WKE

MAR 2017

PROJECT ID: 1060-39-90

WITH: 1380-09-71

COUNTY: MILWAUKEE

ORDER OF SHEETS

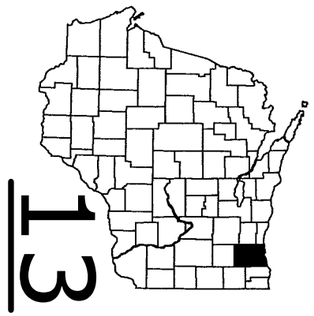
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
~~Section No.~~	~~5~~	~~Plan and Profile~~
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure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

TOTAL SHEETS = 402

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
ZOO IC, 2017 TMP PROJECTS
VARIOUS LOCATIONS, MKE & WAUK CO
VAR HWY
MILWAUKEE/WAUKESHA COUNTIES

STATE PROJECT NUMBER
1060-39-90

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1060-39-90		

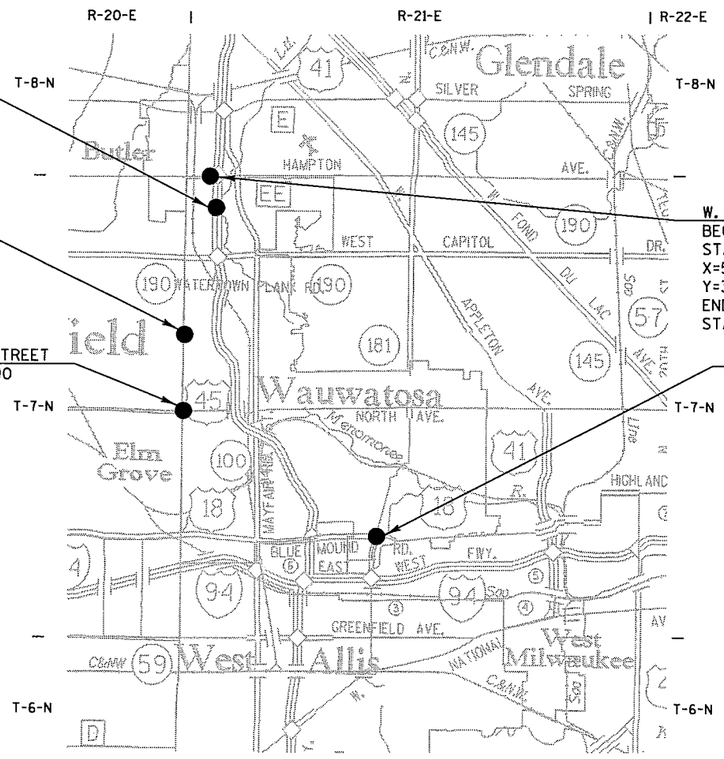


N

IH 41/USH 45
BEGIN CONSTRUCTION 1060-39-90
STA 269+20.00
X=566201.52
Y=321521.57
END CONSTRUCTION 1060-39-90
STA 272+55.13

W. BURLEIGH STREET & N. 124TH STREET
BEGIN PROJECT 1060-39-90
STA 526BR+72.36
X=564024.32
Y=312683.96
END PROJECT 1060-39-90
STA 529BR+71.22

W. NORTH AVENUE & N. 124TH STREET
BEGIN CONSTRUCTION 1060-39-90
STA 422NR+68.51
X=563584.89
Y=307401.43
END CONSTRUCTION 1060-39-90
STA 426NR+97.00



W. HAMPTON AVENUE & IH 41/USH 45
BEGIN CONSTRUCTION 1060-39-90
STA 618HP+37.29
X=566016.13
Y=323725.94
END CONSTRUCTION 1060-39-90
STA 620HP+31.17

USH 18 & STH 181
BEGIN CONSTRUCTION 1060-39-90
STA 70F+71.63
X=577434.86
Y=298436.04
END CONSTRUCTION 1060-39-90
STA 72F+24.22

SIGN STRUCTURES
S-40-456

DESIGN DESIGNATION

A.A.D.T. 2015	= N/A
A.A.D.T. 2035	= N/A
D.H.V. 2035	= N/A
D.D.	= N/A
T.	= N/A
DESIGN SPEED	= N/A
ESALS	= N/A

CONVENTIONAL SYMBOLS

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

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- OVERHEAD ELECTRIC (OH)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.0 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY ZONE, NAD 83 (2007)

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007)

FORWARD 45

ORIGINAL PLANS PREPARED BY
MILWAUKEE, WISCONSIN

WISCONSIN
PAUL E. BARTHEL
34421-006
WAUKESHA
WISCONSIN
PROFESSIONAL ENGINEER

Nov. 1, 2016 (Date)
Paul E. Barthel (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FORWARD 45
Designer	FORWARD 45
Project Manager	CHRISTOPHER HAGER, P.E.
Regional Examiner	
Regional Supervisor	WILLIAM S. MOHR, P.E.

APPROVED FOR THE DEPARTMENT
DATE: 11/1/2016 (Signature)

E

UTILITY CONTACTS

ATC
MR. IVAN KELLER
W234 N2000 RIDGEVIEW PARKWAY COURT
WAUKESHA, WI 53187
PHONE: (262) 506-6773
ikeller@atcllc.com

AT&T WISCONSIN
MR. JAY BULANEK
2005 PEWAUKEE RD
WAUKESHA, WISCONSIN 53188
PHONE: (262) 896-7669
CELL: (414) 491-2855
jb5175@att.com

BROOKFIELD, CITY OF – SEWER
MR. RON GILLENARDO, FACILITIES MANAGER
21225 ENTERPRISE AVENUE
BROOKFIELD, WI 53003
PHONE: (262) 782-0199
FAX: (262)782-8994
gillenardo@ci.brookfield.wi.us

BROOKFIELD, CITY OF – WATER
MR. MARK SIMON, SUPERINTENDENT
19700 RIVERVIEW DRIVE
BROOKFIELD, WI 53045
PHONE: (262) 796-6717
FAX: (262)782-0485

ELM GROVE, VILLAGE OF
MR. RICHARD PAUL JR,
DIRECTOR OF PUBLIC WORKS
13600 JUNEAU BOULEVARD
ELM GROVE, WI 53212
PHONE: (262) 782-6700
rpauljr@elmgrovewi.org

LEVEL 3/TW TELECOM
MR. BRAHIM GADDOUR
OSP ENGINEERING DEPT.
3235 INTERTECH DRIVE, SUITE 600
BROOKFIELD, WI 53045
PHONE: (414) 908-1027
CELL: (414) 704-1026
brahim.gaddour@level3.com

MIDWEST FIBER NETWORKS
MR. RICHARD TRGOVEC
6070 N. FLINT ROAD
GLENDALE, WI 53209
PHONE: (414) 459-3554
CELL: (414) 349-2979
rtrgovec@midwestfibernetworks.com

MILWAUKEE , CITY OF - CABLE
MR. DAVID HENKE
841 N. BROADWAY
MILWAUKEE, WI 53202
PHONE: (414) 286-3248
david.henke@milwaukee.gov

MILWAUKEE , CITY OF - CONDUIT
MRS. KAREN ROGNEY
841 N. BROADWAY
MILWAUKEE, WI 53202
PHONE: (414) 286-3243
karen.rogney@milwaukee.gov

MILWAUKEE , CITY OF - LIGHTING/SIGNALS
MR. DENNIS MILLER
841 N. BROADWAY, ROOM 920
MILWAUKEE, WI 53202
PHONE: (414) 286-4251
dennis.miller@milwaukee.gov

MILWAUKEE , CITY OF - SANITARY
MR. JASON BARMAN
841 N. BROADWAY, ROOM 821
MILWAUKEE, WI 53202
PHONE: (414) 286-3267
jason.barman@milwaukee.gov

MILWAUKEE , CITY OF - WATER
MR. DAVE GOLDAPP
841 N. BROADWAY, ROOM 409
MILWAUKEE, WI 53202
PHONE: (414) 286-6301
dave.m.goldapp@milwaukee.gov

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
MR. LARRY ANDERSON
260 W. SEEBOTH STREET
MILWAUKEE, WI 53204
PHONE: (414) 225-2241
landerson@mmsd.com

MMSD MANHOLE ADJUSTMENT CONTACT:
MR. ROBERT REBITSKI
260 W. SEEBOTH STREET
MILWAUKEE, WI 53204
PHONE: (414) 225-2214
brebitski@mmsd.com

TCA
MS. JENNIFER NAVARRO
NORTHWIND TECHNICAL SERVICES, LLC
6070 N. FLINT ROAD
GLENDALE, WI 53209
PHONE: (414) 459-3564
j.navarro@northwindtech.com

TDS METROCOM
MR. MATTHEW SCHULTE
16924 WEST VICTOR ROAD
NEW BERLIN, WI 53151
PHONE: (262) 754-3063
CELL: (262) 409-1177
matt.schulte@tdstelecom.com

TIME WARNER CABLE
MR. STEVE CRAMER
1320 N. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 277-4045
CELL: (414) 688-2385
steve.cramer@twcable.com

WAUWATOSA, CITY OF - LIGHTING
MR. RANDY MICHELZ
7725 W. NORTH AVENUE
WAUWATOSA, WI 53213
PHONE: (414) 479-8429
rmichelz@wauwatosa.net

WAUWATOSA, CITY OF - SANITARY
MR. BILL WEHRLEY, CITY ENGINEER
7725 W. NORTH AVENUE
WAUWATOSA, WI 53213
PHONE: (414) 479-8929
wwehrley@wauwatosa.net

WAUWATOSA WATER UTILITY
MR. JIM WOJCEHOWICZ
WATER SUPERINTENDENT
7725 W. NORTH AVENUE
WAUWATOSA, WI 53213
PHONE: (414) 479-8965
jwojcehowicz@wauwatosa.net

WE ENERGIES - ELECTRIC
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT STREET - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
MR. ERICH WUESTENHAGEN
500 S. 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5765
CELL: (262) 483-3896
erich.wuestenhagen@we-energies.com

WE ENERGIES - GAS
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT STREET - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
MR. ERICH WUESTENHAGEN
500 S. 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5765
CELL: (262) 483-3896
erich.wuestenhagen@we-energies.com

(CONTINUED ON NEXT SHEET)

STATE AGENCIES

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MS. KRISTINA BETZOLD - ENVIRONMENTAL SPECIALIST
2300 N. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
CELL: (414) 507-4946
kristina.betzold@wisconsin.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MR. CHRIS HAGER- PROJECT MANAGER
141 NW BARSTOW ST.
WAUKESHA, WI 53187-0798
PHONE: (414) 750-1487
christopher.hager@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MS. LACI KAZAN - ENVIRONMENTAL ANALYST AND REVIEW SPECIALIST
141 NW BARSTOW STREET
WAUKESHA, WI 53187-0798
CELL: (414) 322-1429
laci.kazan@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MR. GREG BERRY – UTILITY COORDINATOR
141 NW BARSTOW STREET
WAUKESHA, WI 53187-0798
CELL: (414) 750-7828
gregory.berry@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MS. LINDA MATTHEWS – SE REGION ENVIRONMENTAL COORDINATOR
141 NW BARSTOW STREET
WAUKESHA, WI 53187-0798
PHONE: (262) 548-6458
CELL: (414) 750-0163
linda.matthews@dot.wi.gov

OTHER AGENCIES

MILWAUKEE COUNTY DPW
MR. GREG HEISEL, HWY MAINT. MANAGER
10190 W. WATERTOWN PLANK ROAD
MILWAUKEE, WI 53226
PHONE: (414) 257-6566
gheisel@milwcnty.com

MILWAUKEE COUNTY TRANSIT SYSTEM
MS. MELANIE FLYNN
1942 N. 17TH STREET
MILWAUKEE, WI 53205
PHONE: (414) 343-1764
mflynn@mcts.org

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
MR. ROB MERRY
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4289
CELL: (920) 912-1036
rmerry@sewrpc.org

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

2

UTILITY CONTACTS *(CONTINUED)*

WEST SHORE PIPELINE COMPANY
MR. ARIC AUFDERMAUER, PIPELINE TECHNICIAN
11115 W. COUNTY LINE ROAD
MILWAUKEE, WI 53224
CELL: (414) 391-8102
aaufdermauer@buckeye.com

WISDOT LIGHTING
MR. ERIC PEREA
141 NW BARSTOW
WAUKESHA, WI 53187
PHONE: (262) 574-5422
CELL: (414) 750-0935
eric.perea@dot.wi.gov

WISDOT SIGNALS
MR. JOHN HAUG
141 NW BARSTOW STREET
WAUKESHA, WI 53187
PHONE: (262) 521-5356

ELECTRICAL FIELD UNIT
935 S. 60TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 266-1170

WISDOT STOC
MR. JEFFREY MADSON
433 W ST. PAUL AVE, SUITE 300
MILWAUKEE, WI 53203
PHONE: (414) 225-3723
jeffrey.madson@dot.wi.gov

CONSTRUCT HMA PAVEMENT WITH THE FOLLOWING LAYERS:

	PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NOMINAL MAXIMUM SIZE GRADATION
A	4 MT 58-28 S	3"	ONE LAYER	12.5 MM

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
PLAN DETAILS
FTMS PLANS
EROSION CONTROL
STORM SEWER
PERMANENT SIGNING
TRAFFIC SIGNALS
PAVEMENT MARKING
TRAFFIC CONTROL
STAGE CONSTRUCTION
DETOUR
ALIGNMENT LAYOUT

GENERAL NOTES

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

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

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.

THE HYDRANT ASSEMBLY RELOCATION AT W. BLUEMOUND ROAD & GLENVIEW AVENUE IS SHOWN ON THE STORM SEWER PLAN & PROFILE SHEET.

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH COMPACTED BACKFILL GRANULAR UNLESS REGULATIONS REQUIRE OTHERWISE.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

FERTILIZER SHALL NOT BE USED WITHIN 100' OF NAVIGABLE WATERWAYS OR WETLANDS.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES AND SET-UPS SHALL BE COMPLIANT WITH THE MUTCD.

REMOVAL OF EROSION CONTROL DEVICES ARE INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

RESTORE DISTURBED URBAN AREAS WITH SOD LAWN. SEED OR SOD AND FERTILIZE ALL TOPSOILED AREAS WITHIN 5 DAYS AFTER PLACEMENT OF TOPSOIL.

USE CAUTION AND DO NOT DISTURB SECTION CORNERS WITHIN THE PROJECT LIMITS AS SHOWN ON THE PLAT.

STANDARD ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
ASPH	ASPHALTIC
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	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
EB	EASTBOUND
ENB	EXISTING NOISE BARRIER
FE	FIELD ENTRANCE
FL	FLOW LINE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LP	LOW POINT
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PGL	PROFILE GRADE LINE
PLE	PERMANENT LIMITED EASEMENT
PNB	PROPOSED NOISE BARRIER
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND

2

VILLAGE OF ELM GROVE

CITY OF BROOKFIELD

VILLAGE OF BUTLER

N. 124TH STREET

BEGIN CONSTRUCTION
STA 422NR+68.51

END CONSTRUCTION
STA 426NR+97.00

R/L NR

R/L TU

W. CENTER STREET

BEGIN PROJECT 1060-39-90
STA 526BR+72.36

R/L BR

END PROJECT 1060-39-90
STA 529BR+71.22

N

BEGIN CONSTRUCTION
STA 269+20.00

R/L HP

S-40-456

R/L IH 41/USH 45

END CONSTRUCTION
STA 272+55.13

BEGIN CONSTRUCTION
STA 618HP+37.29

END CONSTRUCTION
STA 620HP+31.17

W. HAMPTON AVENUE

CITY OF WAUWATOSA

IH 41/USH 45

UNION PACIFIC RAILROAD

STH 100

N. MAYFAIR ROAD

W. BLUEMOUND ROAD

USH 18

W. WISCONSIN AVENUE

W. WATERTOWN PLANK ROAD

W. NORTH AVENUE

W. BURLEIGH STREET

W. CAPITOL DRIVE

CITY OF MILWAUKEE

CITY OF WAUWATOSA

CITY OF MILWAUKEE

R/L F

R/L BL

GLENVIEW AVENUE

STH 181

HARWOOD AVENUE

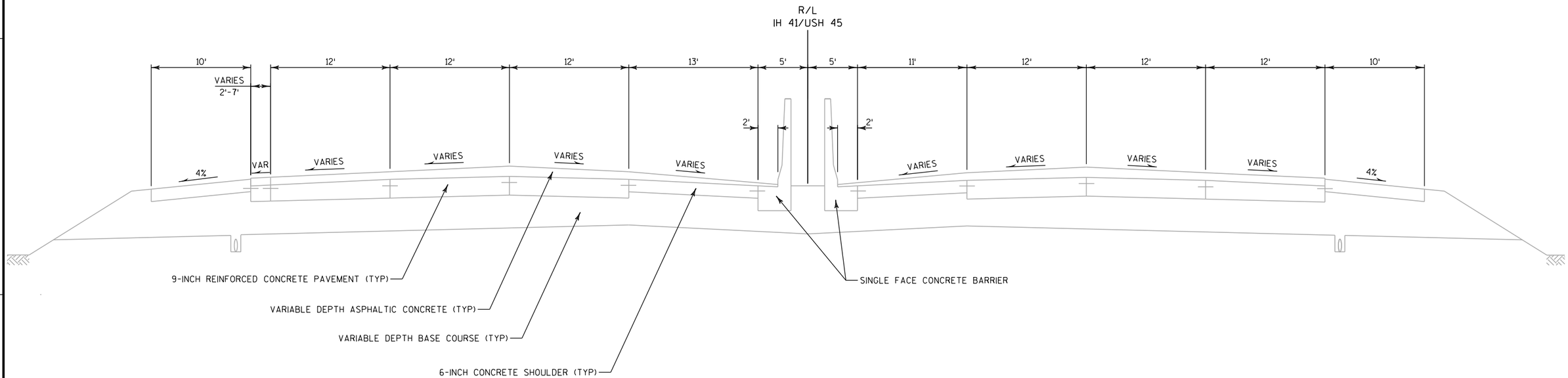
END CONSTRUCTION
STA 72F+24.22

BEGIN CONSTRUCTION
STA 70F+71.63

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PROJECT OVERVIEW	SHEET E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\020201_po.dgn PLOT DATE : 27-OCT-2016 21:55 PLOT BY : MSCDYB PLOT NAME : 020201_po PLOT SCALE : 1700:1

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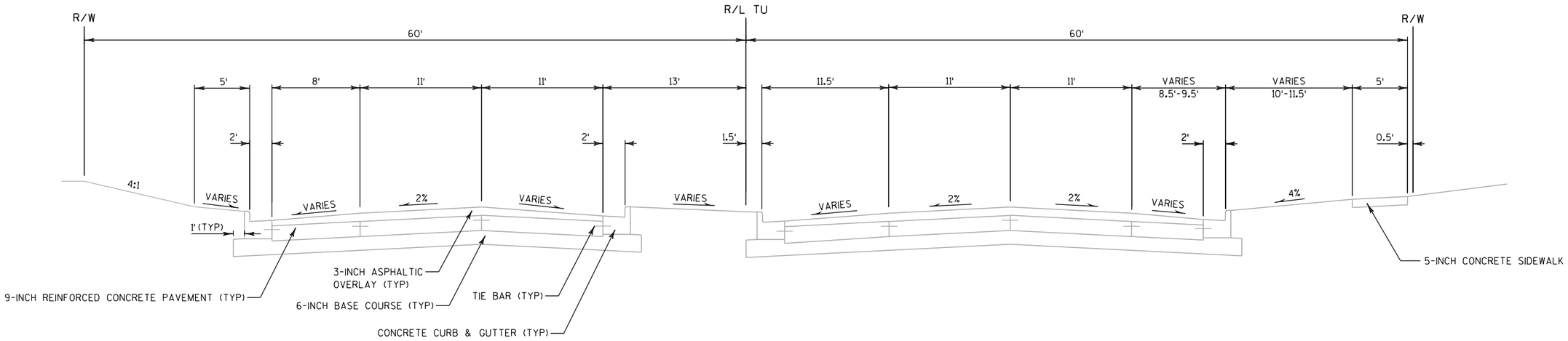


TYPICAL EXISTING SECTION

IH 41/USH 45

STA 269+20 TO STA 270+50

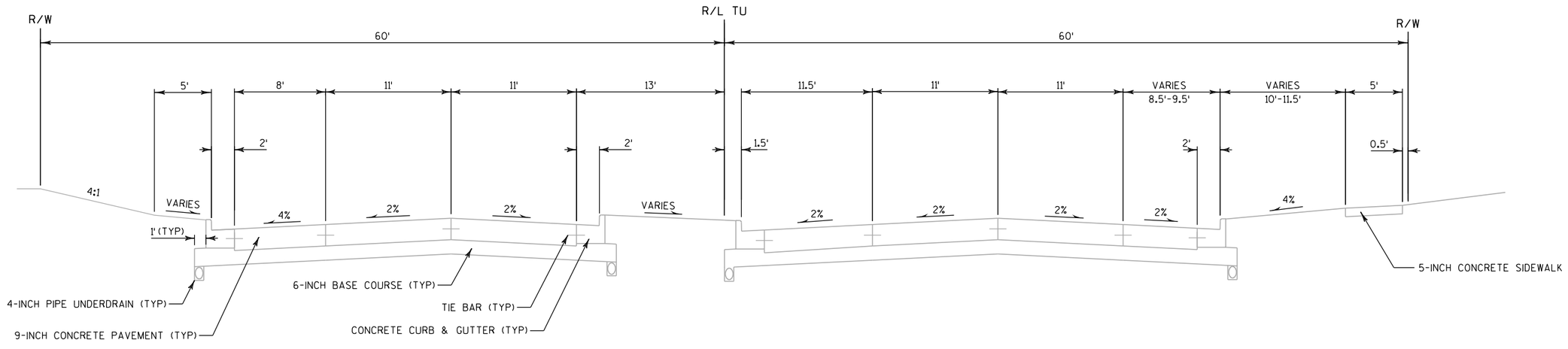
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET E



TYPICAL EXISTING SECTION

N. 124TH STREET

STA 205TU+20 TO STA 205TU+46



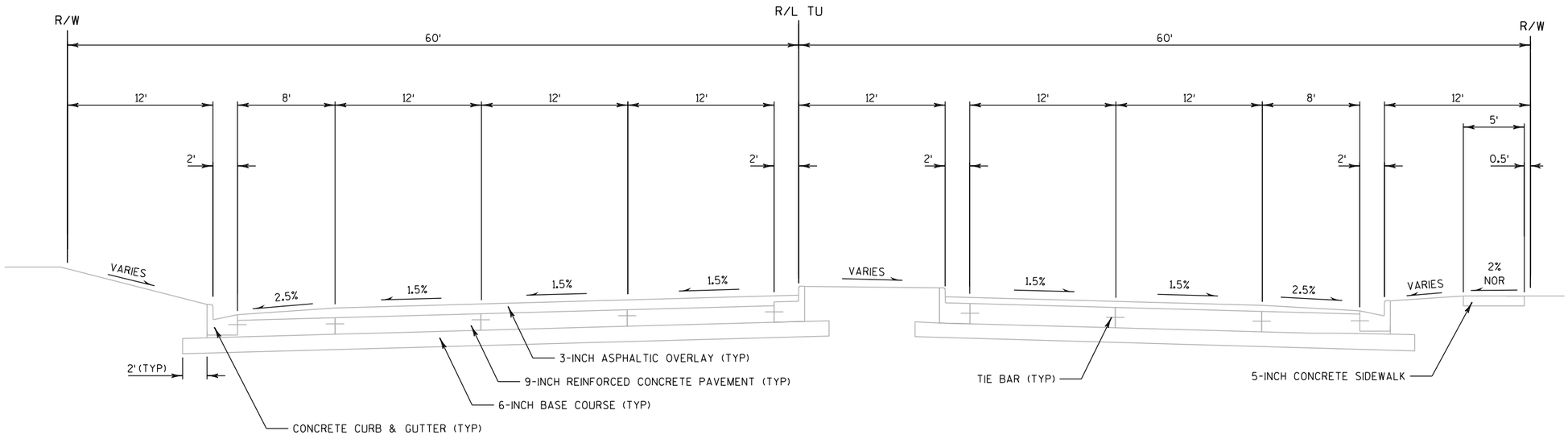
TYPICAL EXISTING SECTION

N. 124TH STREET

STA 204TU+53 TO STA 205TU+20

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



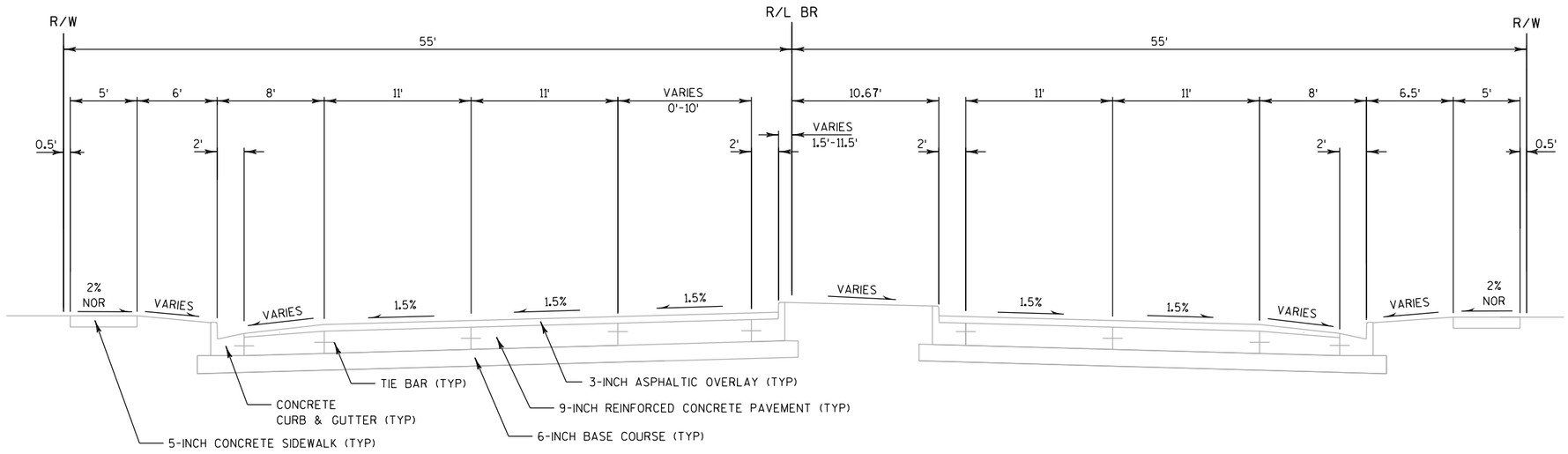
TYPICAL EXISTING SECTION

N. 124TH STREET

STA 206TU+30 TO STA 206TU+60

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

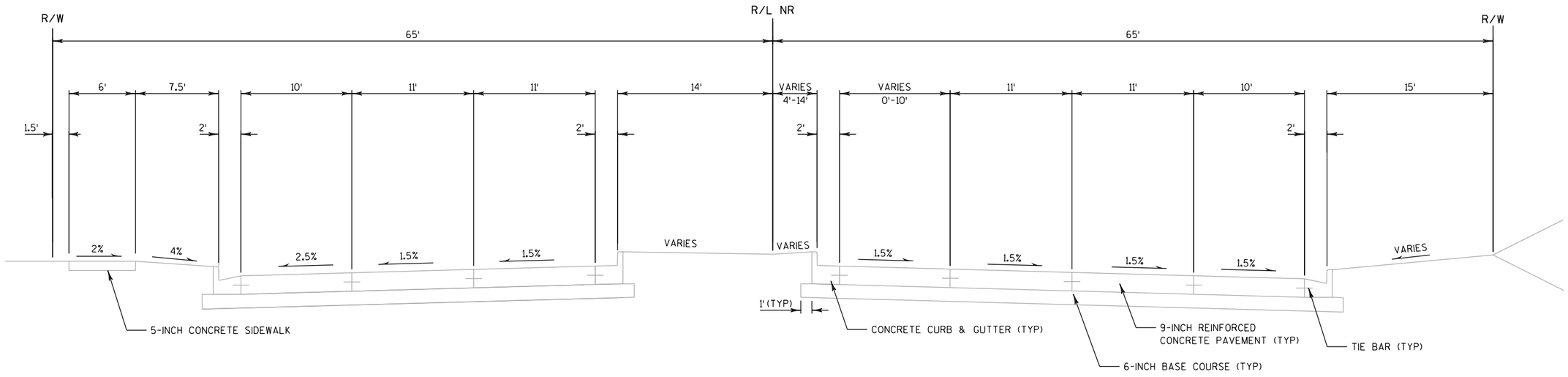
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TYPICAL EXISTING SECTION

W. BURLEIGH STREET

STA 527BR+05 TO STA 529BR+71

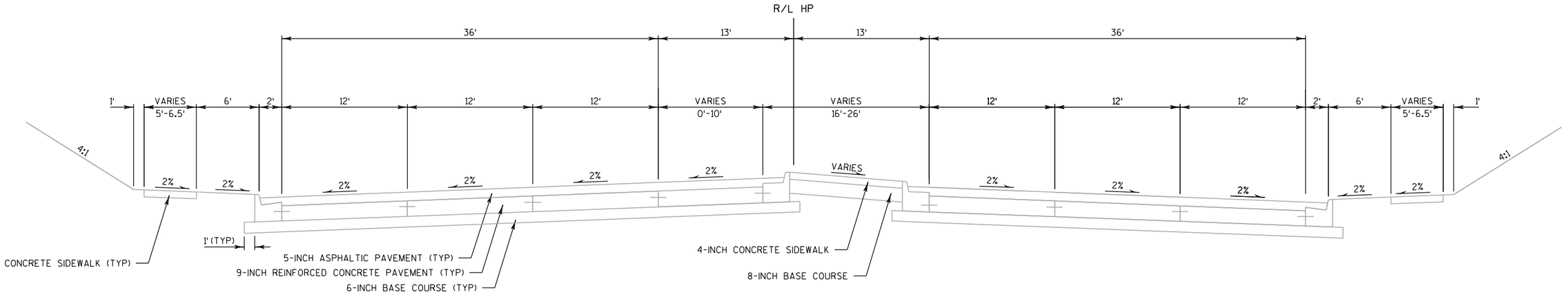


TYPICAL EXISTING SECTION

W. NORTH AVENUE

STA 422NR+69 TO STA 424NR+53

2



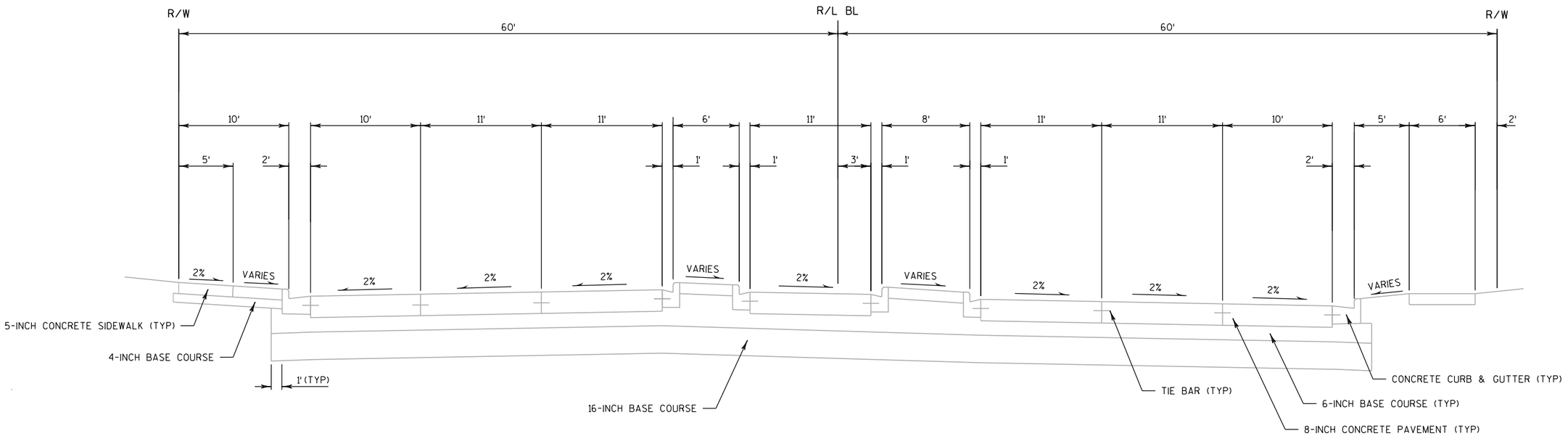
TYPICAL EXISTING SECTION

W. HAMPTON AVENUE

STA 618HP+37 TO STA 620HP+31

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



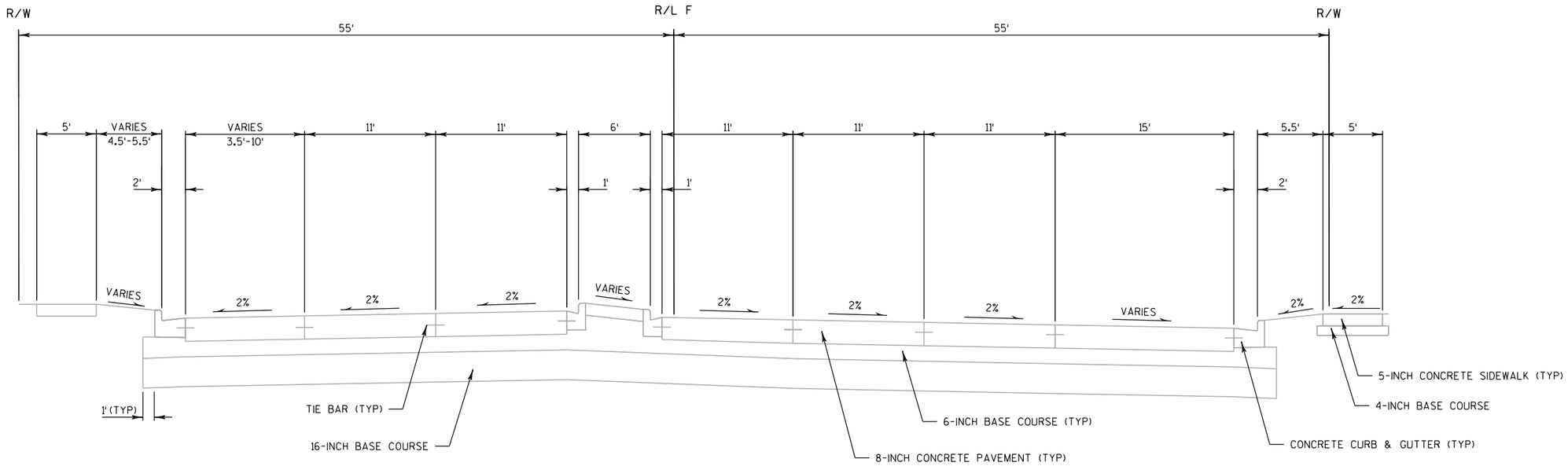
TYPICAL EXISTING SECTION

W. BLUEMOUND AVENUE

STA 242BL+58 TO STA 242BL+96

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



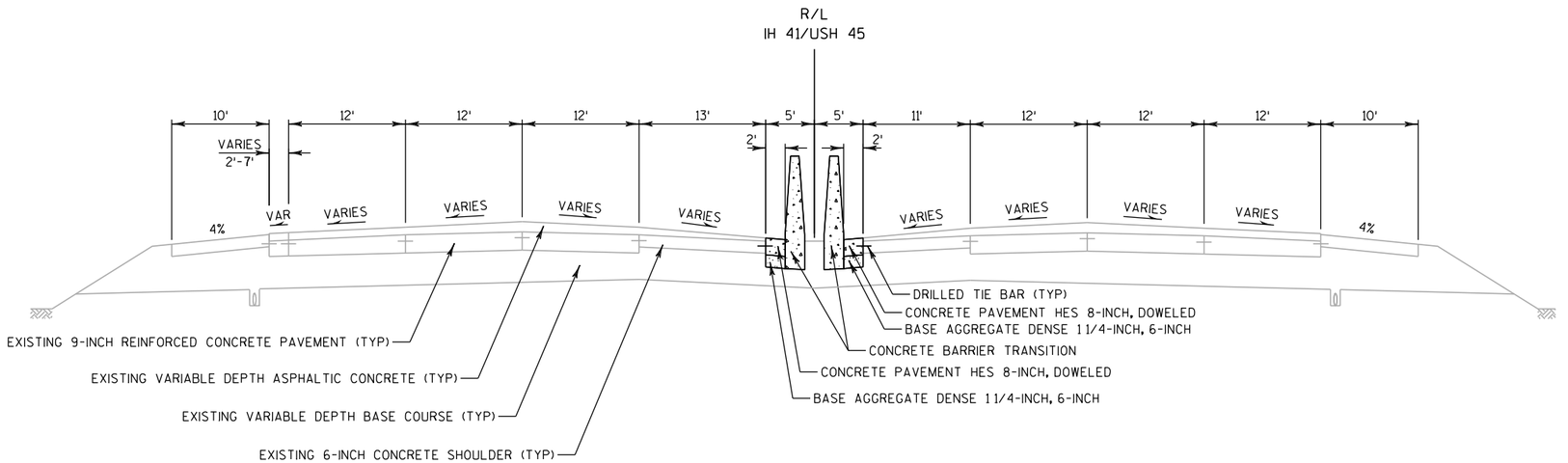
TYPICAL EXISTING SECTION
GLENVIEW AVENUE

STA 71F+32 TO STA 72F+02

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\020301_ts.dgn PLOT DATE : 27-OCT-2016 21:57 PLOT BY : MSCDYB PLOT NAME : 020301_ts6 PLOT SCALE : 10:1
WISDOT/CADDS SHEET 42

2

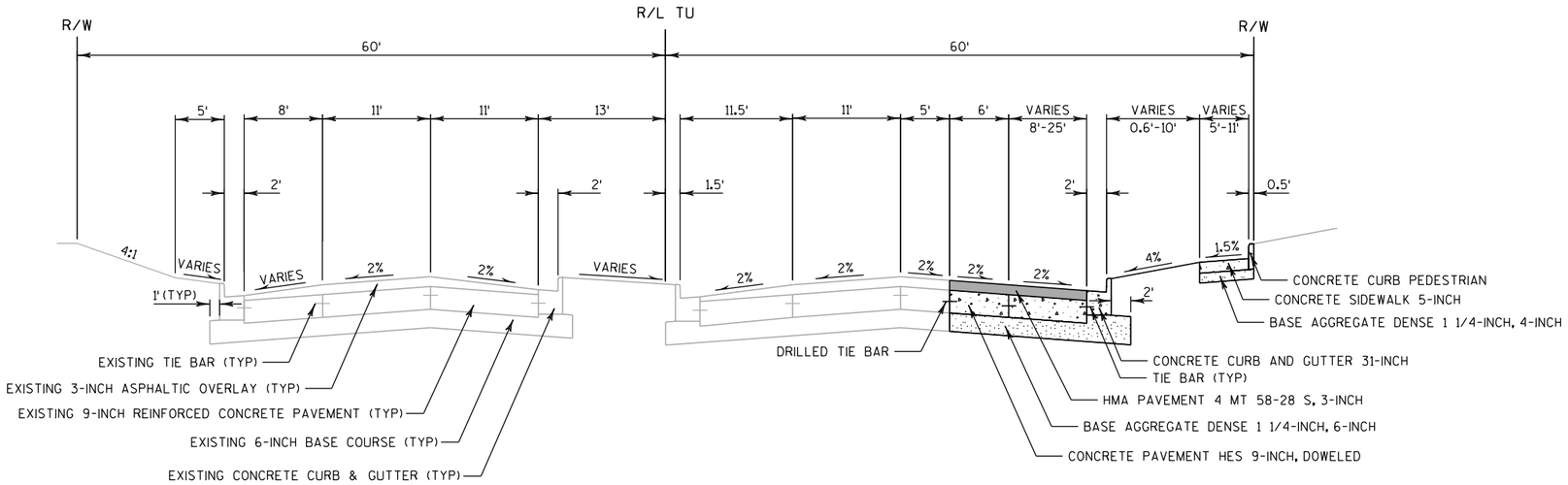


TYPICAL FINISHED SECTION

IH 41/USH 45

STA 269+20 TO STA 270+50

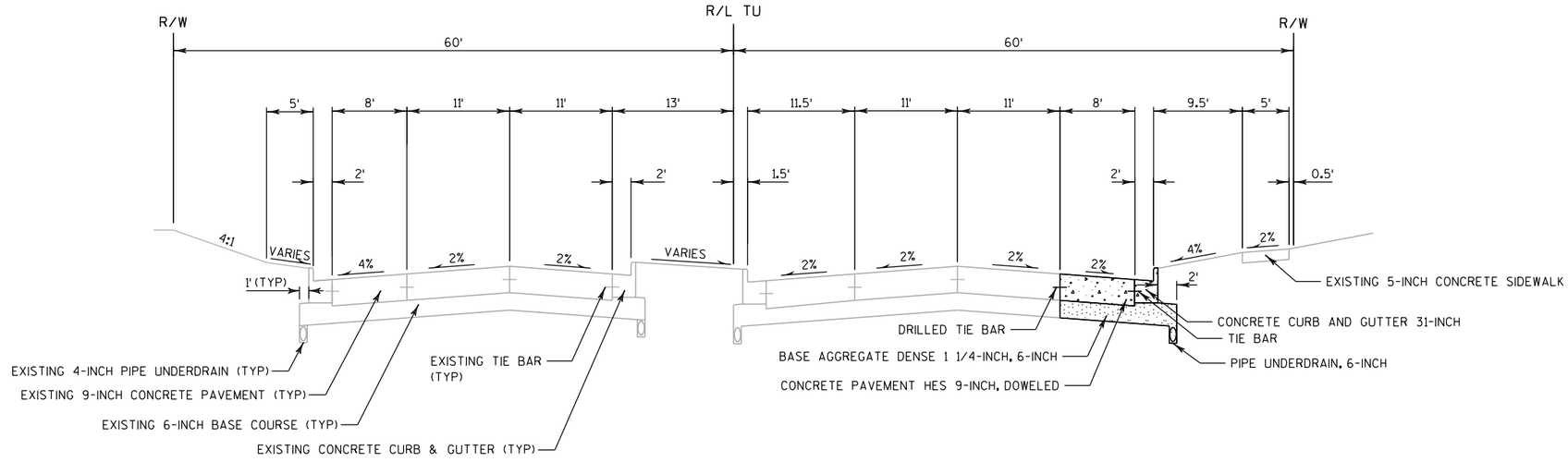
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E



TYPICAL FINISHED SECTION

N. 124TH STREET

STA 205TU+20 TO STA 205TU+46



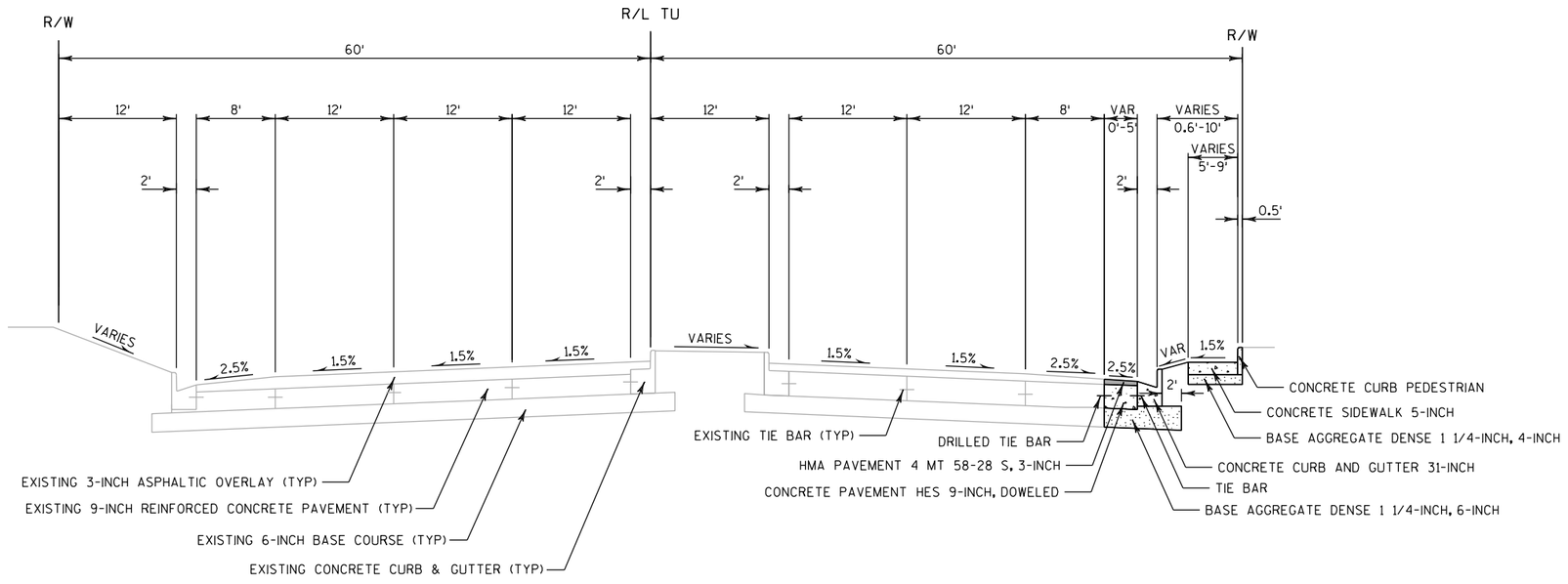
TYPICAL FINISHED SECTION

N. 124TH STREET

STA 204TU+53 TO STA 205TU+20

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



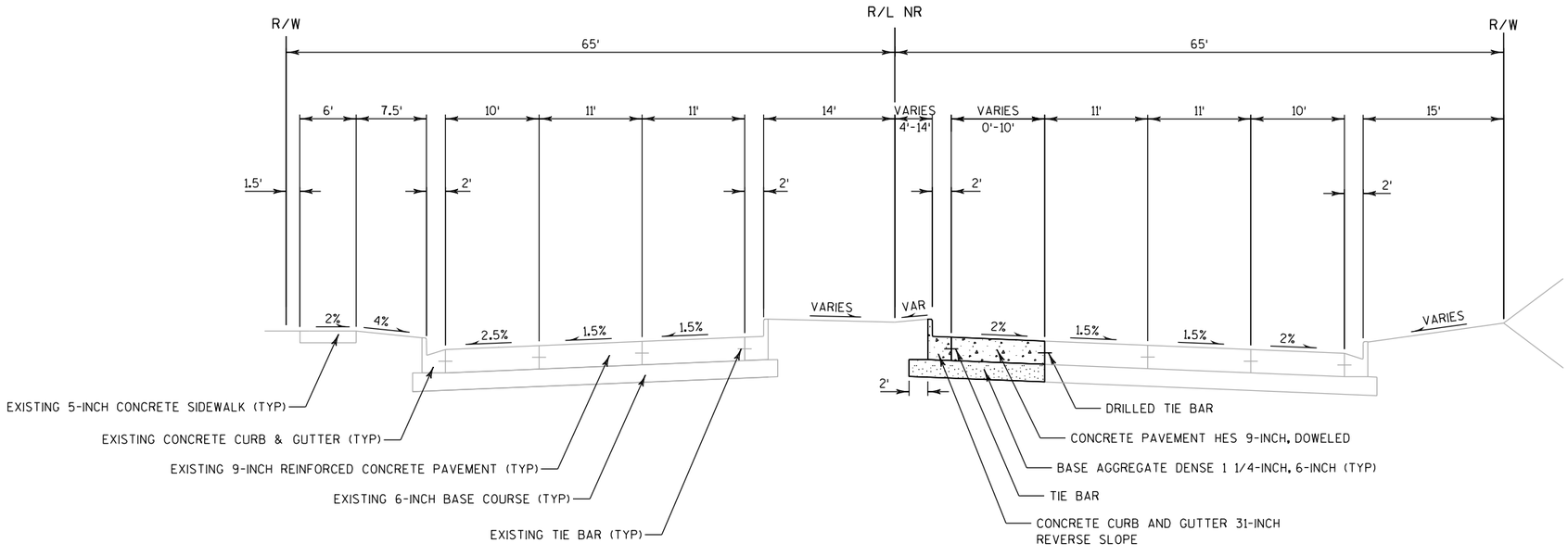
TYPICAL FINISHED SECTION

N. 124TH STREET

STA 206TU+30 TO STA 206TU+60

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



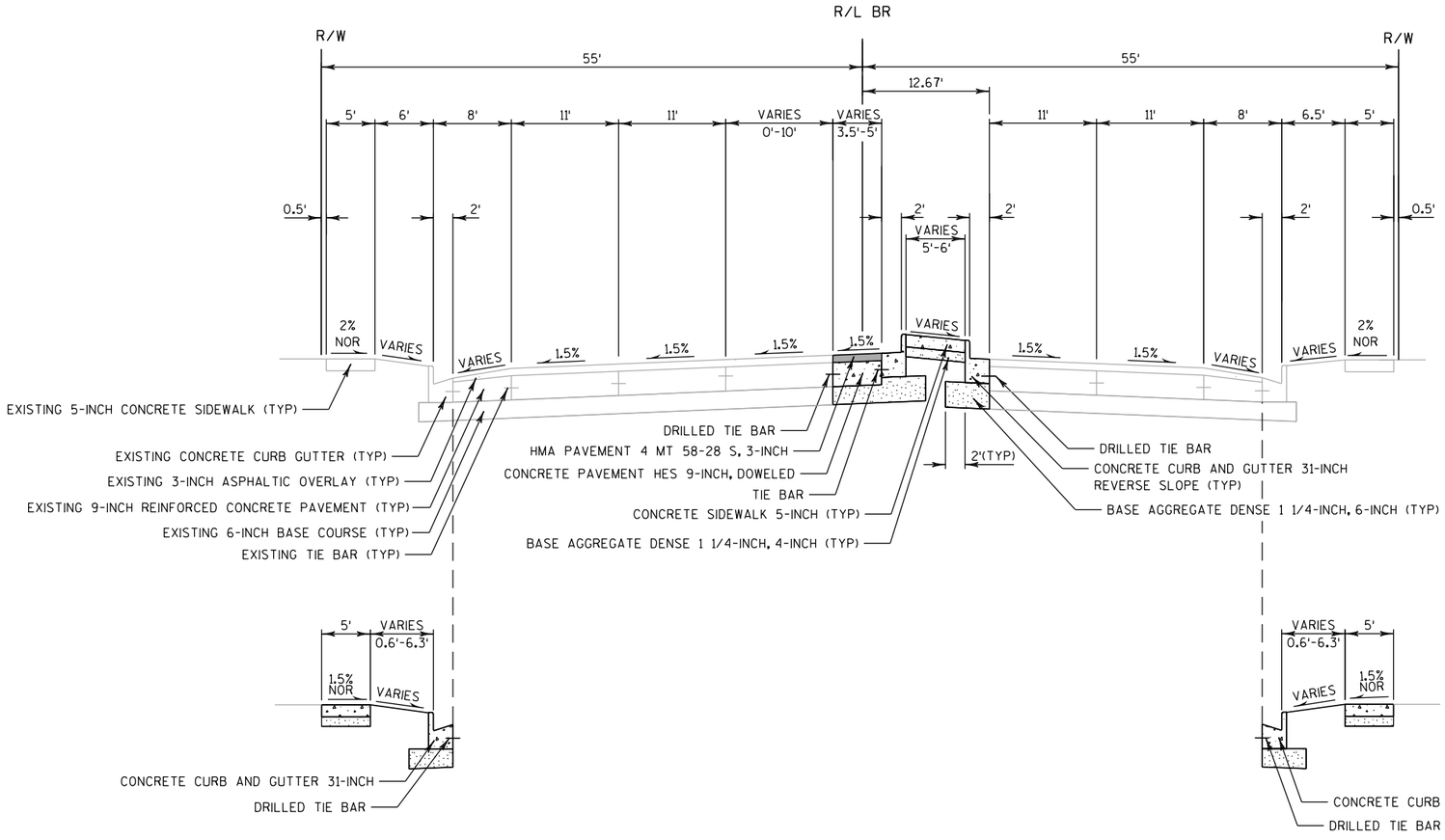
TYPICAL FINISHED SECTION

W. NORTH AVENUE

STA 422NR+69 TO STA 424NR+53

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



STA 527BR+05 TO STA 527BR+24

STA 527BR+05 TO STA 527BR+16

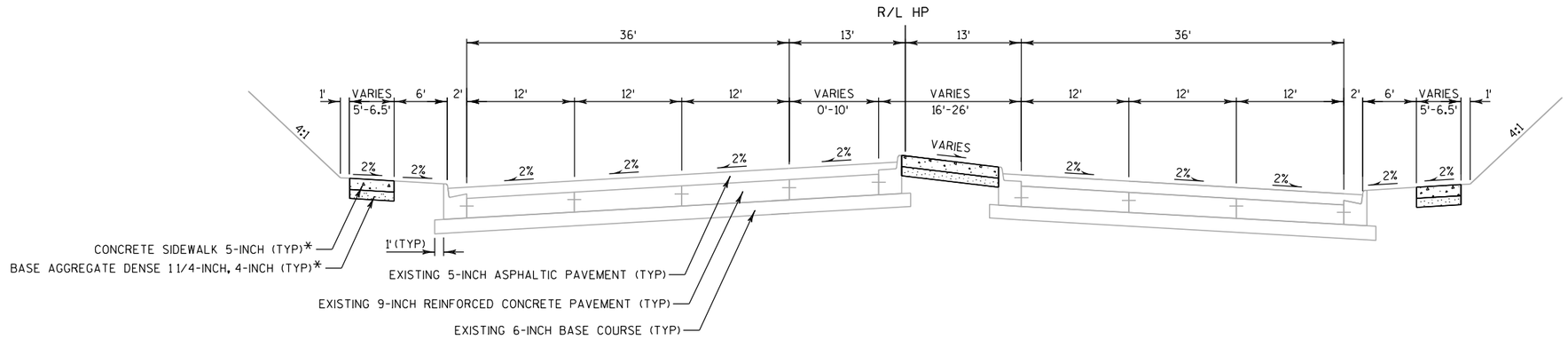
TYPICAL FINISHED SECTION

W. BURLEIGH STREET

STA 527BR+05 TO STA 529BR+71

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



*SEE PLAN DETAILS FOR EXACT LOCATIONS OF SIDEWALK RECONSTRUCTION

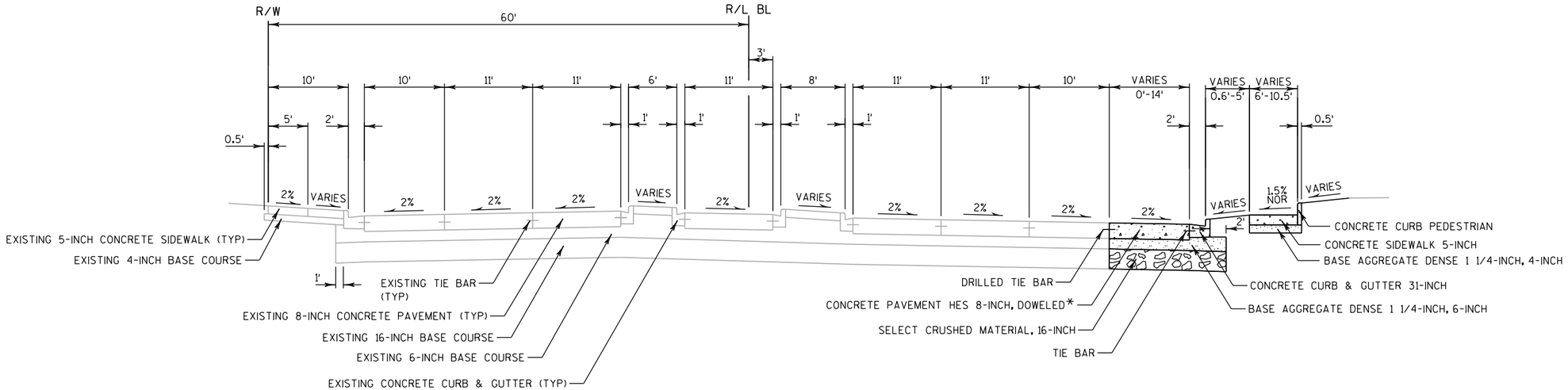
TYPICAL FINISHED SECTION

W. HAMPTON AVENUE

STA 618HP+37 TO STA 620HP+31

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



*CONCRETE PAVEMENT HES 8-INCH SPECIAL, DOWELED AT CROSSWALK. SEE PLAN DETAILS.

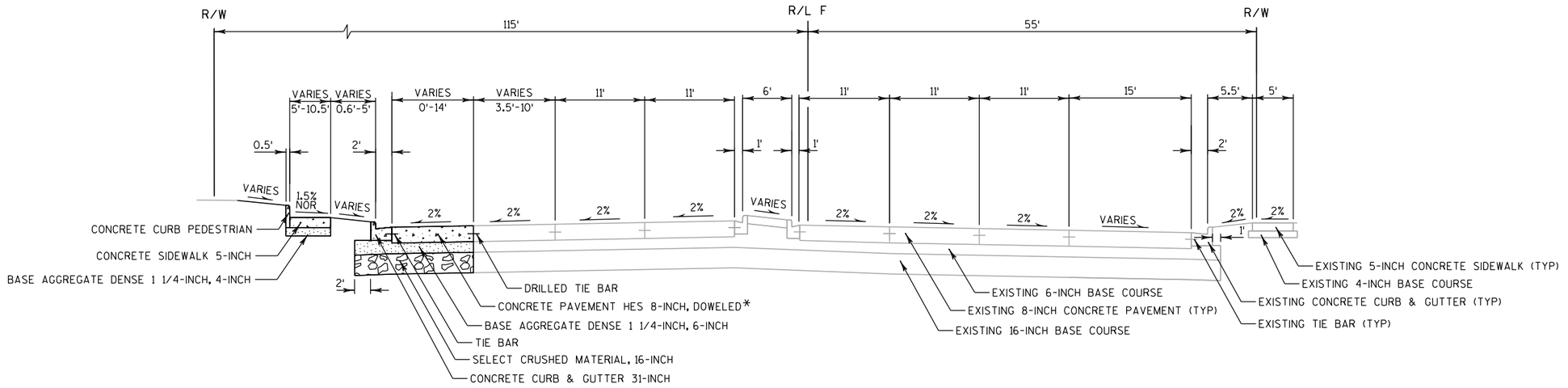
TYPICAL FINISHED SECTION

W. BLUEMOUND ROAD

STA 242BL+58 TO STA 242BL+96

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2



*CONCRETE PAVEMENT HES 8-INCH SPECIAL, DOWELED AT CROSSWALK. SEE PLAN DETAILS.

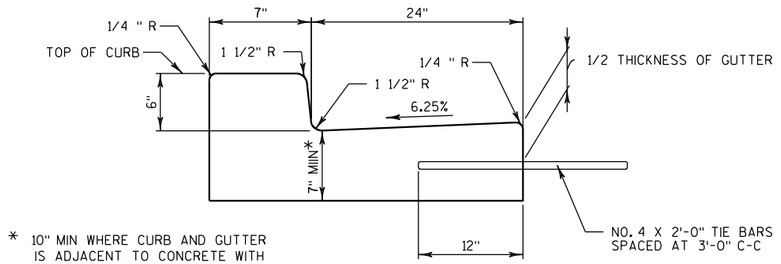
TYPICAL FINISHED SECTION

GLENVIEW AVENUE

STA 71F+32 TO STA 72F+11

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TYPICAL SECTIONS	SHEET	E

2

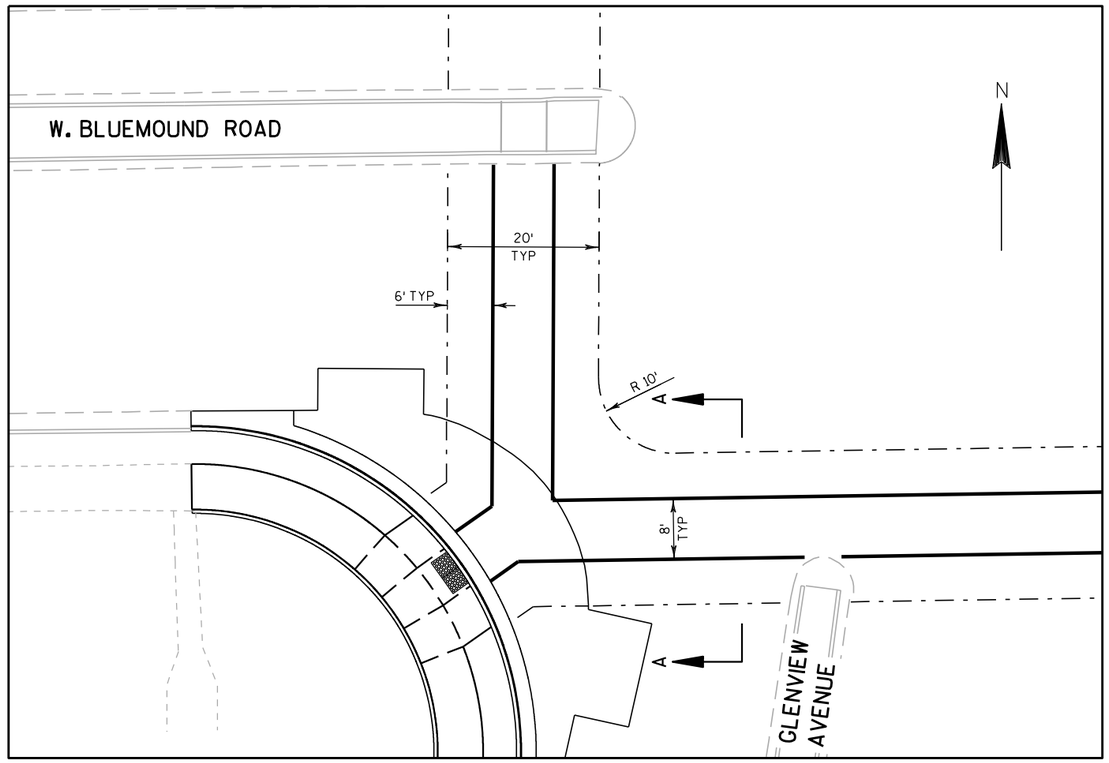


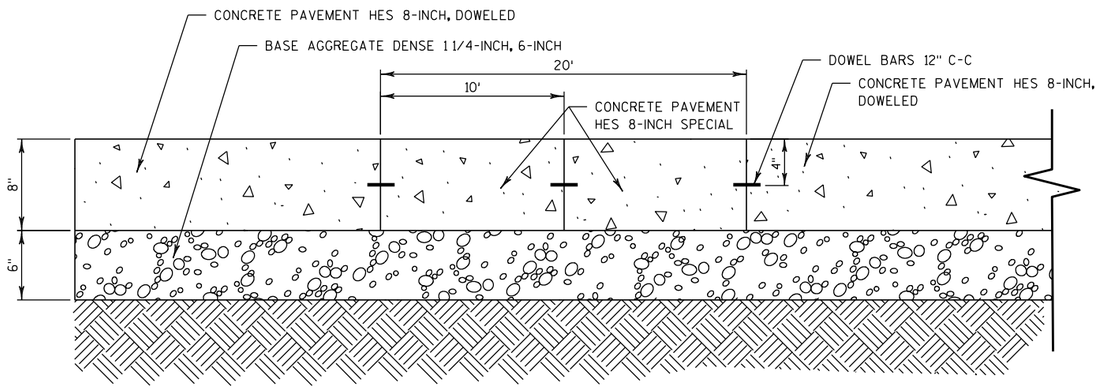
* 10" MIN WHERE CURB AND GUTTER IS ADJACENT TO CONCRETE WITH ASPHALT OVERLAY

NOTES

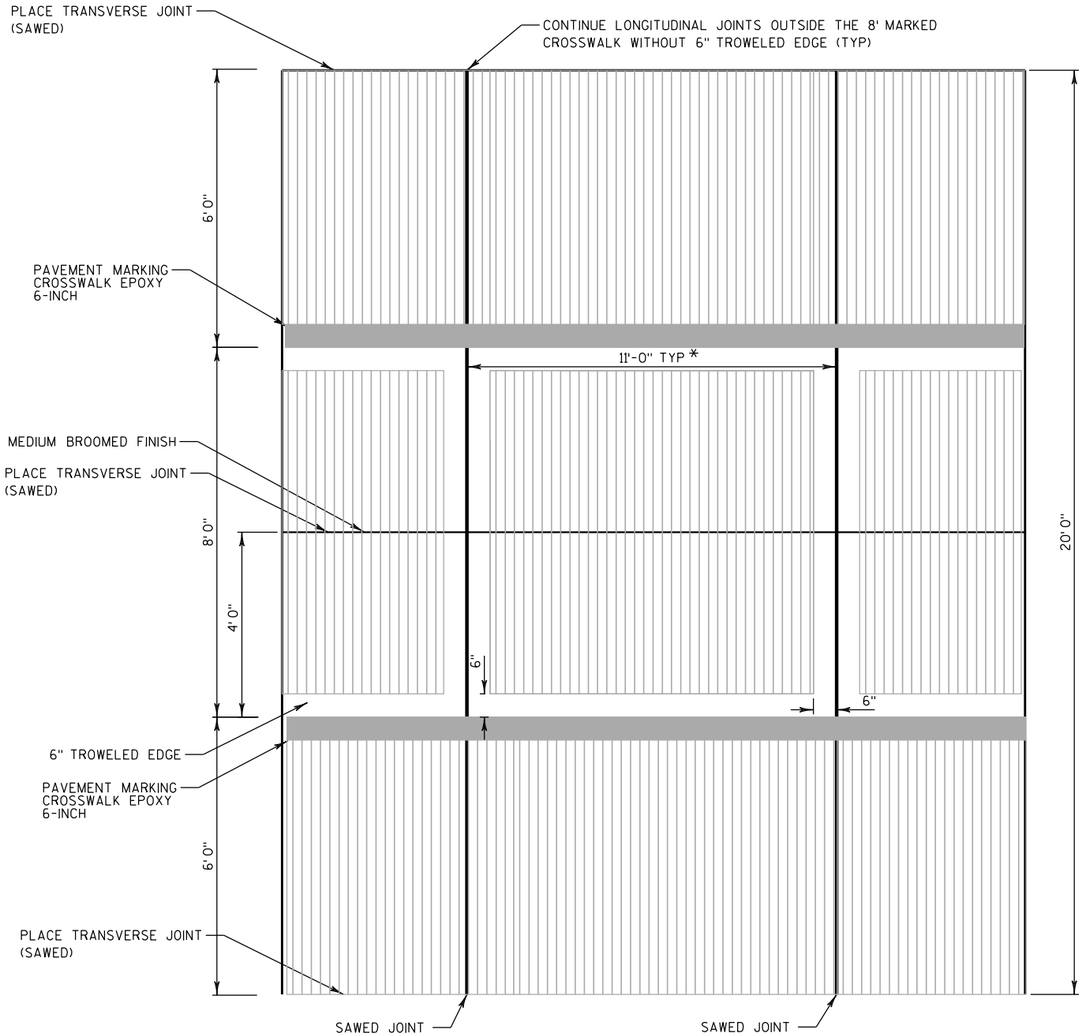
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTER ADJACENT TO NEW CONCRETE PAVEMENT.
2. OMIT TIE BARS WHERE INTEGRAL CURB AND GUTTER IS REQUIRED.
3. SEE STANDARD DETAIL DRAWING FOR DETAILS NOT SHOWN HERE.

CONCRETE CURB AND GUTTER 31-INCH





SECTION A-A PROFILE



SECTION A-A

NOTE

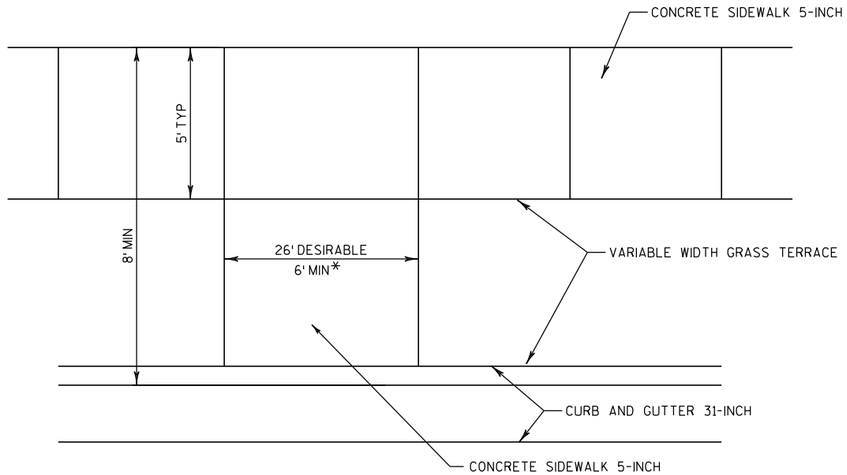
* MATCH ADJACENT LANE WIDTH IN THE FIELD

CONCRETE PAVEMENT HES 8-INCH SPECIAL

NOT TO SCALE
GLENVIEW AVENUE AND W. BLUEMOUND ROAD

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

2



NOTES

1. MAXIMUM SLOPE OF BUS STOP SHALL BE 1.5%

2. NON SLIP SURFACE REQUIRED (BROOM FINISH)

* SEE PLAN DETAILS FOR DIMENSION

TYPICAL ADA BUS STOP

152TU+20 RT

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021001_cd.dgn PLOT DATE : 31-OCT-2016 10:59 PLOT BY : mscd1s PLOT NAME : 021001_cd2 PLOT SCALE : 2:1

WISDOT/CADDS SHEET 42

2

152TU

153TU

2

N. 124TH STREET

W. NORTH AVENUE

TU+16.99, 41.28' RT
813.26F

TU+16.95, 43.28' RT
813.17G
813.55T

TU+23.61, 42.23' RT
813.20F

TU+23.08, 44.16' RT
813.11G
813.51T

TU+31.98, 54.66' RT
812.95P

TU+36.11, 52.80' RT
812.97G
813.47T

TU+37.68, 51.56' RT
813.06F

TU+37.22, 54.33' RT
812.93G
812.93T

TU+38.89, 53.22' RT
813.02F

TU+36.99, 59.66' RT
812.94P

TU+39.86, 59.45' RT
812.91G
812.91T

TU+41.74, 58.74' RT
812.92F

TU+42.30, 60.40' RT
812.90F

TU+40.39, 60.99' RT
812.89G
813.39T

TU+37.09, 64.66' RT
813.02P

TU+43.59, 74.21' RT
812.59F

TU+41.59, 74.25' RT
812.57G
812.94T

TU+37.30, 74.34' RT
813.08P

TU+32.31, 74.45' RT
813.07P
813.07T

TU+32.10, 64.77' RT
813.09P
813.31T

TU+31.99, 59.66' RT
813.02P
813.44T

TU+22.67, 59.67' RT
813.59P
813.59T

TU+16.67, 59.68' RT
813.68P

TU+11.79, 59.68' RT
813.77P

TU+11.78, 54.68' RT
813.75P

TU+16.67, 54.68' RT
813.63P

TU+22.67, 54.67' RT
813.54P

4.5%
4.5%
4.5%
4.5%
1.5%
0.3%
2.5%
1.5%
6.3%
0.4%
0.4%
1.0%
1.0%
1.5%
1.8%
1.5%
6.1%
1.5%
0.5%
0.5%
1.4%
1.5%
1.5%
0.2%
0.6%
0.2%

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

2

153TU

154TU

N

2

N. 124TH STREET

N. NORTH AVENUE

4271

TU+49.67, 47.76' RT
812.71F

TU+47.65, 52.70' RT
812.65G
812.65T

TU+46.02, 51.53' RT
812.66F

TU+44.90, 56.94' RT
812.51G
812.51T

TU+43.12, 56.03' RT
812.52F

TU+42.98, 61.98' RT
812.19G
812.69T

TU+41.05, 61.47' RT
812.31F

TU+46.60, 62.06' RT
812.71P

TU+46.71, 67.06' RT
812.64P

TU+46.84, 73.06' RT
812.45P

TU+42.59, 83.32' RT
811.61G
812.06T

TU+40.59, 83.36' RT
811.70F

TU+47.06, 83.22' RT
812.21P

TU+50.96, 49.29' RT
812.59G
813.09T

TU+51.45, 54.82' RT
812.67P

TU+56.55, 54.81' RT
812.75P

TU+62.55, 54.80' RT
812.92P

TU+62.56, 59.80' RT
813.00P

TU+56.56, 59.81' RT
812.83P
812.83T

TU+51.56, 59.82' RT
812.75P
812.85T

TU+51.60, 61.95' RT
812.78P
812.88T

TU+51.71, 66.95' RT
812.71P
812.71T

TU+51.84, 72.95' RT
812.53P

TU+52.06, 83.11' RT
812.24P

TU+77.56, 41.25' RT
812.45F

TU+77.57, 43.25' RT
812.40G
812.88T

TU+77.58, 54.78' RT
812.88P

TU+77.59, 59.78' RT
812.82P

6.25%
0.5%
0.5%
0.5%
4.0%
6.25%
1.5%
1.5%
1.5%
1.5%
1.5%
1.5%
3.2%
3.2%
1.5%
2.4%
2.9%
0.6%
1.5%
2.8%
0.3%
1.2%
1.5%
2.8%
1.2%

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\021002_cd.dgn PLOT DATE : 31-OCT-2016 05:11 PLOT BY : mscd1s PLOT NAME : 021002_cd1 PLOT SCALE : 10:1

2

2

N

W. NORTH AVENUE

TU+55.46, 86.23' LT
815.66P

TU+55.19, 77.73' LT
815.36P

TU+55.05, 73.69' LT
815.18P
815.18T

TU+49.06, 73.89' LT
815.09P

TU+54.59, 59.70' LT
814.00P
814.50T

TU+48.60, 59.90' LT
813.91P

TU+67.64, 59.96' LT
814.98P
814.98T

TU+48.43, 54.89' LT
813.83P

TU+44.60, 53.53' LT
813.71F

TU+67.74, 54.96' LT
814.90P

TU+54.43, 54.69' LT
813.92P

TU+46.28, 54.63' LT
813.67G
814.17T

TU+55.40, 46.30' LT
813.48G
813.98T

TU+67.65, 43.36' LT
813.23G
813.73T

TU+46.37, 51.13' LT
813.70F

TU+47.91, 52.41' LT
813.66G
813.66T

TU+52.83, 45.48' LT
813.57F

TU+54.46, 44.54' LT
813.52F

TU+67.69, 41.37' LT
813.26F

TU+53.89, 47.18' LT
813.56G
813.56T

1.5%
8.3%
8.3%
1.5%
7.5%
1.5%
1.5%
1.5%
7.4%
8.1%
2%
2%
5.1%
0.5%
2%

N. 124TH STREET

426NR

153TU

154TU

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021002_cd.dgn PLOT DATE : 31-OCT-2016 11:58 PLOT BY : mscd1s PLOT NAME : 021002_cd2 PLOT SCALE : 10:1

2

205TU

206TU

2

N

N. 124TH STREET

W. BURLEIGH STREET

527BR

TU+36.56, 52.73' RT
787.56G
787.56T

TU+34.83, 48.70' RT
787.59F

TU+33.66, 50.33' RT
787.58G
788.08T

TU+37.94, 51.28' RT
787.57F

TU+39.73, 56.57' RT
787.53G
787.53T

TU+41.55, 55.39' RT
787.54F

TU+43.70, 58.81' RT
787.52F

TU+41.94, 59.76' RT
787.51G
788.01T

TU+38.74, 62.39' RT
787.61P

TU+47.27, 71.98' RT
787.35F

TU+45.32, 72.00' RT
787.31G
787.82T

TU+39.04, 72.39' RT
787.93P

TU+17.27, 43.04' RT
787.76F

TU+17.27, 45.04' RT
787.63G
788.13T

TU+05.05, 54.93' RT
788.75P

TU+00.05, 54.92' RT
788.86P

TU+19.14, 54.95' RT
788.44P

TU+29.14, 54.97' RT
787.61P

TU+19.13, 59.96' RT
788.51P
788.51T

TU+29.13, 59.99' RT
787.69P
788.19T

TU+00.05, 59.92' RT
789.03P

TU+05.05, 59.93' RT
788.89P

TU+33.62, 60.01' RT
787.68P
788.18T

TU+33.70, 62.56' RT
787.68P
788.18T

TU+34.03, 72.55' RT
788.06P

6.25%
0.5%
0.5%
0.5%
0.5%
0.5%
0.7%
8.3%
8.2%
1.4%
1.5%
1.4%
1.5%
3.7%
3.3%
2.4%
2%

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021002_cd.dgn PLOT DATE : 31-OCT-2016 11:58 PLOT BY : mscd1s PLOT NAME : 021002_cd3 PLOT SCALE : 10:1

2

206TU

207TU

N

2

N. 124TH STREET

W. BURLEIGH STREET

527BR

TU+51.40, 46.89' RT
787.27F

TU+52.23, 49.70' RT
787.19G
787.69T

TU+43.08, 54.38' RT
787.23G
787.23T

TU+41.86, 52.79' RT
787.24F

TU+39.33, 57.86' RT
787.25G
787.25T

TU+37.84, 56.53' RT
787.26F

TU+34.87, 64.59' RT
787.22G
788.72T

TU+33.06, 63.73' RT
787.25F

TU+38.11, 66.12' RT
787.26P

TU+30.20, 77.58' RT
787.24F

TU+32.20, 77.51' RT
787.17G
788.60T

TU+38.49, 77.29' RT
787.55P

TU+60.19, 46.55' RT
787.20F

TU+60.19, 48.55' RT
787.13G
787.49T

TU+53.25, 53.14' RT
787.30P

TU+60.19, 53.13' RT
787.42P

TU+60.19, 59.13' RT
787.55P
787.55T

TU+53.26, 59.14' RT
787.39P
787.59T

TU+50.23, 59.14' RT
787.36P
787.61T

TU+48.14, 60.80' RT
787.34P
787.66T

TU+44.21, 63.89' RT
787.36P
787.76T

TU+43.07, 64.79' RT
787.35P
787.80T

TU+43.11, 65.95' RT
787.34P
787.80T

TU+43.49, 77.12' RT
787.79P
787.79T

2.7%
0.5%
0.7%
1.7%
1.5%
2.2%
2.3%
0.3%
1.5%
1.5%
0.4%
0.1%
1.5%
1.5%
2.5%
4.0%
4.8%

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021002_cd.dgn PLOT DATE : 31-OCT-2016 11:58 PLOT BY : mscd1s PLOT NAME : 021002_cd4 PLOT SCALE : 10:1

WISDOT/CADDS SHEET 42

243BL

2

2

N

W. BLUEMOUND ROAD

72F GLENVIEW AVENUE

F+01.69, 73.02'LT
704.28P

F+05.64, 69.79'LT
703.69G
704.19T

F+07.40, 68.83'LT
703.82F

F+02.34, 64.61'LT
703.65G
703.65T

F+03.94, 63.41'LT
703.73F

F+99.79, 58.59'LT
703.68F

F+98.37, 59.99'LT
703.60G
703.60T

F+94.95, 54.35'LT
703.66F

F+93.74, 55.95'LT
703.54G
704.04T

F+89.96, 59.37'LT
704.20P

F+96.35, 75.74'LT
704.37P
704.87T

F+98.51, 67.84'LT
703.86P

F+93.67, 71.38'LT
703.95P
704.45T

F+90.37, 67.55'LT
703.90P
704.40T

F+94.60, 63.29'LT
703.81P

F+86.46, 64.25'LT
704.29P
704.79T

2% 6.25% 4% 4% 6.25% 3.5% 1.5% 7.6% 6.4% 4.7% 0.8% 1.5% 1% 8.2% 1.5% 6.9% 1.5% 4.7%

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CONSTRUCTION DETAILS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021002_cd.dgn PLOT DATE : 31-OCT-2016 11:59 PLOT BY : mscd1s PLOT NAME : 021002_cd5 PLOT SCALE : 10:1

GENERAL NOTES

1) ALL ITEMS ASSOCIATED WITH FTMS REMOVALS ARE SHOWN IN FTMS PLANS.

2) FOR ADDITIONAL UTILITY INFORMATION SEE PLAN DETAILS.

3) THE LOCATION OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN INCLUDING BUILDING SERVICES AND LATERALS.

LEGEND

- REMOVING PAVEMENT
- REMOVING CONCRETE SIDEWALK
- REMOVING CURB AND GUTTER
- SAWING CONCRETE PAVEMENT
- REMOVING CONCRETE BARRIER
- REMOVING INLETS
- SLOPE INTERCEPT

2

2

2

N

IH 41/USH 45 SB

268 269 270 271 272 273 INL 274

INL

IH 41/USH 45 NB

SIGN

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	REMOVAL PLANS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021101_rm.dgn PLOT DATE : 07-DEC-2016 08:23 PLOT BY : MSCDYB PLOT NAME : 021101_rm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

N

W. NORTH AVENUE

N. 124TH STREET

421NR

422NR

423NR

424NR

425NR

426NR

427NR

154TU

153TU

152TU

151TU

EXISTING SIGN TO REMAIN

EXISTING TREES TO REMAIN

REMOVE BRUSH ONLY AS NEEDED
INCIDENTAL TO EXCAVATION COMMON

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	REMOVAL PLANS	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\021102_rm.dgn PLOT DATE : 27-OCT-2016 22:00 PLOT BY : MSCDYB PLOT NAME : 021102_rm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

N

W. BURLEIGH ROAD

W. BURLEIGH STREET

525BR

526BR

527BR

528BR

529BR

530BR

207TU

206TU

205TU

204TU

N. 124TH STREET

N. 122ND STREET

EXISTING TREES TO REMAIN

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	REMOVAL PLANS	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\021103_rm.dgn PLOT DATE : 27-OCT-2016 22:00 PLOT BY : MSCDYB PLOT NAME : 021103_rm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

N

IH 41/USH 45 SB

IH 41/USH 45 NB

293

292

291

290

616HP

617HP

618HP

619HP

620HP

621HP

622HP

W. HAMPTON AVENUE

N. 118TH STREET

CANOPY

SIGN

FILLER CAPS

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	REMOVAL PLANS	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\021104_rm.dgn PLOT DATE : 27-OCT-2016 22:00 PLOT BY : MSCDYB PLOT NAME : 021104_rm PLOT SCALE : 40:1

2

2

W. BLUEMOUND ROAD

241BL

242BL

243BL

244BL

N

REMOVING INLETS

SALVAGED INLET COVERS

REMOVING INLETS

REMOVE SMALL TREE INCIDENTAL TO EXCAVATION COMMON

REMOVING CURB AND GUTTER

REMOVE EXISTING DRIVEWAY

REMOVING CURB AND GUTTER

GLENVIEW AVENUE

72F

71F

70F

DUST VENT(3)

VENT SUPPORT

SIGN

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	REMOVAL PLANS	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\021105_rm.dgn PLOT DATE : 27-OCT-2016 22:00 PLOT BY : MSCDYB PLOT NAME : 021105_rm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

LEGEND

- CP32 CONCRETE PAVEMENT HES 9-INCH, DOWELED
- CP33 CONCRETE PAVEMENT HES 8-INCH, DOWELED
- CP34 CONCRETE PAVEMENT HES 8-INCH SPECIAL, DOWELED
- A HMA PAVEMENT 4 MT 58-28 S, 3-INCH
- CG01 CURB RAMP TYPE 1
- CG03 CURB RAMP TYPE 2
- CG16 CONCRETE CURB AND GUTTER 31-INCH
- CG17 CONCRETE CURB AND GUTTER 31-INCH REVERSE SLOPE
- CG22 CONCRETE CURB PEDESTRIAN
- CM02 CONCRETE MEDIAN SLOPED NOSE TYPE 2
- CM07 CONCRETE SIDEWALK 5-INCH
- CB40 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
- CB49 CONCRETE BARRIER TRANSITION TYPE S42 TO S56
- CB72 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36
- CB91 CONCRETE BARRIER TYPE S56 END ANCHOR
- BG15 MGS GUARDRAIL 3
- BG17 MGS GUARDRAIL TERMINAL EAT
- BG18 MGS GUARDRAIL TERMINAL TYPE 2
- SW02 SAWING CONCRETE

NOTES

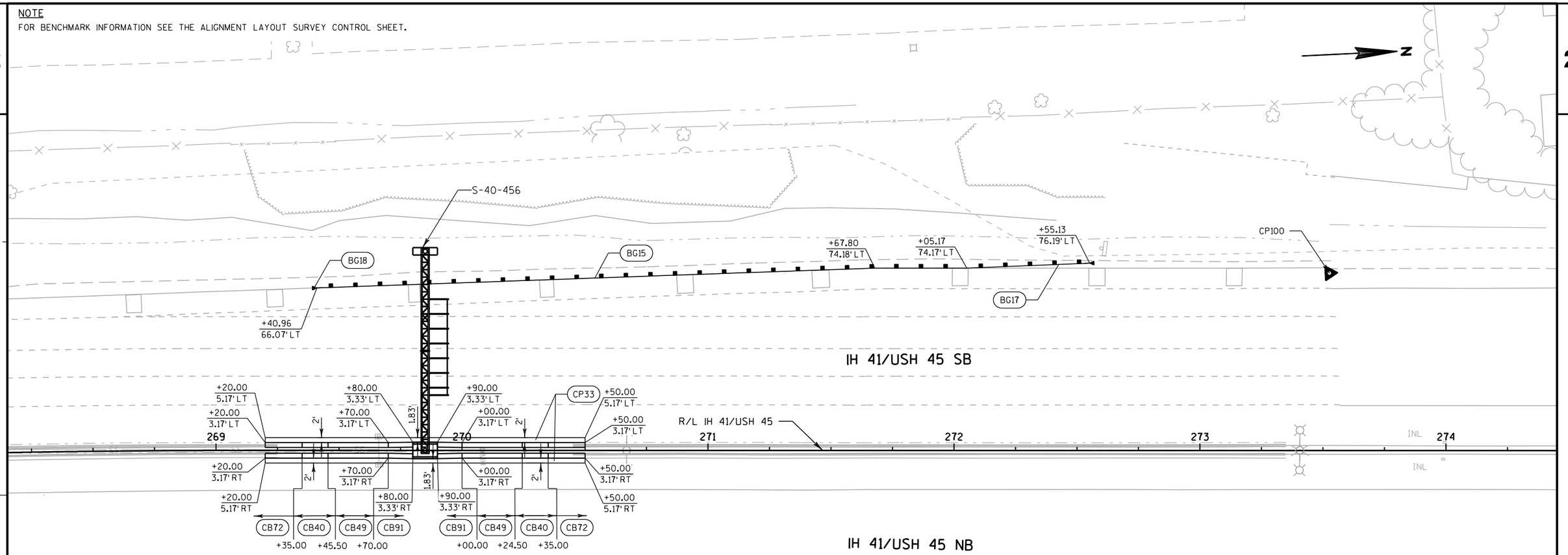
RADIUS INFORMATION IS GIVEN TO THE FLANGE OF CURB AND GUTTER.

SEE GENERAL NOTES FOR ADDITIONAL INFORMATION ON HMA PAVEMENT LAYERS.

SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON CURB RAMP LAYOUT, ELEVATIONS AND GUTTER SLOPE TRANSITIONS.

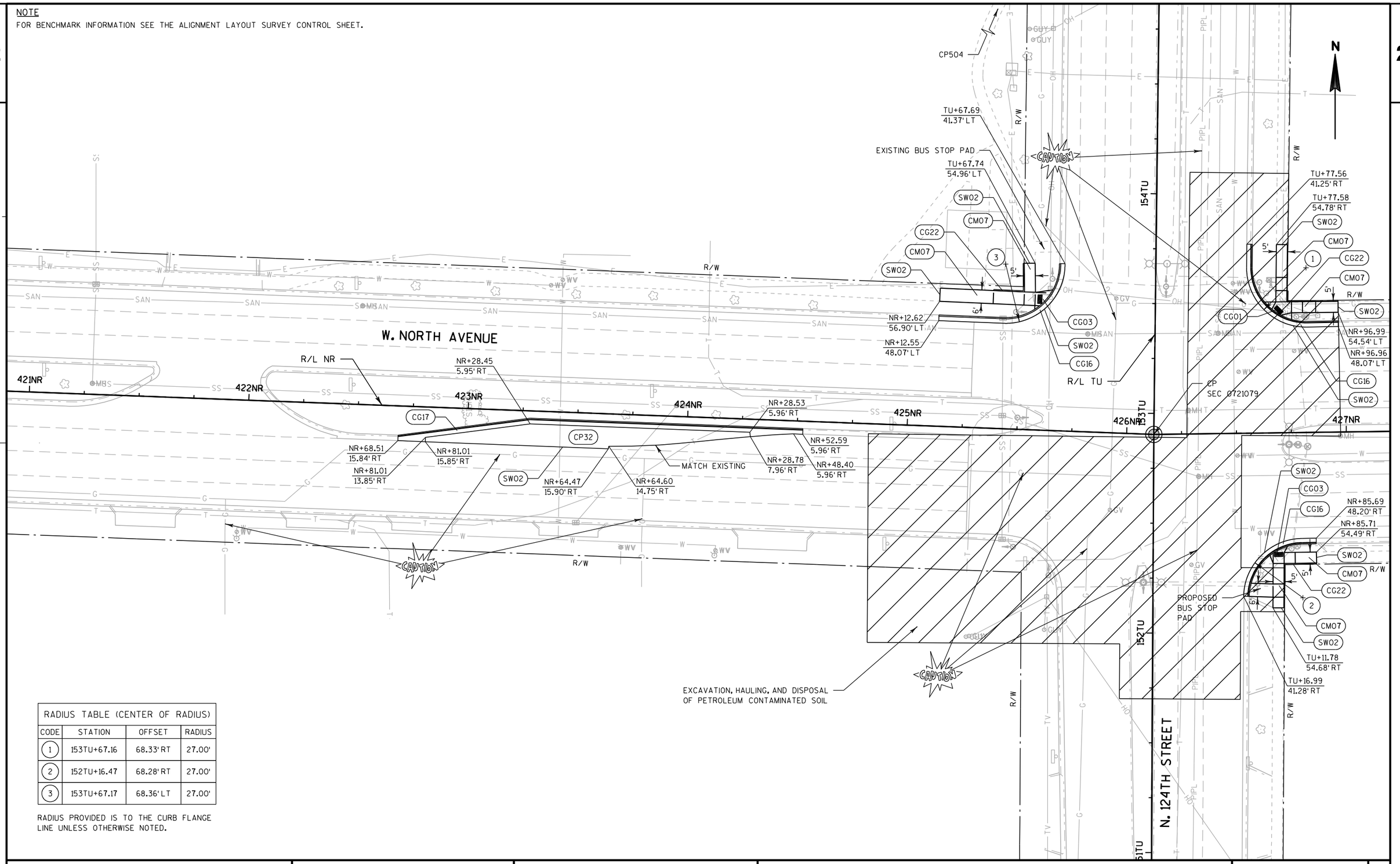
NOTE

FOR BENCHMARK INFORMATION SEE THE ALIGNMENT LAYOUT SURVEY CONTROL SHEET.



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PLAN DETAILS	SHEET	E

NOTE
FOR BENCHMARK INFORMATION SEE THE ALIGNMENT LAYOUT SURVEY CONTROL SHEET.



RADIUS TABLE (CENTER OF RADIUS)			
CODE	STATION	OFFSET	RADIUS
(1)	153TU+67.16	68.33' RT	27.00'
(2)	152TU+16.47	68.28' RT	27.00'
(3)	153TU+67.17	68.36' LT	27.00'

RADIUS PROVIDED IS TO THE CURB FLANGE LINE UNLESS OTHERWISE NOTED.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PLAN DETAILS	SHEET	E

NOTE
FOR BENCHMARK INFORMATION SEE THE ALIGNMENT LAYOUT SURVEY CONTROL SHEET.

2

2

N

CP500

R/L TU

CAUTION

207TU

206TU

205TU

204TU

R/W

SW02
CG16
CM07
CG22
CG01
EXISTING BUS STOP
4
6'
TU+60.19
46.55' RT
TU+48.28
49.01' RT
TU+48.20
47.02' RT
A
CP32
MATCH EXISTING
SW02
TU+32.06
66.11' RT
TU+30.06
66.13' RT
TU+30.20
77.58' RT
BR+56.11
49.73' LT
CM07
BR+51.11
49.73' LT

W. BURLEIGH ROAD

R/L BR

525BR

526BR

527BR

528BR

529BR

530BR

W. BURLEIGH STREET

BR+04.97
1.80' LT
CM02
BR+18.23
3.15' LT
MATCH EXISTING
A
CP32
SW02
BR+69.46
1.67' RT
BR+00.88
3.00' LT
BR+71.22
13.47' LT
BR+04.97
1.67' RT
BR+04.97
12.67' RT
TU+46.78
60.62' RT
TU+44.94
61.39' RT
TU+47.27
71.98' RT
BR+46.74
49.18' RT
CM07
BR+51.74
49.19' RT
BR+39.41
12.67' RT
CG17
CM07
MATCH EXISTING
BR+23.35
3.73' LT
BR+24.10
1.32' RT

SW02
CG01
TU+45.43
29.54' RT
SW02
A
CP32
CG16
5'
5'
CM07
5
CG22
SW02
SW02
TU+05.05
54.93' RT
CM07
SW02
TU+00.05
54.92' RT
TU+19.94
29.21' RT
TU+19.98
35.34' RT
TU+20.02
43.17' RT
TU+19.14
54.95' RT
CP32
SW02
TU+52.83
35.39' RT
TU+52.84
43.09' RT

N. 124TH STREET

N. 122ND STREET

R/W

CAUTION

CP501

A/C

INL

RADIUS TABLE (CENTER OF RADIUS)			
CODE	STATION	OFFSET	RADIUS
(4)	206TU+60.18	76.55' RT	30.00'
(5)	205TU+17.29	73.05' RT	30.00'

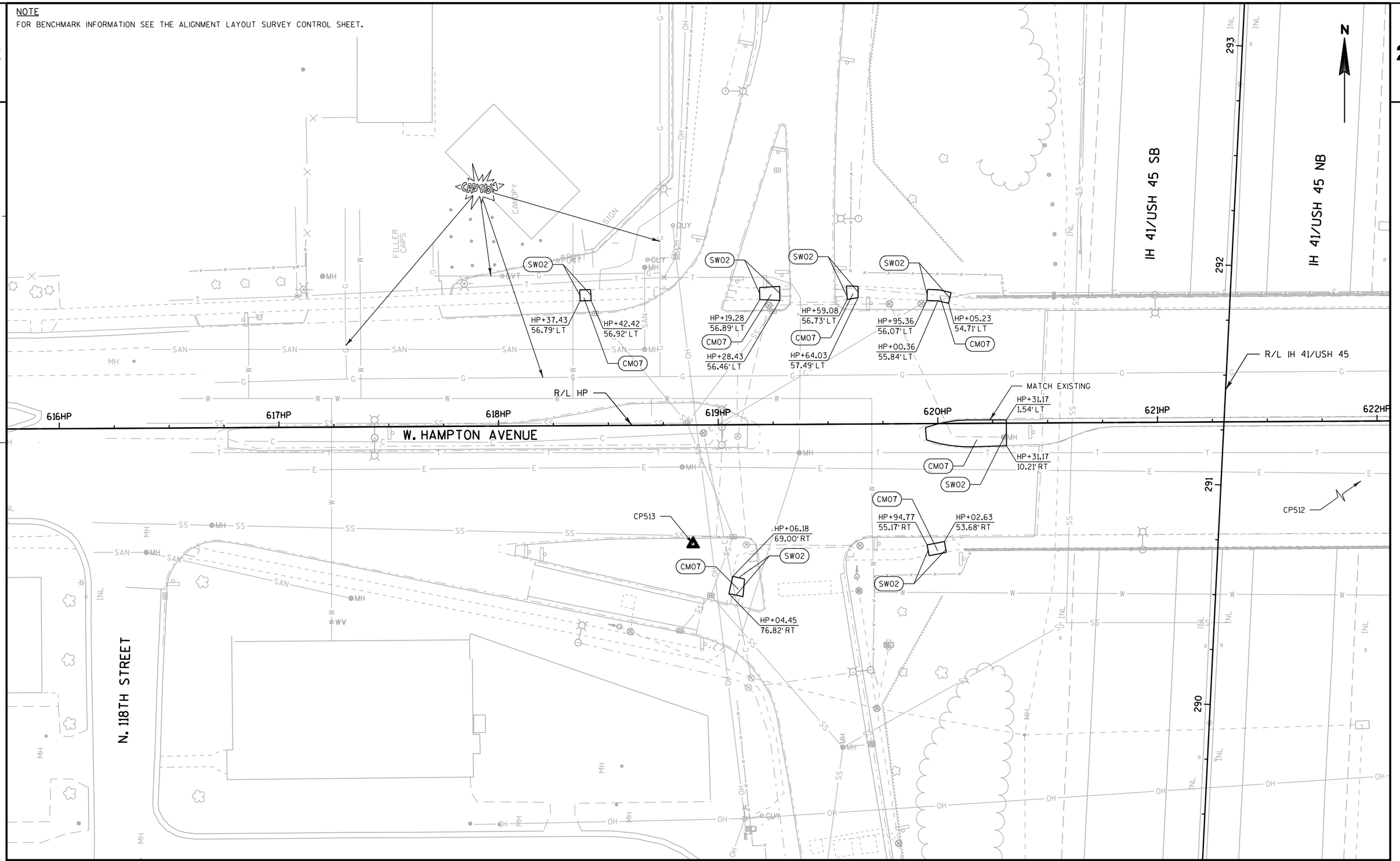
RADIUS PROVIDED IS TO THE CURB FLANGE LINE UNLESS OTHERWISE NOTED.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PLAN DETAILS	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\021203_pd.dgn PLOT DATE : 01-NOV-2016 09:39 PLOT BY : MSCDYB PLOT NAME : 021203_pd PLOT SCALE : 40:1

NOTE

FOR BENCHMARK INFORMATION SEE THE ALIGNMENT LAYOUT SURVEY CONTROL SHEET.



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PLAN DETAILS	SHEET	E

NOTE
FOR BENCHMARK INFORMATION SEE THE ALIGNMENT LAYOUT SURVEY CONTROL SHEET.

2

N

N ROBERTSON STREET

RAVENSWOOD CIRCLE

W. BLUEMOUND ROAD

GLENVIEW AVENUE

R/L BL

241BL

242BL

243BL

244BL

R/L F

71F

70F

72F

EXISTING BUS STOP

EXISTING BUS STOP PAD

MATCH EXISTING

CAUTION

SW02

CP33

CP34

CG22

CG01

CG16

CM07

6

6'

BL+74.66
39.58' RT

BL+74.55
45.12' RT

BL+88.66
39.86' RT

BL+88.54
45.84' RT

BL+88.37
56.97' RT

BL+91.60
46.60' RT

BL+91.45
54.86' RT

BL+71.39
45.09' RT

BL+71.38
47.09' RT

BL+57.81
45.00' RT

BL+57.81
52.00' RT

BL+57.81
58.00' RT

F+94.58
54.08' LT

F+97.32
51.72' LT

F+99.21
44.67' LT

F+98.77
44.56' LT

F+99.01
35.98' LT

F+85.01
35.60' LT

F+84.81
42.93' LT

F+63.71
57.53' LT

F+62.75
42.31' LT

F+62.70
44.31' LT

F+43.35
41.81' LT

F+31.88
53.65' LT

F+41.67
48.80' LT

F+31.90
48.73' LT

F+03.53
41.09' LT

F+71.63
41.00' LT

CP303

CP304

UST VENT(3)
PHONE VENT SUPPORT

SIGN

RAMP

R/W

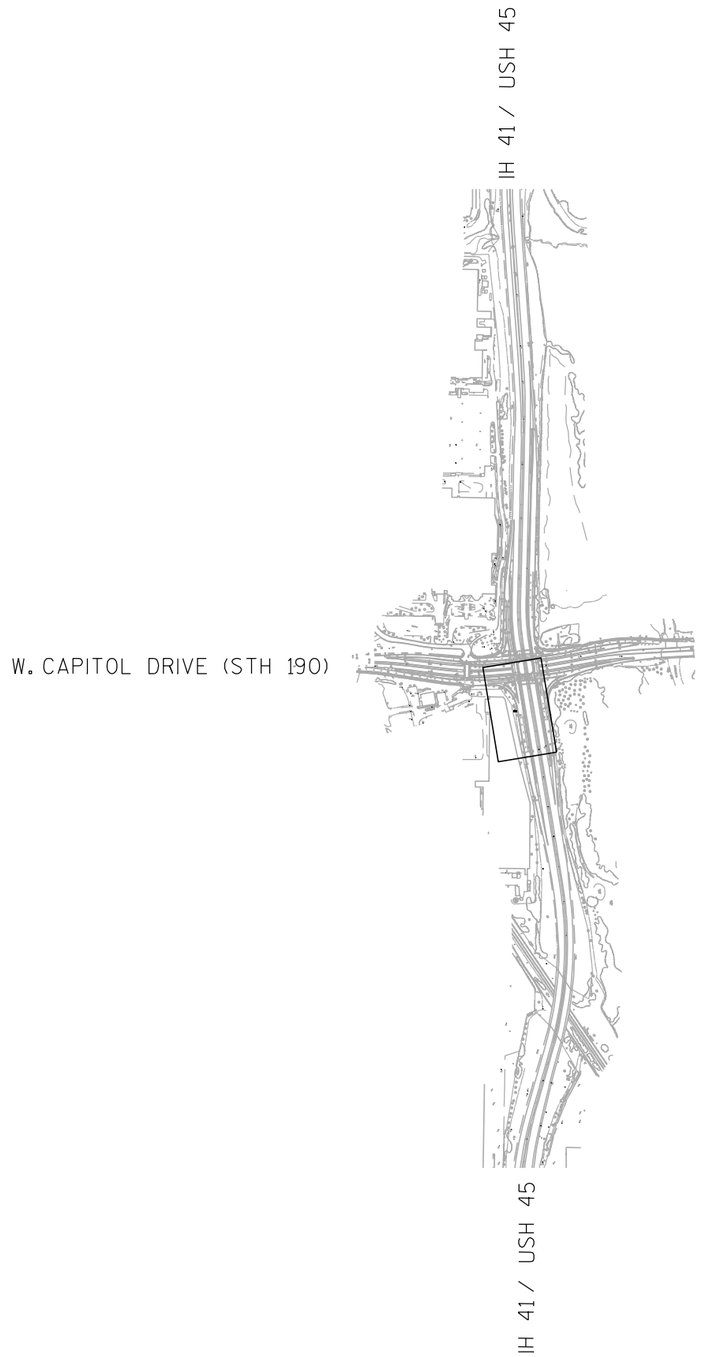
RADIUS TABLE (CENTER OF RADIUS)			
CODE	STATION	OFFSET	RADIUS
(6)	71F+67.83	90.27' LT	45.00'

RADIUS PROVIDED IS TO THE CURB FLANGE LINE UNLESS OTHERWISE NOTED.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PLAN DETAILS	SHEET	E

LEGEND

FTMS CONVENTIONAL SYMBOLS	EXISTING
FIELD CABINET AND BASE	
METER BREAKER PEDESTAL	
STEEL PULL BOX	
STEEL PULL BOX 24"X42"	
MANHOLE	MH
FTMS (ITS) CONDUIT	
COMMUNICATIONS VAULT, TYPE 1	V
CCTV CAMERA AND POLE	
ADVANCE FLASHER ASSEMBLY	



FTMS STANDARD ABBREVIATIONS

CB	CONTROLLER CABINET
DMS	DYNAMIC MESSAGE SIGN
CV	COMMUNICATIONS VAULT
PB	PULL BOX
MH	MANHOLE
SB	SIGN BASE
EX	EXISTING

FTMS REMOVALS 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.

LEGEND

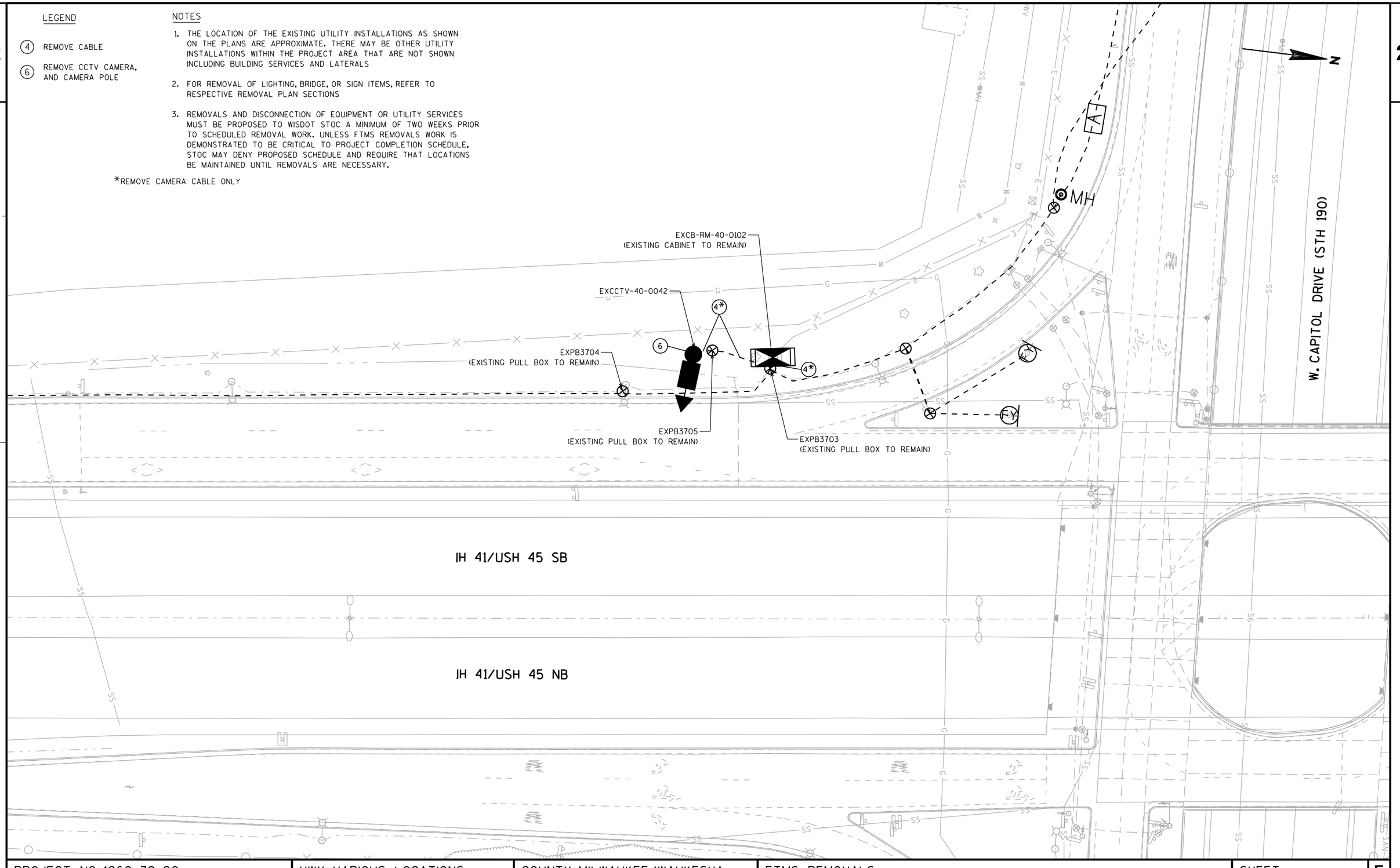
(4) REMOVE CABLE

(6) REMOVE CCTV CAMERA, AND CAMERA POLE

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.

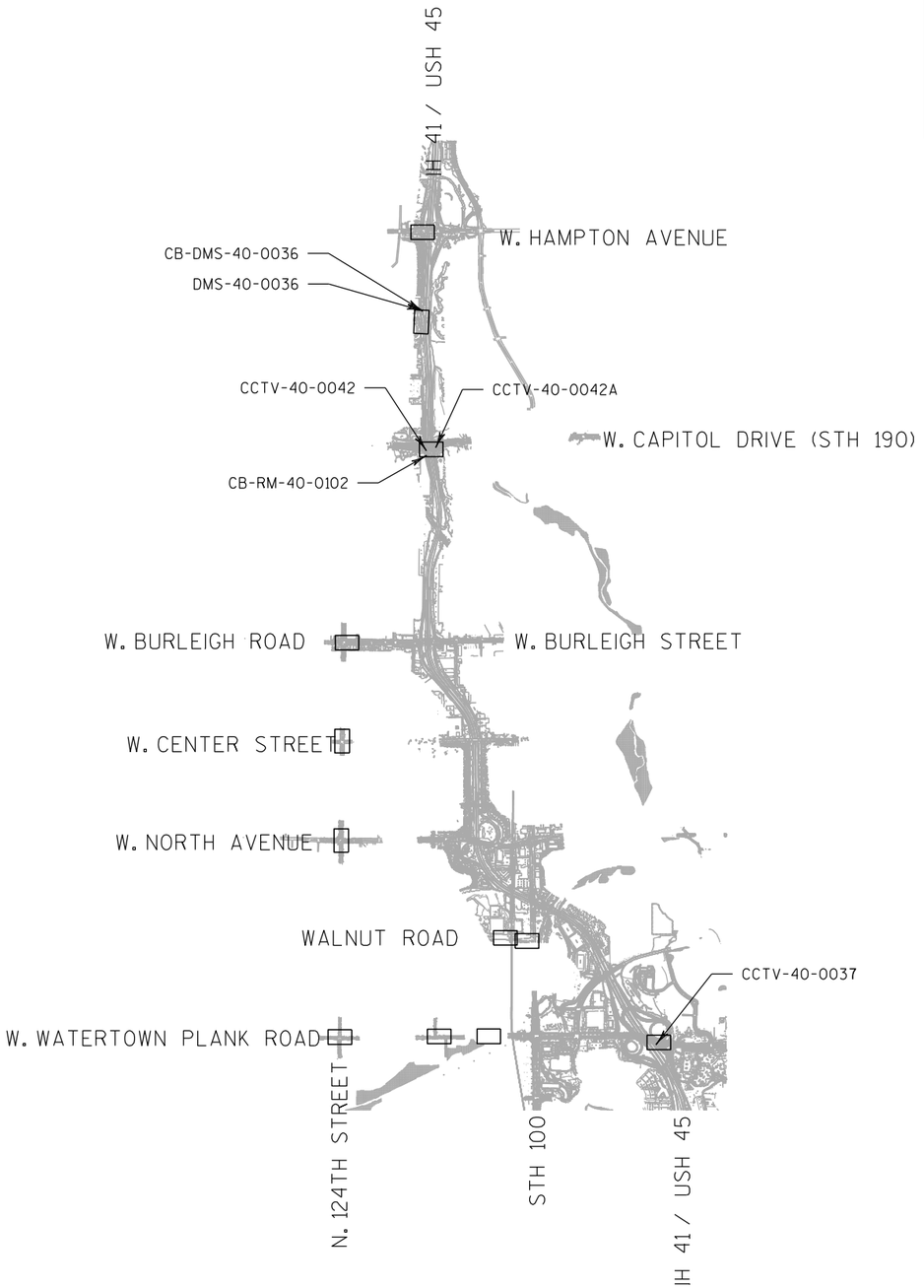
*REMOVE CAMERA CABLE ONLY



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS REMOVALS	SHEET	E

2

LEGEND	EXISTING	PROPOSED
FTMS CONVENTIONAL SYMBOLS		
POLE MOUNTED CABINET	⊠	⊠
METER BREAKER PEDESTAL	⊠	
24" STEEL PULL BOX	⊗	
NON-CONDUCTIVE PULL BOX 24" X 42"		⊖
MANHOLE	◎MH	
FTMS (ITS) CONDUIT		
BREAKER DISCONNECT BOX	⊞	
COMMUNICATIONS VAULT, TYPE 1	V	
FREEWAY DYNAMIC MESSAGE SIGN		▬
CCTV CAMERA AND POLE	◀●	◀●
FTMS FIELD CABINET AND BASE	⊠	
5.8 GHZ WIRELESS ETHERNET BRIDGE		⊢
TRAFFIC SIGNAL CONTROL CABINET	⊠	

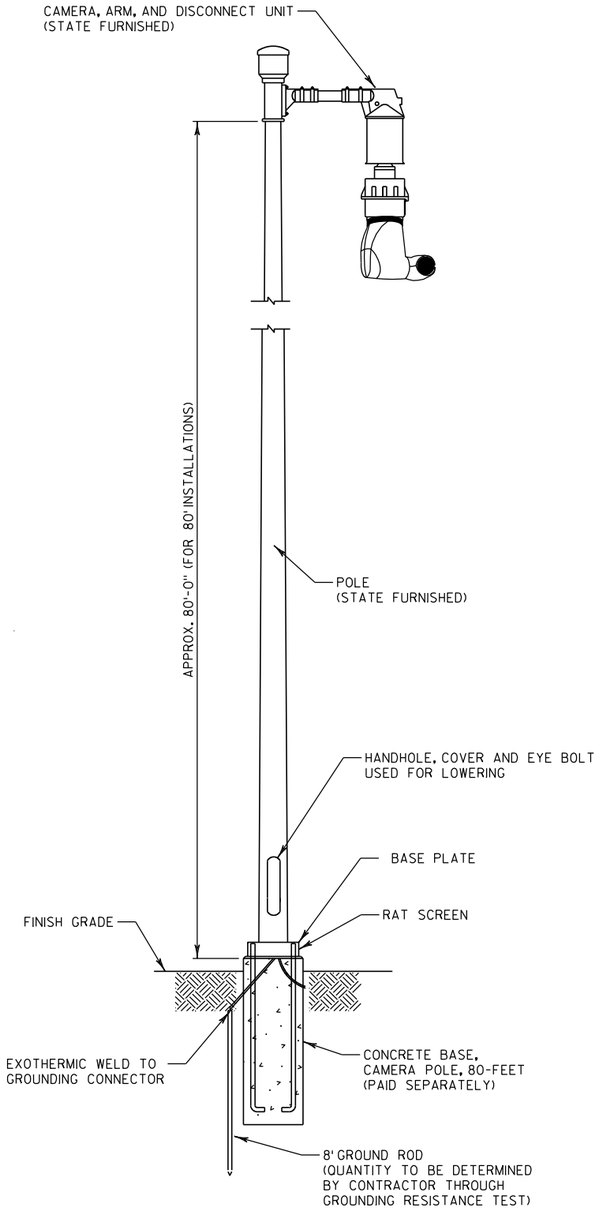


FTMS STANDARD ABBREVIATIONS

CB	CONTROLLER CABINET
CCTV	CLOSED CIRCUIT TELEVISION SITE
CV	COMMUNICATIONS VAULT
PB	PULL BOX
MB	METER BREAKER
MH	MANHOLE
DMS	DYNAMIC MESSAGE SIGN
SP	TRAFFIC SIGNAL POLE
LP	LIGHT POLE

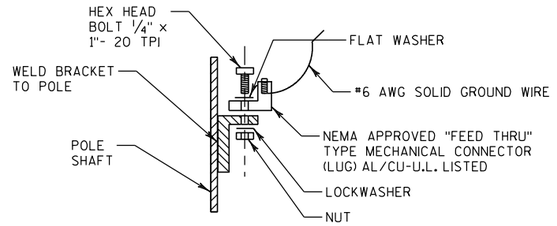
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12. VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

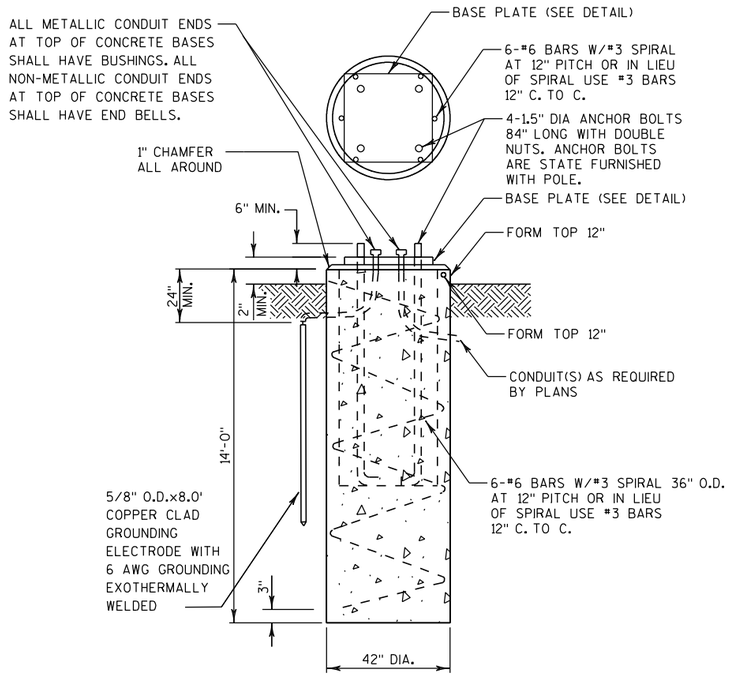


CAMERA POLE WITH CAMERA LOWERING HARDWARE

WITHOUT POLE MOUNTED CABINET



FIELD INSTALLED GROUNDING LUG



MATERIALS DATA

CONCRETE	f'c=3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi

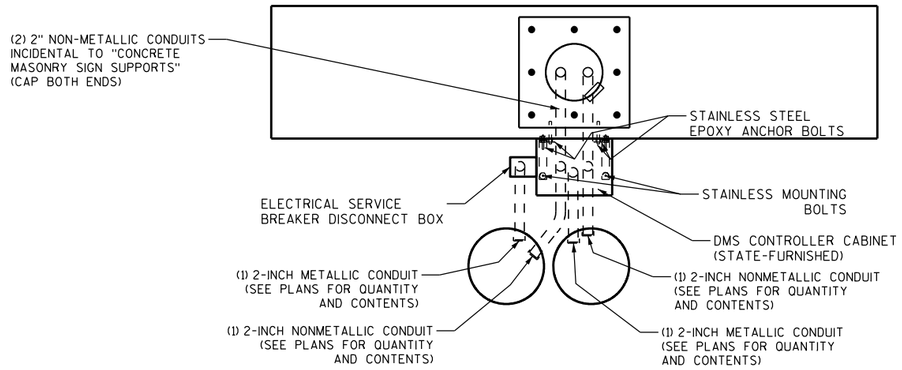
CONCRETE BASE, 80' CAMERA POLE

NOT TO SCALE

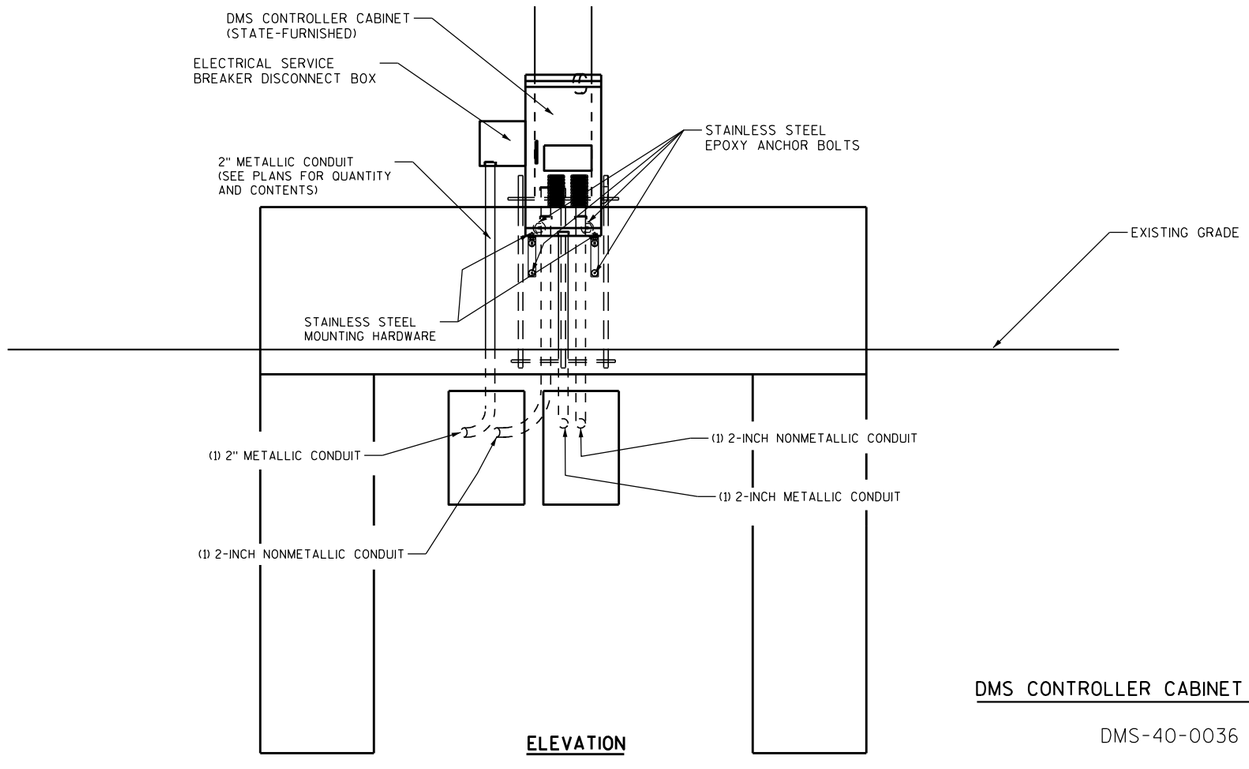
NOTES

1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN

2



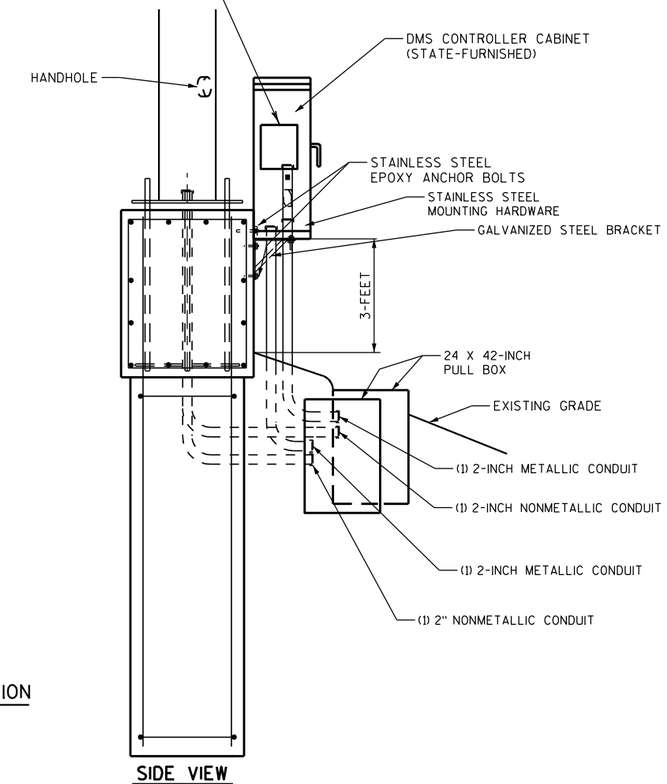
PLAN



ELEVATION

LOOKING EAST (DMS-40-0036)

ELECTRICAL SERVICE BREAKER DISCONNECT BOX WITH
(1) 100-AMP 240-VAC DOUBLE POLE BREAKER FOR DMS AND
(1) 100-AMP 240-VAC SINGLE POLE BREAKER FOR CONTROL CABINET



SIDE VIEW

LOOKING SOUTH (DMS-40-0036)

DMS CONTROLLER CABINET INSTALLATION

DMS-40-0036

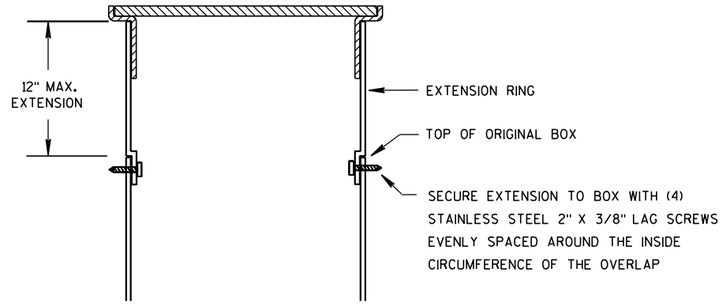
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS DETAILS	SHEET	E

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX DIAMETER ** (OUTSIDE)	B	25	25
BOX LENGTH	C	36	42
COVER	D	25 1/2	25 1/2
FRAME	E	27	27
FRAME	F	25 3/4	25 3/4
FRAME	G	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50

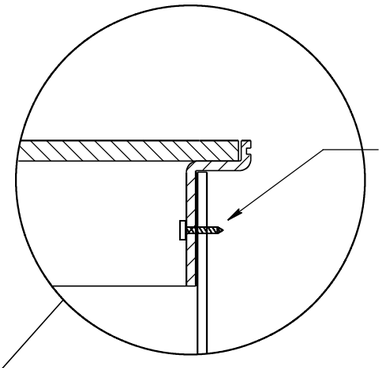
* THE ACTUAL WEIGHT OF THE COVER MAY VARY NOT TO EXCEED 100 LBS.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

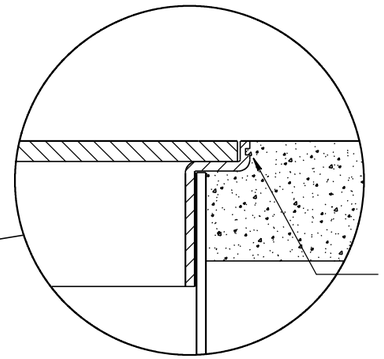


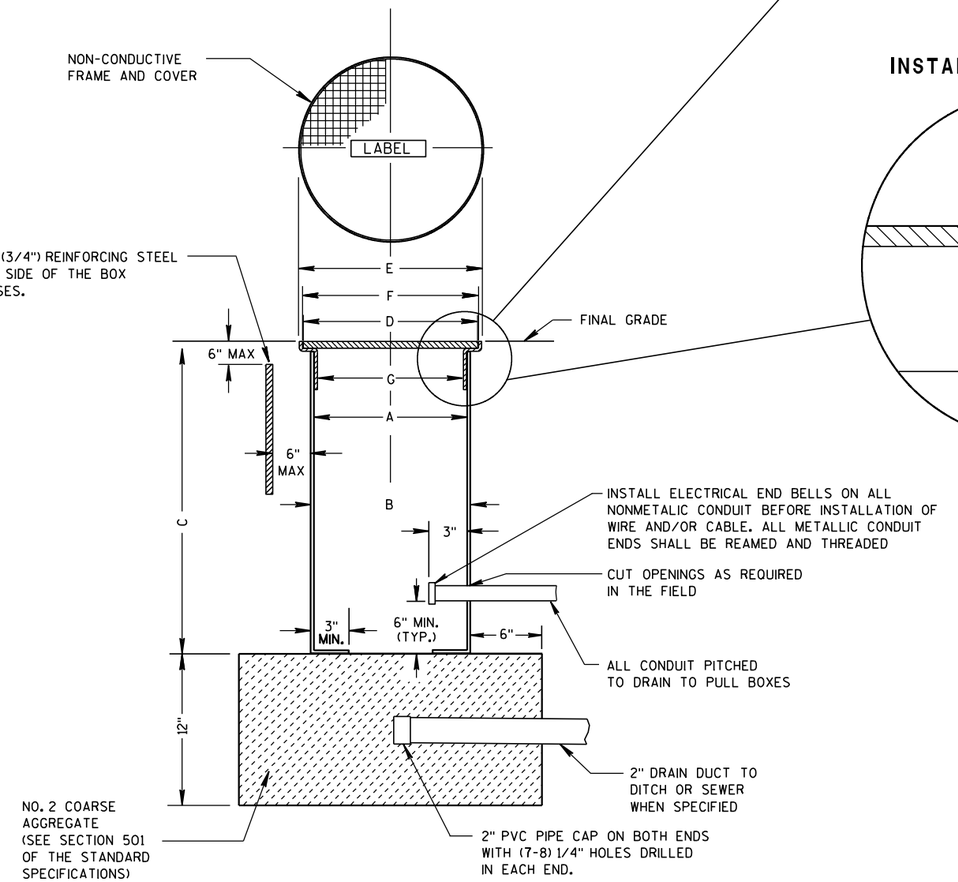
BOX EXTENSION

INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK





NON-CONDUCTIVE 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 BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DISCONTINUITIES LESS THAN 1/4".

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

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.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

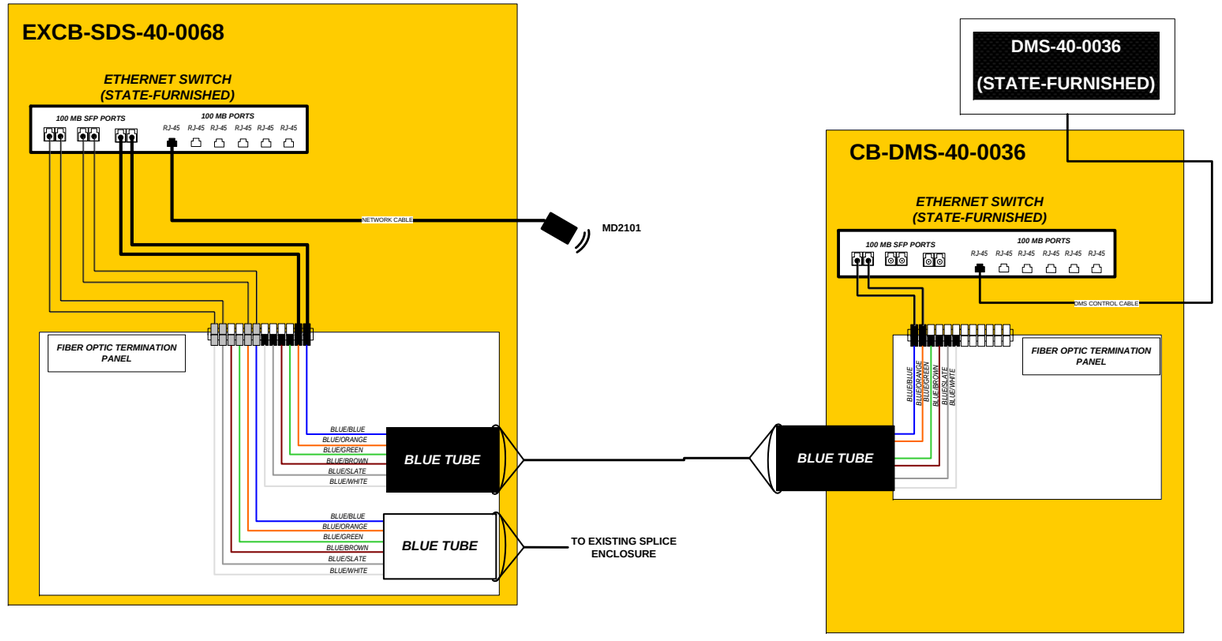
LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL OR LIGHTING SYSTEMS. "WISDOT COMMUNICATIONS" FOR COMMUNICATIONS SYSTEMS.

2

KEY

- PROPOSED / EXISTING FUSION SPLICE
- FIBER LEFT BARE
- PROPOSED / EXISTING FIBER TERMINATION
- PROPOSED / EXISTING COMPONENT
- PROPOSED / EXISTING CCTV CAMERA
- PROPOSED / EXISTING MICROWAVE DETECTOR
- PROPOSED / EXISTING FIBER OPTIC CABLE
- 2070 RAMP METER CONTROLLER (STATE-FURNISHED) OR (EXISTING)

2070 CONTROLLER



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE / WAUKESHA	FTMS PLANS - COMMUNICATIONS DETAILS	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : $FILE$ PLOT SCALE : $$.....plotscale.....$$

124TH AND WATERTOWN PLANK RD.
TRAFFIC SIGNAL CABINET,
CB1 (CITY OF WAUWATOSA)

ETHERNET SWITCH
(STATE-FURNISHED)

100 MB SFP PORTS | 100 MB PORTS
RJ-45 RJ-45 RJ-45 RJ-45 RJ-45 RJ-45

SIGNAL CONTROLLER

MMU

DETECTOR
MVP / BIU

INTERFACE PANEL

SDLC BUS

VIDEO DETECTION CAMERAS

BIU

LOAD
SWITCHES

5.8 GHZ ETHERNET
BRIDGE
(STATE-FURNISHED)

5.8 GHZ ETHERNET
BRIDGE
(STATE-FURNISHED)

5.8 GHZ ETHERNET
BRIDGE
(STATE-FURNISHED)

115TH AND WATERTOWN PLANK RD.
TRAFFIC SIGNAL CABINET
(CITY OF WAUWATOSA)

ETHERNET SWITCH
(STATE-FURNISHED)

100 MB SFP PORTS | 100 MB PORTS
RJ-45 RJ-45 RJ-45 RJ-45 RJ-45 RJ-45

SIGNAL CONTROLLER

MMU

DETECTOR
MVP / BIU

INTERFACE PANEL

SDLC BUS

VIDEO DETECTION CAMERAS

BIU

LOAD
SWITCHES

5.8 GHZ ETHERNET
BRIDGE
(STATE-FURNISHED)

113TH AND WATERTOWN PLANK RD.
TRAFFIC SIGNAL CABINET
(CITY OF WAUWATOSA)

ETHERNET SWITCH
(STATE-FURNISHED)

100 MB SFP PORTS | 100 MB PORTS
RJ-45 RJ-45 RJ-45 RJ-45 RJ-45 RJ-45

SIGNAL CONTROLLER

MMU

DETECTOR
MVP / BIU

INTERFACE PANEL

SDLC BUS

VIDEO DETECTION CAMERAS

BIU

LOAD
SWITCHES

EXCB-RM-40-0140

ETHERNET SWITCH
(STATE-FURNISHED)

E10/100 ETHERNET PORTS
Rx Tx Rx Tx RJ-45 RJ-45

SERIAL DATA PORTS
RS232/RS485/RS422

ETHERNET VIDEO CODEC
(STATE-FURNISHED)
RJ-45 RS-422 BNC

ALL DETECTION ZONES

2070 CONTROLLER
(STATE-FURNISHED)

NB MAINLINE AND
WF MERGE

LOOP DETECTOR LEAD IN CABLES

EXISTING
LOOP DETECTORS

VIDEO

RS-422

EXCCTV-40-0037

CCTV

5.8 GHZ ETHERNET
BRIDGE
(STATE-FURNISHED)

FIBER OPTIC TERMINATION
PANEL

BLUE/BLUE
BLUE/ORANGE
BLUE/GREEN
BLUE/BROWN
BLUE/SLATE
BLUE/WHITE

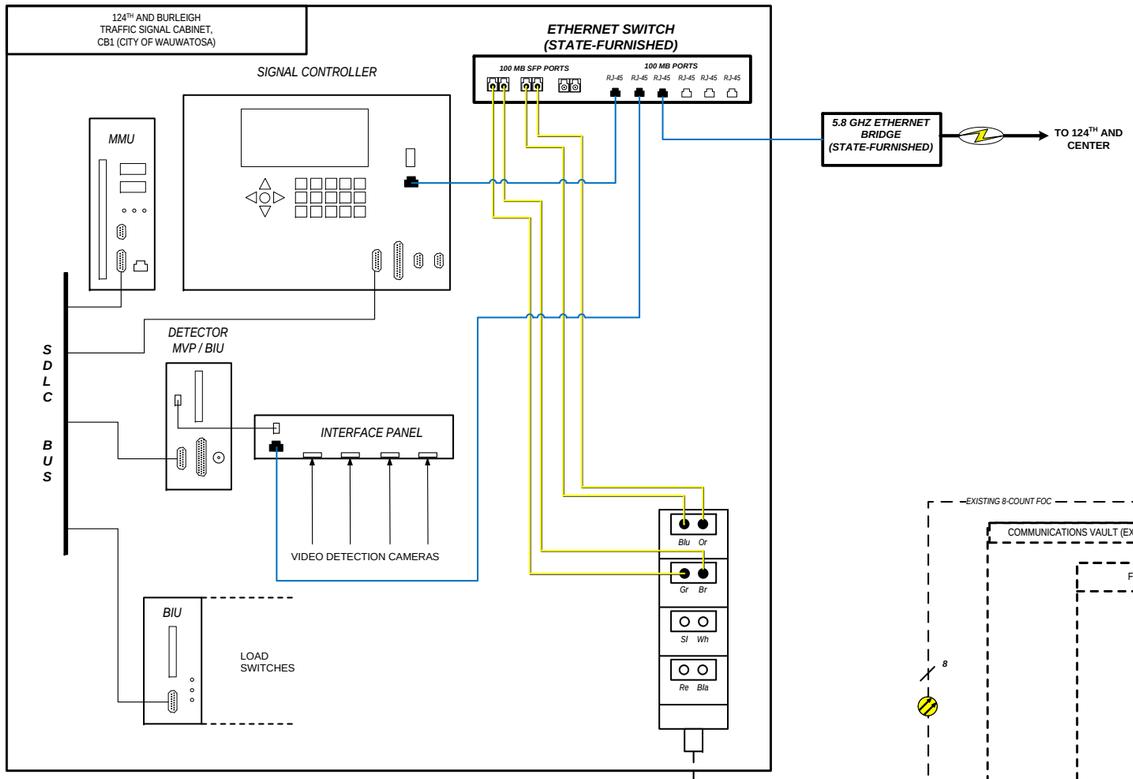
BLUE TUBE

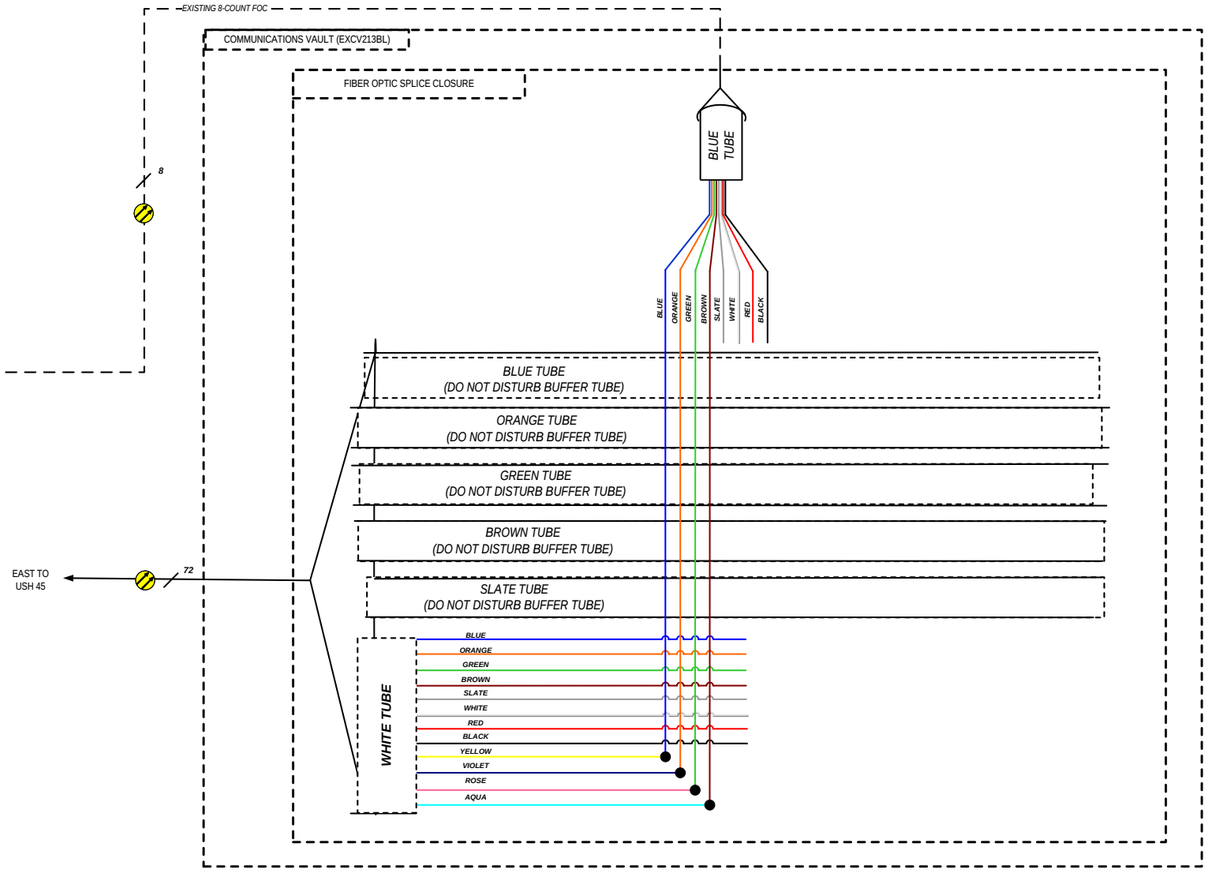
BLUE TUBE

TO EXISTING 72-
COUNT FOC
ON IH 41 / US 45

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC SIGNAL INTERCONNECT – WATERTOWN PLANK RD.	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : $FILE$ PLOT SCALE : $$.....plotscale.....$$



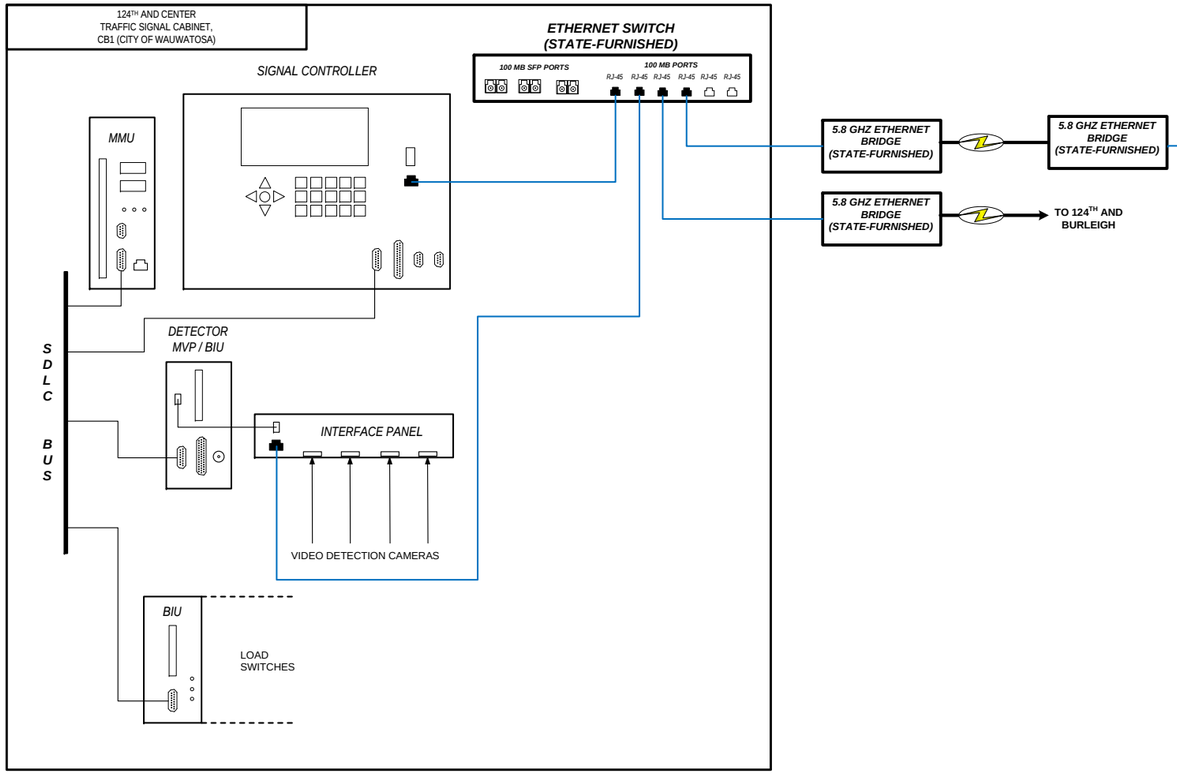


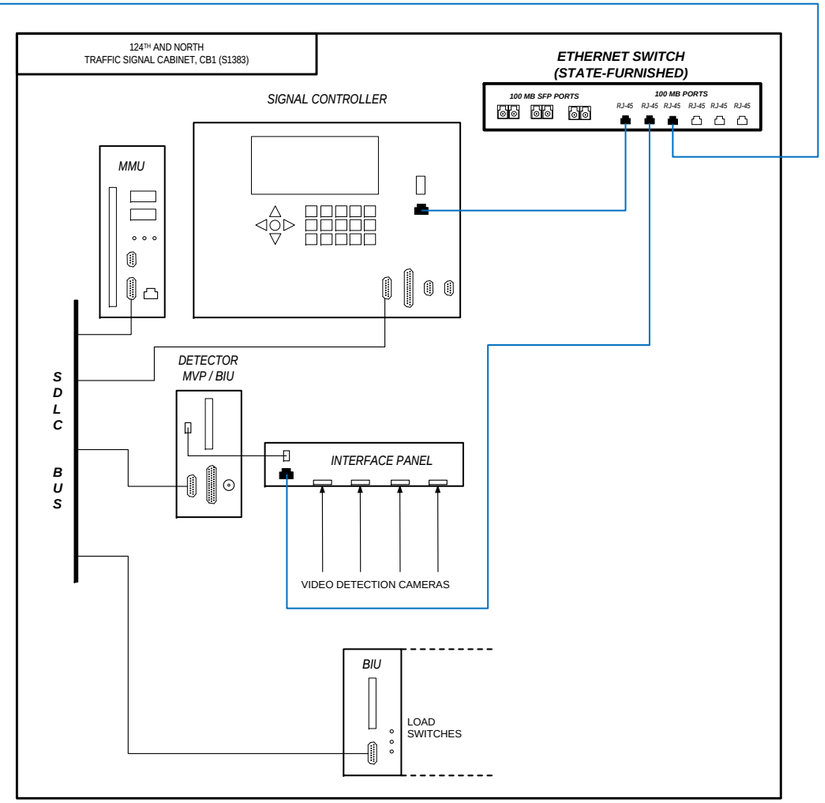
NOTES:

1. DASHED LINES INDICATE EXISTING ITEMS.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC SIGNAL INTERCONNECT – 124th AND BURLEIGH	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : $FILE$ PLOT SCALE : $$.....plotscale.....$$





2

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE / WAUKESHA	TRAFFIC SIGNAL INTERCONNECT – 124th AND CENTER AND 124TH AND NORTH	SHEET	E

SDS-40-0068 CABINET CONTENT ITEMS	DETAILS QTY.
F.O. TERMINATIONS	6
ETHERNET SWITCH (S-F)	1
1GB LX SFPS (S-F)	3

DMS-40-0036 CABINET CONTENT ITEMS	DETAILS QTY.
ETHERNET SWITCH (S-F)	1
12-CNT F.O. TERMINATION PANEL (S-F)	1
F.O. TERMINATIONS	6
BREAKER DISCONNECT BOX	1
1GB LX SFP (S-F)	1

N

(1) 2-INCH METALLIC CONDUIT
(1) WITH (4) NO. 2 AWG LIGHTING WIRES (FROM MB2101)
(1) WITH (4) DMS POWER WIRES

(1) 2-INCH NONMETALLIC CONDUIT
(1) WITH (4) DMS POWER WIRES
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

CB-DMS-40-0036

PB2102

PB2101

(1) 2-INCH METALLIC CONDUIT
(1) WITH (1) 6-COUNT FOC (S-F)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE
(1) WITH (1) DMS CONTROL CABLE

(1) 2-INCH NONMETALLIC CONDUIT
(1) WITH (1) DMS CONTROL CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

(A) DETAIL
NOT TO SCALE

SIGN

SIGN

IN EXISTING CONDUIT
(1) WITH (4) NO. 2 AWG LIGHTING WIRES

EXMB2101

EXPB2102
(1) INSTALL CONDUIT INTO EXISTING PULL BOX

R/W

R/W

DMS-40-0036
(1) OVERHEAD DMS
(1) POLE MOUNTED CABINET (S-F)

EXSDS-40-0068

IN EXISTING CONDUIT
REMOVE MD CABLE AND INSTALL
(1) OUTDOOR RATED NETWORK CABLE
AND (1) 6-COUNT FOC (S-F)

EXISTING 72-COUNT FOC

(1) 3-INCH NONMETALLIC CONDUIT
(1) WITH (4) NO. 2 AWG LIGHTING WIRES

PB2102

PB2101

PB2103

SEE DETAIL (A)

EXPB2101
(1) INSTALL CONDUIT INTO EXISTING PULL BOX

IN EXISTING CONDUIT
REMOVE MD CABLE AND INSTALL
(1) OUTDOOR RATED NETWORK CABLE

EXMD2101
(1) REMOVE EXISTING MICROWAVE DETECTOR (S-F)
(1) INSTALL NEW MICROWAVE DETECTOR (S-F)

(1) 3-INCH NONMETALLIC CONDUIT
(1) WITH (1) 6-COUNT FOC (S-F)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

(1) 3-INCH NONMETALLIC CONDUIT
(1) WITH (1) 6-COUNT FOC (S-F)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

IH 41/USH 45 SB

S-40-0456

264 265 266 267 268 269

TO W. HAMPTON AVENUE

IH 41/USH 45 NB

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

N

W. BURLEIGH ROAD

W. BURLEIGH STREET

N. 124TH STREET

525BR

526BR

527BR

528BR

529BR

530BR

206TU

207TU

V1

V2

V3

V4

V5

V6

V7

V9

20'

EXPB2201

EXPB2202

EXPB2203

EXPB2204

EXPB2205

EXPB2206

EXPB2207

EXPB2208

EXLP2201

EXCV2201

CB1 (22)

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

ON EXISTING LUMINAIRE ARM
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
(NOTE: CONNECT TO 5.8 GHZ WIRELESS ETHERNET
BRIDGE BEING INSTALLED
AT N. 124TH ST. AND W. CENTER ST.)

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

FILLER CAPS

G.P.

A/C

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

N

CB1 (27)
(1) ETHERNET SWITCH (S-F)

IN EXISTING SIGNAL CONDUIT
(2) 5.8 GHZ ETHERNET BRIDGE CABLES

EXPB2701

EXSP2701

EXPB2702

ON EXISTING TRAFFIC SIGNAL TROMBONE ARM
(2) 5.8 GHZ WIRELESS ETHERNET BRIDGES (S-F)
(NOTE: CONNECT NORTH TO 5.8 GHZ WIRELESS ETHERNET BRIDGE
BEING INSTALLED AT N. 124TH ST. AND W. BURLEIGH ST;
CONNECT SOUTH TO 5.8 GHZ WIRELESS ETHERNET BRIDGE
BEING INSTALLED AT N. 124TH ST. AND W. NORTH AVE.)

N. 124TH STREET

W. CENTER STREET

177TU

178TU

179TU

180TU

181TU

182TU

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

N

N. 124TH STREET

W. NORTH AVENUE

150TU

151TU

152TU

153TU

154TU

155TU

156TU

425NR

426NR

427NR

428NR

30'

V1

V2

V3

V4

V5

V6

V7

V8

EXPB2801

EXPB2802

EXPB2803

EXPB2804

EXPB2805

EXPB2806

EXSP2801

ON EXISTING TRAFFIC SIGNAL MAST ARM
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
(NOTE: CONNECT TO 5.8 GHZ WIRELESS
ETHERNET BRIDGE BEING INSTALLED AT
N. 124TH ST. AND W. CENTER ST.)

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

CB1 (28)
(1) ETHERNET SWITCH (S-F)

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

N

N. 124TH STREET

W. WATERTOWN PLANK ROAD

102TU

101TU

100TU

N166

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

EXPB2902

EXSP2901

EXPB2903

ON EXISTING TRAFFIC SIGNAL TROMBONE ARM
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
(NOTE: CONNECT TO 5.8 GHZ WIRELESS ETHERNET BRIDGE BEING INSTALLED AT N. 116TH ST. AND W. WATERTOWN PLANK RD, AND AT USH 45 AND W. WATERTOWN PLANK RD.)

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

EXPB2901

CB1 (29)
(1) ETHERNET SWITCH (S-F)

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

N

N. 116TH STREET

W. WATERTOWN PLANK ROAD

N. 115TH STREET

ON EXISTING TRAFFIC SIGNAL POLE
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
(NOTE: CONNECT TO 5.8 GHZ WIRELESS ETHERNET BRIDGE BEING INSTALLED AT N. 124TH ST. AND W. WATERTOWN PLANK RD.)

EXSP3001

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

CB1 (30)
(1) ETHERNET SWITCH (S-F)

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

ON EXISTING TRAFFIC SIGNAL TROMBONE ARM
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
(NOTE: CONNECT TO 5.8 GHZ WIRELESS ETHERNET BRIDGE BEING INSTALLED AT N. 113TH ST. AND W. WATERTOWN PLANK RD.)

EXSP3002

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

FILE NAME : W:\CADD\Final\10603990_TM5\Roads\cds\021430_fm.dgn PLOT DATE : 28-OCT-2016 12:03 PLOT BY : MSCKKC PLOT NAME : 021430_fm PLOT SCALE : 40:1

2

N

N. 113TH STREET

W. WATERTOWN PLANK ROAD

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN EXISTING SIGNAL CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

CB1 (31)
(1) ETHERNET SWITCH (S-F)
(VERIFY CABINET LOCATION IN FIELD)

EXSP3101
(VERIFY TRAFFIC SIGNAL
POLE LOCATION IN FIELD)

ON EXISTING TRAFFIC SIGNAL MAST ARM
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
(NOTE: CONNECT TO 5.8 GHZ WIRELESS
ETHERNET BRIDGE BEING INSTALLED AT
N. 115TH ST. AND W. WATERTOWN PLANK RD.)

Vault

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

N

W. WATERTOWN PLANK ROAD

IH 41/USH 45 NB

IH 41/USH 45 SB

EXPB3202
(1) ETHERNET REPEATER (S-F)

EXPB3204

EXCCTV-40-0037
ON EXISTING CCTV POLE
(1) 5.8 GHZ WIRELESS ETHERNET BRIDGE (S-F)
LINKED TO WATERTOWN PLANK ROAD
AND 124TH STREET ETHERNET BRIDGE

IN EXISTING CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

EXPB3203

IN EXISTING CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE

IN EXISTING CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE
(FURNISH AND INSTALL WITH PAY ITEM
SPV.0090.2001 OUTDOOR RATED NETWORK CABLE)

EXPB3201

IN EXISTING CONDUIT
(1) 5.8 GHZ ETHERNET BRIDGE CABLE
(FURNISH AND INSTALL WITH PAY ITEM
SPV.0090.2001 OUTDOOR RATED NETWORK CABLE)

EXCB-RM-40-0140

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

N

IH 41/USH 45 SB

IH 41/USH 45 NB

292

291

290

289

W. HAMPTON AVENUE

617HP

618HP

619HP

620HP

621HP

622HP

CANOPY

FILLER CAPS

SIGN

GUY

POST

GVT

MH

SAN

SS

OH

CUM

WV

W

G

T

E

C

30'

RA 1

RA 2

PM 3

PB 1

PB 2

B

PB13 (35)

(2) 3-INCH NONMETALLIC CONDUITS
(1) OUTDOOR RATED NETWORK CABLE

IN SIGNAL CONDUIT
(1) OUTDOOR RATED NETOWKR CABLE

CB1 (35)
(1) ETHERNET SWITCH (S-F)

EXPB3501

IN EXISTING CONDUIT
(1) OUTDOOR RATED NETWORK CABLE

EXCB-RM-40-0100
(1) ETHERNET SWITCH (S-F)

IN EXISTING CONDUIT
(1) OUTDOOR RATED NETWORK CABLE

EXPB3502

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

N

W. CAPITOL DRIVE (STH 190)

IH 41/USH 45 SB

IH 41/USH 45 NB

IN EXISTING SIGNAL CONDUIT
(1) CAMERA CABLE
(FURNISH AND INSTALL WITH PAY ITEM
SPV.0090.2001 OUTDOOR RATED NETWORK CABLE)

PB16 (37)

SB17 (37)

CCTV-40-0042A
ON EXISTING TRAFFIC SIGNAL MONOTUBE SB17 (37)
(1) CCTV CAMERA (S-F)

IN EXISTING SIGNAL CONDUIT
(1) CAMERA CABLE

IN EXISTING SIGNAL CONDUIT
(1) CAMERA CABLE

PB17 (37)

PB18 (37)
EXISTING SIGNAL PULL BOX
(1) ETHERNET REPEATER (S-F)

PB19 (37)

PB20 (37)

PB21 (37)

CCTV-40-0042
(1) GROUND ROD
(1) 80-FT CAMERA POLE BASE
(1) 80-FT CAMERA POLE (S-F)
(1) CCTV ASSEMBLY (S-F)

PB22 (37)
INSTALL CONDUIT INTO EXISTING SIGAL PULL BOX

CB1 (37)

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

(1) 2-INCH NONMETALLIC CONDUIT
(1) CAMERA CABLE
(FURNISH AND INSTALL WITH PAY ITEM
SPV.0090.2001 OUTDOOR RATED NETWORK CABLE)
AND (1) NO. 12 AWG TRAFFIC SIGNALWIRE

EXPB3704
(1) INSTALL CONDUIT INTO EXISTING PULL BOX

IN EXISTING CONDUIT
(1) CAMERA CABLE

(1) 2-INCH NONMETALLIC CONDUIT
(1) OUTDOOR RATED NETWORK CABLE
AND (1) NO. 12 AWG TRAFFIC SIGNALWIRE

EXPB3702
(1) INSTALL CONDUIT INTO
EXISTING PULL BOX

IN EXISTING CONDUIT
(1) CAMERA CABLE
(2) OUTDOOR RATED NETWORK CABLES

IN EXISTING CONDUIIT
(1) CAMERA CABLE
(2) OUTDOOR RATED NETWORK CABLES

EXPB3703

EXCB-RM-40-0102

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

WAUWATOSA PUBLIC WORKS

NOTE:
1. CONTRACTOR SHALL COORDINATE WITH RANDY MICHELZ (414-471-8429), CITY OF WAUWATOSA, FOR FIBER OPTIC CABLE INSTALLATION.
2. CONTRACTOR SHALL VERIFY THE EXISTING UNDERGROUND UTILITIES IN FIELD PRIOR TO BORING AND INSTALLATION.

INSTALL (1) 12-COUNT FOC INTO WAUWATOSA PUBLIC WORKS BUILDING TERMINATION PANEL APPROXIMATELY 50-FT INSIDE OF BUILDING

(1) 3-INCH CONDUIT CONNECT TO JUNCTION BOX ON BUILDING INSTALLED BY OTHERS
(1) WITH (1) 12-COUNT FOC (S-F)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

PB4104

(2) 3-INCH CONDUITS SPECIAL
(1) WITH (1) 12-COUNT FOC (S-F)
AND (1) NO. 12 AWG TRAFFIC SIGNAL WIRE

N

WALNUT ROAD

IN EXISTING CONDUIT
(1) 12-COUNT FOC (S-F)

EXPB4101
(1) INSTALL CONDUIT INTO EXISTING PULL BOX

IN EXISTING CONDUIT
(1) 12-COUNT FOC (S-F)

EXPB4102

EXPB4103

MATCHLINE A

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

N

MATCHLINE A

WALNUT ROAD

IN EXISTING CONDUIT
(1) 12-COUNT FOC (S-F)

EXPB4201

IN EXISTING CONDUIT
(1) 12-COUNT FOC (S-F)

STH 100

EXCV4201
(1) F.O. SPLICE ENCLOSURE (S-F)
(4) F.O. SPLICES

EXISTING 72-COUNT FOC

FIBER OPTIC CABLE SPLICING NOTES:
1. CUT EXISTING SPLICES FROM EXISTING WAUWATOSA POLICE DEPARTMENT 6-COUNT FOC TO EXISTING NB 72-COUNT FOC ON STH 100.
2. SPLICE STRANDS 1 AND 2 ON NEW WAUWATOSA DPW 12-COUNT FOC TO THE STRANDS ON POLICE DEPARTMENT 6-COUNT THAT WERE CUT FROM NB WIS 100 CABLE.
3. SPLICE STRANDS 3 AND 4 ON NEW DPW CABLE TO STRANDS ON NB STH 100 THAT WERE CUT FROM POLICE DEPARTMENT CABLE.
4. COORDINATE ALL WORK WITH WISDOT STOC A MINIMUM OF 2-WEEKS PRIOR TO SCHEDULING SPLICE WORK.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	FTMS PLANS	SHEET	E

2

2

LEGEND

SOD LAWN

A INLET PROTECTION TYPE A

B INLET PROTECTION TYPE B

C INLET PROTECTION TYPE C

D INLET PROTECTION TYPE D

SILT FENCE

SURFACE WATER FLOW

SLOPE INTERCEPT

NOTES

PLACE INLET PROTECTION TYPE A AT ALL NEW INLET LOCATIONS DURING GRADING STAGES.

PLACE INLET PROTECTION TYPE B, C, OR D UNDER INLET COVERS LOCATED IN CURB AND GUTTER UNTIL COMPLETION OF THE PROJECT.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	EROSION CONTROL	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\022000_ec.dgn PLOT DATE : 27-OCT-2016 22:05 PLOT BY : MSCDYB PLOT NAME : 022000_ec PLOT SCALE : 40:1
WISDOT/CADDS SHEET 42

2

2

SIGN

N

+38.25
75.49' LT
+31.65
71.29' LT
+66.40
75.83' LT
+78.02
84.37' LT
+90.39
84.49' LT
+02.40
76.76' LT
+54.29
83.97' LT
+61.21
78.31' LT

IH 41/USH 45 SB

INL

D

267

268

269

270

271

272

IH 41/USH 45 NB

SIGN

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	EROSION CONTROL	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\022001_ec.dgn PLOT DATE : 27-OCT-2016 22:06 PLOT BY : MSCDYB PLOT NAME : 022001_ec PLOT SCALE : 40:1

2

2

N

W. NORTH AVENUE

421NR

422NR

423NR

424NR

425NR

426NR

427NR

154TU

153TU

152TU

151TU

N. 124TH STREET

MH

WV

GUY

GV

C

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	EROSION CONTROL	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\022002_ec.dgn PLOT DATE : 27-OCT-2016 22:06 PLOT BY : MSCDYB PLOT NAME : 022002_ec PLOT SCALE : 40:1

2

N

W. BURLEIGH ROAD

W. BURLEIGH STREET

N. 124TH STREET

N. 122ND STREET

525BR

526BR

527BR

528BR

529BR

530BR

206TU

207TU

205TU

204TU

SIGN

GV

WV

MH

GU

INL

G.P.

FILLER CAPS

A/C

POST

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	EROSION CONTROL	SHEET	E

2

N

W. HAMPTON AVENUE

616HP 617HP 618HP 619HP 620HP 621HP 622HP

N. 118TH STREET

IH 41/USH 45 SB

IH 41/USH 45 NB

293 292 291 290

CANOPY SIGN FILLER CAPS POST GVT GUY MH WV INL C

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	EROSION CONTROL	SHEET	E

2

N

W. BLUEMOUND ROAD

241BL

242BL

243BL

244BL

RAMP

RAMP

SIGN

MH

GV

WV

IP

A

C

72F

70F

GUY

POST

VLV

GLENVIEW AVENUE

UST VENT(3)
VENT SUPPORT

SIGN

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	EROSION CONTROL	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\022005_ec.dgn PLOT DATE : 27-OCT-2016 22:06 PLOT BY : MSCDYB PLOT NAME : 022005_ec PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

GENERAL DRAINAGE NOTES

LOCATION OF STRUCTURES IN CURB AND GUTTER REFER TO CURB AND GUTTER FLOW LINE.

RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF INLET GRATE. SEE STRUCTURE LOCATION DETAIL.

ADJUSTMENT RINGS MAY BE USED TO A COMBINED MAXIMUM THICKNESS OF 6-INCHES.

PLAN LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND IS USED FOR ESTIMATING. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE AND IS USED TO COMPUTE PIPE SLOPE.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

UTILITY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE. LOCATIONS SHOWN ARE TAKEN FROM EXISTING RECORDS AND BEST INFORMATION AVAILABLE FROM EXISTING PLANS. IT IS EXPECTED THAT THERE MAY BE DISCREPANCIES AND OMISSIONS IN THE LOCATION OF UTILITIES AND STRUCTURES SHOWN. VERIFY ALL LOCATIONS IN THE FIELD.

COORDINATE WITH DIGGERS HOTLINE TO FIELD LOCATE UTILITIES. ANY UTILITIES DAMAGED DUE TO CONTRACTOR ACTIVITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE UTILITY FACILITY.

VERIFY THE STORM SEWER SYSTEM CONNECTIONS, 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.

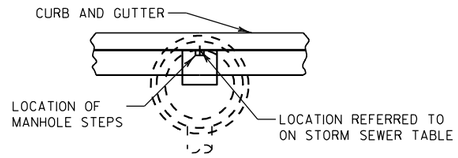
PROVIDE TEMPORARY POSITIVE DRAINAGE THROUGHOUT THE PROJECT DURING ALL PROJECT STAGES. PROVIDING TEMPORARY POSITIVE DRAINAGE IS INCIDENTAL TO CONSTRUCTION.

SUPPORTING UTILITIES DURING STORM SEWER CONSTRUCTION IS INCIDENTAL TO STORM SEWER PIPE AND/OR STORM SEWER STRUCTURE.

STORM SEWER PLAN & PROFILE NOTE:
PLAN VIEW HIGHLIGHTS CORRESPOND TO PROFILES SHOWN IN PROFILE BELOW PLAN VIEW (SAME SHEET).

STORM SEWER LEGEND

TM***	PROPOSED DRAINAGE STRUCTURE
■	PROPOSED INLET
EXISTING PE***	EXISTING STORM SEWER PIPE
P***	PROPOSED STORM SEWER PIPE
◄———	PROPOSED STORM SEWER PIPE PLAN VIEW



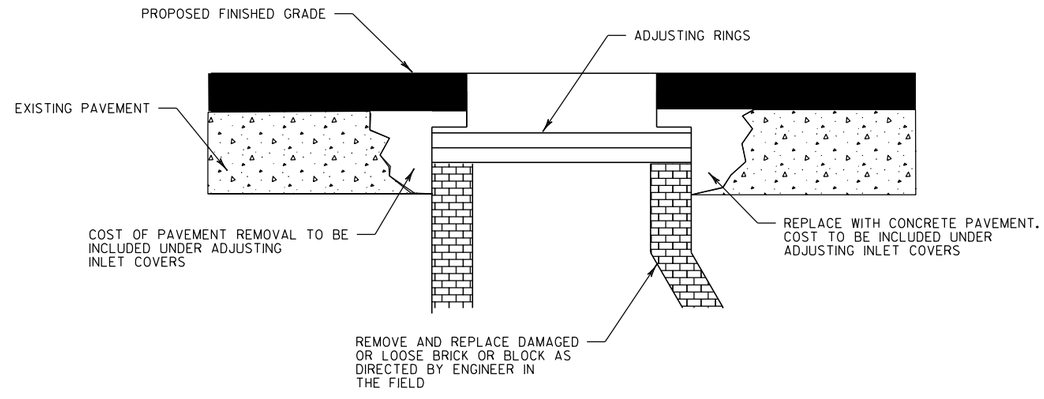
MANHOLE WITH INLET COVER
IN CURB AND GUTTER

NOTE
1) LOCATION OF STRUCTURE MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
2) LOCATION AND SIZE OF STRUCTURE COVER OPENING DEPENDS ON TYPE OF CASTING. CASTING TYPES ARE SHOWN ON THE STORM SEWER TABLE.

STRUCTURE LOCATION DETAIL

NOTES

ADJUST CHIMNEY WITH PROPER SIZE CONCRETE ADJUSTING RINGS (SIZE OF OPENING OF CONCRETE ADJUSTING RING TO BE DETERMINED BY SIZE OF OPENING IN FRAME) AND REINSTALL EXISTING FRAME AND LID TO FINISHED GRADE. BACKFILL AND OTHER WORK TO BE DONE IN ACCORDANCE WITH ITEM ADJUSTING INLET COVERS.



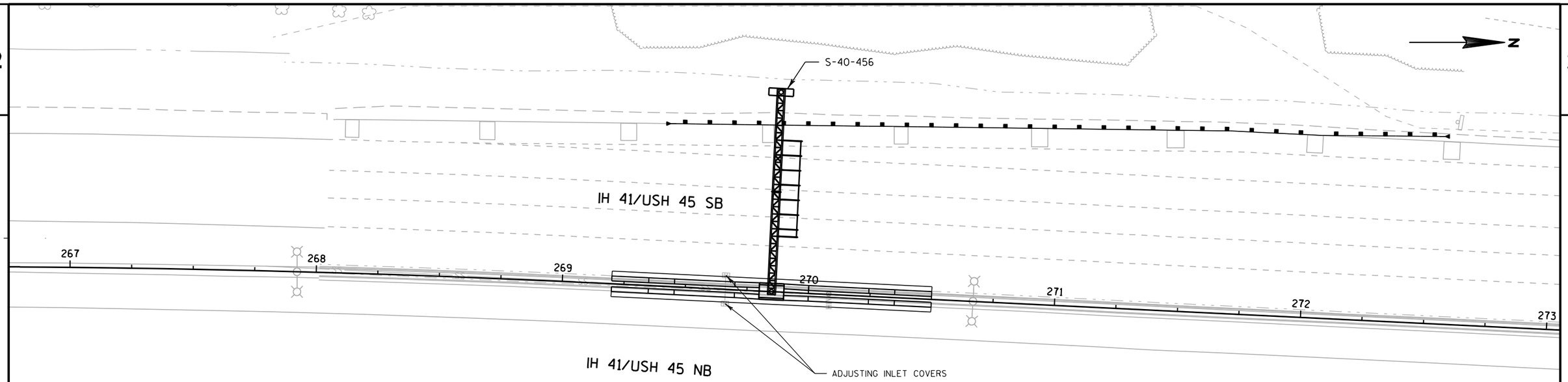
PAVED LOCATION

ADJUSTING INLET COVERS

2

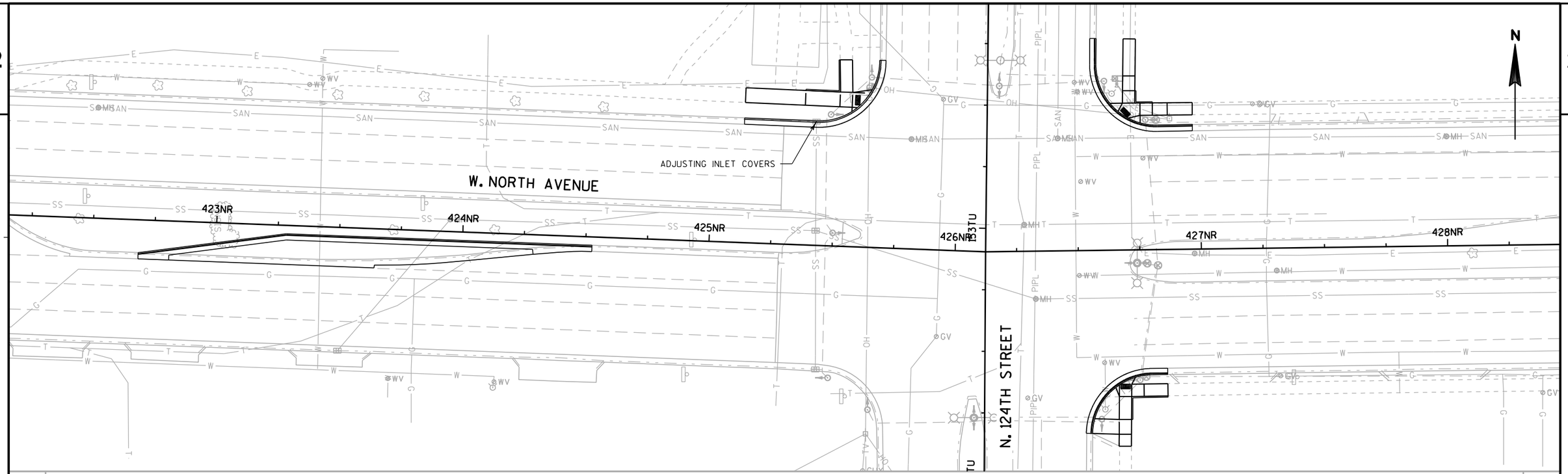
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	STORM SEWER - CONSTRUCTION DETAILS	SHEET	E

2



NOTE: NO PROFILE FOR THIS SHEET

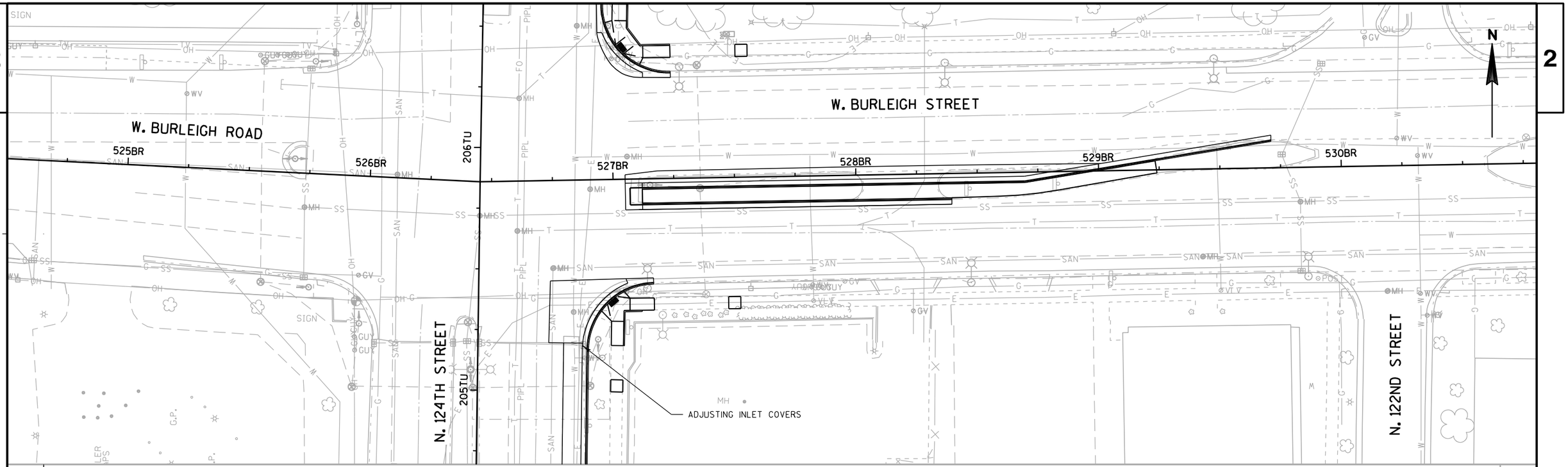
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	STORM SEWER	SHEET	E



NOTE: NO PROFILE FOR THIS SHEET

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	STORM SEWER	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\022502_ss.dgn PLOT DATE : 07-DEC-2016 10:13 PLOT BY : MSCDYB PLOT NAME : 022502_ss PLOT SCALE : 40:1



NOTE: NO PROFILE FOR THIS SHEET

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	STORM SEWER	SHEET	E

2

W. BLUEMOUND ROAD

241BL

242BL

243BL

244BL

REMOVE HYDRANT BRANCH PIPE

EXISTING PE102

CONCRETE COLLAR

P101

TM100

REMOVE HYDRANT BRANCH PIPE 45° ELBOW

INSTALL HYDRANT BRANCH PIPE 90° ELBOW STA 242BL+96.9, 58.6'RT

CONCRETE COLLAR

HYDRANT ASSEMBLY RELOCATION STA 242BL+83.1, 58.7'RT FINISHED GRADE = 704.33

REMOVE AND SALVAGE HYDRANT STA 242BL+94, 59.2'RT

EXISTING PE105

P104

TM103

RAVENSWOOD CIRCLE

GLENVIEW AVENUE

72F

N

SIGN

PHONE

TM100

703.92

FINISHED PROFILE AT STORM SEWER TRUNKLINE

700.67

SSPRC CL III 18" Ø 0.50%

700.63

EXISTING 18" PIPE

TM103

703.53

EXISTING PROFILE AT STORM SEWER TRUNKLINE

700.29

SSPRC CL III 15" Ø 0.50%

700.25

EXISTING 15" PIPE

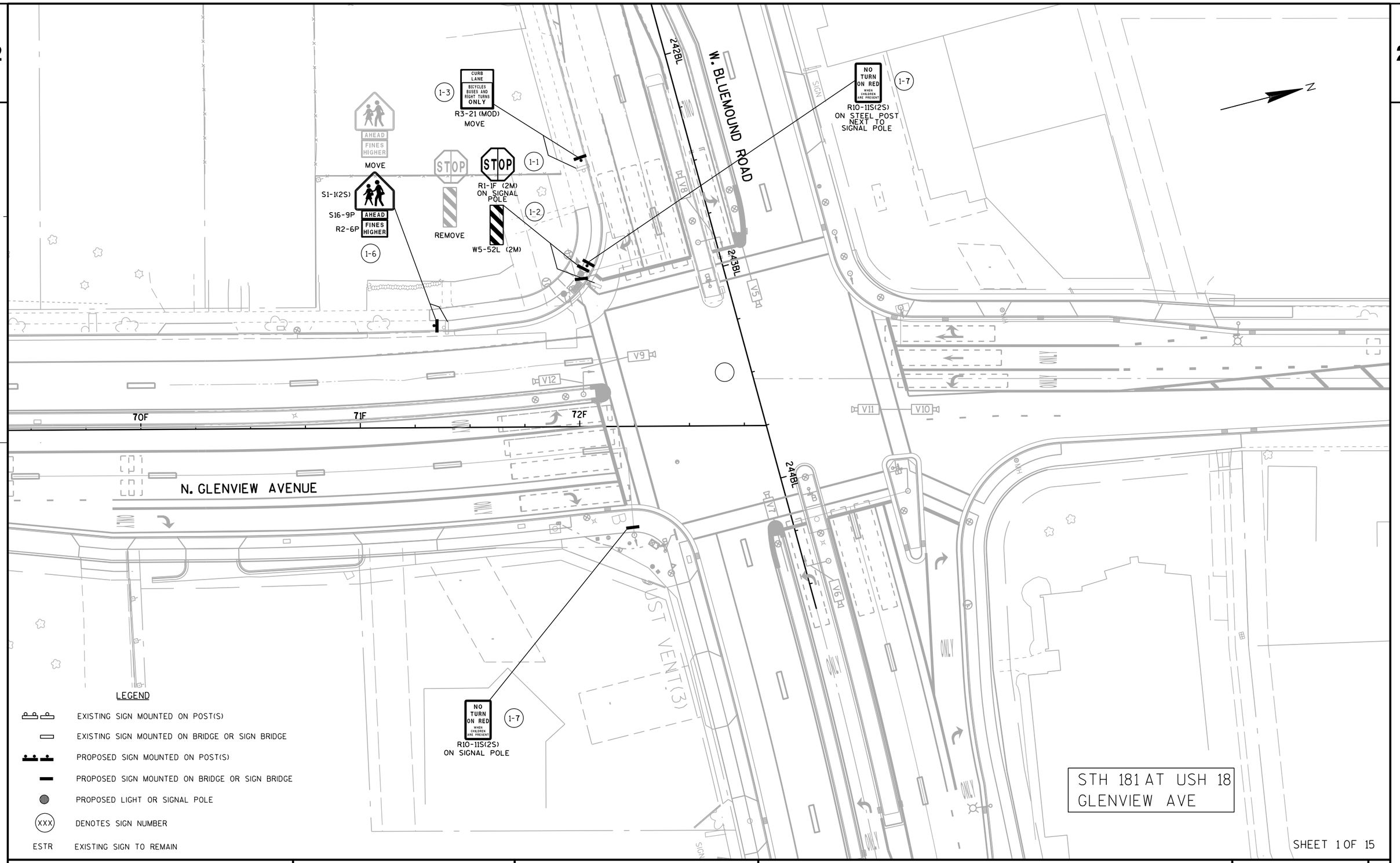
706 704 702 700 698 696 694 692 690 688

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	STORM SEWER	SHEET E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\022504_ss.dgn PLOT DATE : 07-DEC-2016 10:27 PLOT BY : MSCDYB PLOT NAME : 022504_ss PLOT SCALE : 40:1

WISDOT/CADDS SHEET 41

2



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023201_ps.dgn PLOT DATE : 26-OCT-2016 07:59 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

NO SIGNS ON THIS SHEET

N. 124th STREET

WATERTOWN PLANK ROAD

98TU 99TU 100TU 101TU 102TU 103TU

N

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

WATERTOWN PLK RD
AT N. 124th STREET

SHEET 2 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023202_ps.dgn PLOT DATE : 26-OCT-2016 07:59 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

N

NO SIGNS ON THIS SHEET

N. 117th STREET

N. 116th STREET

ONLY

ONLY

WATERTOWN PLANK 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

PROPOSED LIGHT OR SIGNAL POLE

(XXX) DENOTES SIGN NUMBER

ESTR EXISTING SIGN TO REMAIN

WATERTOWN PLK RD
AT N. 116th STREET

SHEET 3 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

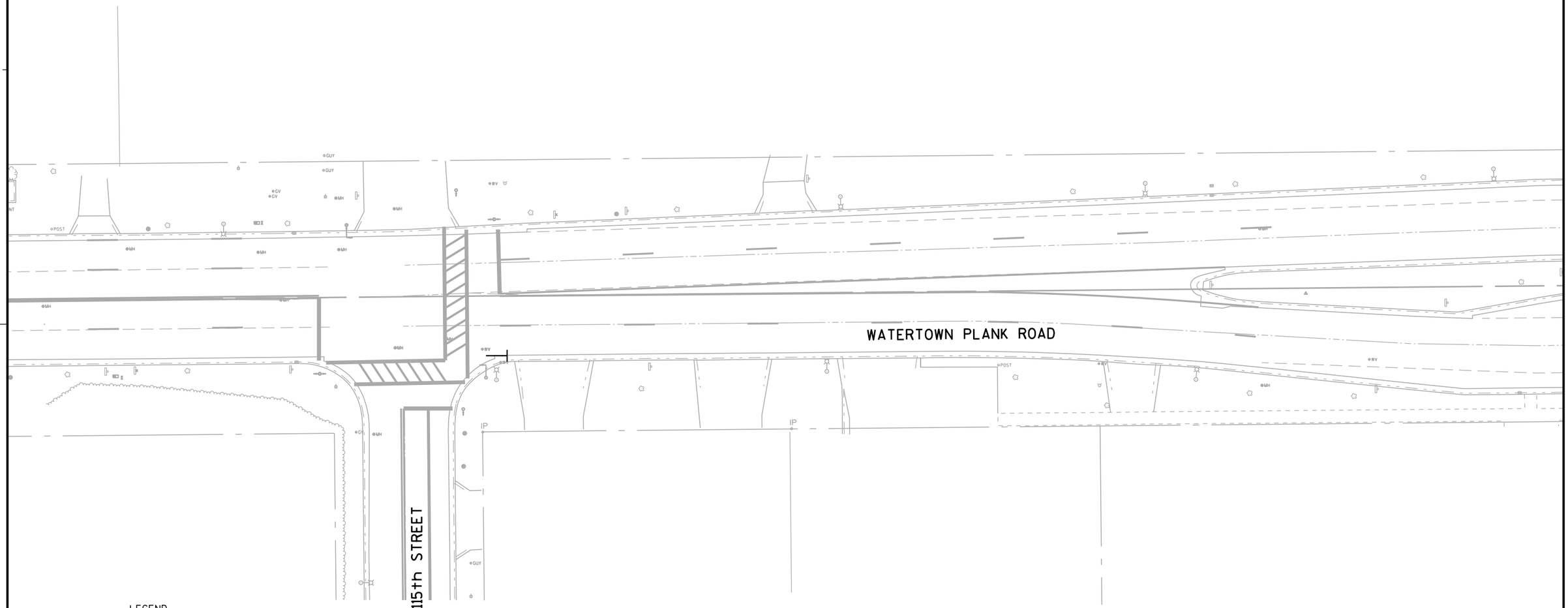
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2

2

NO SIGNS ON
THIS SHEET

N



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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

WATERTOWN PLK RD
AT N. 115th STREET

SHEET 4 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023204_ps.dgn PLOT DATE : 26-OCT-2016 08:00 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

N

W. NORTH AVENUE

422NR 423NR 424NR 425NR 426NR 427NR 428NR

N. 124th STREET

154TU 153TU 152TU 151TU

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

2-2 END COUNTY M
J4-1 (2M)

END COUNTY M
REMOVE

2-3 END COUNTY M
J4-1 (2M)

2-4 STOP
REMOVE

2-5 STOP
R1-1F (2M)
ON SIGNAL POLE

2-6 STOP
R1-1F (2M)
ON SIGNAL POLE

2-7 STOP
REMOVE

2-8 TREE CITY USA

2-9 WELCOME
MOVE
ON SIGNAL POLE

2-10 N 124th St
M1-94H
ON MAST ARM

2-11

2-12 STOP
R1-1F (2M)
ON SIGNAL POLE

2-13 STOP
REMOVE

2-14 W North Ave
M1-94H
ON MAST ARM

2-15 2-16 2-17
R4-7 (2M)
ON SIGNAL POLE

2-18 W North Ave
M1-94H
ON MAST ARM

2-19 STOP
REMOVE

2-20 STOP
R1-1F (2M)
ON SIGNAL POLE

2-21 2-22 LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50 (2M)
ON MAST ARM

2-23
R4-7 (2M)
ON SIGNAL POLE

2-24 LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50 (2M)
ON MAST ARM

2-25 LEFT TURN YIELD ON FLASHING YELLOW ARROW
R10-50 (2M)
ON MAST ARM

BUS STOP
MOVED BY OTHERS
BUS COMPANY

BUS STOP
MOVED BY OTHERS
BUS COMPANY

North Ave
D1-STREET NAME SIGN
MOVE CITY SIGN
BY OTHERS
ON LIGHT POLE

NA STR ME EET
124th ST
STREET NAME
SIGN
D1-1
MOVE - BY
OTHERS - CITY

GUY

V1 V2 V3 V4 V5 V6 V7 V8

30'

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. NORTH AVENUE
AT N. 124th STREET

SHEET 5 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023205_ps.dgn PLOT DATE : 26-OCT-2016 08:00 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

2

N

NO SIGNS ON THIS SHEET

N. 124th STREET

W. CENTER STREET

W. CENTER STREET

N. 124th STREET

180TU

179TU

15'

B

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

CENTER STREET
AT N. 124th STREET

SHEET 6 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023206_ps.dgn PLOT DATE : 26-OCT-2016 08:00 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

N

W BURLEIGH ROAD

W BURLEIGH STREET

N. 124TH STREET

524BR

525BR

526BR

527BR

528BR

529BR

205TU

3-1 REMOVE STOP SIGN
3-2 R1-1F (2M) ON SIGNAL POLE
3-3 R10-3E (2) PLACE ON SIGNAL POLE
3-4 R10-50 (2M) ON SIGNAL POLE ABOVE SIGNAL
3-5 REMOVE
3-6 R1-1F (2M) ON SIGNAL POLE
3-7 R1-1F (2M) ON SIGNAL POLE
3-8 R2-1 (2S) SPEED LIMIT 35
3-9 R10-3EL (2) PLACE ON SIGNAL POLE
3-10 R10-3ER (2) PLACE ON SIGNAL POLE
3-11 R3-2 (2S)
3-12 R1-1F (2M) ON SIGNAL POLE
3-13 REMOVE STOP SIGN
3-14 R4-7 (2M) ON SIGNAL POLE
3-15 R4-7 (2M) ON SIGNAL POLE
3-16 R4-7 (2M) ON SIGNAL POLE
3-17 R4-7 (2M) ON SIGNAL POLE
3-18 R1-1F (2M) ON SIGNAL POLE
3-19 REMOVE STOP SIGN
3-20 R10-3EL (2) PLACE ON SIGNAL POLE
3-21 R10-3ER (2) PLACE ON SIGNAL POLE
3-22 R10-3ER (2) PLACE ON SIGNAL POLE
3-23 R10-3EL (2) PLACE ON SIGNAL POLE
3-24 W Burleigh M1-94H ON SIGNAL POLE
3-25 W Burleigh M1-94H ON SIGNAL POLE
3-26 N 124th St M1-94H ON SIGNAL POLE
3-27 N 124th St M1-94H ON SIGNAL POLE
3-28 WELCOME NEIGHBORHOOD WATCH ON LIGHT POLE MOVE

N 124th St / Burleigh St
D1-STREET NAME SIGN
MOVE BY OTHERS - CITY

BUS STOP
MOVE BY OTHERS
BUS COMPANY

LEFT TURN YIELD ON FLASHING YELLOW ARROW

REMOVE

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XX-X) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. BURLEIGH STREET
AT N. 124th STREET

SHEET 7 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

2

N

4-18 R10-3EL (2) PLACE ON SIGNAL POLE

REMOVE

4-17 R10-3ER (2) PLACE ON SIGNAL POLE

REMOVE

4-16 R1-1F (2M) ON SIGNAL POLE

REMOVE

4-15 TRUCKS ENTER HERE

MOVE STEEL POSTS

4-14 R10-3ER (2) PLACE ON SIGNAL POLE

REMOVE

4-13 R10-3EL (2) PLACE ON SIGNAL POLE

REMOVE

4-10 R2-1 (2S)

SPEED LIMIT 35

REMOVE

4-11 R7-1D (2S) ON LIGHT POLE

NO PARKING ANY TIME

REMOVE

4-9 R1-1F (2M) ON SIGNAL POLE

MOVE BY OTHERS BUS COMPANY

BUS STOP

REMOVE

4-8 R1-1F (2M) ON SIGNAL POLE

REMOVE

4-12 R4-7 (2M) ON SIGNAL POLE

V6 V1 V4

537BR 538BR 539BR 540BR 541BR 542BR 543BR

4-19 REMOVE

4-20 R1-1F (2M) ON SIGNAL POLE

To 117th St

DI MOVE BY OTHER - CITY

REMOVE

4-6 R10-3ER (2) PLACE ON SIGNAL POLE

4-5 R4-7 (2M) ON SIGNAL POLE

V2 V5 V3

W. BURLEIGH STREET

W. BURLEIGH STREET

4-1 R10-3ER (2) PLACE ON SIGNAL POLE

REMOVE

4-2 R10-3EL (2) PLACE ON SIGNAL POLE

REMOVE

4-4 R4-7 (2M) ON SIGNAL POLE

REMOVE

4-7 R10-3ER (2) PLACE ON SIGNAL POLE

REMOVE

4-3 R1-1F (2M) ON SIGNAL POLE

REMOVE

NA RET STR MET

119th St

STREET NAME SIGNS MOVED BY OTHERS (CITY)

N. 119th STREET

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
- PROPOSED LIGHT OR SIGNAL POLE
- (X-XX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. BURLEIGH ST
AT N. 119th STREET

SHEET 8 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023208_ps.dgn PLOT DATE : 26-OCT-2016 08:00 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

N

NO SIGNS ON
THIS SHEET

543BR 544BR 545BR 546BR 547BR 548BR 549BR

W. BURLEIGH STREET

IH 41

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. BURLEIGH STREET
AT IH 41

SHEET 9 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023209_ps.dgn PLOT DATE : 26-OCT-2016 08:00 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

NO SIGNS ON THIS SHEET

N

IH 41

549BR

W. BURLEIGH STREET

V1 V3 V7 V8 V9 V

25'

45'

SIGN

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. BURLEIGH STREET
AT IH 41

SHEET 10 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023210_ps.dgn PLOT DATE : 26-OCT-2016 08:01 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

2

NO SIGNS ON THIS SHEET

N

W. BURLEIGH STREET

N. 114th STREET

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. BURLEIGH STREET
AT N. 114th STREET

SHEET 11 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023211_ps.dgn PLOT DATE : 26-OCT-2016 08:01 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

NO SIGNS ON THIS SHEET

N

2

W. BURLEIGH STREET

GV

MH

SIGN

N. 112th STREET

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
- PROPOSED LIGHT OR SIGNAL POLE
- (XXX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. BURLEIGH STREET
AT N. 112th STREET

SHEET 12 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023212_ps.dgn PLOT DATE : 26-OCT-2016 08:01 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

2

N

W. HAMPTON AVENUE

IH 41/USH 45

618HP 619HP 620HP 621HP 622HP

292 291 290

5-1 R1-1F (2M) WOOD POST

5-2 R1-1F (2M) ON SIGNAL POLE

5-3 R3-18 ON LIGHT POLE

REMOVE

5-4 W Hampton Ave M1-94H ON MAST ARM

5-6 W3-3 (2M) MOVE

5-7 J3-1 MOVE

5-8 R4-7 (2S) ON SIGNAL POLE

5-9 R4-7 (2S) ON LIGHT POLE

5-10 R1-1F (2M) ON SIGNAL POLE

5-11

5-12

5-13

5-14

5-15

5-17 R3-1 (2S) ON SIGNAL POLE

5-18 R6-2L (2S) ON SIGNAL POLE

5-19 REMOVE

5-20

5-21 R1-1F (2M) ON SIGNAL POLE

5-22

5-23 R10-50 (2M) ON SIGNAL ARM

R1-2 ESTR

R6-2R ESTR

R5-1 (3)

R5-1A (3) 2' MOUNTING HEIGHT

W12-1D ESTR

J2-1 ESTR

J3-2 ESTR

W3-8 ESTR

R1-2 ESTR

W3-8 ESTR

J2-1 ESTR

J3-1 MOVE

W3-3 (2M) MOVE

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
- PROPOSED LIGHT OR SIGNAL POLE
- (X-XX) DENOTES SIGN NUMBER
- ESTR EXISTING SIGN TO REMAIN

W. HAMPTON AVE AT IH 41

SHEET 13 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023213_ps.dgn PLOT DATE : 26-OCT-2016 08:01 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 40:1

LEGEND

- PROPOSED SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE

N

Capitol Dr	1/4
Burleigh St	1 1/4
North Ave	2 1/2

E8-1
TYPE I SIGN
ESTR

S-40-456 DMS SIGN BRIDGE
PROPOSED SEE FTMS PLAN

EMERGENCY STOPPING ONLY
R8-7(5)
ESTR

IH 41 (SB)/USH 45 (SB)

IH 41 (NB)/USH 45 (NB)

USH 45

USH 45

256 258 260 262 264 266 268 270

S-40-238

NORTH 45 MILE 44 .8
ESTR

SOUTH 45 MILE 44 .8
ESTR

EMERGENCY STOPPING ONLY
R8-7(5)
ESTR

Butler
EXIT 45
TYPE I SIGN
REUSE STEEL POSTS
ESTR

LITTLE MENOMONEE R.

Hampton Ave	1/4
Silver Spring Dr	1 1/4
175 NORTH	2 1/4

E8-1
TYPE I SIGN
ESTR

CRASH INVESTIGATION SITE
EXIT 45
TYPE I SIGN
ESTR

SHEET 14 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE	S-40-456 LOCATION	SHEET	E

FILE NAME : W:\PDS\C3D\CAD\10603312\90\Sign\023214_ps.dgn PLOT DATE : 26-OCT-2016 08:01 PLOT BY : MSCBXD PLOT NAME : PLOT SCALE : 100:1

2

16"x16" TEMP. FLAGS
NEW TRAFFIC PATTERN
6-22
6-23
W23-2(2S)

6-19
LEFT TURN YIELD ON GREEN
REMOVE ON SIGNAL POLE

16"x16" TEMP. FLAGS
STOP
R1-1 (3)
6-24
6-25
CROSS TRAFFIC DOES NOT STOP
W4-4P (2M)
6-26
6-27

WRONG WAY
R5-1A
REPLACED UNDER 1360-09-71

PLANT ENTRANCE
W54-56
REPLACED UNDER 1360-09-71

16"x16" TEMP. FLAGS
NEW TRAFFIC PATTERN
6-18
W23-2(2S)

6-21
ONE WAY
R6-2-L (2S)

ONE WAY
6-20
R6-2-R (2S)

116+00
117+00
N. 118TH ST
118+00
119+00
120+00
121+00
11+00
10+00
18+00

CAPITOL DRIVE WB

CAPITOL DRIVE EB

16"x16" TEMP. FLAGS
STOP
R1-1 (3)
6-10
6-11
6-12
6-13
CROSS TRAFFIC DOES NOT STOP
W4-4P (2M)
6-14
6-15
6-16
6-17

125'

16"x16" TEMP. FLAGS
PLANT ENTRANCE
W54-56
ESTR
NEW TRAFFIC PATTERN
6-1
W23-2(2S)

6-6
LEFT TURN YIELD ON GREEN
REMOVE ON SIGNAL POLE

ONE WAY
6-9
R6-2-R (2S)

ONE WAY
6-8
R6-2-L (2S)

16"x16" TEMP. FLAGS
STOP
R1-1 (3)
6-2
6-3
CROSS TRAFFIC DOES NOT STOP
W4-4P (2M)
6-4
6-5

NEW TRAFFIC PATTERN
6-7
W23-2(2S)

LEGEND:
(XX) YEAR OF SIGN
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
(XX) DENOTES SIGN NUMBER
(XX) INDICATES SIGN SIZE
ESTR EXISTING SIGN TO REMAIN

IH 41/USH 45

IH 41/USH 45

SHEET 15 OF 15

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PERMANENT SIGNING	SHEET 88	E



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TEMPORARY/PRE-CONSTRUCTION TRAFFIC SIGNAL PROJECT OVERVIEW	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\023901_sp_tmp_po.dgn PLOT DATE : 27-OCT-2016 22:08 PLOT BY : MSCDYB PLOT NAME : 023901_sp_tmp_po PLOT SCALE : 2000:1

LEGEND

- CLASS 4 WOOD POLE
- CABLE - OVERHEAD
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" WALK INDICATOR 12"
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD

LEGEND (CON'T)

- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (Y) YELLOW ARROW
- (G) GREEN ARROW

NOTE: GRAYSHADE REPRESENTS EXISTING.

N

W. NORTH AVENUE

N. 124TH STREET

425NR

426NR

427NR

428NR

150TU 151TU 152TU 153TU 154TU 155TU 156TU

WP1 WP2 WP3 WP4 WP5 WP6 WP7 WP8 WP9 WP10 WP11

SB1 SB2 SB3 SB4 SB5 SB6 SB8 SB9 SB10 SB11 SB12

PB2 PB3

CB1

R/W

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. CITY OF WAIWATOSA ELECTRICAL (414-302-8876) SHALL BE NOTIFIED 5 WORKING DAYS BEFORE SWITCH TO TEMPORARY TRAFFIC SIGNALS.
4. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
5. MAINTAIN 12 FOOT VERTICAL CLEARANCE BETWEEN SIDEWALK AND OVERHEAD LINES.
6. SPAN WIRES SHALL BE USED TO OPERATE THE EXISTING TRAFFIC SIGNAL POLES AND STANDARDS IF NECESSARY.

SUMMARY	
WOOD POLES	11

TRAFFIC CONTROL SIGNAL

W. NORTH AVENUE &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

REGION CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\023911_sp_tmp.dgn PLOT DATE : 27-OCT-2016 22:10 PLOT BY : MSCDYB PLOT NAME : 023911_sp_tmp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

SEQUENCE OF OPERATION

		Ø1							Ø2							Ø3							Ø4							FLASH
			CLEAR TO							CLEAR TO							CLEAR TO							CLEAR TO						
	HEAD NUMBERS	R/W	**						R/W	**						R/W	**						R/W	**						
Ø1	2,4,6,8	G	Y	-					-	-	-					-	-	-					-	-	-					-
Ø2	1,2,3,4,5,6,7,8	R	R	R					G	Y	R					R	R	R					R	R	R					R
Ø3	6,8,10,12	-	-	-					-	-	-					G	Y	-					-	-	-					-
Ø4	9,10,11,12,13,14,15,16	R	R	R					R	R	R					R	R	R					G	Y	R					R
RING 1 Ø2P	19,20	D	D	D					*	D	D					D	D	D					D	D	D					
Ø4P	17,18	D	D	D					D	D	D					D	D	D					*	D	D					

BARRIER

DETECTOR LOGIC

DETECTOR NUMBER	DETECTOR INPUT	DETECTOR OPERATION			PHASE CALLED	PHASE EXTENDED	DETECTOR DISCONNECT PHASE	CALLING DELAY	EXTENSION STRETCH	SIZE	NUMBER OF TURNS
		CALLS AND EXTENDS	CALLS ONLY	EXTENDS ONLY							

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1	X		MAX.	X
2	X		MAX.	X
3	X		MAX.	X
4	X		MAX.	X

N

TYPE OF INTERCONNECT COMMUNICATION	
NONE	X
TBC	
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	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTOR	

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

** 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

CHART 1

PHASE ON	NONCONFLICTING PHASE ALLOWED TO TIME CONCURRENTLY	PHASES IN CONFLICT WITH PHASE ON
1	NONE	2,3,4
2	NONE	1,3,4
3	NONE	1,2,4
4	NONE	1,2,3

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 AT LEFT.)

N. 124TH STREET &
W. NORTH AVENUE
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

SIGNAL NO.

CONTROLLER TYPE: EXIST

DATE 08/16 PAGE NO. 2 OF 2

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TEMPORARY SEQUENCE OF OPERATIONS	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 UNDER PERMIT TO LOCAL MUNICIPALITY
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT
- WORK AREA
- TRAFFIC SIGNAL EQUIPMENT TO BE COVERED AND DE-ENERGIZED
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER

LEGEND (CON'T)

- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW
- STOP SIGN

NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

WISCONSIN
JASON R. MATSON
37111
V., WAUKESHA, WI
PROFESSIONAL ENGINEER
12/31/2016

N

USH 18 (W. BLUEMOUND ROAD)

STH 181 (GLENVIEW AVENUE)

241BL 242BL 243BL 244BL

R/W

NOTICE TO CONTRACTOR

TRAFFIC SIGNAL CABLE, TRAFFIC SIGNAL WIRE, VIDEO DETECTION CABLE, AND EVP DETECTOR CABLE RE-ROUTING TO SB5, SB6, AND SB7 MUST BE COMPLETE PRIOR TO BEGINNING STAGE 1 CONSTRUCTION.

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. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.

STRUCTURE NUMBERS

SB2 = S-40-1347
SB6 = S-40-1348
SB10 = S-40-1341
SB13 = S-40-1342

TRAFFIC CONTROL SIGNAL
USH 18 (W. BLUEMOUND ROAD) &
STH 181 (GLENVIEW AVENUE)
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1379

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

PAGE 1 OF 3

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	PRE-CONSTRUCTION TRAFFIC SIGNAL PLAN	SHEET E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\023920_sp_tmp.dgn PLOT DATE : 31-OCT-2016 05:27 PLOT BY : mscd1s PLOT NAME : 023920_sp_tmp 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 UNDER PERMIT TO LOCAL MUNICIPALITY
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- V1 COMMUNICATIONS VAULT
- WORK AREA
- TRAFFIC SIGNAL EQUIPMENT TO BE COVERED AND DE-ENERGIZED
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER

LEGEND (CON'T)

- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED ARROW
- FY Y YELLOW ARROW
- G GREEN ARROW
- S STOP SIGN

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

N

USH 18 (W. BLUEMOUND ROAD)

STH 181 (GLENVIEW AVENUE)

241BL 242BL 243BL 244BL

NOTICE TO CONTRACTOR

TRAFFIC SIGNAL CABLE, TRAFFIC SIGNAL WIRE, VIDEO DETECTION CABLE, AND EVP DETECTOR CABLE RE-ROUTING TO SB5, SB6, AND SB7 MUST BE COMPLETE PRIOR TO BEGINNING STAGE 1 CONSTRUCTION.

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. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.

STRUCTURE NUMBERS

SB2 = S-40-1347
SB6 = S-40-1348
SB10 = S-40-1341
SB13 = S-40-1342

TRAFFIC CONTROL SIGNAL
USH 18 (W. BLUEMOUND ROAD) &
STH 181 (GLENVIEW AVENUE)
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1379

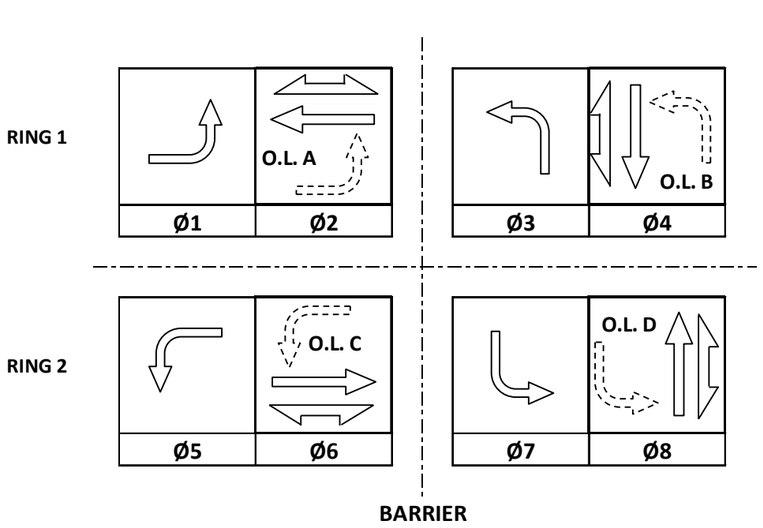
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1	SHEET E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\023921_sp_tmp.dgn PLOT DATE : 31-OCT-2016 05:29 PLOT BY : mscd1s PLOT NAME : 023921_sp_tmp PLOT SCALE : 40:1

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



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

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	X
IN TRAFFIC CABINET	
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)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
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)								
CALLED PHASE								
CALL OPTION								
DELAY TIME								
EXTENTION OPTION								
EXTEND TIME								
USE ADDED INITIAL								
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.
2. SEE CONTROLLER PROGRAMMING FOR PROTECTED ONLY OPERATION OF PHASE 3 AND PHASE 5.
3. PHASE 4 AND PHASE 6 PEDESTRIAN MOVEMENTS SHALL BE OMITTED BY WISDOT FOR STAGE 1.

USH 18 & STH 181
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY COUNTY

SIGNAL NO: S40-1379 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 10/2016 PAGE NO. 3 OF 3

USH 18 & STH 181

2

PROJECT ID:	1060-39-90
INTERSECTION:	USH 18 & STH 181 (GLENVIEW AVENUE)

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

FROM	TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON	OTHER
CB1	SB1	12	11	RED	ORG	GRN								
			19				RED/BLK	ORG/BLK		BLK/WHT				
			27								BLK	BLU		
			B										WHT/BLK	
CB1	SB2	12	17	RED	ORG	GRN								
			18	RED	ORG	GRN								
			20				RED/BLK	ORG/BLK		BLK/WHT				
CB1	SB3	7	21								BLK	BLU		
			B										WHT/BLK	
CB1	SB4	15	1	RED	ORG	GRN								
			9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			28								BLK	BLU		
			B										WHT/BLK	
CB1	SB5	7	B										WHT/BLK	
CB1	SB6	12	7	RED	ORG	GRN								
			8	RED	ORG	GRN								
			10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
CB1	SB7	7	22								BLK	BLU		
			B										WHT/BLK	
CB1	SB8	7	23								BLK	BLU		
			B										WHT/BLK	
CB1	SB9	12	14				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			16	RED	ORG	GRN								
CB1	SB10 (CABLE 1)	12	4				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			6	RED	ORG	GRN								
CB1	SB10 (CABLE 2)	12	12	RED	ORG	GRN								
			13	RED	ORG	GRN								
			15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			24								BLK	BLU		
			25								RED/WHT	GRN/WHT		
			B										WHT/BLK	
CB1	SB11	7	B										WHT/BLK	
CB1	SB12	7	B										WHT/BLK	
CB1	SB13	12	2	RED	ORG	GRN								
			3	RED	ORG	GRN								
			5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
CB1	SB14	7	26								BLK	BLU		
			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.

GRAY SHADED ROWS INDICATE REQUIRED CHANGES DICTATED BY PLAN REVISIONS. ALL OTHER ROWS ARE CONSIDERED EXISTING CABLING. GRAY SHADED ROWS MUST BE COMPLETED PRIOR TO ANY ROADWAY WORK IN THE SOUTHWEST QUADRANT OF THE INTERSECTION.

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER
10/31/2016

(CONTINUED ON NEXT SHEET)

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	TEMPORARY CABLE ROUTING	SHEET: 95	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\023923_sp_tmp_cr.ppt PLOT DATE : 10/31/2016 6:24:04 AM PLOT BY : MSCD1S PLOT NAME : 023923_sp_tmp_cr#› 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	SB7
SB7	SB8
SB8	SB9
SB9	SB10
SB10	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP **	
FROM	TO
PB1	SB1
PB2	SB2
PB3	SB3
PB4	SB4
PB5	SB6
PB6	SB6
PB7	SB7
PB8	SB8
PB9	SB10
PB10	SB11
PB11	SB13
PB12	SB13
PB13	SB14

VIDEO DETECTION CABLE	
FROM	TO
CB1	V1 (SB6)
CB1	V2 (SB13)
CB1	V3 (SB2)
CB1	V4 (SB10)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB2 (HEAD C)
CB1	SB6 (HEAD A)
CB1	SB10 (HEAD D)
CB1	SB13 (HEAD B)

*RE-INSTALL EXISTING EQUIPMENT GROUNDING CONDUCTORS TO RE-ESTABLISH THE COMPLETE GROUNDING FROM BASE TO BASE WHERE THE EXISTING CIRCUIT IS DISTURBED BY CONSTRUCTION. REUSE EXISTING WIRING WHERE POSSIBLE. CHART SHOWN FOR INFORMATION ONLY.

**RE-INSTALL EXISTING PULL BOX BONDING JUMPER FOR ALL EXISTING PULL BOXES WHERE THE EXISTING BONDING JUMPER IS DISTURBED BY CONSTRUCTION. REUSE EXISTING WIRING WHERE POSSIBLE. CHART SHOWN FOR INFORMATION ONLY.

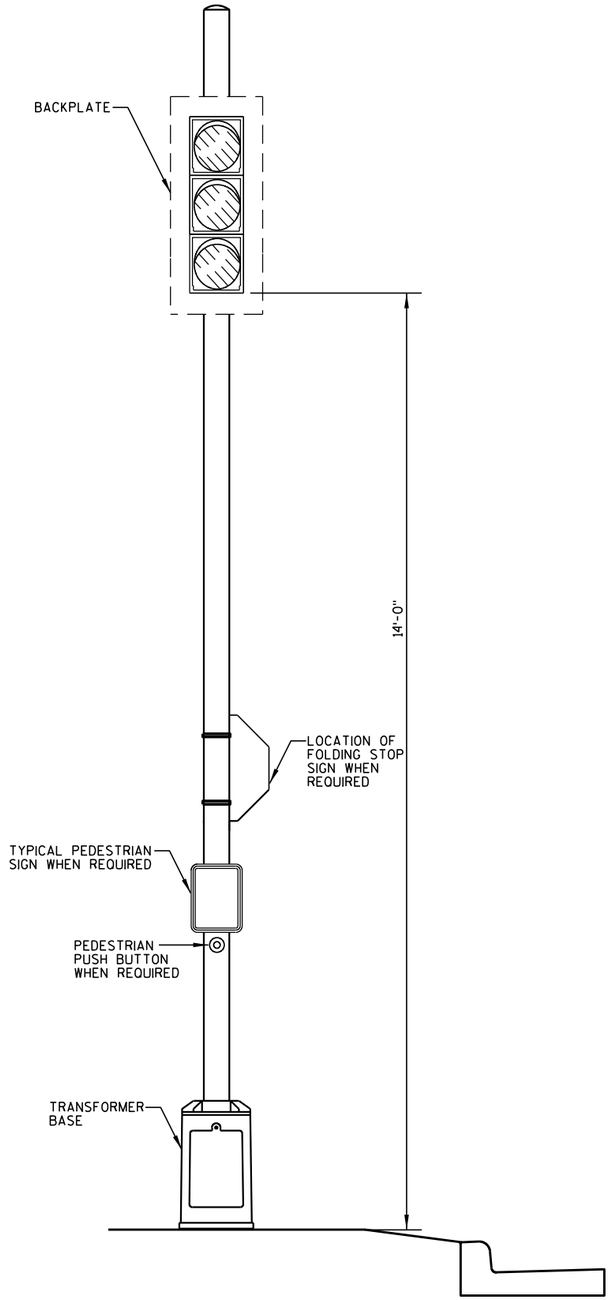
GRAY SHADED ROWS INDICATE REQUIRED CHANGES DICTATED BY PLAN REVISIONS. ALL OTHER ROWS ARE CONSIDERED EXISTING CABLING.
GRAY SHADED ROWS MUST BE COMPLETED PRIOR TO ANY ROADWAY WORK IN THE SOUTHWEST QUADRANT OF THE INTERSECTION.



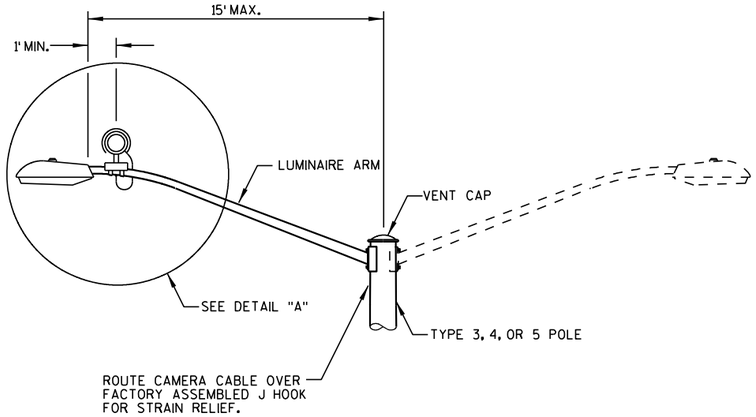
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL PROJECT OVERVIEW	SHEET	E

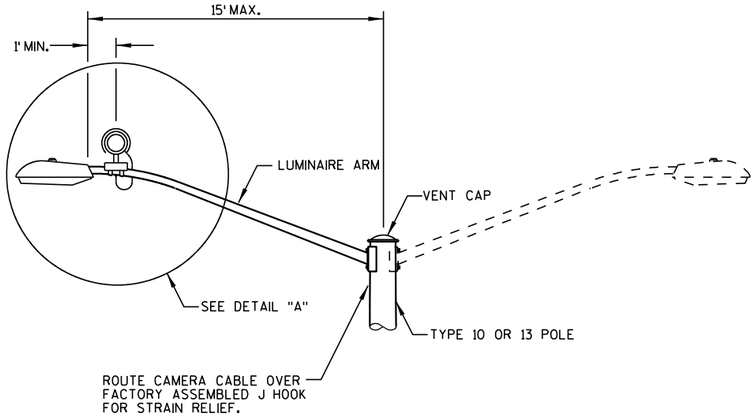
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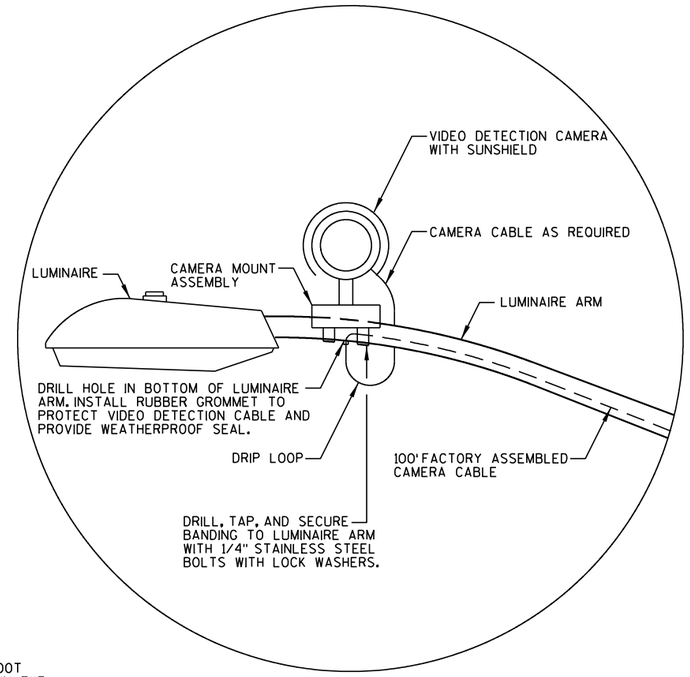
2



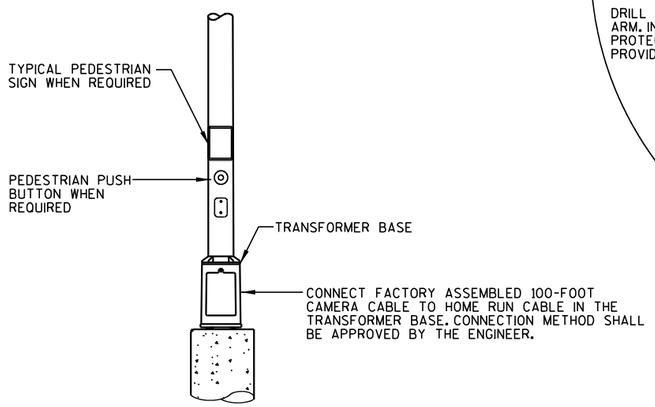
FAR INDICATIONS
TYPE 2 OR TYPE 3 POLE, TYPE 2 CONCRETE BASE



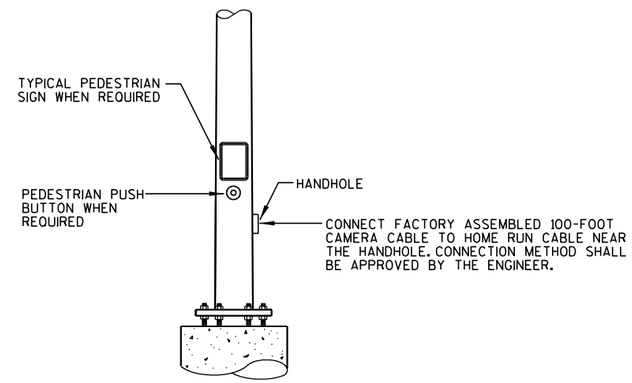




DETAIL "A"



TYPE 3, 4, OR 5
MOUNTING CONFIGURATION

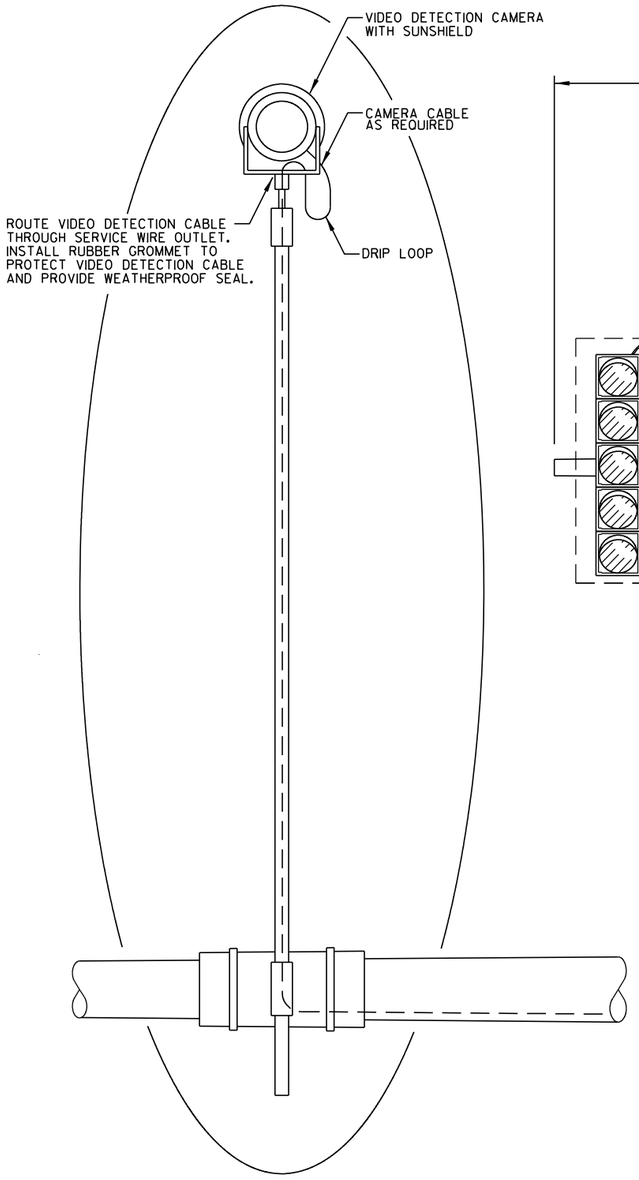


TYPE 10 OR 13
MOUNTING CONFIGURATION

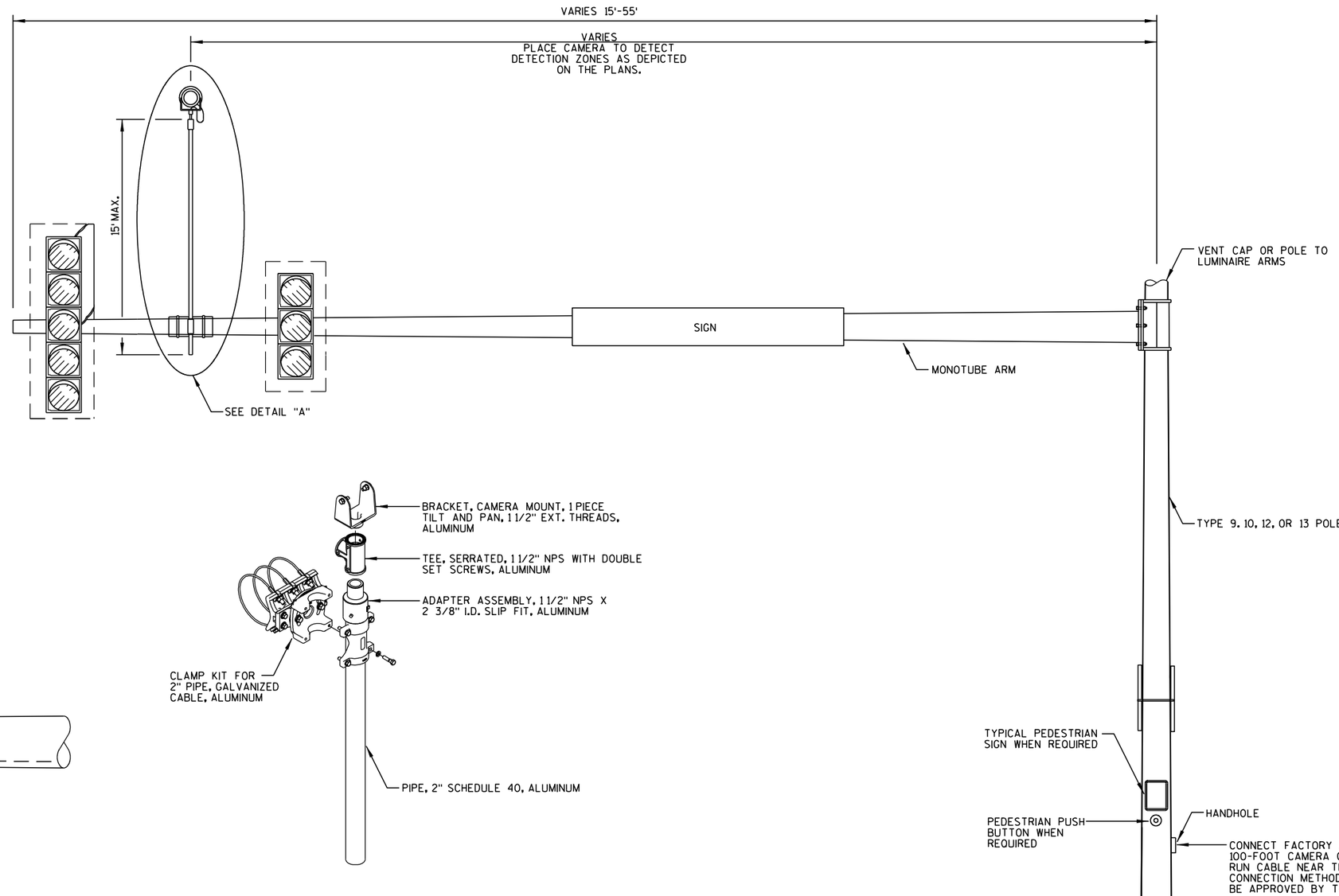
VIDEO DETECTION MOUNTING DETAIL
(LUMINAIRE ARM MOUNT)

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL DETAILS	SHEET	E

2



DETAIL "A"

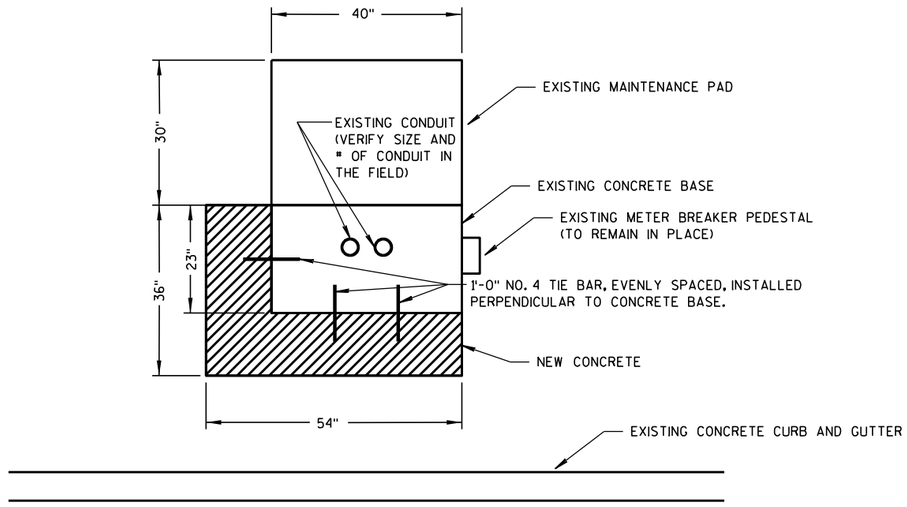


EXTENSION ARM

VIDEO DETECTION MOUNTING DETAIL (MAST ARM MOUNT)

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL DETAILS	SHEET	E

2



TOP VIEW

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 APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 9 BASE. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

DEPTH OF NEW CONCRETE BASE SHALL MATCH DEPTH OF EXISITNG CONCRETE BASE.

ANCHOR TIE BARS INTO DRILLED HOLE WITH AN EPOXY.

CONCRETE CONTROL CABINET BASE TYPE 9 MODIFIED

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" / WALK INDICATOR 12"
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD

LEGEND (CON'T)

- (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 ITEMS TO BE REMOVED.

N

W. NORTH AVENUE

N. 124TH STREET

425NR

426NR

427NR

428NR

150TU 151TU 152TU 153TU 154TU 155TU 156TU

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11 SB12

CB1

PB1 PB2 PB3

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 TO BE REMOVED BY THE CONTRACTOR.
4. EXISTING TRAFFIC SIGNAL EQUIPMENT TO REMAIN IN PLACE UNTIL PROPOSED TRAFFIC SIGNAL IS OPERATIONAL.

TRAFFIC CONTROL SIGNAL
W. NORTH AVENUE &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 3

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024041_sp.dgn PLOT DATE : 27-OCT-2016 22:17 PLOT BY : MSCDYB PLOT NAME : 024041_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

LEGEND

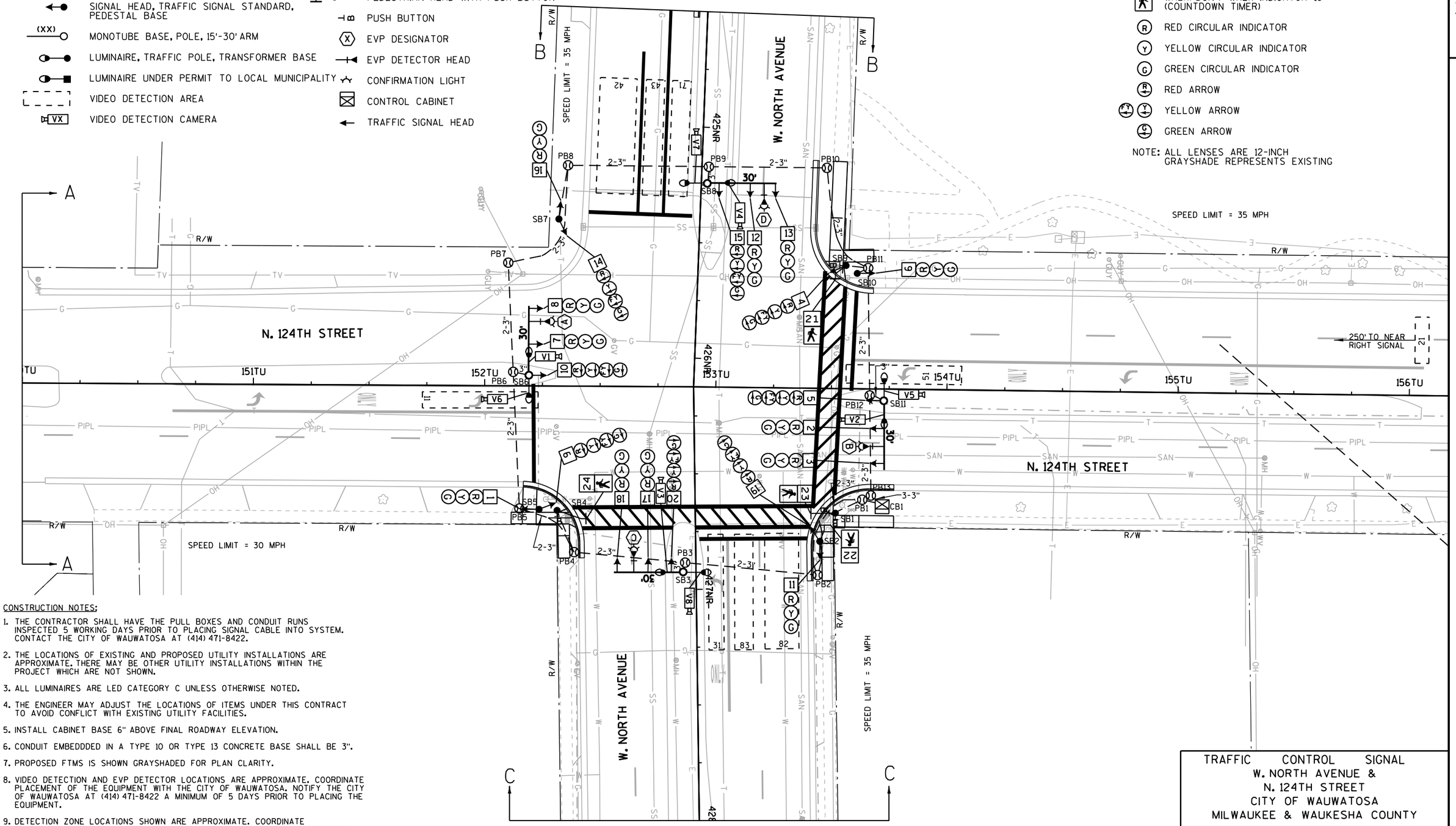
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD

LEGEND (CON'T)

- 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

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING

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 CITY OF WAUWATOSA AT (414) 471-8422.
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. INSTALL CABINET BASE 6" ABOVE FINAL ROADWAY ELEVATION.
6. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
7. PROPOSED FTMS IS SHOWN GRAYSHADED FOR PLAN CLARITY.
8. VIDEO DETECTION AND EVP DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH THE CITY OF WAUWATOSA. NOTIFY THE CITY OF WAUWATOSA AT (414) 471-8422 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
9. DETECTION ZONE LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES WITH THE CITY OF WAUWATOSA. NOTIFY THE CITY OF WAUWATOSA AT (414) 471-8422 A MINIMUM OF 5 DAYS PRIOR TO SETTING DETECTION ZONES.

TRAFFIC CONTROL SIGNAL
W. NORTH AVENUE &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

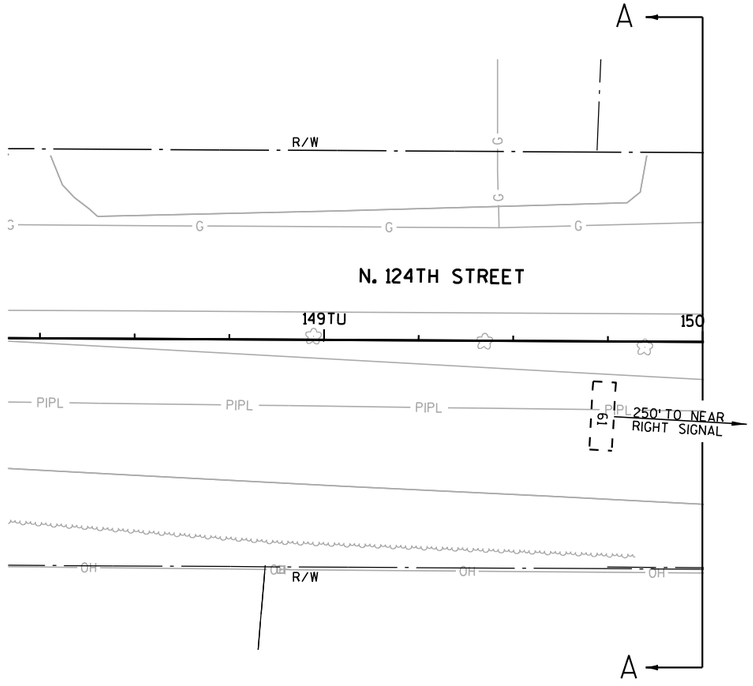
MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

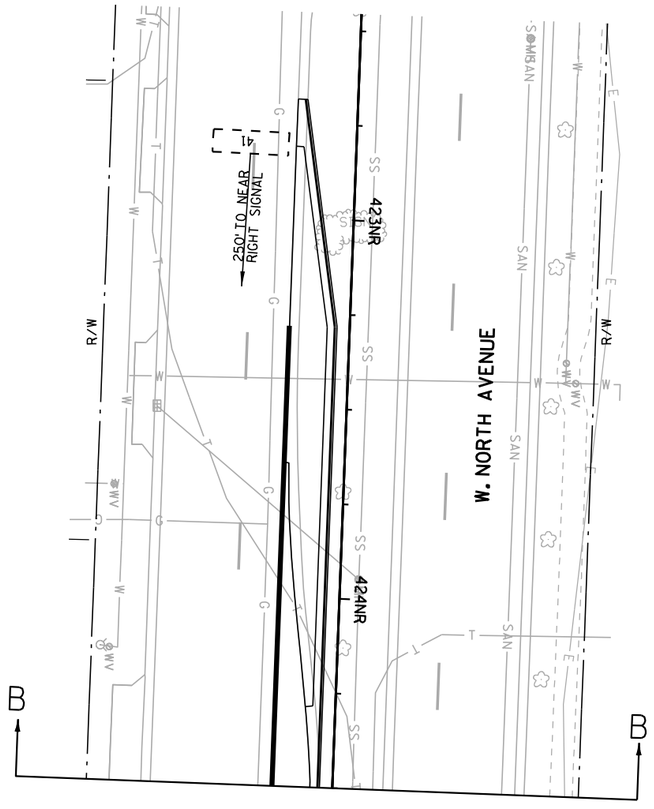
PAGE 1 OF 3

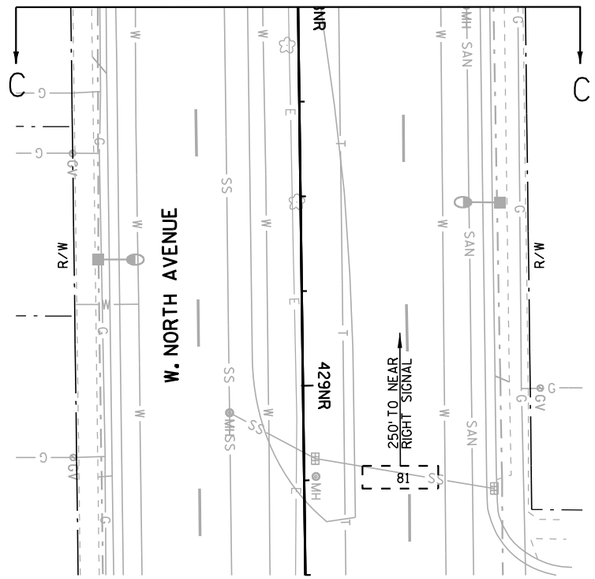
PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024045_sp.dgn PLOT DATE : 27-OCT-2016 22:17 PLOT BY : MSCDYB PLOT NAME : 024045_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42







N

TRAFFIC CONTROL SIGNAL
W. NORTH AVENUE &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

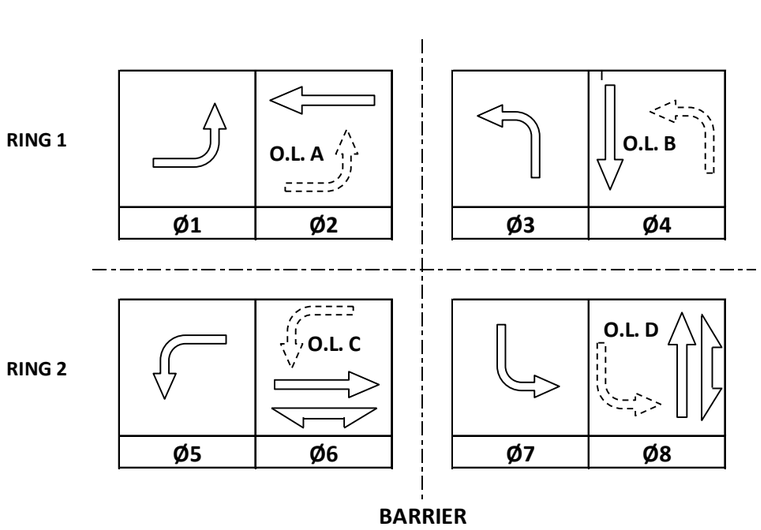
PAGE 2 OF 3

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024046_sp.dgn PLOT DATE : 27-OCT-2016 22:17 PLOT BY : MSCDYB PLOT NAME : 024046_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	4,5	-
Ø2	6,7,8	R
Ø3	14,15	-
Ø4	16,17,18	R
Ø5	9,10	-
Ø6	1,2,3	R
Ø7	19,20	-
Ø8	11,12,13	R
Ø2P		
Ø4P		
Ø6P	23,24	
Ø8P	21,22	
OLA	4,5	R ←
OLB	14,15	R ←
OLC	9,10	R ←
OLD	19,20	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		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)	
RADIO	X
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*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	31	42	51	71	82		
ASSIGNED PHASE	1	3	4	5	7	8		
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH		
SWITCH								
EXTEND								
DELAY			X			X		

DETECTOR INPUT	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21	41	43	61	81	83		
ASSIGNED PHASE	2	4	4	6	8	8		
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH		
SWITCH								
EXTEND		X			X			
DELAY								

DETECTOR INPUT	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)								
ASSIGNED PHASE								
OPERATION MODE								
SWITCH								
EXTEND								
DELAY								

N. 124TH STREET & W. NORTH AVENUE
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY
SIGNAL NO: CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 08/16 PAGE NO. 3 OF 3

W. NORTH AVENUE & N. 124TH STREET

2

PROJECT ID:	1060-39-90
INTERSECTION:	N. 124TH STREET & W. NORTH AVENUE

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	7	23								BLK	BLU	
		B										WHT/BLK
SB2	12	11	RED/BLK	ORG/BLK	GRN/BLK							
		19				RED	ORG	GRN	BLK/WHT			
		22								BLK	BLU	
		B										WHT/BLK
SB3	12	17	RED	ORG	GRN							
		18	RED	ORG	GRN							
		20				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB4	7	B										WHT/BLK
SB5	12	1	RED	ORG	GRN							
		9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		24								BLK	BLU	
SB6	12	7	RED	ORG	GRN							
		8	RED	ORG	GRN							
		10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB7	12	14				RED	ORG	GRN	BLK/WHT			
		16	RED/BLK	ORG/BLK	GRN/BLK							
SB8	12	12	RED	ORG	GRN							
		13	RED	ORG	GRN							
		15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB9	12	4				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		21								BLK	BLU	
		B										WHT/BLK
SB10	12	6	RED	ORG	GRN							
SB11	12	2	RED	ORG	GRN							
		3	RED	ORG	GRN							
		5				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.

(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	SB11
SB11	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	SB2
PB3	SB3
PB4	SB4
PB5	SB5
PB6	SB6
PB7	SB7
PB8	SB7
PB9	SB8
PB10	SB10
PB11	SB10
PB12	SB11
PB13	CB1

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB3 (V3)
CB1	SB6 (V1)
CB1	SB8 (V4)
CB1	SB11 (V2)

LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
CB1	SB3
SB3	SB6
CB1	SB11
SB11	SB8

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB6 (HEAD A)
CB1	SB11 (HEAD B)
CB1	SB3 (HEAD C)
CB1	SB8 (HEAD D)

PAGE 2 OF 2

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024050_sp_cr.ppt PLOT DATE : 10/27/2016 11:00:34 PM PLOT BY : MSCD1S PLOT NAME : 024050_sp_cr‹#› PLOT SCALE : 1:1

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" / WALK INDICATOR 12"
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- PEDESTRIAN HEAD
- PUSH BUTTON
- PULL BOX
- PULL BOX

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.

N

W. CENTER STREET

N. 124TH STREET

177TU 178TU 179TU 180TU 181TU 182TU

CB1 PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB13

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11 SB12 SB13

2-6' X 30' 3 TURNS EACH

R/W

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.

TRAFFIC CONTROL SIGNAL
W. CENTER STREET &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY:
REVISED BY: FORWARD 45

PAGE 1 OF 1

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024051_sp.dgn PLOT DATE : 27-OCT-2016 22:19 PLOT BY : MSCDYB PLOT NAME : 024051_sp PLOT SCALE : 40:1

LEGEND

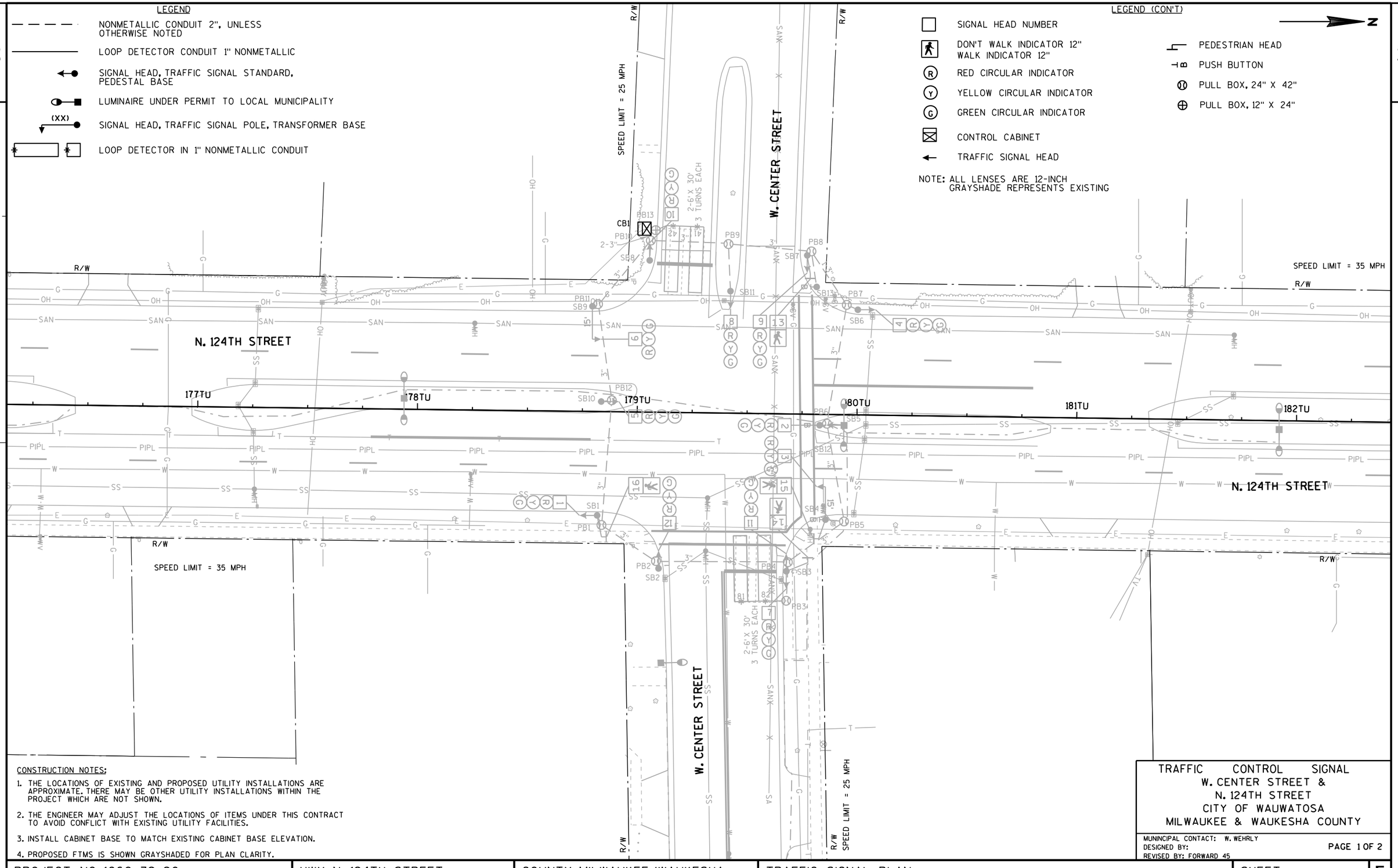
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" WALK INDICATOR 12"
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- PEDESTRIAN HEAD
- PB PUSH BUTTON
- PULL BOX, 24" X 42"
- PULL BOX, 12" X 24"

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING

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. THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH EXISTING UTILITY FACILITIES.
3. INSTALL CABINET BASE TO MATCH EXISTING CABINET BASE ELEVATION.
4. PROPOSED FTMS IS SHOWN GRAYSHADED FOR PLAN CLARITY.

TRAFFIC CONTROL SIGNAL
W. CENTER STREET &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

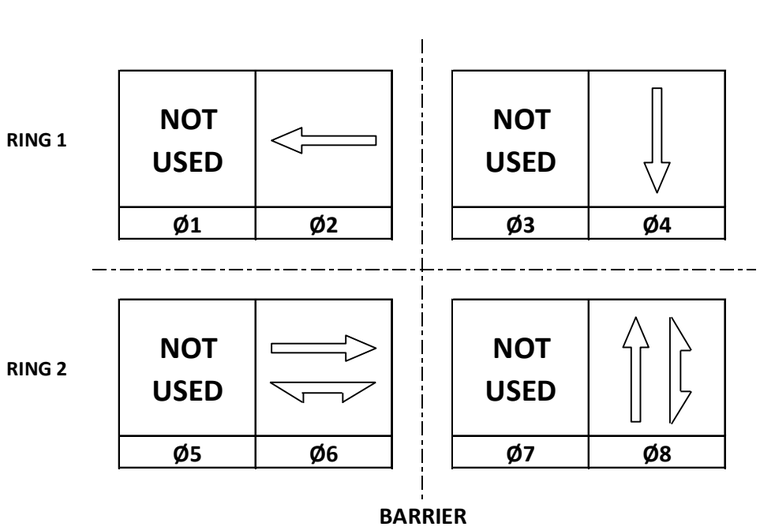
MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY:
REVISED BY: FORWARD 45

PAGE 1 OF 2

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024055_sp.dgn PLOT DATE : 27-OCT-2016 22:19 PLOT BY : MSCDYB PLOT NAME : 024055_sp PLOT SCALE : 40:1

	HEAD NUMBERS	FLASH
Ø1		
Ø2	4,5,6	R
Ø3		
Ø4	10,11,12	R
Ø5		
Ø6	1,2,3	R
Ø7		
Ø8	7,8,9	R
Ø2P		
Ø4P		
Ø6P	15,16	
Ø8P	13,14	
OLA		
OLB		
OLC		
OLD		



CONTROLLER LOGIC

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

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

TYPE OF COORDINATION	
NONE	
TBC	X
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	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	41	81						
ASSIGNED PHASE	2	4						
OPERATION MODE	VEH	VEH						
SWITCH								
EXTEND								
DELAY								

19	17	23	21	27	25	31	29	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	42	82						
ASSIGNED PHASE	4	4						
OPERATION MODE	VEH	VEH						
SWITCH								
EXTEND								
DELAY	X	X						

20	18	24	22	28	26	32	30	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

N. 124TH STREET & W. CENTER STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

SIGNAL NO: CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 08/16 PAGE NO. 2 OF 2

W. CENTER STREET & N. 124TH STREET

2

PROJECT ID:	1060-39-90
INTERSECTION:	N. 124TH STREET & W. CENTER STREET

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
SB3	12	7	RED	ORG	GRN							
		11	RED/BLK	ORG/BLK	GRN/BLK							

NOTES: NEW CONDUCTOR REQURIED DUE TO EXISTING SHARED CONDUCTORS FOR OPPOSING TRAFFIC SIGNAL INDICATIONS.

PAGE 1 OF 1

LEGEND

NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED

SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE

LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY

LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

VIDEO DETECTION AREA

VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

SIGNAL HEAD NUMBER

DON'T WALK INDICATOR 12" WALK INDICATOR 12"

(R) RED CIRCULAR INDICATOR

(Y) YELLOW CIRCULAR INDICATOR

(G) GREEN CIRCULAR INDICATOR

YELLOW ARROW

GREEN ARROW

PEDESTRIAN HEAD WITH PUSH BUTTON

PUSH BUTTON

PULL BOX, 24" X 42"

(X) EVP DESIGNATOR

EVP DETECTOR HEAD

CONTROL CABINET

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

N

W. BURLEIGH ROAD

N. 124TH STREET

W. BURLEIGH STREET

525BR

526BR

527BR

528BR

203TU 204TU 205TU 206TU 207TU 208TU

V1 V2 V3

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 TO BE REMOVED BY THE CONTRACTOR.
4. CB1 AND SB8 CONCRETE BASES TO REMAIN IN PLACE.

TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY:
REVISED BY: FORWARD 45

PAGE 1 OF 1

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024061_sp.dgn PLOT DATE : 27-OCT-2016 22:21 PLOT BY : MSCDYB PLOT NAME : 024061_sp PLOT SCALE : 40:1

LEGEND

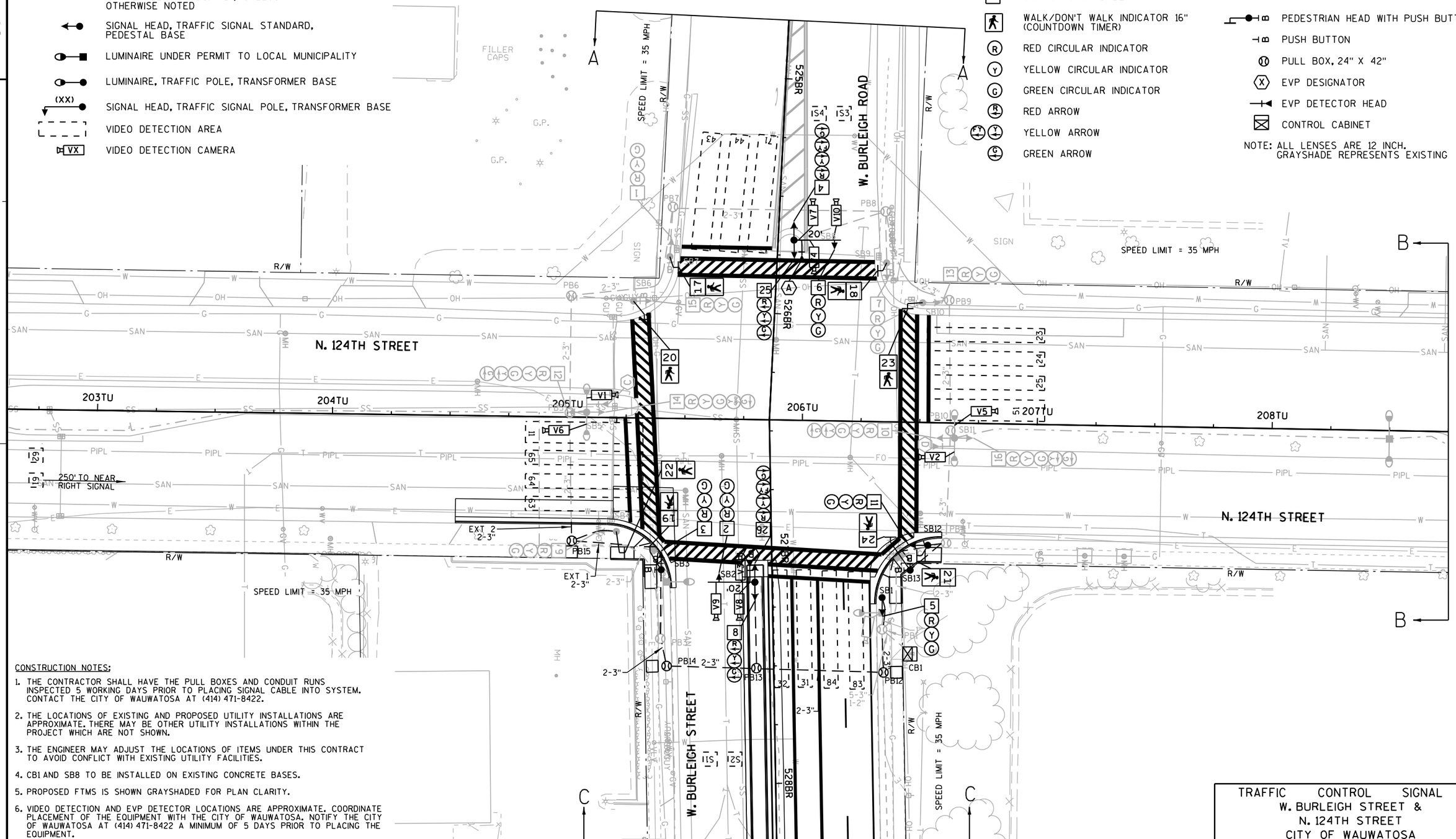
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA

LEGEND (CON'T)

- 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
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- PULL BOX, 24" X 42"
- X EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONTROL CABINET

NOTE: ALL LENSES ARE 12 INCH. GRAYSHADE REPRESENTS EXISTING

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 CITY OF WAUWATOSA AT (414) 471-8422.
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 AND SB8 TO BE INSTALLED ON EXISTING CONCRETE BASES.
5. PROPOSED FTMS IS SHOWN GRAYSHADED FOR PLAN CLARITY.
6. VIDEO DETECTION AND EVP DETECTOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THE EQUIPMENT WITH THE CITY OF WAUWATOSA. NOTIFY THE CITY OF WAUWATOSA AT (414) 471-8422 A MINIMUM OF 5 DAYS PRIOR TO PLACING THE EQUIPMENT.
7. DETECTION ZONE LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES WITH THE CITY OF WAUWATOSA. NOTIFY THE CITY OF WAUWATOSA AT (414) 471-8422 A MINIMUM OF 5 DAYS PRIOR TO SETTING DETECTION ZONES.

TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY:
REVISED BY: FORWARD 45

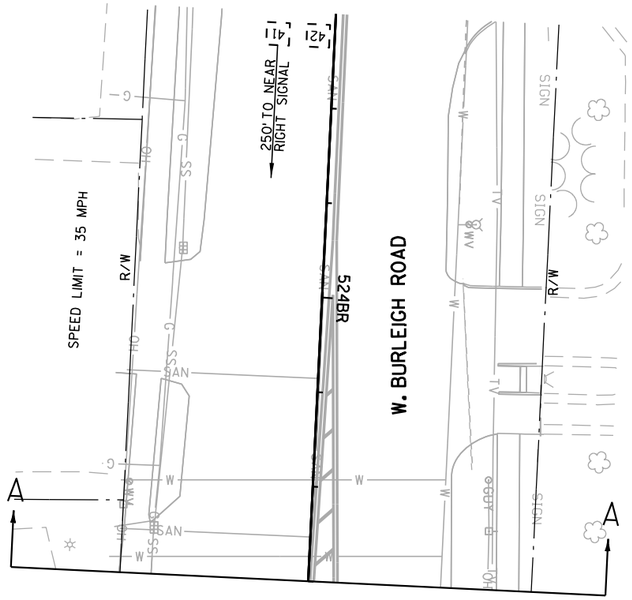
PAGE 1 OF 3

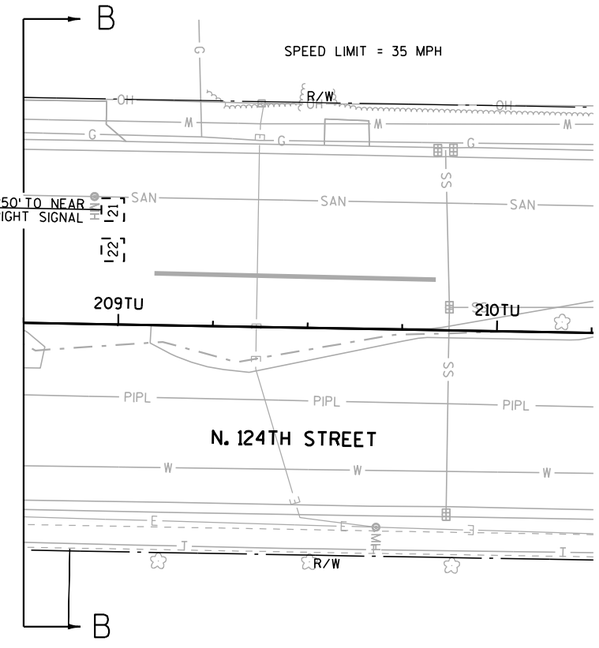
PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET E

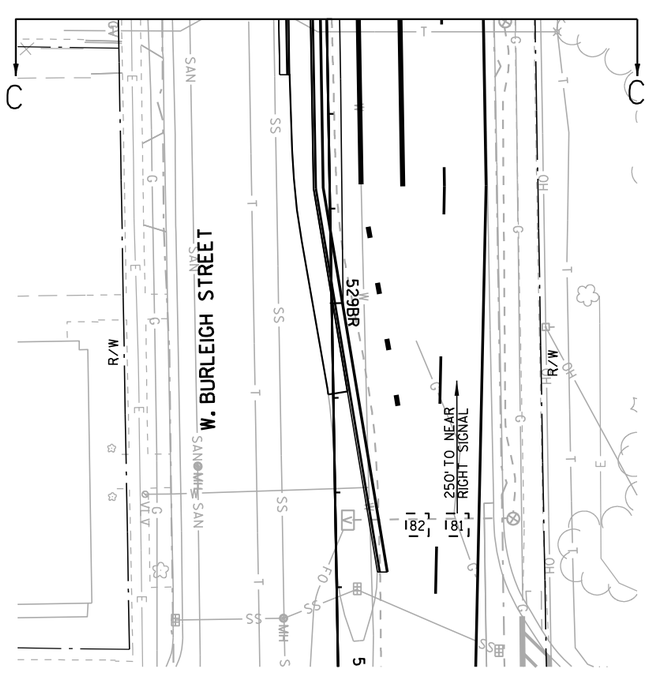
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2

N







TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY:
REVISED BY: FORWARD 45

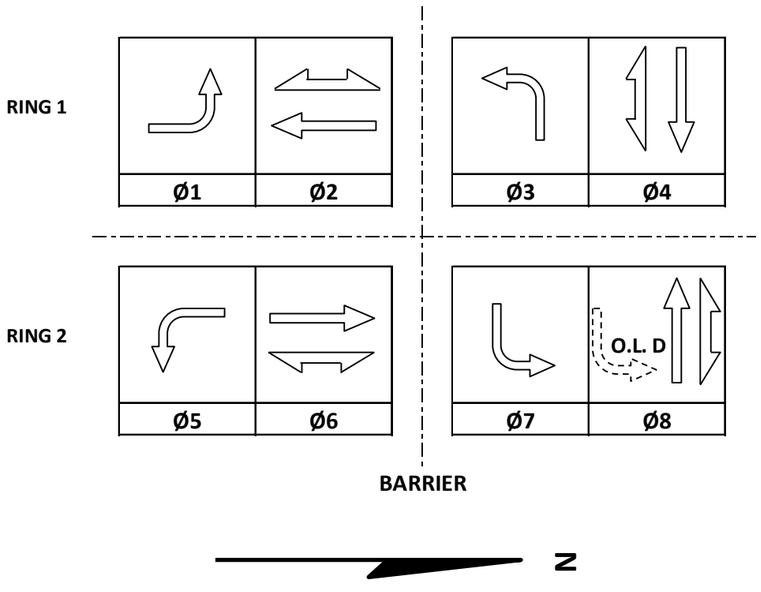
PAGE 2 OF 3

PROJECT NO: 1060-39-90	HWY: N. 124TH STREET	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024066_sp.dgn PLOT DATE : 12-DEC-2016 12:32 PLOT BY : MSCJ5W PLOT NAME : 024066_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	10,12	-
Ø2	13,14,15,16	R
Ø3	8,25	R ←
Ø4	1,2,3	R
Ø5	14,16	-
Ø6	9,10,11,12	R
Ø7	4,26	-
Ø8	5,6,7	R
Ø2P	17,18	
Ø4P	19,20	
Ø6P	21,22	
Ø8P	23,24	
OLA		
OLB		
OLC		
OLD	4,26	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		8		X
5		2		X
6	X	2	MIN	X
7		4		X
8		4		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

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

AFTER PREEMPTION SEQUENCE 2+6 OR 6+2, 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	X
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*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	19	17	23	21	27	25	31	29	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	11	22	24	31	41	43	51	62	64	71	82	84	S2	S4			PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	1	2	2	3	4	4	5	6	6	7	8	8					ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH					OPERATION MODE
SWITCH																	SWITCH
EXTEND		X			X			X			X						EXTEND
DELAY		X			X	X		X			X						DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	21	23	25	32	42	44	61	63	65	81	83	S1	S3				PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	2	2	2	3	4	4	6	6	6	8	8						ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH						OPERATION MODE
SWITCH																	SWITCH
EXTEND	X				X		X			X							EXTEND
DELAY	X	X			X		X	X		X	X						DELAY

W. BURLEIGH STREET & N. 124TH STREET
CITY OF WAUWATOSA
MILWAUKEE/WAUKESHA COUNTY

SIGNAL NO: CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 12/16 PAGE NO. 3 OF 3

PROJECT ID:	1060-39-90
INTERSECTION:	N. 124TH STREET & W. BURLEIGH STREET

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	5	RED	ORG	GRN							
		24								BLK	BLU	
		B										WHT/BLK
SB2	12	2	RED	ORG	GRN							
		8				BLK	BLU	WHT/BLK				
		26				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
SB3	12	3	RED	ORG	GRN							
		19								BLK	BLU	
		B										WHT/BLK
		B										BLK/WHT
SB4*		22										
SB6*		20										
SB7*		17										
SB8	12	4				BLK	BLU	WHT/BLK	BLK/WHT			
		6	RED	ORG	GRN							
		25				RED/BLK	ORG/BLK	GRN/BLK				
SB9*		18										
SB10*		23										
SB12	12	11	RED	ORG	GRN							
		21								BLK	BLU	
		B										WHT/BLK

*USE EXISTING CONDUCTOR COLORS FOR NEW PEDESTRIAN HEADS

NOTES: 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.

(CONTINUED ON NEXT SHEET)

(CONTINUED)

EQUIPMENT GROUNDING CONDUCTOR 10 AWG GRN XLP *	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB11	SB12
SB12	CB1

GROUNDED CONDUCTOR 10 AWG WHT XLP *	
FROM	TO
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB11	SB12
SB12	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP **	
FROM	TO
PB12	CB1
PB13	SB2
PB14	SB3
PB15	SB4
PB11	SB12

VIDEO DETECTION CABLE	
FROM	TO
CB1	SB2 (V3)
CB1	SB5 (V1)

LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
CB1	SB5

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB2 (HEAD B)
CB1	SB5 (HEAD C)

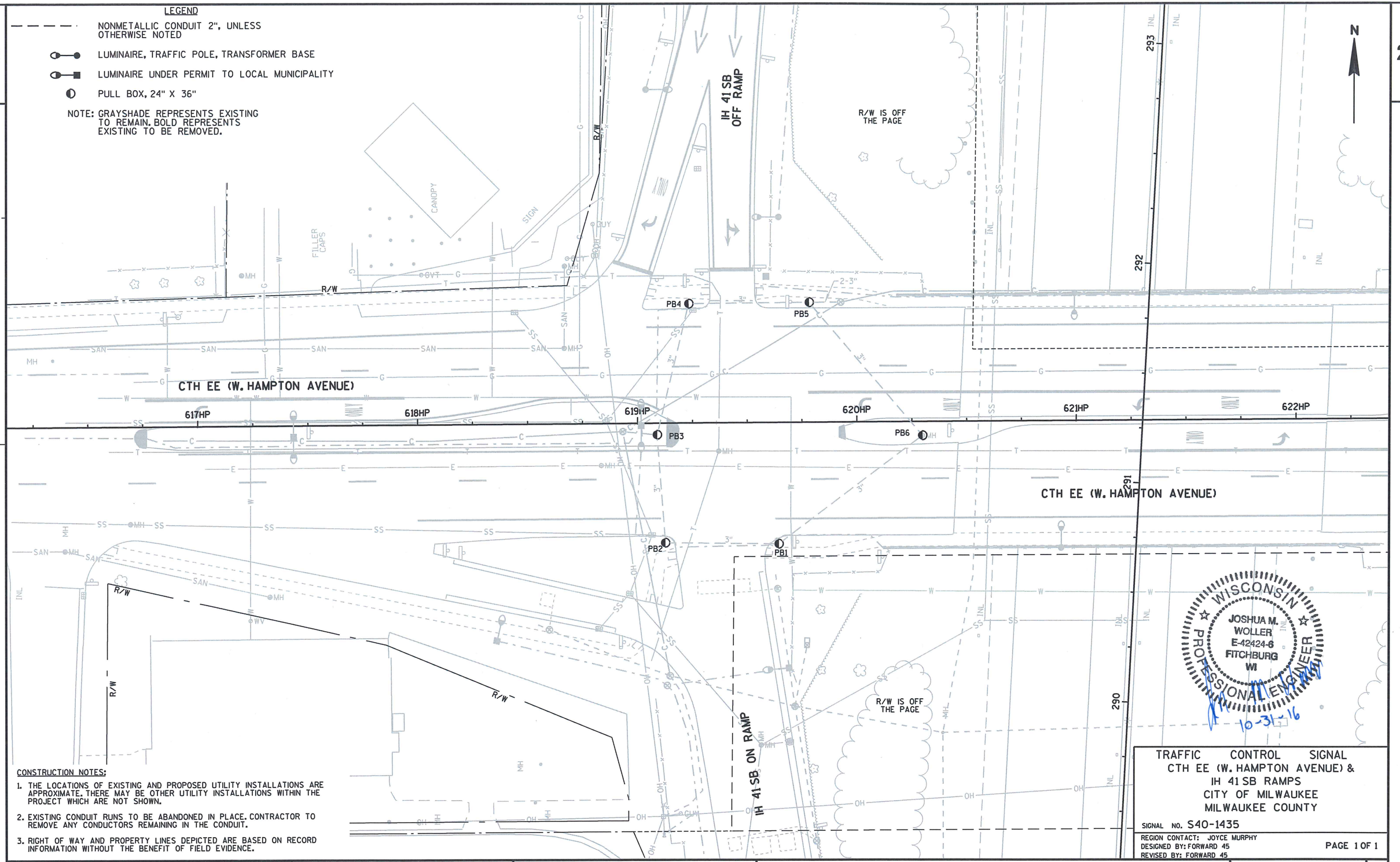
*RE-INSTALL EXISTING EQUIPMENT GROUNDING CONDUCTORS AND EXISTING GROUNDED CONDUCTORS TO RE-ESTABLISH THE COMPLETE GROUNDING FROM BASE TO BASE WHERE THE EXISTING CIRCUIT IS DISTURBED BY CONSTRUCTION. REUSE EXISTING WIRING WHERE POSSIBLE. CHART SHOWN FOR INFORMATION ONLY.

**RE-INSTALL EXISTING PULL BOX BONDING JUMPER FOR ALL EXISTING PULL BOXES WHERE THE EXISTING BONDING JUMPER IS DISTURBED BY CONSTRUCTION. REUSE EXISTING WIRING WHERE POSSIBLE. CHART SHOWN FOR INFORMATION ONLY.

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- PULL BOX, 24" X 36"

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. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.

WISCONSIN
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER
10-31-16

TRAFFIC CONTROL SIGNAL
CTH EE (W. HAMPTON AVENUE) &
IH 41 SB RAMPS
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO. S40-1435

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

PAGE 1 OF 1

PROJECT NO: 1060-39-90	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 118	E

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- RADAR DETECTION AREA
- RADAR DETECTOR
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- YIELD SIGN

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW

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

N

IH 41 SB OFF RAMP

R/W IS OFF THE PAGE

SPEED LIMIT = 35 MPH

250' TO NEAR 410' TO END RIGHT SIGNAL OF DETECTION AREA

50' TO RADAR DETECTOR UNIT

CTH EE (W. HAMPTON AVENUE)

617HP 618HP 619HP 620HP 621HP 622HP

~400' TO END OF DETECTION AREA 250' TO NEAR RIGHT SIGNAL

SB1 SB2 SB3 SB4 SB5 SB6 SB7 SB8

PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11 PB12 PB13

CB1

OUTDOOR RATED ETHERNET CABLE I/C4IN FTMS CONDUIT TO FTMS CABINET

IH 41 SB ON RAMP

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. INTERSECTION LIGHTING PROVIDED BY THE CITY OF MILWAUKEE.
4. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
5. INSTALL CABINET BASE 6" ABOVE FINAL ROADWAY ELEVATION.
6. CONDUIT EMBEDDDED IN A TYPE 10 OR TYPE 13 CONCRETE BASE SHALL BE 3".
7. PROPOSED FTMS IS SHOWN GRAYSHADED FOR PLAN CLAIRTY.
8. RADAR UNIT 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.
9. DETECTION ZONE LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES 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 SETTING DETECTION ZONES.

STRUCTURE NUMBERS

SB2 = S-40-1547
SB4 = S-40-1548
SB8 = S-40-1549

WISCONSIN PROFESSIONAL ENGINEER
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI

TRAFFIC CONTROL SIGNAL
IH 41 SB RAMPS &
CTH EE (W. HAMPTION AVENUE)
CITY OF MILWAUKEE
MILWAUKEE COUNTY

CABINET TYPE: TS2
SIGNAL NO. S40-1435 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 10/31/16 Joyce Murphy REGION TRAFFIC ENGINEER

APPROVED
Date 11/1/16 Joanna L. Besh STATE TRAFFIC ENGINEER

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

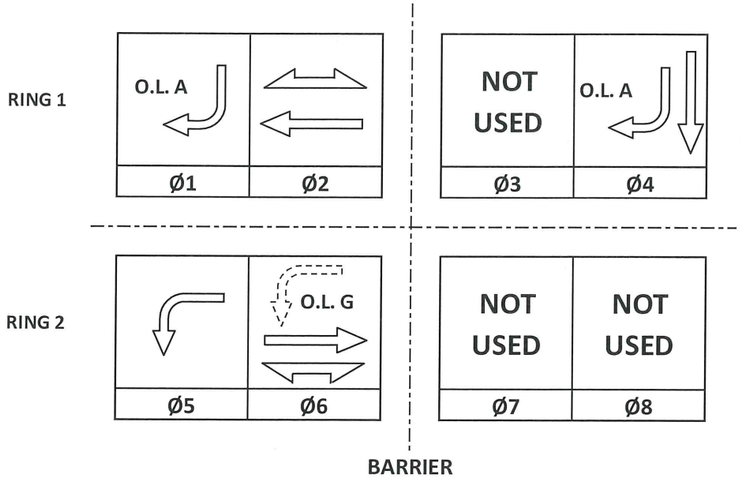
PAGE 1 OF 2

PROJECT NO: 1060-39-90	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024135_sp.dgn PLOT DATE : 27-OCT-2016 11:17 PLOT BY : MSCJ5W PLOT NAME : 024135_sp PLOT SCALE : 40:1 WISDOT/CADDS

10-31-16 DTW

	HEAD NUMBERS	FLASH
Ø1		
Ø2	4,5,6	R
Ø3		
Ø4	9,10,11	R
Ø5	7,8	R ←
Ø6	1,2,3	R
Ø7		
Ø8		
Ø2P	14,15	
Ø4P		
Ø6P	16,17	
Ø8P		
OLE		
OLF		
OLG	7,8	-
OLH		
OLA	12,13	R



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		2		X
6	X	2	MIN	X
7				
8				

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

TYPE OF COORDINATION	
NONE	
TBC	X
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	

DETECTOR LOGIC

DETECTOR INPUT	1	3	5	7	9	11	13	15
PLAN LOOP DETECTOR*(S)	41	51						
CALLED PHASE	4	5						
CALL OPTION	X	X						
DELAY TIME								
EXTENTION OPTION	X	X						
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE		6						

DETECTOR INPUT	2	4	6	8	10	12	14	16
PLAN LOOP DETECTOR*(S)	42							
CALLED PHASE	1,4							
CALL OPTION	X							
DELAY TIME	X							
EXTENTION OPTION	X							
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

49	51	53	55	57	59	61	63	DETECTOR INPUT
21	61							PLAN LOOP DETECTOR*(S)
2	6							CALLED PHASE
								CALL OPTION
								DELAY TIME
X	X							EXTENTION OPTION
X	X							EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

50	52	54	56	58	60	62	64	DETECTOR INPUT
22	62							PLAN LOOP DETECTOR*(S)
2	6							CALLED PHASE
X	X							CALL OPTION
								DELAY TIME
X	X							EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

10-31-14 DJW

10/31/14 JMM

IH 41 SB RAMPS & CTH EE (W. HAMPTON AVENUE)
CITY OF MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1435 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 10/16 PAGE NO. 2 OF 2

PROJECT ID:	1060-39-90
INTERSECTION:	IH 41 SB RAMPS & CTH EE (W. HAMPTON AVENUE)

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	10	RED	ORG	GRN			GRN				
		16								BLK	BLU	
		B										WHT/BLK
SB2	12	11	RED	ORG	GRN			GRN				
SB3	12	1	RED	ORG	GRN							
		7				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT			
		17								BLK	BLU	
		B										WHT/BLK
SB4	15	5	RED/BLK	ORG/BLK	GRN/BLK							
		6	RED/BLK	ORG/BLK	GRN/BLK							
		8				RED/WHT	BLU/WHT	GRN/WHT	BLK/WHT			
		13	RED				ORG	GRN				
SB5	7	12	RED				ORG	GRN				
SB6	12	9	RED	ORG	GRN							
		14								BLK	BLU	
		B										WHT/BLK
SB7	12	4	RED	ORG	GRN							
		15								BLK	BLU	
		B										WHT/BLK
SB8	12	2	RED	ORG	GRN							
		3	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
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER

10-31-16

(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

RADAR DETECTION CABLE	
FROM	TO
CB1	SB8 (RA1)
CB1	SB8 (RM1)
CB1	SB4 (RA2)
CB1	SB7 (RM3)

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	SB1
PB2	SB2
PB3	SB2
PB4	SB5
PB5	SB5
PB6	SB6
PB7	SB6
PB8	SB7
PB9	SB7
PB10	SB8
PB11	SB8
PB12	CB1
PB13	CB1

LEGEND

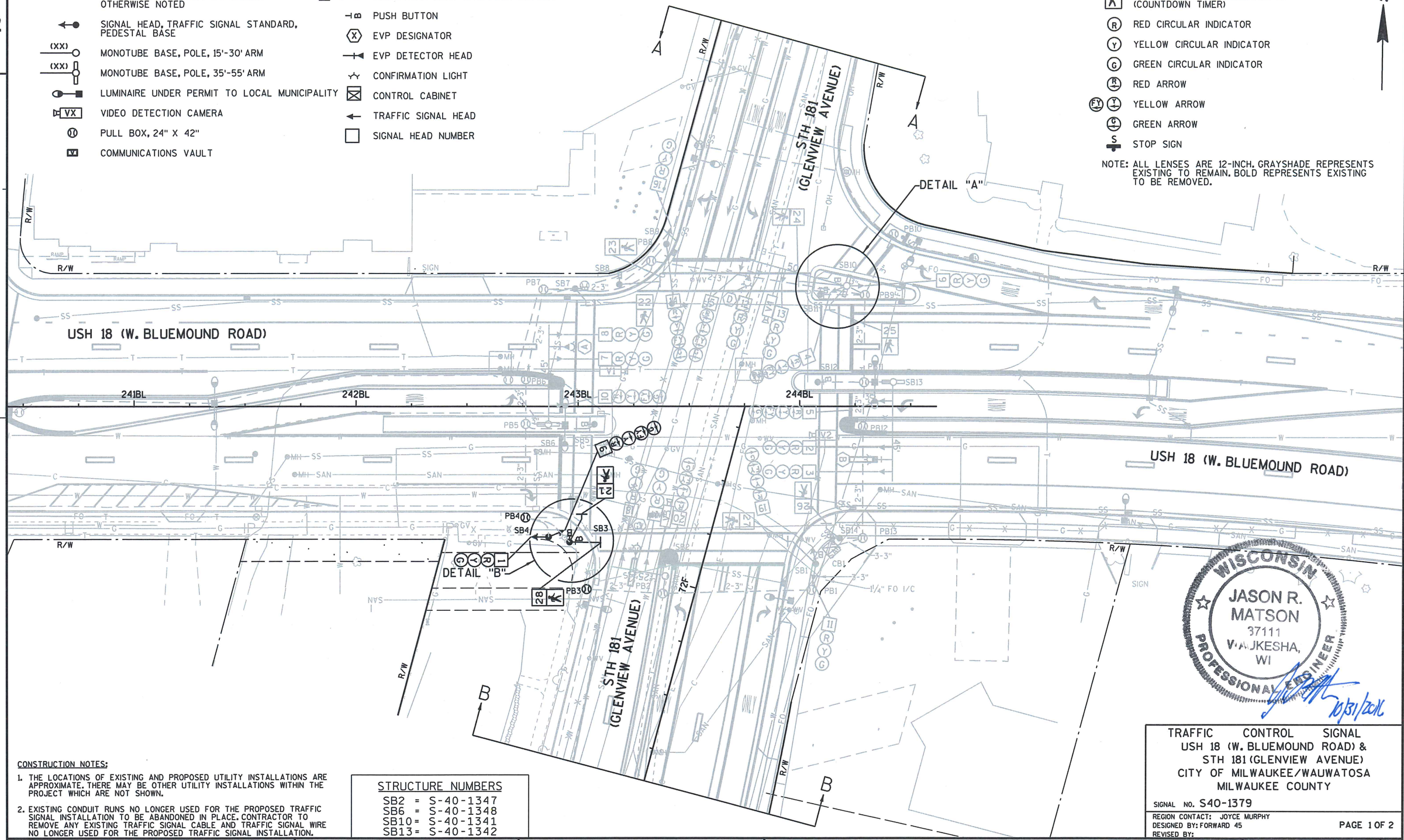
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER

LEGEND (CON'T)

- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) (Y) YELLOW ARROW
- (G) GREEN ARROW
- S STOP SIGN

NOTE: ALL LENSES ARE 12-INCH. 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 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.

STRUCTURE NUMBERS

SB2 = S-40-1347
SB6 = S-40-1348
SB10 = S-40-1341
SB13 = S-40-1342

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER
10/31/2016

TRAFFIC CONTROL SIGNAL
USH 18 (W. BLUEMOUND ROAD) &
STH 181 (GLENVIEW AVENUE)
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1379

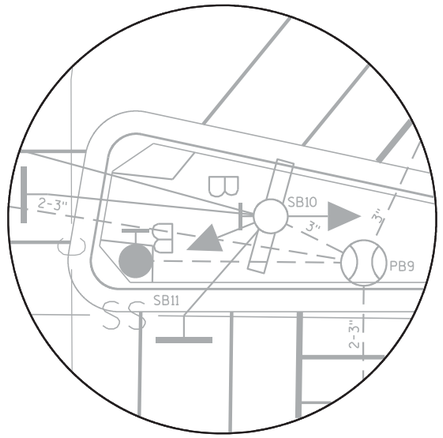
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

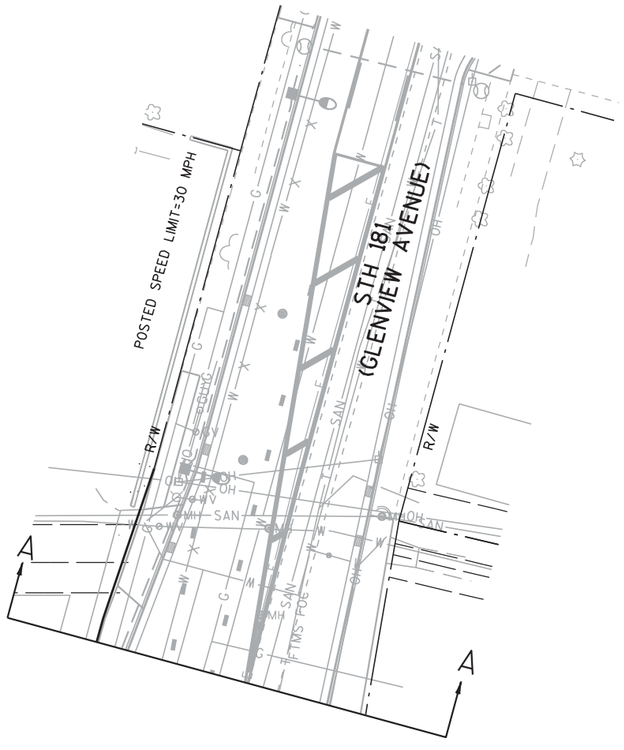
PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 123	E

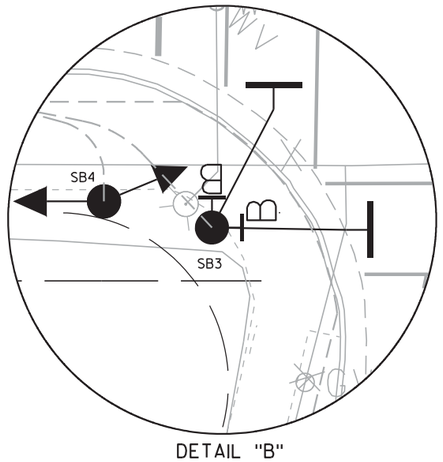
2

N

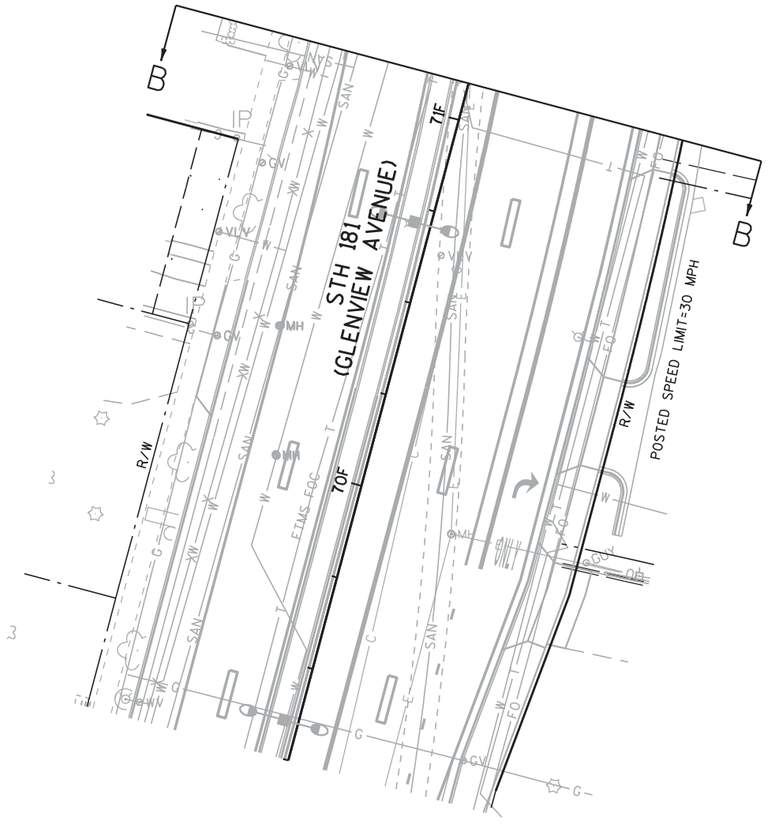


DETAIL "A"





DETAIL "B"



TRAFFIC CONTROL SIGNAL
USH 18 (W. BLUEMOUND ROAD) &
STH 181 (GLENVIEW AVENUE)
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1379

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

PAGE 2 OF 2

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

LEGEND

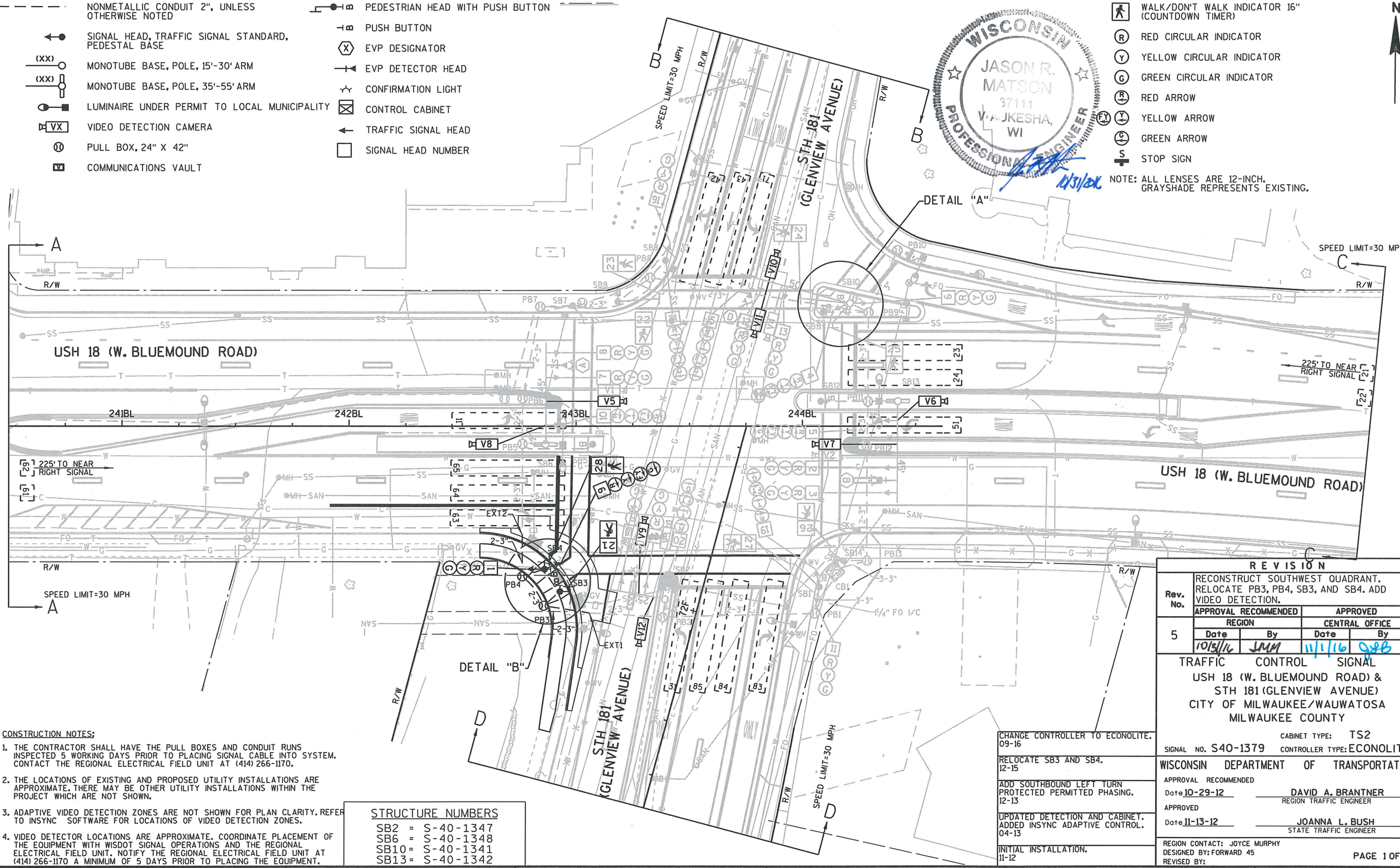
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- COMMUNICATIONS VAULT
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- EVP DESIGNATOR
- EVP DETECTOR HEAD
- CONFIRMATION LIGHT
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER

LEGEND (CON'T)

- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R) RED ARROW
- (FY) YELLOW ARROW
- (G) GREEN ARROW
- S STOP SIGN

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

WISCONSIN JASON R. MATSON 37111 WAUKESHA, WI PROFESSIONAL ENGINEER 10/31/2016



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. ADAPTIVE VIDEO DETECTION ZONES ARE NOT SHOWN FOR PLAN CLARITY. REFER TO INSYNC SOFTWARE FOR LOCATIONS OF VIDEO DETECTION ZONES.
4. VIDEO 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.

