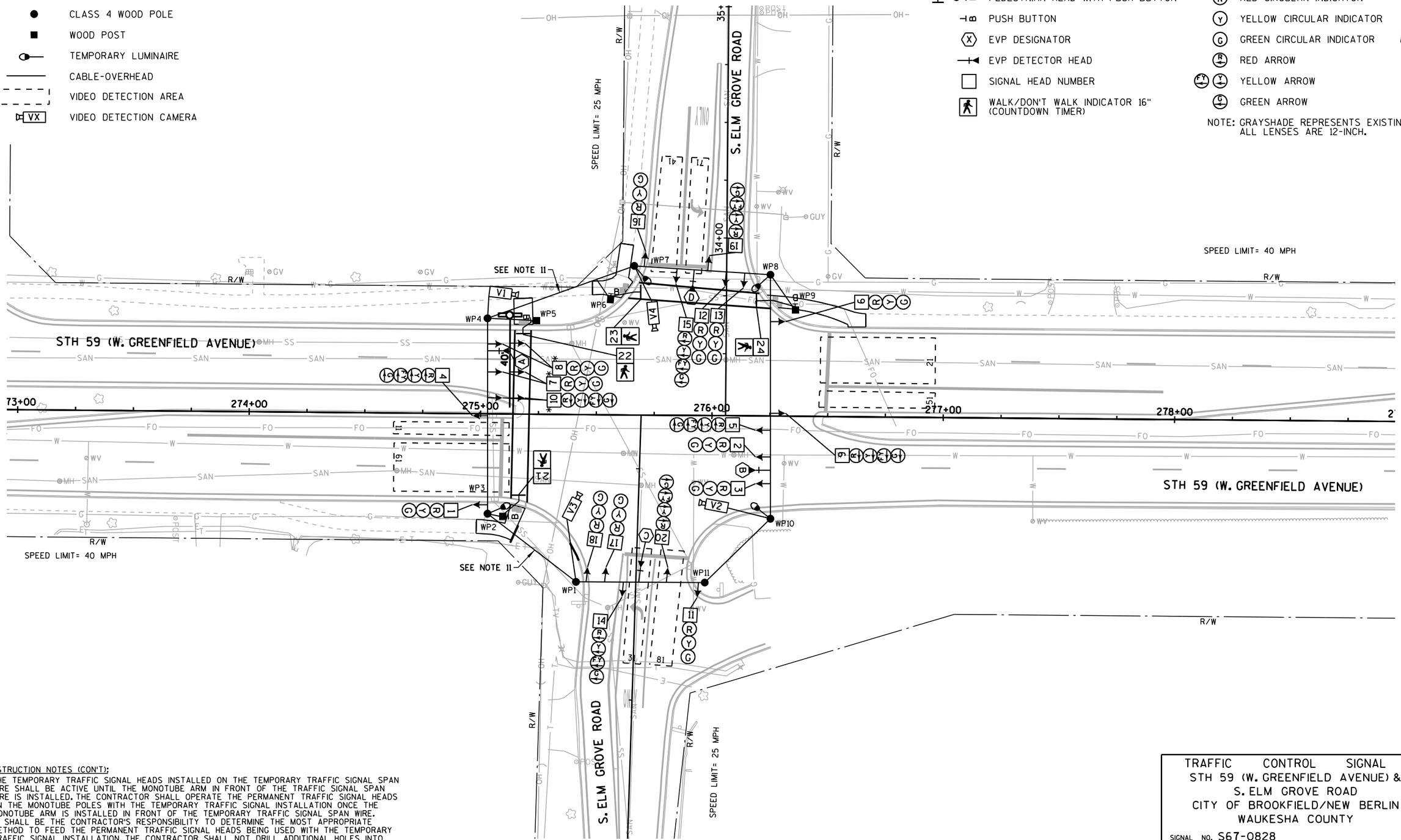
- SIGNAL HEAD, OVERHEAD MOUNT
- CLASS 4 WOOD POLE
- WOOD POST
- TEMPORARY LUMINAIRE
- CABLE-OVERHEAD
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (Y) YELLOW ARROW
- (G) GREEN ARROW

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES (CON'T):

* THE TEMPORARY TRAFFIC SIGNAL HEADS INSTALLED ON THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE SHALL BE ACTIVE UNTIL THE MONOTUBE ARM IN FRONT OF THE TRAFFIC SIGNAL SPAN WIRE IS INSTALLED. THE CONTRACTOR SHALL OPERATE THE PERMANENT TRAFFIC SIGNAL HEADS ON THE MONOTUBE POLES WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION ONCE THE MONOTUBE ARM IS INSTALLED IN FRONT OF THE TEMPORARY TRAFFIC SIGNAL SPAN WIRE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MOST APPROPRIATE METHOD TO FEED THE PERMANENT TRAFFIC SIGNAL HEADS BEING USED WITH THE TEMPORARY TRAFFIC SIGNAL INSTALLATION. THE CONTRACTOR SHALL NOT DRILL ADDITIONAL HOLES INTO THE MONOTUBE ARMS TO FEED THE SIGNAL HEADS. THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL HEADS ON THE MONOTUBE TRAFFIC SIGNALS OPERATIONAL WITH THE TEMPORARY TRAFFIC SIGNAL WITHIN 2 HOURS OF THE MONOTUBE INSTALLATION.

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0828

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN - POST CONSTRUCTION	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\023942_sp_tmp.dgn PLOT DATE : 29-JAN-2015 09:59 PLOT BY : mscaxw PLOT NAME : 023942_sp_tmp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

SEQUENCE OF OPERATION

RING 1

	HEAD NUMBERS	Ø1 CLEAR TO			Ø2 CLEAR TO			Ø3 CLEAR TO			Ø4 CLEAR TO			FLASH
		R/W	**		R/W	**		R/W	**		R/W	**		
Ø1	4,5	G	-	-	-	-	-	-	-	-	-	-	-	-
Ø2	6,7,8	R	R	R	G	Y	R	R	R	R	R	R	R	R
Ø3	14,15	-	-	-	-	-	-	G	-	-	-	-	-	-
Ø4	16,17,18	R	R	R	R	R	R	R	R	R	G	Y	R	R
Ø5	9,10	-	-	-	-	-	-	-	-	-	-	-	-	-
Ø6	1,2,3	R	R	R	R	R	R	R	R	R	R	R	R	R
Ø7	19,20	-	-	-	-	-	-	-	-	-	-	-	-	-
Ø8	11,12,13	R	R	R	R	R	R	R	R	R	R	R	R	R
OLA	4,5	-	Y	R	FY	Y	R	R	R	R	R	R	R	R
OLB	14,15	R	R	R	R	R	R	G	Y	R	FY	Y	R	R
OLC	9,10	R	R	R	R	R	R	R	R	R	R	R	R	R
OLD	19,20	R	R	R	R	R	R	R	R	R	R	R	R	R
Ø2P	23,24	D	D	D	*	D	D	D	D	D	D	D	D	
Ø4P	21,22	D	D	D	D	D	D	D	D	D	*	D	D	
Ø6P														
Ø8P														

RING 2

	HEAD NUMBERS	Ø5 CLEAR TO			Ø6 CLEAR TO			Ø7 CLEAR TO			Ø8 CLEAR TO		
		R/W	**		R/W	**		R/W	**		R/W	**	
Ø1	4,5	-	-	-	-	-	-	-	-	-	-	-	-
Ø2	6,7,8	R	R	R	R	R	R	R	R	R	R	R	R
Ø3	14,15	-	-	-	-	-	-	-	-	-	-	-	-
Ø4	16,17,18	R	R	R	R	R	R	R	R	R	R	R	R
Ø5	9,10	G	-	-	-	-	-	-	-	-	-	-	-
Ø6	1,2,3	R	R	R	G	Y	R	R	R	R	R	R	R
Ø7	19,20	-	-	-	-	-	-	-	-	-	-	-	-
Ø8	11,12,13	R	R	R	R	R	R	R	R	R	R	R	R
OLA	4,5	R	R	R	R	R	R	G	-	-	-	-	-
OLB	14,15	R	R	R	R	R	R	R	R	R	G	Y	R
OLC	9,10	-	Y	R	FY	Y	R	R	R	R	R	R	R
OLD	19,20	R	R	R	R	R	R	R	R	R	R	R	R
Ø2P	23,24	D	D	D	D	D	D	D	D	D	D	D	D
Ø4P	21,22	D	D	D	D	D	D	D	D	D	D	D	D
Ø6P													
Ø8P													

BARRIER

** CLEARANCE TO A PHASE IN CONFLICT WITH THIS PHASE ON (SEE CHART 1)

* WHEN CALLED, TIMED STEADY WALK, THEN FLASHING DON'T WALK, THEN GOES TO STEADY DON'T WALK

N

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION: CALLS AND EXTENDS	DETECTOR OPERATION: CALLS ONLY	DETECTOR OPERATION: EXTENDS ONLY	PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
11		X			1	1					VIDEO
21		X			2	2					VIDEO
31		X			3	3					VIDEO
41		X			4	4					VIDEO
51		X			5	5					VIDEO
61		X			6	6					VIDEO
71		X			7	7					VIDEO
81		X			8	8					VIDEO

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2		6	MIN.	X
3		8		X
4		8		X
5		2		X
6		2	MIN.	X
7		4		X
8		4		X

SPECIAL OVERLAPS

	PROTECTIVE	PERMISSIVE
O.L. "A" =	1	2
O.L. "B" =	3	4
O.L. "C" =	5	6
O.L. "D" =	7	8

TYPE OF INTERCONNECT COMMUNICATION	
NONE	
TBC	x
CLOSED LOOP TWISTED PAIR*	
CLOSED LOOP FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM *:	SS- -

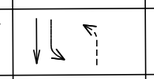
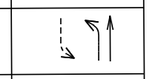
TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	x
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC SIGNAL CABINET	x
IN SEPARATE DOT LIGHTING CABINET	

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	5 OR 6	2,3,4,7,8
2	5 OR 6	1,3,4,7,8
3	7 OR 8	1,2,4,5,6
4	7 OR 8	1,2,3,5,6
5	1 OR 2	3,4,6,7,8
6	1 OR 2	3,4,5,7,8
7	3 OR 4	1,2,5,6,8
8	3 OR 4	1,2,5,6,7

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	CHANNEL A	CHANNEL B	CHANNEL C	CHANNEL D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6

AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASE 4+8.

GENERAL NOTES:

1. ANY ACTUATED PHASE FOR WHICH THERE IS NO CALL SHALL BE SKIPPED.
2. WHEN ONE PHASE IS ON ALONE, ANY NONCONFLICTING PHASE MAY START TIMING CONCURRENTLY WITHOUT A CLEARANCE INTERVAL. (SEE CHART 1.)

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

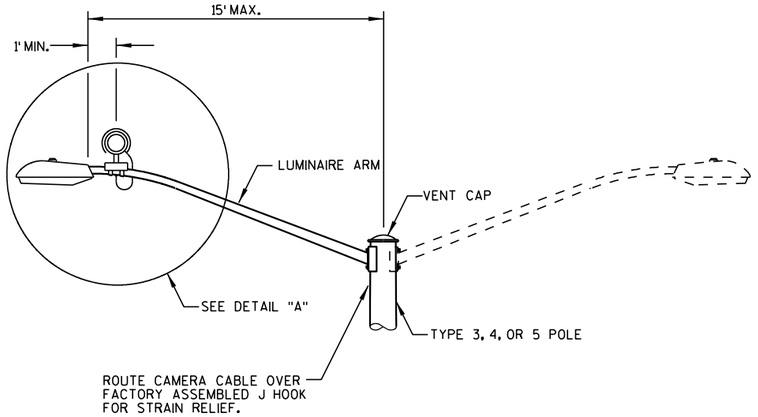
SIGNAL NO. S67-0828

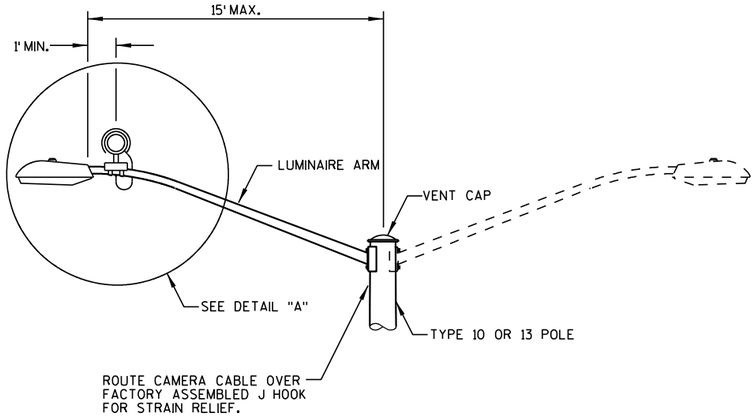
CONTROLLER TYPE: TEMP

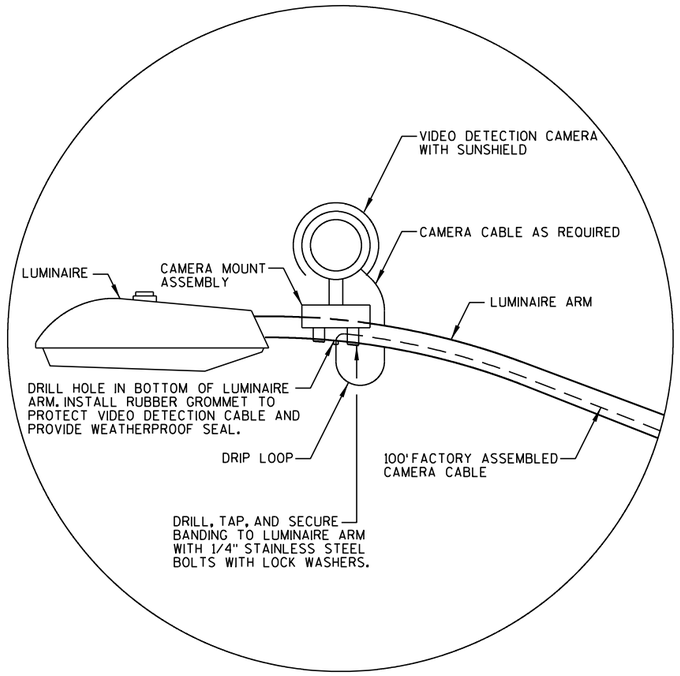
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PAGE NO. 3 OF 3

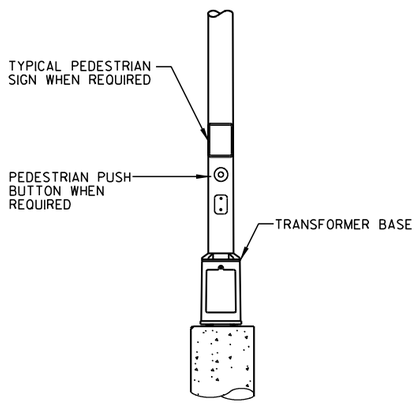
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TEMPORARY SEQUENCE OF OPERATIONS - ALL STAGES	SHEET	E



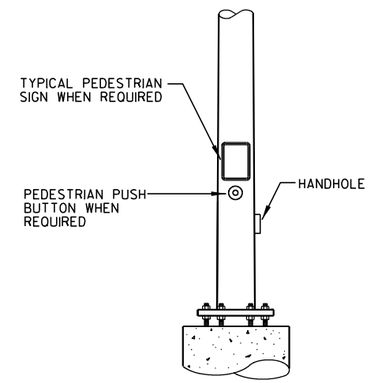




DETAIL "A"



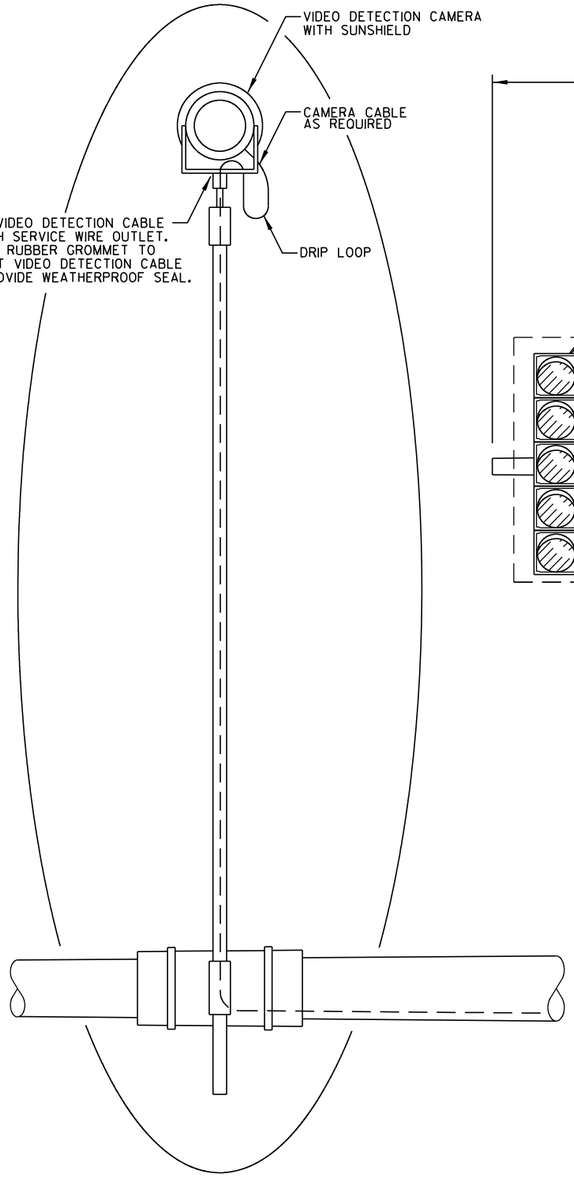
TYPE 3, 4, OR 5
MOUNTING CONFIGURATION



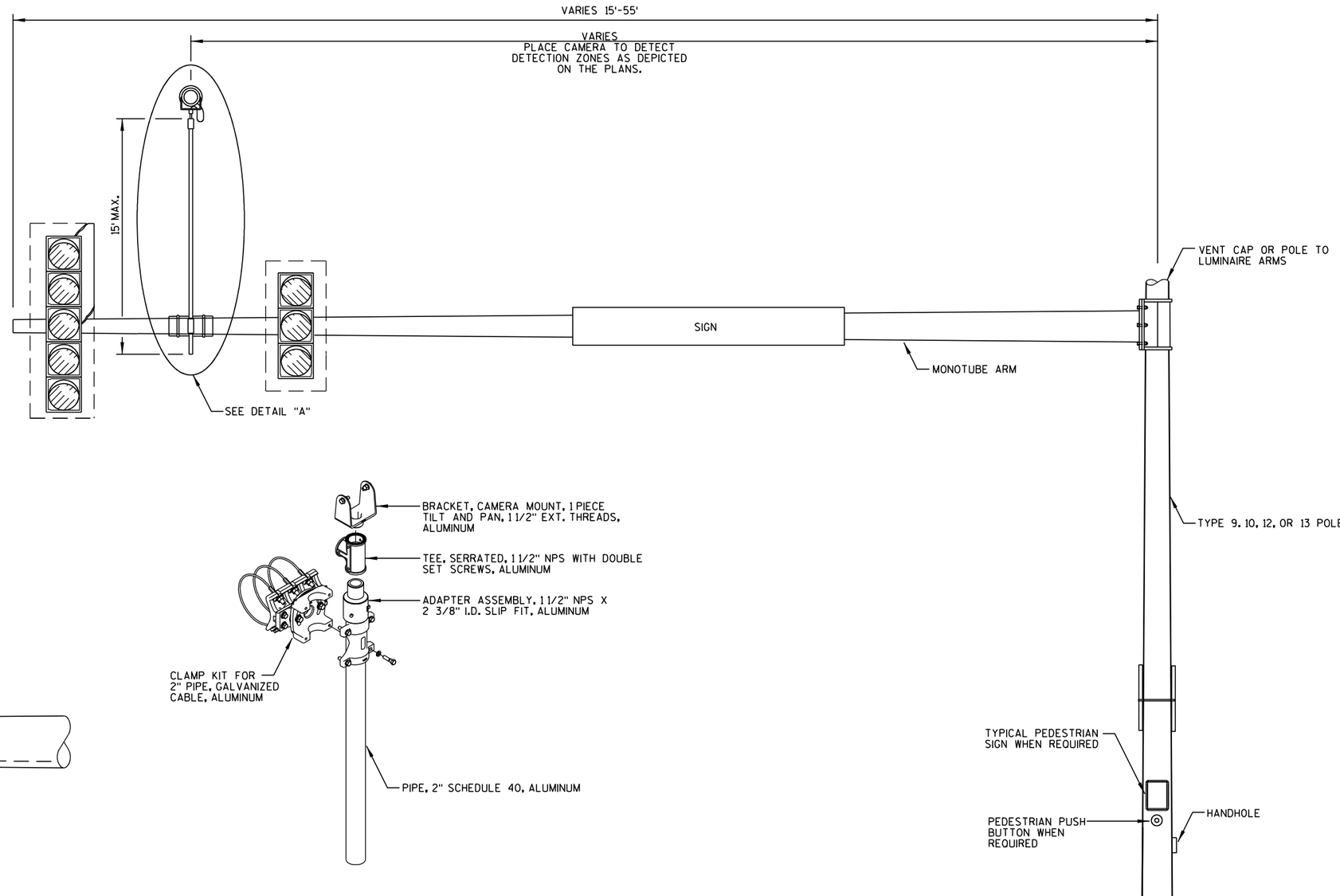
TYPE 10 OR 13
MOUNTING CONFIGURATION

VIDEO DETECTION MOUNTING DETAIL (LUMINAIRE ARM MOUNT)

2



DETAIL "A"



EXTENSION ARM

VIDEO DETECTION MOUNTING DETAIL (MAST ARM MOUNT)

PROJECT NO: 1060-35-93	HWY: IH 894/IH 94/USH 45	COUNTY: WAUKESHA/MILWAUKEE	TRAFFIC SIGNAL DETAILS	SHEET	E

2



PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PROJECT OVERVIEW - STH 59	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024001_sp_po.dgn PLOT DATE : 29-JAN-2015 03:35 PLOT BY : MSCD1S PLOT NAME : PLOT SCALE : 1125:1

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

LOOP DETECTOR CONDUIT 1" NONMETALLIC

LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

LEGEND (CON'T)

PULL BOX, 24" X 36"

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

SIGNAL HEAD NUMBER

WALK/DON'T WALK INDICATOR

RED CIRCULAR INDICATOR

YELLOW CIRCULAR INDICATOR

GREEN CIRCULAR INDICATOR

RED ARROW

YELLOW ARROW

GREEN ARROW

YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

N

STH 59 (W. GREENFIELD AVENUE)

S. CALHOUN ROAD

HWE 3619736

HWE 2530337

FO CABLE PIGTAIL 8-CT IN TRAFFIC SIGNAL CONDUIT

FO CABLE PIGTAIL 8-CT IN FTMS CONDUIT

EXCV2301

EXCV2302

CB1

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB12 SB13

PB1 PB2 PB3 PB5 PB6 PB9 PB10 PB11 PB14 PB15 PB18

6'X20' 4 TURNS (42, 45, 72, 75)

6'X20' 3 TURNS (43, 44, 73, 74)

6'X20' 4 TURNS

6'X20' 3 TURNS

6'X20' 4 TURNS (32, 35, 82, 85)

6'X20' 3 TURNS (33, 34, 83, 84)

217' TO NEAR RIGHT SIGNAL

214' TO NEAR RIGHT SIGNAL

140+00 141+00 142+00 143+00 144+00 145+00 35+00 36+00 37+00

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY EXISTING TRAFFIC SIGNAL CABLE AND TRAFFIC SIGNAL WIRE NO LONGER USED FOR THE PROPOSED TRAFFIC SIGNAL INSTALLATION.
3. EVP CABLE TO BE REMOVED BY THE CONTRACTOR.
4. TYPE 2 CONCRETE BASES FOR SB2, SB5, SB8 AND SB12 ARE TO REMAIN IN PLACE.
5. TYPE 1 CONCRETE BASES FOR SB6 AND SB13 ARE TO REMAIN IN PLACE.
6. TYPE 9 CONCRETE BASE FOR CB1 IS TO REMAIN IN PLACE.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. CALHOUN ROAD
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

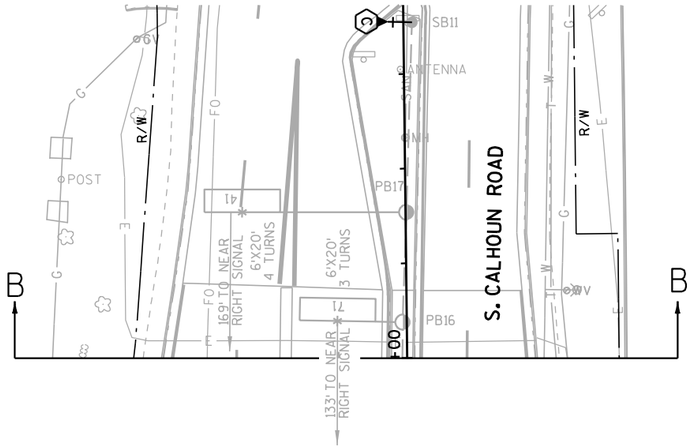
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 127 E

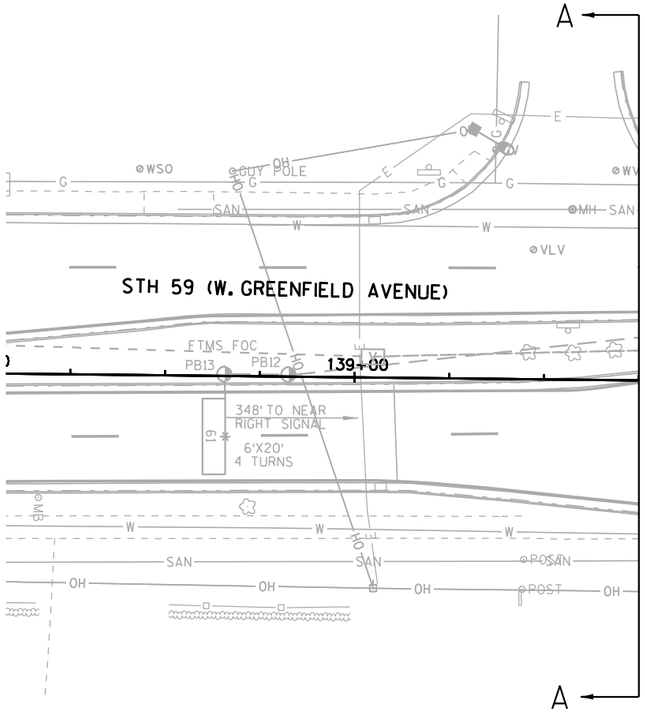
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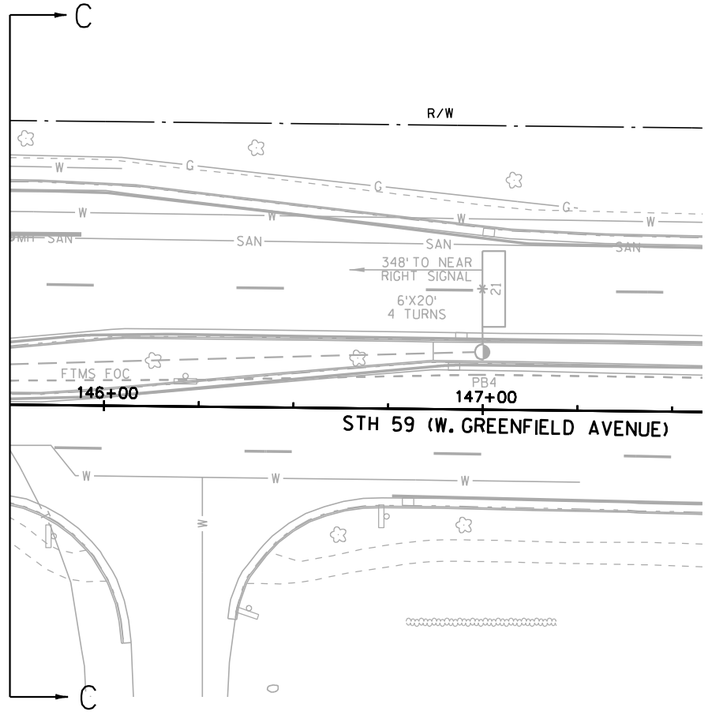
WISDOT/CADDS SHEET 42

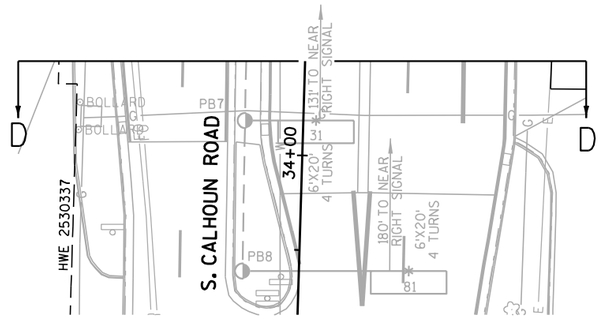
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N









TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. CALHOUN ROAD
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) MONOTUBE BASE, POLE, 15'-30' ARM

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

LOOP DETECTOR CONDUIT 1" NONMETALLIC

LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

PULL BOX, 24" X 36"

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

SIGNAL HEAD NUMBER

WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

R RED CIRCULAR INDICATOR

Y YELLOW CIRCULAR INDICATOR

G GREEN CIRCULAR INDICATOR

R RED ARROW

Y YELLOW ARROW

G GREEN ARROW

Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N

S. CALHOUN ROAD

STH 59 (W. GREENFIELD AVENUE)

SPEED LIMIT = 35 MPH

SPEED LIMIT = 40 MPH

SPEED LIMIT = 30 MPH

HWE 3619736

HWE 2530337

FO CABLE PIGTAIL 8-CT IN TRAFFIC SIGNAL CONDUIT

FO CABLE PIGTAIL 8-CT IN FTMS CONDUIT

217' TO NEAR RIGHT SIGNAL

214' TO NEAR RIGHT SIGNAL

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
6. ADAPTIVE TRAFFIC SIGNAL CAMERA AND EVP DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
8. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
9. PEDESTAL BASES TO BE INSTALLED ON EXISTING TYPE 2 CONCRETE BASES FOR SB1, SB4, SB7, AND SB10.
10. PEDESTAL BASES TO BE INSTALLED ON EXISTING TYPE 1 CONCRETE BASES FOR SB2 AND SB8.
11. CB1 TO BE INSTALLED ON EXISTING CONCRETE BASE.
12. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.
13. PROPOSED LOOP NUMBERS DIFFER FROM EXISTING LOOP NUMBERS.

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ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

STRUCTURE NUMBERS

SB3 = S-67-1338
SB6 = S-67-1339
SB9 = S-67-1340
SB12 = S-67-1341

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. CALHOUN ROAD
CITY OF BROOKFIELD
WAUKESHA COUNTY

CABINET TYPE: TS2
SIGNAL NO. S67-0150 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 1/29/15 Joyce M Murphy REGION TRAFFIC ENGINEER

APPROVED
Date 1/29/15 Joanna L. Bush STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

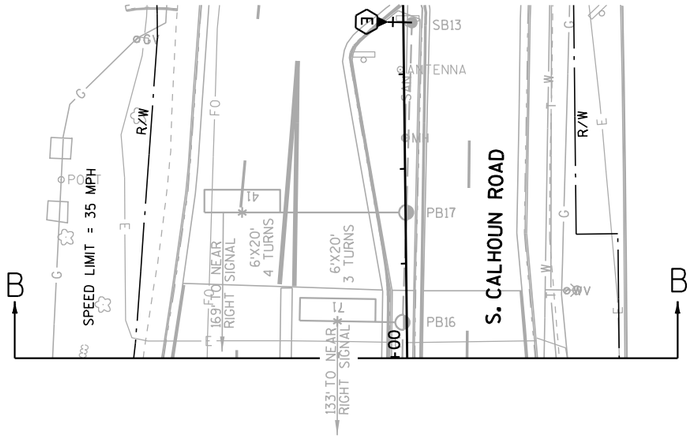
PAGE 1 OF 3

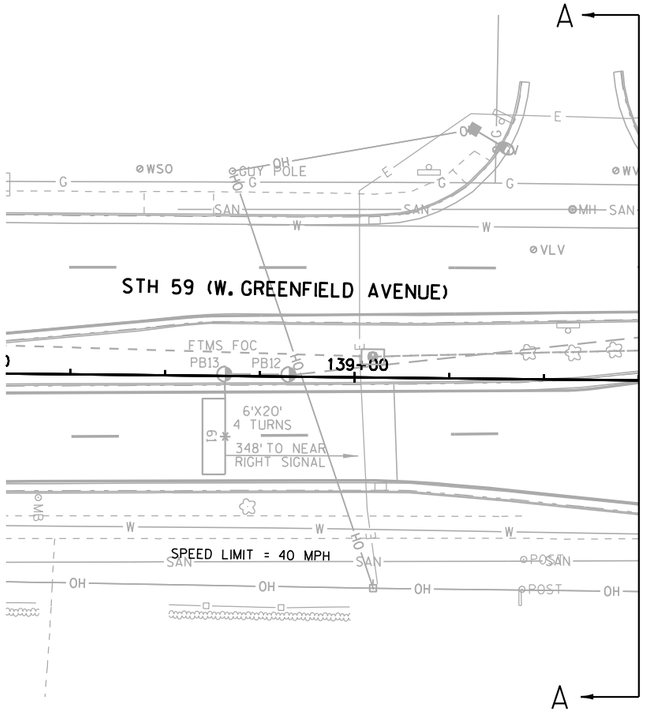
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

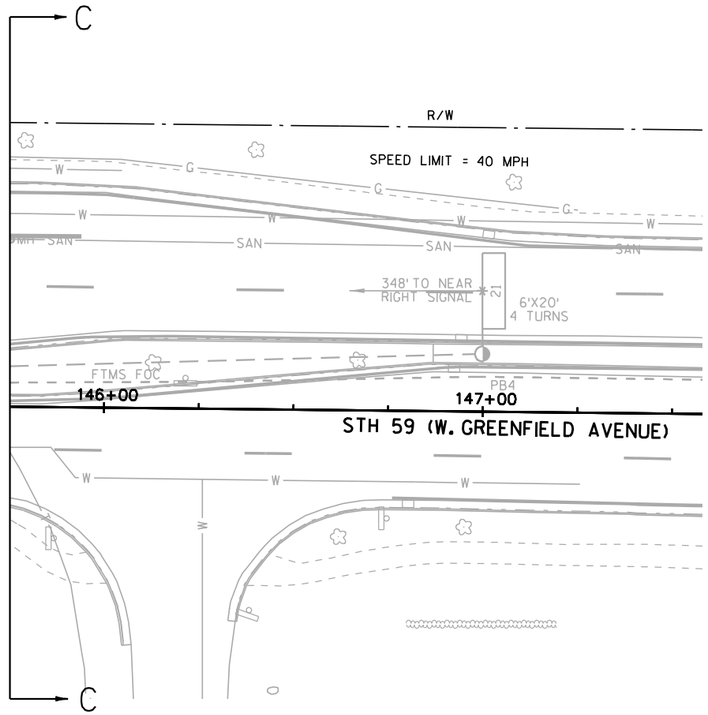
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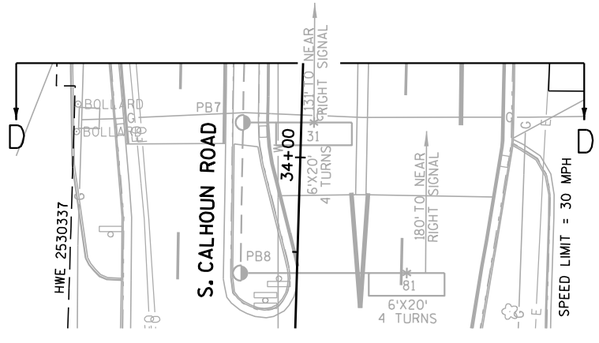
WISDOT/CADDS SHEET 42

1-29-15 DJW









TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. CALHOUN ROAD
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150

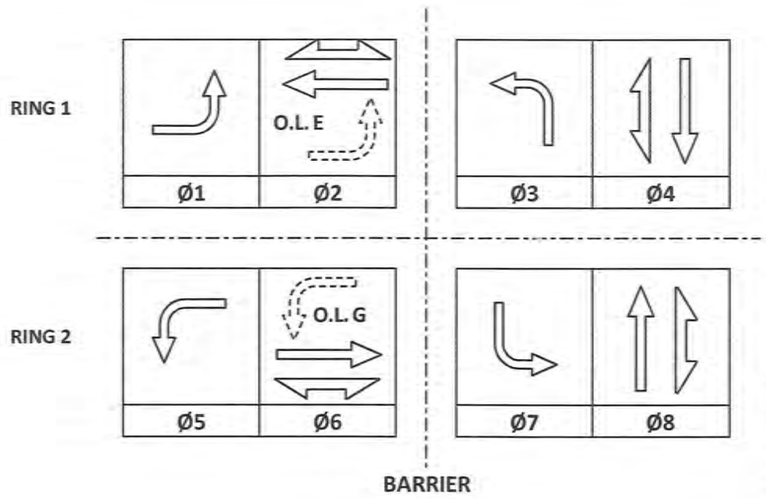
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024016_sp.dgn PLOT DATE : 29-JAN-2015 03:51 PLOT BY : MSCD1S PLOT NAME : 024016_sp PLOT SCALE : 40:1

	HEAD NUMBERS	FLASH
Ø1	4,5,6	R ←
Ø2	7,8,9	R
Ø3	16,17	R ←
Ø4	18,19,20	R
Ø5	10,11,12	R ←
Ø6	1,2,3	R
Ø7	21,22	R ←
Ø8	13,14,15	R
Ø2P	25,26	
Ø4P	23,24	
Ø6P	29,30	
Ø8P	27,28	
OLE	4,5,6	-
OLF		
OLG	10,11,12	-
OLH		



N

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3		8		X
4		8		X
5		2		X
6	X	2	MIN	X
7		4		X
8		4		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D	E
MOVEMENT					
PHASE	2+5	6+1	4+7	8+3	4+7

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 3+8, CONTROLLER SHALL RETURN TO PHASES 4+8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	X
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM NO: SS-	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11/12	31	34/35	42/43	51/52	71	74/75	82/83
CALLED PHASE	1	3	3	4	5	7	7	8
CALL OPTION	X		X	X	X		X	X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME		X				X		
USE ADDED INITIAL								
CROSS SWITCH PHASE	2				6			

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21/22	32/33	41	44/45	61/62	72/73	81	84/85
CALLED PHASE	2	3	4	4	6	7	8	8
CALL OPTION	X	X		X	X	X		X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME			X				X	
USE ADDED INITIAL	X				X			
CROSS SWITCH PHASE								

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

GENERAL NOTES:

1. INTERSECTION UTILIZES VIDEO DETECTION CAMERAS FOR INSYNC ADAPTIVE CONTROL. THESE CAMERAS ARE NOT INCLUDED IN THE DETECTOR LOGIC CHART. REFER TO INSYNC PROGRAMMING FOR DETAILS.

STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD
CITY OF BROOKFIELD
WAUKESHA COUNTY
SIGNAL NO: S67-0150 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 01/15 PAGE NO. 3 OF 3

11/29/15 JMM
1-29-15 DJW

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	SEQUENCE OF OPERATIONS	SHEET NO:	E

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

STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD

2

PROJECT ID:	1060-35-93
INTERSECTION:	STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON
SB1	12[1]	26								BLK	BLU	
		B										WHT/BLK
SB2	12[1]	5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		7	RED	ORG	GRN							
		27								BLK	BLU	
		B										WHT/BLK
SB3	15	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		6				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		10				RED/WHT	BLU/WHT	GRN/WHT	WHT/BLK			
SB4	12[1]	28								BLK	BLU	
		B										WHT/BLK
SB5	12[1]	13	RED	ORG	GRN							
		21				RED/BLK	ORG/BLK	GRN/BLK				
		29								BLK	BLU	
		B										WHT/BLK
SB6	12	19	RED	ORG	GRN							
		20	RED	ORG	GRN							
		22				RED/BLK	ORG/BLK	GRN/BLK				
SB7	12[1]	30								BLK	BLU	
		B										WHT/BLK
SB8	12[1]	1	RED	ORG	GRN							
		11				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		23								BLK	BLU	
		B										WHT/BLK
SB9	15	4				RED	ORG	GRN	BLK/WHT			
		8	RED/BLK	ORG/BLK	GRN/BLK							
		9	RED/BLK	ORG/BLK	GRN/BLK							
		12				RED/WHT	BLU/WHT	GRN/WHT	BLK/WHT			
SB10	12[1]	24								BLK	BLU	
		B										WHT/BLK
SB11	12[1]	16				RED	ORG	GRN				
		18	RED/BLK	ORG/BLK	GRN/BLK							
		25								BLK	BLU	
		B										WHT/BLK
SB12	12	14	RED	ORG	GRN							
		15	RED	ORG	GRN							
		17				RED/BLK	ORG/BLK	GRN/BLK				

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

CONDUCTOR COLORS MAY VARY FROM EXISTING.
[1] USE EXISTING 12-CT TRAFFIC SIGNAL CABLE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

(CONTINUED ON NEXT SHEET)

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	CABLE ROUTING	SHEET: 132	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024020_sp_cr.ppt PLOT DATE : 1/29/2015 5:13:18 AM PLOT BY : MSCD1S PLOT NAME : 024120_sp_cr1 PLOT SCALE : 1:1

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP*	
FROM	TO
SB2	SB3
SB3	SB4
SB5	SB6
SB6	SB7
SB8	SB9
SB9	SB10
SB11	SB12
SB12	CB1

VIDEO DETECTION CAT-5E CABLE	
FROM	TO
CB1	SB3 (R1)
CB1	SB3 (V2)
SB3 (R1)	SB6 (V3)
CB1	SB12 (R2)
CB1	SB12 (V4)
SB12 (R2)	SB9 (V1)

NOTE: Rx DESIGNATES ETHERNET REPEATER

PULL BOX BONDING JUMPER 10 AWG GRN XLP**	
FROM	TO
PB2	SB3
PB6	SB6
PB10	SB9
PB15	SB12

VIDEO DETECTION CAMERA POWER CABLE	
FROM	TO
CB1	SB9 (V1)
CB1	SB3 (V2)
CB1	SB6 (V3)
CB1	SB12 (V4)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB9 (HEAD A)
CB1	SB3 (HEAD B)
CB1	SB6 (HEAD C)
CB1	SB12 (HEAD D)
CB1	SB13 (HEAD E)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB3
SB3	SB6
CB1	SB12
SB12	SB9

*INSTALL EQUIPMENT GROUNDING CONDUCTORS AND GROUNDED CONDUCTORS TO REESTABLISH THE COMPLETE GROUNDING AND GROUNDED CIRCUITS FROM BASE TO BASE.

**INSTALL PULL BOX BONDING JUMPERS FOR ALL NEW PULL BOXES AND REINSTALL PULL BOX BONDING JUMPER FOR EXISTING PULL BOXES WHERE THE EXISTING BONDING JUMPER IS DISTURBED BY CONSTRUCTION.

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 36"

LEGEND (CON'T)

- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONTROL CABINET
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR
- RADIO ANTENNA
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- RR RED ARROW
- YY YELLOW ARROW
- GG GREEN ARROW
- Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

N

STH 59 (W. GREENFIELD AVENUE)

CTH O (S. MOORLAND ROAD)

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
3. EVP CABLE, VIDEO DETECTION CABLE, AND FO PIGTAIL TO BE REMOVED BY THE CONTRACTOR.
4. R/W BY EASEMENT I.D. 2231-06-20
5. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
6. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
2-25-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

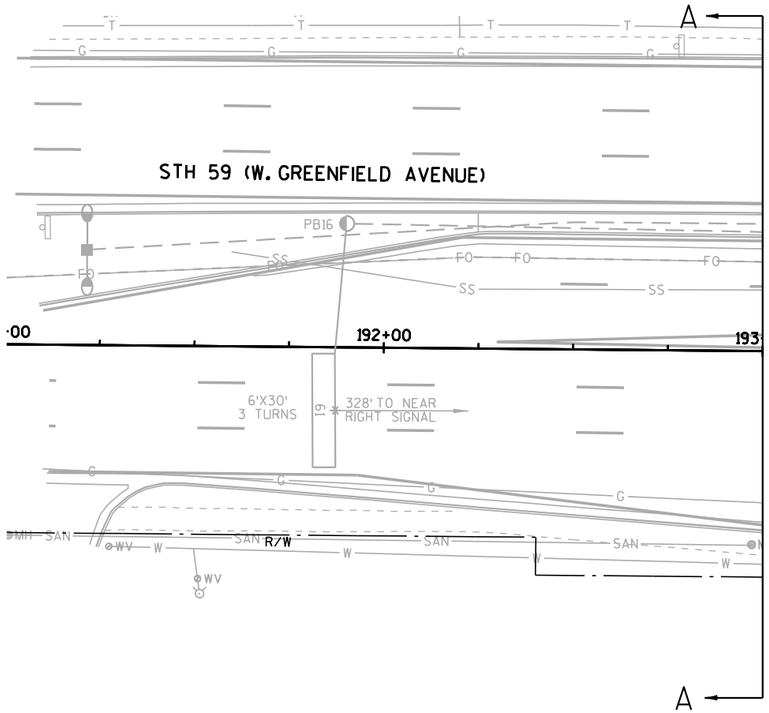
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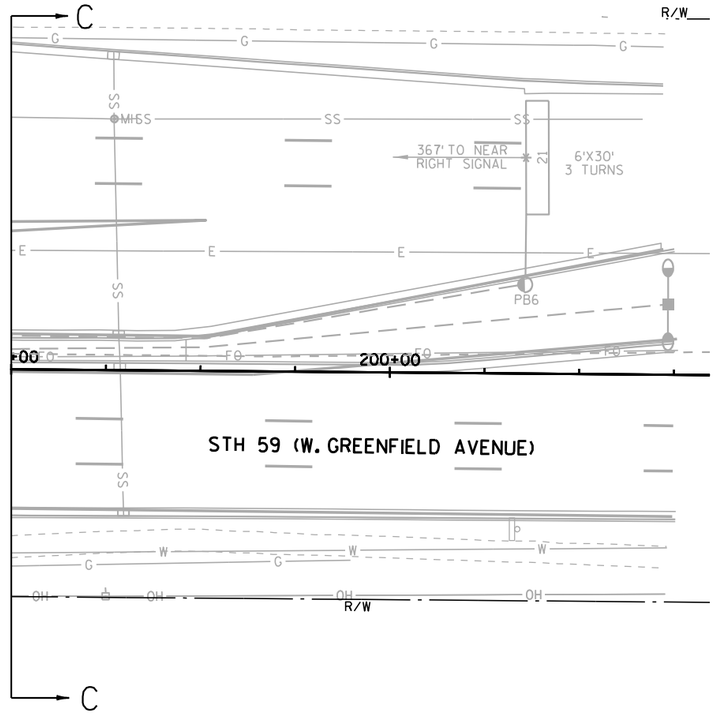
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET E

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PLOT DATE : 25-FEB-2015 09:11 PLOT BY : mscaxw PLOT NAME : 024021_sp PLOT SCALE : 40:1
WISDOT/CADDS SHEET 42

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TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

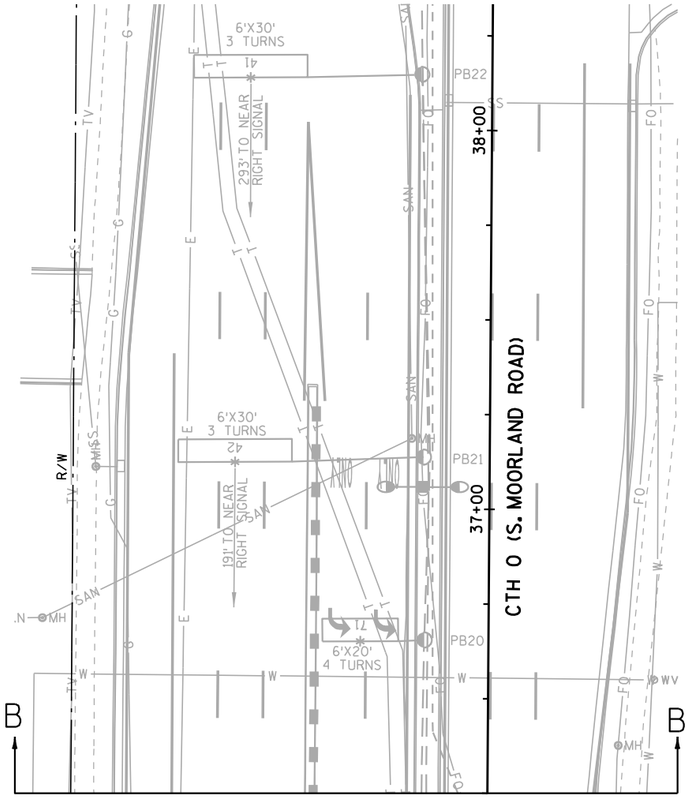
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

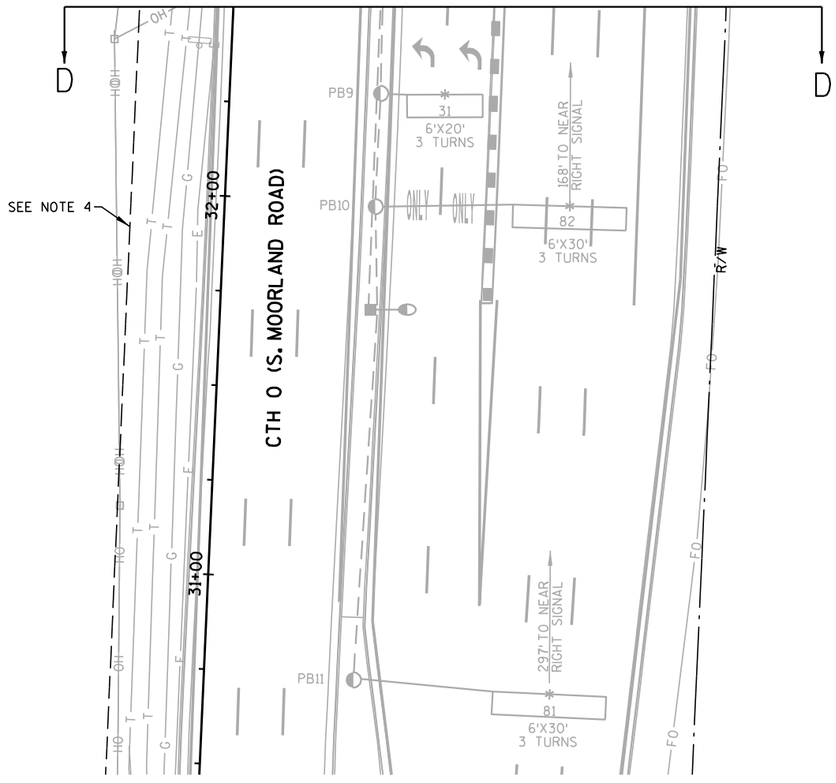
PAGE 2 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

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TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 3 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024023_sp.dgn PLOT DATE : 25-FEB-2015 08:39 PLOT BY : mscaxw PLOT NAME : 024023_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) MONOTUBE BASE, POLE, 15'-30' ARM

(XX) MONOTUBE BASE, POLE, 35'-55' ARM

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY

LOOP DETECTOR CONDUIT 1" NONMETALLIC

LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

PULL BOX, 24" X 36"

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

SIGNAL HEAD NUMBER

WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

R RED CIRCULAR INDICATOR

Y YELLOW CIRCULAR INDICATOR

G GREEN CIRCULAR INDICATOR

R RED ARROW

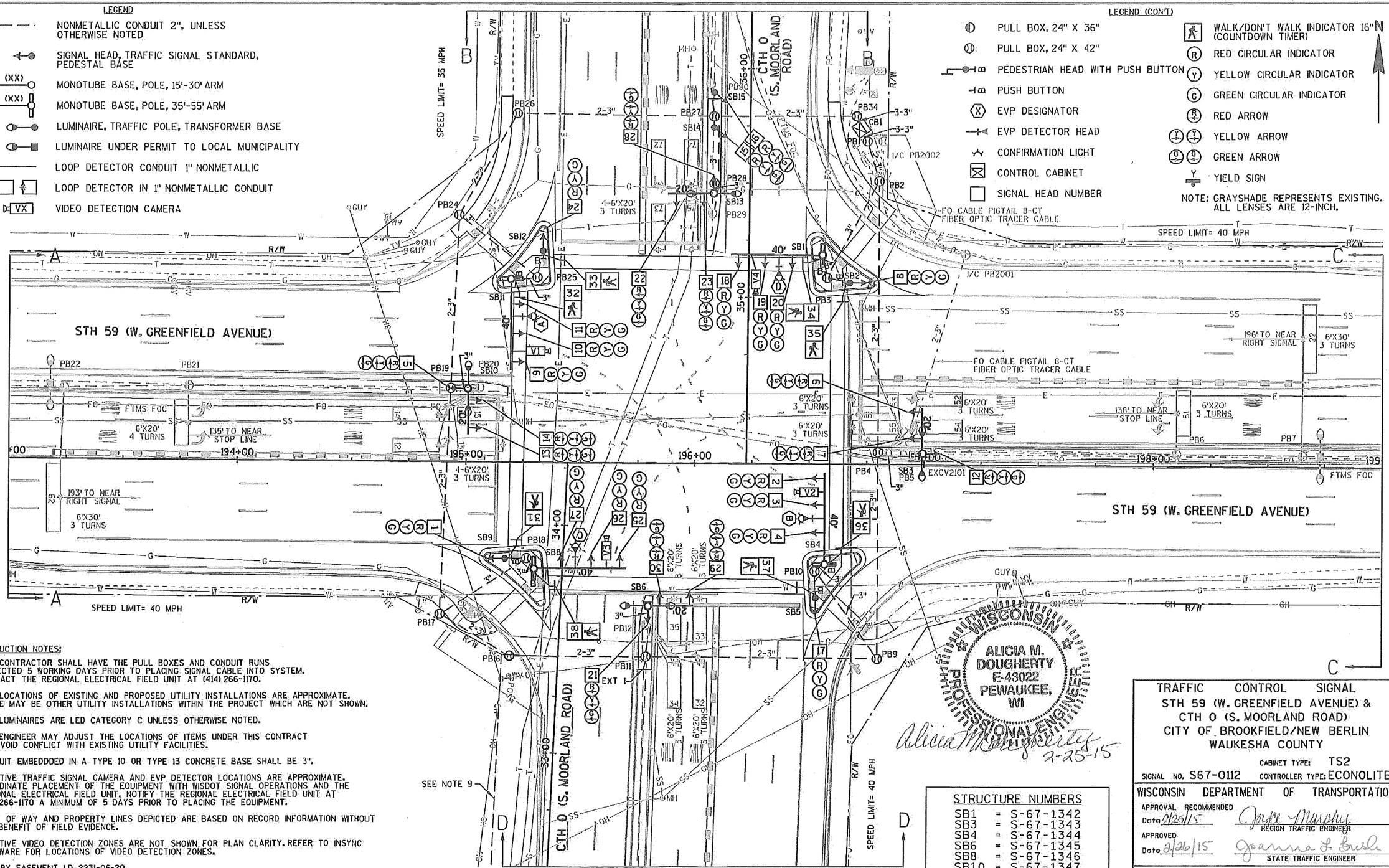
Y YELLOW ARROW

G GREEN ARROW

Y YIELD SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

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CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
6. ADAPTIVE TRAFFIC SIGNAL CAMERA AND EVP DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
8. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
9. R/W BY EASEMENT I.D. 2231-06-20.
10. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.

STRUCTURE NUMBERS

SB1	=	S-67-1342
SB3	=	S-67-1343
SB4	=	S-67-1344
SB6	=	S-67-1345
SB8	=	S-67-1346
SB10	=	S-67-1347
SB11	=	S-67-1348
SB13	=	S-67-1349

WISCONSIN PROFESSIONAL ENGINEER
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI

Alicia M. Dougherty 2-25-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

CABINET TYPE: TS2
SIGNAL NO. S67-0112 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 2/26/15 Joyce Murphy
REGION TRAFFIC ENGINEER

APPROVED
Date 2/26/15 Joanna L. Bush
STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

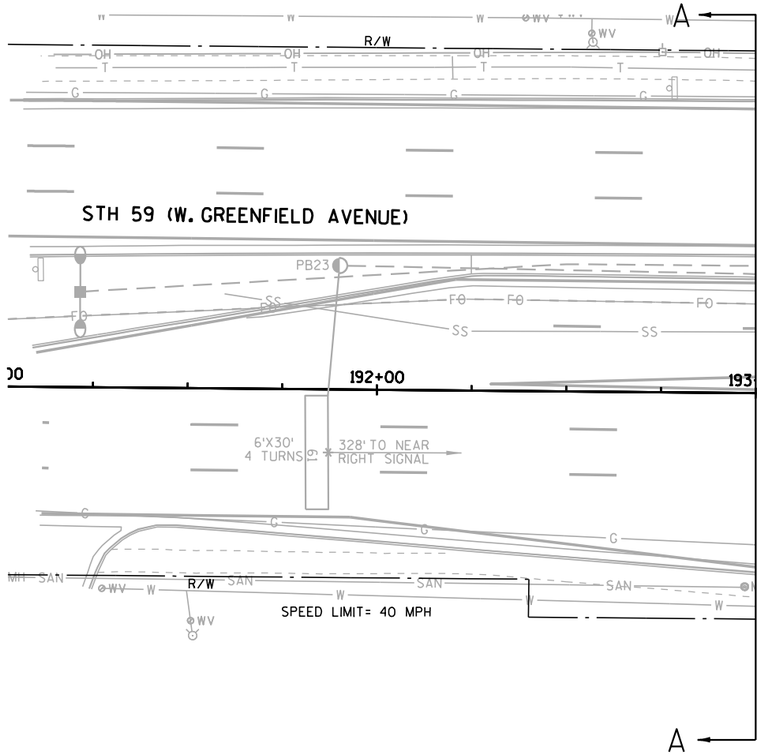
PAGE 1 OF 4

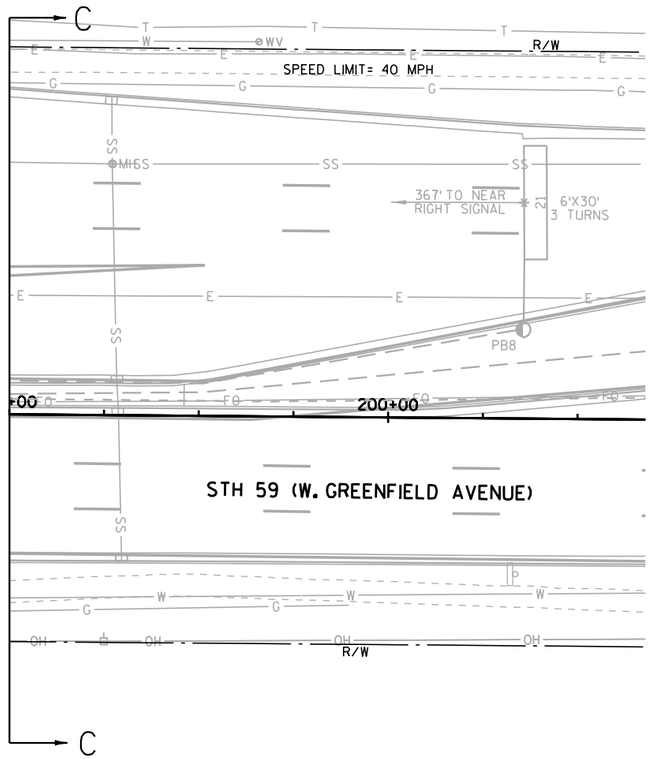
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024025_sp.dgn PLOT DATE : 24-FEB-2015 16:33 PLOT BY : mscoxw PLOT NAME : 024025_sp PLOT SCALE : 40:1

WISDOT/CADDS

2-25-15 JMW





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TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0112

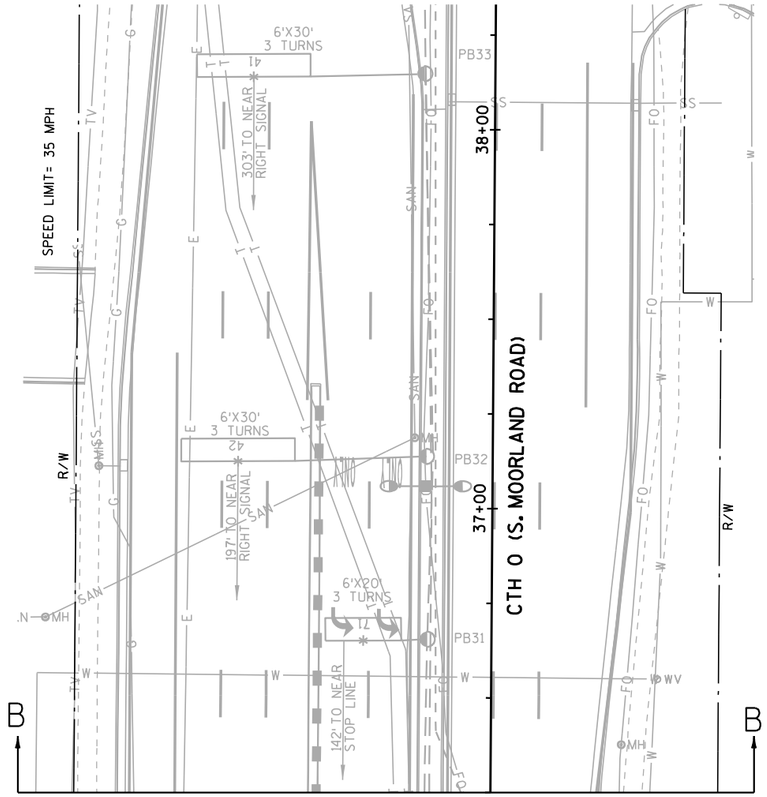
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

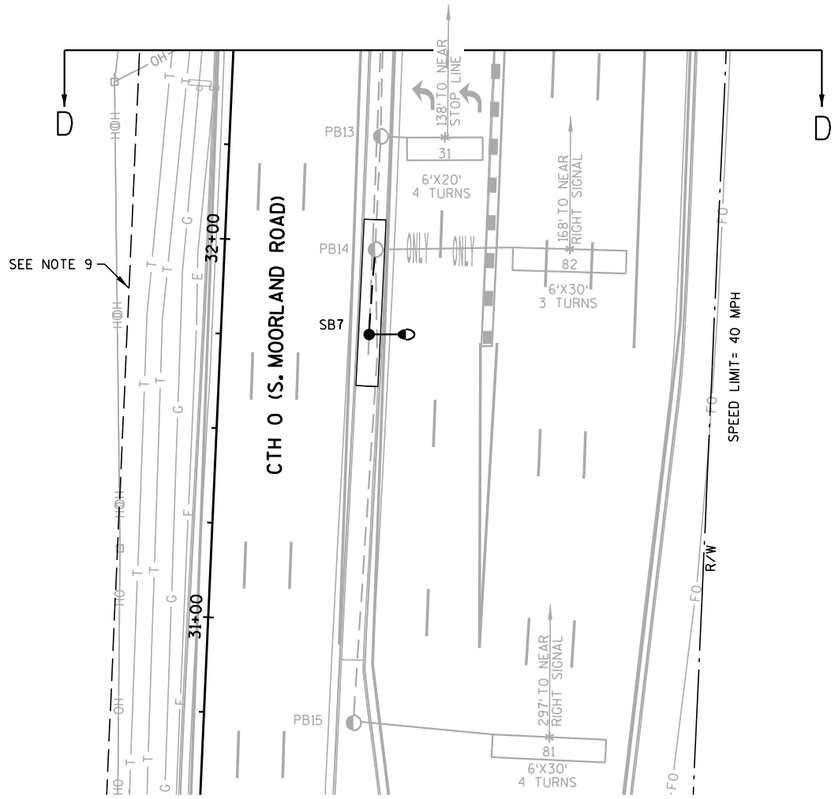
PAGE 2 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024026_sp.dgn PLOT DATE : 24-FEB-2015 15:46 PLOT BY : mscoxw PLOT NAME : 024026_sp PLOT SCALE : 40:1

2





TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

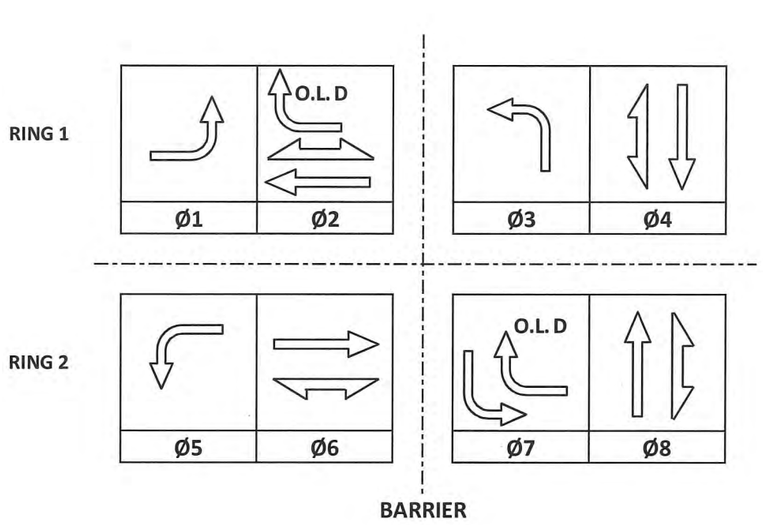
SIGNAL NO. S67-0112

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 3 OF 4

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

	HEAD NUMBERS	FLASH
Ø1	5,6,7	R
Ø2	8,9,10,11	R
Ø3	21,22,23	R
Ø4	24,25,26,27	R
Ø5	12,13,14	R
Ø6	1,2,3,4	R
Ø7	28,29,30	R
Ø8	17,18,19,20	R
Ø2P	33,34	
Ø4P	31,32	
Ø6P	37,38	
Ø8P	35,36	
OLA		
OLB		
OLC		
OLD	15,16	R



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3		8		X
4	X	8	MIN	X
5		2		X
6	X	2	MIN	X
7		4		X
8	X	4	MIN	X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	←	→	↓	↑
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	X
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM NO: SS-	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	14/15	31	34/35	51	54/55	71	74/75
CALLED PHASE	1	1	3	3	5	5	7	7
CALL OPTION		X		X		X		X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME	X		X		X		X	
USE ADDED INITIAL								
CROSS SWITCH PHASE								

19	17	23	21	27	25	31	29	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12/13	21/22	32/33	41/42	52/53	61/62	72/73	81/82
CALLED PHASE	1	2	3	4	5	6	7	8
CALL OPTION	X	X	X	X	X	X	X	X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME								
USE ADDED INITIAL		X		X		X		X
CROSS SWITCH PHASE								

20	18	24	22	28	26	32	30	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

GENERAL NOTES:

1. INTERSECTION UTILIZES VIDEO DETECTION CAMERAS FOR INSYNC ADAPTIVE CONTROL. THESE CAMERAS ARE NOT INCLUDED IN THE DETECTOR LOGIC CHART. REFER TO INSYNC PROGRAMMING FOR DETAILS.

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY
SIGNAL NO: S67-0112 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 02/15 PAGE NO. 4 OF 4

JMM 2/25/15
2-25-15 DTW

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

2

PROJECT ID:	1060-35-93
INTERSECTION:	STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	D/WALK	WALK	PED BUTTON
SB1	12	18	RED	ORG	GRN						
		19	RED	ORG	GRN						
		20	RED	ORG	GRN						
		34							BLK	BLU	
		B									WHT/BLK
SB2	12	8	RED	ORG	GRN						
		35							BLK	BLU	
		B									WHT/BLK
SB3	12	6				RED	ORG	GRN			
		7				RED	ORG	GRN			
		12				RED/BLK	ORG/BLK	GRN/BLK			
SB4	12	2	RED	ORG	GRN						
		3	RED	ORG	GRN						
		4	RED	ORG	GRN						
		36							BLK	BLU	
		B									WHT/BLK
SB5	12	17	RED	ORG	GRN						
		37							BLK	BLU	
		B									WHT/BLK
SB6	12	21				RED	ORG	GRN			
		29				RED/BLK	ORG/BLK	GRN/BLK			
		30				RED/BLK	ORG/BLK	GRN/BLK			
SB8	12	25	RED	ORG	GRN						
		26	RED	ORG	GRN						
		27	RED	ORG	GRN						
		38							BLK	BLU	
		B									WHT/BLK
SB9	12	1	RED	ORG	GRN						
		31							BLK	BLU	
		B									WHT/BLK
SB10	12	5				RED	ORG	GRN			
		13				RED/BLK	ORG/BLK	GRN/BLK			
		14				RED/BLK	ORG/BLK	GRN/BLK			
SB11	12	9	RED	ORG	GRN						
		10	RED	ORG	GRN						
		11	RED	ORG	GRN						
		32							BLK	BLU	
		B									WHT/BLK
SB12	12	24	RED	ORG	GRN						
		33							BLK	BLU	
		B									WHT/BLK
SB13	12	22				RED	ORG	GRN			
		23				RED	ORG	GRN			
		28				RED/BLK	ORG/BLK	GRN/BLK			
SB14	12	15	RED				ORG	GRN			
SB15	12	16	RED				ORG	GRN			

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
2-25-15

(CONTINUED ON NEXT SHEET)

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	CABLE ROUTING	SHEET: 141	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024030_sp_cr.ppt PLOT DATE : 2/25/2015 7:26:48 AM PLOT BY : MSCD1S PLOT NAME : 024030_sp_cr1 PLOT SCALE : 1:1

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	SB15
SB15	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	CB1
PB3	SB1
PB4	SB3
PB9	SB4
PB10	SB4
PB11	SB6
PB16	SB6
PB17	SB8
PB18	SB8
PB19	SB10
PB24	SB11
PB25	SB11
PB26	SB11
PB27	SB14
PB28	SB13
PB30	SB15
PB34	CB1

VIDEO DETECTION CAT-5E CABLE	
FROM	TO
CB1	SB1 (V4)
CB1	SB3(R1)
SB3 (R1)	SB4 (V2)
CB1	SB11 (R2)
CB1	SB11 (R3)
SB11 (R2)	SB11 (V1)
SB11 (R3)	SB8 (R4)
SB8 (R4)	SB8 (V3)

NOTE: Rx DESIGNATES ETHERNET REPEATER

VIDEO DETECTION CAMERA POWER CABLE	
FROM	TO
CB1	SB11 (V1)
CB1	SB4 (V2)
CB1	SB8 (V3)
CB1	SB1 (V4)

LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
CB1	SB3
SB3	SB6
SB6	SB7
CB1	SB13
SB13	SB10

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB11 (HEAD A)
CB1	SB4 (HEAD B)
CB1	SB8 (HEAD C)
CB1	SB1 (HEAD D)

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024030_sp_cr.ppt PLOT DATE : 2/25/2015 7:26:48 AM PLOT BY : MSCD1S PLOT NAME : 024030_sp_cr2 PLOT SCALE : 1:1

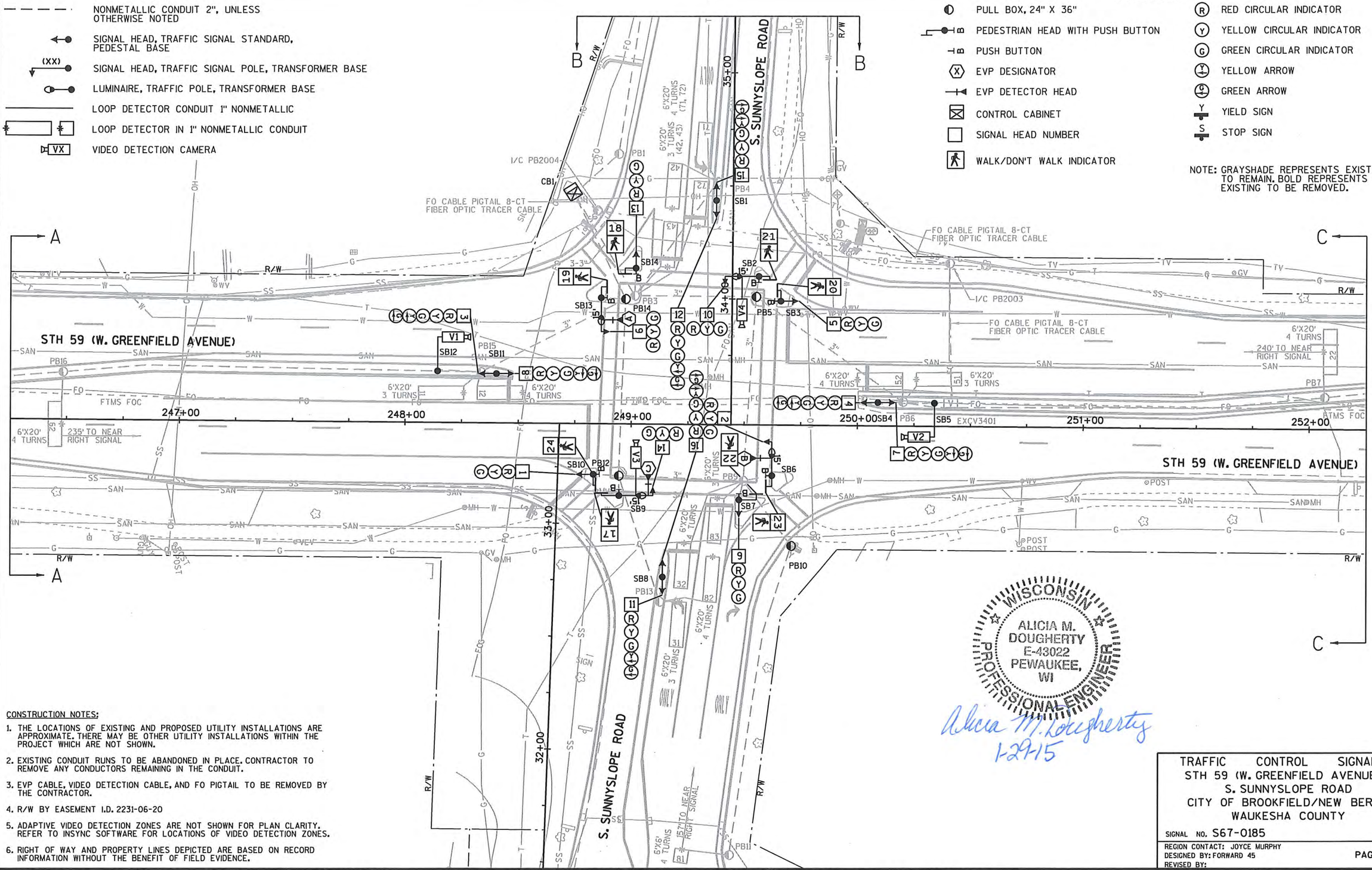
LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PULL BOX, 24" X 36"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONTROL CABINET
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW
- Y YIELD SIGN
- S STOP SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.



CONSTRUCTION NOTES;

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
3. EVP CABLE, VIDEO DETECTION CABLE, AND FO PIGTAIL TO BE REMOVED BY THE CONTRACTOR.
4. R/W BY EASEMENT I.D. 2231-06-20
5. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
6. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0185

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

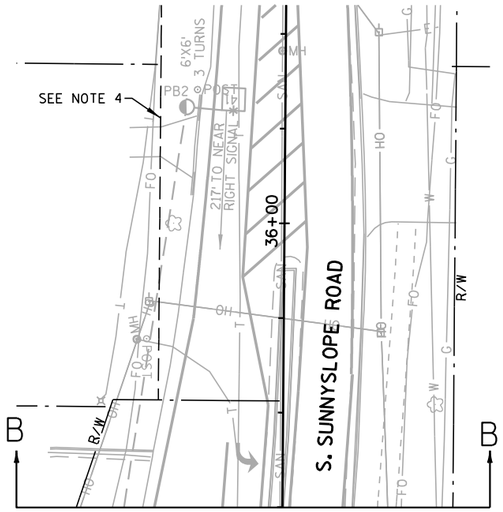
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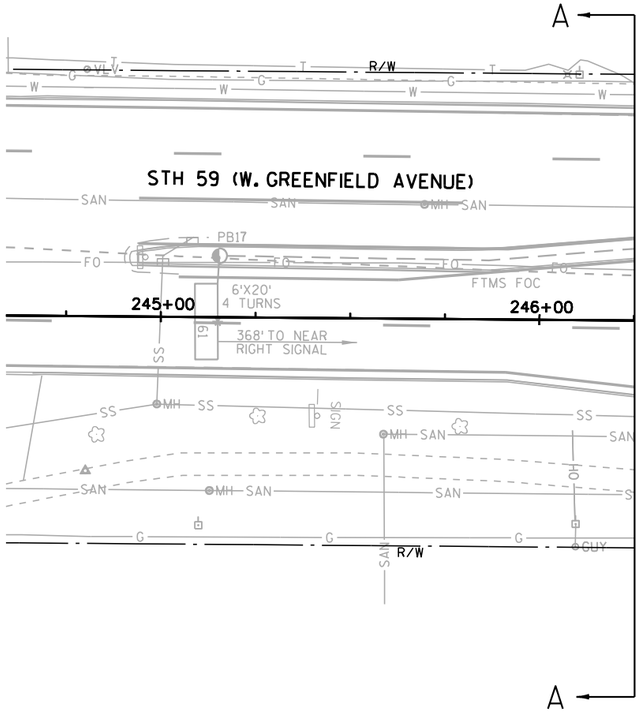
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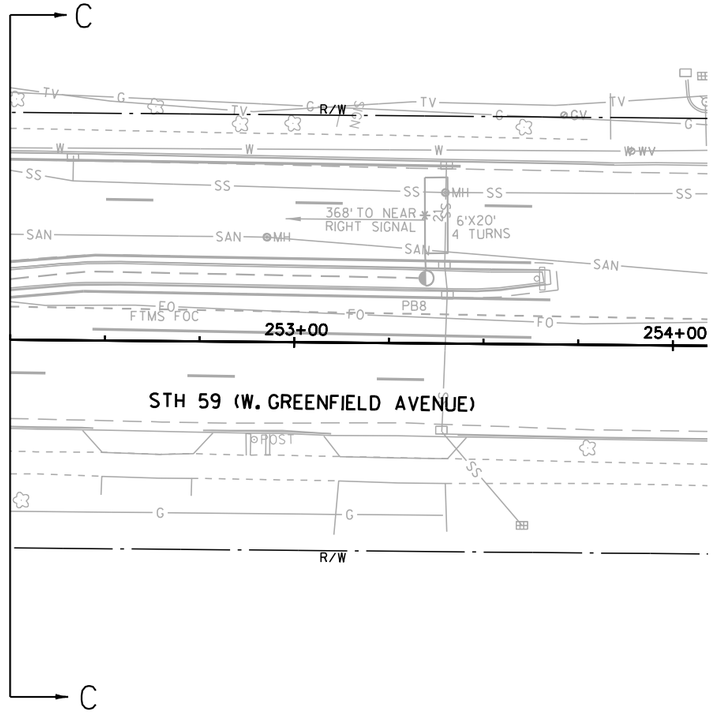
WISDOT/CADDS SHEET 42

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TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0185

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) MONOTUBE BASE, POLE, 15'-30' ARM

(XX) MONOTUBE BASE, POLE, 35'-55' ARM

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

LOOP DETECTOR CONDUIT 1" NONMETALLIC

LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

PULL BOX, 24" X 36"

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

SIGNAL HEAD NUMBER

WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

R RED CIRCULAR INDICATOR

Y YELLOW CIRCULAR INDICATOR

G GREEN CIRCULAR INDICATOR

R RED ARROW

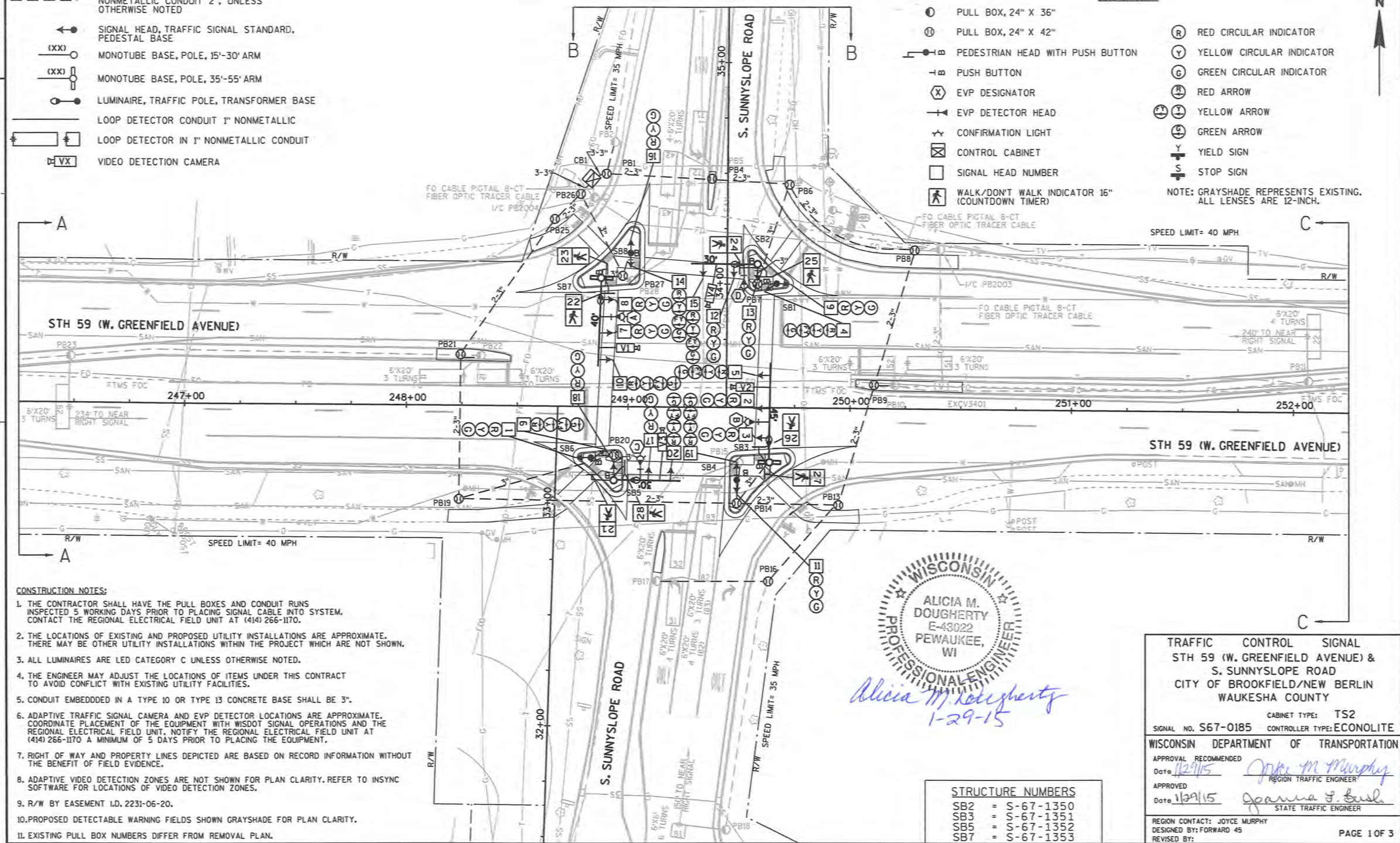
Y YELLOW ARROW

G GREEN ARROW

Y YIELD SIGN

S STOP SIGN

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
6. ADAPTIVE TRAFFIC SIGNAL CAMERA AND EVP DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
8. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
9. R/W BY EASEMENT I.D. 2231-06-20.
10. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.
11. EXISTING PULL BOX NUMBERS DIFFER FROM REMOVAL PLAN.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

STRUCTURE NUMBERS

SB2	=	S-67-1350
SB3	=	S-67-1351
SB5	=	S-67-1352
SB7	=	S-67-1353

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

CABINET TYPE: TS2
SIGNAL NO. S67-0185 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 1/29/15 — Joyce M Murphy — REGION TRAFFIC ENGINEER

APPROVED
Date 1/29/15 — Joanna L. Bush — STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

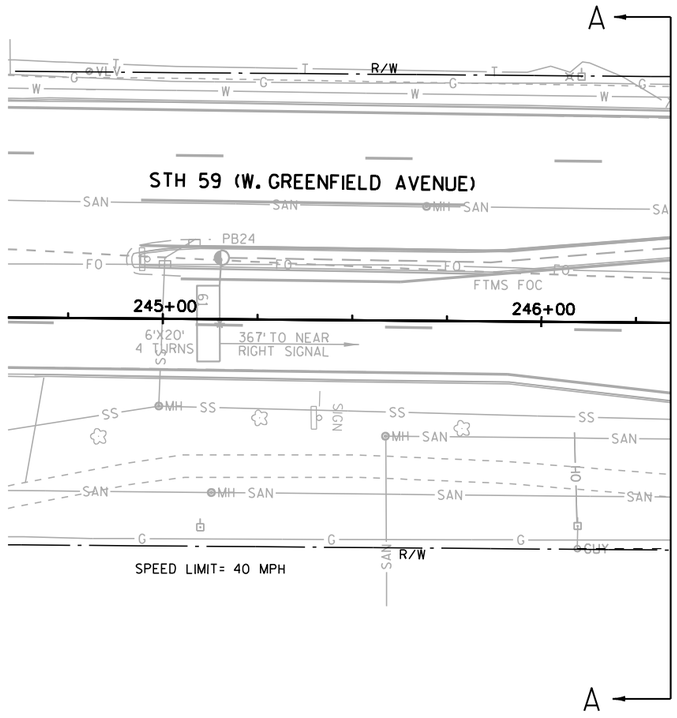
PAGE 1 OF 3

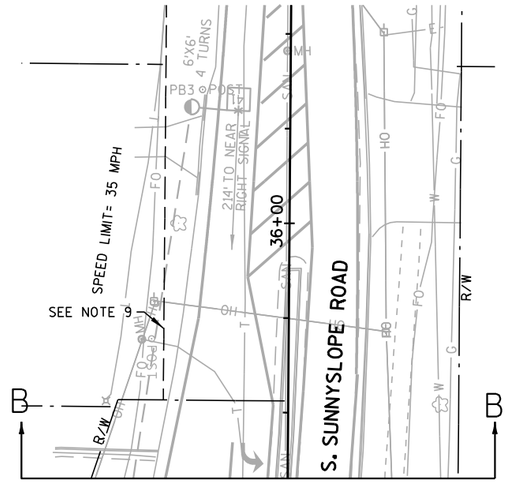
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

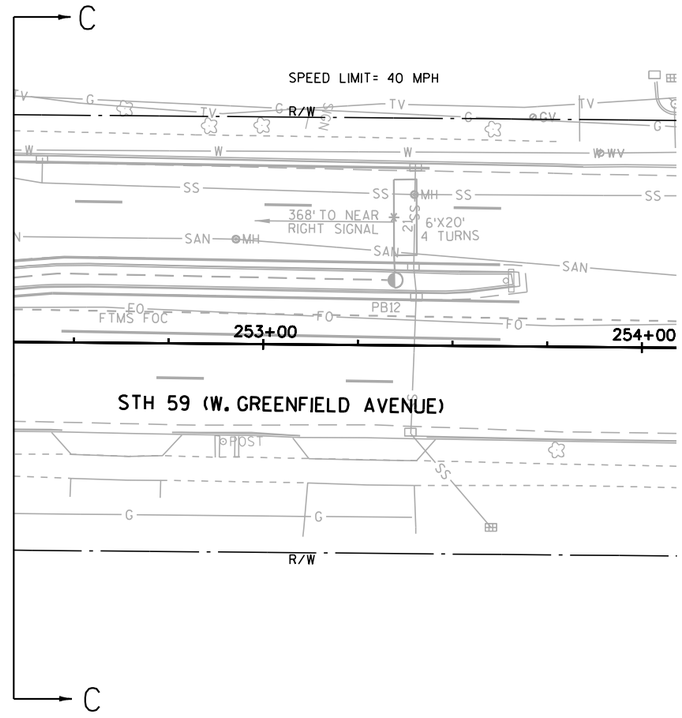
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WISDOT/CADDS SHEET 42

1-29-15 JTW







TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

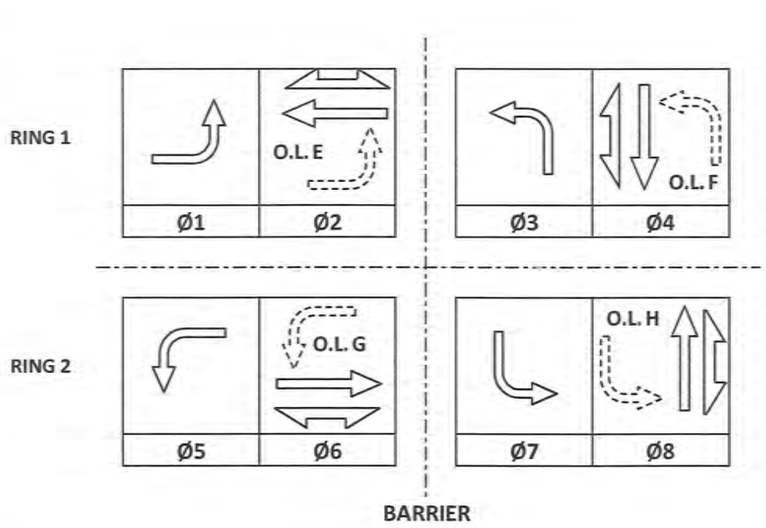
SIGNAL NO. S67-0185

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

	HEAD NUMBERS	FLASH
Ø1	4,5	R ←
Ø2	6,7,8	R
Ø3	14,15	R ←
Ø4	16,17,18	R
Ø5	9,10	R ←
Ø6	1,2,3	R
Ø7	19,20	R ←
Ø8	11,12,13	R
Ø2P	23,24	
Ø4P	21,22	
Ø6P	27,28	
Ø8P	25,26	
OLE	4,5	-
OLF	14,15	-
OLG	9,10	-
OLH	19,20	-



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3		8		X
4		8		X
5		2		X
6	X	2	MIN	X
7		4		X
8		4		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	X
*LOCATION OF MASTER CONTROLLER NO: S-	
SIGNAL SYSTEM NO: SS-	

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11/12	22	41	51/52	62	81		
CALLED PHASE	1	2	4	5	6	8		
CALL OPTION	X	X		X	X			
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X		
EXTEND TIME			X			X		
USE ADDED INITIAL		X			X			
CROSS SWITCH PHASE	2			6				

19	17	23	21	27	25	31	29	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21	31/32	42/43	61	71/72	82/83		
CALLED PHASE	2	3	4	6	7	8		
CALL OPTION	X	X	X	X	X	X		
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X		
EXTEND TIME								
USE ADDED INITIAL	X			X				
CROSS SWITCH PHASE		4			8			

20	18	24	22	28	26	32	30	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

GENERAL NOTES:

1. INTERSECTION UTILIZES VIDEO DETECTION CAMERAS FOR INSYNC ADAPTIVE CONTROL. THESE CAMERAS ARE NOT INCLUDED IN THE DETECTOR LOGIC CHART. REFER TO INSYNC PROGRAMMING FOR DETAILS.

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY
SIGNAL NO: S67-0185 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 01/15 PAGE NO. 3 OF 3

1-29-15 DTW
1/29/15 MMM

PROJECT ID:	1060-35-93
INTERSECTION:	STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON
SB1	12	4				RED	ORG	GRN	BLK/WHT			
		6	RED/BLK	ORG/BLK	GRN/BLK							
		B										WHT/BLK
SB2	15	12	RED	ORG	GRN							
		13	RED	ORG	GRN							
		15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		24								RED/WHT	GRN/WHT	
		25								BLK	BLU	
		B										WHT/BLK
SB3	15	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		26								BLK	BLU	
		27								RED/WHT	GRN/WHT	
		B										WHT/BLK
SB4	12	11	RED	ORG	GRN							
		19				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		B										WHT/BLK
SB5	15	17	RED	ORG	GRN							
		18	RED	ORG	GRN							
		20				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		21								BLK	BLU	
		28								RED/WHT	GRN/WHT	
		B										WHT/BLK
SB6	12	1	RED	ORG	GRN							
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		B										WHT/BLK
SB7	15	7	RED	ORG	GRN							
		8	RED	ORG	GRN							
		10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		22								BLK	BLU	
		23								RED/WHT	GRN/WHT	
		B										WHT/BLK
SB8	12	14				RED	ORG	GRN	BLK/WHT			
		16	RED/BLK	ORG/BLK	GRN/BLK							
		B										WHT/BLK

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

(CONTINUED ON NEXT SHEET)

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB4	CB1
PB6	SB2
PB7	SB2
PB8	SB2
PB9	SB3
PB13	SB3
PB14	SB3
PB19	SB5
PB20	SB5
PB21	CB1
PB25	CB1
PB27	SB7
PB26	CB1

VIDEO DETECTIN CAT-5E CABLE	
FROM	TO
CB1	SB7 (V1)
CB1	SB5 (R1)
CB1	SB5 (R2)
SB5 (R1)	SB3 (R3)
SB5 (R2)	SB5 (V3)
SB3(R3)	SB3 (V2)
CB1	SB2 (V4)

NOTE: Rx DESIGNATES ETHERNET REPEATER

VIDEO DETECTIN CAMERA POWER CABLE	
FROM	TO
CB1	SB7 (V1)
CB1	SB3 (V2)
CB1	SB5 (V3)
CB1	SB2 (V4)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB7 (HEAD A)
CB1	SB3 (HEAD B)
CB1	SB5 (HEAD C)
CB1	SB2 (HEAD D)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB2
SB2	SB3
CB1	SB7
SB7	SB5

LEGEND

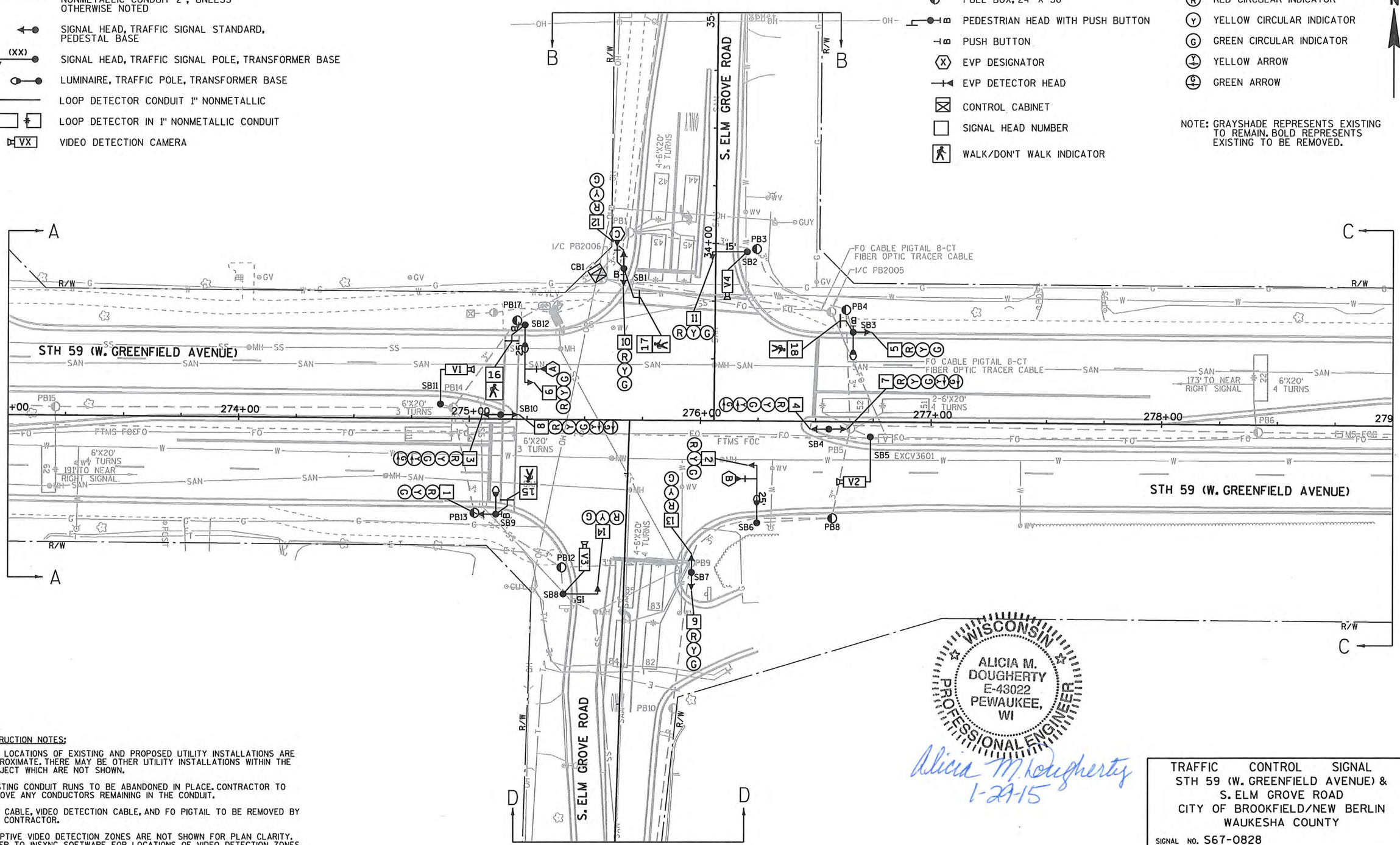
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- PULL BOX, 24" X 36"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONTROL CABINET
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (Y) YELLOW ARROW
- (G) GREEN ARROW

NOTE: GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

N



CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
3. EVP CABLE, VIDEO DETECTION CABLE, AND FO PIGTAIL TO BE REMOVED BY THE CONTRACTOR.
4. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
5. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0828

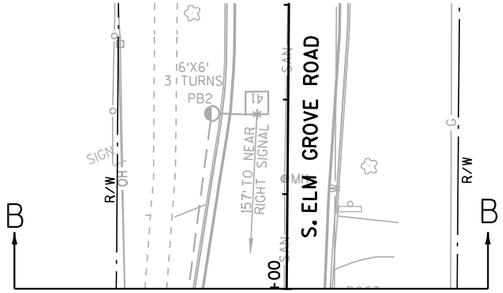
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

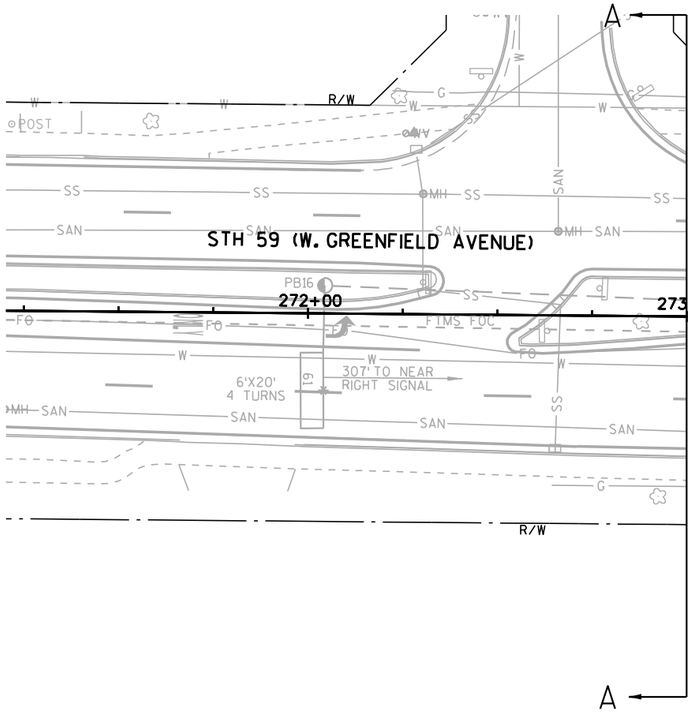
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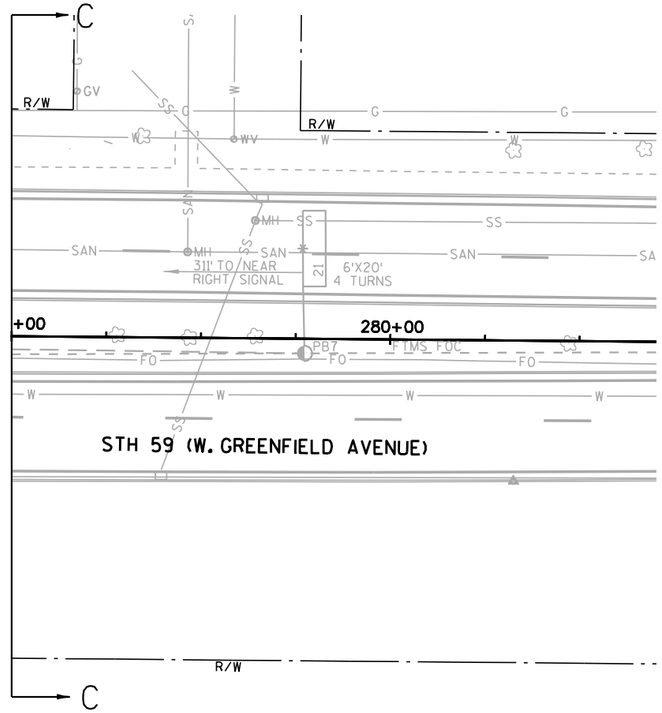
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 150 E

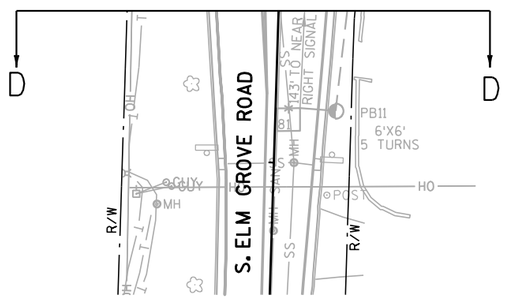
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WISDOT/CADDS SHEET 42









TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0828

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024042_sp.dgn PLOT DATE : 29-JAN-2015 04:37 PLOT BY : MSCD1S PLOT NAME : 024042_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) MONOTUBE BASE, POLE, 35'-55' ARM

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

LOOP DETECTOR CONDUIT 1" NONMETALLIC

LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

PULL BOX, 24" X 36"

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

SIGNAL HEAD NUMBER

WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

R RED CIRCULAR INDICATOR

Y YELLOW CIRCULAR INDICATOR

G GREEN CIRCULAR INDICATOR

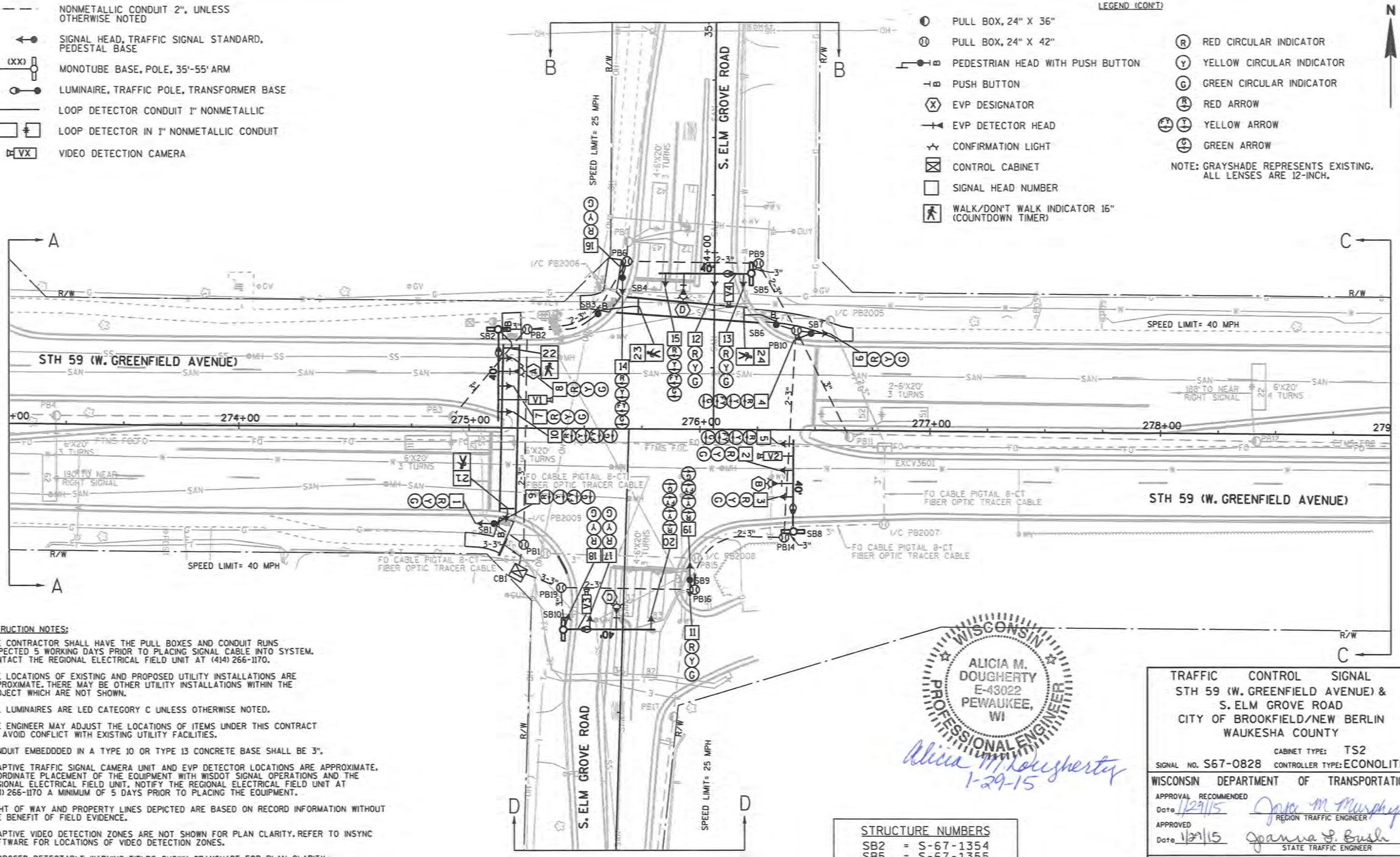
R RED ARROW

Y YELLOW ARROW

G GREEN ARROW

NOTE: GRAYSHADE REPRESENTS EXISTING. ALL LENSES ARE 12-INCH.

N



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. ALL LUMINAIRES ARE LED CATEGORY C UNLESS OTHERWISE NOTED.
4. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
5. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
6. ADAPTIVE TRAFFIC SIGNAL CAMERA UNIT AND EVP DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
8. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
9. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADE FOR PLAN CLARITY.
10. EXISTING PULL BOX NUMBERS DIFFER FROM REMOVAL PLAN.

STRUCTURE NUMBERS

SB2	= S-67-1354
SB5	= S-67-1355
SB8	= S-67-1356
SB10	= S-67-1357

WISCONSIN
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E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
1-29-15

TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

CABINET TYPE: TS2

SIGNAL NO. S67-0828 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 1/29/15 Joyce M Murphy
REGION TRAFFIC ENGINEER

APPROVED
Date 1/29/15 Joanna L. Bush
STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

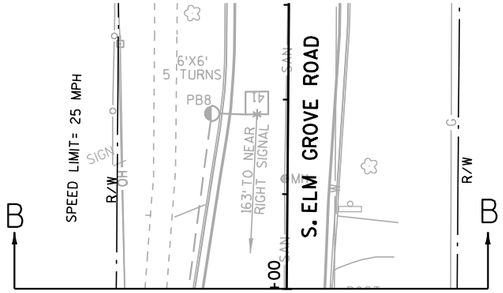
PAGE 1 OF 3

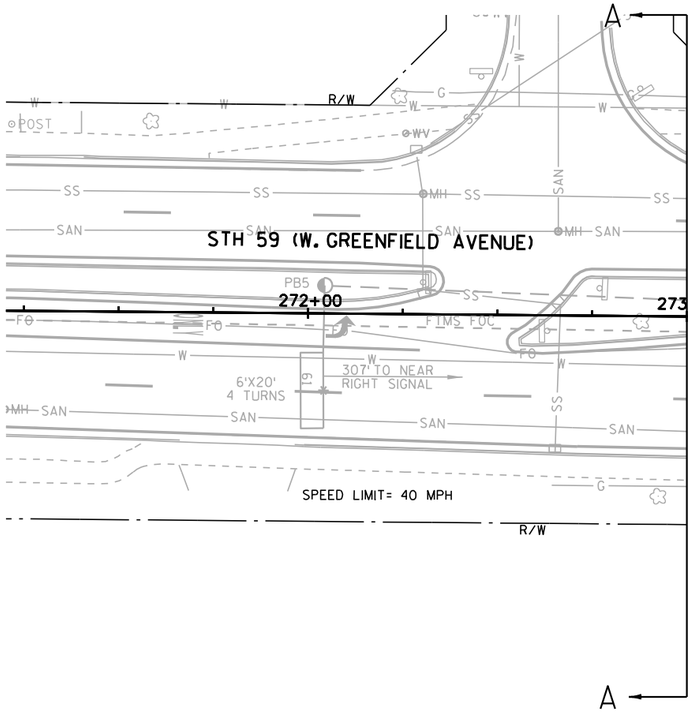
PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

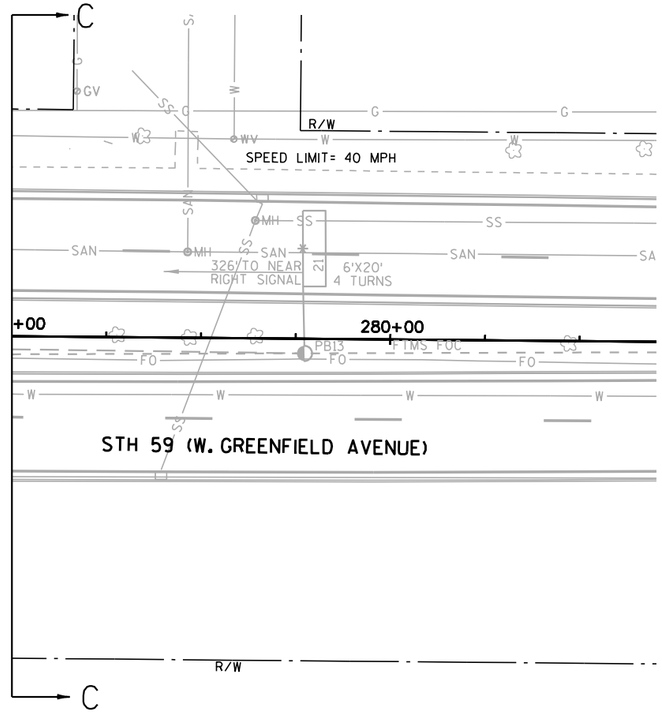
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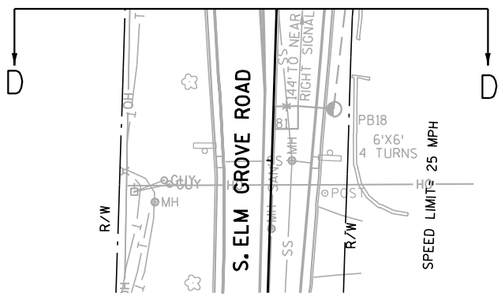
WISDOT/CADDS SHEET 42

1-29-15 DJW









TRAFFIC CONTROL SIGNAL
STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO. S67-0828

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

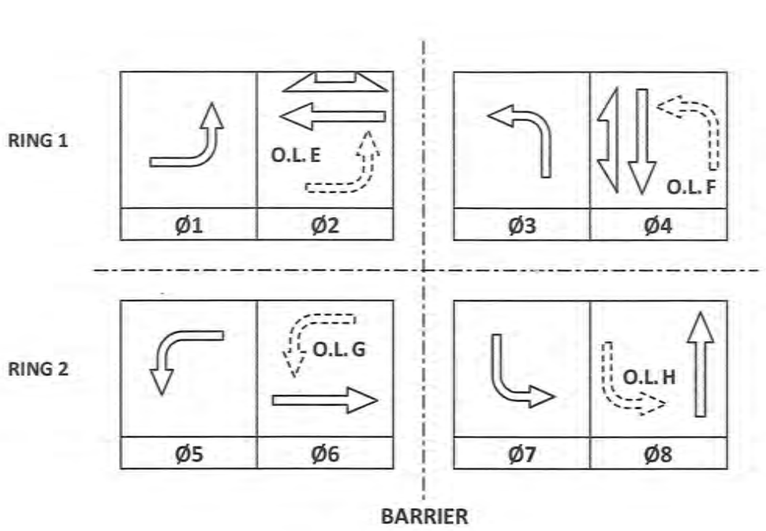
PAGE 2 OF 3

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024046_sp.dgn PLOT DATE : 29-JAN-2015 04:46 PLOT BY : MSCD1S PLOT NAME : 024046_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	4,5	R ←
Ø2	6,7,8	R
Ø3	14,15	R ←
Ø4	16,17,18	R
Ø5	9,10	R ←
Ø6	1,2,3	R
Ø7	19,20	R ←
Ø8	11,12,13	R
Ø2P	23,24	
Ø4P	21,22	
Ø6P		
Ø8P		
OLE	4,5	-
OLF	14,15	-
OLG	9,10	-
OLH	19,20	-



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3		8		X
4		8		X
5		2		X
6	X	2	MIN	X
7		4		X
8		4		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	X
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS-

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11/12	22	41	51/52	62	81		
CALLED PHASE	1	2	4	5	6	8		
CALL OPTION	X	X		X	X			
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X		
EXTEND TIME			X			X		
USE ADDED INITIAL		X			X			
CROSS SWITCH PHASE	2			6				

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21	31/32	42/43	61	71/72	82/83		
CALLED PHASE	2	3	4	6	7	8		
CALL OPTION	X	X	X	X	X	X		
DELAY TIME			X			X		
EXTENTION OPTION	X	X	X	X	X	X		
EXTEND TIME								
USE ADDED INITIAL	X			X				
CROSS SWITCH PHASE		4			8			

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

GENERAL NOTES:

1. INTERSECTION UTILIZES VIDEO DETECTION CAMERAS FOR INSYNC ADAPTIVE CONTROL. THESE CAMERAS ARE NOT INCLUDED IN THE DETECTOR LOGIC CHART. REFER TO INSYNC PROGRAMMING FOR DETAILS.

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD
CITY OF BROOKFIELD/NEW BERLIN
WAUKESHA COUNTY

SIGNAL NO: S67-0828 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 01/15 PAGE NO. 3 OF 3

1-29-15 DTW 1/29/15 JMW

PROJECT ID:	1060-35-93
INTERSECTION:	STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB1 TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON
SB1	12	1	RED	ORG	GRN							
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		21								BLK	BLU	
		B										WHT/BLK
SB2	12	7	RED	ORG	GRN							
		8	RED	ORG	GRN							
		10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		22								BLK	BLU	
		B										WHT/BLK
SB3	7	23								BLK	BLU	
		B										WHT/BLK
SB4	12	14				RED	ORG	GRN	BLK/WHT			
		16	RED/BLK	ORG/BLK	GRN/BLK							
SB5	12	12	RED	ORG	GRN							
		13	RED	ORG	GRN							
		15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB6	7	24								BLK	BLU	
		B										WHT/BLK
SB7	12	4				RED	ORG	GRN	BLK/WHT			
		6	RED/BLK	ORG/BLK	GRN/BLK							
SB8	12	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB9	12	11	RED	ORG	GRN							
		19				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB10	12	17	RED	ORG	GRN							
		18	RED	ORG	GRN							
		20				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			

NOTES: USE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR ALL TRAFFIC SIGNAL INDICATIONS.
ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.
AT THE SIGNAL BASES, CONNECT ON TERMINAL FROM THE PEDESTRIAN PUSH BUTTONS TO THE COLOR INDICATED IN THE CHART. CONNECT THE OTHER TERMINAL TO THE GROUNDED CONDUCTOR.

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

(CONTINUED ON NEXT SHEET)

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	SB2
PB6	SB4
PB9	SB5
PB10	SB7
PB14	SB8
PB16	SB9
PB19	SB10

VIDEO DETECTION CAT-5E CABLE	
FROM	TO
CB1	SB2 (R1)
CB1	SB2 (V1)
SB2 (R1)	SB5 (V4)
CB1	SB10 (V3)
CB1	SB8 (V2)

NOTE: Rx DESIGNATES ETHERNET REPEATER

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB2 (V1)
CB1	SB8 (V2)
CB1	SB10 (V3)
CB1	SB5 (V4)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB2 (HEAD A)
CB1	SB8 (HEAD B)
CB1	SB10 (HEAD C)
CB1	SB5 (HEAD D)

LIGHTING US 10 AWG W/ GROUND	
FROM	TO
CB1	SB2
SB2	SB5
CB1	SB10
SB10	SB8

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) MONOTUBE BASE, POLE, 35'-55' ARM

LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

PULL BOX, 24" X 36"

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

SIGNAL HEAD NUMBER

WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

(R) RED CIRCULAR INDICATOR

(Y) YELLOW CIRCULAR INDICATOR

(G) GREEN CIRCULAR INDICATOR

(Y) YELLOW ARROW

(G) GREEN ARROW

NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

N

IH 94 EB OFF RAMP

IH 94 EB ON RAMP

R/W IS OFF THE PAGE

CTH O (S. MOORLAND ROAD)

54+00 55+00 56+00 57+00 58+00 59+00

PB2 PB3 PB4 PB5 PB6 PB8 PB9 PB10 PB11 PB12 PB13 PB1

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11 SB12

CB1

V1 V2 V3

FO CABLE PIGTAIL 8-CT

FO CABLE PIGTAIL 8-CT IN TRAFFIC SIGNAL CONDUIT

FTMS FOC

EXCV2201

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. TYPE 9 CONCRETE BASE FOR CB1 TO REMAIN IN PLACE.
3. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

STRUCTURE NUMBERS

SB3 = S-67-1122
SB11 = S-67-1121

WISCONSIN JASON R. MATTSON 37... WAUKESHA, WI PROFESSIONAL ENGINEER 01/29/2015

TRAFFIC CONTROL SIGNAL
IH 94 EB OFF RAMP &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

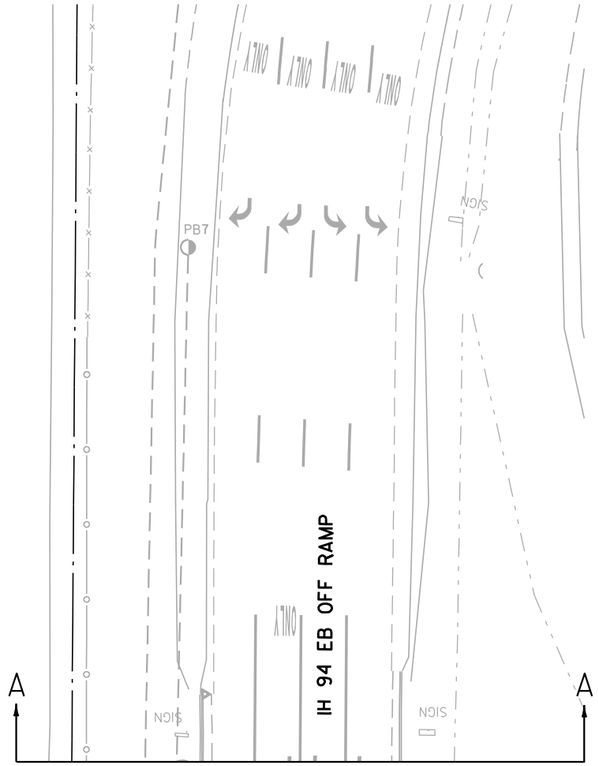
PROJECT NO: 1060-35-93	HWY: IH 94	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET E

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WISDOT/CADDS SHEET 42

2

N



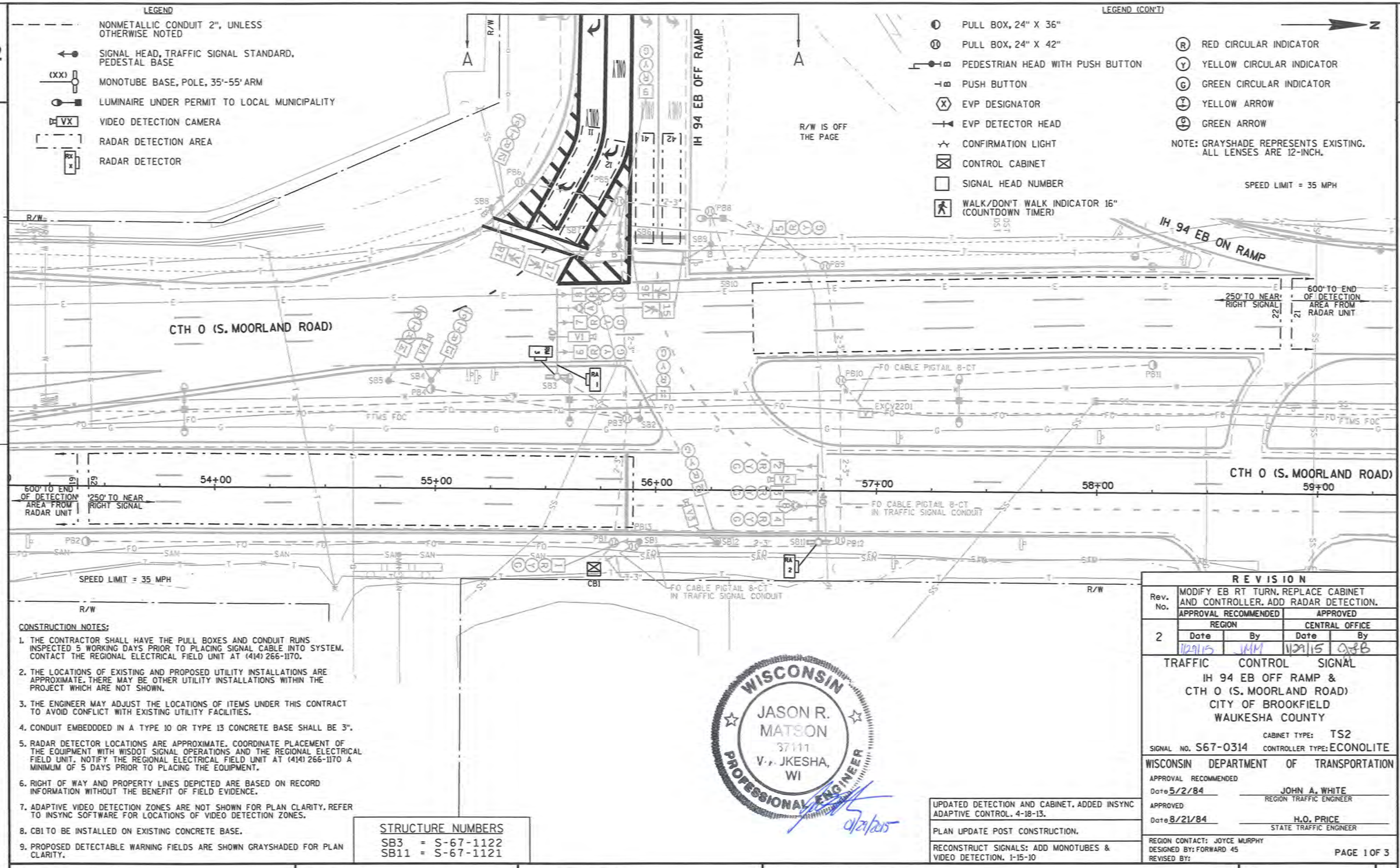
TRAFFIC CONTROL SIGNAL
IH 94 EB OFF RAMP &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-35-93	HWY: IH 94	COUNTY: WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
5. RADAR DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH WISDOT SIGNAL OPERATIONS AND THE REGIONAL ELECTRICAL FIELD UNIT. NOTIFY THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
6. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
7. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
8. CBI TO BE INSTALLED ON EXISTING CONCRETE BASE.
9. PROPOSED DETECTABLE WARNING FIELDS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.

STRUCTURE NUMBERS
SB3 = S-67-1122
SB11 = S-67-1121

WISCONSIN JASON R. MATSON 37111 WAUKESHA, WI PROFESSIONAL ENGINEER 1/27/2015

UPDATED DETECTION AND CABINET. ADDED INSYNC ADAPTIVE CONTROL. 4-18-13.
PLAN UPDATE POST CONSTRUCTION.
RECONSTRUCT SIGNALS: ADD MONOTUBES & VIDEO DETECTION. 1-15-10

REVISION

Rev. No.	MODIFY EB RT TURN. REPLACE CABINET AND CONTROLLER. ADD RADAR DETECTION.			
	APPROVAL RECOMMENDED		APPROVED	
2	REGION		CENTRAL OFFICE	
	Date	By	Date	By
	1/29/15	JMM	1/29/15	DJB

TRAFFIC CONTROL SIGNAL
IH 94 EB OFF RAMP &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

CABINET TYPE: TS2
SIGNAL NO. S67-0314 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
Date 5/2/84 JOHN A. WHITE, REGION TRAFFIC ENGINEER
APPROVED
Date 8/21/84 H.O. PRICE, STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:
PAGE 1 OF 3

PROJECT NO: 1060-33-99	HWY: IH 94	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET E

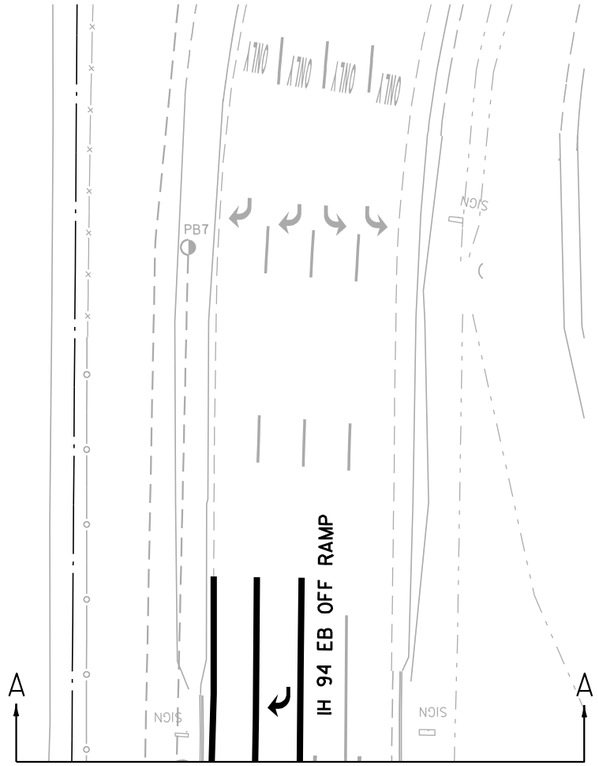
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WISDOT/CADDS SHEET 42

1-29-15 AJW

2

N



TRAFFIC CONTROL SIGNAL
IH 94 EB OFF RAMP &
CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-33-99	HWY: IH 94	COUNTY: WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024116_sp.dgn PLOT DATE : 29-JAN-2015 04:51 PLOT BY : MSCD1S PLOT NAME : 024116_sp PLOT SCALE : 40:1

	HEAD NUMBERS	FLASH
Ø1		
Ø2	5,6,7,8	R
Ø3		
Ø4	9,10,11	R
Ø5		
Ø6	1,2,3,4	R
Ø7		
Ø8		
Ø2P	15,16,17,18	
Ø4P		
Ø6P		
Ø8P		
OLA	12,13,14	R
OLB		
OLC		
OLD		

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3				
4				X
5				
6	X	2	MIN	X
7				
8				

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	← →	← →		
PHASE	2+6	6+2		

AFTER PREEMPTION SEQUENCE 2+6 OR 6+2, CONTROLLER SHALL RETURN TO PHASES 2+6.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	X
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS-

TYPE OF LIGHTING	
BY OTHER AGENCY	X
IN TRAFFIC CABINET	
IN SEPARATE DOT LIGHTING CABINET	X

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	17	19	21	23	25	27	29	31
PLAN LOOP DETECTOR*(S)	11	41						
CALLED PHASE	1	4						
CALL OPTION	X	X						
DELAY TIME	X							
EXTENTION OPTION	X	X						
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	33	35	37	39	41	43	49	51
PLAN LOOP DETECTOR*(S)							21	61
CALLED PHASE							2	6
CALL OPTION								
DELAY TIME								
EXTENTION OPTION							X	X
EXTEND TIME							X	X
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	18	20	22	24	26	28	30	32
PLAN LOOP DETECTOR*(S)	12	42						
CALLED PHASE	1	4						
CALL OPTION	X	X						
DELAY TIME								
EXTENTION OPTION	X	X						
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	34	36	38	40	42	44	50	52
PLAN LOOP DETECTOR*(S)							22	62
CALLED PHASE							2	6
CALL OPTION								
DELAY TIME								
EXTENTION OPTION							X	X
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

GENERAL NOTES:

1. INTERSECTION UTILIZES VIDEO DETECTION CAMERAS FOR INSYNC ADAPTIVE CONTROL. THESE CAMERAS ARE NOT INCLUDED IN THE DETECTOR LOGIC CHART. REFER TO INSYNC PROGRAMMING FOR DETAILS.

IH 94 EB OFF RAMP & CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY
SIGNAL NO: S67-0314 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 01/15 PAGE NO. 3 OF 3

11/29/15 JMH
1-29-15 PJW

2



LEGEND

S67-XXXX — WISDOT OWNED TRAFFIC SIGNAL

(1) REMOVE AND REPLACE TRAFFIC SIGNAL CABINET

(2) INTERSECTION INCLUDED IN PROJECT, NO TRAFFIC SIGNAL WORK REQUIRED

PROJECT NO: 1060-35-93	HWY: IH 894/USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PROJECT OVERVIEW - IH 894/USH 45	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024201_sp_po.dgn PLOT DATE : 29-JAN-2015 04:52 PLOT BY : MSCD1S PLOT NAME : PLOT SCALE : 562.5:1

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

(XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

PULL BOX, 24" X 42"

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

EVP DESIGNATOR

EVP DETECTOR HEAD

CONFIRMATION LIGHT

CONTROL CABINET

TRAFFIC SIGNAL HEAD

WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

SIGNAL HEAD NUMBER

RED CIRCULAR INDICATOR

YELLOW CIRCULAR INDICATOR

GREEN CIRCULAR INDICATOR

YELLOW ARROW

GREEN ARROW

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING.

R/W IS OFF THE PAGE

SPEED LIMIT = 35 MPH

W. NATIONAL AVENUE

49+00 50+00 51+00 52+00 53+00 54+00

25+00 24+00

IH 894 WB ON RAMP

IH 894 WB OFF RAMP

SPEED LIMIT = 35 MPH

W. NATIONAL AVENUE

R/W IS OFF THE PAGE

R/W

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. PROPOSED DETECTABLE WARNING FIELDS SHOWN GRAYSHADED FOR PLAN CLARITY.
5. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
6. NO TRAFFIC SIGNAL WORK IS INCLUDED UNDER THIS CONTRACT AT THE INTERSECTION OF IH 894/USH 45 WB RAMPS & W. NATIONAL AVENUE IN THE CITY OF WEST ALLIS. THE SIGNAL PLANS INCLUDED DEPICT THE LOCATION OF THE EXISTING TRAFFIC SIGNAL EQUIPMENT IN RELATION TO THE PROPOSED ROADWAY WORK.

WISCONSIN JASON R. MATSON 37111 WAUKESHA, WI PROFESSIONAL ENGINEER

2014
UPDATED DETECTION AND CABINET. ADDED INSYNC ADAPTIVE CONTROL.

REVISION

Rev. No.	ADD SECOND NB LT LANE. UPDATE/ADD DETECTION ZONES.			
	APPROVAL RECOMMENDED		APPROVED	
2	REGION		CENTRAL OFFICE	
	Date	By	Date	By
	11/29/15	JMM	1/29/15	DJW

TRAFFIC CONTROL SIGNAL
IH 894 / USH 45 WB RAMPS &
W. NATIONAL AVENUE
CITY OF WEST ALLIS
MILWAUKEE COUNTY

CABINET TYPE: TS2
SIGNAL NO. S40-1367 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 4/19/13 DAVID A. BRANTNER, REGION TRAFFIC ENGINEER

APPROVED
Date 4/23/13 JOANNA L. BUSH, STATE TRAFFIC ENGINEER

REGION CONTACT: JUSTIN EFFINGER
DESIGNED BY:
REVISED BY: FORWARD 45

PAGE 1 OF 2

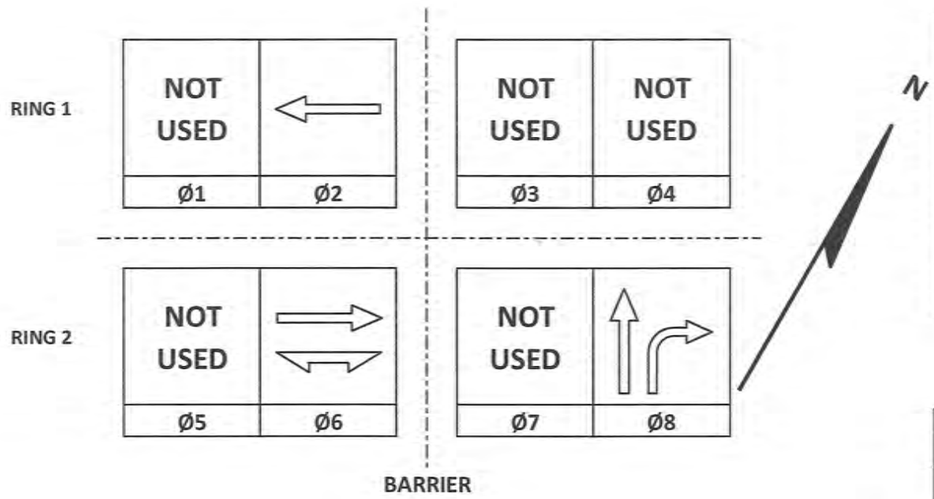
PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024215_sp.dgn PLOT DATE : 29-JAN-2015 09:49 PLOT BY : mscaxw PLOT NAME : 024215_sp PLOT SCALE : 40.000954:1

WISDOT/CADDS SHEET 42

1-29-15 DJW

	HEAD NUMBERS	FLASH
Ø1		
Ø2	4,5,6	R
Ø3		
Ø4		
Ø5		
Ø6	1,2,3	R
Ø7		
Ø8	7,8,9,10,11	R
Ø2P		
Ø4P		
Ø6P	12,13,14,15	
Ø8P		
OLE		
OLF		
OLG		
OLH		



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2	X	6	MIN	X
3				
4				
5				
6	X	2	MIN	X
7				
8				X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT	← →	← →		↑ ↱
PHASE	2+6	6+2		8

AFTER PREEMPTION SEQUENCE 2+6 OR 6+2, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 8, CONTROLLER SHALL RETURN TO PHASE 8.

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	X
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS-

TYPE OF LIGHTING	
BY OTHER AGENCY	X
IN TRAFFIC CABINET	
IN SEPARATE DOT LIGHTING CABINET	X

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	X
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

GENERAL NOTES:

1. INTERSECTION UTILIZES VIDEO DETECTION CAMERAS FOR INSYNC ADAPTIVE CONTROL. THESE CAMERAS ARE NOT INCLUDED IN THE DETECTOR LOGIC CHART. REFER TO INSYNC PROGRAMMING FOR DETAILS.

IH 894/USH 45 WB RAMPS & W. NATIONAL AVENUE
CITY OF WEST ALLIS
MILWAUKEE COUNTY
SIGNAL NO: S40-1367 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 01/15 PAGE NO. 2 OF 2

PROJECT NO: 1060-35-93	HWY: IH 894/USH 45	COUNTY: MILWAUKEE	SEQUENCE OF OPERATIONS	SHEET NO:	E

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

1/29/15 JMM
1-29-15 DJW

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- PULL BOX, 24" X 36"
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- Y YIELD SIGN
- S STOP SIGN

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (↑) YELLOW ARROW
- (↑) GREEN ARROW
- (G) OPTICALLY PROGRAMMED HEAD

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

N

IH 894 EB OFF RAMP

IH 894 WB ON RAMP

W. OKLAHOMA AVENUE

S. 100TH STREET

71+00 72+00 73+00 74+00 75+00 76+00

CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
2. TYPE 9 CONCRETE BASE FOR CB1 TO REMAIN IN PLACE.
3. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER
01/21/2015

TRAFFIC CONTROL SIGNAL
IH 894 / USH 45 RAMPS &
W. OKLAHOMA AVENUE
CITY OF WEST ALLIS/GREENFIELD
MILWAUKEE COUNTY

SIGNAL NO. S40-1099

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

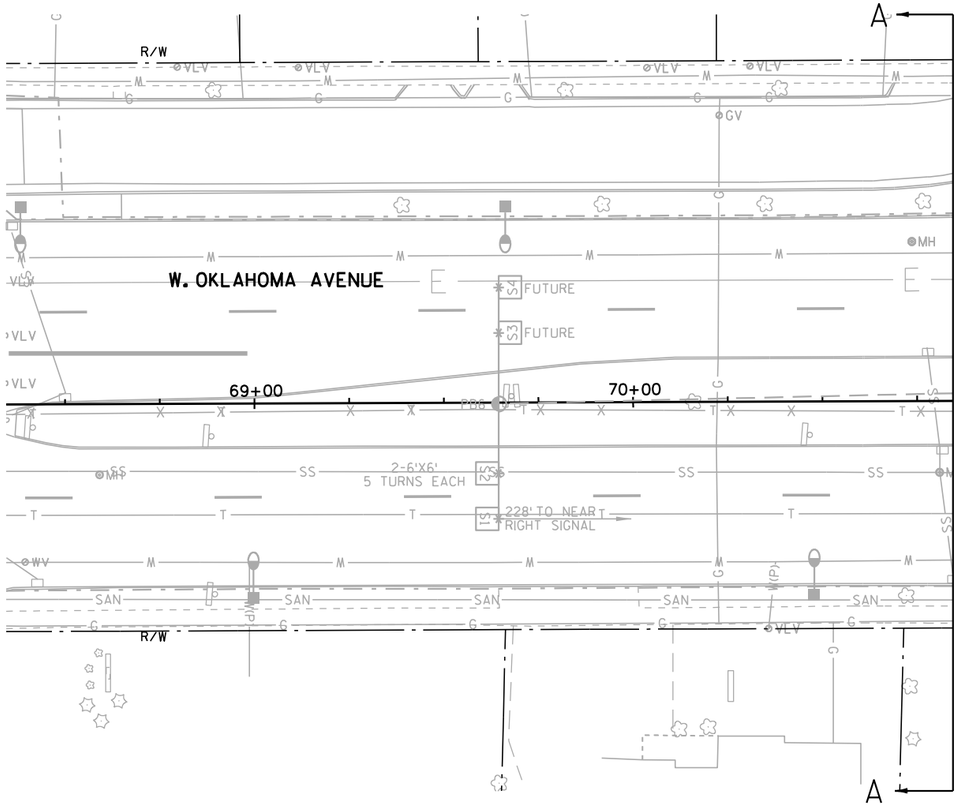
PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024311_sp.dgn PLOT DATE : 29-JAN-2015 04:58 PLOT BY : MSCD1S PLOT NAME : 024311_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

N



TRAFFIC CONTROL SIGNAL
IH 894 / USH 45 RAMPS &
W. OKLAHOMA AVENUE
CITY OF WEST ALLIS/GREENFIELD
MILWAUKEE COUNTY

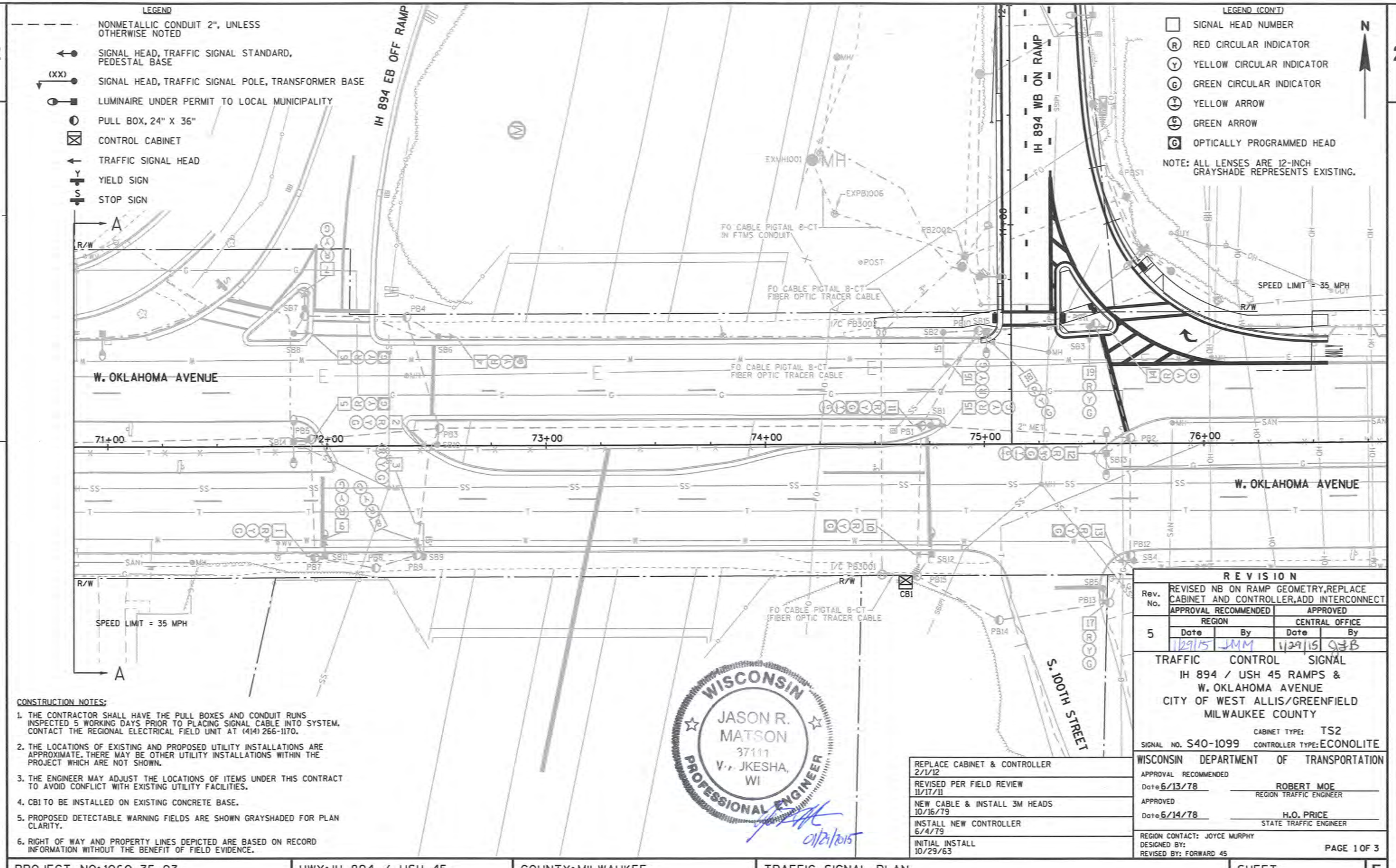
SIGNAL NO. S40-1099

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024312_sp.dgn PLOT DATE : 29-JAN-2015 04:58 PLOT BY : MSCD1S PLOT NAME : 024312_sp PLOT SCALE : 40:1



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. CB1 TO BE INSTALLED ON EXISTING CONCRETE BASE.
5. PROPOSED DETECTABLE WARNING FIELDS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
6. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER
01/21/2015

REVISION				
Rev. No.	REVISED NB ON RAMP GEOMETRY, REPLACE CABINET AND CONTROLLER, ADD INTERCONNECT			
	APPROVAL RECOMMENDED		APPROVED	
5	REGION		CENTRAL OFFICE	
	Date	By	Date	By
	1/29/15	JMM	1/29/15	DJB

REPLACE CABINET & CONTROLLER 2/1/12
REVISED PER FIELD REVIEW 11/17/11
NEW CABLE & INSTALL 3M HEADS 10/16/79
INSTALL NEW CONTROLLER 6/4/79
INITIAL INSTALL 10/29/63

TRAFFIC CONTROL SIGNAL
IH 894 / USH 45 RAMPS &
W. OKLAHOMA AVENUE
CITY OF WEST ALLIS/GREENFIELD
MILWAUKEE COUNTY

CABINET TYPE: TS2
SIGNAL NO. S40-1099 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVAL RECOMMENDED
Date 6/13/78 ROBERT MOE, REGION TRAFFIC ENGINEER
APPROVED
Date 6/14/78 H.O. PRICE, STATE TRAFFIC ENGINEER

REGION CONTACT: JOYCE MURPHY
DESIGNED BY:
REVISED BY: FORWARD 45
PAGE 1 OF 3

PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET E

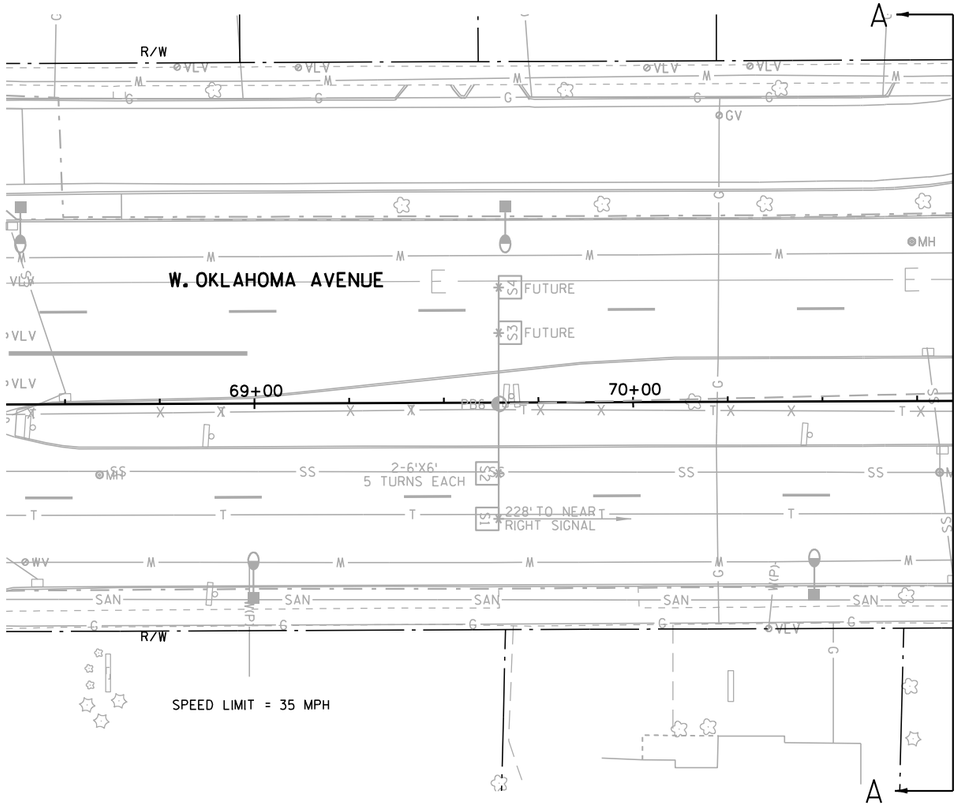
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WISDOT/CADDS SHEET 42

1-29-15 DJW

2

N



TRAFFIC CONTROL SIGNAL
IH 894 / USH 45 RAMPS &
W. OKLAHOMA AVENUE
CITY OF WEST ALLIS/GREENFIELD
MILWAUKEE COUNTY

SIGNAL NO. S40-1099

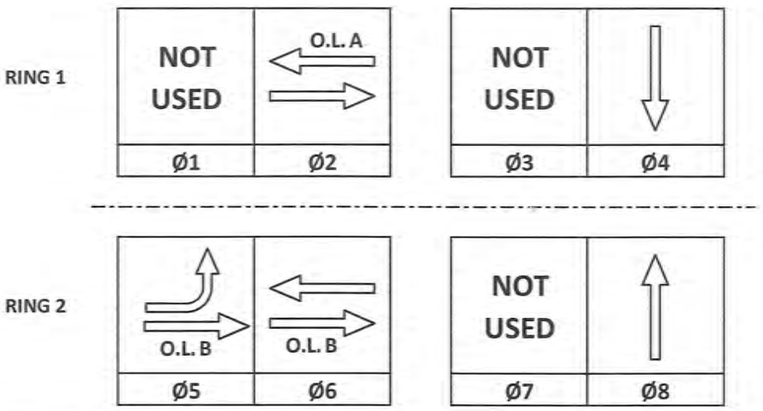
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

	HEAD NUMBERS	FLASH
Ø1		
Ø2	1,2,3	R
Ø3		
Ø4	7,8,9	R
Ø5	11,12	-
Ø6	14,15,16	R
Ø7		
Ø8	17,18,19	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLA	4,5,6	R
OLB	10,11,12,13	R

** WEST RAMP INTERSECTION



** EAST RAMP INTERSECTION

BARRIER

N

* RING 1 SHALL CONTROL THE SOUTHBOUND RAMP
* RING 2 SHALL CONTROL THE NORTHBOUND RAMP

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1				
2			MAX	X
3				
4			MAX	X
5			MAX	X
6			MAX	X
7				
8			MAX	X

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS-

TYPE OF LIGHTING	
BY OTHER AGENCY	X
IN TRAFFIC CABINET	
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

IH 894 / USH 45 RAMPS & W. OKLAHOMA AVENUE
CITY OF WEST ALLIS/GREENFIELD
MILWAUKEE COUNTY

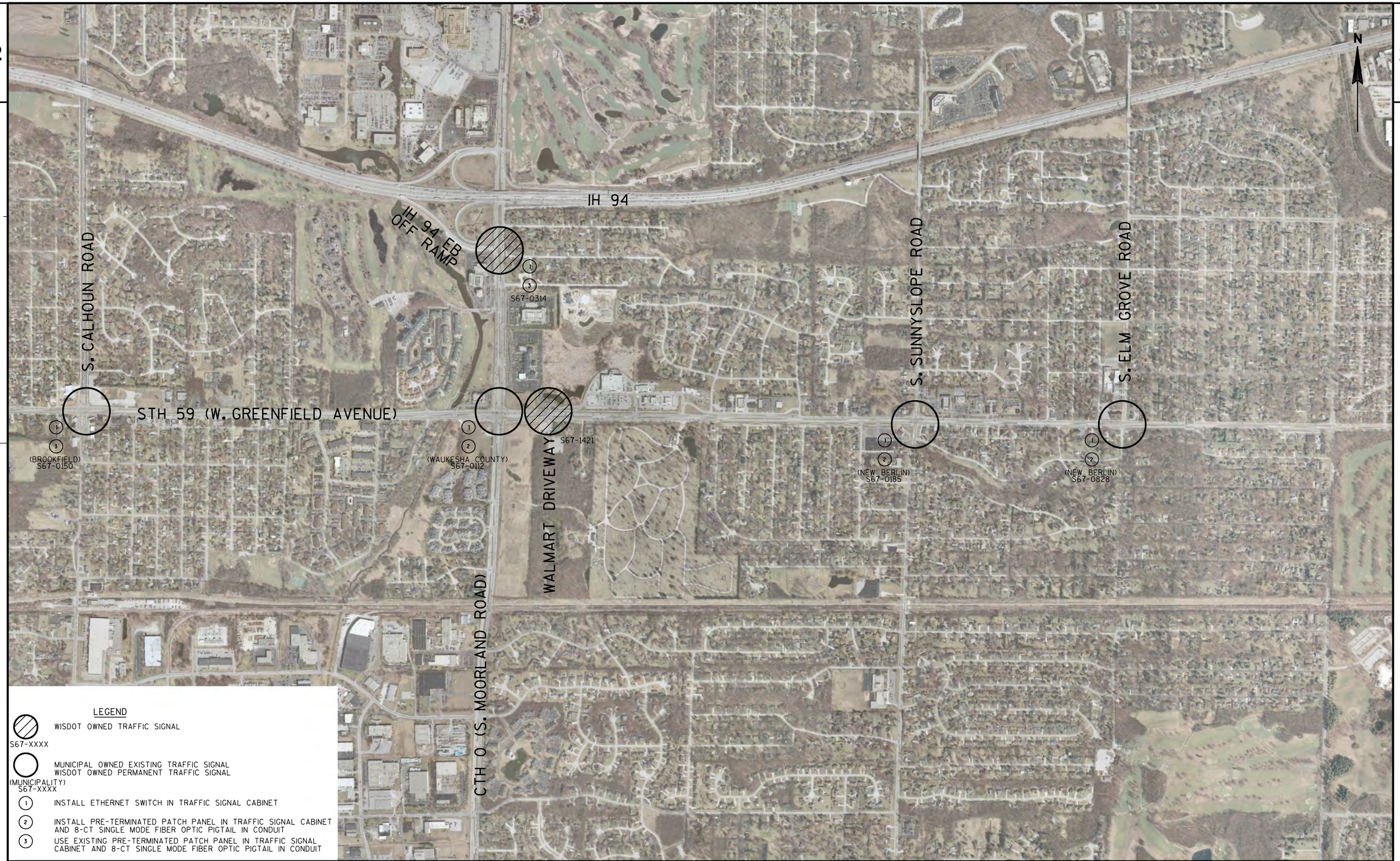
SIGNAL NO: S40-1099 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 01/15 PAGE NO. 3 OF 3

PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	SEQUENCE OF OPERATIONS	SHEET NO:	E

FILE NAME : W:\Cadd\Final\10603593_TM4\eng\Quantities\TRAFFIC SIGNALS\04_Oklahoma Avenue\01_IH 894 Ramps\Econolite SEQ.pptm PLOT DATE : 11/11/2014 11:30AM PLOT BY : WOLFORD, DERRIN PLOT NAME : PLOT SCALE : 1:1

11/29/15 SMM

1-29-15 DJW



PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PROJECT OVERVIEW - STH 59	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024501_co_po.dgn PLOT DATE : 29-JAN-2015 04:59 PLOT BY : MSCD1S PLOT NAME : PLOT SCALE : 1125:1

LEGEND

- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS
- NONMETALLIC TRAFFIC SIGNAL CONDUIT 2", UNLESS OTHERWISE NOTED
- PULL BOX 24" X 42"
- FTMS VAULT
- CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
5. PROPOSED DETECTABLE WARNING FIELDS, TRAFFIC SIGNALS, AND FTMS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
6. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
7. THE FIBER OPTIC PIGTAIL AT THIS INTERSECTION IS EXISTING. PROTECT THE PRETERMINATED PATCH PANEL WHILE REMOVING AND INSTALLING THE TRAFFIC SIGNAL CABINET. MOUNT THE EXISTING PRETERMINATED PATCH PANEL AND ETHERNET SWITCH IN THE CABINET AND MAKE ALL REQUIRED CONNECTIONS.

S. CALHOUN ROAD

STH 59 (W. GREENFIELD AVENUE)

HWE 3619736

HWE 2530337

CB1 (S67-0150)

FO CABLE PIGTAIL 8-CT IN TRAFFIC SIGNAL CONDUIT

FO CABLE PIGTAIL 8-CT IN FTMS CONDUIT

FO CABLE PIGTAIL 8-CT IN FTMS CONDUIT

EXCV2301

EXCV2302

TRAFFIC CONTROL INTERCONNECT
STH 59 (W. GREENFIELD AVENUE / CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150, S67-0112, S67-0185, S67-0828, S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 5

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024511_co.dgn PLOT DATE : 29-JAN-2015 05:01 PLOT BY : MSCD1S PLOT NAME : 024511_co PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS
- NONMETALLIC TRAFFIC SIGNAL CONDUIT 2", UNLESS OTHERWISE NOTED
- PULL BOX 24" X 42"
- V — FTMS VAULT
- CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING

STH 59 (W. GREENFIELD AVENUE)

CTH O (S. MOORLAND ROAD)

CB1 (S67-0112)
FO CABLE PIGTAIL 8-CT FIBER OPTIC TRACER CABLE
I/C PB2002

FO CABLE PIGTAIL 8-CT FIBER OPTIC TRACER CABLE
I/C PB2001

FO CABLE PIGTAIL 8-CT FIBER OPTIC TRACER CABLE

EXCV2101
FIBER OPTIC SPLICE (14)
USE EXISTING FIBER OPTIC SPLICE ENCLOSURE

SEE NOTE 8

193+00 194+00 195+00 196+00 197+00 198+00 199+00
34+00 35+00 36+00

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
5. THE ENTIRE MAINLINE FIBER OPTIC CABLE SHALL NOT BE CUT AND/OR SPLICED IN THE VAULTS NEAREST THE TRAFFIC SIGNAL CABINET WHILE MAKING THE PIGTAIL CONNECTION. ONLY THE REQUIRED BUFFER TUBE SHALL BE CUT AND SPLICED WITH THE PIGTAIL CONNECTION.
6. PROPOSED DETECTABLE WARNING FIELDS, TRAFFIC SIGNALS, AND FTMS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
8. R/W BY EASEMENT I.D. 2231-06-20.

TRAFFIC CONTROL INTERCONNECT
STH 59 (W. GREENFIELD AVENUE / CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150, S67-0112, S67-0185, S67-0828, S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 5

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024512_co.dgn PLOT DATE : 29-JAN-2015 05:02 PLOT BY : MSCD1S PLOT NAME : 024512_co PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS
- NONMETALLIC TRAFFIC SIGNAL CONDUIT 2", UNLESS OTHERWISE NOTED
- PULL BOX 24" X 42"
- FTMS VAULT
- CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
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4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
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6. PROPOSED DETECTABLE WARNING FIELDS, TRAFFIC SIGNALS, AND FTMS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

CB1 (S67-0185)

FO CABLE PIGTAIL 8-CT FIBER OPTIC TRACER CABLE I/C PB2004

FO CABLE PIGTAIL 8-CT FIBER OPTIC TRACER CABLE I/C PB2003

FO CABLE PIGTAIL 8-CT FIBER OPTIC TRACER CABLE

FIBER OPTIC SPLICE (14) USE EXISTING FIBER OPTIC SPLICE ENCLOSURE EXCV3401

STH 59 (W. GREENFIELD AVENUE)

S. SUNNYSLOPE ROAD

247+00 248+00 249+00 250+00 251+00 252+00

32+00 33+00 34+00 35+00

TRAFFIC CONTROL INTERCONNECT
STH 59 (W. GREENFIELD AVENUE / CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150, S67-0112, S67-0185, S67-0828, S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 3 OF 5

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET E

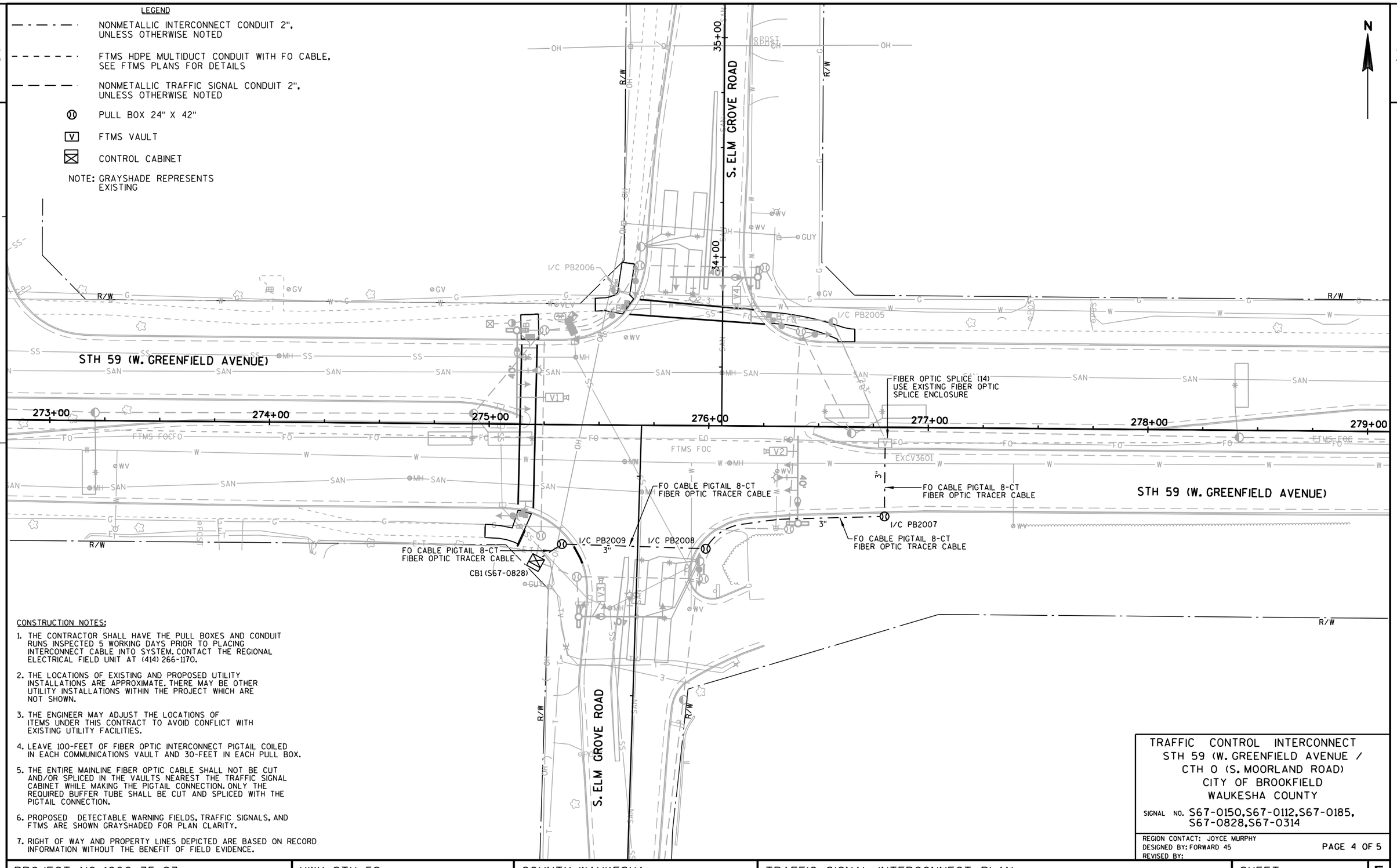
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WISDOT/CADDS SHEET 42

LEGEND

- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS
- NONMETALLIC TRAFFIC SIGNAL CONDUIT 2", UNLESS OTHERWISE NOTED
- PULL BOX 24" X 42"
- FTMS VAULT
- CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
5. THE ENTIRE MAINLINE FIBER OPTIC CABLE SHALL NOT BE CUT AND/OR SPLICED IN THE VAULTS NEAREST THE TRAFFIC SIGNAL CABINET WHILE MAKING THE PIGTAIL CONNECTION. ONLY THE REQUIRED BUFFER TUBE SHALL BE CUT AND SPLICED WITH THE PIGTAIL CONNECTION.
6. PROPOSED DETECTABLE WARNING FIELDS, TRAFFIC SIGNALS, AND FTMS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

TRAFFIC CONTROL INTERCONNECT
STH 59 (W. GREENFIELD AVENUE / CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150, S67-0112, S67-0185, S67-0828, S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 4 OF 5

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET	E

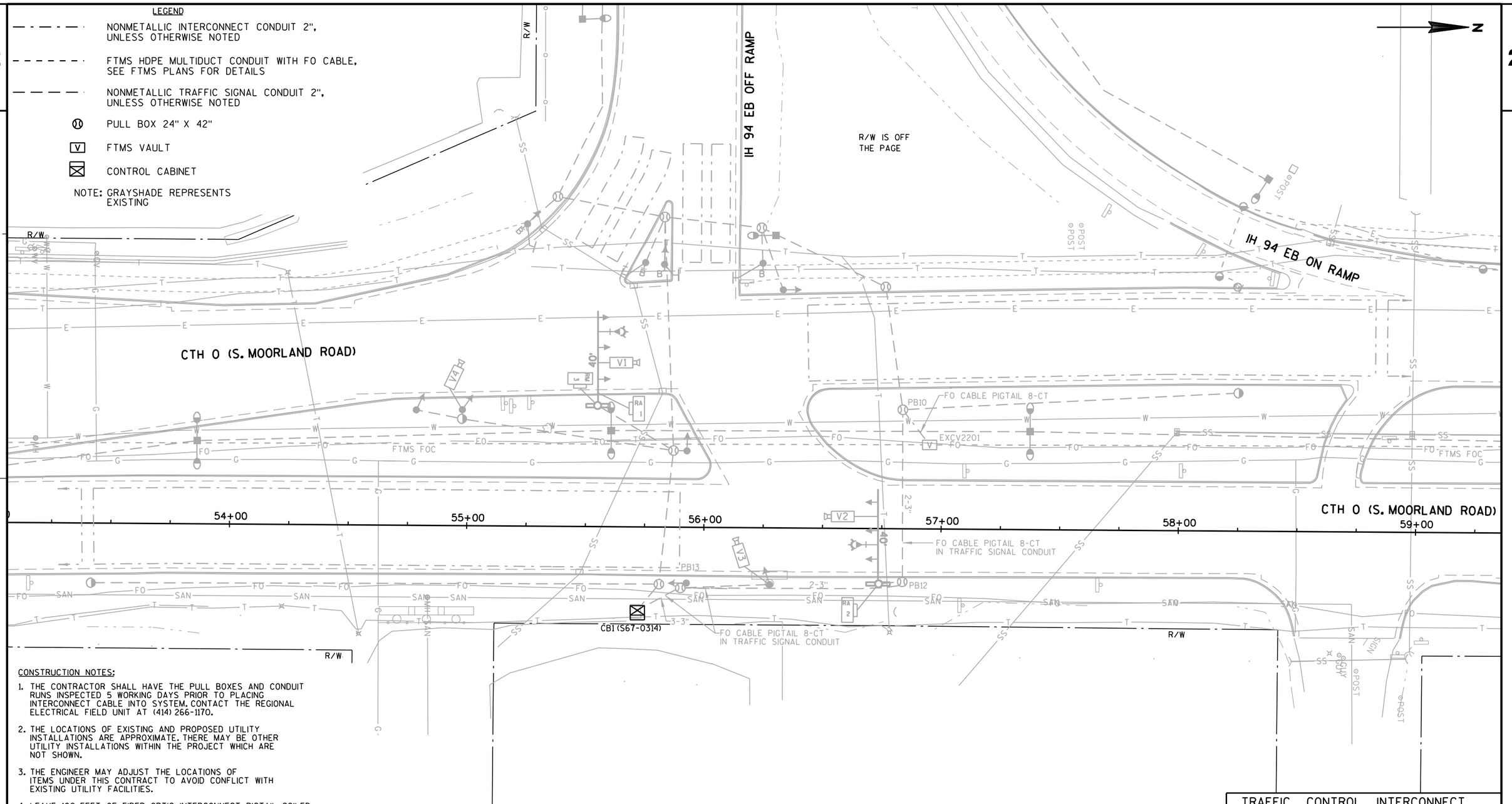
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WISDOT/CADDS SHEET 42

LEGEND

- NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED
- FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS
- NONMETALLIC TRAFFIC SIGNAL CONDUIT 2", UNLESS OTHERWISE NOTED
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- FTMS VAULT
- CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

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7. THE FIBER OPTIC PIGTAIL AT THIS INTERSECTION IS EXISTING. PROTECT THE PRETERMINATED PATCH PANEL WHILE REMOVING AND INSTALLING THE TRAFFIC SIGNAL CABINET. MOUNT THE EXISTING PRETERMINATED PATCH PANEL AND ETHERNET SWITCH IN THE CABINET AND MAKE ALL REQUIRED CONNECTIONS.

TRAFFIC CONTROL INTERCONNECT
STH 59 (W. GREENFIELD AVENUE / CTH O (S. MOORLAND ROAD)
CITY OF BROOKFIELD
WAUKESHA COUNTY

SIGNAL NO. S67-0150, S67-0112, S67-0185, S67-0828, S67-0314

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

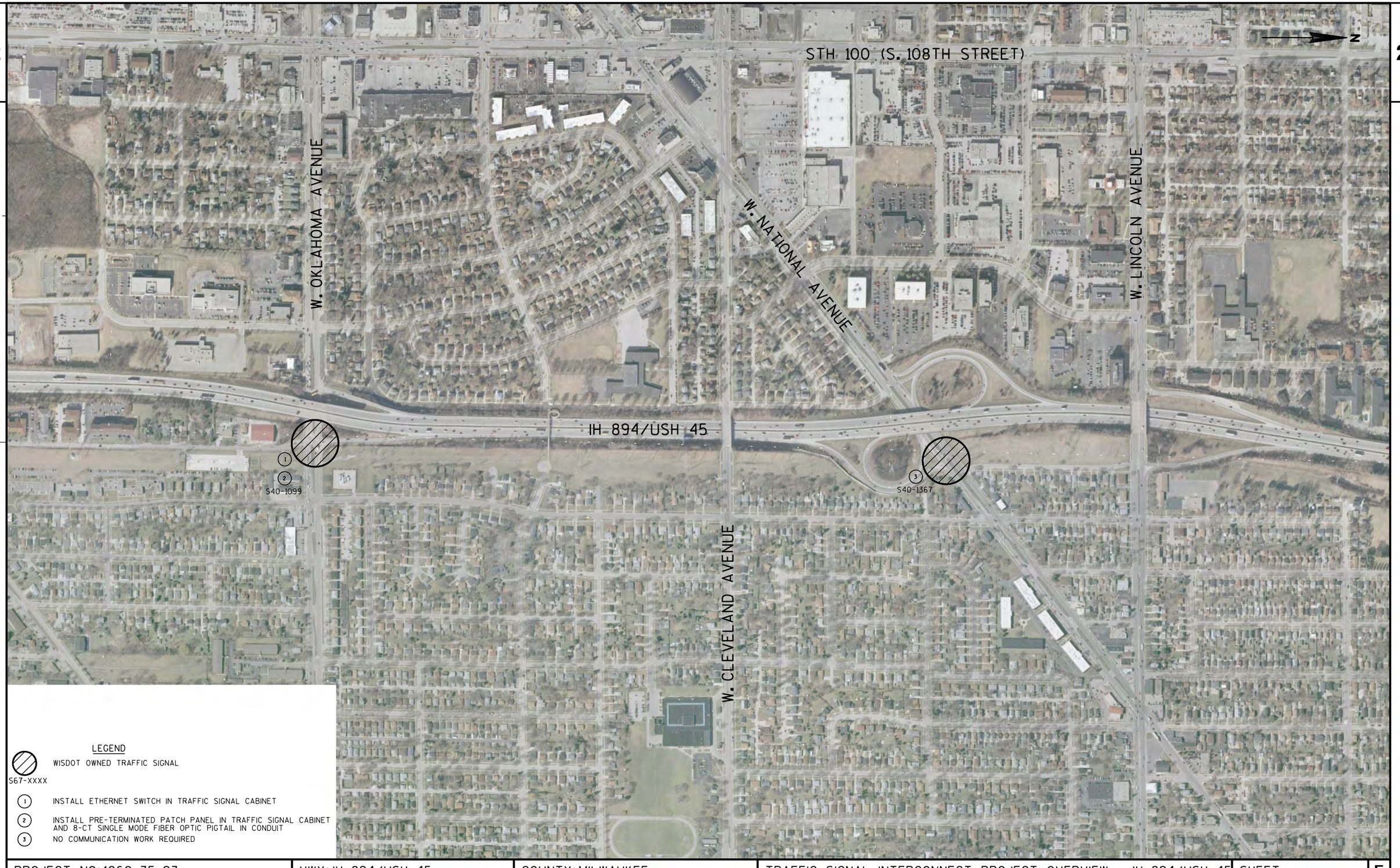
PAGE 5 OF 5

PROJECT NO: 1060-33-99	HWY: IH 94	COUNTY: WAUKESHA	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024515_co.dgn PLOT DATE : 29-JAN-2015 05:07 PLOT BY : MSCD1S PLOT NAME : 024515_co PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2



LEGEND

S67-XXXX — WISDOT OWNED TRAFFIC SIGNAL

(1) INSTALL ETHERNET SWITCH IN TRAFFIC SIGNAL CABINET

(2) INSTALL PRE-TERMINATED PATCH PANEL IN TRAFFIC SIGNAL CABINET AND 8-CT SINGLE MODE FIBER OPTIC PIGTAIL IN CONDUIT

(3) NO COMMUNICATION WORK REQUIRED

PROJECT NO: 1060-35-93	HWY: IH 894/USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT PROJECT OVERVIEW - IH 894/USH 45	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024601_co_po.dgn PLOT DATE : 29-JAN-2015 05:08 PLOT BY : MSCD1S PLOT NAME : PLOT SCALE : 562.5:1

WISDOT/CADDS SHEET 42

LEGEND

NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS

FTMS VAULT

CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING

W. NATIONAL AVENUE

IH 894 WB ON RAMP

IH 894 WB OFF RAMP

49+00 50+00 51+00 52+00 53+00 54+00

25+00 24+00

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
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3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
5. PROPOSED DETECTABLE WARNING FIELDS, TRAFFIC SIGNALS, AND FTMS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
6. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
7. NO TRAFFIC SIGNAL INTERCONNECT WORK IS INCLUDED UNDER THIS CONTRACT AT THE INTERSECTION OF IH 894/USH 45 WB RAMPS & W. NATIONAL AVENUE IN THE CITY OF WEST ALLIS. THE TRAFFIC SIGNAL INTERCONNECT PLANS INCLUDED DEPICT THE LOCATION OF THE EXISTING TRAFFIC SIGNAL EQUIPMENT IN RELATION TO THE PROPOSED ROADWAY WORK.

TRAFFIC CONTROL INTERCONNECT
IH 894/USH 45
CITY OF WEST ALLIS
MILWAUKEE COUNTY

SIGNAL NO. S40-1367,S40-1099

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET	E

2

LEGEND

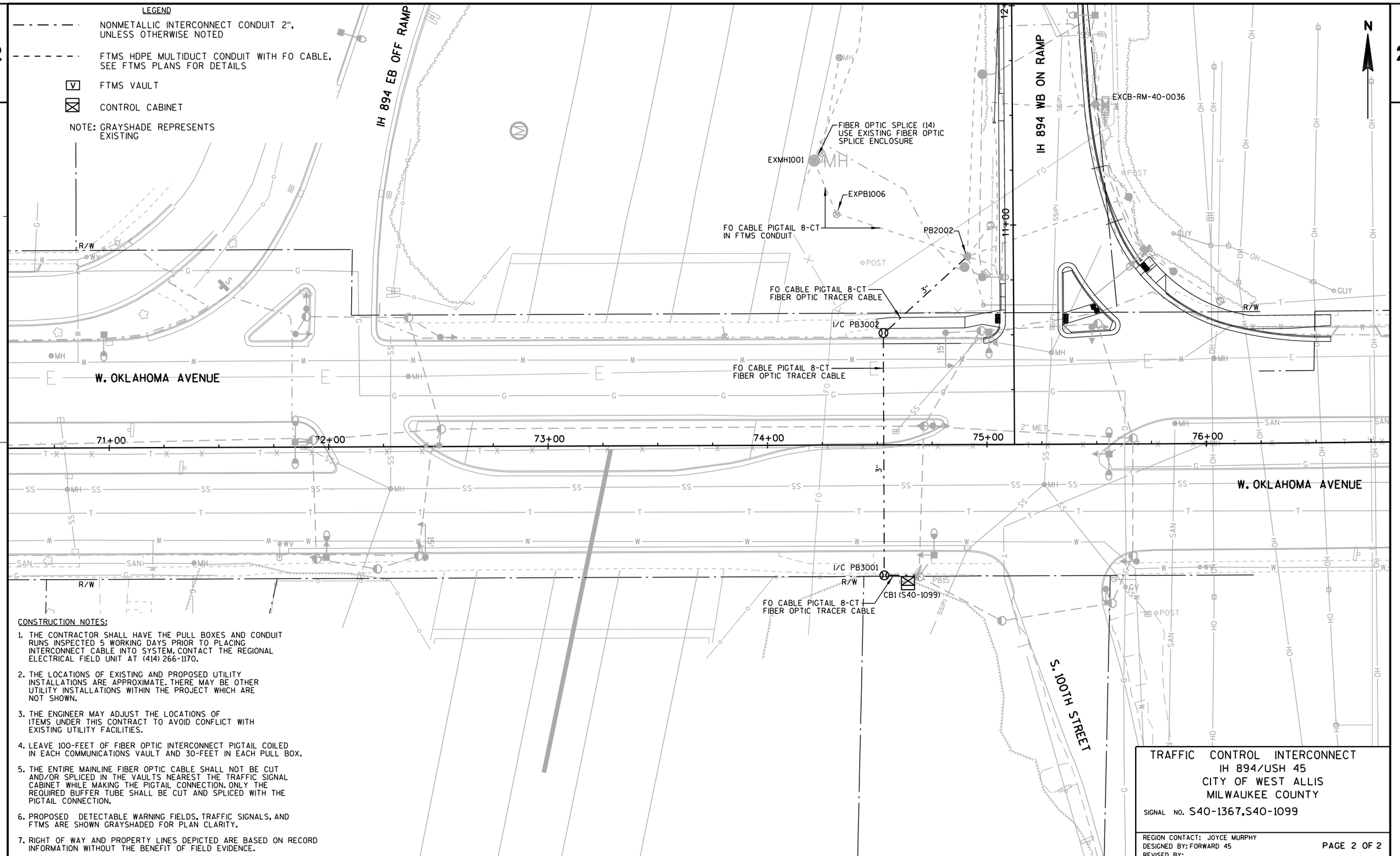
NONMETALLIC INTERCONNECT CONDUIT 2", UNLESS OTHERWISE NOTED

FTMS HDPE MULTIDUCT CONDUIT WITH FO CABLE, SEE FTMS PLANS FOR DETAILS

FTMS VAULT

CONTROL CABINET

NOTE: GRAYSHADE REPRESENTS EXISTING



CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING INTERCONNECT CABLE INTO SYSTEM. CONTACT THE REGIONAL ELECTRICAL FIELD UNIT AT (414) 266-1170.
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
3. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
4. LEAVE 100-FEET OF FIBER OPTIC INTERCONNECT PIGTAIL COILED IN EACH COMMUNICATIONS VAULT AND 30-FEET IN EACH PULL BOX.
5. THE ENTIRE MAINLINE FIBER OPTIC CABLE SHALL NOT BE CUT AND/OR SPLICED IN THE VAULTS NEAREST THE TRAFFIC SIGNAL CABINET WHILE MAKING THE PIGTAIL CONNECTION. ONLY THE REQUIRED BUFFER TUBE SHALL BE CUT AND SPLICED WITH THE PIGTAIL CONNECTION.
6. PROPOSED DETECTABLE WARNING FIELDS, TRAFFIC SIGNALS, AND FTMS ARE SHOWN GRAYSHADED FOR PLAN CLARITY.
7. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

TRAFFIC CONTROL INTERCONNECT
IH 894/USH 45
CITY OF WEST ALLIS
MILWAUKEE COUNTY

SIGNAL NO. S40-1367,S40-1099

REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-35-93	HWY: IH 894 / USH 45	COUNTY: MILWAUKEE	TRAFFIC SIGNAL INTERCONNECT PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\024612_co.dgn PLOT DATE : 29-JAN-2015 05:12 PLOT BY : MSCD1S PLOT NAME : 024612_co PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

N

IH-94 EB ENTRANCE RAMP

IH-94 EB EXIT RAMP

S. MOORLAND RD.

BP: 10+00.00

EP: 13+84.58

10+00

11+00

12+00

13+00

13+85

58+00

57+00

56+00

55+00

REMOVE PAVEMENT MARKING
STA. 11+20.4, 24.2' RT

REMOVE PAVEMENT
MARKING ARROWS

REMOVE PAVEMENT
MARKING DIAGONALS

REMOVE PAVEMENT MARKING
STA. 12+90.5, 24.4' RT

REMOVE PAVEMENT MARKING
STA. 11+20.3, 36.1' RT

REMOVE PAVEMENT
MARKING WORDS

REMOVE PAVEMENT MARKING
STA. 12+80.5, 46.2' RT

REMOVE PAVEMENT
MARKING ARROWS

REMOVE PAVEMENT MARKING
STA. 11+20.2, 47.5' RT

REMOVE PAVEMENT MARKING
STA. 12+57.8, 78.4' RT

REMOVE PAVEMENT MARKING
STA. 12+91.8, 77.8' RT

REMOVE PAVEMENT MARKING
STA. 12+61.5, 86.6' RT

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING REMOVAL - S. MOORLAND RD. EB EXIT RAMP	SHEET 179	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\MOORLAND\024601_PR.DWG
LAYOUT NAME - 024601_PR

PLOT DATE : 1/29/2015 7:41 AM PLOT BY : RING, STEVEN M PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

PAVEMENT MARKING LEGEND

1 PAVEMENT MARKING EPOXY 4-INCH (YELLOW)

2 PAVEMENT MARKING EPOXY 4-INCH (WHITE)

3 PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE 12.5 FT LINE 37.5 FT SKIP)

6 PAVEMENT MARKING EPOXY 8-INCH (WHITE)

7 PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)

9 PAVEMENT MARKING CROSSWALK 6-INCH EPOXY (WHITE)

11 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)

14 PAVEMENT MARKING WORDS EPOXY (WHITE)

16 PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)

20 PAVEMENT MARKING CURB EPOXY (YELLOW)

21 PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

29 PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)

39 PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (DOT PATTERN WHITE) (3FT LINE 9FT SKIP)

61 PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (DOT PATTERN WHITE) (2FT LINE 6FT SKIP)

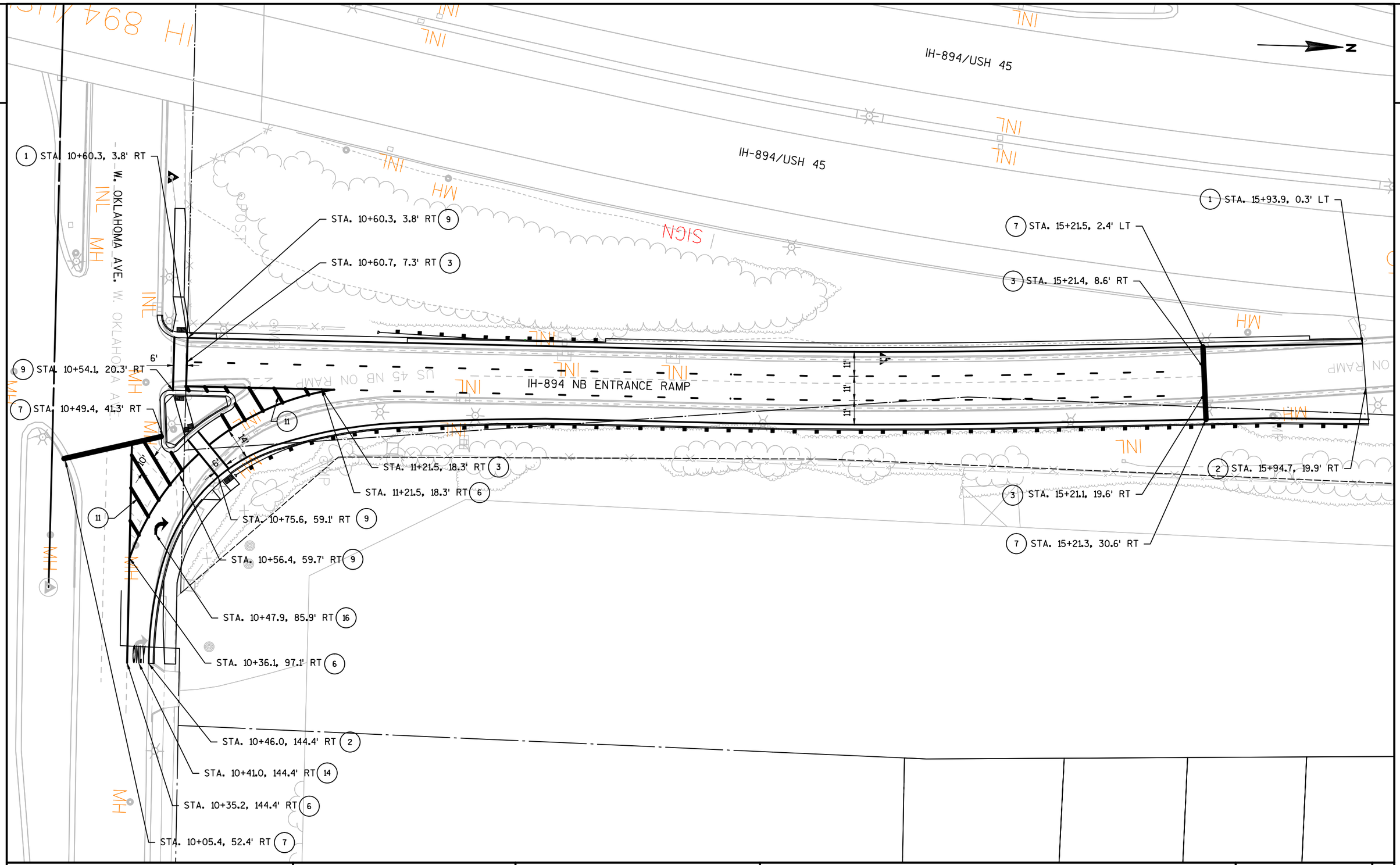
63 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2 (WHITE)

67 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)

68 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC STOP LINE 18-INCH (WHITE)

70 PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH (WHITE)

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 181	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\024501_PM.DWG
LAYOUT NAME - 024501_PM
PLOT DATE : 1/29/2015 9:27 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

68 STA. 50+92.7, 10.4' RT

REMOVE PAVEMENT MARKING
STA. 51+04.0, 35.6' RT

PAVEMENT MARKING CURB (YELLOW)
STA. 24+75.0, 44.7' LT

50+00

STA. 50+88.3, 10.7' LT

STA. 24+67.9, 28.7' LT

STA. 50+36.3, 13.5' LT

68 STA. 24+56.6, 28.4' LT

STA. 50+59.4, 26.7' LT 61

PI: 50+59.72

REMOVE PAVEMENT MARKING
STA. 24+55.3, 19.9' LT

STA. 50+92.7, 10.4' RT 20

63 STA. 24+11.4, 21.4' LT

1 STA. 23+08.9, 20.5' LT

IH-894 NB ENTRANCE RAMP

63 STA. 24+11.3, 10.9' LT

21+00

PT: 22+59.20

IH-894 NB EXIT RAMP

22+00

10.5'

10.5'

70

STA. 51+34.4, 53.6' RT

6'

STA. 24+55.3, 18.0' LT

24+00

25+00

23+00

14.3'

STA. 24+61.9, 2.8' RT

STA. 24+56.9, 7.6' LT

STA. 62.2, 13.6' LT 20

39 STA. 23+08.8, 9.8' LT

29 STA. 23+91.4, 19.0' LT

STA. 24+56.5, 17.4' RT

STA. 51+64.3, 10.1' RT

2 STA. 23+08.8, 0.3' RT

29 STA. 23+91.2, 8.5' LT

11

6'

39 STA. 23+99.5, 8.4' LT

STA. 24+66.5, 29.0' RT

63 STA. 24+10.1, 0.6' RT

70

52+00

W. NATIONAL AVE.

68 STA. 24+52.4, 38.9' RT

STA. 24+56.7, 45' RT

53+00

S. 100TH ST.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. NATIONAL AVE. NB EXIT RAMP	SHEET 182	E

2

N

6 MATCH EXISTING

20 STA. 142+32.0, 70.4' LT

9 STA. 142+14.0, 76.7' LT
STA. 142+22.5, 61.3' LT

6 STA. 142+16.7, 58.6' LT

20 STA. 142+17.1, 54.8' LT

6 STA. 141+88.1, 44.3' LT

20 STA. 142+18.6, 47.9' LT

9 STA. 142+19.1, 46.9' LT

6 STA. 142+19.0, 44.3' LT

20 STA. 142+28.9, 47.9' LT

9 STA. 142+21.9, 23.4' RT

20 STA. 142+14.3, 26.1' RT

6 MATCH EXISTING

20 STA. 142+14.5, 33.2' RT

9 STA. 142+07.7, 50.6' RT
STA. 142+24.5, 42.4' RT

6 STA. 142+28.1, 52.0' RT

20 STA. 142+31.4, 51.3' RT

6 STA. 142+40.8, 81.6' RT

STA. 142+37.9, 69.4' LT 20

MATCH EXISTING 7

STA. 142+39.7, 61.9' LT 9

STA. 142+37.8, 56.3' LT 20

STA. 142+28.1, 26.0' RT 20

STA. 142+36.8, 34.6' RT 20

STA. 142+38.1, 47.7' RT 9

STA. 142+40.9, 50.0' RT 6

STA. 142+36.7, 50.0' RT 20

21

MATCH EXISTING 7

S. CALHOUN RD.

W. GREENFIELD AVE.

STH59/GREENFIELD AVE.

PI: 142+88.11

PI: 143+03.98

EP: 35+98.27

37+00

35+00

6'

1.9'

140+00 141+00 142+00 143+00 144+00 145+00 146+00

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 183	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\024501_PM.DWG
LAYOUT NAME - 024501_PM
PLOT DATE : 1/27/2015 2:11 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

S. CALHOUN RD.

W. GREENFIELD AVE.

STH59/GREENFIELD AVE.

20 STA. 143+29.5, 71.2' LT
6 STA. 143+26.9, 71.0' LT
9 STA. 143+27.3, 67.6' LT
20 STA. 143+29.6, 55.5' LT

STA. 143+27.0, 98.3' LT 6
STA. 143+35.6, 73.4' LT 20
STA. 143+38.2, 74.7' LT 6
STA. 143+38.7, 71.3' LT 9
STA. 143+55.8, 76.1' LT 9
STA. 143+52.4, 54.7' LT 20

21
6'
37+00
PI: 142+88.11
PI: 143+03.98
36+00
35+00

MATCH EXISTING 6
STA. 143+50.9, 47.1' LT 20
STA. 143+50.3, 44.7' LT 9
STA. 143+38.2, 47.0' LT 20
7 MATCH EXISTING

140+00 141+00 142+00 143+00 144+00 145+00 146+00

EP: 35+98.27

STA. 143+38.5, 26.0' RT 9
STA. 143+50.9, 23.6' RT 6
STA. 143+51.5, 26.8' RT 20
STA. 143+79.0, 23.3' RT 6
STA. 143+50.3, 33.9' RT 20
STA. 143+52.3, 36.6' RT 6
STA. 143+45.5, 39.9' RT 9
STA. 143+49.6, 59.7' RT 9
STA. 143+35.6, 48.5' RT 20
MATCH EXISTING 6

20 STA. 143+38.5, 26.0' RT
20 STA. 143+29.3, 34.7' RT
9 STA. 143+27.5, 40.2' RT
7 MATCH EXISTING
20 STA. 143+29.4, 47.1' RT

ONLY ONLY

JIFFY STOP GAS STATION
KWIK FUEL GAS STATION
BELLARD

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 184	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\024501A_PM.DWG
LAYOUT NAME - 024501_PM
PLOT DATE : 1/27/2015 2:13 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

S. MOORLAND RD.

W. GREENFIELD AVE.

W. GR

9 STA. 195+37.7, 84.7' LT

6 STA. 195+26.1, 99.3' LT

20 STA. 195+27.6, 97.5' LT

9 STA. 195+09.9, 99.2' LT

REMOVE EXISTING PAVEMENT MARKINGS

9 STA. 195+15.4, 85.4' LT

6 STA. 195+15.3, 85.8' LT

20 STA. 195+17.1, 84.5' LT

6 STA. 194+99.8, 73.9' LT

20 STA. 195+20.1, 76.4' LT

6 STA. 195+20.0, 73.8' LT

20 STA. 195+27.0, 77.0' LT

9 STA. 195+26.0, 74.6' LT

REMOVE EXISTING PAVEMENT MARKINGS

MATCH EXISTING 7

STA. 195+37.3, 126.8' LT 6

STA. 195+37.9, 96.5' LT 6

MATCH EXISTING 7

REMOVE EXISTING PAVEMENT MARKINGS

STA. 195+34.9, 95.7' LT 20

STA. 195+35.6, 85.0' LT 20

21

6'

PI: 195+44.52

PI: 196+22.58

36+00

35+00

34+00

33+00

193+00

194+00

195+00

196+00

197+00

198+00

199+00

BP: 34+24.35

9 STA. 195+19.1, 37.4' RT

6 STA. 195+15.2, 36.5' RT

20 STA. 195+16.3, 39.3' RT

6 STA. 194+86.2, 36.8' RT

STA. 195+11.7, 48.3' RT

20 STA. 195+14.3, 46.7' RT

9 STA. 195+22.5, 55.8' RT

9 STA. 195+16.4, 71.6' RT

6 STA. 195+26.9, 60.5' RT

20 STA. 195+28.6, 58.7' RT

6 STA. 195+38.2, 73.7' RT

STA. 195+25.0, 38.6' RT 20

STA. 195+34.6, 47.8' RT 20

STA. 195+37.7, 55.6' RT 6

STA. 195+37.2, 55.9' RT 9

STA. 195+35.2, 55.5' RT 20

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 185	E

2

N

6 STA. 196+47.1, 112.5' LT
20 STA. 196+49.9, 90.8' LT
9 STA. 196+47.9, 90.2' LT
6 STA. 196+47.3, 90.1' LT
S. MOORLAND RD.
36+00
35+00
34+00
33+00
6'
21
20 STA. 196+50.5, 84.1' LT
20 STA. 196+58.5, 75.6' LT
PI: 195+44.52
PI: 196+22.58
BP: 34+24.35
193+00
194+00
195+00
196+00
197+00
198+00
199+00
STA. 196+58.2, 94.9' LT 20
STA. 196+62.1, 94.5' LT 6
STA. 196+72.7, 105.3' LT 9
REMOVE EXISTING PAVEMENT MARKINGS
STA. 196+67.9, 88.9' LT 9
STA. 196+73.6, 85.4' LT 6
STA. 196+71.4, 83.8' LT 20
STA. 196+99.7, 74.0' LT 6
STA. 196+69.5, 76.4' LT 20
STA. 196+70.7, 73.6' LT 6
STA. 196+64.5, 74.1' LT 9
MATCH EXISTING 7
REMOVE EXISTING PAVEMENT MARKINGS
W. GREENFIELD AVE.
W. GR
STA. 196+59.1, 37.7' RT 9
STA. 196+59.1, 37.7' RT 6
STA. 196+59.1, 39.7' RT
STA. 196+65.1, 39.1' RT 20
20 STA. 196+50.3, 50.6' RT
9 STA. 196+48.3, 51.0' RT
20 STA. 196+50.8, 57.8' RT
STA. 196+88.5, 36.2' RT
STA. 196+70.3, 49.0' RT 6
STA. 196+68.2, 47.5' RT 20
REMOVE EXISTING PAVEMENT MARKINGS
7 MATCH EXISTING
6 STA. 196+48.0, 58.8' RT
STA. 196+70.0, 74.2' RT 9
STA. 196+62.6, 57.1' RT 9
STA. 196+58.9, 63.2' RT 6
6 STA. 196+48.6, 85.9' RT
STA. 196+57.4, 62.0' RT 20

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. MOORLAND RD.	SHEET 186	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\024501A_PM.DWG
LAYOUT NAME - 024501A_PM
PLOT DATE : 1/27/2015 3:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

6 STA. 249+08.4, 101.2' LT

STA. 249+04.5, 73.3' LT 20

MATCH EXISTING 7

STA. 249+08.1, 73.3' LT 6

6 STA. 248+94.7, 77.8' LT

20 STA. 248+85.8, 76.1' LT

9 STA. 248+80.8, 80.8' LT

MATCH EXISTING 7

REMOVE EXISTING PAVEMENT MARKINGS

9 STA. 248+86.3, 67.1' LT

STA. 249+07.8, 67.4' LT 9

21

REMOVE EXISTING PAVEMENT MARKINGS

6 STA. 248+80.7, 63.7' LT

20 STA. 248+81.6, 61.7' LT

6 STA. 248+49.1, 51.2' LT

6'

21

35+00

34+00

21

20 STA. 248+84.5, 53.7' LT

21

PI: 248+68.30

PI: 249+44.14

STA. 249+04.4, 61.9' LT 20

6 STA. 248+85.0, 51.5' LT

20 STA. 248+94.5, 54.5' LT

W. GREENFIELD AVE.

6'

REMOVE EXISTING PAVEMENT MARKINGS

STA. 248+94.[illegible] 51.1' LT 9

7 MATCH EXISTING

246+00 247+00 248+00 EP: 33+44.32 249+00 EP: 33+44.32 250+00 251+00 252+00

6 STA. 248+85.0, 17.0' RT

STA. 248+84.7, 20.4' RT

STA. 248+89.9, 19.9' RT 20

6 STA. 248+57.0, 16.2' RT

9 STA. 248+84.9, 18.2' RT

21

21

6'

20 STA. 248+81.8, 27.7' RT

6'

33+00

21

6 STA. 248+79.6, 28.7' RT

7 MATCH EXISTING

9 STA. 248+68.4, 38.9' RT

STA. 248+99.5, 24.5' RT 9

REMOVE EXISTING PAVEMENT MARKINGS

STA. 248+97.2, 25.2' RT 20

STA. 249+00.4, 30.5' RT 6

9 STA. 248+85.4, 32.8' RT

6 STA. 248+87.5, 35.3' RT

20 STA. 248+81.8, 27.7' RT

STA. 248+97.2, 25.2' RT 20

32+00

6 STA. 248+99.7, 51.2' RT

S. SUNNYSLOPE RD.

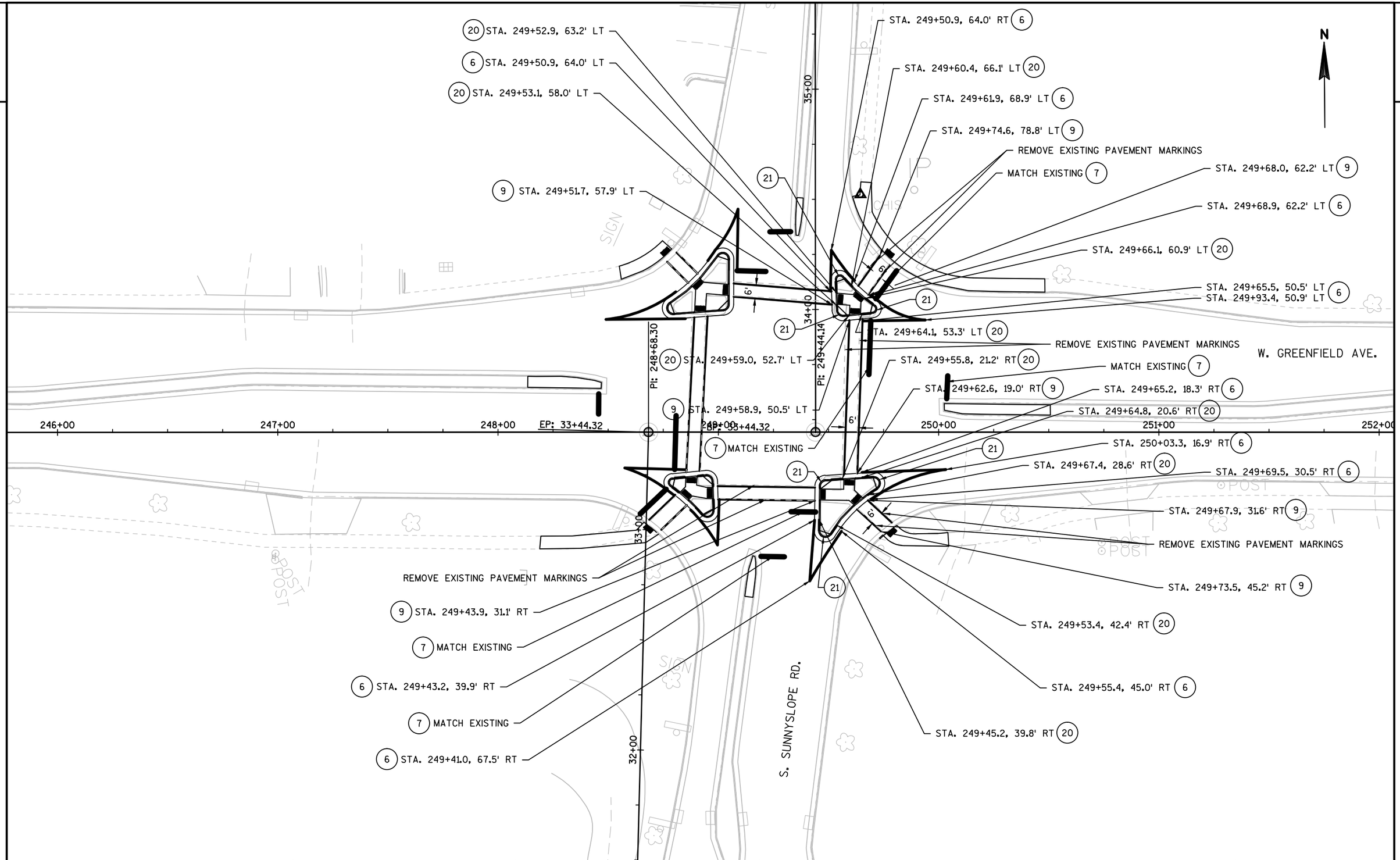
PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 187	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\024502_PM.DWG
LAYOUT NAME - 024502_PM

PLOT DATE : 1/27/2015 3:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	SHEET 188	E

2

N

S. ELM GROVE RD.

35+00

34+00

33+00

32+00

7 MATCH EXISTING

9 MATCH EXISTING

9 MATCH EXISTING

7 MATCH EXISTING

MATCH EXISTING 7

6'

6'

PI: 275+69.39

PI: 276+05.88

EP: 33+23.25

BP: 33+23.25

273+00

274+00

275+00

276+00

277+00

278+00

279+00

W. GREENFIELD AVE.

W. GREENFIELD

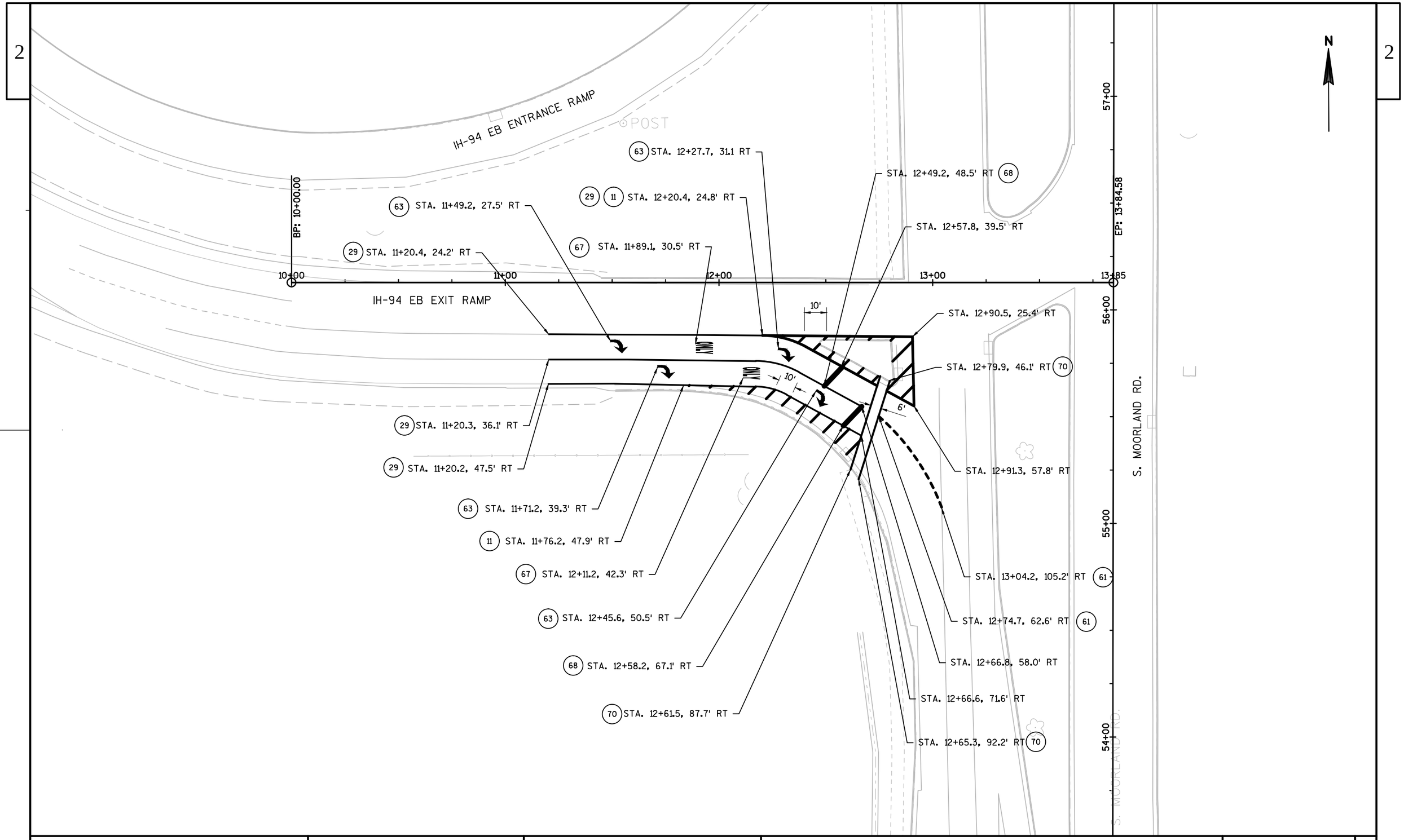
POST

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - W. GREENFIELD AVE. & S. ELM GROVE RD.	SHEET 189	E

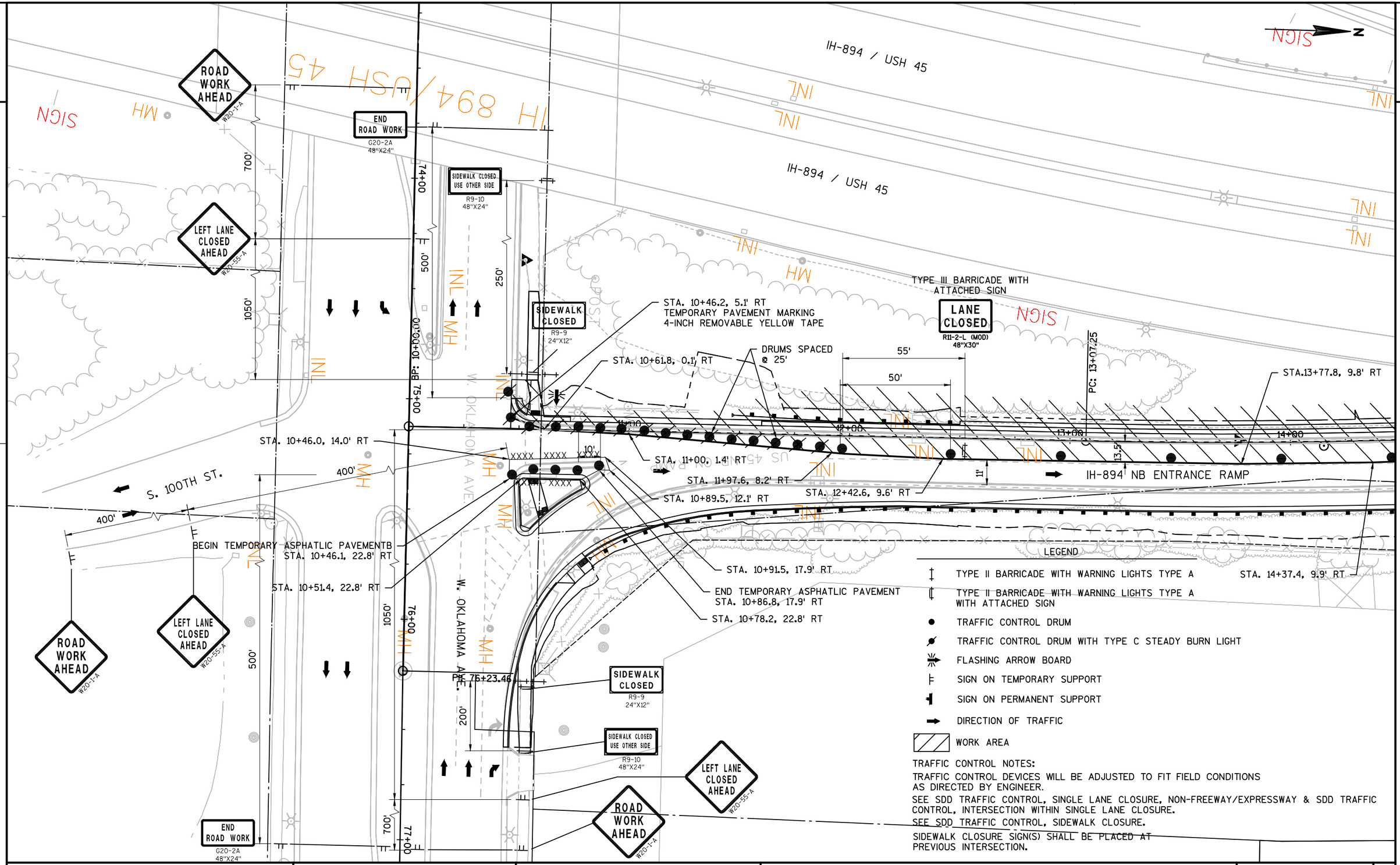
FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\024503_PM.DWG
LAYOUT NAME - 024503_PM

PLOT DATE : 1/27/2015 3:23 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42



PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	PAVEMENT MARKING - S. MOORLAND RD. EB EXIT RAMP	SHEET 190	E



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 1 - OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 191	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\026001_S1.DWG
LAYOUT NAME - 026001_S1
PLOT DATE : 1/29/2015 9:30 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

IH-894 SB EXIT RAMP

IH-894 / USH 45

IH-894 / USH 45

IH-894 / USH 45

500'

PT: 15+23.15

PC: 15+64.55

PT: 17+45.95

STA. 16+28.4, 1.3'LT

16+00

17+00

18+00

19+00

20+00

IH-894 NB ENTRANCE RAMP

11'

13.5'

STA. 15+21.5, 9.9' RT

TEMPORARY PAVEMENT MARKING
4-INCH REMOVABLE YELLOW TAPE

STA. 14+94.3, 8.9' RT

STA. 15+21.5, 9.9' RT

STA. 15+21.4, 21.9' RT
TEMPORARY PAVEMENT MARKING
STOP LINE 12-INCH

END
ROAD WORK
G20-2A
48"X24"

LEGEND

TYPE II BARRICADE WITH WARNING LIGHTS TYPE A

TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT

FLASHING ARROW BOARD

SIGN ON TEMPORARY SUPPORT

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

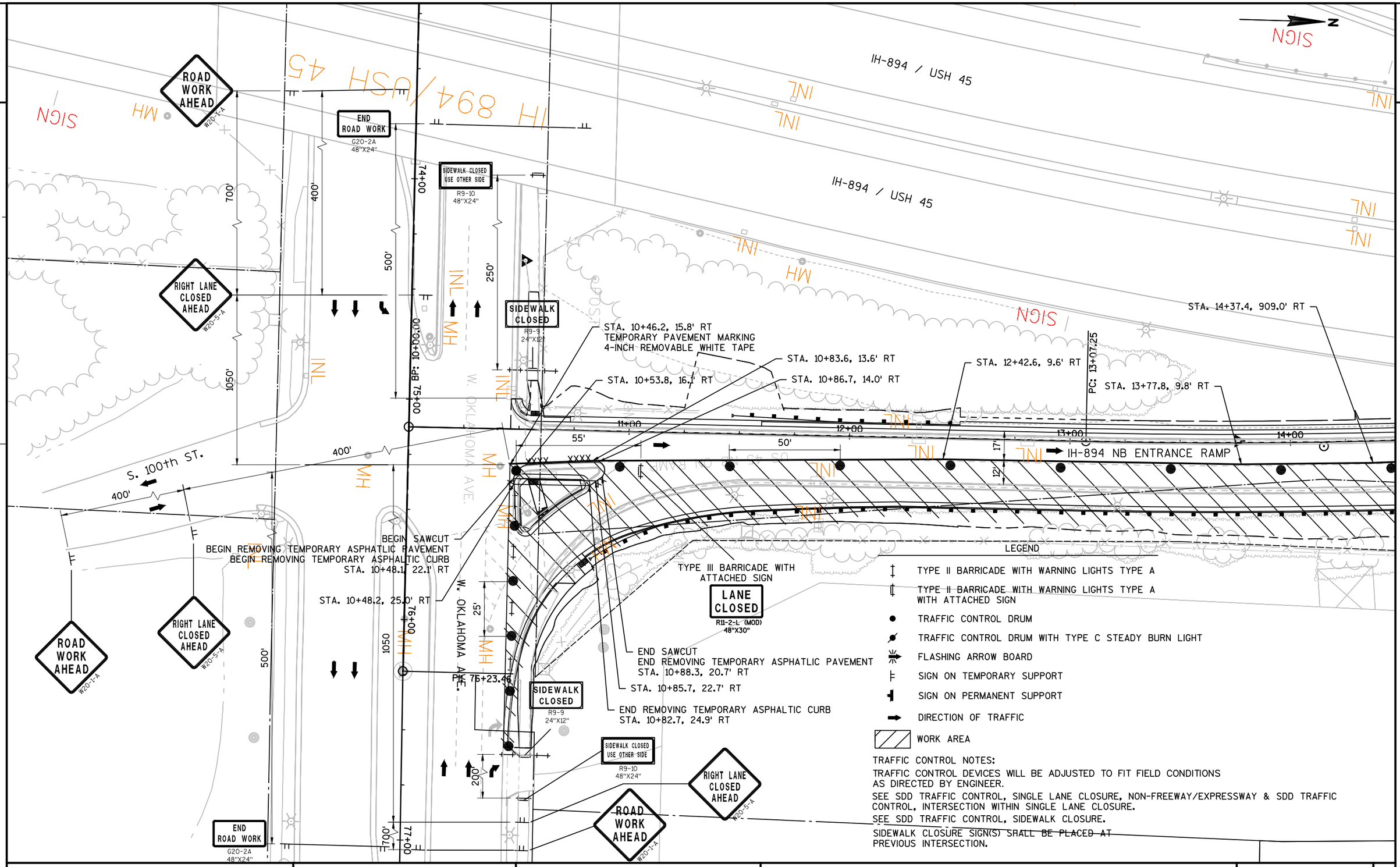
SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 1 - OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 192	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\026002_S1.DWG
LAYOUT NAME - 026002_S1

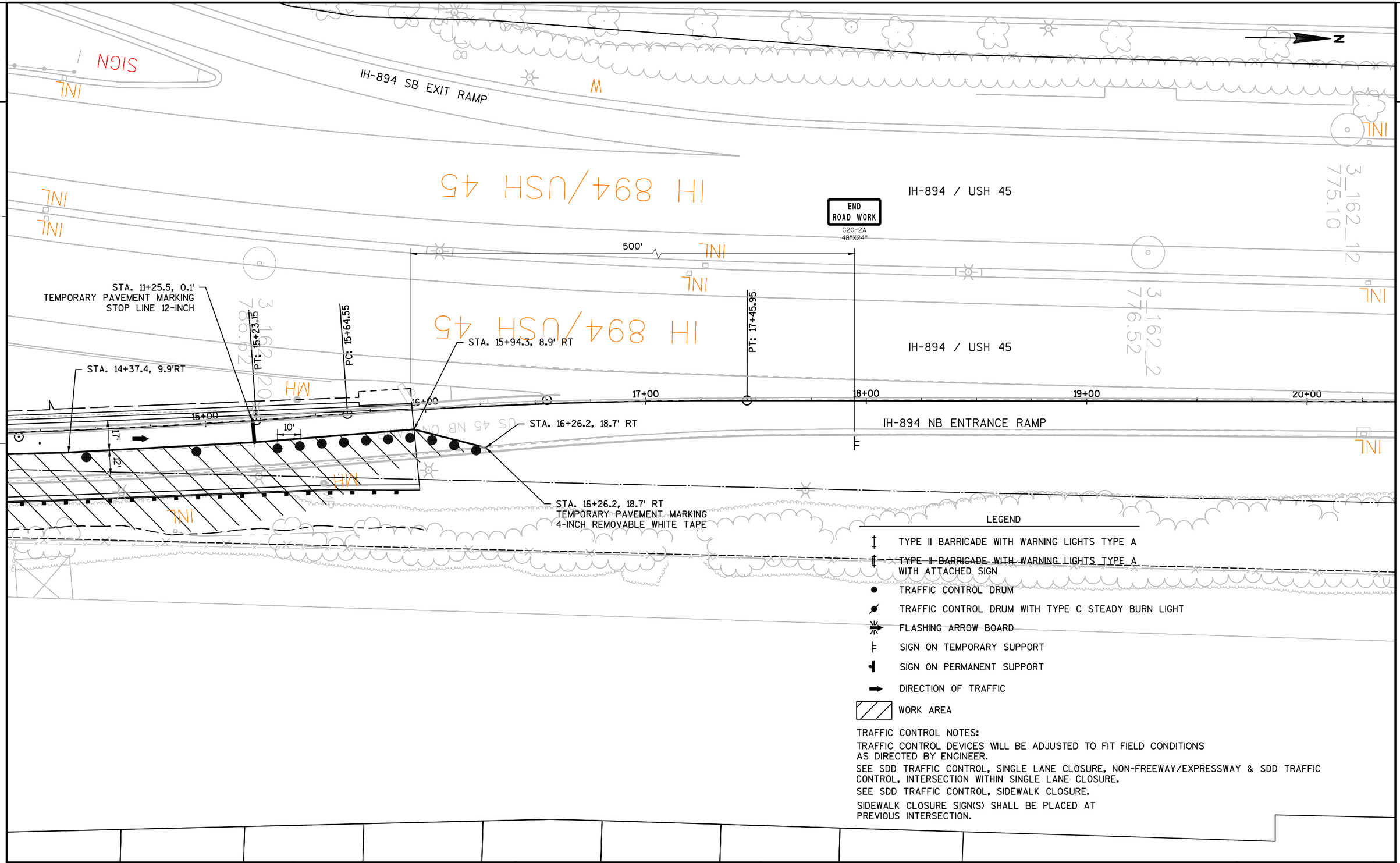
PLOT DATE : 1/29/2015 9:31 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2 - OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 193	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\026101_S2.DWG
LAYOUT NAME - 026101_S2
PLOT DATE : 1/29/2015 9:33 AM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2 - OKLAHOMA AVE. NB ENTRANCE RAMP	SHEET 194	E

2

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

TYPE III BARRICADE WITH ATTACHED SIGN

LANE CLOSED
R11-2-L
48"X30"

200'

S. 100TH ST.

TEMPORARY PAVEMENT MARKING
4-INCH REMOVABLE TAPE (YELLOW)

W4-2L
36"X36"

MH

PI: 50+59.72

15'

25'

24.3'

12'

500'

PI: 55+00.00

10'

50+00

51+00

25+21.17

52+00

W. NATIONAL AVE.

53+00

54+00

55+00

56+00

25+00

125'

W. NATIONAL AVE

225'

53.3'

350'

700'

24+00

IH-894 NB EXIT RAMP

IH-894 NB ENTRANCE RAMP

200'

ROAD WORK AHEAD
W20-1-A

S. 99TH ST.

200'

ROAD WORK AHEAD
W20-1-A

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

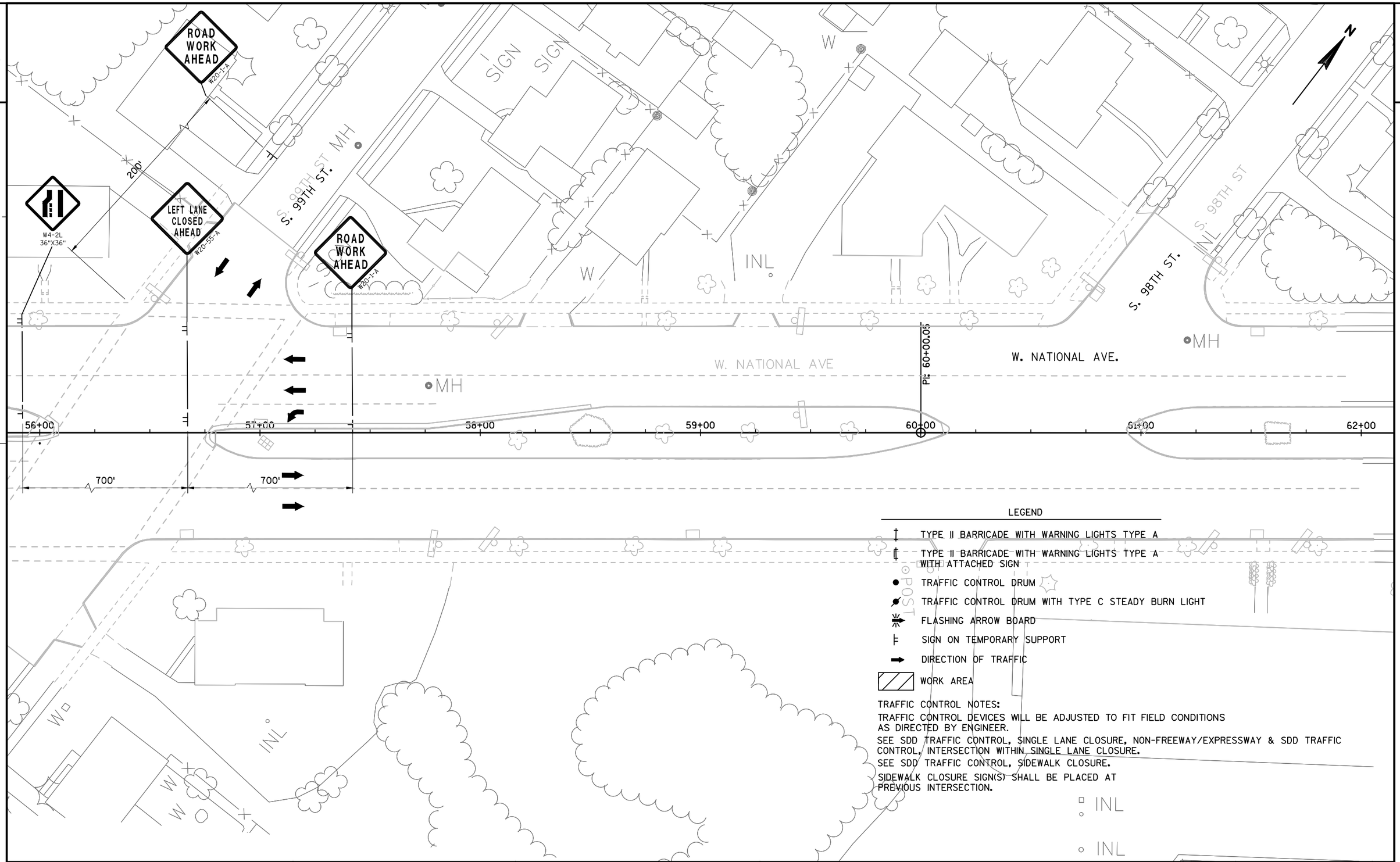
SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL - STAGE 1 - W. NATIONAL AVE. NB EXIT RAMP	SHEET 195	E

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL - STAGE 1 - W. NATIONAL AVE. NB EXIT RAMP	SHEET 196	E

2

ROAD WORK AHEAD
W20-1-A

S. 100TH ST.

200'

TEMPORARY PAVEMENT MARKING
4-INCH REMOVABLE TAPE (YELLOW)

END ROAD WORK
G20-2A
48"X24"

25'

PI: 55+00.04

10'

53+00 54+00 55+00 56+00 57+00 58+00 59

225'

W. NATIONAL AVE

W, NATIONAL AVE.

ROAD WORK AHEAD
W20-1-A

200'

S. 99TH ST.

S. 99TH ST MH

SIGN

SIGN

SIGN

MH

W

350' 700' 700'

W04-2L

LEFT LANE CLOSED AHEAD
W20-55-A

ROAD WORK AHEAD
W20-1-A

ROAD WORK AHEAD
W20-1-A

200'

S. 99TH ST

INL

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL - STAGE 2 - W. NATIONAL AVE. NB EXIT RAMP	SHEET 197	E

2

PC: 18+87.47

18+00

ROAD WORK AHEAD
W20-1-A

20+00

100'

ROAD NARROWS
W5-1
36"X36"

100'

21+00

IH-894 NB EXIT RAMP

22+00

25'

PT: 22+59.20

23+00

TYPE III BARRICADE WITH ATTACHED SIGN
LANE CLOSED
R11-2-L
48"X30"

14.1'

25'

24+00

490'

182.3

IH-894 NB ENTRANCE RAMP

SIDEWALK CLOSED
R9-9
24"X12"

REMOVE PAVEMENT MARKINGS

TEMPORARY PAVEMENT MARKING
STOP LINE REMOVABLE TAPE
18-INCH (WHITE)

END ROAD WORK
G20-2A
48"X24"

TEMPORARY PAVEMENT MARKING
4-INCH REMOVABLE TAPE (YELLOW)

25'

12'

500'

TYPE III BARRICADE WITH ATTACHED SIGN
LANE CLOSED
R11-2-L
48"X30"

15'

25'

50+00

TYPE III BARRICADE WITH ATTACHED SIGN
LANE CLOSED
R11-2-L
48"X30"

PT: 50+59.72

14.6'

15'

51+00

EP: 51+24.37

15'

25+00

TYPE III BARRICADE WITH ATTACHED SIGN
LANE CLOSED
R11-2-L
48"X30"

10'

25'

W. NATIONAL AVE.

500'

52+00

125'

12'

24.3'

END ROAD WORK
G20-2A
48"X24"

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL - STAGE 2 - W. NATIONAL AVE. NB EXIT RAMP	SHEET 198	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\026103_S2.DWG
LAYOUT NAME - 026103_S2

PLOT DATE : 1/27/2015 4:51 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

IH-894 SB EXIT RAMP

IH-894 SB ENTRANCE RAMP

ROAD WORK AHEAD
W20-1-A

LEFT LANE CLOSED AHEAD
W20-5S-A

END ROAD WORK
G20-2A
48"X24"

W04-2L

700'

700'

PI: 43+59.72

W. NATIONAL AVE

W. NATIONAL AVE.

44+00

45+00

500'

46+00

47+00

48+00

49+00

10'

25'

12'

350'

TEMPORARY PAVEMENT MARKING
4-INCH REMOVABLE TAPE (YELLOW)

490'

SIDEWALK CLOSED
USE OTHER SIDE
R9-10
48"X24"

200'

S. 101ST ST.

ROAD WORK AHEAD
W20-1-A

INL MH

SIGN

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL - STAGE 2 - W. NATIONAL AVE. NB EXIT RAMP	SHEET 199	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\026101_S2.DWG
LAYOUT NAME - 026101_S2

PLOT DATE : 1/27/2015 4:51 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

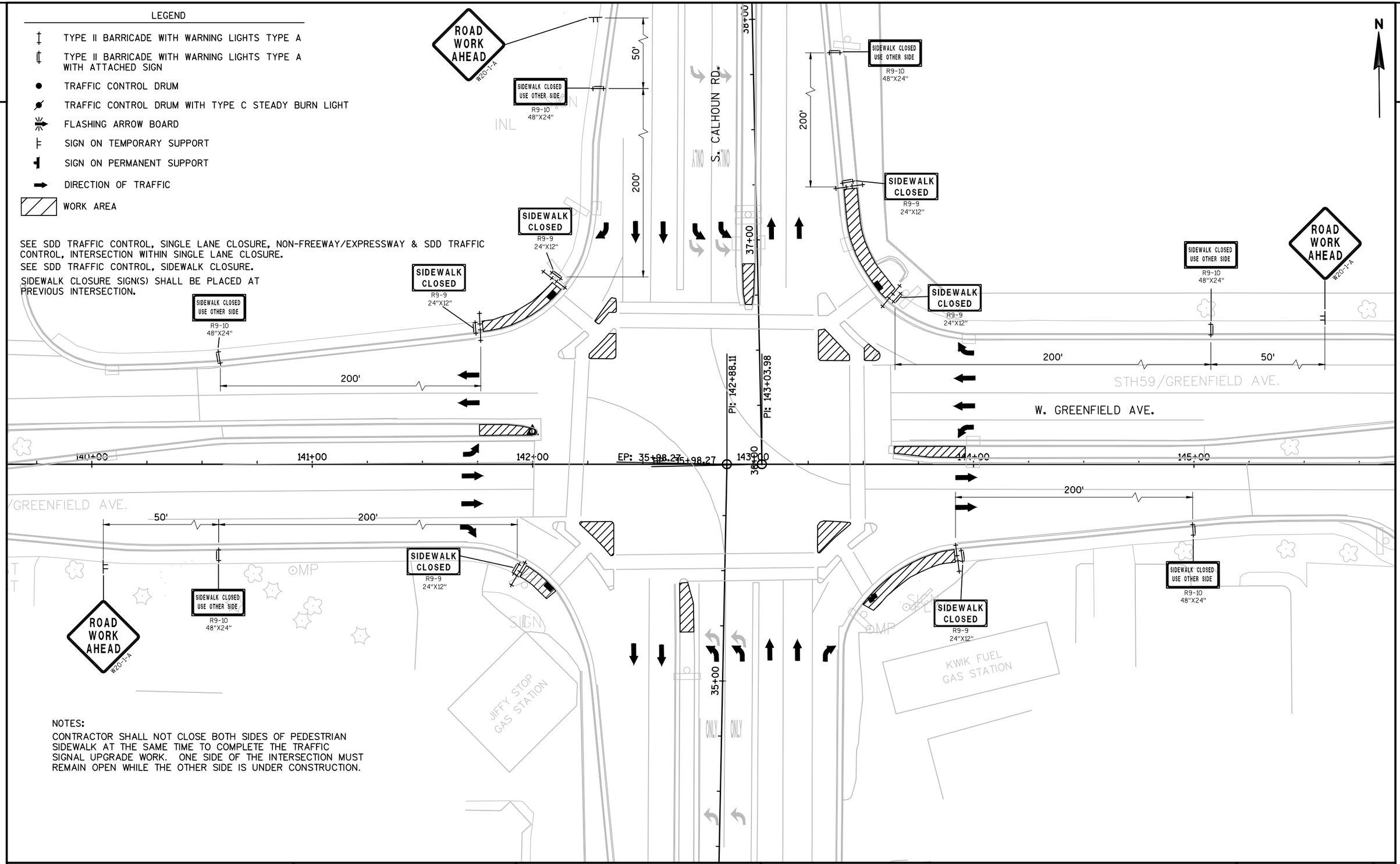
WISDOT/CADDS SHEET 42

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

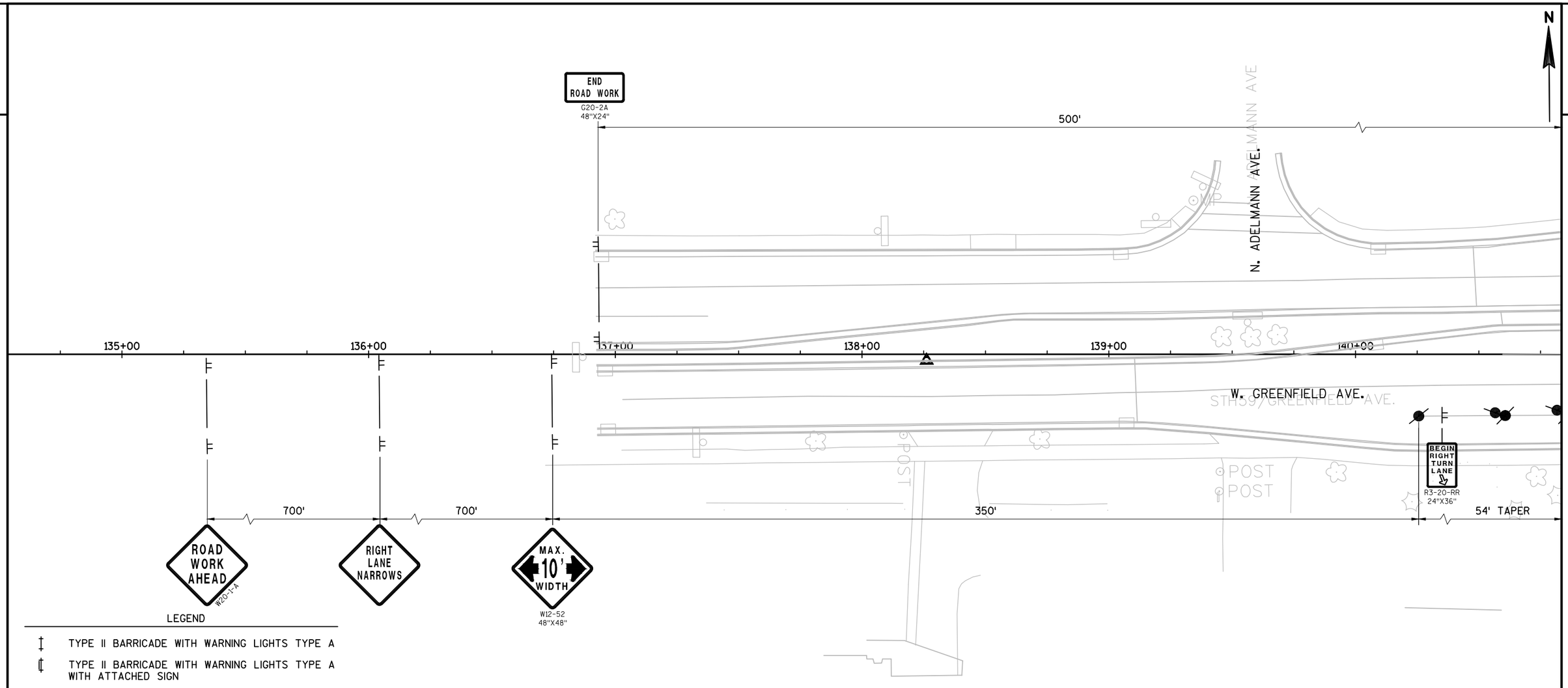
SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.
SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.
SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

NOTES:
CONTRACTOR SHALL NOT CLOSE BOTH SIDES OF PEDESTRIAN SIDEWALK AT THE SAME TIME TO COMPLETE THE TRAFFIC SIGNAL UPGRADE WORK. ONE SIDE OF THE INTERSECTION MUST REMAIN OPEN WHILE THE OTHER SIDE IS UNDER CONSTRUCTION.



PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKKE / WAUKESHA	TRAFFIC CONTROL-STAGE 1-W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 200	E

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2-W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 201	E

2

ROAD WORK AHEAD
W20-1-A

END ROAD WORK
G20-2A
48"X24"

N

200'

200'

38+00

37+00

35+00

500'

125' BUFFER

54' TAPER

350'

BEGIN RIGHT TURN LANE
R3-20-RR
24"X36"

100 TAPER

25'

W. GREENFIELD AVE.

STH59/GREENFIELD AVE

PI: 142+88.11

PI: 143+03.98

EP: 35+98.27

141+00

142+00

143+00

144+00

145+00

146+00

S. CALHOUN RD.

S. 171ST ST.

JIFFY STOP GAS STATION

KWIK FUEL GAS STATION

SIGN

INL

ONLY

ONLY

SIGN

SIGN

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

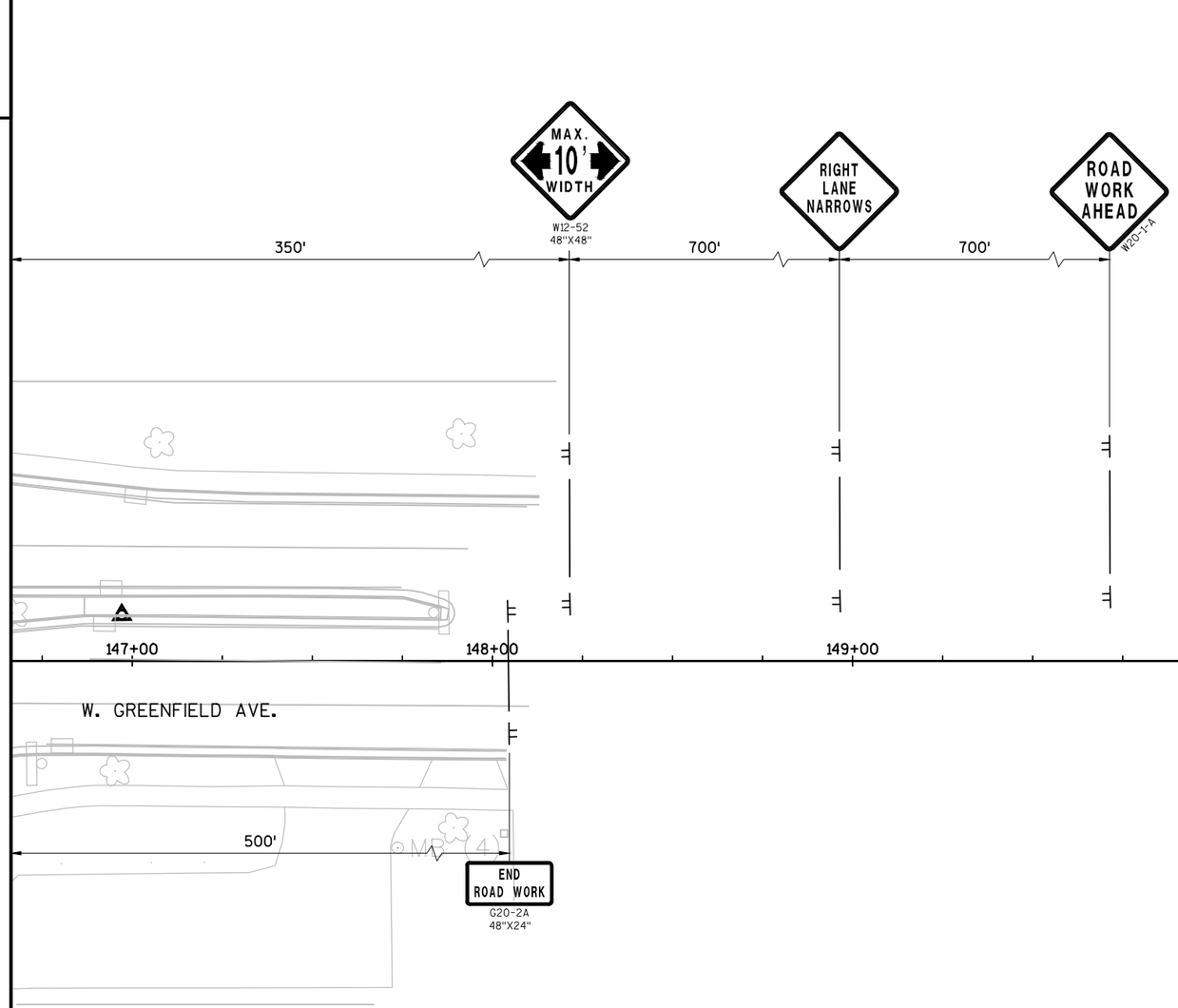
PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2-W. GREENFIELD AVE. & S. CALHOUN RD.	SHEET 202	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\026102_S2.DWG
LAYOUT NAME - 026102_S2

PLOT DATE : 1/27/2015 2:19 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

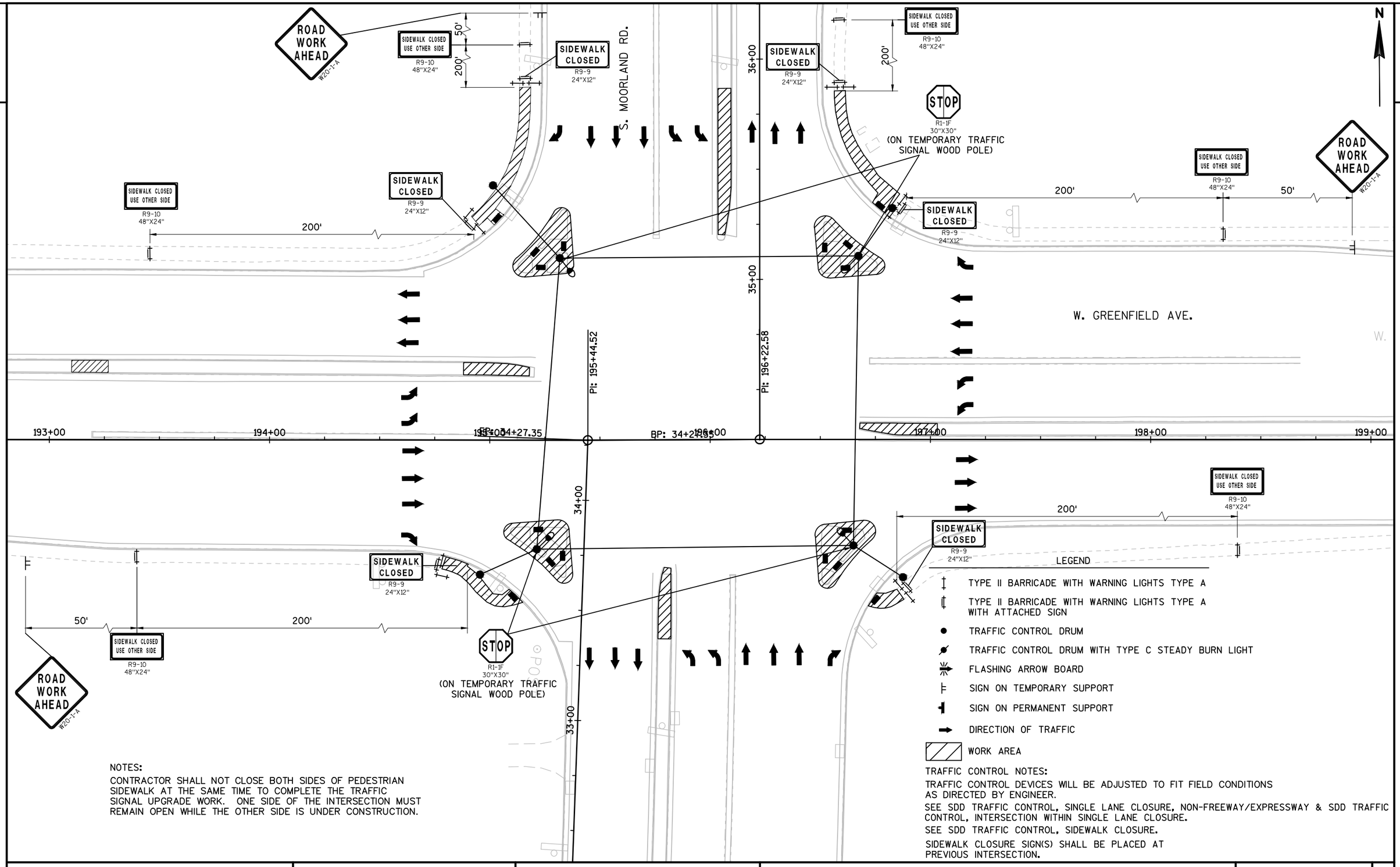
SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2-W. GREENFIELD AVE. & CALHOUN RD.	SHEET 203	E

2



NOTES:

CONTRACTOR SHALL NOT CLOSE BOTH SIDES OF PEDESTRIAN SIDEWALK AT THE SAME TIME TO COMPLETE THE TRAFFIC SIGNAL UPGRADE WORK. ONE SIDE OF THE INTERSECTION MUST REMAIN OPEN WHILE THE OTHER SIDE IS UNDER CONSTRUCTION.

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

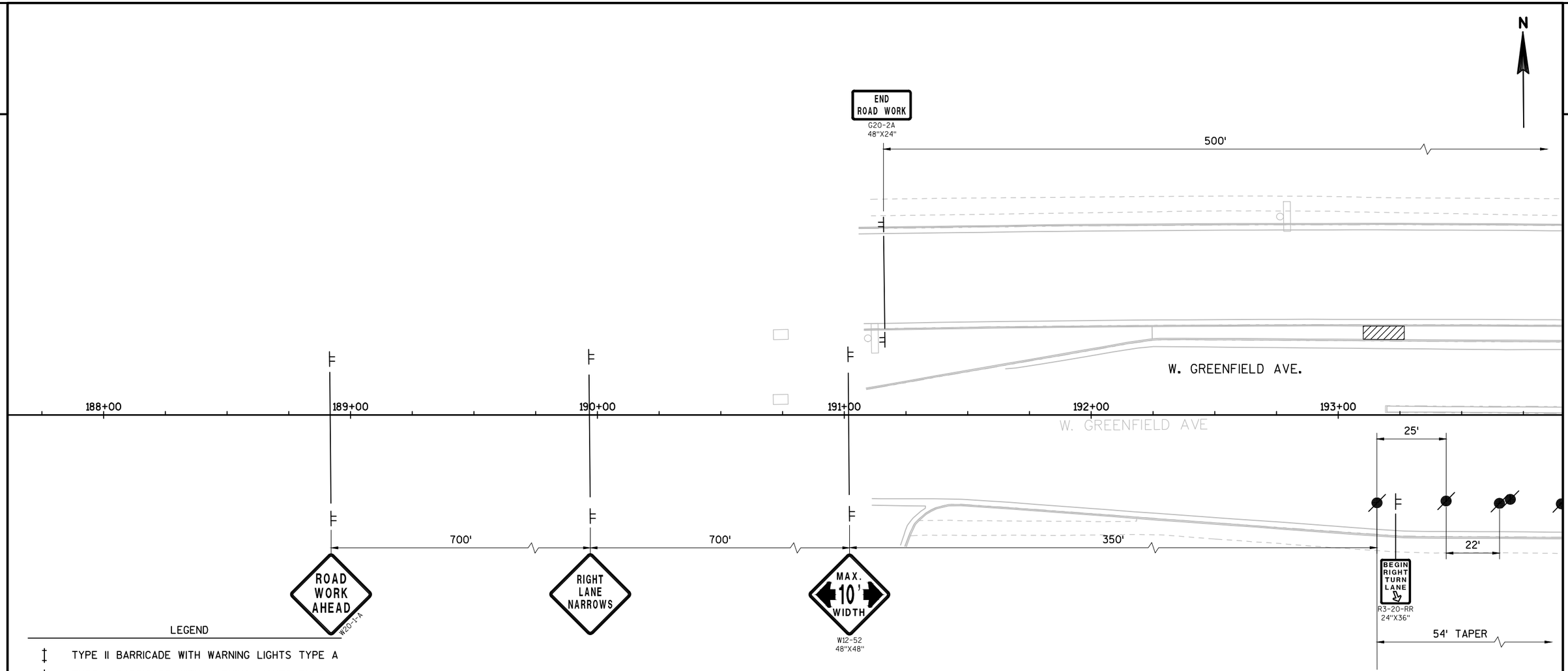
SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 1-W. GREENFIELD AVE. & S. MOORLAND RD	SHEET 204	E

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

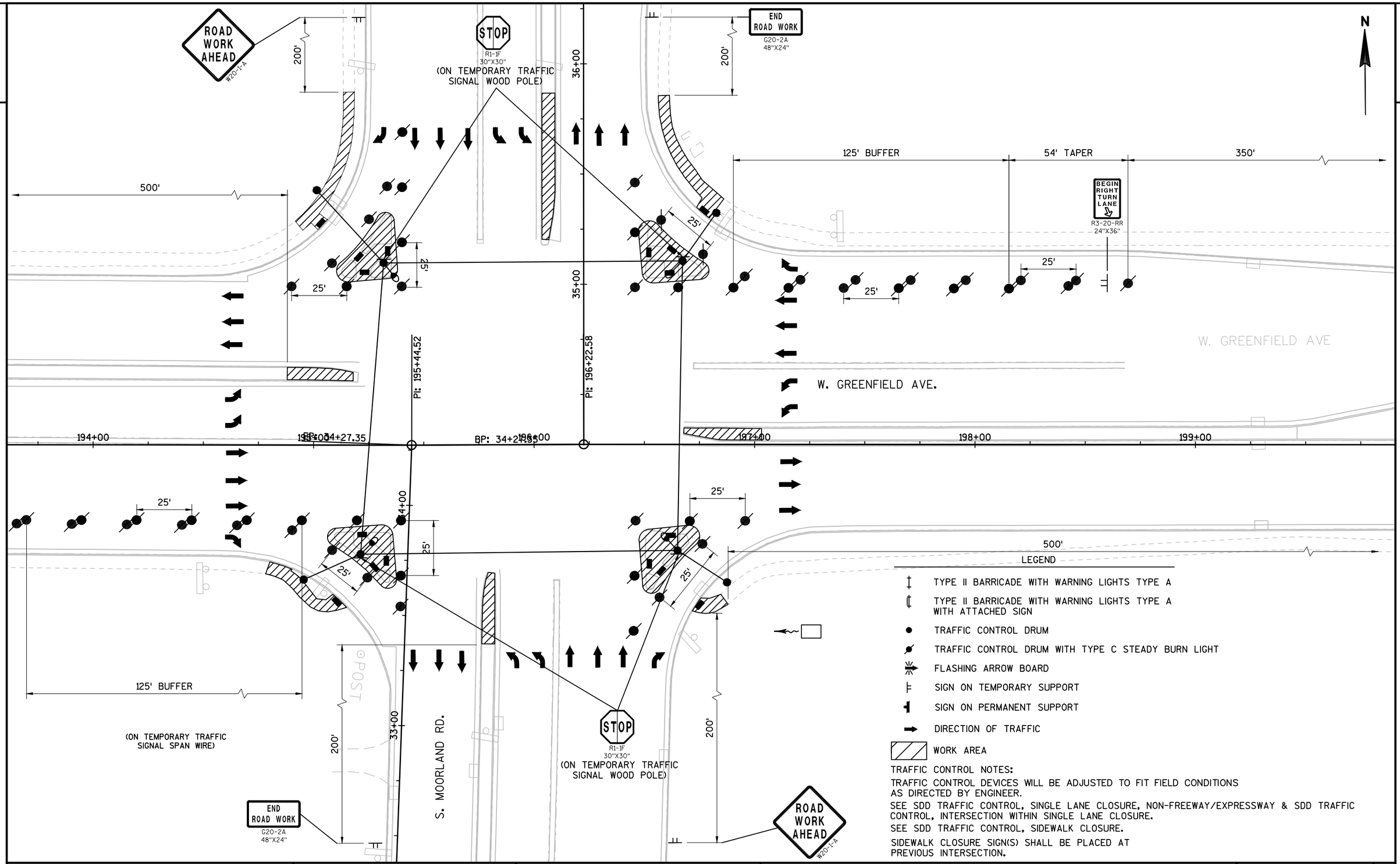
SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2 - GREENFIELD AVE. & MOORLAND RD.	SHEET 205	E

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

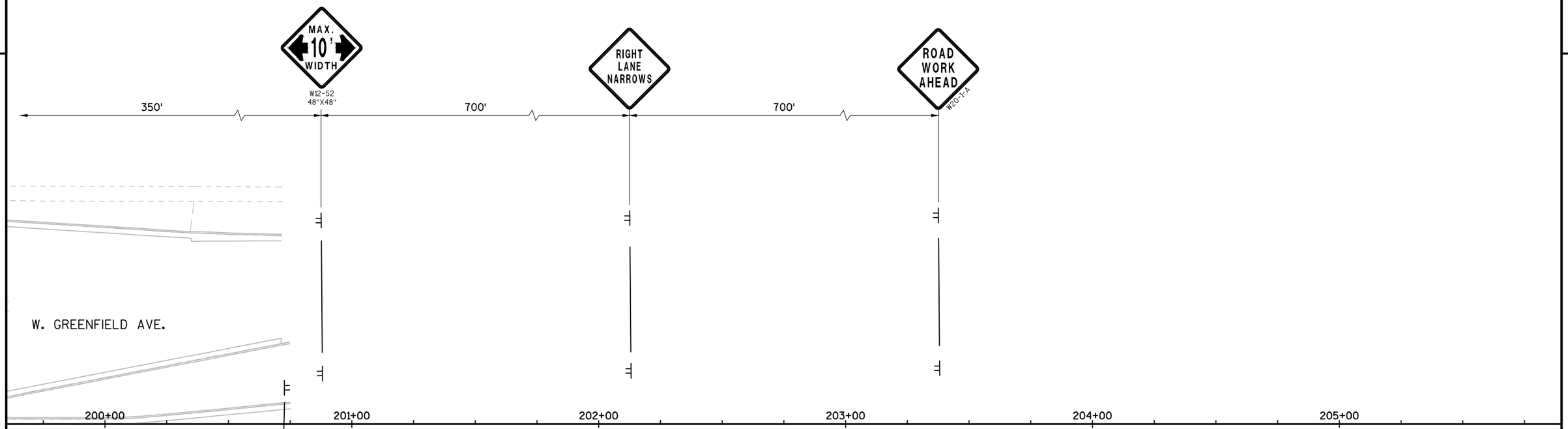
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SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2 - GREENFIELD AVE. & MOORLAND RD.	SHEET 206	E

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2 - GREENFIELD AVE. & MOORLAND RD.	SHEET 207	E

2

N

S. SUNNYSLOPE RD.

W. GREENFIELD AVE.

STOP
R1-1F
30"X30"
(ON TEMPORARY TRAFFIC SIGNAL WOOD POLE)

SIDEWALK CLOSED USE OTHER SIDE
R9-10
48"X24"

SIDEWALK CLOSED
R9-9
24"X12"

LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50
30"X36"
(ON TEMPORARY TRAFFIC SIGNAL SPAN WIRE)

ROAD WORK AHEAD
W20-1-A

200'
50'

35+00
34+00
32+00

PI: 248+68.30
PI: 249+44.14

247+00
248+00
249+00
250+00
251+00
252+00

EP: 33+44.32
BP: 33+44.32

NOTES:
CONTRACTOR SHALL NOT CLOSE BOTH SIDES OF PEDESTRIAN SIDEWALK AT THE SAME TIME TO COMPLETE THE TRAFFIC SIGNAL UPGRADE WORK. ONE SIDE OF THE INTERSECTION MUST REMAIN OPEN WHILE THE OTHER SIDE IS UNDER CONSTRUCTION.

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

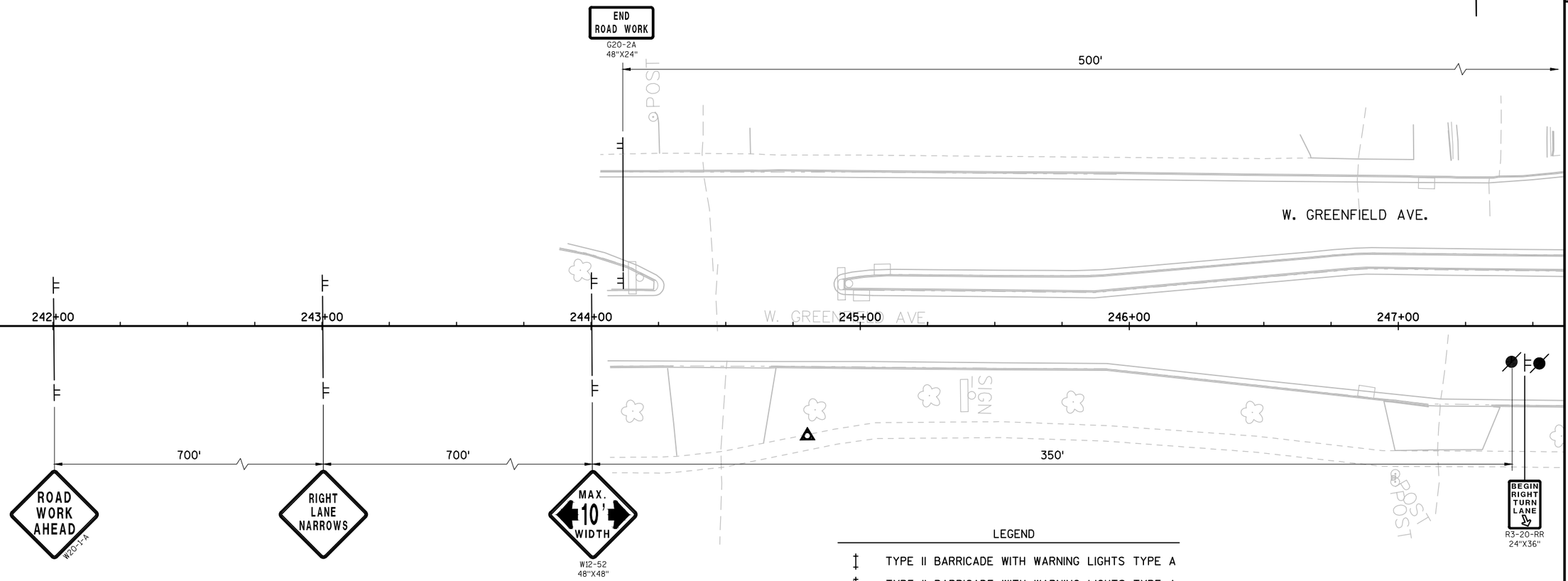
SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 1- GREENFIELD AVE. & SUNNYSLOPE RD.	SHEET 208	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\026002_S1.DWG
LAYOUT NAME - 026002_S1
PLOT DATE : 1/27/2015 3:29 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

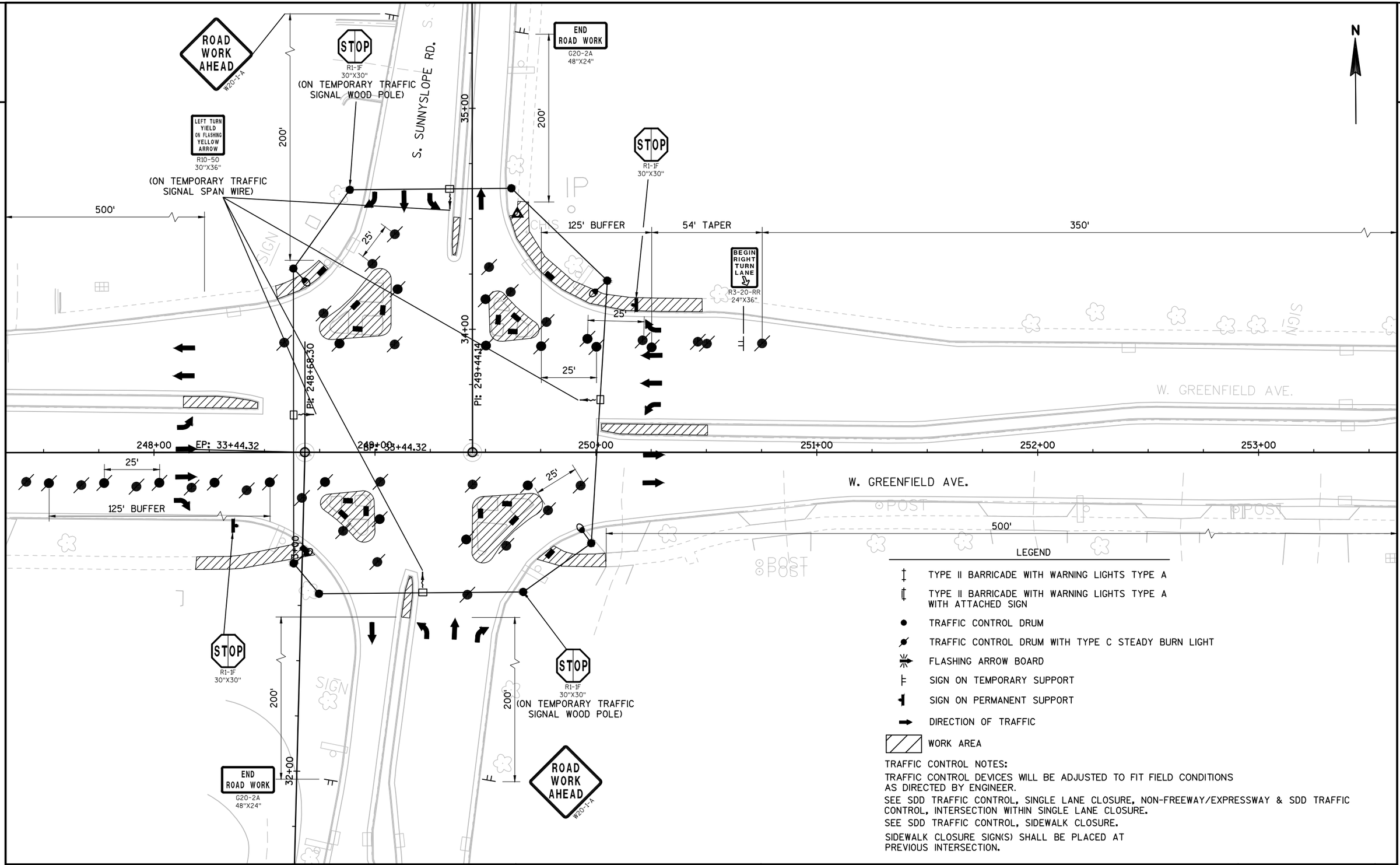
TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

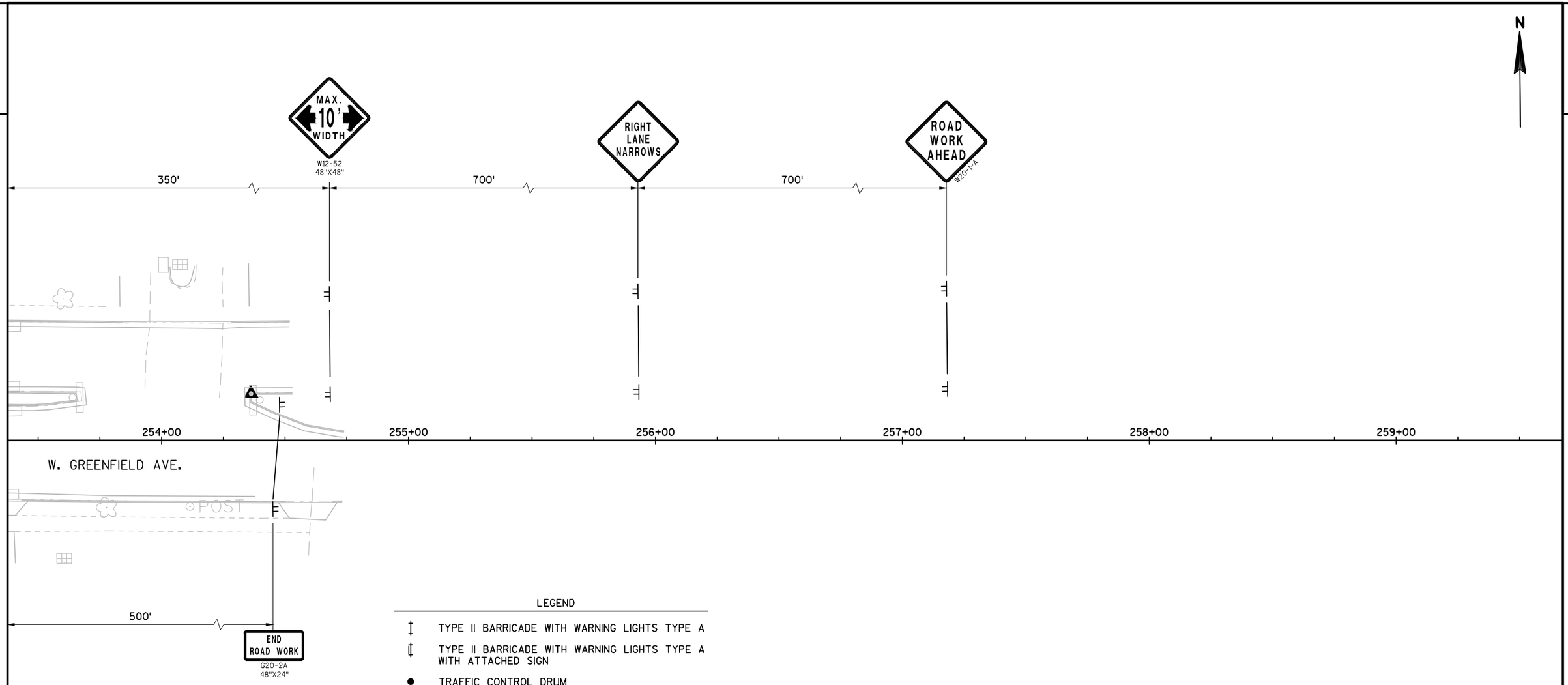
SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 2 - GREENFIELD AVE. & SUNNYSLOPE RD.	SHEET 210	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\026105_S2.DWG
LAYOUT NAME - 026105_S2
PLOT DATE : 1/27/2015 3:34 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

2

N

ROAD WORK AHEAD
W20-1-A

50'

SIDEWALK CLOSED USE OTHER SIDE
R9-10
48"X24"

200'

SIDEWALK CLOSED
R9-9
24"X12"

STOP
R1-1F
30"X30"
(ON TEMPORARY TRAFFIC SIGNAL WOOD POLE)

S. ELM GROVE RD.

35+00

34+00

33+00

32+00

PI: 275+69.39

PI: 276+05.89

W. GREENFIELD AVE.

273+00 274+00 275+00 EP: 33+23.25, BP: 33+23.25 276+00 277+00 278+00

POST

STOP
R1-1F
30"X30"

LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50
30"X36"
(ON TEMPORARY TRAFFIC SIGNAL SPAN WIRE)

NOTES:

CONTRACTOR SHALL NOT CLOSE BOTH SIDES OF PEDESTRIAN SIDEWALK AT THE SAME TIME TO COMPLETE THE TRAFFIC SIGNAL UPGRADE WORK. ONE SIDE OF THE INTERSECTION MUST REMAIN OPEN WHILE THE OTHER SIDE IS UNDER CONSTRUCTION.

LEGEND

- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A
- TYPE II BARRICADE WITH WARNING LIGHTS TYPE A WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES:

TRAFFIC CONTROL DEVICES WILL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY ENGINEER.

SEE SDD TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY & SDD TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE.

SEE SDD TRAFFIC CONTROL, SIDEWALK CLOSURE.

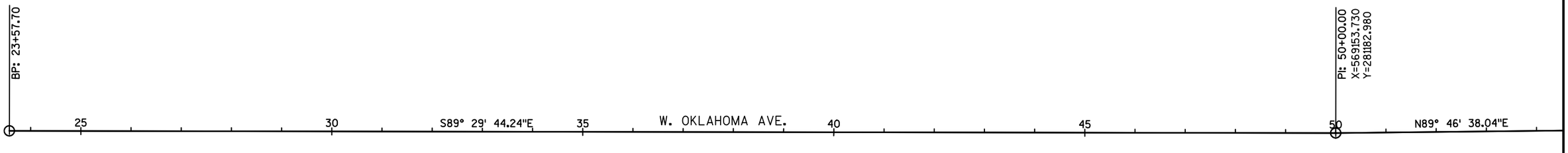
SIDEWALK CLOSURE SIGN(S) SHALL BE PLACED AT PREVIOUS INTERSECTION.

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC CONTROL-STAGE 1-W. GREENFIELD AVE. & ELM GROVE RD.	SHEET 212	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\GREENFIELD\026003_S1.DWG
LAYOUT NAME - 026003_S1
PLOT DATE : 1/27/2015 3:30 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

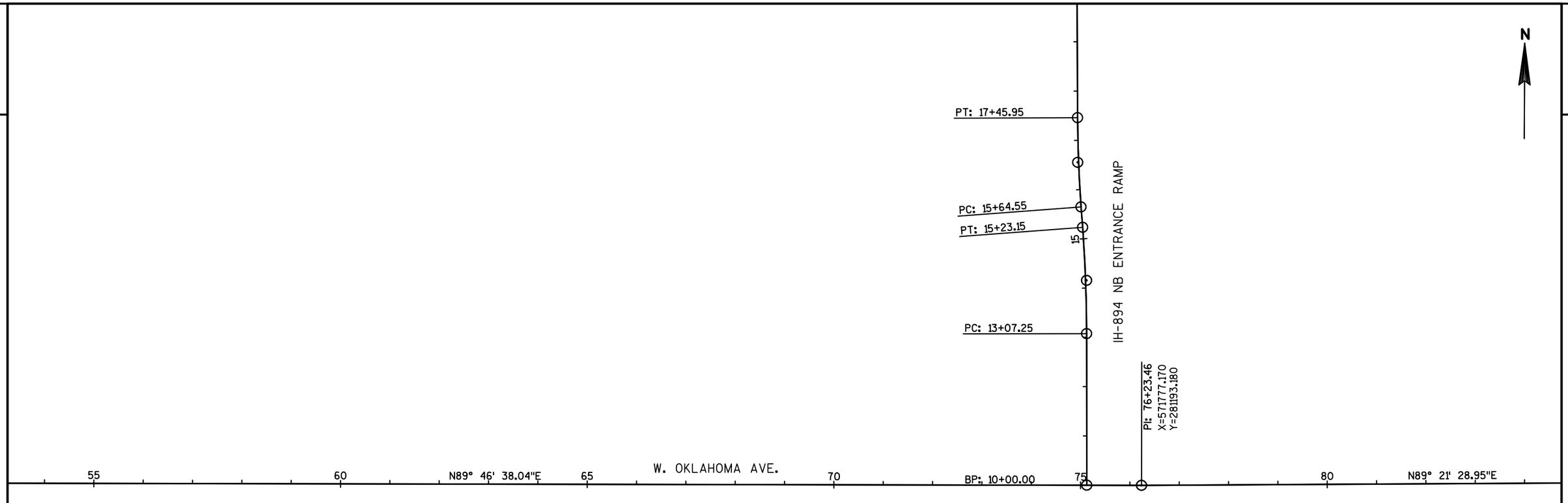


MILWAUKEE COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. OKLAHOMA AVE.	SHEET 213	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\027202_AD.DWG
LAYOUT NAME - 027202_AD
PLOT DATE : 1/27/2015 5:35 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2



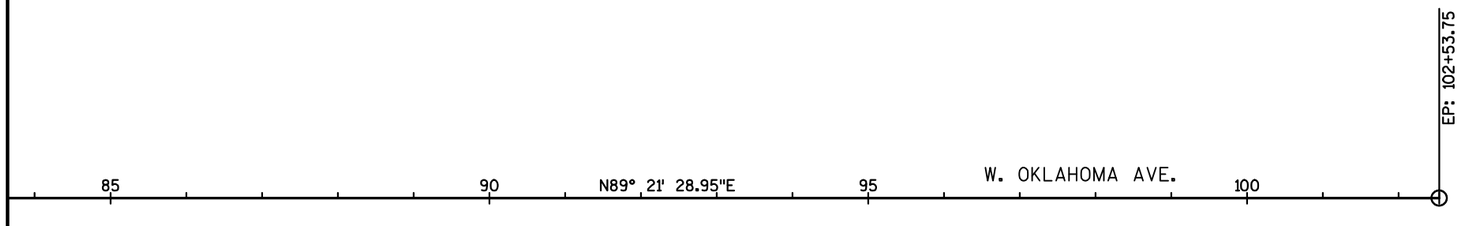
MILWAUKEE COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. OKLAHOMA AVE.	SHEET 214	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\027203_AD.DWG
LAYOUT NAME - 027203_AD
PLOT DATE : 1/27/2015 5:35 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

N



MILWAUKEE COUNTY

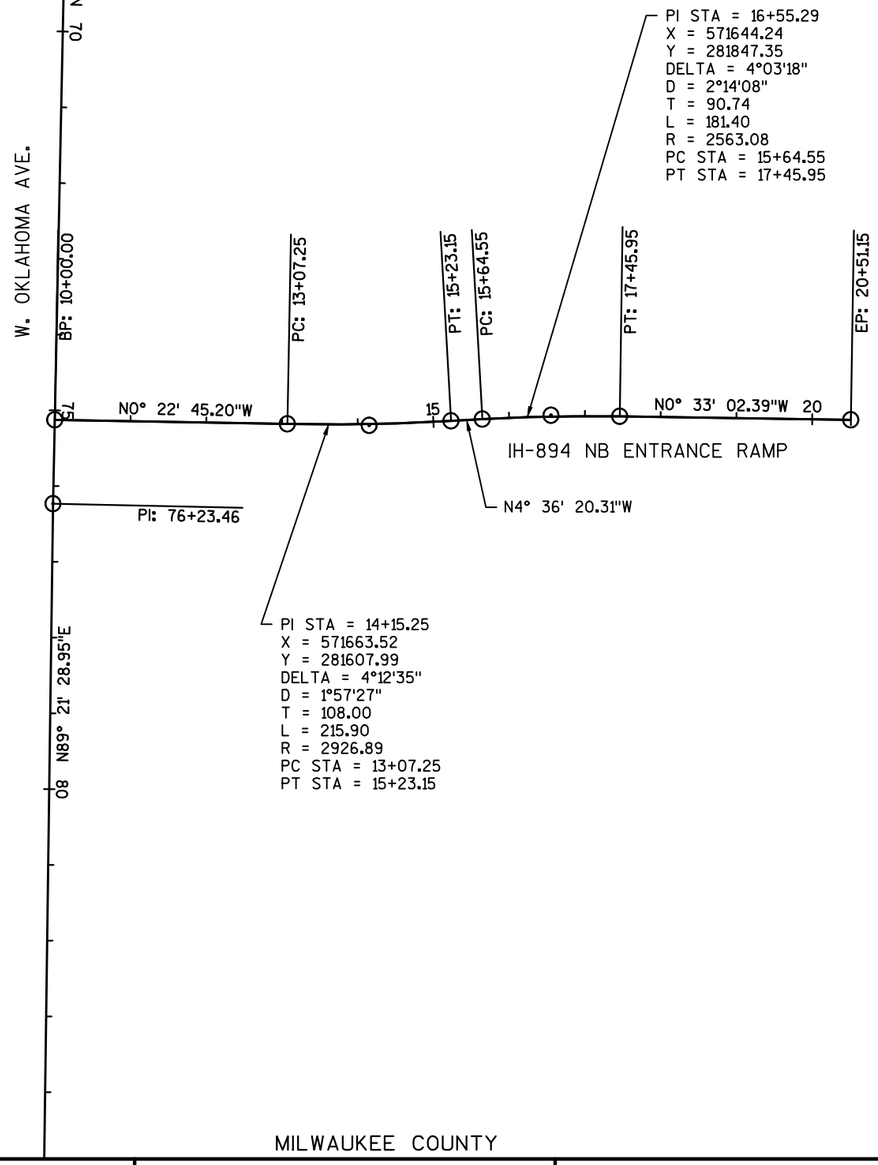
PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. OKLAHOMA AVE.	SHEET 215	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\027204_AD.DWG
LAYOUT NAME - 027204_AD

PLOT DATE : 1/27/2015 5:35 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N

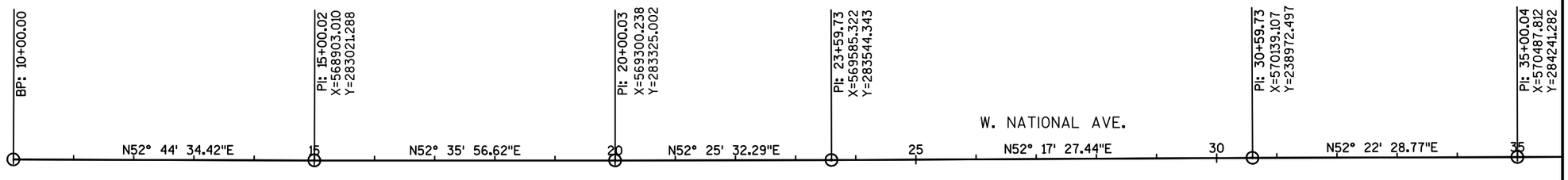


MILWAUKEE COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - IH-894 NB ENTRANCE RAMP	SHEET 216	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\OKLAHOMA\027201_AD.DWG
LAYOUT NAME - 027201_AD
PLOT DATE : 1/29/2015 12:30 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2



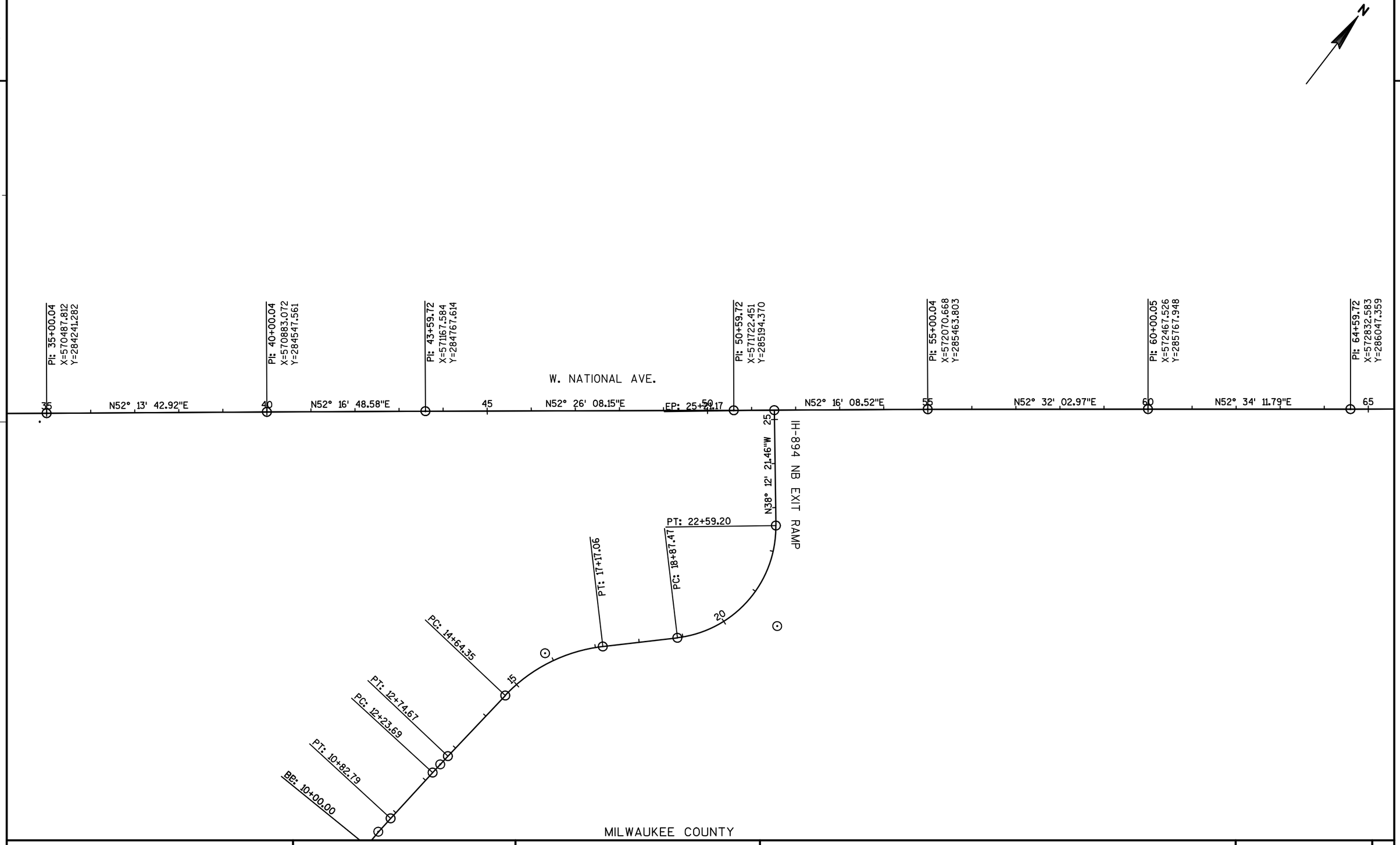
MILWAUKEE COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. NATIONAL AVE.	SHEET 217	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\027201_AD.DWG
LAYOUT NAME - 027201_AD

PLOT DATE : 1/27/2015 4:54 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



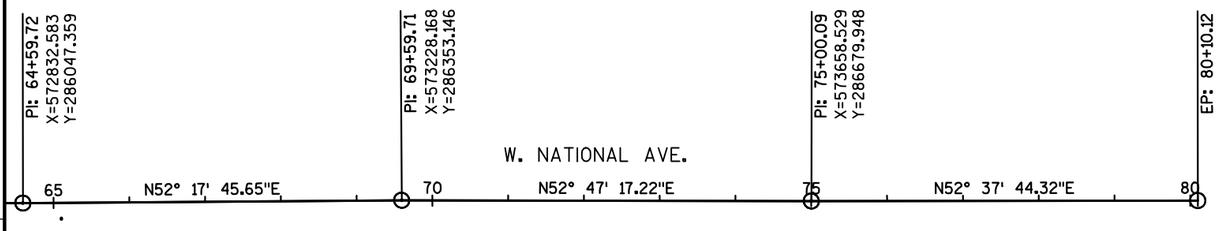
MILWAUKEE COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. NATIONAL AVE.	SHEET 218	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\027202_AD.DWG
LAYOUT NAME - 027202_AD

PLOT DATE : 1/27/2015 4:54 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

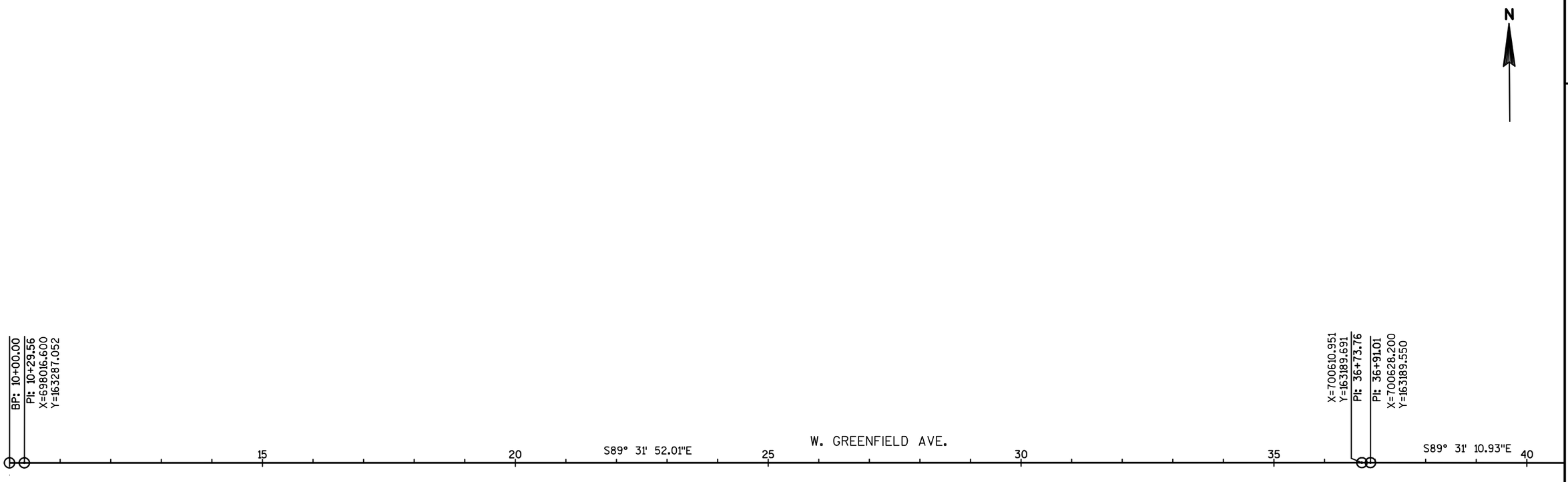


MILWAUKEE COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. NATIONAL AVE.	SHEET 219	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\NATIONAL\027203_AD.DWG
LAYOUT NAME - 027203_AD
PLOT DATE : 1/27/2015 4:54 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2



WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY:IH-894	COUNTY:MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 220	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027201_AD.DWG
LAYOUT NAME - 027201_AD
PLOT DATE : 1/27/2015 2:20 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

2

N

X=703261.860
Y=163167.472
PI: 63+24.76

PI: 63+39.33
X=703276.430
Y=163167.350

40 45 50 S89° 31' 10.93"E 55 S89° 30' 8.18"E W. GREENFIELD AVE. 60 65 S89° 30' 8.18"E 70

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 221	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027202_AD.DWG
LAYOUT NAME - 027202_AD

PLOT DATE : 1/27/2015 2:20 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

2

N

X=705637.624
Y=163208.359
PI: 89+76.70

PI: 89+87.00
X=705924.00
Y=163144.350

70 75 80 85 90 95 100

S89° 30' 8.18"E

S89° 23' 34.52"E
W. GREENFIELD AVE.