STRUCTURE NUMBERS

SB2 = S-40-1347
SB6 = S-40-1348
SB10 = S-40-1341
SB13 = S-40-1342

09-16	CHANGE CONTROLLER TO ECONOLITE.
12-15	RELOCATE SB3 AND SB4.
12-13	ADD SOUTHBOUND LEFT TURN PROTECTED PERMITTED PHASING.
04-13	UPDATED DETECTION AND CABINET. ADDED INSYNC ADAPTIVE CONTROL.
11-12	INITIAL INSTALLATION.

REVISION

Rev. No.		APPROVAL RECOMMENDED		APPROVED	
		REGION		CENTRAL OFFICE	
		Date	By	Date	By
5	RECONSTRUCT SOUTHWEST QUADRANT. RELOCATE PB3, PB4, SB3, AND SB4. ADD VIDEO DETECTION.	10/31/16	JMM	11/1/16	DSB

TRAFFIC CONTROL SIGNAL
USH 18 (W. BLUEMOUND ROAD) &
STH 181 (GLENVIEW AVENUE)
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY

CABINET TYPE: TS2
SIGNAL NO. S40-1379 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 10-29-12 DAVID A. BRANTNER, REGION TRAFFIC ENGINEER

APPROVED
Date 11-13-12 JOANNA L. BUSH, STATE TRAFFIC ENGINEER

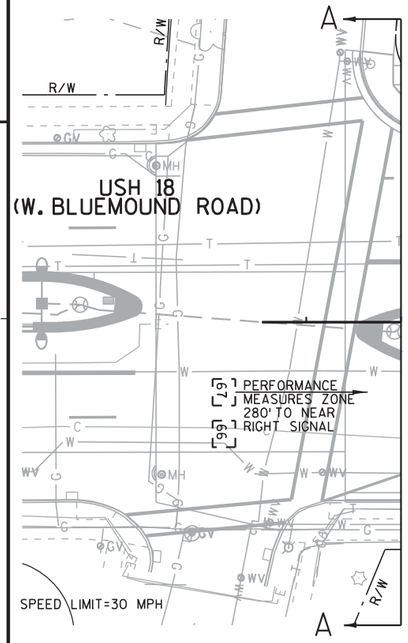
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

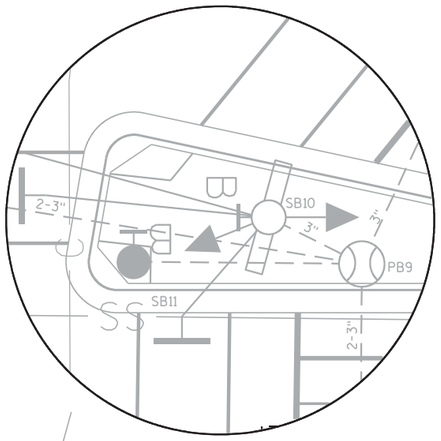
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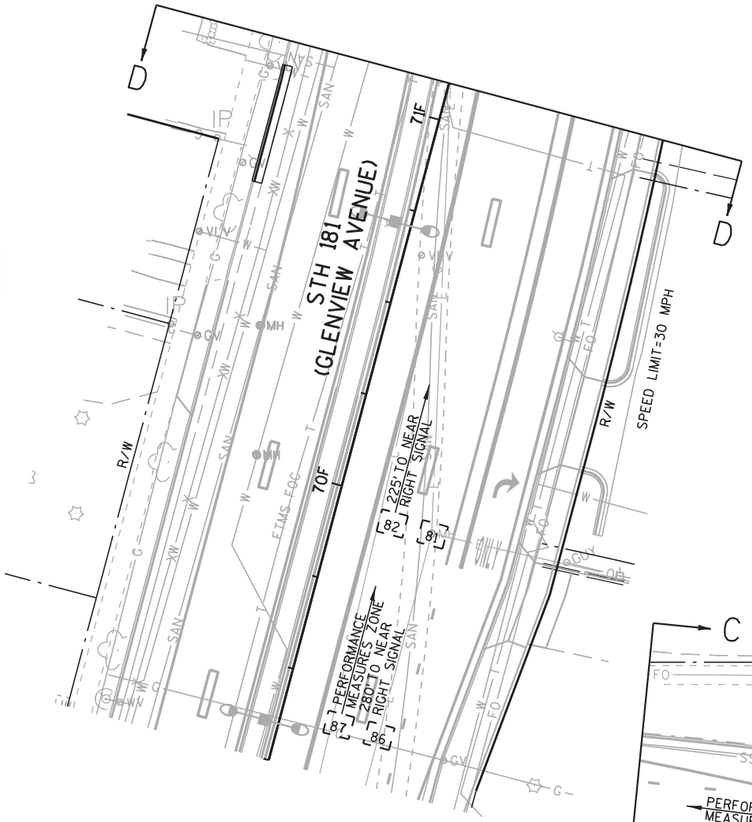
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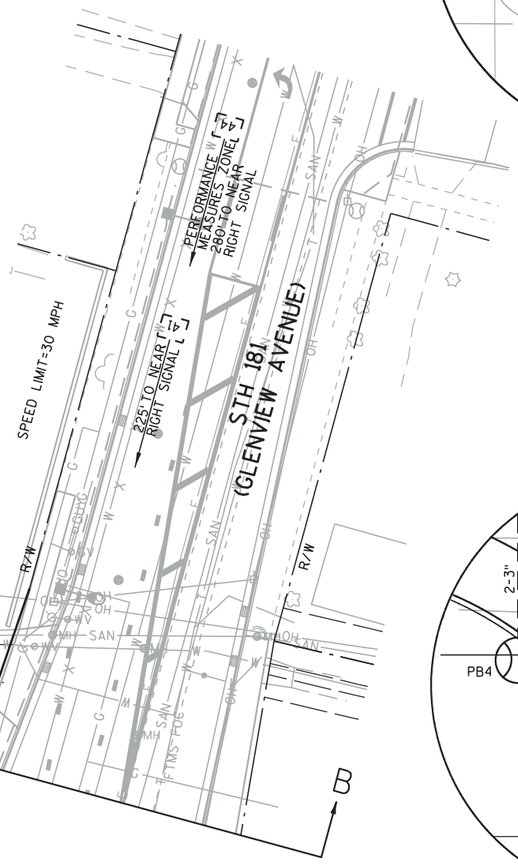
PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

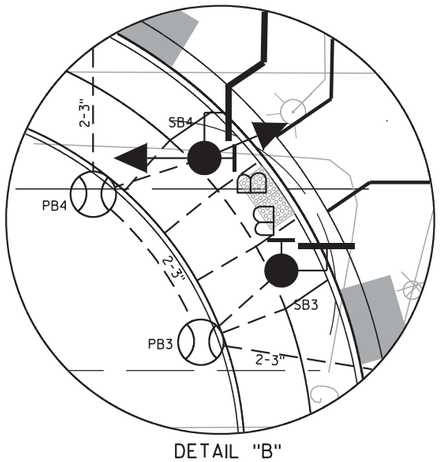
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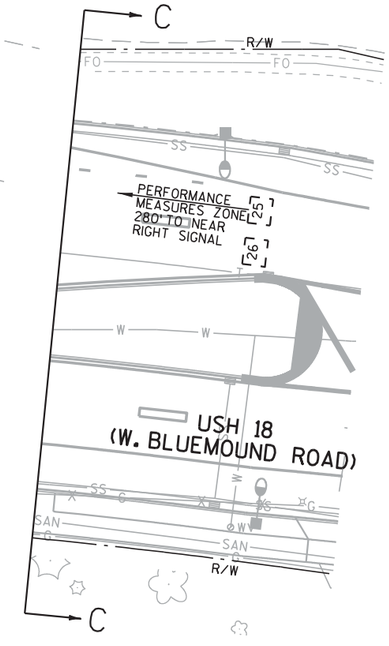












TRAFFIC CONTROL SIGNAL
USH 18 (W. BLUEMOUND ROAD) &
STH 181 (GLENVIEW AVENUE)
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY

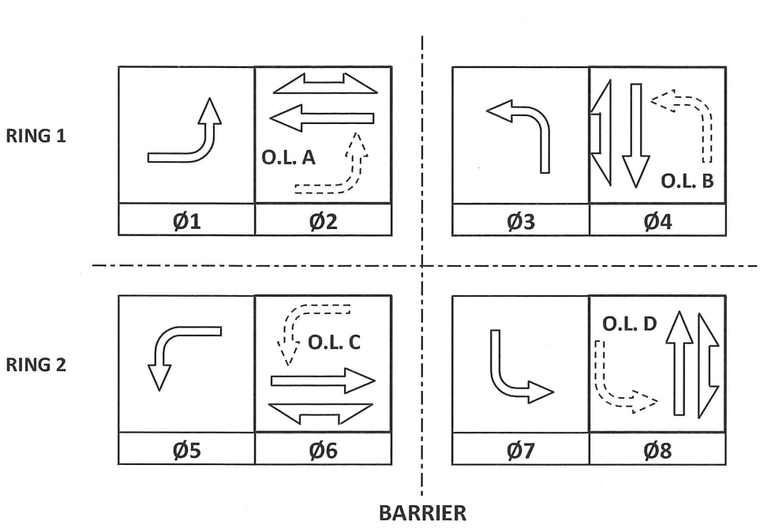
SIGNAL NO. S40-1379

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

PAGE 2 OF 3

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

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



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

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	X
IN TRAFFIC CABINET	
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	1	3	5	7	9	11	13	15
PLAN LOOP DETECTOR*(S)	11	22	24	41	43	61	63	65
CALLED PHASE	1	2	2	4	4	6	6	6
CALL OPTION	X		X		X		X	X
DELAY TIME							X	
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME		X		X		X		
USE ADDED INITIAL								
CROSS SWITCH PHASE	2							

DETECTOR INPUT	17	19	21	23	25	27	29	31
PLAN LOOP DETECTOR*(S)	81	83	85			26	66	86
CALLED PHASE	8	8	8			2	6	8
CALL OPTION	X	X	X					
DELAY TIME		X						
EXTENTION OPTION	X	X	X					
EXTEND TIME	X							
USE ADDED INITIAL								
CROSS SWITCH PHASE								

DETECTOR INPUT	2	4	6	8	10	12	14	16
PLAN LOOP DETECTOR*(S)	21	23	31	42	51	62	64	71
CALLED PHASE	2	2	3	4	5	6	6	7
CALL OPTION		X	X	X	X		X	X
DELAY TIME				X				
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME	X					X		
USE ADDED INITIAL								
CROSS SWITCH PHASE			4		6			8

DETECTOR INPUT	18	20	22	24	26	28	30	32
PLAN LOOP DETECTOR*(S)	82	84			25	44	67	87
CALLED PHASE	8	8			2	4	6	8
CALL OPTION		X						
DELAY TIME								
EXTENTION OPTION	X	X						
EXTEND TIME	X							
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.
2. SEE CONTROLLER PROGRAMMING FOR PROTECTED ONLY OPERATION OF PHASE 3 AND PHASE 5.

USH 18 & STH 181
CITY OF MILWAUKEE/WAUWATOSA
MILWAUKEE COUNTY COUNTY

SIGNAL NO: S40-1379 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 10/2016 PAGE NO. 3 OF 3

10/31/16 AWS
10-31-16 DTW

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE COUNTY	SEQUENCE OF OPERATIONS	SHEET NO: 127	E

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

USH 18 & STH 181

2

PROJECT ID:	1060-39-90
INTERSECTION:	USH 18 & STH 181 (GLENVIEW AVENUE)

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

FROM	TO	NO. OF CONDUCTORS	HEAD NO.	RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	FLASHING <YELLOW>	D/WALK	WALK	PED BUTTON	OTHER
CB1	SB1	12	11	RED	ORG	GRN								
			19				RED/BLK	ORG/BLK		BLK/WHT				
			27								BLK	BLU		
			B										WHT/BLK	
CB1	SB2	12	17	RED	ORG	GRN								
			18	RED	ORG	GRN								
			20				RED/BLK	ORG/BLK		BLK/WHT				
CB1	SB3	7	21								BLK	BLU		
			B										WHT/BLK	
CB1	SB4	15	1	RED	ORG	GRN								
			9				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			28								BLK	BLU		
			B										WHT/BLK	
CB1	SB5	7	B										WHT/BLK	
CB1	SB6	12	7	RED	ORG	GRN								
			8	RED	ORG	GRN								
			10				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
CB1	SB7	7	22								BLK	BLU		
			B										WHT/BLK	
CB1	SB8	7	23								BLK	BLU		
			B										WHT/BLK	
CB1	SB9	12	14				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			16	RED	ORG	GRN								
CB1	SB10 (CABLE 1)	12	4				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			6	RED	ORG	GRN								
CB1	SB10 (CABLE 2)	12	12	RED	ORG	GRN								
			13	RED	ORG	GRN								
			15				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
			24								BLK	BLU		
			25								RED/WHT	GRN/WHT		
			B										WHT/BLK	
CB1	SB11	7	B										WHT/BLK	
CB1	SB12	7	B										WHT/BLK	
CB1	SB13	12	2	RED	ORG	GRN								
			3	RED	ORG	GRN								
			5				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
CB1	SB14	7	26								BLK	BLU		
			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.

GRAY SHADED ROWS INDICATE REQUIRED CHANGES DICTATED BY PLAN REVISIONS. ALL OTHER ROWS ARE CONSIDERED EXISTING CABLING.

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER
10/31/2016

(CONTINUED ON NEXT SHEET)

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	CABLE ROUTING	SHEET: 128	E

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(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	SB11
SB11	SB12
SB12	SB13
SB13	SB14
SB14	CB1

PULL BOX BONDING JUMPER 10 AWG GRN XLP **	
FROM	TO
PB1	SB1
PB2	SB2
PB3	SB3
PB4	SB4
PB5	SB6
PB6	SB6
PB7	SB7
PB8	SB8
PB9	SB10
PB10	SB11
PB11	SB13
PB12	SB13
PB13	SB14

VIDEO DETECTION CABLE	
FROM	TO
CB1	V1 (SB6)
CB1	V2 (SB13)
CB1	V3 (SB2)
CB1	V4 (SB10)

EMERGENCY VEHICLE PREEMPTION	
FROM	TO
CB1	SB2 (HEAD C)
CB1	SB6 (HEAD A)
CB1	SB10 (HEAD D)
CB1	SB13 (HEAD B)

AUTOSCOPE VIDEO DETECTION CABLE	
FROM	TO
CB1	V5 (SB6)
CB1	V6 (SB13)
CB1	V7 (SB13)
CB1	V8 (SB6)
CB1	V9 (SB2)
CB1	V10 (SB10)
CB1	V11 (SB10)
CB1	V12 (SB2)

*RE-INSTALL EXISTING EQUIPMENT GROUNDING CONDUCTORS TO RE-ESTABLISH THE COMPLETE GROUNDING FROM BASE TO BASE WHERE THE EXISTING CIRCUIT IS DISTURBED BY CONSTRUCTION. REUSE EXISTING WIRING WHERE POSSIBLE. CHART SHOWN FOR INFORMATION ONLY.

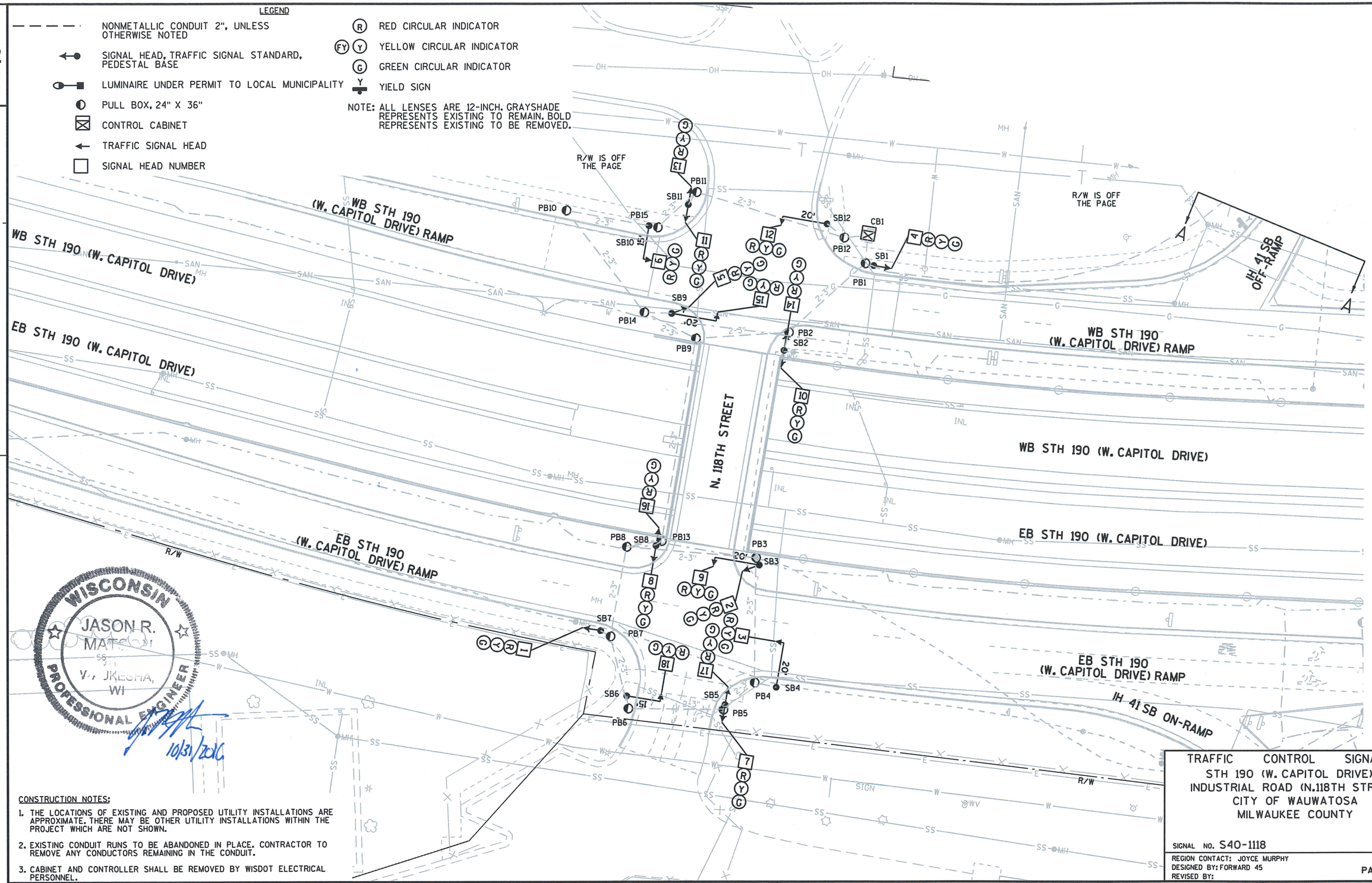
**RE-INSTALL EXISTING PULL BOX BONDING JUMPER FOR ALL EXISTING PULL BOXES WHERE THE EXISTING BONDING JUMPER IS DISTURBED BY CONSTRUCTION. REUSE EXISTING WIRING WHERE POSSIBLE. CHART SHOWN FOR INFORMATION ONLY.

GRAY SHADED ROWS INDICATE REQUIRED CHANGES DICTATED BY PLAN REVISIONS. ALL OTHER ROWS ARE CONSIDERED EXISTING CABLING.

LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- PULL BOX, 24" X 36"
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER
- (R) RED CIRCULAR INDICATOR
- (FY)(Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING TO REMAIN. BOLD REPRESENTS EXISTING TO BE REMOVED.



WISCONSIN
JASON R. MATSON
S-29111
WAUKESHA, WI
PROFESSIONAL ENGINEER
10/31/2016

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. CABINET AND CONTROLLER SHALL BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.

TRAFFIC CONTROL SIGNAL
STH 190 (W. CAPITOL DRIVE) &
INDUSTRIAL ROAD (N.118TH STREET)
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1118

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

PAGE 1 OF 2

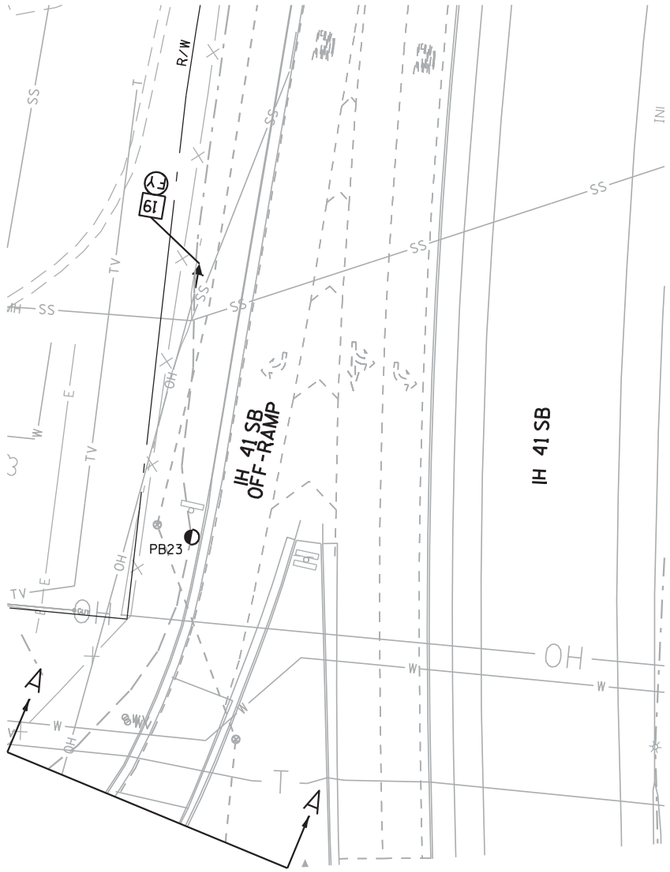
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WISDOT/CADDS SHEET 42

2

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TRAFFIC CONTROL SIGNAL
STH 190 (W. CAPITOL DRIVE) &
INDUSTRIAL ROAD (N.118TH STREET)
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1118

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

PAGE 2 OF 2

PROJECT NO: 1060-39-90	HWY: STH 190	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

2

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
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" WALK INDICATOR 12"
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW

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

N

2

W. BURLEIGH STREET

N. 119TH STREET

SPEED LIMIT = 35 MPH

R/W

CB1

SB1 SB2 SB2A SB3 SB4 SB5 SB6 SB7 SB8 SB9 SB10 SB11

PB1 PB2 PB3 PB4 PB5 PB6 PB7 PB8 PB9 PB10 PB11

V1 V2 V3 V4

88+00 89+00 90+00 91+00 92+00 93+

A A B B

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.

TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 119TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 1 OF 2

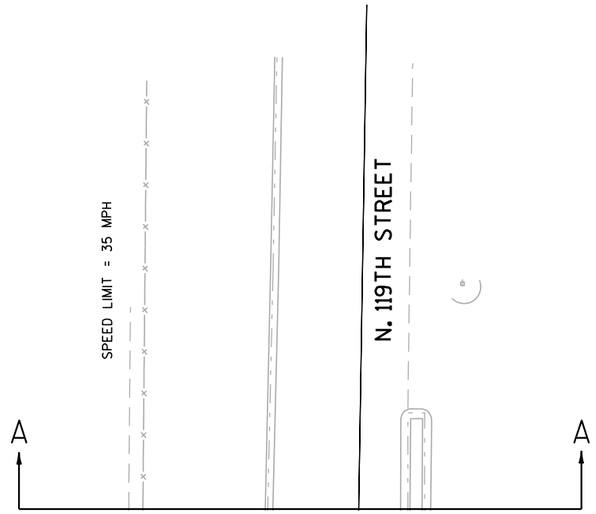
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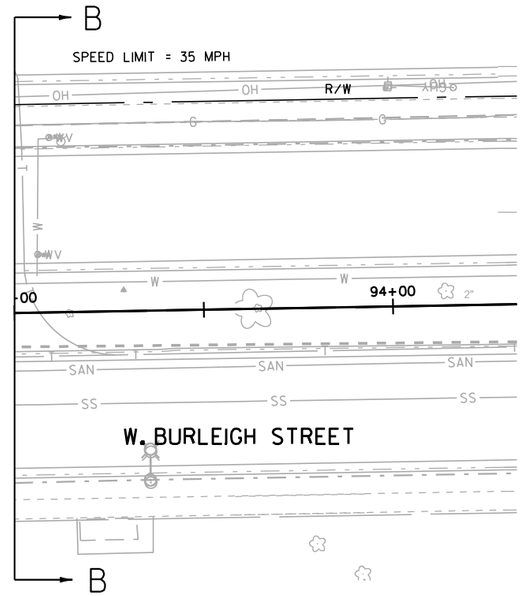
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WISDOT/CADDS SHEET 42

2

N





TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 119TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

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WISDOT/CADDS SHEET 42

2

LEGEND

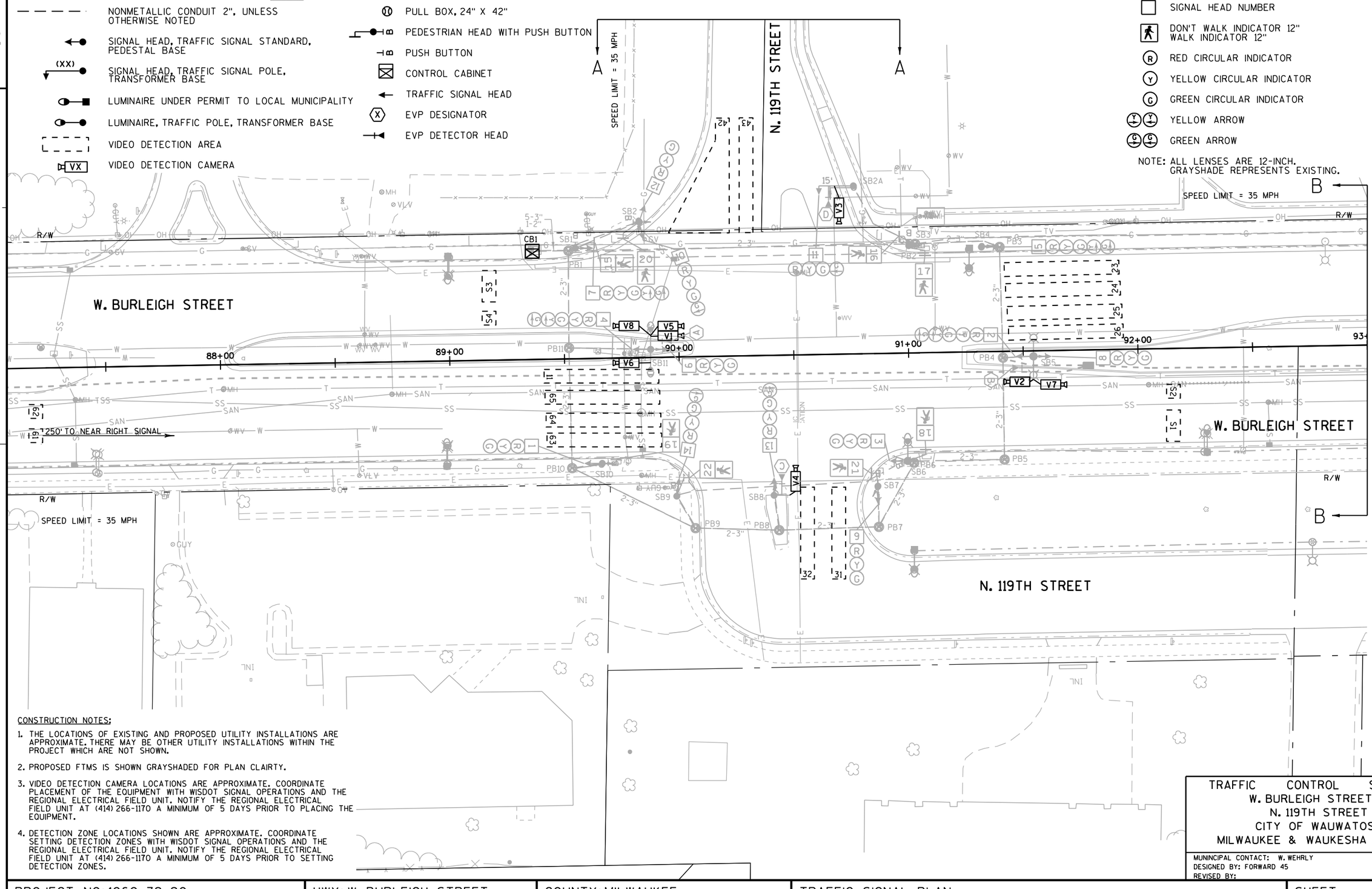
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- B PEDESTRIAN HEAD WITH PUSH BUTTON
- B PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- DON'T WALK INDICATOR 12" WALK INDICATOR 12"
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- YELLOW ARROW
- GREEN ARROW

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

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. PROPOSED FTMS IS SHOWN GRAYSHADED FOR PLAN CLAIRTY.
3. VIDEO DETECTION CAMERA 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.
4. DETECTION ZONE LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES 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 SETTING DETECTION ZONES.

TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 119TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

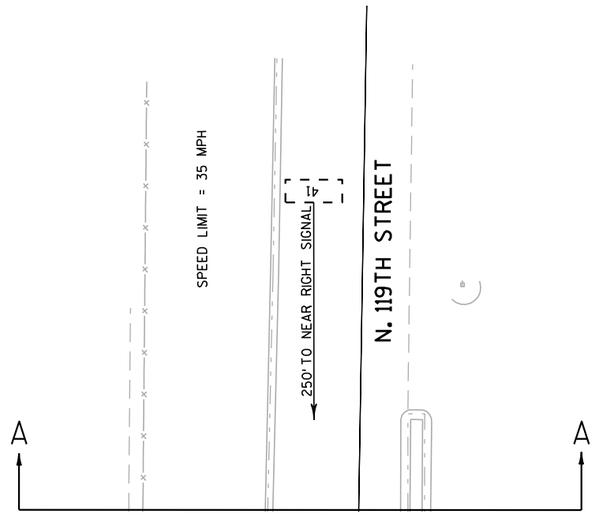
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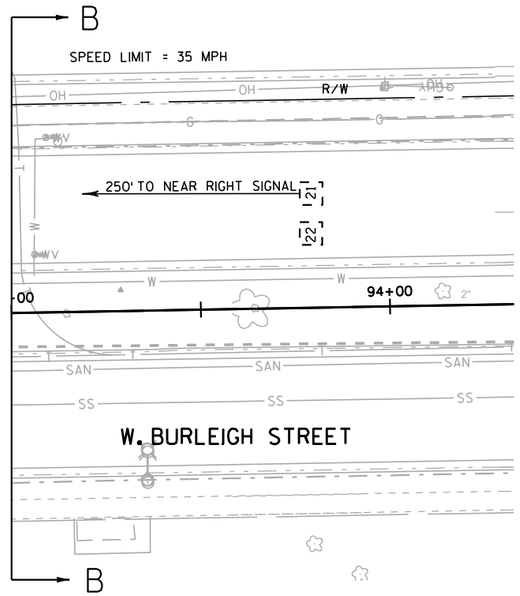
PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024425_sp.dgn PLOT DATE : 12-DEC-2016 12:31 PLOT BY : MSCJ5W PLOT NAME : 024425_sp PLOT SCALE : 40:1

2

N





TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 119TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

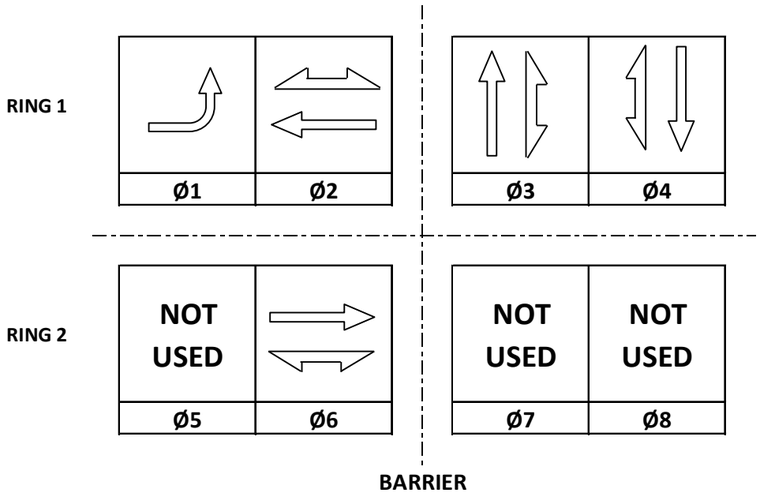
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PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024426_sp.dgn PLOT DATE : 12-DEC-2016 12:32 PLOT BY : MSCJ5W PLOT NAME : 024426_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	2,4	-
Ø2	5,6,7,8	R
Ø3	9,10,11	R
Ø4	12,13,14	R
Ø5		
Ø6	1,2,3,4	R
Ø7		
Ø8		
Ø2P	15,16	
Ø3P	17,18	
Ø4P	19,20	
Ø6P	21,22	
OLA		
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				X
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	4	3

AFTER PREEMPTION SEQUENCE 2+6 OR 6+2, CONTROLLER SHALL RETURN TO PHASES 2+6.
AFTER PREEMPTION SEQUENCE 4, CONTROLLER SHALL RETURN TO PHASE 4.
AFTER PREEMPTION SEQUENCE 3, CONTROLLER SHALL RETURN TO PHASE 3.

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

TYPE OF COORDINATION	
NONE	
TBC	X
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	
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	22	24	26	32	42	61	63
ASSIGNED PHASE	1	2	2	2	3	4	6	6
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
SWITCH								
EXTEND		X					X	
DELAY		X				X	X	X

19	17	23	21	27	25	31	29	
65	S2	S4						PLAN LOOP DETECTOR*(S)
6								ASSIGNED PHASE
VEH								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	21	23	25	31	41	43	62	64
ASSIGNED PHASE	2	2	2	3	4	4	6	6
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
SWITCH								
EXTEND	X				X		X	
DELAY	X	X		X	X	X	X	

20	18	24	22	28	26	32	30	
S1	S3							PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

W. BURLEIGH STREET & N. 119TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO: CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 12/16 PAGE NO. 3 OF 3

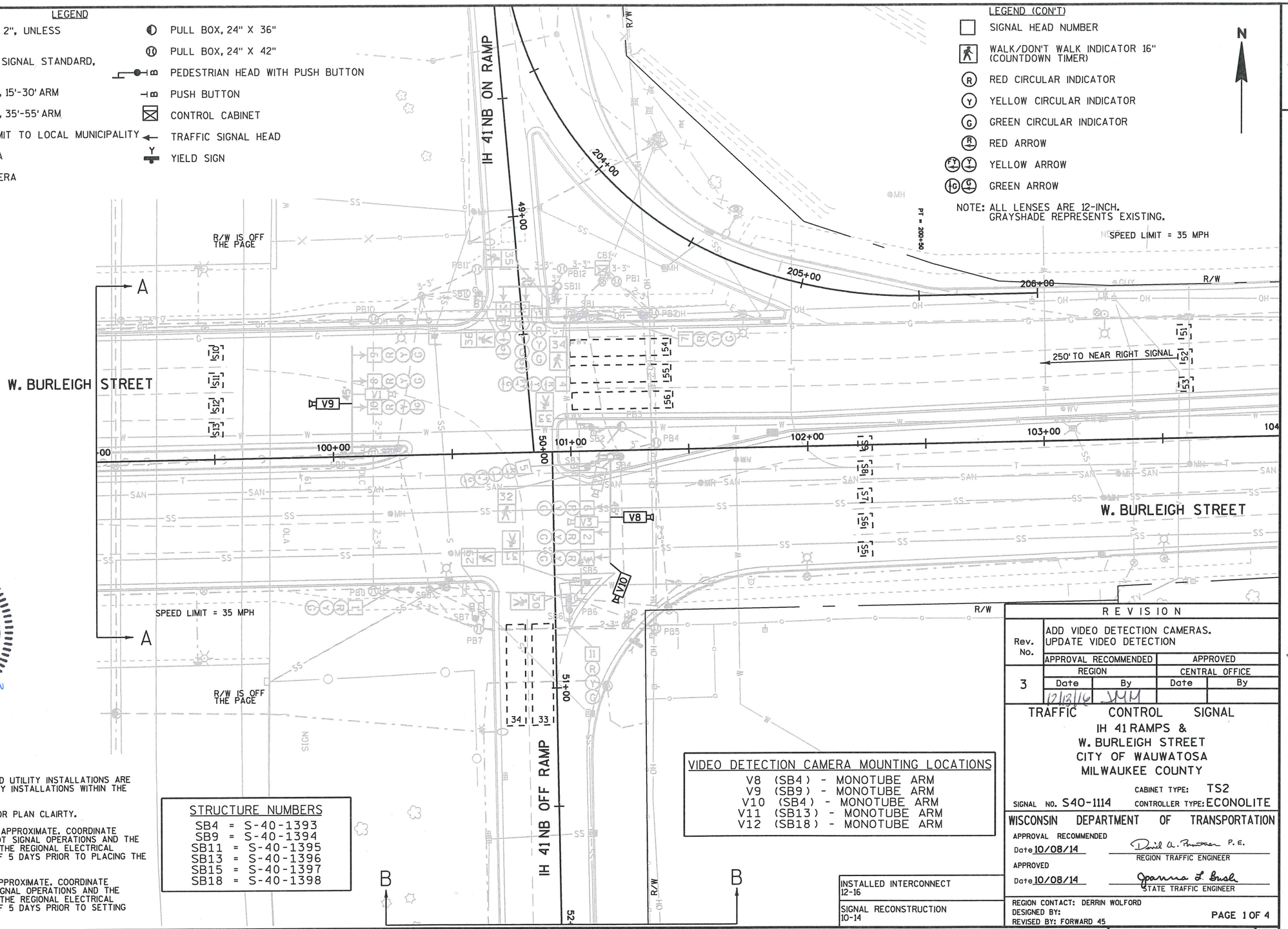
LEGEND

- 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 UNDER PERMIT TO LOCAL MUNICIPALITY
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- Y YIELD SIGN

LEGEND (CON'T)

- 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

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



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WISCONSIN ☆ JOSHUA M. WOLLER E-42424-6 FITCHBURG WI ☆ PROFESSIONAL ENGINEER

12/12/16

STRUCTURE NUMBERS

SB4	S-40-1393
SB9	S-40-1394
SB11	S-40-1395
SB13	S-40-1396
SB15	S-40-1397
SB18	S-40-1398

VIDEO DETECTION CAMERA MOUNTING LOCATIONS

V8	(SB4)	- MONOTUBE ARM
V9	(SB9)	- MONOTUBE ARM
V10	(SB4)	- MONOTUBE ARM
V11	(SB13)	- MONOTUBE ARM
V12	(SB18)	- MONOTUBE ARM

INSTALLED INTERCONNECT 12-16

SIGNAL RECONSTRUCTION 10-14

REVISION

Rev. No.				
	ADD VIDEO DETECTION CAMERAS. UPDATE VIDEO DETECTION			
	APPROVAL RECOMMENDED		APPROVED	
3	REGION		CENTRAL OFFICE	
	Date	By	Date	By
	12/13/16	JMM		

TRAFFIC CONTROL SIGNAL
IH 41 RAMPS &
W. BURLEIGH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

CABINET TYPE: TS2
SIGNAL NO. S40-1114 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 10/08/14 David A. Brunner P.E.
REGION TRAFFIC ENGINEER

APPROVED
Date 10/08/14 Joanna L. Bush
STATE TRAFFIC ENGINEER

REGION CONTACT: DERRIN WOLFORD
DESIGNED BY:
REVISED BY: FORWARD 45

PAGE 1 OF 4

JMM 12/13/16
12-13-16 DTW

PROJECT NO: 1060-39-90	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024435_sp.dgn PLOT DATE : 12-DEC-2016 12:33 PLOT BY : MSCJ5W PLOT NAME : 024435_sp PLOT SCALE : 40:1 WISDOT/CADDS S

2

N

C

C

R/W IS OFF THE PAGE

IH 41 SB OFF RAMP

A

SPEED LIMIT = 35 MPH

W. BURLEIGH STREET

250' TO NEAR RIGHT SIGNAL

R/W

SPEED LIMIT = 35 MPH

W. BURLEIGH STREET

A

R/W IS OFF THE PAGE

IH 41 SB ON RAMP

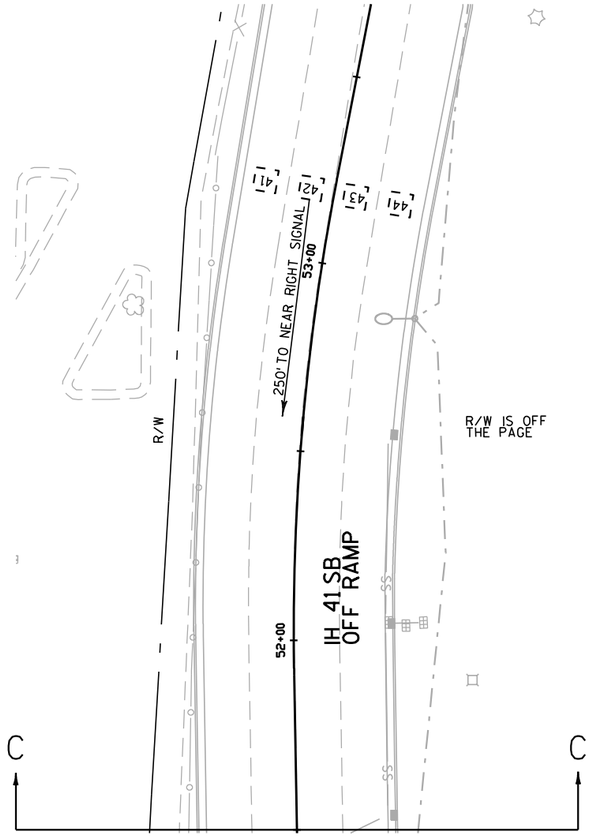
TRAFFIC CONTROL SIGNAL
IH 41 RAMPS &
W. BURLEIGH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

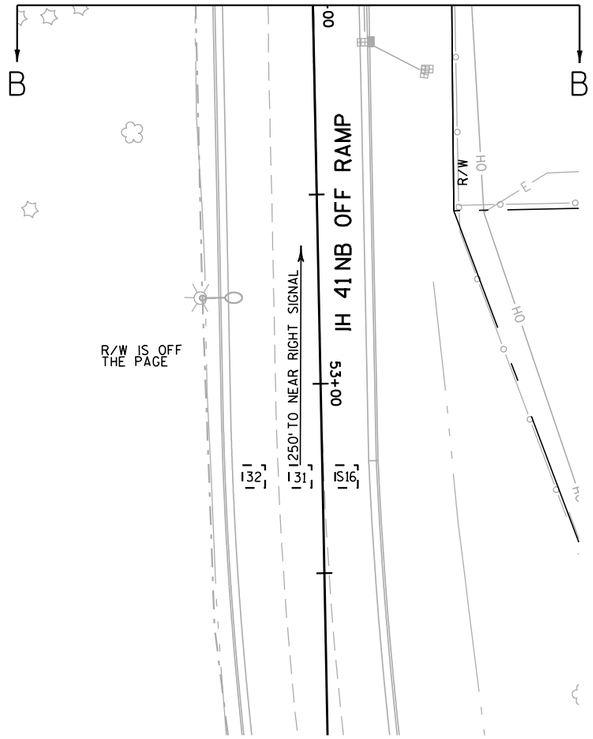
SIGNAL NO. S40-1114

REGION CONTACT: DERRIN WOLFORD
DESIGNED BY:
REVISED BY: FORWARD 45

PAGE 2 OF 4

PROJECT NO: 1060-39-90	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E





TRAFFIC CONTROL SIGNAL
IH 41 RAMPS &
W. BURLEIGH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1114

REGION CONTACT: DERRIN WOLFORD
DESIGNED BY:
REVISED BY: FORWARD 45

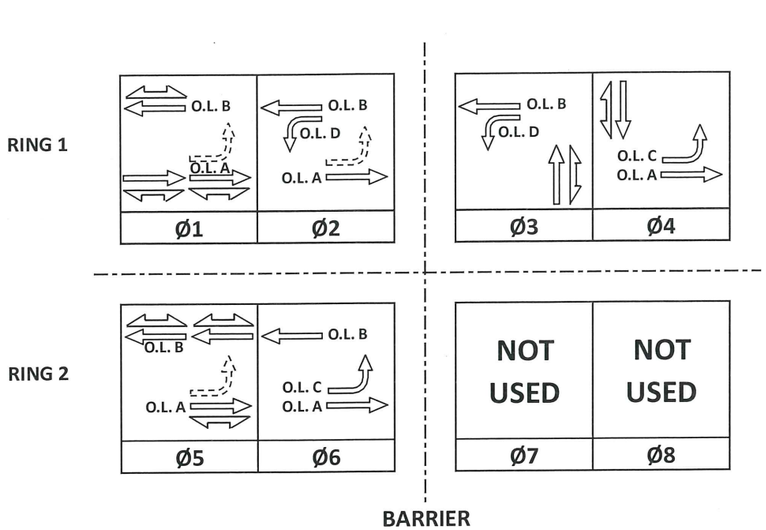
PAGE 3 OF 4

PROJECT NO: 1060-39-90	HWY: IH 41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024437_sp.dgn PLOT DATE : 12-DEC-2016 23:38 PLOT BY : MSCDYB PLOT NAME : 024437_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	15,16,17,18	R
Ø2		
Ø3	11,12,13,14	R, R←
Ø4	24,25,26,27,28	R, R←
Ø5	7,8,9,10	R
Ø6		
Ø7		
Ø8		
Ø1P	29,30,43,44	
Ø3P	31,32,33,34	
Ø4P	39,40,41,42	
Ø5P	35,36,37,38	
OLA	1,2,3,6	R
OLB	19,20,21	R
OLC	4,5	R←
OLD	22,23	R←



CONTROLLER LOGIC

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

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

TYPE OF COORDINATION	
NONE	
TBC	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS- 40-0023

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	

GENERAL NOTES:

1. CABINET IS EQUIPPED WITH A BATTERY BACKUP.
2. FYA OPERATES THROUGH LOGIC STATEMENTS.

DETECTOR LOGIC

DETECTOR INPUT	1	3	5	7	9	11	13	15
PLAN LOOP DETECTOR*(S)	11	13	15	22	32	34	42	44
CALLED PHASE	1	1	1	2	3	3	4	4
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								

DETECTOR INPUT	2	4	6	8	10	12	14	16
PLAN LOOP DETECTOR*(S)	12	14	21	31	33	41	43	45
CALLED PHASE	1	1	2	3	3	4	4	4
CALL OPTION		X	X		X			X
DELAY TIME								X
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME	X			X		X	X	
USE ADDED INITIAL								
CROSS SWITCH PHASE								

17	19	21	23	25	27	29	31
46	48	52	54	56	S1	S3	S5
4	4	5	5	5			
X	X		X	X			
X	X	X	X	X			
		X					

18	20	22	24	26	28	30	32
47	51	53	55	61	S2	S4	S6
4	5	5	5	6			
X			X	X			
X	X	X	X	X			
	X	X					

33	35	37	39	41	43	45	47	DETECTOR INPUT
S7	S9	S11	S13	S15				PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

34	36	38	40	42	44	46	48	DETECTOR INPUT
S8	S10	S12	S14	S16				PLAN LOOP DETECTOR*(S)
								CALLED PHASE
								CALL OPTION
								DELAY TIME
								EXTENTION OPTION
								EXTEND TIME
								USE ADDED INITIAL
								CROSS SWITCH PHASE

IH 41 RAMPS & W. BURLEIGH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO: S40-1114 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 12/16 PAGE NO. 4 OF 4

PROJECT NO: 1060-39-90	HWY: IH 41	COUNTY: MILWAUKEE	SEQUENCE OF OPERATIONS	SHEET NO: 140	E

12-13-16 DTW JMM 12/18/16

LEGEND

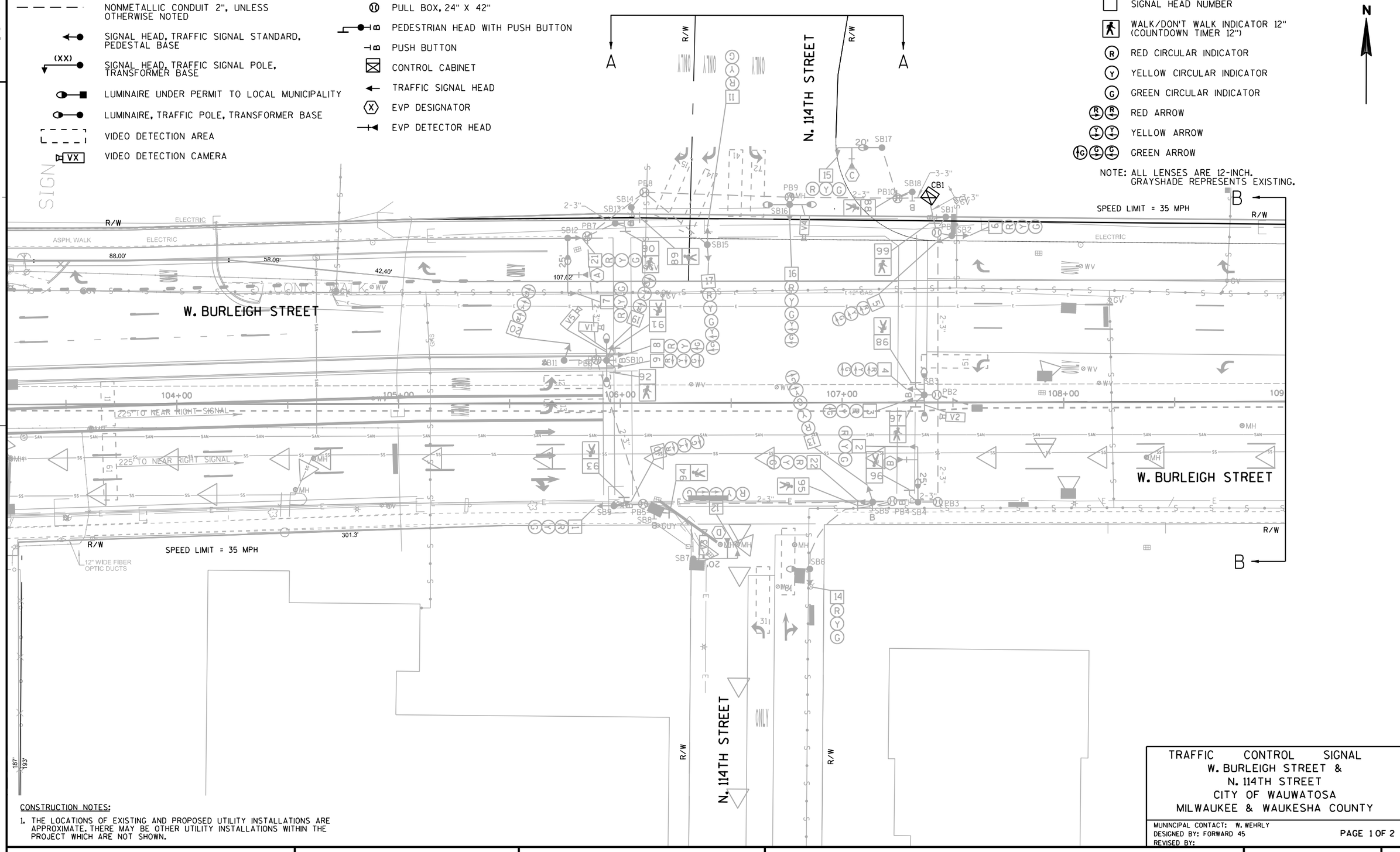
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 12" (COUNTDOWN TIMER 12")
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- (R)(R) RED ARROW
- (Y)(Y) YELLOW ARROW
- (Yc)(G)(G) GREEN ARROW

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

N



CONSTRUCTION NOTES:

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TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 114TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

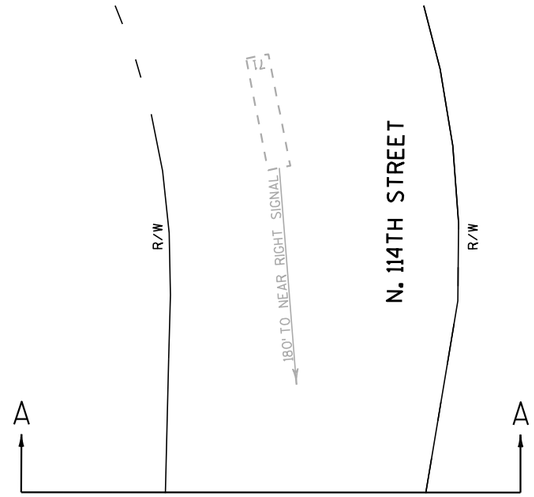
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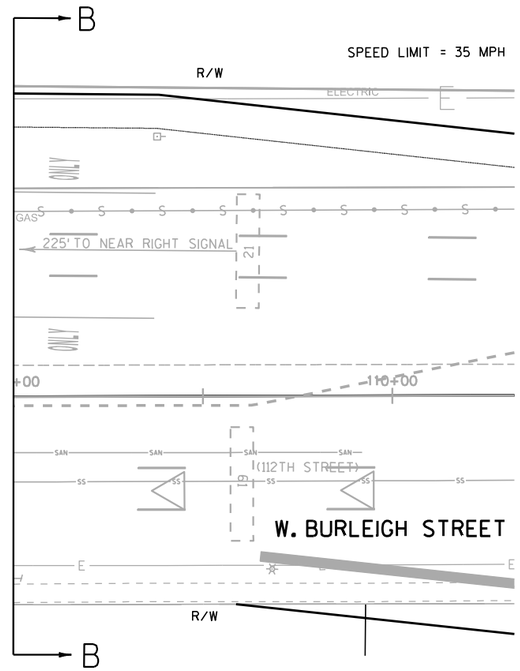
PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024441_sp.dgn PLOT DATE : 31-OCT-2016 15:15 PLOT BY : MSCJ5W PLOT NAME : 024441_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2





TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 114TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 2

PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024442_sp.dgn PLOT DATE : 31-OCT-2016 15:16 PLOT BY : MSCJ5W PLOT NAME : 024442_sp PLOT SCALE : 40:1

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LEGEND

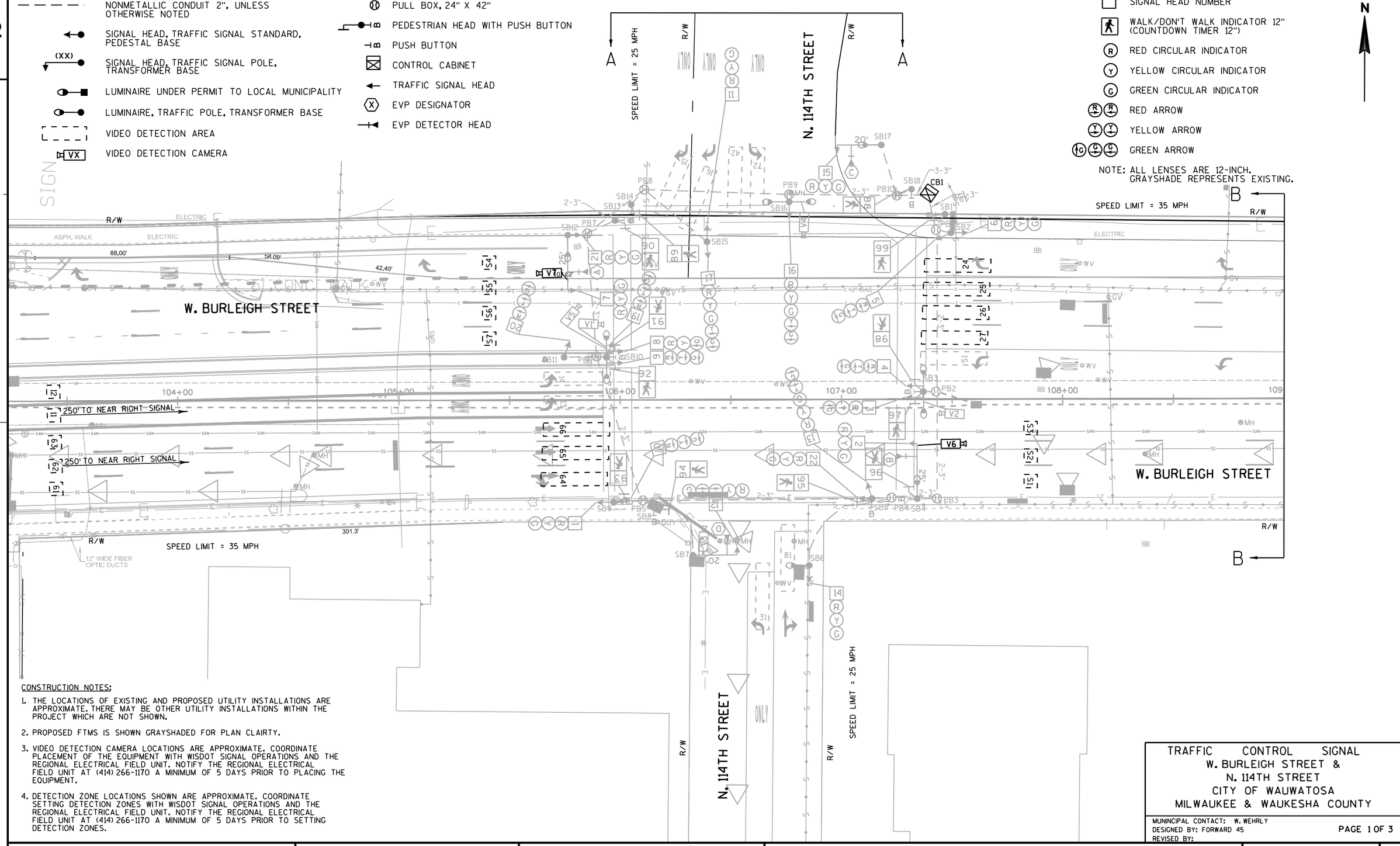
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- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- (X) EVP DESIGNATOR
- EVP DETECTOR HEAD

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 12" (COUNTDOWN TIMER 12")
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW

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TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 114TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

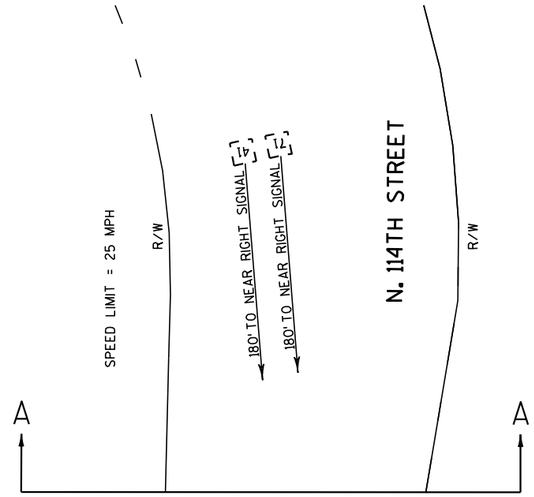
MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

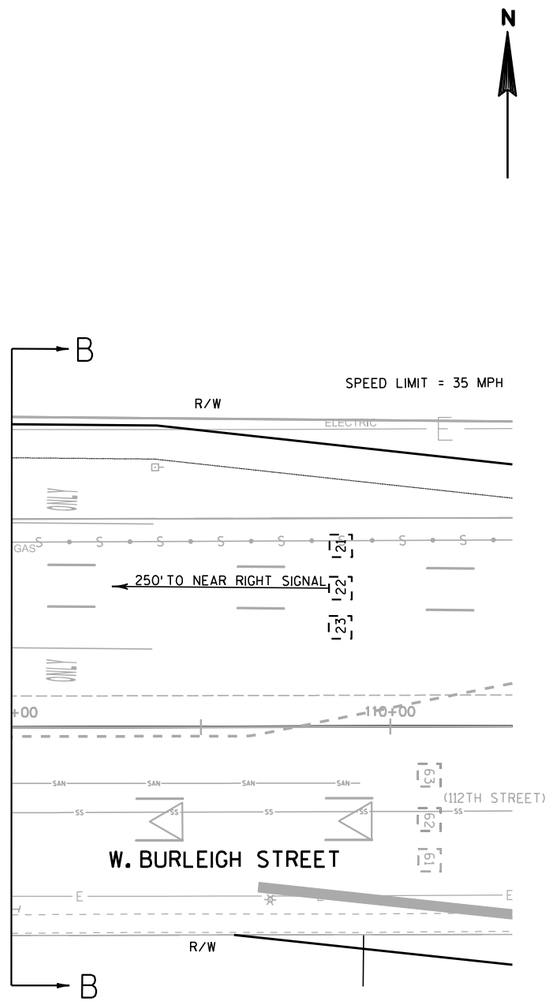
PAGE 1 OF 3

PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024445_sp.dgn PLOT DATE : 12-DEC-2016 12:36 PLOT BY : MSCJ5W PLOT NAME : 024445_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42





TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 114TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

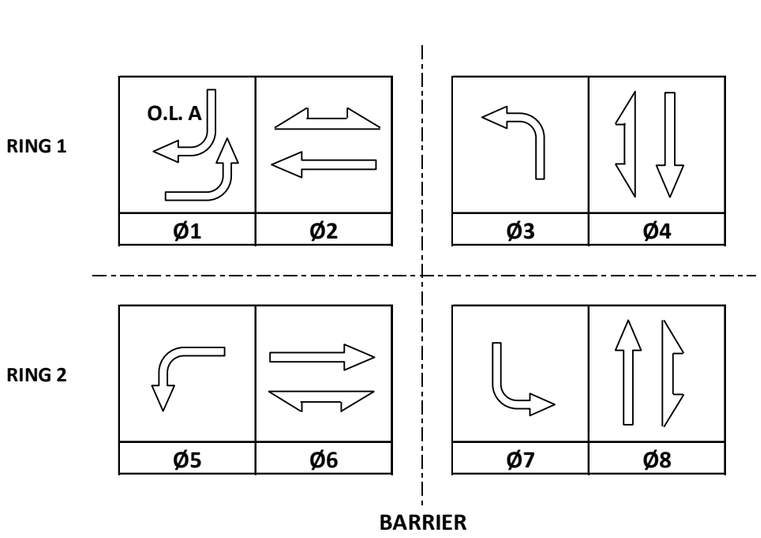
PAGE 2 OF 3

PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024446_sp.dgn PLOT DATE : 12-DEC-2016 12:37 PLOT BY : MSCJ5W PLOT NAME : 024446_sp PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

	HEAD NUMBERS	FLASH
Ø1	4,5	R ←
Ø2	6,7,8,21	R
Ø3	16,17	-
Ø4	11,12,13	R
Ø5	9,10	R ←
Ø6	1,2,3,22	R
Ø7	12,13	-
Ø8	14,15,16,17	R
Ø2P	88,89	
Ø4P	90,91,92,93	
Ø6P	94,95	
Ø8P	96,97,98,99	
OLA	19,20	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		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	D	C
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	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*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	13	15	21	23	25	27	41
ASSIGNED PHASE	1	1	1	2	2	2	2	4
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
SWITCH								
EXTEND	X			X	X			X
DELAY	X		X	X	X			X

19	17	23	21	27	25	31	29	
51	62	64	66	72	S1	S3	S5	
5	6	6	6	7				
VEH	VEH	VEH	VEH	VEH				
	X							
	X	X						

35	33	39	37	43	41	47	45	DETECTOR INPUT
S7								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12	14	16	22	24	26	31	42
ASSIGNED PHASE	1	1	1	2	2	2	3	4
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
SWITCH								
EXTEND	X			X				
DELAY	X			X	X		X	

20	18	24	22	28	26	32	30	
61	63	65	71	81	S2	S4	S6	
6	6	6	7	8				
VEH	VEH	VEH	VEH	VEH				
X	X		X					
X	X		X	X				

36	34	40	38	44	42	48	46	DETECTOR INPUT
								PLAN LOOP DETECTOR*(S)
								ASSIGNED PHASE
								OPERATION MODE
								SWITCH
								EXTEND
								DELAY

W. BURLEIGH STREET & N. 114TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO: CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 12/16 PAGE NO. 3 OF 3

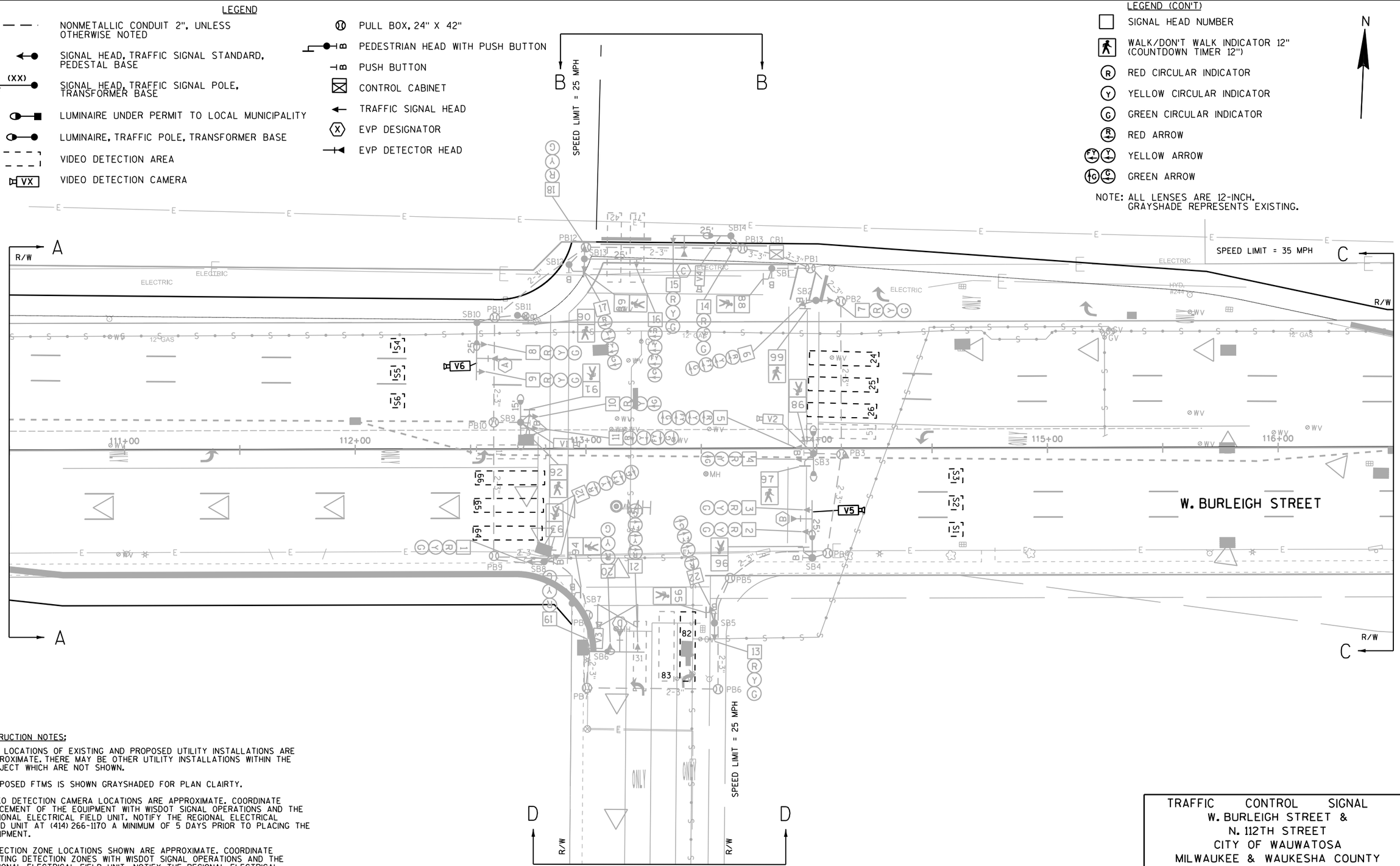
LEGEND

- 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
- VIDEO DETECTION AREA
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- EVP DESIGNATOR
- EVP DETECTOR HEAD

LEGEND (CON'T)

- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 12" (COUNTDOWN TIMER 12")
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW

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



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. PROPOSED FTMS IS SHOWN GRAYSHADED FOR PLAN CLAIRTY.
3. VIDEO DETECTION CAMERA 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.
4. DETECTION ZONE LOCATIONS SHOWN ARE APPROXIMATE. COORDINATE SETTING DETECTION ZONES 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 SETTING DETECTION ZONES.

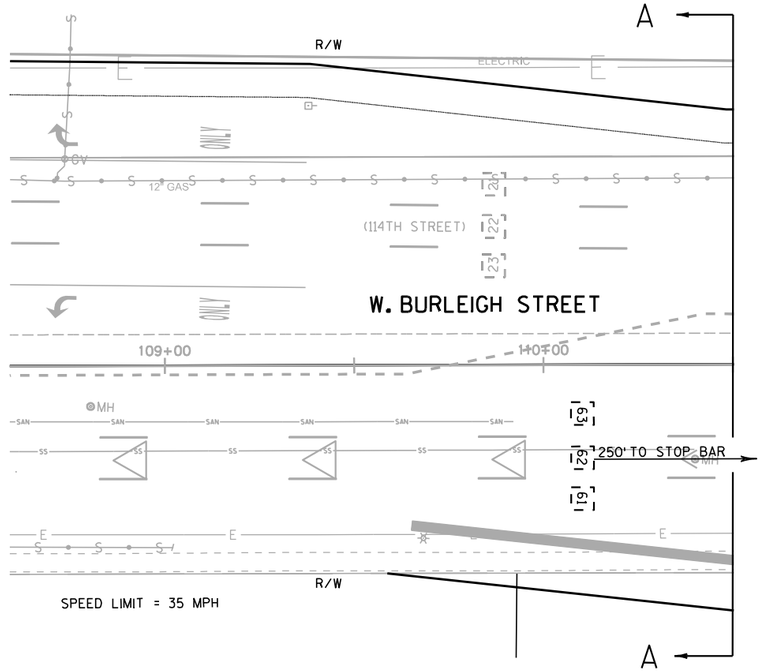
TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 112TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

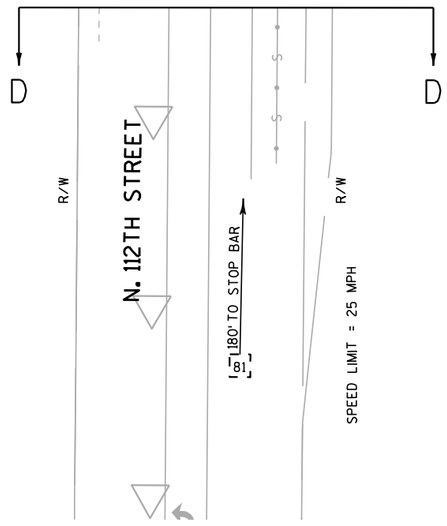
PAGE 1 OF 3

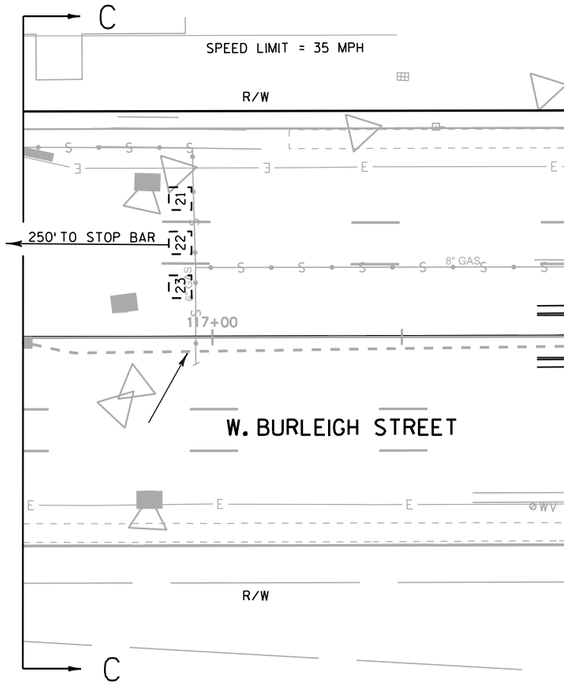
PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024455_sp.dgn PLOT DATE : 12-DEC-2016 12:38 PLOT BY : MSCJ5W PLOT NAME : 024455_sp PLOT SCALE : 40:1









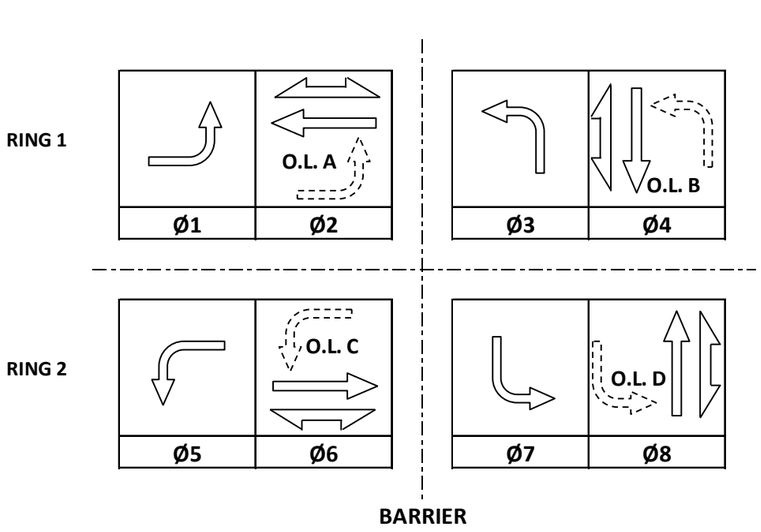
TRAFFIC CONTROL SIGNAL
W. BURLEIGH STREET &
N. 112TH STREET
CITY OF WAUWATOSA
MILWAUKEE & WAUKESHA COUNTY

MUNINCIPAL CONTACT: W. WEHRLY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 2 OF 3

PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

	HEAD NUMBERS	FLASH
Ø1	5,6	-
Ø2	7,8,9,10	R
Ø3	16,17	-
Ø4	18,19,20	R
Ø5	11,12	-
Ø6	1,2,3,4	R
Ø7	21,22	-
Ø8	13,14,15	R
Ø2P	88,89	
Ø4P	90,91,92,93	
Ø6P	94,95	
Ø8P	96,97,98,99	
OLA	5,6	R ←
OLB	16,17	R ←
OLC	11,12	R ←
OLD	21,22	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		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	X
TRAFFIC RESPONSIVE	
ADAPTIVE	
*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	19	17	23	21	27	25	31	29	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	11	22	24	26	41	51	62	64	66	81	83	S2	S4	S6			PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	1	2	2	3	4	4	5	6	6	8	8						ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH						OPERATION MODE
SWITCH																	SWITCH
EXTEND		X			X		X			X							EXTEND
DELAY		X			X		X	X		X							DELAY

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30	DETECTOR INPUT
PLAN LOOP DETECTOR*(S)	21	23	25	31	42	61	63	65	71	82	S1	S3	S5				PLAN LOOP DETECTOR*(S)
ASSIGNED PHASE	2	2	2	3	4	4	6	6	7	8							ASSIGNED PHASE
OPERATION MODE	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH							OPERATION MODE
SWITCH																	SWITCH
EXTEND	X	X				X	X										EXTEND
DELAY	X	X		X	X	X	X		X	X							DELAY

W. BURLEIGH STREET & N. 112TH STREET
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO: CABINET TYPE: TS2
CONTROLLER TYPE: EPAC
DATE: 12/16 PAGE NO. 3 OF 3

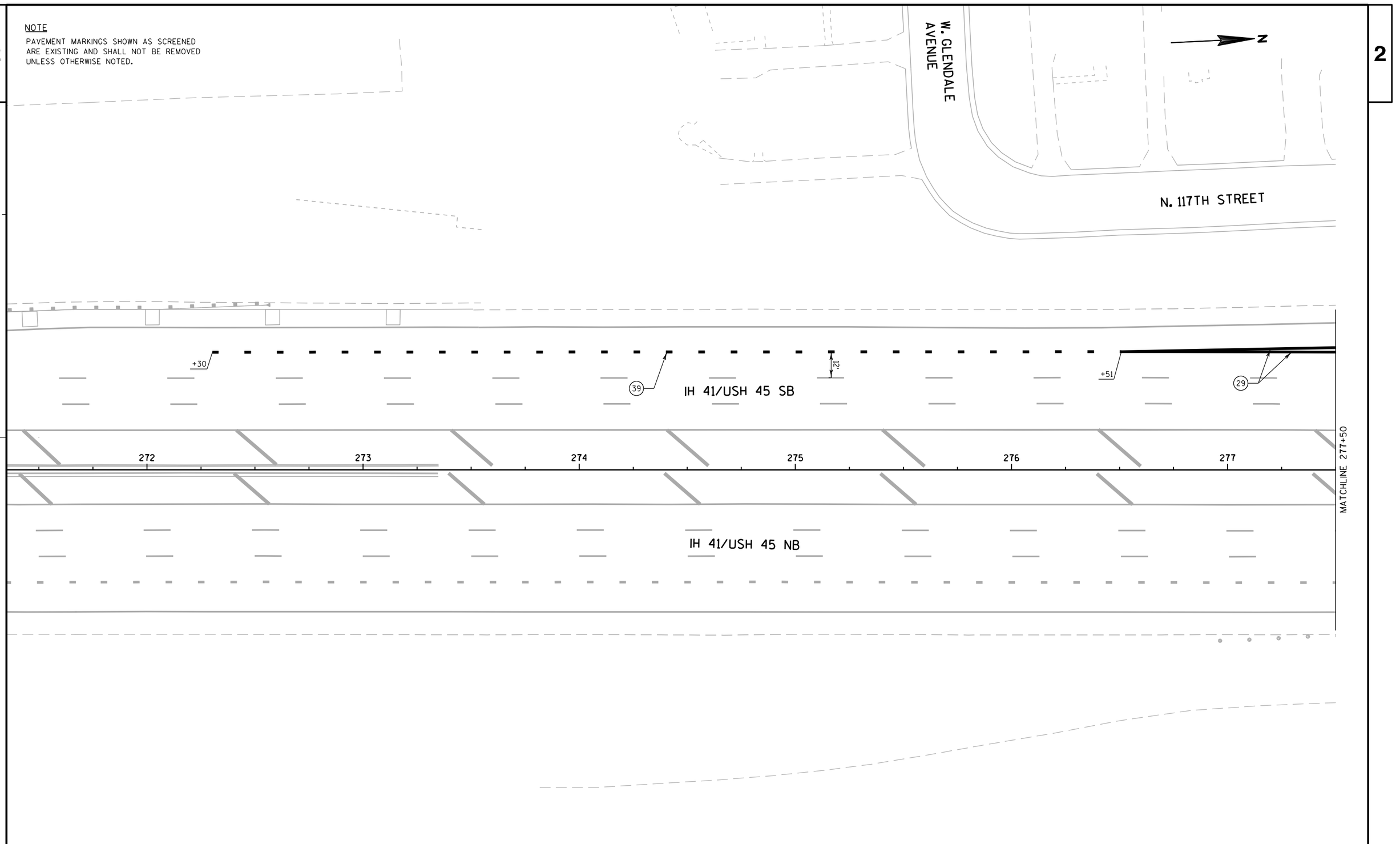
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LEGEND

1	PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2	PAVEMENT MARKING EPOXY 4-INCH (WHITE)
7	PAVEMENT MARKING STOP LINE EPOXY 18-INCH (WHITE)
9	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH (WHITE)
14	PAVEMENT MARKING WORDS EPOXY (WHITE)
16	PAVEMENT MARKING ARROWS EPOXY TYPE 2 (WHITE)
17	PAVEMENT MARKING ARROWS EPOXY TYPE 3 (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)
31	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (WHITE)
39	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
40	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
41	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH (DOT PATTERN WHITE) 3 FT LINE 9 FT SKIP)
60	PAVEMENT MARKING CROSSWALK EPOXY 12-INCH (WHITE)
215	PAVEMENT MARKING DIAGONAL EPOXY 6-INCH (WHITE)

NOTE

PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.

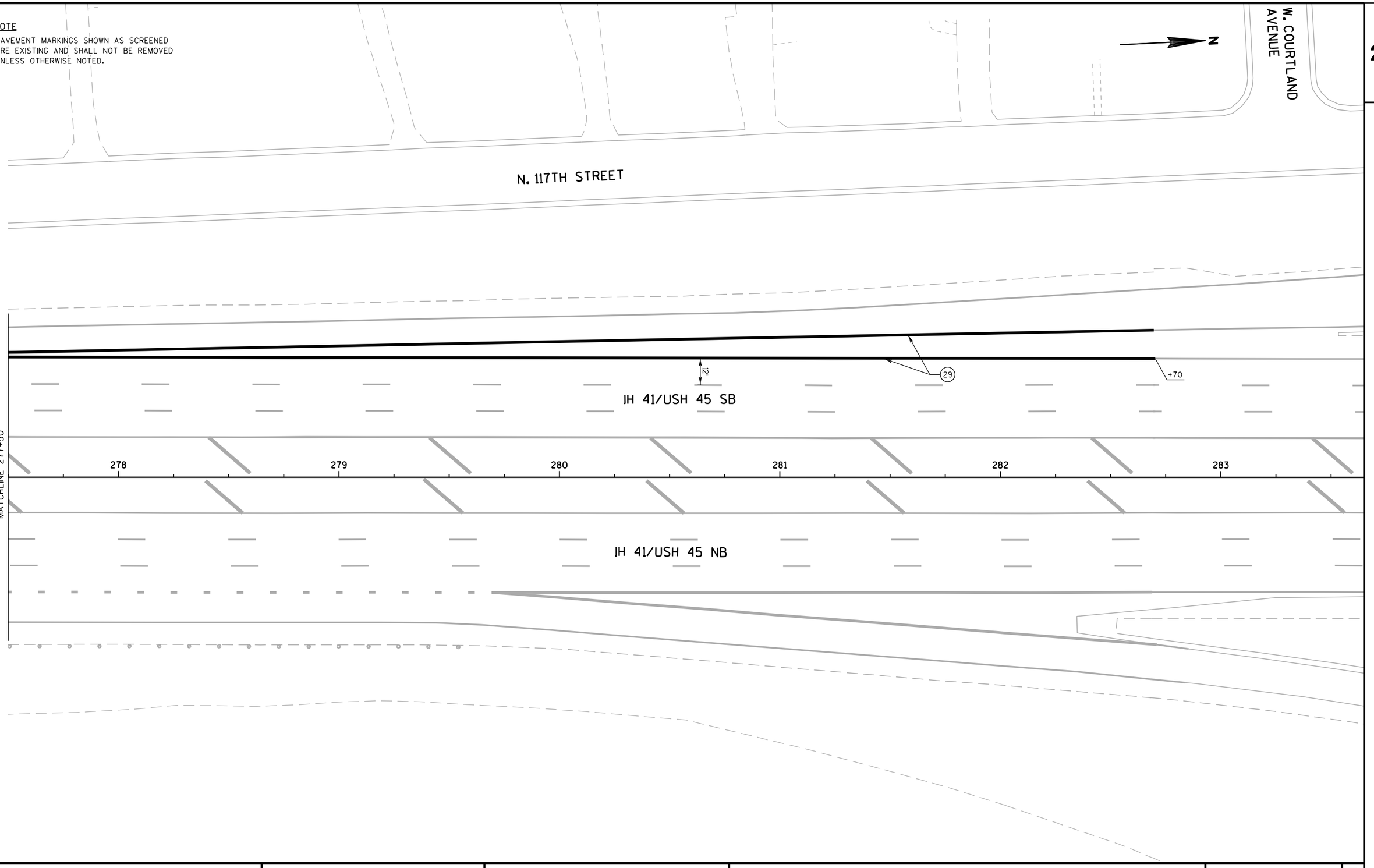


PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024501_pm.dgn PLOT DATE : 27-OCT-2016 22:50 PLOT BY : MSCDYB PLOT NAME : 024501_pm PLOT SCALE : 40:1

NOTE

PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.

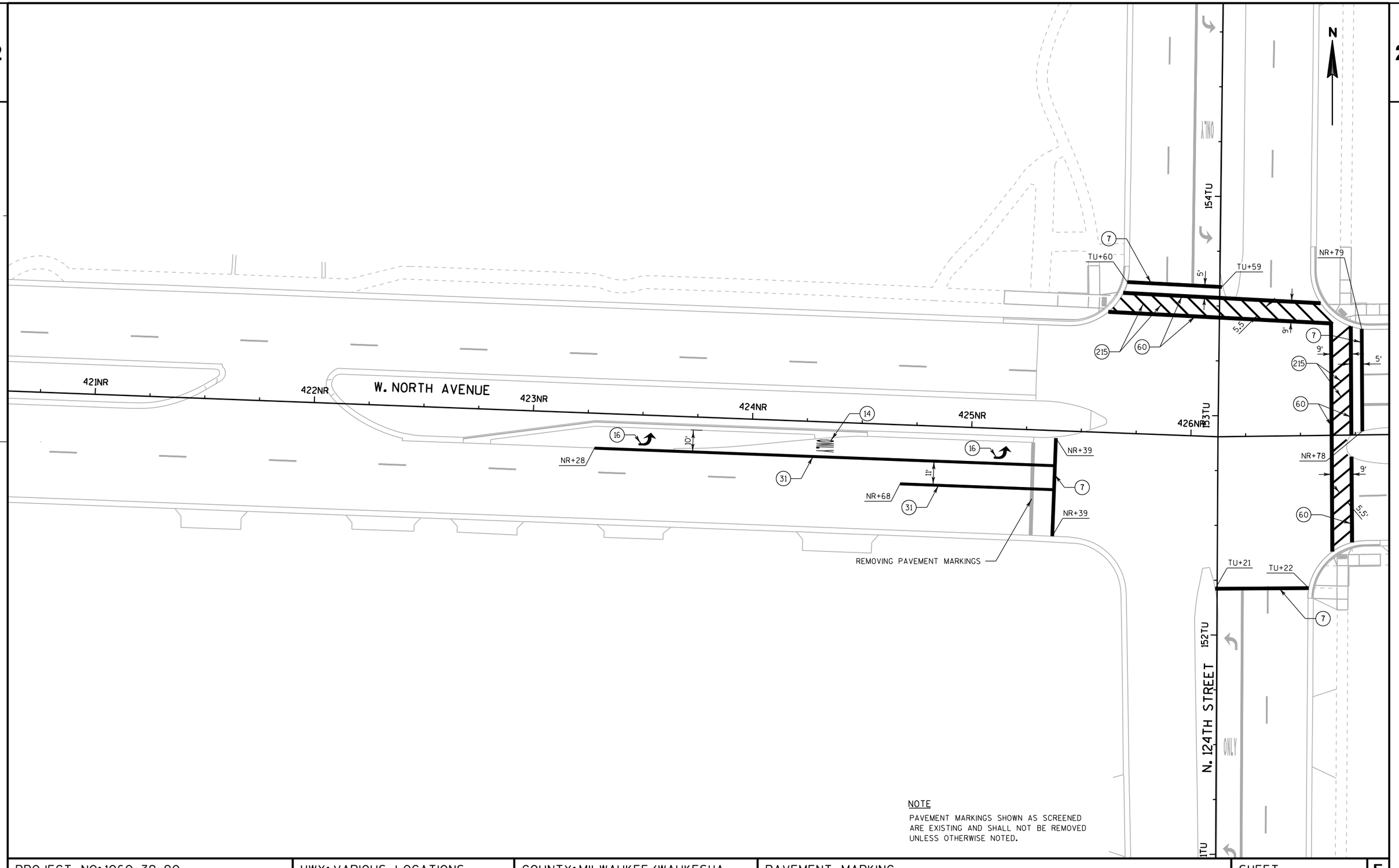


PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024502_pm.dgn PLOT DATE : 27-OCT-2016 22:50 PLOT BY : MSCDYB PLOT NAME : 024502_pm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2



NOTE

PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

2

2

N

ONLY

207TU

206TU

205TU

204TU

N. 124TH STREET

N. 122ND STREET

W. BURLEIGH ROAD

W. BURLEIGH STREET

TU+53

TU+54

TU+25

TU+27

BR+15

BR+12

BR+72

BR+74

BR+70

BR+27

BR+21

BR+60

526BR

527BR

528BR

529BR

530BR

531BR

REMOVING PAVEMENT MARKINGS
(CROSSWALK, DIAGONAL AND
STOP LINE PAVEMENT MARKINGS)

REMOVING PAVEMENT MARKINGS

REMOVING PAVEMENT MARKINGS

REMOVING PAVEMENT MARKINGS
(DASHED PAVEMENT MARKING)

REMOVING PAVEMENT MARKINGS WORDS

REMOVING PAVEMENT MARKINGS ARROWS

REMOVING PAVEMENT MARKINGS
(CROSSWALK AND DIAGONAL
PAVEMENT MARKINGS)

NOTE

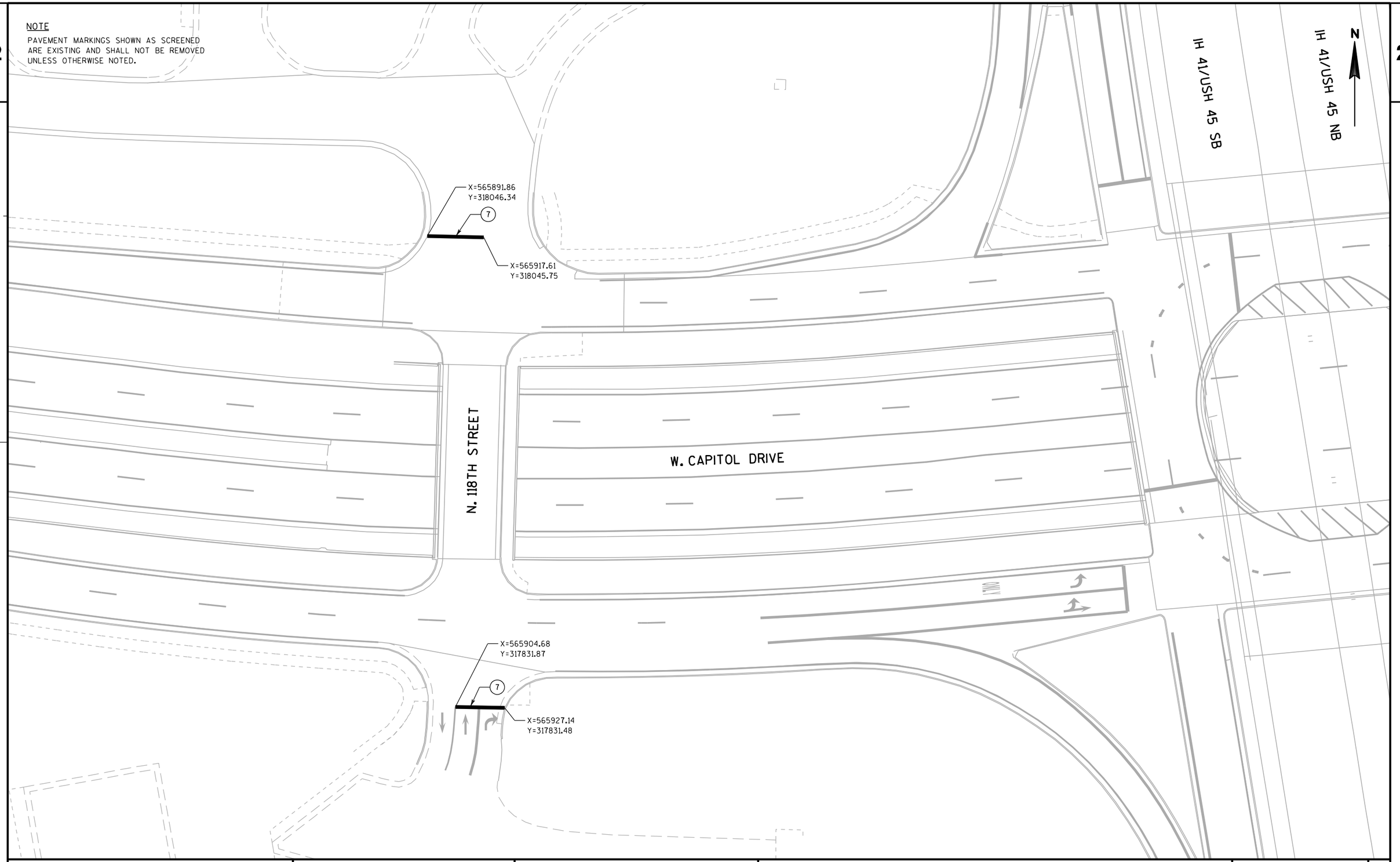
PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024504_pm.dgn PLOT DATE : 17-JAN-2017 14:33 PLOT BY : MSCDYB PLOT NAME : 024504_pm PLOT SCALE : 40:1

NOTE

PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

NOTE

PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.

REMOVING PAVEMENT MARKINGS WORDS

REMOVING PAVEMENT MARKINGS ARROWS

REMOVING PAVEMENT MARKINGS

REMOVING PAVEMENT MARKINGS WORDS

REMOVING PAVEMENT MARKINGS ARROWS

W. HAMPTON AVENUE

N. 118TH STREET

IH 41/USH 45 SB

IH 41/USH 45 NB

616HP 617HP 618HP 619HP 620HP 621HP 622HP

293 292 291 290

HP+33 HP+89 HP+07 HP+33 HP+53 HP+53 HP+72 HP+03 HP+34 HP+78 HP+94 HP+93 HP+10 HP+19 HP+32 HP+18 HP+59 HP+04 HP+98

6'

N

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\024506_pm.dgn PLOT DATE : 01-NOV-2016 08:59 PLOT BY : MSCDYB PLOT NAME : 024506_pm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

2

N. ROBERTSON AVENUE

RAVENSWOOD CIRCLE

W. BLUEMOUND ROAD

241BL

242BL

243BL

244BL

BL+92

BL+92

BL+91

BL+88

F+03

F+85

F+27

7F

72F

GLENVIEW AVENUE

ONLY

ONLY

6'

8'

8'

8'

11'

6'

7

9

9

14

29

16

2

17

NOTE

PAVEMENT MARKINGS SHOWN AS SCREENED ARE EXISTING AND SHALL NOT BE REMOVED UNLESS OTHERWISE NOTED.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	PAVEMENT MARKING	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\024507_pm.dgn PLOT DATE : 27-OCT-2016 22:50 PLOT BY : MSCDYB PLOT NAME : 024507_pm PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER. FLAGGING IS NOT PERMITTED ON FREEWAY LANES.

3) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

5) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.

6) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

7) DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER ADJACENT TO TRAFFIC. STATION CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF THE BARRIER.

8) ALL TRAFFIC CONTROL SIGNS LOCATED IN MEDIANS SHALL BE MOUNTED ON CONCRETE BARRIER UNLESS OTHERWISE NOTED, SEE TRAFFIC CONTROL DETAILS.

9) 16" X 16" ORANGE FLAGS SHALL BE INCIDENTAL TO TRAFFIC CONTROL SIGN BID ITEM.

10) INSTALL PROPOSED TRAFFIC CONTROL SIGNS ON BOTH OUTSIDE SHOULDER AND MEDIAN SIDE OF ALL DIVIDED ROADWAYS.

LEGEND

- TRAFFIC CONTROL BARRICADE TYPE II WITH ONE LIGHT TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC CONTROL ARROW BOARD
- PCMS — TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE
- FLAGS, 16" X 16" MIN., (ORANGE)
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC FLOW ARROW
- WORK ZONE THIS STAGE

TEMPORARY PAVEMENT MARKING LEGEND

(45) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

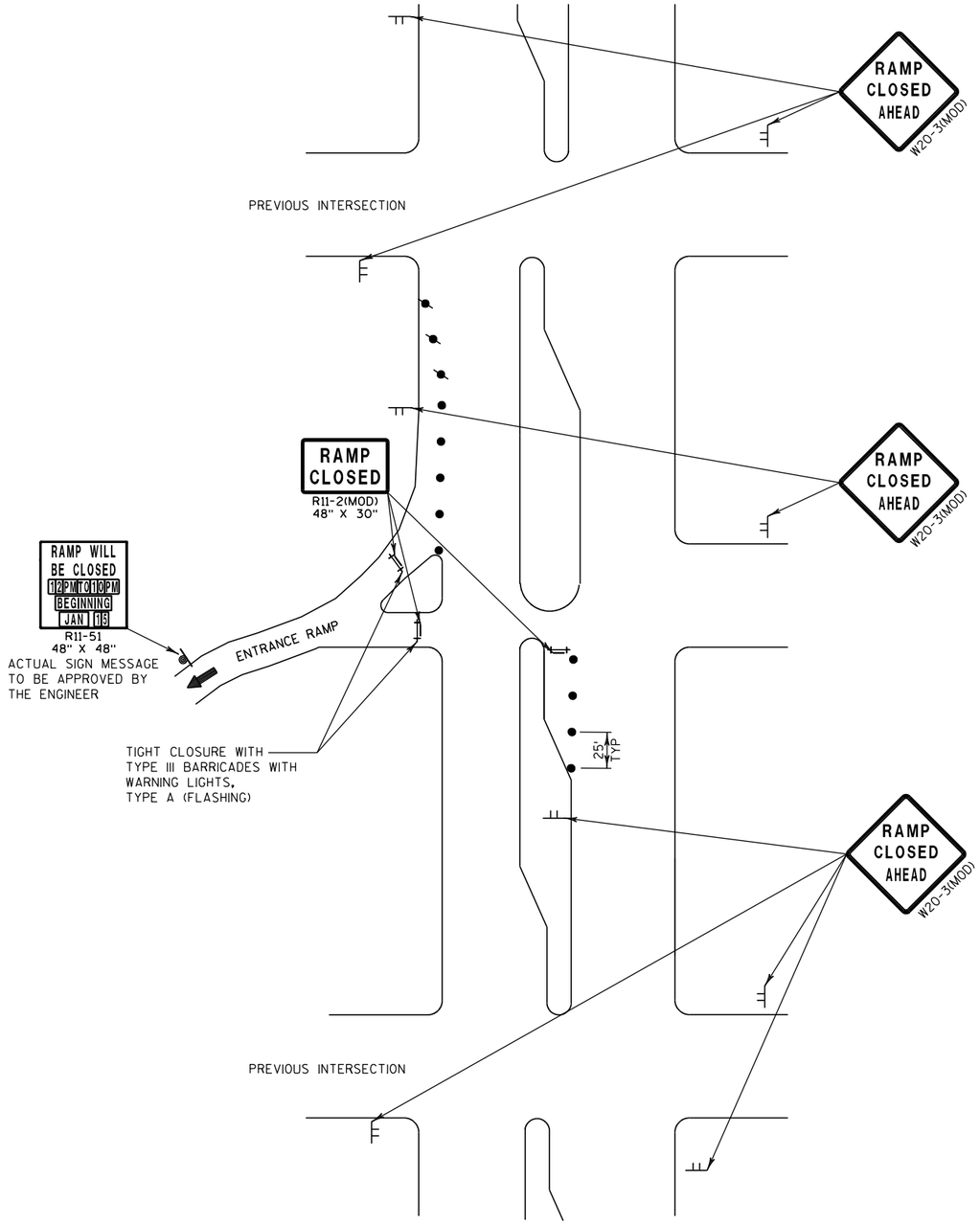
(46) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

(49) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)

(94) TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE TYPE 2 (WHITE)

(95) TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE (WHITE)

2



NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL III BARRICADE
- TRAFFIC CONTROL III BARRICADE WITH LIGHT TYPE A AND ATTACHED SIGN
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

(SHORT TERM ONLY)

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	TRAFFIC CONTROL - CONSTRUCTION DETAIL	SHEET	E

NOTE

SEE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" FOR PLACEMENT OF SIGNS AND ADDITIONAL TRAFFIC CONTROL DEVICES.

N

W. GLENDALE AVENUE

N. 117TH STREET

IH 41/USH 45 SB

IH 41/USH 45 NB

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

W05-52L
12" X 36"

+75.10
17.00' LT

+95.10
17.00' LT

+74.78
5.00' RT

+74.90
15.00' RT

+95.00
15.00' RT

+95.10
7.00' LT

1' MIN

50' TYP

100' TYP

500' BUFFER (MIN)

200' TAPER

262 264 266 268 270 272 274 276

INL

SIGN

MH

1600' 1000' 500'

ROAD WORK AHEAD
W20-1A

LEFT SHOULDER CLOSED AHEAD
W21-5BL

LEFT SHOULDER CLOSED
W21-5AL

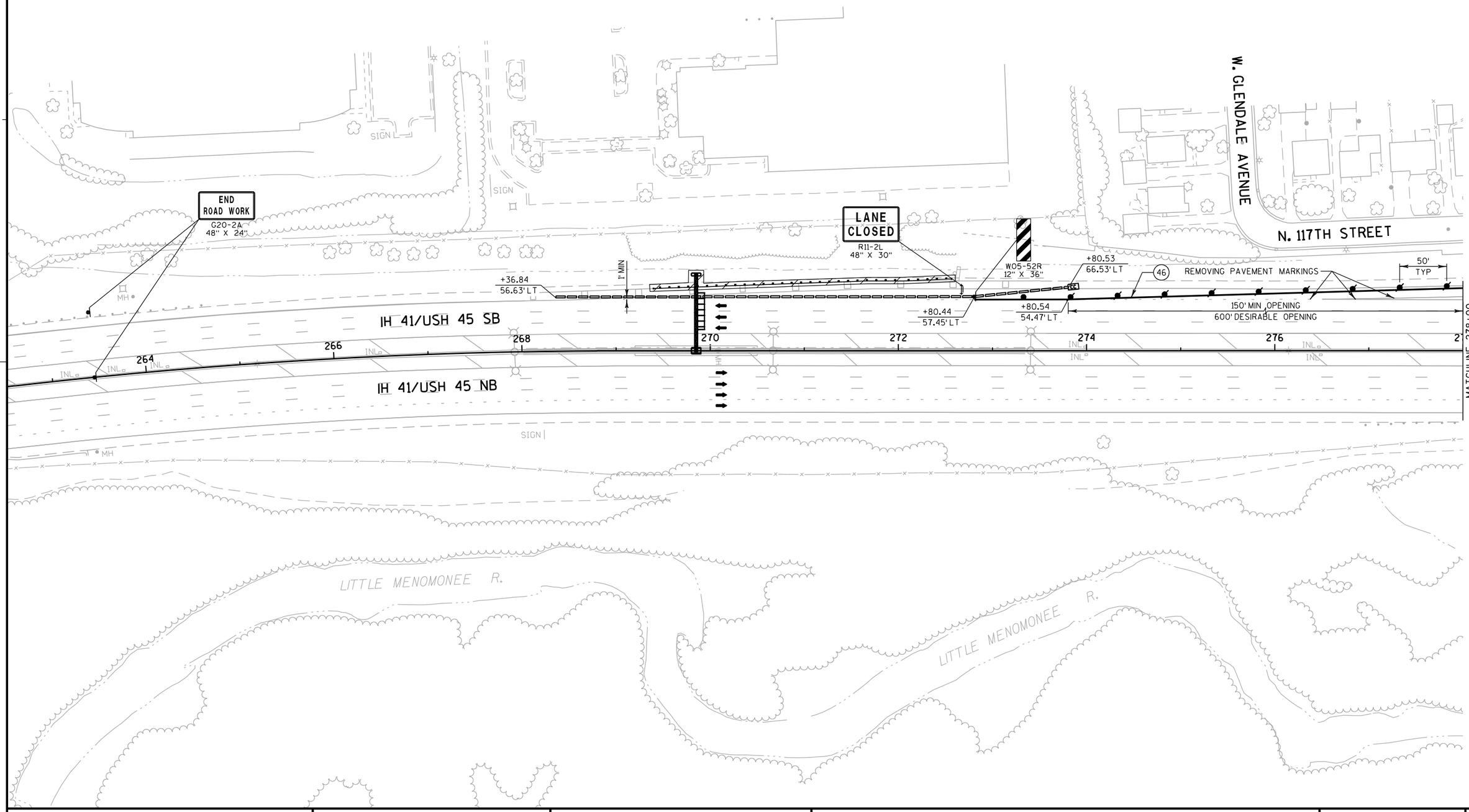
LITTLE MENOMONEE R.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	IH 41/USH 45 - STAGE 1 CONSTRUCTION	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\026001_s1_ih 41.dgn PLOT DATE : 27-OCT-2016 22:51 PLOT BY : MSCDYB PLOT NAME : 026001_s1_ih 41 PLOT SCALE : 100:1

NOTE

SEE SDDS "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.



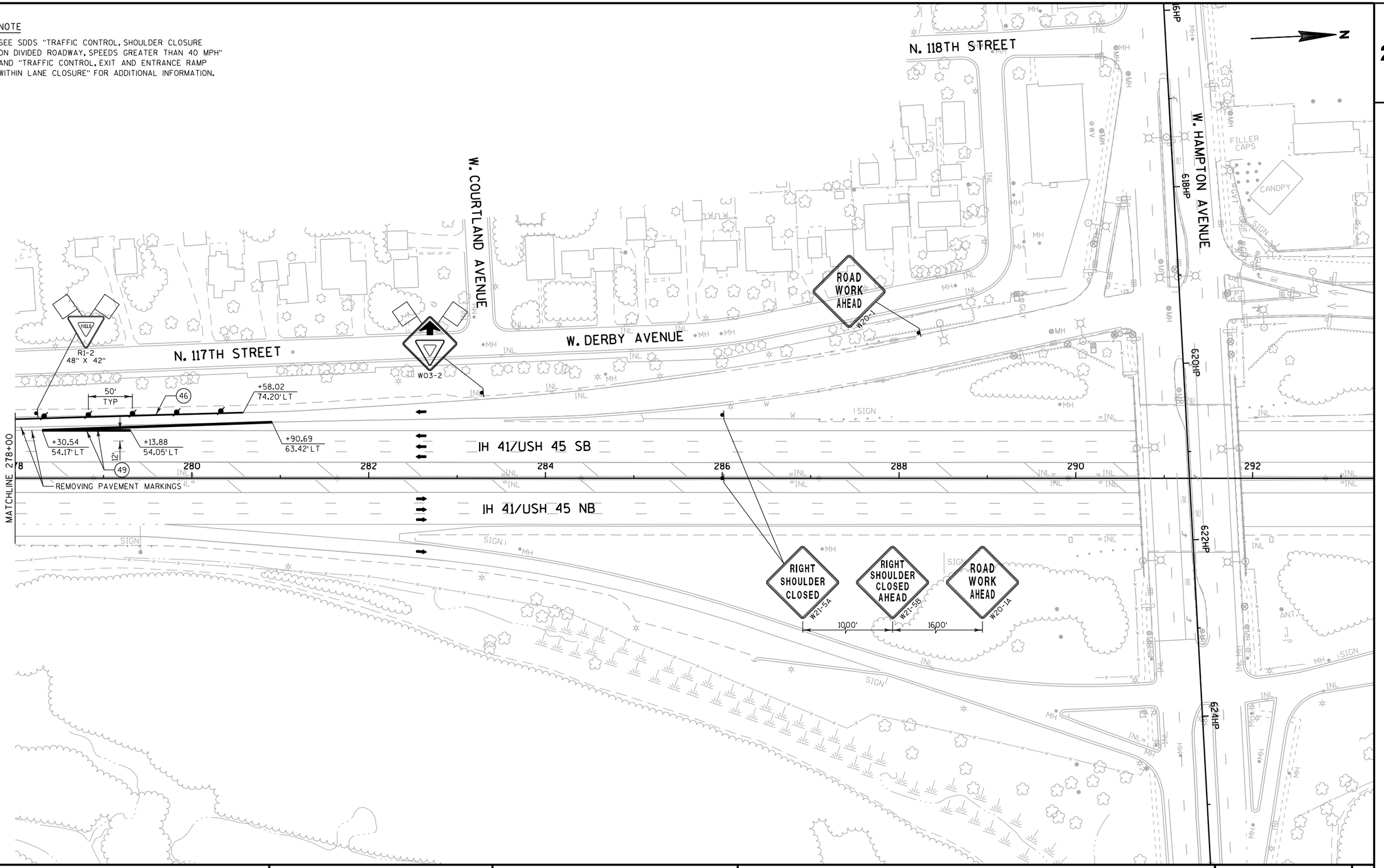
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	IH 41/USH 45 - STAGE 2 CONSTRUCTION	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\026002_s2_ih 41.dgn PLOT DATE : 27-OCT-2016 22:51 PLOT BY : MSCDYB PLOT NAME : 026002_s2_ih 41 PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

NOTE

SEE SDDS "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION.

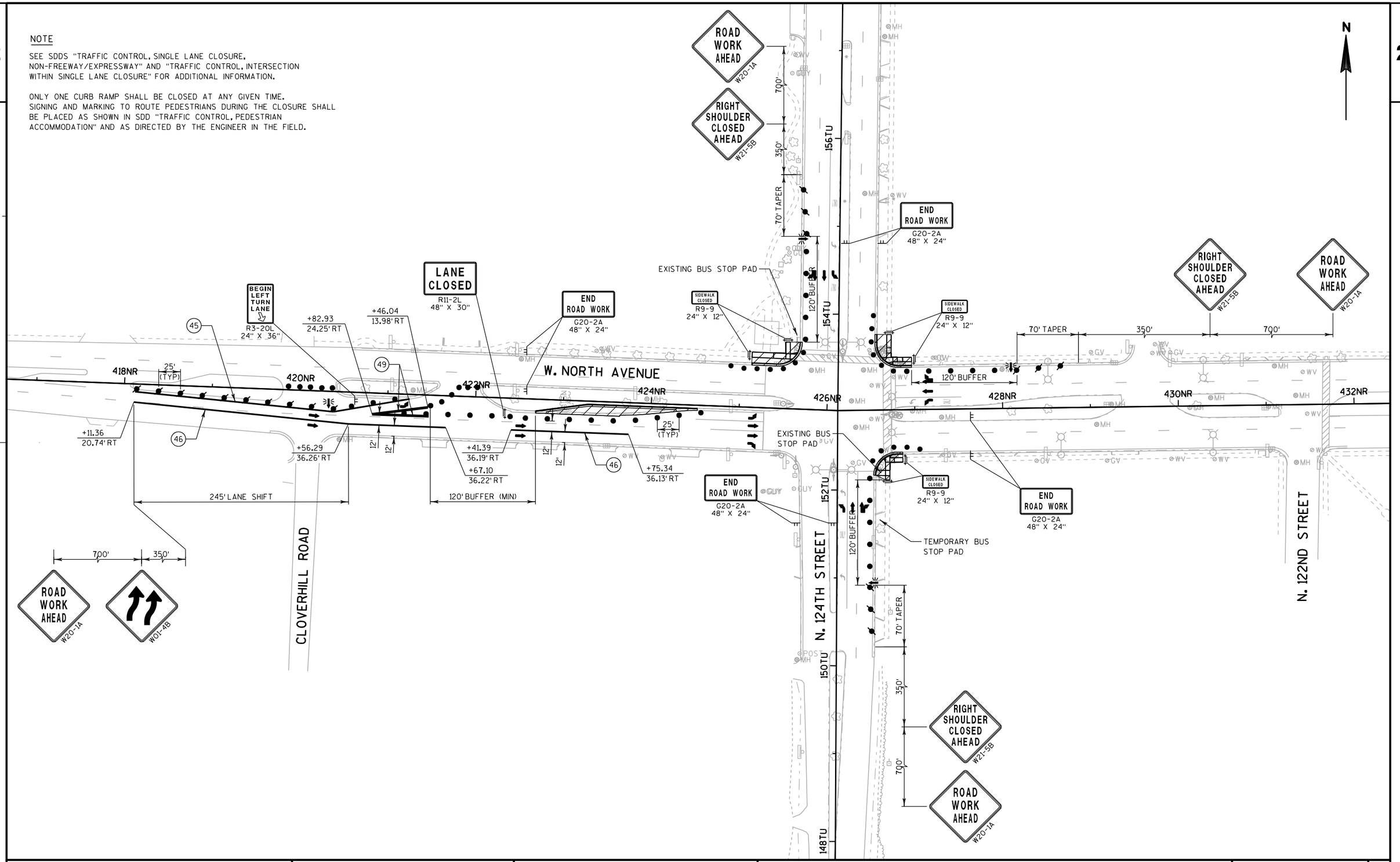


PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	IH 41/USH 45 - STAGE 2 CONSTRUCTION	SHEET	E

NOTE

SEE SDDS "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY" AND "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" FOR ADDITIONAL INFORMATION.

ONLY ONE CURB RAMP SHALL BE CLOSED AT ANY GIVEN TIME. SIGNING AND MARKING TO ROUTE PEDESTRIANS DURING THE CLOSURE SHALL BE PLACED AS SHOWN IN SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND AS DIRECTED BY THE ENGINEER IN THE FIELD.



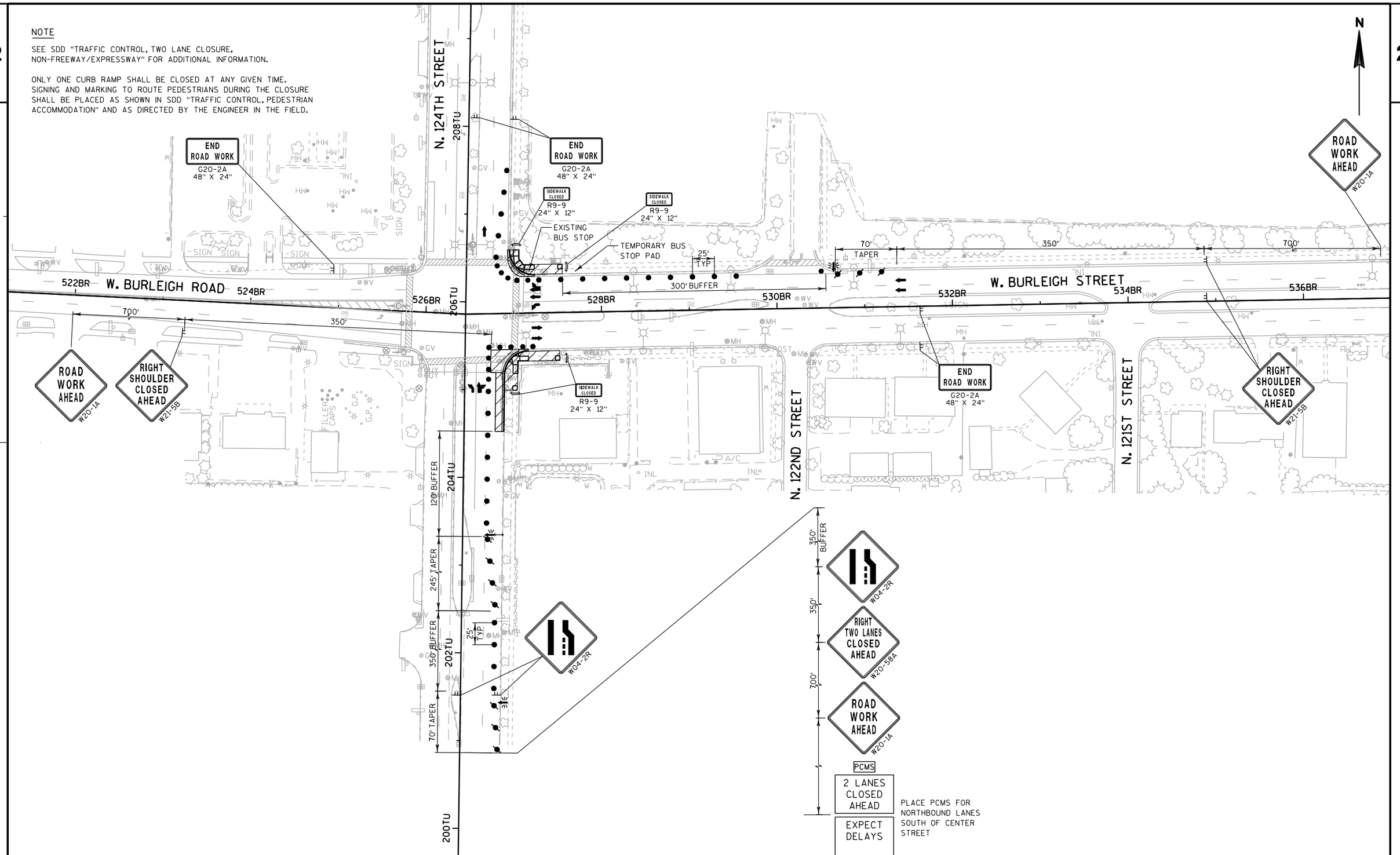
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	W. NORTH AVENUE CONSTRUCTION	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\026004_s1_NR.dgn PLOT DATE : 28-OCT-2016 15:39 PLOT BY : mscd1s PLOT NAME : 026004_s1_NR PLOT SCALE : 100:1

NOTE

SEE SDD "TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL INFORMATION.

ONLY ONE CURB RAMP SHALL BE CLOSED AT ANY GIVEN TIME. SIGNING AND MARKING TO ROUTE PEDESTRIANS DURING THE CLOSURE SHALL BE PLACED AS SHOWN IN SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND AS DIRECTED BY THE ENGINEER IN THE FIELD.



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	W. BURLEIGH STREET/N. 124TH STREET - STAGE 1 CONSTRUCTION	SHEET	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\026005_s1_BR.dgn PLOT DATE : 28-OCT-2016 12:57 PLOT BY : mscd1s PLOT NAME : 026005_s1_BR PLOT SCALE : 100:1

2

N

ROAD WORK AHEAD W20-1A

2107TU

N. 124TH STREET

208TU

350'

206TU

204TU

202TU

350'

350' 700'

LEFT LANE CLOSED AHEAD W20-55A

ROAD WORK AHEAD W20-1A

PCMS

LANE CLOSED AT 124TH

EXPECT DELAYS

PLACE PCMS FOR WESTBOUND LANES AT IH 41/USH 45 SB RAMPS

BEGIN LEFT TURN LANE

R3-20L 24" X 36"

LANE CLOSED

R11-2L 48" X 30"

END ROAD WORK

G20-2A 48" X 24"

245' TAPER

25' TYP

520BR

522BR

524BR

526BR

528BR

530BR

532BR

534BR

+22.10 0.45' RT

+34.77 13.25' RT

+22.92 19.25' RT

+72.92 26.83' RT

+11.50 23.80' RT

+05.89 24.02' RT

100'

50'

EXISTING BUS STOP

49

45

12

11

W. BURLEIGH ROAD

W. BURLEIGH STREET

N. 122ND STREET

N. 121ST STREET

FILLER CAPS

A/C

PCMS

LANE CLOSED AT 124TH

EXPECT DELAYS

PLACE PCMS FOR EASTBOUND LANES WEST OF BURLAWN PARKWAY

700' 350'

ROAD WORK AHEAD W20-1A

LEFT LANE CLOSED AHEAD W20-55A

NOTE

SEE SDDS "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY," "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE" AND "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	W. BURLEIGH STREET/N. 124TH STREET - STAGE 2 CONSTRUCTION	SHEET	E

2

2

N

IH 41/USH 45 SB

IH 41/USH 45 NB

W. CAPITOL DRIVE

N. 118TH STREET

NEW TRAFFIC PATTERN AHEAD W023-2

NEW TRAFFIC PATTERN AHEAD W023-2

CEMETERY

GOLF GREEN

PARKING

SIGN

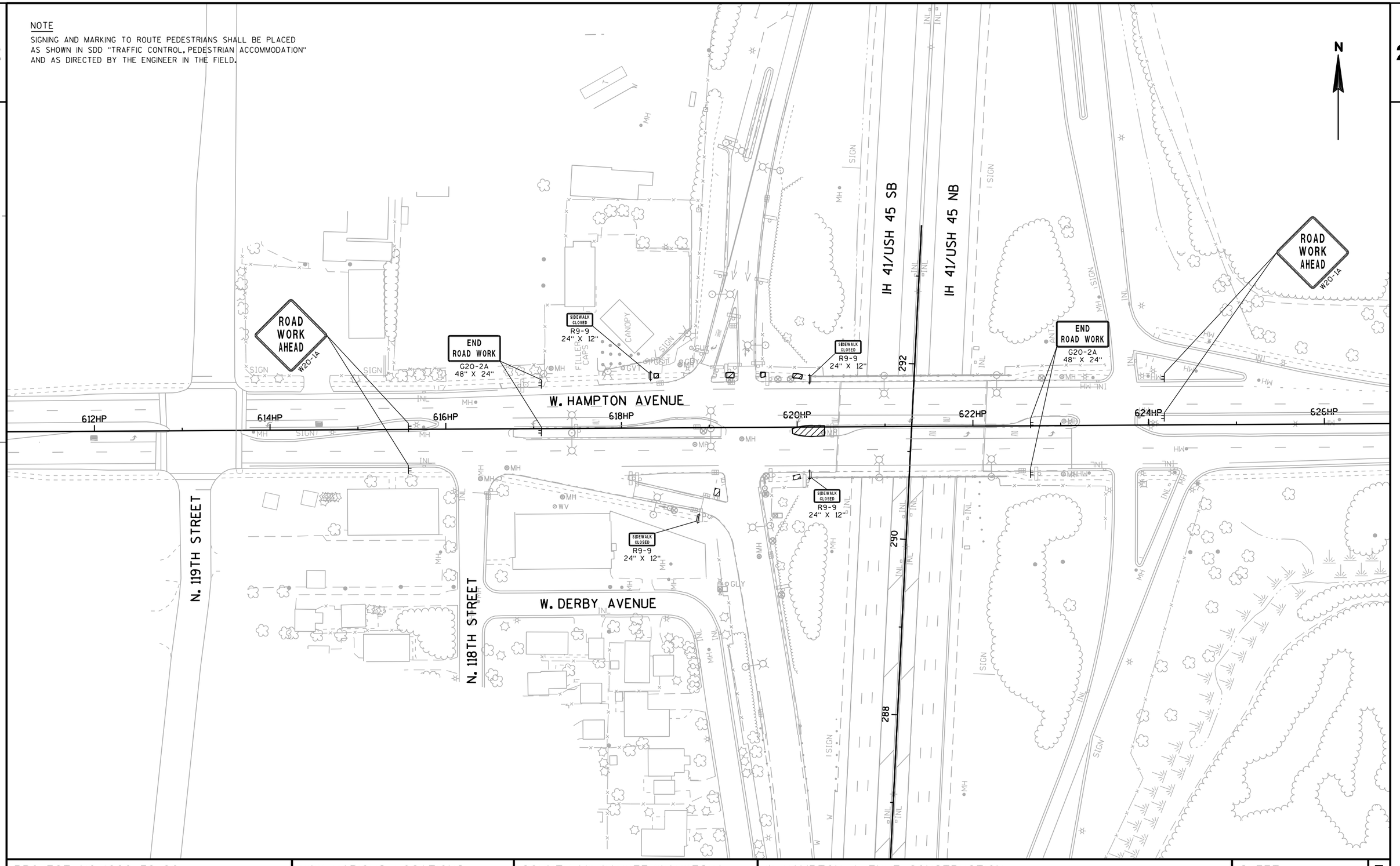
SIGN

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	W. CAPITOL DRIVE CONSTRUCTION	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\026007_s1_cd.dgn PLOT DATE : 27-OCT-2016 22:53 PLOT BY : MSCDYB PLOT NAME : 026007_s1_cd PLOT SCALE : 100:1

NOTE

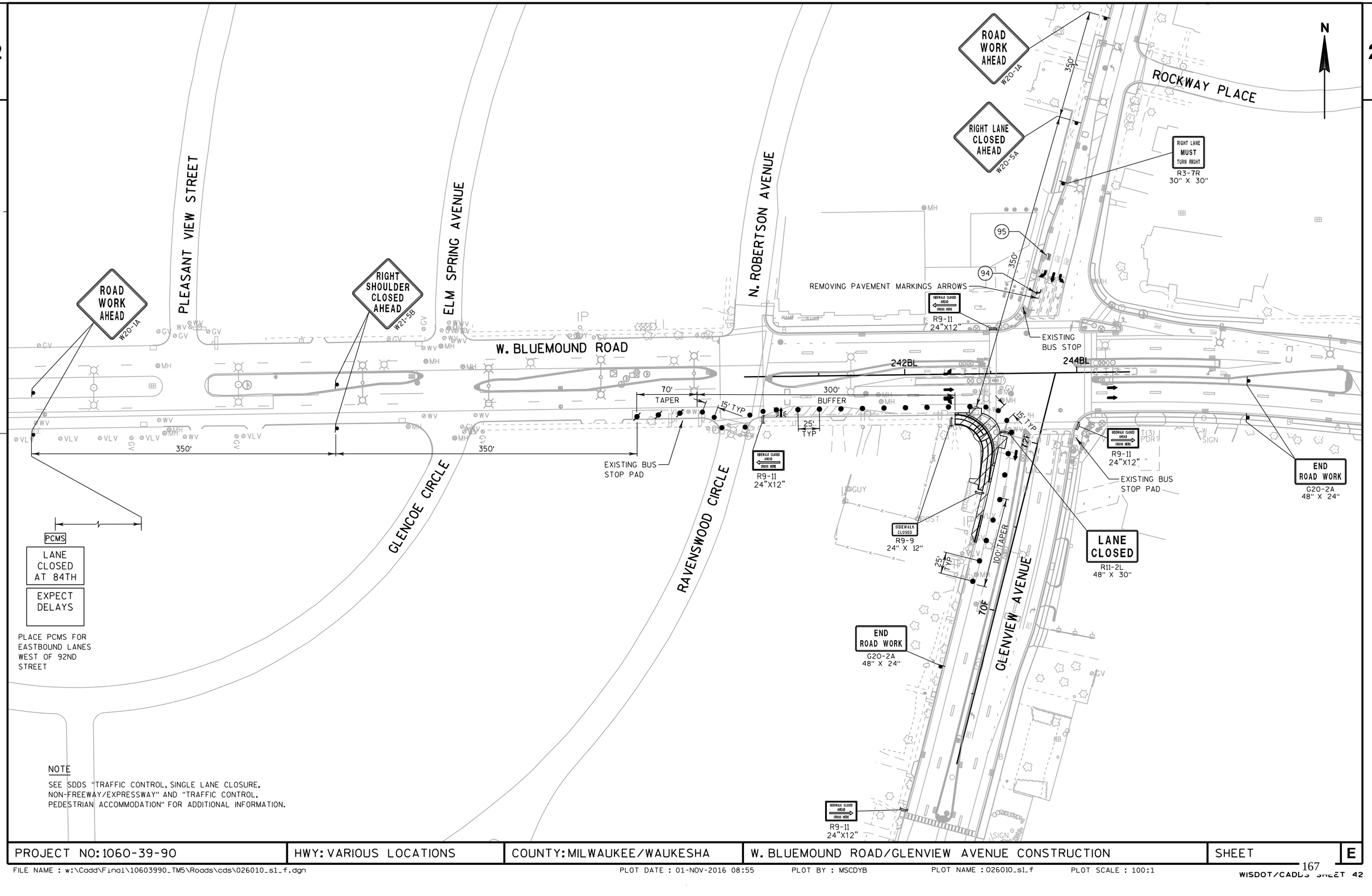
SIGNING AND MARKING TO ROUTE PEDESTRIANS SHALL BE PLACED AS SHOWN IN SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND AS DIRECTED BY THE ENGINEER IN THE FIELD.



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	W. HAMPTON AVENUE CONSTRUCTION	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\026008_s1_hp.dgn PLOT DATE : 27-OCT-2016 22:53 PLOT BY : MSCDYB PLOT NAME : 026008_s1_hp PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42



NOTE

SEE SDDS "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY" AND "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL INFORMATION.

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	W. BLUEMOUND ROAD/GLENVIEW AVENUE CONSTRUCTION	SHEET	E

GENERAL NOTES

ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.

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

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS OTHERWISE PROVIDED IN THE PLAN.

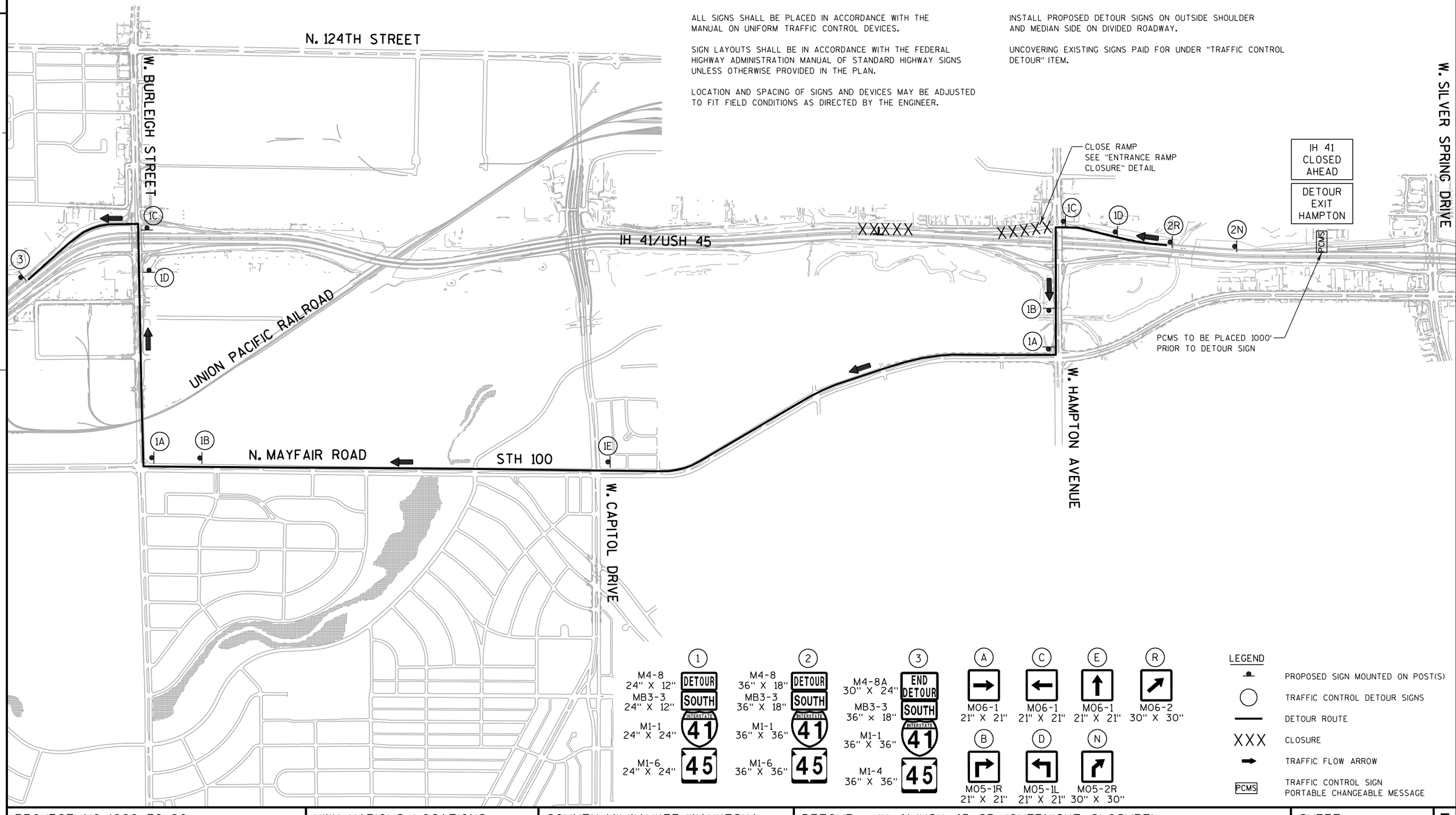
LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS DETOUR SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED ROADWAY.

UNCOVERING EXISTING SIGNS PAID FOR UNDER "TRAFFIC CONTROL DETOUR" ITEM.



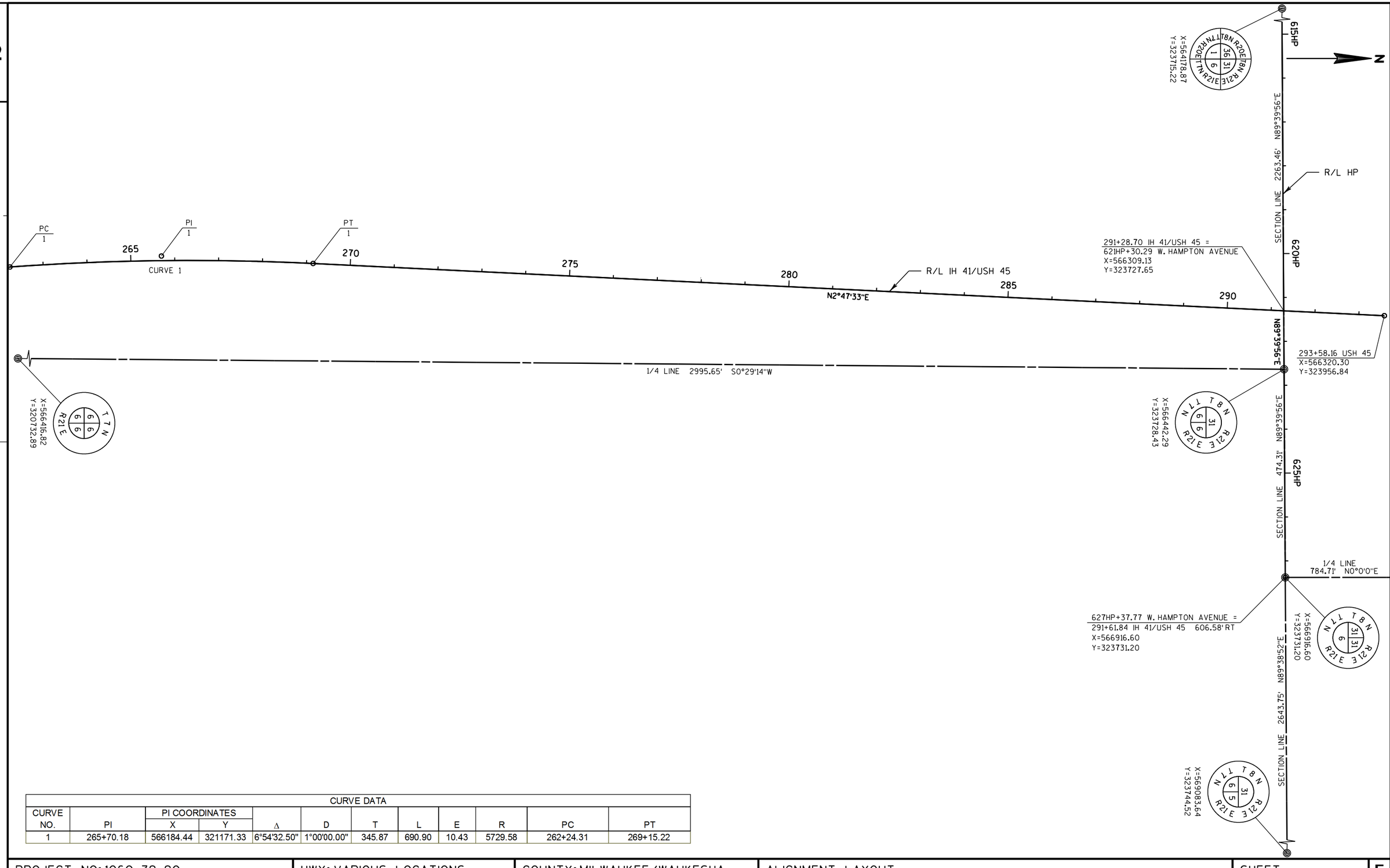
1	2	3	A	C	E	R
M4-8 24" X 12" DETOUR SOUTH; MB3-3 24" X 12"; M1-1 24" X 24" INTERSTATE 41 45; M1-6 24" X 24"	M4-8 36" X 18" DETOUR SOUTH; MB3-3 36" X 18"; M1-1 36" X 36" INTERSTATE 41 45; M1-6 36" X 36"	M4-8A 30" X 24" END DETOUR SOUTH; MB3-3 36" X 18"; M1-1 36" X 36" INTERSTATE 41 45; M1-4 36" X 36"	M06-1 21" X 21"	M06-1 21" X 21"	M06-1 21" X 21"	M06-2 30" X 30"

B	D	N
M05-1R 21" X 21"	M05-1L 21" X 21"	M05-2R 30" X 30"

LEGEND

- PROPOSED SIGN MOUNTED ON POST(S)
- TRAFFIC CONTROL DETOUR SIGNS
- DETOUR ROUTE
- XXX CLOSURE
- TRAFFIC FLOW ARROW
- PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	DETOUR - IH 41/USH 45 SB (OVERNIGHT CLOSURE)	SHEET	E



CURVE DATA											
CURVE NO.	PI	PI COORDINATES X	PI COORDINATES Y	Δ	D	T	L	E	R	PC	PT
1	265+70.18	566184.44	321171.33	6°54'32.50"	1°00'00.00"	345.87	690.90	10.43	5729.58	262+24.31	269+15.22

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027201_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027201_ad PLOT SCALE : 200:1

2

N

2

80TU

85TU

90TU

95TU

100TU

105TU

110TU

R/L TU

SECTION LINE 2647.68' N0°36'43"E

N0°36'43"E

N0°20'07"E

SECTION LINE 2646.02' S0°20'7"W

SECTION LINE 2655.57' S88°34'20"E

SECTION LINE 2562.42' N89°27'7"E

100TU+00.00 N. 124TH STREET
X=563897.93
Y=302098.10

X=561243.19
Y=302164.27

T 7 N
24 24
25 25
R 20 E

X=563869.66
Y=299450.34

T 7 N
25 30
25 30
R 21 E

X=563897.93
Y=302098.10

T 7 N
24 19
25 30
R 21 E

X=563913.37
Y=304735.63

T 7 N
24 19
24 19
R 21 E

X=566460.24
Y=302122.61

T 7 N
19 19
30 30
R 21 E

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027202_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027202_ad PLOT SCALE : 200:1

2

N

110TU

115TU

120TU

R/L TU

125TU

PI 126TU+45.78
X=563913.42
Y=304743.84

130TU

135TU

140TU

SECTION LINE 2646.02' S0°20'7"W

N0°20'07"E

SECTION LINE 2644.63' S0°19'37"W

N0°19'37"E

X=563897.93
Y=302098.10

T 7 N
R 20 E
R 21 E
24 19
25 30

X=563913.37
Y=304735.63

T 7 N
R 20 E
R 21 E
24 19
24 19

X=563928.51
Y=307388.43

T 7 N
R 20 E
R 21 E
24 19
13 18

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027203_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027203_ad PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

400NR+00.00 W. NORTH AVENUE =
153TU+57.52 N. 124TH STREET, 2611.51'LT
X=561318.01
Y=307487.21

S87°49'58"E

X=561318.01
Y=307487.21

T 7 N
R 20 E
13 13
24 24

420NR

N87°49'58"W 2612.37' SECTION LINE

R/L NR

425NR

152TU+90.41 N. 124TH STREET =
426NR+12.37 W. NORTH AVENUE
X=563928.51
Y=307388.43

R/L TU

140TU

N0°19'37"E

145TU

SECTION LINE 2644.63' S0°19'37"W

150TU

155TU

160TU

165TU

2647.65' SECTION LINE N0°41'42"E

N0°41'42"E

170TU

X=563913.37
Y=304735.63

T 7 N
R 21 E
24 24
19 19

X=563928.51
Y=307388.43

T 7 N
R 21 E
13 13
24 24

X=563960.63
Y=310035.89

T 7 N
R 21 E
13 13
18 18

430NR

N89°15'26"E 2466.74' SECTION LINE

X=566395.04
Y=307420.41

T 7 N
R 21 E
18 18
19 19

450NR+79.11 W. NORTH AVENUE =
153TU+52.31 N. 124TH STREET, 2465.96'RT
X=566395.04
Y=307420.41

N89°15'26"E

2

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027204_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027204_ad PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

N

X=561341.33
Y=310149.10

T 7 N
R20 E
13 | 13
13 | 13

1/4 LINE 2621.75' N87°31'30"W

PI 179TU+38.07
X=563960.63
Y=310035.89

R/L TU

170TU — 175TU — 180TU — 185TU — 190TU — 195TU — 200TU

SECTION LINE 2647.65' N0°41'42"E

N0°41'42"E

SECTION LINE 2647.85' S0°47'29"W

N0°47'29"E

X=563928.51
Y=307388.43

T 7 N
R21 E
24 | 19
13 | 18

X=563960.63
Y=310035.89

T 7 N
R21 E
13 | 18
18 | 18

X=563397.20
Y=312683.49

T 7 N
R21 E
12 | 7
13 | 18

1/4 LINE 2410.35' N89°54'5"E

X=566370.68
Y=310073.92

T 7 N
R21 E
18 | 18
18 | 18

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027205_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027205_ad PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

2

N

X=561355.12
Y=312812.54

T 7 N
R20 E
12 | 12
13 | 13

S87°12'47"E

520BR

SECTION LINE 2645.23' S87°12'13"E

R/L BR

525BR

205TU+85.92 N. 124TH STREET =
526BR+45.23 W. BURLEIGH STREET
X=563997.20
Y=312683.49

232TU+31.13 N. 124TH STREET
X=564043.54
Y=315328.29

R/L TU

200TU

205TU

210TU

215TU

220TU

225TU

230TU

SECTION LINE 2647.85' S0°47'29"W N0°47'29"E

SECTION LINE 2645.21' N1°0'14"E N1°00'14"E

SECTION LINE 2348.86' S88°59'51"W

530BR

N88°59'51"E

X=563960.63
Y=310035.89

T 7 N
R21 E
13 | 18

X=563997.20
Y=312683.49

T 7 N
R21 E
12 | 7
13 | 18

X=566345.70
Y=312724.59

T 7 N
R21 E
18 | 7
18 | 18

X=564043.54
Y=315328.29

T 7 N
R20 E
12 | 7
12 | 7

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027206_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027206_ad PLOT SCALE : 200:1

2

2

N

T 7 N
7 7
7 7
R 21 E

X=566365.66
Y=315407.24

1/4 LINE 2682.72' S0°25'35"W

T 7 N
12 7
13 18
R 20 E R 21 E

X=563997.20
Y=312683.49

535BR

N88°59'51"E

540BR

SECTION LINE 2348.86' S88°59'51"W

545BR

R/L BR

T 7 N
7 7
18 18
R 21 E

X=566345.70
Y=312724.59

SECTION LINE 2647.79' S88°52'16"W

T 7 N
7 8
18 17
R 21 E

X=568992.98
Y=312776.76

549BR+94.09 W. BURLEIGH STREET =
206TU+68.16 N. 124TH STREET, 2347.42' RT
X=566345.70
Y=312724.59

1/4 LINE 2650.79' S0°32'24"E

T 7 N
18 18
18 18
R 21 E

X=566370.68
Y=310073.92

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027207_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027207_ad PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

2

N

240BL+13.30 W. BLUEMOUND ROAD
X=577125.21
Y=298638.18

240BL

1/4 LINE 2660.25' N0°32'35"W

1/4 LINE 2671.93' N88°51'24"E

2675.91' 1/4 LINE S0°30'55"E

X=574448.90
Y=299508.94

T 7 N
R 21 E
29 28
29 28

X=577144.57
Y=296937.87

T 7 N
R 21 E
28 28
33 33

X=577119.35
Y=299598.00

T 7 N
R 21 E
28 28
28 28

X=577095.28
Y=302273.80

T 7 N
R 21 E
28 28
21 21

R/L BL

N89°14'37"E

243BL+75.21 W. BLUEMOUND ROAD =
72F+85.03 GLENVIEW AVENUE
X=577487.08
Y=298642.95

70F

N14°09'49"E

68F+16.08 GLENVIEW AVENUE =
242BL+54.47 W. BLUEMOUND ROAD, 453.14' RT
X=577372.33
Y=298188.26

R/L F

244BL

244BL+61.81 W. BLUEMOUND ROAD
X=577573.68
Y=298644.10

1/4 LINE 2702.9' N88°31'26"E

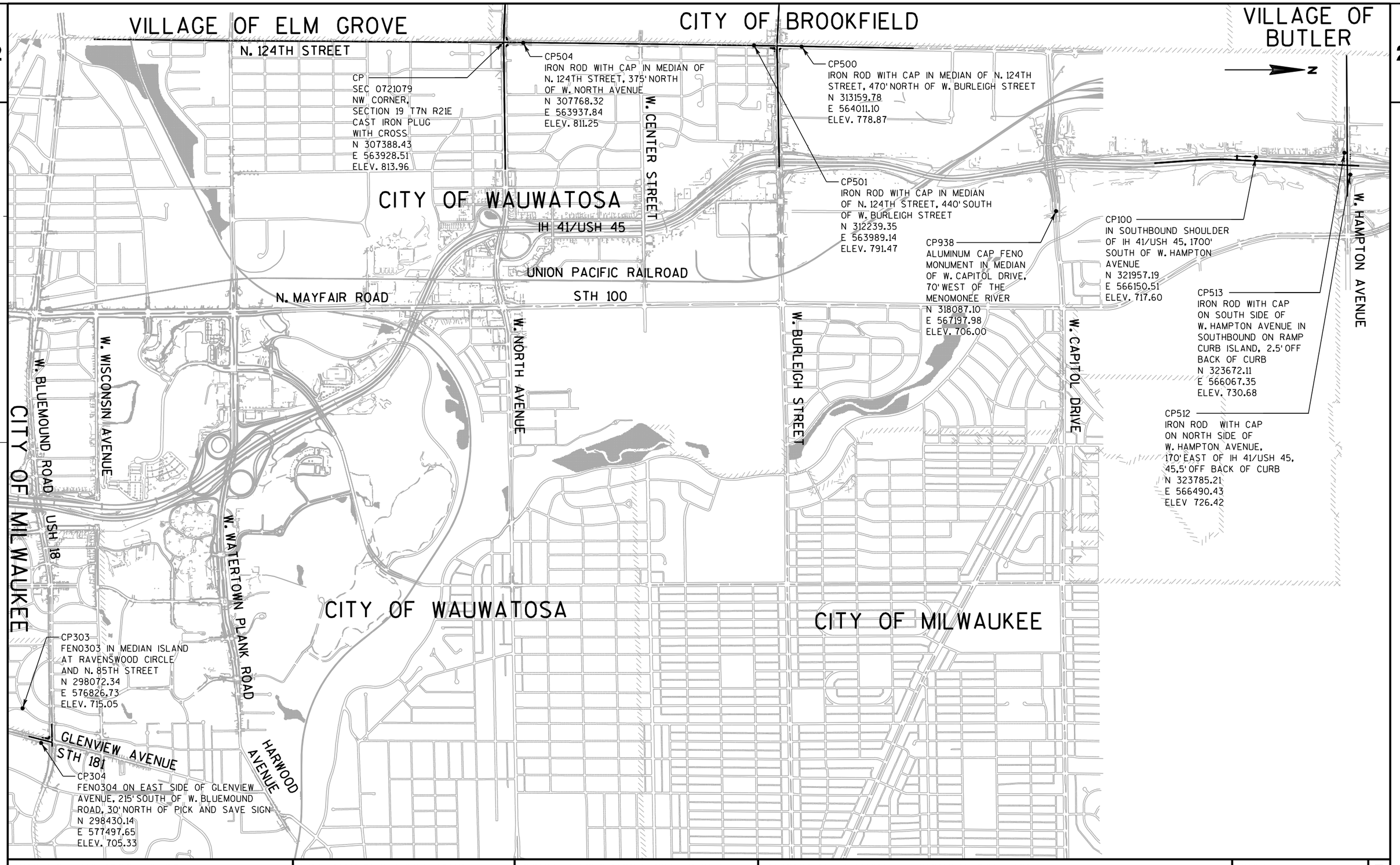
X=579821.35
Y=299667.63

T 7 N
R 21 E
28 27
28 27

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\027208_ad.dgn PLOT DATE : 27-OCT-2016 22:55 PLOT BY : MSCDYB PLOT NAME : 027208_ad PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET	E

1060-39-90

Line	Item	Item Description	Unit	Total	Qty
0010	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0020	204.0100	Removing Pavement	SY	368.000	368.000
0030	204.0150	Removing Curb & Gutter	LF	819.000	819.000
0040	204.0155	Removing Concrete Sidewalk	SY	334.000	334.000
0050	204.0157	Removing Concrete Barrier	LF	260.000	260.000
0060	204.0195	Removing Concrete Bases	EACH	30.000	30.000
0070	204.0220	Removing Inlets	EACH	2.000	2.000
0100	205.0100	Excavation Common	CY	592.000	592.000
0110	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	34.000	34.000
0120	209.2100	Backfill Granular Grade 2	CY	20.000	20.000
0130	213.0100	Finishing Roadway (project) 0001. 1060-39-90	EACH	1.000	1.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	473.000	473.000
0180	312.0115	Select Crushed Material	CY	71.000	71.000
0200	415.1080	Concrete Pavement HES 8-Inch	SY	114.000	114.000
0210	415.1090	Concrete Pavement HES 9-Inch	SY	338.000	338.000
0220	416.0610	Drilled Tie Bars	EACH	602.000	602.000
0230	416.0620	Drilled Dowel Bars	EACH	28.000	28.000
0240	416.1710	Concrete Pavement Repair	SY	500.000	500.000
0260	455.0605	Tack Coat	GAL	9.000	9.000
0270	460.6224	HMA Pavement 4 MT 58-28 S	TON	29.000	29.000
0280	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0290	601.0331	Concrete Curb & Gutter 31-Inch	LF	1,040.000	1,040.000
0320	601.0600	Concrete Curb Pedestrian	LF	174.000	174.000
0330	602.0410	Concrete Sidewalk 5-Inch	SF	3,954.000	3,954.000
0340	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	40.000	40.000
0350	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	8.000	8.000
0360	603.3113	Concrete Barrier Transition Type NJ32SF to S36	EACH	4.000	4.000
0370	603.3535	Concrete Barrier Transition Type S36 to S42	EACH	4.000	4.000
0380	603.3559	Concrete Barrier Transition Type S42 to S56	EACH	4.000	4.000
0390	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,185.000	1,185.000
0400	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,185.000	1,185.000
0420	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	11.000	11.000
0430	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	9.000	9.000
0500	611.3004	Inlets 4-FT Diameter	EACH	2.000	2.000
0530	611.8115	Adjusting Inlet Covers	EACH	4.000	4.000
0540	611.9710	Salvaged Inlet Covers	EACH	2.000	2.000
0550	612.0106	Pipe Underdrain 6-Inch	LF	66.000	66.000

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Line	Item	Item Description	Unit	Total	Qty
0560	614.0905	Crash Cushions Temporary	EACH	3.000	3.000
0570	614.2300	MGS Guardrail 3	LF	264.000	264.000
0580	614.2610	MGS Guardrail Terminal EAT	EACH	1.000	1.000
0590	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0600	619.1000	Mobilization	EACH	0.900	0.900
0610	620.0300	Concrete Median Sloped Nose	SF	77.000	77.000
0620	623.0200	Dust Control Surface Treatment	SY	1,574.000	1,574.000
0630	624.0100	Water	MGAL	3.000	3.000
0640	625.0100	Topsoil	SY	827.000	827.000
0650	628.1504	Silt Fence	LF	474.000	474.000
0660	628.1520	Silt Fence Maintenance	LF	474.000	474.000
0670	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0680	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0690	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0700	628.7010	Inlet Protection Type B	EACH	3.000	3.000
0710	628.7015	Inlet Protection Type C	EACH	19.000	19.000
0720	628.7020	Inlet Protection Type D	EACH	5.000	5.000
0740	628.7570	Rock Bags	EACH	50.000	50.000
0750	629.0210	Fertilizer Type B	CWT	1.800	1.800
0770	631.0300	Sod Water	MGAL	18.500	18.500
0780	631.1000	Sod Lawn	SY	827.000	827.000
0790	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	22.000	22.000
0820	634.0816	Posts Tubular Steel 2x2-Inch X 16-FT	EACH	8.000	8.000
0830	636.0100	Sign Supports Concrete Masonry	CY	35.000	35.000
0840	636.1500	Sign Supports Steel Coated Reinforcement HS	LB	5,590.000	5,590.000
0850	637.2210	Signs Type II Reflective H	SF	385.493	385.493
0860	637.2215	Signs Type II Reflective H Folding	SF	216.340	216.340
0880	637.2230	Signs Type II Reflective F	SF	58.500	58.500
0890	638.2102	Moving Signs Type II	EACH	7.000	7.000
0900	638.2602	Removing Signs Type II	EACH	46.000	46.000
0910	638.3000	Removing Small Sign Supports	EACH	14.000	14.000
0920	641.6600	Sign Bridge (structure) 0001. S-40-456	LS	1.000	1.000
0930	643.0100	Traffic Control (project) 0001. 1060-39-90	EACH	1.000	1.000
0950	643.0300	Traffic Control Drums	DAY	37,152.000	37,152.000
0960	643.0410	Traffic Control Barricades Type II	DAY	2,016.000	2,016.000
0970	643.0420	Traffic Control Barricades Type III	DAY	2,952.000	2,952.000
0980	643.0705	Traffic Control Warning Lights Type A	DAY	7,920.000	7,920.000
0990	643.0715	Traffic Control Warning Lights Type C	DAY	10,008.000	10,008.000
1000	643.0800	Traffic Control Arrow Boards	DAY	1,620.000	1,620.000
1010	643.0900	Traffic Control Signs	DAY	18,072.000	18,072.000

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Line	Item	Item Description	Unit	Total	Qty
1040	643.1050	Traffic Control Signs PCMS	DAY	469.000	469.000
1050	643.2000	Traffic Control Detour (project) 0001. 1060-39-90	EACH	1.000	1.000
1070	643.3000	Traffic Control Detour Signs	DAY	59.000	59.000
1080	644.1410.S	Temporary Pedestrian Surface Asphalt	SF	500.000	500.000
1090	644.1601.S	Temporary Curb Ramp	EACH	10.000	10.000
1100	644.1616.S	Temporary Pedestrian Safety Fence	LF	100.000	100.000
1120	646.0106	Pavement Marking Epoxy 4-Inch	LF	943.000	943.000
1140	646.0600	Removing Pavement Markings	LF	3,349.000	3,349.000
1160	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	1,444.000	1,444.000
1180	646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF	214.000	214.000
1190	646.0883.S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF	1,354.000	1,354.000
1220	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	10.000	10.000
1230	647.0176	Pavement Marking Arrows Epoxy Type 3	EACH	2.000	2.000
1240	647.0356	Pavement Marking Words Epoxy	EACH	7.000	7.000
1250	647.0456	Pavement Marking Curb Epoxy	LF	137.000	137.000
1270	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	656.000	656.000
1280	647.0606	Pavement Marking Island Nose Epoxy	EACH	3.000	3.000
1290	647.0706	Pavement Marking Diagonal Epoxy 6-Inch	LF	1,324.000	1,324.000
1310	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	490.000	490.000
1320	647.0776	Pavement Marking Crosswalk Epoxy 12-Inch	LF	1,298.000	1,298.000
1330	647.0955	Removing Pavement Markings Arrows	EACH	5.000	5.000
1340	647.0965	Removing Pavement Markings Words	EACH	3.000	3.000
1350	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,016.000	2,016.000
1360	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	983.000	983.000
1370	649.1800	Temporary Pavement Marking Arrows Removable Tape	EACH	1.000	1.000
1380	649.2000	Temporary Pavement Marking Words Removable Tape	EACH	1.000	1.000
1390	652.0125	Conduit Rigid Metallic 2-Inch	LF	35.000	35.000
1400	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	556.000	556.000
1410	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	2,181.000	2,181.000
1420	652.0615	Conduit Special 3-Inch	LF	2,208.000	2,208.000
1430	652.0700.S	Install Conduit into Existing Item	EACH	11.000	11.000
1440	653.0135	Pull Boxes Steel 24x36-Inch	EACH	2.000	2.000
1450	653.0140	Pull Boxes Steel 24x42-Inch	EACH	30.000	30.000
1460	653.0905	Removing Pull Boxes	EACH	29.000	29.000
1470	654.0101	Concrete Bases Type 1	EACH	16.000	16.000
1480	654.0102	Concrete Bases Type 2	EACH	3.000	3.000
1510	654.0110	Concrete Bases Type 10	EACH	7.000	7.000
1530	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	2.000	2.000
1550	655.0230	Cable Traffic Signal 5-14 AWG	LF	1,240.000	1,240.000

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Line	Item	Item Description	Unit	Total	Qty
1560	655.0240	Cable Traffic Signal 7-14 AWG	LF	2,211.000	2,211.000
1570	655.0260	Cable Traffic Signal 12-14 AWG	LF	5,095.000	5,095.000
1580	655.0270	Cable Traffic Signal 15-14 AWG	LF	555.000	555.000
1590	655.0320	Cable Type UF 2-10 AWG Grounded	LF	1,117.000	1,117.000
1600	655.0510	Electrical Wire Traffic Signals 12 AWG	LF	1,138.000	1,138.000
1610	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	6,471.000	6,471.000
1630	655.0615	Electrical Wire Lighting 10 AWG	LF	1,248.000	1,248.000
1660	655.0635	Electrical Wire Lighting 2 AWG	LF	880.000	880.000
1680	655.0900	Traffic Signal EVP Detector Cable	LF	2,812.000	2,812.000
1690	656.0200	Electrical Service Meter Breaker Pedestal (location) 3001. IH 41 SB Ramps & CTH EE	LS	1.000	1.000
1710	656.0200	Electrical Service Meter Breaker Pedestal (location) 3101. W. North Avenue & N. 124th Street	LS	1.000	1.000
1730	656.0500	Electrical Service Breaker Disconnect Box (location) 2001. CB-DMS-40-0036	LS	1.000	1.000
1740	657.0100	Pedestal Bases	EACH	16.000	16.000
1760	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	4.000	4.000
1770	657.0305	Poles Type 2	EACH	2.000	2.000
1780	657.0310	Poles Type 3	EACH	2.000	2.000
1810	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	5.000	5.000
1820	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	7.000	7.000
1830	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	4.000	4.000
1840	657.0590	Trombone Arms 20-FT	EACH	2.000	2.000
1860	657.0609	Luminaire Arms Single Member 4-Inch Clamp 6-FT	EACH	2.000	2.000
1900	657.1345	Install Poles Type 9	EACH	3.000	3.000
1910	657.1350	Install Poles Type 10	EACH	4.000	4.000
1940	657.1530	Install Monotube Arms 30-FT	EACH	7.000	7.000
1960	657.1808	Install Luminaire Arms Steel 8-FT	EACH	8.000	8.000
1980	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	29.000	29.000
1990	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	15.000	15.000
2000	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	29.000	29.000
2010	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	15.000	15.000
2020	658.0416	Pedestrian Signal Face 16-Inch	EACH	18.000	18.000
2030	658.0500	Pedestrian Push Buttons	EACH	14.000	14.000
2040	658.0600	Led Modules 12-Inch Red Ball	EACH	29.000	29.000
2050	658.0605	Led Modules 12-Inch Yellow Ball	EACH	27.000	27.000
2060	658.0610	Led Modules 12-Inch Green Ball	EACH	27.000	27.000
2070	658.0615	Led Modules 12-Inch Red Arrow	EACH	15.000	15.000
2080	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	30.000	30.000
2090	658.0625	Led Modules 12-Inch Green Arrow	EACH	19.000	19.000

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Line	Item	Item Description	Unit	Total	Qty
2100	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	18.000	18.000
2110	658.5069	Signal Mounting Hardware (location) 3001. IH 41 SB Ramps & CTH EE	LS	1.000	1.000
2120	658.5069	Signal Mounting Hardware (location) 3002. USH 18 & STH 181	LS	1.000	1.000
2140	658.5069	Signal Mounting Hardware (location) 3101. W. North Avenue & N. 124th Street	LS	1.000	1.000
2150	658.5069	Signal Mounting Hardware (location) 3102. W. Center Street & N. 124th Street	LS	1.000	1.000
2160	658.5069	Signal Mounting Hardware (location) 3103. W. Burleigh Street & N. 124th Street	LS	1.000	1.000
2210	659.1125	Luminaires Utility LED C	EACH	8.000	8.000
2250	661.0300	Generators	DAY	2.000	2.000
2260	670.0100	Field System Integrator 2001. FTMS	LS	1.000	1.000
2270	670.0200	ITS Documentation 2001. FTMS	LS	1.000	1.000
2280	672.0280	Base Camera Pole 80-FT	EACH	1.000	1.000
2290	673.0225.S	Install Pole Mounted Cabinet	EACH	1.000	1.000
2300	674.0300	Remove Cable	LF	90.000	90.000
2310	675.0300	Install Mounted Controller Microwave Detector Assembly	EACH	1.000	1.000
2320	675.0400.S	Install Ethernet Switch	EACH	9.000	9.000
2330	677.0180	Install Camera Pole 80-FT	EACH	1.000	1.000
2340	677.0200	Install Camera Assembly	EACH	2.000	2.000
2350	677.9051.S	Removing 50-FT Camera Pole	EACH	1.000	1.000
2360	677.9200.S	Removing CCTV Camera	EACH	1.000	1.000
2370	678.0006	Install Fiber Optic Cable Outdoor Plant 6-CT	LF	830.000	830.000
2380	678.0012	Install Fiber Optic Cable Outdoor Plant 12-CT	LF	1,780.000	1,780.000
2390	678.0300	Fiber Optic Splice	EACH	4.000	4.000
2400	678.0400	Fiber Optic Termination	EACH	12.000	12.000
2410	678.0500	Communication System Testing 2001. FTMS	LS	1.000	1.000
2420	690.0250	Sawing Concrete	LF	1,683.000	1,683.000
2500	SPV.0060	Special 0164. Concrete Barrier Type S56 End Anchor	EACH	4.000	4.000
2570	SPV.0060	Special 2001. Ground Rod	EACH	2.000	2.000
2580	SPV.0060	Special 2002. Install Overhead Freeway DMS Full Matrix	EACH	1.000	1.000
2590	SPV.0060	Special 2004. Pull Box Non-Conductive 24X42-Inch	EACH	4.000	4.000
2600	SPV.0060	Special 2005. Install 5.8 GHz Ethernet Bridge	EACH	9.000	9.000
2610	SPV.0060	Special 2006. Removing Microwave Detector Assembly	EACH	1.000	1.000
2670	SPV.0060	Special 3101. EVP Detector Type I	EACH	4.000	4.000
2680	SPV.0060	Special 3102. EVP Discriminator Type IV	EACH	1.000	1.000
2690	SPV.0060	Special 3103. EVP Confirmation Light Assembly Type I	EACH	4.000	4.000

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Line	Item	Item Description	Unit	Total	Qty
2700	SPV.0060	Special 3104. Traffic Signal Controller Programming	EACH	6.000	6.000
2710	SPV.0060	Special 3105. Concrete Control Cabinet Bases Type 9 Modified	EACH	1.000	1.000
2720	SPV.0060	Special 3106. Video Detection System Programming	EACH	1.000	1.000
2730	SPV.0060	Special 5001. Relocation Hydrant Assembly	EACH	1.000	1.000
2740	SPV.0075	Special 0001. Pavement Cleanup Project 1060-39-90	HRS	100.000	100.000
2760	SPV.0075	Special 4000. Obstructions Sign Supports Concrete Masonry	HRS	2.000	2.000
2800	SPV.0090	Special 2001. Outdoor Rated Network Cable	LF	903.000	903.000
2810	SPV.0090	Special 3001. Cable Type UF 2-14 AWG	LF	1,171.000	1,171.000
2820	SPV.0090	Special 3002. Install State Supplied Video Detection Cable	LF	510.000	510.000
2830	SPV.0090	Special 3003. Install State Supplied Cat-5E Cable	LF	554.000	554.000
2850	SPV.0105	Special 0007. Survey Project 1060-39-90	LS	1.000	1.000
2890	SPV.0105	Special 3001. Remove Traffic Signals STH 190 & Industrial Road	LS	1.000	1.000
2900	SPV.0105	Special 3002. Remove Traffic Signals USH 18 & STH 181	LS	1.000	1.000
2910	SPV.0105	Special 3003. Trnspt & Install State Furnished Traffic Signal Cabinet IH 41 SB Off Ramp & CTH EE	LS	1.000	1.000
2920	SPV.0105	Special 3004. Transporting Traffic Signal and Lighting Materials IH 41 SB Off Ramp & CTH EE	LS	1.000	1.000
2930	SPV.0105	Special 3005. Trnsp and Inst State Furn Radar Detection System IH 41 SB Off Ramp & CTH EE	LS	1.000	1.000
2940	SPV.0105	Special 3006. Trnsp and Install State Furnished Autoscope Video Detection System USH 18 & STH 181	LS	1.000	1.000
2950	SPV.0105	Special 3007. Covering Traffic Signal Equipment USH 18 & STH 181	LS	1.000	1.000
2960	SPV.0105	Special 3008. Trnsp & Install State Furnished Autoscope Video Detection System IH 41 Ramps & W. Burleigh St.	LS	1.000	1.000
2970	SPV.0105	Special 3009. Covering Traffic Signal Equipment STH 190 & Industrial Road	LS	1.000	1.000
3020	SPV.0105	Special 3101. Remove Traffic Signals W. North Avenue & N. 124th Street	LS	1.000	1.000
3030	SPV.0105	Special 3102. Remove Traffic Signals W. Center Street & N. 124th Street	LS	1.000	1.000
3040	SPV.0105	Special 3103. Remove Traffic Signals W. Burleigh Street & N. 124th Street	LS	1.000	1.000
3050	SPV.0105	Special 3104. Trnsp Traffic Signal and Lighting Materials W. North Avenue & N. 124th Street	LS	1.000	1.000
3060	SPV.0105	Special 3105. Install State Furnished Municipal Traffic Signal Cabinet W. North Avenue & N. 124th Street	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
3070	SPV.0105	Special 3106. Install State Furnished Municipal Traffic Signal Cabinet W. Center Street & N. 124th Street	LS	1.000	1.000
3080	SPV.0105	Special 3107. Video Vehicle Detection System W. North Avenue & N. 124th Street	LS	1.000	1.000
3090	SPV.0105	Special 3108. Temp Traffic Signals for Intersections Partial W. North Avenue & N. 124th Street	LS	1.000	1.000
3100	SPV.0105	Special 3109. Video Vehicle Detection System W. Burleigh Street & N. 124th Street	LS	1.000	1.000
3110	SPV.0105	Special 3110. Operate and Maintain Traffic Signal W. Burleigh Street & N. 124th Street	LS	1.000	1.000
3120	SPV.0105	Special 3111. Remove Traffic Signals W. Burleigh Street & N. 119th Street	LS	1.000	1.000
3130	SPV.0105	Special 3112. Remove Traffic Signals W. Burleigh Street & N. 114th Street.	LS	1.000	1.000
3140	SPV.0105	Special 3113. Install State Furnished Municipal Traffic Signal Cabinet W. Burleigh Street & N. 119th Street	LS	1.000	1.000
3150	SPV.0105	Special 3114. Install State Furnished Municipal Traffic Signal Cabinet W. Burleigh Street & N. 114th Street	LS	1.000	1.000
3160	SPV.0105	Special 3115. Video Vehicle Detection System W. Burleigh Street & N. 119th Street	LS	1.000	1.000
3170	SPV.0105	Special 3116. Video Vehicle Detection System W. Burleigh Street & N. 114th Street	LS	1.000	1.000
3180	SPV.0105	Special 3117. Video Vehicle Detection System W. Burleigh Street & N. 112th Street	LS	1.000	1.000
3210	SPV.0180	Special 0001. Concrete Pavement HES 8-Inch Special	SY	34.000	34.000

3

REMOVING PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0100 REMOVING PAVEMENT SY
1000	IH 41/USH 45					
		269+20	-	270+50	RT	57
		269+20	-	270+50	LT	53
	N. 124TH STREET					
		204TU+53	-	205TU+47	RT	135
	W. BURLEIGH STREET					
		527BR+05	-	527BR+11	MEDIAN	9
		527BR+96	-	528BR+41	MEDIAN	66
	GLENVIEW AVENUE					
		70F+77	-	71F+00	LT	19
		71F+85	-	71F+99	LT	16
		72F+13	-	72F+24	LT	13
	TOTAL					368

REMOVING CONCRETE BARRIER

CATEGORY	ROADWAY	FROM STATION	FROM OFFSET	TO STATION	TO OFFSET	204.0157 REMOVING CONCRETE BARRIER LF
1000	IH 41/USH 45					
		269+20	2' RT	270+50	2' RT	130
		269+20	2' LT	270+50	2' LT	130
	TOTAL					260

3

REMOVING CURB & GUTTER

CATEGORY	ROADWAY	FROM STATION	FROM OFFSET	TO STATION	TO OFFSET	204.0150 REMOVING CURB & GUTTER LF
1000	N. 124TH STREET					
		152TU+17	43' RT	152TU+42	74' RT	45
		153TU+43	83' RT	153TU+78	43' RT	65
		153TU+43	98' LT	153TU+68	43' LT	70
		206TU+32	78' RT	206TU+60	49' RT	50
	W. NORTH AVENUE					
		422NR+69	14' RT	424NR+53	4' RT	185
	W. BURLEIGH STREET					
		527BR+10	10' RT	527BR+96	11' RT	86
		527BR+11	0' LT	527BR+97	1' LT	86
		528BR+41	1' LT	529BR+71	11' LT	131
	GLENVIEW AVENUE					
		70F+72	43' LT	70F+77	43' LT	5
		71F+00	43' LT	71F+04	43' LT	4
		71F+43	44' LT	71F+85	45' LT	42
		71F+99	46' LT	72F+17	72' LT	33
		72F+09	101' LT	72F+14	85' LT	17
	TOTAL					819

REMOVING CONCRETE SIDEWALK

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	204.0155 REMOVING CONCRETE SIDEWALK SY
1000	N. 124TH STREET					
		152TU+12	-	152TU+40	RT	30
		153TU+44	-	153TU+78	RT	31
		153TU+48	-	153TU+68	RT	39
		205TU+00	-	205TU+43	RT	31
		206TU+33	-	206TU+60	RT	35
	W. HAMPTON AVENUE					
		618HP+37	-	620HP+06	LT	18
		619HP+04	-	620HP+04	RT	10
		619HP+94	-	620HP+31	MEDIAN	44
	GLENVIEW AVENUE					
		71F+32	-	72F+16	LT	95
	TOTAL					334

SAWING

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	690.0250 SAWING CONCRETE LF
1000	IH 41/USH 45					
		269+20	-	270+50	RT	138
		269+20	-	270+50	LT	137
	N. 124TH STREET					
		152TU+12	-	152TU+43	RT	63
		153TU+41	-	153TU+78	RT	83
		153TU+41	-	153TU+68	LT	89
		204TU+53	-	205TU+47	RT	184
		206TU+30	-	206TU+60	RT	79
	W. NORTH AVENUE					
		422NR+69	-	424NR+53	RT	191
	W. BURLEIGH STREET					
		527BR+05	-	529BR+71	MEDIAN	419
	W. HAMPTON AVENUE					
		618HP+37	-	620HP+06	LT	42
		619HP+04	-	620HP+04	RT	23
		620HP+31	-	620HP+31	MEDIAN	12
	GLENVIEW AVENUE					
		70F+72	-	71F+04	LT	56
		71F+32	-	72F+24	LT	167
	TOTAL					1,683

3

EARTHWORK SUMMARY

Division	From/To Station	Location	205.0100 Excavation Common (CY) (1)	Salvaged/ Unusable Pavement Material	Available Material (4)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate +/- (6)	Waste	Borrow	Comment:
			Cut (2)				Factor 1.20			Item 208.0100	
1	269+20 TO 270+50	IH 41/USH 45	56	0	56	0	0	56	56	0	
	204+53 TO 206+60	N. 124TH STREET	101	0	101	0	0	101	101	0	
	422+69 TO 424+53	W. NORTH AVENUE	108	0	108	0	0	108	108	0	
	71+44 TO 72+11	GLENVIEW AVENUE	157	0	157	0	0	157	157	0	
Division 1 Subtotal			422	0	422	0	0	422	422	0	
2	527+05 TO 529+71	W. BURLEIGH STREET	169	0	169	0	0	169	169	0	
Division 2 Subtotal			169	0	169	0	0	169	169	0	
Total			592	0	592	0	0	592	592	0	

NOTES:

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.

4) Available Material = Cut - Salvaged/Unusuable Pavement Material

5) Expanded Fill. Factor = 1.20 Expanded Fill = Unexpanded Fill * Fill Factor

6) 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.

BASE AGGREGATE ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0115 SELECT CRUSHED MATERIAL CY
1000	IH 41/USH 45						
		269+20	-	270+50	RT	25	--
		269+20	-	270+50	LT	25	--
	N. 124TH STREET						
		152TU+12	-	152TU+44	RT	15	--
		153TU+41	-	153TU+78	RT	18	--
		153TU+41	-	153TU+68	LT	21	--
		204TU+53	-	205TU+20	RT	31	--
		205TU+20	-	205TU+47	RT	32	--
		206TU+30	-	206TU+60	RT	18	--
	W. NORTH AVENUE						
		422NR+69	-	424NR+53	RT	70	--
	W. BURLEIGH STREET						
		527BR+05	-	529BR+71	MEDIAN	131	--
	W. HAMPTON AVENUE						
		618HP+37	-	620HP+06	LT	4	--
		619HP+04	-	620HP+04	RT	2	--
		619HP+94	-	620HP+31	MEDIAN	10	--
	GLENVIEW AVENUE						
		70F+72	-	71F+04	LT	5	7
		71F+32	-	72F+26	LT	66	64
TOTALS						473	71

CONCRETE PAVEMENT

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	415.1080 CONCRETE PAVEMENT HES 8-INCH SY	415.1090 CONCRETE PAVEMENT HES 9-INCH SY	416.1710 CONCRETE PAVEMENT REPAIR SY	SPV.0180.0001 CONCRETE PAVEMENT HES 8-INCH SPECIAL SY
1000	IH 41/USH 45								
		269+20	-	270+50	RT	29	--	--	--
		269+20	-	270+50	LT	29	--	--	--
	N. 124TH STREET								
		204TU+53	-	205TU+20	RT	--	57	--	--
		205TU+20	-	205TU+47	RT	--	58	--	--
		206TU+30	-	206TU+48	RT	--	10	--	--
	W. NORTH AVENUE								
		422NR+81	-	424NR+29	RT	--	114	--	--
	W. BURLEIGH STREET								
		527BR+05	-	529BR+01	MEDIAN	--	99	--	--
	GLENVIEW AVENUE								
		71F+63	-	72F+26	LT	56	--	--	34
SUBTOTALS						114	338	--	34
UNDISTRIBUTED						--	--	500	--
TOTALS						114	338	500	34

ASPHALTIC ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON
1000	N. 124TH STREET						
		205TU+20	-	205TU+47	RT	3	10
		206TU+30	-	206TU+48	RT	1	2
	W. BURLEIGH STREET						
		527BR+05	-	529BR+01	MEDIAN	5	17
	TOTALS					9	29

DRILLED BAR ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
1000	IH 41/USH 45						
		269+20	-	270+50	RT	52	2
		269+20	-	270+50	LT	52	2
	N. 124TH STREET						
		152TU+17	-	152TU+44	RT	25	--
		153TU+41	-	153TU+78	RT	33	--
		153TU+41	-	153TU+68	LT	35	--
		204TU+53	-	205TU+20	RT	29	4
		205TU+20	-	205TU+47	RT	30	3
		206TU+30	-	206TU+60	RT	27	--
	W. NORTH AVENUE						
		422NR+69	-	424NR+53	RT	79	--
	W. BURLEIGH STREET						
		527BR+05	-	529BR+71	MEDIAN	170	--
	GLENVIEW AVENUE						
		70F+72	-	71F+04	LT	18	--
		71F+43	-	72F+26	LT	52	17
	TOTALS					602	28

CONCRETE CURB & GUTTER

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	601.0331 CONCRETE CURB & GUTTER 31-INCH LF	601.0600 CONCRETE CURB PEDESTRIAN LF
1000	N. 124TH STREET						
		152TU+17	-	152TU+42	RT	45	23
		153TU+43	-	153TU+78	RT	65	11
		153TU+43	-	153TU+68	LT	70	26
		204TU+53	-	205TU+45	RT	107	21
		206TU+32	-	206TU+60	RT	45	31
	W. NORTH AVENUE						
		422NR+69	-	424NR+53	RT	185	--
	W. BURLEIGH STREET						
		527BR+12	-	528BR+39	RT	127	--
		527BR+12	-	529BR+71	RT/LT	260	--
	GLENVIEW AVENUE						
		70F+72	-	71F+03	LT	32	--
		71F+43	-	72F+09	LT	104	--
		71F+64	-	71F+98	LT	--	62
	TOTALS					1,040	174

CONCRETE BARRIER ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	603.3113 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH	603.3559 CONCRETE BARRIER TRANSITION TYPE S42 TO S56 EACH	SPV.0060.0164 CONCRETE BARRIER TYPE S56 END ANCHOR EACH
1000	IH 41/USH 45								
		269+20	-	269+80	RT	1	1	1	1
		269+20	-	269+80	LT	1	1	1	1
		269+90	-	270+50	RT	1	1	1	1
		269+90	-	270+50	LT	1	1	1	1
	TOTALS					4	4	4	4

CONCRETE MEDIAN SLOPED NOSE

CATEGORY	ROADWAY	STATION	OFFSET	620.0300 CONCRETE MEDIAN SLOPED NOSE TYPE 1** SF
1000	W. BURLEIGH STREET			
		527BR+09	MEDIAN	77
	TOTAL			77

**FOR INFORMATION ONLY

CONCRETE SIDEWALK

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	602.0410 CONCRETE SIDEWALK 5-INCH SF
1000	N. 124TH STREET					
		152TU+12	-	152TU+40	RT	274
		153TU+44	-	153TU+78	RT	296
		153TU+47	-	153TU+68	LT	362
		205TU+00	-	205TU+41	RT	239
		206TU+35	-	206TU+60	RT	264
	W. BURLEIGH STREET					
		527BR+12	-	529BR+24	MEDIAN	1,194
	W. HAMPTON AVENUE					
		618HP+37	-	620HP+06	LT	160
		619HP+04	-	620HP+04	RT	88
		619HP+94	-	620HP+31	MEDIAN	400
	GLENVIEW AVENUE					
		71F+32	-	72F+05	LT	677
	TOTAL					3,954

CURB RAMP DETECTABLE WARNING FIELD

CATEGORY	ROADWAY	STATION	OFFSET	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA SF
1000	N. 124TH STREET				
		152TU+36	RT	8	--
		153TU+48	RT	8	--
		153TU+51	LT	8	--
		205TU+37	RT	8	--
		206TU+42	RT	8	--
	GLENVIEW AVENUE				
		71F+99	LT	--	8
	TOTALS			40	8

REMOVING INLETS

ROADWAY	STATION	OFFSET	204.0220 REMOVING INLETS EACH
GLENVIEW AVENUE			
	71F+92	43' LT	1
	72F+17	79' LT	1
TOTAL			2

SALVAGED INLET COVERS

ROADWAY	STATION	OFFSET	611.9710 SALVAGED INLET COVERS EACH
GLENVIEW AVENUE			
	71F+92	43' LT	1
	72F+17	79' LT	1
TOTAL			2

CONCRETE COLLARS FOR PIPE

ROADWAY	STATION	OFFSET	PIPE ID	SIZE (IN)	520.8000 CONCRETE COLLARS FOR PIPE EACH
GLENVIEW AVENUE					
	71F+93	41' LT	PE105	15	1
	72F+20	79' LT	PE102	18	1
TOTAL					2

ADJUSTING STRUCTURES

LOCATION	STATION	OFFSET FT	EXISTING RIM ELEVATION	TO	PROPOSED RIM ELEVATION	611.8115 ADJUSTING INLET COVERS EACH
N. 124TH STREET						
	153TU+42	69' LT	813.97		813.97	1
	205TU+19	43' RT	787.55		787.61	1
IH 41/USH 45						
	269+66	3' RT	717.83		717.83	1
	269+66	3' LT	717.64		717.64	1
TOTAL						4

3

STORM SEWER STRUCTURES										STORM SEWER PIPES									
ROADWAY	STRUCTURE NO.	STATION	OFFSET (FT)	LOCATION	RIM OR FLOW ELEV	STRUCTURE TYPE	INLET COVER TYPE	DEPTH[1] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE[A] %	PIPE LENGTH[B] (FT)	PLAN LENGTH[C] (FT)	PIPE CLASS	PIPE SIZE (INCH)	PIPE COMMENTS
GLENVIEW AVENUE	TM100	72F+08.96	77.7	LT	703.92	INLETS 4-FT DIAMETER	SALVAGED	3.25	USE SALVAGED INLET COVER	P101	TM100	PE102	700.67	700.63	0.50	7	9	III	18	---
---	---	---	---	---	---	---	---	--	---	PE102	P101	---	700.63	---	---	---	---	---	18	EXISTING PIPE INTERPOLATED ELEVATION
GLENVIEW AVENUE	TM103	71F+89.81	53.3	LT	703.53	INLETS 4-FT DIAMETER	SALVAGED	3.24	USE SALVAGED INLET COVER	P104	TM103	PE105	700.29	700.25	0.50	9	11	III	15	---
---	---	---	---	---	---	---	---	--	---	PE105	P104	---	700.25	---	---	---	---	---	15	EXISTING PIPE INTERPOLATED ELEVATION

STORM SEWER STRUCTURE SUMMARY
611.3004 INLETS
4-FT DIAMETER EACH
2

[1]DEPTH = RIM OR FLOW ELEV - LOWEST PIPE INVERT ELEVATION

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

[B]PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.

[C]PLAN LENGTH SHOWN FOR PAY QUANTITY.

STORM SEWER PIPE SUMMARY	
608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III
15-INCH LF	18-INCH LF
11	9

ALL ITEMS CATEGORY 1000

CPM PROGRESS SCHEDULE

CATEGORY	LOCATION	108.4400 CPM PROGRESS SCHEDULE EACH
1000	UNDISTRIBUTED	1
	TOTAL	1

FINISHING ROADWAY 1060-39-90

CATEGORY	LOCATION	213.0100.0001 FINISHING ROADWAY 1060-39-90 EACH
1000	UNDISTRIBUTED	1
	TOTAL	1

PIPE UNDERDRAIN

CATEGORY	ROADWAY	BEGIN STATION	END STATION	OFFSET	612.0106 PIPE UNDERDRAIN 6-INCH LF	NOTES:
1000	N. 124TH STREET	204TU+53	205TU+20	44' RT	66	CONNECT TO EXISTING STRUCTURE
	TOTAL				66	

EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	205.0501.S EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL TON
1000	N. 124TH STREET	151TU+70	-	152TU+90	LT/RT	34
	TOTAL					34

BACKFILL GRANULAR

CATEGORY	LOCATION	209.2100 BACKFILL GRANULAR GRADE 2 CY
1000	UNDISTRIBUTED	20
	TOTAL	20

GUARDRAIL ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	OFFSET	614.2300 MGS GUARDRAIL 3 LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
1000	IH 41/USH 45 SB	269+41	-	272+55	LT	264	1	1
	TOTALS					264	1	1

MOBILIZATION

CATEGORY	LOCATION	MOBILIZATION 619.1000 EACH
1000	PROJECT	0.9
	TOTAL	0.9

DUST CONTROL SURFACE TREATMENT

CATEGORY	LOCATION	DUST CONTROL SURFACE TREATMENT 623.0200 SY
1000	PROJECT	1,574
	TOTAL	1,574

WATER

CATEGORY	LOCATION	WATER 624.0100 MGAL
1000	PROJECT-BASE AGGREGATE	1
	PROJECT- EXCAVATION	2
	TOTAL	3

HYDRANT ASSEMBLY RELOCATION

CATEGORY	ROADWAY	STATION	OFFSET	ELEV	SPV.0060.5001 HYDRANT ASSEMBLY RELOCATION EACH
1000	W. BLUEMOUND ROAD	242BL+83.1	58.7' RT	704.33	1
	TOTAL				1

PAVEMENT CLEANUP

CATEGORY	LOCATION	SPV.0075.0001 PAVEMENT CLEANUP PROJECT 1060-39-90 HRS
1000	PROJECT	100
	TOTAL	100

SURVEY PROJECT

CATEGORY	LOCATION	SPV.0105.0007 SURVEY PROJECT 1060-39-90 LS
1000	PROJECT	1
	TOTAL	1

EROSION CONTROL ITEMS

CATEGORY	LOCATION	STATION	TO	STATION	OFFSET	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7570 ROCK BAGS EACH
1000	IH 41/USH 45													
		266+25	-	272+75	LT	338	338	--	--	--	--	--	2	--
		269+50	-	269+75	RT	--	--	--	--	--	--	--	1	--
	N. 124TH STREET													
		205TU+00	-	205TU+25	RT	--	--	--	--	--	--	2	--	--
	W. NORTH AVENUE													
		423NR+50	-	425NR+50	RT/LT	--	--	--	--	--	--	3	--	--
	W. BURLEIGH STREET													
		529BR+50	-	530BR+00	LT	--	--	--	--	--	2	--	--	--
		529BR+75	-	530BR+00	RT	--	--	--	--	--	--	1	--	--
	W. HAMPTON AVENUE													
		618HP+25	-	619HP+50	LT	--	--	--	--	--	--	2	--	--
		618HP+75	-	619HP+25	RT	--	--	--	--	--	--	3	--	--
	GLENVIEW AVENUE													
		71F+75	-	72F+25	LT	--	--	--	--	2	--	2	--	--
	SUBTOTALS					338	338	--	--	2	2	13	3	--
	UNDISTRIBUTED					136	136	2	2	1	1	6	2	50
	TOTALS					474	474	2	2	3	3	19	5	50

TRAFFIC CONTROL ITEMS (DETOUR)

CATEGORY	STAGE	LOCATION	STAGE DURATION DAYS	643.2000.0001 TRAFFIC CONTROL DETOUR 1060-39-90 EACH	643.1050* TRAFFIC CONTROL SIGNS PCMS EACH**	643.1050* TRAFFIC CONTROL SIGNS PCMS DAY	643.3000 TRAFFIC CONTROL DETOUR SIGNS EACH**	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY
1000	1	IH 41/USH 45	1	--	1	1	59	59
		SUBTOTALS		--		1		59
		UNDISTRIBUTED		1		--		--
		TOTALS		1		1		59

*ADDITIONAL QUANTITIES FOUND ELSEWHERE
**FOR INFORMATION ONLY

TEMPORARY PEDESTRIAN ACCOMMODATION ITEMS

CATEGORY	STAGE	LOCATION	644.1410.S TEMPORARY PEDESTRIAN SURFACE ASPHALT SF	644.1601.S TEMPORARY CURB RAMP EACH	644.1616.S TEMPORARY PEDESTRIAN SAFETY FENCE LF
1000	ALL	UNDISTRIBUTED	500	10	100
		SUBTOTALS	500	10	100
		TOTALS	500	10	100

RESTORATION ITEMS

CATEGORY	LOCATION	STATION	TO	STATION	OFFSET	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
1000	N. 124TH STREET								
		152TU+00	-	154TU+00	RT/LT	210	0.2	4.7	210
		204TU+50	-	206TU+75	RT	101	0.1	2.3	101
	W. NORTH AVENUE								
		422NR+50	-	424NR+75	RT/LT	60	0.1	1.3	60
	W. BURLEIGH STREET								
		529BR+00	-	529BR+75	LT	40	0.1	0.9	40
	W. HAMPTON AVENUE								
		618HP+25	-	620HP+25	RT/LT	251	0.2	5.6	251
	GLENVIEW AVENUE								
		70F+50	-	72F+25	LT	89	0.1	2.0	89
	SUBTOTALS					751	0.8	16.8	751
	UNDISTRIBUTED					76	1.0	1.7	76
	TOTALS					827	1.8	18.5	827

TEMPORARY CONCRETE BARRIER ITEMS

CATEGORY	STAGE	LOCATION	STATION	TO	STATION	OFFSET	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH
1000	1	IH 41/USH 45							
			267+75	-	270+95	RT	320	320	1
			268+75	-	271+95	LT	320	320	1
		SUBTOTALS					640	640	2
1000	2	IH 41/USH 45							
			268+37	-	273+81	LT	545	545	1
		SUBTOTALS					545	545	1
		TOTALS					1,185	1,185	3

3

TRAFFIC CONTROL PAVEMENT MARKING

CATEGORY	STAGE	LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF	647.0955 REMOVING PAVEMENT MARKINGS ARROWS EACH	647.0965 REMOVING PAVEMENT MARKINGS WORDS EACH	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH YELLOW LF	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH WHITE LF	649.1800 TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE WHITE EACH	649.2000 TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE WHITE EACH
1000	1	N. 124TH STREET & W. NORTH AVENUE	189	--	--	490	315	128	--	--
		W. HAMPTON AVENUE & IH 41/USH 45	16	3	2	--	--	--	--	--
		GLENVIEW AVENUE & W. BLUEMOUND ROAD	--	1	--	--	--	--	1	1
		SUBTOTALS	205	4	2	490	315	128	1	1
1000	2	IH 41/USH 45	1,375	--	--	778	--	361	--	--
		N. 124TH STREET & W. BURLEIGH STREET	1,769	1	1	--	433	494	--	--
		SUBTOTALS	3,144	1	1	778	433	855	--	--
		TOTALS	3,349	5	3	2,016		983	1	1

TRAFFIC CONTROL ITEMS

CATEGORY	STAGE	LOCATION	STAGE DURATION	643.0100.0001 TRAFFIC CONTROL 1060-39-90	643.0300 TRAFFIC CONTROL DRUMS		643.0410 TRAFFIC CONTROL BARRICADES TYPE II		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C		643.0800 TRAFFIC CONTROL ARROW BOARDS		643.0900 TRAFFIC CONTROL SIGNS		643.1050* TRAFFIC CONTROL SIGNS PCMS	
			DAYS	EACH	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY	EACH**	DAY
1000	1	IH 41/USH 45	90	--	18	1,620	--	--	--	--	--	--	8	720	2	180	18	1,620	--	--
	2	IH 41/USH 45	90	--	15	1,350	--	--	1	90	2	180	13	1,170	--	--	13	1,170	--	--
				--		2,970		--		90		180		1,890		180		2,790		--
1000	1	N. 124TH STREET & W. NORTH AVENUE	150	--	81	12,150	4	600	7	1,050	18	2,700	19	2,850	4	600	32	4,800	--	--
				--		12,150		600		1,050		2,700		2,850		600		4,800		--
1000	1	N. 124TH STREET & W. BURLEIGH STREET	90	--	66	5,940	4	360	5	450	14	1,260	16	1,440	3	270	27	2,430	1	90
	2	N. 124TH STREET & W. BURLEIGH STREET	90	--	70	6,300	--	--	3	270	6	540	20	1,800	2	180	18	1,620	2	180
				--		12,240		360		720		1,800		3,240		450		4,050		270
1000	1	W. CAPITOL DRIVE & IH 41/USH 45	180	--	--	--	--	--	--	--	--	--	--	--	--	--	2	360	--	--
		SUBTOTALS		--		--		--		--		--		--		--		360		--
1000	1	W. HAMPTON AVENUE & IH 41/USH 45	60	--	--	--	4	240	4	240	12	720	--	--	--	--	17	1,020	--	--
		SUBTOTALS		--		--		240		240		720		--		--		1,020		--
1000	1	GLENVIEW AVENUE & W. BLUEMOUND ROAD	120	--	30	3,600	4	480	3	360	10	1,200	3	360	1	120	17	2,040	1	120
		SUBTOTALS		--		3,600		480		360		1,200		360		120		2,040		120
		UNDISTRIBUTED		1		6,192		336		492		1,320		1,668		270		3,012		78
		TOTALS		1		37,152		2,016		2,952		7,920		10,008		1,620		18,072		468

*ADDITIONAL QUANTITIES FOUND ELSEWHERE
**FOR INFORMATION ONLY

PAVEMENT MARKING ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH 3 FT LINE, 9 FT SKIP WHITE LF	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH 3 FT LINE, 9 FT SKIP WHITE LF	646.0881.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH 12.5 FT LINE, 37.5 FT SKIP WHITE LF	646.0883.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH 3 FT LINE, 9 FT SKIP WHITE LF	646.0883.S PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 8-INCH 3 FT LINE, 9 FT SKIP WHITE LF	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2 WHITE EACH	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3 WHITE EACH	647.0356 PAVEMENT MARKING WORDS EPOXY WHITE EACH	647.0456 PAVEMENT MARKING CURB EPOXY YELLOW LF	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH WHITE LF	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY YELLOW EACH	647.0706 PAVEMENT MARKING DIAGONAL EPOXY 6-INCH WHITE LF	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH WHITE LF	647.0776 PAVEMENT MARKING CROSSWALK EPOXY 12-INCH WHITE LF
1000	IH 41/USH 45																			
		272+30	-	282+70	--	--	106	1,238	--	--	--	--	--	--	--	--	86	--	160	--	192
	N. 124TH STREET																			
		152TU+21	-	153TU+60	--	--	--	--	--	--	--	--	--	--	--	--	86	--	160	--	192
		205TU+25	-	206TU+54	--	--	--	--	--	--	--	--	--	--	--	--	90	--	440	--	369
	W. NORTH AVENUE																			
		423NR+28	-	426NR+79	--	--	--	--	--	--	280	2	--	1	--	92	--	159	--	193
	W. BURLEIGH STREET																			
		525BR+72	-	531BR+60	445	261	--	--	112	15	312	4	--	2	137	82	1	405	--	352
	W. CAPITOL DRIVE																			
		N. 118TH STREET			--	--	--	--	--	--	--	--	--	--	--	48	--	--	--	--
	W. HAMPTON AVENUE																			
		617HP+19	-	621HP+93	215	--	--	--	102	--	747	3	1	3	--	126	2	--	208	--
	GLENVIEW AVENUE																			
		71F+85	-	72F+36	22	--	--	--	--	--	--	--	--	--	--	--	--	--	187	--
	W. BLUEMOUND ROAD																			
		241BL+92	-	243BL+60	--	--	--	100	--	--	--	1	1	1	--	46	--	--	95	--
	SUBTOTALS				682	261	106	1,338	214	15	1,339	10	2	7	137	656	3	1,324	490	1,298
	TOTALS				943		1,444		214	1,354		10	2	7	137	656	3	1,324	490	1,298

FTMS PULL BOXES & COMMUNICATION VAULTS

CATEGORY	ROADWAY	ITEM ID	LOCATION X	LOCATION Y	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH	SPV.0060.2004 PULL BOX NON-CONDUCTIVE 24X42-INCH EACH
1300	IH 41/USH 45					
		EXPB2101	566123.8021	320980.3948	1	--
		EXPB2102	566085.8999	321401.3890	1	--
		PB2101	566126.9957	321577.2849	--	1
		PB2102	566123.0628	321576.7065	--	1
		PB2103	566124.6922	321278.7938	--	1
		PB13 (35)	566145.7472	323656.6795	1	--
		EXPB3501	566142.8996	323650.8034	1	--
		PB22 (37)	566175.6258	317814.3258	1	--
		EXPB3702	566207.6680	317772.9983	1	--
		EXPB3704	566233.7139	317791.0147	1	--
		EXPB4101	568156.4706	304723.5701	1	--
		PB4104	568146.4813	304901.6710	--	1
		TOTALS			8	4

FTMS CONDUIT

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	652.0125* CONDUIT RIGID METALLIC 2-INCH LF	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	IH 41/USH 45						
		DMS-40-0036 - PB2101	15	--	15	--	--
		DMS-40-0036 - PB2102	10	20	10	--	--
		CB-DMS-40-0036 - PB2101	15	--	15	--	--
		CB-DMS-40-0036 - PB2102	15	15	--	--	--
		PB2101 - PB2103	300	--	--	300	--
		PB2103 - EXPB2101	300	--	--	300	--
		PB2102 - EXPB2102	185	--	--	185	--
		EXPB3501 - PB13 (35)	55	--	--	110	--
		PB22 (37) - EXPB3702	60	--	60	120	--
		CB1 (37) - EXPB3702	60	--	60	120	--
		EXPB3704 - CCTV-40-0042	55	--	110	--	--
		EXPB4101 - PB4101	180	--	--	--	360
		TOTALS		35	270	1,135	360

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

SUMMARY OF SLACK IN PULL BOXES AND VAULTS		
	SLACK	
CABLE OR WIRE	**PULL BOX**	**VAULT**
POWER WIRES (NO. 6 AND LARGER)	NONE	N/A
GROUND / TRACER WIRE (NO. 12)	9-FT	9-FT
OUTDOOR RATE NETWORK CABLE (2)	6-FT	N/A
MD CABLE (1)	6-FT	N/A
CAMERA CABLE (3)	6-FT	N/A
FIBER OPTIC CABLE	50-FT	100-FT

(1) MD CABLE FROM THE DETECTOR TO THE GROUND IS FURNISHED WITH THE DETECTOR
(2) ETHERNET BRIDGE CABLE IS INCIDENTAL EXCEPT WHERE SHOWN AS OUTDOOR RATED NETWORK CABLE
(3) CAMERA CABLE IS INCIDENTAL EXCEPT WHERE SHOWN AS OUTDOOR RATED NETWORK CABLE

FTMS CABLE AND WIRE

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	655.0510 ELECTRICAL WIRE TRAFFIC SIGNALS 12 AWG LF	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG LF	SPV.0090.2001 OUTDOOR RATED NETWORK CABLE LF
1300	IH 41/USH 45					
		DMS-40-0036 - PB2101	10	19	--	--
		DMS-40-0036 - PB2102	10	19	--	--
		CB-DMS-40-0036 - PB2101	15	24	--	--
		CB-DMS-40-0036 - PB2102	15	--	60	--
		PB2101 - PB2103	300	309	--	--
		PB2103 - EXPB2101	300	309	--	--
		PB2102 - EXPB212	185	--	740	--
		EXPB2102 - EXMB2101	20	--	80	--
		EXPB2101 - EXSDS-40-0068	15	--	--	21
		EXPB2101 - EXMD2101	15	--	--	21
		EXCB-RM-40-0010 - EXPB3502	30	--	--	36
		EXPB3502 - EXPB3501	55	--	--	61
		EXPB3501 - PB13 (35)	10	19	--	16
		PB13 (35) - CB1 (25)	10	--	--	16
		PB18 (37) - PB19 (37)	110	--	--	116
		PB19 (37) - PB20 (37)	45	--	--	51
		PB20 (37) - PB21 (37)	35	--	--	41
		PB21 (37) - PB22 (37)	35	--	--	41
		CB1 (37) - EXPB3702	10	19	--	16
		PB22(37) - EXPB3702	60	69	--	66
		EXPB3702 - EXPB3703	65	74	--	142
		EXPB3703 - EXCB-RM-40-0102	15	24	--	42
		CCTV-40-0042 - EXPB3704	55	64	--	--
		EXPB4101 - PB4101	180	189	--	--
		EXPB3202 - EXPB3201	185	--	--	191
		EXPB3201 - EXCB-RM-40-0140	20	--	--	26
		TOTALS		1,138	880	903

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

FTMS CABLE

CATEGORY	ROADWAY	ITEM ID	LINEAR DISTANCE	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT LF	678.0012 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 12-CT LF
1300	IH 41/USH 45				
		CB-DMS-40-0036 - PB2101	15	65	--
		PB2101 - PB2103	300	350	--
		PB2103 - EXPB2101	300	350	--
		EXPB2101 - EXSDS-40-0068	15	65	--
		EXPB4104 - DPW BUILDING	250	--	300
		EXPB4101 - EXPB4104	180	--	230
		EXPB4101 - EXPB4102	305	--	355
		EXPB4102 - EXPB4103	75	--	125
		EXPB4103 - EXPB4201	465	--	515
		EXPB4201 - EXCV4201	155	--	255
		TOTALS		830	1,780

FTMS COMMUNICATIONS (CABINETS)

CATEGORY	ROADWAY	ITEM ID	LOCATION X	LOCATION Y	675.0400.S* INSTALL ETHERNET SWITCH EACH	678.0300* FIBER OPTIC SPLICE EACH	678.0400* FIBER OPTIC TERMINATION EACH	SPV.0060.2005 INSTALL 5.8 GHZ ETHERNET BRIDGE EACH
1300	IH 41/USH 45							
		CB-DMS-40-0036	566123.7859	321590.4374	1	--	6	--
		EXSDS-40-0068	566109.1583	320981.1304	1	--	6	--
		EXLP2201	563993.2800	312606.0820	--	--	--	1
		CB1 (27)	563876.7464	310002.1320	1	--	--	--
		EXSP2701	563912.0285	309977.4064	--	--	--	2
		CB1 (28)	563979.3888	307469.9743	1	--	--	--
		EXSP2801	563923.4987	307317.1844	--	--	--	1
		CB1 (29)	563934.3650	302139.8850	1	--	--	--
		EXSP2901	563836.8893	302132.6712	--	--	--	1
		CB1 (30)	566622.1980	302093.0440	1	--	--	--
		EXSP3001	566505.5721	302093.3265	--	--	--	1
		EXSP3002	566772.1523	302092.5522	--	--	--	1
		CB1 (31)	567427.5833	302191.9068	1	--	--	--
		EXSP3101	567308.6611	302177.8196	--	--	--	1
		EXCCTV-40-0037	572365.9637	301924.1025	--	--	--	1
		CB1 (35)	566146.3779	323646.7001	1	--	--	--
		EXCB-RM-40-0100	566156.4640	323626.2100	1	--	--	--
		EXCV4201	569000.8576	304569.2476	--	4	--	--
		TOTALS			9	4	12	9

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

FTMS ELECTRICAL SERVICE

CATEGORY	ROADWAY	ITEM ID	LOCATION X	LOCATION Y	656.0500.2001 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (CB-DMS-40-0036) LS
1300	IH 41/USH 45				
		CB-DMS-40-0036	566123.7859	321590.4374	1
		TOTALS			1

MISCELLANEOUS ITEMS

CATEGORY	ROADWAY	670.0100.2001 FIELD SYSTEM INTEGRATOR (FTMS) LS	670.0200.2001 ITS DOCUMENTATION (FTMS) LS	678.0500.2001 COMMUNICATION SYSTEM TESTING (FTMS) LS
1300				
	IH 41/USH 45	1	1	1
	TOTALS	1	1	1

FTMS BASES, POLES AND EQUIPMENT

CATEGORY	ROADWAY	ITEM ID	LOCATION X	LOCATION Y	672.0280 BASE CAMERA POLE 80-FT EACH	673.0225.S* INSTALL POLE MOUNTED CABINET EACH	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY EACH	677.0180 INSTALL CAMERA POLE 80-FT EACH	677.0200 INSTALL CAMERA ASSEMBLY EACH	SPV.0060.2001 GROUND ROD EACH	SPV.0060.2002 INSTALL OVERHEAD FREEWAY DMS FULL MATRIX EACH
1300	IH 41/USH 45										
		DMS-40-0036	566123.7859	321590.4374	--	--	--	--	--	--	1
		CB-DMS-40-0036	566123.7859	321590.4374	--	1	--	--	--	1	--
		EXMD2101	566133.1927	320976.0736	--	--	1	--	--	--	--
		CCTV-40-0042	566215.1750	317840.2671	1	--	--	1	1	1	--
		CCTV-40-0042A	566469.8892	317931.0353	--	--	--	--	1	--	--
		TOTALS			1	1	1	1	2	2	1

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

ITS REMOVALS

CATEGORY	ROADWAY	ITEM	DESCRIPTION	LOCATION X	LOCATION Y	677.9051.S REMOVING 50-FT CAMERA POLE EACH	677.9200.S REMOVING CCTV CAMERA EACH	SPV.0060.2006 REMOVING MICROWAVE DETECTOR ASSEMBLY EACH
1300	IH 41/USH 45							
		EXCCTV-40-0042	CCTV	566225.9672	317678.1222	1	1	--
		EXMD2101	MICROWAVE DETECTOR	566133.1927	320976.0736	--	--	1
					TOTALS	1	1	1

ITS REMOVALS

CATEGORY	ROADWAY	ITEM ID	674.0300* REMOVE CABLE LF
1300	IH 41/USH 45		
		EXCCTV-40-0042 - EXPB3705	10
		EXPB3705 - EXPB3703	35
		EXPB3703 - EXCB-RM-40-0102	15
		EXMD2101 - EXPB2101	15
		EXPB2101 - EXSDS-40-0068	15
		TOTALS	90

*ADDITIONAL QUANTITIES FOUND ELSEWHERE

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0816 POSTS TUBULAR STEEL 2"X2"X16' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1-1	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
1-2	W5-52L(2M)	--	12	x	36	--	3.000	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
1-3	R3-21(MOD)	--	--	x	--	--	--	--	--	1	1	--	1	--	--
1-4	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
1-5	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
1-6	S1-1(2S)	--	36	x	36	--	6.750	--	1	1	1	--	--	--	--
	S16-9P(2S)		30	x	18	--	3.750	--	--	--	--	--	--	--	
	R2-6P(2S)		24	x	18	3.000	--	--	--	--	--	--	--	--	
1-7	R10-11S(2S)	--	24	x	36	6.000	--	--	--	--	--	1	--	--	ON SIGNAL POLE
1-8	R10-11S(2S)	--	24	x	36	6.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-1	R3-20L(2M)	--	24	x	36	6.000	--	--	--	--	--	1	--	--	--
2-2	J4-1(2M)	--	24	x	36	6.000	--	--	1	1	--	1	--	--	--
	M4-6	--	24	x	12										
	M1-5A	CTH M	24	x	24										
2-3	J4-1(2M)	--	24	x	36	6.000	--	--	1	1	--	1	--	--	--
	M4-6	--	24	x	12										
	M1-5A	CTH M	24	x	24										
2-4	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-5	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-6	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-7	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-8	--	TREE CITY USA	--	x	--	--	--	--	--	--	--	--	1	--	MOUNT ON SIGNAL POLE
2-9	--	WELCOME...NEIGHBORHOOD...	--	x	--	--	--	--	--	--	--	--	1	--	MOUNT ON SIGNAL POLE
2-10	M1-94H	N 124TH ST	78	x	18	9.750	--	--	--	--	--	--	--	--	ON MAST ARM
2-11	M1-94H	N 124TH ST	78	x	18	9.750	--	--	--	--	--	--	--	--	ON MAST ARM
2-12	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-13	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-14	M1-94H	W NORTH AVE	78	x	18	9.750	--	--	--	--	--	--	--	--	ON MAST ARM
2-15	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-16	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-17	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-18	M1-94H	W NORTH AVE	78	x	18	9.750	--	--	--	--	--	--	--	--	ON MAST ARM
2-19	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-20	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-21	R10-50(2M)	--	30	x	36	7.500	--	--	--	--	--	--	--	--	ON MAST ARM
2-22	R10-50(2M)	--	30	x	36	7.500	--	--	--	--	--	--	--	--	ON MAST ARM
2-23	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
2-24	R10-50(2M)	--	30	x	36	7.500	--	--	--	--	--	--	--	--	ON MAST ARM
2-25	R10-50(2M)	--	30	x	36	7.500	--	--	--	--	--	--	--	--	ON MAST ARM

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0816 POSTS TUBULAR STEEL 2"X2"X16' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
3-1	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-2	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-3	R10-3ER(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-4	R10-50(2M)	--	30	x	36	7.500	--	--	--	--	--	--	--	--	MOUNT ABOVE SIGNAL HEAD
3-5	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
3-6	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-7	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-8	R2-1(2S)	35 MPH	24	x	30	5.000	--	--	1	1	1	--	--	--	--
3-9	R10-3EL(2S)	--	9	x	15	0.938	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-10	R10-3ER(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-11	R3-2(2S)	--	24	x	24	4.000	--	--	1	1	1	--	--	--	--
3-12	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-13	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-14	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-15	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-16	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-17	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-18	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-19	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-20	R10-3EL(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-21	R10-3ER(2S)	--	9	x	15	0.938	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-22	R10-3ER(2S)	--	9	x	15	0.938	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-23	R10-3EL(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-24	M1-94H	W BURLEIGH	66	x	18	8.250	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-25	M1-94H	W BURLEIGH	66	x	18	8.250	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-26	M1-94H	N 124TH ST	60	x	18	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-27	M1-94H	N 124TH ST	60	x	18	7.500	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
3-28	--	WELCOME..NEIGHBORHOOD…	--	x	--	--	--	--	--	--	--	--	1	--	MOUNT ON LIGHT POLE
4-1	R10-3ER(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-2	R10-3EL(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-3	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-4	R4-7(2M)	--	24	x	30	5.000	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-5	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-6	R10-3ER(2S)	--	9	x	15	0.938	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-7	R10-3ER(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-8	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-9	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-10	R2-1(2S)	35 MPH	24	x	30	5.000	--	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0816 POSTS TUBULAR STEEL 2"X2"X16' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
4-11	R7-1D(2S)	--	18	x	24	3.000	--	--	--	--	--	--	--	--	MOUNT ON LIGHT POLE
4-12	R4-7(2M)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-13	R10-3EL(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-14	R10-3ER(2S)	--	9	x	15	0.938	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-15	--	TRUCKS ENTER HERE [A]	--	x	--	--	--	--	--	2	--	2	1	--	--
4-16	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-17	R10-3ER(2S)	--	9	x	15	0.938	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-18	R10-3EL(2S)	--	9	x	15	0.938	--	--	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-19	R1-1F(2M)	--	36	x	36	--	--	7.460	1	--	--	--	--	--	MOUNT ON SIGNAL POLE
4-20	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-1	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	1	--	--	--	--
5-2	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-3	R3-18(2S)	--	24	x	24	4.000	--	--	1	--	--	--	--	--	MOUNT ON LIGHT POLE
5-4	M1-94H	W HAMPTON AVE	102	x	18	12.750	--	--	--	--	--	--	--	--	ON MAST ARM
5-5	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
5-6	W3-3	--	--	x	--	--	--	--	--	1	1	--	1	--	--
5-7	J3-1	--	--	x	--	--	--	--	--	--	--	--	1	5-6	BACK OF SIGN #5-6
5-8	R4-7(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-9	R4-7(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON LIGHT POLE
5-10	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-11	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-12	R5-1(3)	--	36	x	36	9.000	--	--	1	1	1	--	--	--	--
5-13	R5-1A(3)	--	42	x	30	8.750	--	--	--	--	--	--	--	--	--
5-14	R5-1(3)	--	36	x	36	9.000	--	--	1	1	1	--	--	--	--
5-15	R5-1A(3)	--	42	x	30	8.750	--	--	--	--	--	--	--	--	--
5-16	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
5-17	R3-1(2S)	--	24	x	24	4.000	--	--	1	1	--	--	--	--	MOUNT ON SIGNAL POLE
5-18	R6-2L(2S)	--	24	x	30	5.000	--	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-19	R1-1F	--	--	x	--	--	--	--	1	1	--	--	--	--	ALSO REMOVE R5-1, R5-1A
5-20	R1-1F	--	--	x	--	--	--	--	1	1	--	--	--	--	ALSO REMOVE R5-1, R6-2L
5-21	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-22	R1-1F(2M)	--	36	x	36	--	--	7.460	--	--	--	--	--	--	MOUNT ON SIGNAL POLE
5-23	R10-50(2M)	--	30	x	36	7.500	--	--	--	--	--	--	--	--	ON MAST ARM
5-24	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
5-25	NOT USED	--	--	x	--	--	--	--	--	--	--	--	--	--	--
6-1	W23-2(2S)	--	36	x	36	--	9.000	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-2	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	MISCELLANEOUS QUANTITIES – PERMANENT SIGNING	SHEET:	E

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0816 POSTS TUBULAR STEEL 2"X2"X16' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
6-3	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-4	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-1	--
6-5	W44P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-2	--
6-6	R10-12	--	--	x	--	--	--	--	1	--	--	--	--	--	ON SIGNAL POLE
6-7	W23-2(2S)	--	36	x	36	--	2.000	--	--	--	--	--	--	--	--
6-8	R6-2L(2S)	--	24	x	30	5.000	--	--	--	--	1	--	--	--	--
6-9	R6-2R(2S)	--	24	x	30	5.000	--	--	--	--	1	--	--	--	--
6-10	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-11	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-12	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-13	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-14	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-10	--
6-15	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-11	--
6-16	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-12	--
6-17	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-13	--
6-18	W23-2(2S)	--	36	x	36	--	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-19	R10-12	--	--	x	--	--	--	--	1	--	--	--	--	--	SIGNAL POLE
6-20	R6-2R(2S)	--	24	x	30	5.000	--	--	--	--	1	--	--	--	--
6-21	R6-2L(2S)	--	24	x	30	5.000	--	--	--	--	1	--	--	--	--
6-22	W23-2(2S)	--	36	x	36	--	9.000	--	--	--	--	1	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-23	W23-2(2S)	--	36	x	36	--	9.000	--	--	--	--	1	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-24	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-25	R1-1(3)	--	36	x	36	7.460	--	--	--	--	1	--	--	--	16x16 TEMP ORANGE FLAG INCIDENTAL
6-26	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-24	--
6-27	W4-4P(2M)	--	24	x	12	--	2.000	--	--	--	--	--	--	6-25	--
--	--	--	--	x	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	x	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	x	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	x	--	--	--	--	--	--	--	--	--	--	--
TOTALS						385.493	58.500	216.340	46	14	22	8	7		

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	MONOTUBE ARMS 30-FT
8	EACH	LUMINAIRE ARMS STEEL 8-FT

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	--	27	--
PB1	PB2	--	92	--
PB2	PB3	--	--	116
PB3	PB4	--	--	96
PB4	PB5	--	64	--
PB5	PB6	--	--	118
PB6	PB7	--	--	94
PB7	PB8	--	116	--
PB8	PB9	--	--	122
PB9	PB10	--	--	102
PB10	PB11	--	100	--
PB11	PB12	--	--	110
PB12	PB13	--	--	86
PB13	CB1	--	18	--
PB1	SB1	13	--	--
PB2	SB2	15	--	--
PB3	SB3	--	4	--
PB4	SB4	8	--	--
PB5	SB5	9	--	--
PB6	SB6	--	7	--
PB8	SB7	24	--	--
PB9	SB8	--	7	--
PB11	SB9	10	--	--
PB11	SB10	5	--	--
PB12	SB11	--	6	--
	TOTAL	84	441	844

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

W. NORTH AVENUE & N. 124TH STREET

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB4	1
SB5	1
SB7	1
SB8	1
SB9	1
SB10	1
SB11	1
SB12	1
CB1	1
TOTAL	11

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	153TU+63.9	47.9' RT	1
PB2	153TU+45.1	80.8' RT	1
PB3	152TU+87.2	76.1' RT	1
PB4	152TU+39.1	71.8' RT	1
PB5	152TU+15.3	53.1' RT	1
PB6	152TU+12.4	6.0' LT	1
PB7	152TU+10.0	53.2' LT	1
PB8	152TU+35.5	95.5' LT	1
PB9	152TU+95.9	95.3' LT	1
PB10	153TU+47.0	95.4' LT	1
PB11	153TU+65.3	52.3' LT	1
PB12	153TU+66.6	2.8' RT	1
PB13	153TU+67.7	46.1' RT	1
		TOTAL	13

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030240_mq_sp.ppt PLOT DATE : 10/31/2016 3:14:50 PM PLOT BY : MSCCEJ PLOT NAME : 030240_mq_sp1 PLOT SCALE : 1:1

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
TOTAL	3

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0110* CONCRETE BASES TYPE 10 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
SB1	153TU+52.4	53.9' RT	1	--	--
SB2	153TU+45.8	66.3' RT	1	--	--
SB3	152TU+86.3	80.1' RT	--	1	--
SB4	152TU+31.6	53.8' RT	1	--	--
SB5	152TU+23.8	53.4' RT	1	--	--
SB6	152TU+19.1	4.6' LT	--	1	--
SB7	152TU+31.8	72.2' LT	1	--	--
SB8	152TU+95.3	88.0' LT	--	1	--
SB9	153TU+55.7	53.2' LT	1	--	--
SB10	153TU+60.6	49.9' LT	1	--	--
SB11	153TU+72.7	5.0' RT	--	1	--
CB1	153TU+72.6	49.9' RT	--	--	1
		TOTALS	7	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

W. NORTH AVENUE & N. 124TH STREET

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 23	15	--
SB2	HEAD 11	19	--
SB2	HEAD 19	--	22
SB2	HEAD 22	15	--
SB3	HEAD 17	43	--
SB3	HEAD 18	57	--
SB3	HEAD 20	--	34
SB4	HEAD 24	15	--
SB5	HEAD 1	19	--
SB5	HEAD 9	--	22
SB6	HEAD 7	41	--
SB6	HEAD 8	57	--
SB6	HEAD 10	--	22
SB7	HEAD 14	--	22
SB7	HEAD 16	19	--
SB8	HEAD 12	47	--
SB8	HEAD 13	57	--
SB8	HEAD 15	--	34
SB9	HEAD 4	--	22
SB9	HEAD 21	15	--
SB10	HEAD 6	19	--
SB11	HEAD 2	43	--
SB11	HEAD 3	55	--
SB11	HEAD 5	--	22
	TOTALS	536	200

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

W. NORTH AVENUE & N. 124TH STREET

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

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	49	--
CB1	SB2	--	113
CB1	SB3	--	166
CB1	SB4	254	--
CB1	SB5	--	293
CB1	SB6	--	366
CB1	SB7	--	397
CB1	SB8	--	303
CB1	SB9	--	173
CB1	SB10	--	168
CB1	SB11	--	98
	TOTALS	303	2077

*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	176	--
SB3	LUMIN	--	312
SB3	SB6	222	--
SB6	LUMIN	--	312
CB1	SB11	98	--
SB11	LUMIN	--	312
SB11	SB8	241	--
SB8	LUMIN	--	312
	TOTALS	737	1248

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	49
SB1	SB2	114
SB2	SB3	117
SB3	SB4	106
SB4	SB5	99
SB5	SB6	115
SB6	SB7	192
SB7	SB8	132
SB8	SB9	174
SB9	SB10	39
SB10	SB11	106
SB11	CB1	98
PB1	CB1	32
PB2	SB2	35
PB3	SB3	24
PB4	SB4	38
PB5	SB5	29
PB6	SB6	27
PB7	SB7	118
PB8	SB7	44
PB9	SB8	27
PB10	SB10	91
PB11	SB10	25
PB12	SB11	26
PB13	CB1	29
	TOTAL	1886

*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	SB6 (HEAD A)	411	411
CB1	SB11 (HEAD B)	159	159
CB1	SB3 (HEAD C)	237	237
CB1	SB8 (HEAD D)	364	364
	TOTALS	1171	1171

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL W. NORTH AVENUE & N. 124TH STREET

BASE NO.	656.0200.3101 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	657.0420* TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT 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	657.1530* INSTALL MONOTUBE ARMS 30-FT EACH	657.1808* INSTALL LUMINAIRE ARMS STEEL 8-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH	659.1125* LUMINAIRES UTILITY LED C EACH
SB1	1	--	--	1	--	--	--	2	--
SB2	1	--	1	--	--	--	--	--	--
SB3	--	--	--	--	1	1	2	--	2
SB4	1	--	--	1	--	--	--	1	--
SB5	1	--	1	--	--	--	--	--	--
SB6	--	--	--	--	1	1	2	--	2
SB7	1	--	1	--	--	--	--	--	--
SB8	--	--	--	--	1	1	2	--	2
SB9	1	--	1	--	--	--	--	1	--
SB10	1	1	--	--	--	--	--	--	--
SB11	--	--	--	--	1	1	2	--	2
TOTALS	7	1	4	2	4	4	8	4	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110* TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115* 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	SB5	1	--	1	--	--	1	1	1	--	--	--	--
2	SB11	1	--	1	--	--	1	1	1	--	--	--	--
3	SB11	1	--	1	--	--	1	1	1	--	--	--	--
4	SB9	--	1	--	1	--	--	--	--	1	2	1	--
5	SB11	--	1	--	1	--	--	--	--	1	2	1	--
6	SB10	1	--	1	--	--	1	1	1	--	--	--	--
7	SB6	1	--	1	--	--	1	1	1	--	--	--	--
8	SB6	1	--	1	--	--	1	1	1	--	--	--	--
9	SB5	--	1	--	1	--	--	--	--	1	2	1	--
10	SB6	--	1	--	1	--	--	--	--	1	2	1	--
11	SB2	1	--	1	--	--	1	1	1	--	--	--	--
12	SB8	1	--	1	--	--	1	1	1	--	--	--	--
13	SB8	1	--	1	--	--	1	1	1	--	--	--	--
14	SB7	--	1	--	1	--	--	--	--	1	2	1	--
15	SB8	--	1	--	1	--	--	--	--	1	2	1	--
16	SB7	1	--	1	--	--	1	1	1	--	--	--	--
17	SB3	1	--	1	--	--	1	1	1	--	--	--	--
18	SB3	1	--	1	--	--	1	1	1	--	--	--	--
19	SB2	--	1	--	1	--	--	--	--	1	2	1	--
20	SB3	--	1	--	1	--	--	--	--	1	2	1	--
21	SB9	--	--	--	--	1	--	--	--	--	--	--	1
22	SB2	--	--	--	--	1	--	--	--	--	--	--	1
23	SB1	--	--	--	--	1	--	--	--	--	--	--	1
24	SB4	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		12	8	12	8	4	12	12	12	8	16	8	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SIGNAL MOUNTING HARDWARE
W. NORTH AVENUE & N. 124TH STREET

LOCATION	658.5069.3101 SIGNAL MOUNTING HARDWARE LS
N. 124TH STREET & W. NORTH AVENUE	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION PARTIAL
W. NORTH AVENUE & N. 124TH STREET

LOCATION	SPV.0105.3108 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION PARTIAL LS	661.0300* GENERATORS DAY
W. NORTH AVENUE & N. 124TH STREET	1	2
TOTALS	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

W. NORTH AVENUE & N. 124TH STREET

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

EMERGENCY VEHICLE PREEMPTION

LOCATION	SPV.0060.3101 EVP DETECTOR TYPE I EACH	SPV.0060.3102 EVP DISCRIMINATOR TYPE IV EACH	SPV.0060.3103 EVP CONFIRMATION LIGHT ASSEMBLY TYPE I EACH
CB1	--	1	--
SB3	1	--	1
SB6	1	--	1
SB8	1	--	1
SB11	1	--	1
TOTALS	4	1	4

TRANSPORTING TRAFFIC SIGNAL AND LIGHTING MATERIALS
W. NORTH AVENUE & N. 124TH STREET

LOCATION	SPV.0105.3104 TRANSPORTING TRAFFIC SIGNAL AND LIGHTING MATERIALS LS
W. NORTH AVENUE & N. 124TH STREET	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
W. NORTH AVENUE & N. 124TH STREET

LOCATION	SPV.0105.3101 REMOVE TRAFFIC SIGNALS LS
W. NORTH AVENUE & N. 124TH STREET	1
TOTAL	1

INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET
W. NORTH AVENUE & N. 124TH STREET

LOCATION	SPV.0060.3104 TRAFFIC SIGNAL CONTROLLER PROGRAMMING EACH	SPV.0105.3105 INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET LS
W. NORTH AVENUE & N. 124TH STREET	1	1
TOTAL	1	1

VIDEO VEHICLE DETECTION SYSTEM
W. NORTH AVENUE & N. 124TH STREET

LOCATION	SPV.0105.3107 VIDEO VEHICLE DETECTION SYSTEM LS
W. NORTH AVENUE & N. 124TH STREET	1
TOTAL	1

W. CENTER STREET & N. 124TH STREET

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

UNDERGROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0260* CABLE TRAFFIC SIGNAL 12-14 AWG LF
CB1	SB3	368
	TOTALS	368

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ABOVE GROUND TRAFFIC SIGNAL CABLE NO. 14

FROM	TO	655.0230* CABLE TRAFFIC SIGNAL 5-14 AWG LF
SB3	HEAD 7	19
SB3	HEAD 11	19
	TOTALS	38

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET
W. CENTER STREET & N. 124TH STREET

LOCATION	SPV.0060.3104 TRAFFIC SIGNAL CONTROLLER PROGRAMMING EACH	SPV.0105.3106 INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET LS
W. CENTER STREET & N. 124TH STREET	1	1
TOTAL	1	1

CONCRETE BASES

BASE NO.	STATION	LOCATION	SPV.0060.3105 CONCRETE CONTROL CABINET BASES TYPE 9 MODIFIED EACH
CB1		EXISTING	1
		TOTALS	1

SIGNAL MOUNTING HARDWARE
W. CENTER STREET & N. 124TH STREET

LOCATION	658.5069.3102 SIGNAL MOUNTING HARDWARE LS
W. CENTER STREET & N. 124TH STREET	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
W. CENTER STREET & N. 124TH STREET

LOCATION	SPV.0105.3102 REMOVE TRAFFIC SIGNALS LS
W. CENTER STREET & N. 124TH STREET	1
TOTAL	1

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030250_mq_sp.ppt PLOT DATE : 10/31/2016 3:15:17 PM PLOT BY : MSCCEJ PLOT NAME : 030250_mq_sp1 PLOT SCALE : 1:1

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB1	1
SB2	1
SB3	1
SB12	1
TOTAL	4

*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
PB1	PB12	--	36	--
PB12	PB13	--	--	108
PB13	PB14	--	--	76
PB14	PB3	--	24	--
PB15	EXT 1	--	48	--
PB15	EXT 2	--	16	--
PB1	SB1	15	--	--
PB13	SB2	37	--	--
PB3	SB3	29	--	--
PB15	SB4	20	--	--
PB11	SB12	8	--	--
PB11	SB13	19	--	--
	TOTAL	128	88	184

W. BURLEIGH STREET & N. 124TH STREET

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
PB1	1
PB3	1
PB11	1
TOTAL	3

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB12	527BR+53.6	46.7' LT	1
PB13	527BR+50.8	7.3' RT	1
PB14	527BR+49.2	45.5' RT	1
PB15	205TU+02.6	52.6' RT	1
		TOTAL	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

FILE NAME : W:\Cadd\Final\10603990_TM5Roads\cds\030260_mq_sp.ppt PLOT DATE : 10/31/2016 3:15:34 PM PLOT BY : MSCCEJ PLOT NAME : 030260_mq_sp1 PLOT SCALE : 1:1

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB2	1
PB4	1
TOTAL	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

W. BURLEIGH STREET & N. 124TH STREET

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
SB1	HEAD 5	19
SB2	HEAD 2	43
SB2	HEAD 8	19
SB2	HEAD 26	22
SB3	HEAD 3	19
SB3	HEAD 19	15
SB8	HEAD 4	22
SB8	HEAD 6	46
SB8	HEAD 25	19
SB12	HEAD 11	19
SB12	HEAD 21	15
SB13	HEAD 24	15
	TOTALS	273

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0102* CONCRETE BASES TYPE 2 EACH
SB1	206TU+35.3	74.8' RT	1	--
SB2	205TU+80.7	69.2' RT	--	1
SB3	205TU+40.8	64.5' RT	1	--
SB12	206TU+54.3	52.3' RT	1	--
SB13	206TU+47.0	62.9' RT	1	--
		TOTALS	4	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

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	--	57
CB1	SB2	--	183
CB1	SB3	--	257
CB1	SB8	--	381
CB1	SB12	--	117
CB1	SB13	128	--
	TOTALS	128	995

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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LIGHTING WIRE

FROM	TO	655.0320* CABLE TYPE UF 2-10 AWG GROUNDED LF
CB1	SB5	380
	TOTALS	380

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	57
SB1	SB2	180
SB2	SB3	172
SB3	SB4	157
SB4	SB5	114
SB11	SB12	100
SB12	SB13	51
SB13	CB1	128
CB1	SB1	57
SB1	SB2	180
SB2	SB3	172
SB3	SB4	157
SB4	SB5	114
SB11	SB12	100
SB12	SB13	51
SB13	CB1	128
PB12	CB1	63
PB13	SB2	57
PB14	SB3	77
PB15	SB4	40
PB11	SB12	28
	TOTAL	2183

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

W. BURLEIGH STREET & N. 124TH STREET

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900* TRAFFIC SIGNAL EVP DETECTOR CABLE LF
CB1	SB2 (HEAD B)	208
CB1	SB8 (HEAD A)	408
CB1	SB5 (HEAD C)	462
	TOTALS	1078

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SIGNAL MOUNTING HARDWARE
W. BURLEIGH STREET & N. 124TH STREET

LOCATION	658.5069.3103 SIGNAL MOUNTING HARDWARE LS
W. BURLEIGH STREET & N. 124TH STREET	1
TOTAL	1

W. BURLEIGH STREET & N. 124TH STREET

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

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
2	SB2	1	--	1	--	--	1	1	1	--	--	--	--
3	SB3	1	--	1	--	--	1	1	1	--	--	--	--
4	SB8	--	1	--	1	--	--	--	--	1	2	1	--
5	SB1	1	--	1	--	--	1	1	1	--	--	--	--
6	SB8	1	--	1	--	--	1	1	1	--	--	--	--
8	SB2	1	--	1	--	--	--	--	--	1	1	1	--
11	SB12	1	--	1	--	--	1	1	1	--	--	--	--
17	SB7	--	--	--	--	1	--	--	--	--	--	--	1
18	SB9	--	--	--	--	1	--	--	--	--	--	--	1
19	SB3	--	--	--	--	1	--	--	--	--	--	--	1
20	SB6	--	--	--	--	1	--	--	--	--	--	--	1
21	SB12	--	--	--	--	1	--	--	--	--	--	--	1
22	SB4	--	--	--	--	1	--	--	--	--	--	--	1
23	SB10	--	--	--	--	1	--	--	--	--	--	--	1
24	SB13	--	--	--	--	1	--	--	--	--	--	--	1
25	SB8	1	--	1	--	--	--	--	--	1	1	1	--
26	SB2	--	1	--	1	--	--	--	--	1	2	1	--
TOTALS		7	2	7	2	8	5	5	5	4	6	4	8

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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	657.0310* POLES TYPE 3 EACH	657.0420* TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0430* TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.0590 TROMBONE ARMS 20-FT EACH	657.0609* LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH
SB1	1	--	--	1	--	--	--	--
SB2	--	1	1	--	--	1	1	--
SB3	1	--	--	1	--	--	--	2
SB8	--	1	1	--	--	1	1	--
SB12	1	--	--	1	--	--	--	--
SB13	1	--	--	--	1	--	--	2
TOTALS	4	2	2	3	1	2	2	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVE TRAFFIC SIGNALS
W. BURLEIGH STREET & N. 124TH STREET

LOCATION	SPV.0105.3103 REMOVE TRAFFIC SIGNALS LS
W. BURLEIGH STREET & N. 124TH STREET	1
TOTAL	1

W. BURLEIGH STREET & N. 124TH STREET

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET
W. BURLEIGH STREET & N. 124TH STREET

LOCATION	SPV.0060.3104 TRAFFIC SIGNAL CONTROLLER PROGRAMMING EACH
W. BURLEIGHT STREET & N. 124TH STREET	1
TOTAL	1

VIDEO VEHICLE DETECTION SYSTEM
W. BURLEIGH STREET & N. 124TH STREET

LOCATION	SPV.0105.3109 VIDEO VEHICLE DETECTION SYSTEM LS
W. BURLEIGH STREET & N. 124TH STREET	1
TOTAL	1

OPERATE AND MAINTAIN TRAFFIC SIGNAL
W. BURLEIGH STREET & N. 124TH STREET

LOCATION	SPV.0105.3110 OPERATE AND MAINTAIN TRAFFIC SIGNAL LS
W. BURLEIGHT STREET & N. 124TH STREET	1
TOTAL	1

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IH 41 SB OFF RAMP & CTH EE (W. HAMPTON AVENUE)

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
3	EACH	POLES TYPE 9
3	EACH	MONOTUBE ARMS 30-FT
1	LS	RADAR DETECTION SYSTEM

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	--	30	--
PB1	PB2	--	--	116
PB2	PB3	--	128	--
PB3	PB4	--	--	108
PB4	PB5	--	29	--
PB4	PB6	--	--	116
PB6	PB7	--	--	164
PB7	PB8	--	--	80
PB8	PB9	--	76	--
PB9	PB10	--	--	116
PB10	PB11	--	21	--
PB10	PB12	--	--	120
PB12	PB13	--	70	--
PB13	CB1	--	30	--
PB1	SB1	10	--	--
PB2	SB2	--	12	--
PB2	SB3	19	--	--
PB5	SB4	--	8	--
PB5	SB5	5	--	--
PB7	SB6	11	--	--
PB8	SB7	10	--	--
PB11	SB8	--	5	--
	TOTAL	55	409	820

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0135* PULL BOXES STEEL 24X36-INCH EACH	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	619HP+60.8	72.2' RT	--	1
PB2	619HP+02.4	72.2' RT	--	1
PB3	618HP+40.0	58.0' RT	--	1
PB4	618HP+40.0	3.6' RT	--	1
PB5	618HP+68.1	5.4' LT	1	--
PB6	618HP+40.0	54.0' LT	--	1
PB7	619HP+21.6	54.0' LT	--	1
PB8	619HP+61.5	54.0' LT	--	1
PB9	620HP+00.0	54.0' LT	--	1
PB10	620HP+00.0	4.0' RT	--	1
PB11	620HP+21.0	4.0' RT	1	--
PB12	620HP+00.0	64.0' RT	--	1
PB13	619HP+66.5	70.0' RT	--	1
		TOTAL	2	11

*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
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
TOTAL	6

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN PROFESSIONAL ENGINEER
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
10-31-16

PAGE 1 OF 5

PROJECT NO: 1060-39-90	HWY:IH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

IH 41 SB OFF RAMP & CTH EE (W. HAMPTON AVENUE)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

3

CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH	654.0102* CONCRETE BASES TYPE 2 EACH	654.0110* CONCRETE BASES TYPE 10 EACH	654.0217* CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL EACH
SB1	619HP+64.4	63.0' RT	1	--	--	--
SB2	619HP+14.1	75.5' RT	--	--	1	--
SB3	619HP+11.6	56.9' RT	1	--	--	--
SB4	618HP+50.1	5.4' LT	--	--	1	--
SB5	618HP+73.2	5.3' LT	--	1	--	--
SB6	619HP+25.6	64.0' LT	1	--	--	--
SB7	619HP+61.5	64.0' LT	--	1	--	--
SB8	620HP+25.0	7.0' RT	--	--	1	--
CB1	619HP+67.1	80.0' RT	--	--	--	1
		TOTALS	3	2	3	1

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

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	655.0270* CABLE TRAFFIC SIGNAL 15-14 AWG LF
CB1	SB1	--	47	--
CB1	SB2	--	123	--
CB1	SB3	--	130	--
CB1	SB4	--	--	314
CB1	SB5	311	--	--
CB1	SB6	--	359	--
CB1	SB7	--	302	--
CB1	SB8	--	206	--
	TOTALS	311	1167	314

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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 10	--	22
SB1	HEAD 16	15	--
SB2	HEAD 11	--	54
SB3	HEAD 1	19	--
SB3	HEAD 7	--	22
SB3	HEAD 17	15	--
SB4	HEAD 5	42	--
SB4	HEAD 6	54	--
SB4	HEAD 8	--	33
SB4	HEAD 13	26	--
SB5	HEAD 12	26	--
SB6	HEAD 9	19	--
SB6	HEAD 14	15	--
SB7	HEAD 4	19	--
SB7	HEAD 15	15	--
SB8	HEAD 2	41	--
SB8	HEAD 3	53	--
	TOTALS	359	131

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030270_mq_sp.ppt PLOT DATE : 10/31/2016 3:15:48 PM PLOT BY : MSCCEJ PLOT NAME : 030270_mq_sp2 PLOT SCALE : 1:1

IH 41 SB OFF RAMP & CTH EE (W. HAMPTON AVENUE)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	47
SB1	SB2	120
SB2	SB3	55
SB3	SB4	246
SB4	SB5	37
SB5	SB6	257
SB6	SB7	101
SB7	SB8	204
SB8	CB1	206
PB1	SB1	30
PB2	SB2	32
PB3	SB2	112
PB4	SB5	70
PB5	SB5	25
PB6	SB6	129
PB7	SB6	31
PB8	SB7	30
PB9	SB7	84
PB10	SB8	62
PB11	SB8	25
PB12	CB1	84
PB13	CB1	33
TOTAL		2020

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

ELECTRICAL SERVICE METER BREAKER PEDESTAL
IH 41 SB OFF RAMP & CTH EE

BASE NO.	656.0200.3001 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	657.0255* TRANSFORMER BASE BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0305* POLES TYPE 2 EACH	657.0420* TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425* TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.1345* INSTALL POLES TYPE 9 EACH	657.1530* INSTALL MONOTUBE ARMS 30-FT EACH	658.0500* PEDESTRIAN PUSH BUTTONS EACH
SB1	1	--	--	--	1	--	--	1
SB2	--	--	--	--	--	1	1	--
SB3	1	--	--	--	1	--	--	1
SB4	--	--	--	--	--	1	1	--
SB5	--	1	1	--	--	--	--	--
SB6	1	--	--	1	--	--	--	1
SB7	--	1	1	--	--	--	--	1
SB8	--	--	--	--	--	1	1	--
TOTALS	3	2	2	1	2	3	3	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	SB3	1	--	1	--	--	1	1	1	--	--	--	--
2	SB8	1	--	1	--	--	1	1	1	--	--	--	--
3	SB8	1	--	1	--	--	1	1	1	--	--	--	--
4	SB7	1	--	1	--	--	1	1	1	--	--	--	--
5	SB4	1	--	1	--	--	1	1	1	--	--	--	--
6	SB4	1	--	1	--	--	1	1	1	--	--	--	--
7	SB3	--	1	--	1	--	--	--	--	1	2	1	--
8	SB4	--	1	--	1	--	--	--	--	1	2	1	--
9	SB6	1	--	1	--	--	1	1	1	--	--	--	--
10	SB1	--	1	--	1	--	1	1	1	--	--	1	--
11	SB2	--	1	--	1	--	1	1	1	--	--	1	--
12	SB5	1	--	1	--	--	1	--	--	--	1	1	--
13	SB4	1	--	1	--	--	1	--	--	--	1	1	--
14	SB6	--	--	--	--	1	--	--	--	--	--	--	1
15	SB7	--	--	--	--	1	--	--	--	--	--	--	1
16	SB1	--	--	--	--	1	--	--	--	--	--	--	1
17	SB3	--	--	--	--	1	--	--	--	--	--	--	1
TOTALS		9	4	9	4	4	11	9	9	2	6	6	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

IH 41 SB OFF RAMP & CTH EE (W. HAMPTON AVENUE)

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

SIGNAL MOUNTING HARDWARE
IH 41 SB OFF RAMP & CTH EE

LOCATION	658.5069.3001 SIGNAL MOUNTING HARDWARE LS
IH 41 SB OFF RAMP & CTH EE	1
TOTAL	1

TRANSPORTING TRAFFIC SIGNAL AND LIGHTING MATERIALS
IH 41 SB OFF RAMP & CTH EE

LOCATION	SPV.0105.3004 TRANSPORTING TRAFFIC SIGNAL AND LIGHTING MATERIALS LS
IH 41 SB OFF RAMP & CTH EE	1
TOTAL	1

3

TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
IH 41 SB OFF RAMP & CTH EE

LOCATION	SPV.0105.3003 TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
IH 41 SB OFF RAMP & CTH EE	1
TOTAL	1

TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM
IH 41 SB OFF RAMP & CTH EE

LOCATION	SPV.0105.3005 TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM LS
IH 41 SB OFF RAMP & CTH EE	1
TOTAL	1

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030270_mq_sp.ppt PLOT DATE : 10/31/2016 3:15:49 PM PLOT BY : MSCCEJ PLOT NAME : 030270_mq_sp5 PLOT SCALE : 1:1

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SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
510	LF	CAMERA POWER CABLE
554	LF	CAT-5E CABLE
2	EACH	ETHERNET REPEATERS
1	LS	VIDEO DETECTION SYSTEM

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH
SB3	1
SB4	1
TOTAL	2

*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
EXT1	PB3	--	40
PB3	PB4	--	32
PB4	EXT2	--	36
PB3	SB3	9	--
PB4	SB4	10	--
	TOTAL	19	108

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB3	71F+85.2	65.8' LT	1
PB4	242BL+76.4	66.5' RT	1
		TOTAL	2

*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
TOTAL	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

WISCONSIN JASON R. MATSON 3[illegible] W[illegible], JKESHA, WI PROFESSIONAL ENGINEER

10/31/2016

PROJECT NO: 1060-39-90	HWY: USH 18	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET: 221	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030280_mq_sp.ppt PLOT DATE : 10/31/2016 9:54:52 AM PLOT BY : MSCCEJ PLOT NAME : 030280_mq_sp1 PLOT SCALE : 1:1

3

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CONCRETE BASES

BASE NO.	STATION	LOCATION	654.0101* CONCRETE BASES TYPE 1 EACH
SB3	71F+93.1	60.6' LT	1
SB4	242BL+86.2	63.3' RT	1
		TOTALS	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE
***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

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	655.0270* CABLE TRAFFIC SIGNAL 15-14 AWG LF
CB1	SB5	509	--	--
CB1	SB6	--	488	--
CB1	SB7	399	--	--
CB1	SB3	208	--	--
CB1	SB4	--	--	241
	TOTALS	1116	488	241

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

NOTE: INSTALL TRAFFIC SIGNAL CABLE TO SB5, SB6, SB7 COUNTERCLOCKWISE FROM THE TRAFFIC SIGNAL CABINET TO THE SIGNAL BASES PRIOR TO BEGINNING CONSTRUCTION ON SOUTHWEST QUADRANT.

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
SB3	HEAD 21	15	--
SB4	HEAD 1	19	--
SB4	HEAD 9	--	22
SB4	HEAD 28	15	--
	TOTALS	34	22

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030280_mq_sp.ppt PLOT DATE : 10/31/2016 3:16:05 PM PLOT BY : MSCCEJ PLOT NAME : 030280_mq_sp2 PLOT SCALE : 1:1

3

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515* ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
SB2	SB3	109
SB3	SB4	75
SB4	SB5	139
PB3	SB3	29
PB4	SB4	30
	TOTAL	382

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC SIGNAL EVP DETECTOR CABLE

FROM	TO	655.0900* TRAFFIC SIGNAL EVP DETECTOR CABLE LF
CB1	SB6 (HEAD A)	563
	TOTAL	563

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

NOTE: INSTALL TRAFFIC SIGNAL CABLE TO SB6 COUNTERCLOCKWISE FROM THE TRAFFIC SIGNAL CABINET TO THE EVP HEAD PRIOR TO BEGINNING CONSTRUCTION ON SOUTHWEST QUADRANT.

CAST BASES AND POLES

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	658.0500* PEDESTRIAN PUSH BUTTONS EACH
SB3	1	--	1	1
SB4	1	1	--	1
TOTALS	2	1	1	2

*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	SB4	1	--	1	--	--	1	1	1	--	--	--	--
9	SB4	--	1	--	1	--	--	--	--	1	2	1	--
21	SB3	--	--	--	--	1	--	--	--	--	--	--	1
28	SB4	--	--	--	--	1	--	--	--	--	--	--	1
	TOTALS	1	1	1	1	2	1	1	1	1	2	1	2

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

SIGNAL MOUNTING HARDWARE
USH 18 & STH 181

LOCATION	658.5069.3002 SIGNAL MOUNTING HARDWARE LS
USH 18 & STH 181	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
USH 18 & STH 181

LOCATION	SPV.0105.3002 REMOVE TRAFFIC SIGNALS LS
USH 18 & STH 181	1
TOTAL	1

3

INSTALL STATE SUPPLIED VIDEO DETECTION CABLE

FROM	TO	SPV.0090.3002 INSTALL VIDEO DETECTION CABLE LF
CB1	SB6 (V1)	510
	TOTAL	510

NOTE: INSTALL TRAFFIC SIGNAL CABLE TO SB6 COUNTERCLOCKWISE FROM THE TRAFFIC SIGNAL CABINET TO THE CAMERA PRIOR TO BEGINNING CONSTRUCTION ON SOUTHWEST QUADRANT.

TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM
USH 18 & STH 181

LOCATION	SPV.0105.3006 TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM LS
USH 18 & STH 181	1
TOTAL	1

INSTALL STATE SUPPLIED CAT-5E CABLE

FROM	TO	SPV.0090.3003 INSTALL CAT-5E CABLE LF
CB1	SB10 (R2)	175
SB10 (R2)	SB6 (R3)	283
SB6 (R3)	SB6 (V1)	96
	TOTAL	554

NOTES: R = ETHERNET REPEATER

INSTALL TRAFFIC SIGNAL CABLE TO SB6 COUNTERCLOCKWISE FROM THE TRAFFIC SIGNAL CABINET TO THE EVP HEAD PRIOR TO

COVERING TRAFFIC SIGNAL EQUIPMENT
USH 18 & STH 181

LOCATION	SPV.0105.3007 COVERING TRAFFIC SIGNAL EQUIPMENT LS
USH 18 & STH 181	1
TOTAL	1

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

REMOVE TRAFFIC SIGNALS
STH 190 & INDUSTRIAL ROAD

LOCATION	SPV.0105.3001 REMOVE TRAFFIC SIGNALS LS
STH 190 & INDUSTRIAL ROAD	1
TOTAL	1

STH 190 & INDUSTRIAL ROAD

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

3

REMOVING PULL BOXES

EXISTING PULL BOX NO.	653.0905* REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB9	1
PB10	1
PB11	1
PB12	1
PB13	1
PB14	1
PB15	1
PB23	1
TOTAL	16

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

COVERING TRAFFIC SIGNAL EQUIPMENT
STH 190 & INDUSTRIAL ROAD

LOCATION	SPV.0105.3009 COVERING TRAFFIC SIGNAL EQUIPMENT LS
STH 190 & INDUSTRIAL ROAD	1
TOTAL	1

WISCONSIN
JASON R. MATSON
3711
WAUKESHA, WI
PROFESSIONAL ENGINEER
12/13/2016

PROJECT NO: 1060-39-90	HWY: STH 190	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\030290_mq_sp.ppt
PLOT DATE : 12/13/2016 1:29:25 PM PLOT BY : MSCCEJ PLOT NAME : 030290_mq_sp1 PLOT SCALE : 1:1

W. BURLEIGH STREET & N. 119TH STREET

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

VIDEO VEHICLE DETECTION SYSTEM
W. BURLEIGH STREET & N. 119TH STREET

LOCATION	SPV.0105.3115 VIDEO VEHICLE DETECTION SYSTEM LS
W. BURLEIGH STREET & N. 119TH STREET	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
W. BURLEIGH STREET & N. 119TH STREET

LOCATION	SPV.0105.3111 REMOVE TRAFFIC SIGNALS LS
W. BURLEIGH STREET & N. 119TH STREET	1
TOTAL	1

INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET
W. BURLEIGH STREET & N. 119TH STREET

LOCATION	SPV.0060.3104 TRAFFIC SIGNAL CONTROLLER PROGRAMMING EACH	SPV.0105.3113 INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET LS
W. BURLEIGHT STREET & N. 119TH STREET	1	1
TOTAL	1	1

PROJECT NO: 1060-39-90	HWY: W. BURLEIGH STREET	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

3

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	LS	VIDEO DETECTION SYSTEM

TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM
IH 41 RAMPS & W. BURLEIGH STREET

LOCATION	SPV.0105.3008 TRANSPORTING AND INSTALLING STATE FURNISHED AUTOSCOPE VIDEO DETECTION SYSTEM LS
IH 41 & W. BURLEIGH STREET	1
TOTAL	1

WISCONSIN
JOSHUA M. WOLLER
E-42424-6
FITCHBURG
WI
PROFESSIONAL ENGINEER

12-12-16

W. BURLEIGH STREET & N. 114TH STREET

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

VIDEO VEHICLE DETECTION SYSTEM
W. BURLEIGH STREET & N. 114TH STREET

LOCATION	SPV.0105.3116 VIDEO VEHICLE DETECTION SYSTEM LS
W. BURLEIGH STREET & N. 114TH STREET	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
W. BURLEIGH STREET & N. 114TH STREET

LOCATION	SPV.0105.3112 REMOVE TRAFFIC SIGNALS LS
W. BURLEIGH STREET & N. 114TH STREET	1
TOTAL	1

INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET
W. BURLEIGH STREET & N. 114TH STREET

LOCATION	SPV.0060.3104 TRAFFIC SIGNAL CONTROLLER PROGRAMMING EACH	SPV.0105.3114 INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET LS
W. BURLEIGHT STREET & N. 114TH STREET	1	1
TOTAL	1	1

PAGE 1 OF 1

3

SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET

3

VIDEO VEHICLE DETECTION SYSTEM
W. BURLEIGH STREET & N. 112TH STREET

LOCATION	SPV.0060.3106 VIDEO DETECTION SYSTEM PROGRAMMING EACH	SPV.0105.3117 VIDEO VEHICLE DETECTION SYSTEM LS
W. BURLEIGH STREET & N. 112TH STREET	1	1
TOTAL	1	1

INSTALL STATE FURNISHED MUNICIPAL TRAFFIC SIGNAL CABINET
W. BURLEIGH STREET & N. 112TH STREET

LOCATION	SPV.0060.3104 TRAFFIC SIGNAL CONTROLLER PROGRAMMING EACH
W. BURLEIGHT STREET & N. 112TH STREET	1
TOTAL	1

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
1060-33-23		
FEDERAL PROJECT NUMBER	4.01	

PLAT OF RIGHT-OF-WAY REQUIRED FOR

LOCAL ROADS
(GLENVIEW AVENUE/WATERTOWN PLANK ROAD/SWAN BOULEVARD)

LOCAL ROADS — MILWAUKEE CO.

CONSTRUCTION PROJECT NUMBERS
1060-33-71 1060-33-72 1060-33-73

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
BUILDING	B	SECTION	SEC.
CENTERLINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.	**CURVE DATA**	
EASEMENT	EASE.	LONG CHORD	LCH
HIGHWAY EASEMENT	H.E.	LONG CHORD BEARING	LCB
IMAGE	I	RADIUS	R
LAND CONTRACT	LC	DEGREE OF CURVE	D
MONUMENT	MON.	CENTRAL ANGLE OR DELTA	DELTA
PAGE	P.	LENGTH OF CURVE	L
PERMANENT LIMITED EASEMENT	PLE	TANGENT	TAN
PROPERTY LINE	PL		
RECORDED AS	(100')		
REEL	R		

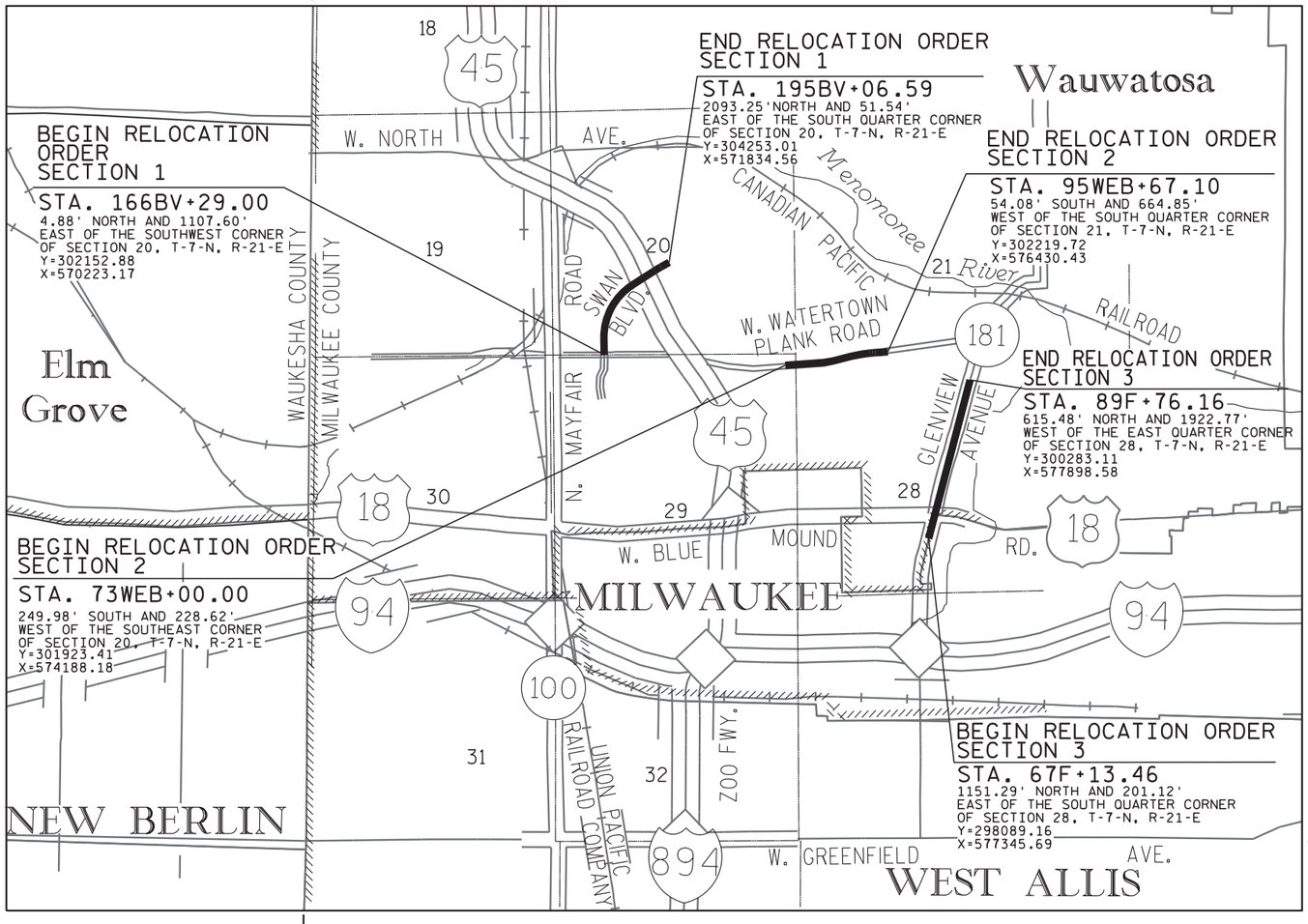
CONVENTIONAL SYMBOLS

- FOUND IRON PIPE/PIN (1" UNLESS NOTED)
- R/W MONUMENT (SET)
- R/W STANDARD (SET)
- SIGN (SIGN)
- SECTION CORNER MONUMENT
- SECTION CORNER SYMBOL
- FEE (HATCH VARIES)
- TEMPORARY LIMITED EASEMENT
- PERMANENT LIMITED EASEMENT
- R/W BOUNDARY POINT (RWB20)
- PARCEL NUMBER (102)
- UTILITY PARCEL NUMBER (92)
- SIGN NUMBER (OFF PREMISE) (21-1)
- BUILDING
- PROPOSED R/W LINE
- EXISTING H.E. LINE
- PROPERTY LINE
- LOT & TIE LINES
- CORPORATE LIMITS
- ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
- ACCESS RESTRICTED (BY ACQUISITION)
- NO ACCESS (BY STATUTORY AUTHORITY)
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- EXISTING CENTERLINE
- PROPOSED REFERENCE LINE
- PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES	OH	
ELECTRIC	E	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

R-20-E | R-21-E



T-7-N / T-6-N

R-20-E | R-21-E

T-7-N / T-6-N

NOTES;

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY ZONE, NAD83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4 " REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

THE HIGH ACCURACY REFERENCE NETWORK (HARN) POINTS USED ON PROJECT WERE:
1) MILWAUKEE GPS
2) WAUWATOSA W. GPS

N

LAYOUT
SCALE 0 0.5 MI. 1 MI.

TOTAL NET LENGTH OF REFERENCE LINES = 1.460 MI.

ORIGINAL PLAT PREPARED BY:

WISCONSIN FORWARD 45
KURT E. KRUGER S-1946 CASCADE, WI
LAND SURVEYOR
Kurt Kruger
August 26,2011

REVISION DATE
FEB. 16, 2012
MAY 4, 2012
AUG. 17, 2012
FEB. 15, 2013
MAY 21, 2013
SEPT. 8, 2014
NOV. 18, 2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT
DATE: August 26,2011 C.E. Andersen (Signature)

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SCHEDULE OF LANDS & INTERESTS REQUIRED

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

* DENOTES AREA COMPUTED

PROJECT FUNDING I.D.	PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W REQUIRED (ACRES) NEW	EXISTING	TOTAL	TOTAL REMAINING ACRES	TLE ACRES	PLE ACRES	PARCEL NUMBER
1060-33-23	1(3)	4.07	MILWAUKEE COUNTY	FEE, TLE	8.156	6.192		6.192	1.964	1.964		1(3)
1060-33-23	2(3)	4.06	MILWAUKEE COUNTY	FEE,TLE	37.695	8.288		8.288	29.407	5.502		2(3)
1060-33-23	3(5)	4.07	WISCONSIN LUTHERAN COLLEGE INC.	FEE, PLE, TLE	26.857	0.728		0.728	26.129	0.966	0.083	3(5)
1060-33-23	4(3)	4.07	MILWAUKEE COUNTY	FEE, TLE	52.607	0.048		0.048	52.559	0.096		4(3)
1060-33-23	5(2)	4.07	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	FEE, TLE	67.292	0.283		0.283	67.009	0.155		5(2)
1060-33-23	6(4)	4.07	UWM INNOVATION PARK LLC	TLE	85.643				85.643	0.055		6(4)
1060-33-23	7(4)	4.11	JENNINGS & 84 BLUEMOUND, LLC	FEE,TLE	1.806*	0.011		0.011	1.795	0.030		7(4)
1060-33-23	8(3)	4.11	WISCONSIN LUTHERAN HIGH SCHOOL CONFERENCE	FEE,TLE	11.494	0.005		0.005	11.489	0.048		8(3)
1060-33-23	9(3)	4.11	82 BLUE, LLP	FEE,TLE	2.988	0.012		0.012	2.976	0.064		9(3)
1060-33-23	10(3)	4.11	SNC PROPERTIES, LLC	FEE,TLE	0.449	0.003		0.003	0.446	0.045		10(3)
1060-33-23	11(4)	4.11	MILWAUKEE COUNTY	PLE,TLE	VAST				VAST	0.011	0.054	11(4)
1060-33-23	12(3)	4.11	CALVARY ASSEMBLY OF GOD	FEE,TLE	1.269	0.054		0.054	1.215	0.055		12(3)
1060-33-23	13(3)	4.12	JEFFREY M. & MARY M. SCHICKER	TLE	0.193				0.193	0.008		13(3)
1060-33-23	14(3)	4.12	ANDREW & SUSAN H. SECRIST	TLE	0.193				0.193	0.014		14(3)
1060-33-23	15(3)	4.12	RICHARD J. & CAROL C. MEYER	TLE	0.226				0.226	0.024		15(3)
1060-33-23	16(3)	4.12	ROBERT C. & PATRICIA K. SCHULZ	TLE	0.188				0.188	0.010		16(3)
1060-33-23	17(3)	4.12	DANIEL L. & MARY L. WOEHRER	TLE	0.193				0.193	0.007		17(3)
1060-33-23	18(3)	4.12	CLIFFORD R. & SARA J. KASDORF	TLE	0.193				0.193	0.004		18(3)
1060-33-23	19(3)	4.12	MICHAEL & JACQUELINE PHILLIPS	TLE	0.368				0.368	0.005		19(3)
1060-33-23	20(4)	4.08,4.09,4.10	MILWAUKEE COUNTY	FEE,PLE,TLE	224.870	0.050		0.050	224.820	2.996	0.241	20(4)
1060-33-23	21(6)	4.08,4.09,4.10	MILWAUKEE COUNTY	FEE, PLE, TLE	VAST	1.437		1.437	VAST	1.983	0.113	21(6)
1060-33-23	22(3)	4.12	JERE A. & LINDA M. TRUDEAU	TLE	0.204				0.204	0.007		22(3)
1060-33-23	23(6)	4.09,4.10	RONALD MCDONALD HOUSE CHARITIES OF EASTERN WISCONSIN	FEE,PLE,TLE	3.500	0.018		0.018	3.482	0.408	0.001	23(6)
1060-33-23	24(8)	4.11	FEDERAL NATIONAL MORTGAGE ASSOCIATION (CORPORATION)	FEE	0.164	0.164		0.164	0.000			24(8)
1060-33-23	25(8)	4.11	KENNETH B & NAOMI C STEIN	TLE	0.205					0.021		25(8)
1060-33-23	26(8)	4.11	DAVID M. & MARGARET A. BAUDRY	TLE	0.169					0.012		26(8)
1060-33-23	500(3)	4.06 - 4.11	WE ENERGIES - ELECTRIC	ROR								500(3)
1060-33-23	501(8)	4.06,4.07, 4.09, 4.11	WE ENERGIES - GAS	ROR								501(8)
1060-33-23	502(3)	4.06,4.08 - 4.10	WE ENERGIES - STEAM	ROR								502(3)
1060-33-23	504(7)	4.06-4.11	AT&T WISCONSIN	ROR								504(7)
1060-33-23	506(7)	4.11	MILWAUKEE METROPOLITAN SEWERAGE DISTRICT	MEMORANDOM OF UNDERSTANDING								506(7)
1060-33-23	507(3)	4.08,4.10	TIME WARNER CABLE	ROR								507(3)
1060-33-23	531(3)	4.11	CITY OF WAUWATOSA	ROR								531(3)
1060-33-23	532(3)	4.11	CITY OF WAUWATOSA WATER UTILITY	ROR								532(3)
1060-33-23	541(7)	4.09, 4.10	MILWAUKEE COUNTY -WATER	ROR								541(7)
1060-33-23	543(3)	4.08 - 4.09	MILWAUKEE COUNTY - ELEC/COM	ROR								543(3)
1060-33-23	UA631(3)	4.11,4.12	CITY OF WAUWATOSA	UTILITY AGREEMENT								UA631(3)
1060-33-23	UA632(3)	4.06,4.11,4.12	CITY OF WAUWATOSA WATER UTILITY	UTILITY AGREEMENT								UA632(3)
1060-33-23	UA641(3)	4.11	CITY OF MILWAUKEE - SEWER	UTILITY AGREEMENT								UA641(3)
1060-33-23	UA642(3)	4.11	CITY OF MILWAUKEE - WATER	UTILITY AGREEMENT								UA642(3)
1060-33-23	UA643(5)	4.11	REMOVED									UA643(5)
1060-33-23	UA644(3)	4.11	CITY OF MILWAUKEE - CONDUIT	UTILITY AGREEMENT								UA644(3)

R-21-E

SECTION 20

N

END RELOCATION ORDER
SECTION 1
STA. 195BV+06.59

198BV

SWAN BOULEVARD

SHEET 4.07

NW-SW

NE-SW

190BV

NW-SE

UNION PACIFIC

UNDERWOOD CREEK

180BV

Milwaukee County Grounds

BEGIN RELOCATION ORDER
SECTION 1
STA. 166BV+29.00

MATCHLINE

USH 45

CITY

SW-SW

SE-SW

SW-SE

SE-SE

SHEET 4.08

END RELOCATION ORDER
SECTION 2
STA. 95WEB+67.10

SE-SW

SW-SW

4

4

T-7-N

T-7-N

STH 100

UNDERWOOD PARKWAY

170BV

20WEB

30WEB

166BV

40WEB

W. WATERTOWN PLANK ROAD

50WEB

60WEB

70WEB

80WEB

90WEB

101PN

N. 87TH ST

SHEET 4.06

SHEET 4.10

RAILROAD

N. MAYFAIR ROAD

INNOVATION DR.

160NV

NE-NE

NW-NW

NE-NW

NW-NE

NE-NE

10TH

N. 92ND ST

NW-NW

SHEET 4.09

Medical Center

NE-NW

Milwaukee County Research Park

BEGIN RELOCATION ORDER
SECTION 2
STA. 73WEB+00.00

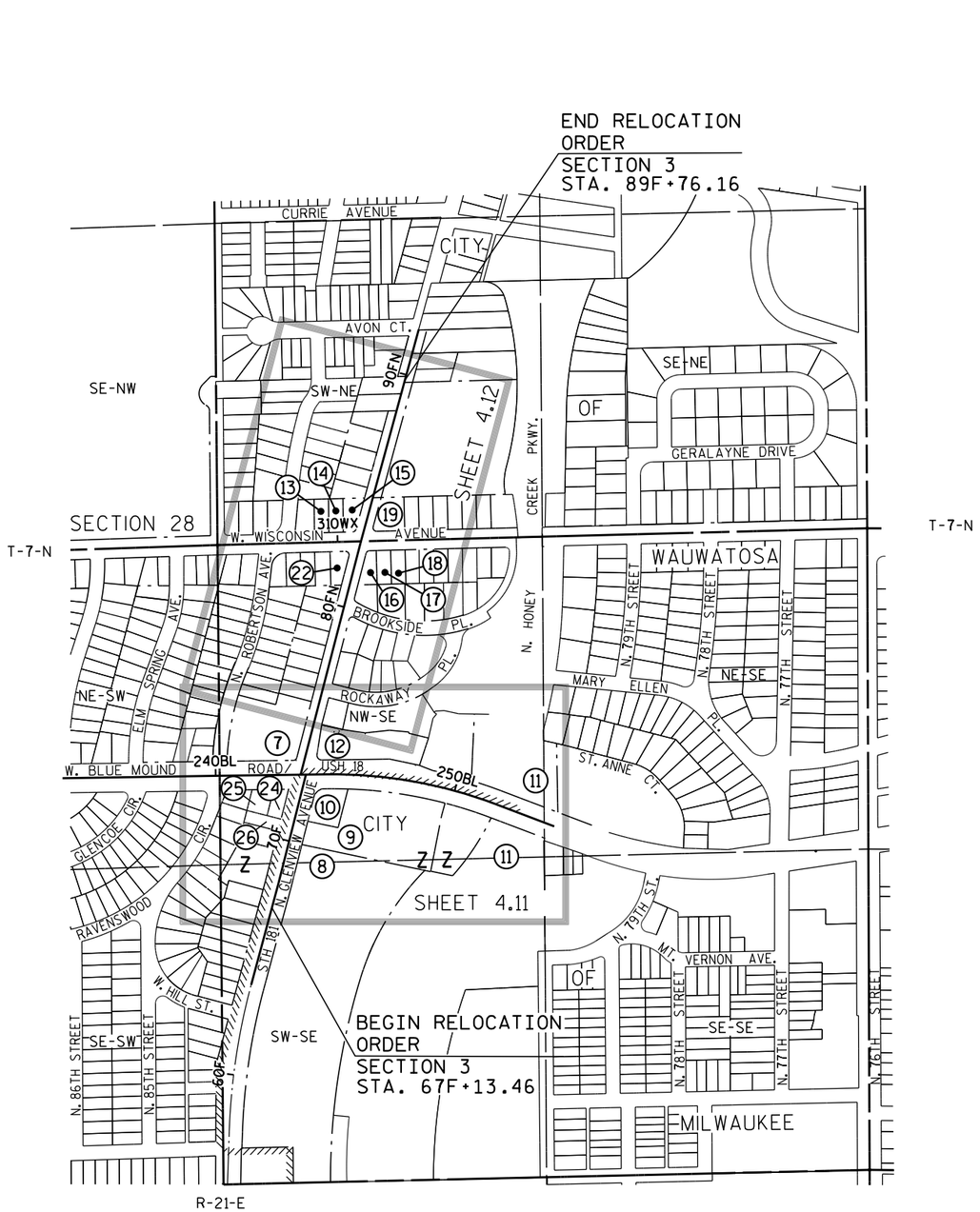
WAUWATOSA

SHEET 4.03 OMITTED

REVISION DATE FEB. 16, 2012 FEB. 15, 2013 MAY 4, 2012 MAY 21, 2013 AUG. 17, 2012 SEPT. 8, 2014 NOV. 18, 2015	DATE AUG 26, 2011	NOT TO SCALE	HWY:LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.04
			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-73 1060-33-72	PS&E SHEET 232 E

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040404_RL.dgn PLOT DATE : 18-NOV-2015 07:30 PLOT BY : MSCKEK PLOT NAME : PLOT SCALE : 600:1

R-21-E



4

4

REVISION DATE AUG. 17, 2012 SEPT. 8, 2014 FEB. 15, 2013 NOV. 18, 2015 MAY 21, 2013	DATE MAY 4, 2012	NOT TO SCALE	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.05
			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-71	PS&E SHEET 233 E

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040405_RL.dgn PLOT DATE : 18-NOV-2015 07:31 PLOT BY : MSCKEK PLOT NAME : PLOT SCALE : 600:1

NORTH LIMITS
STA. 217UD+00.00
Y= 303303.51
X= 569649.35

S84°15'12"E
70.00'
217+40.03
39.02'
TLE3122
TLE3123
217+40.55
30.98'
N12°05'05"E
65.64'
TLE5206
218+05.84
37.74'
S88°18'43"E
93.64'
TLE3126
218+13.16
131.09'
TLE2380
218+96.49
11.36'
TLE FOR POND FROM R/W 1060-33-22 PROJECT
TLE2379
220+35.13
49.28'
N33°16'39"E
62.89'
TLE5178
220+51.42
108.15'
PI 221+24.51
CSM 7371
R. 5772 L. 2982
DOC. 8730753
LOT 1
CSM 7371
OUT LOT 1
133.98'
S05°44'48"W
N76°26'05"W
22.46'
218+74.01
40.02'
PRW5035
PC 218UD+85.00
N76°26'05"W
MATCH LINE
SEE SHEET 4.07
PRW3116
220+69.87
25.70'
752.95'
222+45.88
PT
2
220UD
225UD
N76°26'05"W
155.72'
N13°33'55"W
EXCESS LAND SOLD
DOC #10422009
DEC. 10, 2014
STA. 174BV+58.54
MATCH LINE
SEE SHEET 4.07
N76°26'05"W
PRW5004
174+69.72
98.19'
PRW2010
174+72.06
105'
N87°38'33"W
7.15'
N87°38'33"W
S21°43'34"W
R/L
STA. 173BV+62.66=
STA. 226UD+79.83
S87°38'33"E
210.51'
217.66'
175BV
177+04.49
242.20'
TLE5003
175+53.50
303.63'
CSM 7371
LOT 2
137.02'
S00°14'13"E
WE ENERGIES ELECTRIC EASEMENT (WIDTH VARIES)
DOC. 8763938
S35°49'27"E
42.60'
175+25.00
340'
TLE3127
S00°13'52"W
56.74'
S90°00'00"E
102.20'
N74°25'21"W
98.70'
433.94'
66.51'
40'
S85°55'44"W
251.11'
S22°43'34"W
177.90'
173+45.00
126'
TLE5209
174+55.00
360'
TLE5207
SLOPE INTERCEPT
PROJ. ID#
1060-33-73
PRW5160
172+82.13
88.46'
TLE FOR SLOPES, DRIVES DRAINAGE AND BUILDING REMOVAL
5' WE ENERGIES GAS EASEMENT
DOC. 3814196
30' ACCESS EASEMENT
DOC. 9145403
TLE FOR SLOPES AND DRAINAGE
222+98.40
106.18'
PRW3124
222+23.15
107.16'
PRW3068
222+61.55
160.88'
PRW3069
221+82.13
216.06'
TLE5177
S33°58'15"W
65.96'
CITY
OF
WAUWATOSA
SE-SW
SW-SW
BLANKET EASEMENT
AT&T WISCONSIN
DOC. 3575475
UNPLATTED
TLE FOR SLOPES AND DRAINAGE
2
MILWAUKEE
COUNTY
TLE FOR DRAINAGE AND SLOPES
TLE FOR DRIVES, BIKE PATH, DRAINAGE AND SLOPES
UNDERWOOD PARKWAY
R/L SWAN BLVD
S89°42'53"E
226.53'
N08°15'52"E
312.58'
C4
C5
224+22.80
40'
PRW3070
225+25.00
40'
PRW5175
225+89.06
57.86'
TLE5174
226+20.08
66.51'
PRW5229
TLE5235
169+76.50
289.25'
TLE5170
169+88.89
80.94'
PRW5158
169+57.61
41.50'
PC 169BV+57.61
TLE5225
30+53.94
161.94'
N00°14'37"W
53.44'
TLE5228
29+63.94
161.95'
90'
S00°14'37"E
53.45'
96.50'
TLE5226
30+53.93
108.50'
15.50'
TLE5227
29+63.93
108.50'
10' WE ENERGIES ELECTRIC OH EASEMENT
DOC. 3845014
CSM 6433
PARCEL 1
DOC. 7447863
R.4180, I.1046
N00°10'20"W
244.46'
N00°07'37"E
280.32'
197.61'
N00°10'20"W
92.50'
209.37'
S01°08'05"E
253.89'
S88°59'53"E
107.90'
189.81'
S87°38'02"W
147.15'
S89°44'51"W
364.18'
84.42'
19.42'
35+75.00
77+96.42=100.50
CANOPY
SIGN
TO BE ACQUIRED FROM R/W PROJECT 1060-33-22
1107.61'
1441.74'
SECTION LINE
N89°44'51"E
2667.48' MON. TO MON.
65'
55'
30WEB
35WEB
40WEB
45WEB
12'
R/L W. WATERTOWN PLANK ROAD
NW-NW
NE-NW
NW-NE
SW-SE
SE-SW
CONCRETE MONUMENT W/ ALUMINUM CAP
Y=302148.00
X=569115.57
T 7 N
R 19 20 E
30 29
21
BEGIN RELOCATION ORDER
STA. 166BV+29.00
Y=302139.08
X=569813.50
WEST LIMITS
STA. 29WEB+00.00
Y= 302141.27
X= 570311.44
CSM 7908
LOT 10
DOC. 9419817
64.50'
STA. 166BV+17.00=
STA. 33WEB+09.72
167+60.00
41.50'
PRW5157
167+10.40
71.64'
N42°18'36"E
67.29'
81.89'
S89°44'51"W
167+10.38
86.94'
PRW5156
R/L SWAN BLVD
167+60.00
92.50'
PRW5162
S42°18'36"E
49.44'
S87°38'02"W
S89°44'51"W
167+17.67
118.04'
PRW2264
88.50'
N00°15'09"W
167+52.16
115.14'
TLE5182
N88°59'53"W
2
SECTION LINE
2-1
SIGN EASEMENT
DOC. 9145403
TLE5184
TLE5183
TLE5212
TLE5213
41+10.00
120.145'
41+45.00
112.50'145'
N88°59'53"W
S89°44'51"W
11.50'
S89°44'51"W
SIGN
UNPLATTED LANDS
TO BE ACQUIRED FROM R/W PROJECT 1060-33-25
CSM 7648
LOT 9
DOC. 9075806
ACCESS ACQUIRED BY U-03-1(73)/ 1100-1-23
PC 47WEB+74.01
42+13.73
89.50'
PRW3121
S00°23'01"E
2654.09' (MON. TO MON.)
CONCRETE MONUMENT W/ SEWRPC BRASS CAP
Y=299505.73
X=571800.79
T 7 N
R 29 29 E
29 29
21
180BV
180+50.46
111.62'
N76°19'08"W
213.64'
265.61'
181+81.81
293.13'
378+73.49
343.29'
ERW5000
S02°08'28"E
539.40'
MATCH LINE
SEE SHEET 4.07
S13°00'42"W
329.61'
51.97'
377+26.67
331.06'
TLE5191
ERW1192
378+19.60
368.28'
N24°10'56"W
103.97'
375+55.11
334.79'
TLE5190
S48°50'13"E
220.89'
375+65.18
269.04'
TLE5189
N63°12'04"W
111.40'
375+21.54
249.05'
PRW5168
106.07'
374+24.04
209.72'
ERW1193
IP
ACCESS ACQUIRED BY U-03-1(73)/ 1100-1-23
N27°02'02"W
375NS
PT 374NS+52.09
VARIES
N
R/L USH 45
370NS
PI 370NS+41.48
N26°35'00"W
30'
N12°58'27"W
505.62'
727.60'
SLOPE INTERCEPT
102.7'
WE ENERGIES (STEAM) EASEMENT
DOC. 7298264
39+39.18
96.42'
PRW3118
39+93.23
89.50'
PRW3120
TLE5187
43+25.00
112.50'
23'
180.00'
685.16'
220.51'
1007.06'
1017.52'
S82°57'22"E
54.49'
N86°18'46"E
100.16'
369+37.02
236.49'
ERW1194
STA. 367NS+89.94
N15°26'20"W
890.13'
368+61.97
260.16'
ERW1195
368+92.51
444.58'
PRW5166
369+01.74
472.89'
TLE5188
368+48.30
528.98'
TLE5236
367+16.76
359.23'
ERW1196
N26°18'45"E
66.00'
45+82.06
77'
ERW1197
384.81'
N00°12'38"W
2660.86' (MON. TO MONJ.)
N00°12'02"W
182.00'
366NS+29.60
PC 366NS+29.60
365NS
N34°51'19"W
SE-SW
SW-SE
NE-NW
NW-NE
CONCRETE MONUMENT W/ BRASS CAP
Y=304820.60
X=571773.24
T 7 N
R 20 20 E
20 20
21
CONCRETE MONUMENT W/ CAST IRON PLUG
Y=302159.76
X=571783.02
T 7 N
R 29 29 E
29 29
21
RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS.

SWAN BOULEVARD REFERENCE LINE IS THE INSIDE EDGE OF SOUTHBOUND LANE.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

500 WE ENERGIES - ELECTRIC
PARCEL 2 - DOC. NO. 8763938
PARCEL 2 - DOC. NO. 3845014
PARCEL 2 - (NO RECORDED EASEMENT)

501 WE ENERGIES - GAS
PARCEL 2 - DOC. NO. 3814196 UA632 WAUWATOSA WATER UTILITY

502 WE ENERGIES - STEAM
PARCEL 2 - DOC. NO. 7298264

504 AT&T WISCONSIN
PARCEL 2 - DOC. NO. 3575475

S38°51'37"E
3.50'
43+91.98
123.12'
PRW5164
B3.18'
C7
N53°40'49"E
43+94.16
120.38'
PRW5165
C6
43+13.71
95.50'
PRW5163

C4
L = 336.33
R = 1491.50
LC = 335.61
LCB = N6°17'16"E

C5
L = 292.47
R = 1424.50
LC = 291.96
LCB = S5°42'35"W

C6
L = 84.64
R = 123.50
LC = 82.99
LCB = N70°18'35"E

C7
L = 141.11
R = 127.00
LC = 133.96
LCB = N18°51'26"E

C8
L = 205.28
R = 634.98
LC = 204.39
LCB = S9°30'19"E

C9
L = 425.52
R = 544.98
LC = 414.79
LCB = N22°36'42"W

C10
L = 250.57
R = 516.23
LC = 248.12
LCB = N31°04'28"W

C11
L = 220.59
R = 386.23
LC = 217.61
LCB = N28°37'04"W

C12
L = 74.54
R = 674.98
LC = 74.50
LCB = N41°48'58"W

C13
L = 146.68
R = 150.00
LC = 140.91
LCB = S61°59'07"W

RL SWAN BOULEVARD
PI STA. 177BV+54.31
Y : 303278.19
X : 570219.75
DELTA = 57°34'25"
D = 3°57'05"
T = 796.71'
L = 1457.03
R = 1450.00

RL USH 45
PI STA. 370NS+41.48
Y : 302749.78
X : 571636.09
DELTA = 7°49'18"
D = 0°57'03"
T = 411.88'
L = 822.49
R = 6025.00

RL UNDERWOOD PARKWAY (RELOCATED)
PI STA. 221UD+24.51
Y : 302881.46
X : 569603.70
DELTA = 96°10'23"
D = 26°38'57"
T = 239.51'
L = 360.88
R = 215.00

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
USH 45	1100-1-23 U03-1(75)	1969	VARIES
USH 45	CSM 7371	2004	VARIES
WATERTOWN PLANK RD	CT-03-1(73)	1967	VARIES
WATERTOWN PLANK RD	O.C. DOC. 3745778	1959	55' SOUTH

SIGN	OWNER	DOCUMENT NO.
2-1	WISCONSIN LUTHERAN COLLEGE, INC.	9145403

REVISION DATE
MAY 4, 2012 MAY 21, 2013
AUG. 17, 2012 SEPT. 8, 2014
FEB. 15, 2013 NOV. 18, 2015

DATE FEB. 16, 2012

SCALE, FEET
0 100 200

HWY:

COUNTY: MILWAUKEE

STATE R/W PROJECT NUMBER 1060-33-23

CONSTRUCTION PROJECT NUMBER 1060-33-73

PLAT SHEET 4.06

PS&E SHEET 234 E

RL SWAN BOULEVARD
PI STA. 177+54.31
Y : 303278.19
X : 570219.75
DELTA = 57°34'25"
D = 3°57'05"
T = 796.71'
L = 1457.03
R = 1450.00

RL SWAN BOULEVARD
PI STA.194+70.53
Y : 304248.64
X : 571796.81
DELTA = 13°30'42"
D = 4°24'27"
T = 154.00'
L = 306.57
R = 1300.00

RL SWAN BOULEVARD
PI STA. 190+68.72
Y : 304059.81
X : 571441.99
DELTA = 4°34'38"
D = 2°02'47"
T = 111.90'
L = 223.68
R = 2800.00

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
USH 45	1100-1-23 U03-1(75)	1969	VARIES
USH 45	CSM 7371	2004	VARIES
SWAN BLVD	CSM 8330	2010	60' SOUTH
SWAN BLVD	CSM 7634	2005	VARIES
SWAN BLVD	CT-03-1(75)	1967	80'

(500) WE ENERGIES - ELECTRIC
PARCEL 1 - DOC. NO. 8763938
PARCEL 3 - DOC. NO. 8763938
PARCEL 3 - DOC. NO. 3845014
PARCEL 4 - DOC. NO. 3845014
PARCEL 4 - (NO RECORDED EASEMENT)
PARCEL 5 - DOC. NO. 3845014
PARCEL 6 - DOC. NO. 9332979

(501) WE ENERGIES - GAS
PARCEL 1 - DOC. NO. 3814196
PARCEL 1 - (NO RECORDED EASEMENT)

(504) AT&T WISCONSIN
PARCEL 1 - (NO RECORDED EASEMENT)
PARCEL 3 - (NO RECORDED EASEMENT)
PARCEL 4 - DOC. NO. 3575475
PARCEL 5 - DOC. NO. 3575475
PARCEL 6 - DOC. NO. 3575475

C4
L = 420.14'
R = 1345.00'
LC = 418.43'
LCB = S29°06'18"W

C5
L = 113.00
R = 803.94
LC = 112.90
LCB = S48°41'15"W

C6
L = 204.62
R = 1355.00
LC = 204.43
LCB = S42°22'48"W

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT. ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS

SWAN BOULEVARD REFERENCE LINE IS THE INSIDE EDGE OF SOUTHBOUND LANE.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

CONCRETE MONUMENT W/ BRASS CAP Y=304820.60 X=571173.24

CONCRETE MONUMENT W/ CAST IRON PLUG Y=302159.76 X=571783.02

END RELOCATION ORDER
STA. 195BV+06.59
Y=304253.01
X=571834.56

REVISION DATE FEB. 15, 2013 FEB. 16, 2012 MAY 21, 2013 MAY 4, 2012 SEPT. 8, 2014 AUG. 17, 2012 NOV. 18, 2015	DATE AUG. 26, 2011	SCALE, FEET 0 100 200	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.07
			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-73	PS&E SHEET 235 E

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040407_RP.dgn PLOT DATE : 18-NOV-2015 07:31 PLOT BY : MSCKEK PLOT NAME : PLOT SCALE : 200:1

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
WATERTOWN PLANK RD.	O.C. DOC. 5557424	1982	120'

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS.

W. WATERTOWN PLANK ROAD REFERENCE LINE IS THE INSIDE EDGE OF EASTBOUND LANE.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

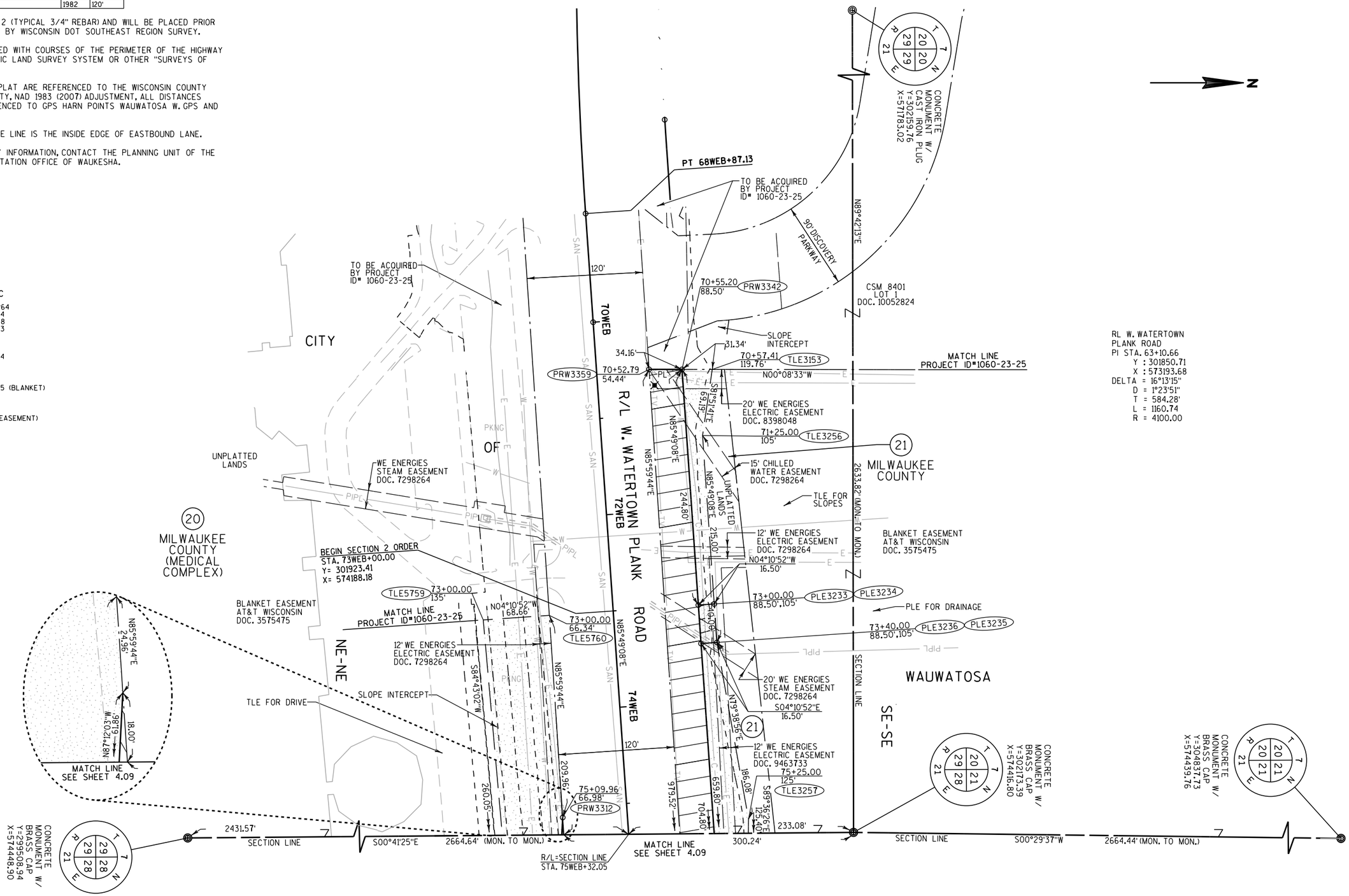
4

(500) WE ENERGIES - ELECTRIC
PARCEL 20 - DOC. NO. 7298264
PARCEL 21 - DOC. NO. 7298264
PARCEL 21 - DOC. NO. 8398048
PARCEL 21 - DOC. NO. 9463733

(502) WE ENERGIES - STEAM
PARCEL 21 - DOC. NO. 7298264

(504) AT&T WISCONSIN
PARCEL 21 - DOC. NO. 3575475 (BLANKET)

(507) TIME WARNER CABLE
PARCEL 21 - (NO RECORDED EASEMENT)



RL W. WATERTOWN PLANK ROAD
PI STA. 63+10.66
Y : 301850.71
X : 573193.68
DELTA = 16°13'15"
D = 1°23'51"
T = 584.28'
L = 1160.74
R = 4100.00

4

REVISION DATE		DATE	SCALE, FEET	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.08	
AUG. 17, 2012	SEPT. 8, 2014	MAY 4, 2012	0 50 100	COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-72	PS&E SHEET 236	E
FEB. 15, 2013							
MAY 21, 2013	NOV. 18, 2015						

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040408_RP.dgn
PLOT DATE : 18-NOV-2015 07:31
PLOT BY : MSCKEK
PLOT NAME :
PLOT SCALE : 100:1

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
WATERTOWN PLANK RD.	O.C. DOC. 5557424	1982	120'
WATERTOWN PLANK RD.	CSM 8503	2012	120'

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS.