S89° 23' 34.52"E

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 222	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027203_AD.DWG
LAYOUT NAME - 027203_AD

PLOT DATE : 1/27/2015 2:20 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

2

N

X=708258.787
Y=163250.684
PI: 116+31.78

PI: 116+45.72
X=708582.570
Y=163116.180

100 105 S89° 23' 34.52"E 110 W. GREENFIELD AVE. 115 120 S89° 23' 54.31"E 125 130

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 223	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027204_AD.DWG
LAYOUT NAME - 027204_AD

PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

N

S. CALHOUN RD.

N0° 37' 53.31"W

45

40

35

30

N1° 44' 28.45"E

X=711224811
Y=163088.437
PI: 142+88.11

PI: 143+03.98
X=711240.680
Y=163088.270

130

S89° 23' 54.31"E

135

140

EP: 35+98.27

145

W. GREENFIELD AVE.

150

S89° 22' 46.77"E

155

160

WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 224	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027205_AD.DWG
LAYOUT NAME - 027205_AD

PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

PI: 169+36.06
X=713872.611
163059.773

160 S89° 22' 46.77"E 165 170 175 W. GREENFIELD AVE. 180 S89° 29' 06.92"E 185 190

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 225	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027206_AD.DWG
LAYOUT NAME - 027206_AD

PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

N

S. MOORLAND RD.

N0° 24' 22.95"E

PI: 196+22.58
X=716559.023
Y=163036.029

X=716480.959
Y=163036.339
PI: 195+44.52

W. GREENFIELD AVE.

S89° 29' 06.92"E

EP: 34+27.35
BP: 34+27.35

S89° 31' 39.51"E

N2° 32' 19.20"E

190 195 200 205 210 215 220

35 40 25

WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 226	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027207_AD.DWG
LAYOUT NAME - 027207_AD

PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

S. SUNNYSLOPE RD.

N0° 26' 36.63"E

PI: 222+83.03
X=719219.383
Y=163014.096

PI: 248+68.30
X=721804.563
Y=162993.088

PI: 249+44.14
X=721763.511
Y=162917.837

220 S89° 31' 39.51"E 225 230 S89° 32' 09.69"E 235 W. GREENFIELD AVE. 240 245 EP: 33+44.32 PI: 33+44.32 250

40 35 30 25

N1° 56' 44.25"E

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 227	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027208_AD.DWG
LAYOUT NAME - 027208_AD

PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

2

N

S. ELM GROVE RD.

N0° 27' 32.59"E

40

X=724505.549
Y=162969.577

PI: 275+69.39

PI: 276+05.89
X=724542.050
Y=162969.334

250 255 260 S89° 29' 58.84"E 265 W. GREENFIELD AVE. 270 EP: [illegible] 275 S89° 29' 50.42"E 280

30

N1° 49' 52.27"E

25

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 228	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027209_AD.DWG
LAYOUT NAME - 027209_AD

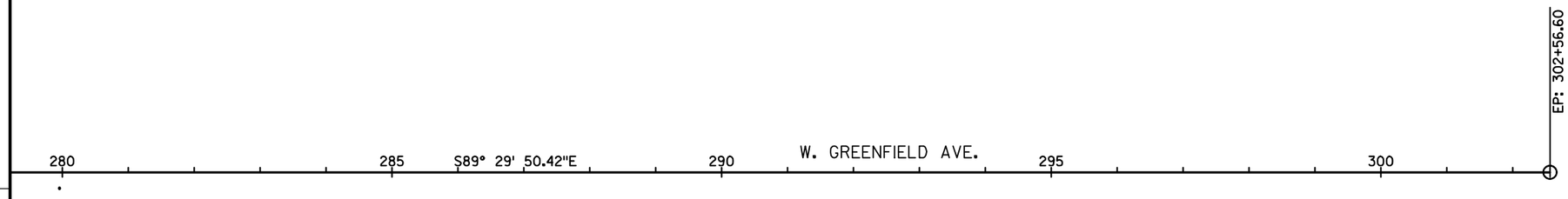
PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

2

N



WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - W. GREENFIELD AVE.	SHEET 229	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027210_AD.DWG
LAYOUT NAME - 027210_AD

PLOT DATE : 1/27/2015 2:21 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

N

BP: 10+00.00

S. CALHOUN RD.

15

20

25

N1° 44' 28.45"E

30

35

135

S89° 23' 54.31"E

140

BEP: 35356.27

X=711224811
Y=163088.437

PI: 142+88.11

PI: 143+03.98
X=711240.680
Y=163088.270

145

S89° 22' 46.77"E

W. GREENFIELD AVE.

150

WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. CALHOUN RD.	SHEET 230	E

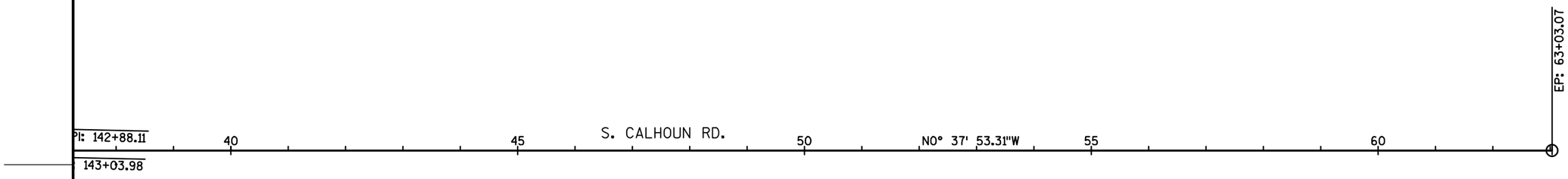
FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027211_AD.DWG
LAYOUT NAME - 027211_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

N



WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. CALHOUN RD.	SHEET 231	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027212_AD.DWG
LAYOUT NAME - 027212_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

N

BP: 10+00.00

15

20

S. MOORLAND RD.

25

N2° 32' 19.12"E

30

W. GREENFIELD AVE.

190

S89° 29' 06.92"E

PI: 194+27.35

PI: 195+44.52
X=716480.959
Y=163036.339

35

PI: 196+22.58
X=716559.023
Y=163036.029

240

S89° 31' 39.60"E

205

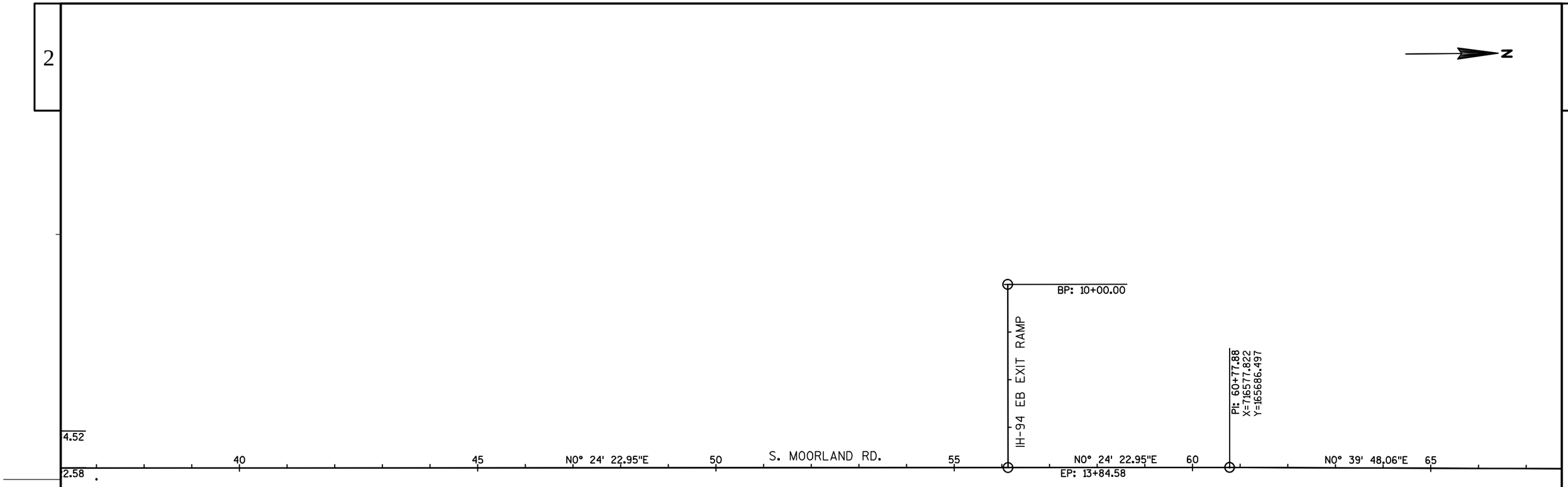
WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. MOORLAND RD.	SHEET 232	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027213_AD.DWG
LAYOUT NAME - 027213_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



WAUKESHA COUNTY

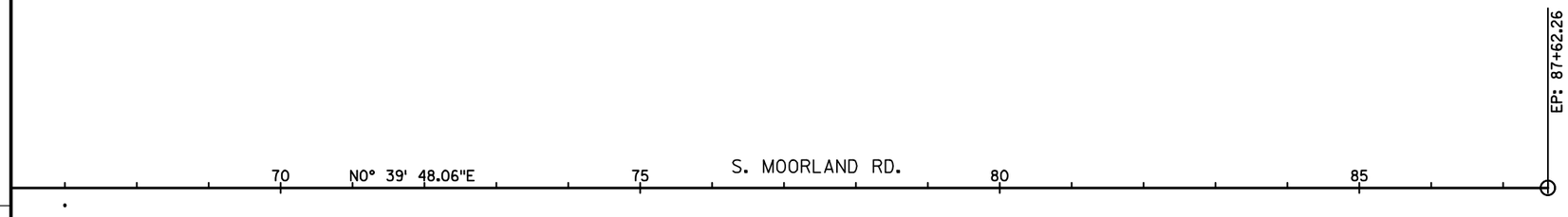
PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. MOORLAND RD.	SHEET 233	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027214_AD.DWG
LAYOUT NAME - 027214_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N



WAUKESHA COUNTY

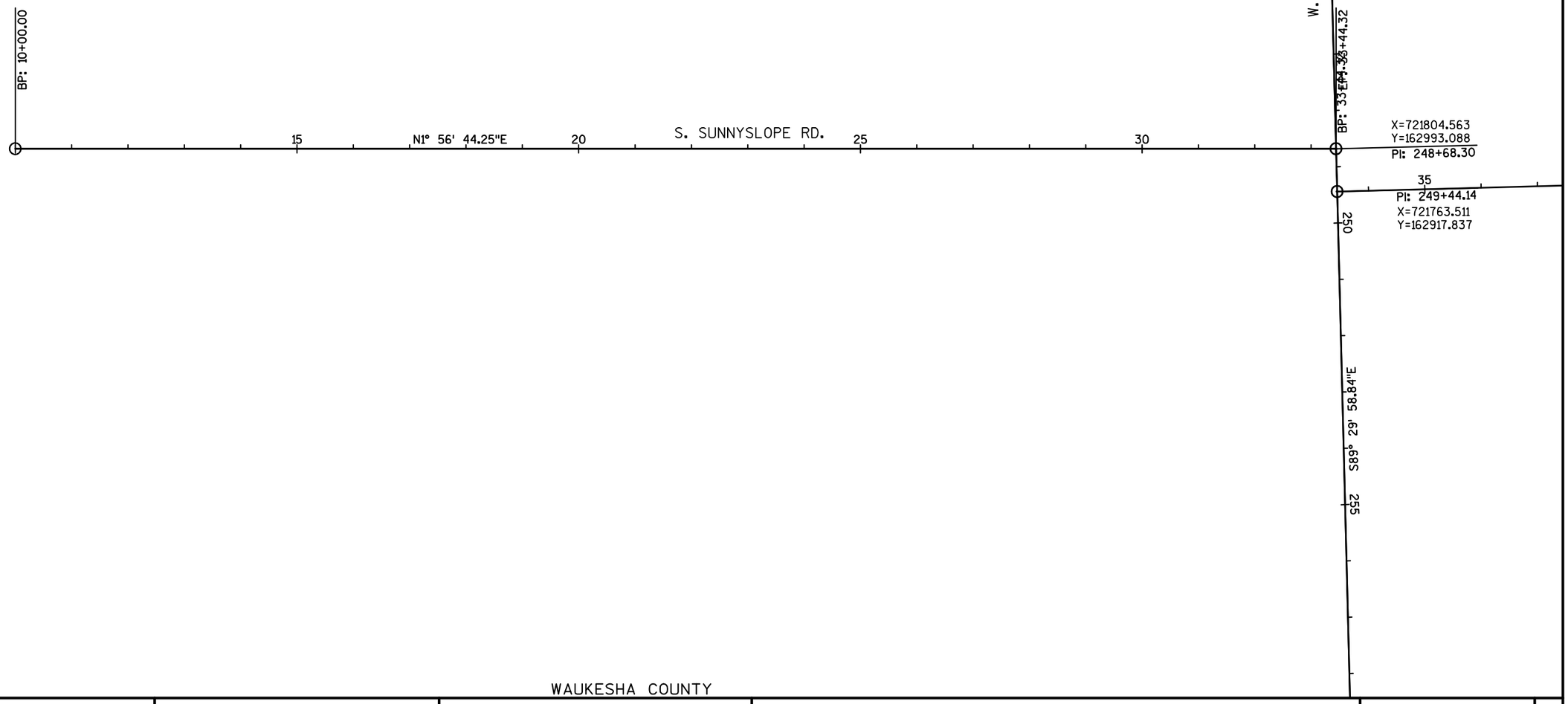
PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. MOORLAND RD.	SHEET 234	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027215_AD.DWG
LAYOUT NAME - 027215_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2



WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. SUNNYSLOPE RD.	SHEET 235	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027216_AD.DWG
LAYOUT NAME - 027216_AD
PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

N

2

EP: 60+01.48

40 N0° 26' 36.63"E 45 S. SUNNYSLOPE RD. 50 55 60

WAUKESHA COUNTY

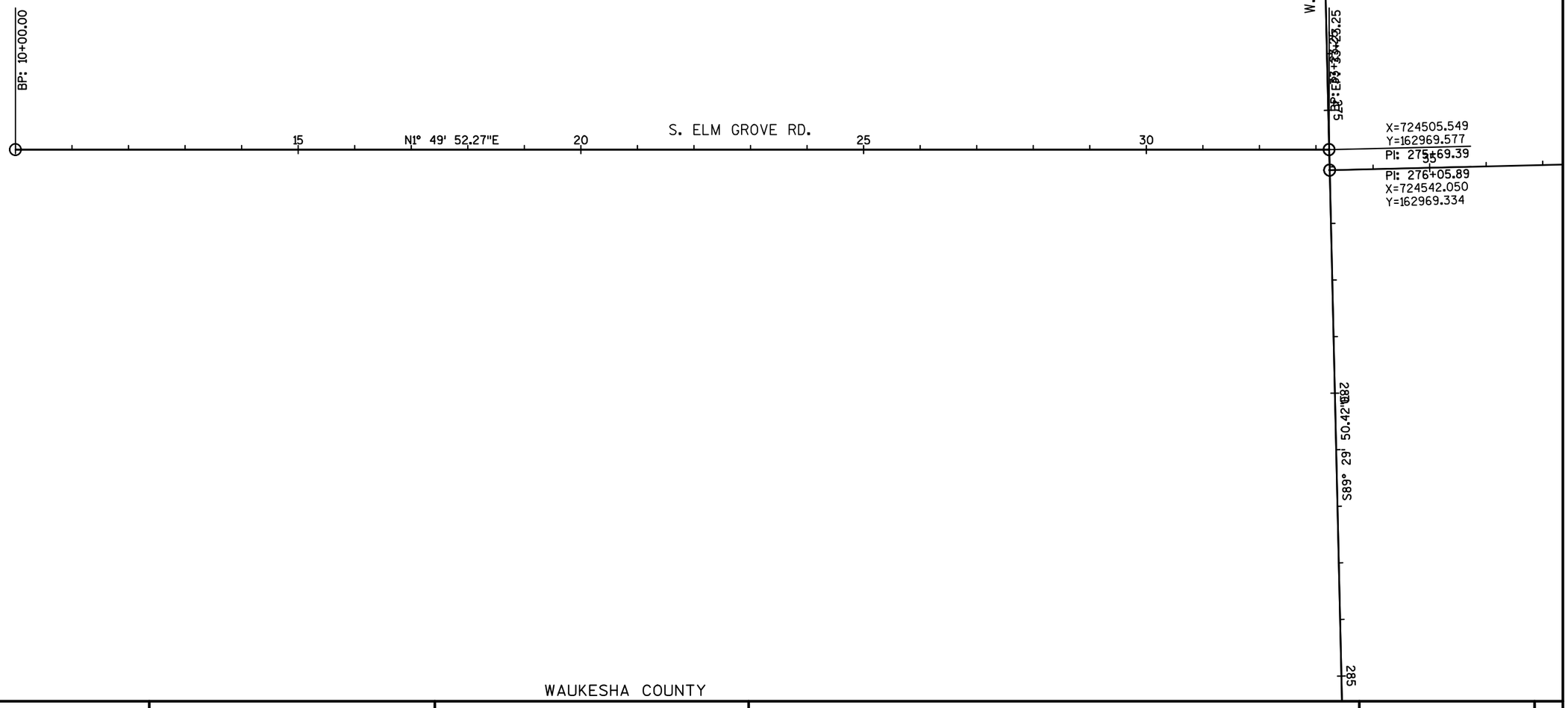
PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. SUNNYSLOPE RD.	SHEET 236	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027217_AD .DWG
LAYOUT NAME - 027217_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2



WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY:IH-894	COUNTY:MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. ELM GROVE RD.	SHEET 237	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027218_AD.DWG
LAYOUT NAME - 027218_AD

PLOT DATE : 1/27/2015 2:22 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N

2

EP: 59+75.31

40 45 S. ELM GROVE RD. 50 N0° 27' 32.59"E 55

WAUKESHA COUNTY

PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - S. ELM GROVE RD.	SHEET 238	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027219_AD.DWG
LAYOUT NAME - 027219_AD

PLOT DATE : 1/27/2015 2:23 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

65

N0° 39' 48.06"E

PI: 60+77.88
X=716577.822
Y=165686.497

60

N0° 24' 22.95"E

EP: 13+84.58

BP: 10+00.00

S89° 40' 04.82"E

IH-94 EB EXIT RAMP

55

N0° 24' 22.95"E

S. MOORLAND RD.

50

WAUKESHA COUNTY

PROJECT NO: 1060-35-93	HWY: IH-94	COUNTY: MILWAUKEE / WAUKESHA	ALIGNMENT LAYOUT - IH-94 EB EXIT RAMP	SHEET 239	E

FILE NAME : W:\PDS\C3D\CAD\10603307\93\CALHOUN\027220_AD.DWG
LAYOUT NAME - 027220_AD

PLOT DATE : 1/27/2015 2:23 PM PLOT BY : HAYNES, RONNIE PLOT NAME : PLOT SCALE : 1 IN:200 FT

DATE 11MAR15 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
0010	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0020	201.0110	Clearing	SY	2,498.000	2,498.000
0030	201.0210	Grubbing	SY	2,498.000	2,498.000
0040	204.0100	Removing Pavement	SY	320.000	320.000
0050	204.0150	Removing Curb & Gutter	LF	1,606.000	1,606.000
0060	204.0155	Removing Concrete Sidewalk	SY	1,130.000	1,130.000
0070	204.0170	Removing Fence	LF	182.000	182.000
0080	204.0195	Removing Concrete Bases	EACH	58.000	58.000
0090	205.0100	Excavation Common	CY	886.000	886.000
0100	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	204.000	204.000
0110	213.0100	Finishing Roadway (project) 0001. 1060-35-93	EACH	1.000	1.000
0120	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,123.000	1,123.000
0130	320.0145	Concrete Base 8-Inch	SY	1,475.000	1,475.000
0140	416.0610	Drilled Tie Bars	EACH	867.000	867.000
0150	455.0140	Asphaltic Material PG64-28P	TON	16.000	16.000
0160	455.0605	Tack Coat	GAL	32.000	32.000
0170	460.1110	HMA Pavement Type E-10	TON	261.000	261.000
0180	465.0125	Asphaltic Surface Temporary	TON	13.000	13.000
0190	601.0331	Concrete Curb & Gutter 31-Inch	LF	1,180.000	1,180.000
0200	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	337.000	337.000
0210	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	324.000	324.000
0220	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	24.000	24.000
0230	601.0600	Concrete Curb Pedestrian	LF	8.000	8.000
0240	602.0405	Concrete Sidewalk 4-Inch	SF	2,140.000	2,140.000
0250	602.0410	Concrete Sidewalk 5-Inch	SF	7,196.000	7,196.000
0260	602.0415	Concrete Sidewalk 6-Inch	SF	96.000	96.000
0270	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	456.000	456.000
0280	603.1436	Concrete Barrier Type S36C	LF	320.000	320.000
0290	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	19.000	19.000
0300	611.0430	Reconstructing Inlets	EACH	4.000	4.000
0310	611.0540	Manhole Covers Type K	EACH	4.000	4.000
0320	611.0600	Inlet Covers Type A	EACH	2.000	2.000
0330	611.0610	Inlet Covers Type BW	EACH	1.000	1.000
0340	611.3220	Inlets 2x2-FT	EACH	3.000	3.000
0350	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000
0360	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0370	614.0200	Steel Thrie Beam Structure Approach	LF	49.000	49.000
0380	614.2300	MGS Guardrail 3	LF	571.000	571.000
0390	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0400	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0410	616.0206	Fence Chain Link 6-FT	LF	182.000	182.000
0420	618.0100	Maintenance And Repair of Haul Roads (project) 0001. 1060-35-93	EACH	1.000	1.000
0430	619.1000	Mobilization	EACH	1.000	1.000
0440	620.0300	Concrete Median Sloped Nose	SF	269.000	269.000
0450	624.0100	Water	MGAL	141.000	141.000
0460	628.1504	Silt Fence	LF	813.000	813.000
0470	628.1520	Silt Fence Maintenance	LF	813.000	813.000
0480	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0490	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000

3

DATE 11MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
0500	628.2002	Erosion Mat Class I Type A	SY	107.000	107.000
0510	628.2006	Erosion Mat Urban Class I Type A	SY	297.000	297.000
0520	628.2008	Erosion Mat Urban Class I Type B	SY	558.000	558.000
0530	628.7005	Inlet Protection Type A	EACH	5.000	5.000
0540	628.7015	Inlet Protection Type C	EACH	28.000	28.000
0550	629.0210	Fertilizer Type B	CWT	1.000	1.000
0560	630.0130	Seeding Mixture No. 30	LB	22.000	22.000
0570	630.0200	Seeding Temporary	LB	22.000	22.000
0580	631.0300	Sod Water	MGAL	56.000	56.000
0590	631.1000	Sod Lawn	SY	931.000	931.000
0600	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	67.000	67.000
0610	634.0816	Posts Tubular Steel 2x2-Inch X 16-FT	EACH	16.000	16.000
0620	637.2210	Signs Type II Reflective H	SF	1,098.510	1,098.510
0630	637.2215	Signs Type II Reflective H Folding	SF	343.160	343.160
0640	637.2230	Signs Type II Reflective F	SF	134.000	134.000
0650	638.2102	Moving Signs Type II	EACH	5.000	5.000
0660	638.2602	Removing Signs Type II	EACH	135.000	135.000
0670	638.3000	Removing Small Sign Supports	EACH	57.000	57.000
0680	641.8100	Overhead Sign Support (structure) 0001. S-40-937	LS	1.000	1.000
0690	643.0100	Traffic Control (project) 0001. 1060-35-93	EACH	1.000	1.000
0700	643.0300	Traffic Control Drums	DAY	9,048.000	9,048.000
0710	643.0410	Traffic Control Barricades Type II	DAY	2,761.000	2,761.000
0720	643.0420	Traffic Control Barricades Type III	DAY	150.000	150.000
0730	643.0705	Traffic Control Warning Lights Type A	DAY	5,822.000	5,822.000
0740	643.0715	Traffic Control Warning Lights Type C	DAY	5,981.000	5,981.000
0750	643.0800	Traffic Control Arrow Boards	DAY	111.000	111.000
0760	643.0900	Traffic Control Signs	DAY	5,922.000	5,922.000
0770	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,705.000	1,705.000
0780	646.0126	Pavement Marking Epoxy 8-Inch	LF	1,522.000	1,522.000
0790	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	791.000	791.000
0800	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	1.000	1.000
0810	647.0168	Pavement Marking Arrows Preformed Thermoplastic Type 2	EACH	3.000	3.000
0820	647.0356	Pavement Marking Words Epoxy	EACH	1.000	1.000
0830	647.0456	Pavement Marking Curb Epoxy	LF	505.000	505.000
0840	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	774.000	774.000
0850	647.0606	Pavement Marking Island Nose Epoxy	EACH	37.000	37.000
0860	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	200.000	200.000
0870	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	2,735.000	2,735.000
0880	647.0955	Removing Pavement Markings Arrows	EACH	5.000	5.000
0890	647.0965	Removing Pavement Markings Words	EACH	3.000	3.000
0900	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,476.000	2,476.000
0910	649.0900	Temporary Pavement Marking Stop Line 12-Inch	LF	20.000	20.000
0920	649.1200	Temporary Pavement Marking Stop Line Removable Tape 18-Inch	LF	15.000	15.000
0930	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,613.000	1,613.000
0940	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	3,715.000	3,715.000
0950	652.0605	Conduit Special 2-Inch	LF	51.000	51.000

3

DATE 11MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
0960	652.0615	Conduit Special 3-Inch	LF	4,292.000	4,292.000
0970	652.0700.S	Install Conduit into Existing Item	EACH	26.000	26.000
0980	653.0140	Pull Boxes Steel 24x42-Inch	EACH	53.000	53.000
0990	653.0900	Adjusting Pull Boxes	EACH	1.000	1.000
1000	653.0905	Removing Pull Boxes	EACH	26.000	26.000
1010	654.0101	Concrete Bases Type 1	EACH	17.000	17.000
1020	654.0102	Concrete Bases Type 2	EACH	5.000	5.000
1030	654.0105	Concrete Bases Type 5	EACH	5.000	5.000
1040	654.0110	Concrete Bases Type 10	EACH	10.000	10.000
1050	654.0113	Concrete Bases Type 13	EACH	10.000	10.000
1060	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	3.000	3.000
1070	655.0124	Cable In Duct 3-4 AWG	LF	25.000	25.000
1080	655.0230	Cable Traffic Signal 5-14 AWG	LF	3,189.000	3,189.000
1090	655.0240	Cable Traffic Signal 7-14 AWG	LF	1,511.000	1,511.000
1100	655.0250	Cable Traffic Signal 9-14 AWG	LF	890.000	890.000
1110	655.0260	Cable Traffic Signal 12-14 AWG	LF	7,337.000	7,337.000
1120	655.0270	Cable Traffic Signal 15-14 AWG	LF	1,533.000	1,533.000
1130	655.0310	Cable Type UF 2-12 AWG	LF	305.000	305.000
1140	655.0320	Cable Type UF 2-10 AWG Grounded	LF	3,719.000	3,719.000
1150	655.0510	Electrical Wire Traffic Signals 12 AWG	LF	1,055.000	1,055.000
1160	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	8,691.000	8,691.000
1170	655.0615	Electrical Wire Lighting 10 AWG	LF	3,465.000	3,465.000
1180	655.0620	Electrical Wire Lighting 8 AWG	LF	2,095.000	2,095.000
1190	655.0630	Electrical Wire Lighting 4 AWG	LF	480.000	480.000
1200	655.0700	Loop Detector Lead In Cable	LF	19,465.000	19,465.000
1210	655.0800	Loop Detector Wire	LF	19,342.000	19,342.000
1220	655.0900	Traffic Signal EVP Detector Cable	LF	5,615.000	5,615.000
1230	656.0200	Electrical Service Meter Breaker Pedestal (location) 3002. STH 59 & CTH O	LS	1.000	1.000
1240	656.0200	Electrical Service Meter Breaker Pedestal (location) 3003. STH 59 & S. Sunnyslope Road	LS	1.000	1.000
1250	656.0200	Electrical Service Meter Breaker Pedestal (location) 3004. STH 59 & S. Elm Grove Road	LS	1.000	1.000
1260	657.0100	Pedestal Bases	EACH	18.000	18.000
1270	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	3.000	3.000
1280	657.0305	Poles Type 2	EACH	2.000	2.000
1290	657.0322	Poles Type 5-Aluminum	EACH	1.000	1.000
1300	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	4.000	4.000
1310	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	10.000	10.000
1320	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	6.000	6.000
1330	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	1.000	1.000
1340	657.1350	Install Poles Type 10	EACH	10.000	10.000
1350	657.1355	Install Poles Type 12	EACH	4.000	4.000
1360	657.1360	Install Poles Type 13	EACH	6.000	6.000
1370	657.1520	Install Monotube Arms 20-FT	EACH	4.000	4.000
1380	657.1525	Install Monotube Arms 25-FT	EACH	1.000	1.000
1390	657.1530	Install Monotube Arms 30-FT	EACH	5.000	5.000
1400	657.1540	Install Monotube Arms 40-FT	EACH	9.000	9.000
1410	657.1545	Install Monotube Arms 45-FT	EACH	1.000	1.000

3

DATE 11MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
1420	657.1815	Install Luminaire Arms Steel 15-FT	EACH	24.000	24.000
1430	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	70.000	70.000
1440	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	22.000	22.000
1450	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	70.000	70.000
1460	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	22.000	22.000
1470	658.0416	Pedestrian Signal Face 16-Inch	EACH	28.000	28.000
1480	658.0500	Pedestrian Push Buttons	EACH	26.000	26.000
1490	658.0600	Led Modules 12-Inch Red Ball	EACH	54.000	54.000
1500	658.0605	Led Modules 12-Inch Yellow Ball	EACH	52.000	52.000
1510	658.0610	Led Modules 12-Inch Green Ball	EACH	52.000	52.000
1520	658.0615	Led Modules 12-Inch Red Arrow	EACH	38.000	38.000
1530	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	62.000	62.000
1540	658.0625	Led Modules 12-Inch Green Arrow	EACH	40.000	40.000
1550	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	28.000	28.000
1560	658.5069	Signal Mounting Hardware (location) 3001. CTH 59 & S. Calhoun Road	LS	1.000	1.000
1570	658.5069	Signal Mounting Hardware (location) 3002. STH 59 & CTH O	LS	1.000	1.000
1580	658.5069	Signal Mounting Hardware (location) 3003. STH 59 & S. Sunnyslope Road	LS	1.000	1.000
1590	658.5069	Signal Mounting Hardware (location) 3004. STH 59 & S. Elm Grove Road	LS	1.000	1.000
1600	659.1125	Luminaires Utility LED C	EACH	25.000	25.000
1610	661.0200	Temporary Traffic Signals for Intersections (location) 3001. STH 59 & Cth O	LS	1.000	1.000
1620	661.0200	Temporary Traffic Signals for Intersections (location) 3002. STH 59 & S. Sunnyslope Road	LS	1.000	1.000
1630	661.0200	Temporary Traffic Signals for Intersections (location) 3003. STH 59 & S. Elm Grove Road	LS	1.000	1.000
1640	661.0300	Generators	DAY	6.000	6.000
1650	661.0700	Temporary Ramp Meter (location) 2001. 15+62	LS	1.000	1.000
1660	662.1032.S	Ramp Closure Gates Hardwired 32-FT	EACH	2.000	2.000
1670	670.0100	Field System Integrator 2001. FTMS	LS	1.000	1.000
1680	670.0100	Field System Integrator 3001. STH 59	LS	1.000	1.000
1690	670.0100	Field System Integrator 3002. IH 894/USH 45	LS	1.000	1.000
1700	670.0200	ITS Documentation 2001. FTMS	LS	1.000	1.000
1710	670.0200	ITS Documentation 3001. STH 59	LS	1.000	1.000
1720	670.0200	ITS Documentation 3002. IH 894/USH 45	LS	1.000	1.000
1730	674.0300	Remove Cable	LF	1,195.000	1,195.000
1740	674.0400	Reinstall Cable	LF	210.000	210.000
1750	675.0400.S	Install Ethernet Switch	EACH	1.000	1.000
1760	676.0100	Signal Assembly Ramp Control Sidemount	EACH	1.000	1.000
1770	676.0105	Signal Assembly Ramp Control Overhead	EACH	2.000	2.000
1780	676.0300	Signal Assembly Advance Flasher Type 1	EACH	2.000	2.000
1790	676.9001.S	Removing Advance Flasher Assemblies Type 1	EACH	1.000	1.000
1800	676.9002.S	Removing Advance Flasher Assemblies Type 2	EACH	1.000	1.000
1810	678.0006	Install Fiber Optic Cable Outdoor Plant 6-CT	LF	480.000	480.000

DATE 11MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
1820	678.0300	Fiber Optic Splice	EACH	112.000	112.000
1830	678.0400	Fiber Optic Termination	EACH	6.000	6.000
1840	678.0500	Communication System Testing 2001. FTMS	LS	1.000	1.000
1850	678.0500	Communication System Testing 3001. STH 59	LS	1.000	1.000
1860	678.0500	Communication System Testing 3002. IH 894/USH 45	LS	1.000	1.000
1870	690.0150	Sawing Asphalt	LF	362.000	362.000
1880	690.0250	Sawing Concrete	LF	2,261.000	2,261.000
1890	SPV.0060	Special 0001. Traffic Control Local Road Lane Closures	EACH	296.000	296.000
1900	SPV.0060	Special 0003. Adjusting Sanitary Manhole	EACH	1.000	1.000
1910	SPV.0060	Special 0004. Replace Sanitary Manhole	EACH	1.000	1.000
1920	SPV.0060	Special 0005. Grooved Prefomed Thermoplastic Arrows Type 2 White	EACH	4.000	4.000
1930	SPV.0060	Special 0006. Grooved Preformed Thermoplastic Words White	EACH	2.000	2.000
1940	SPV.0060	Special 1002. Removing Lighting Units	EACH	5.000	5.000
1950	SPV.0060	Special 1010. Lamp Disposal High Intensity Discharge	EACH	16.000	16.000
1960	SPV.0060	Special 1020. Relocating Light Poles Luminaires And Arms	EACH	7.000	7.000
1970	SPV.0060	Special 1050. Pull Boxes Steel 24x36-Inch Grounded	EACH	2.000	2.000
1980	SPV.0060	Special 2001. Install Contact Closure Radio System	EACH	2.000	2.000
1990	SPV.0060	Special 2002. Wireless Traffic Sensor	EACH	15.000	15.000
2000	SPV.0060	Special 2003. Install Wireless Traffic Sensor Access Point	EACH	2.000	2.000
2010	SPV.0060	Special 2004. Install Wireless Traffic Sensor Repeater	EACH	1.000	1.000
2020	SPV.0060	Special 2005. Wireless Traffic Sensor Contact Closure Module	EACH	1.000	1.000
2030	SPV.0060	Special 2006. Wireless Traffic Sensor Contact Closure Extension Card	EACH	5.000	5.000
2040	SPV.0060	Special 2007. Install Portable Video Surveillance System	EACH	1.000	1.000
2050	SPV.0060	Special 2008. Relocating Portable Video Surveillance System	EACH	2.000	2.000
2060	SPV.0060	Special 2009. Install Temporary Vehicle Detector Assembly	EACH	1.000	1.000
2070	SPV.0060	Special 2010. Refocusing Vehicle Detector Assembly	EACH	2.000	2.000
2080	SPV.0060	Special 2012. Removing Ramp Control Signal Assembly Sidemount	EACH	2.000	2.000
2090	SPV.0060	Special 2013. Install Wireless Modem	EACH	1.000	1.000
2100	SPV.0060	Special 2014. Bury Existing Manhole	EACH	2.000	2.000
2110	SPV.0090	Special 0001. Removing Pavement Markings Water Blasting	LF	2,572.000	2,572.000
2120	SPV.0090	Special 0002. Grooved Preformed Thermoplastic Crosswalk 6-Inch	LF	209.000	209.000
2130	SPV.0090	Special 0003. Grooved Preformed Thermoplastic Stop Line 18-Inch	LF	92.000	92.000
2140	SPV.0090	Special 0004. Grooved Preformed Thermoplastic Diagonal 12-Inch White	LF	140.000	140.000
2150	SPV.0090	Special 3001. Cable Type UF 2-14 Awg	LF	5,615.000	5,615.000
2160	SPV.0090	Special 3002. Install Camera Power Cable	LF	4,869.000	4,869.000

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DATE 11MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
2170	SPV.0090	Special 3003. Install Cat-5e Cable	LF	5,361.000	5,361.000
2180	SPV.0105	Special 0001. Pavement Cleanup Project 1060-35-93	LS	1.000	1.000
2190	SPV.0105	Special 0002. Survey Project 1060-35-93	LS	1.000	1.000
2200	SPV.0105	Special 1006. Maintenance Of Lighting Systems	LS	1.000	1.000
2210	SPV.0105	Special 2002. Relocate Existing CCTV Camera	LS	1.000	1.000
2220	SPV.0105	Special 2003. Relocate Existing Bluetooth Detector	LS	1.000	1.000
2230	SPV.0105	Special 3001. Remove Traffic Signals STH 59 & S. Calhoun Road	LS	1.000	1.000
2240	SPV.0105	Special 3002. Remove Traffic Signals STH 59 & CTH O	LS	1.000	1.000
2250	SPV.0105	Special 3003. Remove Traffic Signals STH 59 & S. Sunnyslope Road	LS	1.000	1.000
2260	SPV.0105	Special 3004. Remove Traffic Signals STH 59 & S. Elm Grove Road	LS	1.000	1.000
2270	SPV.0105	Special 3005. Remove Traffic Signals IH 94 EB Off Ramp & Cth O	LS	1.000	1.000
2280	SPV.0105	Special 3006. Remove Traffic Signals IH 894/USH 45 Ramps & W. Oklahoma Avenue	LS	1.000	1.000
2290	SPV.0105	Special 3011. Remove Loop Detector Wire And Lead -In Cable STH 59 & CTH O	LS	1.000	1.000
2300	SPV.0105	Special 3012. Remove Loop Detector Wire And Lead -In Cable STH 59 & S. Sunnyslope Road	LS	1.000	1.000
2310	SPV.0105	Special 3013. Remove Loop Detecotr Wire And Lead -In Cable STH 59 & S. Elm Grove Road	LS	1.000	1.000
2320	SPV.0105	Special 3021. Install State Furnished Traffic Signal Cabinet STH 59 & S. Calhoun Road	LS	1.000	1.000
2330	SPV.0105	Special 3022. Install State Furnished Traffic Signal Cabinet STH 59 & CTH O	LS	1.000	1.000
2340	SPV.0105	Special 3023. Install State Furnished Traffic Signal Cabinet STH 59 & S. Sunnyslope Rd	LS	1.000	1.000
2350	SPV.0105	Special 3024. Install State Furnished Traffic Signal Cabinet STH 59 & S. Elm Grove Rd	LS	1.000	1.000
2360	SPV.0105	Special 3025. Install State Furnished Traffic Signal Cabinet Ih 94 EB Off Ramp & CTH O	LS	1.000	1.000
2370	SPV.0105	Special 3026. Inst St Furn Traffic Sig Cabinet IH 894/USH 45 Ramp & W Oklohoma Ave	LS	1.000	1.000
2380	SPV.0105	Special 3031. Transporting Signal And Lighting Materials STH 59 & S. Calhoun Road	LS	1.000	1.000
2390	SPV.0105	Special 3032. Transporting Signal And Lighting Materials STH 59 & CTH O	LS	1.000	1.000
2400	SPV.0105	Special 3033. Transporting Signal And Lighting Materials STH 59 & S. Sunnyslope Road	LS	1.000	1.000
2410	SPV.0105	Special 3034. Transporting Signal And Lighting Materials STH 59 & S. Elm Grove Road	LS	1.000	1.000

DATE 11MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-35-93 QUANTITY
2420	SPV.0105	Special 3041. Transporting And Installing State Furnished Adaptable Traffic Signal	LS	1.000	1.000
2430	SPV.0105	Special 3042. Transporting And Installing State Furnished Adaptable Traffic Signal	LS	1.000	1.000
2440	SPV.0105	Special 3043. Transporting And Installing State Furnished Adaptable Traffic Signal	LS	1.000	1.000
2450	SPV.0105	Special 3044. Transporting And Installing State Furnished Adaptable Traffic Signal	LS	1.000	1.000
2460	SPV.0105	Special 3051. Install State Furnished EVP Detector Heads STH 59 & S. Calhoun Road	LS	1.000	1.000
2470	SPV.0105	Special 3052. Install State Furnished EVP Detector Heads STH 59 & CTH O	LS	1.000	1.000
2480	SPV.0105	Special 3053. Install State Furnished EVP Detector Heads STH 59 & S. Sunnyslope Rd	LS	1.000	1.000
2490	SPV.0105	Special 3054. Install State Furnished EVP Detector Heads STH 59 & S. Elm Grove Rd	LS	1.000	1.000
2500	SPV.0105	Special 3061. Temporary EVP System STH 59 & CTH O	LS	1.000	1.000
2510	SPV.0105	Special 3062. Temporary EVP System STH 59 & S. Sunnyslope Road	LS	1.000	1.000
2520	SPV.0105	Special 3063. Temporary EVP System STH 59 & S. Elm Grove Road	LS	1.000	1.000
2530	SPV.0105	Special 3071. Install Fiber Optic Communications In Cabinet STH 59 & S. Calhoun Road	LS	1.000	1.000
2540	SPV.0105	Special 3072. Install Fiber Optic Communications In Cabinet STH 59 & CTH O	LS	1.000	1.000
2550	SPV.0105	Special 3073. Install Fiber Optic Communications In Cabinet STH 59 & S. Sunnyslope Road	LS	1.000	1.000
2560	SPV.0105	Special 3074. Install Fiber Optic Communications In Cabinet STH 59 & S. Elm Grove Road	LS	1.000	1.000
2570	SPV.0105	Special 3075. Install Fiber Optic Communications In Cabinet IH 94 EB Off Ramp & CTH O	LS	1.000	1.000
2580	SPV.0105	Special 3076. Install Fiber Optic Comm in Cab IH 894/USH 45 Ramps & W. Oklahoma Ave	LS	1.000	1.000
2590	SPV.0105	Special 3081. Transport and Install State Furn Radar Det Sys IH 94 EB Off Ramp & CTH O	LS	1.000	1.000
2600	SPV.0165	Special 0001. Concrete Sidewalk 5-Inch (High Early Strength)	SF	267.000	267.000
2610	SPV.0180	Special 0001. Topsoil Special	SY	931.000	931.000

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ROADWAY ITEMS

CATEGORY	LOCATION	108.4400 CPM PROGRESS SCHEDULE EA	213.0100 FINISHING ROADWAY (1060-35-93) EA	618.0100 MAINTENANCE AND REPAIR HAUL ROADS (1060-35-93) EA	SPV.0105.0001 PAVEMENT CLEANUP PROJECT (1060-35-93) LS	SPV.0105.0002 SURVEY PROJECT (1060-35-93) LS
1000	PROJECT	1	1	1	1	1
	TOTAL:	1	1	1	1	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 MOBILIZATION EA	628.1905 MOBILIZATIONS EROSION CONTROL EA	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EA
1000	1060-35-93	1	4	4
	TOTAL:	1	4	4

TRAFFIC CONTROL

CATEGORY	STAGE	LOCATION	STATION	TO STATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY
1000	1	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	16+28	1044	324	--	648	612	648
	2	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	16+26	988	494	--	988	228	684
	1	W. NATIONAL AVE.	45+80	73+10	625	--	25	50	250	350
	2	W. NATIONAL & IH-894 OFF RAMP	22+77.5	24+77	2075	--	125	250	575	750
	1	W. GREENFIELD AVE. & S. CALHOUN RD.	123+00	162+25	--	600	--	1,200	--	375
	2	W. GREENFIELD AVE. & S. CALHOUN RD.	123+00	162+25	1,159	--	--	--	1,159	418
	1	W. GREENFIELD AVE. & S. MOORLAND RD.	177+25	214+70	--	264	--	528	--	165
	2	W. GREENFIELD AVE. & S. MOORLAND RD.	177+25	214+70	1,881	--	--	--	1,881	990
	1	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	229+90	268+25	--	300	--	600	--	180
	2	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	229+90	268+25	1,276	--	--	--	1,276	870
	1	W. GREENFIELD AVE. & S. ELM GROVE RD.	272+48	279+12	--	779	--	1558	--	492
		TOTALS:			9,048	2,761	150	5,822	5,981	5,922

TRAFFIC CONTROL (CONTINUED)

CATEGORY	STAGE	LOCATION	STATION	TO STATION	643.0100 TRAFFIC CONTROL (1060-35-93) EACH	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	SPV.0060.0001 TRAFFIC CONTROL LOCAL ROAD LANE CLOSURES EACH
1000	1	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	--	36	--
	1	W. NATIONAL AVE.	50+41	51+57	--	25	50
	2	W. NATIONAL AVE.	50+41	51+57	--	50	100
	1	W. GREENFIELD AVE. & S. CALHOUN RD.	141+75	143+96	--	--	40
	1	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	--	--	42
	1	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	--	--	40
		W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	--	--	24
		UNDISTRIBUTED			1	--	--
		TOTALS:			1	111	296

TEMPORARY PAVEMENT MARKINGS

CATEGORY	STAGE	LOCATION	STATION	TO STATION	647.0955 REMOVING PAVEMENT MARKINGS ARROWS EACH	647.0965 REMOVING PAVEMENT MARKINGS WORDS EACH	SPV.0090.0001 REMOVING PAVEMENT MARKINGS WATER BLASTING LF	649.0400 REMOVABLE TAPE 4-INCH YELLOW LF	649.0400 REMOVABLE TAPE 4-INCH WHITE LF	649.0900 TEMPORARY PAVEMENT MARKINGS STOP LINE 12-INCH LF	649.1200 STOP LINE REMOVABLE TAPE 18-INCH LF
1000	1	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	16+28	--	--	--	586	--	10	--
	2	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	16+26	--	--	--	--	582	10	--
	1	W. NATIONAL AVE.	51+65	55+68	--	--	--	404	--	--	--
	2	W. NATIONAL & IH-894 EXIT RAMP	22+77.5	24+77	2	--	146	904	--	--	15
	1	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	--	--	944	--	--	--	--
	1	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	--	--	579	--	--	--	--
	1	S. MOORLAND RD & IH-94 EXIT RAMP	11+20	12+91	3	3	903	--	--	--	--
		SUBTOTAL			5	3	2,572	1,894	582	20	15
		TOTALS:			5	3	2,572	2,476		20	15

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REMOVALS

CATEGORY	LOCATION	STATION	TO STATION	201.0110 CLEARING SY	201.0210 GRUBBING SY	204.0100 REMOVING PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0170 REMOVING FENCE LF	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	2,498	2,498	90	1,287	135	182	--	1,137
	W. NATIONAL AVE. NB EXIT RAMP	22+77.5	24+77	--	--	2	184	10	--	--	199
	W. NATIONAL AVE.	50+41.2	51+57.2	--	--	42	135	--	--	--	180
	W. GREENFIELD AVE. & S. CALHOUN RD.	141+75	143+96	--	--	--	--	170	--	--	201
	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	--	--	94	--	386	--	--	464
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	--	--	92	--	326	--	362	48
	W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	--	--	--	--	103	--	--	32
	TOTALS:			2,498	2,498	320	1,606	1,130	182	362	2,261

3

EXCAVATION COMMON

CATEGORY	LOCATION	STATION	TO STATION	205.0100 EXCAVATION COMMON CY	205.0501. S EXCAVATION, HAULING AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	771	204
	W. NATIONAL & IH-894 OFF RAMP	22+77.5	24+77	115	--
	W. NATIONAL AVE.	50+41.2	51+57.2	0	--
	TOTALS:			886	204

3

EROSION CONTROL

LOCATION	STATION	LOCATION	624.0100 WATER MGAL	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2002 EROSION MAT CLASS I TYPE A SY	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7005 INLET PROTECTION TYPE A EA	628.7015 INLET PROTECTION TYPE C EA
W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	--	636	636	107	297	558	--	--
W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	16.5' LT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+88	36.9' RT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+95	44' RT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	11+86	18.7' RT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	11+86	28.4' RT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	11+87	39.8' RT	--	--	--	--	--	--	1	--
W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+31	2.9' RT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+31	5.7' LT	--	--	--	--	--	--	1	--
W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+80	1.3' LT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+81	3.2' RT	--	--	--	--	--	--	--	1
W. OKLAHOMA AVE. NB ENTRANCE RAMP	14+84	44.3' RT	--	--	--	--	--	--	1	--
W. NATIONAL & IH-894 EXIT RAMP	23+05	24+75	--	177	177	--	--	--	--	--
W. NATIONAL & IH-894 EXIT RAMP	22+73	17.5' LT	--	--	--	--	--	--	--	1
W. NATIONAL & IH-894 EXIT RAMP	23+81	0.58' RT	--	--	--	--	--	--	--	1
W. NATIONAL & IH-894 EXIT RAMP	23+94	50.2' LT	--	--	--	--	--	--	1	--
W. NATIONAL AVE.	51+63	2.9' RT	--	--	--	--	--	--	1	--
W. GREENFIELD AVE. & S. CALHOUN RD.	142+90	100' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. CALHOUN RD.	143+05	100' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. CALHOUN RD.	143+40	99' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. CALHOUN RD.	143+99	12.7' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. CALHOUN RD.	143+99	1.4' RT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. MOORLAND RD.	196+84	94.08' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. MOORLAND RD.	196+74	64.2' RT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. MOORLAND RD.	195+11	101.9' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+36	61.6' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+92	92.8' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	249+68	82.7' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	276+17	53' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	275+88	64.5' RT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	275+50	79.4' RT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	275+39	34.5' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	275+06	33.8' RT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	275+06	10.9' LT	--	--	--	--	--	--	--	1
W. GREENFIELD AVE. & S. ELM GROVE RD.	275+05	3.9' RT	--	--	--	--	--	--	--	1
UNDISTRIBUTED			141	--	--	--	--	--	--	--
TOTALS:			141	813	813	107	297	558	5	28

3

ASPHALT PAVEMENT ITEMS

CATEGORY	LOCATION	STATION	TO STATION	455.0140 ASPHALTIC MATERIAL PG64-28P TON	455.0605 TACK COAT GAL	460.1110 HMA PAVEMENT TYPE E-10 TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	12	24	206	13
	W. NATIONAL & IH-894 EXIT RAMP	22+77.5	24+77	2	4	32	--
	W. NATIONAL AVE.	50+41.2	51+57.2	2	4	23	--
	TOTALS:			16	32	261	13

CONCRETE ITEMS

CATEGORY	LOCATION	STATION	TO STATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	320.0145 CONCRETE BASE 8-INCH SY	416.0610 DRILLED TIE BARS EA	602.0405 CONCRETE SIDEWALK 4-INCH SF	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0415 CONCRETE SIDEWALK 6-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	SPV.0165.0001 CONCRETE SIDEWALK 5-INCH (HIGH EARLY STRENGTH) SF
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	531	1226	554	--	1210	--	32	--
	W. NATIONAL & IH-894 EXIT RAMP	22+77.5	24+77	77	140	65	--	47	--	8	--
	W. NATIONAL AVE.	50+41.2	51+57.2	52	109	60	--	--	--	--	--
	W. GREENFIELD AVE. & S. CALHOUN RD.	141+75	143+96	46	--	58	568	866	96	128	--
	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	202	--	130	1,102	2,248	--	128	--
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	197	--	--	470	2,380	--	128	--
	W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	18	--	--	--	445	--	32	267
	TOTALS:			1,123	1,475	867	2,140	7,196	96	456	267

3

STORM SEWER ITEMS

CATEGORY	LOCATION	STATION	INLET ELEV.	DISCH ELEV.	611.0430 RECONSTRUCTING INLETS EA	611.0540 MANHOLE COVERS TYPE K EA	611.0600 INLET COVERS TYPE A EA	611.0610 INLET COVERS TYPE BW EA	611.3220 INLETS 2 x 2 - FT EA	611.8110 ADJUSTING MANHOLE COVERS EA	611.8115 ADJUSTING INLET COVERS EA
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+90.7, 40.3' RT	775.4	772.0	1	1	--	--	--	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+96, 48.3' RT	776.1	772.2	--	--	1	--	1	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	11+85.8, 22.7' RT	775.2	770.2	1	1	--	--	--	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	11+85.9, 32.8' RT	775.4	770.3	--	--	1	--	1	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+31.4, 6.3' LT	775.4		--	--	--	--	--	--	1
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+31.5, 1.4' LT	775.1		1	1	--	--	--	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+80.8, 1.3' LT	775.6	770.9	1	1	--	--	--	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	12+80.8, 5.8' LT	775.5	771.0	--	--	--	1	1	--	--
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	14+83.5, 48.6' RT	776.8		--	--	--	--	--	--	1
	W. NATIONAL AVE. NB EXIT RAMP	23+70, 36.4' LT			--	--	--	--	--	1	--
	TOTALS:				4	4	2	1	3	1	2

3

STORM SEWER PIPES

CATEGORY	LOCATION	PIPE	FROM	TO	INLET ELEV.	DISCH. ELEV.	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12 - INCH LF
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	P-1	1	2	772.2	772.0	8
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	P-2	3	4	770.3	770.2	8
	W. OKLAHOMA AVE. NB ENTRANCE RAMP	P-3	8	7	771.0	770.9	3
	TOTAL:						19

SEWER SYSTEM

CATEGORY	LOCATION	STATION	SPV.0060.0003 ADJUSTING SANITARY MANHOLE EACH	SPV.0060.0004 REPLACE SANITARY MANHOLE EACH
1000	W. NATIONAL AVE. NB EXIT RAMP	23+76, 31' LT	--	1
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+64, 40.4' RT	1	--
	TOTAL:		1	1

CURB & GUTTER, SAFETY ISLANDS, CONCRETE BARRIER

CATEGORY	LOCATION	STATION	TO STATION	601.0331 CONCRETE CURB & GUTTER 31-INCH LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0555 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A LF	601.0600 CONCRETE CURB PEDESTRIAN LF	603.1436 CONCRETE BARRIER TYPE S36C LF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	916	--	--	24	--	320	23
	W. NATIONAL & IH-894 EXIT RAMP	22+77.5	24+77	173	--	--	--	--	--	--
	W. NATIONAL AVE.	50+41.2	51+57.2	91	--	--	--	--	--	--
	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	--	337	--	--	--	--	122
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	--	--	314	--	--	--	124
	W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	--	--	10	--	8	--	--
	TOTALS:			1,180	337	324	24	8	320	269

BEAMGUARD

CATEGORY	LOCATION	STATION	TO STATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EA	616.0206 FENCE CHAIN LINK 6-FT LF
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	49	571	2	1	182
	TOTAL:			49	571	2	1	182

PAVEMENT MARKINGS

CATEGORY	LOCATION	STATION	TO STATION	646.0106 EPOXY 4-INCH 12.5 FT LINE 37.5 SKIP DASHED YELLOW LF	646.0106 EPOXY 4-INCH WHITE LF	646.0126 PAVEMENT MARKING 3 FT LINE 9 FT SKIP DOT PATTERN WHITE LF	646.0126 EPOXY 8-INCH WHITE LF	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH WHITE LF	646.0843.S WHITE 2 FT LINE 6 FT SKIP LF	647.0166 ARROWS EPOXY TYPE 2 EACH	647.0168 ARROWS PREFORMED THERMOPLASTIC TYPE 2 EACH	647.0356 WORDS EPOXY WHITE EACH
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+05	15+95	534	621	215	--	289	--	--	1	--	1
	W. NATIONAL & IH-894 EXIT RAMP	22+77.8	24+68.3	149	155	--	--	--	195	--	--	3	--
	W. NATIONAL AVE.	50+41.2	51+57.2	--	--	--	31	--	--	--	--	--	--
	W. GREENFIELD AVE. & S. CALHOUN RD.	141+75	143+96	--	--	--	--	394	--	--	--	--	--
	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	--	--	--	--	394	--	--	--	--	--
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	--	--	--	--	445	--	--	--	--	--
	W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	--	--	--	--	--	--	--	--	--	--
	S. MOORLAND RD & IH-94 EXIT RAMP	11+20	12+91	--	--	--	--	--	568	28	--	--	--
	SUBTOTAL			683	776	215	31	1,522	763	28	1	3	1
	TOTALS:					1,705		1,522		791	1	3	1

PAVEMENT MARKINGS (CONTINUED)

CATEGORY	LOCATION	STATION	TO STATION	647.0456 CURB EPOXY LF	647.0566 STOP LINE EPOXY 18-INCH LF	647.0606 ISLAND NOSE EPOXY EACH	647.0726 DIAGONAL EPOXY 12-INCH WHITE LF	647.0766 CROSSWALK EPOXY 6-INCH LF	SPV.0060.0005 ARROWS TYPE 2 WHITE EACH	SPV.0060.0006 WORDS WHITE EACH	SPV.0090.0002 GROOVED PREFORMED THERMOPLASTIC CROSSWALK 6-INCH WHITE LF	SPV.0090.0003 STOP LINE 18-INCH WHITE LF	SPV.0090.0004 DIAGONAL 12-INCH WHITE LF
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+05	15+95	--	79	--	129	93	--	--	--	--	--
	W. NATIONAL & IH-894 OFF RAMP	22+77.8	24+68.3	19	--	--	71	--	--	--	115	43	--
	W. NATIONAL AVE.	50+41.2	51+57.2	167	--	--	--	--	--	--	--	25	--
	W. GREENFIELD AVE. & S. CALHOUN RD.	141+75	143+96	112	182	12	--	779	--	--	--	--	--
	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	113	248	13	--	1,022	--	--	--	--	--
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	94	143	12	--	578	--	--	--	--	--
	W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	--	122	--	--	263	--	--	--	--	--
	S. MOORLAND RD & IH-94 EXIT RAMP	11+20	12+91	--	--	--	--	--	4	2	94	24	140
	SUBTOTAL			505	774	37	200	2,735	4	2	209	92	140
	TOTALS:			505	774	37	200	2,735	4	2	209	92	140

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RESTORATION ITEMS

CATEGORY	LOCATION	STATION	TO STATION	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY	SPV.0180.0001 TOPSOIL SPECIAL SY
1000	W. OKLAHOMA AVE. NB ENTRANCE RAMP	10+46	15+95	0.30	17	17	28.8	--	--
	W. NATIONAL & IH-894 EXIT RAMP	22+77.5	24+77	0.03	--	--	3.49	108	108
	W. NATIONAL AVE.	50+41.2	51+57.2	0.01	--	--	0.99	19	19
	W. GREENFIELD AVE. & S. CALHOUN RD.	141+75	143+96	0.02	--	--	1.46	43	43
	W. GREENFIELD AVE. & S. MOORLAND RD.	194+86	196+91	0.08	--	--	7.59	241	241
	W. GREENFIELD AVE. & S. SUNNYSLOPE RD.	248+17	250+31	0.07	--	--	7.18	224	224
	W. GREENFIELD AVE. & S. ELM GROVE RD.	274+98	276+66	0.09	--	--	6.82	296	296
	UNDISTRIBUTED			--	5	5	--	--	--
	TOTALS:			1	22	22	56	931	931

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CATEGORY 1100
LIGHTING REMOVAL ITEMS

204.0195 REMOVING CONCRETE BASES * *
SPV.0060.1002 REMOVING LIGHTING UNITS
SPV.0060.1010 LAMP DISPOSAL HIGH INTENSITY DISCHARGE **

** ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	LOCATION	OFFSET	ITEM	204.0195 ** REMOVING CONCRETE BASES	SPV.0060.1002 REMOVING LIGHTING UNITS	SPV.0060.1010 ** LAMP DISPOSAL HIGH INTENSITY DISCHARGE
				EACH	EACH	EACH
BROOKFIELD	195+15	30' LT	LIGHTING UNIT	1	1	2
BROOKFIELD	196+73	06' LT	LIGHTING UNIT	1	1	2
BROOKFIELD	31+72	40' RT	LIGHTING UNIT	1	1	1
BROOKFIELD	33+67	38' RT	LIGHTING UNIT	1	1	2
BROOKFIELD	35+26	17' LT	LIGHTING UNIT	1	1	2
	TOTAL (1100)			**5**	**5**	**9**
				**		**

CATEGORY 1100
LIGHTING PULL BOXES

653.0140 PULL BOXES STEEL 24x42-INCH
653.0900 ADJUSTING PULL BOXES

SYSTEM	LOCATION	LABEL	653.0140 PULL BOXES STEEL 24X42-INCH	653.0900 ADJUSTING PULL BOXES
			EACH	EACH
BROOKFIELD	195+15, 30' LT	LPB205	1	
BROOKFIELD	33+80, 16' LT	LPB201	--	1
	TOTAL (1100)		**1**	**1**

PROJECT NO: 1060-35-93	HWY: STH 59 & MOORLAND RD	COUNTY: WAUKESHA	MISCELLANEOUS QUANTITIES	SHEET:	E

3

CATEGORY 1100
LIGHTING WIRE QUANTITIES
120/240 VAC 3-WIRE ISOLATED NEUTRAL SYSTEM

655.0124 CABLE IN DUCT 3-4 AWG
655.0620 ELECTRICAL WIRE LIGHTING 8 AWG **
655.0630 ELECTRICAL WIRE LIGHTING 4 AWG

** ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	NETWORK	LOCATION TO LOCATION	DISTANCE	655.0620 ** ELECTRICAL WIRE LIGHTING 8 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	655.0124 CABLE IN DUCT 3-4 AWG LF	COMMENTS
BROOKFIELD	A/B/N/G	EXISTING LPB200 TO LPB201 TO PROPOSED LPB205	160	160	480	--	SPLICE AT LPB200
BROOKFIELD	A/B/N/G	PROPOSED LPB205 TO EXISTING LIGHT POLE WEST (M2B5/M2A5)	25	25	--	25	INTERCEPT EXISTING CID
		TOTAL (1100)		**185**	**480**	**25**	
				**			

PROJECT NO: 1060-35-93	HWY: STH 59 & MOORLAND RD	COUNTY: WAUKESHA	MISCELLANEOUS QUANTITIES	SHEET:	E

LIGHTING - REMOVAL

CATEGORY	DESCRIPTION	LOCATION	204.0195 ** REMOVING CONCRETE BASES EACH	SPV.0060.1010 LAMP DISPOSAL HIGH INTENSITY DISCHARGE EACH	SPV.0060.1020 RELOCATING LIGHT POLES LUMINAIRES AND ARMS EACH	SPV,0105.1006 MAINTENANCE OF LIGHTING SYSTEMS LS	REMARKS
1100	DCL13	10+70, 65' RT	1	1	1	--	
	DCL12	17+72.4, 41.0' RT	1	1	1	--	
	DCL11	15+99, 27' RT	1	1	1	--	
	DCL10	14+60, 27' RT	1	1	1	--	
	DCL9	13+20, 28' RT	1	1	1	--	
	DCL8	11+88, 30' RT	1	1	1	--	
	DCL7	10+75, 10' LT	1	1	1	--	
	MAINTENANCE	HL-40-CL	--	--	--	1	NOTE 1
1100		TOTALS	7	7	7	1	

NOTES
1. HL-40-CL HAS A TOTAL OF 38 POLES, 56 LUMINAIRES, 2 SIGN LIGHTS AND 2 UNDER DECK LIGHTS.
2. ** = ADDITIONAL QUANTITIES SHOWN ELSEWHERE.

LIGHTING AND MISCELLANEOUS - FINAL

CATEGORY	DESCRIPTION	LOCATION	654.0102 CONCRETE BASES TYPE 2 EACH	654.0105 CONCRETE BASES TYPE 5 EACH	SPV.0060.1050 PULL BOXES STEEL 24x36-INCH GROUNDED EACH	REMARKS
1100	PB-CL-01	10+81,22.3' LT	--	--	1	--
	PB-CL-02	11+68.9, 13.5' LT	--	--	1	--
	DCL13	10+88.8, 59.4' RT	--	1	--	NOTE 1
	DCL12	17+84.0, 40.3'RT	1	--	--	NOTE 1
	DCL11	16+17.12, 44.79' RT	1	--	--	NOTE 1
	DCL10	14+60.4, 35.8' RT	1	--	--	NOTE 1
	DCL9	13+21.4, 36.1 RT	--	1	--	NOTE 1
	DCL8	11+95.3, 38.0' RT	--	1	--	NOTE 1
	DCL7	10+76.4, 14.2' LT	--	1	--	NOTE 1
1100		TOTALS	3	4	2	

NOTES
1. RELOCATED POLE, REUSE INTERNAL WIRING, ARM & LUMINAIRE. SEE REMOVAL QUANTITIES

LIGHTING - WIRE AND CONDUIT - FINAL

CAT.	FROM	TO	652.0225 ** CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 -INCH LF	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF	REMARKS
1100	PB-CL01	DCL7	17	48	WET SPLICE
	DCL7	PB-CL-02	100	214	
	PB-CL-02	DCL8	65	144	
	DCL13	DCL8	145	304	
	DCL8	DCL9	85	184	
	DCL9	DCL10	155	324	
	DCL10	DCL11	162	338	
	DCL11	DCL12	170	354	NEW CID INTO EXIST POLE
1100		TOTALS	899	1910	

NOTES
1. ** = ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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OVERHEAD SIGN SUPPORTS - MISC QUANTITIES 1060-35-93

LOCATION	OVERHEAD SIGN SUPPORT STRUCTURE S-40-937 L.S. 641.8100.01
IH 894 NB On Ramp at Oklahoma Ave	1
TOTAL	1

SHEET: 1 OF 1

PROJECT NO:1060-35-93	HWY: IH - 94	COUNTY: MILWAUKEE / WAUKESHA	MISCELLANEOUS QUANTITIES – OVERHEAD SIGN SUPPORTS	SHEET:	E

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1-1	M1-94H	S CALHOUN RD	90	X	18	11.250			1								MOUNT ON MAST ARM
1-2	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500										1-1	MOUNT ON SIGNAL POLE
1-3	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1		1					
1-4	R4-7 (2M)	KEEP RIGHT	24	x	30	5.000			1								MOUNT ON SIGNAL POLE
1-5	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
1-6	R1-1F (3)	FOLDING STOP	36	X	36			7.460	1							1-5	MOUNT ON SIGNAL POLE
1-7	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
1-8	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
1-9	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
1-10	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
1-11	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500											
1-12	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1							1-11	MOUNT ON MAST ARM
1-13	M1-94H	S CALHOUN RD	90	X	18	11.250			1								MOUNT ON MAST ARM
1-14	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500										1-13	MOUNT ON SIGNAL POLE
1-15	NOT USED			X		--											
1-16	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1								MOUNT ON SIGNAL POLE
1-17	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1		1					
1-18	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
1-19	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500											MOUNT ON SIGNAL POLE
1-20	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1							1-19	MOUNT ON MAST ARM
1-21	R3-20-L (2M)	BEGIN LF TRN LN DWN R ARRO	24	X	36	6.000			1	1		1					
1-22	J3-1 (2S)		24	X	45	7.500			1	1		1					
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												
1-23	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
1-24	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
1-25	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
1-26	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1							1-24	MOUNT ON SIGNAL POLE
1-27	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1							1-25	MOUNT ON SIGNAL POLE
1-28	W9-1R (2M)	RIGHT LANE ENDS	36	X	36	--	9.000		1	1		1					
1-29	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
1-30	J3-1 (2S)		24	X	45	7.500			1	1		1					
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1-31	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
1-32	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
1-33	J3-1 (2S)		24	X	45	7.500			1	1		1					
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												
1-34	W11-8 (3)	FIRE STATION CROSSING	36	X	36	--	9.000		1							1-33	
1-35	R3-20-L (2M)	BEGIN LF TRN LN DWN R ARRO	24	X	36	6.000			1	1		1					
1-36	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1								MOUNT ON SIGNAL POLE
1-37	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										1-16	MOUNT HIGH ON SIGNAL POLE
1-38	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500			1							1-4	MOUNT HIGH ON SIGNAL POLE
2-1	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
2-2	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1				1			
2-3	R7-1-L (2S)	NO PARKING ANY TIME LF ARR	18	X	24	3.000			1	1				1			
2-4	J3-1 (2S)		24	X	45	7.500								1			
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												
2-5	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1								MOUNT ON MAST ARM
2-6	R1-1F (3)	FOLDING STOP	36	X	36	9.000		7.460	1	1				1			
2-7	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500											MOUNT ON SIGNAL POLE
2-8	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1								MOUNT ON SIGNAL POLE
2-9	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1				1			
2-10	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1				1			
2-11	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
2-12	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1								MOUNT ON MAST ARM
2-13	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
2-14	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500											MOUNT ON SIGNAL POLE
2-15	M1-94H	S ELM GROVE RD	108	X	18	13.500			1							2-7	MOUNT ON MAST ARM
2-16	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1							2-1	MOUNT ON SIGNAL POLE
2-17	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000								1			
2-18	M1-94H	S ELM GROVE RD	108	X	18	13.500			1							2-14	MOUNT ON MAST ARM
2-19	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										2-14	MOUNT ON SIGNAL ARM
2-20	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										2-7	MOUNT ON SIGNAL ARM
2-21	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										2-12	PAGE 5. MOUNT ON SIGNAL ARM

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
3-1	R3-20-L (2M)	BEGIN LF TRN LN DWN R ARR(	24	X	36	6.000						1					
3-2	JV3-1		24	X	114	19.000			1	1		1					
	MB4-5	TO	24	X	12												
	M1-1	IH 94	24	X	24												
	MB6-1	LEFT ARROW	21	X	21												
	M3-1	NORTH	24	X	12												
	M1-5A	CTH O	24	X	24												
	M6-1	LEFT ARROW	21	X	21												
3-3	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1								MOUNT ON MAST ARM
3-4	J3-2		48	X	57	19.000			1	1		2					
	MB4-5	TO	24	X	12												
	M1-1	IH 94	24	X	24												
	MB6-1	LEFT ARROW	21	X	21												
	M3-3	SOUTH	24	X	12												
	M1-5A	CTH O	24	X	24												
	M6-1	RIGHT ARROW	21	X	21												
3-5	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
3-6	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500											MOUNT ON SIGNAL POLE
3-7	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-8	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-9	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000										3-7	
3-10	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000										3-8	MOUNT ON SIGNAL POLE
3-11	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
3-12	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500											MOUNT ON SIGNAL POLE
3-13	M1-94H	[O] S MOORLAND RD	102	X	18	12.750			1							3-12	MOUNT ON MAST ARM
3-14	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1								MOUNT ON MAST ARM
3-15	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
3-16	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							3-15	MOUNT ON SIGNAL POLE
3-17	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-18	M1-94H	[O] S MOORLAND RD	102	X	18	12.750			1								MOUNT ON MAST ARM
3-19	NOT USED			X		--											
3-20	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
3-21	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500										3-14	MOUNT ON SIGNAL POLE
3-22	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-23	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-24	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
3-25	R1-2 (2S)	YIELD	36	X	31	3.880			1	1		1					
3-26	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500										3-18	MOUNT ON SIGNAL POLE
3-27	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-28	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
3-29	R1-1 (3)	FOLDING STOP	36	X	36	--		7.460	1	1		1					
3-30	J3-2 (2S)		48	X	57	19.000			1	1		2					
	M3-1	NORTH	24	X	12												
	M1-5A	CTH O	24	X	24												
	M6-1	RIGHT ARROW	21	X	21												
	MB4-5	TO	24	X	12												
	M1-1	IH 94	24	X	24												
	MB6-1	RIGHT ARROW	21	X	21												
3-31	JV3-1 (2S)		24	X	57	9.500			1								MOUNT ON LIGHT POLE
	M3-3	SOUTH	24	X	12												
	M1-5A	CTH O	24	X	24												
	M6-1	LEFT ARROW	21	X	21												
3-32	R3-20-L (2M)	BEGIN LF TRN LN DWN R ARRO	36	X	36	9.000			1	1		1					
3-33	R3-20-L (2M)	BEGIN LF TRN LN DWN R ARRO	36	X	36	9.000			1	1		1					
3-34	J3-1 (2S)		24	X	45	7.500			1								MOUNT ON LIGHT POLE
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												
3-35	J3-1 (2S)		24	X	45	7.500			1	1		1					
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												
3-36	J3-1 (2S)		24	X	45	7.500			1	1		1					
	M1-4	USH 59	24	X	24												
	M6-4	ARROWS LEFT RIGHT	21	X	21												
3-37	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000											MOUNT ON SIGNAL POLE
4-1	W12-1L (2S)	DOWN LEFT ARROW	24	X	24	--	4.000		1	1		1					2 FOOT MOUNTING HEIGHT
4-2	R1-2 (2S)	YIELD	36	X	31	3.880			1								MOUNT ON LIGHT POLE
4-3	W3-8 (2S)	RAMP METERED WN FLASHIN(	48	X	48	--	16.000		1								MOUNT ON LIGHT POLE
4-4	W3-8 (2S)	RAMP METERED WN FLASHIN(	48	X	48	--	16.000		1								MOUNT ON SIGNAL POLE
4-5	R5-57 (5)	PEDS ETC. PROHIBITED	36	X	36	9.000			1								MOUNT ON LIGHT POLE

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
4-6	W4-2R (2S)	LANE REDUCT RIGHT	36	X	36	--	9.000					1					
4-7	R10-6 (2S)	STOP HERE ON RED [A]	24	X	36	6.000			1								MOUNT ON SIGNAL POLE
4-8	R10-10-R (2S)	RIGHT TURN SIGNAL	24	X	30	5.000			1							4-7	MOUNT ON SIGNAL POLE
4-9	R10-10-L (2S)	LEFT TURN SIGNAL	24	X	30	5.000			1								MOUNT ON SIGNAL POLE
4-10	R10-6 (2S)	STOP HERE ON RED [A]	24	X	36	6.000			1							4-9	
4-11	R3-58 (2S)	FORM SINGLE LINE	24	X	30	5.000			1	1		1					
4-12	R3-58 (2S)	FORM SINGLE LINE	24	X	30	5.000			1								MOUNT ON OVERHEAD SIGN SUPPORT POLE
4-13	R10-10-C (MOD)	CENTER LANE SIGNAL	36	X	42	10.500						1					
4-14	R10-10-R (MOD)	RIGHT LANE SIGNAL	36	X	42	10.500						1					
4-15	W12-1D (2S)	DOUBLE DOWN ARROWS	24	X	24	--	4.000										2 FOOT MOUNTING HEIGHT
5-1	R3-8-R (2S)	LF ONLY, LF ONLY, RT ONLY	54	X	30	11.250			1	1		2					
5-2	R5-1A (5)	WRONG WAY	42	X	30	8.750			1							5-1	
5-3	R5-1A (5)	WRONG WAY	42	X	30	8.750			1							5-4	
5-4	D1-60	NATIONAL AVE	72	X	24	12.000			1	1		2					
		[A] WEST EAST [A]															
5-5	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
5-6	R5-1A (5)	WRONG WAY	42	X	30	8.750						1					
5-7	R5-1 (3)	DO NOT ENTER	36	X	36	9.000					1					5-6	
5-8	R3-1 (2S)	NO RIGHT TURN SYMBOL	24	X	24	4.000			1								MOUNT ON SIGNAL POLE
5-9	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							5-8	MOUNT ON SIGNAL POLE
5-10	JH-1 (2S)		24	X	45	7.500			1	1		1					
	D9-2	HOSPITAL	24	X	24												
	MB6-1	LEFT ARROW	21	X	21												
5-11	NOT USED			X		--											
5-12	S4-51 (2S)	SCHOOL SPEED LIMIT	24	X	48	8.000				1							
5-13		WARNING COMMUNITY WATCH	24	X	30	--					1					5-12	
5-14	R5-1 (3)	DO NOT ENTER	36	X	36	9.000						1					
5-15	R5-1A (5)	WRONG WAY	42	X	30	8.750					1					5-14	
5-16	R3-4 (2S)	NO U TURN SYMBOL	24	X	24	4.000			1	1		1					
5-17	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							5-16	
5-18	R4-7 (2S)	KEEP RIGHT	24	X	30	5.000			1	1		1					
5-19	R3-18 (2S)	NO LEFT TURN SYMBOL	24	X	24	4.000			1	1		1					
5-20	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							5-19	

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
5-21	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
5-22	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500			1								MOUNT ON SIGNAL POLE
5-23	R4-7 (2S)	KEEP RIGHT	24	X	30	5.000			1	1		1					
6-1	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
6-2	W12-1D (2S)	DOUBLE DOWN ARROWS	24	X	24	--	4.000					1					2 FOOT MOUNTING HEIGHT
6-3	NOT USED			X		--											
6-4	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
6-5	R6-2-L (2S)	ONE WAY LEFT ARROW	24	X	30	5.000			1	1		1					
6-6	R10-11-F (2S)	NO TURN ON RED FROM LF LA	30	X	36	7.500			1	1		1					
6-7	J3-1 (2S)		24	X	69	11.500			1	1		1					
	MB4-1A	ALT	24	X	12												
	MB3-2	EAST	24	X	12												
	M1-1	IH 94	24	X	24												
	MB6-1	RIGHT ARROW	21	X	21												
6-8	R3-2 (2S)	NO LEFT TURN SYMBOL	24	X	24	4.000			1	1		1					
6-9	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							6-8	
6-10	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1		1					
6-11	R6-2-L (2S)	ONE WAY LEFT ARROW	24	X	30	5.000			1								MOUNT ON SIGNAL POLE
6-12	R4-7 (2S)	KEEP RIGHT	24	X	30	5.000			1								MOUNT ON SIGNAL POLE
6-13	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000			1		1						MOUNT ON SIGNAL POLE
6-14	R5-1A (3)	WRONG WAY	42	X	30	8.750			1		1					6-13	
6-15	R3-1 (2S)	NO RIGHT TURN SYMBOL	24	X	24	4.000			1	1		1					
6-16	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000			1	1		1					3 FOOT MOUNTING HEIGHT
6-17	R5-1A (3)	WRONG WAY	42	X	30	8.750			1							6-16	
6-18	R6-2-L (2S)	ONE WAY LEFT ARROW	24	X	30	5.000			1	1		1					
6-19	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
7-1	W3-1	STOP AHEAD	36	X	36	--			1	1							
7-2	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000					1					
7-3	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000					1					
7-4	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000						1					3 FOOT MOUNTING HEIGHT
7-5	R5-1A (3)	WRONG WAY	42	X	30	8.750										7-4	

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
7-6	R3-1 (2S)	NO RIGHT TURN SYMBOL	24	X	24	4.000			1	1		1					
7-7	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1		1					
7-8	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1	1		1					
7-9	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000						1					3 FOOT MOUNTING HEIGHT
7-10	R5-1A (3)	WRONG WAY	42	X	30	8.750										7-9	
7-11	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000										MOUNT ON LIGHT POLE. 16X16 ORANGE FLAGS
7-12	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000					1					16X16 ORANGE FLAGS INCIDENTAL
7-13	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000					1					16X16 ORANGE FLAGS INCIDENTAL
7-14	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000										MOUNT ON LIGHT POLE. 16X16 ORANGE FLAGS
7-15	W3-3 (2S)	SIGNAL AHEAD	36	X	36	--	9.000					1					16X16 ORANGE FLAGS INCIDENTAL
7-16	R7-1-D (2S)	NO PKING ANY TIME DOUBLE A	18	X	24	3.000			1								MOUNT ON LIGHT POLE
7-17	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460				1					FOR TEMPORARY SIGNAL
7-18	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460				1					FOR TEMPORARY SIGNAL
7-19	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460				1					FOR TEMPORARY SIGNAL
7-20	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460				1					FOR TEMPORARY SIGNAL
7-21	R1-1 (3)	STOP	36	X	36	--			1	1							
7-22	R1-1 (3)	STOP	36	X	36	--			1	1							
8-1	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1	1				1			
8-2	R1-1 (3)	STOP	36	X	36	7.460			1	1				1			
8-3	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
8-4	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1			1					
8-5	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500										8-28	MOUNT ON SIGNAL POLE
8-6	R1-2 (2S)	YIELD	36	X	31	3.880			1	1				1			
8-7	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1							8-4	
8-8	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000											MOUNT ON SIGNAL POLE
8-9	R4-7 (2S)	KEEP RIGHT	24	X	30	5.000											MOUNT ON SIGNAL POLE
8-10	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							8-8	MOUNT ON SIGNAL POLE
8-11	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1							8-9	MOUNT ON SIGNAL POLE
8-12	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500								1			
8-13	M1-94H	S SUNNYSLOPE RD	102	X	18	12.750											MOUNT ON MAST ARM
8-14	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000										8-17	MOUNT ON SIGNAL POLE
8-15	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500										8-13	MOUNT ON SIGNAL POLE

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLECTIVE H [SF]	637.2230 SIGNS TYPE II RELFECTIVE F [SF]	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVING SIGNS TYPE II [EA]	634.0618 WOOD POSTS 4"X6"x18' [EA]	634.0622 WOOD POSTS 4" X6" X22' [EA]	634.0816 POSTS TUBULAR STEEL 2" X2" X16' [EA]	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
8-16	R6-2-L (2M)	ONE WAY LEFT ARROW	30	X	36	7.500								1			
8-17	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1								MOUNT ON MAST ARM
8-18	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000								1			DO NOT PLACE ON BACK OF YIELD SIGN
8-19	R1-2 (2S)	YIELD	36	X	31	3.880			1	1				1			
8-20	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
8-21	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
8-22	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1								MOUNT ON SIGNAL POLE
8-23	R1-1F (3)	FOLDING STOP	36	X	36	--		7.460	1			1					
8-24	R5-1 (2M)	DO NOT ENTER	36	X	36	9.000								1			
8-25	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1							8-23	
8-26	R4-7 (2M)	KEEP RIGHT	24	X	30	5.000			1	1				1			
8-27	M1-94H	[59] W GREENFIELD AVE	108	X	18	13.500			1								MOUNT ON MAST ARM
8-28	M1-94H	S SUNNYSLOPE RD	102	X	18	12.750			1								MOUNT ON MAST ARM
8-29	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										8-17	MOUNT ON SIGNAL ARM
8-30	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										8-27	MOUNT ON SIGNAL ARM
8-31	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										8-7	MOUNT HIGH ON SIGNAL POLE
8-32	R10-50-L (2M)	LF TRN YIELD ON FLASH YELL	30	X	36	7.500										8-25	MOUNT HIGH ON SIGNAL POLE
						--										--	--
TOTALS						1098.510	134.000	343.160	135	57	5	67	0	16	0	--	--

STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
4	EACH	POLES TYPE 10
1	EACH	MONOTUBE ARMS 25-FT
3	EACH	MONOTUBE ARMS 30-FT
8	EACH	LUMINAIRE ARMS STEEL 15-FT
5	EACH	EVP DETECTOR HEADS
4	EACH	CONFIRMATION LIGHT ASSEMBLIES
1081	LF	CAMERA POWER CABLE
1128	LF	CAT-5E CABLE
1	LS	ADAPTABLE TRAFFIC SIGNAL CAMERAS
2	EACH	ETHERNET REPEATERS

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB4	1
SB7	1
SB10	1
TOTAL	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

CONDUIT

FROM	TO	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF
PB2	SB3	7
PB6	SB6	9
PB10	SB9	9
PB15	SB12	6
	TOTALS	31

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH
PB2	1
PB6	1
PB10	1
PB15	1
TOTAL	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0110* CONCRETE BASES TYPE 10 EACH
SB3	143+87.4	5.6' LT	1
SB6	35+24.5	16.7' LT	1
SB9	141+76.0	15.4' LT	1
SB12	36+92.4	4.0' LT	1
		TOTALS	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

FTMS PULL BOXES & COMMUNICATION VAULTS

CATEGORY	ROADWAY	ITEM ID	LOCATION STATION	LOCATION OFFSET	653.0140* PULL BOXES STEEL 24 X 42 - INCH EACH	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
1300	OKLAHOMA AVE. NB ENTRANCE RAMP					
		PB2000	10+78	73' RT	1	--
		PB2001	11+12	53' RT	1	--
		PB2002	10+86	21 ' LT	1	--
		EXPB1002	11+55	38' RT	--	1
		PB2003	13+34	12 ' LT	1	--
		EXPB1009	13+39	50 ' LT	--	--
		PB2101	15+86	41' RT	1	--
		PB2102	15+85	9 ' LT	1	--
		TOTALS			6	1

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

FTMS CONDUIT AND TRACER WIRE

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
1300	OKLAHOMA AVE. NB ENTRANCE RAMP					
		EXPB1002 - PB2001	50	--	250	--
		PB2001 - PB2000	45	--	90	--
		PB2000 - FY2001	30	60	--	--
		PB2000 - RG01	15	15	--	--
		PB2001 - PB2002	80	--	--	400
		PB2002 - FY2002	20	40	--	--
		PB2002 - RG02	25	25	--	--
		PB2002 - PB2003	250	--	1,000	--
		PB2003 - PB2102	255	--	1,020	--
		PB2102 - SB02	65	130	--	--
		PB2102 - PB2101	50	--	--	200
		PB2101 - SB01	15	30	--	--
		TOTALS		300	2,360	600

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

FTMS CABLE AND WIRE

CATEGORY 1300 ROADWAY	ITEM ID	LINEAR DISTANCE	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0250 CABLE TRAFFIC SIGNAL 9-14 AWG LF	655.0510* ELECTRICAL WIRE TRAFFIC SIGNAL 12 AWG LF	674.0400 REINSTALL CABLE LF
OKLAHOMA AVE. NB ENTRANCE RAMP							
	EXCB-RM-40-0036 - EXPB2001	5	20	--	20	5	5
	EXPB1002 - PB2001	50	65	--	65	50	50
	PB2001 - PB2000	45	60	--	--	45	--
	PB2000 - FY2001	30	90	--	--	30	--
	PB2000 - RG01	15	--	--	--	15	--
	PB2001 - PB2002	80	95	--	95	80	80
	PB2002 - FY2002	20	35	--	--	20	--
	PB2002 - RG02	25	--	--	--	25	--
	PB2002 - EXPB1006	75	--	--	--	75	75
	EXPB1006 - EXMH1001	30	--	--	--	30	--
	PB2002 - PB2003	250	--	--	265	250	--
	PB2003 - EXPB1009	40	--	--	--	40	--
	EXPB10009 - EXCCTV-40-0033	5	--	--	--	5	--
	PB2003 - PB2102	255	--	--	270	255	--
	PB2102 - SB02	65	--	80	80	65	--
	PB2102 - PB2101	50	--	65	65	50	--
	PB2101 - SB01	15	--	30	30	15	--
	TOTALS		365	175	890	1,055	210

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

FTMS CABLE

CATEGORY 1300 ROADWAY	ITEM ID	LINEAR DISTANCE	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF
OKLAHOMA AVE. NB ENTRANCE RAMP			
	EXCB-RM-40-0036 - EXPB2001	5	55
	EXPB1002 - PB2001	50	100
	PB2001 - PB2002	80	130
	PB2002 - EXPB1006	65	115
	EXPB1006 - EXMH1001	30	80
	TOTALS		480

FTMS COMMUNICATIONS (CABINETS)

CATEGORY	ROADWAY	ITEM ID	LOCATION STATION	LOCATION OFFSET	675.0400.S INSTALL ETHERNET SWITCH EACH	678.0400 FIBER OPTIC TERMINATION EACH	SPV.0060.2001 INSTALL CONTACT CLOSURE RADIO SYSTEM EACH	SPV.0060.2005 WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE EACH	SPV.0060.2006 WIRELESS TRAFFIC SENSOR CONTACT CLOSURE EXTENSION CARD EACH	SPV.0060.2013 INSTALL WIRELESS MODEM EACH
1300	OKLAHOMA AVE. NB ENTRANCE RAMP									
		EXCB-RM-40-0036	11+54	42'RT	1	6	1	1	5	1
		EXMH1001	11+30	90'LT	--	--	--	--	--	--
		EXCB1 (TRAFFIC SIGNAL)	X=571621.2900	Y=281131.6100	--	--	1	--	--	--
		TOTALS			1	6	2	1	5	1

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

FTMS BASES, POLE AND EQUIPMENT (WAUKESHA COUNTY)

CATEGORY	ROADWAY	ITEM ID	LOCATION X	LOCATION Y	SPV.0105.2002 RELOCATE EXISTING CCTV CAMERA LS	SPV.0105.2003 RELOCATE EXISTING BLUETOOTH DETECTOR LS
1300	GREENFIELD AVE AND CALHOUN RD					
		CCTV-67-0200	711324.1839	163092.9485	1	1
		TOTALS			1	1

3

FTMS SIGNAL, FLASHER ASSEMBLY

CATEGORY	ROADWAY	ITEM ID	LOCATION	OFFSET	654.0101* CONCRETE BASES TYPE 1 EACH	676.0100 SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT EACH	676.0105 SIGNAL ASSEMBLY RAMP CONTROL OVERHEAD EACH	676.0300 SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1 EACH
1300	OKLAHOMA AVE. NB ENTRANCE RAMP							
		FY01	10+65	94'RT	1	--	--	1
		FY02	11+00	10'LT	1	--	--	1
		SB01	16+00	42'RT	--	--	2	--
		SB02	15+22	9'RT	1	1	--	--
		TOTALS			3	1	2	2

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

MISCELLANEOUS ITEMS

CATEGORY 1300 ROADWAY	670.0100.2001 FIELD SYSTEM INTEGRATOR (FTMS) LS	670.0200.2001 ITS DOCUMENTATION (FTMS) LS	678.0500.2001 COMMUNICATION SYSTEM TESTING (FTMS) LS
OKLAHOMA AVE. NB ENTRANCE RAMP			
	1	1	1
TOTALS	1	1	1

FTMS RAMP METER AND SYSTEM DETECTORS

CATEGORY	ROADWAY	ITEM ID	LOCATION	OFFSET	LOOP NUMBER	SPV.0060.2002 WIRELESS TRAFFIC SENSOR EACH	SPV.0060.2003 INSTALL WIRELESS TRAFFIC SENSOR ACCESS POINT EACH	SPV.0060.2004 INSTALL WIRELESS TRAFFIC SENSOR REPEATER EACH
1300	OKLAHOMA AVE. NB ENTRANCE RAMP							
		RM-40-0036	15+09	3 'RT	DEMAND A	1	--	--
			15+20	3 'RT	DEMAND A	1	--	--
			15+08	14 'RT	DEMAND B	1	--	--
			15+20	14 'RT	DEMAND B	1	--	--
			15+08	25 'RT	DEMAND C	1	--	--
			15+20	25 'RT	DEMAND C	1	--	--
			15+34	3 'RT	PASSAGE A	1	--	--
			15+34	14 'RT	PASSAGE B	1	--	--
			15+34	25 'RT	PASSAGE C	1	--	--
			11+53	2 'RT	QUEUE A	1	--	--
			11+53	13 'RT	QUEUE B	1	--	--
			11+53	26 'RT	QUEUE C	1	--	--
			10+75	2 'RT	ENTRANCE A	1	--	--
			10+75	13 'RT	ENTRANCE B	1	--	--
			10+79	47 'RT	ENTRANCE C	1	--	--
		WTSR01	10+76	14 'LT	--	--	--	1
		WTSAP01 (ON WP02)	15+62	8 'LT	--	--	1	--
		WTSAP01 (ON SB01)	15+97	30 'RT	--	--	1	--
		TOTALS				15	2	1

RAMP GATE CABLE

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	655.0310 CABLE TYPE UF2-12 AWG GROUNDED LF
1300	OKLAHOMA AVE. NB ENTRANCE RAMP			
		RG01	110	130
		RG02	155	175
		TOTALS		305

RAMP CLOSURE GATE HARDWIRED

CATEGORY	ROADWAY	STATION	OFFSET	ITEM ID	662.1032.S 32-FT EACH
1300	OKLAHOMA AVE. NB ENTRANCE RAMP				
		10+88	62 'RT	RG01	1
		10+64	14 'LT	RG02	1
	TOTALS				2

TEMPORARY ITEMS

CATEGORY	ROADWAY	ITEM ID	STATION	OFFSET	661.0700 TEMPORARY RAMP METER (STA 15+62) LS	SPV.0060.2007 INSTALL PORTABLE VIDEO SURVEILLANCE SYSTEM EACH	SPV.0060.2008 RELOCATING PORTABLE VIDEO SURVEILLANCE SYSTEM EACH	SPV.0060.2009 INSTALL TEMPORARY VEHICLE DETECTOR ASSEMBLY EACH	SPV.0060.2010 REFOCUSING VEHICLE DETECTOR ASSEMBLY EACH
1300	OKLAHOMA AVE. NB ENTRANCE RAMP								
		TMD01	17+36	136 'LT	--	--	--	1	2
		TCCTV01	18+36	30 'RT	--	1	2	--	--
		TRMD01	15+90	4 'LT	--	--	--	--	--
		WP02	15+62	8 'LT	1	--	--	--	--
	TOTALS				1	1	2	1	2

ITS REMOVALS

CATEGORY	ROADWAY	ITEM ID	674.0300* REMOVE CABLE LF
1300	OKLAHOMA AVE. NB ENTRANCE RAMP		
		EXCB-RM-40-0036 - EXPB1002	5
		EXPB1002 - EXPB1003	10
		EXPB1003 - EXPB1001	75
		EXPB1003 - EXFY1001	10
		EXPB1003 - EXPB1004	45
		EXPB1004 - EXPB1005	75
		EXPB1005 - EXFY1002	10
		EXPB1005 - EXPB1006	80
		EXPB1006 - EXPB1010	75
		EXPB1006 - EXMH1001	30
		EXPB1003 - EXPB1007	180
		EXPB1007 - EXPB1008	40
		EXPB1008 - EXPB1006	45
		EXPB1009 - EXCCTV-40-0033	5
		EXPB1007 - EXPB1101	200
		EXPB1101 - EXSB1101	10
		EXPB1101 - EXPB1102	35
		EXPB1102 - EXSB1102	10
		EXPB1101 - EXPB1103	255
		TOTALS	1,195

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ITS REMOVALS

CATEGORY 1300 ROADWAY	ITEM	DESCRIPTION	STATION	OFFSET	204.0195* REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH	676.9001.S REMOVING ADVANCE FLASHER ASSEMBLIES TYPE 1 EACH	676.9002.S REMOVING ADVANCE FLASHER ASSEMBLIES TYPE 2 EACH	SPV.0060.2012 REMOVING RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT EACH	SPV.0060.2014 BURY EXISTING MANHOLE EACH
OKLAHOMA AVE. NB ENTRANCE RAMP										
	EXPB1001	PULL BOX	10+86	50 'RT	--	1	--	--	--	--
	EXPB1003	PULL BOX	11+55	32 'RT	--	1	--	--	--	--
	EXPB1004	PULL BOX	11+54	9' LT	--	1	--	--	--	--
	EXFY1001	ADVANCE FLASHER	11+48	28 'RT	1	--	1	--	--	--
	EXFY1002	ADVANCE FLASHER	10+76	8' LT	--	--	--	1	--	--
	EXPB1005	PULL BOX	10+81	8' LT	--	1	--	--	--	--
	EXPB1007	PULL BOX	13+31	27 'RT	--	1	--	--	--	--
	EXPB1008	PULL BOX	13+33	8' LT	--	1	--	--	--	--
	EXPB1101	PULL BOX	15+29	26 'RT	--	1	--	--	--	--
	EXPB1102	PULL BOX	15+29	8' LT	--	1	--	--	--	--
	EXSB1101	SIGNAL BASE	15+22	25 'RT	1	--	--	--	1	--
	EXSB1102	SIGNAL BASE	15+22	5' LT	1	--	--	--	1	--
	EXPB1103	PULL BOX	17+85	19 'RT	--	1	--	--	--	--
	EXMH1101	MANHOLE	15+42	7' LT	--	--	--	--	--	1
	EXMH1102	MANHOLE	15+51	30 'RT	--	--	--	--	--	1
				TOTALS	3	9	1	1	2	2

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

3

STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB1	HEAD 26	14	--
SB2	HEAD 5	--	22
SB2	HEAD 7	19	--
SB2	HEAD 27	14	--
SB3	HEAD 2	39	--
SB3	HEAD 3	51	--
SB3	HEAD 6	--	29
SB3	HEAD 10	--	29
SB4	HEAD 28	14	--
SB6	HEAD 19	40	--
SB6	HEAD 20	53	--
SB6	HEAD 22	28	--
SB7	HEAD 30	14	--
SB8	HEAD 1	19	--
SB8	HEAD 11	--	22
SB8	HEAD 23	14	--
SB9	HEAD 4	--	29
SB9	HEAD 8	39	--
SB9	HEAD 9	53	--
SB9	HEAD 12	--	29
SB10	HEAD 24	14	--
SB12	HEAD 14	40	--
SB12	HEAD 15	53	--
SB12	HEAD 17	28	--
	TOTALS	546	160

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270* CABLE TRAFFIC SIGNAL 15-14 AWG LF
CB1	SB3	--	138
CB1	SB6	305	--
CB1	SB9	--	317
CB1	SB12	146	--
	TOTALS	451	455

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB3	138	--
SB3	LUMIN	--	288
SB3	SB6	205	--
SB6	LUMIN	--	288
CB1	SB12	146	--
SB12	LUMIN	--	288
SB12	SB9	207	--
SB9	LUMIN	--	288
	TOTALS	696	1152

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
SB2	SB3	227
SB3	SB4	126
SB5	SB6	140
SB6	SB7	125
SB8	SB9	131
SB9	SB10	128
SB11	SB12	139
SB12	CB1	146
PB2	SB3	27
PB6	SB6	29
PB10	SB9	29
PB15	SB12	26
	TOTAL	1273

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900* TRAFFIC SIGNAL EVP DETECTOR CABLE LF	SPV.0090.3001* CABLE TYPE UF 2-14 AWG LF
CB1	SB9 (HEAD A)	377	377
CB1	SB3 (HEAD B)	193	193
CB1	SB6 (HEAD C)	365	365
CB1	SB12 (HEAD D)	206	206
CB1	SB13 (HEAD E)	406	406
	TOTALS	1547	1547

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430* TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.1350* INSTALL POLES TYPE 10 EACH	657.1525* INSTALL MONOTUBE ARMS 25-FT EACH	657.1530* INSTALL MONOTUBE ARMS 30-FT EACH	657.1815* INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	1	--	1	--	--	--	--	1	--
SB2	--	1	--	--	--	--	--	1	--
SB3	--	--	--	1	1	--	2	--	2
SB4	1	--	1	--	--	--	--	1	--
SB6	--	--	--	1	--	1	2	--	2
SB7	1	--	1	--	--	--	--	1	--
SB8	--	1	--	--	--	--	--	1	--
SB9	--	--	--	1	--	1	2	--	2
SB10	1	--	1	--	--	--	--	1	--
SB12	--	--	--	1	--	1	2	--	2
TOTALS	4	2	4	4	1	3	8	6	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416* PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH	658.0635* LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB8	1	--	1	--	--	1	1	1	--	--	--	--
2	SB3	1	--	1	--	--	1	1	1	--	--	--	--
3	SB3	1	--	1	--	--	1	1	1	--	--	--	--
4	SB9	--	1	--	1	--	--	--	--	1	2	1	--
5	SB2	--	1	--	1	--	--	--	--	1	2	1	--
6	SB3	--	1	--	1	--	--	--	--	1	2	1	--
7	SB2	1	--	1	--	--	1	1	1	--	--	--	--
8	SB9	1	--	1	--	--	1	1	1	--	--	--	--
9	SB9	1	--	1	--	--	1	1	1	--	--	--	--
10	SB3	--	1	--	1	--	--	--	--	1	2	1	--
11	SB8	--	1	--	1	--	--	--	--	1	2	1	--
12	SB9	--	1	--	1	--	--	--	--	1	2	1	--
13	SB5	1	--	1	--	--	1	1	1	--	--	--	--
14	SB12	1	--	1	--	--	1	1	1	--	--	--	--
15	SB12	1	--	1	--	--	1	1	1	--	--	--	--
16	SB11	1	--	1	--	--	--	--	--	1	1	1	--
17	SB12	1	--	1	--	--	--	--	--	1	1	1	--
18	SB11	1	--	1	--	--	1	1	1	--	--	--	--
19	SB6	1	--	1	--	--	1	1	1	--	--	--	--
20	SB6	1	--	1	--	--	1	1	1	--	--	--	--
21	SB5	1	--	1	--	--	--	--	--	1	1	1	--
22	SB6	1	--	1	--	--	--	--	--	1	1	1	--
23	SB8	--	--	--	--	1	--	--	--	--	--	--	1
24	SB10	--	--	--	--	1	--	--	--	--	--	--	1
25	SB11	--	--	--	--	1	--	--	--	--	--	--	1
26	SB1	--	--	--	--	1	--	--	--	--	--	--	1
27	SB2	--	--	--	--	1	--	--	--	--	--	--	1
28	SB4	--	--	--	--	1	--	--	--	--	--	--	1
29	SB5	--	--	--	--	1	--	--	--	--	--	--	1
30	SB7	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		16	6	16	6	8	12	12	12	10	16	10	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. CALHOUN ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

SIGNAL MOUNTING HARDWARE
STH 59 & S. CALHOUN ROAD

LOCATION	658.5069.3001 SIGNAL MOUNTING HARDWARE LS
STH 59 & S. CALHOUN ROAD	1
TOTAL	1

INSTALL STATE SUPPLIED VIDEO DETECTION CABLE

FROM	TO	SPV.0090.3002* INSTALL CAMERA POWER CABLE LF
CB1	SB9 (V1)	352
CB1	SB3 (V2)	188
CB1	SB6 (V3)	340
CB1	SB12 (V4)	201
	TOTAL	1081

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

INSTALL STATE SUPPLIED CAT-5E CABLE

FROM	TO	SPV.0090.3003* INSTALL CAT-5E CABLE LF
CB1	SB3 (R1)	118
CB1	SB3 (V2)	188
SB3 (R1)	SB6 (V3)	243
CB1	SB12 (R2)	126
CB1	SB12 (V4)	201
SB12 (R2)	SB9 (V1)	252
	TOTAL	1128

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
NOTE: R = ETHERNET REPEATER

REMOVE TRAFFIC SIGNALS
STH 59 & S. CALHOUN ROAD

LOCATION	SPV.0105.3001 REMOVE TRAFFIC SIGNALS LS
STH 59 & S. CALHOUN ROAD	1
TOTAL	1

3

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 59 & S. CALHOUN ROAD

LOCATION	SPV.0105.3021 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 59 & S. CALHOUN ROAD	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 59 & S. CALHOUN ROAD

LOCATION	SPV.0105.3031 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 59 & S. CALHOUN ROAD	1
TOTAL	1

3

TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS
STH 59 & S. CALHOUN ROAD

LOCATION	SPV.0105.3041 TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS LS
STH 59 & S. CALHOUN ROAD	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
STH 59 & S. CALHOUN ROAD

LOCATION	SPV.0105.3051 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
STH 59 & S. CALHOUN ROAD	1
TOTAL	1

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
4	EACH	POLES TYPE 10
4	EACH	POLES TYPE 12
4	EACH	MONOTUBE ARMS 20-FT
4	EACH	MONOTUBE ARMS 40-FT
8	EACH	LUMINAIRE ARMS STEEL 15-FT
4	EACH	EVP DETECTOR HEADS
4	EACH	CONFIRMATION LIGHT ASSEMBLIES
1580	LF	CAMERA POWER CABLE
1768	LF	CAT-5E CABLE
1	LS	ADAPTABLE TRAFFIC SIGNAL CAMERAS
4	EACH	ETHERNET REPEATERS

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB3	1
SB4	1
SB6	1
SB7	1
SB9	1
SB10	1
SB12	1
SB13	1
SB14	1
CB1	1
TOTAL	11

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M Dougherty
2-25-15

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	21	--
PB1	PB2	--	38	--
PB2	PB3	--	--	48
PB2	PB4	--	--	238
PB4	PB5	4	--	--
PB4	PB9	--	--	182
PB9	PB10	--	--	48
PB9	PB11	--	--	204
PB11	PB12	14	--	--
PB11	PB16	--	--	120
PB11	EXT1	6	--	--
PB16	PB17	--	72	--
PB17	PB18	--	--	46
PB17	PB19	--	--	200
PB19	PB20	--	13	--
PB19	PB24	--	--	152
PB24	PB25	--	--	45
PB24	PB26	--	104	--
PB26	PB27	--	--	172
PB27	PB28	--	31	--
PB27	PB30	15	--	--
PB27	PB34	--	--	126
PB28	PB29	14	--	--
PB34	CB1	--	21	--
PB3	SB1	--	11	--
PB3	SB2	10	--	--
PB4	SB3	--	20	--
PB10	SB4	--	6	--
PB10	SB5	12	--	--
PB11	SB6	--	23	--
PB14	SB7	23	--	--
PB18	SB8	--	6	--
PB18	SB9	10	--	--
PB19	SB10	--	8	--
PB25	SB11	--	12	--
PB25	SB12	12	--	--
PB28	SB13	--	5	--
PB27	SB14	5	--	--
PB30	SB15	5	--	--
	TOTAL	130	391	1581

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH
PB5	1
PB12	1
PB20	1
PB29	1
PB14	1
PB30	1
TOTAL	6

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

LOOP DETECTOR SCHEDULE

LOOP NUMBER	HOMERUN PB	STATION	LOCATION	SIZE (FT)X(FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	655.0700* LOOP DETECTOR LEAD IN CABLE LF	655.0800* LOOP DETECTOR WIRE LF
11	PB21	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	451	274
12	PB20	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	324	352
13	PB20	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	324	334
14	PB20	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	324	286
15	PB20	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	324	244
21	PB8	EXIST.	EXIST.	6X30	3	CONCRETE	EXISTING	532	340
22	PB7	EXIST.	EXIST.	6X30	3	CONCRETE	EXISTING	359	448
31	PB13	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	509	274
32	PB12	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	379	340
33	PB12	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	379	322
34	PB12	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	379	286
35	PB12	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	379	250
41	PB33	EXIST.	EXIST.	6X30	3	CONCRETE	EXISTING	422	412
42	PB32	EXIST.	EXIST.	6X30	3	CONCRETE	EXISTING	320	436
51	PB6	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	303	220
52	PB5	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	176	316
53	PB5	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	176	304
54	PB5	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	176	262
55	PB5	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	176	226
61	PB23	EXIST.	EXIST.	6X30	4	CONCRETE	EXISTING	640	578
62	PB22	EXIST.	EXIST.	6X30	3	CONCRETE	EXISTING	506	430
71	PB31	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	271	208
72	PB29	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	141	316
73	PB29	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	141	304
74	PB29	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	141	250
75	PB29	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	141	214
81	PB15	EXIST.	EXIST.	6X30	4	CONCRETE	EXISTING	665	594
82	PB14	EXIST.	EXIST.	6X30	3	CONCRETE	EXISTING	539	448
							TOTALS	9597	9268

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	35+68.5	51.0' RT	1
PB2	35+51.1	56.4' RT	1
PB3	35+08.7	34.2' RT	1
PB4	196+79.9	5.3' LT	1
PB9	196+80.6	85.1' RT	1
PB10	196+53.0	47.1' RT	1
PB11	33+44.1	38.0' RT	1
PB16	33+41.8	21.2' LT	1
PB17	33+58.8	52.7' LT	1
PB18	33+84.8	15.9' LT	1
PB19	194+92.9	32.3' LT	1
PB24	194+95.5	108.0' LT	1
PB25	195+30.2	80.9' LT	1
PB26	35+79.8	101.7' LT	1
PB27	35+79.0	16.0' LT	1
PB28	35+49.8	15.5' LT	1
PB34	35+79.5	46.1' RT	1
		TOTAL	17

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\030242_mq_sp.ppt PLOT DATE : 2/25/2015 7:27:04 AM PLOT BY : MSCCEJ PLOT NAME : 030030_mq_sp3 PLOT SCALE : 1:1

3

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB7	1
PB12	1
PB17	1
PB23	1
I/C PB2002	1
TOTAL	7

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0102* CONCRETE BASES TYPE 2 EACH	654.0105* CONCRETE BASES TYPE 5 EACH	654.0110* CONCRETE BASES TYPE 10 EACH	654.0113* CONCRETE BASES TYPE 13 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	35+73.6	47.4' RT	--	--	--	--	--	1
SB1	35+18.7	32.0' RT	--	--	--	--	1	--
SB2	35+06.6	44.0' RT	1	--	--	--	--	--
SB3	196+99.4	4.8' LT	--	--	--	1	--	--
SB4	196+57.2	44.0' RT	--	--	--	--	1	--
SB5	196+53.5	58.7' RT	1	--	--	--	--	--
SB6	33+64.5	37.9' RT	--	--	--	1	--	--
SB7	31+76.5	39.1' RT	--	--	1	--	--	--
SB8	33+80.3	12.4' LT	--	--	--	--	1	--
SB9	33+84.2	25.3' LT	1	--	--	--	--	--
SB10	195+00.3	32.1' LT	--	--	--	1	--	--
SB11	195+18.6	80.2' LT	--	--	--	--	1	--
SB12	35+19.6	89.8' LT	1	--	--	--	--	--
SB13	35+45.4	15.8' LT	--	--	--	1	--	--
SB14	35+74.3	16.0' LT	--	1	--	--	--	--
SB15	35+89.6	15.9' LT	--	1	--	--	--	--
		TOTALS	4	2	1	4	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF
SB1	HEAD 18	65
SB1	HEAD 19	54
SB1	HEAD 20	42
SB1	HEAD 34	14
SB2	HEAD 8	19
SB2	HEAD 35	14
SB3	HEAD 6	47
SB3	HEAD 7	35
SB3	HEAD 12	28
SB4	HEAD 2	66
SB4	HEAD 3	55
SB4	HEAD 4	42
SB4	HEAD 36	14
SB5	HEAD 17	19
SB5	HEAD 37	14
SB6	HEAD 21	28
SB6	HEAD 29	47
SB6	HEAD 30	34
SB8	HEAD 25	66
SB8	HEAD 26	53
SB8	HEAD 27	40
SB8	HEAD 38	14
SB9	HEAD 1	19
SB9	HEAD 31	14
SB10	HEAD 5	28
SB10	HEAD 13	46
SB10	HEAD 14	34
SB11	HEAD 9	65
SB11	HEAD 10	52
SB11	HEAD 11	40
SB11	HEAD 32	14
SB12	HEAD 24	19
SB12	HEAD 33	14
SB13	HEAD 22	45
SB13	HEAD 23	33
SB13	HEAD 28	28
SB14	HEAD 15	19
SB15	HEAD 16	19
	TOTALS	1299

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF
CB1	SB1	144
CB1	SB2	143
CB1	SB3	224
CB1	SB4	381
CB1	SB5	387
CB1	SB6	452
CB1	SB8	559
CB1	SB9	563
CB1	SB10	383
CB1	SB11	356
CB1	SB12	356
CB1	SB13	165
CB1	SB14	118
CB1	SB15	149
	TOTALS	4380

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB3	224	--
SB3	LUMIN	--	288
SB3	SB6	292	--
SB6	LUMIN	--	288
SB6	SB7	242	--
SB7	LUMIN	--	117
CB1	SB13	165	--
SB13	LUMIN	--	288
SB13	SB10	345	--
SB10	LUMIN	--	288
	TOTALS	1268	1269

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	144
SB1	SB2	45
SB2	SB3	253
SB3	SB4	221
SB4	SB5	42
SB5	SB6	241
SB6	SB8	243
SB8	SB9	40
SB9	SB10	220
SB10	SB11	197
SB11	SB12	48
SB12	SB13	319
SB13	SB14	81
SB14	SB15	65
SB15	CB1	149
PB1	CB1	30
PB2	CB1	65
PB3	SB1	31
PB4	SB3	40
PB9	SB4	90
PB10	SB4	26
PB11	SB6	43
PB16	SB6	106
PB17	SB8	88
PB18	SB8	26
PB19	SB10	28
PB24	SB11	93
PB25	SB11	32
PB26	SB11	161
PB27	SB14	25
PB28	SB13	25
PB30	SB15	25
PB34	CB1	30
	TOTAL	3272

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900* TRAFFIC SIGNAL EVP DETECTOR CABLE LF	SPV.0090.3001* CABLE TYPE UF 2-14 AWG LF
CB1	SB11 (HEAD A)	426	426
CB1	SB4 (HEAD B)	451	451
CB1	SB8 (HEAD C)	629	629
CB1	SB1 (HEAD D)	214	214
	TOTALS	1720	1720

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 59 & CTH O

BASE NO.	656.0200.3002 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

3

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0255* TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0305* POLES TYPE 2 EACH	657.0322* POLES TYPE 5-ALUMINUM EACH	657.0420* TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0610* LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT EACH	657.1350* INSTALL POLES TYPE 10 EACH	657.1355* INSTALL POLES TYPE 12 EACH	657.1520* INSTALL MONOTUBE ARMS 20-FT EACH	657.1540* INSTALL MONOTUBE ARMS 40-FT EACH	657.1815* INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	--	--	--	--	--	--	--	1	--	1	--	1	--
SB2	1	--	--	--	1	--	--	--	--	--	--	1	--
SB3	--	--	--	--	--	--	1	--	1	--	2	--	2
SB4	--	--	--	--	--	--	--	1	--	1	--	1	--
SB5	1	--	--	--	1	--	--	--	--	--	--	1	--
SB6	--	--	--	--	--	--	1	--	1	--	2	--	2
SB7	--	1	--	1	--	1	--	--	--	--	--	--	1
SB8	--	--	--	--	--	--	--	1	--	1	--	1	--
SB9	1	--	--	--	1	--	--	--	--	--	--	1	--
SB10	--	--	--	--	--	--	1	--	1	--	2	--	2
SB11	--	--	--	--	--	--	--	1	--	1	--	1	--
SB12	1	--	--	--	1	--	--	--	--	--	--	1	--
SB13	--	--	--	--	--	--	1	--	1	--	2	--	2
SB14	--	1	1	--	--	--	--	--	--	--	--	--	--
SB15	--	1	1	--	--	--	--	--	--	--	--	--	--
TOTALS	4	3	2	1	4	1	4	4	4	4	8	8	9

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0416* PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH	658.0635* LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB9	1	1	--	1	1	1	--	--	--	--
2	SB4	1	1	--	1	1	1	--	--	--	--
3	SB4	1	1	--	1	1	1	--	--	--	--
4	SB4	1	1	--	1	1	1	--	--	--	--
5	SB10	1	1	--	--	--	--	1	1	1	--
6	SB3	1	1	--	--	--	--	1	1	1	--
7	SB3	1	1	--	--	--	--	1	1	1	--
8	SB2	1	1	--	1	1	1	--	--	--	--
9	SB11	1	1	--	1	1	1	--	--	--	--
10	SB11	1	1	--	1	1	1	--	--	--	--
11	SB11	1	1	--	1	1	1	--	--	--	--
12	SB3	1	1	--	--	--	--	1	1	1	--
13	SB10	1	1	--	--	--	--	1	1	1	--
14	SB10	1	1	--	--	--	--	1	1	1	--
15	SB14	1	1	--	1	--	--	--	1	1	--
16	SB15	1	1	--	1	--	--	--	1	1	--
17	SB5	1	1	--	1	1	1	--	--	--	--
18	SB1	1	1	--	1	1	1	--	--	--	--
19	SB1	1	1	--	1	1	1	--	--	--	--
20	SB1	1	1	--	1	1	1	--	--	--	--
21	SB6	1	1	--	--	--	--	1	1	1	--
22	SB13	1	1	--	--	--	--	1	1	1	--
23	SB13	1	1	--	--	--	--	1	1	1	--
24	SB12	1	1	--	1	1	1	--	--	--	--
25	SB8	1	1	--	1	1	1	--	--	--	--
26	SB8	1	1	--	1	1	1	--	--	--	--
27	SB8	1	1	--	1	1	1	--	--	--	--
28	SB13	1	1	--	--	--	--	1	1	1	--
29	SB6	1	1	--	--	--	--	1	1	1	--
30	SB6	1	1	--	--	--	--	1	1	1	--
31	SB9	--	--	1	--	--	--	--	--	--	1
32	SB11	--	--	1	--	--	--	--	--	--	1
33	SB12	--	--	1	--	--	--	--	--	--	1
34	SB1	--	--	1	--	--	--	--	--	--	1
35	SB2	--	--	1	--	--	--	--	--	--	1
36	SB4	--	--	1	--	--	--	--	--	--	1
37	SB5	--	--	1	--	--	--	--	--	--	1
38	SB8	--	--	1	--	--	--	--	--	--	1
TOTALS		30	30	8	18	16	16	12	14	14	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

SIGNAL MOUNTING HARDWARE
STH 59 & CTH O

LOCATION	658.5069.3002 SIGNAL MOUNTING HARDWARE LS
STH 59 & CTH O	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 59 & CTH O

LOCATION	661.0200.3001 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 59 & CTH O	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL STATE SUPPLIED VIDEO DETECTION CABLE

FROM	TO	SPV.0090.3002* INSTALL CAMERA POWER CABLE LF
CB1	SB11 (V1)	391
CB1	SB4 (V2)	416
CB1	SB8 (V3)	574
CB1	SB1 (V4)	199
	TOTAL	1580

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL STATE SUPPLIED CAT-5E CABLE

FROM	TO	SPV.0090.3003* INSTALL CAT-5E CABLE LF
CB1	SB1 (V4)	199
CB1	SB3(R1)	194
SB3 (R1)	SB4 (V2)	276
CB1	SB11 (R2)	299
CB1	SB11 (R3)	299
SB11 (R2)	SB11 (V1)	89
SB11 (R3)	SB8 (R4)	323
SB8 (R4)	SB8 (V3)	89
	TOTAL	1768

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
NOTE: R = ETHERNET REPEATER

STH 59 (W. GREENFIELD AVENUE) & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

REMOVE TRAFFIC SIGNALS
STH 59 & CTH O

LOCATION	SPV.0105.3002 REMOVE TRAFFIC SIGNALS LS
STH 59 & CTH O	1
TOTAL	1

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 59 & CTH O

LOCATION	SPV.0105.3011 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 59 & CTH O	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 59 & CTH O

LOCATION	SPV.0105.3022 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 59 & CTH O	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 59 & CTH O

LOCATION	SPV.0105.3032 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 59 & CTH O	1
TOTAL	1

3

TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS
STH 59 & CTH O

LOCATION	SPV.0105.3042 TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS LS
STH 59 & CTH O	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
STH 59 & CTH O

LOCATION	SPV.0105.3052 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
STH 59 & CTH O	1
TOTAL	1

TEMPORARY EVP SYSTEM
STH 59 & CTH O

LOCATION	SPV.0105.3061 TEMPORARY EVP SYSTEM LS
STH 59 & CTH O	1
TOTAL	1

3

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
2	EACH	POLES TYPE 10
2	EACH	POLES TYPE 13
2	EACH	MONOTUBE ARMS 30-FT
1	EACH	MONOTUBE ARMS 40-FT
1	EACH	MONOTUBE ARMS 45-FT
4	EACH	LUMINAIRE ARMS STEEL 15-FT
4	EACH	EVP DETECTOR HEADS
4	EACH	CONFIRMATION LIGHT ASSEMBLIES
1243	LF	CAMERA POWER CABLE
1460	LF	CAT-5E CABLE
1	LS	ADAPTABLE TRAFFIC SIGNAL CAMERAS
3	EACH	ETHERNET REPEATERS

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
SB13	1
SB14	1
CB1	1
TOTAL	15

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0605* CONDUIT SPECIAL 2-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	21	--	--
PB1	PB2	15	--	--	--
PB1	PB4	--	--	--	96
PB4	PB5	5	--	--	--
PB4	PB6	--	--	--	72
PB6	PB7	--	--	--	48
PB6	PB8	--	136	--	--
PB8	PB9	--	--	--	128
PB9	PB10	10	--	--	--
PB9	PB13	--	--	--	114
PB13	PB14	--	--	--	92
PB13	PB16	47	--	--	--
PB14	PB15	19	--	--	--
PB14	PB19	--	--	--	252
PB16	PB17	--	--	51	--
PB19	PB20	--	--	--	73
PB19	PB21	--	--	--	132
PB21	PB22	10	--	--	--
PB21	PB25	--	--	--	150
PB25	PB26	--	34	--	--
PB26	PB27	--	--	--	42
PB26	CB1	--	27	--	--
PB27	PB28	5	--	--	--
PB7	SB1	9	--	--	--
PB7	SB2	--	9	--	--
PB14	SB3	--	24	--	--
PB14	SB4	11	--	--	--
PB20	SB5	--	12	--	--
PB20	SB6	11	--	--	--
PB27	SB7	--	10	--	--
PB27	SB8	11	--	--	--
	TOTAL	153	273	51	1199

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH
PB2	1
PB5	1
PB10	1
PB15	1
PB17	1
PB22	1
PB28	1
TOTAL	7

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

LOOP DETECTOR SCHEDULE

LOOP NUMBER	HOMERUN PB	STATION	LOCATION	SIZE (FT)X(FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	655.0700* LOOP DETECTOR LEAD IN CABLE LF	655.0800* LOOP DETECTOR WIRE LF
11	PB22	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	138	226
12	PB22	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	138	208
21	PB12	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	577	274
22	PB11	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	448	306
31	PB17	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	405	266
32	PB15	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	339	412
41	PB3	EXIST.	EXIST.	6X6	4	CONCRETE	EXISTING	218	186
42	PB5	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	87	274
43	PB28	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	83	274
51	PB10	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	260	226
52	PB10	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	260	208
61	PB24	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	458	282
62	PB23	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	324	250
71	PB5	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	87	214
72	PB28	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	83	418
81	PB18	EXIST.	EXIST.	6X6	6	CONCRETE	EXISTING	468	370
82	PB17	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	405	378
83	PB15	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	339	238
							TOTALS	5117	5010

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	34+49.5	54.6' LT	1
PB4	34+47.5	7.2' LT	1
PB6	34+45.1	27.9' RT	1
PB7	34+00.1	13.6' RT	1
PB8	250+28.5	71.7' LT	1
PB9	250+10.7	10.7' LT	1
PB13	249+95.1	43.7' RT	1
PB14	249+49.2	43.2' RT	1
PB16	249+63.7	78.3' RT	1
PB19	33+00.8	43.2' LT	1
PB20	248+93.9	21.8' RT	1
PB21	248+24.3	22.9' LT	1
PB25	34+28.8	77.8' LT	1
PB26	34+40.3	66.2' LT	1
PB27	34+03.4	46.9' LT	1
		TOTAL	15

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\030243_mq_sp.ppt PLOT DATE : 1/29/2015 5:16:20 AM PLOT BY : MSCCEJ PLOT NAME : 030040_mq_sp3 PLOT SCALE : 1:1

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB5	1
PB10	1
PB12	1
PB14	1
TOTAL	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0110* CONCRETE BASES TYPE 10 EACH	654.0113* CONCRETE BASES TYPE 13 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	34+46.6	60.6' LT	--	--	--	1
SB1	34+00.3	22.3' RT	1	--	--	--
SB2	34+09.1	13.6' RT	--	1	--	--
SB3	249+63.8	24.6' RT	--	--	1	--
SB4	249+49.1	32.7' RT	1	--	--	--
SB5	33+11.7	26.3' RT	--	1	--	--
SB6	33+21.5	15.7' RT	1	--	--	--
SB7	34+02.4	56.7' LT	--	--	1	--
SB8	34+13.7	43.3' LT	1	--	--	--
		TOTALS	4	2	2	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB1	HEAD 4	--	22
SB1	HEAD 6	19	--
SB2	HEAD 12	39	--
SB2	HEAD 13	28	--
SB2	HEAD 15	--	54
SB2	HEAD 24	14	--
SB2	HEAD 25	14	--
SB3	HEAD 2	53	--
SB3	HEAD 3	39	--
SB3	HEAD 5	--	69
SB3	HEAD 26	14	--
SB3	HEAD 27	14	--
SB4	HEAD 11	19	--
SB4	HEAD 19	--	22
SB5	HEAD 17	44	--
SB5	HEAD 18	28	--
SB5	HEAD 20	--	55
SB5	HEAD 21	14	--
SB5	HEAD 28	14	--
SB6	HEAD 1	19	--
SB6	HEAD 9	--	22
SB7	HEAD 7	53	--
SB7	HEAD 8	38	--
SB7	HEAD 10	--	66
SB7	HEAD 22	14	--
SB7	HEAD 23	14	--
SB8	HEAD 14	--	22
SB8	HEAD 16	19	--
	TOTALS	510	332

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0270* CABLE TRAFFIC SIGNAL 15-14 AWG LF
CB1	SB1	223	--
CB1	SB2	--	223
CB1	SB3	--	408
CB1	SB4	395	--
CB1	SB5	--	343
CB1	SB6	342	--
CB1	SB7	--	104
CB1	SB8	105	--
	TOTALS	1065	1078

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB2	223	--
SB2	LUMIN	--	117
SB2	SB3	420	--
SB3	LUMIN	--	117
CB1	SB7	104	--
SB7	LUMIN	--	117
SB7	SB5	399	--
SB5	LUMIN	--	117
	TOTALS	1146	468

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	223
SB1	SB2	42
SB2	SB3	420
SB3	SB4	59
SB4	SB5	278
SB5	SB6	47
SB6	SB7	398
SB7	SB8	45
SB8	CB1	105
PB1	CB1	30
PB4	CB1	94
PB6	SB2	93
PB7	SB2	29
PB8	SB2	177
PB9	SB3	179
PB13	SB3	106
PB14	SB3	44
PB19	SB5	121
PB20	SB5	32
PB21	CB1	156
PB25	CB1	65
PB27	SB7	30
PB26	CB1	32
	TOTAL	2805

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900* TRAFFIC SIGNAL EVP DETECTOR CABLE LF	SPV.0090.3001* CABLE TYPE UF 2-14 AWG LF
CB1	SB7 (HEAD A)	174	174
CB1	SB3 (HEAD B)	483	483
CB1	SB5 (HEAD C)	403	403
CB1	SB2 (HEAD D)	283	283
	TOTALS	1343	1343

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 59 & S. SUNNYSLOPE ROAD

BASE NO.	656.0200.3003 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.1350* INSTALL POLES TYPE 10 EACH	657.1360* INSTALL POLES TYPE 13 EACH	657.1530* INSTALL MONOTUBE ARMS 30-FT EACH	657.1540* INSTALL MONOTUBE ARMS 40-FT EACH	657.1545* INSTALL MONOTUBE ARMS 45-FT EACH	657.1815* INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	1	1	--	--	--	--	--	--	1	--
SB2	--	--	1	--	1	--	--	1	1	1
SB3	--	--	--	1	--	--	1	1	1	1
SB4	1	1	--	--	--	--	--	--	1	--
SB5	--	--	1	--	1	--	--	1	1	1
SB6	1	1	--	--	--	--	--	--	1	--
SB7	--	--	--	1	--	1	--	1	1	1
SB8	1	1	--	--	--	--	--	--	1	--
TOTALS	4	4	2	2	2	1	1	4	8	4

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416* PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH	658.0635* LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB6	1	--	1	--	--	1	1	1	--	--	--	--
2	SB3	1	--	1	--	--	1	1	1	--	--	--	--
3	SB3	1	--	1	--	--	1	1	1	--	--	--	--
4	SB1	--	1	--	1	--	--	--	--	1	2	1	--
5	SB3	--	1	--	1	--	--	--	--	1	2	1	--
6	SB1	1	--	1	--	--	1	1	1	--	--	--	--
7	SB7	1	--	1	--	--	1	1	1	--	--	--	--
8	SB7	1	--	1	--	--	1	1	1	--	--	--	--
9	SB6	--	1	--	1	--	--	--	--	1	2	1	--
10	SB7	--	1	--	1	--	--	--	--	1	2	1	--
11	SB4	1	--	1	--	--	1	1	1	--	--	--	--
12	SB2	1	--	1	--	--	1	1	1	--	--	--	--
13	SB2	1	--	1	--	--	1	1	1	--	--	--	--
14	SB8	--	1	--	1	--	--	--	--	1	2	1	--
15	SB2	--	1	--	1	--	--	--	--	1	2	1	--
16	SB8	1	--	1	--	--	1	1	1	--	--	--	--
17	SB5	1	--	1	--	--	1	1	1	--	--	--	--
18	SB5	1	--	1	--	--	1	1	1	--	--	--	--
19	SB4	--	1	--	1	--	--	--	--	1	2	1	--
20	SB5	--	1	--	1	--	--	--	--	1	2	1	--
21	SB5	--	--	--	--	1	--	--	--	--	--	--	1
22	SB7	--	--	--	--	1	--	--	--	--	--	--	1
23	SB7	--	--	--	--	1	--	--	--	--	--	--	1
24	SB2	--	--	--	--	1	--	--	--	--	--	--	1
25	SB2	--	--	--	--	1	--	--	--	--	--	--	1
26	SB3	--	--	--	--	1	--	--	--	--	--	--	1
27	SB3	--	--	--	--	1	--	--	--	--	--	--	1
28	SB5	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		12	8	12	8	8	12	12	12	8	16	8	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

SIGNAL MOUNTING HARDWARE
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	658.5069.3003 SIGNAL MOUNTING HARDWARE LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	661.0200.3002 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 59 & S. SUNNYSLOPE ROAD	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

INSTALL STATE SUPPLIED VIDEO DETECTION CABLE

FROM	TO	SPV.0090.3002* INSTALL CAMERA POWER CABLE LF
CB1	SB7 (V1)	169
CB1	SB3 (V2)	448
CB1	SB5 (V3)	368
CB1	SB2 (V4)	258
	TOTAL	1243

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL STATE SUPPLIED CAT-5E CABLE

FROM	TO	SPV.0090.3003* INSTALL CAT-5E CABLE LF
CB1	SB7 (V1)	170
CB1	SB5 (R1)	299
CB1	SB5 (R2)	299
SB5 (R1)	SB3 (R3)	261
SB5 (R2)	SB5 (V3)	79
SB3(R3)	SB3 (V2)	94
CB1	SB2 (V4)	258
	TOTAL	1460

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
NOTE: R = ETHERNET REPEATER

REMOVE TRAFFIC SIGNALS
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3003 REMOVE TRAFFIC SIGNALS LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3023 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

STH 59 (W. GREENFIELD AVENUE) &
S. SUNNYSLOPE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3012 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3033 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

3

TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3043 TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3053 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

TEMPORARY EVP SYSTEM
STH 59 & S. SUNNYSLOPE ROAD

LOCATION	SPV.0105.3062 TEMPORARY EVP SYSTEM LS
STH 59 & S. SUNNYSLOPE ROAD	1
TOTAL	1

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\030243_mq_sp.ppt PLOT DATE : 1/29/2015 5:16:20 AM PLOT BY : MSCCEJ PLOT NAME : 030040_mq_sp10 PLOT SCALE : 1:1

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
4	EACH	POLES TYPE 13
4	EACH	MONOTUBE ARMS 40-FT
4	EACH	LUMINAIRE ARMS STEEL 15-FT
4	EACH	EVP DETECTOR HEADS
4	EACH	CONFIRMATION LIGHT ASSEMBLIES
965	LF	CAMERA POWER CABLE
1005	LF	CAT-5E CABLE
1	LS	ADAPTABLE TRAFFIC SIGNAL CAMERAS
1	EACH	ETHERNET REPEATERS

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
CB1	1
TOTAL	13

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN
ALICIA M. DOUGHERTY
E-43022
PEWAUKEE, WI
PROFESSIONAL ENGINEER

Alicia M. Dougherty
1-29-15

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
CB1	PB1	--	36	--
PB1	PB2	--	--	188
PB2	PB3	--	--	50
PB2	PB6	--	114	--
PB6	PB7	9	--	--
PB6	PB9	--	--	114
PB9	PB10	--	68	--
PB10	PB11	--	--	52
PB10	PB14	--	--	182
PB14	PB16	--	108	--
PB16	PB15	9	--	--
PB16	PB19	--	--	116
PB19	CB1	--	60	--
PB1	SB1	16	--	--
PB2	SB2	--	13	--
PB2	SB3	33	--	--
PB6	SB4	8	--	--
PB9	SB5	--	6	--
PB10	SB6	10	--	--
PB10	SB7	7	--	--
PB14	SB8	--	5	--
PB16	SB9	5	--	--
PB19	SB10	--	19	--
	TOTAL	97	429	702

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH
PB3	1
PB7	1
PB11	1
PB15	1
TOTAL	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LOOP DETECTOR SCHEDULE

LOOP NUMBER	HOMERUN PB	STATION	LOCATION	SIZE (FT)X(FT)	NO. OF TURNS	PAVEMENT TYPE	SDD INSTALLATION REFERENCE	655.0700* LOOP DETECTOR LEAD IN CABLE LF	655.0800* LOOP DETECTOR WIRE LF
11	PB3	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	183	220
12	PB3	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	183	232
21	PB13	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	615	362
22	PB12	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	479	330
31	PB15	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	114	400
32	PB15	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	114	310
41	PB8	EXIST.	EXIST.	6X6	5	CONCRETE	EXISTING	342	220
42	PB7	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	199	238
43	PB7	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	199	226
51	PB11	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	302	262
52	PB11	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	302	250
61	PB5	EXIST.	EXIST.	6X20	4	CONCRETE	EXISTING	473	362
62	PB4	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	356	274
71	PB7	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	199	310
72	PB7	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	199	304
81	PB18	EXIST.	EXIST.	6X6	4	CONCRETE	EXISTING	264	186
82	PB15	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	114	346
83	PB15	EXIST.	EXIST.	6X20	3	CONCRETE	EXISTING	114	232
							TOTALS	4751	5064

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	32+71.5	44.1' LT	1
PB2	275+24.9	42.9' LT	1
PB6	33+96.0	37.8' LT	1
PB9	33+95.4	19.1' RT	1
PB10	33+66.5	35.7' RT	1
PB14	276+37.0	46.8' RT	1
PB16	32+54.3	30.6' RT	1
PB19	32+53.4	27.3' LT	1
		TOTAL	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB3	1
PB4	1
PB8	1
PB12	1
PB13	1
PB17	1
TOTAL	6

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0113* CONCRETE BASES TYPE 13 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
CB1	32+60.1	45.8' LT	--	--	1
SB1	275+11.1	41.7' RT	1	--	--
SB2	275+12.2	42.7' LT	--	1	--
SB3	33+73.5	50.3' LT	1	--	--
SB4	33+88.9	39.8' LT	1	--	--
SB5	33+91.1	15.9' RT	--	1	--
SB6	33+68.9	26.9' RT	1	--	--
SB7	276+48.0	42.1' LT	1	--	--
SB8	276+41.0	44.1' RT	--	1	--
SB9	32+58.5	28.4' RT	1	--	--
SB10	32+35.2	25.8' LT	--	1	--
		TOTALS	6	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

STH 59 (W. GREENFIELD AVENUE) &
S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF
SB1	HEAD 1	19	--
SB1	HEAD 9	--	22
SB1	HEAD 21	14	--
SB2	HEAD 7	53	--
SB2	HEAD 8	41	--
SB2	HEAD 10	--	65
SB2	HEAD 22	14	--
SB3	HEAD 23	14	--
SB4	HEAD 14	--	22
SB4	HEAD 16	19	--
SB5	HEAD 12	44	--
SB5	HEAD 13	32	--
SB5	HEAD 15	--	67
SB6	HEAD 24	14	--
SB7	HEAD 4	--	22
SB7	HEAD 6	19	--
SB8	HEAD 2	55	--
SB8	HEAD 3	44	--
SB8	HEAD 5	--	67
SB9	HEAD 11	19	--
SB9	HEAD 19	--	22
SB10	HEAD 17	40	--
SB10	HEAD 18	28	--
SB10	HEAD 20	--	67
	TOTALS	469	354

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0240* CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF
CB1	SB1	--	55
CB1	SB2	--	162
CB1	SB3	182	--
CB1	SB4	--	230
CB1	SB5	--	301
CB1	SB6	308	--
CB1	SB7	--	305
CB1	SB8	--	196
CB1	SB9	--	126
CB1	SB10	--	66
	TOTALS	490	1441

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF	655.0615* ELECTRICAL WIRE LIGHTING 10 AWG LF
CB1	SB2	162	--
SB2	LUMIN	--	144
SB2	SB5	189	--
SB5	LUMIN	--	144
CB1	SB10	66	--
SB10	LUMIN	--	144
SB10	SB8	192	--
SB8	LUMIN	--	144
	TOTALS	609	576

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	55
SB1	SB2	163
SB2	SB3	70
SB3	SB4	138
SB4	SB5	111
SB5	SB6	90
SB6	SB7	41
SB7	SB8	143
SB8	SB9	104
SB9	SB10	122
SB10	CB1	66
PB1	CB1	35
PB2	SB2	33
PB6	SB4	28
PB9	SB5	26
PB10	SB7	27
PB14	SB8	25
PB16	SB9	25
PB19	SB10	39
	TOTAL	1341

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900* TRAFFIC SIGNAL EVP DETECTOR CABLE LF	SPV.0090.3001* CABLE TYPE UF 2-14 AWG LF
CB1	SB2 (HEAD A)	232	232
CB1	SB8 (HEAD B)	266	266
CB1	SB10 (HEAD C)	136	136
CB1	SB5 (HEAD D)	371	371
	TOTALS	1005	1005

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL
STH 59 & S. ELM GROVE ROAD

BASE NO.	656.0200.3004 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

CAST BASES, POLES, MONOTUBE ARMS, PUSH BUTTONS, AND LUMINAIRES

SIGNAL BASE NO.	657.0100* PEDESTAL BASES EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430* TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.1360* INSTALL POLES TYPE 13 EACH	657.1540* INSTALL MONOTUBE ARMS 40-FT EACH	657.1815* INSTALL LUMINAIRE ARMS STEEL 15-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	1	1	--	--	--	--	1	--
SB2	--	--	--	1	1	1	1	1
SB3	1	--	1	--	--	--	1	--
SB4	1	1	--	--	--	--	--	--
SB5	--	--	--	1	1	1	--	1
SB6	1	--	1	--	--	--	1	--
SB7	1	1	--	--	--	--	--	--
SB8	--	--	--	1	1	1	--	1
SB9	1	1	--	--	--	--	--	--
SB10	--	--	--	1	1	1	--	1
TOTALS	6	4	2	4	4	4	4	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL EACH	658.0215* BACKPLATES SIGNAL FACE 3 SECTION 12-INCH EACH	658.0220* BACKPLATES SIGNAL FACE 4 SECTION 12-INCH EACH	658.0416* PEDESTRIAN SIGNAL FACE 16-INCH EACH	658.0600* LED MODULES 12-INCH RED BALL EACH	658.0605* LED MODULES 12-INCH YELLOW BALL EACH	658.0610* LED MODULES 12-INCH GREEN BALL EACH	658.0615* LED MODULES 12-INCH RED ARROW EACH	658.0620* LED MODULES 12-INCH YELLOW ARROW EACH	658.0625* LED MODULES 12-INCH GREEN ARROW EACH	658.0635* LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH EACH
1	SB1	1	--	1	--	--	1	1	1	--	--	--	--
2	SB8	1	--	1	--	--	1	1	1	--	--	--	--
3	SB8	1	--	1	--	--	1	1	1	--	--	--	--
4	SB7	--	1	--	1	--	--	--	--	1	2	1	--
5	SB8	--	1	--	1	--	--	--	--	1	2	1	--
6	SB7	1	--	1	--	--	1	1	1	--	--	--	--
7	SB2	1	--	1	--	--	1	1	1	--	--	--	--
8	SB2	1	--	1	--	--	1	1	1	--	--	--	--
9	SB1	--	1	--	1	--	--	--	--	1	2	1	--
10	SB2	--	1	--	1	--	--	--	--	1	2	1	--
11	SB9	1	--	1	--	--	1	1	1	--	--	--	--
12	SB5	1	--	1	--	--	1	1	1	--	--	--	--
13	SB5	1	--	1	--	--	1	1	1	--	--	--	--
14	SB4	--	1	--	1	--	--	--	--	1	2	1	--
15	SB5	--	1	--	1	--	--	--	--	1	2	1	--
16	SB4	1	--	1	--	--	1	1	1	--	--	--	--
17	SB10	1	--	1	--	--	1	1	1	--	--	--	--
18	SB10	1	--	1	--	--	1	1	1	--	--	--	--
19	SB9	--	1	--	1	--	--	--	--	1	2	1	--
20	SB10	--	1	--	1	--	--	--	--	1	2	1	--
21	SB1	--	--	--	--	1	--	--	--	--	--	--	1
22	SB2	--	--	--	--	1	--	--	--	--	--	--	1
23	SB3	--	--	--	--	1	--	--	--	--	--	--	1
24	SB6	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		12	8	12	8	4	12	12	12	8	16	8	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

SIGNAL MOUNTING HARDWARE
STH 59 & S. ELM GROVE ROAD

LOCATION	658.5069.3004 SIGNAL MOUNTING HARDWARE LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS
STH 59 & S. ELM GROVE ROAD

LOCATION	661.0200.3003 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0300* GENERATORS DAY
STH 59 & S. ELM GROVE ROAD	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL STATE SUPPLIED VIDEO DETECTION CABLE

FROM	TO	SPV.0090.3002* INSTALL CAMERA POWER CABLE LF
CB1	SB2 (V1)	227
CB1	SB8 (V2)	251
CB1	SB10 (V3)	141
CB1	SB5 (V4)	346
	TOTAL	965

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL STATE SUPPLIED CAT-5E CABLE

FROM	TO	SPV.0090.3003* INSTALL CAT-5E CABLE LF
CB1	SB2 (R1)	142
CB1	SB2 (V1)	227
SB2 (R1)	SB5 (V4)	244
CB1	SB10 (V3)	141
CB1	SB8 (V2)	251
	TOTAL	1005

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
NOTE: R = ETHERNET REPEATER

STH 59 (W. GREENFIELD AVENUE) & S. ELM GROVE ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

REMOVE TRAFFIC SIGNALS
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3004 REMOVE TRAFFIC SIGNALS LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3013 REMOVE LOOP DETECTOR WIRE AND LEAD-IN CABLE LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3024 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

TRANSPORTING SIGNAL AND LIGHTING MATERIALS
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3034 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\030244_mq_sp.ppt PLOT DATE : 1/29/2015 5:16:43 AM PLOT BY : MSCCEJ PLOT NAME : 030050_mq_sp8 PLOT SCALE : 1:1

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TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3044 TRANSPORTING AND INSTALLING STATE FURNISHED ADAPTABLE TRAFFIC SIGNAL CAMERAS LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

INSTALL STATE FURNISHED EVP DETECTOR HEADS
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3054 INSTALL STATE FURNISHED EVP DETECTOR HEADS LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

TEMPORARY EVP SYSTEM
STH 59 & S. ELM GROVE ROAD

LOCATION	SPV.0105.3063 TEMPORARY EVP SYSTEM LS
STH 59 & S. ELM GROVE ROAD	1
TOTAL	1

IH 94 EB OFF RAMP & CTH O (S. MOORLAND ROAD)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET
1	EACH	RADAR DETECTION SYSTEM

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
IH 94 EB OFF RAMP & CTH O

LOCATION	SPV.0105.3025 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
IH 94 EB OFF RAMP & CTH O	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
IH 94 EB OFF RAMP & CTH O

LOCATION	SPV.0105.3005 REMOVE TRAFFIC SIGNALS LS
IH 94 EB OFF RAMP & CTH O	1
TOTAL	1

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371[illegible]
[illegible] JKESHA, WI
PROFESSIONAL ENGINEER
01/21/2015

TRANSPORTING AND INSTALLING STATE FURNISHED RADAR DETECTION SYSTEM
IH 94 EB OFF RAMP & CTH O

LOCATION	SPV.0105.3081 TRANSPORTING AND INSTALLING STATE FURNISHED RADAR DETECTION SYSTEM LS
IH 94 EB OFF RAMP & CTH O	1
TOTAL	1

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\030245_mq_sp.ppt PLOT DATE : 1/29/2015 5:17:05 AM PLOT BY : MSCCEJ PLOT NAME : 030119_mq_sp1 PLOT SCALE : 1:1

IH 894 / USH 45 RAMPS &
W. OKLAHOMA AVENUE

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET

REMOVE TRAFFIC SIGNALS
IH 894 / USH 45 RAMPS & W. OKLAHOMA AVENUE

LOCATION	SPV.0105.3006 REMOVE TRAFFIC SIGNALS LS
IH 894 / USH 45 RAMPS & W. OKLAHOMA AVENUE	1
TOTAL	1

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WAUKESHA, WI
PROFESSIONAL ENGINEER
01/29/2015

INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
IH 894 / USH 45 RAMPS & W. OKLAHOMA AVENUE

LOCATION	SPV.0105.3026 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
IH 894 / USH 45 RAMPS & W. OKLAHOMA AVENUE	1
TOTAL	1

PROJECT NO: 1060-35-93	HWY: STH 59	COUNTY: WAUKESHA	MISCELLANEOUS QUANTITIES	SHEET: 309	E

FILE NAME : W:\Cadd\Final\10603593_TM4\Roads\cds\030246_mq_sp.ppt PLOT DATE : 1/29/2015 5:17:27 AM PLOT BY : MSCCEJ PLOT NAME : 030319_mq_sp1 PLOT SCALE : 1:1

STH 59 TRAFFIC SIGNAL INTERCONNECT

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
5	EACH	ETHERNET SWITCH
343	LF	PATCH PANEL WITH FIBER OPTIC PIGTAIL 8-CT
395	LF	PATCH PANEL WITH FIBER OPTIC PIGTAIL 8-CT
396	LF	PATCH PANEL WITH FIBER OPTIC PIGTAIL 8-CT

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH
I/C PB2001	1
I/C PB2004	1
EXCV3601	1
TOTAL	3

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONDUIT

FROM	TO	652.0225* CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
I/C PB2001	I/C PB2002	--	73	--
I/C PB2002	CB1 (S67-0112)	12	--	--
I/C PB2004	CB1 (S67-0185)	8	--	--
EXCV3601	I/C PB2007	--	--	33
I/C PB2007	I/C PB2008	--	86	--
I/C PB2008	I/C PB2009	--	--	66
I/C PB2009	CB1 (S67-0828)	14	--	--
	TOTALS	34	159	99

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
I/C PB2002	35+68.6	58.0' RT	1
I/C PB2007	276+80.3	40.6' RT	1
I/C PB2008	275+99.0	56.0' RT	1
I/C PB2009	275+33.6	54.4' RT	1
		TOTAL	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

STH 59 TRAFFIC SIGNAL INTERCONNECT

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

TRAFFIC SIGNAL INTERCONNECT

LOCATION	670.0100.3001 FIELD SYSTEM INTEGRATOR LS	670.0200.3001 ITS DOCUMENTATION LS	678.0500.3001 COMMUNICATION SYSTEM TESTING LS
1060-35-93 CATEGORY 1500 STH 59 (W. GREENFIELD AVENUE) / CTH O (S. MOORLAND ROAD)	1	1	1
TOTALS	1	1	1

FIBER OPTIC

LOCATION	678.0300* FIBER OPTIC SPLICE EACH
EXCV2101	14
EXCV3401	14
EXCV3601	14
TOTAL	42

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 59 & S. CALHOUN ROAD

LOCATION	*** SPV.0105.3071 LS
* CB1 (S67-0150)	1
TOTAL	1

* PAY ITEM INCLUDES HOOK-UP OF EXISTING FIBER OPTIC PIGTAIL
*** PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
EXISTING	LF	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT
1	EACH	ETHERNET SWITCH

SUMMARY OF CONTRACTOR FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	ST-ST SINGLE MODE FIBER OPTIC JUMPER 2-CT
EXISTING	LF	TRACER WIRE
2	EACH	CAT-5E CABLE 1-METER

STH 59 TRAFFIC SIGNAL INTERCONNECT

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 59 & CTH O

LOCATION	*** SPV.0105.3072 LS
CB1 (S67-0112)	1
TOTAL	1

*** PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
343	LF	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT
1	EACH	ETHERNET SWITCH

SUMMARY OF CONTRACTOR FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	ST-ST SINGLE MODE FIBER OPTIC JUMPER 2-CT
231	LF	TRACER WIRE
2	EACH	CAT-5E CABLE 1-METER

INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 59 & S. SUNNYSLOPE ROAD

LOCATION	*** SPV.0105.3073 LS
CB1 (S67-0185)	1
TOTAL	1

*** PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
395	LF	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT
1	EACH	ETHERNET SWITCH

SUMMARY OF CONTRACTOR FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	ST-ST SINGLE MODE FIBER OPTIC JUMPER 2-CT
283	LF	TRACER WIRE
2	EACH	CAT-5E CABLE 1-METER

STH 59 TRAFFIC SIGNAL INTERCONNECT

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET STH 59 & S. ELM GROVE ROAD

LOCATION	*** SPV.0105.3074 LS
CB1 (S67-0828)	1
TOTAL	1

*** PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
396	LF	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT
1	EACH	ETHERNET SWITCH

SUMMARY OF CONTRACTOR FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	ST-ST SINGLE MODE FIBER OPTIC JUMPER 2-CT
270	LF	TRACER WIRE
2	EACH	CAT-5E CABLE 1-METER

INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET IH 94 EB OFF RAMP & CTH O

LOCATION	*** SPV.0105.3075 LS
* CB1 (S67-0314)	1
TOTAL	1

* PAY ITEM INCLUDES HOOK-UP OF EXISTING FIBER OPTIC PIGTAIL
*** PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
EXISTING	LF	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT
1	EACH	ETHERNET SWITCH

SUMMARY OF CONTRACTOR FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	ST-ST SINGLE MODE FIBER OPTIC JUMPER 2-CT
EXISTING	LF	TRACER WIRE
2	EACH	CAT-5E CABLE 1-METER

IH 894/USH 45 TRAFFIC SIGNAL INTERCONNECT

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	ETHERNET SWITCH
544	LF	PATCH PANEL WITH FIBER OPTIC PIGTAIL 8-CT

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S* INSTALL CONDUIT INTO EXISTING ITEM EACH
PB15	1
TOTAL	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONDUIT

FROM	TO	652.0235* CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615* CONDUIT SPECIAL 3-INCH LF
PB15	I/C PB3001	16	--
I/C PB3001	I/C PB3002	--	111
I/C PB3002	PB2002	56	--
	TOTALS	72	111

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
I/C PB3001	74+53.00	59.5' RT	1
I/C PB3002	74+53.00	51.0' LT	1
		TOTAL	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

TRAFFIC SIGNAL INTERCONNECT

LOCATION	670.0100.3002 FIELD SYSTEM INTEGRATOR LS	670.0200.3002 ITS DOCUMENTATION LS	678.0500.3002 COMMUNICATION SYSTEM TESTING LS
1060-35-93 CATEGORY 1500 IH 894/USH 45	1	1	1
TOTALS	1	1	1

FIBER OPTIC

LOCATION	678.0300* FIBER OPTIC SPLICE EACH
EXMH1001	14
TOTAL	14

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

IH 894/USH 45 TRAFFIC SIGNAL INTERCONNECT

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

INSTALL FIBER OPTIC COMMUNICATIONS IN CABINET IH 894/USH 45 RAMPS & W. OKLAHOMA AVENUE

LOCATION	*** SPV.0105.3076 LS
CB1 (S40-1099)	1
TOTAL	1

*** PAY ITEM INCLUDES INSTALLATION OF BOTH CONTRACTOR FURNISHED AND STATE FURNISHED MATERIALS

SUMMARY OF STATE FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
544	LF	PATCH PANEL WITH FIBER OPTIC CABLE PIGTAIL 8-CT
1	EACH	ETHERNET SWITCH

SUMMARY OF CONTRACTOR FURNISHED MATERIALS

QUANTITY	UNIT	DESCRIPTION
2	EACH	ST-ST SINGLE MODE FIBER OPTIC JUMPER 2-CT
260	LF	TRACER WIRE
2	EACH	CAT-5E CABLE 1-METER

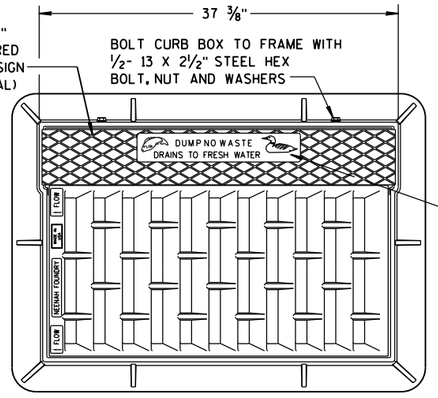
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-05	CONCRETE BASE TYPE 10
09C12-05A	CONCRETE BASE TYPE 13
09C12-05B	CONCRETE BASE TYPE 13
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-13D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-13G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-05	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-06B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-06C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-06D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-06E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09G01-03A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-03G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09H06-01	SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1
09H07-01	SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT
10A01-03	ELECTRICAL HANDHOLE WIRING
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A06-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES GROUNDED NEUTRAL SYSTEMS
11B02-02	CONCRETE MEDIAN NOSE
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C15-05A	CONCRETE BASE
13C15-05B	CONCRETE BASE
14B32-03A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-01A	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01B	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01C	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01D	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01E	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01F	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01G	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B33-01H	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

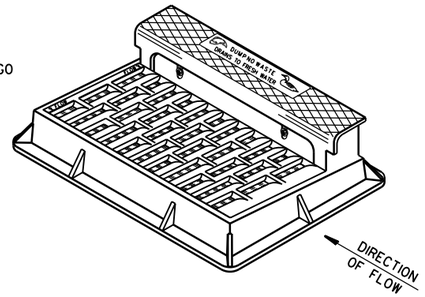
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Standard Detail Drawing List

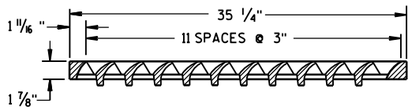
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15B03-14A	FENCE CHAIN LINK
15B03-14B	FENCE CHAIN LINK
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C24-02	36" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

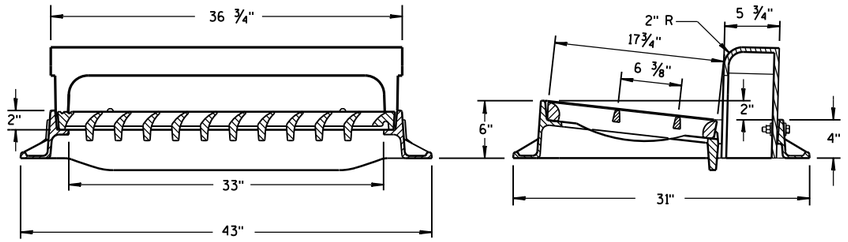


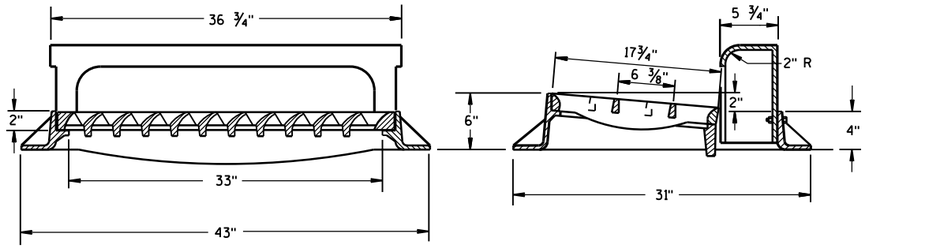
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

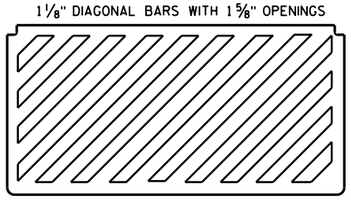






TYPE "H"

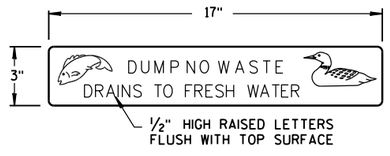
NOTE: EITHER CASTING IS ACCEPTABLE



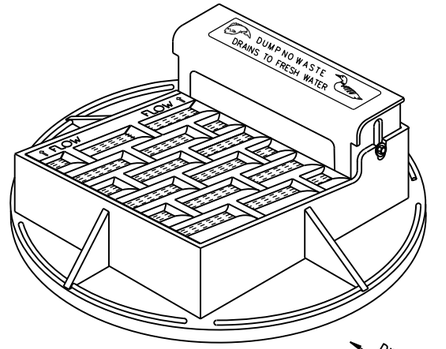
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

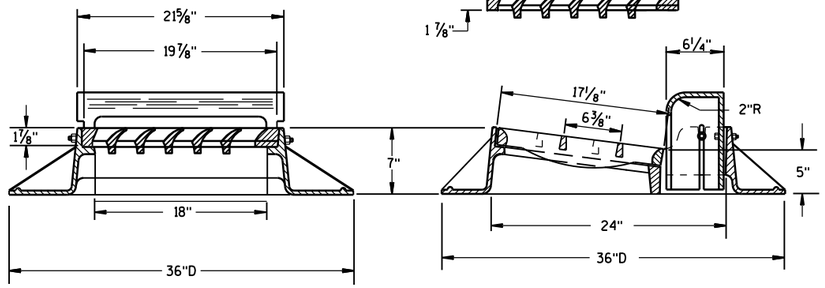


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



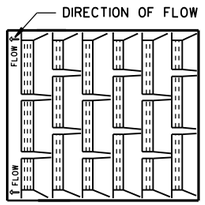
TYPE "A"

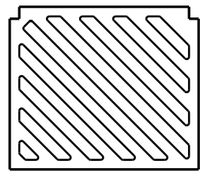
GENERAL NOTES

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

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

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

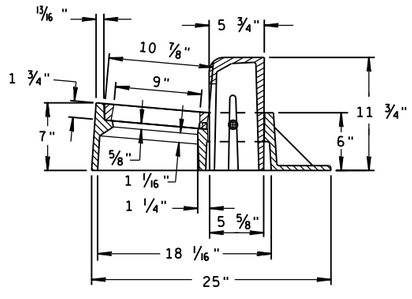


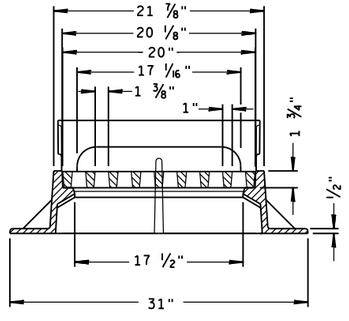


SPECIAL GRATE FOR TYPE "A" COVER

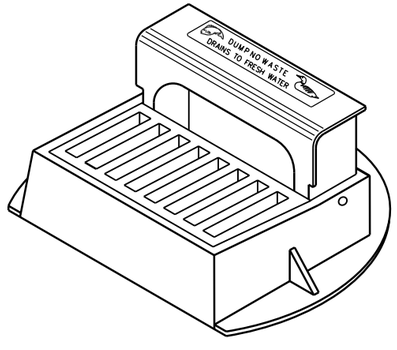
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



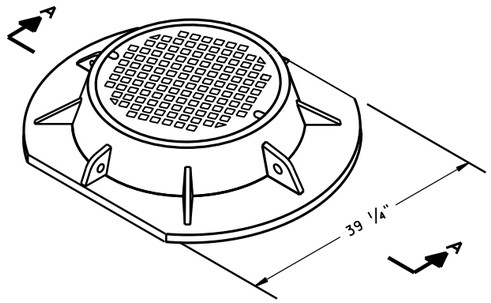
INLET COVERS TYPE A, H, A-S, H-S & Z

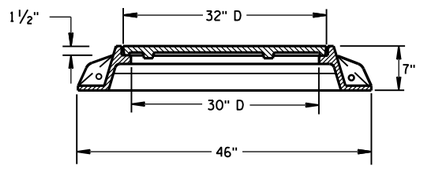
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

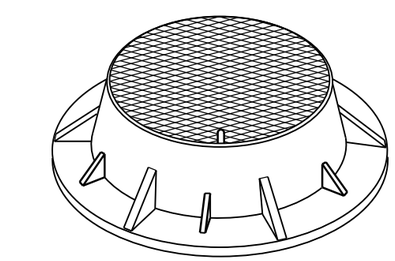
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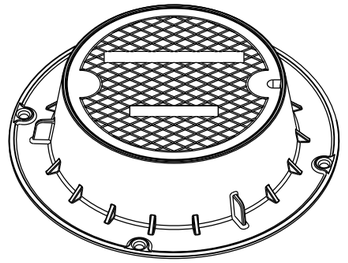
S.D.D. 8 A 5-19a

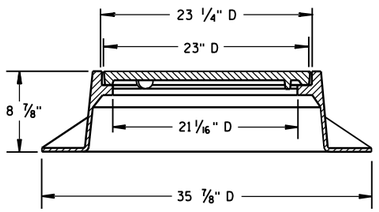


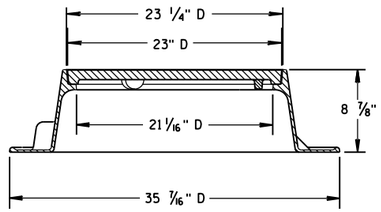


SECTION A-A
TYPE "K"









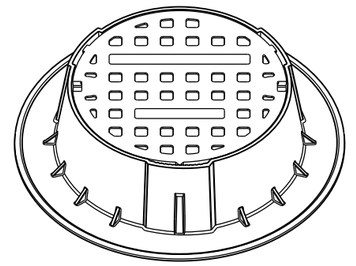
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

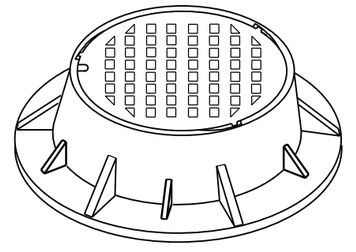
GENERAL NOTES

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

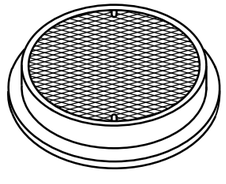
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

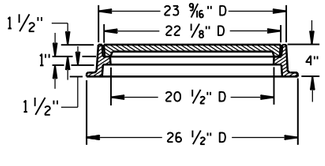
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



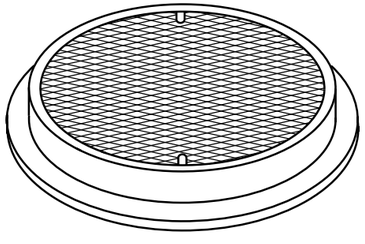


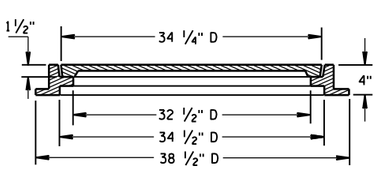
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



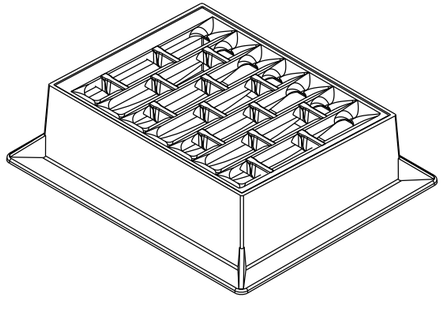


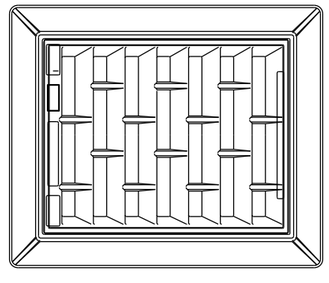
TYPE "L"

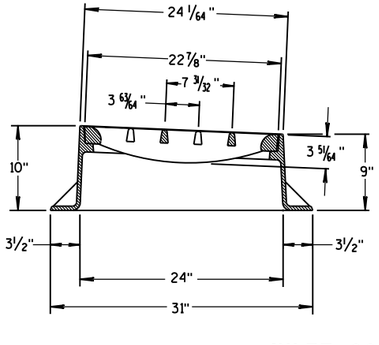


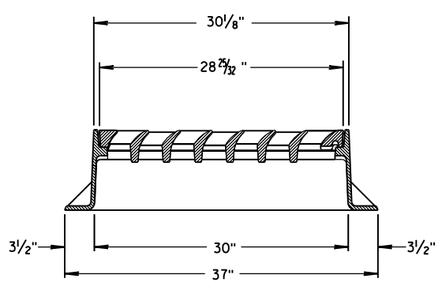


TYPE "M"









INLET COVER TYPE "BW"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

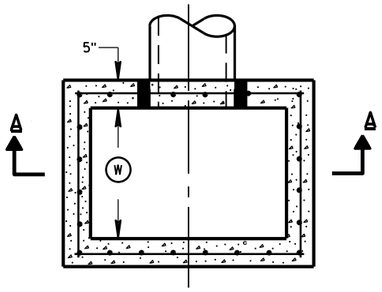
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

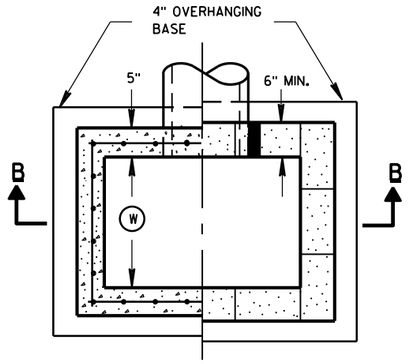
S.D.D. 8 A 5-19d

6

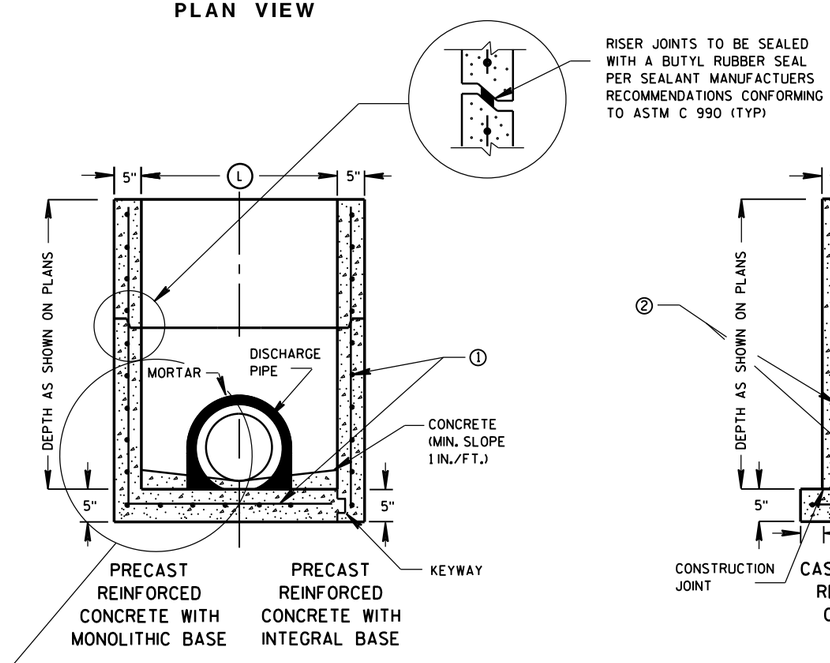
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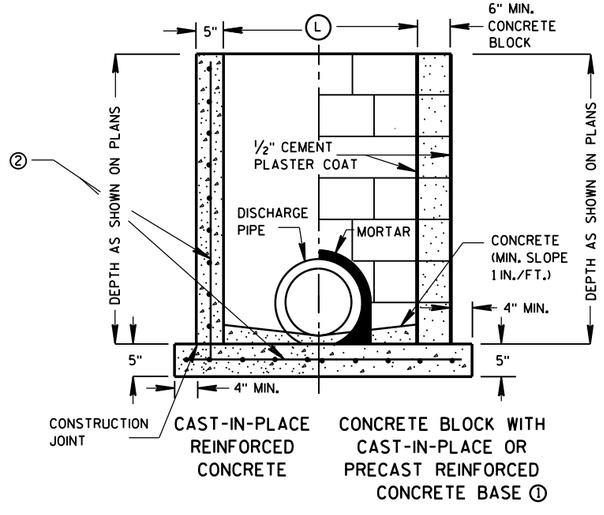
PLAN VIEW



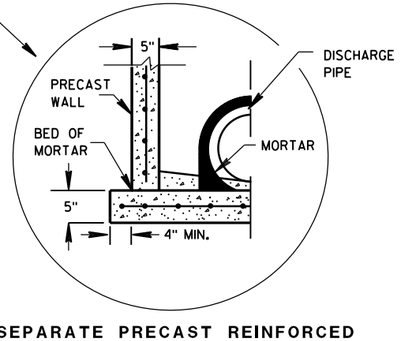
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

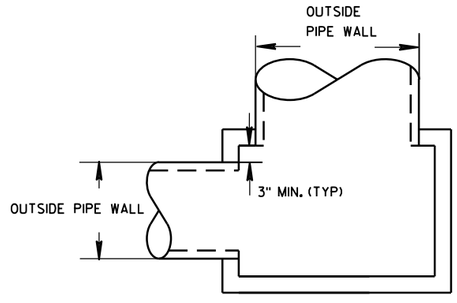
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

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

PIPE MATRIX

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



DETAIL "A"

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

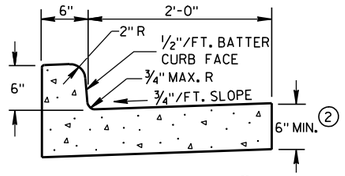
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

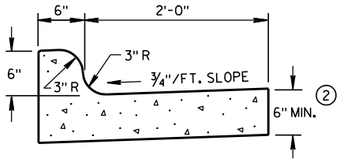
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

6

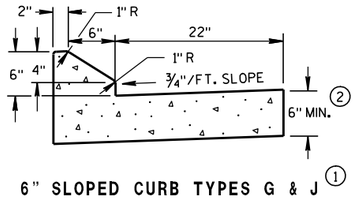
S.D.D. 8 C 7-1



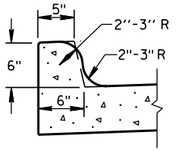
TYPES A & D (1)



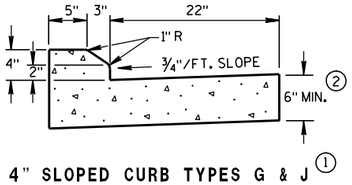
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

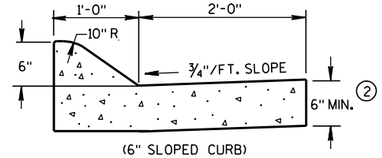


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

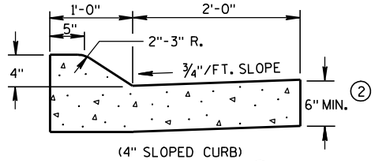


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

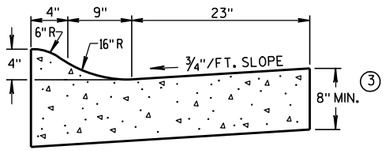


(6" SLOPED CURB)



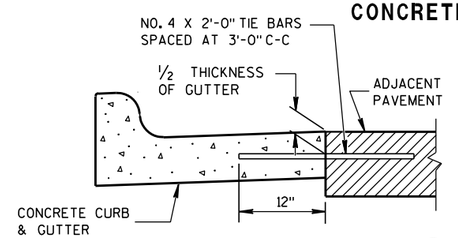
(4" SLOPED CURB)

TYPES A & D (1)

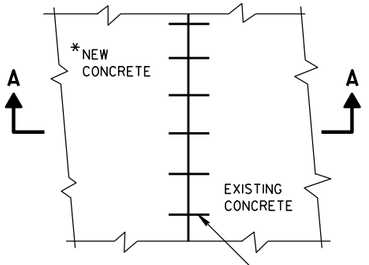


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

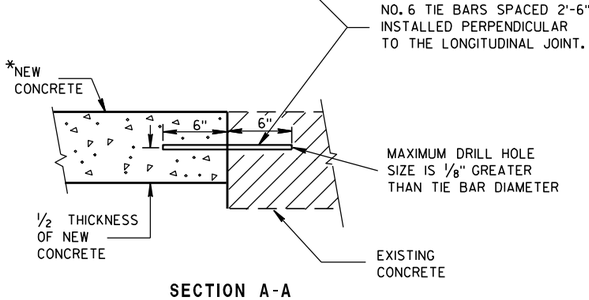


TYPICAL TIE BAR LOCATION (1)



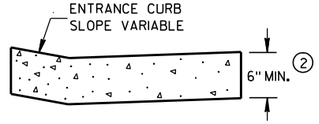
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW



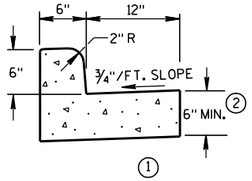
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB

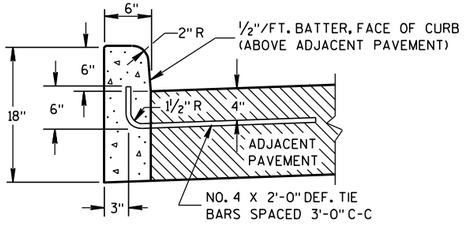
(WHEN DIRECTED BY THE ENGINEER)



(1)

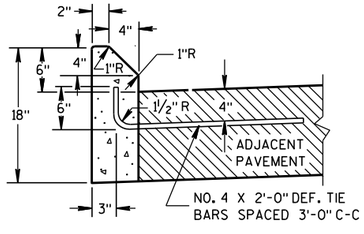
TYPES A & D

CONCRETE CURB & GUTTER 18"



(1)

TYPES A & D



(1)

TYPES G & J

CONCRETE CURB

GENERAL NOTES

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

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

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

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

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

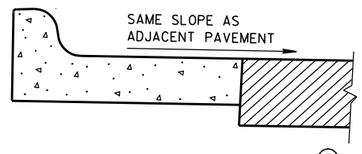
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

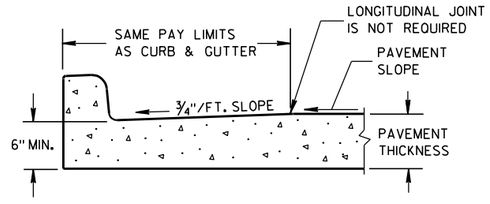
(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

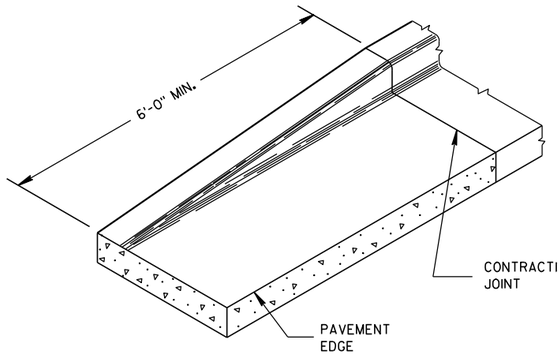


REVERSE SLOPE GUTTER (5)

(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08 DATE

/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER

FHWA

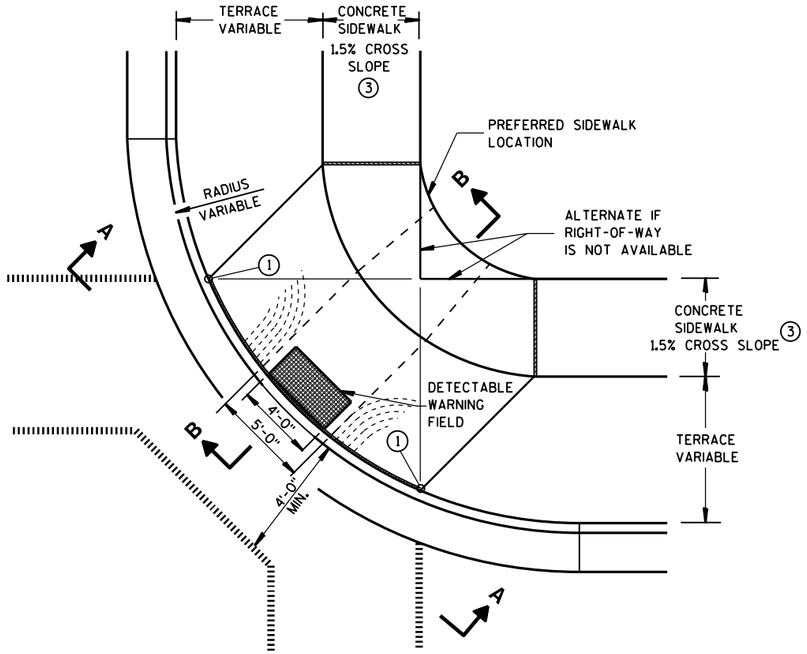
ENT

6

S.D.D. 8 D 1-17

6

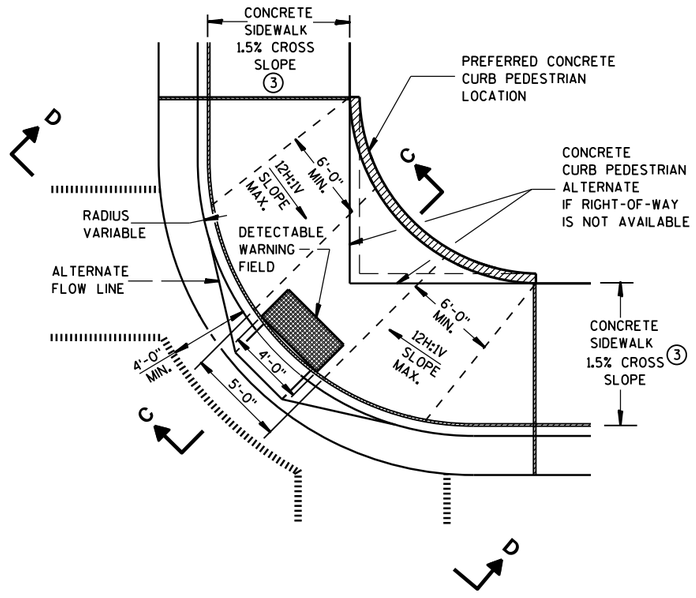
S.D.D. 8 D 1-17



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. 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.