W. WATERTOWN PLANK ROAD REFERENCE LINE IS THE INSIDE EDGE OF EASTBOUND LANE.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

C5
L = 238.91
R = 1292.92
LC = 238.57
LCB = S80°42'07"W

C6
L = 445.99
R = 1946.50
LC = 445.01
LCB = N81°49'20"E

C7
L = 110.67
R = 1946.50
LC = 110.66
LCB = S86°45'27"W

C8
L = 244.66
R = 1946.50
LC = 244.50
LCB = N84°47'08"E

C9
L = 19.15
R = 1946.50
LC = 19.15
LCB = S80°54'10"W

C10
L = 2.19
R = 1946.50
LC = 2.19
LCB = N86°03'17"E

RL W. WATERTOWN PLANK ROAD
PI STA. 82+50.75
Y : 301992.73
X : 575136.40
DELTA = 10°33'38"
D = 2°49'16"
T = 187.70'
L = 374.34
R = 2031.00

RL N. 92ND STREET
PI STA.6+29.00
Y : 301374.13
X : 574755.33
DELTA = 5°52'20"
D = 4°46'29"
T = 61.55'
L = 122.99
R = 1200.00

RL N. 92ND STREET
PI STA.8+81.58
Y : 301625.49
X : 574729.48
DELTA = 8°29'44"
D = 6°44'26"
T = 63.13'
L = 126.03
R = 850.00

RL N. 92ND STREET
PI STA.14+33.94
Y : 302178.18
X : 574796.26
DELTA = 35°05'42.00"
D = 20°27'46.00"
T = 88.54'
L = 171.51
R = 280.00

(500) WE ENERGIES - ELECTRIC
PARCEL 20 - DOC. NO. 7298264
PARCEL 21 - (NO RECORD OF EASEMENT)
PARCEL 21 - DOC. NO. 9532345
PARCEL 21 - DOC. NO. 8586952
PARCEL 21 - DOC. NO. 9463733
PARCEL 23 - DOC. NO. 9532345

(501) WE ENERGIES - GAS
PARCEL 20 - DOC. NO. 9539895
PARCEL 20 - (NO RECORDED EASEMENT)

(502) WE ENERGIES - STEAM
PARCEL 20 - DOC. NO. 7298264
PARCEL 21 - DOC. NO. 7298264

(504) AT&T WISCONSIN
PARCEL 20 - DOC. NO. 3575475 (BLANKET)
PARCEL 21 - DOC. NO. 3575475 (BLANKET)
PARCEL 23 - DOC. NO. 3574575 (BLANKET)

(507) TIME WARNER CABLE
PARCEL 21 - (NO RECORDED EASEMENT)

(541) MILWAUKEE COUNTY - WATER
PARCEL 21 - DOC. NO. 10196089

REVISION DATE		DATE MAY 4, 2012	SCALE, FEET 0 50 100	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.09	
AUG. 17, 2012	SEPT. 8, 2014			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-72	PS&E SHEET 237	E
FEB. 15, 2013	NOV. 18, 2015						
MAY 21, 2013							

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040409_RP.dgn PLOT DATE : 18-NOV-2015 07:31 PLOT BY : MSCKEK PLOT NAME : PLOT SCALE : 100:1

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
WATERTOWN PLANK RD.	O.C. DOC. 5557424	1982	120'
WATERTOWN PLANK RD.	CSM 8503	2012	120'

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS.

W. WATERTOWN PLANK ROAD REFERENCE LINE IS THE INSIDE EDGE OF EASTBOUND LANE.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

(500) WE ENERGIES - ELECTRIC
PARCEL 20 - DOC. NO. 9463733
PARCEL 21 - DOC. NO. 8339388
PARCEL 21 - DOC. NO. 8244806
PARCEL 21 - (NO RECORDED EASEMENT)
PARCEL 23 - (NO RECORDED EASEMENT)

(502) WE ENERGIES - STEAM
PARCEL 20 - DOC. NO. 7298264
PARCEL 21 - DOC. NO. 7298264

(504) AT&T WISCONSIN
PARCEL 20 - DOC. NO. 3575475 (BLANKET)
PARCEL 21 - DOC. NO. 3575475 (BLANKET)
PARCEL 23 - DOC. NO. 3575475 (BLANKET)

(507) TIME WARNER CABLE
PARCEL 20 - (NO RECORD OF EASEMENT)

(541) MILWAUKEE COUNTY - WATER
PARCEL 21 - DOC. NO. 10196089
PARCEL 23 - DOC. NO. 10196089

C6	C7	C8	C9	C10	C13	C14	C15
L = 445.99	L = 221.06	L = 245.20	L = 579.13	L = 32.22	L = 23.23	L = 234.85	L = 344.86
R = 1946.50	R = 1465.50	R = 2844.26	R = 4734.26	R = 4734.26	R = 1465.50	R = 2724.26	R = 4614.26
LC = 445.01	LC = 220.85	LC = 245.12	LC = 578.76	LC = 32.22	LC = 23.23	LC = 234.78	LC = 344.78
LCB = N81°49'20"E	LCB = N79°34'47"E	LCB = S77°52'41"W	LCB = S83°51'07"W	LCB = S87°33'05"W	LCB = S82°08'46"W	LCB = N77°52'41"E	LCB = N82°29'19"E

REVISION DATE		DATE MAY 4, 2012	SCALE, FEET 0 50 100	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.10	
AUG. 17, 2012	SEPT. 8, 2014			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-72	PS&E SHEET 238	E
FEB. 15, 2013	NOV. 18, 2015						
MAY 21, 2013							

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040410_RP.dgn PLOT DATE : 18-NOV-2015 07:32 PLOT BY : MSCKEK PLOT NAME : PLOT SCALE : 100:1

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
USH 18	MILWAUKEE COUNTY CODE 41.02	-	120'
STH 181	DAVID V. JENNING'S PARK SUBDVN.	1923	33'(W.)
USH 18	DAVID V. JENNING'S PARK SUBDVN.	1923	60'(N.)
STH 181	BROOKSIDE SUBDIVISION	1924	33'(E.)
USH 18	ASSESSOR'S PLAT NO. 38	1935	60'(S.)
STH 181	ASSESSOR'S PLAT NO. 38	1935	33'(W.)
STH 181	PROJECT "U 5729(2)	1952	110'

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS.

STH 181 REFERENCE LINE IS THE CENTER OF RIGHT OF WAY.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

CONCRETE MONUMENT W/ BRASS CAP Y=299598.00 X=577119.35

WEST LIMITS STA. 240BL+05.29 Y=299638.05 X=577117.19

EAST LIMITS STA. 252BL+46.72 Y=298496.26 X=578339.15

BEGIN RELOCATION ORDER STA. 67F+13.46 Y=298089.16 X=577345.69

PI 68+16.08 Y=298188.26 X=577372.33

CONCRETE MONUMENT W/ BRASS CAP Y=296937.87 X=577144.57

RL W. BLUE MOUND RD. PI STA. 248+25.11 Y : 298648.89 X : 577936.95 DELTA = 21°32'17" D = 2°59'59" T = 363.30' L = 718.02 R = 1910.08 LCB = S79°59'15"E LC = 713.80'

C6	L = 50.67	R = 36.50	LC = 46.70 LCB = S38°51'57"E
C11	L = 87.56	R = 1850.08	LC = 87.55 LCB = S89°24'02"E
C2	L = 69.56	R = 1591.50	LC = 69.55 LCB = S12°54'42"W
C8	L = 19.57	R = 15.00	LC = 18.21 LCB = S51°52'04"W
C12	L = 108.25	R = 1845.08	LC = 108.24 LCB = N89°45'34"W
C3	L = 318.63	R = 1850.08	LC = 318.23 LCB = S83°06'39"E
C9	L = 419.36	R = 1910.08	LC = 418.52 LCB = S83°28'00"E
C13	L = 37.64	R = 35.00	LC = 35.85 LCB = N45°17'48"E
C4	L = 318.86	R = 1845.08	LC = 318.47 LCB = N83°07'40"W
C10	L = 62.79	R = 1591.50	LC = 62.79 LCB = S10°31'45"W
C14	L = 31.70	R = 30.00	LC = 30.25 LCB = N44°46'03"E
C5	L = 34.81	R = 20.00	LC = 30.58 LCB = N40°53'17"W
C11	L = 87.56	R = 1850.08	LC = 87.55 LCB = S89°24'02"E
C15	L = 39.03	R = 28.50	LC = 36.05 LCB = S39°23'56"E

501 WE ENERGIES - GAS
PARCEL 24 - DOC. NO. 10235648

531 CITY OF WAUWATOSA
PARCEL 7 - DOC. NO. 1386854 (STORM)
PARCEL 7 - DOC. NO. 1386854 (SAN)
PARCEL 7 - (NO RECORD OF EASEMENT)
PARCEL 12 - DOC. NO. 1776150

532 CITY OF WAUWATOSA WATER UTILITY
PARCEL 7 - DOC. NO. 1386854 (WATER)
PARCEL 12 - DOC. NO. 1776150

UA631 CITY OF WAUWATOSA
UA632 CITY OF WAUWATOSA WATER UTILITY
UA641 CITY OF MILWAUKEE - SEWER
UA642 CITY OF MILWAUKEE - WATER
UA644 CITY OF MILWAUKEE - CONDUIT

500 WE ENERGIES - ELECTRIC
PARCEL 7 - DOC. NO. 1386854
PARCEL 7 - DOC. NO. 3945027
PARCEL 7 - (NO RECORD OF EASEMENT)
PARCEL 8 - DOC. NO. 3738559
PARCEL 8 - DOC. NO. 3977776
PARCEL 8 - DOC. NO. 3712526
PARCEL 9 - DOC. NO. 1058368 (BLANKET)
PARCEL 10 - DOC. NO. 3998582
PARCEL 12 - DOC. NO. 1776150
PARCEL 12 - DOC. NO. 3966155

504 AT&T WISCONSIN
PARCEL 7 - DOC. NO. 1386854
PARCEL 7 - DOC. NO. 3945027
PARCEL 8 - DOC. NO. 3738559
PARCEL 8 - DOC. NO. 3977776
PARCEL 12 - DOC. NO. 9409955
PARCEL 12 - DOC. NO. 1776150

506 MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
PARCEL 11 - ASSESSOR'S PLAT NO. 36

REVISION DATE		DATE	SCALE, FEET	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.11	
AUG. 17, 2012	SEPT. 8, 2014	MAY 4, 2012	0 50 100	COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-71	PS&E SHEET 239	E
FEB. 15, 2013	NOV. 18, 2015						
MAY 21, 2013							

FILE NAME : W:\Plats\1060-33-23 (Local Rds)\cds\040411_RP.dgn PLOT DATE : 16-FEB-2016 14:00 PLOT BY : MSCKEK PLOT NAME : PLOT SCALE : 100:1

HWY	BASIS OF EXISTING R/W	YEAR	WIDTH
W. WISCONSIN AVE.	DAVID V. JENNING'S PARK SUBDVN.	1923	80'
STH 181	DAVID V. JENNING'S PARK SUBDVN.	1923	66'
BROOKSIDE PLACE	DAVID V. JENNING'S PARK SUBDVN.	1923	30' (N.)
BROOKSIDE PLACE	BROOKSIDE SUBDIVISION	1924	30' (S.)
ROCKAWAY PLACE	BROOKSIDE SUBDIVISION	1924	60'

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL 3/4" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY WISCONSIN DOT SOUTHEAST REGION SURVEY.

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

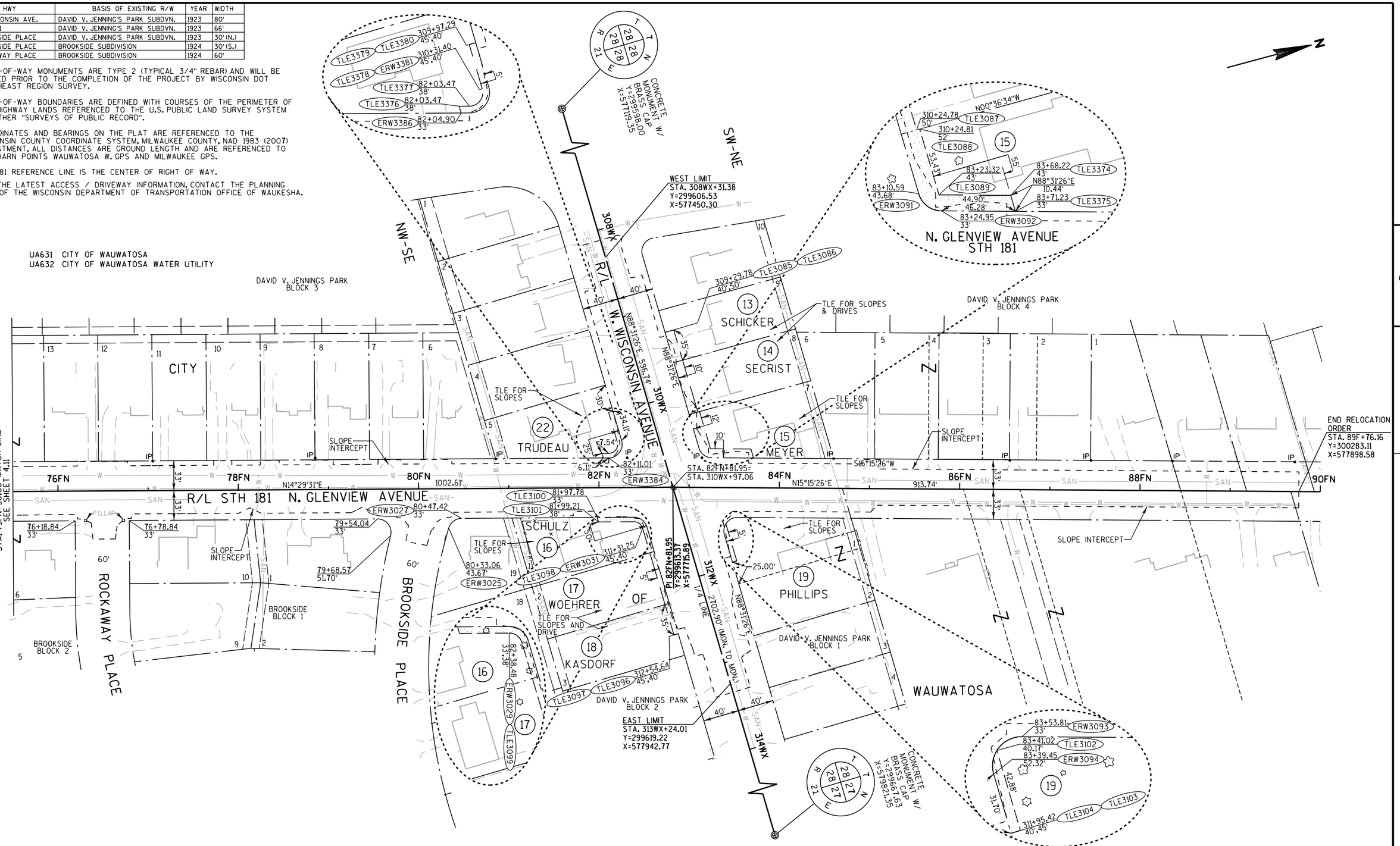
COORDINATES AND BEARINGS ON THE PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 1983 (2007) ADJUSTMENT, ALL DISTANCES ARE GROUND LENGTH AND ARE REFERENCED TO GPS HARN POINTS WAUWATOSA W. GPS AND MILWAUKEE GPS.

STH 181 REFERENCE LINE IS THE CENTER OF RIGHT OF WAY.

FOR THE LATEST ACCESS / DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE OF WAUKESHA.

UA631 CITY OF WAUWATOSA
UA632 CITY OF WAUWATOSA WATER UTILITY

4



REVISION DATE		DATE	SCALE, FEET	HWY: LOCAL ROADS	STATE R/W PROJECT NUMBER 1060-33-23	PLAT SHEET 4.12	
AUG. 17, 2012	SEPT. 8, 2014	MAY 4, 2012	0 50 100	COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1060-33-71	PS&E SHEET 240	E
FEB. 15, 2013	NOV. 18, 2015						
MAY 21, 2013							

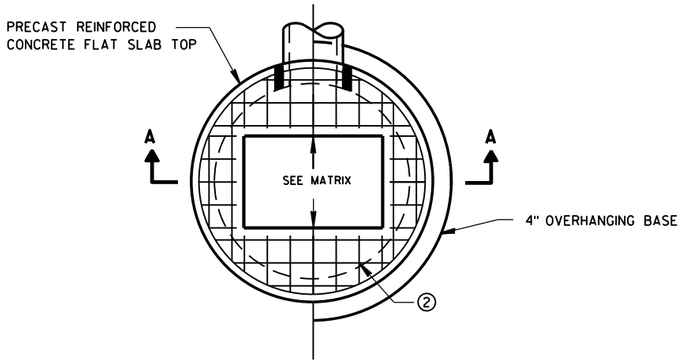
Standard Detail Drawing List

08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D05-18A	CURB RAMPS TYPES 1 AND 1-A
08D05-18B	CURB RAMPS TYPES 2 AND 3
08D05-18C	CURB RAMPS TYPES 4A AND 4A1
08D05-18D	CURB RAMPS TYPE 4B AND 4B1
08D05-18E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-09	CONDUIT
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
09C11-09	CONCRETE BASE TYPE 10
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-14A	POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2
09E01-14B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-14G	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
09E08-08A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-08B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-08E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09H05-01	CABINET BREAKER DISCONNECT BOX INSTALLATION
09H11-01	IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS
11B02-02	CONCRETE MEDIAN NOSE
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-13A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C18-04A	CONCRETE PAVEMENT JOINTING
13C18-04B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-04C	CONCRETE PAVEMENT JOINT TIES
13C18-04D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B32-04A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B35-01C	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B35-01D	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B39-01E	42-INCH SSCB TO 56-INCH SSCB HEIGHT TRANSITION
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	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)

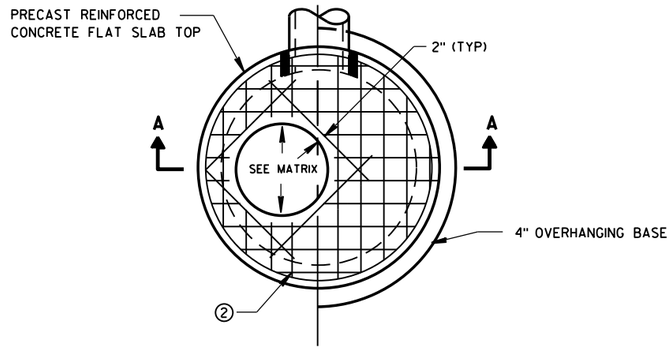
6

Standard Detail Drawing List

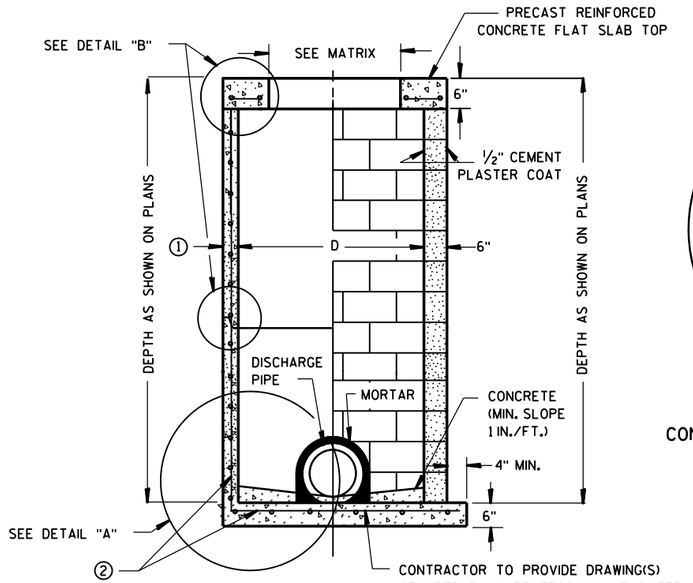
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15C07-13B	PAVEMENT MARKING WORDS
15C07-13C	PAVEMENT MARKING ARROWS
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C08-17C	PAVEMENT MARKING (ISLANDS)
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-04	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D22-03	TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

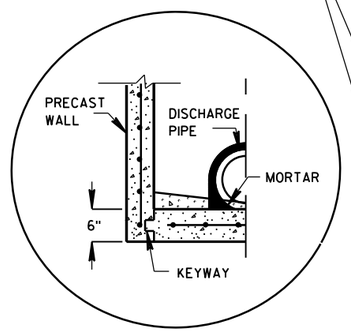


SECTION A-A

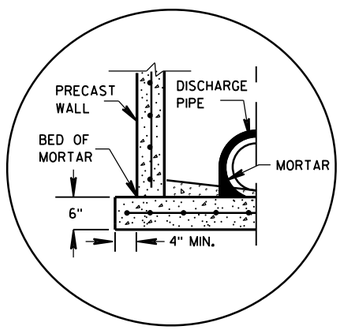
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

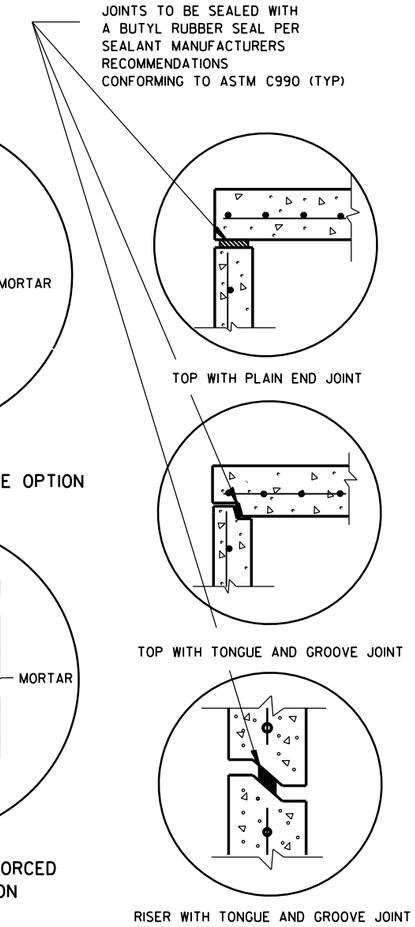


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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

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

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

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

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

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

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

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

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

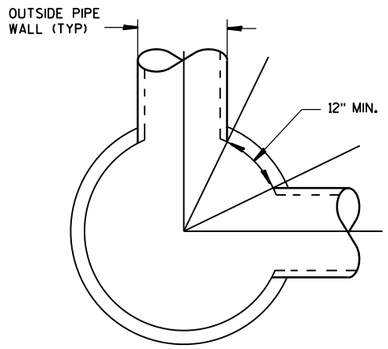
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

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

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept.. 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS | UNIT SUPERVI ENT
FHWA

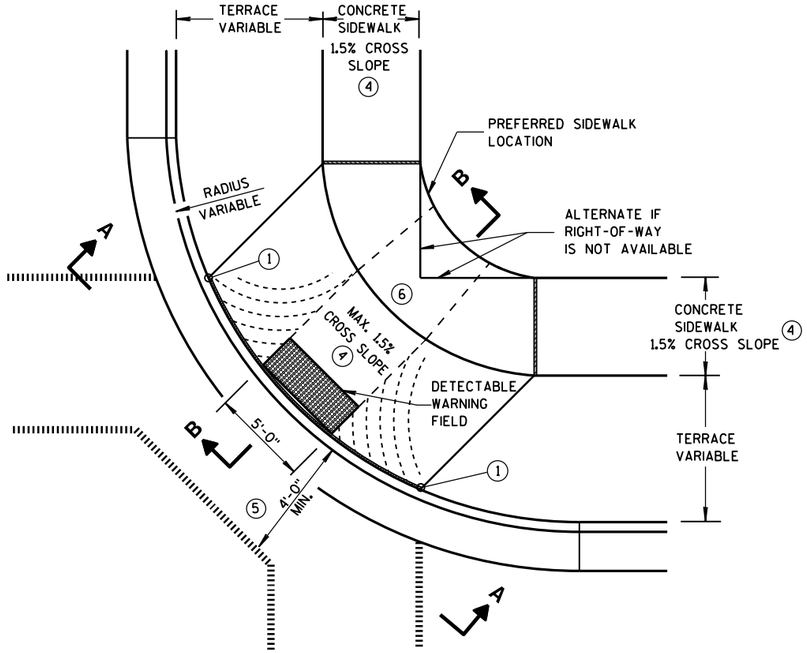
6

S.D.D. 8 C 6-2

6

S.D.D. 8 C 6-2

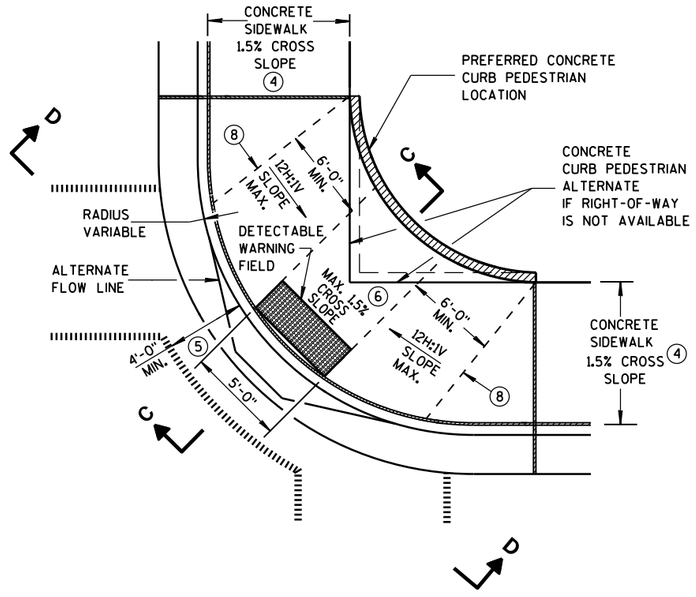
INLETS 3-FT AND 4-FT DIAMETER



PLAN VIEW

TYPE 1 RAMP

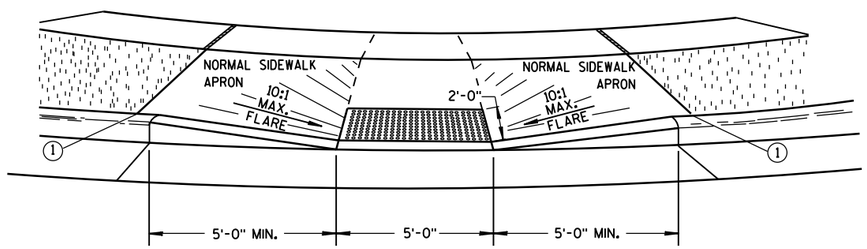
(CENTER OF CORNER RADIUS)



PLAN VIEW

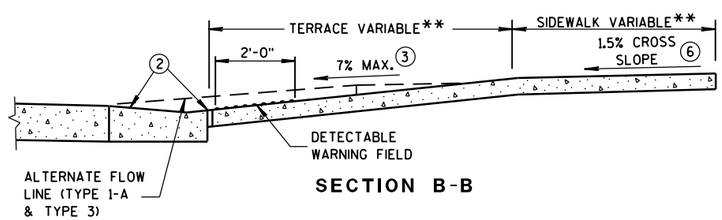
TYPE 1-A RAMP

(NO TERRACE)

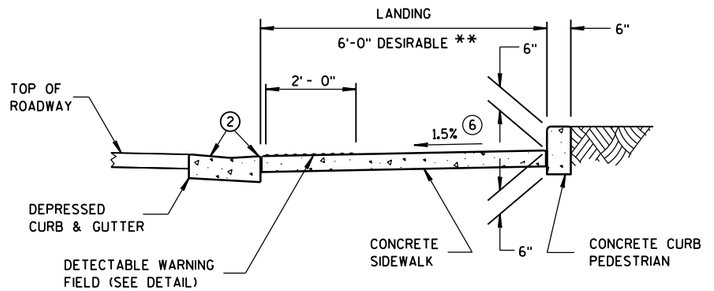


VIEW A-A

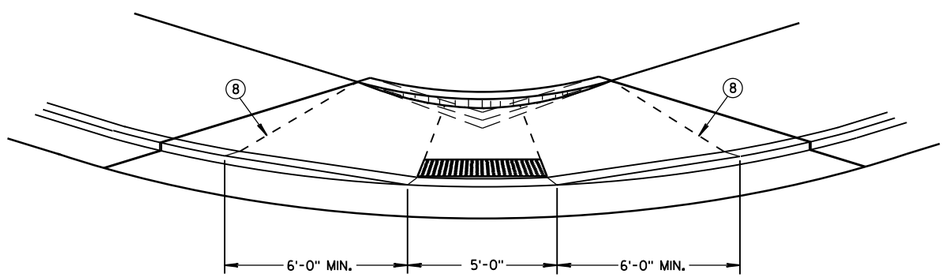
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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

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

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

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

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

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

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

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

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

LEGEND

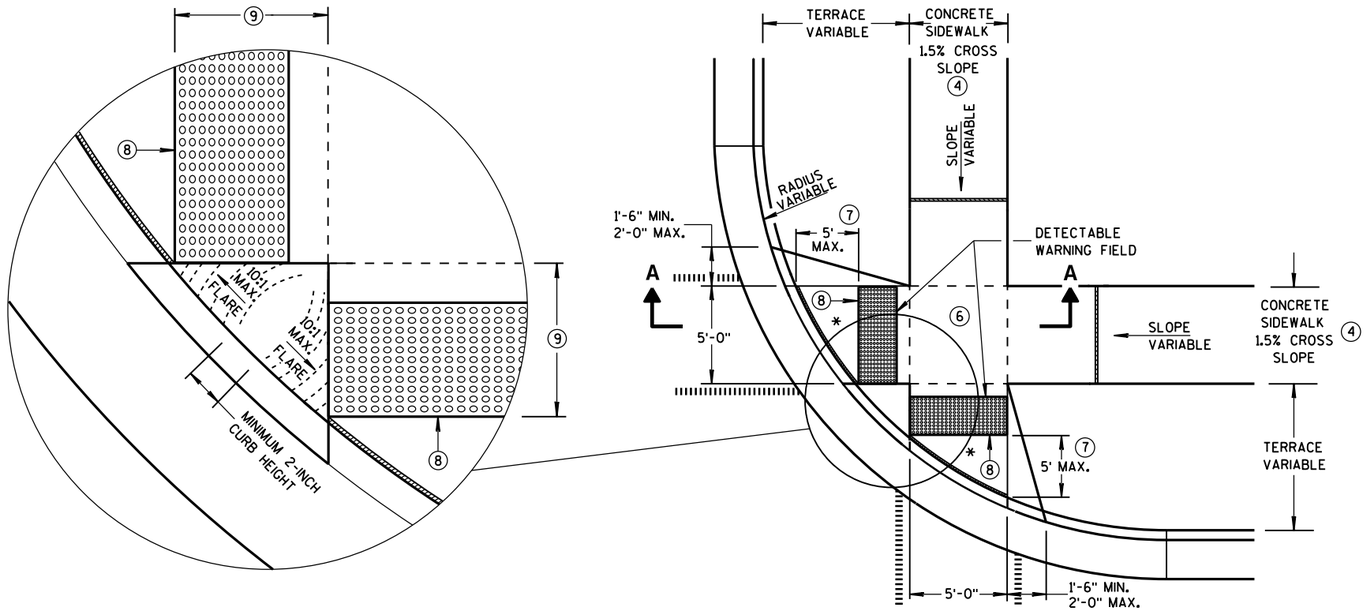
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

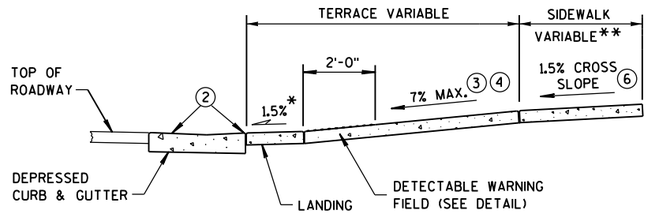


PLAN VIEW

TYPE 2 RAMP

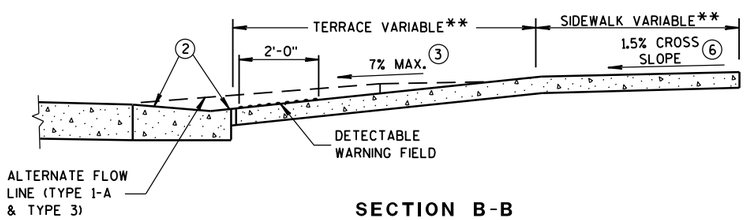
(ON LINE WITH SIDEWALK)

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



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

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.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

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

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

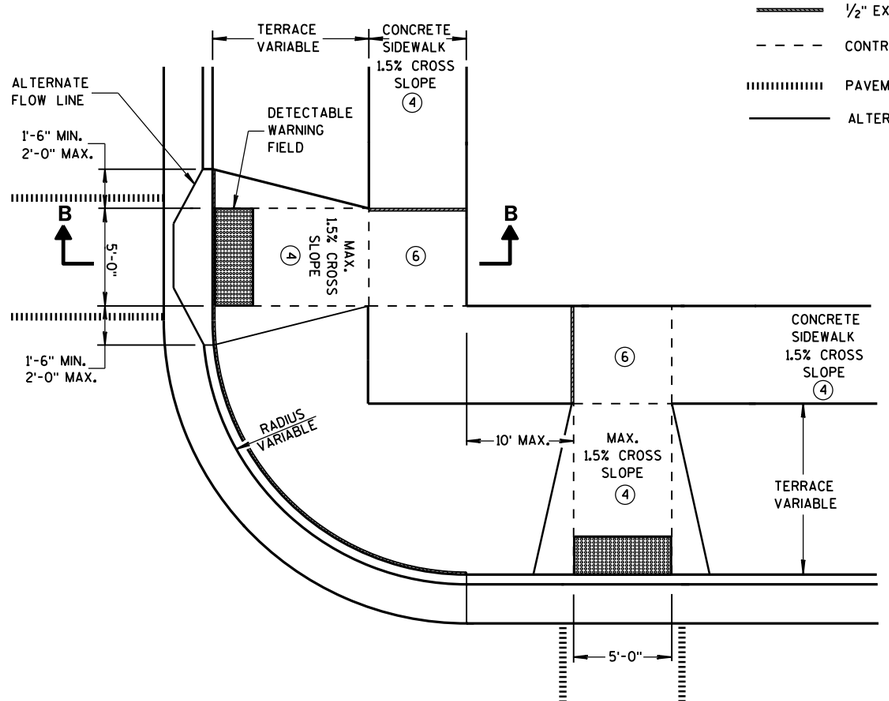
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION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

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

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

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

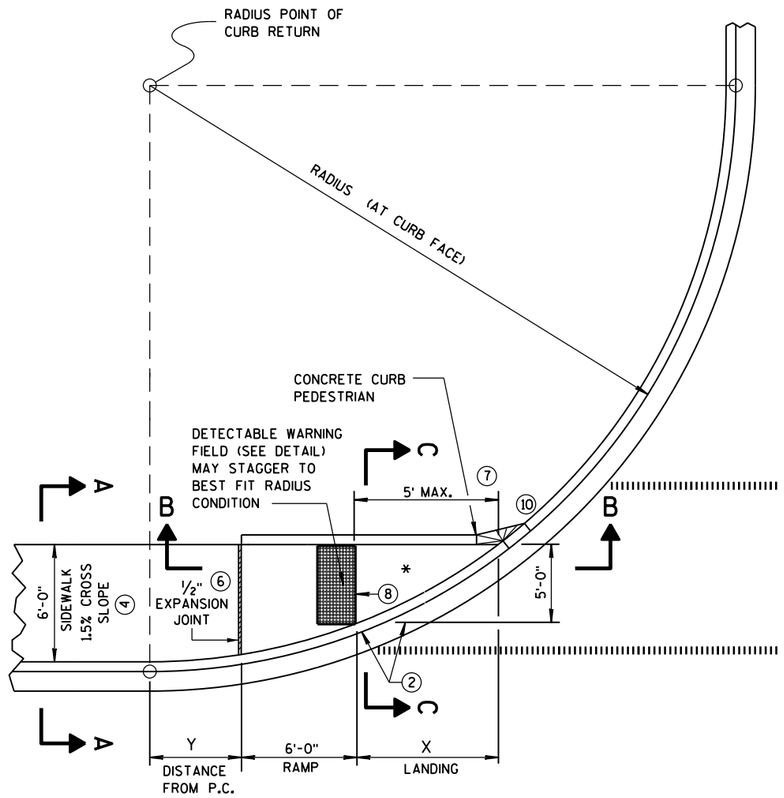
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

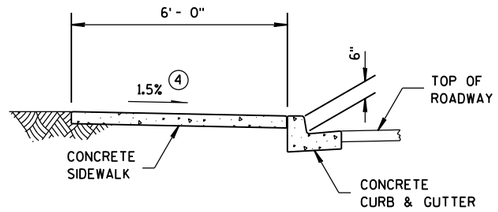
S.D.D. 8 D 5-18b



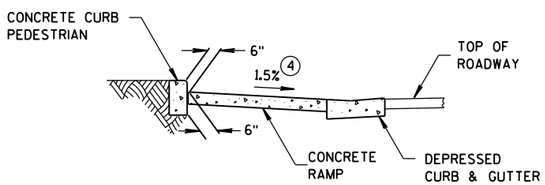
CURB RAMP TYPE 4A
PLAN VIEW

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

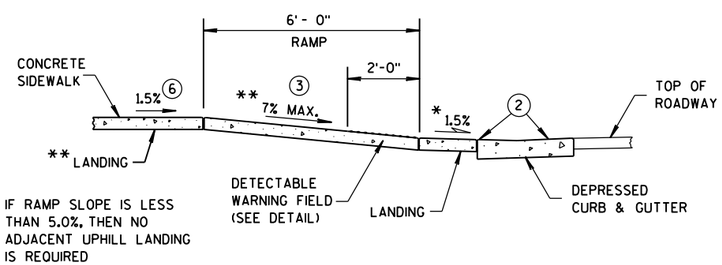
INTERMEDIATE RADII CAN BE INTERPOLATED



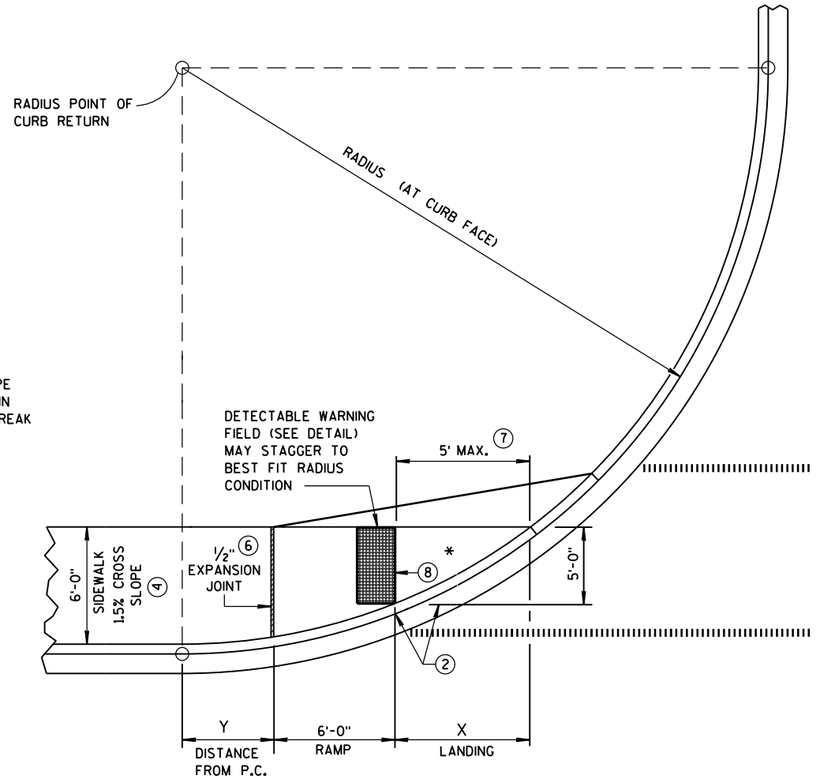
SECTION A-A FOR TYPE 4A



SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

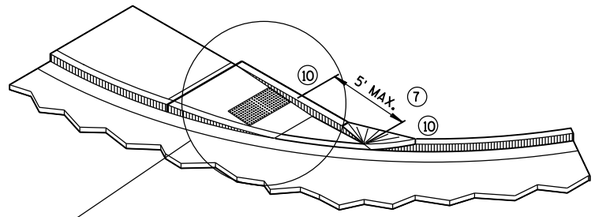
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

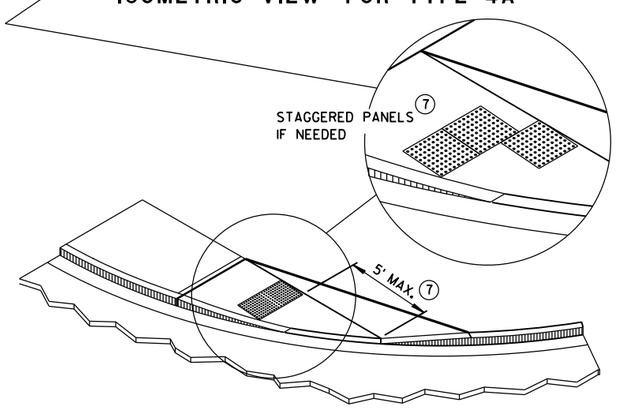
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION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

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

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



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

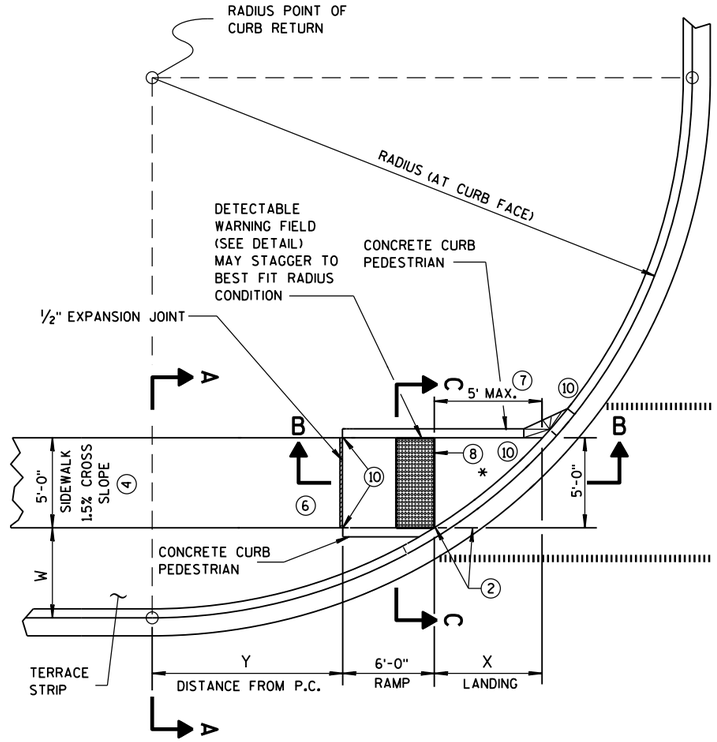
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

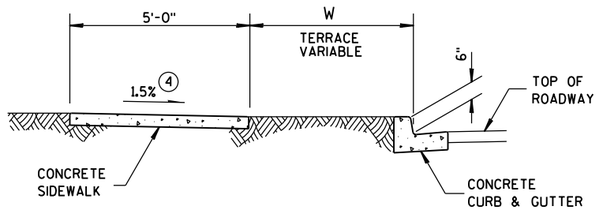
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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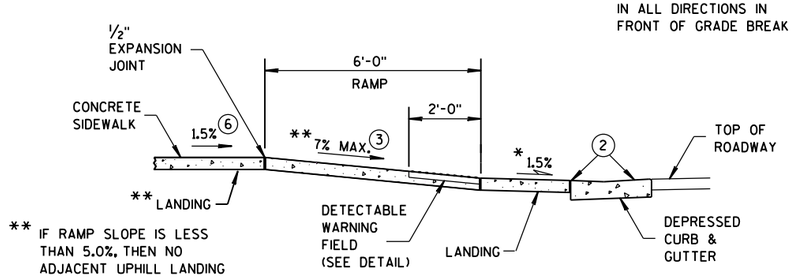
S.D.D. 8 D 5-18c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



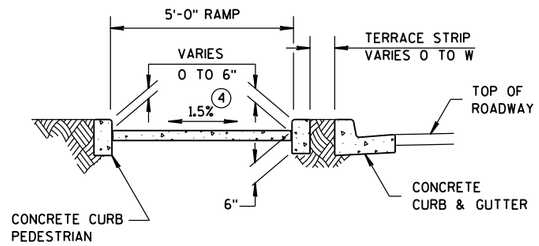
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

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

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

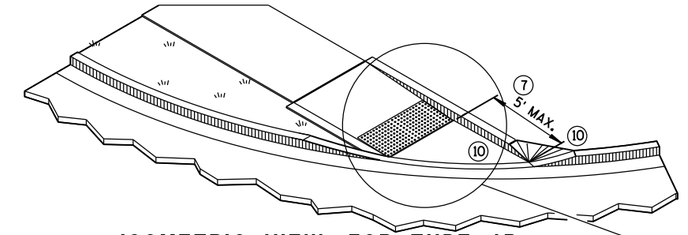
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

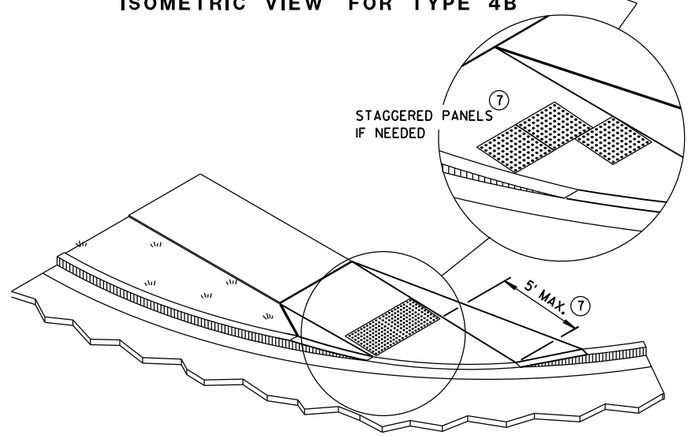
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION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

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

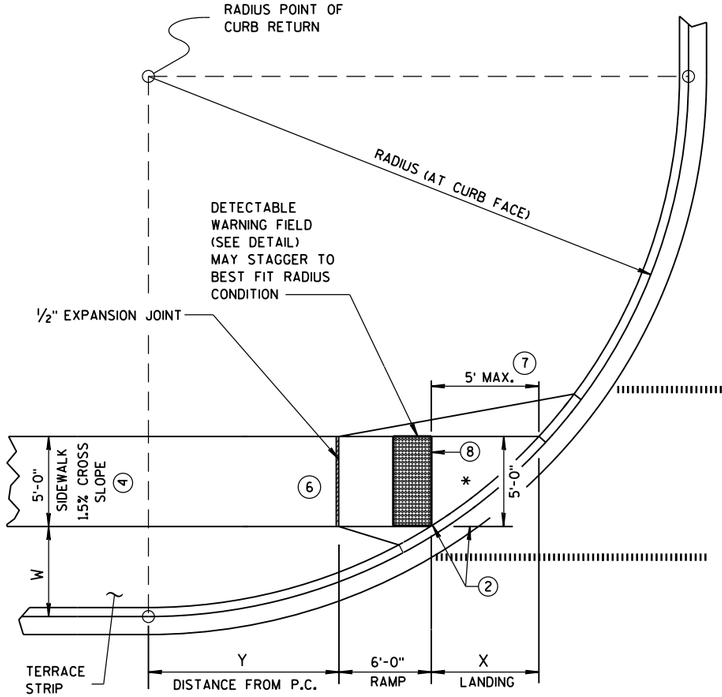
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



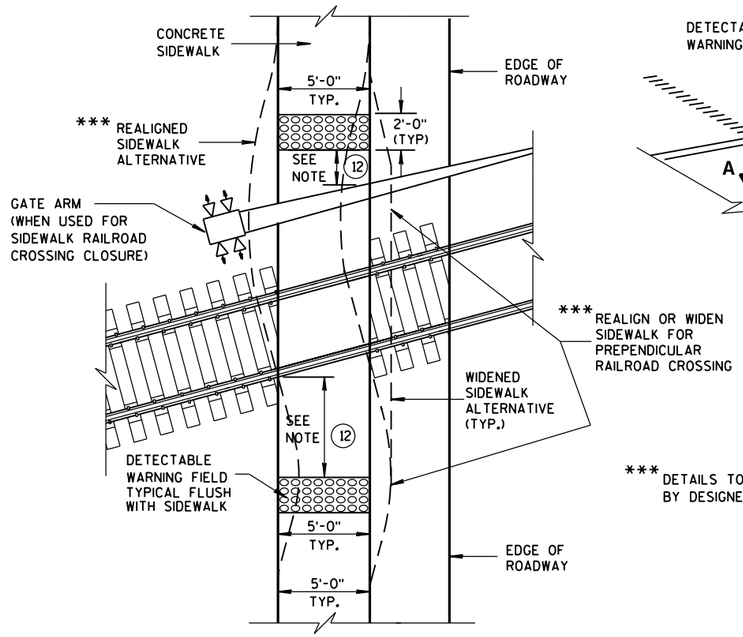
CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

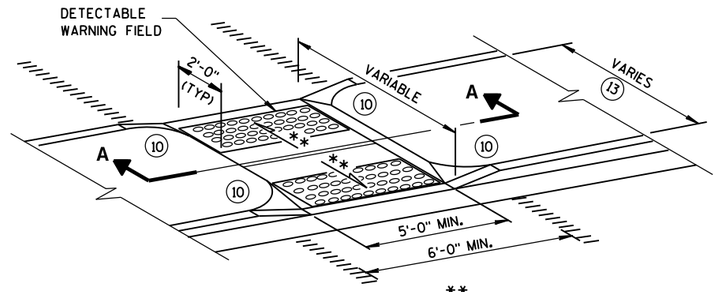
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S.D.D. 8 D 5-18d



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

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

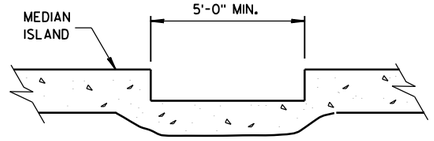
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

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

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

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

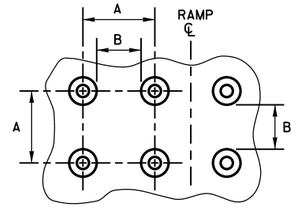
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



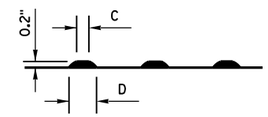
SECTION A-A

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

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

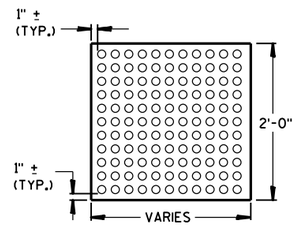


PLAN VIEW



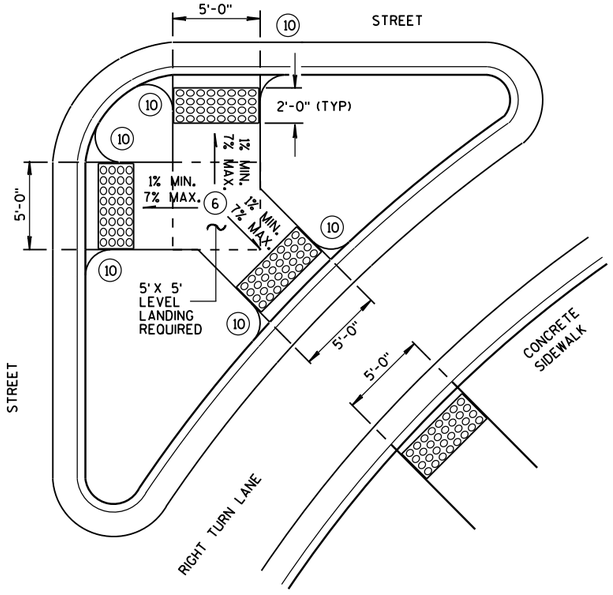
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

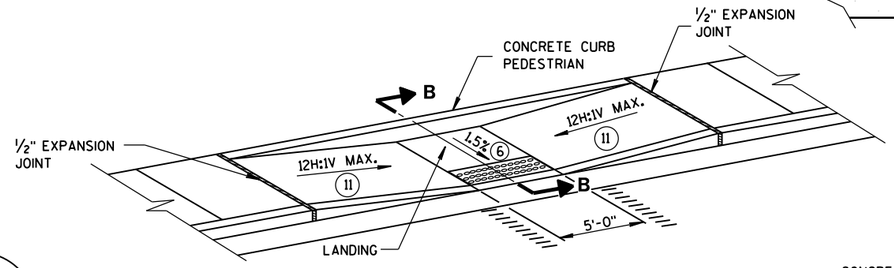


PLAN VIEW
DETECTABLE WARNING FIELD (TYPICAL)

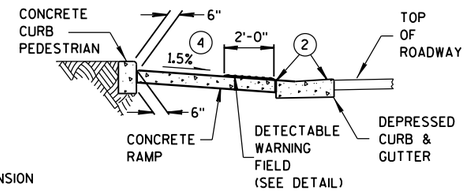
REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



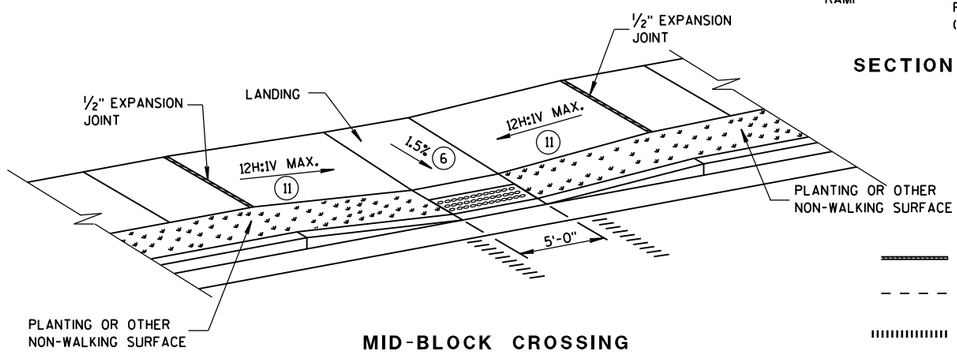
TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

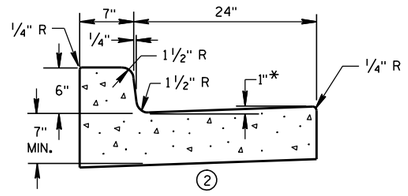
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

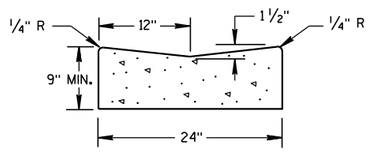
APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

6

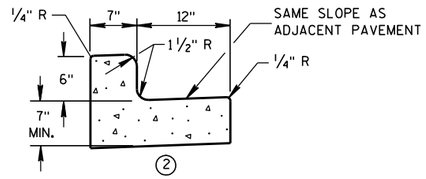
S.D.D. 8 D 5-18e



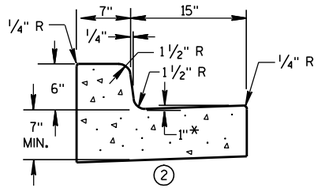
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

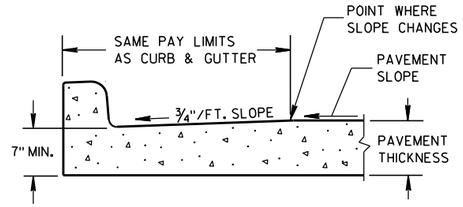


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

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



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

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

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

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

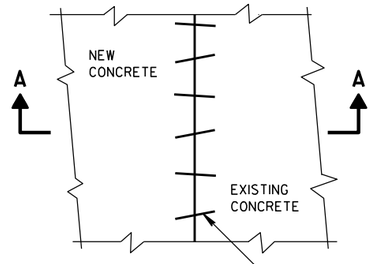
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

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

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

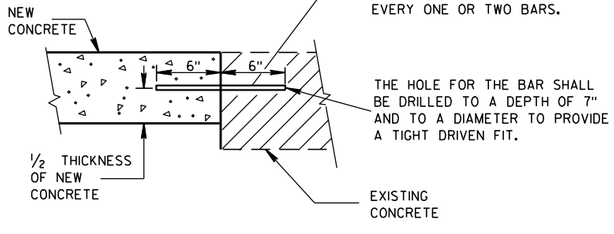
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

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

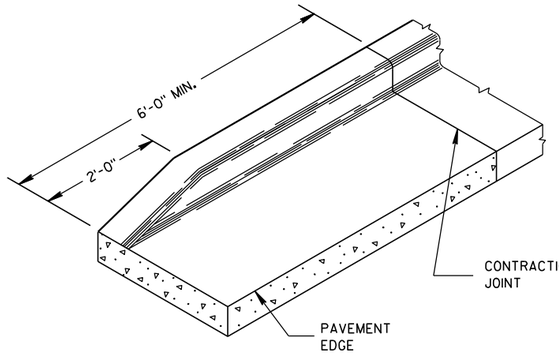
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



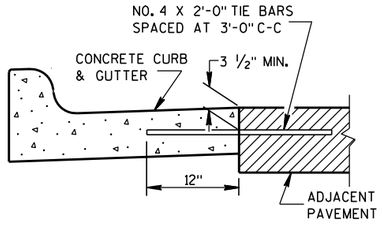
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

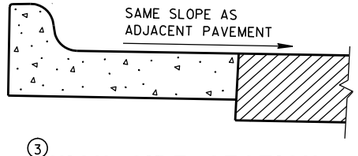
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

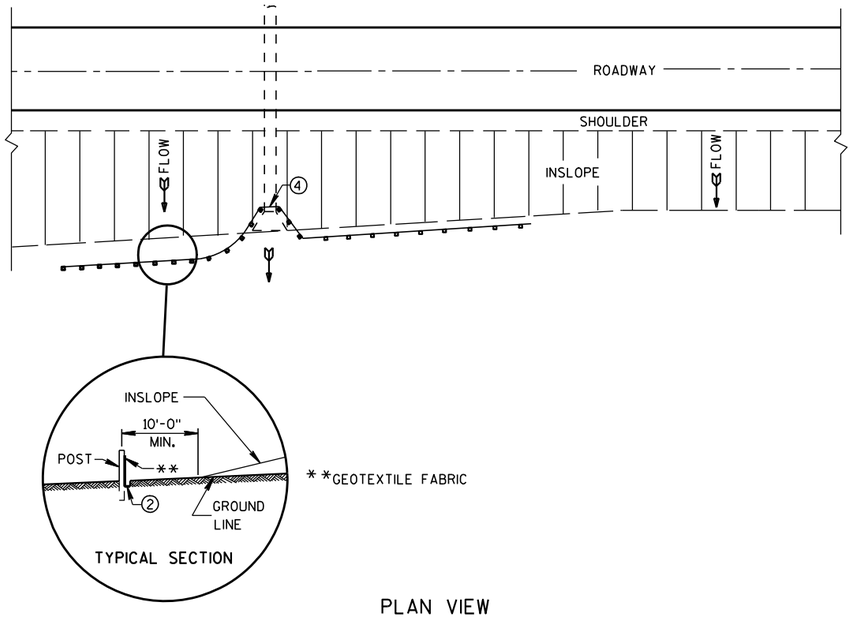
/S/ Jerry Zoon — ROADWAY STANDARDS ENGINEER

ENT

FHWA

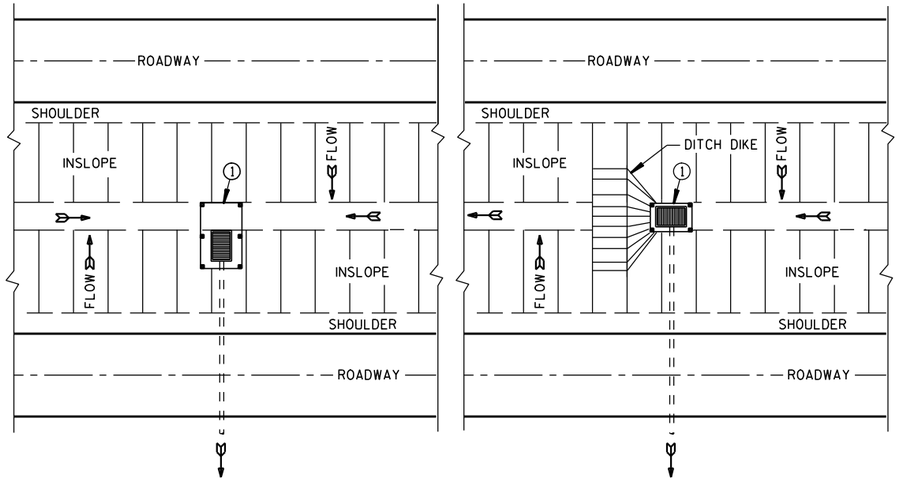
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S.D.D. 8 D 16-10



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



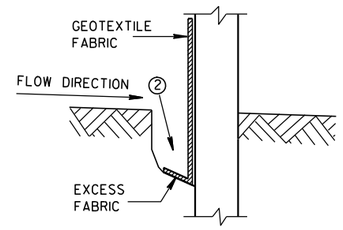
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

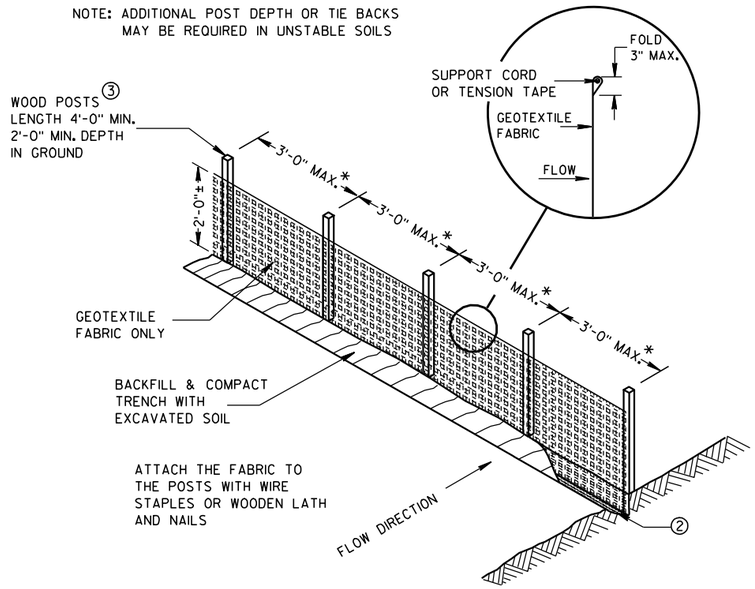
GENERAL NOTES

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

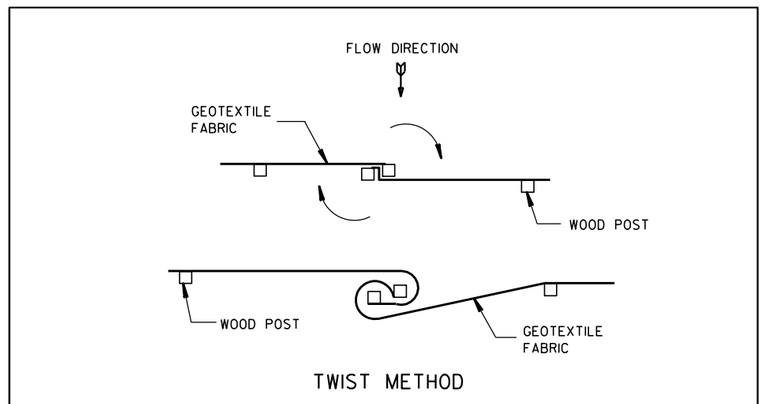
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



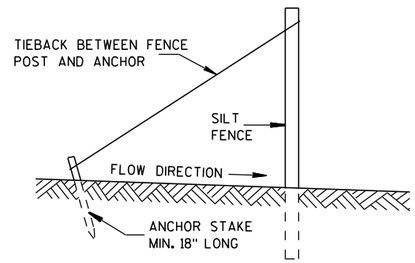
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

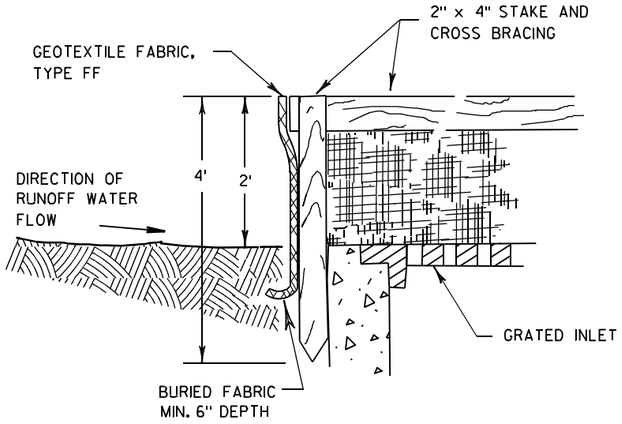
(WHEN REQUIRED BY THE ENGINEER)

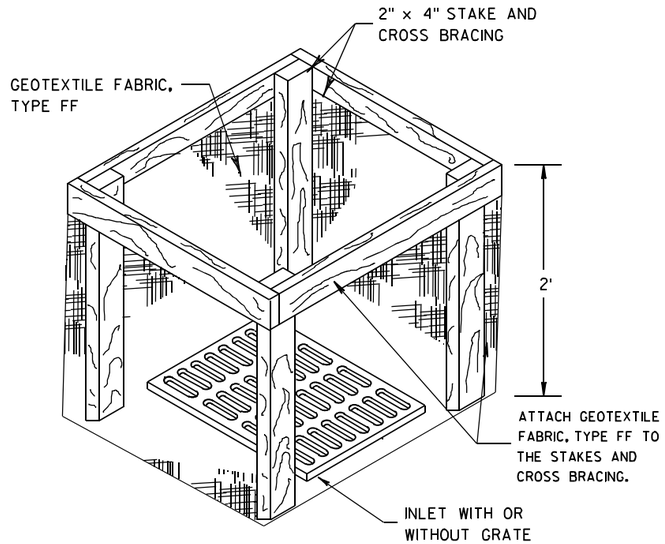
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

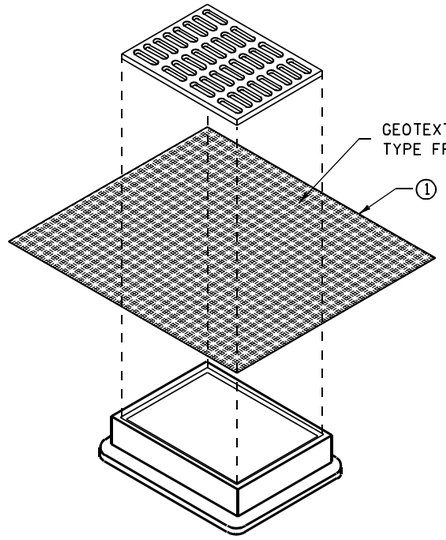
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 9-6



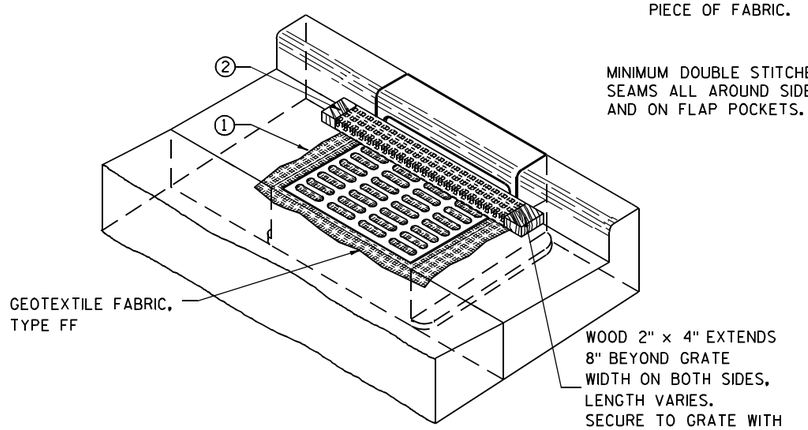


INLET PROTECTION, TYPE A

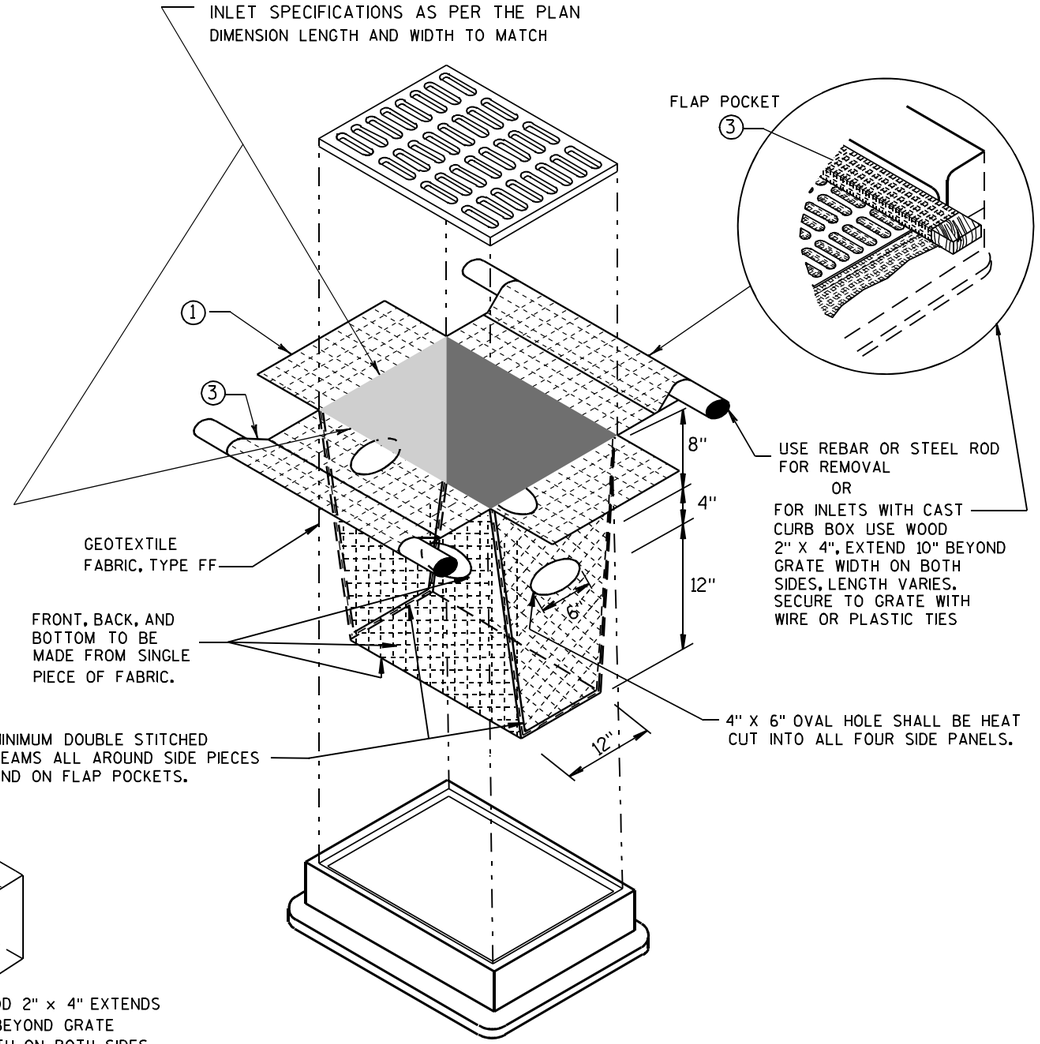


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

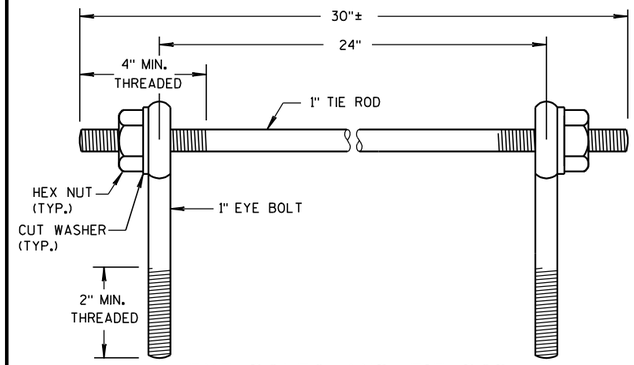
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

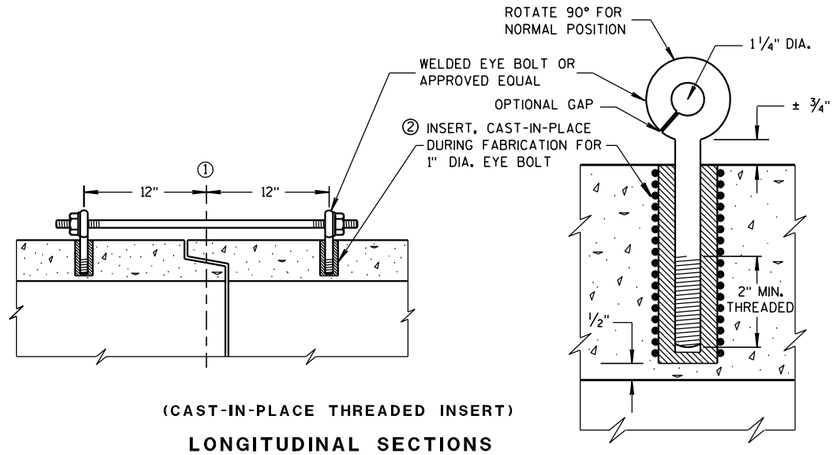
S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

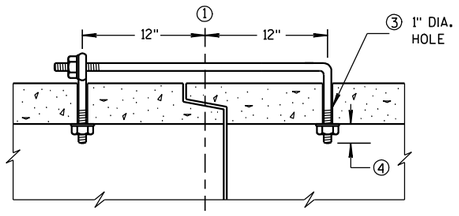
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

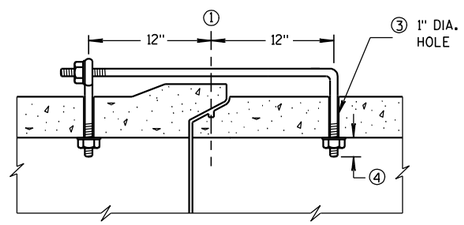
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

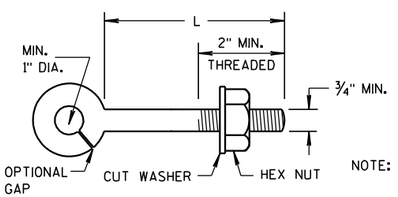


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

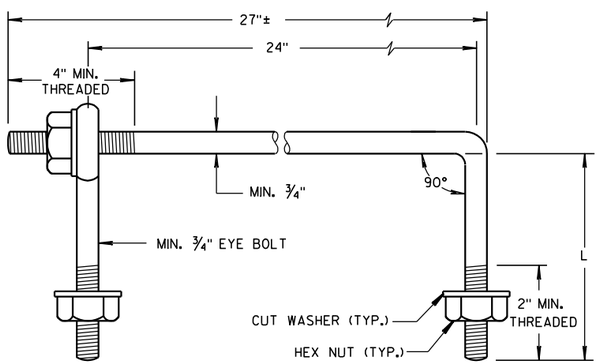
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

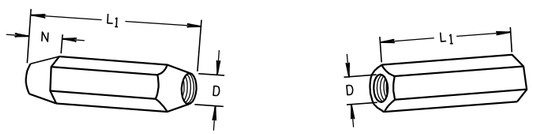
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

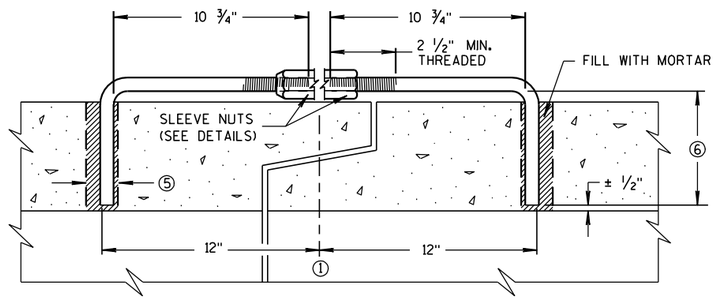
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

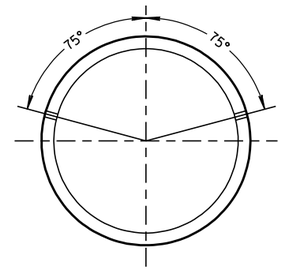
SLEEVE NUTS



LONGITUDINAL SECTION

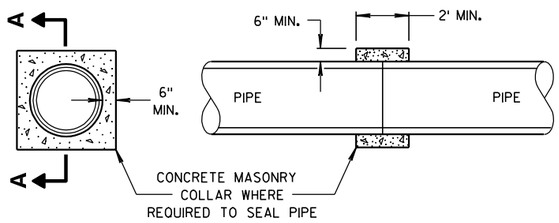
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

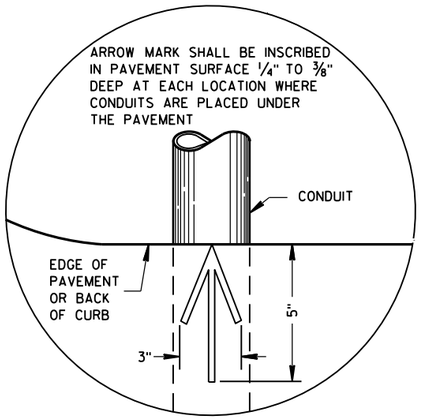
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
252
FHWA

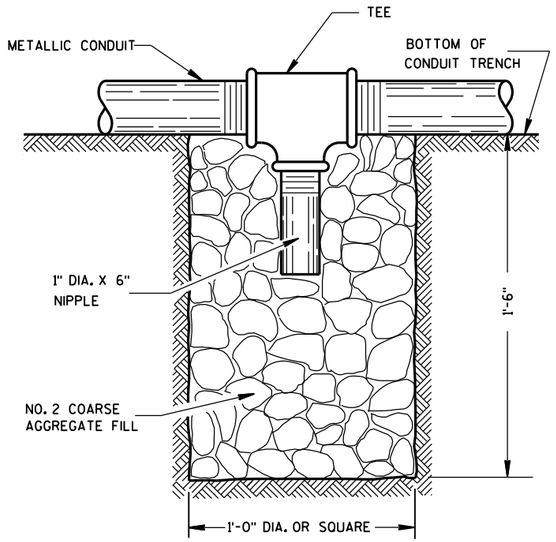
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S.D.D. 8 F 4-7



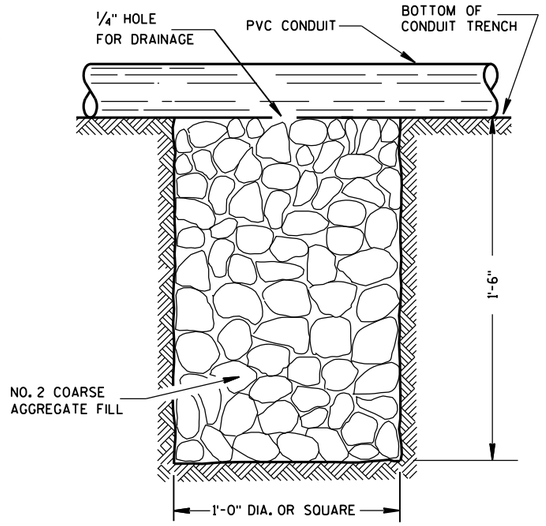
PLAN VIEW

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.

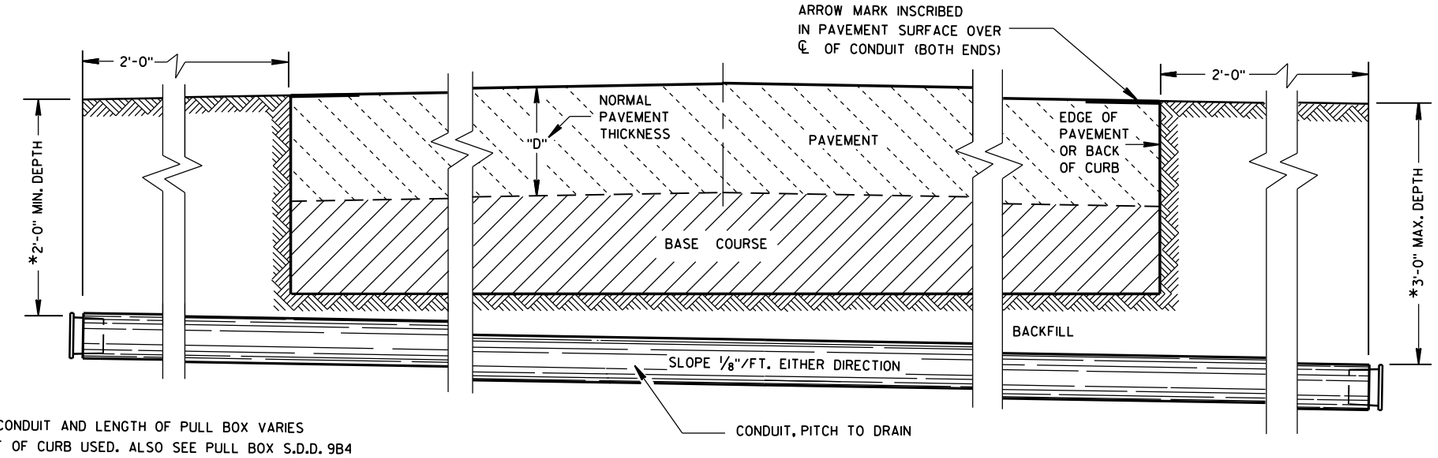
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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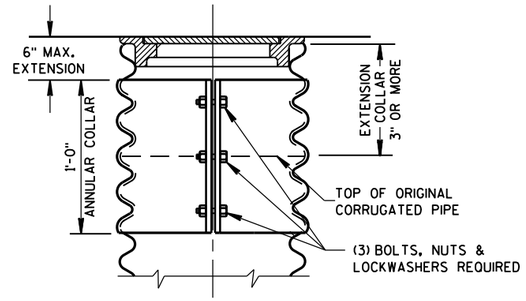
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

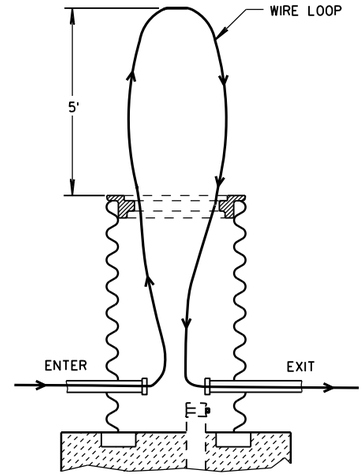
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

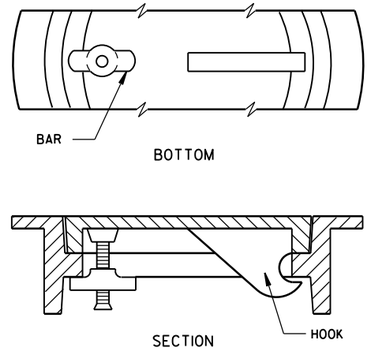
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

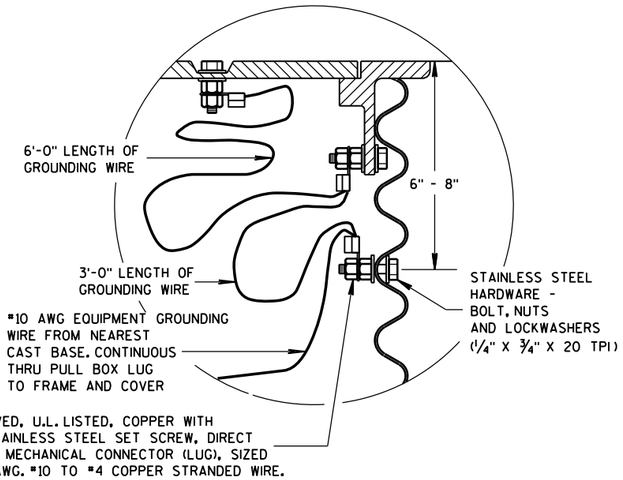


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

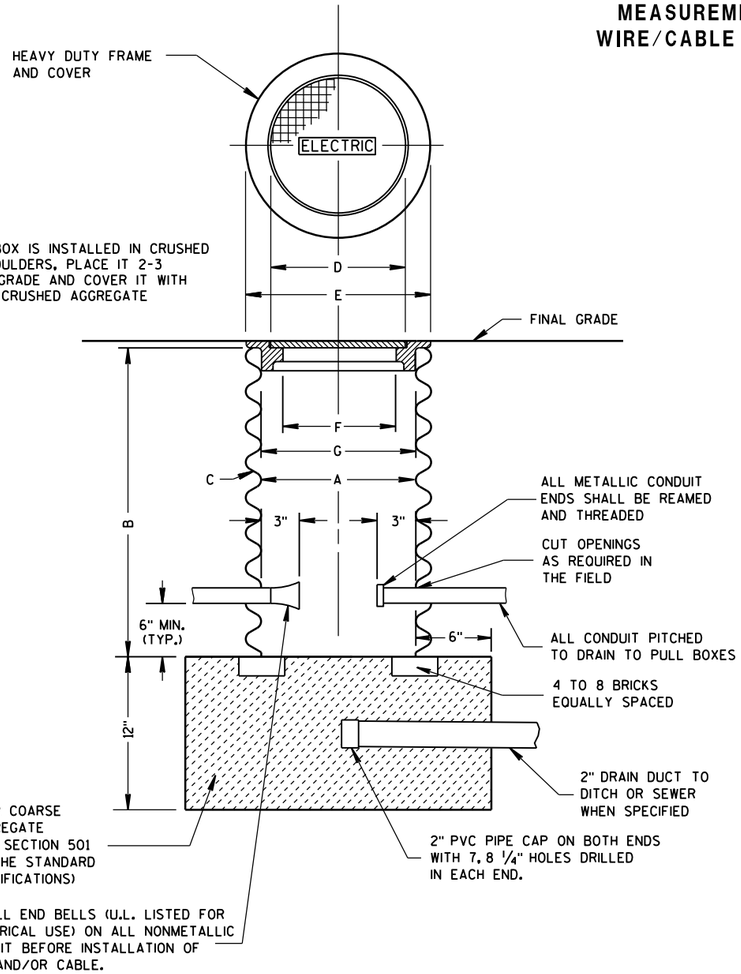


ALTERNATE COVER (LOCKING)

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.

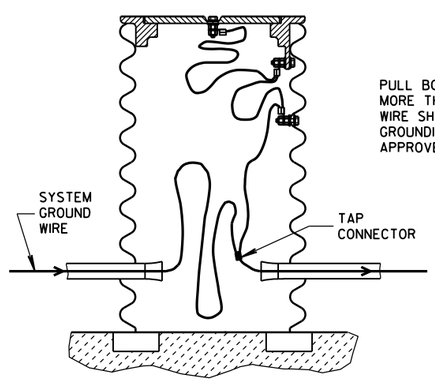
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

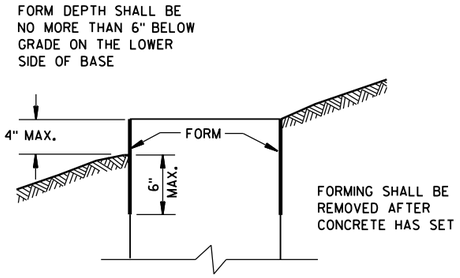
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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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.

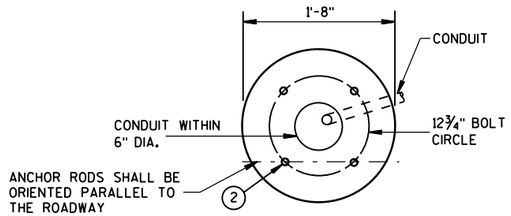
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

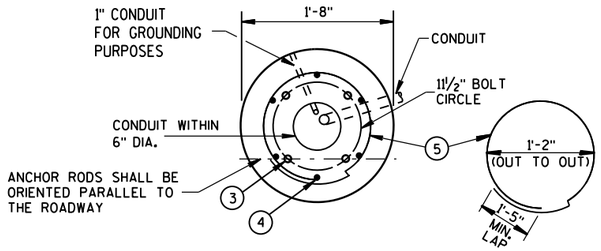
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

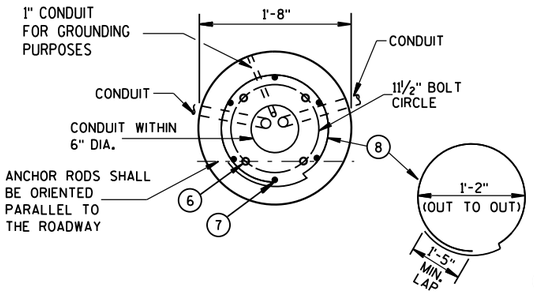
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

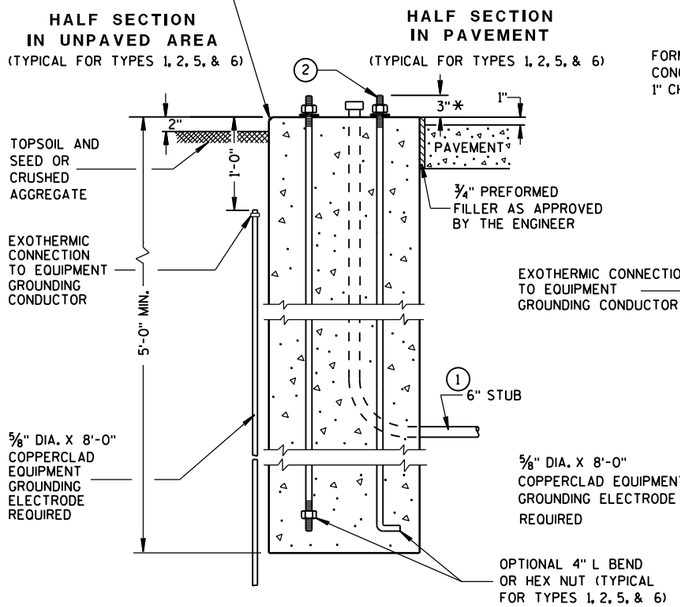
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



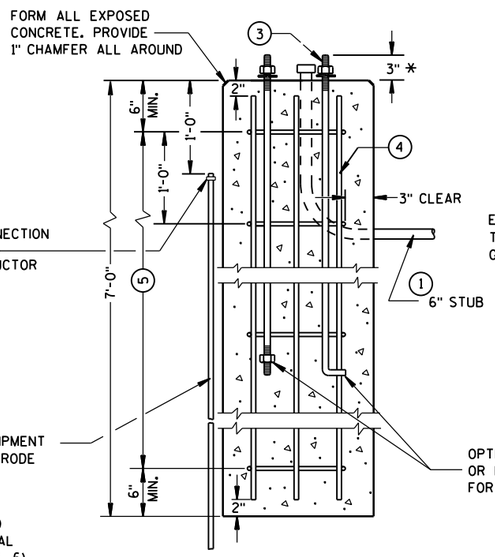




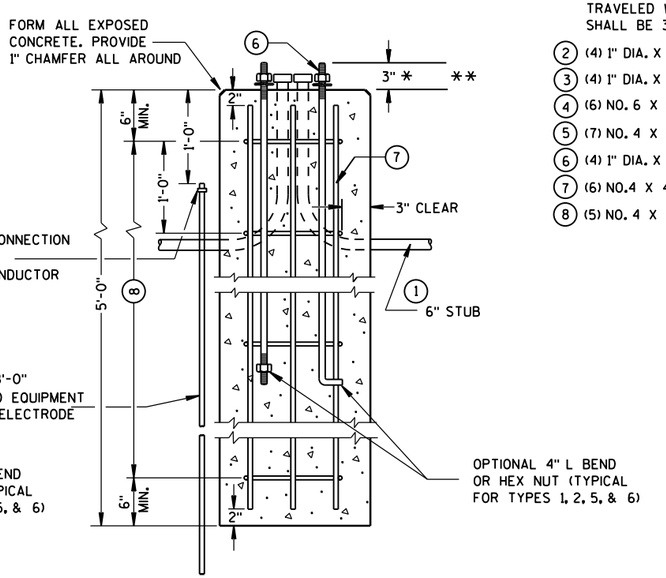
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)



HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



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 255
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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.

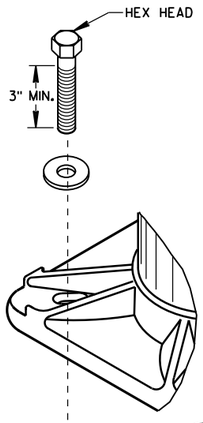
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

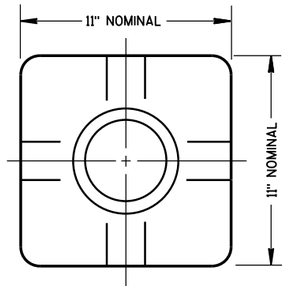
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

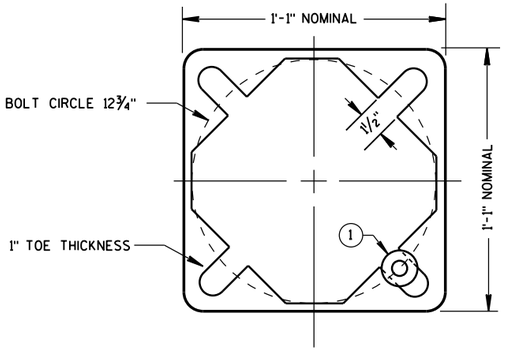
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

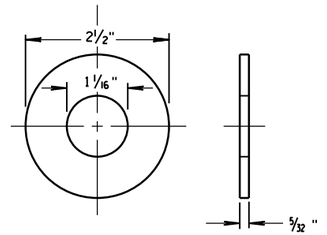




TOP VIEW
(PEDESTAL BASE)

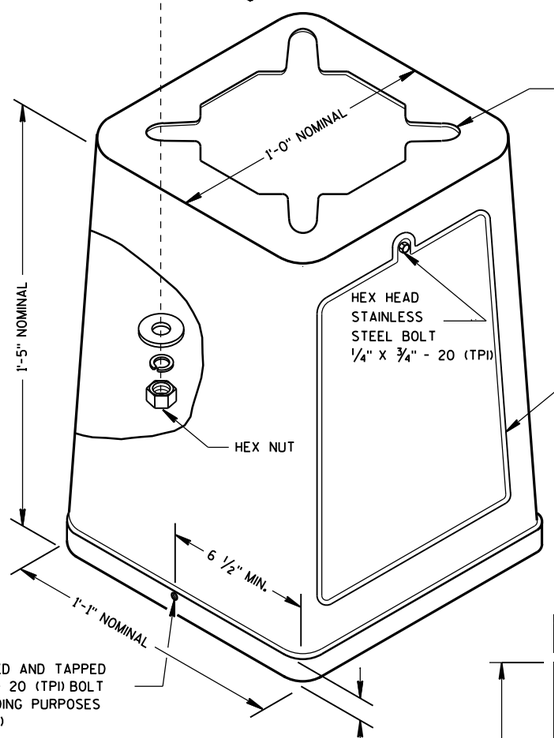


BOTTOM VIEW
(PEDESTAL BASE)

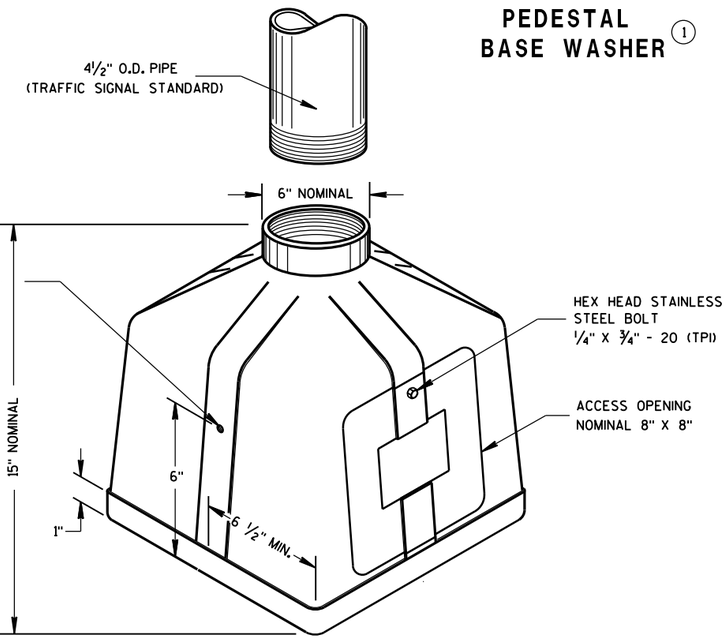


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

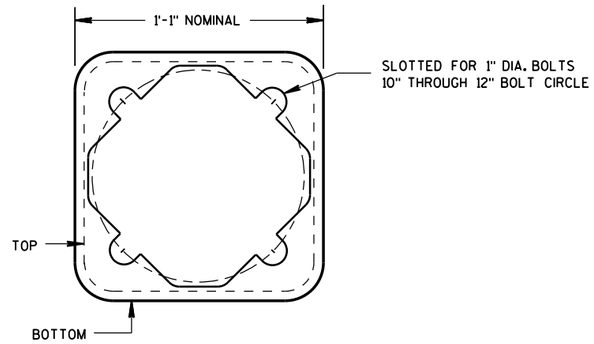


ISOMETRIC VIEW

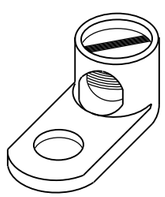


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

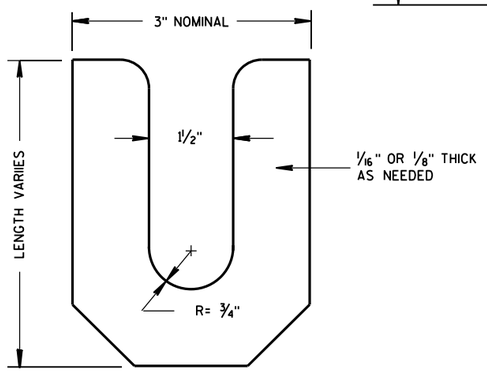


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

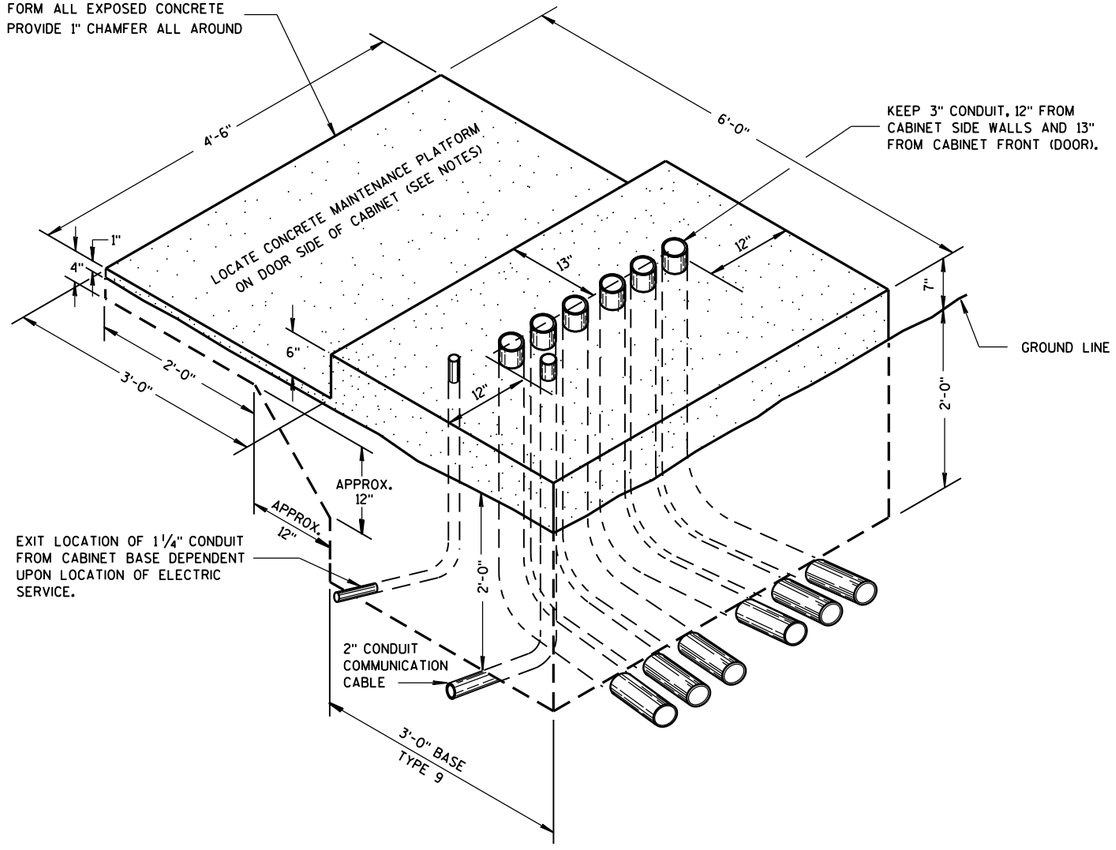
TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
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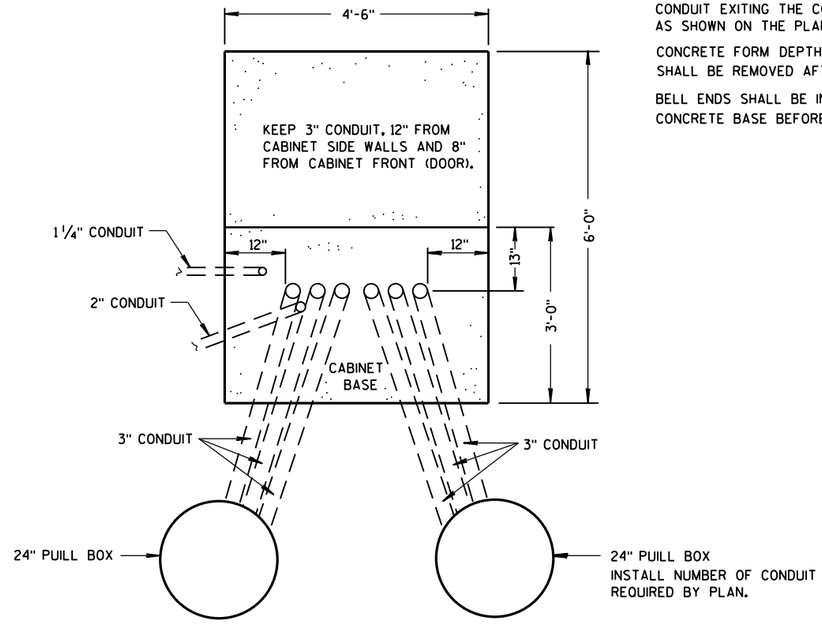
S.D.D. 9 C 3-4



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 257
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).

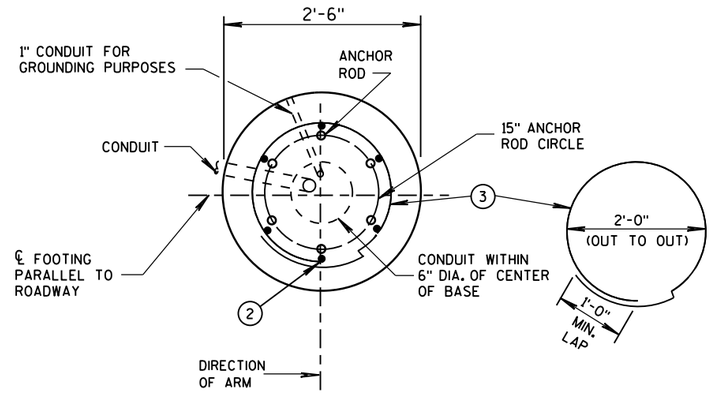
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

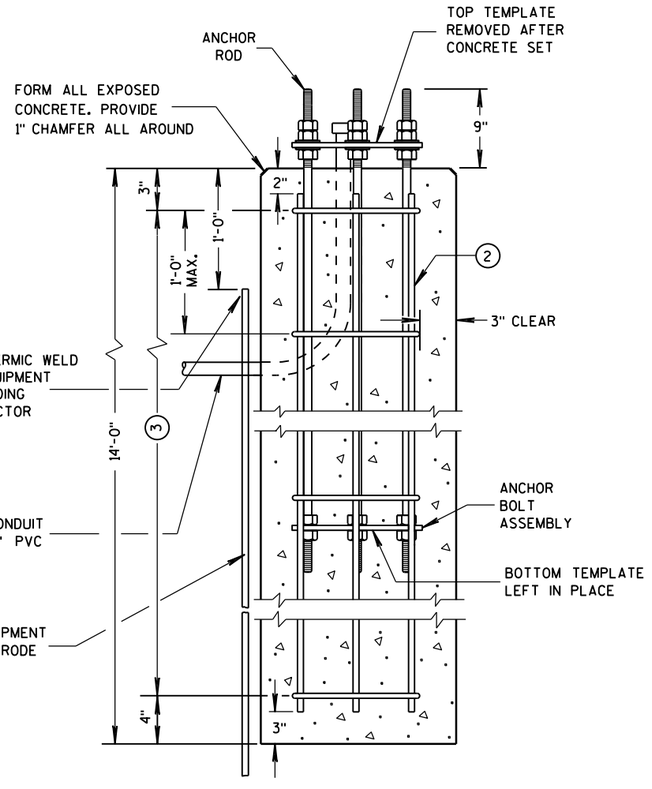
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 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" MAX. C-C.

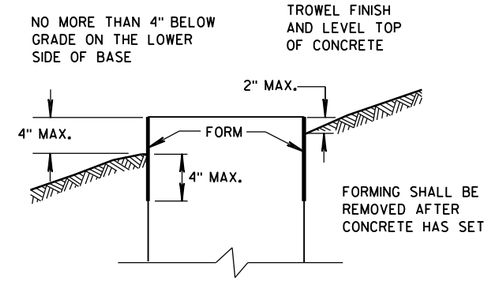
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATION)	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



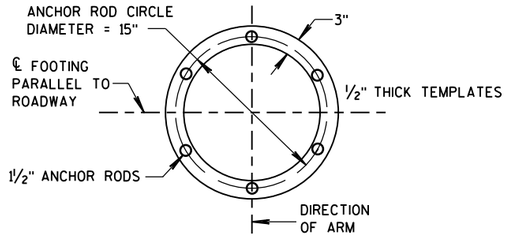


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

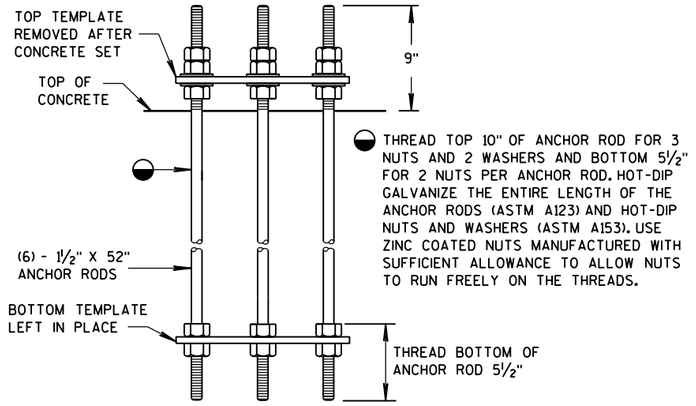
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



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

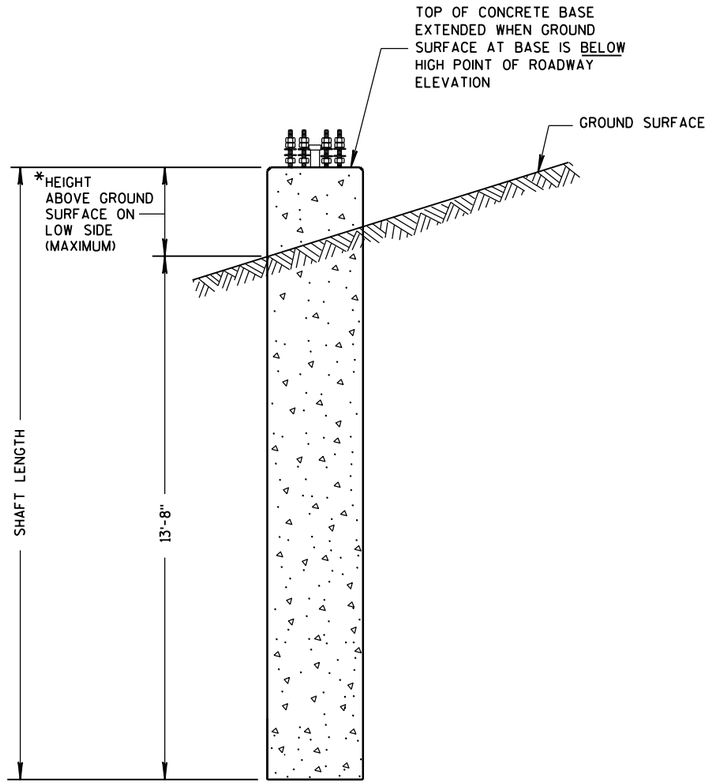
APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 11-9

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

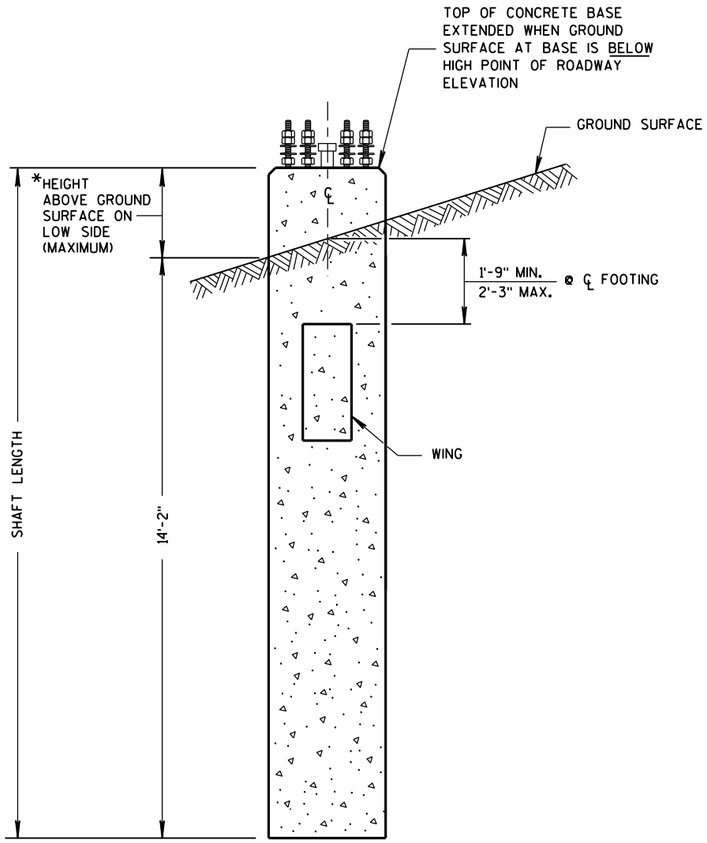
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 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

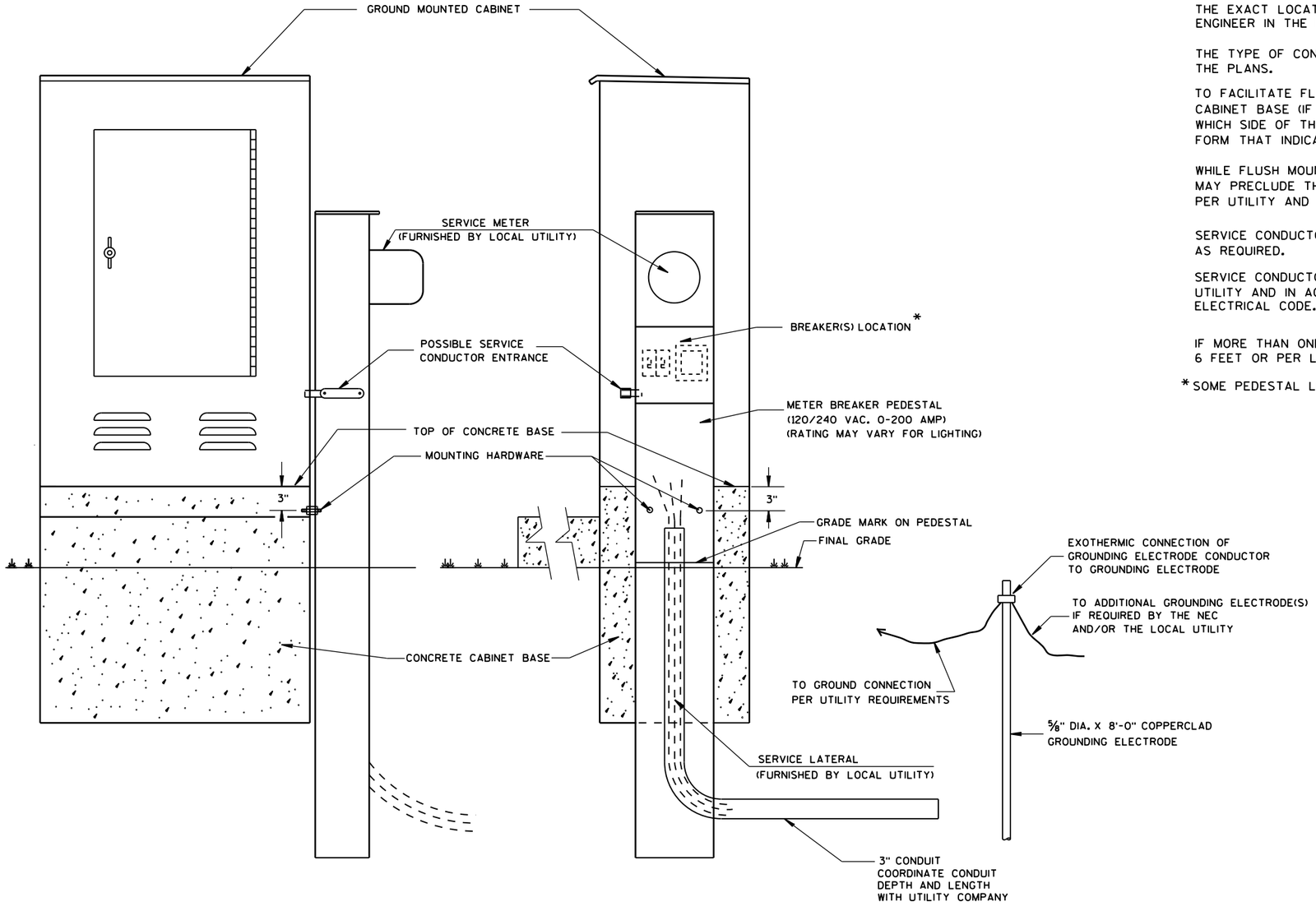
APPROVED
11-26-2013 DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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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.

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S.D.D. 9 D 1-5

6

S.D.D. 9 D 1-5

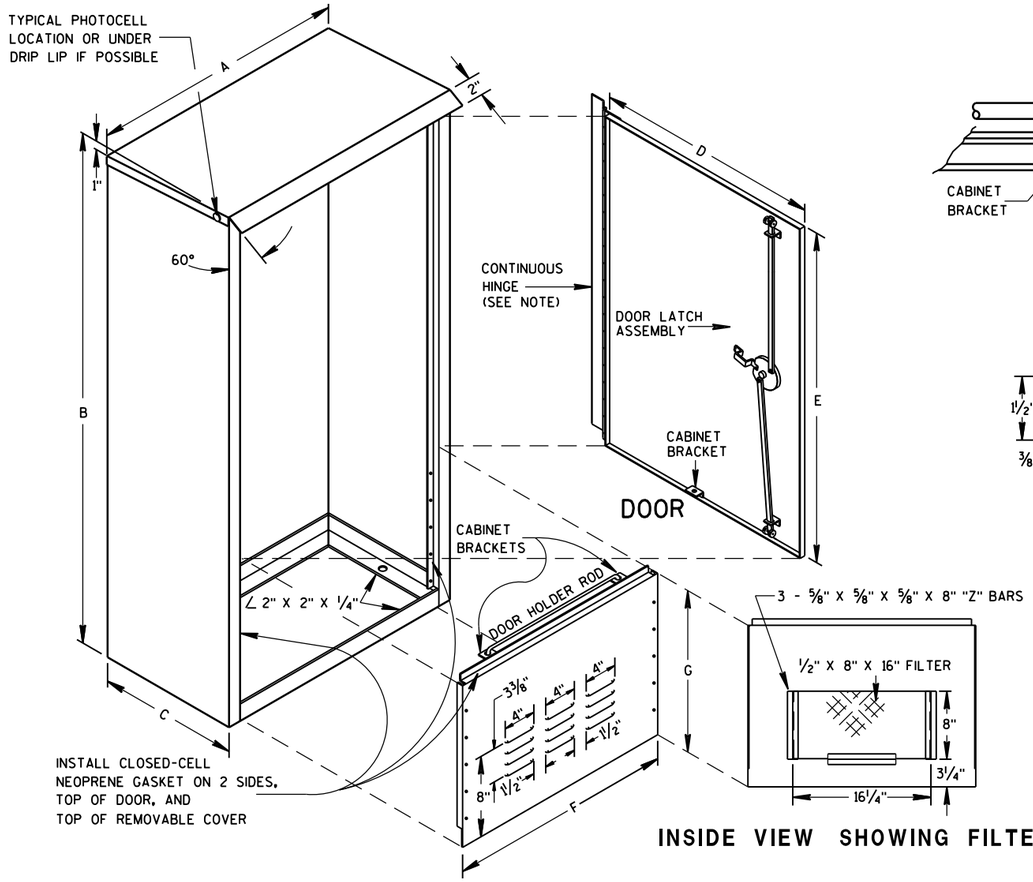
CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

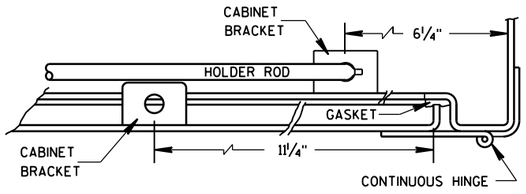
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

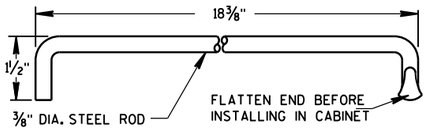


REMOVABLE COVER

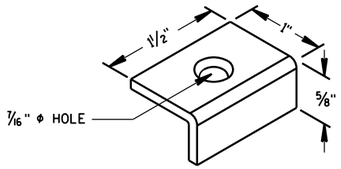
INSIDE VIEW SHOWING FILTER



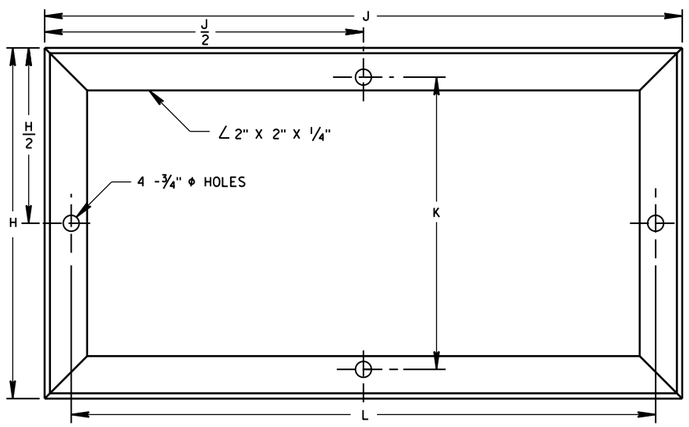
HINGE & DOOR HOLDER



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.

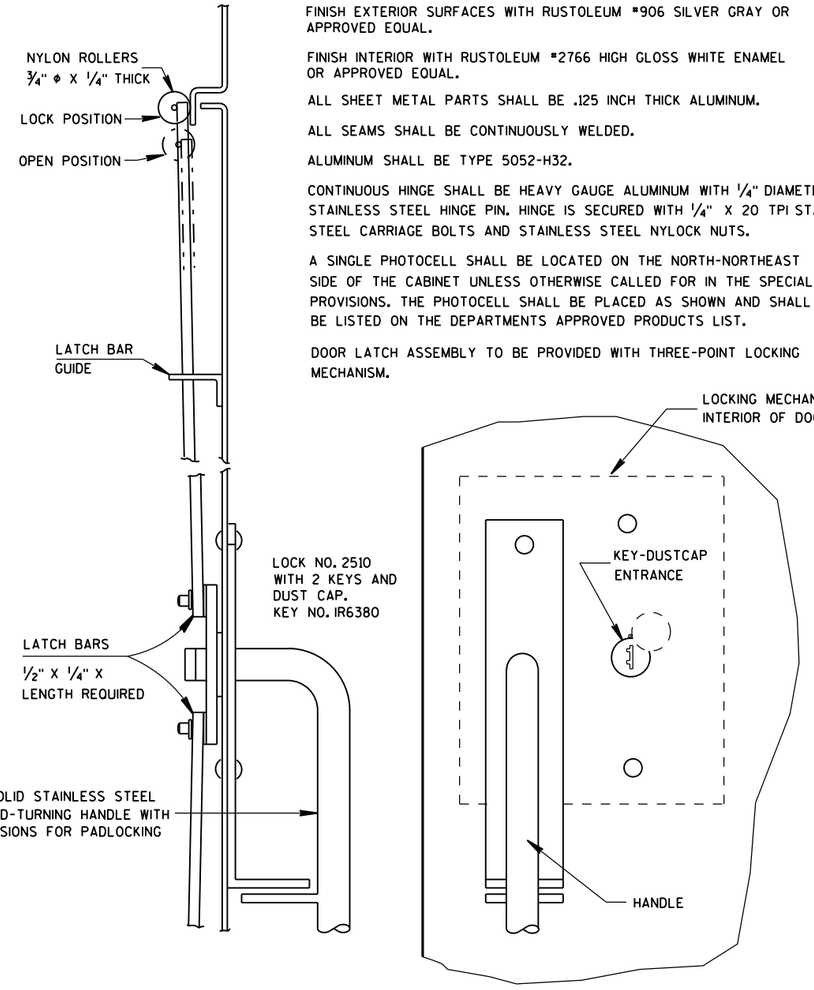
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

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.

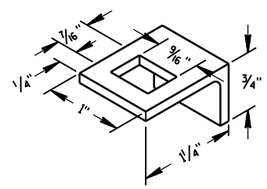
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



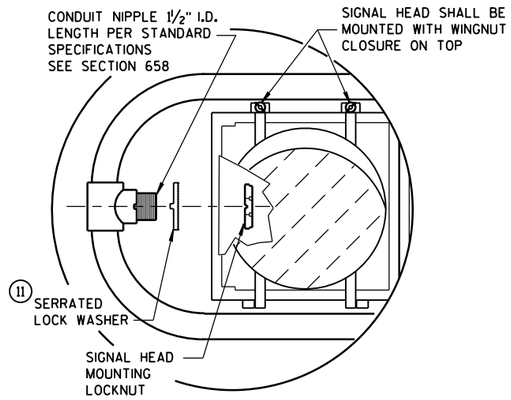
LATCH BAR GUIDE

SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

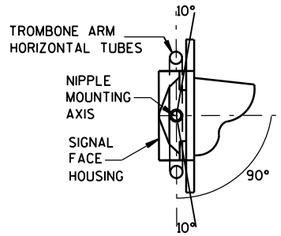
APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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S.D.D. 9 D 2-3



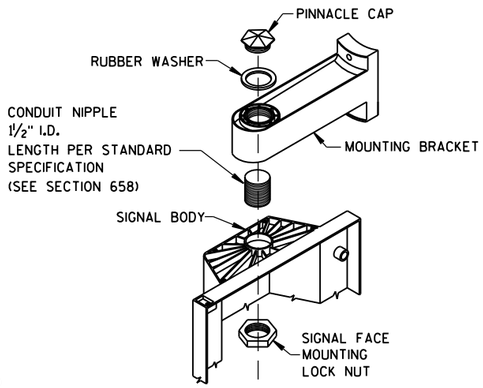
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL *

* SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR



SECTION A-A

(10 DEGREES TILT REQUIREMENT OF FACE(S) IN THE TROMBONE MOUNTING)



SIGNAL FACE MOUNTING DETAIL

(BANDED)

GENERAL NOTES

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

POLES SHALL BE EITHER ALUMINUM OR GALVANIZED STEEL AS CALLED FOR IN THE CONTRACT.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652 SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

TYPE 2 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS 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) SIGNAL FACE MOUNTING BRACKETS. MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACES.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658).

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (¼" X ¾" LONG - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

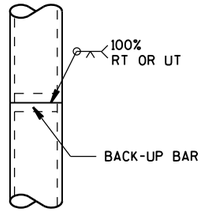
(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.

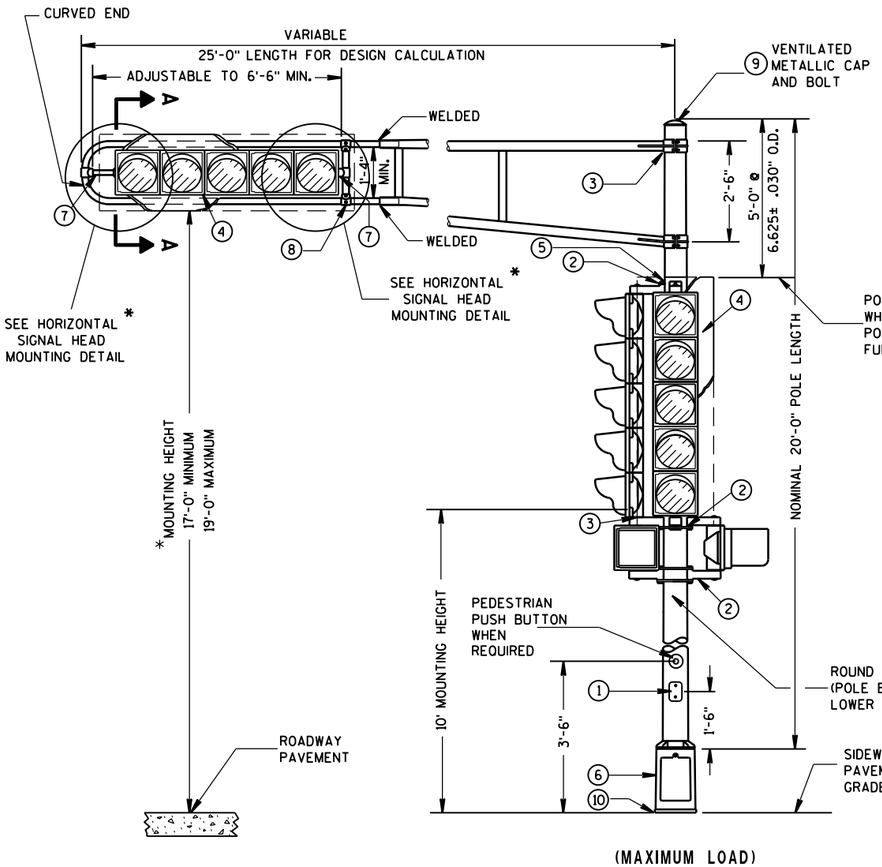
*MOUNTING HEIGHT LIMITATION DIMENSIONS OF THE TROMBONE MAST ARM WILL BE DEPENDENT UPON THE USE/NON-USE OF A TRANSFORMER BASE.

FOR MANUFACTURERS USE ONLY

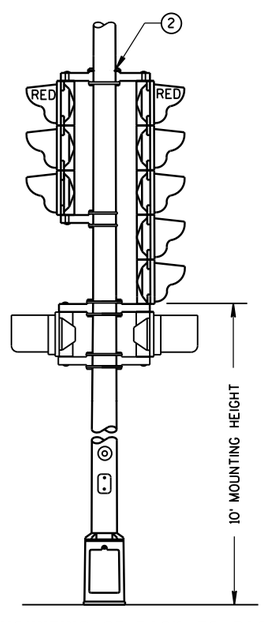
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.



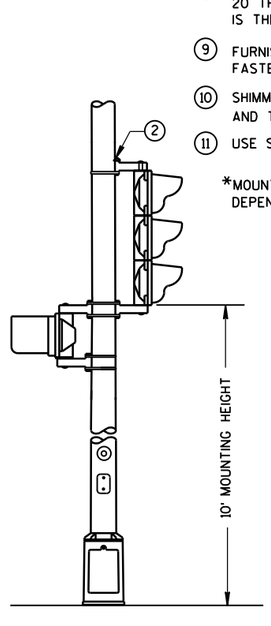
POLE SPLICE DETAIL



(MAXIMUM LOAD)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

TYPE 2 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR TRAFFIC SIGNALS TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

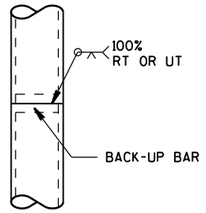
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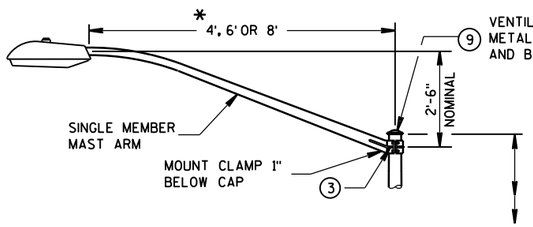
S.D.D. 9 E 1-14a

FOR MANUFACTURERS USE ONLY

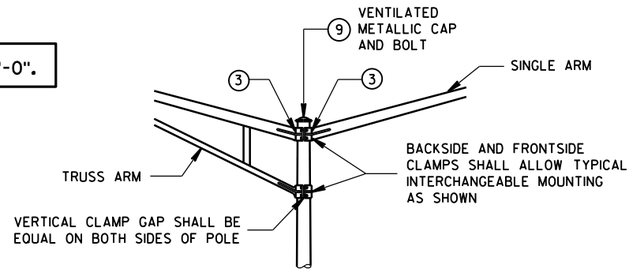
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

*RISE FOR 4' ARM SHALL BE 2'-0".





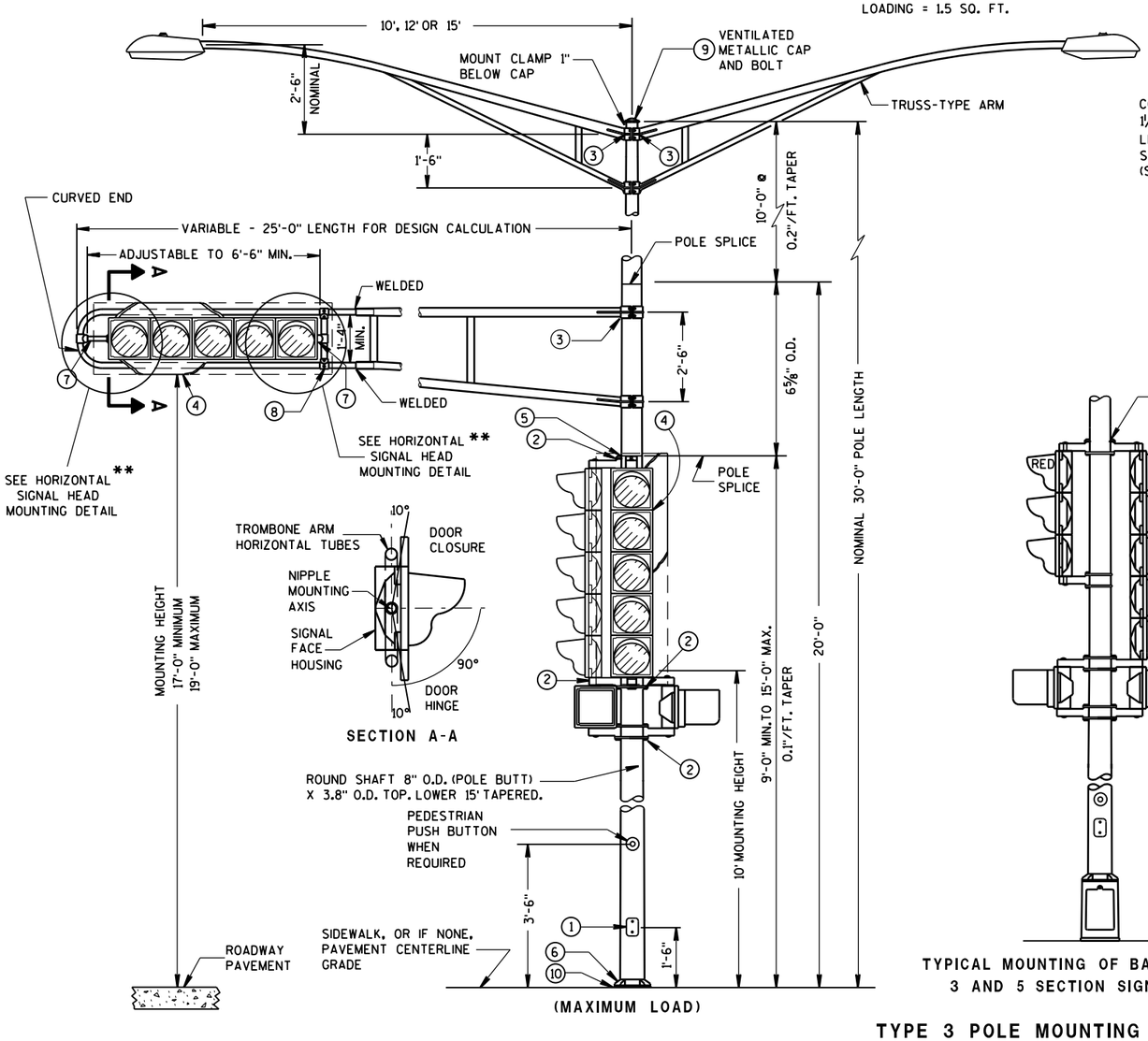
POLE SPLICE DETAIL

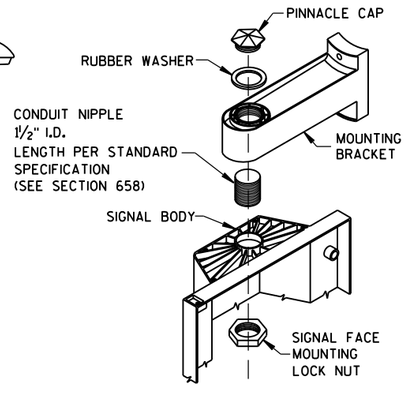


INTERCHANGEABLE MOUNTING DETAIL

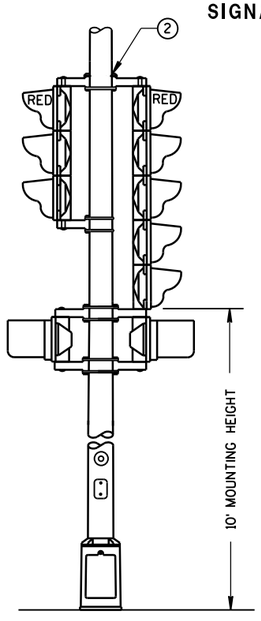
LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

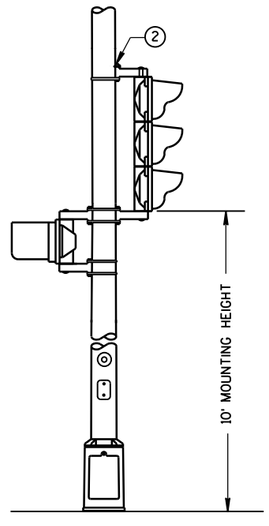




SIGNAL FACE MOUNTING DETAIL
(BANDED)



TYPICAL MOUNTING OF BACK TO BACK
3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

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 MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS 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) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.

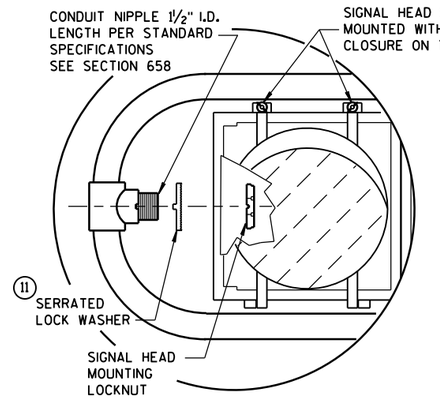
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4 " X ¾" -20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL **

** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

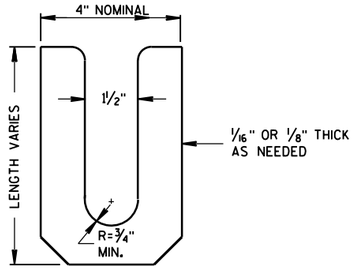
TYPE 3 POLE MOUNTING CONFIGURATION

POLE MOUNTINGS FOR
TRAFFIC SIGNALS AND
LIGHTING UNITS, TYPE 3
(HEAVY DUTY)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

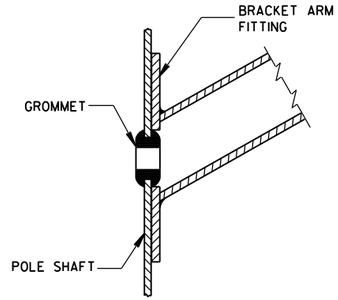
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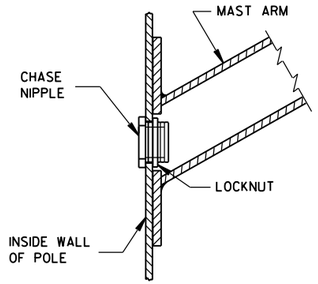


LEVELING SHIM (13)

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.

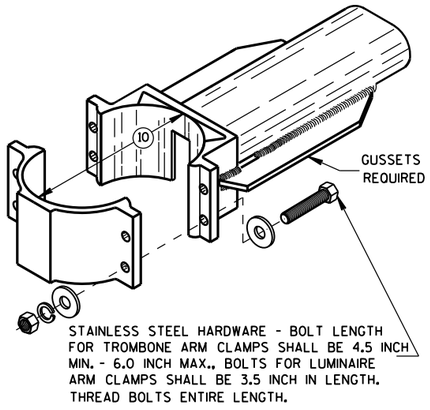
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

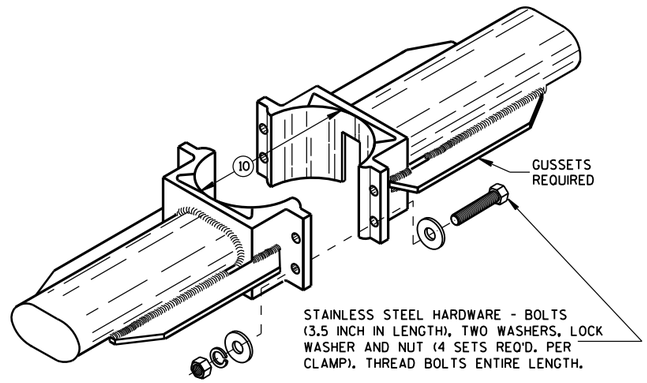
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) 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.

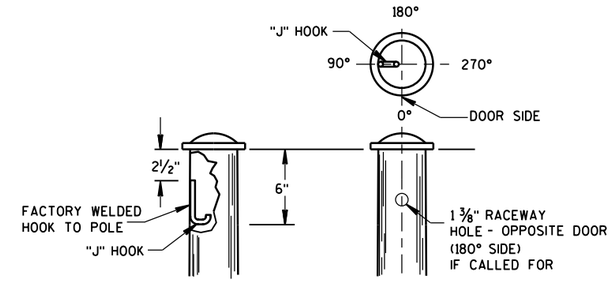
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



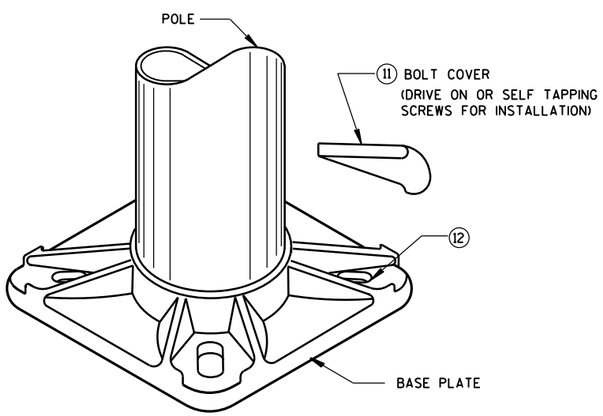
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



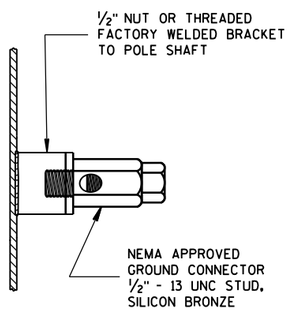
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

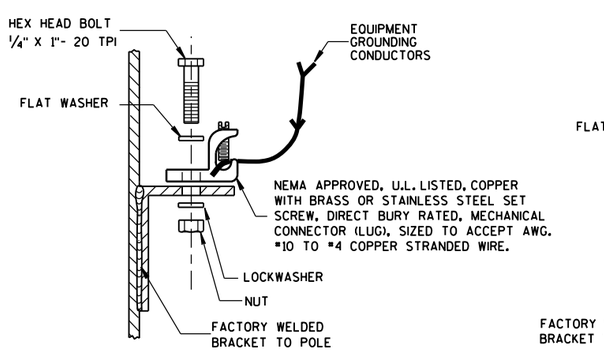


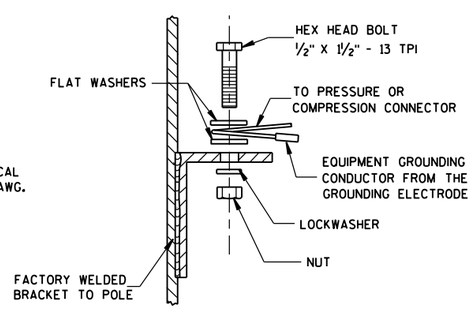
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

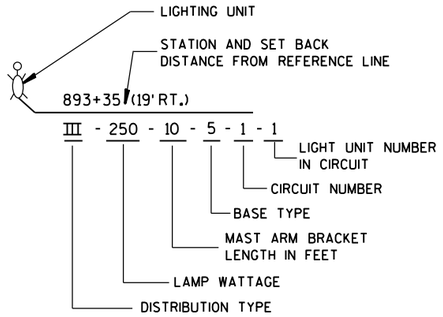
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015
DATE

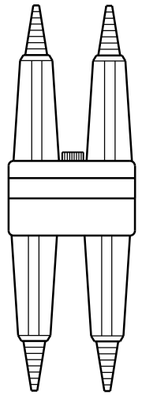
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

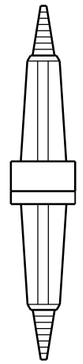
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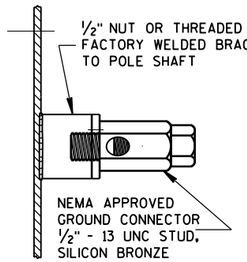
LIGHTING UNIT CODE
(TYPICAL)

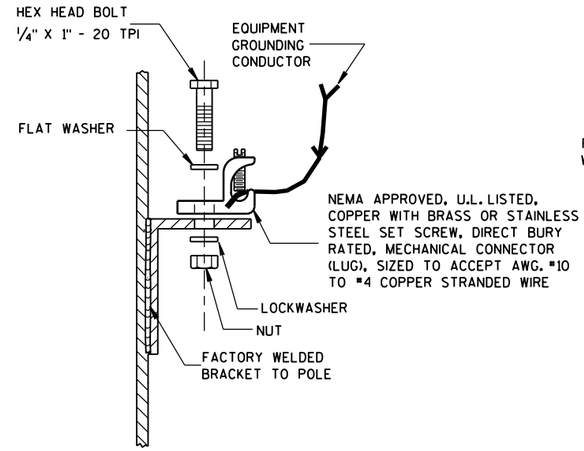


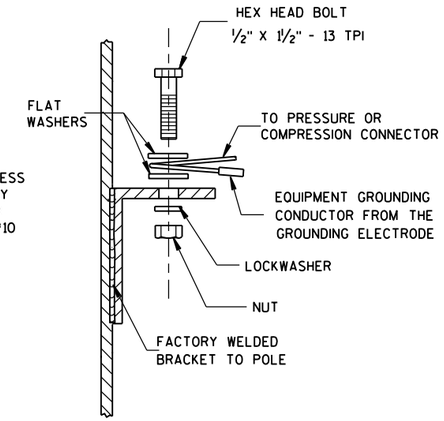
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



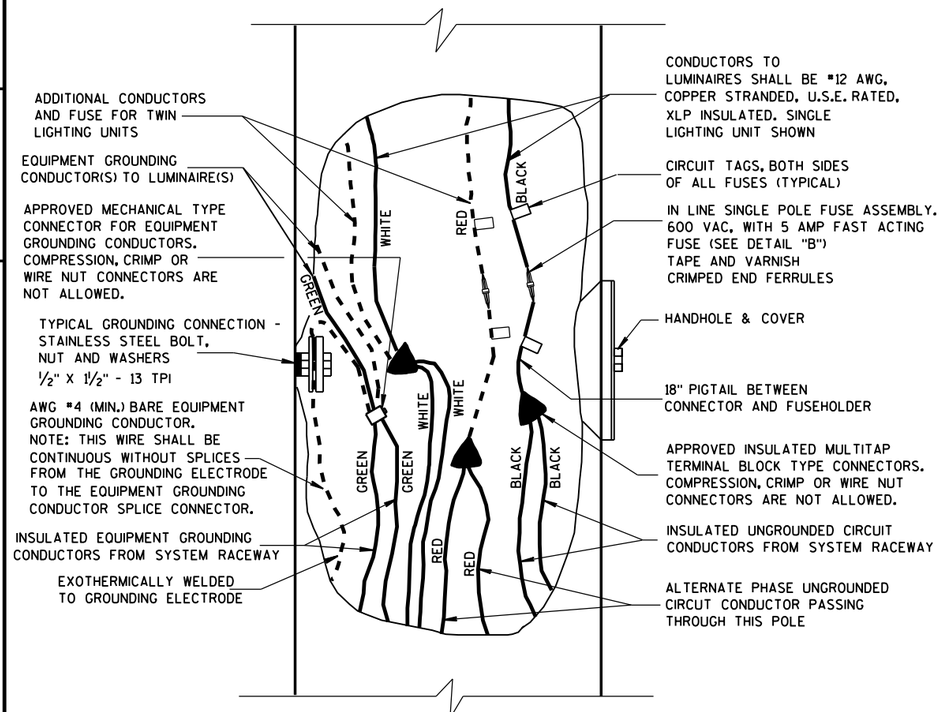
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



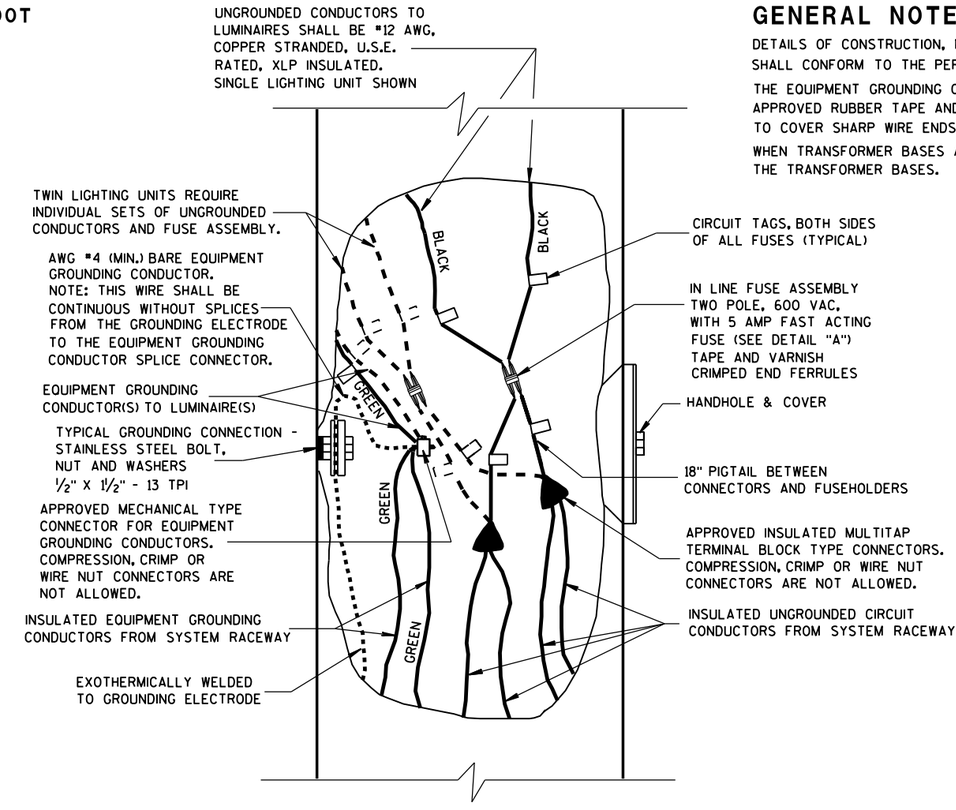




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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.

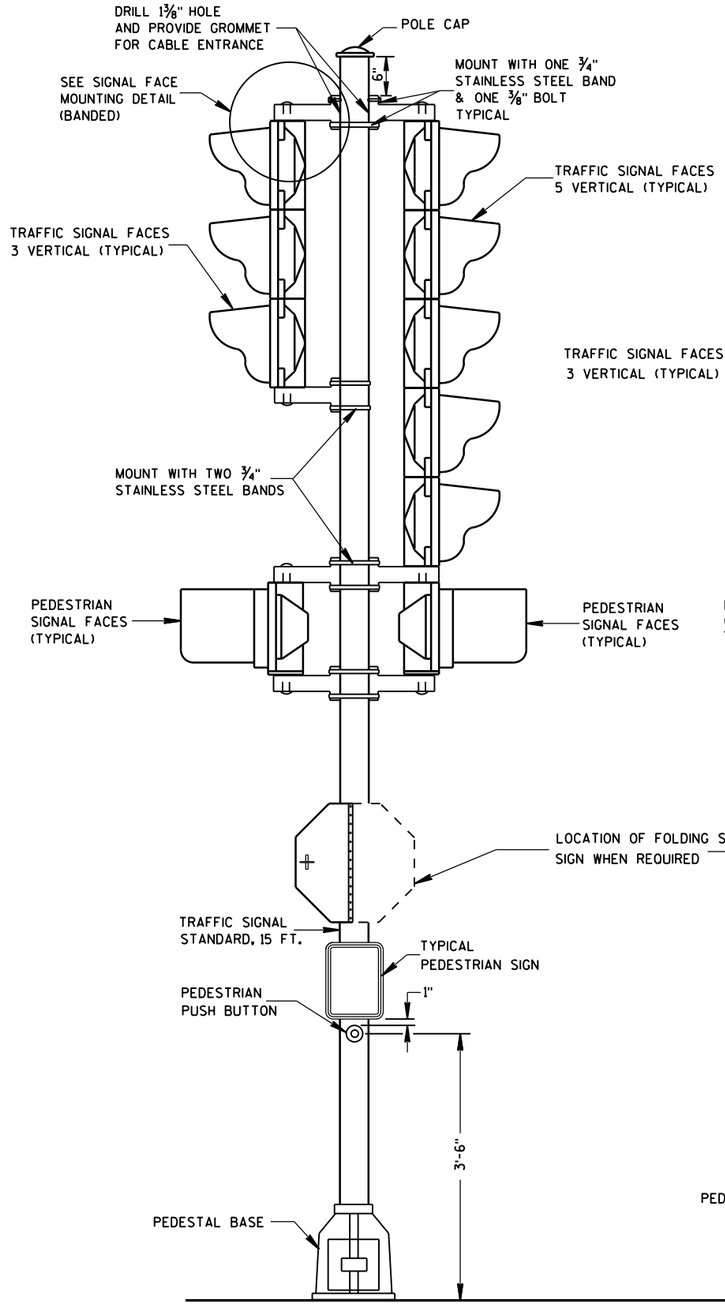
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

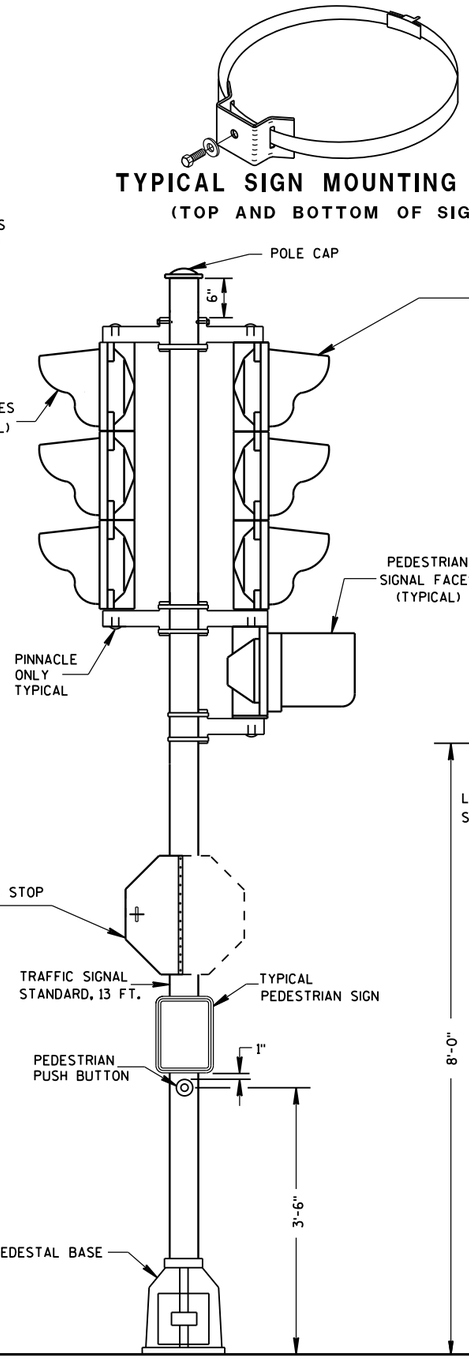
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 E 3-5

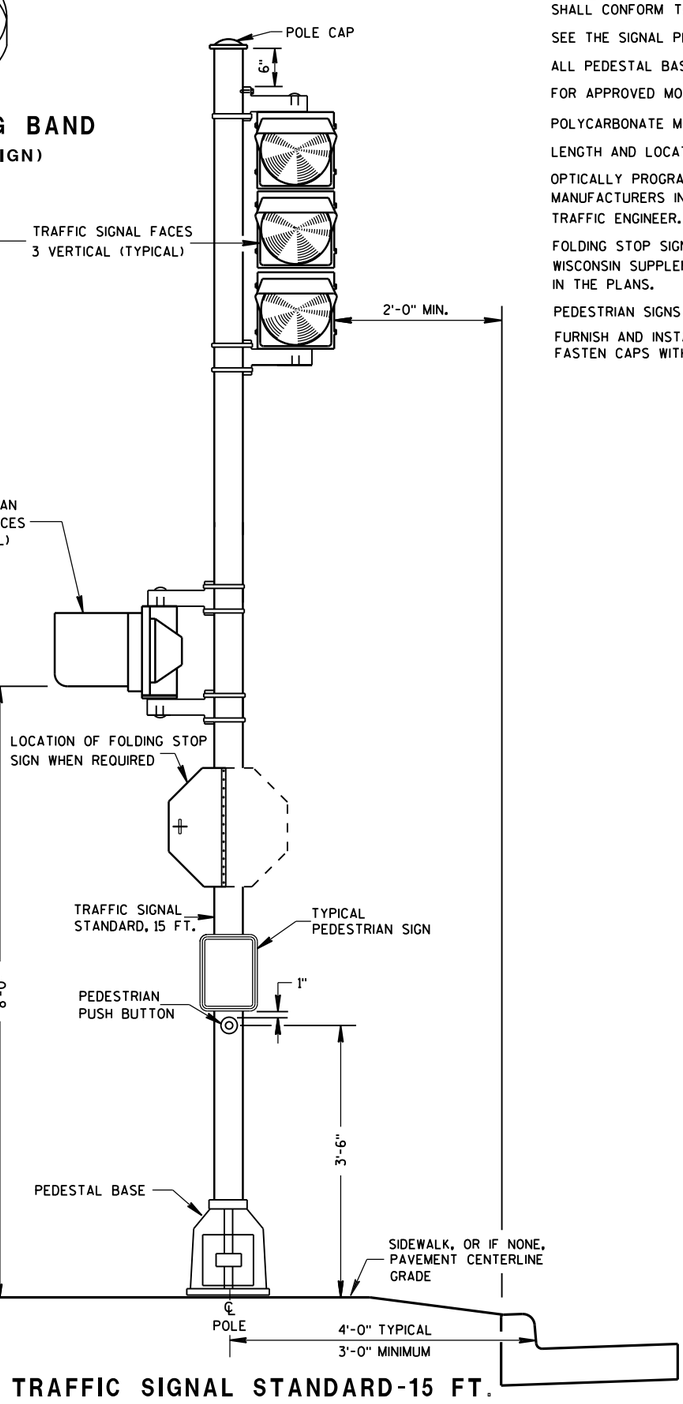


TRAFFIC SIGNAL STANDARD-15 FT.



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.

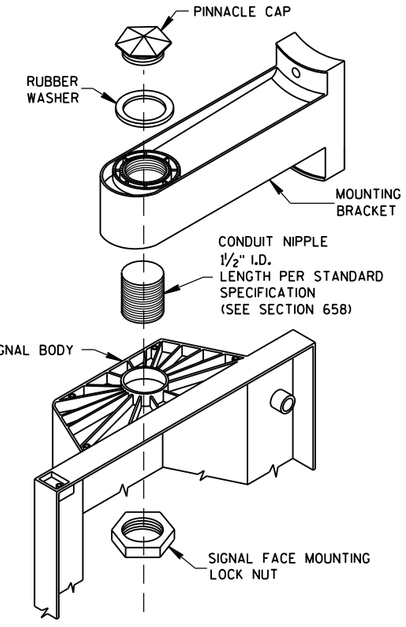
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

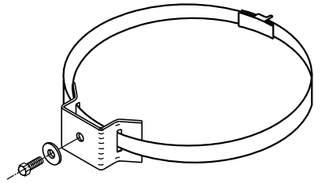
APPROVED
2/28/2013
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

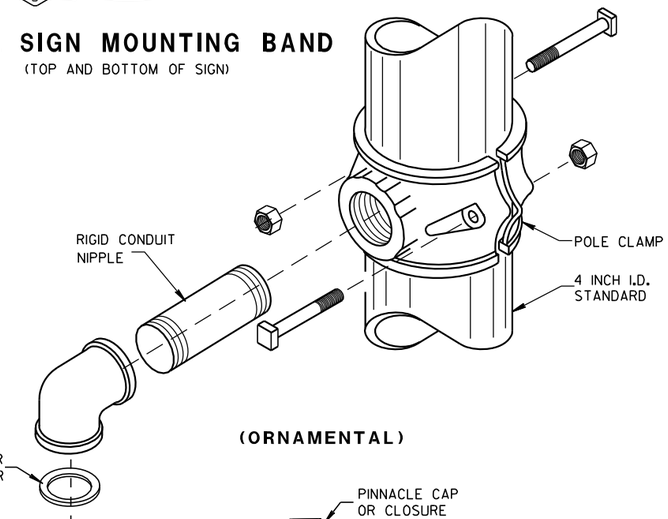
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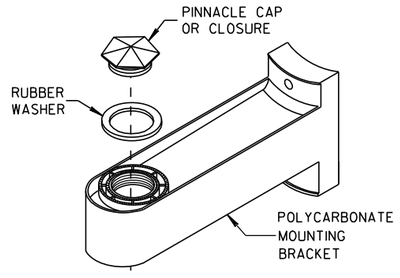
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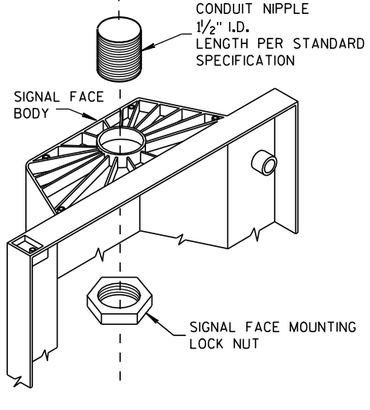
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



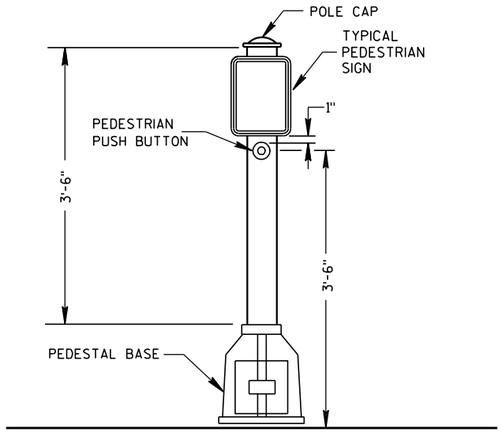
(ORNAMENTAL)



(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.

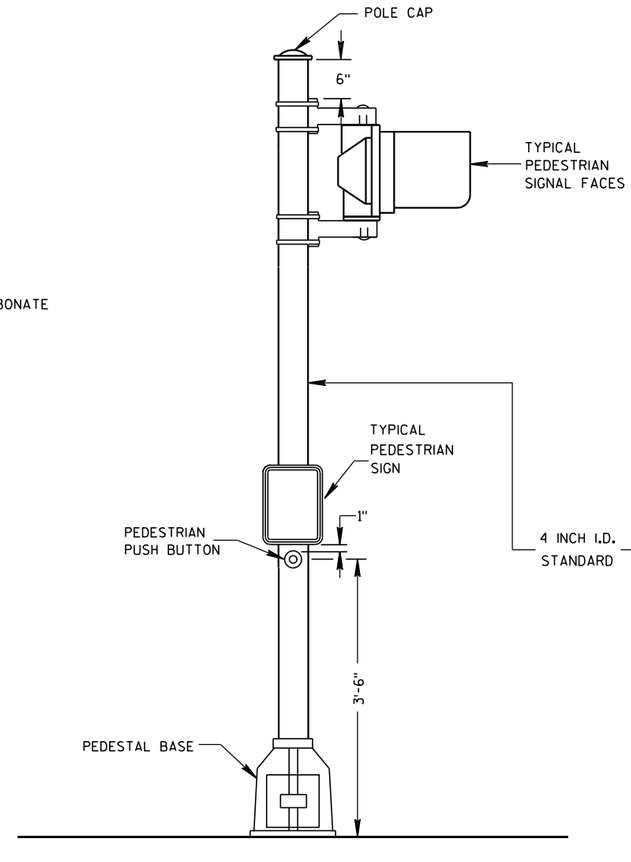
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

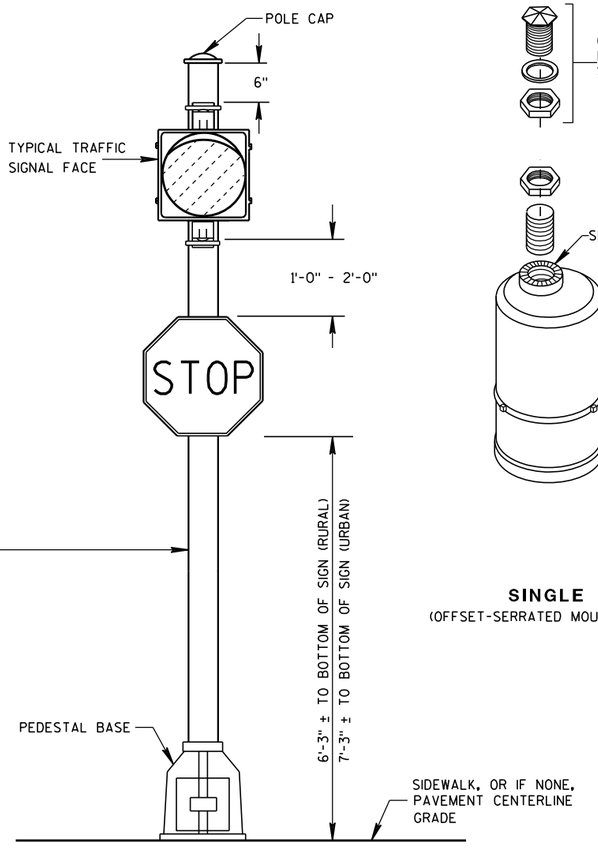
MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

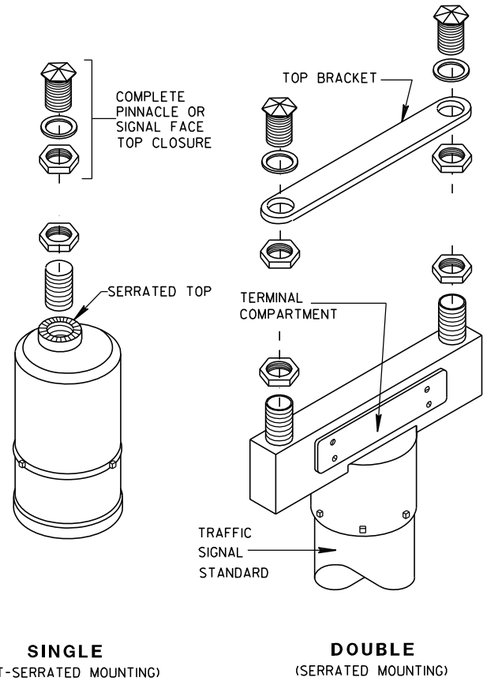
FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



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

APPROVED

5/11/10
DATE

/S/ John Corbin
STATE ELECTRICAL ENGI

FHWA

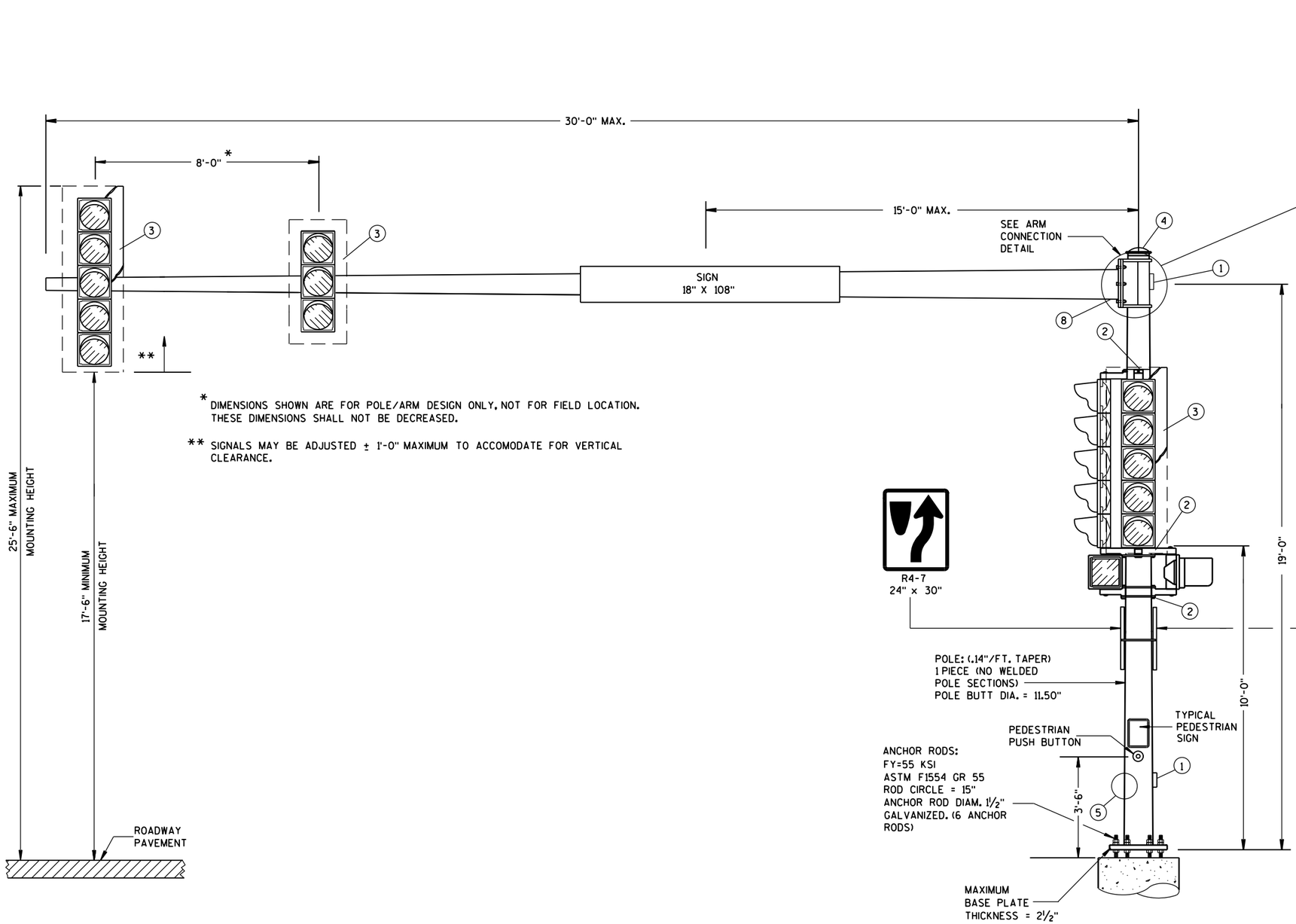
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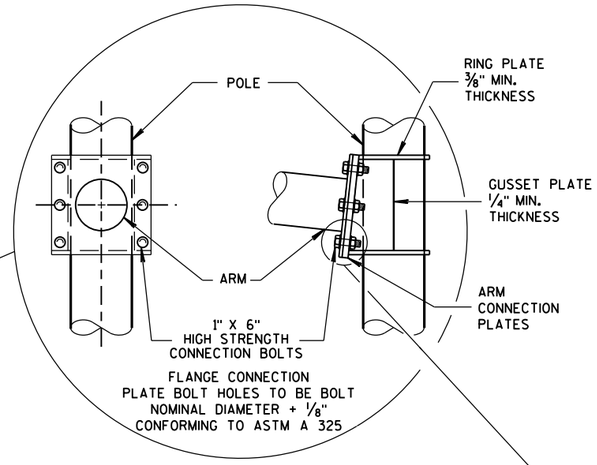
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S.D.D. 9 E 7-5

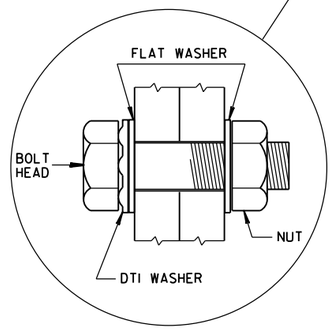


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

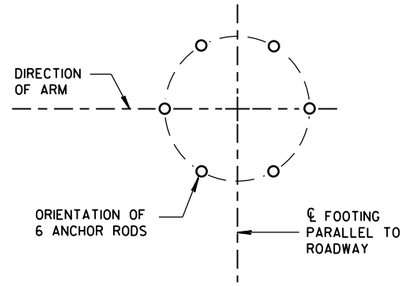
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED BOLT ASSEMBLY DETAIL



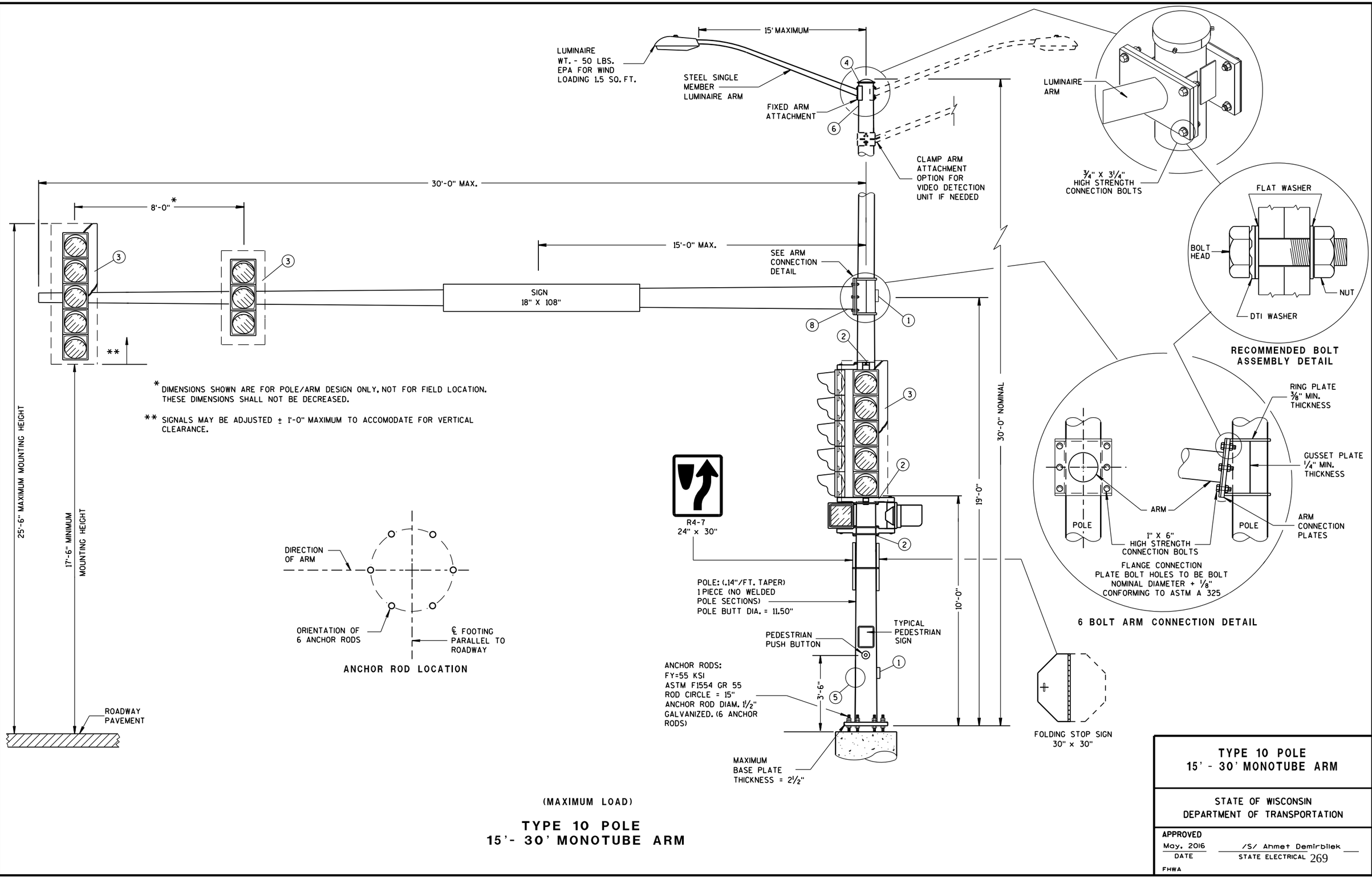
ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May, 2016 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
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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.

(MAXIMUM LOAD)

TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
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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.

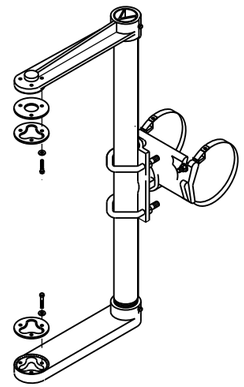
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

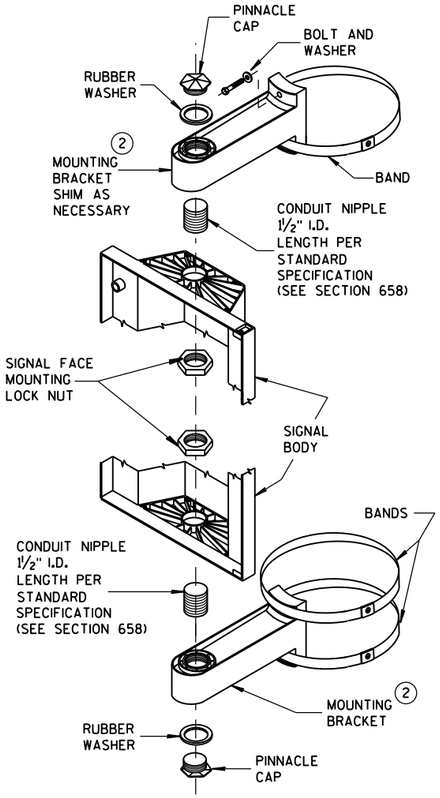
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

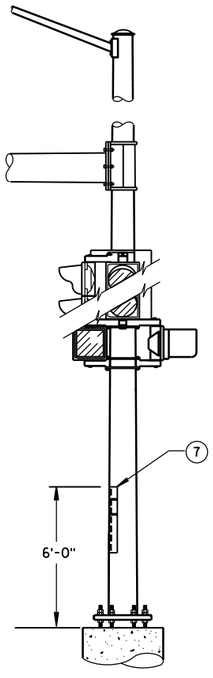


SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

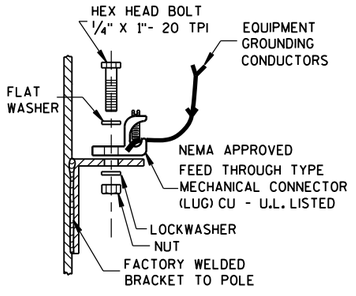
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE
VERTICAL MOUNTING DETAIL

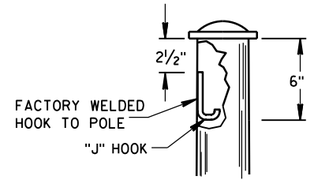


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



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
May 2016
DATE

/S/ Ahmet Demirbilek
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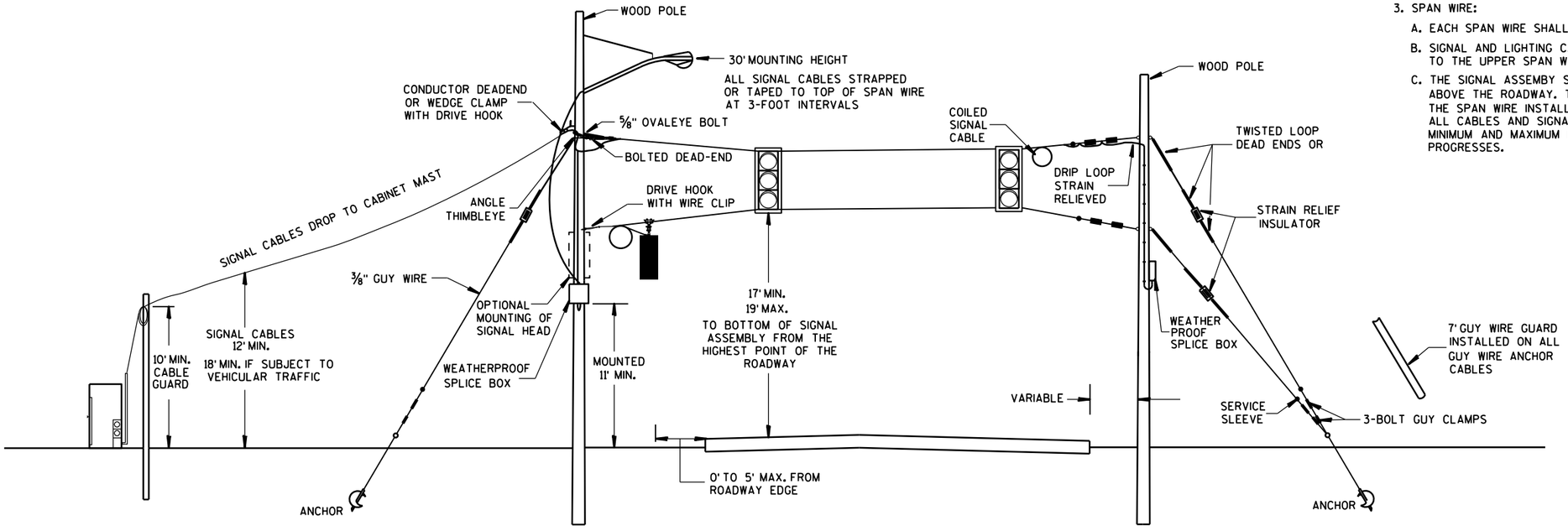
GENERAL NOTES

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

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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'

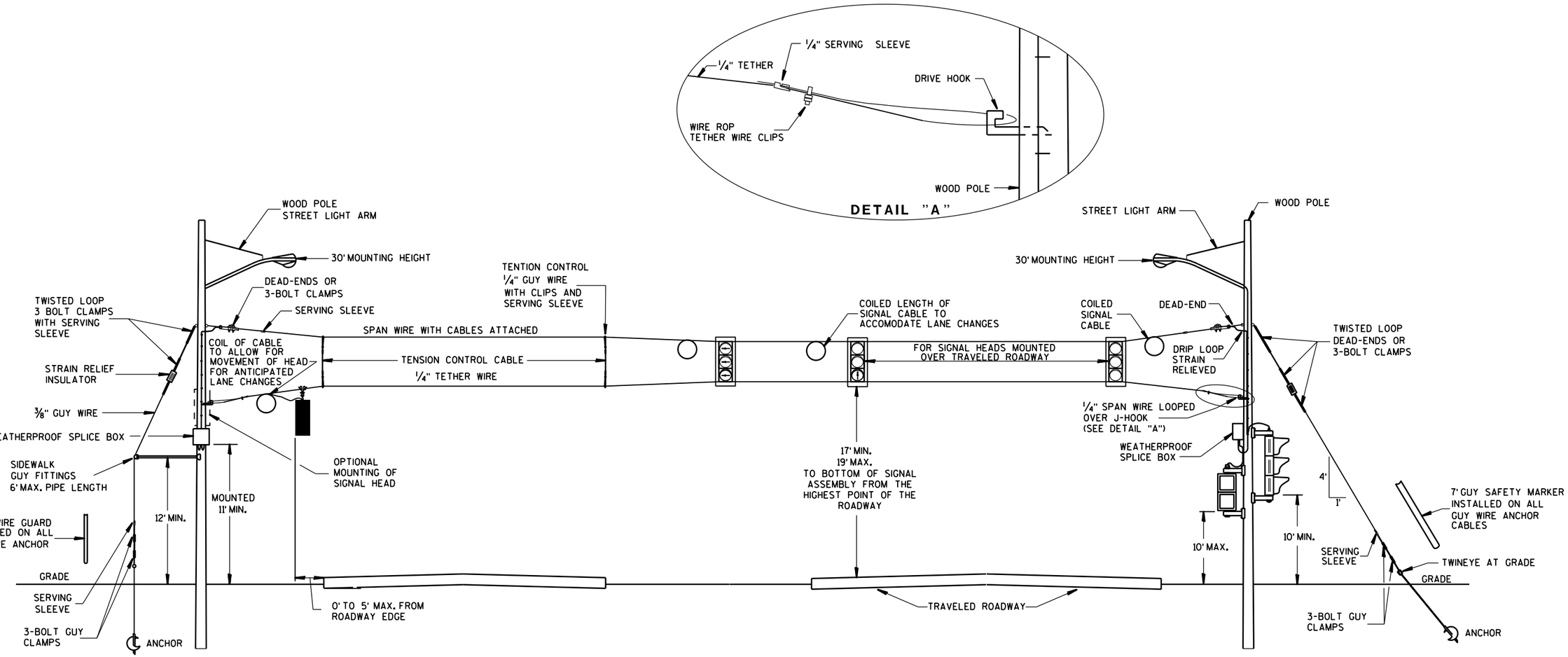
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
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GENERAL NOTES

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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

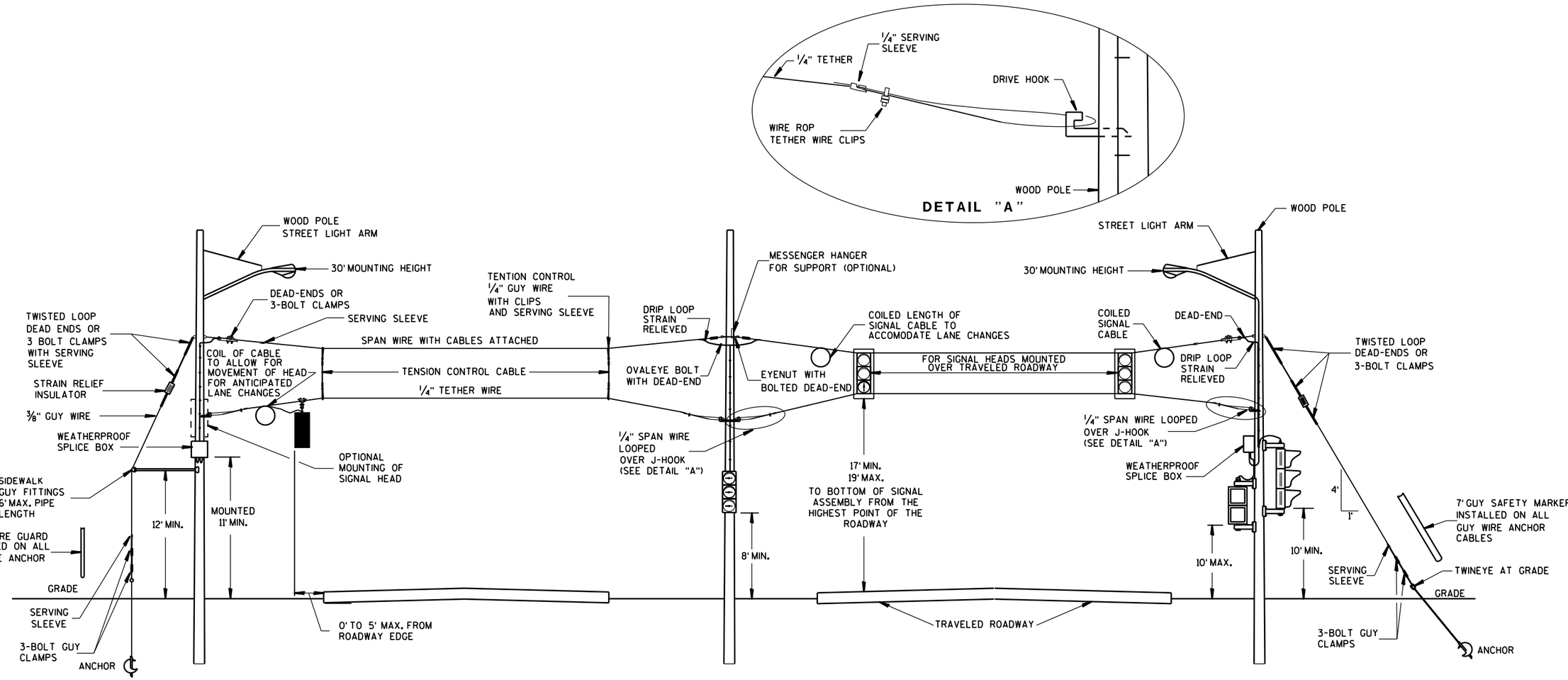
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SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
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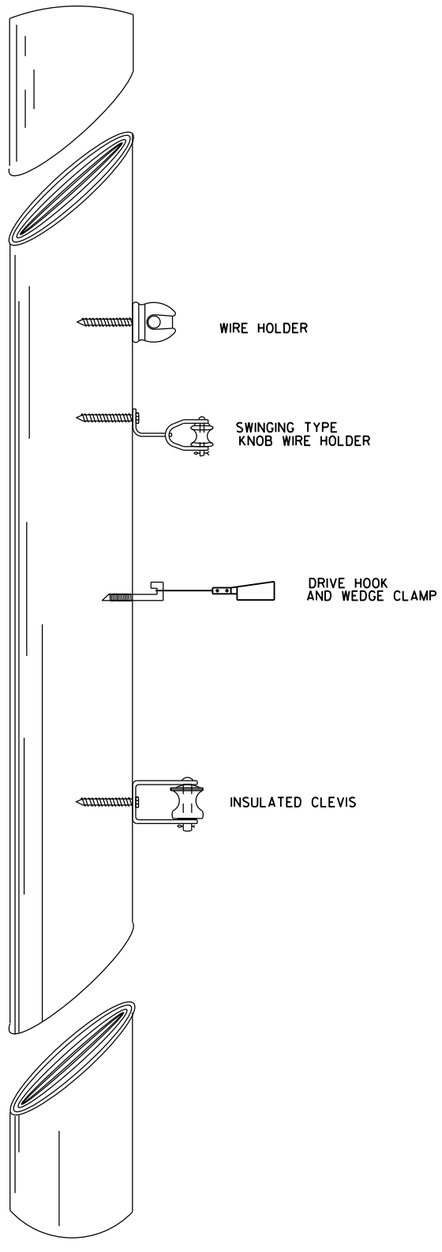
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

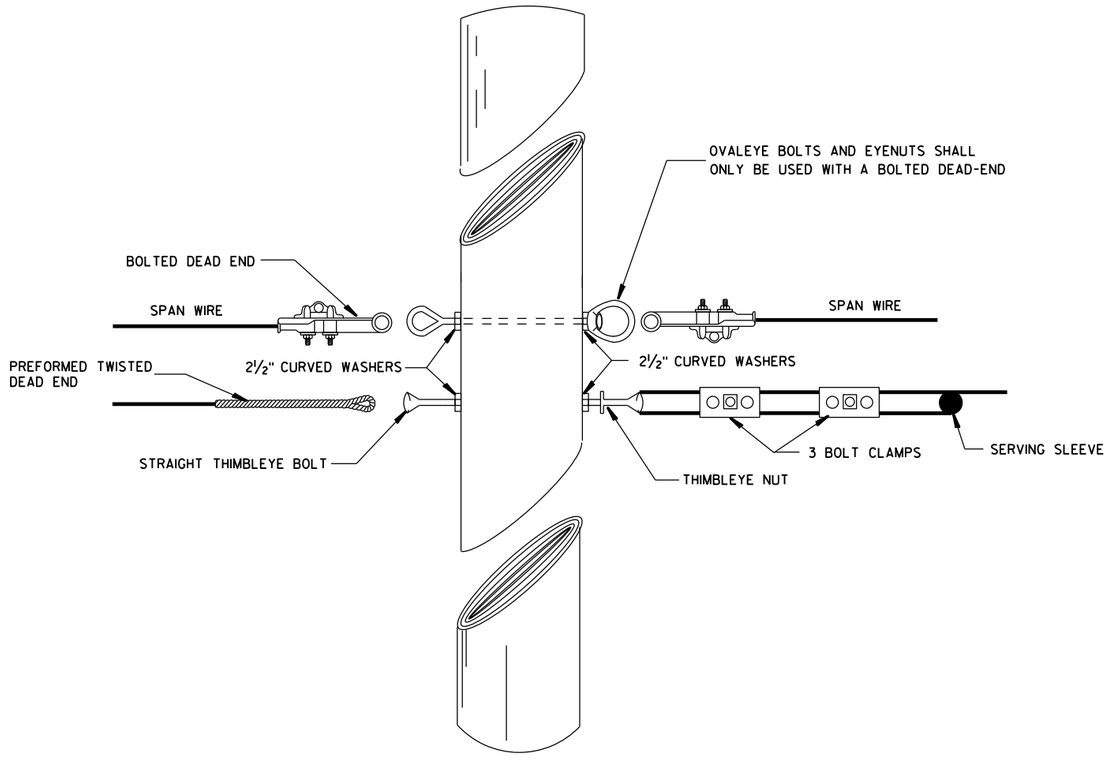
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TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

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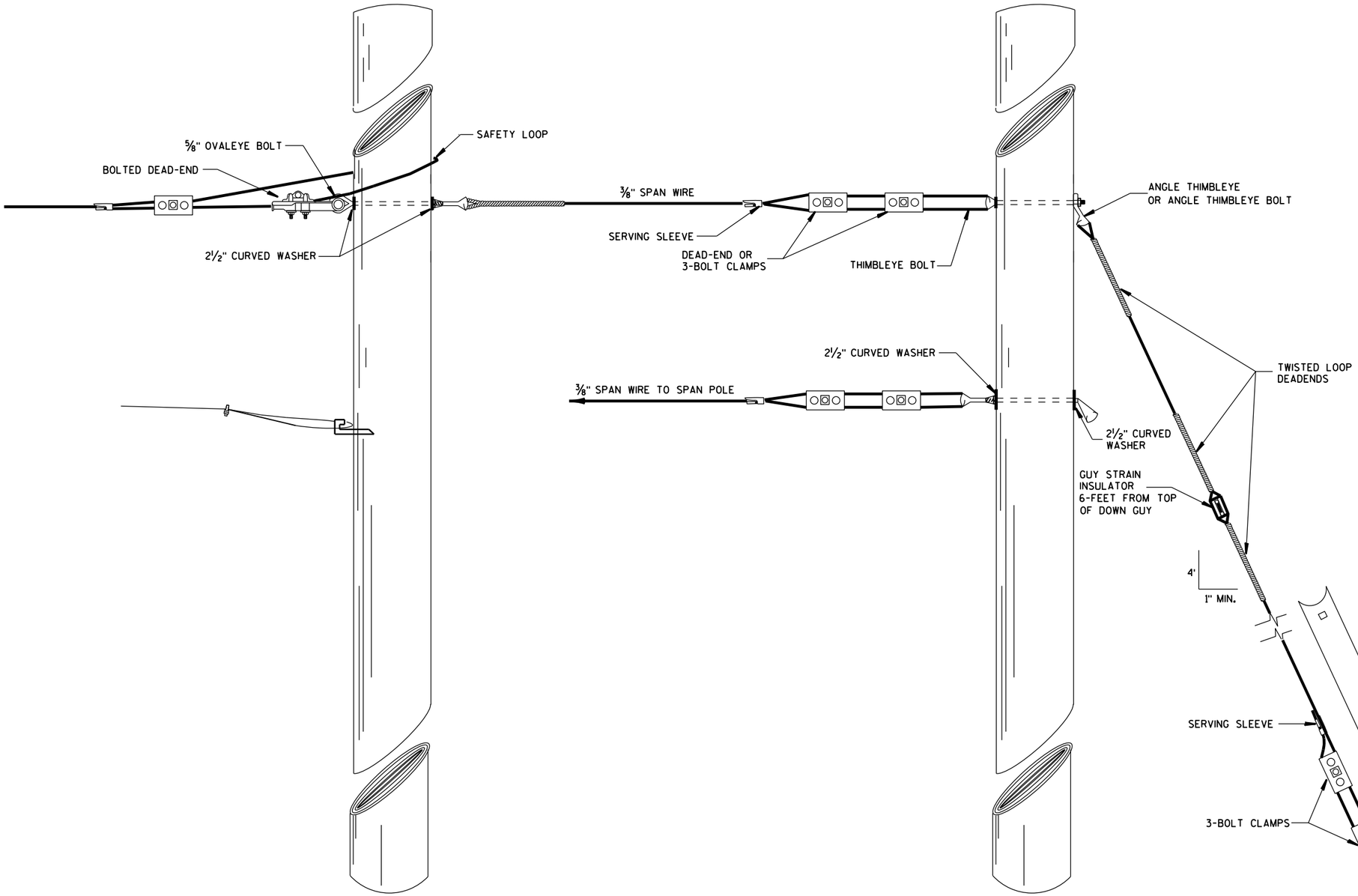
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GENERAL NOTES

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

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SPAN WIRE TEMPORARY TRAFFIC SIGNAL

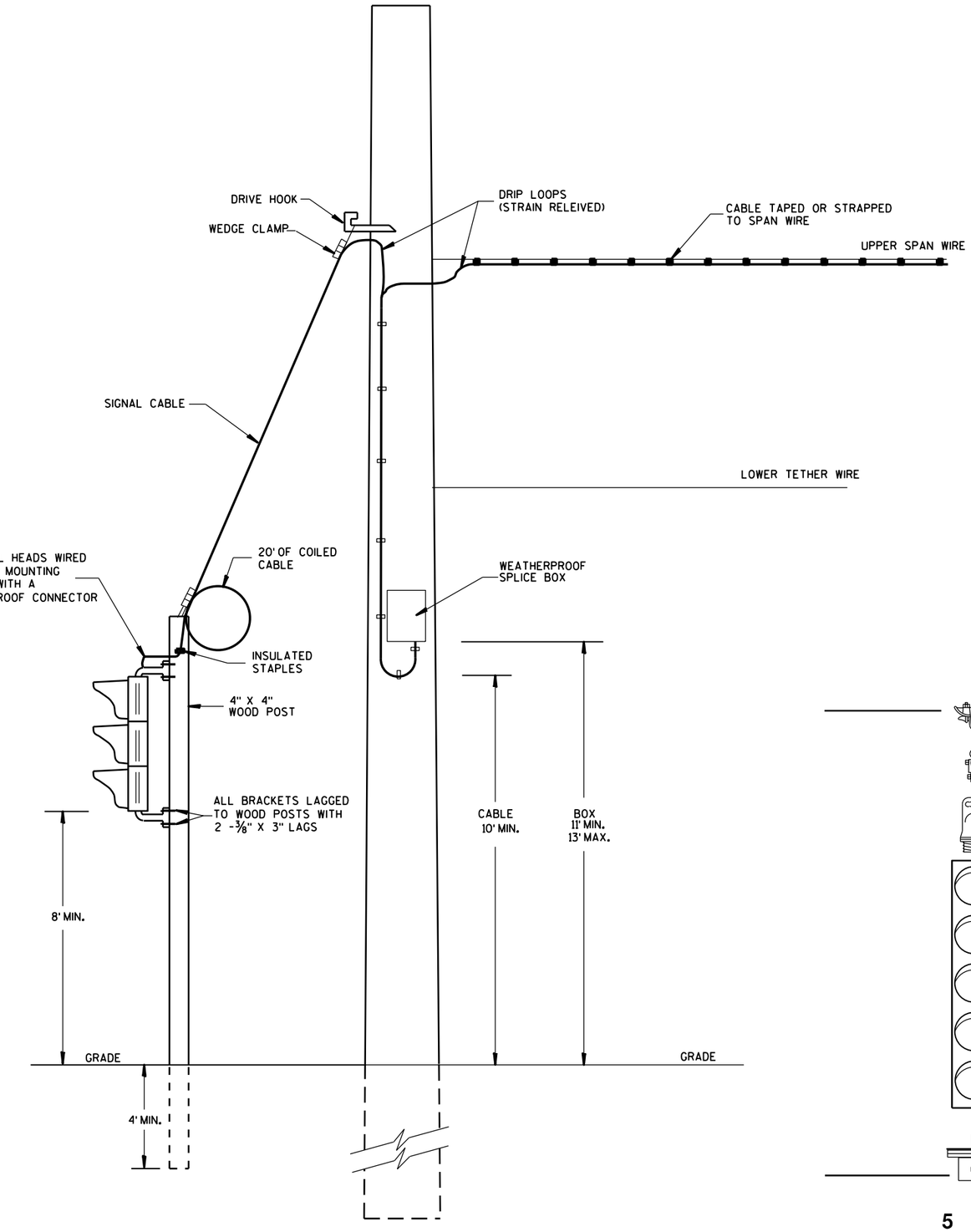
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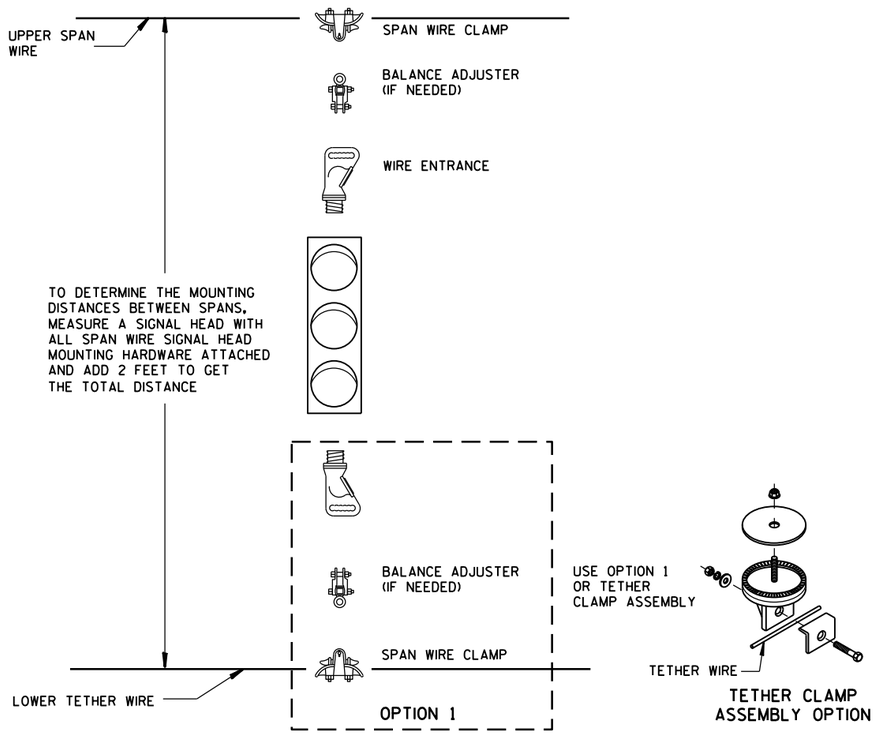
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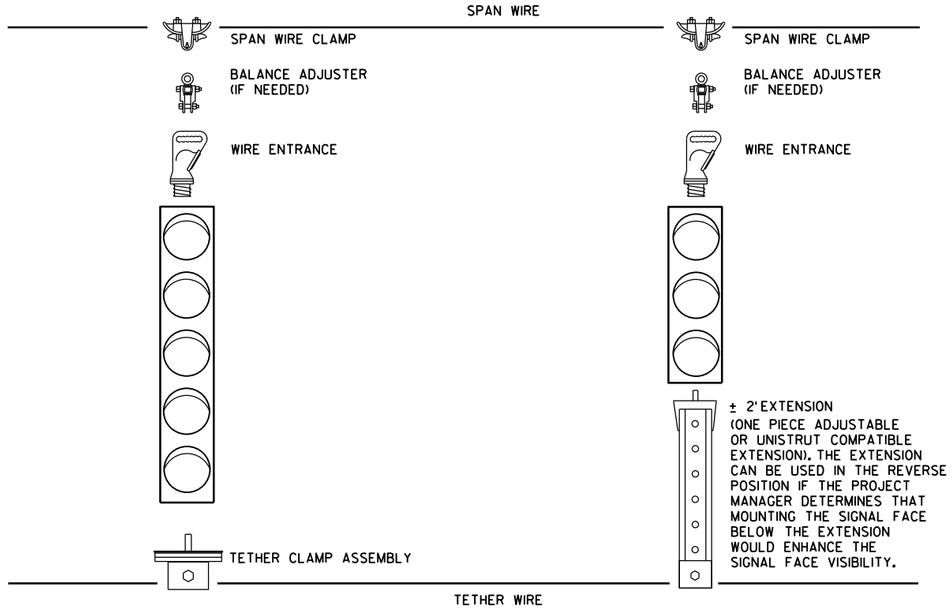


TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



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

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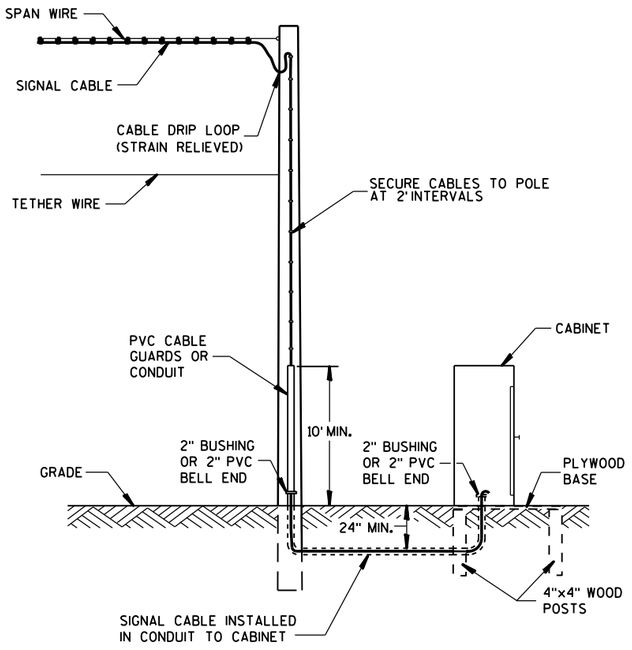
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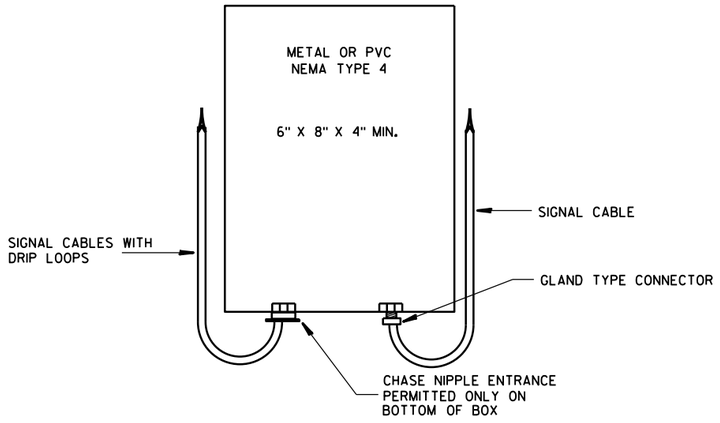
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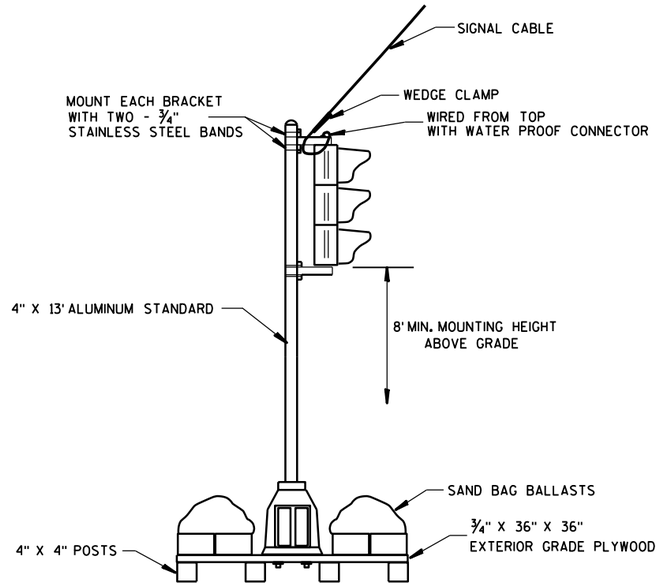
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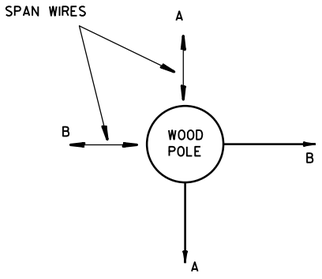




SPLICE BOX

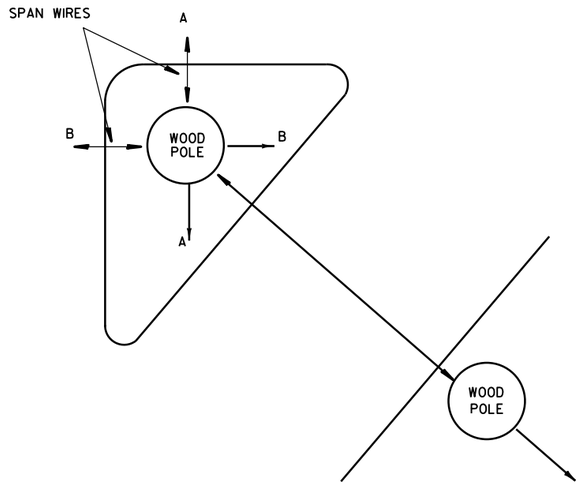


TYPICAL SKID TYPE TEMPORARY

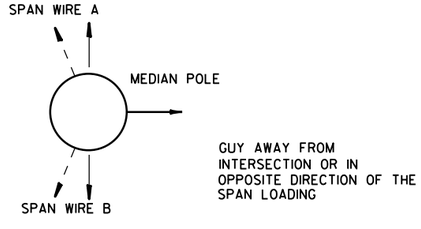


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



MEDIAN POLES

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

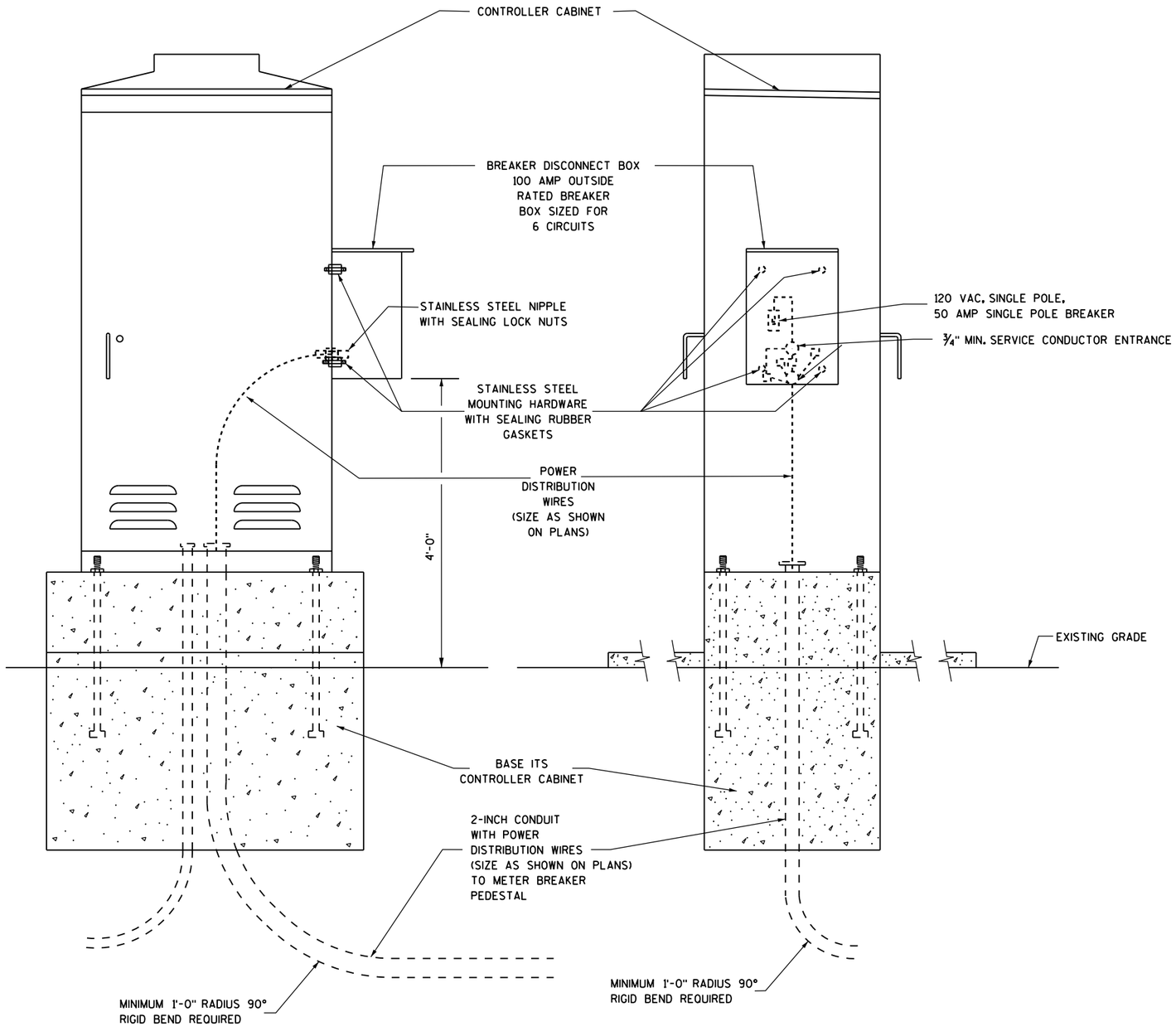
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CABINET BREAKER DISCONNECT BOX INSTALLATION

GENERAL NOTES

MINIMUM REQUIREMENT SHOWN. ADDITIONAL BREAKERS MAY BE REQUIRED.

UP TO THREE BREAKERS WILL BE CONSIDERED INCIDENTAL TO THE ITEM BREAKER DISCONNECT BOX.

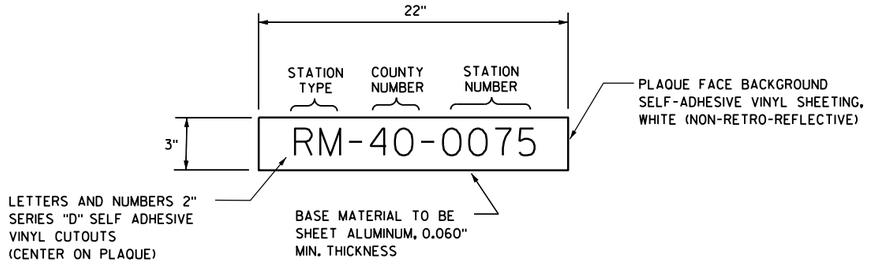
CABINET BREAKER DISCONNECT BOX INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

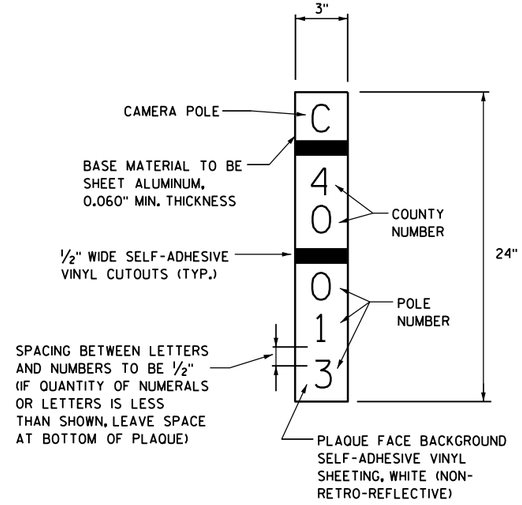
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S.D.D. 9 H 5-1



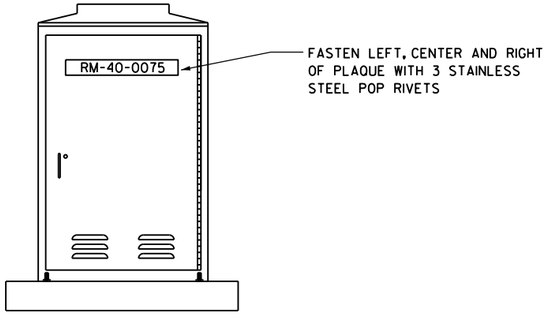
CONTROL CABINET IDENTIFICATION PLAQUE DETAIL



POLE IDENTIFICATION PLAQUE DETAIL

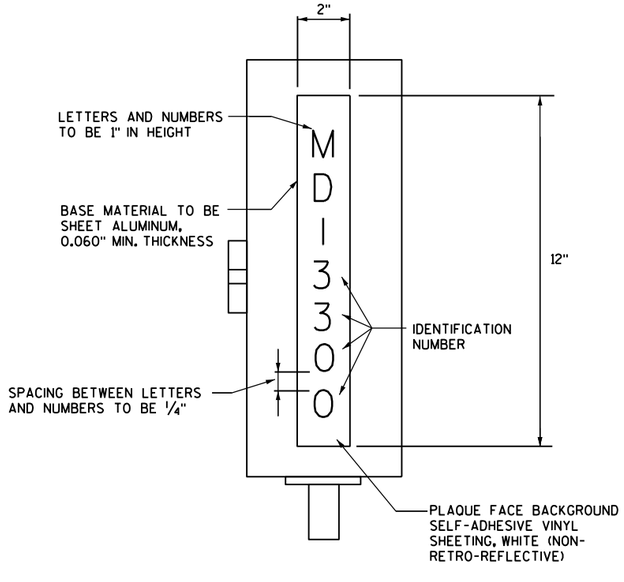
GENERAL NOTES

1. TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2. FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3. FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE (2), FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4. COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.



CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)



MICROWAVE DETECTOR FIELD CABINET IDENTIFICATION PLAQUE DETAIL

LEGEND STATION TYPE

RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

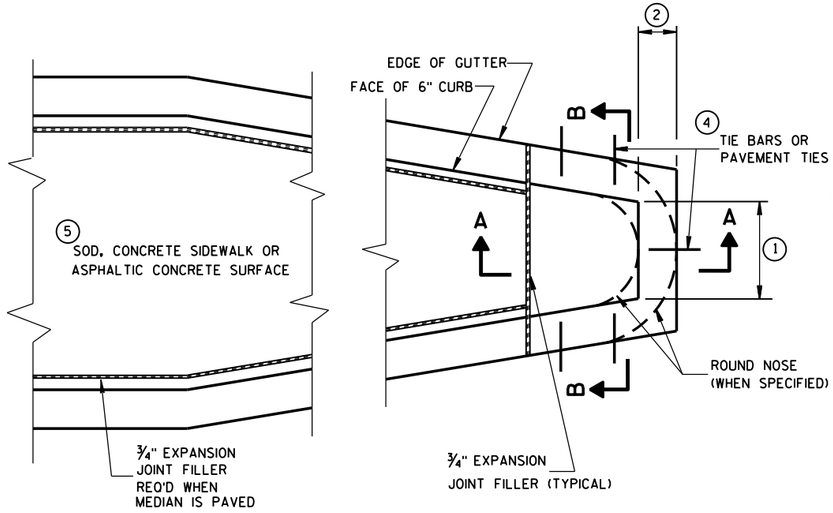
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demribilek — STATE ELECTRICAL
FHWA

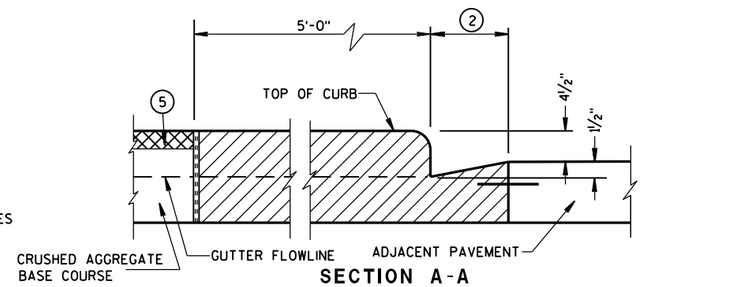
6

S.D.D. 9 H 11-1

6

S.D.D. 9 H 11-1





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.

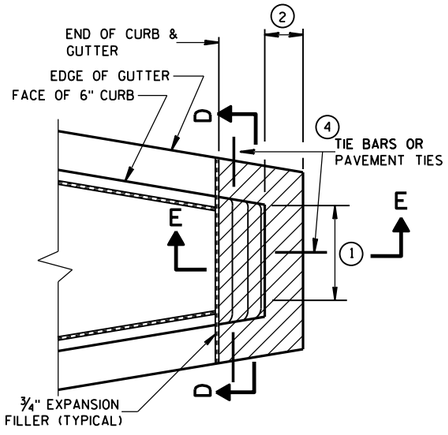
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

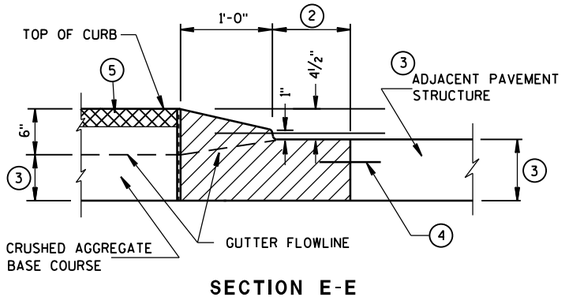
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(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.

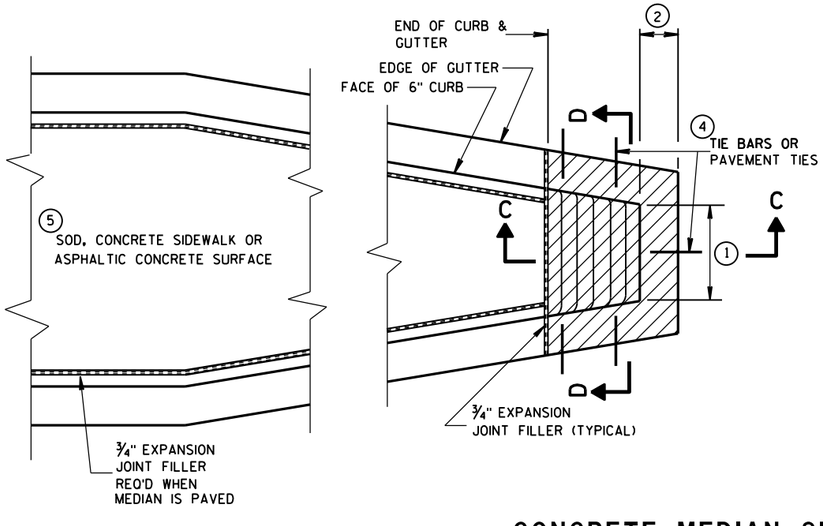
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

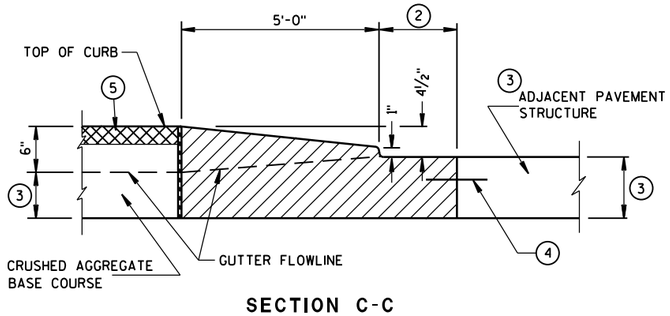




SECTION E-E

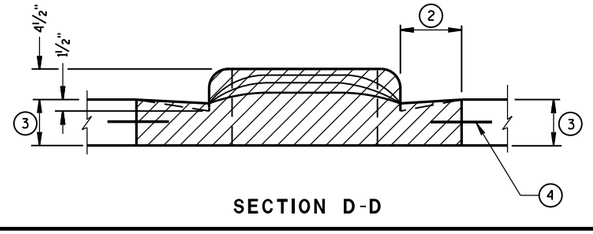
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

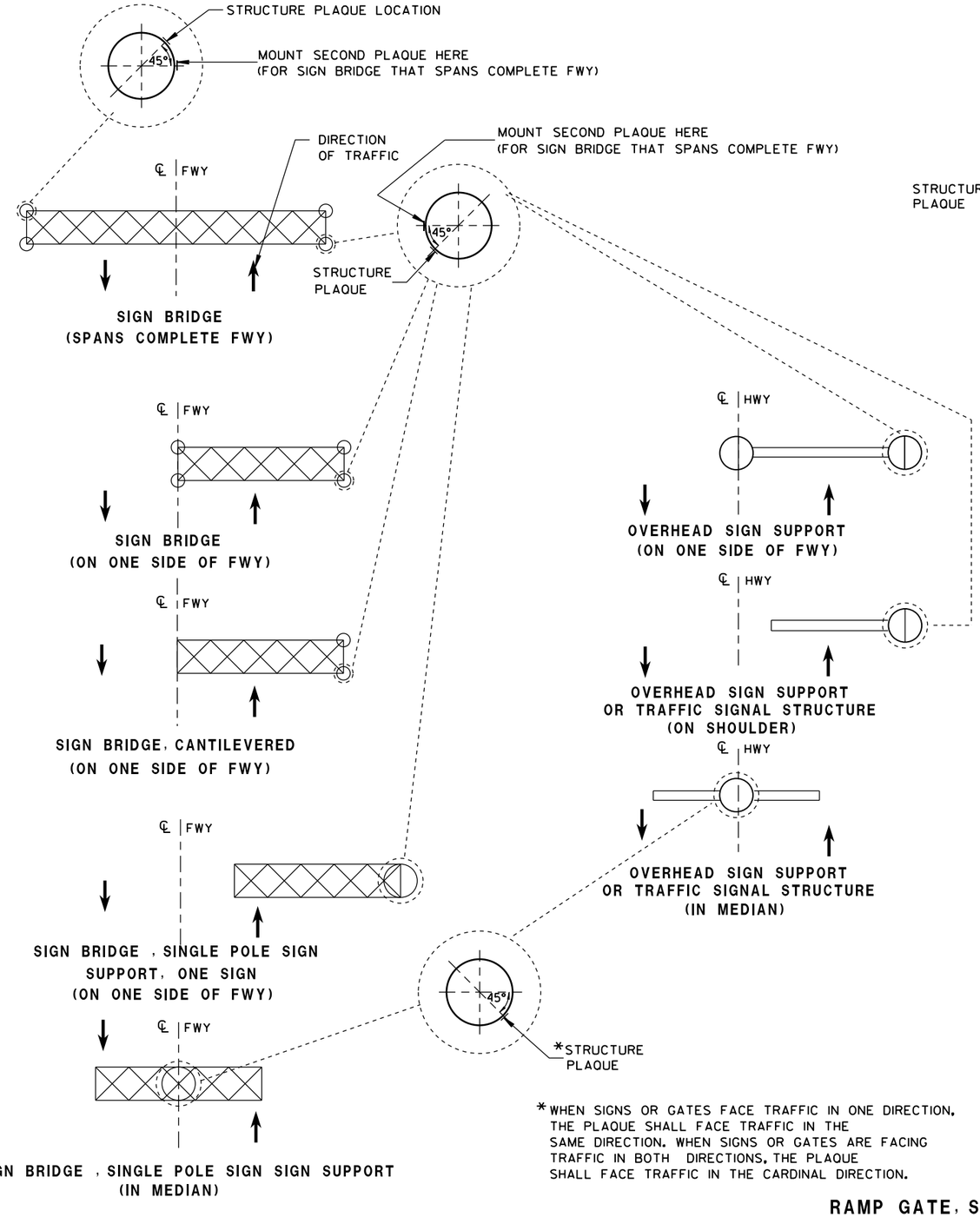
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER
280
FHWA

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S.D.D. 11 B 2-2

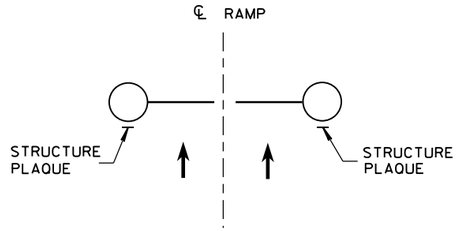
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S.D.D. 11 B 2-2

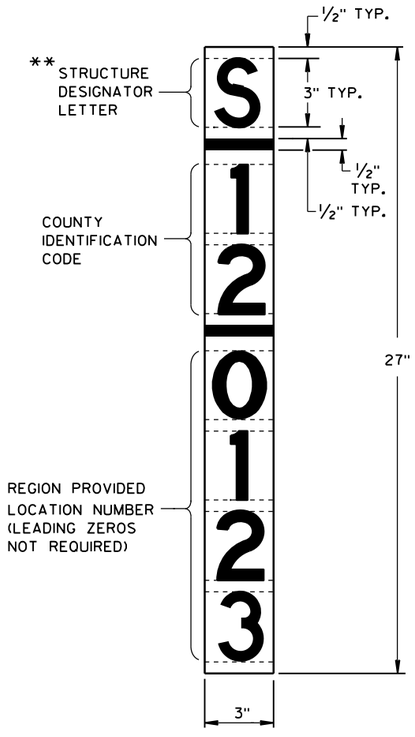


* WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES



**RAMP GATE
(ACROSS FWY ON-RAMP)**



** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

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.

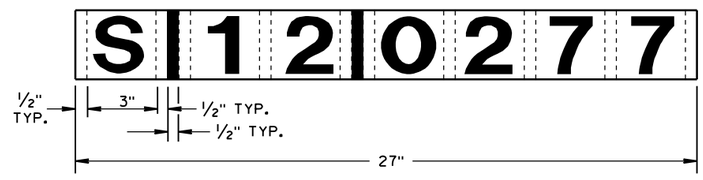
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

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

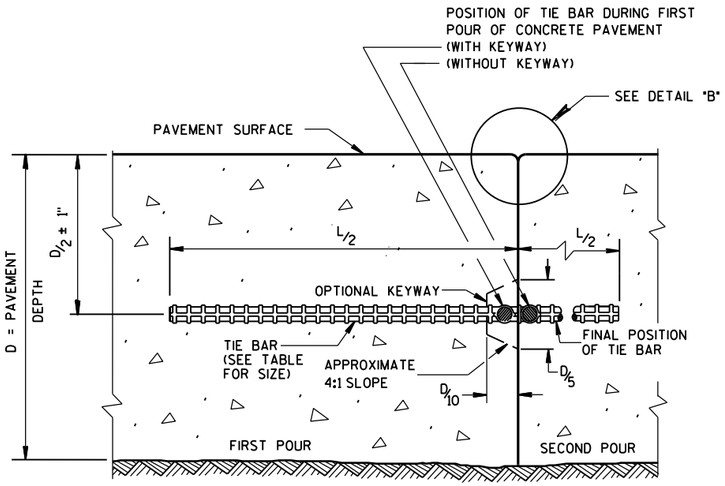
APPROVED
12/4/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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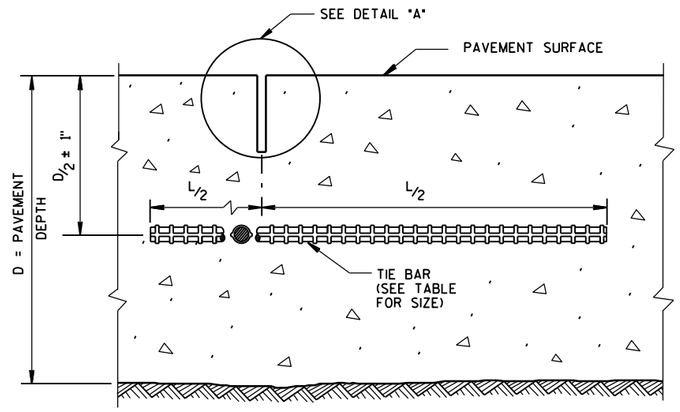
S.D.D. 12 A 4-3

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.

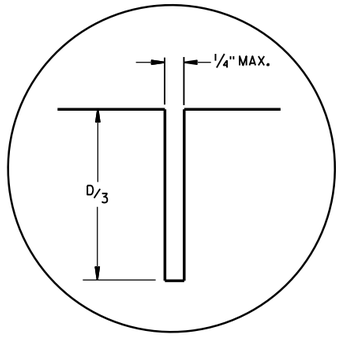
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

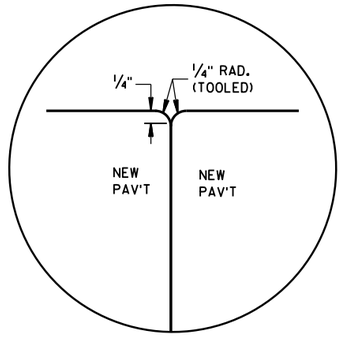
PLAN VIEW

SECTION A-A

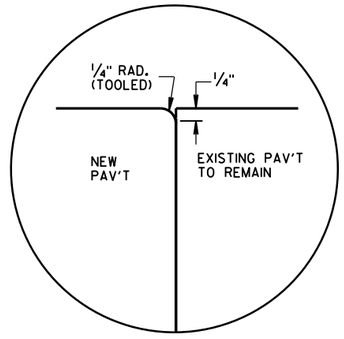
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



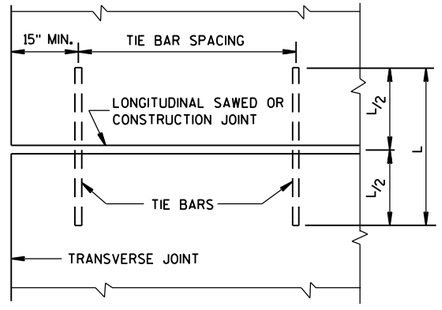
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 C 1-18

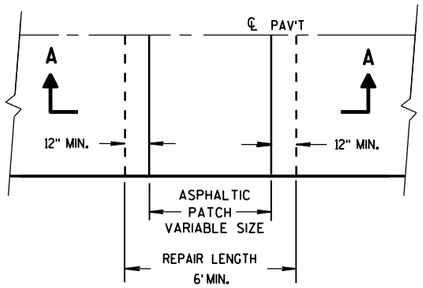
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

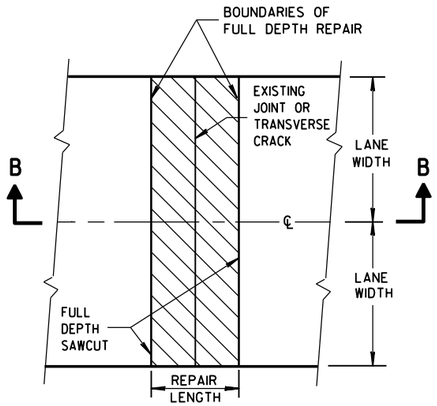
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

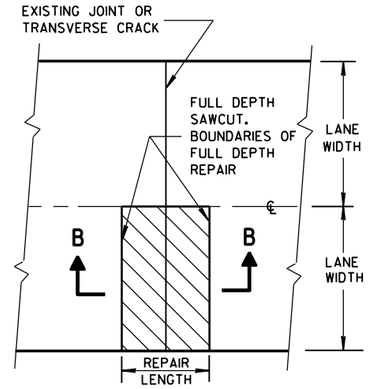
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

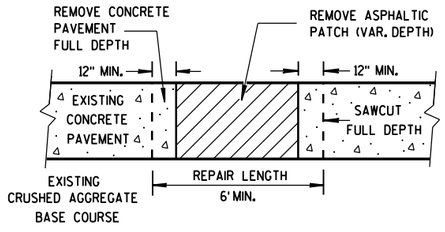


PLAN VIEW
(DOUBLE LANE REPAIR)



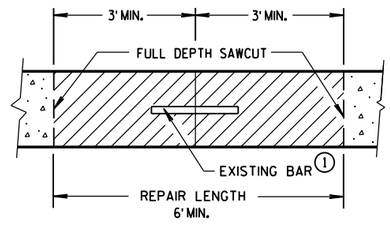
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

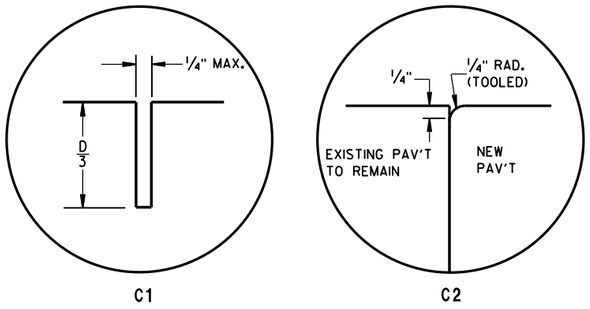
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 13 C 9-13a



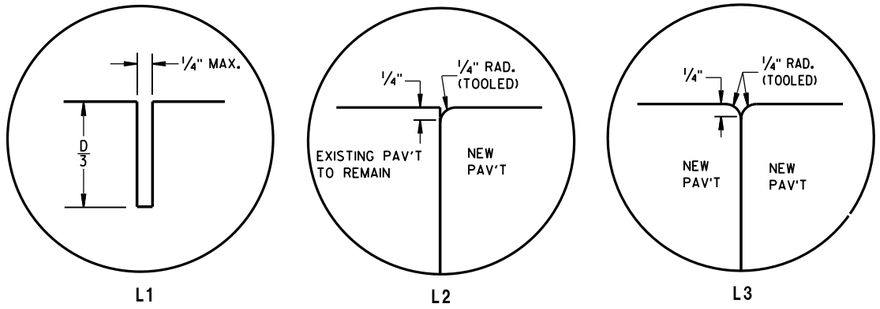
TRANSVERSE JOINTS

TIE BAR TABLE

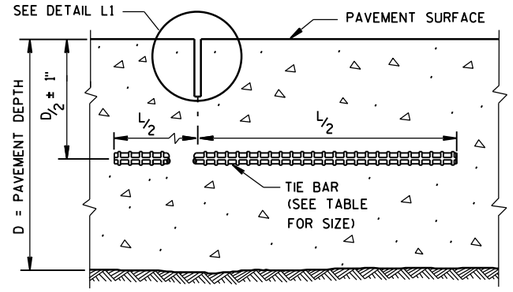
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

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

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



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

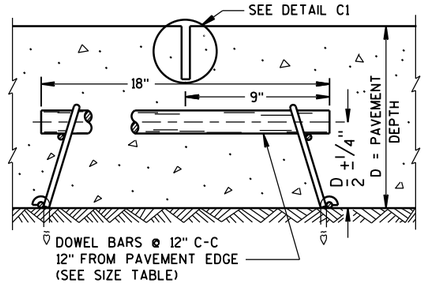
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

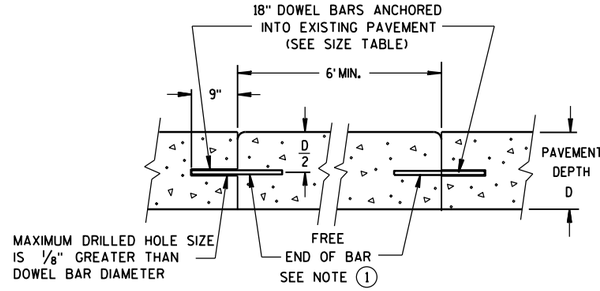
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

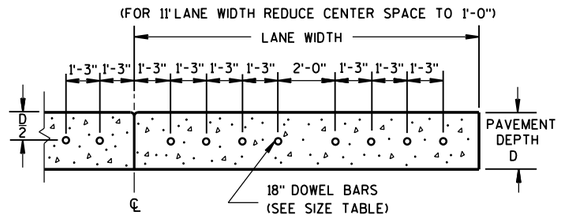


SECTION F-F

CONTRACTION JOINT



SECTION D-D

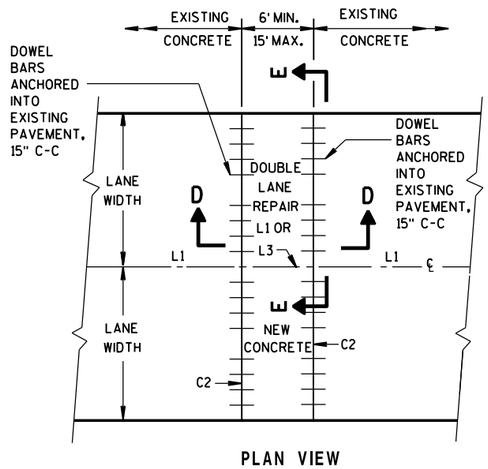


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

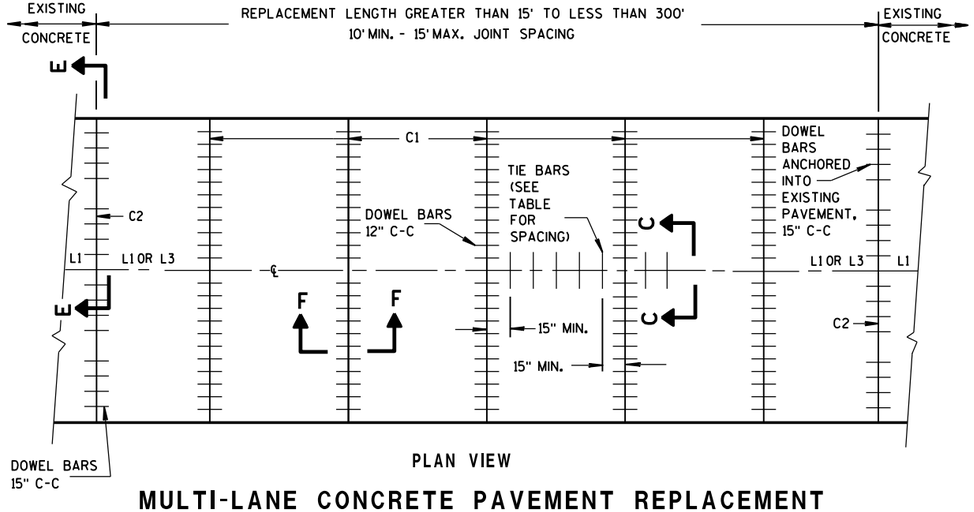
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

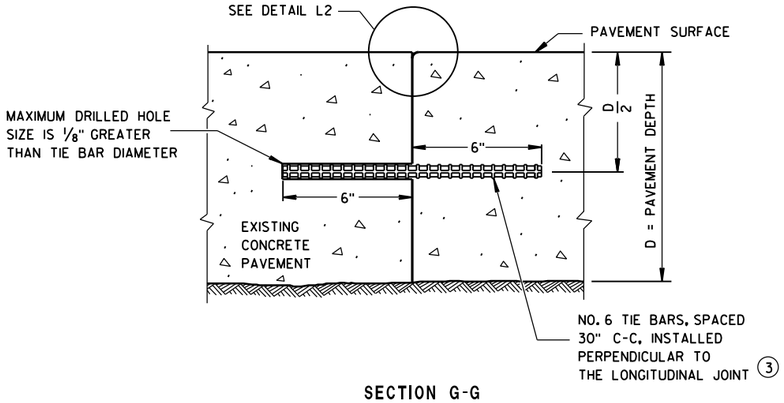
MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 13 C 9-13b



SECTION G-G

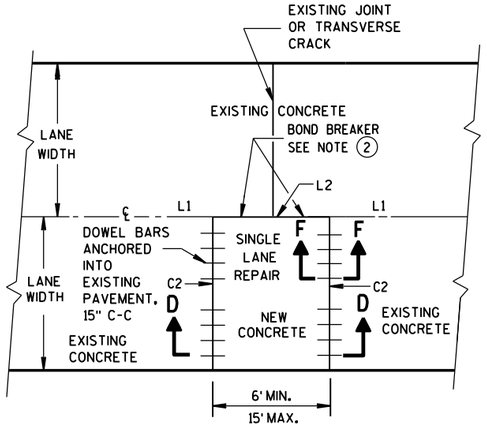
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

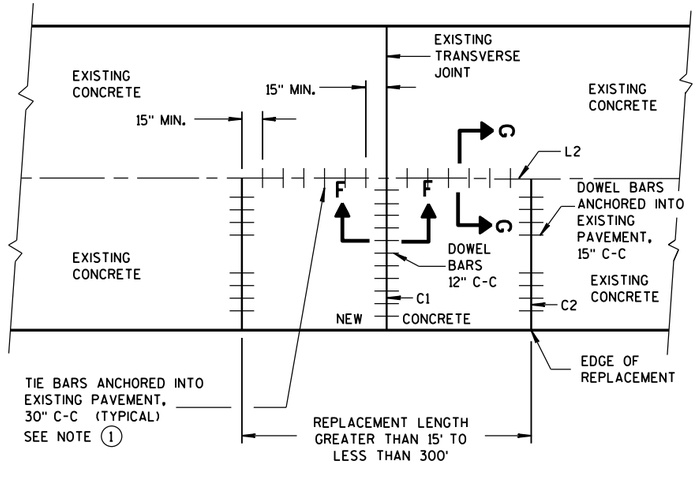
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

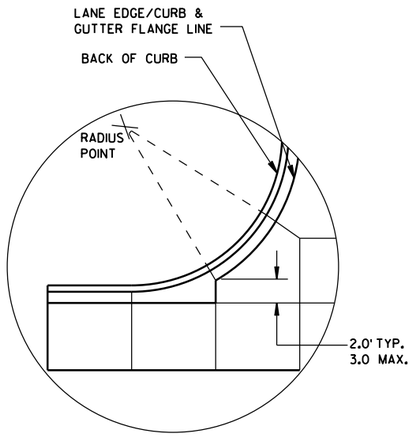
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

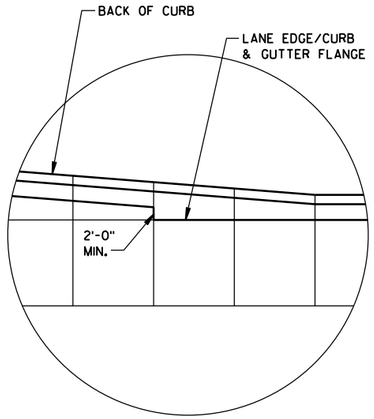
APPROVED
Sept., 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

6

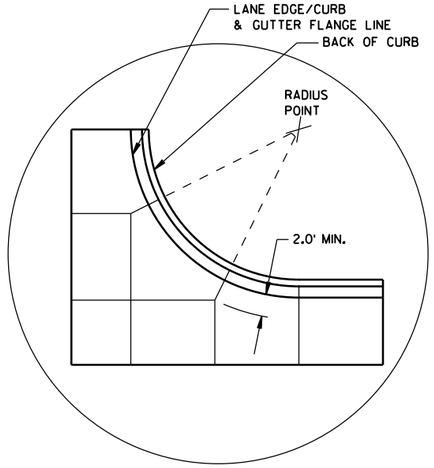
S.D.D. 13 C 9-13c



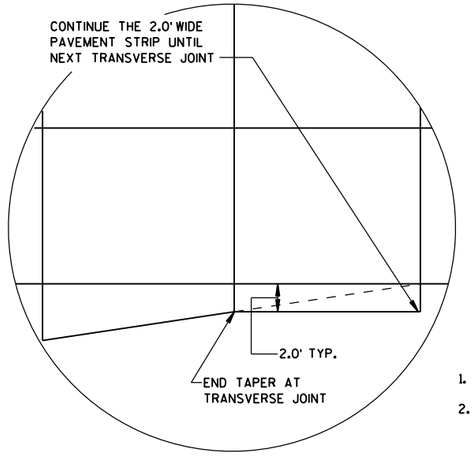
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

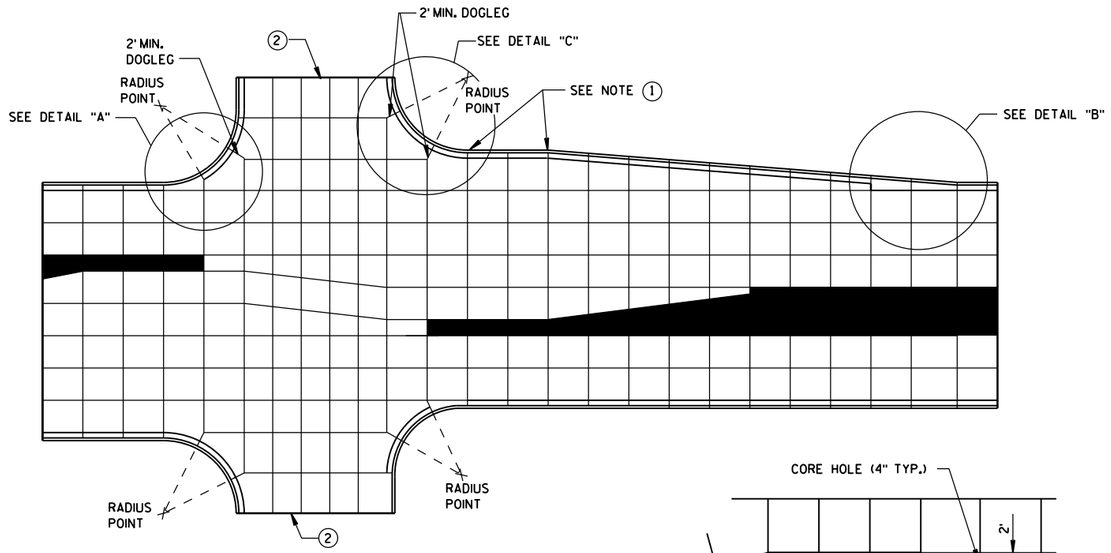
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

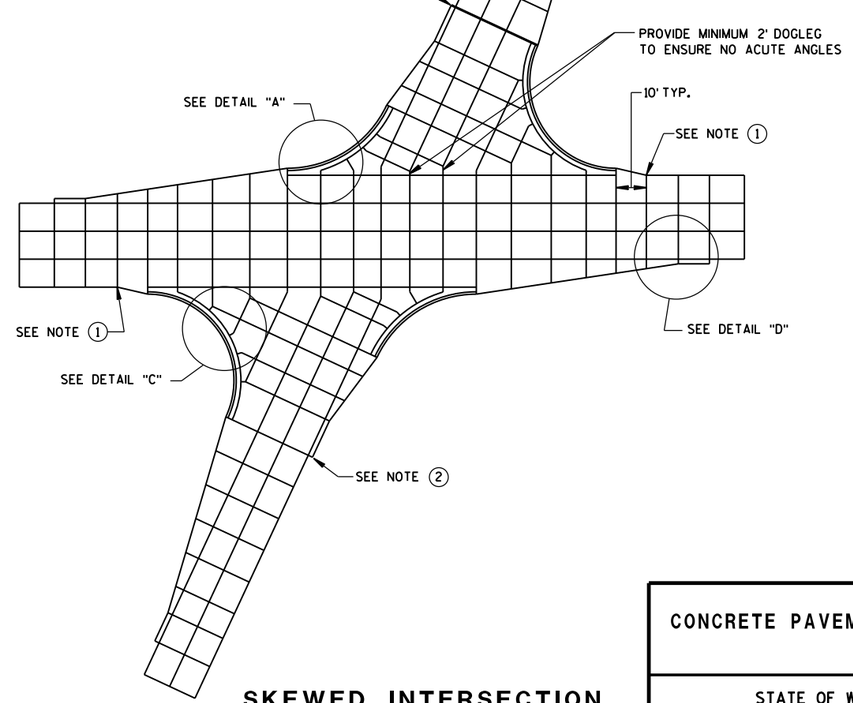
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



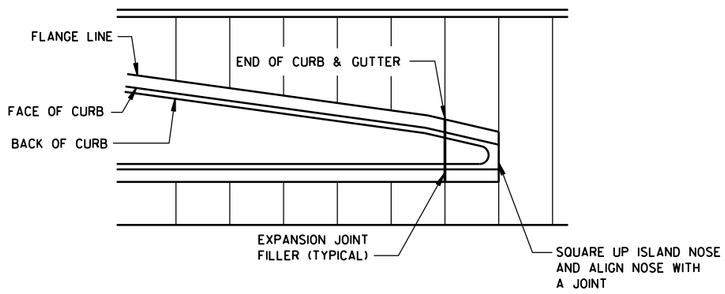
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

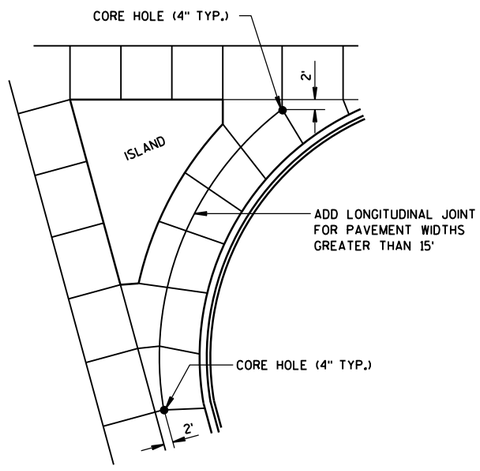
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

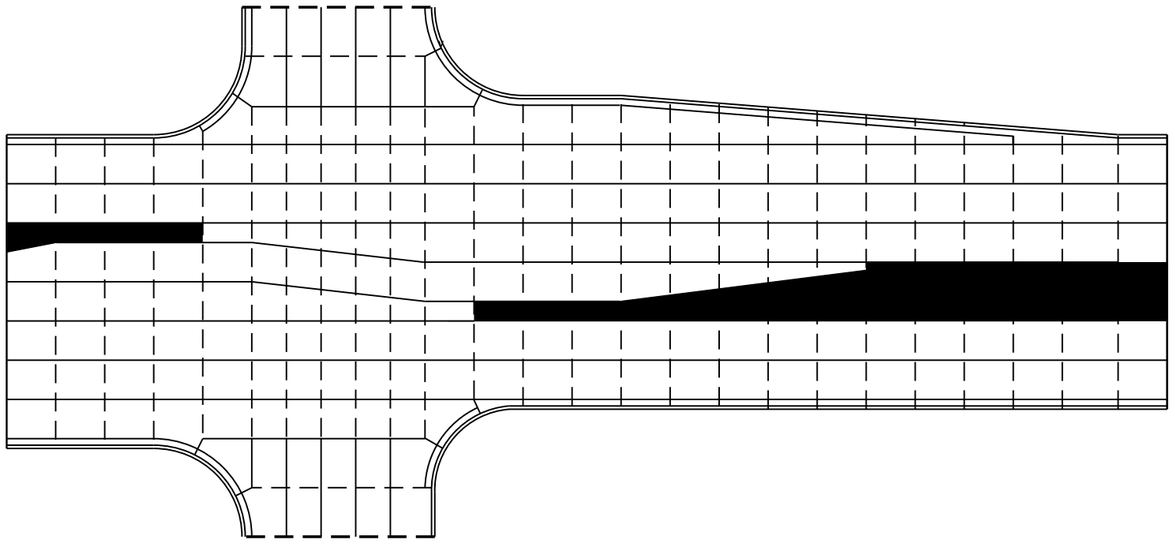
S.D.D. 13 C 18-4a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

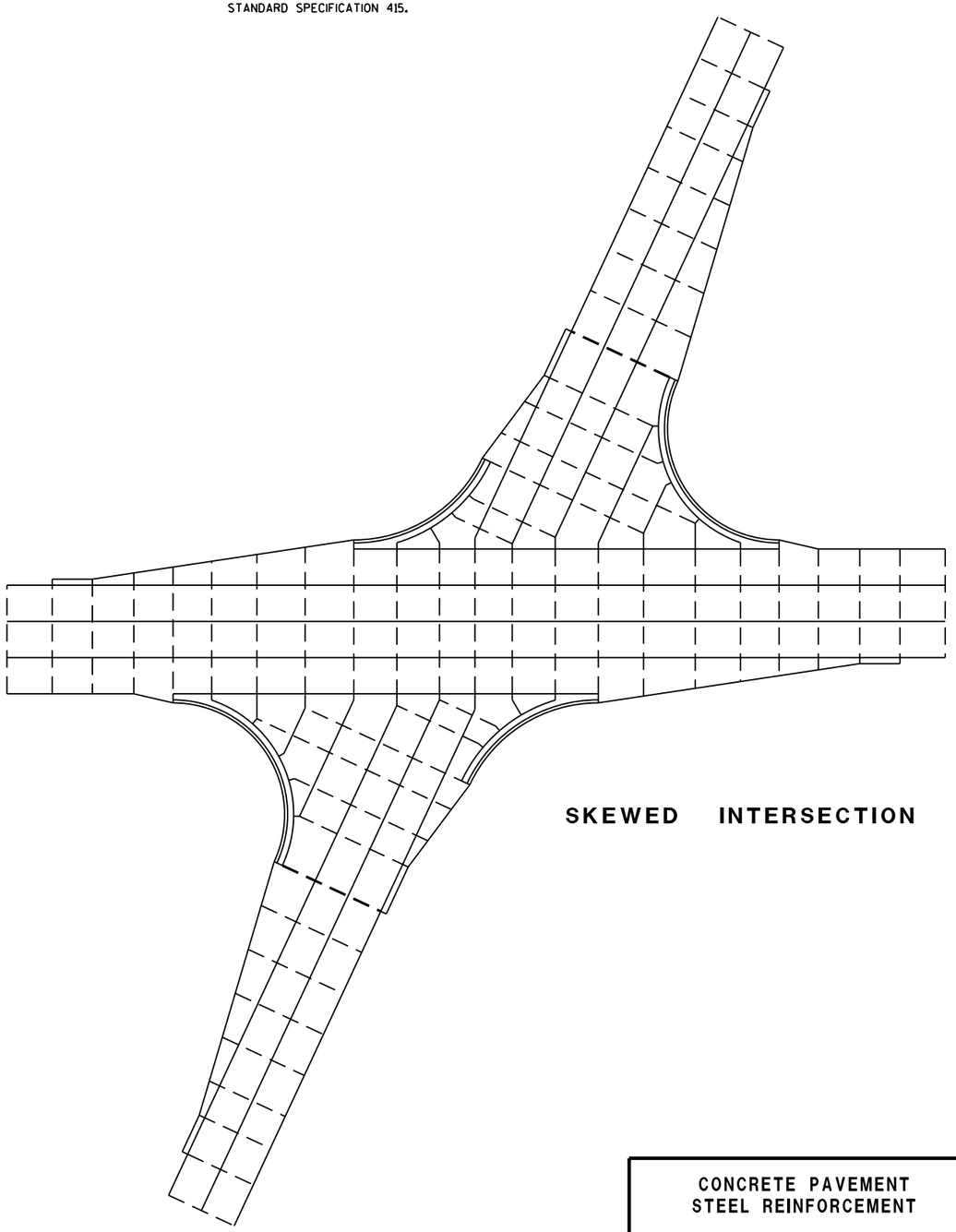
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

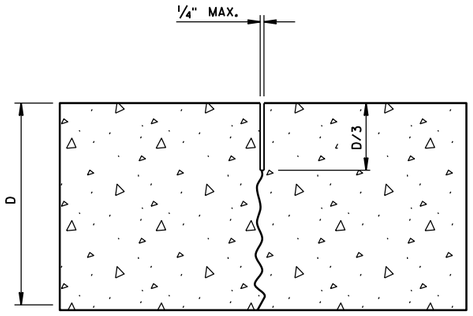
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

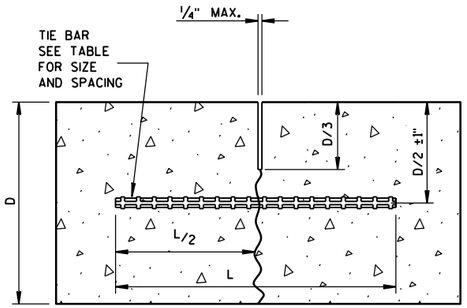
S.D.D. 13 C 18-4b

6

S.D.D. 13 C 18-4b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

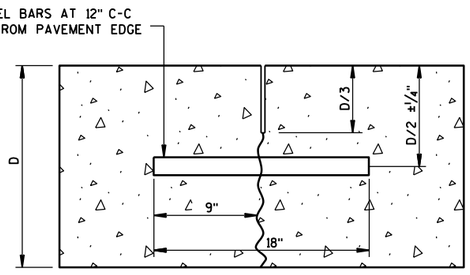
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

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

GENERAL NOTES

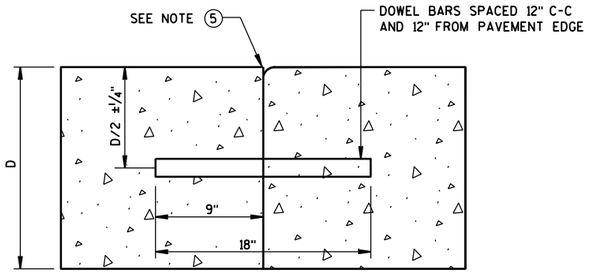
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



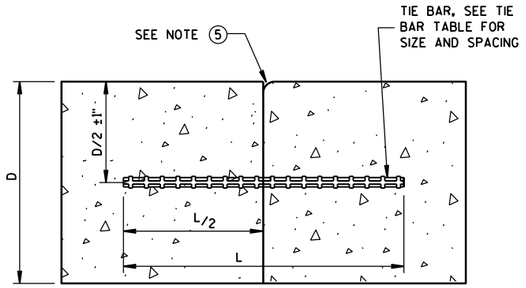
DOWELED-TRANSVERSE

CONTRACTION JOINTS

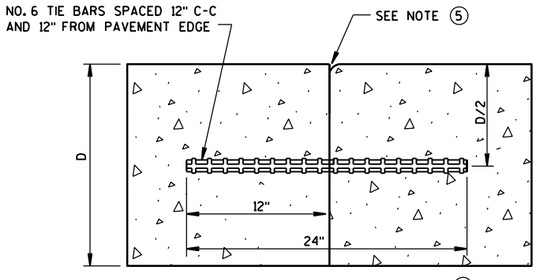
SEE NOTE (2)



DOWELED TRANSVERSE (3)

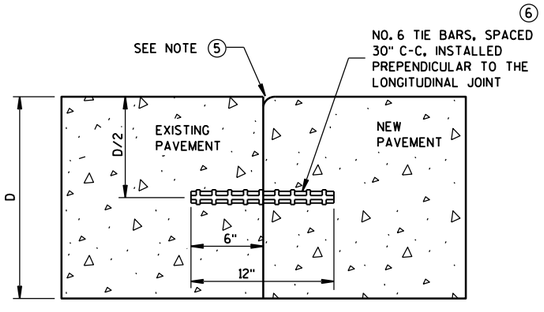


TIED LONGITUDINAL



TIED TRANSVERSE (3)

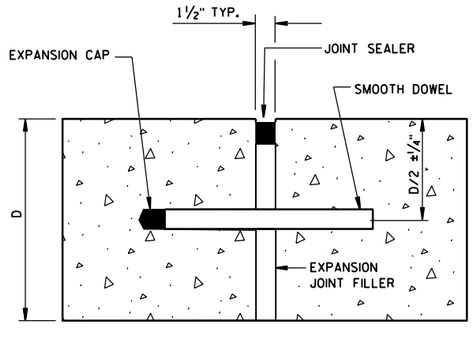
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

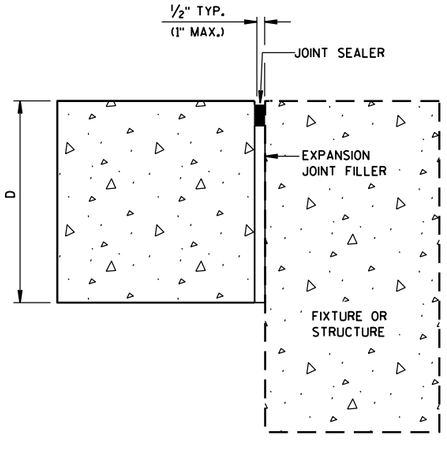
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

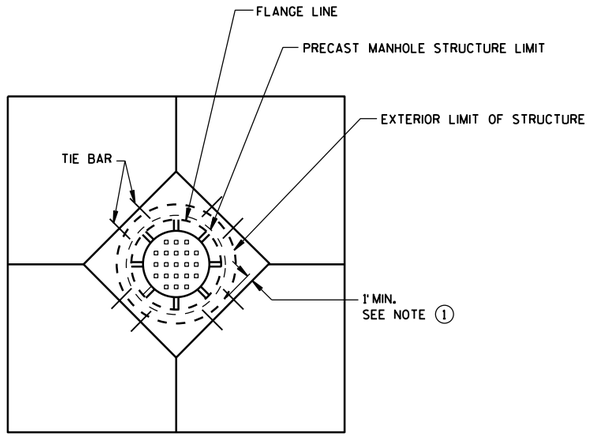
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

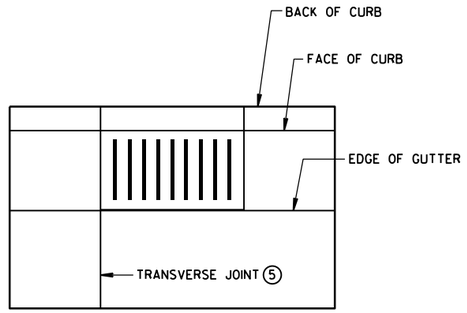
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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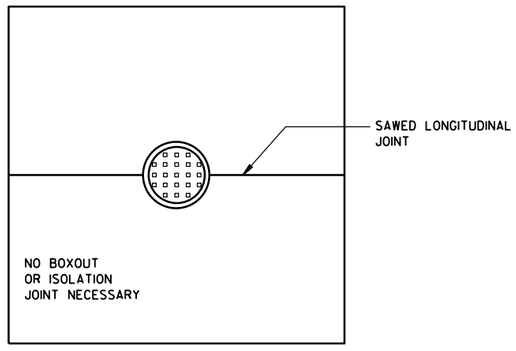
S.D.D. 13 C 18-4c



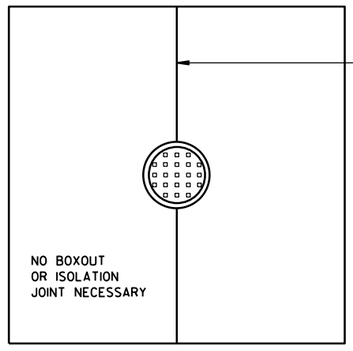
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



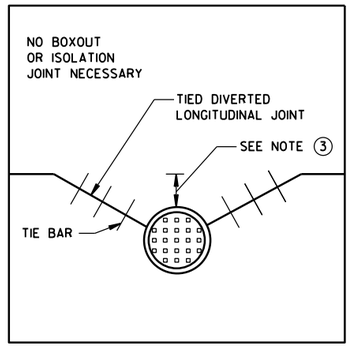
INLET WITH TRANSVERSE JOINT



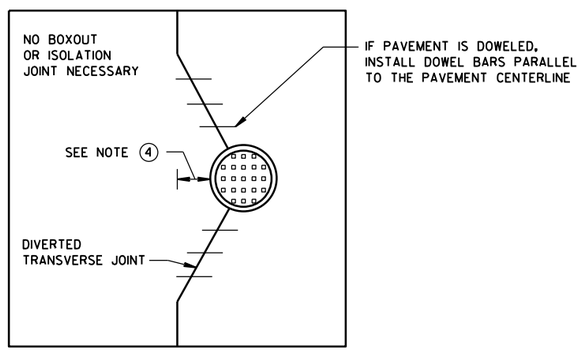
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

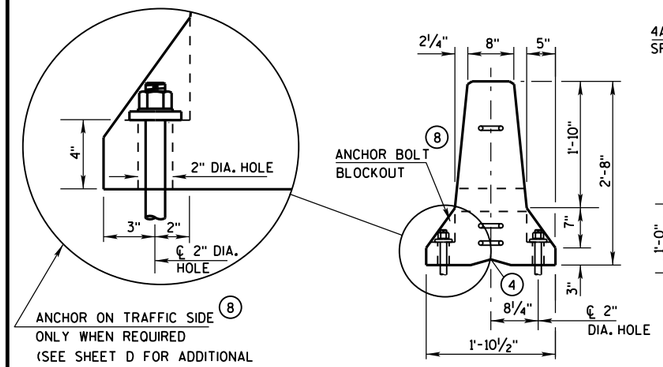
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

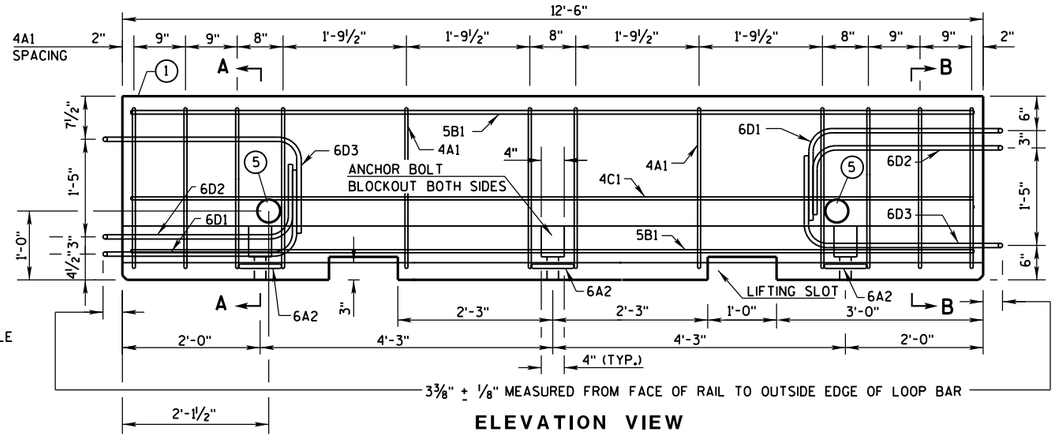
APPROVED
Sept., 2016 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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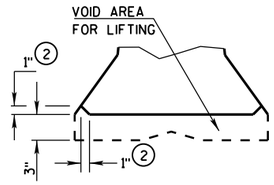
S.D.D. 13 C 18-4d



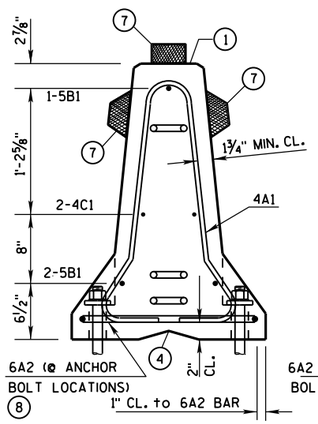
END VIEW



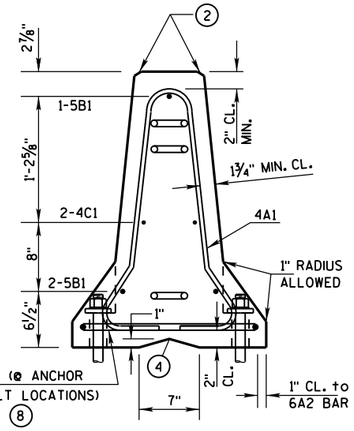
ELEVATION VIEW



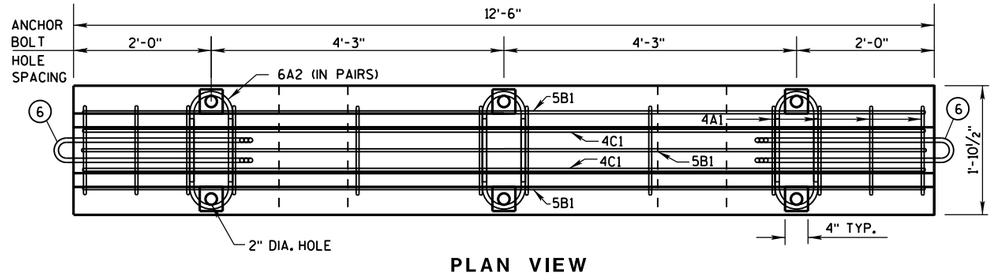
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

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

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

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

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

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

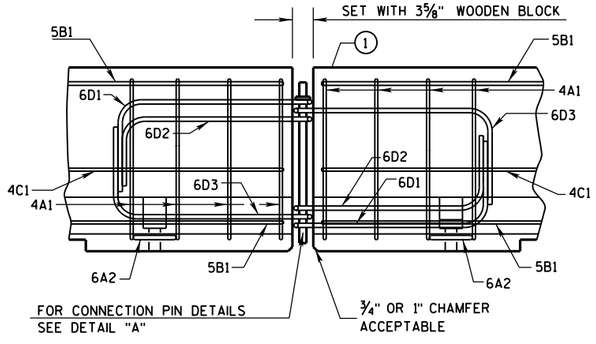
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

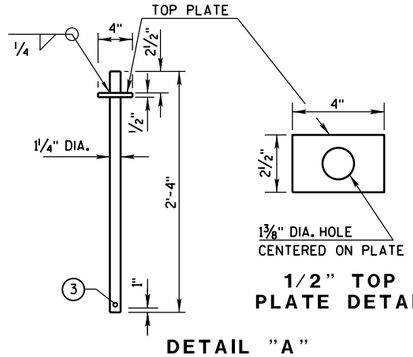
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

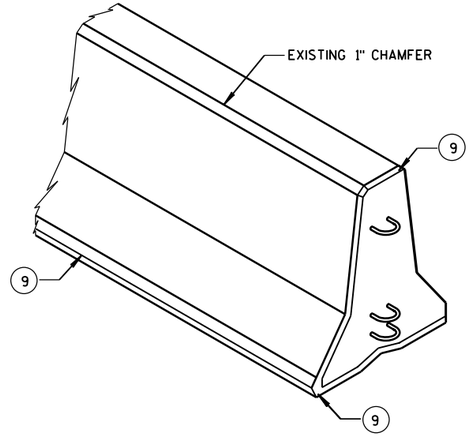


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

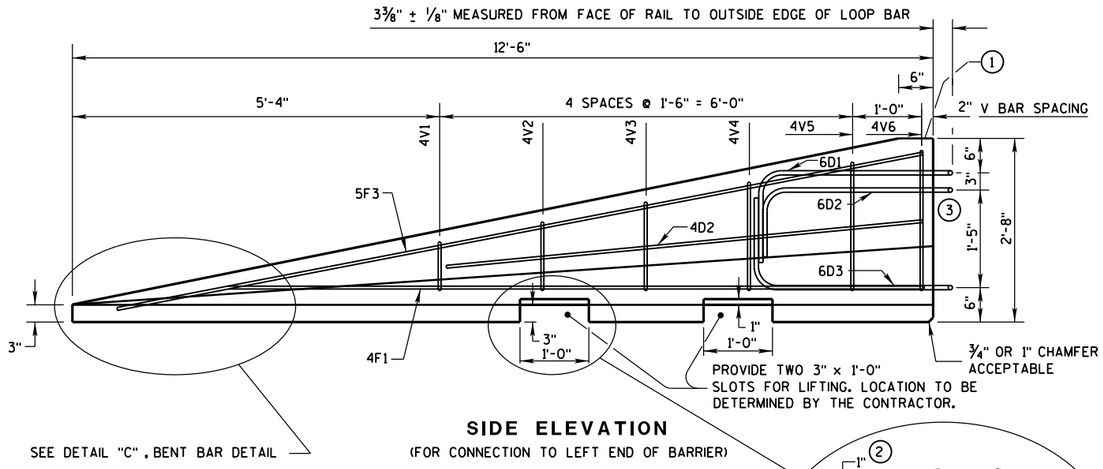
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 290

6

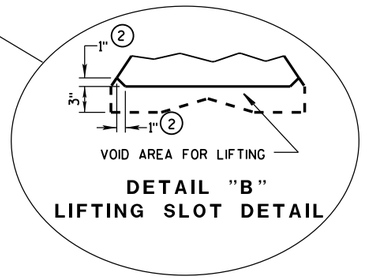
S.D.D. 14 B 7-14a

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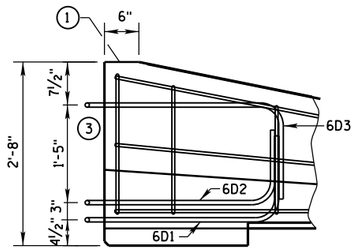
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



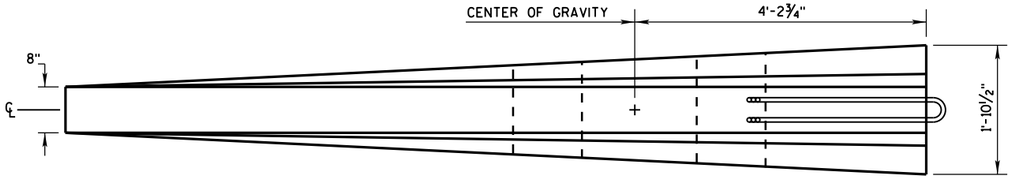
DETAIL "B"
LIFTING SLOT DETAIL



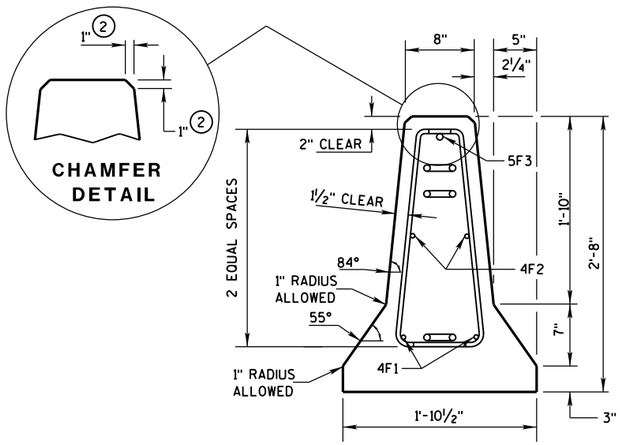
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

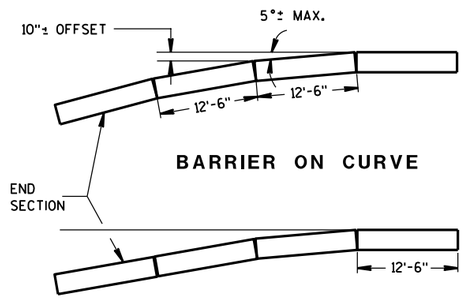
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



PLAN VIEW



END SECTION **FRONT ELEVATION**



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

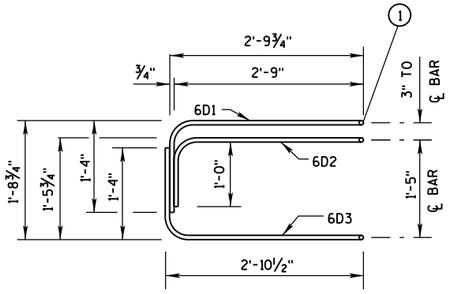
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S.D.D. 14 B 7-14b

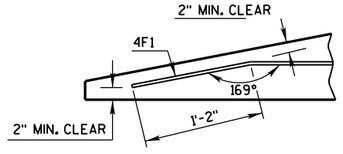
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

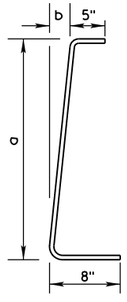
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

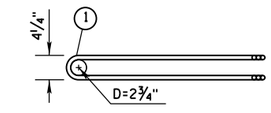
GENERAL NOTES

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

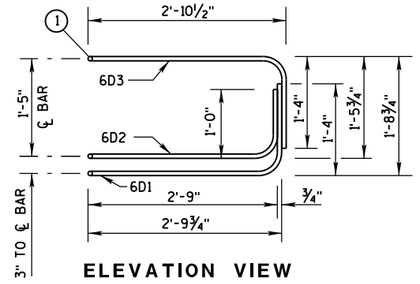
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

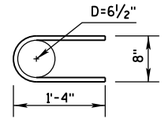
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



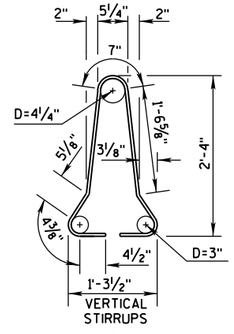
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

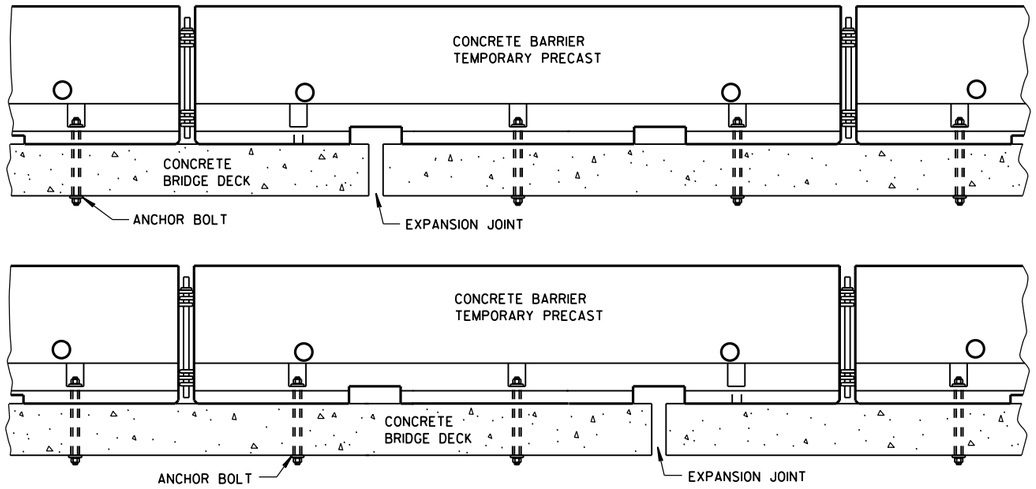
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

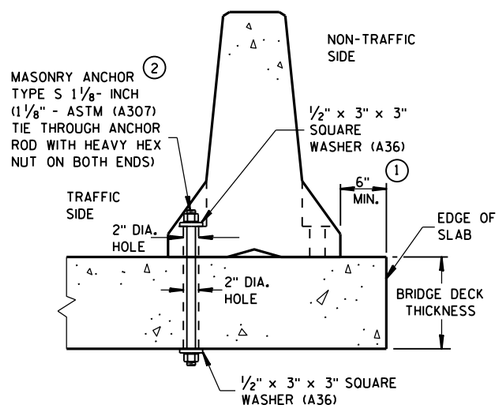
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S.D.D. 14 B 7-14c



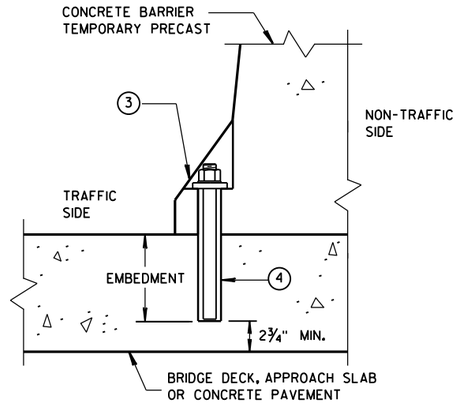
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



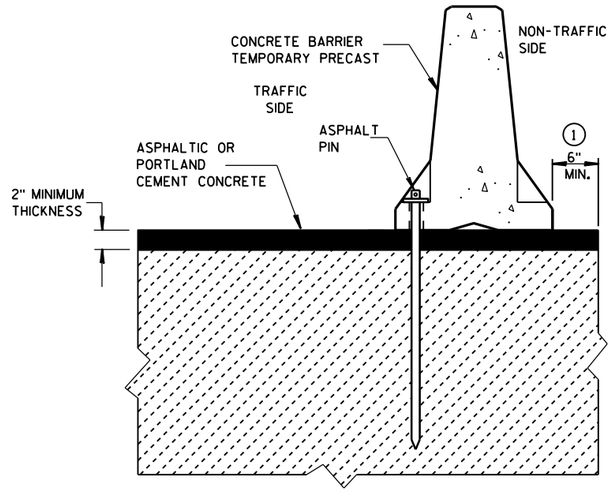
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



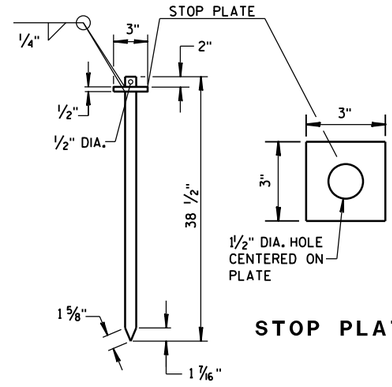
REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

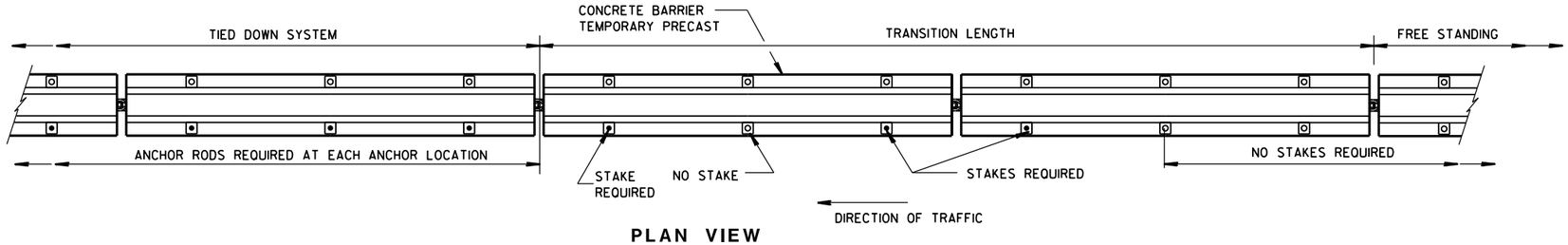
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

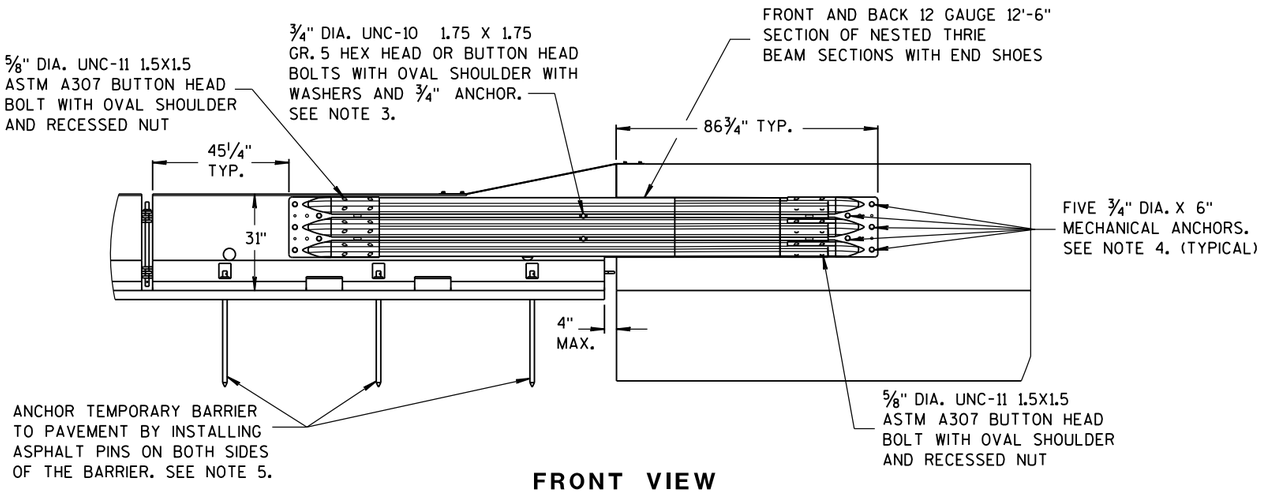
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