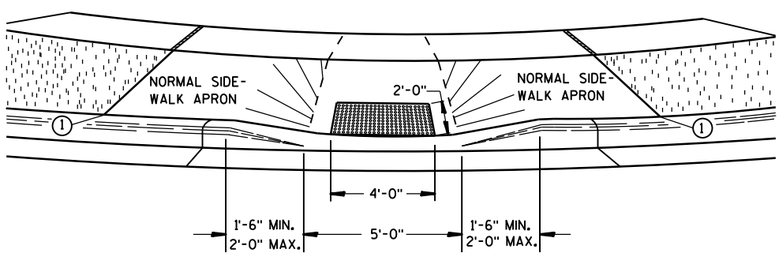
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

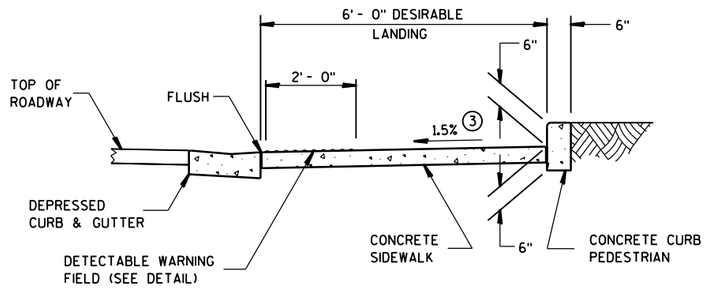
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

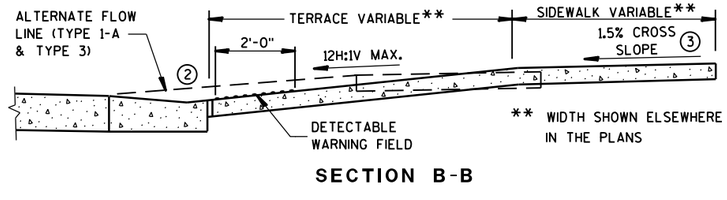
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



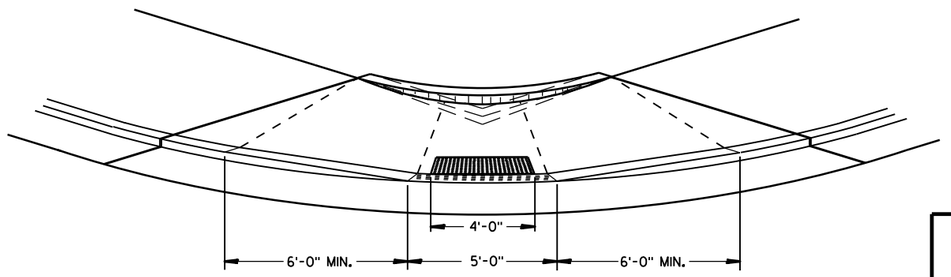
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

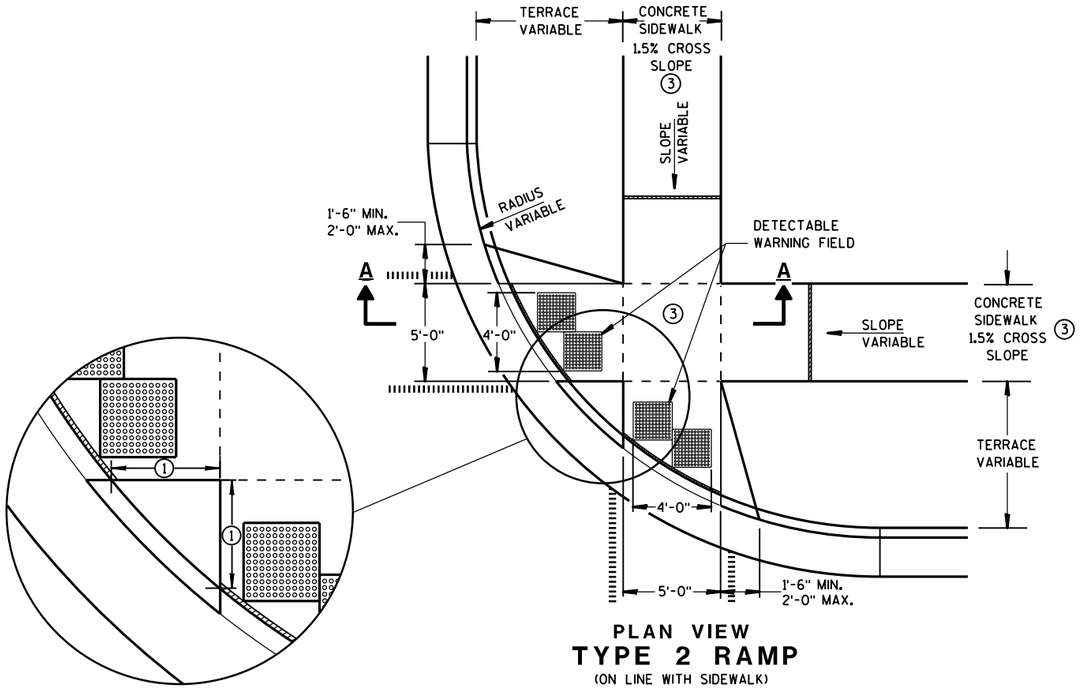
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15a

6

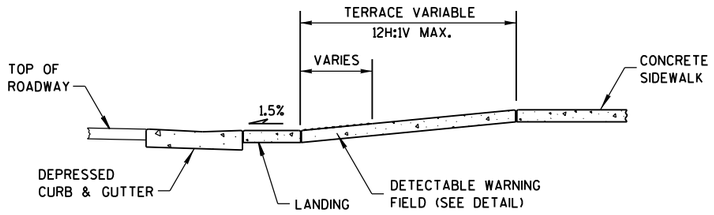
S.D.D. 8 D 5-15a



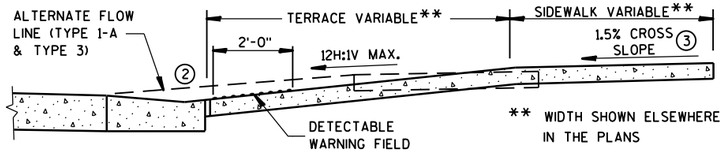
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

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

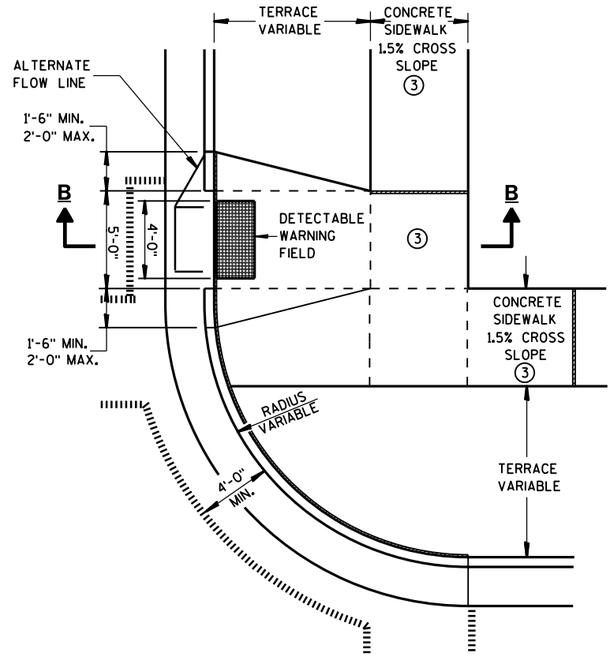
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

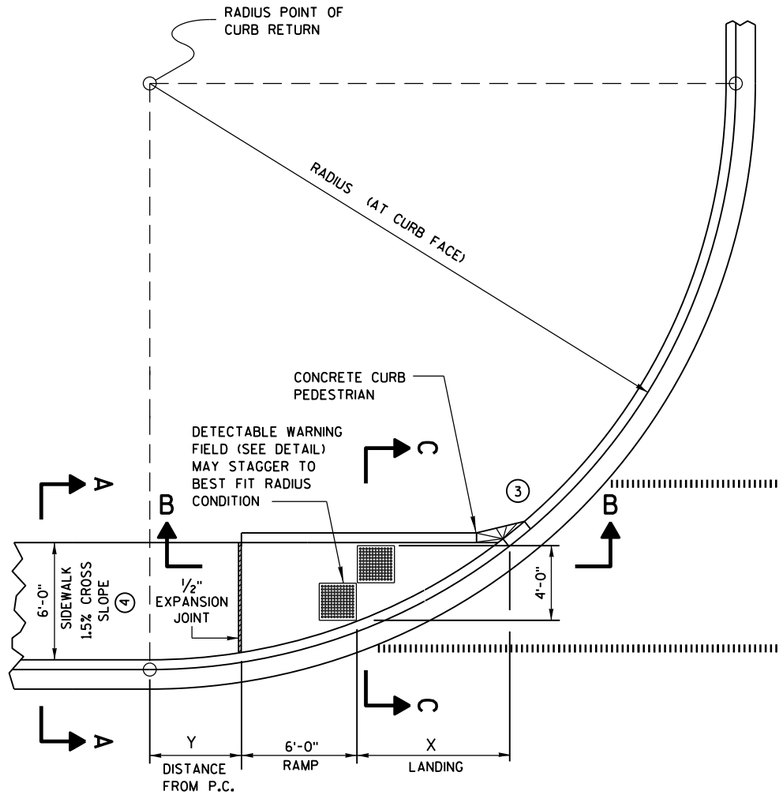
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

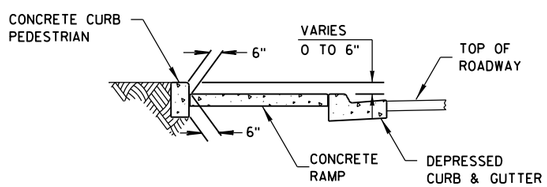
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

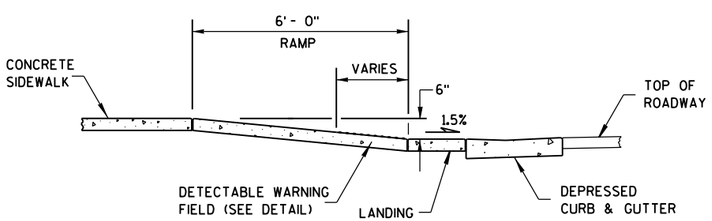
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



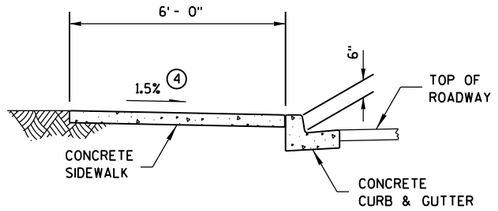
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

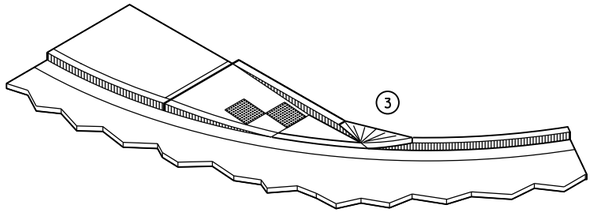
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

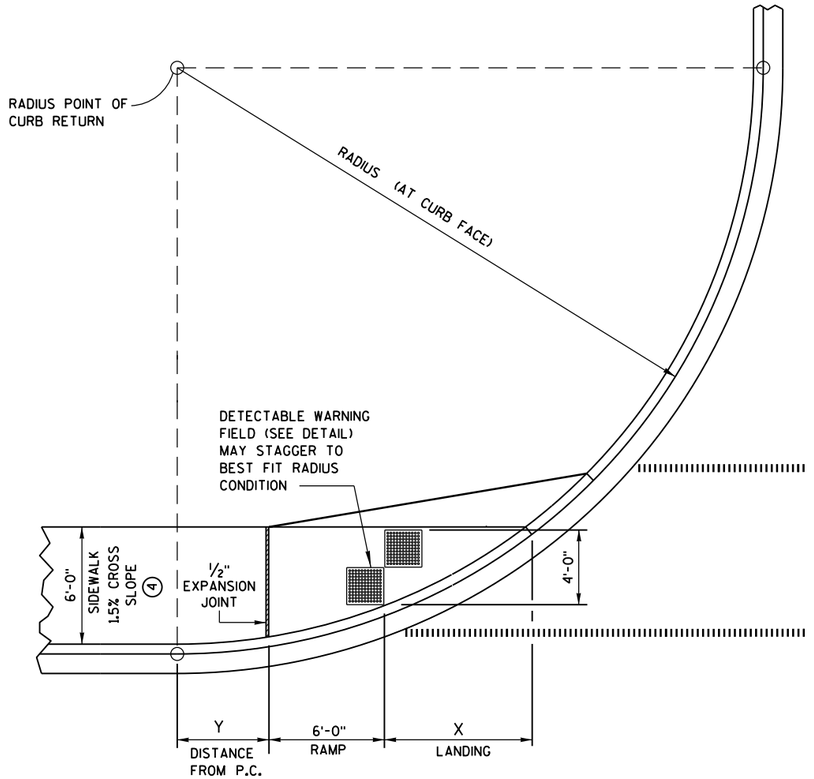
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

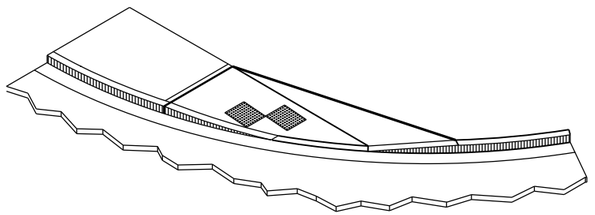
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

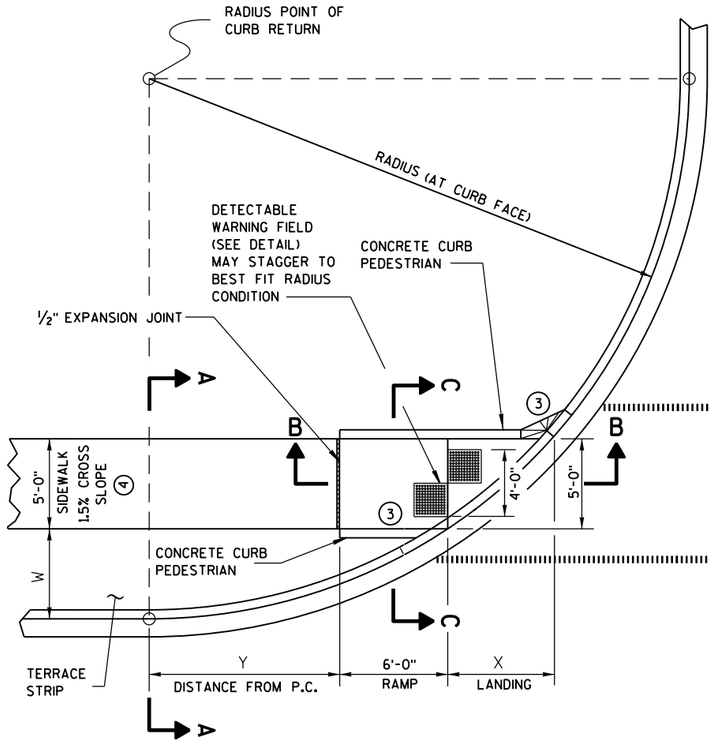
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

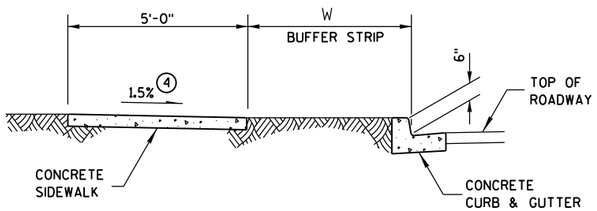
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

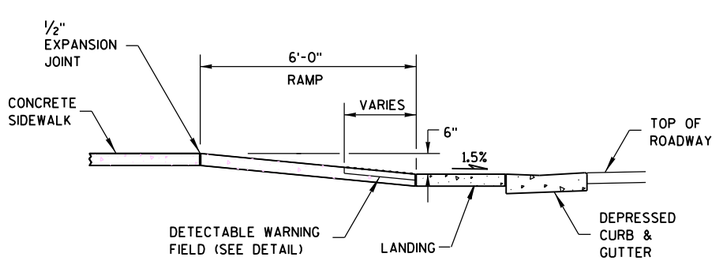
S.D.D. 8 D 5-15c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B

LEGEND

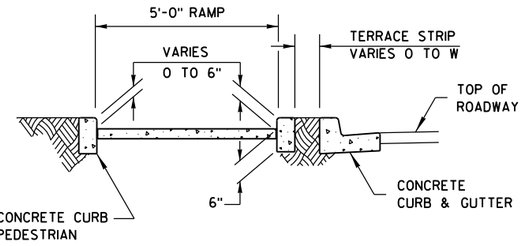
½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

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'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B

GENERAL NOTES

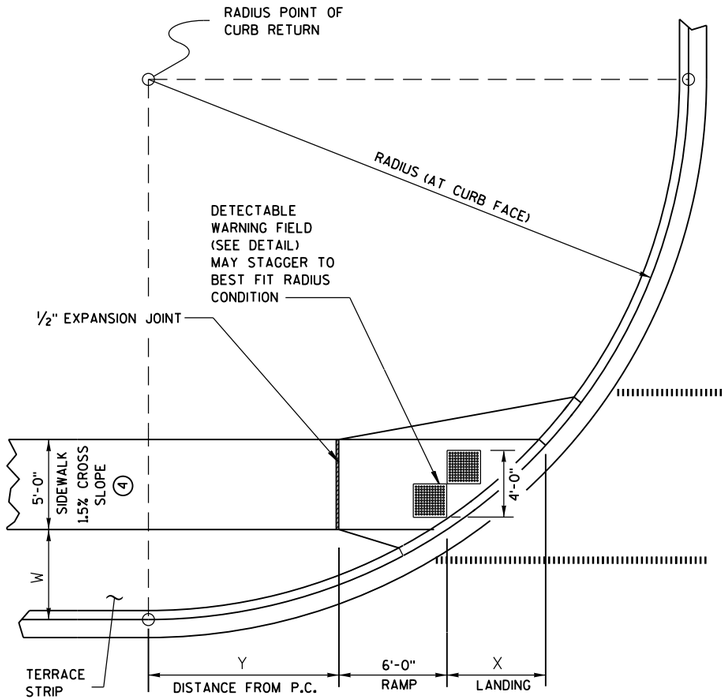
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

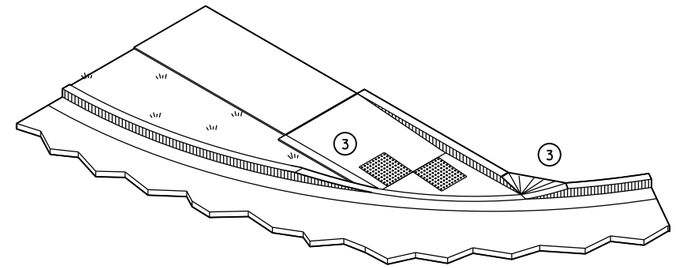
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

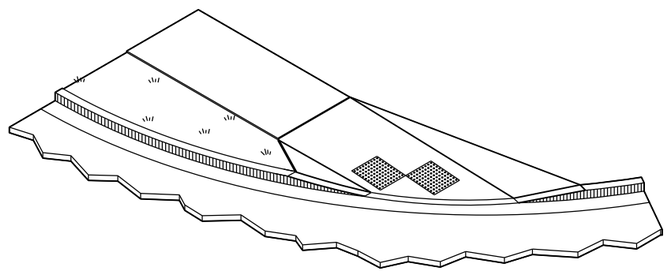
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



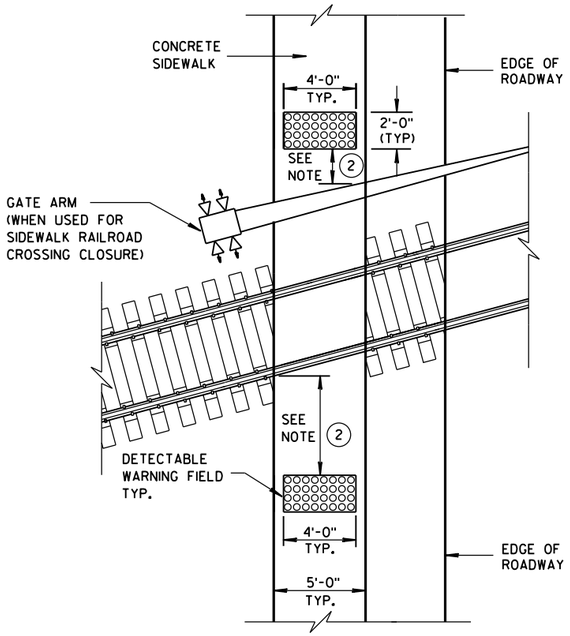
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

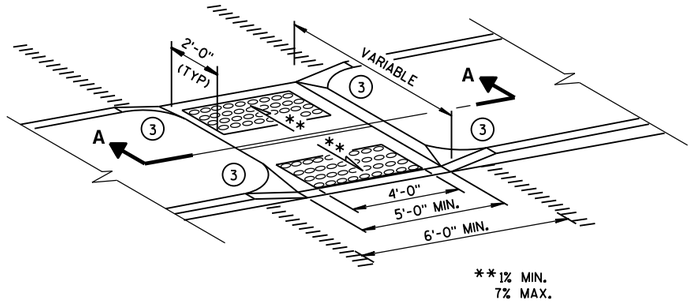
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

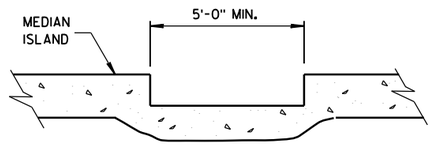
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

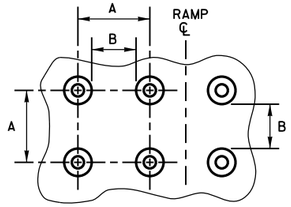
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET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

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

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



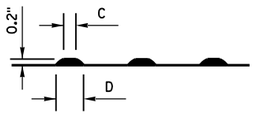
SECTION A-A



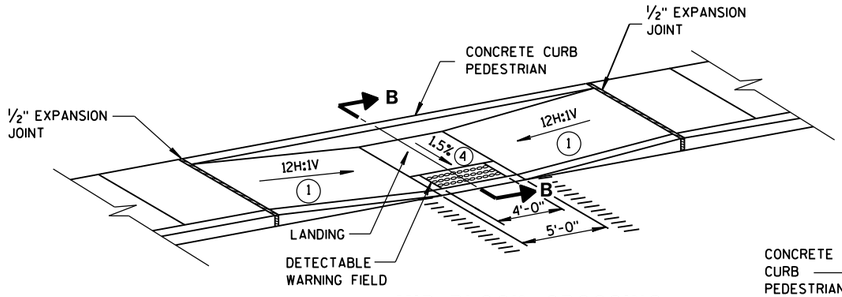
PLAN VIEW

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

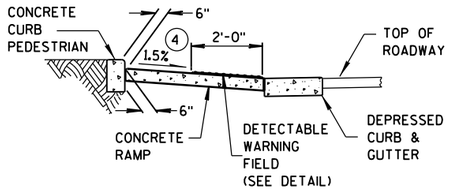
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

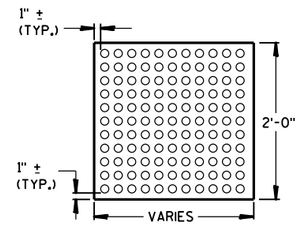


MID-BLOCK CROSSING
TYPE 7A



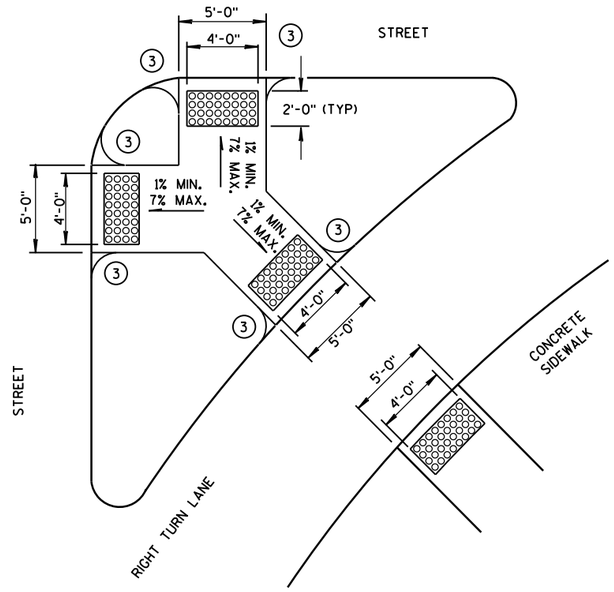
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

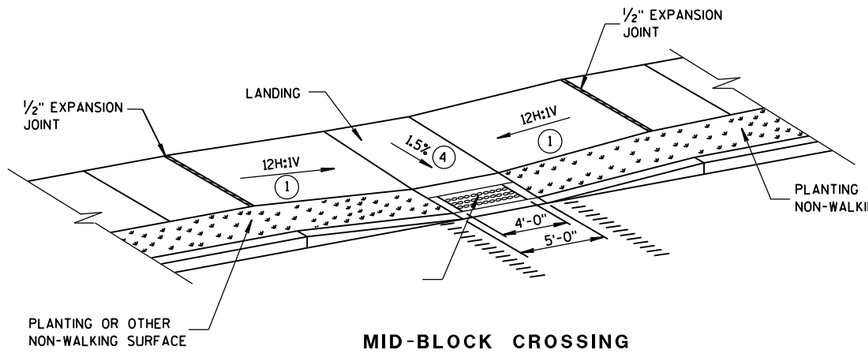


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

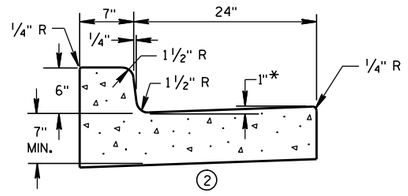
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

6

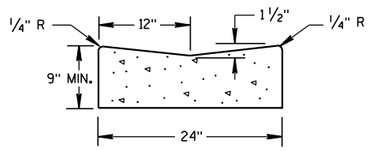
S.D.D. 8 D 5-15e

6

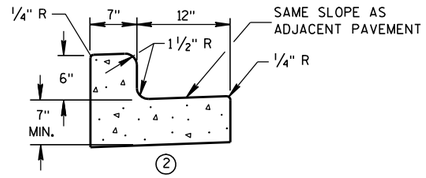
S.D.D. 8 D 5-15e



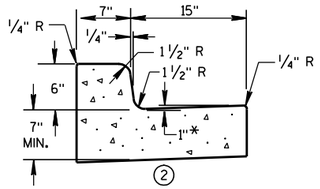
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

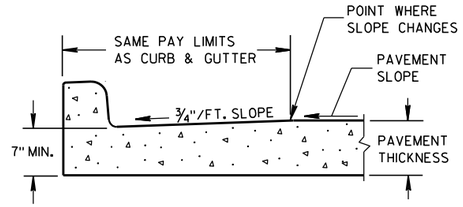


① CONCRETE CURB & GUTTER 19"



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.

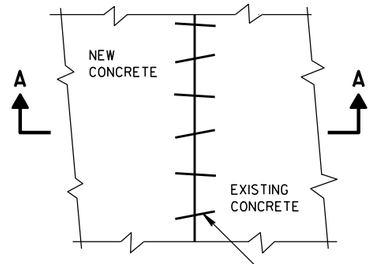
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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.

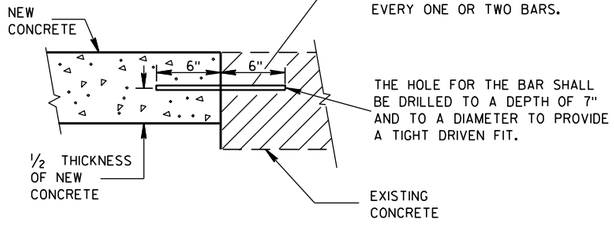
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

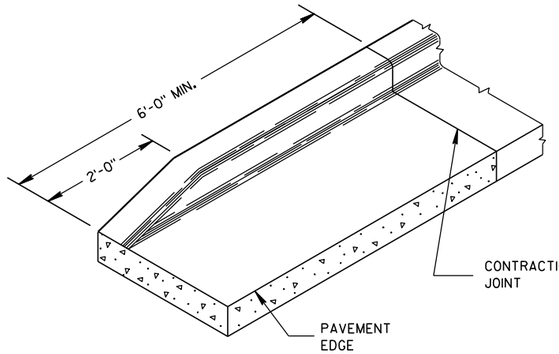
EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

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.

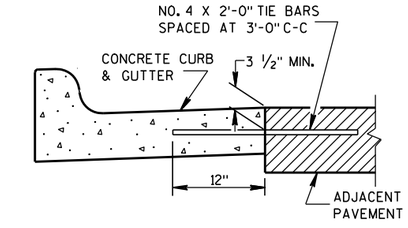


SECTION A-A

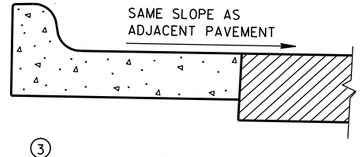
PAVEMENT TIES



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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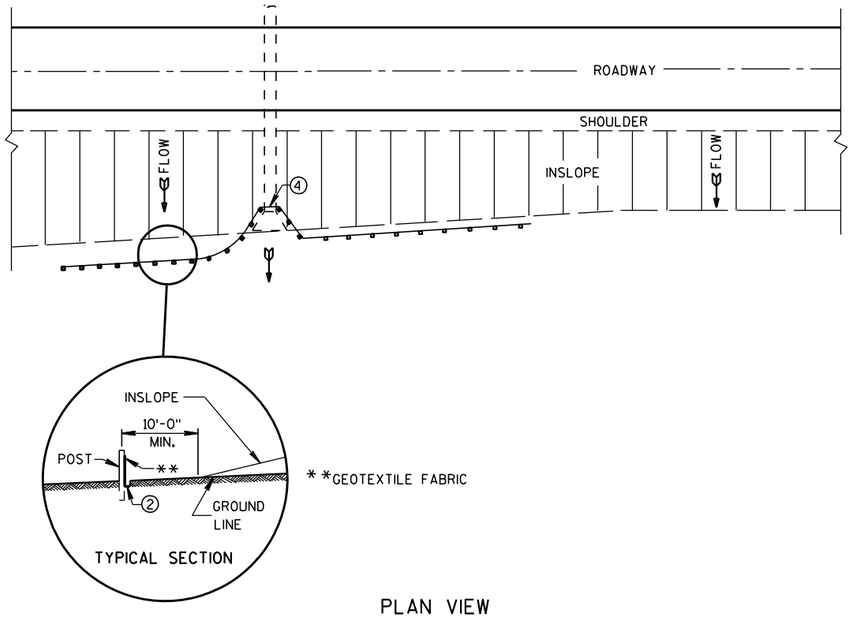
FHWA

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S.D.D. 8 D 16-10

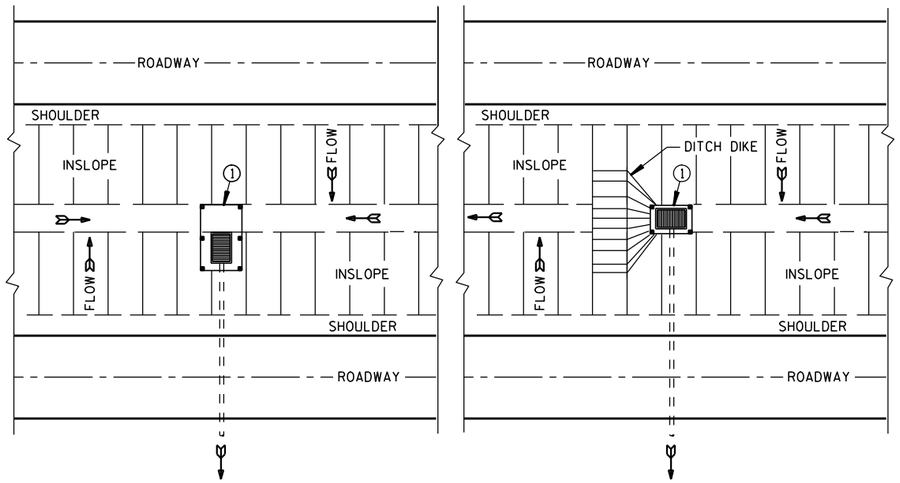
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S.D.D. 8 D 16-10



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



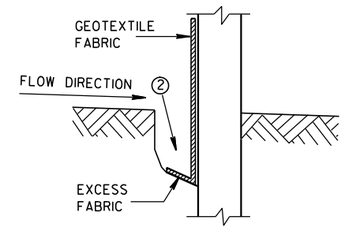
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

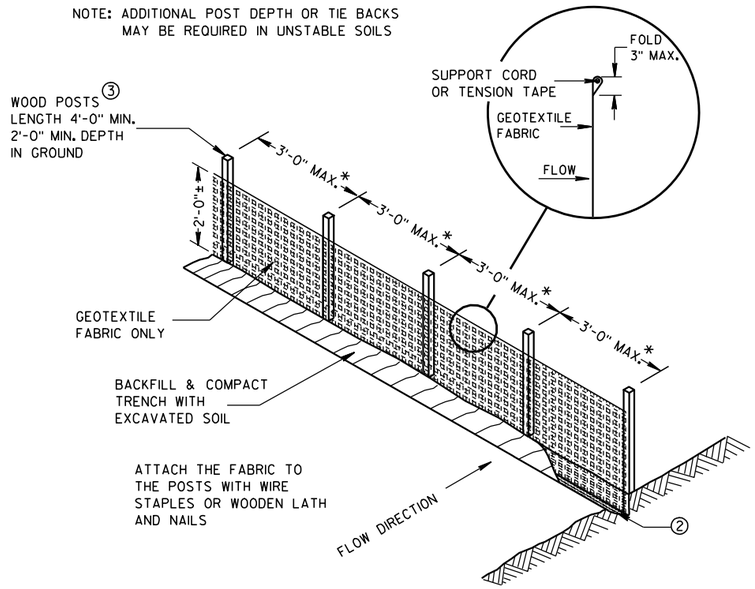
GENERAL NOTES

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

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

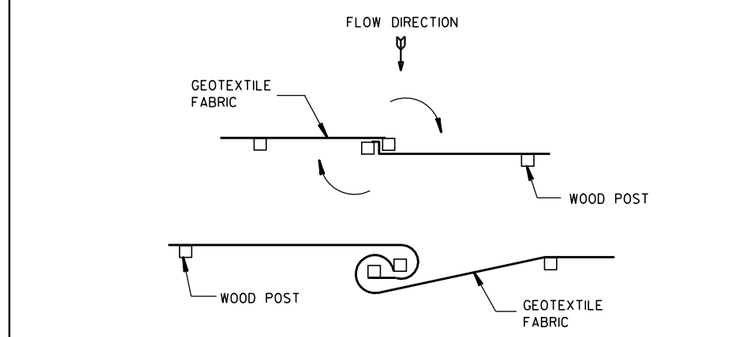


TRENCH DETAIL

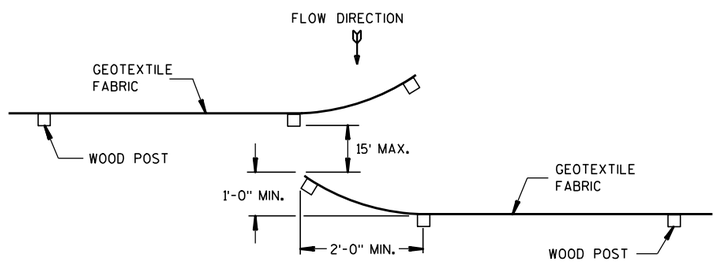


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

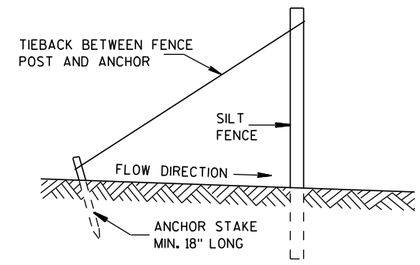


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

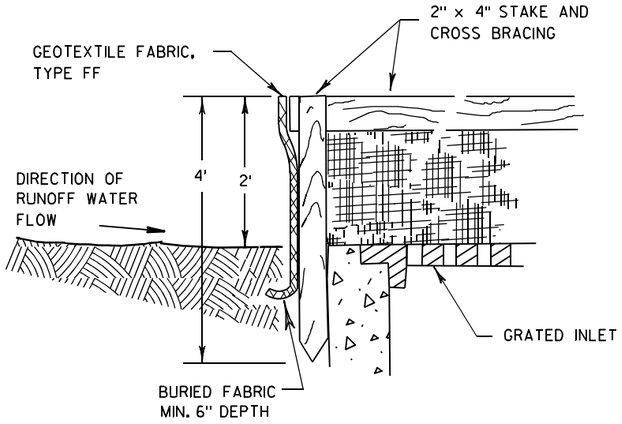
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

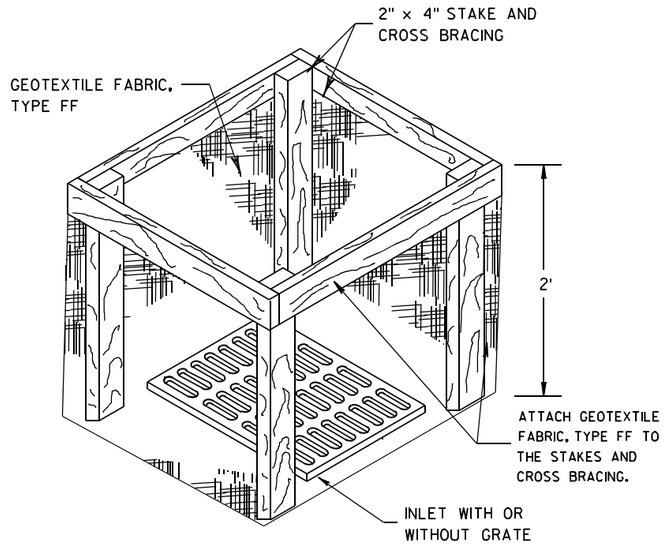
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S.D.D. 8 E 9-6

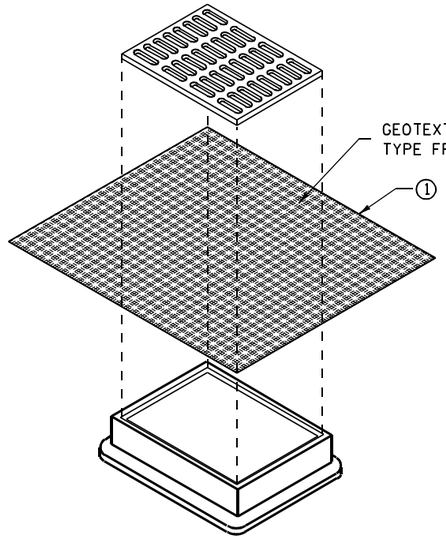
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S.D.D. 8 E 9-6



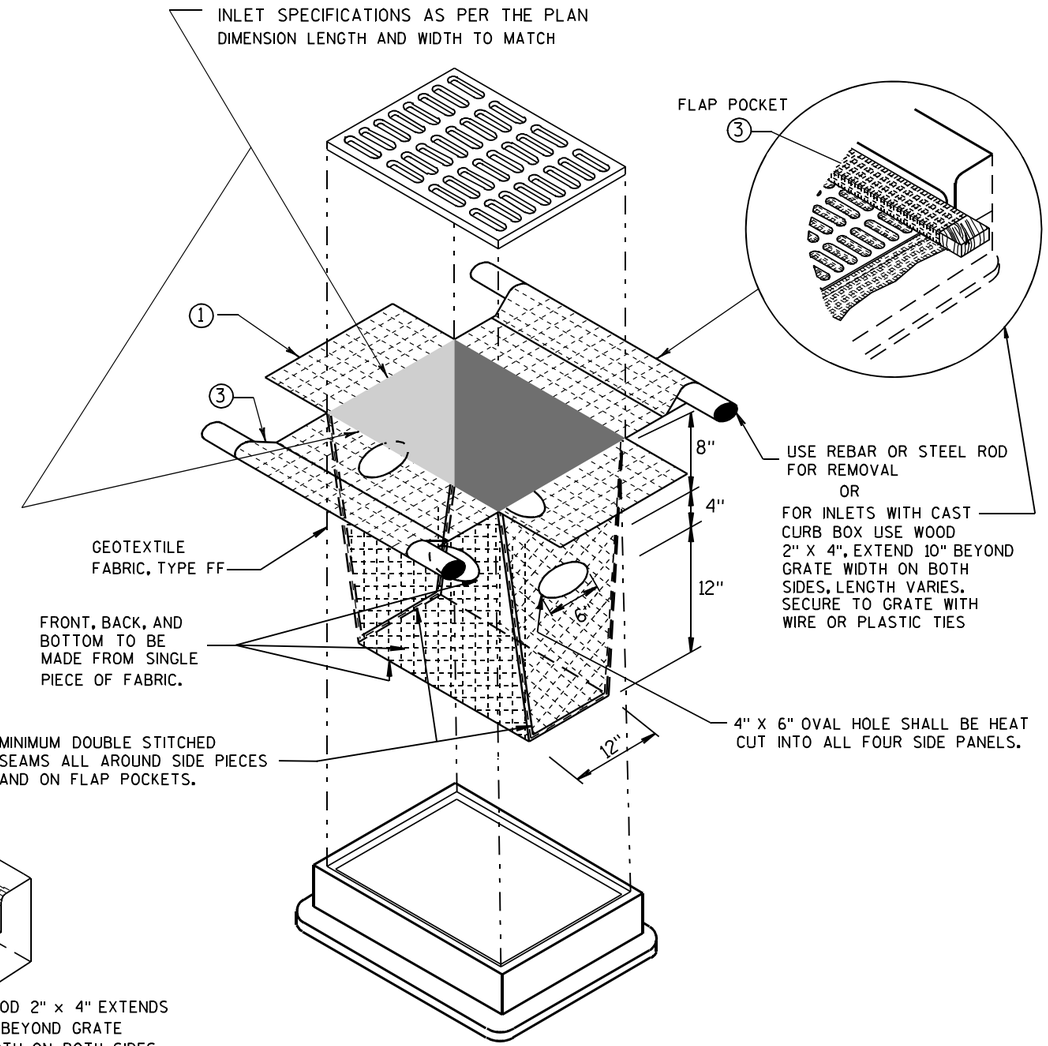


INLET PROTECTION, TYPE A



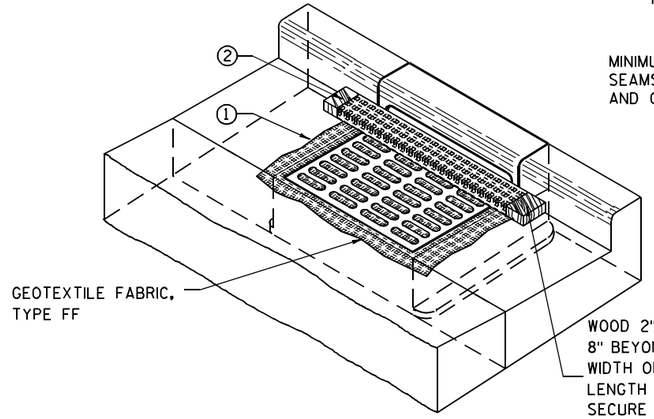
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

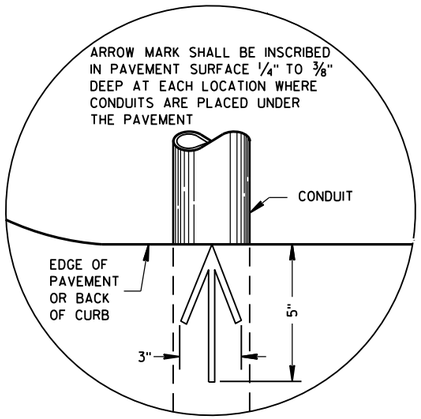
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S.D.D. 8 E 10-2

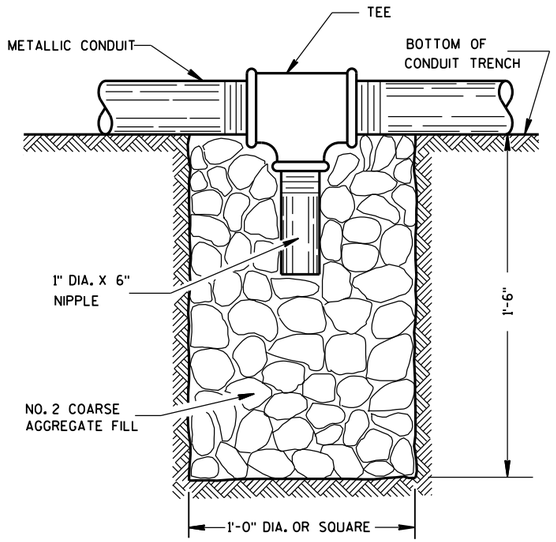
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S.D.D. 8 E 10-2



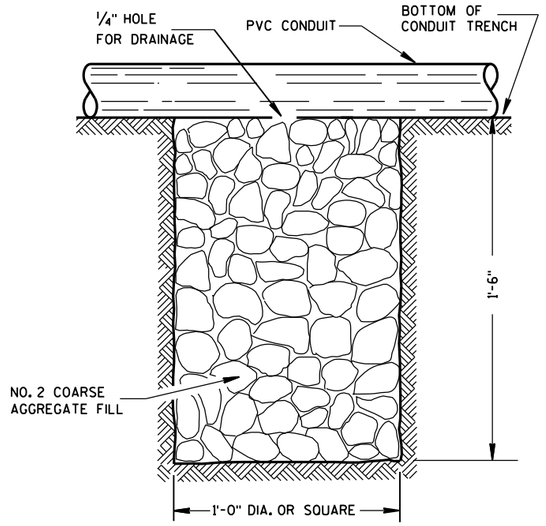
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

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

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

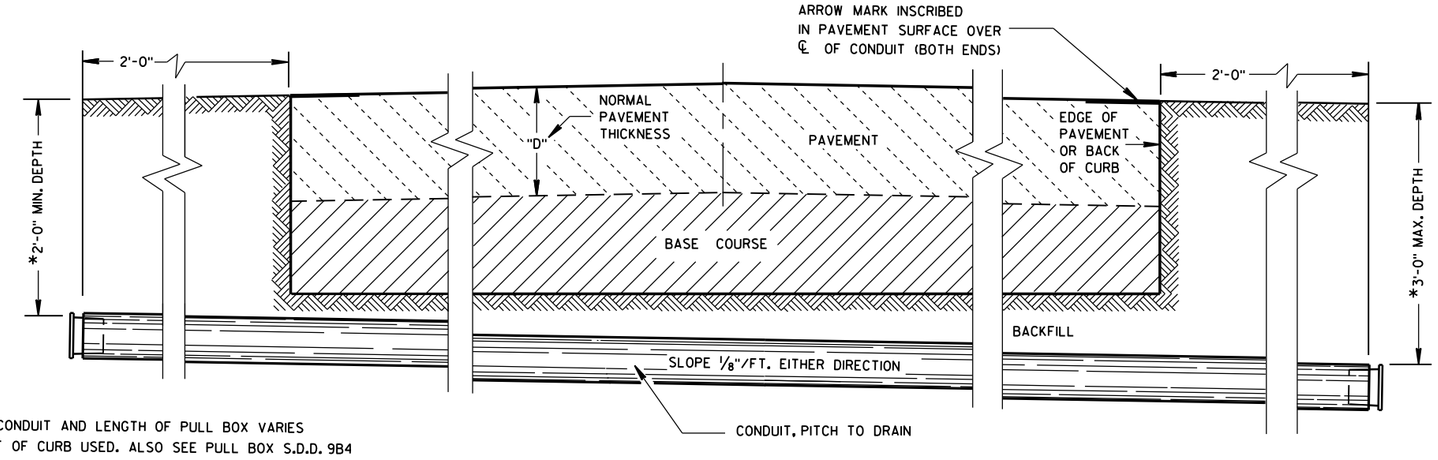
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

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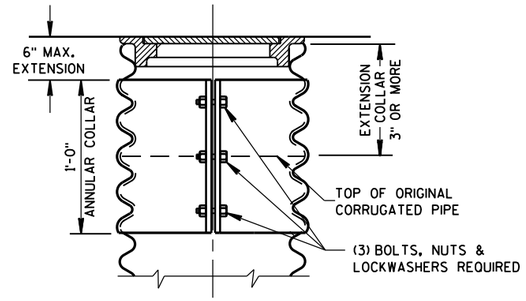
S.D.D. 9 B 2-8

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

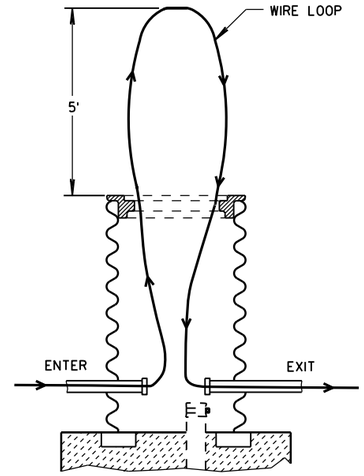
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

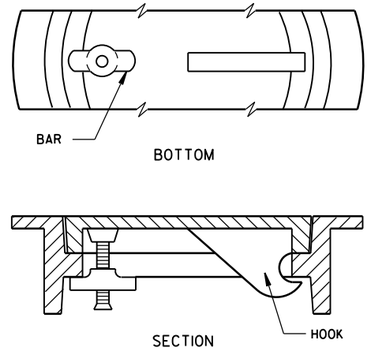
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

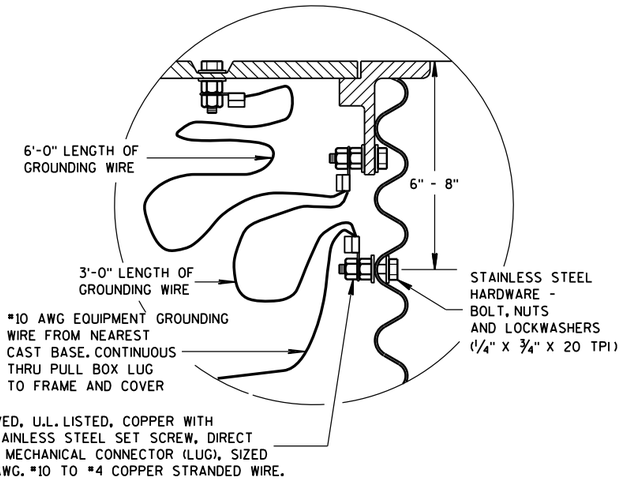


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

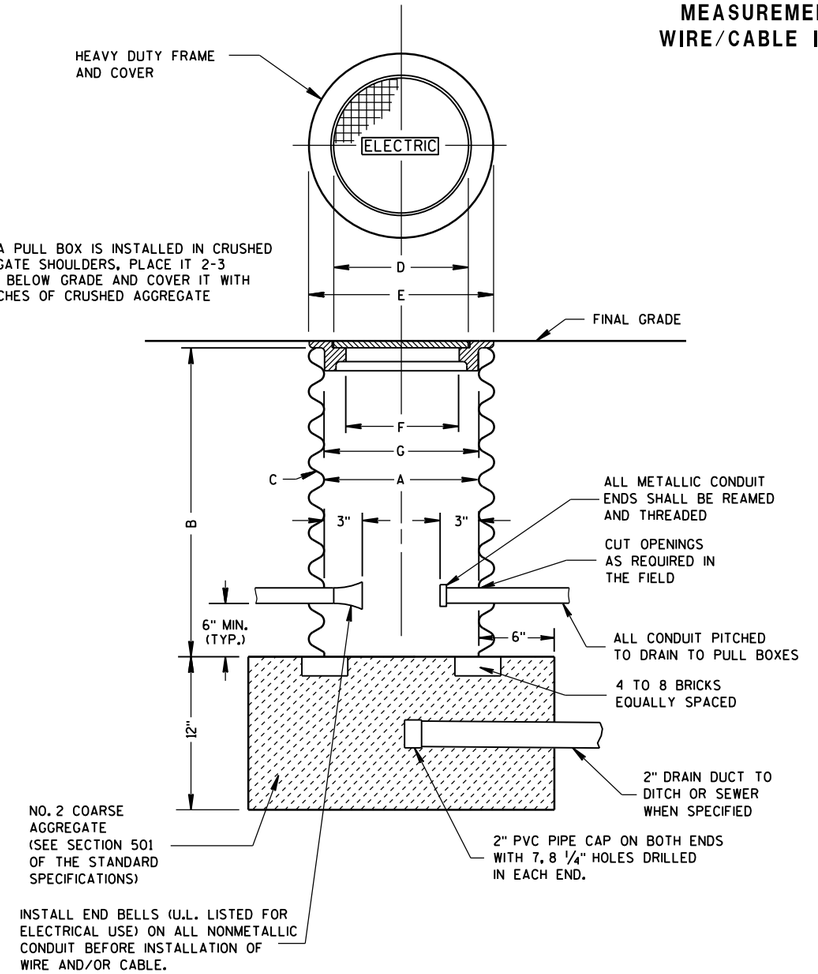


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

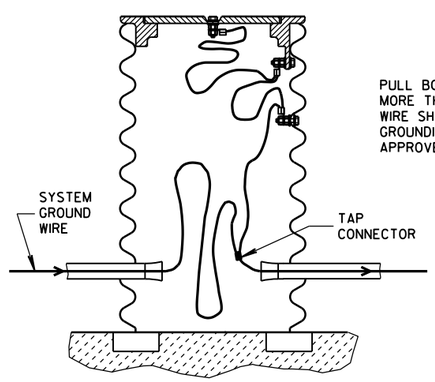
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

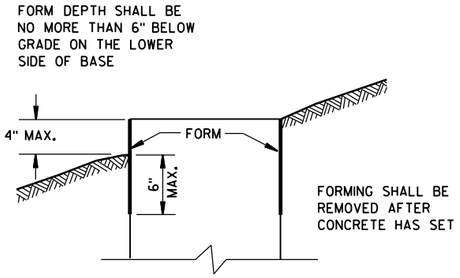
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

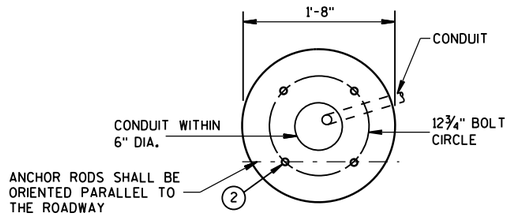
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

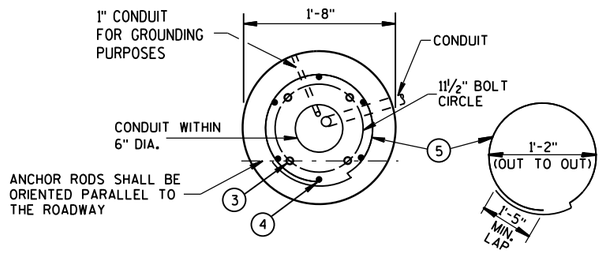
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

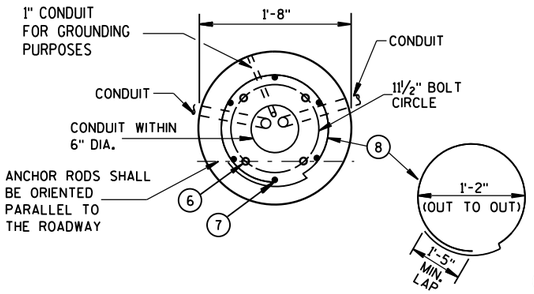
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

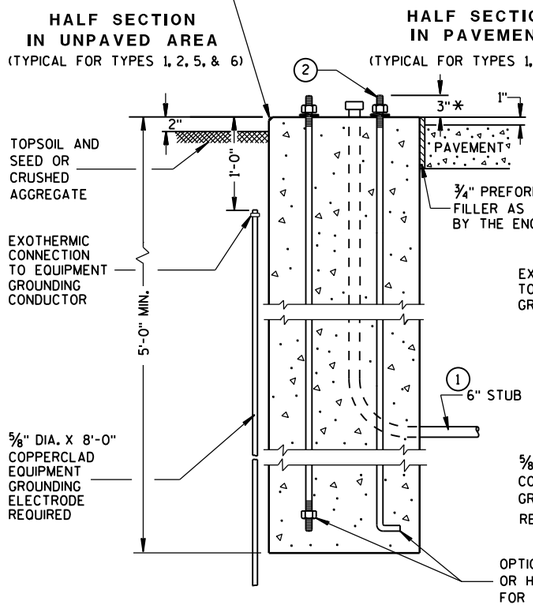
(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

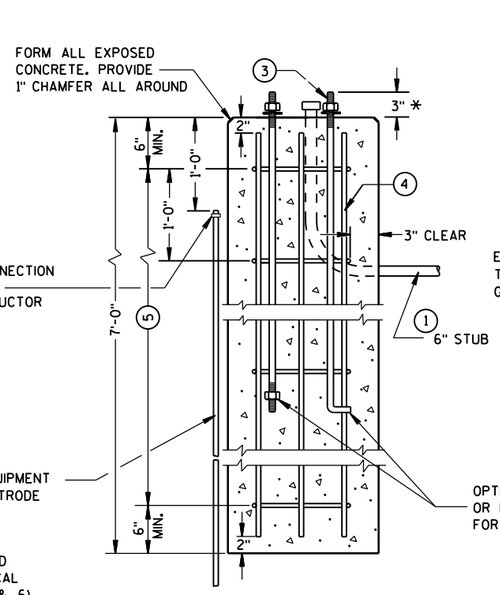
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



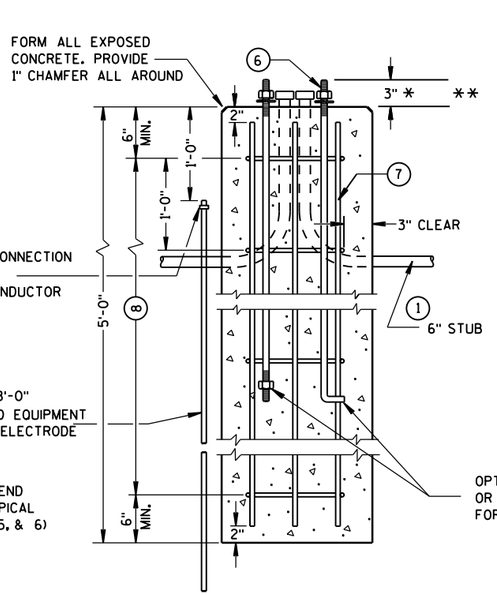








TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

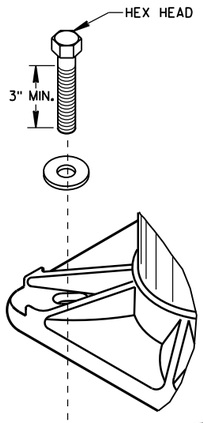
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

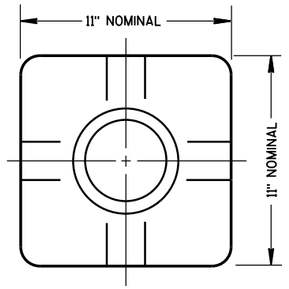
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

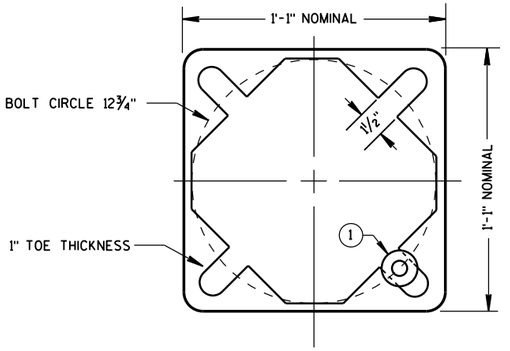
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

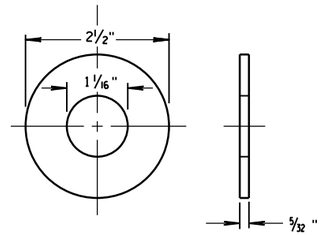




TOP VIEW
(PEDESTAL BASE)

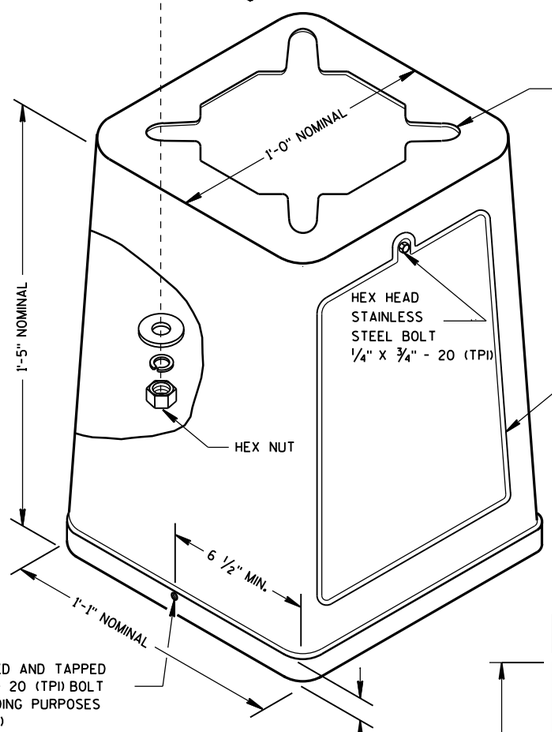


BOTTOM VIEW
(PEDESTAL BASE)

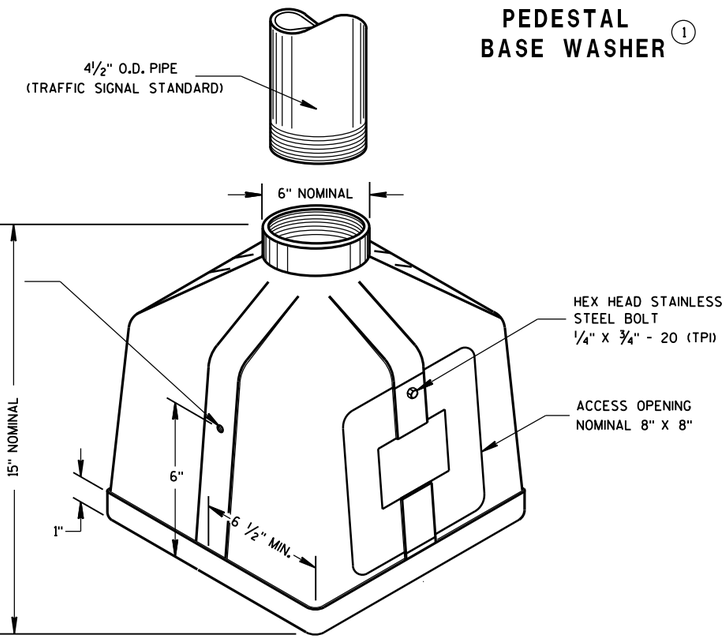


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

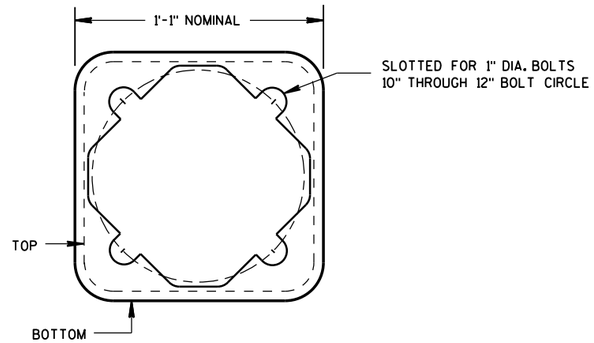


ISOMETRIC VIEW

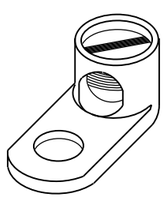


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

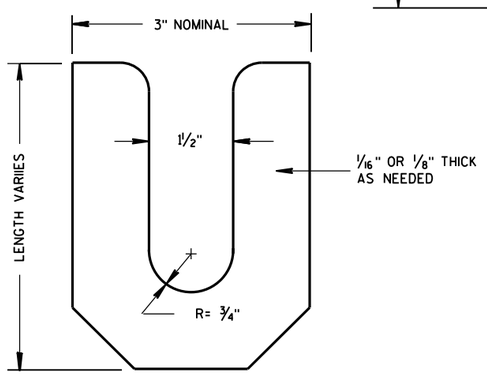


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



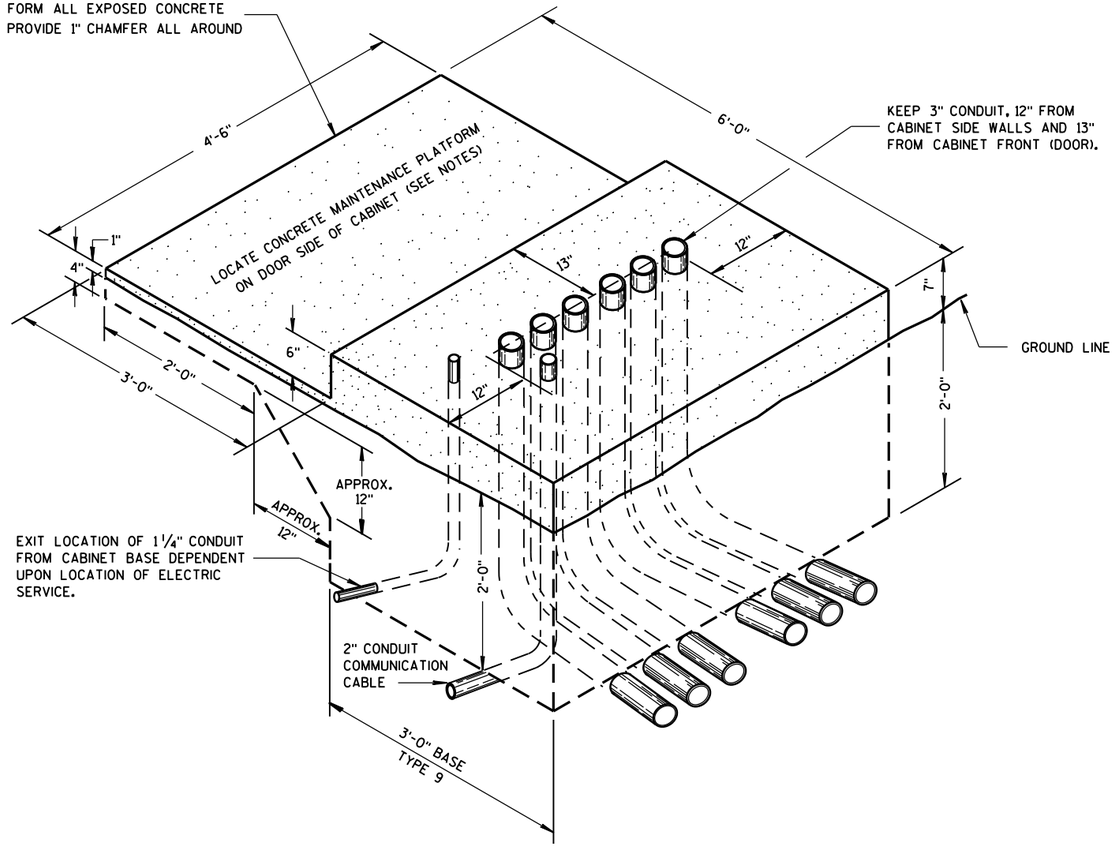
LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

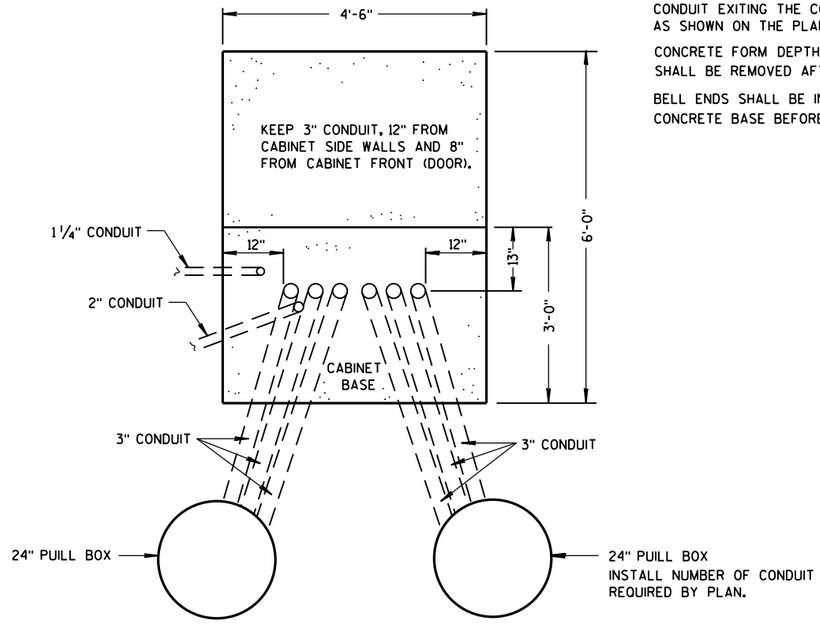
6
S.D.D. 9 C 3-4



ISOMETRIC VIEW

TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

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

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL 334
FHWA

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUIT IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

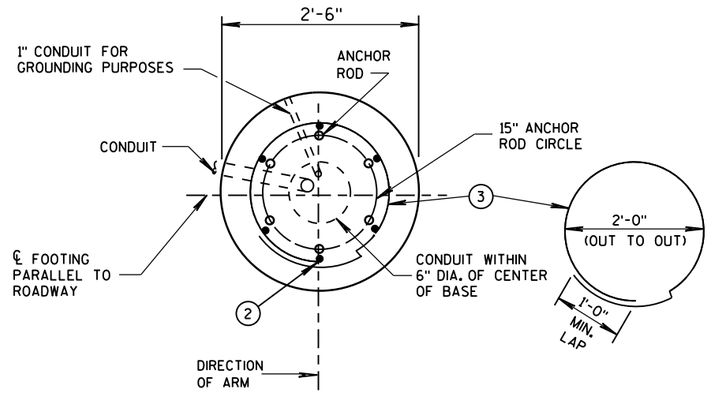
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

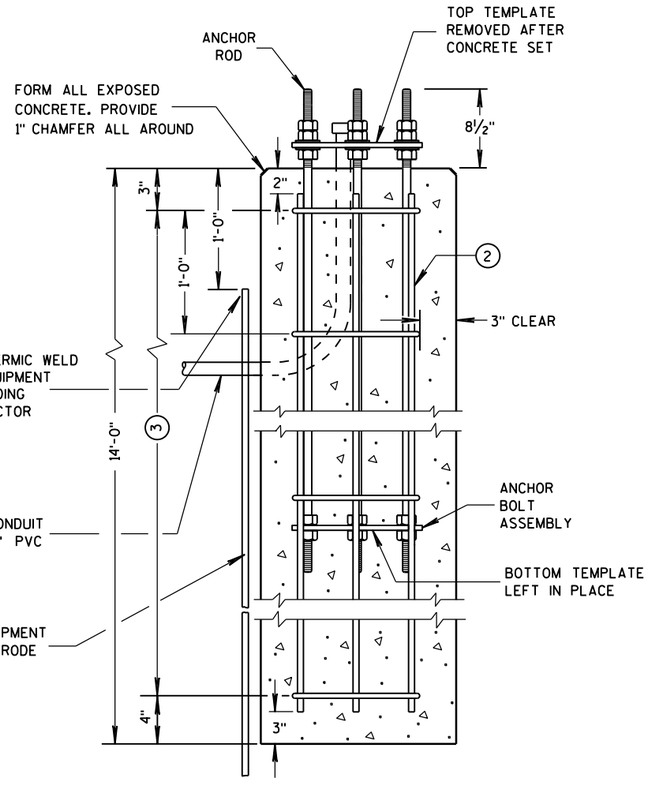
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

(3) (15) NO. 4 X 7'-4" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

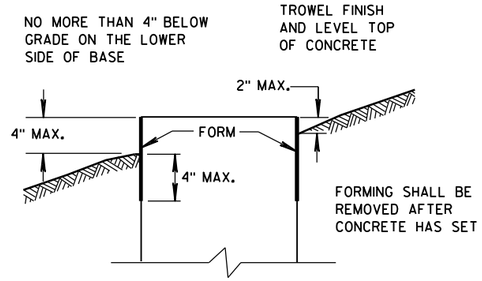
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



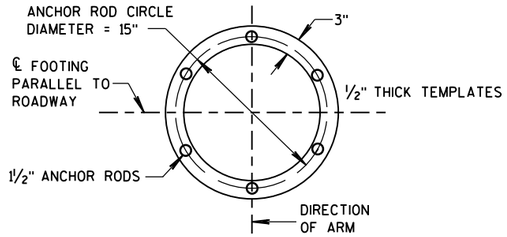


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

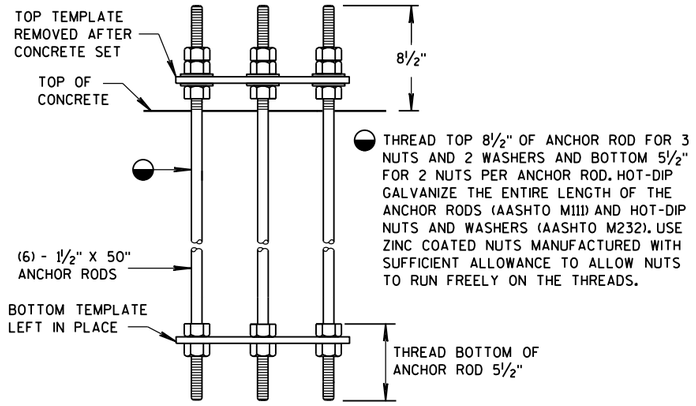
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10
ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	69
LBS. OF VERTICAL BAR STEEL	122

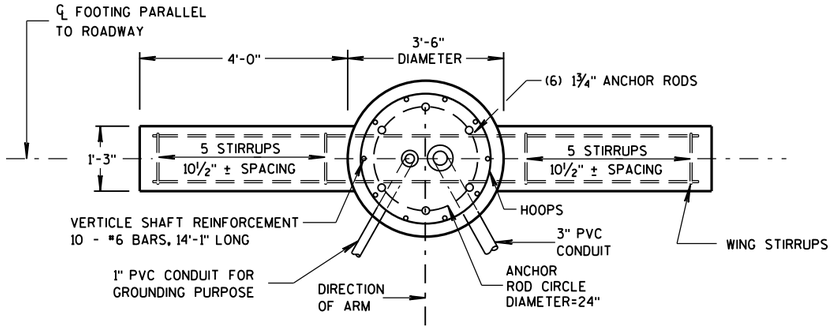
CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

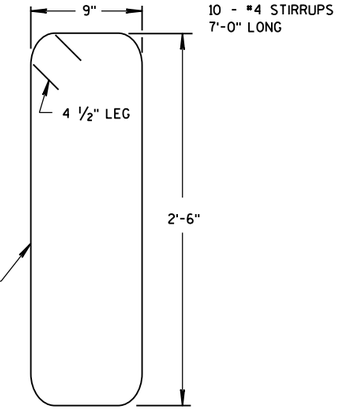
APPROVED
Sept. 2014 — DATE
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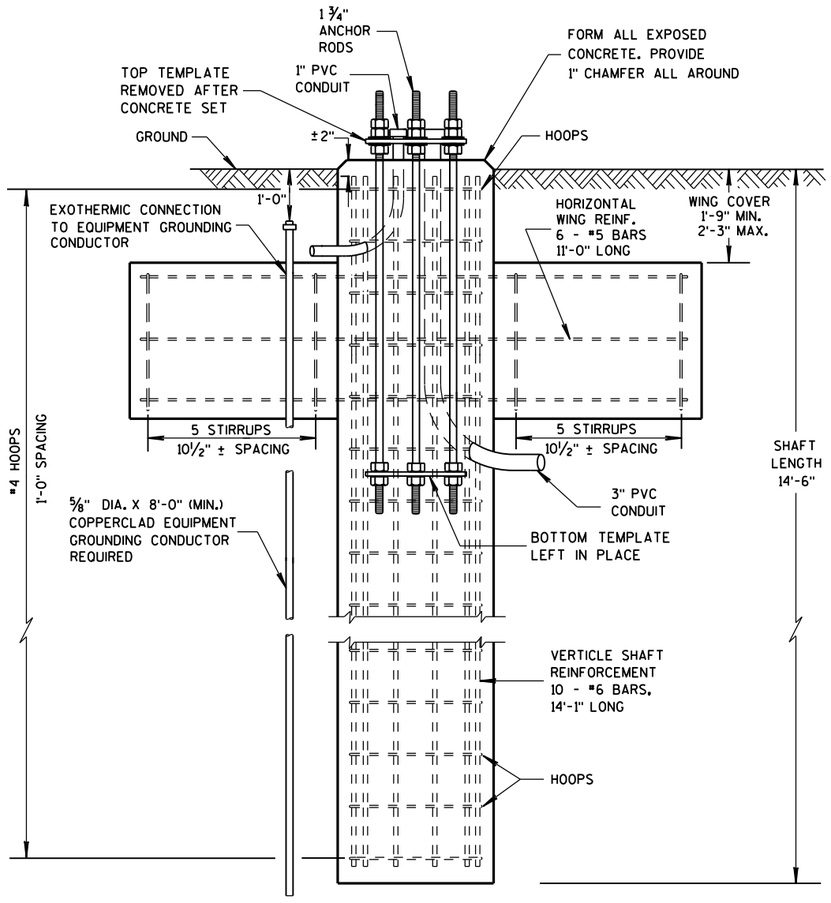
S.D.D. 9 C 11-5



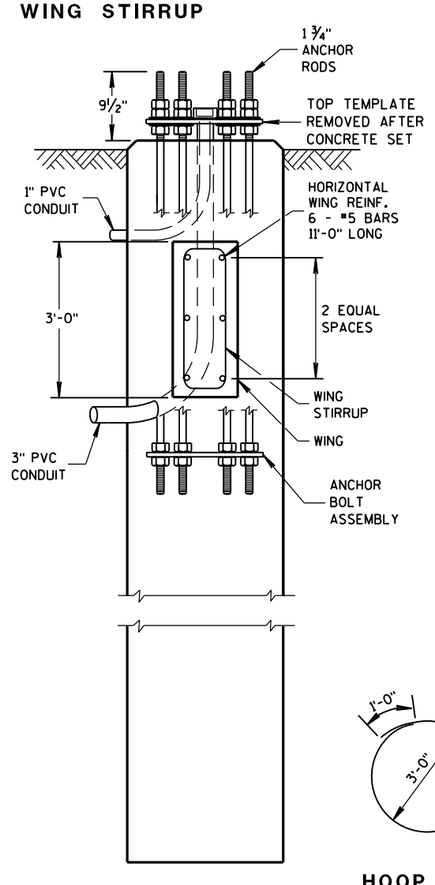
PLAN VIEW



WING STIRRUP

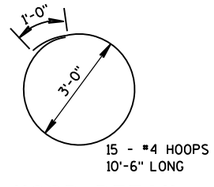


ELEVATION VIEW



SIDE VIEW

DOES NOT SHOW HOOPS OR VERTICAL SHAFT REINFORCEMENT



15 - #4 HOOPS 10'-6" LONG

HOOP DETAIL

GENERAL NOTES

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

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUNG THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4½" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

ALL CONDUIT ENDS AT THE TOP OF THE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE THROUGH A 1-INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4-FOOT COIL OF WIRE ABOVE THE CONCRETE BASE, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL WAY SHALL BE 24-INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18-INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36-INCHES, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

(FOR TYPE 12 & 13 POLES)

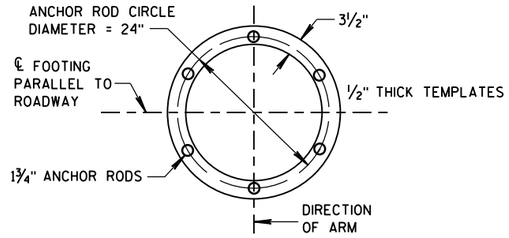
CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 433 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

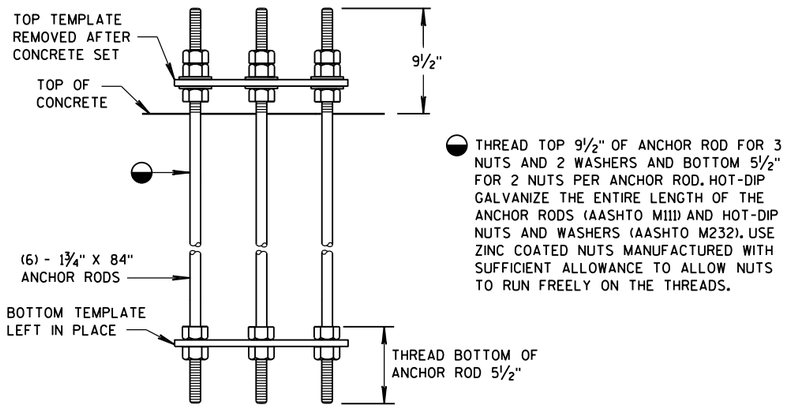
CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 9 C 12-5a

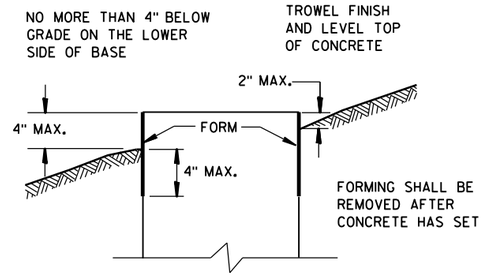


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

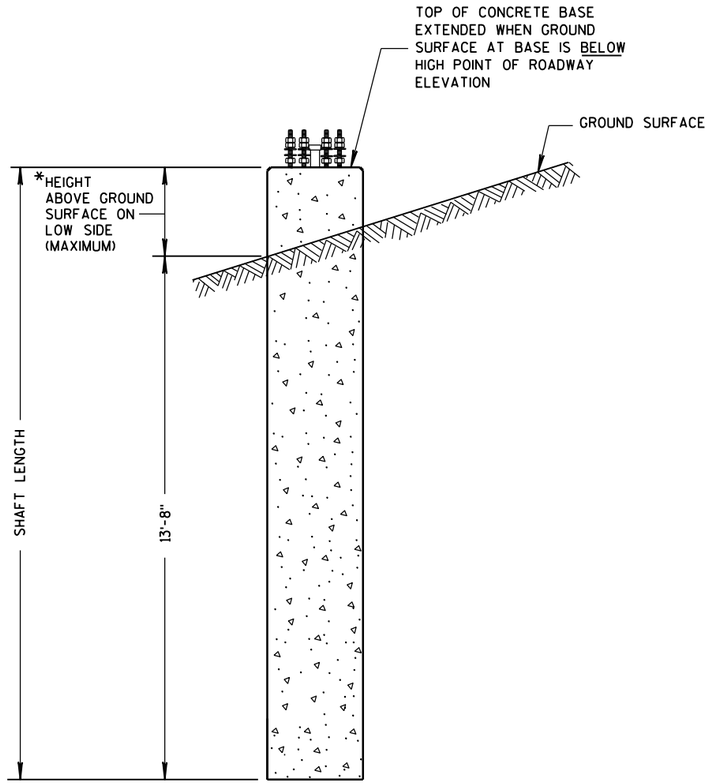
CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

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S.D.D. 9 C 12-5b

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

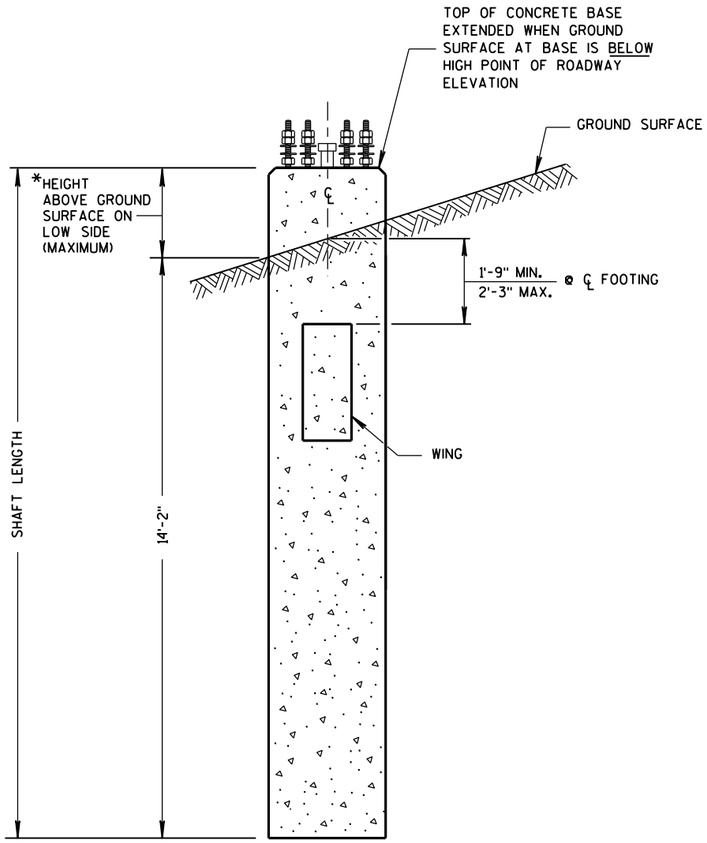
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 1'-6"	1'-10"	15'-6"	15'-1"	17	2.8	83	136
>1'-6" TO 2'-0"	2'-4"	16'-0"	15'-7"	17	2.9	83	141



CONCRETE BASE TYPE 10 (EXTENDED)

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 13 CONCRETE BASE

HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF H.S. BAR STEEL
>0" TO 6"	10"	15'-0"	14'-7"	16	6.5	447
>6" TO 1'-0"	1'-4"	15'-6"	15'-1"	16	6.6	454
>1'-0" TO 1'-6"	1'-10"	16'-0"	15'-7"	17	6.8	469
>1'-6" TO 2'-0"	2'-4"	16'-6"	16'-1"	17	7.0	476



CONCRETE BASE TYPE 13 (EXTENDED)

CONCRETE BASE
TYPE 10 & TYPE 13 EXTENSION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-26-2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL

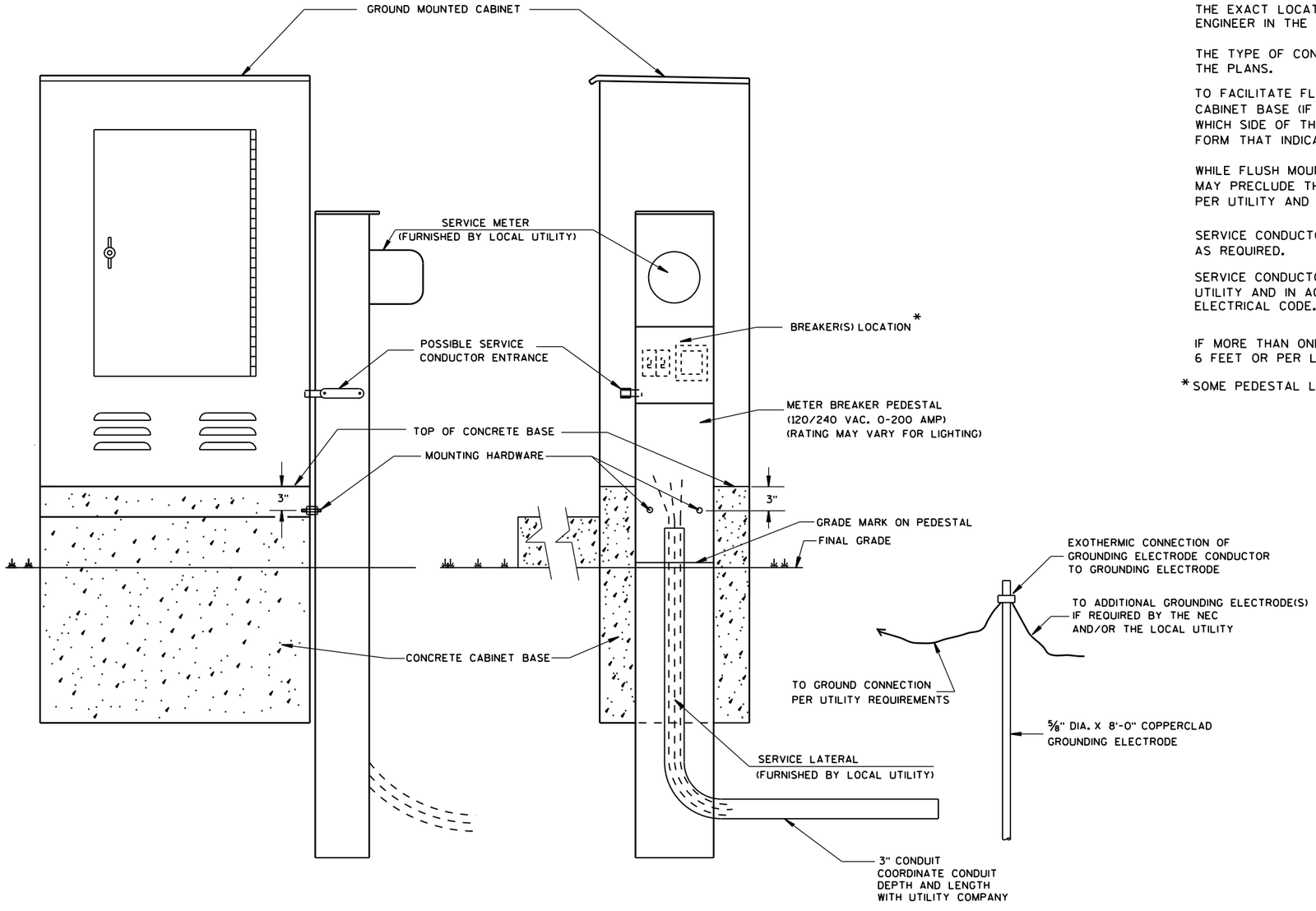
FHWA

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S.D.D. 9 C 13-2

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S.D.D. 9 C 13-2



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

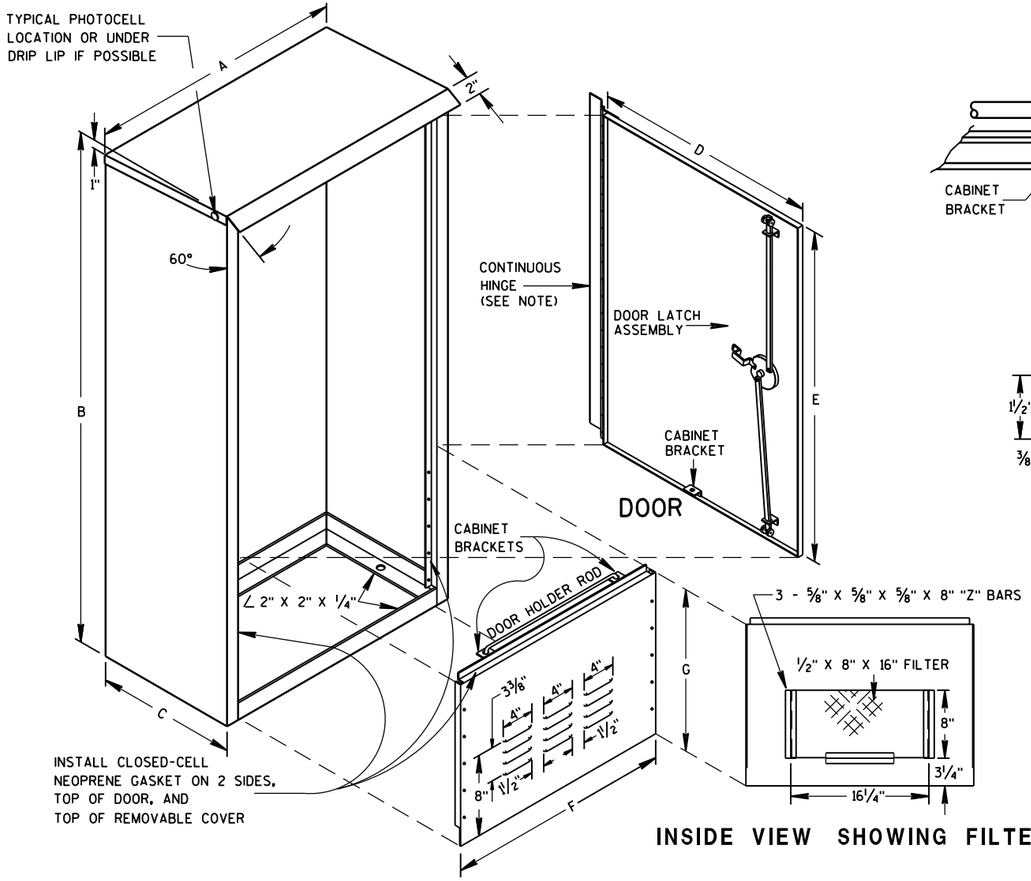
* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

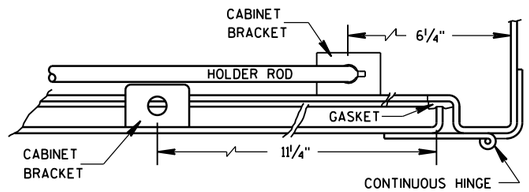
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 D 1-5

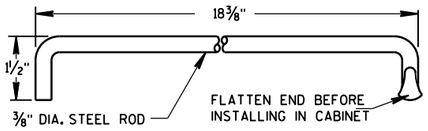


REMOVABLE COVER

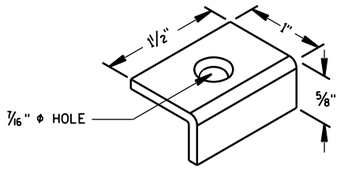
INSIDE VIEW SHOWING FILTER



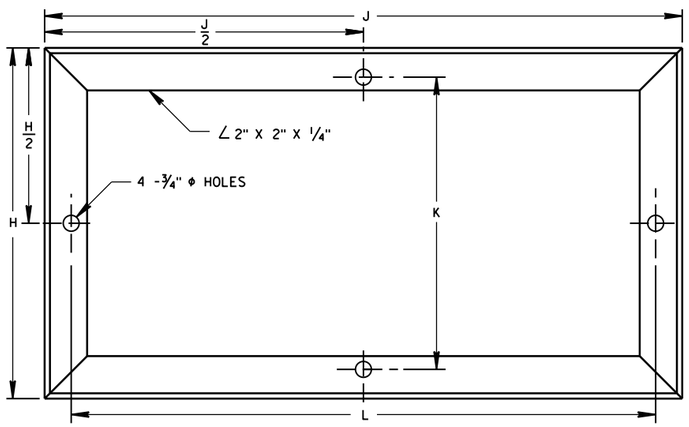
HINGE & DOOR HOLDER



HOLDER ROD



CABINET BRACKET



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

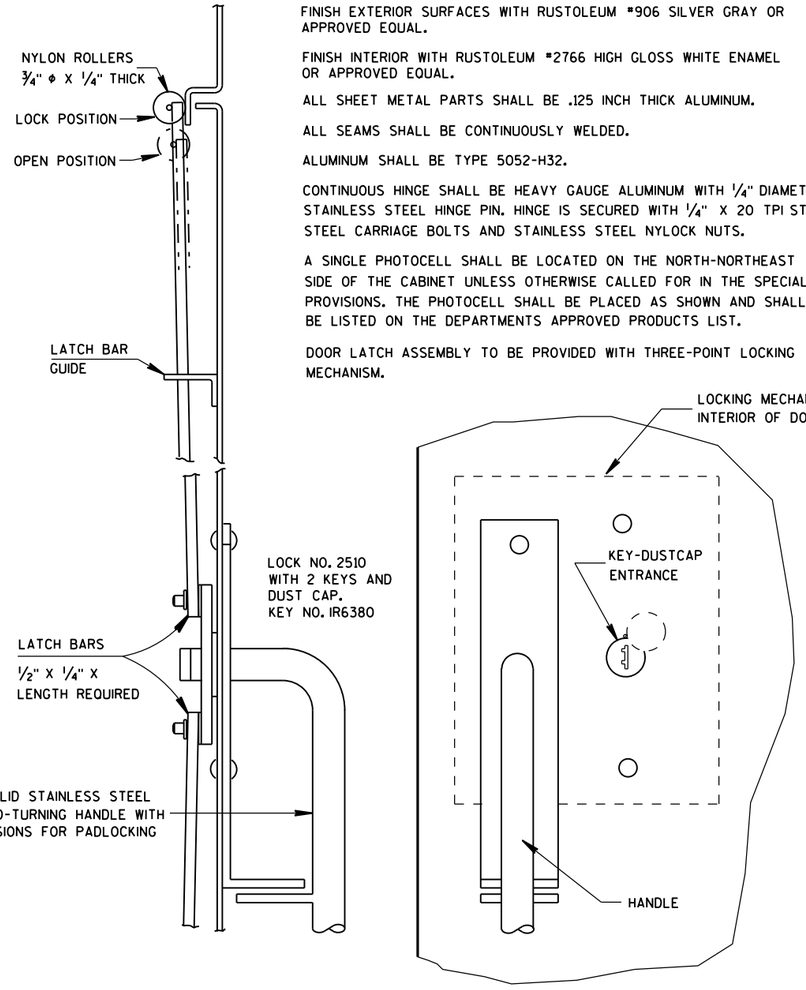
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

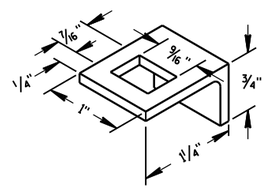
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

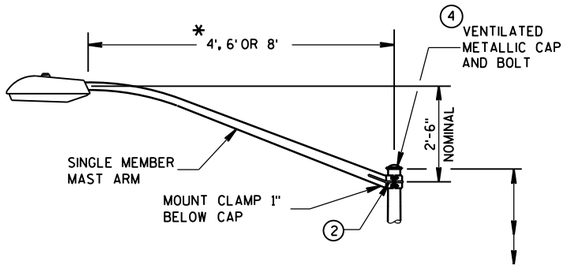
APPROVED
Sept. 2014
DATE

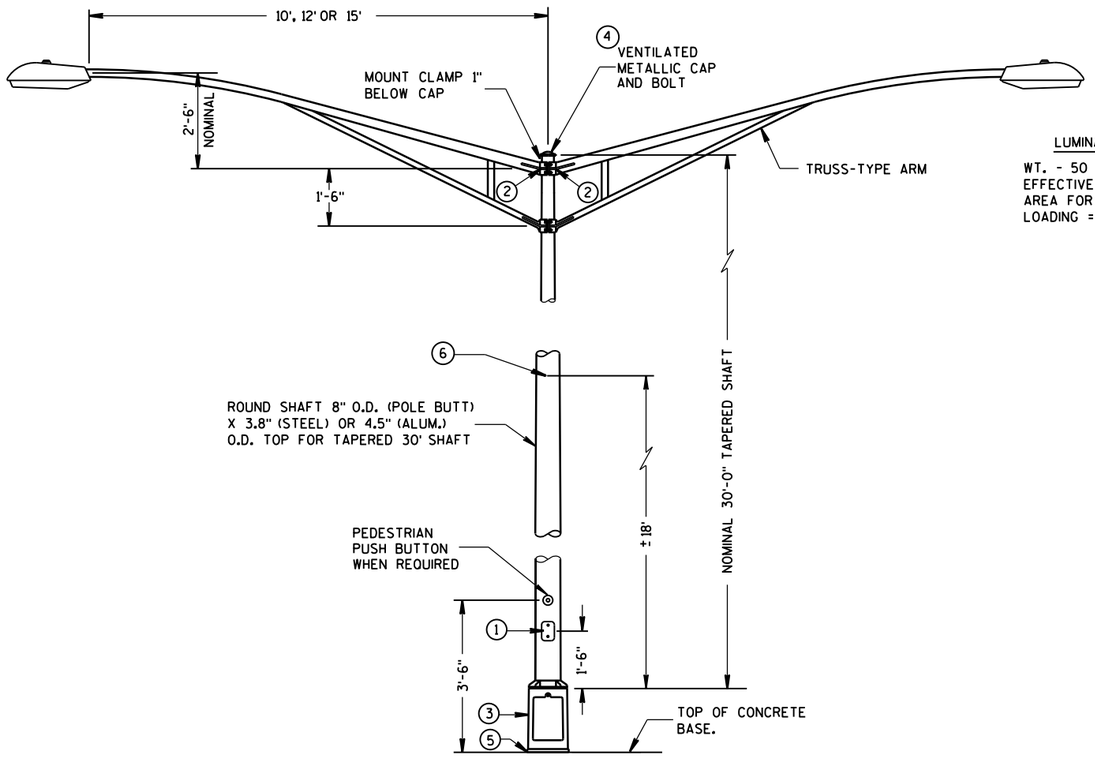
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

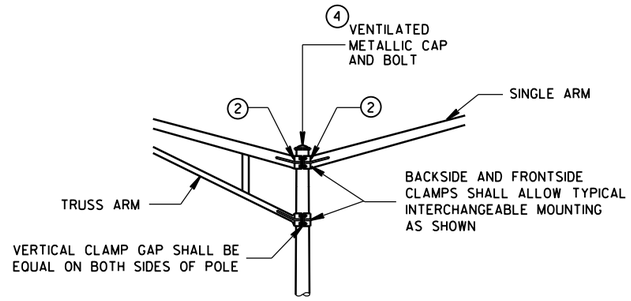
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S.D.D. 9 D 2-3

*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

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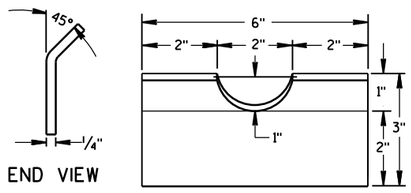
S.D.D. 9 E 1-13d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 9 E 1-13d

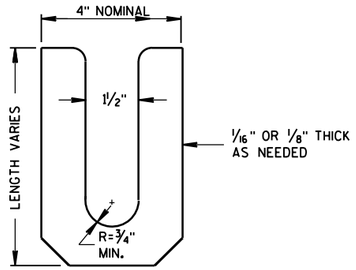


END VIEW

FRONT VIEW

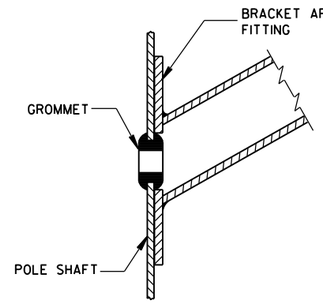
RECTANGULAR CLAMP SHIM

(4 TO A SET)

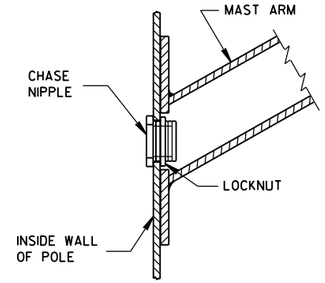


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

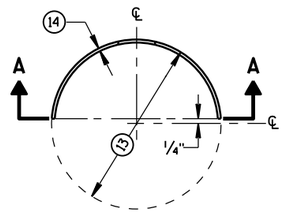
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

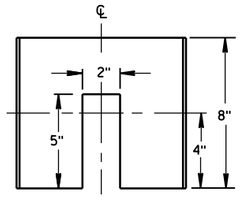
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



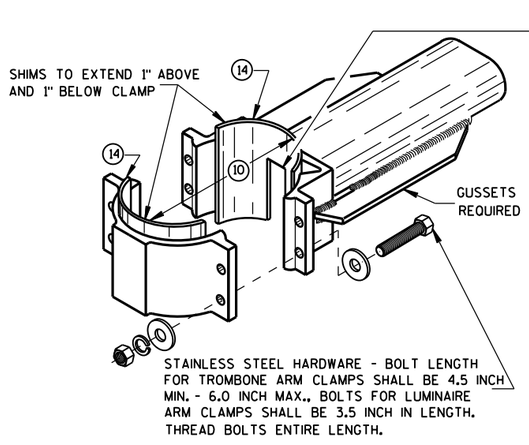
PLAN VIEW



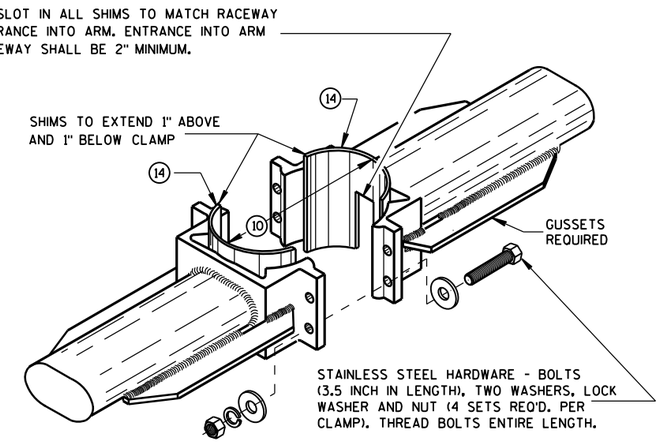
SECTION A-A

CIRCULAR CLAMP SHIM

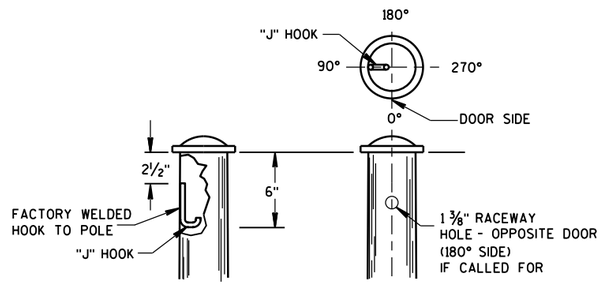
(2 TO A SET)



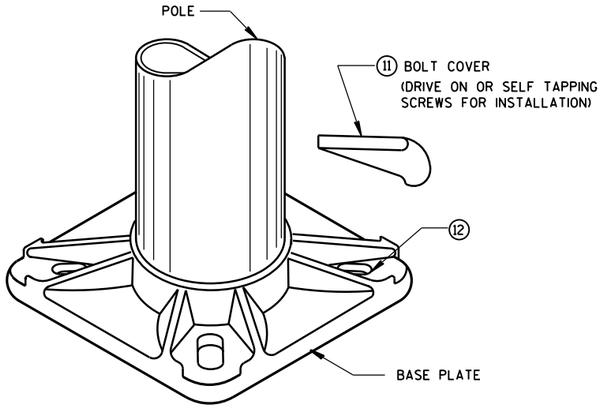
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



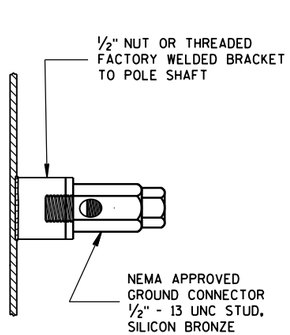
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

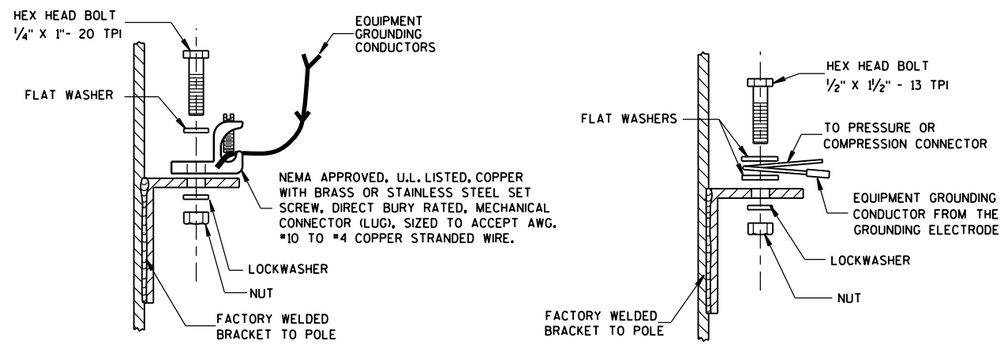


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

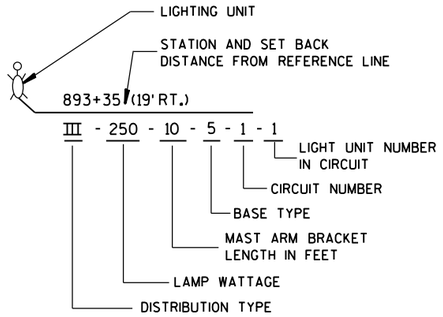
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

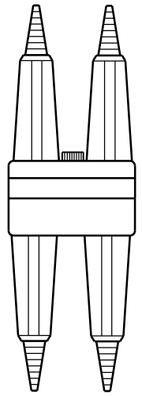
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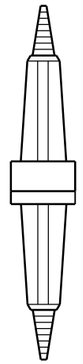
S.D.D. 9 E 1-13g



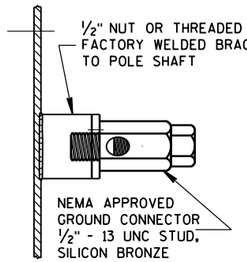
LIGHTING UNIT CODE
(TYPICAL)

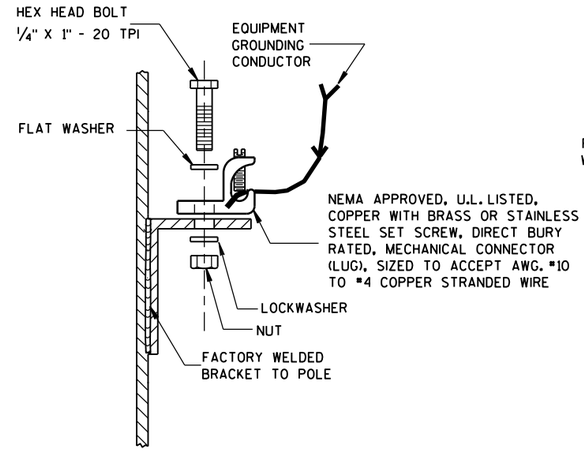


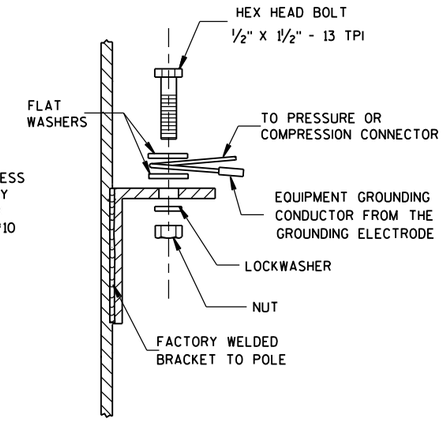
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



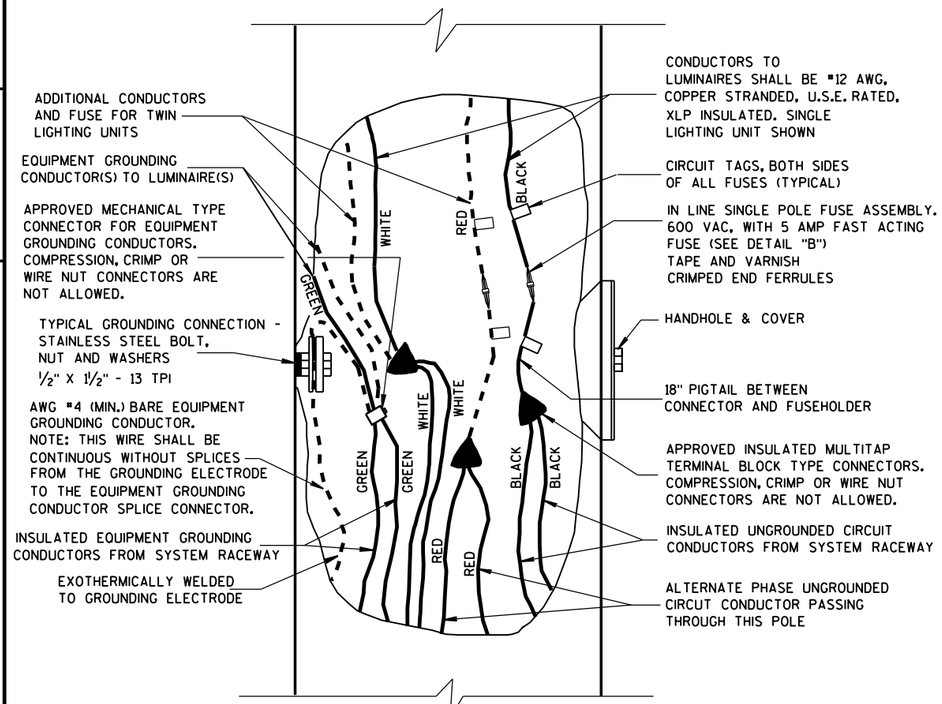
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



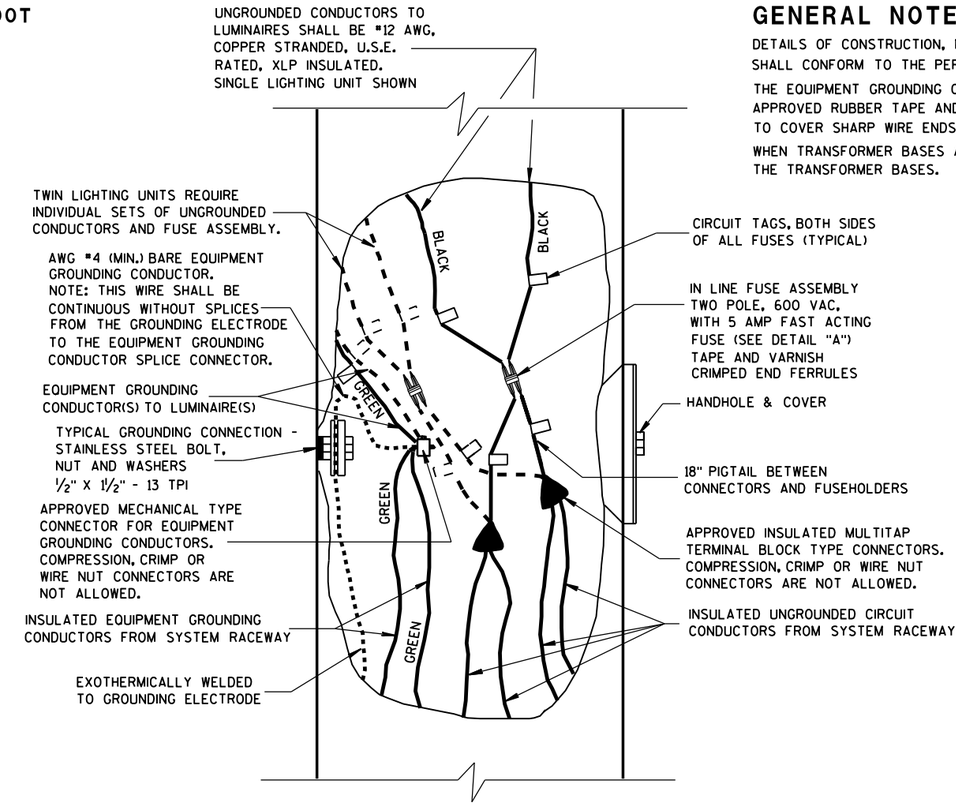




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

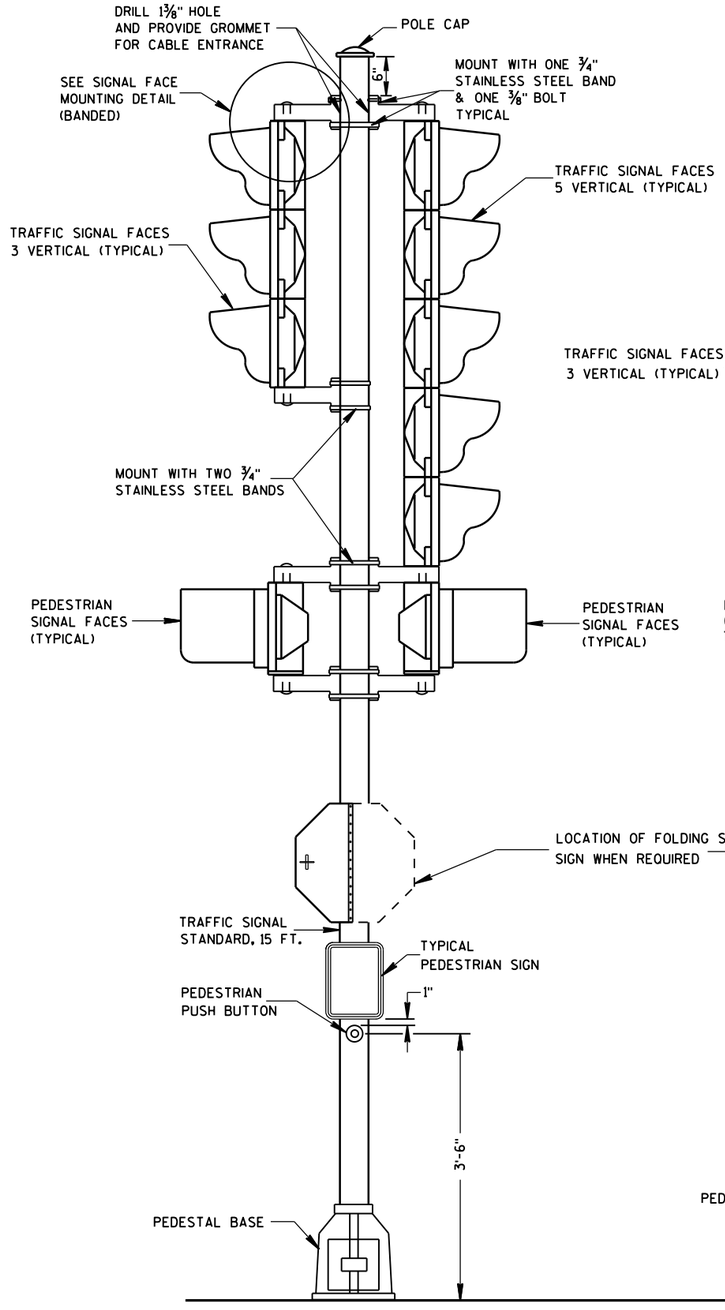
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

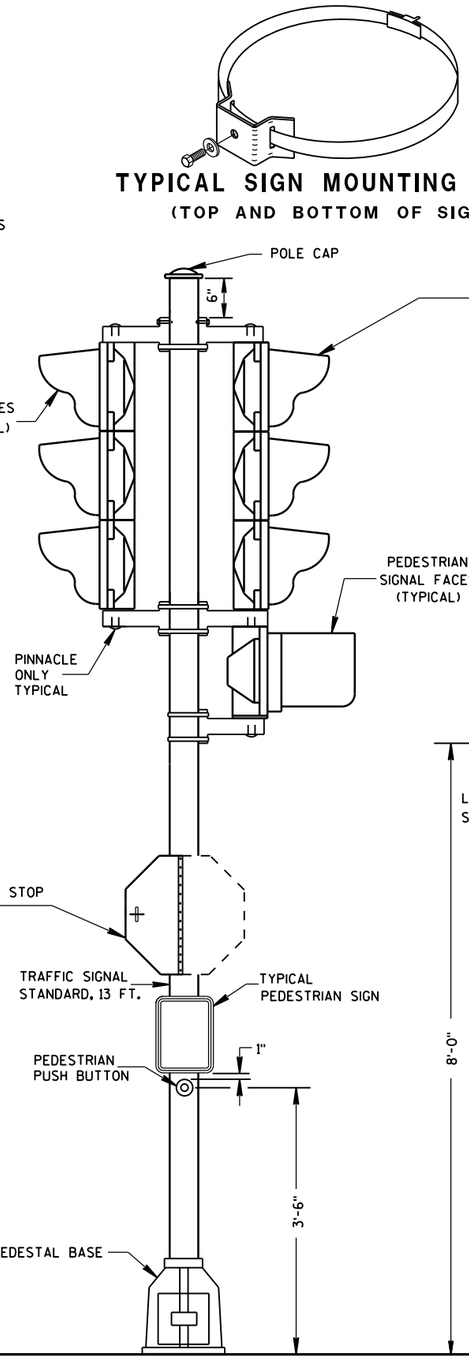
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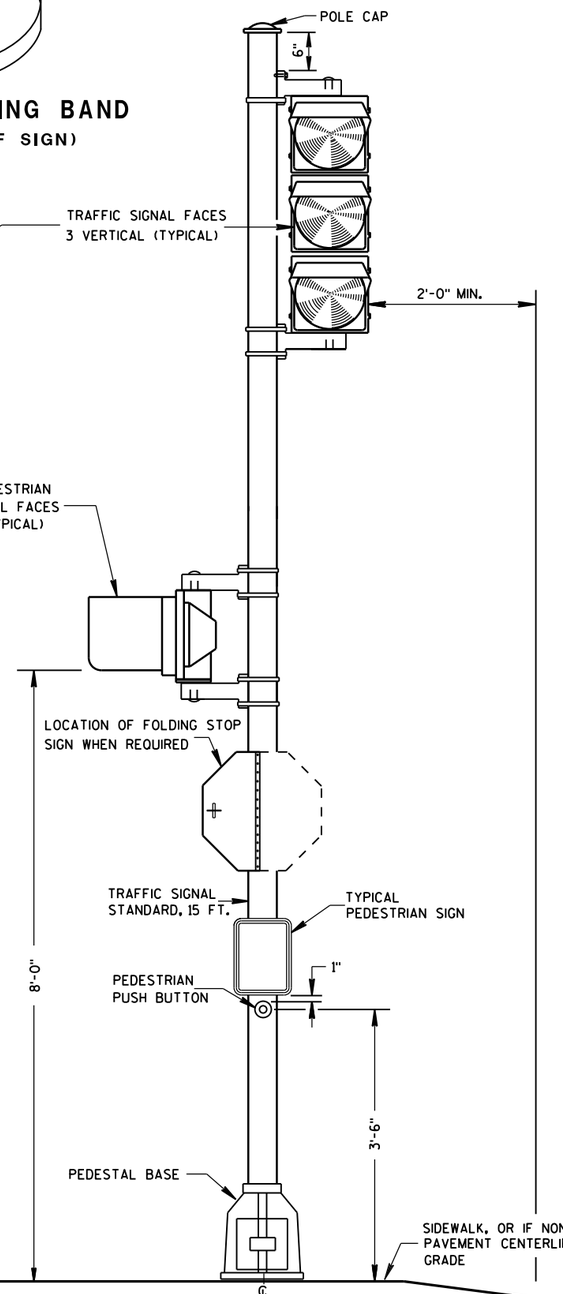


TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

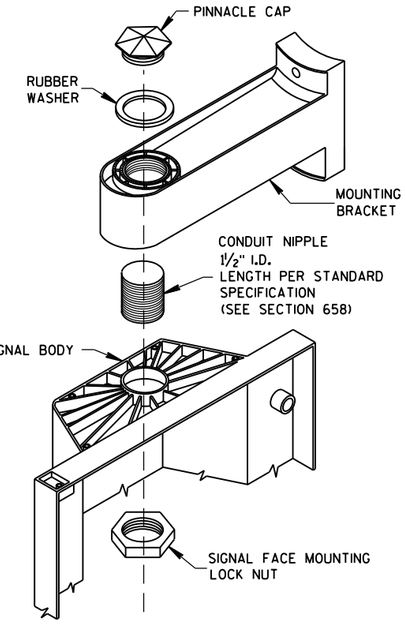
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



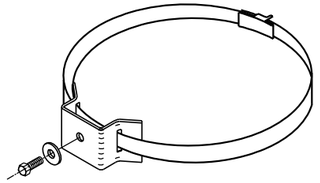
SIGNAL FACE MOUNTING DETAIL
(BANDED)

TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

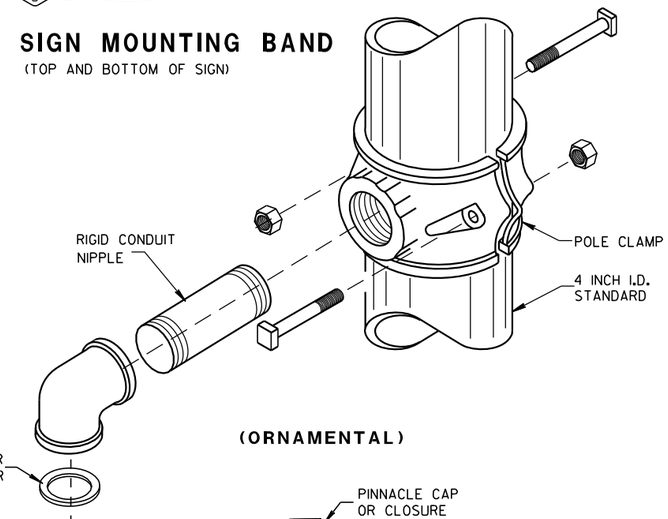
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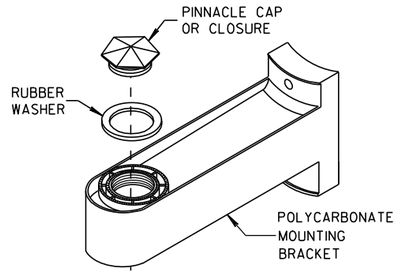
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S.D.D. 9 E 6-5



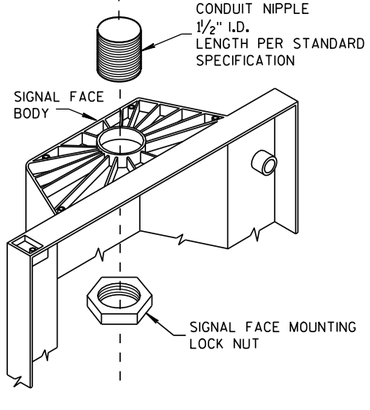
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



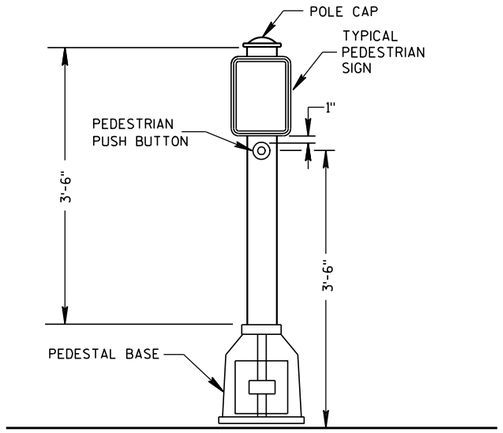
(ORNAMENTAL)



(BANDED)



SIGNAL FACE MOUNTING DETAILS



PEDESTRIAN PUSH BUTTON TYPICAL MOUNTING

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

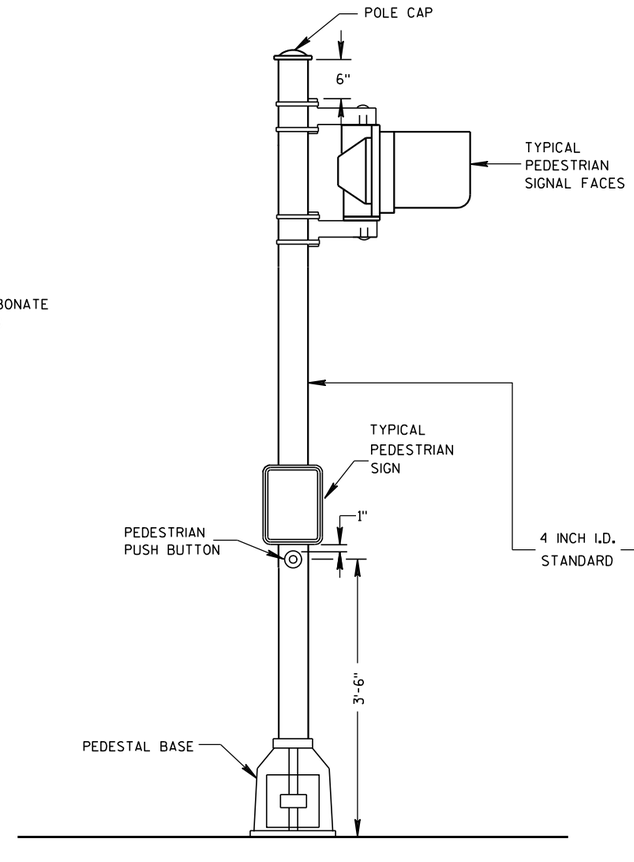
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

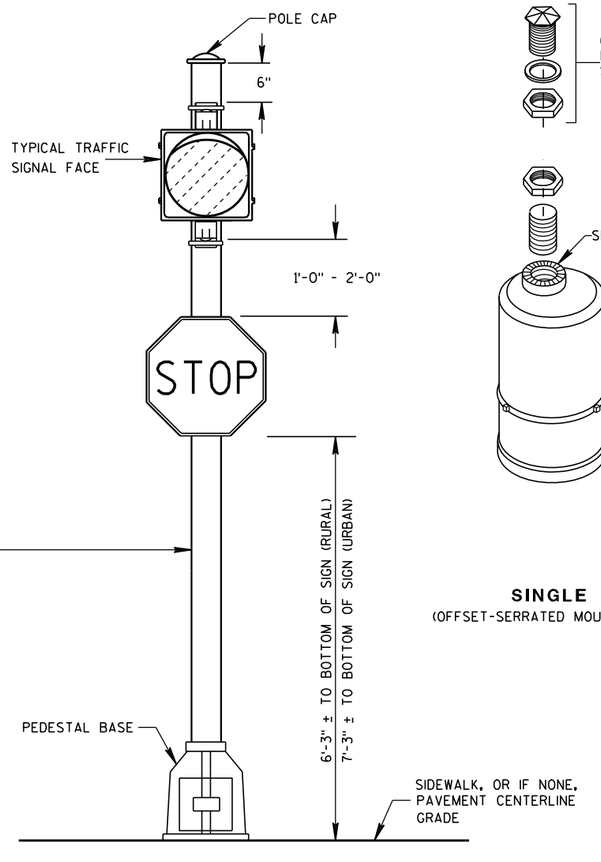
MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

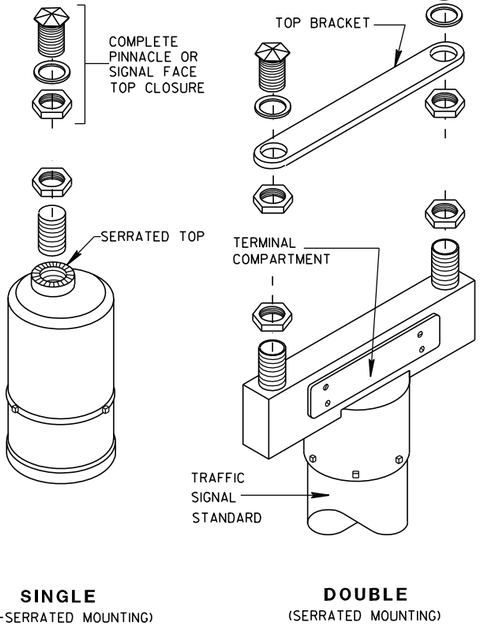
FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



PEDESTRIAN FACE STANDARD-10 FT.
(WALK-DON'T WALK)



STANDARD FLASHER.
10 FOOT, 13 FOOT OR 15 FOOT AS REQUIRED



SINGLE
(OFFSET-SERRATED MOUNTING)

DOUBLE
(SERRATED MOUNTING)

SLIPFITTERS

TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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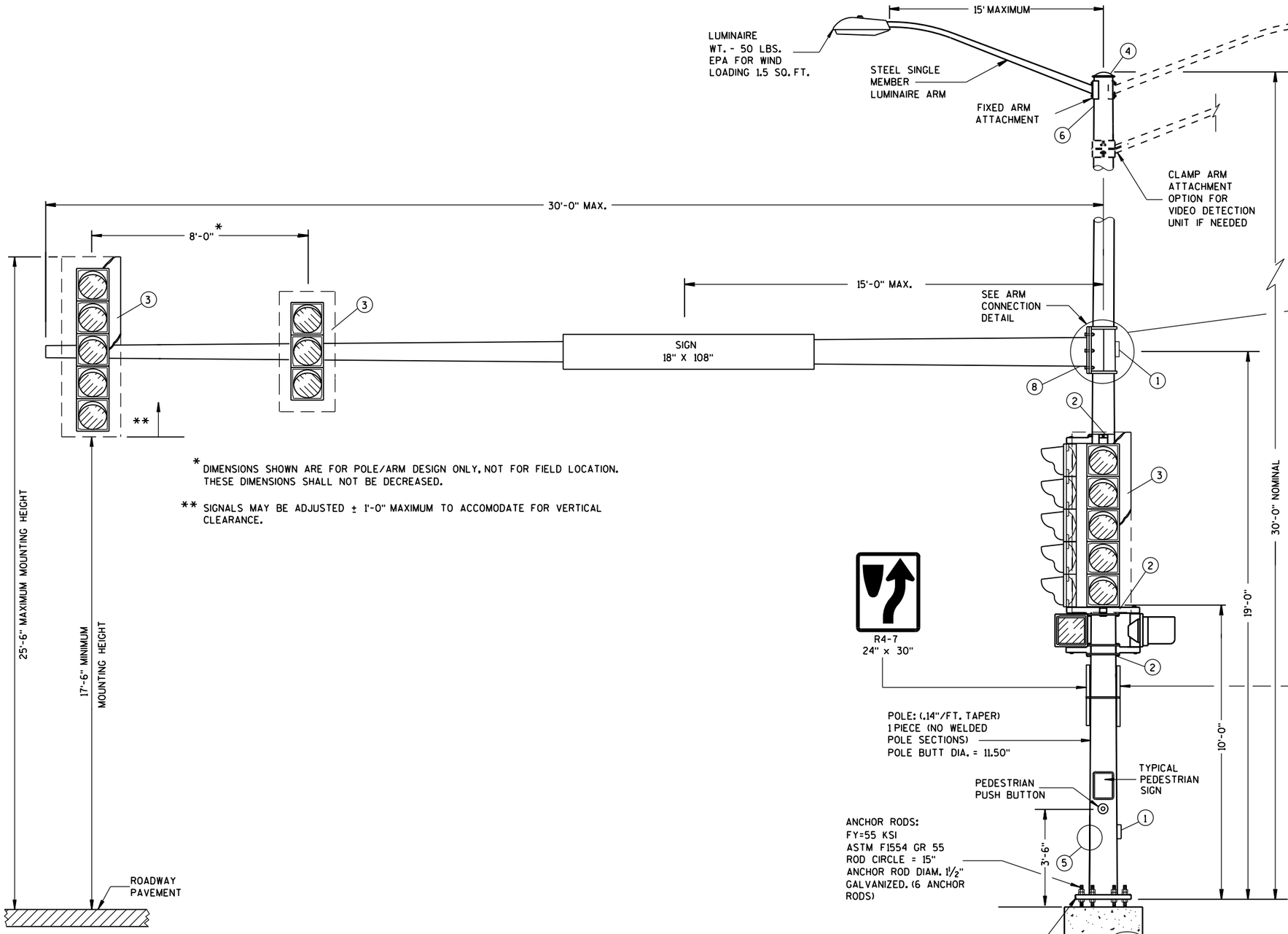
5/11/10
DATE

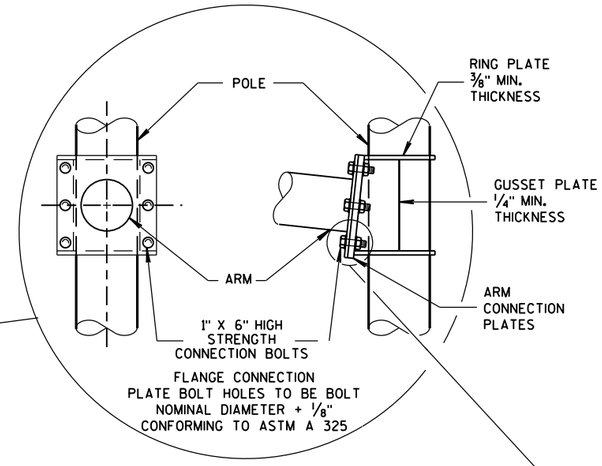
/S/ John Corbin
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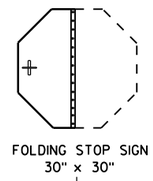
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

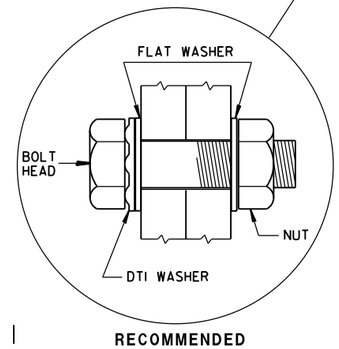
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



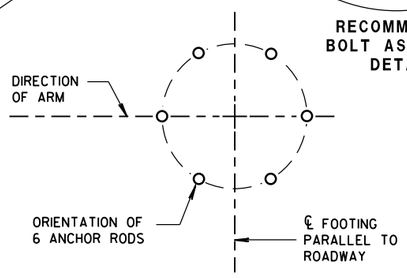


6 BOLT ARM CONNECTION DETAIL





RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

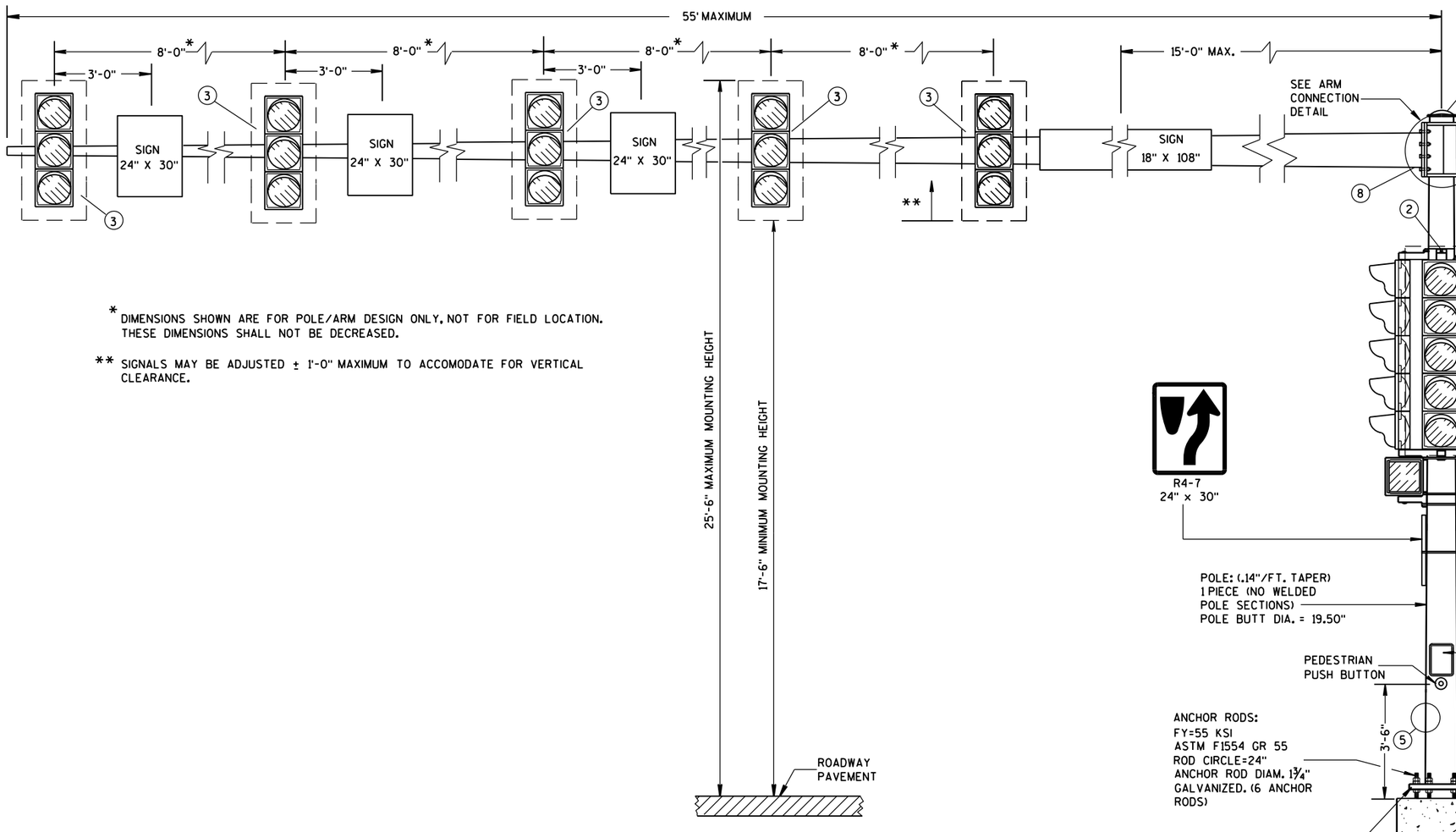
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6

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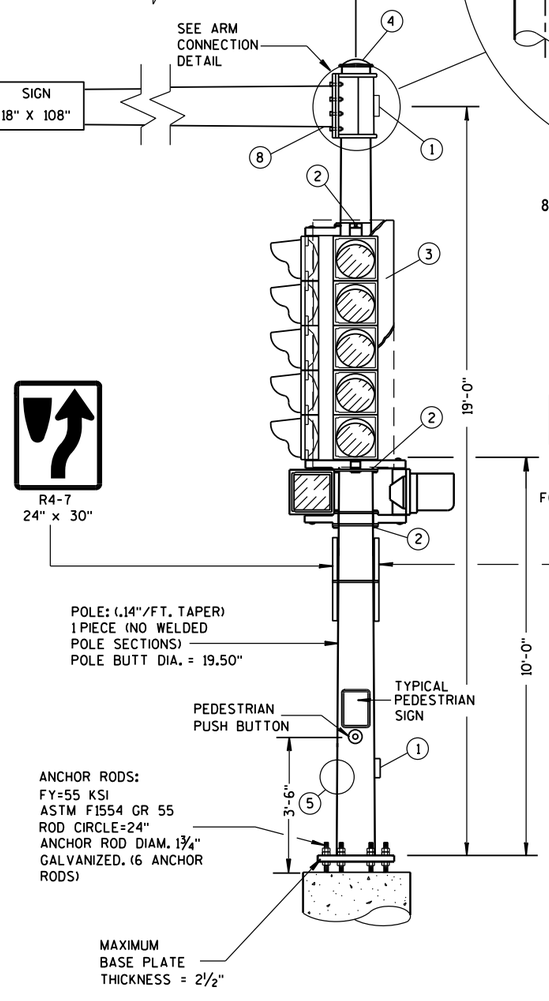
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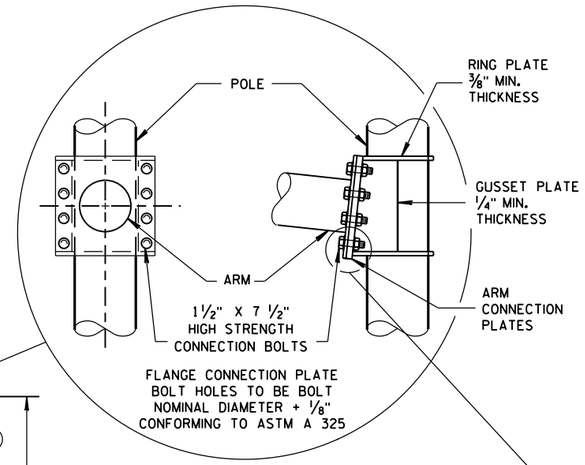
S.D.D. 9 E 8-6b



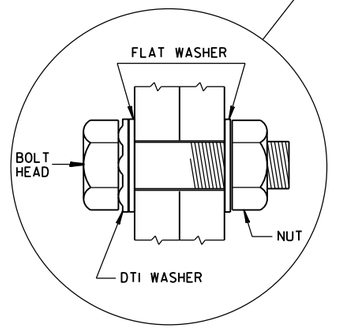
* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

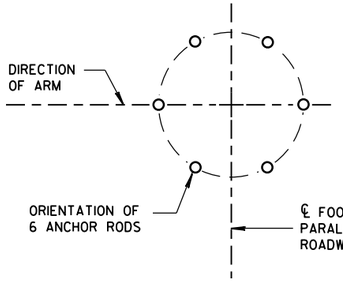




8 BOLT ARM CONNECTION DETAIL



RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

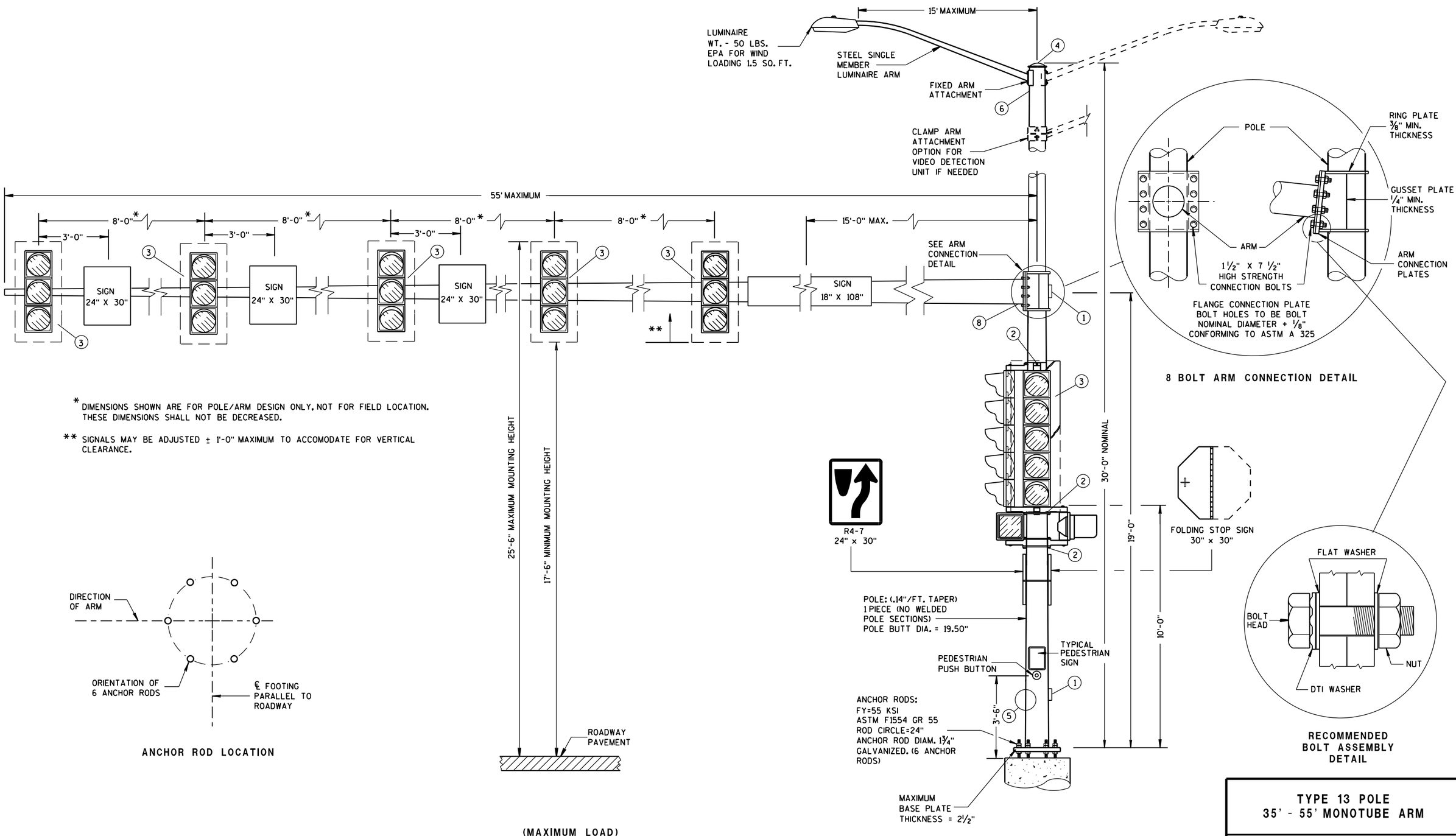
TYPE 12 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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FHWA

6

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* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

8 BOLT ARM CONNECTION DETAIL

RECOMMENDED
BOLT ASSEMBLY
DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE
35' - 55' MONOTUBE ARM

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Sept. 2014
DATE

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STATE ELECTRICAL

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S.D.D. 9 E 8-6d

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

(3) SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

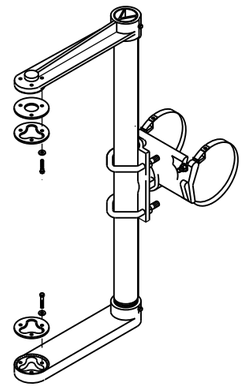
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL DEPARTMENT PROVIDED STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

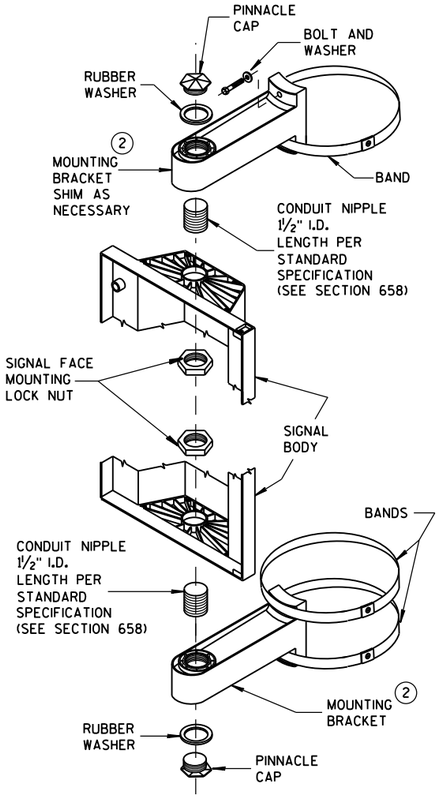
MOUNTING HEIGHT SHALL BE 5'-0" ABOVE THE CURB OR SHOULDER . ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

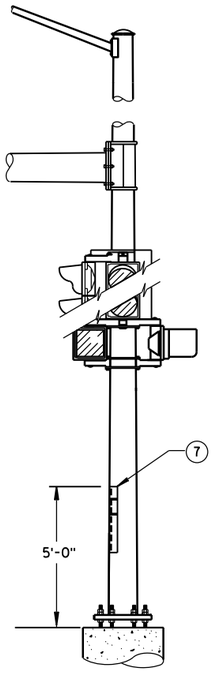


SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

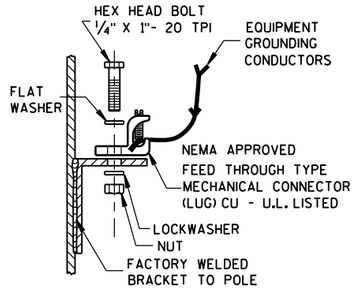
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE
VERTICAL MOUNTING DETAIL

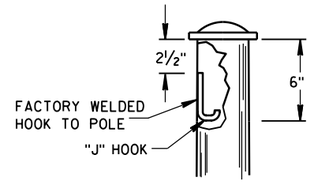


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 — DATE

/S/ Ahmet Demirbilek — STATE ELECTRICAL

FHWA

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S.D.D. 9 E 8-6e

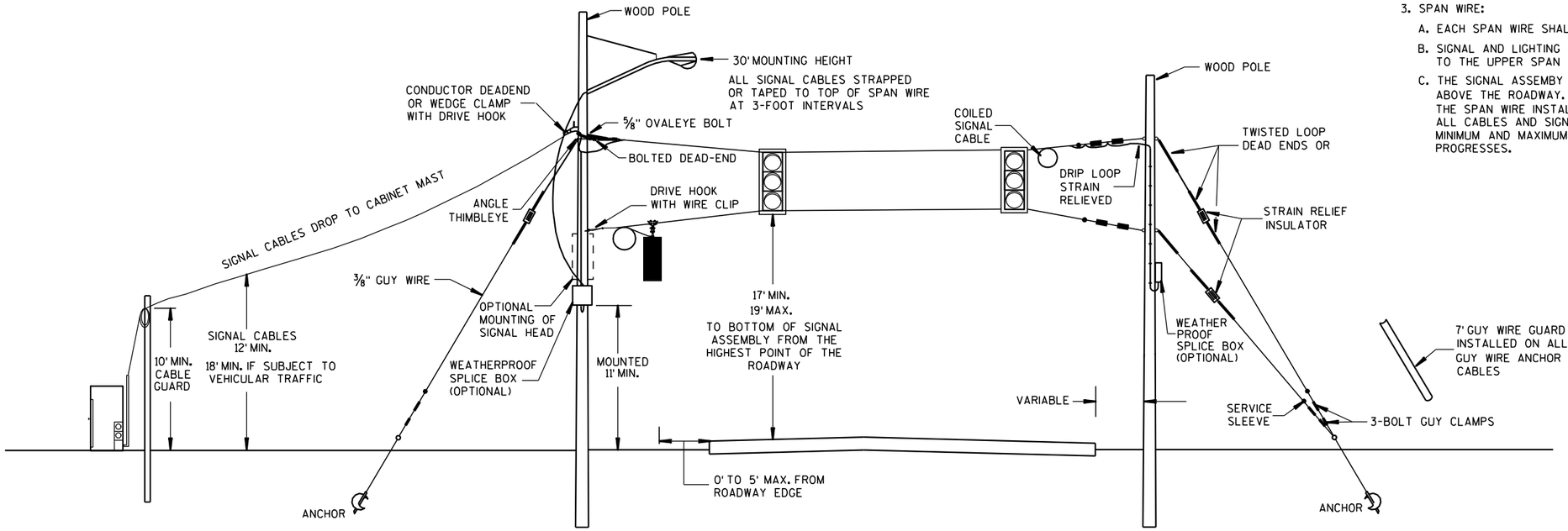
GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

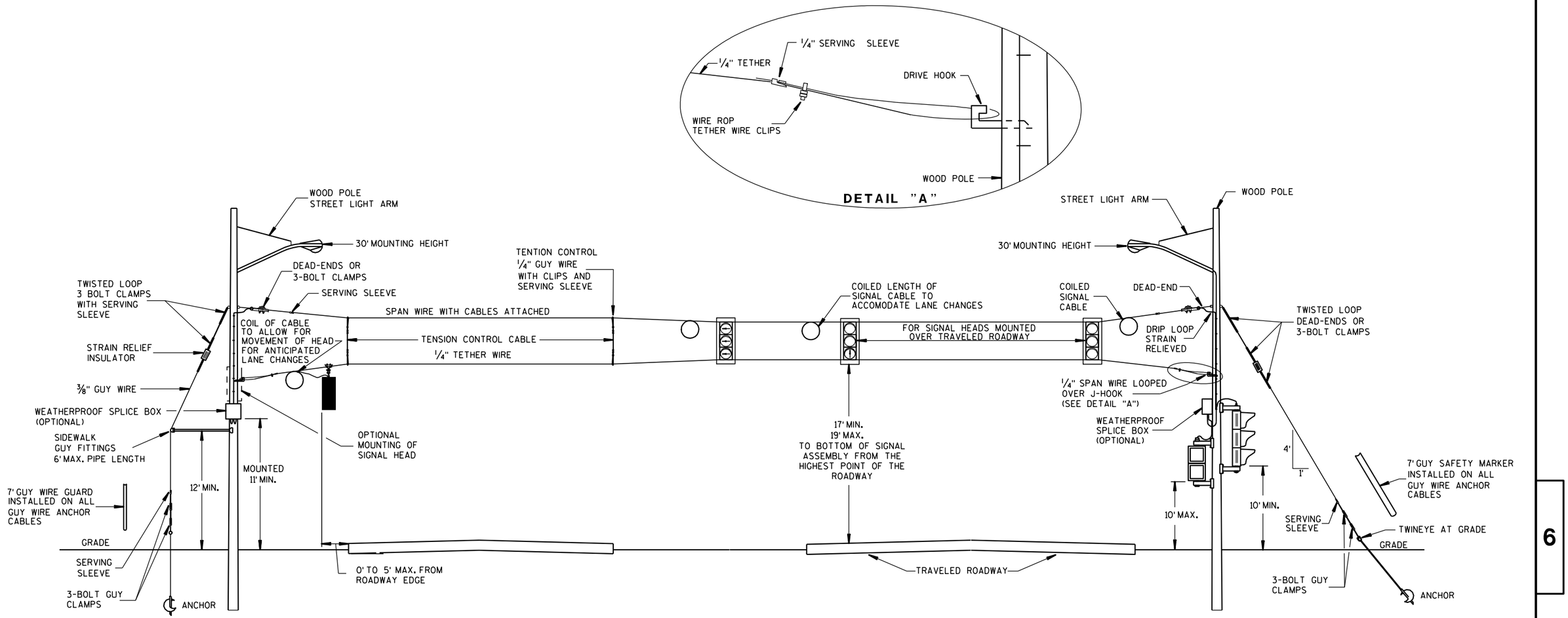
APPROVED
7-14-08 DATE
/S/ Balu Ananthar [illegible] n
STATE ELECTRICAL ENGI 350 HWYS
FHWA

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S.D.D. 9 G 1-3a

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S.D.D. 9 G 1-3a



GENERAL NOTES

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

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   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
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SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

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

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI 351 HWYS

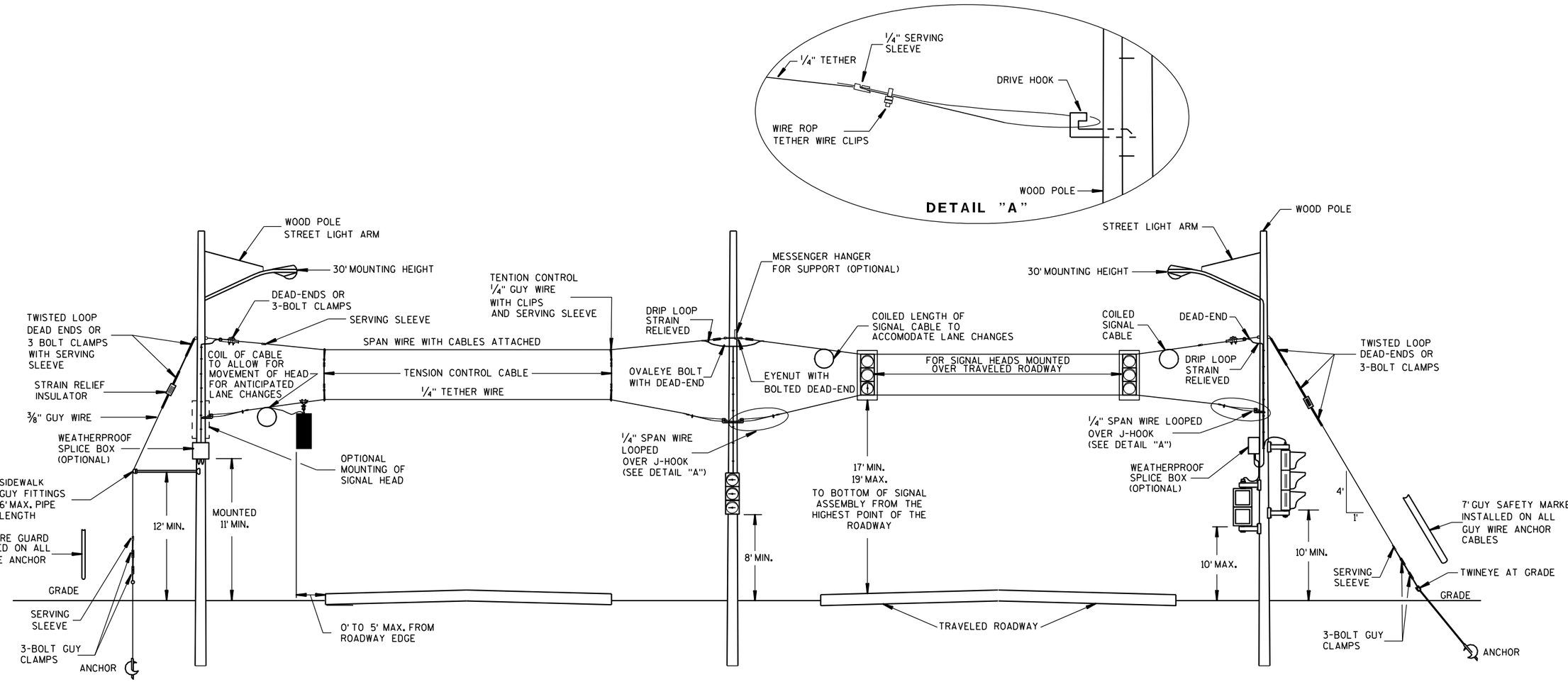
FHWA

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S.D.D. 9 G 1-3b

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S.D.D. 9 G 1-3b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08 DATE

/S/ Balu Aganthangarayanan
STATE ELECTRICAL ENGI 352 HWYS

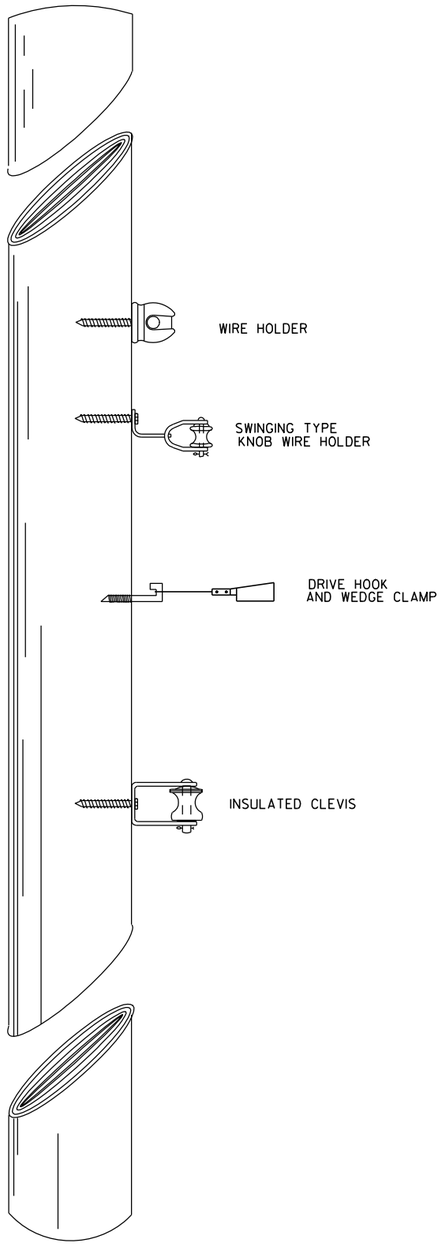
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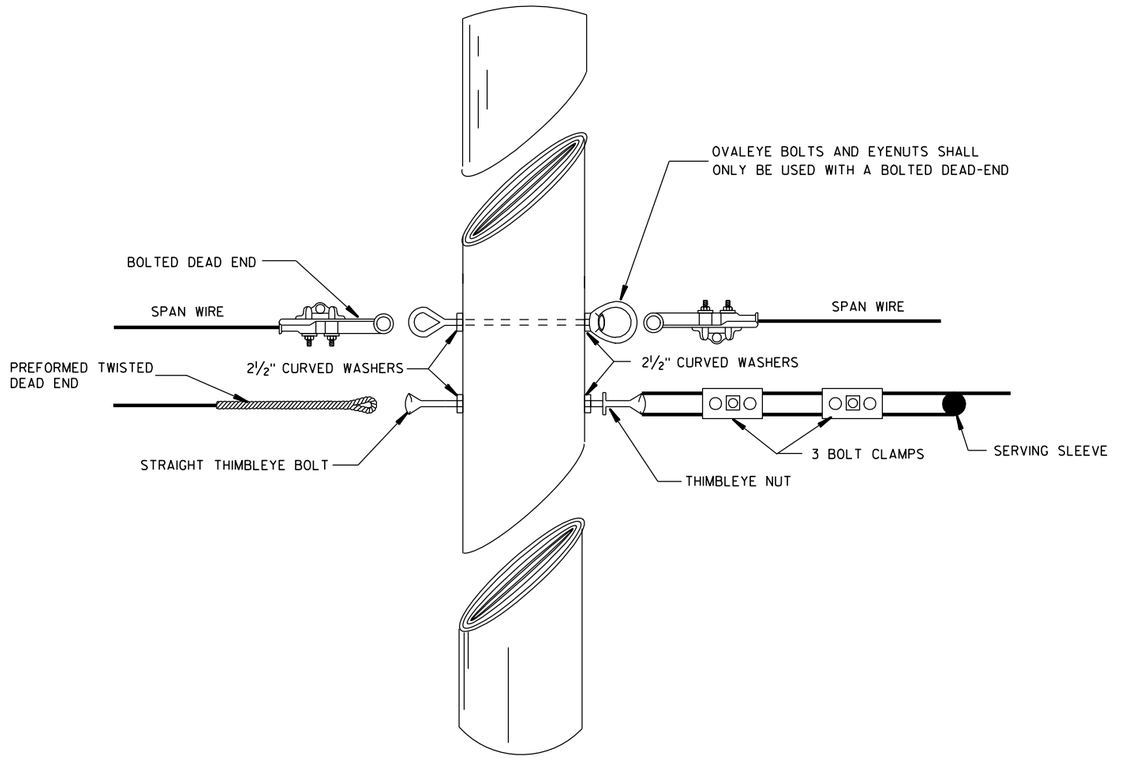
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TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

6

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SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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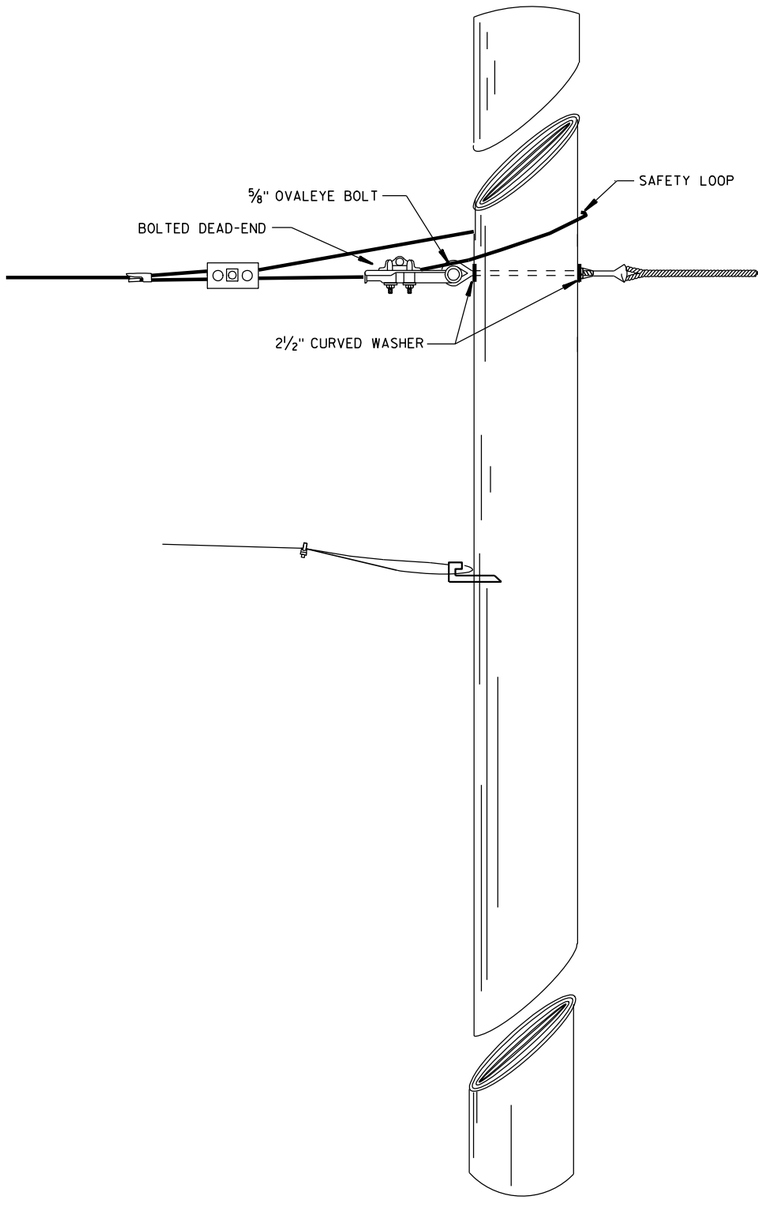
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DATE

/S/ Balu Ananthanarayanan
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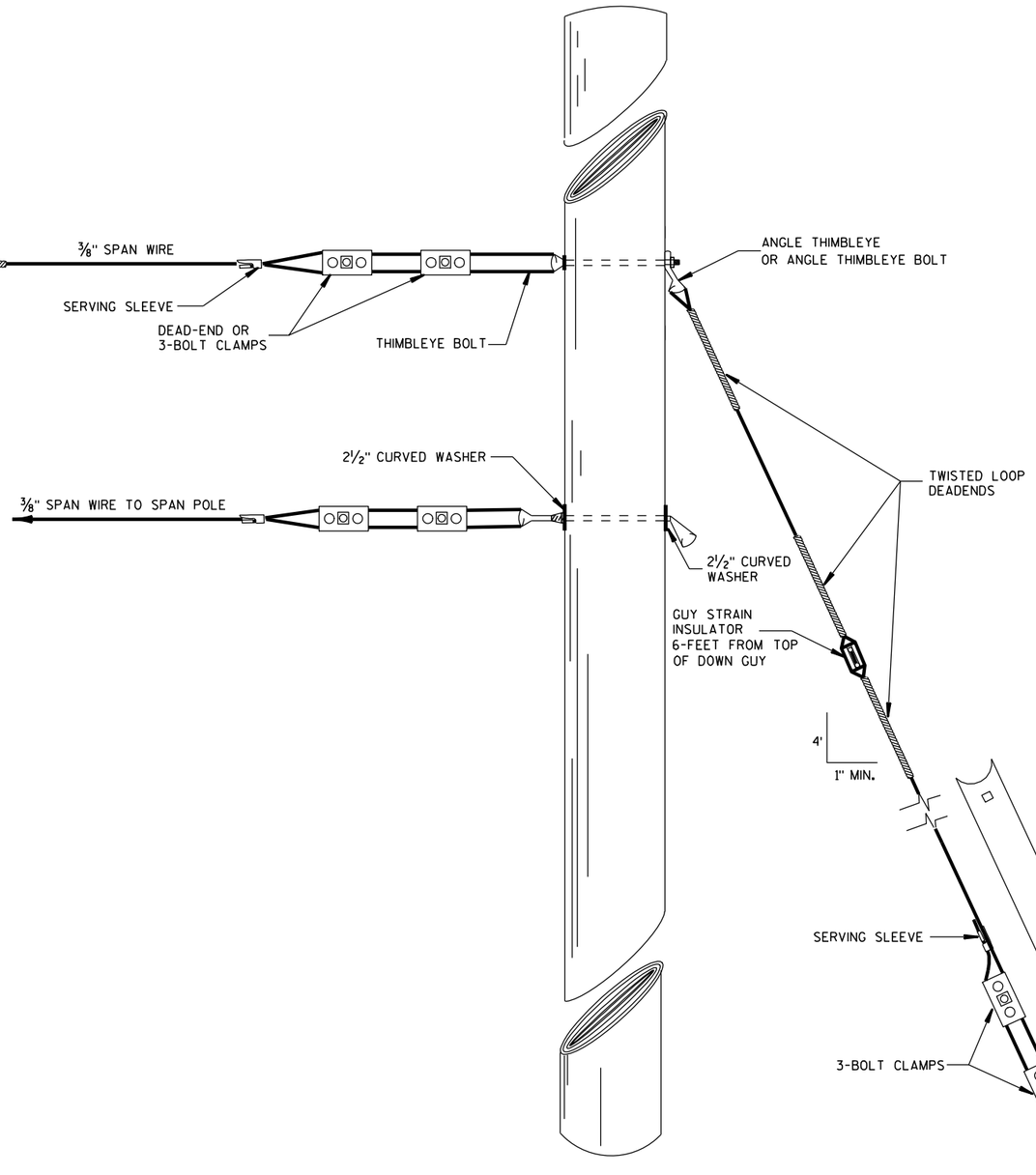
FHWA

GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

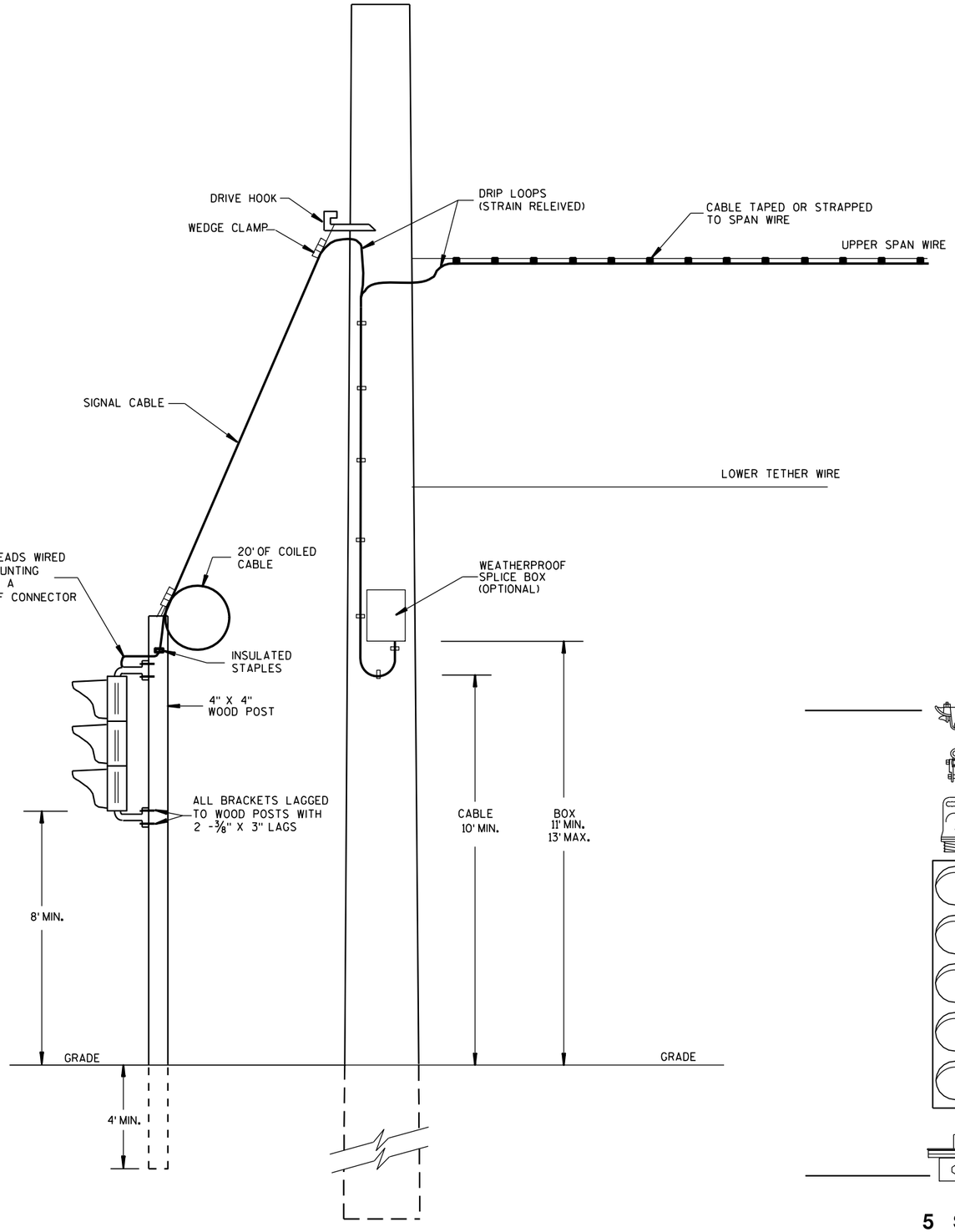
APPROVED
7-14-08 DATE
/S/ Balu Aganthanarayanan
STATE ELECTRICAL ENGI 354 HWYS
FHWA

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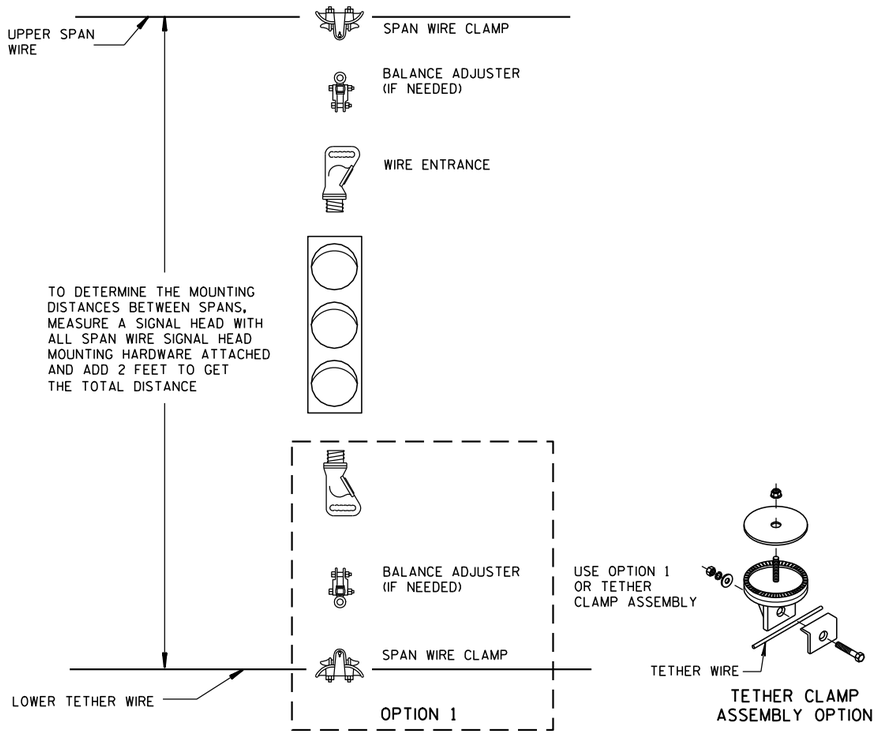
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S.D.D. 9 G 1-3e

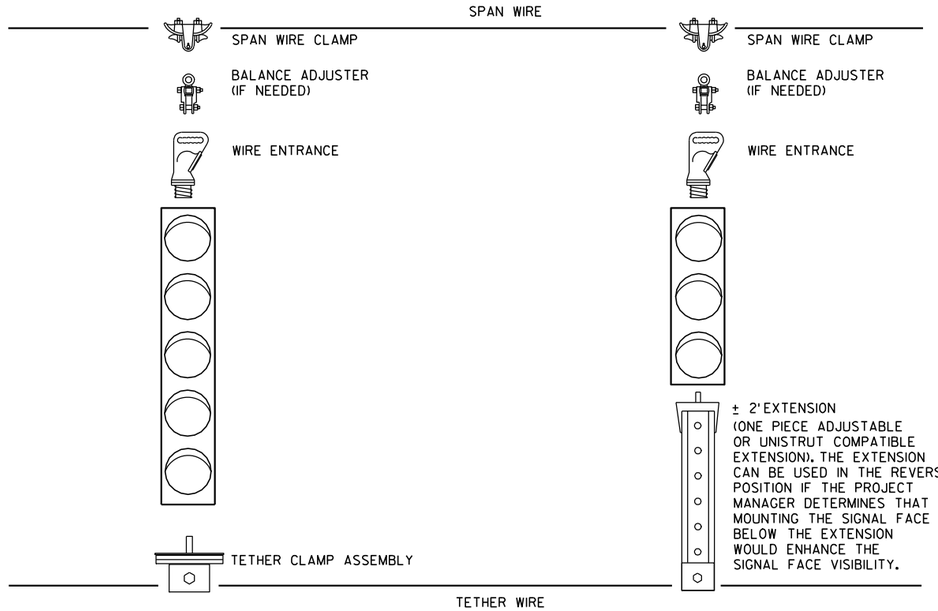


TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TETHER CLAMP ASSEMBLY OPTION

TYPICAL SPAN WIRE MOUNTING HARDWARE



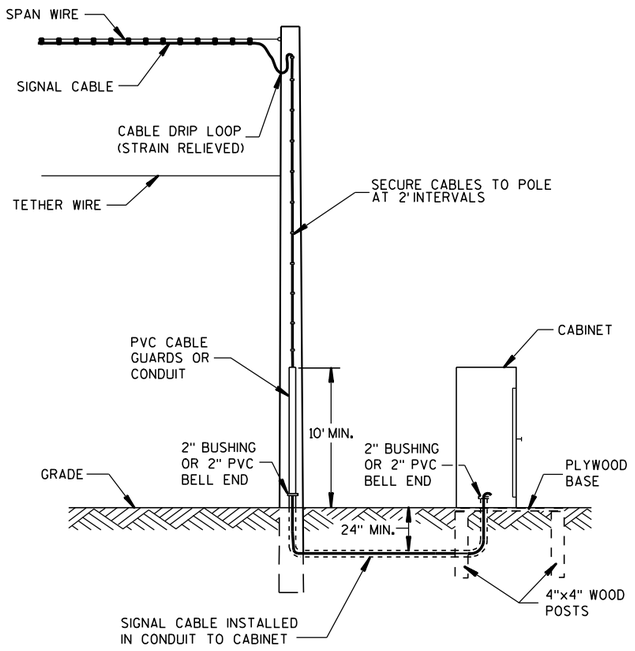
5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

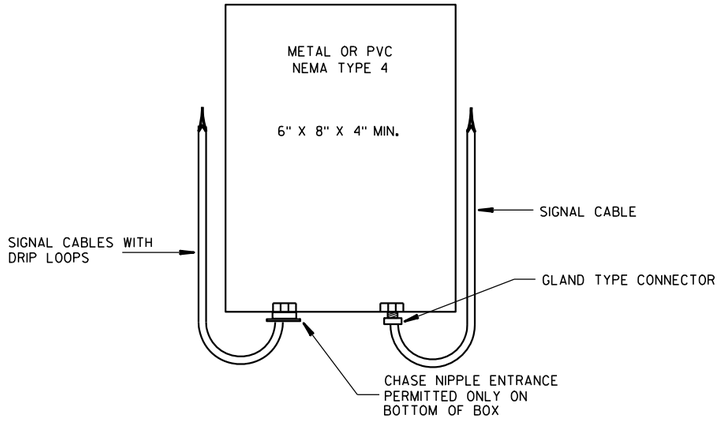
SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

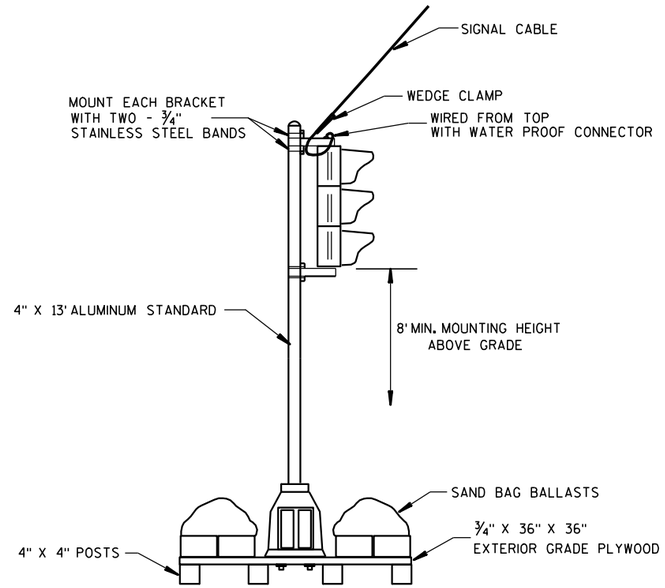
APPROVED
7-14-08
DATE
/S/ Balu Ananthanarayanan
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FHWA

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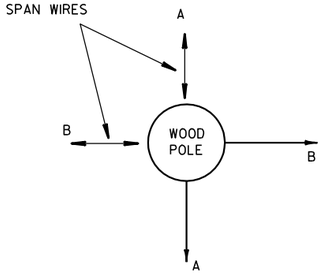




SPLICE BOX

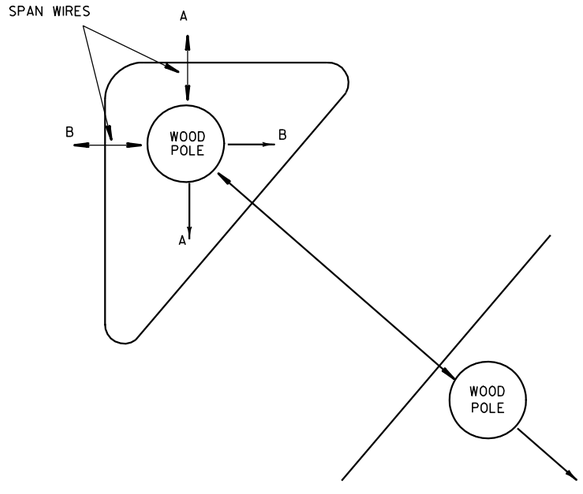


TYPICAL SKID TYPE TEMPORARY

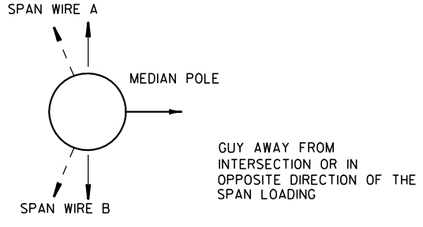


ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-08
DATE

/S/ Balu Aganthangayagan
STATE ELECTRICAL ENGI 356 HWYS

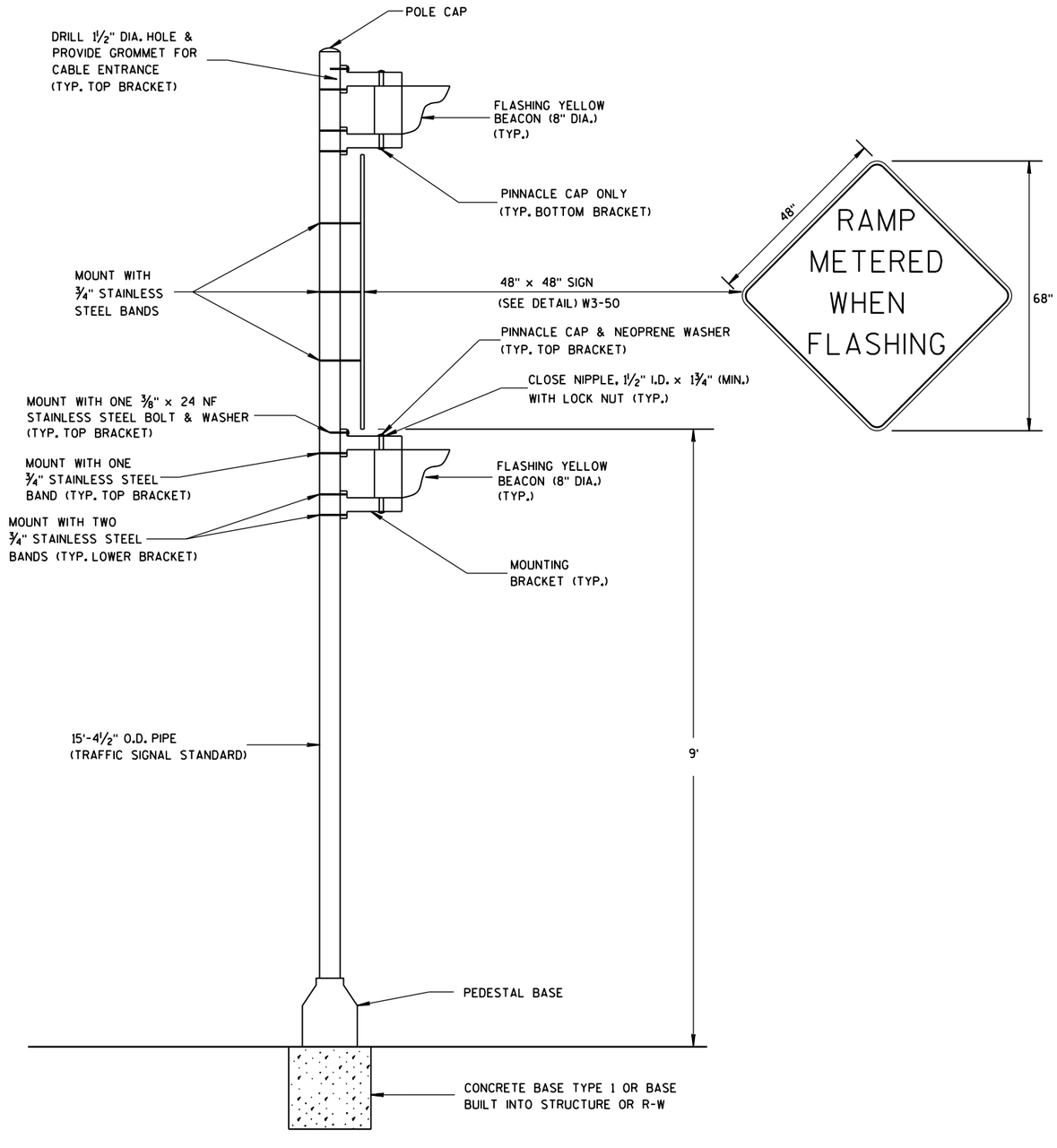
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SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1

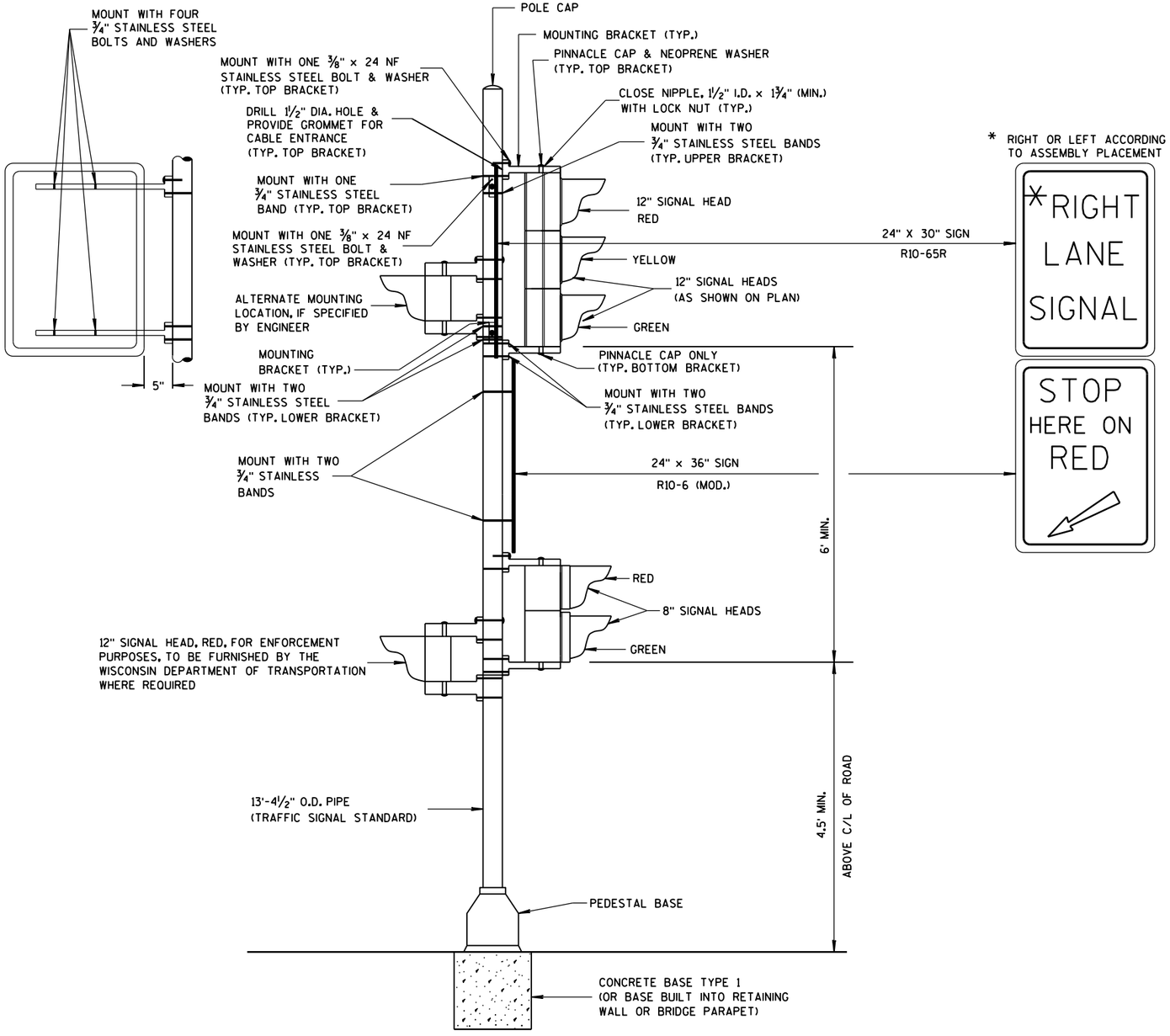
SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	

6
S.D.D. 9 H 6-1

NOTE

R10-6 SIGN; AN ARROW POINTING LEFT SHALL BE USED ON A RIGHT SIDE SIGNAL & AN ARROW POINTING RIGHT SHALL BE USED ON A LEFT SIDE SIGNAL.

REAR VIEW



SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT

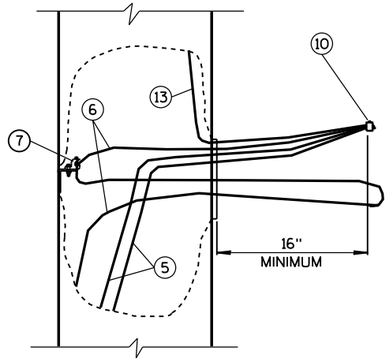
SIGNAL ASSEMBLY
RAMP CONTROL SIDEMOUNT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

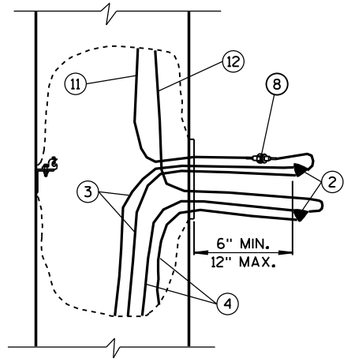
APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

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S.D.D. 9 H 7-1

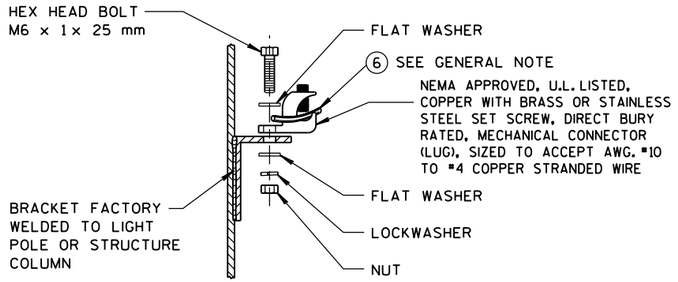


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



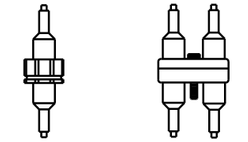
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



1 POLE (1P) 2 POLE (2P)

FUSE ASSEMBLIES

GENERAL NOTES

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

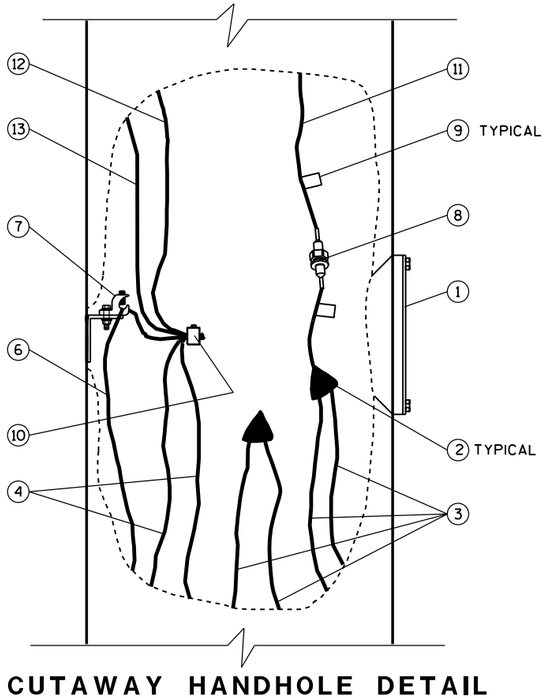
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

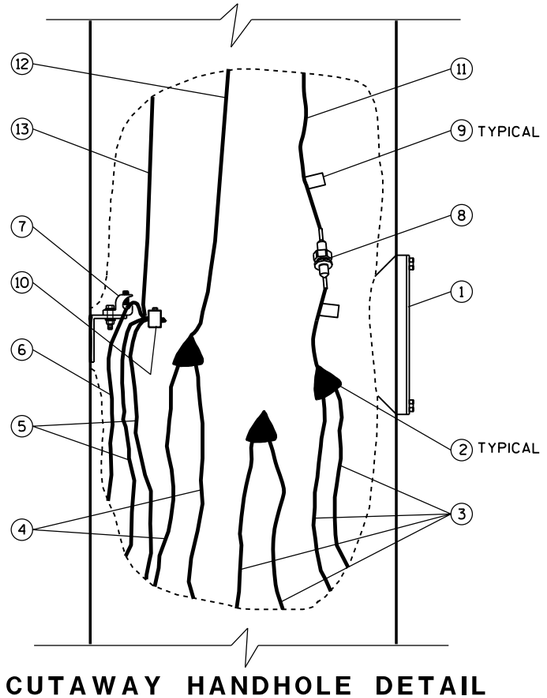
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



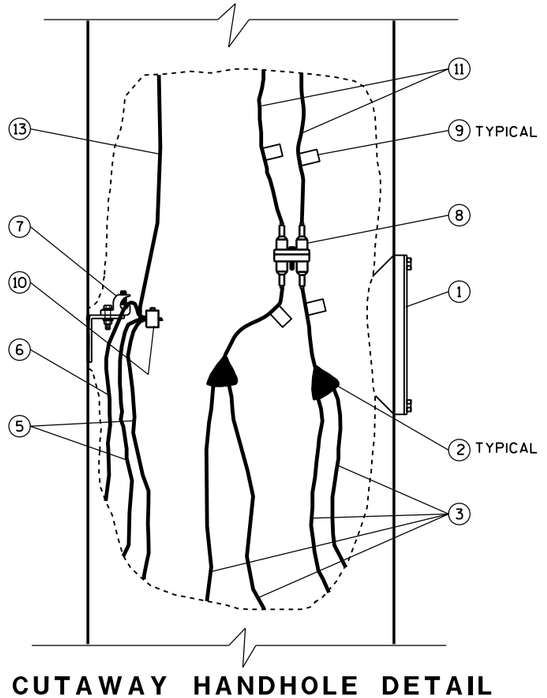
CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-Φ



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-Φ SHOWN; 3-Φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL

PHASE-TO-PHASE SYSTEMS
1-Φ SHOWN; 3-Φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

(1) HANDHOLE AND COVER
(2) INSULATED SPLICE
(3) UNGROUNDED LINE WIRE
(4) GROUNDED LINE WIRE
(5) SYSTEM GROUNDING LINE WIRE
(6) GROUNDING ELECTRODE CONDUCTOR
(7) HANDHOLE GROUNDING LUG
(8) FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
(9) CIRCUIT TAG (SEE GENERAL NOTE)
(10) REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
(11) UNGROUNDED POLE WIRE
(12) GROUNDED POLE WIRE
(13) EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 10 A 1-3

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

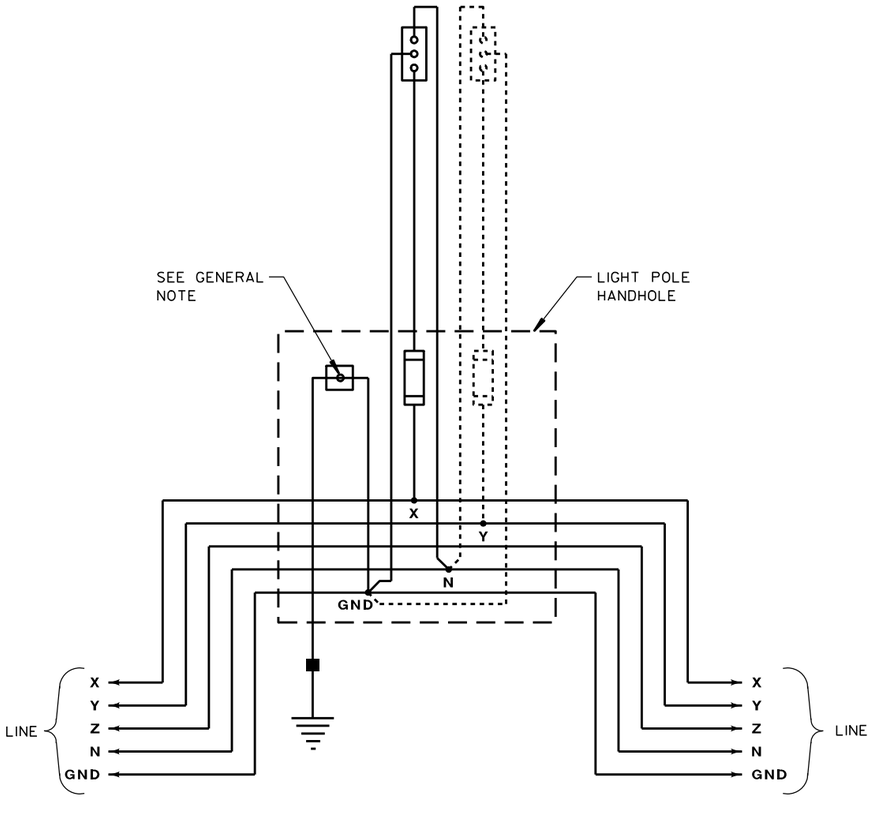
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

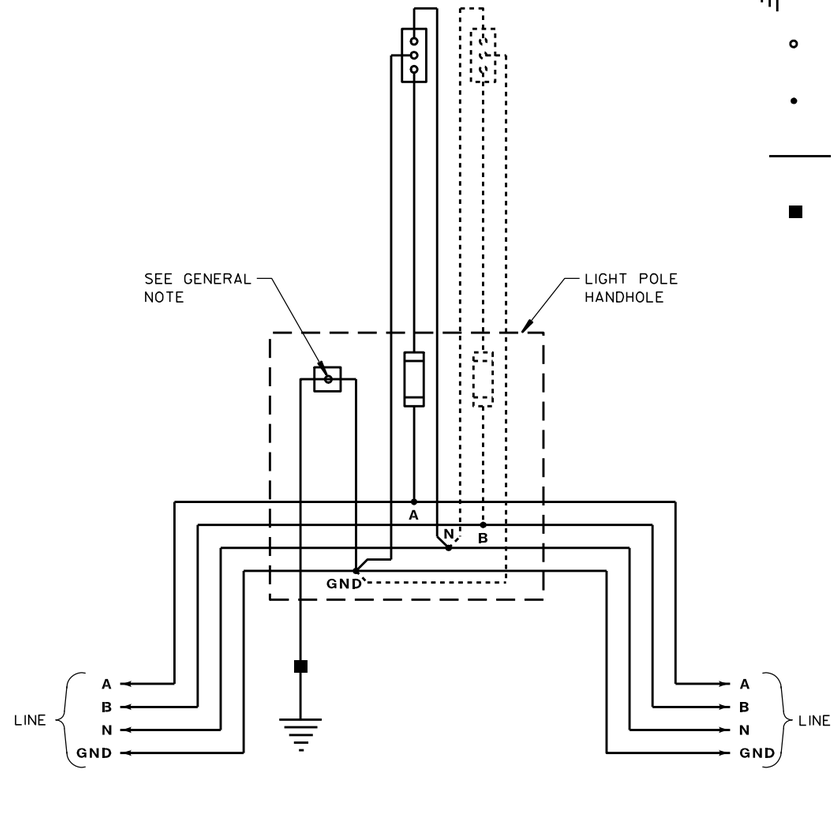
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
φ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-φ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-φ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin
STATE ELECTRICAL ENGI
FHWA

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S.D.D. 10 A 5-2

6

S.D.D. 10 A 5-2

GENERAL NOTES

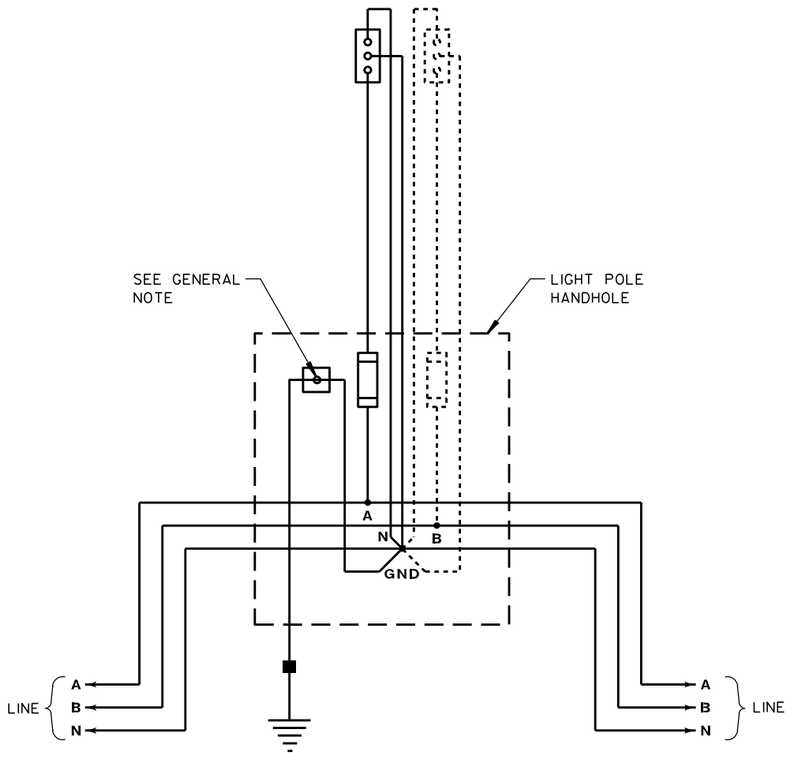
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.



TYPICAL WIRING DIAGRAM
GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC 3 WIRE OR 480VAC 2 WIRE

HANDHOLE FUSE SCHEDULES

LINE VOLTAGE ϕ-GROUND	BALLAST WATTAGE 70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD

ELECTRICAL DETAILS
GROUND MOUNT LIGHT POLES
GROUNDED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

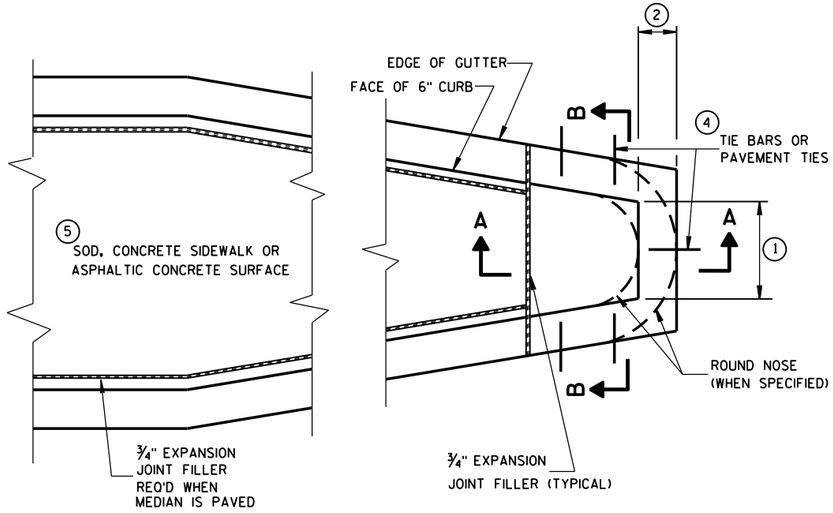
APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
FHWA HWYS

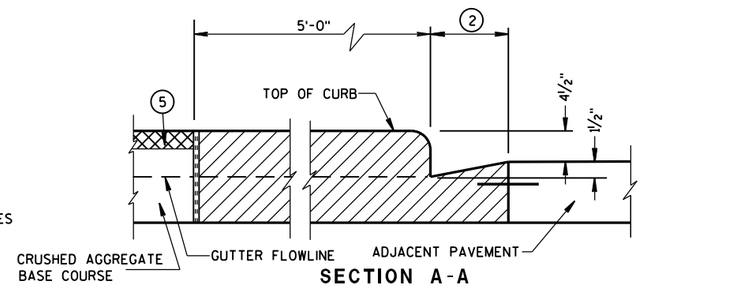
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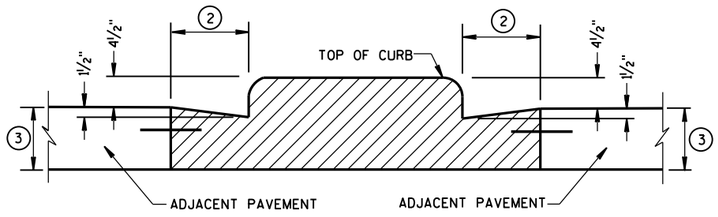
S.D.D. 10 A 6-2

6

S.D.D. 10 A 6-2







CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

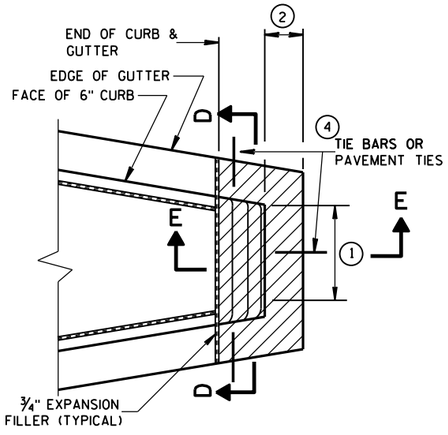
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

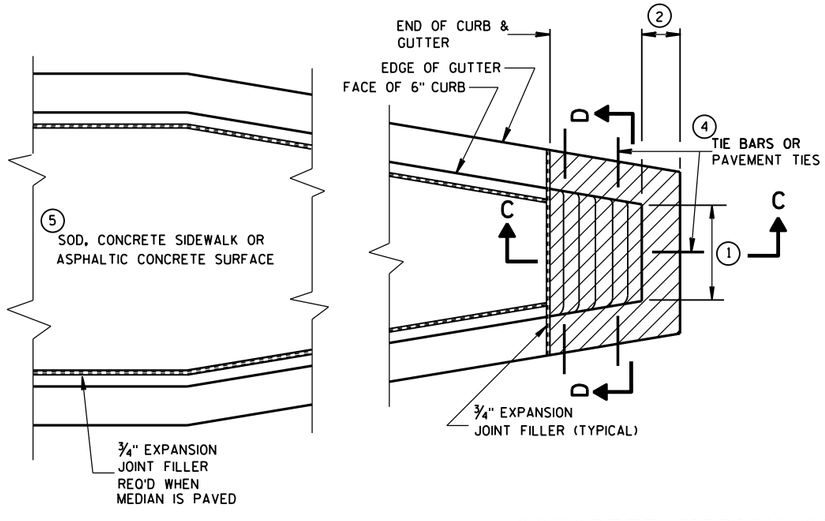
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

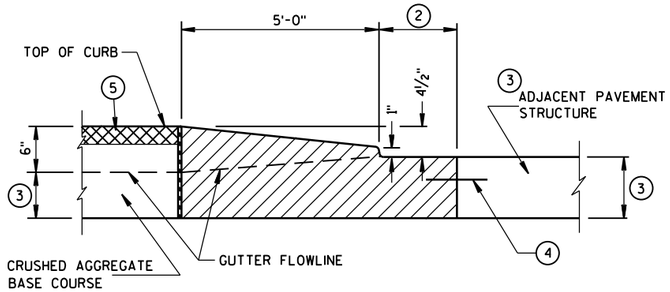
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

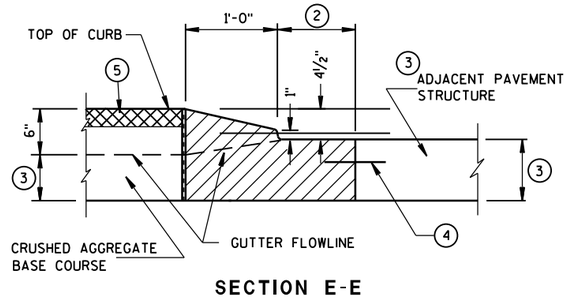
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

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



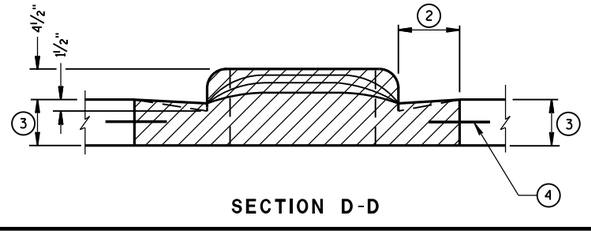






CONCRETE MEDIAN SLOPED NOSE TYPE 1

CONCRETE MEDIAN SLOPED NOSE TYPE 2



CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

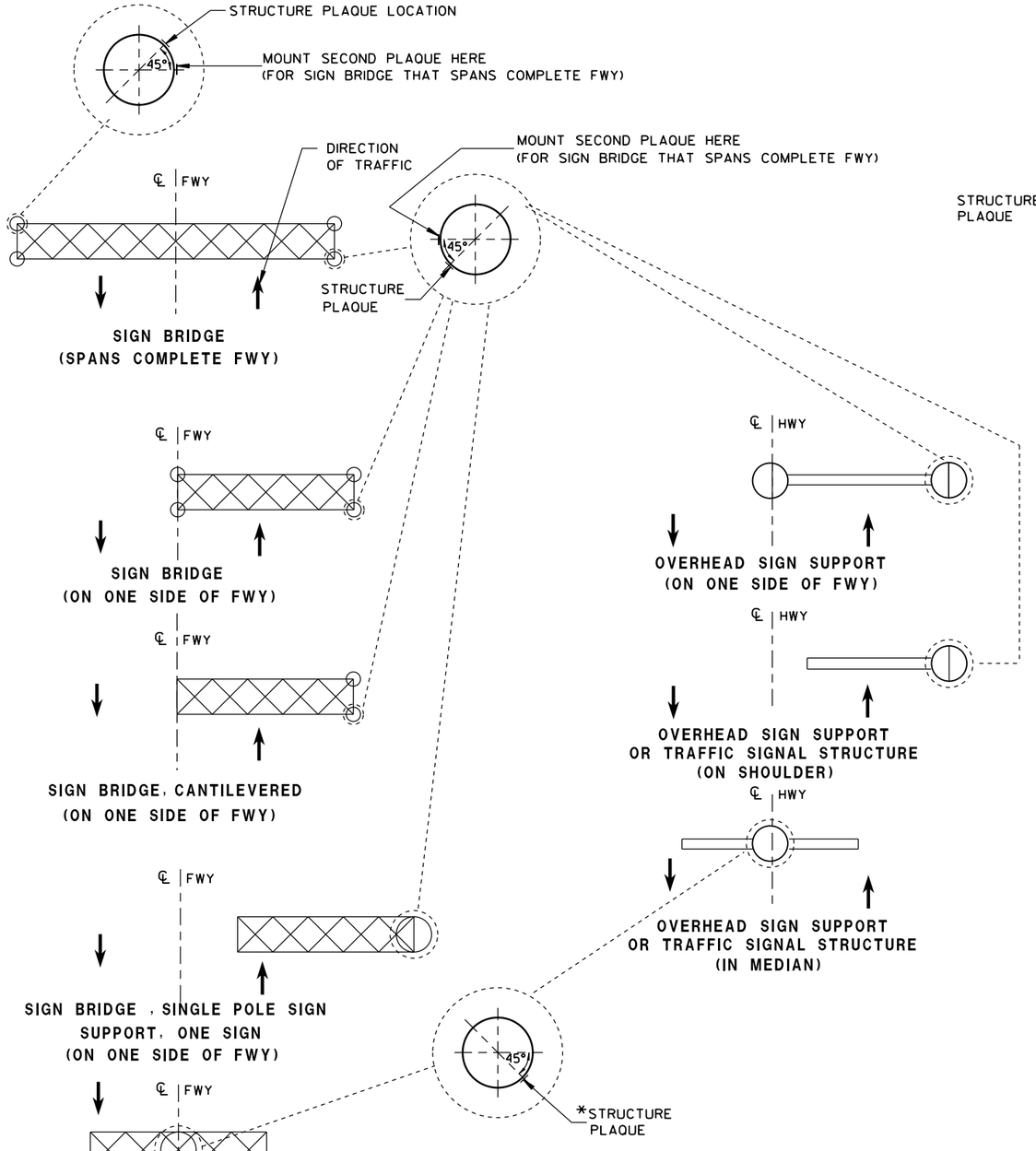
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 11 B 2-2

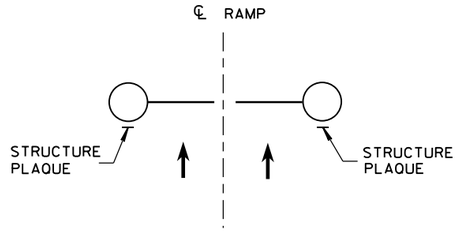
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S.D.D. 11 B 2-2

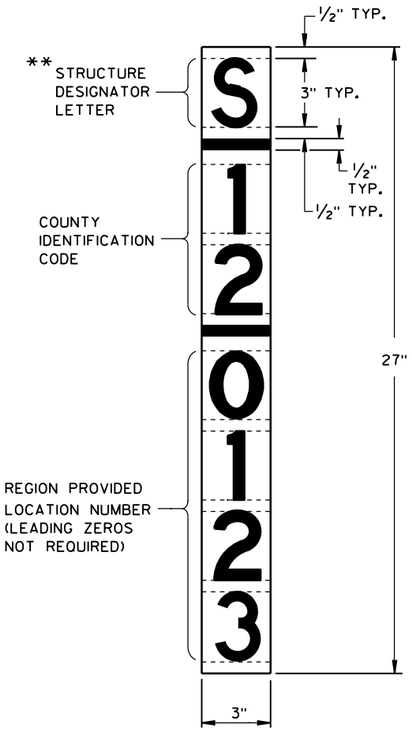


*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



**RAMP GATE
(ACROSS FWY ON-RAMP)**



RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

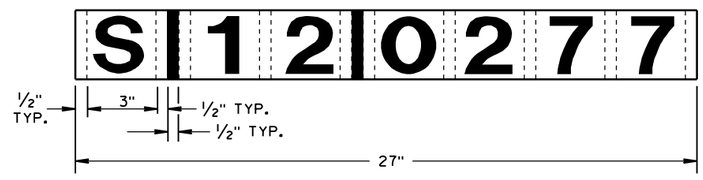
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

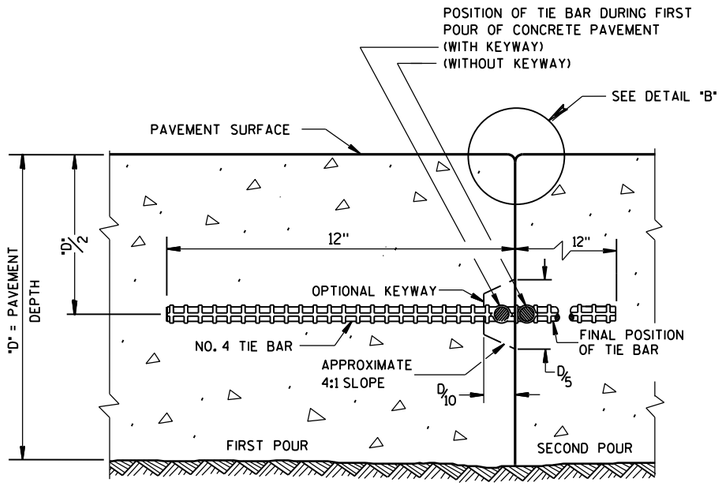
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

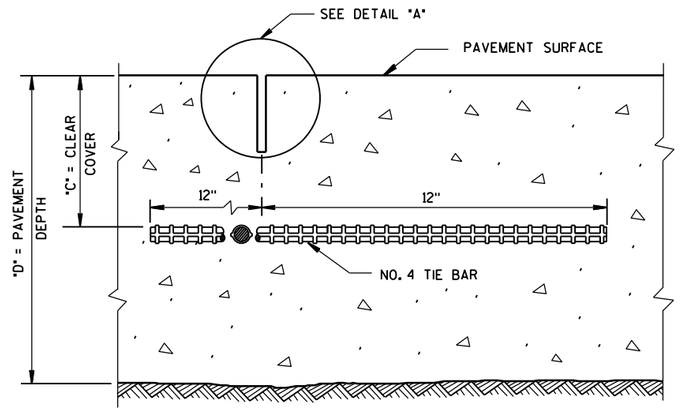
APPROVED
12/4/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 12 A 4-3



CONSTRUCTION JOINT



SAWED JOINT

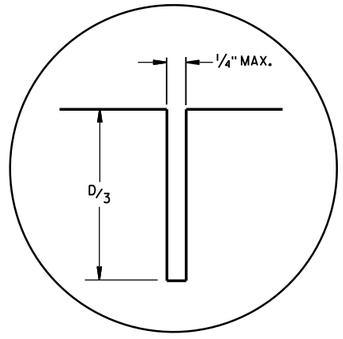
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

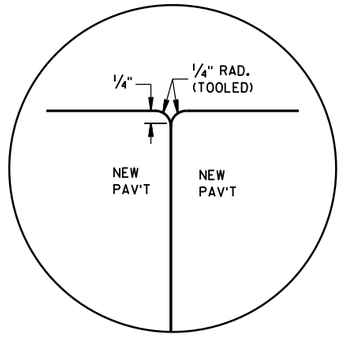
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

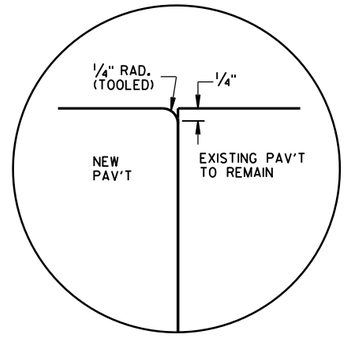
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



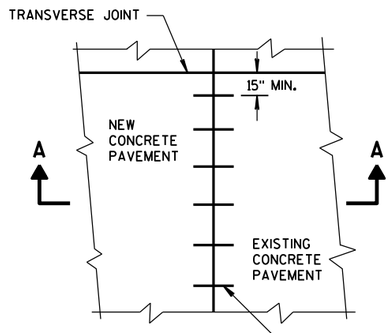
DETAIL "A"



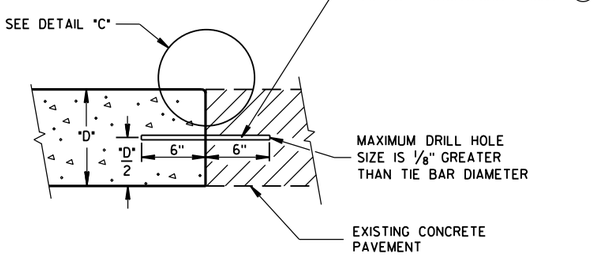
DETAIL "B"



DETAIL "C"



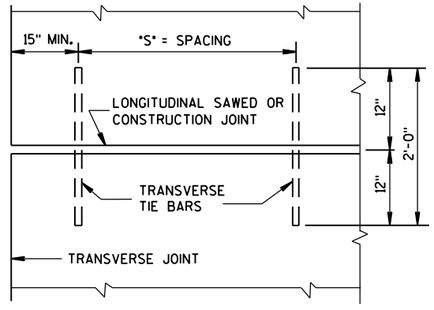
PLAN VIEW



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

TIE BAR TABLE

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/2014 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

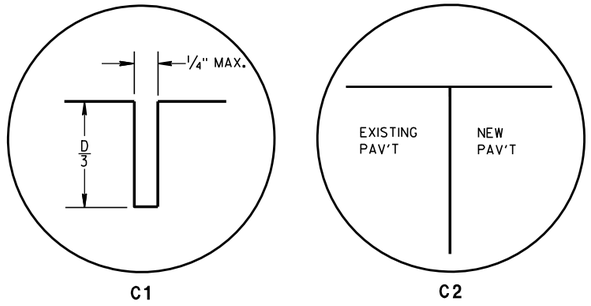
FHWA

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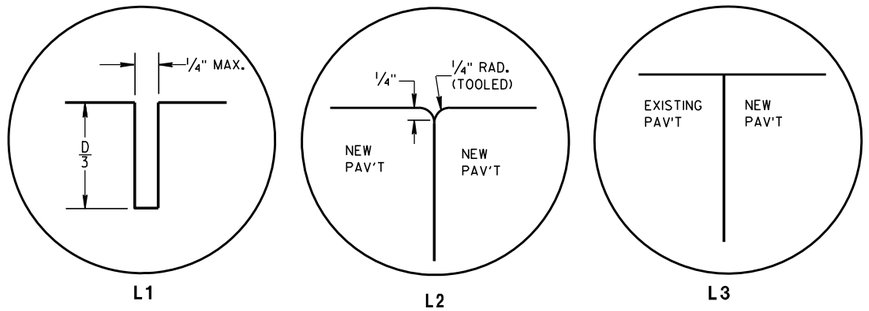
S.D.D. 13 C 1-17

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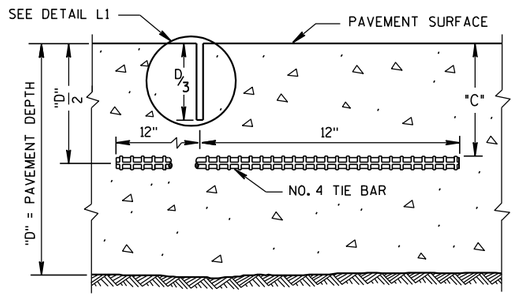
S.D.D. 13 C 1-17



TRANSVERSE JOINTS

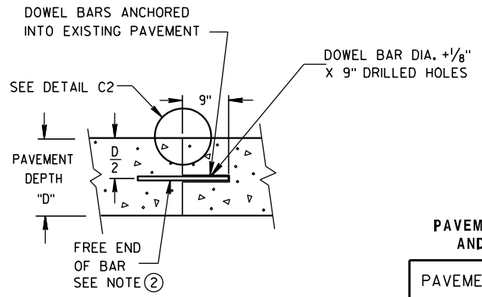


LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

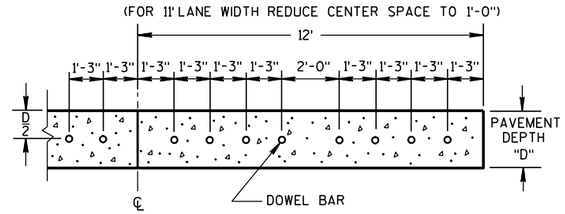
GENERAL NOTES

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

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

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



SECTION E-E

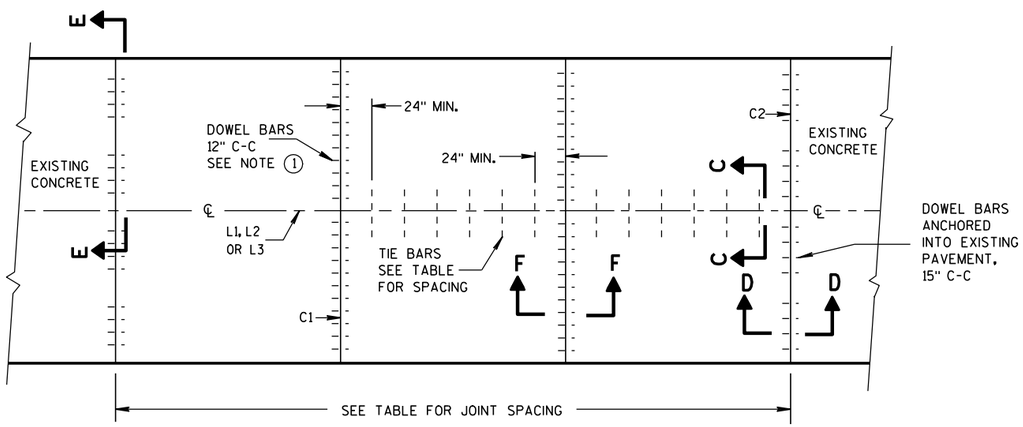
SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

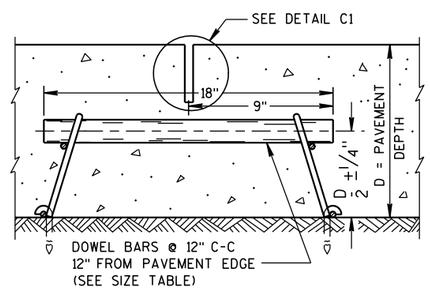
TIE BAR LOCATION TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING C-C	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 ½"	3"±½"	48"	42"
7, 7 ½"	3 ¼"±1"	45"	36"
8, 8 ½"	3 ¾"±1"	39"	30"
9, 9 ½"	4 ¼"±1"	33"	27"
10, 10 ½"	4 ¾"±1"	30"	24"
11, 11 ½"	5 ¼"±1"	27"	21"
12"	5 ¾"±1"	24"	21"



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



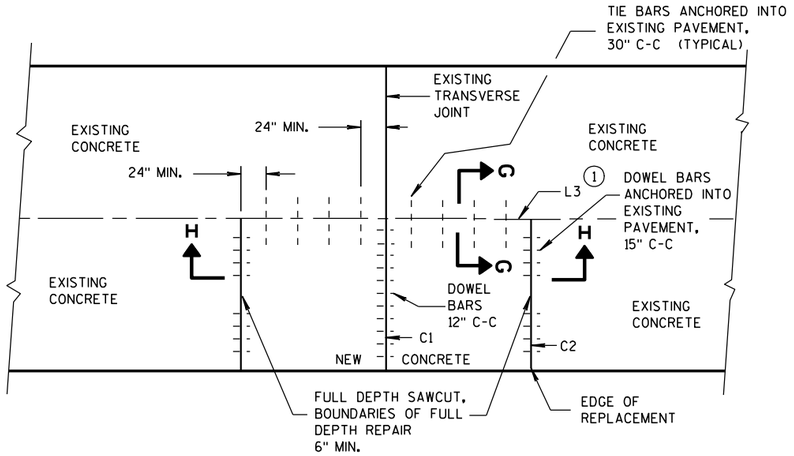
SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 13 C 15-5a

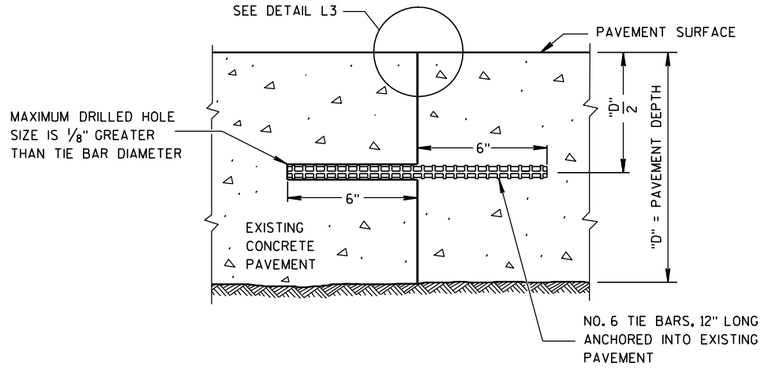


PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR

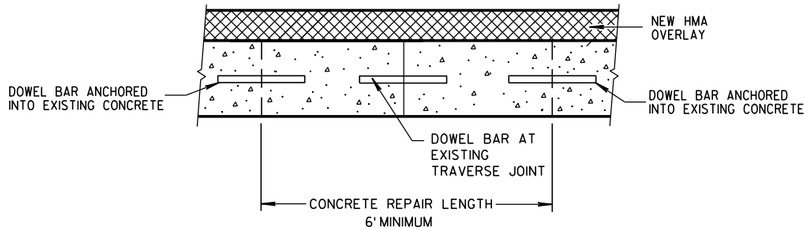
GENERAL NOTES

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



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

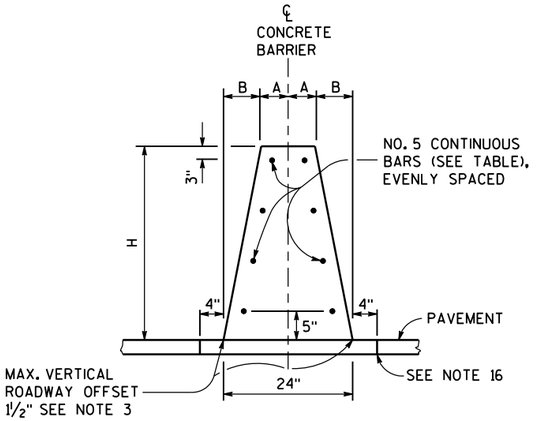


SECTION H-H

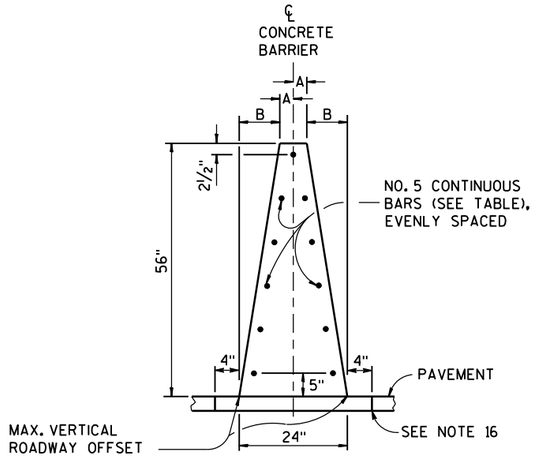
CONCRETE BASE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
12-11-2009 DATE	/S/ Deb Bischoff PAVEMENT POLICY & D366 INEER
FHWA	

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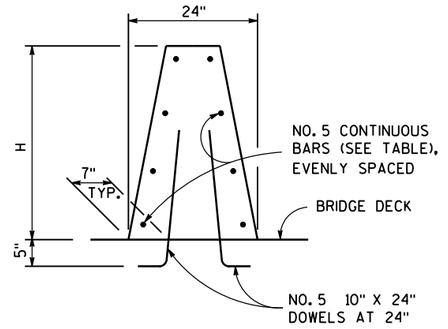
S.D.D. 13 C 15-5b



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



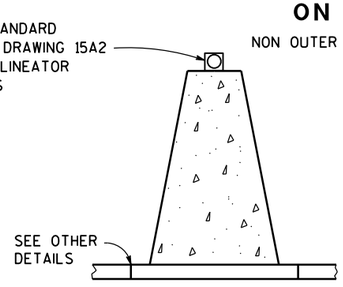
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



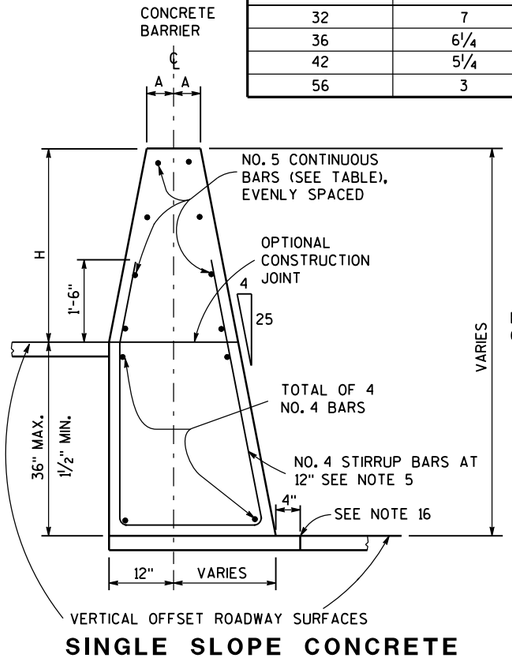
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

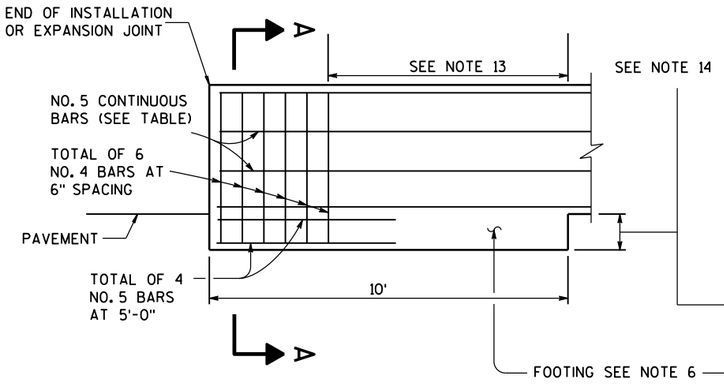
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



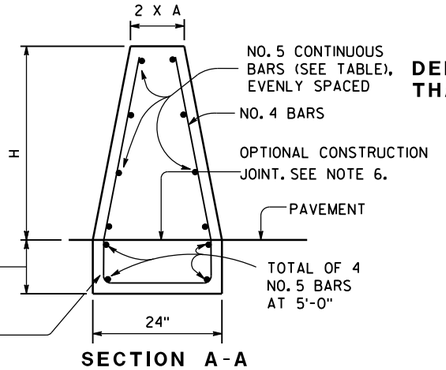
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



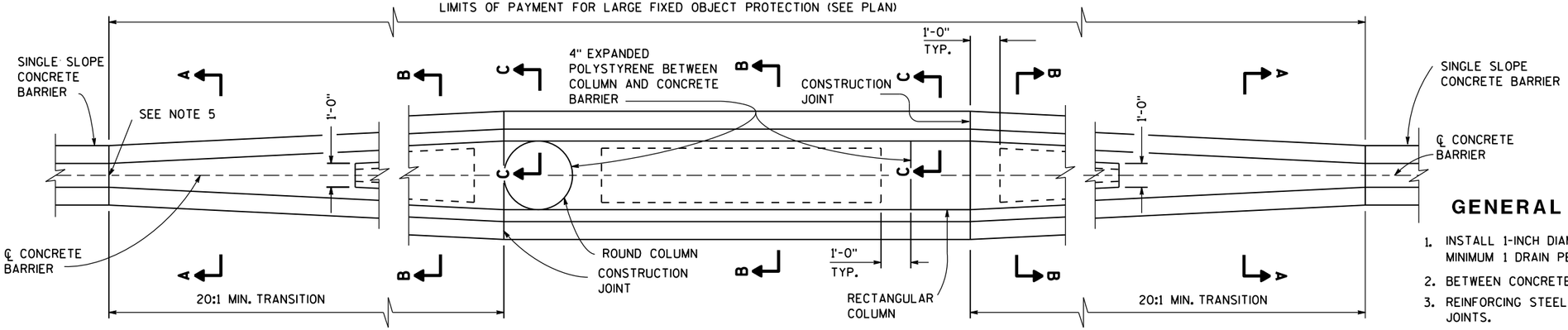
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

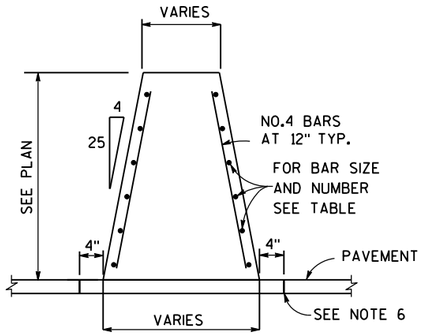
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

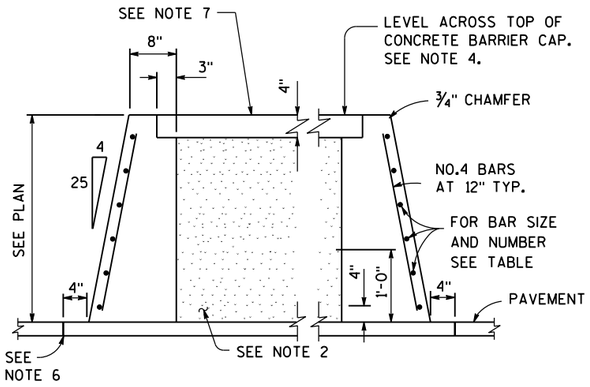
S.D.D. 14 B 32-3a



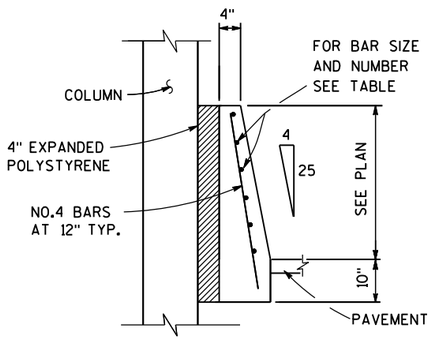
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



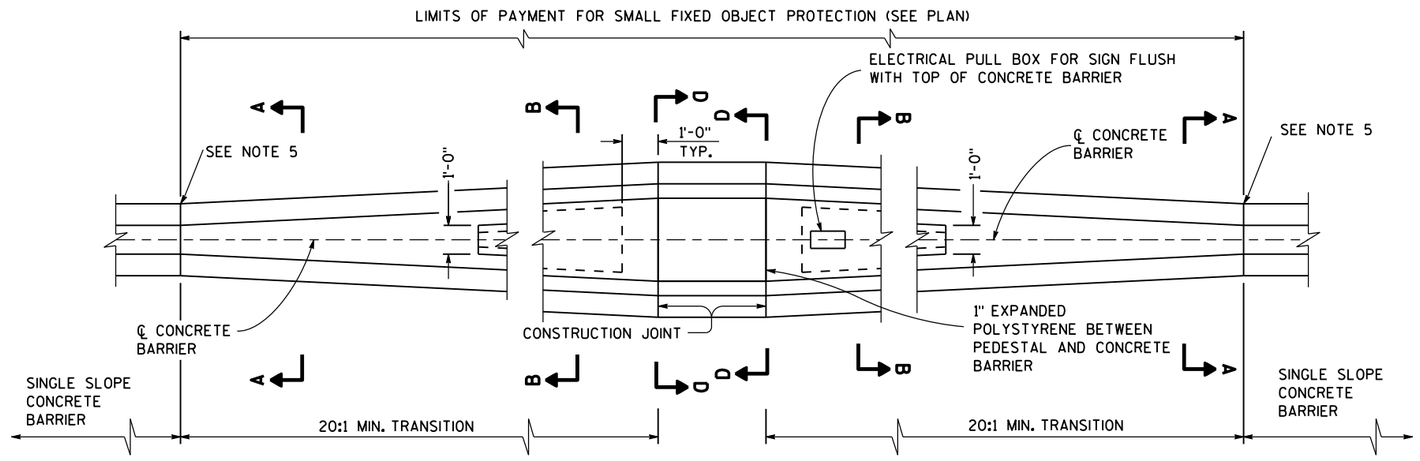
SECTION A-A



SECTION B-B



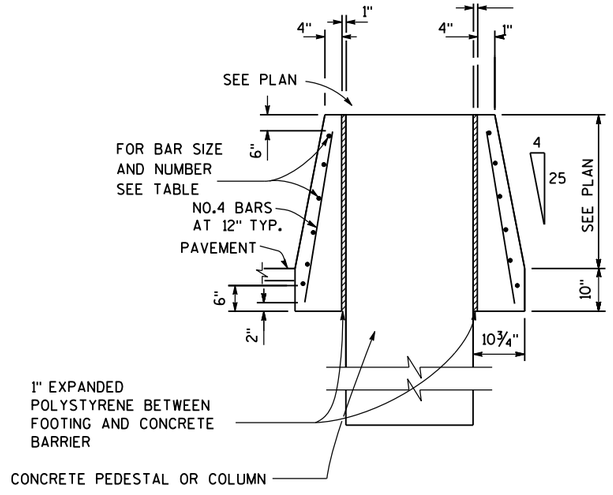
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

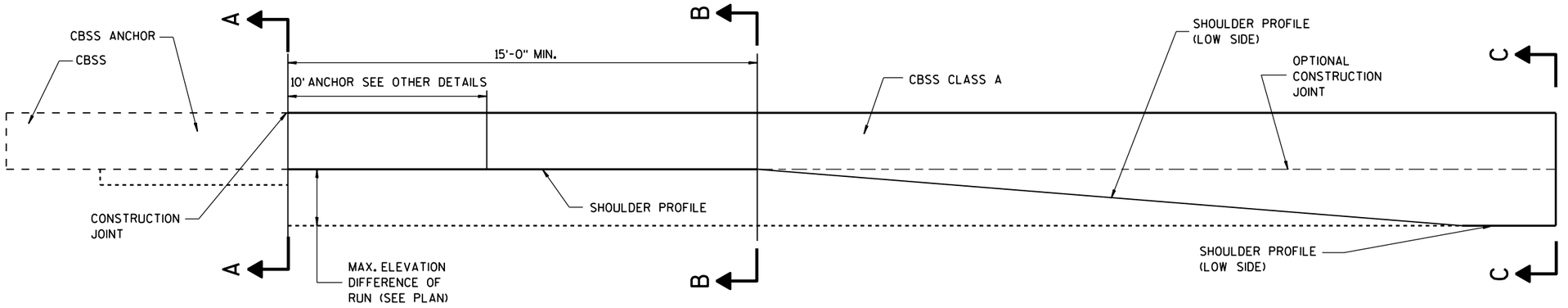
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

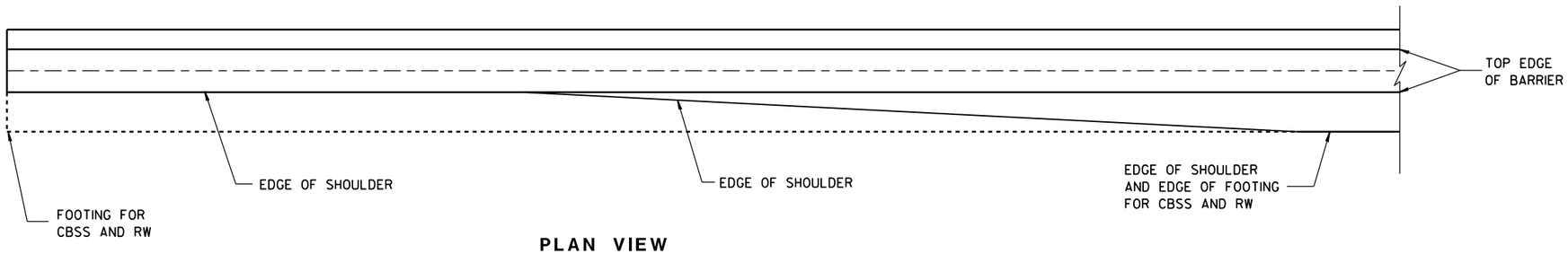
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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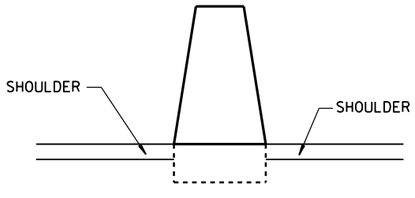
S.D.D. 14 B 32-3b



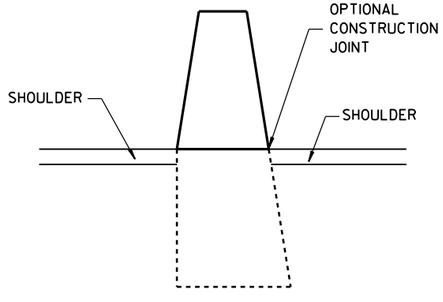
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



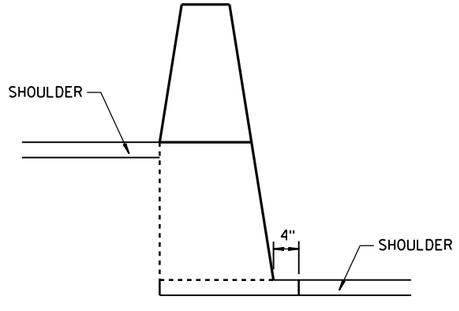
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



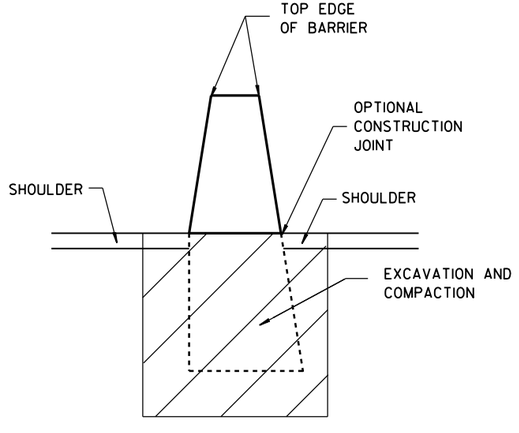
SECTION A-A



SECTION B-B



SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

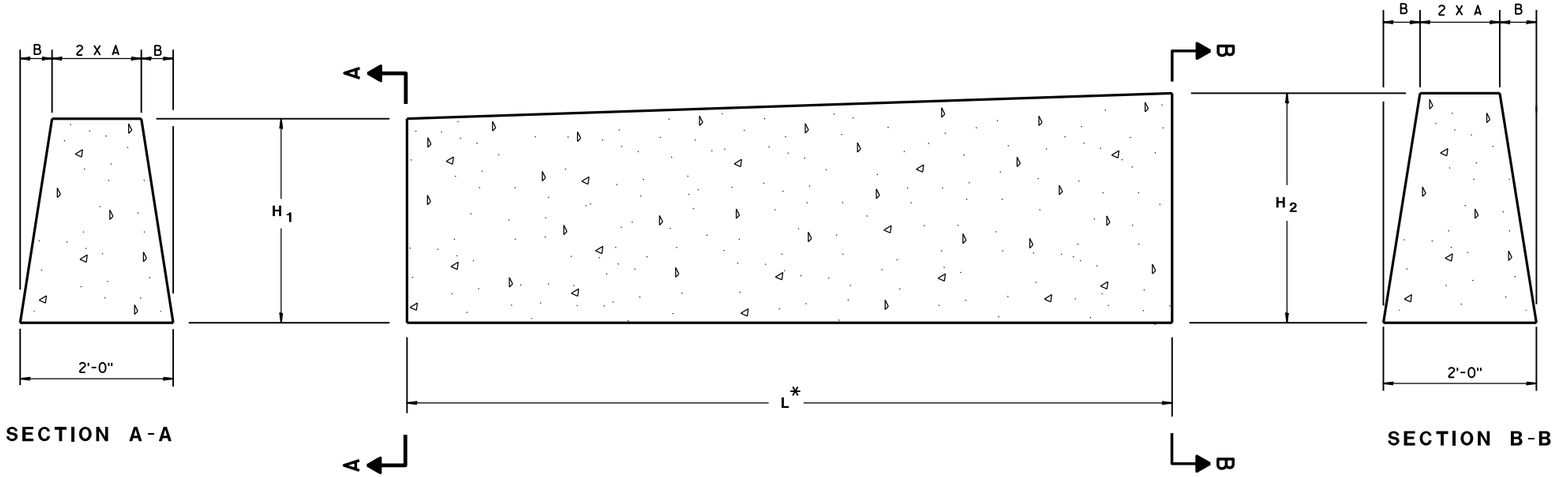
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 32-3c

6

S.D.D. 14 B 32-3c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

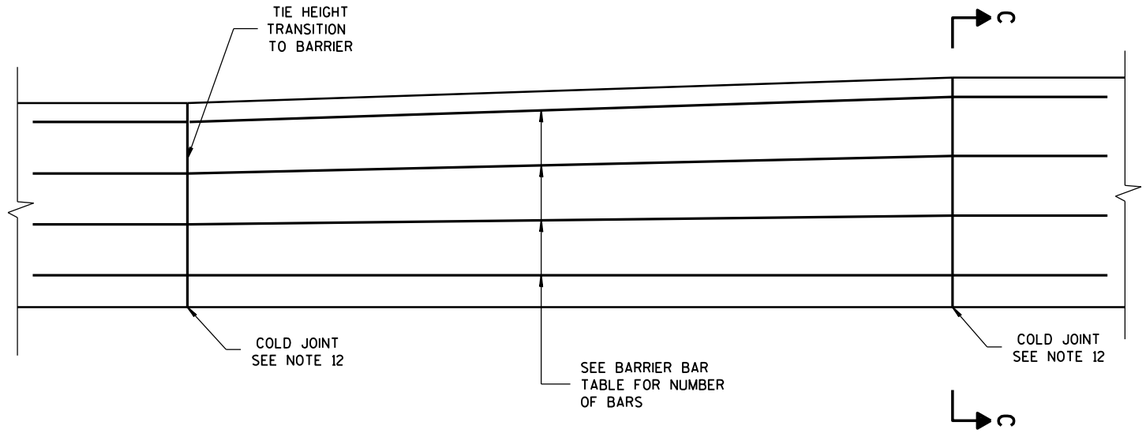
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

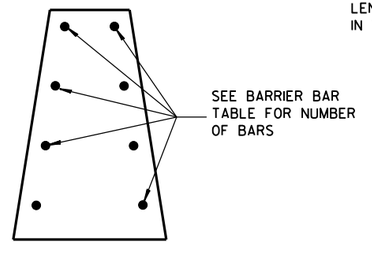
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

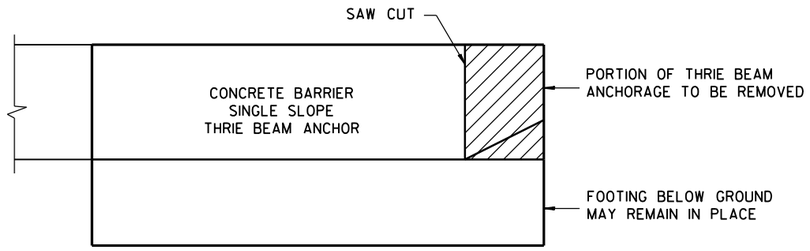
FHWA

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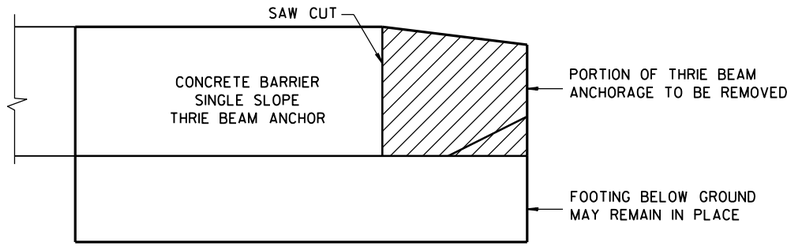
S.D.D. 14 B 32-3d

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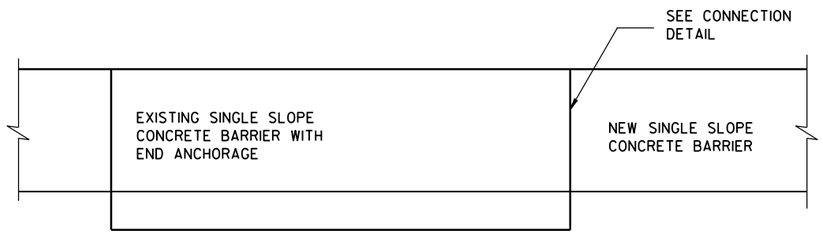
S.D.D. 14 B 32-3d



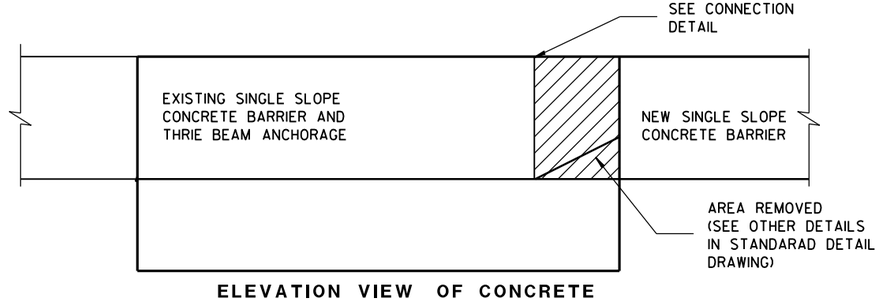
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



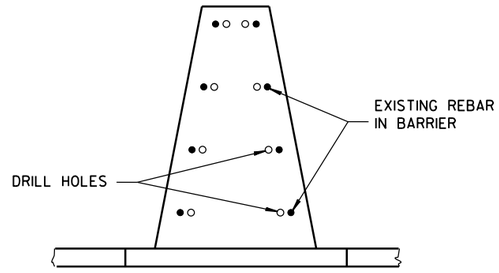
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



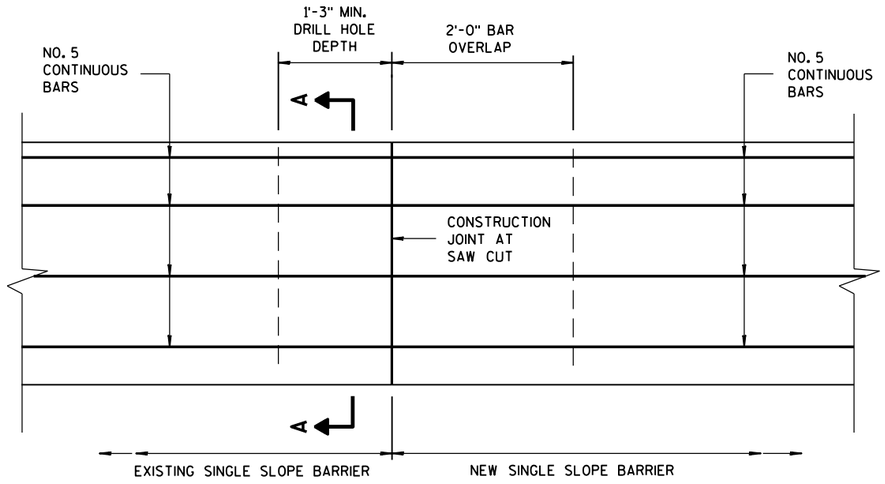
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



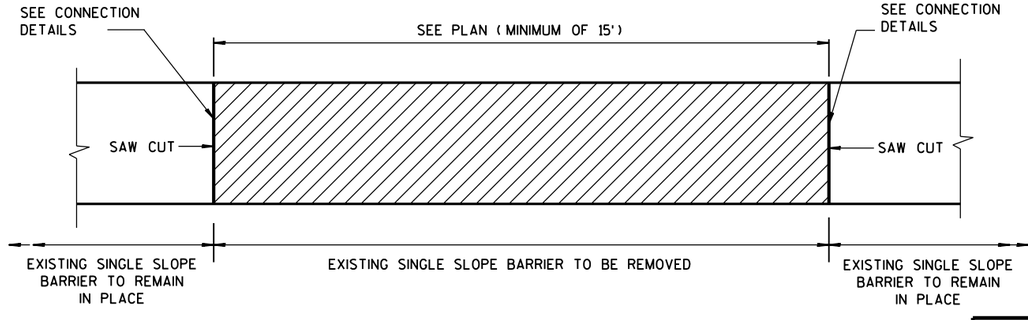
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

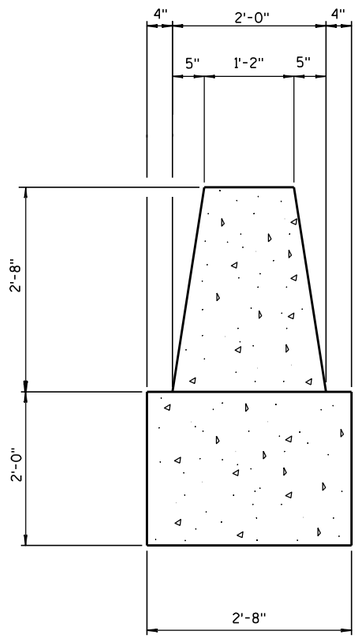
RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

6

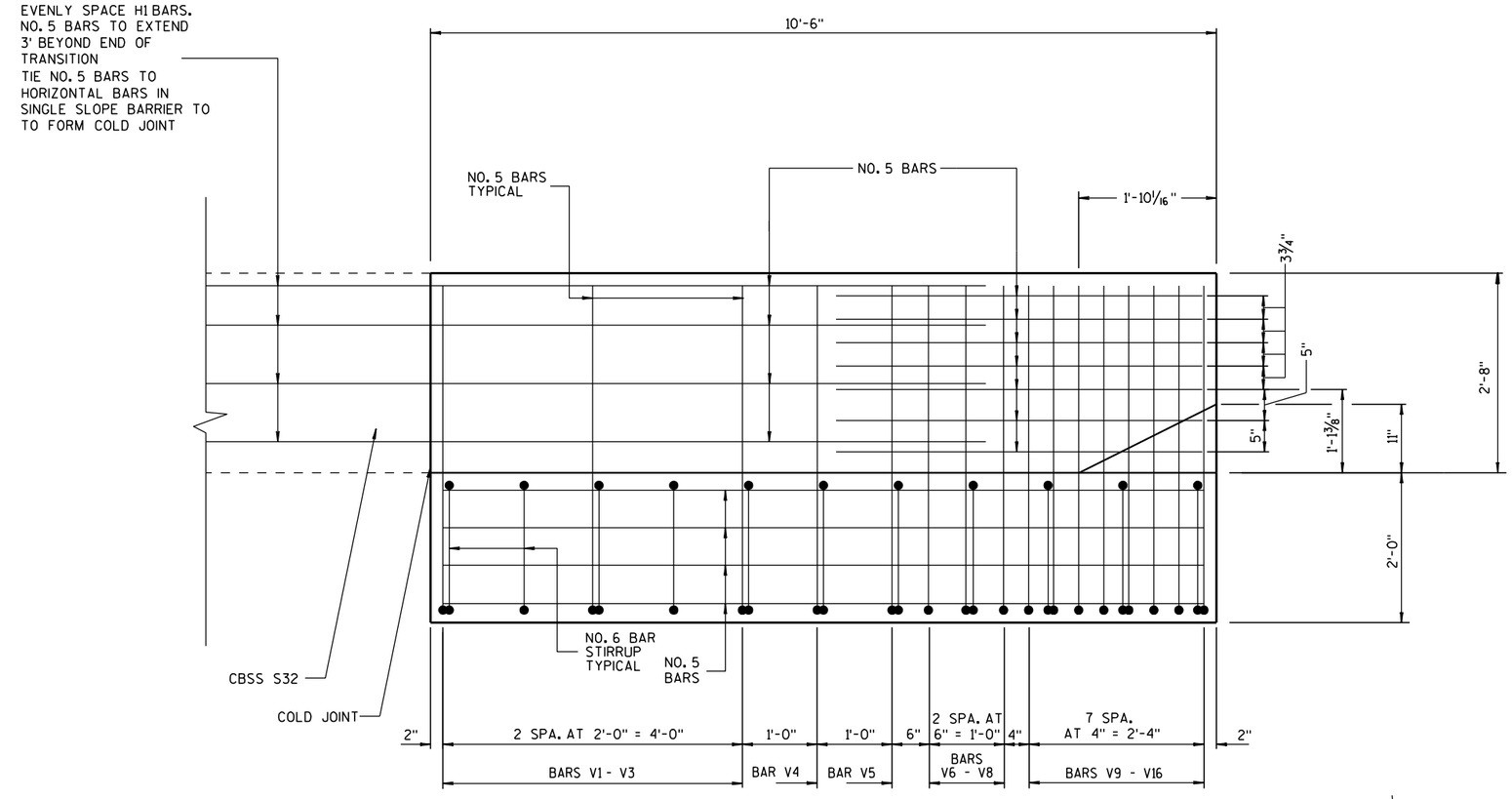
S.D.D. 14 B 32-3e

6

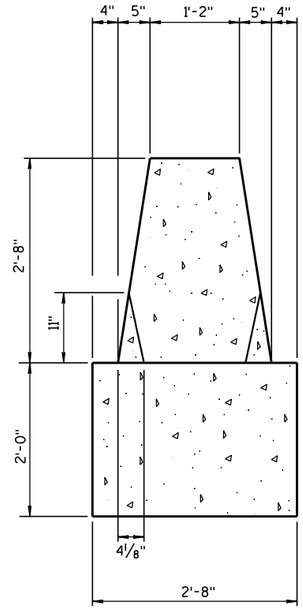
S.D.D. 14 B 32-3e



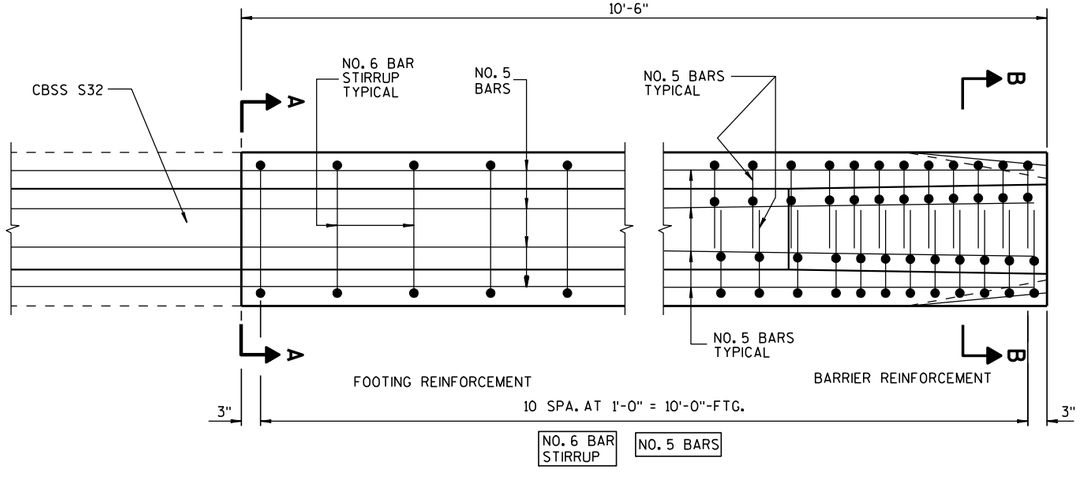
SECTION A-A



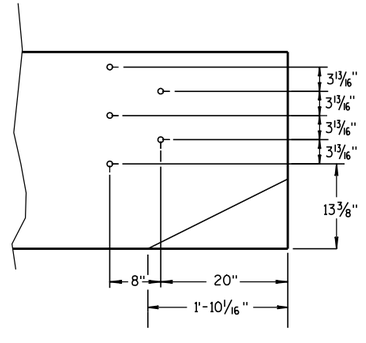
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS SECTION 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

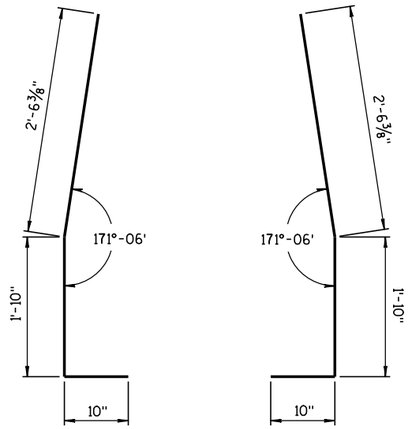
2" CLEAR COVER TYPICAL.

CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR

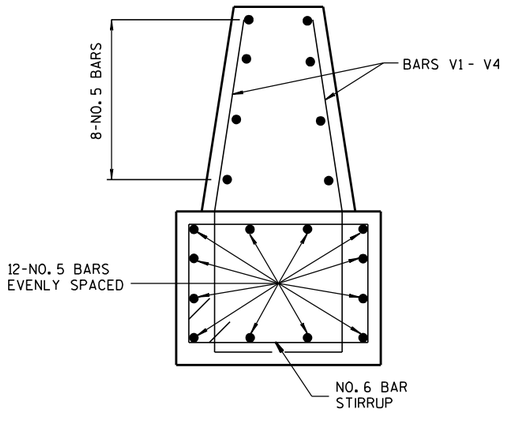
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

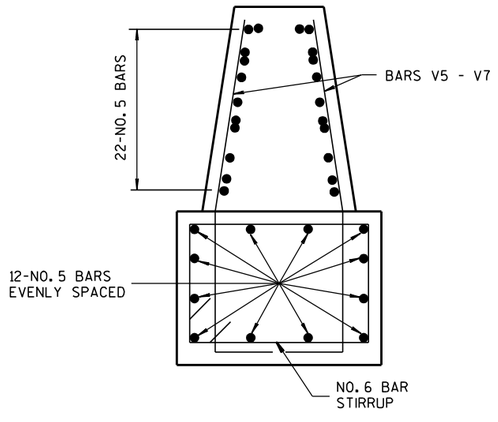
S.D.D. 14 B 33-1a



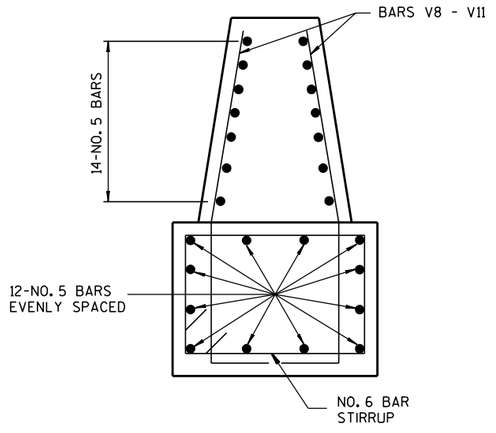
BAR BENDING DETAIL
FOR BARS V1 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

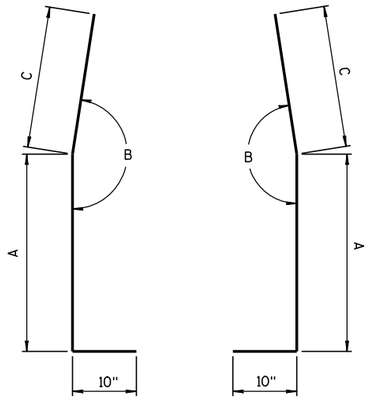
CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1b

BAR CHART
SECTIONS V12 - V13

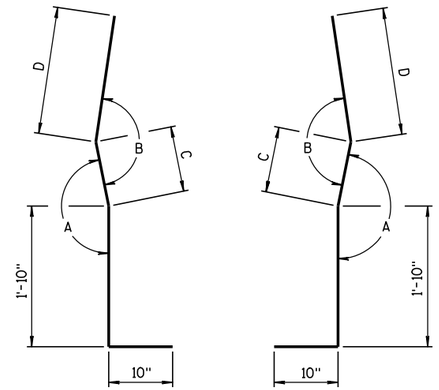
BAR	A	B	C
V12	2'-2"	171°-15'	2'-1 3/4"
V13	2'-7"	171°-05'	1'-9 3/8"



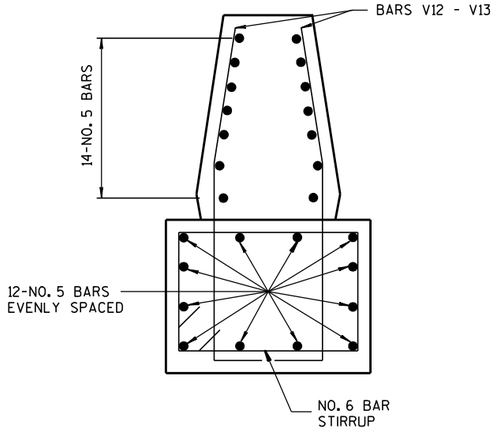
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

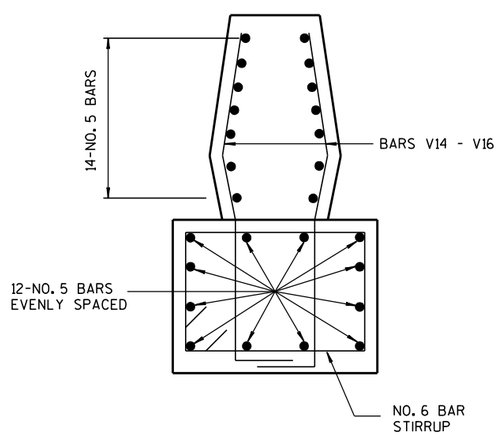
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



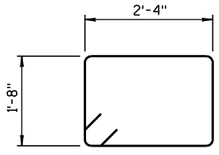
BAR BENDING DETAIL
FOR BARS V14 - V16



BAR DETAIL
SECTIONS 12 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zoss
ROADWAY STANDARDS ENGINEER

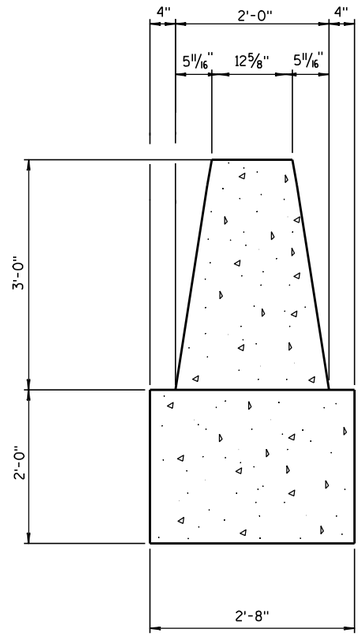
FHWA

6

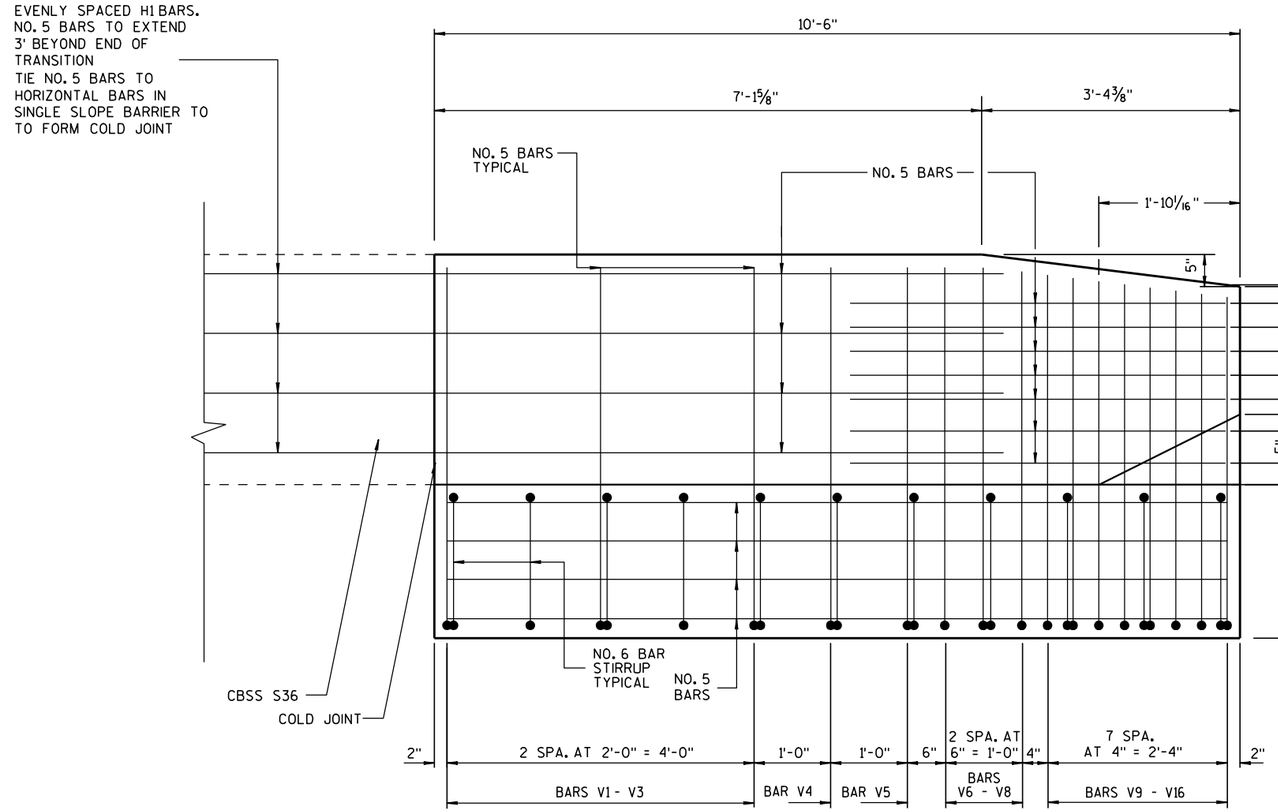
S.D.D. 14 B 33-1c

6

S.D.D. 14 B 33-1c

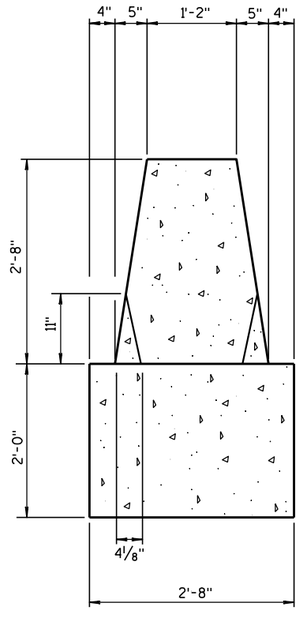


SECTION A-A

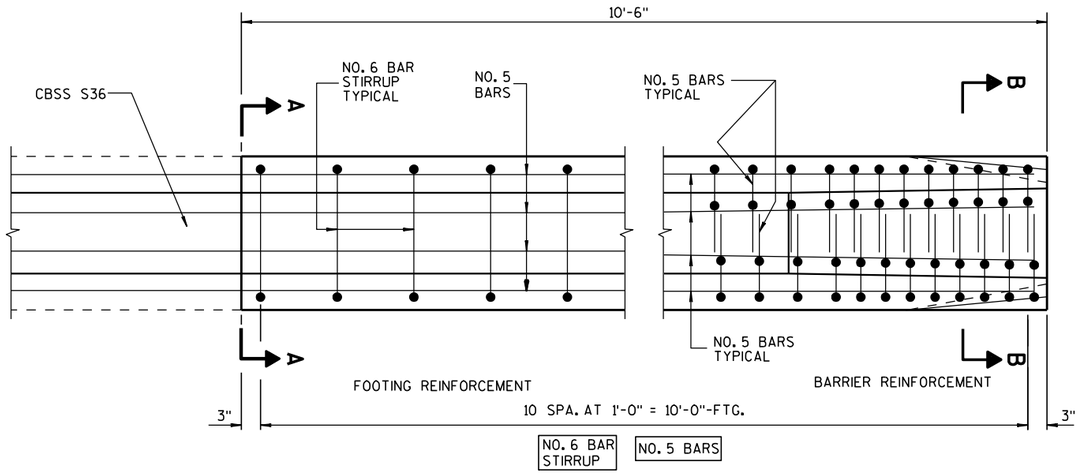


SEE SECTIONS (1) THRU (16)

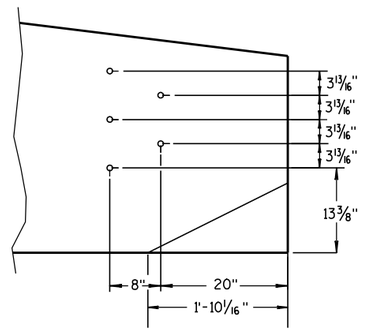
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

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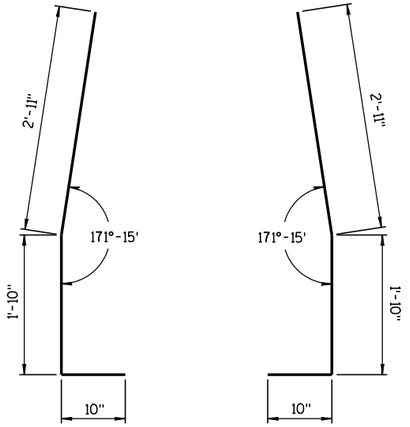
2" CLEAR COVER TYPICAL.

CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

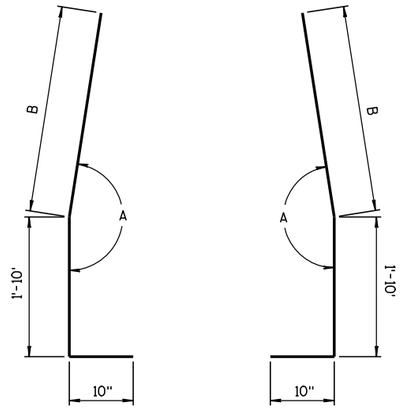
S.D.D. 14 B 33-1d



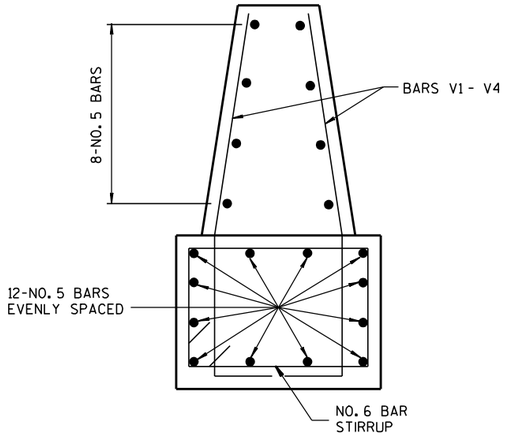
BAR BENDING DETAIL
FOR BARS V1 - V6

BAR CHART
SECTIONS V7 - V11

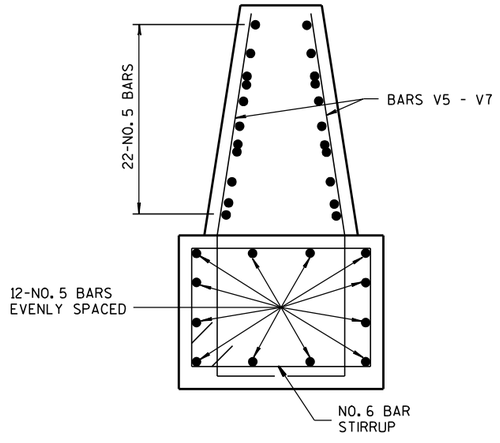
BAR	A	B
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



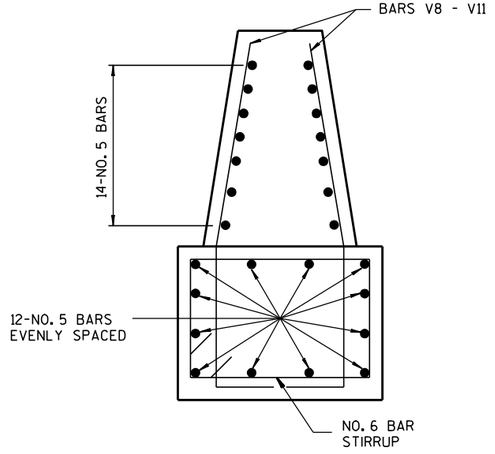
BAR BENDING DETAIL
FOR BARS V7 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

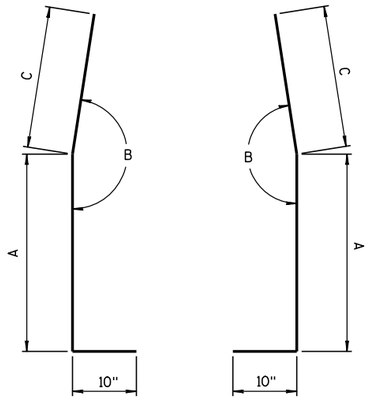
CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1e

BAR CHART
SECTIONS V12 - V13

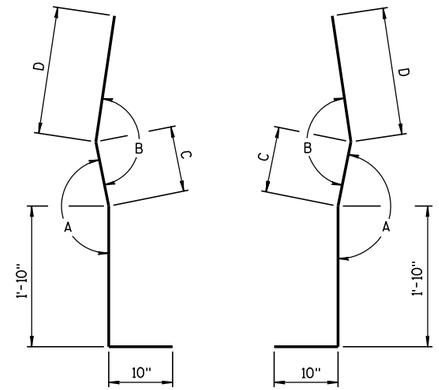
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



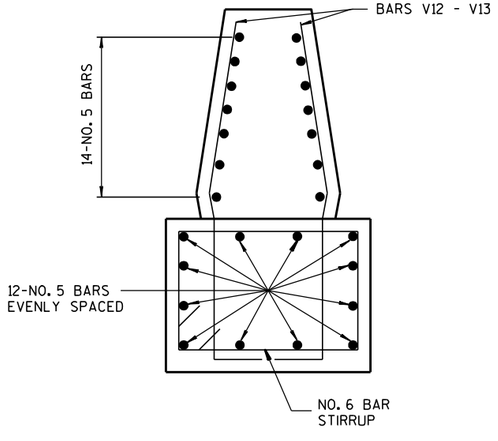
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

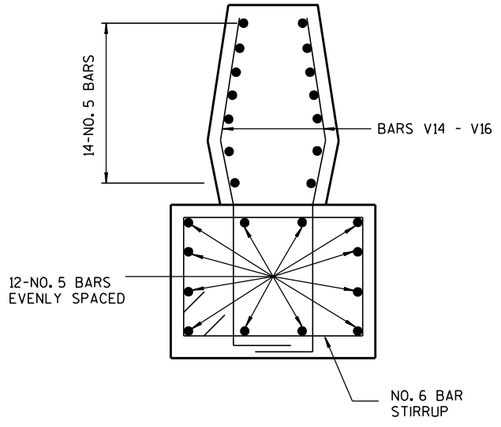
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



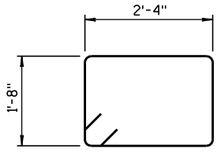
BAR BENDING DETAIL
FOR BARS V14 - V16



BAR DETAIL
SECTIONS 12 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

377

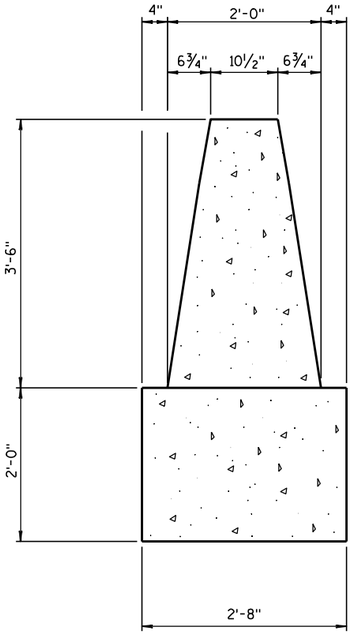
FHWA

6

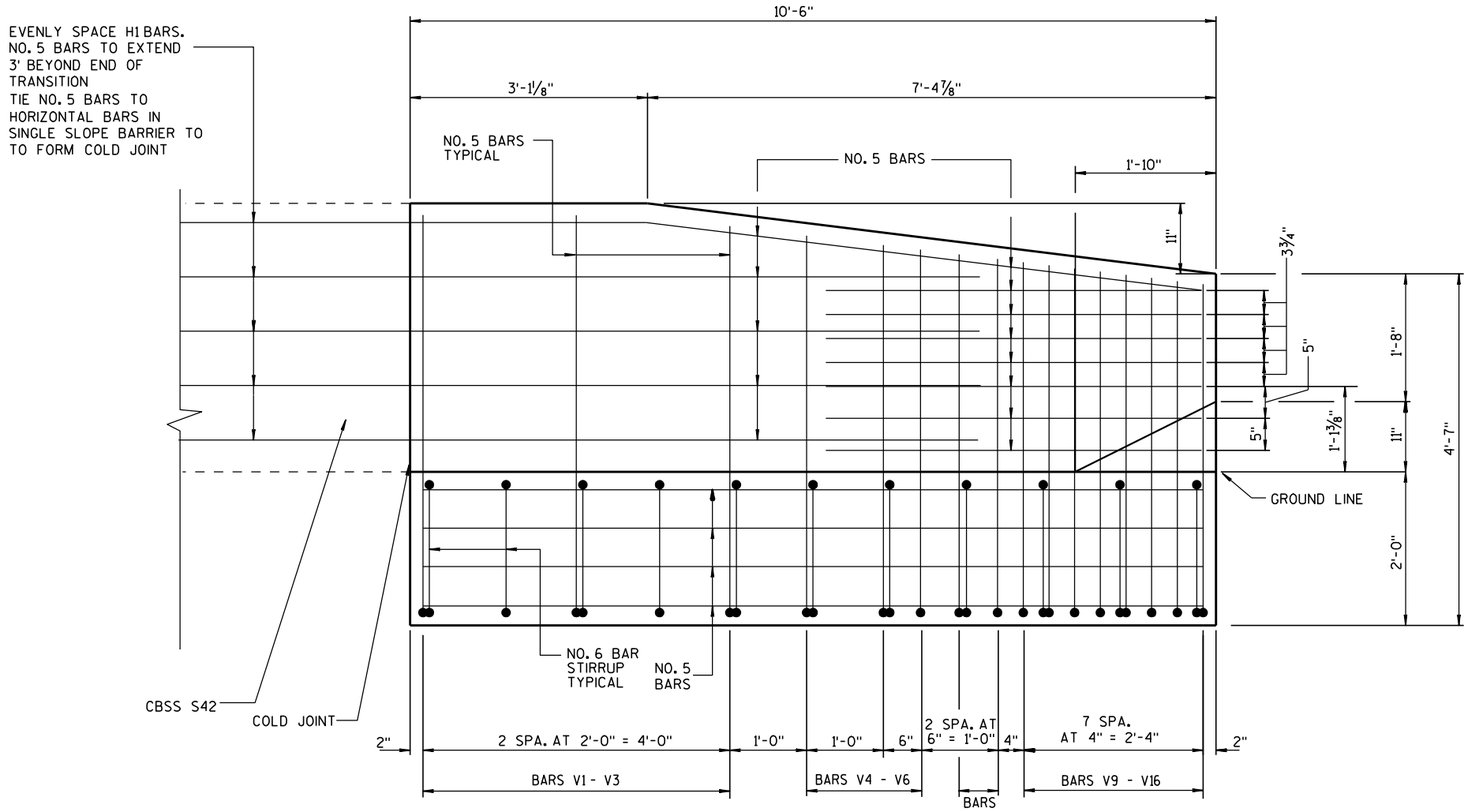
S.D.D. 14 B 33-1f

6

S.D.D. 14 B 33-1f

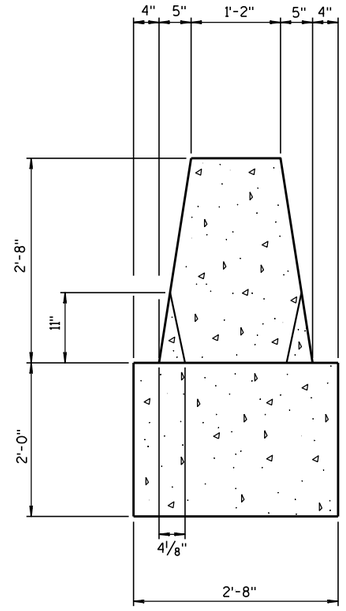


SECTION A-A

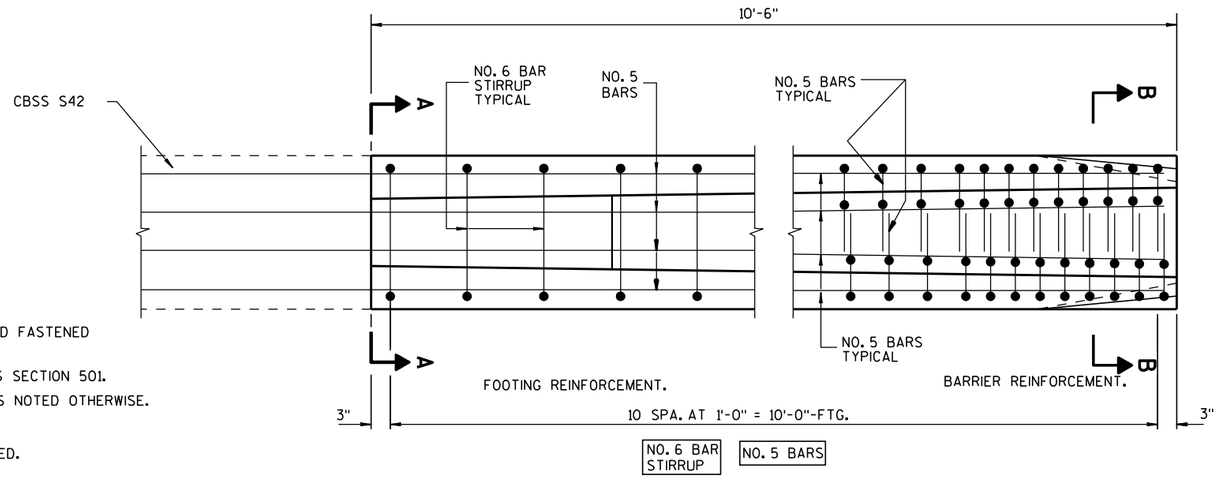


SEE SECTIONS ① THRU ⑯

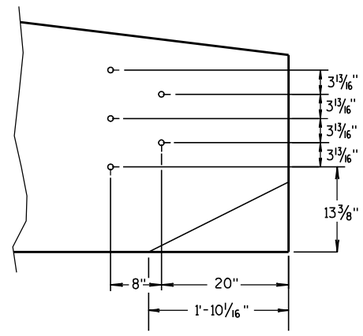
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

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THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

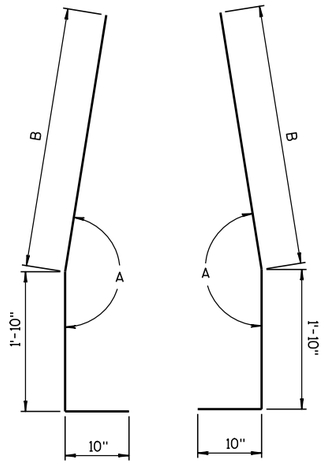
CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1g

BAR CHART
SECTIONS V1 - V11

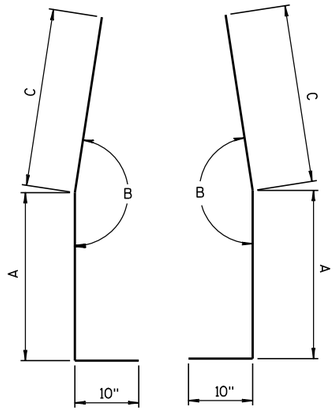
BAR	A	B
V1	170°-50'	3'-4½"
V2	171°-20'	3'-4½"
V3	171°-30'	3'-2½"
V4	171°-25'	3'-1½"
V5	171°-15'	3'-0"
V6	171°-15'	2'-11"
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



BAR BENDING DETAIL
FOR BARS V1 - V11

BAR CHART
SECTIONS V12 - V13

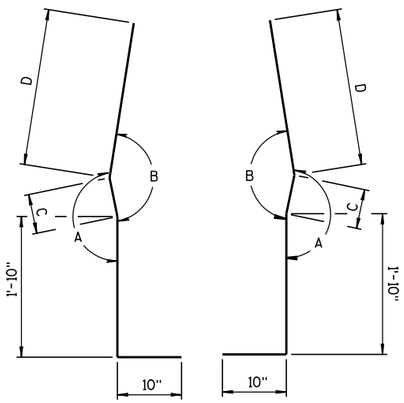
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



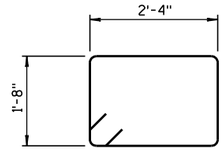
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

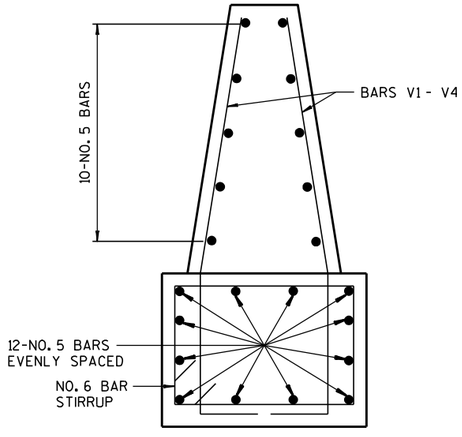
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



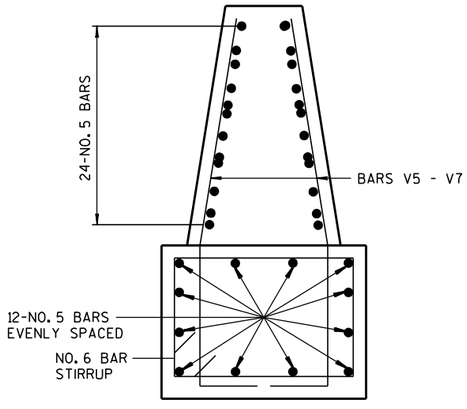
BAR BENDING DETAIL
FOR BARS V14 - V16



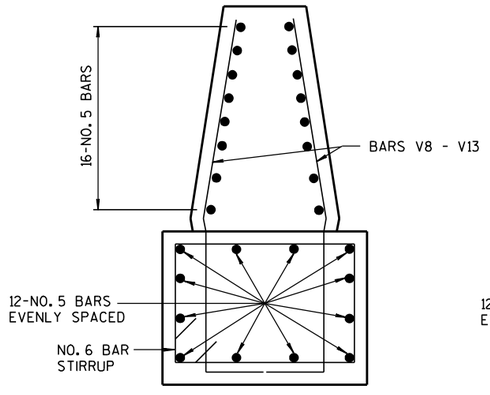
STIRRUP BAR
BENDING DETAIL



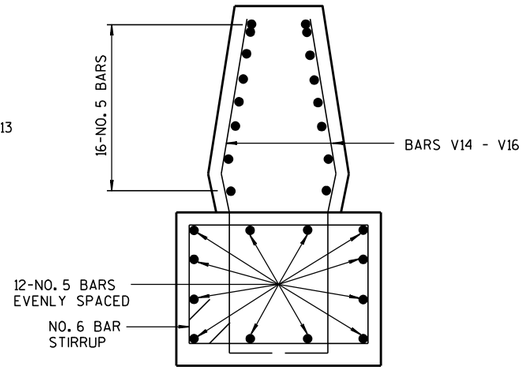
BAR DETAIL
SECTIONS V1 - V4



BAR DETAIL
SECTIONS V5 - V7



BAR DETAIL
SECTIONS V8 - V13



BAR DETAIL
SECTIONS V14 - V16

CONCRETE BARRIER
SINGLE SLOPE 42"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. Z--- ROADWAY STANDARDS ENGINEER
379
FHWA

6
S.D.D. 14 B 33-1h

GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

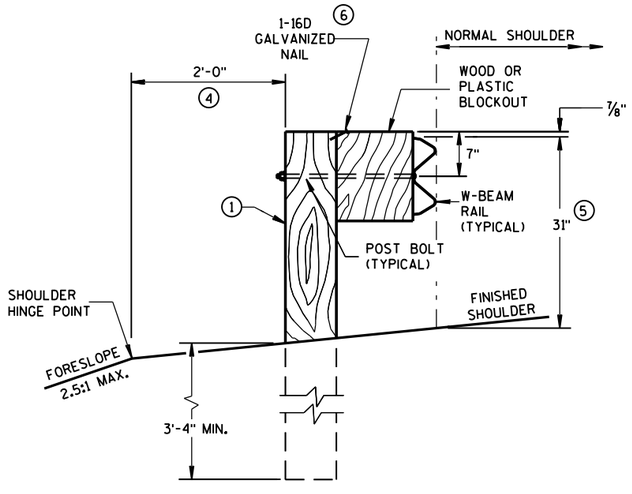
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

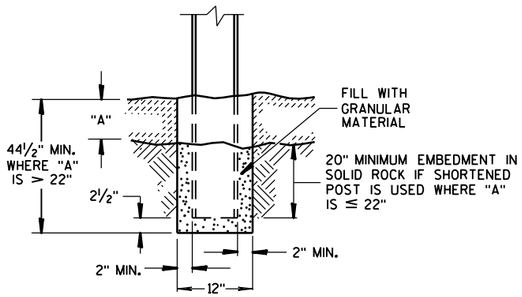
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



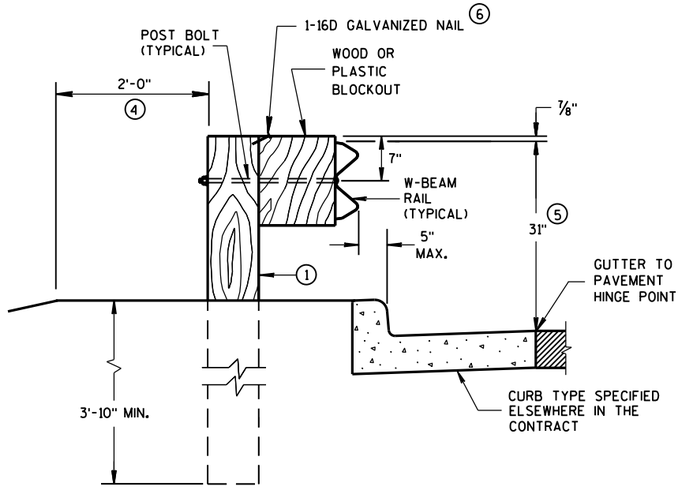
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



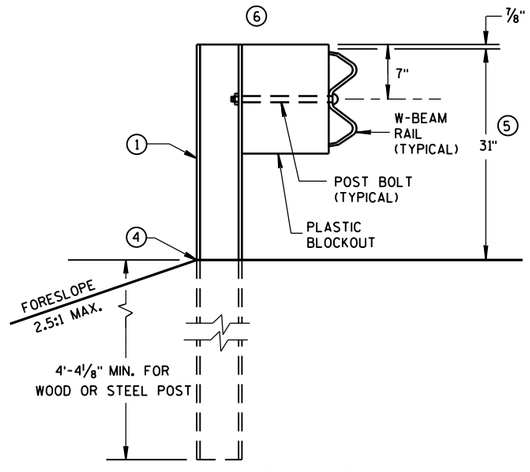
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



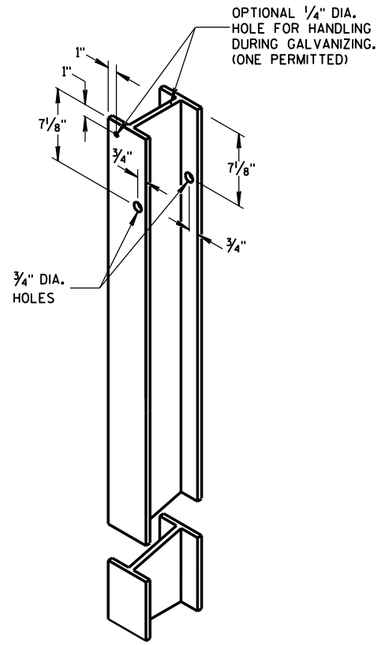
END VIEW

LOCATED ALONG A CURBED ROADWAY

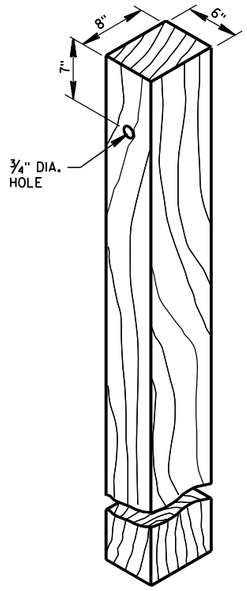


END VIEW

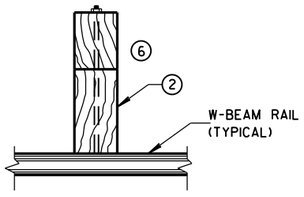
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



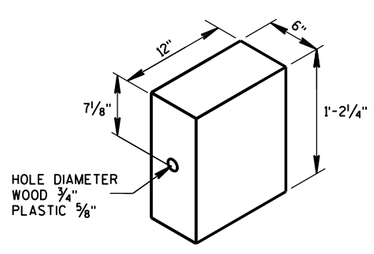
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



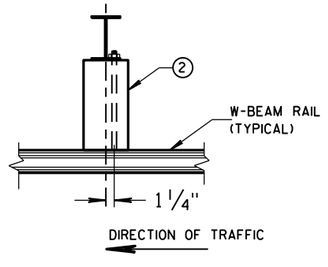
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

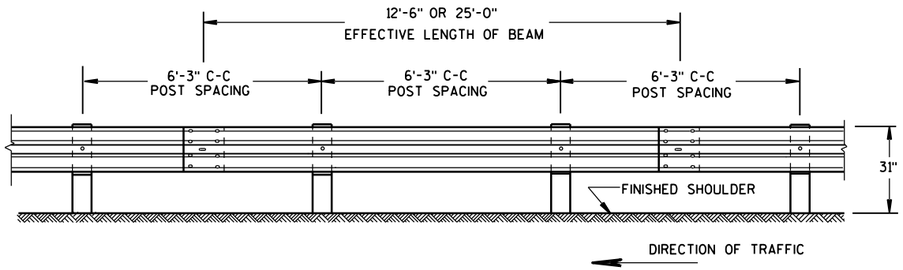


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

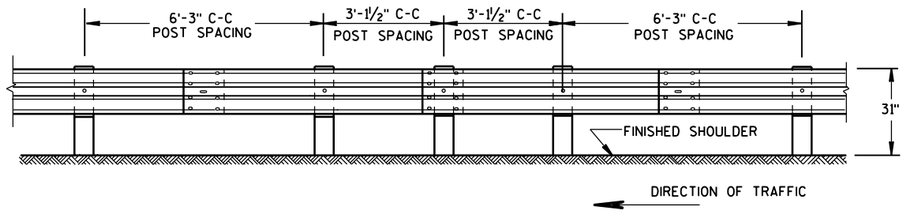
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 42-3a



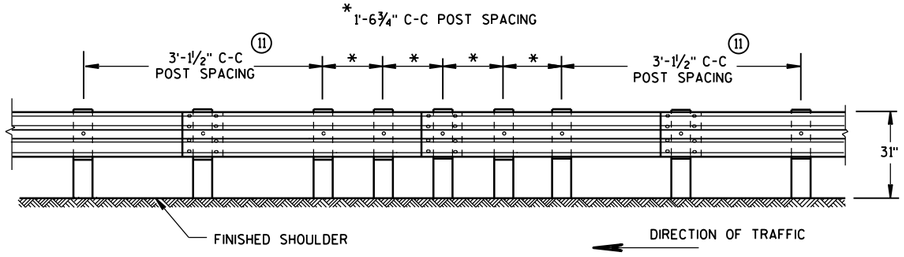
FRONT VIEW

POST SPACING STANDARD INSTALLATION



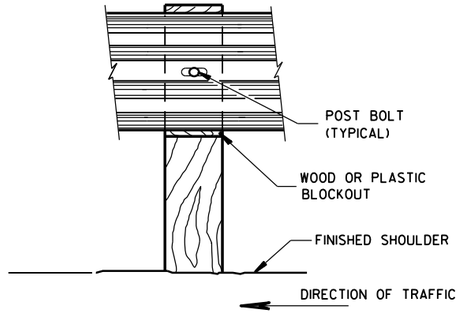
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

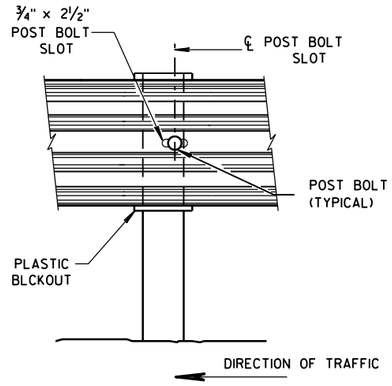


FRONT VIEW

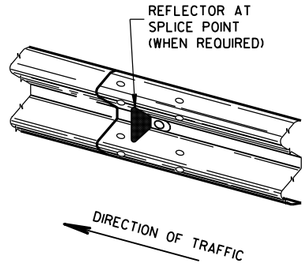
QUARTER POST SPACING (QS)

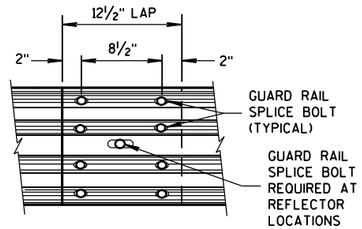


FRONT VIEW AT WOOD POST



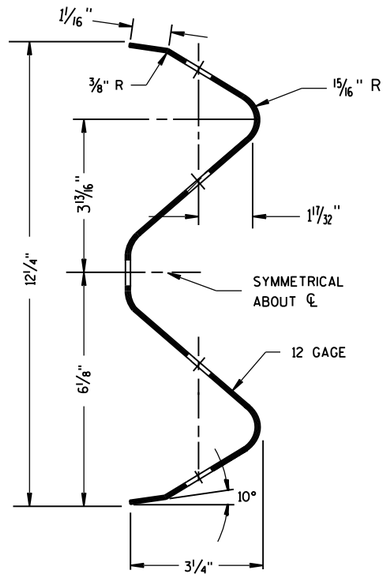
FRONT VIEW AT STEEL POST



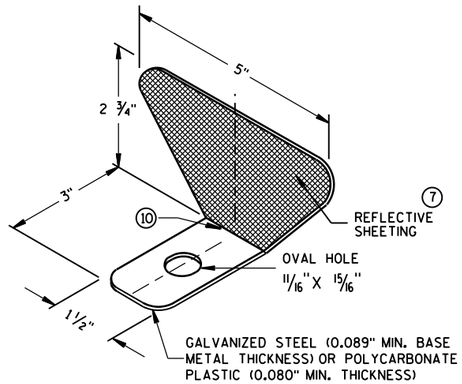


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

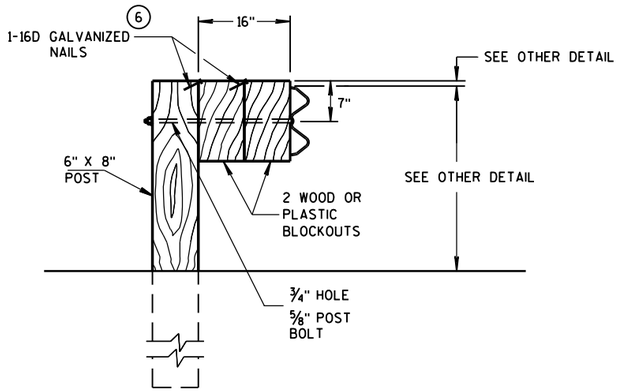
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

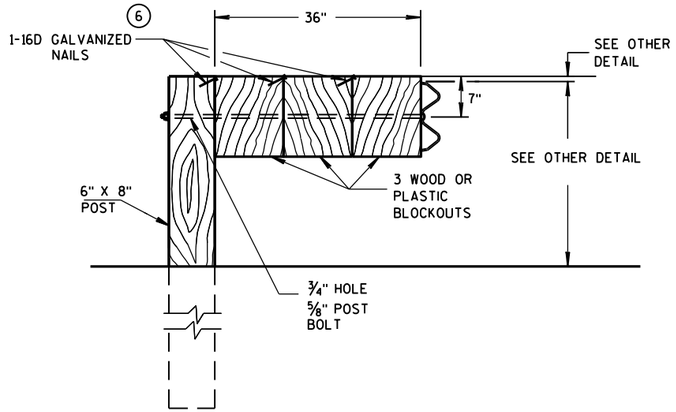
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

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

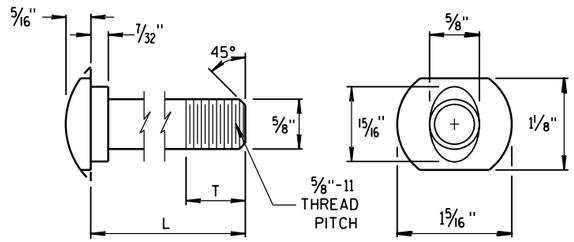


DETAIL FOR 36" BLOCKOUT DEPTH

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

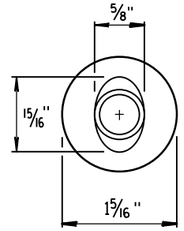
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

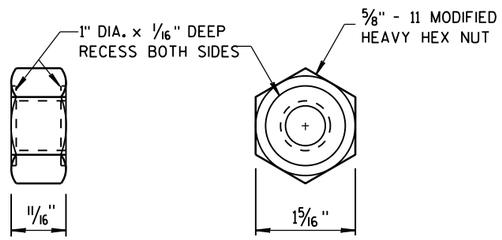


POST BOLT TABLE

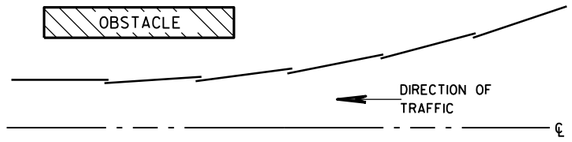
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

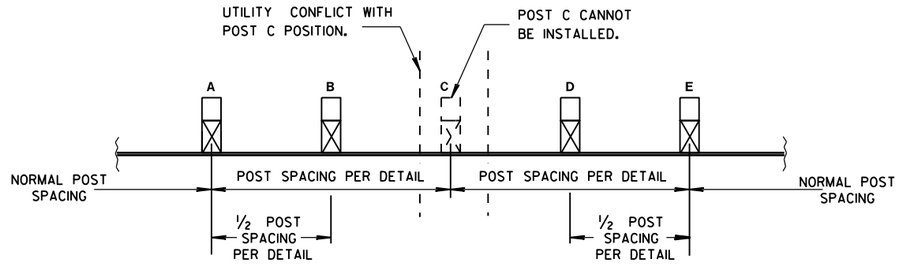


POST BOLT AND RECESS NUT

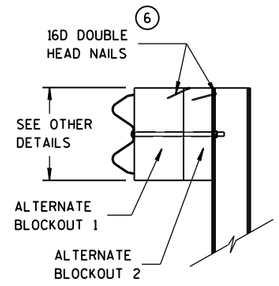


PLAN VIEW

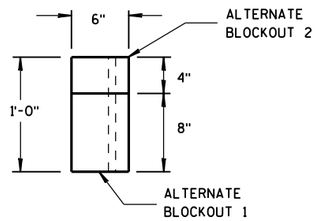
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

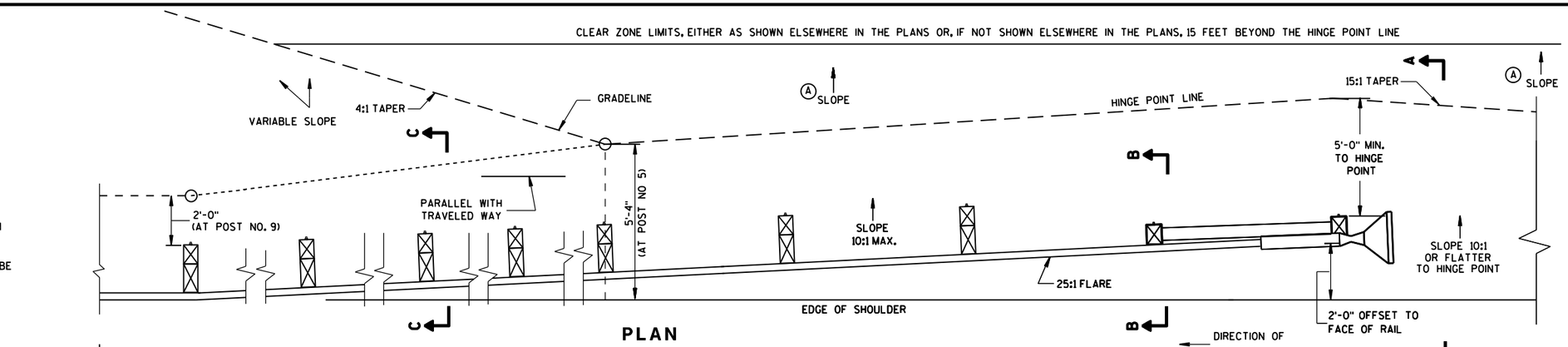
SEE SDD 14B42 FOR MORE INFORMATION.

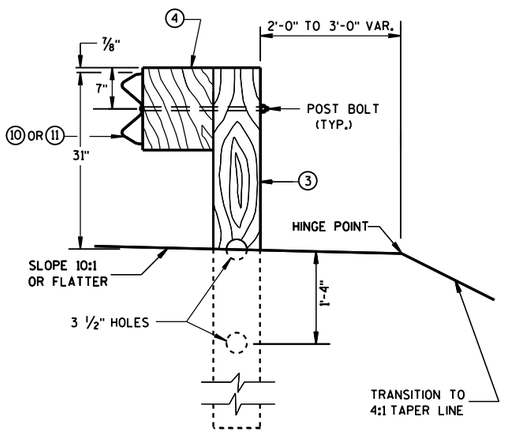
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

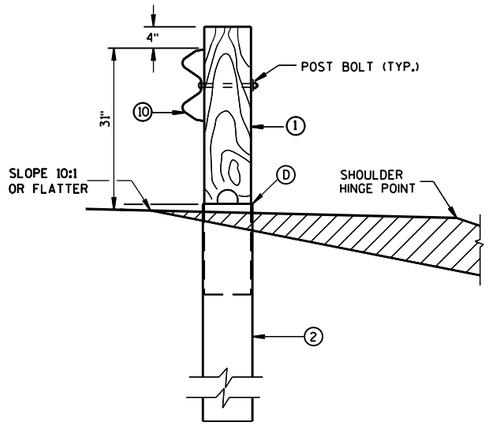
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

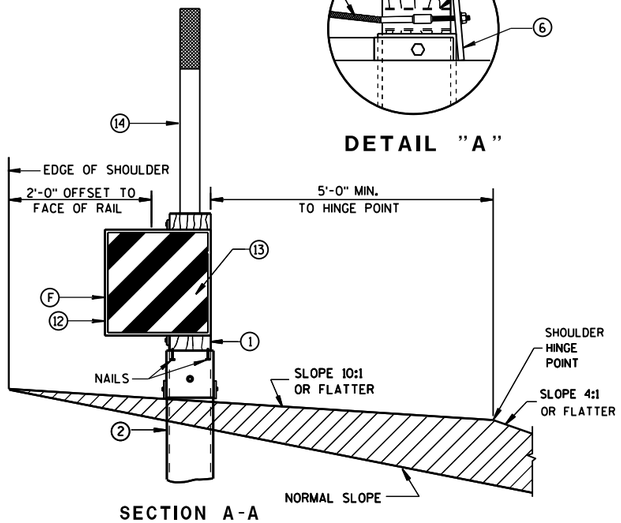




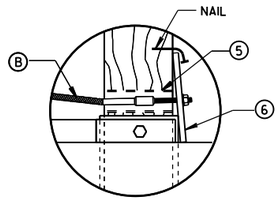
SECTION C-C
TYPICAL AT POST NOS. 3-9



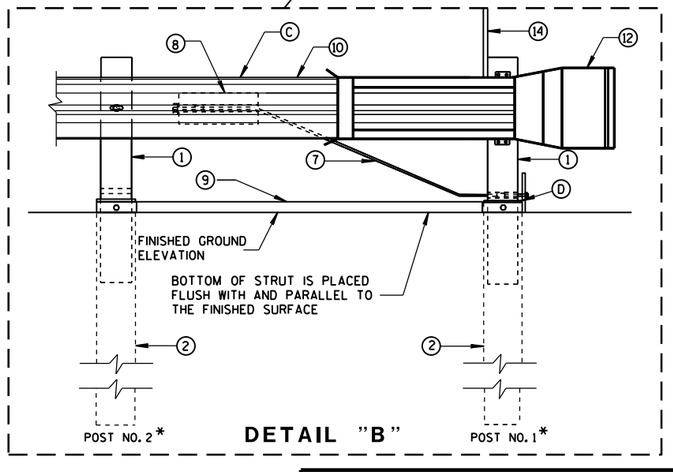
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



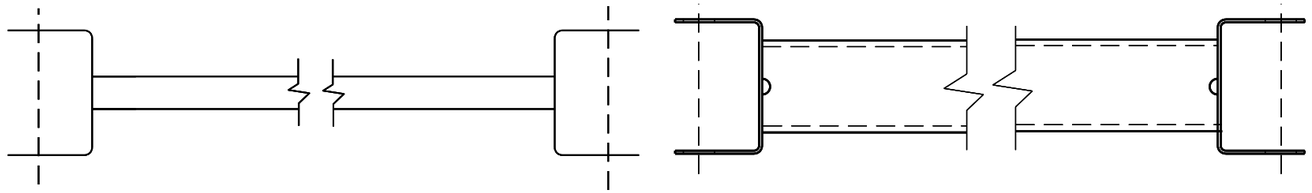
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

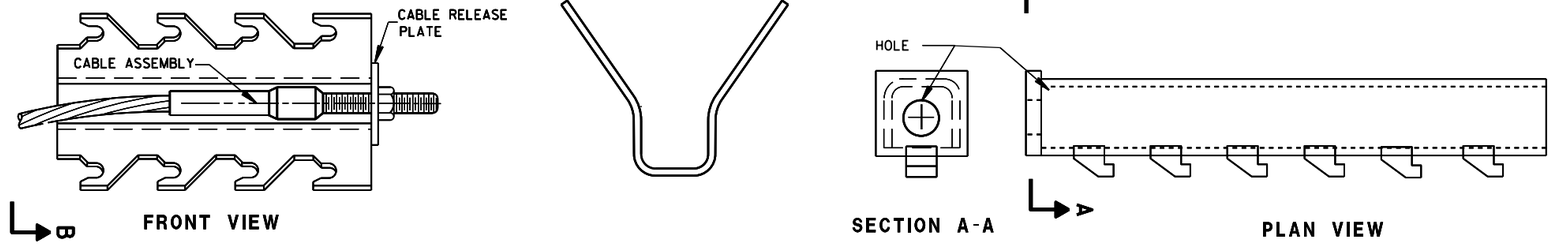
S.D.D. 14 B 44-2a



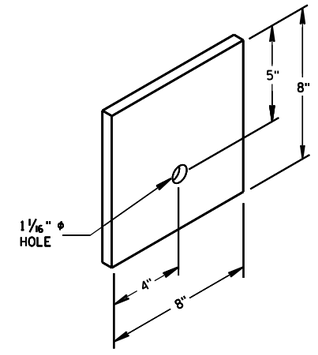
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

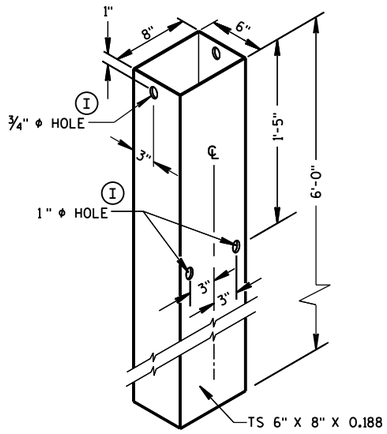


BEARING PLATE (6)

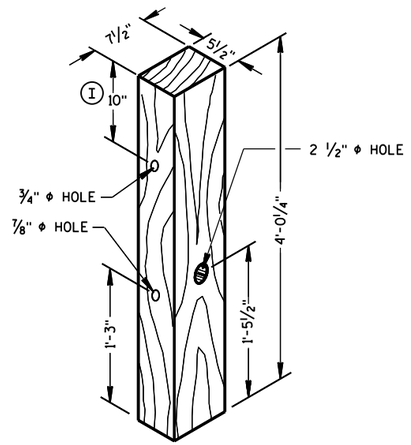
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 44-2b

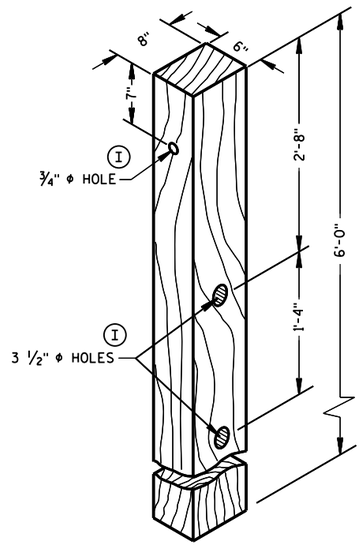


FOUNDATION TUBE (2)



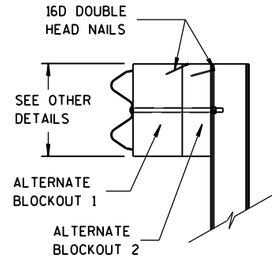
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

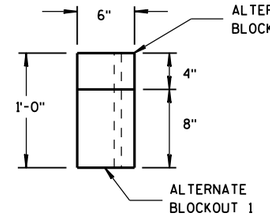


POSTS NUMBER 3-9

WOOD CRT POST (3)

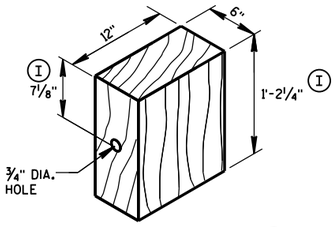


SIDE VIEW



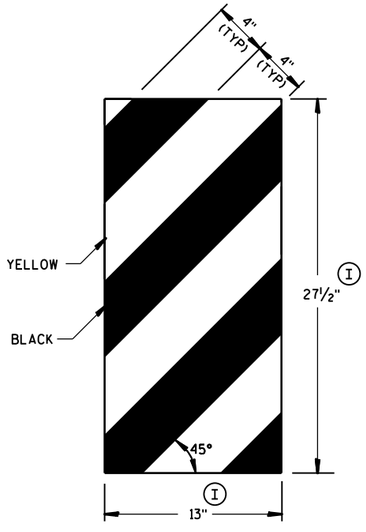
TOP VIEW

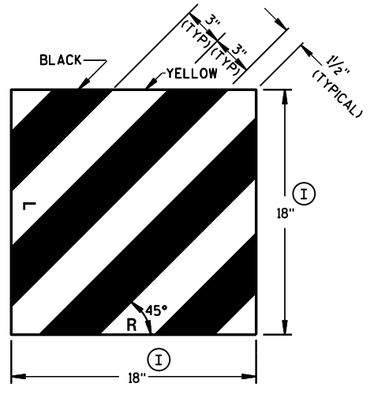
ALTERNATE WOOD BLOCKOUT DETAIL



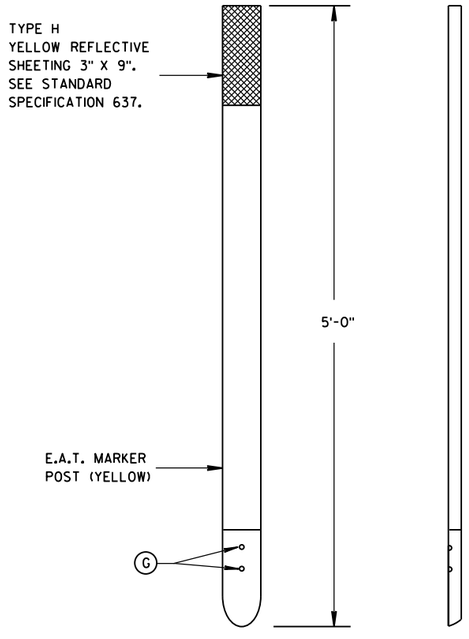
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





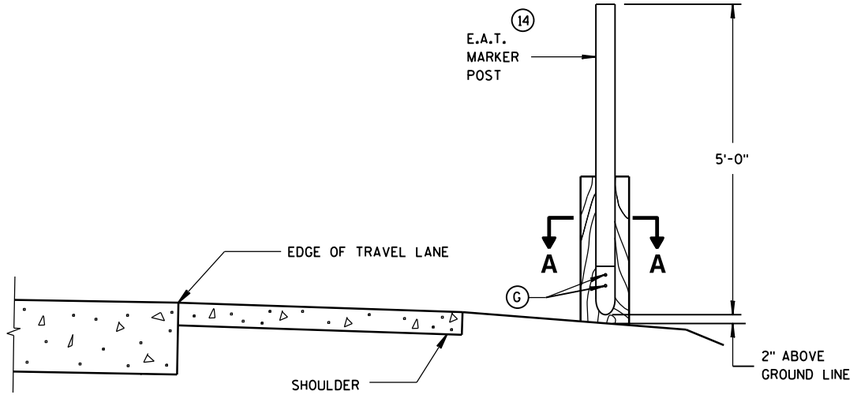
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

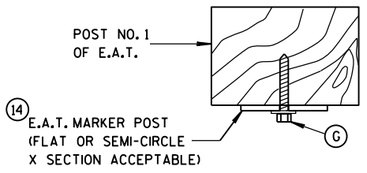
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

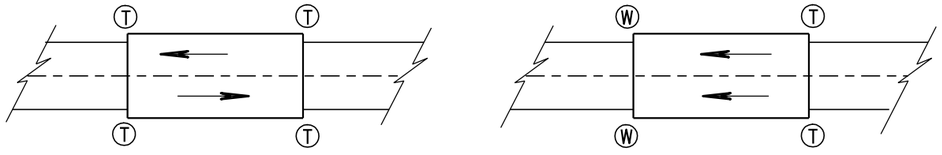
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

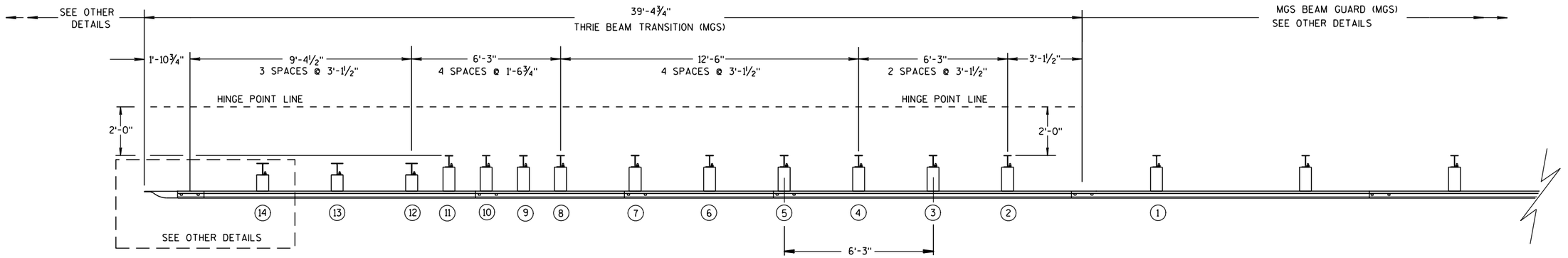
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

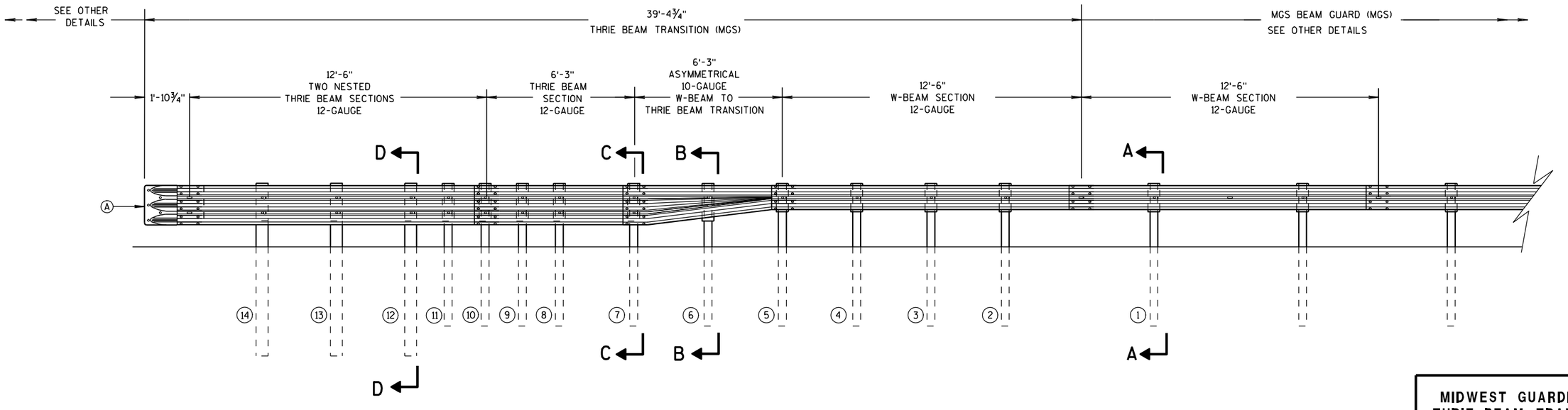
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

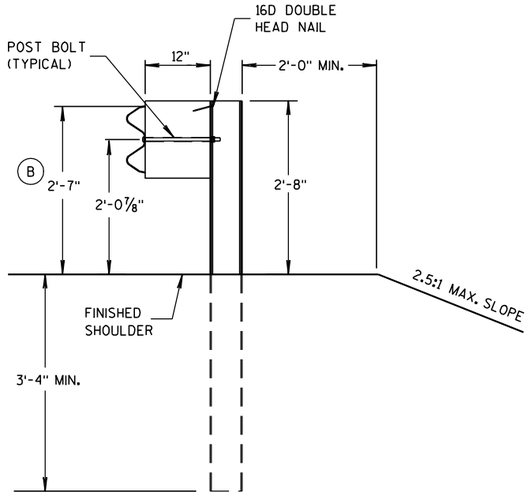
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

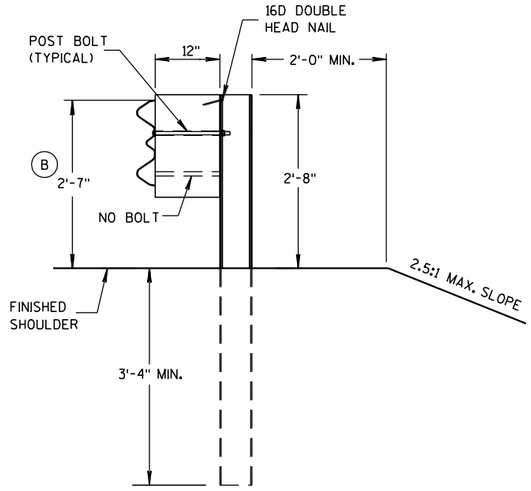
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



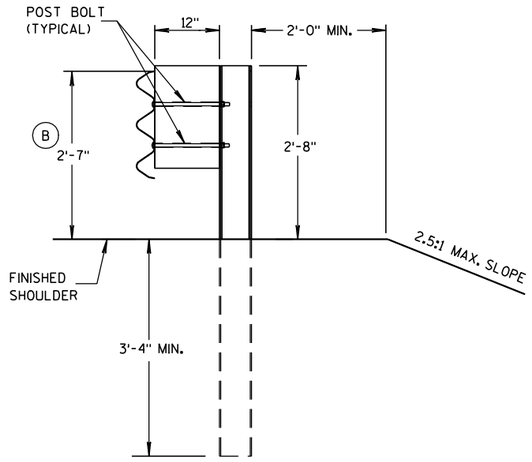
SECTION A-A

POSTS 1-5



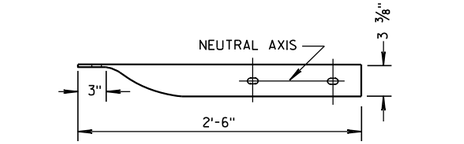
SECTION B-B

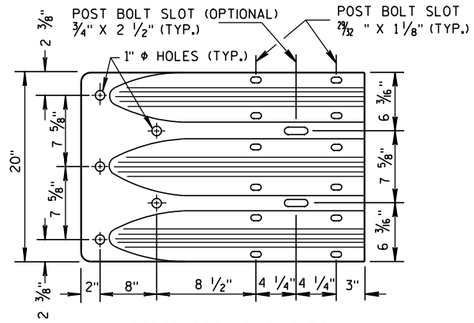
POST 6



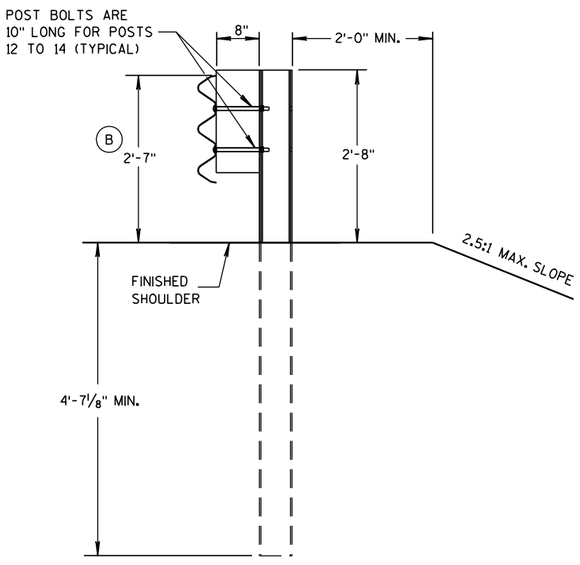
SECTION C-C

POSTS 7-11



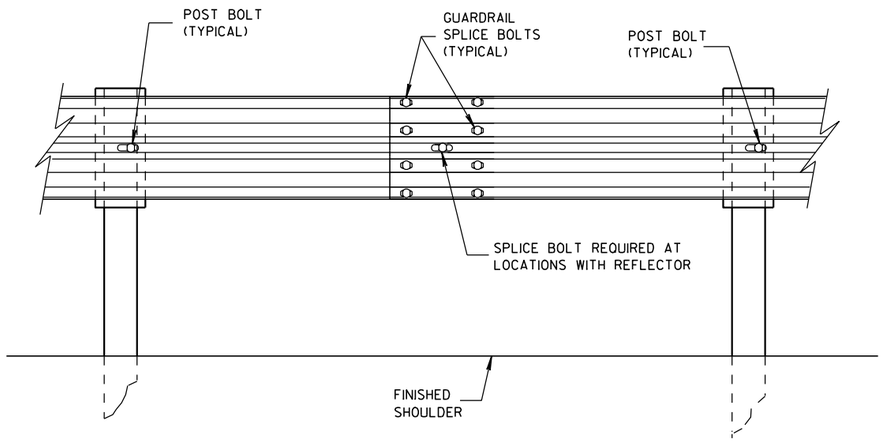


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14



SPLICE DETAIL

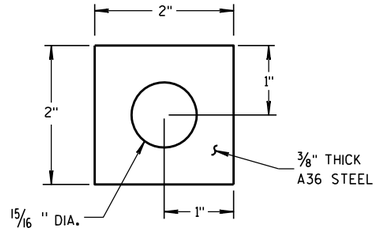
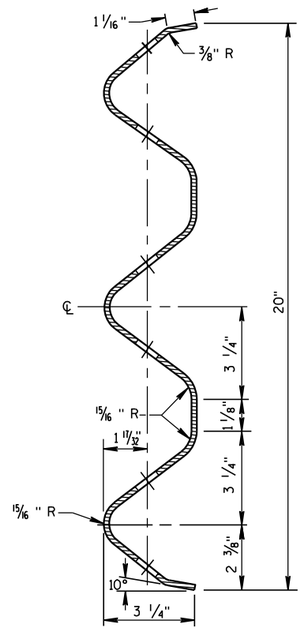


PLATE WASHER DETAIL



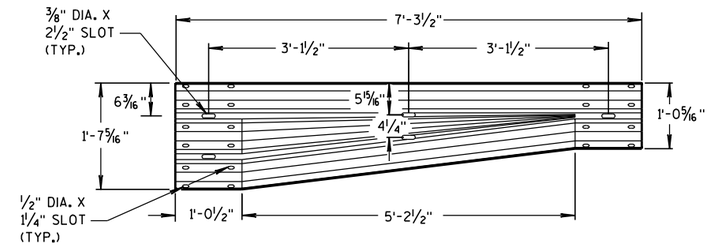
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

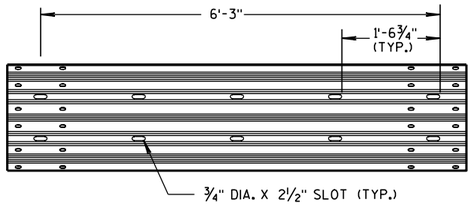
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

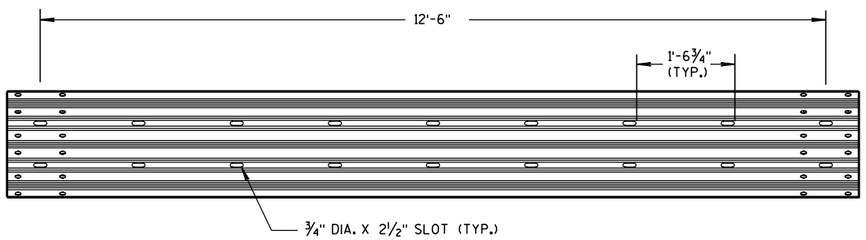
S.D.D. 14 B 45-3b



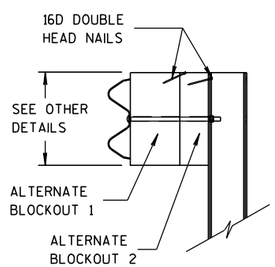
W-BEAM TO THRIE BEAM TRANSITION SECTION



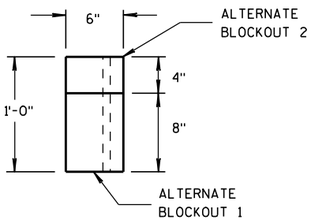
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

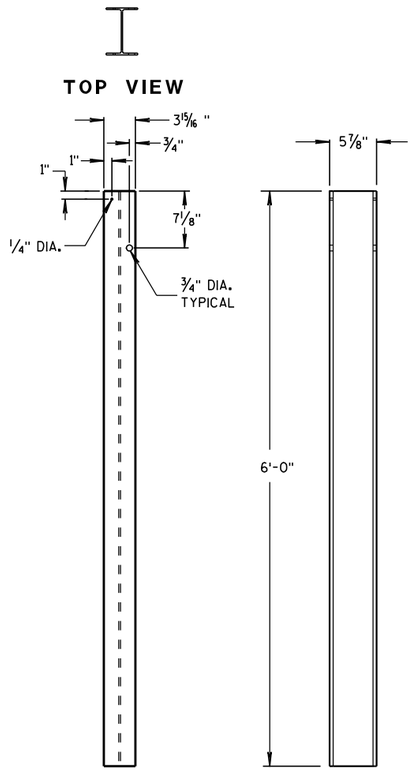


SIDE VIEW

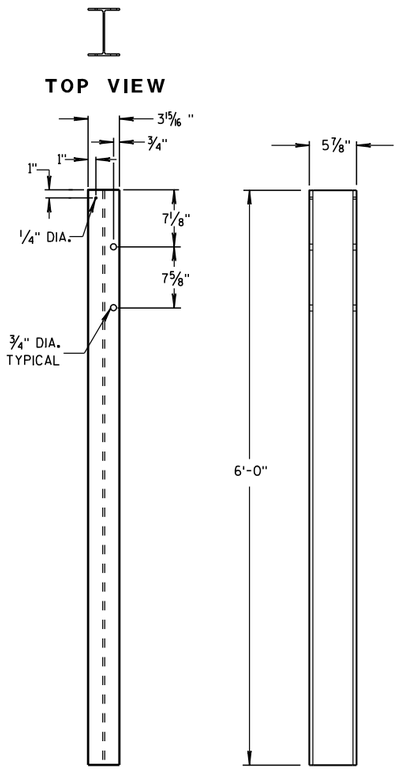


TOP VIEW

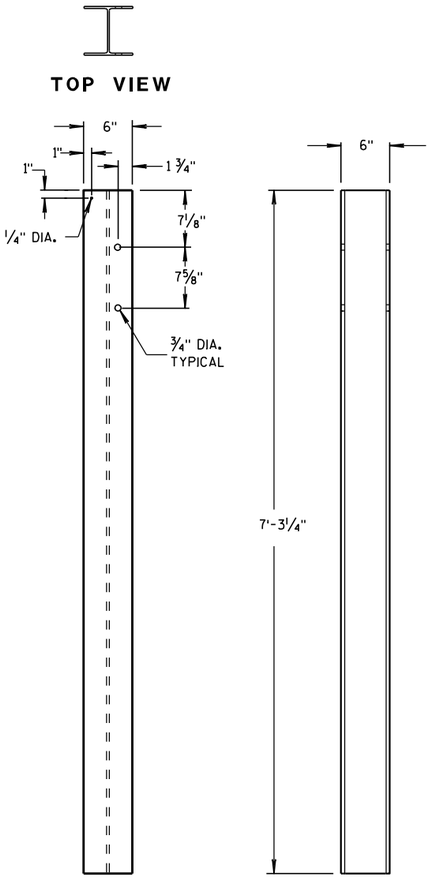
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

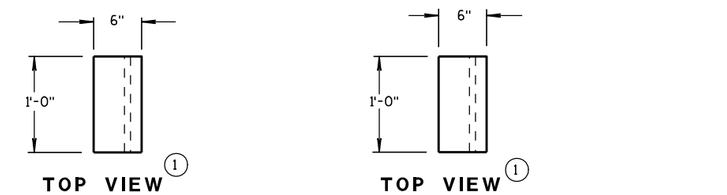


STEEL POSTS 6-11



STEEL POSTS 12-14

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



BLOCKOUT POSTS 1-5

BLOCKOUT POSTS 6-11

BLOCKOUT POSTS 12-14

STEEL POST SIZES

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

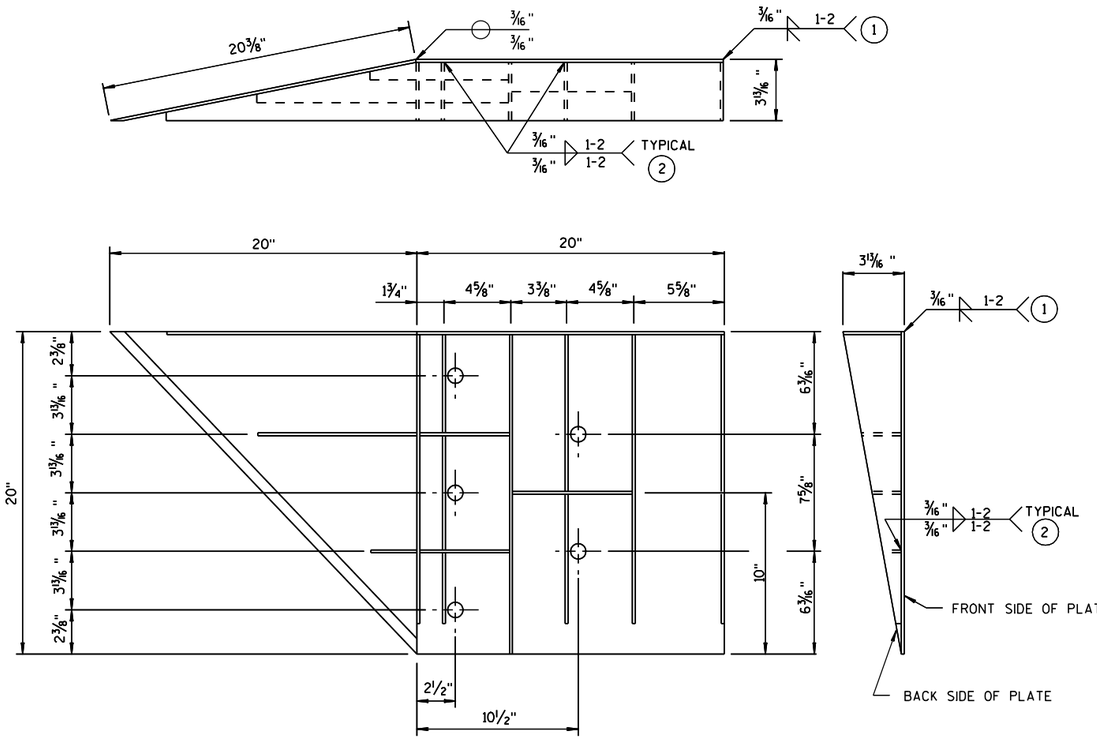
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c

6

S.D.D. 14 B 45-3c



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

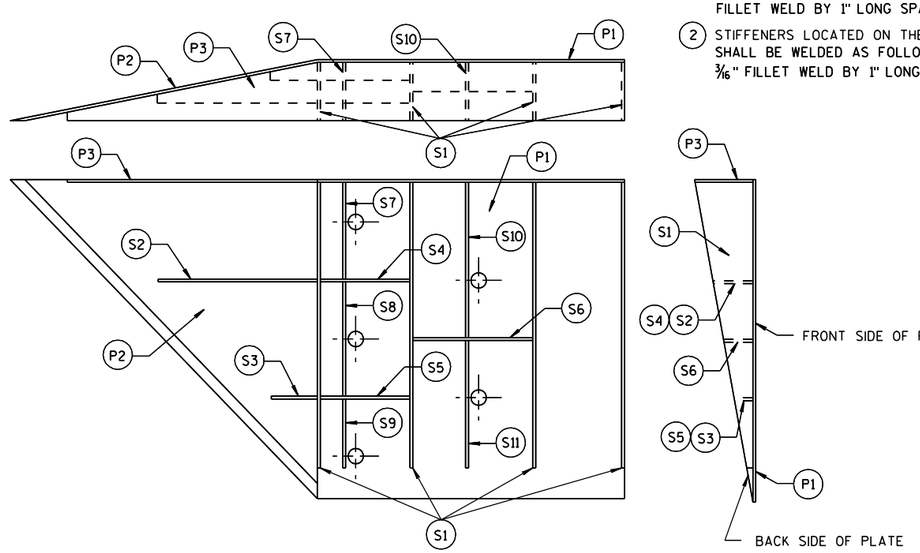


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

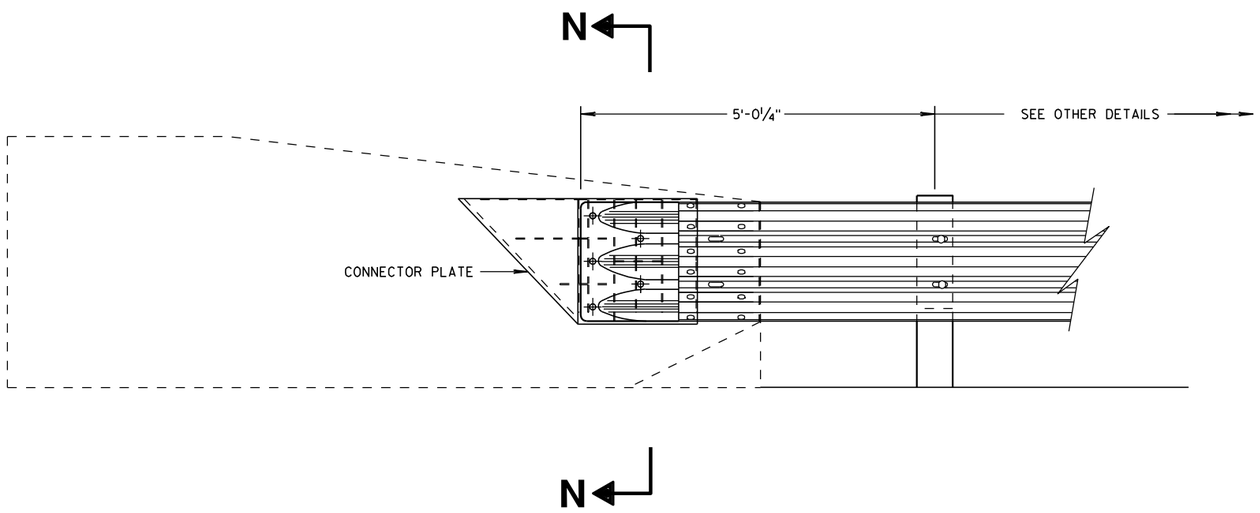
APPROVED
8/31/2012
DATE
/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER
389
FHWA

6

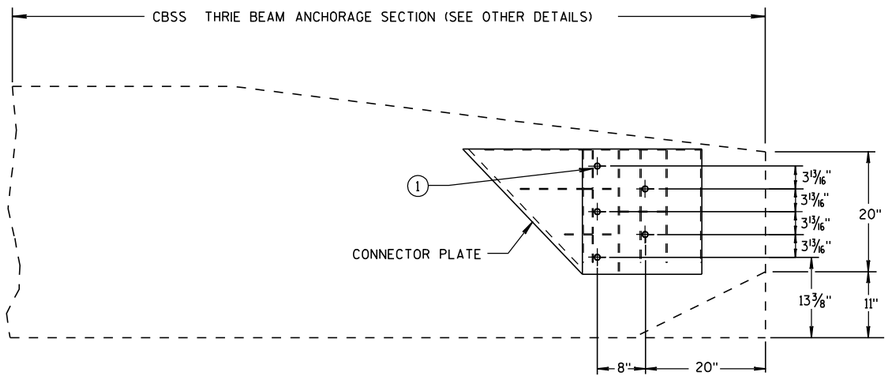
S.D.D. 14 B 45-3i

6

S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

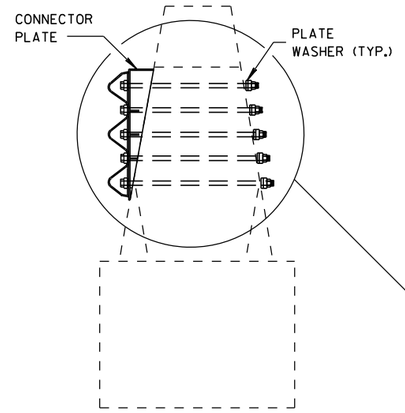


SINGLE SLOPE CONNECTION PLATE PLACEMENT

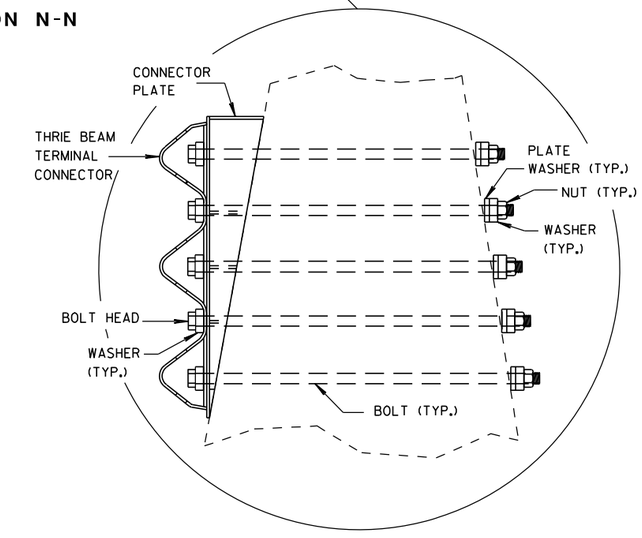
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

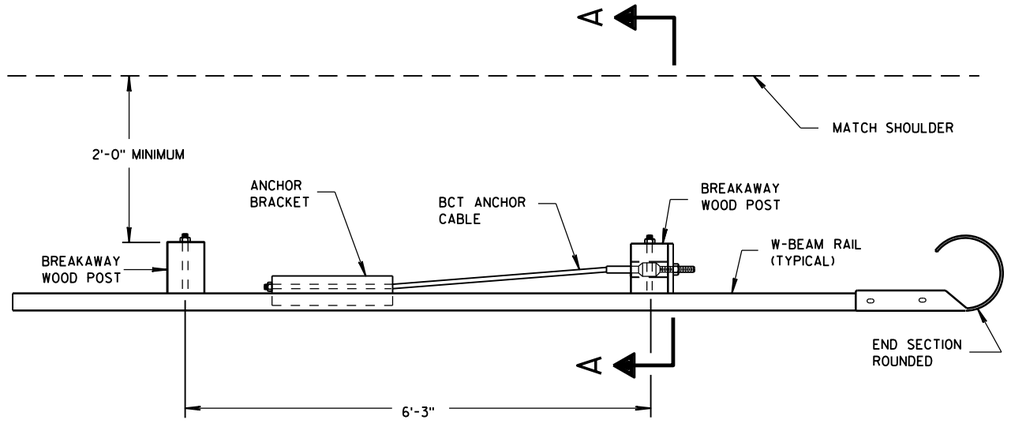
FHWA

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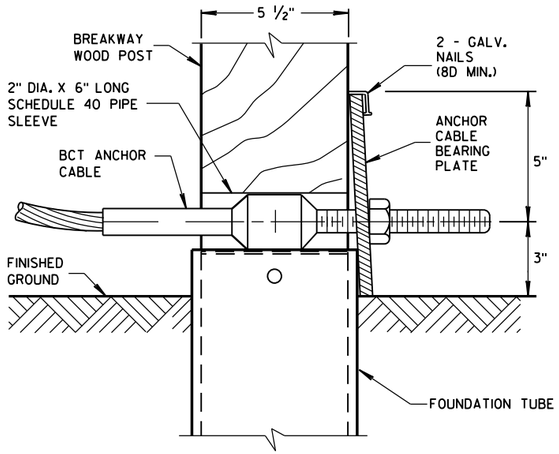
S.D.D. 14 B 45-3j

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S.D.D. 14 B 45-3j



PLAN VIEW



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

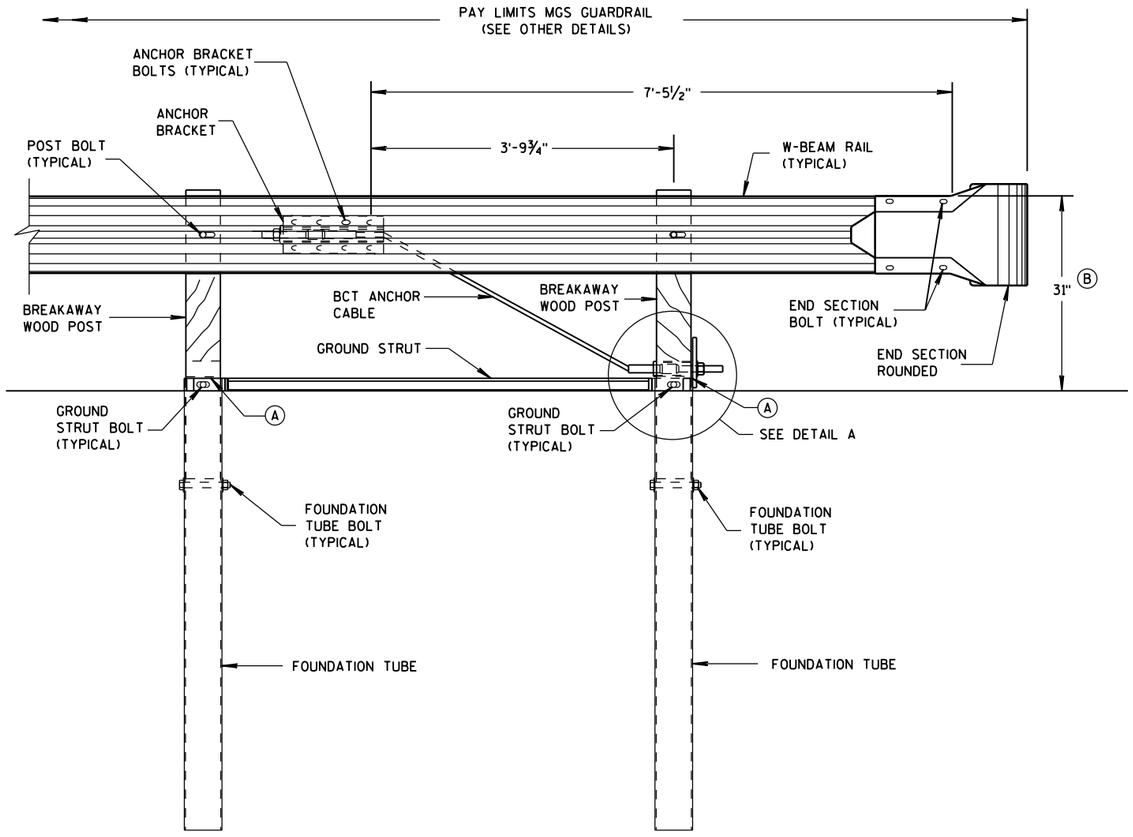
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

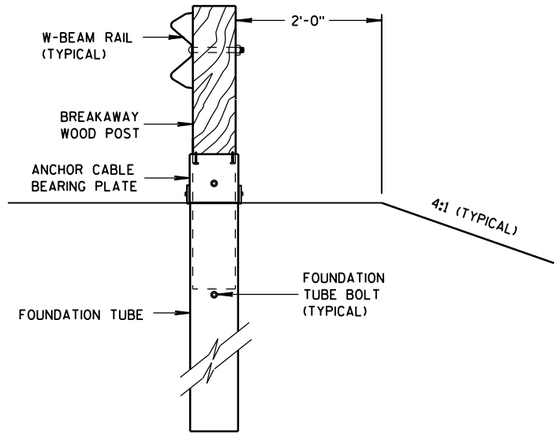
(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".

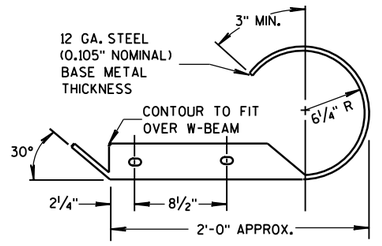


FRONT VIEW

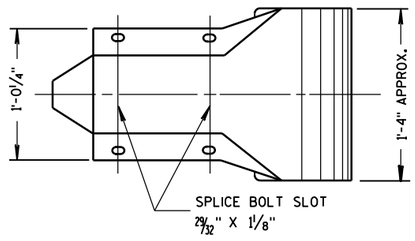
END RAIL DETAIL



SECTION A-A



PLAN VIEW



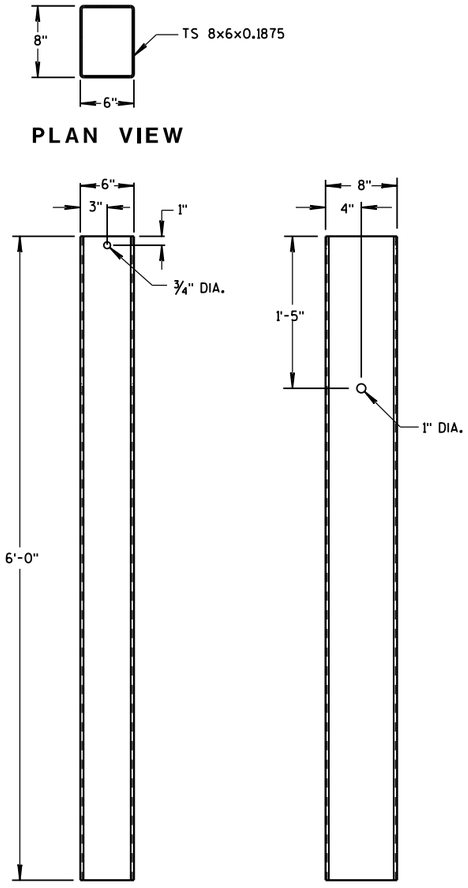
FRONT VIEW

W BEAM END SECTION ROUNDED

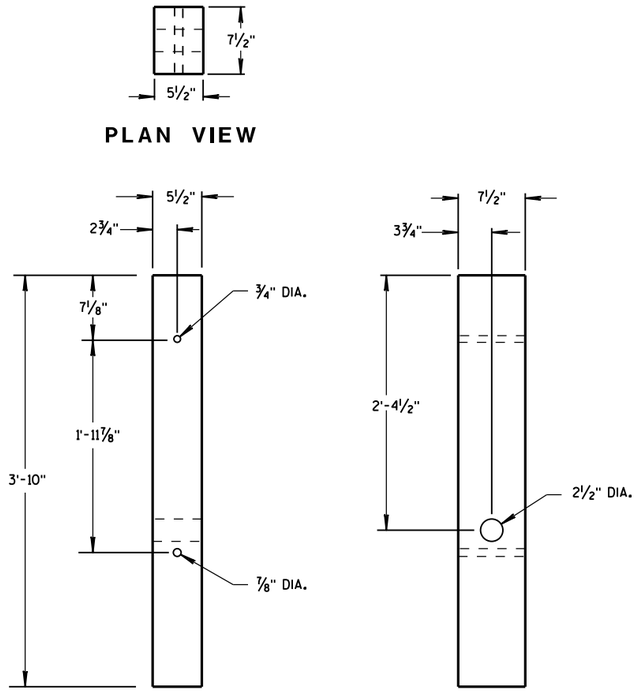
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 47-2a



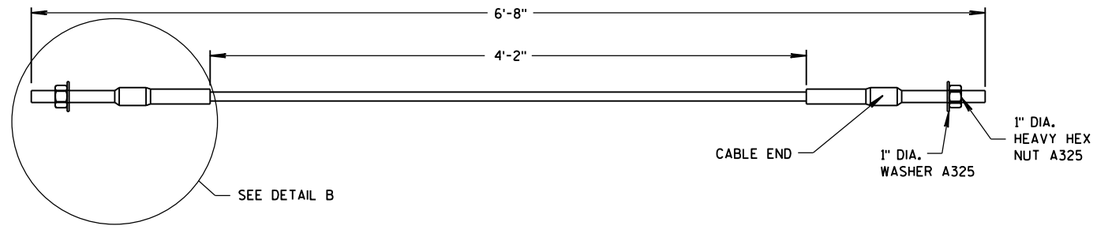
FOUNDATION TUBE



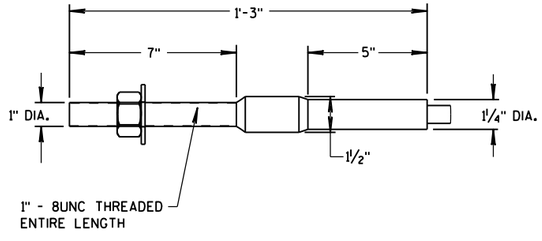
BREAKAWAY WOOD POST

GENERAL NOTES

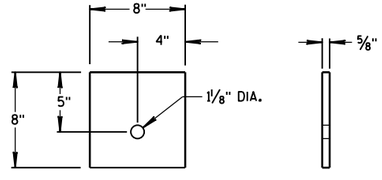
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



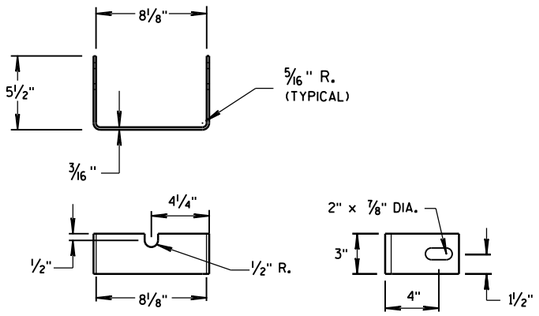
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

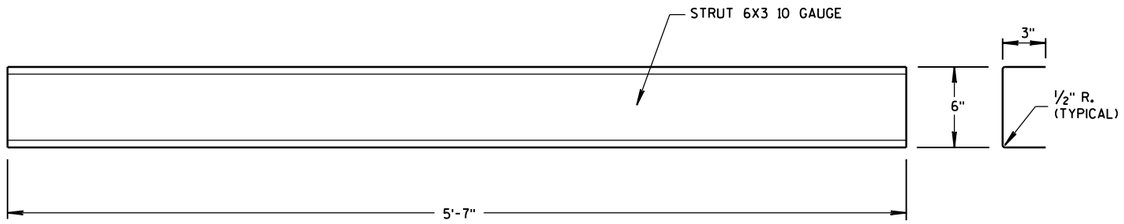
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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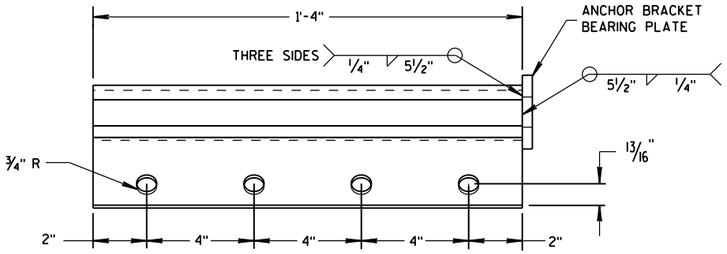
S.D.D. 14 B 47-2b

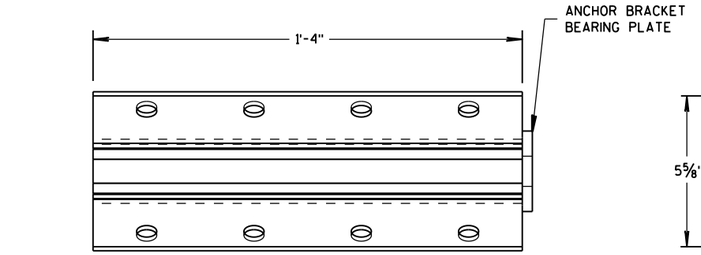


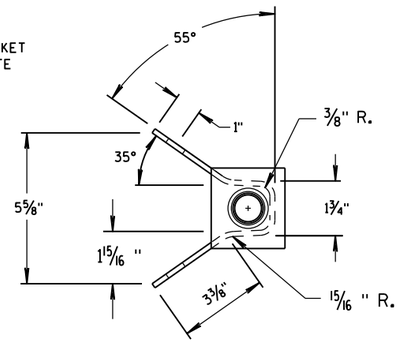
YOKE DETAIL



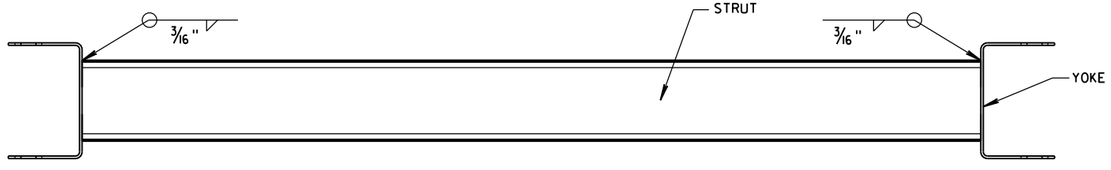
STRUT DETAIL



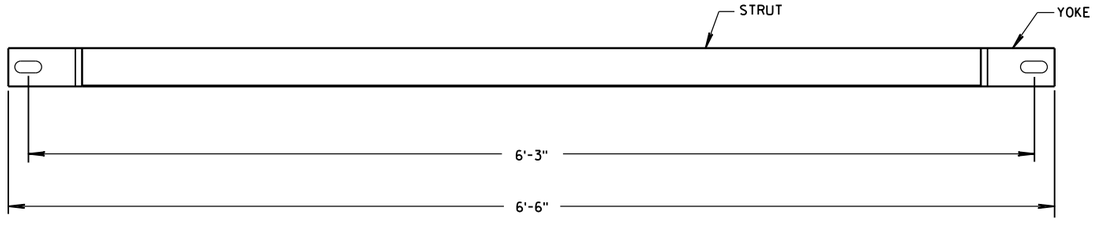




ANCHOR BRACKET

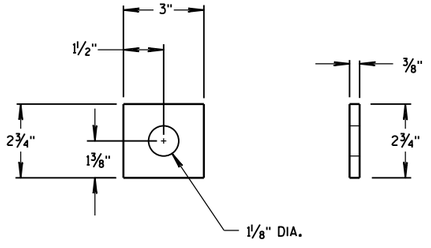


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

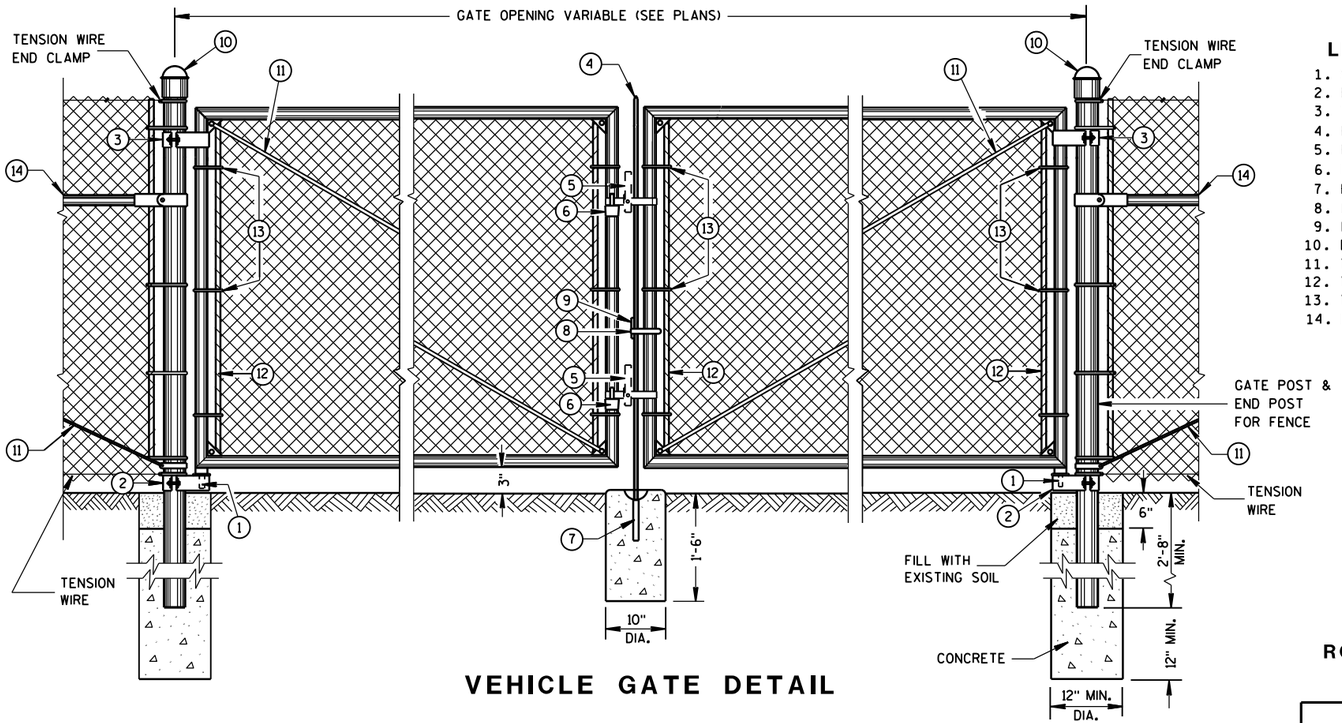
APPROVED
June 2014
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

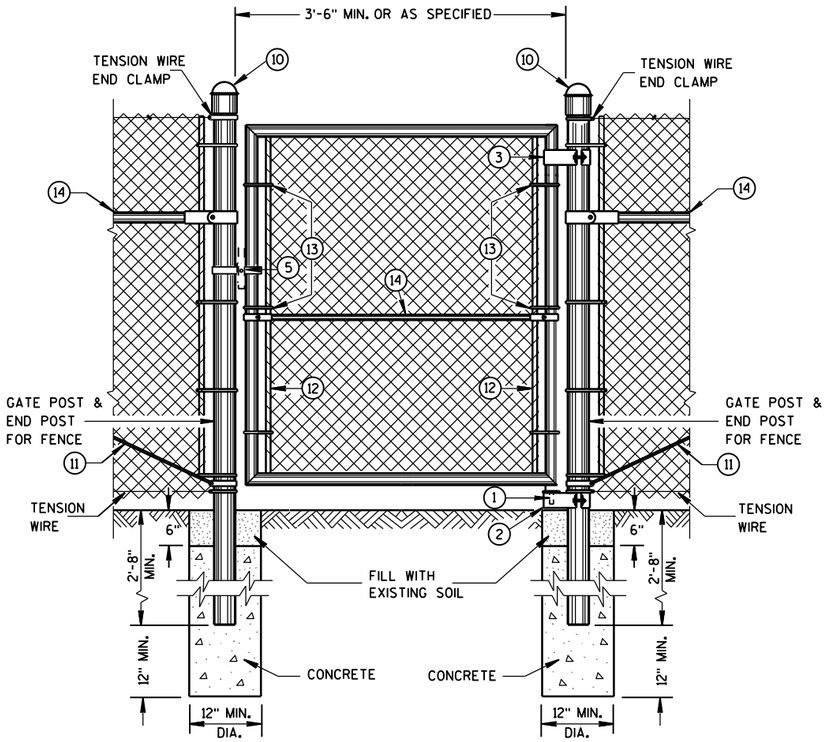
FHWA

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S.D.D. 14 B 47-2c



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

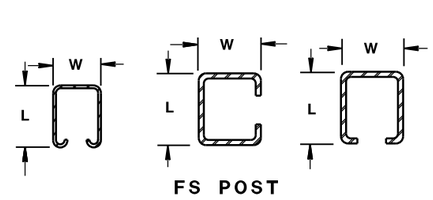
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

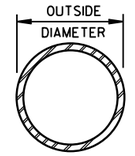
FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.



FS POST



SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

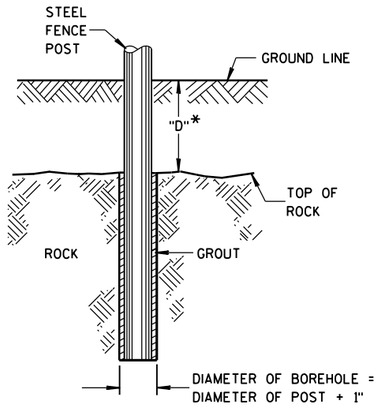
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 15 B 3-14a

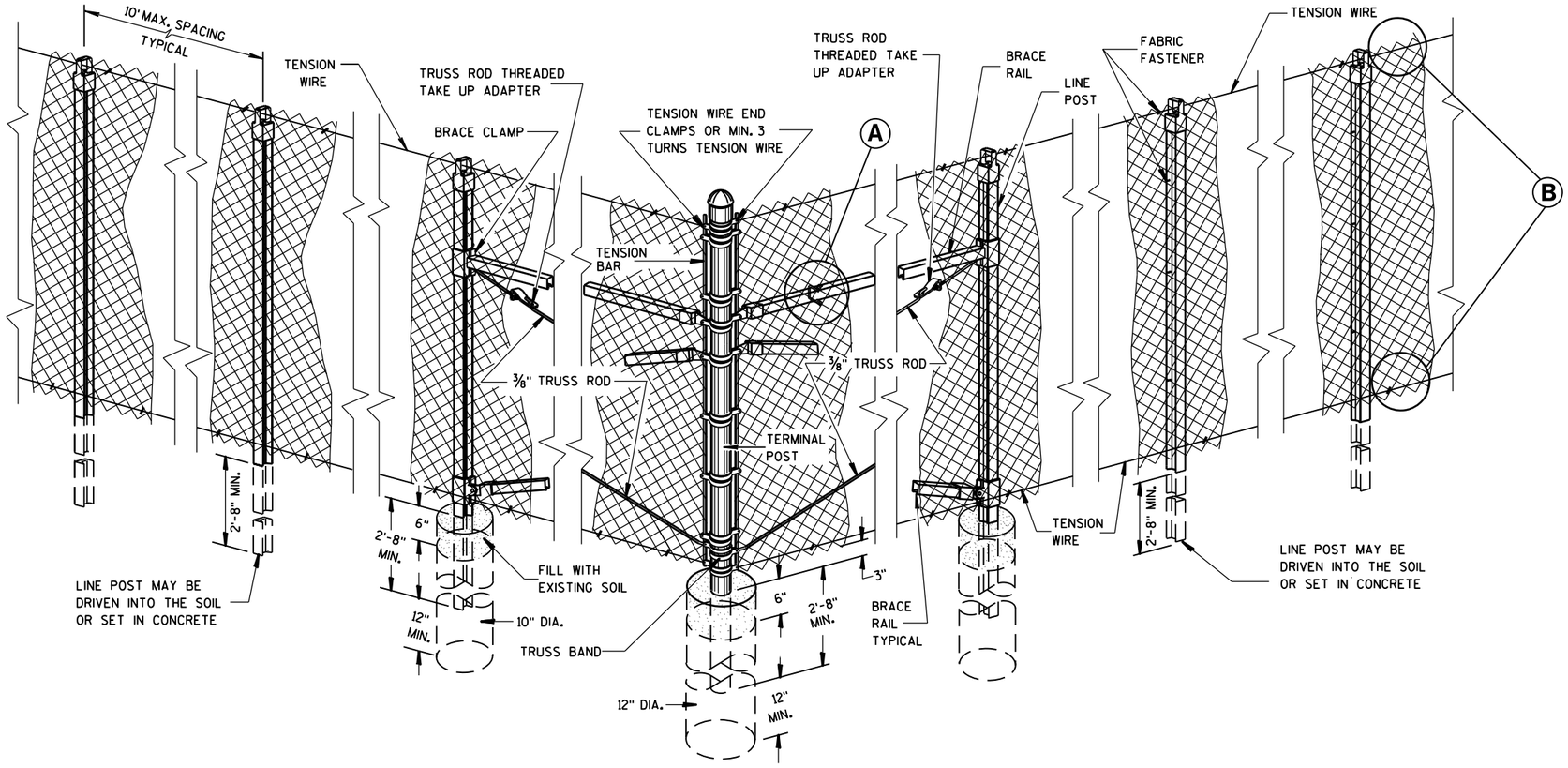
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S.D.D. 15 B 3-14a

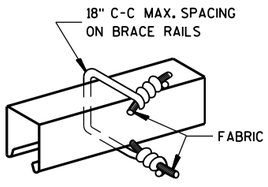


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



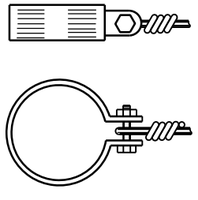
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



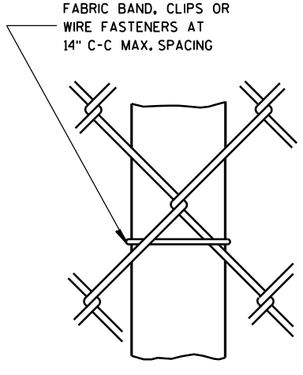
BRACE RAIL

FABRIC FASTENER

Ⓐ



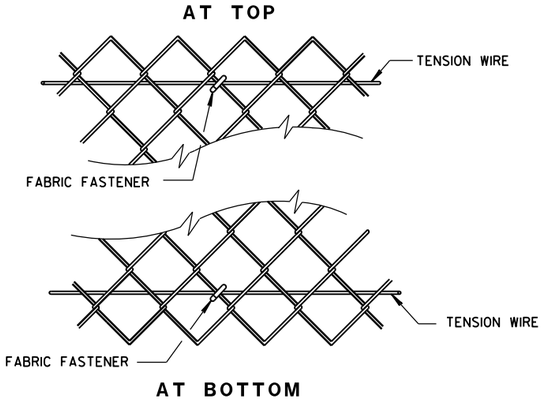
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

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FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

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S.D.D. 15 B 3-14b

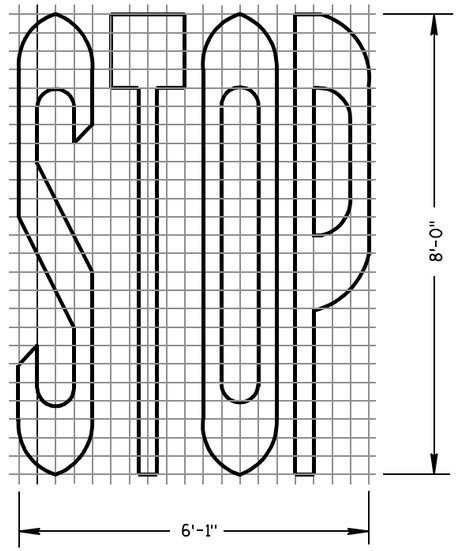
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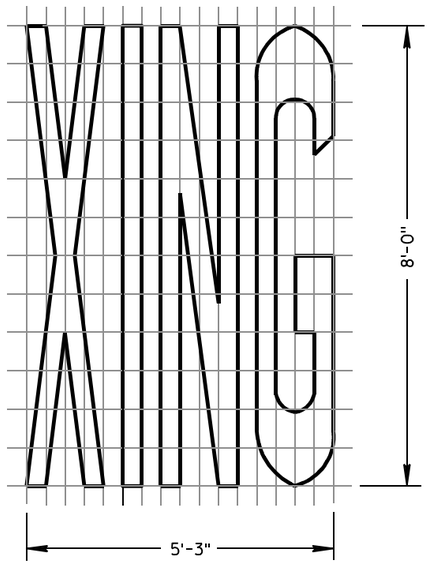
S.D.D. 15 B 3-14b

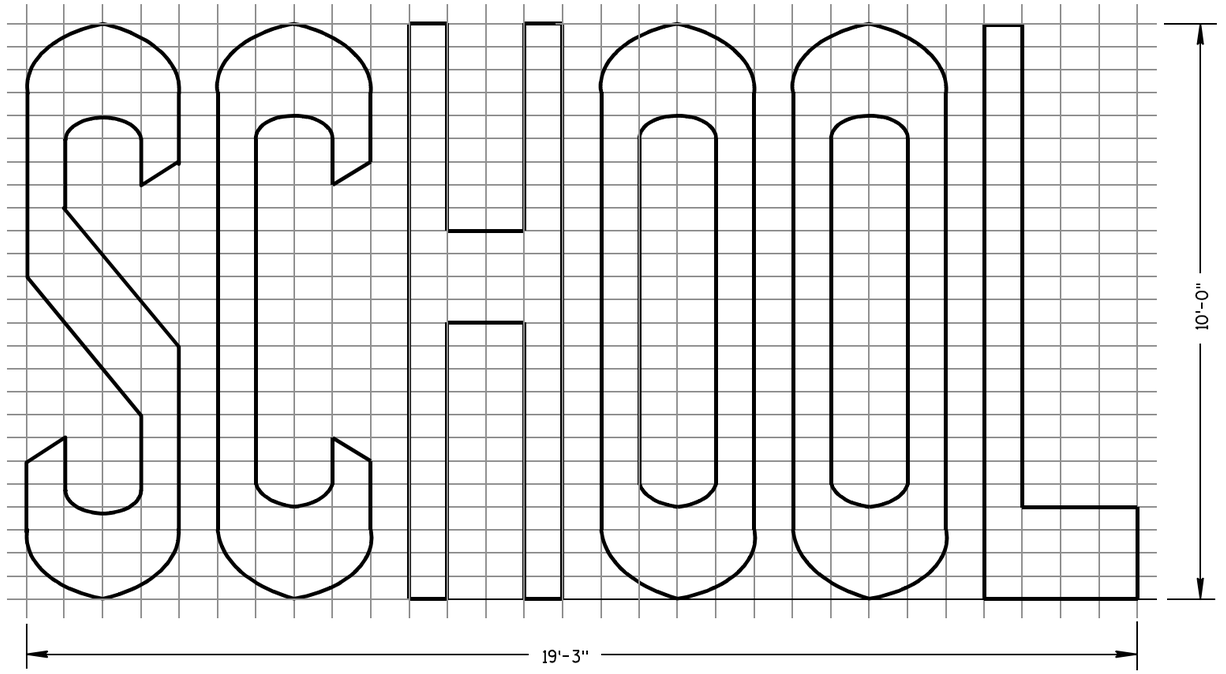
GENERAL NOTES

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

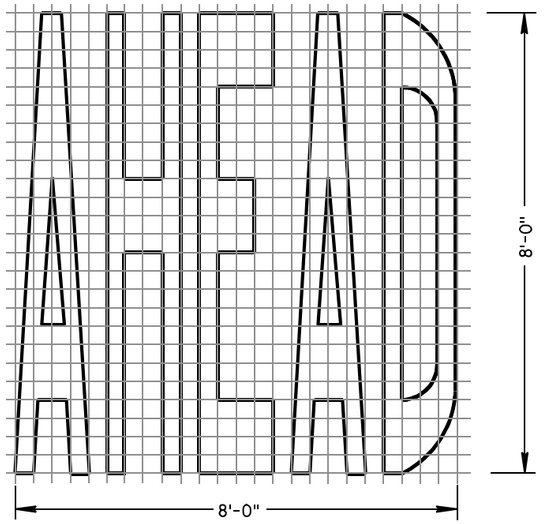
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

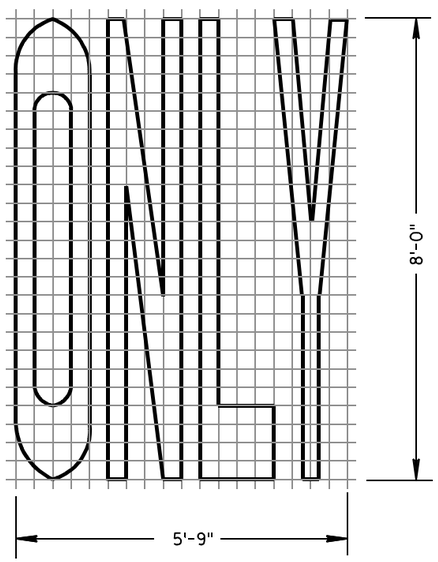


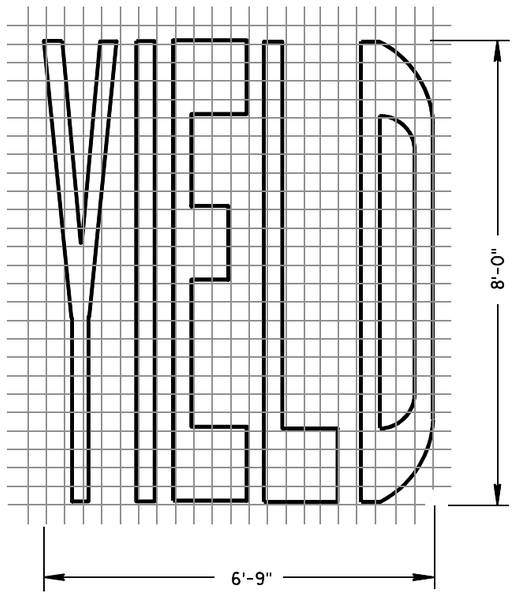


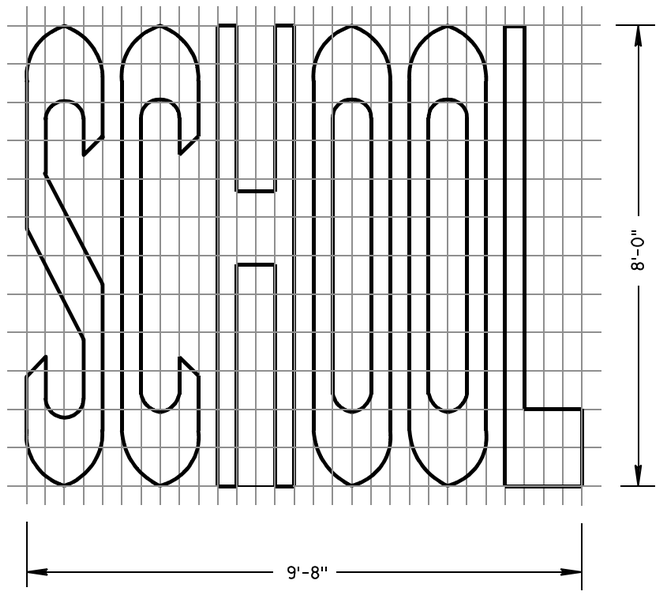


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER — IGN

FHWA

6

S.D.D. 15 C 7-12b

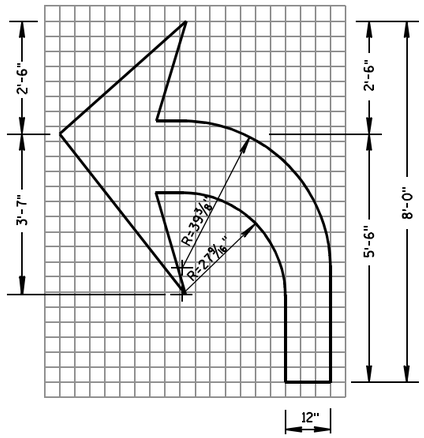
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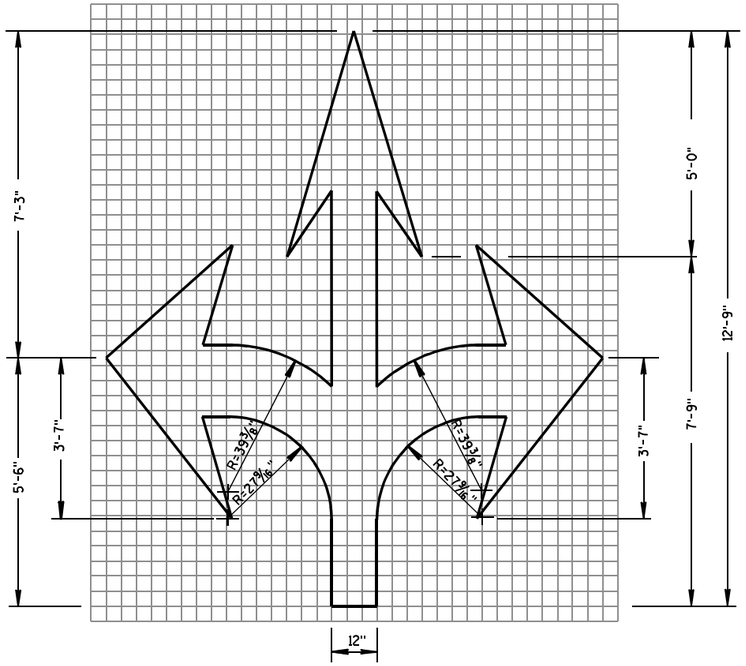
GENERAL NOTES

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

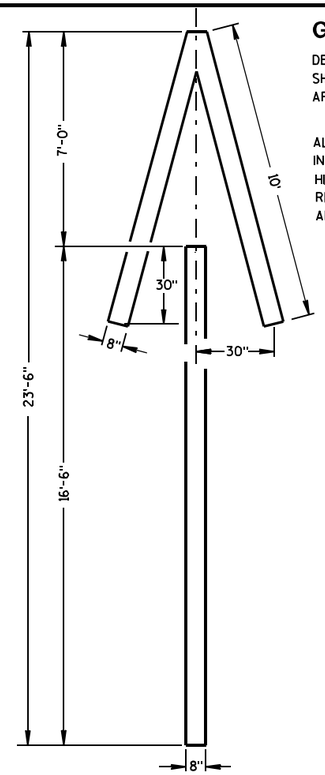
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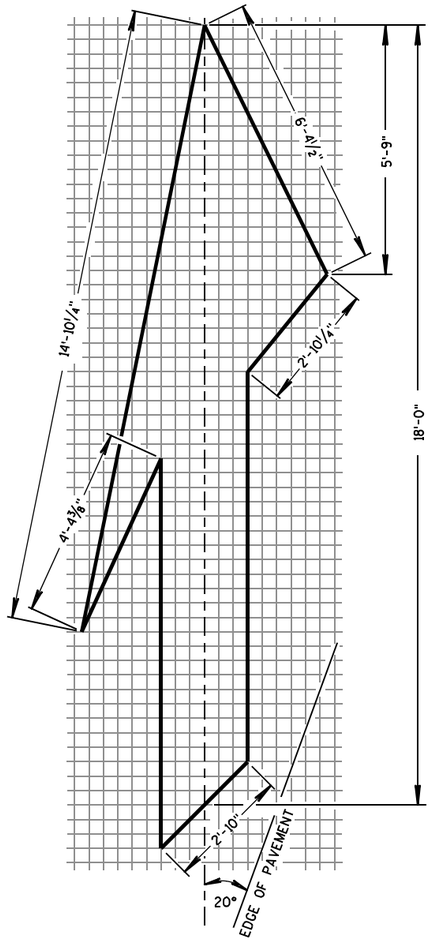
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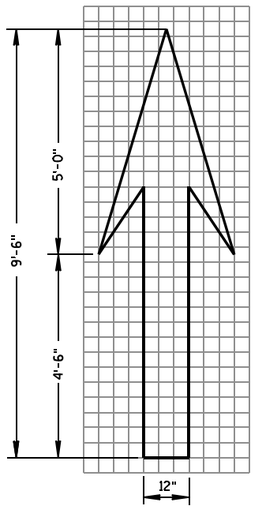
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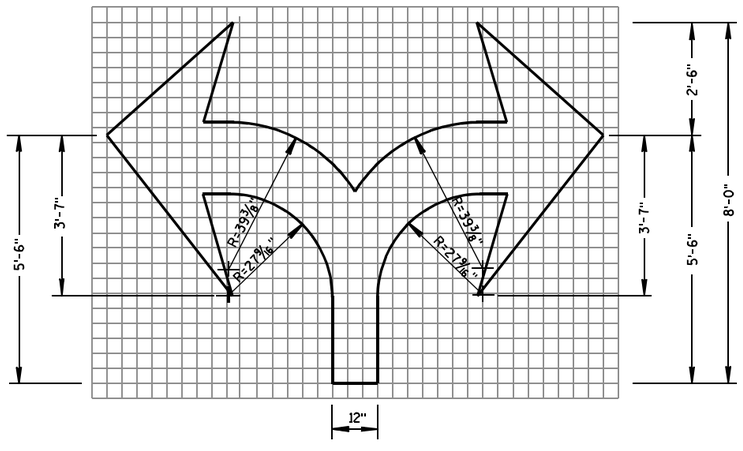
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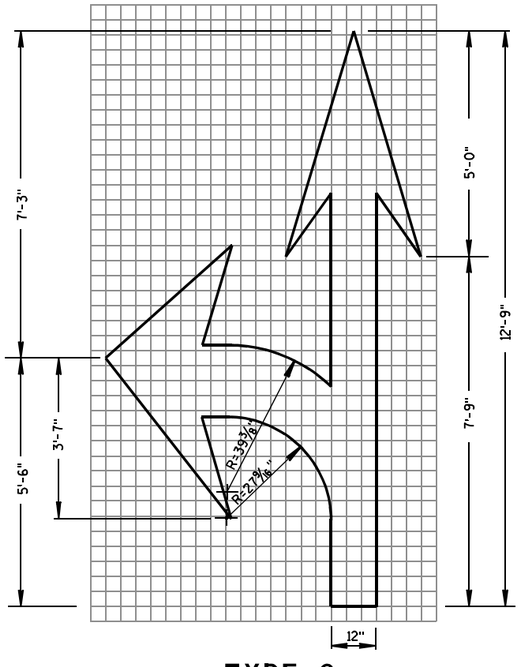
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

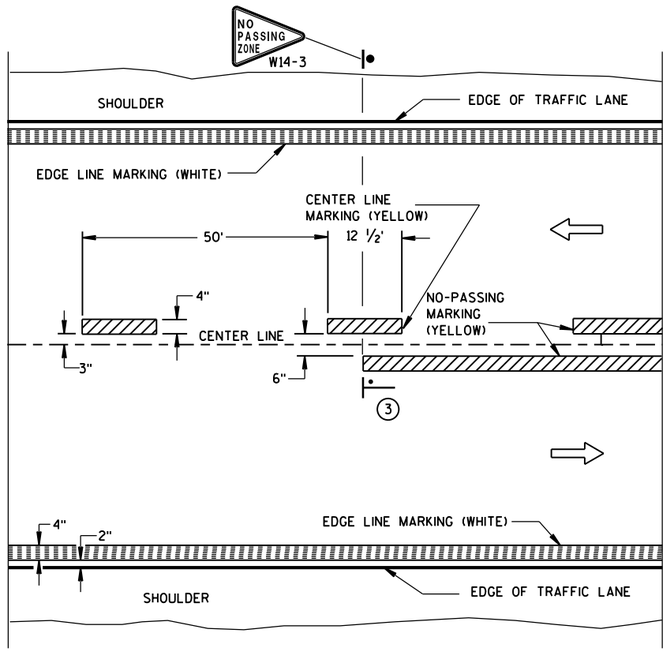
FHWA

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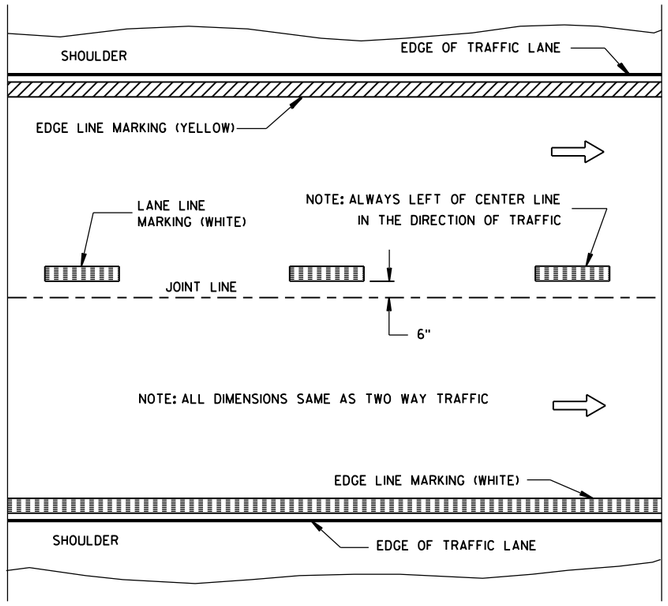
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

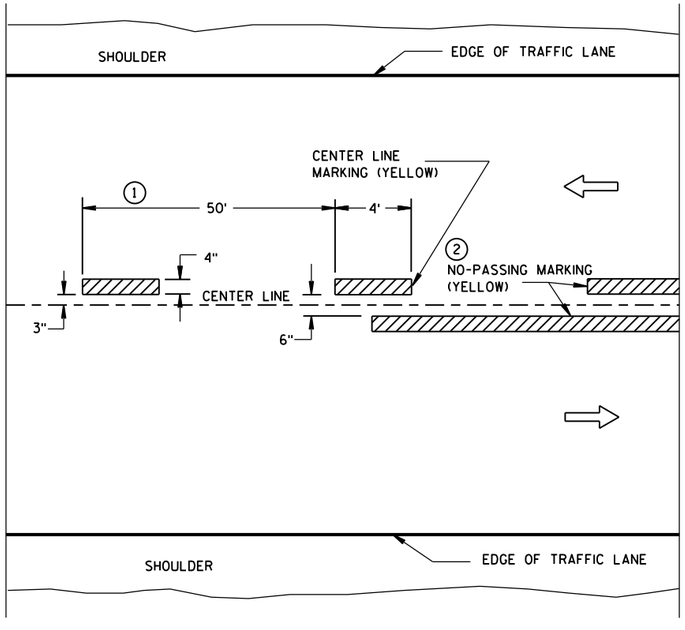


TWO WAY TRAFFIC

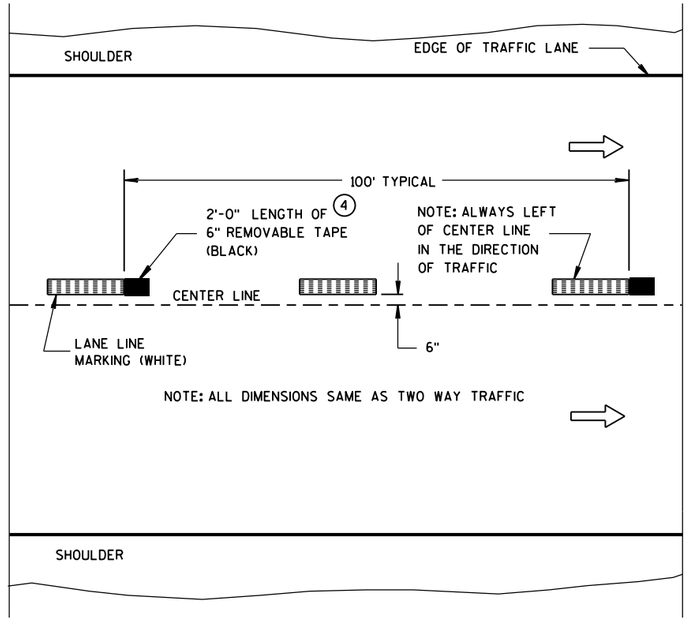


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

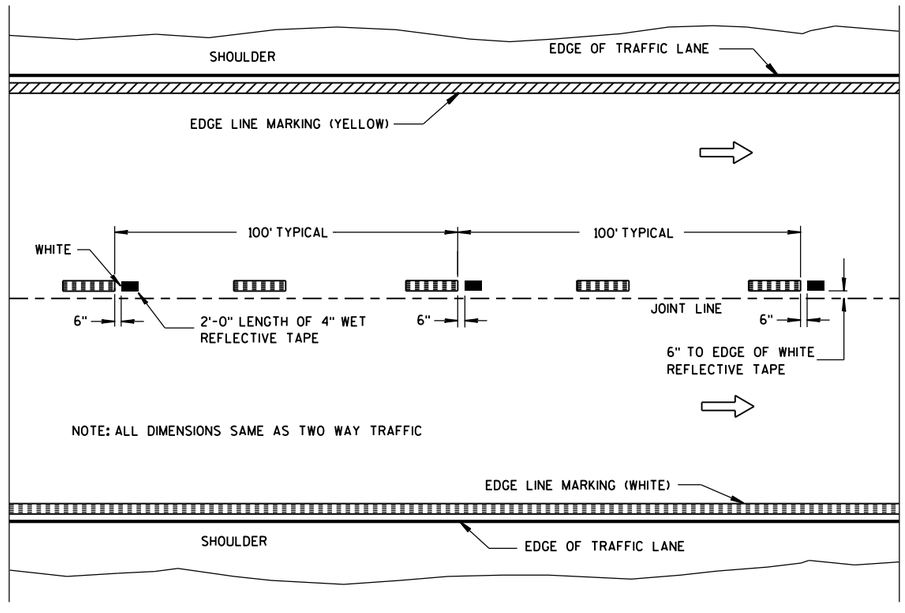
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

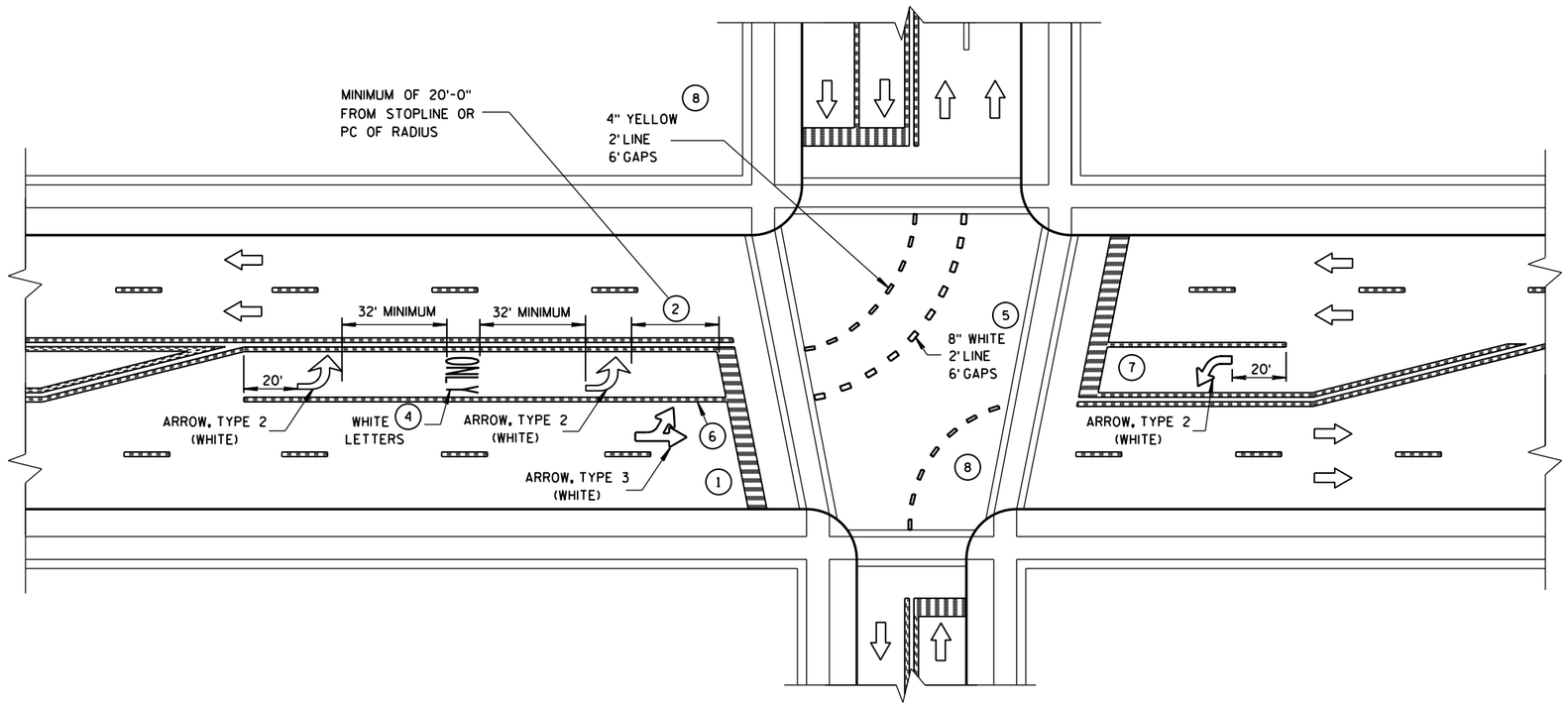
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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S.D.D. 15 C 8-16a

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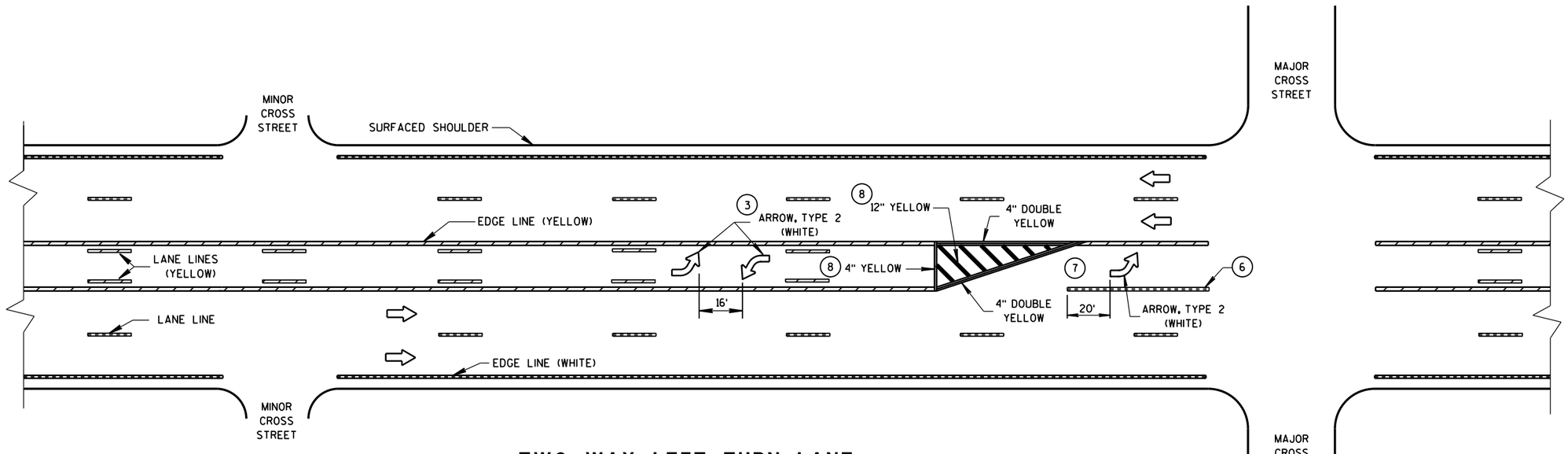
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

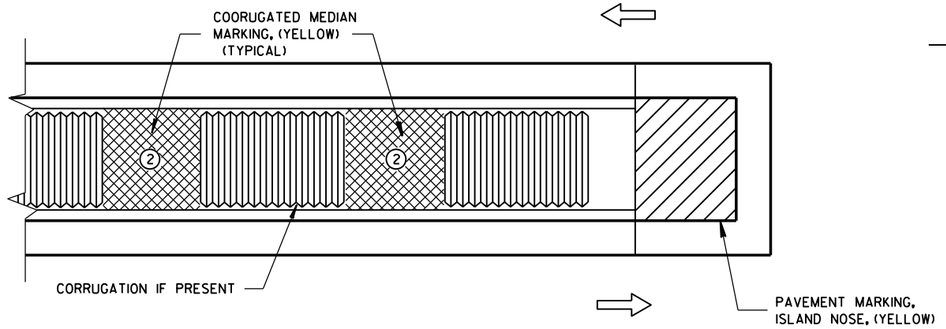
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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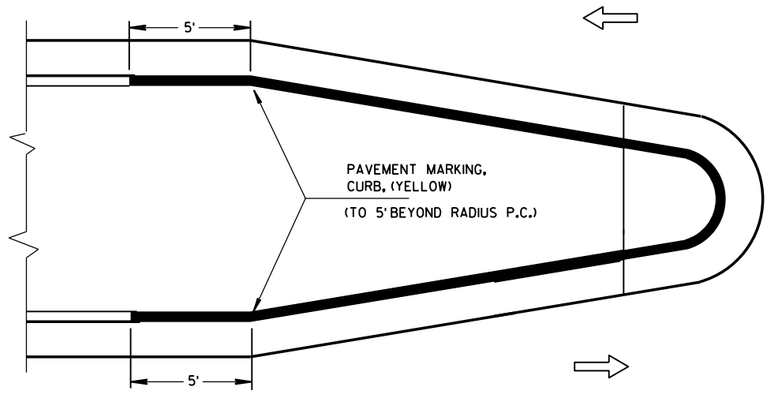
S.D.D. 15 C 8-16e

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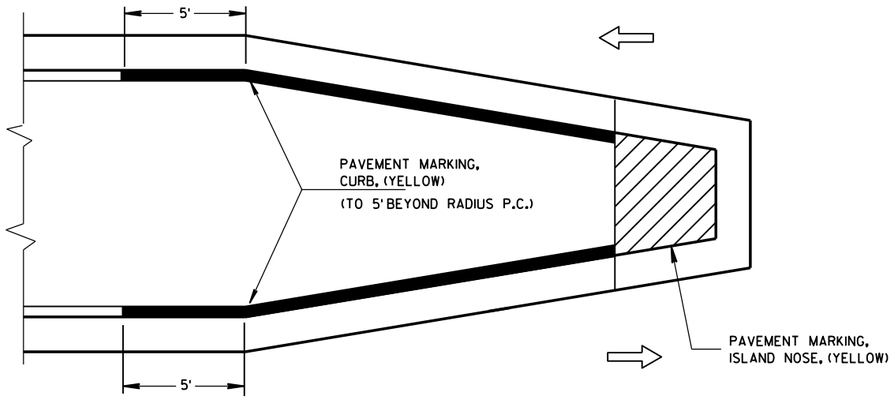
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

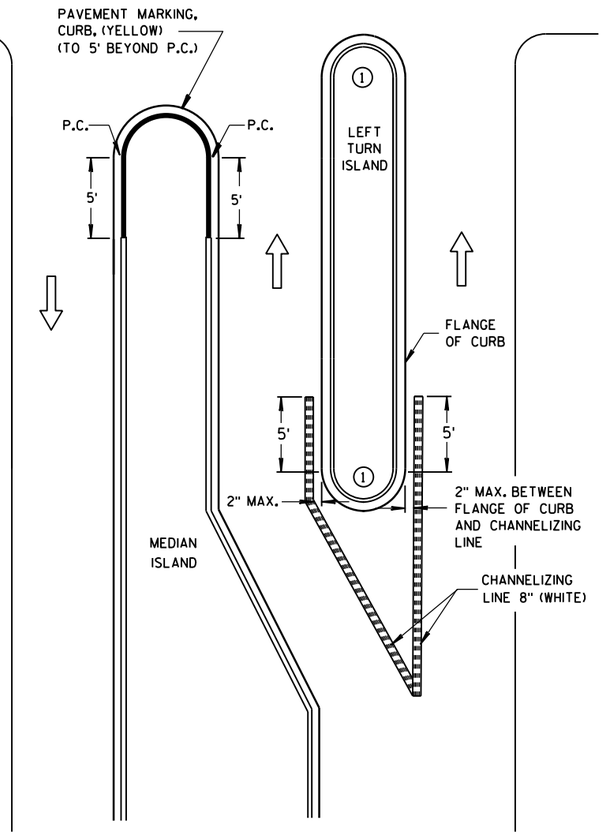


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

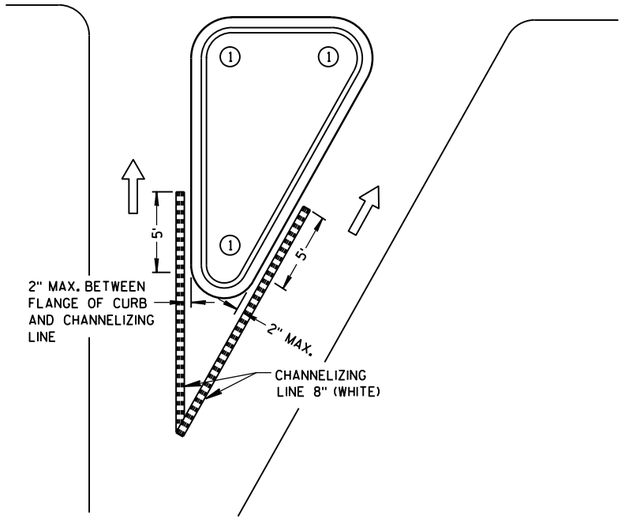


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

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

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-16f

6

S.D.D. 15 C 8-16f

GENERAL NOTES

ORIENT ANCHOR BOLTS IN FOOTING AND PROVIDE ANCHOR BOLT STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR BOLTS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

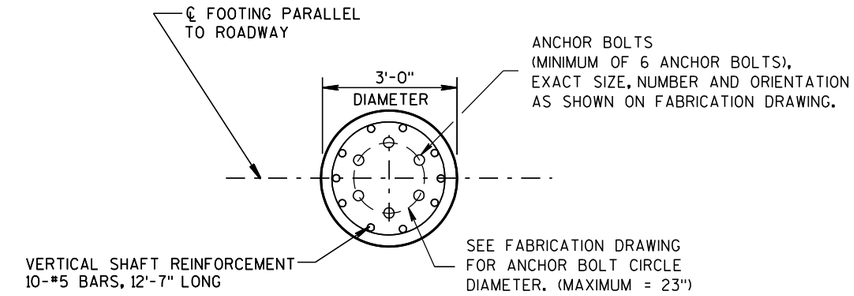
IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

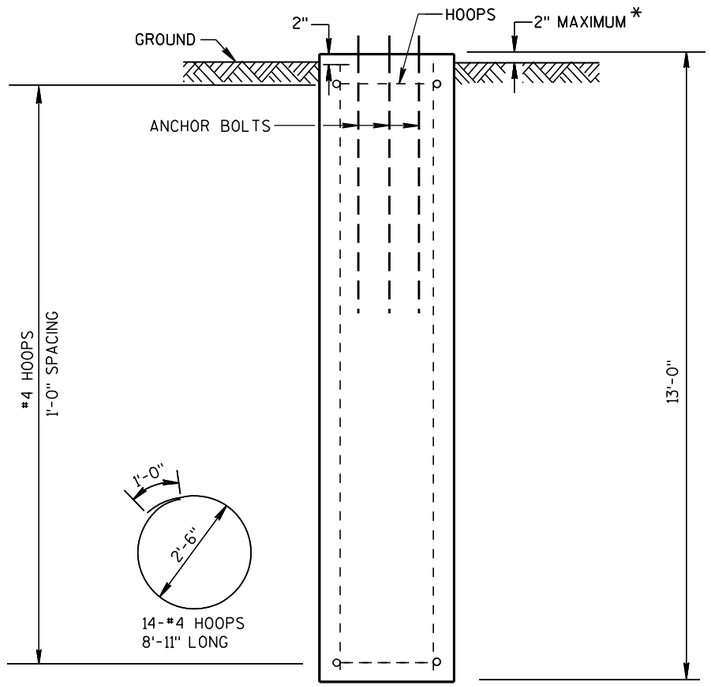
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR BOLTS	AASHTO M314 GRADE 55

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



PLAN VIEW

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



ELEVATION VIEW

CONCRETE - 3.4 C.Y. PER FOOTING
H.S. REINFORCEMENT - 215 LBS. PER FOOTING

36" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/17/2009 DATE
/S/ Thomas N. N[illegible] STATE TRAFFIC ENGINEE 401 IGN
FHWA

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S.D.D. 15 C 24-2

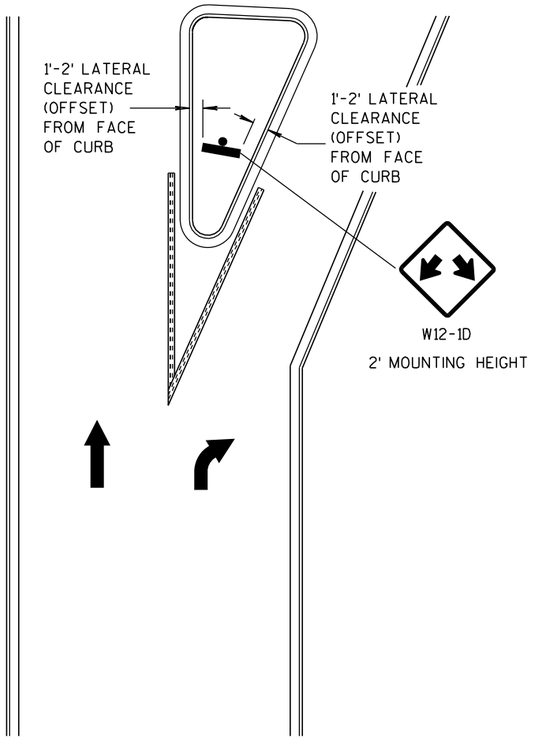
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S.D.D. 15 C 24-2

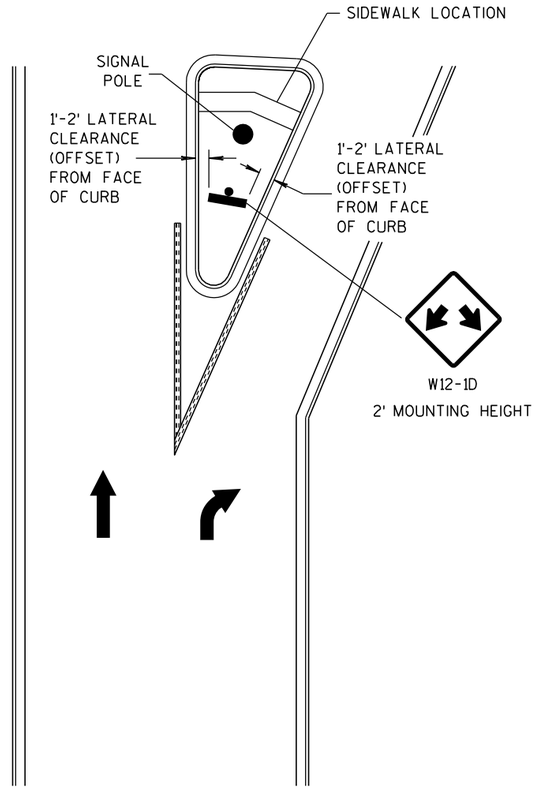
GENERAL NOTE

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

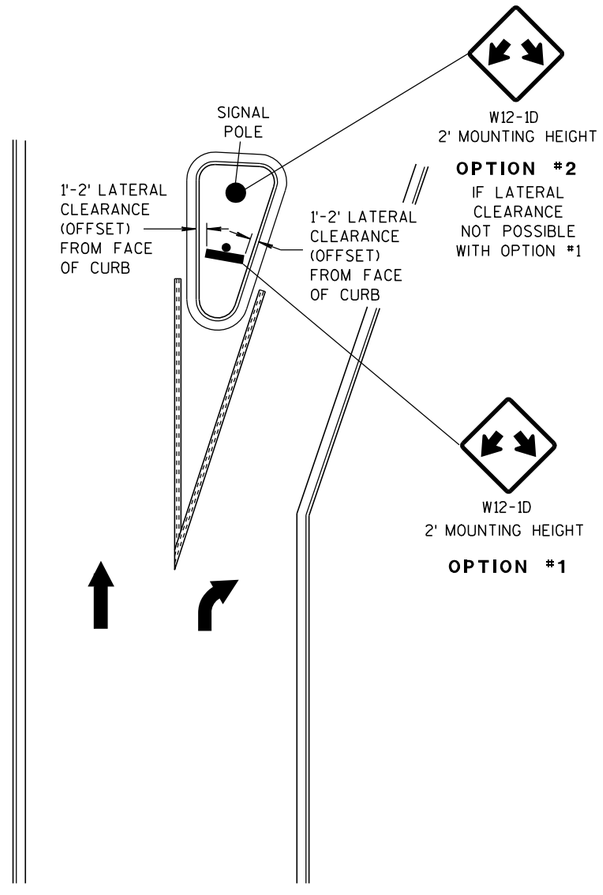
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.