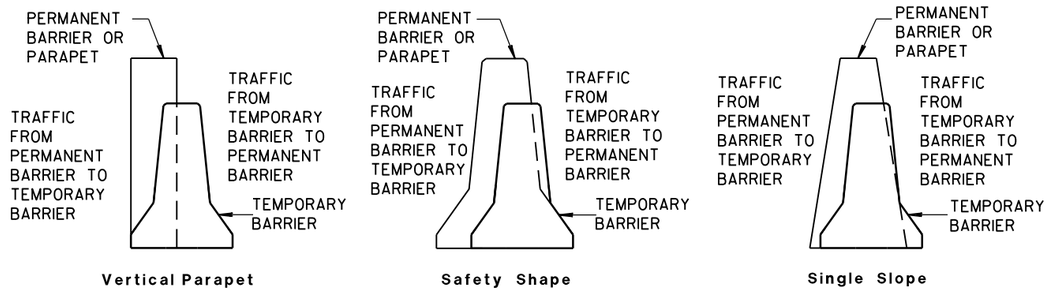
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
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S.D.D. 14 B 7-14d



FRONT VIEW

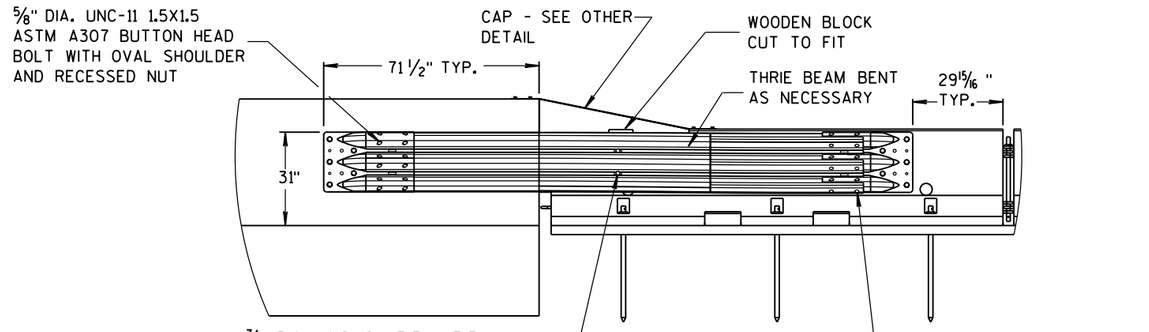


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

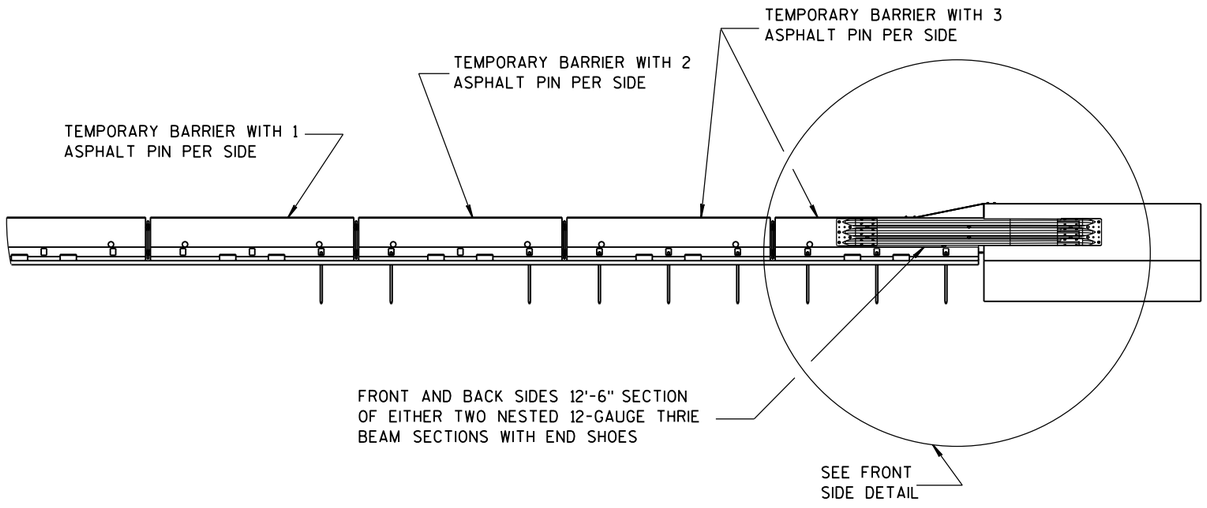
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

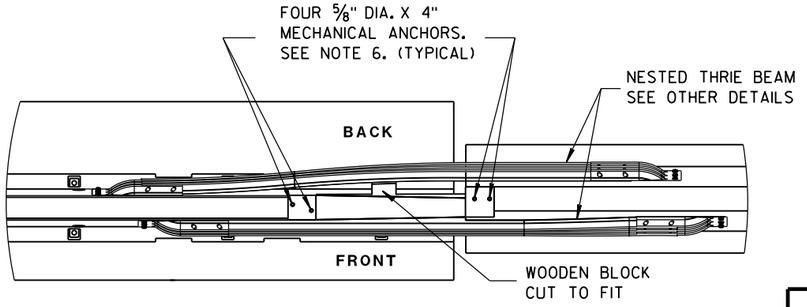
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



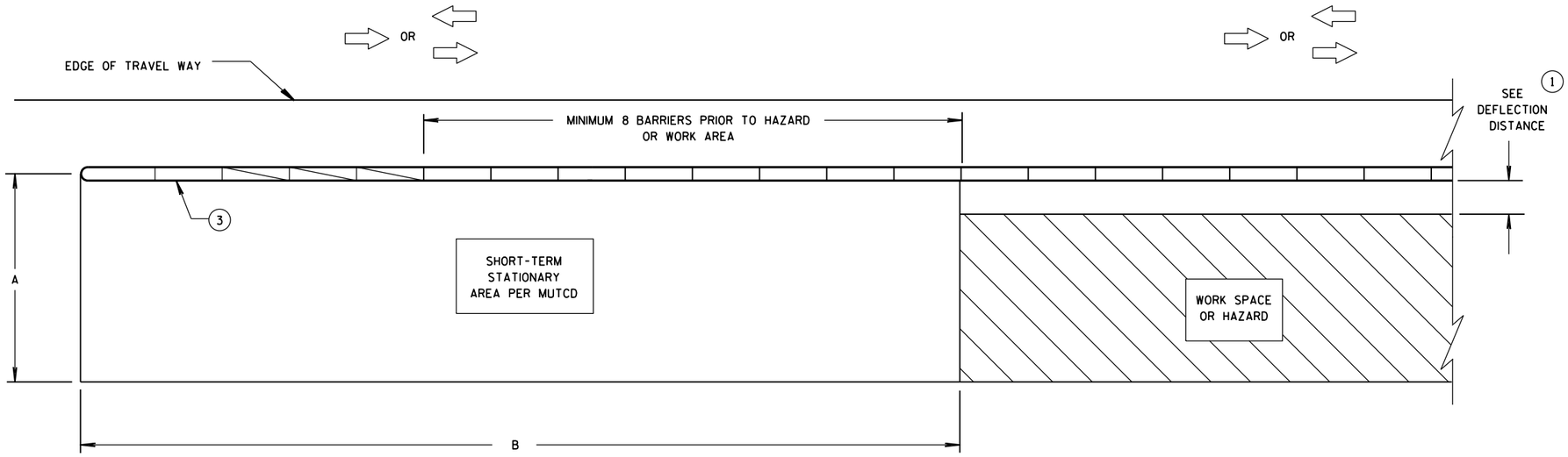
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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



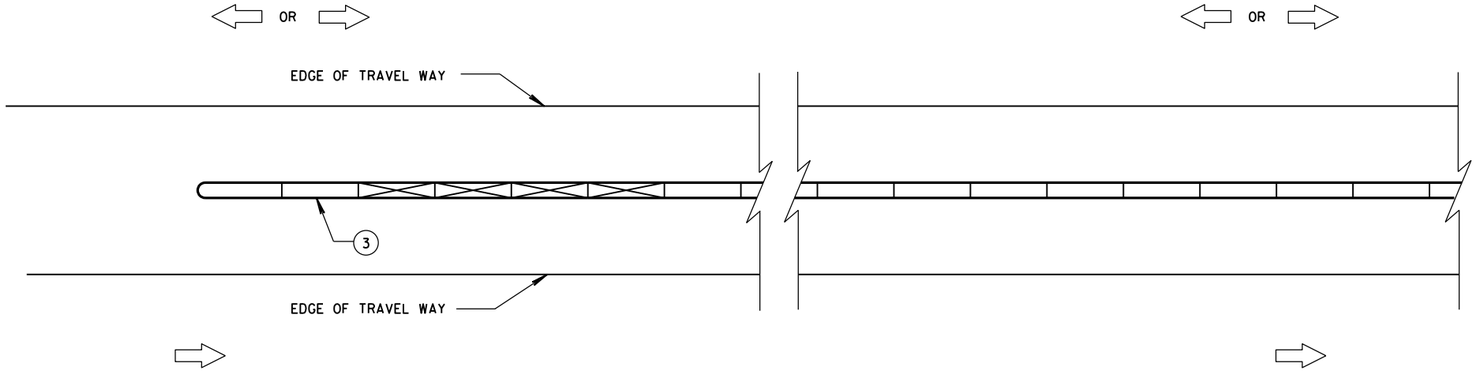
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

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

DIMENSION B TABLE (2)

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

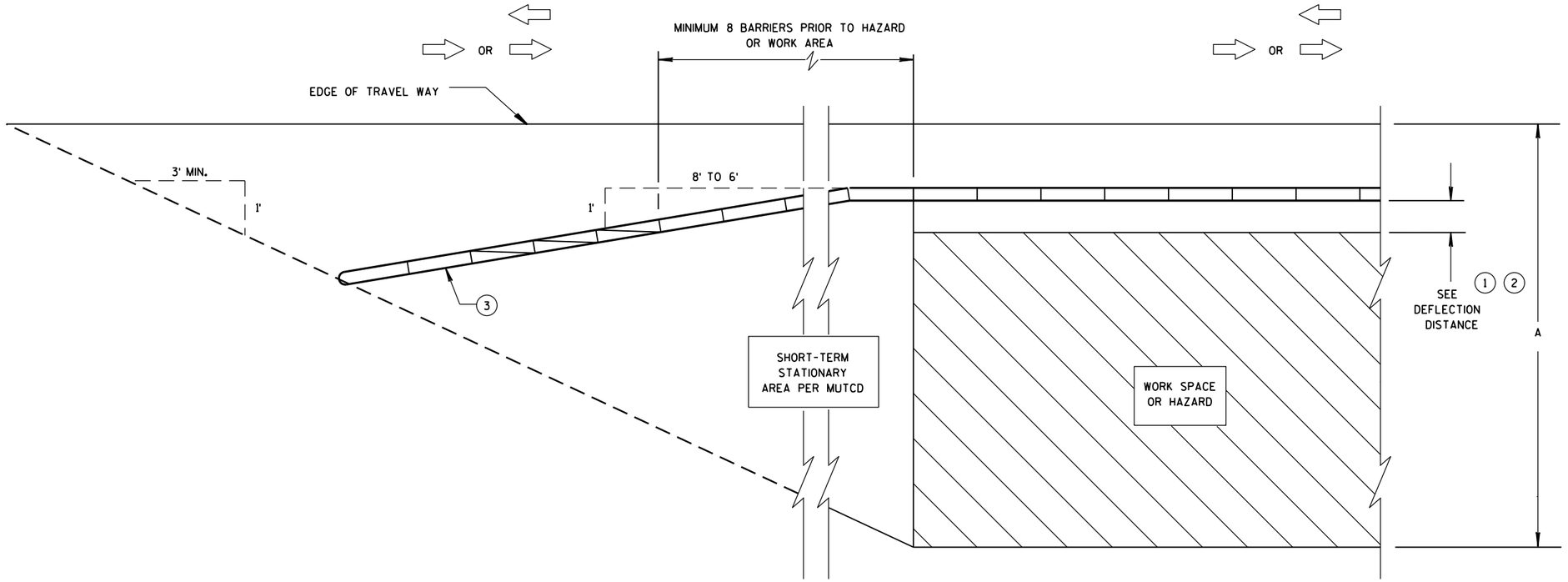
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

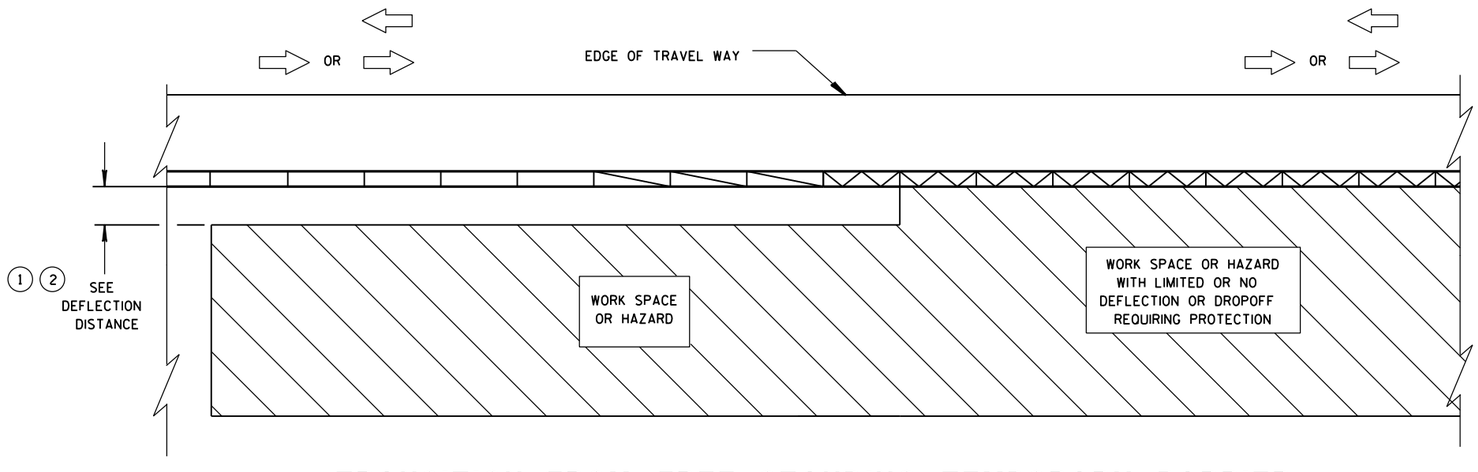
STATE OF WISCONSIN
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CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

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

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

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LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

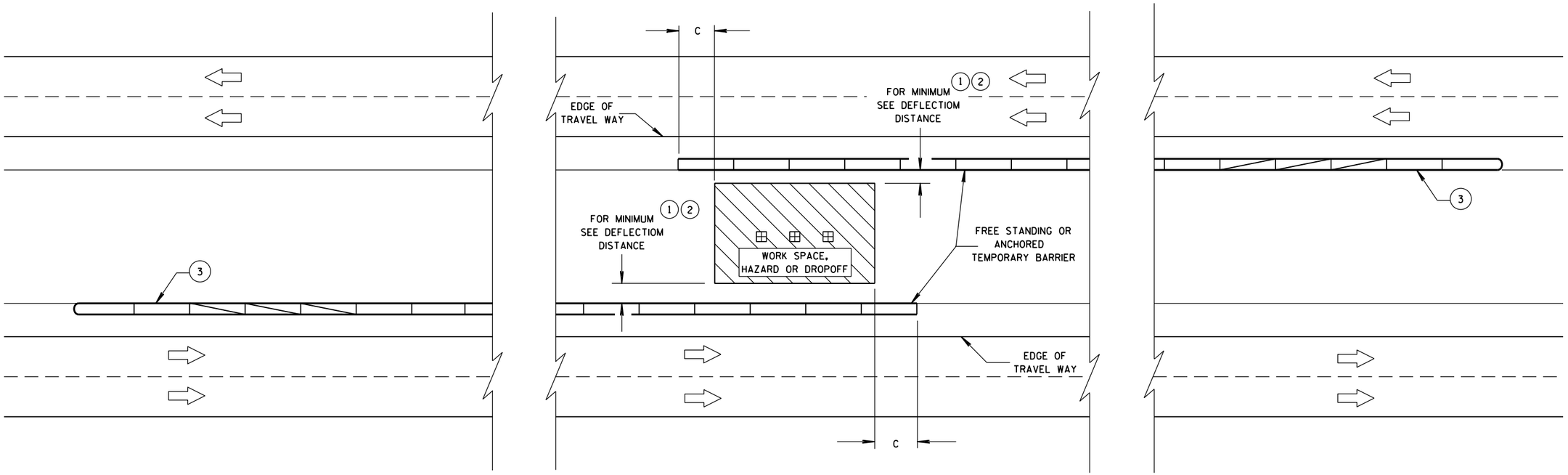
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

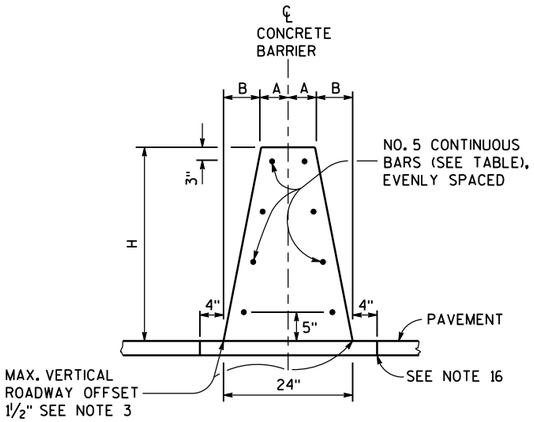
AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



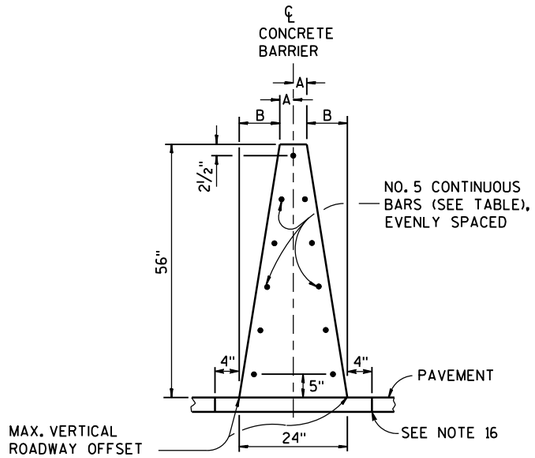
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

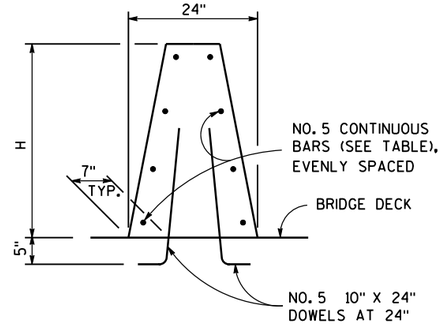
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
297
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FHWA



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)



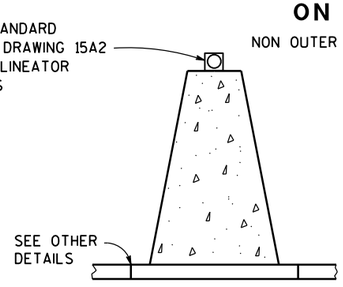
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

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



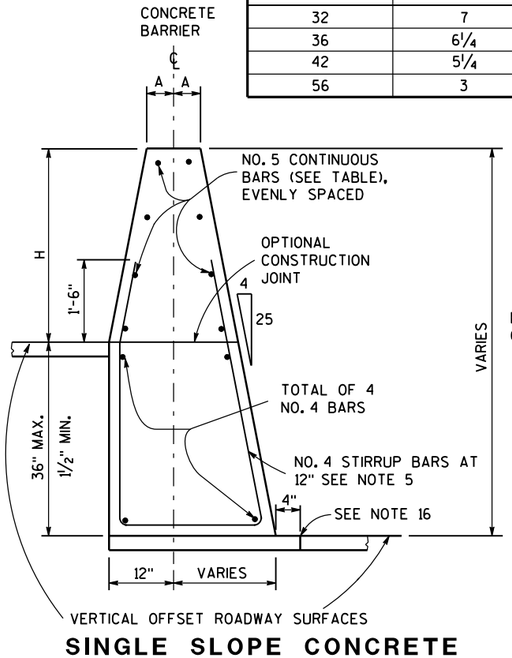
DELINEATION

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

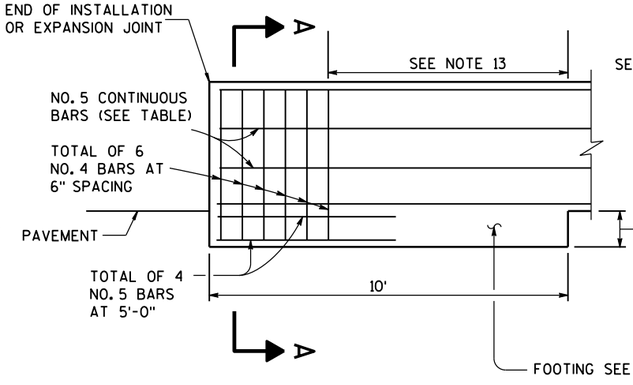
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	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	



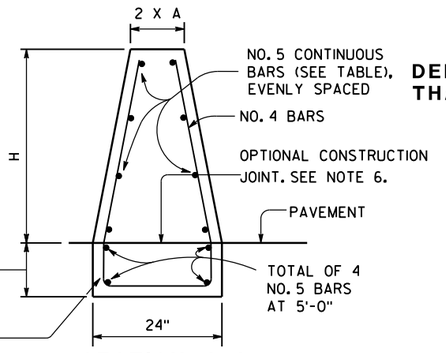
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



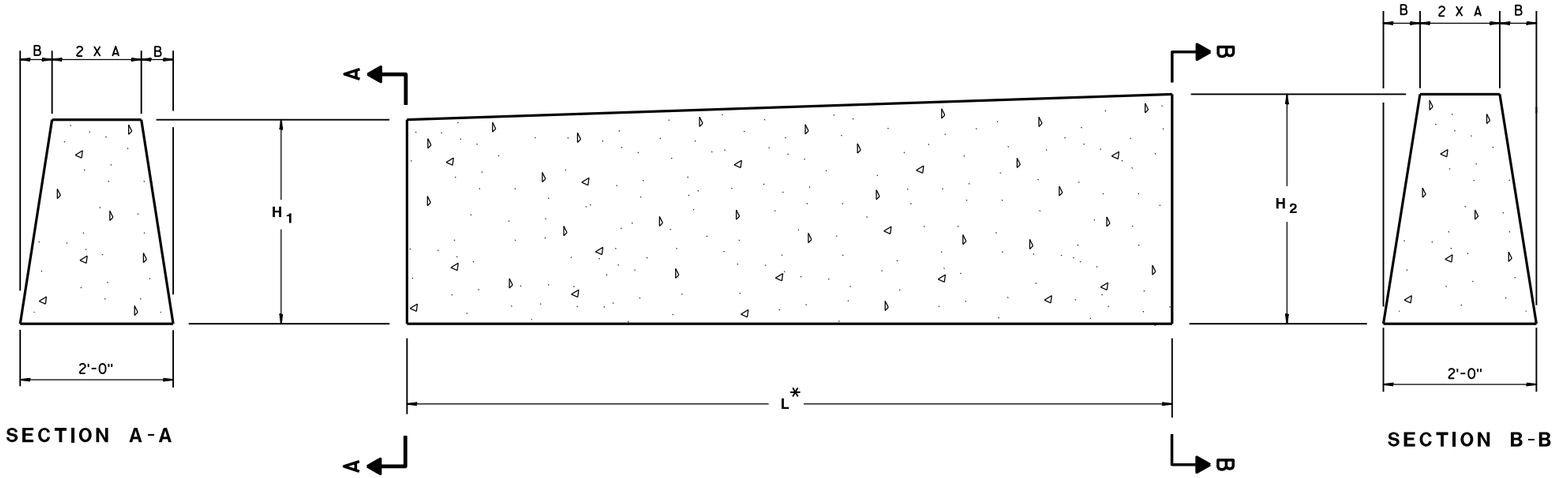
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 32-4a



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

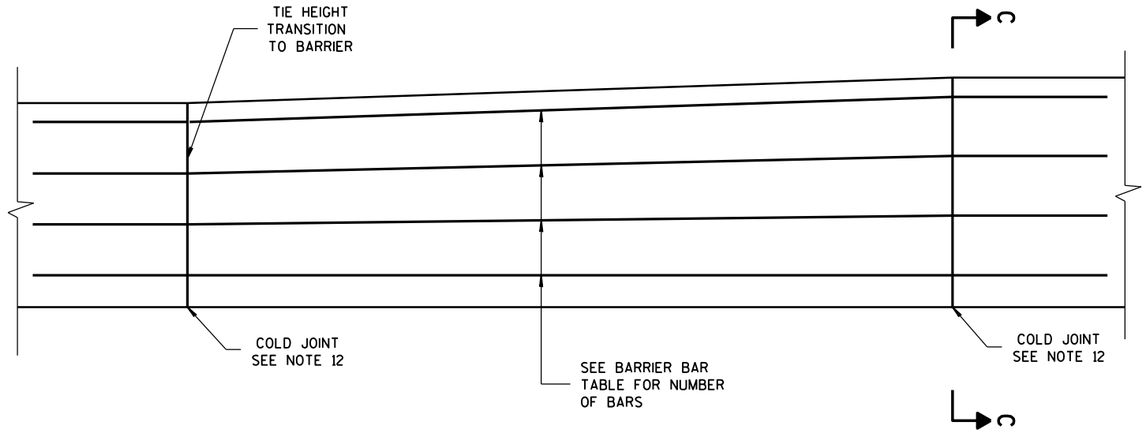
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

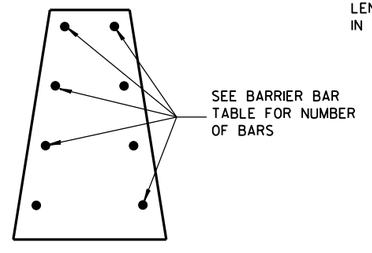
BARRIER BARS

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

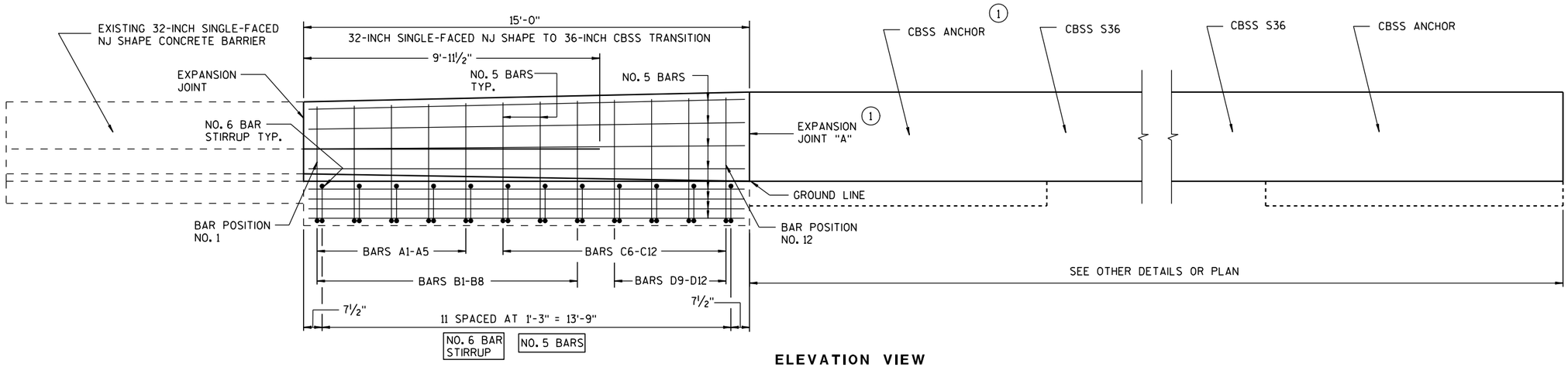
APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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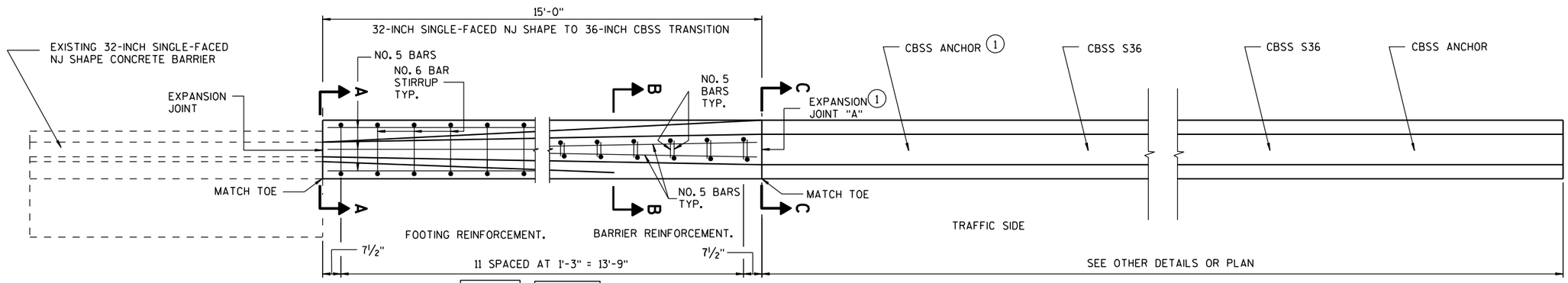
S.D.D. 14 B 32-4d

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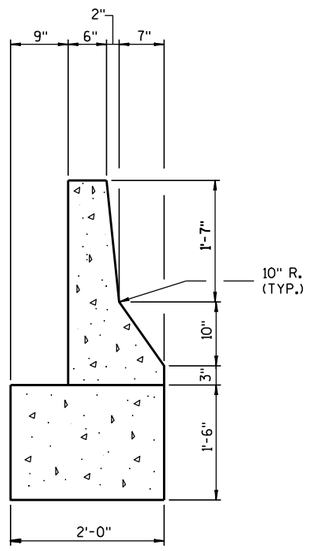
S.D.D. 14 B 32-4d



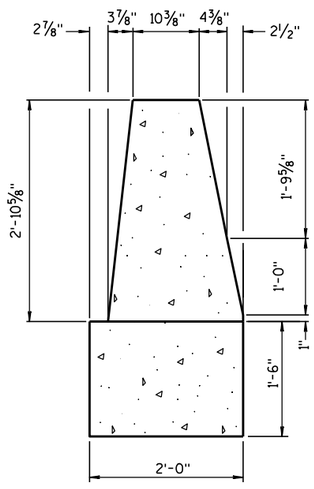
ELEVATION VIEW



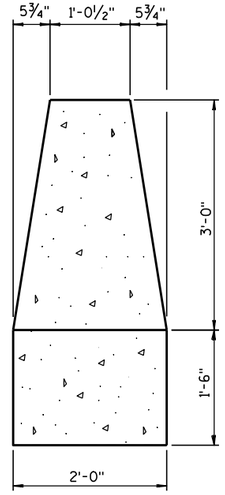
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

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 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

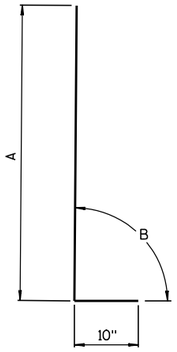
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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S.D.D. 14 B 35-1c

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

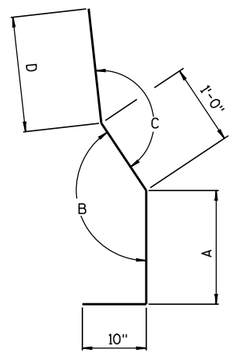
BAR	A	B
A1	3'-10"	89°-35'
A2	3'-10"	88°-40'
A3	3'-11"	87°-50'
A4	3'-11"	87°-10'
A5	3'-11½"	86°-15'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

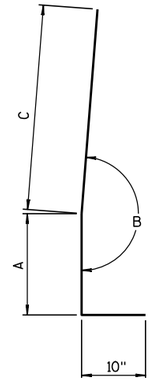
BAR	A	B	C	D
B1	1'-6"	146°-20'	152°-40'	1'-6"
B2	1'-6"	149°-25'	156°-45'	1'-6"
B3	1'-6"	152°-40'	160°-55'	1'-6½"
B4	1'-6"	155°-40'	164°-30'	1'-7"
B5	1'-5½"	158°-30'	167°-55'	1-'7"
B6	1'-5"	161°-45'	172°	1'-7½
B7	1'-5"	164°-25'	175°-05'	1'-8"
B8	1'-5"	167°-30'	179°	1'-8"



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

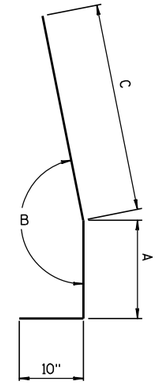
BAR	A	B	C
C6	1'-4"	175°-35'	2'-8"
C7	1'-4"	174°-45'	2'-8"
C8	1'-4"	174°	2'-8½"
C9	1'-4"	173°-15'	2'-9"
C10	1'-4"	172°-45'	2'-9½"
C11	1'-3½"	172°	2'-9½"
C12	1'-3½"	171°-15'	2'-10"



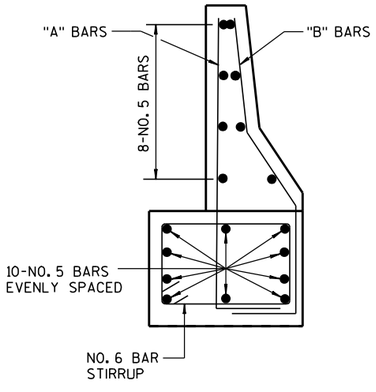
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

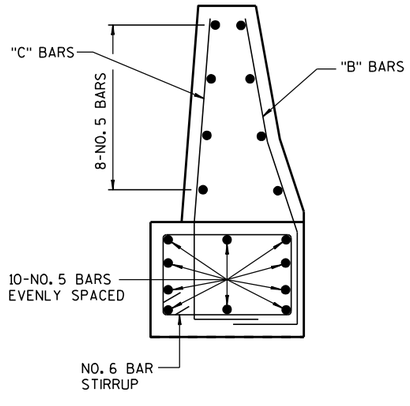
BAR	A	B	C
D9	1'-5"	168°-45'	2'-8½"
D10	1'-4½"	169°-30'	2'-9"
D11	1'-4"	170°-15'	2'-9½"
D12	1'-4"	170°-40'	2'-10"



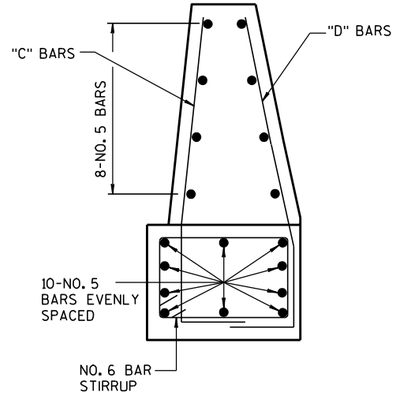
"D" BAR
BENDING DETAIL



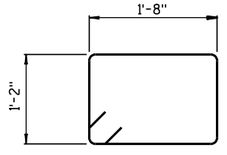
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

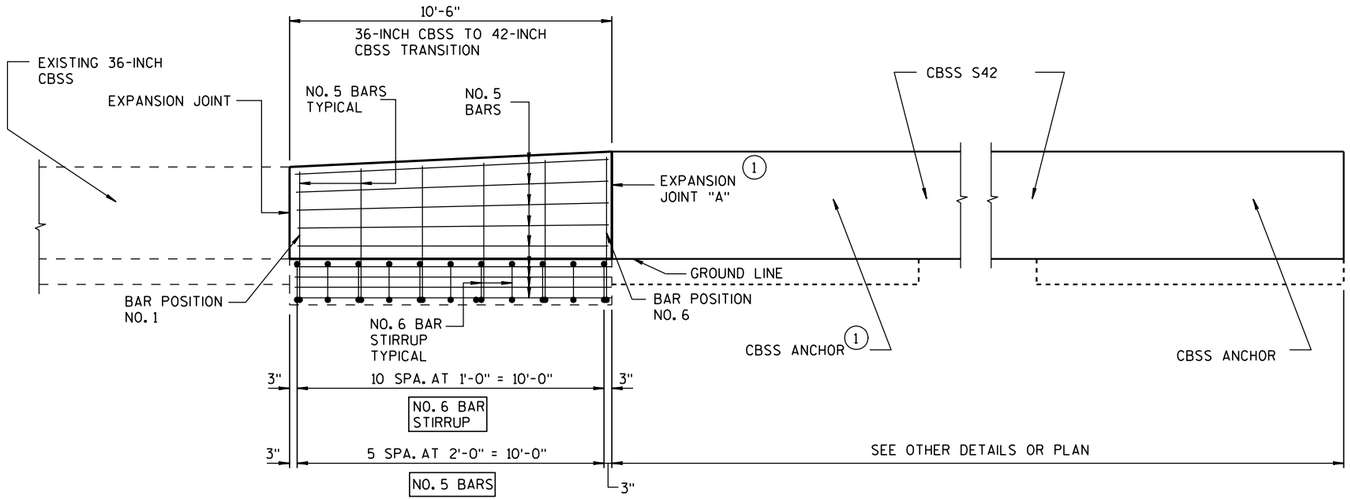
FHWA

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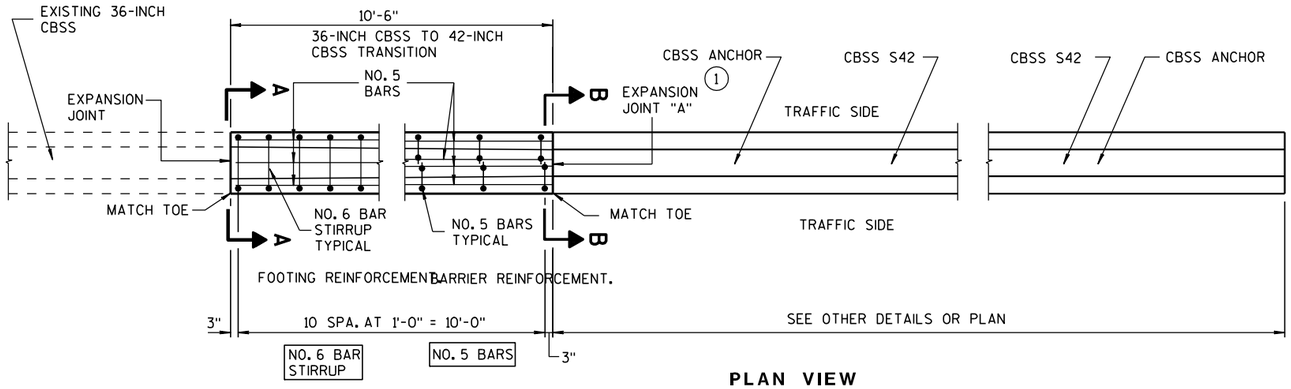
S.D.D. 14 B 35-1d

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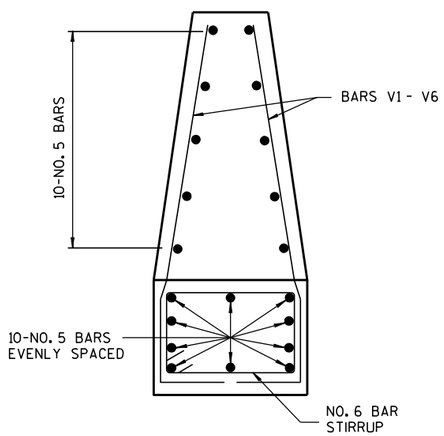
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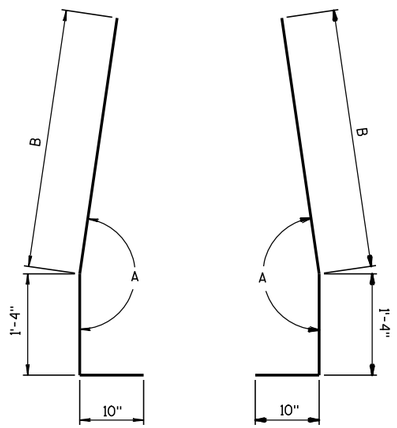
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

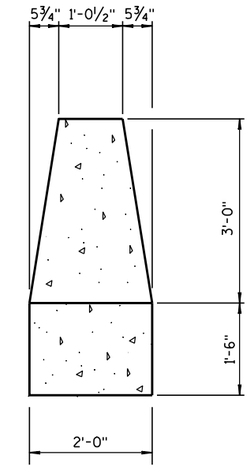
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

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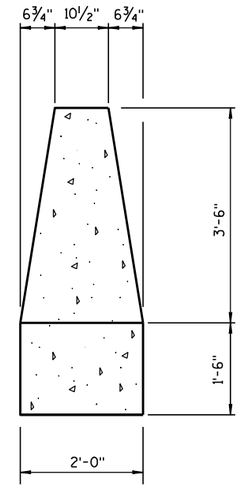
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



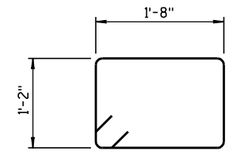
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



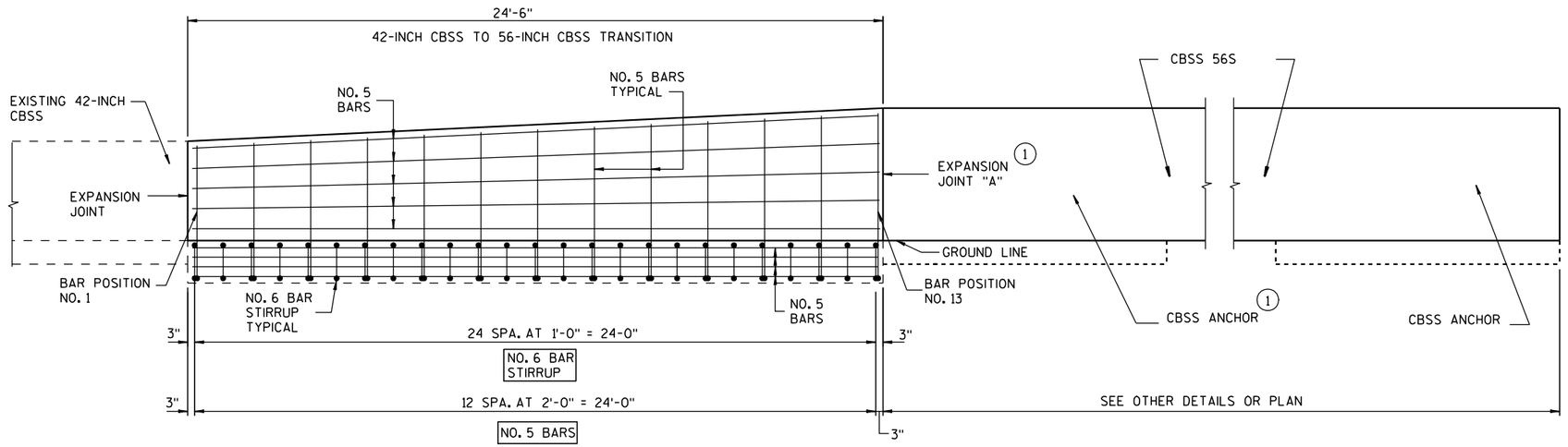
STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

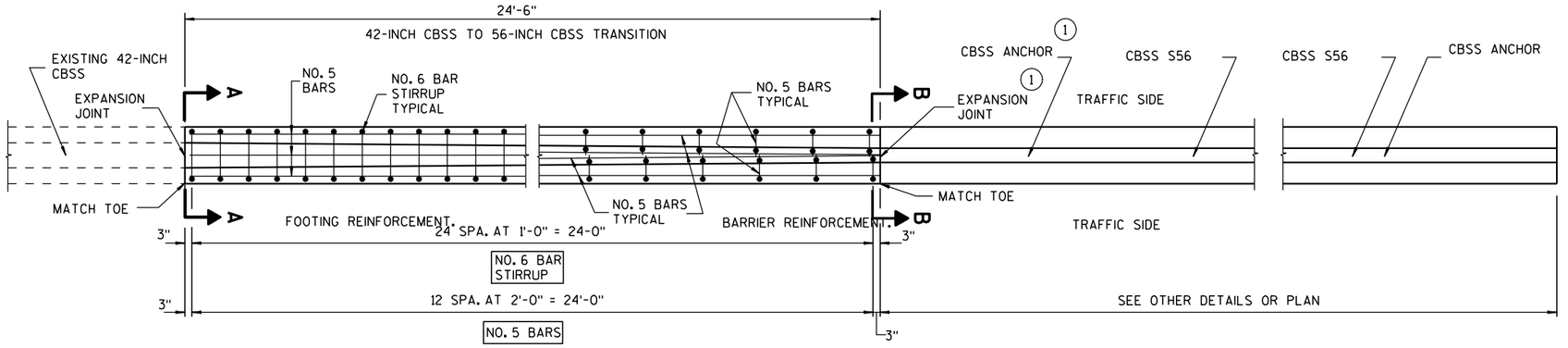
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
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/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 39-1c



ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

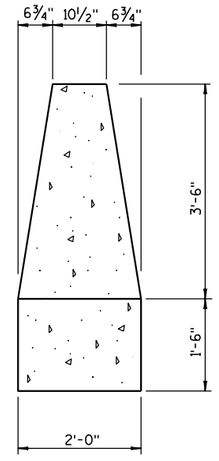
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

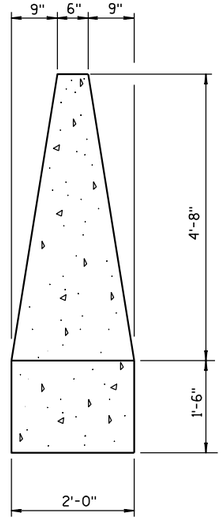
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

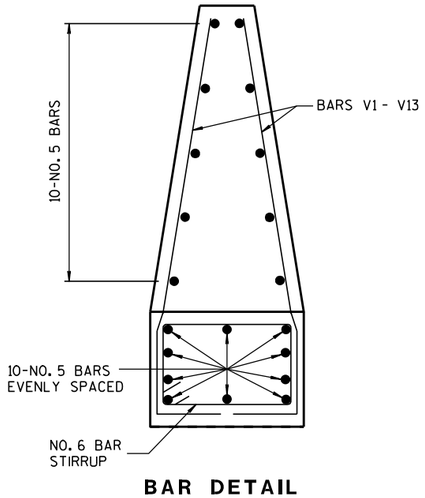
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



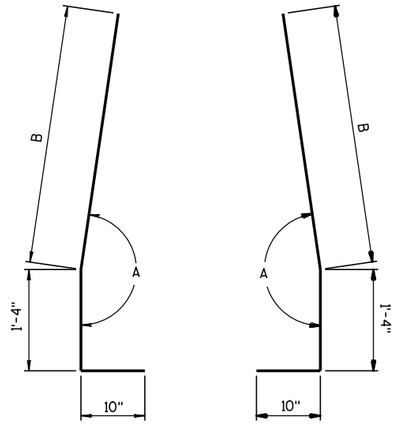
SECTION A-A



SECTION B-B



BAR DETAIL
BAR POSITION NO. 1 - NO. 13

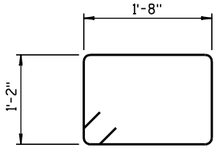


BAR BENDING DETAIL
FOR BARS V1 - V13

BAR CHART SECTIONS V1 - V13

BAR	A	B
V1	170°-50'	3'-4 1/2"
V2	170°-50'	3'-6"
V3	170°-55'	3'-7"
V4	171°	3'-8"
V5	170°-55'	3'-9 1/2"
V6	170°-50'	3'-10 1/2"
V7	170°-50'	3'-11 1/2"

BAR	A	B
V8	170°-55'	4'-0 1/2"
V9	170°-50'	4'-2"
V10	170°-50'	4'-3"
V11	170°-50'	4'-4 1/2"
V12	170°-55'	4'-5 1/2"
V13	170°-50'	4'-6 1/2"



STIRRUP BAR
BENDING DETAIL

42-INCH SINGLE SLOPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
303
FHWA

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S.D.D. 14 B 39-1e

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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.

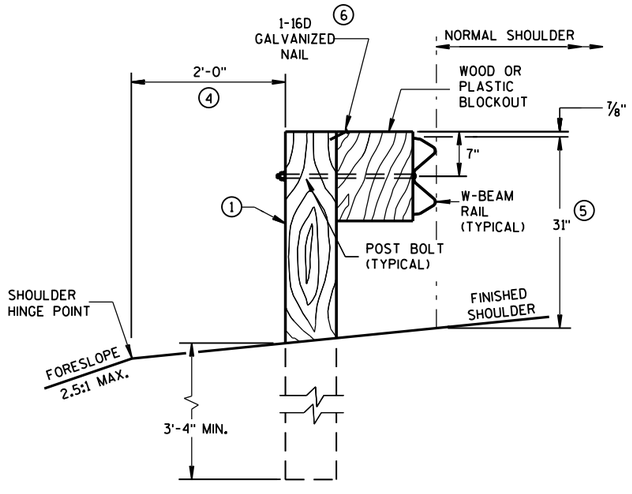
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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).

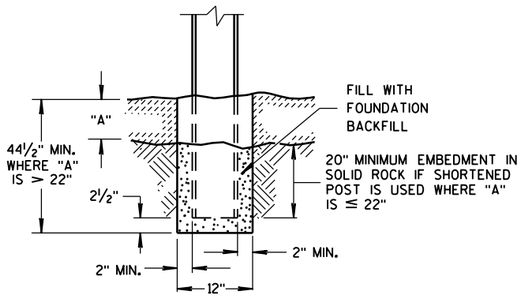
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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.



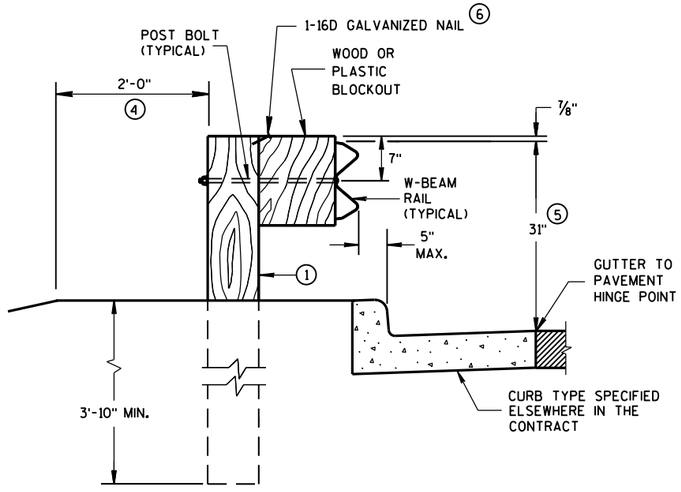
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



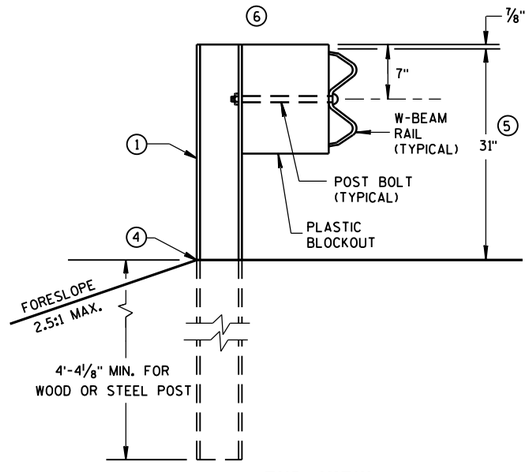
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



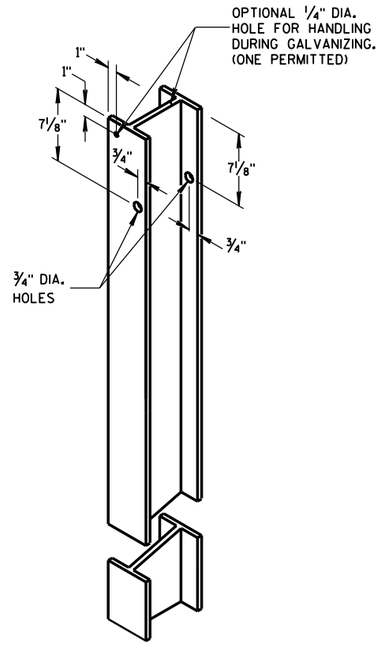
END VIEW

LOCATED ALONG A CURBED ROADWAY

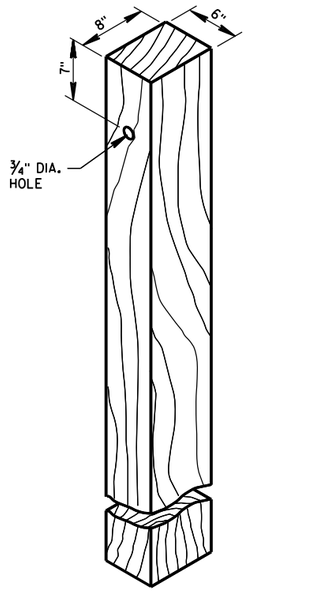


END VIEW

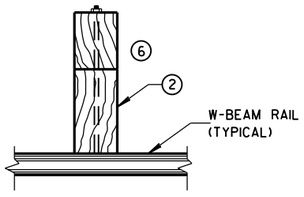
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



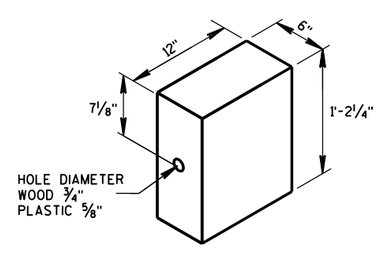
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



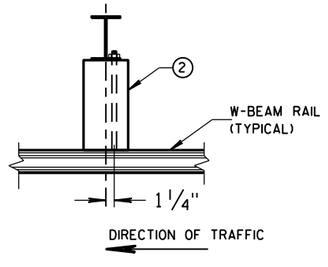
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



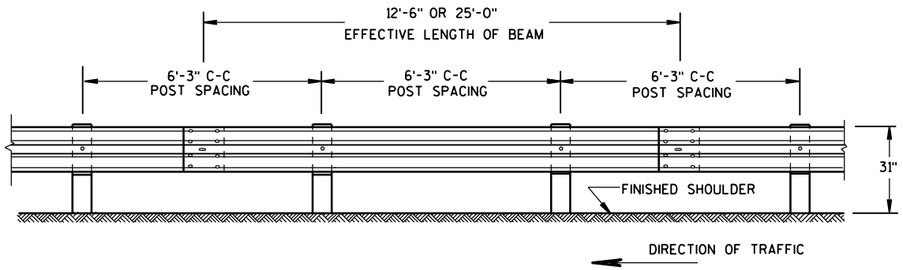
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

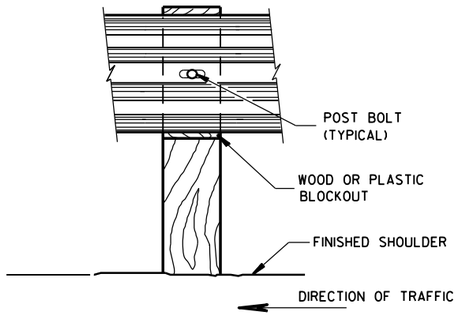
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S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

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.

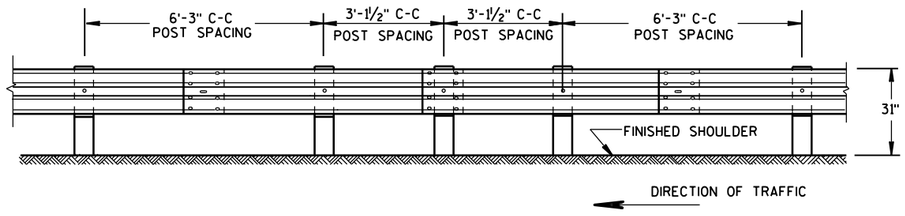
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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.

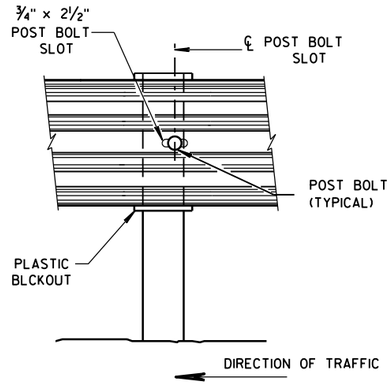
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

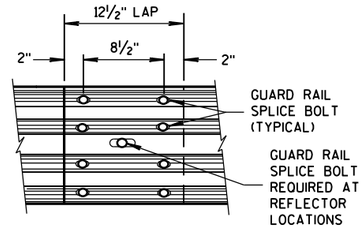


FRONT VIEW

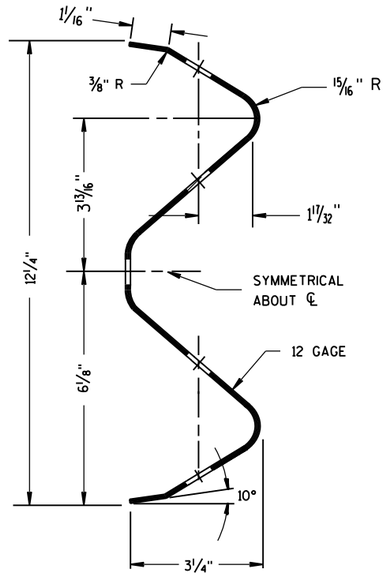
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



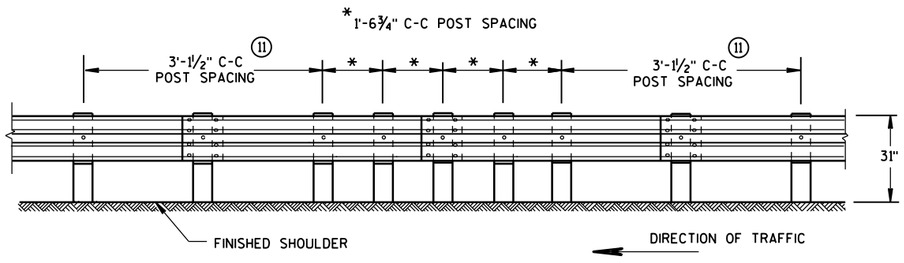
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

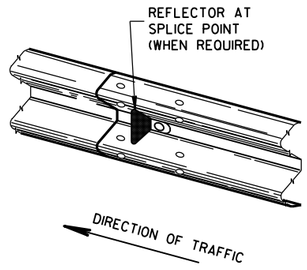


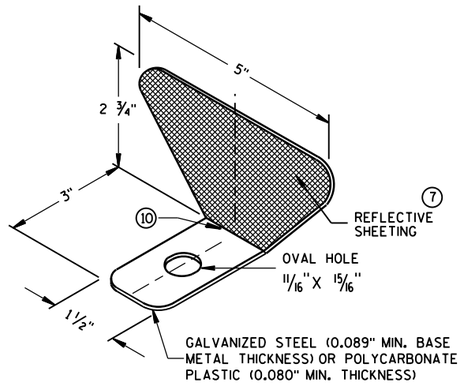
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION 7

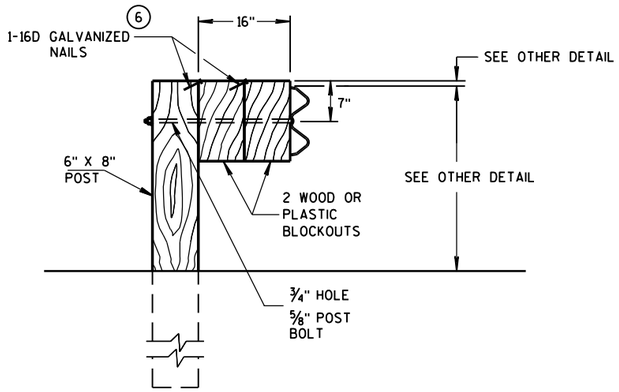
REFLECTOR SPACING 8

	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

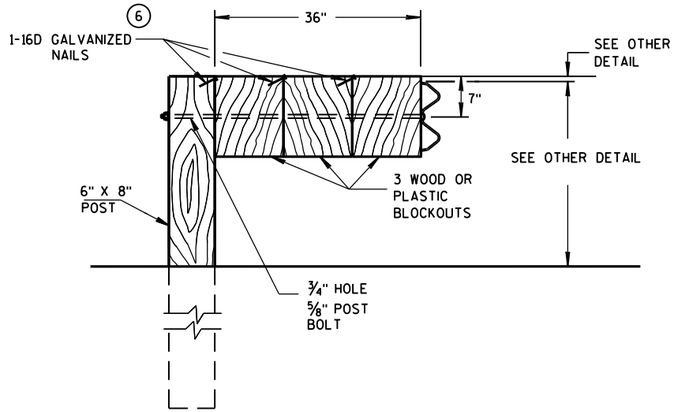
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6
S.D.D. 14 B 42-4b



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.

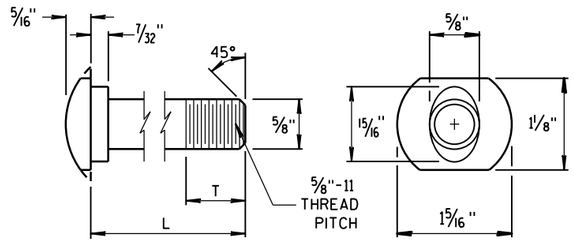


DETAIL FOR 36" BLOCKOUT DEPTH

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.

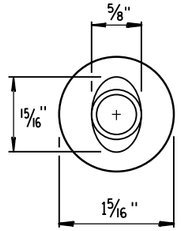
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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.

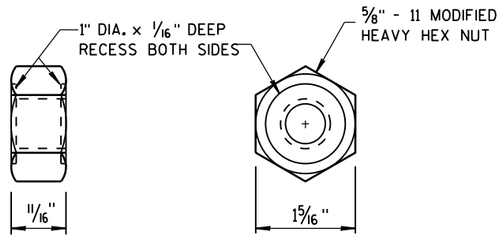


POST BOLT TABLE

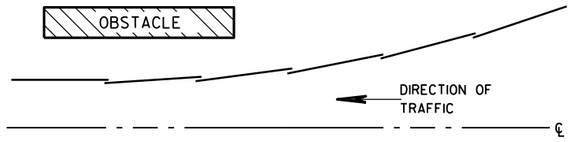
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

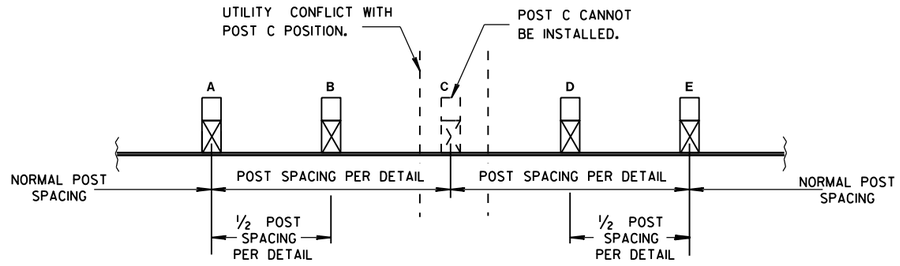


POST BOLT, SPLICE BOLT AND RECESS NUT

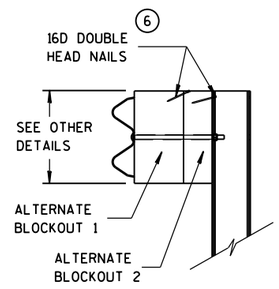


PLAN VIEW

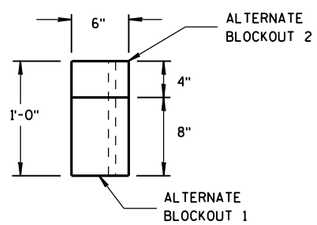
BEAM LAPPING DETAIL



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 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 42-4c

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.

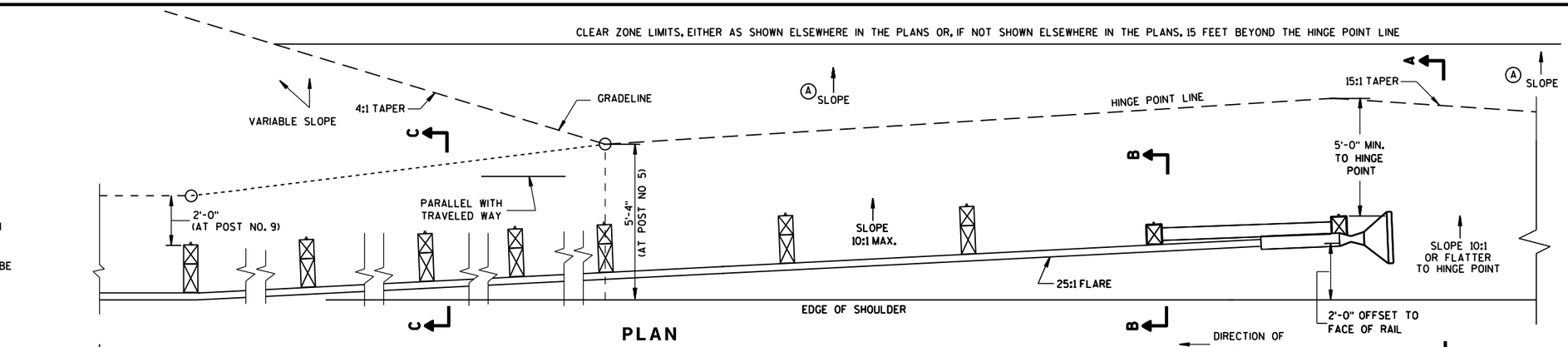
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

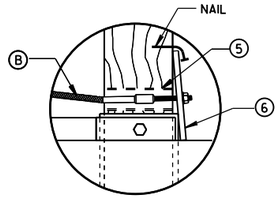
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

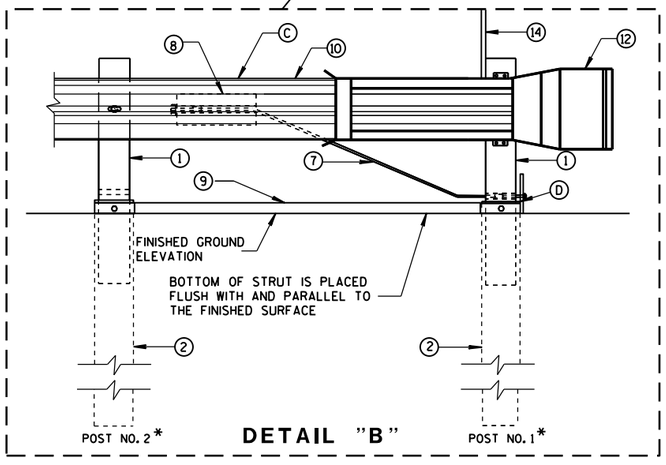
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

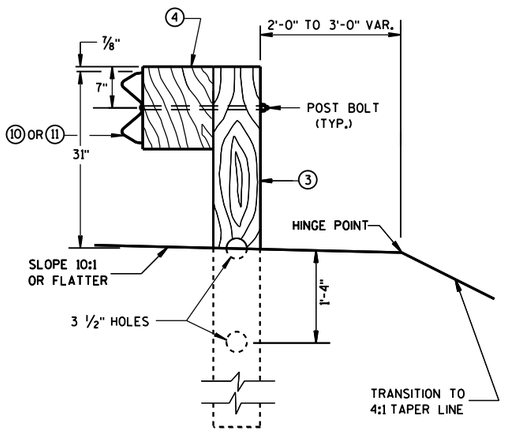
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



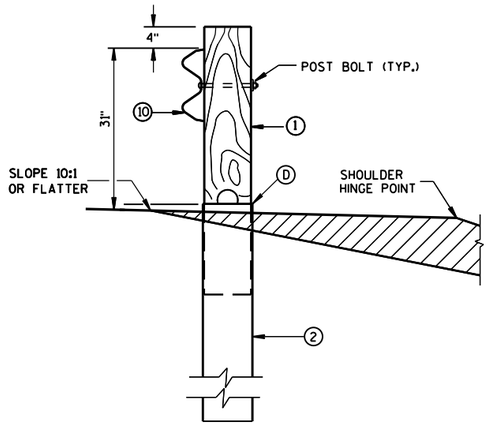
ELEVATION



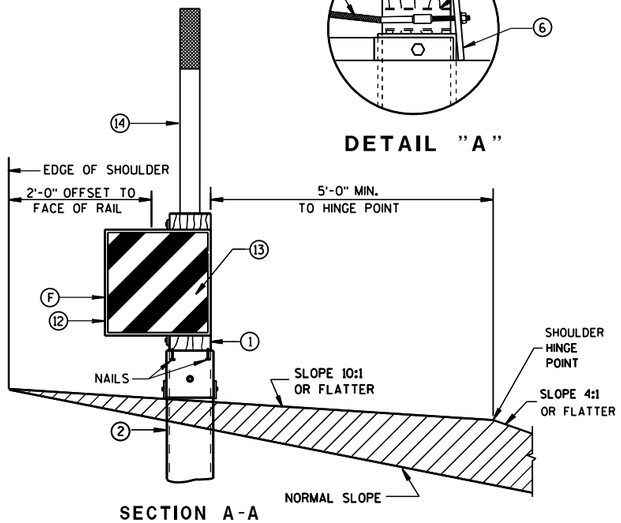




SECTION C-C
TYPICAL AT POST NOS. 3-9



SECTION B-B
TYPICAL AT POST NO. 2*



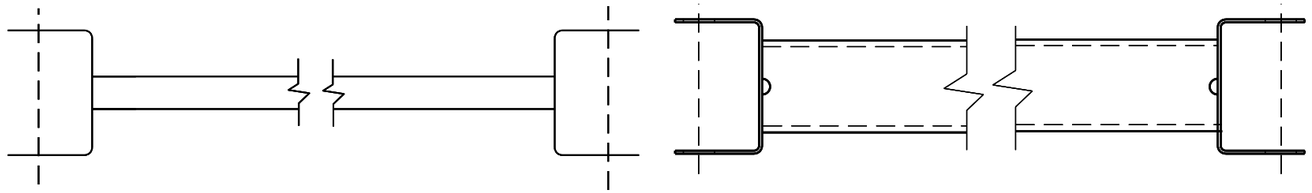
SECTION A-A
TYPICAL AT POST NO. 1*

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

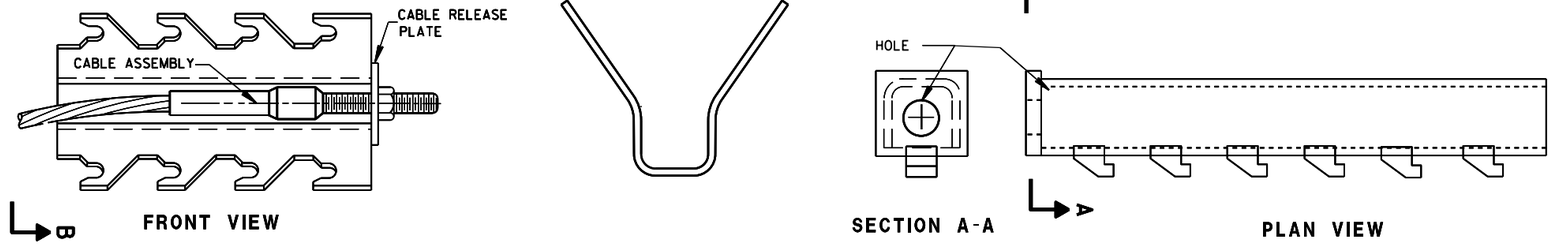


⑨ Ⓗ

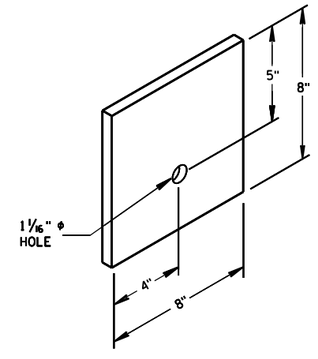
GENERIC GROUND STRUT

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 Ⓗ



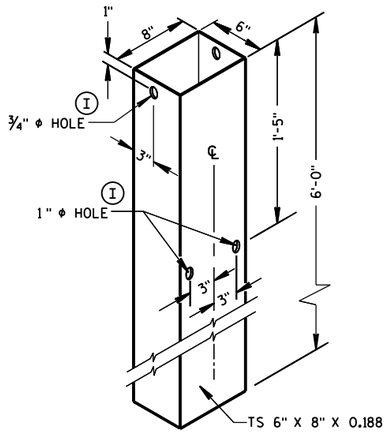
BEARING PLATE ⑥

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

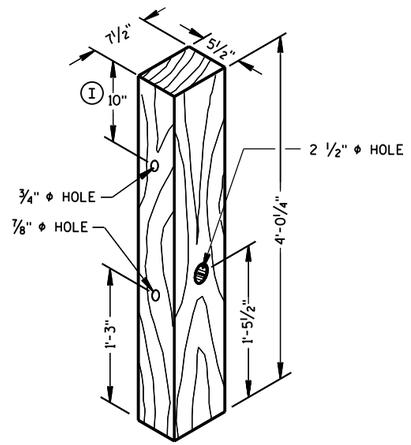
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 44-2b

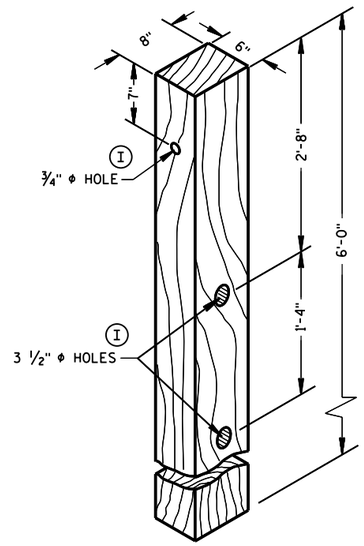


FOUNDATION TUBE (2)



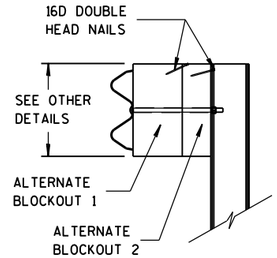
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

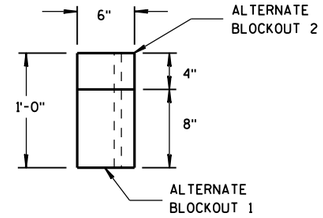


POSTS NUMBER 3-9

WOOD CRT POST (3)

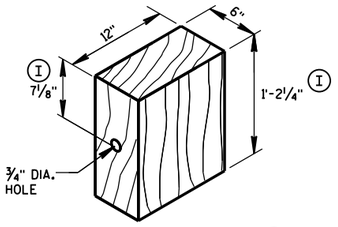


SIDE VIEW



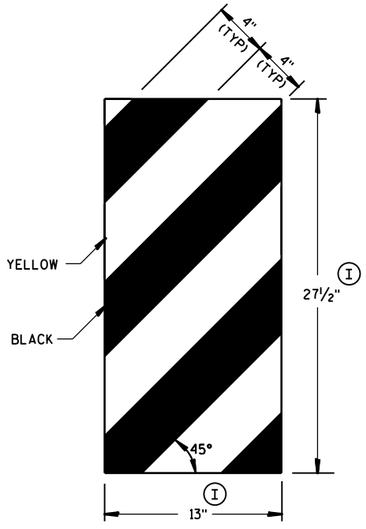
TOP VIEW

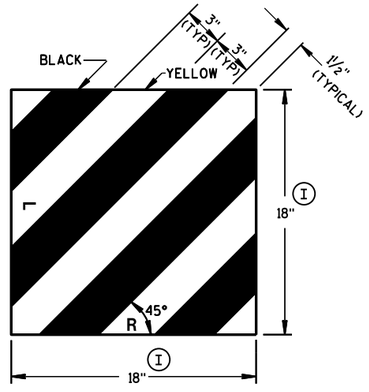
ALTERNATE WOOD BLOCKOUT DETAIL



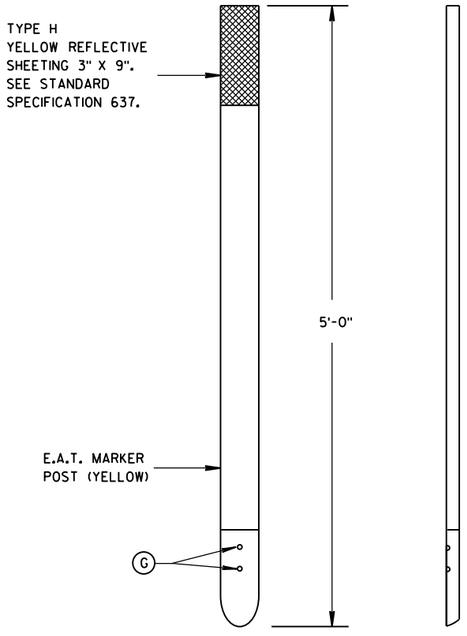
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





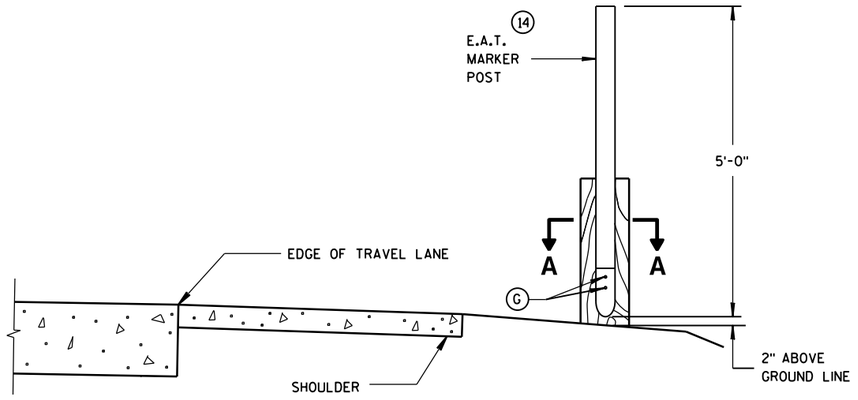
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

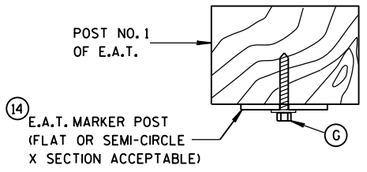
SIDE VIEW

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

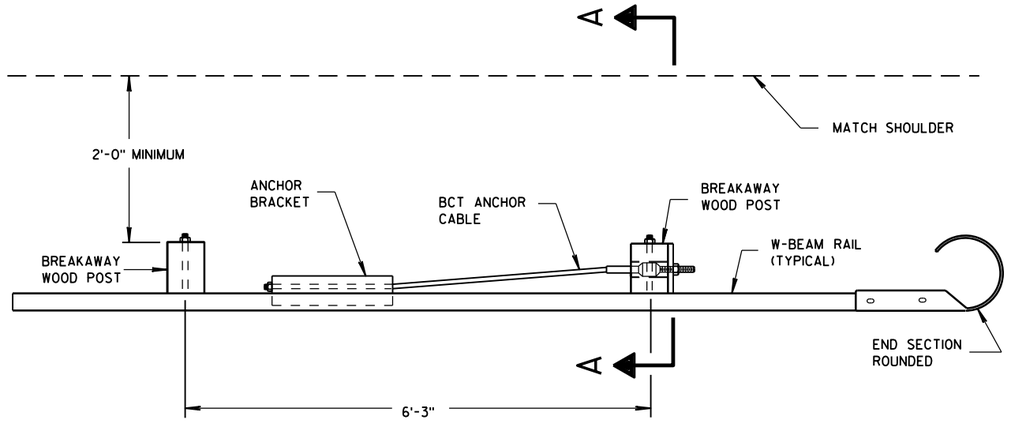
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

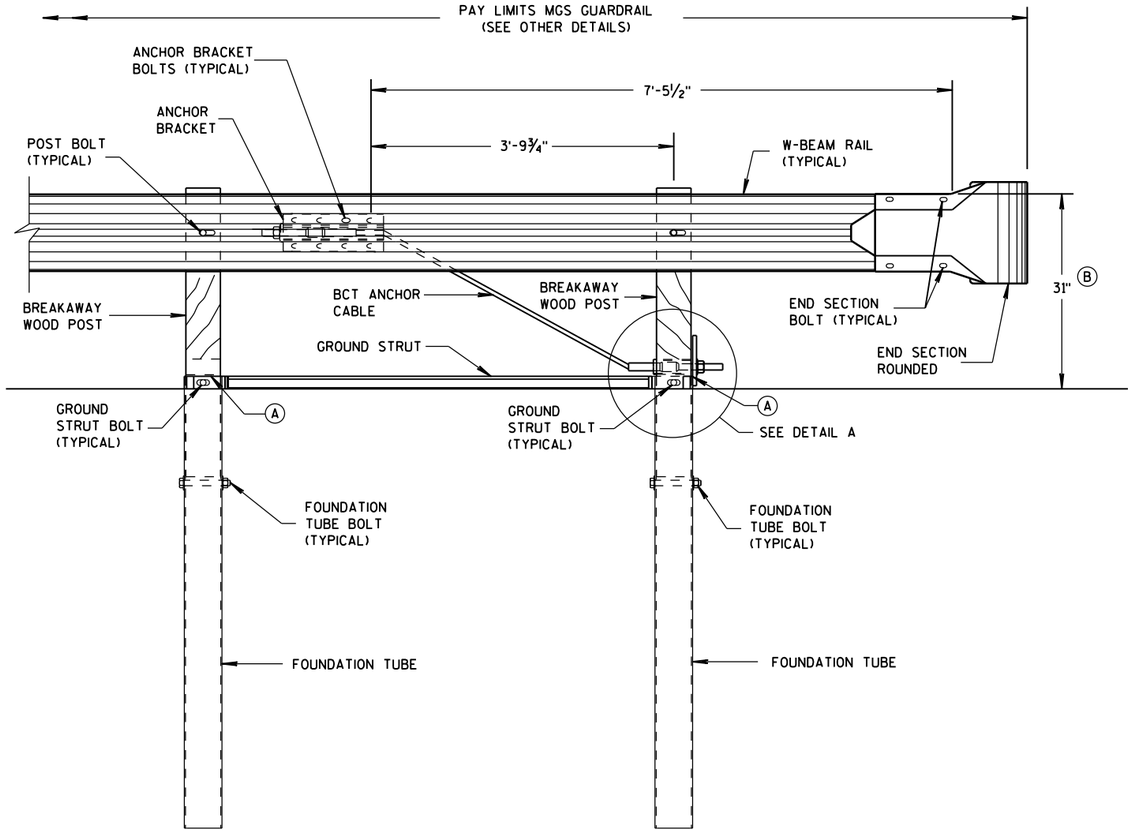
APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c

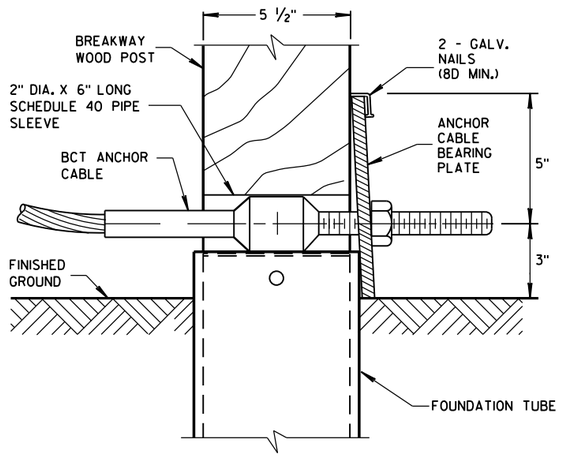


PLAN VIEW



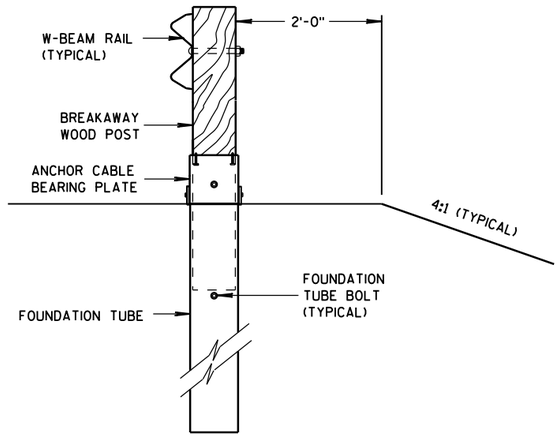
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

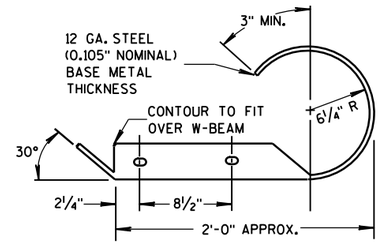
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

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.

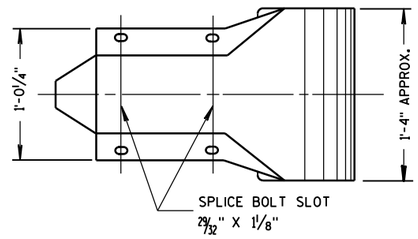
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(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".



PLAN VIEW



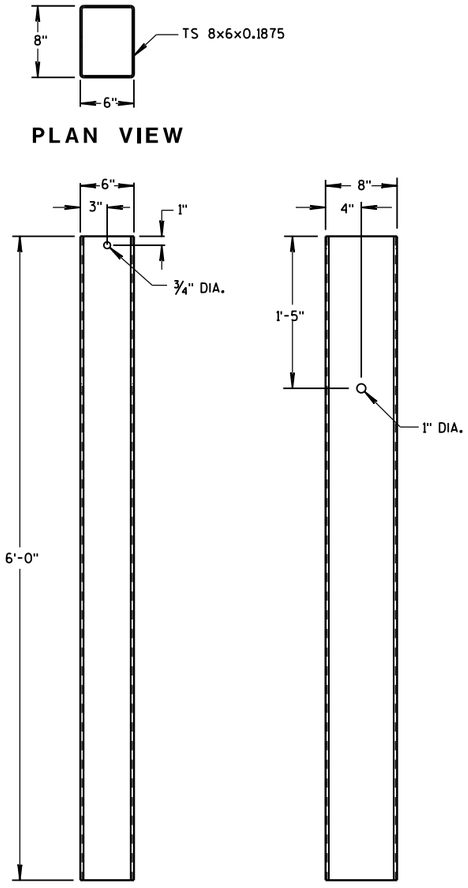
FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

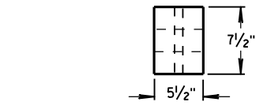
6
S.D.D. 14 B 47-2a



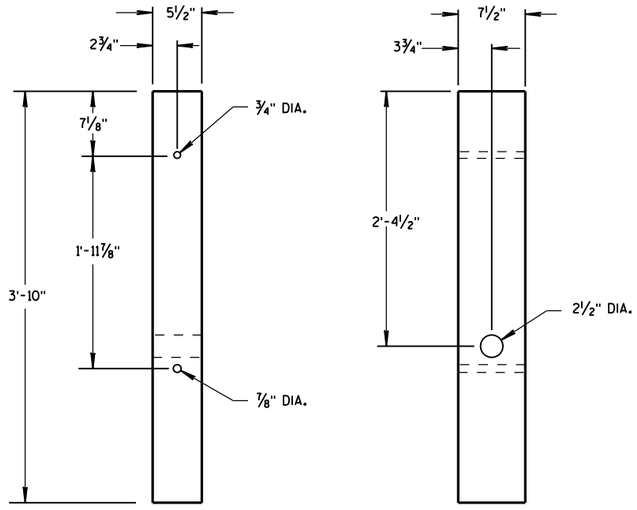
PLAN VIEW

FRONT VIEW SIDE VIEW

FOUNDATION TUBE



PLAN VIEW

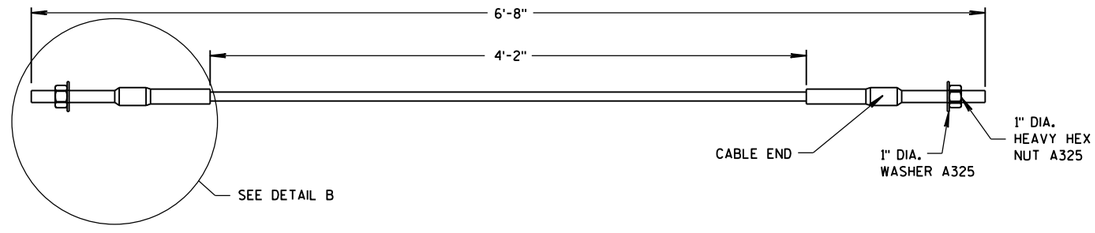


FRONT VIEW SIDE VIEW

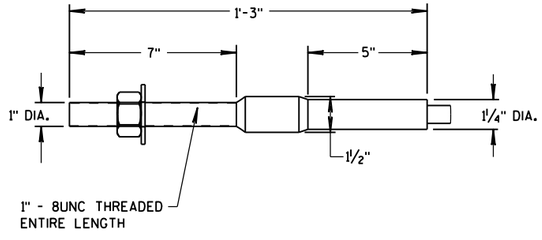
BREAKAWAY WOOD POST

GENERAL NOTES

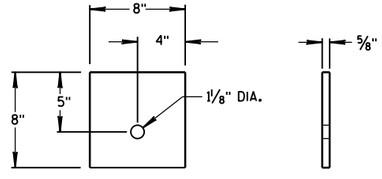
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

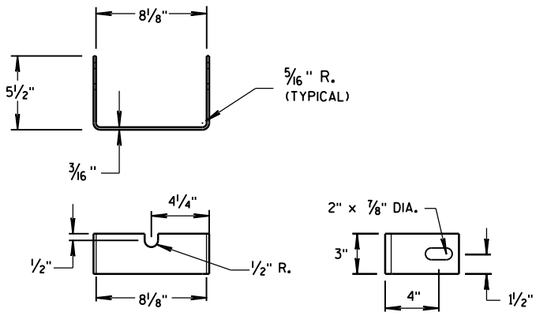
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

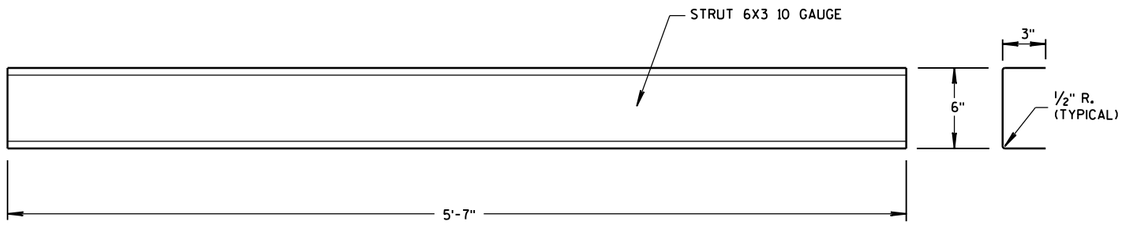
S.D.D. 14 B 47-2b

6

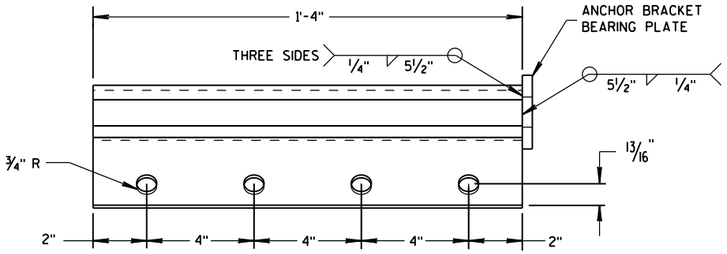
S.D.D. 14 B 47-2b

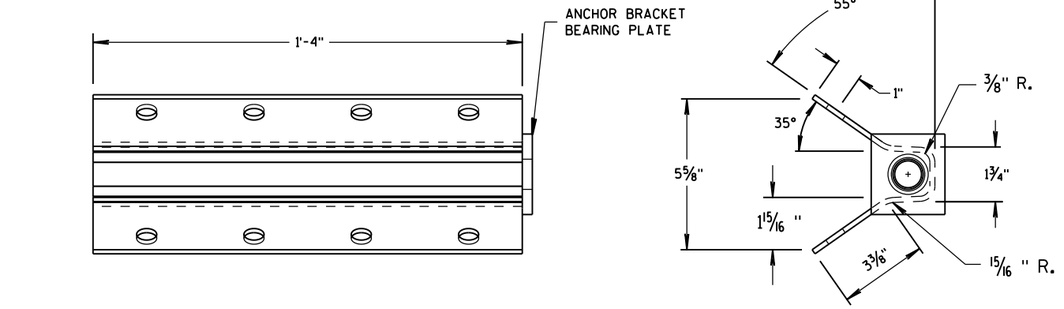


YOKE DETAIL

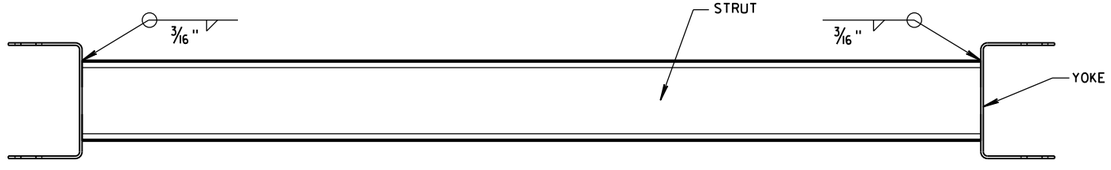


STRUT DETAIL

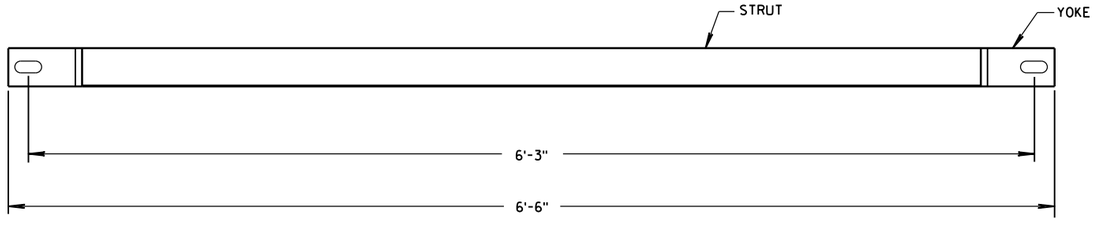




ANCHOR BRACKET

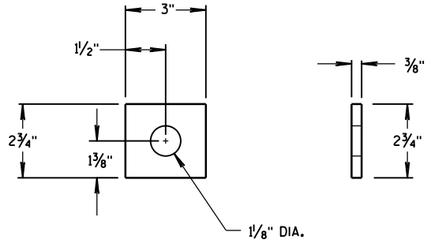


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

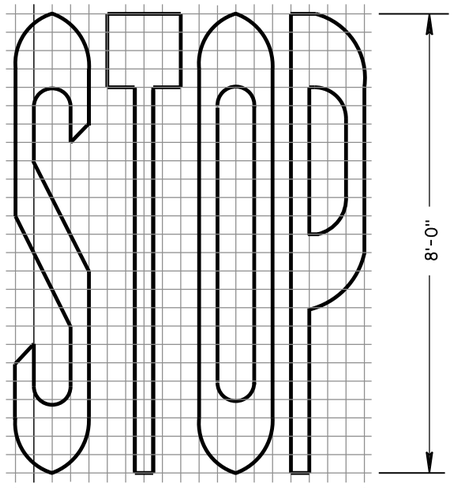
APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

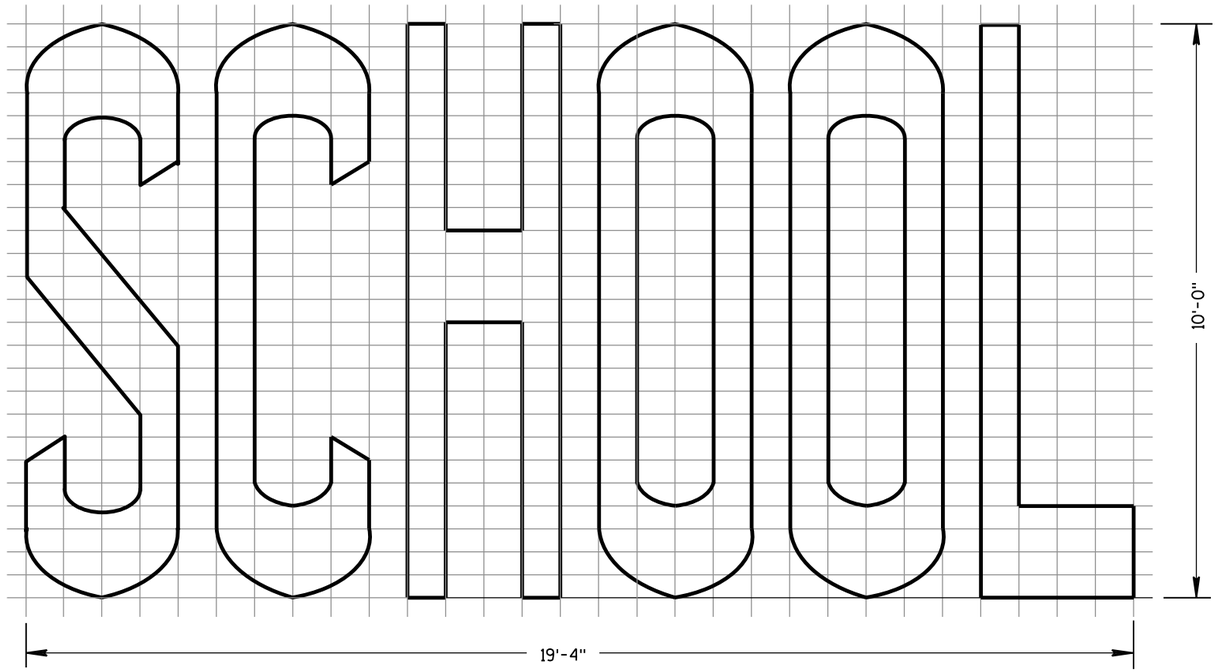
S.D.D. 14 B 47-2c

GENERAL NOTES

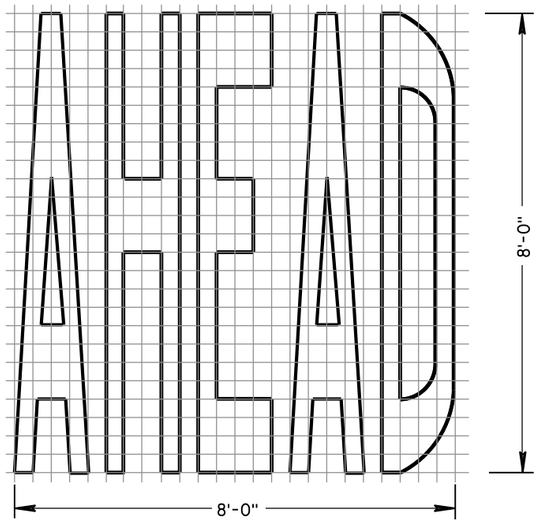
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

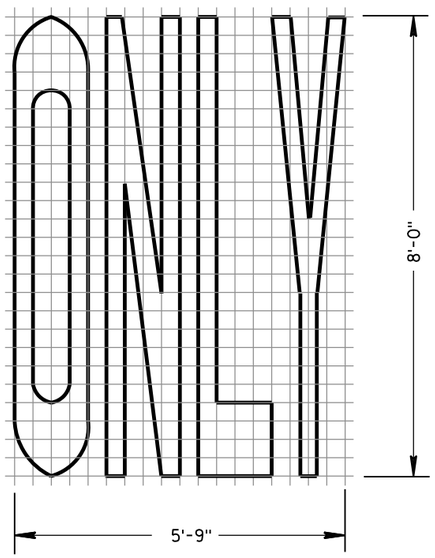


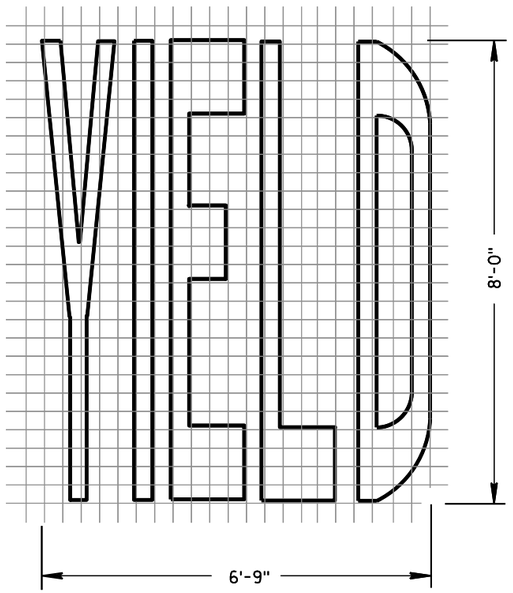


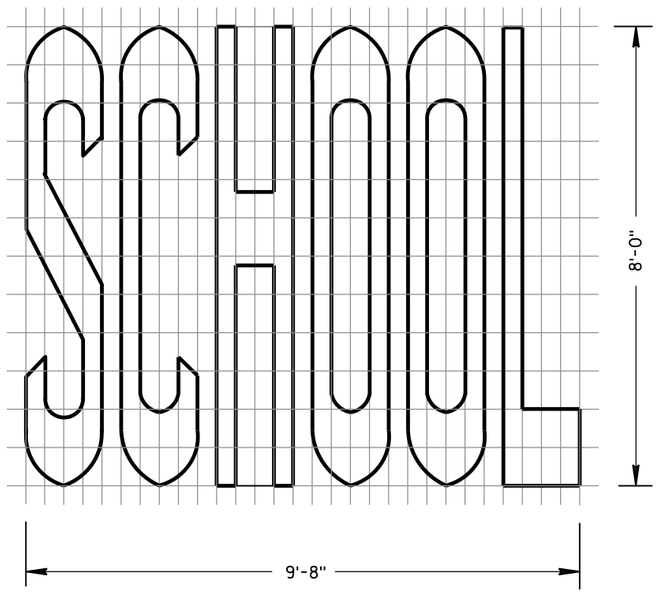


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-16	/S/ Matthew R. Rauch	
DATE	STATE SIGNING AND MARK	EER

FHWA

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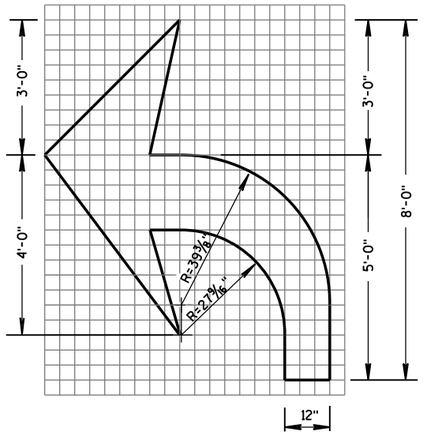
S.D.D. 15 C 7-13b

6

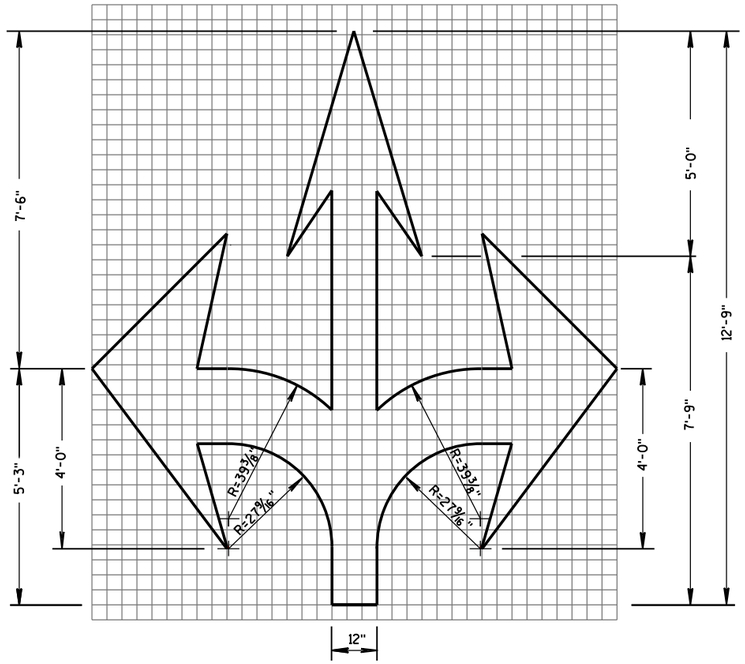
S.D.D. 15 C 7-13b

GENERAL NOTES

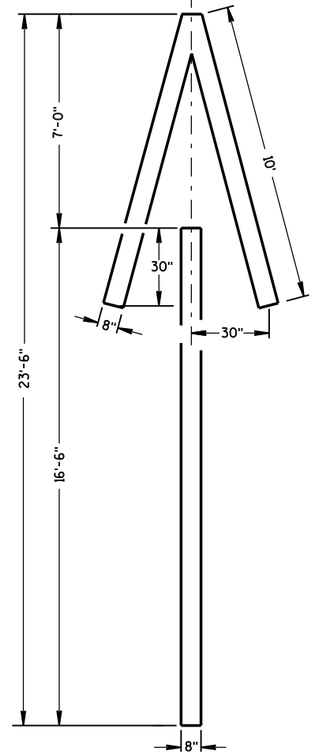
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



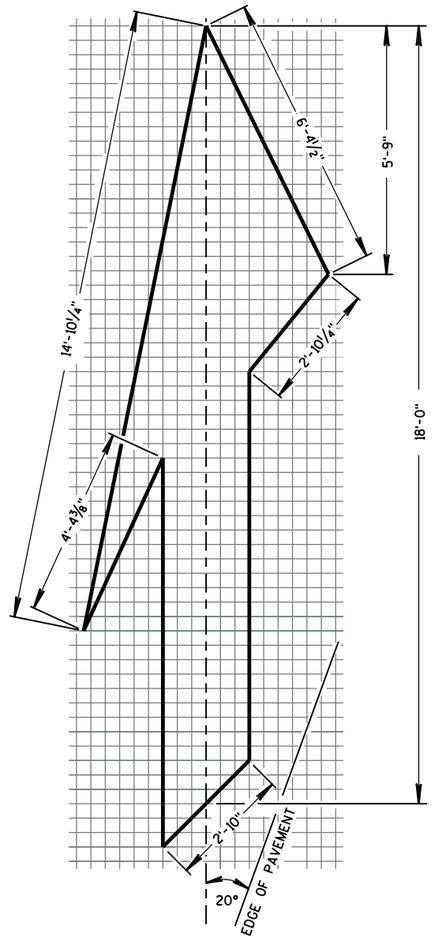
TYPE 2



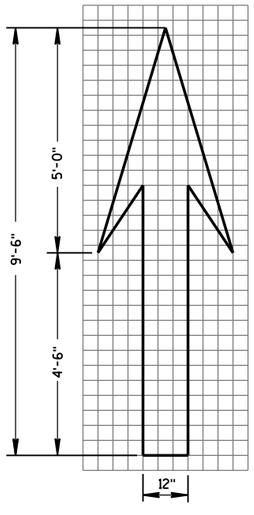
TYPE 6



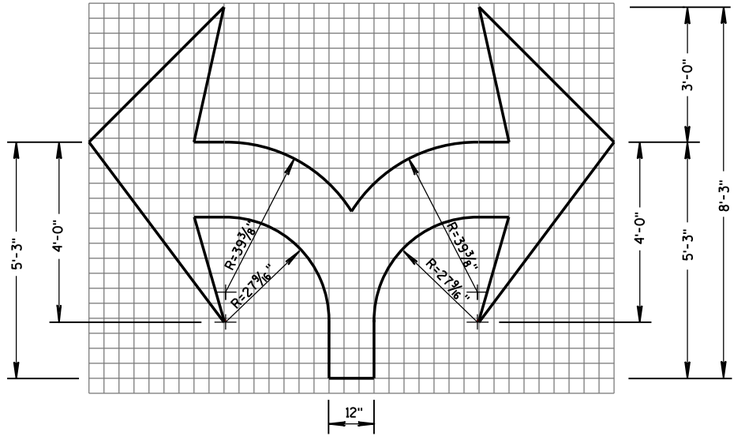
TYPE 4



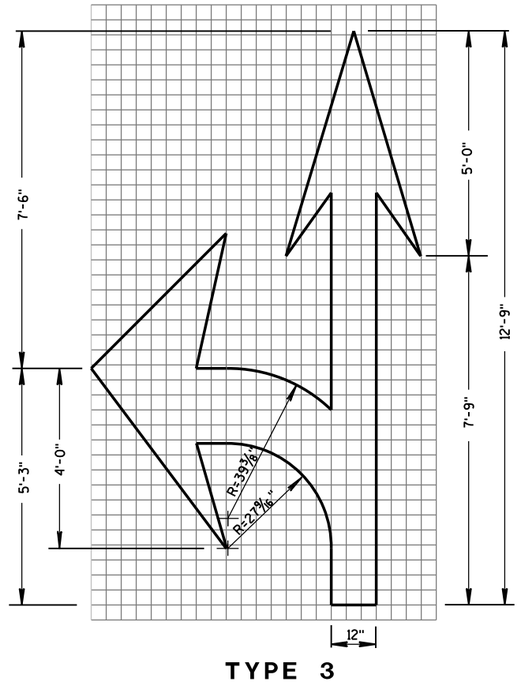
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

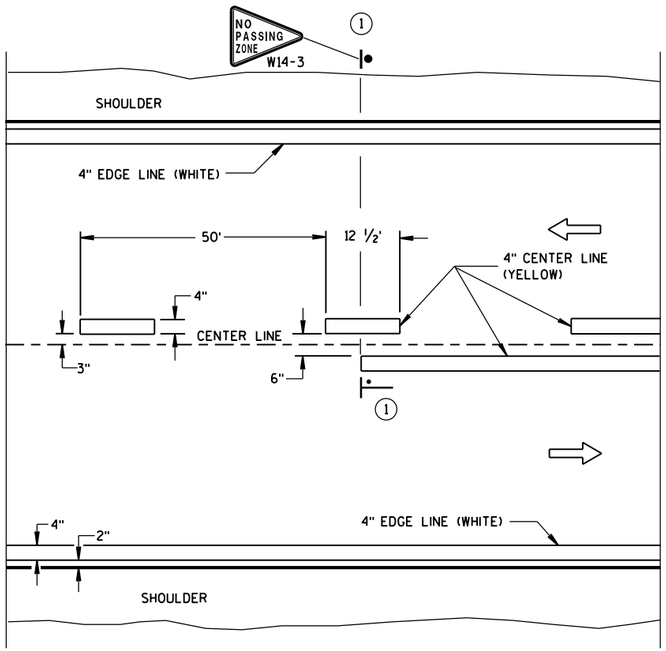
APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER
FHWA

6

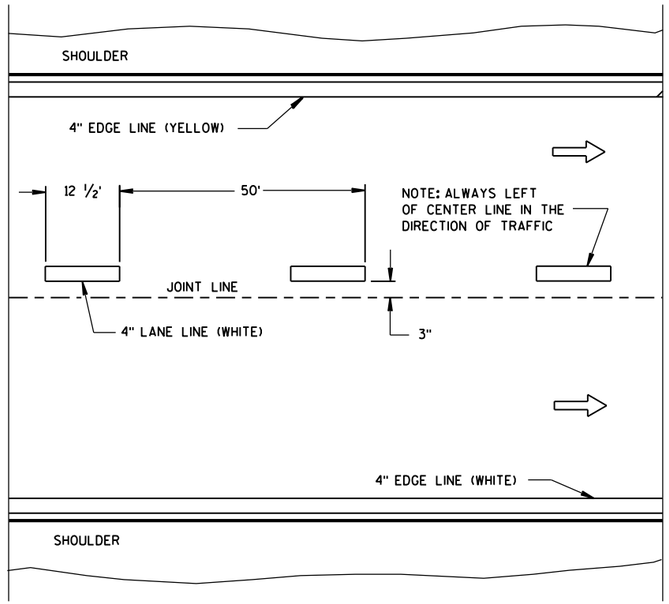
S.D.D. 15 C 7-13c

6

S.D.D. 15 C 7-13c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

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

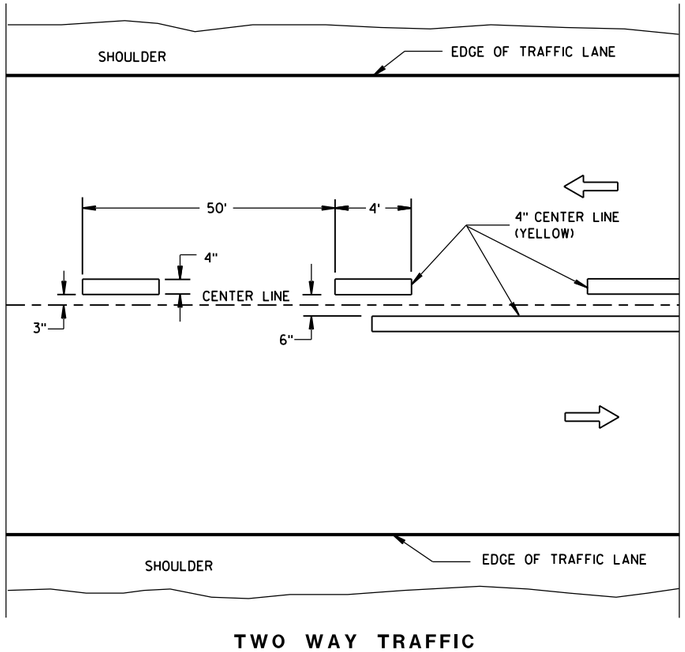
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

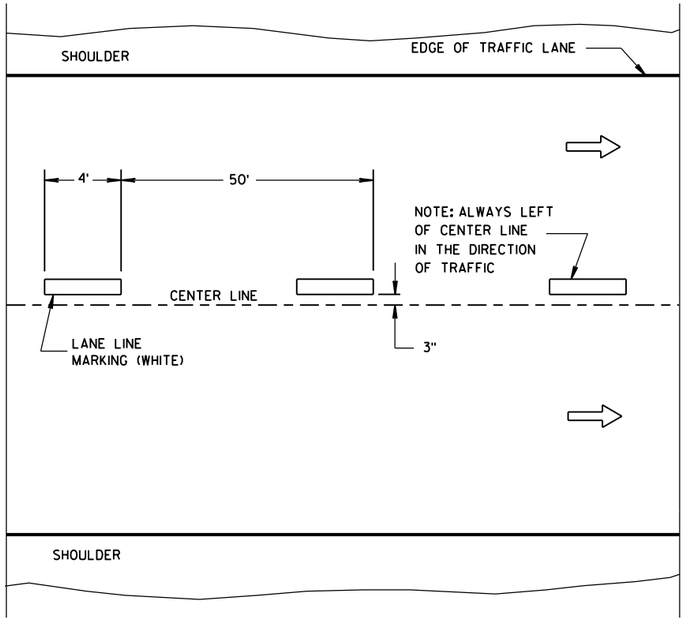
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

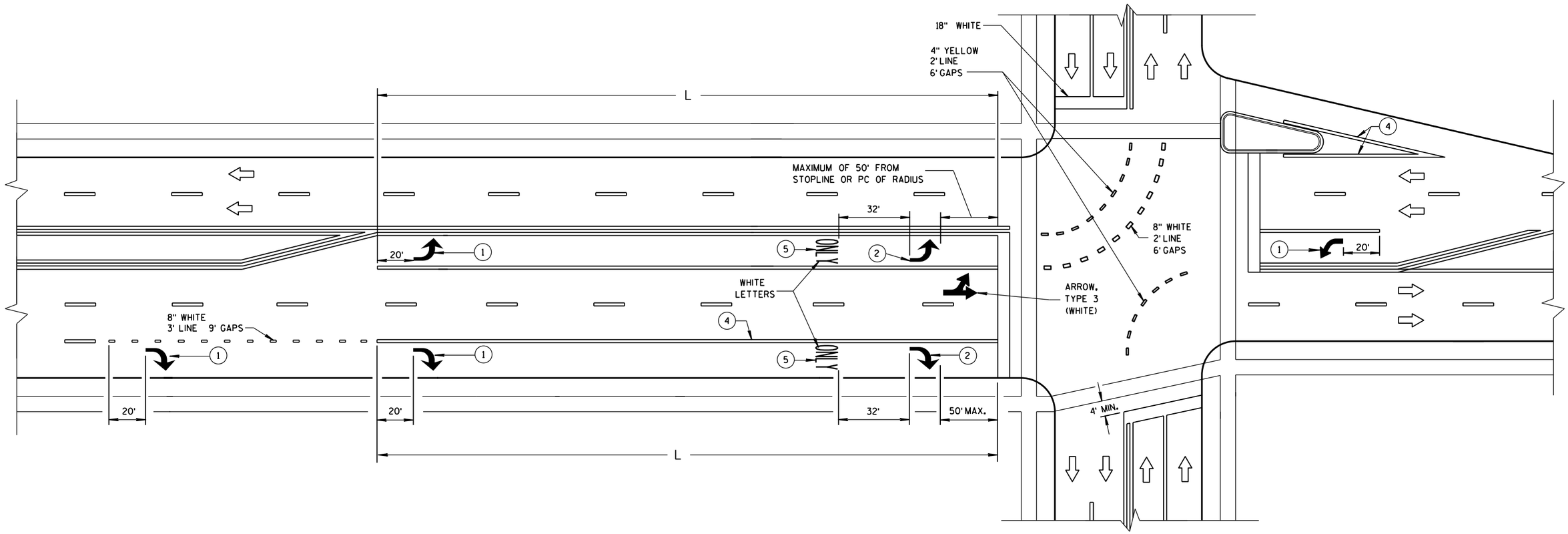
APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]INEER
FHWA

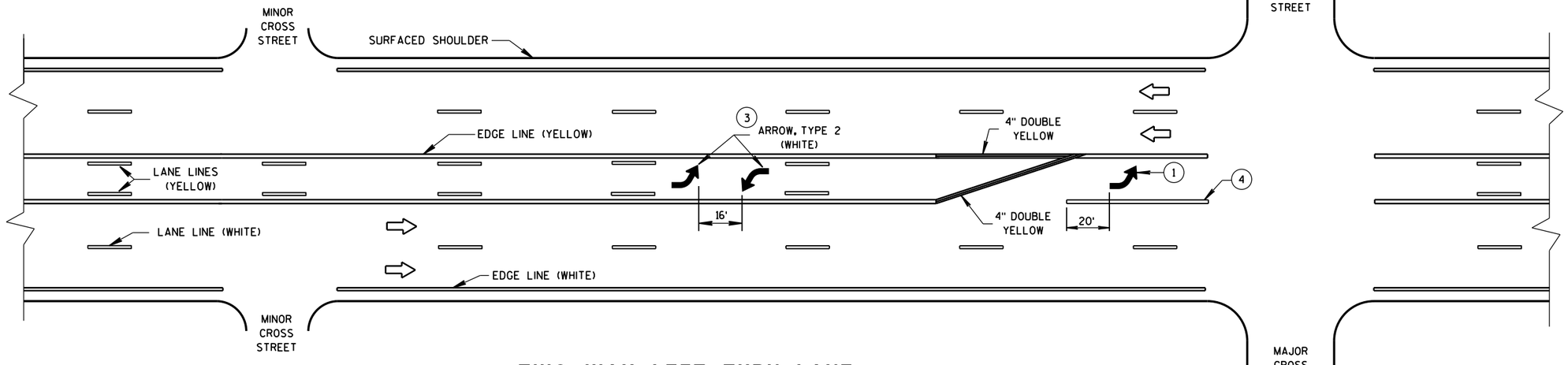
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S.D.D. 15 C 8-17a

6

S.D.D. 15 C 8-17a





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

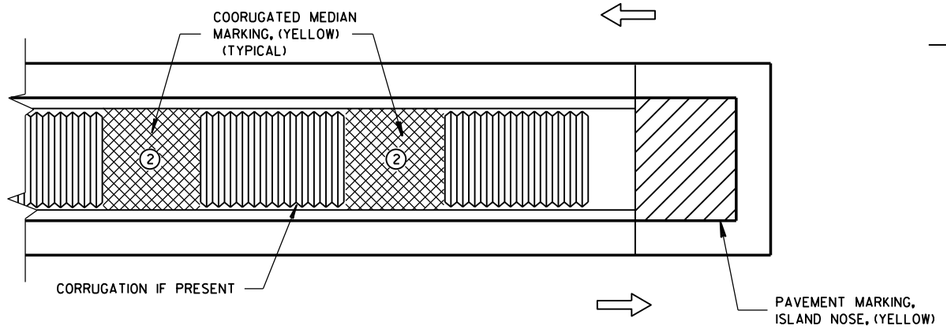
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

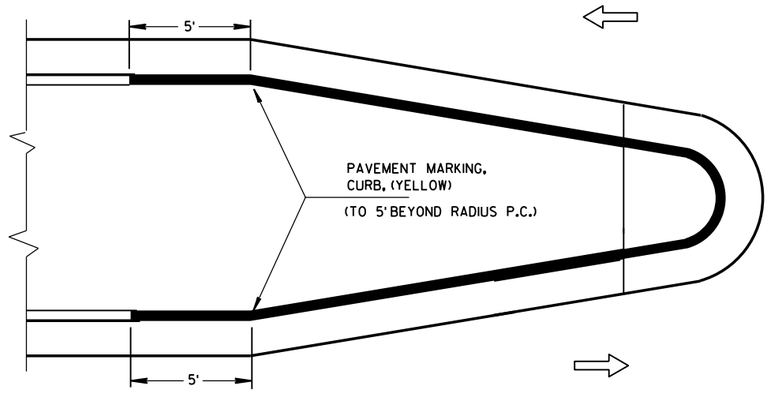
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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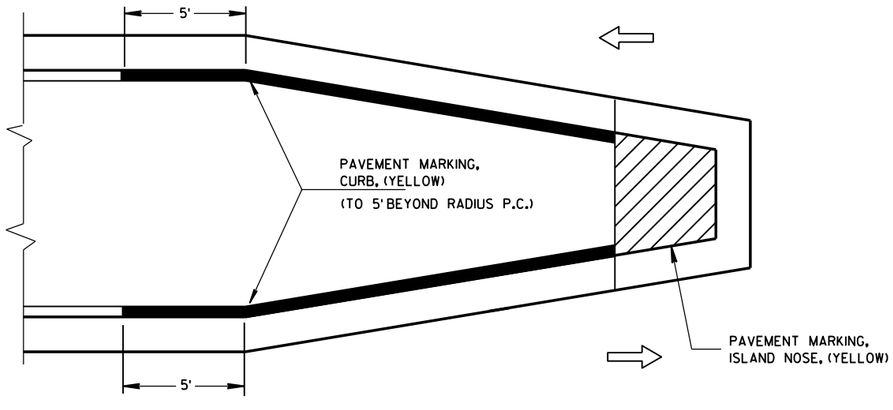
S.D.D. 15 C 8-17b



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

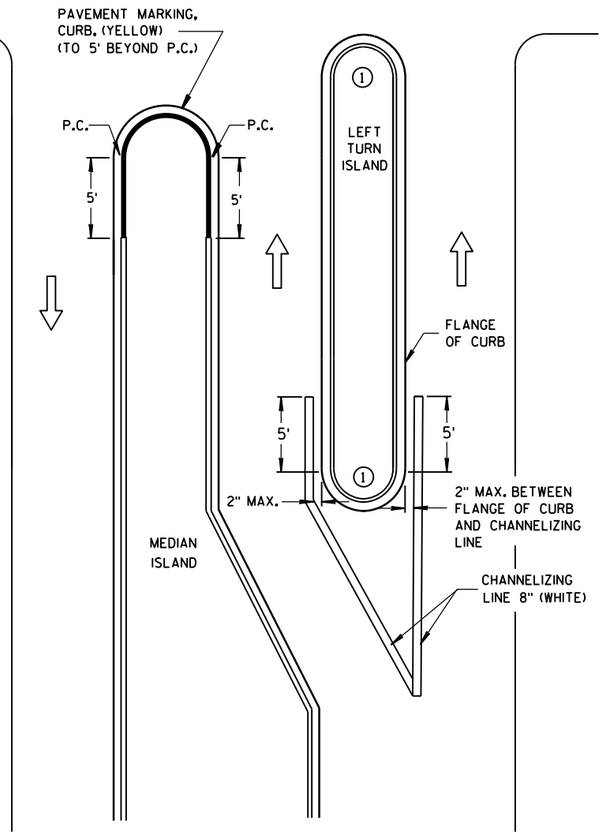


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

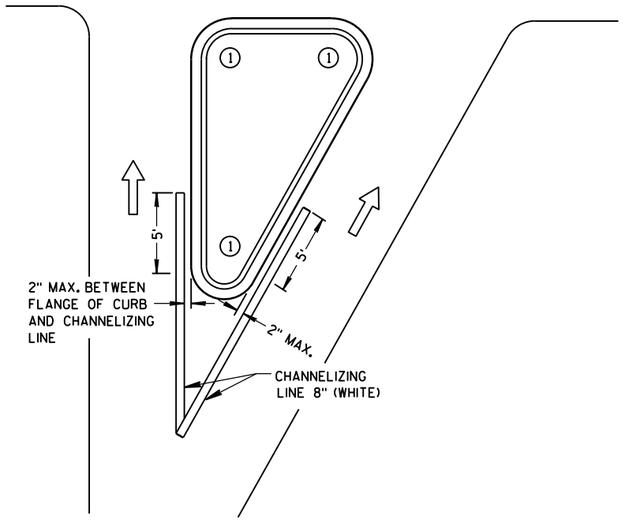


LEFT TURN & MEDIAN ISLAND

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

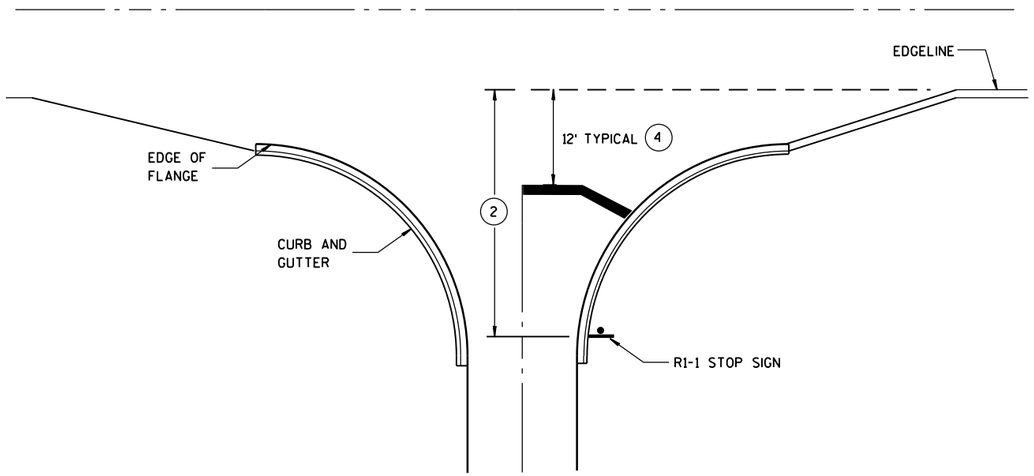
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

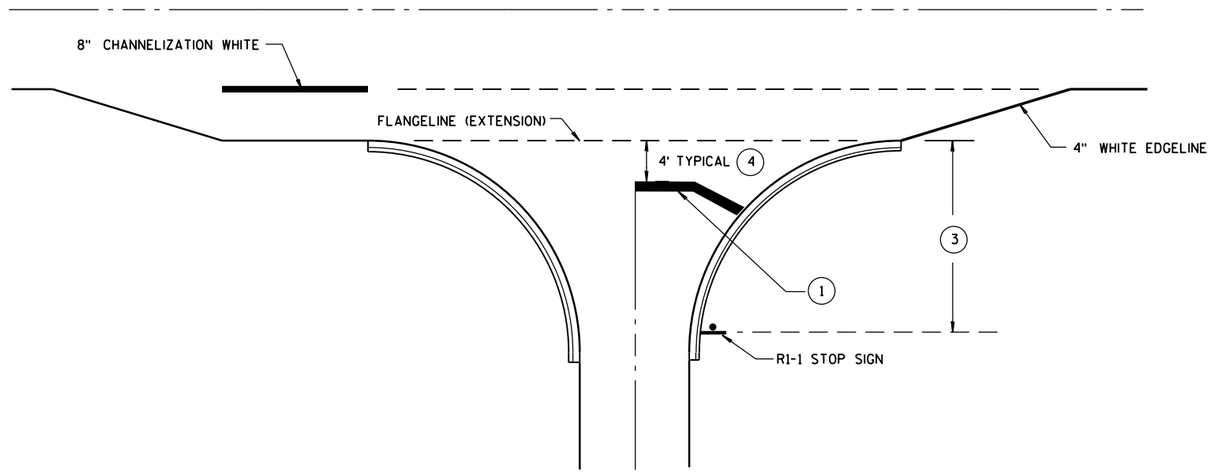
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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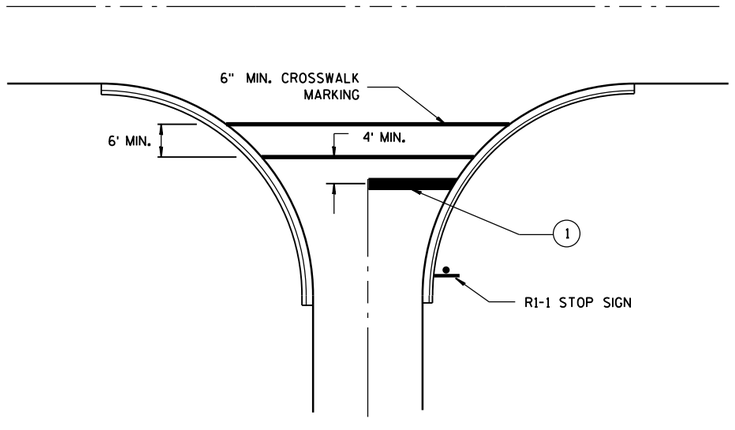
S.D.D. 15 C 8-17c



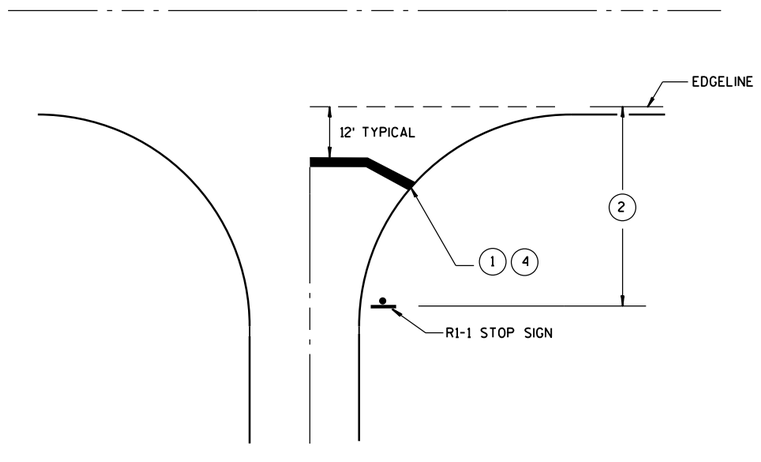
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

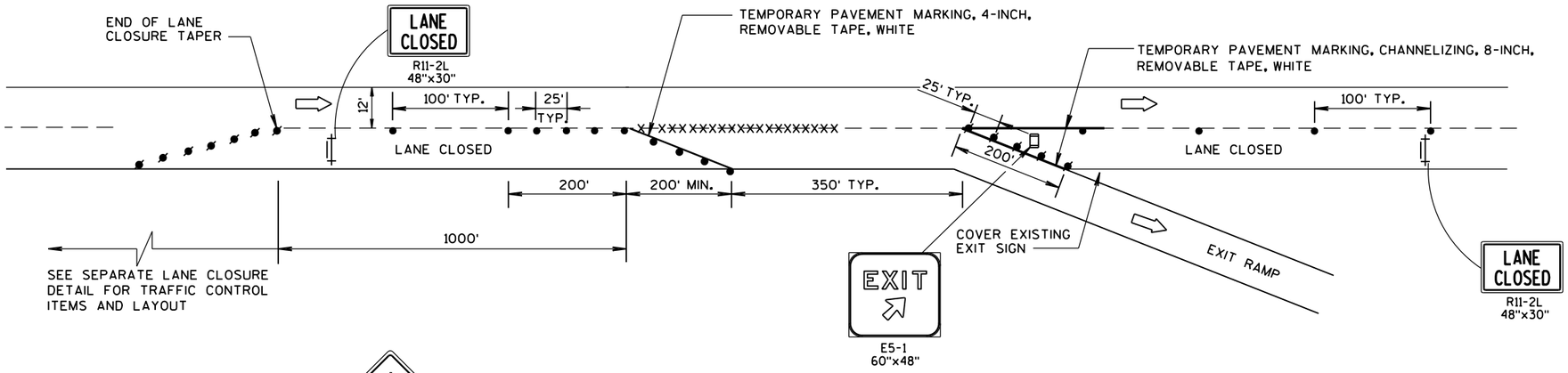
APPROVED

4-18-2016
DATE

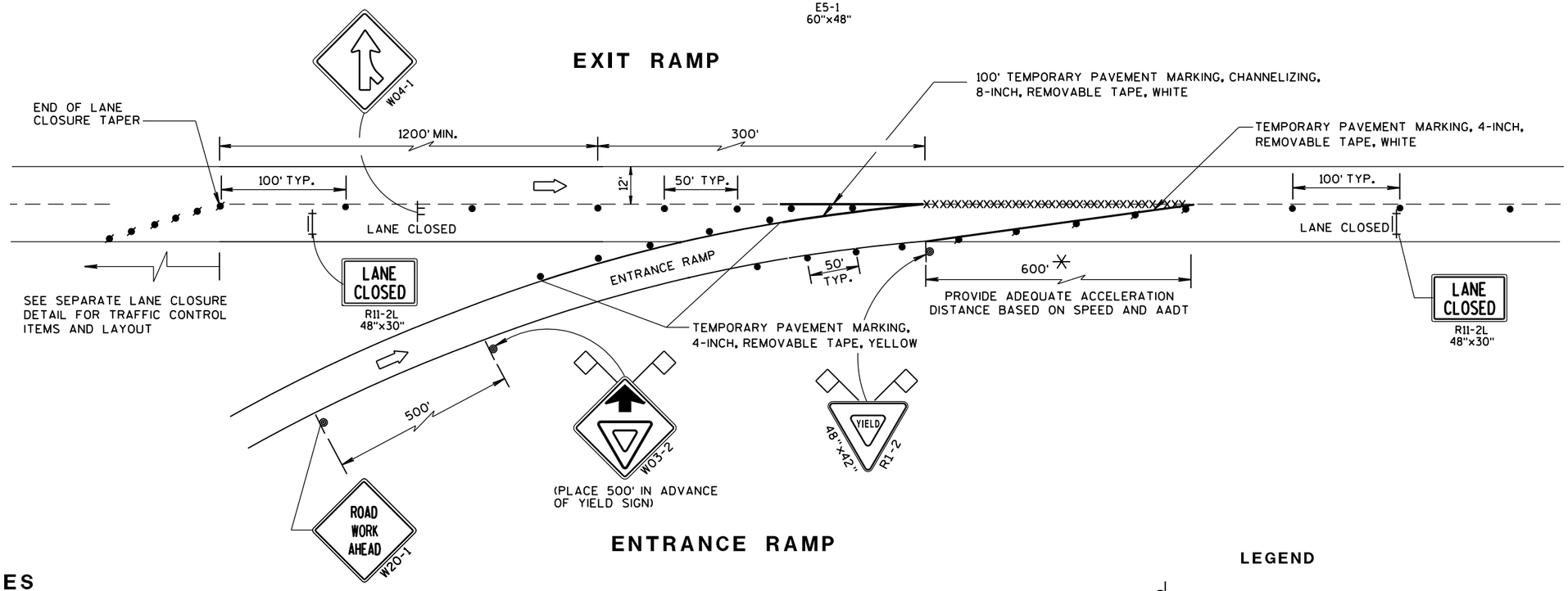
/S/ Matthew R. Rauch
STATE SIGNING AND MAR 318 NEER

FHWA

6
S.D.D. 15 C 33-2



EXIT RAMP



ENTRANCE RAMP

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

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

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

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

LEGEND

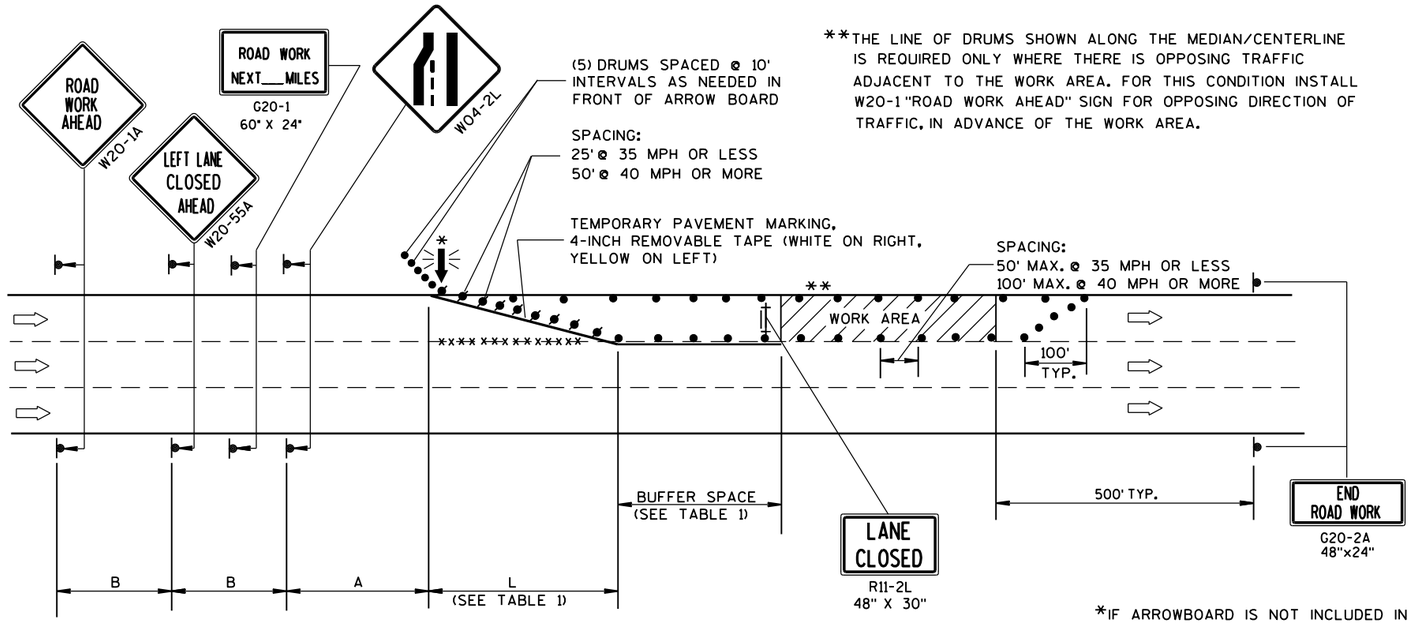
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 15 D 15-2



**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"

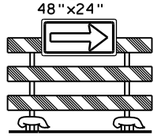


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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.

W20-1A, 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
June 2016 — DATE
FHWA

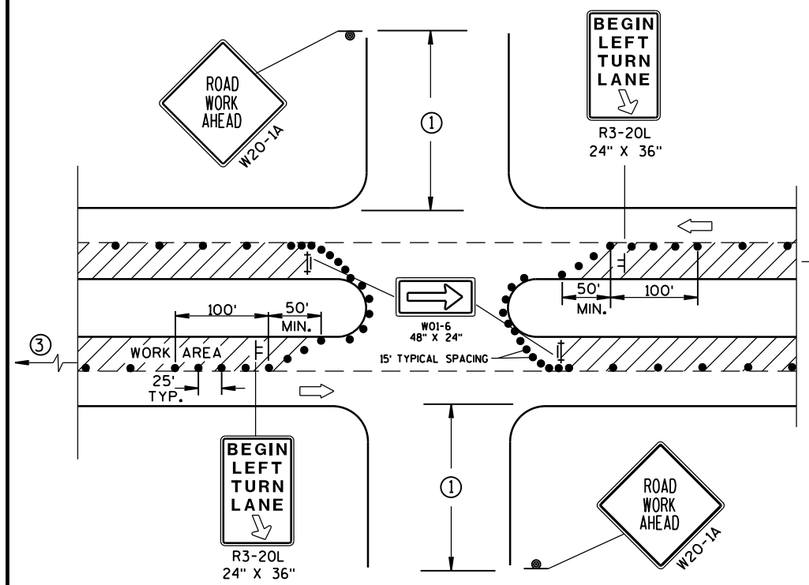
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER — IC

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S.D.D. 15 D 20-4

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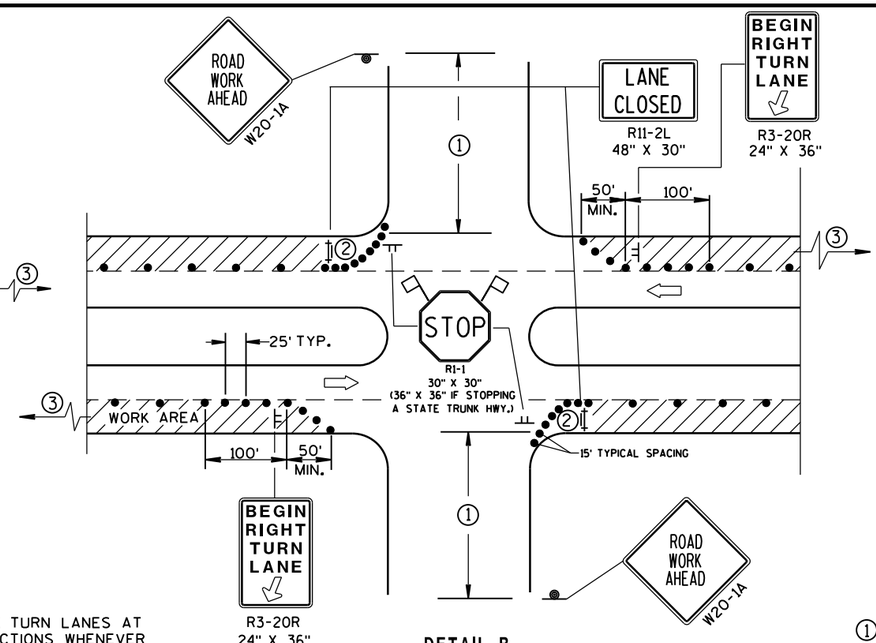
S.D.D. 15 D 20-4



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.

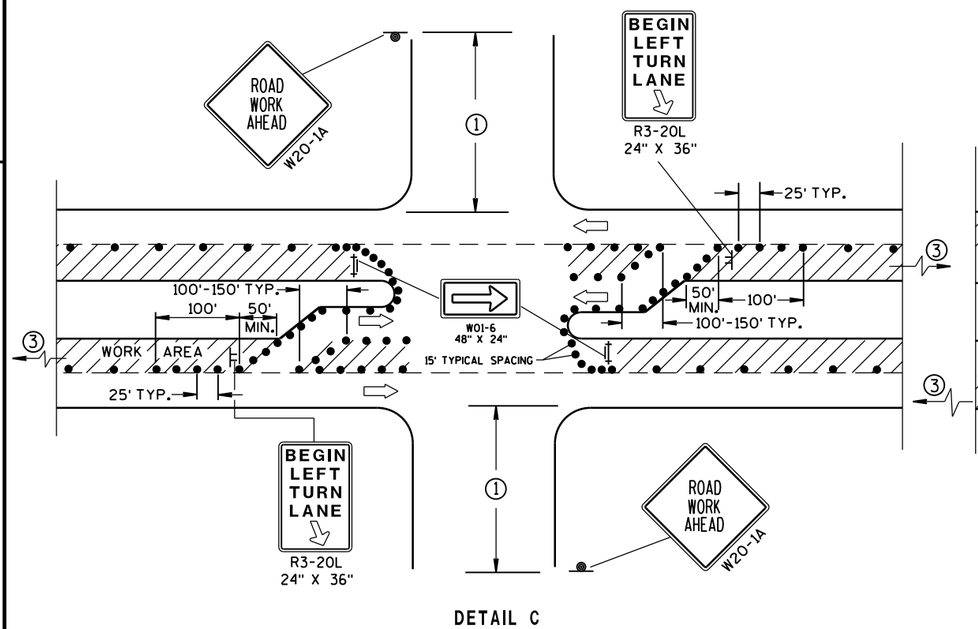
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

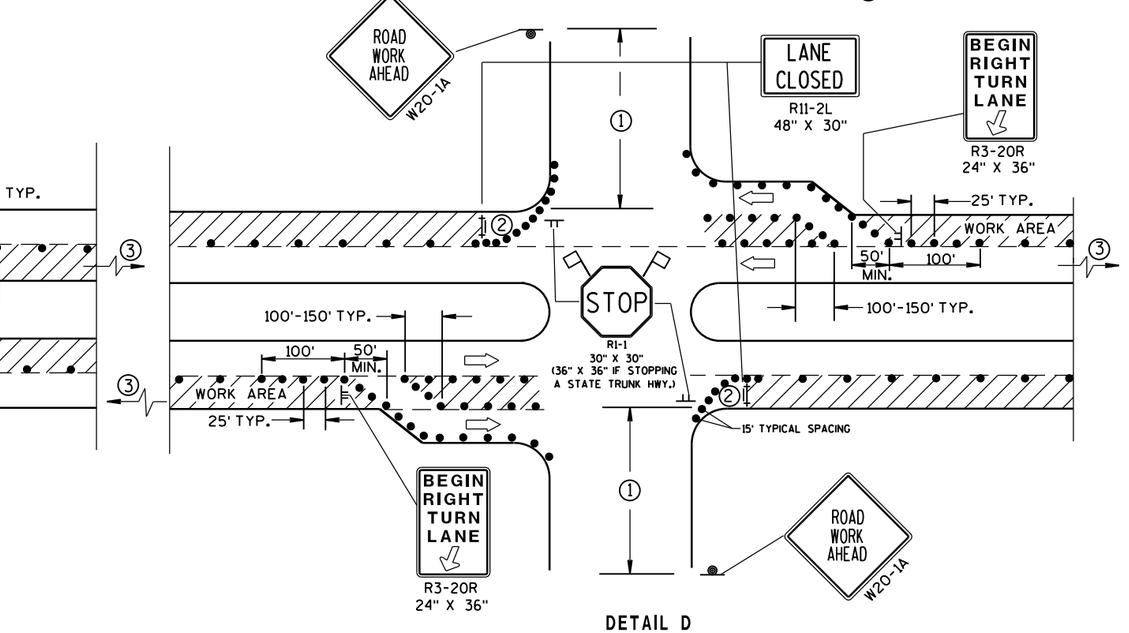
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

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
June 2016 — DATE
/S/ Peter Anakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 21-4

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S.D.D. 15 D 21-4

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

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY 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 DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

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 THE 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.

W20-1A, 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.

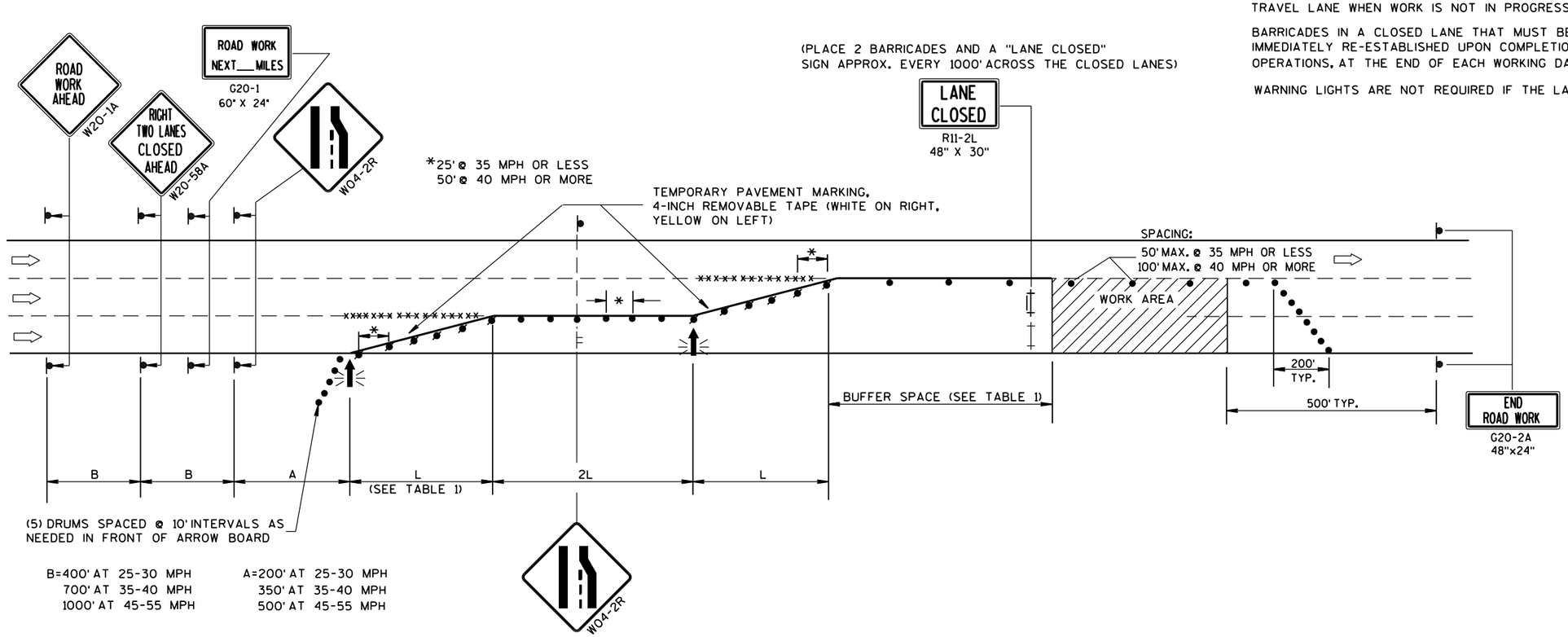
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD AS SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

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.



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

TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 15 D 22-3

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

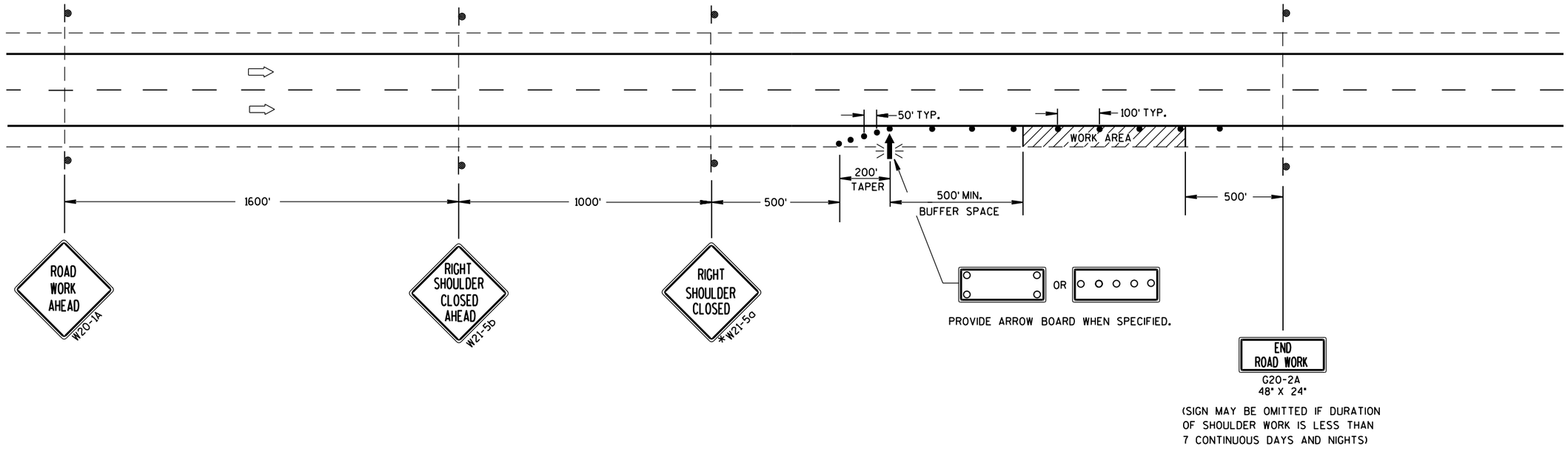
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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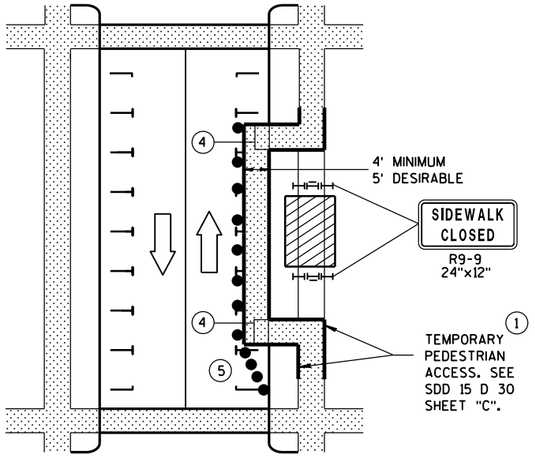
June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]
FHWA

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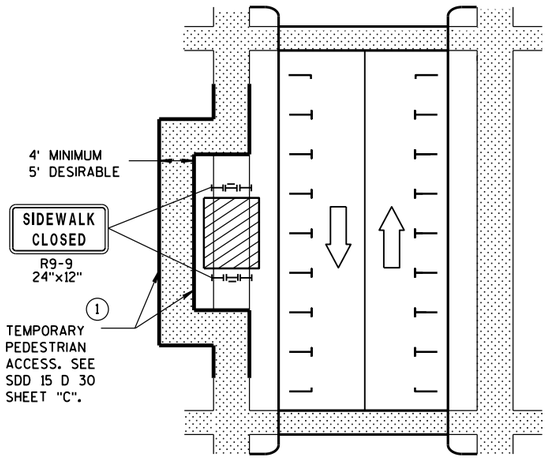
S.D.D. 15 D 27-3

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

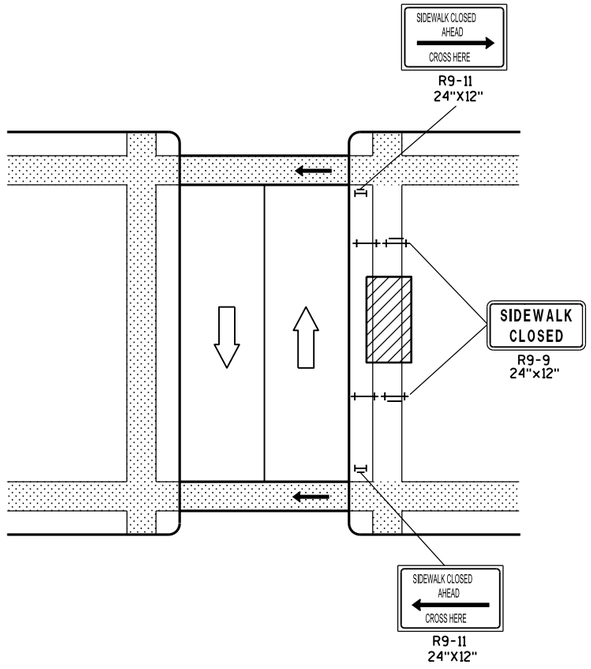


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

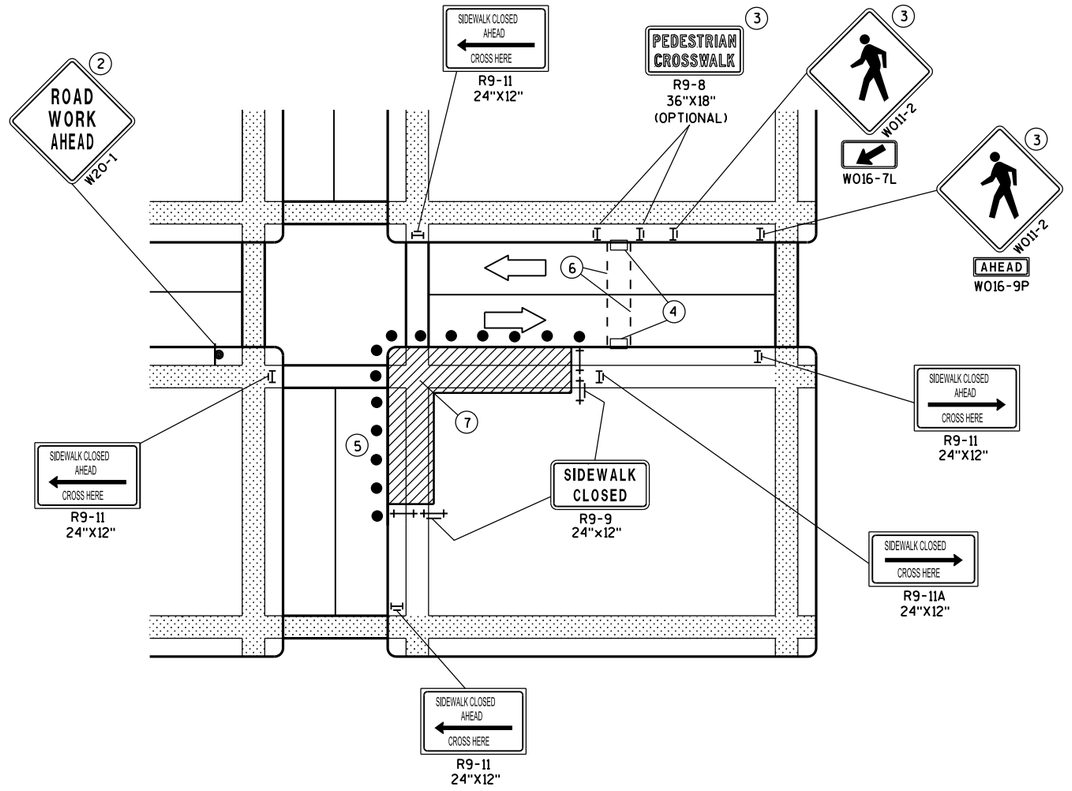
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

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

LEGEND

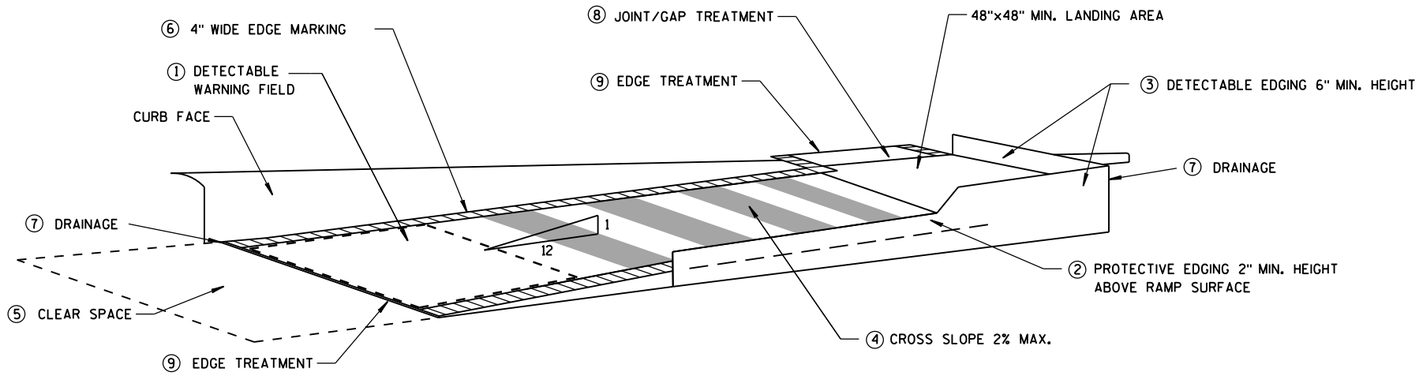
- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

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

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

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

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

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

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

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

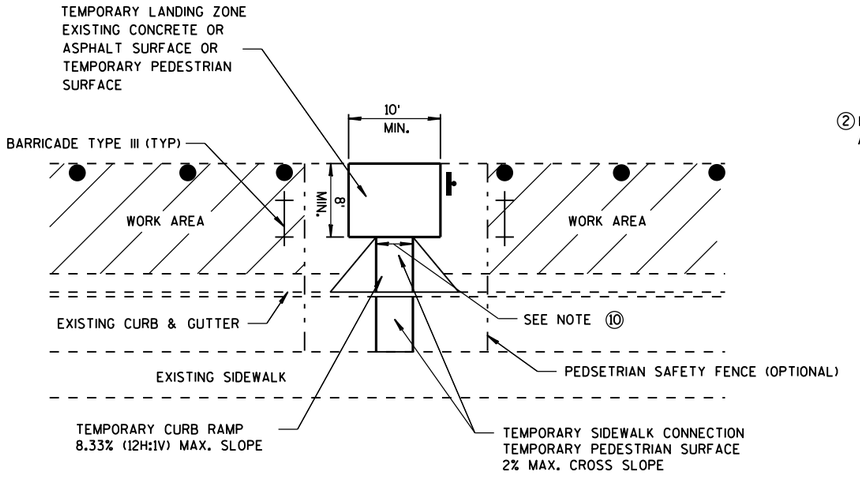
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

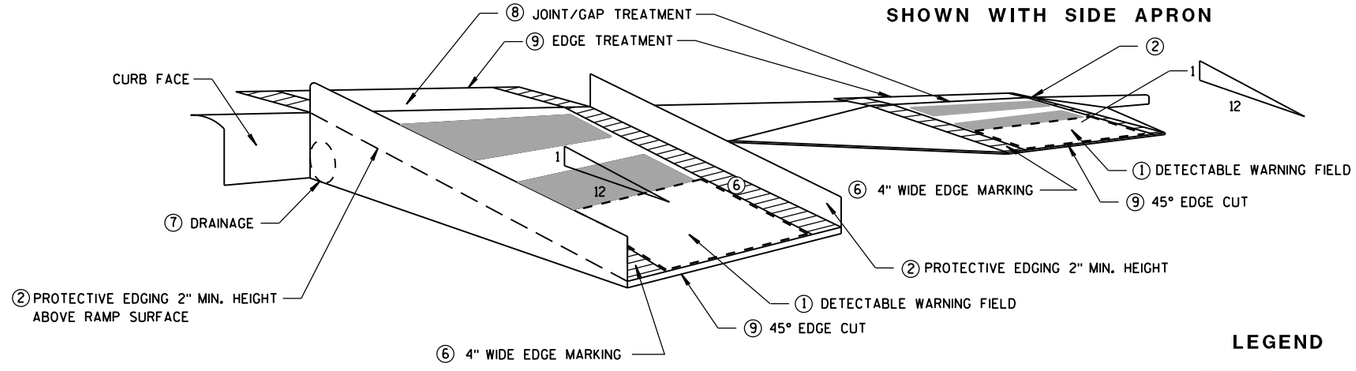
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

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

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



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016
DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI IC

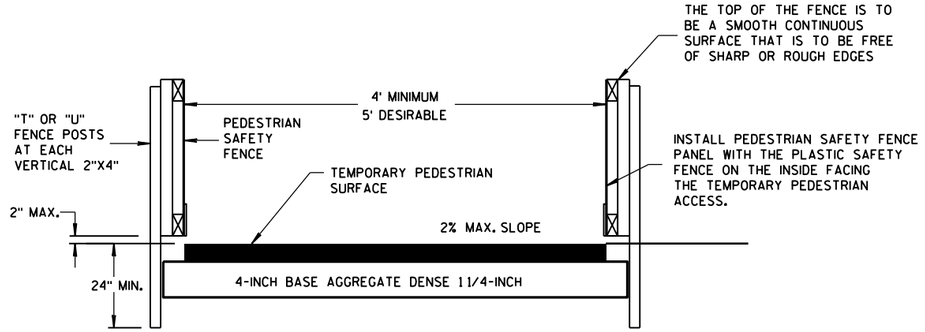
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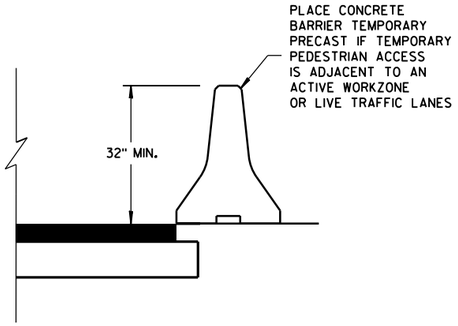
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S.D.D. 15 D 30-3b

6

S.D.D. 15 D 30-3b

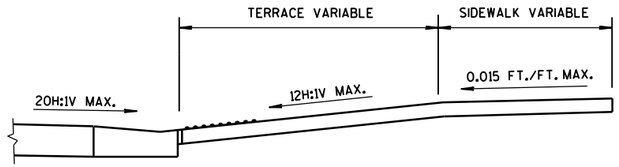




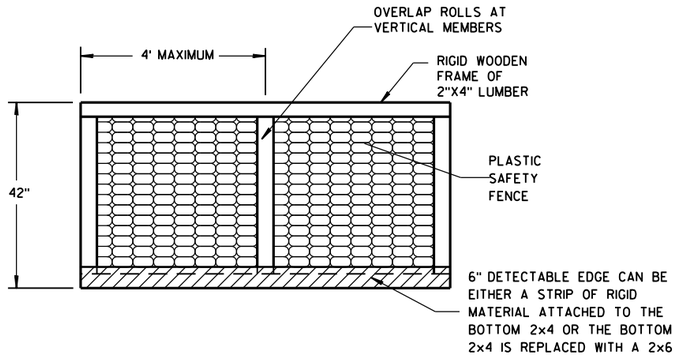
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

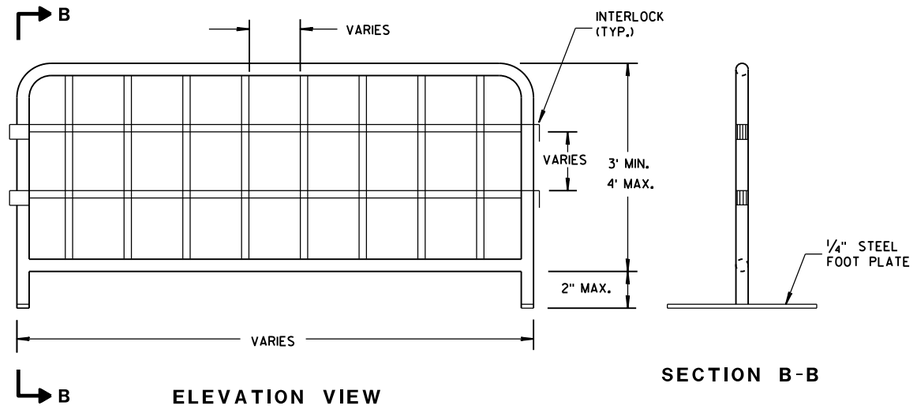
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



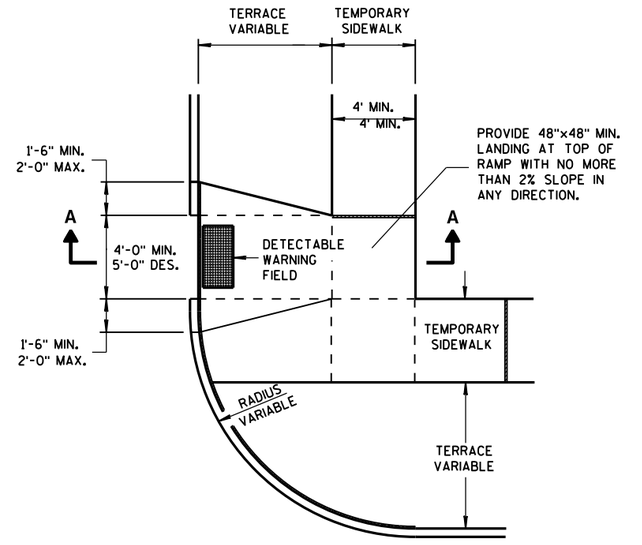
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

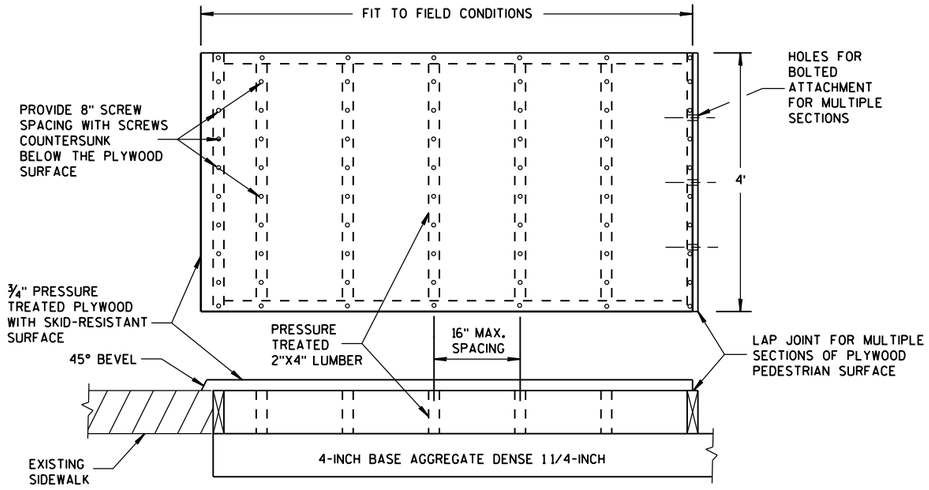
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



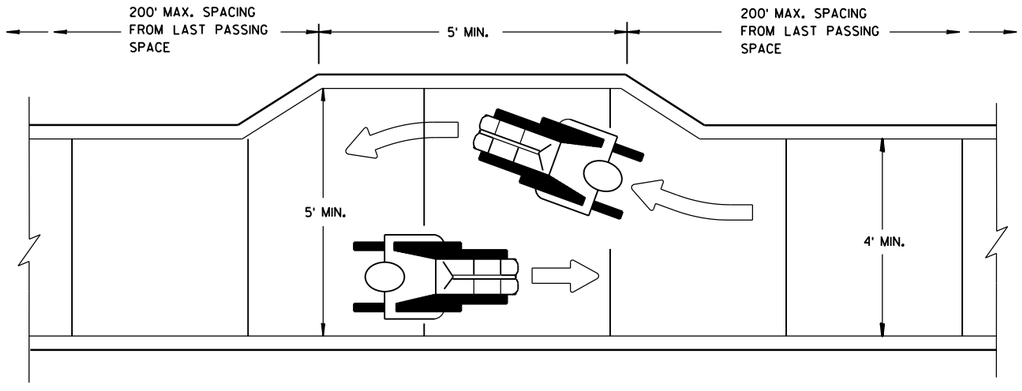
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

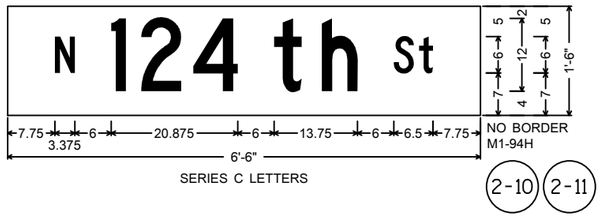
APPROVED
June 2016
DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
FHWA

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S.D.D. 15 D 30-3c

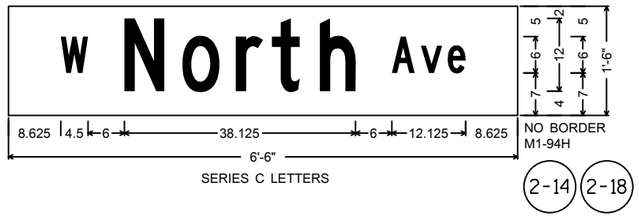
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S.D.D. 15 D 30-3c



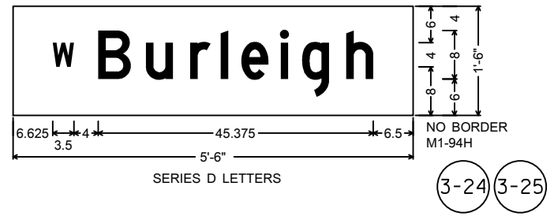
SERIES C LETTERS

2-10 2-11



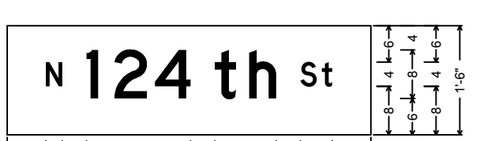
SERIES C LETTERS

2-14 2-18



SERIES D LETTERS

3-24 3-25



SERIES D LETTERS

3-26 3-27



SERIES C LETTERS

5-4

7

7

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.

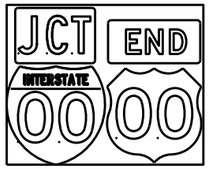
PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	SIGNING DETAIL - TYPE II SIGNS	SHEET 327	E

FILE NAME : J:\PROJECTS\D2_10603945\90\SIGN\070101_MS.DWG
LAYOUT NAME - 070101_MS
PLOT DATE : 7/25/2016 1:04 PM PLOT BY : VANDE LEEST, CYNTHIAPLOT NAME :
WISDOT/CADDS SHEET

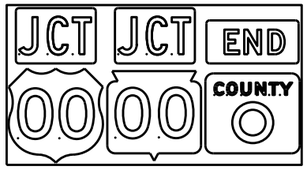
TYPICAL ASSEMBLIES



J1-1



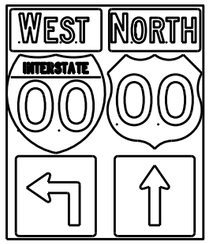
J1-2



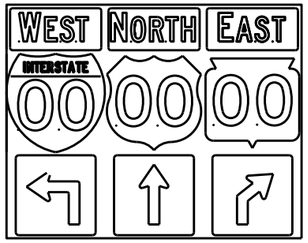
J1-3



J2-1



J2-2

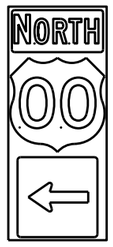


J2-3

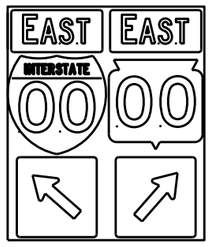


JV

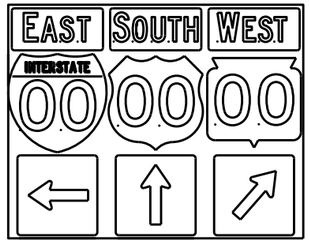
(Typical Vertical J-Assembly
See Note 10 and 11)



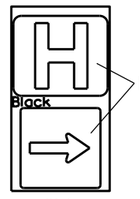
J3-1



J3-2



J3-3

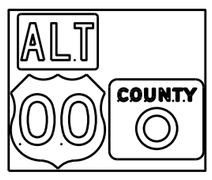


Blue Background

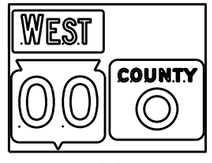
JH-1



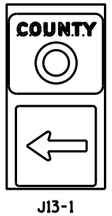
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

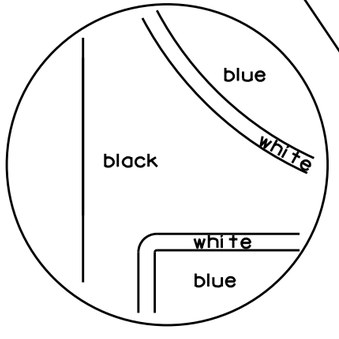


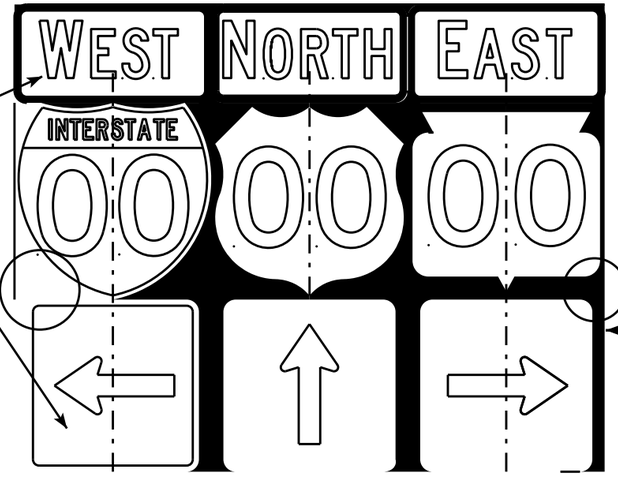
J23-1

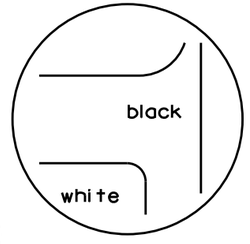


J22-1

[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

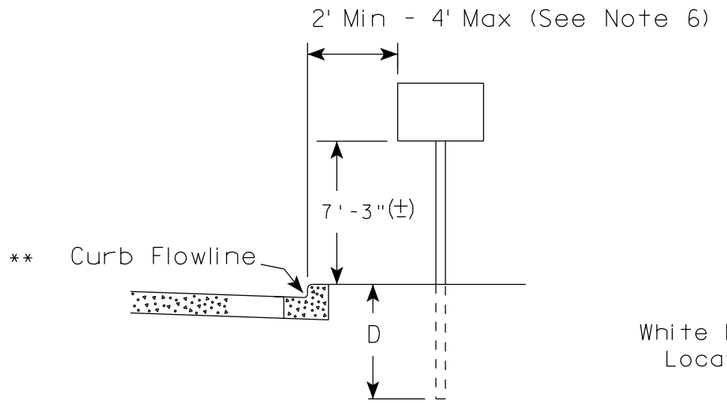
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

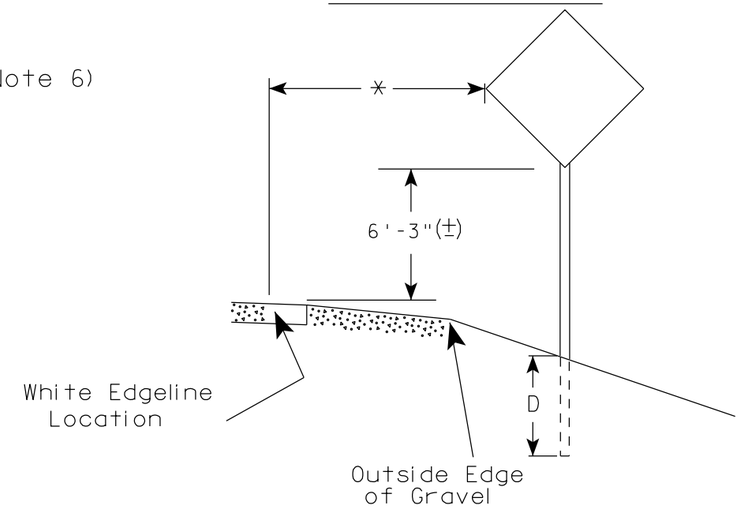
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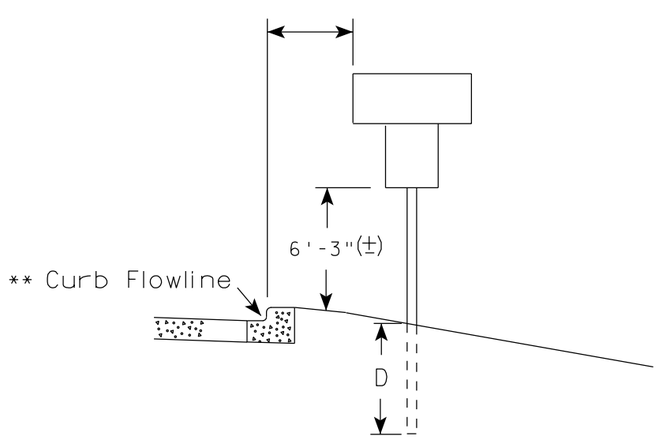
WISDOT/CADDS SHEET 42

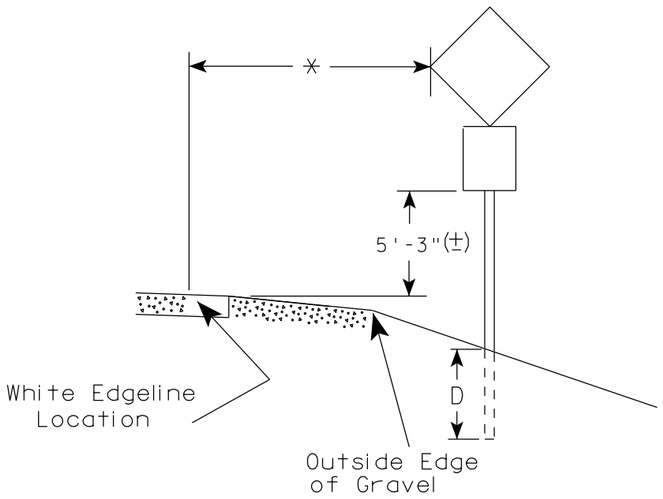
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. 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" (±).

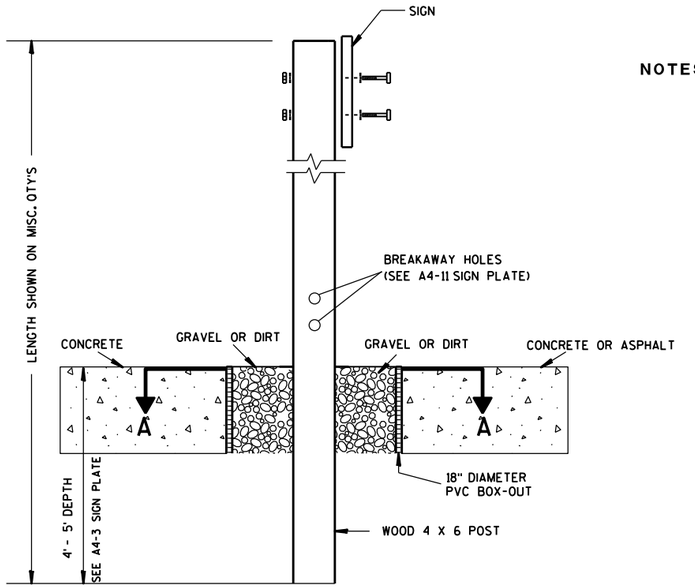
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

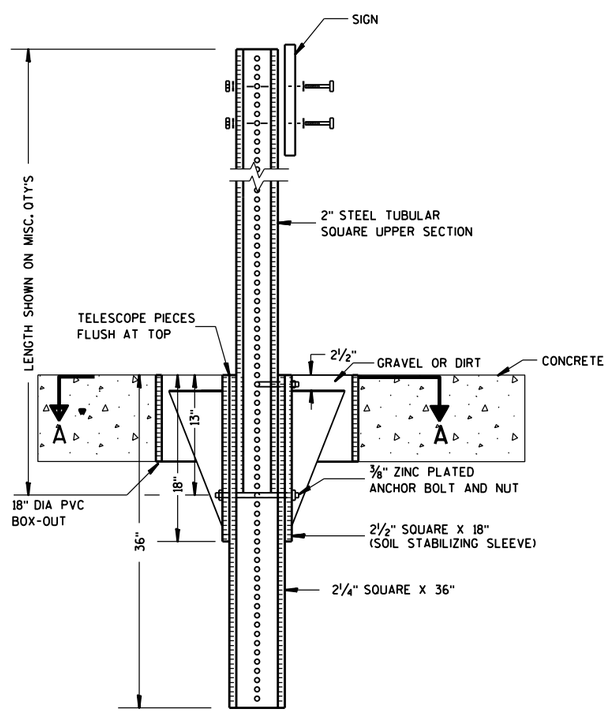
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

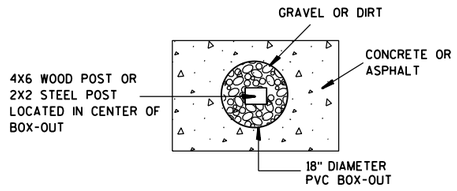
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

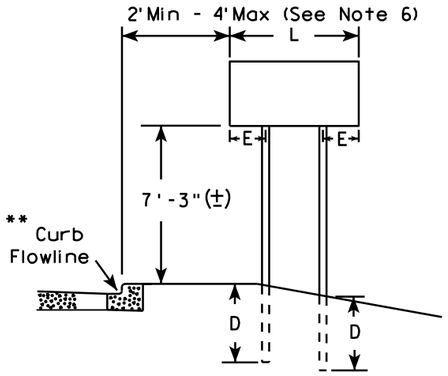
APPROVED Matthew R Rauch
for State Traffic Engineer

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

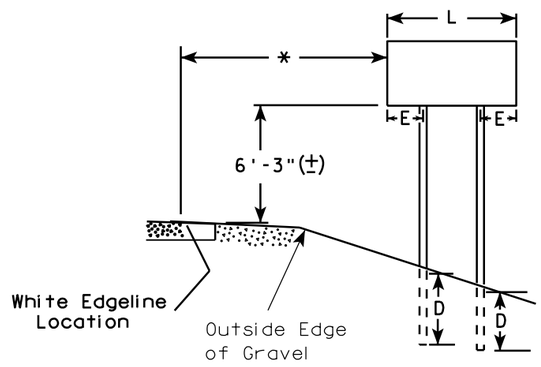
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

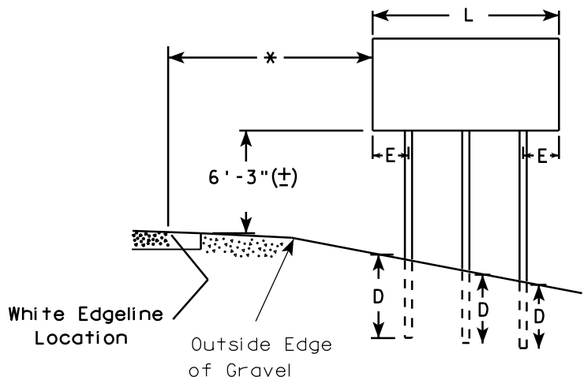
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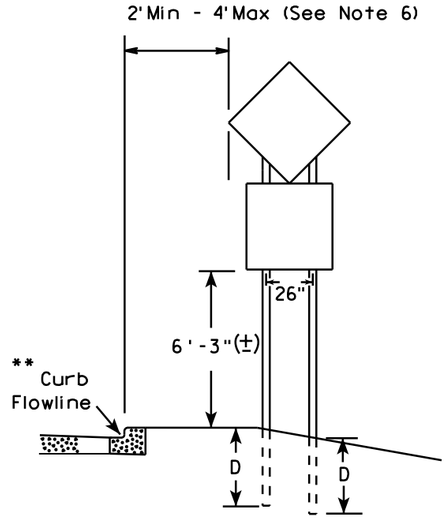
URBAN AREA



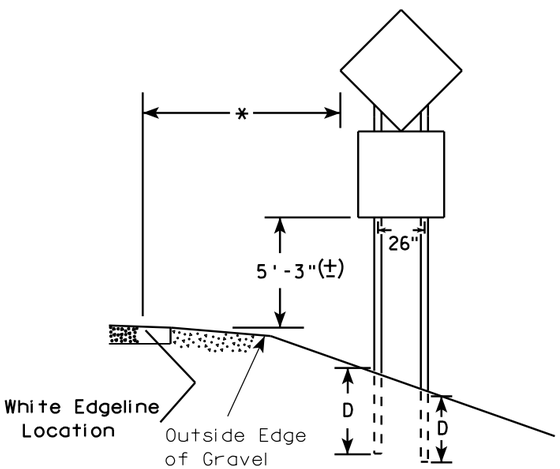
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (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 and less than 20 S.F. in area.

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

***

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

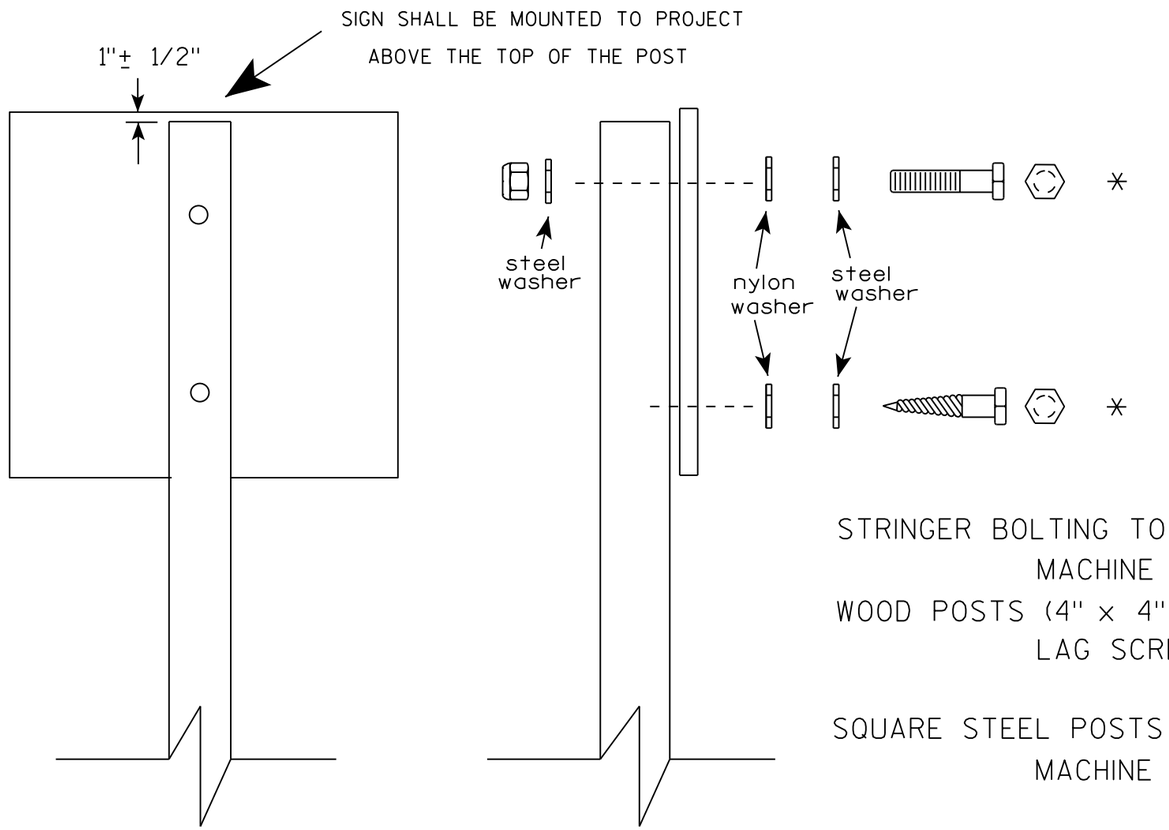
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

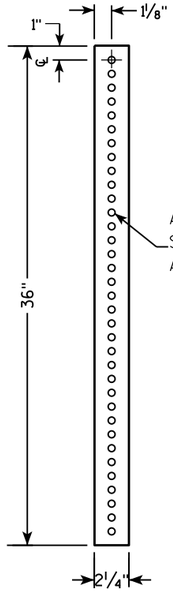
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

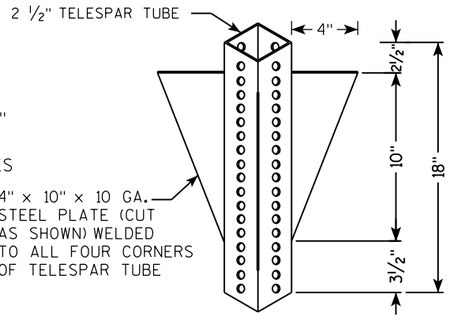
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

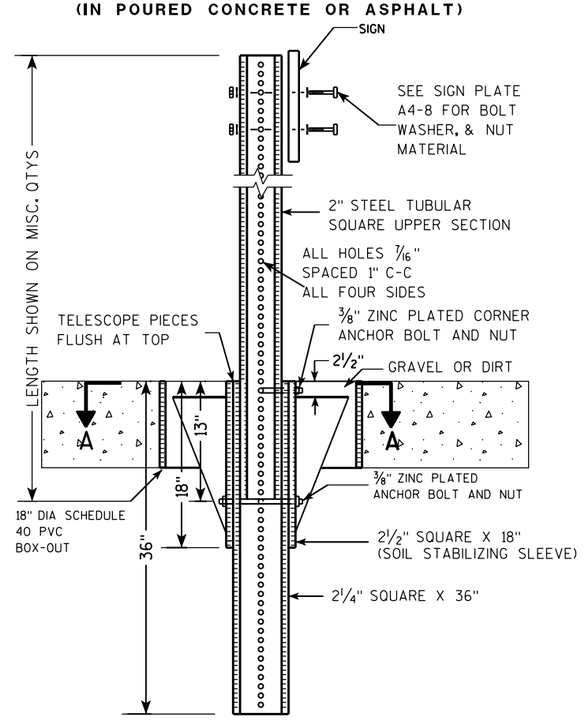
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



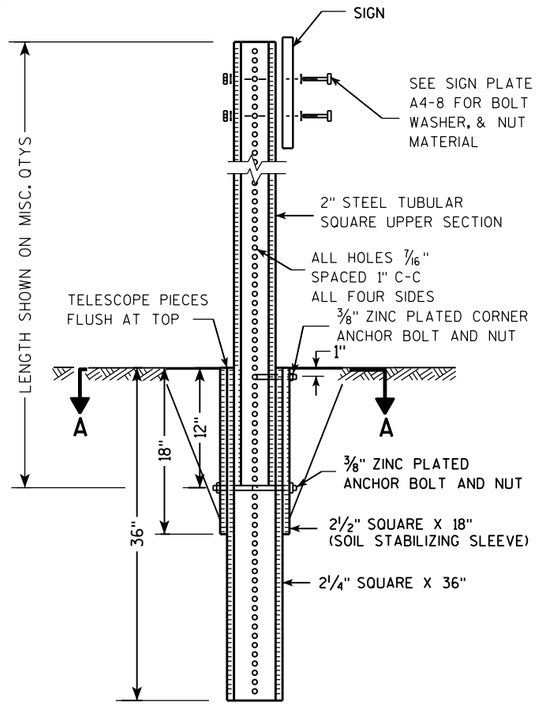
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

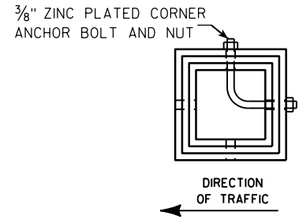


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

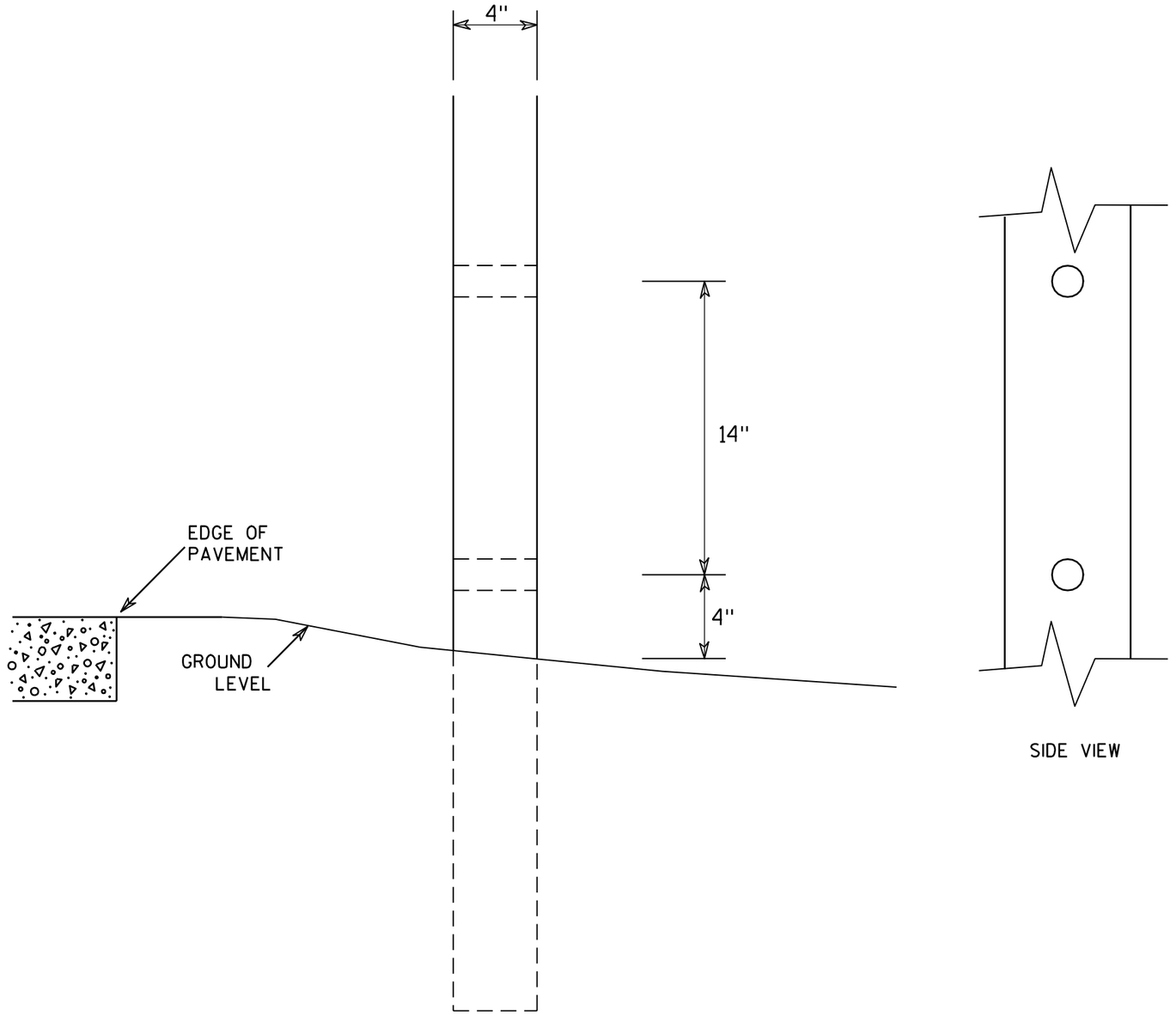
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 333 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

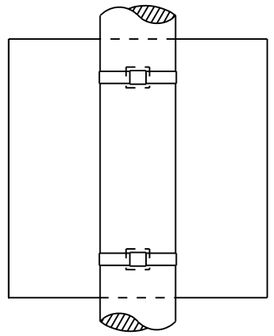
APPROVED Chester J Spang for State Traffic Engineer

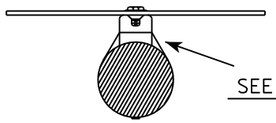
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 334	E

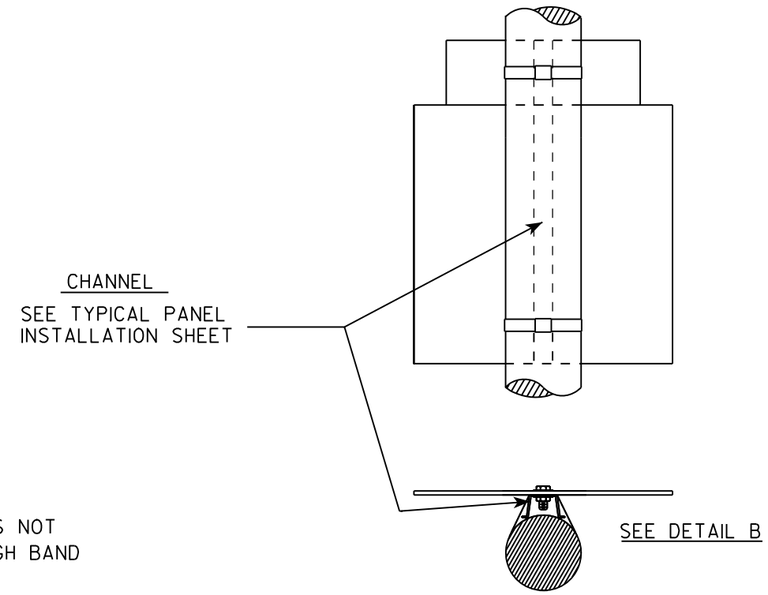
BANDING

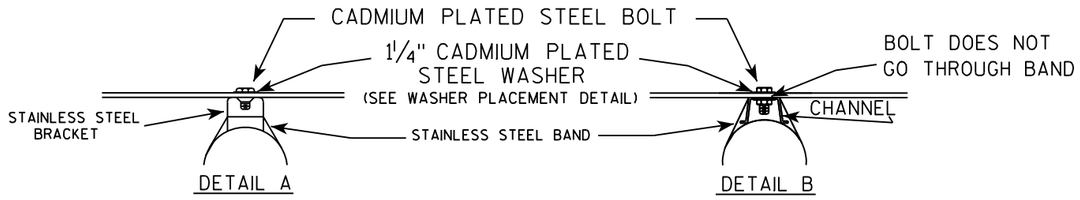
SINGLE SIGN



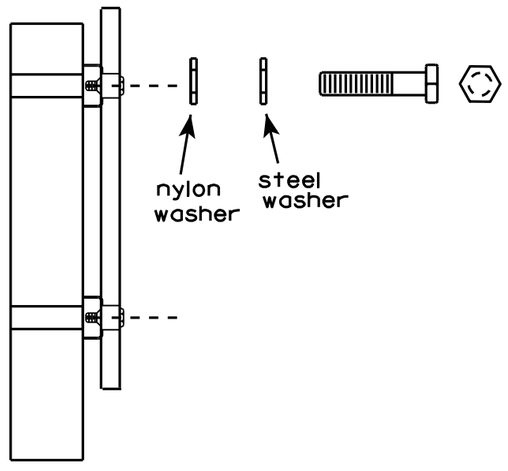


"J" ASSEMBLY





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 3/4" in width and 0.025" thickness.

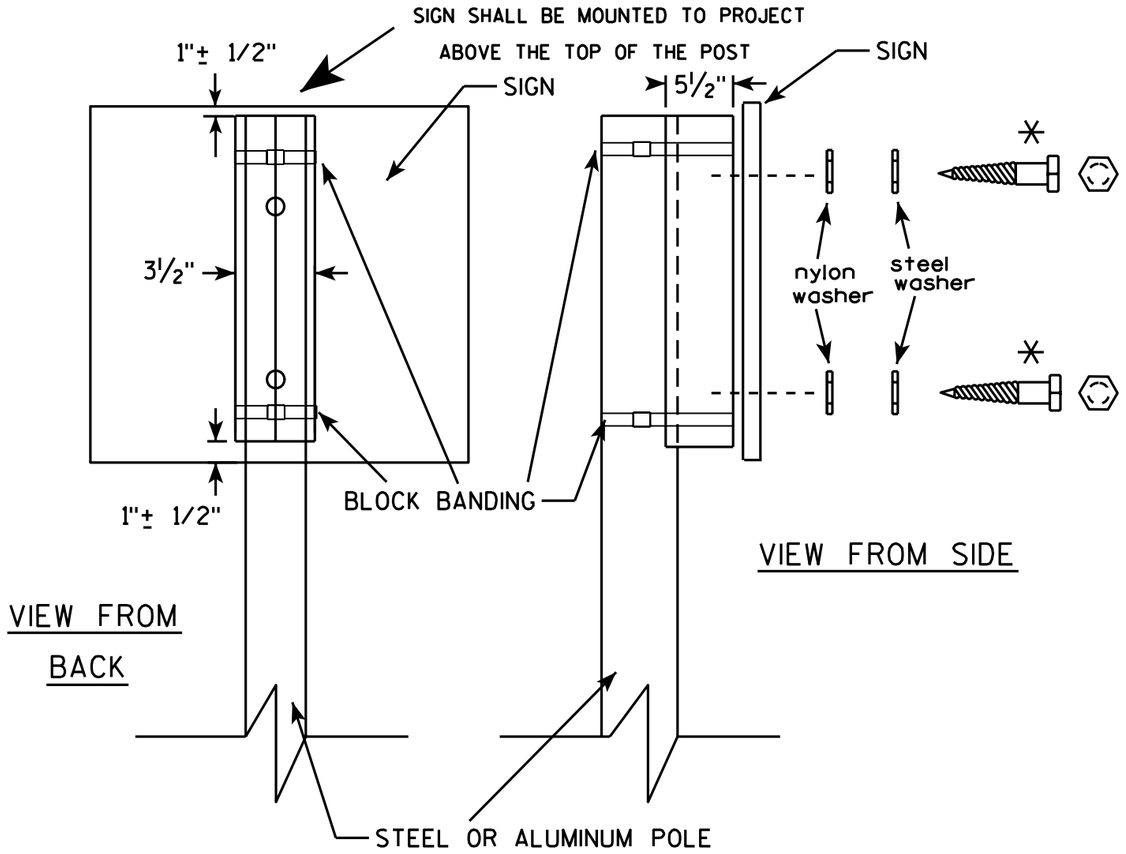
STANDARD SIGN
SIGN BANDING DETAILS

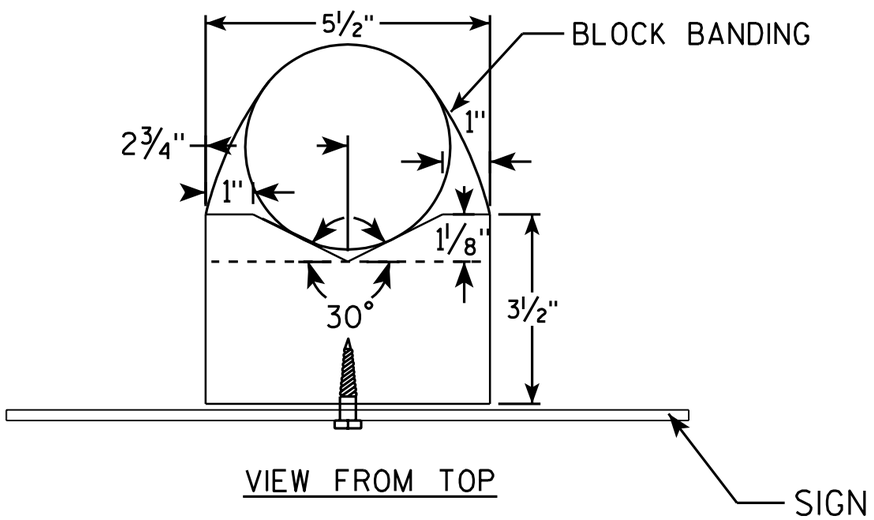
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 335	E





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

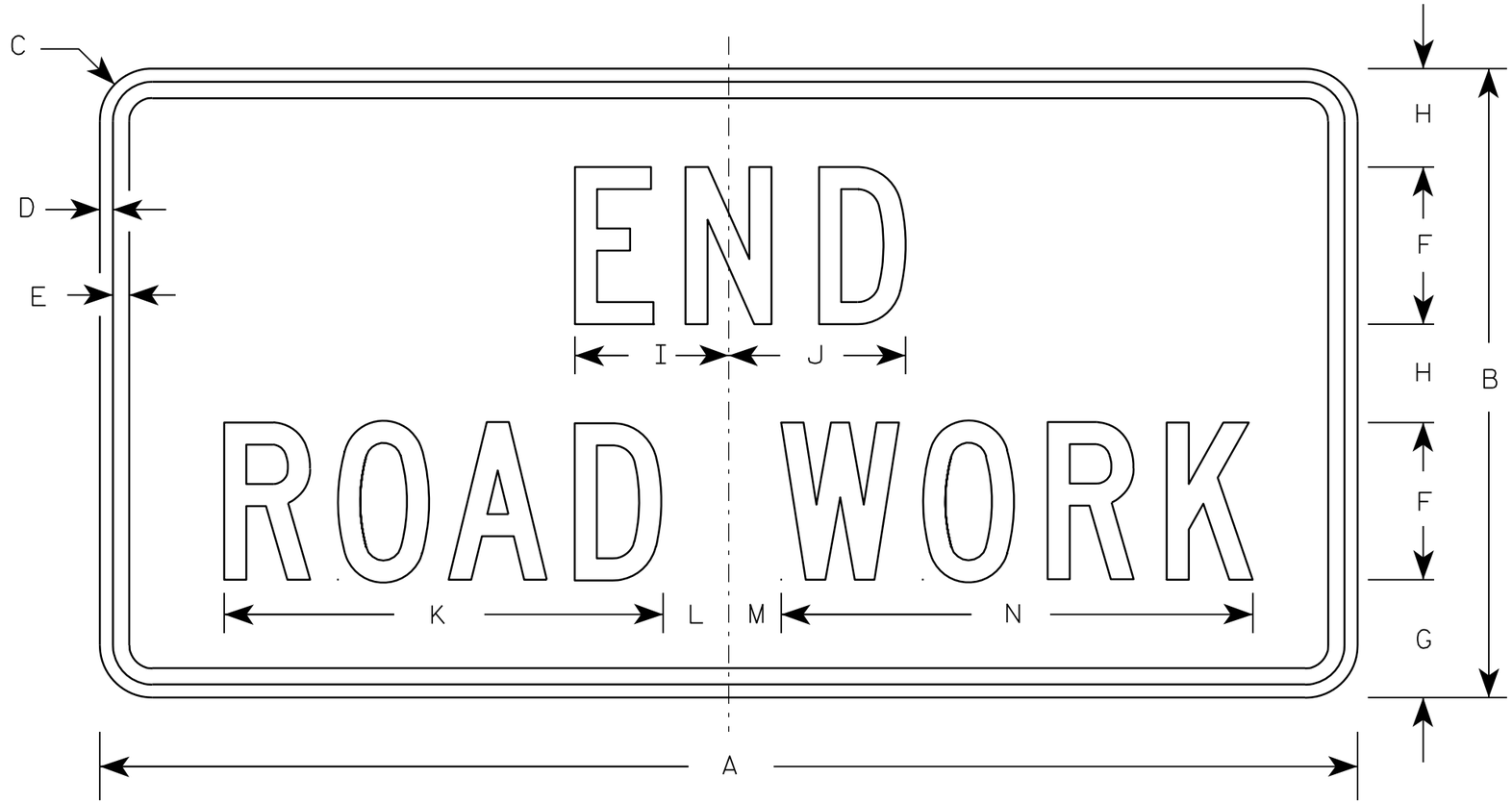
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 336 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



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

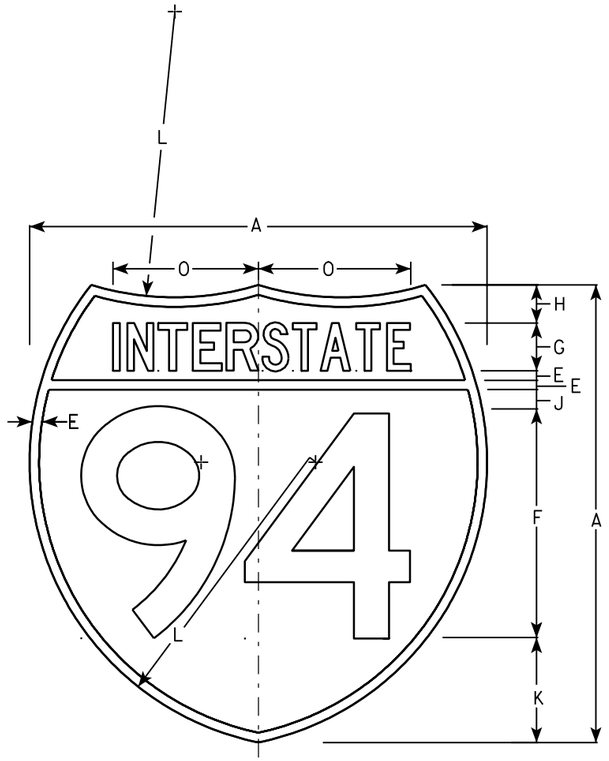
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

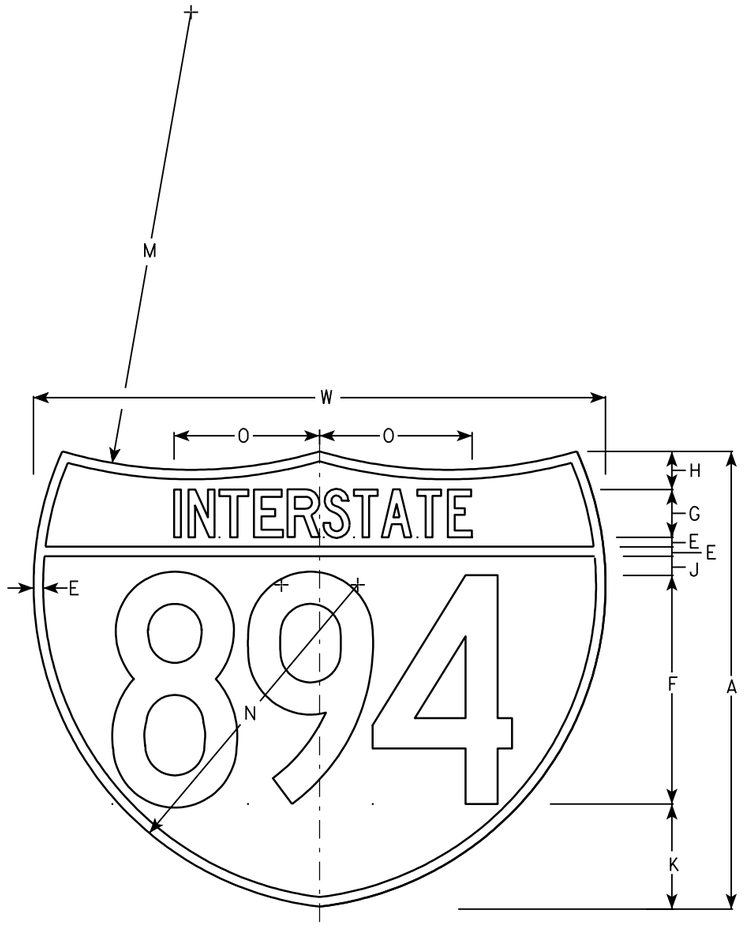
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 337	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

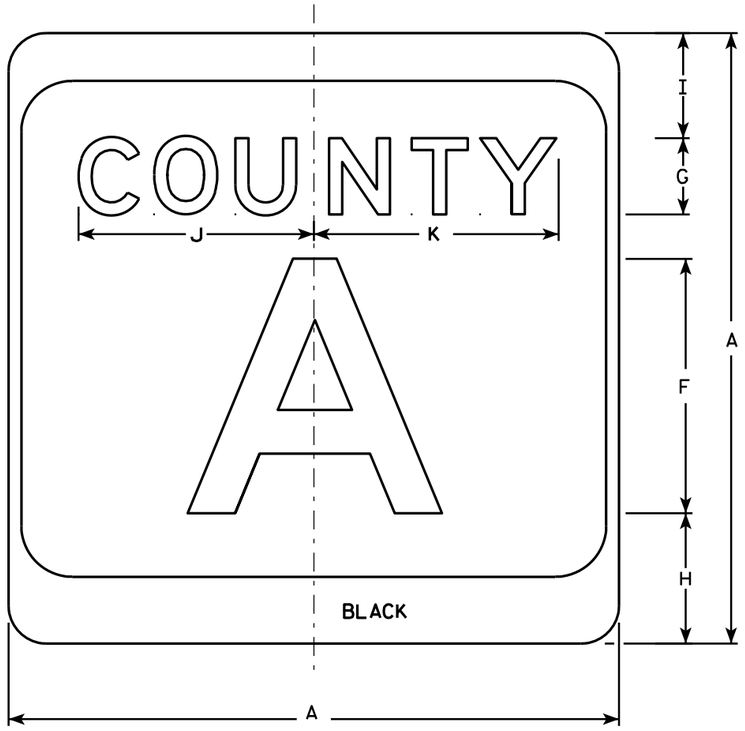
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

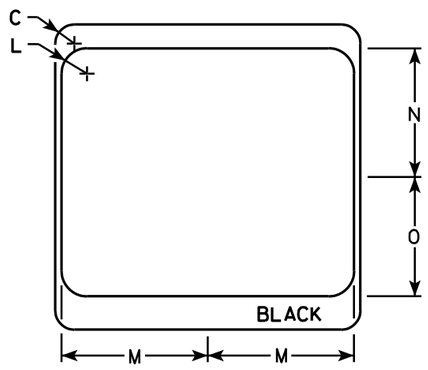
APPROVED Matthew R Rauch
for State Traffic Engineer

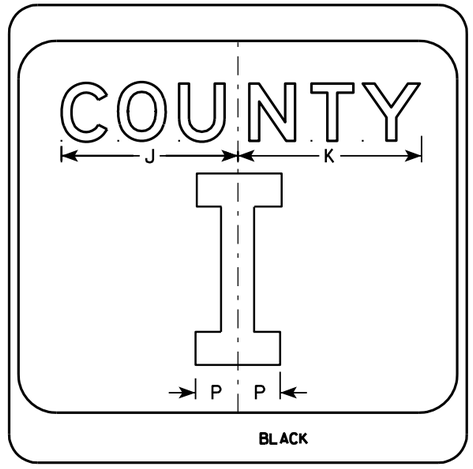
DATE 08/23/05 PLATE NO. M1-1.8

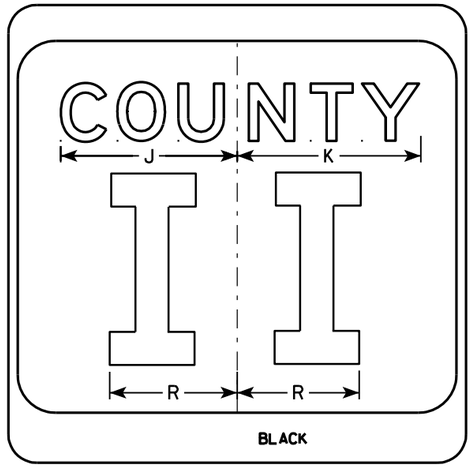
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 338	E



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

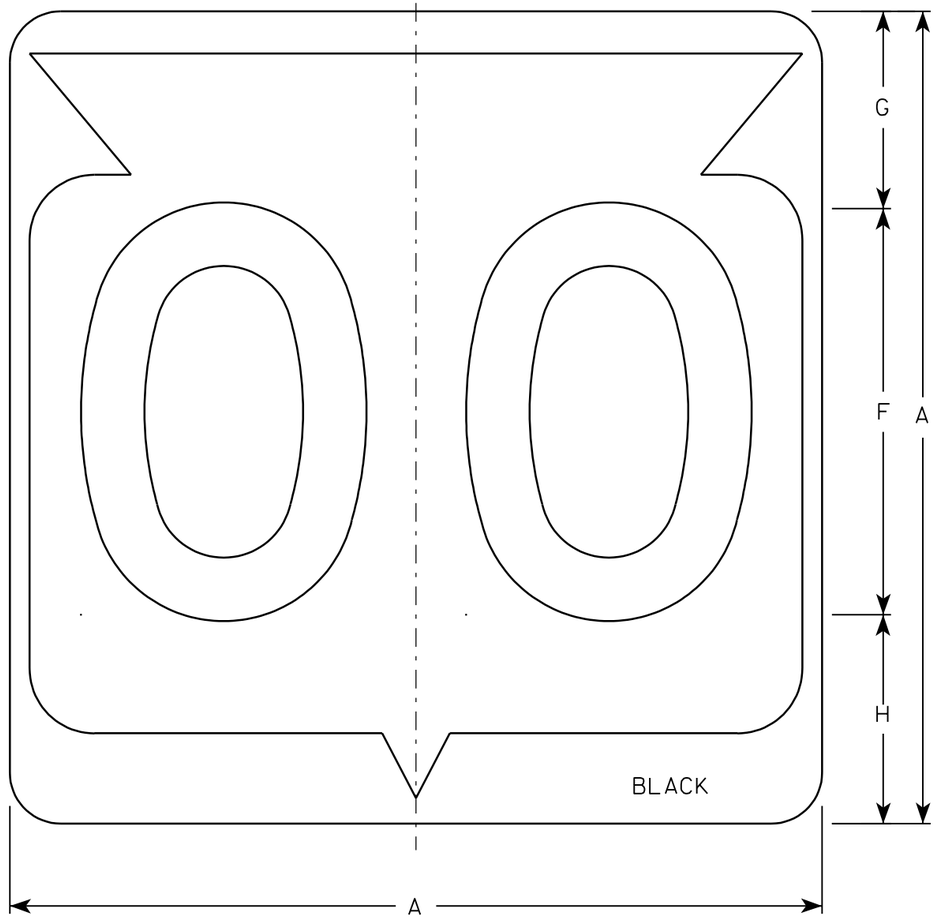
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

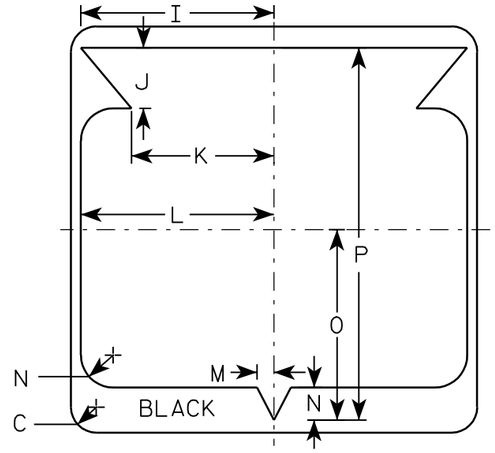
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 339 | E



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

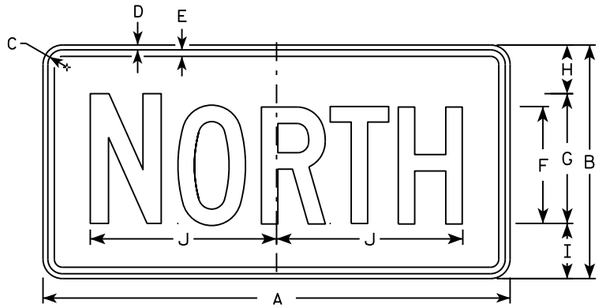
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

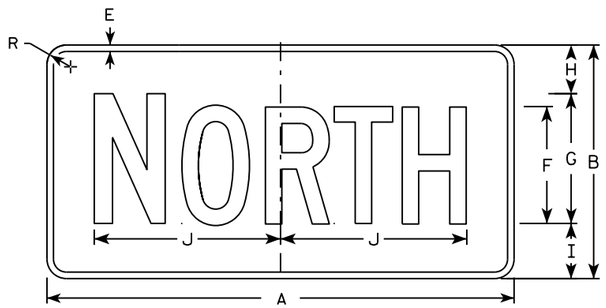
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 340	E



M3-1
MM3-1
MP3-1



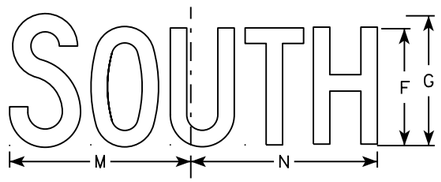
MB3-1
MK3-1
MN3-1



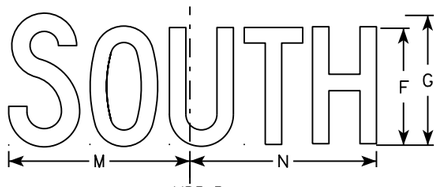
M3-2
MM3-2
MP3-2



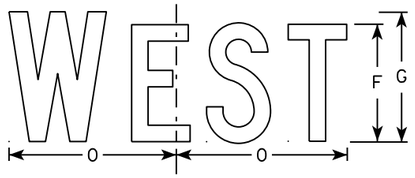
MB3-2
MK3-2
MN3-2



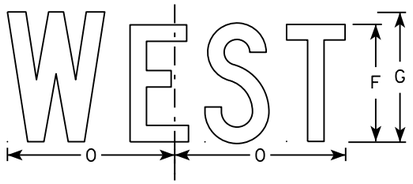
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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
   MP3-1 thru MP3-4 Background - White
   Message - Blue
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

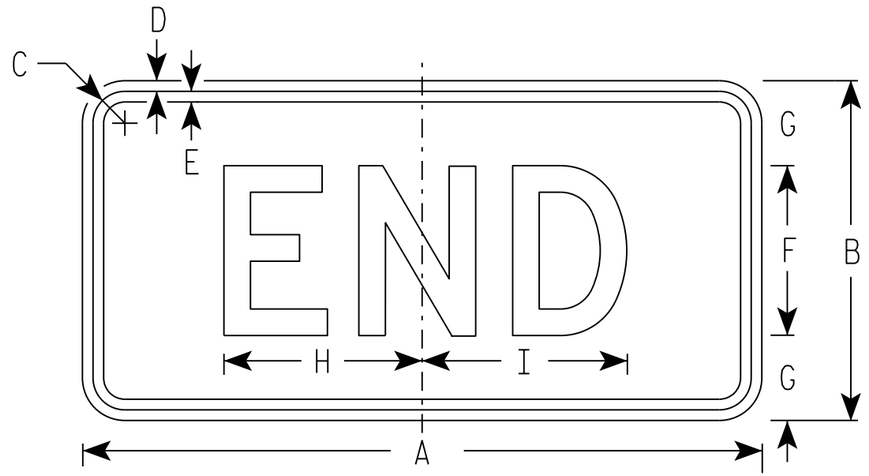
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

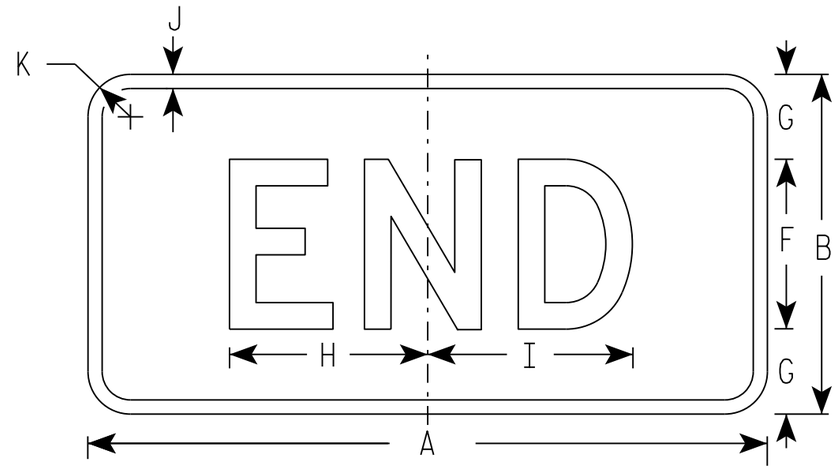
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-6
MM4-6
MP4-6



MB4-6
MK4-6
MN4-6
MR4-6

NOTES

1. Sign is Type II - Type H
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. M4-6 Background - White
   Message - Black

   MB4-6 Background - Blue
   Message - White

   MK4-6 Background - Green
   Message - White

   MM4-6 Background - White
   Message - Green

   MN4-6 Background - Brown
   Message - White

   MP4-6 Background - White
   Message - Blue

   MR4-6 Background - Brown
   Message - Yellow

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	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

STANDARD SIGN
M4-6

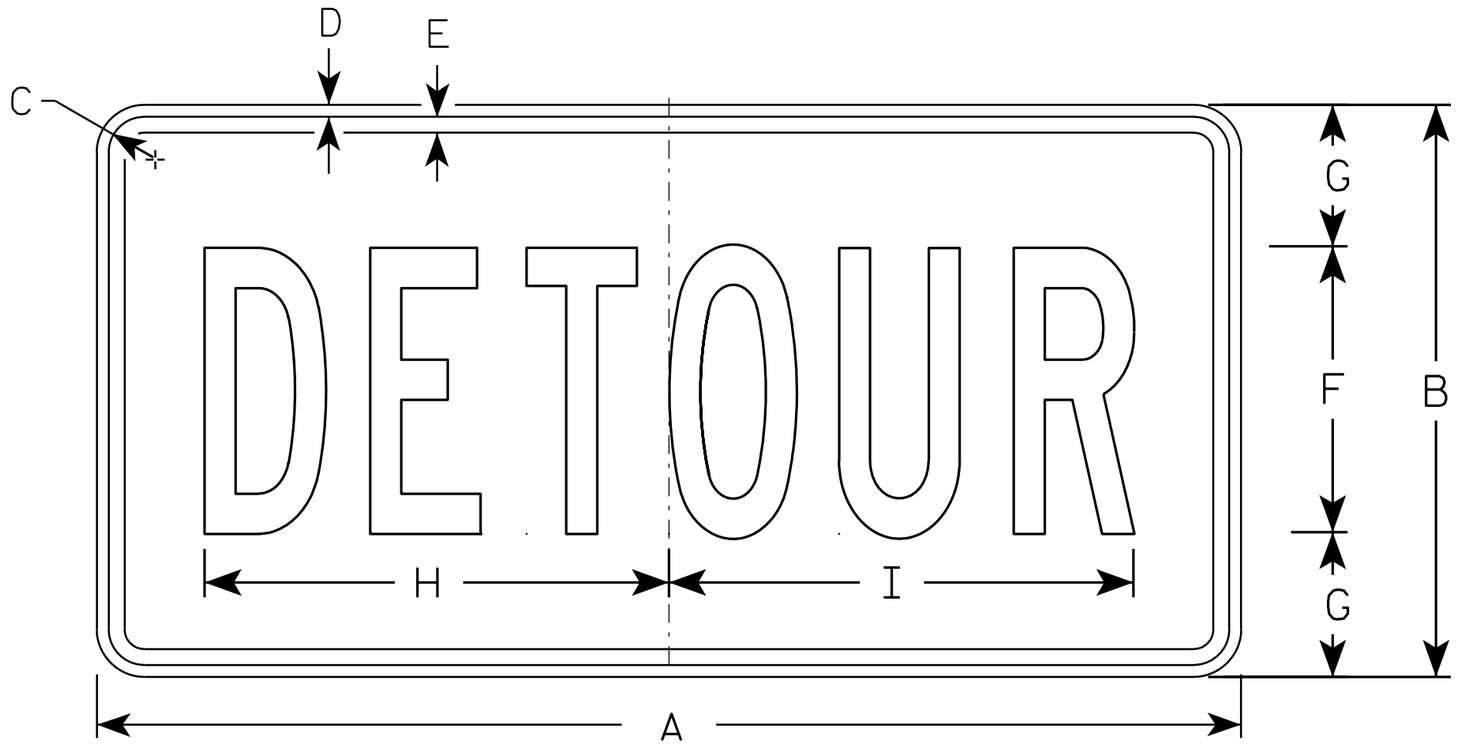
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 342 '14-7.9

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M46.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



M4-8

NOTES

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

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

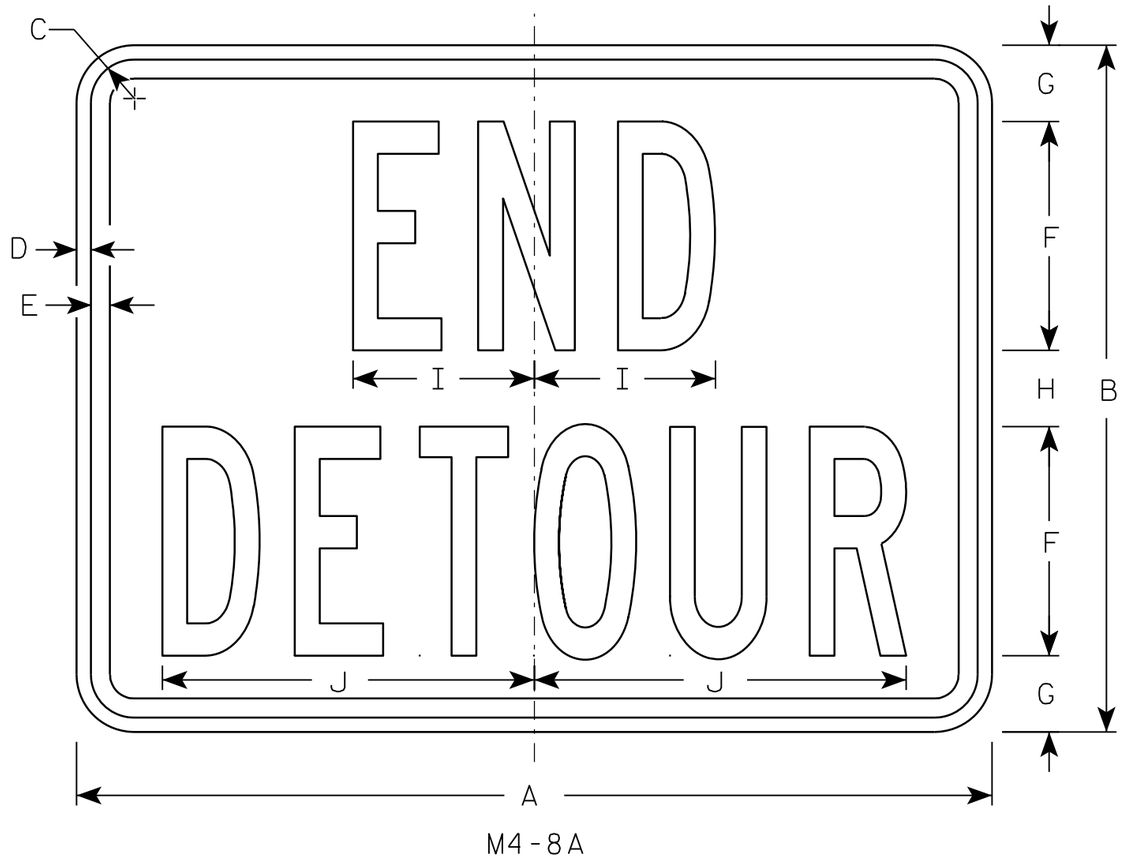
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 343	E



M4-8A

NOTES

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

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

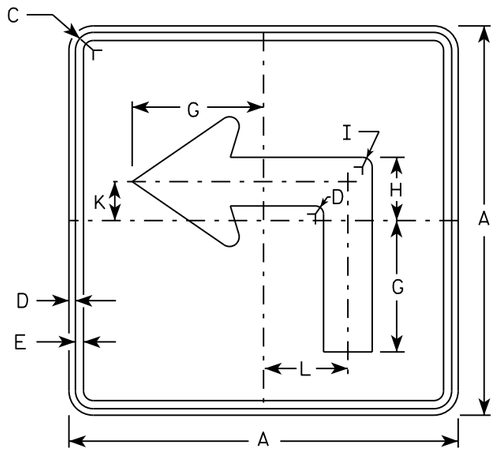
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

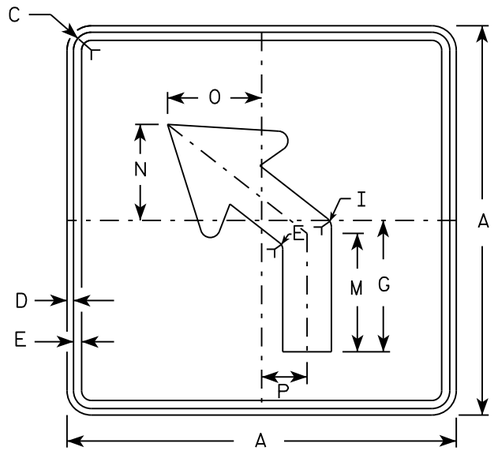
APPROVED Matthew R Rauch
for State Traffic Engineer

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

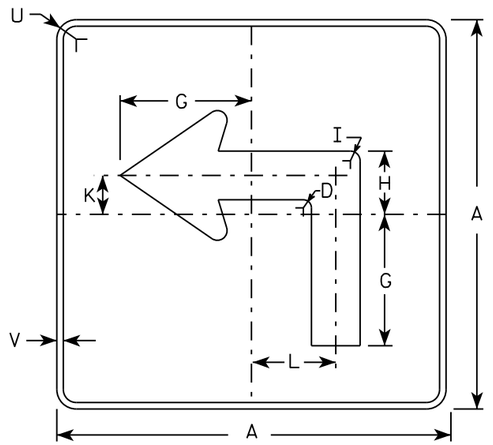
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 344	E



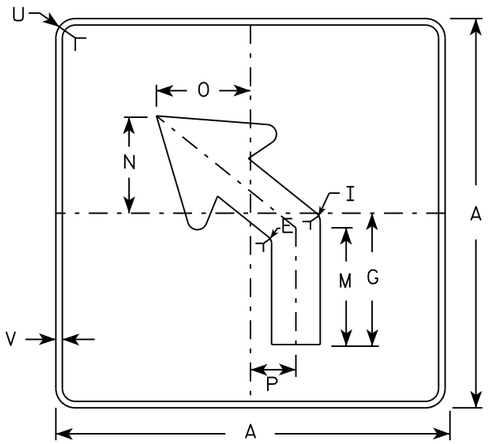
M5-1L
MM5-1L
MO5-1L
MP5-1L



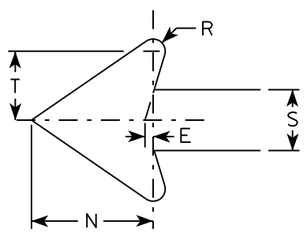
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective 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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts 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	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

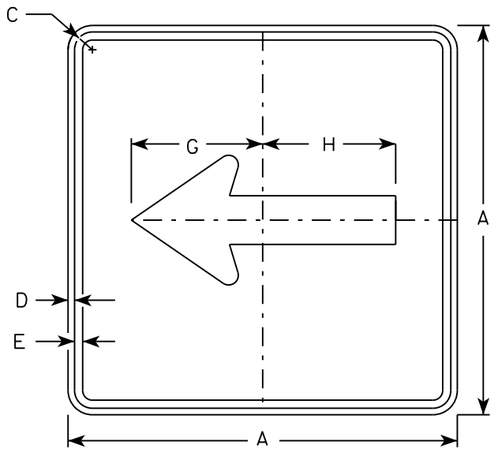
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

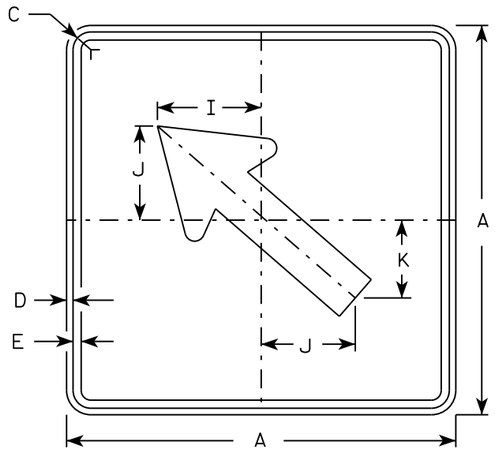
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



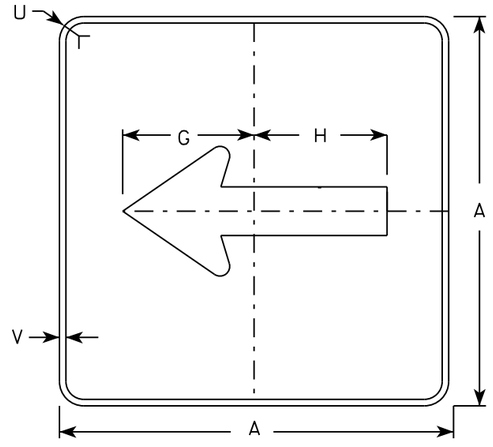
M6-1
MM6-1
MO6-1
MP6-1



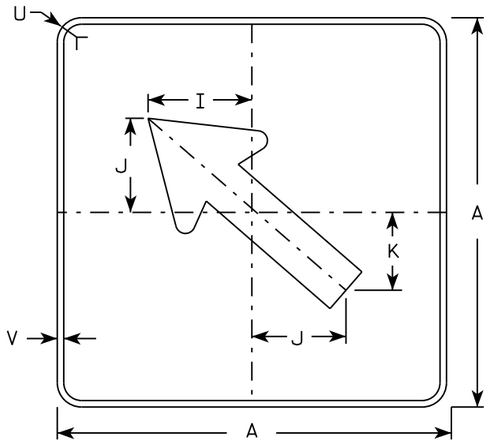
M6-2
MM6-2
MO6-2
MP6-2

NOTES

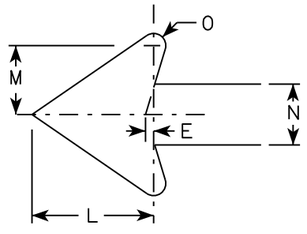
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background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



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



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



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

STANDARD SIGN
M6-1 & M6-2
SERIES

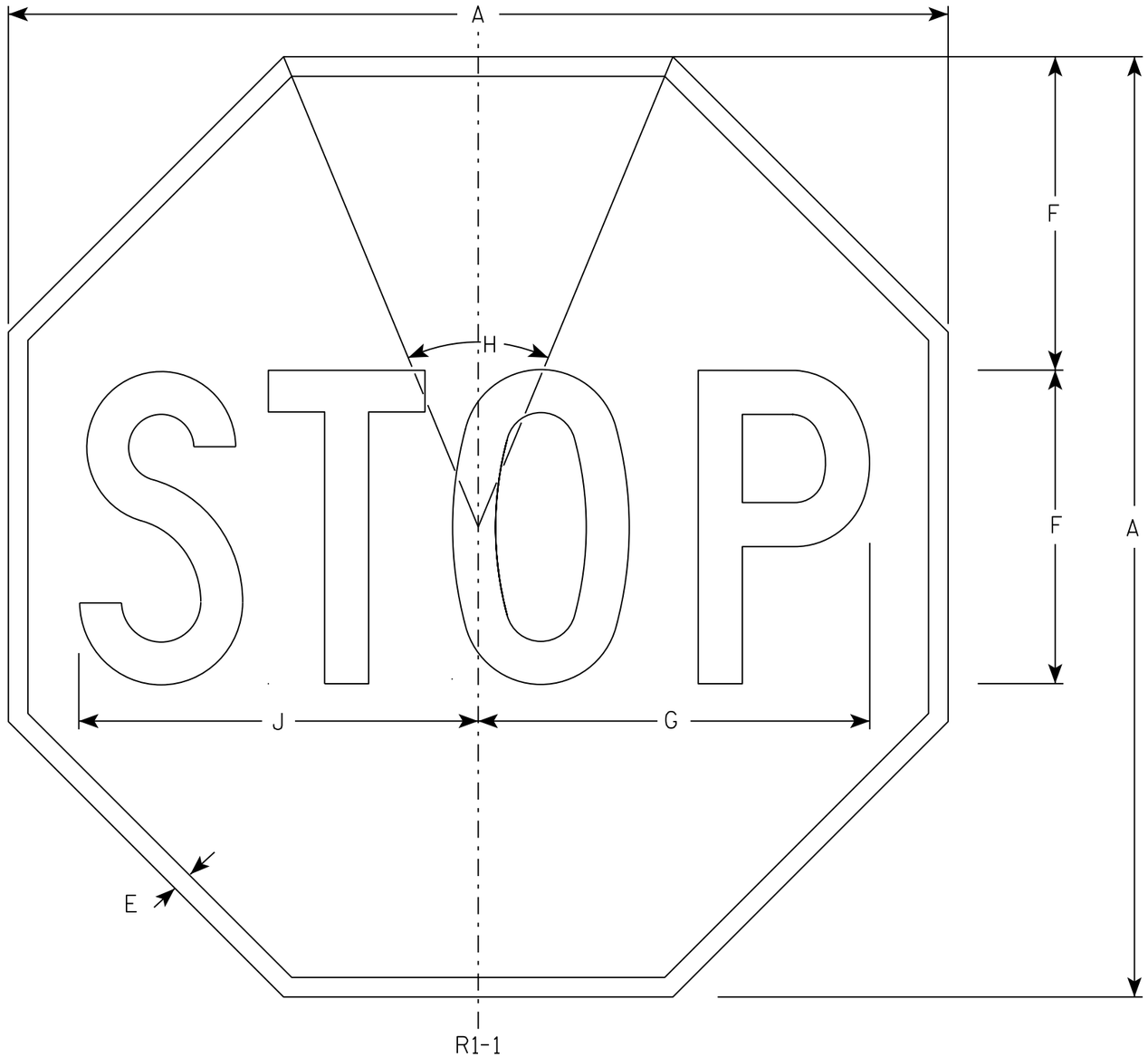
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 346 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



R1-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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	30				5/8	10	12 1/2	45°		12 3/4																	5.18
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

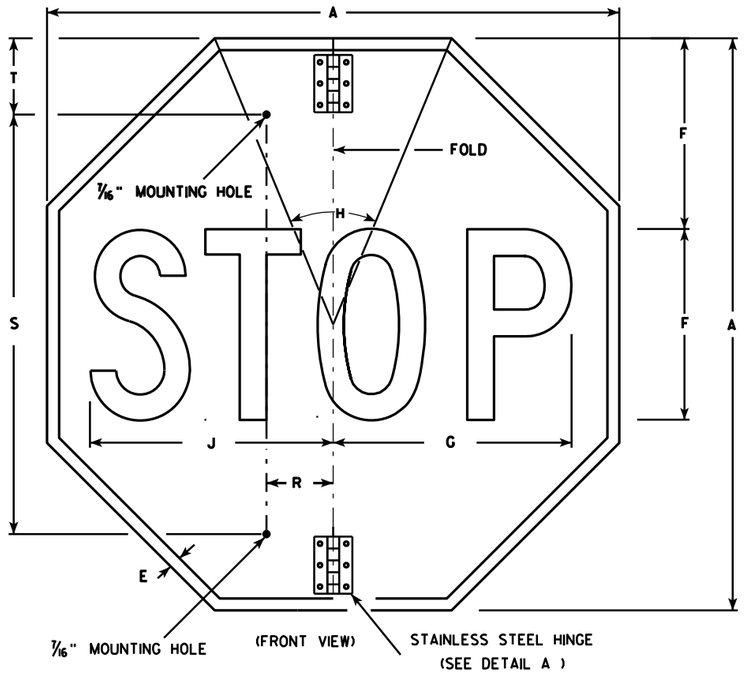
WISCONSIN DEPT OF TRANSPORTATION

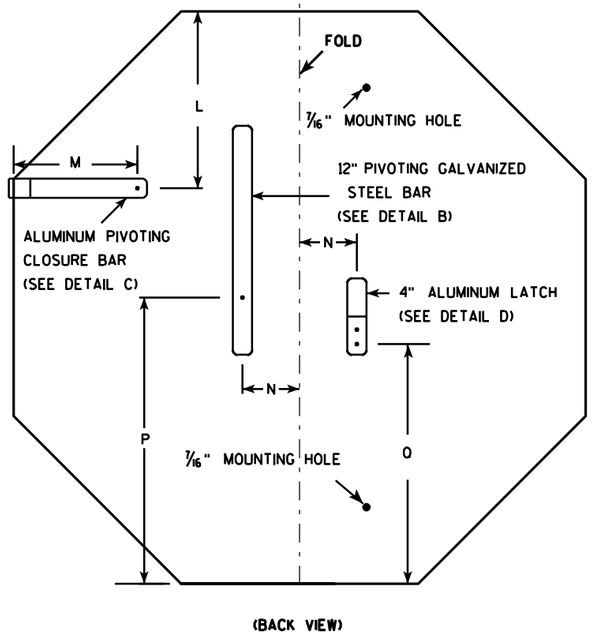
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

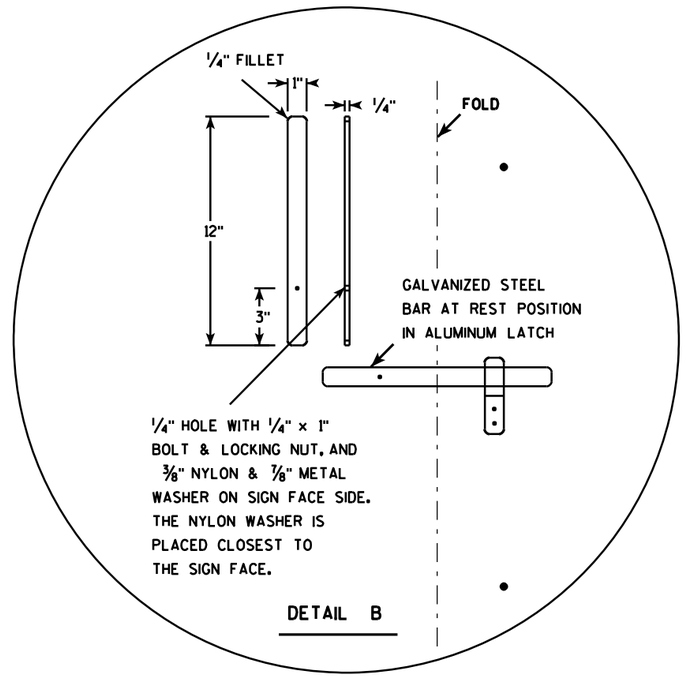
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000



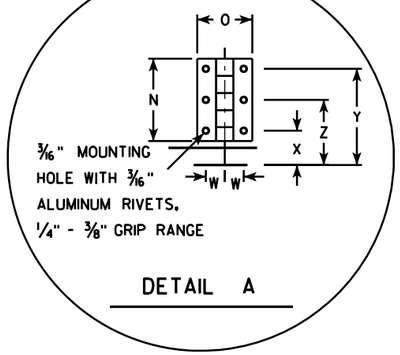


NOTES

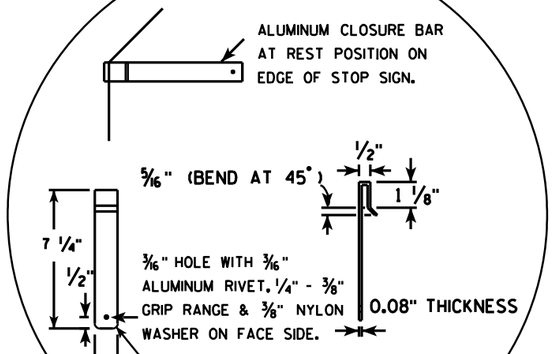
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



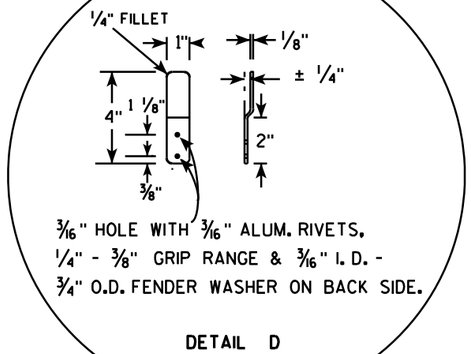
DETAIL B



DETAIL A



DETAIL C



DETAIL D

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	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

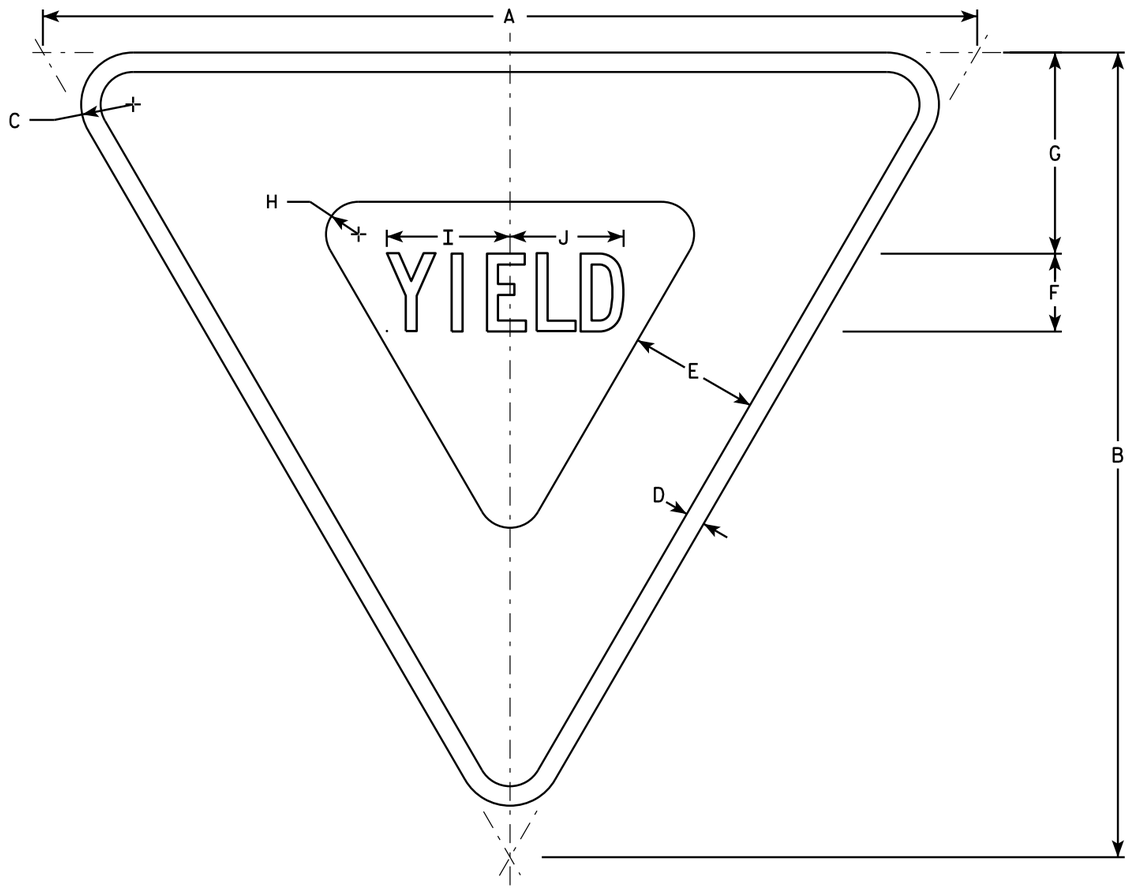
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 348 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R11F.DGN PLOT DATE : 02-DEC-2010 15:26 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000

WISDOT/CADDS SHEET 42

7

7



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

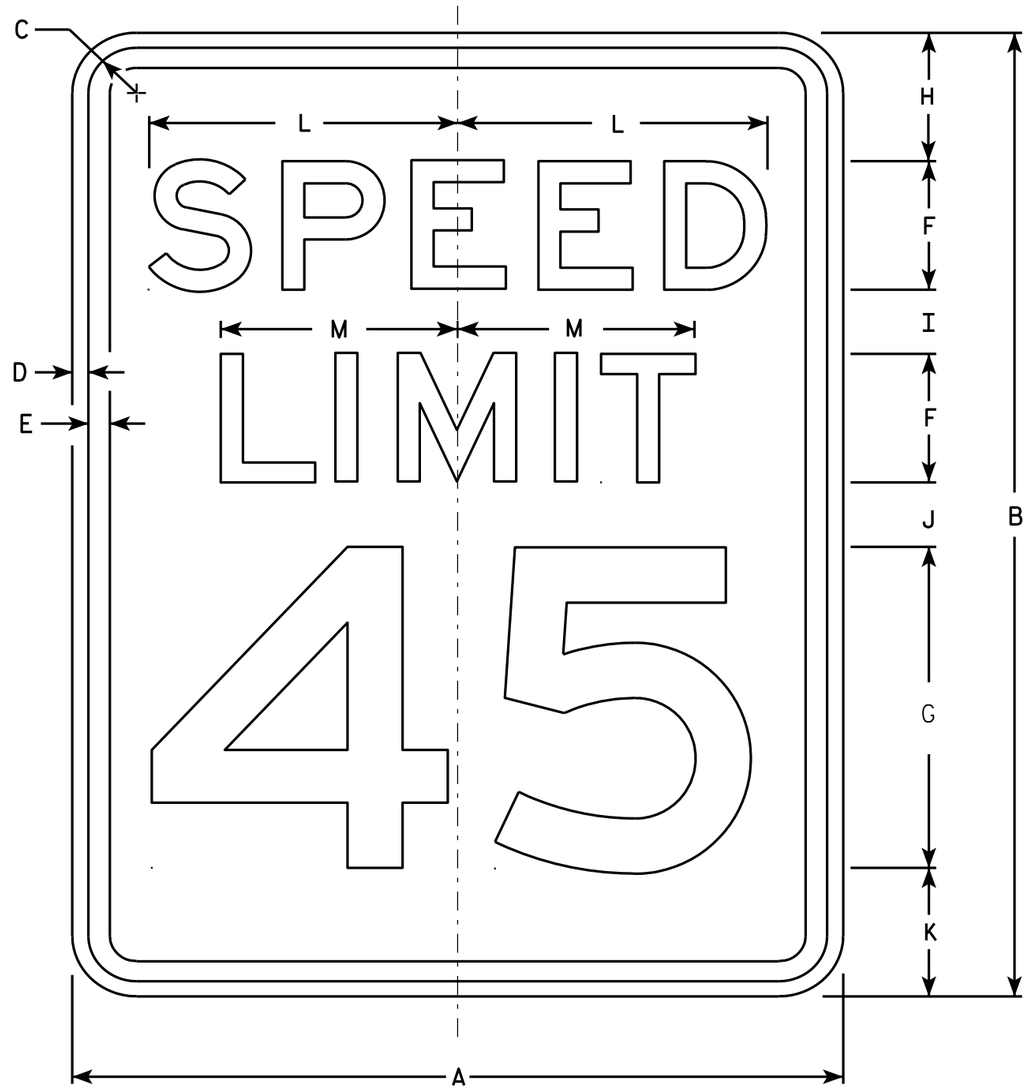
WISCONSIN DEPT OF TRANSPORTATION

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



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

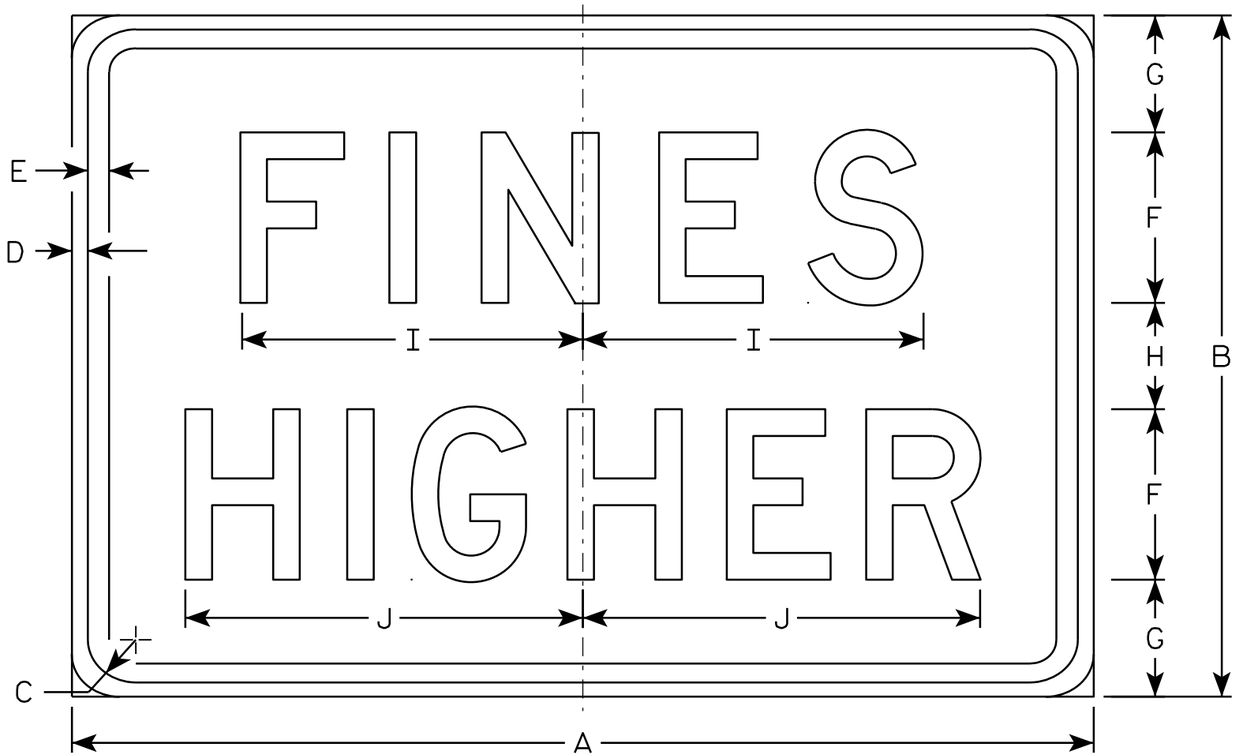
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 350	E



R2-6P

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.

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	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
2M	24	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
3	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
4	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
5	48	36	1 3/8	1/2	5/8	8	7	6	15 1/8	19																	12.0

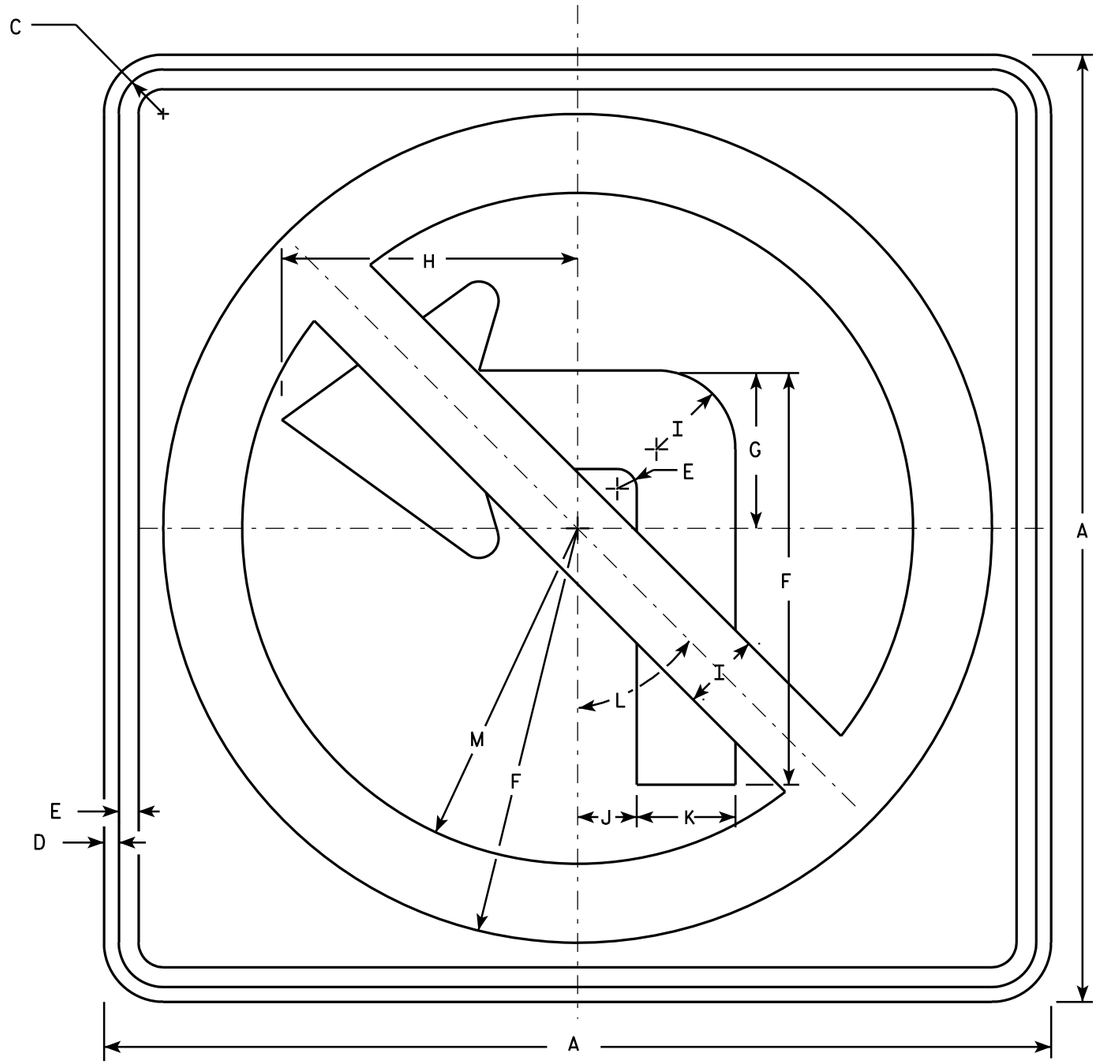
STANDARD SIGN
R2-6P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. R2-6P.2

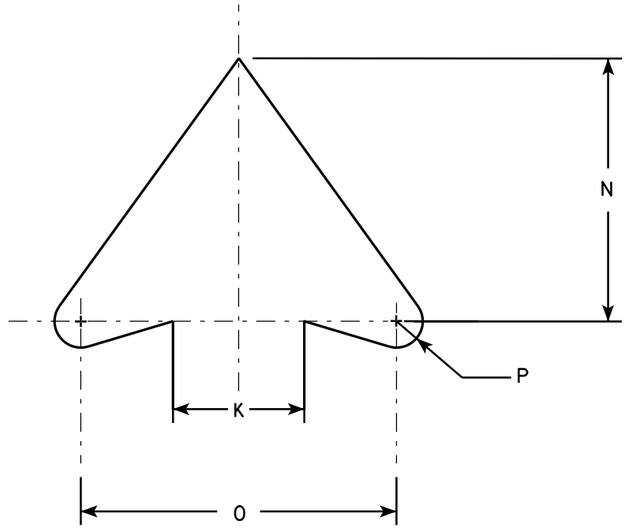
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 351 | E



R3-2

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 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											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											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											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											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											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

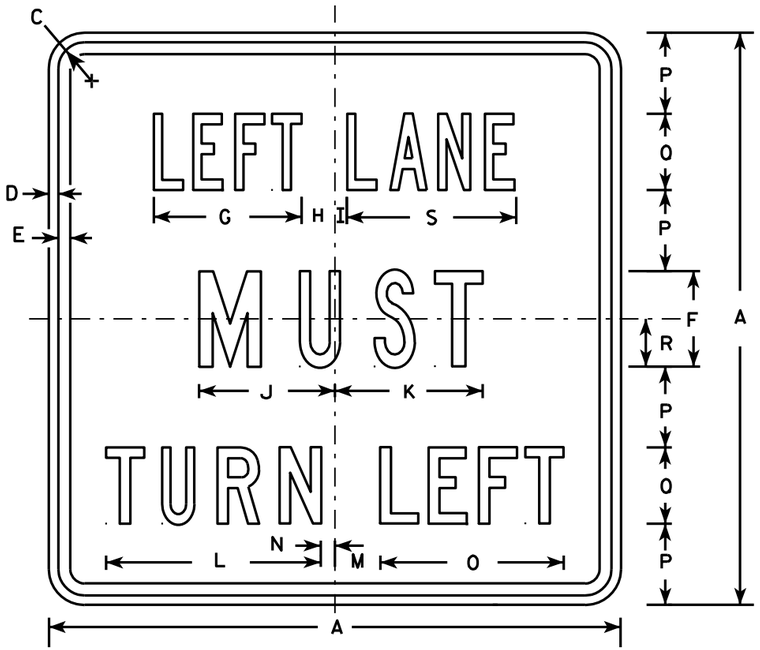
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

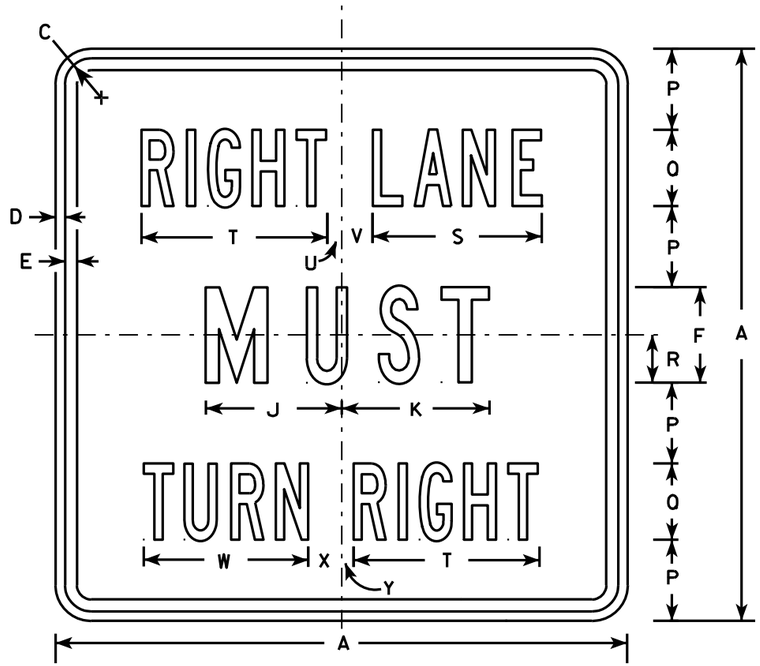
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 352	E



R3-7L



R3-7R

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 - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

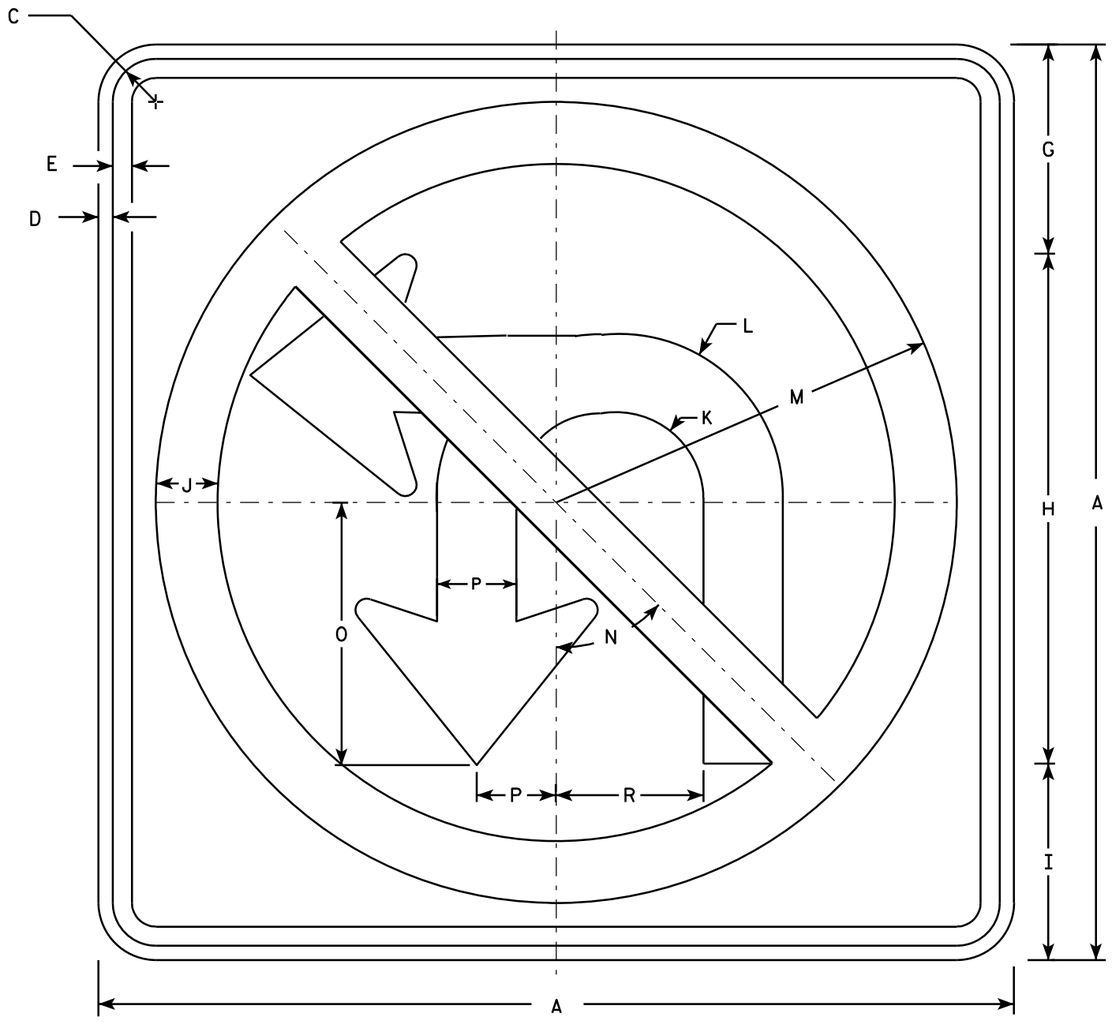
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 353	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

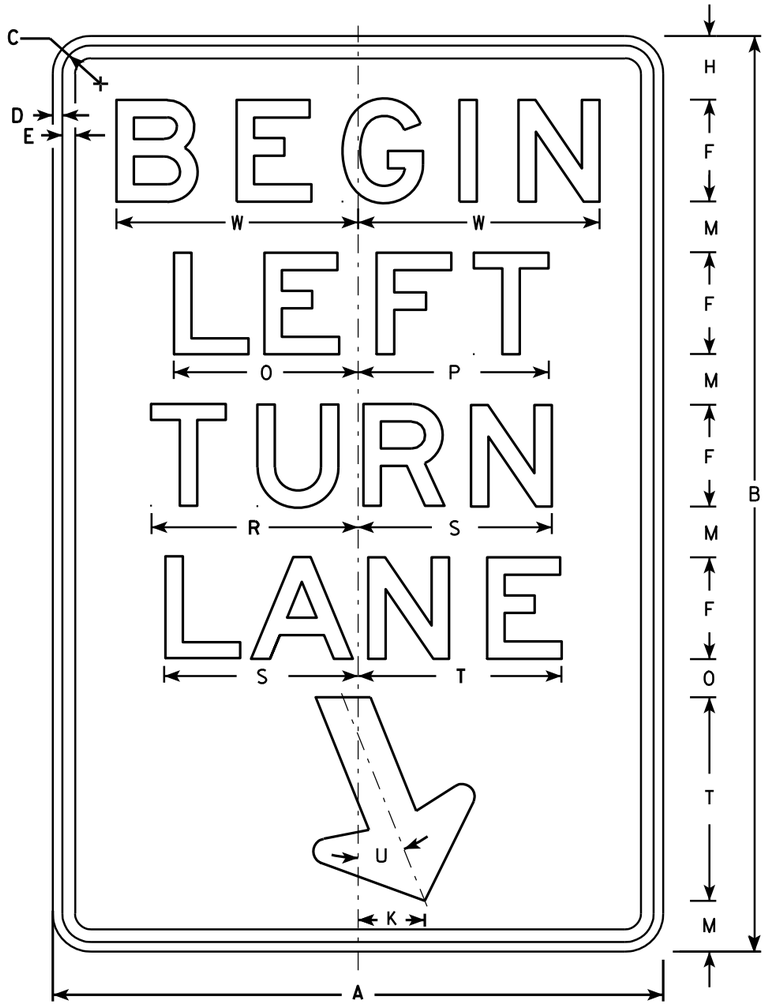
STANDARD SIGN
R3-18

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/10 PLATE NO. R3-18.2

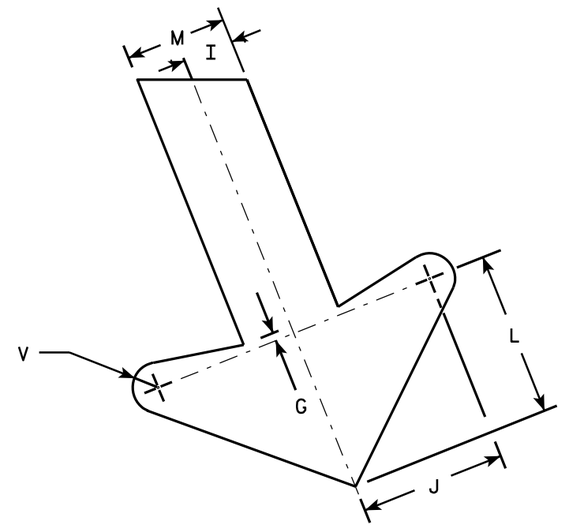
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 354	E



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																											

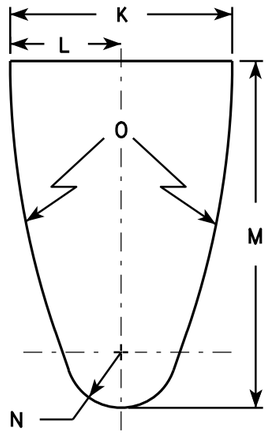
STANDARD SIGN
R3-20L

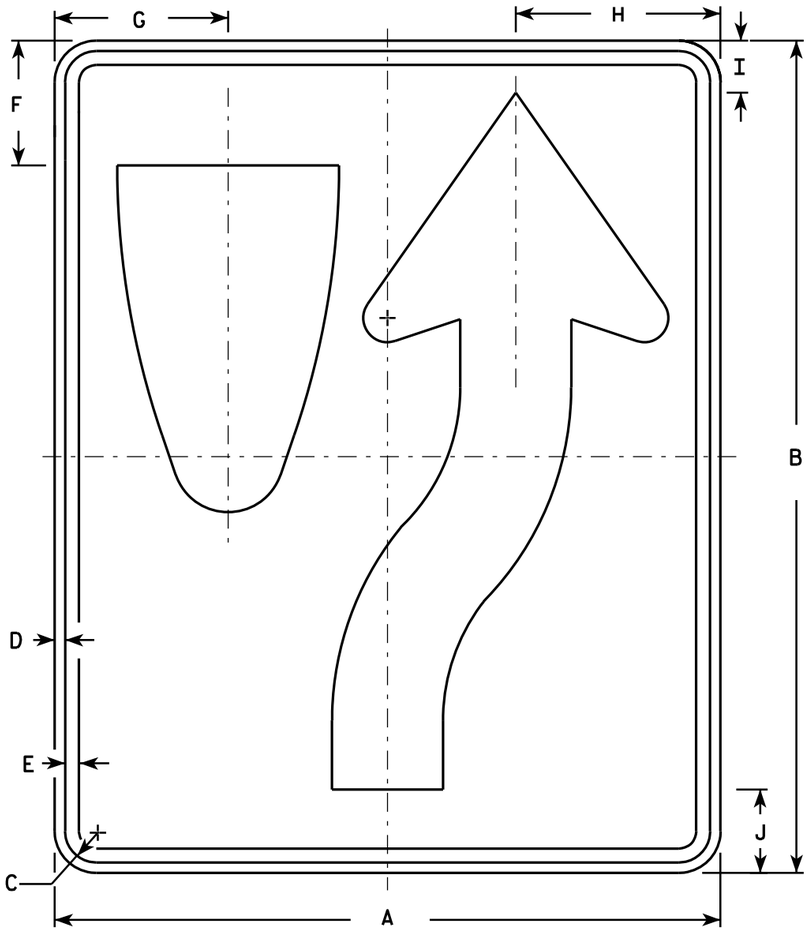
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 355 | E

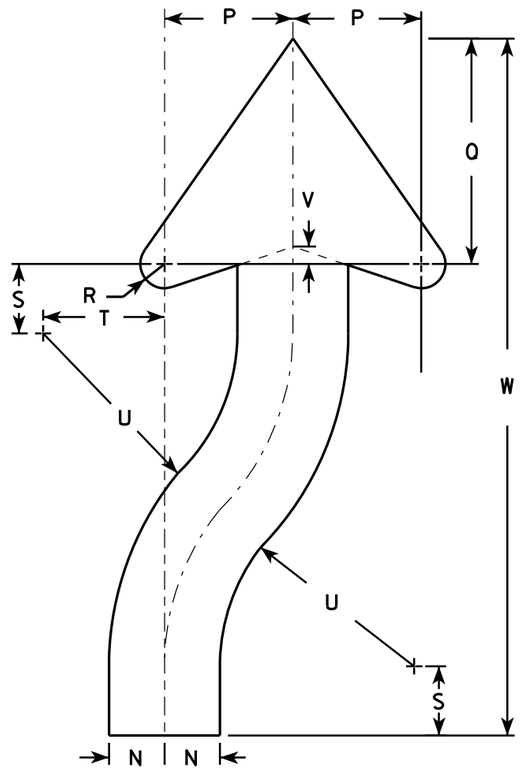




R4-7

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

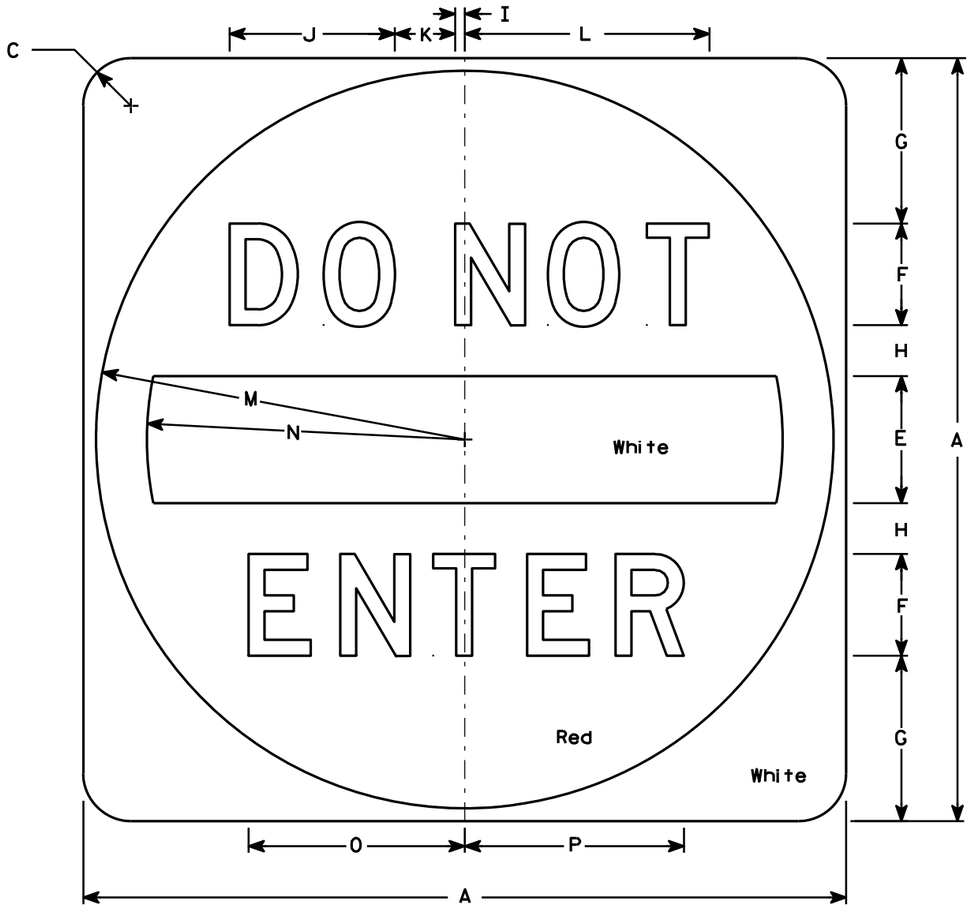
STANDARD SIGN
R4-7 & R4-8

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: 356	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

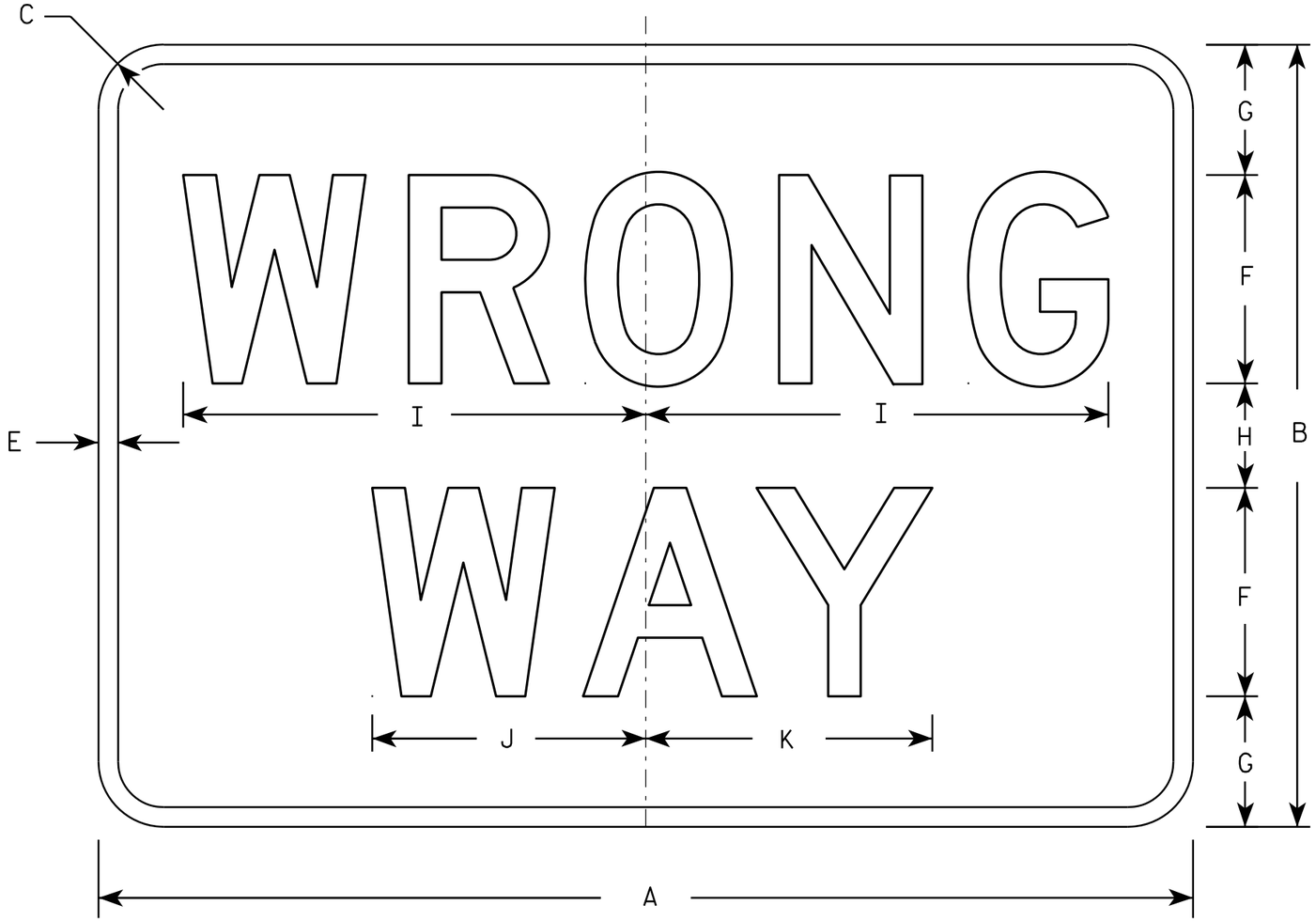
STANDARD SIGN
R5-1

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: 357 | 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

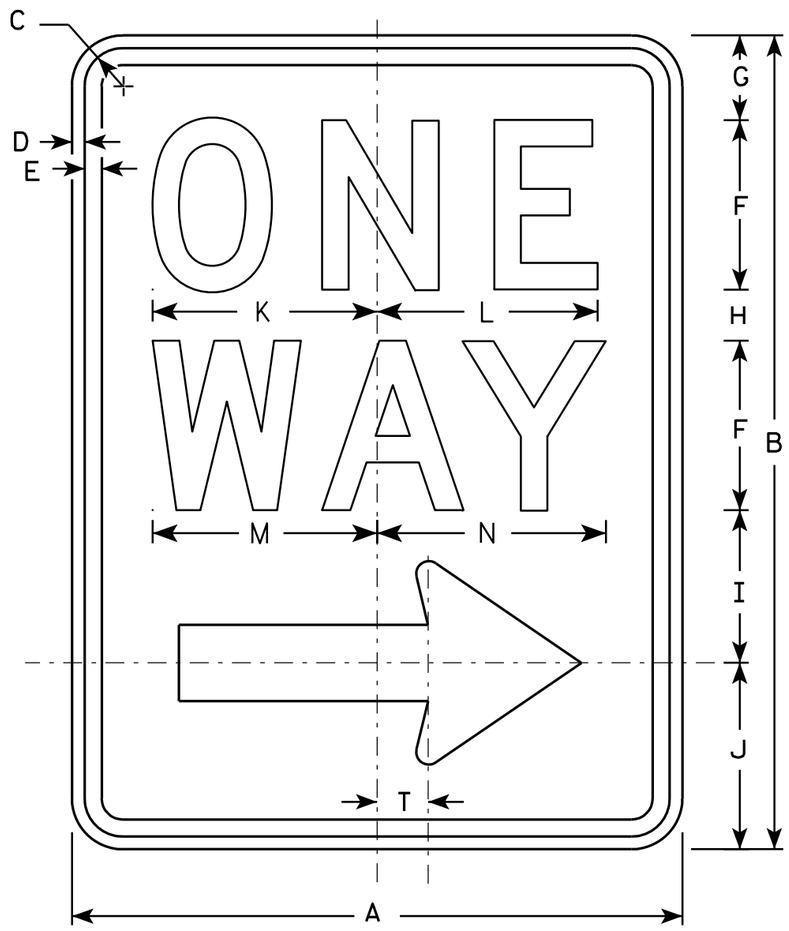
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

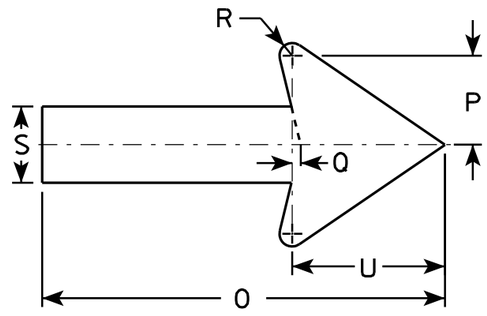
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 358	E



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																										

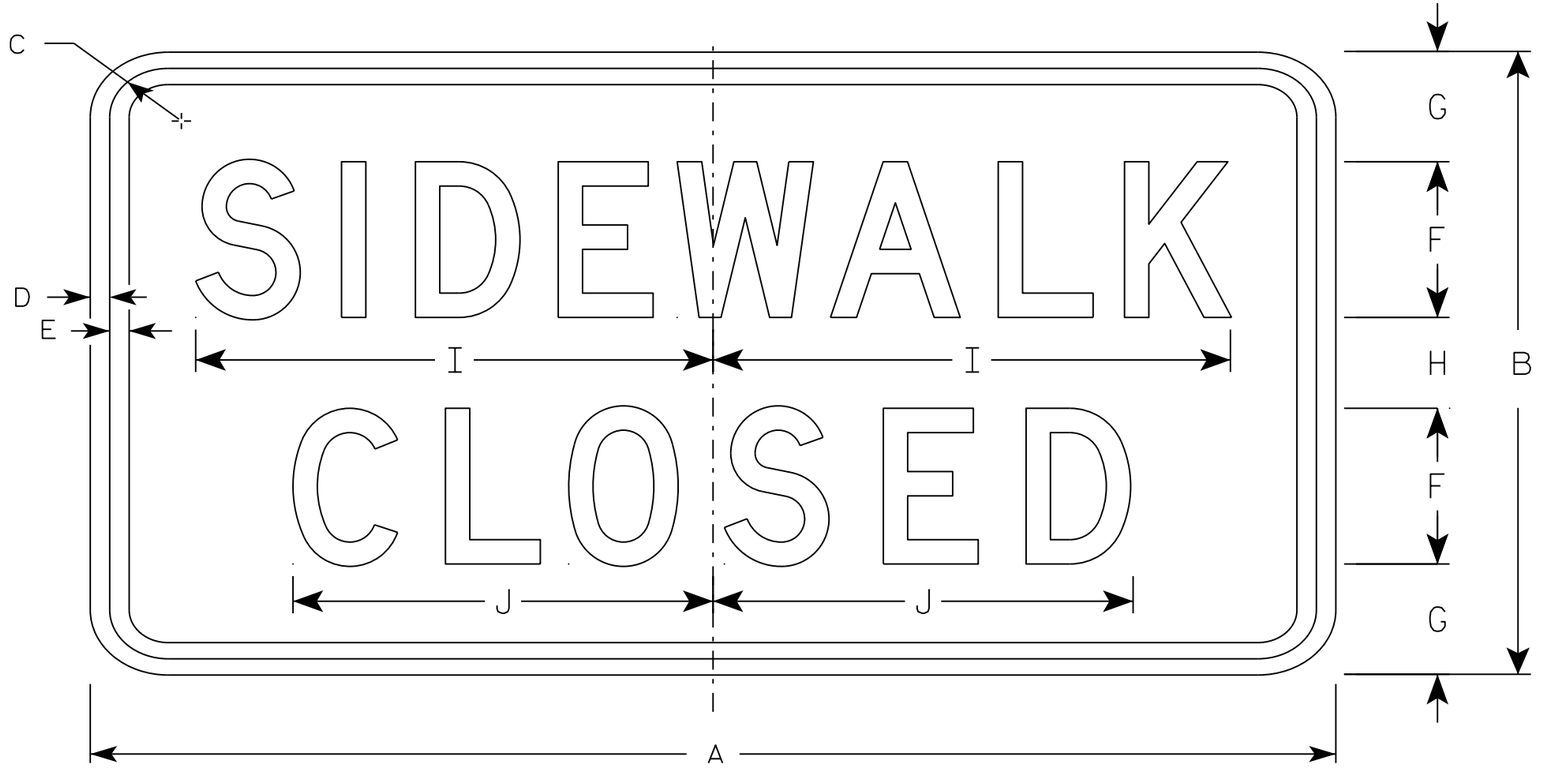
STANDARD SIGN
R6-2 R&L

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: 359	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.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

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

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

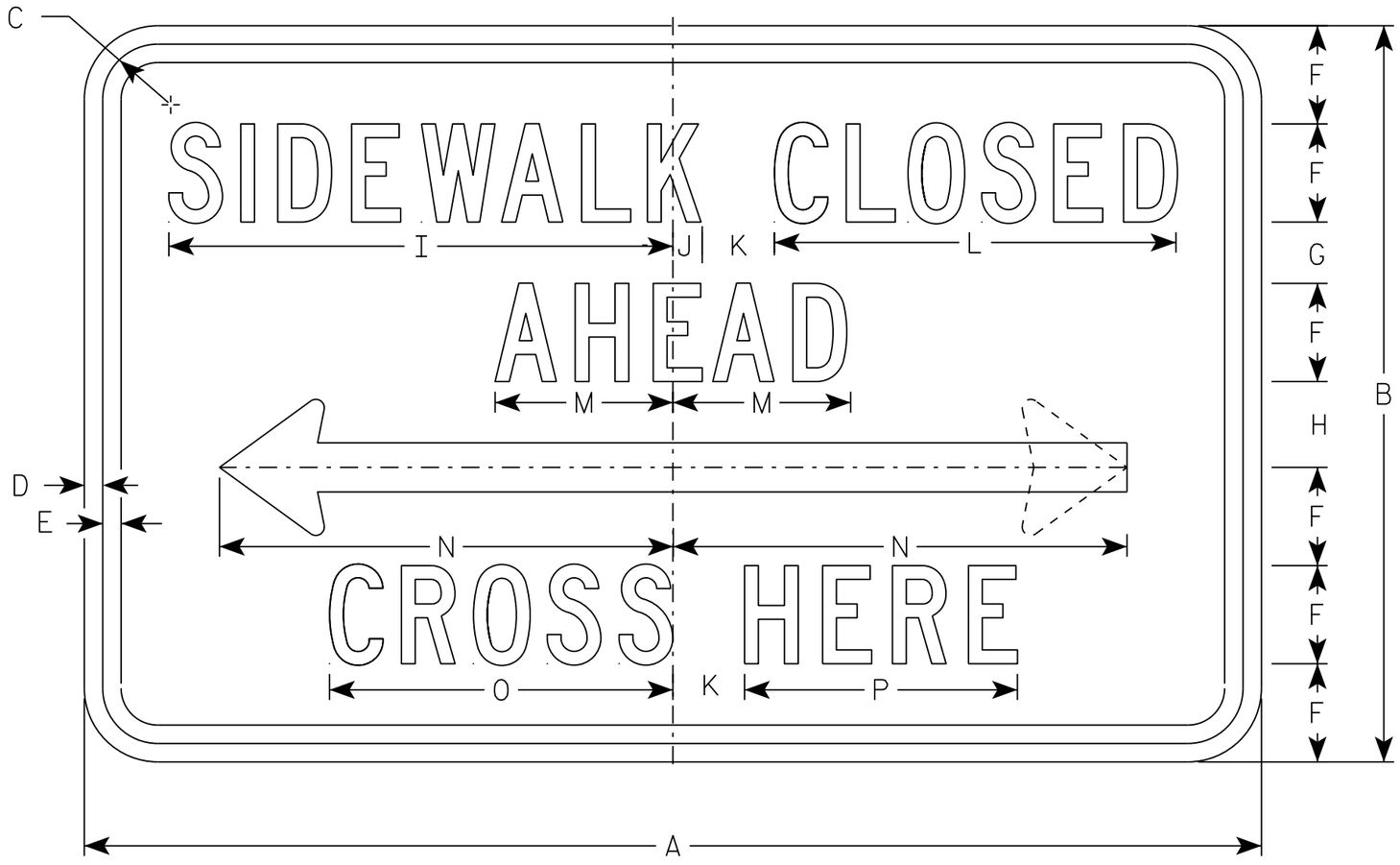
DATE 8/11/16 PLATE 360 R9-9.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

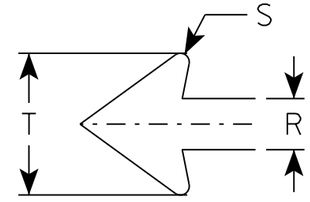
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C except Size 1 is 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.



R9-11



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

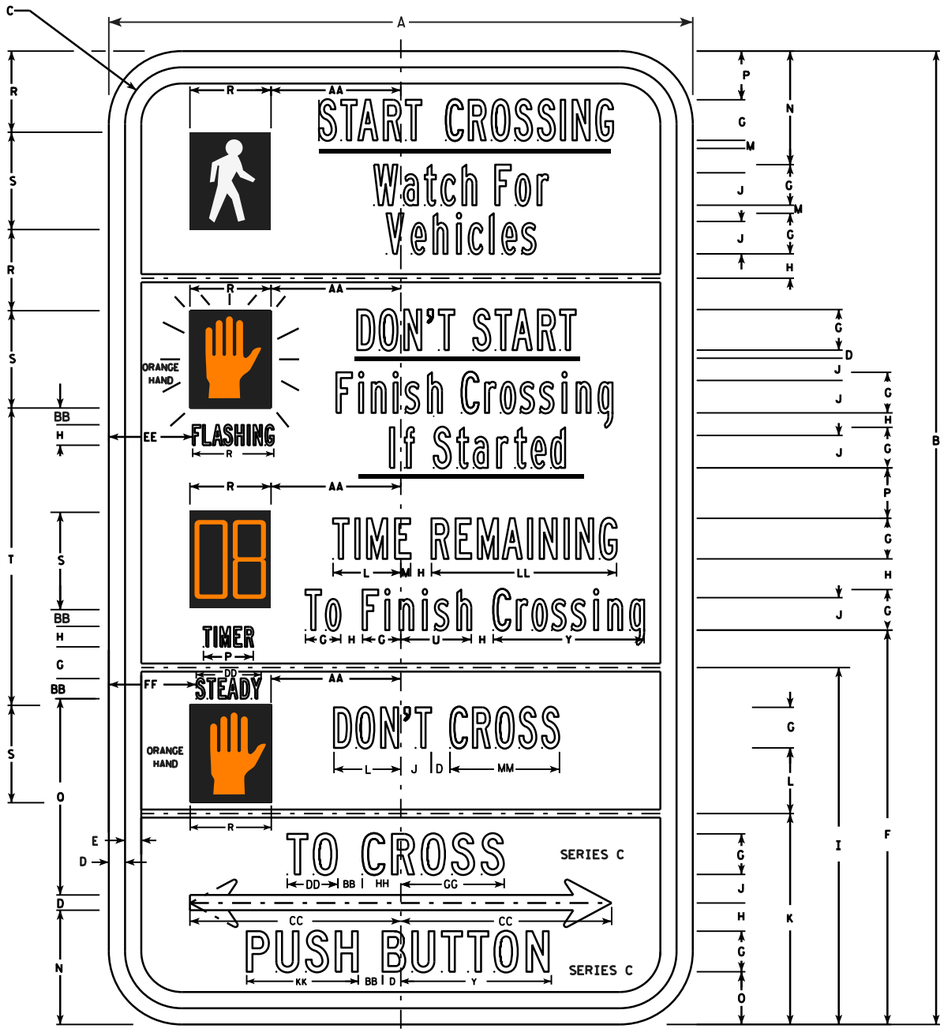
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-11.3

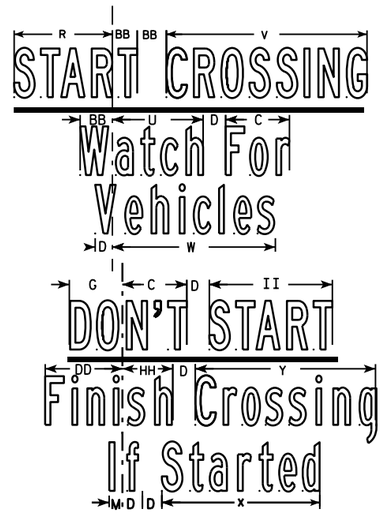
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 361	E



R10-3E

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK except Hand Symbol which is Orange with black background.
3. Message Series - B or as noted on the sign.
4. R10-3ER (right arrow)
   R10-3EL (left arrow)
   R10-3ED (double 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	6	10	1/2	1/8	1/8	4	3/8	1/4	4 1/8	1/4	2 1/8	3/4	1/8	1 1/8	1/2	1/2	2 1/4	7/8	1	3	3/4	1 3/4	1 5/8	1 3/8	1 1/2	5/8	0.42
2S	9	15	7/8	1/4	1/4	6 1/8	5/8	3/8	5 1/2	1/2	3 1/4	1	1/8	1 3/4	7/8	3/4	3	1 1/4	1 1/2	4 5/8	1 1/8	2 5/8	2 1/8	2	2 3/8	1 3/8	0.94
2M	9	15	7/8	1/4	1/4	6 1/8	5/8	3/8	5 1/2	1/2	3 1/4	1	1/8	1 3/4	7/8	3/4	3	1 1/4	1 1/2	4 5/8	1 1/8	2 5/8	2 1/8	2	2 3/8	1 3/8	0.94
3																											
4																											

SIZE	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN	OO	PP	QQ	RR	SS	TT	UU	VV	WW	XX	YY	ZZ	Area sq. ft.
1	1 3/8	1/4	2 1/4	1/2	7/8	7/8	1 1/8	3/8	1	1/2	1 1/8	1 7/8	1 1/8														
2S	2	3/8	3 1/4	1	1 1/4	1 3/8	1 5/8	5/8	1 5/8	3/4	1 3/4	2 7/8	1 5/8														
2M	2	3/8	3 1/4	1	1 1/4	1 3/8	1 5/8	5/8	1 5/8	3/4	1 3/4	2 7/8	1 5/8														
3																											
4																											

STANDARD SIGN
R10-3EL,R,D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

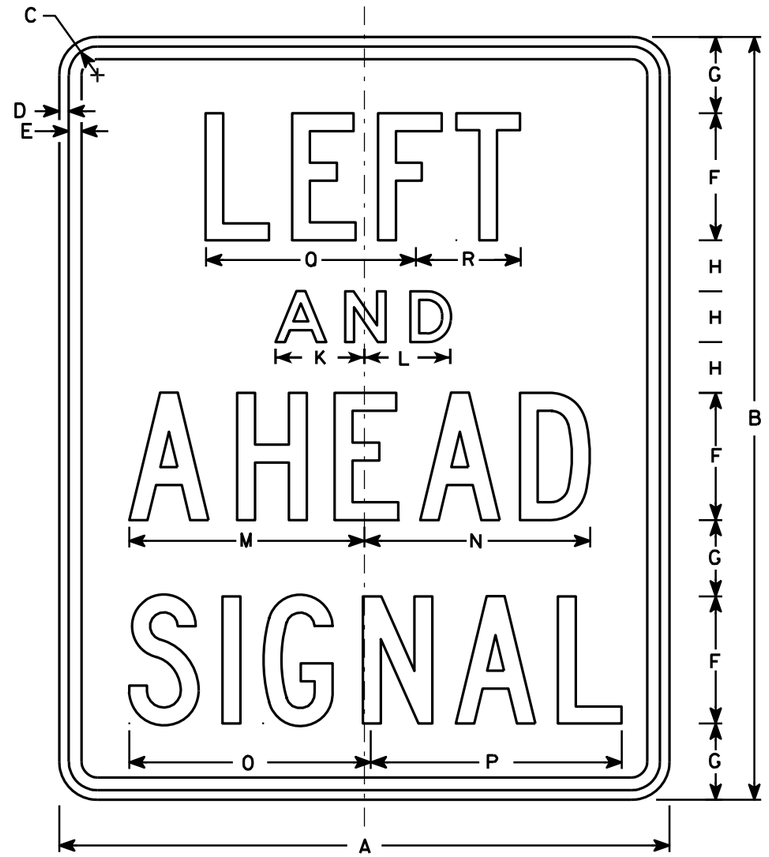
DATE 4/12/2011 PLATE R10-3E.2

PROJECT NO:

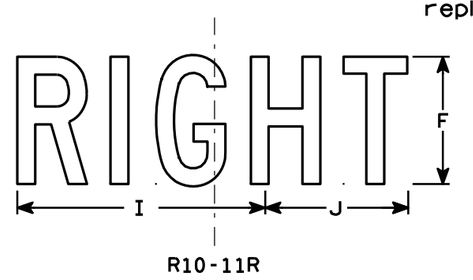
SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R103E.DGN PLOT DATE : 09-APR-2014 11:22 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



R10-11L



R10-11R

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 except line 2 is 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. R10-11L is identical to R10-11R except LEFT replaces RIGHT.

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	30	1 1/8	3/8	1/2	5	3	2	7 3/4	7 5/8	3 1/2	3 3/8	9 1/4	8 7/8	9 1/2	9 7/8	6 1/4	6 1/8									5.0
2M	24	30	1 1/8	3/8	1/2	5	3	2	7 3/4	7 5/8	3 1/2	3 3/8	9 1/4	8 7/8	9 1/2	9 7/8	6 1/4	6 1/8									5.0
3																											
4																											
5																											

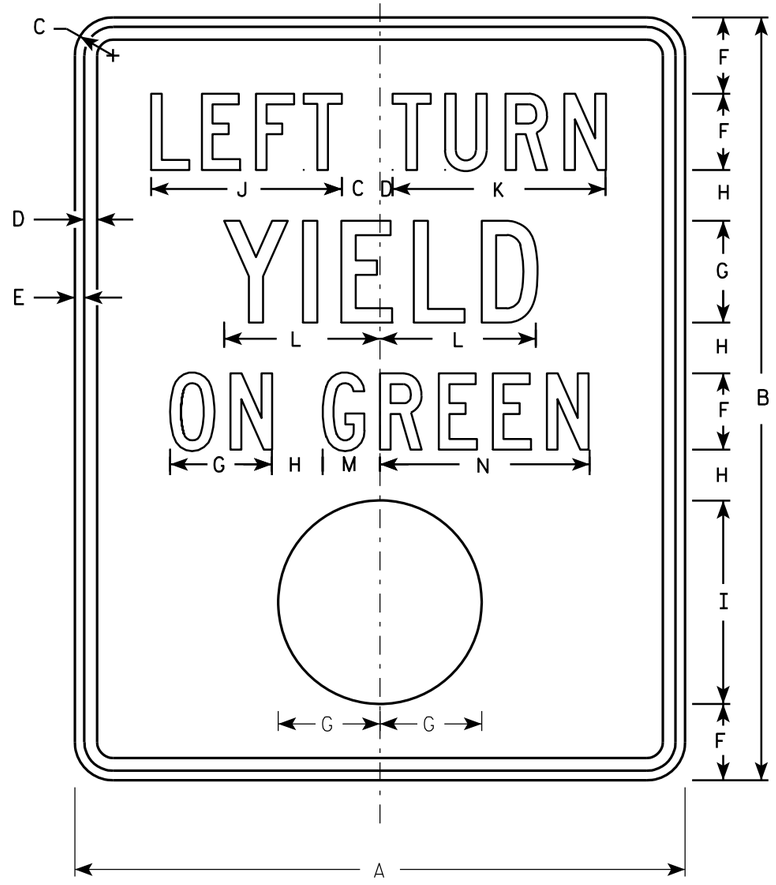
STANDARD SIGN
R10-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-11.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 363 | E



R10-12

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 (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 circle shall be green Type H reflective sheeting.

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 ½	½	⅜	3	4	2	8	7 ½	8 ⅜	6 ⅛	2 ¼	8 ¼													5.0
2M	24	30	1 ½	½	⅜	3	4	2	8	7 ½	8 ⅜	6 ⅛	2 ¼	8 ¼													5.0
3																											
4																											
5																											

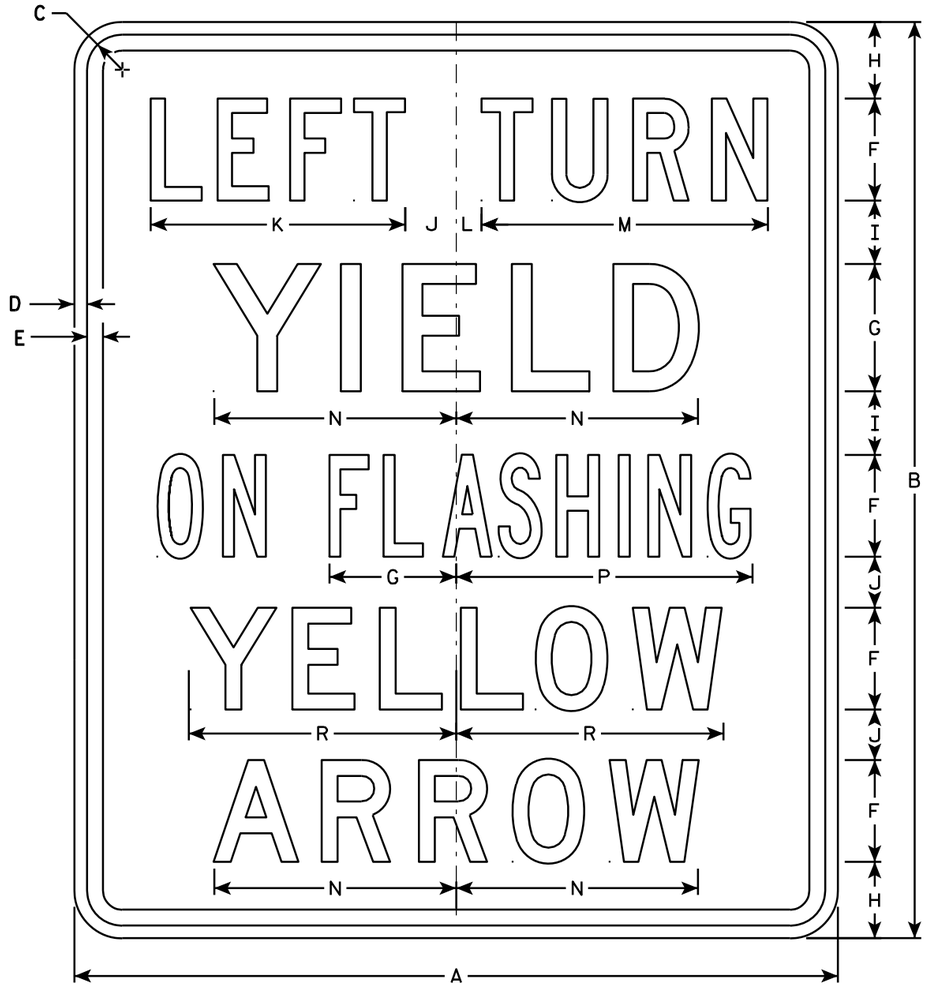
STANDARD SIGN
R10-12

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-12.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 364	E

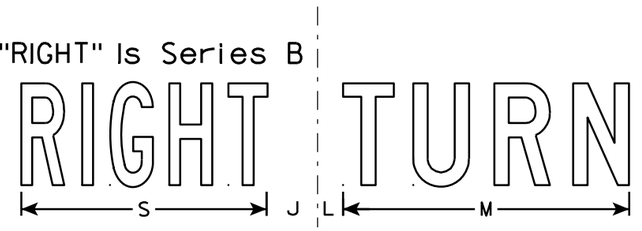


R10-50L

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																											

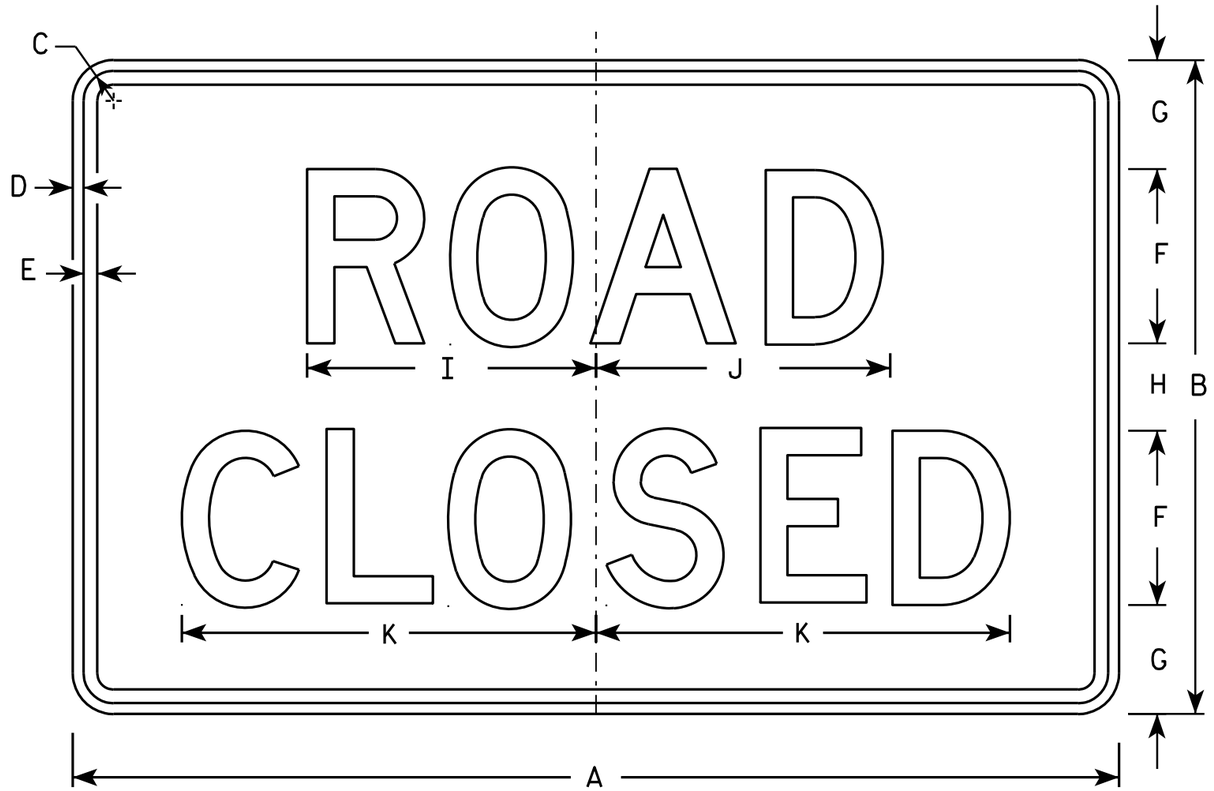
STANDARD SIGN
R10-50

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

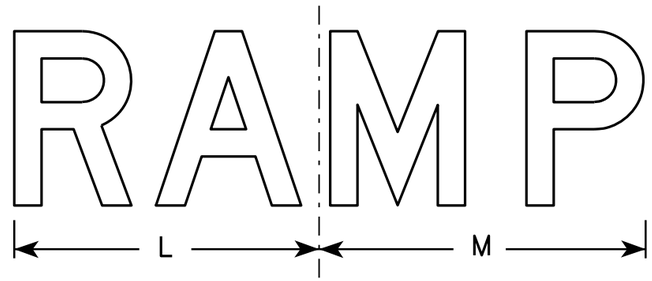
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 365	E



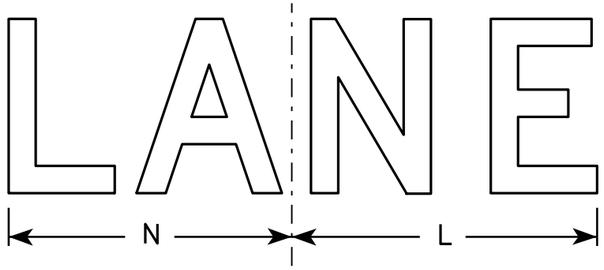
R11-2

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

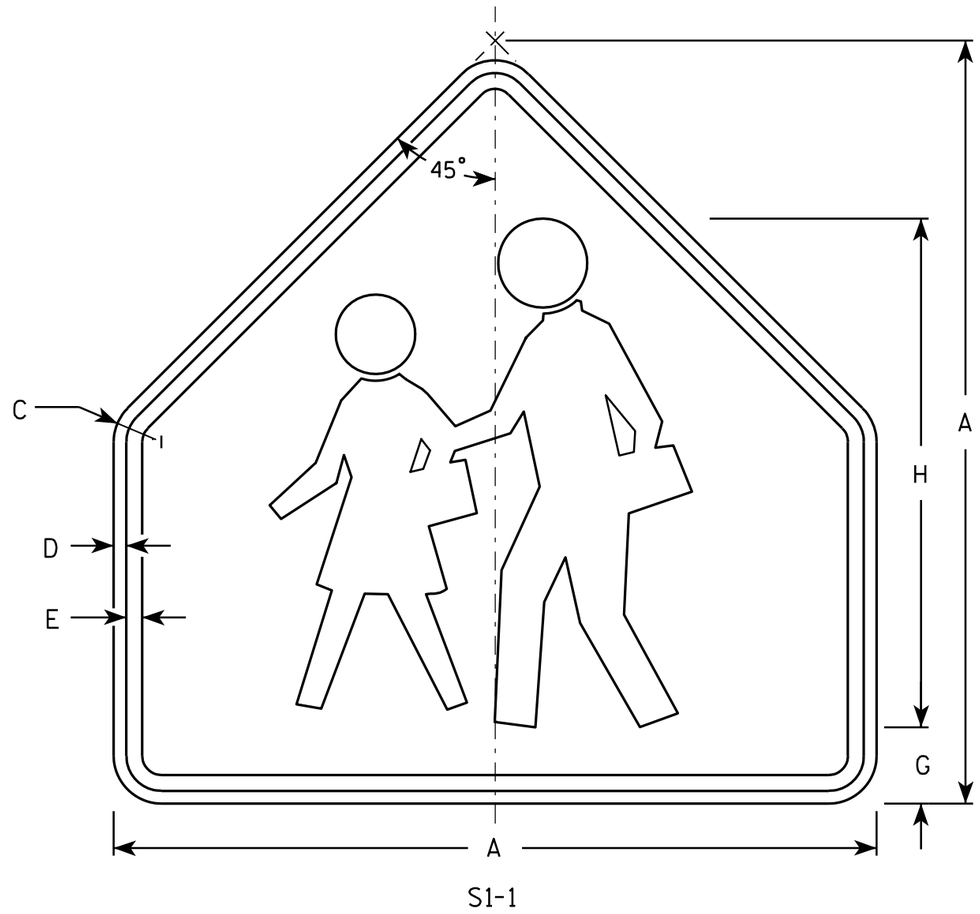
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 366 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.DGN PLOT DATE : 01-APR-2011 14:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.952219:1.000000

WISDOT/CADDS SHEET 42



S1-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

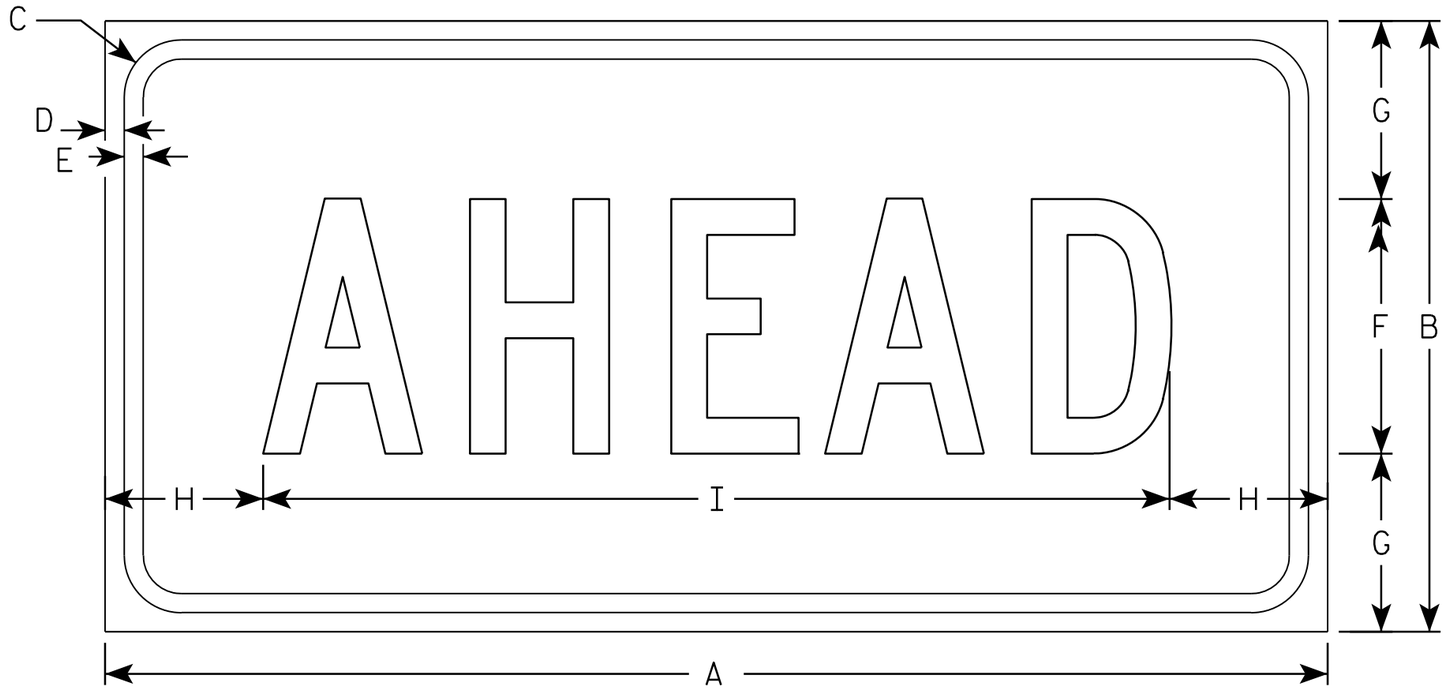
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 367	E



S16-9P

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   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	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
S16-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-9P.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 368 | E



W4-4P

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - 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	24	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	8	1 1/2	3/8	10	6 1/4	2 1/4	2 1/4	6 1/4											2.0
2M	24	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	8	1 1/2	3/8	10	6 1/4	2 1/4	2 1/4	6 1/4											2.0
3	36	15	1 1/8	3/8	1/2	4	2 5/8	1 3/4	10 3/4	2 3/8	3/8	13 1/2	8 3/8	3	3 1/8	8 3/8											3.75
4	42	18	1 1/8	3/8	1/2	5	3	2	13 3/8	3 1/8	3/8	16 7/8	10 1/2	3 5/8	3 7/8	10 3/8											5.25
5																											

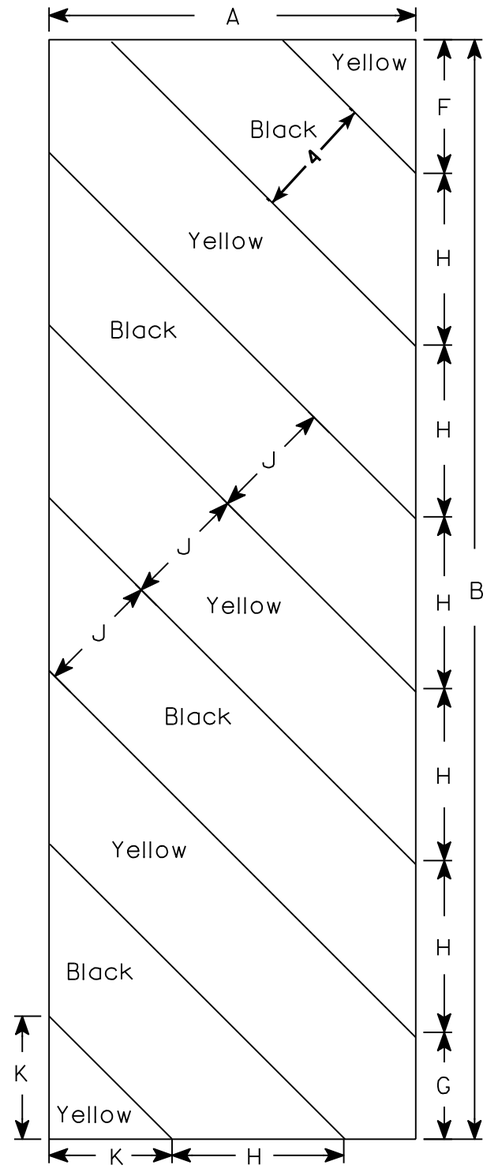
STANDARD SIGN
W4-4P

WISCONSIN DEPT OF TRANSPORTATION

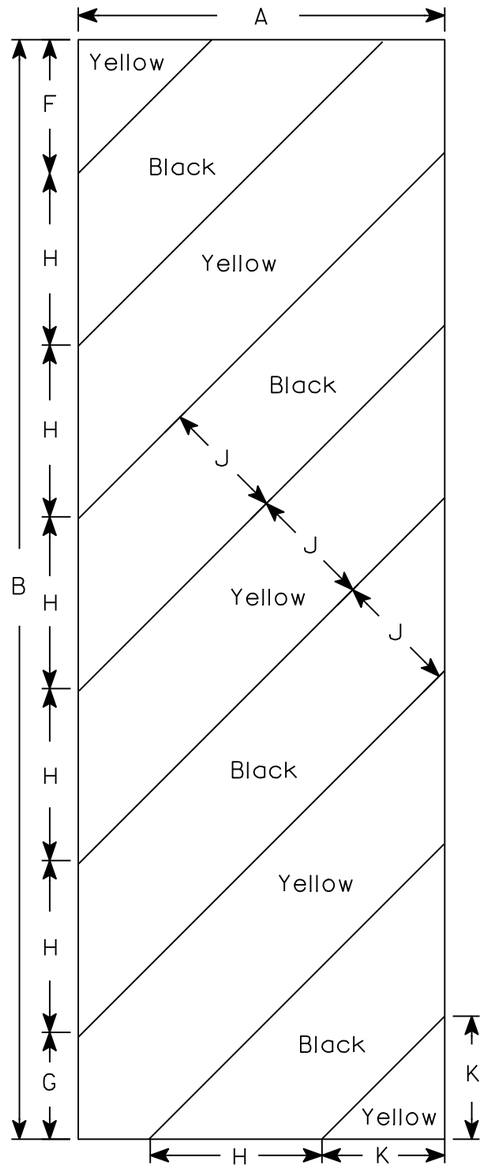
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-4P.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 369	E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

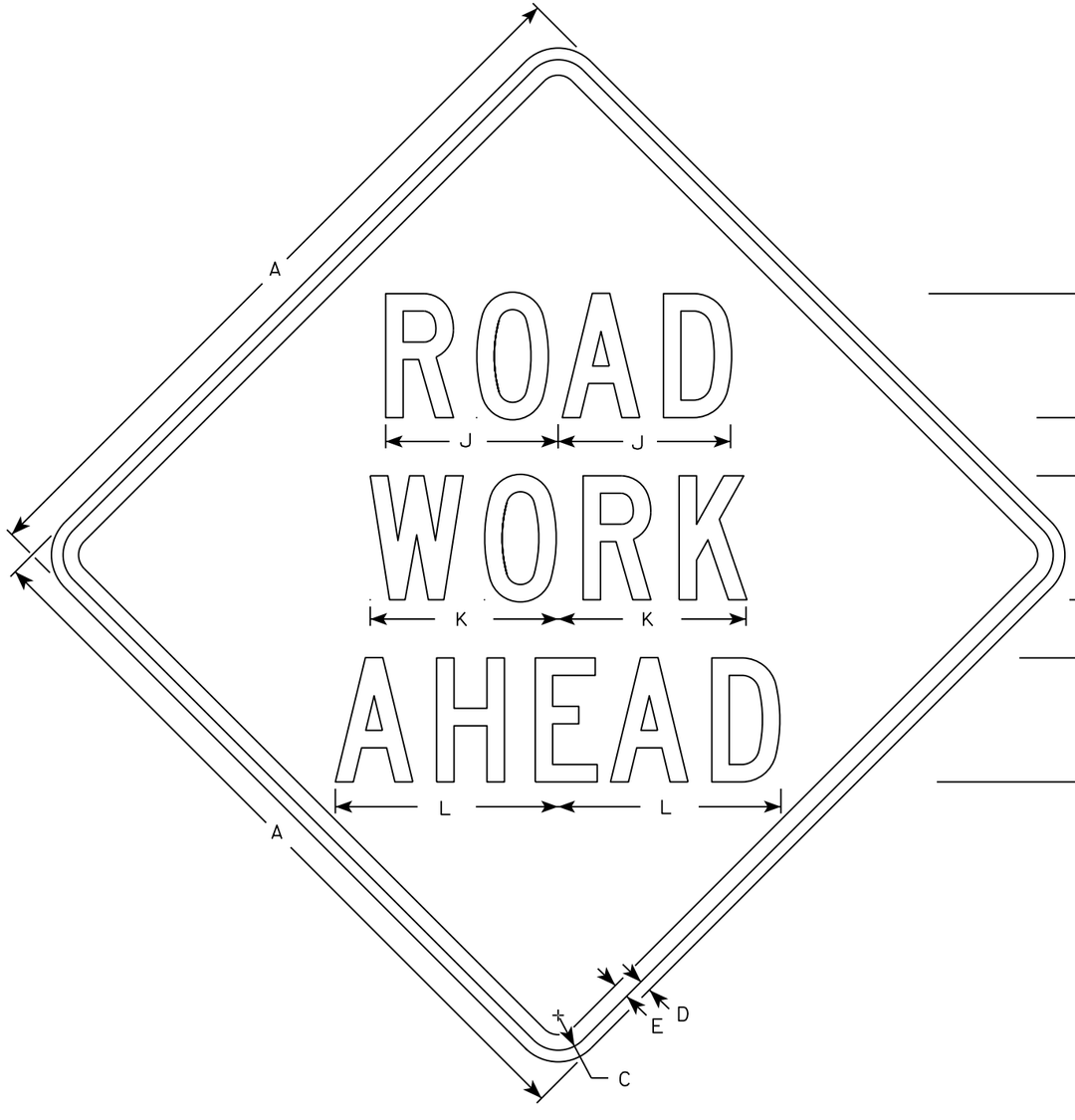
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

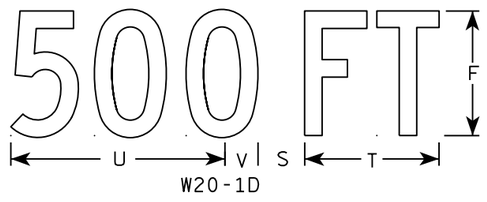
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

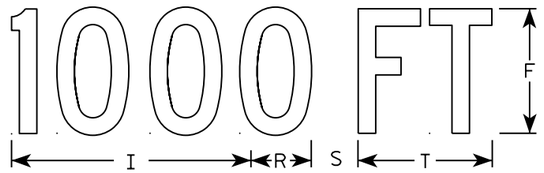
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 370 | E



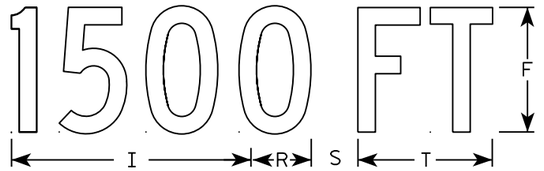
W20-1A



W20-1D



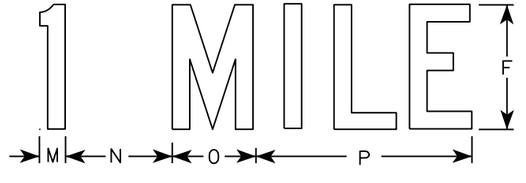
W20-1C



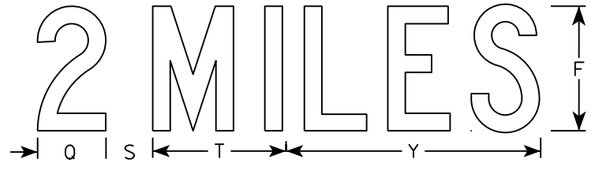
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

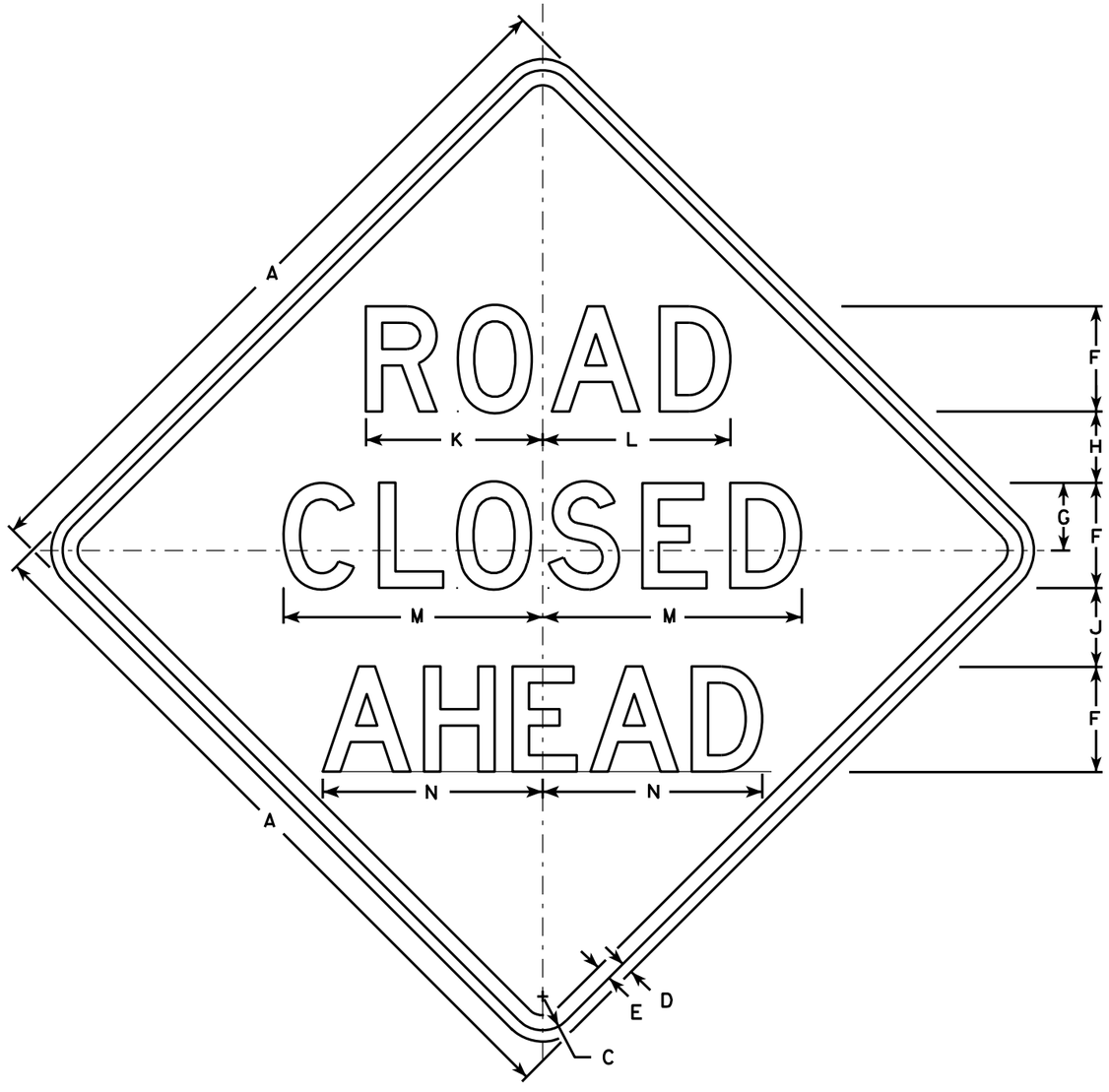
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

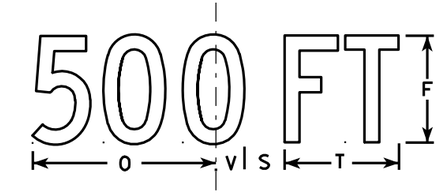
SHEET NO: E

7

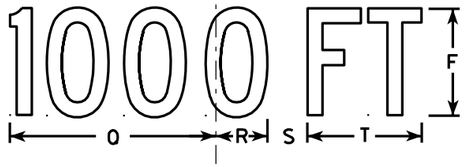
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



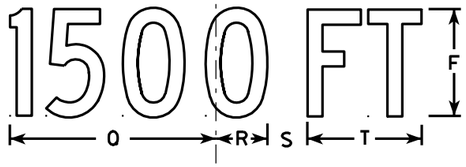
W20-3A



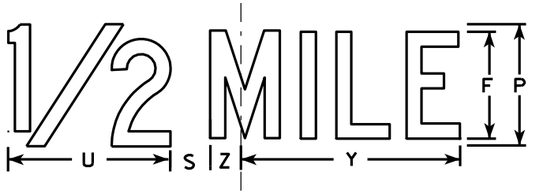
W20-3D



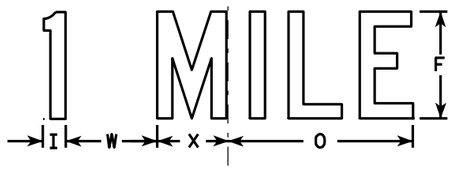
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

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

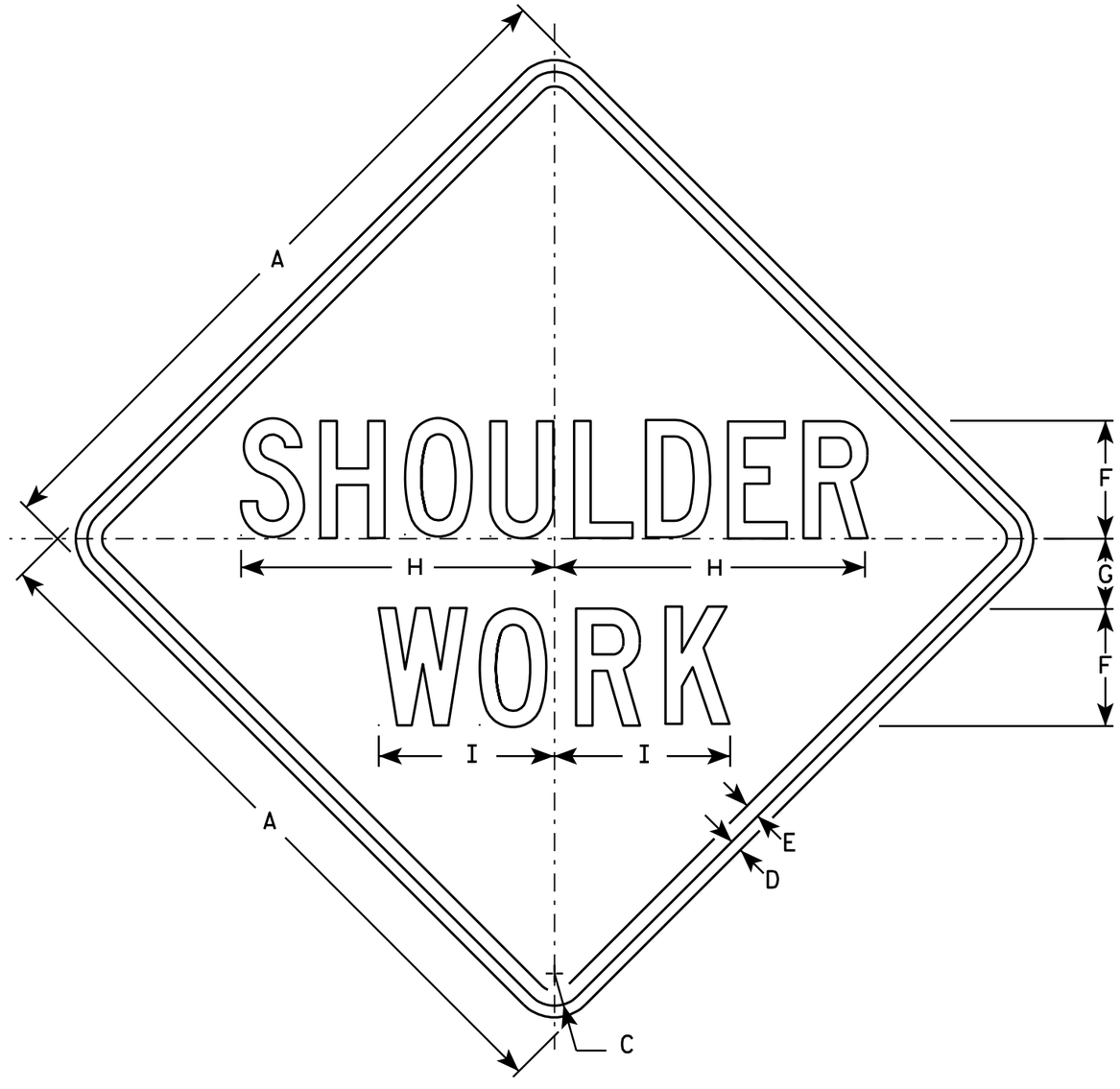
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 372 | E

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



W21-5

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

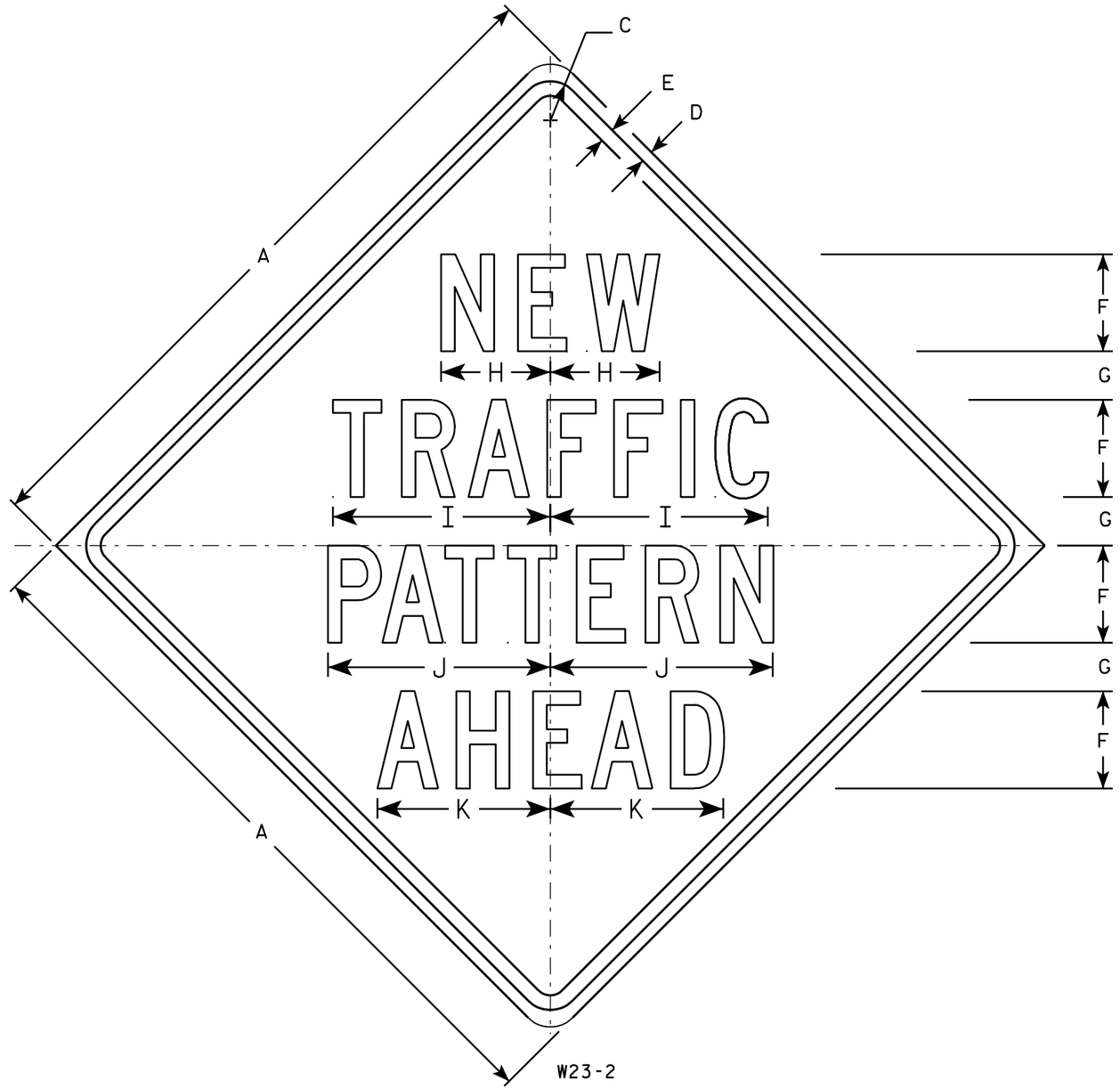
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 373 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W215.DGN PLOT DATE : 21-MAR-2011 08:01 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.207338:1.000000
WISDOT/CADDS SHEET 42



NOTES

1. Sign isType II - Type F Reflective - reference WIS DOT Standard Specification forHIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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	36		1 5/8	5/8	3/4	5	2 1/2	5 5/8	11 1/4	11 1/2	8 7/8																9.0
2M	36		1 5/8	5/8	3/4	5	2 1/2	5 5/8	11 1/4	11 1/2	8 7/8																9.0
3																											
4																											
5																											

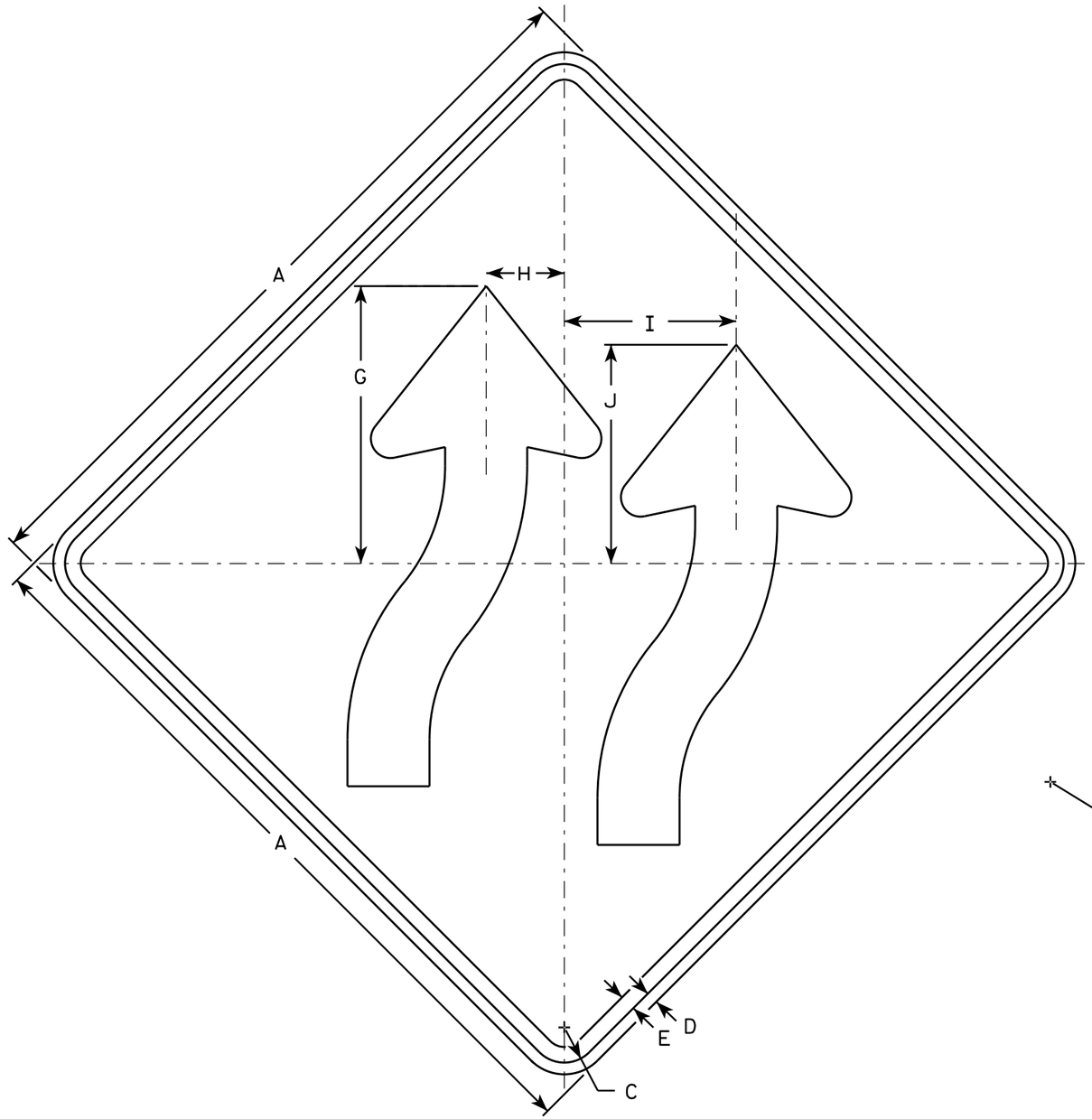
STANDARD SIGN
W23-2

WISCONSIN DEPT OF TRANSPORTATION

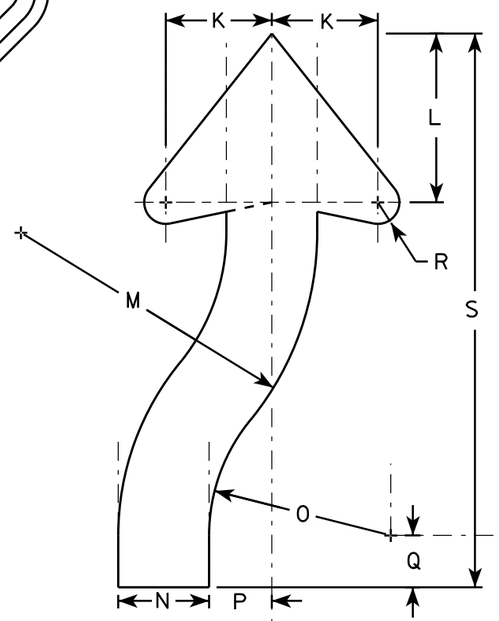
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W23-2.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 374 | E



W01-4bR



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4bL is the same as W014-bR exept arrows are reversed along the vertical centerline

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		2 1/4	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

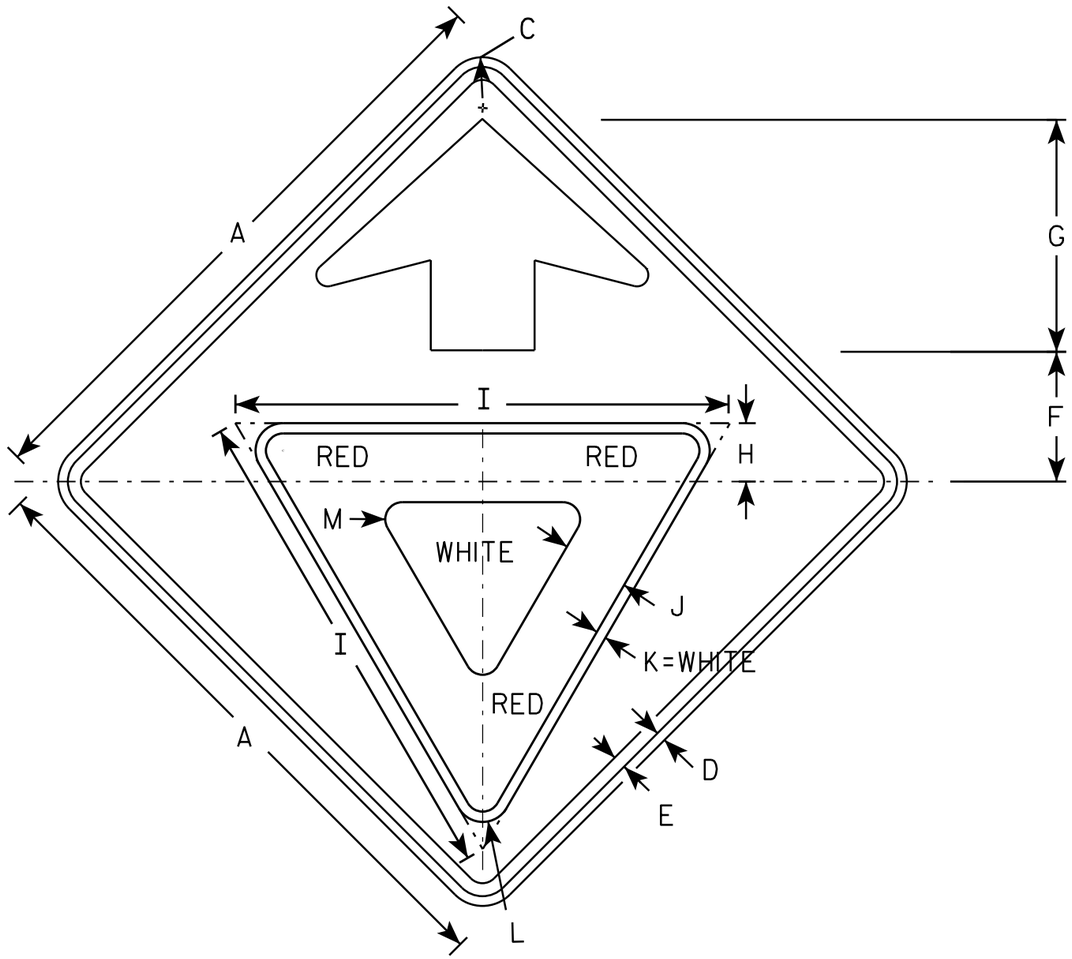
STANDARD SIGN
W01-4b

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4b.1

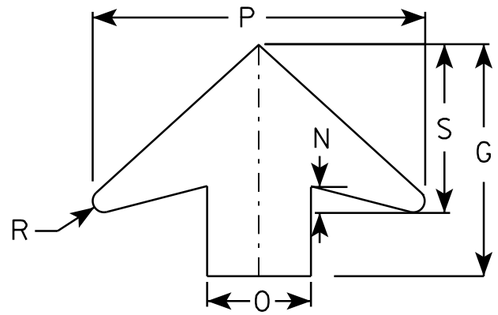
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W03-2

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

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

STANDARD SIGN
W03-2

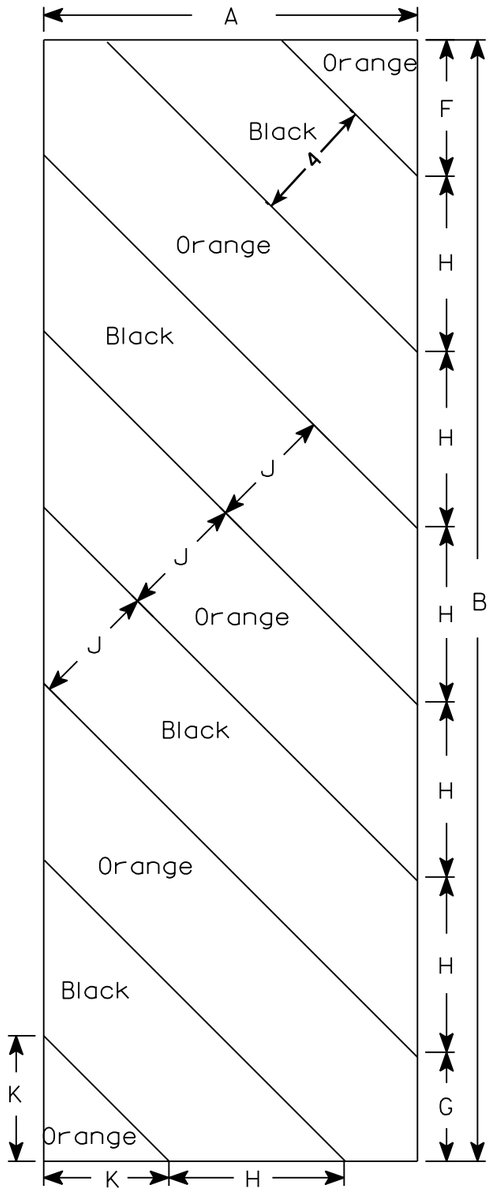
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

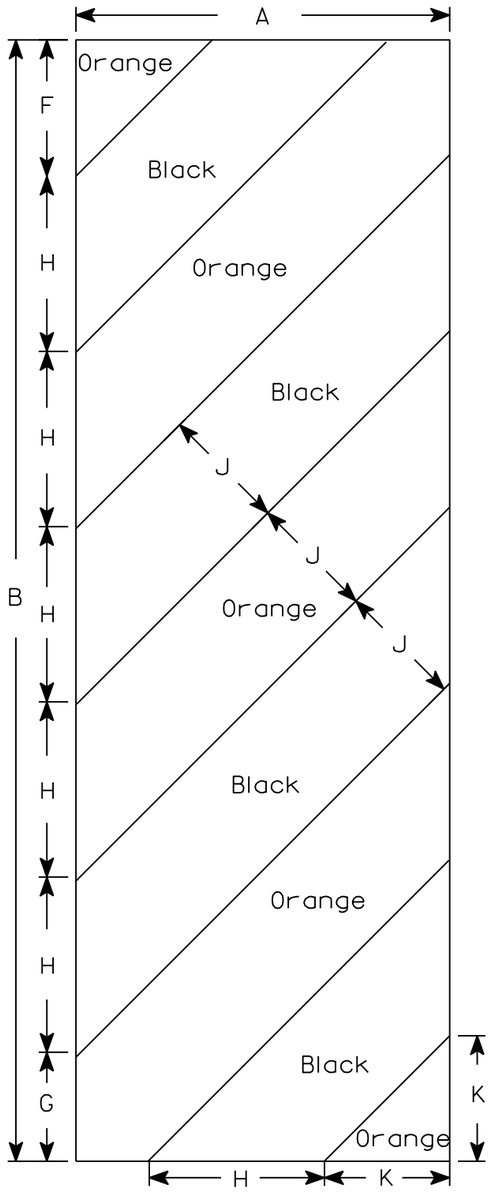
DATE 11/20/13 PLATE W03-2.1

PROJECT NO:

SHEET NO: E



W05-52L



W05-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

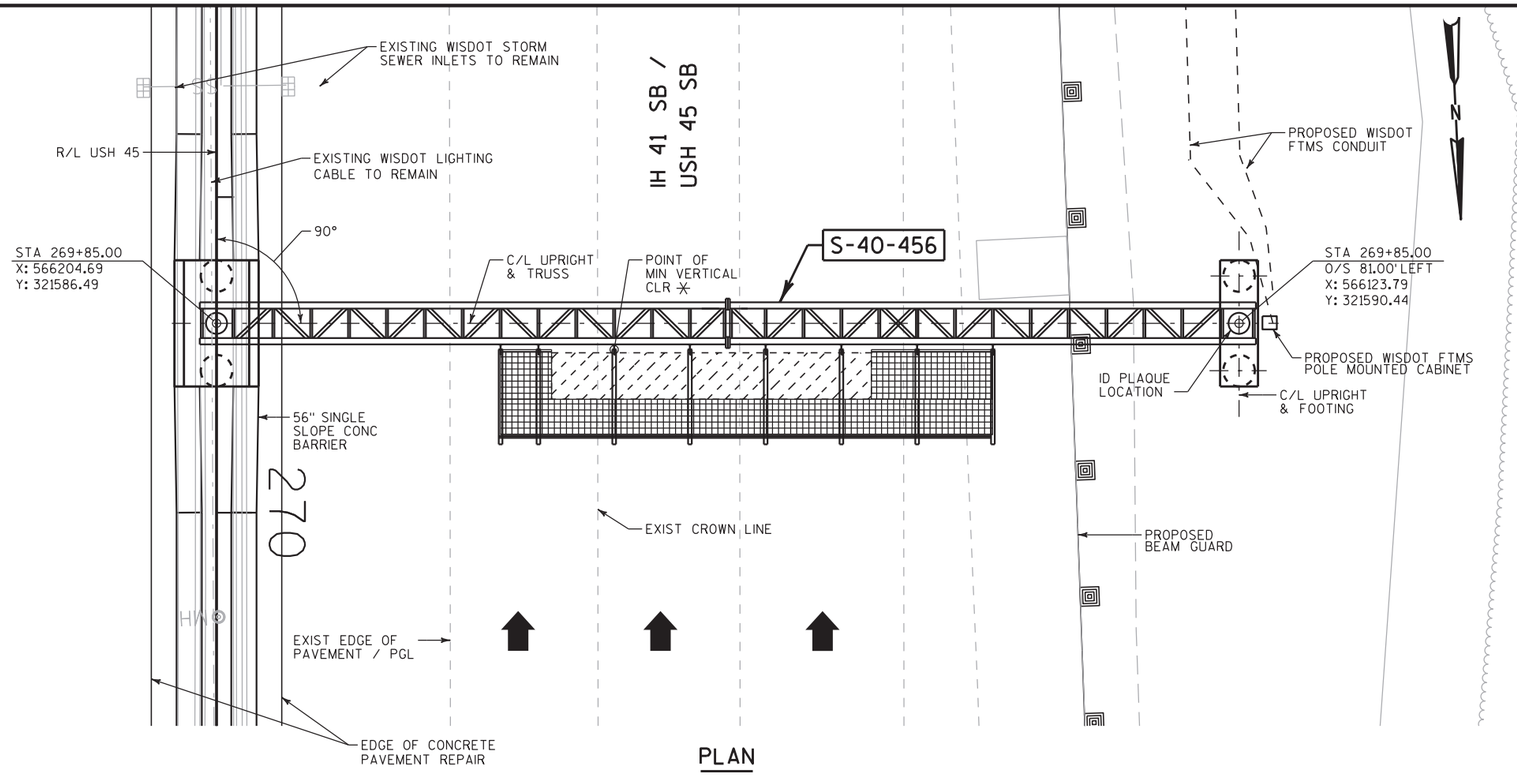
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

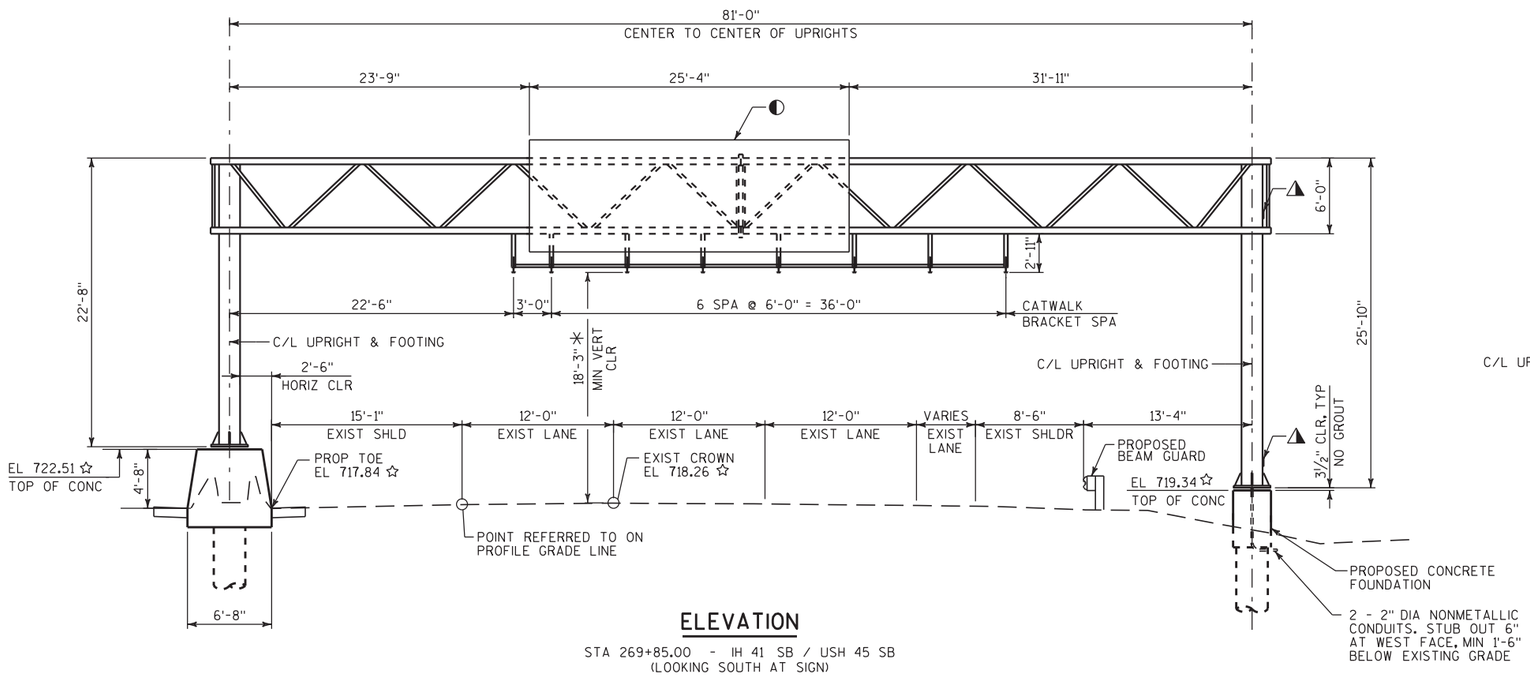
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

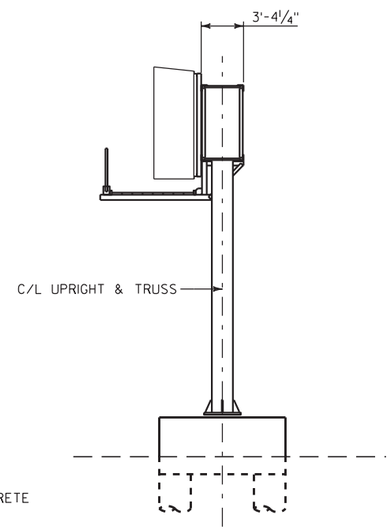


PLAN



ELEVATION

STA 269+85.00 - IH 41 SB / USH 45 SB
(LOOKING SOUTH AT SIGN)



SIDE VIEW

OUTSIDE COLUMN
(LOOKING EAST)

STATE PROJECT NUMBER

1060-39-90

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. QUANTITIES & GENERAL NOTES
3. MEDIAN CONCRETE FOOTING DETAILS
4. OUTER CONCRETE FOOTING DETAILS
5. SIGN BRIDGE DETAILS
6. DMS MOUNTING DETAILS
7. TRUSS/POST CONNECTION DETAILS
8. SIGN BRIDGE CATWALK DETAILS (1 OF 2)
9. SIGN BRIDGE CATWALK DETAILS (2 OF 2)
10. HANDHOLE DETAILS
11. SUBSURFACE EXPLORATION

LEGEND

◐ 25'-4" x 8'-10½" DYNAMIC MESSAGE SIGN, CENTERED VERTICALLY ON TRUSS (NOT A STRUCTURE BID ITEM)

☆ ELEVATIONS GIVEN ALONG C/L UPRIGHT & TRUSS

✳ POINT OF MIN VERTICAL CLEARANCE STA 269+87.08, 30.20' LEFT, EL = 718.28

⚠ HANDHOLE, REQ'D ON OUTER COLUMN ONLY

WISCONSIN
KARL E. SCHMID
E-30812
MILWAUKEE, WI
PROFESSIONAL ENGINEER

9/22/2016

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
KARL SCHMID (414) 272-2426

NO.	DATE	REVISION	BY

FORWARD 45

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 12/19/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE S-40-456

IH 41 SB / USH 45 SB

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	WAUWATOSA

DESIGN SPEC.
AASHTO STD SPECS FOR HIGHWAY SIGNS 6TH ED

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ASW	EKM	EKM	KES

GENERAL PLAN & ELEVATION

SHEET 1 OF 11

8

8

STATE PROJECT NUMBER
1060-39-90

DESIGN DATA

SIGN STRUCTURE DESIGN BASED ON:

DIGITAL MESSAGE SIGN:
SIGN AREA 224 SF
SIGN WEIGHT 2,745 LBS
BRACKET SUPPORTS 10 LBS/FT

ADDITIONAL SIGNS: NONE

DEAD LOAD - WT. OF SIGN, SUPPORTING STRUCTURE, CATWALK AND RAILINGS.
ICE LOAD - 3 PSF TO ONE FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND PRESSURE - 90 MPH (3-SEC. GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

WIND COMPONENTS	NORMAL	TRANSVERSE
COMBINATION 1	1.0	0.2
COMBINATION 2	0.6	0.3

GROUP LOADS	% OF ALLOWABLE STRESS
I. DEAD	100
II. DEAD + WIND	133
III. DEAD + ICE + ½(WIND)	133
IV. FATIGUE	**

NOTE: WIND LOAD FOR GROUP 3 LOADING SHALL NOT BE LESS THAN 25 PSF.

** SEE SECTION 11 OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 6TH EDITION FOR FATIGUE LOADS AND STRESS RANGE LIMITS

FOUNDATION DATA

ALLOWABLE SHAFT END BEARING PRESSURE = 8,500 PSF
ALLOWABLE SKIN FRICTION = 350 PSF
UNDRAINED SHEAR STRENGTH AT BASE OF SHAFT = 3,500 PSF
FRICTION ANGLE AT BASE OF SHAFT = 0°

MATERIAL PROPERTIES

CONCRETE MASONRY ---------- f'c = 3,500 psi

HIGH STRENGTH STEEL
REINFORCEMENT, GRADE 60 ---------- fy = 60,000 psi

STRUCTURAL ANGLES,
PLATE AND BARS - ASTM A709 GRADE 36 ---- fy = 36,000 psi

COLUMN (INCLUDING
HANDHOLE) - API SPEC 5L GRADE 42 ---------- fy = 42,000 psi

HIGH STRENGTH BOLTS - A325 ---------- fy = 92,000 psi

ANCHOR BOLTS - ASTM F1554---------- fy = 55,000 psi

STRUCTURAL MEMBERS GALVANIZED---------- ASTM A123

HARDWARE GALVANIZED ---------- ASTM A153 CLASS C

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL REINFORCING BARS ARE IN ENGLISH UNITS. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SIGN BRIDGE ID PLAQUES SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-40-456". LOCATE THE ID PLAQUE ON THE FREEWAY SIDE OF THE SUPPORT COLUMN SO THAT IT CAN BE SEEN FROM THE ROADWAY. FABRICATE AND INSTALL THE ID PLAQUE IN ACCORDANCE WITH S.D.D. 12 A 4-3.

CATWALK SHALL BE INCIDENTAL TO THE BID ITEM "SIGN BRIDGE S-40-456".

CENTER DYNAMIC MESSAGE SIGN VERTICALLY ON TRUSS BY THE BACK OF UNIT DIMENSION.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY ZONE, NAD 83 (2007). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007).

ALTERNATE DESIGNS ARE NOT ALLOWED.

ALL STRUCTURAL STEEL MEMBERS SHALL BE GALVANIZED.

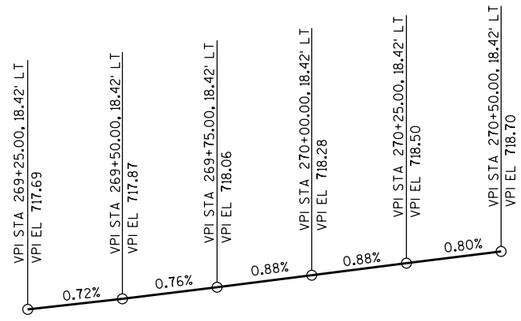
ALL BOLTED CONNECTIONS SHALL BE MADE WITH A325 BOLTS (SIZE AS SHOWN ON THE PLANS), GALVANIZED PER ASTM A153 CLASS C AND MADE WITH DTI WASHERS.

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

CONTRACTOR SHALL SHOW SIGNS ON SHOP DRAWINGS.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO TRAFFIC OPS SE REGION: MR TOM HEYDEL, WIS DOT, 141 NW BARSTOW ST, WAUKESHA, WI 53187 AND THE PROJECT ENGINEER FOR APPROVAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRILLING OR EXCAVATING AND MAINTAINING A STABLE AND OPEN HOLE FOR SUBSEQUENT INSTALLATION OF CONCRETE MASONRY FOR THE SUPPORT BASES. PARTIAL OR FULL DEPTH TEMPORARY CASING MAY BE REQUIRED TO MAINTAIN THE STABILITY OF THE EXCAVATED HOLE FOR THE SIGN SUPPORT PRIOR TO FILLING THE HOLE WITH CONCRETE.



EDGE OF PAVEMENT / PGL - USH 45 SB

TOTAL ESTIMATED QUANTITIES

ITEM NO	BID ITEMS	UNIT	TOTAL
636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	35
636.1500	SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	LB	5,590
641.6600	SIGN BRIDGE S-40-456	LS	1
SPV.0075.4000	OBSTRUCTIONS SIGN SUPPORTS CONCRETE MASONRY	HRS	2

ALL BID ITEMS ARE CATEGORY 4000

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8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

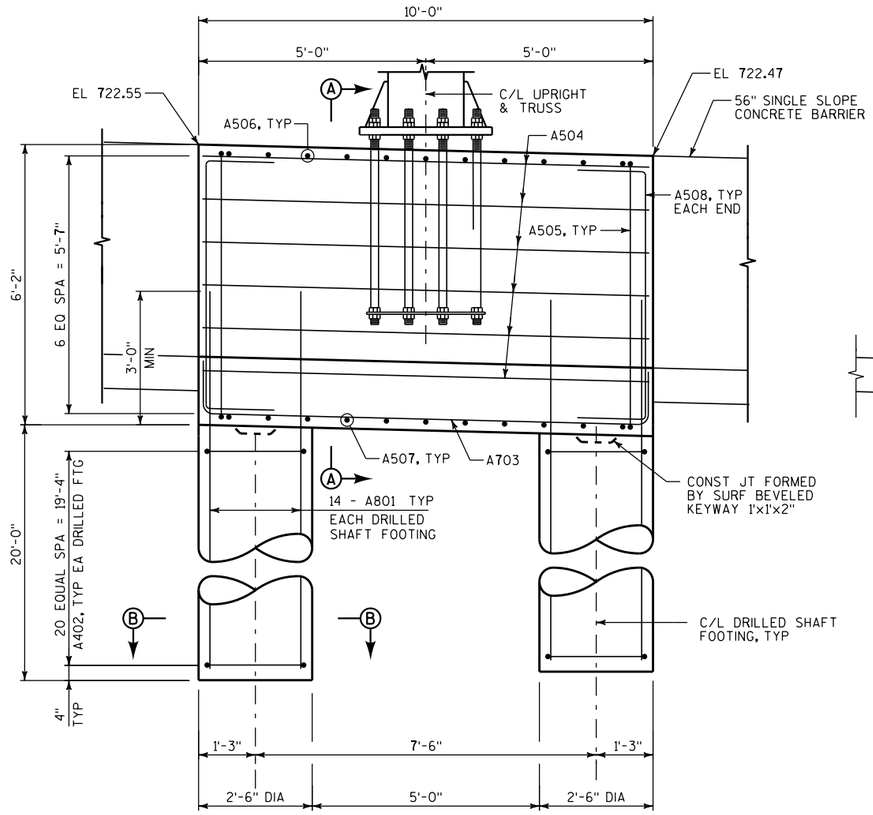
STRUCTURE S-40-456

DRAWN BY EKM | PLANS CK'D. KES

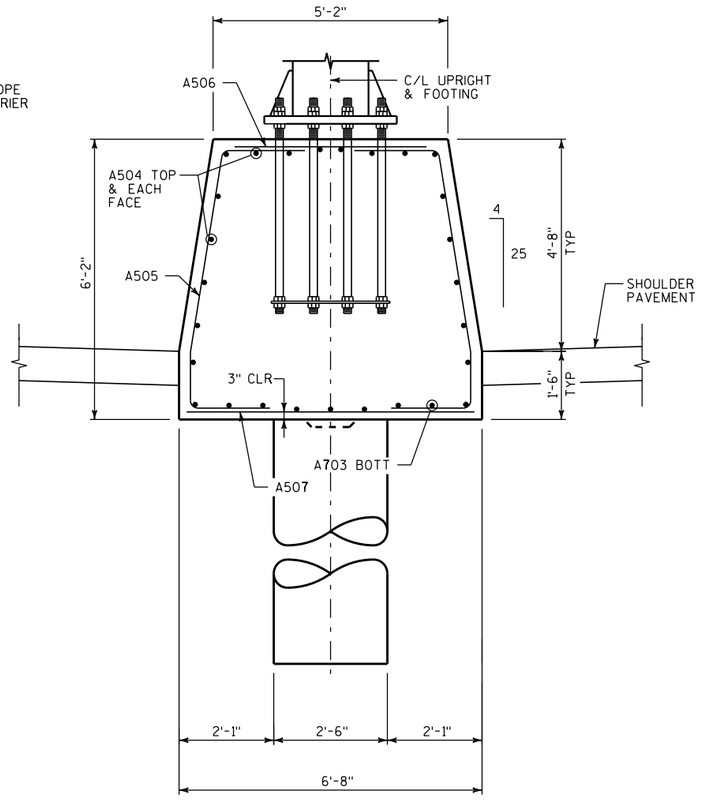
QUANTITIES & GENERAL NOTES

SHEET 2 OF 11

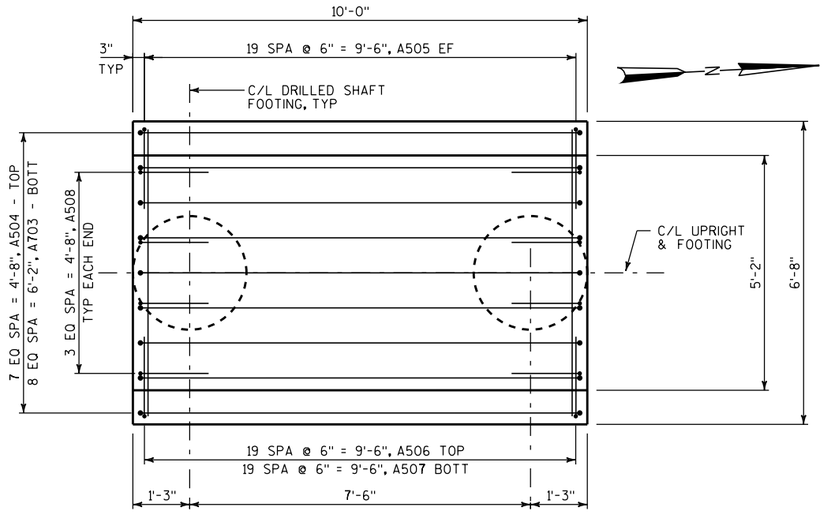
STATE PROJECT NUMBER
1060-39-90



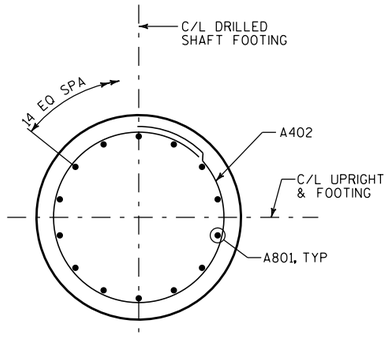
ELEVATION
(LOOKING EAST)



SECTION A-A



PLAN

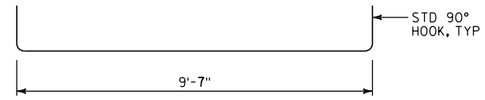


SECTION B-B

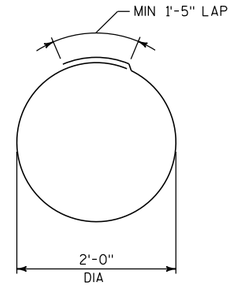
BILL OF BARS

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE

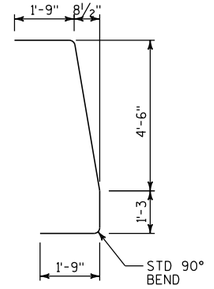
BAR MARK	COAT	NO REQ'D	LENGTH	BENT	LOCATION
A801	X	28	23'-0"	-	DRILLED FOOTING - VERTICAL
A402	X	42	7'-10"	X	DRILLED FOOTING - TRANSVERSE TIE
A703	X	9	11'-7"	X	FOOTING - LONGITUDINAL - BOTT
A504	X	18	9'-8"	-	FOOTING - LONGITUDINAL - TOP & SIDES
A505	X	40	9'-2"	X	FOOTING - VERTICAL - STIRRUP
A506	X	20	4'-9"	-	FOOTING - TRANSVERSE - TOP
A507	X	20	6'-3"	-	FOOTING - TRANSVERSE - BOTT
A508	X	8	8'-6"	X	FOOTING - VERTICAL - EACH END



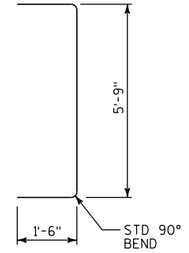
A703



A402



A505



A508

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

DRAWN BY EKM | PLANS CK'D. KES

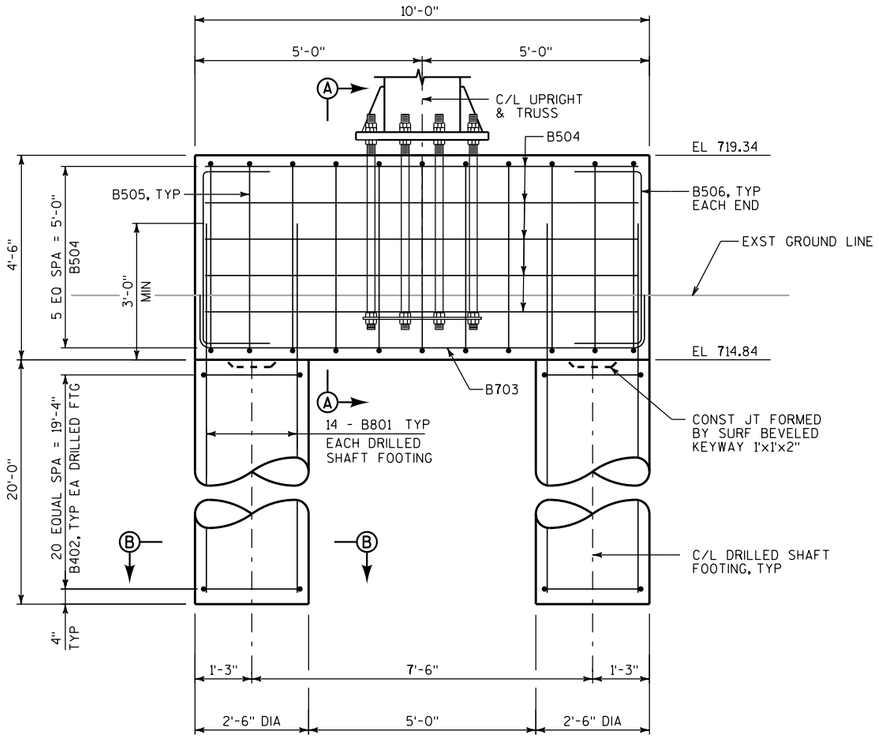
MEDIAN CONCRETE FOOTING DETAILS

SHEET 3 OF 11

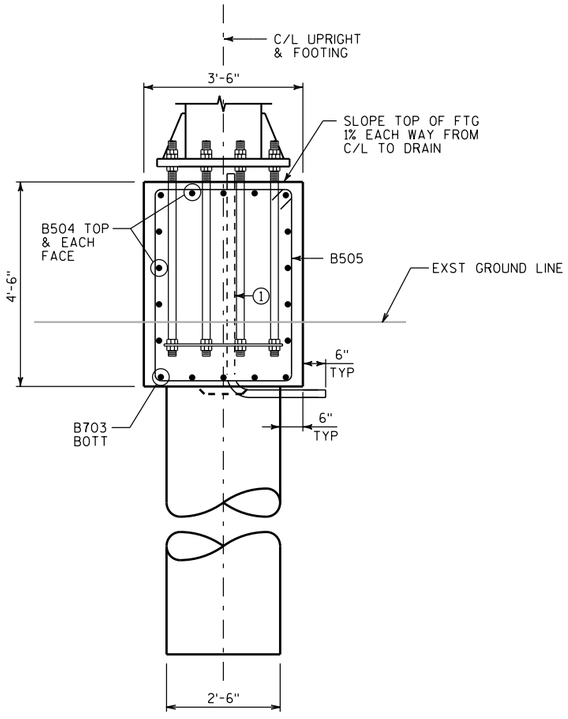
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STATE PROJECT NUMBER
1060-39-90



ELEVATION
(LOOKING WEST)



SECTION A-A

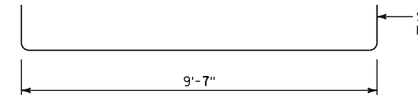
NOTES

① 2 - 2" DIA NONMETALLIC CONDUITS. CAP OR SEAL WITH SUITABLE REMOVABLE PLUG. STUB OUT CONDUITS 1'-6" BELOW EXST GRADE. CONDUITS ARE INCIDENTAL TO THE BID ITEM "SIGN SUPPORTS CONCRETE MASONRY".

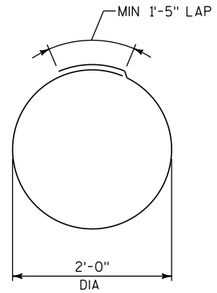
BILL OF BARS

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE

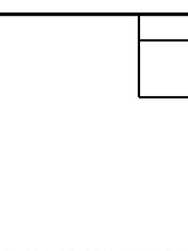
BAR MARK	COAT	NO REQ'D	LENGTH	BENT	LOCATION
B801	X	28	23'-0"	-	DRILLED FOOTING - VERTICAL
B402	X	42	7'-10"	X	DRILLED FOOTING - TRANSVERSE TIE
B703	X	5	11'-7"	X	FOOTING - LONGITUDINAL - BOTT
B504	X	13	9'-8"	-	FOOTING - LONGITUDINAL - TOP & SIDES
B505	X	20	15'-0"	X	FOOTING - VERTICAL - STIRRUP
B506	X	10	6'-10"	X	FOOTING - VERTICAL - EACH END



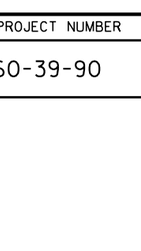
B703



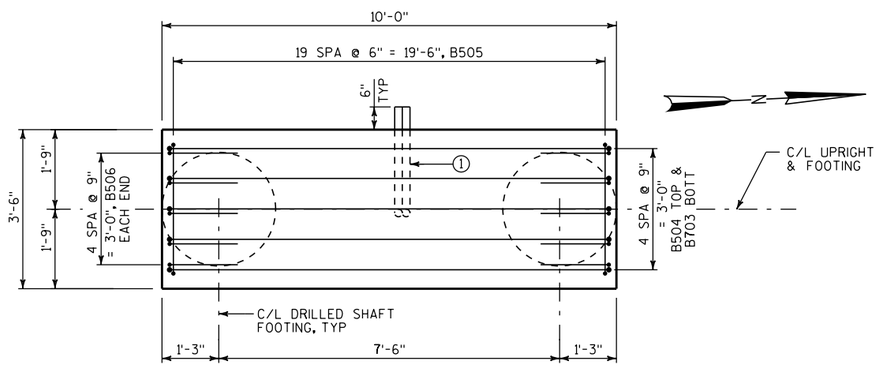
B402



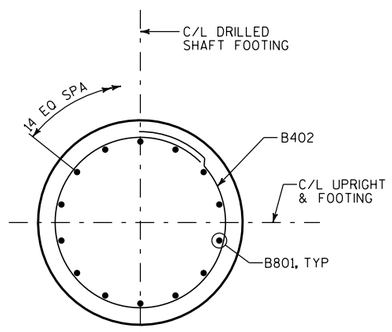
B505



B506



PLAN



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

DRAWN BY EKM | PLANS CK'D. KES

OUTER CONCRETE FOOTING DETAILS

SHEET 4 OF 11

STATE PROJECT NUMBER
1060-39-90

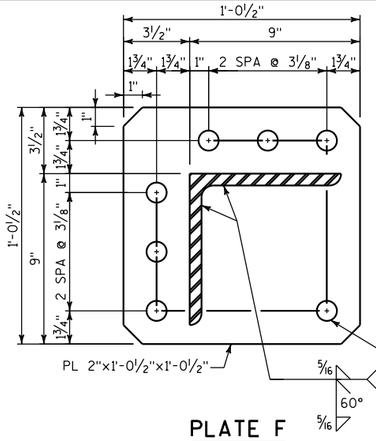
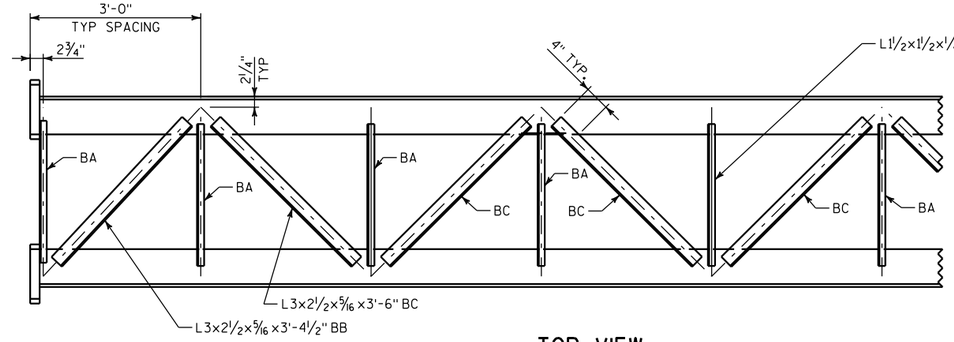
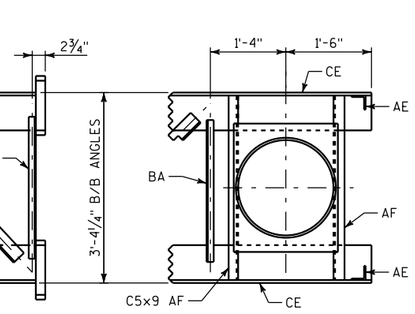


PLATE F



TOP VIEW



TOP VIEW

NOTES

TRUSS SECTIONS SHALL BE MADE IN MULTIPLES OF 6'-0", EXCEPT THAT THE BRACING PANEL NEAREST EACH POST MAY VARY TO MAKE UP THE NEEDED SECTION LENGTH. WELDED CHORD SPLICES ARE NOT PERMITTED.

UNLESS OTHERWISE SHOWN, ALL WELDS SHALL BE 1/4" FILLET WELDS ALL AROUND.

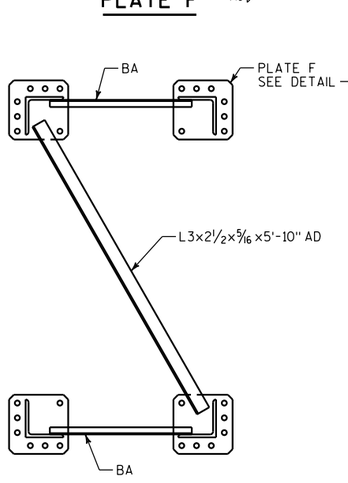
PROVIDE 2- 1/16" BRASS, STAINLESS STEEL OR GALVANIZED STEEL SHIMS AT EACH FLANGE TO BRING TRUSS INTO CORRECT CAMBER AND ALIGNMENT.

TRUSSES SHALL BE SHOP ASSEMBLED AND MATCH MARKED.

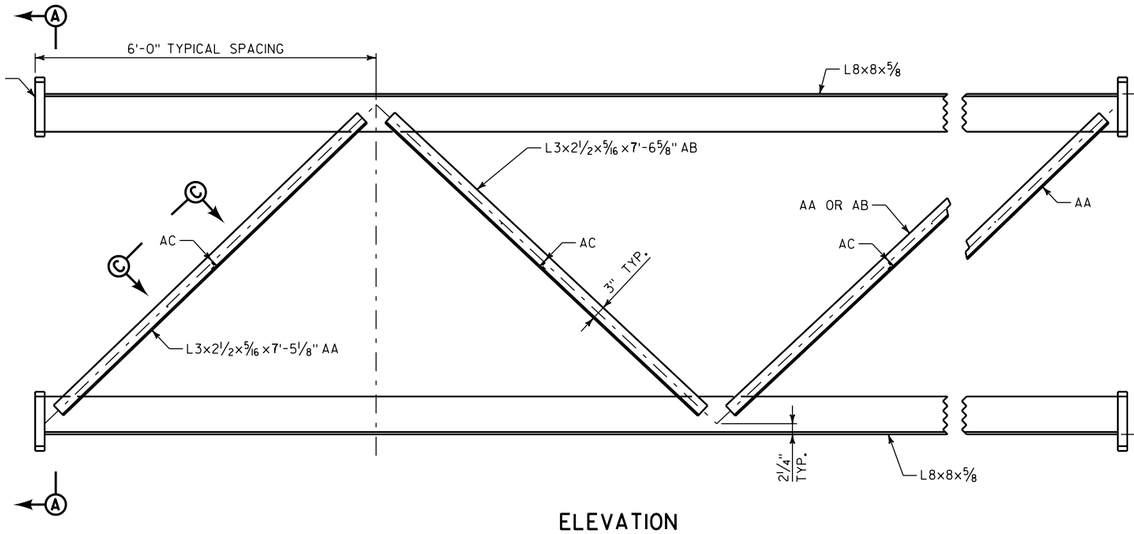
ALL VIEWS OF THE TRUSSES ARE DRAWN FROM THE INSIDE OF THE TRUSS LOOKING OUT.

SEE SHEET 6 FOR CAMBER DETAILS.

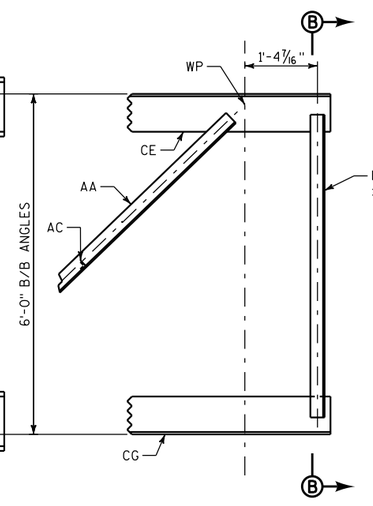
SEE SHEET 7 FOR POST CONNECTION DETAILS.



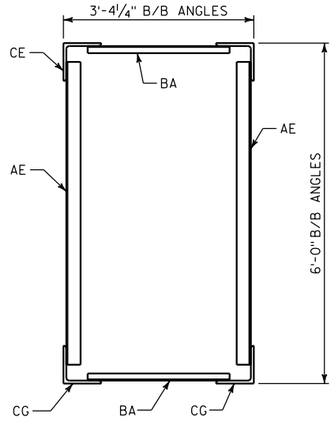
SECTION A-A



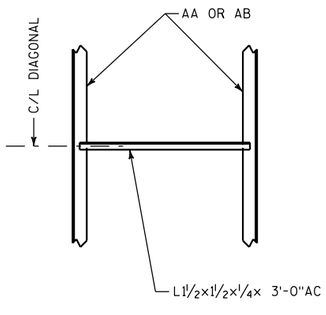
ELEVATION



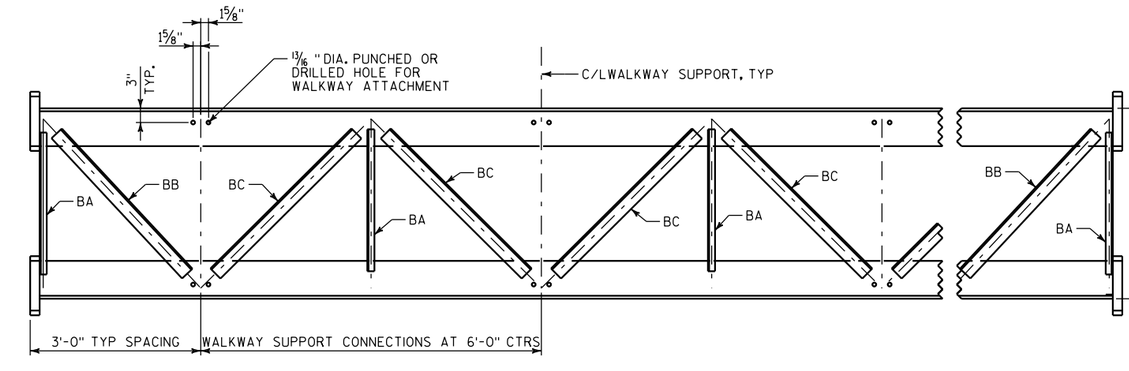
ELEVATION



SECTION B-B

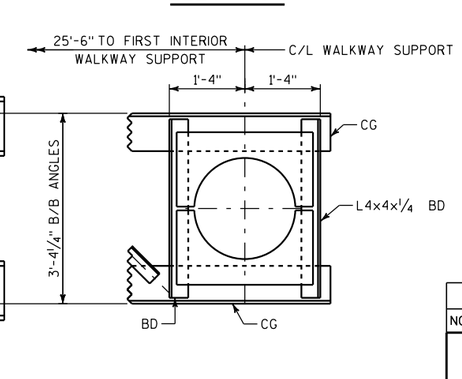


SECTION C-C



NOTE:
THE BOTTOM VIEW IS DETAILED TO PROVIDE FOR WALKWAY ATTACHMENT. WHERE THE WALKWAY IS OMITTED, PROVIDE STRUT BA AS INDICATED IN THE TOP VIEW.

BOTTOM VIEW



BOTTOM VIEW

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

DRAWN BY	EKM	PLANS CK'D.	KES

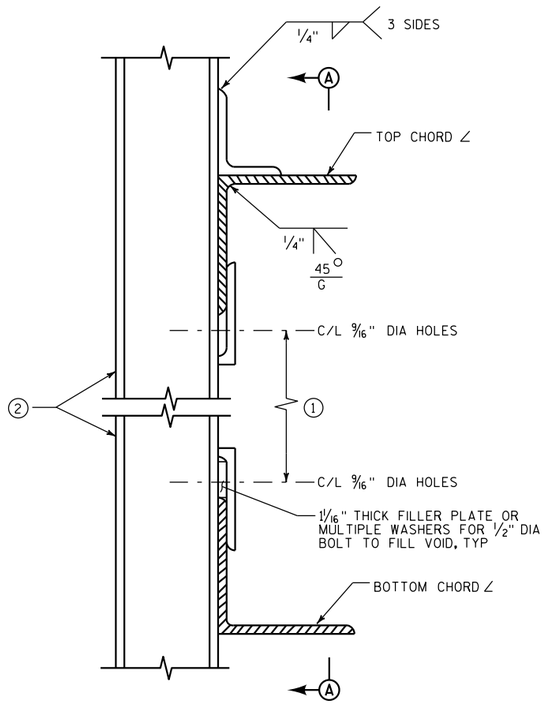
SIGN BRIDGE DETAILS

SHEET 5 OF 11

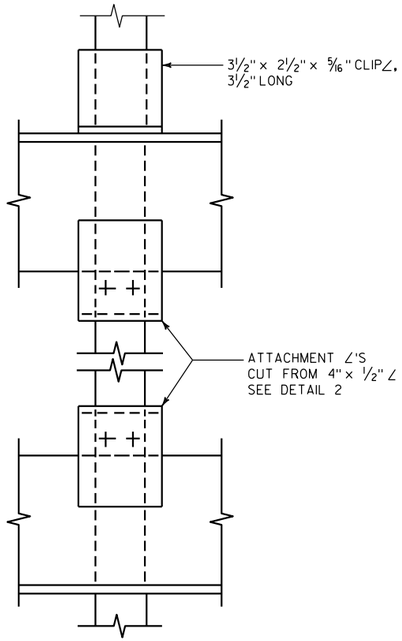
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8

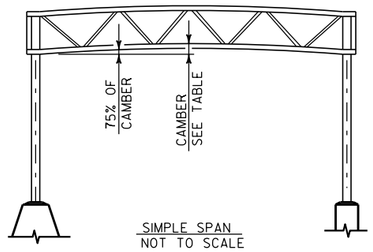
STATE PROJECT NUMBER
1060-39-90



DETAIL 1



SECTION A-A

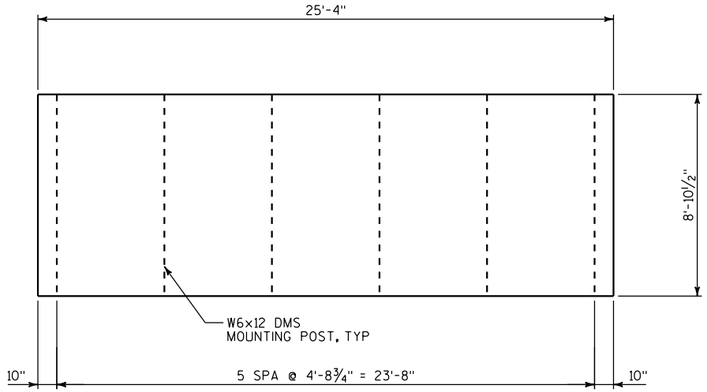


CAMBER DIAGRAM

CAMBER TABLE

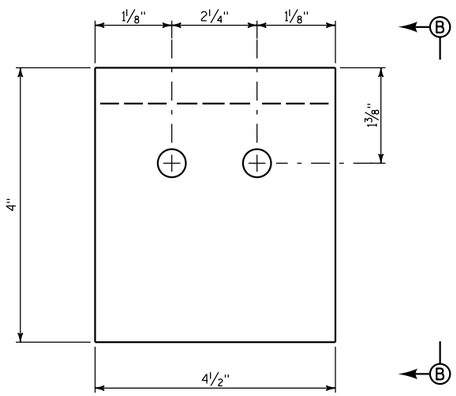
	S-40-456
SPAN	81'-0"
CAMBER	1 1/2"
DL DEFLECTION	1/2"
RESIDUAL CAMBER	1"

NOTE:
CAMBER AND DEFLECTIONS SHOWN ARE AT C/L OF SPAN. THE DEFLECTIONS AND CAMBER AT THE QUARTER POINTS SHALL BE APPROXIMATELY 75% OF THESE VALUES.

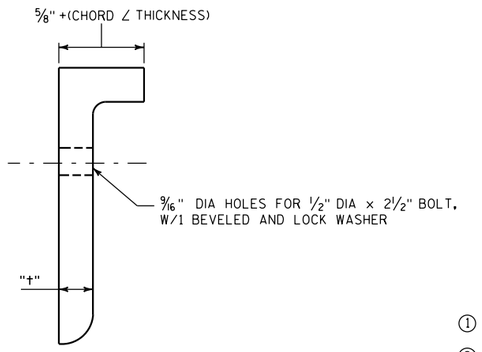


DMS MOUNTING POST SPACING DETAIL

NOTE:
POST SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH TRUSS IS ENCOUNTERED.



DETAIL 2



VIEW B-B

NOTES

(1) (TRUSS DEPTH)-(TOP & BOTTOM CHORD ∠ LEGS)-1 1/4"

(2) W6x12 (STEEL) FOR DYNAMIC MESSAGE SIGN (DMS), SPACE AS SHOWN ON GENERAL PLAN & ELEVATION SHEET. SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH TRUSS IS ENCOUNTERED.

THE DMS HOUSING MOUNTING POSTS AND MOUNTING ANGLES SHALL BE SUPPLIED WITH THE SIGN BRIDGE AND SHALL BE INCIDENTAL TO THE BID ITEM "DMS-40-0036".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

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DMS MOUNTING DETAILS

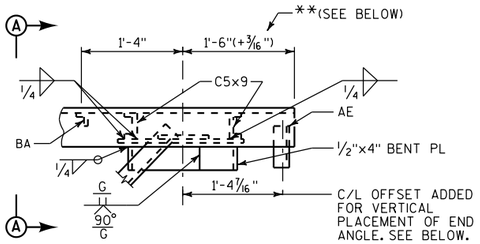
SHEET 6 OF 11

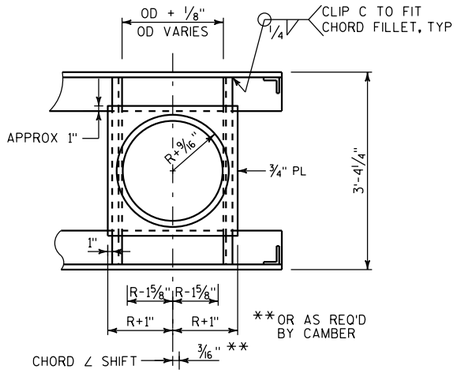
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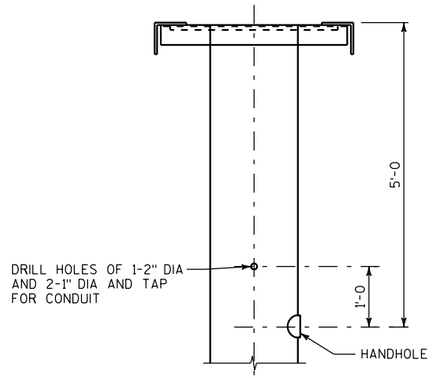
STATE PROJECT NUMBER

1060-39-90

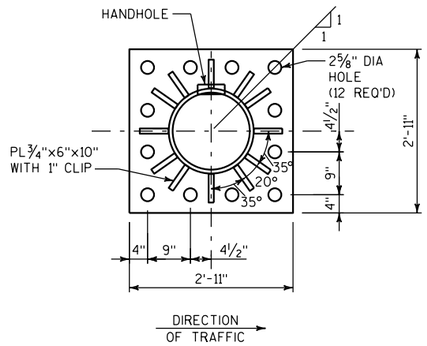




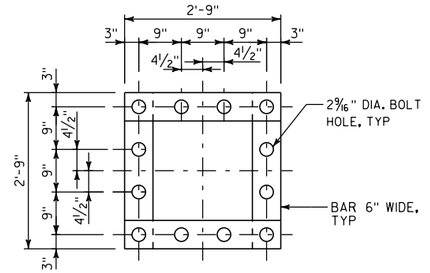
UPPER JUNCTION



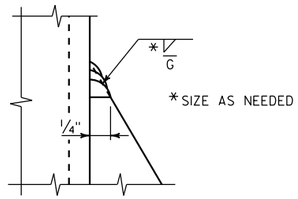
VIEW A-A



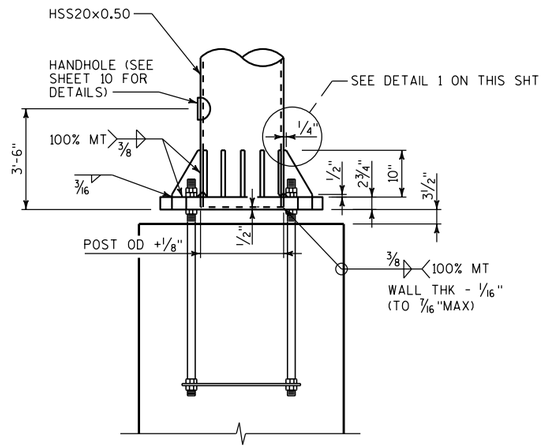
PLAN



ANCHOR BOLT TEMPLATE PLAN



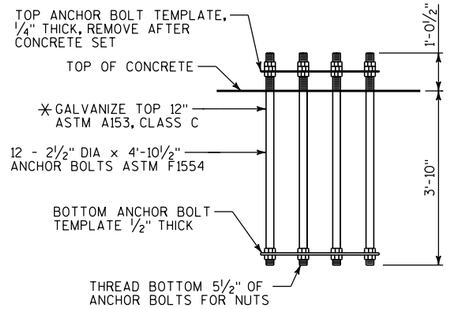
DETAIL 1



ELEVATION

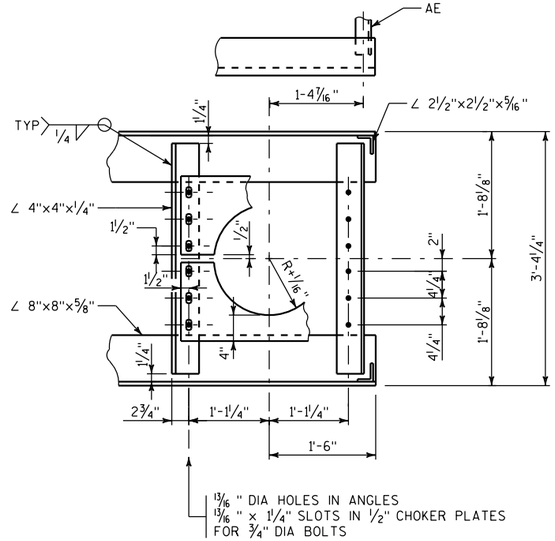
PLAN & ELEVATION - BASEPLATE

(WEST FTG SHOWN - EAST FTG SIMILAR)



ANCHOR BOLT DETAILS

* PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT WITH TEMPLATES AT TOP & BOTTOM



LOWER JUNCTION

NOTE:

CHOKER PLATES AND HANDHOLE COVERS SHALL BE GALVANIZED SEPARATELY.

BASE PLATE & UPRIGHT COLUMN DETAILS

STRUCTURE	OUTSIDE DIA X WALL THICKNESS	ANCHOR BOLTS	BASE PLATE THICKNESS (IN)	STIFFENER PLATE THICKNESS (IN)	STIFFENER PLATE HEIGHT (IN)	W (IN)
S-40-456	20" O.D. X 0.500"	2 1/2" DIA	2 3/4"	3/4"	10	3/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

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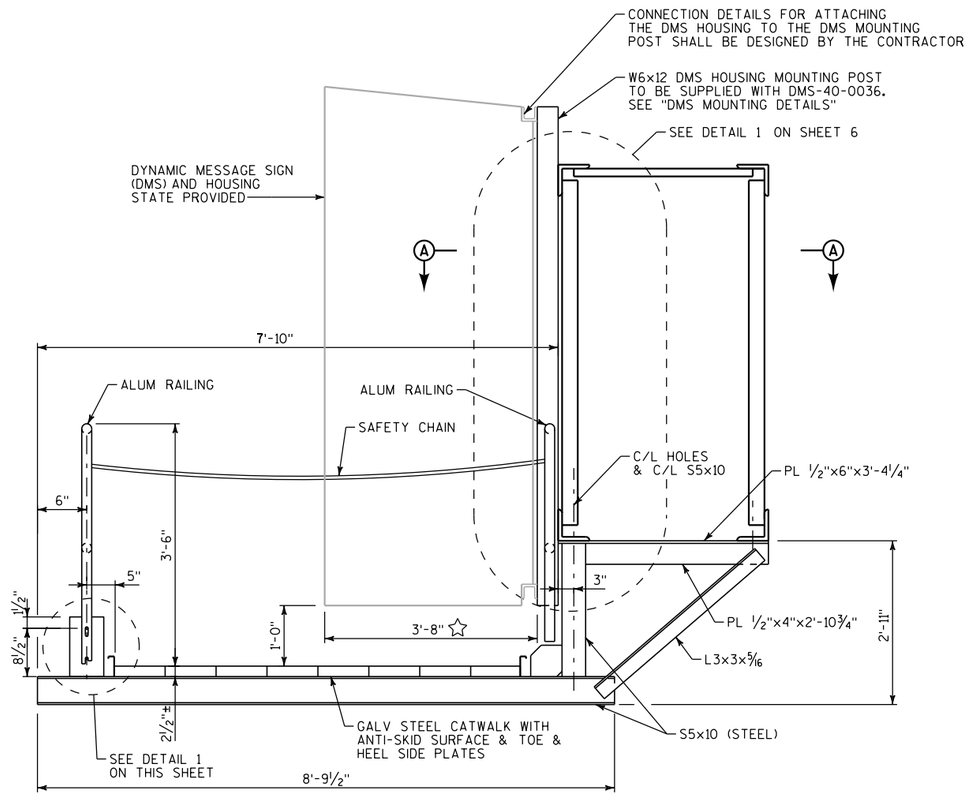
TRUSS/POST CONNECTION DETAILS

SHEET 7 OF 11

8

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1060-39-90

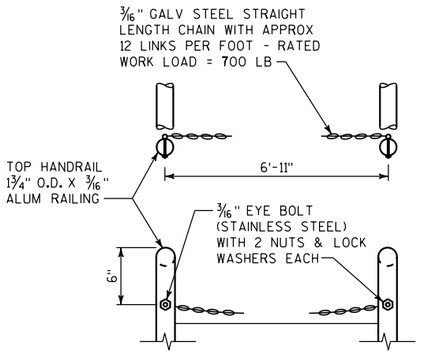


SECTION THRU WALKWAY

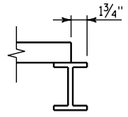
☆ IF ASSUMED DMS HOUSING WIDTH AND SUPPORT DIMENSIONS ARE GREATER THAN 3'-8", THE 7'-10" WALKWAY DIMENSION MAY NEED TO BE LENGTHENED TO ACCOMMODATE THE RAILING TO SWING DOWN INTO THE CLOSED POSITION

NOTES:
DMS SIGN SHALL NOT BE CONNECTED TO CATWALK.

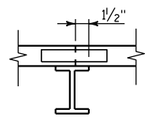
CONTRACTOR SHALL COORDINATE THE LOCATION OF THE DMS SUPPORT BRACKETS WITH THE LOCATION OF THE CATWALK AND WEB CONNECTION LOCATIONS.



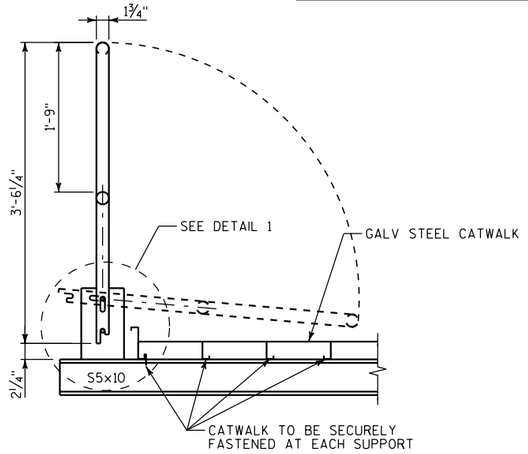
SAFETY CHAIN DETAIL



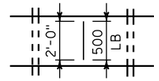
CATWALK TERMINATION DETAIL



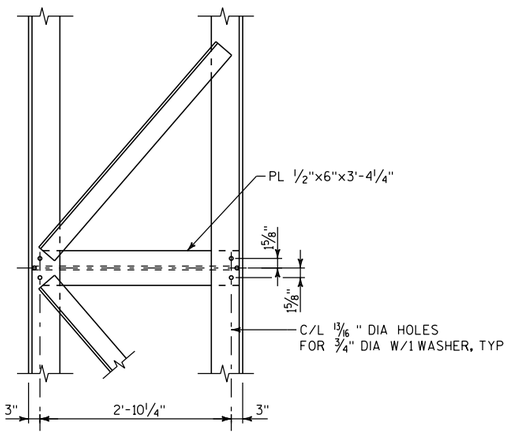
CATWALK SPLICE LOCATION DETAIL



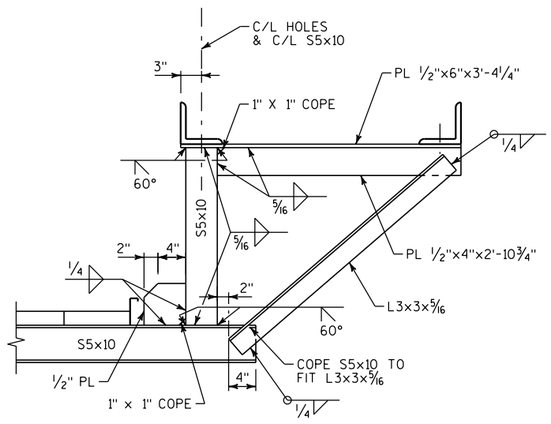
RAIL POST DETAIL



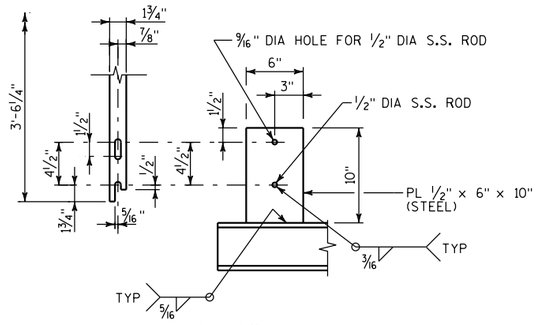
NOTE:
CATWALK SHALL MEET THE 2013 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS". (500 LB LIVE LOAD DISTRIBUTED OVER 2'-0" TRANSVERSELY - MAX SPAN IS 8'-0"). CATWALK SHALL ALSO MEET CURRENT OSHA STD'S FOR WALKING-WORKING SURFACES.



SECTION A-A



BRACKET DETAIL



DETAIL 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

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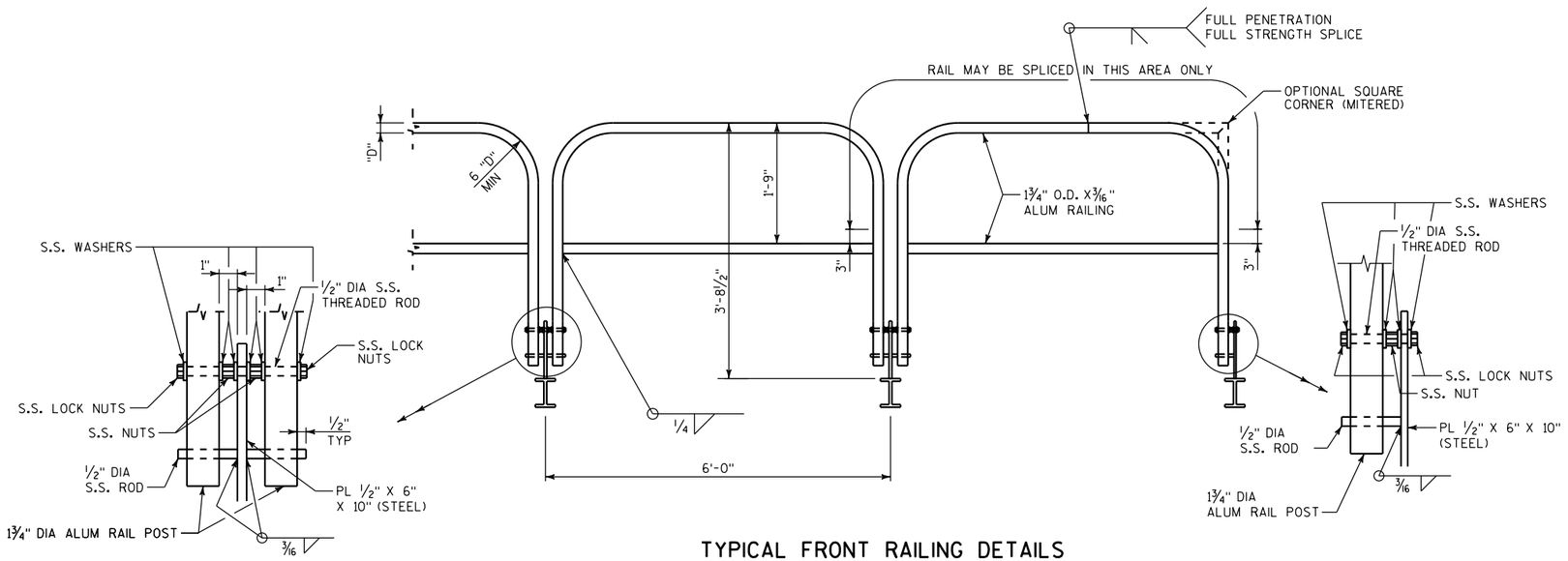
SIGN BRIDGE CATWALK DETAILS (1 OF 2)

SHEET 8 OF 11

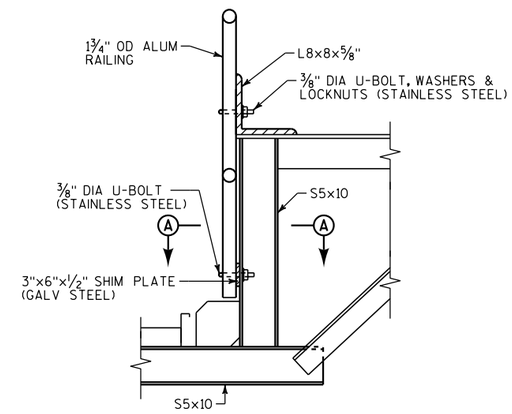
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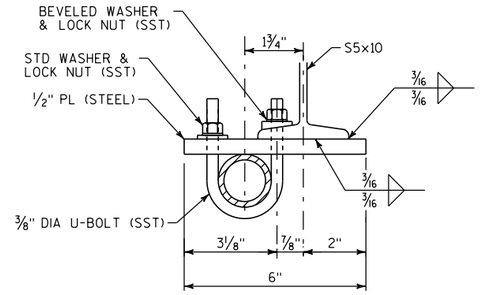
STATE PROJECT NUMBER
1060-39-90



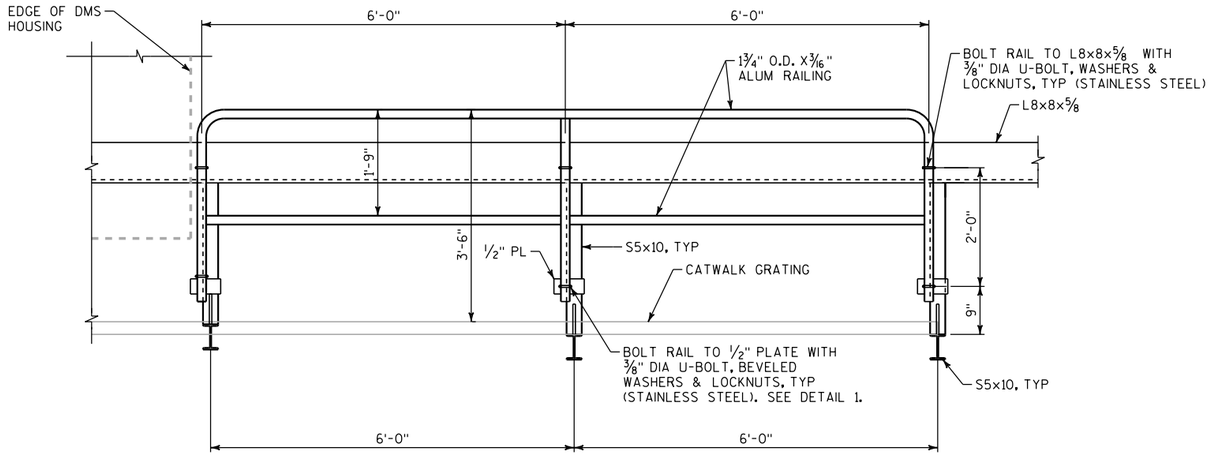
TYPICAL FRONT RAILING DETAILS



DETAIL 1



SECTION A-A



BACK RAILING DETAILS

8

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NO.	DATE	REVISION	BY

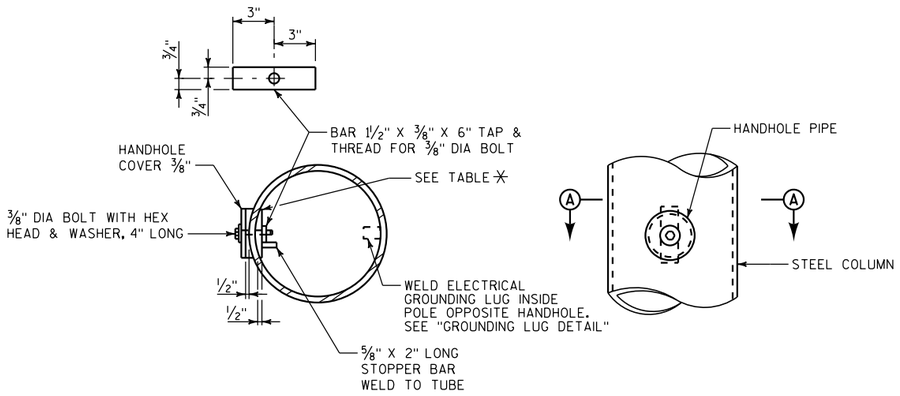
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

DRAWN BY EKM | PLANS CK'D. KES

SIGN BRIDGE
CATWALK
DETAILS (2 OF 2)

SHEET 9 OF 11



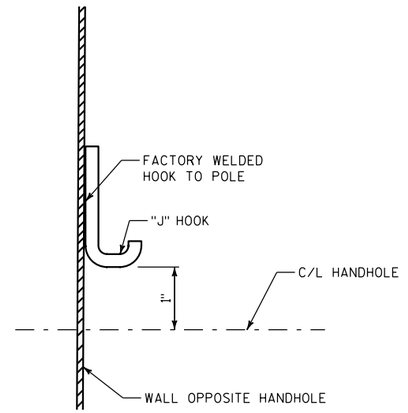
SECTION A-A

HANDHOLE DETAILS

HANDHOLE NOTES

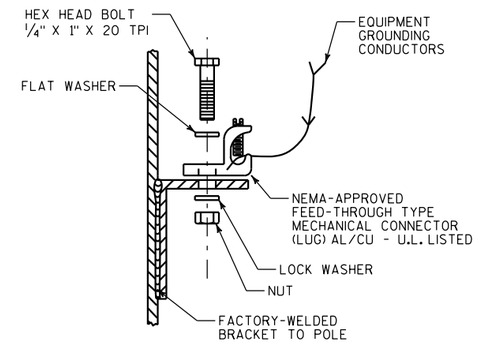
HANDHOLES SHALL BE LOCATED IN BOTH COLUMNS OF THE SIGN BRIDGE STRUCTURE FOR ELECTRICALLY OPERATED DEVICES INSTALLED ON/IN THE STRUCTURE IN THE FUTURE. COLUMNS WITH HANDHOLES SHALL BE NEAR THE FUTURE ELECTRICAL SERVICE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE FUTURE ELECTRICAL SERVICE ENTRANCE WITH THE DISTRICT TRAFFIC SECTION PRIOR TO FABRICATION OF THE SIGN BRIDGE COLUMNS AND MEMBERS. CONDUIT (AS REQ'D) SHALL BE LOCATED, PLACED AND SIZED AS SHOWN ON THE ELECTRICAL DETAIL PLAN SHEETS.

✳ UPRIGHT DIAMETER SIZE	HANDHOLE PIPE O.D. X MIN THICKNESS
UP TO AND INCLUDING 16" X .375"	5.562" X .500"
GREATER THAN 16" X .375" TO AND INCLUDING 24" X .562"	6.625" X .562"



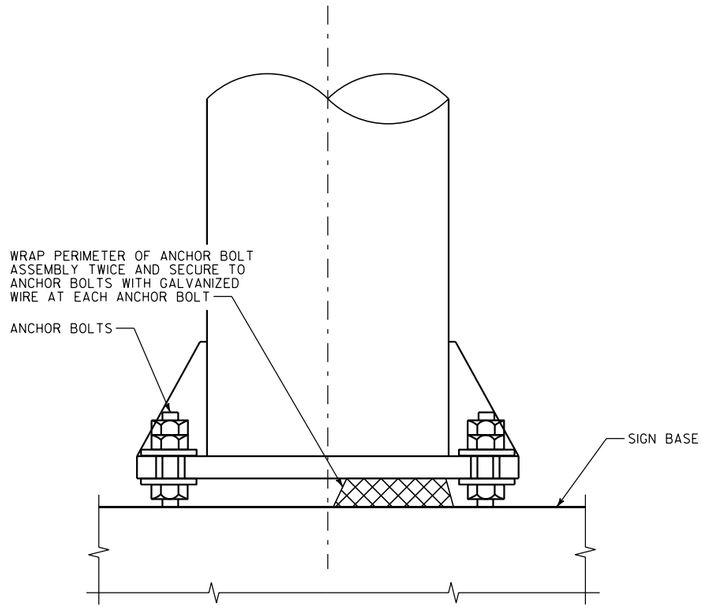
TYPICAL "J" HOOK LOCATION

THE "J" HOOK SHALL BE FACTORY WELDED TO THE INSIDE OF ALL COLUMNS CONTAINING ELECTRICAL WIRING. THE "J" HOOK SHALL BE ATTACHED ABOVE THE CENTERLINE OF THE UPPER HANDHOLE AND MOUNTED DIRECTLY OPPOSITE THE HANDHOLE AS SHOWN IN THE DRAWING.



GROUNDING LUG DETAIL

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



RODENT SCREEN

(ONLY REQ'D. WHEN ELECTRICAL DEVICES ARE INSTALLED)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

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HANDHOLE DETAILS

SHEET 10 OF 11

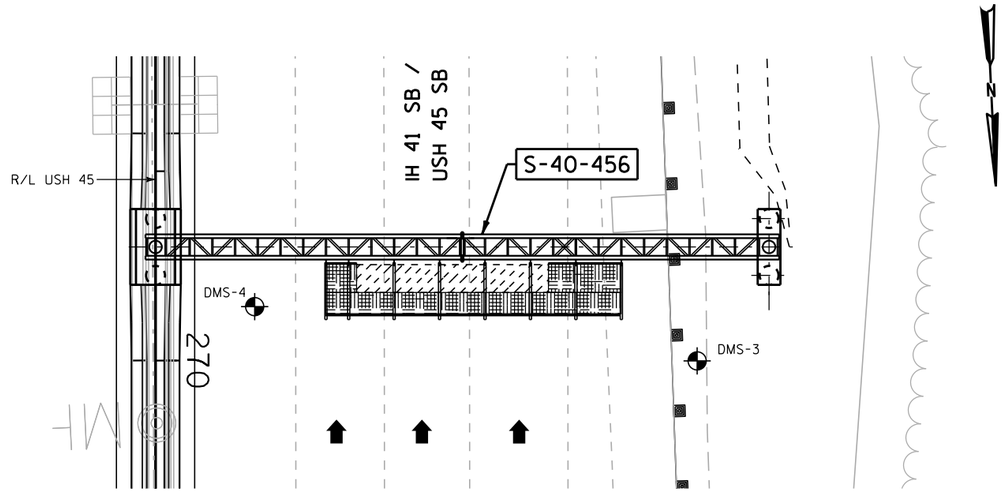
FILE NAME : W:\Cadd\Final\10603990_TM5\Structures\S-40-456\cds\S-40-456_080110_hd.dgn
PLOT DATE : 20-SEP-2016 14:12
PLOT BY : mscekm
PLOT NAME : S-40-456_080110_hd
PLOT SCALE : 10:1

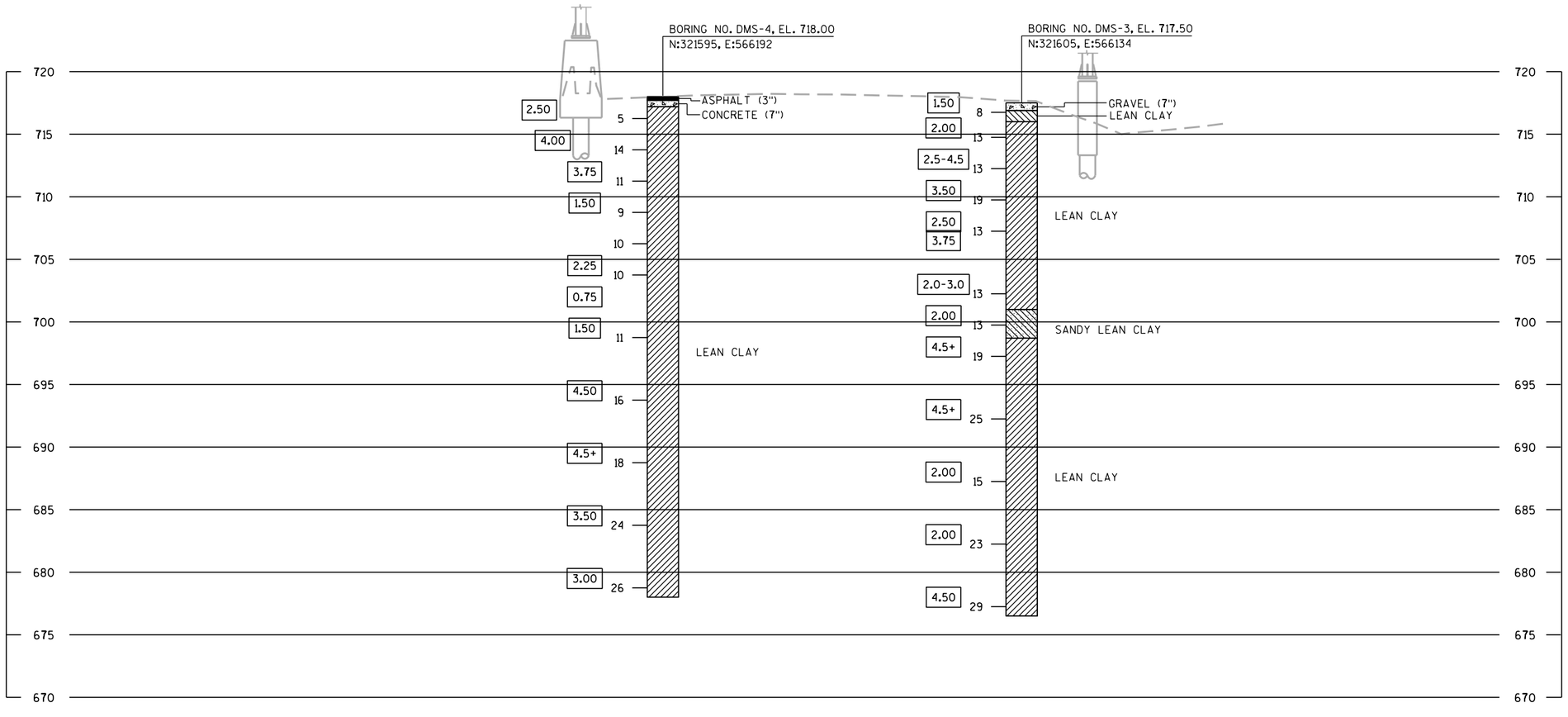
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
DMS-3	DEC 3, 2015	321605	566134
DMS-4	DEC 9, 2015	321595	566192
BORINGS COMPLETED BY: GESTRA ENGINEERING, INC			
REPORT COMPLETED BY: FORWARD 45			
ALL COORDINATES REFERENCED TO WCCS, NAD 83 (2007) MILWAUKEE COUNTY			

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

DENOTES SOIL BORING LOCATION





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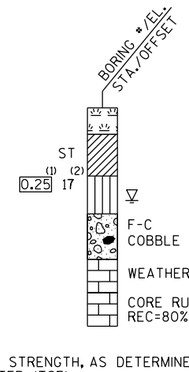
STATE PROJECT NUMBER

1060-39-90

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE S-40-456

DRAWN BY	TEK	PLANS CK'D.	KES

SUBSURFACE EXPLORATION

SHEET 11 OF 11

Division 1 N. 124TH STREET

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	AREA (SF) EBS	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 1.0	Cumulative Vol (CY) Expanded Fill 1.2	Mass Ordinate Note 4
204+53 AH	20453	0	13	0	0	0	0	0	0	0	0	0	0
204+75	20475	22	17	0	0	0	12	0	0	0	12	0	12
205+00	20500	25	17	0	0	0	16	0	0	0	28	0	28
205+25	20525	25	36	0	0	0	25	0	0	0	53	0	53
205+45 BK	20545	20	41	0	0	0	29	0	0	0	82	0	82
206+31 AH	20631	0	18	0	0	0	0	0	0	0	0	0	0
206+50	20650	19	18	0	0	0	13	0	0	0	13	0	13
206+60 BK	20660	10	13	0	0	0	6	0	0	0	19	0	19
					Column totals		101	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 nor is it shown in these sheets. Refer to Summary Table for this roadway's quantity.
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
6 - Mass Ordinate	If EBS to be backfilled with Cut or Borrow: [(Cut + EBS) - ((Fill) - (Reduced EBS in Fill)) * Fill Factor)]

Division 1 W. NORTH AVENUE

STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Expanded Fill	
							Note 1	Note 2	Note 3		1.0	1.2	Note 4
422+69 AH	42269	0	7	0	0	0	0	0	0	0	0	0	0
422+75	42275	6	9	0	0	0	2	0	0	0	2	0	2
423+00	42300	25	17	0	0	0	12	0	0	0	14	0	14
423+25	42325	25	23	0	0	0	19	0	0	0	33	0	33
423+50	42350	25	21	0	0	0	20	0	0	0	53	0	53
423+75	42375	25	19	0	0	0	18	0	0	0	71	0	71
424+00	42400	25	16	0	0	0	16	0	0	0	87	0	87
424+25	42425	25	11	0	0	0	12	0	0	0	99	0	99
424+50	42450	25	7	0	0	0	8	0	0	0	108	0	108
424+53 BK	42453	3	7	0	0	0	1	0	0	0	108	0	108
						Column totals	108	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 nor is it shown in these sheets. Refer to Summary Table for this roadway's quantity.
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
6 - Mass Ordinate	If EBS to be backfilled with Cut or Borrow: [(Cut + EBS) - ((Fill) - (Reduced EBS in Fill)) * Fill Factor)]

Division 1 GLENVIEW AVENUE

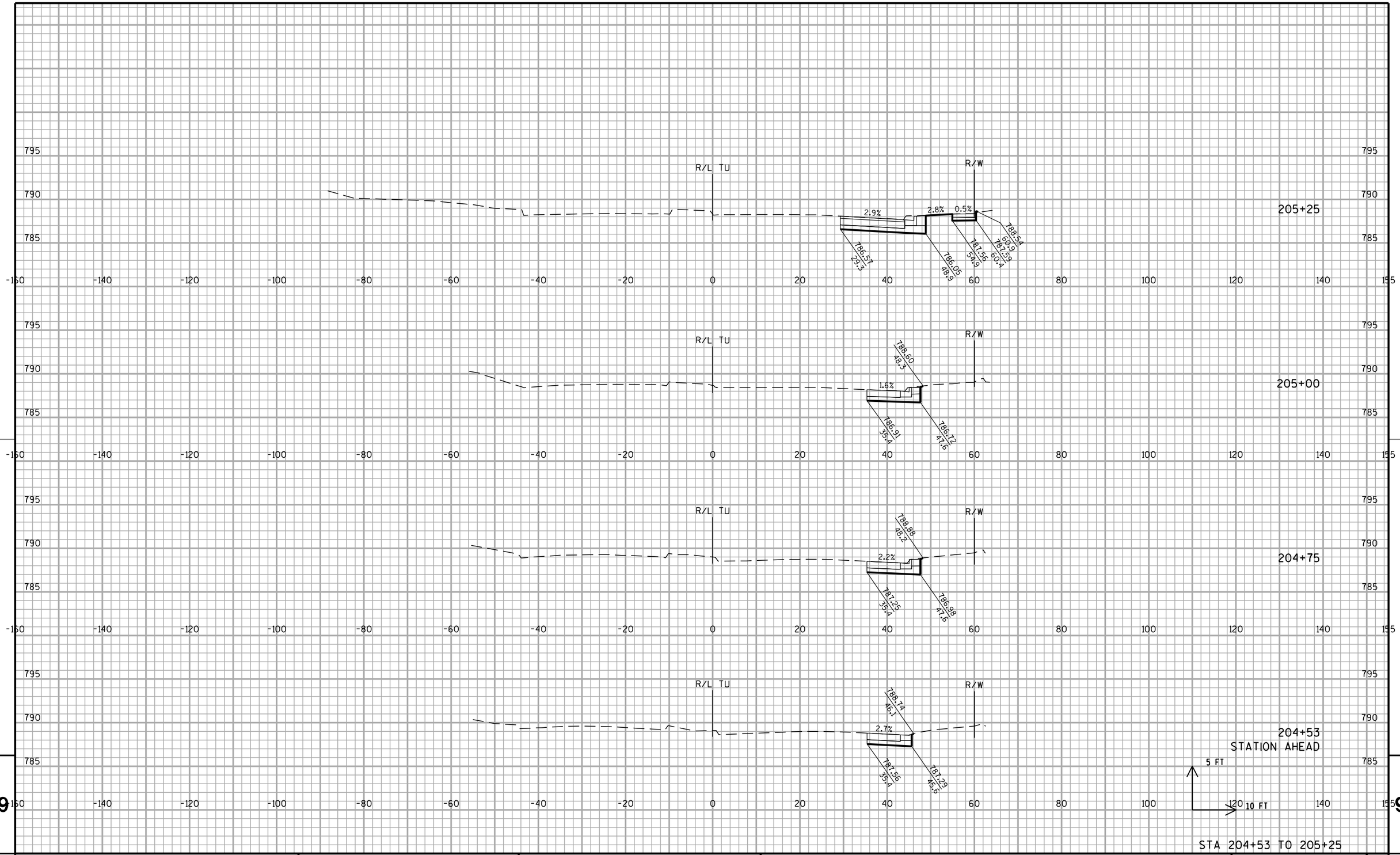
STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Expanded Fill	
							Note 1	Note 2	Note 3		1.0	1.2	Note 4
71+44 AH	7144	0	22	0	0	0	0	0	0	0	0	0	0
71+50	7150	6	24	0	0	0	5	0	0	0	5	0	5
71+75	7175	25	34	0	0	0	27	0	0	0	32	0	32
72+00	7200	25	120	0	0	0	71	0	0	0	103	0	103
72+11 BK	7211	11	148	0	0	0	54	0	0	0	157	0	157
					Column totals		157	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 nor is it shown in these sheets. Refer to Summary Table for this roadway's quantity.
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
6 - Mass Ordinate	If EBS to be backfilled with Cut or Borrow: [(Cut + EBS) - ((Fill) - (Reduced EBS in Fill)) * Fill Factor)]

Division 2 W. BURLEIGH STREET

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	AREA (SF) EBS	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 1.0	Cumulative Vol (CY) Expanded Fill 1.2	Mass Ordinate Note 4
527+05 AH	52705	0	18	0	0	0	0	0	0	0	0	0	0
527+25	52725	20	23	0	0	0	15	0	0	0	15	0	15
527+50	52750	25	23	0	0	0	21	0	0	0	37	0	37
527+75	52775	25	23	0	0	0	22	0	0	0	58	0	58
528+00	52800	25	23	0	0	0	21	0	0	0	79	0	79
528+25	52825	25	20	0	0	0	20	0	0	0	99	0	99
528+50	52850	25	19	0	0	0	18	0	0	0	117	0	117
528+75	52875	25	17	0	0	0	17	0	0	0	134	0	134
529+00	52900	25	11	0	0	0	13	0	0	0	147	0	147
529+25	52925	25	8	0	0	0	9	0	0	0	156	0	156
529+50	52950	25	8	0	0	0	8	0	0	0	163	0	163
529+71 BK	52971	21	8	0	0	0	6	0	0	0	169	0	169
					Column totals		169	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 nor is it shown in these sheets. Refer to Summary Table for this roadway's quantity.
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow
5 - Reduced EBS in Fill	Reduced EBS Excavation that can be used in Fill
6 - Mass Ordinate	If EBS to be backfilled with Cut or Borrow: [(Cut + EBS) - ((Fill) - (Reduced EBS in Fill)) * Fill Factor)]



STA 204+53 TO 205+25

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: N. 124TH STREET	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\090501_xs_tu.dgn PLOT DATE : 27-OCT-2016 22:57 PLOT BY : MSCDYB PLOT NAME : 090501_xs_tu PLOT SCALE : 19.99996:1

R/L TU

790
785

206+60
STATION BACK

2.0% 2.2%
786.67 59.1
786.81 59.6
785.70 46.6
785.61 54.2

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

R/L TU

790
785

206+50

0.2%
786.19 46.8
785.71 48.3
785.56 53.3
786.52 60.0

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

R/L TU

790
785

206+31
STATION AHEAD

0.5% 0.6%
786.32 59.1
786.29 66.1
786.23 77.6

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

R/L TU

795
790
785

205+45
STATION BACK

2.1% 0.7%
787.13 29.9
786.48 61.5
786.55 72.1

5 FT
10 FT

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140 155

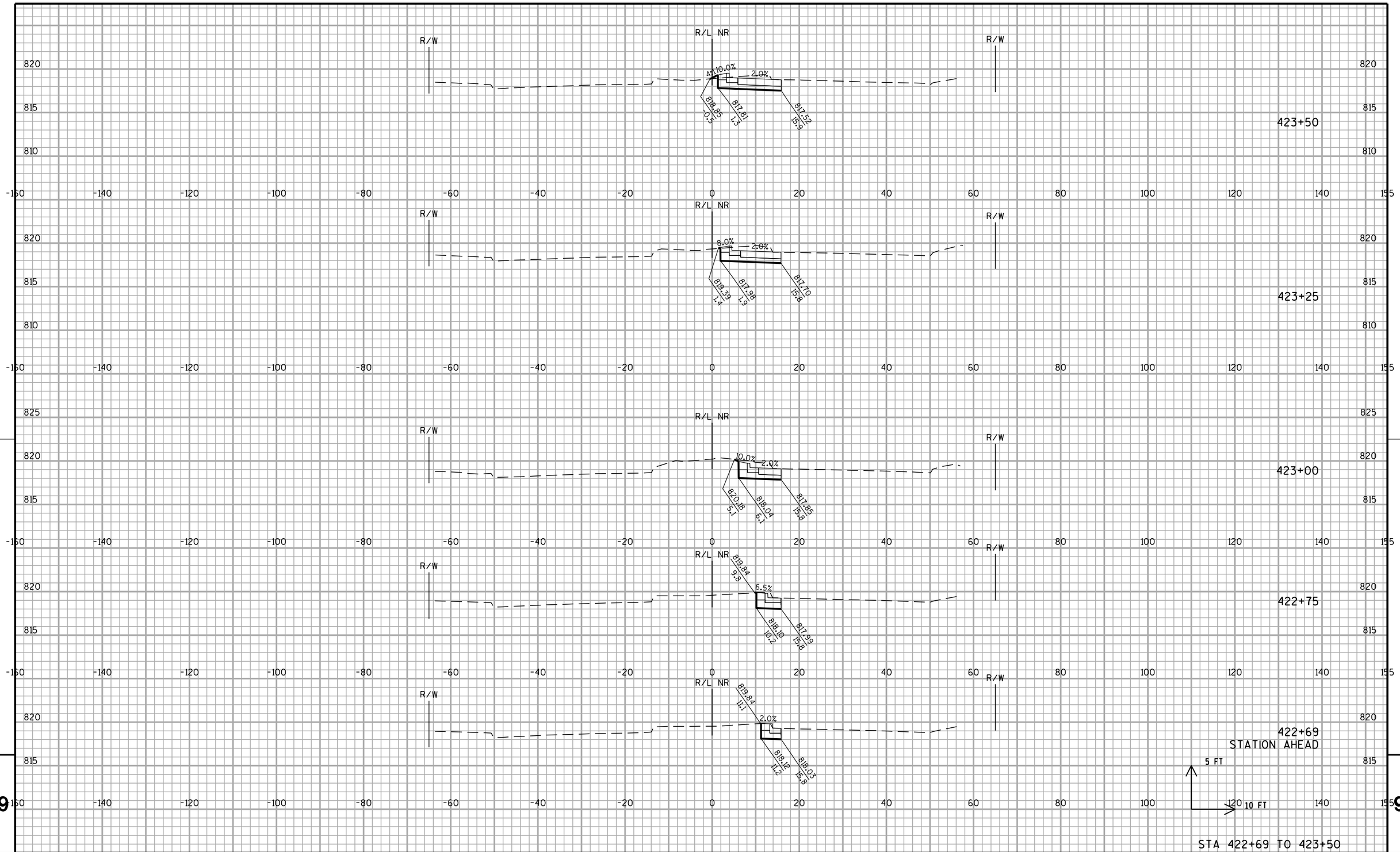
STA 205+45 TO 206+60

9 9

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: N. 124TH STREET	SHEET	E

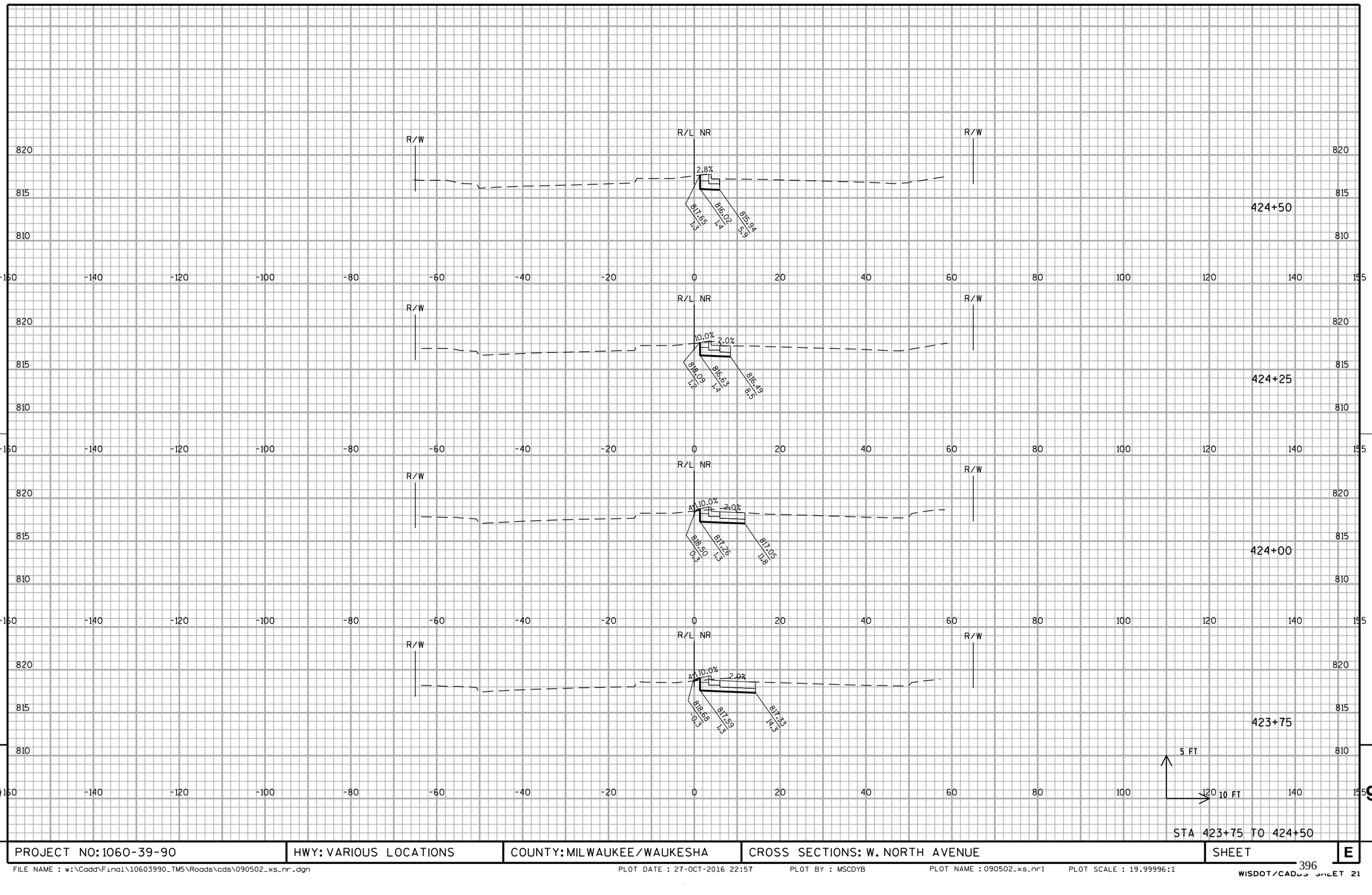
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WISDOT/CADDS SHEET 21



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: W. NORTH AVENUE	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\090502_xs_nr.dgn PLOT DATE : 27-OCT-2016 22:57 PLOT BY : MSCDYB PLOT NAME : 090502_xs_nr PLOT SCALE : 19.99996:1



9

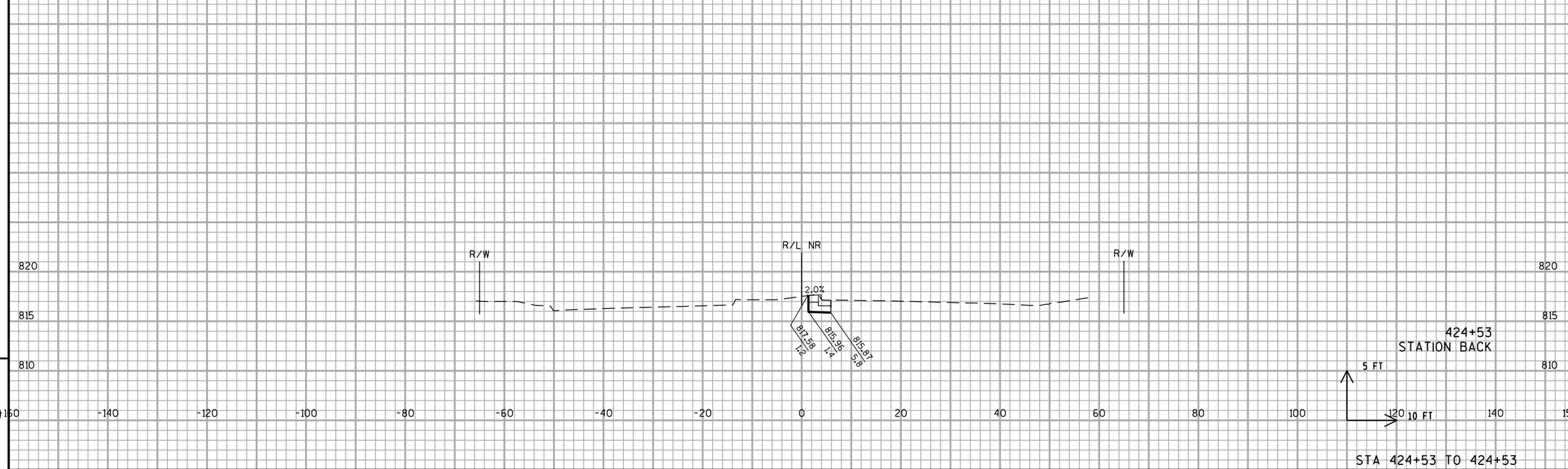
STA 423+75 TO 424+50

9

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: W. NORTH AVENUE	SHEET	E

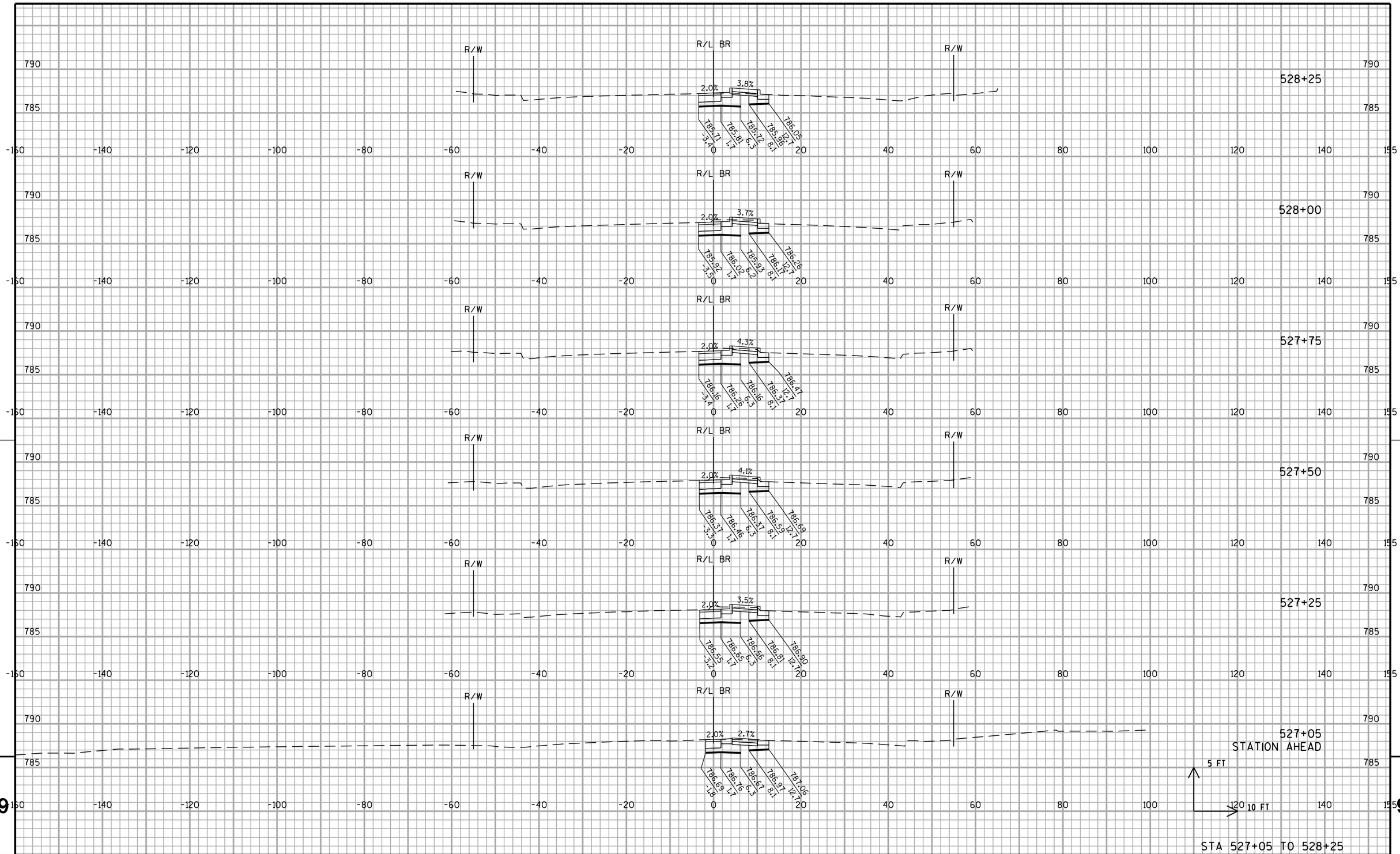
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WISDOT/CADDS SHEET 21



STA 424+53 TO 424+53

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: W. NORTH AVENUE	SHEET	E

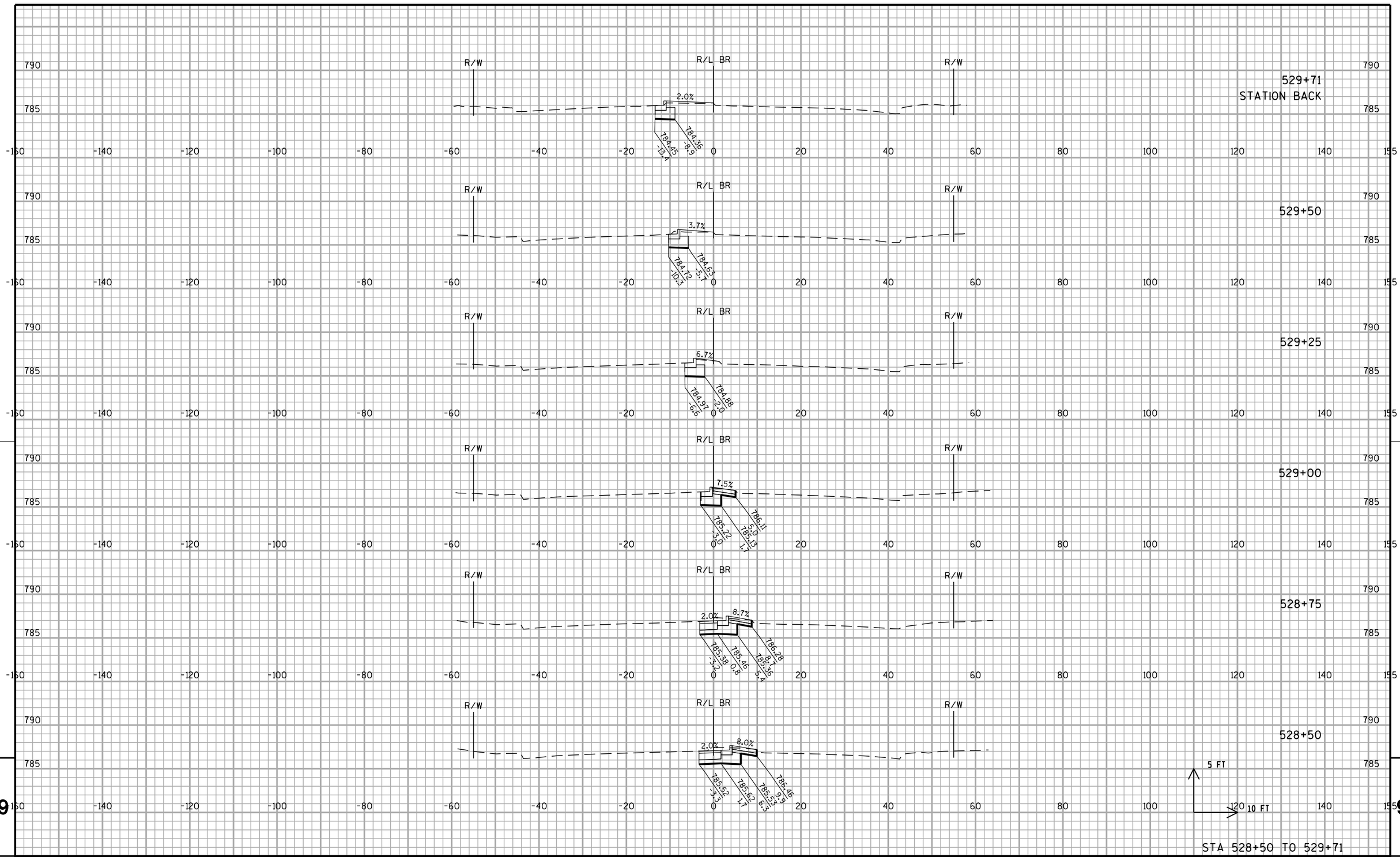


9

9

STA 527+05 TO 528+25

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: W. BURLEIGH STREET	SHEET	E

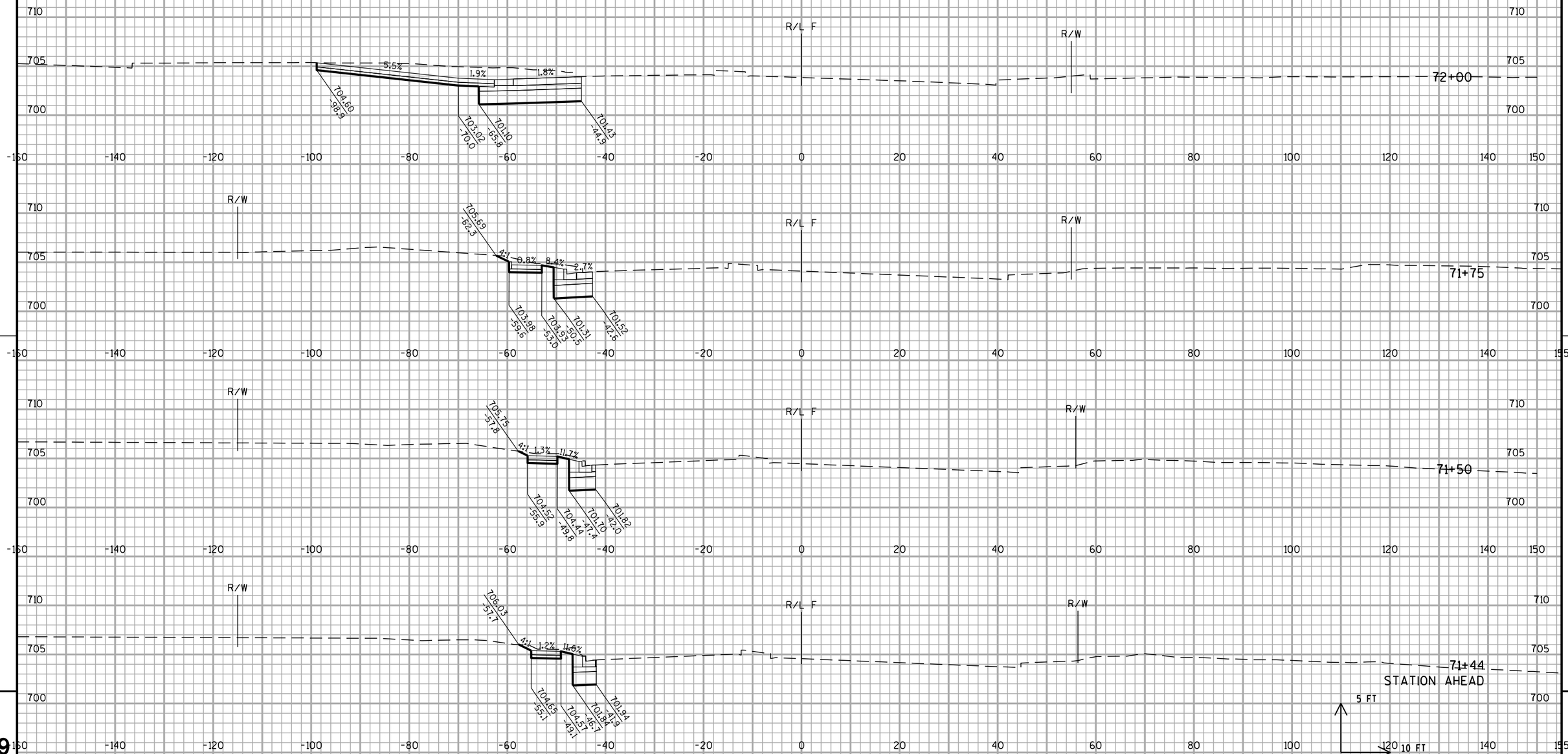


9

9

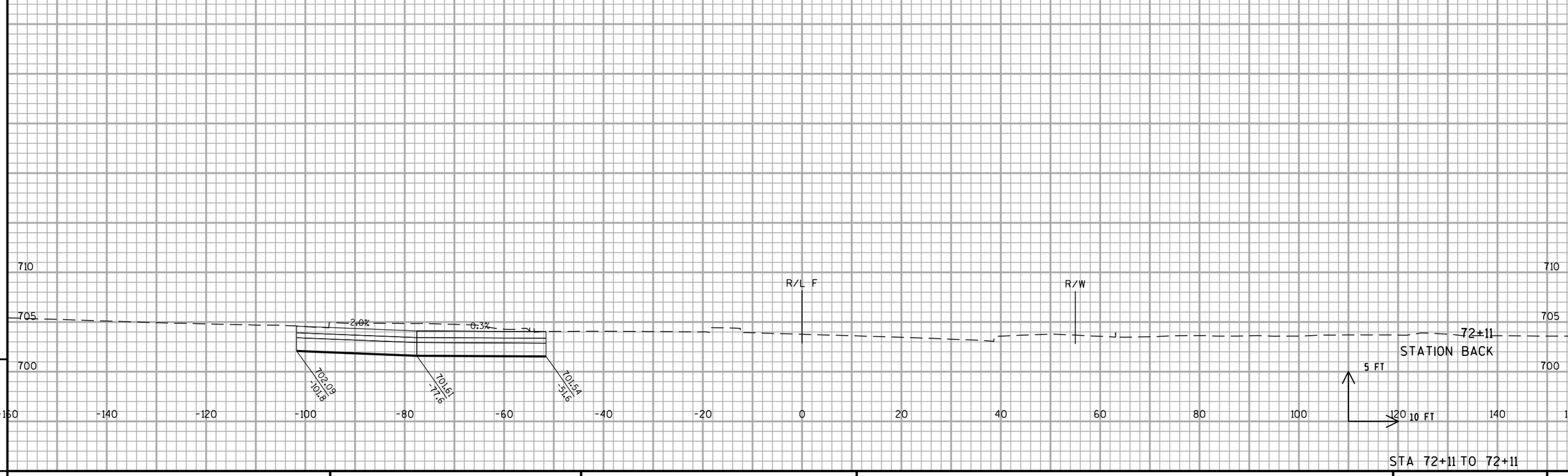
STA 528+50 TO 529+71

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: W. BURLEIGH STREET	SHEET	E



PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: GLENVIEW AVENUE	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\090504_xs_f.dgn PLOT DATE : 27-OCT-2016 22:58 PLOT BY : MSCDYB PLOT NAME : 090504_xs_f PLOT SCALE : 19.99996:1



9

STA 72+11 TO 72+11

9

PROJECT NO: 1060-39-90	HWY: VARIOUS LOCATIONS	COUNTY: MILWAUKEE/WAUKESHA	CROSS SECTIONS: GLENVIEW AVENUE	SHEET	E

FILE NAME : w:\Cadd\Final\10603990_TM5\Roads\cds\090504_xs_f.dgn PLOT DATE : 27-OCT-2016 22:58 PLOT BY : MSCDYB PLOT NAME : 090504_xs_f1 PLOT SCALE : 19.99996:1

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

WKE

PROJECT ID: 1360-09-71

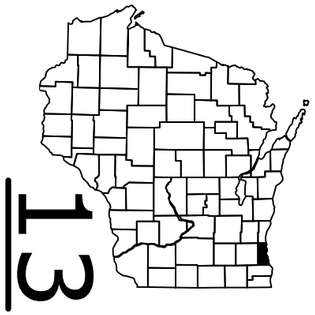
COUNTY: MILWAUKEE

MAR 2017

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 = 344



13

N

DESIGN DESIGNATION	IH 41	CAPITOL DRIVE FRONTAGE RD 1	CAPITOL DRIVE FRONTAGE RD 2
A.A.D.T. 2012	= 136,500	= 8,800	= 9,450
A.A.D.T. 2040	= 169,300	= 9,900	= 10,600
D.H.V.	= 9,700	= 1,050	= 1,125
D.D.	= 59/41	= N/A	= N/A
T.	= 17.1%	= 5.3%	= 5.3%
DESIGN SPEED	= 60 MPH	= 35 MPH	= 35 MPH
ESALS	= N/A	= 34.1 MILLION	= 36.6 MILLION

CONVENTIONAL SYMBOLS

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

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

IH 41
INTERSECTION WITH CAPITOL DRIVE
USH 45
MILWAUKEE COUNTY

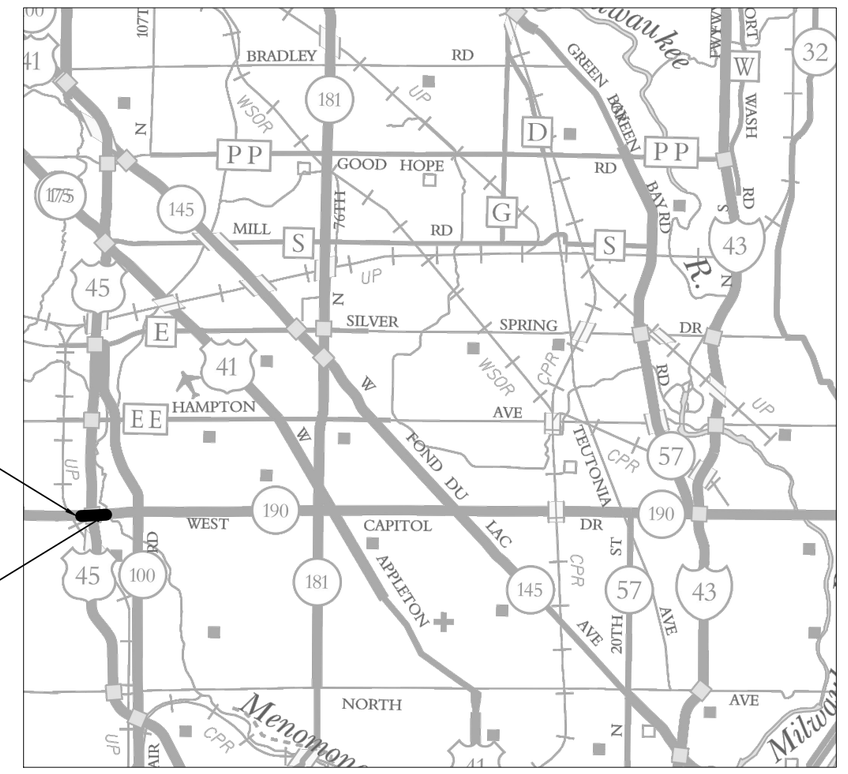
STATE PROJECT NUMBER
1360-09-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1360-09-71	WISC 2017102	1

R-21-E R-22-E

T-8-N

T-7-N



BEGIN PROJECT
STA 21"FR1"+24.48
X=566,122.32
Y=317,866.26

END PROJECT
STA 27"FR1"+23.73
X=566,713.20
Y=317,961.95

LAYOUT
SCALE 0 1

TOTAL NET LENGTH OF CENTERLINE = 0.113 MILES

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.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 2007 (NGVD 88)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
- Surveyor: KAPUR AND ASSOCIATES
- Designer: CRAIG VINDEDAHL
- Project Manager: GEORGIA VERGOU
- Regional Examiner:
- Regional Supervisor: JOE GALLAMORE

APPROVED FOR THE DEPARTMENT

DATE: 11/1/2016 Georgia Vergou (Signature)

E

UTILITY CONTACTS

ATC
MR. IVAN KELLER
W234 N2000 RIDGEVIEW PARKWAY COURT
WAUKESHA, WI 53187
PHONE: (262) 506-6773
ikeller@atcllc.com

AT&T WISCONSIN
MR. JAY BULANEK
2005 PEWAUKEE RD
WAUKESHA, WISCONSIN 53188
PHONE: (262) 896-7669
CELL: (414) 491-2855
jb5175@att.com

LEVEL 3/TW TELECOM
MR. BRAHIM GADDOUR
OSP ENGINEERING DEPT.
3235 INTERTECH DRIVE, SUITE 600
BROOKFIELD, WI 53045
PHONE: (414) 908-1027
CELL: (414) 704-1026
brahim.gaddour@level3.com

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
MR. LARRY ANDERSON
260 W. SEEBOTH STREET
MILWAUKEE, WI 53204
PHONE: (414) 225-2241
landerson@mmsd.com

MMSD MANHOLE ADJUSTMENT CONTACT:
MR. ROBERT REBITSKI
260 W. SEEBOTH STREET
MILWAUKEE, WI 53204
PHONE: (414) 225-2214
brebitski@mmsd.com

SPRINT
MR. GERRY CRAIN
5600 N RIVER RD SUITE 200
ROSEMONT, IL 60018
PHONE: (847) 445-1869
gerry.a.crain@sprint.com

TCA
MS. JENNIFER NAVARRO
NORTHWIND TECHNICAL SERVICES, LLC
6070 N. FLINT ROAD
GLENDALE, WI 53209
PHONE: (414) 459-3564
GENERAL: (414) 459-3560
j.navarro@northwindtech.com

TIME WARNER CABLE
MR. STEVE CRAMER
1320 N. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 277-4045
CELL: (414) 688-2385
steve.cramer@twcable.com

WAUWATOSA, CITY OF - LIGHTING
MR. RANDY MICHELZ
7725 W. NORTH AVENUE
WAUWATOSA, WI 53213
PHONE: (414) 479-8429
rmichelz@wauwatosa.net

WAUWATOSA, CITY OF - SANITARY
MR. BILL WEHRLEY, CITY ENGINEER
7725 W. NORTH AVENUE
WAUWATOSA, WI 53213
PHONE: (414) 479-8929
wwehrley@wauwatosa.net

WAUWATOSA WATER UTILITY
MR. JIM WOJCEHOWICZ
WATER SUPERINTENDENT
7725 W. NORTH AVENUE
WAUWATOSA, WI 53213
PHONE: (414) 479-8965
jwojcehowicz@wauwatosa.net

WE ENERGIES - ELECTRIC
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT STREET - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
MR. ERICH WUESTENHAGEN
500 S. 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5765
erich.wuestenhagen@we-energies.com

WE ENERGIES - GAS
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT STREET - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
latroy.brumfield@we-energies.com

CONSTRUCTION FIELD CONTACT:
MR. ERICH WUESTENHAGEN
500 S. 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5765
erich.wuestenhagen@we-energies.com

WISDOT LIGHTING
MR. ERIC PEREA
141 NW BARSTOW
WAUKESHA, WI 53187
PHONE: (262) 574-5422
CELL: (414) 750-0935
eric.perea@dot.wi.gov

WISDOT SIGNALS
MR. JOHN HAUG
141 NW BARSTOW STREET
WAUKESHA, WI 53187
PHONE: (262) 521-5356

ELECTRICAL FIELD UNIT
935 S. 60TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 266-1170

WISDOT STOC
MR. JEFFREY MADSON
433 W ST. PAUL AVE, SUITE 300
MILWAUKEE, WI 53203
PHONE: (414) 225-3723
jeffrey.madson@dot.wi.gov

STATE AGENCIES

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MS. KRISTINA BETZOLD - ENVIRONMENTAL SPECIALIST
2300 N. MARTIN LUTHER KING JR. DRIVE
MILWAUKEE, WI 53212
CELL: (414) 507-4946
kristina.betzold@wisconsin.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
LACI KAZAN- ENVIRONMENTAL ANALYST AND REVIEW SPECIALIST
141 NW BARSTOW STREET PO BOX 798
WAUKESHA, WI 53187-0798
PHONE: (414) 322-1429
laci.kazan@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MS. LINDA MATTHEWS – SE REGION ENVIRONMENTAL COORDINATOR
141 NW BARSTOW STREET
WAUKESHA, WI 53187-0798
PHONE: (262) 548-6458
CELL: (414) 750-0163
linda.matthews@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MR. JOE GALLAMORE- PROJECT MANAGER
141 NW BARSTOW ST.
WAUKESHA, WI 53187-0798
PHONE: (414) 548-5601
joe.gallamore@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION
MR. GREG BERRY – UTILITY COORDINATOR
141 NW BARSTOW STREET
WAUKESHA, WI 53187-0798
CELL: (414) 750-7828
gregory.berry@dot.wi.gov

OTHER AGENCIES

MILWAUKEE COUNTY DPW
MR. GREG HEISEL, HWY MAINT. MANAGER
10190 W. WATERTOWN PLANK ROAD
MILWAUKEE, WI 53226
PHONE: (414) 257-6566
gheisel@milwcnty.com

MILWAUKEE COUNTY TRANSIT SYSTEM
MS. MELANIE FLYNN
1942 N. 17TH STREET
MILWAUKEE, WI 53205
PHONE: (414) 343-1764
mflynn@mcts.org

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
MR. ROB MERRY
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4289
CELL: (920) 912-1036
rmerry@sewrpc.org

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLANS
PLAN DETAILS
FTMS PLANS
EROSION CONTROL
STORM SEWER
PERMANENT SIGNING
TRAFFIC SIGNALS
PAVEMENT MARKING
TRAFFIC CONTROL
STAGE CONSTRUCTION
ALIGNMENT LAYOUT

STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
A.D.T.	AVERAGE DAILY TRAFFIC
B.F.	BACK FACE
B.M.	BENCH MARK
B.O.C.	BACK OF CURB
CTR.	CENTER
C.L.	CENTERLINE
D.	LANE DISTRIBUTION
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
DIM.	DIMENSION
EL. OR ELEV.	ELEVATION
EXC.	EXCAVATION
F.F.	FRONT FACE
MAX.	MAXIMUM
MIN.	MINIMUM
NORM.	NORMAL
O.H.	OVERHEAD POWER LINE
P.O.L.	POINT ON LINE
REQ'D	REQUIRED
RDWY.	ROADWAY
R.H.F.	RIGHT HAND FORWARD
S.E.	SUPERELEVATIO0N
SPA.	SPACE
STA.	STATION
SYM.	SYMMETRICAL
T.	PERCENT TRUCKS
TYP.	TYPICAL
V.	DESIGN SPEED

GENERAL NOTES

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. CONTACT SEPARATELY ANY MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE. CONTACT RAILROAD COMPANY SEPARATELY.

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

THE APPROXIMATE LOCATION OF SECTION CORNERS AND WITNESS CORNERS AFFECTED BY THE PROJECT IS SHOWN IN THE PLAN SHEETS. CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SEWRPC (JOHN WASHBURN); AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC MONUMENT.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED. TOPSOIL, SEEDING AND FERTILIZER ARE INCIDENTAL TO THE BARRIER SYSTEM GRADING SHAPING FINISHING ITEM.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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

2

N

CAPITOL DR

IH-

CAPTIOL DR NB

EXISTING ROW

EXISTING ROW

END PROJECT
1360-09-71
STA. 22"FR2"+03.06

BEGIN PROJECT
1360-09-71
STA. 18"FR2"+09.95

CAPITOL FRONTAGE RD 2

SLOPE INTERCEPT

SLOPE INTERCEPT

W CAPITOL DRIVE

USH 45

USH 45

STH 190

SLOPE INTERCEPT

SLOPE INTERCEPT

END PROJECT
1360-09-71
STA. 27"FR1"+23.73

CAPITOL FRONTAGE RD 1

BEGIN PROJECT
1360-09-71
STA. 22"FR1"+24.48

SLOPE INTERCEPT

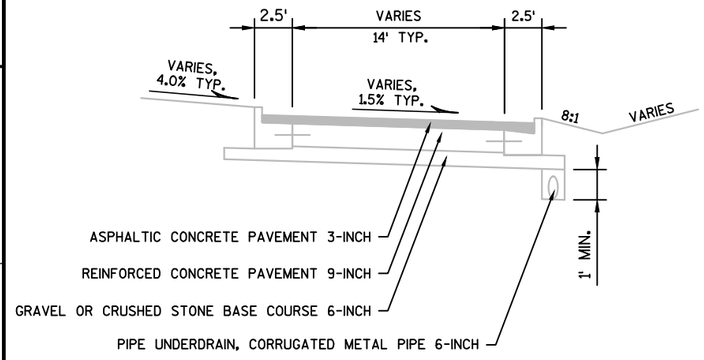
SLOPE INTERCEPT

EXISTING ROW

EXISTING ROW

GOLF GREEN

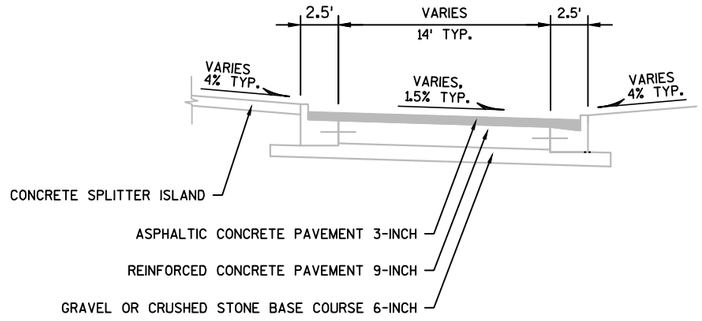
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 3	E



EXISTING TYPICAL SECTION

CAPITOL DR NB EXIT RAMP-"C1" & "C2"

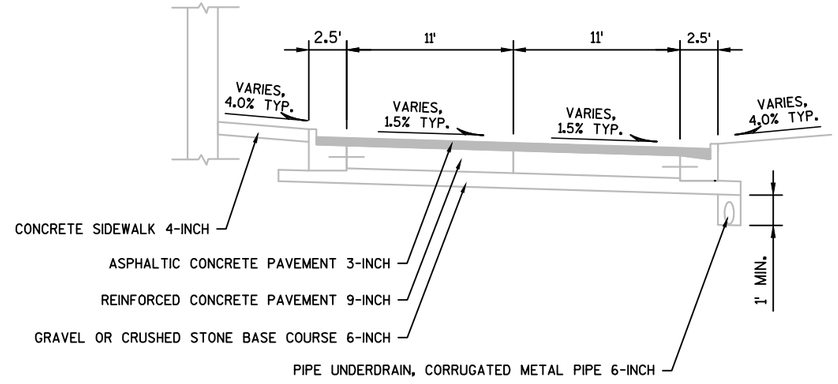
STA. 18"C1"+76.01 TO STA. 19"C1"+91.83
STA. 19"C2"+60.11 TO STA. 20"C2"+73.48



EXISTING TYPICAL SECTION

CAPITOL DR NB ENTRANCE RAMP-"D"

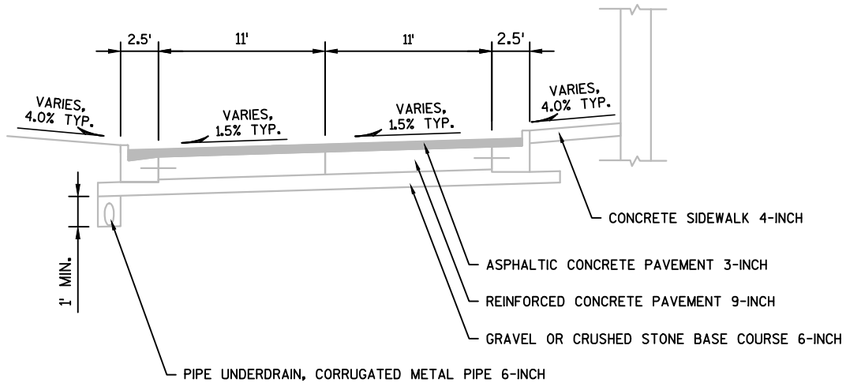
(RIGHT TURN LANE FROM CAPITOL DRIVE
FRONTAGE ROAD 2 TO
CAPITOL DRIVE NB ENTRANCE RAMP)



EXISTING TYPICAL SECTION

CAPITOL DR NB EXIT RAMP-"C"

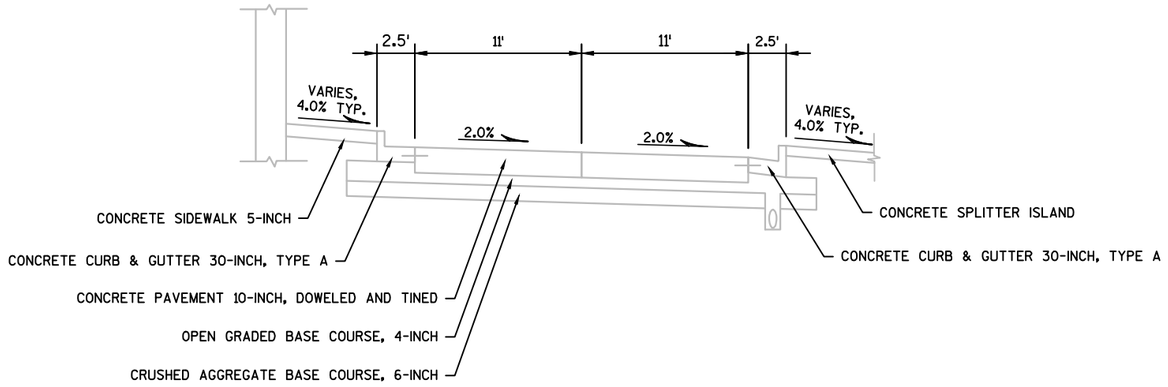
STA. 19"C"+65.86 TO STA. 19"C"+89.66



EXISTING TYPICAL SECTION

CAPITOL DR SB ENTRANCE RAMP-"A"
CAPITOL DR NB EXIT RAMP-"B"

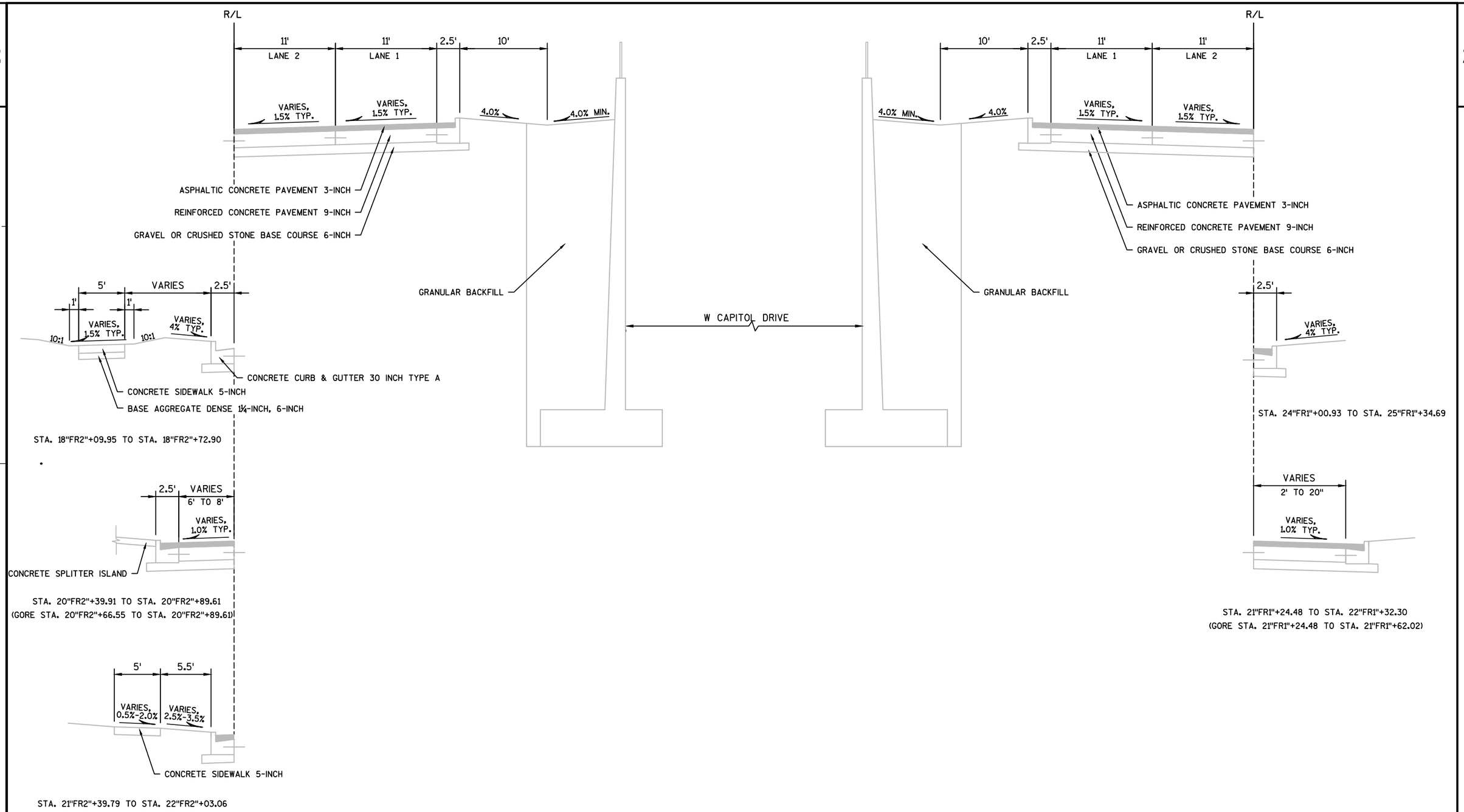
STA. 18"A"+28.75 TO STA. 18"A"+62.14
STA. 10"B"+00 TO STA. 10"B"+30.00



EXISTING TYPICAL SECTION

CAPITOL DR NB ENTRANCE RAMP-"D"

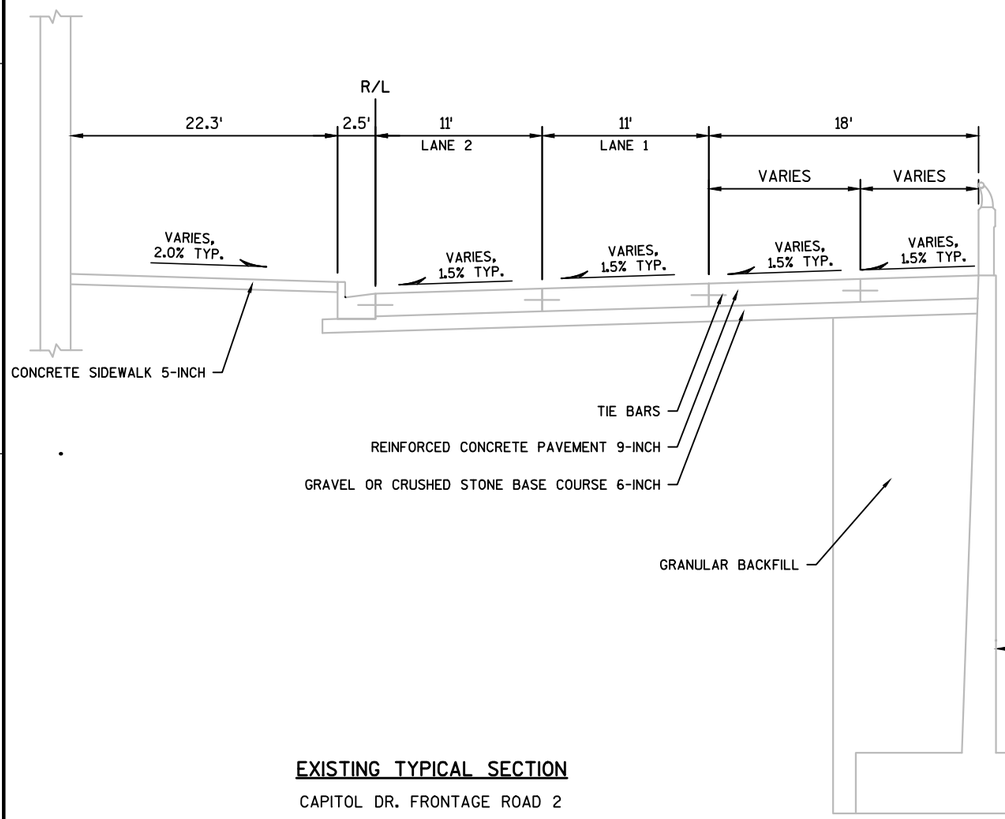
STA. 10"D"+00 TO STA. 10"D"+26.15



EXISTING TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 2
STA. 18"FR2"+09.95 TO STA. 18"FR2"+72.90
STA. 20"FR2"+40.81 TO STA. 22"FR2"+03.06

EXISTING TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 1
STA. 21"FR1"+24.48 TO STA. 22"FR1"+32.30
STA. 24"FR1"+00.93 TO STA. 26"FR1"+17.51

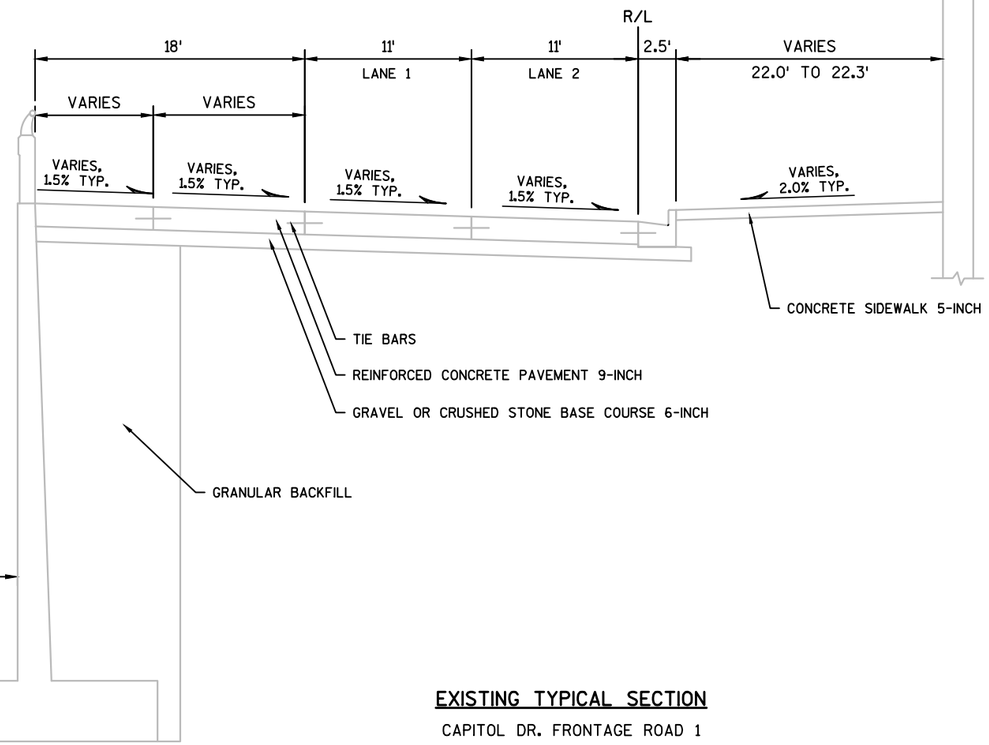
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN: TYPICAL SECTIONS	SHEET 5	E



EXISTING TYPICAL SECTION

CAPITOL DR. FRONTAGE ROAD 2

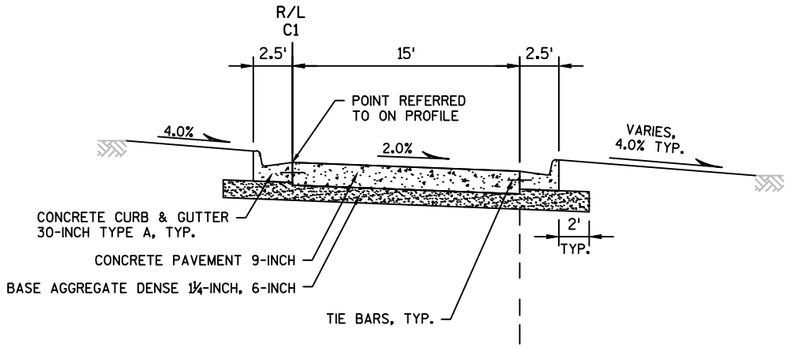
STA. 18"FR2"+72.90 TO STA. 20"FR2"+39.91

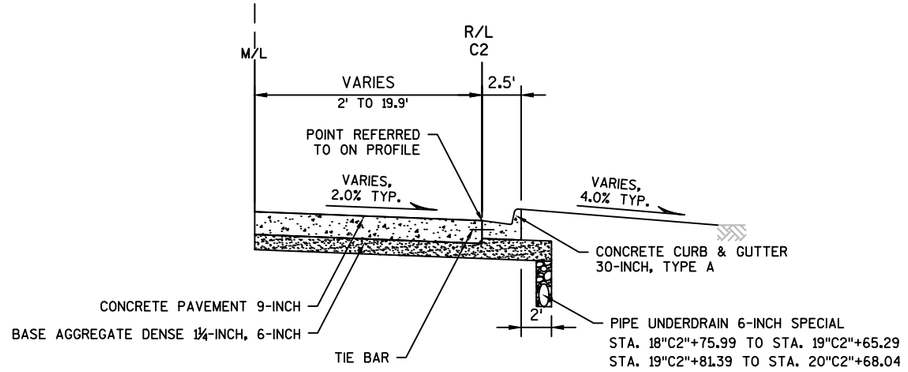


EXISTING TYPICAL SECTION

CAPITOL DR. FRONTAGE ROAD 1

STA. 22"FR1"+32.30 TO STA. 24"FR1"+00.93



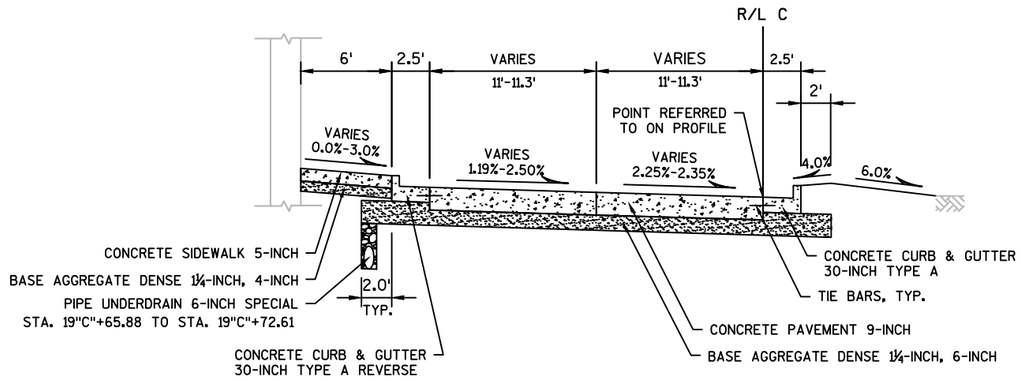


STA. 19"C2"+60.11 TO STA. 20"C2"+73.48

NOTE: DISTANCES AND CROSS SLOPES FOR THE DROP DOWN ARE MEASURED PERPENDICULAR TO R/L C2

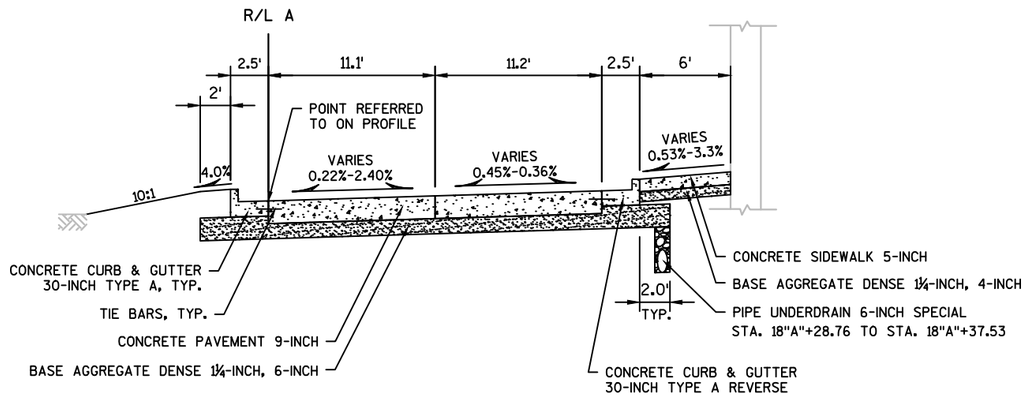
PROPOSED TYPICAL SECTION

CAPITOL DR NB EXIT RAMP-"C1" & "C2"
STA. 18"C1"+76.01 TO STA. 19"C1"+91.83
STA. 19"C2"+60.11 TO STA. 20"C2"+73.48



PROPOSED TYPICAL SECTION

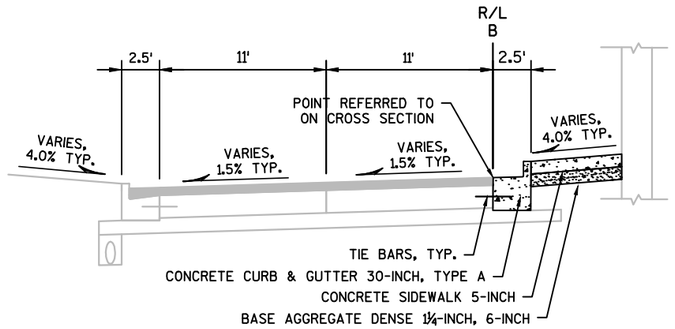
CAPITOL DR NB EXIT RAMP-"C"
STA. 19"C"+65.80 TO STA. 19"C"+89.66



PROPOSED TYPICAL SECTION

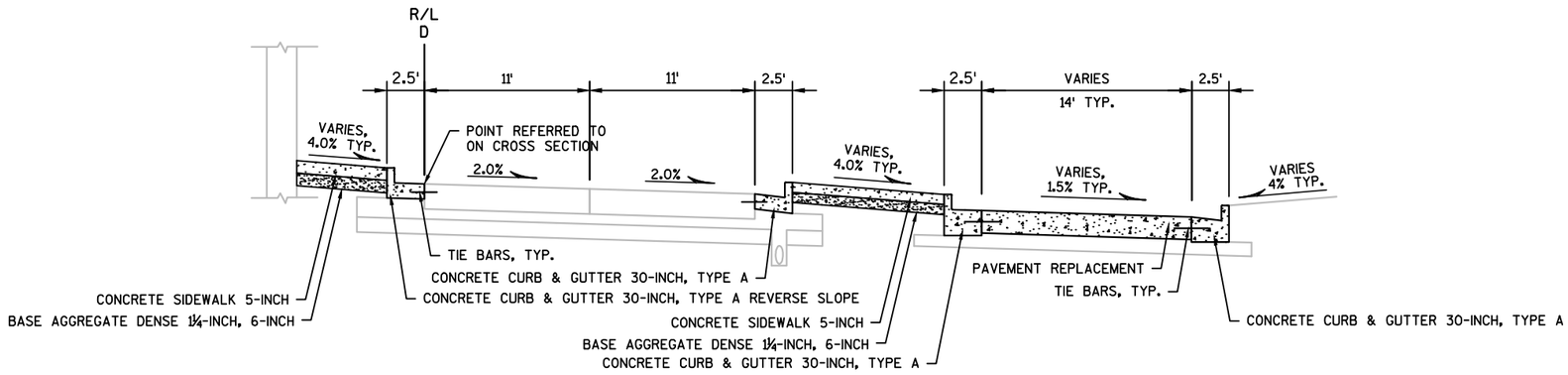
CAPITOL DR SB ENTRANCE RAMP-"A"
STA. 18"A"+28.75 TO STA. 18"A"+62.14

2



PROPOSED TYPICAL SECTION

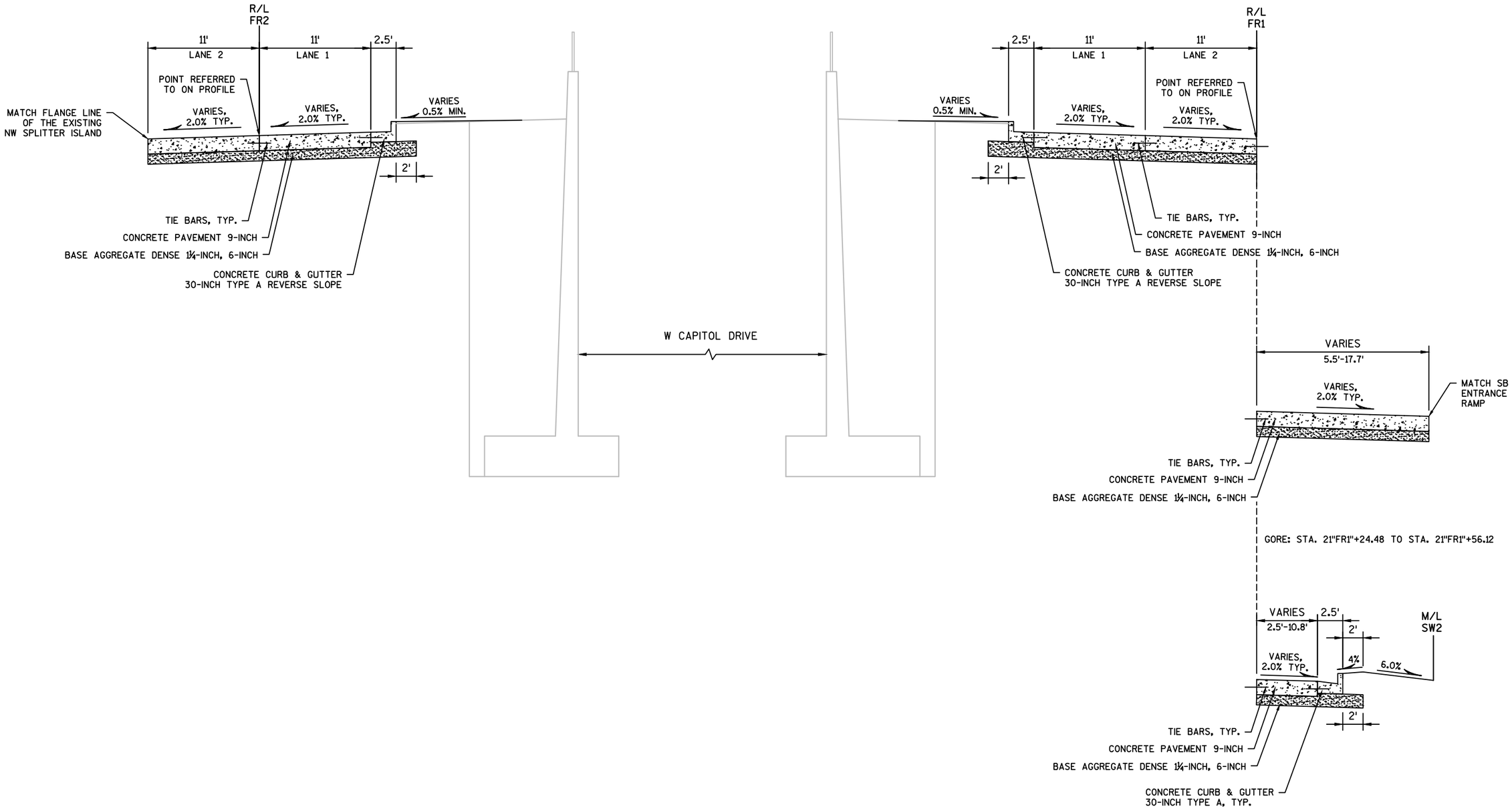
CAPITOL DR NB EXIT RAMP-"B"
STA. 10"B"+00 TO STA. 10"B"+30.00



PROPOSED TYPICAL SECTION

CAPITOL DR NB ENTRANCE RAMP-"D"
STA. 10"D"+00 TO STA. 10"D"+26.15

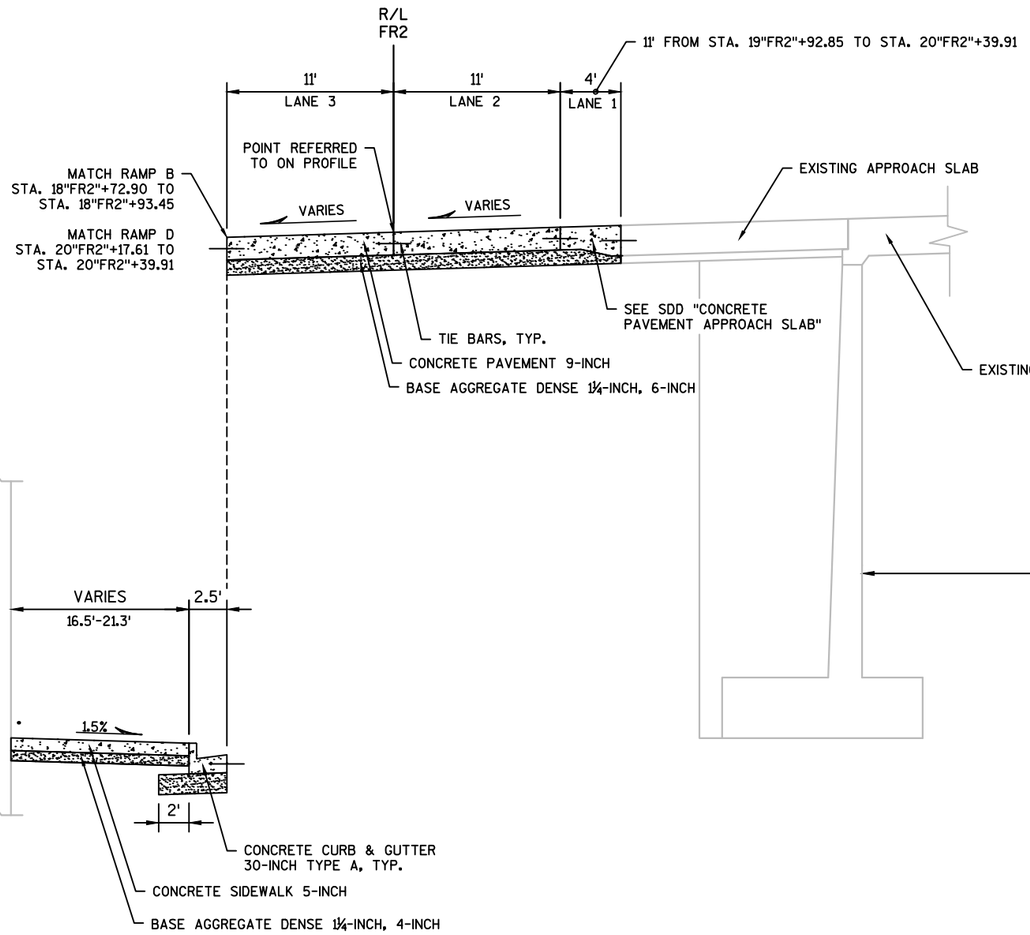
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN: TRAFFIC CONTROL-TYPICAL SECTIONS	SHEET 9	E



PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 2
STA. 18"FR2"+09.95 TO STA. 18"FR2"+72.90

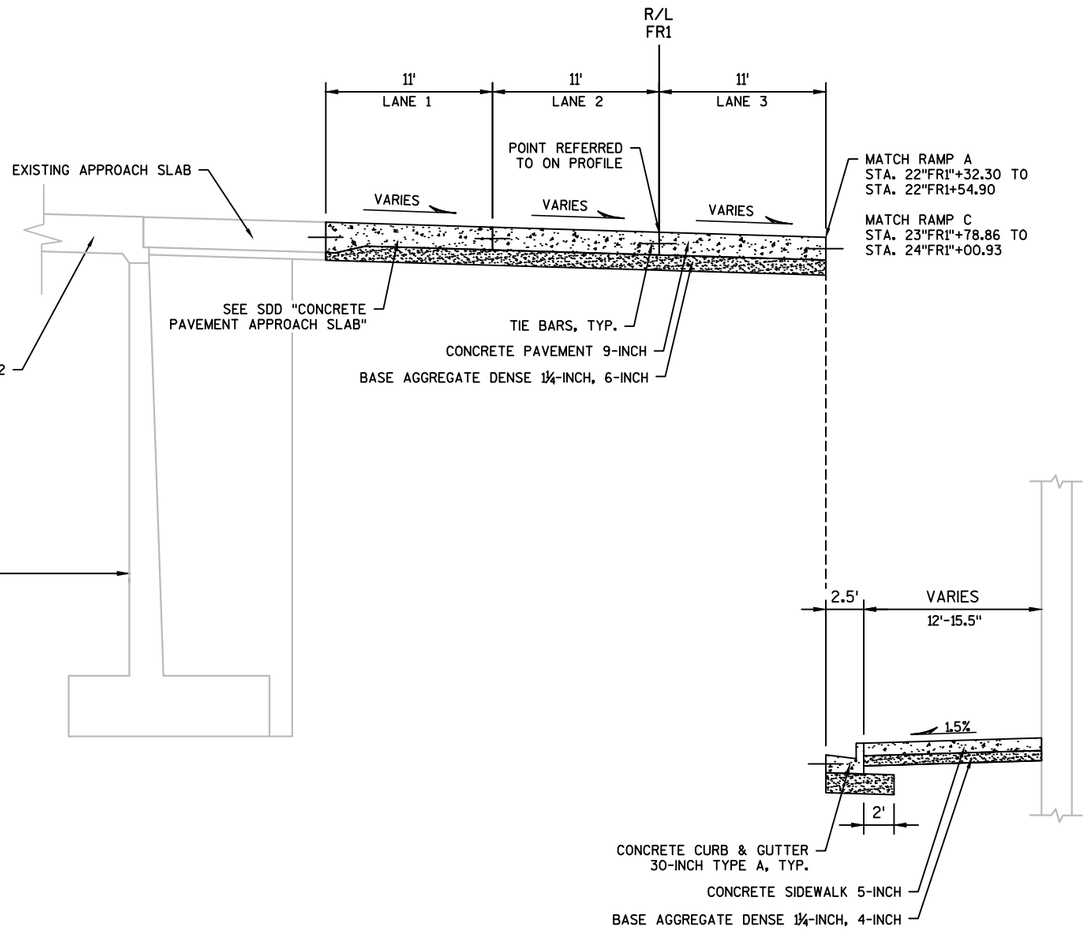
PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 1
STA. 21"FR1"+24.48 TO STA. 22"FR1"+32.30

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN: TYPICAL SECTIONS	SHEET 10	E



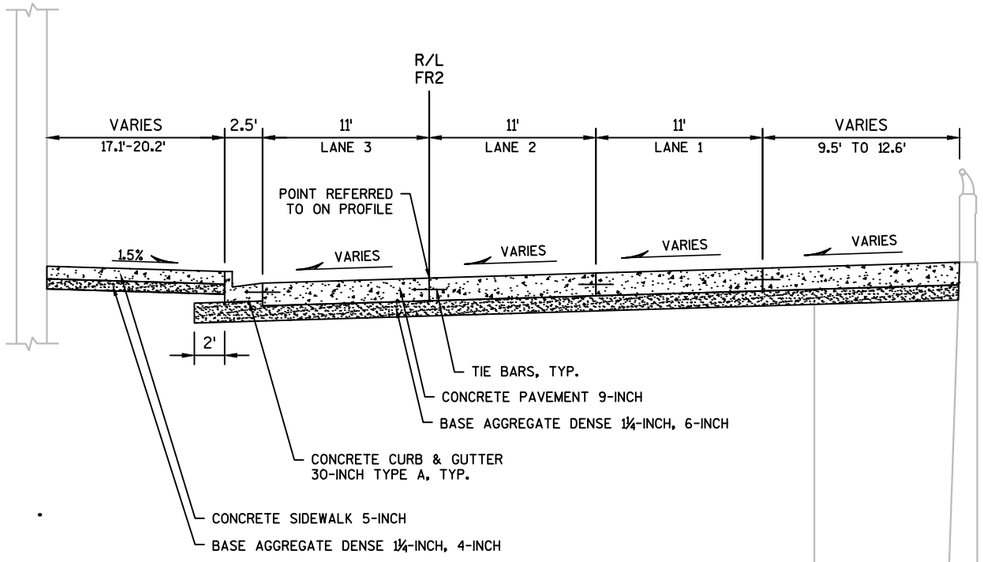
STA. 18"FR2"+93.45 TO STA. 19"FR2"+25.66
STA. 19"FR2"+92.85 TO STA. 20"FR2"+17.61

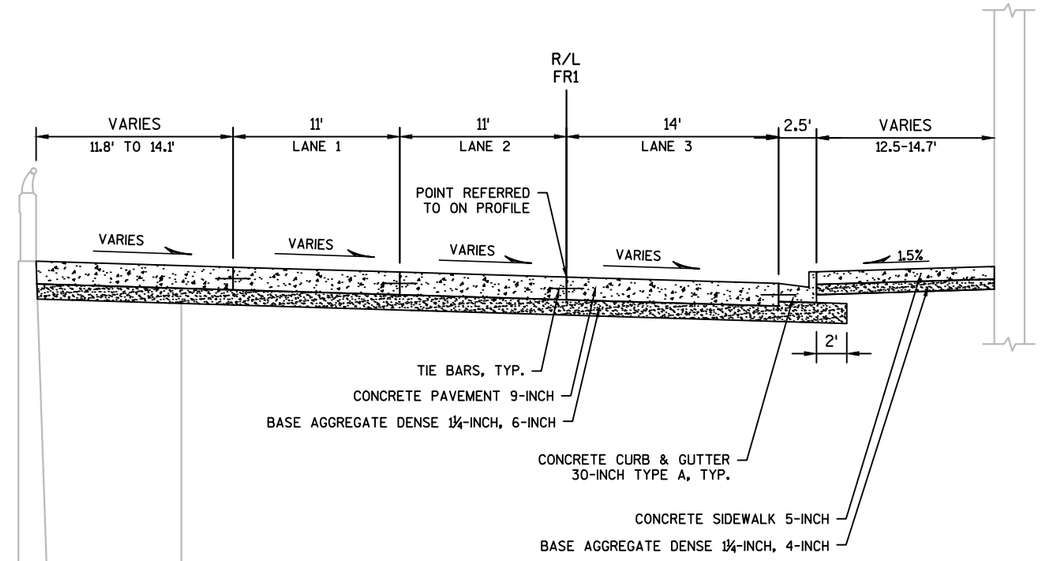
PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 2
STA. 18"FR2"+72.90 TO STA. 19"FR2"+25.66
STA. 19"FR2"+92.85 TO STA. 20"FR2"+39.91

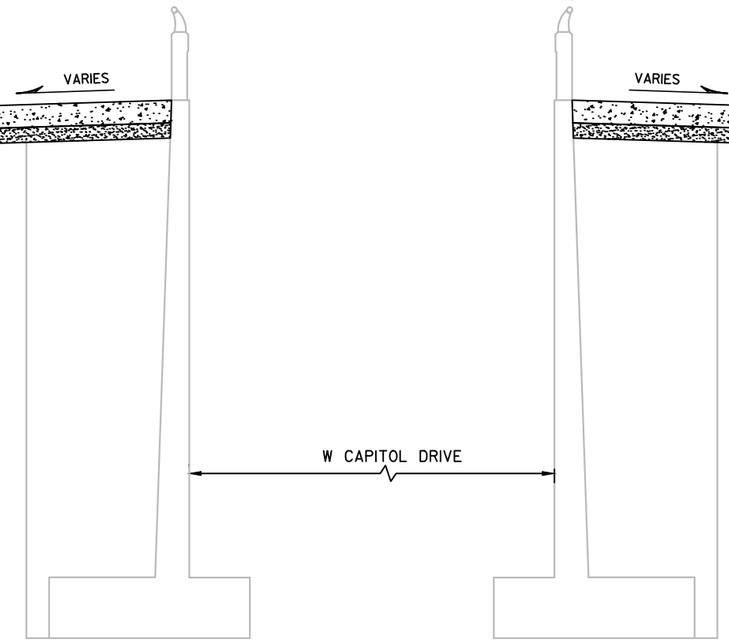


STA. 22"FR1"+54.91 TO STA. 22"FR1"+78.78
STA. 23"FR1"+45.81 TO STA. 23"FR1"+78.86

PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 1
STA. 22"FR1"+32.30 TO STA. 22"FR1"+78.78
STA. 23"FR1"+45.81 TO STA. 24"FR1"+00.93



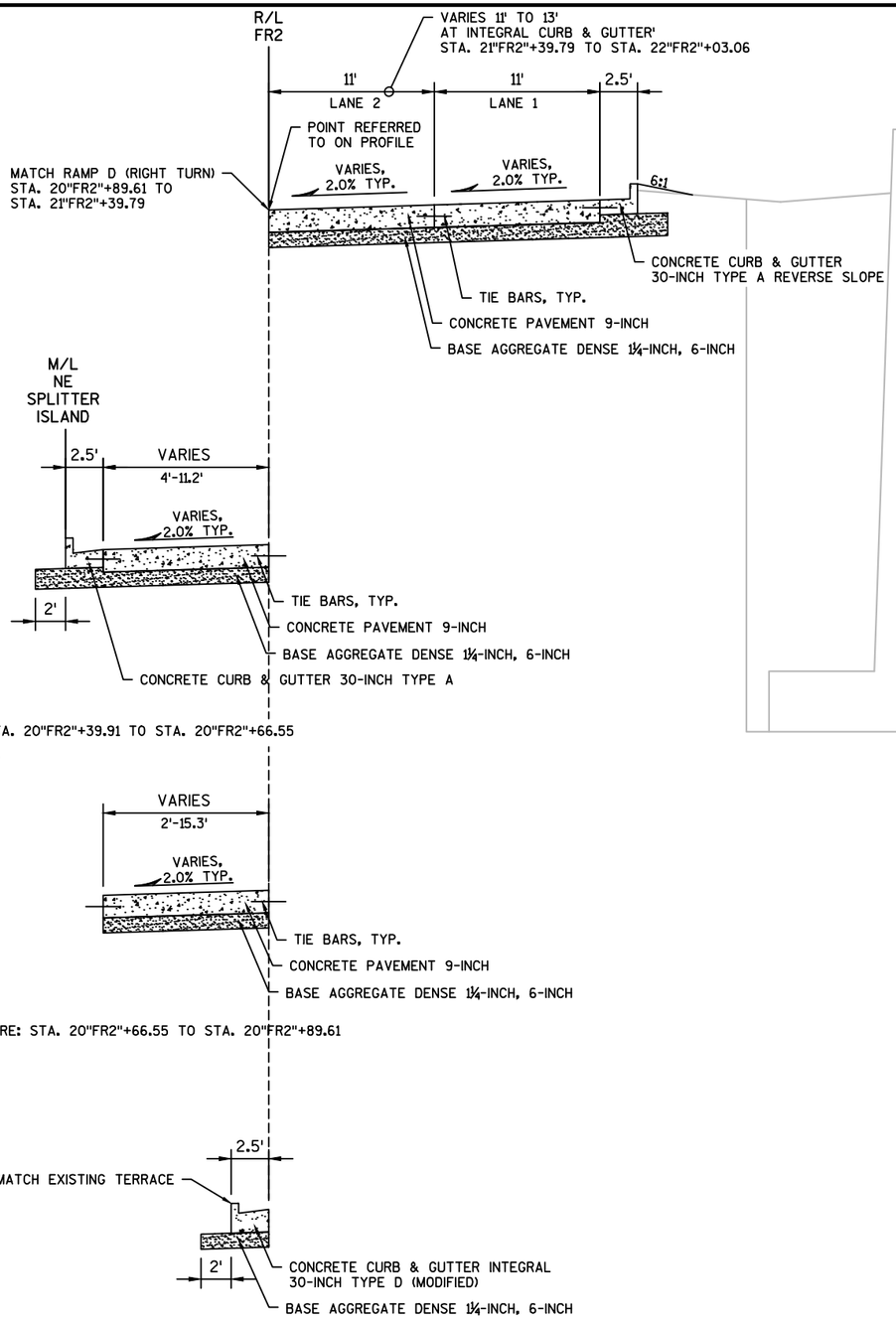




PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 2
STA. 19"FR2"+25.66 TO STA. 19"FR2"+92.85

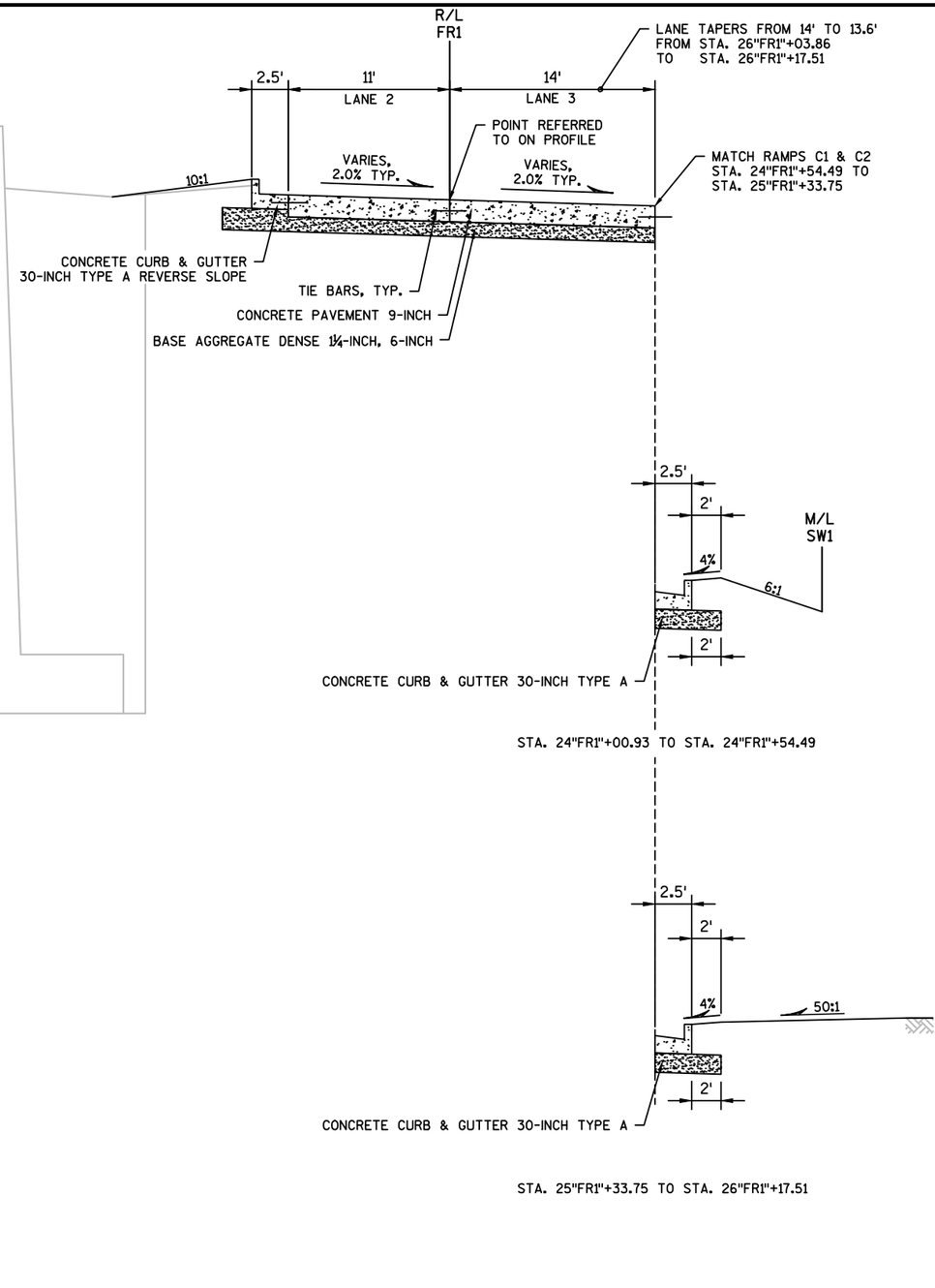
PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 1
STA. 22"FR1"+78.78 TO STA. 23"FR1"+45.81

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN: TRAFFIC CONTROL-TYPICAL SECTIONS	SHEET 12	E



PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 2
STA. 20"FR2"+39.91 TO STA. 22"FR2"+03.06

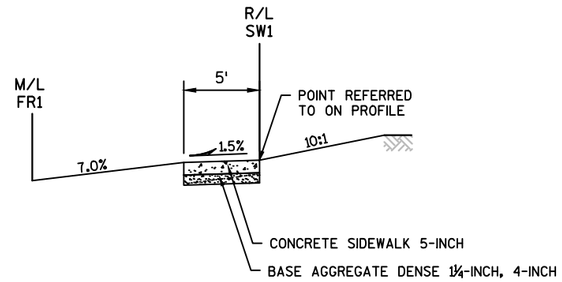
W CAPITOL DRIVE



PROPOSED TYPICAL SECTION
CAPITOL DR. FRONTAGE ROAD 1
STA. 24"FR1"+00.93 TO STA. 27"FR1"+23.73

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN: TRAFFIC CONTROL-TYPICAL SECTIONS	SHEET 13	E

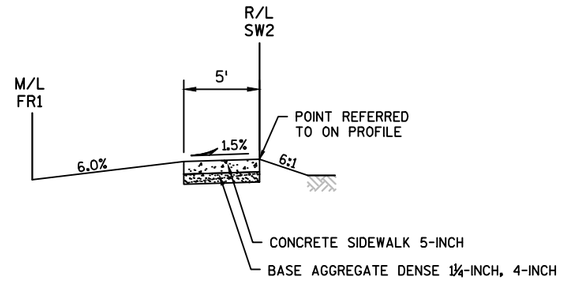
2



PROPOSED TYPICAL SECTION

SIDEWALK IN SE SPLITTER ISLAND "SW1"

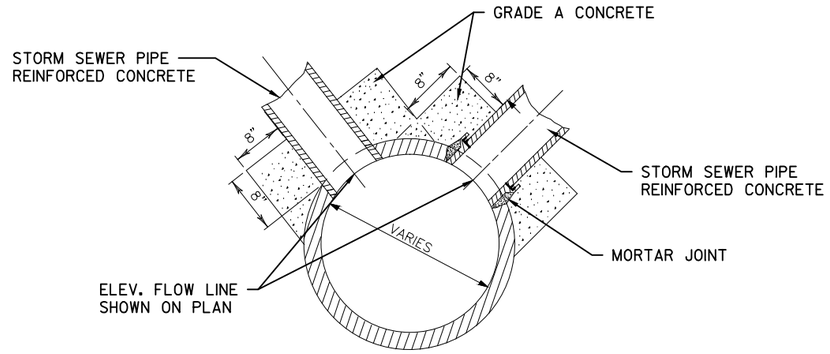
STA. 0"SW1"+00.00 TO STA. 0"SW1"+43.13



PROPOSED TYPICAL SECTION

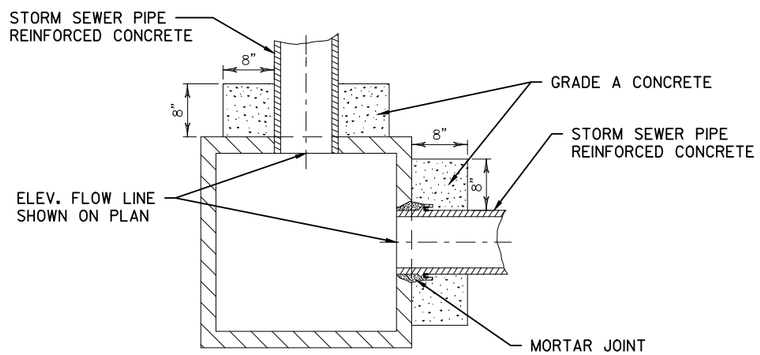
SIDEWALK IN SW SPLITTER ISLAND "SW2"

STA. 0"SW2"+02.22 TO STA. 0"SW2"+52.56



AT MANHOLE

INCIDENTAL TO NEW STRUCTURE ITEMS WHEN
NEW PIPE CONNECTS TO NEW STRUCTURE



AT STORM SEWER INLET

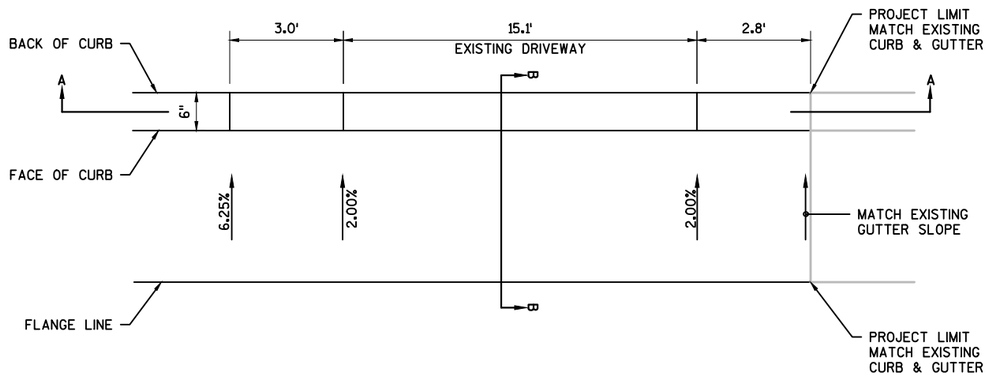
INCIDENTAL TO NEW STRUCTURE ITEMS WHEN
NEW PIPE CONNECTS TO NEW STRUCTURE

NOTES:

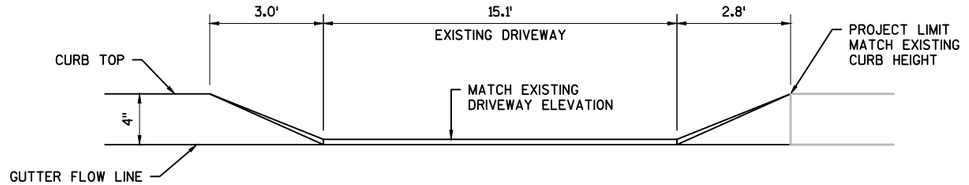
- CONCRETE COLLAR INCIDENTAL TO THE SPECIAL PROVISION "RECONNECT STORM SEWER LATERAL" WHEN CONNECTING AND EXISTING PIPE TO A NEW STRUCTURE.
- CONCRETE COLLAR TO BE PAID AS A BID ITEM WHEN CONNECTING A NEW PIPE TO AN EXISTING STRUCTURE

CONCRETE COLLAR DETAIL

FOR LOCATIONS SEE MISCELLANEOUS
QUANTITY SHEETS

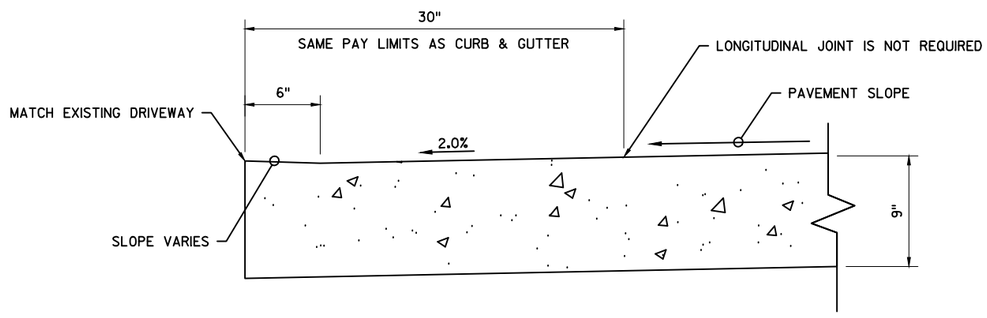


PLAN VIEW



ELEVATION

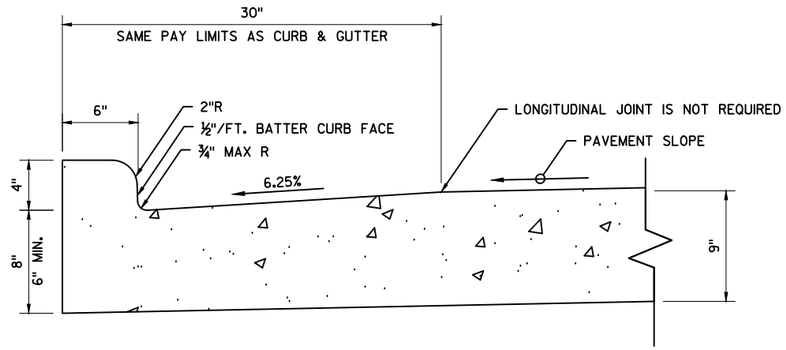
SECTION A-A



SECTION

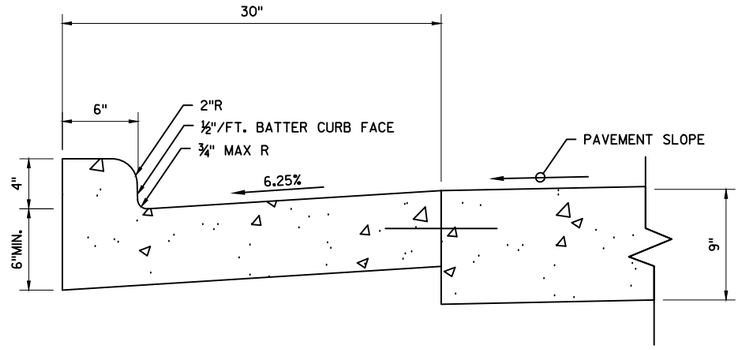
SECTION B-B

DRIVEWAY AT STATION STA. 21"FR2"+85.10 TO STA. 22"FR2"+00.22



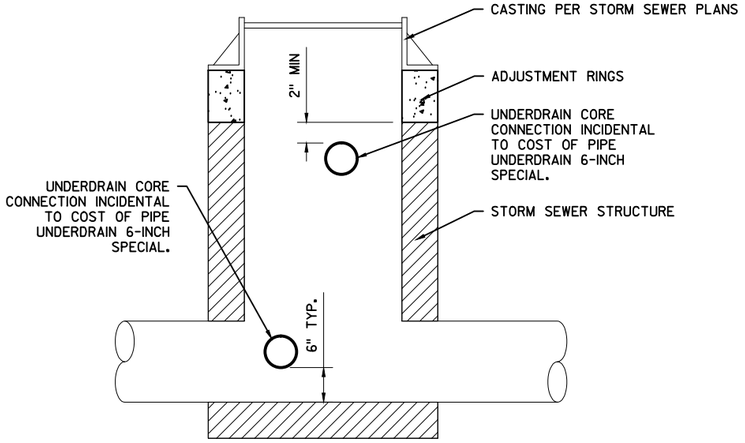
CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D (MODIFIED)

STA. 21"FR2+39.79 TO STA. 22"FR2+03.06



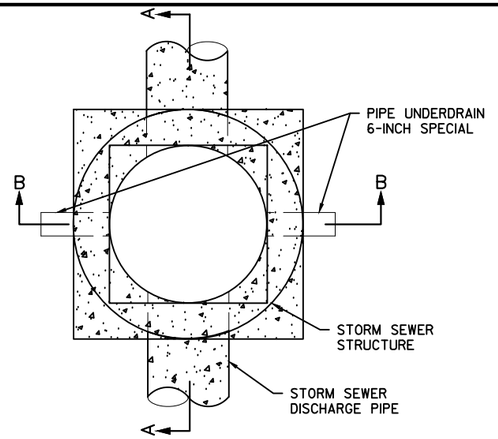
CONCRETE CURB & GUTTER 30-INCH TYPE A (MODIFIED)

ALONG THE RIGHT SIDE OF THE NB ENTRANCE RAMP RIGHT TURN LANE



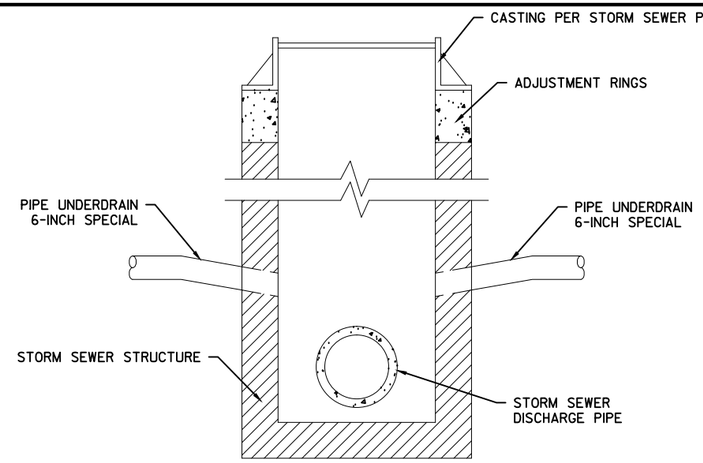
SECTION A-A

MINIMUM AND MAXIMUM CORED PIPE
UNDERDRAIN 6-INCH SPECIAL
UNDERDRAIN CORED LOCATIONS WITH CROSSPIPE



PLAN VIEW

PIPE UNDERDRAIN 6-INCH SPECIAL OUTFALL AT INLET/MANHOLE (GROUND OR SQUARE)



SECTION B-B

TYPICAL INLET CONFIGURATION
WITH UNDERDRDAIN CORED INTO WALL

NOTES

(1) BOTTOM OF CORE PLACED A MINIMUM OF 6" ABOVE THE INVERT OF THE REINFORCED CONCRETE STORM SEWER PIPE.

(2) TOP OF CORE HOLES WILL BE A MINIMUM OF 2" BELOW THE TOP OF THE INLET STRUCTURES (BOTTOM OF RINGS).

(3) PIPE UNDERDRAIN 6-INCH SPECIAL SHALL NOT BE ALLOWED IN THE RING OF THE STRUCTURE OF INLETS OR STORM SEWER ACCESS STRUCTURES.

(4) CORE HOLES SHALL PROVIDE FOR A MINIMUM OF 2" OF CONCRETE BETWEEN THE CUTOUT FOR A CONCRETE PIPE AND THE EDGE OF THE CORE HOLE.

(5) DIMENSIONS GIVEN ARE FOR TYPICAL PLACEMENT CONDITIONS, FOR TEMPORARY CONDITIONS OF WHEN INLET DEPTH IS SHALLOW TO PROVIDE POSITIVE DRAINAGE. TO BE COORDINATED WITH THE ENGINEER IN THE FIELD.

NOTES

(1) CONNECTIONS TO INLETS OR MANHOLES SHALL EXTEND PIPE UNDERDRAIN 6-INCH SPECIAL TO THE INSIDE WALL OF STORM SEWER STRUCTURE.

(2) PROVIDE UNDERDRAIN PIPE CORED HOLES AT OR BETWEEN ELEVATIONS SHOWN IN SECTION A-A.

(3) SEE STORM SEWER PLANS FOR PIPE UNDERDRAIN LOCATIONS.

(4) PROVIDE POSITIVE DRAINAGE (0.5% MINIMUM GRADE) THROUGH PIPE UNDERDRAIN 6-INCH SPECIAL AND CORE INTO STORM SEWER STRUCTURE.

(5) WHEN INLET DEPTH IS SHALLOW, PIPE UNDERDRAIN 6-INCH SPECIAL MAY BE PLACED AT A DEPTH TO PROVIDE POSITIVE DRAINAGE TO BE COORDINATED WITH THE ENGINEER IN THE FIELD.

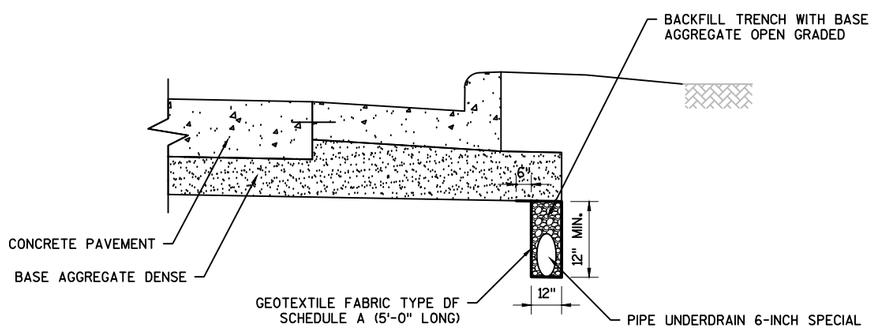
(6) ATTACHMENT OF PIPE UNDERDRAIN 6-INCH SPECIAL TO REAR INLET IS SATISFACTORY IF REINFORCED CONCRETE STORM SEWER PIPE SIZE RESTRICTS SPACE FOR UNDERDRAIN CORE.

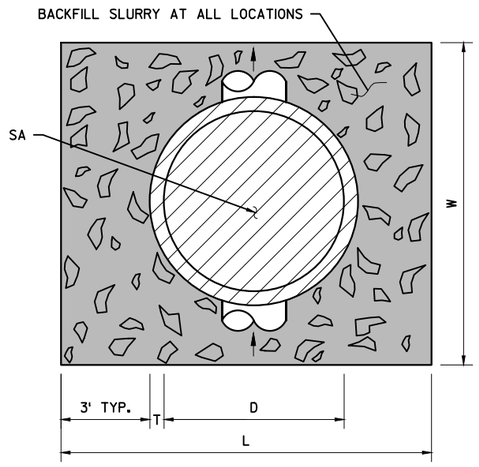
(7) COORDINATE LOCATION AND TIMING OF ANY CONNECTIONS BEING MADE TO PIPE UNDERDRAIN 6-INCH SPECIAL FOR RETAINING WALL PIPE UNDERDRAIN STRUCTURES WITH WALL CONTRACTOR.

(8) CONNECT PIPE UNDERDRAIN 6-INCH SPECIAL AT STORM SEWER STRUCTURES SUCH THAT ANY SINGLE RUN DOES NOT EXCEED 800 FEET IN LENGTH.

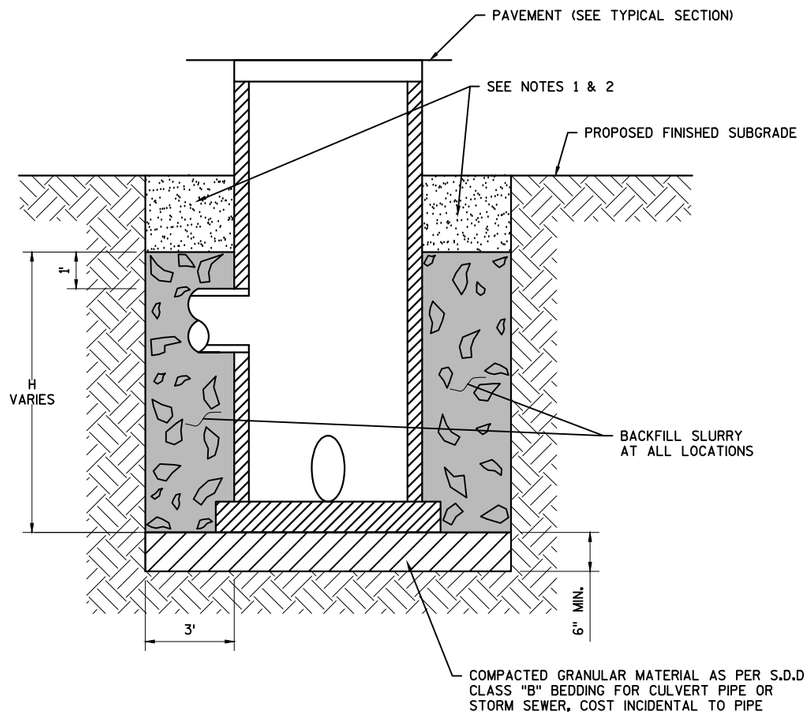
NOTES

(1) TYPICAL ELEVATION OF PIPE UNDERDRAIN 6-INCH SPECIAL SHALL BE PLACED BELOW THE SELECT CRUSHED MATERIAL.





PLAN VIEW



ELEVATION VIEW

NOTES

(1) IF THE STRUCTURE IS OUTSIDE THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, NATIVE BACKFILL MAY BE USED ABOVE BACKFILL AND SHALL CONFORM TO SECTION 209.

(2) IF THE STRUCTURE IS WITHIN THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, BACKFILL ABOVE BACKFILL SLURRY SHALL CONFORM TO SECTION 209.

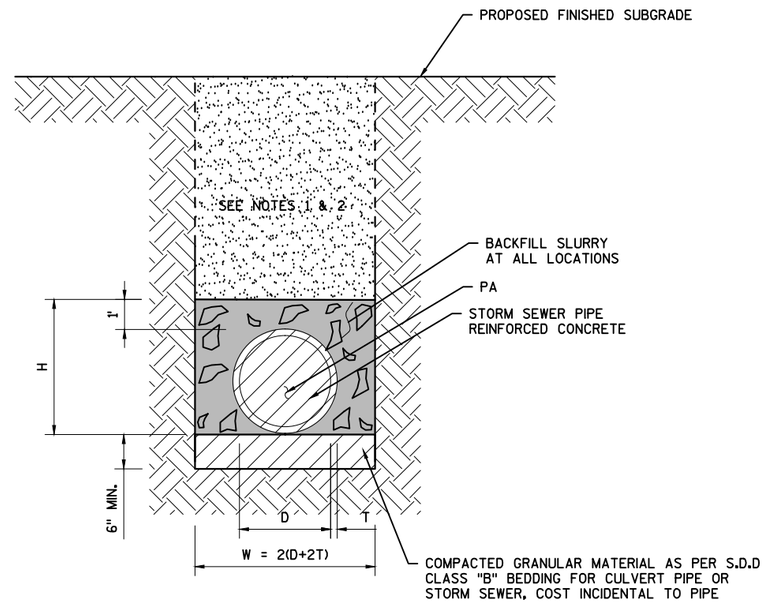
(3) BACKFILL SLURRY IS CONSIDERED INCIDENTAL TO DRAINAGE STRUCTURES. NO SEPARATE PAYMENTS WILL BE MADE.

(4) WHEN TEMPORARY SUBGRADE IS HIGHER THAN PROPOSED FINISHED GRADE, PROVIDE GRANULAR BACKFILL AT ALL LOCATIONS. COST FOR GRANULAR BACKFILL IS CONSIDERED INCIDENTAL TO CONSTRUCTION.

NOTES

(1) H = UP TO 1' ABOVE THE TOP OF THE HIGHEST PIPE IN THE STRUCTURE.

BACKFILL SLURRY DETAIL - STORM SEWER STRUCTURES



NOTES

(1) IF THE PIPE IS OUTSIDE THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, NATIVE BACKFILL MAY BE USED ABOVE BACKFILL AND SHALL CONFORM TO SECTION 209.

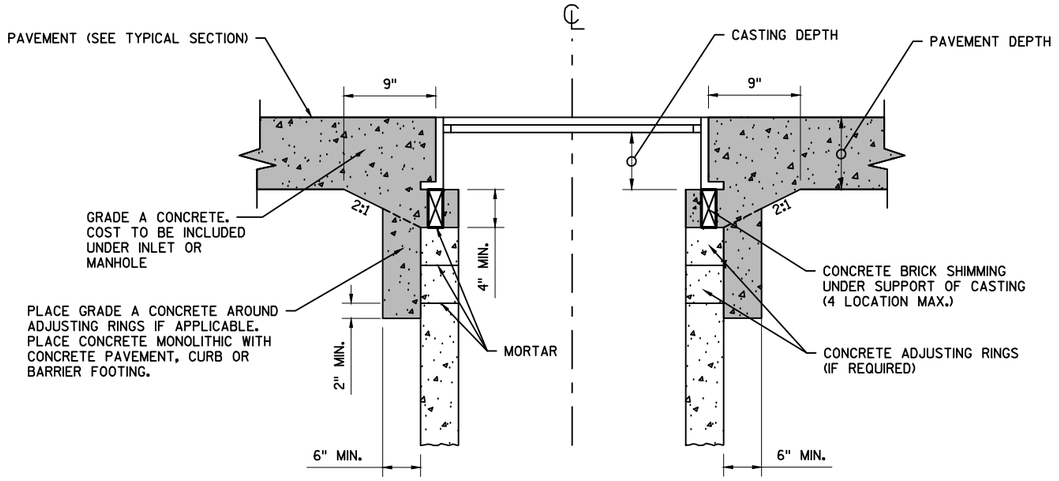
(2) IF THE PIPE IS WITHIN THE TRAVELED WAY INCLUSIVE OF SHOULDERS AND AUXILIARY LANES, BACKFILL ABOVE BACKFILL SLURRY SHALL CONFORM TO SECTION 209.

(3) BACKFILL SLURRY IS CONSIDERED INCIDENTAL TO DRAINAGE PIPE. NO SEPARATE PAYMENTS WILL BE MADE.

(4) WHEN TEMPORARY SUBGRADE IS HIGHER THAN PROPOSED FINISHED GRADE, PROVIDE GRANULAR BACKFILL AT ALL LOCATIONS. COST FOR GRANULAR BACKFILL IS CONSIDERED INCIDENTAL TO CONSTRUCTION.

(5) H = UP TO 1' ABOVE THE TOP OF THE HIGHEST PIPE IN THE STRUCTURE.

BACKFILL SLURRY DETAIL - STORM SEWER PIPE

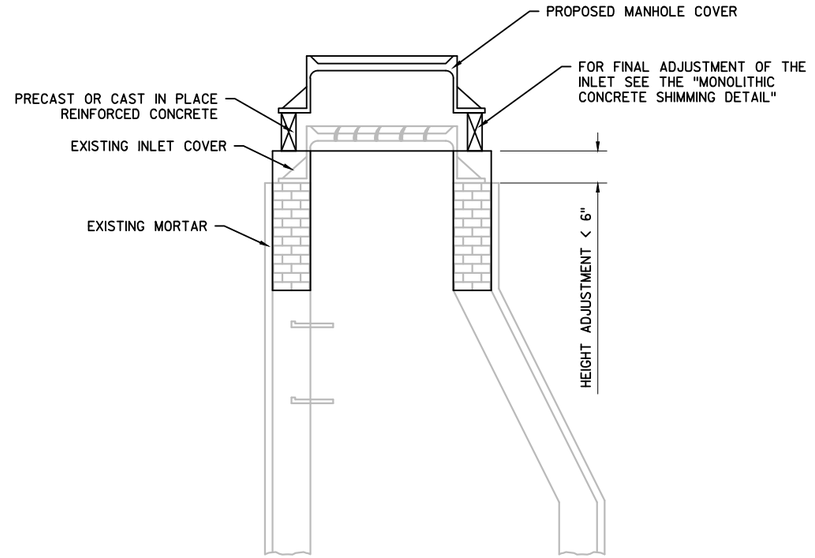


NOTES

(1) PROVIDE MONOLITHIC CONCRETE SHIMMING FOR FINAL ADJUSTMENT OF DRAINAGE STRUCTURES LOCATED WITHIN THE ROADWAY CONCRETE PAVEMENT AND CONCRETE CURB & GUTTER.

MONOLITHIC CONCRETE

MONOLITHIC CONCRETE SHIMMING DETAIL



NOTES

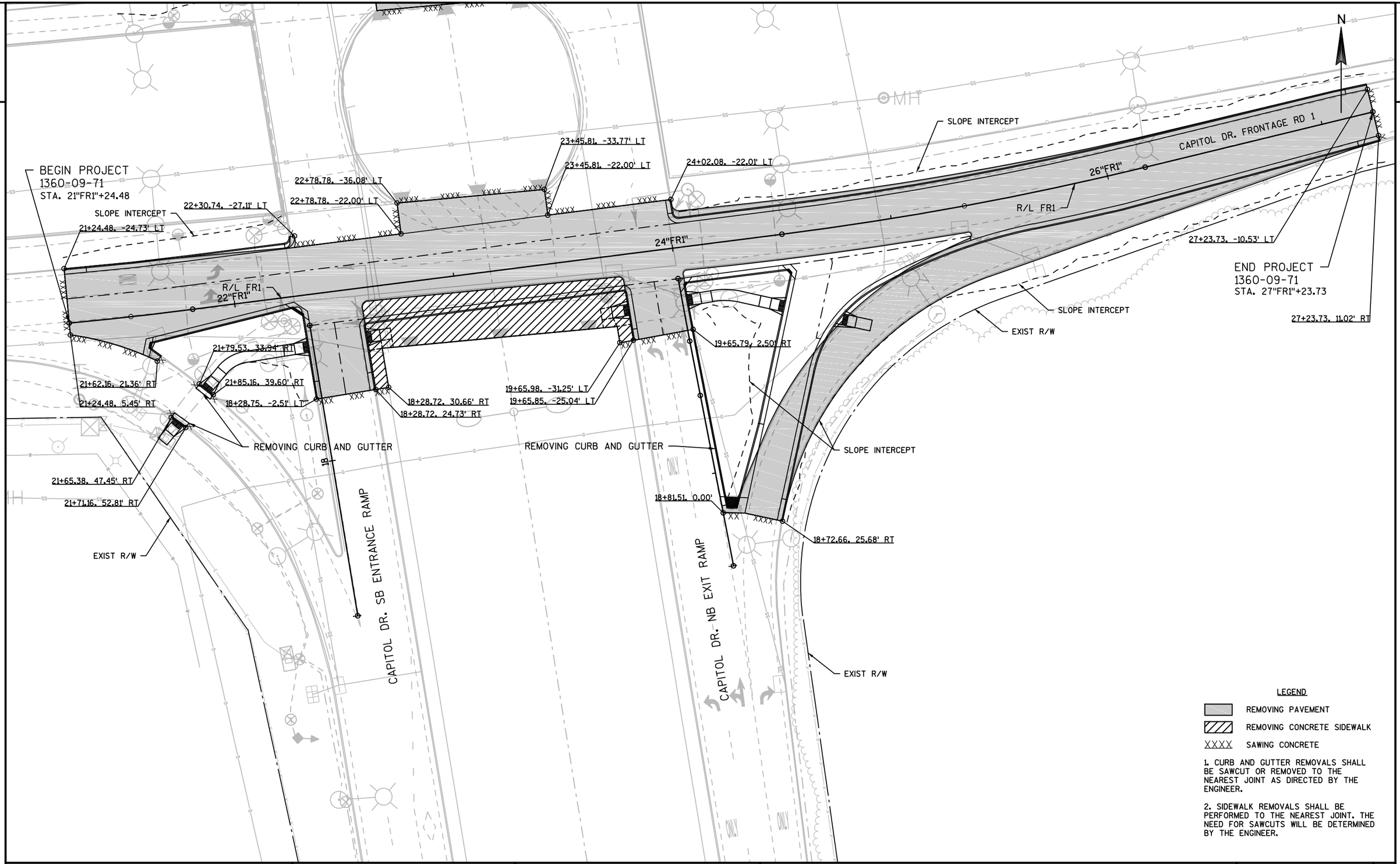
(1) RECONSTRUCT STRUCTURE TO PROPOSED ELEVATION AS SHOWN IN THE STORM SEWER PLANS AND MISC. QUANTITIES SHEETS.

(2) RECONSTRUCT STRUCTURE AS DEEP AS NEEDED TO REMOVE THE EXISTING CONE TOP AND PROVIDE THE APPROPRIATE OPENING SIZE AND SHAPE IN ORDER TO FIT THE PROPOSED MANHOLE COVER.

(3) RELOCATION OF THE STAIRS IF IN CONFLICT WITH CONNECTING PIPES IS INCIDENTAL TO THE STRUCTURE RECONSTRUCTION.

RECONSTRUCTING MANHOLES

2



LEGEND

- REMOVING PAVEMENT
- REMOVING CONCRETE SIDEWALK
- XXXX SAWING CONCRETE

1. CURB AND GUTTER REMOVALS SHALL BE SAWCUT OR REMOVED TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

2. SIDEWALK REMOVALS SHALL BE PERFORMED TO THE NEAREST JOINT. THE NEED FOR SAWCUTS WILL BE DETERMINED BY THE ENGINEER.

LEGEND

REMOVING PAVEMENT

REMOVING CONCRETE SIDEWALK

XXXX SAWING CONCRETE

1. CURB AND GUTTER REMOVALS SHALL BE SAWCUT OR REMOVED TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

2. SIDEWALK REMOVALS SHALL BE PERFORMED TO THE NEAREST JOINT. THE NEED FOR SAWCUTS WILL BE DETERMINED BY THE ENGINEER.

N

CAPITOL DR. SB EXIT RAMP

CAPITOL DR. NB ENTRANCE RAMP

EXIST R/W

BEGIN PROJECT
1360-09-71
STA. 18"FR2"+09.95

18+09.95, -11.00' LT

18+47.84, -16.58' LT

18+59.04, -21.93' LT

18+92.83, -41.00' LT

18+93.44, -11.01' LT

REMOVING CURB AND GUTTER

CAPITOL DR. FRONTAGE RD 2

18+09.96, 13.44' RT

SLOPE INTERCEPT

18+70.35, 15.74' RT

19+25.70, 15.00' RT

19+25.70, 31.46' RT

19+92.85, 22.00' RT

19+92.85, 34.64' RT

20+17.71, -11.15' LT

20+16.93, -37.27' LT

REMOVING CURB AND GUTTER

20+39.13, -39.01' LT

20+44.46, -40.57' LT

20+64.57, -41.27' LT

EXIST R/W

REMOVING CURB AND GUTTER

20+39.87, -11.97' LT

END PROJECT
1360-09-71
STA. 22"FR2"+03.06

22+03.06, 24.39' RT

SLOPE INTERCEPT

20+41.00, 37.10' RT

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	REMOVAL PLANS	SHEET 21	E

2

LEGEND

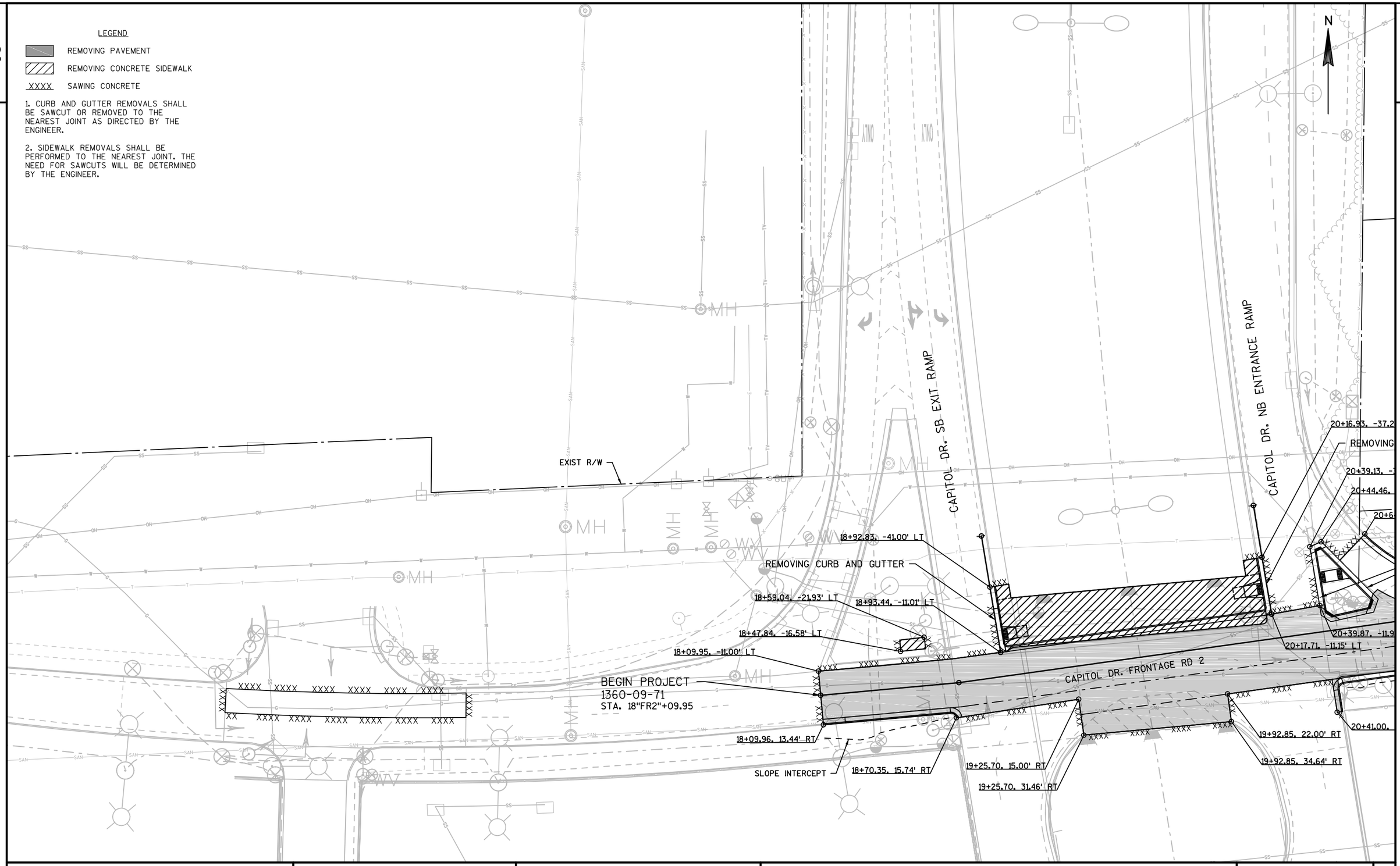
REMOVING PAVEMENT

REMOVING CONCRETE SIDEWALK

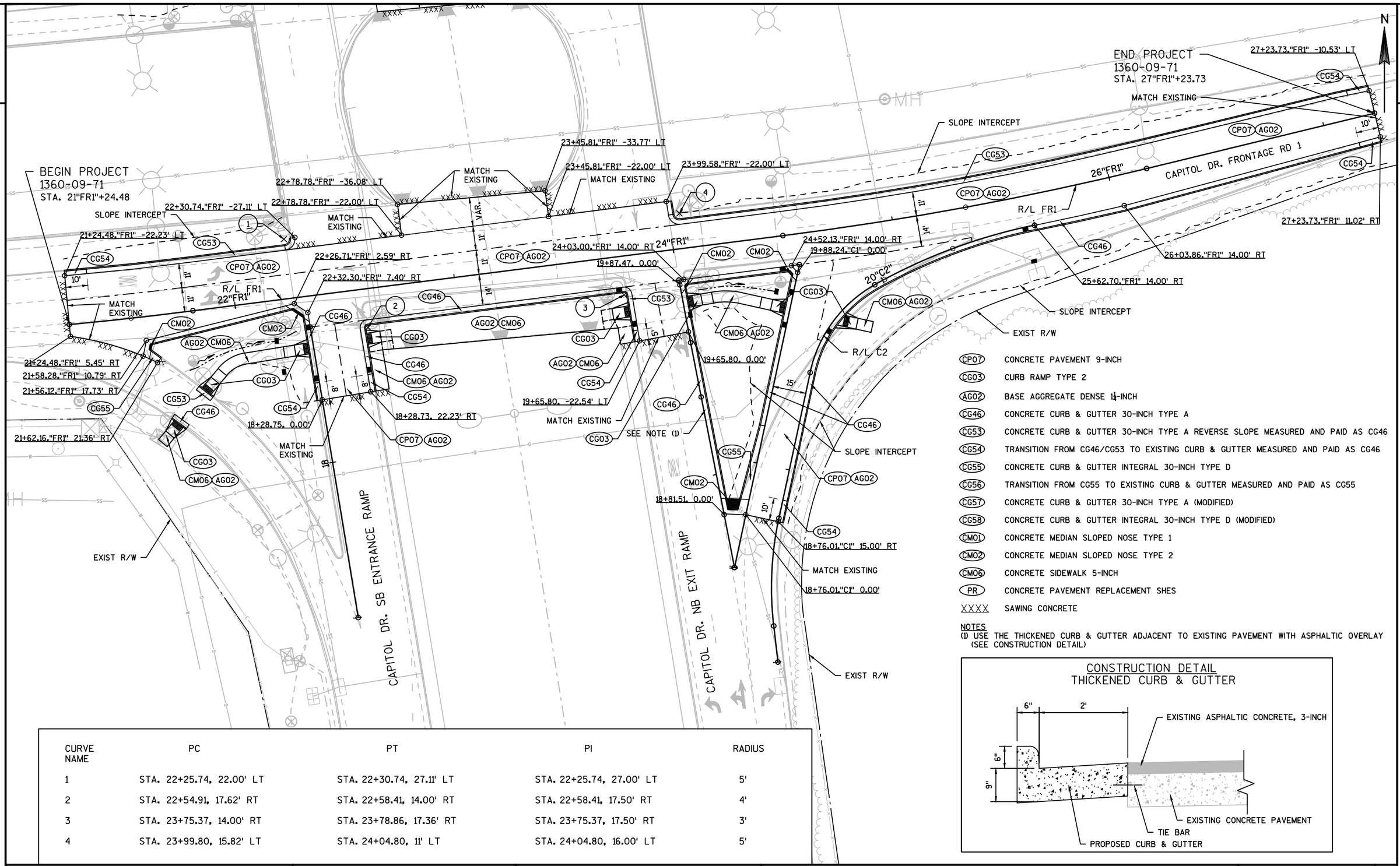
XXXX SAWING CONCRETE

1. CURB AND GUTTER REMOVALS SHALL BE SAWCUT OR REMOVED TO THE NEAREST JOINT AS DIRECTED BY THE ENGINEER.

2. SIDEWALK REMOVALS SHALL BE PERFORMED TO THE NEAREST JOINT. THE NEED FOR SAWCUTS WILL BE DETERMINED BY THE ENGINEER.



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	REMOVAL PLANS	SHEET 22	E



CURVE NAME	PC	PT	PI	RADIUS
1	STA. 22+25.74, 22.00' LT	STA. 22+30.74, 27.11' LT	STA. 22+25.74, 27.00' LT	5'
2	STA. 22+54.91, 17.62' RT	STA. 22+58.41, 14.00' RT	STA. 22+58.41, 17.50' RT	4'
3	STA. 23+75.37, 14.00' RT	STA. 23+78.86, 17.36' RT	STA. 23+75.37, 17.50' RT	3'
4	STA. 23+99.80, 15.82' LT	STA. 24+04.80, 11' LT	STA. 24+04.80, 16.00' LT	5'

CP07	CONCRETE PAVEMENT 9-INCH
CG03	CURB RAMP TYPE 2
AG02	BASE AGGREGATE DENSE 1¼-INCH
CG46	CONCRETE CURB & GUTTER 30-INCH TYPE A
CG53	CONCRETE CURB & GUTTER 30-INCH TYPE A REVERSE SLOPE MEASURED AND PAID AS CG46
CG54	TRANSITION FROM CG46/CG53 TO EXISTING CURB & GUTTER MEASURED AND PAID AS CG46
CG55	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D
CG56	TRANSITION FROM CG55 TO EXISTING CURB & GUTTER MEASURED AND PAID AS CG55
CG57	CONCRETE CURB & GUTTER 30-INCH TYPE A (MODIFIED)
CG58	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D (MODIFIED)
CM01	CONCRETE MEDIAN SLOPED NOSE TYPE 1
CM02	CONCRETE MEDIAN SLOPED NOSE TYPE 2
CM06	CONCRETE SIDEWALK 5-INCH
PR	CONCRETE PAVEMENT REPLACEMENT SHES
XXXX	SAWING CONCRETE

NOTES
(1) USE THE THICKENED CURB & GUTTER ADJACENT TO EXISTING PAVEMENT WITH ASPHALTIC OVERLAY (SEE CONSTRUCTION DETAIL)

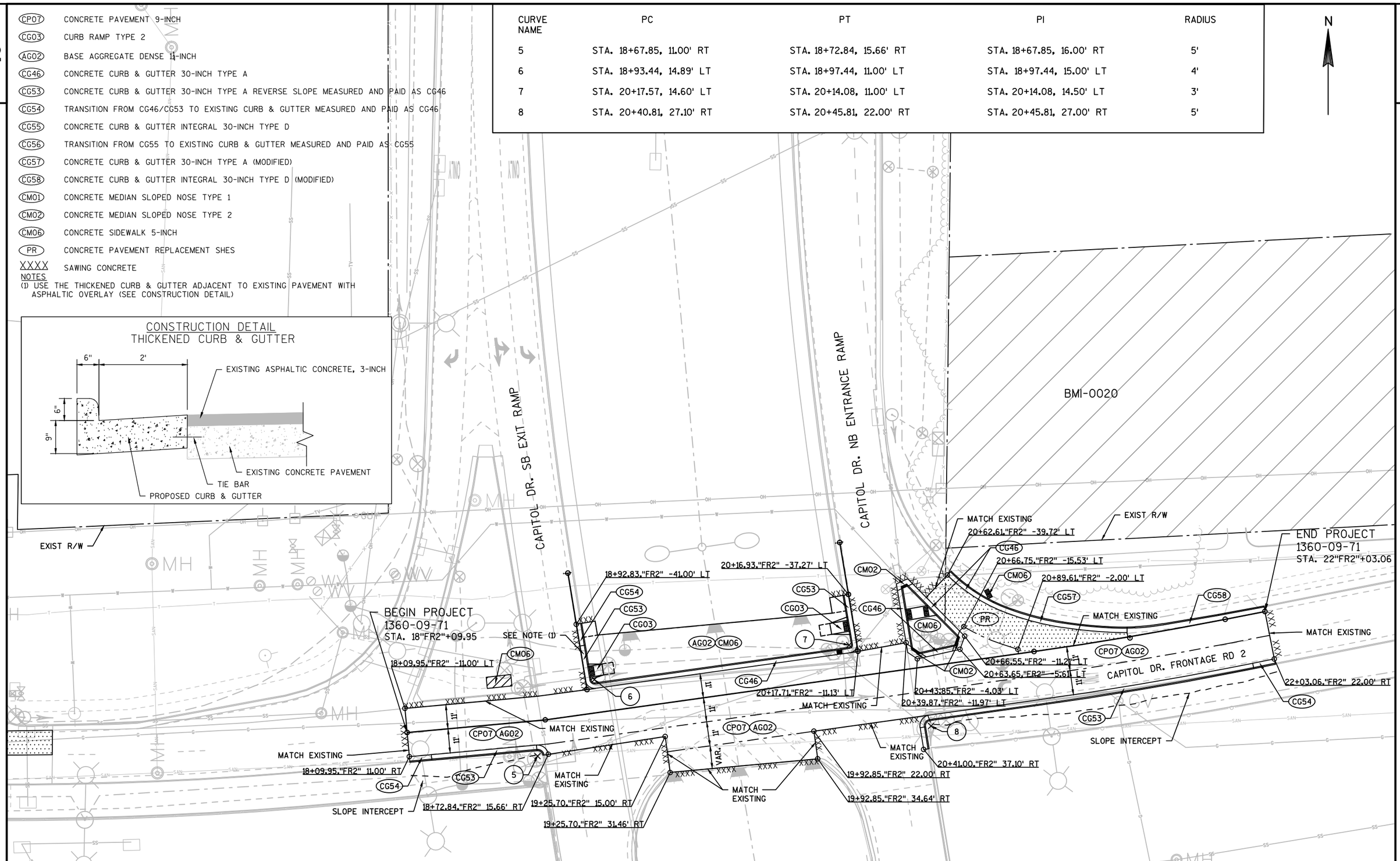
CONSTRUCTION DETAIL
THICKENED CURB & GUTTER

CPO7	CONCRETE PAVEMENT 9-INCH
CG03	CURB RAMP TYPE 2
AG02	BASE AGGREGATE DENSE 1¼-INCH
CG46	CONCRETE CURB & GUTTER 30-INCH TYPE A
CG53	CONCRETE CURB & GUTTER 30-INCH TYPE A REVERSE SLOPE MEASURED AND PAID AS CG46
CG54	TRANSITION FROM CG46/CG53 TO EXISTING CURB & GUTTER MEASURED AND PAID AS CG46
CG55	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D
CG56	TRANSITION FROM CG55 TO EXISTING CURB & GUTTER MEASURED AND PAID AS CG55
CG57	CONCRETE CURB & GUTTER 30-INCH TYPE A (MODIFIED)
CG58	CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D (MODIFIED)
CM01	CONCRETE MEDIAN SLOPED NOSE TYPE 1
CM02	CONCRETE MEDIAN SLOPED NOSE TYPE 2
CM06	CONCRETE SIDEWALK 5-INCH
PR	CONCRETE PAVEMENT REPLACEMENT SHES
XXXX	SAWING CONCRETE

NOTES
(1) USE THE THICKENED CURB & GUTTER ADJACENT TO EXISTING PAVEMENT WITH ASPHALTIC OVERLAY (SEE CONSTRUCTION DETAIL)

CONSTRUCTION DETAIL
THICKENED CURB & GUTTER

CURVE NAME	PC	PT	PI	RADIUS
5	STA. 18+67.85, 11.00' RT	STA. 18+72.84, 15.66' RT	STA. 18+67.85, 16.00' RT	5'
6	STA. 18+93.44, 14.89' LT	STA. 18+97.44, 11.00' LT	STA. 18+97.44, 15.00' LT	4'
7	STA. 20+17.57, 14.60' LT	STA. 20+14.08, 11.00' LT	STA. 20+14.08, 14.50' LT	3'
8	STA. 20+40.81, 27.10' RT	STA. 20+45.81, 22.00' RT	STA. 20+45.81, 27.00' RT	5'



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET 24	E

(CP07) CONCRETE PAVEMENT 9-INCH

(CG03) CURB RAMP TYPE 2

(AG02) BASE AGGREGATE DENSE 1¼-INCH

(CG46) CONCRETE CURB & GUTTER 30-INCH TYPE A

(CG53) CONCRETE CURB & GUTTER 30-INCH TYPE A REVERSE SLOPE MEASURED AND PAID AS CG46

(CG54) TRANSITION FROM CG46/CG53 TO EXISTING CURB & GUTTER MEASURED AND PAID AS CG46

(CG55) CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D

(CG56) TRANSITION FROM CG55 TO EXISTING CURB & GUTTER MEASURED AND PAID AS CG55

(CG57) CONCRETE CURB & GUTTER 30-INCH TYPE A (MODIFIED)

(CG58) CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D (MODIFIED)

(CM01) CONCRETE MEDIAN SLOPED NOSE TYPE 1

(CM02) CONCRETE MEDIAN SLOPED NOSE TYPE 2

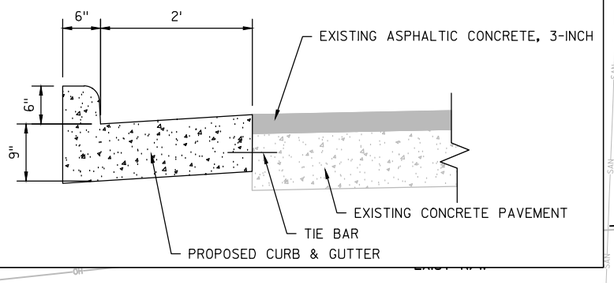
(CM06) CONCRETE SIDEWALK 5-INCH

(PR) CONCRETE PAVEMENT REPLACEMENT SHES

XXXX SAWING CONCRETE

NOTES
(1) USE THE THICKENED CURB & GUTTER ADJACENT TO EXISTING PAVEMENT WITH ASPHALTIC OVERLAY (SEE CONSTRUCTION DETAIL)

CONSTRUCTION DETAIL
THICKENED CURB & GUTTER



N

CAPITOL DR. SB EXIT RAMP

CAPITOL DR. NB ENTRANCE RAMP

BMI-0020

BEGIN PROJECT
1360-09-71
STA. 18"FR2"+09.95

SEE NOTE (1)

18+09.95."FR2" -11.00' LT

18+92.83."FR2" -41.00' LT

20+16.93."FR2" -37.27' LT

20+62.61."FR2" -39.72' LT

20+66.75."FR2" -15.53' LT

20+89.61."FR2" -2.00' LT

20+66.55."FR2" -11.21' LT

20+63.65."FR2" -5.61' LT

20+43.85."FR2" -4.03' LT

20+39.87."FR2" -11.97' LT

20+17.71."FR2" -11.13' LT

18+09.95."FR2" 11.00' RT

18+72.84."FR2" 15.66' RT

19+25.70."FR2" 15.00' RT

19+25.70."FR2" 31.46' RT

19+92.85."FR2" 22.00' RT

19+92.85."FR2" 34.64' RT

20+41.00."FR2" 37.10' RT

MATCH EXISTING

SLOPE INTERCEPT

VAR.