LARGE RIGHT TURN ISLAND



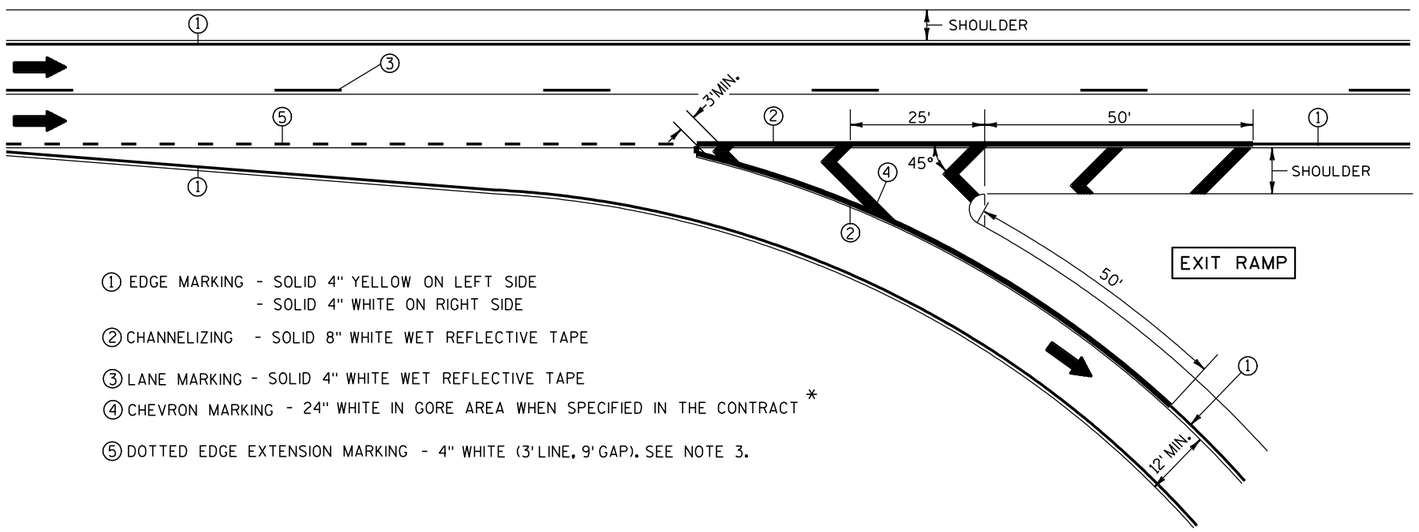
LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



SMALL RIGHT TURN ISLAND

DOUBLE ARROW WARNING SIGN PLACEMENT

DOUBLE ARROW WARNING SIGN PLACEMENT	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10-22-08 DATE	/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA	402 IGN



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

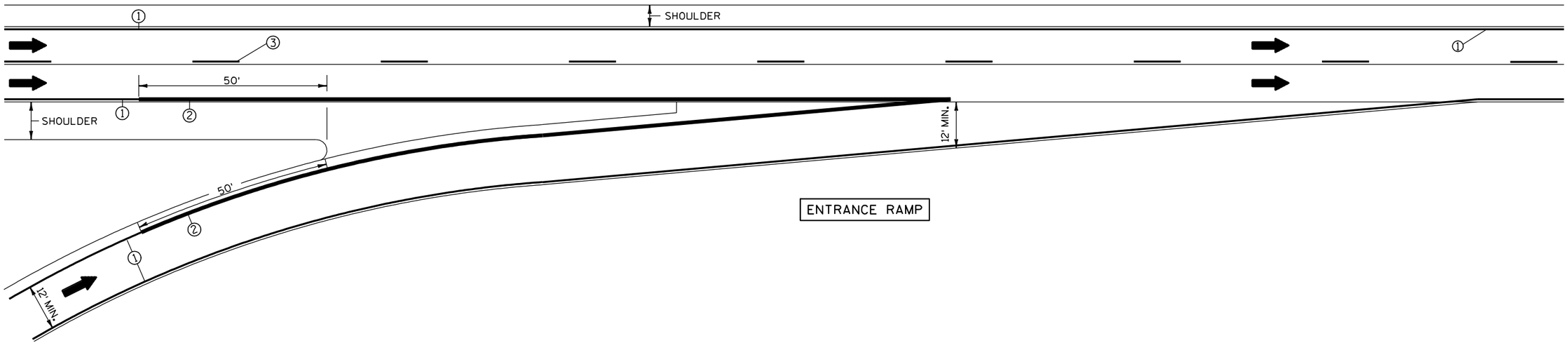
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

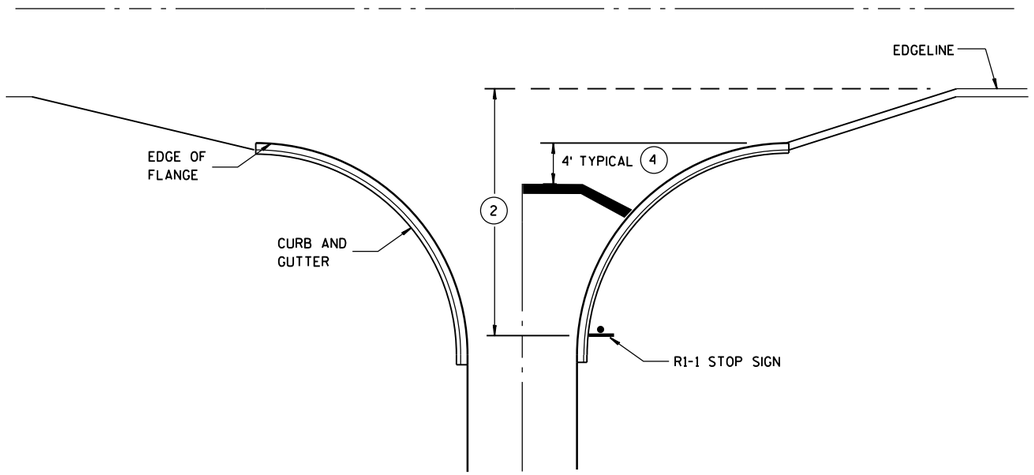
S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

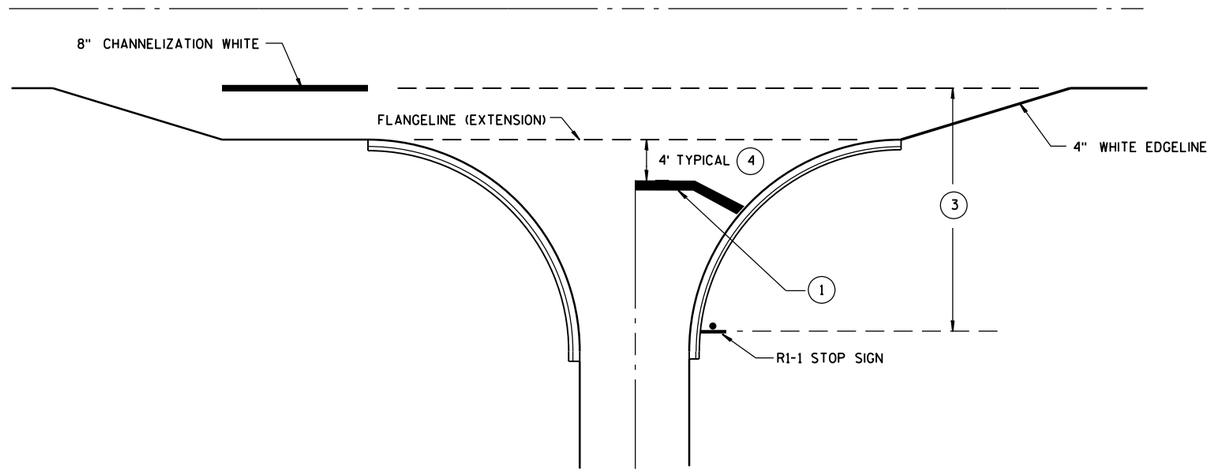
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

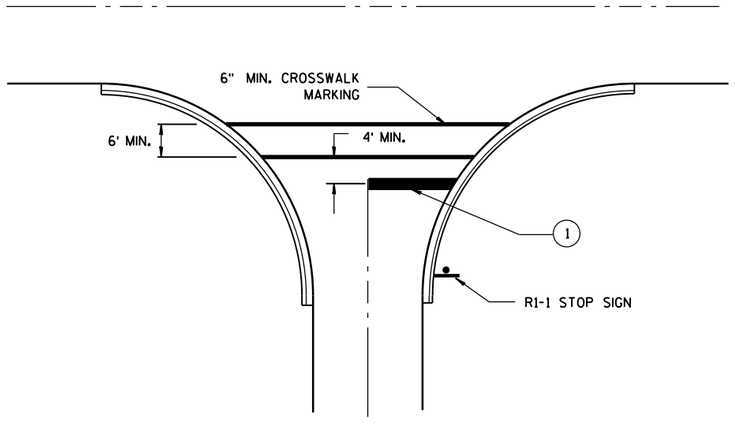
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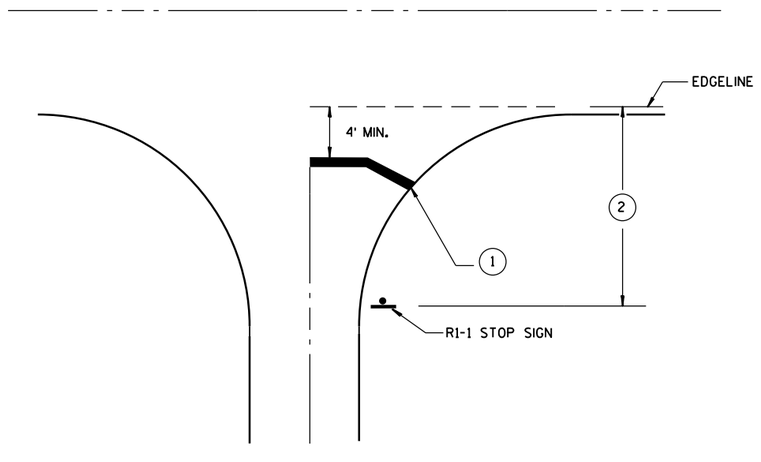
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

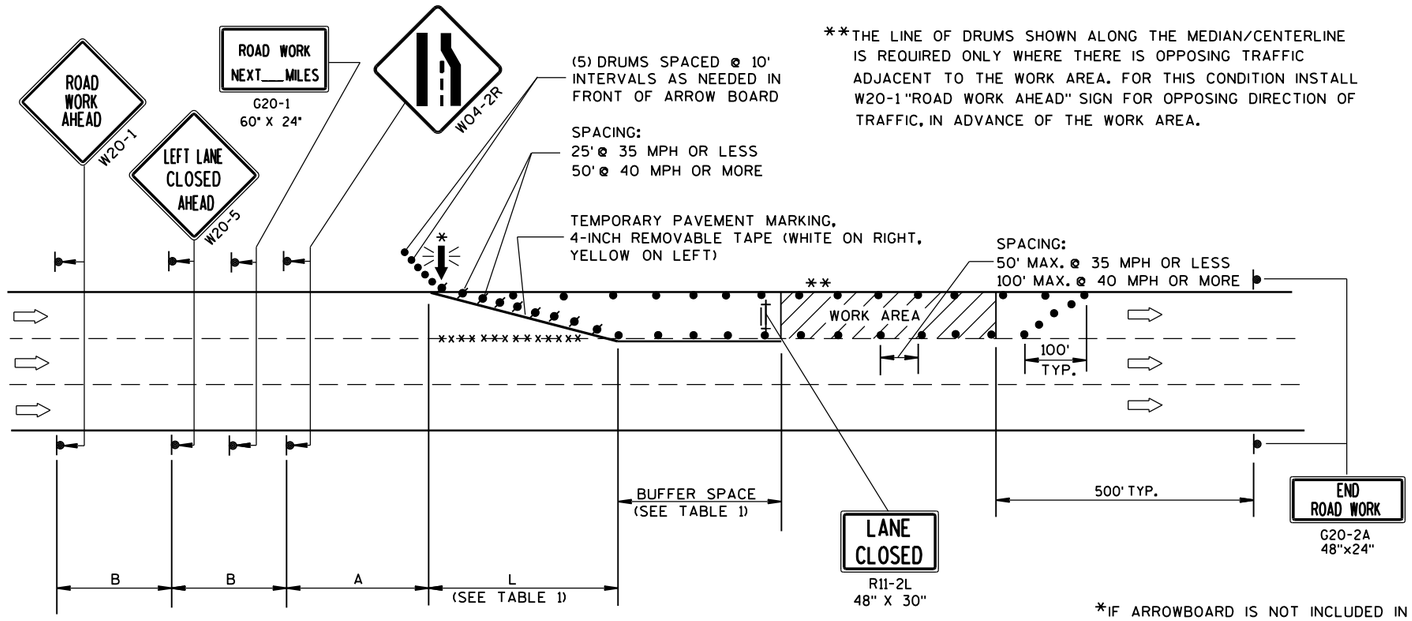
/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1

S.D.D. 15 C 33-1



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

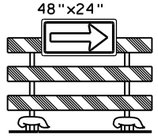


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

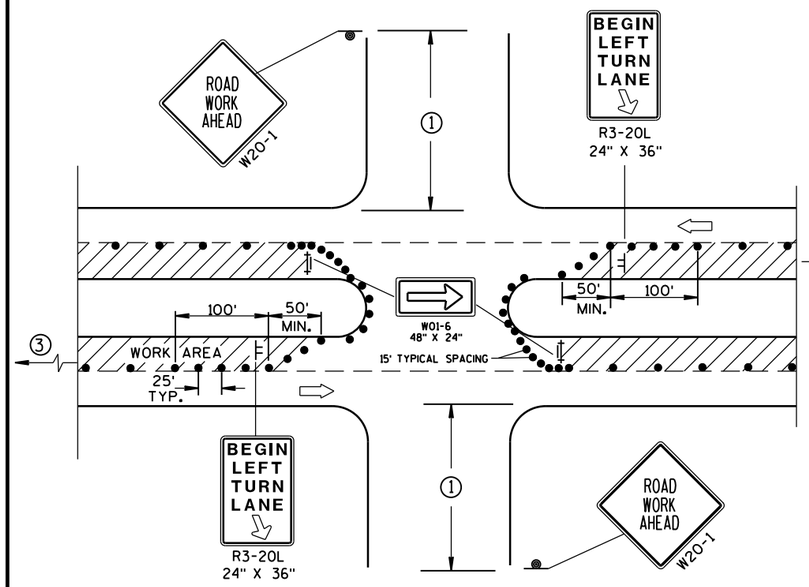
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 D 20-2

6

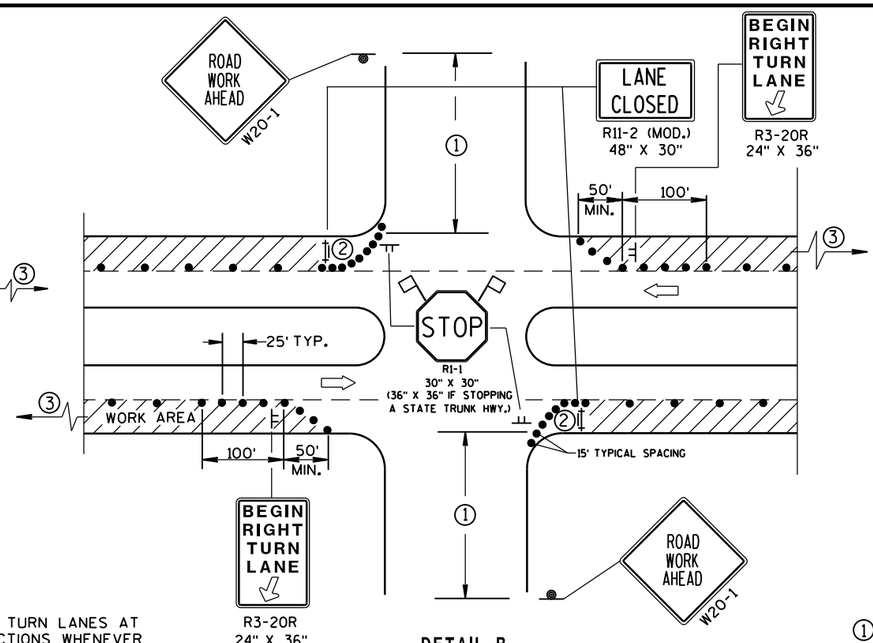
S.D.D. 15 D 20-2



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

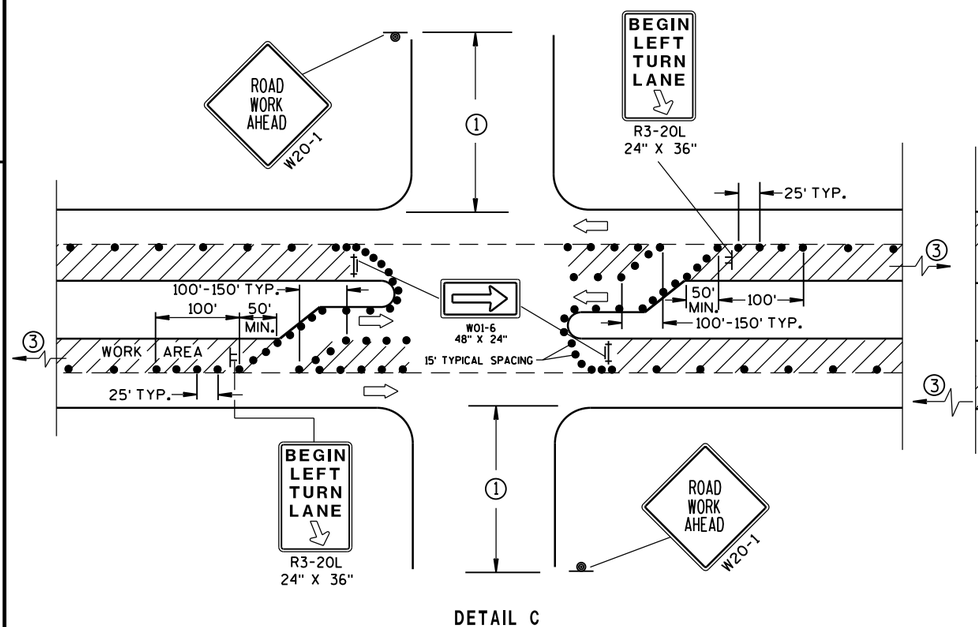
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

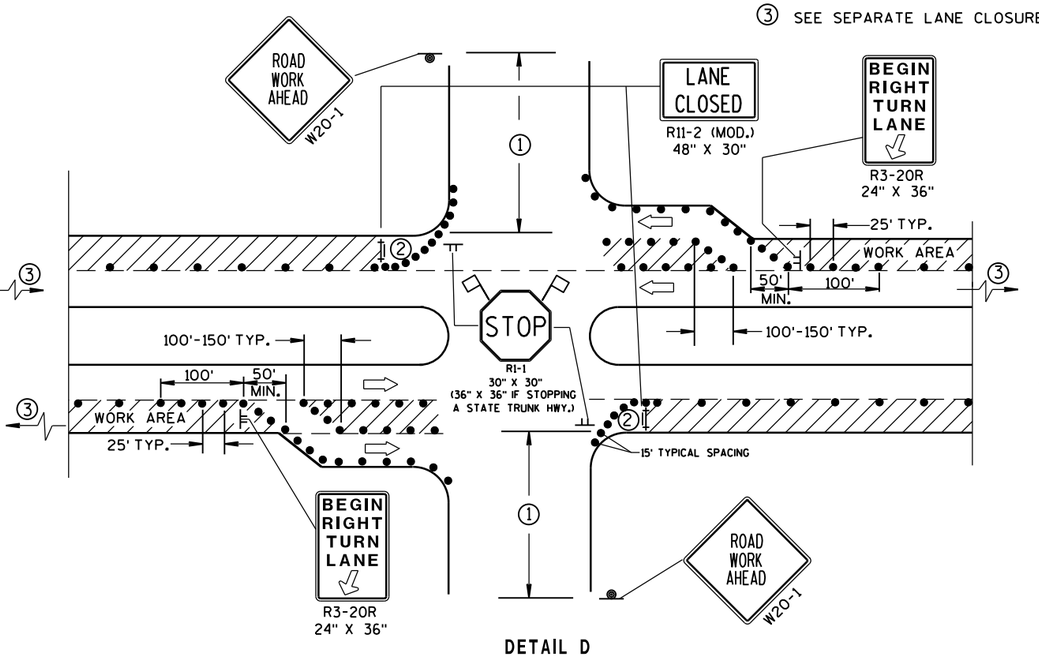
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

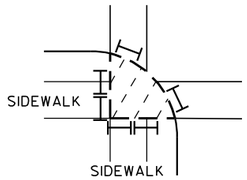
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

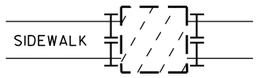
APPROVED
Nov. 2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

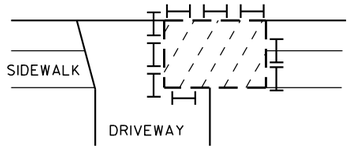
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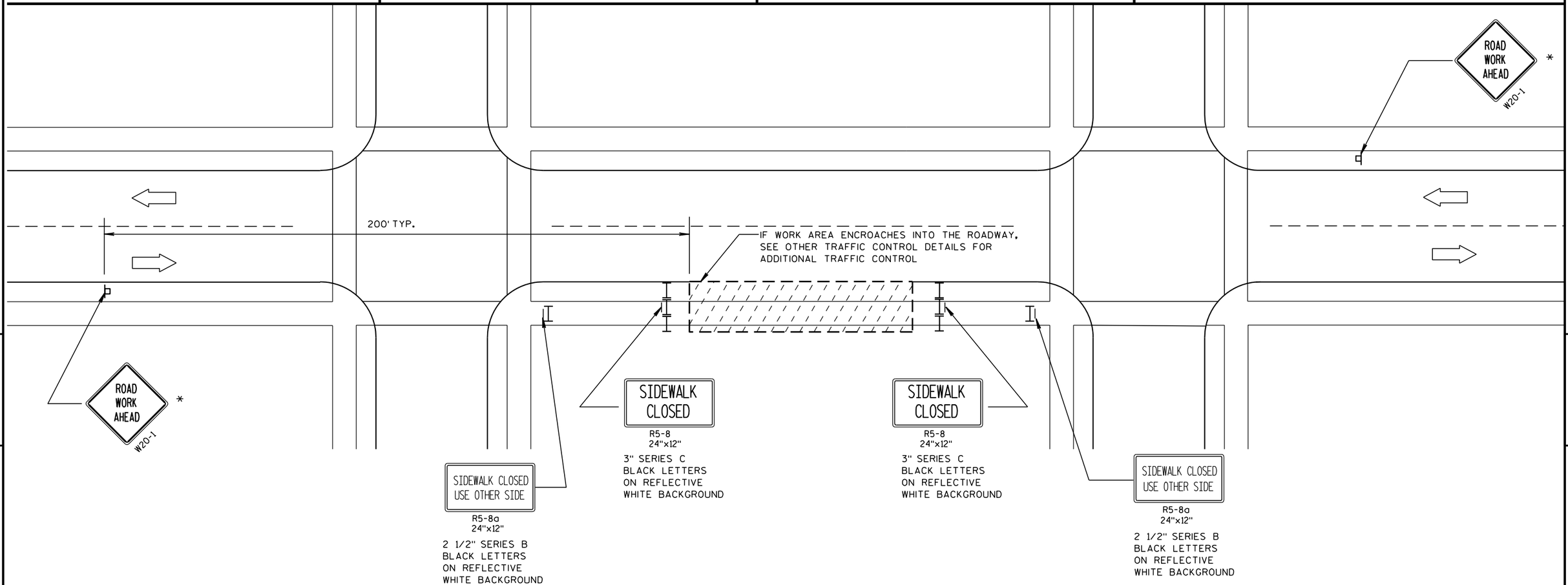
S.D.D. 15 D 21-3

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

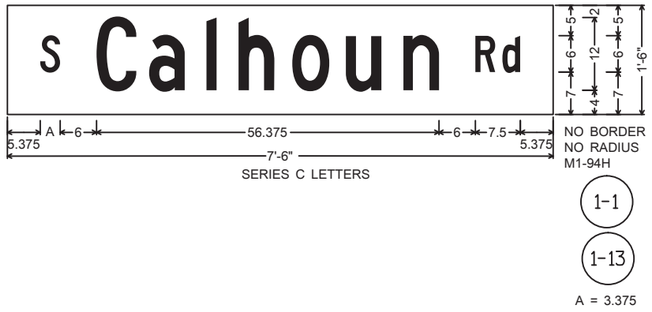
TRAFFIC CONTROL, SIDEWALK CLOSURE

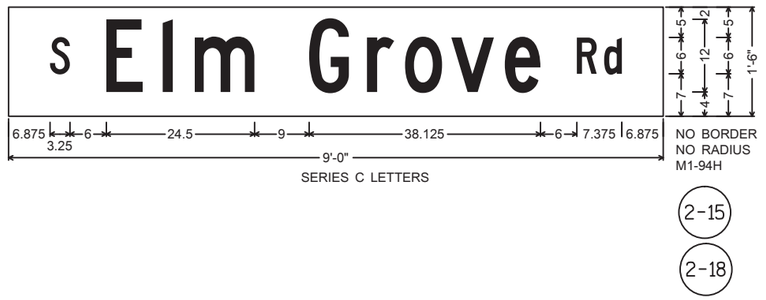
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

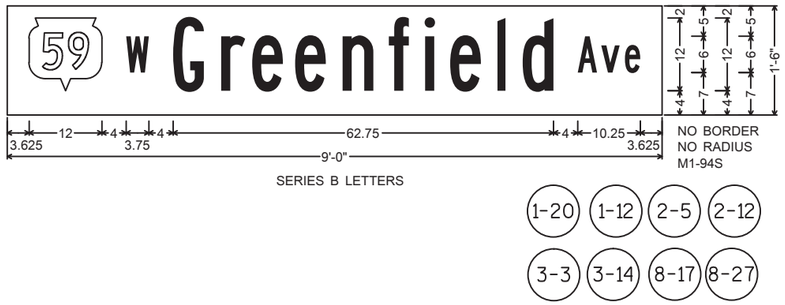
APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible]NEER
FHWA

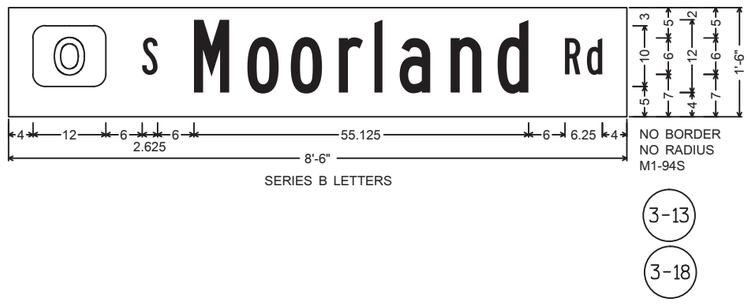
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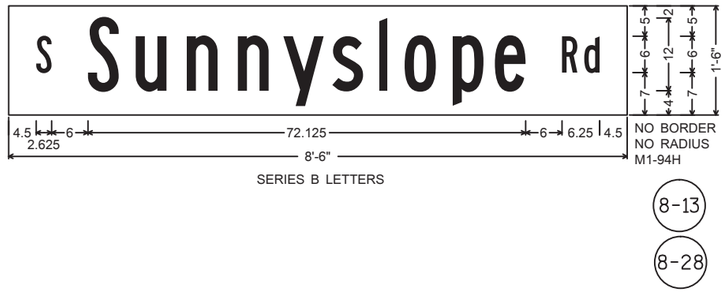
S.D.D. 15 D 30-1

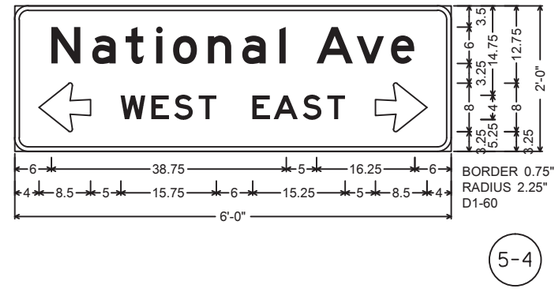












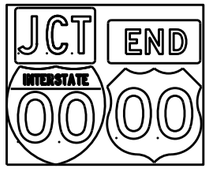
GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE "TYPE SH REFLECTIVE SHEETING".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS ALL UPPERCASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E MODIFIED". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E MODIFIED". ALL CAP WORDS ARE "SERIES E".
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE "SERIES E" PER PLATES A11-7 AND A11-10.
11. DO NOT SCALE.

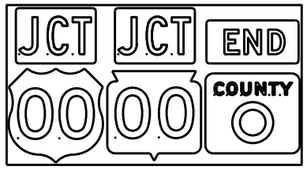
TYPICAL ASSEMBLIES



J1-1



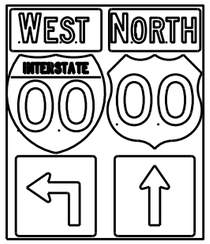
J1-2



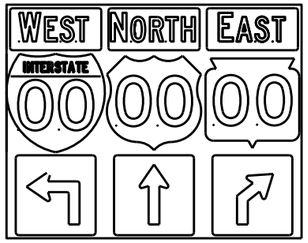
J1-3



J2-1



J2-2

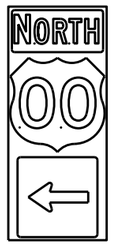


J2-3

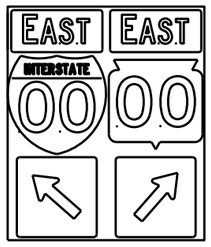


JV

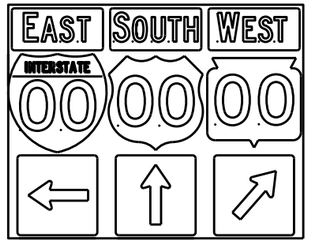
(Typical Vertical J-Assembly
See Note 10 and 11)



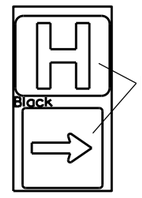
J3-1



J3-2



J3-3

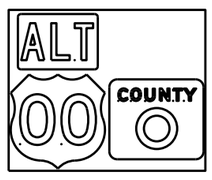


Blue Background

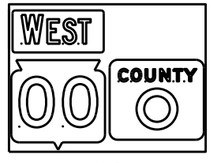
JH-1



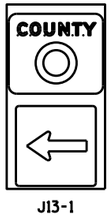
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

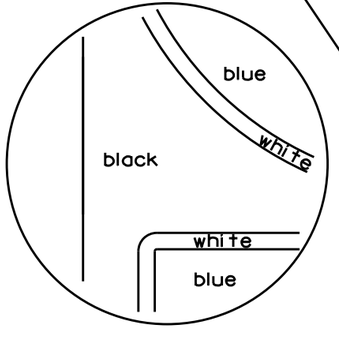


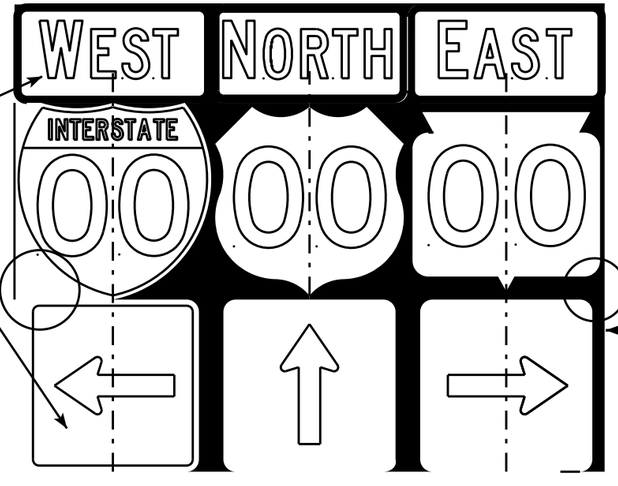
J23-1

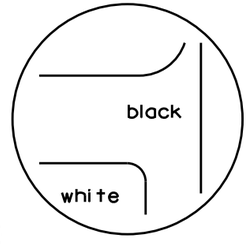


J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

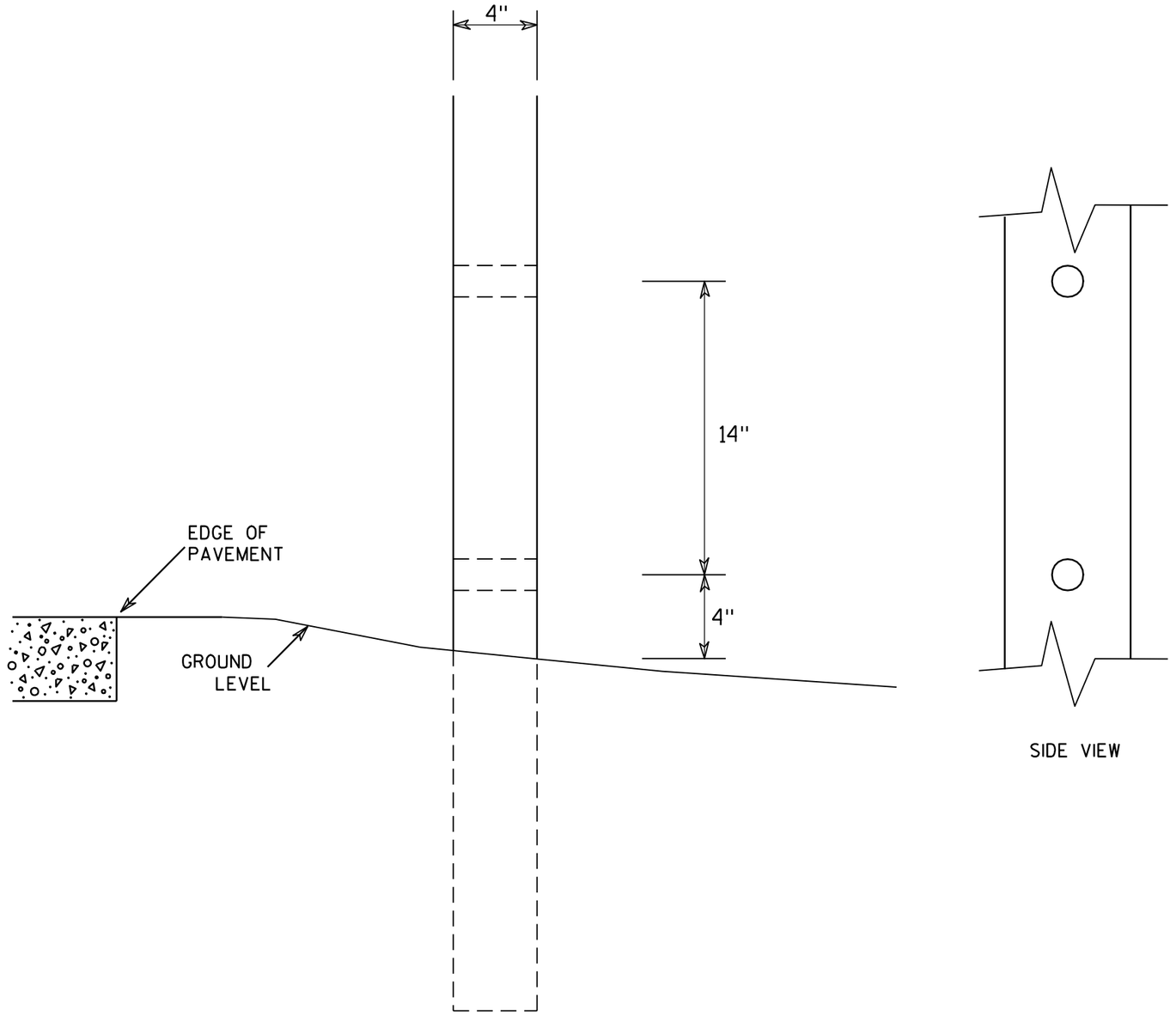
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

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.

4 X 6 WOOD POST MODIFICATIONS

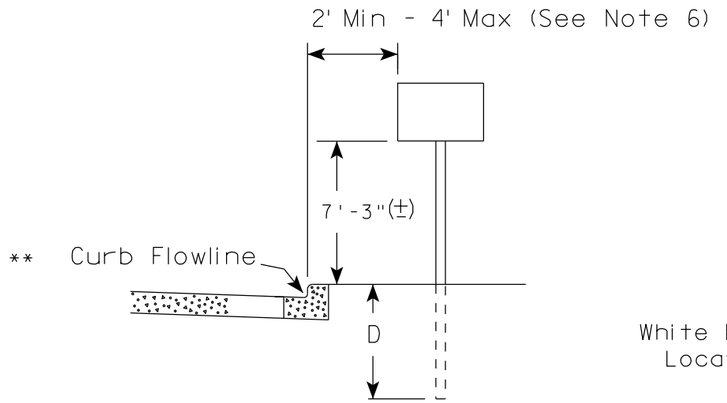
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

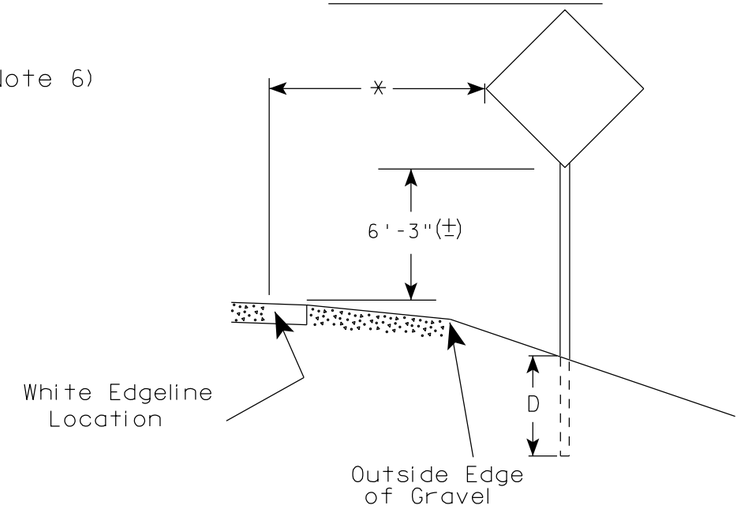
DATE 3/27/97 PLATE NO. A4-11.2

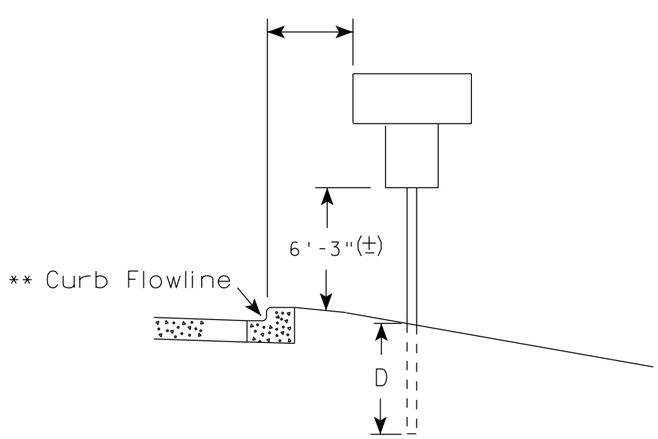
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 410	E

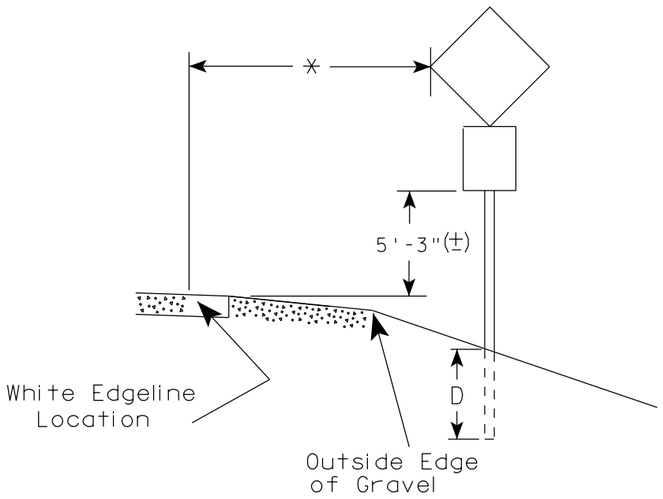
URBAN AREA



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, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as 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" (±).

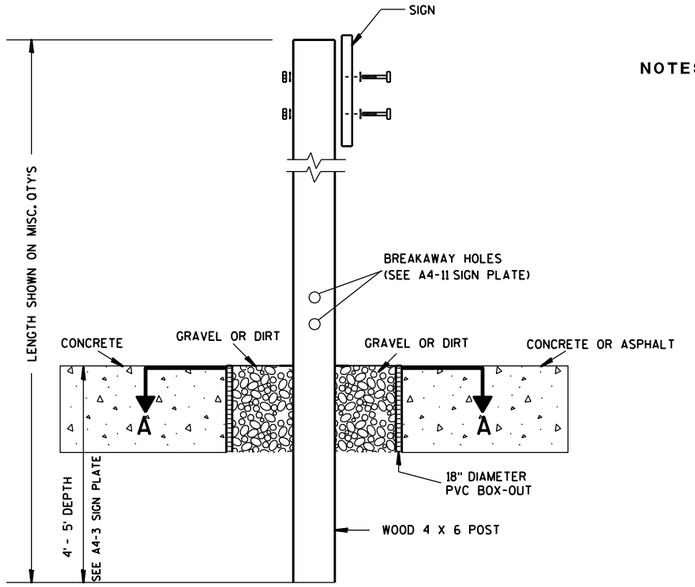
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

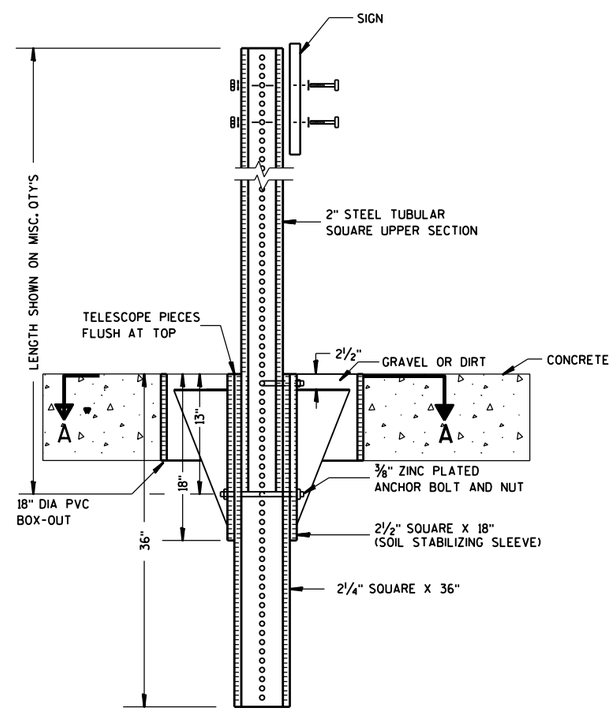
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

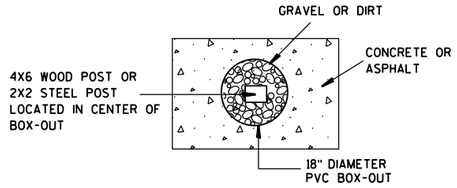
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

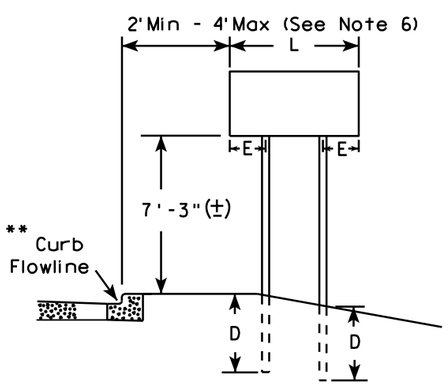
WISCONSIN DEPT OF TRANSPORTATION

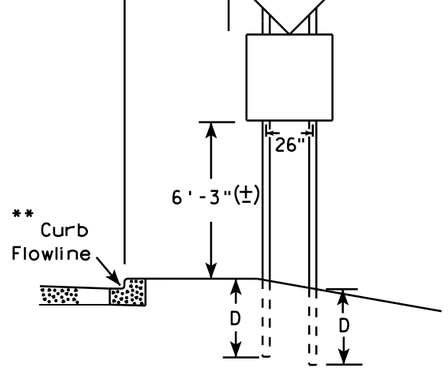
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

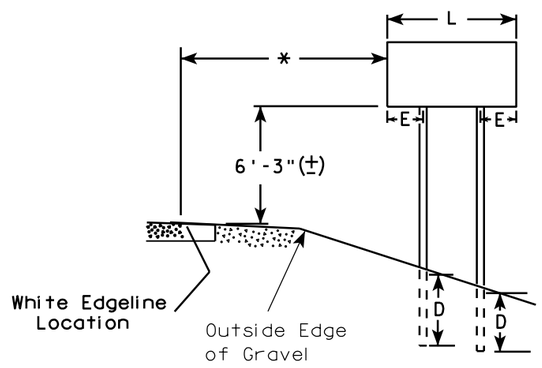
URBAN AREA

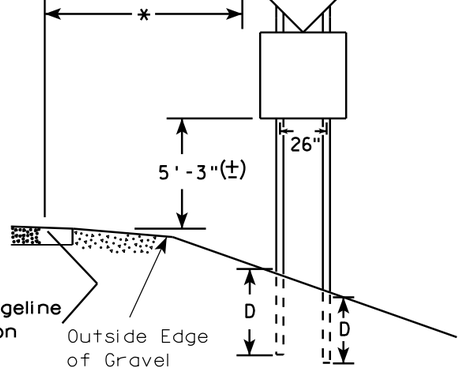




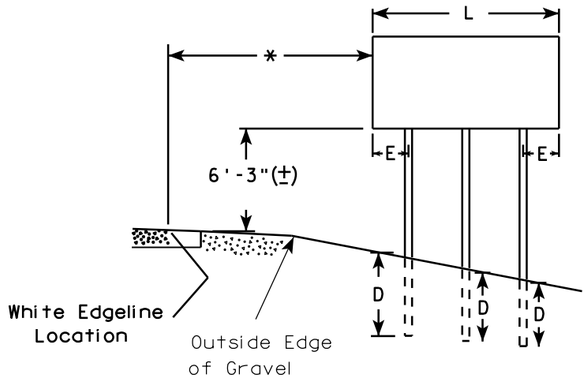
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding 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 or less than 20 S.F. in area.

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

***

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

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

POST EMBEDMENT DEPTH

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

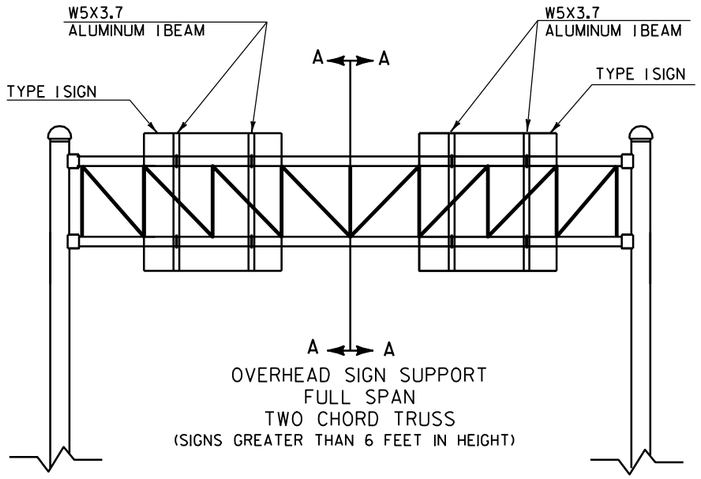
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

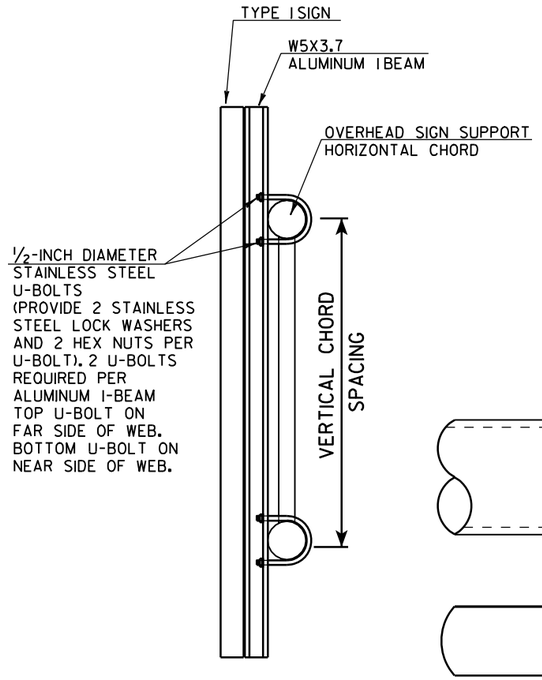
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 413 13

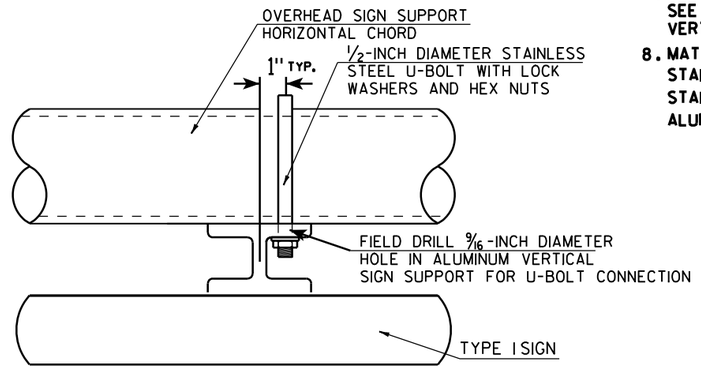
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



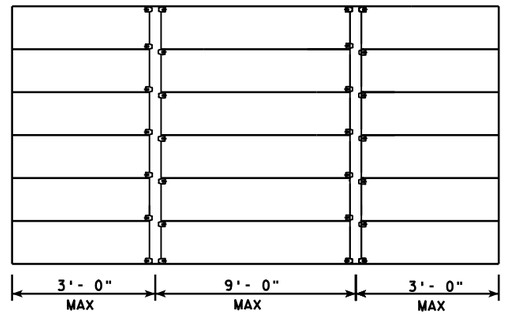
CUT SECTION A-A



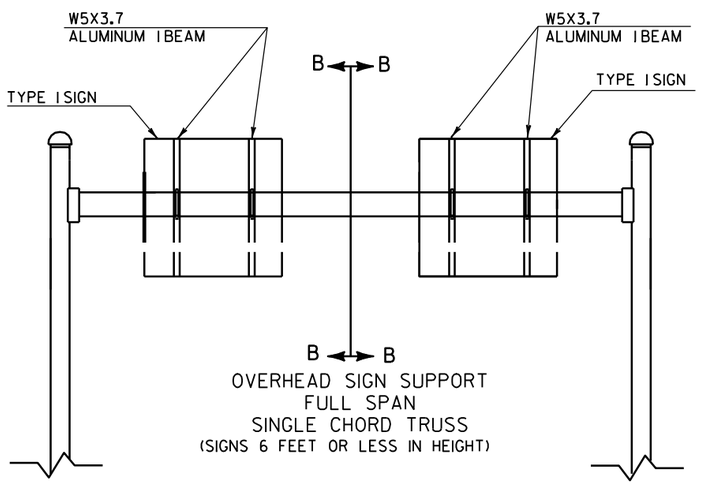
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

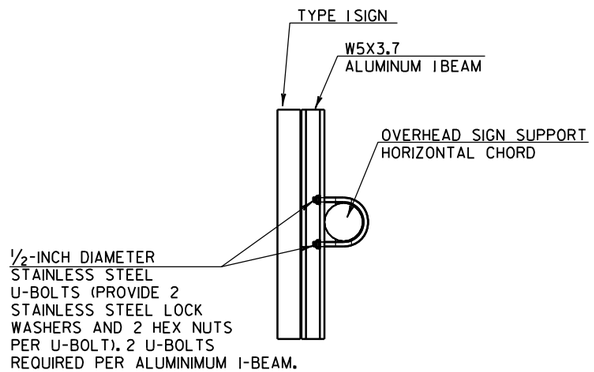
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



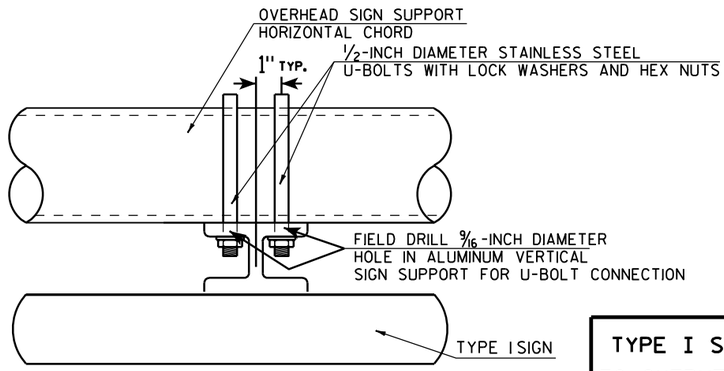
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

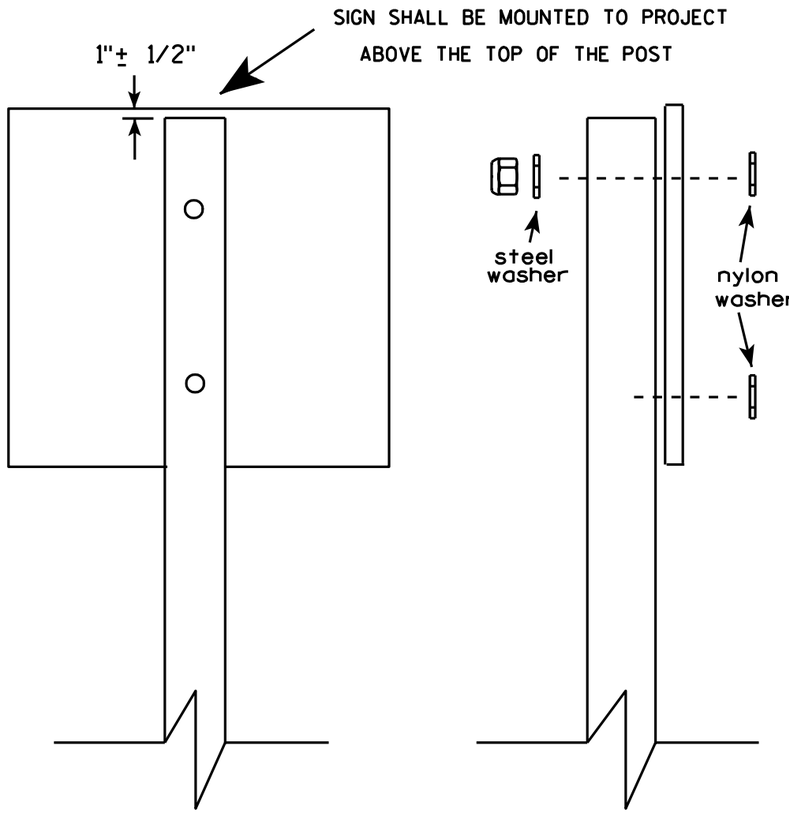
TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

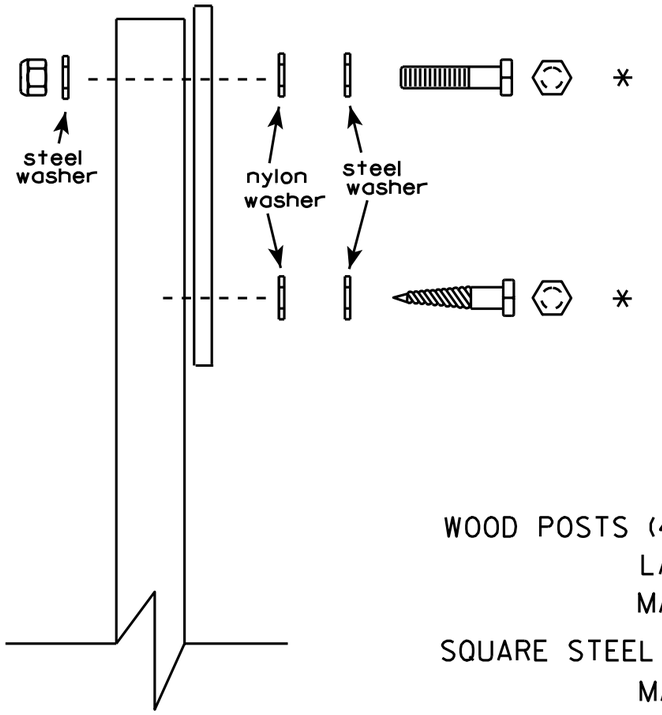
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/12 PLATE NO. A4-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 414	E





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

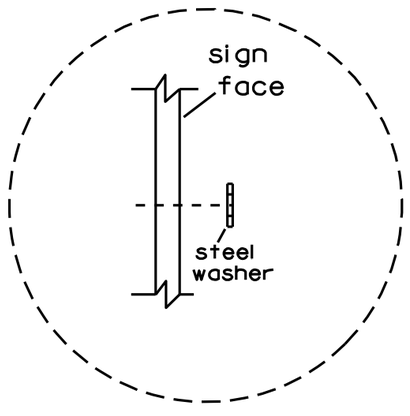
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

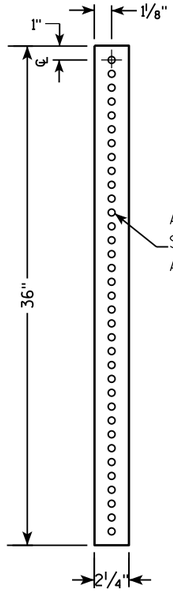
7

PROJECT NO:

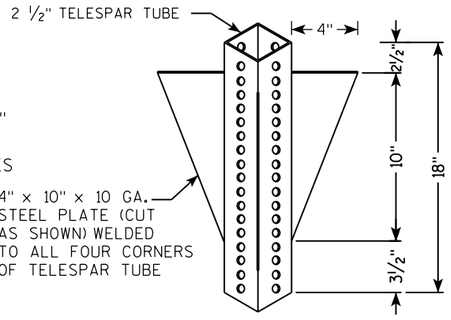
SHEET NO: 415 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

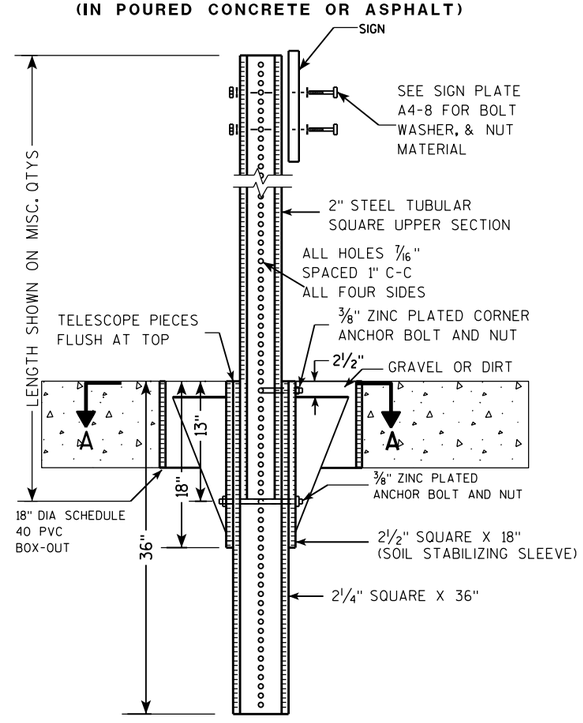
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



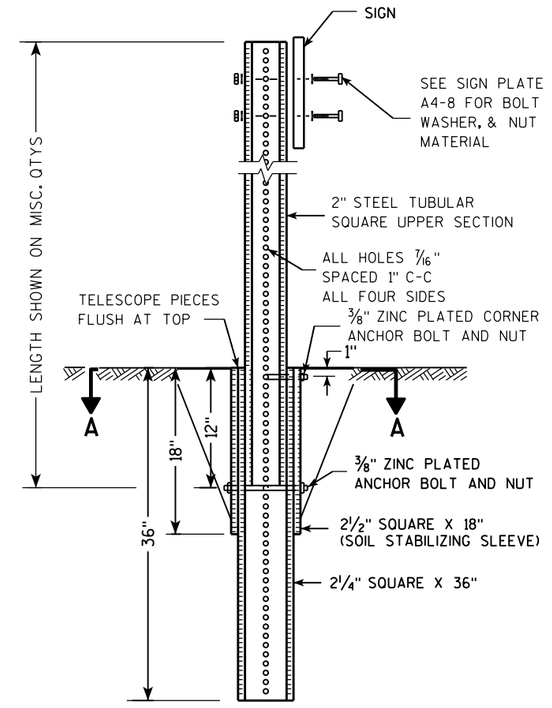
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

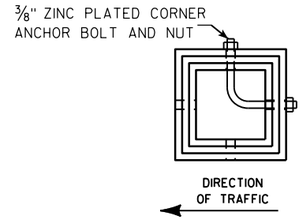


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

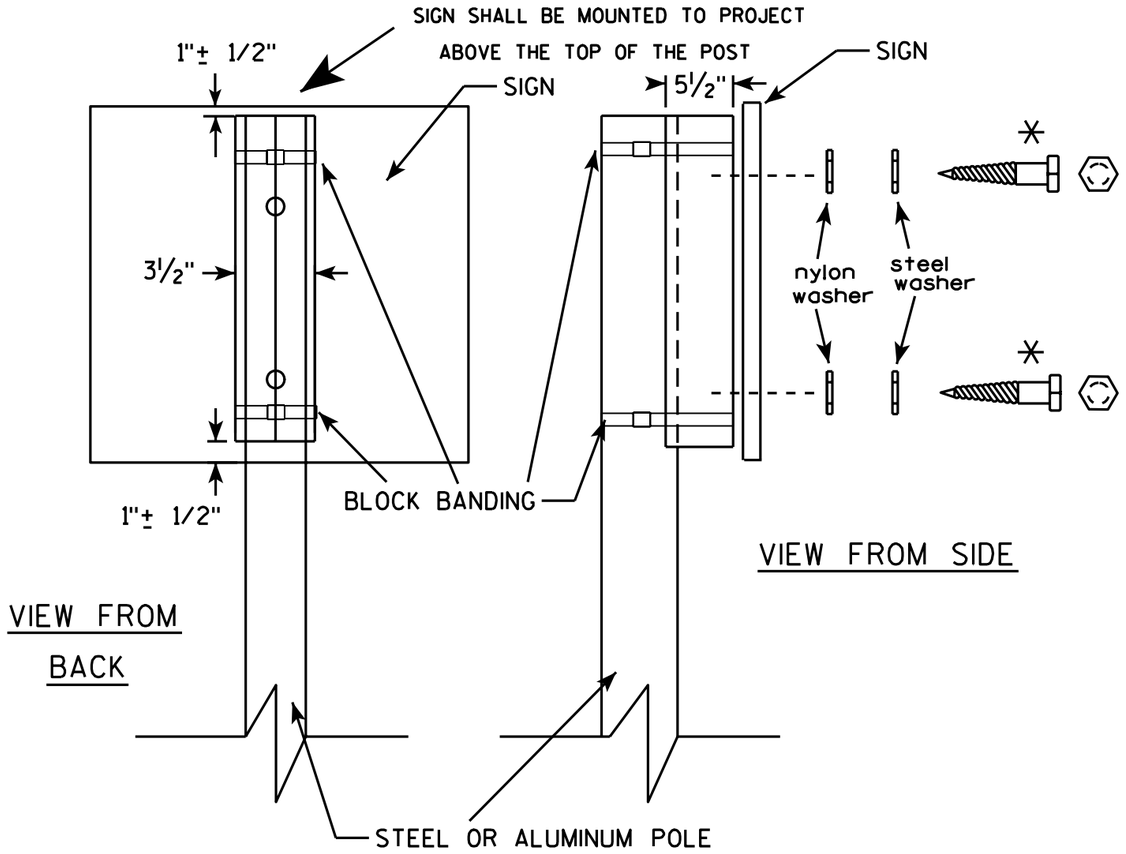
APPROVED Matthew R Rauch
for State Traffic Engineer

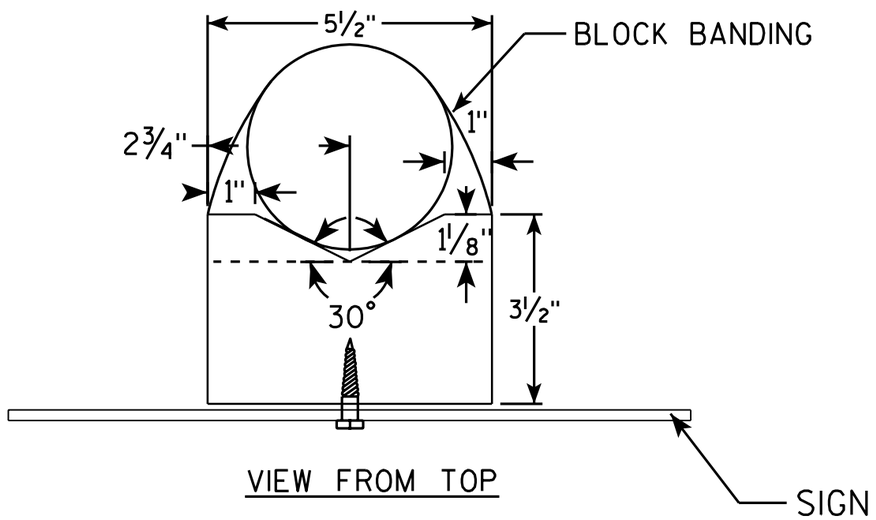
DATE 2/05/15 PLATE 416 A4-9.9

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





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

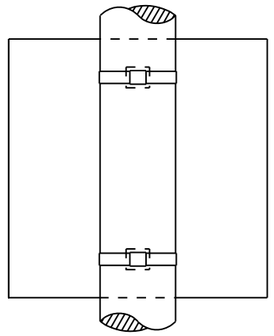
DATE 7/12/07 PLATE NO. A5-10.1

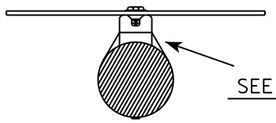
PROJECT NO:

SHEET NO: 417 E

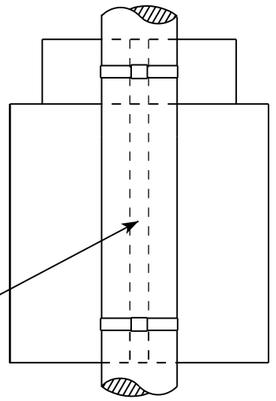
BANDING

SINGLE SIGN

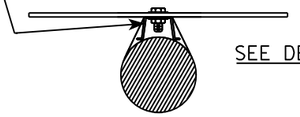


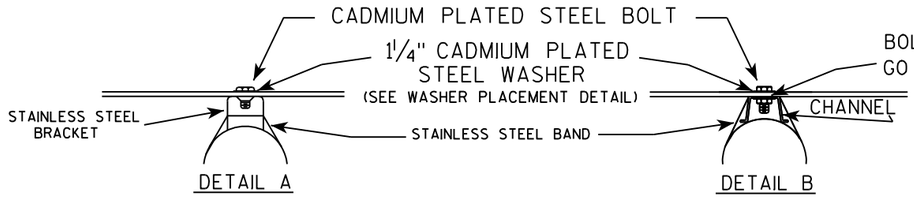


"J" ASSEMBLY

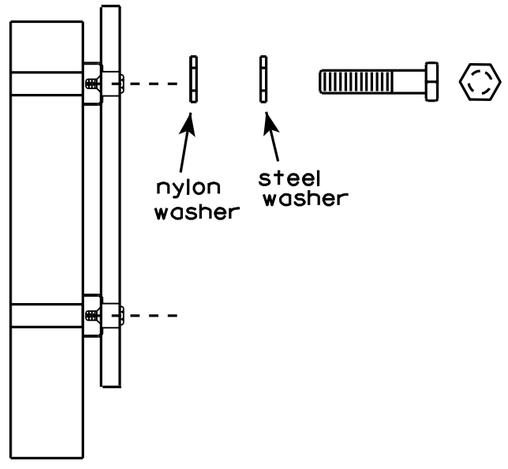


CHANNEL
SEE TYPICAL PANEL INSTALLATION SHEET





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.

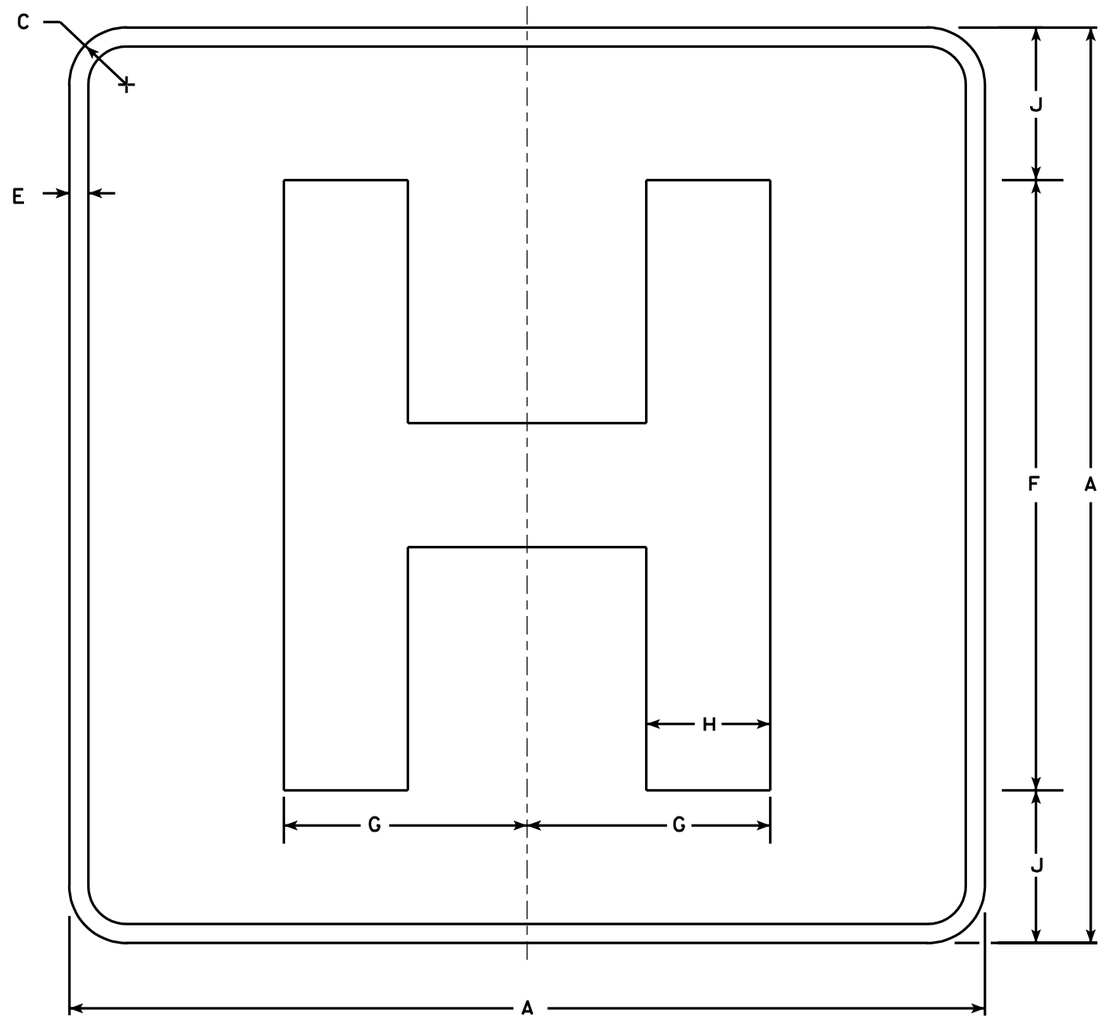
STANDARD SIGN
SIGN BANDING DETAILS

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: 418	E



D9-2

NOTES

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

Metric equivalent for this sign is:

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

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

STANDARD SIGN
D9-2

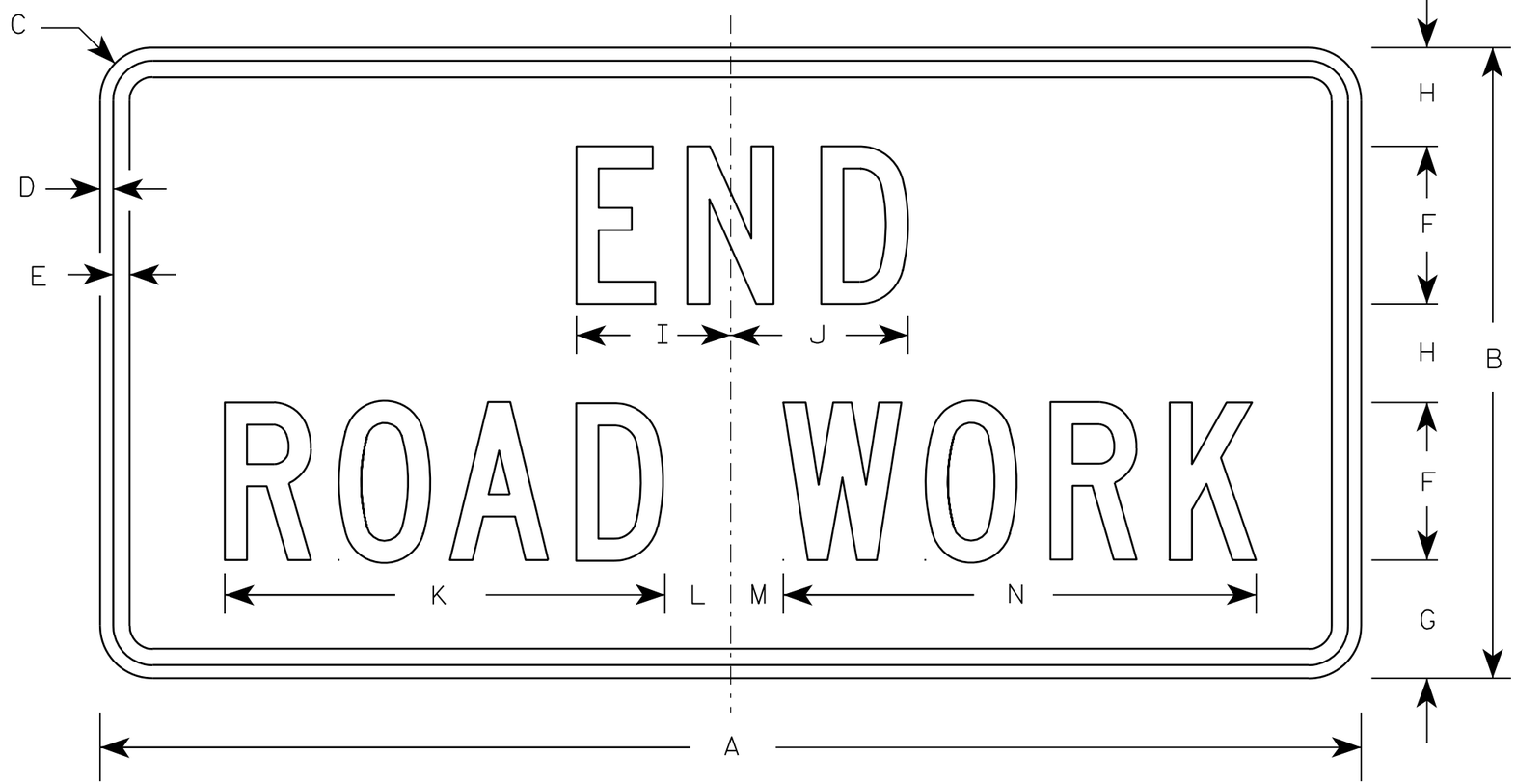
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong for State Traffic Engineer

DATE 1/15/02 PLATE NO. D9-2.4

PROJECT NO:

SHEET NO: 419 E



G20-2A

NOTES

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

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

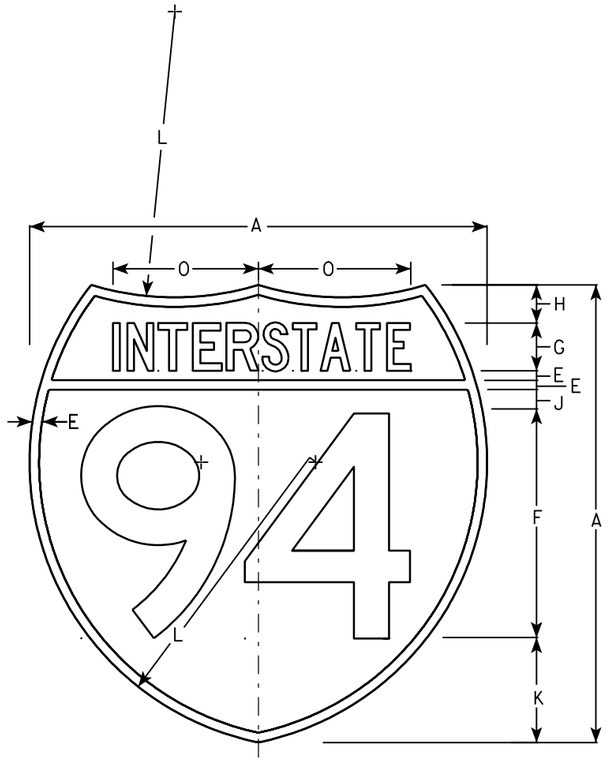
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

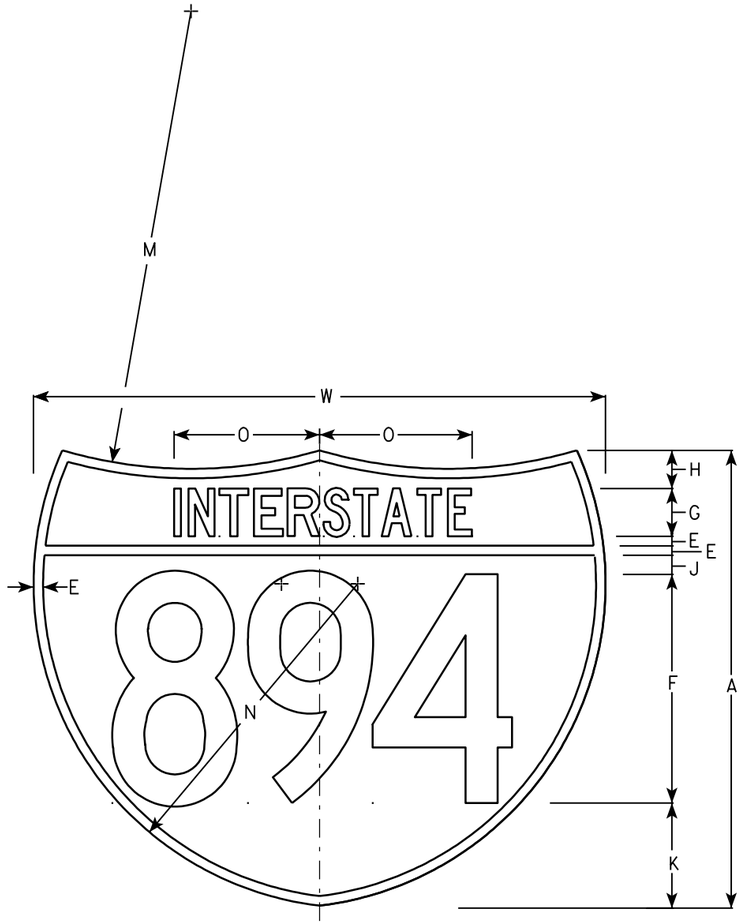
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 420	E



M1-1



M1-1A

NOTES

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

Metric equivalent for these signs are:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

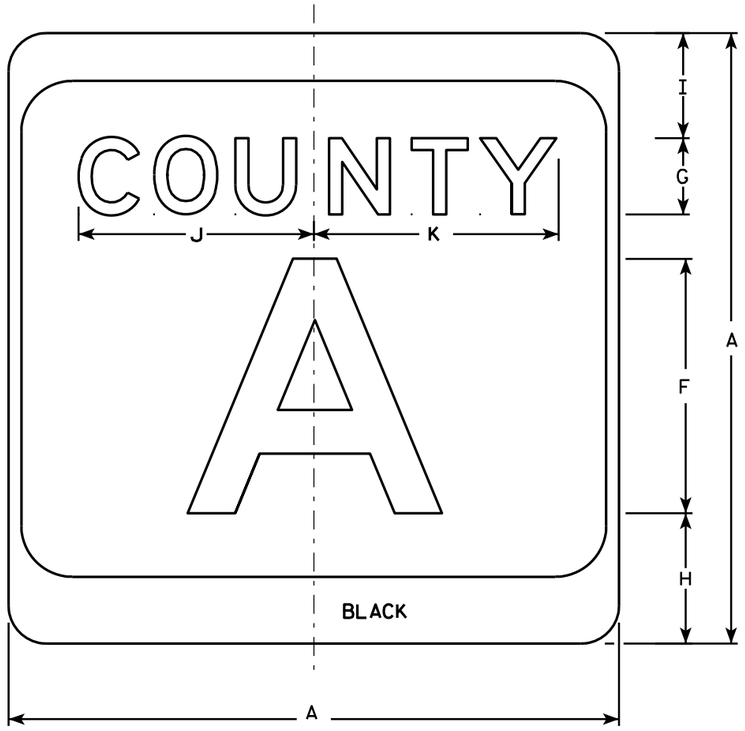
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

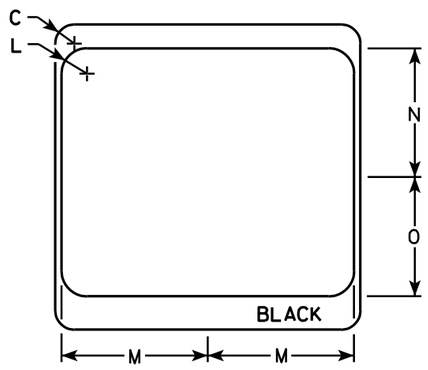
APPROVED Matthew R Rauch
for State Traffic Engineer

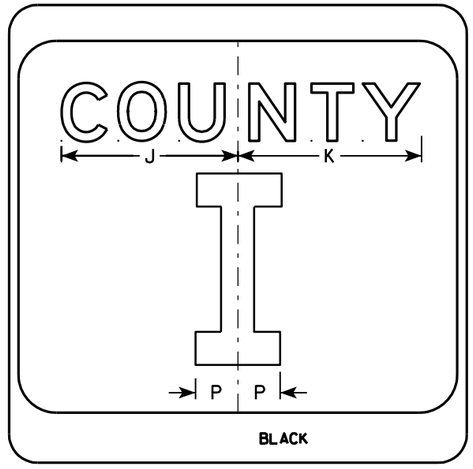
DATE 08/23/05 PLATE NO. M1-1.8

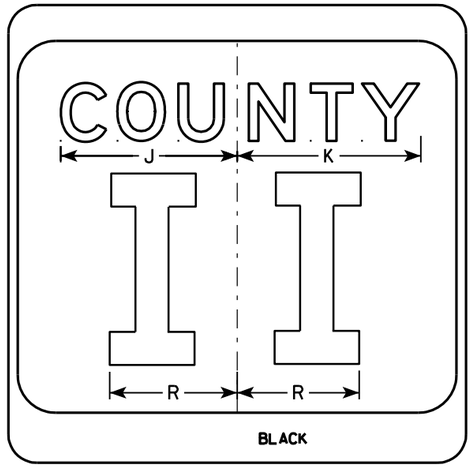
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 421	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   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. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

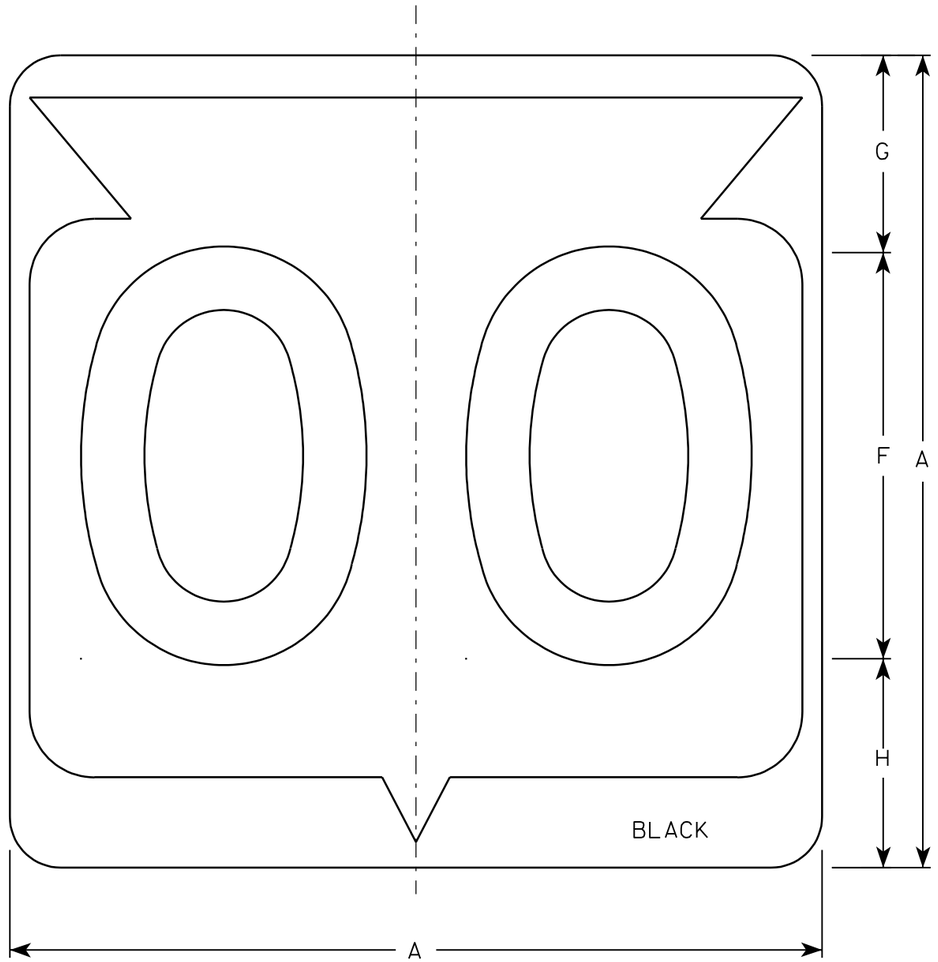
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

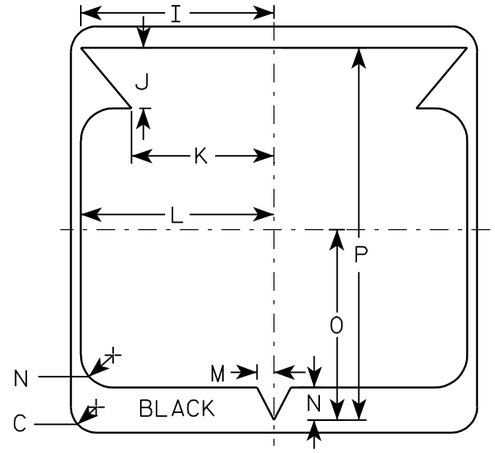
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 422	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

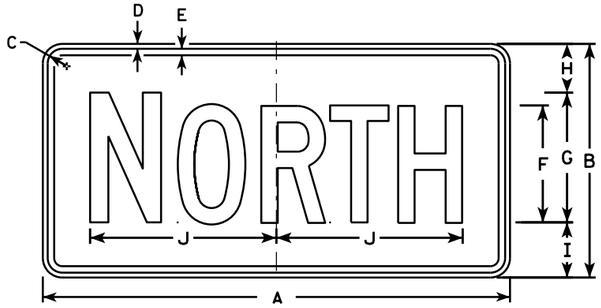
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

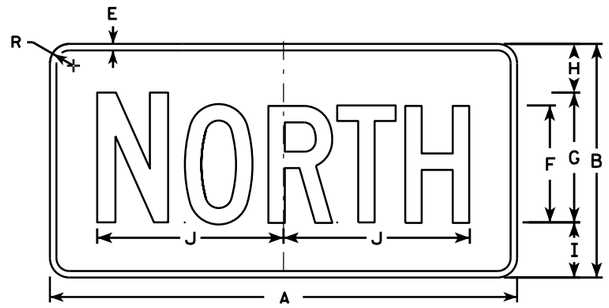
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 423	E



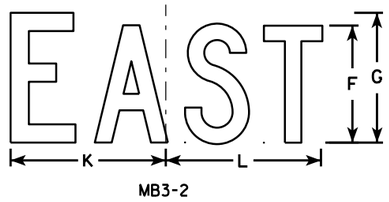
M3-1
MK3-1
MM3-1
MN3-1



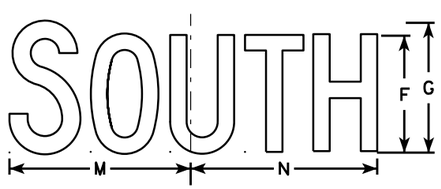
MB3-1



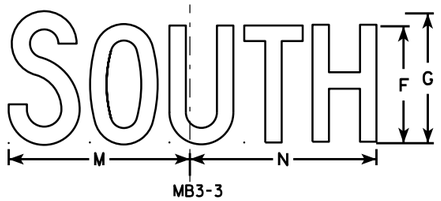
M3-2
MK3-2
MM3-2
MN3-2



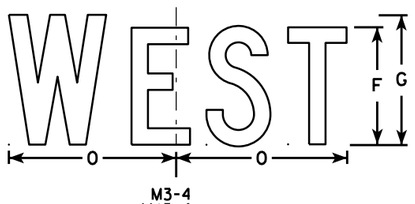
MB3-2



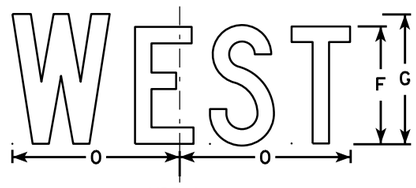
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

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

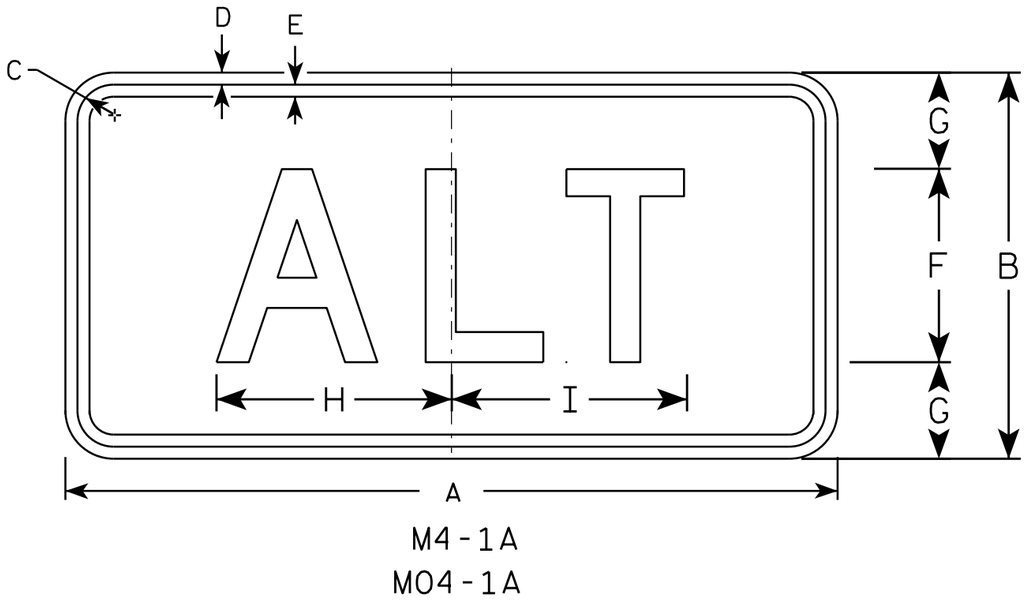
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

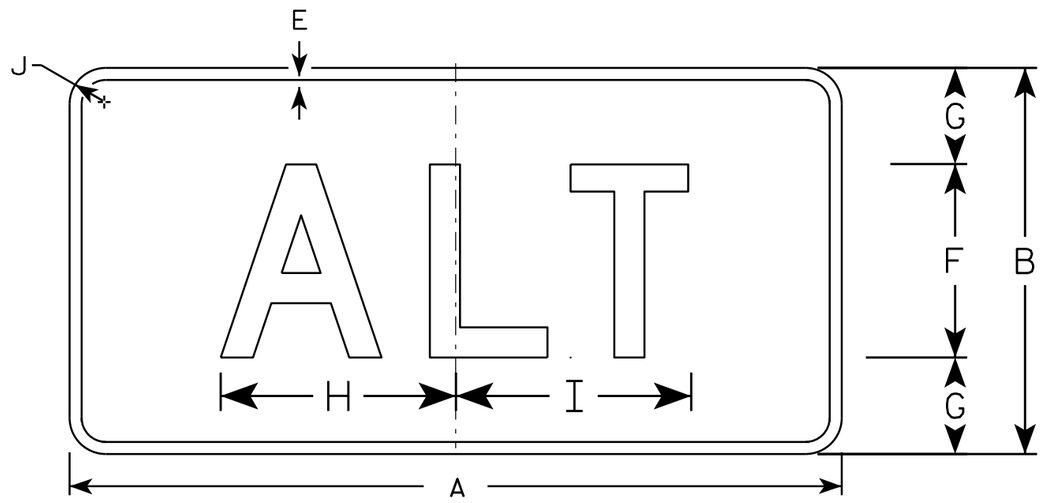
PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E



M4-1A
M04-1A

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See Note 5
   Message - See note 5
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. M4-1A Background - White
   Message - Black
   MB4-1A Background - Blue
   Message - White
   M04-1A Background - Orange - Type F
   Message - Black



MB4-1A

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	7 1/4	7 3/8	1 1/8																	2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	11	11 1/8	1 1/8																	4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	11	11 1/8	1 1/8																	4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	11	11 1/8	1 1/8																	4.5

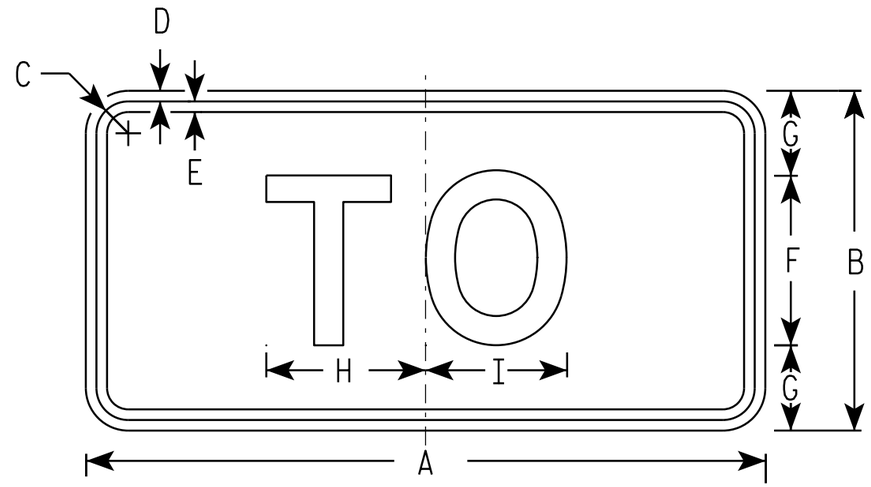
STANDARD SIGN
M4-1A

WISCONSIN DEPT OF TRANSPORTATION

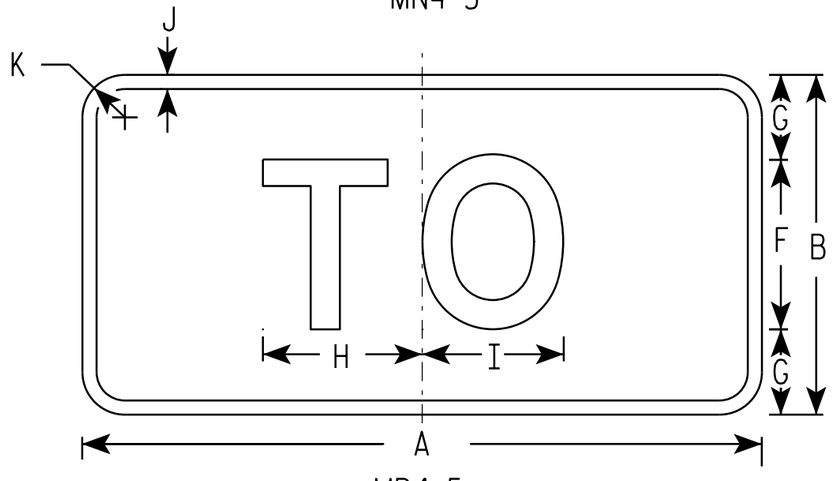
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/30/14 PLATE 425 M4-1A.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



M4-5
MK4-5
MM4-5
MN4-5



MB4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

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

STANDARD SIGN
M4-5

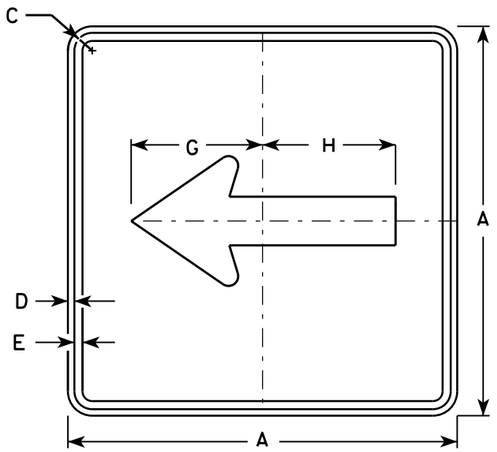
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

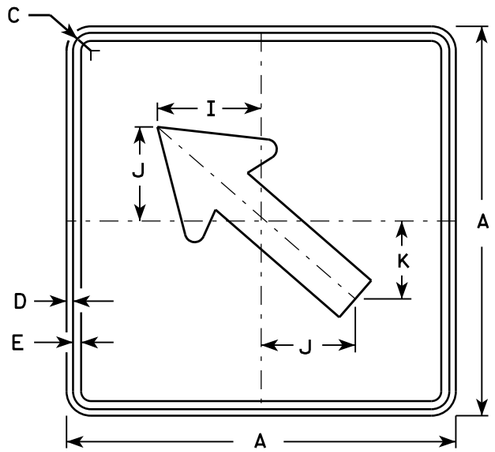
DATE 6/30/14 PLATE M4-5.7

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 30-JUN-2014 12:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.351066:1.000000
WISDOT/CADDS SHEET 42



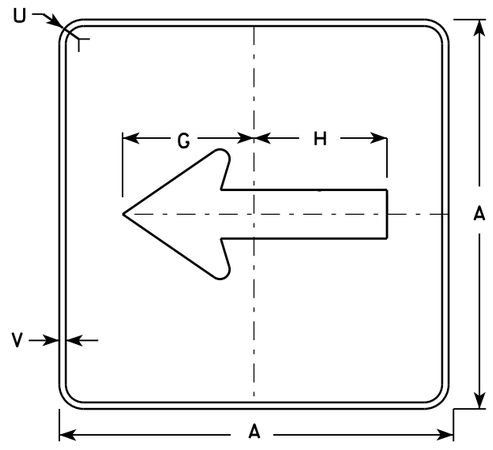
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



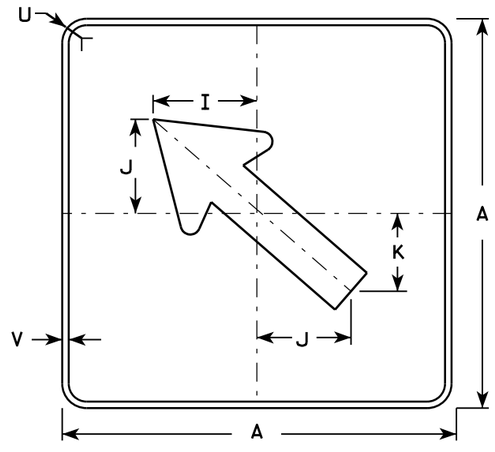
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

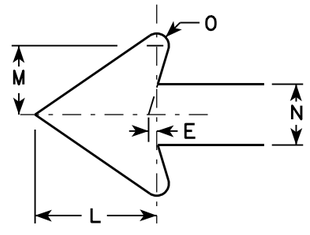
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MG6-1 and MG6-2 Background - Green
   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



MB6-2



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

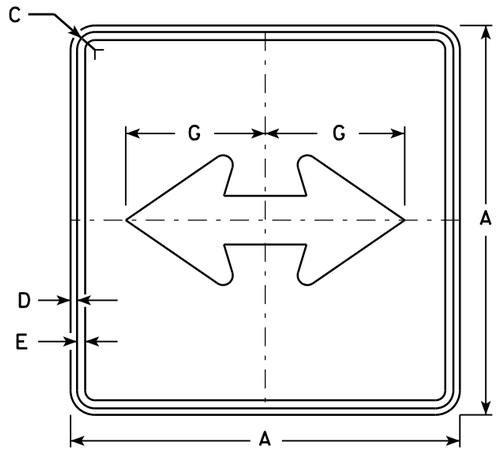
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

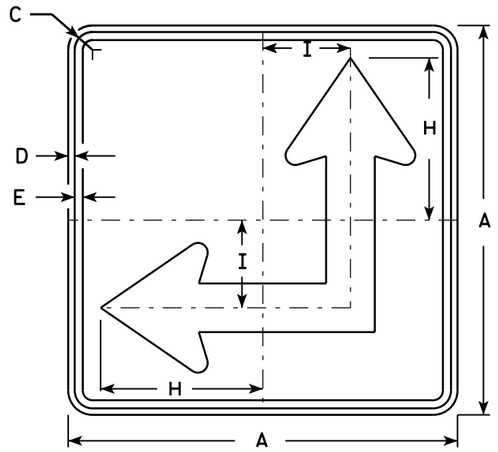
DATE 7/03/14 PLATE 427 M6-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

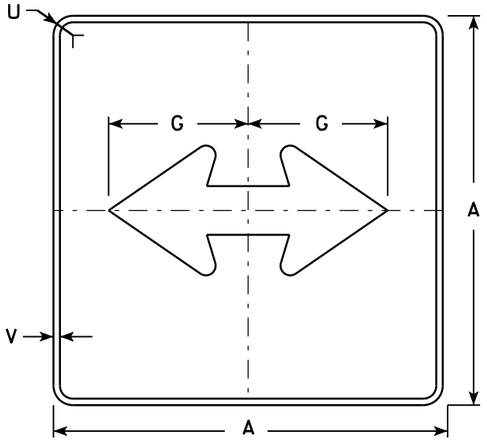
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000



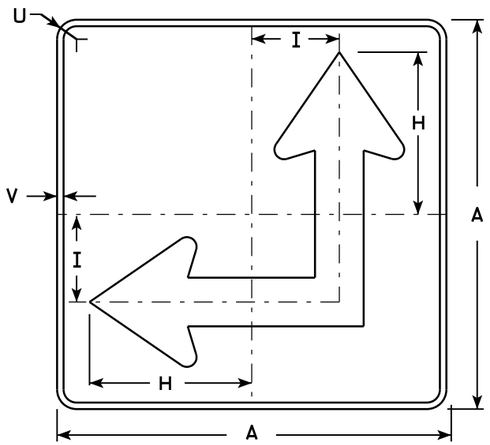
M6-4
MK6-4
MM6-4
MN6-4
MO6-4
MP6-4
MR6-4



M6-6
MK6-6
MM6-6
MN6-6
MO6-6
MP6-6
MR6-6



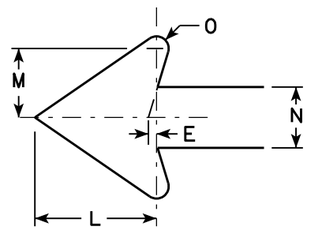
MB6-4



MB6-6

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. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	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	12 1/2	6 3/4			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	12 1/2	6 3/4			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	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN M6-4 & M6-6 SERIES

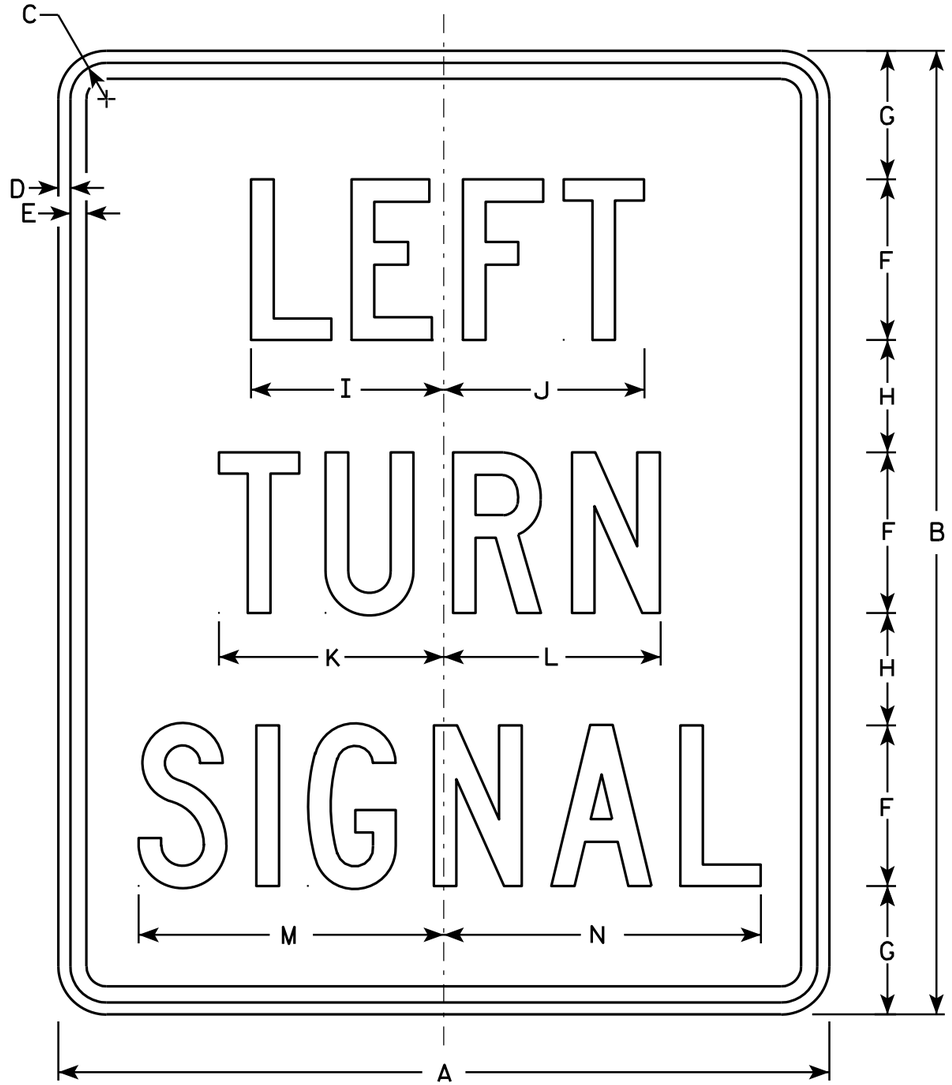
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 7/03/14 PLATE M6-4.9

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

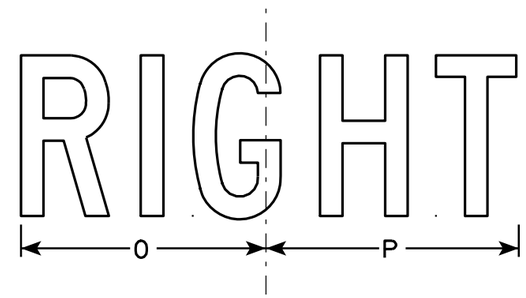
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M64.DGN PLOT DATE : 03-JUL-2014 14:56 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000



R10-10L

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. R10-10R is identical to R10-10L except RIGHT replaces LEFT.



R10-10R

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

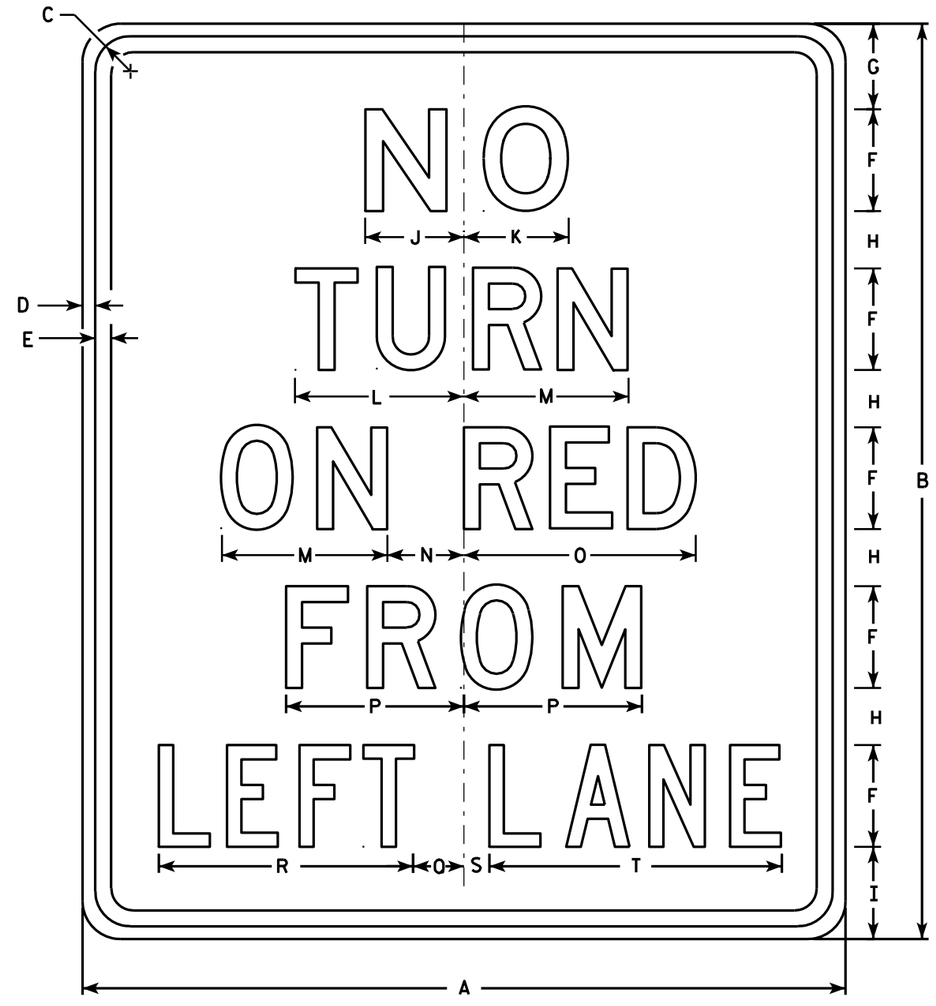
STANDARD SIGN
R10-10

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-10.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 429	E



R10-11F

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 - 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 E.
   Lines 2, 3 and 4 are Series D.
   Line 5 is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	4	3 3/8	2 1/4	3 5/8	3 7/8	4 1/8	6 5/8	6 1/2	3	9 1/8	7	2	10	1	11 1/2							7.5
2M	30	36	1 3/8	1/2	5/8	4	3 3/8	2 1/4	3 5/8	3 7/8	4 1/8	6 5/8	6 1/2	3	9 1/8	7	2	10	1	11 1/2							7.5
3																											
4																											
5																											

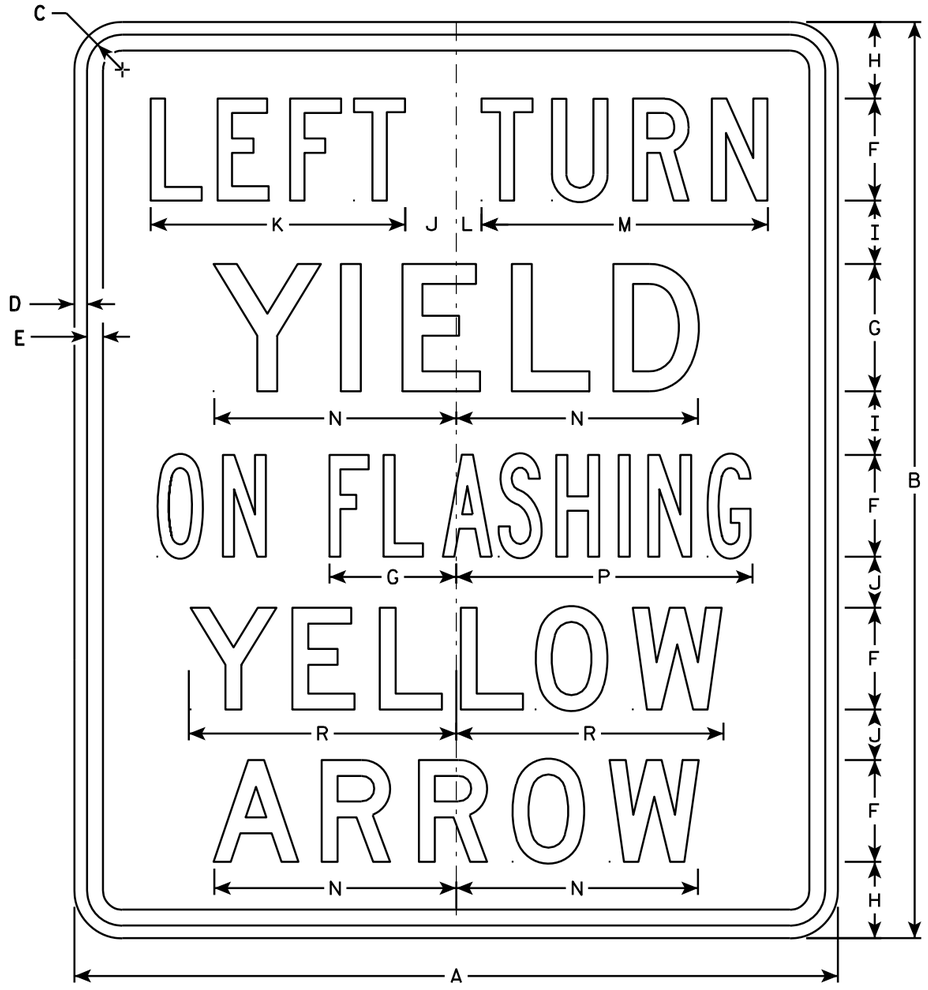
STANDARD SIGN
R10-11F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-11F.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 430	E

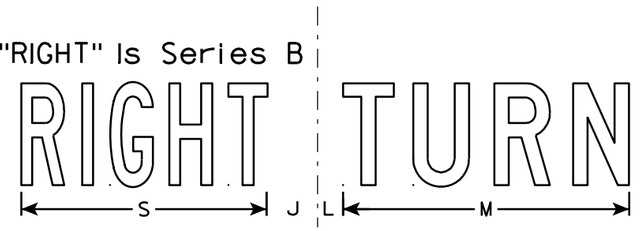


R10-50L

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 - 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 C.
   Lines 2, 4 and 5 are Series D.
   Line 3 is Series B.

"RIGHT" Is Series B



R10-50R

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
2M	30	36	1 3/8	1/2	5/8	4	5	3	2 1/2	2	10	1	11 1/4	9 1/2	4 1/4	11 5/8		10 1/2	9 5/8								7.5
3																											
4																											
5																											

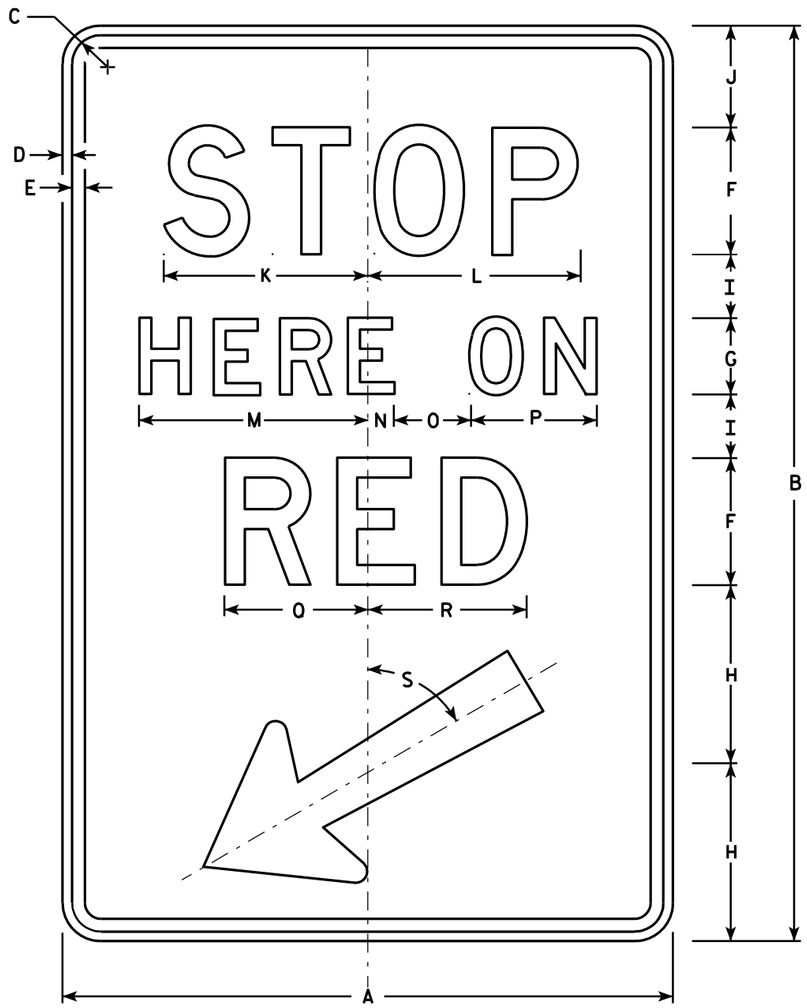
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

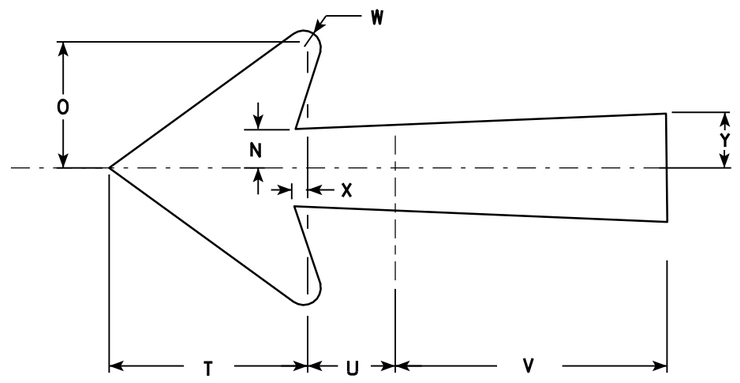
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 431	E



R10-6

NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

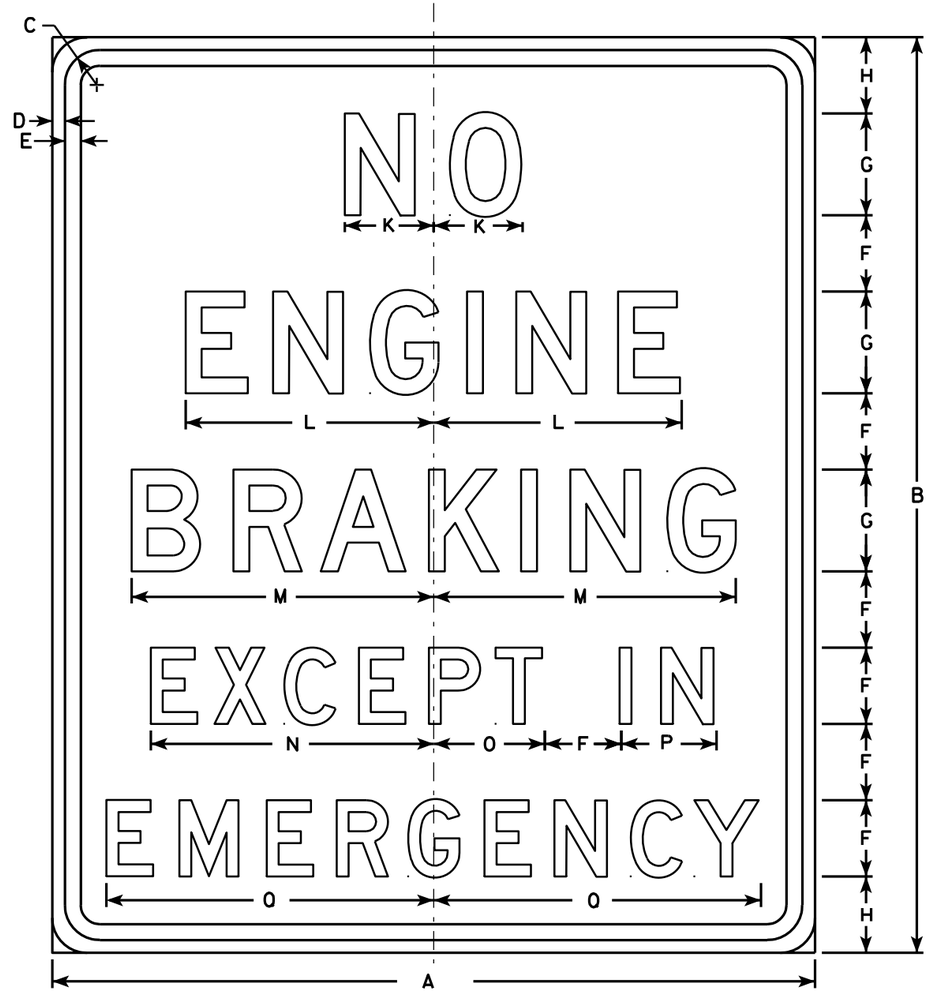
STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

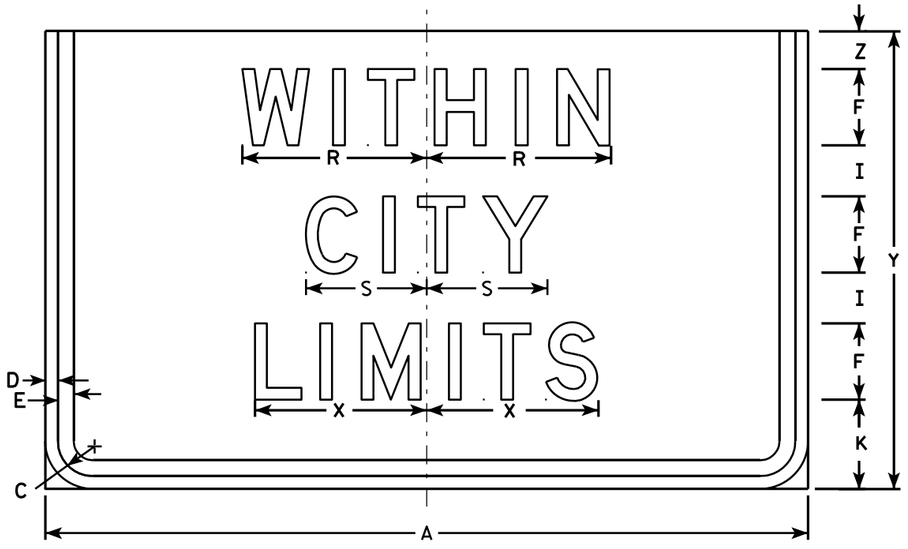
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 432	E



R10-64

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D 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 2 of R10-64F is Series C for "TOWNSHIP" Only



R10-64F

Area sq. ft.
3.75
7.0

VILLAGE
V
V

TOWNSHIP
U
U

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	36	1 3/8	1/2	5/8	3	4	3	2		3 1/2	9 3/4	11 7/8	11 1/8	4 3/8	3 3/4	12 7/8	7 1/4	4 3/4		8 1/4	8 3/4	5/8	6 3/4	18	1 1/2	7.5
2S	30	36	1 3/8	1/2	5/8	3	4	3	2		3 1/2	9 3/4	11 7/8	11 1/8	4 3/8	3 3/4	12 7/8	7 1/4	4 3/4		8 1/4	8 3/4	5/8	6 3/4	18	1 1/2	7.5
2M	30	36	1 3/8	1/2	5/8	3	4	3	2		3 1/2	9 3/4	11 7/8	11 1/8	4 3/8	3 3/4	12 7/8	7 1/4	4 3/4		8 1/4	8 3/4	5/8	6 3/4	18	1 1/2	7.5
3	42	48	1 3/8	1/2	5/8	4	5	4 1/2	3		4	12 1/4	14 7/8	14 1/8	5 1/4	4 3/4	16 1/4	9	6		11	11 1/4	1 1/2	8 1/2	24	2	14.0
4																											
5																											

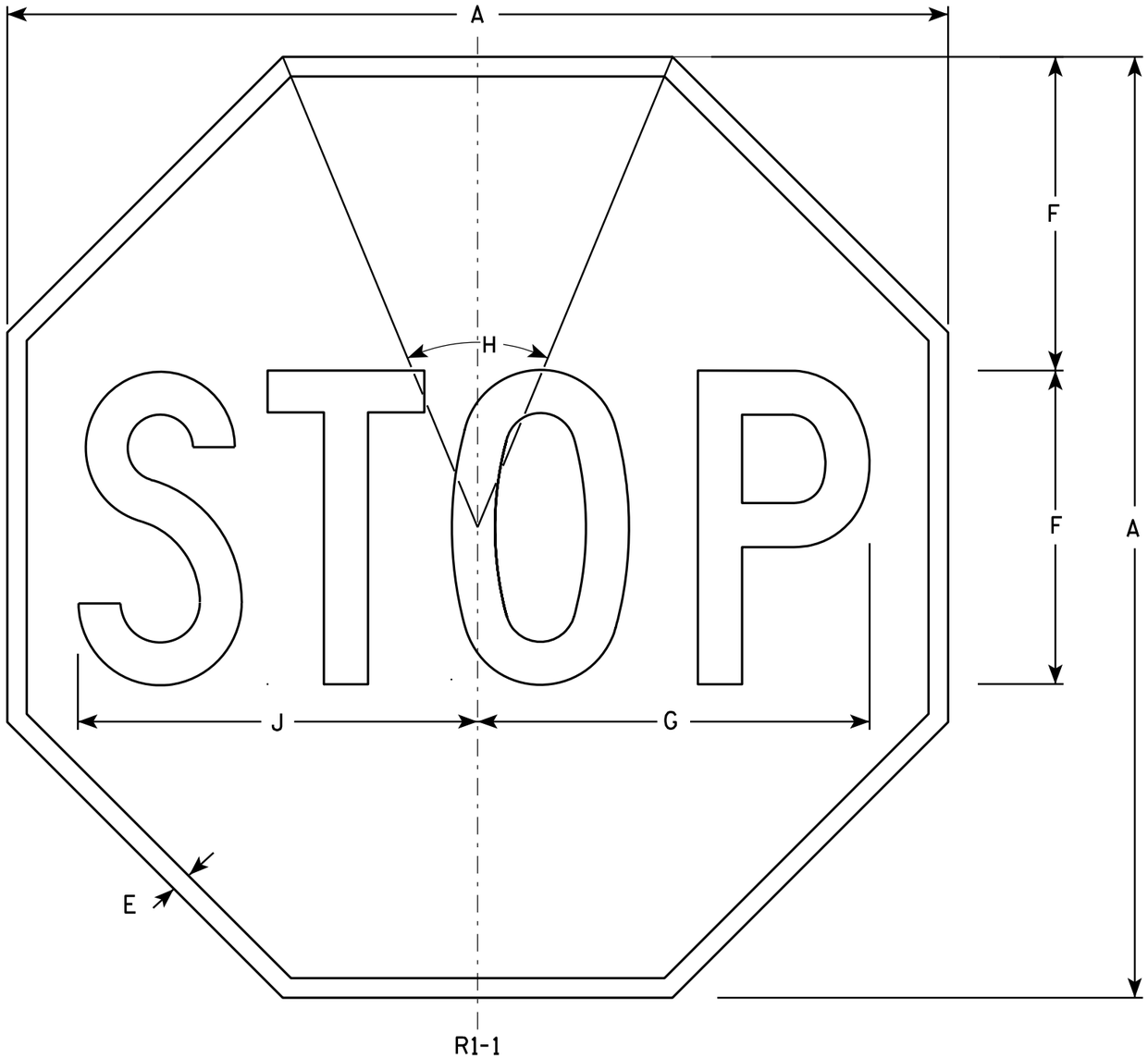
STANDARD SIGN
R10-64 & R10-64F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-64.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 433	E



NOTES

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

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

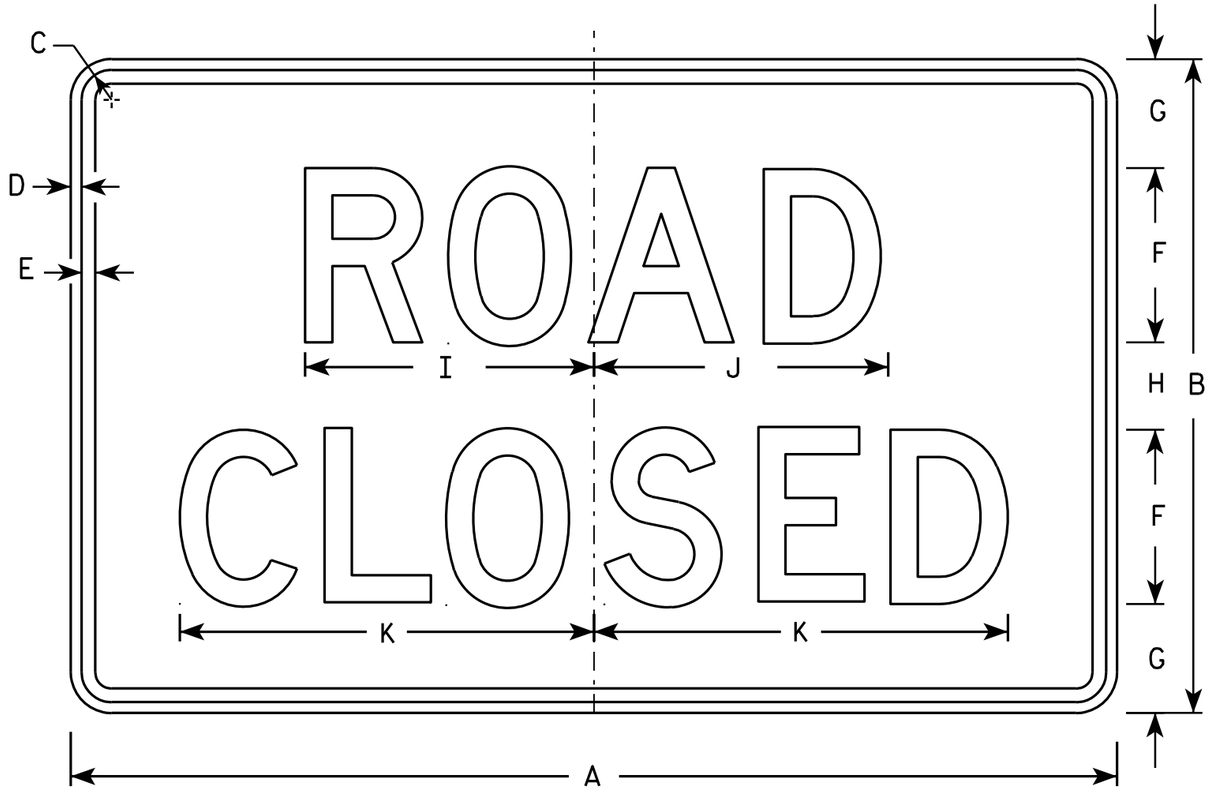
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

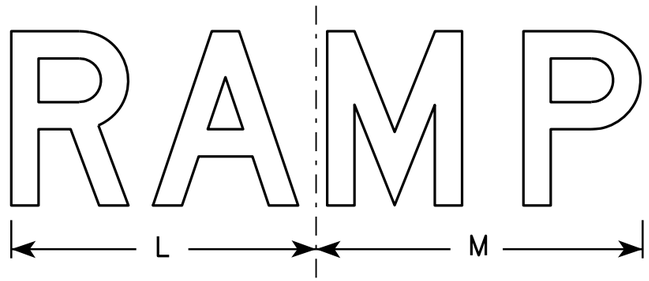
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 434	E



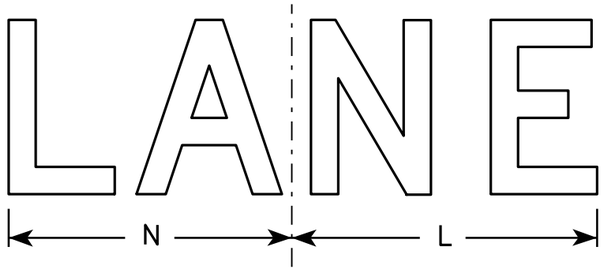
R11-2

NOTES

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



R11-2R



R11-2L

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

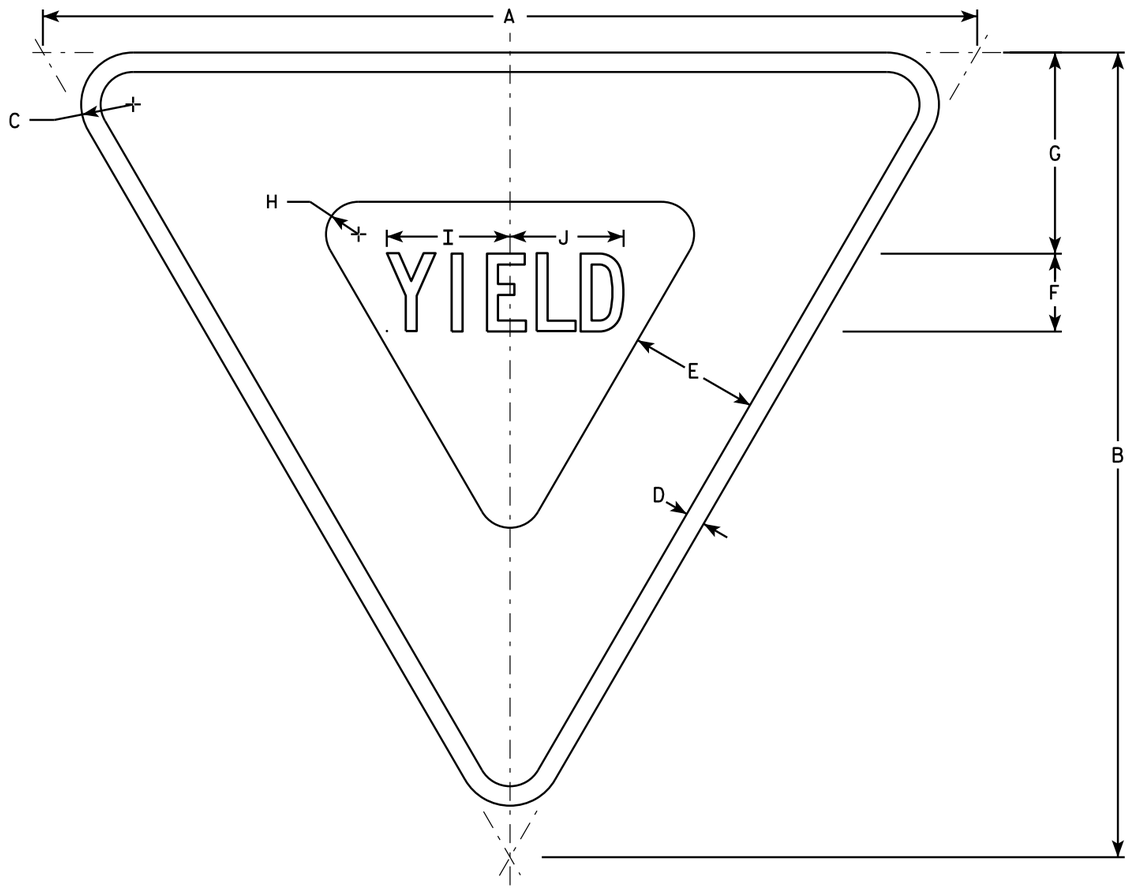
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 435	E



R1-2

NOTES

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

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

STANDARD SIGN
R1-2

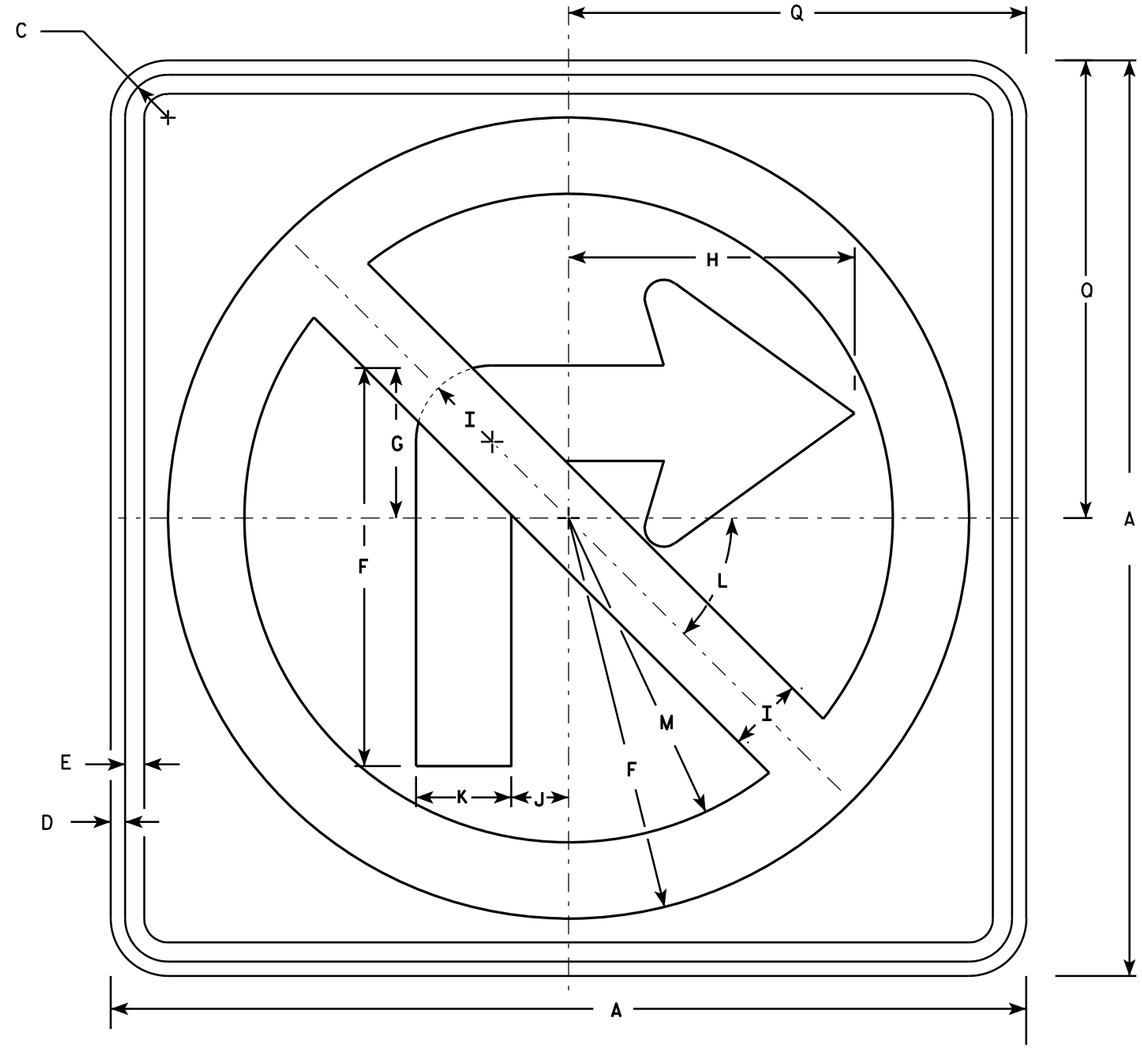
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

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

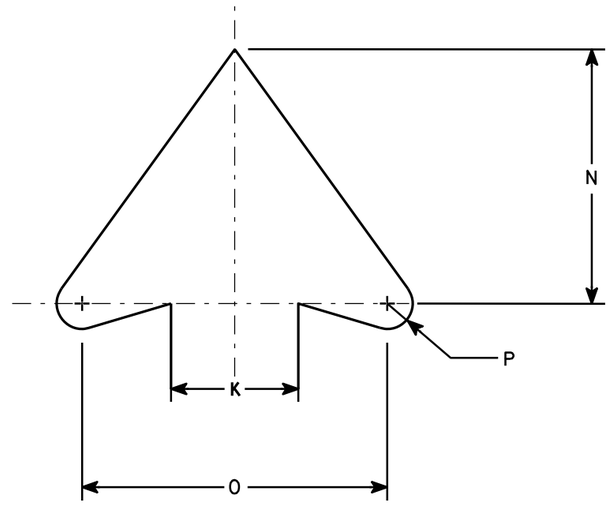
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-1

NOTES

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



ARROW DETAIL

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

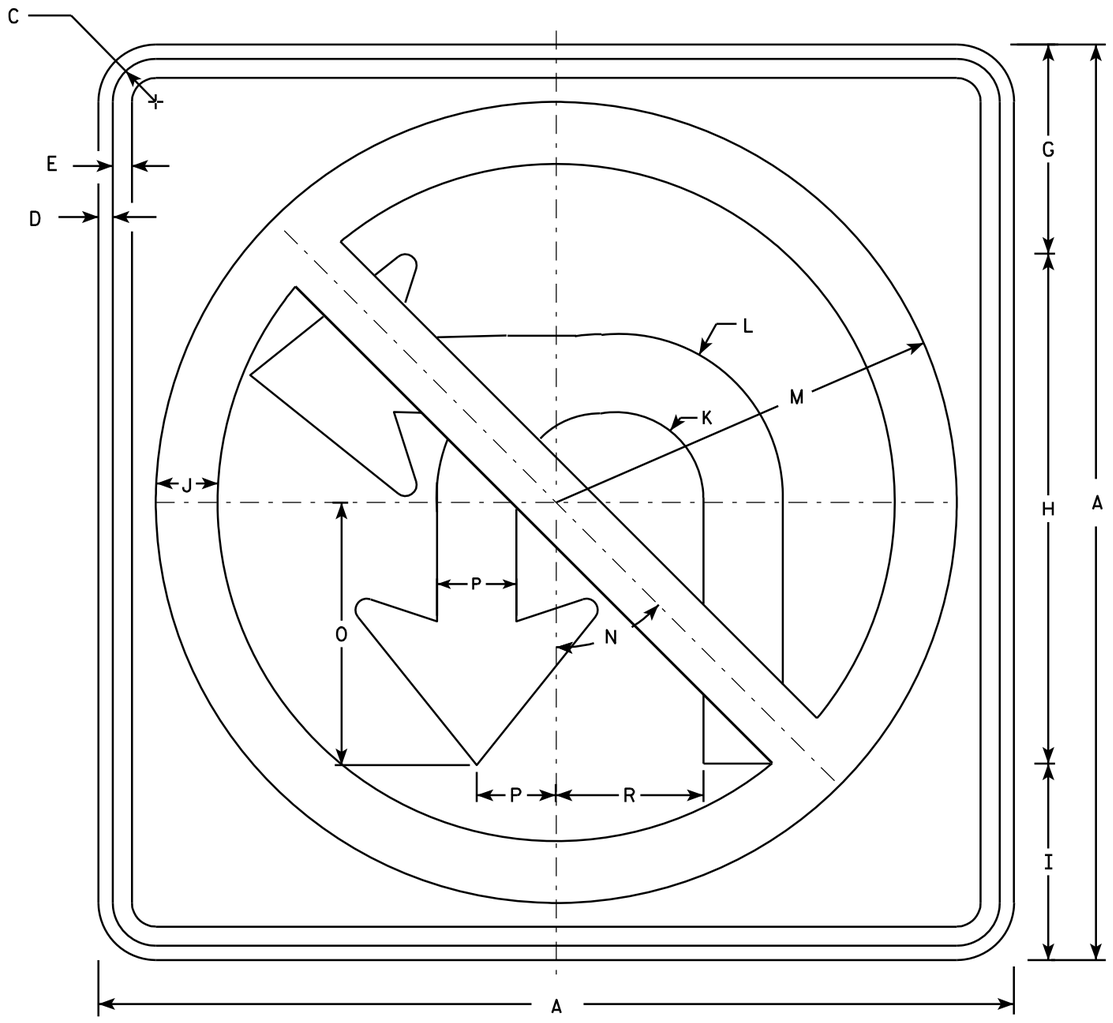
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 437 | E



R3-18

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		5 1/2	13 3/8	5 1/8	1 5/8	2 1/4	4 1/4	10 1/2	45°	6 7/8	2 1/8		3 7/8									4.0
2M	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45°	10 3/8	3 1/8		5 3/4									9.0
3	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
4	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
5	48		2 1/4	3/4	1		11	26 3/4	10 1/4	3 1/4	4 5/8	8 5/8	21	45°	13 3/4	4 1/8		7 3/4									16.0

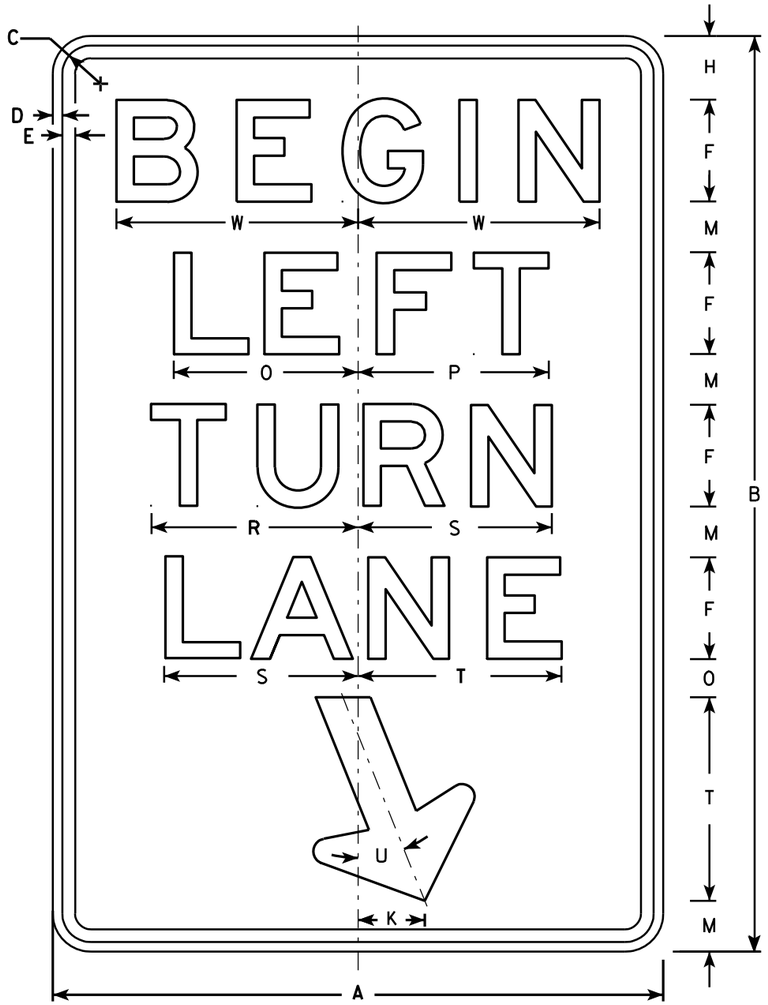
STANDARD SIGN
R3-18

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/10 PLATE NO. R3-18.2

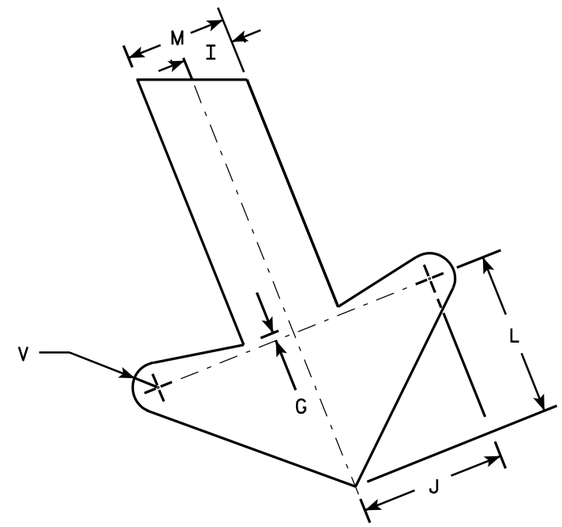
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 438	E



R3-20L

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

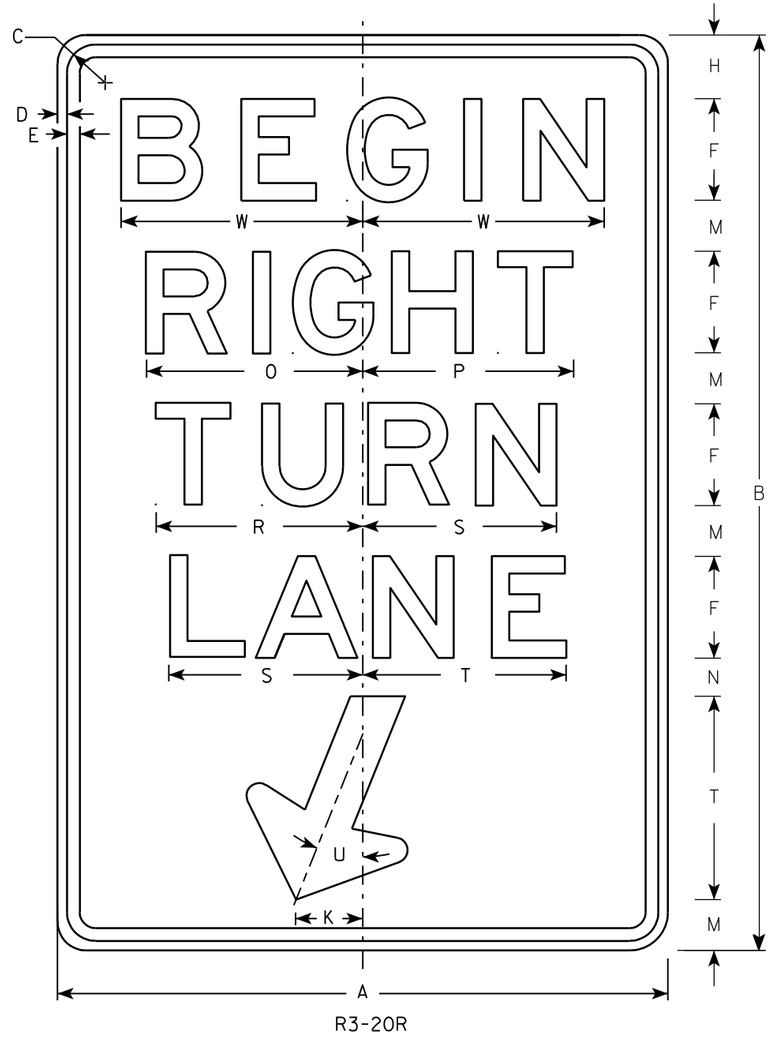
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

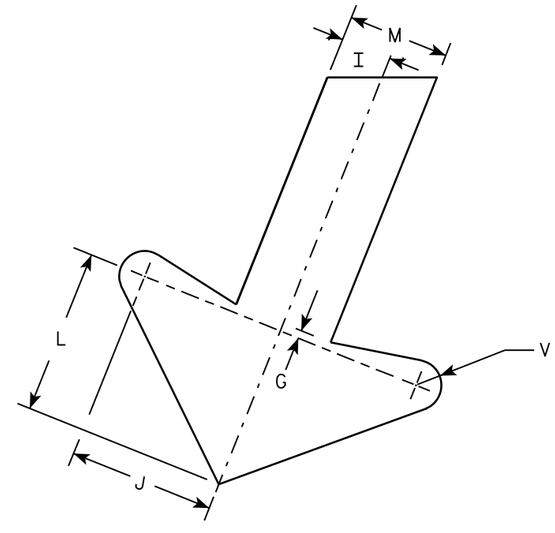
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 439 | E



R3-20R

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

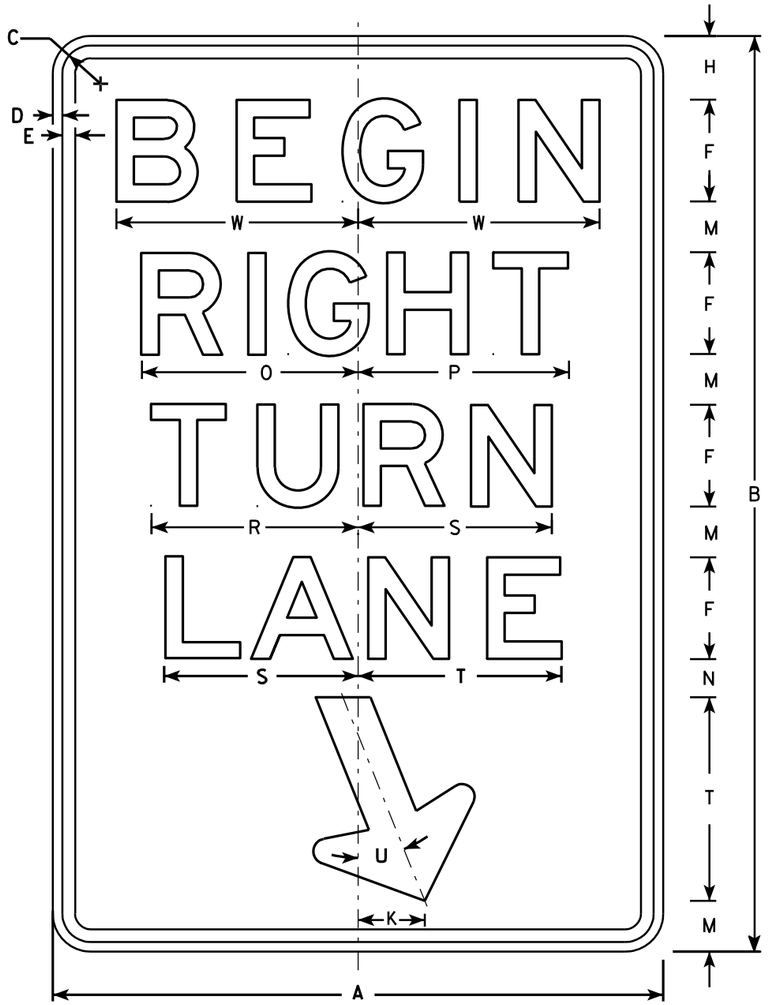
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

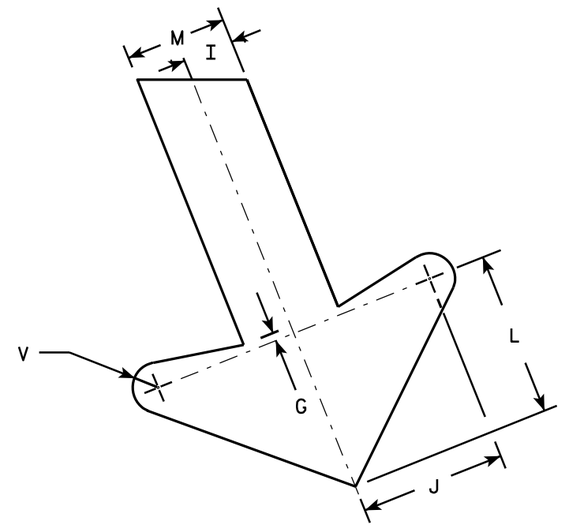
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 440 | E



R3-20RR

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

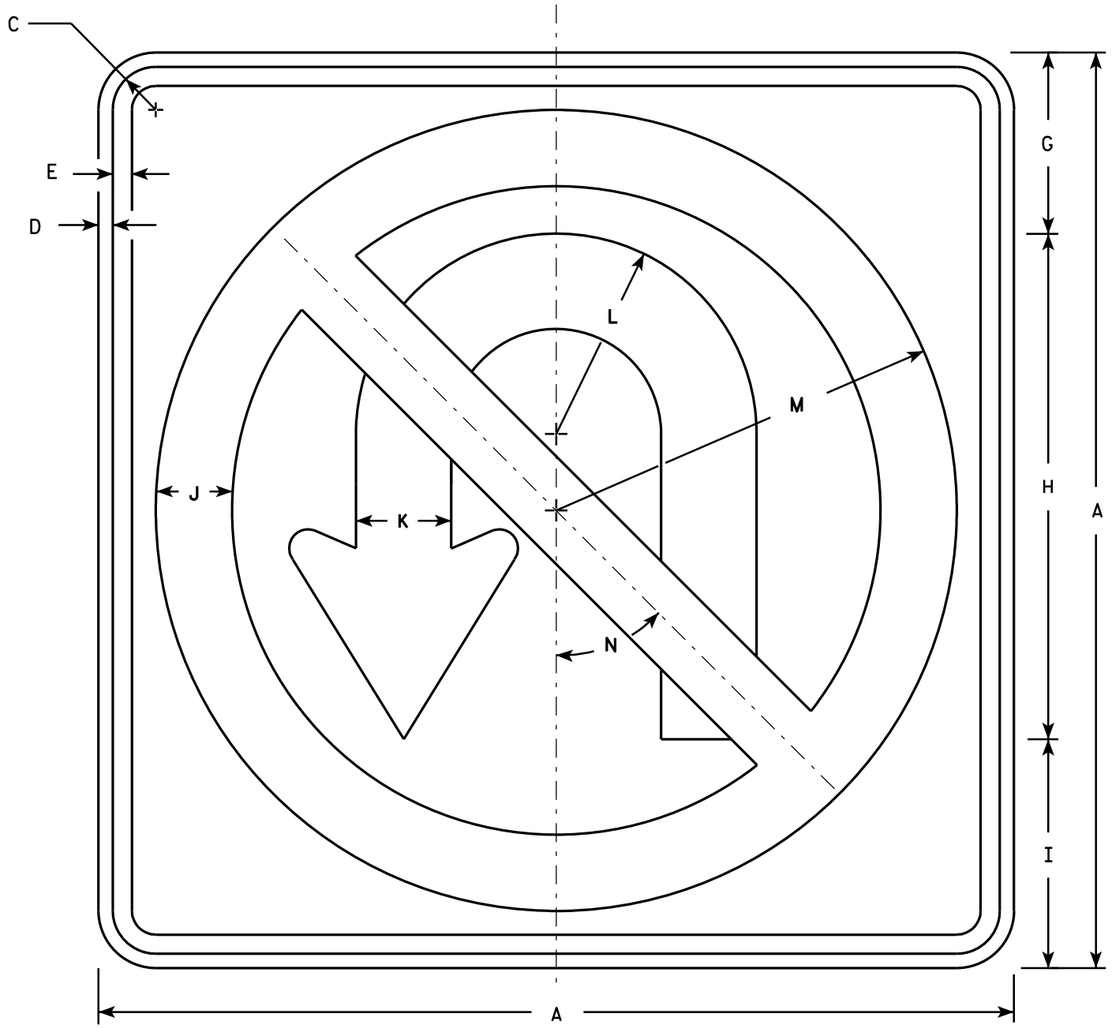
STANDARD SIGN
R3-20RR

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20RR.1

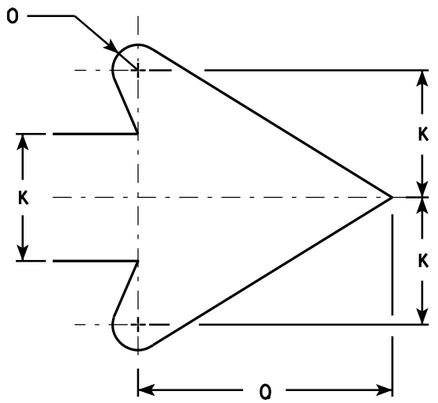
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 441 | E



R3-4

NOTES

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



ARROW DETAIL

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

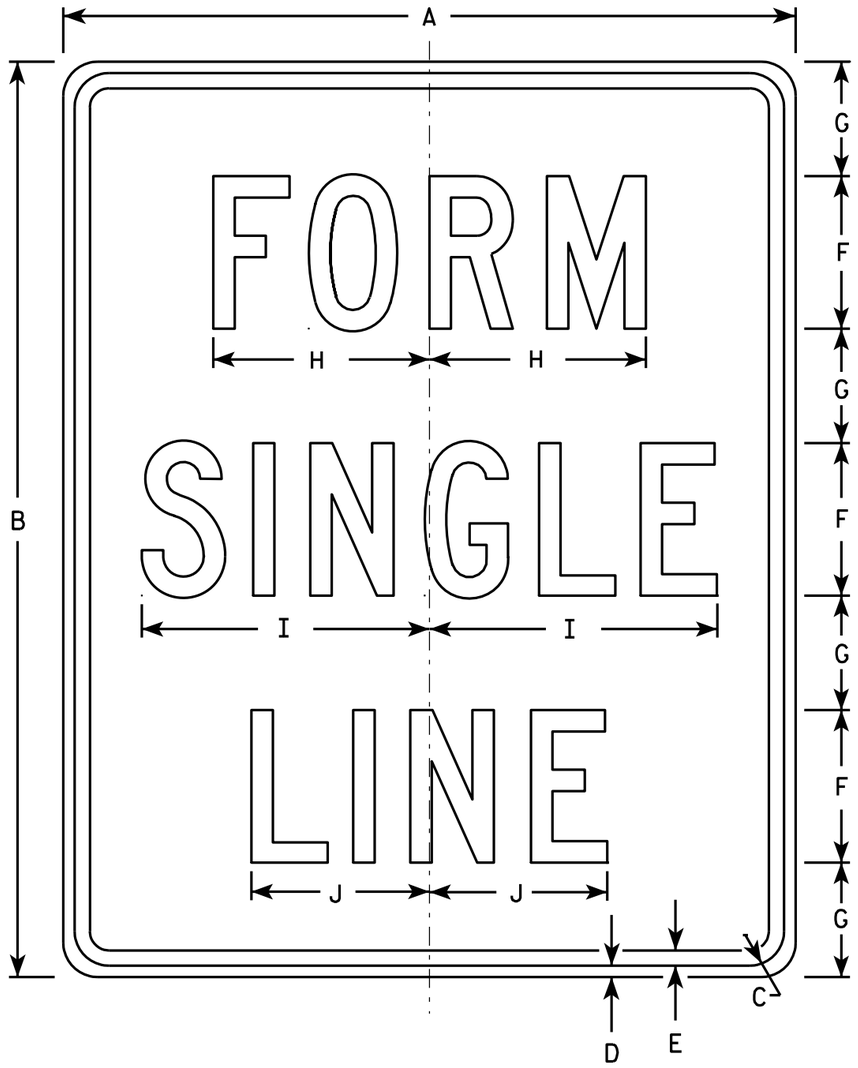
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 442	E



R3-58

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.