11"

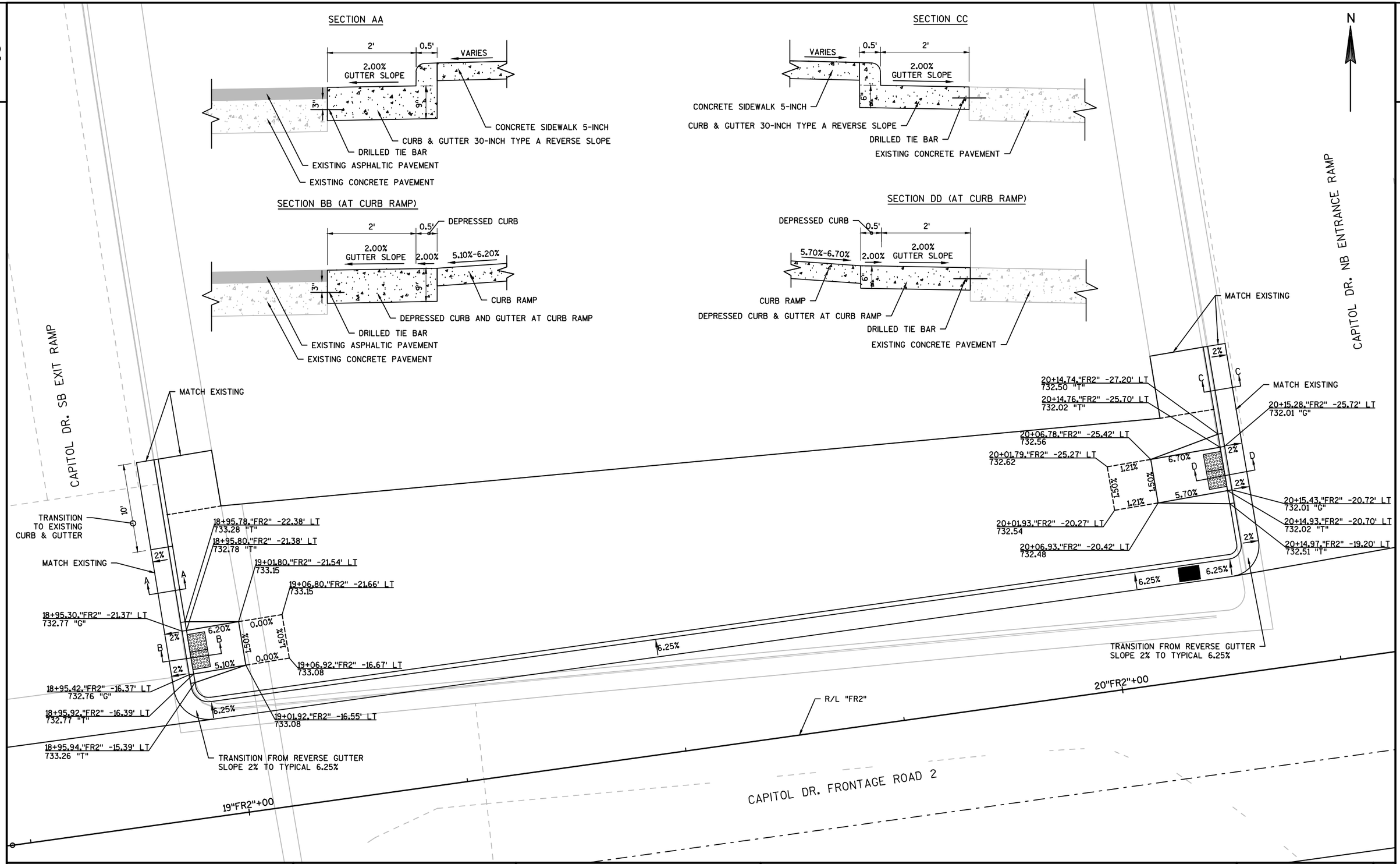
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET 25	E

SECTION AA

SECTION BB (AT CURB RAMP)

SECTION CC

SECTION DD (AT CURB RAMP)



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN DETAILS - CURB RAMPS	SHEET	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_PD2.DWG
LAYOUT NAME - 021202_PD
PLOT DATE : 10/31/2016 10:05 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

CAPITOL DR. FRONTAGE ROAD 1

R/L "FR1"

22"FR1"+00

6.25%

18+56.76,"A" -2.50' LT
734.18 "T"

18+55.26,"A" -2.50' LT
733.73 "T"

0+46.56,"SW2" -5.00' LT
733.76

0+41.56,"SW2" -5.00' LT
733.81

18+55.26,"A" -2.00' LT
734.70 "G"

0.50%

1.00%

1.50%

733.67

0"SW2"+50

0"SW2"+25
733.74

18"A"+50

0+13.03,"SW2" -5.00' LT
733.57

0+08.03,"SW2" -5.00' LT
733.53

0+02.03,"SW2" -5.00' LT
733.52 "T"

0+01.97,"SW2" -6.50' LT
733.62 "T"

0+01.53,"SW2" -4.98' LT
733.48 "G"

0.82%

0.20%

R/L "SW2"

0+13.23,"SW2" 0.00'
733.64

0+08.23,"SW2" 0.00'
733.60

0+02.22,"SW2" 0.00'
733.55 "T"

0+02.28,"SW2" 1.50' RT
733.71 "T"

0+01.72,"SW2" 0.02' RT
733.55 "G"

MATCH EXISTING GUTTER SLOPE

0+41.56,"SW2" 0.00'
733.88

0+46.56,"SW2" 0.00'
733.83

18+50.26,"A" -2.50' LT
734.77 "T"

18+50.26,"A" -2.00' LT
734.74 "G"

18+48.76,"A" -2.50' LT
734.28 "T"

2%

8'

22+57.45,"FR1" 18.54' RT
734.18 "T"

22+57.49,"FR1" 20.05' RT
733.76 "T"

TRANSITION FROM GUTTER
SLOPE 2% TO TYPICAL 6.25%

22+56.98,"FR1" 20.09' RT
733.71 "G"

22+63.49,"FR1" 19.83' RT
734.05

22+68.49,"FR1" 19.65' RT
734.00

22+68.67,"FR1" 24.65' RT
734.07

22+68.81,"FR1" 28.57' RT
734.13

22+57.18,"FR1" 25.05' RT
738.71 "G"

22+57.67,"FR1" 25.03' RT
733.85 "T"

22+63.67,"FR1" 24.83' RT
734.10

22+63.78,"FR1" 28.36' RT
734.50

22+57.73,"FR1" 26.53' RT
734.43 "T"

4.83%

4.27%

TRANSITION
TO EXISTING
CURB & GUTTER

R/L "A1"

18"A1"+50

18+46.88,"A1" -2.68' LT
733.061 "T"

18+45.35,"A1" -2.67' LT
732.95 "T"

18+45.96,"A1" -8.64' LT
733.37

18+45.34,"A1" -2.17' LT
733.92 "G"

MATCH EXISTING GUTTER SLOPE

18+40.26,"A1" -2.16' LT
733.02 "G"

7.00%

6.17%

1.50%

18+38.72,"A1" -2.63' LT
733.20 "T"

18+40.25,"A1" -2.66' LT
733.05 "T"

18+40.27,"A1" -3.02' LT
733.05

18+40.67,"A1" -9.05' LT
733.45

18+41.02,"A1" -14.04' LT
733.51

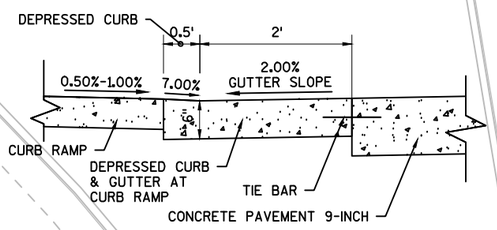
18+46.50,"A1" -13.61' LT
733.43

EXIST R/W

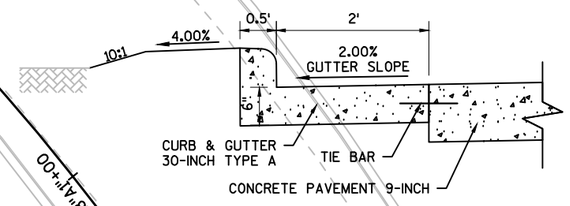
18"A1"+00

CAPITOL DR. SB ENTRANCE RAMP

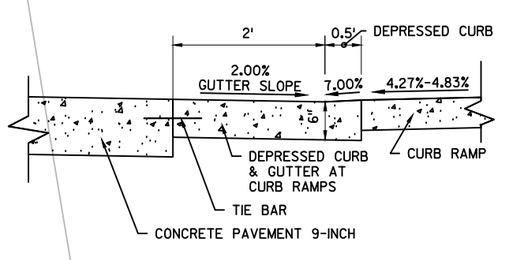
SECTION BB (AT CURB RAMP)



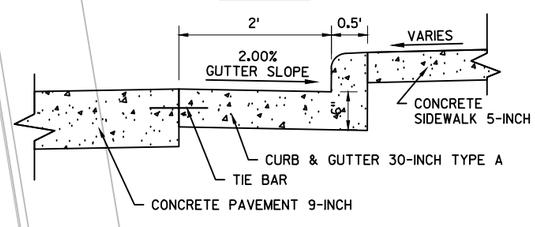
SECTION AA



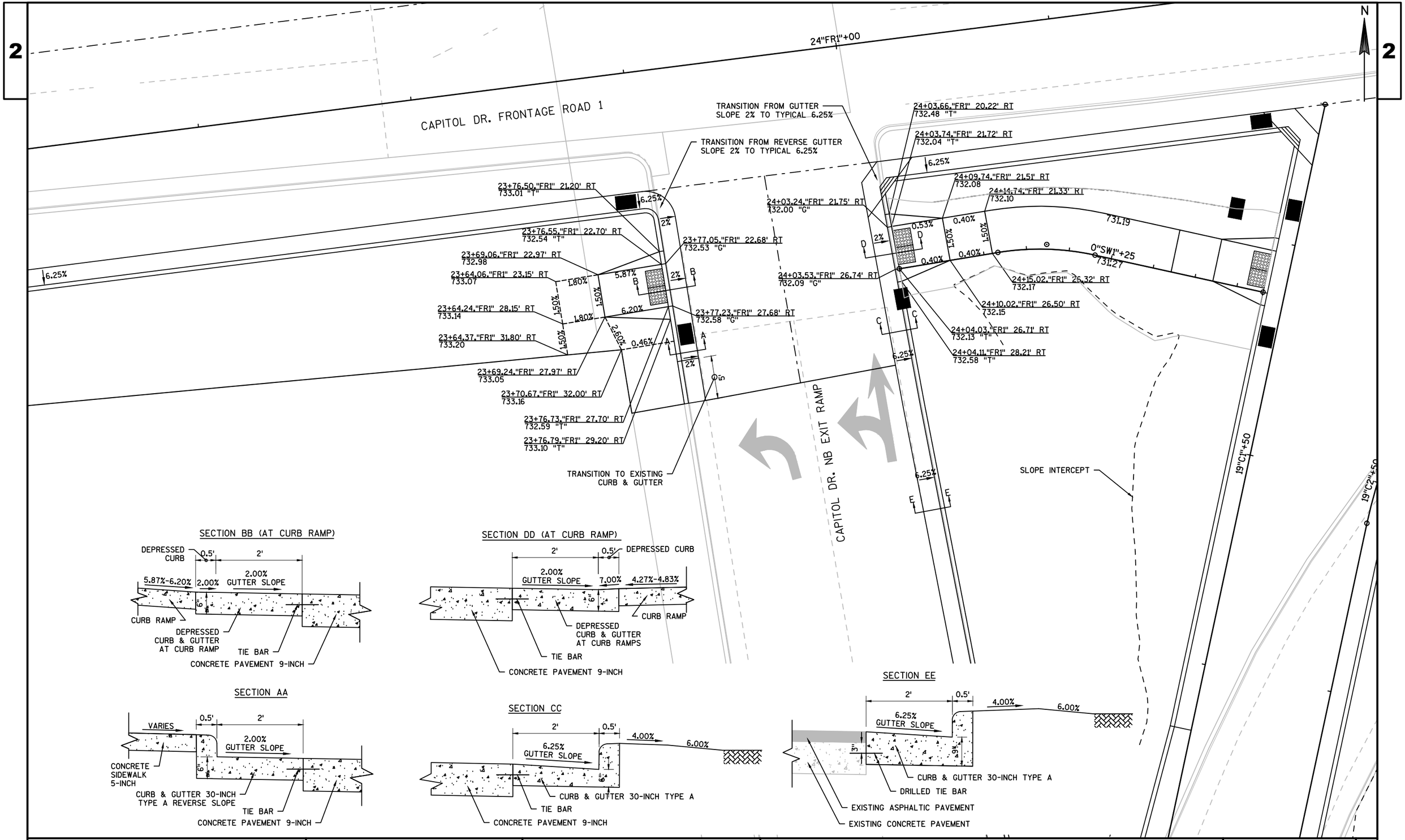
SECTION DD (AT CURB RAMP)



SECTION CC



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN DETAILS - CURB RAMPS	SHEET 27	E



SECTION BB (AT CURB RAMP)

SECTION DD (AT CURB RAMP)

SECTION AA

SECTION CC

SECTION EE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN DETAILS - CURB RAMPS	SHEET 28 E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_PD2.DWG
LAYOUT NAME - 021202_PD
PLOT DATE : 10/31/2016 10:05 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

N

R/L "FR1"

25"FR1"+00

CAPITOL DR. FRONTAGE ROAD 1

20"C2"+50

20"C2"+00

19+75.39,"C1" -2.50' LT
730.67 "T"

19+73.89,"C1" -2.50' LT
730.33 "T"

19+73.93,"C1" -8.50' LT
730.70

19+73.96,"C1" -13.50' LT
730.78

19+73.89,"C1" -2.00' LT
730.30 "G"

0"SW1"+25

19+68.96,"C1" -13.50' LT
730.85

19+68.93,"C1" -8.50' LT
730.77

19+68.89,"C1" -2.00' LT
730.32 "G"

19+68.89,"C1" -2.50' LT
730.35 "T"

19+67.39,"C1" -2.50' LT
730.70 "T"

19+77.92,"C2" 2.50' RT
730.21 "T"

19+76.36,"C2" 2.50' RT
729.86 "T"

19+76.36,"C2" 2.00' RT
729.83 "G"

19+79.75,"C2" 7.64' RT
730.28

19+84.63,"C2" 13.37' RT
730.38

19+70.51,"C2" 2.00' RT
729.90 "G"

19+79.17,"C2" 16.23' RT
730.46

19+74.68,"C2" 10.17' RT
730.36

19+71.62,"C2" 4.79' RT
729.94

19+70.51,"C2" 2.50' RT
729.94 "T"

19+68.95,"C2" 2.50' RT
730.33 "T"

SLOPE INTERCEPT

R/L "C1"

19"C1"+50

CAPITOL DR. NB EXIT RAMP (RIGHT TURN)

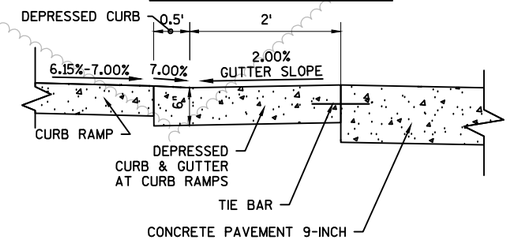
19"C2"+50

R/L "C2"

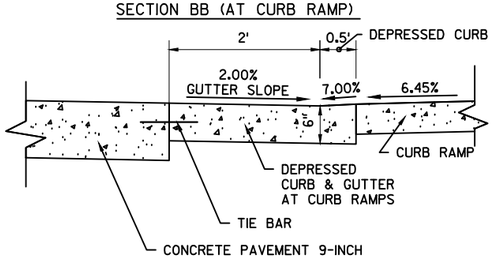
SLOPE INTERCEPT

EXIST R/W

SECTION AA (AT CURB RAMP)



SECTION BB (AT CURB RAMP)



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PLAN DETAILS - CURB RAMPS	SHEET 29	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_PD2.DWG
LAYOUT NAME - 021202_PD

PLOT DATE : 10/31/2016 10:05 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

2

N

BEGIN PROJECT
1360-09-71
STA. 18"FR2"+09.95

END PROJECT
1360-09-71
STA. 22"FR2"+03.06

INLET PROTECTION TYPE D

CAPITOL DR. SB EXIT RAMP

CAPITOL DR. NB ENTRANCE RAMP

20"FR2"

22"FR2"

CAPITOL DR. FRONTAGE RD 2

SLOPE INTERCEPT

INLET PROTECTION TYPE A

24"FR1"

22"FR1"

BEGIN PROJECT
1360-09-71
STA. 21"FR1"+24.48

CAPITOL DR. SB ENTRANCE RAMP

CAPITOL DR. NB EXIT RAMP

LEGEND

- TEMPORARY DITCH CHECK
- INLET PROTECTION
- SOD
- SILT FENCE
- SLOPE INTERCEPT

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 30	E

2

2

CAPITOL DR. SB EXIT RAMP

CAPITOL DR. NB ENTRANCE RAMP

INLET PROTECTION TYPE D

END PROJECT
1360-09-71
STA. 22"FR2"+03.06

22"FR2"

20"FR2"

CAPITOL DR. FRONTAGE RD 2

N

INLET PROTECTION TYPE D

SLOPE INTERCEPT

INLET PROTECTION TYPE D

SLOPE INTERCEPT

INLET PROTECTION TYPE D

INLET PROTECTION TYPE D

INLET PROTECTION TYPE A

SLOPE INTERCEPT

CAPITOL DR. FRONTAGE RD 1

INLET PROTECTION TYPE D

INLET PROTECTION TYPE A

26"FR1"

24"FR1"

END PROJECT
1360-09-71
STA. 27"FR1"+23.73

22"FR1"

INLET PROTECTION TYPE A

SLOPE INTERCEPT

INLET PROTECTION TYPE D

SLOPE INTERCEPT

CAPITOL DR. SB ENTRANCE RAMP

CAPITOL DR. NB EXIT RAMP

SLOPE INTERCEPT

LEGEND

- TEMPORARY DITCH CHECK
- INLET PROTECTION
- SOD
- SILT FENCE
- SLOPE INTERCEPT

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 31	E

2

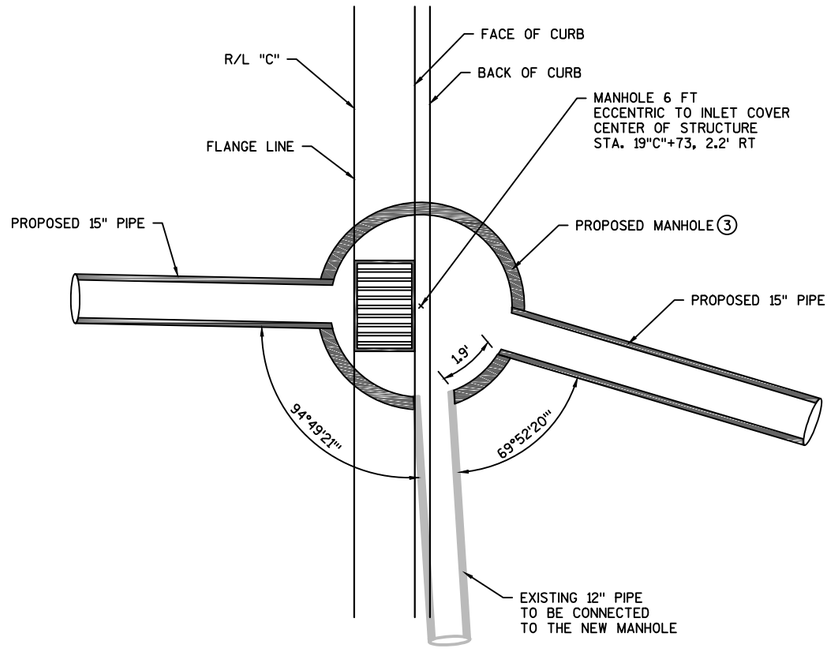
GENERAL DRAINAGE NOTES

THE RIM ELEVATIONS AND OFFSETS REFER TO THE THE CENTER OF THE GRATE.

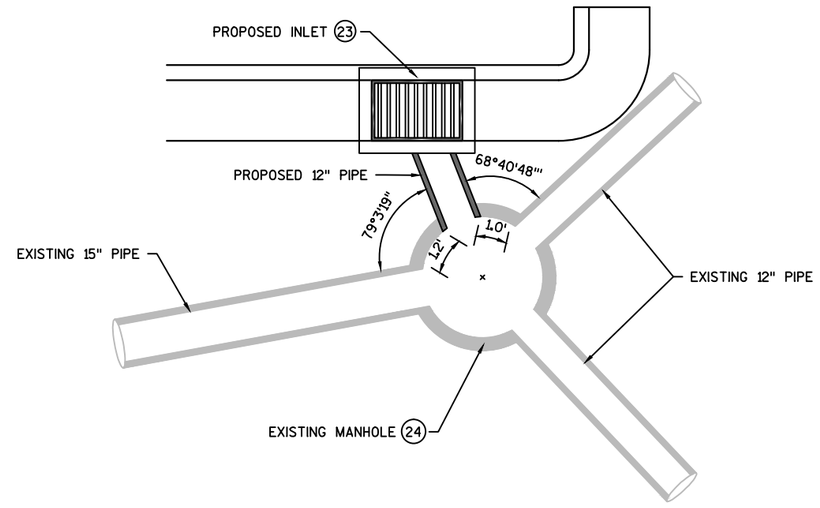
THE STRUCTURES ARE DESIGNED CO-CENTRIC WITH THE COVERS, EXCEPT STRUCTURE 3. THE LOCATION OF THE STRUCTURES CAN BE ADJUSTED TO FIT BETTER THE CONDITIONS IN THE FIELD.

VERIFY THE STORM SEWER CONNECTIONS, LOCATIONS AND ELEVATIONS PRIOR TO ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FORM THE INFORMATION SHOWN ON THE PLANS PRIOR TO INSTALLING THE PROPOSED STORM SEWER.

IN LOCATIONS WHERE THE EXISTING UNDERDRAINS ARE DISTURBED, RESTORE DRAINAGE BY CONNECTING TO THE PROPOSED STRUCTURES AS SHOWN IN THE PLANS. EXACT LOCATION OF THE EXISTING UNDERDRAINS SHALL BE VERIFIED IN THE FIELD.



ECCENTRIC STRUCTURE 3 AT RAMP C



EXISTING MANHOLE (24) AT CAPITOL DRIVE FRONTAGE ROAD 2

2

N

CAPITOL DR. FRONTAGE ROAD 1

STA 22 "FR1"+32, 14.0' RT
INLETS 2x3-H-S (19)

R/L "FR1"

22"FR1"+00

23"FR1"+00

24"FR1"+00

25"FR1"+00

ADJUST EXISTING INLET COVER (21)

CONNECT EXISTING STORM SEWER PIPE TO INLET 18

STA 18 "A"+58, 16.1' LT
INLETS MEDIAN 1G-MS (18)

REMOVE INLET (20)

REMOVE EXISTING STORM SEWER

STA 18 "A"+44, 15.0' LT
INLETS MEDIAN 1G-MS (17)

CONNECT EXISTING STORM SEWER PIPE TO INLET 17

EXISTING R/W

SLOPE INTERCEPT

R/L "A"

18"A"+00

CAPITOL DRIVE RAMP SB ENTRANCE

REMOVE EXISTING STORM SEWER

REMOVE INLET (22)

STA 18 "A"+39, 23.2' RT
CATCH BASINS 2x3-H (15)

PIPE UNDERDRAIN 6-INCH
SPECIAL ITEM
CONNECT TO INLET 15

STA 18 "A"+39, 1.1' LT
CATCH BASINS 2x3-H (16)

CONNECT EXISTING UNDERDRAIN TO INLET 16

20"C2"+00

19"C2"+00

19"G"+00

CAPITOL DRIVE RAMP NB EXIT 19+00

PROPOSED GROUND
EXISTING GROUND

18 17 16 15

733.35
733.56
733.88
734.12

732.08
PIPE UNDERDRAIN 6-INCH @ 1.94%
731.93
731.33
730.70
SSPRC CLASS III 12-INCH @ 1.94%
730.28
730.23
SSPRC CLASS III 12-INCH @ 1.84%
730.02
729.94
SSPRC CLASS III 12-INCH @ 2.00%
729.73

CONNECT EXISTING 12" PIPE TO STRUCTURE 18

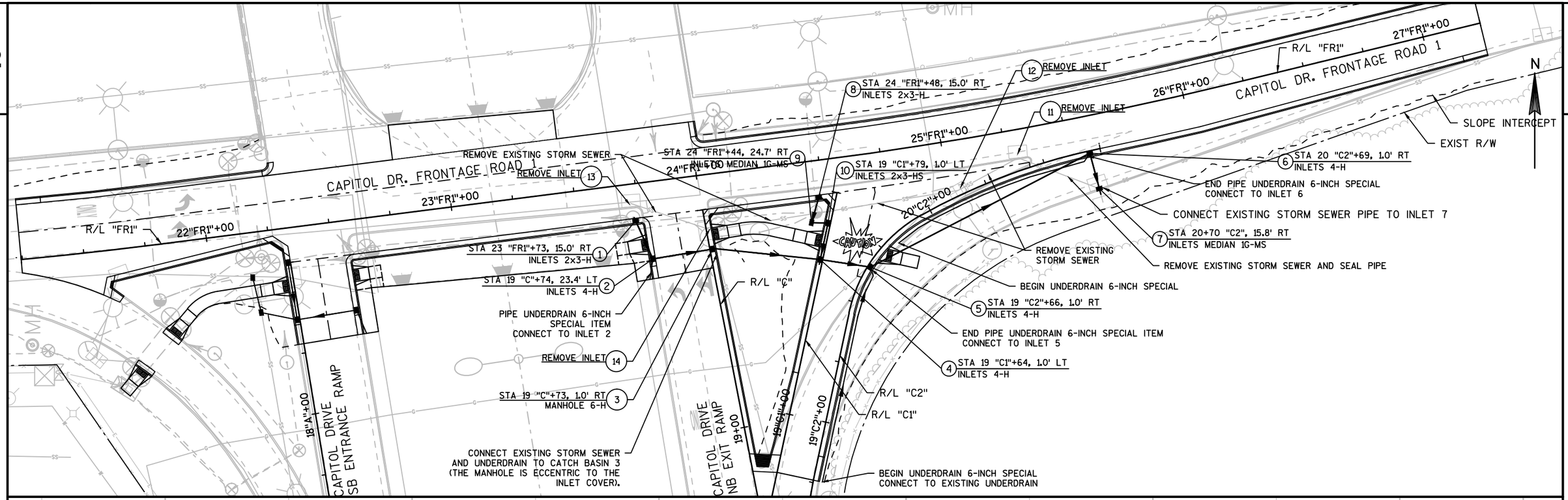
19 16

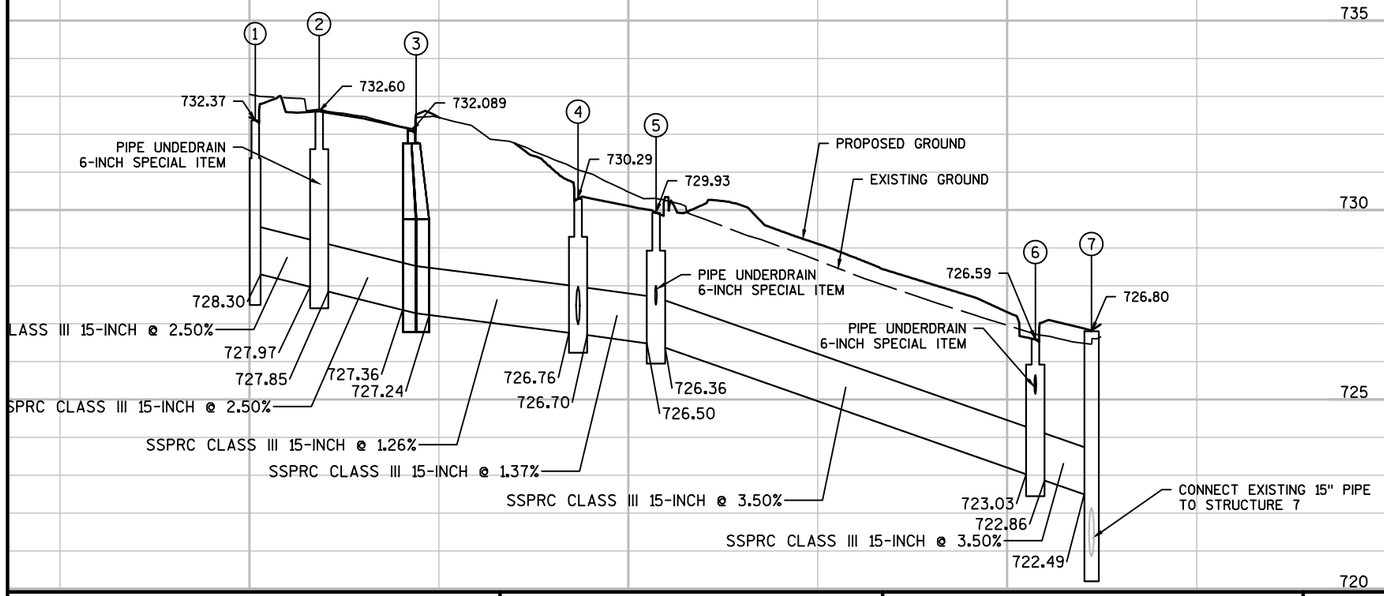
733.65
733.88
730.55
730.27
SSPRC CLASS III 12-INCH @ 1.36%

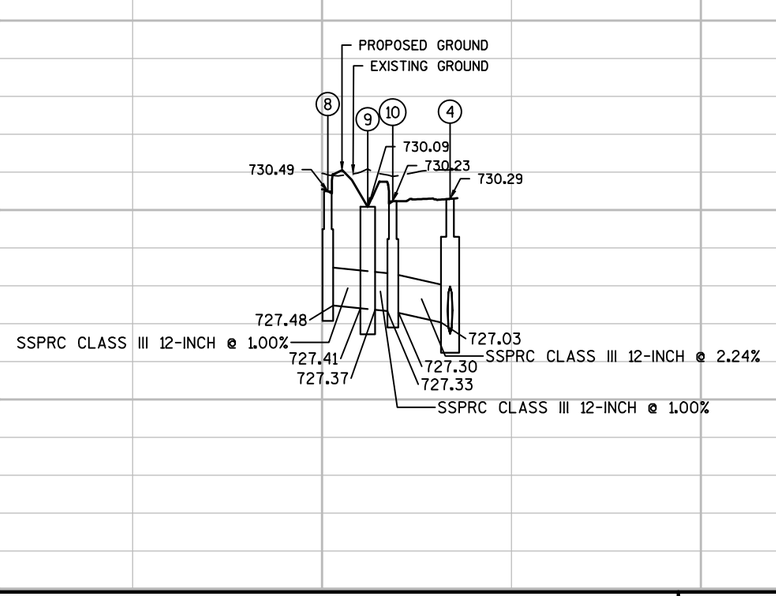
735
730
725
720

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	STORM SEWER	SHEET 33	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_SS1.DWG
LAYOUT NAME - SHEET - (2)
PLOT DATE : 11/15/2016 9:17 AM PLOT BY : VERGOU, GEORGIA PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

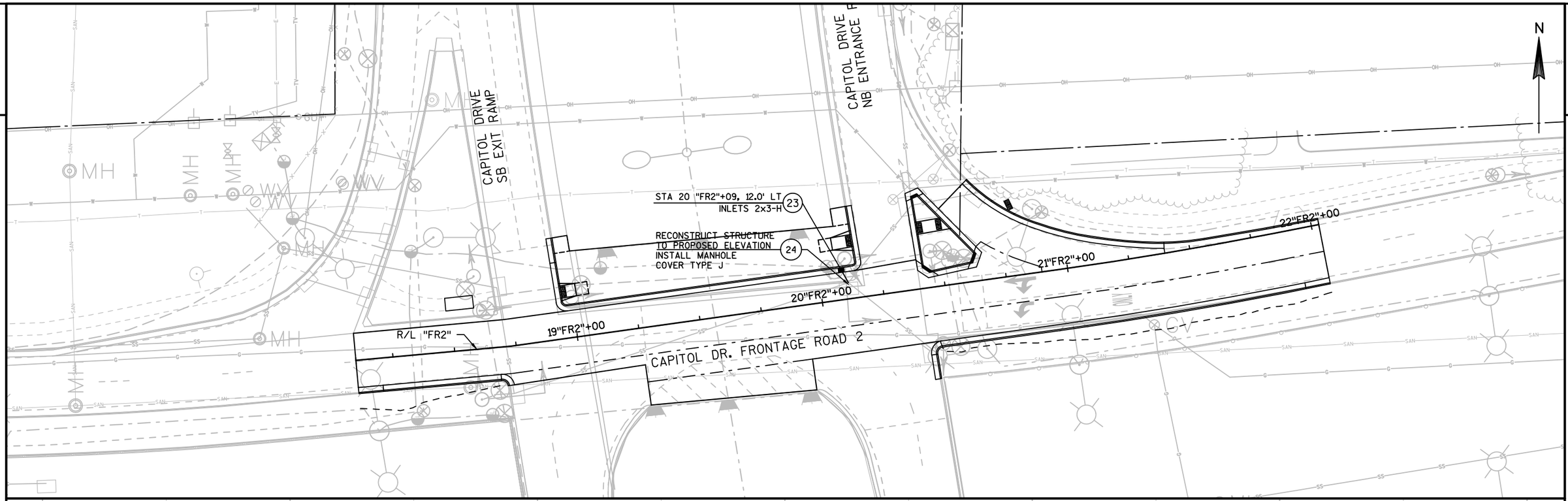


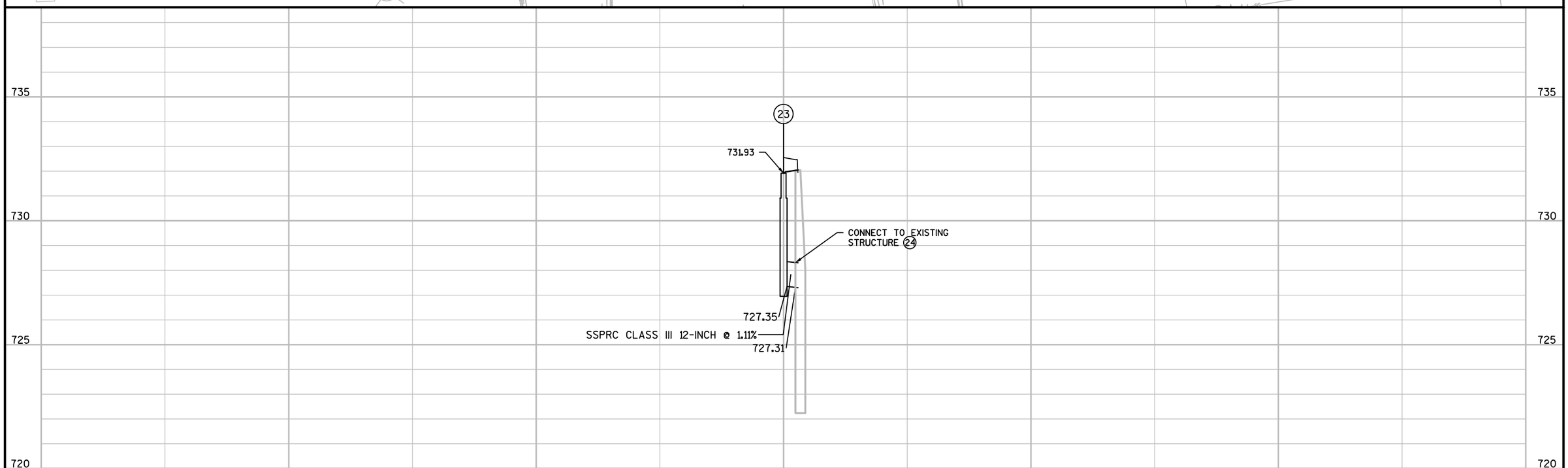




PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	STORM SEWER	SHEET 34 E

2





PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	STORM SEWER	SHEET 35	E

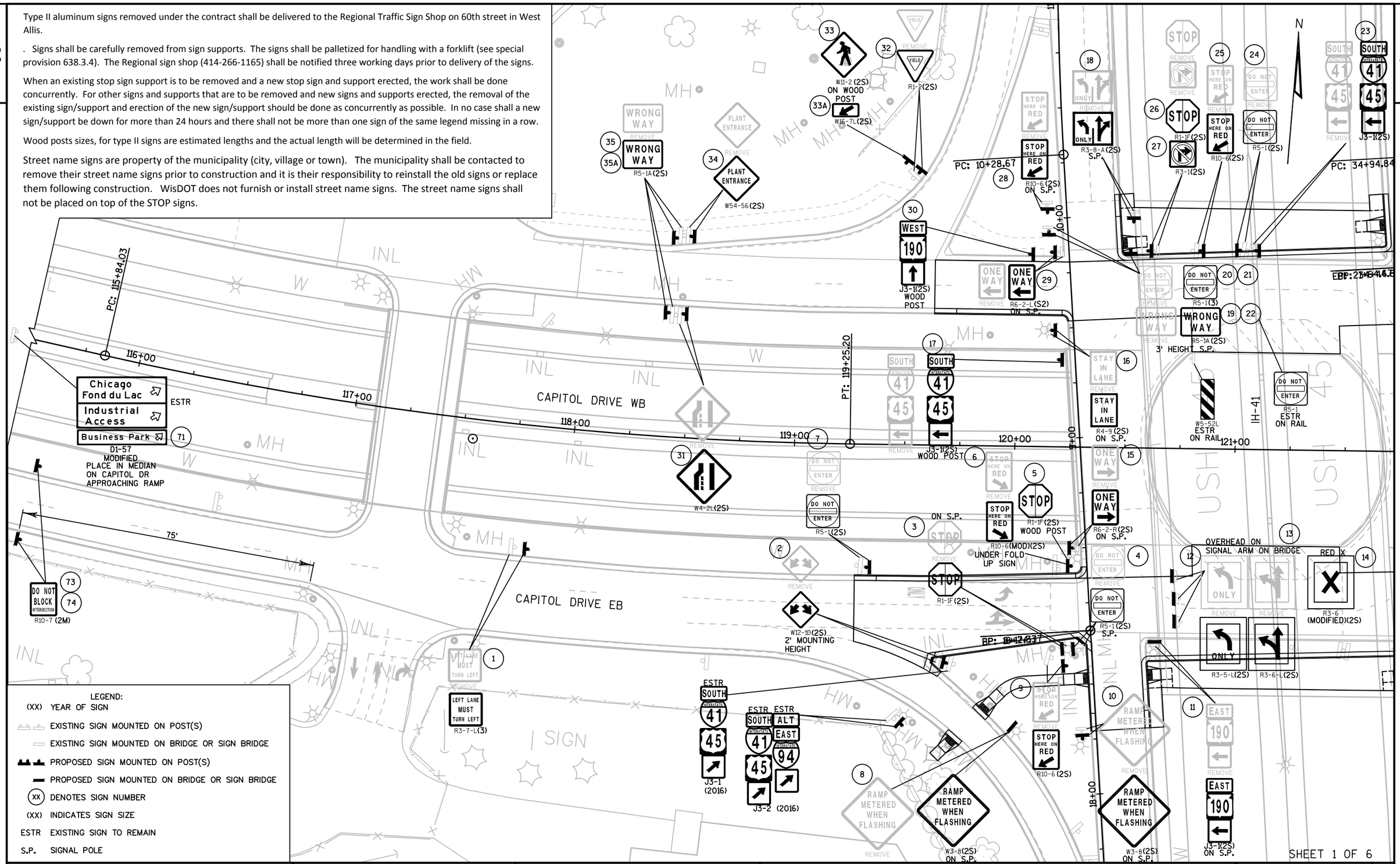
Type II aluminum signs removed under the contract shall be delivered to the Regional Traffic Sign Shop on 60th street in West Allis.

. 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.

Street name signs are property of the municipality (city, village or town). The municipality shall be contacted to remove their street name signs prior to construction and it is their responsibility to reinstall the old signs or replace them following construction. WisDOT does not furnish or install street name signs. The street name signs shall not be placed on top of the STOP signs.



LEGEND:

- (XX) YEAR OF SIGN
- 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
- (XX) DENOTES SIGN NUMBER
- (XX) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN
- S.P. SIGNAL POLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 36	E

2

2

N

CEMETERY

CAPITAL DRIVE WB

CAPITAL DRIVE EB

PC: 34+94.84

EP: 21+94.88

PC: 21+97.41

PT: 123+39.72

PC: 126+19.97

EP: 20+73.48

PC: 19+95.94

EP: 19+91.83

PC: 19+45.07

OVERHEAD SIGN ON BRIDGE

61 DO NOT ENTER REMOVE — R5-1(2S) ABOVE R1-1F

63 ON S.P. STOP REMOVE — R1-1F(2S)

64 STOP REMOVE — R1-1(2S) ON WOOD POST

62 STOP HERE ON RED REMOVE — R10-6(2S) ON STEEL POST

ESTR NORTH INTERSTATE 41 45 — J3-1 (2016)

ESTR (2016) WRONG WAY — R5-1A

65 RAMP METERED WHEN FLASHING REMOVE — W3-8(2S)

SOUTH INTERSTATE 41 45 / NORTH INTERSTATE 41 45 — USE LEFT LANE — J2-2

ESTR 2016

60 RED X — R3-6 (MOD)(2S)

ESTR NORTH INTERSTATE 41 45 — J3-1 (2016)

ESTR WRONG WAY — R5-1A ON COLUMN

59 R3-6-L(2S)

58 ONLY — R3-5-L(2S)

ESTR DO NOT ENTER — R5-1(2S) ON RAIL

ESTR W5-52L ON RAIL

54 NORTH INTERSTATE 41 45 — J3-1(2S) WOOD POST

WEST 190 / ALT WEST INTERSTATE 94 — J3-2(2S) 2 WOOD POSTS

46 WEST 190 / ALT WEST INTERSTATE 94

56 S.P. ONE WAY — R6-2-R(2S)

55 S.P. STOP — R1-1F(2S)

57 STOP HERE ON RED REMOVE — R10-6(MOD)(2S) ON L.P.

ONE WAY REMOVE

STOP REMOVE

STAY IN LANE REMOVE

44 STAY IN LANE — R4-9(2S) WOOD POST

47 ONE WAY — R6-2-L(2S) S.P.

45 ONE WAY — R6-2-R(2S)

Chicago Fond du Lac / Industrial Access / Business Park — 72 — D1-57 MODIFIED PLACE ON RIGHT UNDER EXISTING SIGN ON CAPITOL DR APPROACHING RAMP

ESTR

37A NORTH INTERSTATE 41 45 — J3-1(2S)

37 DO NOT ENTER REMOVE — R5-1(2S)

36 STOP HERE ON RED REMOVE — R10-6(2S) ON STEEL POST

39 R3-7(2S)

38 STOP REMOVE — R1-1F(2S) ON S.P.

41 ONLY — R3-8-B(2S)

40 STOP — R1-1F(2S) ON S.P.

DO NOT ENTER REMOVE — R5-1(3)

42 WRONG WAY — R5-1A(2S) ON S.P. 3' MOUNTING HEIGHT

53 W11-2(2S) ON WOOD POST

53A W16-7L(2S)

57 YIELD REMOVE — R1-2 ON L.P.

50 ON WOOD POST STOP REMOVE — R1-1F(2S)

EAST 190 REMOVE — 52 EAST 190 — ON S.P.

48 DO NOT ENTER REMOVE — R5-1(3)

WRONG WAY REMOVE — 49 WRONG WAY — R5-1A(2S) ON S.P. 3' MOUNTING HEIGHT

SHEET 2 OF 6

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 37	E

FILE NAME : N:\PDS\C3D\CAD\13600901\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023203_PS

PLOT DATE : 11/11/2016 9:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

IH-41

NB OFF RAMP

PC: 14+04.87

PT: 14+65.73

BP: 18+12.05

PC: 18+28.50

BP: 18+51.57

PT: 18+77.58

13+00 14+00 15+00 16+00 17+00 18+00 19+00

LEFT LANE MUST TURN LEFT
R3-7-L
ESTR (2016)

WRONG WAY
R5-1A
ESTR (2016)

W3-3
ON L.P.
ESTR (2016)

14'-4"
W12-2
ESTR (2016)

W16-5P
ESTR (2016)

WRONG WAY
R5-1A
ESTR (2016)

WEST EAST
190 190
J2-2
ESTR (2016)

Capitol Dr
WEST EAST
D1-61 MOD
ESTR (2016)

WEST EAST WEST EAST
190 190 190 190
REMOVE REMOVE
J3-2(2S)
68

67

REMOVE
66
W12-1D(2S)
2' MOUNTING HEIGHT

ALT WEST ALT WEST
94 94
REMOVE
J2-1(2S)

GOLF GREEN

SHEET 3 OF 6

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 38	E

FILE NAME : N:\PDS\C3D\CAD\13600901\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023206_PS

PLOT DATE : 11/11/2016 9:51 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

IH-41

PT: 38+03.40

NB ON RAMP

36+00 37+00 38+00 39+00 40+00 41+00

RAMP METERED WHEN FLASHING

REMOVE

69

RAMP METERED WHEN FLASHING

W3-8(2S) ON S.P.

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED

REMOVE

70

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED

R5-57(4) ON L.P.

CEMETERY

SHEET 4 OF 6

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 39	E

FILE NAME : N:\PDS\C3D\CAD\13600901\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023207_PS

PLOT DATE : 11/11/2016 9:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

2

N

PI: 14+69.69

SB ON RAMP

12+00 13+00 14+00 15+00 16+00 17+00 18+00

W MH MH MH INL INL INL INL INL INL INL INL W W W

PEDESTRIANS
BICYCLES
NON MOTORIZED TRAFFIC
MOTOR BICYCLES
PROHIBITED

R5-57
ESTR (2016)

IH-41

04.87

5.73

SHEET 5 OF 6

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 40	E

FILE NAME : N:\PDS\C3D\CAD\13600901\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023211_PS

PLOT DATE : 11/11/2016 9:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

SIGN

MH

MH

MH

MH MH

INL

MH

MH

MH

SIGN

SIGN

SIGN

MH

SIGN

INL

MH

INL

INL

W

W

EAST WEST
190 190
J2-2
ESTR (2016)

Capitol Dr
EAST WEST
D1-61 MOD
ESTR (2016)

W3-3
ESTR (2016)

PT: 13+53.58

PC: 14+77.75

PT: 15+69.23

11+00

12+00

13+00

14+00

15+00

16+00

17+00

SB OFF RAMP

IH-41

W12-1D
ESTR (2016)

WRONG WAY
R5-1A
ESTR (2016)

LEFT LANE MUST TURN LEFT
R3-7-L
ESTR (2016)

SHEET 6 OF 6

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 41	E

FILE NAME : N:\PDS\C3D\CAD\13600901\SIGN\023201_PS.DWG
LAYOUT NAME - 023201_PS - 023212_PS

PLOT DATE : 11/11/2016 9:52 AM PLOT BY : WAGNER, SCOTT H PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

N

HL-40-CD	
A,C,C,G,J	RED
B,D,F,H,K	BLACK
N	WHITE
GND	GREEN OR BARE
A,C,C,G,J B,D,F,H,K	30A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

HOME RUNS HL-40-CD TO MH104
A/B/N/G
J/K/N/G

HOME RUNS HL-40-CD TO PB103
C/D/N/G
E/F/N/G
G/H/N/G

W. CAPITOL DRIVE

HARLEY DAVIDSON AVE.

PT: 112+95.93

PC: 115+84.03

PT: 119+25.20

PI 236+51.10

PC: 121+97.41

PC 234+96.29

PT: 123+39.72

PI 238+04.82

PC 248+26.77

PI 251+04.82

PC: 126+19.97

PT: 128+29.99

IH-41 SB

IH-41 NB

USH 45

GOLF GREEN

CEMETERY

NOTES:

1. WIRE IN THE PULL BOX IS INCIDENTAL TO THE PULL BOX ITEM.
2. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

SHEET 1 OF 1

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 42	E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023600_LP.DWG
LAYOUT NAME - 023600_LP

PLOT DATE : 11/1/2016 11:36 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

GENERAL NOTES:

HIGHWAY LIGHTING SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 TO 657 AND 659 EXCEPT:

1. DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
2. LOCATIONS OF THE PVC CONDUITS ARE INDENTIFIED IN THE PLANS WHERE THEY ARE REQUIRED. HOWEVER, INSTALLATION WILL REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. UNDER THE APPROVAL OF THE ENGINEER, APPROPRIATE ADJUSTMENT OF CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. FIELD MARK EACH CONDUIT LOCATION IN RED TO ILLUSTRATE AS BUILT CONDITIONS.
3. THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.
4. ALL OPEN AND UNTERMINATED CONDUITS SHALL BE CAPPED OR PLUGGED WITH ENGINEER APPROVED FITTINGS IMMEDIATLY AFTER INSTALLATION.
5. BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR IMMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.
6. ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS.
7. PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT THAT CAN BE EASILY REMOVED. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.
8. CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX-TO-PULL BOX, JUNCTION BOX OR BASE-TO-BASE, ETC.) UNLESS OTHERWISE NOTED ON PLANS.
9. PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUITS.
10. CONTRACTOR SHALL SUPPLY AS-BUILT DRAWINGS (PDF FORMAT) FOR ALL THE WORK BEING DONE.
11. CONDUIT LATERALS SHALL BE TRENCHED UNDER PAVEMENT BEFORE PAVEMENT CONSTRUCTION.
12. PITCH ALL CONDUITS TOWARD PULL BOXES. INSTALL A 2" DRAIN DUCT TO STORM SEWER OR DRAIN SUMP AS REQUIRED FOR DRAINAGE. THE 2" DRAIN DUCT OR SUMP IS INCIDENTAL TO THE PULL BOX BID ITEM AND IS NOT SHOWN.
13. THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE, IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.
14. HAND DIGGING MAY BE REQUIRED FOR LOCATIONS ADJACENT TO EXISTING GAS AND POWER LINES. HAND EXCAVATION SHOULD BE ANTICIPATED & WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BASES BID ITEM. COORDINATE ALL WORK NEAR GAS LINE WITH WE ENERGIES.

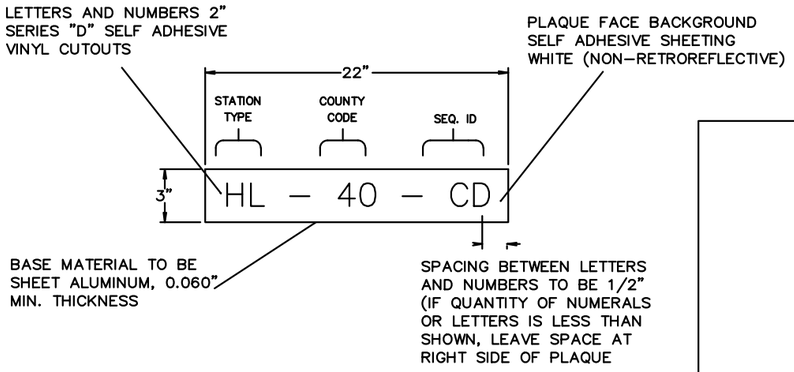
    UNDERGROUND WIRE & CONDUIT SHOWN ON REMOVAL PLANS FOR REMOVAL SHALL BE ABANDONED IN PLACE UNLESS DIRECTED BY THE ENGINEER. CONTRACTOR MAY CHOOSE TO REMOVE CONDUCTOR AT THEIR OWN EXPENSE.
15. EXISTING CONDUIT AND CID NO LONGER BEING USED IS ABANDONED IN PLACE. THE CONTRACTOR MAY REMOVE ABANDONED WIRING A THE CONTRACTOR'S EXPENSE. ABANDONED PULL BOX REMOVAL IS INCIDENTAL TO THE ROAD CONSTRUCTION.
16. ALL UNDERGROUND WIRING AND CONDUIT FOR POLES BEING REMOVED IS ABANDONED IN PLACE UNLESS NOTED OTHERWISE. CONTRACTOR MAY SALVAGE ABANDONED WIRING AT HIS OWN EXPENSE.
17. PROVIDE REMOVABLE SEALANT SUCH AS DUCT SEAL IN THE CONDUITS AT THE CABINET, PULL BOXES, AND JUNCTION BOXES TO AVOID CONDENSATION CAUSED BY AIRFLOW THROUGH THE CONDUITS DUE TO TEMPERATURE DIFFERENCE. THIS WORK SHALL BE INCIDENTAL TO THE
18. ASSOCIATED CONDUIT PAY ITEM.
19. PROVIDE MINIMUM CABLE SLACK AS MENTIONED BELOW:

PULL BOXES:	10-FT
EMBEDDED JUCTION BOXES:	3-FT
DISTRIBUTION CENTER/LOAD CENTER:	10-FT
POLES:	5-FT IN AND 5-FT OUT

2

GENERAL NOTES:

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

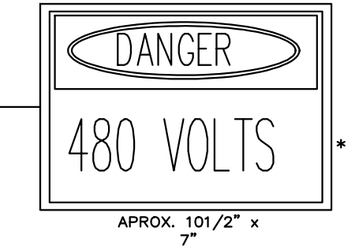


DISTRIBUTION CENTER IDENTIFICATION PLAQUE

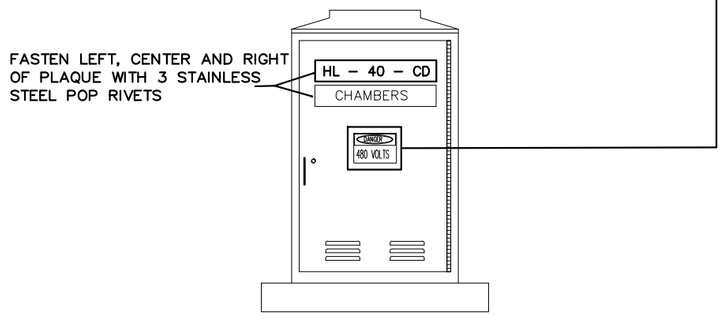
CHAMBERS

MNEMONIC
(SEE MISC. QTYS.)
(NO. OF CHARACTERS VARIES THIRD PLAQUE MAY BE NECESSARY)

TWO REQUIRED CABINET AND METER PEDESTALS (PAID AS PLAQUES SEQUENCE IDENTIFICATIONS)

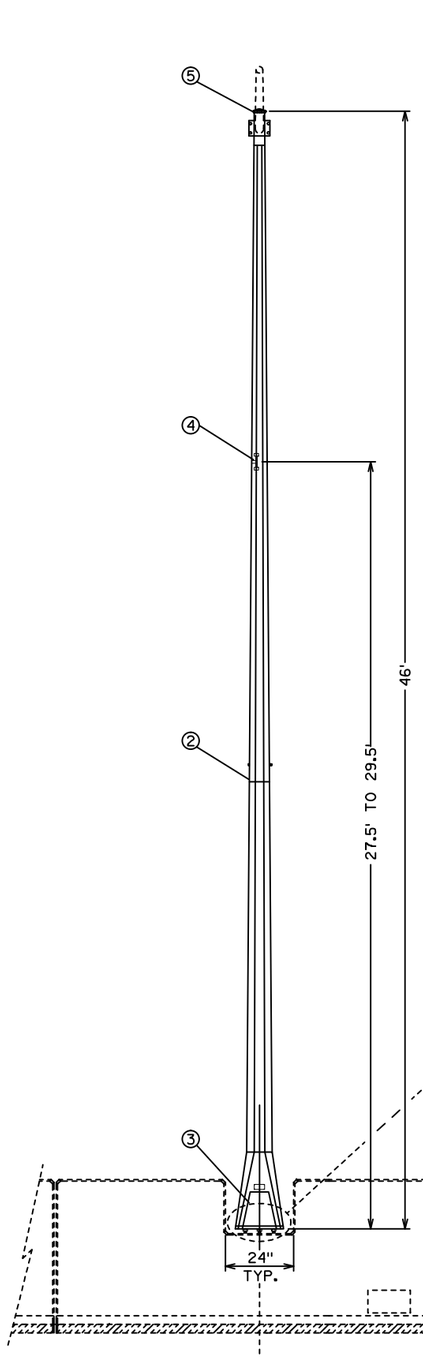


*SOME LOCATIONS WILL BE 240 VOLTS

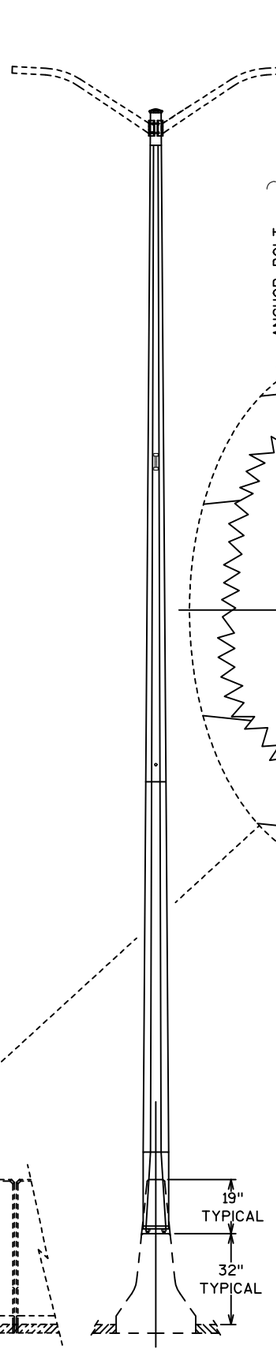


DISTRIBUTION CENTER IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS
(TYPICAL ALL CONTROL CABINETS)

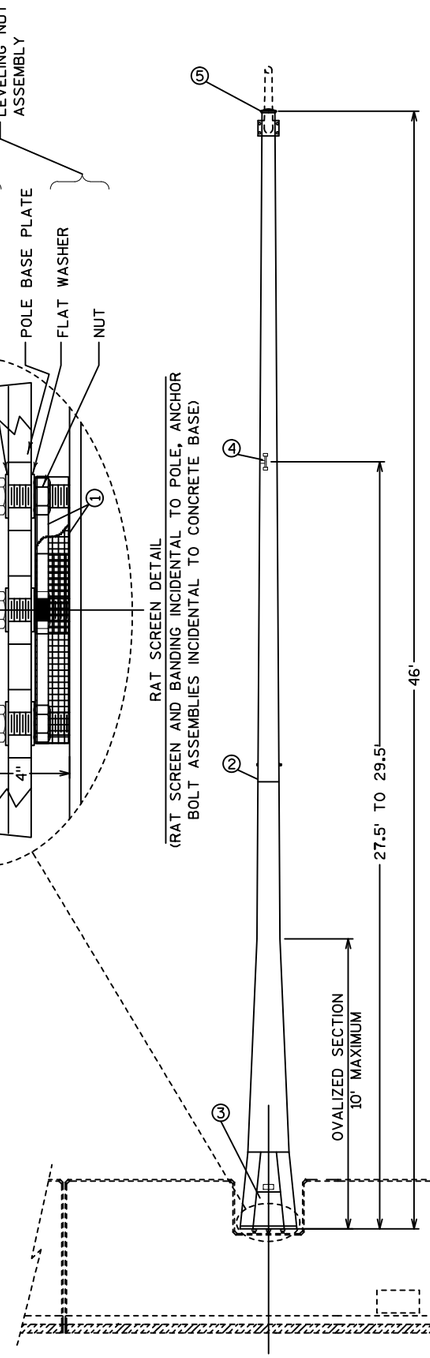
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING DETAIL - CABINET PLAQUES	SHEET 44	E



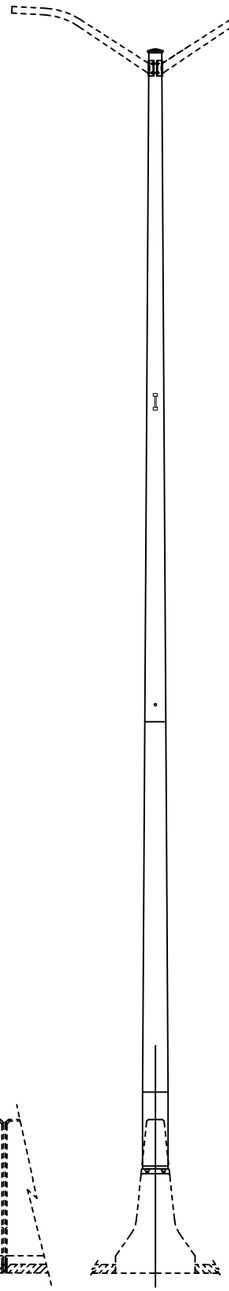
UNIFORMALLY TAPERED
OCTAGONAL SECTION
ALTERNATE



RAT SCREEN DETAIL
(RAT SCREEN AND BANDING INCIDENTAL TO POLE, ANCHOR BOLT ASSEMBLIES INCIDENTAL TO CONCRETE BASE)



UNIFORMALLY TAPERED
CIRCULAR/OVALIZED SECTION
ALTERNATE



GENERAL NOTES:

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF SECTION 654 OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.

POLES SHALL BE CONSTRUCTED OF HIGH STRENGTH STEEL, GALVANIZED PER ASTM A123.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

COLLAR-MOUNT LUMINAIRE ARMS AND CLAMP ASSEMBLIES, MEDIAN BARRIER, AND ANCHOR BOLT ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

POLES SHALL BE MOUNTED WITH LEVELING NUT ASSEMBLIES (SEE RAT SCREEN DETAIL) (INCIDENTAL TO CONCRETE BASE). THE REQUIRED RAT SCREEN WILL BE INCIDENTAL TO THE INSTALLATION OF THE POLE.

① GALVANIZED STEEL MESH (RAT SCREEN) AND ¾" STAINLESS STEEL BANDING.

② OPTIONAL TELESCOPING FIELD JOINT SECURED BY A ⅝"-11 UNC THROUGH BOLT OR STUD. THE OVERLAP OF THE UPPER AND LOWER SECTIONS SHALL BE NOT LESS THAN 12".

③ HATCH COVER, SECURED BY ¼"-20 UNC HEX HEAD BOLT. THE POLE SHALL BE INSTALLED SUCH THAT THE HATCH IS ON THE RIGHT SIDE OF THE BARRIER.

④ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER. MOUNT AT ELEVATION 27.5' TO 29.5' +/-.

⑤ VENTILATED POLE CAP. SECURE WITH ONE OR MORE ¼"-20 UNC SET SCREW BOLTS.

⑥ 1 ¼" HOLE (FACTORY DRILLED PRIOR TO GALVANIZING, 2 EACH) AND 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑦ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑧ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. PROVIDE HOLE IN BRACKET FOR ¼"-20 UNC THROUGH BOLT.

⑨ MANUFACTURER'S PLATE SHOWING WISDOT POLE TYPE, MANUFACTURER, AND DATE.

⑫ HATCH COVER LOCKING CLIP

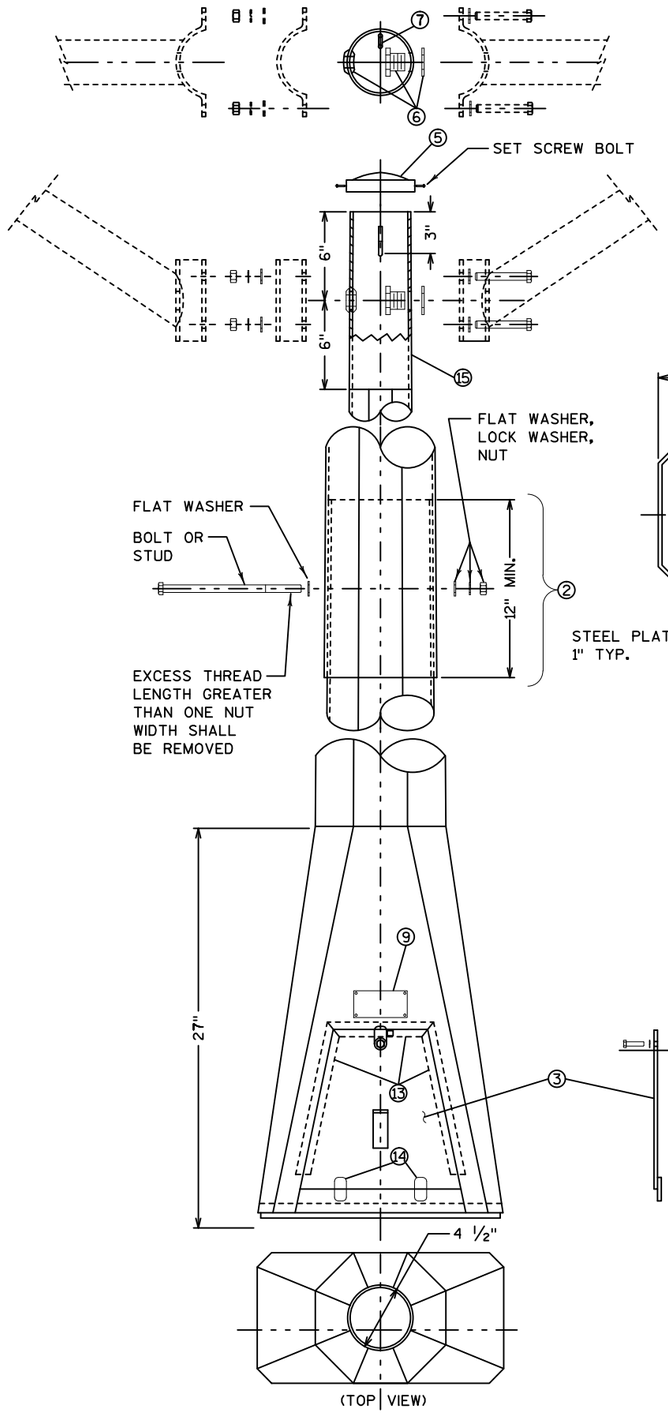
⑬ HATCH COVER BACKING STRAPS

⑭ HATCH COVER MOUNTING CLIPS, OR STRAP

⑮ TOP TENON - (OCTAGONAL ALTERNATE ONLY) 4" SCHEDULE 40 PIPE (4½" O.D.)

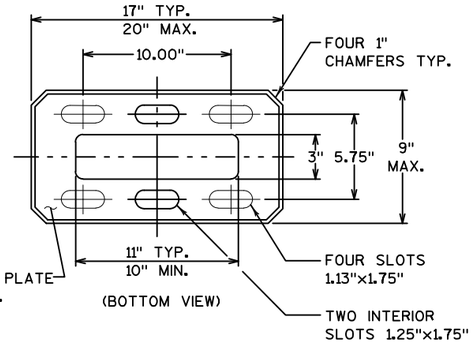
POLES, TYPE F
50' NOMINAL HEIGHT

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING DETAIL - POLE, TYPE F	SHEET 45	E

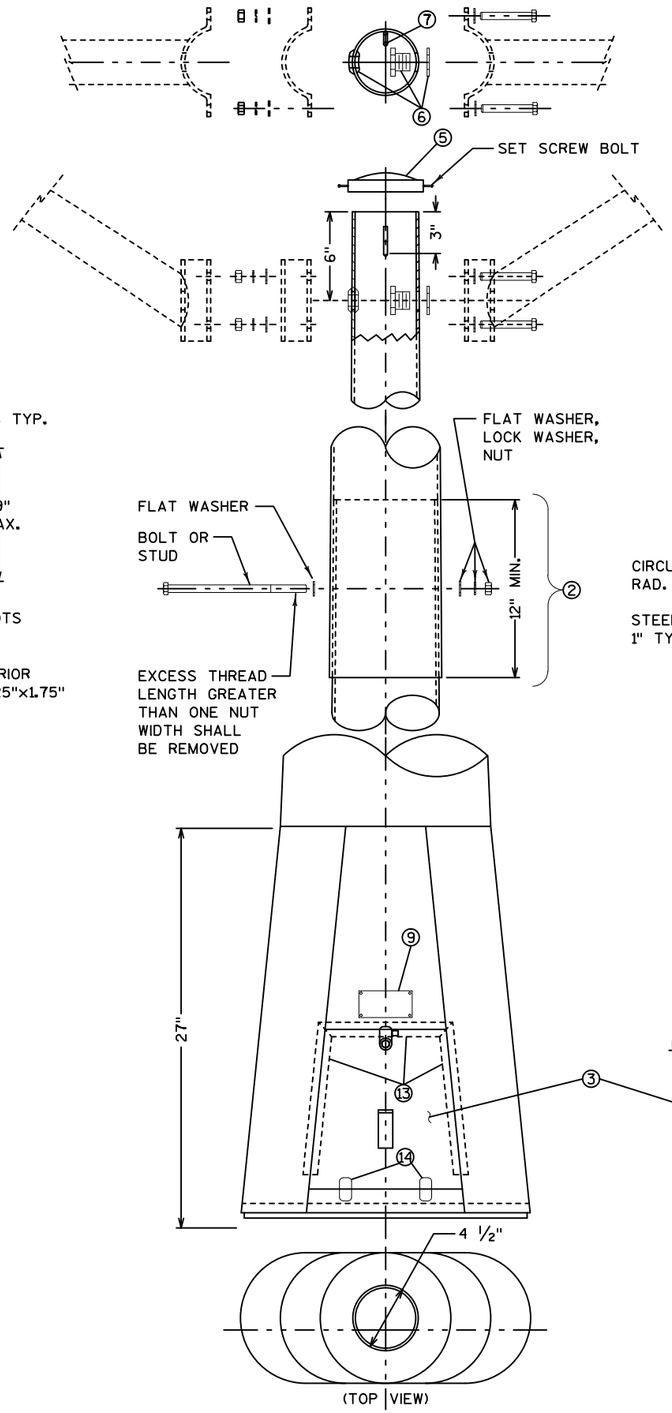


(TOP VIEW)

UNIFORMALLY TAPERED
OCTAGONAL SECTION
ALTERNATE

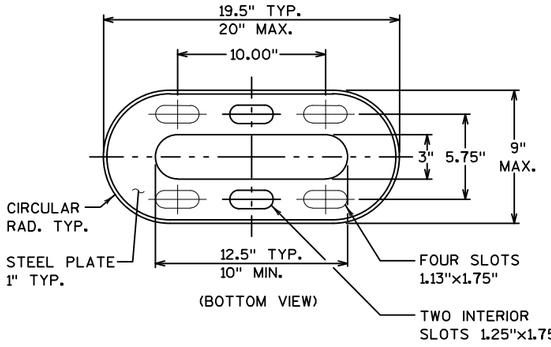


(BOTTOM VIEW)



(TOP VIEW)

UNIFORMALLY TAPERED
CIRCULAR/OVALIZED SECTION
ALTERNATE



(BOTTOM VIEW)

POLES, TYPE F
50' NOMINAL HEIGHT

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING DETAIL - POLE, TYPE F	SHEET 46	E

2

N

WATER TOWER

W

INL

T

MH

MH

INL

SIGN

W

INL

INL

INL

2

N

HL-40-CD	
A,C,5,7	BLACK
B,D,6,8	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,C,D	45A
5,6,7,8	30A
480VAC 2 WIRE GROUNDED NEUTRAL	

HOME RUNS HL-40-CD TO MH104
#6-2-6 CIRC A/B
#6-2-6 CIRC C/D
#6-6 CIRC 7
HOME RUNS HL-40-CD TO PB103
#6-2-6 CIRC 6/8
#6-6 CIRC 5

DISTRIBUTION CENTER HL-40-CD

CAPITOL DRIVE

IH-41 SB S. OF CAPITOL DRIVE

IH-41 NB S. OF CAPITOL DRIVE

IH-41 SB N. OF CAPITOL DRIVE

IH-41 NB N. OF CAPITOL DRIVE

GOLF GREEN

CEMETERY

SHEET 2 OF 5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 48	E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023502_LP.DWG
LAYOUT NAME - 023503_LP

PLOT DATE : 11/1/2016 9:23 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

240+17.53, 104.6' LT
5CD23

#6-2-6 A,N,B

241+91
BCD4

#8-6-8 A,N,B

RPB8A
JB8B

244+30
ACD5

IH-41 SB N. OF CAPITOL DRIVE

246+69
BCD6

#8-6-8 A,N,B

PC: 248+26.72

249+06
ACD7

PRC: 251+04.77

PT: 253+82.61

242

244

246

248

250

252

254

ACD4

IH-41 NB N. OF CAPITOL DRIVE

BCD5

ACD6

BCD7

241+11
ACD18

243+01
ACD19

245+01
ACD20

247+02
ACD21

248+88
ACD22

250+90
ACD23

252+87
ACD24

255+00
S-40-370
1MV-ACD

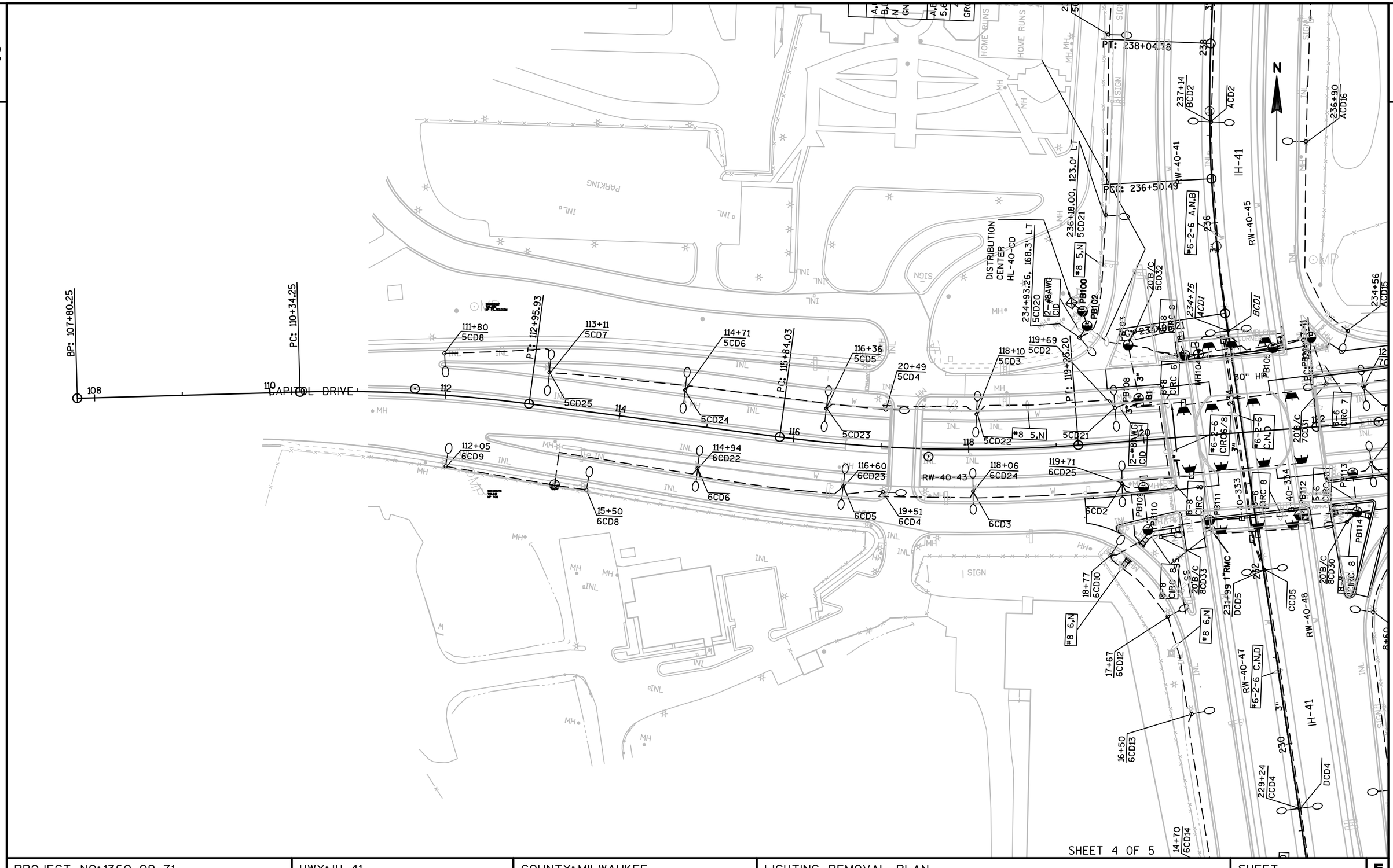
SHEET 3 OF 5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 49	E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023502_LP.DWG
LAYOUT NAME - 023504_LP

PLOT DATE : 11/1/2016 9:23 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

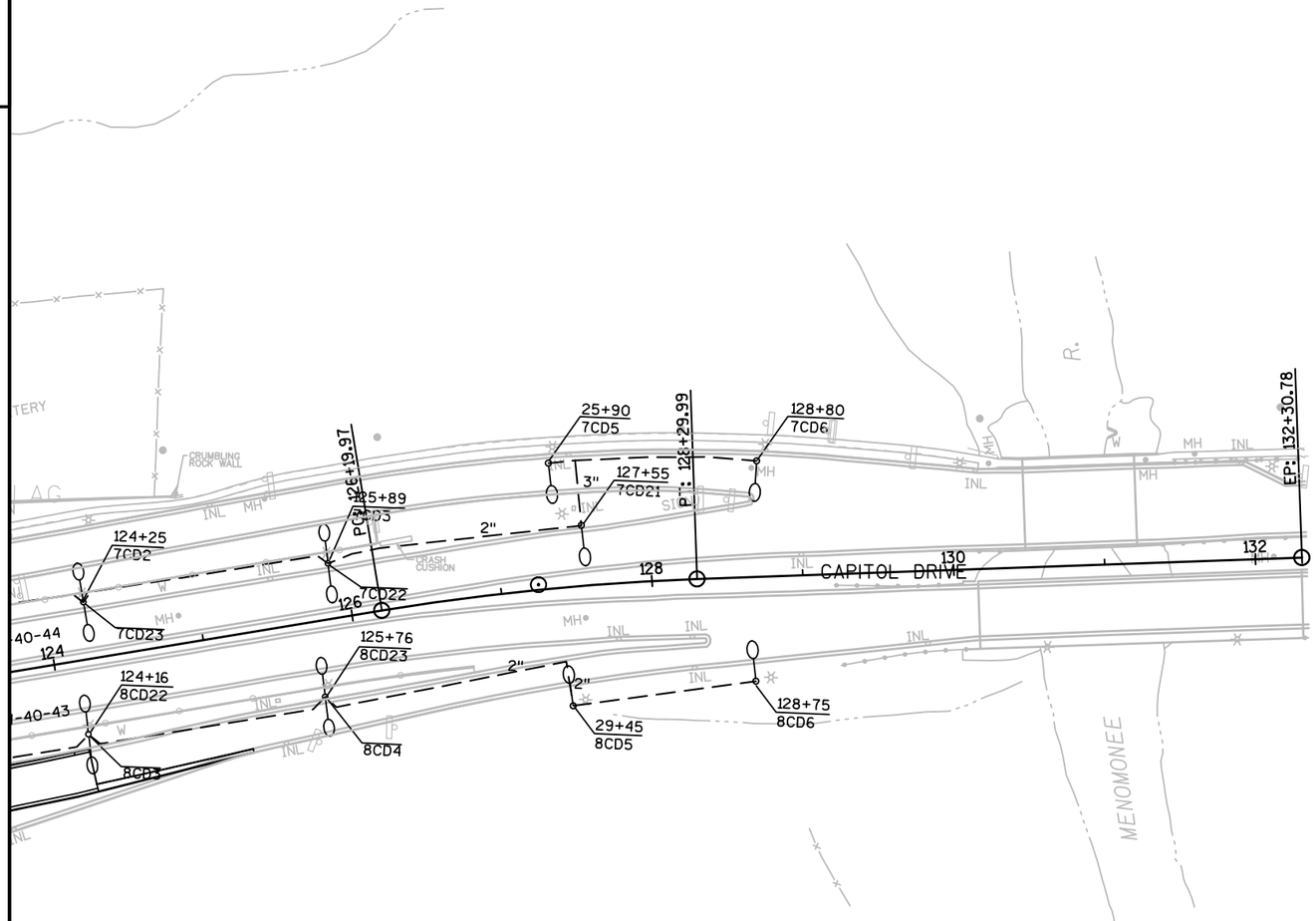


SHEET 4 OF 5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 50	E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023502_LP.DWG
LAYOUT NAME - 023505_LP
PLOT DATE : 11/1/2016 9:23 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



SHEET 5 OF 5

PROJECT NO:1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING REMOVAL PLAN	SHEET 51	E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023502_LP.DWG
LAYOUT NAME - 023506_LP

PLOT DATE : 11/1/2016 9:23 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

N

PCC: 213+59.20

PT: 219+21.26

214 216 218 220 222 224 226

IH-41

221+08
LED-D-F-4-ACD5

BCD5

222+42, 96.0' LT
LED-D-E(T)-15-FCD3

2 #8 F,N
1 #8 GND

224+42, 99.8' LT
LED-C-5(T)-6-ECD3

3 #8 E,F,N
1 #8 GND

226+42,102.0' LT
LED-C-5(T)-6-FCD2

223+83
LED-D-F-4-BCD4

3 #4 A,B,N
1 #8 GND

ACD4

226+54
LED-D-F-4-ACD3

BCD3

222+22.2, 69.4' RT
LED-D-E(T)-15-HCD3

2-#8 H,N
1 #8 GND

224+22.2, 72.5' RT
LED-C-5(T)-6-GCD3

226+22.2, 90.2' RT
LED-C-5(T)-6-HCD2

3 #8 G,H,N
1 #8 GND

GOLF GREEN

GOLF COURSE

NOTE:
LIGHTING PLAN FOR IH 41.
SEE SHEETS 4 & 5 FOR CAPITOL DRIVE LIGHTING.

SHEET 1 OF 10

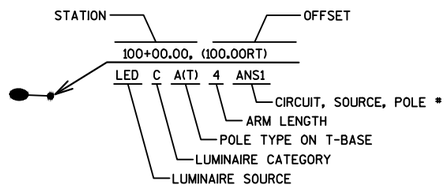
PROJECT NO:1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 52 E

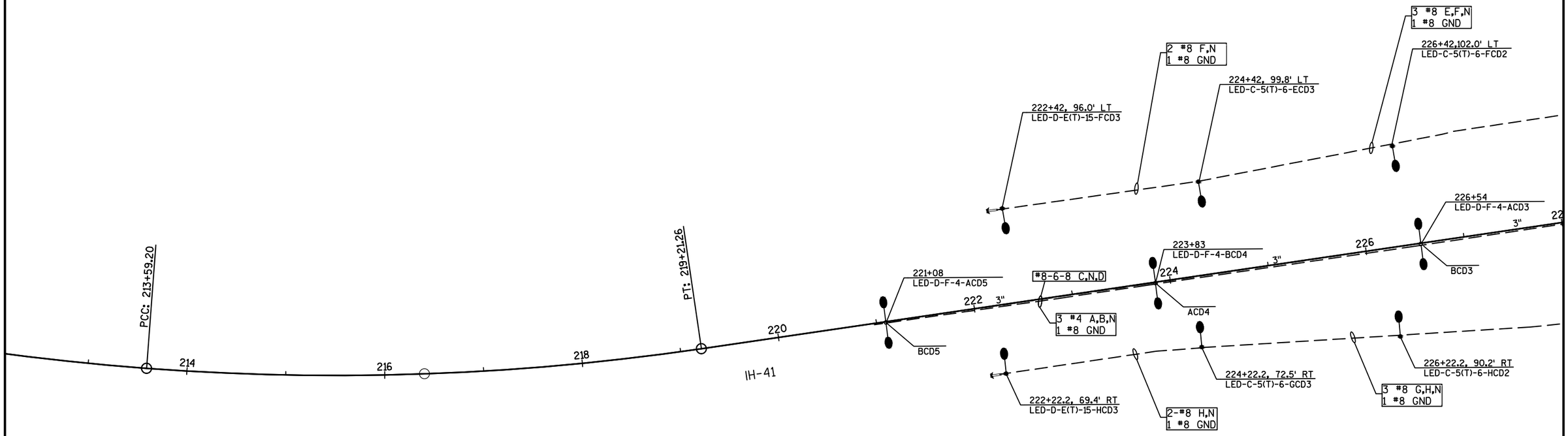
FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023601_LP.DWG
LAYOUT NAME - 023601_LP

PLOT DATE : 11/1/2016 11:37 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX





NOTE:
LIGHTING PLAN FOR IH 41.
SEE SHEETS 4 & 5 FOR CAPITOL DRIVE LIGHTING.

SHEET 2 OF 10

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 53	E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

HL-40-CD	
A,C,C,G,J	RED
B,D,F,H,K	BLACK
N	WHITE
GND	GREEN OR BARE
A,C,C,G,J B,D,F,H,K	30A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

HOME RUNS HL-40-CD TO MH104
A/B/N/G
J/K/N/G
HOME RUNS HL-40-CD TO PB103
C/D/N/G
E/F/N/G
G/H/N/G

DISTRIBUTION CENTER HL-40-CD

3 #8 G,H,N
3 #8 C,N,D
2 #8 GND

234+93.26, 168.3' LT
LED-C-5(T)-6-CCD1

232+42.4, 169.6" LT
LED-C-5(T)-6-ECD1

3 #4 E,F,N
1 #8 GND

230+42, 110.2' LT
LED-C-5(T)-6-FCD1

228+42, 102.0' LT
LED-C-5(T)-6-ECD2

3 #8 E,F,N
1 #8 GND

226+42, 102.0' LT
LED-D-5(T)-6-FCD2

2-#8AWC
CID

PB100
PB102
PB103
PB109
PB110
PB111
PB112
PB105
PB106

MH104

PC: 234+96.2'

235+02
LED-D-F-4-ACD6

PCC: 236+50.49

236+80.51, 123.0' LT
LED-C-5(T)-6-DCD1

3 #8 G,H,N
1 #8 GND

PT: 238+04.78

238+61.10, 114.6' LT
LED-C-5(T)-6-CCD2

240+71.86, 88.0' LT
LED-D-E(T)-15-DCD2

2 #8 D,N
1 #8 GND

RW-40-41

237+24
LED-D-F-4-BCD7

ACD7

IH-41

239+67
LED-D-F-4-ACO8

BCD8

RW-40-45

3 #4 G,H,N
1 #8 GND

232+15
LED-D-F-4-ACD1

RW-40-47

B-40-333

3"

#6-2-6
C,N,D

30" HP

BCD1

6-6
CIRC 8

B-40-334

RW-40-48

229+28
LED-D-F-4-BCD2

ACD2

226+54
LED-D-F-4-ACD3

BCD3

3 #4 A,B,N
1 #8 GND

6-6
CIRC 7

234+55.6, 135.4 RT
LED-C-5(T)-6-JCD1

236+89.1, 109.1' RT
LED-C-5(T)-6-KCD1

239+1.2, 111.4' RT
LED-C-5(T)-6-JCD2

241+11.2, 109.8' RT
LED-C-5(T)-6-KCD2

3 #8 G,H,N
1 #8 GND

230+22.2, 109.1' RT
LED-C-5(T)-6-HCD1

228+22.2, 102.7' RT
LED-C-5(T)-6-GCD2

226+22.2, 90.2' LT
LED-C-5(T)-6-HCD2

3 #4 G,H,N
1 #8 GND

232+22.1, 151.7' RT
LED-C-5(T)-6-GCD1

CAPITOL DRIVE

GOLF GREEN

CEMETERY

NOTE:
LIGHTING PLAN FOR IH 41.
SEE SHEETS 4 & 5 FOR CAPITOL DRIVE LIGHTING.

STATION — OFFSET
100+00.00, (100.00RT)
LED C A(T) 4 ANS1
- LED — LUMINAIRE SOURCE
- C — LUMINAIRE CATEGORY
- A(T) — POLE TYPE ON T-BASE
- 4 — ARM LENGTH
- ANS1 — CIRCUIT, SOURCE, POLE #

SHEET 3 OF 10

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 54	E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023601_LP.DWG
LAYOUT NAME - 023602_LP
PLOT DATE : 11/1/2016 11:39 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

N

HL-40-CD	
A,C,C,G,J	RED
B,D,F,H,K	BLACK
N	WHITE
GND	GREEN OR BARE
A,C,C,G,J B,D,F,H,K	30A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

HOME RUNS HL-40-CD TO MH104
A/B/N/G
J/K/N/G
HOME RUNS HL-40-CD TO PB103
C/D/N/G
E/F/N/G
G/H/N/G

CAPITOL DRIVE

DISTRIBUTION CENTER HL-40-CD

3 *8 C,D,N
3 *8 C,D,N
2 *8 GND

234+93.26, 168.3' LT
LED-C-5(T)-6-CCD1

PB100
PB102
PB103
PB109
PB110
PB111
MH104
PB105
PB106
PB112

2-*8AWG CID

3 *8 C,D,N
1 *8 GND

PC: 234+96.21

235+02
LED-D-F-4-ACD6

PCC: 236+50.49

236+80.51, 123.0' LT
LED-C-5(T)-6-DCD1

3 *8 C,D,N
1 *8 GND

PT: 238+04.78

238+61.10, 114.6' LT
LED-C-5(T)-6-CCD2

240+71.86, 88.0' LT
LED-D-E(T)-15-DCD2

2 *8 D,N
1 *8 GND

232+42.4, 169.6" LT
LED-C-5(T)-6-ECD1

3 *4 E,F,N
1 *8 GND

230+42, 110.2' LT
LED-C-5(T)-6-FCD1

3 *8 E,F,N
1 *8 GND

228+42, 102.0' LT
LED-C-5(T)-6-ECD2

3 *8 E,F,N
1 *8 GND

226+42, 102.0' LT
LED-D-5(T)-6-ECD2

RW-40-41

237+24
LED-D-F-4-BCD7

ACD7

239+67
LED-D-F-4-AC08

BCD8

3 *4 A,B,N
1 *8 GND

3 *4 A,B,N
1 *8 GND

IH-41

236

238

240

RW-40-45

BCD6

232+15
LED-D-F-4-ACD1

RW-40-47

B-40-333

234

232

30" HP

#6-2-6
C,N,D

6-6
CIRC 8

BCD1

B-40-334

229+28
LED-D-F-4-BCD2

230

228

226

226+54
LED-D-F-4-ACD3

ACD2

3 *4 A,B,N
1 *8 GND

RW-40-48

BCD3

IH-41

3 *4 A,B,N
1 *8 GND

132

6-6
CIRC 7

3 *4 G,H,N
1 *8 GND

236+89.1, 109.1' RT
LED-C-5(T)-6-KCD1

3 *4 G,H,N
1 *8 GND

239+1.2, 111.4' RT
LED-C-5(T)-6-JCD2

3 *4 G,H,N
1 *8 GND

241+11.2, 109.8' RT
LED-C-5(T)-6-KCD2

234+55.6, 135.4 RT
LED-C-5(T)-6-JCD1

230+22.2, 109.1' RT
LED-C-5(T)-6-HCD1

228+22.2, 102.7' RT
LED-C-5(T)-6-GCD2

226+22.2, 90.2' LT
LED-C-5(T)-6-HCD2

3 *8 G,H,N
1 *8 GND

3 *8 G,H,N
1 *8 GND

232+22.1, 151.7' RT
LED-C-5(T)-6-GCD1

124

CAPITOL DRIVE

NOTE:
LIGHTING PLAN FOR IH 41.
SEE SHEETS 4 & 5 FOR CAPITOL DRIVE LIGHTING.

STATION — OFFSET
100+00.00, (100.00RT)
LED C A(T) 4 ANS1
- CIRCUIT, SOURCE, POLE *
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

SHEET 4 OF 10

PROJECT NO:1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 55	E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

N

2 *8 D,N
1 *8 GND

240+71.86, 88.0' LT
LED-D-E(T)-15-DCD2

3 *4 A,B,N
1 *8 GND

241+98
LED-D-F-4-BCD9

ACD9

RPB8A
JB8B

EMPTY CONDUIT

PB107

241+11.2, 109.8' RT
LED-C-5(T)-6-KCD2

3 *4 J,K,N
1 *8 GND

243+00, 112.3' RT
LED-C-5(T)-6-JCD3

244+32
LED-D-F-4-ACD10

BCD10

245+01, 115.3' RT
LED-C-5(T)-6-KCD3

3 *4 A,B,N
1 *8 GND

IH-41

246+76
LED-D-F-4-BCD11

ACD11

3 *4 J,K,N
1 *8 GND

247+02, 108.7' RT
LED-C-5(T)-6-JCD4

PC: 248+26.72

248+90.9, 98.7' RT
LED-C-5(T)-6-KCD4

3 *4 A,B,N
1 *8 GND

249+10
LED-D-F-4-BCD12

BCD12

PRC: 251+04.77

250+86, 88.0' RT
LED-C-5(T)-6-JCD5

3 *4 J,K,N
1 *8 GND

PT: 253+82.61

252+88.00, 94.1' RT
LED-D-E(T)-15-KCD5

2 *8 K,N
1 *8 GND

255+00
S-40-370

240 242 244 246 248 250 252 254

STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- CIRCUIT, SOURCE, POLE *
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

NOTE:
LIGHTING PLAN FOR IH 41.
SEE SHEETS 4 & 5 FOR CAPITOL DRIVE LIGHTING.

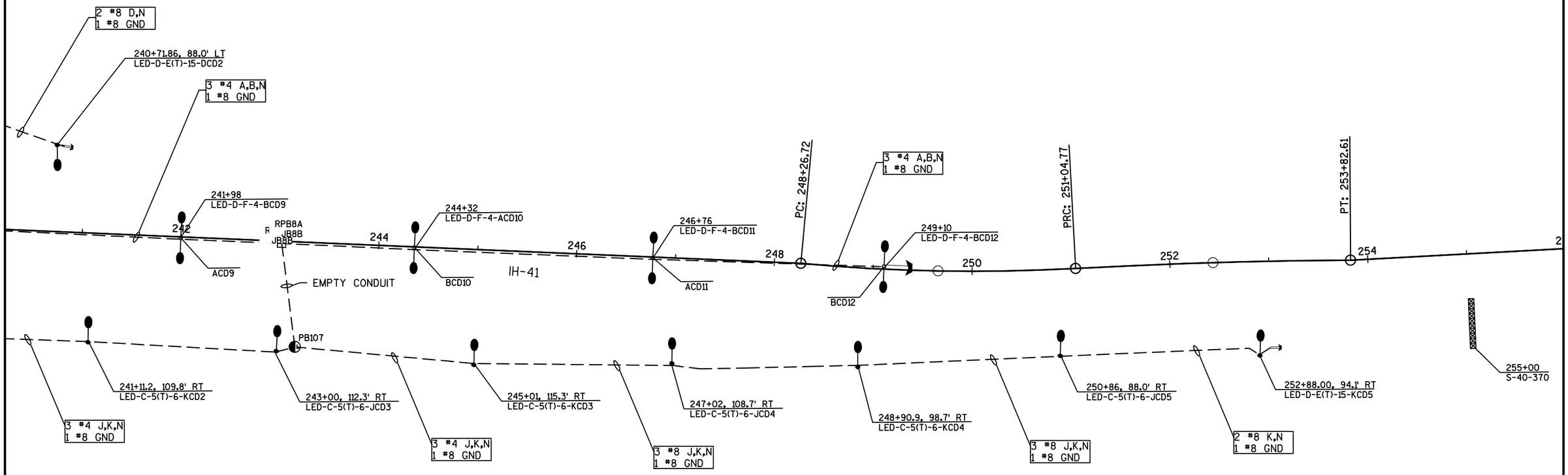
SHEET 5 OF 10

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 56	E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

N



STATION — OFFSET

100+00.00, (100.00RT)

LED C A(T) 4 ANS1

- CIRCUIT, SOURCE, POLE #
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

NOTE:
LIGHTING PLAN FOR IH 41.
SEE SHEETS 4 & 5 FOR CAPITOL DRIVE LIGHTING.

SHEET 6 OF 10

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 57	E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

HL-40-CD	
A,C,C,G,J	RED
B,D,F,H,K	BLACK
N	WHITE
GND	GREEN OR BARE
A,C,C,G,J B,D,F,H,K	30A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

HOME RUNS HL-40-CD TO MH104
A/B/N/G
J/K/N/G
HOME RUNS HL-40-CD TO PB103
C/D/N/G
E/F/N/G
G/H/N/G

DISTRIBUTION CENTER HL-40-CD

PT: 238+04.78
PCC: 236+50.49
PC: 234+96.21

CAPITOL DRIVE
HARLEY DAVIDSON AVE.
IH-41
N

111+82 LED-C-5(T)-6-CCD9
113+11 LED-C-5(S)-10/15-DCD8
114+71 LED-C-5(S)-10/15-CCD7
116+36 LED-C-5(S)-10/15-DCD6
117+3.1 LED-C-5(T)-6-CCD5
118+10 LED-C-5(S)-10/15-DCD3
119+69 LED-C-5(S)-10/15-DCD3
122+55 LED-C-5(S)-10/15-KCD16
112+05 LED-C-5(T)-6-FCD9
114+95 LED-C-5(S)-10/15-FCD8
113+66 LED-C-5(T)-6-ECD9
116+60 LED-C-5(S)-10/15-ECD7
117+50 LED-C-5(T)-6-ECD6
118+06 LED-C-5(S)-10/15-FCD5
119+71 LED-C-5(S)-10/15-ECD4
122+54 GCD4

PB100 PB102 PB103 PB105 PB106 PB108 PB109 PB110 PB111 PB112 PB113 PB119 PB120 PB121 PB122
MH104
JB1
CCD8 DCD7 CCD6 FCD7 ECD8 ECD5 CCD3 FCD4 JCD16

3 #8 C,D,N 1 #8 GND
3 #4 C,D,N 1 #8 GND
2 #8 G,N 1 #8 GND
3 #8 E,F,N 1 #8 GND
3 #4 E,F,N 1 #8 GND
3 #8 E,F,N 2 #8 F,N 2 #8 GND
2 #8 F,N 1 #8 GND
3 #4 J,K,N 1 #8 GND
3 #4 G,H,N 1 #8 GND
2-#8AWG CID
#6-2-6 CIRC6/8
30" HP

RW-40-43
RW-40-333
RW-40-334

NOTE:
LIGHTING PLAN FOR CAPITOL DRIVE.
SEE SHEETS 1, 2 & 3 FOR IH 41 LIGHTING.

STATION — OFFSET
100+00.00, (100.00RT)
LED C A(T) 4 ANS1
- LUMINAIRE SOURCE
- LUMINAIRE CATEGORY
- POLE TYPE ON T-BASE
- ARM LENGTH
- CIRCUIT, SOURCE, POLE #

SHEET 7 OF 10

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET 58	E

LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

HL-40-CD	
A,C,C,G,J	RED
B,D,F,H,K	BLACK
N	WHITE
GND	GREEN OR BARE
A,C,C,G,J B,D,F,H,K	30A
240/480 VAC 3 WIRE ISOLATED NEUTRAL	

HOME RUNS HL-40-CD TO MH104
A/B/N/G
J/K/N/G
HOME RUNS HL-40-CD TO PB103
C/D/N/G
E/F/N/G
G/H/N/G

DISTRIBUTION CENTER HL-40-CD

2-*8AWG CID

PT: 238+04.78

PCC: 236+50.49

PC: 234+96.21

IH-41

CAPITOL DRIVE

PB100 PB102 PB103 PB104 PB105 PB106 PB108 PB109 PB110 PB111 PB112 PB113 PB119 PB120 PB121 PB122

MH104

30" HP

JB1

JCD16

B-40-333 B-40-334

1"RMC

3" 4"

111+82 LED-C-5(T)-6-CCD9
113+11 LED-C-5(S)-10/15-DCD8
114+71 LED-C-5(S)-10/15-CCD7
116+36 LED-C-5(S)-10/15-DCD6
117+3.1 LED-C-5(T)-6-CCD5
118+10 LED-C-5(S)-10/15-DCD3
119+69 LED-C-5(S)-10/15-DCD3
122+55 LED-C-5(S)-10/15-KCD16

2 *8 G,N 1 *8 GND
3 *8 C,D,N 1 *8 GND
3 *8 C,D,N 1 *8 GND
3 *4 C,D,N 1 *8 GND
3 *4 J,K,N 1 *8 GND

CCD8 DCD7 CCD6 CCD3

*8 5,N

112+05 LED-C-5(T)-6-FCD9
114+95 LED-C-5(S)-10/15-FCD8
119+71 LED-C-5(S)-10/15-ECD4
122+54 GCD4

3 *8 E,F,N 1 *8 GND
2 *8 F,N 1 *8 GND
3 *8 E,F,N 2 *8 F,N 2 *8 GND
3 *4 E,F,N 1 *8 GND
3 *8 E,F,N 1 *8 GND
3 *4 G,H,N 1 *8 GND

ECD8 FCD7 ECD5 FCD4

112+05 LED-C-5(T)-6-FCD9
113+66 LED-C-5(T)-6-ECD9
116+60 LED-C-5(S)-10/15-ECD7
117+50 LED-C-5(T)-6-ECD6
118+06 LED-C-5(S)-10/15-FCD5

RW-40-43

110 112 114 116 118 120 122 230 232 234 236 238

N

NOTE:
LIGHTING PLAN FOR CAPITOL DRIVE.
SEE SHEETS 1, 2 & 3 FOR IH 41 LIGHTING.

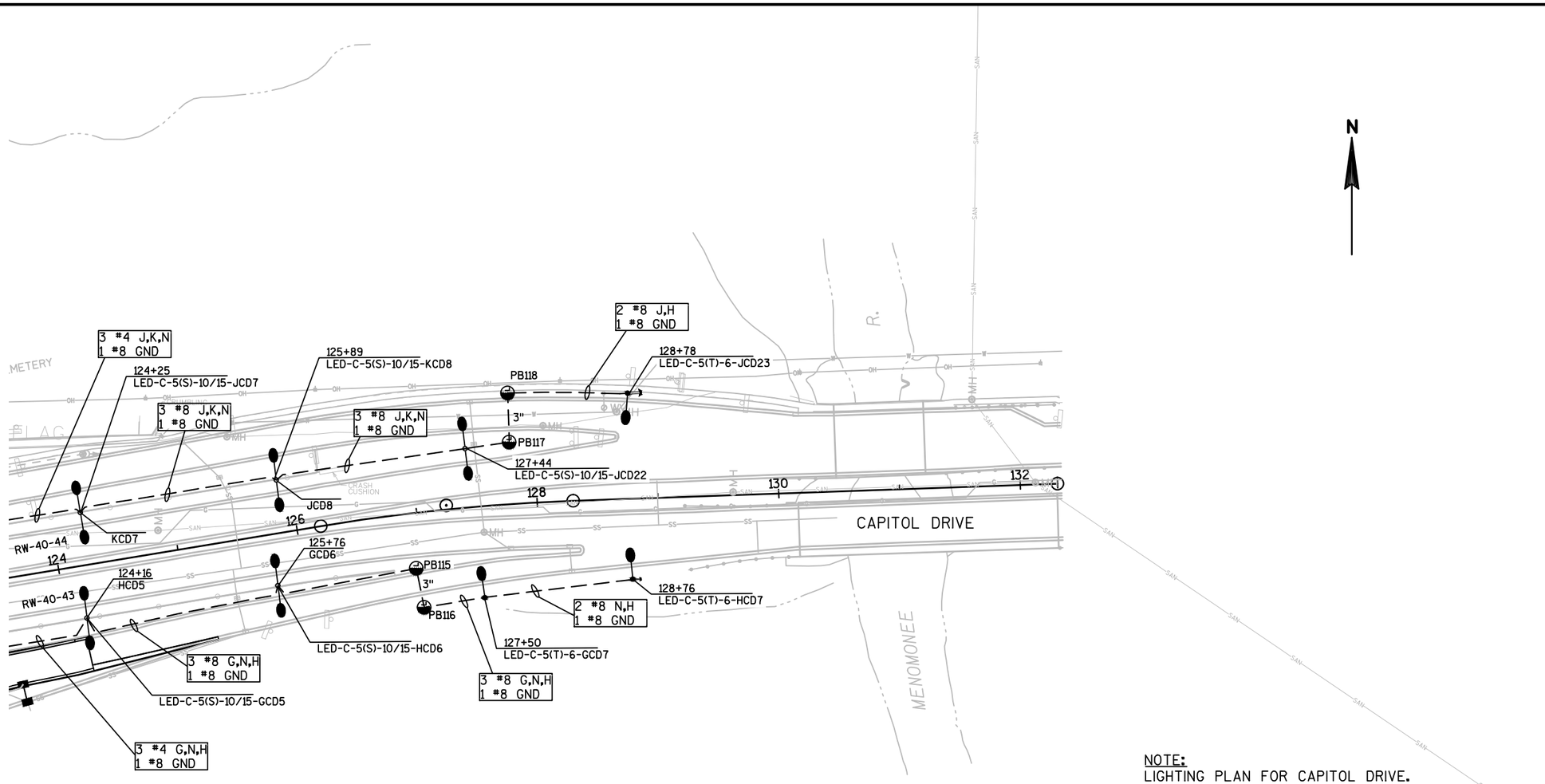
STATION — OFFSET
100+00.00, (100.00RT)
LED C A(T) 4 ANS1
- CIRCUIT, SOURCE, POLE *
- ARM LENGTH
- POLE TYPE ON T-BASE
- LUMINAIRE CATEGORY
- LUMINAIRE SOURCE

SHEET 8 OF 10

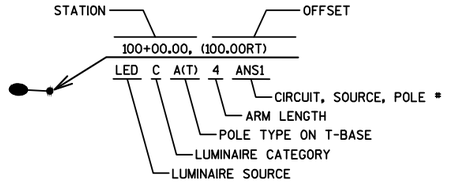
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	LIGHTING PLAN - SCHEMATIC	SHEET 59 E

FILE NAME : N:\PDS\C3D\CAD\13600901\LTG\023651_LP.DWG
LAYOUT NAME - 023654_LP
PLOT DATE : 11/1/2016 11:41 AM PLOT BY : DODGE, BRIAN M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



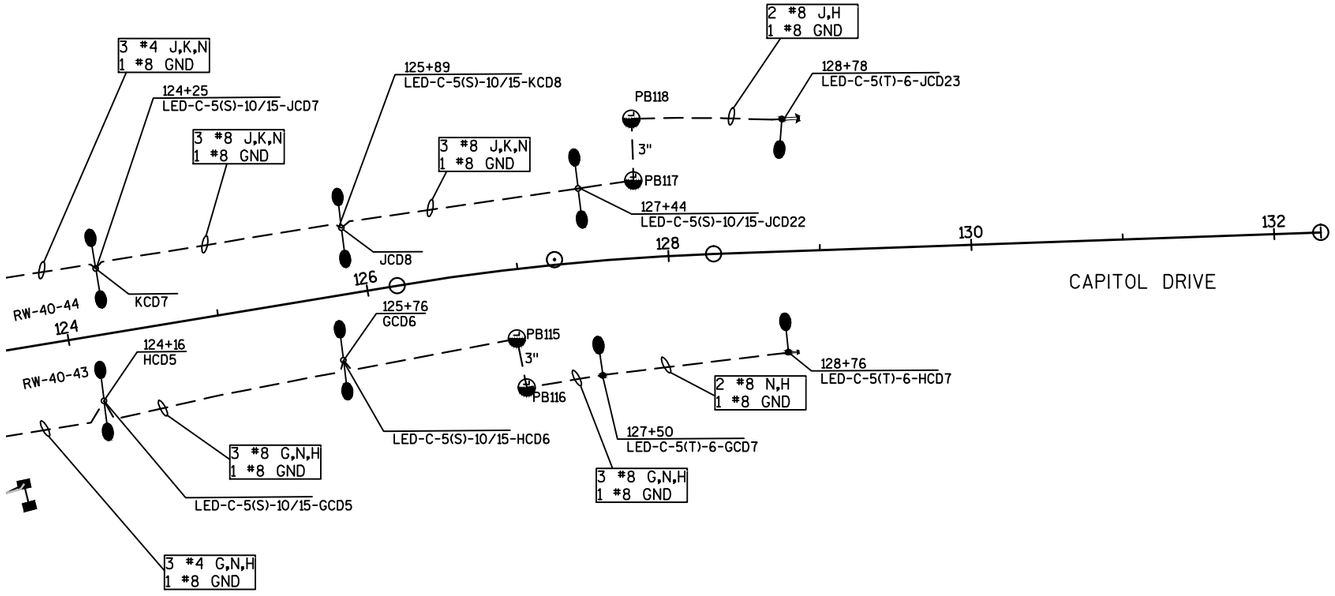
NOTE:
LIGHTING PLAN FOR CAPITOL DRIVE.
SEE SHEETS 1, 2 & 3 FOR IH 41 LIGHTING.



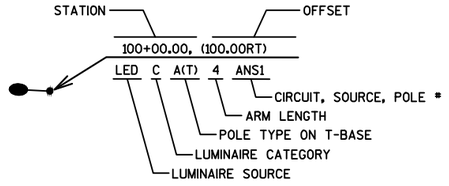
LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX

2



NOTE:
LIGHTING PLAN FOR CAPITOL DRIVE.
SEE SHEETS 1, 2 & 3 FOR IH 41 LIGHTING.



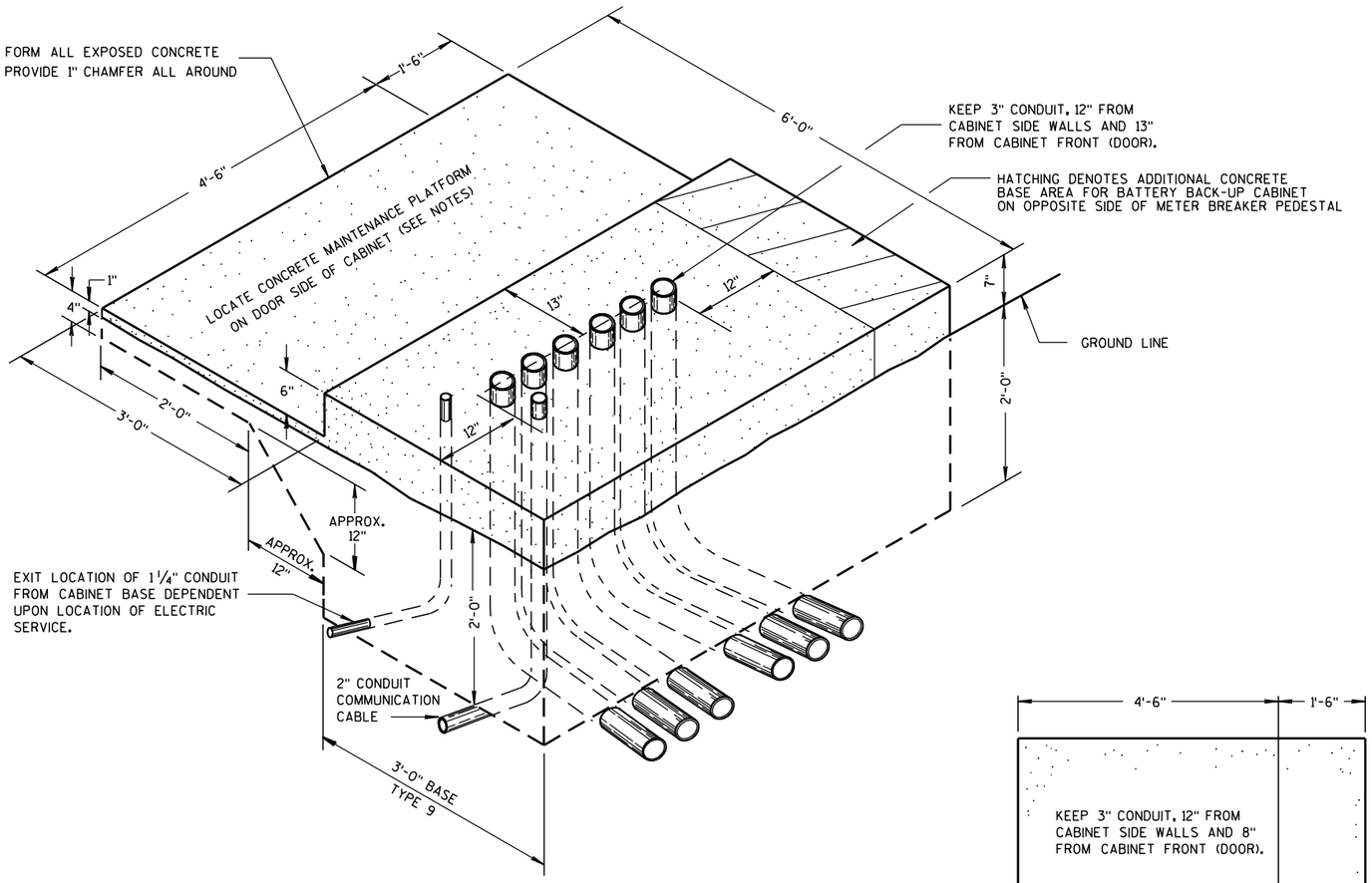
LEGEND

- DISTRIBUTION CENTER
- CID (CABLE IN DUCT, UNLESS OTHERWISE SHOWN)
- CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- UDL (UNDER DECK LUMINAIRE)
- JUNCTION BOX



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PROJECT OVERVIEW	SHEET	E

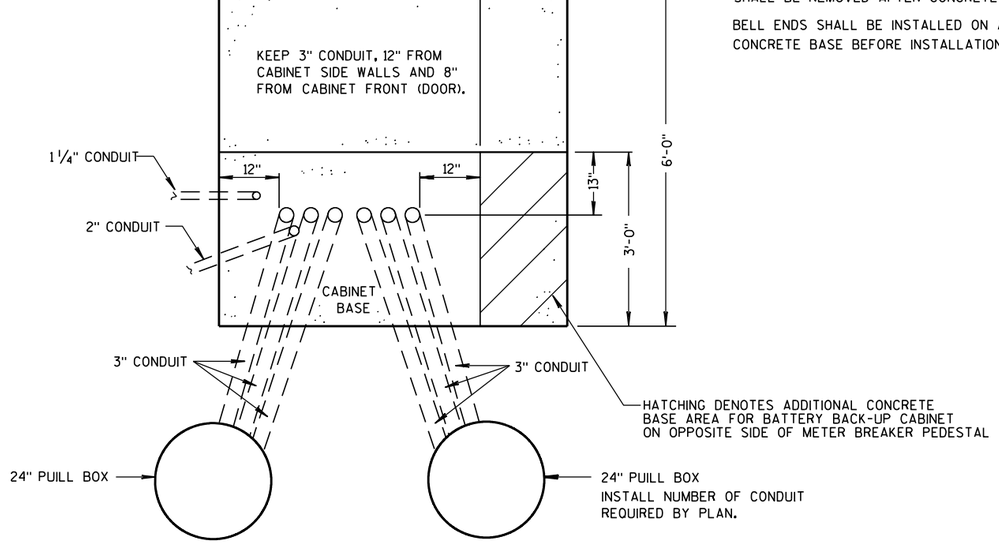
FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\1360-09-71\024001_sp_po.dgn PLOT DATE : 31-OCT-2016 12:59 PLOT BY : mscjym PLOT NAME : 024001_sp_po PLOT SCALE : 1000:1



ISOMETRIC VIEW

TYPE 9, SPECIAL (MOD.)

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

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 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.

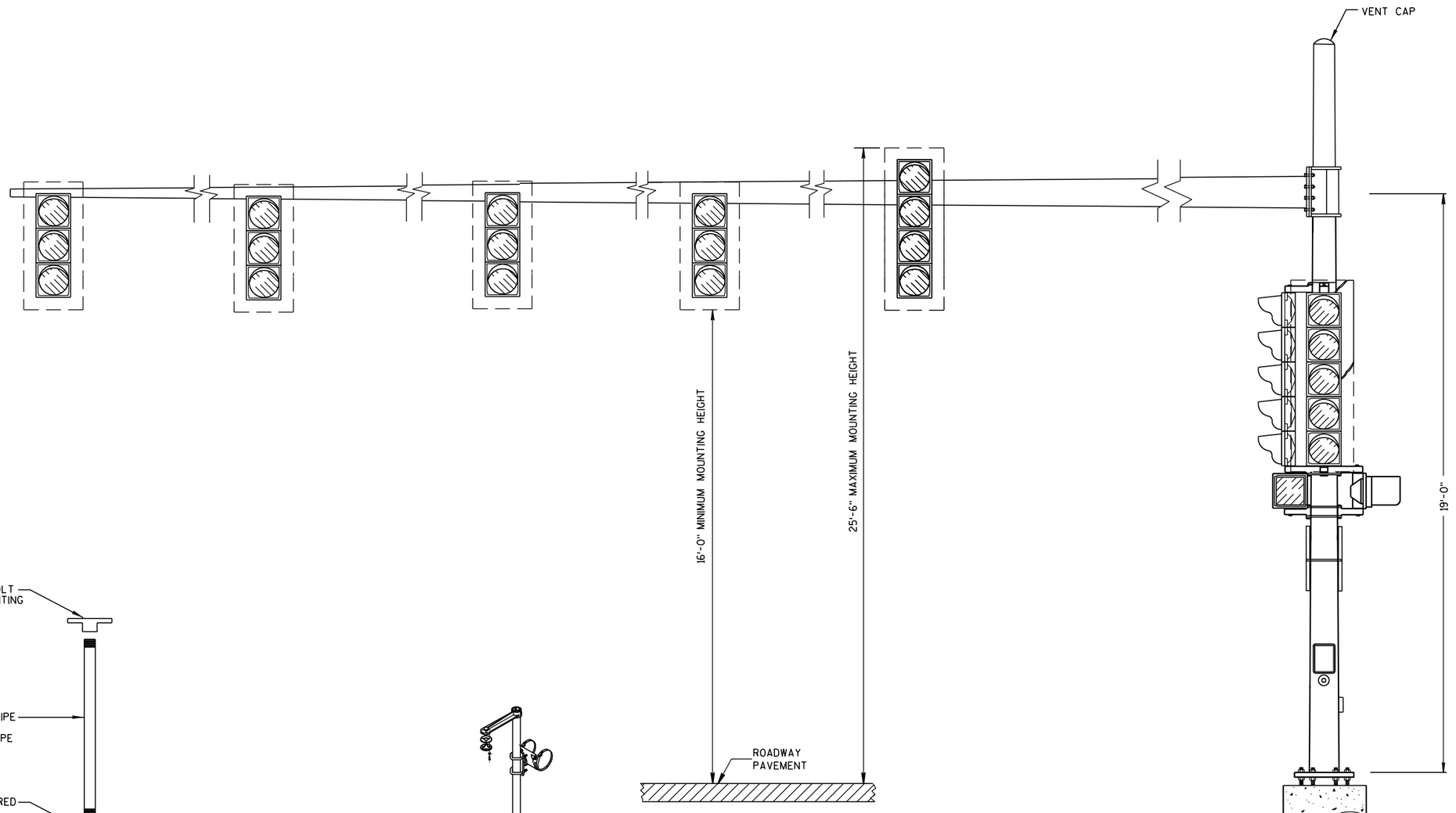
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

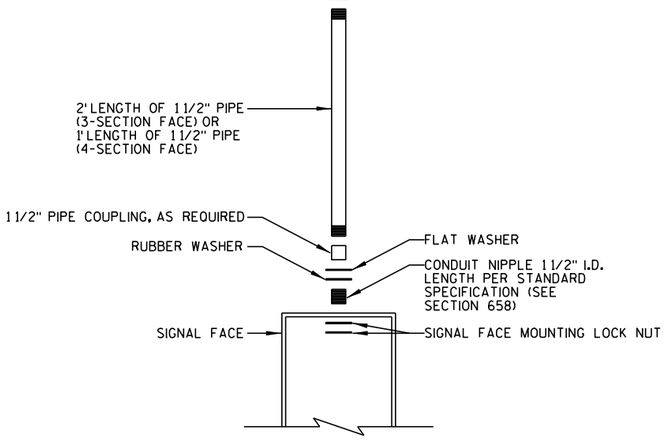
CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL (MOD.)

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL DETAILS	SHEET	E

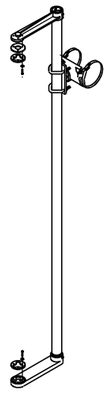
2



MOUNTING DETAIL - SB5 AND SB14



SIGNAL FACE PIPE EXTENSION MOUNTING

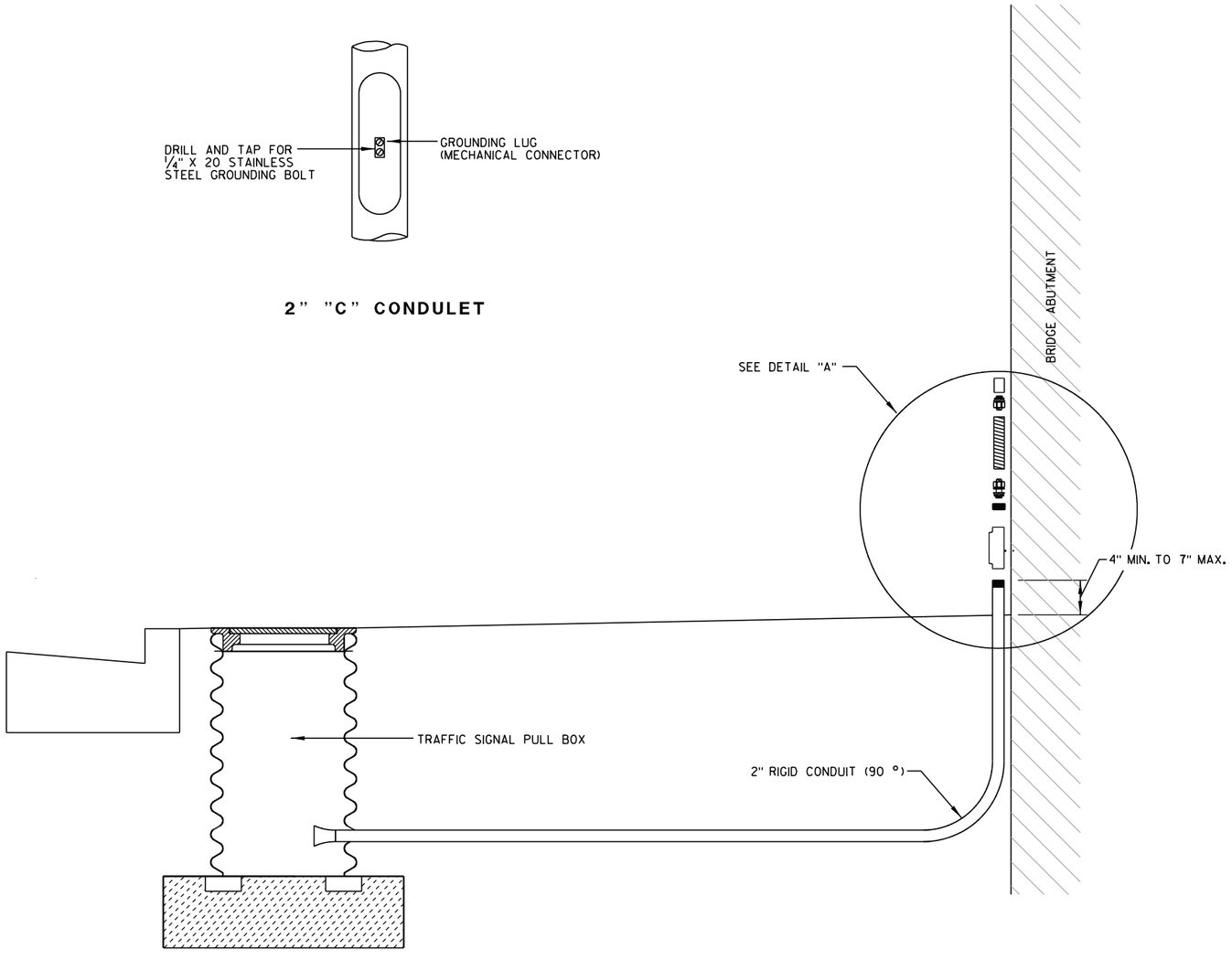


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

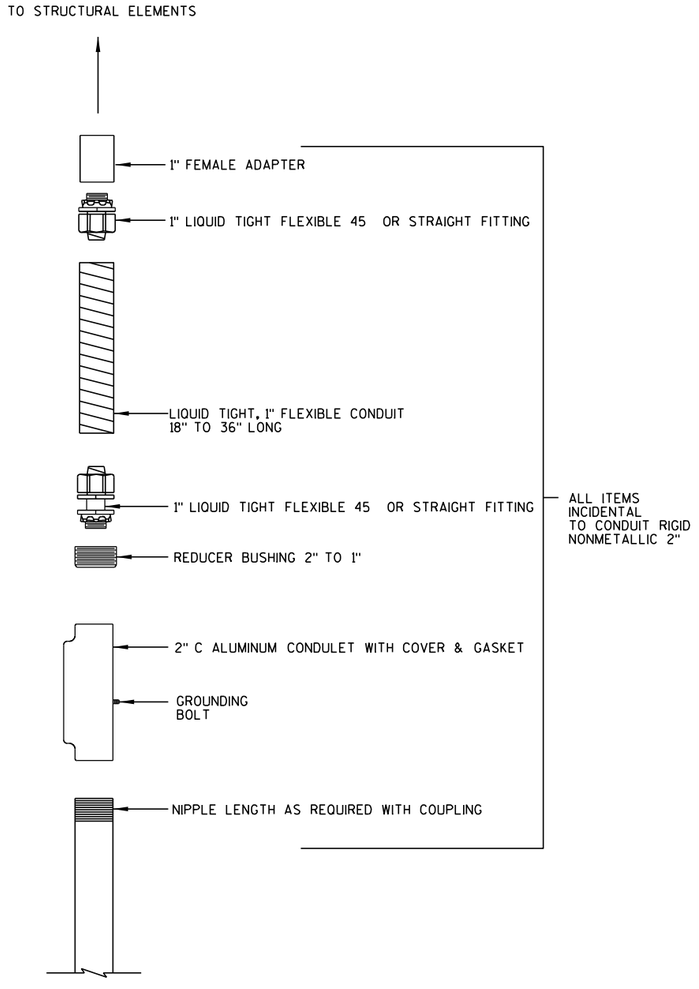
(MOUNT PER MANUFACTURER'S RECOMMENDATION)

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL DETAILS	SHEET	E

2" "C" CONDULET



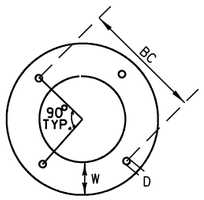
CONNECTION FROM PULL BOX TO STRUCTURAL ELEMENTS



DETAIL "A"

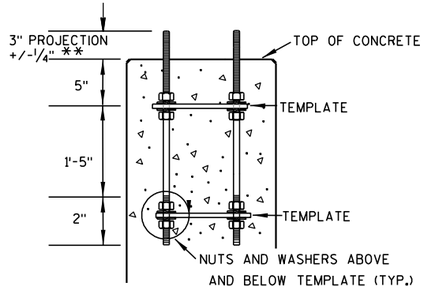
SPREAD FOOTING DIMENSIONS
STEEL AND CONCRETE QUANTITIES ARE APPROXIMATE

TYPE OF BASE	IF D =	THEN L=	401 HOOPS LBS.	402 VERTICAL BARS LBS.	602 VERTICAL BARS LBS.	403 HORIZ BARS LBS.	TOTAL LBS. STEEL	CONCR YDS.
TYPE 1	2'	5' 0"	8	7	-	36	51	1.9
TYPE 1	3'	4' 6"	12	13	-	36	61	1.6
TYPE 1	4'	4' 6'	8	18	-	36	62	1.6
TYPE 2 OR 5	2'	6' 6"	8	-	14	72	94	3.1
TYPE 2 OR 5	3'	6' 6"	12	-	26	72	110	3.2
TYPE 2 OR 5	4'	6' 0"	12	-	35	55	102	2.8
TYPE 2 OR 5	5'	6' 0"	15	-	44	55	114	2.9
TYPE 2 OR 5	6'	6' 0"	20	-	53	55	128	3.0



	TYPE 1	TYPE 2 OR 5
THICKNESS OF PLATE	½"	½"
BOLT CIRCLE "BC"	12.75"	11.50"
WIDTH "W"	3" +/-	3" +/-
HOLE DIAMETER "D"	1.125"	1.125"
ANCHOR ROD	1" X 2'-3"	1" X 2'-3"

ANCHOR ROD TEMPLATE



ANCHOR ROD ASSEMBLY

ANCHOR ROD SHALL BE ASTM A449/AASHTO M314-90 GR55
THREADED 12-INCH AT TOP; 4-INCH AT BOTTOM,
HOT-DIP GALVANIZED TO ASTM A153, GR C

REQUIRED:

2 TEMPLATES
4 ANCHOR RODS
16 FLAT WASHERS HOT-DIP GALVANIZED
16 HEAVY DUTY HEX NUTS* HOT-DIP GALVANIZED

*CHASE THREADS FOR HOT-DIP GALVANIZED ANCHOR RODS
** FAILURE TO MEET TOLERANCE CONDEMNS THE BASE

GENERAL NOTES

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

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 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 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.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

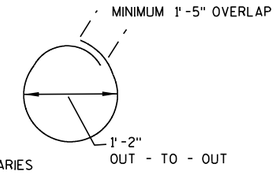
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL PER SECTION 5.17.6.3, AASHTO 2001 4TH EDITION STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS.

WELDING OF THE ANCHOR RODS TO THE CAGE OR TEMPLATE 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).

CONDUIT SHOWN FOR ILLUSTRATION ONLY AND VARIES BY "D"

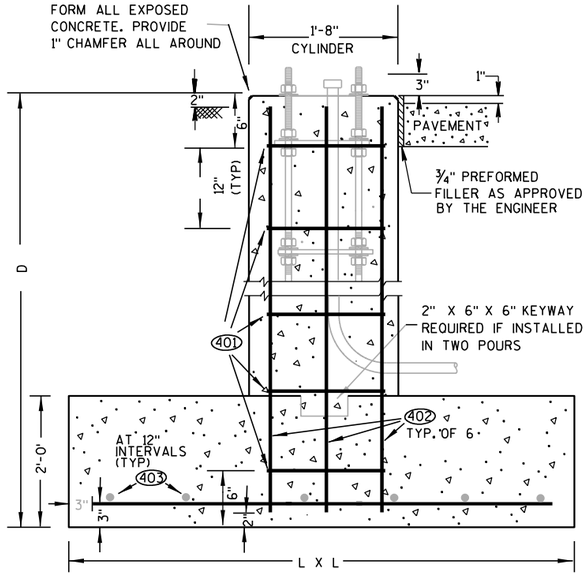
ANCHOR ROD PATTERN SHALL BE PARALLEL TO THE ROADWAY



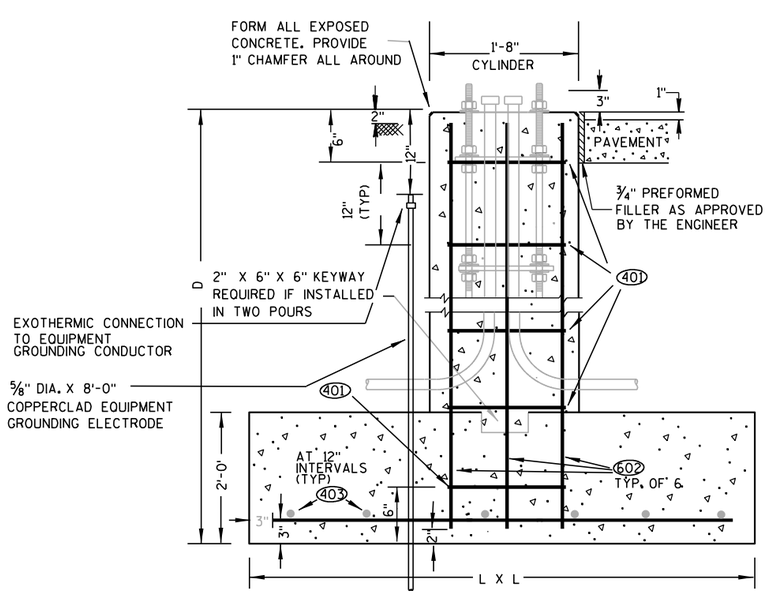
(401) HOOP
QUANTITY VARIES

(402) OR (602) VERTICAL "D" - 4"
QUANTITY 6, LENGTH VARIES

(403) HORIZONTAL "L" - 6"
QUANTITY AND LENGTH VARY



SPREAD FOOTING
TYPE 1



SPREAD FOOTING
TYPE 2 OR 5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL DETAILS	SHEET	E

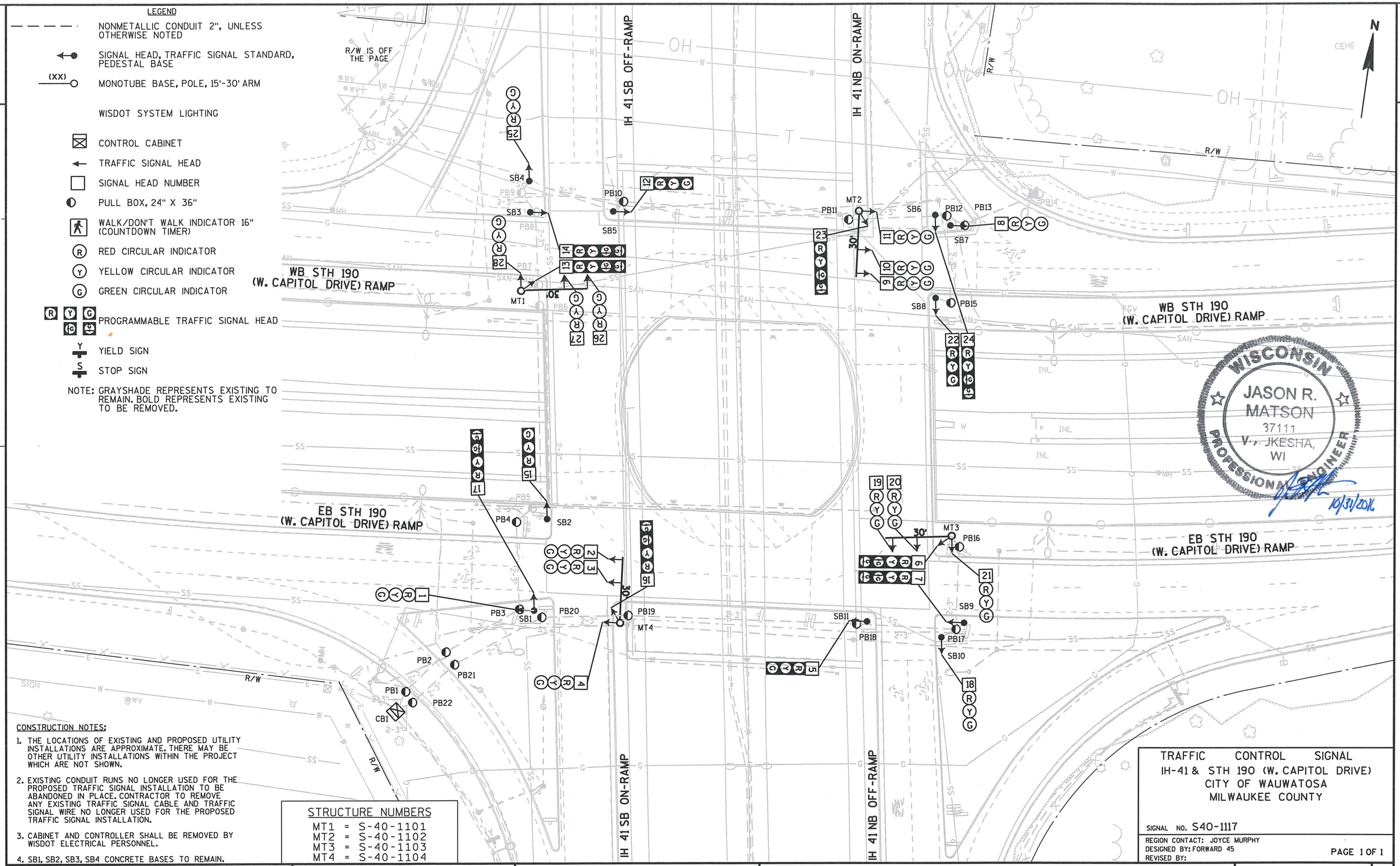
LEGEND

- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 15'-30' ARM

WISDOT SYSTEM LIGHTING

- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER
- PULL BOX, 24" X 36"
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR
- R Y G 10 9 PROGRAMMABLE TRAFFIC SIGNAL HEAD
- 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 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. CABINET AND CONTROLLER SHALL BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
4. SB1, SB2, SB3, SB4 CONCRETE BASES TO REMAIN.

STRUCTURE NUMBERS

MT1 = S-40-1101
MT2 = S-40-1102
MT3 = S-40-1103
MT4 = S-40-1104

WISCONSIN
JASON R. MATSON
37111
WAUKESHA, WI
PROFESSIONAL ENGINEER
10/31/2016

TRAFFIC CONTROL SIGNAL
IH-41 & STH 190 (W. CAPITOL DRIVE)
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1117

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

PAGE 1 OF 1

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 67	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
- WISDOT SYSTEM LIGHTING
- RADAR DETECTION AREA
- RADAR DETECTOR
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- STRUCTURE MOUNTED JUNCTION BOX
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- CONTROL CABINET
- TRAFFIC SIGNAL HEAD
- SIGNAL HEAD NUMBER
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)
- (R) RED CIRCULAR INDICATOR
- (Y) YELLOW CIRCULAR INDICATOR
- (G) GREEN CIRCULAR INDICATOR

LEGEND (CONT.)

- (R) RED ARROW
- (Y) YELLOW ARROW
- (G) GREEN ARROW
- CIRCULAR INDICATOR WITH TUNNEL VISOR
- Y YIELD SIGN
- S STOP SIGN

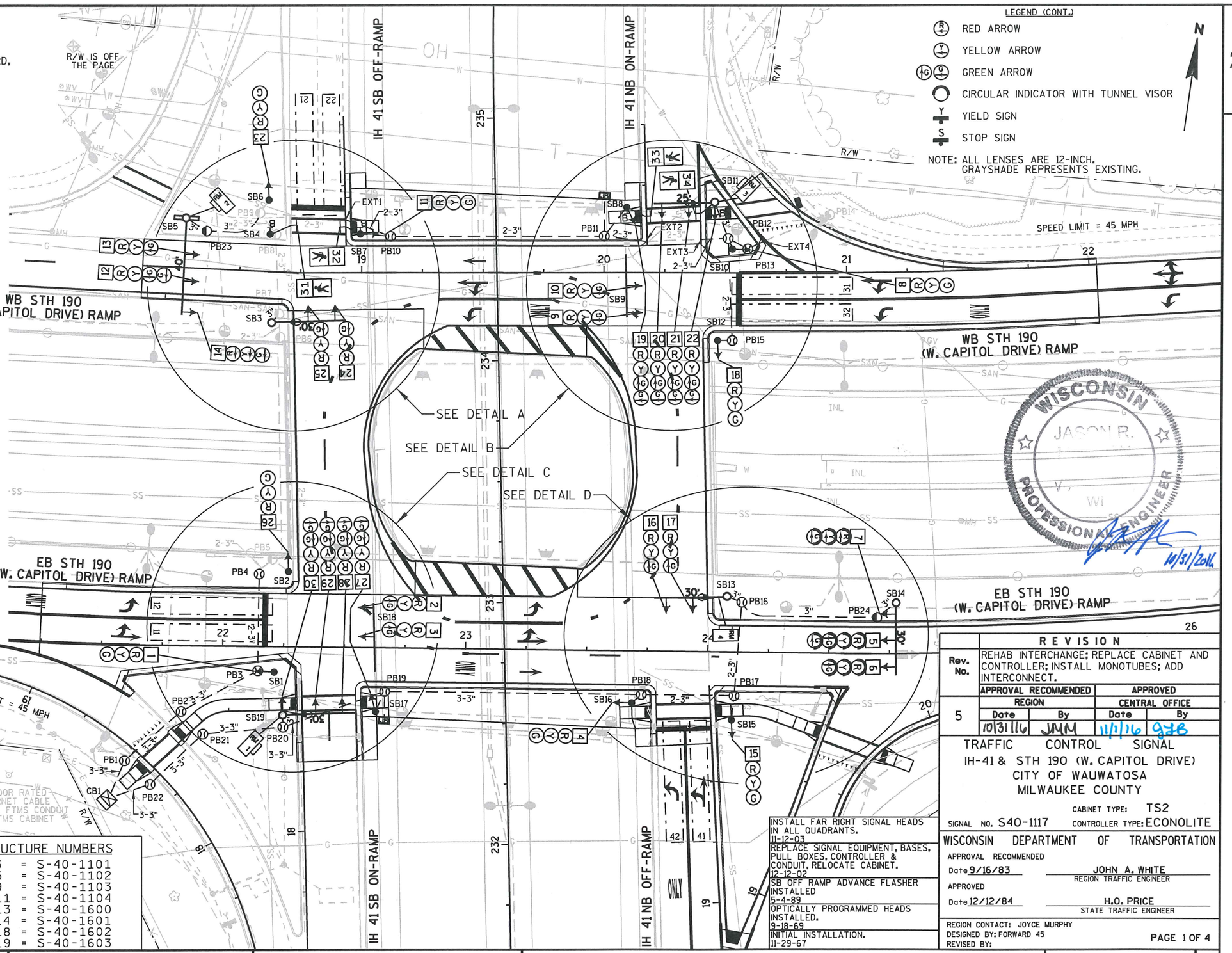
NOTE: ALL LENSES ARE 12-INCH. GRAYSHADE REPRESENTS EXISTING.

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. RIGHT OF WAY AND PROPERTY LINES DEPICTED ARE BASED ON RECORD INFORMATION WITHOUT THE BENEFIT OF FIELD EVIDENCE.
4. INSTALL CABINET BASE 6" ABOVE FINAL ROADWAY ELEVATION.
5. ALL LUMINAIRES ARE LED C UNLESS OTHERWISE NOTED.
6. SB1, SB2, SB4, SB6 TO BE PLACED ON EXISTING CONCRETE BASES.
7. PROPOSED STORM SEWER AND FTMS IS SHOWN GRAYSHADED FOR PLAN CLARITY.
8. RADAR UNIT 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.
9. TRAFFIC SIGNAL HEADS 5, 6, 7, 12, 13, 14 SHALL HAVE A MOUNTING HEIGHT LESS THAN 17'-6" TO MAINTAIN VISIBILITY.
10. TRAFFIC SIGNAL HEADS 1, 2, 3, 8, 9, 10, 15, 16, 17, 23, 24, 25 SHALL HAVE BACKPLATES WITH REFLECTIVE BORDER.
11. TRAFFIC SIGNAL HEADS 2, 3 SHALL BE MOUNTED TO SB18 WHICH IS ATTACHED TO B-40-333. TRAFFIC SIGNAL HEADS 9, 10 SHALL BE MOUNTED TO SB9 WHICH IS ATTACHED TO B-40-334.
12. CONDUIT BETWEEN PB11 & ABUTMENT WALL AND PB19 & ABUTMENT WALL SHALL BE CONDUIT RIGID METALLIC 2".

STRUCTURE NUMBERS

SB3	=	S-40-1101
SB5	=	S-40-1102
SB9	=	S-40-1103
SB11	=	S-40-1104
SB13	=	S-40-1600
SB14	=	S-40-1601
SB18	=	S-40-1602
SB19	=	S-40-1603



REVISION				
Rev. No.	REHAB INTERCHANGE; REPLACE CABINET AND CONTROLLER; INSTALL MONOTUBES; ADD INTERCONNECT.			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
	Date	By	Date	By
5	10/31/16	JMM	11/1/16	gjb

TRAFFIC CONTROL SIGNAL
IH-41 & STH 190 (W. CAPITOL DRIVE)
CITY OF WAUWATOSA
MILWAUKEE COUNTY

CABINET TYPE: TS2
SIGNAL NO. S40-1117 CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED
Date 9/16/83 — JOHN A. WHITE, REGION TRAFFIC ENGINEER

APPROVED
Date 12/12/84 — H.O. PRICE, STATE TRAFFIC ENGINEER

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

PAGE 1 OF 4

INSTALL FAR RIGHT SIGNAL HEADS IN ALL QUADRANTS. 11-12-03
REPLACE SIGNAL EQUIPMENT, BASES, PULL BOXES, CONTROLLER & CONDUIT, RELOCATE CABINET. 12-12-02
SB OFF RAMP ADVANCE FLASHER INSTALLED 5-4-89
OPTICALLY PROGRAMMED HEADS INSTALLED. 9-18-69
INITIAL INSTALLATION. 11-29-67

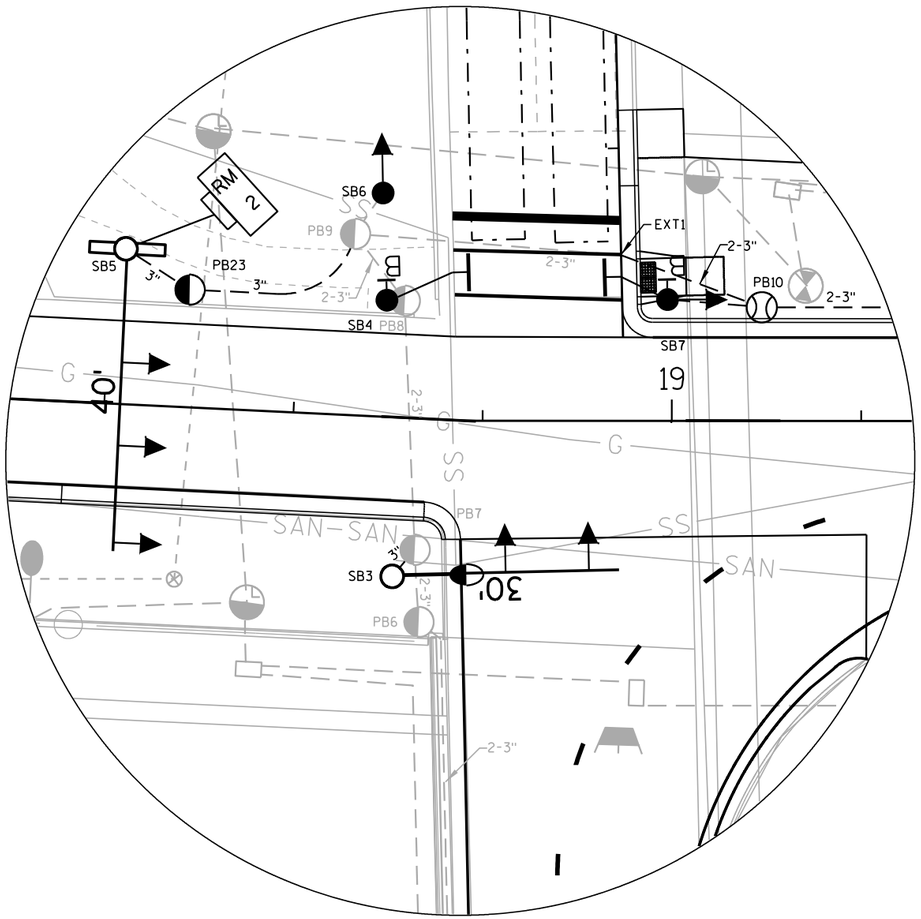
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 68	E

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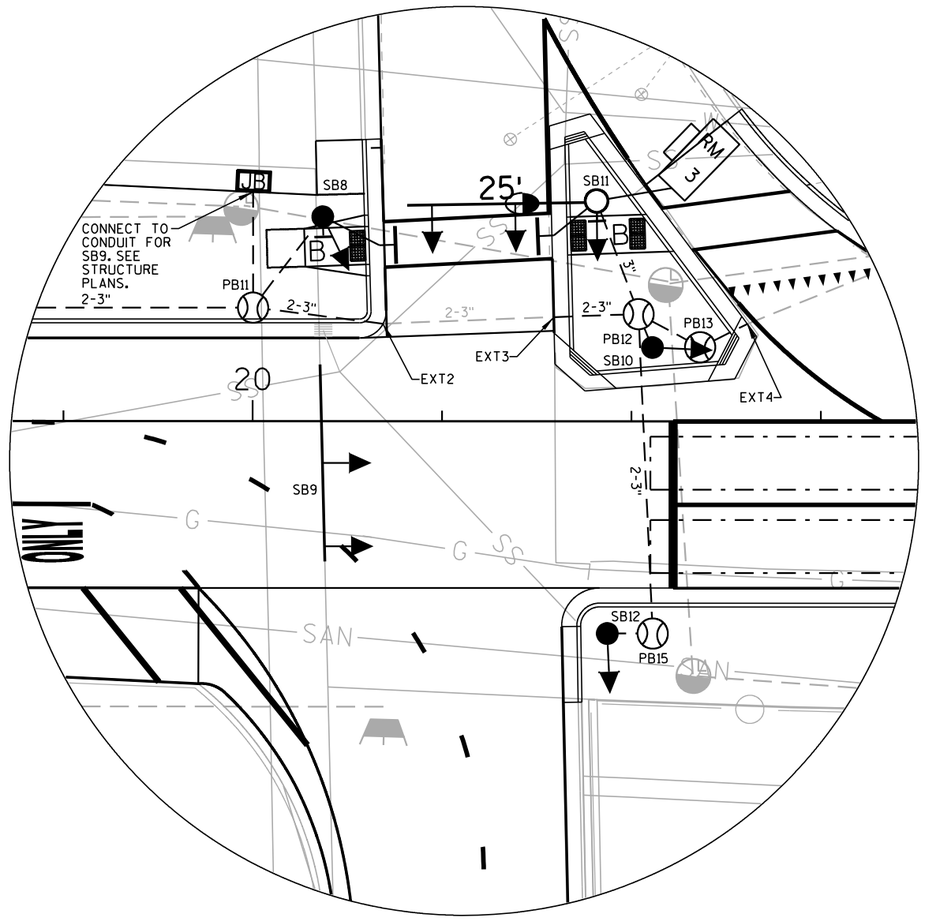
WISDOT/CADDS SHEET 42

10-31-16 JMM

2



DETAIL A



DETAIL B

TRAFFIC CONTROL SIGNAL
IH-41 & STH 190 (W. CAPITOL DRIVE)
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1117

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

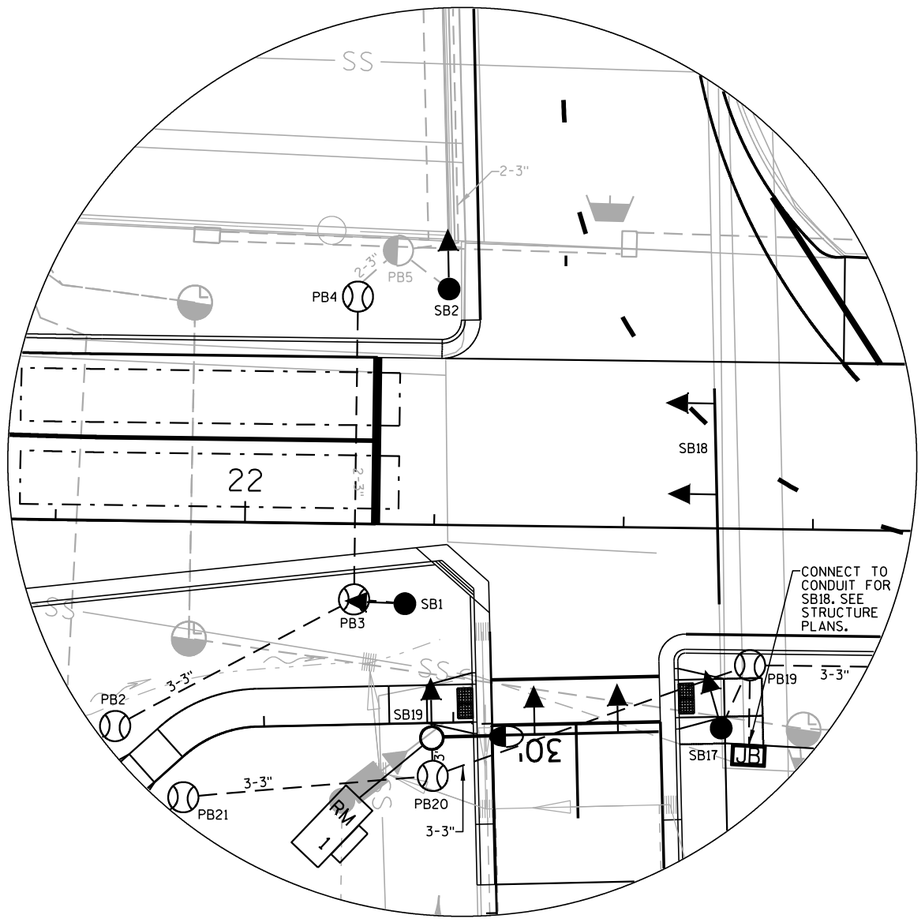
PAGE 2 OF 4

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

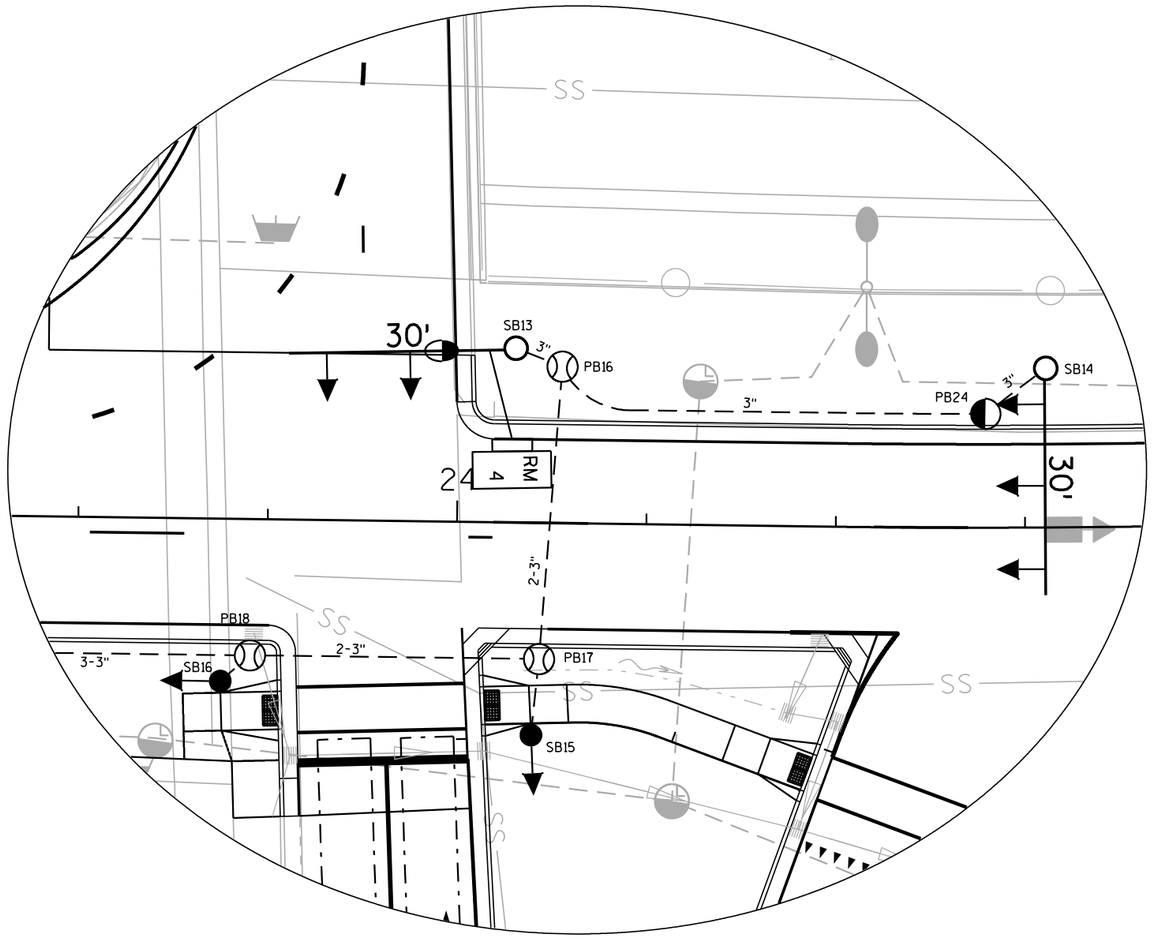
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WISDOT/CADDS SHEET 42

2



DETAIL C



DETAIL D

TRAFFIC CONTROL SIGNAL
IH-41 & STH 190 (W. CAPITOL DRIVE)
CITY OF WAUWATOSA
MILWAUKEE COUNTY

SIGNAL NO. S40-1117

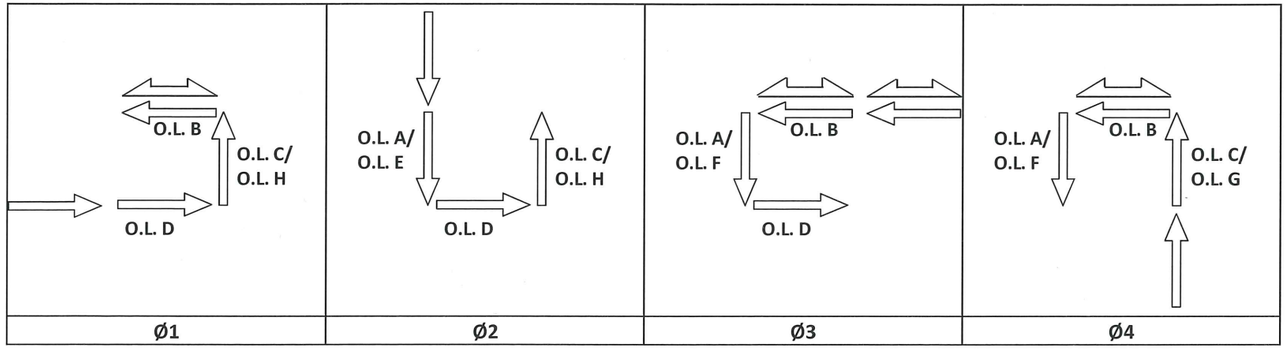
REGION CONTACT: JOYCE MURPHY
DESIGNED BY: FORWARD 45
REVISED BY:

PAGE 3 OF 4

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

	HEAD NUMBERS	FLASH
Ø1	1,2,3	R
Ø2	23,24,25	R
Ø3	8,9,10	R
Ø4	15,16,17	R
Ø1P	31,32	-
Ø2P		
Ø3P	31,32,33,34	-
Ø4P	31,32	-
OLA	26,27,28,29,30	R
OLB	11,12,13,14	R, R←
OLC	18,19,20,21,22	R
OLD	4,5,6,7	R, R←
OLE		
OLF		
OLG		

	HEAD NUMBERS	GREEN INDICATION
Ø1	1,2,3	G,↑G,↑G
Ø2	23,24,25	G,↑G,↑G
Ø3	8,9,10	G,↑G,↑G
Ø4	15,16,17	G,↑G,↑G
OLA	26,27,28,29,30	G, G←, G←, ↑G, ↑G
OLB	11,12,13,14	G, ↑G / G←, ↑G, G←
OLC	18,19,20,21,22	G, G←, G←, ↑G, ↑G
OLD	4,5,6,7	G, ↑G / G←, ↑G, G←
OLE	29,30	G←, G←
OLF	27,28	↑G,↑G
OLG	21,22	G←, G←
OLH	19,20	↑G,↑G



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	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	X

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

CONTROLLER LOGIC

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

N

DETECTOR LOGIC

DETECTOR INPUT	1	3	5	7	9	11	13	15
PLAN LOOP DETECTOR*(S)	11	21	31	41				
CALLED PHASE	1	2	3	4				
CALL OPTION	X	X	X	X				
DELAY TIME								
EXTENTION OPTION	X	X	X	X				
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

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

DETECTOR INPUT	2	4	6	8	10	12	14	16
PLAN LOOP DETECTOR*(S)	12	22	32	42				
CALLED PHASE	1	2	3	4				
CALL OPTION	X	X	X	X				
DELAY TIME								
EXTENTION OPTION	X	X	X	X				
EXTEND TIME								
USE ADDED INITIAL								
CROSS SWITCH PHASE								

18	20	22	24	26	28	30	32	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. START OF OVERLAP DELAY EXISTS FOR O.L. F AND O.L. H.
2. PED HEADS 31 AND 32 AND RESPECTIVE BUTTONS SHALL LAND ON Ø1 PED. PED HEADS 33 AND 34 AND RESPECTIVE BUTTONS SHALL LAND ON Ø3 PED.
3. CABINET IS EQUIPPED WITH A BATTERY BACKUP.

10-31-16 DTM
10/31/16 MM

IH-41 & STH 190 (W. CAPITOL DRIVE)
CITY OF MILWAUKEE
MILWAUKEE COUNTY
SIGNAL NO: S40-1117 CABINET TYPE: TS2
CONTROLLER TYPE: ECONOLITE
DATE: 10/16 PAGE NO. 4 OF 4

FILE NAME : \\WKERTOVFILPI01\n3public\SPO\Operations\Signals\Databases\Signal Intersection Files\S40-1117\PLANS\Econolite SEQ.pptm PLOT DATE : 10/27/2016 8:30AM PLOT BY : WOLFORD, DERRIN PLOT NAME : _____ PLOT SCALE : 1:1

PROJECT ID:	1360-09-71
INTERSECTION:	IH-41 & STH 190

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 AHEAD>	<GREEN LEFT>	<FLASHING YELLOW>	D/WALK	WALK	PED BUTTON
SB1	7	1	RED	ORG	GRN								
SB2	7	26	RED	ORG	GRN								
SB3	12	24	RED	ORG				GRN					
		25	RED	ORG				GRN					
SB4	7	31									BLK	BLU	
		B											WHT/BLK
SB5	12	12	RED	ORG				GRN	GRN				
		13	RED	ORG				GRN					
		14				RED	ORG		GRN				
SB6	7	23	RED	ORG	GRN								
SB7	12	11	RED	ORG	GRN								
		32									BLK	BLU	
		B											WHT/BLK
SB8	12	19	RED	ORG				BLU/BLK	GRN				
		33									BLK	BLU	
		B											WHT/BLK
SB9	12	9	RED	ORG				GRN					
		10	RED	ORG				GRN					
SB10	7	8	RED	ORG	GRN								
SB11	12	20	RED	ORG				BLU/BLK	GRN				
		21	RED	ORG				GRN	GRN/BLK				
		22	RED	ORG				GRN	GRN/BLK				
		34									BLK	BLU	
		B											WHT/BLK
SB12	7	18	RED	ORG	GRN								
SB13	12	16	RED	ORG				GRN					
		17	RED	ORG				GRN					
SB14	12	5	RED	ORG				GRN	GRN				
		6	RED	ORG				GRN					
		7				RED	ORG		GRN				
SB15	12	15	RED	ORG	GRN								
SB16	12	4	RED	ORG	GRN								
SB17	12	27	RED	ORG				BLU/BLK	GRN				
SB18	12	2	RED	ORG				GRN					
		3	RED	ORG				GRN					
SB19	12	28	RED	ORG				BLU/BLK	GRN				
		29	RED	ORG				GRN	GRN/BLK				
		30	RED	ORG				GRN	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.



(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	JB
JB	SB9
SB9	SB10
SB10	SB11
SB11	SB12
CB1	SB19
SB19	SB17
SB17	JB
JB	SB18
SB18	SB16
SB16	SB15
SB15	SB13
SB13	SB14

PULL BOX BONDING JUMPER 10 AWG GRN XLP	
FROM	TO
PB1	CB1
PB2	SB1
PB3	SB1
PB4	SB2
PB5	SB2
PB6	SB3
PB7	SB3
PB8	SB4
PB9	SB6
PB10	SB7
PB11	SB8
PB12	SB10
PB15	SB12
PB16	SB13
PB17	SB15
PB18	SB16
PB19	SB17
PB20	SB19
PB21	SB19
PB22	CB1
PB23	SB5
PB24	SB14

RADAR DETECTION CABLE	
FROM	TO
CB1	SB5 (RM2)
CB1	SB11 (RM3)
CB1	SB13 (RM4)
CB1	SB19 (RM1)

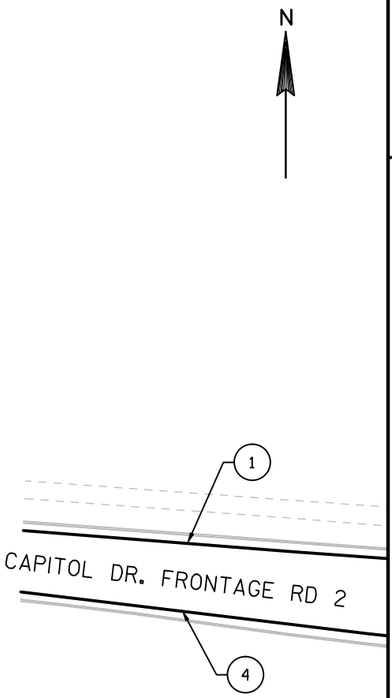
LIGHTING UF 10 AWG W/ GROUND	
FROM	TO
CB1	SB3
SB3	SB11
CB1	SB19
SB19	SB13

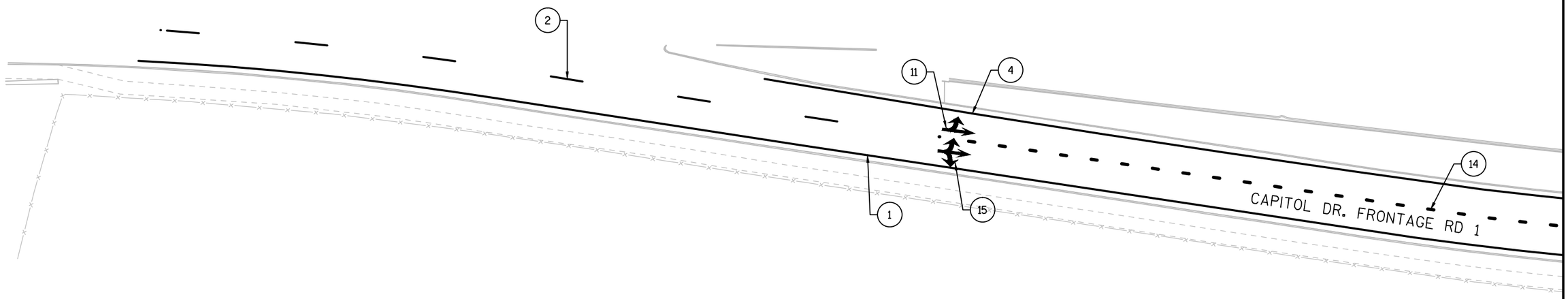
PAGE 2 OF 2

2

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH WHITE
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DASHED WHITE 12.5 FT LINE 37.5 FT SKIP
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 2 FT LINE 6 FT SKIP
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH YELLOW
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING STOP LINE 18-INCH EPOXY
7. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH YELLOW
8. PAVEMENT MARKING WORDS EPOXY
9. PAVEMENT MARKING ARROWS EPOXY TYPE 1
10. PAVEMENT MARKING ARROWS EPOXY TYPE 2
11. PAVEMENT MARKING ARROWS EPOXY TYPE 3
12. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH
13. PAVEMENT MARKING CROSS WALK 6-INCH EPOXY
14. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 3 FT LINE 9 FT SKIP
15. PAVEMENT MARKING ARROWS EPOXY TYPE 6
16. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DOUBLE YELLOW
17. PAVEMENT MARKING 12-INCH EPOXY WHITE



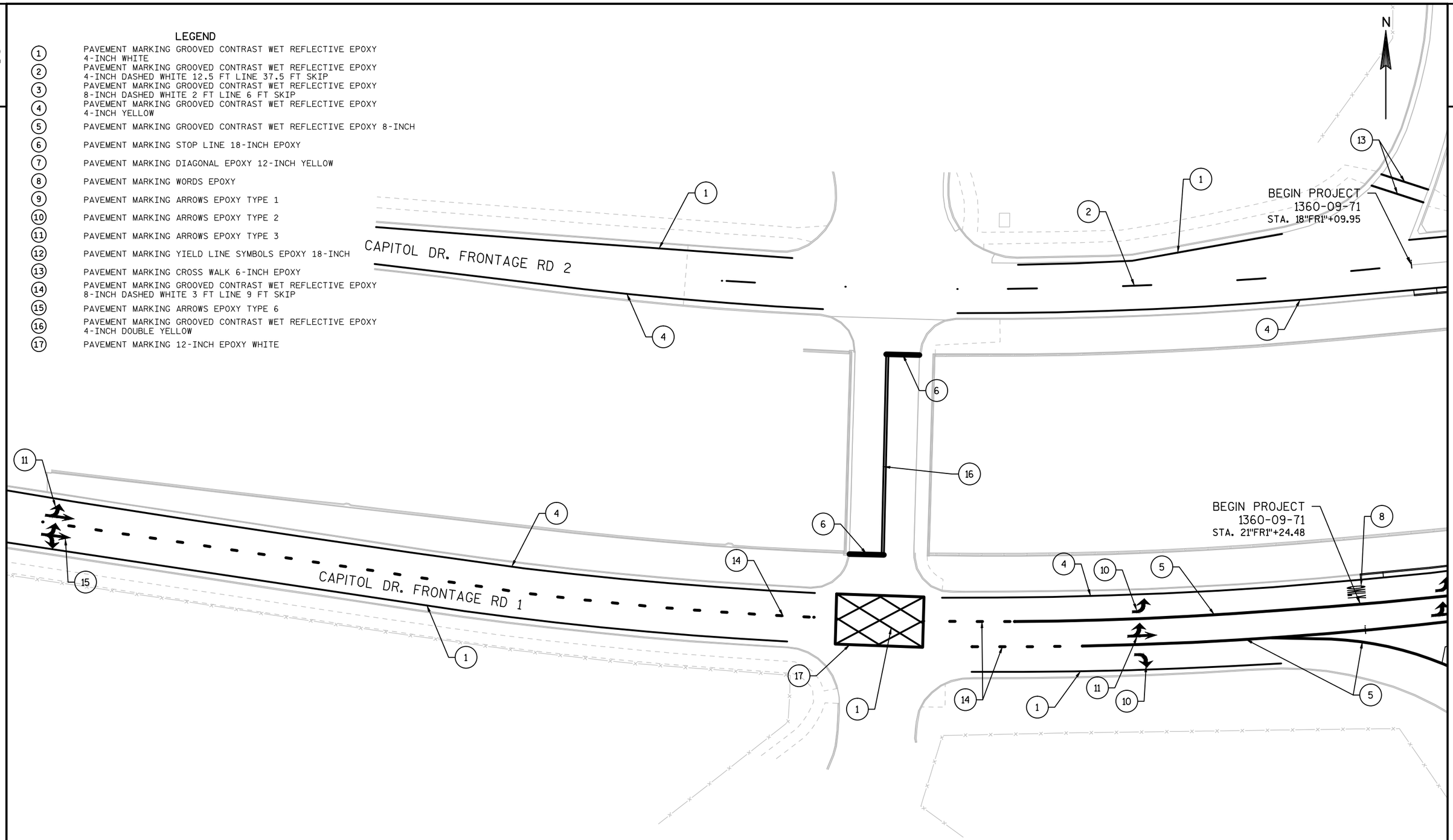


2

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PAVEMENT MARKINGS	SHEET 74	E

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH WHITE
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DASHED WHITE 12.5 FT LINE 37.5 FT SKIP
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 2 FT LINE 6 FT SKIP
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH YELLOW
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING STOP LINE 18-INCH EPOXY
7. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH YELLOW
8. PAVEMENT MARKING WORDS EPOXY
9. PAVEMENT MARKING ARROWS EPOXY TYPE 1
10. PAVEMENT MARKING ARROWS EPOXY TYPE 2
11. PAVEMENT MARKING ARROWS EPOXY TYPE 3
12. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH
13. PAVEMENT MARKING CROSS WALK 6-INCH EPOXY
14. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 3 FT LINE 9 FT SKIP
15. PAVEMENT MARKING ARROWS EPOXY TYPE 6
16. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DOUBLE YELLOW
17. PAVEMENT MARKING 12-INCH EPOXY WHITE



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PAVEMENT MARKINGS	SHEET 75	E

LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH WHITE
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DASHED WHITE 12.5 FT LINE 37.5 FT SKIP
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 2 FT LINE 6 FT SKIP
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH YELLOW
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15. PAVEMENT MARKING ARROWS EPOXY TYPE 6
16. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DOUBLE YELLOW
17. PAVEMENT MARKING 12-INCH EPOXY WHITE

BEGIN PROJECT
1360-09-71
STA. 18"FR1"+09.95

BEGIN PROJECT
1360-09-71
STA. 21"FR1"+24.48

CAPITOL DR FRONTAGE RD 1

CAPITOL DR SB EXIT RAMP

CAPITOL DR NB ENTRANCE RAMP

CAPITOL DR SB ENTRANCE RAMP

CAPITOL DR NB EXIT RAMP

20"FR2"

22"FR2"

22"FR1"

24"FR1"

11'

13'

12'

ONLY

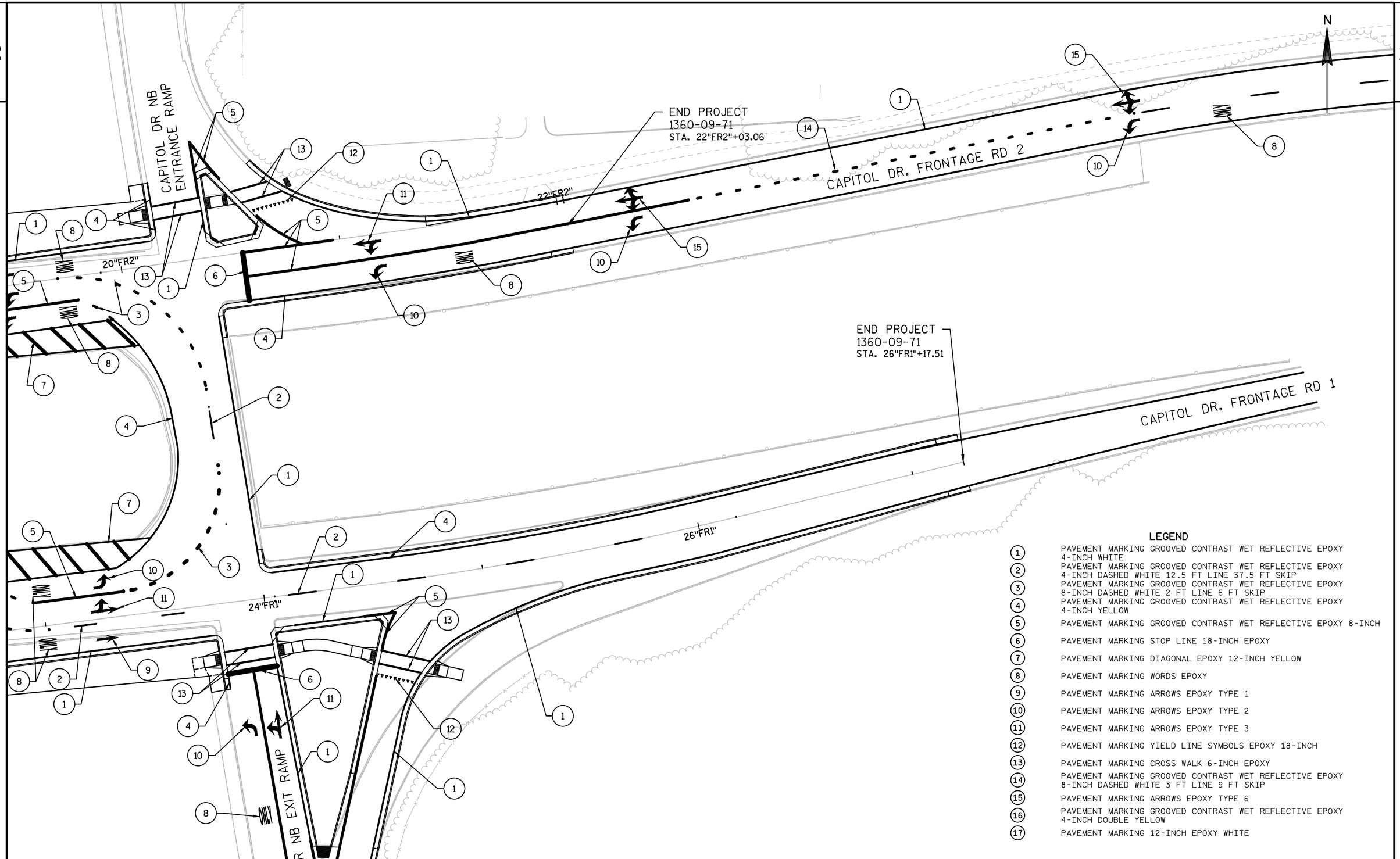
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PROJECT NO:1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PAVEMENT MARKINGS	SHEET 76	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_PM.DWG
LAYOUT NAME - 021201_PD

PLOT DATE : 10/31/2016 8:22 AM PLOT BY : VERGOU, GEORGIA PLOT NAME : PLOT SCALE : 1 IN:40 FT

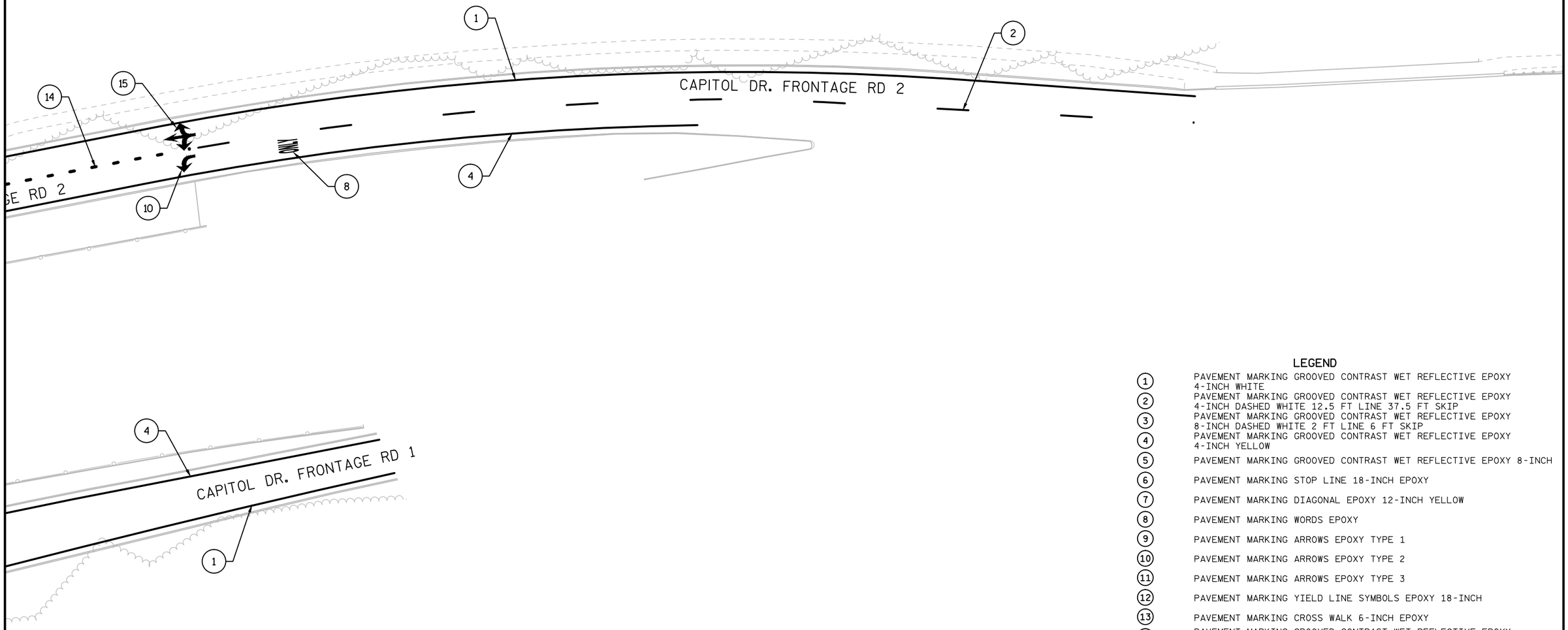
WISDOT/CADDS SHEET 42



LEGEND

1. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH WHITE
2. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DASHED WHITE 12.5 FT LINE 37.5 FT SKIP
3. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 2 FT LINE 6 FT SKIP
4. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH YELLOW
5. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6. PAVEMENT MARKING STOP LINE 18-INCH EPOXY
7. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH YELLOW
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12. PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH
13. PAVEMENT MARKING CROSS WALK 6-INCH EPOXY
14. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 3 FT LINE 9 FT SKIP
15. PAVEMENT MARKING ARROWS EPOXY TYPE 6
16. PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DOUBLE YELLOW
17. PAVEMENT MARKING 12-INCH EPOXY WHITE

PROJECT NO:1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PAVEMENT MARKINGS	SHEET 77	E



LEGEND

1	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH WHITE
2	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DASHED WHITE 12.5 FT LINE 37.5 FT SKIP
3	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 2 FT LINE 6 FT SKIP
4	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH YELLOW
5	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH
6	PAVEMENT MARKING STOP LINE 18-INCH EPOXY
7	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH YELLOW
8	PAVEMENT MARKING WORDS EPOXY
9	PAVEMENT MARKING ARROWS EPOXY TYPE 1
10	PAVEMENT MARKING ARROWS EPOXY TYPE 2
11	PAVEMENT MARKING ARROWS EPOXY TYPE 3
12	PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH
13	PAVEMENT MARKING CROSS WALK 6-INCH EPOXY
14	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH DASHED WHITE 3 FT LINE 9 FT SKIP
15	PAVEMENT MARKING ARROWS EPOXY TYPE 6
16	PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH DOUBLE YELLOW
17	PAVEMENT MARKING 12-INCH EPOXY WHITE

PROJECT NO:1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	PAVEMENT MARKINGS	SHEET 78	E

2

2

N

CAPITOL FRONTAGE RD 2

STH 190

DETOUR TRAFFIC FROM IH-41 SB TO CAPITOL EB THROUGH HAMPTON AND HWY 100

CAPITOL DR SB ENTRANCE RAMP

IH-41

IH-41

CAPITOL DR SB EXIT RAMP

CAPITOL DR NB EXIT RAMP

CAPTIOL DR NB ENTRANCE RAMP

DETOUR TRAFFIC FROM IH-41 NB TO CAPITOL WB THROUGH BURLEIGH AND 124TH
DETOUR TRAFFIC FROM IH-41 NB TO CAPITOL EB THROUGH BURLEIGH AND HWY 100

W CAPITOL DRIVE

CAPITOL FRONTAGE RD 1

WORK AREA

PROJECT NO: 1360-09-01	HWY: IH-41	COUNTY: MILWAUKEE	CONSTRUCTION OVERVIEW COMPLETE CLOSURE	SHEET 79	E

2

GENERAL NOTES FOR TRAFFIC CONTROL

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

2. CONFLICTING TYPE II TRAFFIC SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. COVERING OR REMOVAL OF SIGNS SHALL BE INCLUDED IN "TRAFFIC CONTROL SURVEILLANCE MAINTENANCE" ITEM.

3. A FLAGGER WAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER. FLAGGING IS NOT PERMITTED ON FREEWAY LANES.

4. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

6. FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT

7. ALL TYPE III BARRICADES BARRIER SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

8. SINGLE LANE AND SHOULDER CLOSURES ON THE FREEWAY ARE ALLOWED ONLY AT NIGHTTIME HOURS, FOR REPLACEMENT/INSTALLATION OF LIGHTING UNITS.

9. SECONDARY OPERATIONS SUCH AS INSTALLATION OF SIGNAL, AND LIGHTING EQUIPMENT SHALL BE COORDINATED WITHT THE MAJOR OPERATIONS OF PAYMENT AND STORM SEWER REMOVAL/INSTALLATION IN ORDER TO UTILIZE THE AVAILABLE CLOSURES.

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- (15) — TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

N

END ROAD WORK
G20-2A
48"X24"

500'

CAPITOL DR SB
ENTRANCE RAMP

IH-41 SB

IH-41 NB

25'

CAPITOL DR NB
EXIT RAMP

COVER EXISTING EXIT SIGN

15

200'

1500'

1500'

1000'

ROAD WORK AHEAD
W20-1-A

RAMP CLOSED AHEAD
W20-3(MOD)

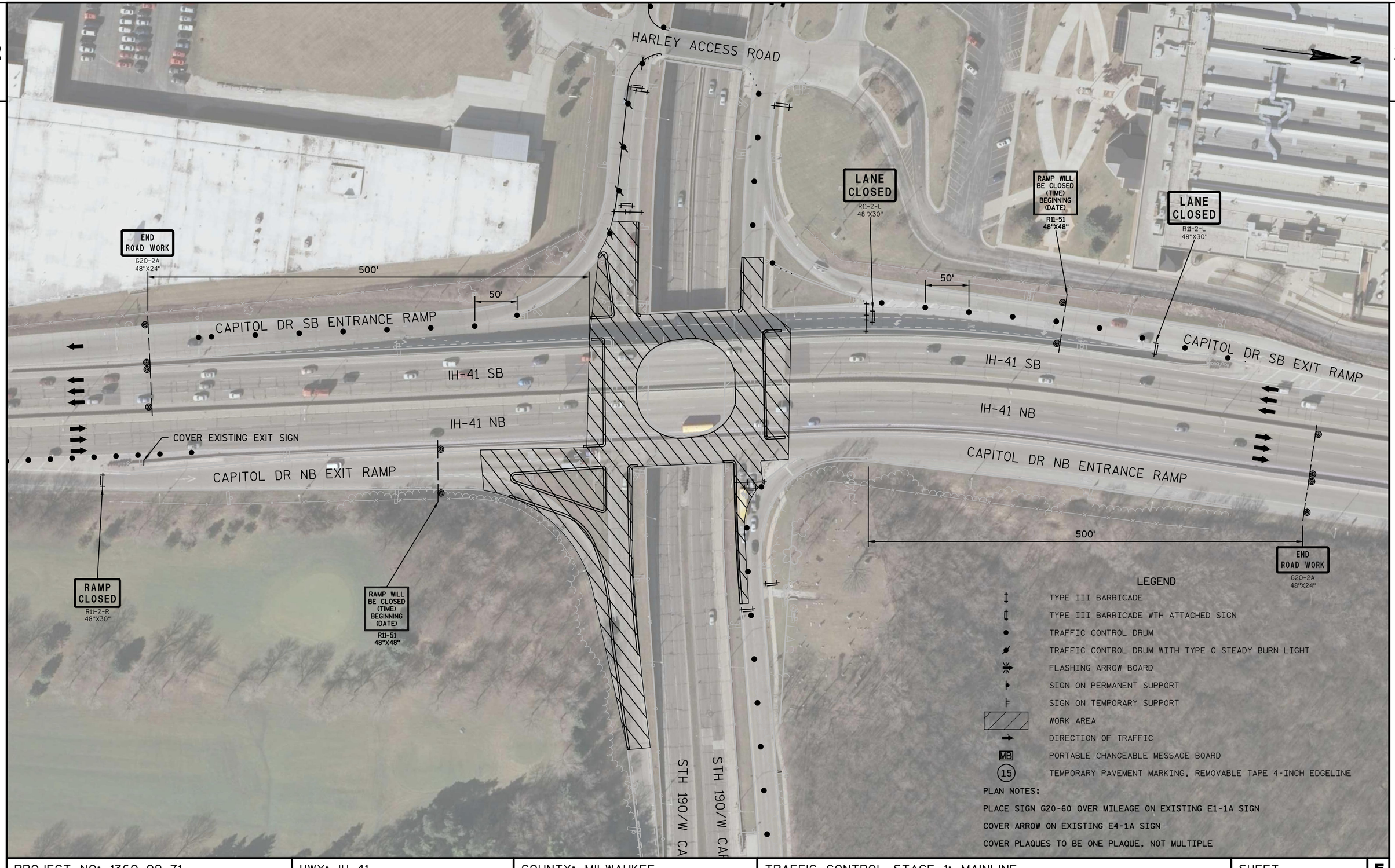
RAMP CLOSED 1000 FT
W20-3(MOD)

RAMP CLOSED
R11-2-R
48"X30"

RAMP CLOSED
R11-2-R
48"X30"

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: MAINLINE	SHEET 81	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- (15) — TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: MAINLINE	SHEET 82	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 15 — TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

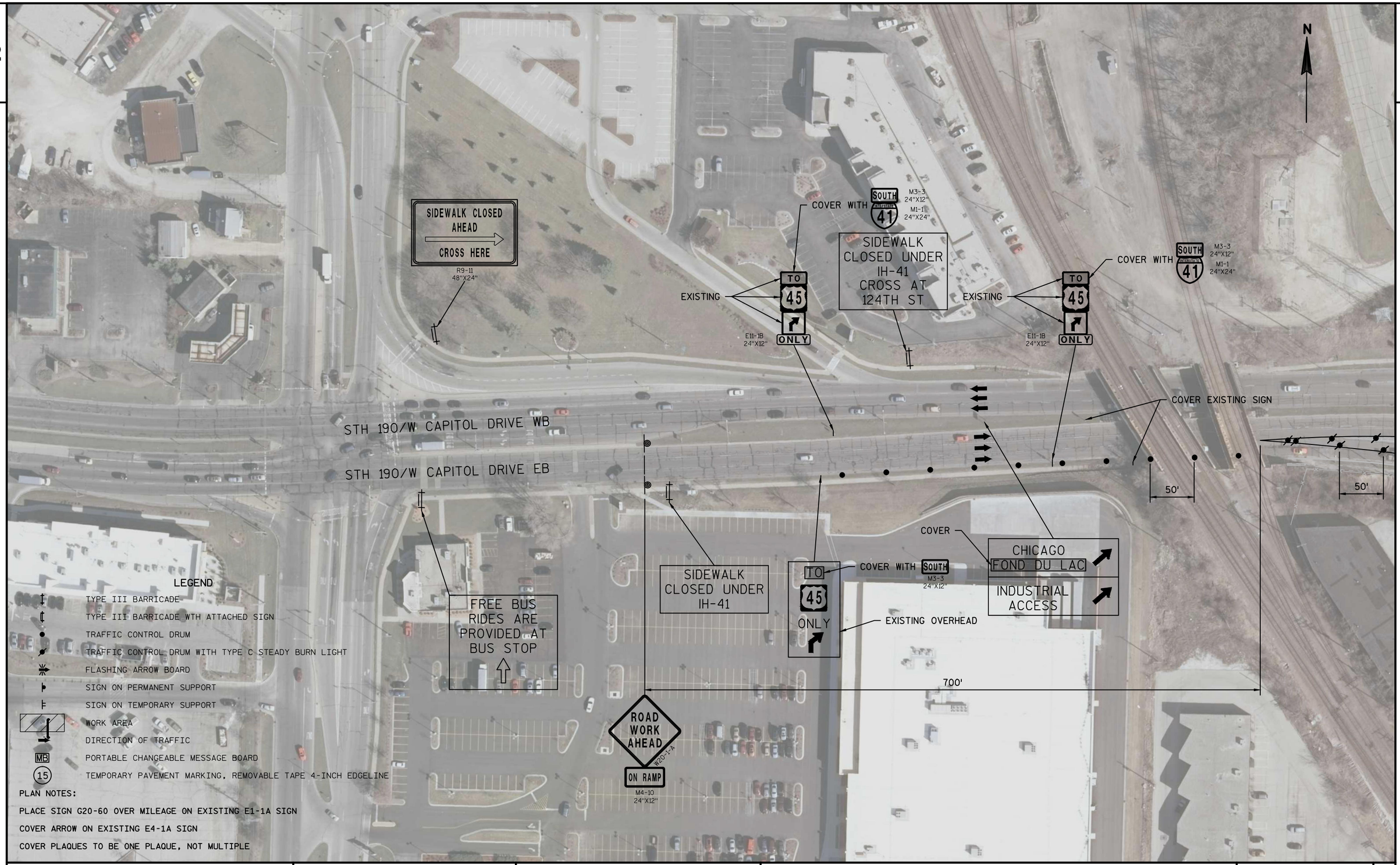
PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: MAINLINE	SHEET 83	E



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: W CAPITOL DR	SHEET 84 E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC1.DWG
LAYOUT NAME - CONSTRUCTION OVERVIEW STAGE II (1)

PLOT DATE : 10/31/2016 9:36 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

COVER WITH SOUTH INTERSTATE 41 M3-3 24"X12" M1-1 24"X24"

EXISTING TO 45 ONLY E11-1B 24"X12"

SIDEWALK CLOSED UNDER IH-41 CROSS AT 124TH ST

COVER EXISTING SIGN

50'

SIDEWALK CLOSED UNDER IH-41

COVER TO 45 ONLY

COVER WITH SOUTH INTERSTATE 41 M3-3 24"X12"

EXISTING OVERHEAD

COVER CHICAGO FOND DU LAC / INDUSTRIAL ACCESS

700'

ROAD WORK AHEAD W20-1-A

ON RAMP M4-10 24"X12"

15

50'

135'

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

HARLEY ACCESS ROAD

END ROAD WORK G20-2A 48"X24"

500'

LANE CLOSED R11-2-L 48"X30"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- 15 TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: W CAPITOL DR	SHEET 85	E

2

2

END ROAD WORK
G20-2A
48"X24"

500'

SIDEWALK CLOSED
R9-9
24"X12"

50'

CAPITOL DR SB EXIT RAMP

IH-41 SB

IH-41 NB

CAPITOL DR NB ENTRANCE RAMP

SIDEWALK CLOSED
R9-9
24"X12"

ROAD CLOSED
R11-2
48"X30"

LANE CLOSED
R11-2-L
48"X30"

COVER THIS PORTION

SOUTH NORTH
41 41
45 45
USE LEFT LANE

EXISTING

N

LANE CLOSED
R11-2-L
48"X30"

CAPITOL FRONTAGE RD 2

50'

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

CAPITOL FRONTAGE RD 1

15

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

50'

15

LANE CLOSED
R11-2-L
48"X30"

HARLEY ACCESS ROAD

LANE CLOSED
R11-2-L
48"X30"

ROAD CLOSED
R11-2
48"X30"

50'

15

CAPITOL DR SB ENTRANCE RAMP

IH-41 SB

IH-41 NB

CAPITOL DR NB EXIT RAMP

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 15 — TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

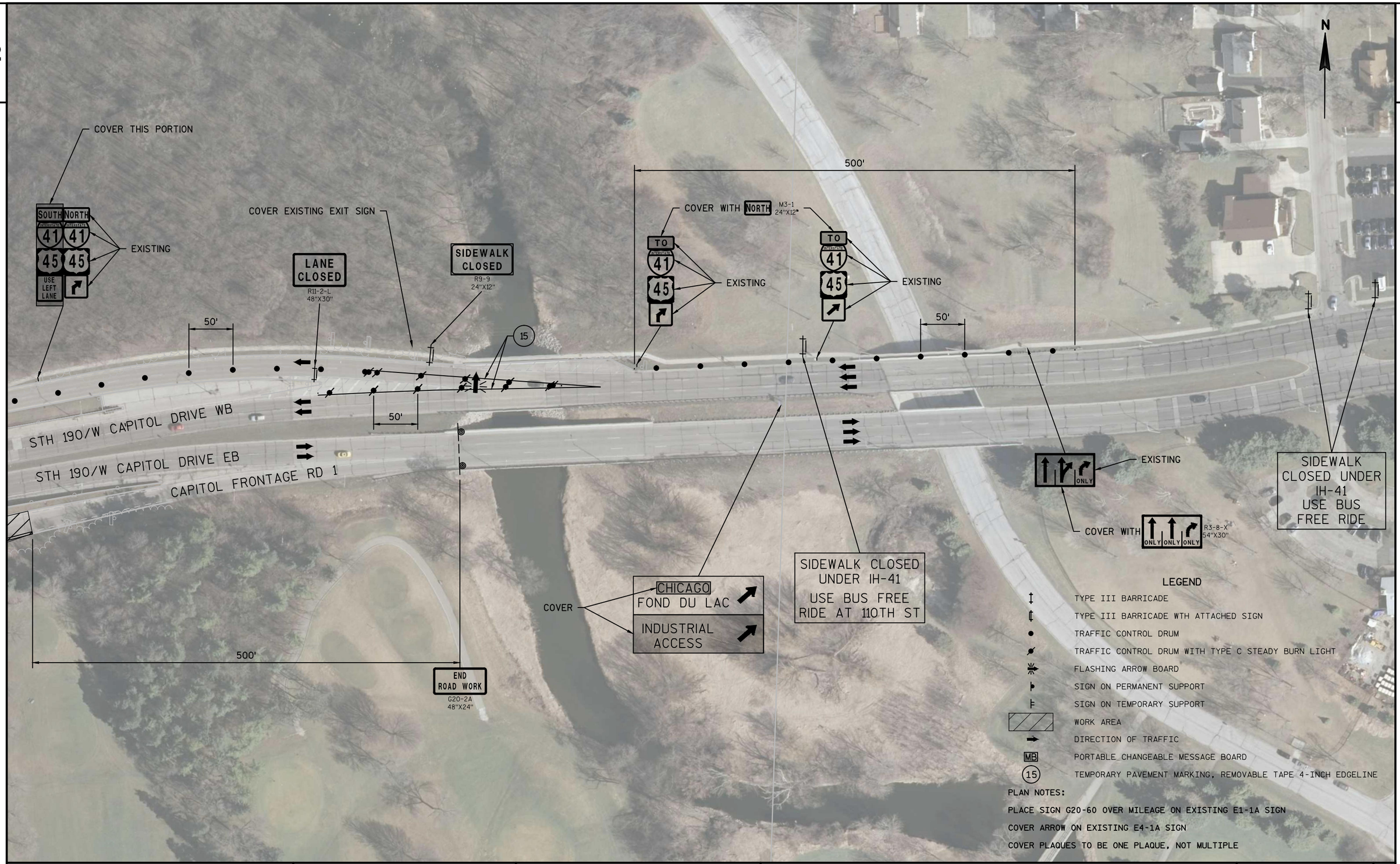
COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: W CAPITOL DR	SHEET	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC1.DWG
LAYOUT NAME - CONSTRUCTION OVERVIEW STAGE II (1)

PLOT DATE : 10/31/2016 9:36 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: W CAPITOL DR	SHEET 87	E

2

2

N

500'

1000'

CHICAGO
FOND DU LAC
INDUSTRIAL ACCESS

COVER

COVER WITH NORTH M3-1 24"X12"

TO INTERSTATE 41 45

EXISTING

50'

SIDEWALK CLOSED UNDER IH-41
USE BUS FREE RIDE AT 110TH ST

COVER WITH DETOUR SOUTH M04-8 24"X12" M3-3 24"X12"

*SIGN ALSO SHOWN ON DETOUR PLAN

EXISTING

TO INTERSTATE 41 45

SIDEWALK CLOSED UNDER IH-41
USE BUS FREE RIDE

ROAD WORK AHEAD W20-1-A

ON RAMP M4-10 24"X12"

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

EXISTING

ONLY

COVER WITH ONLY ONLY ONLY R3-8-X 54"X30"

SIDEWALK CLOSED UNDER IH-41
USE BUS FREE RIDE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- 15 TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1: W CAPITOL DR	SHEET 88	E

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- (15) — TEMPORARY PAVEEMNT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

N

END ROAD WORK
G20-2A
48"X24"

500'

CAPITOL DR SB
ENTRANCE RAMP

IH-41 SB

IH-41 NB

100'

CAPITOL DR NB
EXIT RAMP

COVER EXISTING EXIT SIGN

15

200'

1500' 1500' 1000'

ROAD WORK AHEAD
W20-1-A

RAMP CLOSED AHEAD
W20-3(MOD)

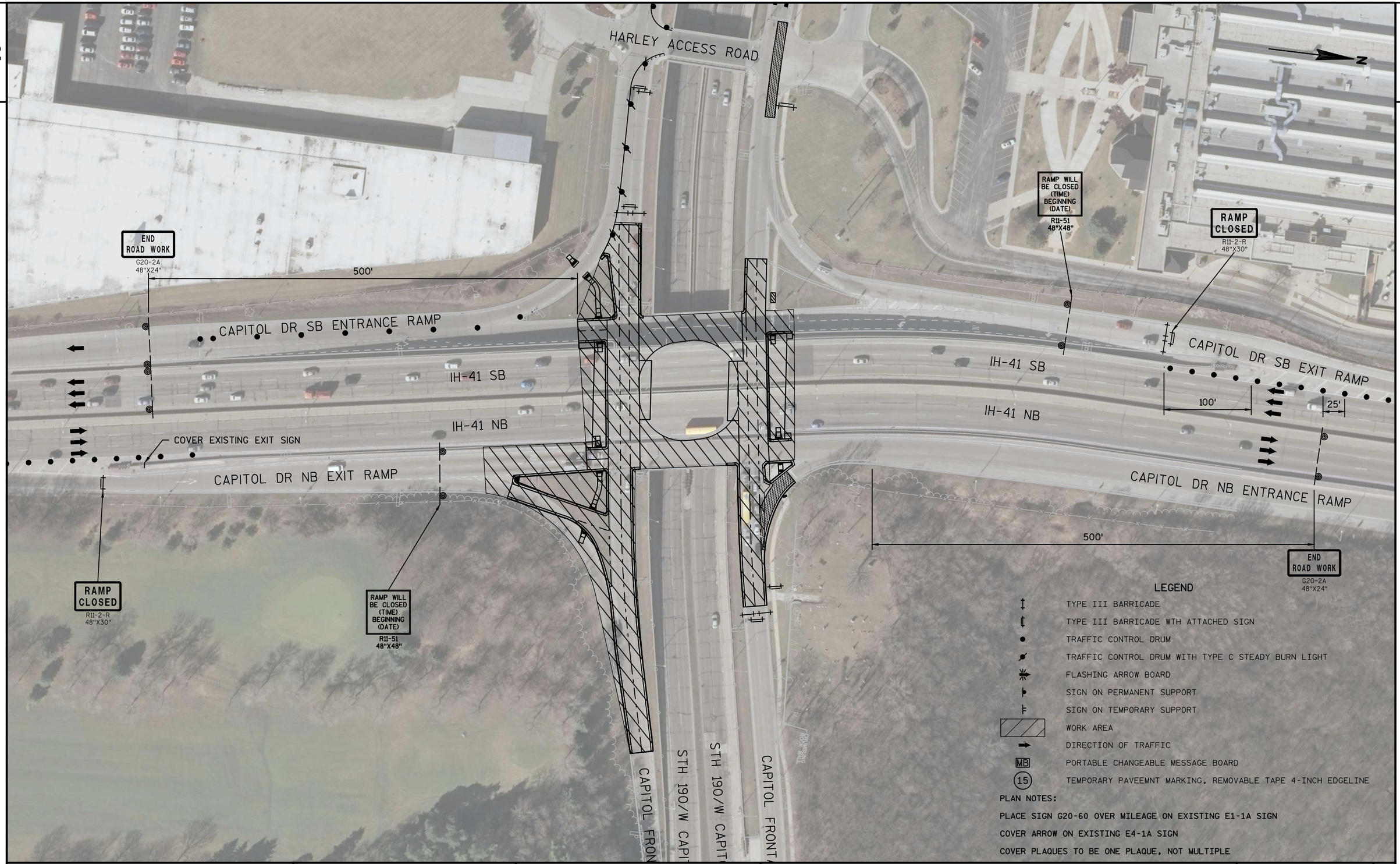
RAMP CLOSED 1000 FT
W20-3(MOD)

RAMP CLOSED
R11-2-R
48"X30"

RAMP CLOSED
R11-2-R
48"X30"

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: MAINLINE	SHEET 89	E

2



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: MAINLINE	SHEET 90	E

2



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: MAINLINE	SHEET 91	E

2

2

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
48"X24"

COVER WITH SOUTH 41 M3-3 24"X12" M1-1 24"X24"
EXISTING TO 45 ONLY
E11-1B 24"X12"

SIDEWALK CLOSED UNDER IH-41 CROSS AT 124TH ST

COVER WITH SOUTH 41 M3-3 24"X12" M1-1 24"X24"
EXISTING TO 45 ONLY
E11-1B 24"X12"

COVER WITH SOUTH 41 M3-3 24"X12" M1-1 24"X24"
EXISTING TO 45 ONLY
E11-1B 24"X12"

N

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

COVER EXISTING SIGN

50'

50'

15

FREE BUS RIDES ARE PROVIDED AT BUS STOP

SIDEWALK CLOSED UNDER IH-41

COVER
TO 45 ONLY
COVER WITH SOUTH M3-3 24"X12"
EXISTING OVERHEAD

CHICAGO FOND DU LAC
INDUSTRIAL ACCESS

700'

ROAD WORK AHEAD W20-1-A
ON RAMP M4-10 24"X12"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- 15 TEMPORARY PAVEEMNT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

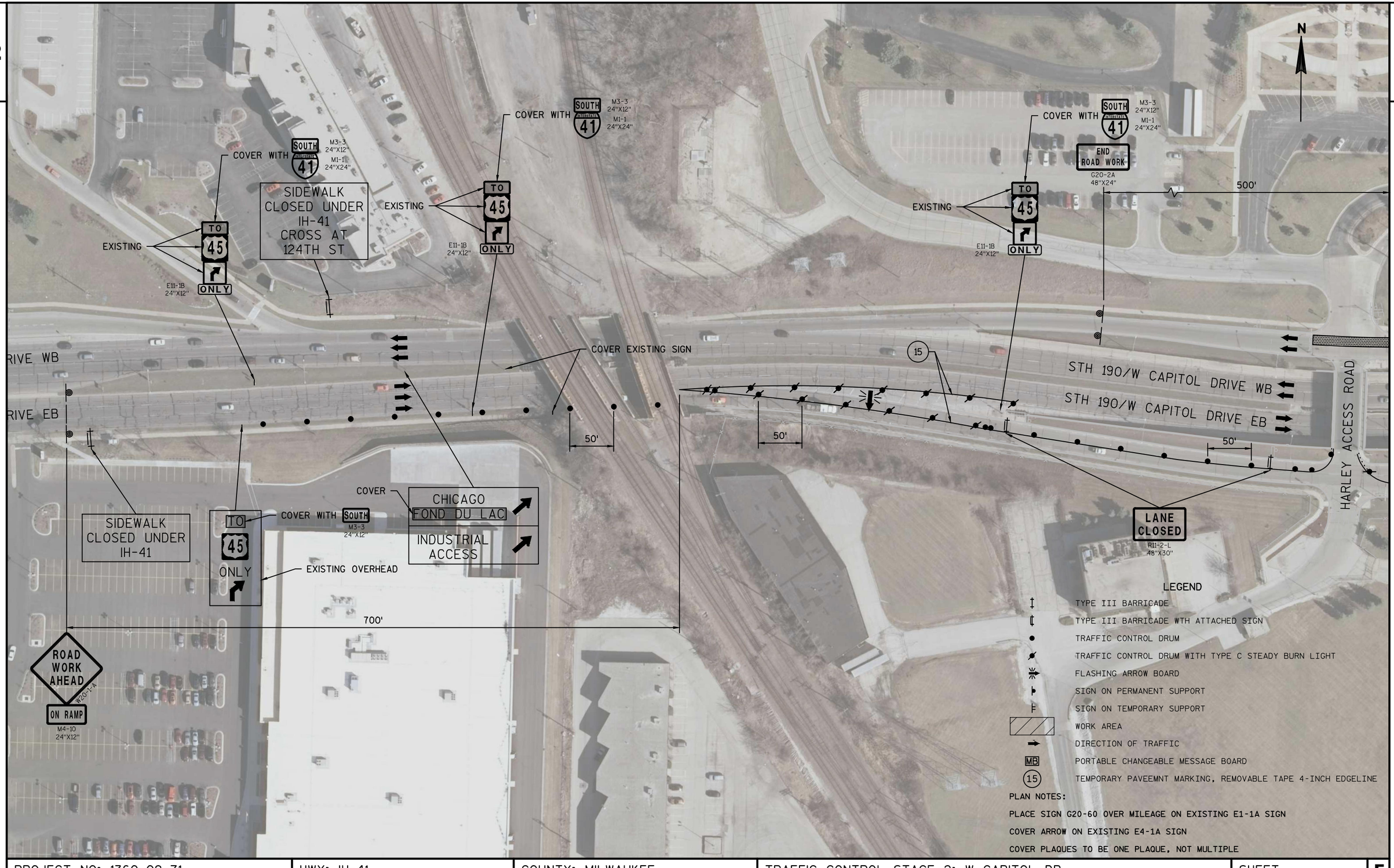
PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: W CAPITOL DR	SHEET 92	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 15 — TEMPORARY PAVEEMNT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: W CAPITOL DR	SHEET 93	E

2

N

END ROAD WORK
G20-2A
48"X24"

500'

SIDEWALK CLOSED
R9-9
24"X12"

LANE CLOSED
R11-2-L
48"X30"

ROAD CLOSED
R11-2
48"X30"

SIDEWALK CLOSED
R9-9
24"X12"

ROAD CLOSED
R11-2
48"X30"

ROAD CLOSED
R11-2
48"X30"

LANE CLOSED
R11-2-L
48"X30"

CAPITOL DR SB EXIT RAMP

IH-41 SB

IH-41 NB

CAPITOL DR NB ENTRANCE RAMP

CRUMBLING ROCK WALL

CAPITOL FRONTAGE RD 2

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

CAPITOL FRONTAGE RD 1

HARLEY ACCESS ROAD

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

50'

50'

15

15

CAPITOL DR SB ENTRANCE RAMP

IH-41 SB

IH-41 NB

CAPITOL DR NB EXIT RAMP

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- (15) TEMPORARY PAVEEMNT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: W CAPITOL DR	SHEET 94	E

2

2

N

SIDEWALK CLOSED
UNDER IH-41
USE BUS FREE
RIDE AT 110TH ST

500'

200'

50'

ROAD CLOSED
R11-2
48"X30"

COVERING EXISTING SIGN

LANE CLOSED
R11-2-L
48"X30"

COVERING EXISTING SIGN

COVER EXITING SIGN

25'

50'

15

CAPITOL FRONTAGE RD 2

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

CAPITOL FRONTAGE RD 1

SIDEWALK
CLOSED UNDER
IH-41
USE BUS
FREE RIDE

COVER

CHICAGO
FOND DU LAC

INDUSTRIAL
ACCESS

500'

END
ROAD WORK
G20-2A
48"X24"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- 15 — TEMPORARY PAVEEMNT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: W CAPITOL DR	SHEET 95	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC2.DWG
LAYOUT NAME - CONSTRUCTION OVERVIEW STAGE II (1)

PLOT DATE : 10/31/2016 9:37 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

N

500'

200'

200'

200'

200'

W04-2-R

RIGHT LANE CLOSED AHEAD

W20-3-A

RIGHT LANE CLOSED 500 FT

W20-5-D

ROAD WORK AHEAD

W20-1-A

ADD DETOUR M04-8 24"X12" TO EXISTING *SIGN ALSO SHOWN ON DETOUR PLAN

TO WISCONSIN 41 45

EXISTING

50'

COVERING EXISTING SIGN

15

50'

25'

STH 190/W CAPITOL DRIVE WB

STH 190/W CAPITOL DRIVE EB

LANE CLOSED

R11-2-L 48"X30"

SIDEWALK CLOSED UNDER IH-41 USE BUS FREE RIDE AT 110TH ST

SIDEWALK CLOSED UNDER IH-41 USE BUS FREE RIDE

SIDEWALK CLOSED UNDER IH-41 USE BUS FREE RIDE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- 15 TEMPORARY PAVEEMNT MARKING, REMOVABLE TAPE 4-INCH EDGELINE

PLAN NOTES:

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

COVER ARROW ON EXISTING E4-1A SIGN

COVER PLAQUES TO BE ONE PLAQUE, NOT MULTIPLE

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2: W CAPITOL DR	SHEET	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC2.DWG
LAYOUT NAME - CONSTRUCTION OVERVIEW STAGE II (1)

PLOT DATE : 10/31/2016 9:37 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:100 FT

N

124TH STREET

BURLEIGH STREET

NORTH AVENUE

IH-41

HWY 100

CAPITOL DRIVE

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

CAPITOL DR	CLOSED
HAMPTON AVE	1½
SILVER SPRING DR	2½

G20-60 108"X24"

PLACE FIXED MESSAGE SIGN UNDERNEATH SIGN BETWEEN POSTS

EXIT 44

190

CAPITOL DR

WEST ONLY

124TH ST

PLACE FIXED MESSAGE SIGN ON EXISTING SIGN

CAPITOL DR WEST ONLY	¼
BURLEIGH ST	1¼
NORTH AVE	2½

COVER EXISTING EXIT SIGN

EXIT 44

190

CAPITOL DR

¾ MILE

CLOSED

G20-60 108"X24"

PLACE SIGN G20-60 UNDERNEATH SIGN BETWEEN POSTS

EXIT 44

190

CAPITOL DR

CLOSED

G20-60 108"X24"

PLACE SIGN G20-60 UNDERNEATH SIGN BETWEEN POSTS

NORTH AVE WEST	¼
BURLEIGH ST	1
CAPITOL DR	CLOSED

G20-60 108"X24"

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

BURLEIGH ST	¼
CAPITOL DR	CLOSED
HAMPTON AVE	2½

G20-60 108"X24"

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	COVERING SIGNS: STAGE I

SHEET 97 E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC_COVER SIGNS.DWG
LAYOUT NAME - SHEET - (2)

PLOT DATE : 10/31/2016 9:37 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 44



5 5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	COVERING SIGNS: STAGE I	SHEET 98	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC_COVER SIGNS.DWG
LAYOUT NAME - SHEET - (2)

PLOT DATE : 10/31/2016 9:37 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 44

N

124TH STREET

124TH ST

NORTH AVENUE

BURLEIGH STREET

CAPITOL DRIVE

IH-41

HWY 100

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

CAPITOL DR	CLOSED
HAMPTON AVE	1½
SILVER SPRING DR	2½

G20-60 108"X24"

PLACE SIGN G20-60 UNDERNEATH SIGN BETWEEN POSTS

EXIT 44

190

CAPITOL DR

CLOSED

G20-60 108"X24"

CAPITOL DR	CLOSED
BURLEIGH ST	1¼
NORTH AVE	2½

G20-60 108"X24"

COVER EXISTING EXIT SIGN

EXIT 44

190

CAPITOL DR

3/4 MILE

CLOSED

G20-60 108"X24"

PLACE SIGN G20-60 UNDERNEATH SIGN BETWEEN POSTS

EXIT 44

190

CAPITOL DR

CLOSED

G20-60 108"X24"

PLACE SIGN G20-60 UNDERNEATH SIGN BETWEEN POSTS

COVER EXISTING EXIT SIGN

NORTH AVE WEST	¼
BURLEIGH ST	1
CAPITOL DR	CLOSED

G20-60 108"X24"

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

BURLEIGH ST	¼
CAPITOL DR	CLOSED
HAMPTON AVE	2½

G20-60 108"X24"

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN

HWY 100

5

5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	COVERING SIGNS: STAGE II	SHEET 99	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC_COVER SIGNS 2.DWG
LAYOUT NAME - SHEET - (2)

PLOT DATE : 10/31/2016 9:38 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:1000 FT

WISDOT/CADDS SHEET 44



5 5

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	COVERING SIGNS: STAGE II	SHEET 100	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_TC_COVER SIGNS 2.DWG
LAYOUT NAME - SHEET - (2)
PLOT DATE : 10/31/2016 9:38 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 44



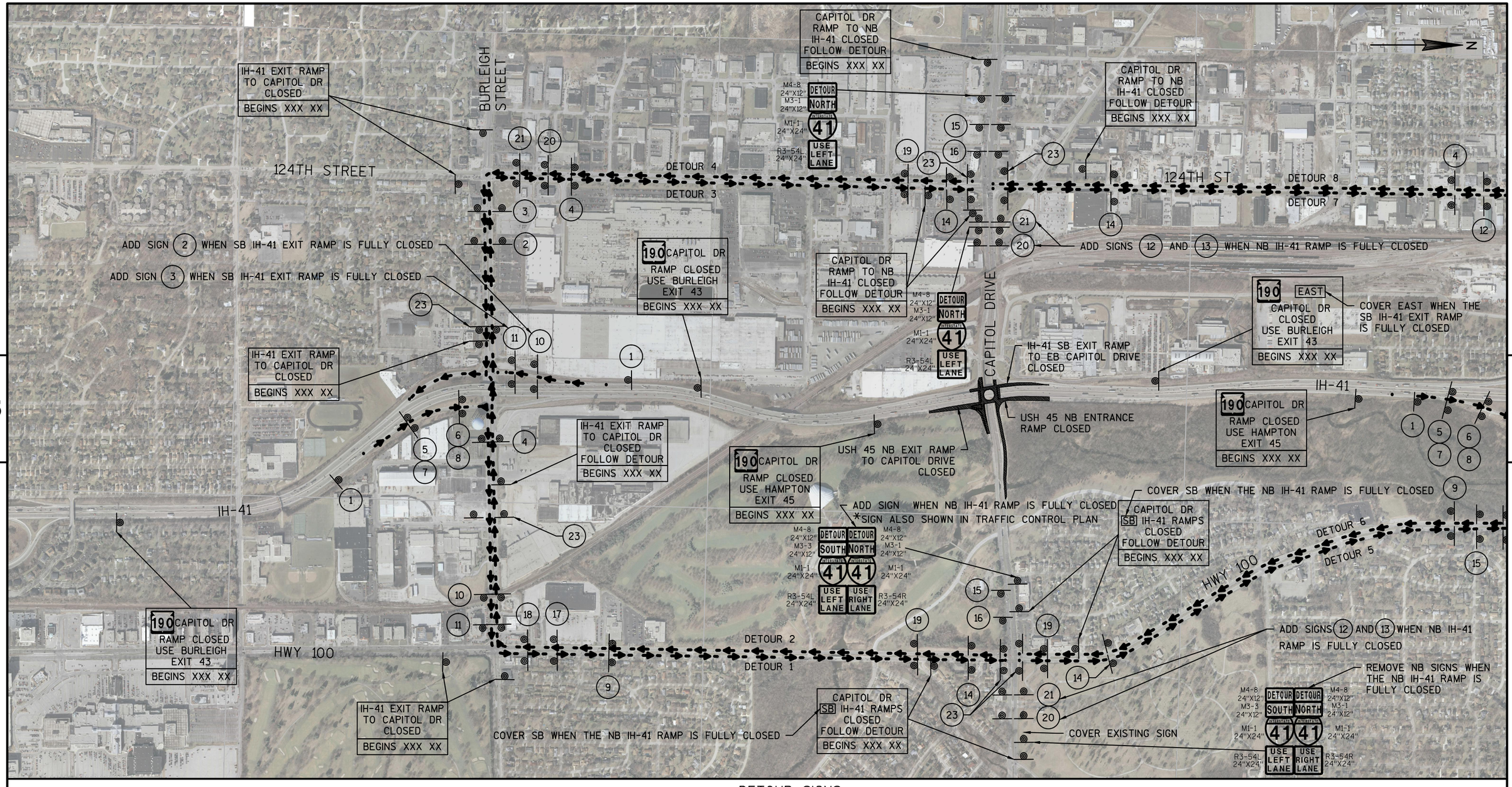
PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	DETOUR OVERVIEW	SHEET 101	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_DT_OVERVIEW.DWG
LAYOUT NAME - SHEET - (2)

PLOT DATE : 10/17/2016 12:02 PM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME :

PLOT SCALE : 1 IN:1000 FT

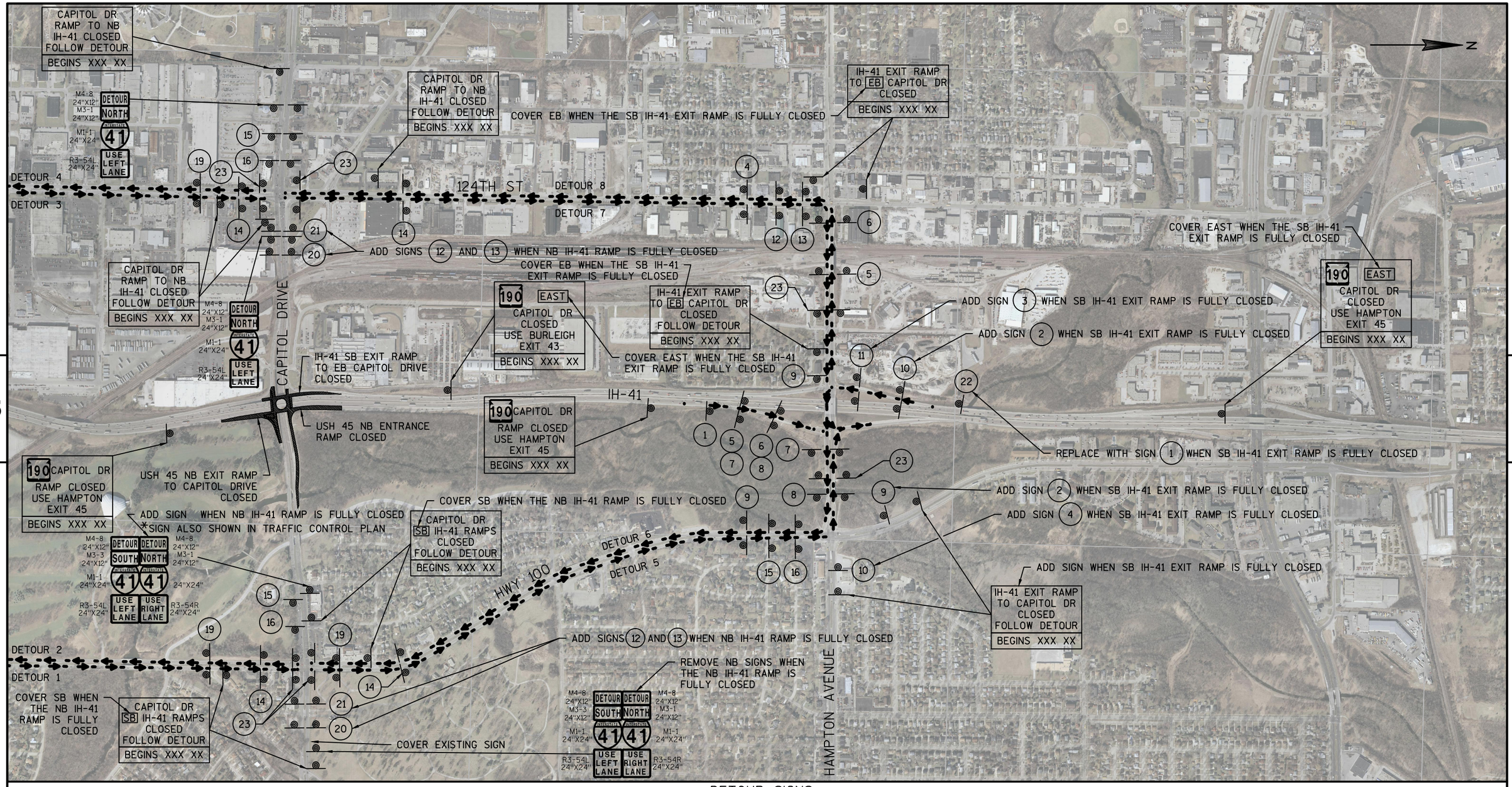
WISDOT/CADDS SHEET 44



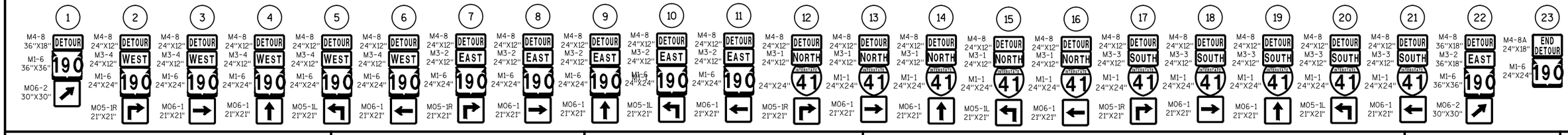
DETOUR SIGNS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
M4-8 36"X18"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 24"X12"	M4-8 36"X18"	M4-8A 24"X18"
DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	DETOUR	END DETOUR
190	WEST 190	WEST 190	WEST 190	WEST 190	WEST 190	EAST 190	EAST 190	EAST 190	EAST 190	EAST 190	NORTH 41	NORTH 41	NORTH 41	NORTH 41	NORTH 41	SOUTH 41	SOUTH 41	SOUTH 41	SOUTH 41	SOUTH 41	EAST 190	190
M1-6 36"X36"	M3-4 24"X12"	M3-4 24"X12"	M3-4 24"X12"	M3-4 24"X12"	M3-4 24"X12"	M3-2 24"X12"	M3-2 24"X12"	M3-2 24"X12"	M3-2 24"X12"	M3-2 24"X12"	M3-1 24"X12"	M3-1 24"X12"	M3-1 24"X12"	M3-1 24"X12"	M3-1 24"X12"	M3-3 24"X12"	M3-3 24"X12"	M3-3 24"X12"	M3-3 24"X12"	M3-3 24"X12"	M3-2 36"X18"	M1-6 24"X24"
M06-2 30"X30"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-6 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-1 24"X24"	M1-6 36"X36"	
	M05-1R 21"X21"	M06-1 21"X21"	M05-1L 21"X21"	M06-1 21"X21"	M06-1 21"X21"	M05-1R 21"X21"	M06-1 21"X21"	M05-1L 21"X21"	M05-1L 21"X21"	M06-1 21"X21"	M05-1R 21"X21"	M06-1 21"X21"	M06-1 21"X21"	M05-1L 21"X21"	M06-1 21"X21"	M05-1R 21"X21"	M06-1 21"X21"	M06-1 21"X21"	M05-1L 21"X21"	M06-1 21"X21"	M06-2 30"X30"	

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	CAPITOL DRIVE DETOUR THROUGH BURLEIGH STREET	SHEET 102	E

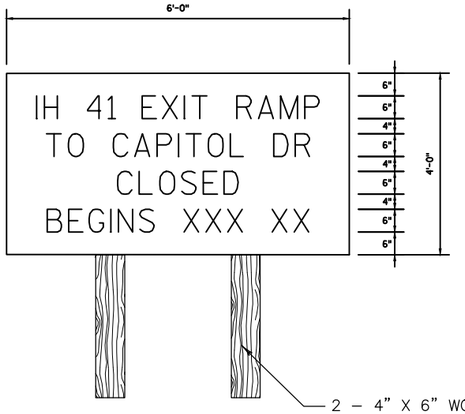


DETOUR SIGNS



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	CAPITOL DRIVE DETOUR THROUGH HAMPTON AVE	SHEET 103	E

FMS A

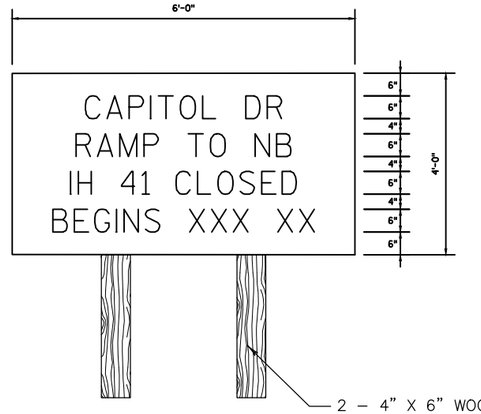


2 – 4" X 6" WOOD POSTS
OR 3 – 2" X 2" TUBULAR STEEL POSTS

ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

FMS K

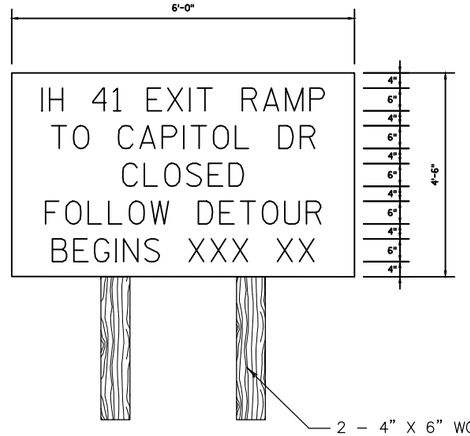


2 – 4" X 6" WOOD POSTS
OR 3 – 2" X 2" TUBULAR STEEL POSTS

ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

FMS B

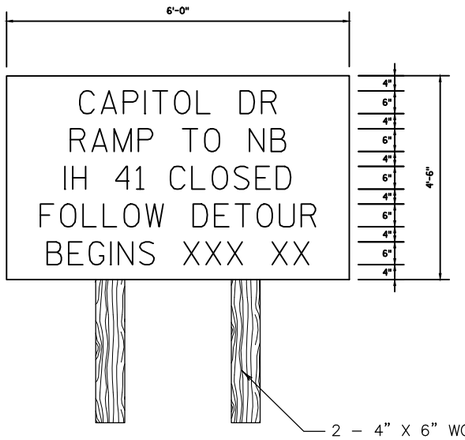


2 – 4" X 6" WOOD POSTS
OR 3 – 2" X 2" TUBULAR STEEL POSTS

ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

FMS C

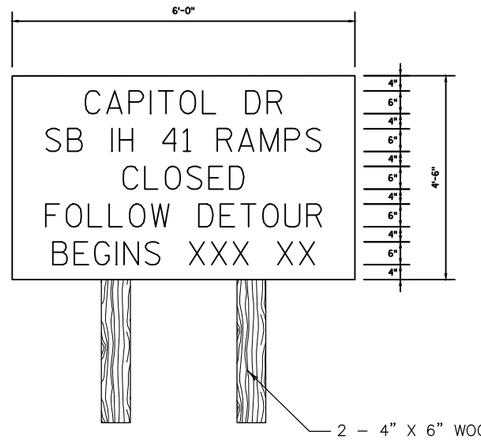


2 – 4" X 6" WOOD POSTS
OR 3 – 2" X 2" TUBULAR STEEL POSTS

ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

FMS D

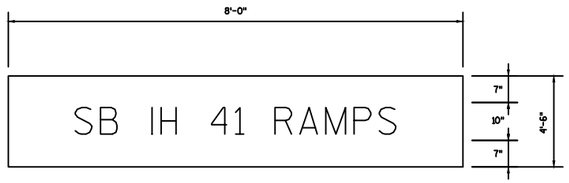


2 – 4" X 6" WOOD POSTS
OR 3 – 2" X 2" TUBULAR STEEL POSTS

ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

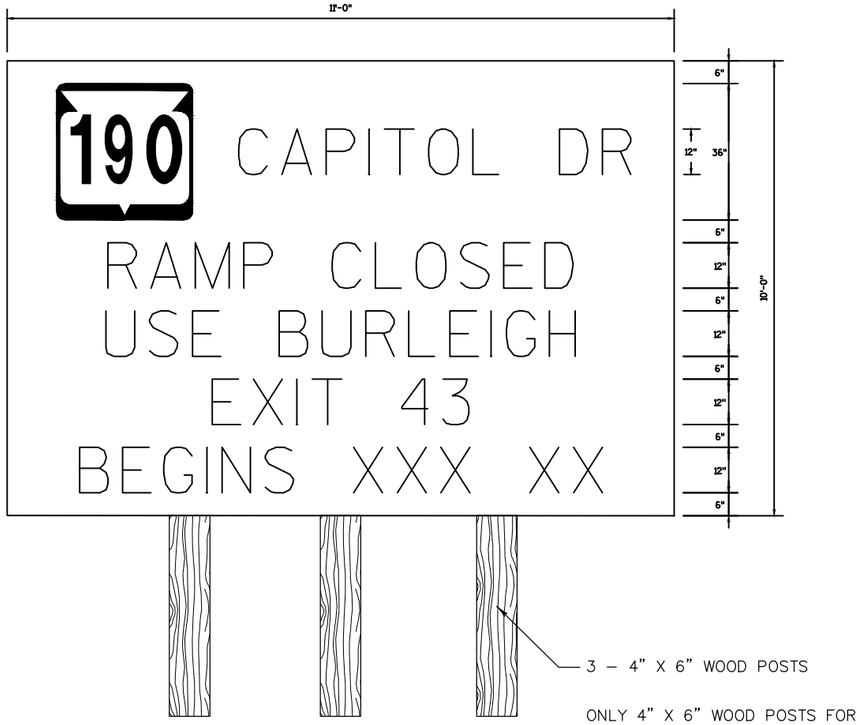
FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

FMS M



PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	DETOUR FIXED SIGNS	SHEET 104	E

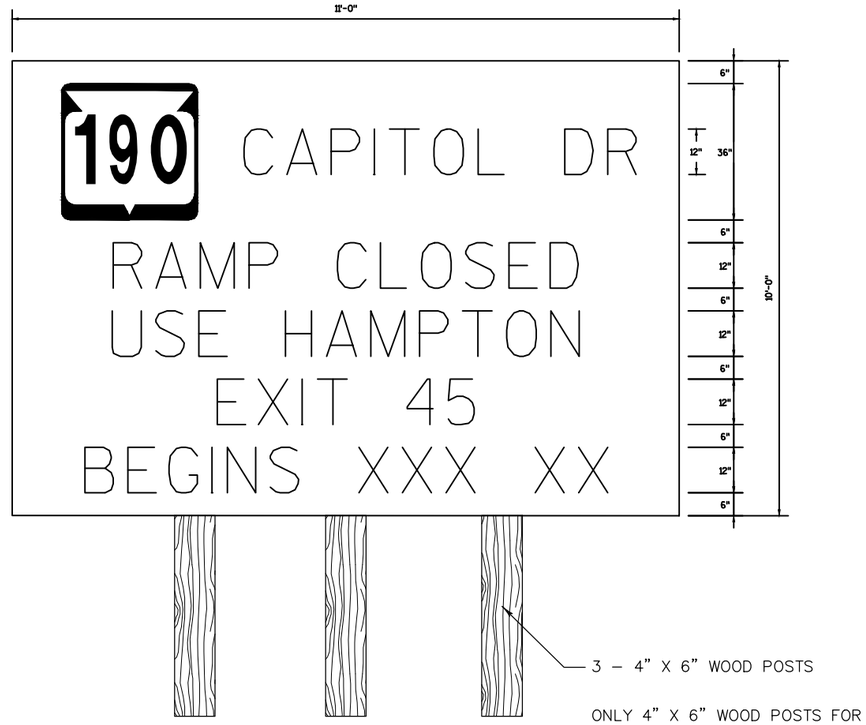
FMS E



ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES D LETTERS – 12"
FREEWAYS/ EXPRESSWAYS

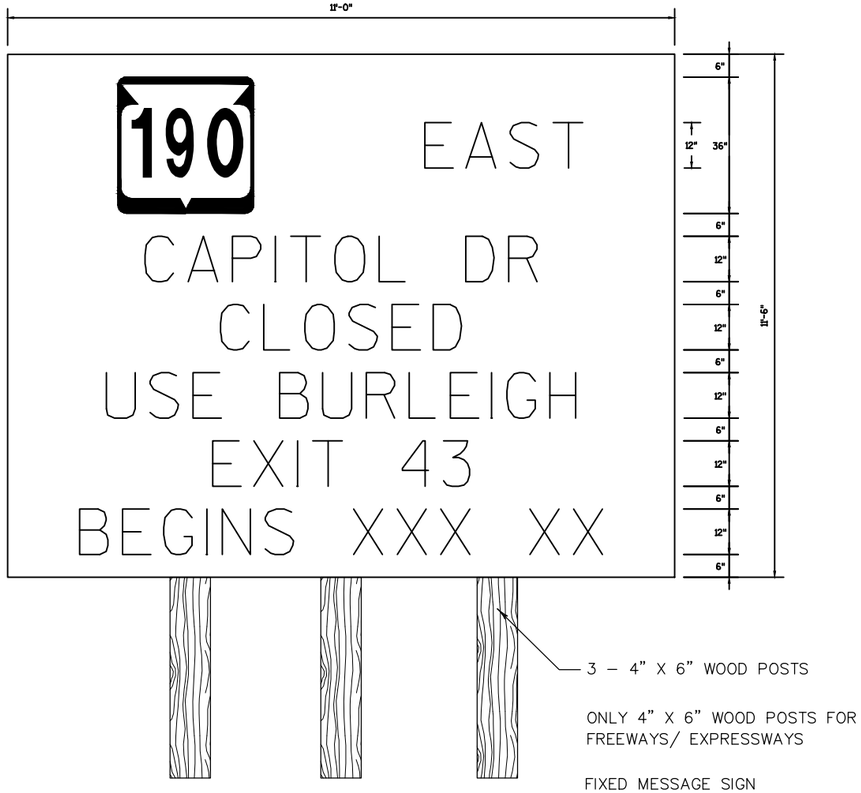
FMS F



ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES D LETTERS – 12"
FREEWAYS/ EXPRESSWAYS

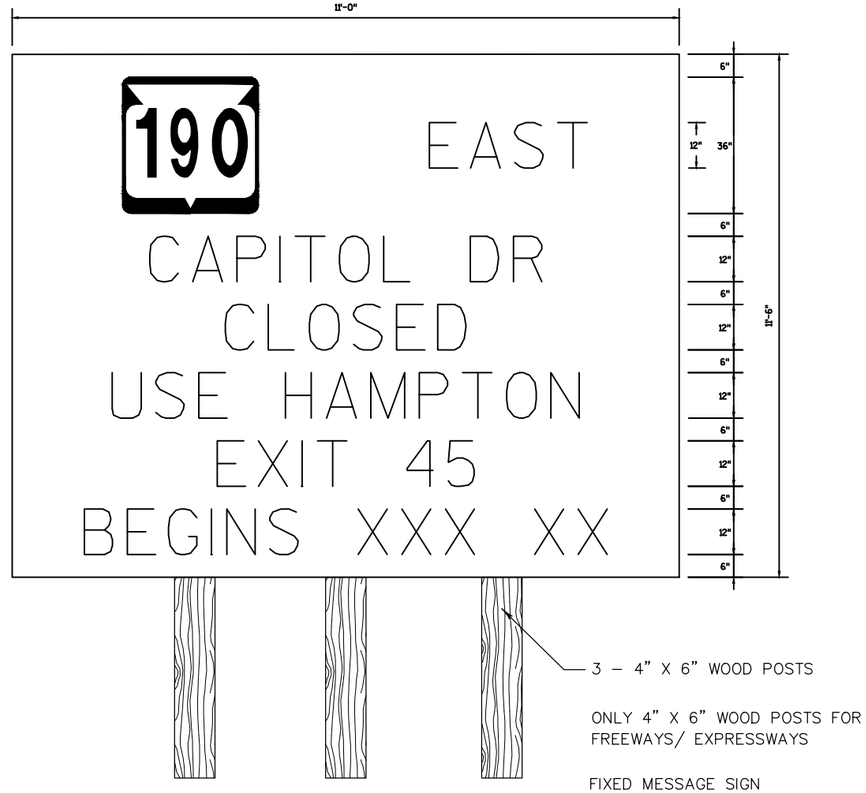
FMS G



ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES D LETTERS – 12"
FREEWAYS/ EXPRESSWAYS

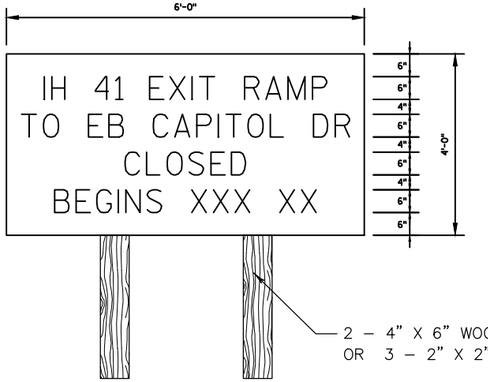
FMS L



ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES D LETTERS – 12"
FREEWAYS/ EXPRESSWAYS

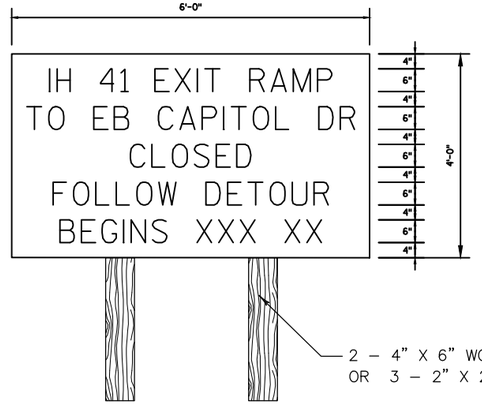
FMS J



ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

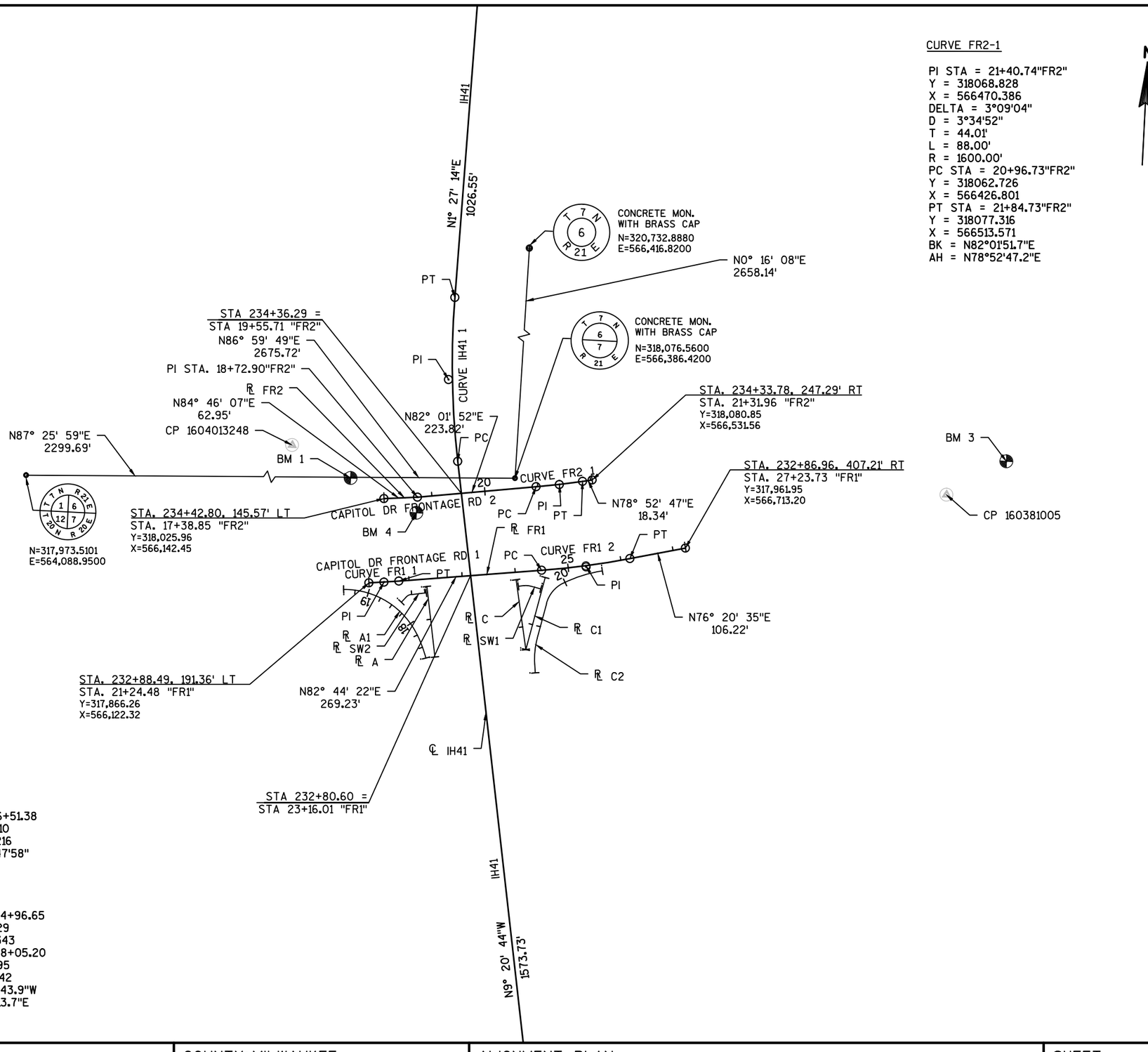
FMS H



ONLY 4" X 6" WOOD POSTS FOR
FREEWAYS/ EXPRESSWAYS

FIXED MESSAGE SIGN
SERIES C LETTERS – 6"
CONVENTIONAL HIGHWAYS

2



CURVE FR2-1

PI STA = 21+40.74"FR2"
Y = 318068.828
X = 566470.386
DELTA = 3°09'04"
D = 3°34'52"
T = 44.01'
L = 88.00'
R = 1600.00'
PC STA = 20+96.73"FR2"
Y = 318062.726
X = 566426.801
PT STA = 21+84.73"FR2"
Y = 318077.316
X = 566513.571
BK = N82°01'51.7"E
AH = N78°52'47.2"E

CURVE FR1-1

PI STA = 21+52.65"FR1"
Y = 317868.902
X = 566150.369
DELTA = 1°52'32"
D = 3°19'45"
T = 28.17'
L = 56.34'
R = 1721.02'
PC STA = 21+24.48"FR1"
Y = 317866.258
X = 566122.322
PT STA = 21+80.82"FR1"
Y = 317872.462
X = 566178.314
BK = N84°36'54.4"E
AH = N82°44'22.3"E

CURVE FR1-2

PI STA = 25+33.87"FR1"
Y = 317917.081
X = 566528.532
DELTA = 6°23'48"
D = 3°49'11"
T = 83.82'
L = 167.46'
R = 1500.00'
PC STA = 24+50.05"FR1"
Y = 317906.488
X = 566445.386
PT STA = 26+17.51"FR1"
Y = 317936.871
X = 566609.980
BK = N82°44'22.3"E
AH = N76°20'34.7"E

CURVE IH41-1

PI STA = 236+51.38
Y = 318255.410
X = 566252.216
DELTA = 10°47'58"
D = 3°30'00"
T = 154.73'
L = 308.55'
R = 1637.02'
PC STA = 234+96.65
Y = 318102.729
X = 566277.343
PT STA = 238+05.20
Y = 318410.095
X = 566256.142
BK = N09°20'43.9"W
AH = N01°27'13.7"E

2

STA. 234+42.80, 145.57' LT
STA. 17+38.85 "FR2"
Y=318,025.96
X=566,142.45

PI STA. 18+72.90"CF2"

N84° 46' 07"E
62.95'

℄ FR2

CAPITOL DR FRONTAGE RD 2
20 N82° 01' 52"E
223.82'

PC

CURVE FR2 1

PI

PT

STA. 234+33.78, 247.29' RT
STA. 21+31.96 "FR2"
Y=318,080.85
X=566,531.56

N78° 52' 47"E
18.34'

N

CURVE SW2
PI STA = 0+19.04"SW2"
Y = 317847.526
X = 566197.264
DELTA = 40°44'12"
D = 381°58'19"
T = 5.57'
L = 10.66'
R = 15.00'
PC STA = 0+13.47"SW2"
Y = 317843.262
X = 566193.681
PT STA = 0+24.14"SW2"
Y = 317848.418
X = 566202.761
BK = N40°02'24.4"E
AH = N80°46'36.1"E

IH41

S77° 32' 47"E
20.07'

N80° 40' 42"E
11.66'

STA. 232+41.10, 128.40' RT
STA. 0+43.13 "SW1"
Y=317,871.42
X=566,445.54

STA. 232+50.70, 86.98' RT
STA. 0+00.00 "SW1"
Y=317,874.17
X=566,403.11

STA. 232+61.54, 139.12' RT
STA. 19+91.83 "C1"
Y=317,893.33
X=566,452.79

STA. 232+63.52, 84.22' RT
STA. 19+89.66 "C"
Y=317,866.38
X=566,398.30

N76° 20' 35"E
106.22'

PT

CURVE FR1 2

25

PC

PI

PI

STA. 232+69.65, 83.93' LT
STA. 18+62.15 "A"
Y=317,865.11
X=566,231.38

STA. 232+88.49, 191.36' LT
STA. 21+24.48 "FR1"
Y=317,866.26
X=566,122.32

CAPITOL DR FRONTAGE RD 1

N82° 44' 22"E
269.23'

CURVE FR1 1

PI

PT

℄ FR1

PC

PI

PT

CURVE SW1
SIDEWALK 1

N10° 30' 39"E
28.86'

PI STA. 19+60.80 "C"

℄ SW1

N11° 01' 52"E
25.01'

℄ C

PI STA. 19+35.79 "C"

CAPITOL NB EXIT RAMP
N11° 01' 18"E
78.72'

CAPITOL NB EXIT RAMP C1
N12° 05' 42"E
140.26'

CAPITOL NB EXIT RAMP C2
N12° 05' 42"E
67.49'

PI

CURVE C2 3

20

PCC

STA. 232+61.86, 247.11' RT
STA. 20+73.48 "C2"
Y=317,911.19
X=566,559.30

℄ C2

CURVE SW1
PI STA = 0+17.43"SW"
Y = 317876.995
X = 566420.309
DELTA = 21°46'30"
D = 190°59'09"
T = 5.77'
L = 11.40'
R = 30.00'
PC STA = 0+11.66"SW"
Y = 317876.060
X = 566414.615
PT STA = 0+23.06"SW"
Y = 317875.750
X = 566425.944
BK = N80°40'42.5"E
AH = S77°32'47.0"E

PI

CURVE C2 2

PC

℄ C1

PT

CURVE C2 1

PI

PC

N6° 39' 11"W
16.45'

STA. 231+30.98, 87.85' RT
STA. 18+57.07 "C"
Y=317,756.18
X=566,423.40

STA. 231+30.98, 87.85' RT
STA. 18+51.57 "C1"
Y=317,756.18
X=566,423.40

STA. 230+85.50, 100.33' RT
STA. 18+12.05 "C2"
Y=317,713.33
X=566,443.11

STA. 232+81.54, 240.04' LT
STA. 19+46.76 "A1"
Y=317,851.50
X=566,075.42

61

CURVE A1-2

STA. 232+45.44, 134.92' LT
STA. 0+00.00 "SW2"
Y=317,832.95
X=566,185.01

PI

PT

℄ SW2

PC

CURVE SW2
SIDEWALK 2

STA. 232+57.76, 86.47' LT
STA. 0+52.56 "SW2"
Y=317,852.97
X=566,230.81

CAPITOL SB ENTRANCE RAMP

℄ A

N9° 20' 44"W
1573.73'

N9° 22' 30"W
133.40'

81

PCC

PI

CURVE A1-1

℄ IH41

STA. 231+36.25, 100.75' LT
STA. 17+28.75 "A1"
Y=317,730.75
X=566,236.45

STA. 231+36.25, 83.86' LT
STA. 17+28.75 "A"
Y=317,733.50
X=566,253.12

CURVE A1-1
PI STA = 17+50.36
Y = 317751.288
X = 566229.723
DELTA = 9°39'36"
D = 22°24'07"
T = 21.61'
L = 43.12'
R = 255.76'
PC STA = 17+28.75
Y = 317730.751
X = 566236.451
PT STA = 17+71.87
Y = 317770.406
X = 566219.644
BK = N18°08'21.1"W
AH = N27°47'56.7"W

CURVE A1-2
PI STA = 18+70.35
Y = 317857.519
X = 566173.716
DELTA = 65°42'22"
D = 37°34'16"
T = 98.48'
L = 174.89'
R = 152.50'
PC STA = 17+71.87
Y = 317770.406
X = 566219.644
PT STA = 19+46.76
Y = 317851.498
X = 566075.421
BK = N27°47'56.7"W
AH = S86°29'41.5"W

CURVE C2-1
PI STA = 18+53.26"C2"
Y = 317754.265
X = 566438.333
DELTA = 18°44'53"
D = 38°11'50"
T = 24.76'
L = 49.08'
R = 150.00'
PC STA = 18+28.50"C2"
Y = 317729.670
X = 566441.201
PT STA = 18+77.58"C2"
Y = 317778.478
X = 566443.521
BK = N06°39'10.9"W
AH = N12°05'42.3"E

CURVE C2-2
PI STA = 19+72.15"C2"
Y = 317870.942
X = 566463.335
DELTA = 48°34'09"
D = 95°29'35"
T = 27.07'
L = 50.86'
R = 60.00'
PC STA = 19+45.07"C2"
Y = 317844.472
X = 566457.663
PT STA = 19+95.94"C2"
Y = 317884.205
X = 566486.935
BK = N12°05'42.3"E
AH = N60°39'51.0"E

CURVE C2-3
PI STA = 20+35.02"C2"
Y = 317903.355
X = 566521.010
DELTA = 17°46'20"
D = 22°55'06"
T = 39.09'
L = 77.55'
R = 250.00'
PC STA = 19+95.94"C2"
Y = 317884.205
X = 566486.935
PT STA = 20+73.48"C2"
Y = 317911.190
X = 566559.304
BK = N60°39'51.0"E
AH = N78°26'11.3"E

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	ALIGNMENT PLAN	SHEET 108	E

2

N

℄ IH41

STA. 234+42.80, 145.57' LT
STA. 17+38.85 "FR2"
Y=318,025.96
X=566,142.45

SECTION CORNER WILL BE DISTURBED.
CONTACT SEWRPC AT LEAST TWO
WEEKS PRIOR TO BEGINNING OF WORK.

STA. 234+33.78, 247.29' RT
STA. 21+31.96 "FR2"
Y=318,080.85
X=566,531.56

BM 3
CONCRETE CUT SQUARE
STA. 233+81.67, 1024.94' RT
N 318155.680
E 567307.354
ELEV. 708.194

CP 1604013248
MON 4INX4IN CONC
STA. 235+51.70, 306.90
N 318117.557
E 565964.994
ELEV. 734.624

20

CAPITOL DR FRONTAGE RD 2

℄ FR2

BM 1
NW TAG BOLT ON HYD
STA. 234+88.04, 203.67' LT
N 318061.165
E 566077.777
ELEV. 733.506

℄ FR1

BM 4
CC
STA. 234+09.39, 87.876' LT
N 318002.359
E 566204.804
ELEV. 735.202

25

CAPITOL DR FRONTAGE RD 1

STA. 232+86.96, 407.21' RT
STA. 27+23.73 "FR1"
Y=317,961.95
X=566,713.20

CP 160381005
MON FEN0938
STA. 233+37.72, 905.83' RT
N 318087.079
E 567197.981
ELEV. 706.001

STA. 232+88.49, 191.36' LT
STA. 21+24.48 "FR1"
Y=317,866.26
X=566,122.32

IH41

PROJECT NO: 1360-09-71	HWY: IH-41	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT - SURVEY CONTROL	SHEET 109	E

1360-09-71

Line	Item	Item Description	Unit	Total	Qty
0020	204.0100	Removing Pavement	SY	4,368.000	4,368.000
0030	204.0150	Removing Curb & Gutter	LF	301.000	301.000
0040	204.0155	Removing Concrete Sidewalk	SY	664.000	664.000
0060	204.0195	Removing Concrete Bases	EACH	63.000	63.000
0070	204.0220	Removing Inlets	EACH	7.000	7.000
0080	204.0245	Removing Storm Sewer (size) 0001. 12-Inch	LF	242.000	242.000
0090	204.0280	Sealing Pipes	EACH	1.000	1.000
0100	205.0100	Excavation Common	CY	2,389.000	2,389.000
0140	213.0100	Finishing Roadway (project) 0002. 1360-09-71	EACH	1.000	1.000
0150	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,650.000	1,650.000
0160	310.0110	Base Aggregate Open-Graded	TON	12.900	12.900
0170	311.0115	Breaker Run	CY	282.000	282.000
0190	415.0090	Concrete Pavement 9-Inch	SY	3,686.000	3,686.000
0220	416.0610	Drilled Tie Bars	EACH	298.000	298.000
0230	416.0620	Drilled Dowel Bars	EACH	245.000	245.000
0250	416.1725	Concrete Pavement Replacement SHES	SY	248.000	248.000
0280	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0300	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	1,737.000	1,737.000
0310	601.0452	Concrete Curb & Gutter Integral 30-Inch Type D	LF	40.000	40.000
0330	602.0410	Concrete Sidewalk 5-Inch	SF	5,223.000	5,223.000
0340	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	104.000	104.000
0410	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	115.000	115.000
0420	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	222.000	222.000
0440	611.0420	Reconstructing Manholes	EACH	1.000	1.000
0450	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0460	611.0624	Inlet Covers Type H	EACH	10.000	10.000
0470	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000
0480	611.0642	Inlet Covers Type MS	EACH	4.000	4.000
0490	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0500	611.3004	Inlets 4-FT Diameter	EACH	4.000	4.000
0510	611.3230	Inlets 2x3-FT	EACH	7.000	7.000
0520	611.3901	Inlets Median 1 Grate	EACH	4.000	4.000
0530	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0600	619.1000	Mobilization	EACH	0.100	0.100
0610	620.0300	Concrete Median Sloped Nose	SF	60.000	60.000
0620	623.0200	Dust Control Surface Treatment	SY	5,360.000	5,360.000
0630	624.0100	Water	MGAL	55.000	55.000
0640	625.0100	Topsoil	SY	1,726.000	1,726.000

1360-09-71

Line	Item	Item Description	Unit	Total	Qty
0650	628.1504	Silt Fence	LF	321.000	321.000
0660	628.1520	Silt Fence Maintenance	LF	642.000	642.000
0670	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0680	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0690	628.7005	Inlet Protection Type A	EACH	6.000	6.000
0720	628.7020	Inlet Protection Type D	EACH	36.000	36.000
0730	628.7504	Temporary Ditch Checks	LF	25.000	25.000
0740	628.7570	Rock Bags	EACH	8.000	8.000
0750	629.0210	Fertilizer Type B	CWT	1.090	1.090
0760	630.0200	Seeding Temporary	LB	10.000	10.000
0770	631.0300	Sod Water	MGAL	37.000	37.000
0780	631.1000	Sod Lawn	SY	1,726.000	1,726.000
0790	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	22.000	22.000
0800	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	5.000	5.000
0810	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	2.000	2.000
0850	637.2210	Signs Type II Reflective H	SF	463.375	463.375
0860	637.2215	Signs Type II Reflective H Folding	SF	31.080	31.080
0870	637.2220	Signs Type II Reflective SH	SF	111.000	111.000
0880	637.2230	Signs Type II Reflective F	SF	10.360	10.360
0890	638.2102	Moving Signs Type II	EACH	3.000	3.000
0900	638.2602	Removing Signs Type II	EACH	55.000	55.000
0910	638.3000	Removing Small Sign Supports	EACH	27.000	27.000
0940	643.0100	Traffic Control (project) 0002. 1360-09-71	EACH	1.000	1.000
0950	643.0300	Traffic Control Drums	DAY	8,970.000	8,970.000
0970	643.0420	Traffic Control Barricades Type III	DAY	1,575.000	1,575.000
0980	643.0705	Traffic Control Warning Lights Type A	DAY	3,150.000	3,150.000
0990	643.0715	Traffic Control Warning Lights Type C	DAY	1,875.000	1,875.000
1000	643.0800	Traffic Control Arrow Boards	DAY	375.000	375.000
1010	643.0900	Traffic Control Signs	DAY	5,295.000	5,295.000
1020	643.0910	Traffic Control Covering Signs Type I	EACH	17.000	17.000
1030	643.1000	Traffic Control Signs Fixed Message	SF	1,176.000	1,176.000
1040	643.1050	Traffic Control Signs PCMS	DAY	300.000	300.000
1060	643.2000	Traffic Control Detour (project) 0002. 1360-09-71	EACH	1.000	1.000
1070	643.3000	Traffic Control Detour Signs	DAY	31,561.000	31,561.000
1110	645.0111	Geotextile Type DF Schedule A	SY	109.000	109.000
1130	646.0136	Pavement Marking Epoxy 12-Inch	LF	120.000	120.000
1150	646.0842.S	Pavement Marking Grooved Contrast Wet Reflective Epoxy 4-Inch	LF	6,772.000	6,772.000
1170	646.0844.S	Pavement Marking Grooved Contrast Wet Reflective Epoxy 8-Inch	LF	1,459.000	1,459.000

1360-09-71

Line	Item	Item Description	Unit	Total	Qty
1200	647.0146	Pavement Marking Arrows Epoxy Type 6	EACH	3.000	3.000
1210	647.0156	Pavement Marking Arrows Epoxy Type 1	EACH	2.000	2.000
1220	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	9.000	9.000
1230	647.0176	Pavement Marking Arrows Epoxy Type 3	EACH	7.000	7.000
1240	647.0356	Pavement Marking Words Epoxy	EACH	7.000	7.000
1260	647.0526	Pavement Marking Yield Line Symbols Epoxy 18-Inch	EACH	28.000	28.000
1270	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	118.000	118.000
1300	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	165.000	165.000
1310	647.0766	Pavement Marking Crosswalk Epoxy 6-Inch	LF	329.000	329.000
1350	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	2,793.000	2,793.000
1390	652.0125	Conduit Rigid Metallic 2-Inch	LF	29.000	29.000
1400	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	5,596.000	5,596.000
1410	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	1,579.000	1,579.000
1420	652.0615	Conduit Special 3-Inch	LF	1,003.000	1,003.000
1430	652.0700.S	Install Conduit into Existing Item	EACH	2.000	2.000
1440	653.0135	Pull Boxes Steel 24x36-Inch	EACH	2.000	2.000
1450	653.0140	Pull Boxes Steel 24x42-Inch	EACH	38.000	38.000
1460	653.0905	Removing Pull Boxes	EACH	31.000	31.000
1470	654.0101	Concrete Bases Type 1	EACH	5.000	5.000
1490	654.0105	Concrete Bases Type 5	EACH	30.000	30.000
1500	654.0108	Concrete Bases Type 8	EACH	4.000	4.000
1510	654.0110	Concrete Bases Type 10	EACH	5.000	5.000
1520	654.0113	Concrete Bases Type 13	EACH	1.000	1.000
1540	654.0230	Concrete Control Cabinet Bases Type L30	EACH	1.000	1.000
1550	655.0230	Cable Traffic Signal 5-14 AWG	LF	864.000	864.000
1560	655.0240	Cable Traffic Signal 7-14 AWG	LF	3,057.000	3,057.000
1570	655.0260	Cable Traffic Signal 12-14 AWG	LF	5,604.000	5,604.000
1590	655.0320	Cable Type UF 2-10 AWG Grounded	LF	1,205.000	1,205.000
1610	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	3,096.000	3,096.000
1620	655.0610	Electrical Wire Lighting 12 AWG	LF	12,798.000	12,798.000
1630	655.0615	Electrical Wire Lighting 10 AWG	LF	576.000	576.000
1640	655.0620	Electrical Wire Lighting 8 AWG	LF	31,425.000	31,425.000
1650	655.0630	Electrical Wire Lighting 4 AWG	LF	9,950.000	9,950.000
1670	655.0640	Electrical Wire Lighting 1 AWG	LF	18.000	18.000
1700	656.0200	Electrical Service Meter Breaker Pedestal (location) 3051. IH 41 & STH 190	LS	1.000	1.000
1720	656.0400	Electrical Service Main Lugs Only Meter Pedestal (location) 0001. HL-40-CD	LS	1.000	1.000
1740	657.0100	Pedestal Bases	EACH	11.000	11.000
1750	657.0210	Transformer Bases Breakaway 15-17 Inch Bolt Circle	EACH	4.000	4.000

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Line	Item	Item Description	Unit	Total	Qty
1760	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	30.000	30.000
1790	657.0322	Poles Type 5-Aluminum	EACH	30.000	30.000
1800	657.0380	Poles Type E	EACH	4.000	4.000
1810	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	8.000	8.000
1820	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
1830	657.0430	Traffic Signal Standards Aluminum 10-FT	EACH	1.000	1.000
1850	657.0605	Luminaire Arms Single Member 4 1/2-Inch Clamp 4-FT	EACH	18.000	18.000
1870	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	30.000	30.000
1880	657.0705	Luminaire Arms Truss Type 4 1/2-Inch Clamp 10-FT	EACH	16.000	16.000
1890	657.0715	Luminaire Arms Truss Type 4 1/2-Inch Clamp 15-FT	EACH	20.000	20.000
1900	657.1345	Install Poles Type 9	EACH	1.000	1.000
1910	657.1350	Install Poles Type 10	EACH	4.000	4.000
1920	657.1355	Install Poles Type 12	EACH	1.000	1.000
1930	657.1525	Install Monotube Arms 25-FT	EACH	1.000	1.000
1940	657.1530	Install Monotube Arms 30-FT	EACH	4.000	4.000
1950	657.1540	Install Monotube Arms 40-FT	EACH	1.000	1.000
1970	657.1815	Install Luminaire Arms Steel 15-FT	EACH	4.000	4.000
1980	658.0110	Traffic Signal Face 3-12 Inch Vertical	EACH	20.000	20.000
1990	658.0115	Traffic Signal Face 4-12 Inch Vertical	EACH	10.000	10.000
2000	658.0215	Backplates Signal Face 3 Section 12-Inch	EACH	8.000	8.000
2010	658.0220	Backplates Signal Face 4 Section 12-Inch	EACH	10.000	10.000
2020	658.0416	Pedestrian Signal Face 16-Inch	EACH	4.000	4.000
2030	658.0500	Pedestrian Push Buttons	EACH	4.000	4.000
2040	658.0600	Led Modules 12-Inch Red Ball	EACH	28.000	28.000
2050	658.0605	Led Modules 12-Inch Yellow Ball	EACH	28.000	28.000
2060	658.0610	Led Modules 12-Inch Green Ball	EACH	8.000	8.000
2070	658.0615	Led Modules 12-Inch Red Arrow	EACH	2.000	2.000
2080	658.0620	Led Modules 12-Inch Yellow Arrow	EACH	2.000	2.000
2090	658.0625	Led Modules 12-Inch Green Arrow	EACH	32.000	32.000
2100	658.0635	Led Modules Pedestrian Countdown Timer 16-Inch	EACH	4.000	4.000
2130	658.5069	Signal Mounting Hardware (location) 3051. IH 41 & STH 190	LS	1.000	1.000
2170	659.0600	Underdeck Lighting (location) 0001. EB Lower Level	LS	1.000	1.000
2180	659.0600	Underdeck Lighting (location) 0002. WB Lower Level	LS	1.000	1.000
2190	659.0600	Underdeck Lighting (location) 0003. EB Mid Level	LS	1.000	1.000
2200	659.0600	Underdeck Lighting (location) 0004. WB Mid Level	LS	1.000	1.000
2210	659.1125	Luminaires Utility LED C	EACH	66.000	66.000
2220	659.1130	Luminaires Utility LED D	EACH	22.000	22.000
2230	659.1215	Luminaires Underdeck LED C	EACH	14.000	14.000
2240	659.2230	Lighting Control Cabinets 240/480 30-Inch	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
2420	690.0250	Sawing Concrete	LF	1,252.000	1,252.000
2430	715.0415	Incentive Strength Concrete Pavement	DOL	1,106.000	1,106.000
2440	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
2450	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000
2460	SPV.0035	Special 0001. Backfill Slurry	CY	414.000	414.000
2470	SPV.0060	Special 0001. Traffic Control Interim Freeway Lane Closure	EACH	10.000	10.000
2480	SPV.0060	Special 0002. Traffic Control Close-Open Freeway Ramp	EACH	3.000	3.000
2490	SPV.0060	Special 0003. Reconnect Storm Sewer Laterals	EACH	4.000	4.000
2510	SPV.0060	Special 1001. Removing Distribution Centers	EACH	1.000	1.000
2520	SPV.0060	Special 1002. Removing Luminaires Underdeck	EACH	14.000	14.000
2530	SPV.0060	Special 1003. Removing Lighting Units	EACH	66.000	66.000
2540	SPV.0060	Special 1004. Lamp Disposal High Intensity Discharge	EACH	109.000	109.000
2550	SPV.0060	Special 1005. Poles Type F	EACH	12.000	12.000
2560	SPV.0060	Special 1006. Poles Type 5-Aluminum Multi-Arm Heights	EACH	16.000	16.000
2620	SPV.0060	Special 3051. Remove Monotube Concrete Bases	EACH	4.000	4.000
2630	SPV.0060	Special 3052. Backplates With Reflective Border 3 Section 12-Inch	EACH	12.000	12.000
2640	SPV.0060	Special 3053. Locating Monotube Traffic Signals	EACH	2.000	2.000
2650	SPV.0060	Special 3054. Concrete Bases Type 1 Spread Footing	EACH	2.000	2.000
2660	SPV.0060	Special 3055. Concrete Control Cabinet Bases Type 9 Special Mod.	EACH	1.000	1.000
2750	SPV.0075	Special 0002. Pavement Cleanup Project 1360-09-71	HRS	24.000	24.000
2770	SPV.0090	Special 0001. Pipe Underdrain 6-Inch Special	LF	218.000	218.000
2780	SPV.0090	Special 0002. Concrete Curb & Gutter 30-Inch Type A (Modified)	LF	73.000	73.000
2790	SPV.0090	Special 0003. Concrete Curb & Gutter Integral 30-Inch Type D (Modified)	LF	63.000	63.000
2840	SPV.0105	Special 0001. Survey Project 1360-09-71	LS	1.000	1.000
2860	SPV.0105	Special 1001. Maintenance of Lighting Systems	LS	1.000	1.000
2870	SPV.0105	Special 1002. Lighting system Integrator	LS	1.000	1.000
2880	SPV.0105	Special 1003. Lighting System Survey	LS	1.000	1.000
2980	SPV.0105	Special 3051. Removing Traffic Signals IH 41 & STH 190	LS	1.000	1.000
2990	SPV.0105	Special 3052. Transport & Install State Furnished Traffic Signal Cabinet IH 41 & STH 190	LS	1.000	1.000
3000	SPV.0105	Special 3053. Transporting Traffic Signal and Lighting Materials IH 41 & STH 190	LS	1.000	1.000
3010	SPV.0105	Special 3054. Transporting and Installing State Furnished Radar Detection System IH 41 & STH 190	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
3190	SPV.0105	Special 3200. Mast Arm Retrofit Structure B-40-333	LS	1.000	1.000
3200	SPV.0105	Special 3210. Mast Arm Retrofit Structure B-40-334	LS	1.000	1.000

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REMOVING ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	204.0100 REMOVING PAVEMENT SY	204.0150 REMOVING CURB AND GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	COMMENTS
1000	CAPITOL DR FRONTAGE RD 1	21"FR1"+24.48	-	22"FR1"+37.26	403	-	-	
		22"FR1"+37.26	-	24"FR1"+00.00	654	-	270	
		24"FR1"+00.00	-	26"FR1"+17.51	930	-	-	
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+70.15	126	16	23	
	CAPITOL DR NB EXIT RAMP (RAMP C)	18"C"+84.15	-	19"C"+65.80	-	84	-	
		19"C"+65.80	-	19"C"+93.16	86	-	17	
	CAPITOL DR NB EXIT RAMP (RAMP C1)	18"C1"+76.01	-	19"C1"+91.83	592	-	-	
	CAPITOL DR FRONTAGE RD 2	18"FR2"+09.95	-	18"FR2"+72.90	171	-	-	
		18"FR2"+72.90	-	20"FR2"+80.13	639	-	280	
		20"FR2"+80.13	-	22"FR2"+03.06	501	-	-	
	CAPITOL DR SB EXIT RAMP		-		-	30	13	
	CAPITOL DR NB ENTRANCE RAMP		-		266	171	55	INCLUDES NE SPLITTER ISLAND & NB ENTRANCE RAMP (RIGHT TURN LANE)
	NW SPLITTER ISLAND	18"FR2"+47.00	-	18"FR2"+59.00	-	-	6	REMOVE SIDEWALK FOR SIGNAL EQUIPMENT INSTALLATION
	TOTAL				4368	301	664	

REMOVING INLETS

CATEGORY	STRUCTURE NUMBER	STATION	OFFSET	204.0220 REMOVING INLETS EACH
1000	7	20"C2"+69	14.8' RT	1
	11	25"FR1"+29	9.9' RT	1
	12	25"FR1"+03	20.3' RT	1
	13	23"FR1"+71	8.2' RT	1
	14	19"C"+81	1.4' RT	1
	20	18"A"+54	14.7' LT	1
	22	20"FR2"+09	12.0' LT	1
	TOTAL			7

REMOVING STORM SEWER

CATEGORY	STRUCTURE NUMBER	TO	STRUCTURE NUMBER	STATION TO STATION	204.0245 REMOVING STORM SEWER 12-INCH LF	204.0280 SEALING PIPES EACH
1000	3	-	4	19"C"+73, 1.0' RT - 19"C"+81, 1.9' RT	8	-
	11	-	7	25"FR1"+29, 11.4' RT - 25"FR1"+59, 29.9' RT	35	1
	12	-	11	25"FR1"+03, 20.3' RT - 25"FR1"+29, 11.4' RT	28	-
	13	-	14	23"FR1"+71, 8.2' RT - 19"C"+81, 1.9' RT	33	-
	14	-	12	19"C"+81, 1.9' RT - 25"FR1"+03, 20.3' RT	101	-
	17	-	20	18"A"+44, 15.0' LT - 18"A"+58, 16.1' LT	9	-
	18	-	22	18"A"+58, 15.5' LT - 18"A"+56, 1.8' LT	14	-
	20	-	22	18"A"+54, 14.9' LT - 18"A"+56, 1.8' LT	14	-
				TOTAL	242	1

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FINISHING ROADWAY PROJECT (1360-09-71)

CATEGORY	PROJECT	213.0100 FINISHING ROADWAY (PROJECT) EACH
1000	1360-09-71	1
	TOTAL	1

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CONCRETE PAVEMENT ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	415.0090 CONCRETE PAVEMENT 9-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY	690.0250 SAWING CONCRETE LF	715.0415 INCENTIVE STRENGTH CONCRETE DOL	COMMENTS
1000	CAPITOL DR FRONTAGE RD 1	21"FR1"+24.48	-	22"FR1"+32.54	152	359	17	24	-	72	108	
		22"FR1"+32.54	-	24"FR1"+00.00	310	766	37	21	-	199	230	
		24"FR1"+00.00	-	27"FR1"+23.73	382	880	-	18	-	27	264	
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+62.15	42	82	-	22	-	33	25	
	CAPITOL DR NB EXIT RAMP (RAMP C)	18"C"+84.15	-	19"C"+89.66	32	62	34	22	-	121	19	
	CAPITOL DR NB EXIT RAMP (RAMP C1)	18"C1"+76.01	-	19"C1"+91.83	152	288	-	18	-	18	86	
	CAPITOL DR FRONTAGE RD 2	18"FR2"+09.95	-	18"FR2"+72.90	62	155	25	20	-	88	47	
		18"FR2"+72.90	-	20"FR2"+39.13	288	654	60	22	-	252	196	
		20"FR2"+39.13	-	22"FR2"+03.06	194	440	-	22	-	27	132	
	CAPITOL DR SB EXIT RAMP (RAMP B)		-		4	-	12	-	-	39	-	
	CAPITOL DR NB ENTRANCE RAMP (RAMP D)		-		12	-	26	20	114	80	-	INCLUDES NE SPLITTER ISLAND
	SIDEWALK SW1		-		8	-	-	-	-	-	-	
	SIDEWALK SW2		-		10	-	-	-	-	-	-	
	CURB RAMP AT SB ENTRANCE RAMP (RAMP A1)		-		2	-	-	-	-	-	-	
	CAPITOL DRIVE FRONTAGE ROAD 2	15"FR2+40	-	16"FR2"+49	-	-	87	36	134	263	-	AT 118TH STREET
	NW SPLITTER ISLAND	18"FR2"+47.00	-	18"FR2"+59.00	-	-	-	-	-	33	-	
	TOTAL				1650	3686	298	245	248	1252	1106	

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CURB AND GUTTER ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0452 CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D LF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	SPV.0090.0002 CONCRETE CURB & GUTTER 30-INCH TYPE A (MODIFIED) LF	SPV.0090.0003 CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D (MODIFIED) LF	COMMENTS
1000	CAPITOL DR FRONTAGE RD 1	21"FR1"+24.48	-	22"FR1"+32.54	174	5	10	-	-	
		22"FR1"+32.54	-	24"FR1"+00.00	117	-	-	-	-	
		24"FR1"+00.00	-	26"FR1"+17.51	489	-	-	-	-	
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+62.15	65	-	-	-	-	
	CAPITOL DR NB EXIT RAMP (RAMP C)	18"C"+84.15	-	19"C"+89.66	121	-	40	-	-	
	CAPITOL DR NB EXIT RAMP (RAMP C1)	18"C1"+76.01	-	19"C1"+91.83	260	35	3	-	-	
	CAPITOL DR FRONTAGE RD 2	18"FR2"+09.95	-	18"FR2"+72.90	58	-	4	-	-	
		18"FR2"+72.90	-	20"FR2"+39.13	117	-	-	-	-	
		20"FR2"+39.13	-	22"FR2"+03.06	191	-	-	-	63	
	CAPITOL DR SB EXIT RAMP		-		30	-	-	-	-	
	CAPITOL DR NB ENTRANCE RAMP		-		99	-	3	73	-	INCLUDES SPLITTER ISLAND
	CURB RAMP AT SB ENTRANCE RAMP (RAMP A1)		-		16	-	-	-	-	CURB AND GUTTER AT BOTH LEFT AND RIGHT CURB RAMPS
	TOTAL				1737	40	60	73	63	

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SIDEWALK ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	COMMENTS
1000	CAPITOL DR FRONTAGE RD 1	22"FR1"+57.45	-	23"FR1"+76.37	1469	-	
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+58.69	171	8	
	CAPITOL DR NB EXIT RAMP (RAMP C)	19"C"+65.85	-	19"C"+83.67	146	8	
	CAPITOL DR NB EXIT RAMP (RAMP C1)	19"C1"+67.36	-	19"C1"+75.01	81	8	CURB RAMP ON THE RIGHT SIDE
	CAPITOL DR FRONTAGE RD 2	18"FR2"+97.45	-	20"FR2"+14.08	2038	-	
	CAPITOL DR SB EXIT RAMP		-		160	8	
	CAPITOL DR NB ENTRANCE RAMP		-		129	8	
	SIDEWALK SW1		-		239	16	
	SIDEWALK SW2		-		280	16	
	CURB RAMP AT SB ENTRANCE RAMP (RAMP A1)		-		65	8	
	NW SPLITTER ISLAND	18"FR2"+47.00	-	18"FR2"+59.00	58	-	
	NE SPLITTER ISLAND	20"FR2"+42.00	-	20"FR2"+55.00	379	16	
	NB ENTRANCE RAMP (RIGHT TURN LANE)	20"FR2"+80.00			8	8	
TOTAL					5223	104	

DUST CONTROL SURFACE TREATMENT

CATEGORY	ROADWAY	STATION	TO	STATION	623.0200 DUST CONTROL SURFACE TREATMENT SY
1000	CAPITOL DR FRONTAGE RD 1	21"FR1"+24.48	-	26"FR1"+17.51	2570
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+62.15	200
	CAPITOL DR NB EXIT RAMP (RAMP C)	18"C1"+74.92	-	19"C1"+91.83	630
	CAPITOL DR FRONTAGE RD 2	18"FR2"+09.95	-	22"FR2"+03.06	1630
	CAPITOL DR SB EXIT RAMP (RAMP B)		-		40
	CAPITOL DR NB ENTRANCE RAMP (RAMP D)		-		290
	TOTAL:				5360

MOBILIZATION

CATEGORY	PROJECT	619.1000 MOBILIZATION EACH
1000	1360-09-71	0.10
	TOTAL	0.10

MOBILIZATIONS

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
1000	1360-09-71	5	2
	TOTAL	5	2

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EROSION CONTROL

CATEGORY	ROADWAY	STATION	TO	STATION	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0200 SEEDING TEMPORARY LB	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY
1000	CAPITOL DR FRONTAGE RD 1	21"FR1"+24.48	-	22"FR1"+37.26	95	78	157	-	3	-	-	0.06	-	2	95
		22"FR1"+37.26	-	24"FR1"+00.00	-	-	-	-	2	-	-	-	-	-	-
		24"FR1"+00.00	-	26"FR1"+17.51	509	37	74	1	5	9	-	0.32	-	11	509
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+62.15	352	-	-	2	4	-	-	0.22	-	8	352
	CAPITOL DR NB EXIT RAMP (RAMP C)	18"C1"+74.92	-	19"C1"+91.83	497	158	315	1	7	-	-	0.31	-	11	497
	CAPITOL DR FRONTAGE RD 2	18"FR2"+09.95	-	18"FR2"+72.90	37	19	39	-	5	-	-	0.02	-	1	37
		18"FR2"+72.90	-	20"FR2"+80.13	-	-	-	-	2	-	-	-	-	-	-
		20"FR2"+80.13	-	22"FR2"+03.06	79	-	-	-	5	14	-	0.05	-	2	79
	CAPITOL DR SB EXIT RAMP		-		-	-	-	-	-	-	-	-	-	-	-
	CAPITOL DR NB ENTRANCE RAMP		-		-	-	-	-	-	-	-	-	-	-	-
	UNDISTRIBUTED				157	29	58	2	3	2	8	0.10	10	2	157
	TOTAL:				1726	321	642	6	36	25	8	1.09	10	37	1726

WATER

CATEGORY	ROADWAY	STATION	TO	STATION	624.0100 WATER MGAL FOR COMMON EXCAVATION	FOR BREAKER RUN	FOR BASE AGGREGATE DENSE
1000	CAPITOL DR FRONTAGE RD 1	21"FR1"+24.48	-	26"FR1"+17.51	2.69	-	8.57
	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+62.15	0.14	-	0.67
	CAPITOL DR NB EXIT RAMP (RAMP C)	18"C1"+74.92	-	19"C1"+91.83	0.65	-	2.10
	CAPITOL DR FRONTAGE RD 2	18"FR2"+09.95	-	22"FR2"+03.06	1.68	-	5.43
	CAPITOL DR SB EXIT RAMP (RAMP B)		-		-	-	0.13
	CAPITOL DR NB ENTRANCE RAMP (RAMP D)		-		-	-	0.97
	UNDISTRIBUTED		-		2.58	11.95	17.87
	TOTAL:				7.73	11.95	35.73

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STORM SEWER ITEMS

CATEGORY	STRUCTURE NUMBER	LOCATION	CASTING FLAG ELEVATION	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	611.0420 RECONSTRUCTING MANHOLES EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0624 INLET COVERS TYPE H EACH	611.0639 INLET COVERS TYPE H-S EACH	611.0642 INLET COVERS TYPE MS EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3230 INLETS 2X3-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.8115 ADJUSTING INLET COVERS EACH	SPV.0035.0001 BACKFILL SLURRY CY	SPV.0060.0003 RECONNECT STORM SEWER LATERALS EACH	DEPTH[2] IN FEET	FROM STRUCTURE	TO STRUCTURE	INLET ELEVATION	DISCHARGE ELEVATION
1000	1	23"FR1"+73, 15.0' RT	732.37	-	-	17	-	-	1	-	-	-	-	1	-	-	25	-	4.07	1	2	728.30	727.97
	2	19"C"+74, 23.4' LT	732.60	-	-	26	-	-	1	-	-	-	1	-	-	-	31	-	4.75	2	3	727.85	727.36
	3	19"C"+73, 1.0' RT	732.09	-	-	43	-	-	1	-	-	1	-	-	-	-	48	1	4.85	3	4	727.24	726.76
	4	19"C1"+64, 1.0' LT	730.29	-	-	21	-	-	1	-	-	-	1	-	-	-	26	-	3.59	4	5	726.70	726.50
	5	19"C2"+66, 1.0' RT	729.93	-	-	100	-	-	1	-	-	-	1	-	-	-	49	-	3.57	5	6	726.36	723.03
	6	20"C2"+69, 1.0' RT	726.59	-	-	15	-	-	1	-	-	-	1	-	-	-	24	-	3.73	6	7	722.86	722.49
	7	20"C2"+70, 15.8' RT	726.80	-	-	-	-	-	-	-	1	-	-	-	1	-	-	1	6.38[3]	-	-	-	-
	8	24"FR1"+48, 15.0' RT	730.49	-	11	-	-	-	1	-	-	-	-	1	-	-	18	-	3.01	8	9	727.48	727.41
	9	24"FR1"+44, 24.7' RT	730.09	-	7	-	-	-	-	-	1	-	-	-	1	-	16	-	2.72	9	10	727.37	727.33
	10	19"C1"+79, 1.0' LT	730.23	-	15	-	-	-	-	1	-	-	-	1	-	-	34	-	2.93	10	4	727.30	727.03
	15	18"A"+39, 23.2' RT	734.12	-	24	-	-	-	1	-	-	-	-	1	-	-	22	-	3.42	15	16	730.70	730.28
	16	18"A"39, 1.1' LT	733.88	-	15	-	-	-	1	-	-	-	-	1	-	-	21	-	3.65	16	17	730.23	730.02
	17	18"A"+44, 15.0' LT	733.35	-	15	-	-	-	-	-	1	-	-	-	1	-	20	1	3.41	17	18	729.94	729.73
	18	18"A"+58, 16.1' LT	733.56	-	-	-	-	-	-	-	1	-	-	-	1	-	21	1	4.60[4]	18	17	729.73	729.94
	19	22"FR1"+32, 14' RT	733.65	-	23	-	-	-	-	1	-	-	-	1	-	-	37	-	3.10	19	16	730.55	730.27
	21	21"FR1"+63, 10.4' RT	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
	23	20"FR2"+09, 12.0' LT	731.93	-	6	-	-	-	1	-	-	-	-	1	-	-	22	-	4.58	23	24	727.35	727.31
	24	20"FR2"+11.42, 6.5'	732.05	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-		-	-	-	-
		TOTAL		1	115	222	1	1	10	2	4	1	4	7	4	1	414	4					

NOTES:
(1) NEW PIPE CONNECTION TO EXISTING STRUCTURE IS INCIDENTAL TO THE STORM SEWER PIPE ITEM, EXCEPT FOR CONCRETE COLLARS THAT ARE PAID AS A SEPARATE ITEM.

(2) DEPTH OF STRUCTURE IS CALCUATED FROM RIM TO THE INVERT OF THE LOWEST PIPE CONNECTED TO THE STRUCTURE (EXISTING OR PROPOSED).
(3) THE LOWEST PIPE CONNECTING TO STRUCTURE 7 IS THE EXISTING PIPE RUNNING TO THE EAST WITH INVERT ELEVATION OF 720.87
(4) THE LOWEST PIPE CONNECTING TO STRUCTURE 18 IS THE EXISTING PIPE RUNNING TO THE WEST WITH INVERT ELEVATION OF 728.96

PIPE UNDERDRAIN ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	310.0110 BASE AGGREGATE-OPEN GRADED TON	645.0111 GEOTEXTILE TYPE DF SCHEDULE A SY	SPV.0090.0001 PIPE UNDERDRAIN 6-INCH SPECIAL LF	COMMENTS
1000	CAPITOL DR SB ENTRANCE RAMP (RAMP A)	18"A"+28.75	-	18"A"+38.73	0.6	5	10	CONNECT TO INLET 15
	CAPITOL DR NB EXIT RAMP (RAMP C)	19"C"+65.85	-	19"C"+73.82	0.6	5	10	CONNECT TO INLET 2
	CAPITOL DR NB EXIT RAMP (RAMP C1 & C2)	18"C1"+76.04	-	19"C1"+66.00	5.3	45	90	CONNECT TO INLET 5
		19"C2"+81.39	-	20"C2+69.02	5.2	44	88	CONNECT TO INLET 6
	UNDISTRIBUTED	-		-	1.2	10	20	
	TOTAL				12.9	109	218	

TRAFFIC CONTROL ITEMS

CATEGORY	STAGE	ROADWAY	643.0300 TRAFFIC CONTROL DRUMS 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	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I CYCLES	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I SIGNS	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.1000 SIGNS FIXED MESSAGE SF	643.1050 SIGNS PCMS DAY	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LF
1000	STAGE I	CAPITOL FRONTAGE RD 1	2145	455	910	975	195	2015	1	3	3	-	-	-	803
		CAPITOL FRONTAGE RD 2	1625	455	910	650	130	845	1	3	3	-	-	-	520
		CAPITOL NB EXIT RAMP	3055	195	390	-	-	845	1	1	1	-	-	-	613
		CAPITOL NB ENTRANCE RAMP	-	-	-	-	-	-	-	-	-	-	-	-	-
		CAPTIOL SB EXIT RAMP	585	260	520	-	-	910	-	-	-	-	-	-	-
		CAPITOL SB ENTRANCE RAMP	-	-	-	-	-	-	-	-	-	-	-	-	-
		TOTAL STAGE I	7410	1365	2730	1625	325	4615			7	0	0	0	1936
	STAGE II	CAPITOL FRONTAGE RD 1	231	49	98	105	21	217	-	-	-	-	-	-	-
		CAPITOL FRONTAGE RD 2	336	49	98	70	14	91	-	-	-	-	-	-	600
		CAPITOL NB EXIT RAMP	329	21	42	-	-	91	-	-	-	-	-	-	-
		CAPITOL NB ENTRANCE RAMP	-	-	-	-	-	-	-	-	-	-	-	-	-
		CAPTIOL SB EXIT RAMP	196	28	56	-	-	77	-	-	-	-	-	-	-
		CAPITOL SB ENTRANCE RAMP	-	-	-	-	-	-	-	-	-	-	-	-	-
		TOTAL STAGE II	1092	147	294	175	35	476			0	0	0	0	600
	DETOUR	STAGE 1	-	-	-	-	-	-	1	1	1	1176	-	28145	-
		STAGE 2	-	-	-	-	-	-	1	9	9	-	-	3416	-
		TOTAL DETOUR	0	0	0	0	0	0			10	1176	0	31561	0
	UNDISTRIBUTED		468	63	126	75	15	204	-	-	-	-	300	-	257
		TOTAL	8970	1575	3150	1875	375	5295			17	1176	300	31561	2793

PAVEMENT MARKING

CATEGORY	ROADWAY	646.0136 PAVEMENT MARKING EPOXY 12-INCH LF	646.0842.S PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH WHITE LF	646.0842.S PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4-INCH YELLOW LF	646.0844.S PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8-INCH LF	647.0156 PAVEMENT MARKING ARROWS EPOXY TYPE 1 EACH	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2 EACH	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3 EACH	647.0146 PAVEMENT MARKING ARROWS EPOXY TYPE 6 EACH	647.0356 PAVEMENT MARKING WORDS EPOXY EACH	647.0526 PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH EACH	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH LF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH LF	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH LF
1000	CAPITOL FRONTAGE RD 1	120	1755	1429	720	1	4	4	1	3	-	22	86	-
	CAPITOL FRONTAGE RD 2	-	1593	1346	403	1	4	2	2	4	-	22	79	-
	CAPITOL NB EXIT RAMP (RAMP C, C1, C2)	-	303	7	264	-	1	1	-	-	9	23	-	87
	CAPITOL NB ENTRANCE RAMP (RAMP D)	-	78	17	72	-	-	-	-	-	10	-	-	78
	CAPTIOL SB EXIT RAMP (RAMP B)	-	-	14	-	-	-	-	-	-	-	22	-	90
	CAPITOL SB ENTRANCE RAMP (RAMP A)	-	34	21	-	-	-	-	-	-	9	-	-	74
	118TH STREET	-	-	175	-	-	-	-	-	-	-	30	-	-
	TOTAL	120	3763	3009	1459	2	9	7	3	7	28	118	165	329
			6772											

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TRAFFIC CONTROL (PROJECT)

CATEGORY	PROJECT	643.0100 TRAFFIC CONTROL (PROJECT) EACH
1000	1360-09-71	1
	TOTAL	1

TRAFFIC CONTROL DETOUR (PROJECT)

CATEGORY	PROJECT	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) EACH
1000	1360-09-71	1
	TOTAL	1

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TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE

CATEGORY	ROADWAY	SPV.0060.0001 TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE EACH	COMMENTS
1000	IH-41	10	CLOSURE OF MEDIAN LANE OR OUTSIDE LANE FOR THE INSTALLATION OF THE LIGHTING UNITS
	TOTAL	10	

TRAFFIC CONTROL CLOSE-OPEN FREEWAY RAMP

CATEGORY	ROADWAY	SPV.0060.0002 TRAFFIC CONTROL CLOSE-OPEN FREEWAY RAMP EACH
1000	IH-41	3
	TOTAL	3

PAVEMENT CLEANUP PROJECT

CATEGORY	ROADWAY	SPV.0075.0002 PAVEMENT CLEANUP PROJECT 1360-09-71 HRS
1000	CAPITOL DRIVE FRONTAGE ROAD 1	8
	CAPITOL DRIVE FRONTAGE ROAD 2	8
	CAPITOL DRIVE (LOWER LEVEL)	8
	TOTAL	24

SURVEY PROJECT

CATEGORY	PROJECT	SPV.0105.0001 SURVEY PROJECT 1360-09-71 LF
1000	1360-09-71	1
	TOTAL	1

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EARTHWORK TABLE

Division	From / To Station	Location	Common Excavation (Item # 205.0100) (1)		Salvaged / Unusable Pavement Material (5)	Available Material (6)	Expanded EBS Backfill Breaker Run (Item # 311.0115) (7)	Unexpanded Fill	Expanded Fill (8)	Mass Ordinate + / - (9)	Waste (10)
			Cut (2)	EBS Excavation (3)(4)			Factor 1.30		Factor 1.25		
1	21"FR1"+24.48 - 26"FR1"+17.51	CAPITOL DR FRONTAGE ROAD 1	1157		662	495.0	0	40	50	445	
	18"FR2"+09.95 - 22"FR2"+03.06	CAPITOL DR FRONTAGE ROAD 2	679		425	254.0	0	3	4	250	
	18"C"+84.15 - 19"C"+89.66	CAPITOL DR NB EXIT RAMP (C)	36		29	6.8	0	0	0	7	
	18"C1"+76.01 - 19"C1"+91.83	CAPITOL DR NB EXIT RAMP (C1)	225		200	25.0	0	21	26	-1	
	18"A"+28.75 - 18"A"+62.15	CAPITOL DRIVE SB ENTRANCE RAMP (A)	54		41	13.1	0	1	1	12	
	0"SW1"+00.00- 0"SW1"+43.10	SIDEWALK SW1	14		0	14.0	0	0	0	14	
	0"SW2"+02.28 - 0"SW2"+52.56	SIDEWALK SW2	7		0	7.0	0	2	3	5	
Grand Total			2172	217	1357	815	282	67	84	731	948
			Total Common Ex(	2389							

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Cut includes Salvaged/Unusable Material.
3) EBS excavation is assumed to be 10% of the total Cut and it is considedered undistributed.
4) It is assumed that all EBS excavation will be wasted because this is a waste project.
5) Salvaged/Unusable Pavement Material
6) Available Material = Cut - Salvaged/Unusuable Pavement Material
7) Expanded EBS Backfill - This is to be filled with Breaker Run. EBS Backfill Factor = 1.3.
8) Expanded Fill Factor = 1.25
9) The Mass Ordinate=Available Material -Expanded Fill. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
10) Waste=EBS+Available Material-Expanded Fill. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

TYPE I & II PERMANENT SIGNING - 1360-09-71 STH 190

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x	x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2220 SIGNS TYPE II REFLC SH [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X 6"x22' [EA]	634.0814 TUBULAR STEEL POSTS 2"x2"x14' [EA]	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	R3-7L (3)		36 X	36	9.000				1			1	1			
2	W12-1D (2S)		24 X	24		4.000			1			1	1			
3	R1-1F(2S)		30 X	30				5.180				1				ON SIGNAL POLE
4	R5-1(2S)		30 X	30	6.250							1				ON SIGNAL POLE
5	R1-1F(2S)		30 X	30				5.180	1							
6	R10-6 MOD (2S)	ARROW POINT DOWN RIGHT	24 X	36	6.000							1	1			MOUNT UNDER FOLD UP STOP SIGN
7	R5-1(2S)		30 X	30	6.250				1			1	1			
8	W3-8(2S)		48 X	48		16.000						1				MOUNT ON SIGNAL POLE
9	R10-6 (2S)		24 X	36	6.000				1			1	1			
10	W3-8(2S)		48 X	48		16.000										MOUNT ON SIGNAL POLE
11	J3-1(2S)		24 X	57	9.500							1				MOUNT ON SIGNAL POLE
	M3-2		24 X	12												
	M1-6	STH 190	24 X	24												
	M6-1		21 X	21												
12	R3-5L(2S)		42 X	48	14.000							1				MOUNT ON SIGNAL ARM. MOUNTING BRACKETS INCIDENTAL . EXISTING SIGN IS ON THE BRIDGE. REMOVAL INCLUDES REMOVING ANCHOR ANCHOR SUPPORTS
13	R3-6L (2S)		42 X	48	14.000							1				MOUNT ON SIGNAL ARM. MOUNTING BRACKETS INCIDENTAL . EXISTING SIGN IS ON THE BRIDGE. REMOVAL INCLUDES REMOVING ANCHOR ANCHOR SUPPORTS
14	R3-6 MODIFIED	SEE DETAIL	42 X	48	14.000											MOUNT ON SIGNAL ARM. MOUNTING BRACKETS INCIDENTAL . EXISTING SIGN IS ON THE BRIDGE. REMOVAL INCLUDES REMOVING ANCHOR ANCHOR SUPPORTS
15	R6-2R(2S)		24 X	30	5.000							1				MOUNT ON SIGNAL POLE
16	R4-9(2S)		24 X	30	5.000							1				MOUNT ON SIGNAL POLE
17	J3-1(2S)		24 X	81	13.500					1		1	1			
	MB3-3		24 X	12												
	M1-1	IH 41	24 X	24												
	M1-4	USH 45	24 X	24												
	MB6-1		21 X	21												
18	R3-8A (2S)		36 X	30	7.500							1				MOUNT ON SIGNAL POLE
19	R5-1A(2S)		36 X	24	6.000							1				ON SIGNAL POLE 3' MOUNTING HEIGHT
20	R5-1(3)		36 X	36	9.000											MOUNT ABOVE SIGN 19 REMOVAL IS PART OF REMOVAL FOR # 19 SINCE IT IS ON SAME POST PER SPEC
21	R5-1(3)		36 X	36	9.000							1				MOUNT ON SIGNAL POLE
22	R5-1A(2S)		36 X	24	6.000											MOUNT UNDER SIGN # 21 , 3 FOOT MOUNTING HEIGHT. REMOVAL IS ON SAME POST SO PART OF SIGN 21 REMOVAL
23	J3-1(2S)		24 X	81	13.500					1		1	1			
	MB3-3		24 X	12												
	M1-1	IH 41	24 X	24												
	M1-4	USH 45	24 X	24												
	MB6-1		21 X	21												

TYPE I & II PERMANENT SIGNING - 1360-09-71 STH 190

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2220 SIGNS TYPE II REFLC SH [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X 6"x22' [EA]	634.0814 TUBULAR STEEL POSTS 2"x2"x14' [EA]	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
24	R5-1(2S)		30 X 30	6.250											BACK OF SIGN # 23. REMOVAL PART OF # 23
25	R10-6(2S)		24 X 36	6.000				1			1	1			
26	R1-1F(2S)		30 X 30				5.180				1	1			
27	R3-1(2S)		24 X 24	4.000											REMOVAL IS PART OF SIGN # 26. MOUNT UNDER # 26
28	R10-6(2S)		24 X 36	6.000							1				MOUNT ON SIGNAL POLE
29	R6-2L(2S)		24 X 30	5.000							1				MOUNT ON SIGNAL POLE
30	J3-1(2S)		24 X 57	9.500				1			1	1			
	M3-4		24 X 12												
	M1-4	STH 190	24 X 24												
	M6-1		21 X 21												
31	W4-2L(2S)		36 X 36		9.000			1			1	1			
32	R1-2(2S)		36 X 31	3.875				1			1	1			
33	W11-2(2S)		30 X 30		6.250			1							
33A	W16-7L(2S)		24 X 12		2.000										MOUNT UNDER # 33
34	W54-56(2S)		30 X 30	6.250				1			1	1			
35	R5-1A(2S)		36 X 24	6.000							1				MOUNT ON BACK OF # 34. REMOVAL IS PART OF # 34
35A	R5-1A(2S)		36 X 24	6.000							1				MOUNT ON BACK OF # 31. REMOVAL IS PART OF # 31
36	R10-6(2S)		24 X 36	6.000						1	1	1			
37	R5-1(2S)		30 X 30	6.250					1		1	1			
37A	J3-1(2S)		24 X 81	13.500											MOUNT ON BACK OF # 37.
	MB3-1		24 X 12												
	M1-1	IH 41	24 X 24												
	M1-4	USH 45	24 X 24												
	MB6-1		21 X 21												
38	R1-1F(2S)		30 X 30				5.180				1				MOUN ON SIGNAL POLE
39	R3-1(2S)		24 X 24	4.000							1				MOUNT UNDER # 38 ON SIGNAL POLE
40	R1-1F(2S)		36 X 36			5.180					1				MOUNT ON SIGNAL POLE
41	R3-8B		36 X 30	7.500							1				MOUNT ON SIGNAL POLE
42	R5-1A(2S)		36 X 24	6.000							1				MOUNT ON SIGNAL POLE 3 FOOT MOUNTING HEIGHT
43	R5-1(3)		36 X 36	9.000											MOUNT ON SIGNAL POLE. REMOVAL IS PART OF # 42
44	R4-9(2S)		24 X 30	5.000				1			1	1			
45	R6-2R(2S)		24 X 30	5.000				1			1	1			
46	J3-2(2S)		48 X 69	23.000				2			1	1			
	M3-4		24 X 12												
	M1-6	STH 190	24 X 24												
	M6-1		21 X 21												
	MB4-1		24 X 12												
	MB3-4		24 X 12												
	M1-1	IH 94	24 X 24												
	MB6-1		21 X 21												
47	R6-2L(2S)		24 X 30	5.000											ON SIGNAL POLE
48	R5-1(3)		36 X 36	9.000							1				ON SIGNAL POLE

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x	x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2220 SIGNS TYPE II REFLC SH [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X 6"x22' [EA]	634.0814 TUBULAR STEEL POSTS 2"x2"x14' [EA]	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
49	R5-1A(2S)		36 X	24	6.000											ON SIGNAL POLE. 3 FOOT MOUNTING HEIGHT. REMOVAL IS PART OF # 48. MOUNT UNDER # 48
50	R1-1F(2S)		30 X	30				5.180	1			1	1			
51	NOT USED															
52	NOT USED															
53	W11-2(2S)		30 X	30		6.250			1							
53A	W16-7L(2S)		24 X	12		2.000										MOUNT UNDER # 53
54	J3-1(2S)		24 X	81		13.500				1		1	1			
	MB3-1		24 X	12												
	M1-1	IH 41	24 X	24												
	M1-4	USH 45	24 X	24												
	MB3-1		21 X	21												
55	R1-1F(2S)		30 X	30				5.180				1				ON SIGNAL POLE
56	R6-2R(2S)		24 X	30	5.000											MOUNT UNDER # 55. REMOVAL PART OF # 55
57	R10-6 MOD (2S)	ARROW POINTS DOWNRIGHT	24 X	36	6.000							1				ON LIGHT POLE
58	R3-5L(2S)		42 X	48	14.000							1				MOUNT ON SIGNAL ARM. MOUNTING BRACKETS INCIDENTAL . EXISTING SIGN IS ON THE BRIDGE. REMOVAL INCLUDES REMOVING ANCHOR ANCHOR SUPPORTS
59	R3-6L(2S)		42 X	48	14.000							1				MOUNT ON SIGNAL ARM. MOUNTING BRACKETS INCIDENTAL . EXISTING SIGN IS ON THE BRIDGE. REMOVAL INCLUDES REMOVING ANCHOR ANCHOR SUPPORTS
60	R3-6 MOD	SEE DETAIL	42 X	48	14.000											MOUNT ON SIGNAL ARM. MOUNTING BRACKETS INCIDENTAL . EXISTING SIGN IS ON THE BRIDGE. REMOVAL INCLUDES REMOVING ANCHOR ANCHOR SUPPORTS
61	R5-1(2S)		30 X	30	6.250							1	1			MOUNT ABOVE SIGN # 63
62	R10-6 (2S)		24 X	36	6.000						1	1	1			
63	R1-1F(2S)		30 X	30			5.180					1				ON SIGNAL POLE BELOW # 61. REMOVAL IS PART OF # 61
64	R1-1(2S)		30 X	30	6.250				1			1	1			
65	W3-8(2S)		48 X	48		16.000						1				ON SIGNAL POLE
66	W12-1D(2S)		24 X	24		4.000			1			1	1			2 FOOT MOUNTING HEIGHT
67	J2-1(2S)		24 X	69	11.500				1			1	1			
	MB4-1		24 X	12												
	MB3-4		24 X	12												
	M1-1	IH 94	24 X	24												
	MB5-1L		21 X	21												

TYPE I & II PERMANENT SIGNING - 1360-09-71 STH 190

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	TYPE II SIGN SIZE W [IN.] x H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2220 SIGNS TYPE II REFLC SH [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	634.0622 WOOD POSTS 4"X 6"x22' [EA]	634.0814 TUBULAR STEEL POSTS 2"x2"x14' [EA]	638.2602 REMOVING SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
68	J3-2(2S)		48 X 57	19.000					1		1	1			
	M3-4		24 X 12												
	M1-6	STH 190-	24 X 24												
	M6-1		21 X 21												
	M3-2		24 X 12												
	M1-6	STH 190-	24 X 24												
	M6-2		21 X 21												
69	W3-8(2S)		48 X 48		16.000						1				MOUNT ON SIGNAL POLE
70	R5-57(4)		36 X 36	9.000							1	1			MOUNT ON LIGHT POLE
71	D1-57 Modified	BUSINESS PARK	90 X 15	9.375											PLACE UNDER EXISTING SIGN
72	D1-57 Modified	BUSINESS PARK	90 X 15	9.375											PLACE UNDER EXISTING SIGN
73	R10-7 (2M)		24 X 30	5.000				1							
74	R10-7 (2M)		24 X 30	5.000				1							
	UNDISTRIBUTED												3		
	TOTALS			463.375	111.000	10.360	31.080	22	5	2	55	27	3		

CATEGORY 1100
LIGHTING REMOVAL ITEMS

204.0195 REMOVING CONCRETE BASES
653.0905 REMOVING PULL BOXES
SPV.0060.1001 REMOVING DISTRIBUTION CENTERS
SPV.0060.1002 REMOVING LUMINAIRE UNDERDECK
SPV.0060.1003 REMOVING LIGHTING UNITS
SPV.0060.1004 LAMP DISPOSAL HIGH INTENSITY DISCHARGE

SYSTEM	LOCATION	SEQUENCE	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH	SPV.0060.1001 REMOVING DISTRIBUTION CENTERS EACH	SPV.0060.1002 REMOVING LUMINAIRE UNDERDECK EACH	SPV.0060.1003 REMOVING LIGHTING UNITS EACH	SPV.0060.1004 LAMP DISPOSAL HIGH INTENSITY DISCHARGE EACH	COMMENTS
HL-40-CD	--	CD - SYSTEM	--	15	--	--	--	--	--
HL-40-CD	220+96, C.I.M	HL-40-CD	1	--	1	--	--	--	LIGHTING CONTROL CABINET
HL-40-CD	220+96, C.I.M	CCD1/DCD1	--	--	--	--	1	2	--
HL-40-CD	223+72, C.I.M	DCD2/CCD2	--	--	--	--	1	2	--
HL-40-CD	226+48, C.I.M	CCD3/DCD3	--	--	--	--	1	2	--
HL-40-CD	229+24, C.I.M	DCD4/CCD4	--	--	--	--	1	2	--
HL-40-CD	231+99, C.I.M	CCD5/DCD5	--	--	--	--	1	2	--
HL-40-CD	234+75, C.I.M	ACD1/BCD1	--	--	--	--	1	2	--
HL-40-CD	237+14, C.I.M	BCD2/ACD2	--	--	--	--	1	2	--
HL-40-CD	239+52, C.I.M	ACD3/BCD3	--	--	--	--	1	2	--
HL-40-CD	241+91, C.I.M	BCD4/ACD4	--	--	--	--	1	2	--
HL-40-CD	244+30, C.I.M	ACD5/BCD5	--	--	--	--	1	2	--
HL-40-CD	246+69, C.I.M	BCD6/ACD6	--	--	--	--	1	2	--
HL-40-CD	249+06, C.I.M	ACD7/BCD7	--	--	--	--	1	2	--
HL-40-CD	CAPITOL DRIVE	UDL EB LOWER LEVEL CIRC. 8	--	--	--	4	--	4	--
HL-40-CD	CAPITOL DRIVE	UDL WB LOWER LEVEL CIRC. 6	--	--	--	4	--	4	--
HL-40-CD	CAPITOL DRIVE	UDL EB MID LEVEL CIRC. 6	--	--	--	3	--	3	--
HL-40-CD	CAPITOL DRIVE	UDL WB MID LEVEL CRC. 7	--	--	--	3	--	3	--
HL-40-CD	225+60, OFF RAMP	8CD12	1	--	--	--	1	1	IH 41 NB OFF RAMP
HL-40-CD	227+87, OFF RAMP	8CD11	1	--	--	--	1	1	"
HL-40-CD	229+35, OFF RAMP	8CD10	1	--	--	--	1	1	"
HL-40-CD	231+60, OFF RAMP	8CD9	1	--	--	--	1	1	"
HL-40-CD	123+30, OFF RAMP	8CD8	1	--	--	--	1	1	"
HL-40-CD	232+50, OFF RAMP	8CD30	1	--	--	--	1	1	IH 41 NB OFF RAMP
HL-40-CD	225+00, ON RAMP	6CD16	1	--	--	--	1	1	IH 41 SB ON RAMP
HL-40-CD	227+00, ON RAMP	6CD15	1	--	--	--	1	1	"
HL-40-CD	228+70, ON RAMP	6CD14	1	--	--	--	1	1	"
HL-40-CD	230+50, ON RAMP	6CD13	1	--	--	--	1	1	"
HL-40-CD	231+67, ON RAMP	6CD12	1	--	--	--	1	1	"
HL-40-CD	119+50, ON RAMP	6CD10	1	--	--	--	1	1	"
HL-40-CD	232+50, ON RAMP	8CD33	1	--	--	--	1	1	IH 41 SB ON RAMP
HL-40-CD	119+25, OFF RAMP	5CD20	1	--	--	--	1	1	IH 41 SB OFF RAMP
HL-40-CD	234+80, OFF RAMP	5CD32	1	--	--	--	1	1	"
HL-40-CD	236+18, OFF RAMP	5CD21	1	--	--	--	1	2	"
HL-40-CD	238+10, OFF RAMP	5CD22	1	--	--	--	1	2	"
HL-40-CD	240+18, OFF RAMP	5CD23	1	--	--	--	1	1	IH 41 SB OFF RAMP
HL-40-CD	234+00, ON RAMP	7CD31	1	--	--	--	1	1	IH 41 NB ON RAMP
HL-40-CD	122+30, ON RAMP	ACD15	1	--	--	--	1	1	"
HL-40-CD	236+95, ON RAMP	ACD16	1	--	--	--	1	1	"
HL-40-CD	239+00, ON RAMP	ACD17	1	--	--	--	1	1	"
HL-40-CD	241+00, ON RAMP	ACD18	1	--	--	--	1	1	"
HL-40-CD	243+00, ON RAMP	ACD19	1	--	--	--	1	1	"
HL-40-CD	245+00, ON RAMP	ACD20	1	--	--	--	1	1	"
HL-40-CD	247+00, ON RAMP	ACD21	1	--	--	--	1	1	"
HL-40-CD	249+90, ON RAMP	ACD22	1	--	--	--	1	1	"
HL-40-CD	250+80, ON RAMP	ACD23	1	--	--	--	1	1	"
HL-40-CD	252+85, ON RAMP	ACD24	1	--	--	--	1	1	IH 41 NB ON RAMP
HL-40-CD	111+80	5CD8	1	--	--	--	1	1	CAPITOL DRIVE
HL-40-CD	112+05	6CD9	1	--	--	--	1	1	"
HL-40-CD	113+11	5CD7/5CD25	1	--	--	--	1	2	"
HL-40-CD	113+80	6CD8	1	--	--	--	1	1	"
HL-40-CD	114+71	5CD6/5CD24	1	--	--	--	1	2	CAPITOL DRIVE
HL-40-CD	114+94	6CD22/6CD6	1	--	--	--	1	2	"
HL-40-CD	116+36	5CD5/5CD23	1	--	--	--	1	2	"
HL-40-CD	116+60	6CD23/6CD5	1	--	--	--	1	2	"
HL-40-CD	117+00, LEFT	5CD4	1	--	--	--	1	1	CAPITOL DRIVE
HL-40-CD	117+00, RIGHT	6CD4	1	--	--	--	1	1	"
HL-40-CD	118+06	6CD24/6CD3	1	--	--	--	1	2	"
HL-40-CD	118+10	5CD3/5CD22	1	--	--	--	1	2	"
HL-40-CD	119+69	5CD2/5CD21	1	--	--	--	1	2	CAPITOL DRIVE
HL-40-CD	119+71	6CD25/6CD2	1	--	--	--	1	2	"
HL-40-CD	122+54	8CD21/8CD2	1	--	--	--	1	2	"
HL-40-CD	122+55	7CD1/7CD24	1	--	--	--	1	2	"
HL-40-CD	124+16	8CD22/8CD3	1	--	--	--	1	2	CAPITOL DRIVE
HL-40-CD	124+25	7CD2/7CD23	1	--	--	--	1	2	"
HL-40-CD	125+76	8CD23/8CD4	1	--	--	--	1	2	"
HL-40-CD	125+89	7CD3/7CD22	1	--	--	--	1	2	CAPITOL DRIVE
HL-40-CD	127+45, LEFT	7CD5	1	--	--	--	1	1	"
HL-40-CD	127+45, RIGHT	8CD5	1	--	--	--	1	1	"
HL-40-CD	127+55, LEFT	7CD21	1	--	--	--	1	1	"
HL-40-CD	128+75, RIGHT	8CD6	1	--	--	--	1	1	"
HL-40-CD	128+80, LEFT	7CD6	1	--	--	--	1	1	CAPITOL DRIVE
	TOTAL (1100)		55	15	1	14	66	109	

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

3

CATEGORY 1100
LIGHTING SYSTEM
240/480 VAC 3-WIRE

654.0230 CONCRETE CONTROL CABINET BASES TYPE L30
655.0640 ELECTRICAL WIRE LIGHTING 1 AWG
656.0400.0001 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL HL-40-CD
659.2230 LIGHTING CONTROL CABINETS 240/480 30-INCH
SPV.0105.1001 MAINTENANCE OF LIGHTING SYSTEMS
SPV.0105.1002 LIGHTING SYSTEM INTEGRATOR
SPV.0105.1003 LIGHTING SYSTEM SURVEY

SYSTEM	LOCATION	654.0230 CONCRETE CONTROL CABINET BASES TYPE L30	655.0640 ELECTRICAL WIRE LIGHTING 1 AWG	656.0400.0001 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL	659.2230 LIGHTING CONTROL CABINETS 240/480 30-INCH	SPV.0105.1001 MAINTENANCE OF LIGHTING SYSTEMS	SPV.0105.1002 LIGHTING SYSTEM INTEGRATOR	SPV.0105.1003 LIGHTING SYSTEM SURVEY
		EACH	LF	LS	EACH	LS	LS	LS
HL-40-CD	234+33, 183.3' LT (CAPITOL DRIVE)	1	18	1	1	1	1	1
	TOTAL (1100)	**1**	**18**	**1**	**1**	**1**	**1**	**1**

PLAQUE TEXT HL-40-CD
CAPITOL DRIVE
2 - 480 VAC WARNING (2 REQUIRED PER LOCATION; METER PEDESTAL AND CABINET DOOR)

CATEGORY 1100
UNDERDECK LIGHTING
240/480 VAC 3-WIRE

659.0600.0001 UNDERDECK LIGHTING CAPITOL DRIVE (EB LOWER LEVEL)
659.0600.0002 UNDERDECK LIGHTING CAPITOL DRIVE (WB LOWER LEVEL)
659.0600.0003 UNDERDECK LIGHTING CAPITOL DRIVE (EB MID LEVEL)
659.0600.0004 UNDERDECK LIGHTING CAPITOL DRIVE (WB MID LEVEL)
659.1215 LUMINAIRES UNDERDECK LED C

SYSTEM	LOCATION	SEQUENCE	659.0600.0001 UNDERDECK LIGHTING CAPITOL DRIVE (EB LOWER LEVEL)	659.0600.0002 UNDERDECK LIGHTING CAPITOL DRIVE (WB LOWER LEVEL)	659.0600.0003 UNDERDECK LIGHTING CAPITOL DRIVE (EB MID LEVEL)	659.0600.0004 UNDERDECK LIGHTING CAPITOL DRIVE (WB MID LEVEL)	659.1215 LUMINAIRES UNDERDECK LED C
			LS	LS	LS	LS	EACH
HL-40-CD	CAPITOL DRIVE	G/H/N/G	1	--	--	--	4
HL-40-CD	CAPITOL DRIVE	E/F/N/G	--	1	--	--	4
HL-40-CD	CAPITOL DRIVE	E/F/N/G	--	--	1	--	3
HL-40-CD	CAPITOL DRIVE	J/K/N/G	--	--	--	1	3
	TOTAL (1100)		**1**	**1**	**1**	**1**	**14**

FILE NAME : N:\SPO\Operations\Lighting\Light Projects\qtys\16qty\1360-09-71_ltg_030201_mq.pptx PLOT DATE : 05-DEC-2016 PLOT BY : mscsrp PLOT NAME : 030201_mq_ltg PLOT SCALE : 1:1

CATEGORY 1100
LIGHTING BRANCH CIRCUIT CONDUIT

652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH
652.0615 CONDUIT SPECIAL 3-INCH

SYSTEM	LOCATION FROM	LOCATION TO	652.0225 CONDUIT 2-INCH SCHEDULE 40 LF	652.0235 CONDUIT 3-INCH SCHEDULE 40 LF	652.0615 CONDUIT 3-INCH SPECIAL LF	COMMENTS
HL-40-CD	HL-40-CD	PB101	--	25	--	IH 41 SB OFF RAMP
HL-40-CD	HL-40-CD	PB102	--	25	--	"
HL-40-CD	PB102	CCD1	10	--	--	"
HL-40-CD	PB102	DCD1	220	--	--	"
HL-40-CD	DCD1	CCD2	200	--	--	"
HL-40-CD	CCD2	DCD2	200	--	--	"
HL-40-CD	DCD2	STUBOUT NORTH	15	--	--	IH 41 SB OFF RAMP
HL-40-CD	PB102	PB103	--	--	50	--
HL-40-CD	PB103	PB104	--	--	60	--
HL-40-CD	PB104	PB105	--	--	60	--
HL-40-CD	PB105	PB106	--	--	50	--
HL-40-CD	PB106	JCD1	--	--	40	--
HL-40-CD	JCD1	KCD1	200	--	--	IH 41 NB ON RAMP
HL-40-CD	KCD1	JCD2	200	--	--	"
HL-40-CD	JCD2	KCD2	200	--	--	"
HL-40-CD	KCD2	JCD3	180	--	--	"
HL-40-CD	JCD3	PB107	15	--	--	"
HL-40-CD	PB107	KCD3	180	--	--	"
HL-40-CD	KCD3	JCD4	195	--	--	"
HL-40-CD	JCD4	KCD4	180	--	--	"
HL-40-CD	KCD4	JCD5	200	--	--	"
HL-40-CD	JCD5	KCD5	195	--	--	"
HL-40-CD	KCD5	STUBOUT NORTH	120	--	--	IH 41 NB ON RAMP
HL-40-CD	PB103	PB108	--	--	60	--
HL-40-CD	PB109	PB110	--	--	30	--
HL-40-CD	PB110	ECD1	--	--	50	IH 41 SB ON RAMP
HL-40-CD	ECD1	FCD1	220	--	--	"
HL-40-CD	FCD1	ECD2	200	--	--	"
HL-40-CD	ECD2	FCD2	200	--	--	"
HL-40-CD	FCD2	ECD3	200	--	--	"
HL-40-CD	ECD3	FCD3	200	--	--	"
HL-40-CD	FCD3	STUBOUT SOUTH	15	--	--	IH 41 SB ON RAMP
HL-40-CD	PB110	PB111	--	--	70	--
HL-40-CD	PB111	PB112	--	--	100	--
HL-40-CD	PB112	PB114	--	--	60	--
HL-40-CD	PB114	GCD1	--	--	40	IH 41 NB OFF RAMP
HL-40-CD	GCD1	HCD1	200	--	--	"
HL-40-CD	HCD1	GCD2	200	--	--	"
HL-40-CD	GCD2	HCD2	200	--	--	"
HL-40-CD	HCD2	GCD3	200	--	--	"
HL-40-CD	GCD3	HCD3	200	--	--	"
HL-40-CD	HCD3	STUBOUT SOUTH	15	--	--	IH 41 NB OFF RAMP
HL-40-CD	GCD6 / HCD6	PB115	110	--	--	CAPITOL DRIVE EB
HL-40-CD	PB115	PB116	--	--	40	"
HL-40-CD	PB116	GCD7	50	--	--	"
HL-40-CD	GCD7	HCD7	120	--	--	"
HL-40-CD	HCD7	STUBOUT EAST	15	--	--	CAPITOL DRIVE EB
HL-40-CD	JCD9 / KCD9	PB117	40	--	--	CAPITOL DRIVE WB
HL-40-CD	PB117	PB118	--	--	40	"
HL-40-CD	PB118	JCD10	100	--	--	"
HL-40-CD	JCD10	STUBOUT EAST	15	--	--	CAPITOL DRIVE WB
HL-40-CD	CCD8 / DCD8	PB119	20	--	--	"
HL-40-CD	PB119	PB120	--	--	30	"
HL-40-CD	PB120	CCD9	110	--	--	"
HL-40-CD	CCD9	STUBOUT WEST	15	--	--	CAPITOL DRIVE WB
HL-40-CD	ECD8 / FCD8	PB121	180	--	--	CAPITOL DRIVE EB
HL-40-CD	PB121	PB122	--	--	40	"
HL-40-CD	PB122	ECD9	60	--	--	"
HL-40-CD	ECD9	STUBOUT EAST	15	--	--	"
HL-40-CD	PB122	FCD9	90	--	--	"
HL-40-CD	FCD9	STUBOUT WEST	15	--	--	CAPITOL DRIVE EB
	TOTALS (1100)		5,515	50	820	

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CATEGORY 1100
LIGHTING PULL BOXES AND JUNCTION BOXES

653.0140 PULL BOXES STEEL 24x42-INCH
655.0620 ELECTRICAL WIRE LIGHTING 8 AWG

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	LOCATION	LABEL	653.0140 PULL BOX 24x42	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG	COMMENTS
			EACH	LF	
HL-40-CD	IH 41 SB OFF RAMP	PB101	1	25	HL-40-CD TO PB101
HL-40-CD	IH 41 SB OFF RAMP	PB102	1	100	HL-40-CD TO PB102
HL-40-CD	IH 41 SB OFF RAMP	PB103	1	100	CCD1 TO PB103
HL-40-CD	CAPITOL DRIVE WB	PB104	1	150	CCD1 TO PB104
HL-40-CD	CAPITOL DRIVE WB	PB105	1	100	JCD1 TO PB105
HL-40-CD	IH 41 NB ON RAMP	PB106	1	50	JCD1 TO PB106
HL-40-CD	IH 41 NB ON RAMP	PB107	1	25	JCD3 TO PB107
HL-40-CD	CAPITOL DRIVE WB	PB108	1	25	CCD3 / DCD3 TO PB108
HL-40-CD	CAPITOL DRIVE EB	PB109	1	25	ECD4 / FCD4 TO PB109
HL-40-CD	IH 41 SB ON RAMP	PB110	1	75	ECD1 TO PB110
HL-40-CD	CAPITOL DRIVE EB	PB111	1	125	ECD1 TO PB111
HL-40-CD	CAPITOL DRIVE EB	PB112	1	100	GCD1 TO PB112
HL-40-CD	CAPITOL DRIVE EB	PB113	1	25	GCD4 / HCD4 TO PB113
HL-40-CD	IH 41 NB OFF RAMP	PB114	1	50	GCD1 TO PB114
HL-40-CD	CAPITOL DRIVE EB	PB115	1	100	GCD6 / HCD6 TO PB115
HL-40-CD	CAPITOL DRIVE EB	PB116	1	50	GCD7 TO PB116
HL-40-CD	CAPITOL DRIVE WB	PB117	1	100	JCD10 TO PB117
HL-40-CD	CAPITOL DRIVE WB	PB118	1	50	JCD9 / KCD9 TO PB118
HL-40-CD	CAPITOL DRIVE WB	PB119	1	25	CCD8 / DCD8 TO PB119
HL-40-CD	IH 41 SB OFF RAMP	PB120	1	75	CCD8 / DCD8 TO PB120
HL-40-CD	CAPITOL DRIVE WB	PB121	1	120	ECD9 TO PB121
HL-40-CD	IH 41 SB ON RAMP	PB122	1	80	ECD9 TO PB 122
	TOTAL (1100)		**22**	**1,575**	
				*	

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CATEGORY 1100
MEDIAN LIGHTING LUMINAIRE ARMS AND POLES

655.0610	ELECTRICAL WIRE LIGHTING 12 AWG *
657.0605	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 4-FT
659.1130	LUMINAIRES UTILITY LED D
SPV.0060.1005	POLES TYPE F

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	SEQUENCE I. D.	STATION	OFFSET	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	657.0605 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 4-FT	659.1130 LUMINAIRES UTILITY LED D	SPV.0060.1005 POLES TYPE F	COMMENT
				L.F.	EACH	EACH	EACH	
HL-40-CD	ACD5 / BCD5	221+08	C.I.M	342	1	1	1	IH 41 MAINLINE
HL-40-CD	BCD4 / ACD4	223+83	C.I.M	342	1	1	1	
HL-40-CD	ACD3 / BCD3	226+54	C.I.M	342	1	1	1	IH 41 MAINLINE
HL-40-CD	BCD2 / ACD2	229+28	C.I.M	342	1	1	1	"
HL-40-CD	ACD1 / BCD1	232+15	C.I.M	342	1	1	1	"
HL-40-CD	BCD6 / ACD6	235+02	C.I.M	342	1	1	1	IH 41 MAINLINE
HL-40-CD	ACD7 / BCD7	237+24	C.I.M	342	2	2	1	"
HL-40-CD	BCD8 / ACD8	239+67	C.I.M	342	2	2	1	"
HL-40-CD	ACD9 / BCD9	241+98	C.I.M	342	2	2	1	IH 41 MAINLINE
HL-40-CD	BCD10 / ACD10	244+32	C.I.M	342	2	2	1	"
HL-40-CD	ACD11 / BCD11	246+76	C.I.M	342	2	2	1	"
HL-40-CD	BCD12 / ACD12	249+10	C.I.M	342	2	2	1	IH 41 MAINLINE
	TOTAL (1100)			**4,104**	**18**	**18**	**12**	
				*				

SHEET 5 OF 8

CATEGORY 1100
RAMP LIGHTING LUMINAIRE ARMS AND POLES

3

654.0105 CONCRETE BASES TYPE 5
654.0108 CONCRETE BASES TYPE 8
655.0610 ELECTRICAL WIRE LIGHTING 12 AWG *
657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE *
658.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE *
657.0322 POLES TYPE 5 - ALUMINUM *
657.0380 POLES TYPE E
657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FOOT *
657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FOOT *
659.1125 LUMINAIRES UTILITY LED C *
659.1130 LUMINAIRES UTILITY LED D *

3

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	SEQUENCE I. D.	STATION	OFFSET	654.0105 CONCRETE BASES TYPE 5	654.0108 CONCRETE BASES TYPE 8	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE	657.0322 POLES TYPE 5 ALUMINUM	657.0380 POLES TYPE E	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT	659.1125 LUMINAIRES UTILITY LED C	659.1130 LUMINAIRES UTILITY LED D	COMMENTS
				EACH	EACH	L.F.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
HL-40-CD	HCD3	222+22.2	69.4' RT	--	1	204	1	--	--	1	--	1	--	1	IH 41 NB OFF RAMP
HL-40-CD	GCD3	224+22.2	72.5' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	HCD2	226+22.2	90.2' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	GCD2	228+22.2	102.7' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	HCD1	230+22.2	109.1' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	GCD1	232+22.1	151.7' RT	1	--	117	--	1	1	--	1	--	1	--	IH 41 NB OFF RAMP
HL-40-CD	JCD1	234+55.6	135.4' RT	1	--	117	--	1	1	--	1	--	1	--	IH 41 NB ON RAMP
HL-40-CD	KCD1	236+89.1	109.1' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	JCD2	239+1.2	111.4' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	KCD2	241+11.2	109.8' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	JCD3	243+00	112.3' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	KCD3	245+01	115.3' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	JCD4	247+02	108.7' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	KCD4	248+90.9	98.7' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	JCD5	250+86	88.0' RT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	KCD5	252+88	94.1' RT	--	1	204	1	--	--	1	--	1	--	1	IH 41 NB ON RAMP
HL-40-CD	DCD2	240+71.86	88.0' LT	--	1	204	1	--	--	1	--	1	--	1	IH 41 SB OFF RAMP
HL-40-CD	CCD2	238+61.10	114.6' LT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	DCD1	236+80.51	123.0' LT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	CCD1	234+93.26	168.3' LT	1	--	117	--	1	1	--	1	--	1	--	IH 41 SB OFF RAMP
HL-40-CD	ECD1	232+42.4	169.6' LT	1	--	117	--	1	1	--	1	--	1	--	IH 41 SB ON RAMP
HL-40-CD	FCD1	230+42	110.2' LT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	ECD2	228+42	107.2' LT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	FCD2	226+42	102.0' LT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	ECD3	224+42	99.8' LT	1	--	117	--	1	1	--	1	--	1	--	"
HL-40-CD	FCD3	222+42	96.0' LT	--	1	204	1	--	--	1	--	1	--	1	IH 41 SB ON RAMP
TOTAL (1100)				22 *	4 *	3,390 *	4 *	22 *	22 *	4	22 *	4 *	22 *	4 *	

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

FILE NAME : N:\SPO\Operations\Lighting\Light Projects\qtys\16qty\1360-09-71_ltg_030201_mq.pptx PLOT DATE : 05-DEC-2016 PLOT BY : mscsrp PLOT NAME : 030201_mq_ltg PLOT SCALE : 1:1

CATEGORY 1100
CAPITOL DRIVE LIGHTING LUMINAIRE ARMS AND POLES

654.0105	CONCRETE BASES TYPE 5
655.0610	ELECTRICAL WIRE LIGHTING 12 AWG *
658.0255	TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE *
657.0322	POLES TYPE 5 - ALUMINUM *
657.0610	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FOOT *
657.0705	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 10-FOOT
657.0715	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FOOT *
659.1125	LUMINAIRES UTILITY LED C *
SPV.0060.1006	POLES TYPE 5 - ALUMINUM MULTI ARM HEIGHT

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	SEQUENCE I. D.	STATION	OFFSET	654.0105 CONCRETE BASES TYPE 5	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2 - INCH BOLT CIRCLE	657.0322 POLES TYPE 5 ALUMINUM	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	657.0705 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 10-FT	657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT	659.1125 LUMINAIRES UTILITY LED C	SPV.0060.1006 POLES TYPE 5 ALUMINUM MULTI ARM HEIGHT	COMMENTS
				EACH	L.F.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
HL-40-CD	CCD9	111+82	55.0', LT	1	117	1	1	1	--	--	1	--	WB CAPITOL DRIVE
HL-40-CD	DCD8 / CCD8	113+11	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	CCD7 / DCD7	114+71	"	--	273	--	--	--	1	1	2	1	WB CAPITOL DRIVE
HL-40-CD	DCD6 / CCD6	116+36	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	CCD5	117+3.1	40.0', LT	1	117	1	1	1	--	--	1	--	"
HL-40-CD	DCD4 / CCD4	118+10	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	WB CAPITOL DRIVE
HL-40-CD	CCD3 / DCD3	119+69	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	KCD6 / JCD6	122+55	"	--	273	--	--	--	1	1	2	1	"
HL-40-CD	JCD7 / KCD7	124+25	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	WB CAPITOL DRIVE
HL-40-CD	KCD8 / JCD8	125+89	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	JCD9 / KCD9	127+44	"	--	273	--	--	--	1	1	2	1	"
HL-40-CD	JCD10	128+78	85.0' LT	1	117	1	1	1	--	--	1	--	WB CAPITOL DRIVE
HL-40-CD	FCD9	112+05	75.0' RT	1	117	1	1	1	--	--	1	--	EB CAPITOL DRIVE
HL-40-CD	ECD9	113+66	85.0' RT	1	117	1	1	1	--	--	1	--	"
HL-40-CD	FCD8 / ECD8	114+95	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	EB CAPITOL DRIVE
HL-40-CD	ECD7 / FCD7	116+60	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	ECD6	117+50	50.0' RT	1	117	1	1	1	--	--	1	--	"
HL-40-CD	FCD5 / ECD5	118+06	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	EB CAPITOL DRIVE
HL-40-CD	ECD4 / FCD4	119+71	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	GCD4 / HCD4	122+54	"	--	273	--	--	--	1	1	2	1	"
HL-40-CD	HCD5 / GCD5	124+16	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	EB CAPITOL DRIVE
HL-40-CD	GCD6 / HCD6	125+76	STRUCTURE MOUNT	--	273	--	--	--	1	1	2	1	"
HL-40-CD	GCD7	127+50	75.0' RT	1	117	1	1	1	--	--	1	--	"
HL-40-CD	HCD7	128+76	65.0' RT	1	117	1	1	1	--	--	1	--	EB CAPITOL DRIVE
TOTAL (1100)				8 *	5,304 *	8 *	8 *	8 *	16	16 *	40 *	16	

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

CATEGORY 1100
LIGHTING BRANCH CIRCUIT WIRE

655.0620 ELECTRICAL WIRE LIGHTING 8 AWG *
655.0630 ELECTRICAL WIRE LIGHTING 4 AWG

* ADDITIONAL QUANTITIES FOUND ELSEWHERE

SYSTEM	LOCATION FROM	LOCATION TO	DISTANCE	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	COMMENTS
HL-40-CD	HL-40-CD	PB101	25	315	105	IH 41 SB OFF RAMP
HL-40-CD	HL-40-CD	PB102	25	210	70	"
HL-40-CD	PB102	CCD1	10	45	15	"
HL-40-CD	PB102	DCD1	220	675	225	"
HL-40-CD	DCD1	CCD2	200	615	205	"
HL-40-CD	CCD2	DCD2	200	615	205	"
HL-40-CD	PB101	PB103	75	510	170	--
HL-40-CD	PB102	PB103	50	360	120	--
HL-40-CD	PB103	PB104	60	420	140	--
HL-40-CD	PB104	JB101	100	315	105	IH 41 MEDIAN
HL-40-CD	JB101	JB102	220	675	225	"
HL-40-CD	JB102	ACD1 / BCD1	30	105	35	"
HL-40-CD	ACD1 / BCD1	BCD2 / ACD2	280	855	285	"
HL-40-CD	BCD2 / ACD2	ACD3 / BCD3	270	825	275	"
HL-40-CD	ACD3 / BCD3	BCD4 / ACD4	265	810	270	"
HL-40-CD	BCD4 / ACD4	ACD5 / BCD5	270	825	275	"
HL-40-CD	JB101	BCD6 / ACD6	30	105	35	"
HL-40-CD	BCD6 / ACD6	ACD7 / BCD7	220	675	225	"
HL-40-CD	ACD7 / BCD7	BCD8 / ACD8	240	735	245	"
HL-40-CD	BCD8 / ACD8	ACD9 / BCD9	225	690	230	"
HL-40-CD	ACD9 / BCD9	BCD10 / ACD10	230	705	235	"
HL-40-CD	BCD10 / ACD10	ACD11 / BCD11	235	720	240	"
HL-40-CD	ACD11 / BCD11	BCD12 / ACD12	230	705	235	IH 41 MEDIAN
HL-40-CD	PB104	PB105	60	210	70	--
HL-40-CD	PB105	PB106	50	180	60	--
HL-40-CD	PB106	JCD1	40	135	45	--
HL-40-CD	JCD1	KCD1	200	615	205	IH 41 NB ON RAMP
HL-40-CD	KCD1	JCD2	200	615	205	"
HL-40-CD	JCD2	KCD2	200	615	205	"
HL-40-CD	KCD2	JCD3	180	555	185	"
HL-40-CD	JCD3	PB107	15	60	20	"
HL-40-CD	PB107	KCD3	180	555	185	"
HL-40-CD	KCD3	JCD4	195	600	200	"
HL-40-CD	JCD4	KCD4	180	555	185	"
HL-40-CD	KCD4	JCD5	200	615	205	"
HL-40-CD	JCD5	KCD5	195	600	200	"
HL-40-CD	PB103	PB108	60	630	210	--
HL-40-CD	PB109	PB110	30	240	80	--
HL-40-CD	PB110	ECD1	50	165	55	IH 41 SB ON RAMP
HL-40-CD	ECD1	FCD1	220	675	225	"
HL-40-CD	FCD1	ECD2	200	615	205	"
HL-40-CD	ECD2	FCD2	200	615	205	"
HL-40-CD	FCD2	ECD3	200	615	205	"
HL-40-CD	ECD3	FCD3	200	615	205	"
HL-40-CD	PB110	PB111	70	240	80	--
HL-40-CD	PB111	PB112	100	315	105	--
HL-40-CD	PB112	PB114	60	195	65	--
HL-40-CD	PB114	GCD1	40	135	45	IH 41 NB OFF RAMP
HL-40-CD	GCD1	HCD1	200	615	205	"
HL-40-CD	HCD1	GCD2	200	615	205	"
HL-40-CD	GCD2	HCD2	200	615	205	"
HL-40-CD	HCD2	GCD3	200	615	205	"
HL-40-CD	GCD3	HCD3	200	615	205	"
HL-40-CD	GCD6 / HCD6	PB115	110	345	115	CAPITOL DRIVE EB
HL-40-CD	PB115	PB116	40	135	45	"
HL-40-CD	PB116	GCD7	50	165	55	"
HL-40-CD	GCD7	HCD7	120	375	125	"
HL-40-CD	JCD9 / KCD9	PB117	40	135	45	CAPITOL DRIVE WB
HL-40-CD	PB117	PB118	40	135	45	"
HL-40-CD	PB118	JCD10	100	315	105	"
HL-40-CD	CCD8 / DCD8	PB119	20	75	25	"
HL-40-CD	PB119	PB120	30	105	35	"
HL-40-CD	PB120	CCD9	110	345	115	"
HL-40-CD	ECD8 / FCD8	PB121	180	555	185	CAPITOL DRIVE EB
HL-40-CD	PB121	PB122	40	135	45	"
HL-40-CD	PB122	ECD9	60	195	65	"
HL-40-CD	PB122	FCD9	90	285	95	"
TOTALS (1100)				29,850	9,950	

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET:	E

IH-41 & STH 190

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

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SUMMARY OF STATE FURNISHED MATERIALS - FOR INFORMATION ONLY

QUANTITY	UNIT	DESCRIPTION
1	EACH	TRAFFIC SIGNAL CONTROLLER AND CABINET WITH BATTERY BACK-UP
1	EACH	POLES TYPE 9
4	EACH	POLES TYPE 10
1	EACH	POLES TYPE 12
1	EACH	MONOTUBE ARMS 25-FT
4	EACH	MONOTUBE ARMS 30-FT
1	EACH	MONOTUBE ARMS 40-FT
1	EACH	RADAR DETECTION SYSTEM

REMOVING CONCRETE BASES

EXISTING BASE NO.	204.0195* REMOVING CONCRETE BASES EACH	SPV.0060.3051 REMOVING MONTUBE CONCRETE BASES EACH
CB1	1	--
SB5	1	--
SB6	1	--
SB7	1	--
SB8	1	--
SB9	1	--
SB10	1	--
SB11	1	--
MT1	--	1
MT2	--	1
MT3	--	1
MT4	--	1
TOTAL	8	4

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE



CONDUIT

FROM	TO	652.0125 CONDUIT RIGID METALLIC 2-INCH LF	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	--	--	51	--
PB1	PB2	--	--	--	93
PB2	PB3	--	--	108	--
PB3	PB4	--	--	120	--
PB9	PB23	--	--	26	--
EXT1	PB10	--	--	40	--
PB10	PB11	--	--	176	--
PB11	EXT2	--	--	34	--
EXT3	PB12	--	--	22	
PB12	PB13	--	8	--	--
PB13	EXT4	--	5	--	--
PB12	PB15	--	--	84	--
PB16	PB24	--	--	58	--
PB16	PB17	--	--	78	--
PB17	PB18	--	--	76	--
PB18	PB19	--	--	318	--
PB19	PB20	--	--	132	--
PB20	PB21	--	--	99	--
PB21	PB22	--	--	--	90
PB22	CB1	--	--	54	--
PB3	SB1	--	8	--	--
PB7	SB3	--	--	5	--
PB10	SB7	--	10	--	--
PB11	SB8	--	15	--	--
PB11	WALL	17	--	--	--
PB12	SB11	--	--	16	--
PB12	SB10	--	5	--	--
PB15	SB12	--	6	--	--
PB16	SB13	--	--	7	--
PB17	SB15	--	10	--	--
PB18	SB16	--	5	--	--
PB19	SB17	--	9	--	--
PB19	WALL	12	--	--	--
PB20	SB19	--	--	5	--
PB23	SB5	--	--	10	--
PB24	SB14	--	--	10	--
	TOTAL	29	81	1529	183

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PROJECT NO: 1360-09-71	HWY:IH-41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET: 137	E

FILE NAME : W:\Cadd\Final\10603990_TM5\Roads\cds\1360-09-71\030235_mq_sp.ppt PLOT DATE : 10/31/2016 1:07:00 PM PLOT BY : MSCCEJ PLOT NAME : 030235_mq_sp1 PLOT SCALE : 1:1

3

INSTALL CONDUIT INTO EXISTING ITEM

STRUCTURE NO.	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH
PB7	1
PB9	1
TOTAL	2

PULL BOXES STEEL

PULL BOX NO.	STATION	LOCATION	653.0135 PULL BOXES STEEL 24X36-INCH EACH	653.0140* PULL BOXES STEEL 24X42-INCH EACH
PB1	21+60.7	47.8' RT	--	1
PB2	21+83.2	27.1' RT	--	1
PB3	22+14.5	10.0' RT	--	1
PB4	22+14.5	30.0' LT	--	1
PB10	19+11.9	15.0' LT	--	1
PB11	20+00.0	15.0' LT	--	1
PB12	20+50.9	14.2' LT	--	1
PB13	20+59.1	9.8' LT	--	1
PB15	20+52.8	28.0' RT	--	1
PB16	24+13.7	20.6' LT	--	1
PB17	24+11.1	18.0' RT	--	1
PB18	23+72.9	18.0' RT	--	1
PB19	22+66.9	18.0' RT	--	1
PB20	22+25.2	33.1' RT	--	1
PB21	21+92.3	36.4' RT	--	1
PB22	21+71.1	57.4' RT	--	1
PB23	18+35.5	15.5' LT	1	--
PB24	24+69.8	15.0' LT	1	--
		TOTAL	2	16

*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
PB1	1
PB2	1
PB3	1
PB4	1
PB10	1
PB11	1
PB12	1
PB13	1
PB15	1
PB16	1
PB17	1
PB18	1
PB19	1
PB20	1
PB21	1
PB22	1
TOTAL	16

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

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	SPV.0060.3054 CONCRETE BASES TYPE 1 SPREAD FOOTING EACH	SPV.0060.3055 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL (MOD.) EACH
CB1	21+54.8	63.5' RT	--	--	--	--	1
SB3	18+64.1	21.0' RT	--	1	--	--	--
SB5	18+26.9	20.5' LT	--	--	1	--	--
SB7	18+99.4	16.0' LT	1	--	--	--	--
SB8	20+09.2	27.0' LT	--	--	--	1	--
SB10	20+52.8	9.8' LT	1	--	--	--	--
SB11	20+45.4	29.1' LT	--	1	--	--	--
SB12	20+46.8	28.0' RT	1	--	--	--	--
SB13	24+07.5	23.0' LT	--	1	--	--	--
SB14	24+77.8	21.0' LT	--	1	--	--	--
SB15	24+10.1	28.0' RT	1	--	--	--	--
SB16	23+69.0	21.4' RT	1	--	--	--	--
SB17	22+63.2	26.3' RT	--	--	--	1	--
SB19	22+25.0	28.2' RT	--	1	--	--	--
		TOTALS	5	5	1	2	1

***FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

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	151	--
CB1	SB2	231	--
CB1	SB3	--	370
CB1	SB4	416	--
CB1	SB5	--	493
CB1	SB6	448	--
CB1	SB7	--	524
CB1	SB8	--	631
CB1	SB9	--	644
CB1	SB10	688	--
CB1	SB11	--	699
CB1	SB12	747	--
CB1	SB13	--	438
CB1	SB14	--	515
CB1	SB15	--	386
CB1	SB16	--	327
CB1	SB17	--	209
CB1	SB18	--	223
CB1	SB19	--	145
	TOTALS	2681	5604

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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	--
SB2	HEAD 26	19	--
SB3	HEAD 24	54	--
	HEAD 25	43	--
SB4	HEAD 31	15	--
SB5	HEAD 12	--	55
	HEAD 13	43	--
	HEAD 14	67	--
SB6	HEAD 23	19	--
SB7	HEAD 11	19	--
	HEAD 32	15	--
SB8	HEAD 19	--	22
	HEAD 33	15	--
SB9	HEAD 9	73	--
	HEAD 10	61	--
SB10	HEAD 8	19	--
SB11	HEAD 20	--	51
	HEAD 21	--	40
	HEAD 22	--	22
	HEAD 34	15	--
SB12	HEAD 18	19	--
SB13	HEAD 16	53	--
	HEAD 17	42	--
SB14	HEAD 5	--	45
	HEAD 6	55	--
	HEAD 7	33	--
SB15	HEAD 15	19	--
SB16	HEAD 4	19	--
SB17	HEAD 27	--	22
SB18	HEAD 2	70	--
	HEAD 3	58	--
SB19	HEAD 28	--	54
	HEAD 29	--	43
	HEAD 30	--	22
	TOTALS	864	376

*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	370	--
SB3	LUMIN	--	144
SB3	SB11	363	--
SB11	LUMIN	--	144
CB1	SB19	145	--
SB19	LUMIN	--	144
SB19	SB13	327	--
SB13	LUMIN	--	144
	TOTALS	1205	576

ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG

FROM	TO	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG LF
CB1	SB1	151
SB1	SB2	120
SB2	SB3	179
SB3	SB4	80
SB4	SB5	105
SB5	SB6	83
SB6	SB7	114
SB7	SB8	155
SB8	JB	67
JB	SB9	24
SB9	SB10	144
SB10	SB11	45
SB11	SB12	104
CB1	SB19	145
SB19	SB17	98
SB17	JB	178
JB	SB18	24
SB18	SB16	194
SB16	SB15	93
SB15	SB13	96
SB13	SB14	115
PB1	CB1	40
PB2	SB1	80
PB3	SB1	28
PB4	SB2	52
PB5	SB2	28
PB6	SB3	51
PB7	SB3	25
PB8	SB4	22
PB9	SB6	27
PB10	SB7	32
PB11	SB8	35
PB12	SB10	25
PB15	SB12	26
PB16	SB13	27
PB17	SB15	30
PB18	SB16	25
PB19	SB17	29
PB20	SB19	25
PB21	SB19	74
PB22	CB1	41
PB23	SB5	30
PB24	SB14	30
	TOTAL	3096

IH-41 & STH 190

ALL ITEMS ARE CATEGORY 1500 UNLESS OTHERWISE NOTED

ELECTRICAL SERVICE METER BREAKER PEDESTAL
IH 41 SB RAMPS & STH 190

BASE NO.	656.0200.3051 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS
CB1	1
TOTAL	1

*** FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD

SIGNAL MOUNTING HARDWARE
IH 41 & STH 190

LOCATION	658.5069.3051 SIGNAL MOUNTING HARDWARE LS
IH 41 & STH 190	1
TOTAL	1

CAST BASES, POLES, MONOTUBE ARMS, AND PUSH BUTTONS

SIGNAL BASE NO.	657.0100 PEDESTAL BASES EACH	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT EACH	657.1345 INSTALL POLES TYPE 9 EACH	657.1350 INSTALL POLES TYPE 10 EACH	657.1355 INSTALL POLES TYPE 12 EACH	657.1525 INSTALL MONOTUBE ARMS 25-FT EACH	657.1530 INSTALL MONOTUBE ARMS 30-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	--	--	--	--	--	--	--	--	--	--	--
SB2	1	1	--	--	--	--	--	--	--	--	--	--	--
SB3	--	--	--	--	--	1	--	--	1	--	1	--	1
SB4	1	--	--	1	--	--	--	--	--	--	--	1	--
SB5	--	--	--	--	--	--	1	--	--	1	--	--	--
SB6	1	1	--	--	--	--	--	--	--	--	--	--	--
SB7	1	1	--	--	--	--	--	--	--	--	--	1	--
SB8	1	--	1	--	--	--	--	--	--	--	--	1	--
SB10	1	1	--	--	--	--	--	--	--	--	--	--	--
SB11	--	--	--	--	--	1	--	1	--	--	1	1	1
SB12	1	1	--	--	--	--	--	--	--	--	--	--	--
SB13	--	--	--	--	--	1	--	--	1	--	1	--	1
SB14	--	--	--	--	1	--	--	--	1	--	--	--	--
SB15	1	1	--	--	--	--	--	--	--	--	--	--	--
SB16	1	1	--	--	--	--	--	--	--	--	--	--	--
SB17	1	--	1	--	--	--	--	--	--	--	--	--	--
SB19	--	--	--	--	--	1	--	--	1	--	1	--	1
TOTALS	11	8	2	1	1	4	1	1	4	1	4	4	4

3

TRAFFIC SIGNAL AND PEDESTRIAN FACES, AND BACKPLATES

SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL EACH	658.0115 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	SPV.0060.3052 BACKPLATES WITH REFLECTIVE BORDER 3 SECTION 12-INCH EACH
1	SB1	1	--	--	--	--	1	1	1	--	--	--	--	1
2	SB18	1	--	--	--	--	1	1	--	--	--	1	--	1
3	SB18	1	--	--	--	--	1	1	--	--	--	1	--	1
4	SB16	1	--	1	--	--	1	1	1	--	--	--	--	--
5	SB14	--	1	--	1	--	1	1	--	--	--	2	--	--
6	SB14	1	--	1	--	--	1	1	--	--	--	1	--	--
7	SB14	1	--	1	--	--	--	--	--	1	1	1	--	--
8	SB10	1	--	--	--	--	1	1	1	--	--	--	--	1
9	SB9	1	--	--	--	--	1	1	--	--	--	1	--	1
10	SB9	1	--	--	--	--	1	1	--	--	--	1	--	1
11	SB7	1	--	1	--	--	1	1	1	--	--	--	--	--
12	SB5	--	1	--	1	--	1	1	--	--	--	2	--	--
13	SB5	1	--	1	--	--	1	1	--	--	--	1	--	--
14	SB5	1	--	1	--	--	--	--	--	1	1	1	--	--
15	SB15	1	--	--	--	--	1	1	1	--	--	--	--	1
16	SB13	1	--	--	--	--	1	1	--	--	--	1	--	1
17	SB13	1	--	--	--	--	1	1	--	--	--	1	--	1
18	SB12	1	--	1	--	--	1	1	1	--	--	--	--	--
19	SB8	--	1	--	1	--	1	1	--	--	--	2	--	--
20	SB11	--	1	--	1	--	1	1	--	--	--	2	--	--
21	SB11	--	1	--	1	--	1	1	--	--	--	2	--	--
22	SB11	--	1	--	1	--	1	1	--	--	--	2	--	--
23	SB6	1	--	--	--	--	1	1	1	--	--	--	--	1
24	SB3	1	--	--	--	--	1	1	--	--	--	1	--	1
25	SB3	1	--	--	--	--	1	1	--	--	--	1	--	1
26	SB2	1	--	1	--	--	1	1	1	--	--	--	--	--
27	SB17	--	1	--	1	--	1	1	--	--	--	2	--	--
28	SB19	--	1	--	1	--	1	1	--	--	--	2	--	--
29	SB19	--	1	--	1	--	1	1	--	--	--	2	--	--
30	SB19	--	1	--	1	--	1	1	--	--	--	2	--	--
31	SB4	--	--	--	--	1	--	--	--	--	--	--	1	--
32	SB7	--	--	--	--	1	--	--	--	--	--	--	1	--
33	SB8	--	--	--	--	1	--	--	--	--	--	--	1	--
34	SB11	--	--	--	--	1	--	--	--	--	--	--	1	--
TOTALS		20	10	8	10	4	28	28	8	2	2	32	4	12

3

LOCATING MONOTUBE TRAFFIC SIGNALS

LOCATION	SPV.0060.3053 LOCATING MONOTUBE TRAFFIC SIGNALS EACH
SB5	1
SB14	1
TOTALS	2

TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
IH 41 & STH 190

LOCATION	SPV.0105.3052 INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET LS
IH 41 & STH 190	1
TOTAL	1

REMOVE TRAFFIC SIGNALS
IH 41 & STH 190

LOCATION	SPV.0105.3051 REMOVE TRAFFIC SIGNALS LS
IH 41 & STH 190	1
TOTAL	1

TRANSPORTING TRAFFIC SIGNAL AND LIGHTING MATERIALS
IH 41 & STH 190

LOCATION	SPV.0105.3053 TRANSPORTING SIGNAL AND LIGHTING MATERIALS LS
IH 41 & STH 190	1
TOTAL	1

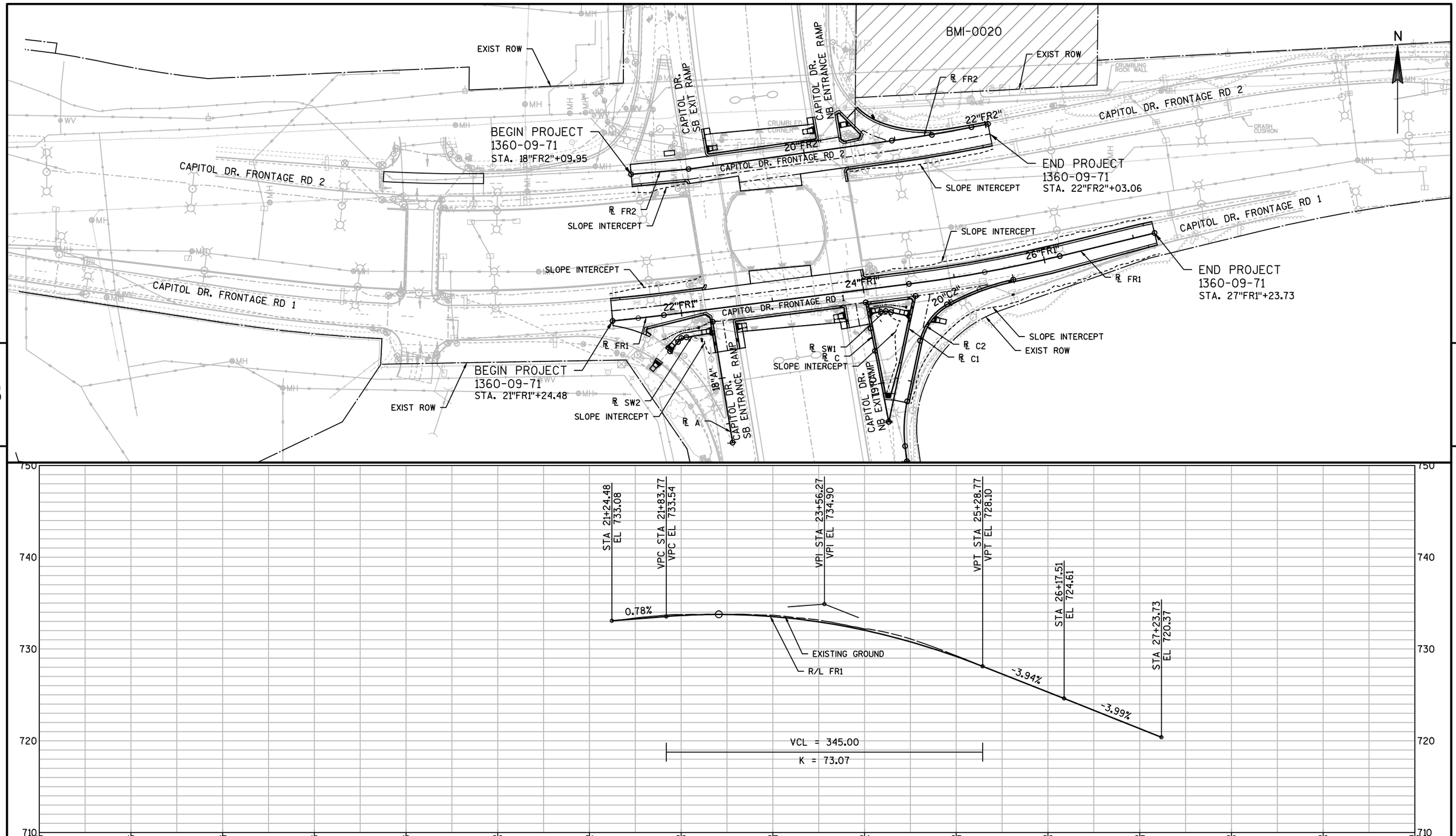
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3

3

TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM
IH 41 & STH 190

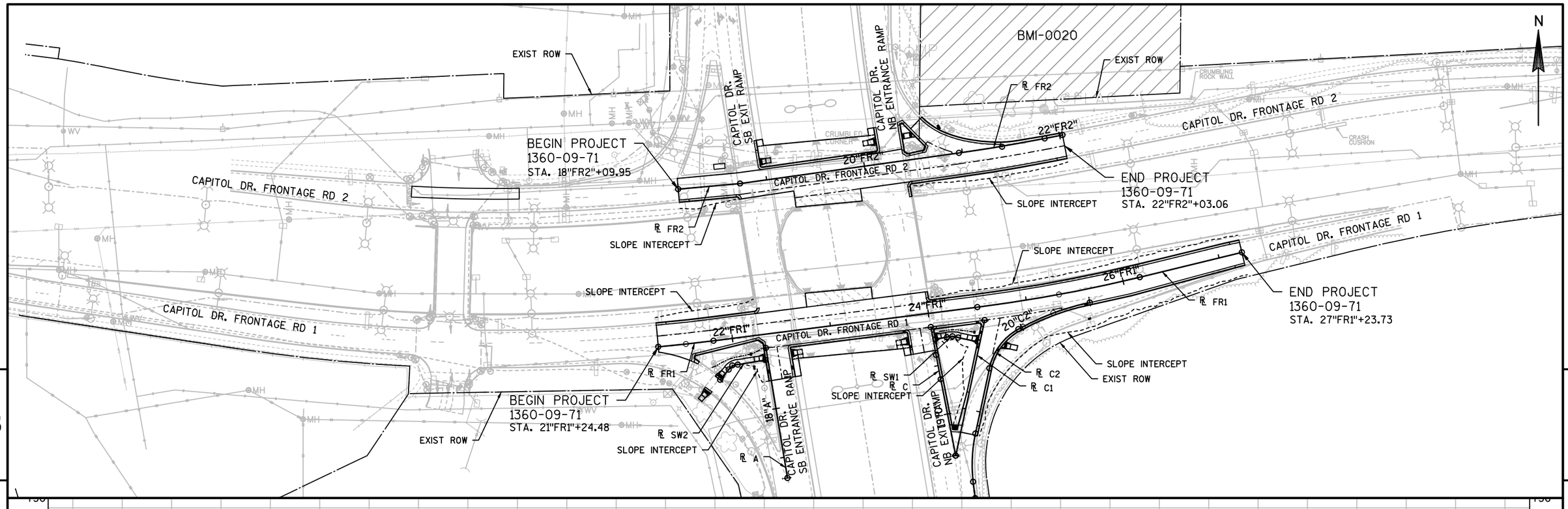
LOCATION	SPV.0105.3054 TRANSPORTING AND INSTALLING STATE FURNISHED RADAR DETECTION SYSTEM LS
IH 41 & STH 190	1
TOTAL	1

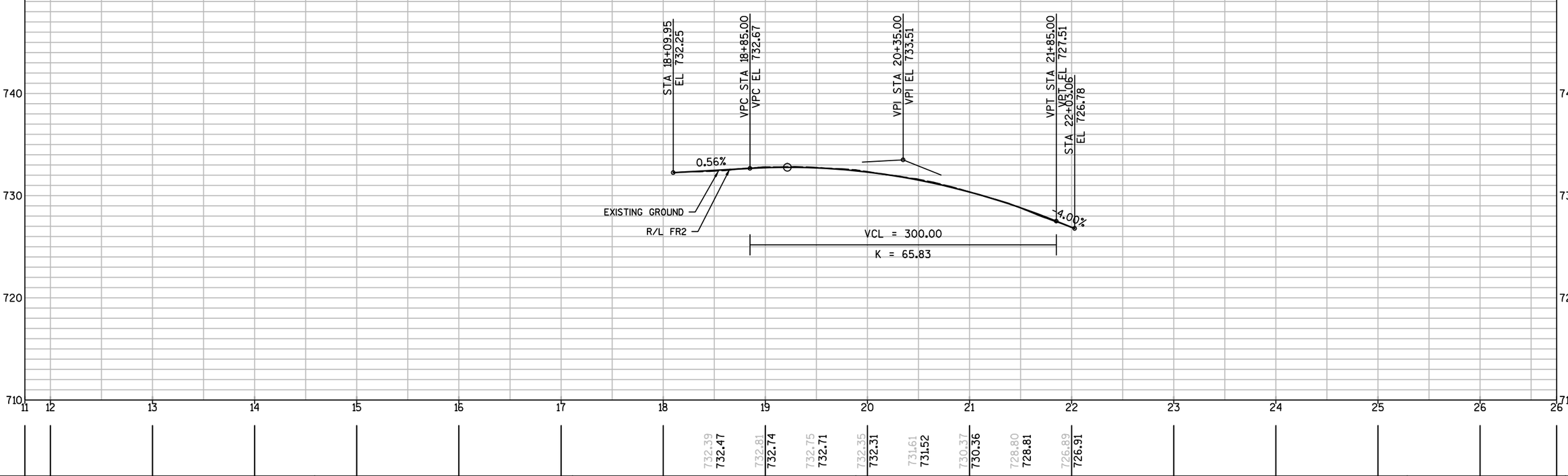


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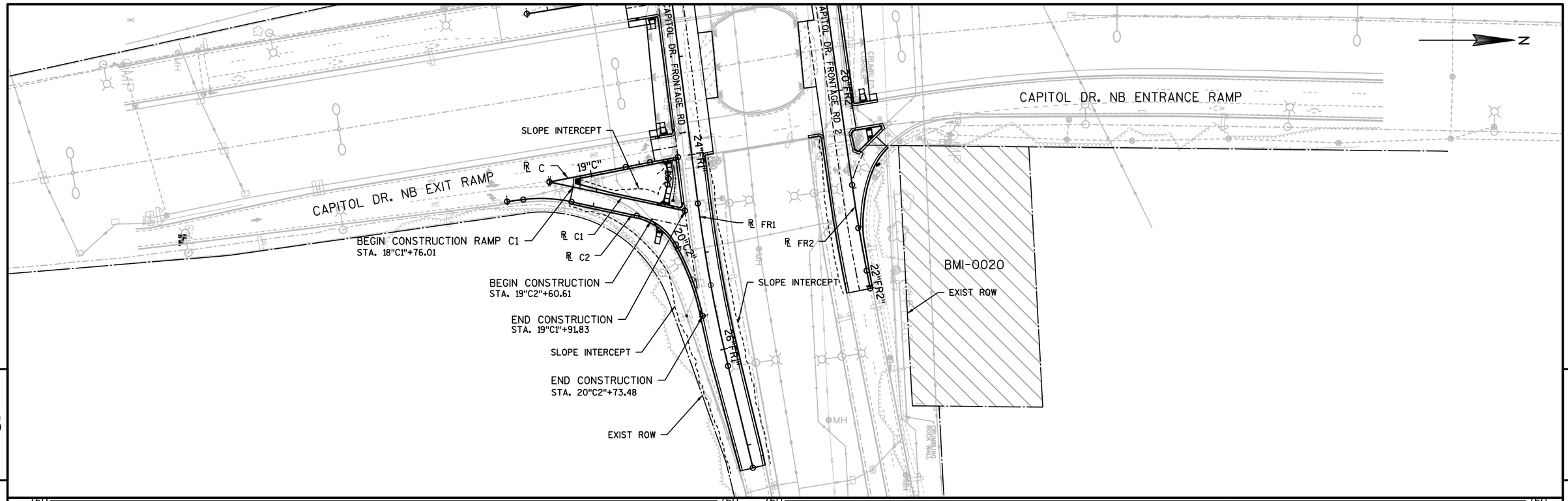
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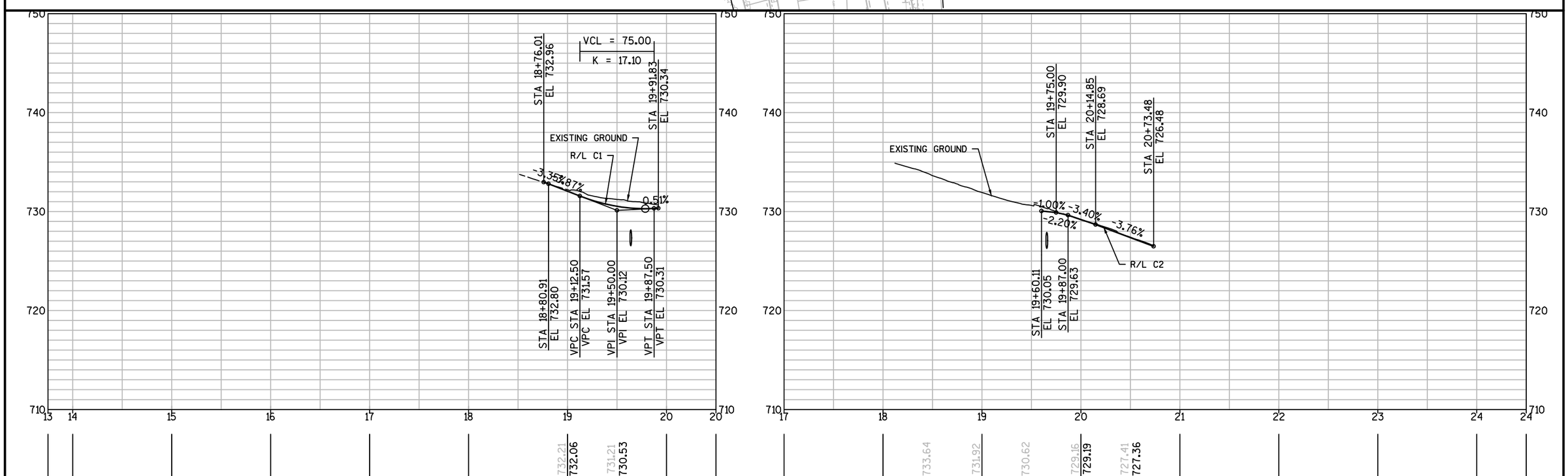
PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: CAPITOL DRIVE FRONTAGE ROAD 1	SHEET 145 E





PROJECT NO:1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: CAPITOL DRIVE FRONTAGE ROAD 2	SHEET 146	E



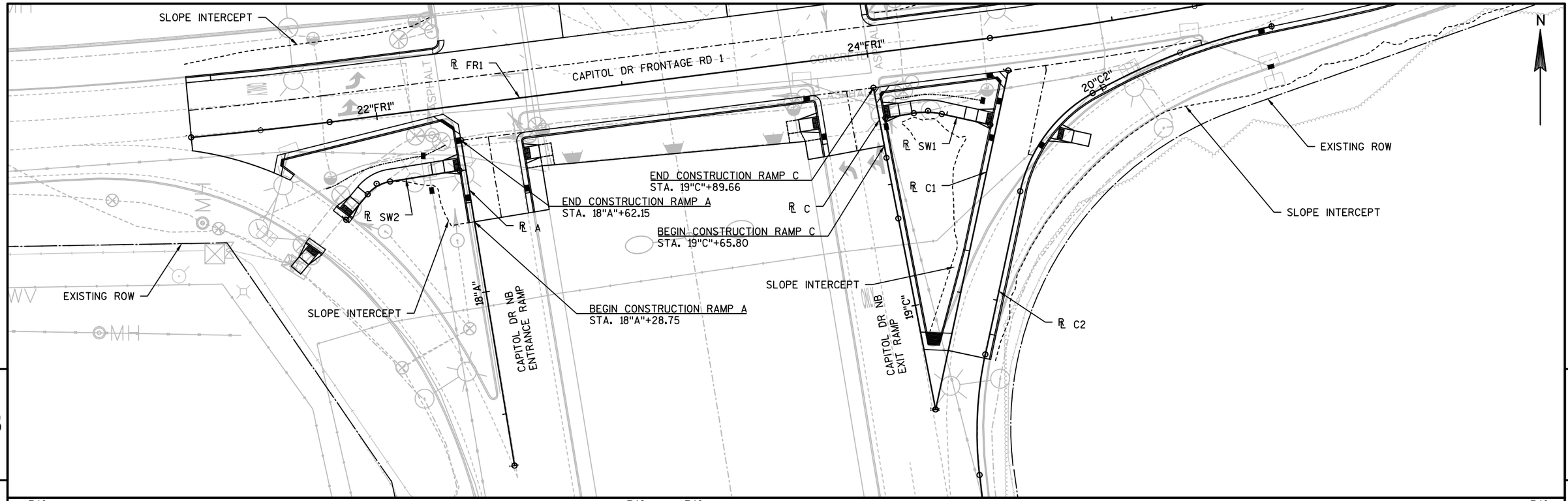


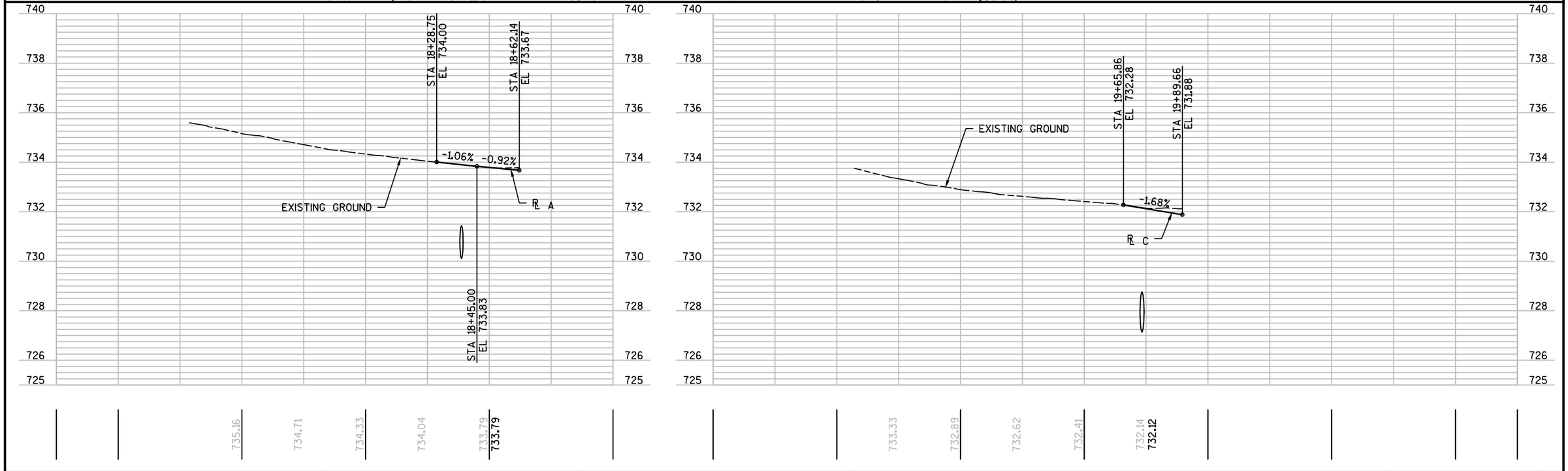
PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: RAMPS "C1" AND "C2"	SHEET 147 E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_PP.DWG
LAYOUT NAME - 050103_PP

PLOT DATE : 6/17/2016 10:17 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME :

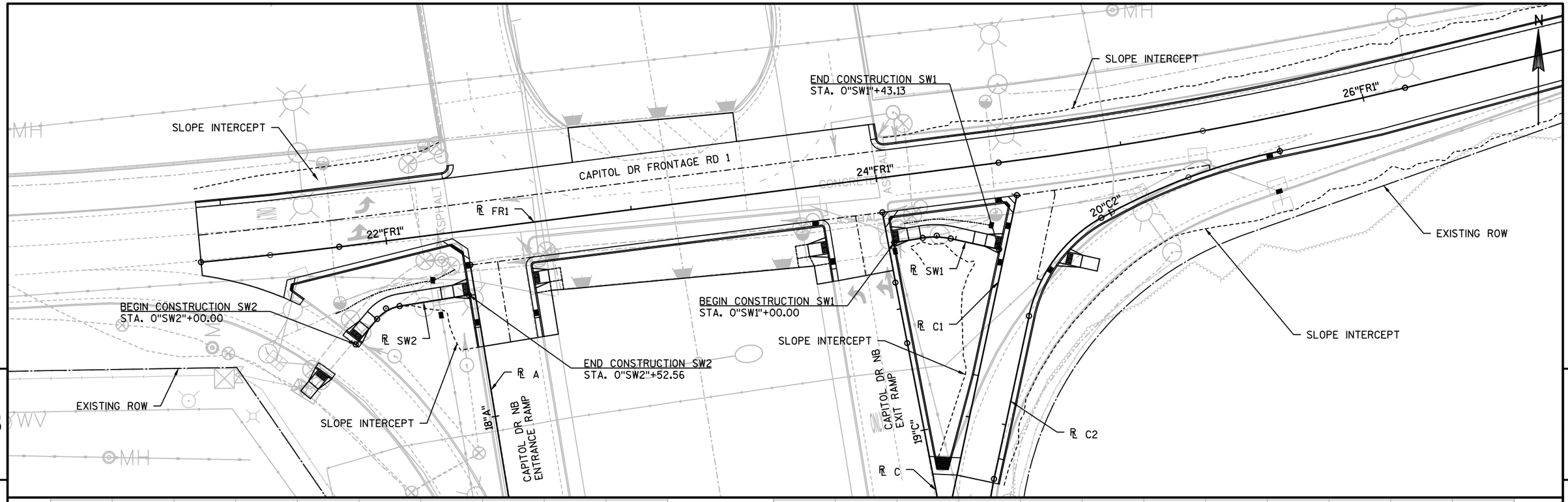
PLOT SCALE : 1 IN:100 FT

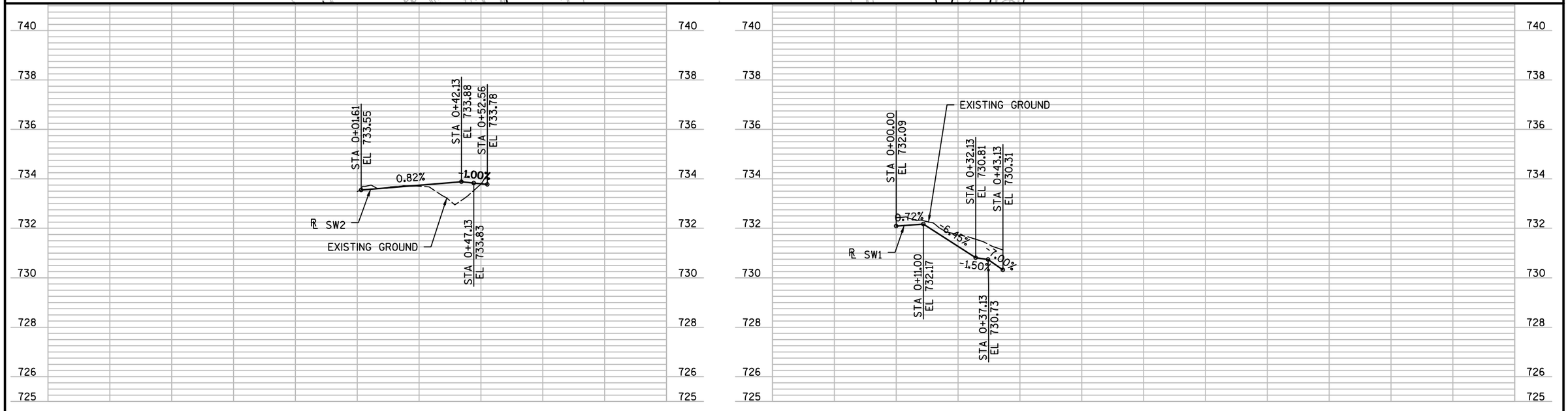




PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: RAMPS "A" AND "C"	SHEET 148	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_PP.DWG
LAYOUT NAME - 050102_PP
PLOT DATE : 6/17/2016 10:17 AM PLOT BY : VINDEDAHL, CRAIG W PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	PLAN AND PROFILE: "SW1" AND "SW2"	SHEET 149	E

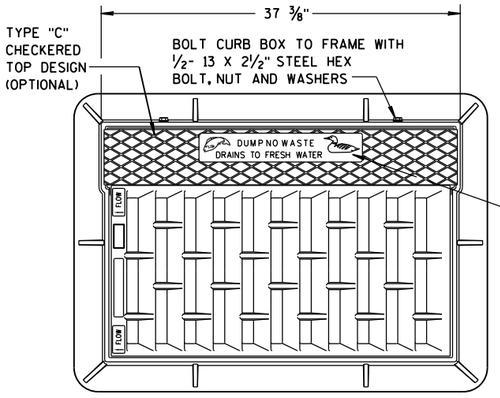
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-18A	CURB RAMPS TYPES 1 AND 1-A
08D05-18B	CURB RAMPS TYPES 2 AND 3
08D05-18C	CURB RAMPS TYPES 4A AND 4A1
08D05-18D	CURB RAMPS TYPE 4B AND 4B1
08D05-18E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D17-06	MANHOLES, MANHOLE & INLET COVERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-09	CONDUIT
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
09C09-05	CONCRETE BASE, TYPE 8
09C10-03	TRANSFORMER BASE FOR 15" BOLT CIRCLE
09C11-09	CONCRETE BASE TYPE 10
09C12-08A	CONCRETE BASE TYPE 13
09C12-08B	CONCRETE BASE TYPE 13
09C13-02	CONCRETE BASE TYPE 10 & TYPE 13 EXTENSION
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09D05-01	L30 LIGHTING CONTROL CABINET 240/480 VOLT
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E02-04	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
09E08-08A	TYPE 9 POLE 15'-30' MONOTUBE ARM
09E08-08B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-08C	TYPE 12 POLE 35'-55' MONOTUBE ARM
09E08-08E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09H11-01	IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS
10A01-03	ELECTRICAL HANDHOLE WIRING
10A02-03	IDENTIFICATION PLAQUES LIGHT POLES
10A04-03	IDENTIFICATION PLAQUES UNDERDECK AND HIGH MAST LIGHTING
10A05-02	ELECTRICAL DETAILS GROUND MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A08-02	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A11-02	ELECTRICAL DETAILS MEDIAN MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
10A15-04A	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A15-04B	ELECTRICAL DETAILS UNDERDECK LIGHTING
10A17-04C	POLES, TYPES E, ALUMINUM 49'-0" SHAFT
10A18-05B	LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP
11B02-02	CONCRETE MEDIAN NOSE
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-13A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-04A	CONCRETE PAVEMENT JOINTING
13C18-04B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-04C	CONCRETE PAVEMENT JOINT TIES
13C18-04D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C07-13B	PAVEMENT MARKING WORDS
15C07-13C	PAVEMENT MARKING ARROWS
15C08-17A	LONGITUDINAL MARKING (MAINLINE)

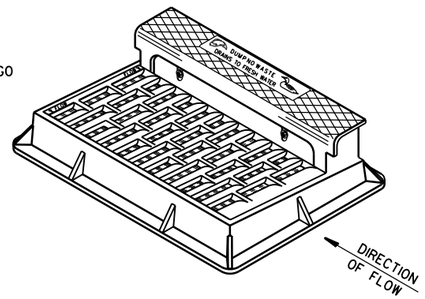
6

Standard Detail Drawing List

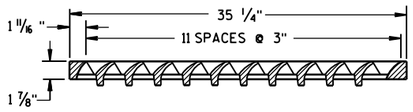
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C08-17C	PAVEMENT MARKING (ISLANDS)
15C18-03	MEDIAN ISLAND MARKING
15C20-02	YIELD MARKING
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

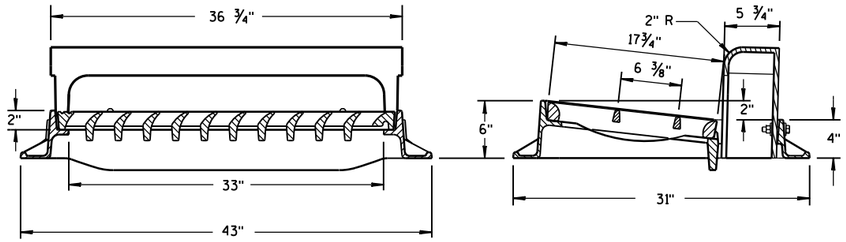


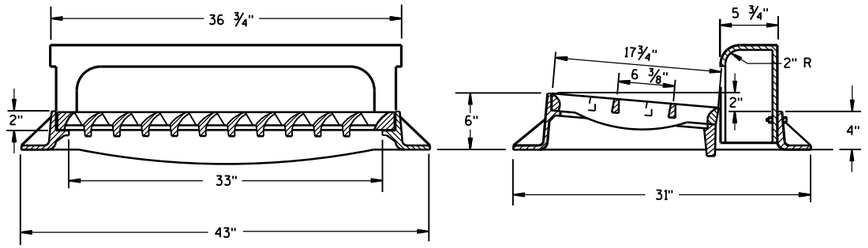
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

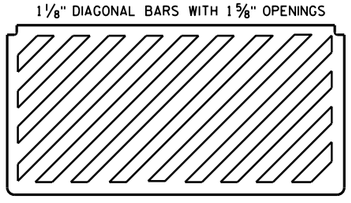






TYPE "H"

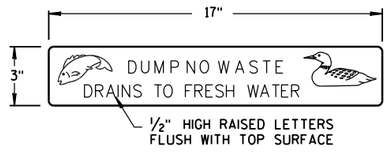
NOTE: EITHER CASTING IS ACCEPTABLE



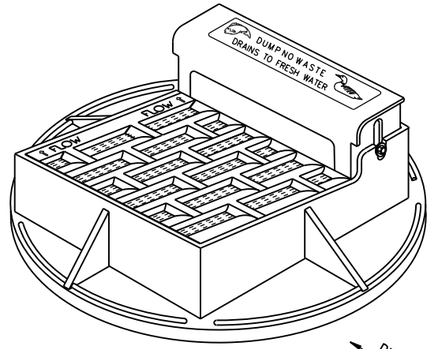
SPECIAL GRATE FOR TYPE "H" COVER

(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"

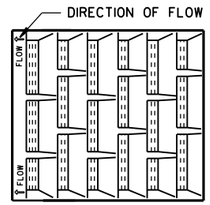
NOTE:
GRATE IS REVERSIBLE.

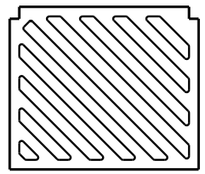
GENERAL NOTES

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.

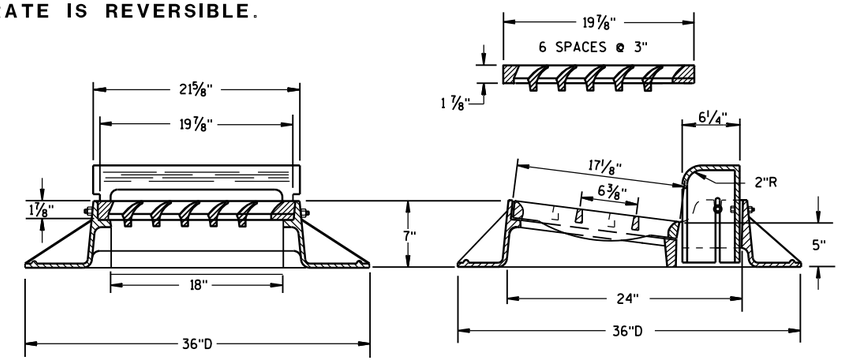




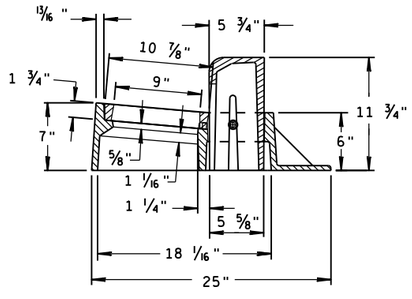
SPECIAL GRATE FOR TYPE "A" COVER

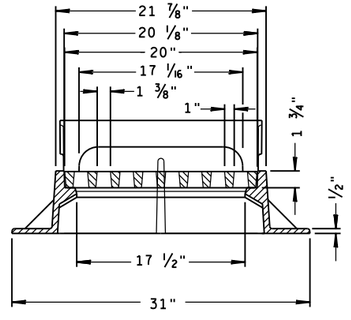
(MEASURES 19 3/4" X 17" X 1 7/8")

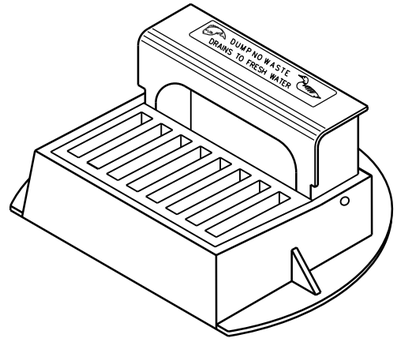
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

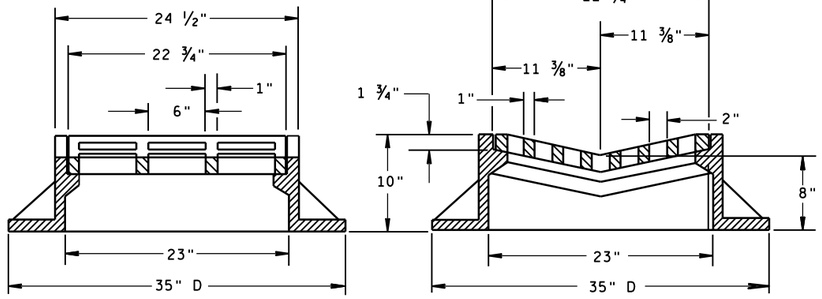
INLET COVERS
TYPE A, H, A-S, H-S & Z

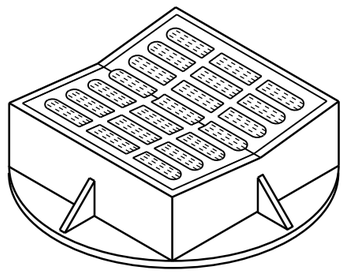
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

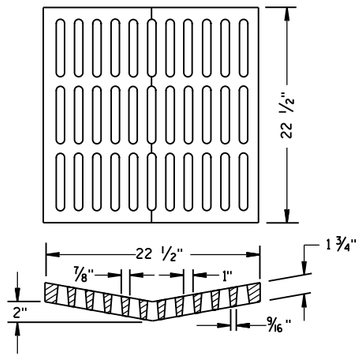
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S.D.D. 8 A 5-19a



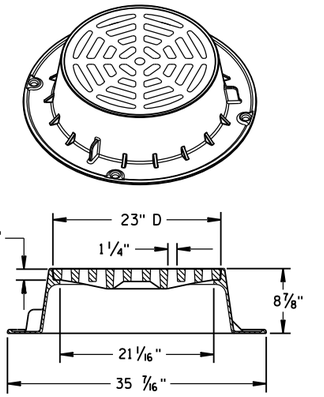


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

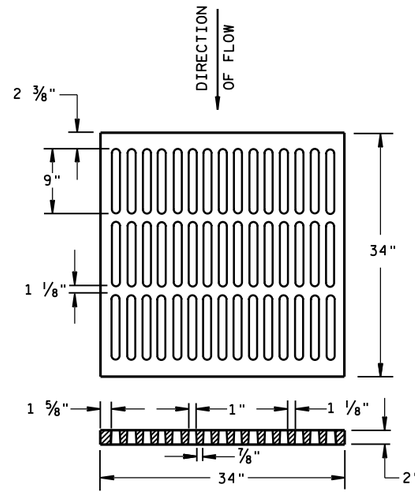
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

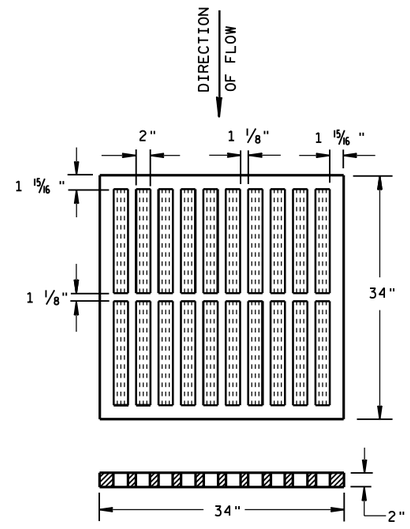
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



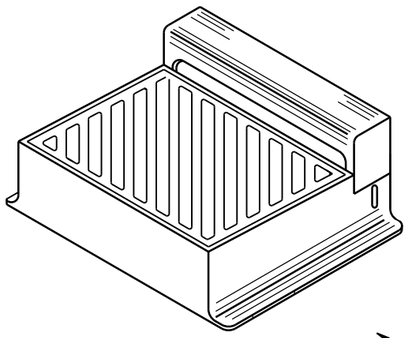
ALTERNATIVE TYPE "MS"

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

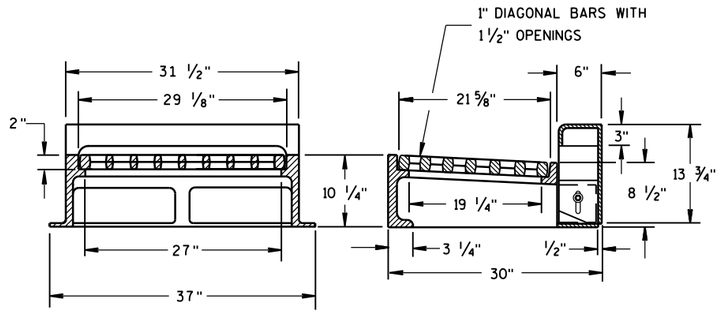


TYPE "MS"

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



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

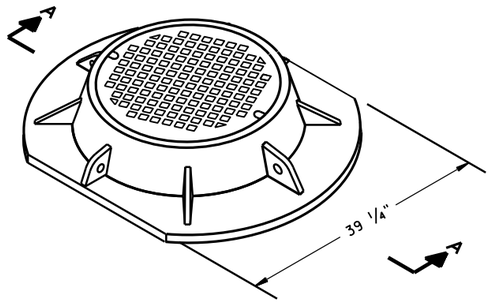
INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM

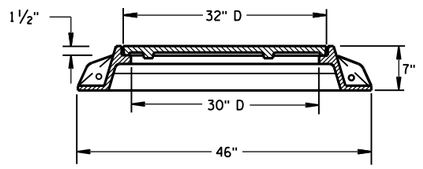
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

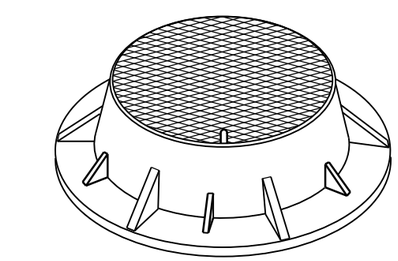
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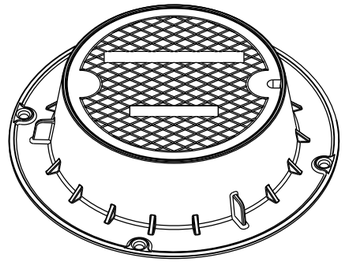
S.D.D. 8 A 5-19b

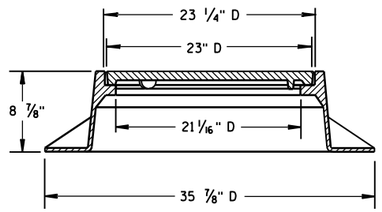


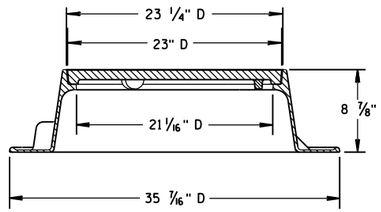


SECTION A-A
TYPE "K"









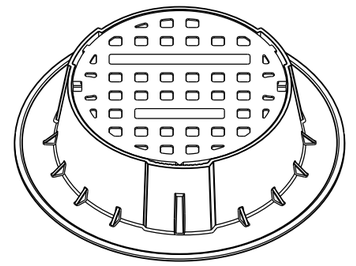
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

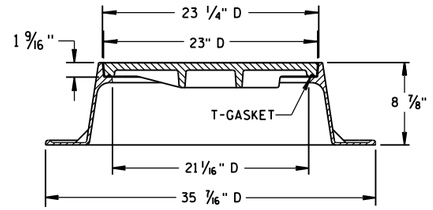
GENERAL NOTES

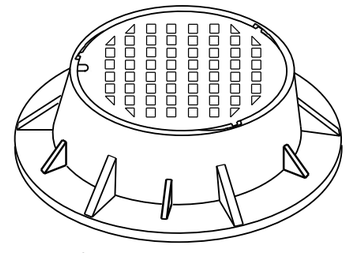
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

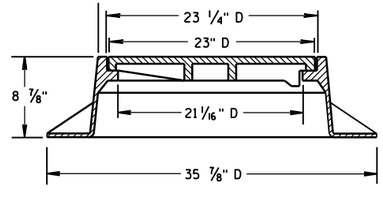
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

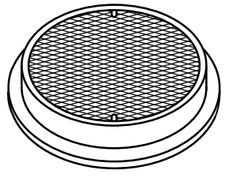


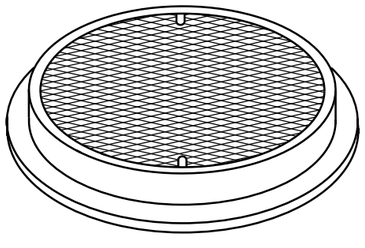


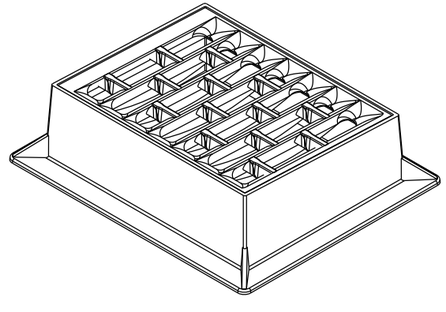


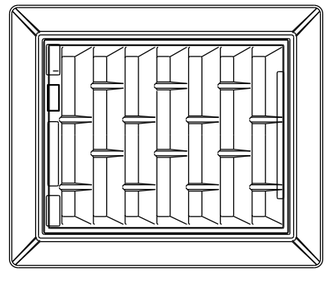


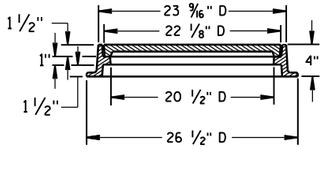
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



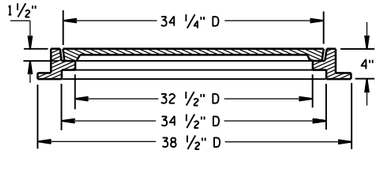




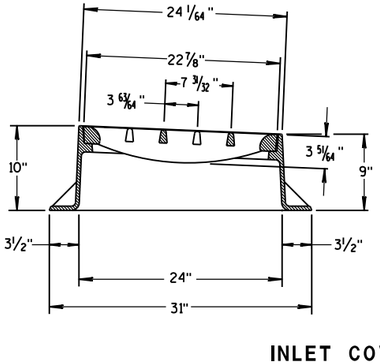


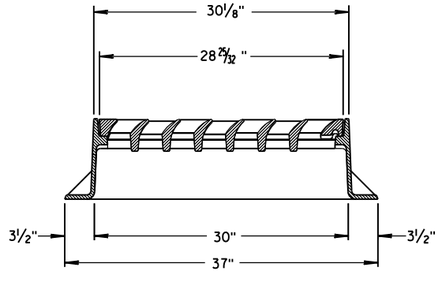


TYPE "L"



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

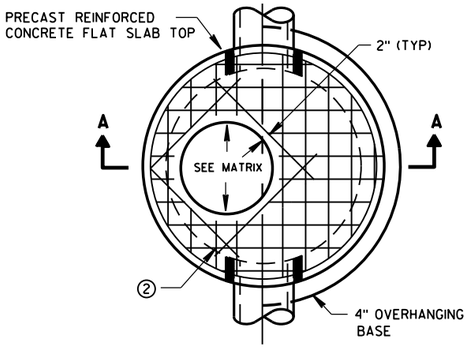
APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

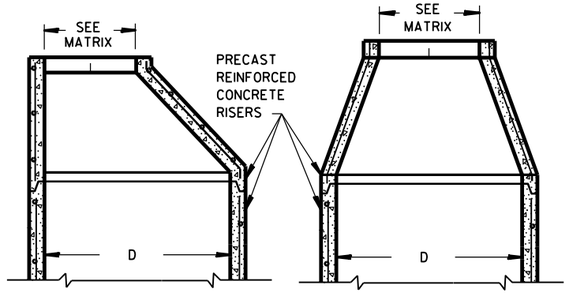
S.D.D. 8 A 5-19d

6

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

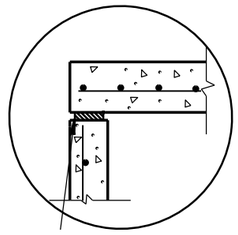


PLAN VIEW CIRCULAR OPENING

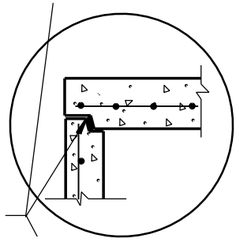


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

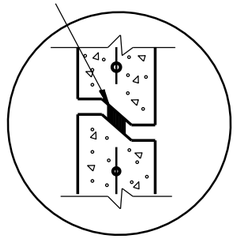


TOP WITH PLAIN END JOINT



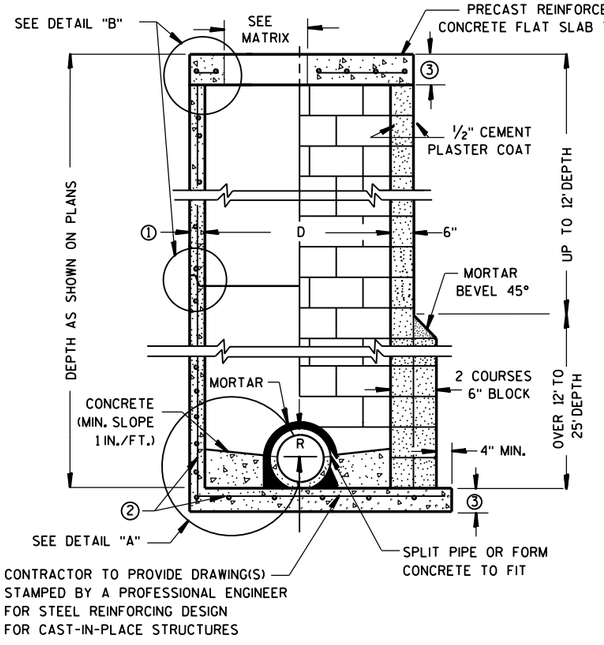
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



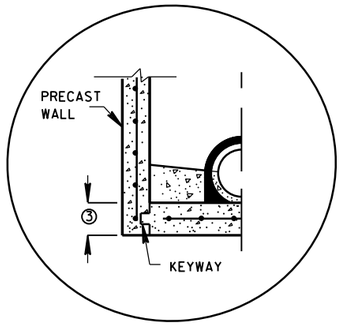
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

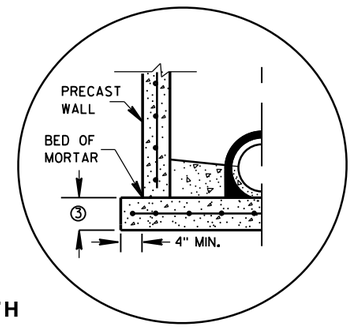


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

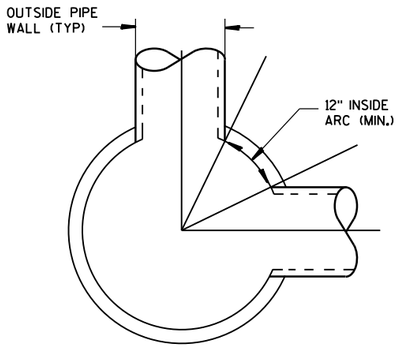


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

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

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

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

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

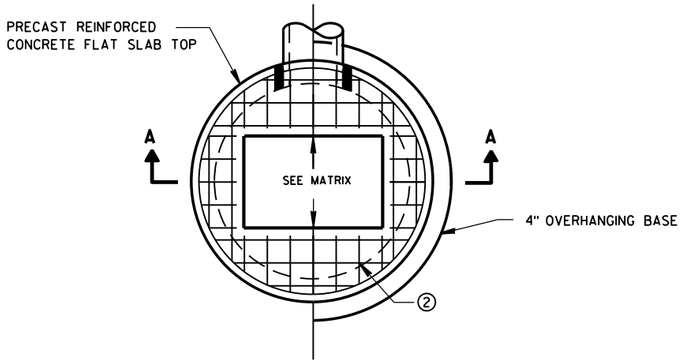
APPROVED

Sept., 2016
DATE

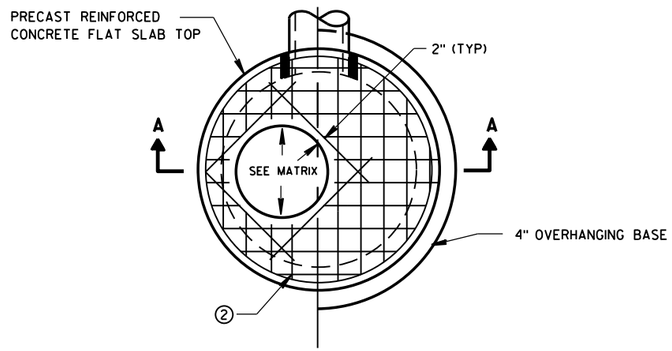
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
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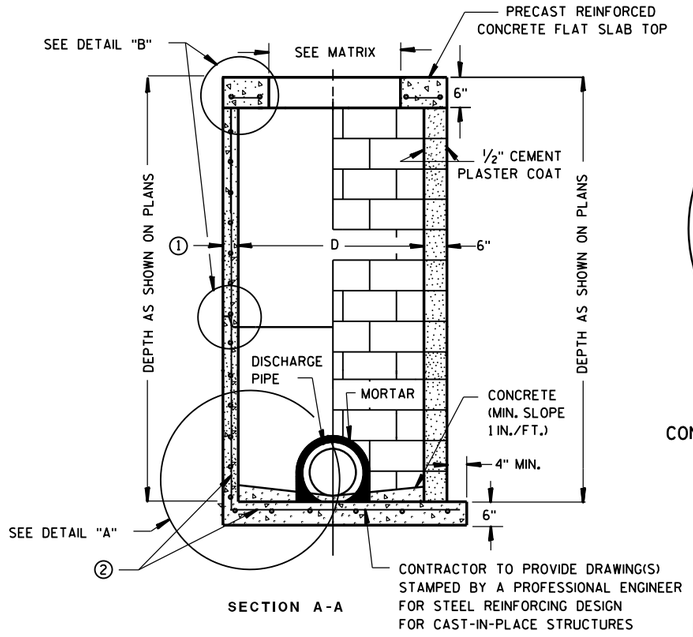
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S.D.D. 8 B 9-2



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

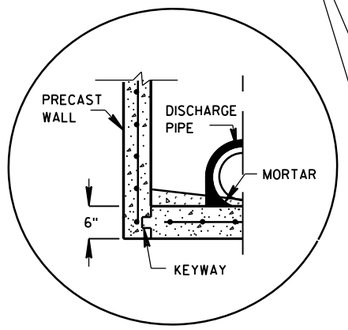


SECTION A-A

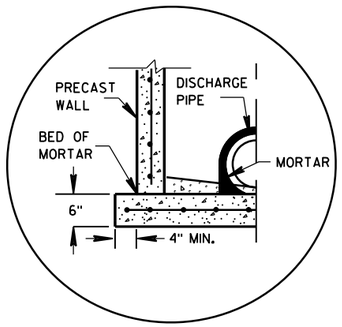
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

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

CIRCULAR INLETS W/ FLAT TOP

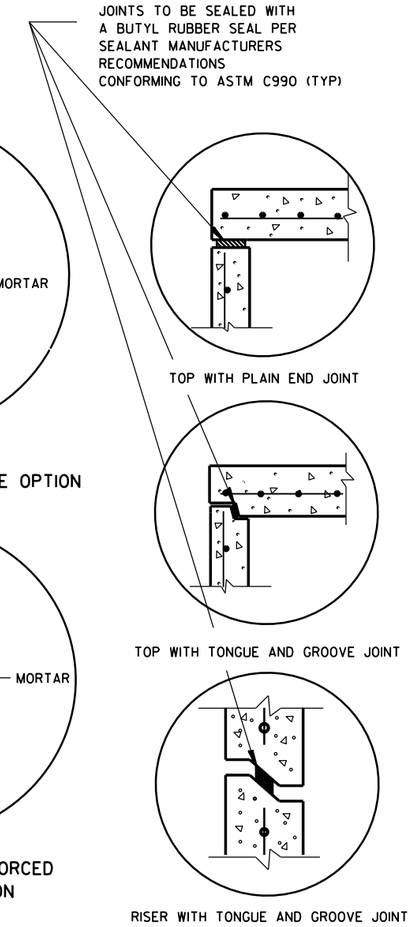


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

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

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

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

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

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

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

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

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

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

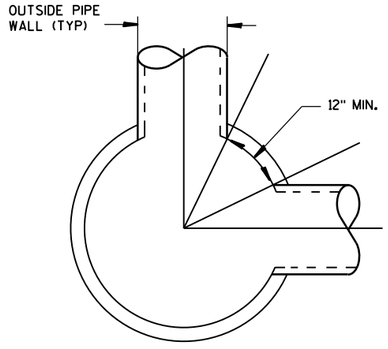
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

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



DETAIL "C"

PIPE MATRIX

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

INLETS 3-FT AND 4-FT DIAMETER

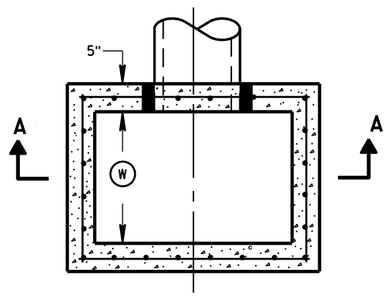
STATE OF WISCONSIN
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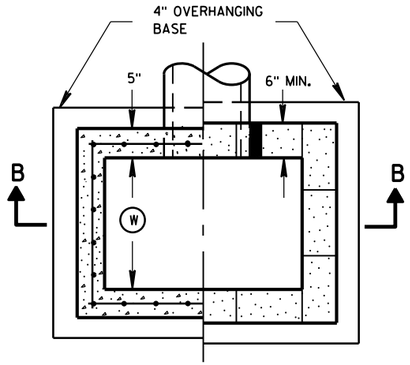
INLETS 3-FT AND 4-FT DIAMETER

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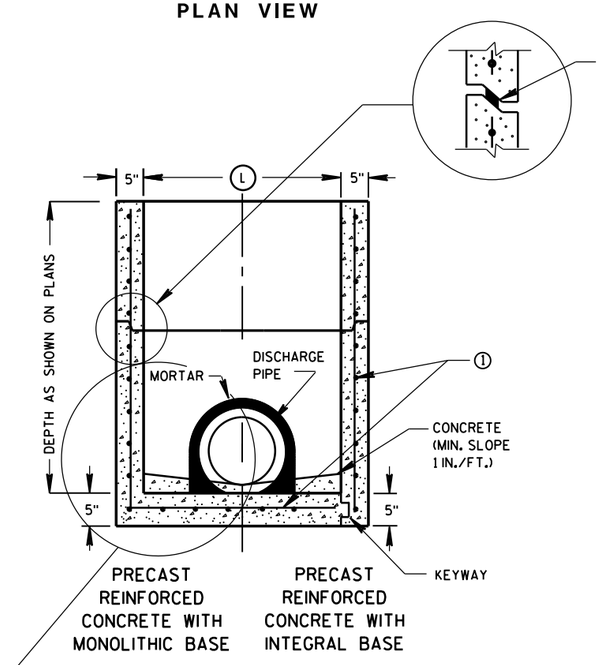
S.D.D. 8 C 6-2



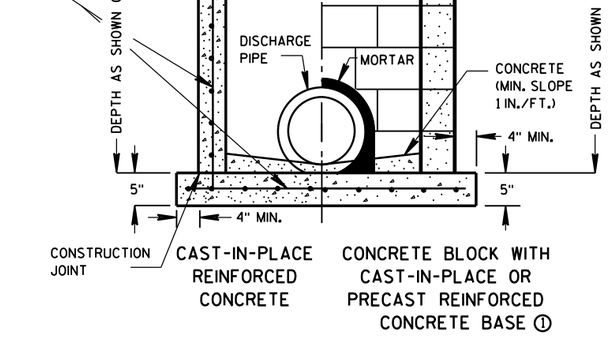
PLAN VIEW



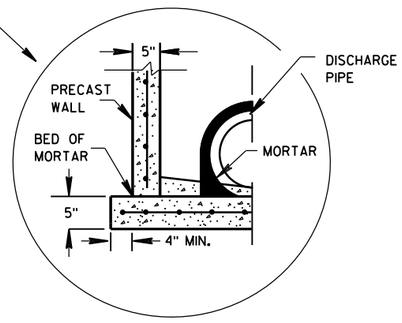
PLAN VIEW



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 FOUNDATION 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.

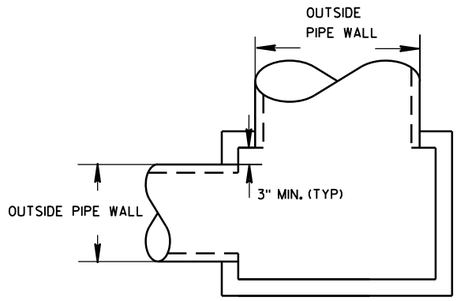
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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



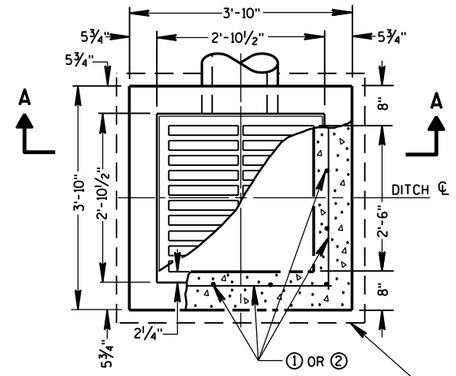
DETAIL "A"

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

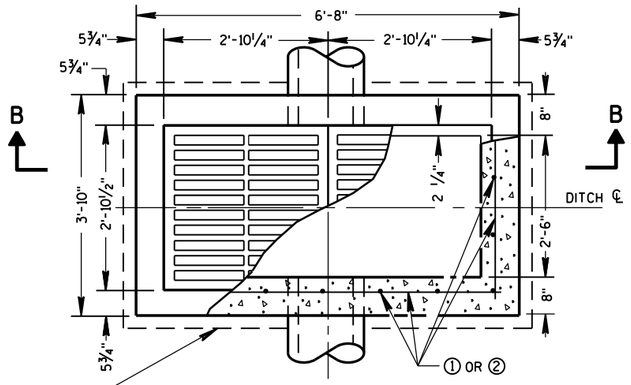
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INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

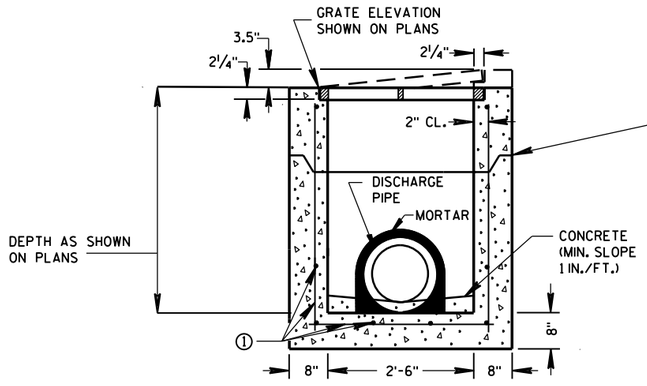


PLAN VIEW

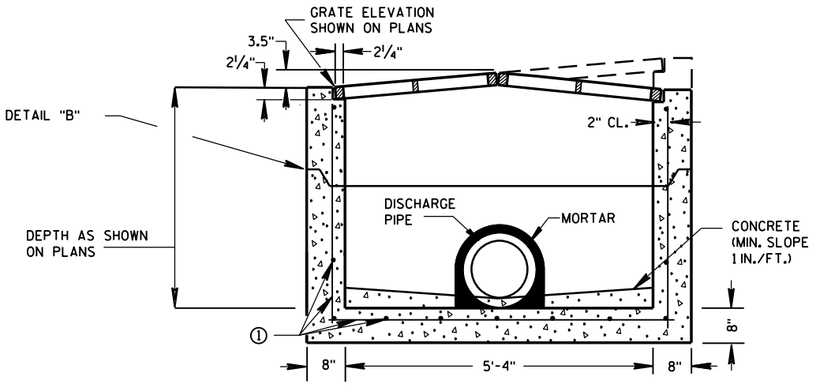


PLAN VIEW

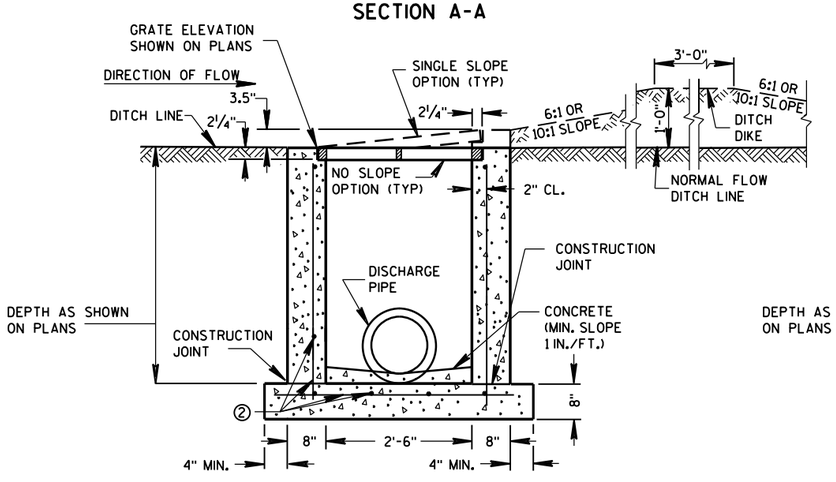
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



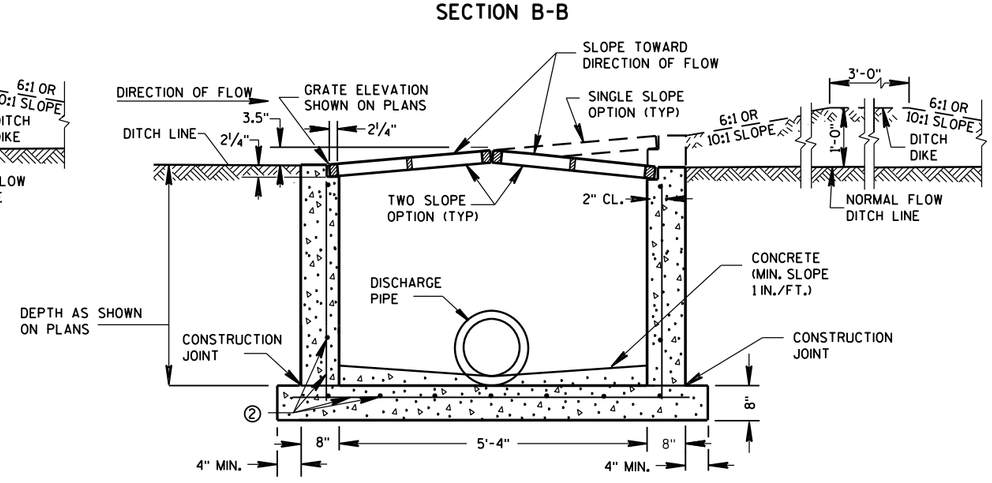
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

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

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

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION 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.

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

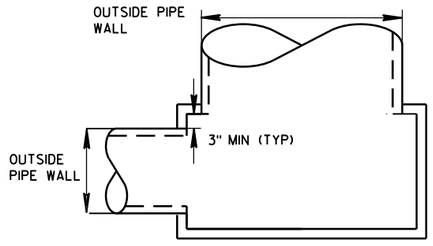
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

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

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

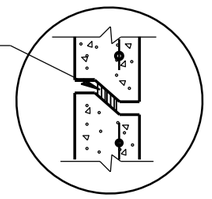
PIPE MATRIX

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



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

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DEPARTMENT OF TRANSPORTATION

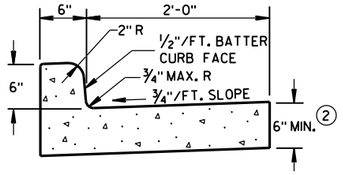
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FHWA

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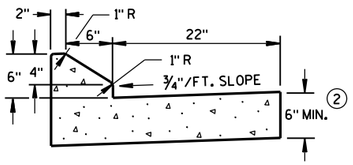
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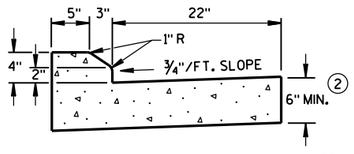
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TYPES A & D ①

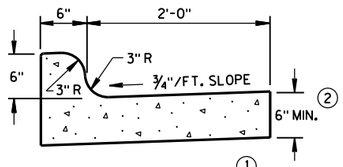


6" SLOPED CURB TYPES G & J ①

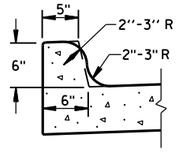


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

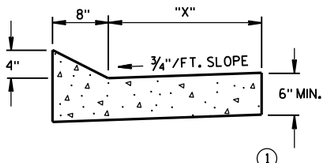


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

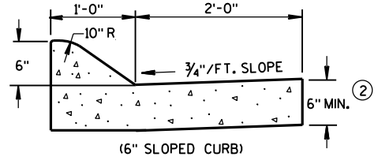
CONCRETE CURB & GUTTER 30"



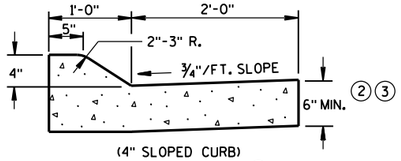
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

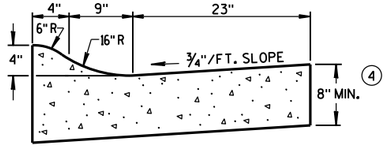


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

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, R AND TBTT.

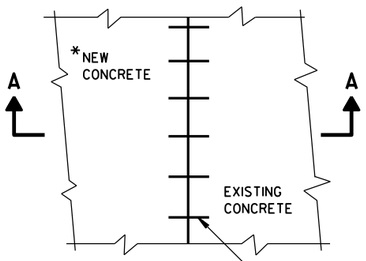
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

④ 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.

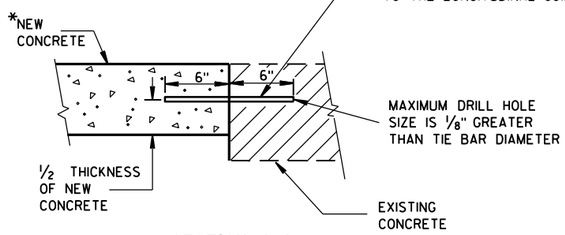
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



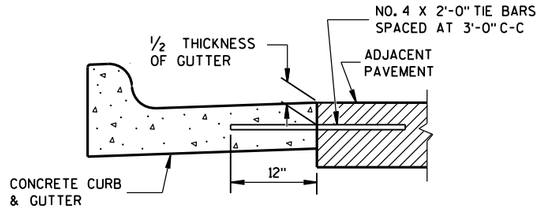
PLAN VIEW

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

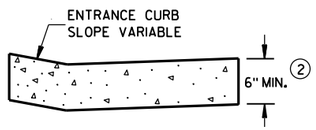


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

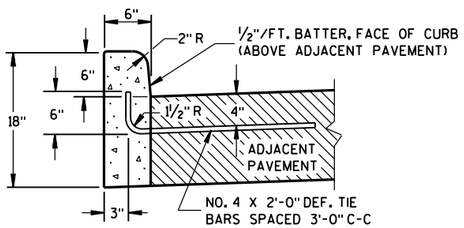


TYPICAL TIE BAR LOCATION ①

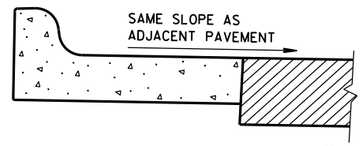


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

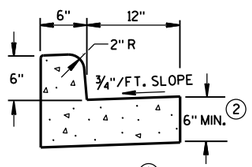


① TYPES A & D



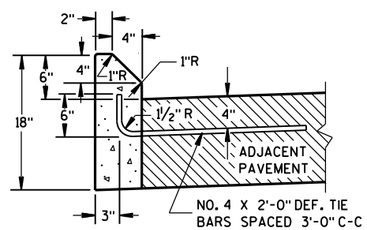
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



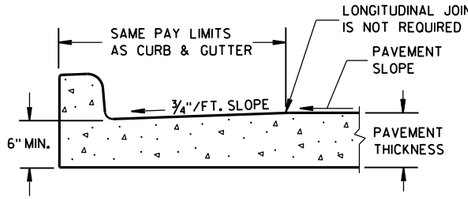
① TYPES A & D

CONCRETE CURB & GUTTER 18"

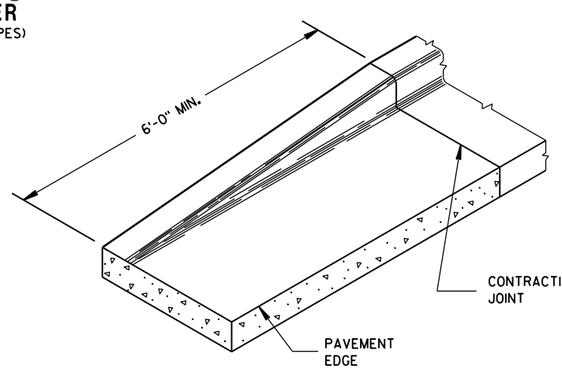


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

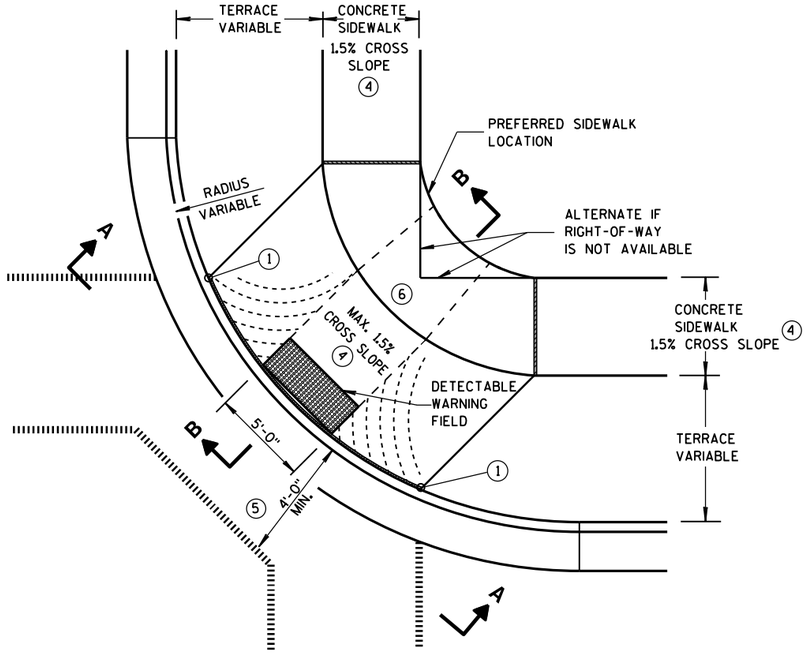
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

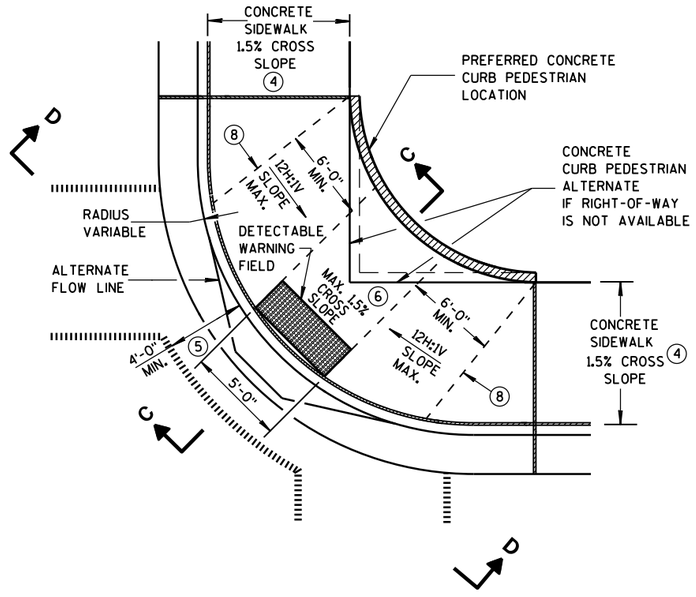
S.D.D. 8 D 1-19



PLAN VIEW

TYPE 1 RAMP

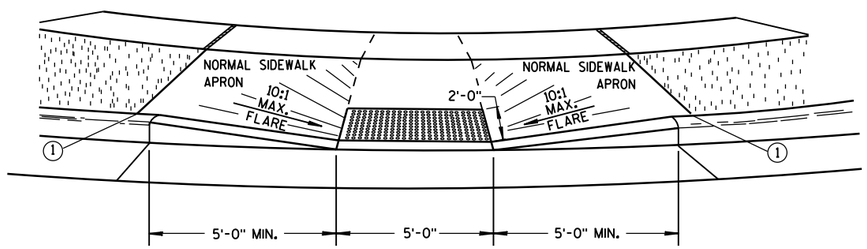
(CENTER OF CORNER RADIUS)



PLAN VIEW

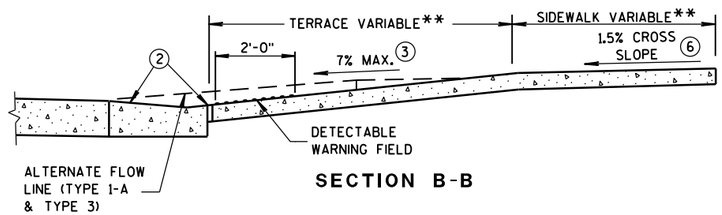
TYPE 1-A RAMP

(NO TERRACE)

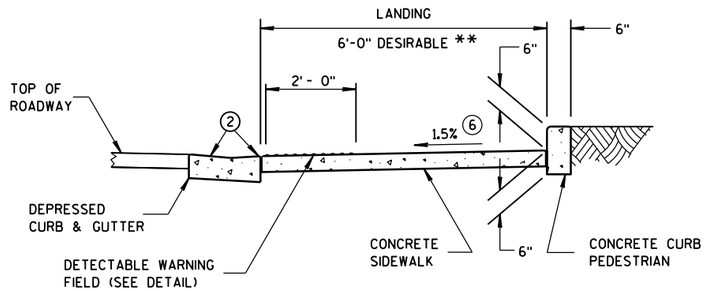


VIEW A-A

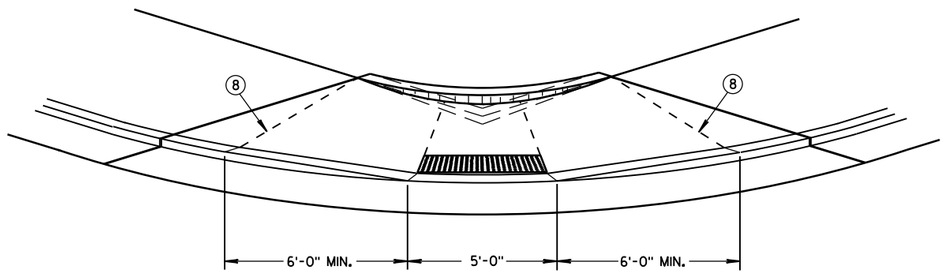
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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

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

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

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

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

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

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

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

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

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

LEGEND

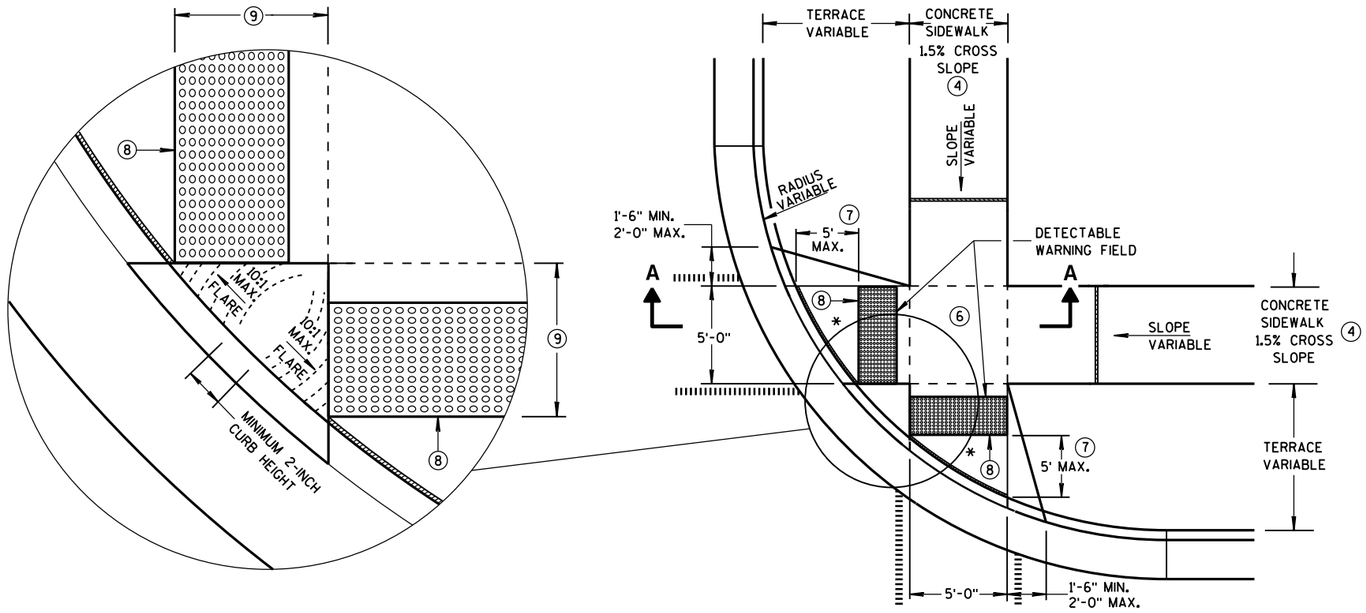
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

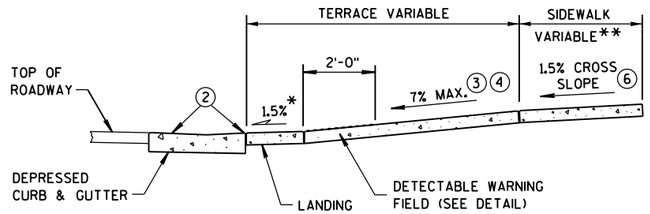


PLAN VIEW

TYPE 2 RAMP

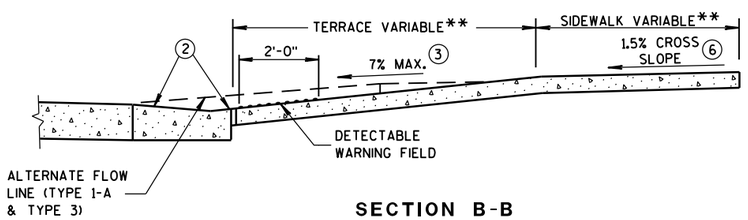
(ON LINE WITH SIDEWALK)

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



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

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.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

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

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

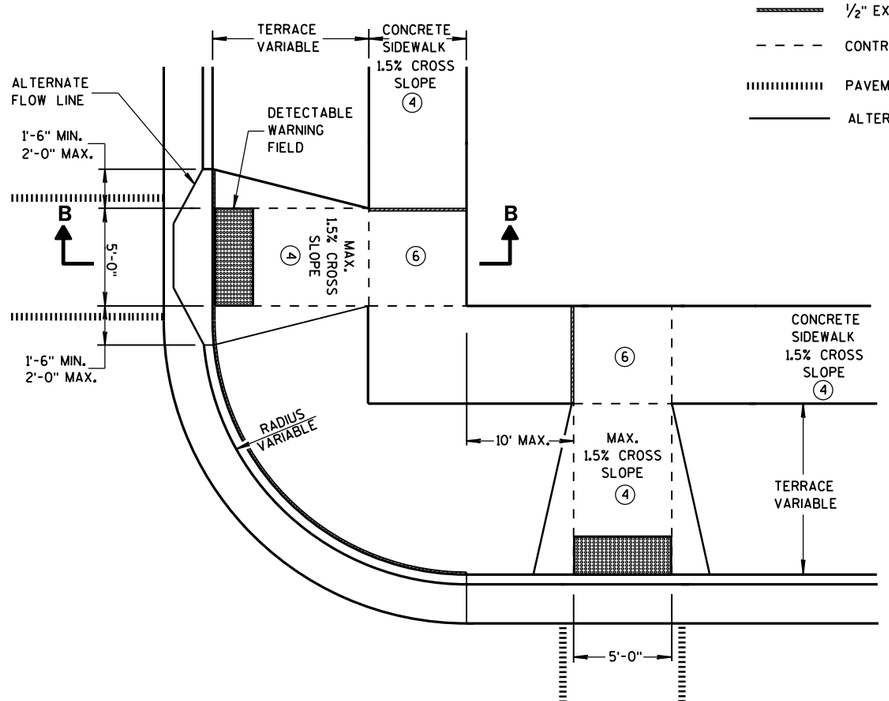
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION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

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

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

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

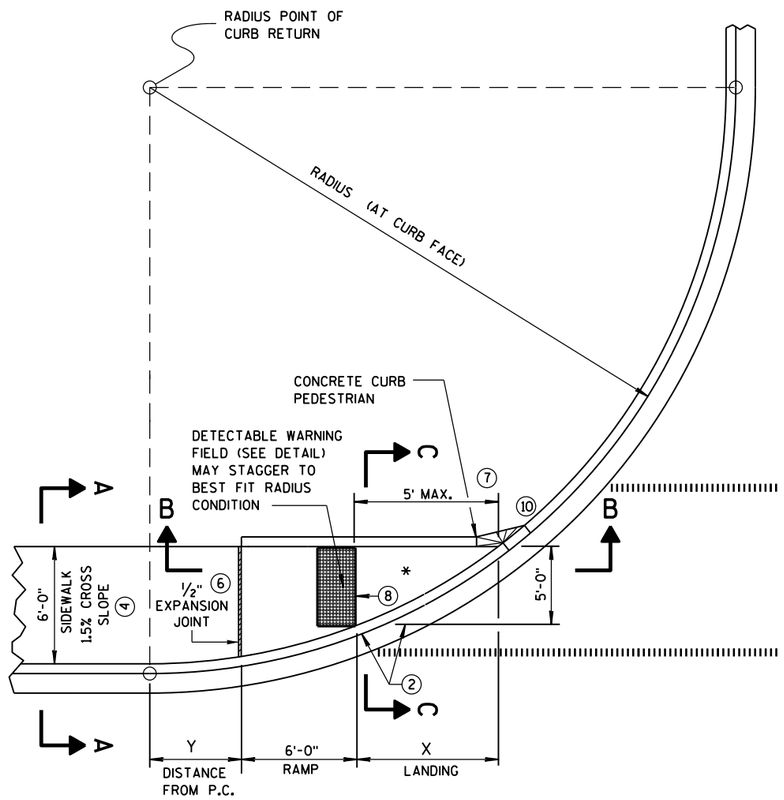
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

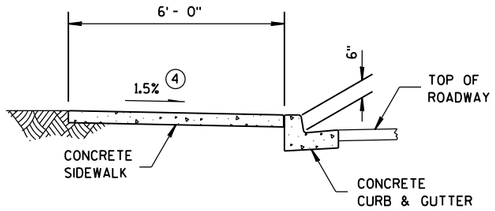
S.D.D. 8 D 5-18b



CURB RAMP TYPE 4A
PLAN VIEW

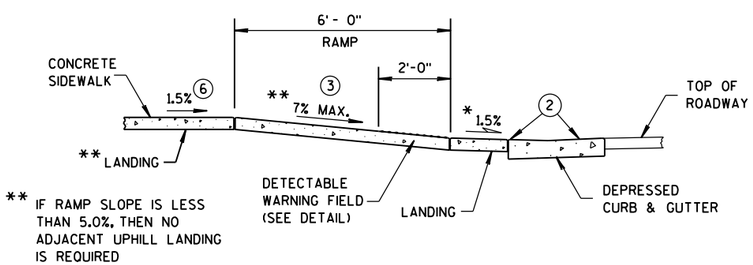
RADIUS (AT CURB FACE)	X	Y
20 FEET	7'-11"	0'-2"
30 FEET	10'-2¾"	1'-7½"
40 FEET	12'-1¼"	2'-10"
50 FEET	13'-8¾"	3'-10¾"
60 FEET	15'-2"	4'-10¼"

INTERMEDIATE RADII CAN BE INTERPOLATED

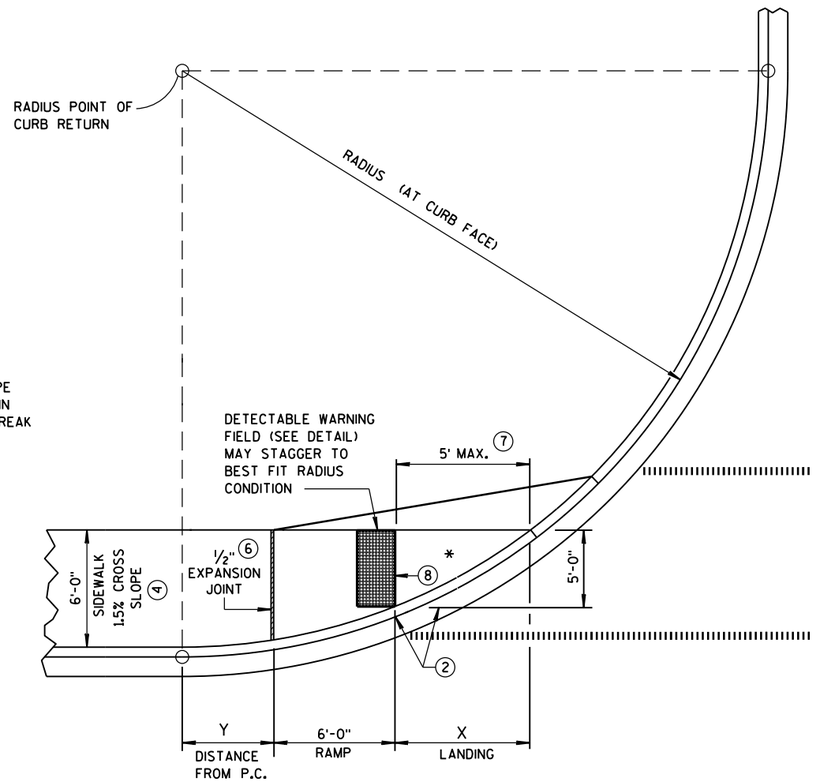


SECTION A-A FOR TYPE 4A

SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

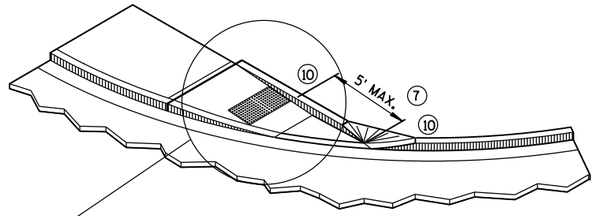
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

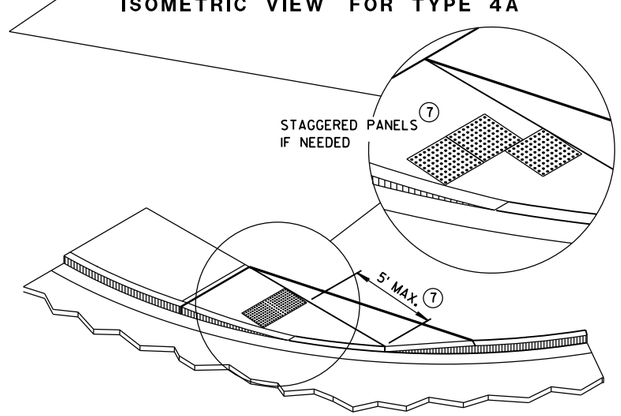
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION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

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

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



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

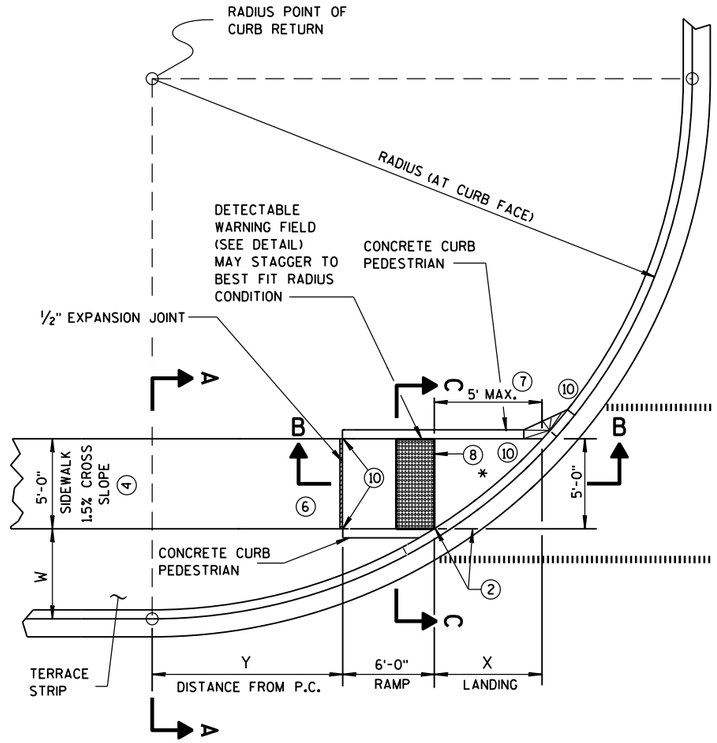
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

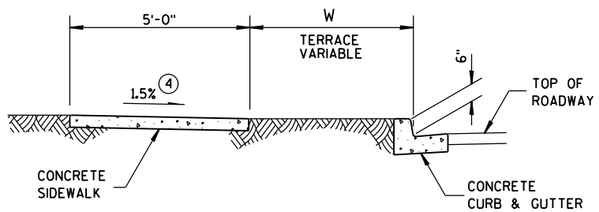
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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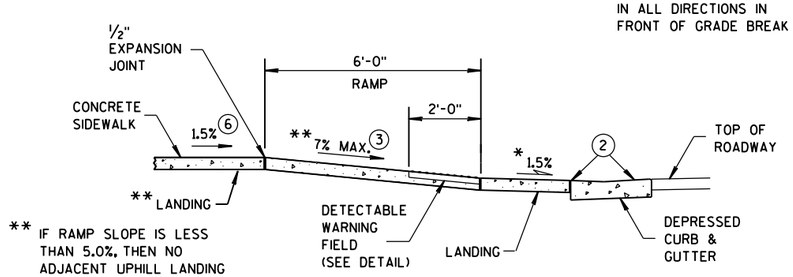
S.D.D. 8 D 5-18c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



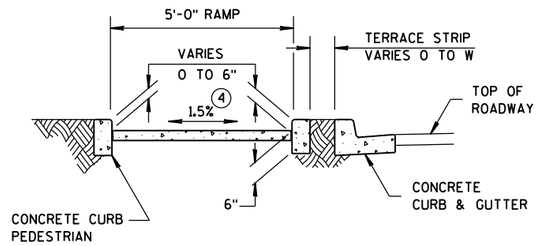
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

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

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

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

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

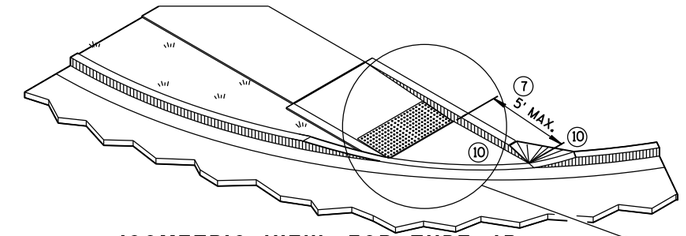
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

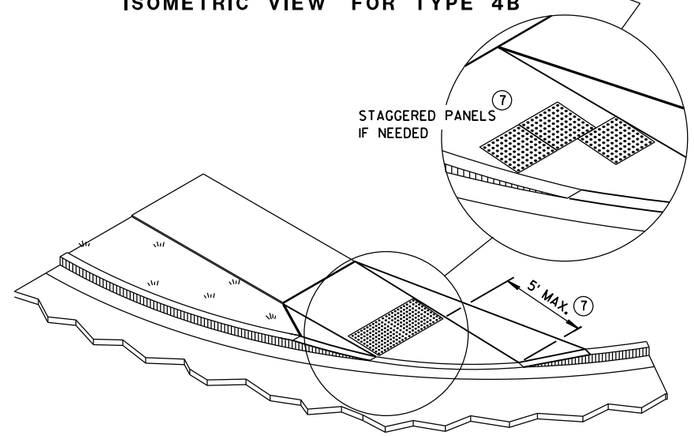
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. USE EQUAL-SIZE PANELS TO DEVELOP OVERLAPPING, STAGGERED ROWS. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION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

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

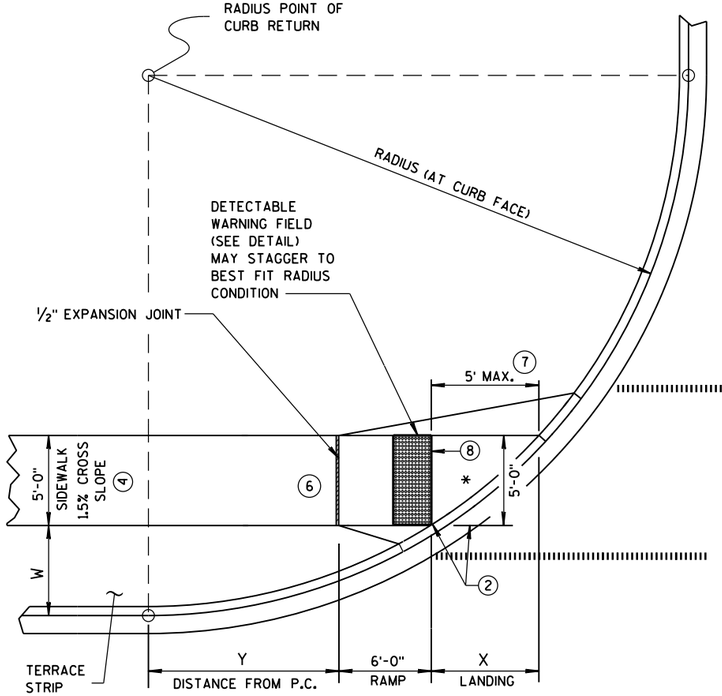
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



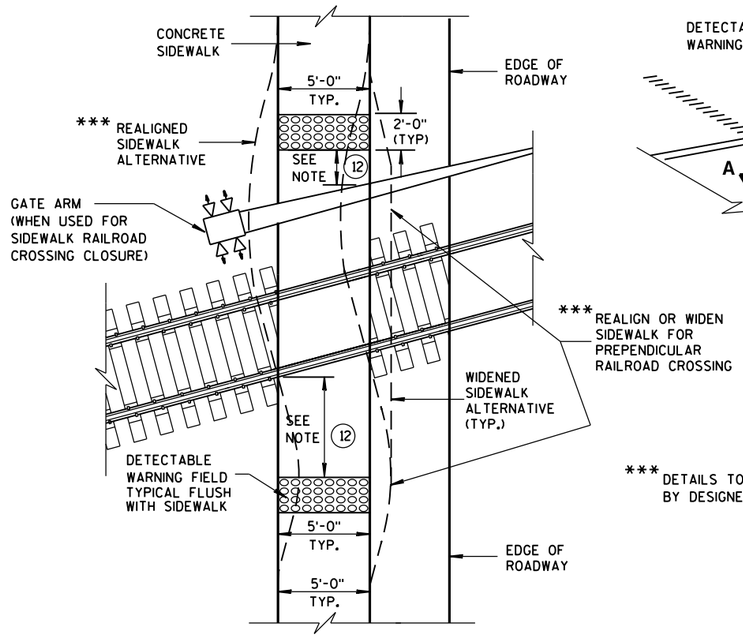
CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

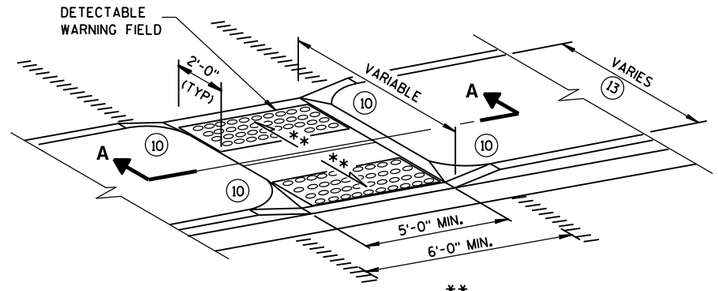
6

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



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

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

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

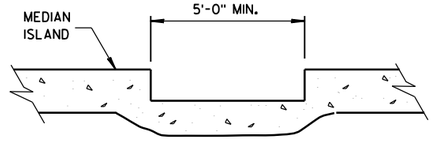
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

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

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

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

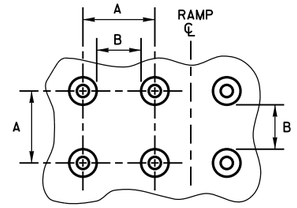
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



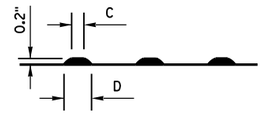
SECTION A-A

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

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

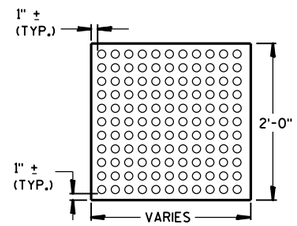


PLAN VIEW



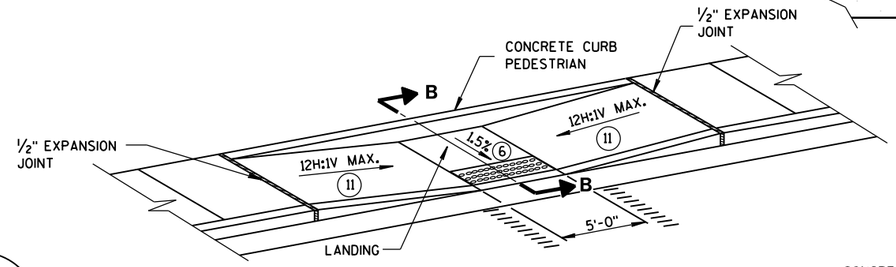
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

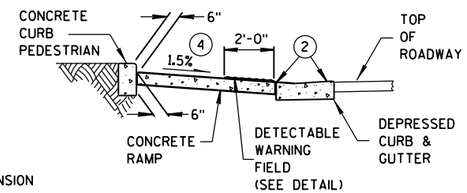


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)

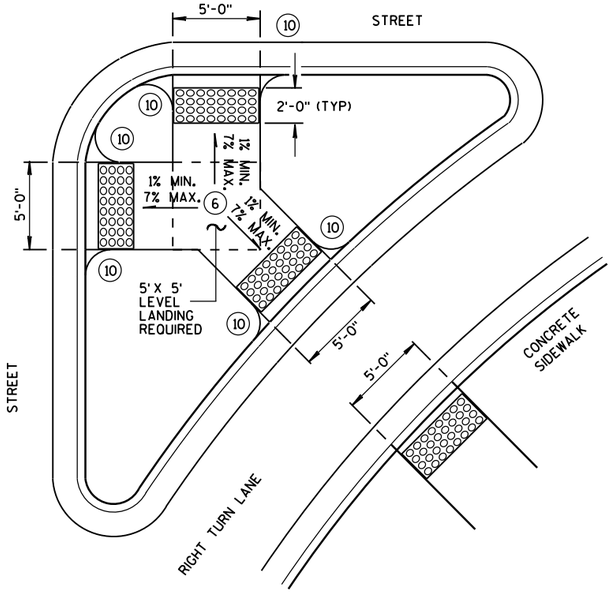


MID-BLOCK CROSSING
TYPE 7A

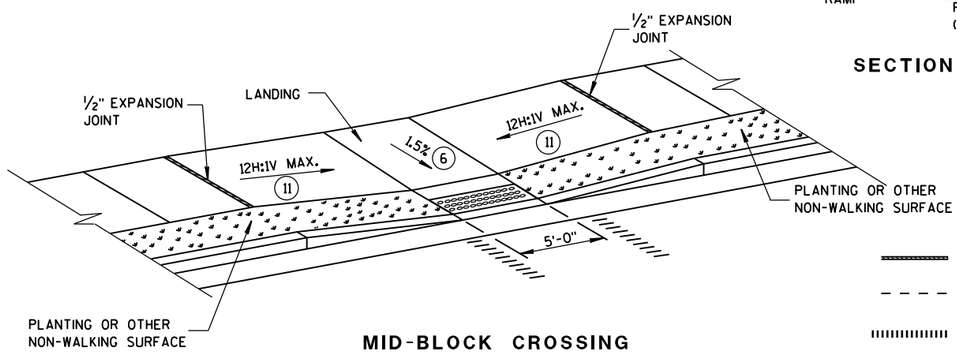


SECTION B-B

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



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

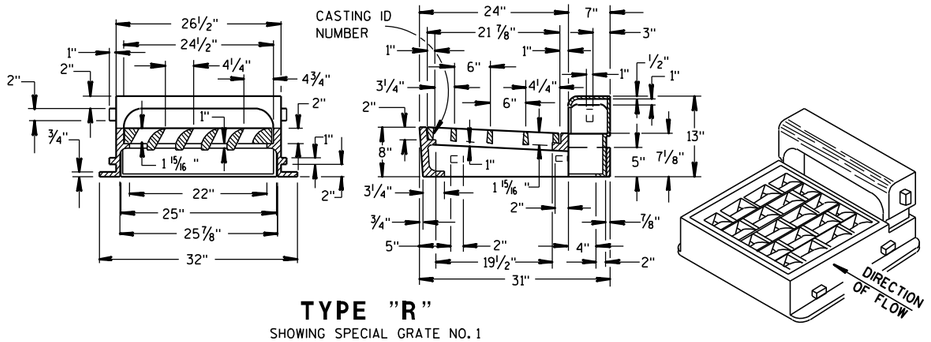
6

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

6

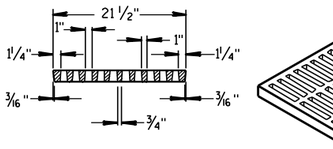
S.D.D. 8 D 5-18e

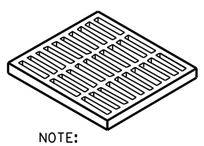
INLET COVERS



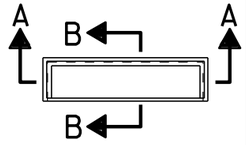
TYPE "R"

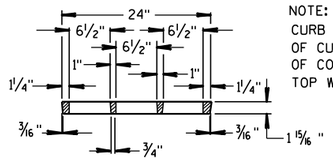
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



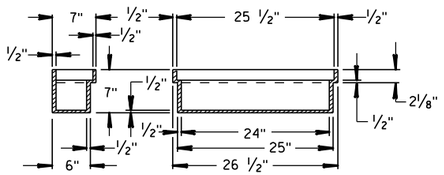


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.



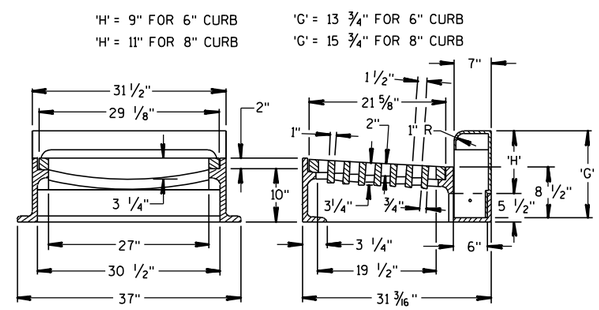
GRATE FOR TYPE "R" INLET COVER

(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

SECTION B-B SECTION A-A

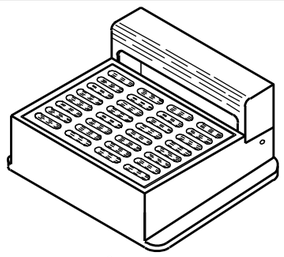
SPECIAL CURB PLUG "P"

(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

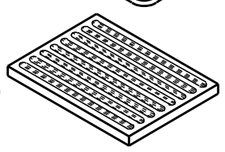


'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB

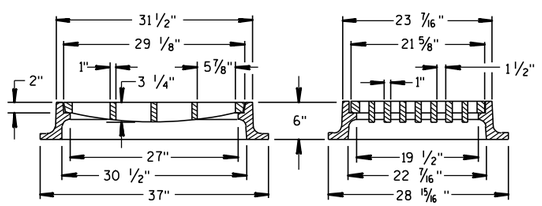
TYPE "W"



(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.

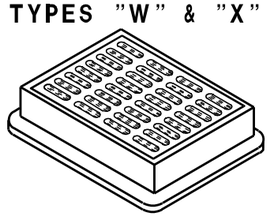


ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"

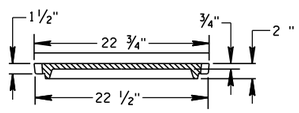


TYPE "X"

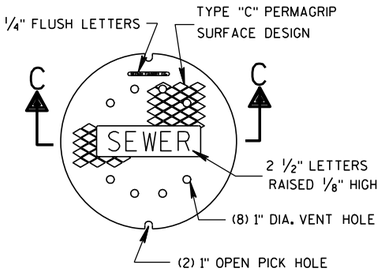
(APPROX. WEIGHT - 470 LBS.)

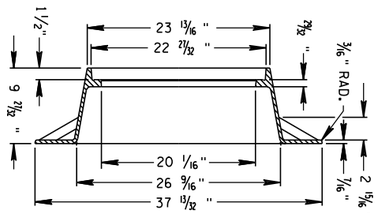


MANHOLE COVER



SECTION C-C





TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

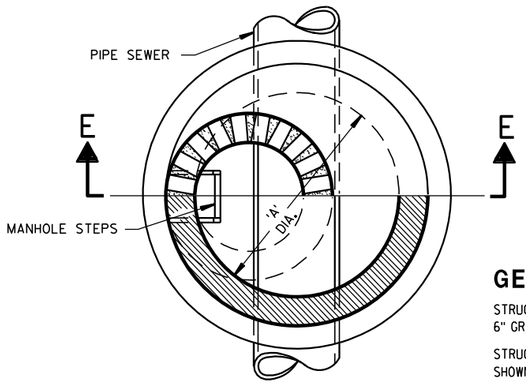
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

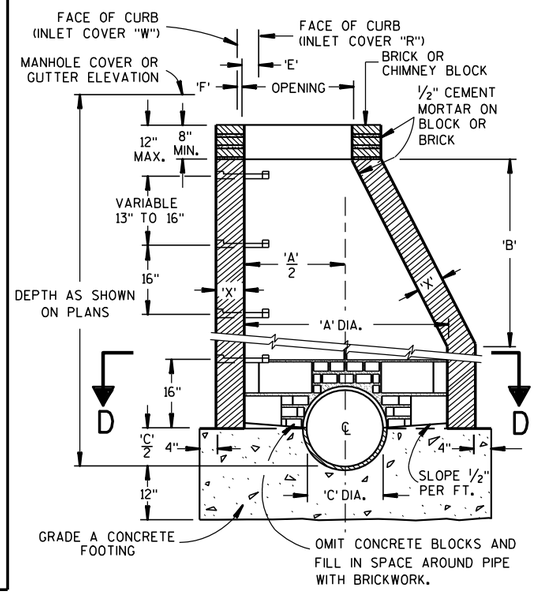
MANHOLE



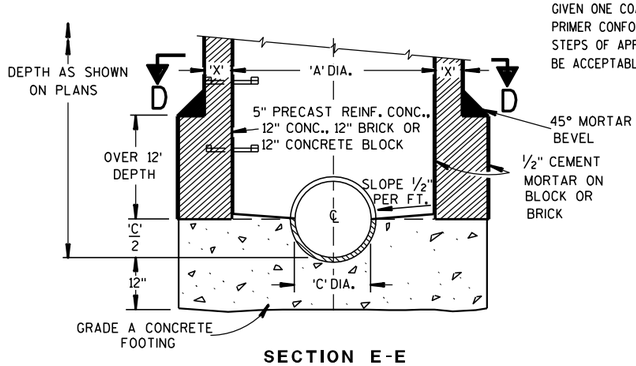
HALF SECTION D-D

TABLE OF OPENING DIMENSIONS

COVER TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 3/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

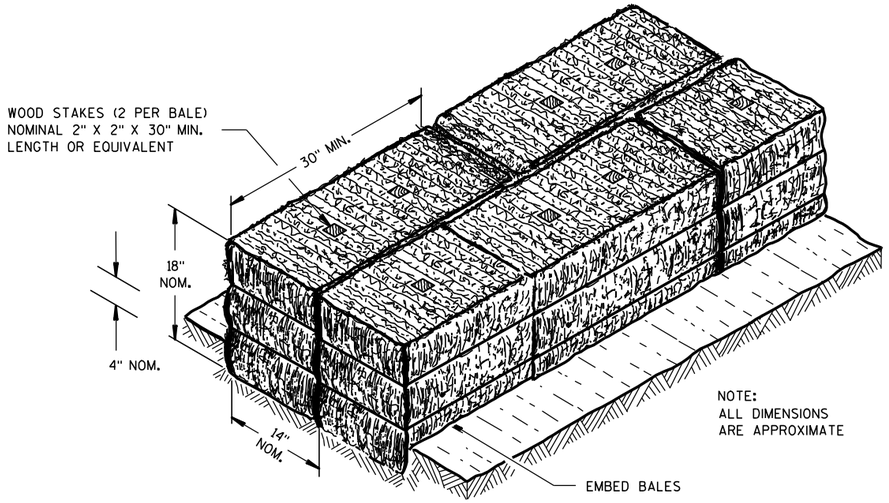
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

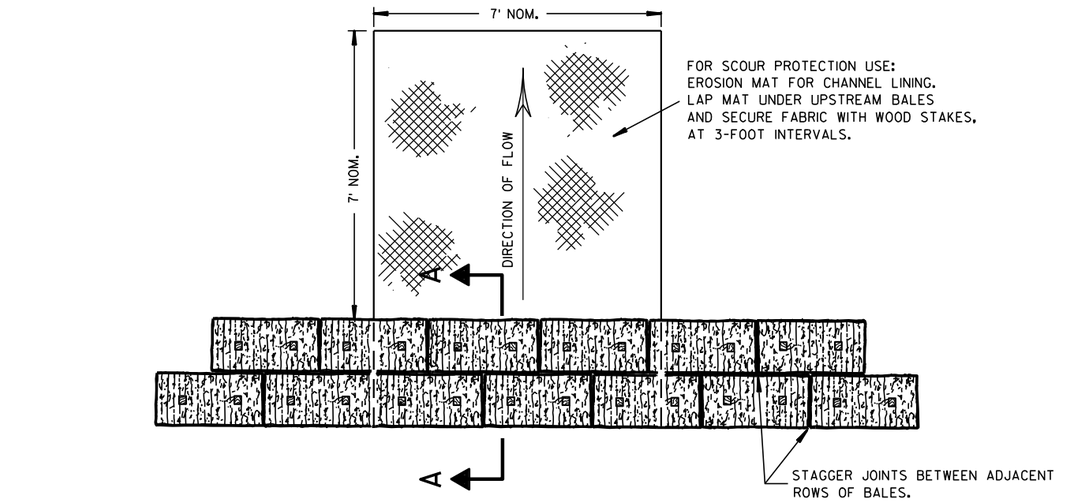
APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
FHWA

S.D.D. 8 D 17-6

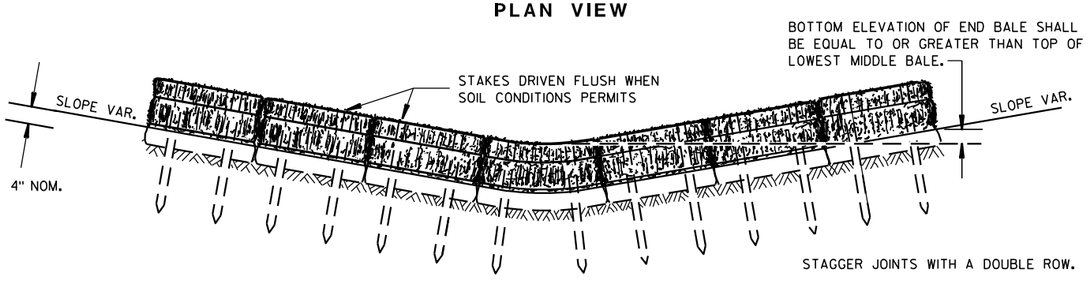
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SECTION A-A



PLAN VIEW



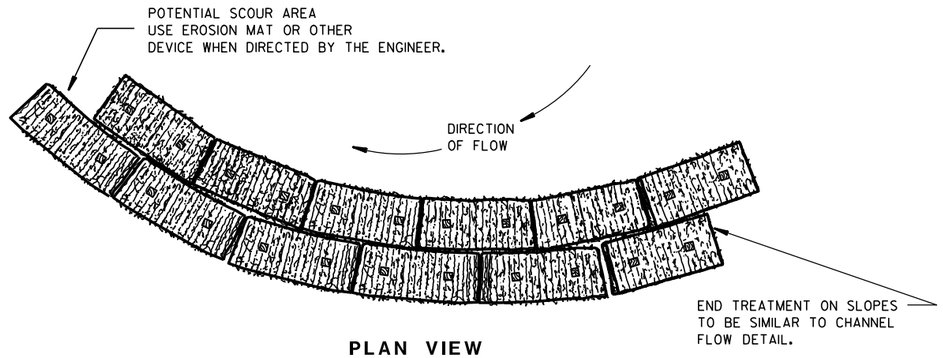
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

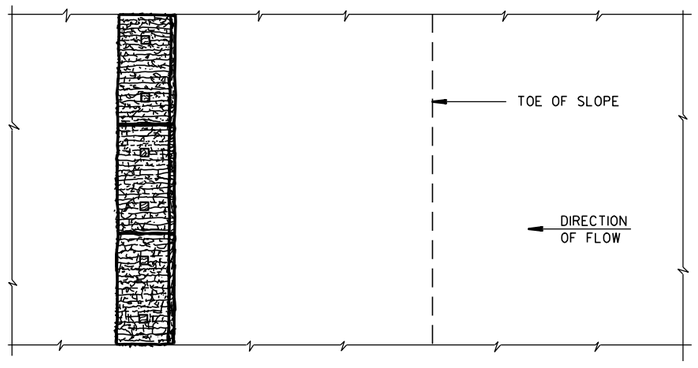
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

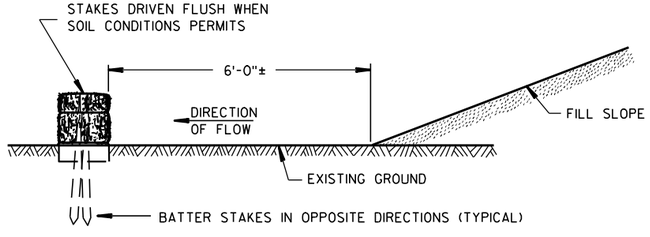


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

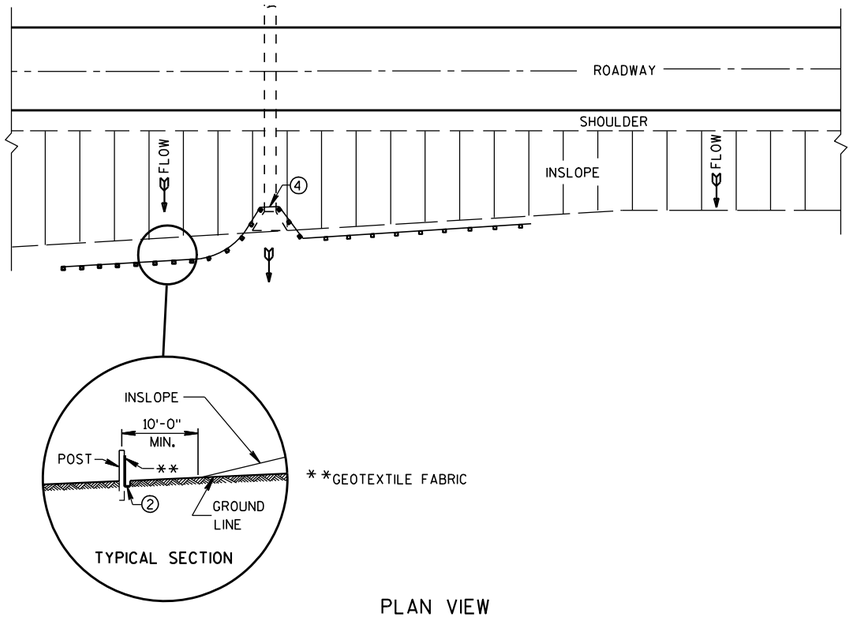
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

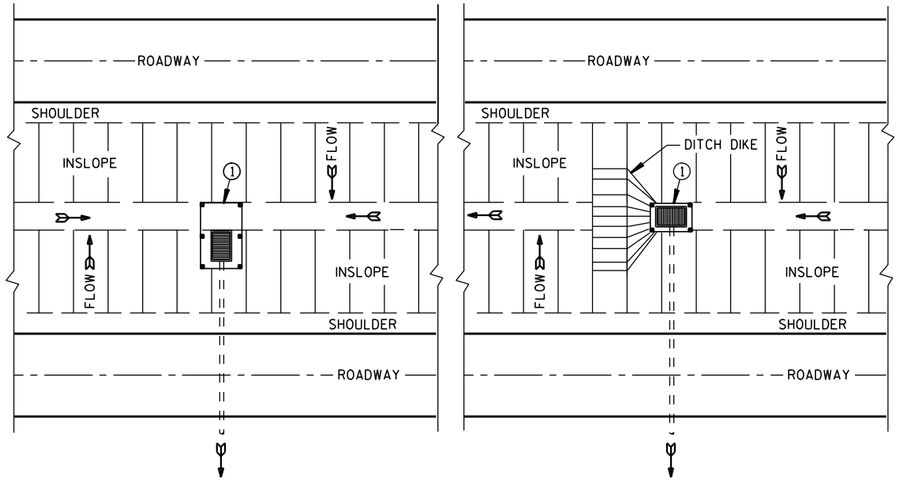
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

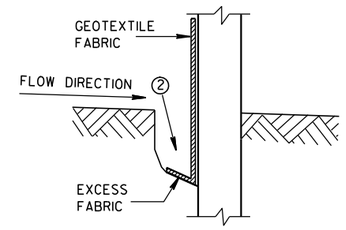
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

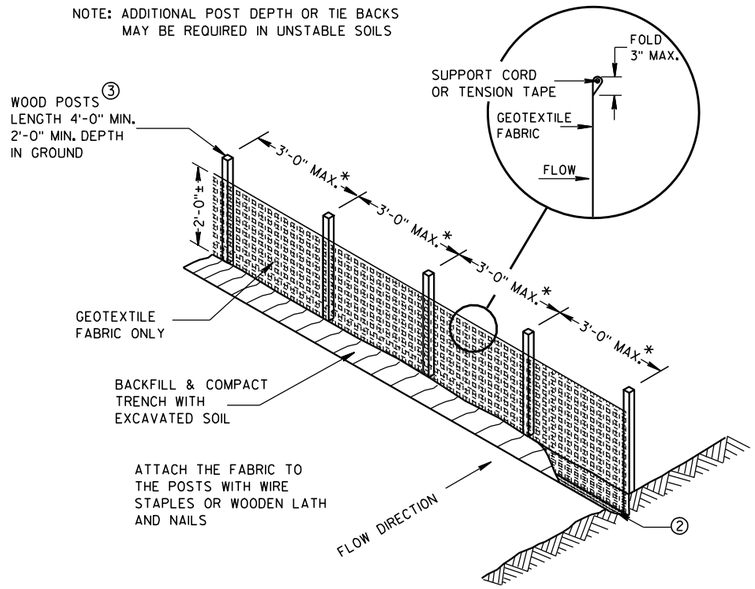
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

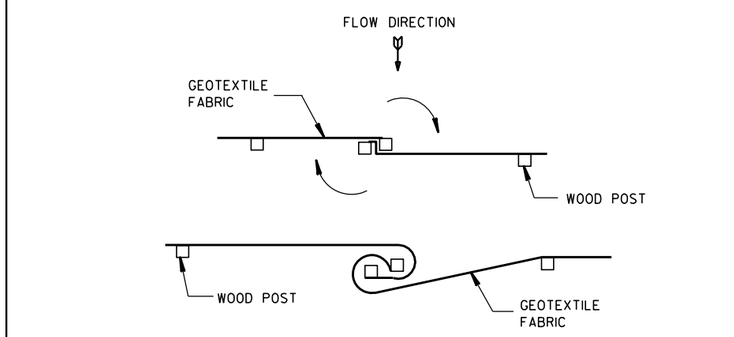
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



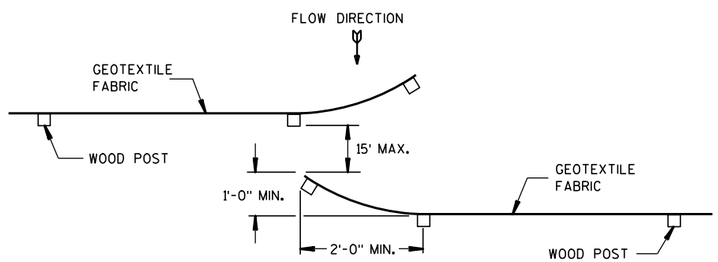
TRENCH DETAIL



SILT FENCE

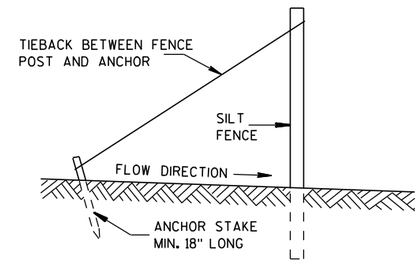


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

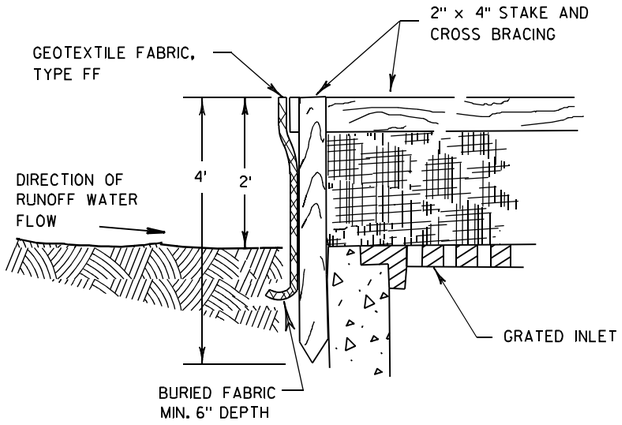
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

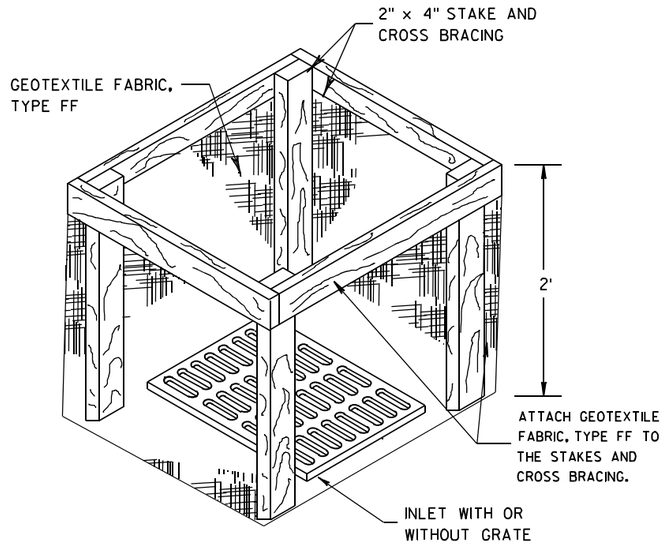
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S.D.D. 8 E 9-6

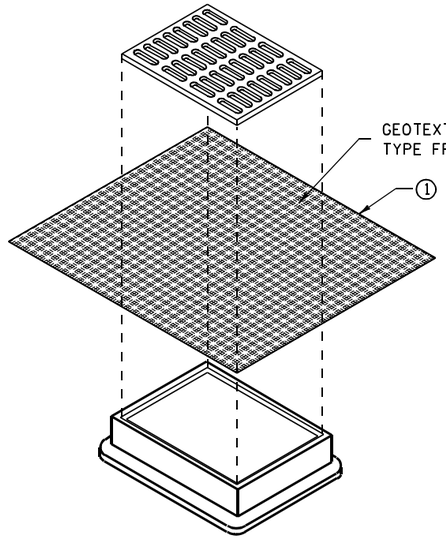
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S.D.D. 8 E 9-6



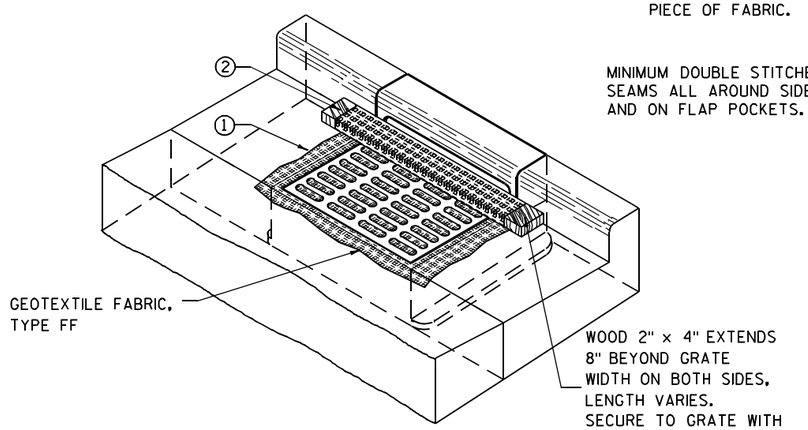


INLET PROTECTION, TYPE A

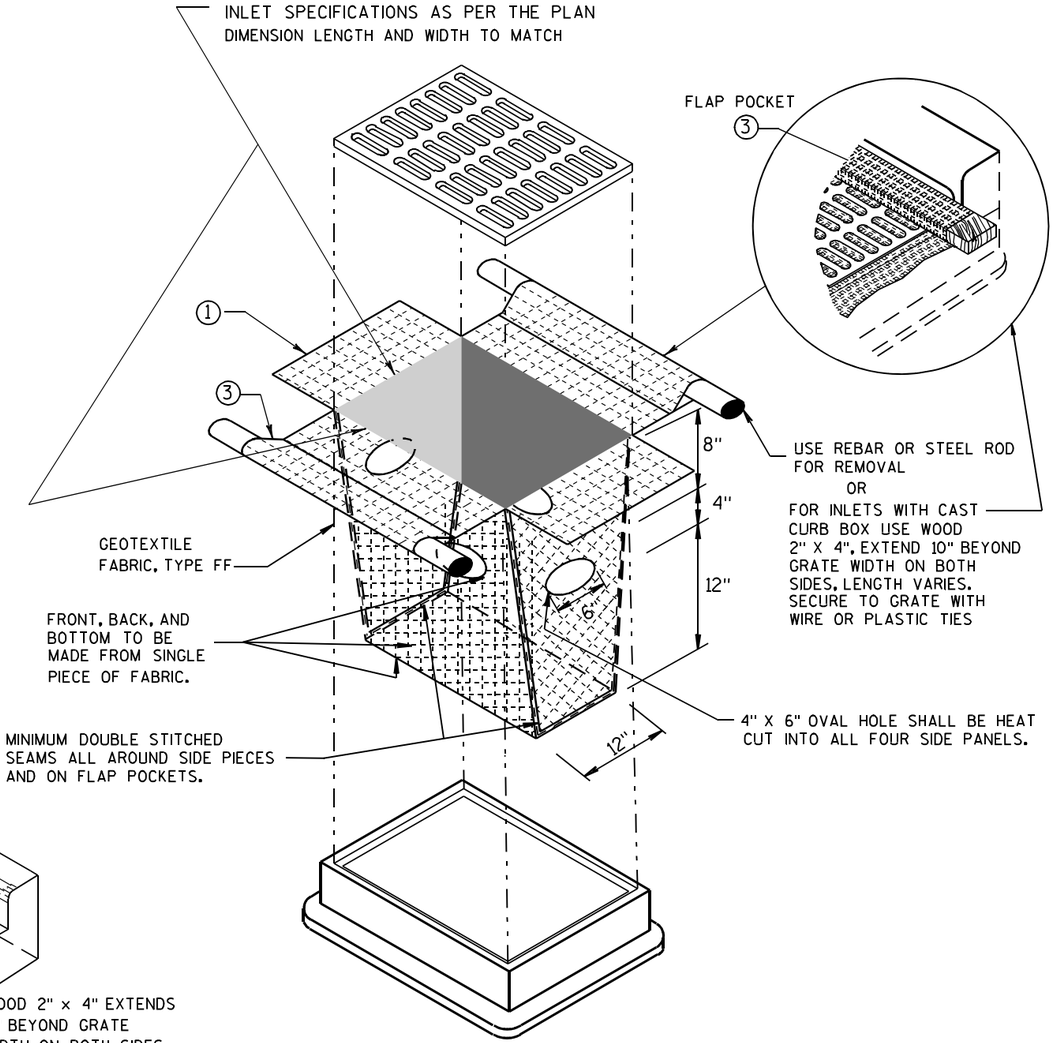


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

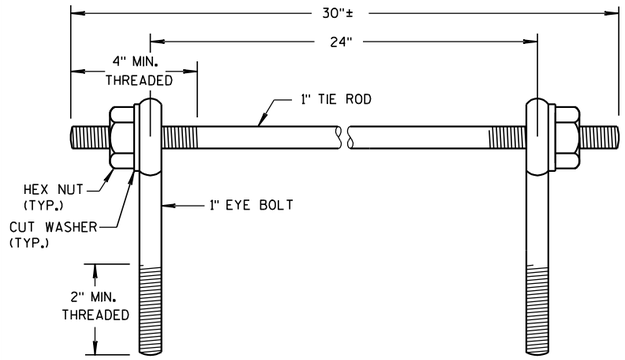
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

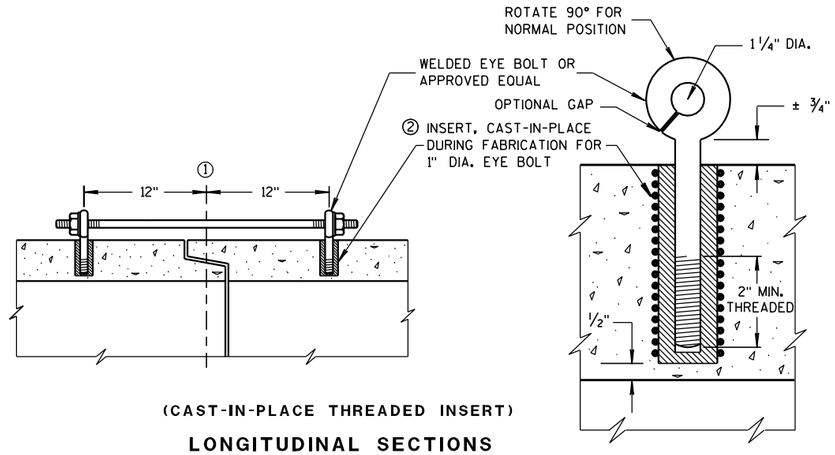
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 10-2



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

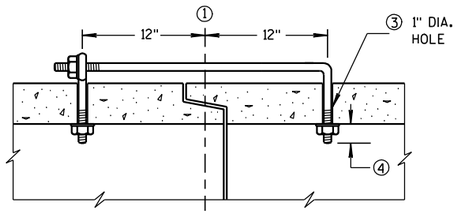
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

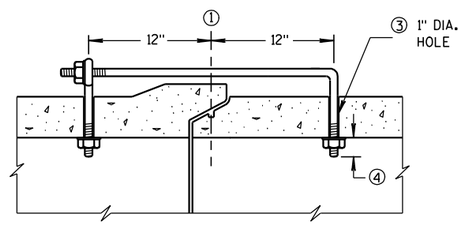
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

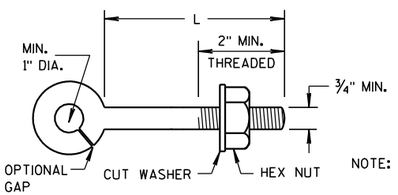


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

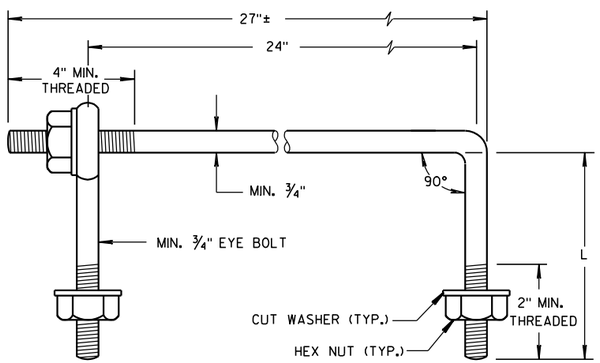
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

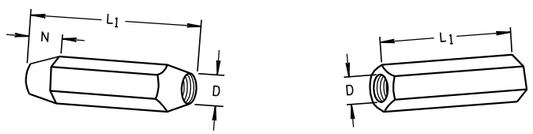
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

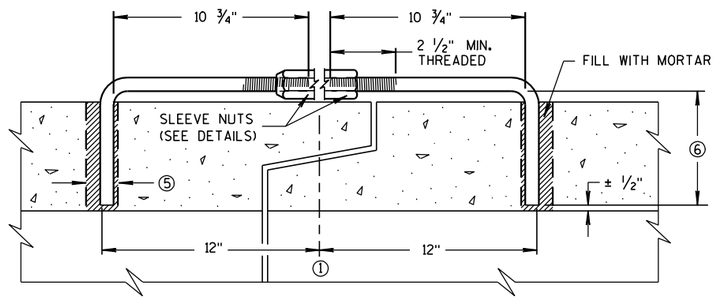
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

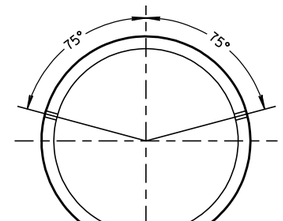
SLEEVE NUTS



LONGITUDINAL SECTION

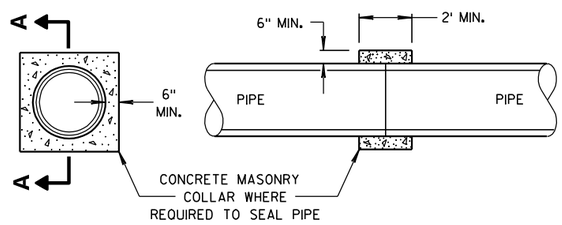
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

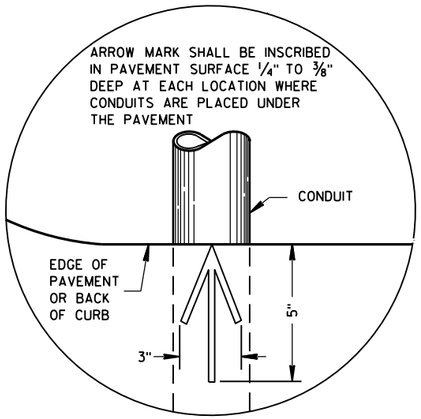
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 8 F 4-7

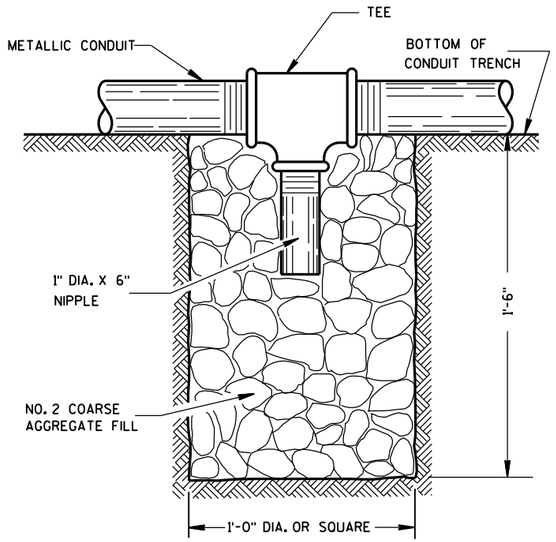
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S.D.D. 8 F 4-7



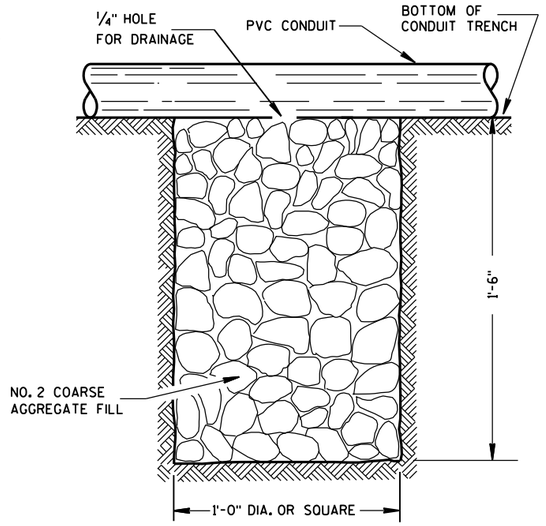
PLAN VIEW

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.

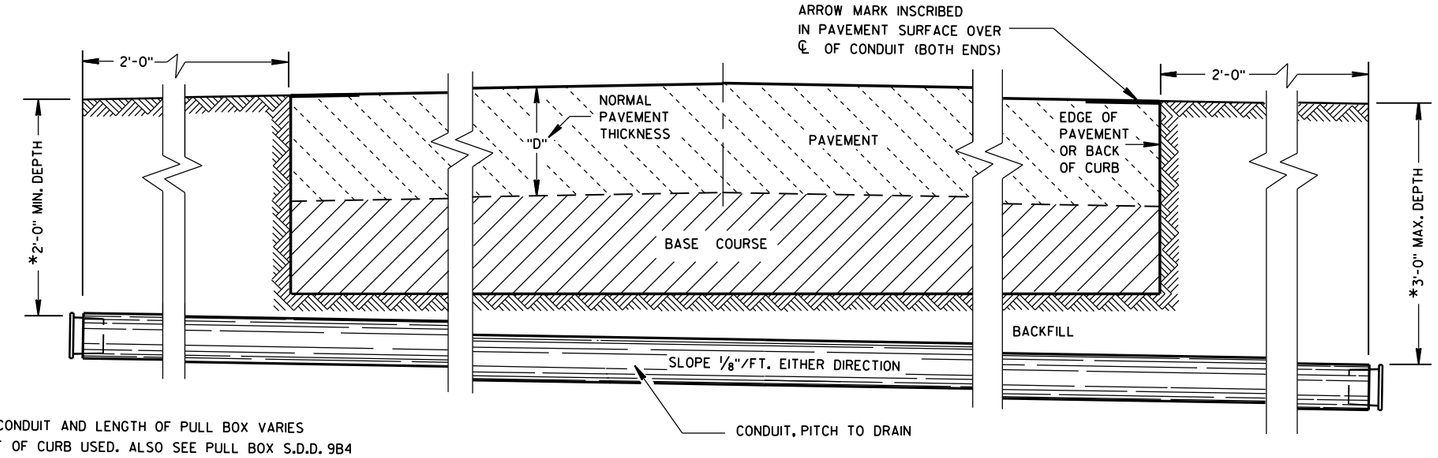
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

TRACER 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 2-9

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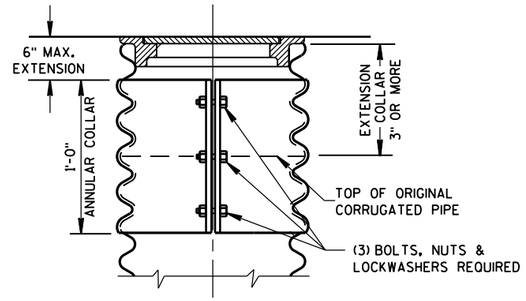
S.D.D. 9 B 2-9

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

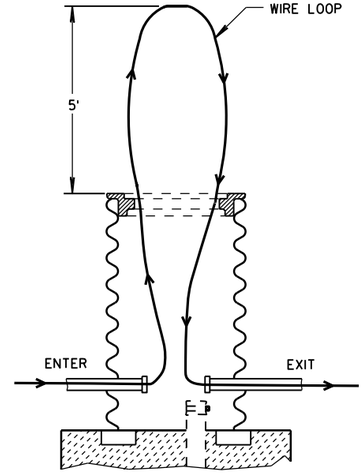
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

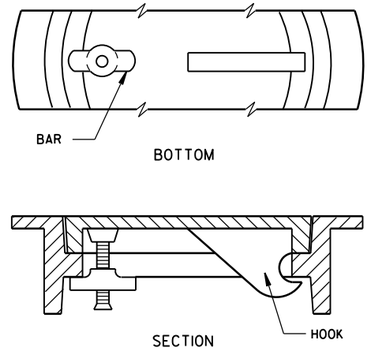
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

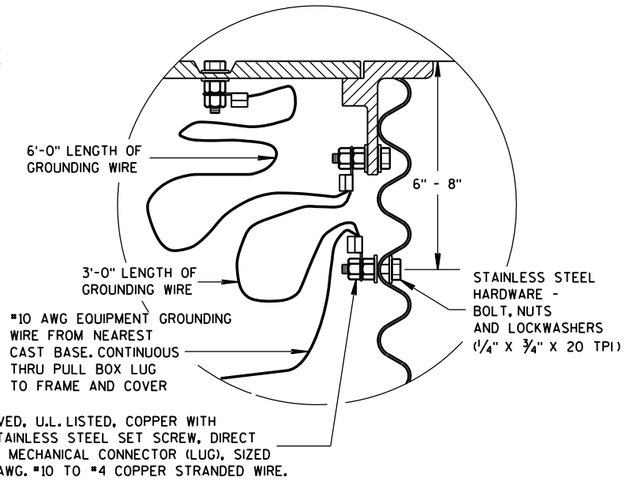


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

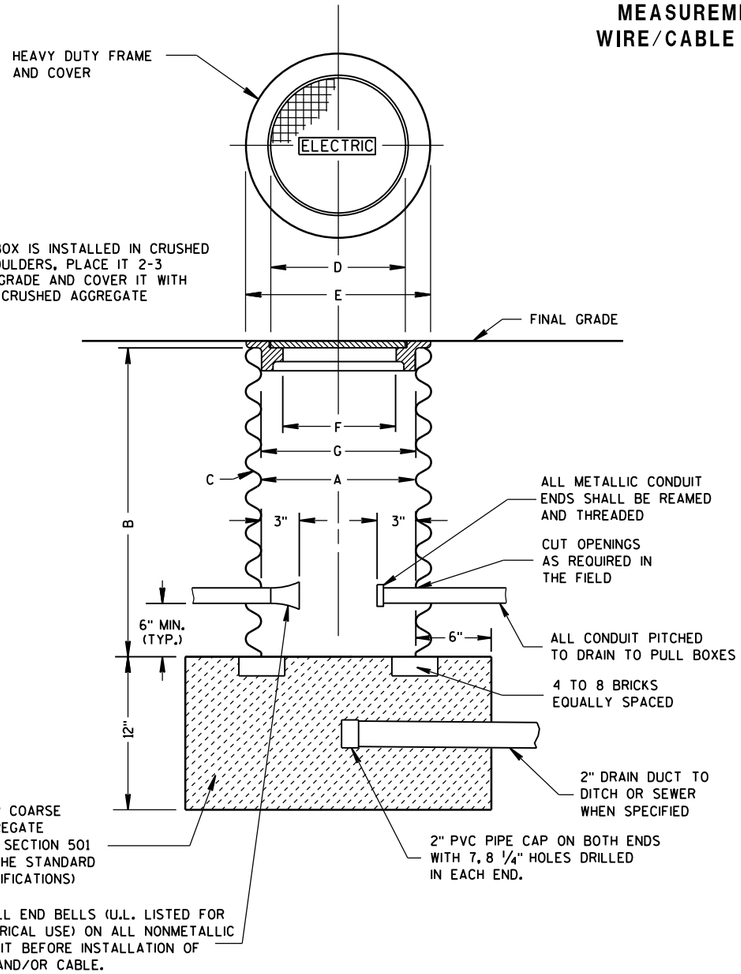


ALTERNATE COVER (LOCKING)

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.

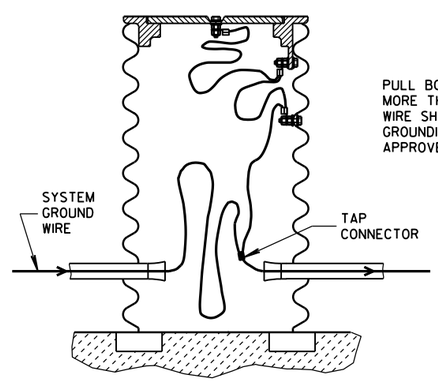
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

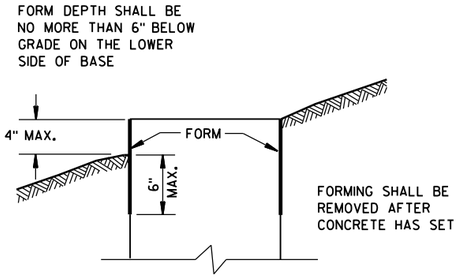
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
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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.

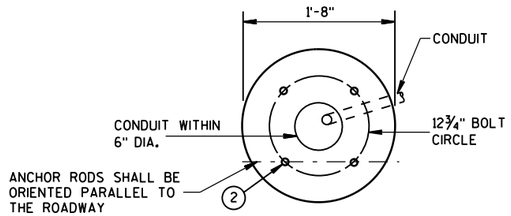
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

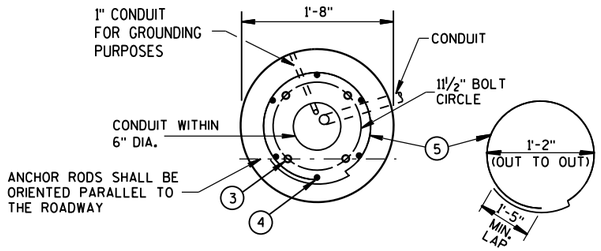
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

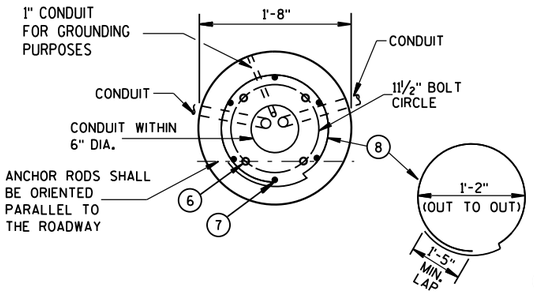
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

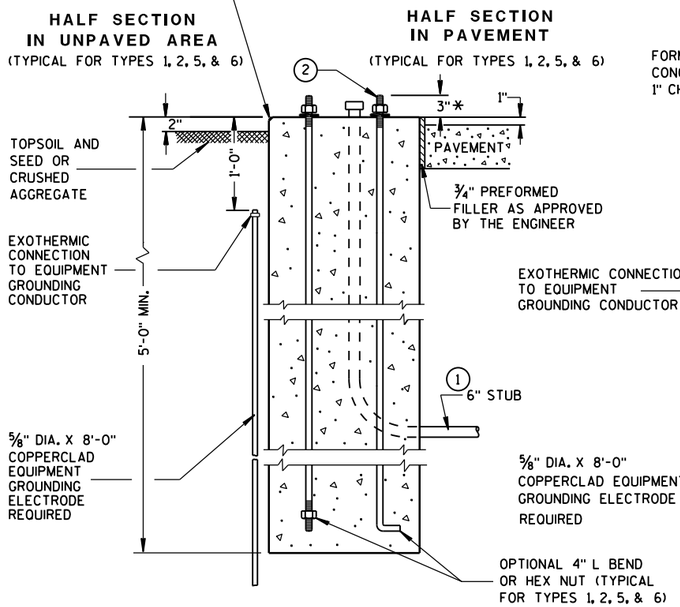






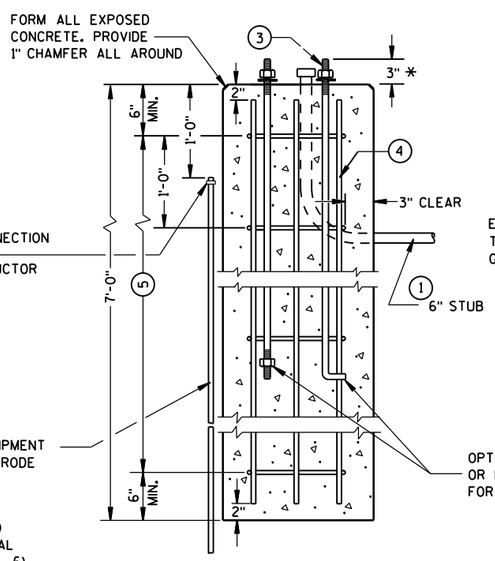
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

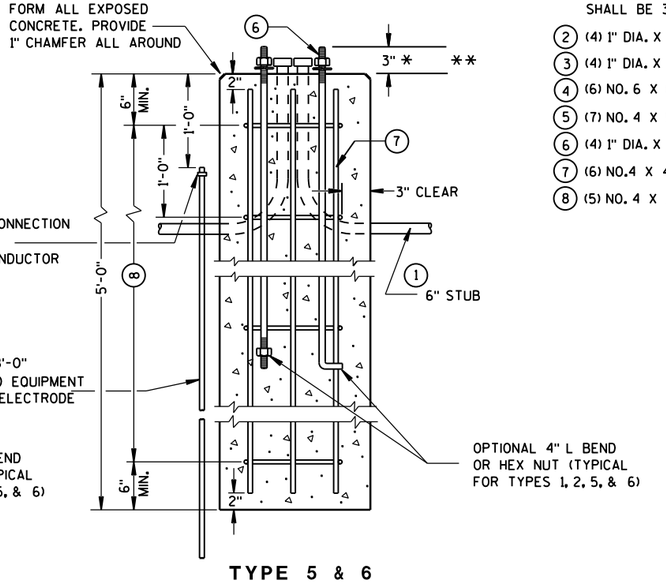


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



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
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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.

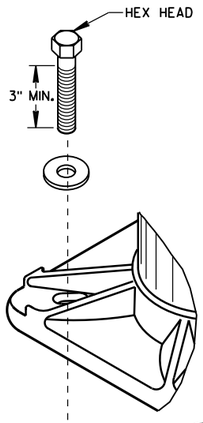
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

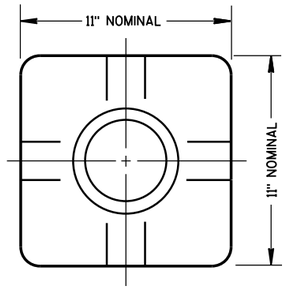
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

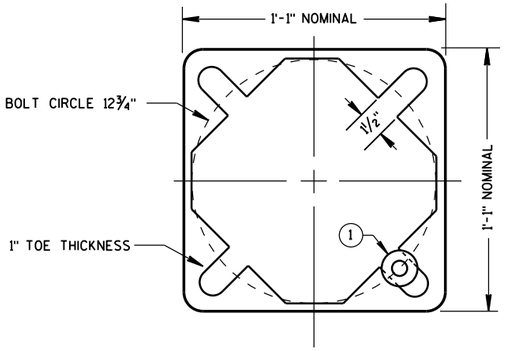
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

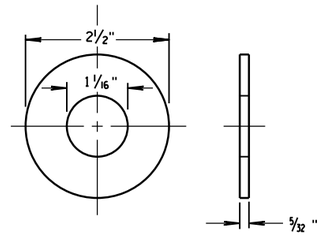




TOP VIEW
(PEDESTAL BASE)

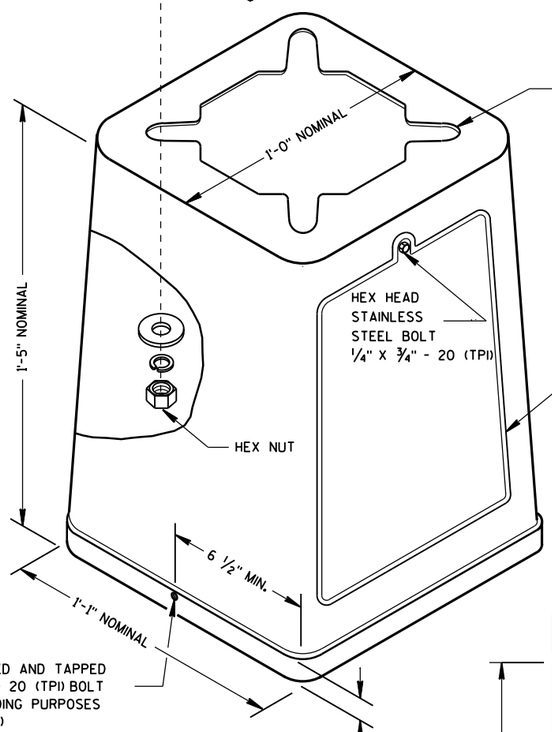


BOTTOM VIEW
(PEDESTAL BASE)

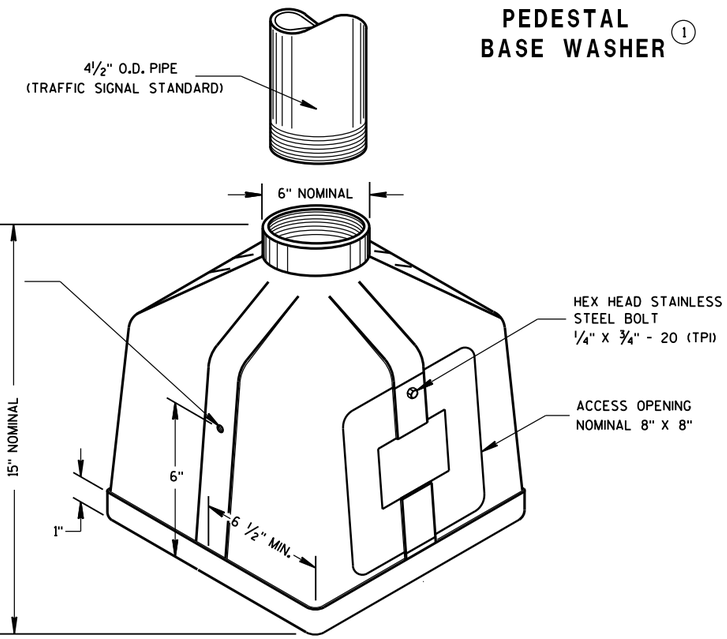


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

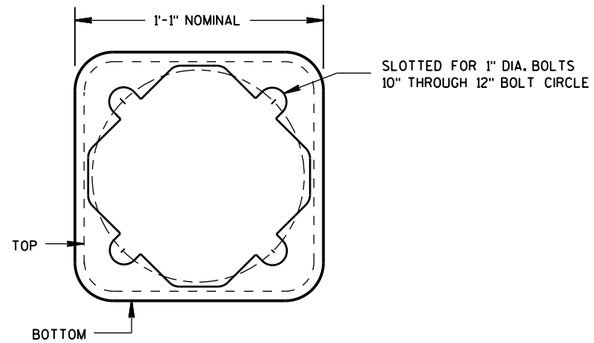


ISOMETRIC VIEW

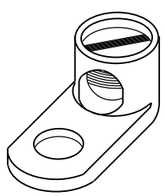


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

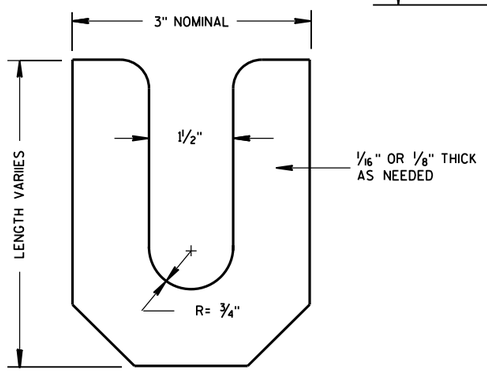


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

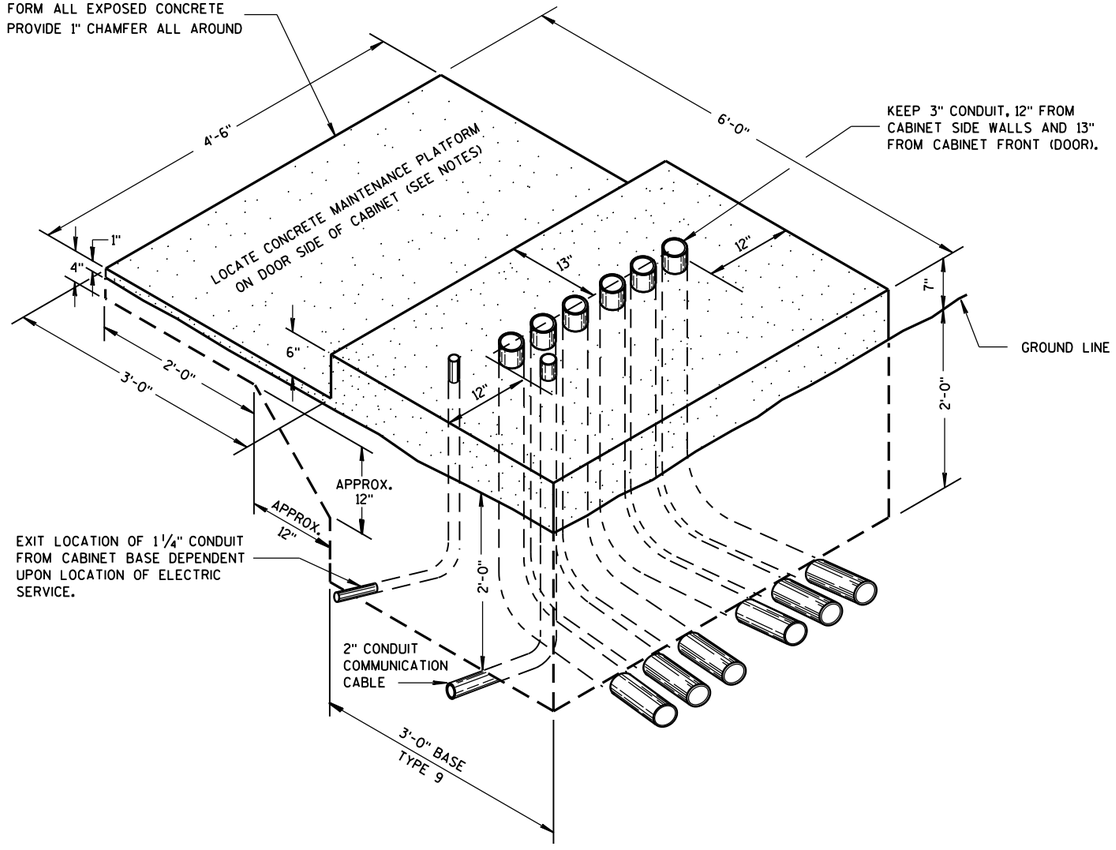
TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
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APPROVED
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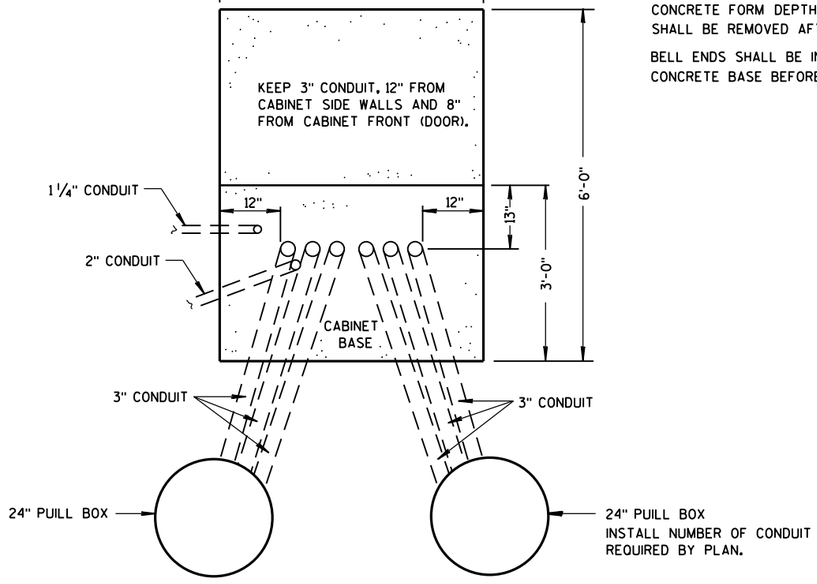
S.D.D. 9 C 3-4



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
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 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.

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.

ANCHOR RODS SHALL BE 1" X 60".

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.

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.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

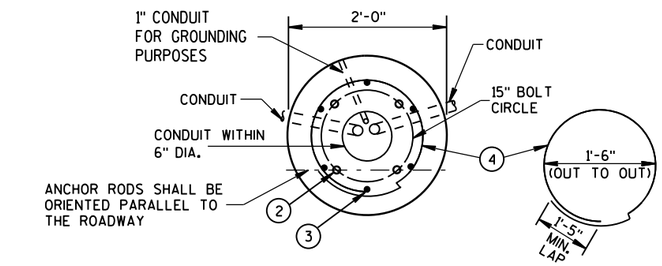
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(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 5'-0" ANCHOR RODS

(3) (6) NO. 6 X 9'-8" BAR STEEL REINFORCEMENT.

(4) (10) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

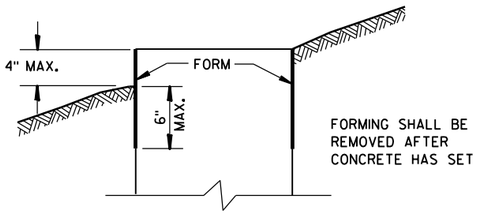


CONCRETE BASE, TYPE 8 (FOR 50' LIGHT POLES)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

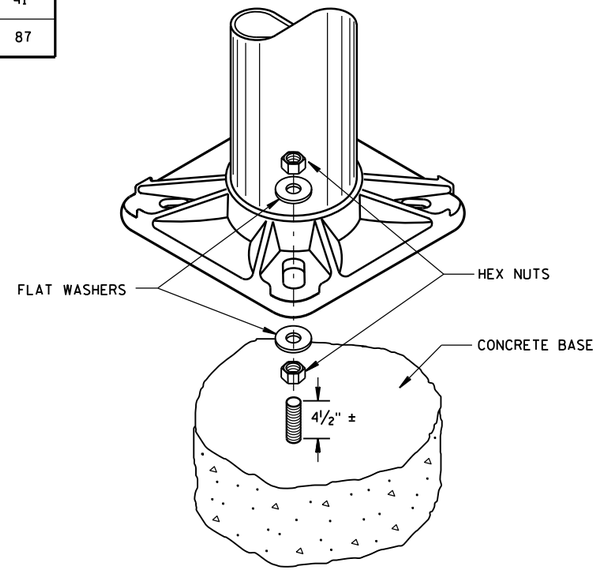
** FOR NONBREAKAWY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	1.2
LBS. OF HOOP BAR STEEL	41
LBS. OF VERTICAL BAR STEEL	87



NON-BREAKAWAY INSTALLATION (LEVELING NUT)

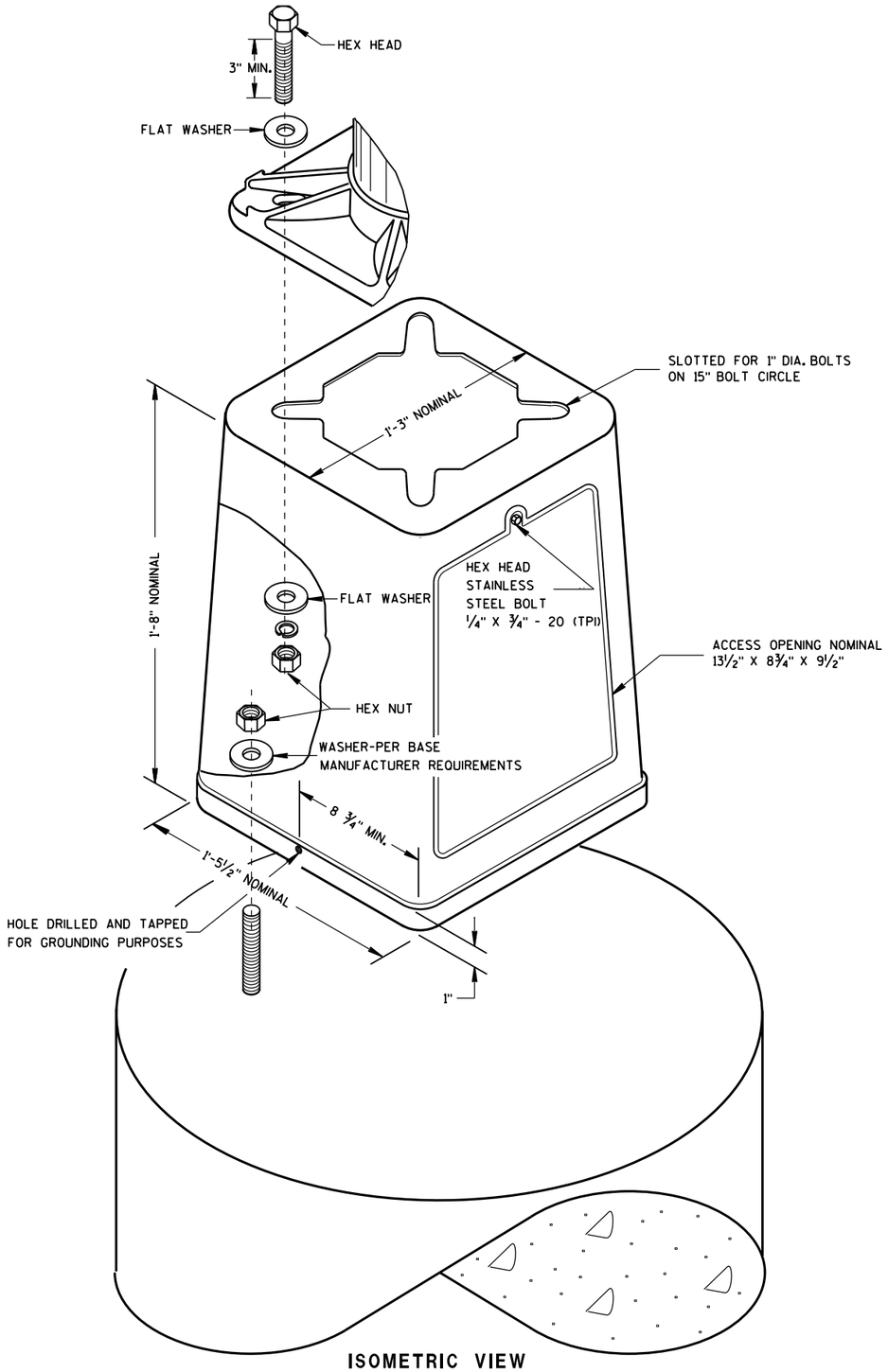
CONCRETE BASE, TYPE 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

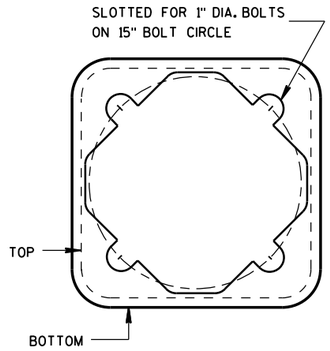
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SDD 9 C 9-5



ISOMETRIC VIEW

TRANSFORMER BASE



BOTTOM VIEW

GENERAL NOTES

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

BREAKAWAY BASES (WHERE REQUIRED) WILL BE MEASURED AND PAID AS SEPARATE ITEMS OF WORK IN ADDITION TO THE LIGHT POLE.

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 DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIMS SHALL BE SIZED TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

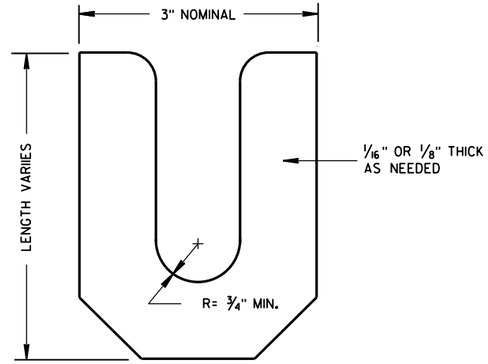
A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE TRANSFORMER BASE.

THE MECHANICAL CONNECTOR (GROUNDING LUG) SHALL BE INSTALLED USING THE TAPPED HOLE PROVIDED BY THE MANUFACTURER. THE MOUNTING BOLT HEXHEAD), NUT, WASHER AND LOCK WASHER SHALL BE STAINLESS STEEL, SIZED TO FIT THE THREADING AND HOLE SIZE, AND BE OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

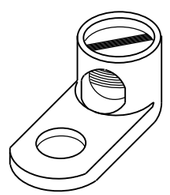
SHOULD A GROUNDING LUG MOUNTING HOLE NOT BE PROVIDED, THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" X 3/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE. IT SHALL BE MOUNTED IN THE SAME LOCATION AS IS SHOWN ON THE DRAWING.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, AND LOCK WASHERS, THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

THE ACCESS DOOR SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE BASE.



LEVELING SHIM



TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
FOR 15" BOLT CIRCLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 10-3

6

S.D.D. 9 C 10-3

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).

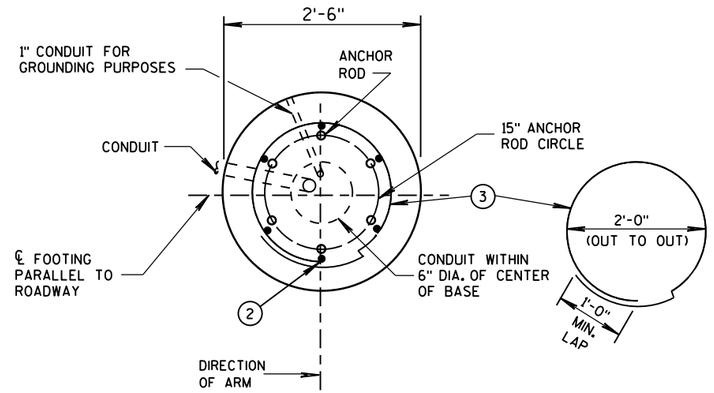
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

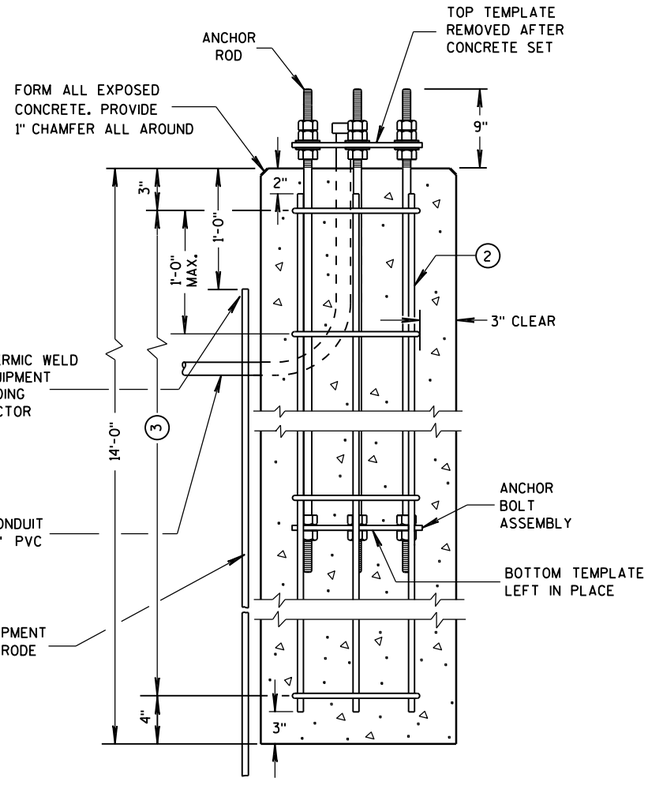
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 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" MAX. C-C.

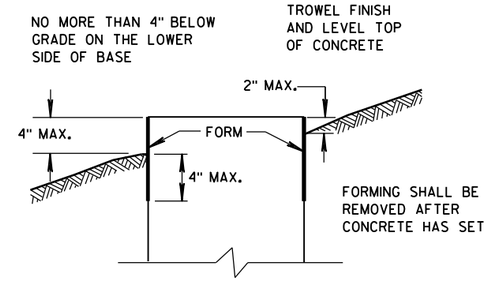
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATION)	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.



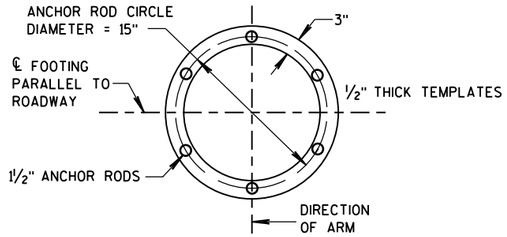


CONCRETE BASE TYPE 10
(FOR TYPE 9 & 10 POLES)

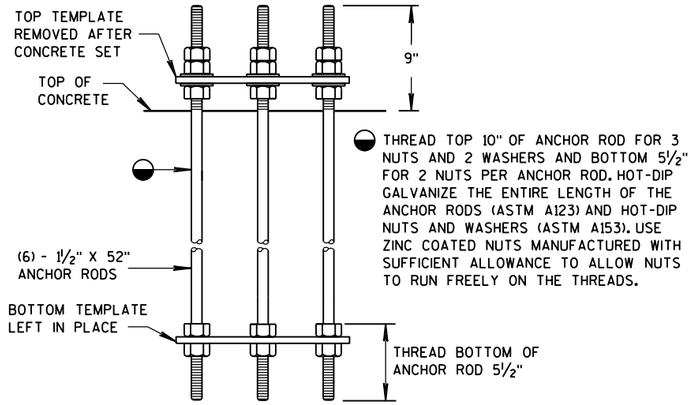
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



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

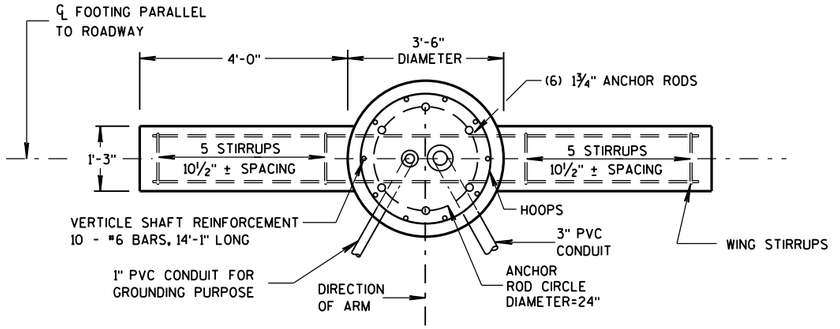
CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

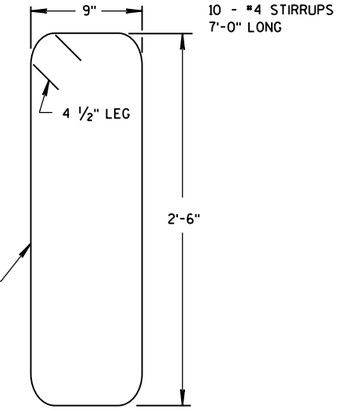
APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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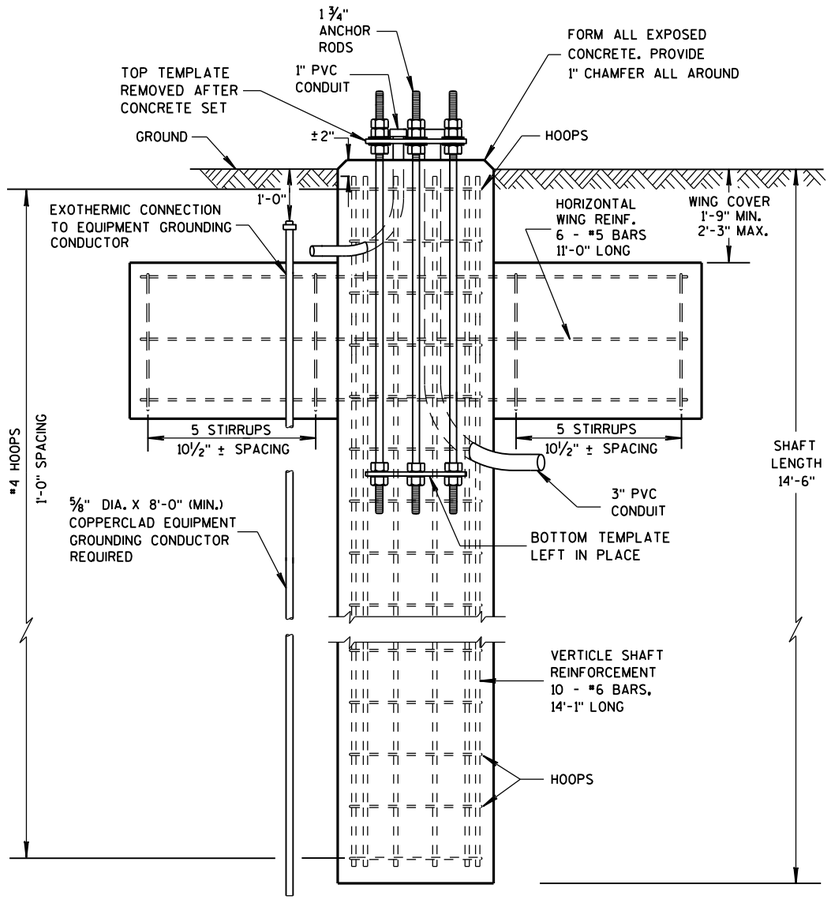
S.D.D. 9 C 11-9



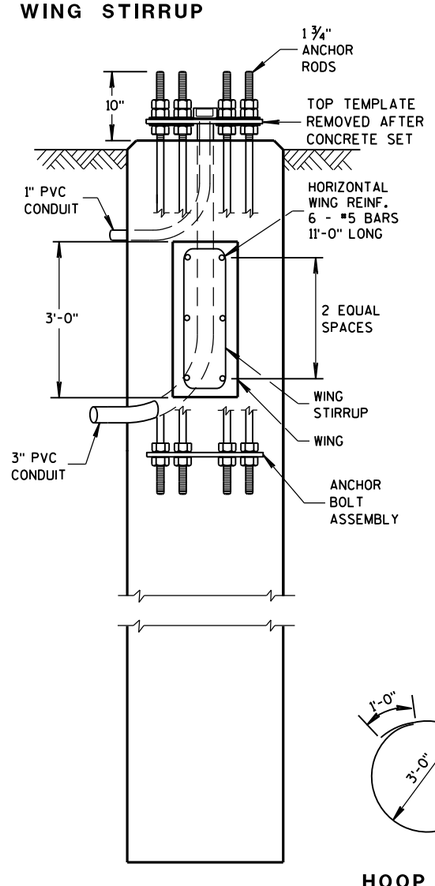
PLAN VIEW



WING STIRRUP

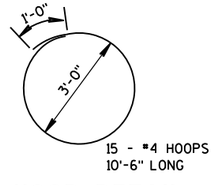


ELEVATION VIEW



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, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS	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.

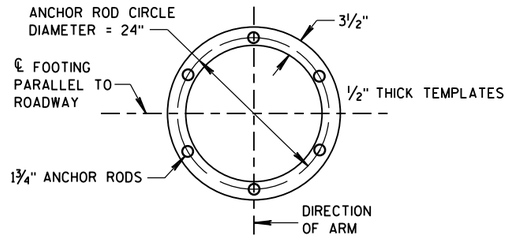
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

CONCRETE BASE TYPE 13

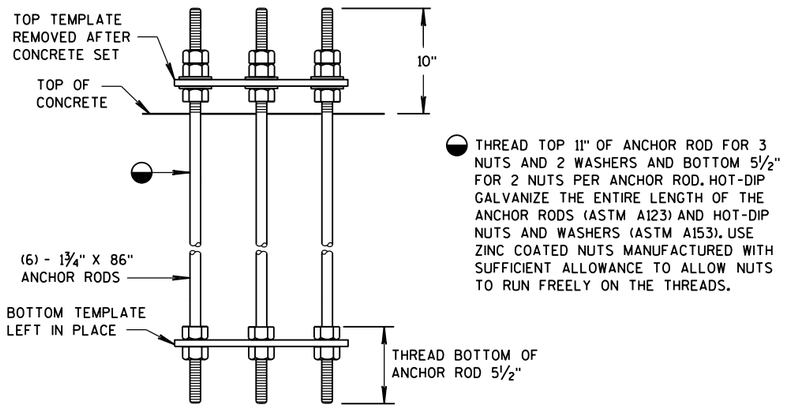
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 9 C 12-8a

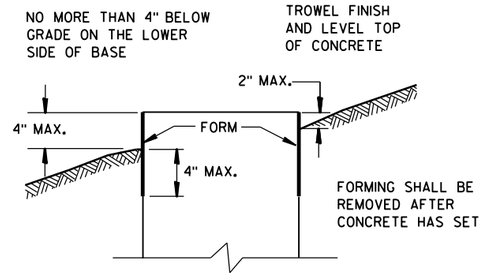


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2016 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

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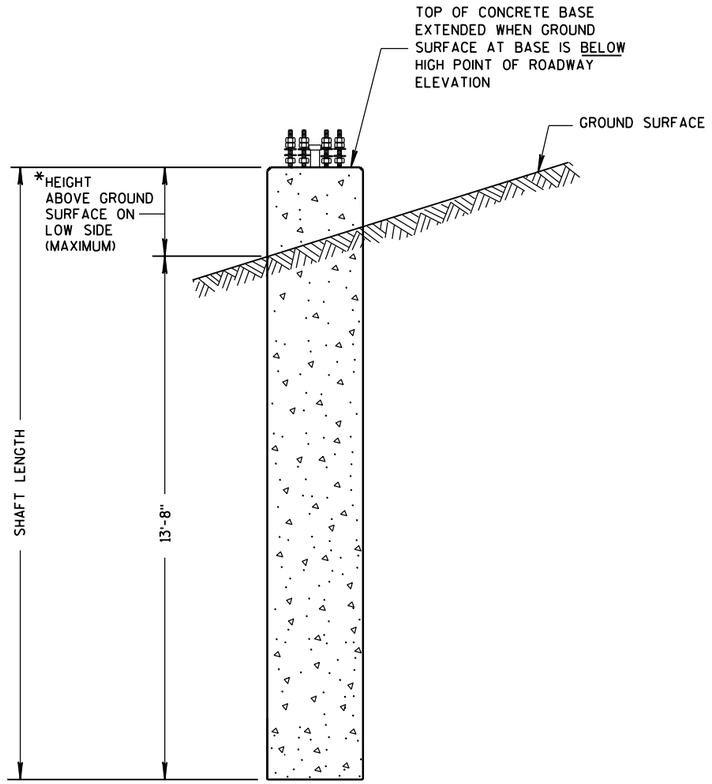
S.D.D. 9 C 12-8b

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S.D.D. 9 C 12-8b

REINFORCEMENT AND CONCRETE QUANTITIES
ADJUSTED FOR EXTENDED TYPE 10 CONCRETE BASE

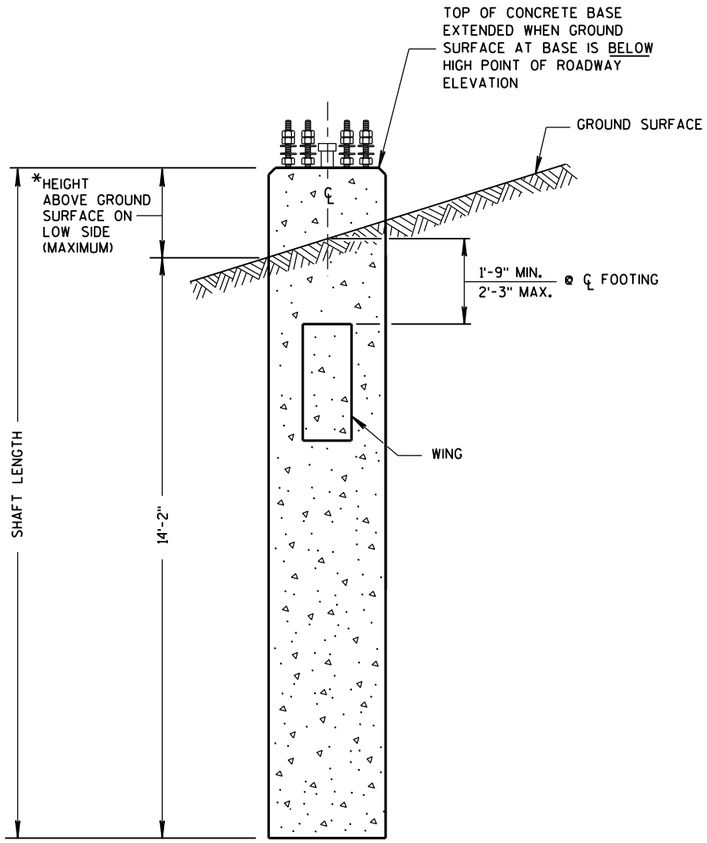
HEIGHT INCREASE REQUIRED	* HEIGHT ABOVE GROUND SURFACE ON LOW SIDE (MAXIMUM)	SHAFT LENGTH	LENGTH OF #6 VERTICAL REINF.	NO. OF #4 HOOPS	C.Y. OF CONCRETE	LBS. OF HOOP BAR STEEL	LBS. OF VERTICAL BAR STEEL
>0" TO 6"	10"	14'-6"	14'-1"	16	2.6	78	127
>6" TO 1'-0"	1'-4"	15'-0"	14'-7"	16	2.7	78	131
>1'-0" TO 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

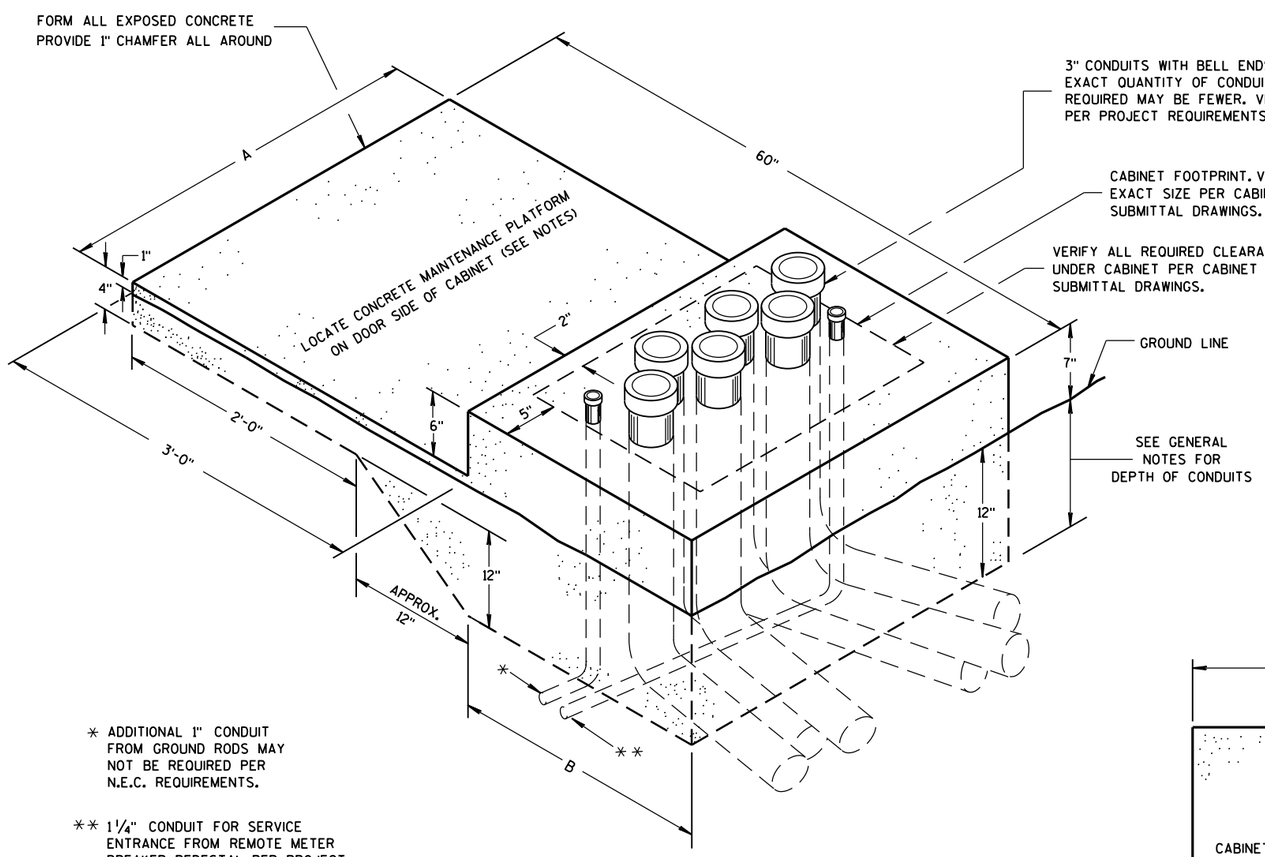
APPROVED
11-26-2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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S.D.D. 9 C 13-2

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S.D.D. 9 C 13-2



* ADDITIONAL 1" CONDUIT FROM GROUND RODS MAY NOT BE REQUIRED PER N.E.C. REQUIREMENTS.

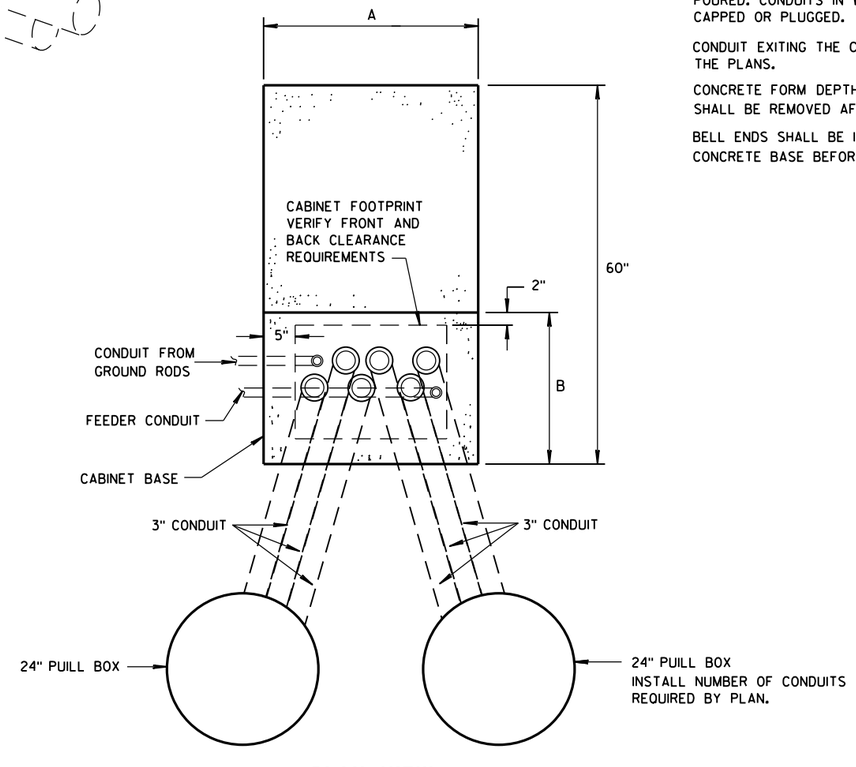
** 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. VERIFY LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS 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 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.

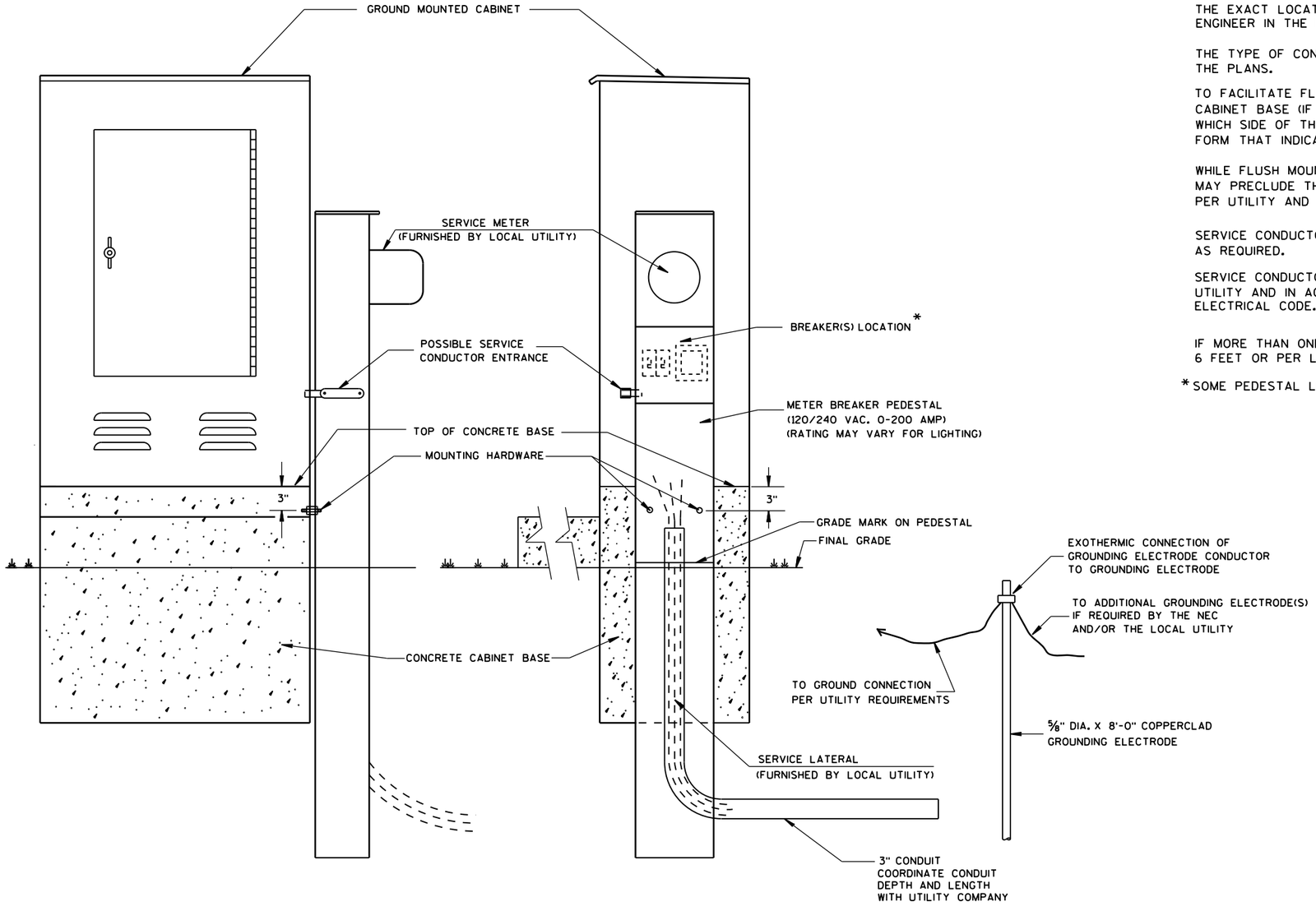
CONCRETE CONTROL CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE
FHWA
WYS

6

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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.

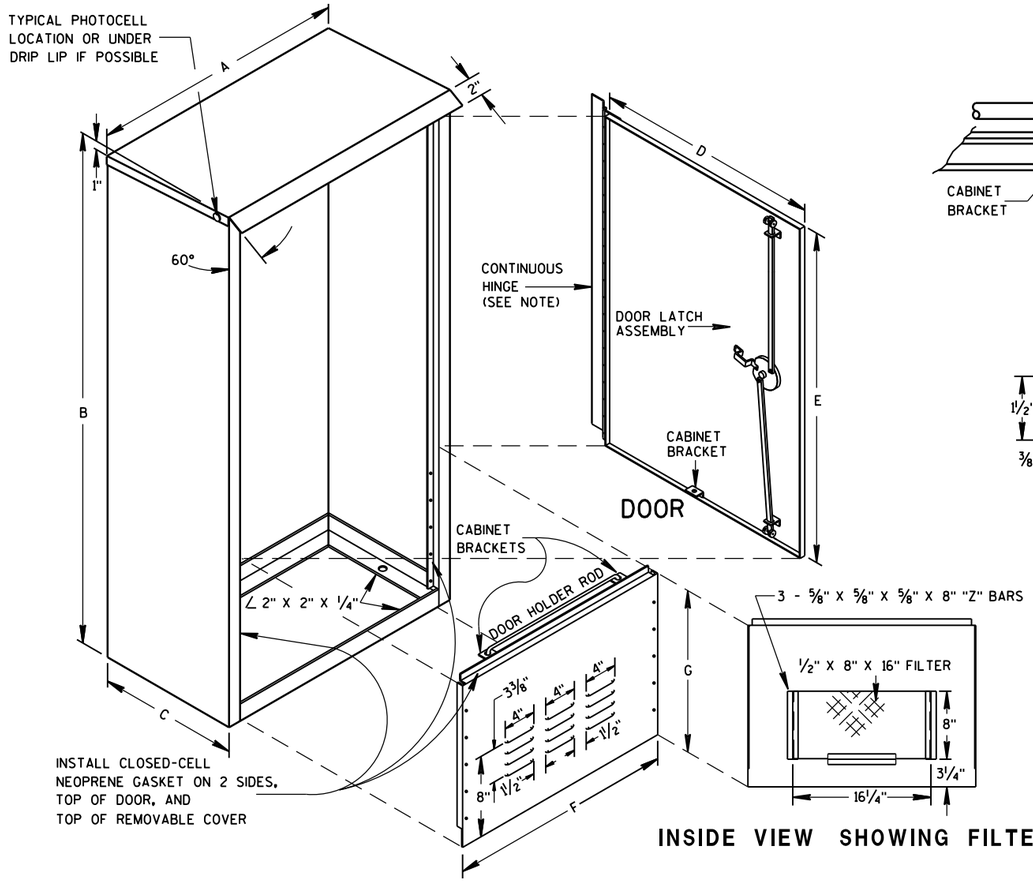
* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

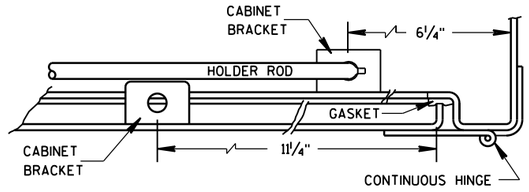
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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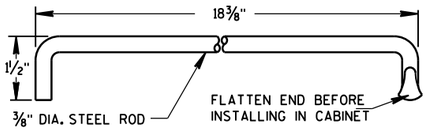


REMOVABLE COVER

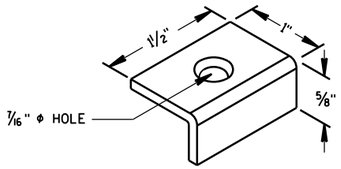
INSIDE VIEW SHOWING FILTER



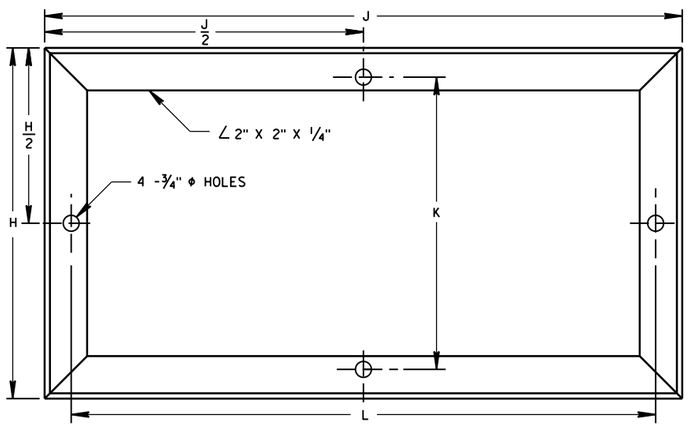
HINGE & DOOR HOLDER



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.

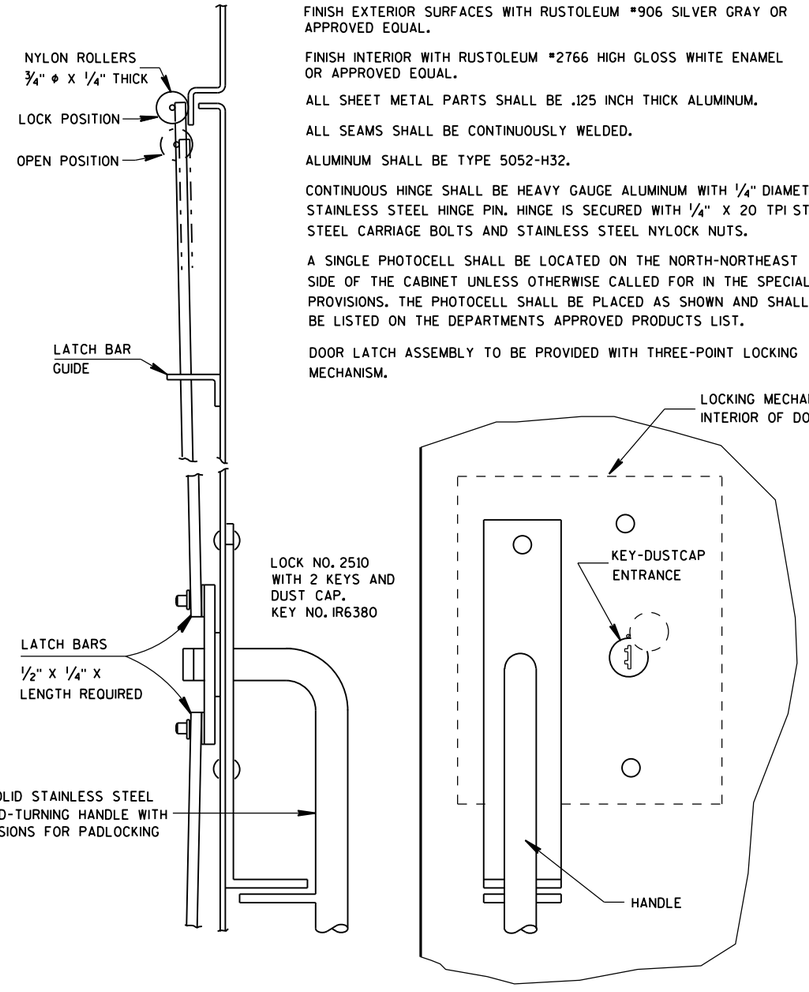
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

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.

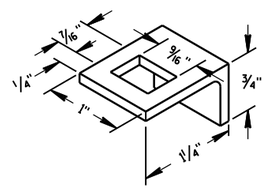
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



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

6
S.D.D. 9 D 2-3

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.

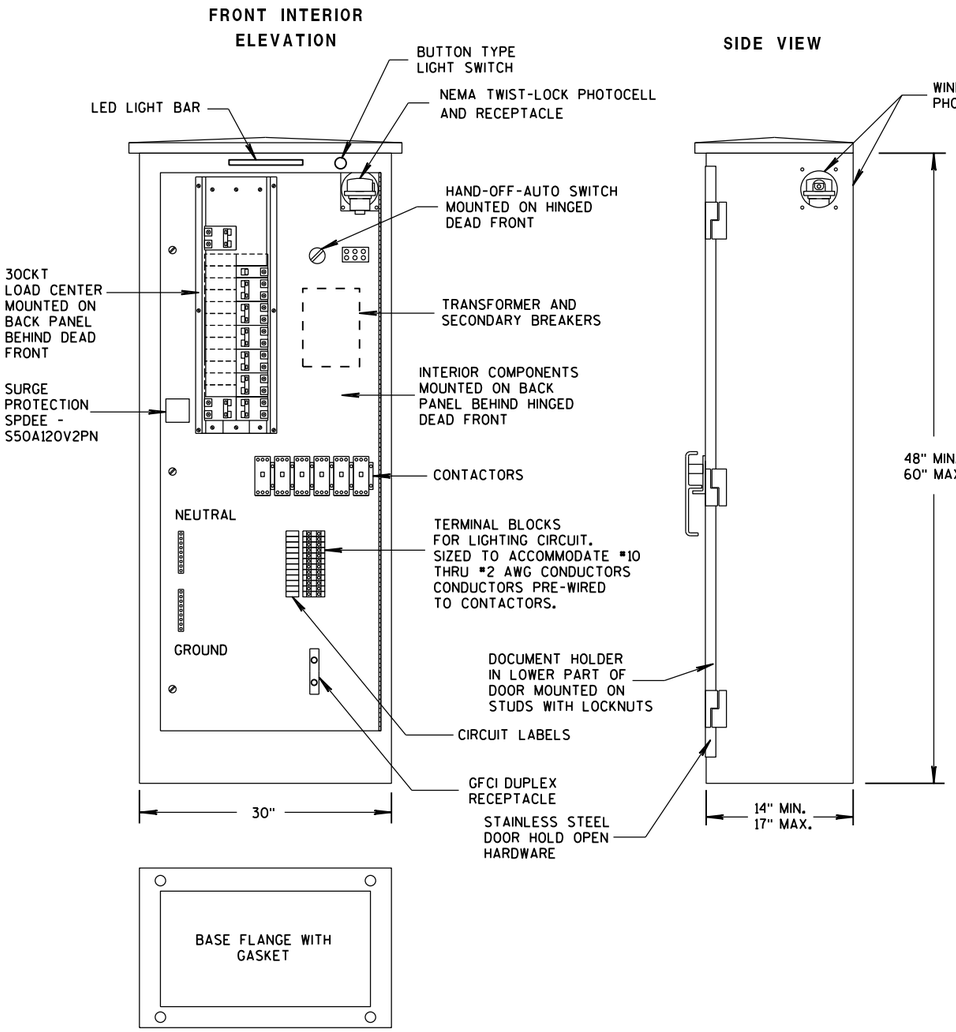
ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

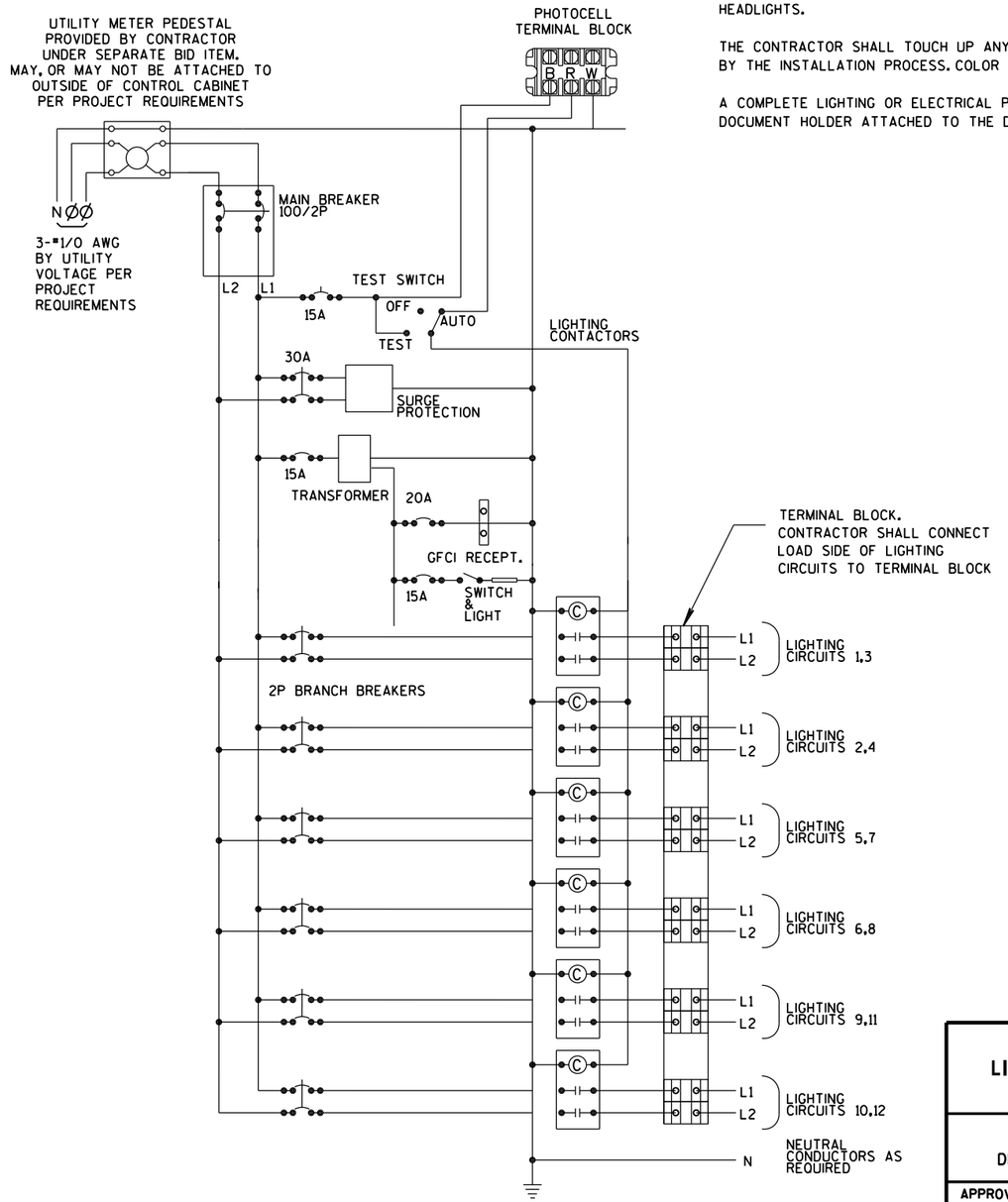
ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.



LIGHTING CONTROL CABINET



CONTROL CABINET SCHEMATIC

L30
LIGHTING CONTROL CABINET 240/480 VOLT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

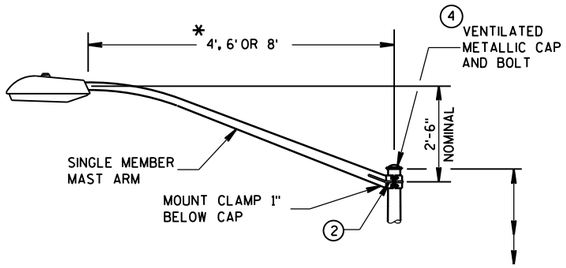
/S/ Thomas Gonring — STATE LIGHTING ENGINEER

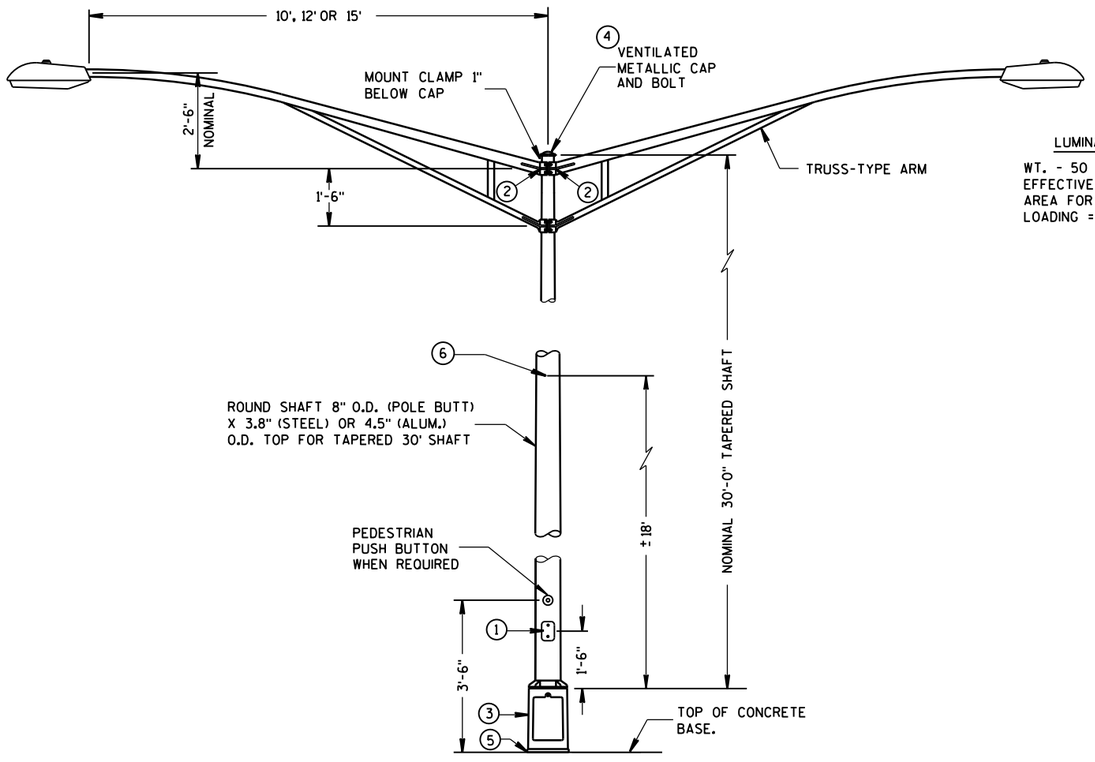
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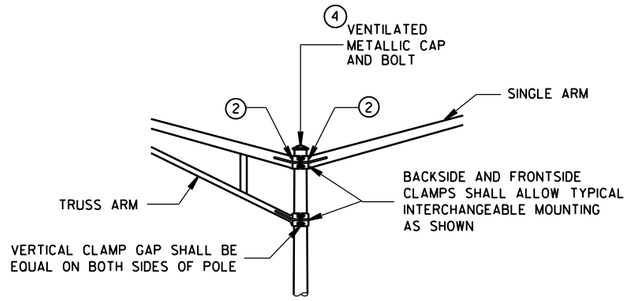
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S.D.D. 9 D 5-1

*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.

6

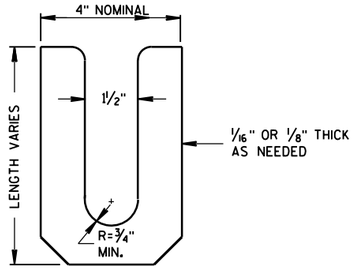
S.D.D. 9 E 1-14d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

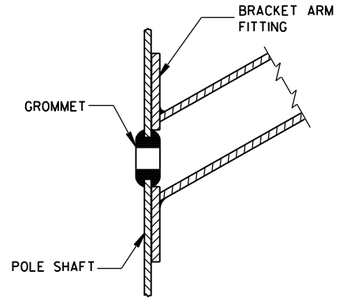
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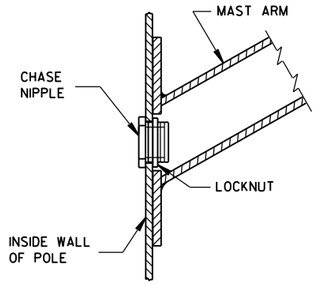


LEVELING SHIM (13)

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.

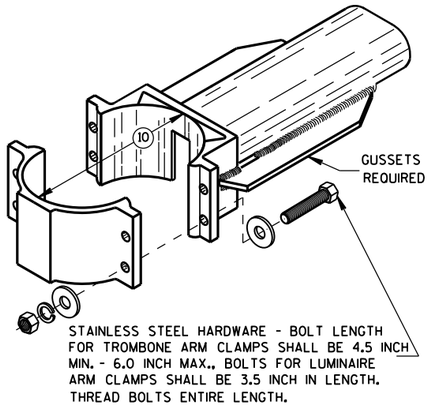
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

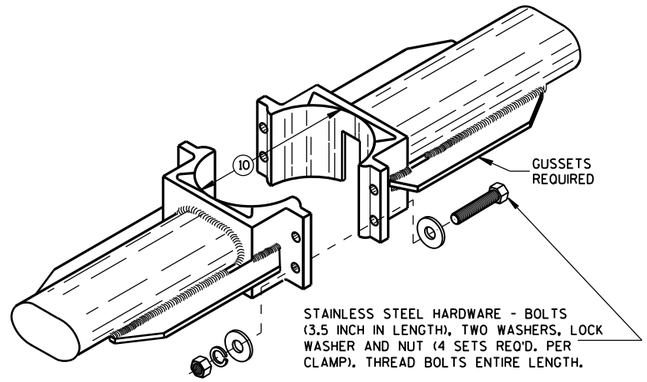
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) 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.