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	30	1 1/8	3/8	1/2	5	3 3/4	7 1/8	9 3/8	5 7/8																	5.0
2S	24	30	1 1/8	3/8	1/2	5	3 3/4	7 1/8	9 3/8	5 7/8																	5.0
2M	24	30	1 1/8	3/8	1/2	5	3 3/4	7 1/8	9 3/8	5 7/8																	5.0
3	36	48	1 3/8	1/2	5/8	8	6	11 3/8	15 1/8	9 3/8																	12.0
4	36	48	1 3/8	1/2	5/8	8	6	11 3/8	15 1/8	9 3/8																	12.0
5																											

STANDARD SIGN
R3-58

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-58.7

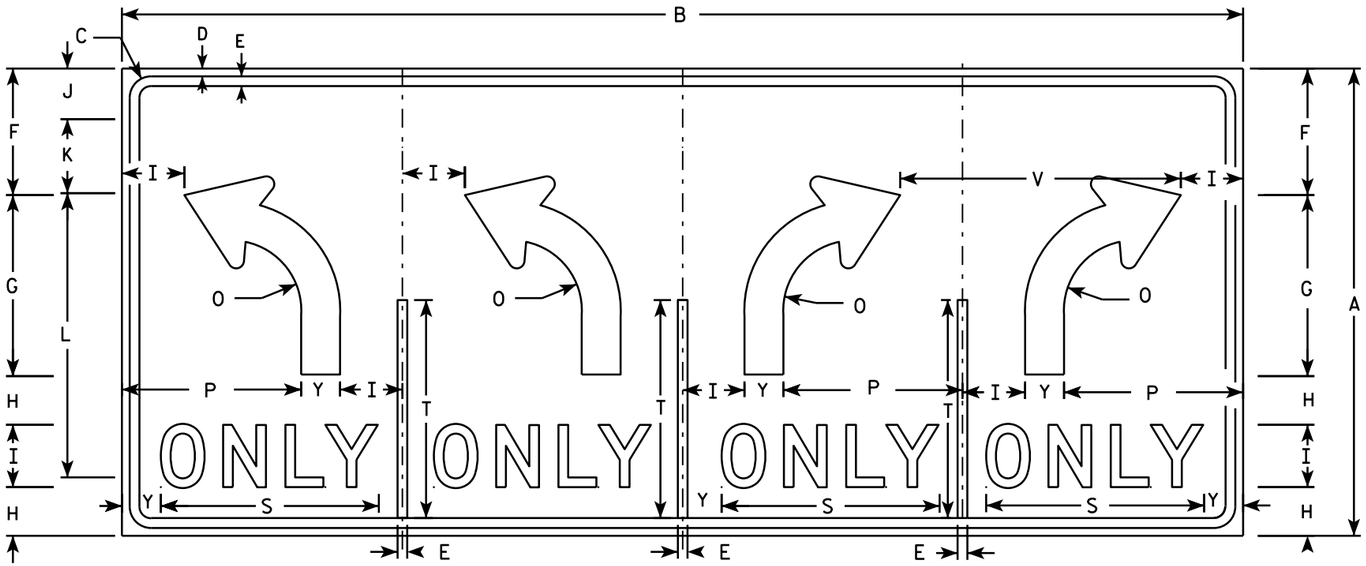
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 443	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R358.DGN PLOT DATE : 24-MAR-2011 15:27 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.965868:1.000000

WISDOT/CADDS SHEET 42

7

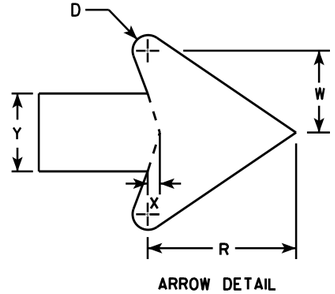
7



R3-8BBB

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	72	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4			4 1/2	11 1/2		4 3/4	14	14	13 1/4	18	2 5/8	3/8	2 1/2		15.0
2M	30	72	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4			4 1/2	11 1/2		4 3/4	14	14	13 1/4	18	2 5/8	3/8	2 1/2		15.0
3																											
4	48	108	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	8 1/4	7 5/8	29 1/4			6 3/4	17 1/4		7 1/8	20 5/8	22 3/8	19 7/8	27	4	5/8	4		36.0
5	48	108	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	8 1/4	7 5/8	29 1/4			6 3/4	17 1/4		7 1/8	20 5/8	22 3/8	19 7/8	27	4	5/8	4		36.0

STANDARD SIGN
R3-8BBB

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/14 PLATE NO. R3-8BBB.1

PROJECT NO:

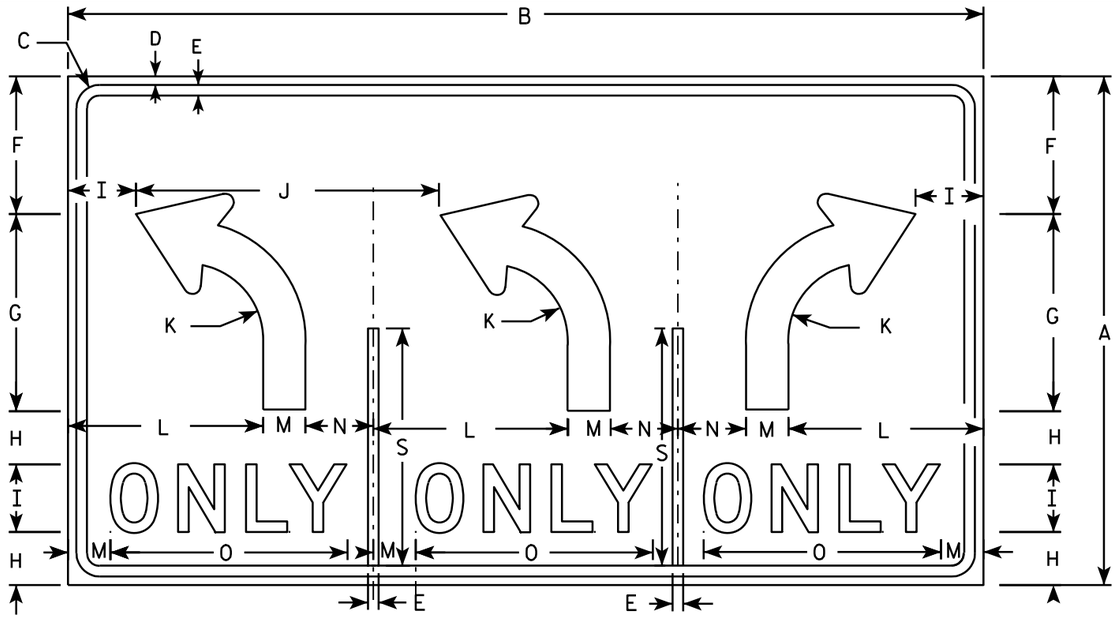
SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R38BBB.DGN PLOT DATE : 11-AUG-2014 10:08 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

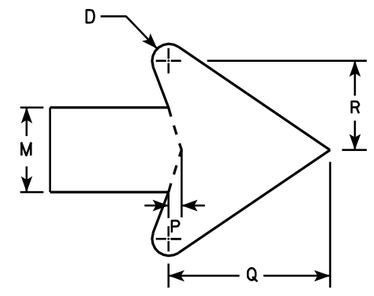
7



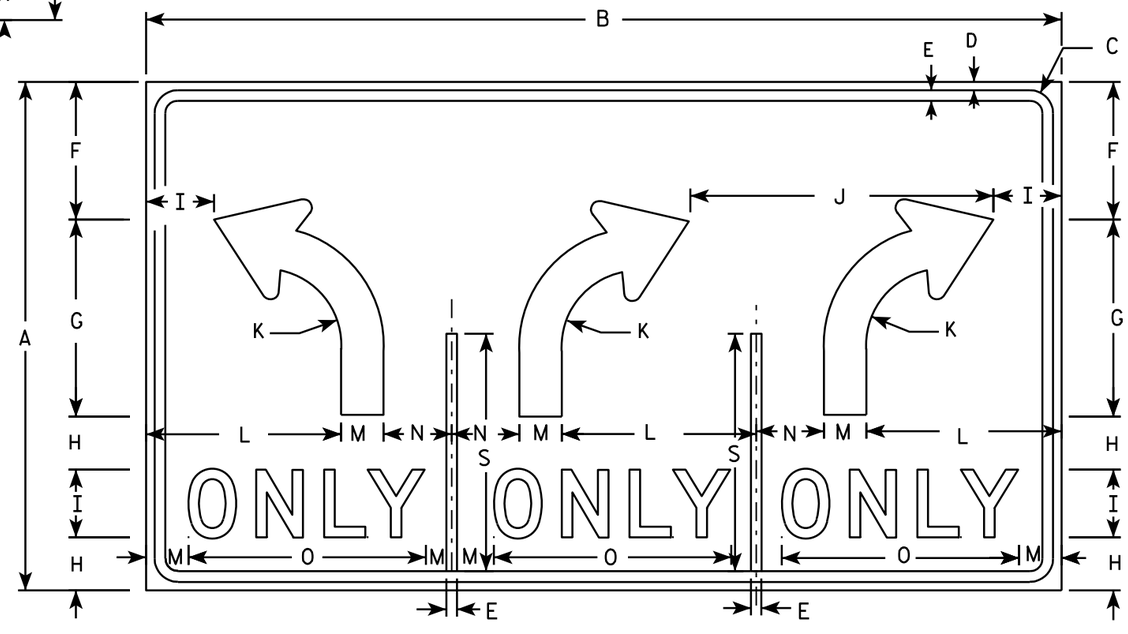
R3-8R

NOTES

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



ARROW DETAIL



R3-8S

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	17 7/8	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14								11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	17 7/8	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14								11.25
3																											
4	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6		7 1/4	17 1/4	3 3/4	7	20 5/8	5/8	7 1/8	4	22 3/8								28.0
5	48	84	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6		7 1/4	17 1/4	3 3/4	7	20 5/8	5/8	7 1/8	4	22 3/8								28.0

STANDARD SIGN
R3-8R & R3-8S

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

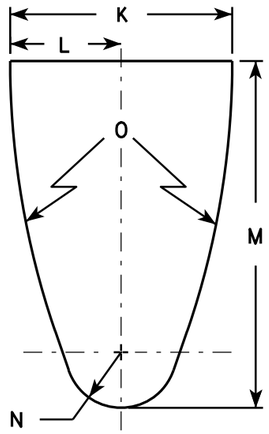
DATE 3/24/2011 PLATE NO. R3-8R.2

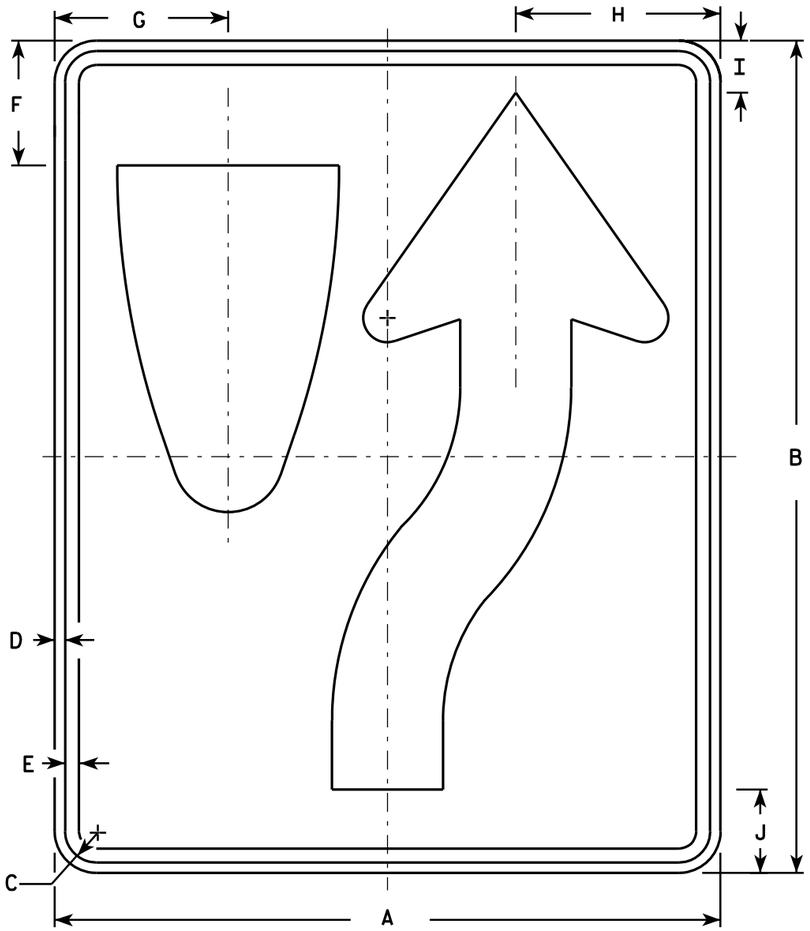
PROJECT NO:

SHEET NO: 445 E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R38R.DGN PLOT DATE : 24-MAR-2011 09:49 PLOT BY : mscsja PLOT NAME :

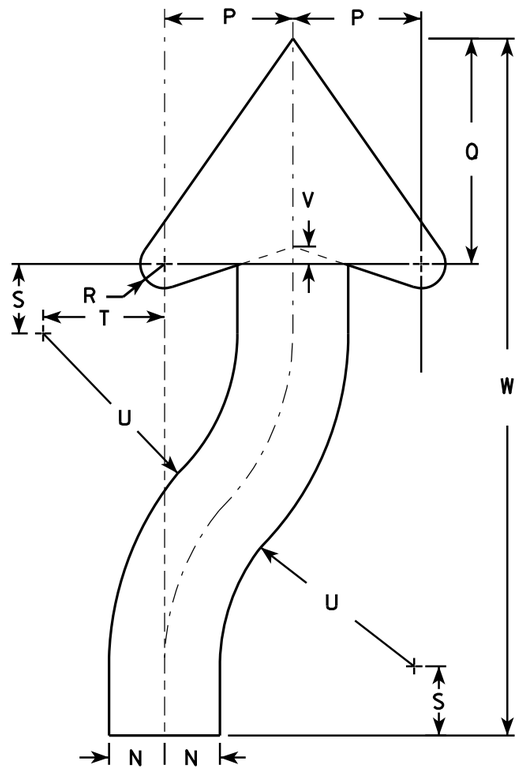




R4-7

NOTES

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



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	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

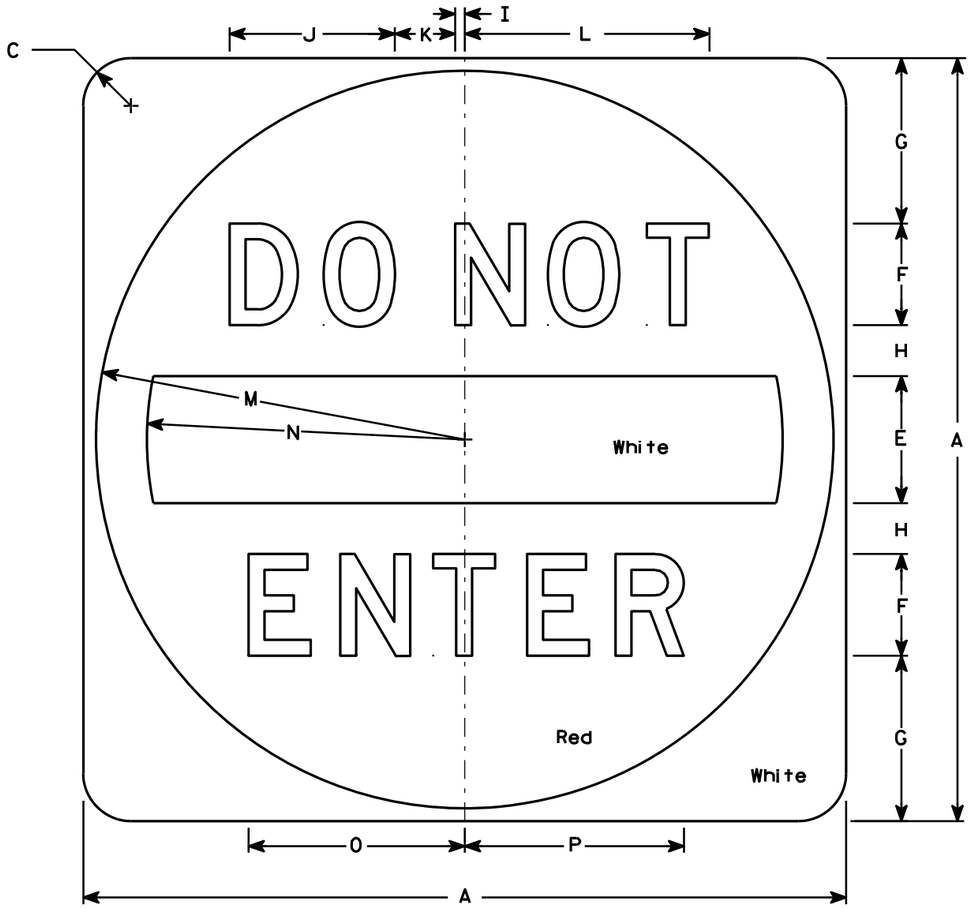
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 446	E



R5-1

NOTES

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

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

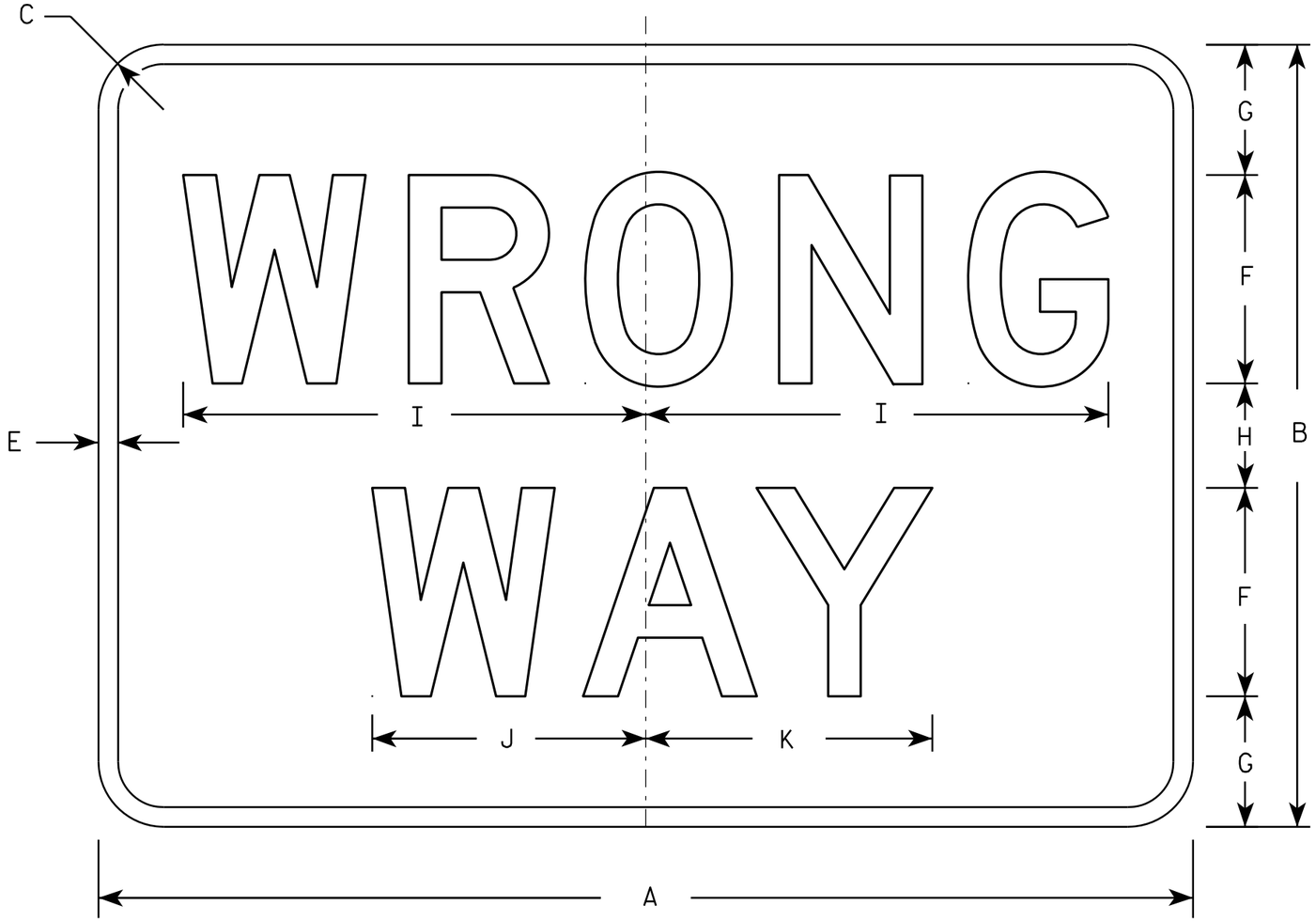
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 447 | E



R5-1A

NOTES

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

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

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 448	E



R5-57

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 - Lines 1, 2, and 5 are Series C.
   Lines 3 and 4 are 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																											
2S																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0

STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

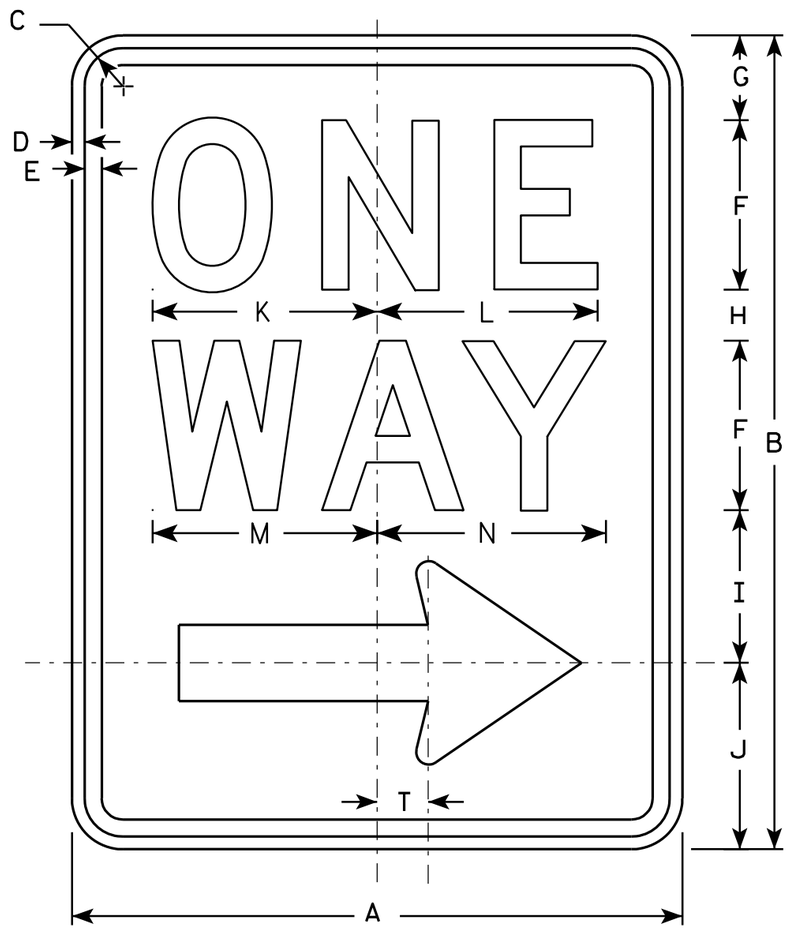
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 449 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R557.DGN PLOT DATE : 29-MAR-2011 14:38 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

7

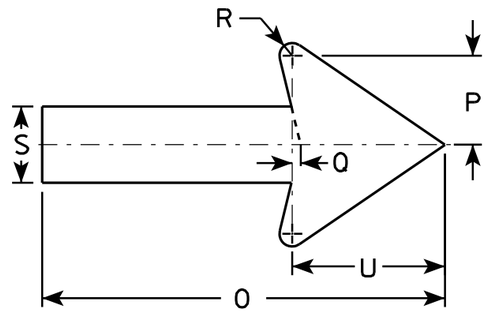
7



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

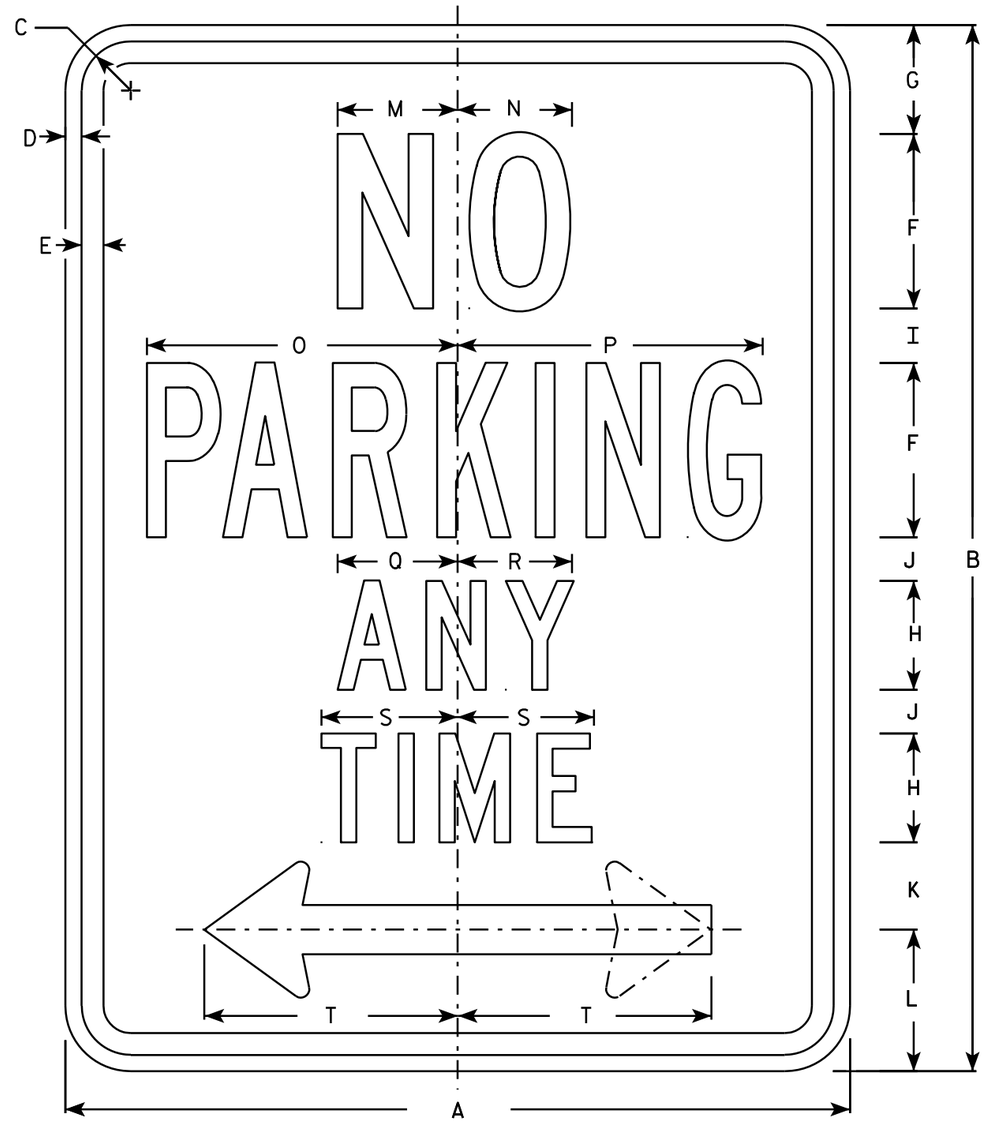
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

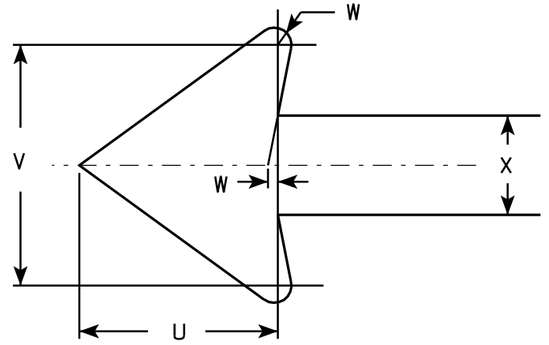
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 450	E



R7-1

NOTES

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



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

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 451	E

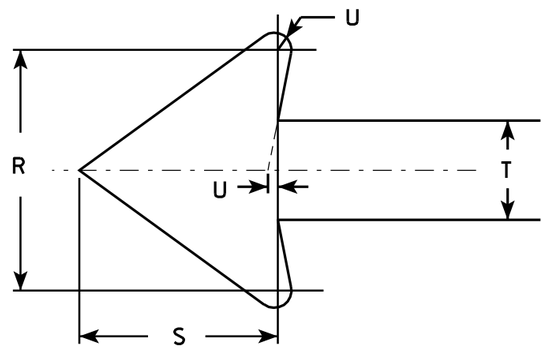


R7-2

*- See Note 5

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 7
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 as required & adjust spacing to achieve proper balance.
6. R7-2D (double arrow)
   R7-2L (left arrow)
   R7-2R (right arrow)
7. Lines 1, 3 and 4 are series C, line 2 is series B.



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

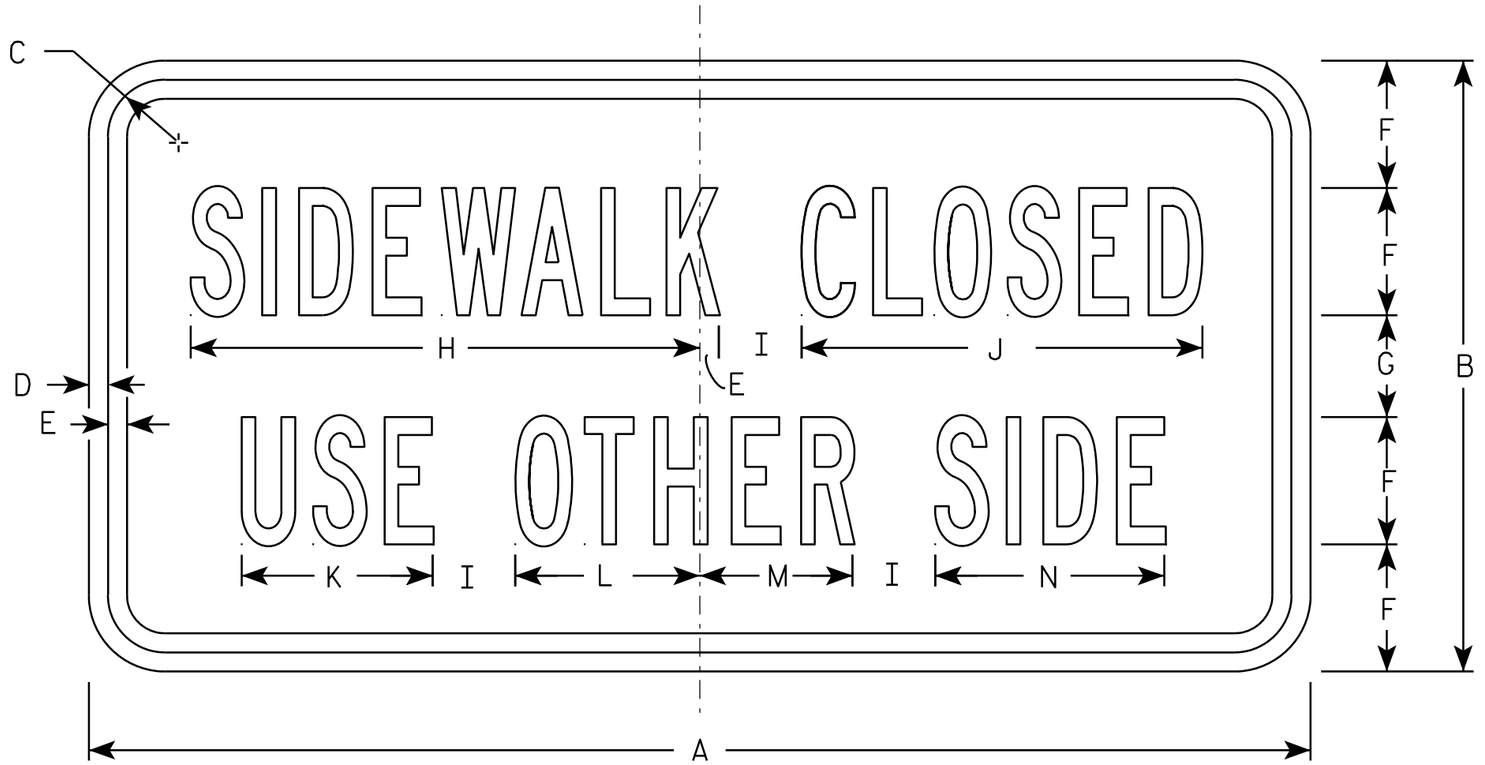
STANDARD SIGN
R7-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-2.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 452	E



R9-10

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - 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	24	12	1 1/8	3/8	3/8	2 1/2	2	10	1 5/8	7 7/8	3 3/4	3 5/8	3	4 1/2													2.0
2S	48	24	2 3/4	3/4	3/4	5	4	20	3 1/4	15 3/4	7 1/2	7 1/4	6	9													8.0
2M	48	24	2 3/4	3/4	3/4	5	4	20	3 1/4	15 3/4	7 1/2	7 1/4	6	9													8.0
3																											
4																											
5																											

STANDARD SIGN
R9-10

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/2012 PLATE NO. R9-10.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 453	E



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.

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

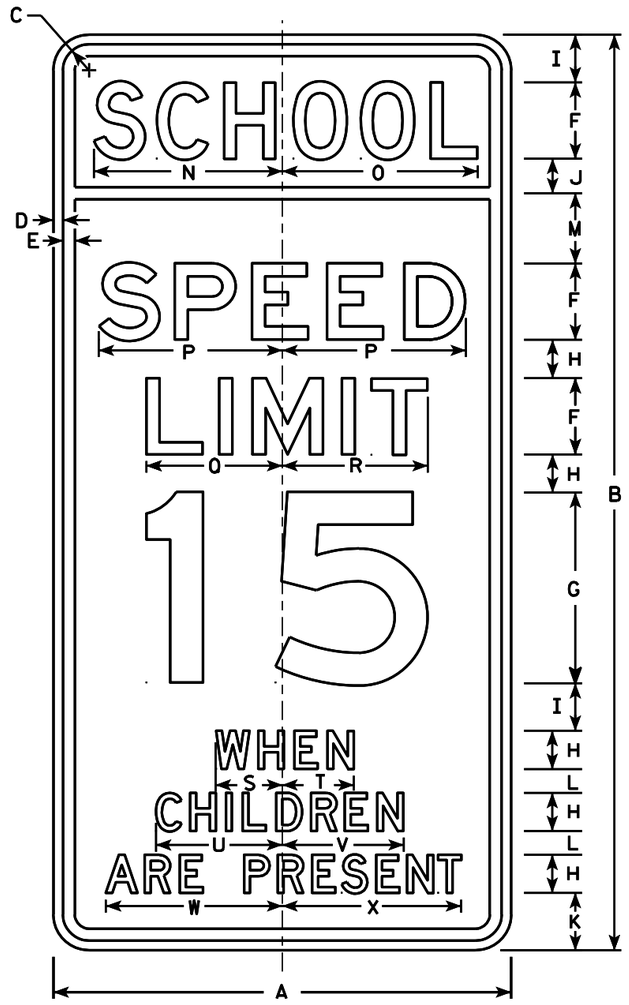
STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/2011 PLATE NO. R9-9.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 454	E



S4-51

NOTES

1. Sign is Type II - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. (See note 5).
2. Color:
   Background - See note 5
   Message - Black
3. Message Series - See note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Top panel (SCHOOL) background - Yellow Green -Type F Reflective.
   Lower panel background - White -Type H Reflective.
6. From top to bottom:
   Lines 1, 5, 6 & 7 are series D
   Lines 2, 3 & 4 are series E
7. Line 4 substitute appropriate numerals and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 1200 mm
3	900 mm X 1800 mm
4	
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.	Area m2
1																												
2	24	48	1 3/8	1/2	5/8	4	10	2	2 1/2	1 3/4	3	1 1/4	3 3/4	9 7/8	10 1/4	9 5/8	7 1/8	7 5/8	3 1/2	3 3/8	6 5/8	6 3/8	9 1/4	9 3/8			8.00	0.72
3	36	72	2 1/4	3/4	1	6	15	3	3 3/4	2 3/4	4 1/2	1 7/8	5 1/2	15	15 1/4	14 1/2	11 1/4	11 1/2	5 1/2	5 3/4	10	9 3/4	14	14 1/8			18.00	1.62
4																												
5																												

STANDARD SIGN
S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/26/10 PLATE NO. S4-51.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 455	E

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Cumulative Vol (CY) Expanded EBS Backfill 1.30 Note 4	Cumulative Vol (CY) Reduced EBS In Fill 0.80 Note 5	Mass Ordinate Note 6
10+55	1055.00	0.00	14.29	0.00	0.39	0	0	0	0	0	0	0	0.00	0.00
10+80	1080.00	25.00	35.13	0.00	0.00	23	0	0	0	23	0	0	0.00	22.66
11+05	1105.00	25.00	23.20	0.00	0.00	27	0	0	0	50	0	0	0.00	49.67
11+30	1130.00	25.00	20.75	0.00	0.00	20	0	0	0	70	0	0	0.00	70.01
11+55	1155.00	25.00	17.77	0.00	0.00	18	0	0	0	88	0	0	0.00	87.85
11+80	1180.00	25.00	14.93	0.00	0.00	15	0	0	0	103	0	0	0.00	102.99
12+05	1205.00	25.00	14.61	0.00	0.07	14	0	0	0	117	0	0	0.00	116.62
12+30	1230.00	25.00	16.22	0.00	0.12	14	0	0	0	131	0	0	0.00	130.79
12+55	1255.00	25.00	19.68	0.00	0.00	17	0	0	0	148	0	0	0.00	147.35
12+80	1280.00	25.00	20.80	0.00	0.00	19	0	0	0	167	0	0	0.00	166.09
13+05	1305.00	25.00	20.59	0.00	0.00	19	0	0	0	186	0	0	0.00	185.26
13+30	1330.00	25.00	20.88	0.00	0.00	19	0	0	0	205	0	0	0.00	204.46
13+55	1355.00	25.00	20.32	0.00	0.00	19	0	0	0	224	0	0	0.00	223.53
13+80	1380.00	25.00	20.30	0.00	0.00	19	0	0	0	243	0	0	0.00	242.33
14+05	1405.00	25.00	21.12	0.00	0.00	19	0	0	0	262	0	0	0.00	261.51
14+30	1430.00	25.00	20.98	0.00	0.00	19	0	0	0	281	0	0	0.00	281.00
14+55	1455.00	25.00	20.55	0.00	0.00	19	0	0	0	301	0	0	0.00	300.23
14+80	1480.00	25.00	20.47	0.00	0.00	19	0	0	0	320	0	0	0.00	319.21
15+05	1505.00	25.00	19.86	0.00	0.00	19	0	0	0	338	0	0	0.00	337.88
15+30	1530.00	25.00	18.42	0.00	0.00	18	0	0	0	356	0	0	0.00	355.61
15+55	1555.00	25.00	16.38	0.00	0.00	16	0	0	0	372	0	0	0.00	371.72
15+80	1580.00	25.00	13.88	0.00	0.00	14	0	0	0	386	0	0	0.00	385.73
15+90	1590.00	10.00	12.79	0.00	0.00	5	0	0	0	391	0	0	0.00	390.67
					STAGE 1 COLUMN TOTALS	391	0	0	0					

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement Material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not inclued Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	Reduced EBS Excavation that can used in Fill
6 - Mass Ordinate	If EBS to be Backfilled with Cut or Borrow: [(Cut + EBS) - ((Fill) - (Reduced EBS in Fill)) * Fill Factor)]

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Cumulative Vol (CY) Expanded Fill 1.20	Cumulative Vol (CY) Expanded EBS Backfill 1.30 Note 4	Cumulative Vol (CY) Reduced EBS In Fill 0.80 Note 5	Mass Ordinate Note 6
10+55	1055.00	0.00	46.41	0.00	0.00	0	0	0	0	0	0	0	0.00	0.00
10+80	1080.00	25.00	42.10	0.00	0.00	41	0	0	0	41	0	0	0.00	40.98
11+05	1105.00	25.00	35.83	0.00	0.00	36	0	0	0	77	0	0	0.00	77.06
11+30	1130.00	25.00	29.54	0.00	1.18	30	0	1	0	107	1	0	0.00	106.67
11+55	1155.00	25.00	23.11	0.00	1.91	24	0	1	0	132	2	0	0.00	129.32
11+80	1180.00	25.00	21.71	0.00	2.35	21	0	2	0	152	5	0	0.00	147.70
12+05	1205.00	25.00	20.04	0.00	2.83	19	0	2	0	172	8	0	0.00	164.15
12+30	1230.00	25.00	18.07	0.00	4.18	18	0	3	0	189	12	0	0.00	177.90
12+55	1255.00	25.00	16.49	0.00	5.68	16	0	5	0	205	17	0	0.00	188.42
12+80	1280.00	25.00	16.60	0.00	5.34	15	0	5	0	221	23	0	0.00	197.62
13+05	1305.00	25.00	16.05	0.00	6.49	15	0	5	0	236	30	0	0.00	206.16
13+30	1330.00	25.00	16.11	0.00	6.25	15	0	6	0	251	37	0	0.00	213.96
13+55	1355.00	25.00	14.38	0.00	9.55	14	0	7	0	265	46	0	0.00	219.30
13+80	1380.00	25.00	14.19	0.00	10.54	13	0	9	0	278	57	0	0.00	221.36
14+05	1405.00	25.00	14.29	0.00	12.20	13	0	11	0	291	69	0	0.00	221.92
14+30	1430.00	25.00	12.68	0.00	14.06	12	0	12	0	304	84	0	0.00	219.82
14+55	1455.00	25.00	12.53	0.00	16.83	12	0	14	0	315	101	0	0.00	214.33
14+80	1480.00	25.00	10.83	0.00	24.67	11	0	19	0	326	124	0	0.00	202.09
15+05	1505.00	25.00	11.29	0.00	24.87	10	0	23	0	336	152	0	0.00	184.81
15+30	1530.00	25.00	12.72	0.00	21.90	11	0	22	0	348	178	0	0.00	169.94
15+55	1555.00	25.00	17.09	0.00	29.49	14	0	24	0	361	206	0	0.00	155.19
15+80	1580.00	25.00	12.68	0.00	35.93	14	0	30	0	375	243	0	0.00	132.63
15+90	1590.00	10.00	13.71	0.00	35.32	5	0	13	0	380	258	0	0.00	121.68
					STAGE 2 COLUMN TOTALS	380	0	215	0					

Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement Material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	
6 - Mass Ordinate	

9

9

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	EARTHWORK: W. OKLAHOMA NB ENTRANCE RAMP – STAGE 2	SHEET: 457	E

Division	From/To Station	Location	Common Excavation (1)	(item # 205.0100)	Available Material (5)	Reduced EBS in Fill (9)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow
			Cut (2)	EBS Excavation (3)		Factor 0.80		Factor 1.20			(item #208.0100)
Division 1											
STAGE 1	10+55/15+90		391	0	391	0	0	0	391	391	0
STAGE 2	10+55/15+90		380	0	380	0	215	258	122	122	0
Division 1 Subtotal			771	0	771	0	216	259	512	512	0
Grand Total			771.17	0.00	771.17	0.00	215.68	258.82	512.35	512.35	0.00
Total Common Exc			771.17								

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 20505
7) Rock Excavation item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.1100
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100
12) Expanded Rock - Factor = 1.1
13) Expanded Fill. Factor = 1.25

Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
15) Use 111,764 CY of material from Division 1. Borrow Excavation item number 208.0100

STATION	Real Station	Distance	AREA (SF) Cut	Salvaged/Unusable Pavement Material	Fill	Incremental Vol (CY) (Unadjusted) Cut Note 1	Salvaged/Unusable Pavement Material Note 2	Fill Note 3	EBS	Cumulative Vol (CY) Cut 1.00 Note 1	Expanded Fill 1.20	Expanded EBS Backfill 1.30 Note 4	Reduced EBS In Fill 0.80 Note 5	Mass Ordinate Note 6
23+10	2310.00	0.00	5.78	0.00	1.48	0	0	0	0	0	0	0	0.00	0.00
23+20	2320.00	10.00	8.10	0.00	1.40	3	0	1	0	3	1	0	0.00	1.93
23+30	2330.00	10.00	9.49	0.00	2.37	3	0	1	0	6	1	0	0.00	4.35
23+40	2340.00	10.00	11.50	0.00	2.59	4	0	1	0	10	3	0	0.00	7.13
23+50	2350.00	10.00	13.61	0.00	2.89	5	0	1	0	14	4	0	0.00	10.57
23+60	2360.00	10.00	15.49	0.00	3.20	5	0	1	0	20	5	0	0.00	14.60
23+70	2370.00	10.00	17.62	0.00	1.95	6	0	1	0	26	6	0	0.00	19.59
23+80	2380.00	10.00	15.45	0.00	5.33	6	0	1	0	32	8	0	0.00	24.09
23+90	2390.00	10.00	19.97	0.00	3.72	7	0	2	0	39	10	0	0.00	28.64
24+00	2400.00	10.00	21.17	0.00	3.27	8	0	1	0	46	11	0	0.00	34.71
24+10	2410.00	10.00	21.09	0.00	2.26	8	0	1	0	54	13	0	0.00	41.30
24+20	2420.00	10.00	22.17	0.00	1.12	8	0	1	0	62	13	0	0.00	48.56
24+30	2430.00	10.00	23.91	0.00	0.14	9	0	0	0	71	14	0	0.00	56.81
24+40	2440.00	10.00	24.51	0.00	0.00	9	0	0	0	80	14	0	0.00	65.75
24+50	2450.00	10.00	26.32	0.00	0.00	9	0	0	0	89	14	0	0.00	75.16
24+60	2460.00	10.00	24.28	0.00	0.00	9	0	0	0	98	14	0	0.00	84.53
24+70	2470.00	10.00	27.06	0.00	0.00	10	0	0	0	108	14	0	0.00	94.04
24+76	2476.00	6.00	31.24	0.00	0.00	6	0	0	0	114	14	0	0.00	100.52
			STAGE 2 COLUMN TOTALS			114	0	11	0					

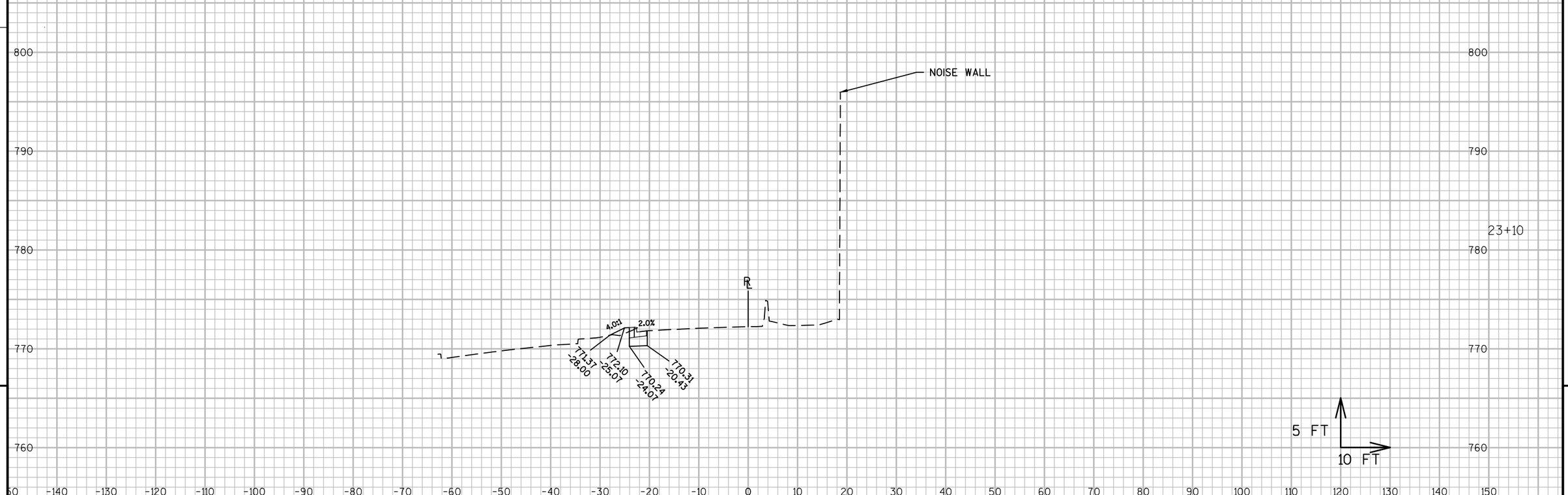
Notes:

1 - Cut	Cut includes Salvaged/Unusable Pavement Material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Does not inclued Unusable Pavement Exc volu
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	Reduced EBS Excavation that can used in Fill
6 - Mass Ordinate	If EBS to be Backfilled with Cut or Borrow: [(Cut + EBS) - ((Fill) - (Reduced EBS in Fill)) * Fill Factor)]

3

Division	From/To Station	Location	Common Excavation (1)	(item # 205.0100)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (9)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste
			Cut (2)	EBS Excavation (3)			Factor 0.80		Factor 1.20		
Division 1											
STAGE 2	23+10/24+76		114	0	0	114	0	11	14	101	101
Division 1 Subtotal			114	0	0	114	0	11	14	101	101
Grand Total			114.29	0.00	0.00	114.29	0.00	11.48	13.77	100.52	100.52
Total Common Exc			114.29								

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 20505
7) Rock Excavation item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.1100
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100
12) Expanded Rock - Factor = 1.1
13) Expanded Fill. Factor = 1.25
Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
15) Use 111,764 CY of material from Division 1. Borrow Excavation item number 208.0100



9

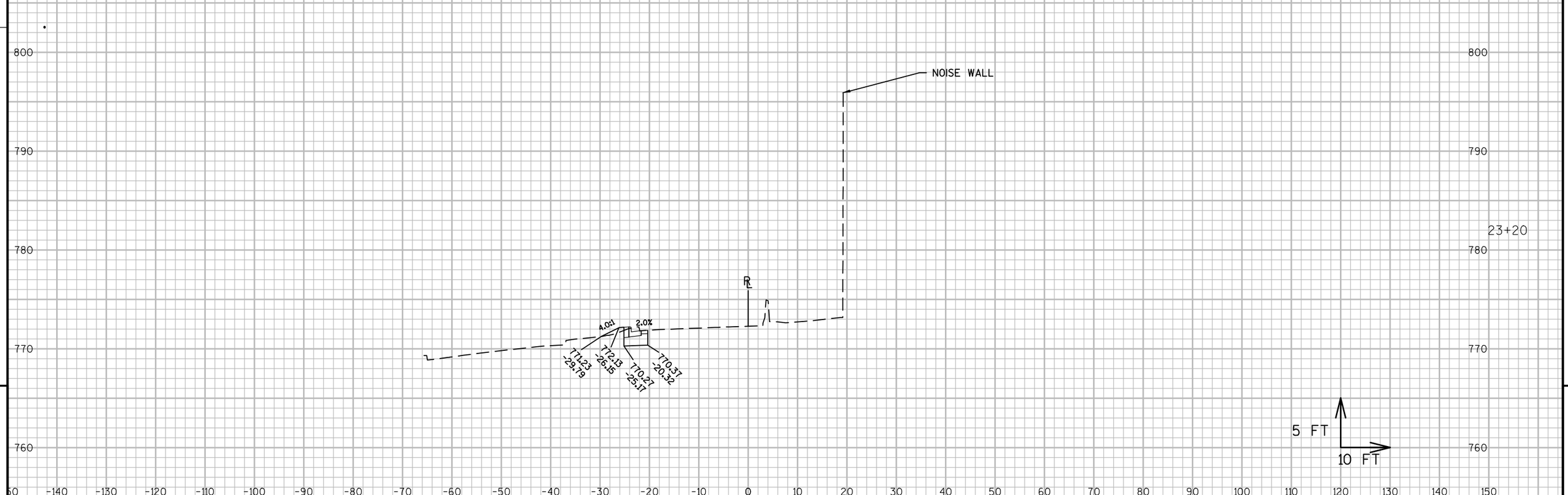
9

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 461	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (70)

PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9

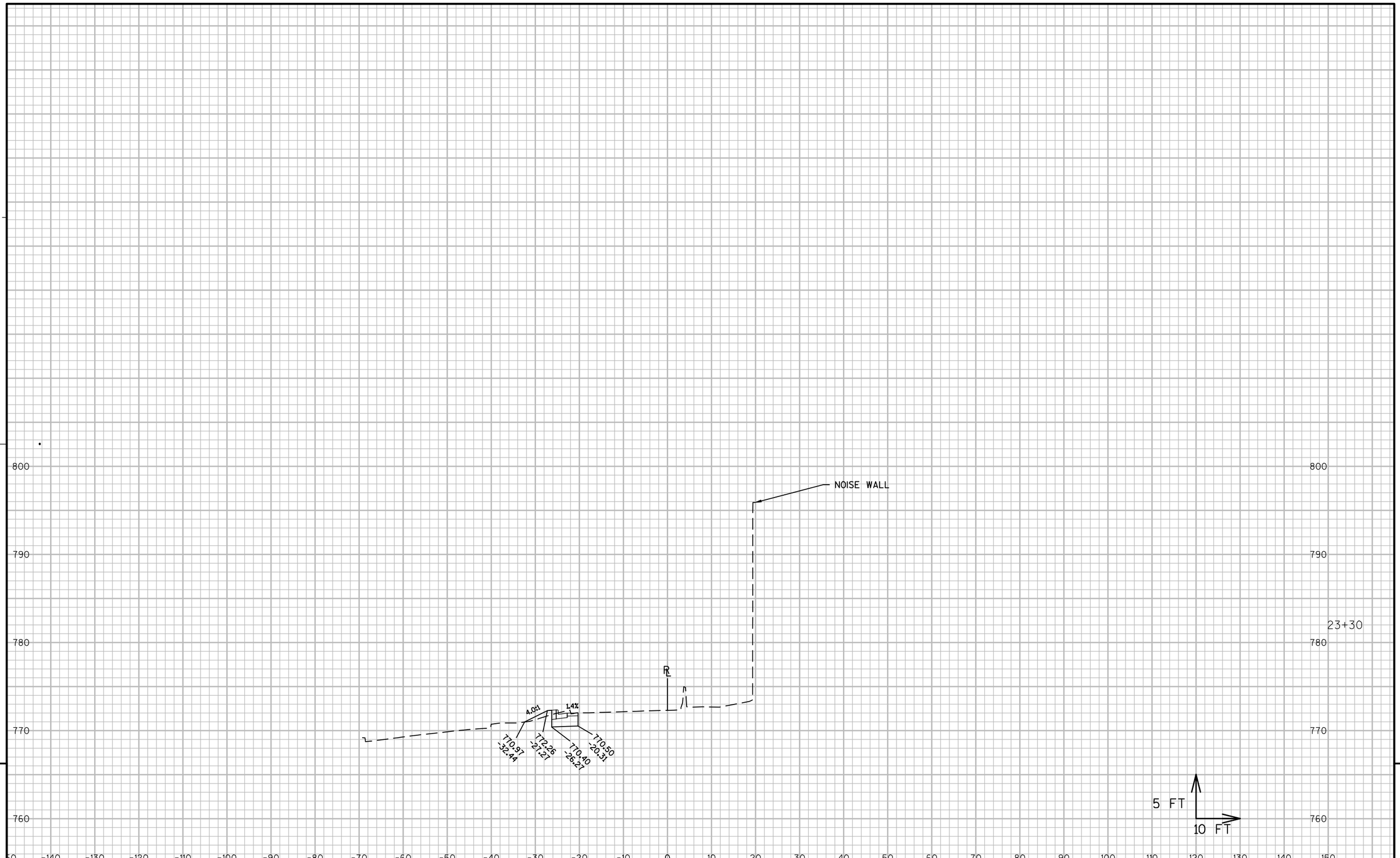
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 462	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (71)

PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



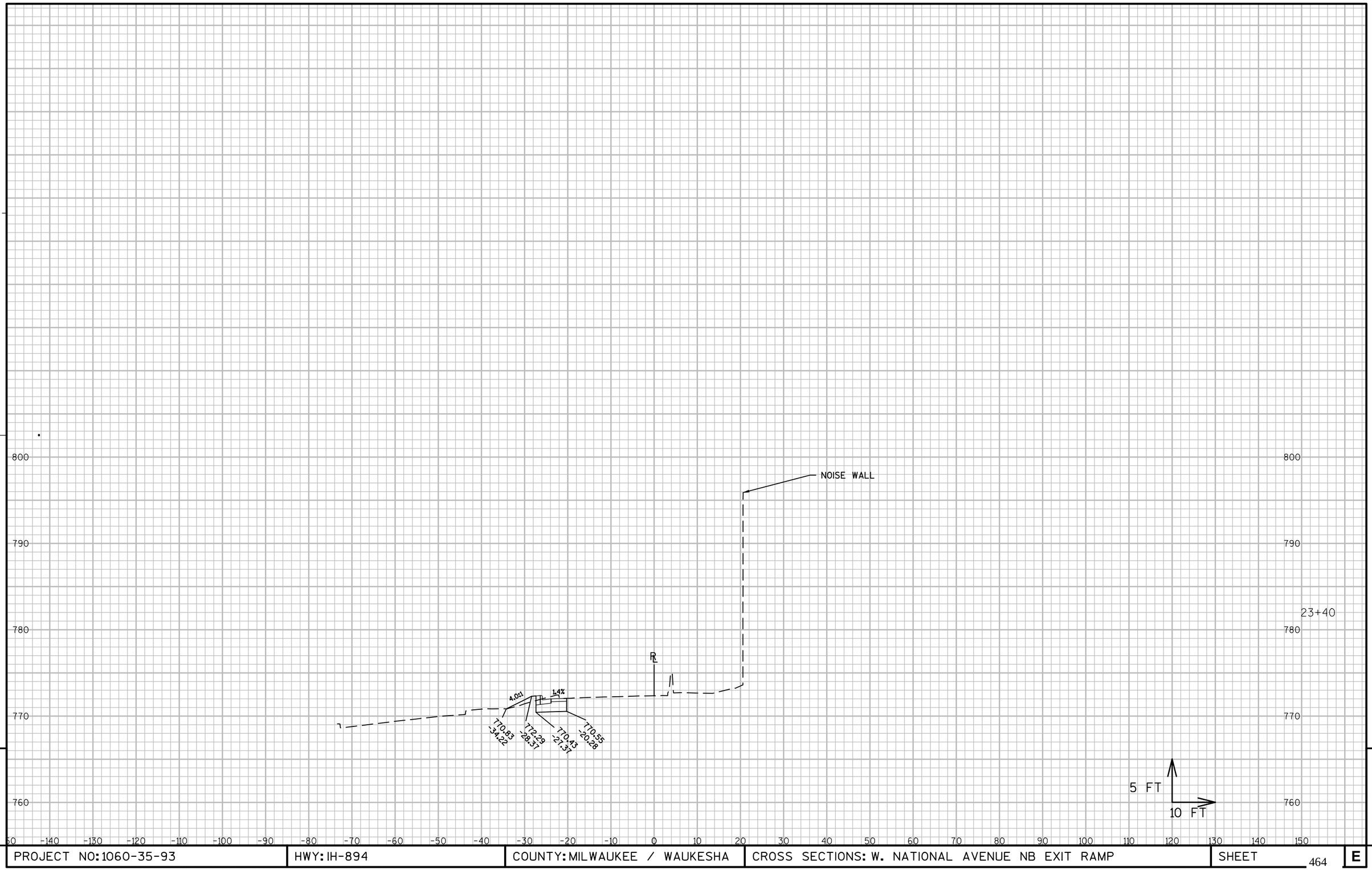
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 463	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (72)

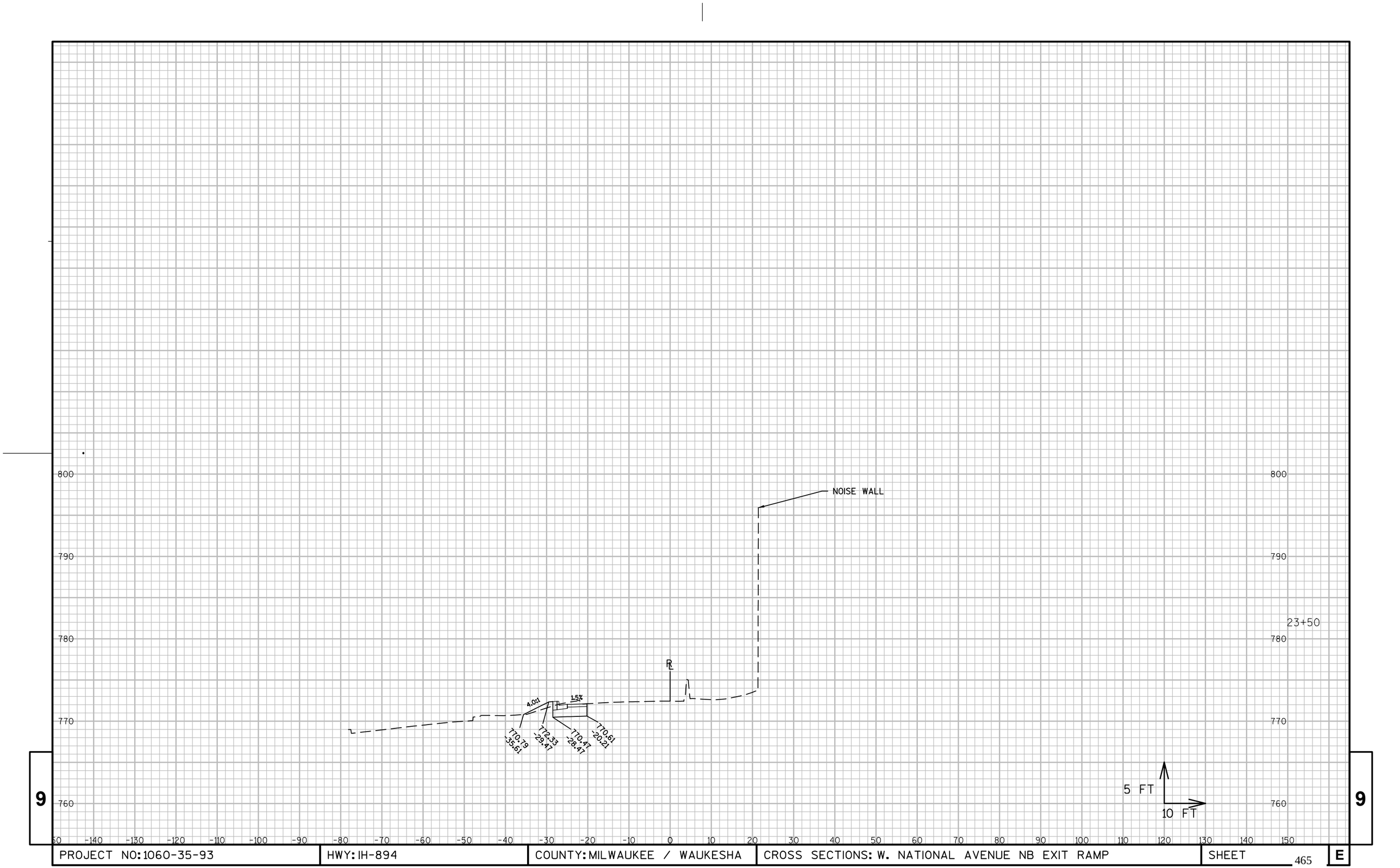
PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF



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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 464	E

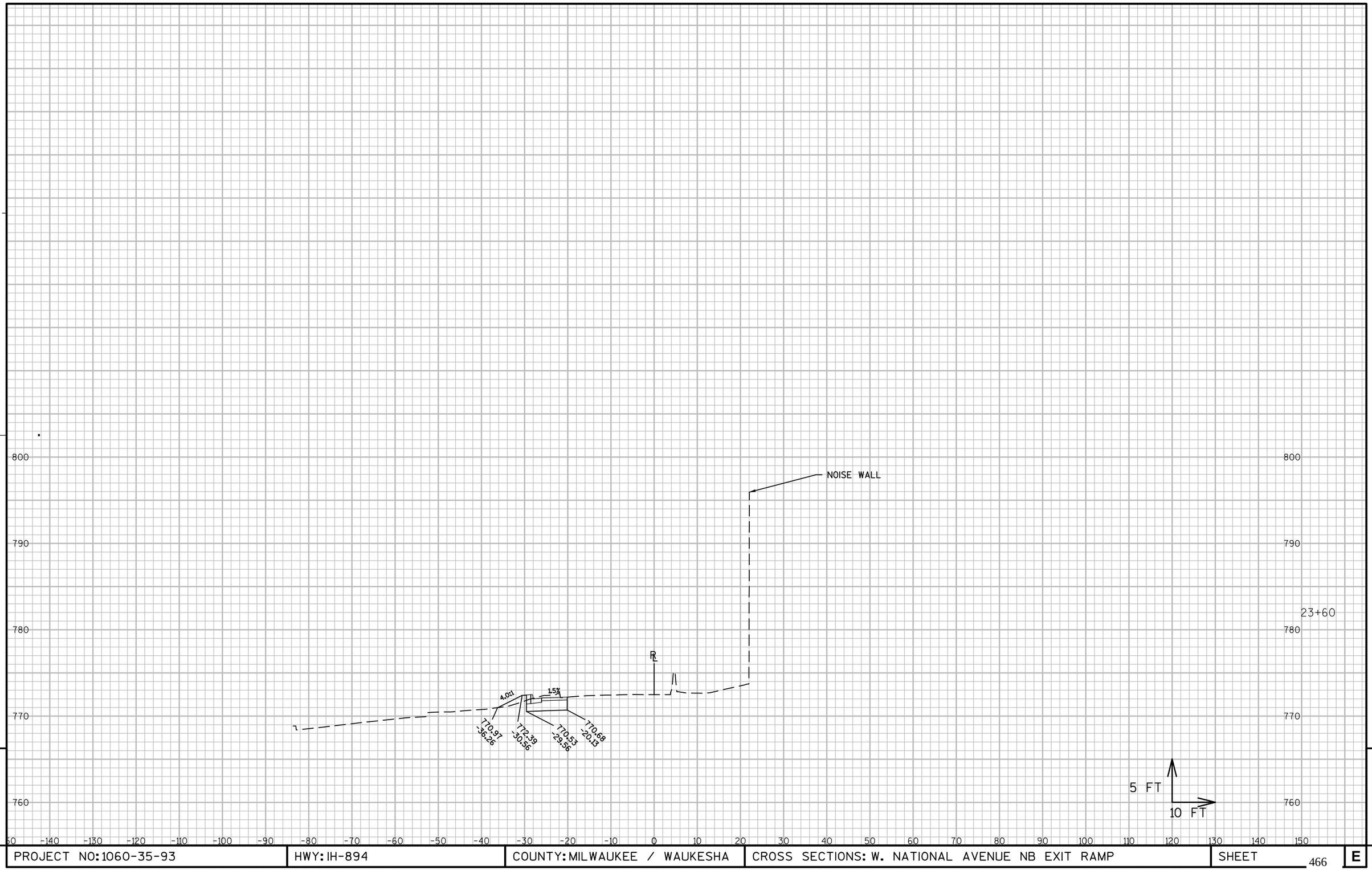


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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 465	E

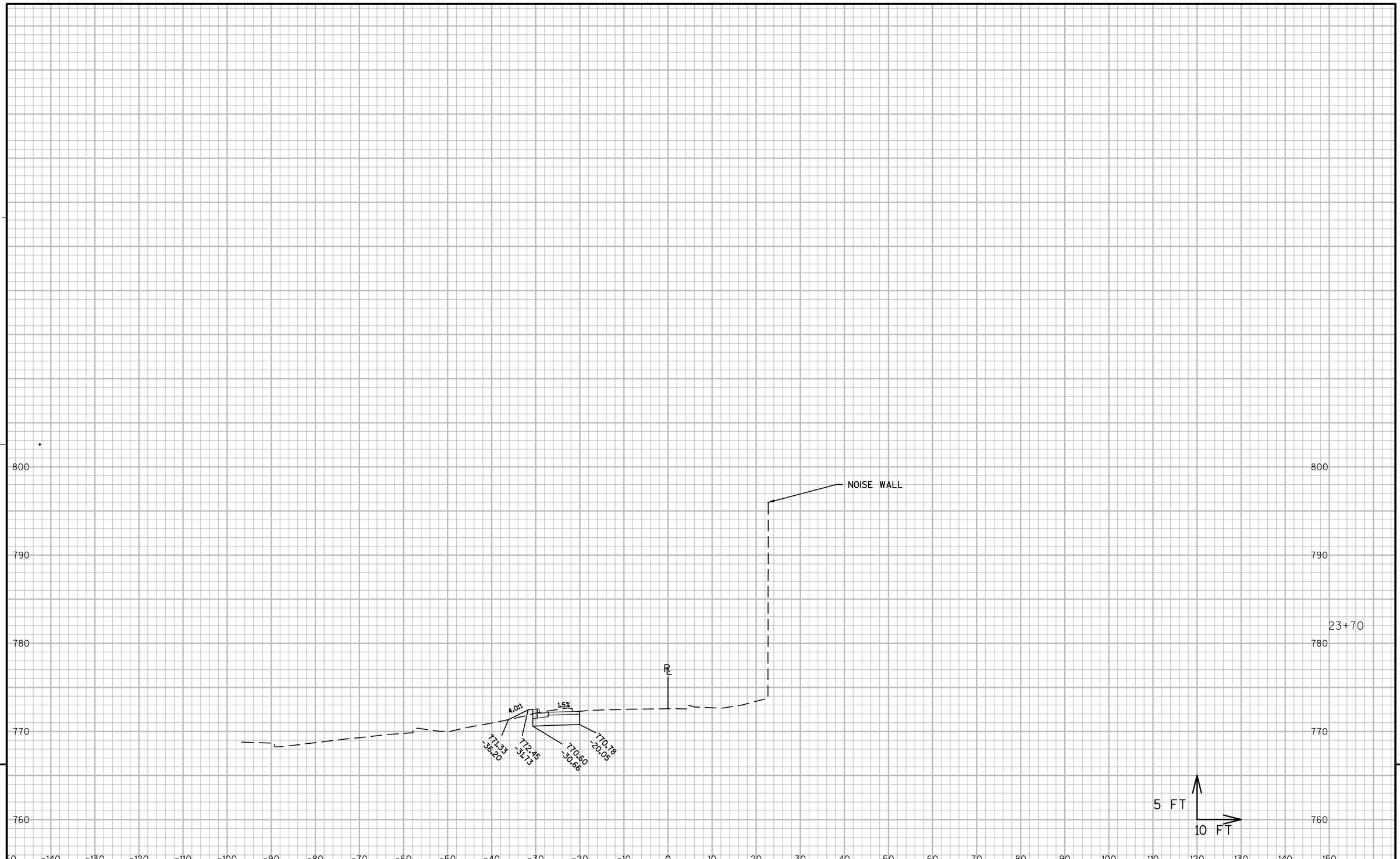
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LAYOUT NAME - SECTION SHEET - (74)
PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 466	E

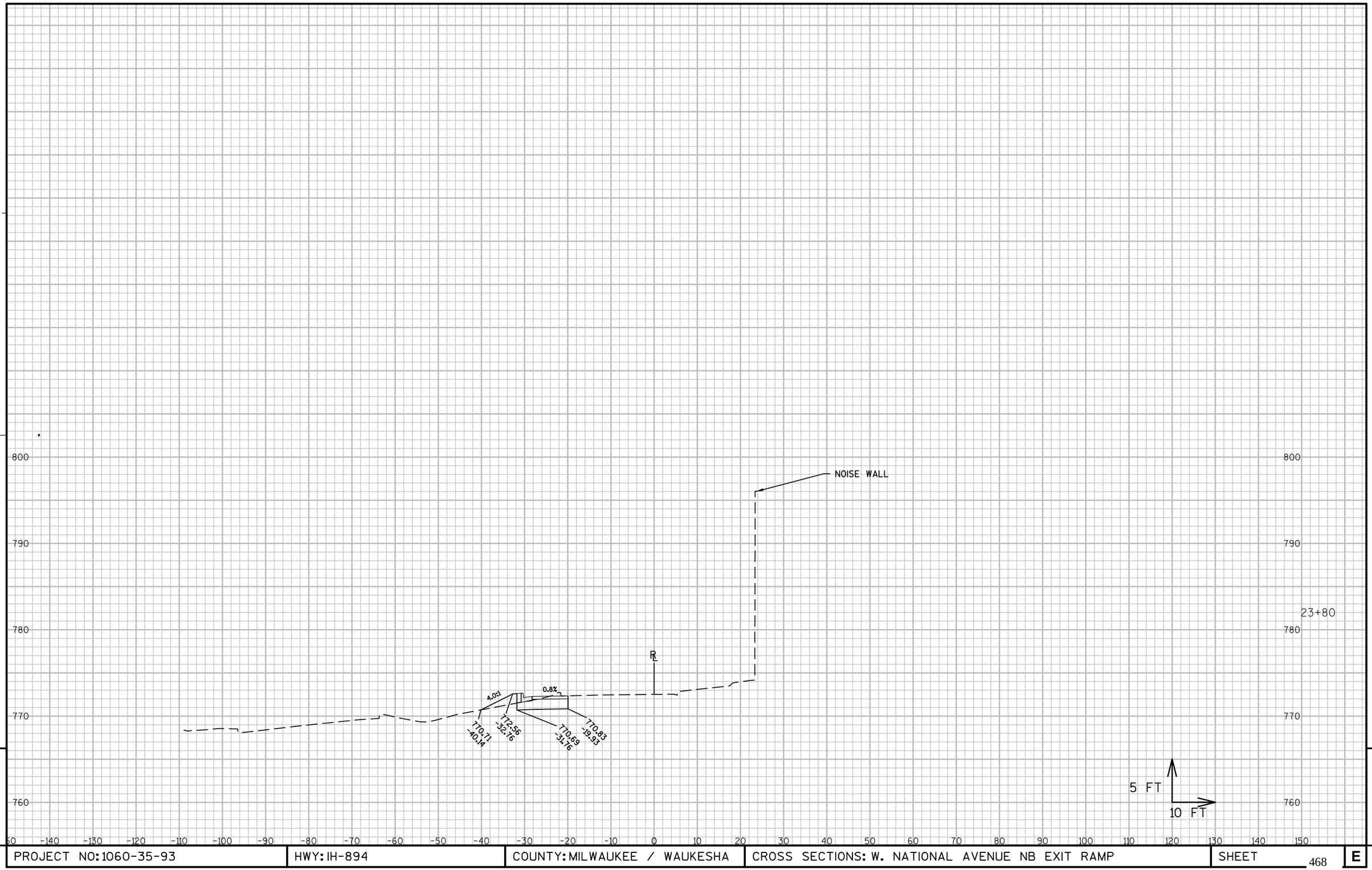


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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 467	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (76)
PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

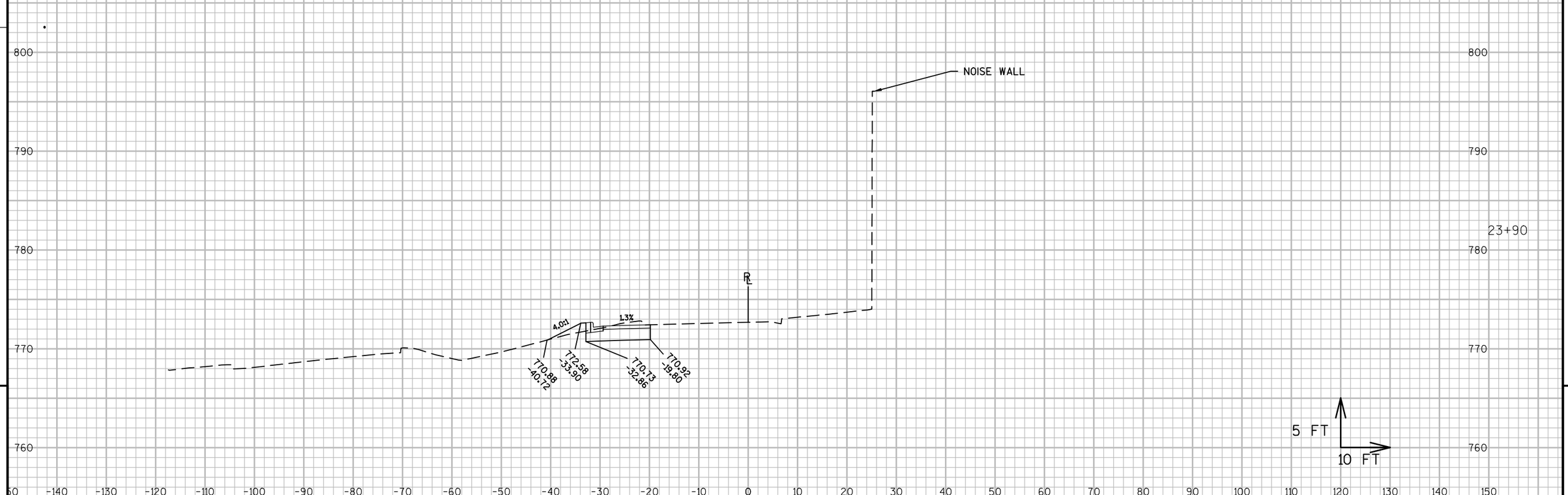


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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 468	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (77)
PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



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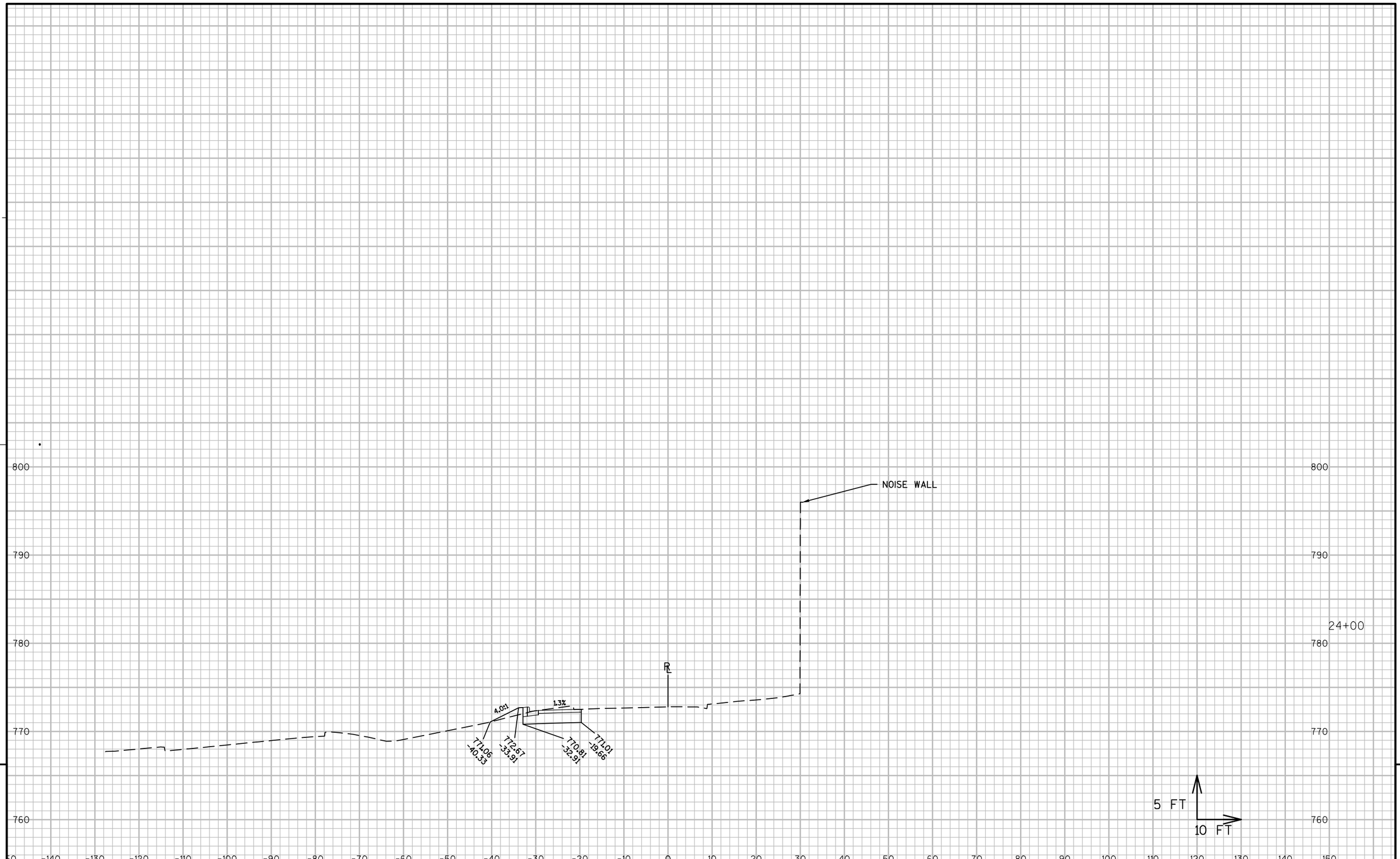
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 469	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (78)

PLOT DATE : 11/6/2014 12:34 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

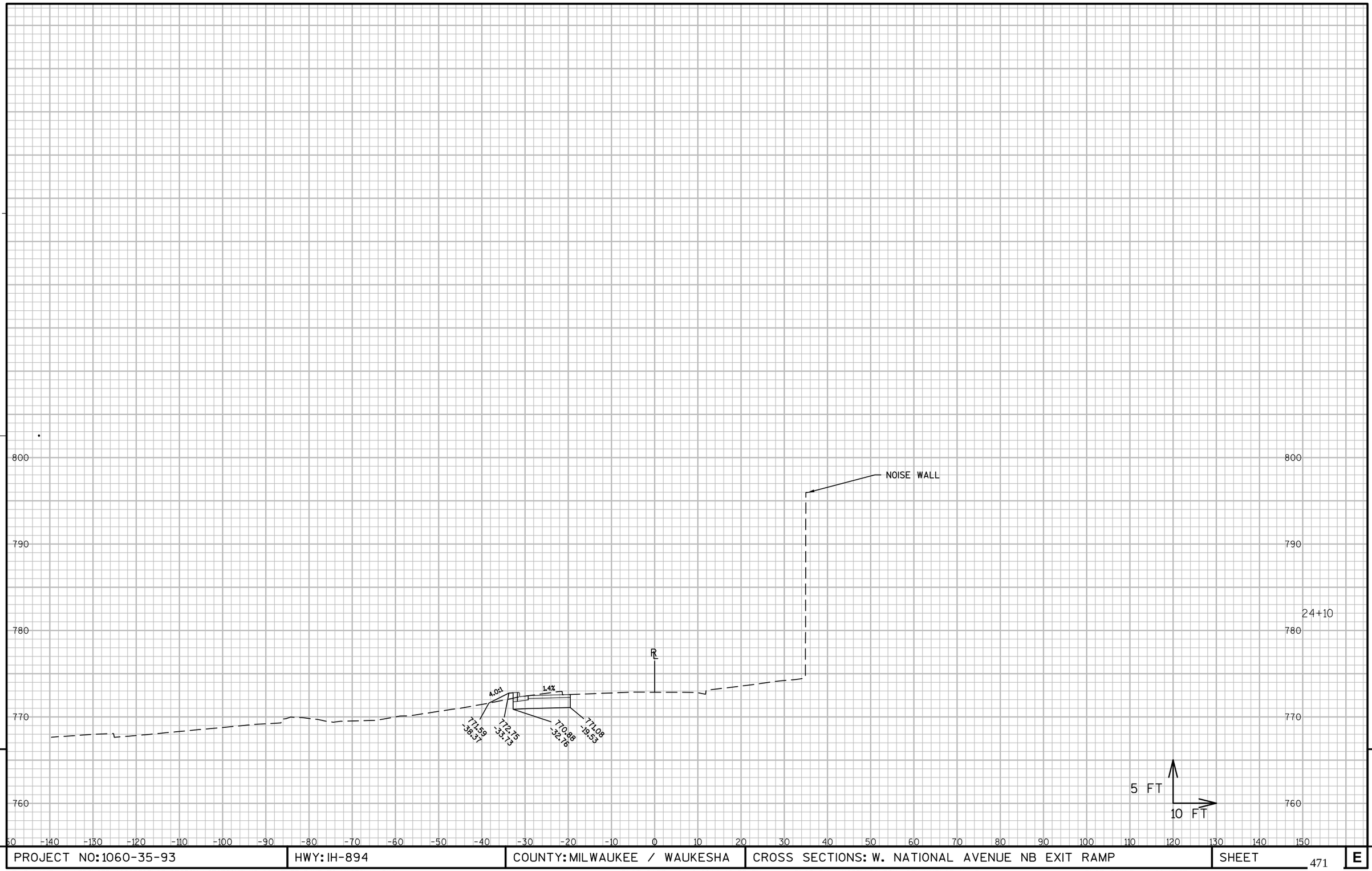


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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 470	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (79)
PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49

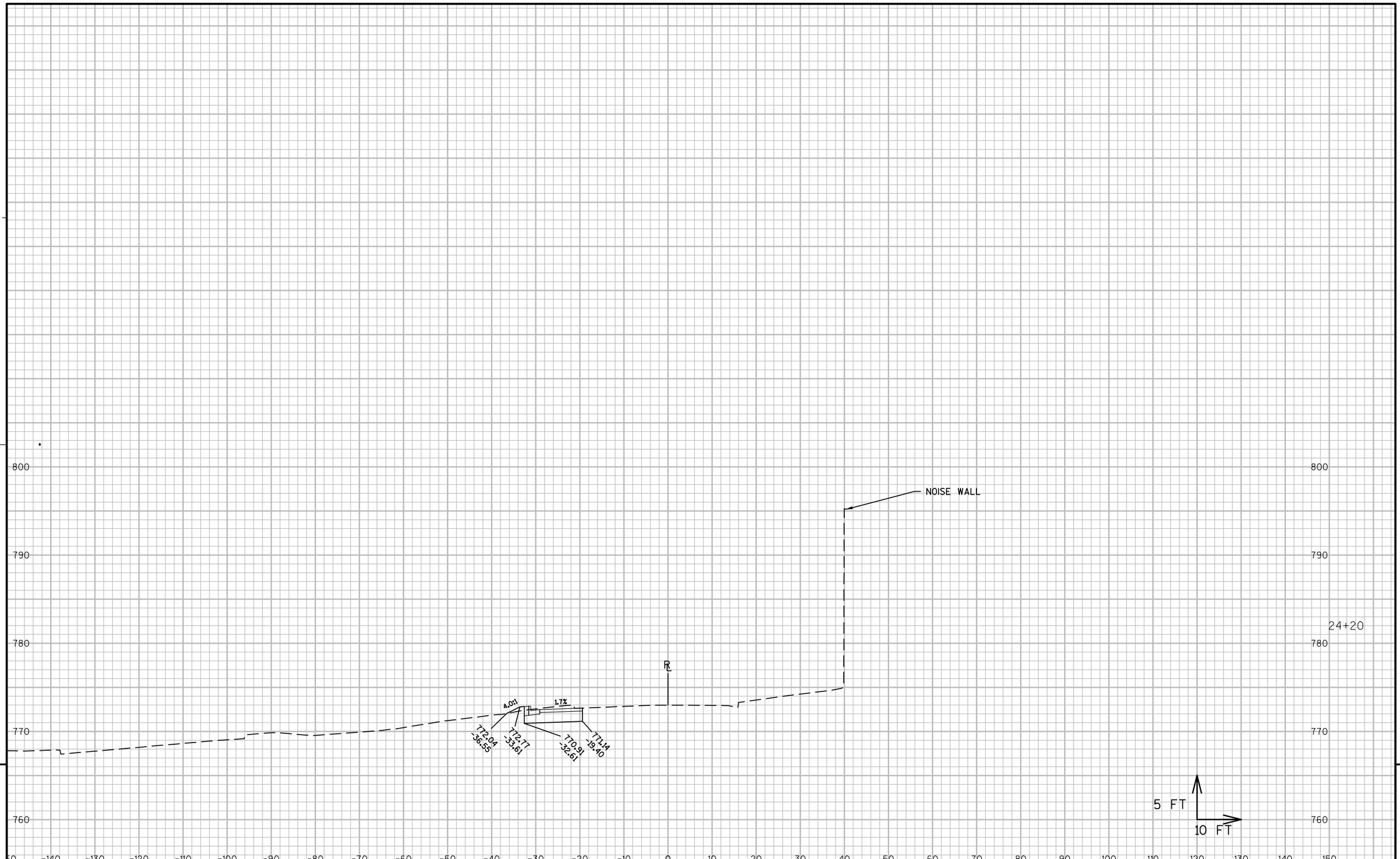


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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 471	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (80)
PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF
WISDOT/CADDS SHEET 49



9

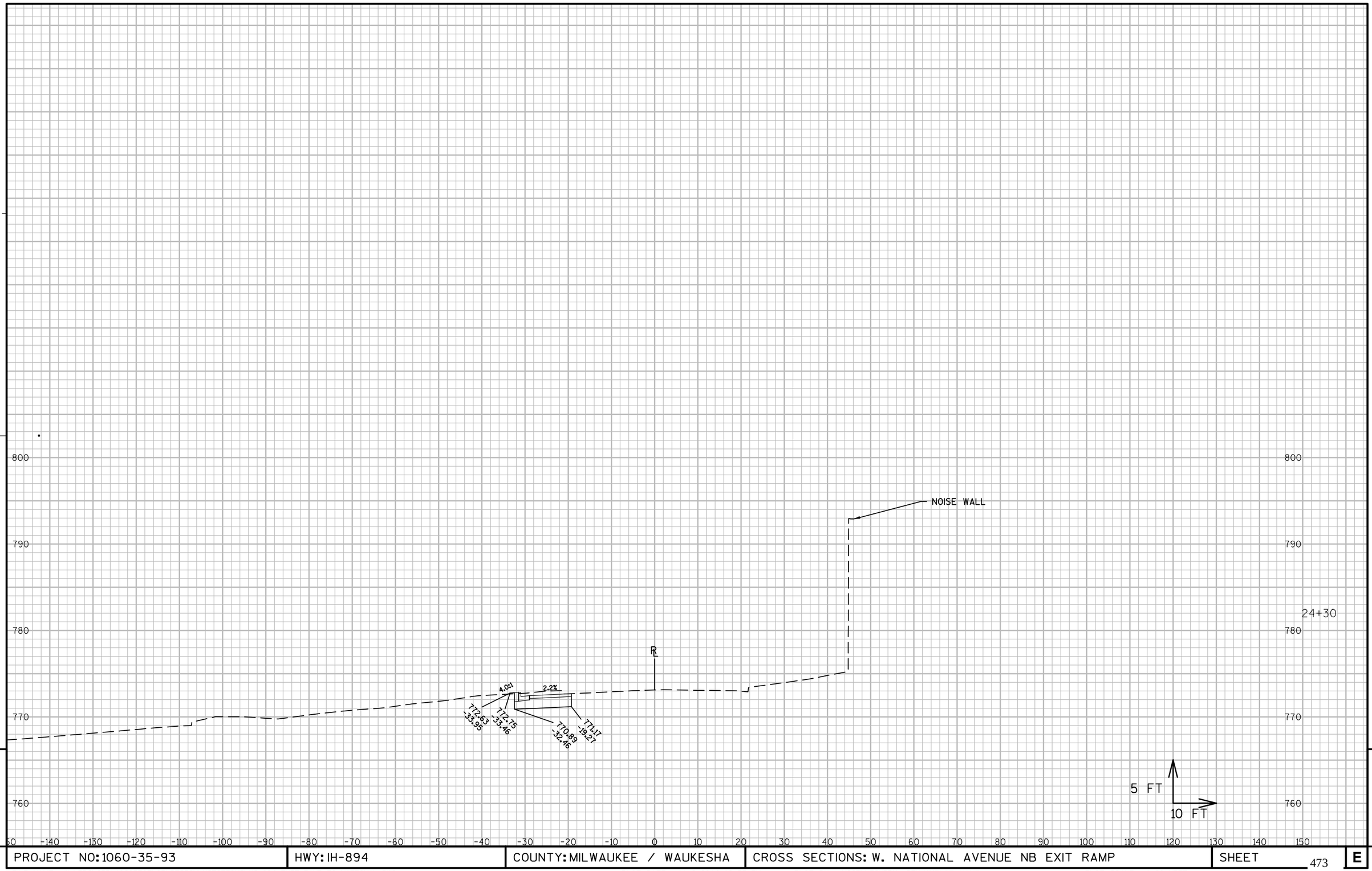
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 472	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (81)

PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



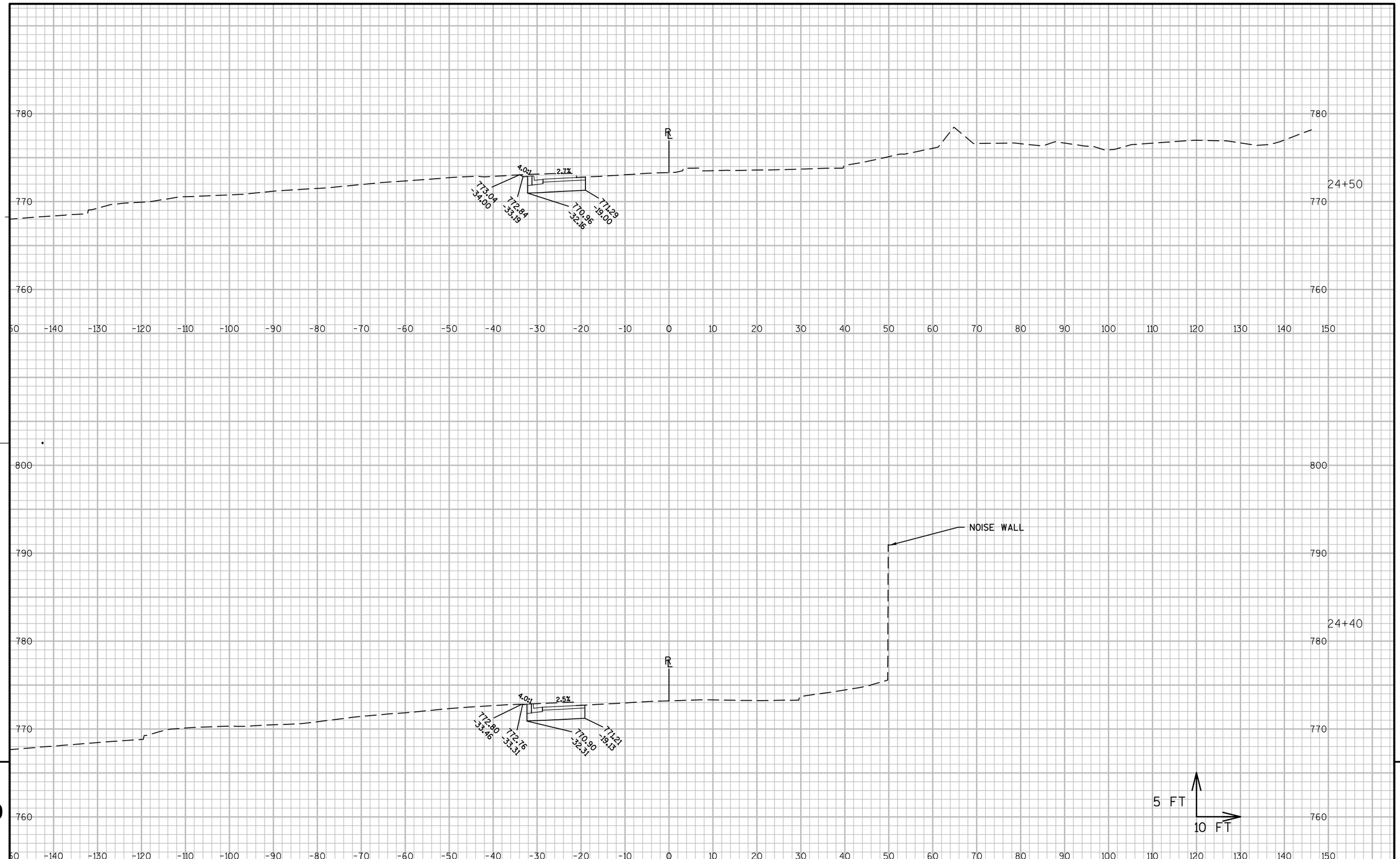
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 473	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (82)

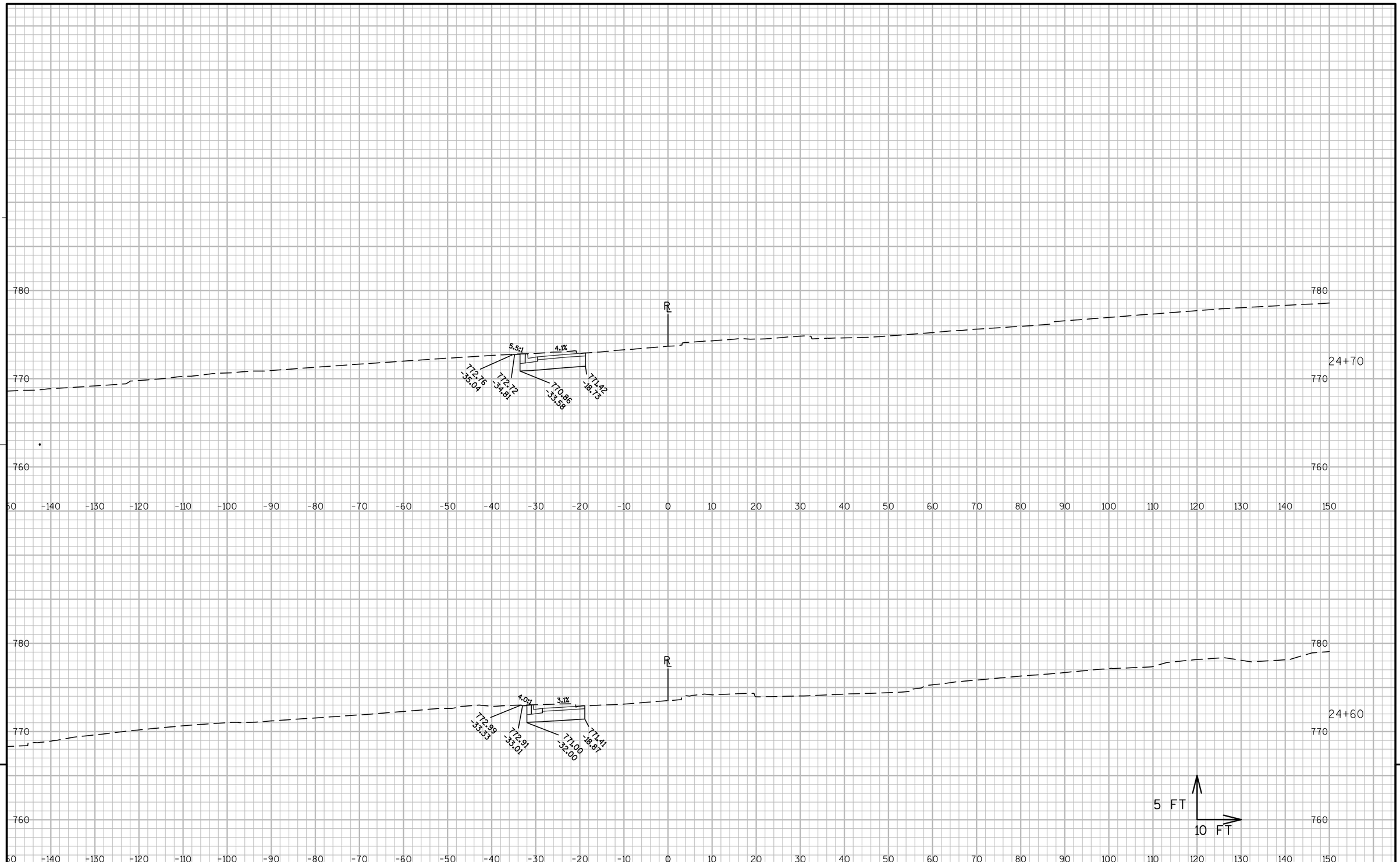
PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF



PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 474	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (83)

PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF



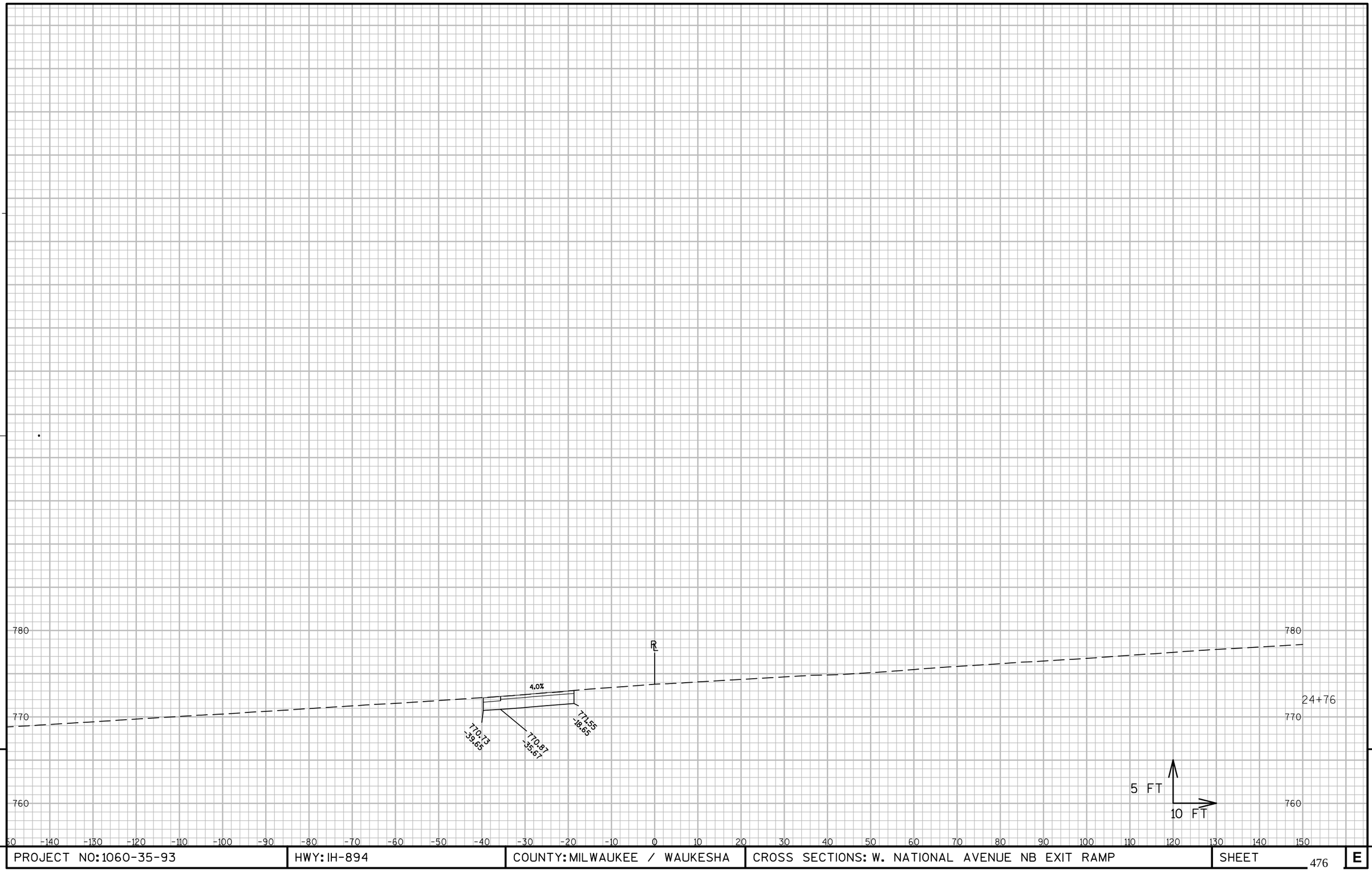
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 475	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (84)

PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF



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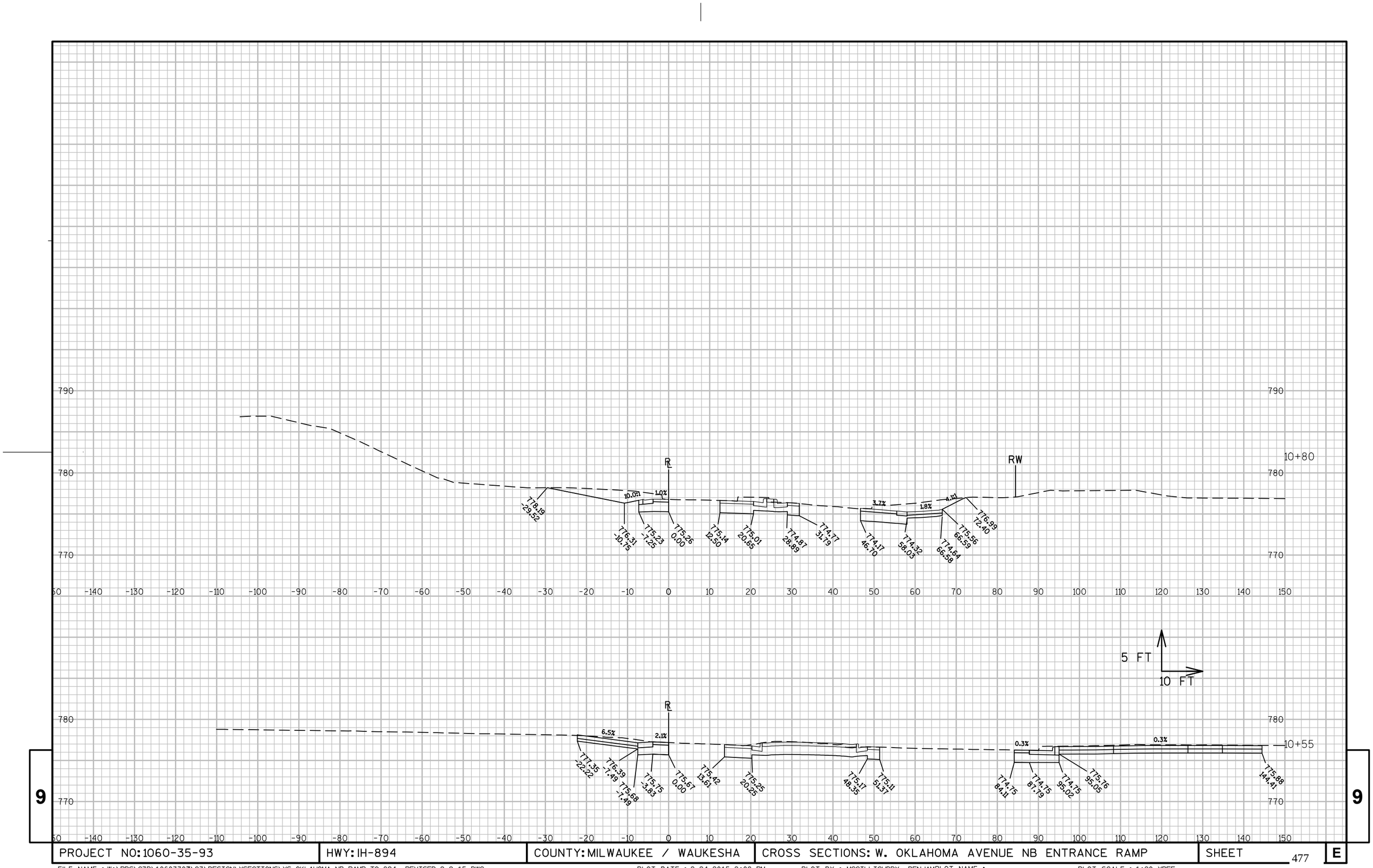
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. NATIONAL AVENUE NB EXIT RAMP	SHEET 476	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_894 EXIT RAMP TO NATIONAL.DWG
LAYOUT NAME - SECTION SHEET - (85)

PLOT DATE : 11/6/2014 12:35 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9

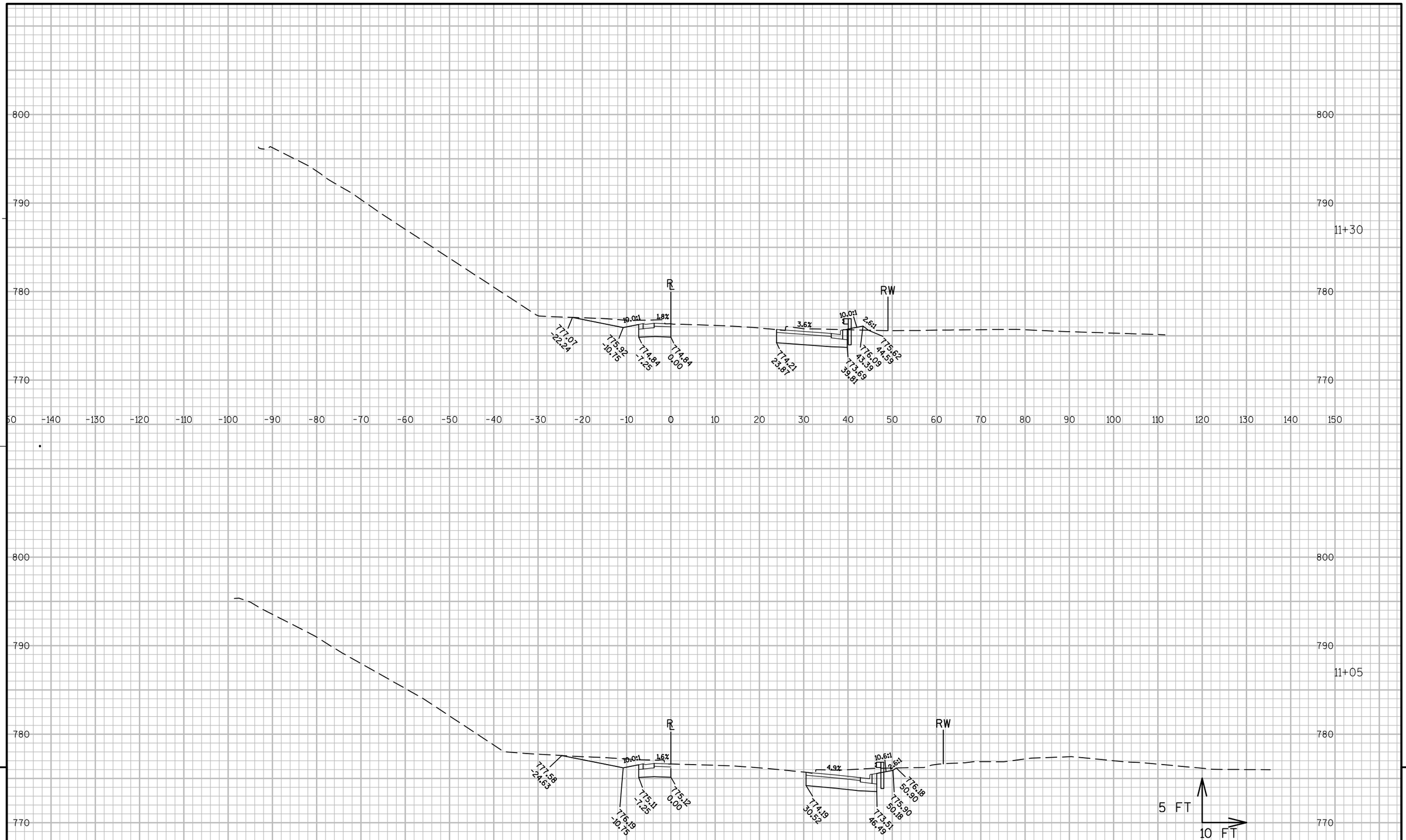
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PROJECT NO:1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 477	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 -REVISED 2-9-15.DWG
LAYOUT NAME - SECTION SHEET - (13)

PLOT DATE : 2/24/2015 2:08 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

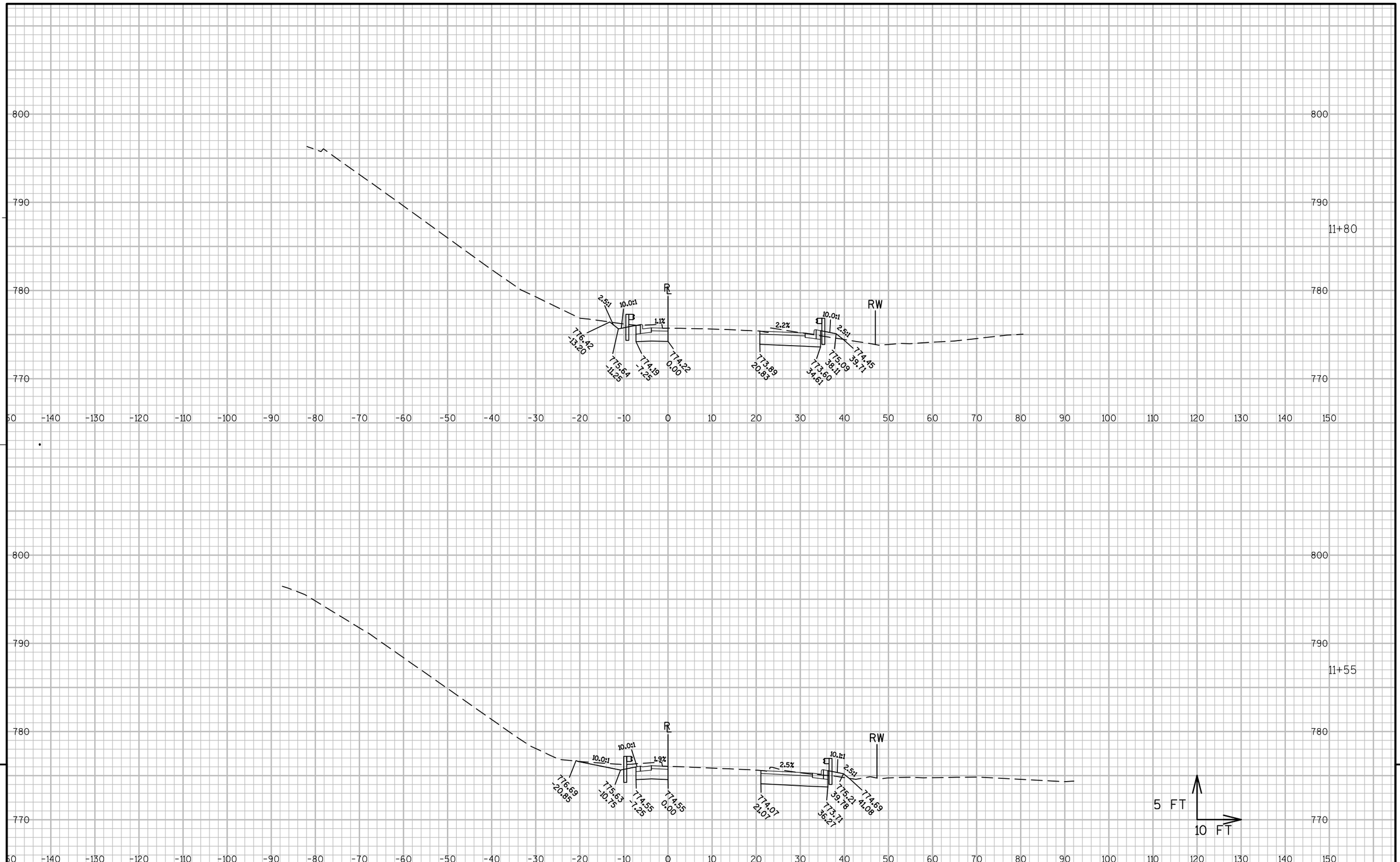


PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 478 E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 -REVISED 2-9-15.DWG
LAYOUT NAME - SECTION SHEET - (14)

PLOT DATE : 2/24/2015 2:08 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



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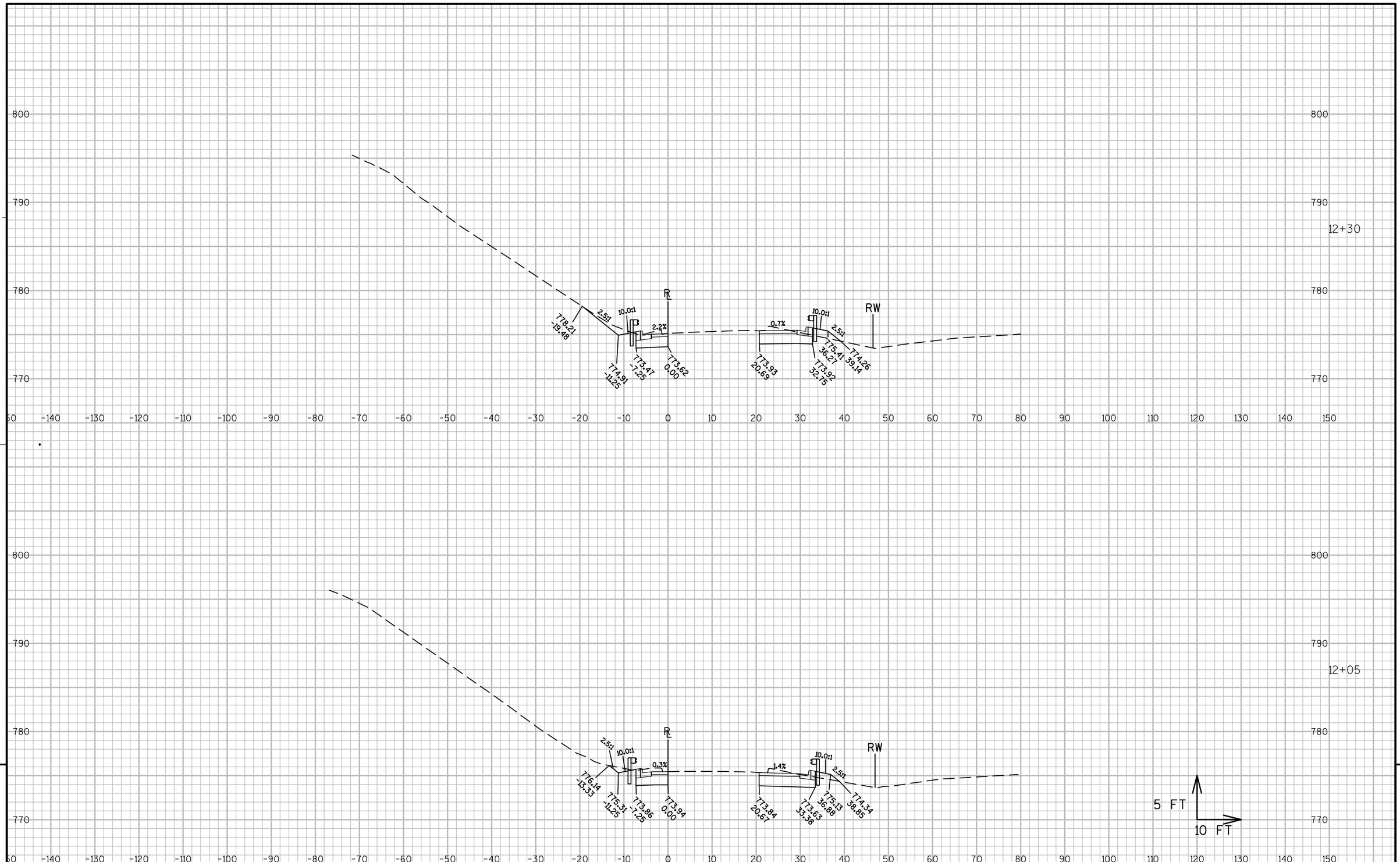
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 479	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 -REVISED 2-9-15.DWG
LAYOUT NAME - SECTION SHEET - (15)

PLOT DATE : 2/24/2015 2:08 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



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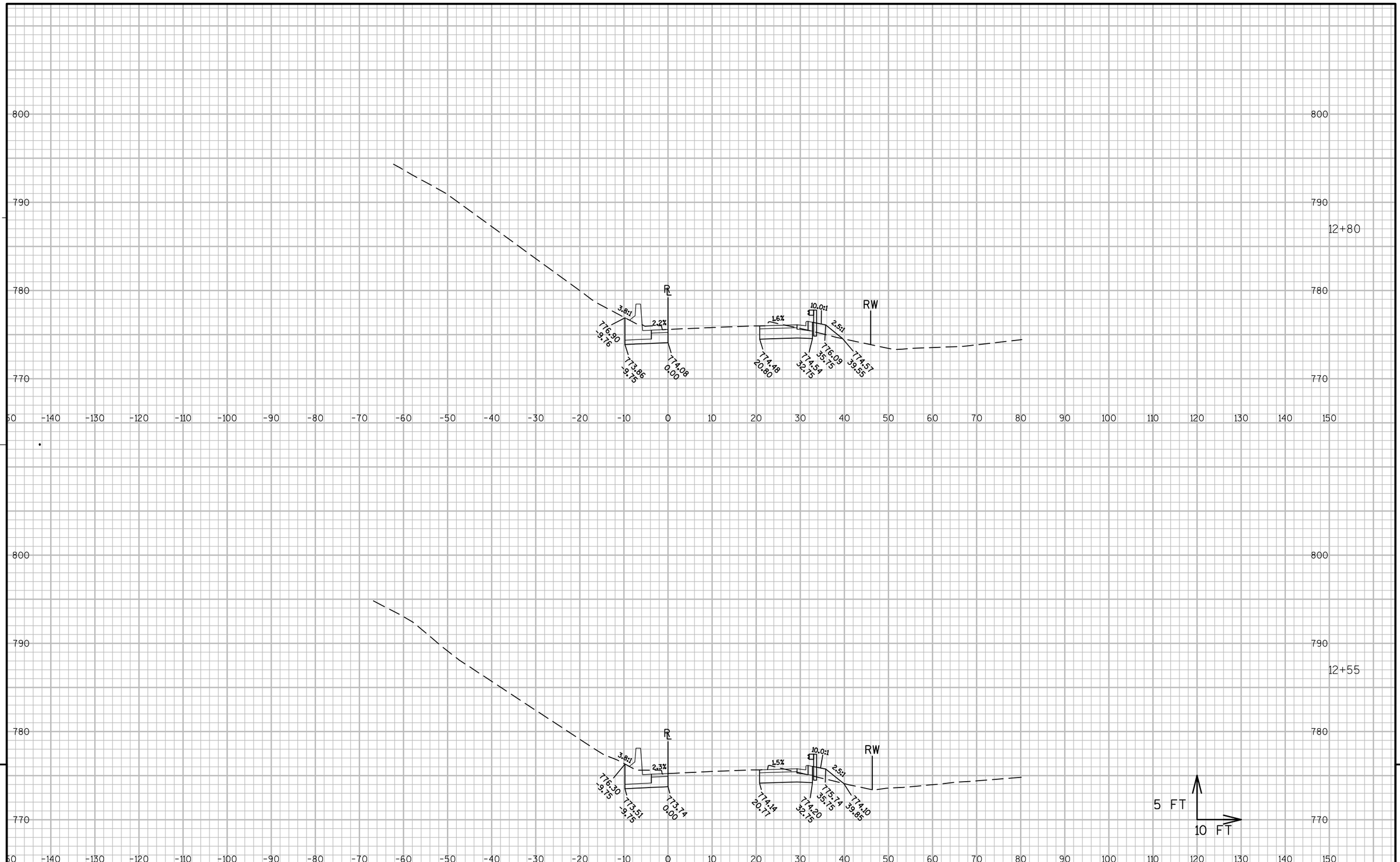
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 480	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 -REVISED 2-9-15.DWG
LAYOUT NAME - SECTION SHEET - (16)

PLOT DATE : 2/24/2015 2:09 PM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

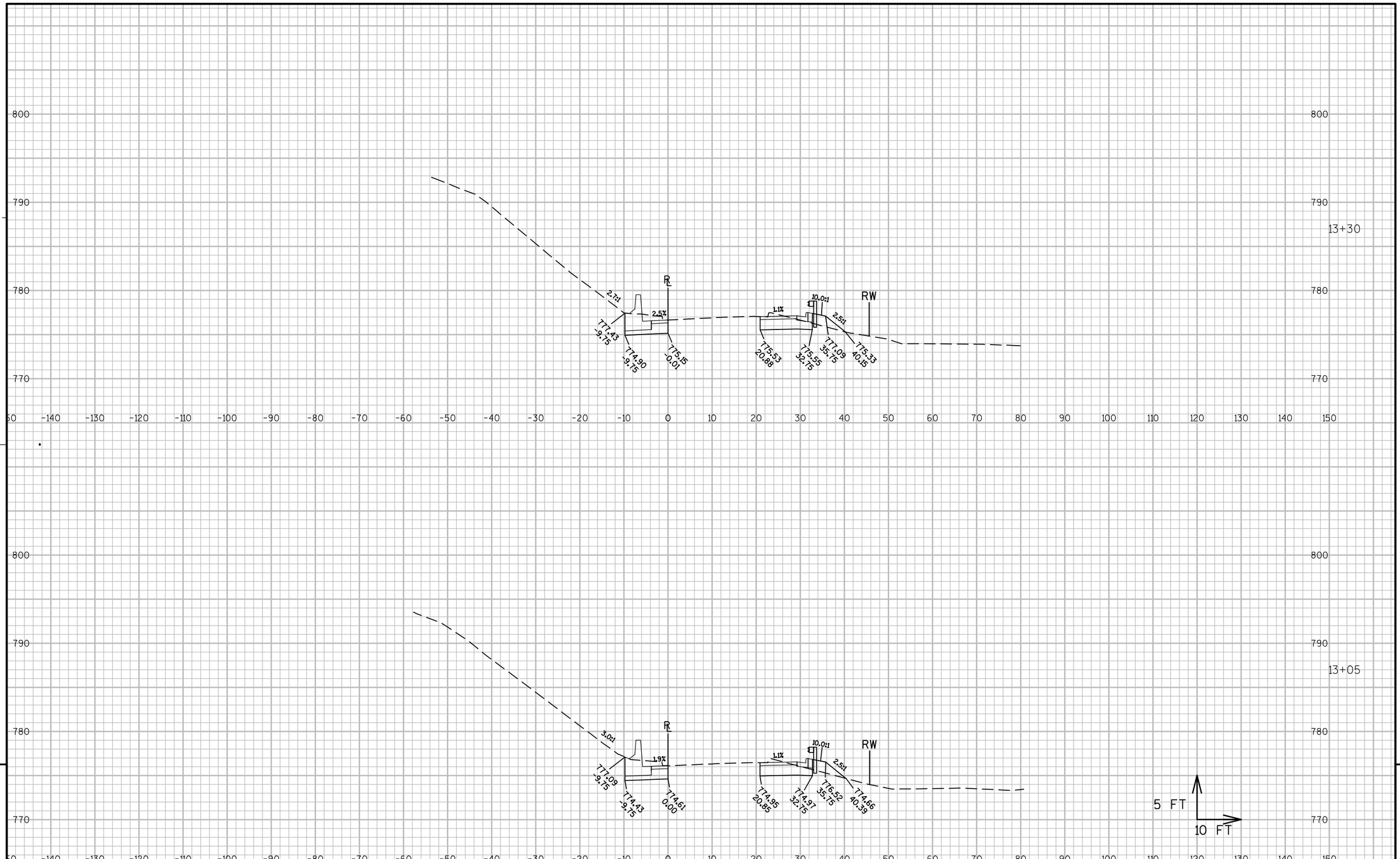


PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 481	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (17)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

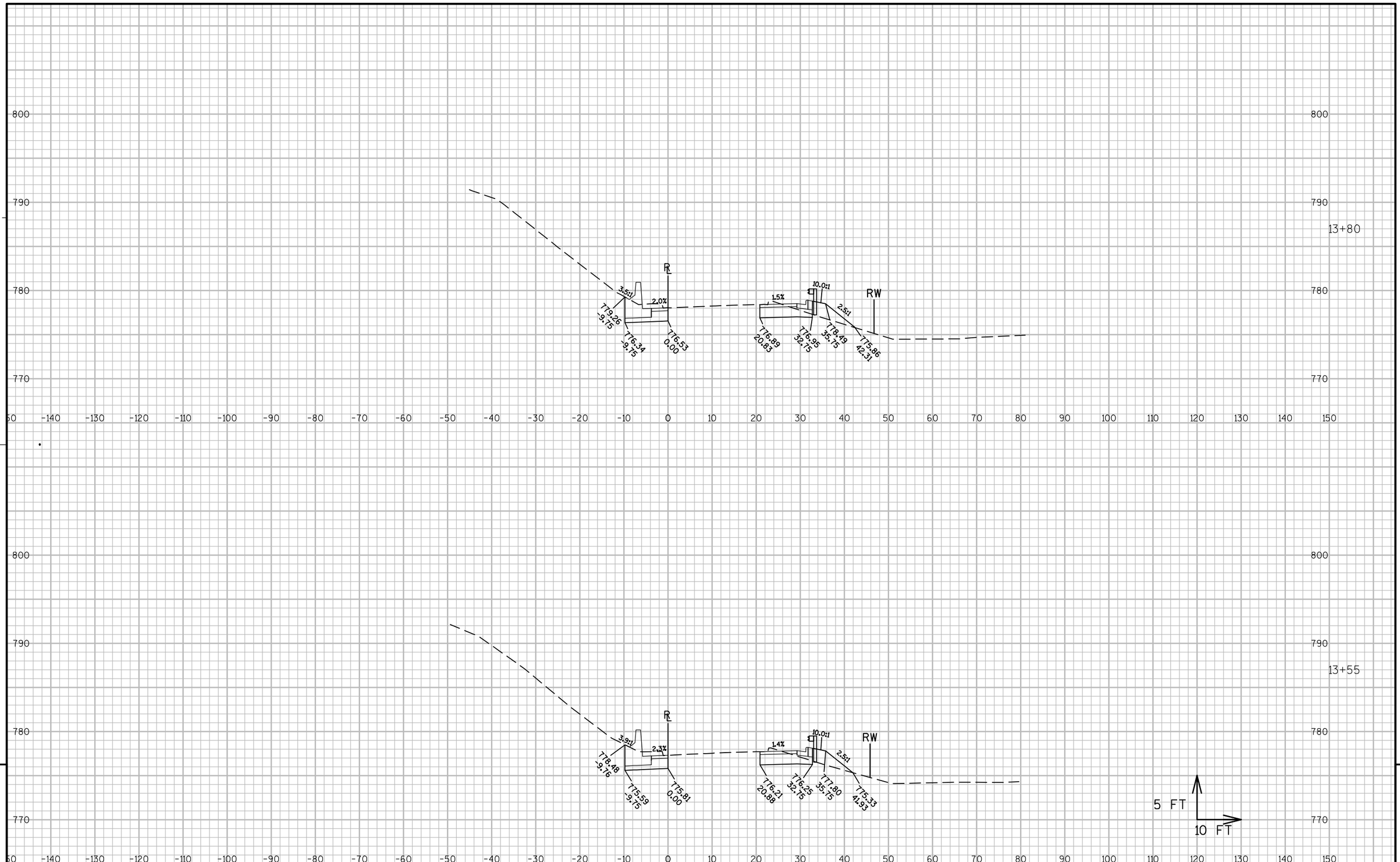


PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 482	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (18)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

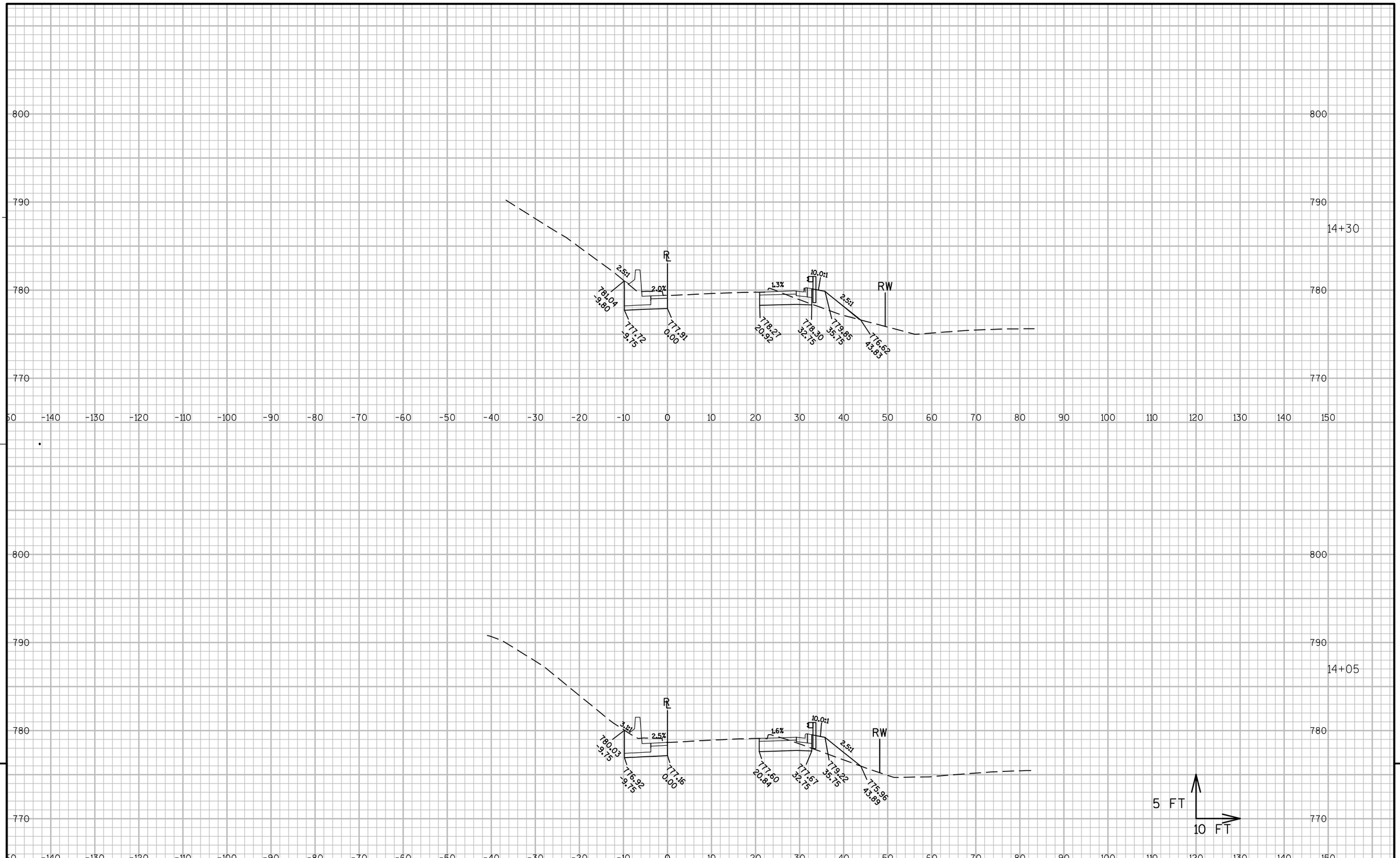


PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 483	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (19)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

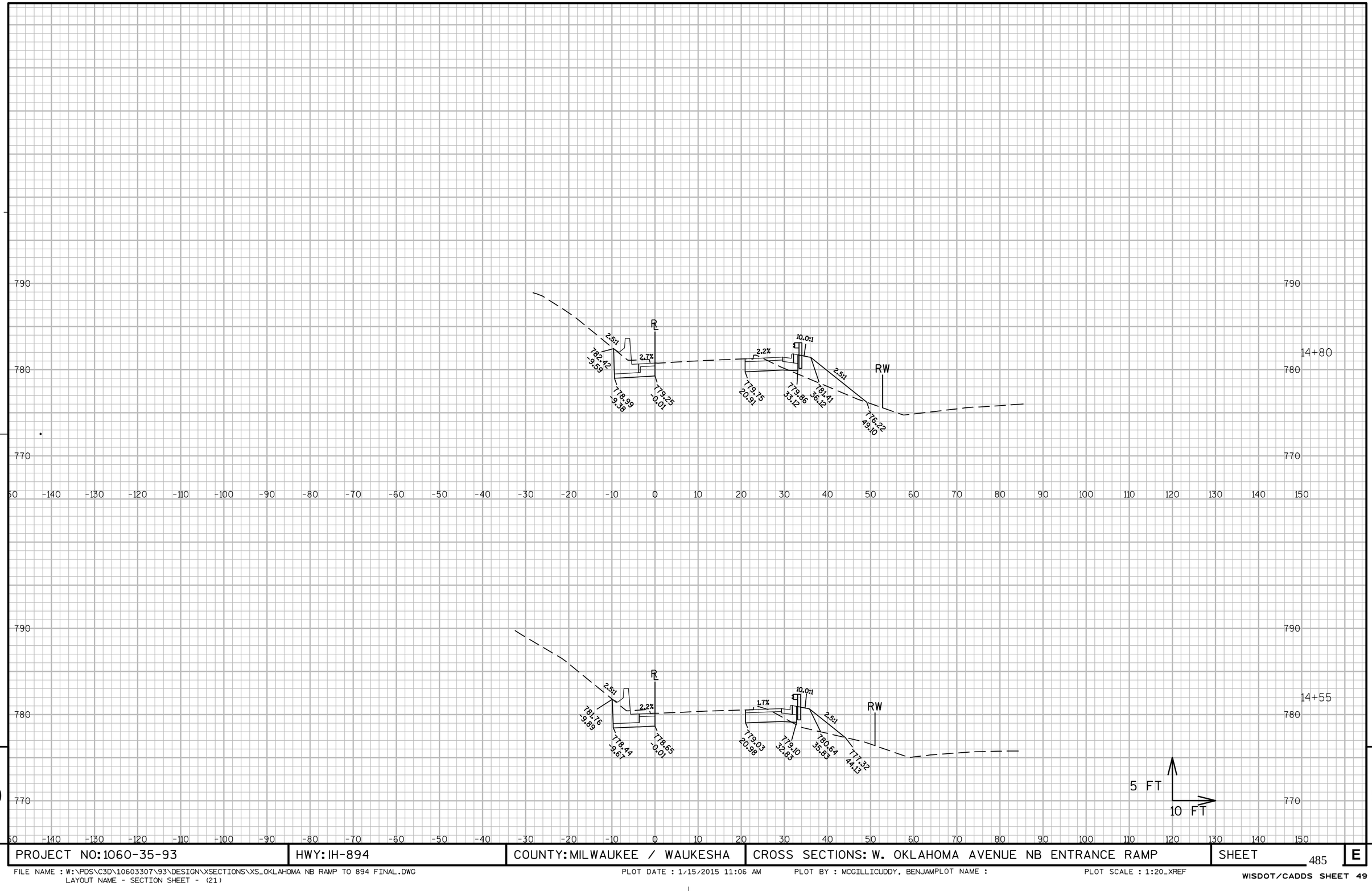


PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 484	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (20)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



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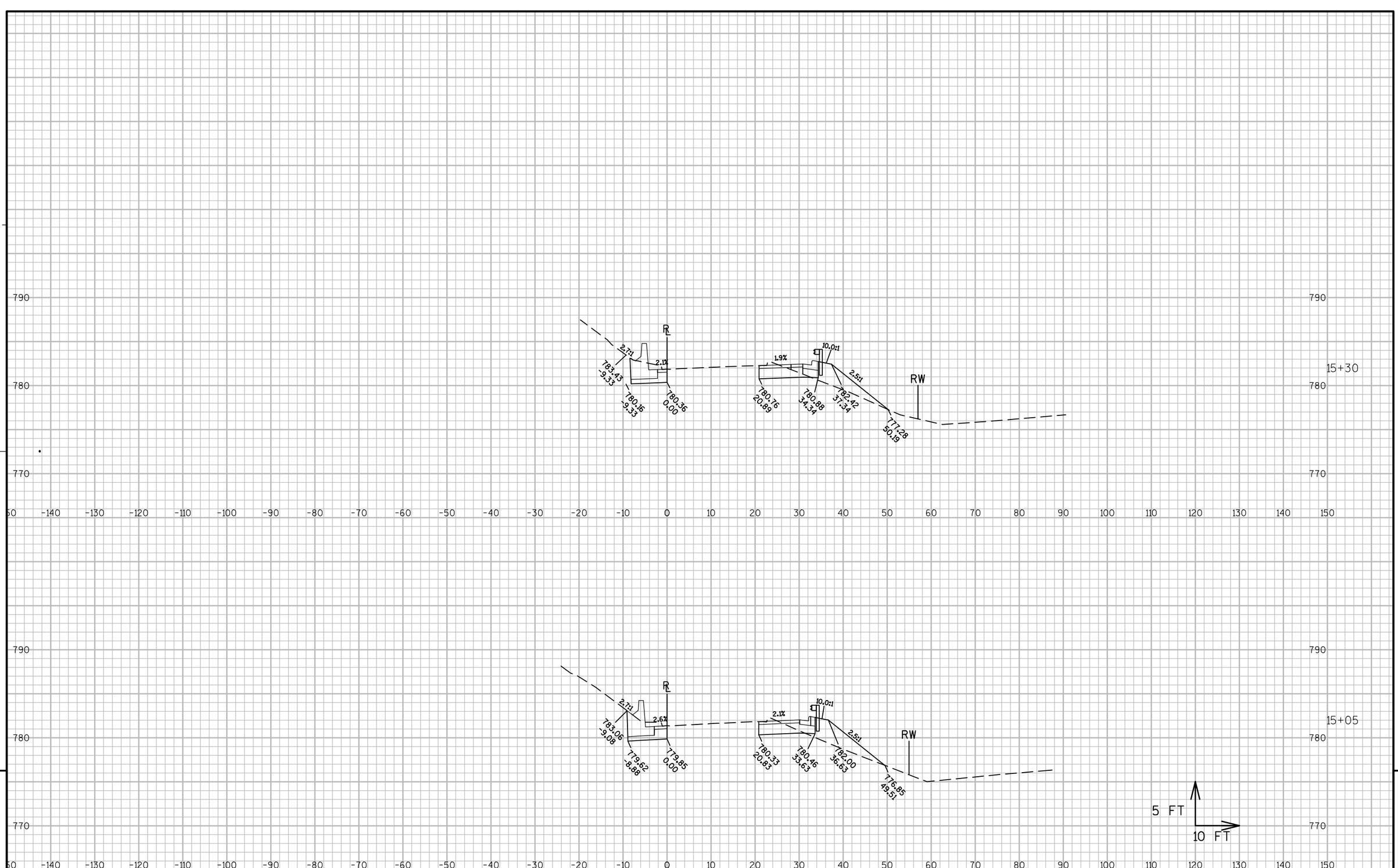
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 485	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (21)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



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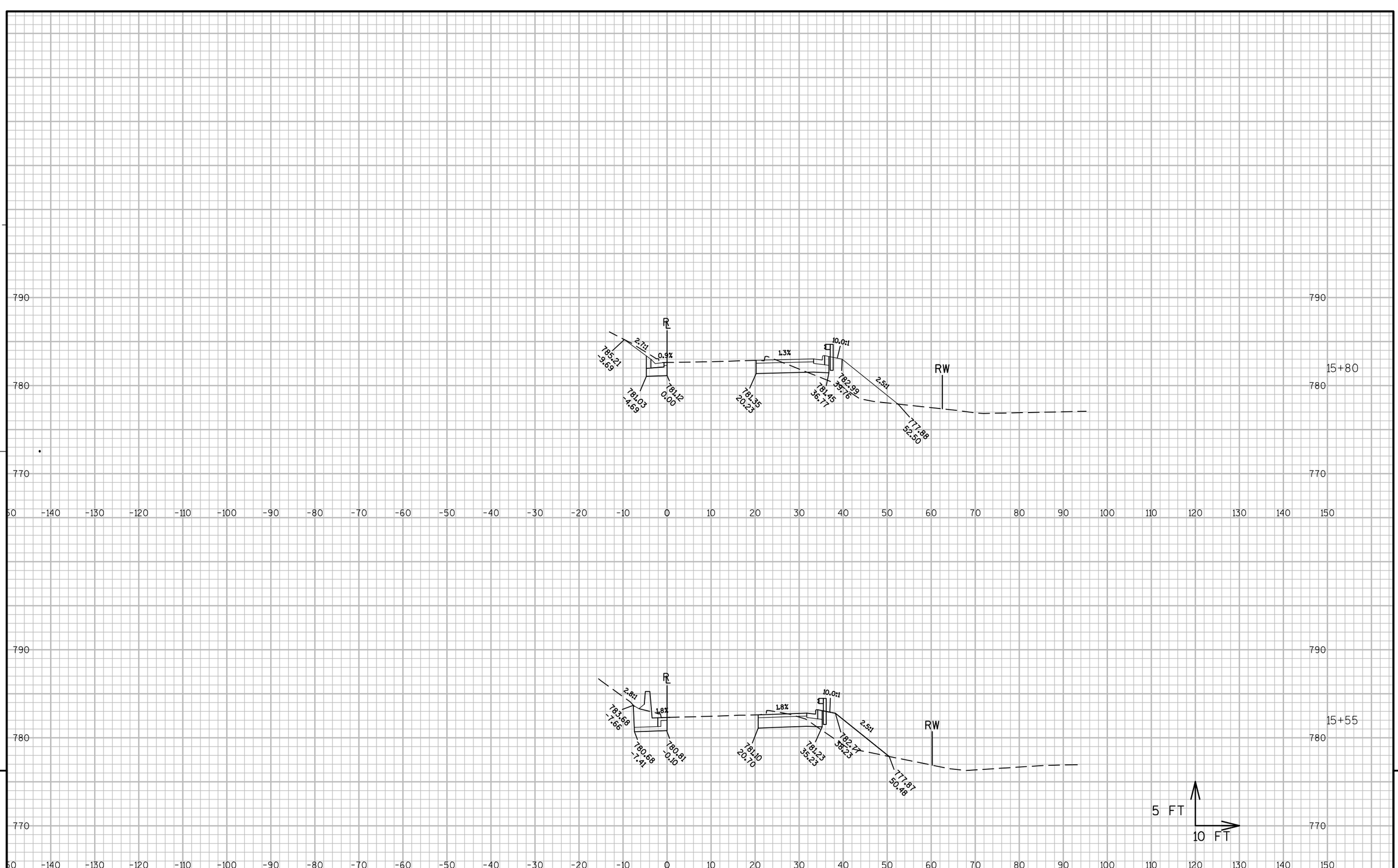
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PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 486	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (22)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49

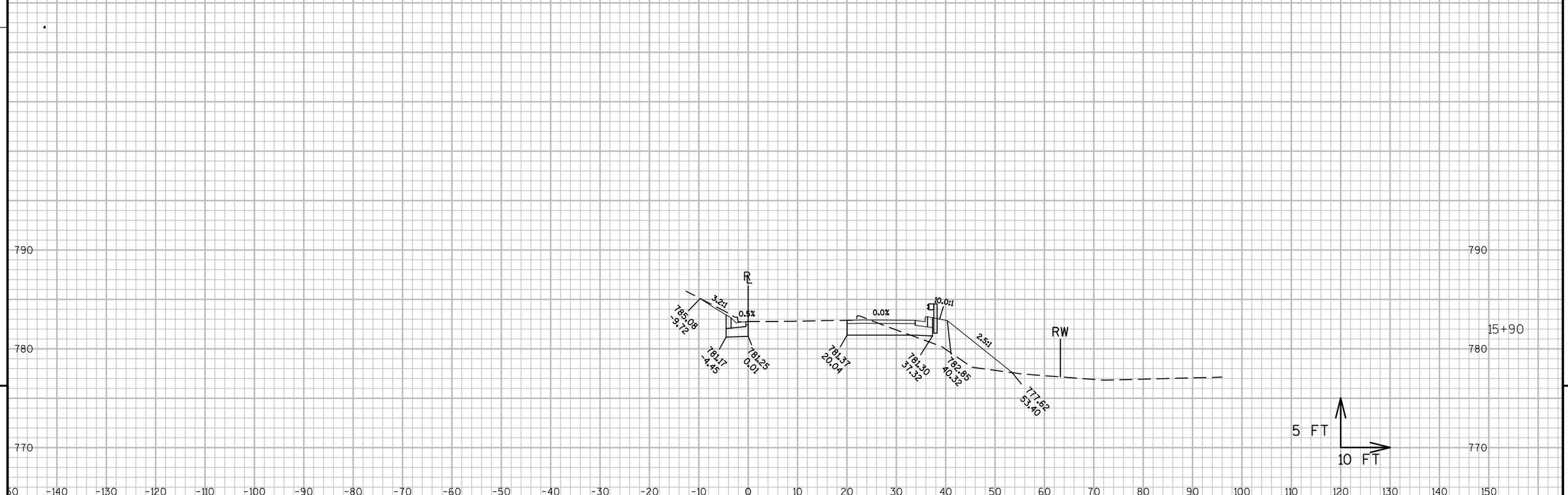


PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 487 E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (23)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1060-35-93	HWY: IH-894	COUNTY: MILWAUKEE / WAUKESHA	CROSS SECTIONS: W. OKLAHOMA AVENUE NB ENTRANCE RAMP	SHEET 488	E

FILE NAME : W:\PDS\C3D\10603307\93\DESIGN\XSECTIONS\XS_OKLAHOMA NB RAMP TO 894 FINAL.DWG
LAYOUT NAME - SECTION SHEET - (24)

PLOT DATE : 1/15/2015 11:06 AM PLOT BY : MCGILLICUDDY, BENJAMPLOT NAME : PLOT SCALE : 1:20_XREF

Notes

Wisconsin Department of Transportation

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