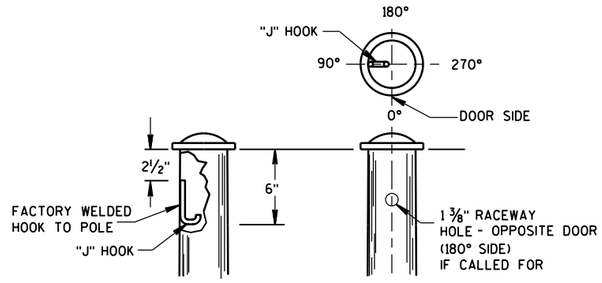
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



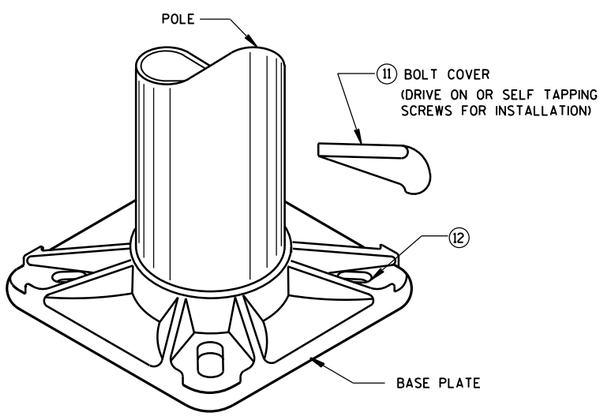
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



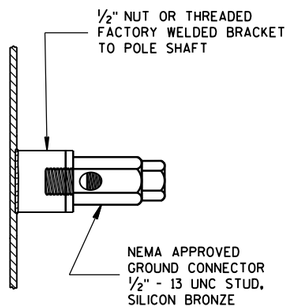
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

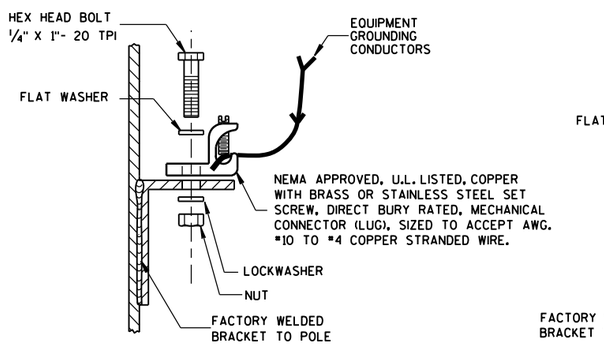


TYPICAL "J" HOOK LOCATION



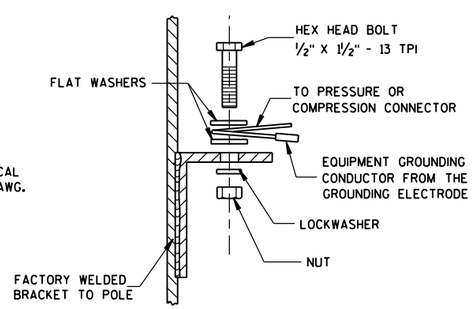
BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

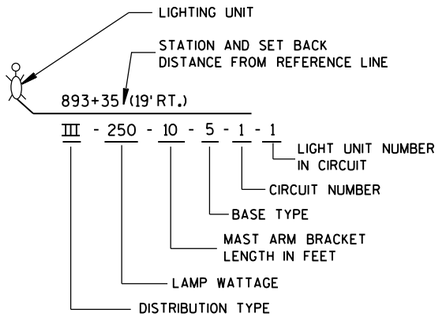
APPROVED
Feb. 2015
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

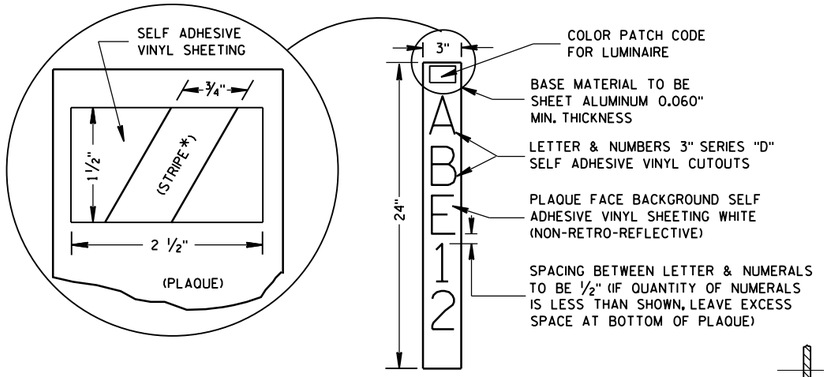
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S.D.D. 9 E 1-14g



LIGHTING UNIT CODE
(TYPICAL)



COLOR PATCH CODE FOR LUMINAIRES

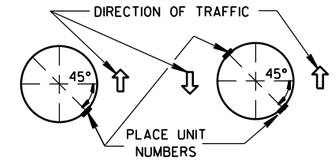
(HIGH PRESSURE SODIUM)

1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE W/WHITE STRIPE*
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN

(MERCURY VAPOR)

400 WATT - (NO PATCH)
250 WATT - YELLOW

IDENTIFICATION PLAQUE



NOTES:

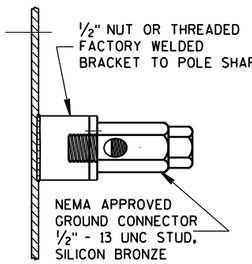
1) PLACE BOTTOM OF UNIT NUMBER PLAQUE 5'-0" ABOVE ELEVATION OF ADJACENT CURB OR SHOULDER.

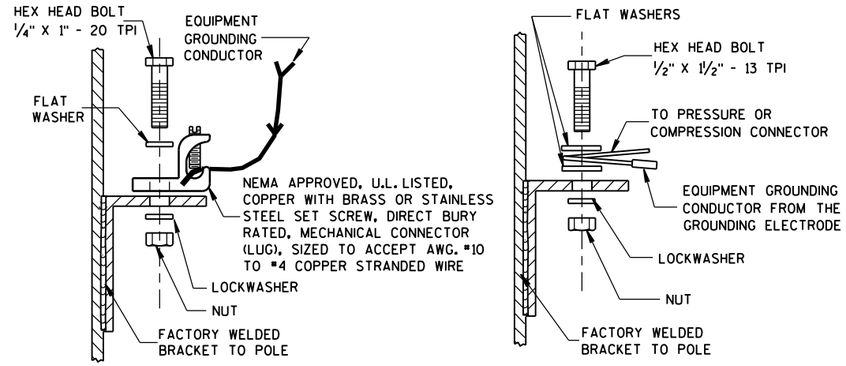
2) UNIT NUMBERS: ONE REQUIRED FOR SINGLE ARM POLES TWO REQUIRED FOR MEDIAN MOUNT POLES.

LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT

(TYPICAL ALL LIGHTING UNITS)

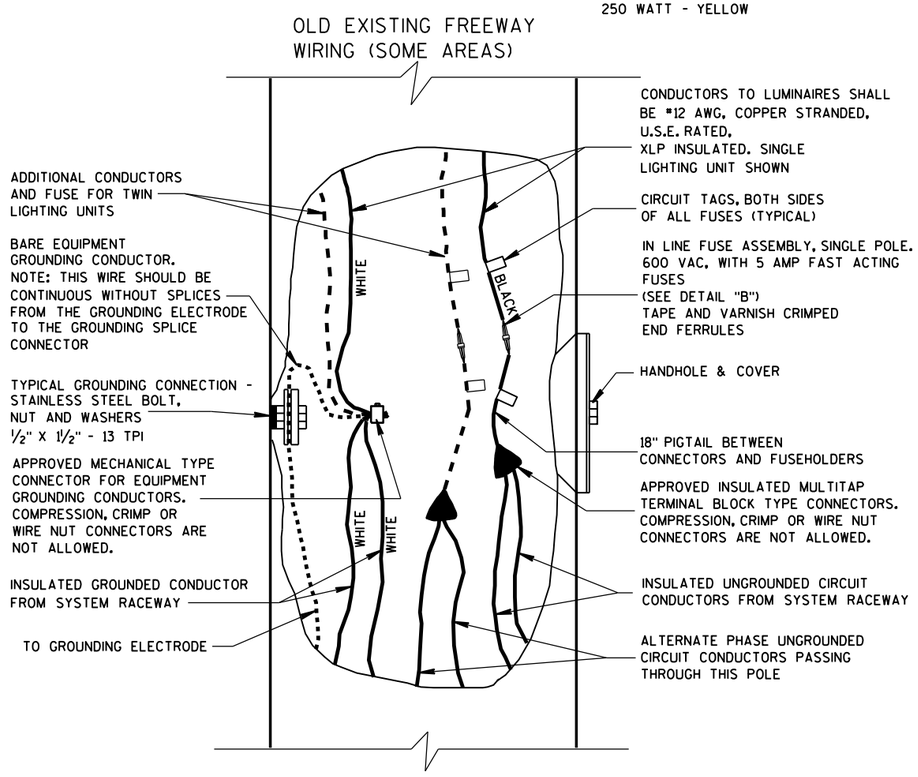
FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS



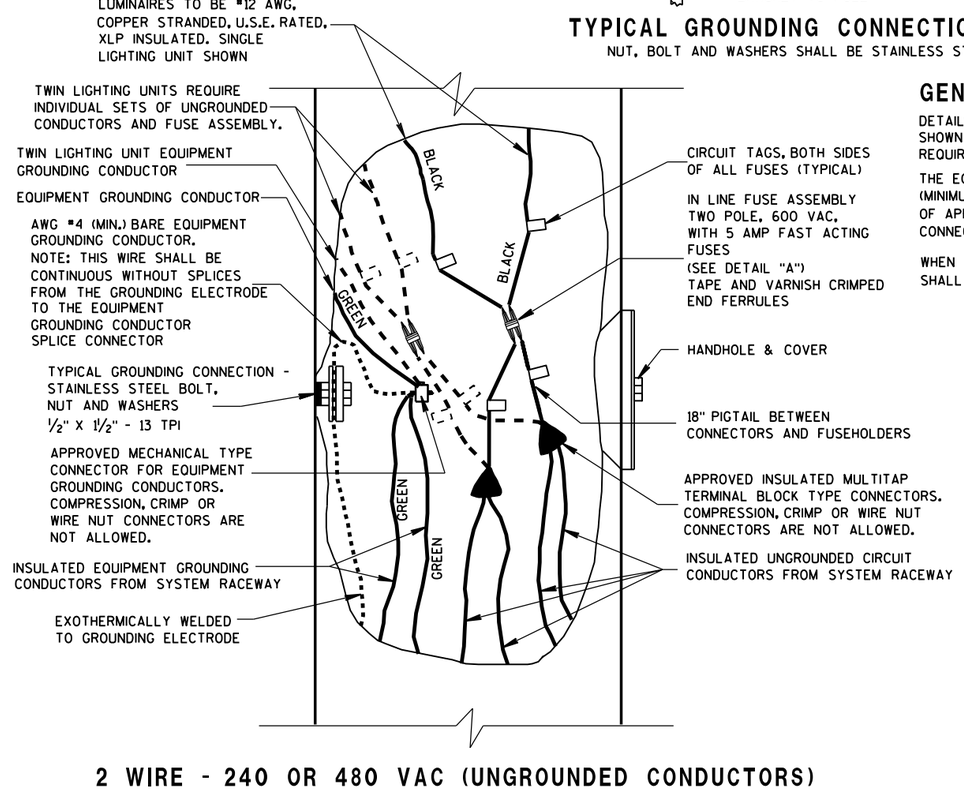


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



2 WIRE - 120, 240 OR 480 VAC TO GROUND



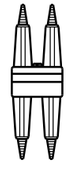
2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

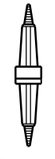
THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



DETAIL "A"

BREAKAWAY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



DETAIL "B"

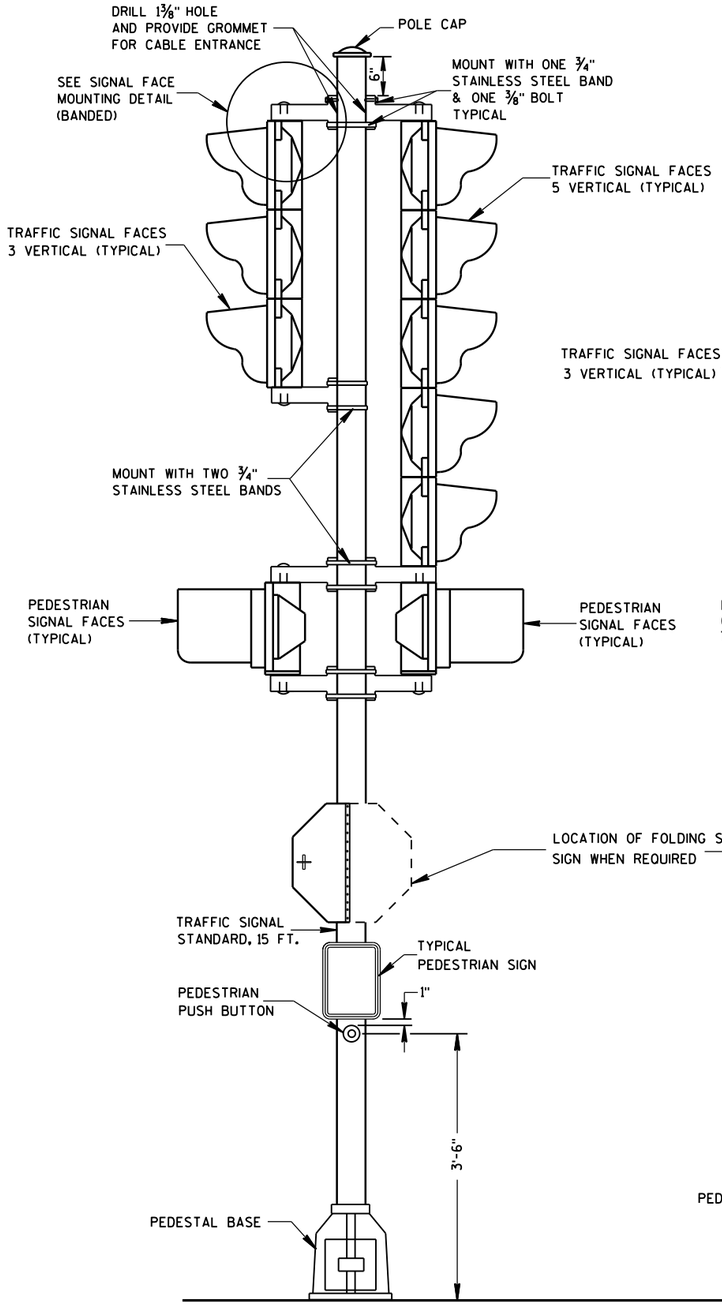
BREAKAWAY SINGLE POLE WITH WATERPROOF INSULATING BOOT

FREEWAY LIGHTING UNIT POLE WIRING

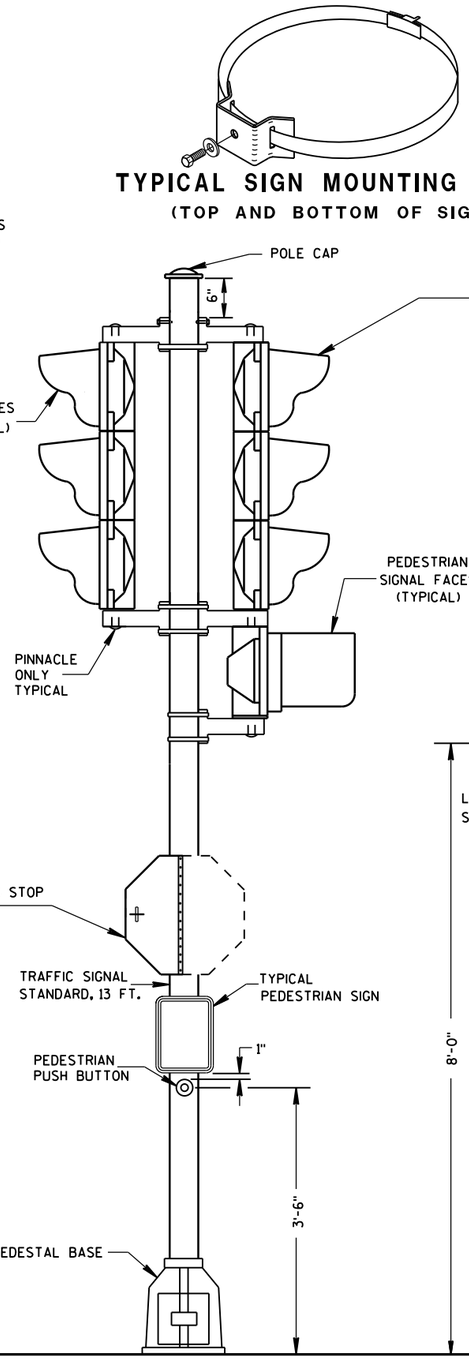
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 E 2-4

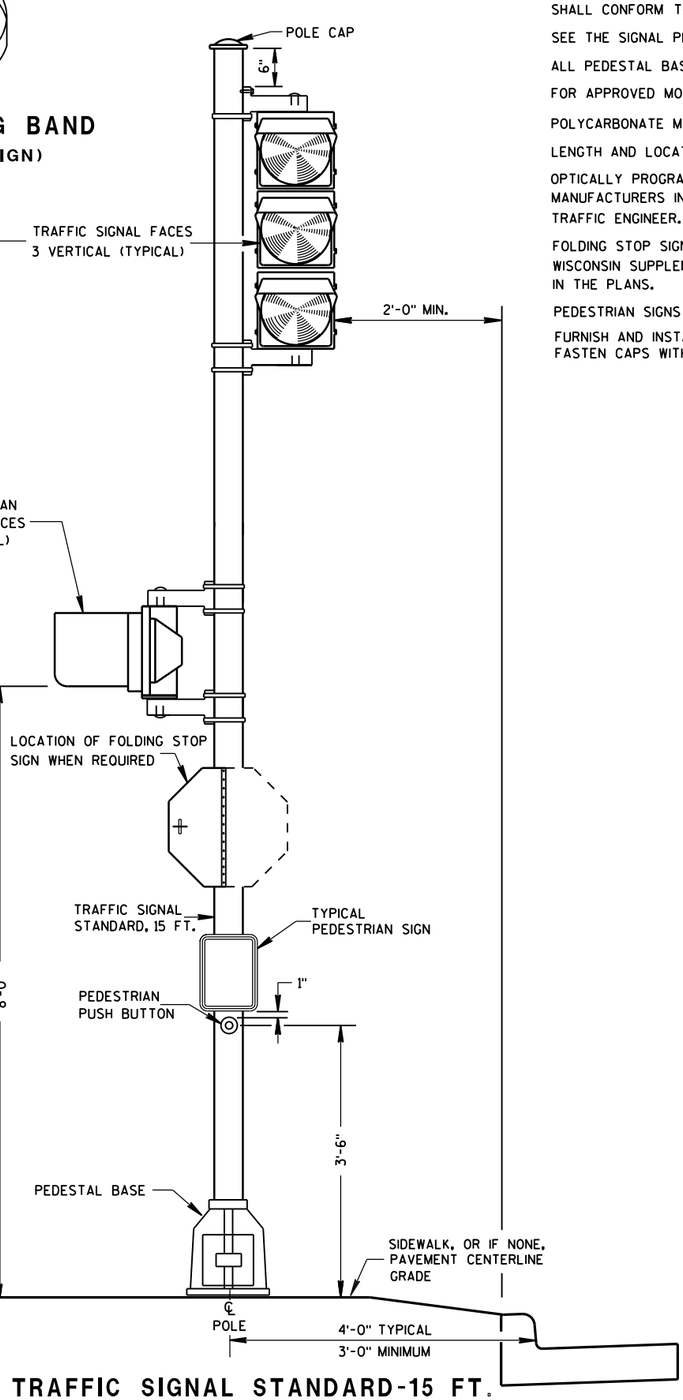


TRAFFIC SIGNAL STANDARD-15 FT.



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.

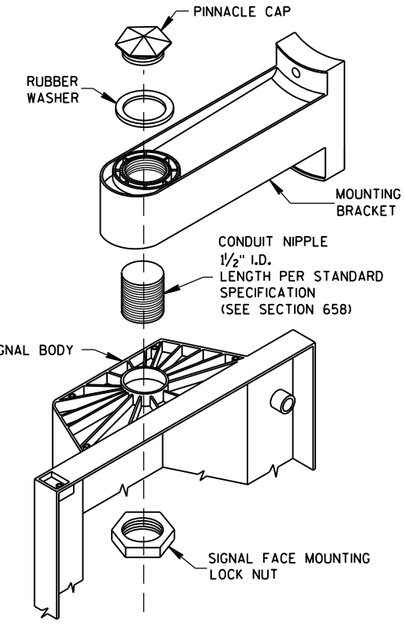
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

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)

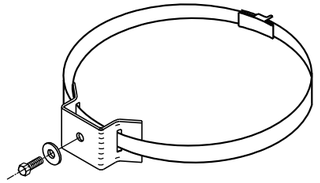
TRAFFIC SIGNAL STANDARD
POLY BRACKET MOUNTINGS
(TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

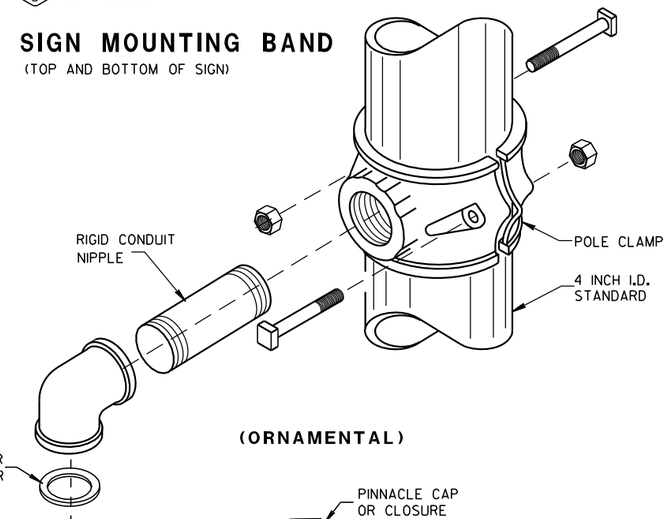
APPROVED
2/28/2013 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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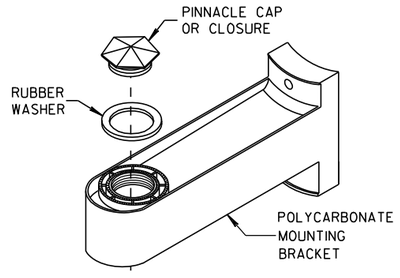
S.D.D. 9 E 6-5



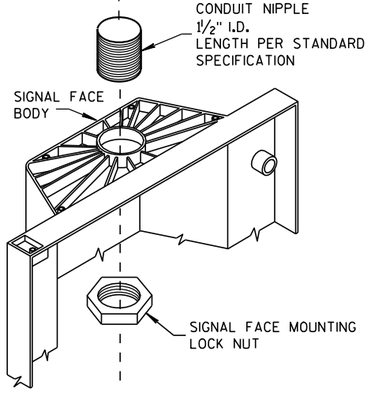
TYPICAL SIGN MOUNTING BAND
(TOP AND BOTTOM OF SIGN)



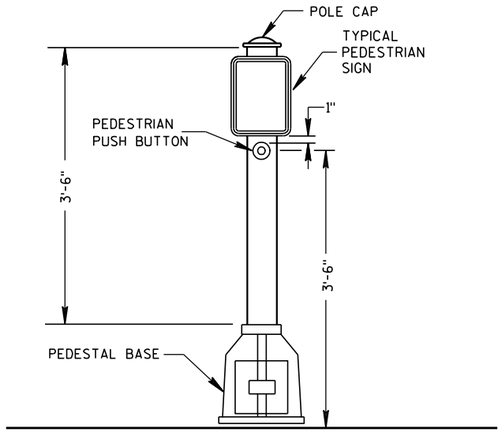
(ORNAMENTAL)



(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.

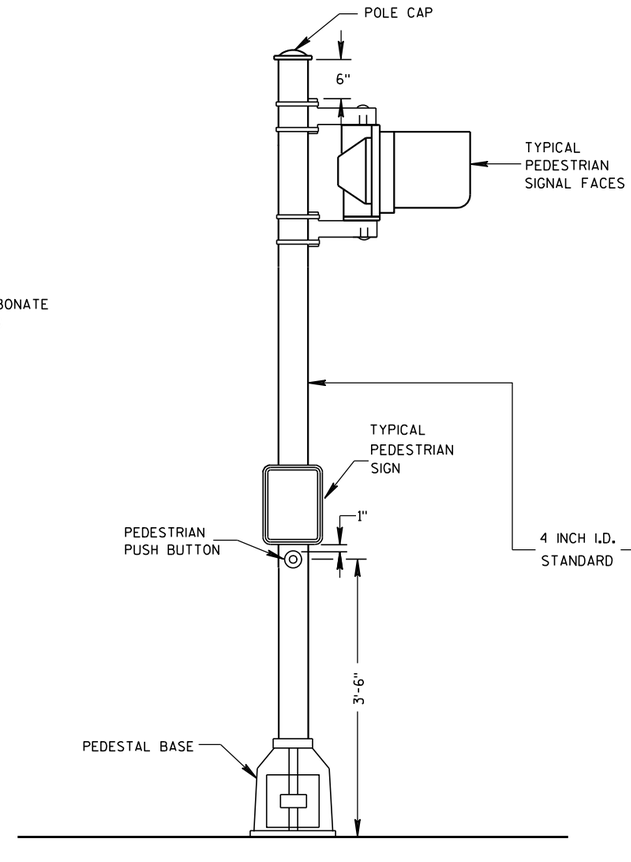
POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

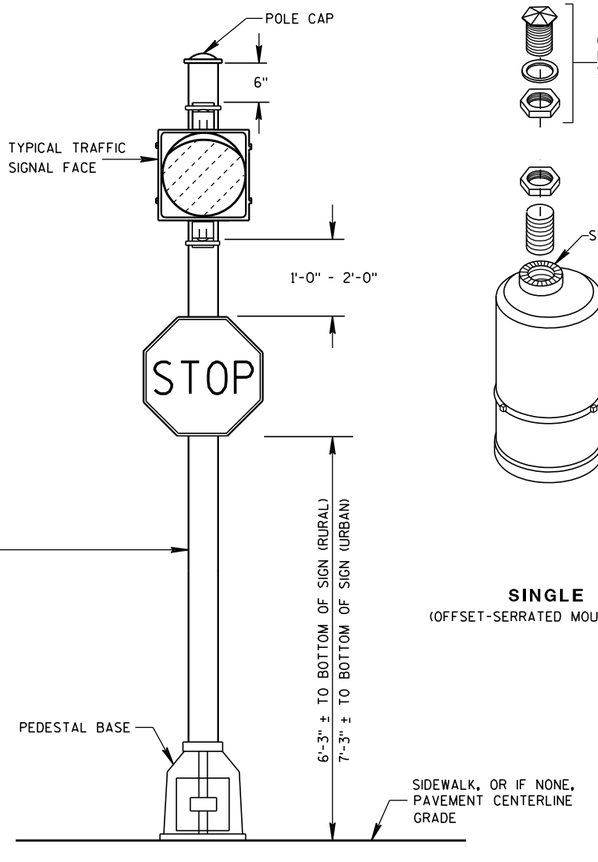
MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE DISTRICT TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

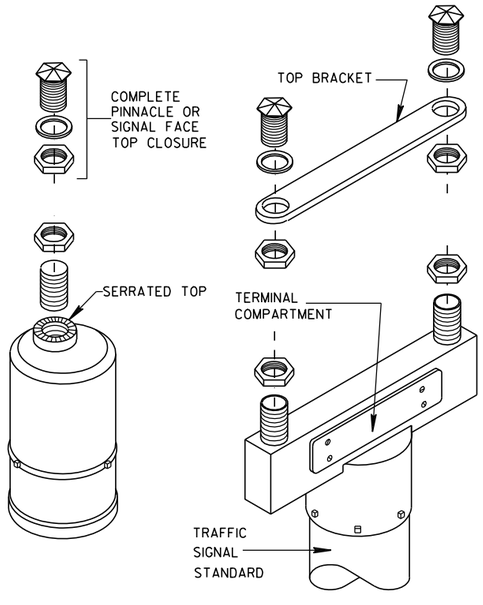
FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



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

APPROVED

5/11/10
DATE

/S/ John Corbin
STATE ELECTRICAL ENGI

HWYS

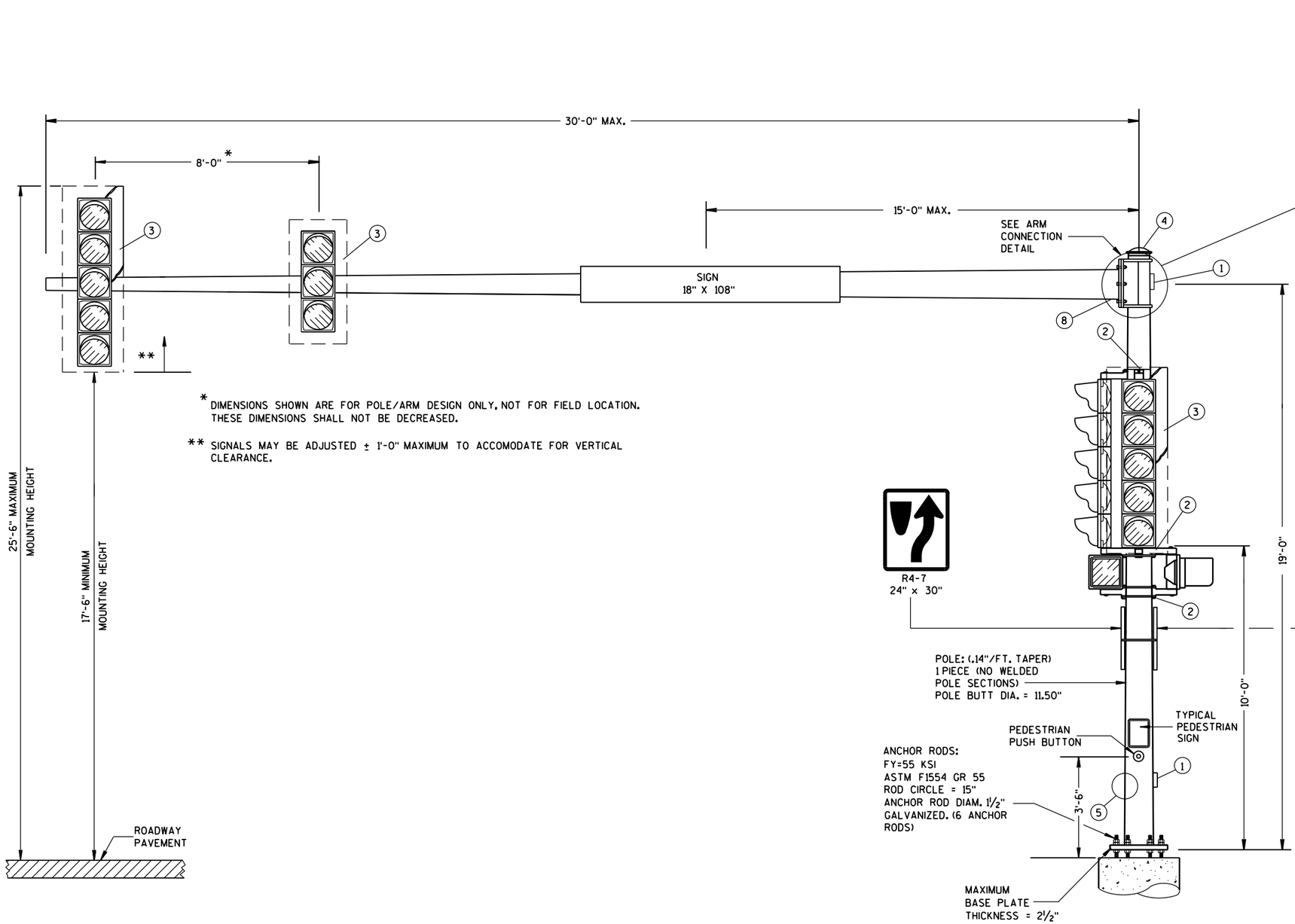
FHWA

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S.D.D. 9 E 7-5

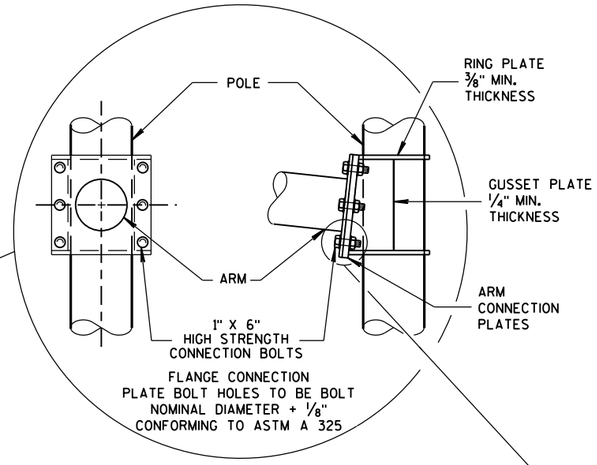
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S.D.D. 9 E 7-5

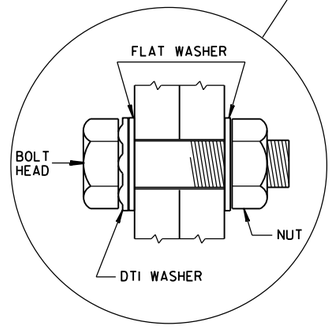


* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

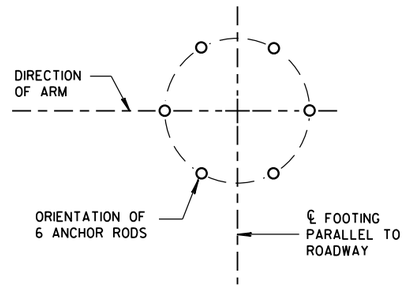
** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.



6 BOLT ARM CONNECTION DETAIL



RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

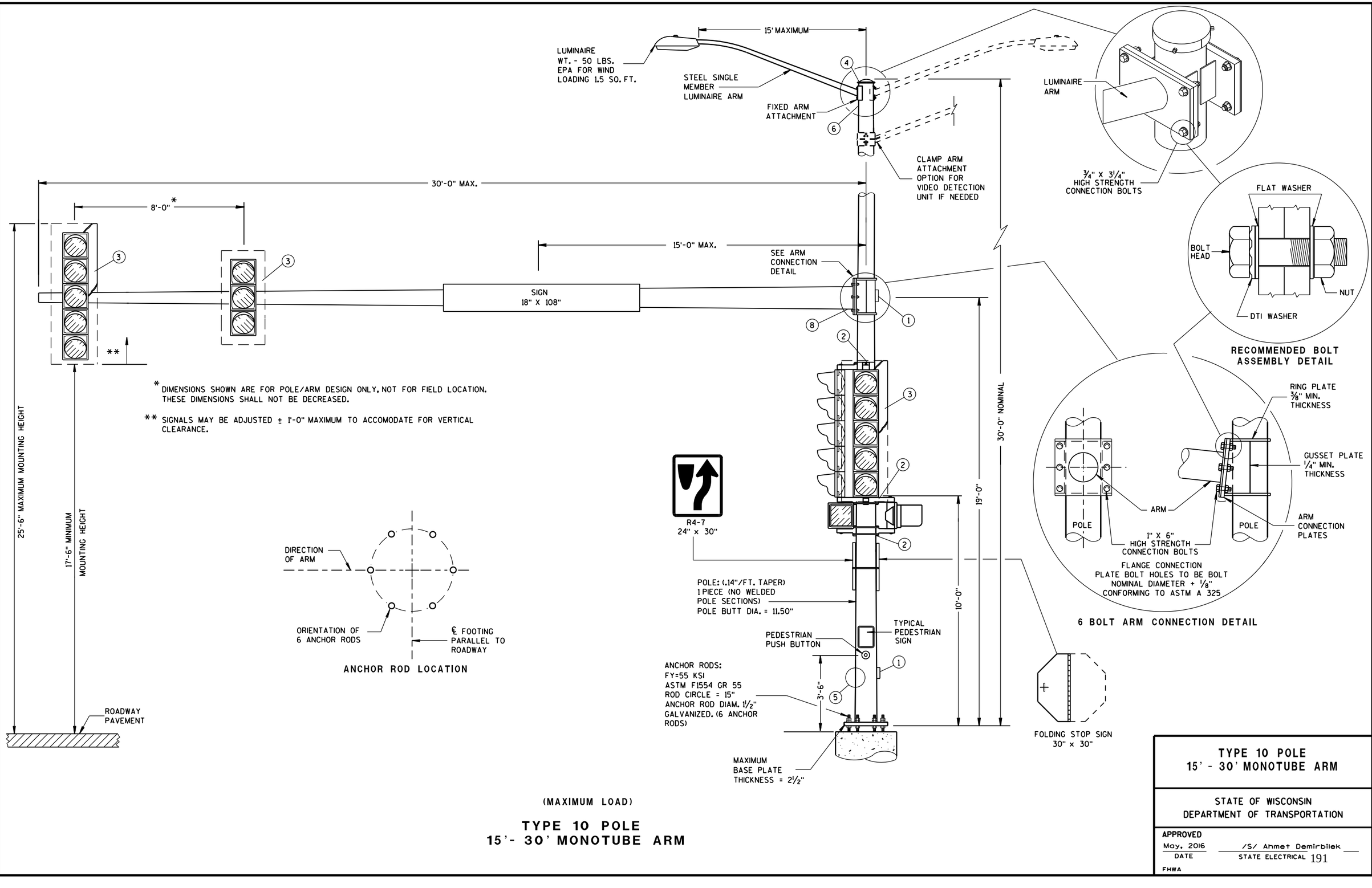
(MAXIMUM LOAD)

TYPE 9 POLE 15'- 30' MONOTUBE ARM

TYPE 9 POLE 15' - 30' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May, 2016 DATE FHWA	/S/ Ahmet Demirbilek STATE ELECTRICAL

6

S.D.D. 9 E 8-8a



* 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.

(MAXIMUM LOAD)

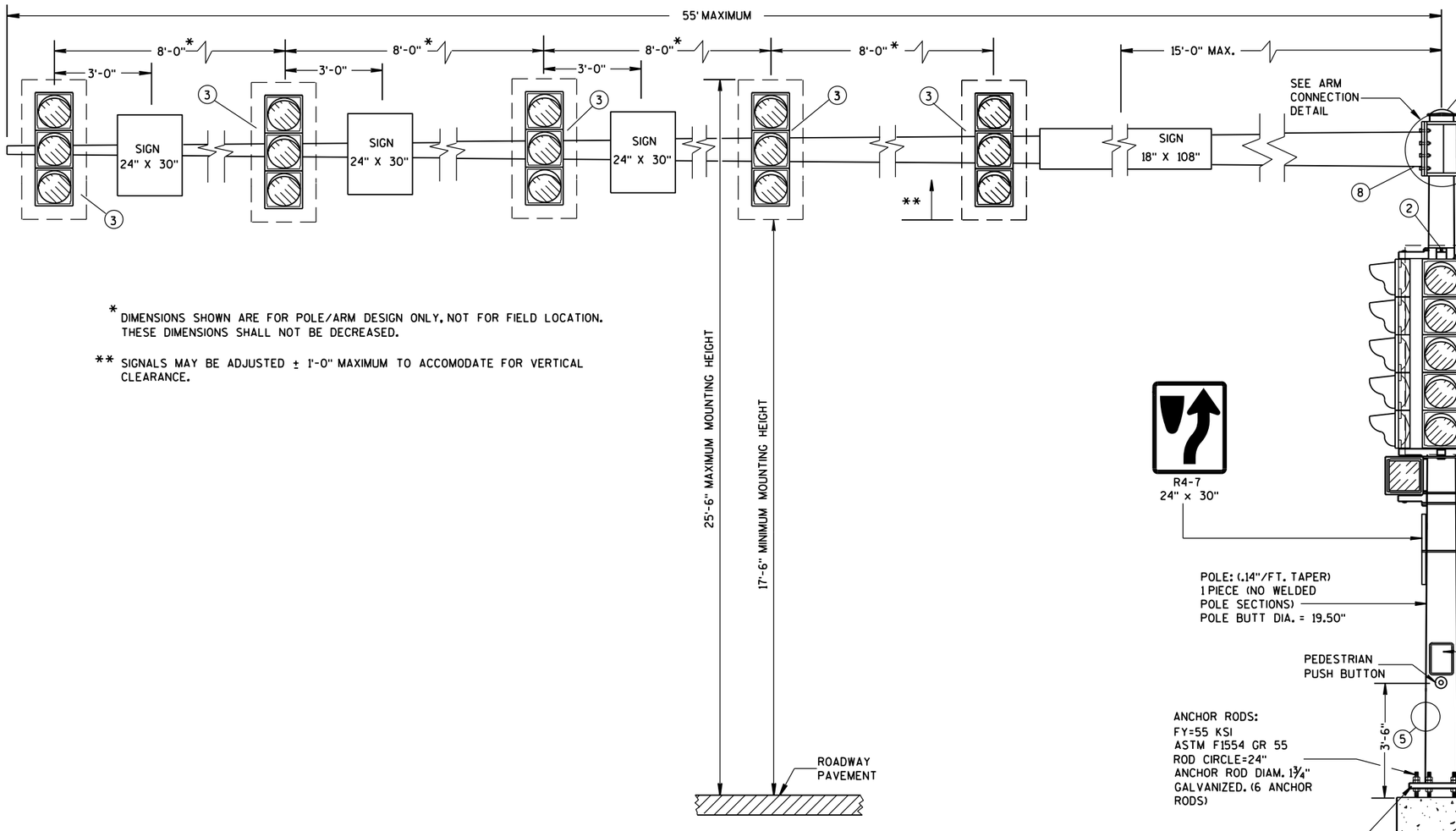
TYPE 10 POLE
15'- 30' MONOTUBE ARM

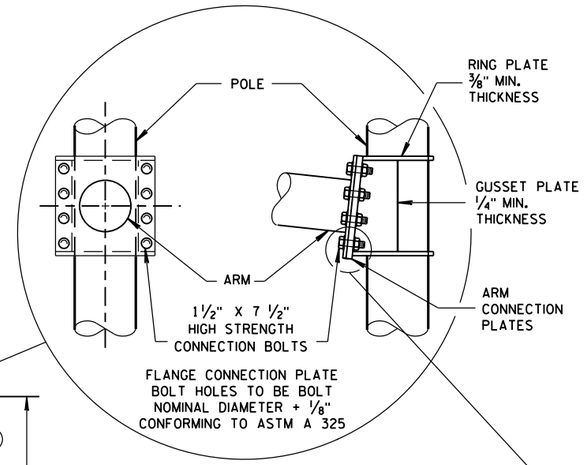
TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

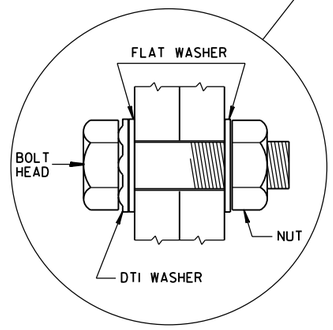
APPROVED
May, 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 E 8-8b

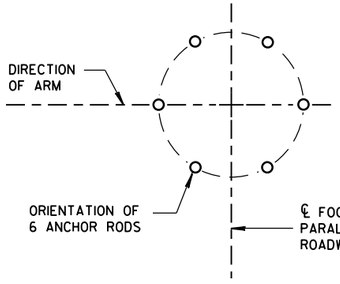




8 BOLT ARM CONNECTION DETAIL



RECOMMENDED
BOLT ASSEMBLY
DETAIL



ANCHOR ROD LOCATION

* 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.

(MAXIMUM LOAD)

TYPE 12 POLE 35'- 55' MONOTUBE ARM

TYPE 12 POLE
35' - 55' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May, 2015
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

6

S.D.D. 9 E 8-8c

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.

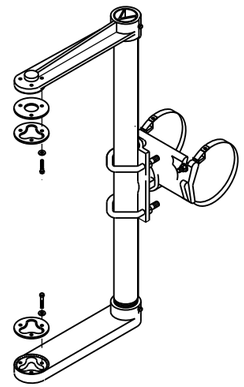
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

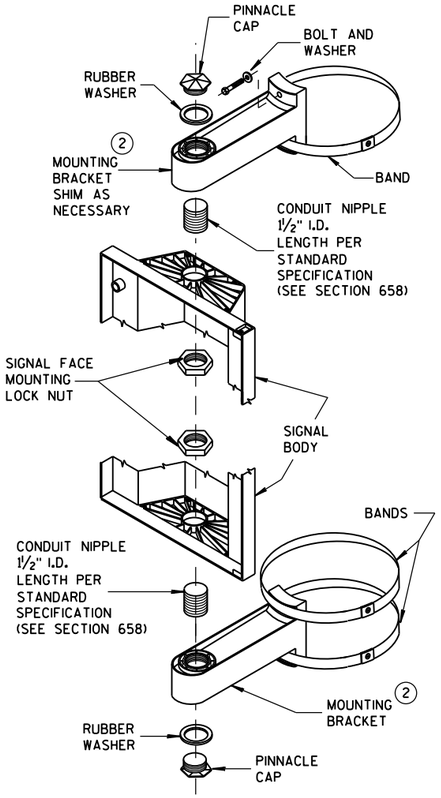
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

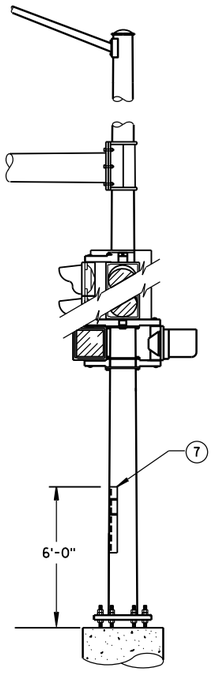


SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

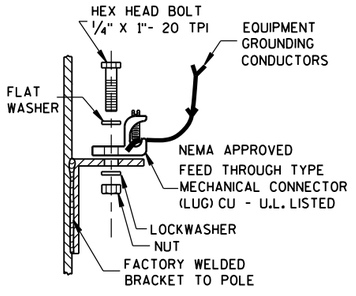
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE
VERTICAL MOUNTING DETAIL

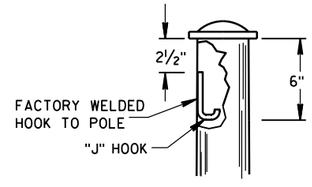


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



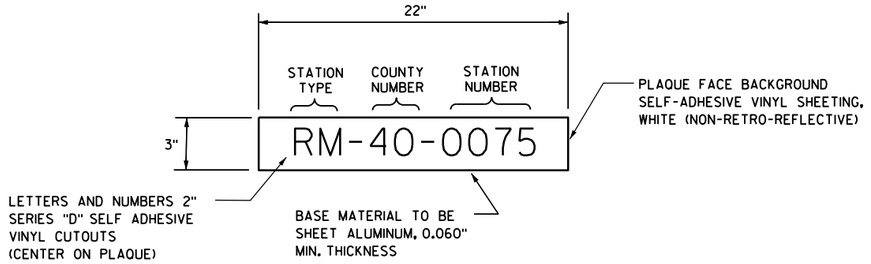
"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

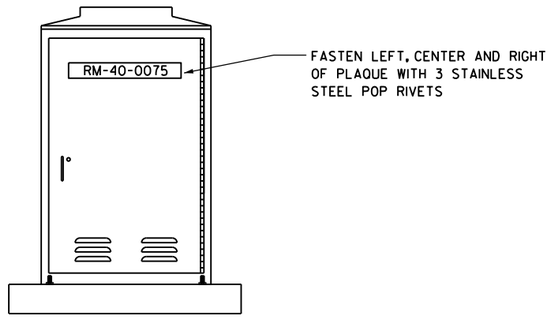
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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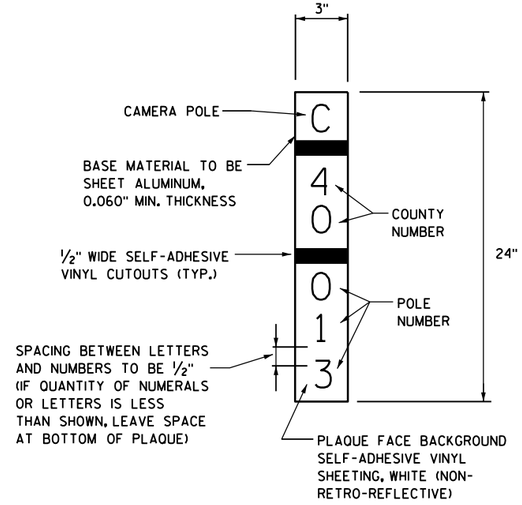


CONTROL CABINET IDENTIFICATION PLAQUE DETAIL

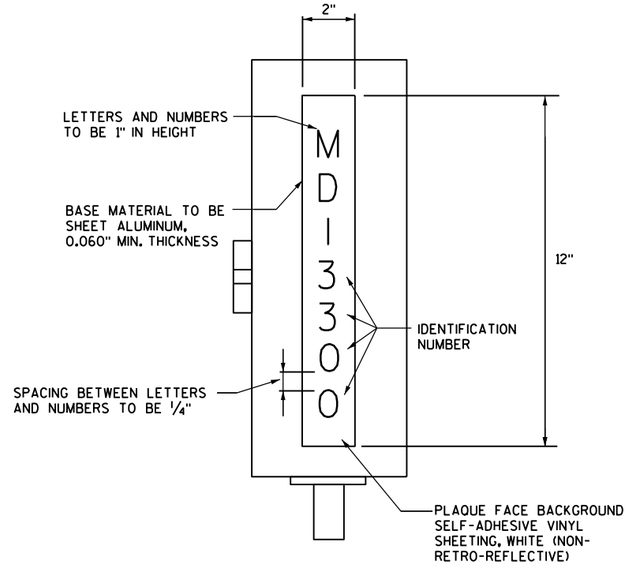


CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)



POLE IDENTIFICATION PLAQUE DETAIL



MICROWAVE DETECTOR FIELD CABINET IDENTIFICATION PLAQUE DETAIL

GENERAL NOTES

1. TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2. FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3. FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE (2), FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4. COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.

LEGEND STATION TYPE

RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

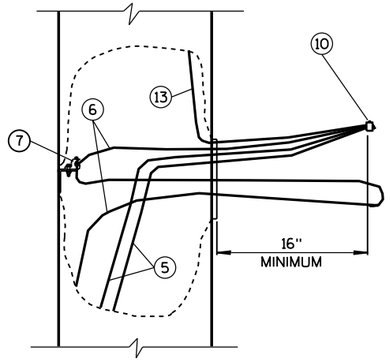
IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

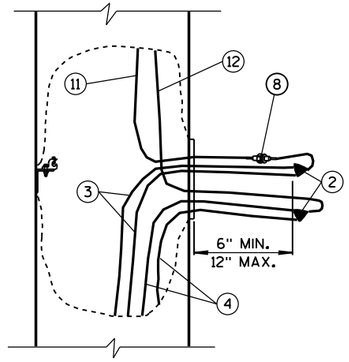
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demribilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 H 11-1

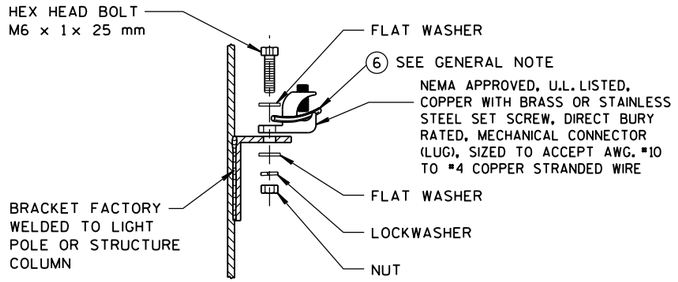


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



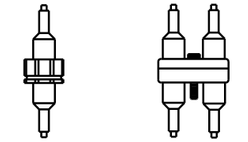
HANDHOLE GROUNDING LUG

(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.

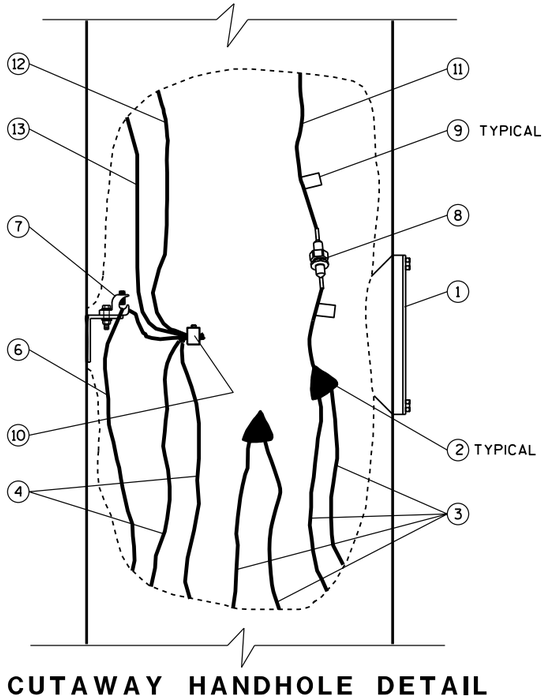
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

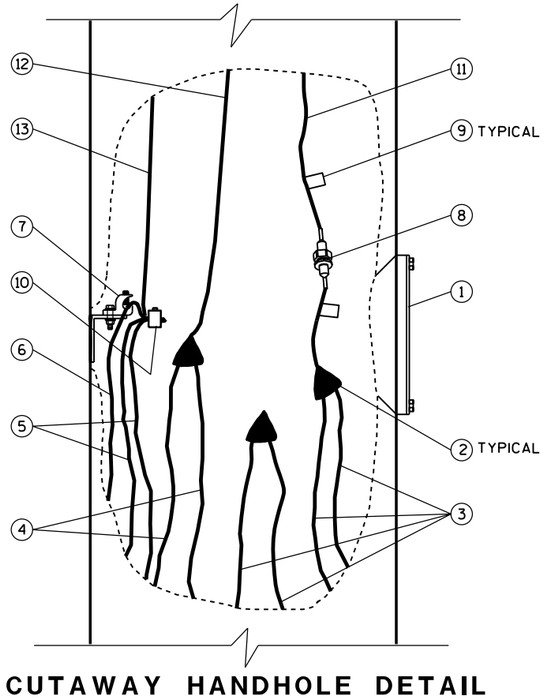
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

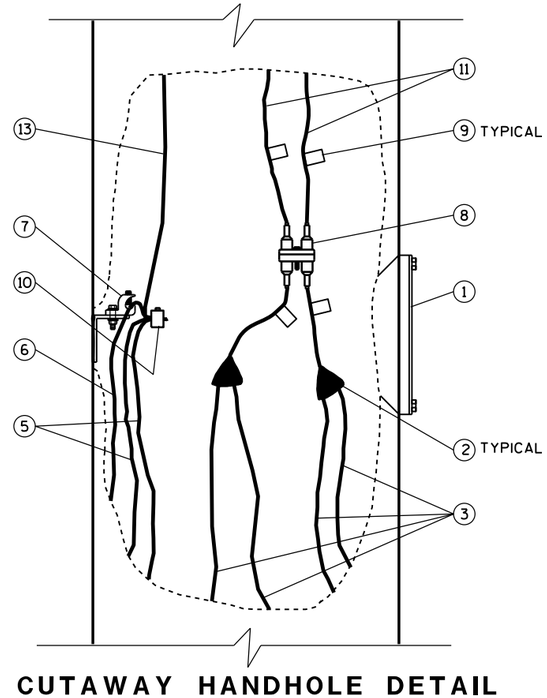
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



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.

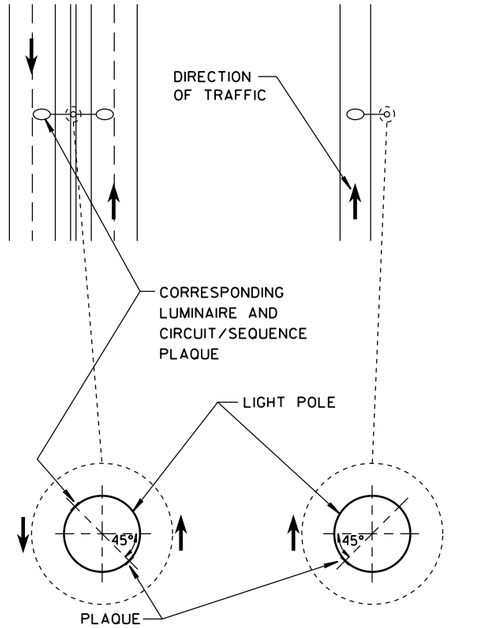
1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (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

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S.D.D. 10 A 1-3



MEDIAN POLE SINGLE ARM POLE

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

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.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 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-RETRORFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

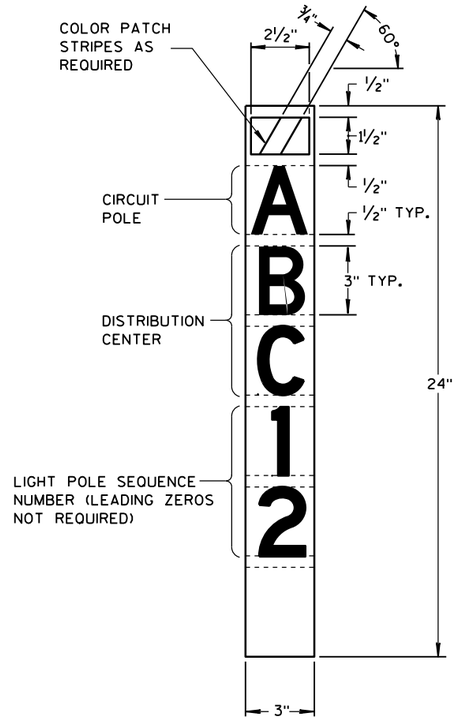
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS AND LED LUMINAIRES

HPS	LED	COLOR PATCH CODE
1000 WATT		NO PATCH
400 WATT	CATEGORY D	ORANGE
310 WATT		BLUE
250 WATT	CATEGORY C	ORANGE WITH WHITE STRIPE
200 WATT		RED
150 WATT	CATEGORY B	GREEN
100 WATT	CATEGORY A	BROWN
70 WATT	CATEGORY UDL	BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

6

S.D.D. 10 A 2-3

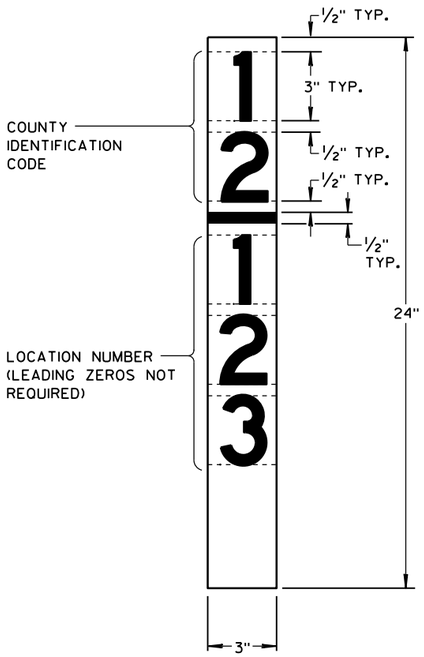
IDENTIFICATION PLAQUES
LIGHT POLES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

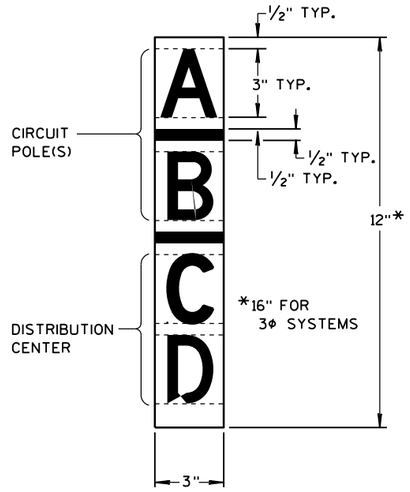
APPROVED
Feb. 2015 DATE
/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA

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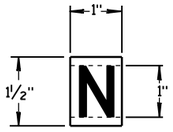
S.D.D. 10 A 2-3



HIGH MAST LIGHT TOWER STRUCTURE PLAQUE

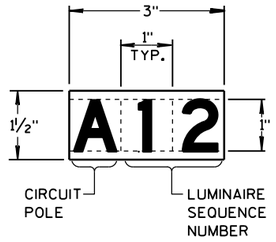


UNDERDECK LIGHTING OR HIGH MAST LIGHT TOWER CIRCUIT PLAQUE



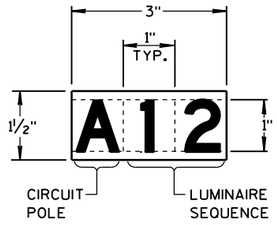
HIGH MAST LIGHT TOWER NORTH PLAQUE

(MOUNT ON LOWERING RING - INDICATING NORTH HEADING ^{2} ± 10^{o3} WHEN RING IS RAISED AND LATCHED)



HIGH MAST LIGHT TOWER LUMINAIRE SEQUENCE PLAQUE

(MOUNT ON LUMINAIRE RING)



UNDER DECK LUMINAIRE SEQUENCE DECAL

(MOUNT ON LUMINAIRE)

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.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

CONCRETE SURFACE - MASONRY ANCHORS

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

PLAQUE MATERIALS:

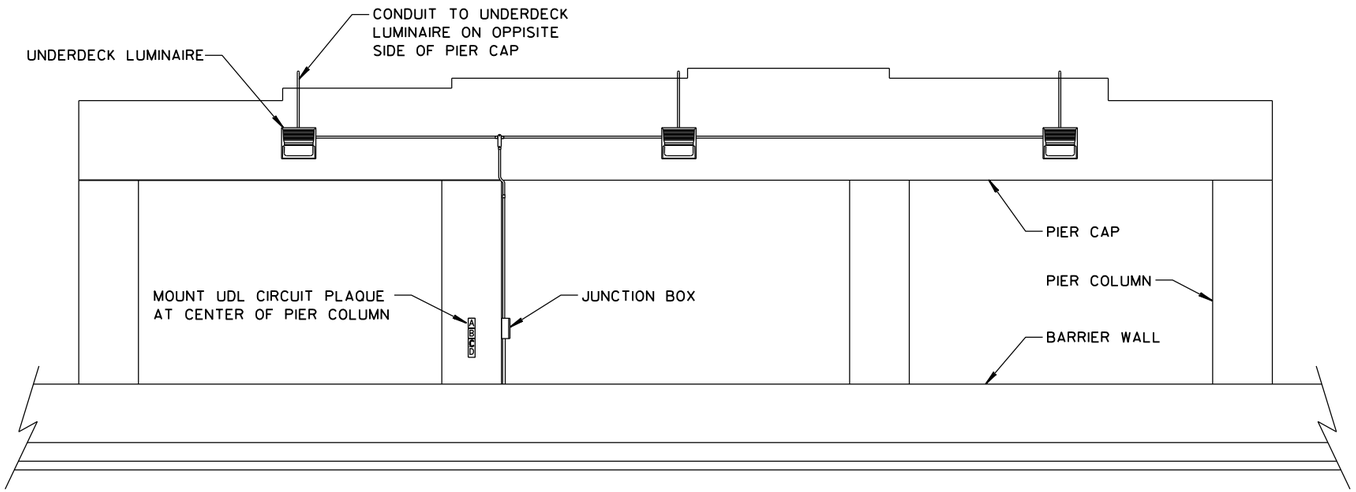
BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

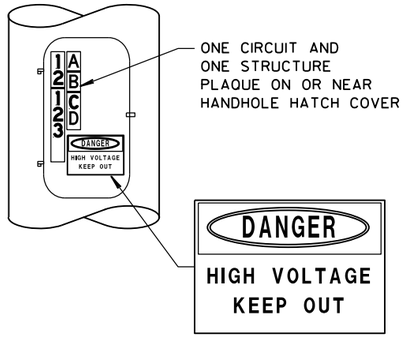
LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.



LOCATION OF UNDERDECK LIGHTING CIRCUIT PLAQUE



NOTE: NEMA PLAQUE SHOWN ABOVE IS REQUIRED ONLY IN PARK AND RIDE LOTS OR IN OTHER PEDESTRIAN ACCESSIBLE AREAS.

LOCATION OF HIGH MAST LIGHT TOWER STRUCTURE PLAQUE AND CIRCUIT PLAQUE

IDENTIFICATION PLAQUES UNDERDECK AND HIGH MAST LIGHTING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June, 2015 (DATE)	/S/ Ahmet Demriblek (STATE ELECTRICAL)
FHWA	

6

S.D.D. 10 A 4-3

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.

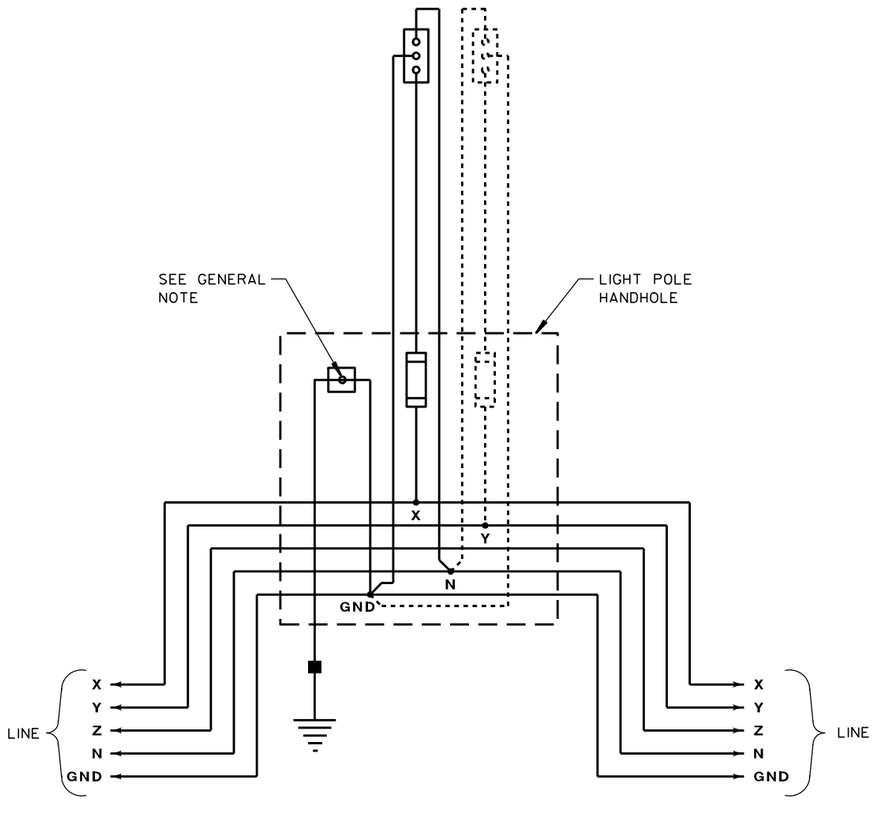
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

HANDHOLE FUSE SCHEDULES

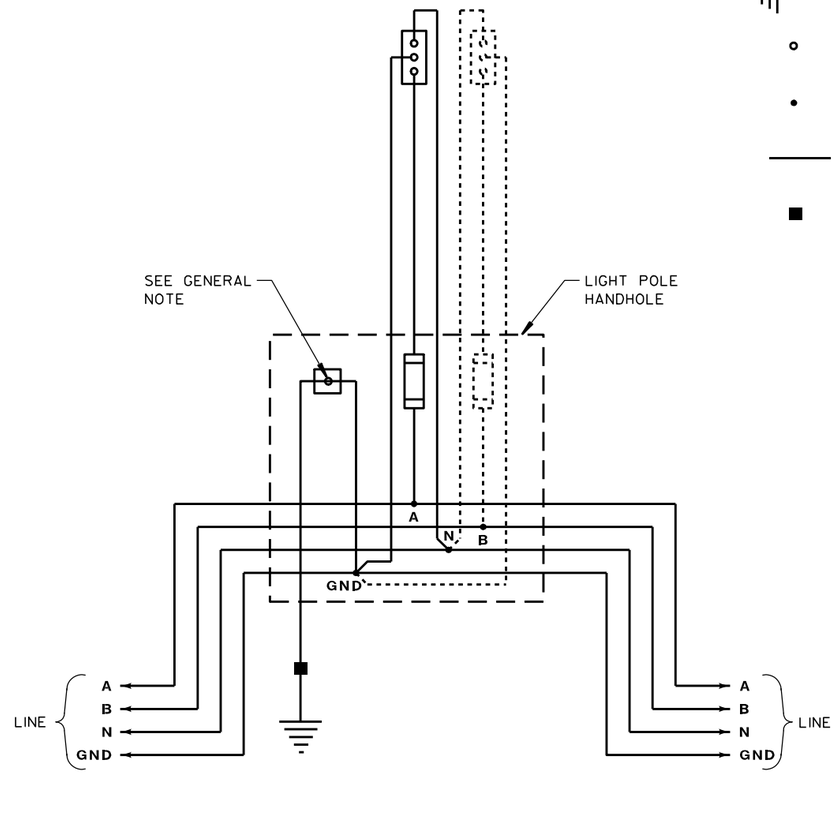
LINE VOLTAGE	BALLAST WATTAGE	
φ-GROUND	70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

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

HWYS

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S.D.D. 10 A 5-2

6

S.D.D. 10 A 5-2

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

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.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

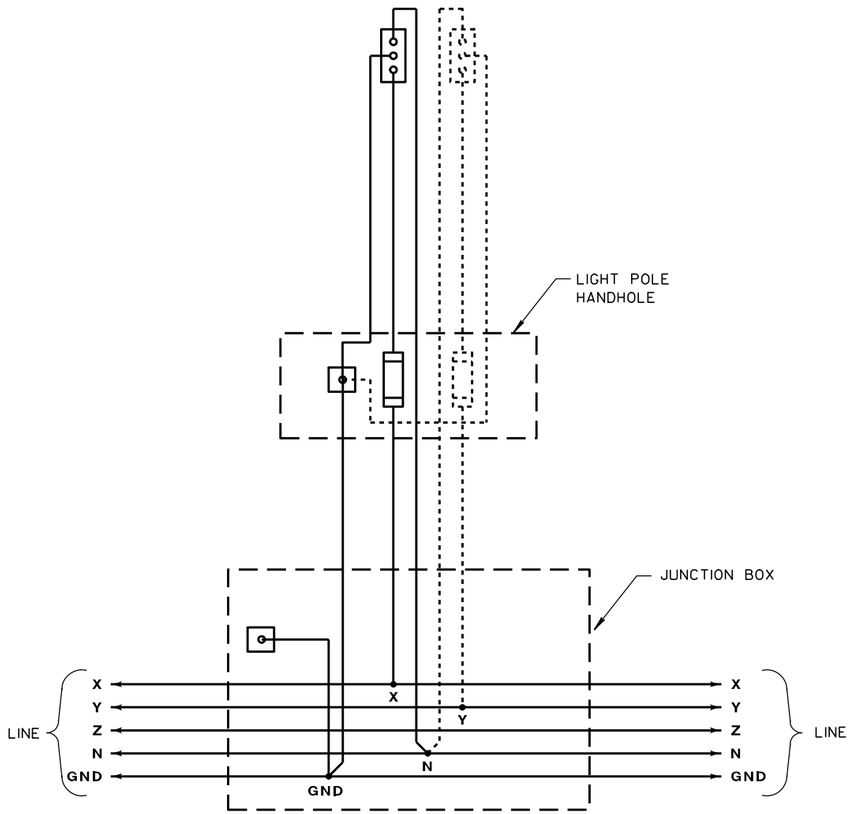
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

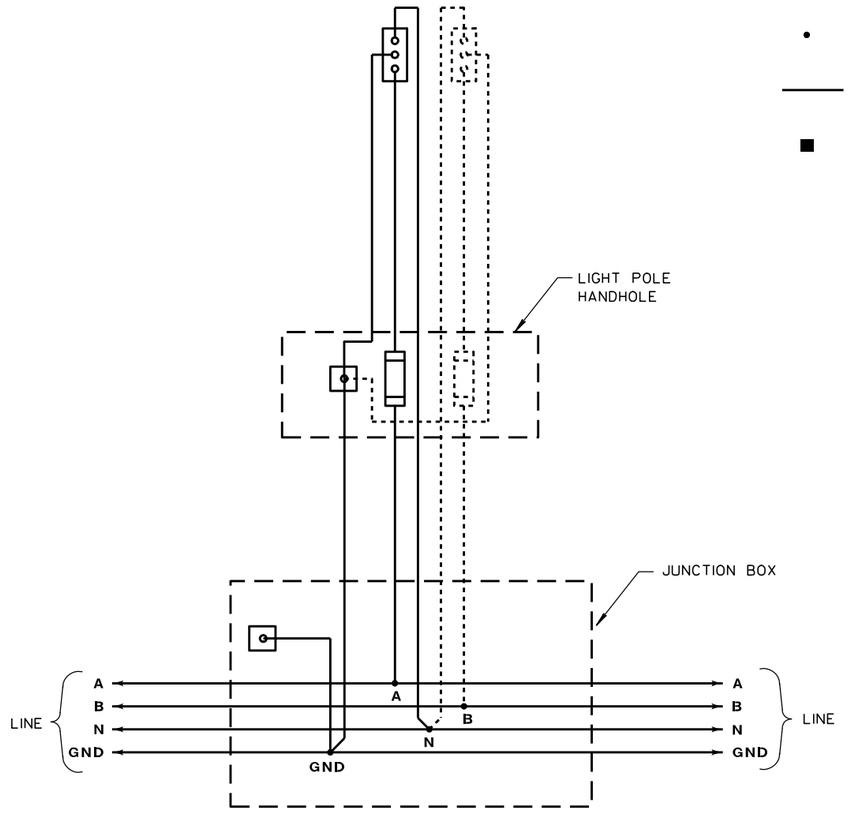
THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C., AND/OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALLER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM, PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

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
STRUCTURE MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI
HWYS
FHWA

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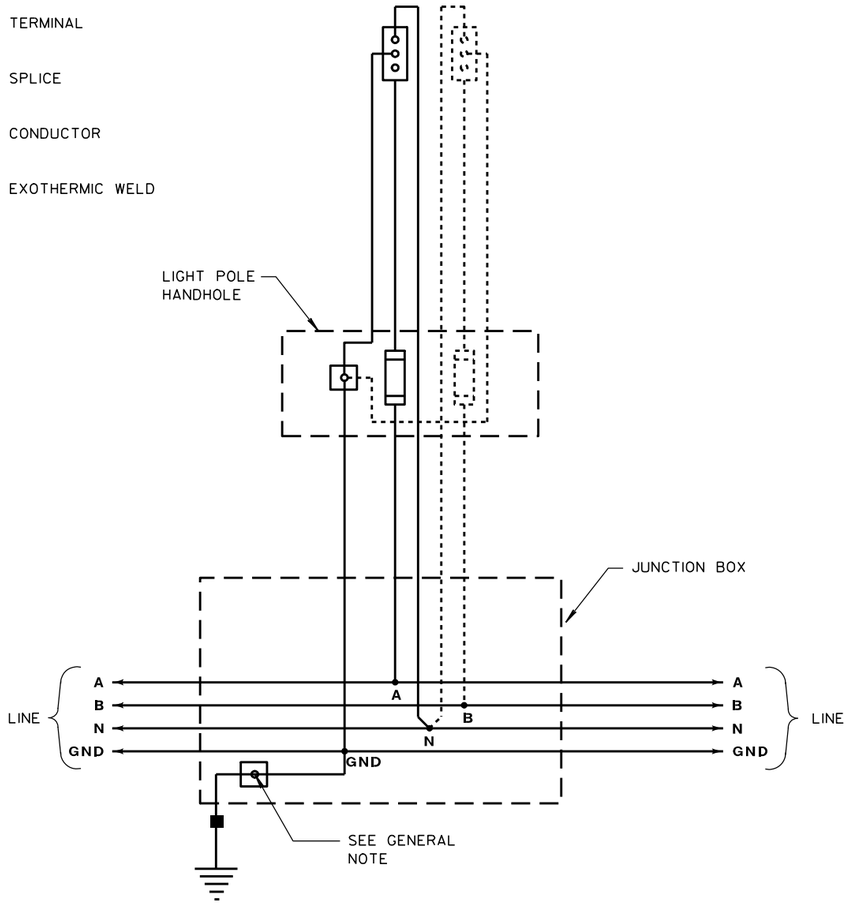
S.D.D. 10 A 8-2

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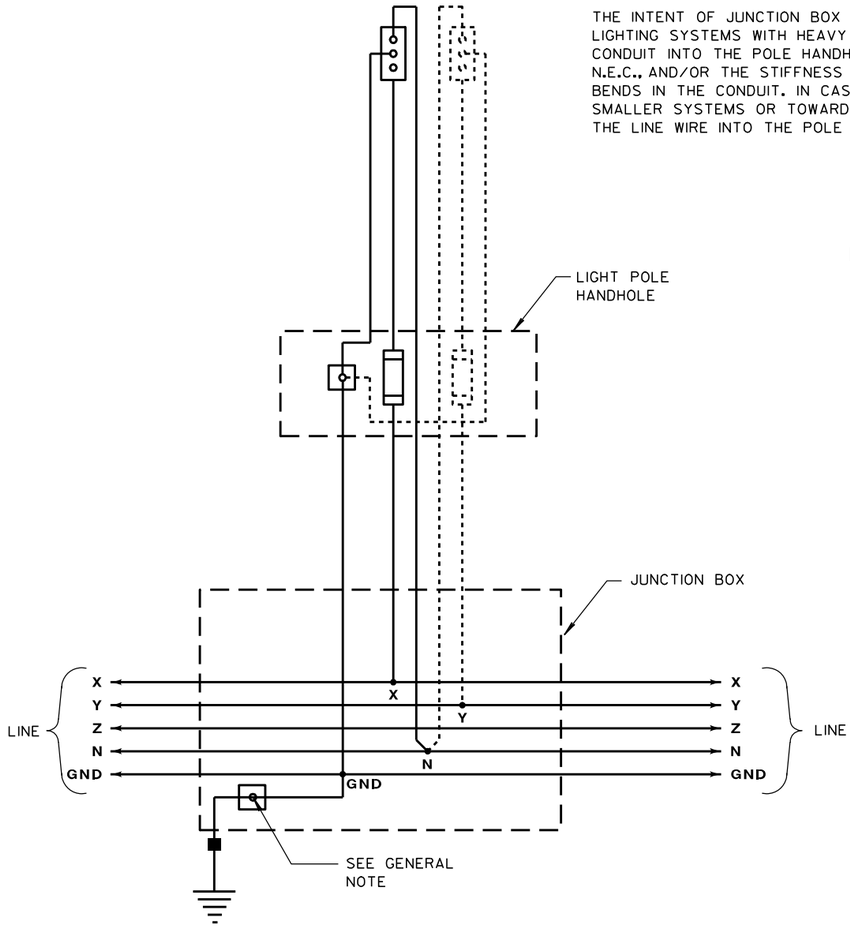
S.D.D. 10 A 8-2

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
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-ϕ 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-ϕ 480Y/277VAC 4 WIRE

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.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C., AND/OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALLER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM, PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

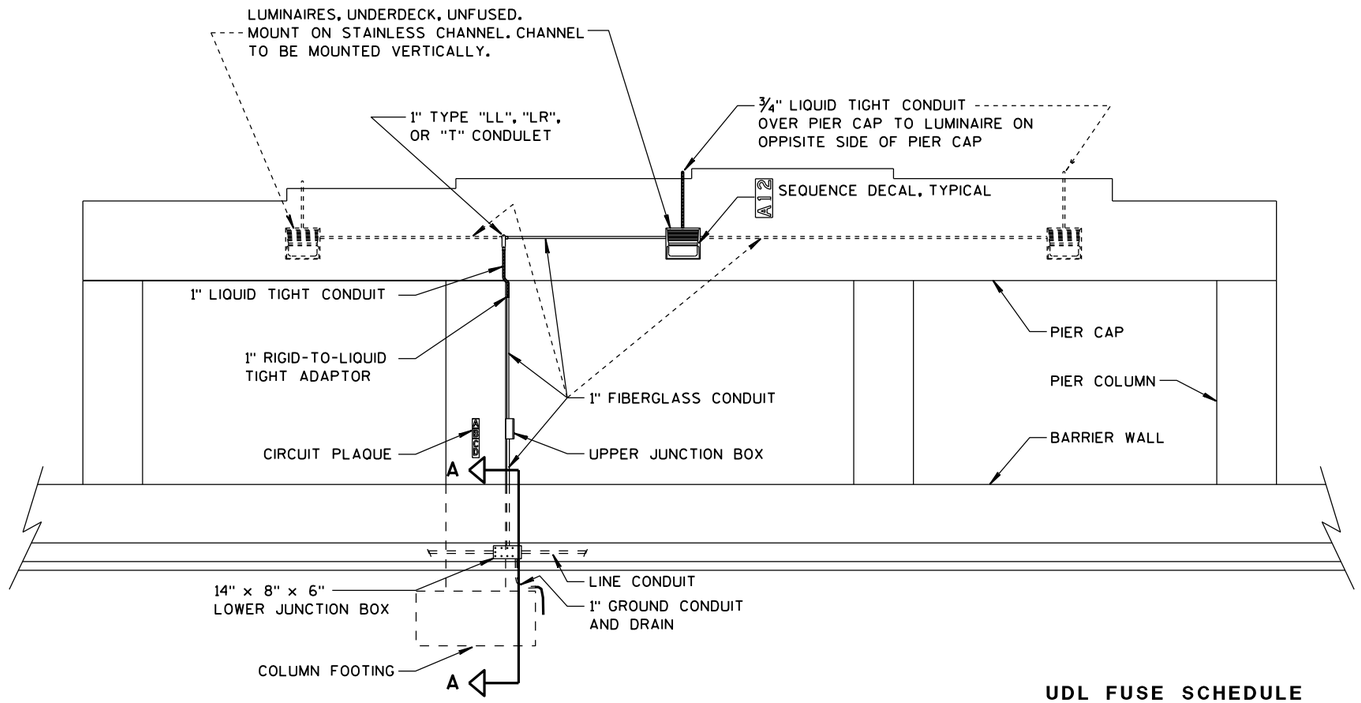
HANDHOLE FUSE SCHEDULES

LINE VOLTAGE ϕ-GROUND	BALLAST WATTAGE 150-200 W	BALLAST WATTAGE 250-400 W
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

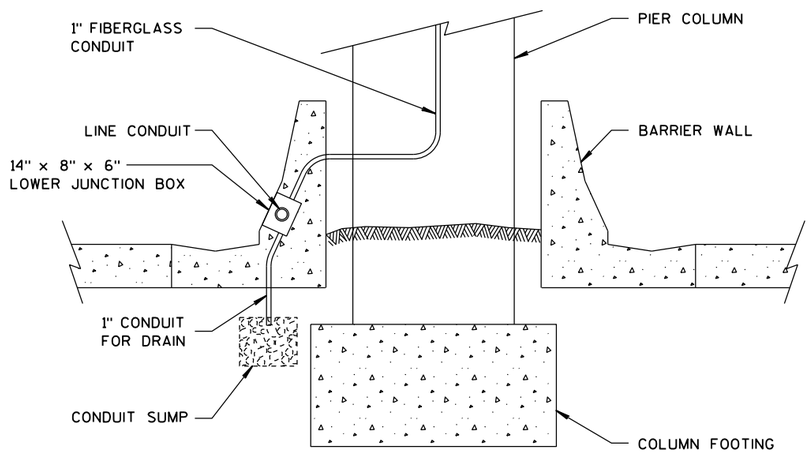
ELECTRICAL DETAILS
MEDIAN MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI 200 — HWYS
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TYPICAL UNDERDECK LIGHTING INSTALLATION



SECTION "A-A"

UDL FUSE SCHEDULE

LINE VOLTAGE ϕ-GROUND	TOP JUNCTION BOX FUSES
120VAC	5 A
208VAC	5 A
240VAC	5 A
480VAC	3 A

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, SUBSTITUTING THE LOWER JUNCTION BOX FOR THE HANDHOLE SHOWN IN THAT DETAIL.

THE PLANS WILL SHOW WHICH CIRCUIT LEGS(S) ARE CONNECTED TO EACH INSTALLATION AND THE REQUIRED NUMBER OF LUMINAIRES.

THE UPPER JUNCTION BOX (FOR FUSE ASSEMBLIES) SHALL CONFORM TO THE APPLICABLE PROVISIONS OF SECTION 653.2.2 OF THE STANDARD SPECIFICATIONS; SHALL BE SUITABLE FOR SURFACE MOUNTING WITH EXTERNAL MOUNTING LUGS; AND SHALL HAVE A HINGED COVER, WING-NUT FASTENERS, AND PADLOCK HASP. ALL HARDWARE SHALL BE STAINLESS STEEL. FURNISH O-Z/GEDNEY YW-120603, SPRING CITY HC-12-06-04, CROUSE-HINDS WTB-120604, OR APPROVED EQUAL.

MEDIAN CONFIGURATIONS VARY; NOT ALL CASES CAN BE SHOWN IN THIS DETAIL.

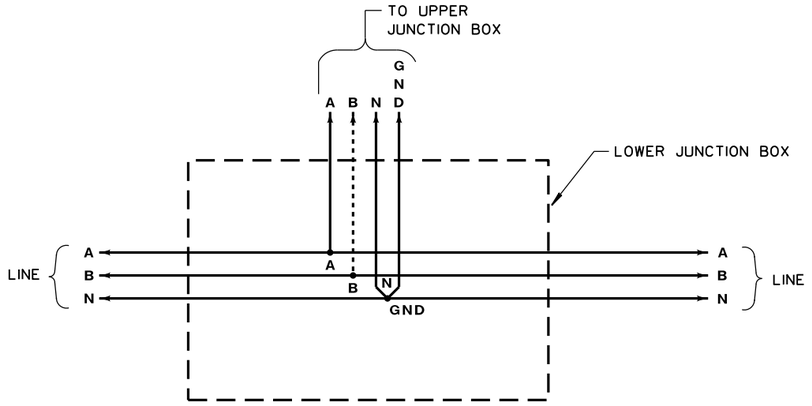
WIRING FOR THE FIRST LUMINAIRE PAIR IS SHOWN IN SOLID LINES. WIRING FOR ADDITIONAL LUMINAIRE PAIRS, WHERE REQUIRED, IS SHOWN IN DOTTED LINES.

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
	UNFUSED LUMINAIRE
	SINGLE POLE (1P) FUSE ASSEMBLY
	TERMINAL
	SPLICE
	CONDUCTOR

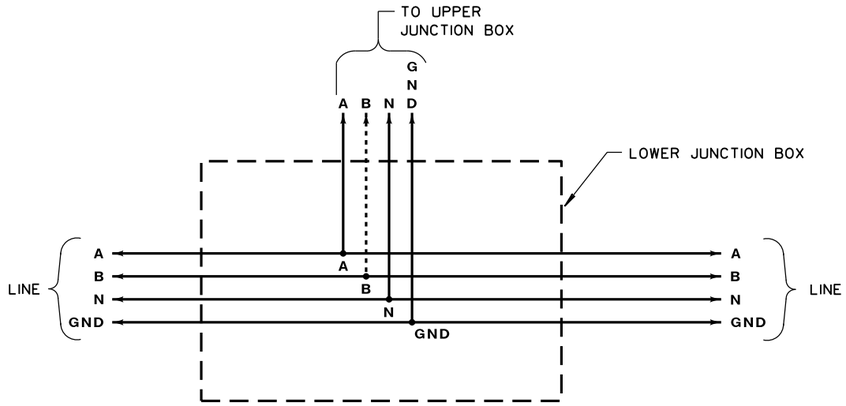
ELECTRICAL DETAILS
UNDERDECK LIGHTING

6
S.D.D. 10 A 15-4a



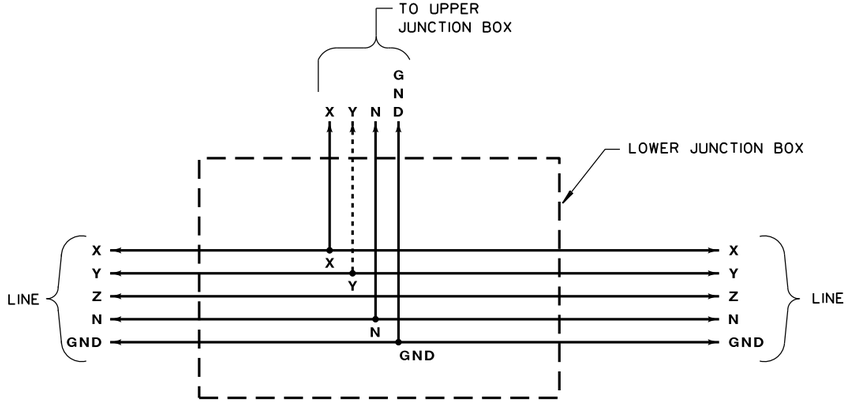
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

GROUNDED NEUTRAL SYSTEM
1-ϕ 240/480VAC OR 3 WIRE OR 480VAC 2 WIRE



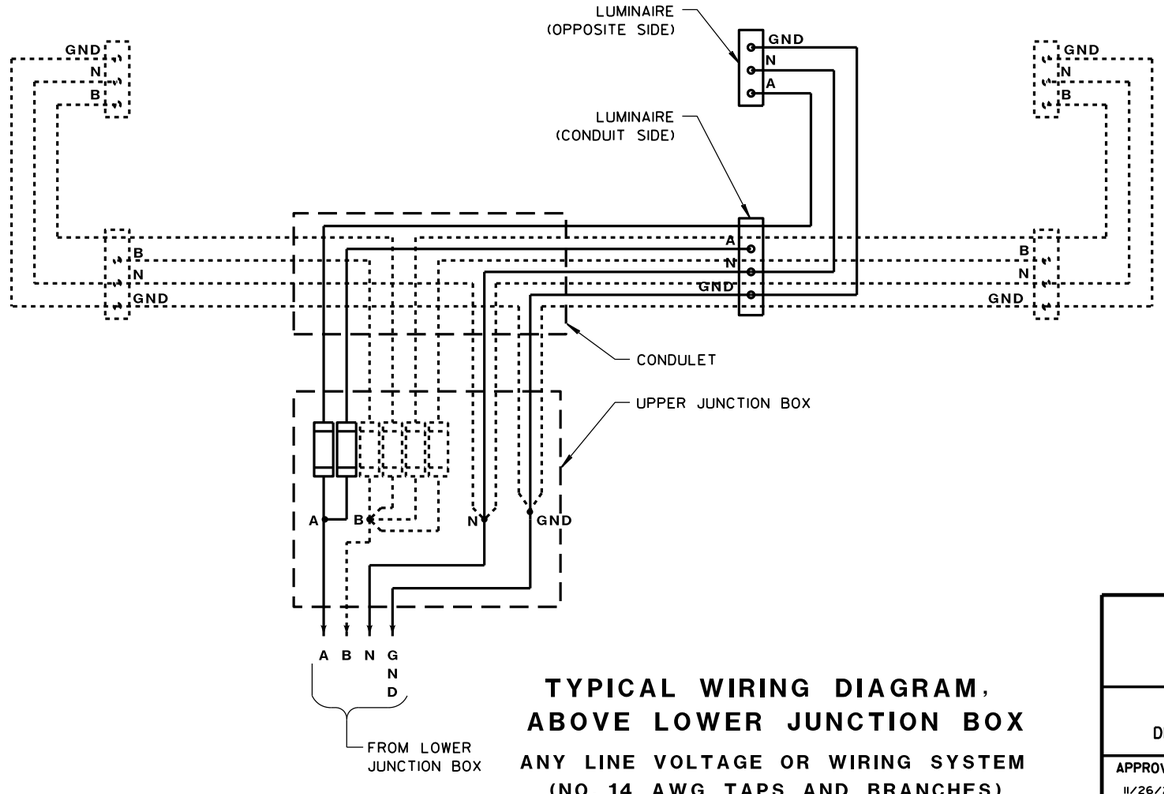
TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
1-ϕ 120/240VAC OR 240/480VAC 3 WIRE



TYPICAL WIRING DIAGRAM, LOWER JUNCTION BOX

ISOLATED NEUTRAL SYSTEM
3-ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM, ABOVE LOWER JUNCTION BOX

ANY LINE VOLTAGE OR WIRING SYSTEM
(NO. 14 AWG TAPS AND BRANCHES)

ELECTRICAL DETAILS
UNDERDECK LIGHTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

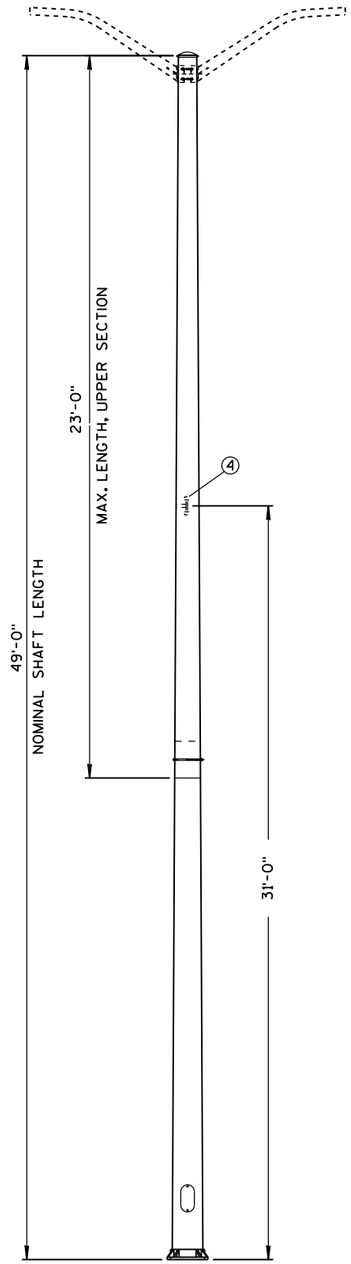
APPROVED
11/26/2013
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA

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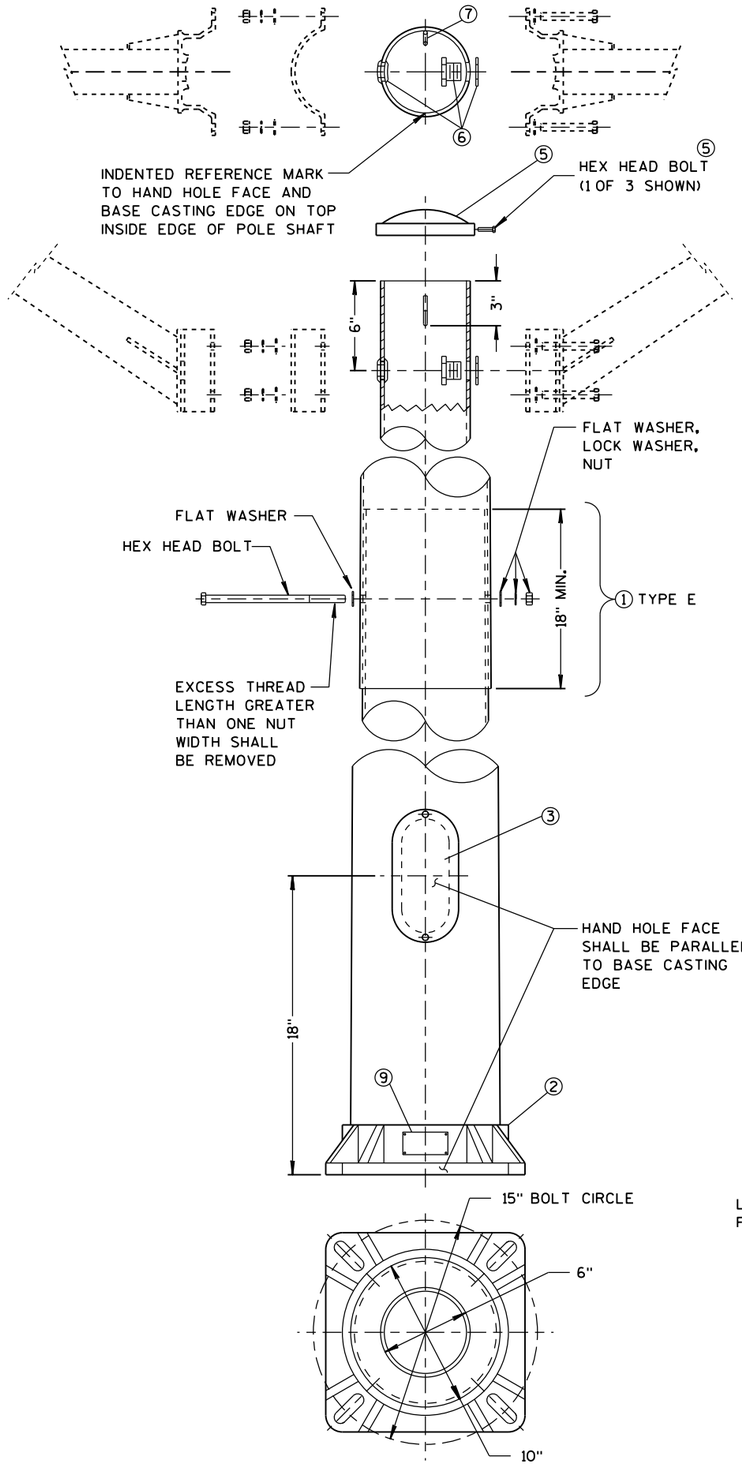
S.D.D. 10 A 15-4b

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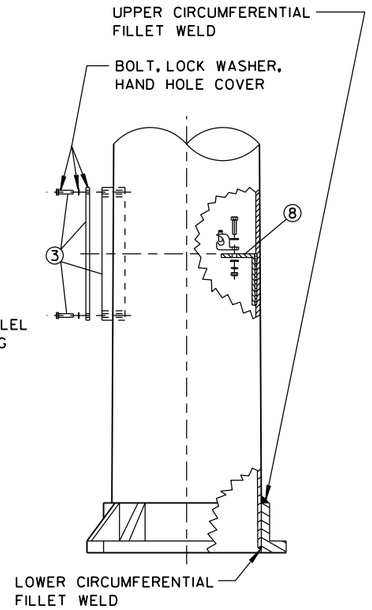
S.D.D. 10 A 15-4b



POLE, TYPE E



(TOP VIEW)



GENERAL NOTES

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

POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM.
EXCEPT THAT BASE CASTINGS SHALL BE CONSTRUCTED OF 356-T6 ALUMINUM.

HEAT TREATMENT OF WELDMENTS IN STRUCTURAL AREAS (e.g. BASE CASTING, HAND HOLE, BRACKET FOR GROUNDING LUG) REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE ARMS AND CLAMP ASSEMBLIES SHOWN FOR INFORMATION ONLY (PAID SEPARATELY).

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. E.P.A..

① OPTIONAL TELESCOPING FIELD JOINT SECURED BY A 5/8"-11 TPI THROUGH BOLT OR STUD.
THE OVERLAP OF THE UPPER AND LOWER SECTIONS SHALL BE NOT LESS THAN 18".

② SHOE BASE.

③ 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY SECURED BY TWO (2) 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
HANDHOLE SHALL BE 90 DEGREES FROM LUMINAIRE ARMS OF TWIN LUMINAIRE POLES; 180 DEGREES FROM LUMINAIRE ARM OF SINGLE LUMINAIRE POLES; 0 DEGREES FROM LUMINAIRE ARM FOR STRUCTURE MOUNTED POLES.

④ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

⑤ FURNISH AND INSTRALL CAST OR METALLIC (ALUMINUM ALLOY) POLE CAP. FASTEN CAP WITH THREE 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

⑥ 1 3/8" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET), PER EACH REQUIRED LUMINAIRE ARM.

⑦ FACTORY-WELDED "J" HOOK FOR POLE WIRE STRAIN RELIEF.

⑧ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE. (LUG AND HARDWARE PAID UNDER SEPARATE ITEMS; SHOWN FOR INFORMATION ONLY). PROVIDE HOLE IN BRACKET FOR 1/4" X 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

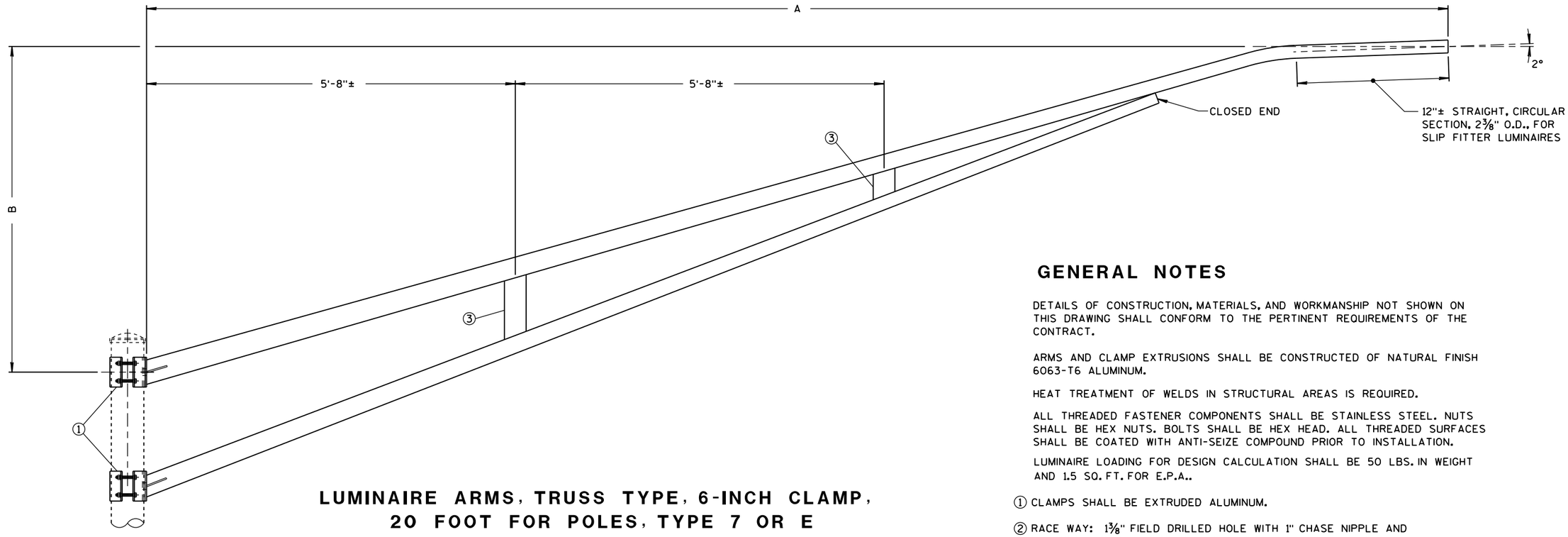
⑨ MANUFACTURER'S PLATE SHOWING WisDOT POLE TYPE, MANUFACTURER, AND DATE.

POLE TYPE (NOM. SHAFT LENGTH)	TYPICAL APPLICATION	ARM & LUMINAIRE LOADS (MAX.)	ADDITIONAL (MAX.) LOADS
TYPE E, (49')	FREEWAY SLOPE MOUNT	SINGLE ARM, UP TO 20 FT., TRUSS TYPE OR TWIN ARMS UP TO 10' SINGLE MEMBER	UP TO 20 SQ. FT. OF TRAFFIC SIGNS, MOUNTED AS HIGH AS 15 FT. TO TOP OF SIGN

POLES, TYPE E, ALUMINUM 49'-0" SHAFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
FHWA



LUMINAIRE ARMS, TRUSS TYPE, 6-INCH CLAMP, 20 FOOT FOR POLES, TYPE 7 OR E

UPPER AND LOWER TRUSS CHORD CLAMPS SIMILIAR

TYPE	DIM. A NOMINAL ARM LENGTH (FT)	DIM. B APPROX. RISE (FT)
TRUSS TYPE	20.0	5.0

GENERAL NOTES

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

ARMS AND CLAMP EXTRUSIONS SHALL BE CONSTRUCTED OF NATURAL FINISH 6063-T6 ALUMINUM.

HEAT TREATMENT OF WELDS IN STRUCTURAL AREAS IS REQUIRED.

ALL THREADED FASTENER COMPONENTS SHALL BE STAINLESS STEEL. NUTS SHALL BE HEX NUTS. BOLTS SHALL BE HEX HEAD. ALL THREADED SURFACES SHALL BE COATED WITH ANTI-SEIZE COMPOUND PRIOR TO INSTALLATION.

LUMINAIRE LOADING FOR DESIGN CALCULATION SHALL BE 50 LBS. IN WEIGHT AND 1.5 SQ. FT. FOR E.P.A..

① CLAMPS SHALL BE EXTRUDED ALUMINUM.

② RACE WAY: 1⅜" FIELD DRILLED HOLE WITH 1" CHASE NIPPLE AND NUT (OR NEOPRENE GROMMET) PER EACH REQUIRED LUMINAIRE ARM. PROVIDE 1½" HOLE IN CLAMP EXTRUSION TO CONTINUE RACEWAY. NOTE: NO RACEWAY ON LOWER TRUSS CORD CLAMP. FOR INFORMATION ONLY.

③ STIFFENER.

④ GUSSETS REQUIRED.

⑤ CLAMP BOLT ASSEMBLY (BOLT - ½"-13 UNC, 2 EACH - FLAT WASHER, LOCK WASHER, NUT) - 4 EACH PER CLAMP.

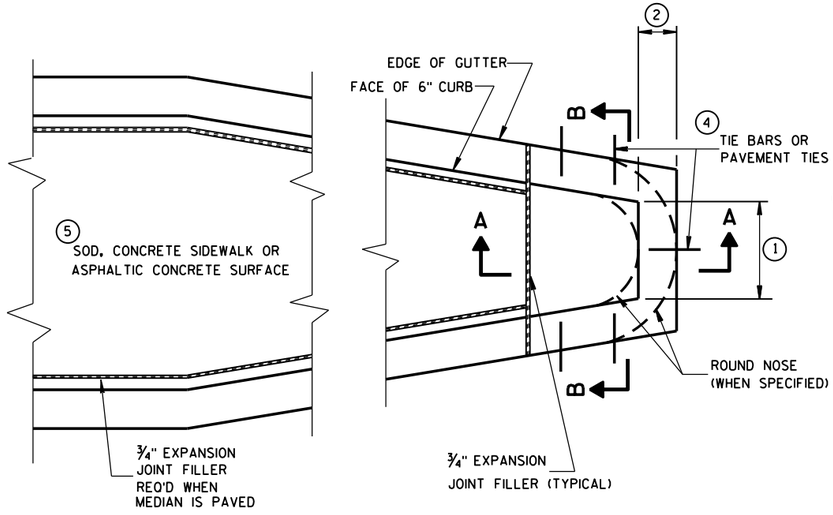
LUMINAIRE ARMS, TRUSS TYPE 6-INCH CLAMP

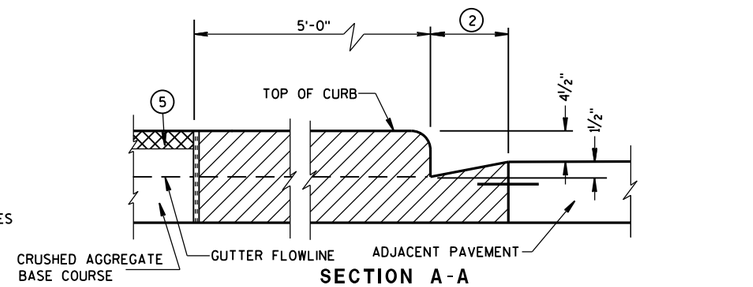
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

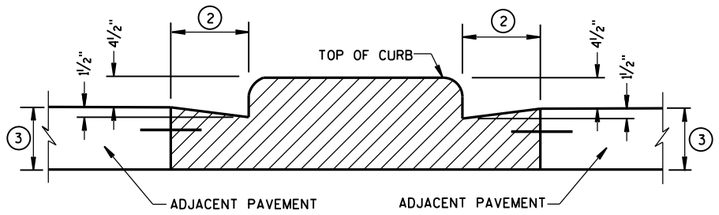
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 10 A 18-5b







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.

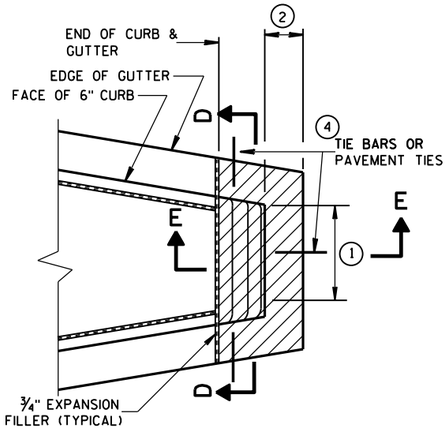
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

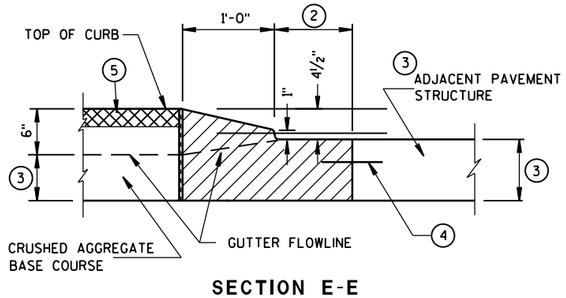
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(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.

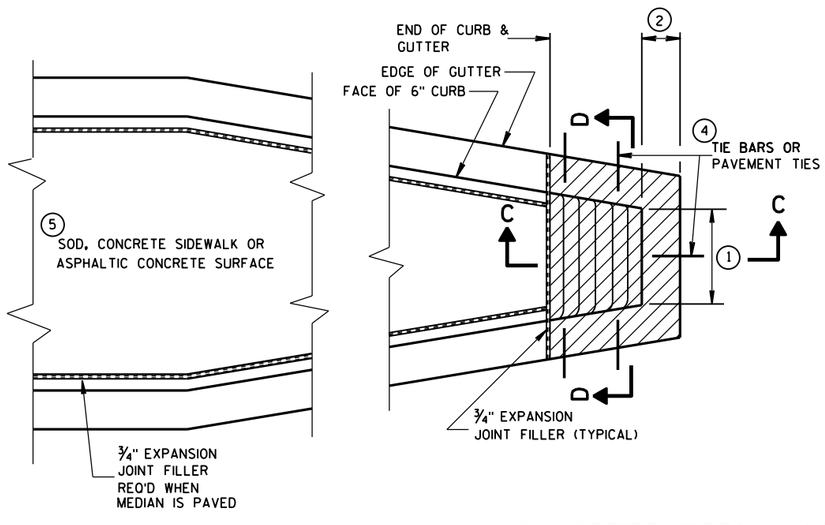
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

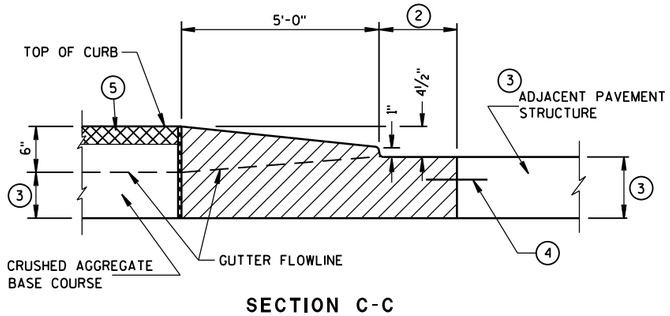
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



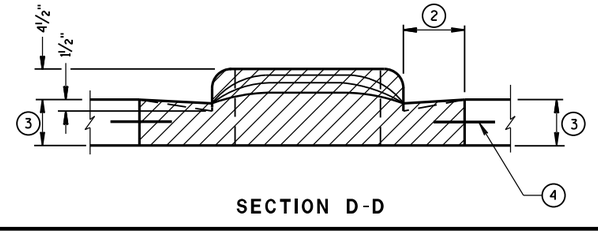


CONCRETE MEDIAN SLOPED NOSE TYPE 2





CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

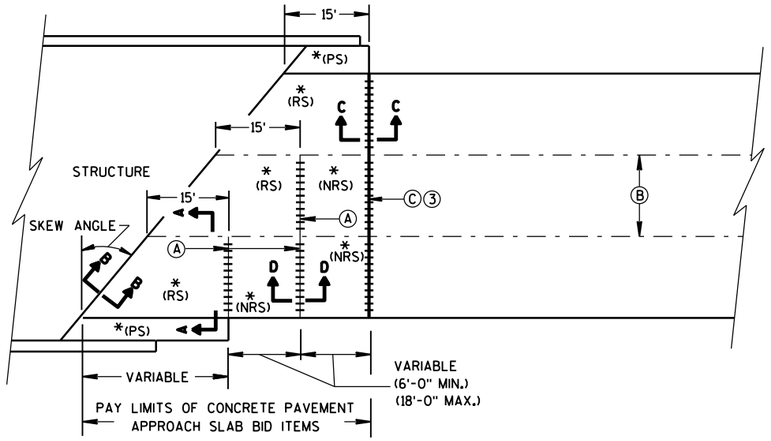
FHWA

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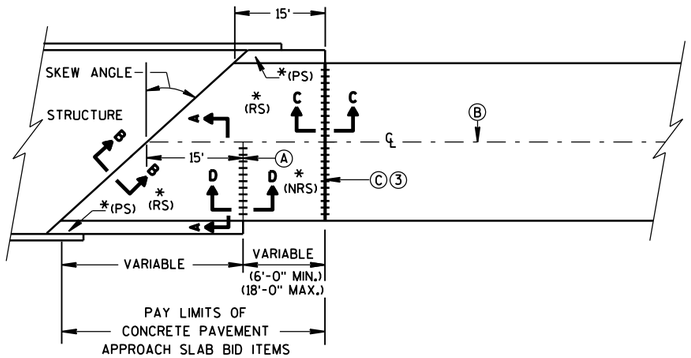
S.D.D. 11 B 2-2

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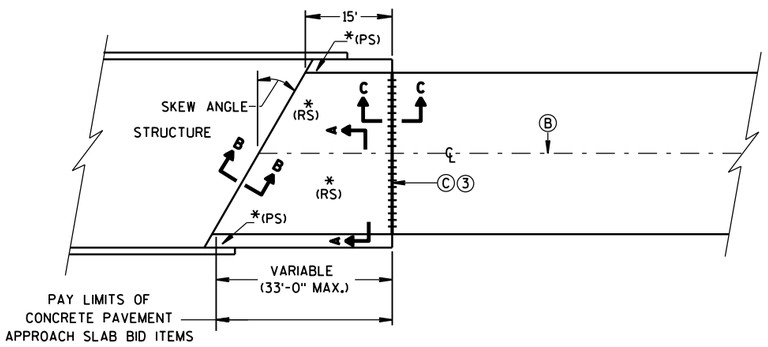
S.D.D. 11 B 2-2



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



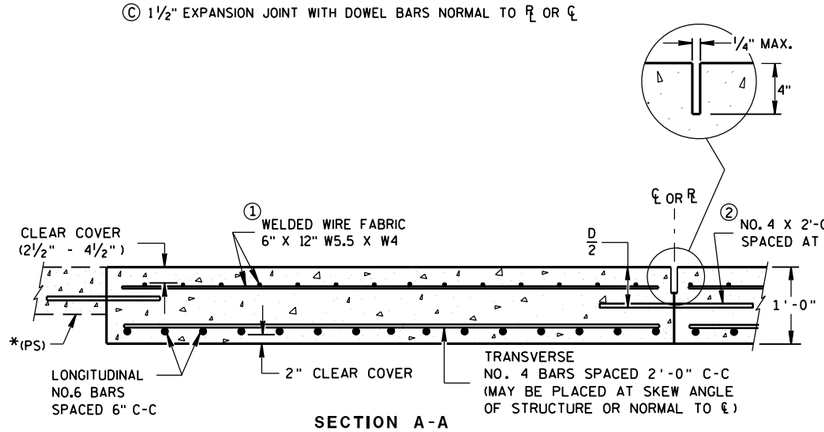
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

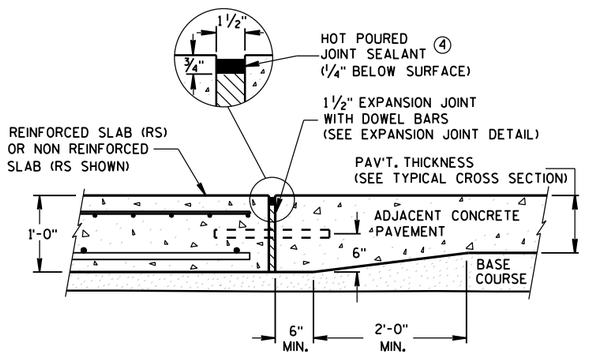
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

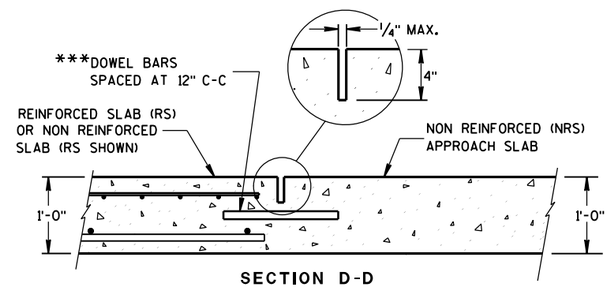
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

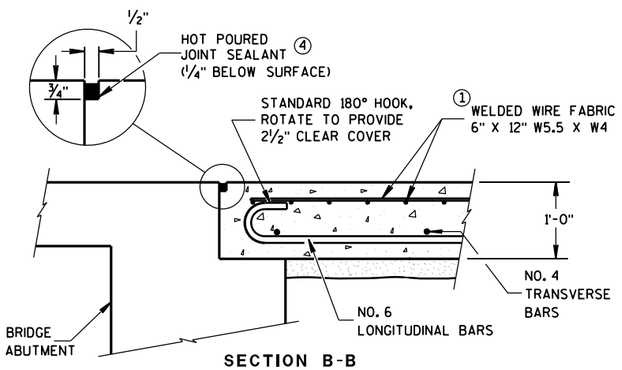
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

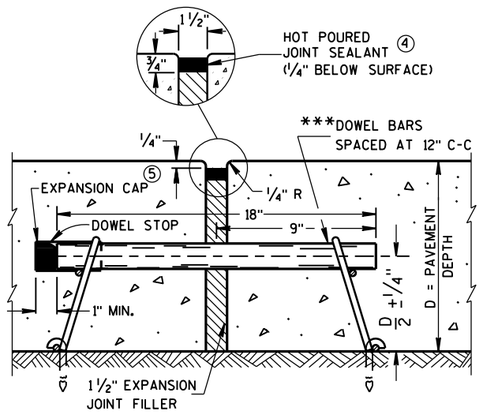
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

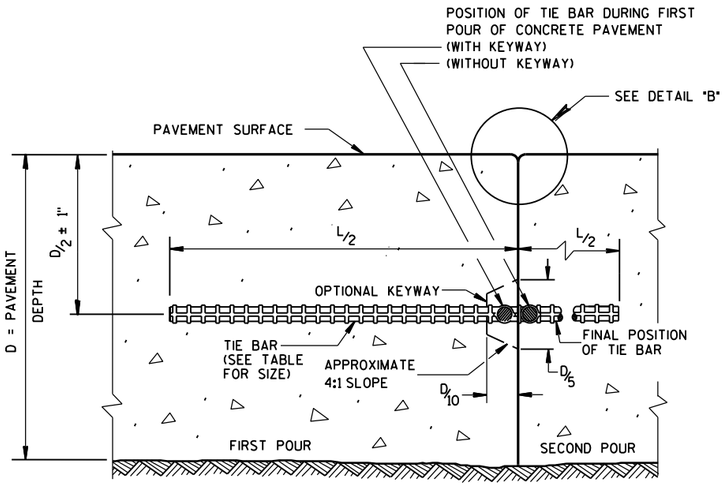
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

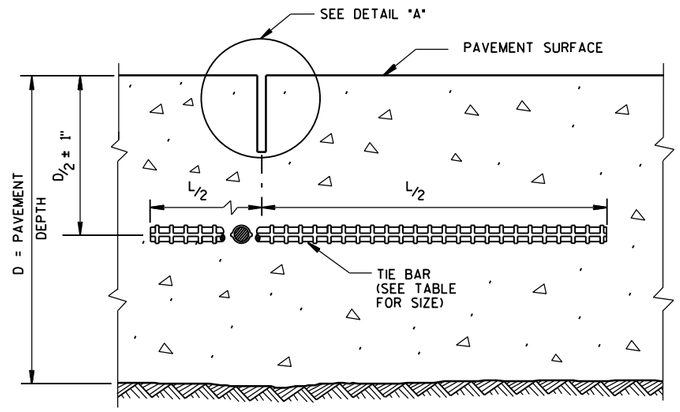
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

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



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

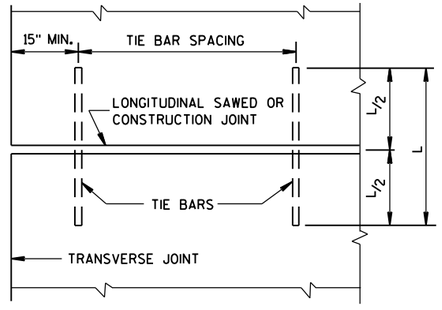
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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June, 2015 — DATE
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S.D.D. 13 C 1-18

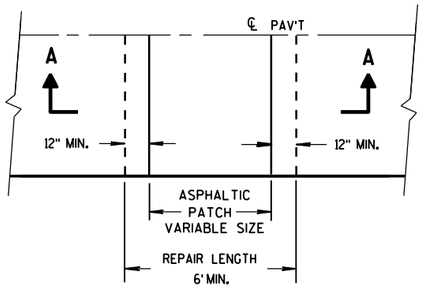
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

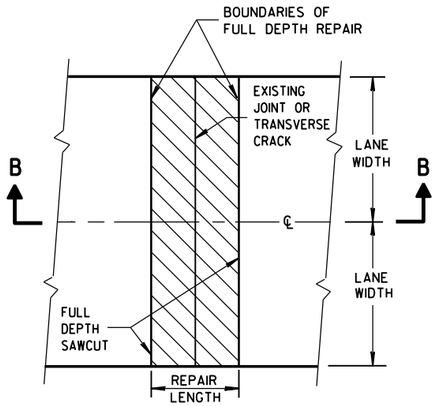
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

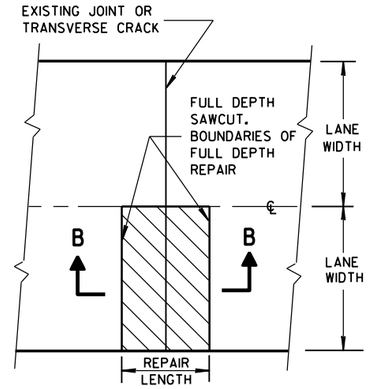
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

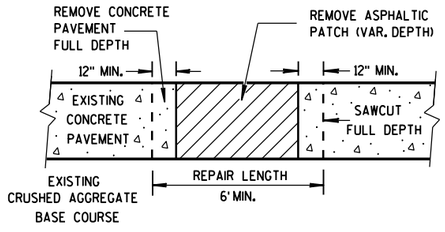


PLAN VIEW
(DOUBLE LANE REPAIR)



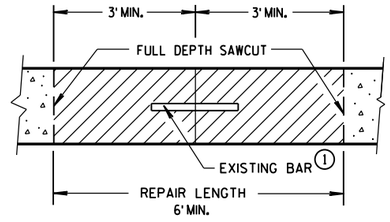
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

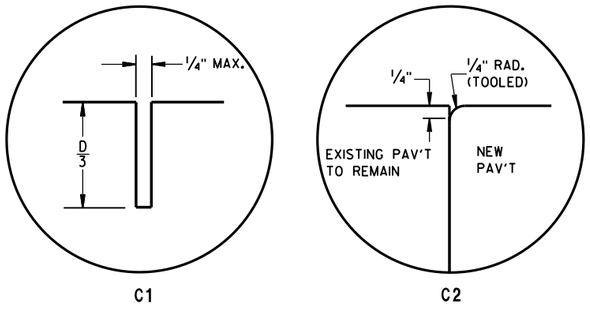
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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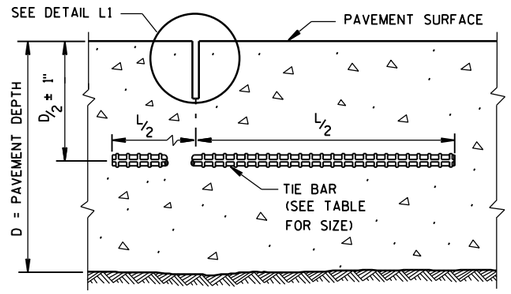
TRANSVERSE JOINTS

TIE BAR TABLE

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

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

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



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

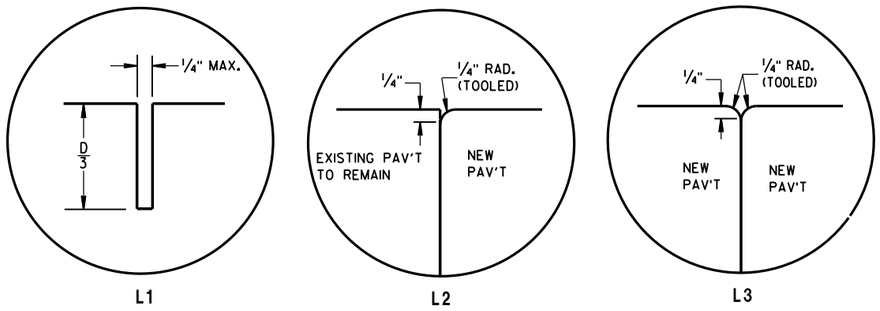
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

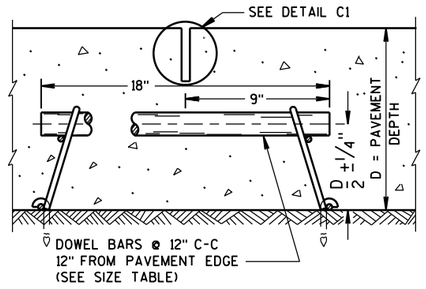
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

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

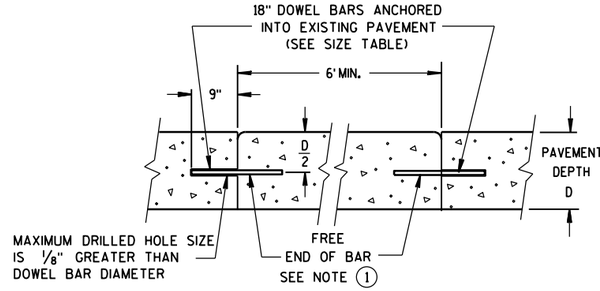


LONGITUDINAL JOINTS

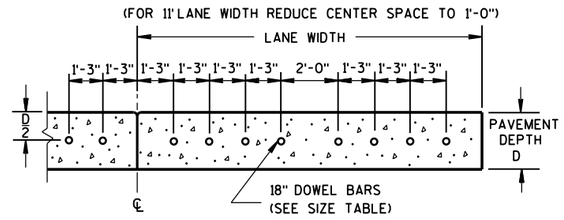


SECTION F-F

CONTRACTION JOINT



SECTION D-D

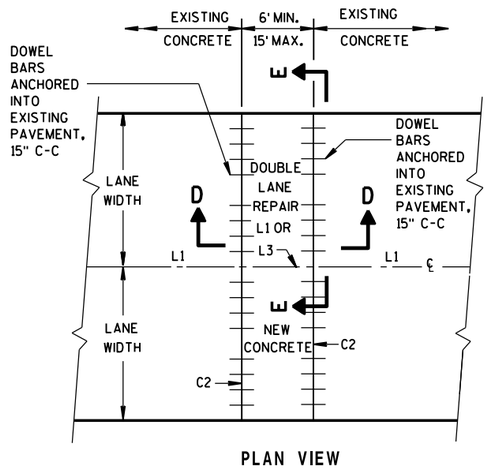


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

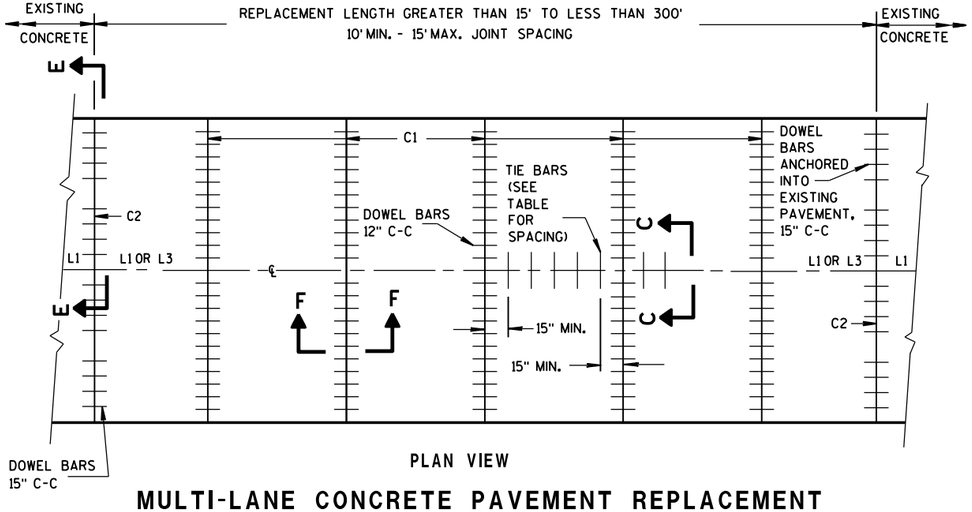
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



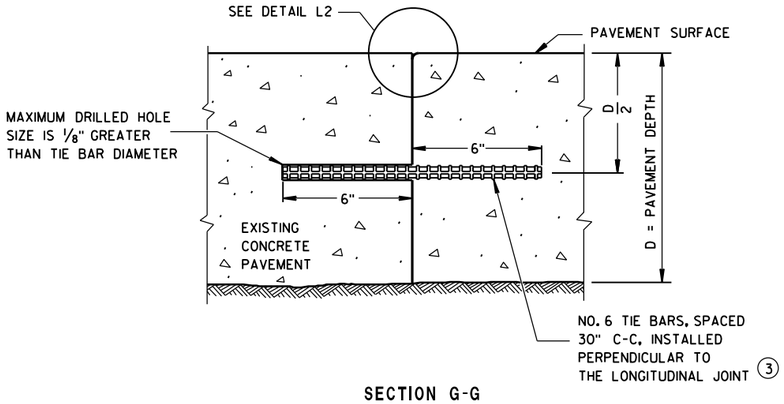
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 C 9-13b



SECTION G-G

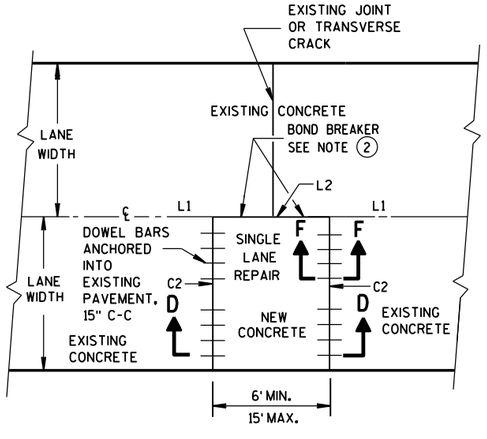
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

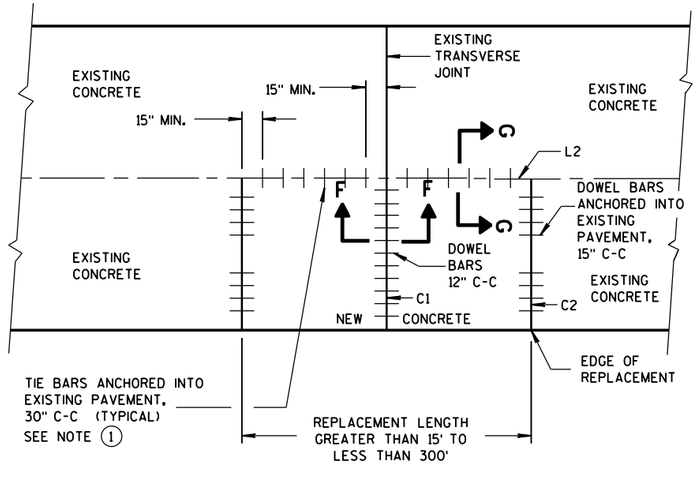
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

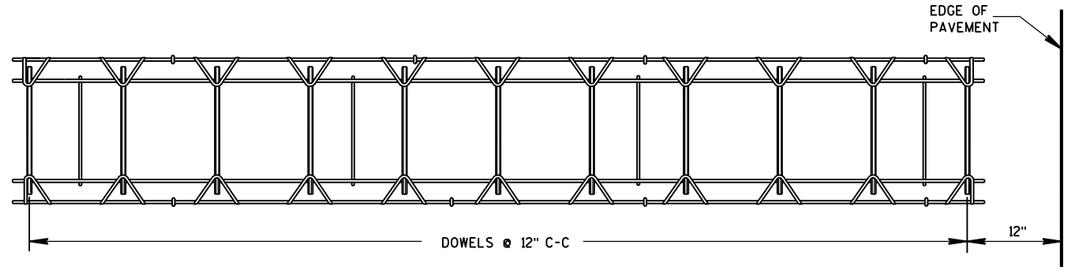
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
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FHWA

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S.D.D. 13 C 9-13c

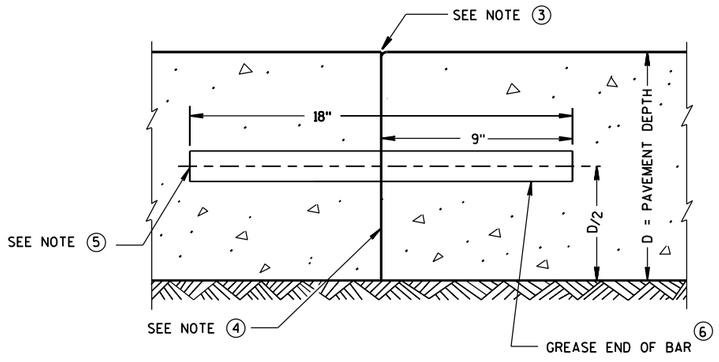


PLAN VIEW

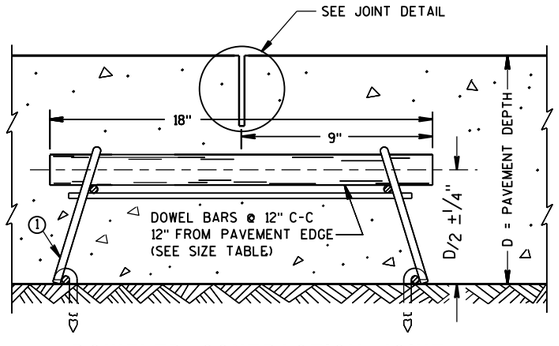


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



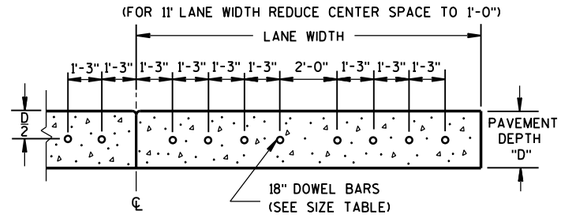
TRANSVERSE CONSTRUCTION JOINT



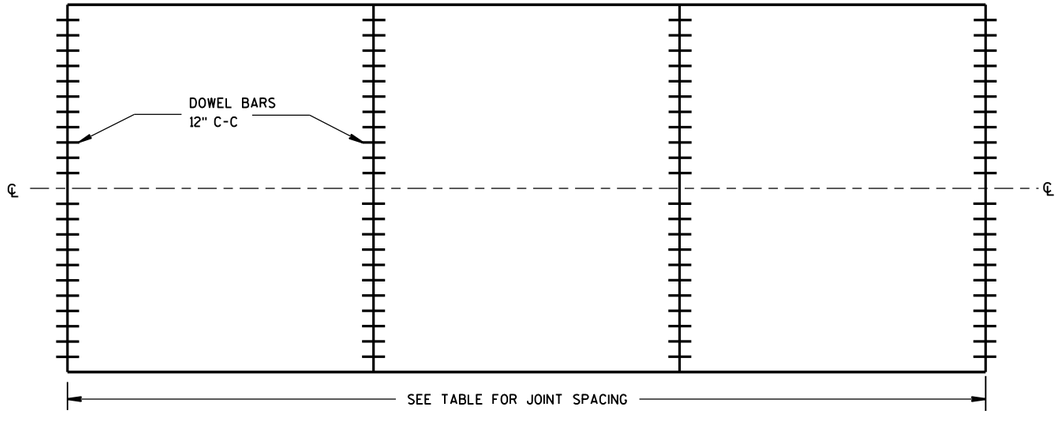
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

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

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

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

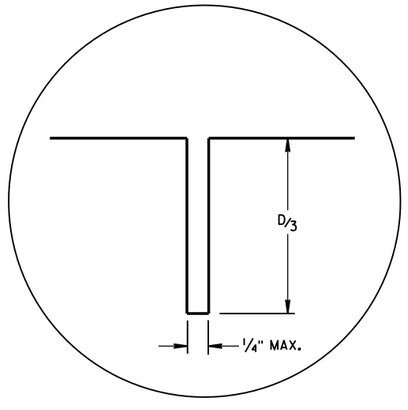
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

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

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

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

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



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

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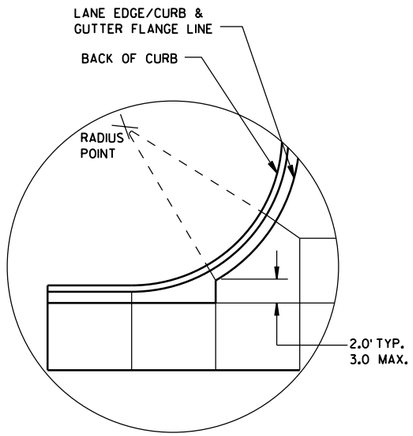
APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
FHWA

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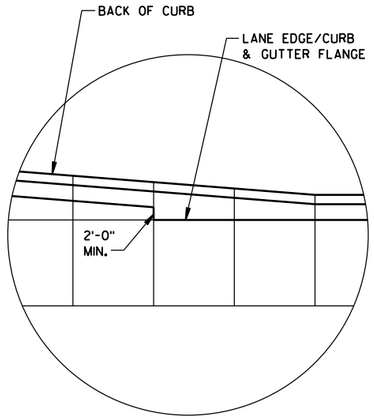
S.D.D. 13 C 13-8

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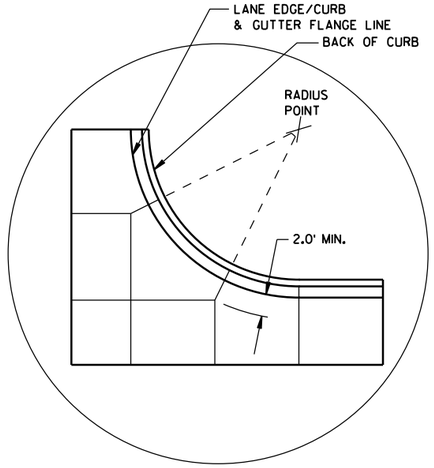
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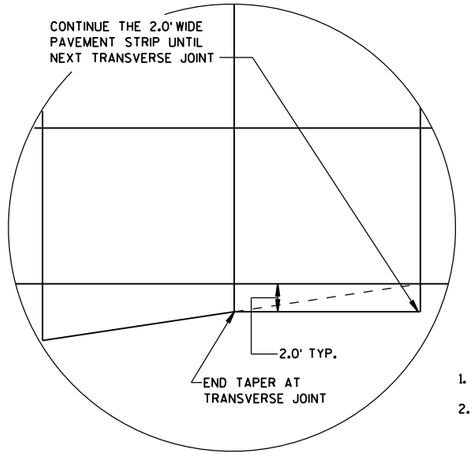
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

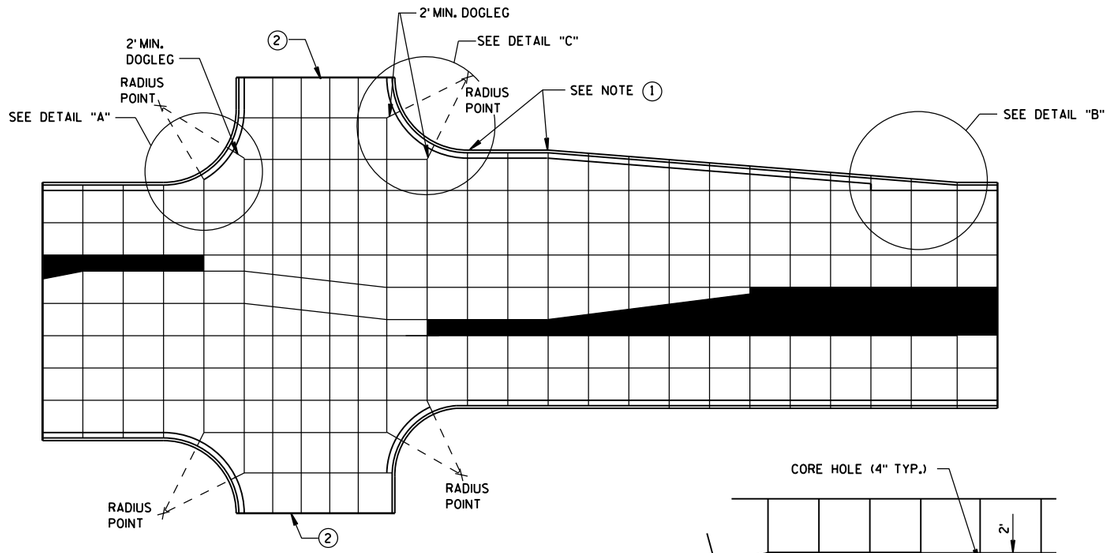
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

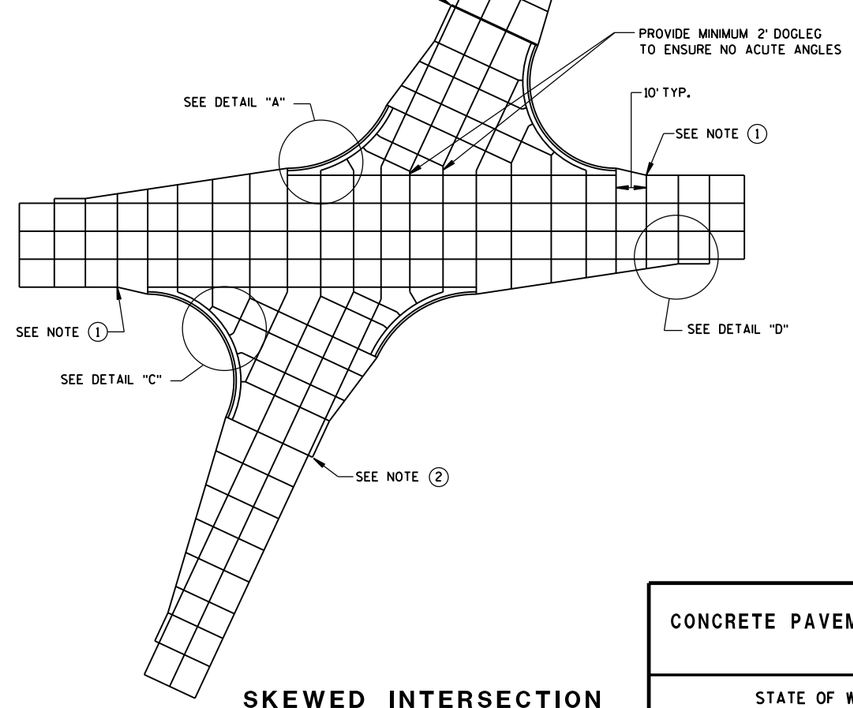
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



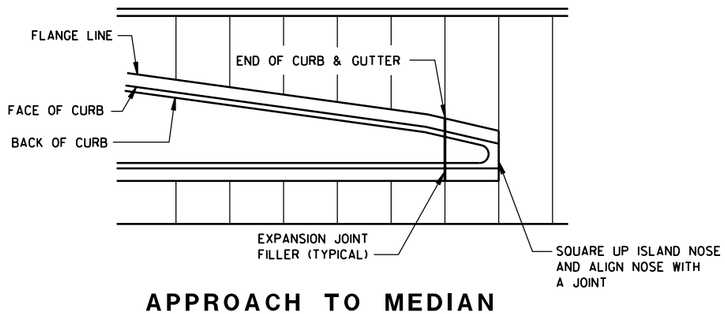
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

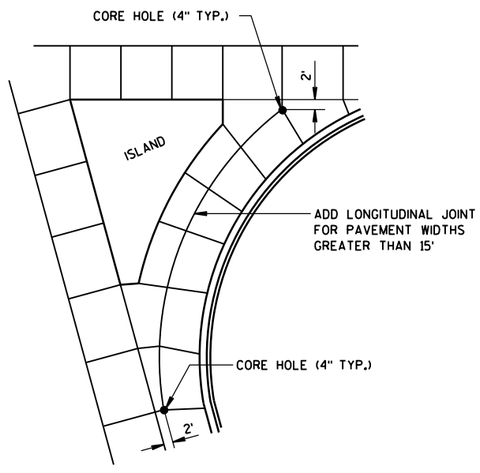
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

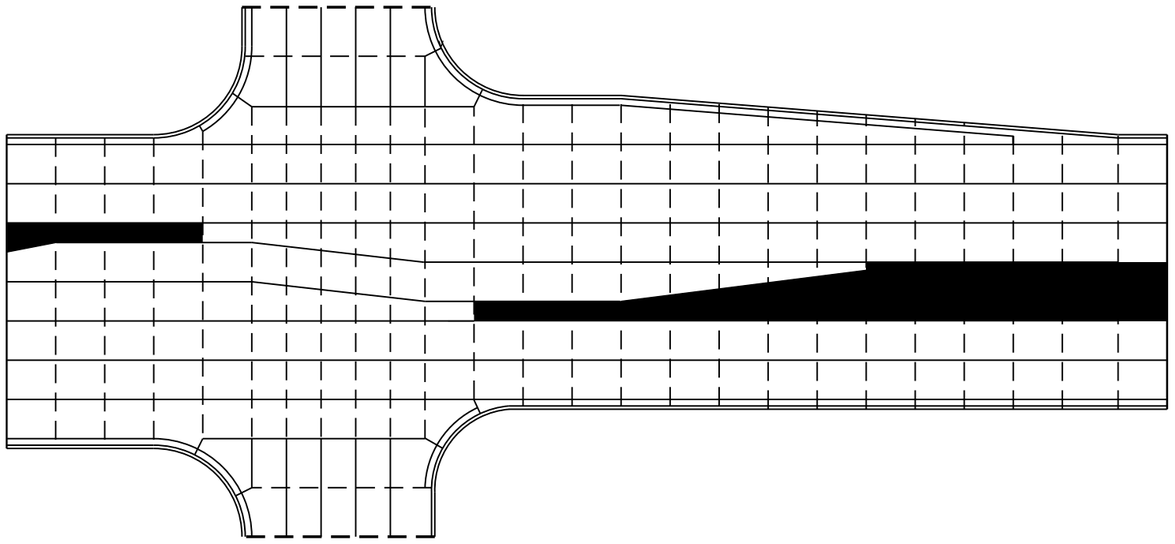
6
S.D.D. 13 C 18-4a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

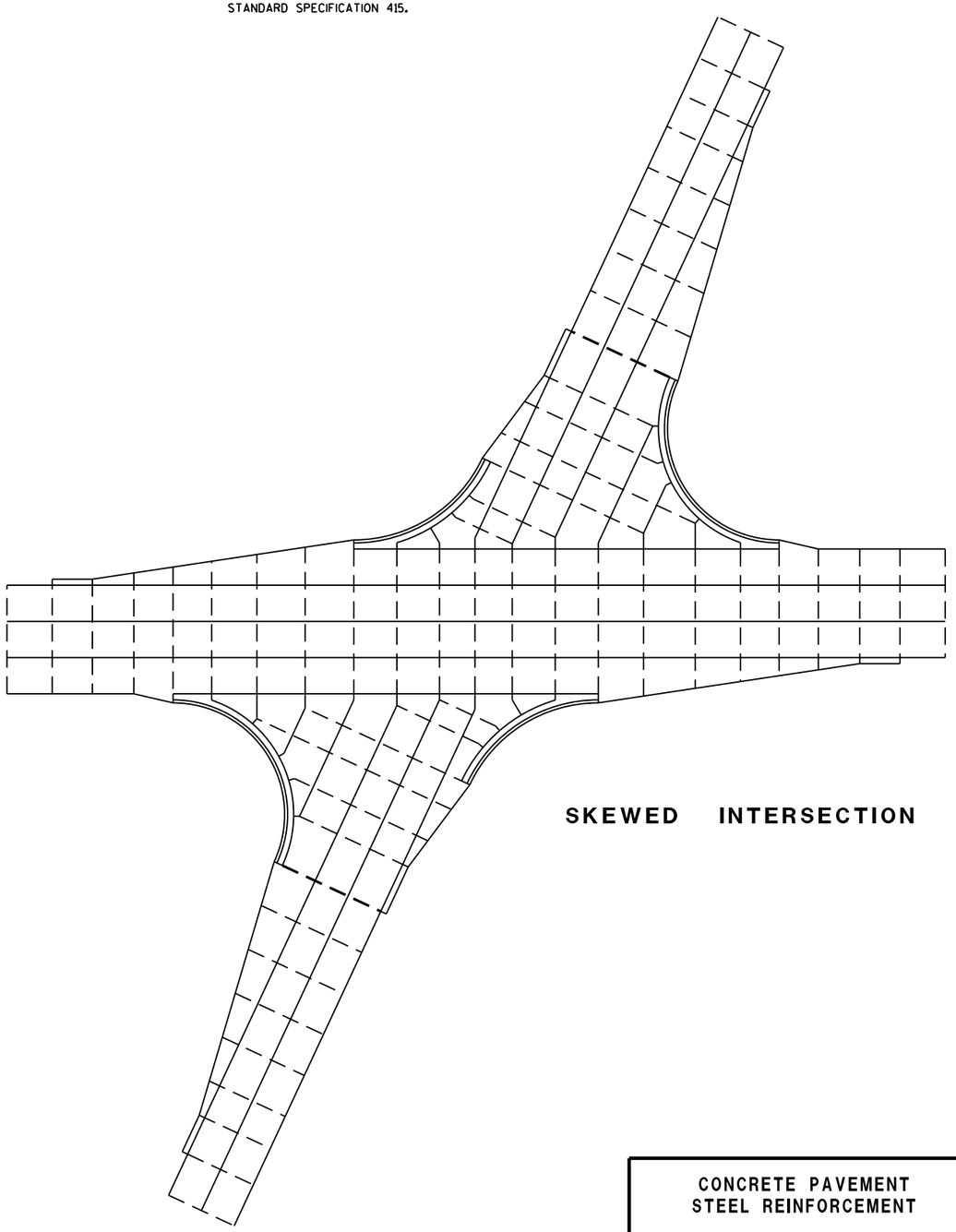
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

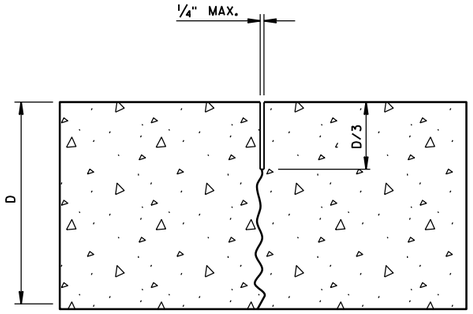
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

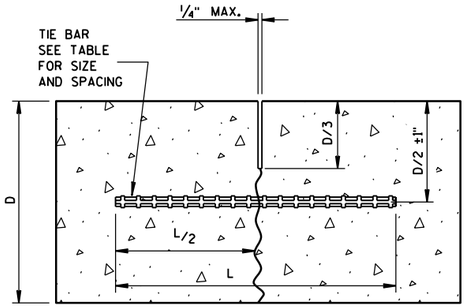
S.D.D. 13 C 18-4b

6

S.D.D. 13 C 18-4b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

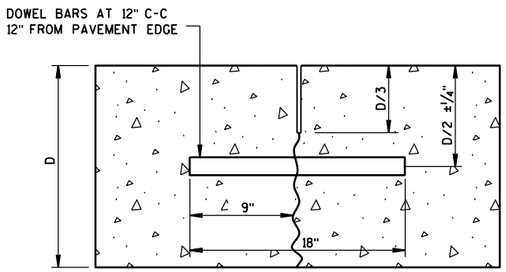
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

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

GENERAL NOTES

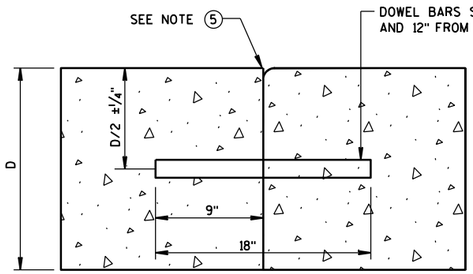
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



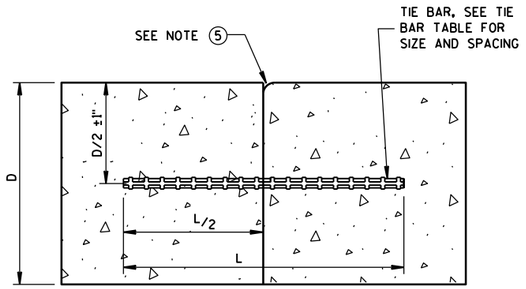
DOWELED-TRANSVERSE

CONTRACTION JOINTS

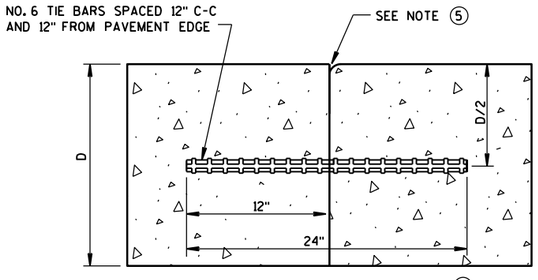
SEE NOTE (2)



DOWELED TRANSVERSE (3)

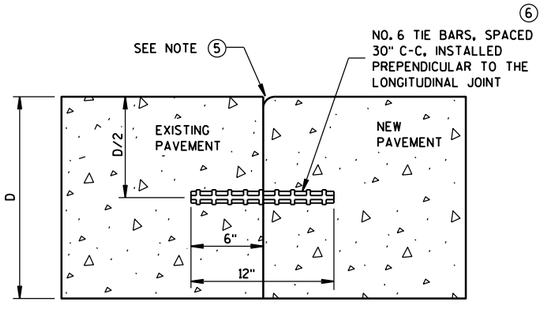


TIED LONGITUDINAL



TIED TRANSVERSE (3)

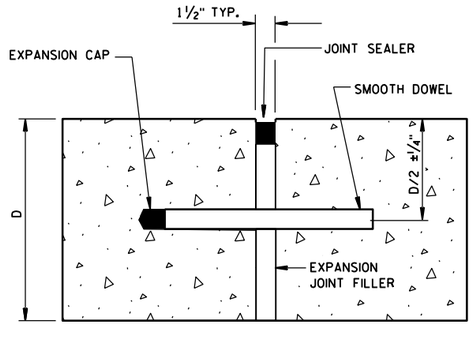
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

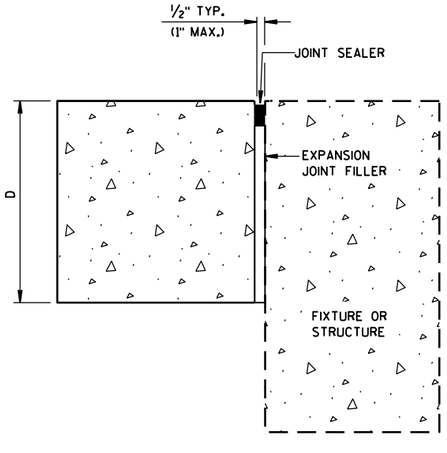
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

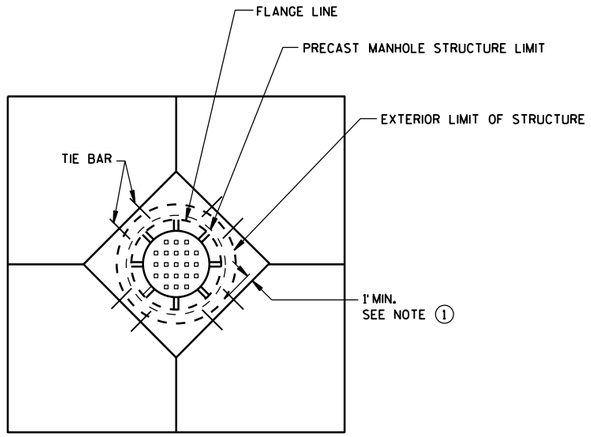
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

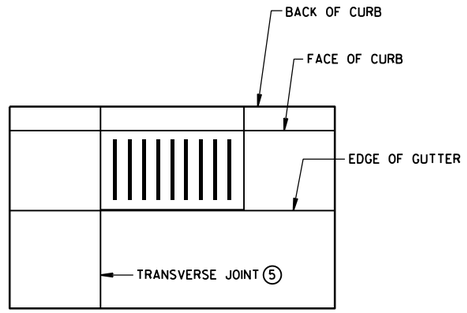
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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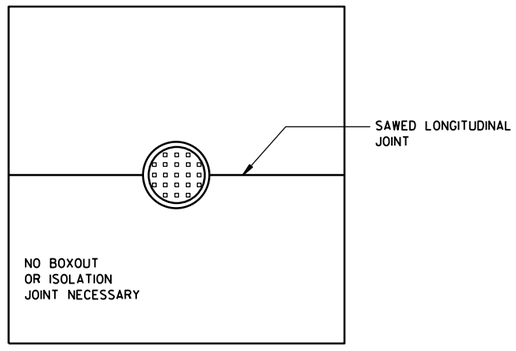
S.D.D. 13 C 18-4c



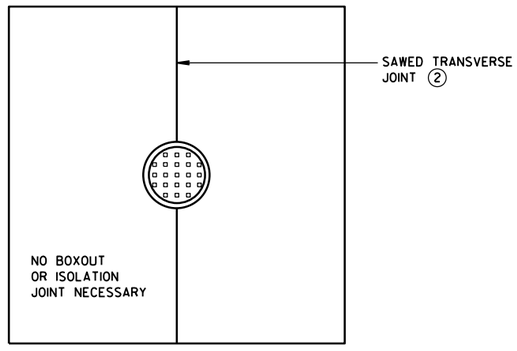
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



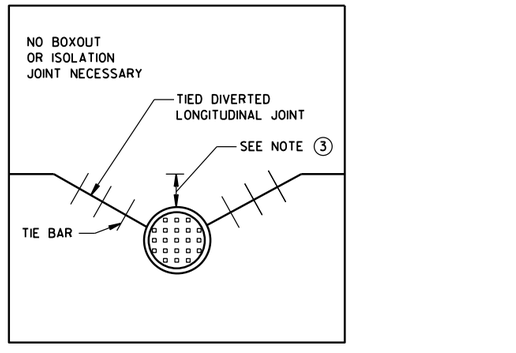
INLET WITH TRANSVERSE JOINT



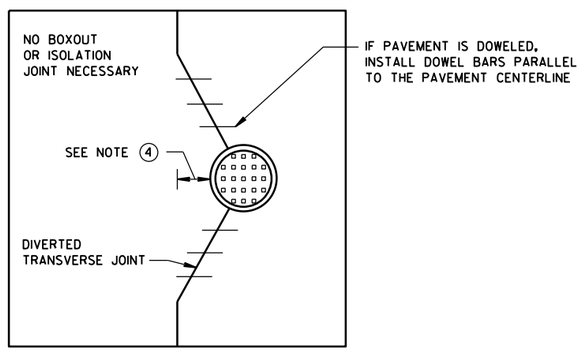
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

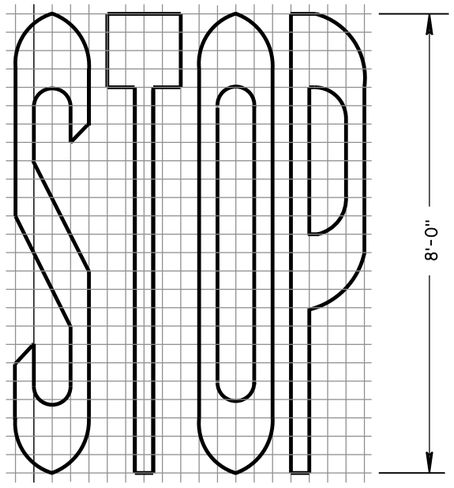
APPROVED
Sept., 2016 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEF
FHWA

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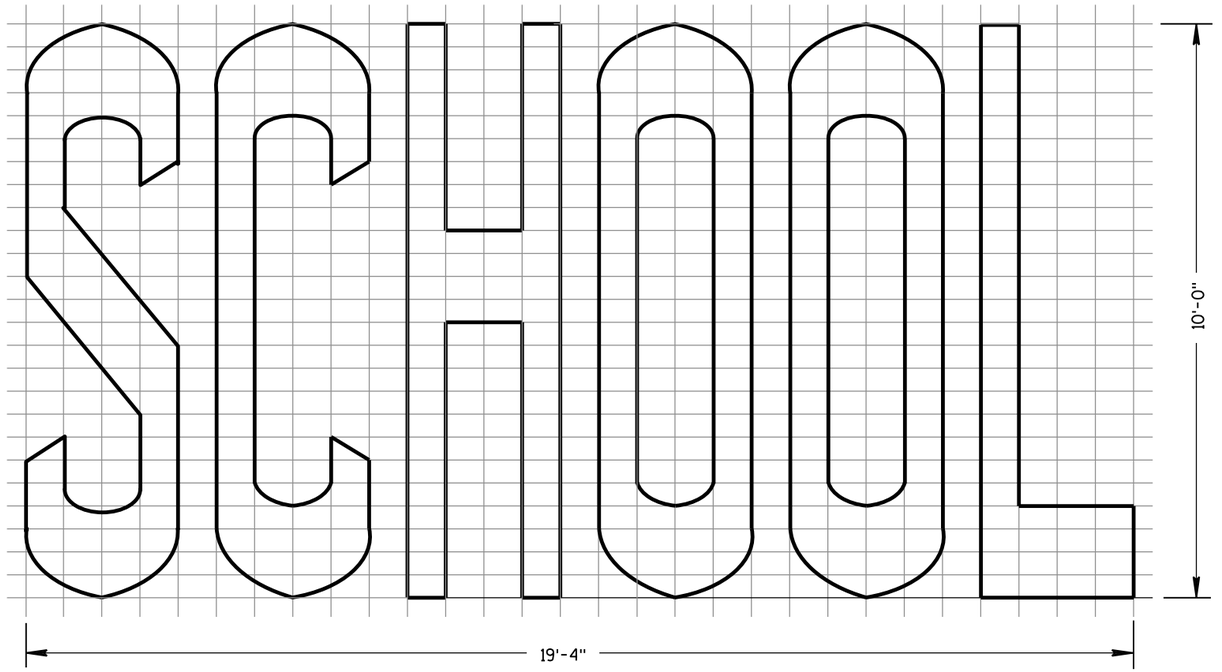
S.D.D. 13 C 18-4d

GENERAL NOTES

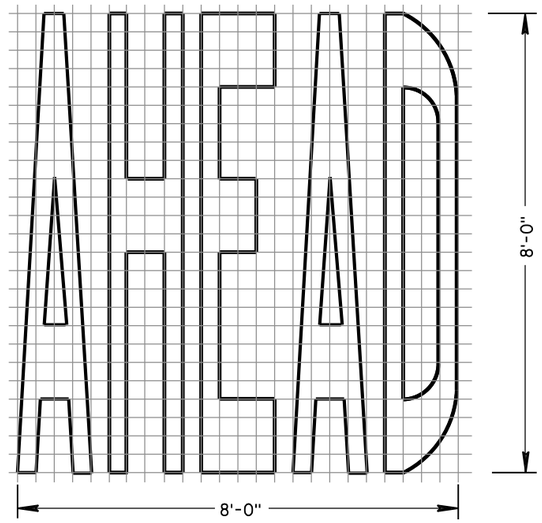
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

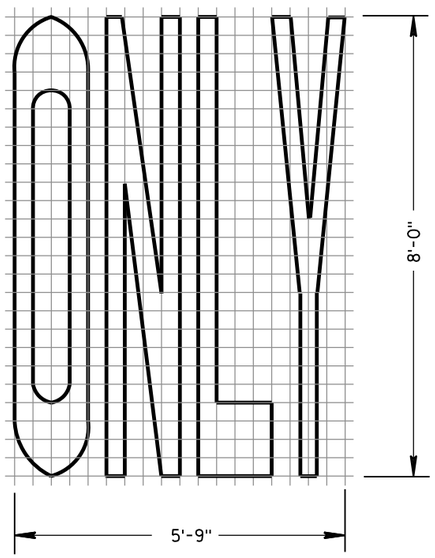


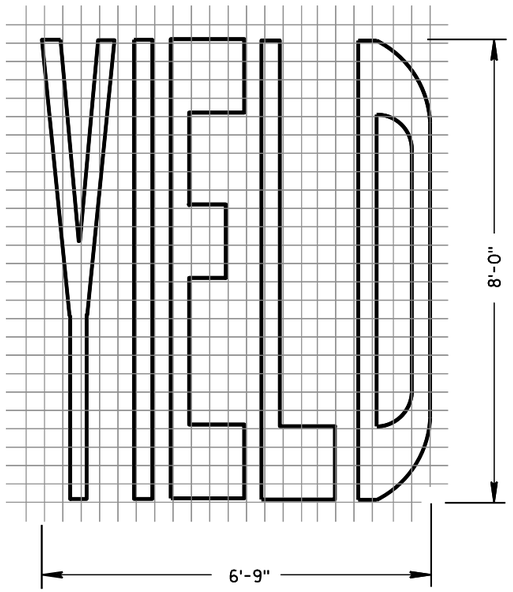


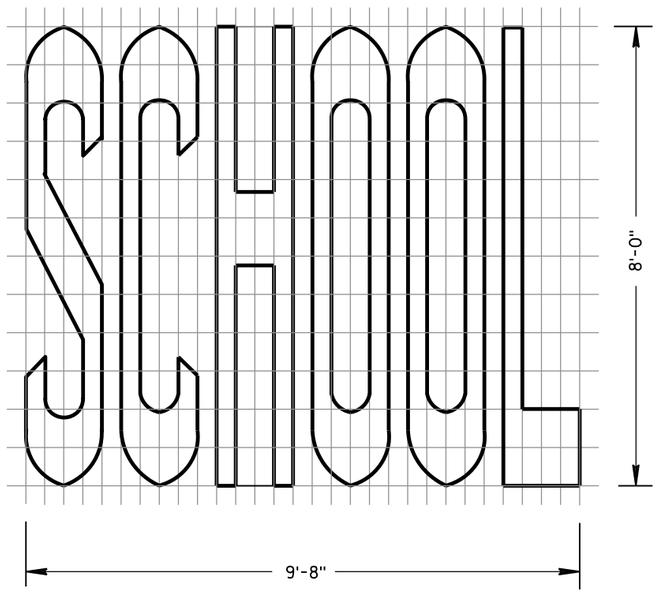


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-16	/S/ Matthew R. Rauch	
DATE	STATE SIGNING AND MARK	EER

FHWA

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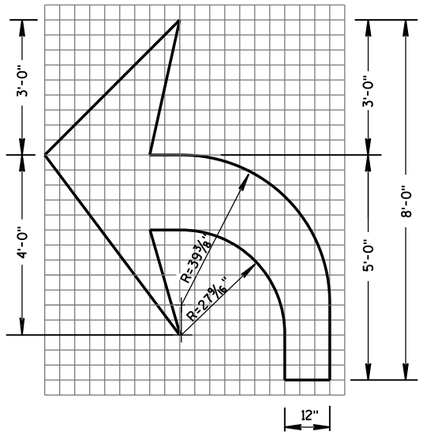
S.D.D. 15 C 7-13b

6

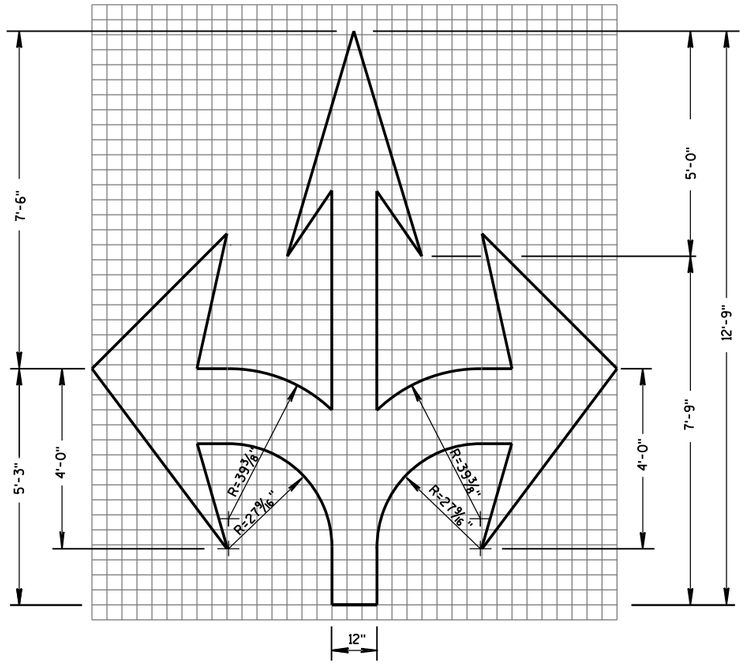
S.D.D. 15 C 7-13b

GENERAL NOTES

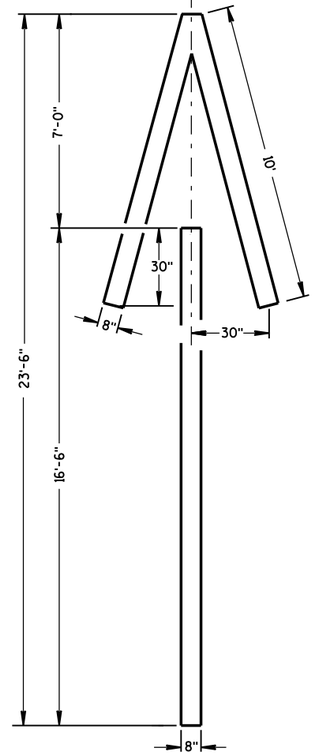
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



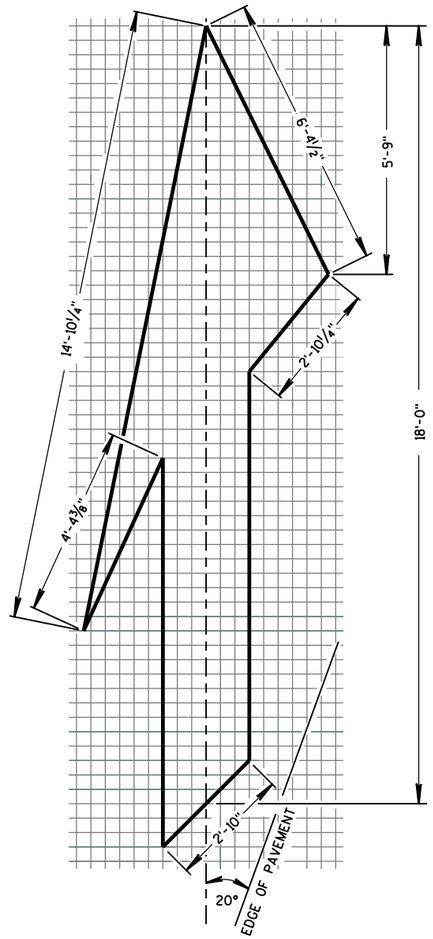
TYPE 2



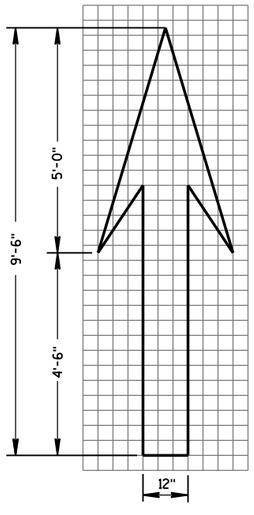
TYPE 6



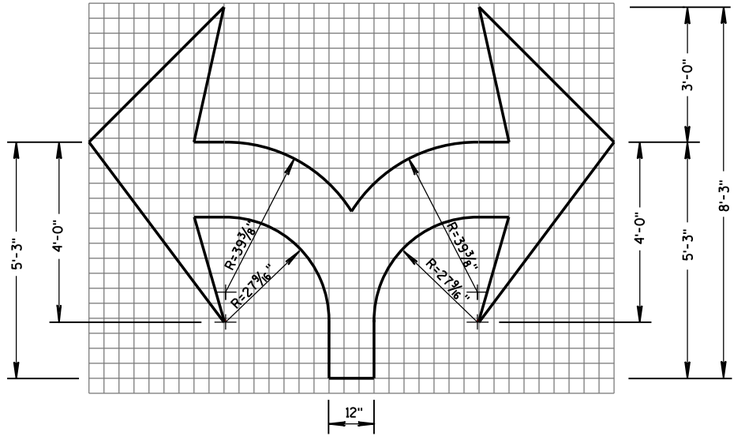
TYPE 4



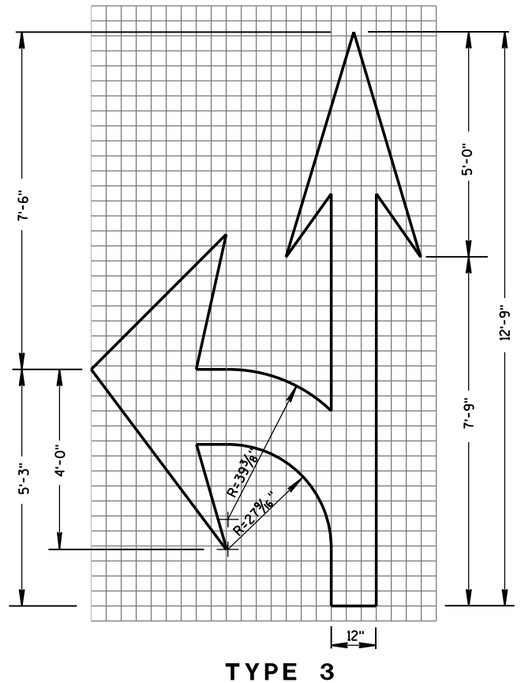
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

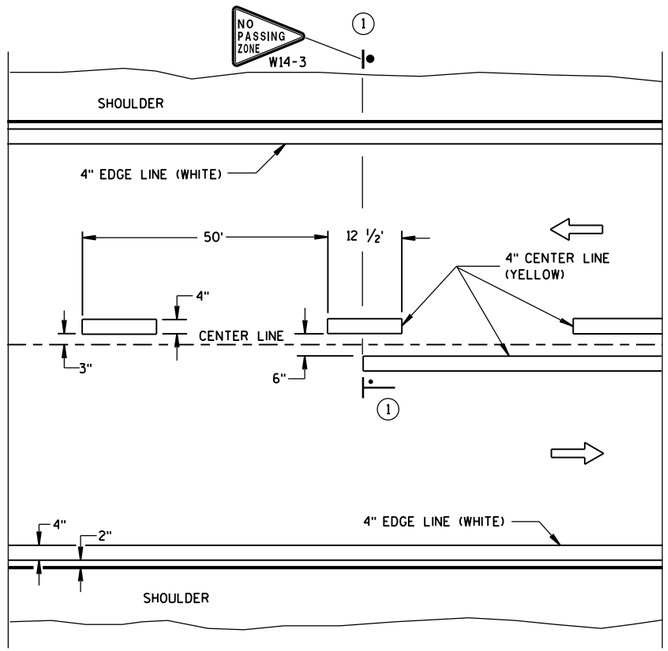
APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER
FHWA

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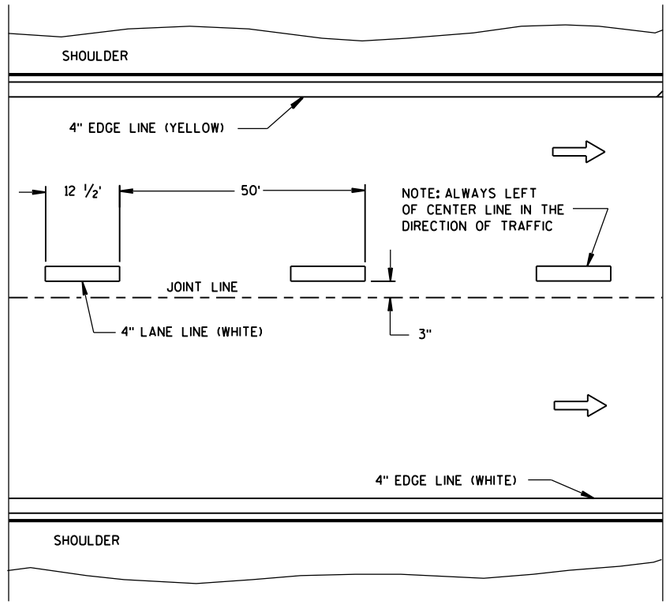
S.D.D. 15 C 7-13c

6

S.D.D. 15 C 7-13c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

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

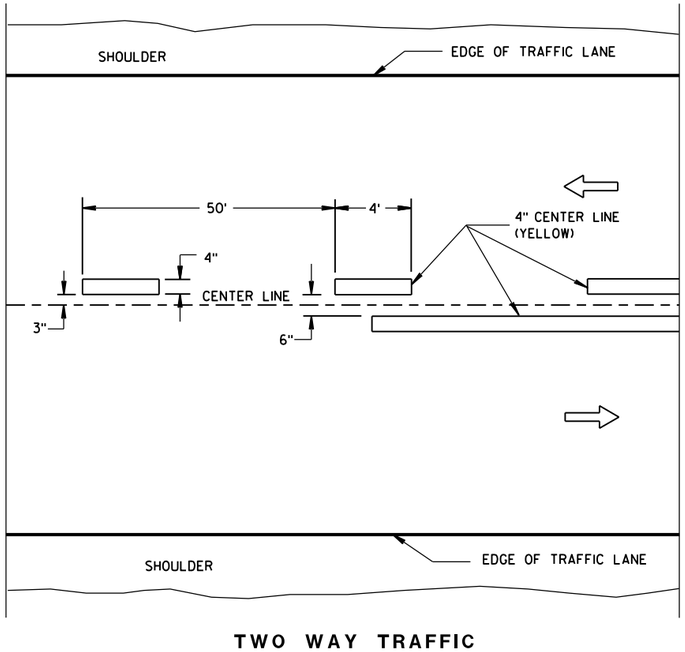
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

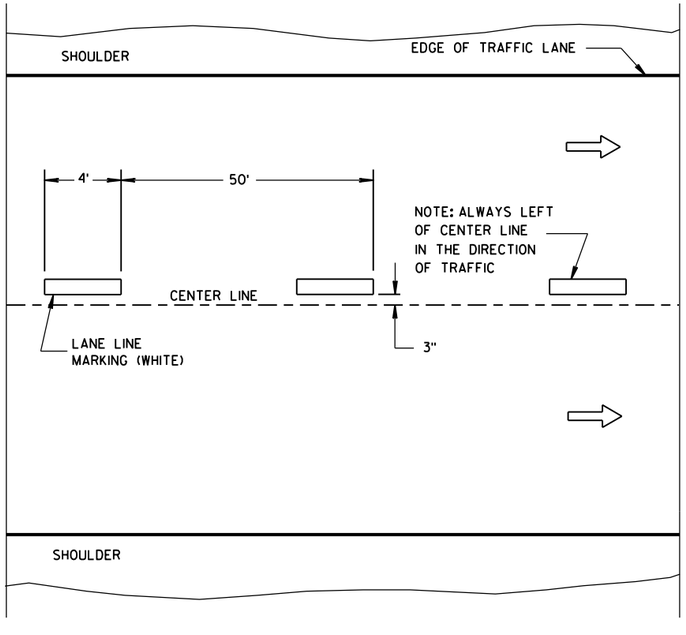
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

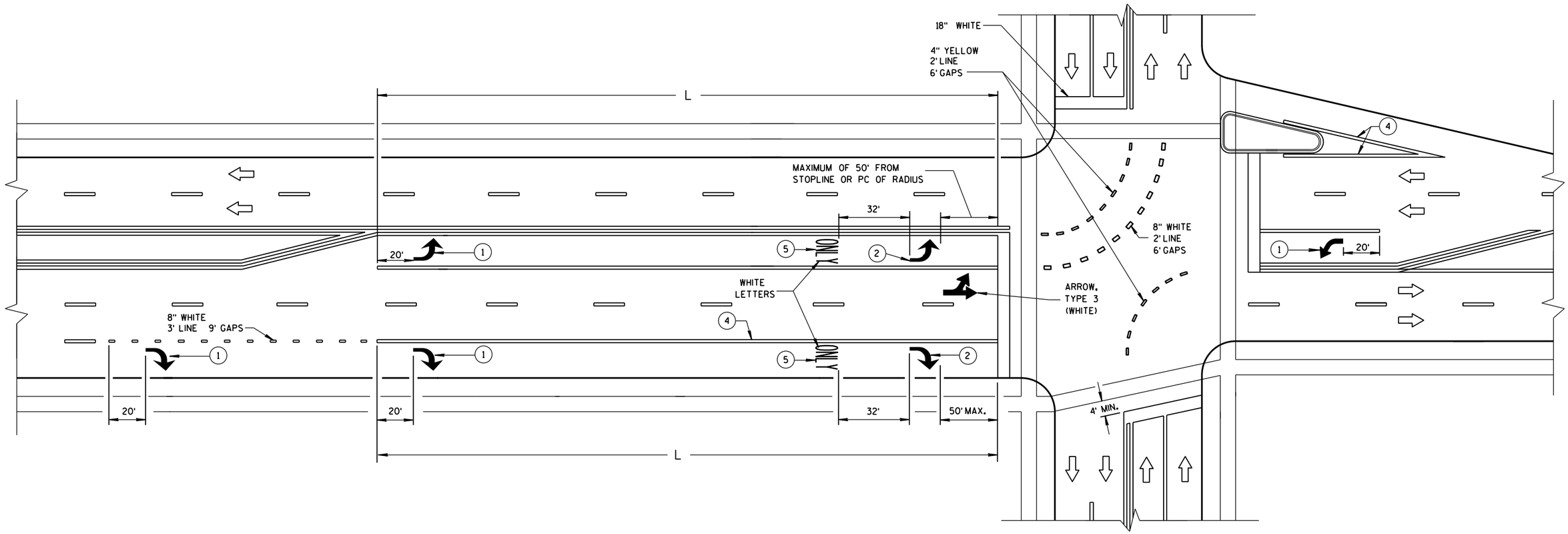
LONGITUDINAL MARKING (MAINLINE)

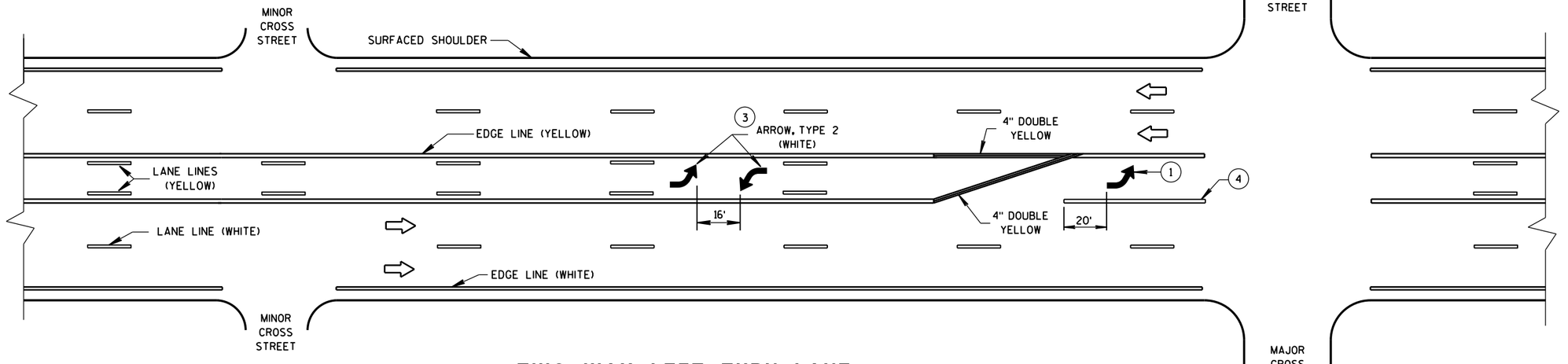
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

S.D.D. 15 C 8-17a

6





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

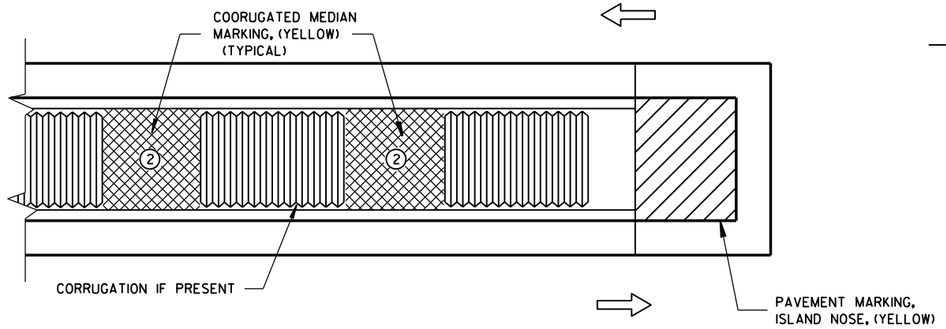
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

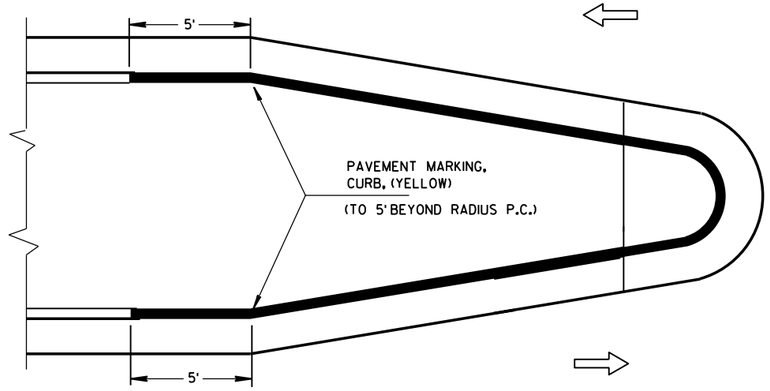
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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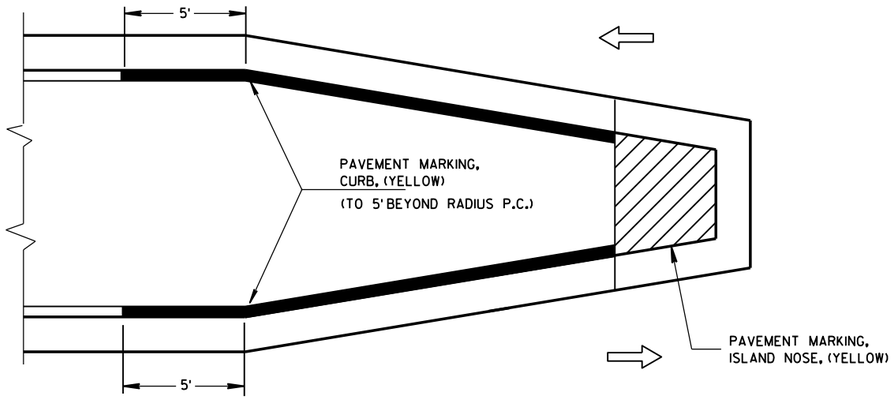
S.D.D. 15 C 8-17b



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

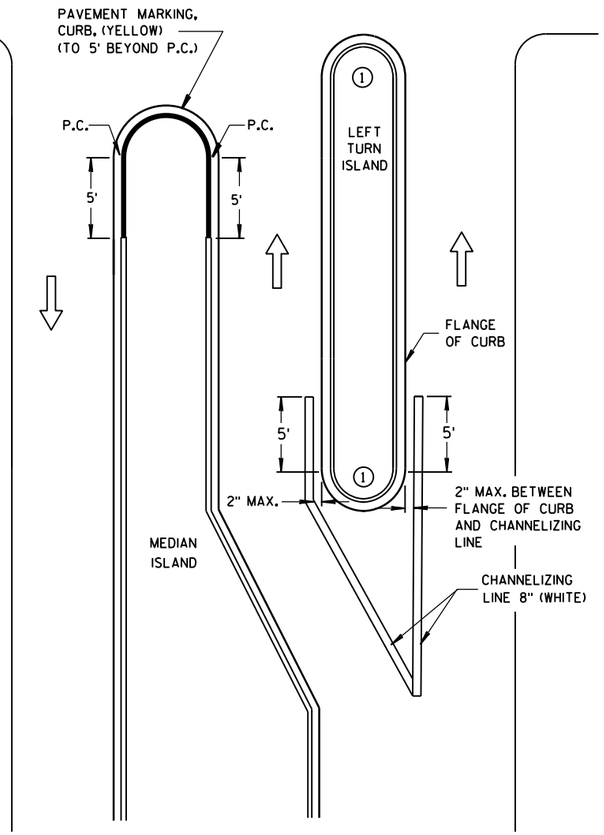


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

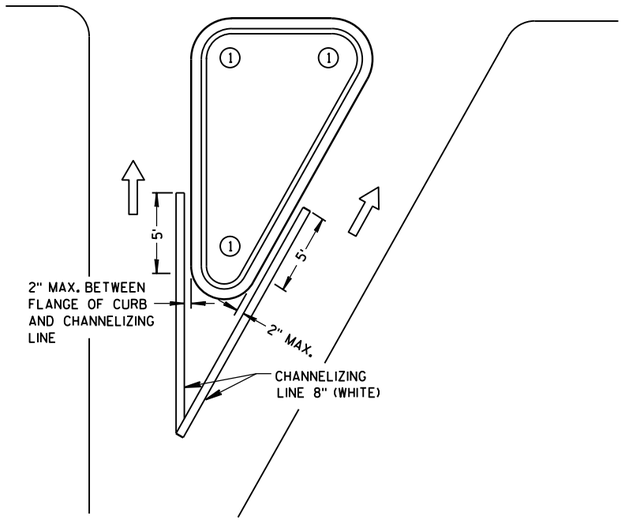


LEFT TURN & MEDIAN ISLAND

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

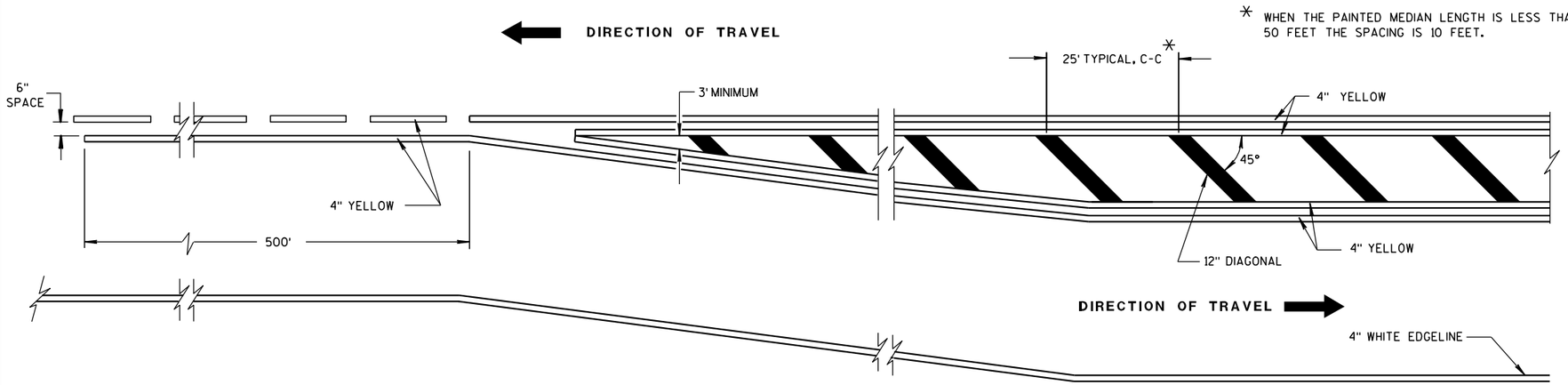
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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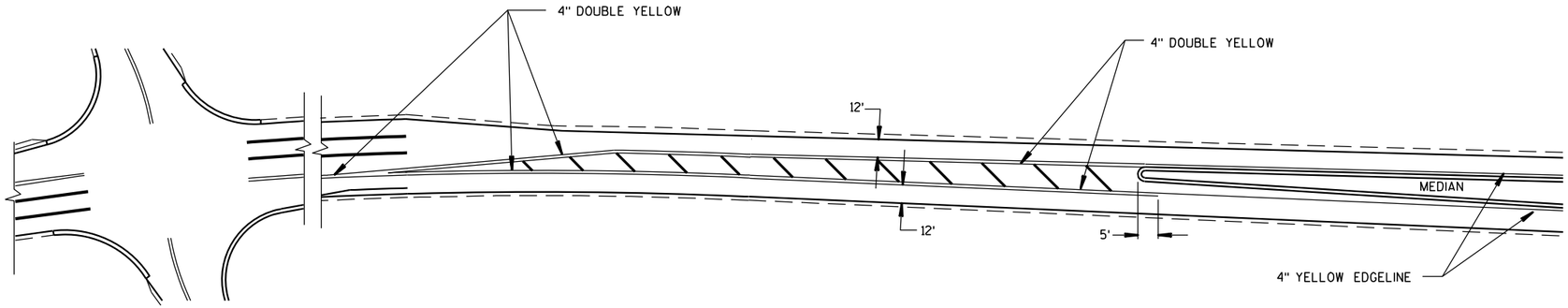
S.D.D. 15 C 8-17c



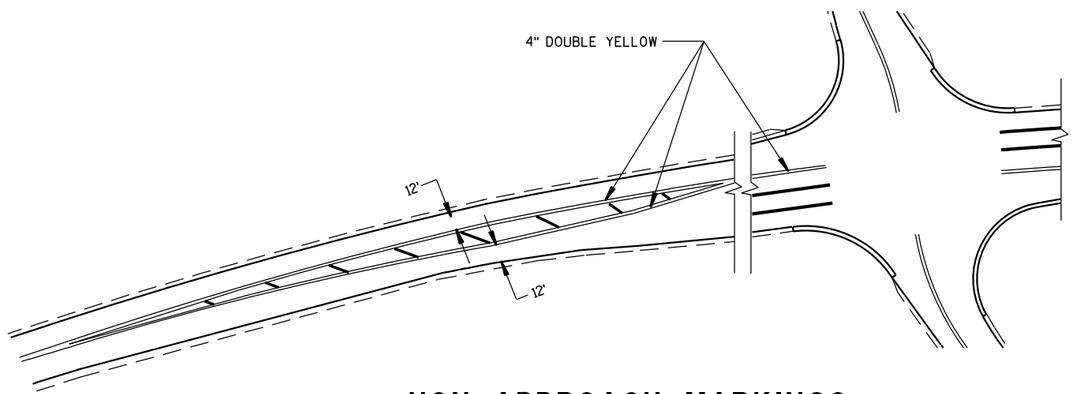
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

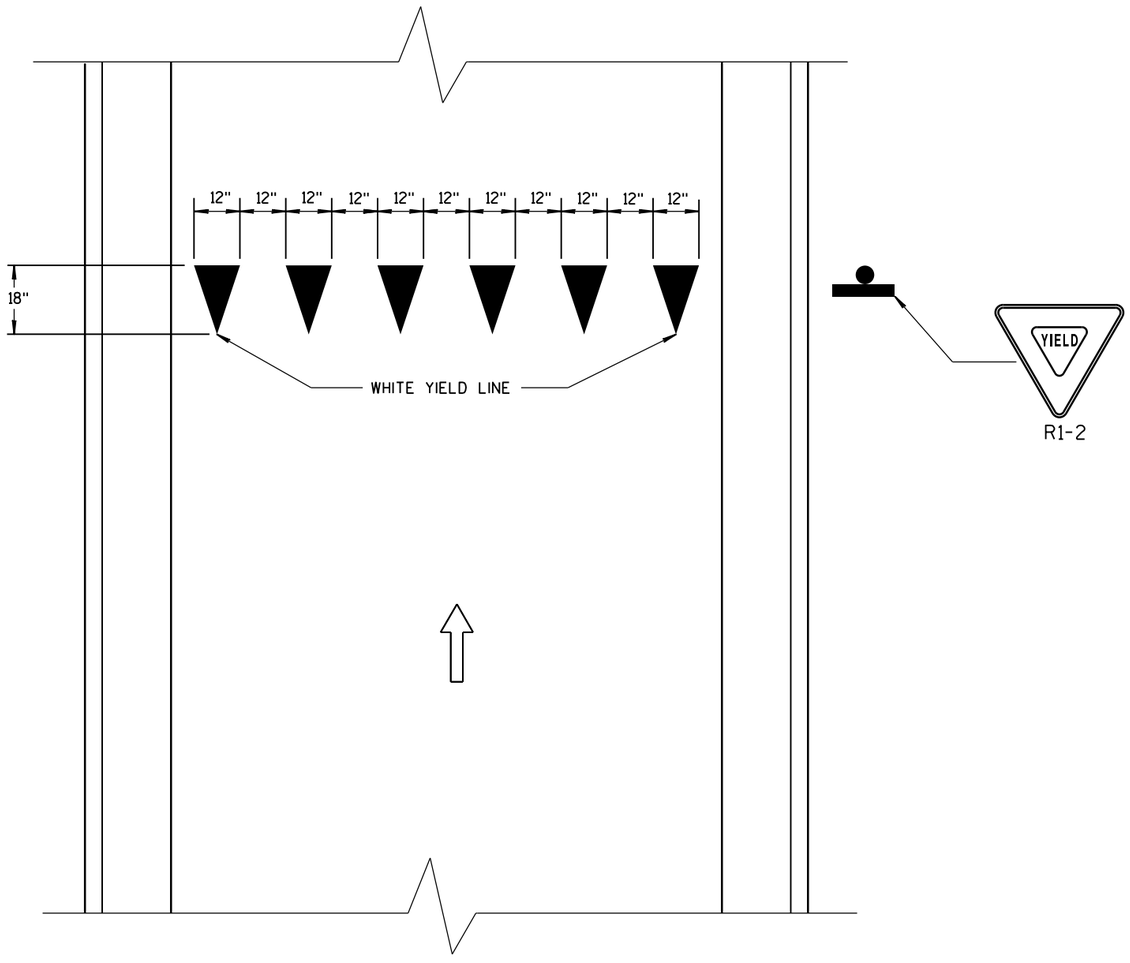
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER 221 IGN
FHWA	

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S.D.D. 15 C 18-3

6

S.D.D. 15 C 18-3



R1-2

DIRECTION OF TRAVEL

YIELD LINE

6

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S.D.D. 15 C 20-2

S.D.D. 15 C 20-2

YIELD MARKINGS

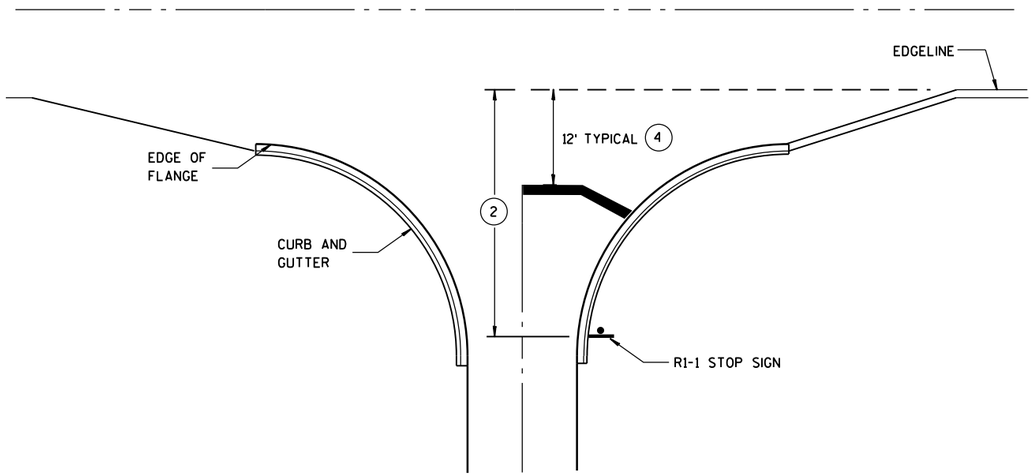
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

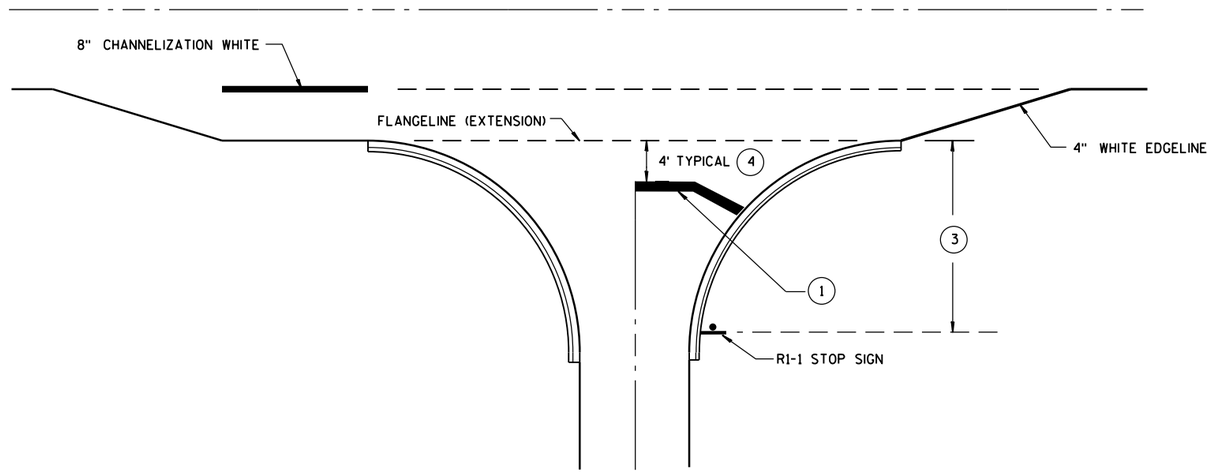
4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARI 222 IEER

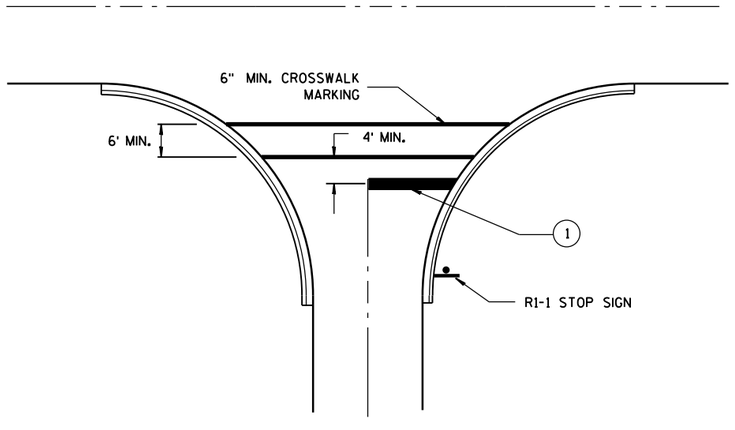
FHWA



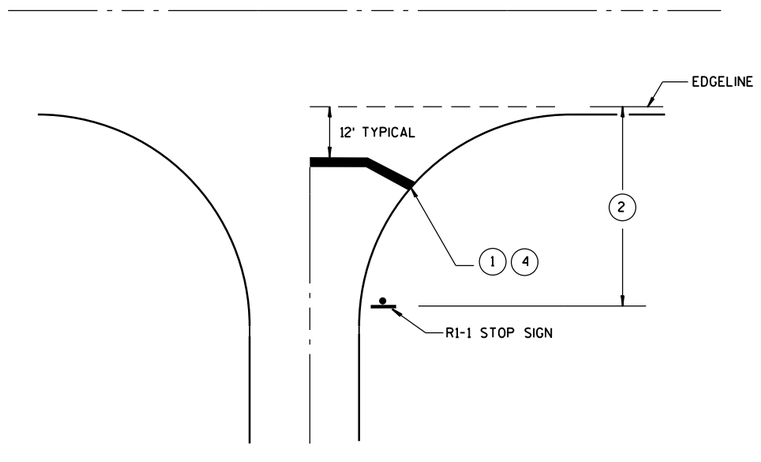
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR 223 NEER

FHWA

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S.D.D. 15 C 33-2

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

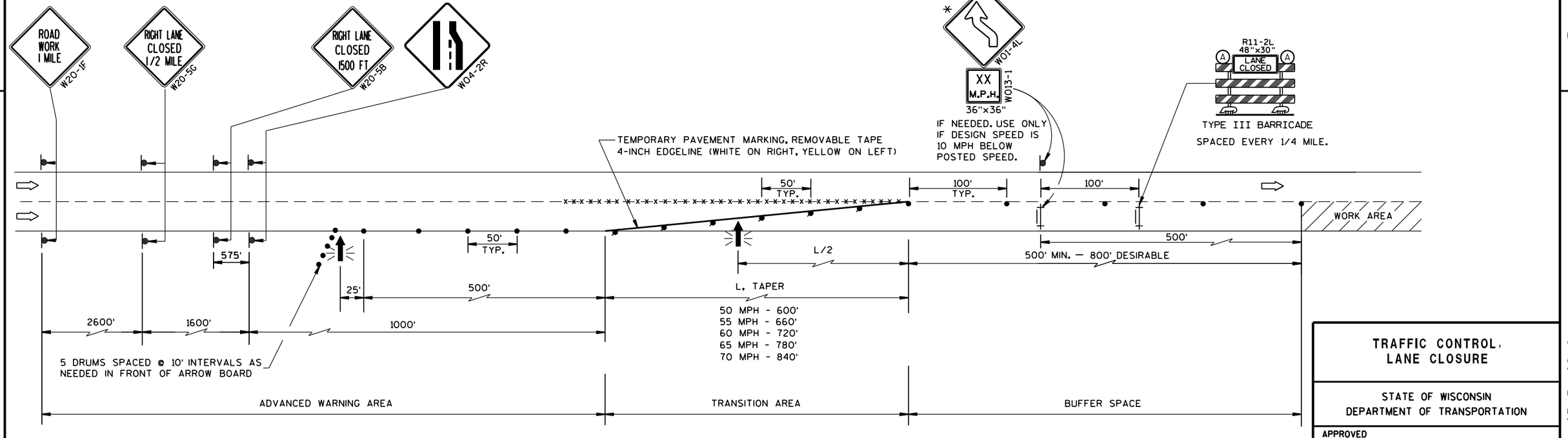
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

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

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



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

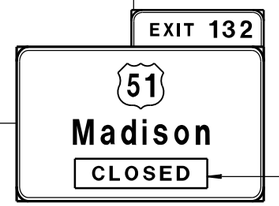
S.D.D. 15 D 12-6a

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



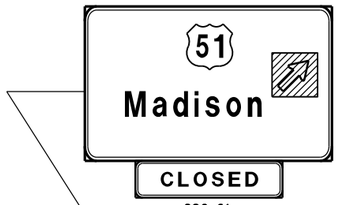
G20-60
108"x24"

OR



G20-60
108"x24"

PLACE SIGN G20-60 OVER MILEAGE
ON EXISTING E1-1A SIGN



COVER ARROW ON
EXISTING E4-1A
SIGN (COVERING
SIGNS TYPE I)

G20-61
120"x30"

TEMPORARY PAVEMENT MARKING
4" REMOVABLE TAPE, WHITE
(ACROSS THE RAMP OPENING)

END
ROAD WORK
*G20-2A
48"x24"

25' TYP.

100' MIN.

200'

EDGE OF SHOULDER

COVER EXISTING
EXIT SIGN

ROAD
WORK
AHEAD
*W20-1A

RAMP
CLOSED
AHEAD
W20-53A

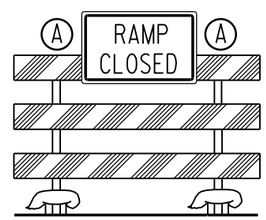
RAMP
CLOSED
1000 FT
W20-53C

1500'

1500'

1000'

R11-2R
48" X 30"
MOUNTED ON
TYPE III BARRICADE



RAMP WILL
BE CLOSED
(TIME)
BEGINNING
(DATE)

**R11-51
48"X48"
(OR SPECIAL SIGN IF INDICATED IN PLAN)

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

* W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

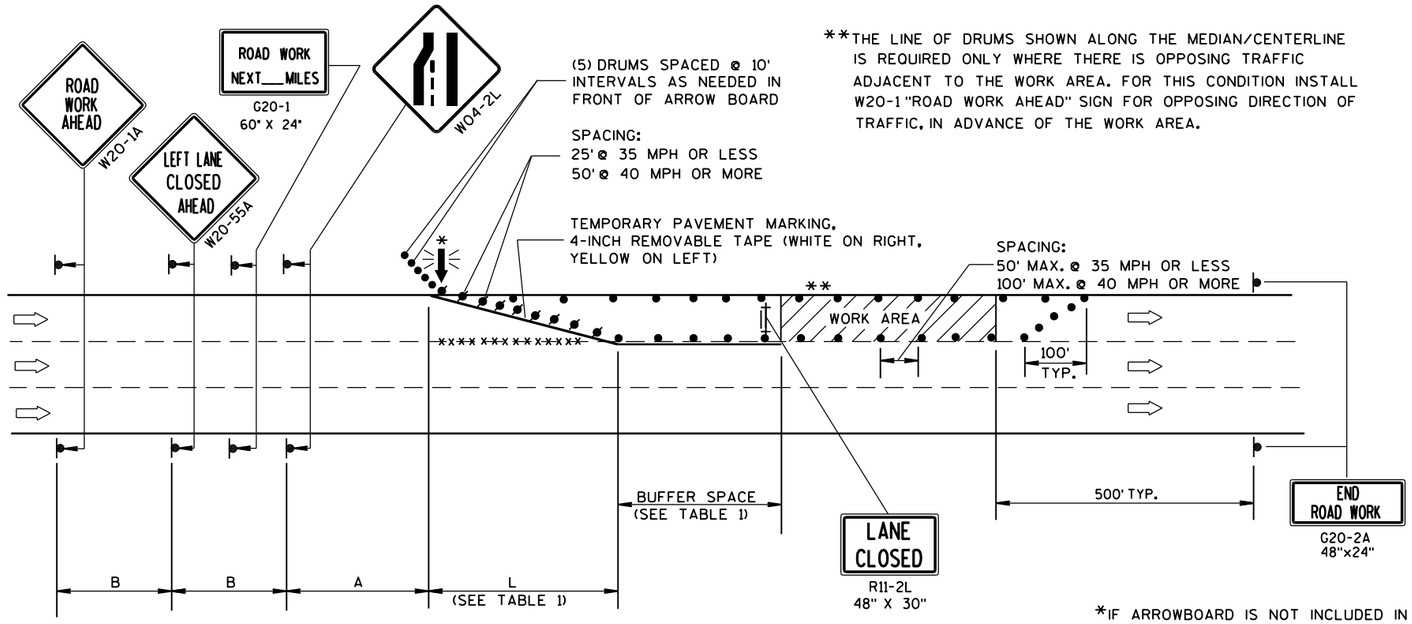
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC
FHWA

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S.D.D. 15 D 16-3

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S.D.D. 15 D 16-3



**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"

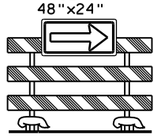


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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.

W20-1A, 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
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 20-4

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

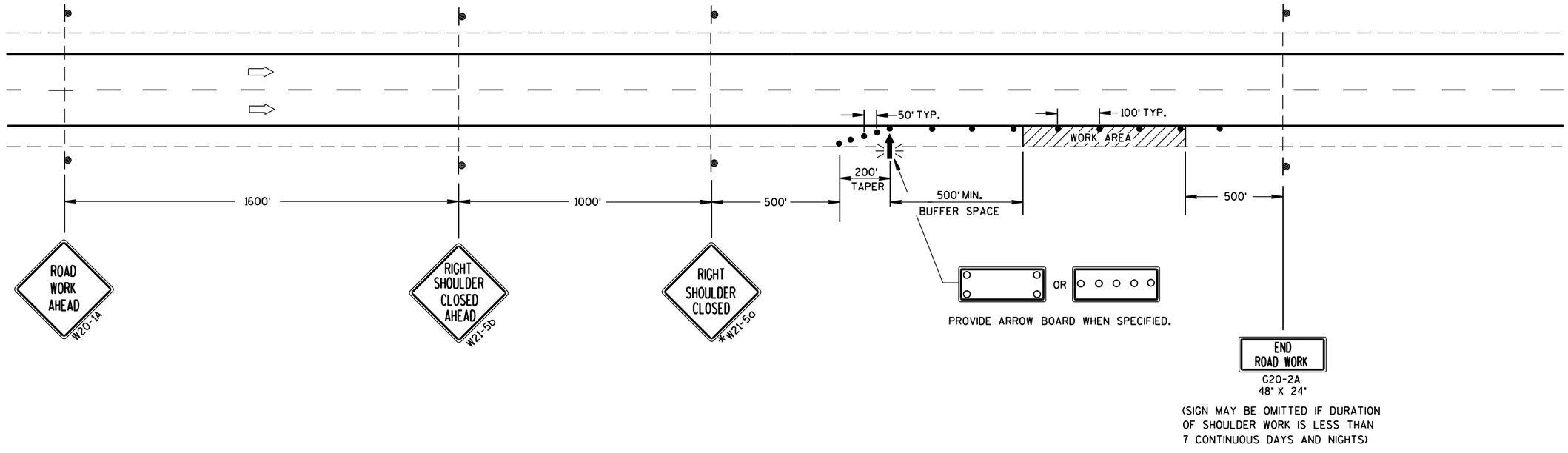
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

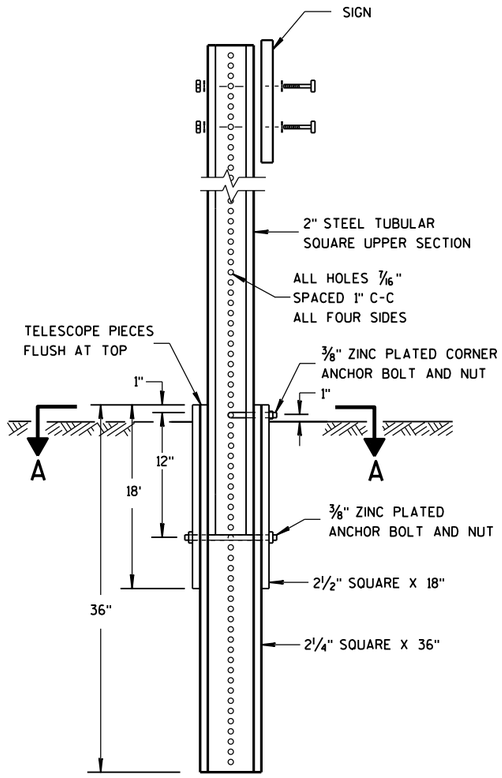
June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

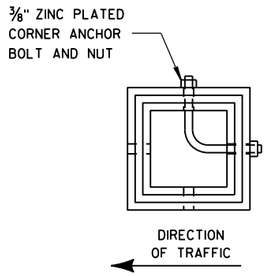
FHWA

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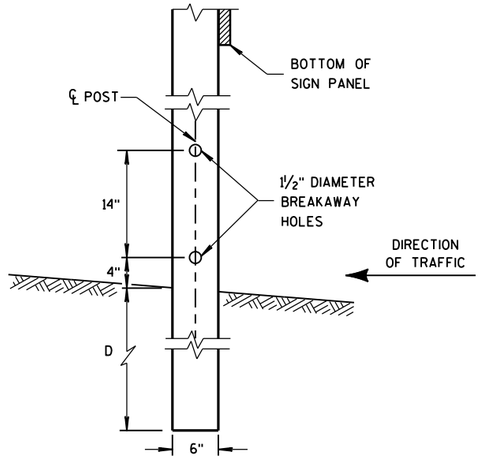
S.D.D. 15 D 27-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



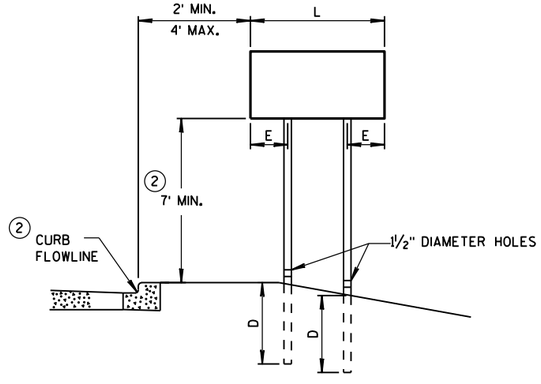
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

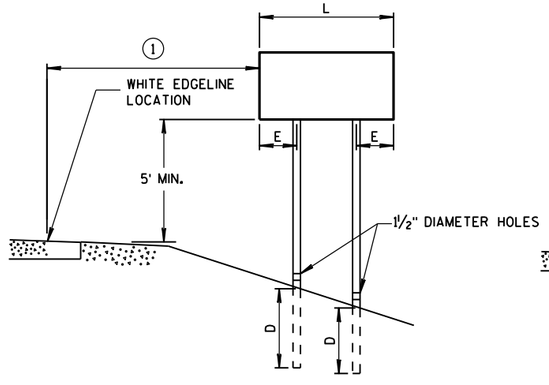
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

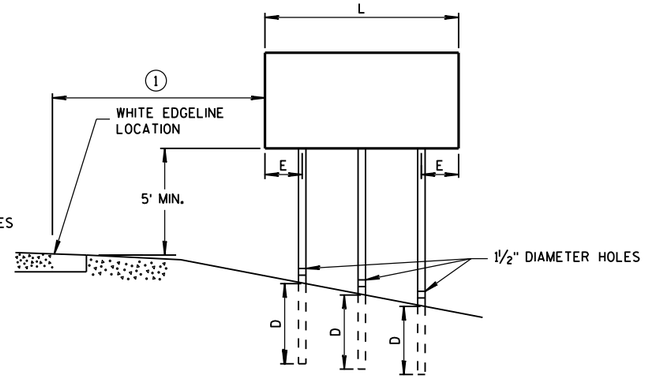
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

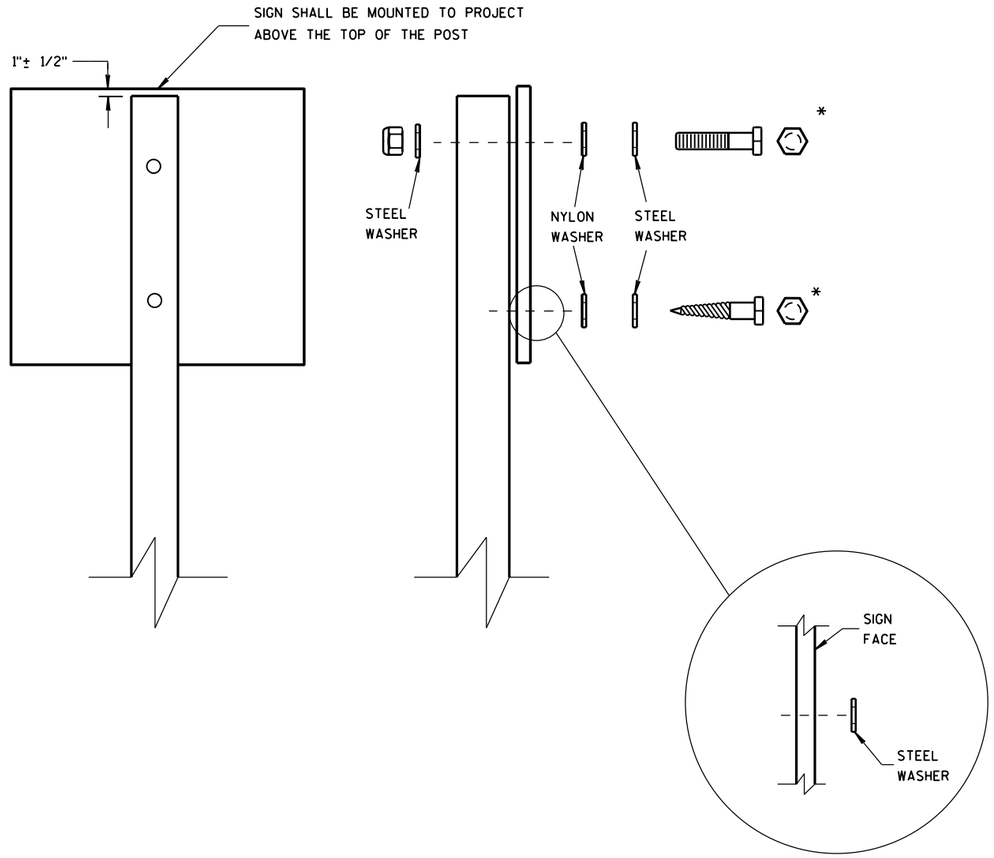
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPO

6

S.D.D. 15 D 38-1a



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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

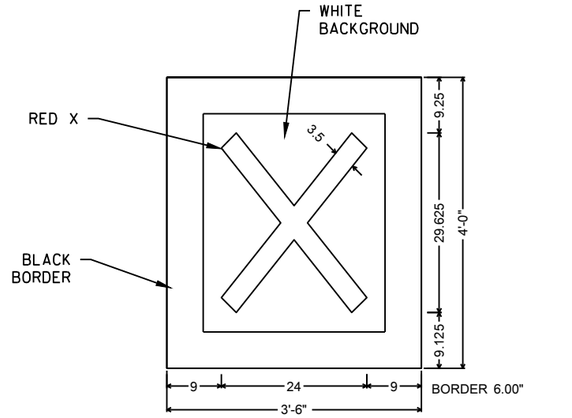
APPROVED

Feb. 2015
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

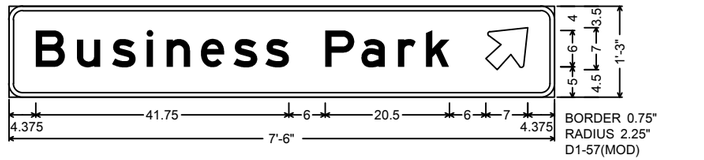
FHWA

SIGN



TYPE II SIGN

14 60



71 72

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.

7

7

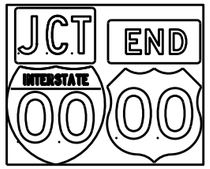
SHEET 1 OF 1

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE II SIGN	SHEET 230	E

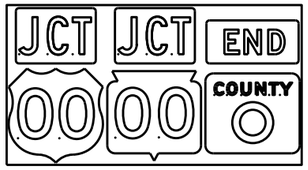
TYPICAL ASSEMBLIES



J1-1



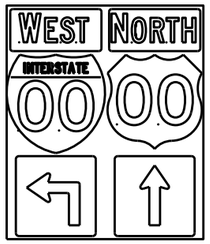
J1-2



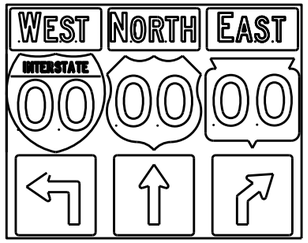
J1-3



J2-1



J2-2

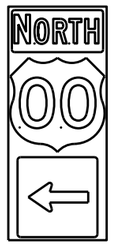


J2-3

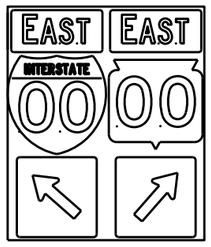


JV

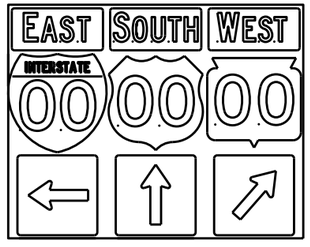
(Typical Vertical J-Assembly
See Note 10 and 11)



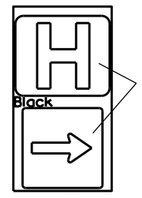
J3-1



J3-2



J3-3

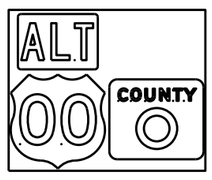


Blue Background

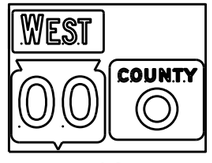
JH-1



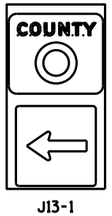
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

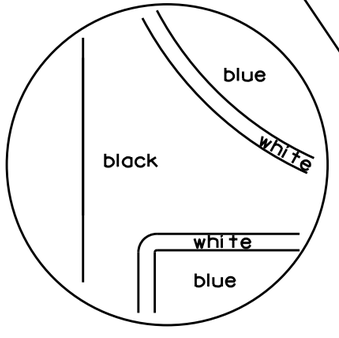


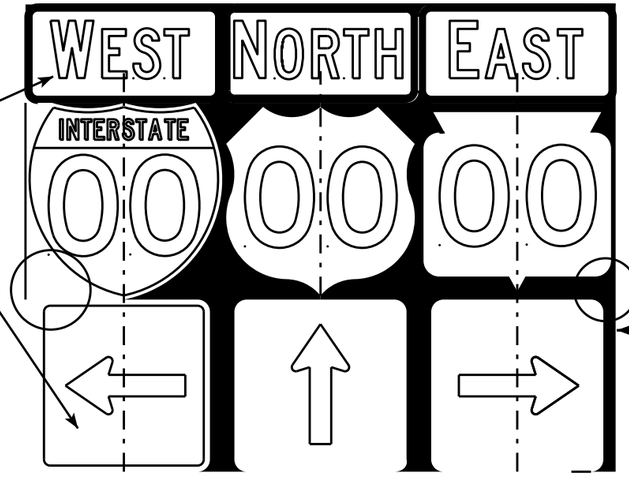
J23-1

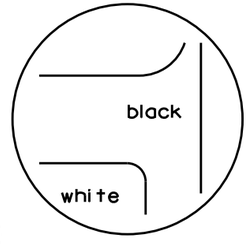


J22-1

[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

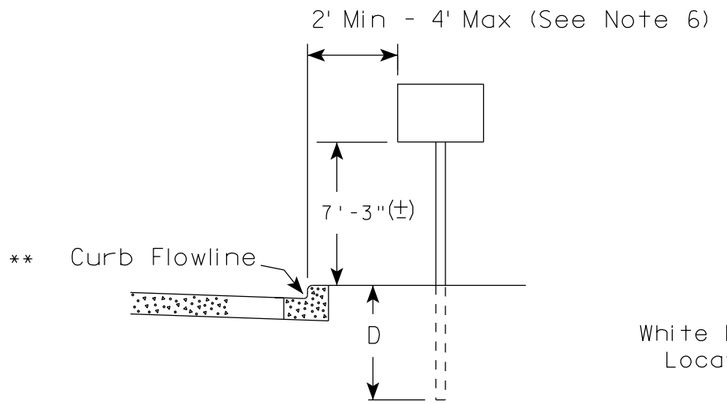
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

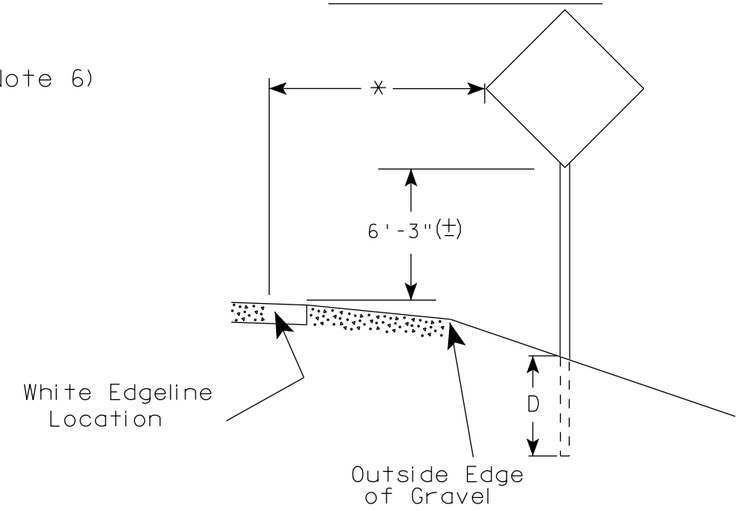
PROJECT NO: | SHEET NO: E

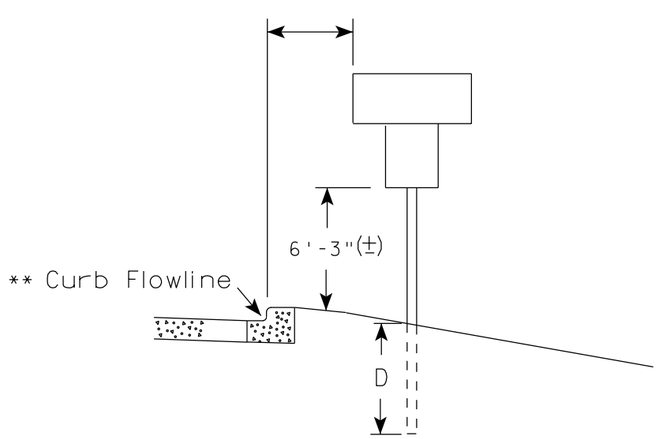
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WISDOT/CADDS SHEET 42

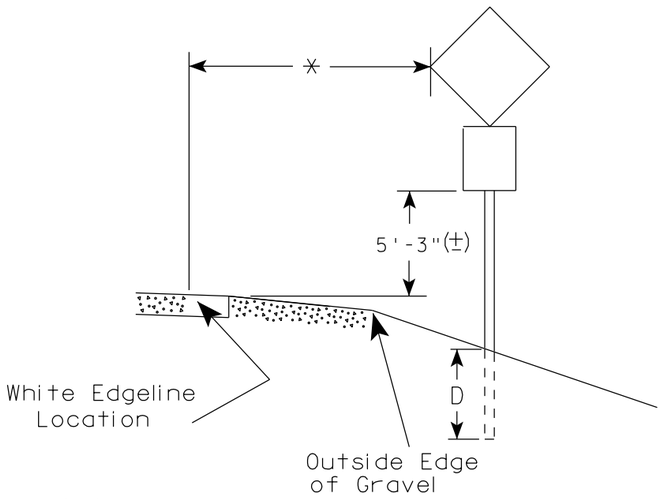
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. 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" (±).

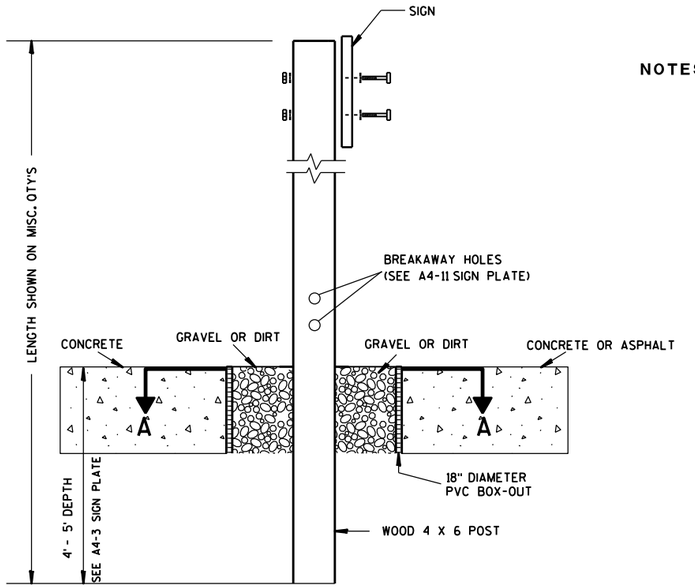
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

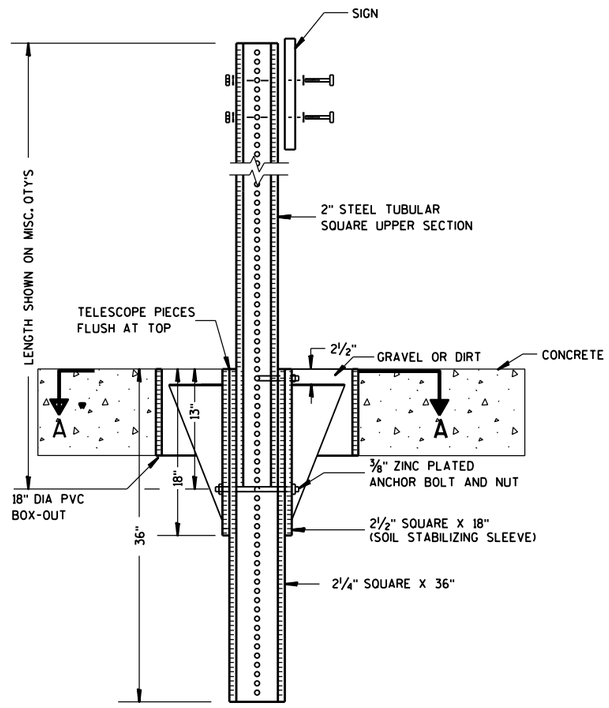
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

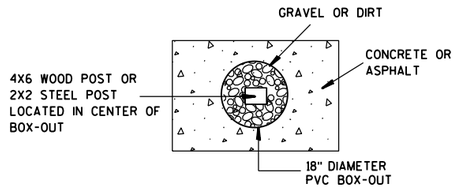
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

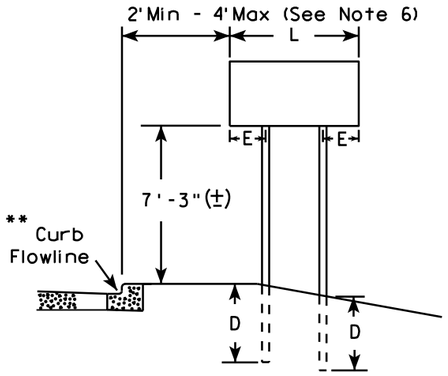
APPROVED Matthew R Rauch
for State Traffic Engineer

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

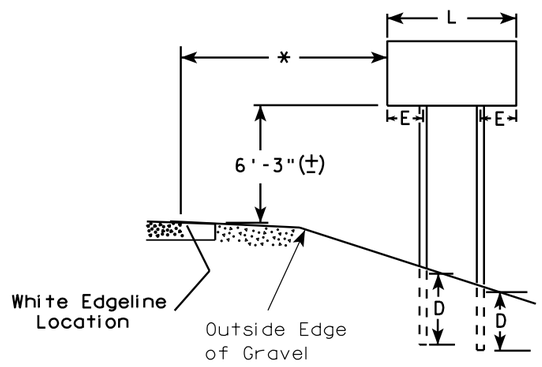
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

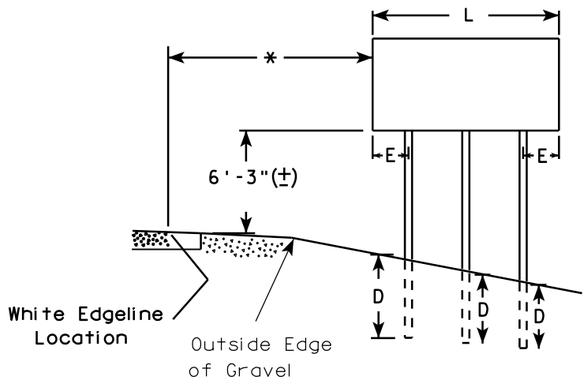
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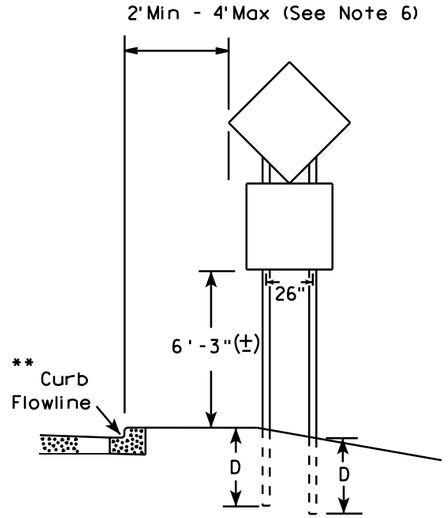
URBAN AREA



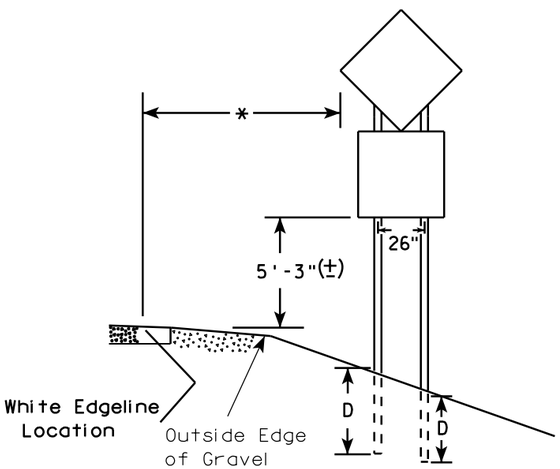
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (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 and less than 20 S.F. in area.

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

***

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

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

POST EMBEDMENT DEPTH

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

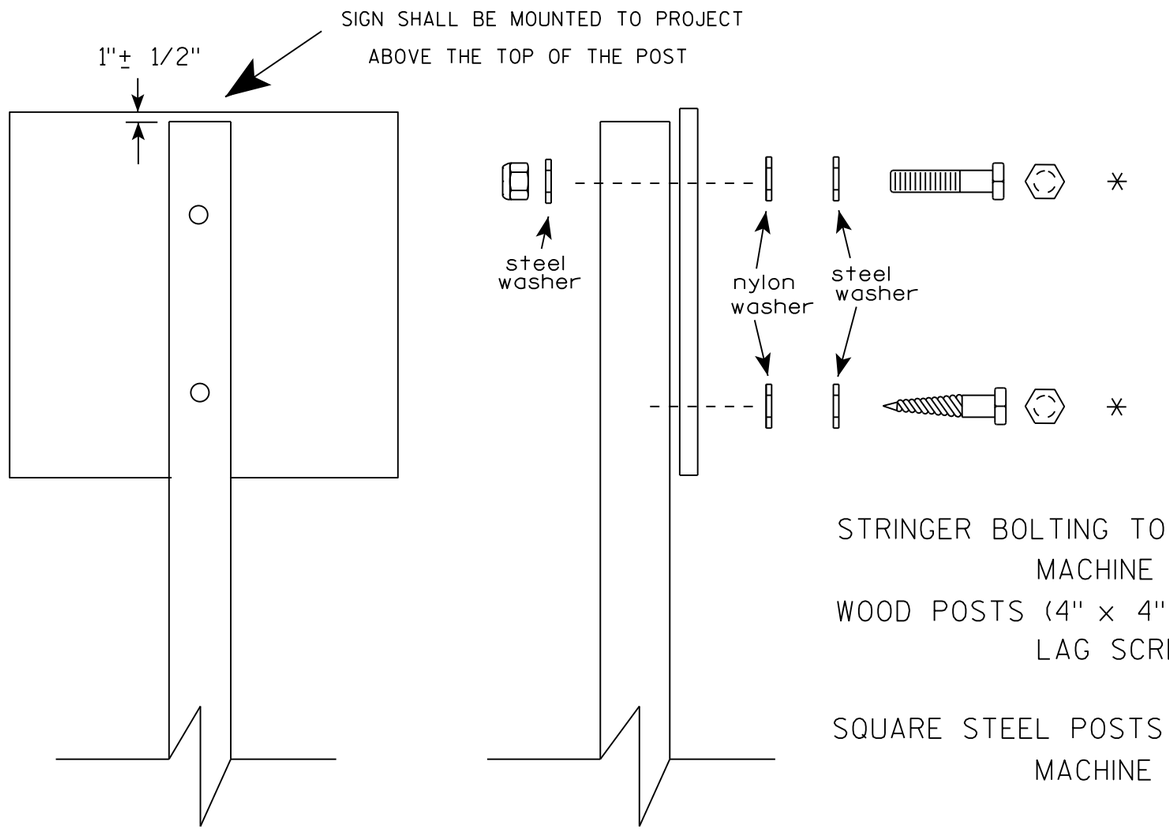
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 234 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

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

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

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

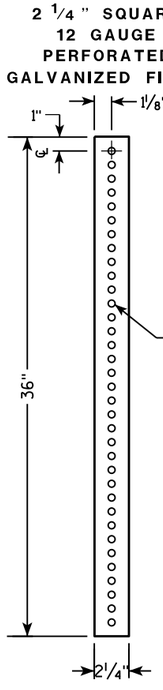
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

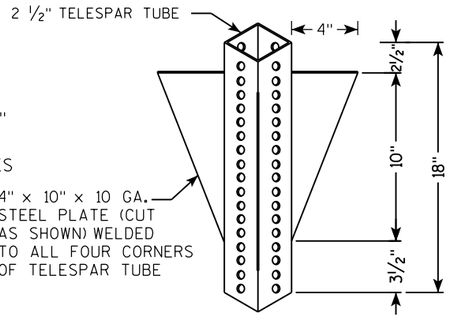
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

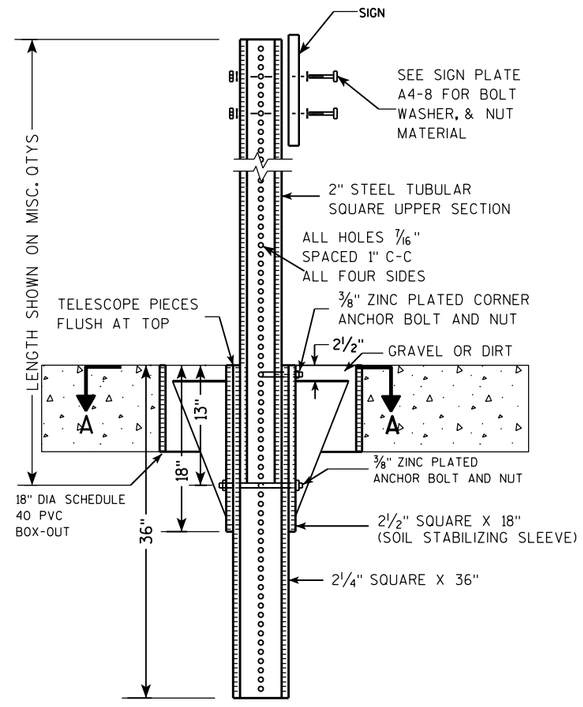
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



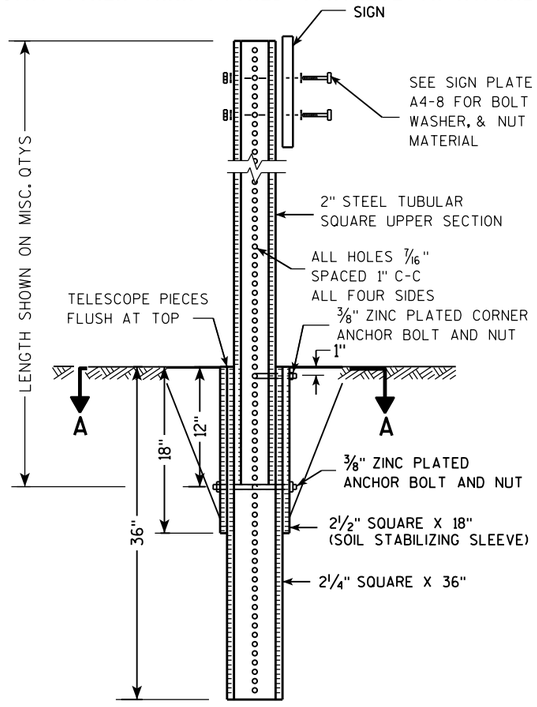
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

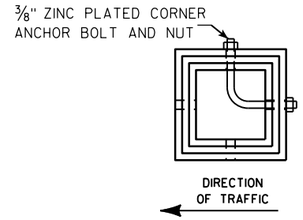


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

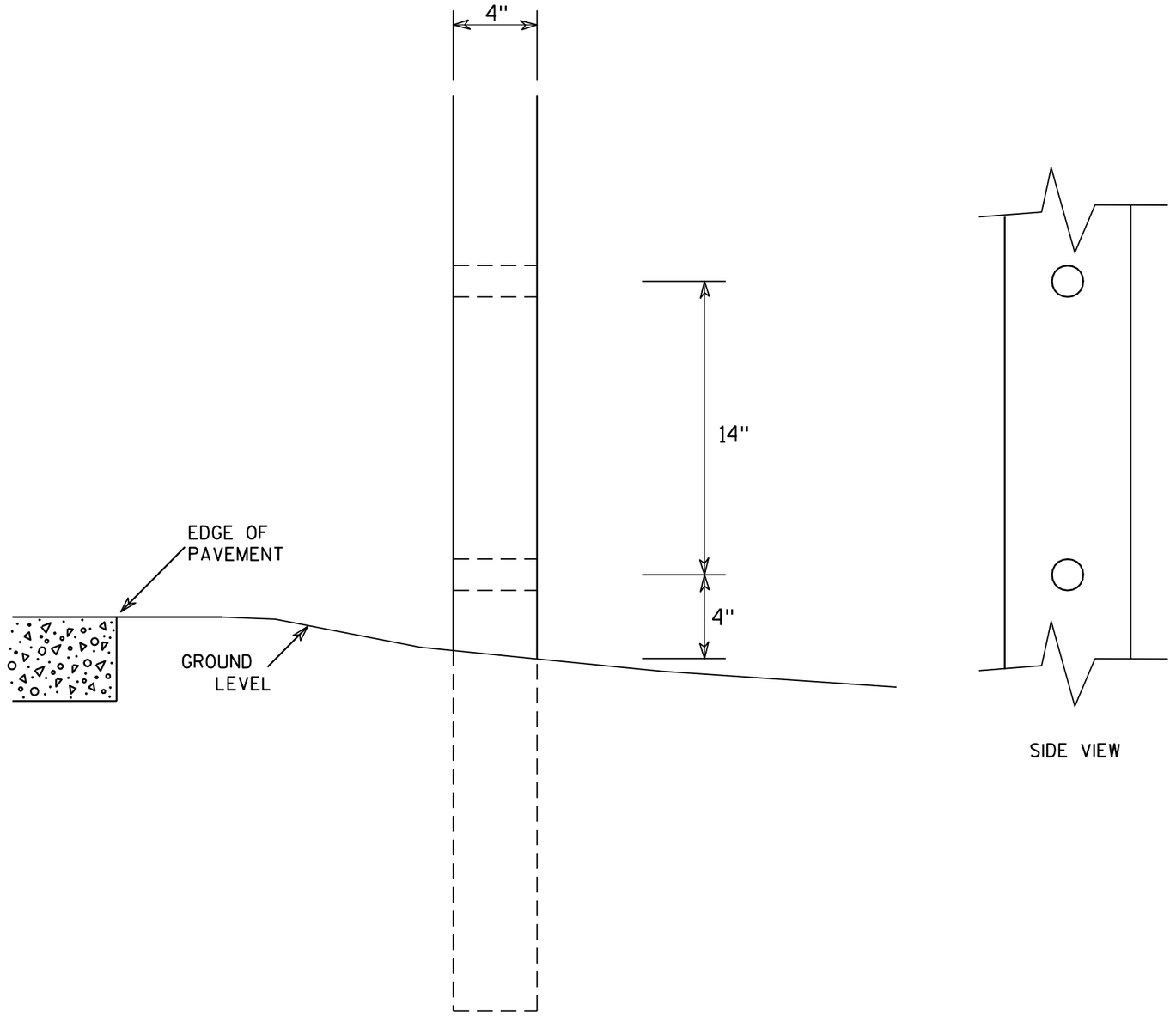
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

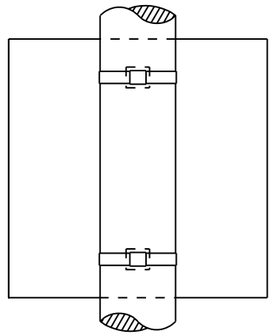
APPROVED Chester J Spang for State Traffic Engineer

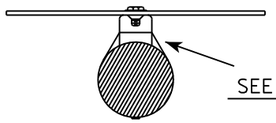
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 237	E

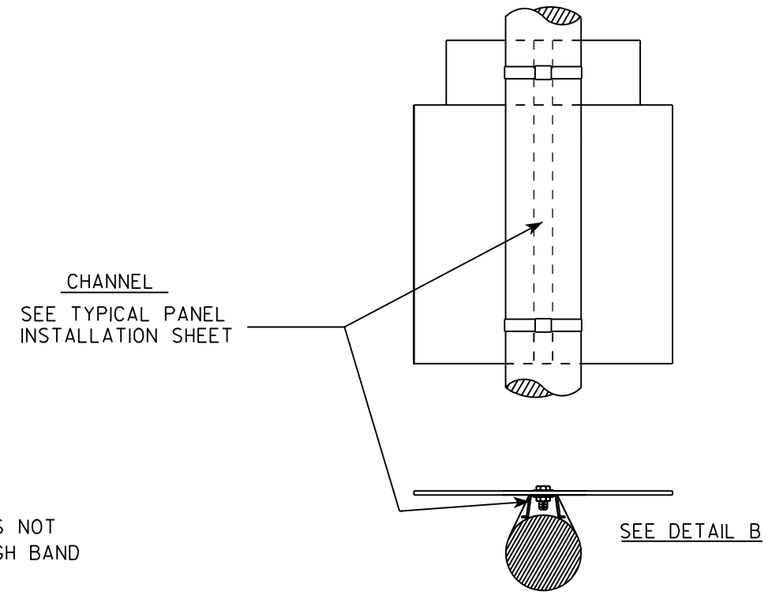
BANDING

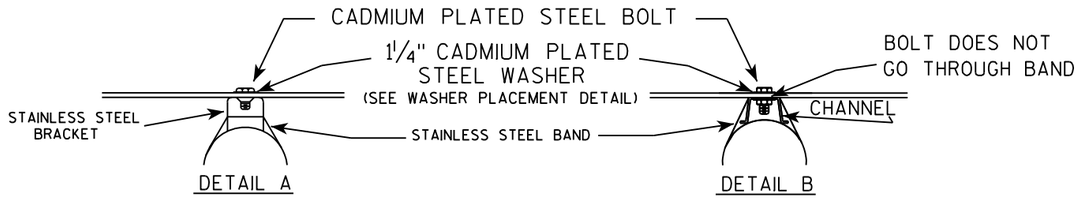
SINGLE SIGN



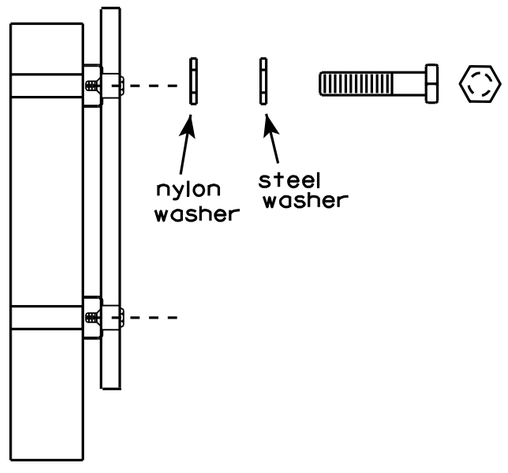


"J" ASSEMBLY





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.

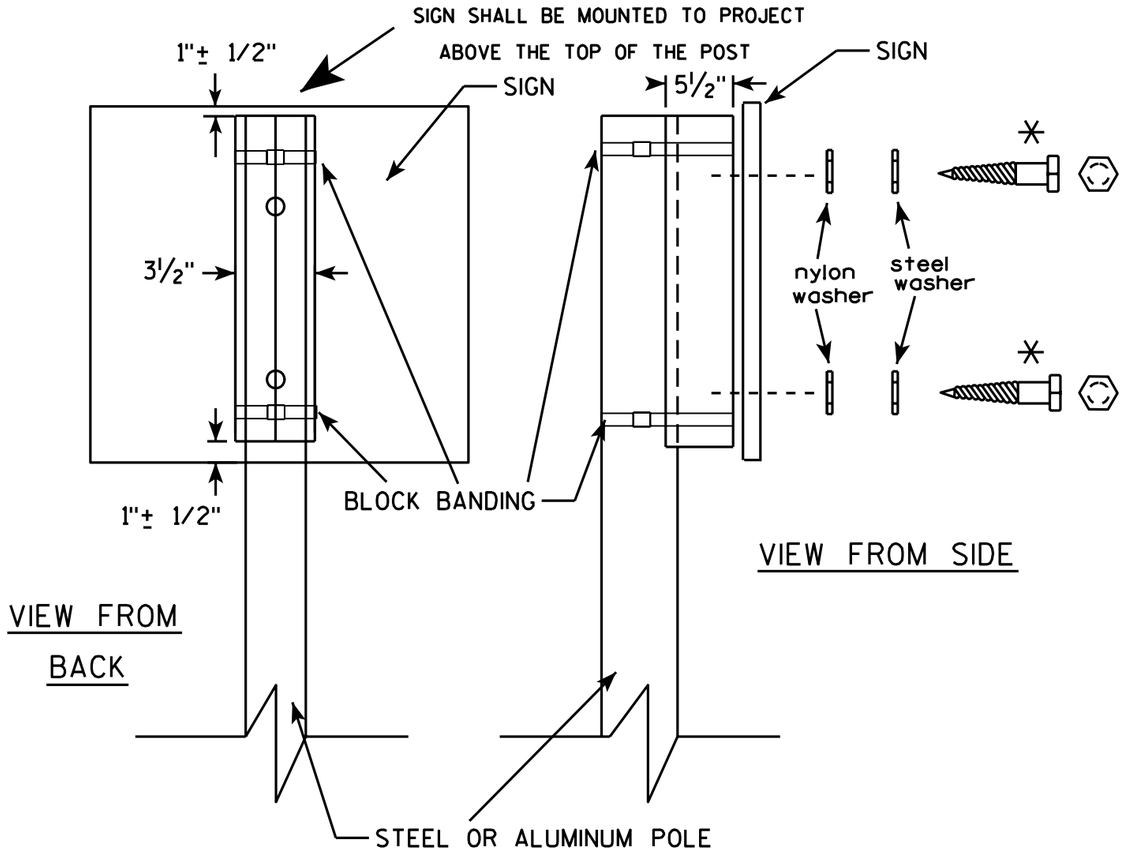
STANDARD SIGN
SIGN BANDING DETAILS

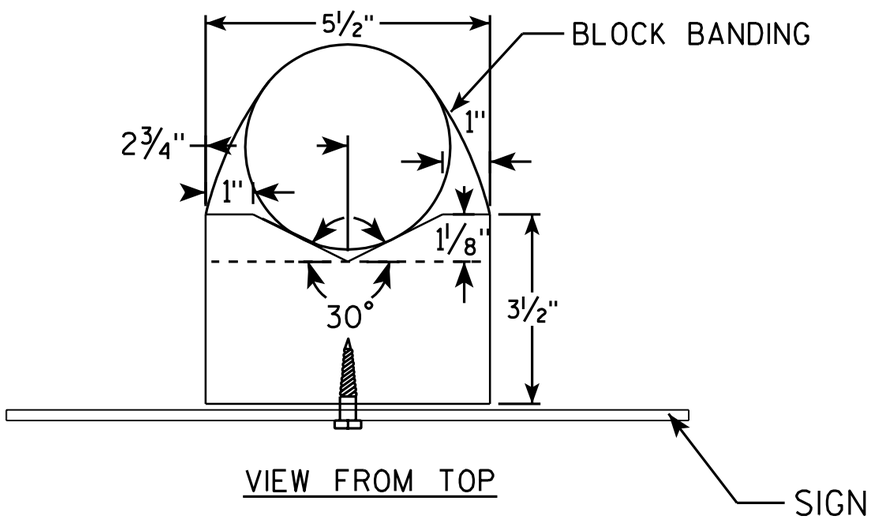
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 238	E





GENERAL NOTES

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

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

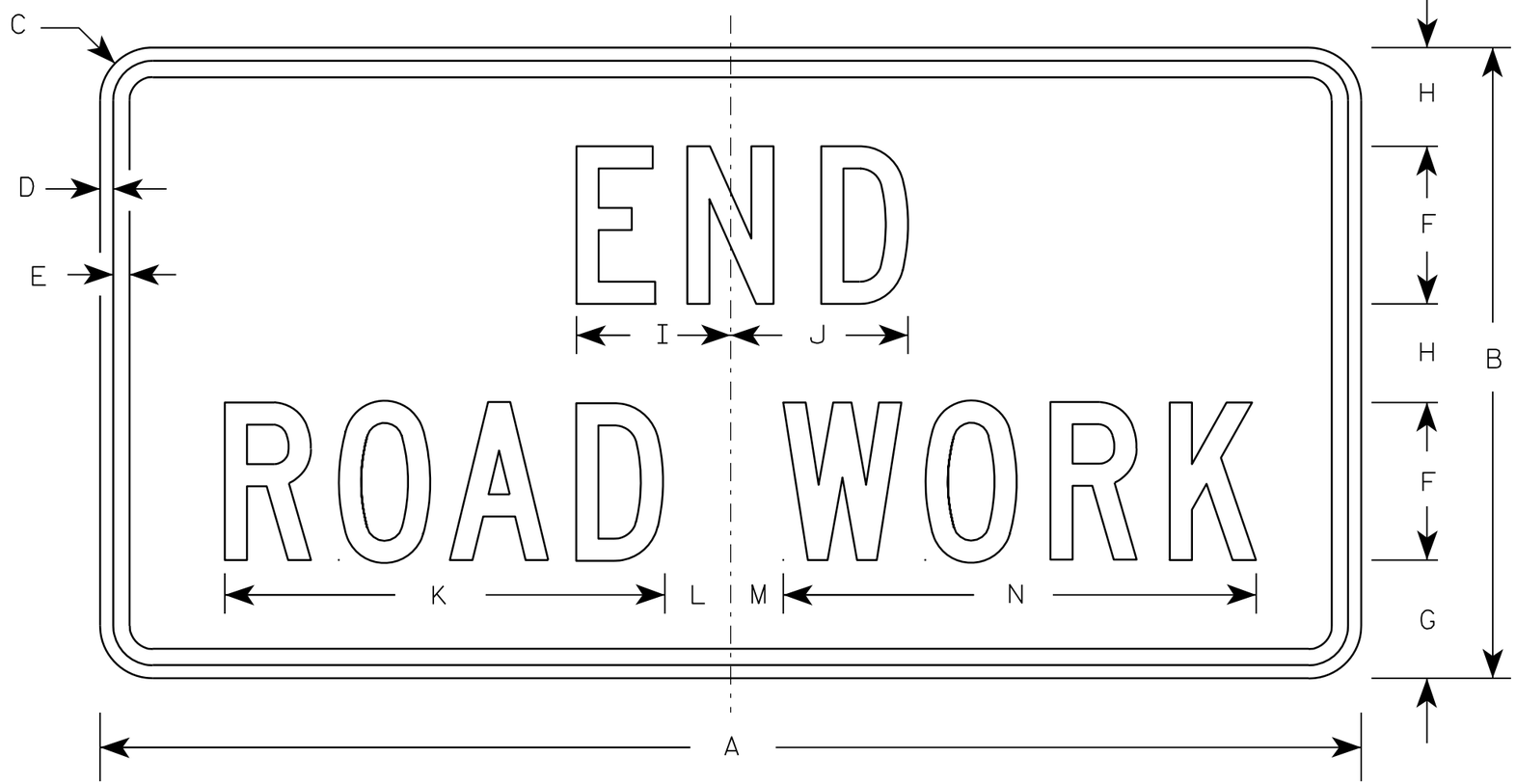
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO: 239 E

FILE NAME : C:\Users\Projects\tr_stdplate\A510.dgn PLOT DATE : 06-AUG-2007 13:37 PLOT BY : ditjph

WISDOT/CADDS SHEET 42



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: 240	E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E
4. Material shall be .040 aluminmum



G20-60

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																											
3																											
4	108	24				12	6	14 7/8	78 1/4																		18.0
5																											

STANDARD SIGN
G20-60

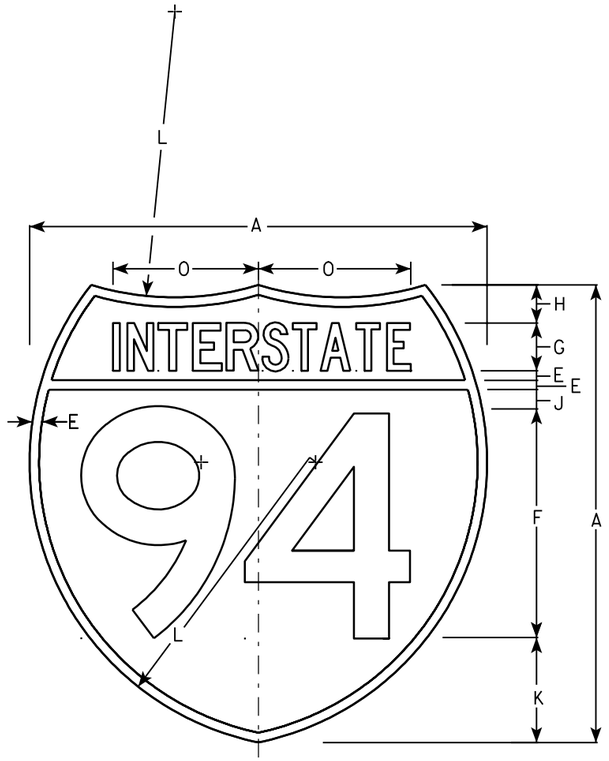
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

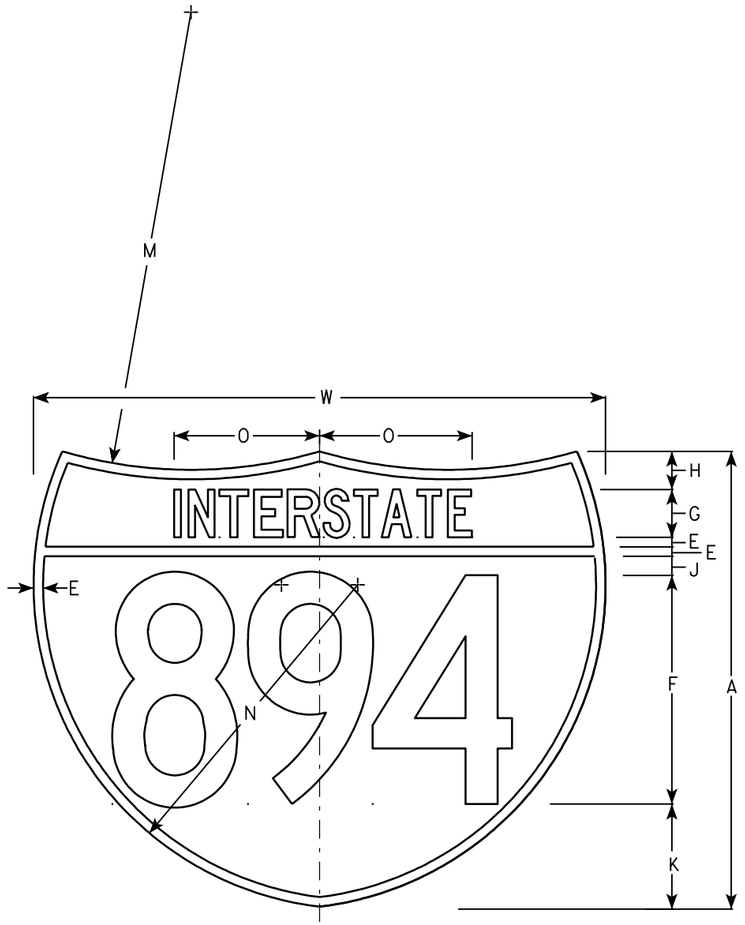
DATE 5/13/15 PLATE NO G20-60.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G2060.DGN PLOT DATE : 13-MAY-2015 08:46 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 20.431338:1.000000
WISDOT/CADDS SHEET 42



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

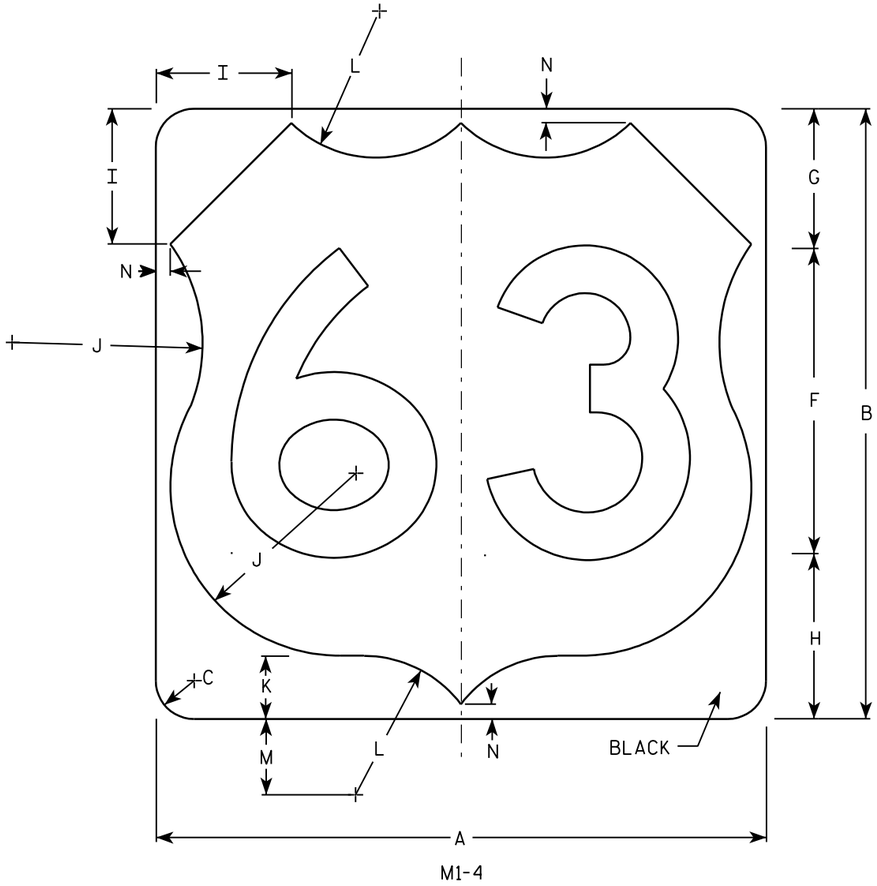
APPROVED Matthew R Rauch
for State Traffic Engineer

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

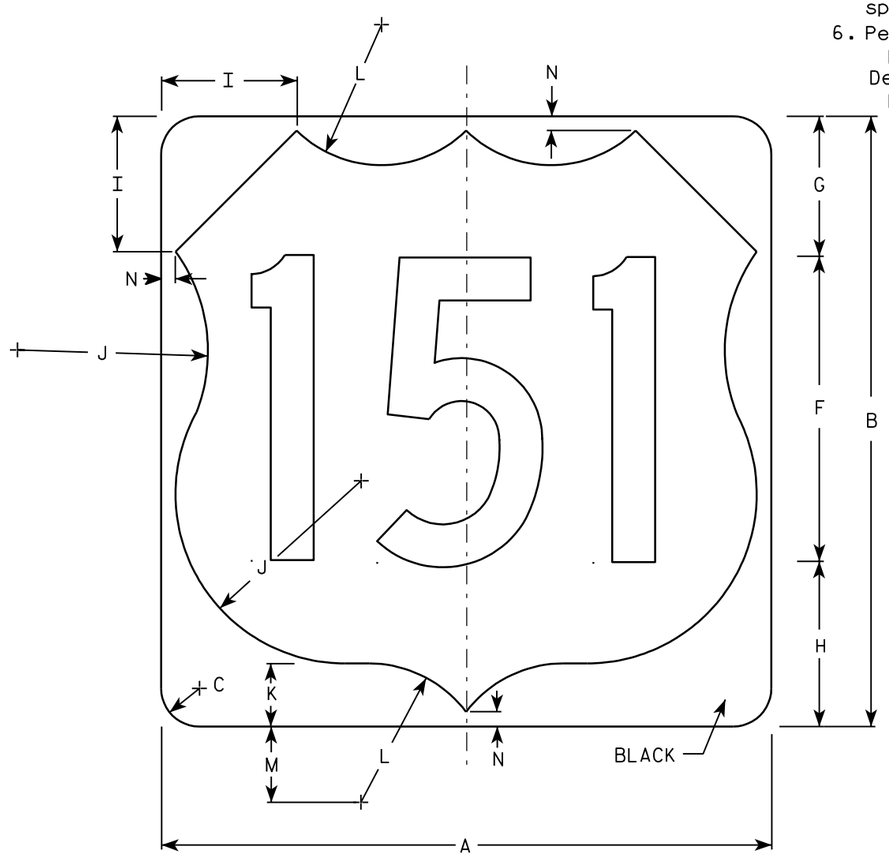
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 242	E

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

7

7

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	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

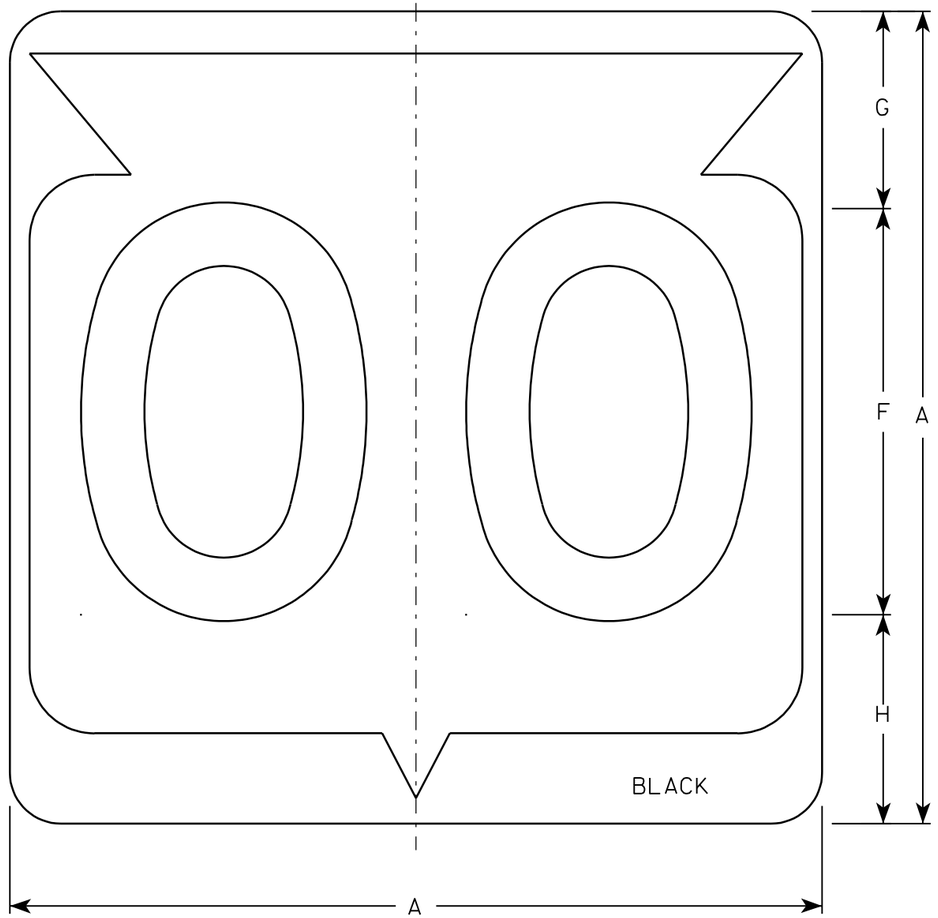
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

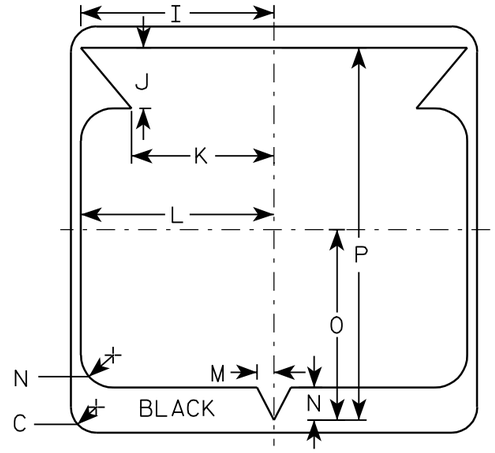
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 243	E



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

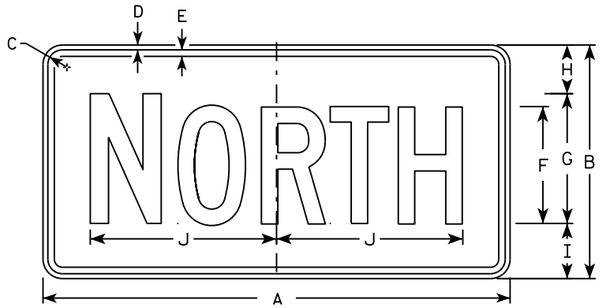
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

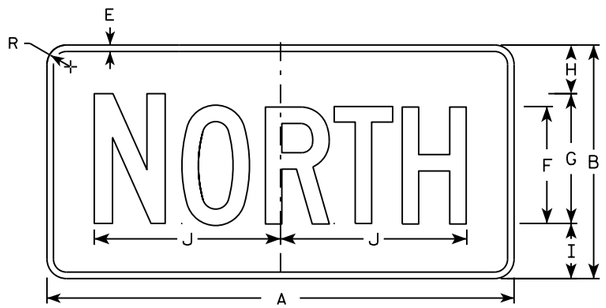
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 244	E



M3-1
MM3-1
MP3-1



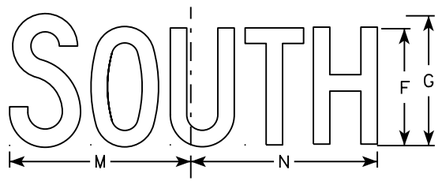
MB3-1
MK3-1
MN3-1



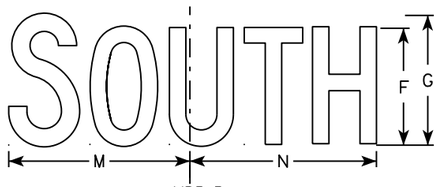
M3-2
MM3-2
MP3-2



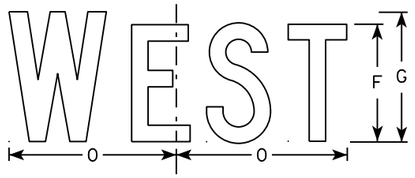
MB3-2
MK3-2
MN3-2



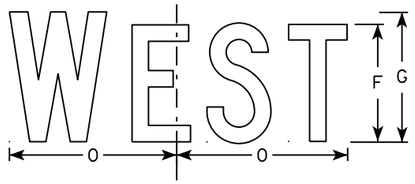
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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
   MP3-1 thru MP3-4 Background - White
   Message - Blue
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

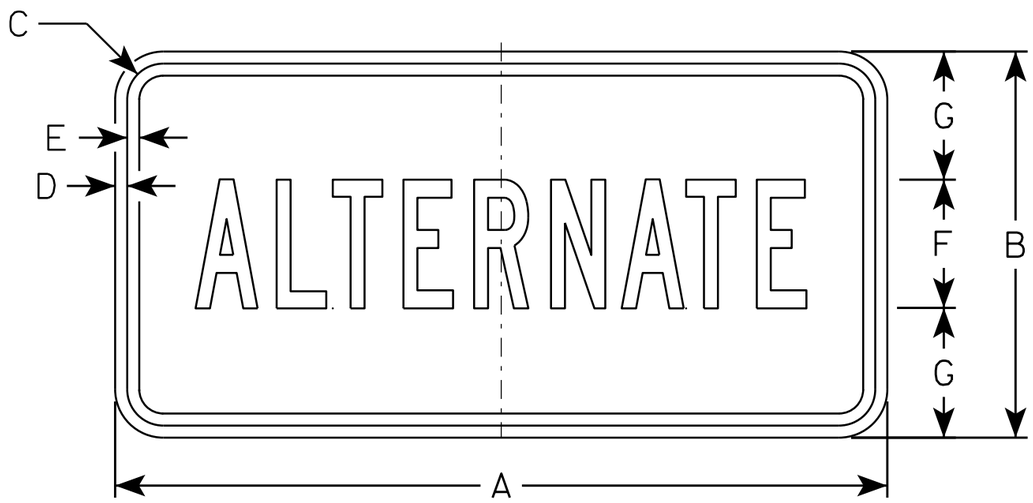
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

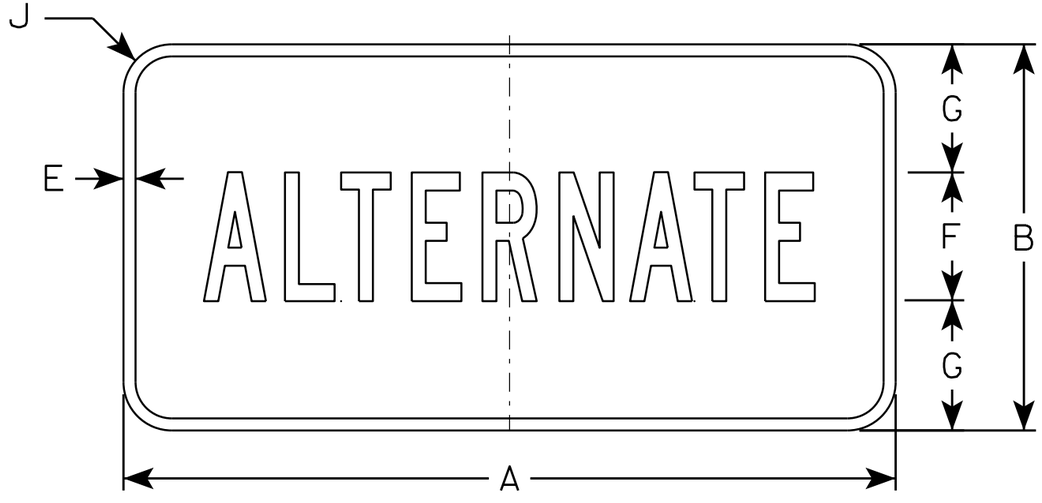
DATE 10/15/15 PLATE NO M3-1.14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



M4-1
M04-1



MB4-1

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See Note 5
   Message - See note 5
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.
5. M4-1 Background - White
   Message - Black

   MB4-1 Background - Blue
   Message - White

   M04-1 Background - Orange - Type F
   Message - Black

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	4	4	9 3/4	9 1/2	1 1/2																	2.00
3	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
4	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5
5	36	18	1 1/8	3/8	1/2	7	5 1/2	16 3/8	16 1/2	1 1/2																	4.5

STANDARD SIGN
M4-1

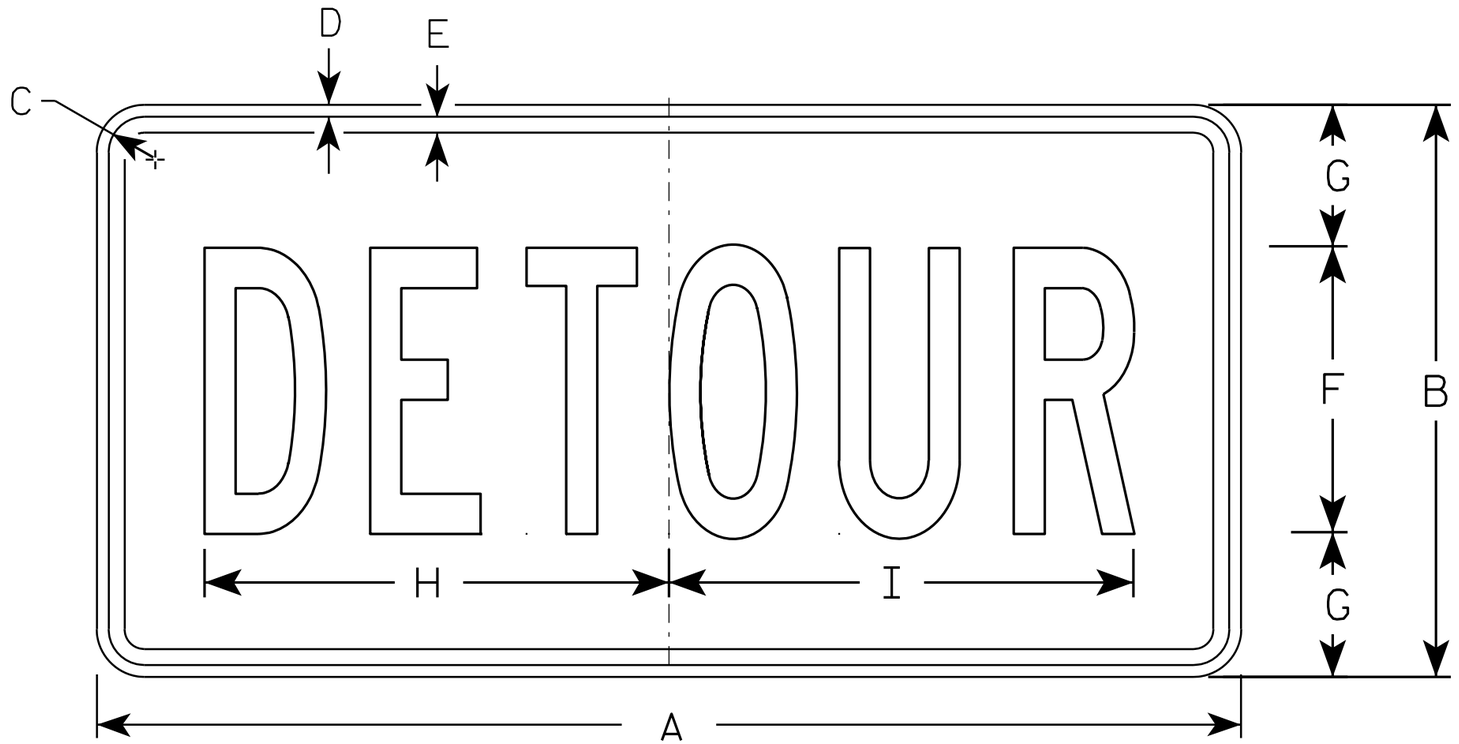
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/14 PLATE 14-1.8

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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M41.DGN PLOT DATE : 30-JUN-2014 15:38 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.708937:1.000000
WISDOT/CADDS SHEET 42



M4-8

NOTES

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

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

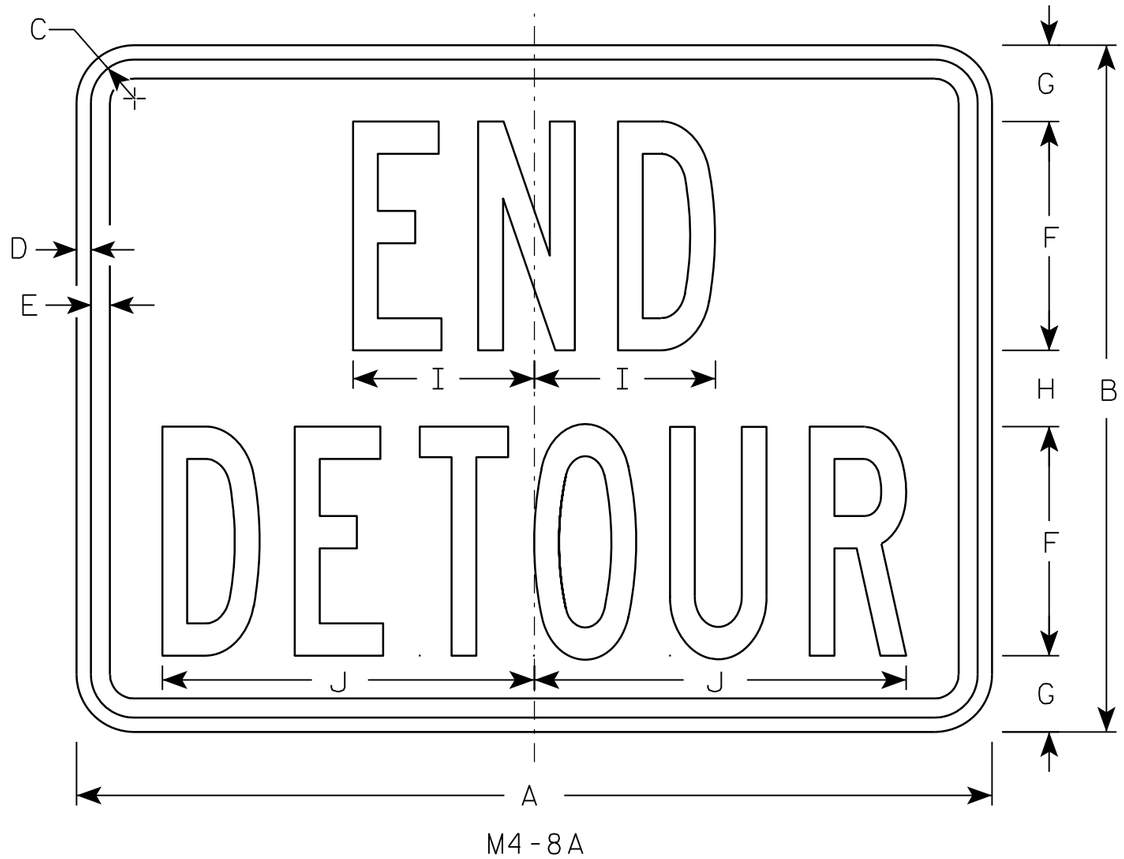
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 247 | E



M4-8A

NOTES

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

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

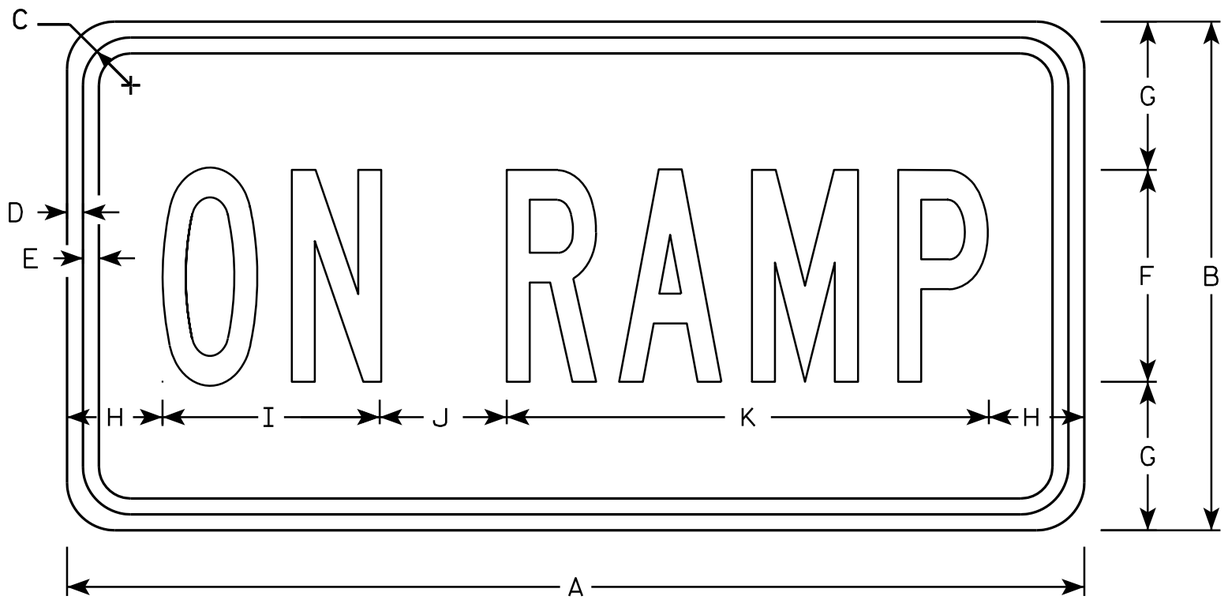
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 248	E



M4-10

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	5	3 1/2	2 1/4	5 1/8	3	11 3/8																2.0
3	36	18	1 1/8	3/8	1/2	8	5	2 1/4	8 1/4	5	18 1/4																4.5
4																											
5																											

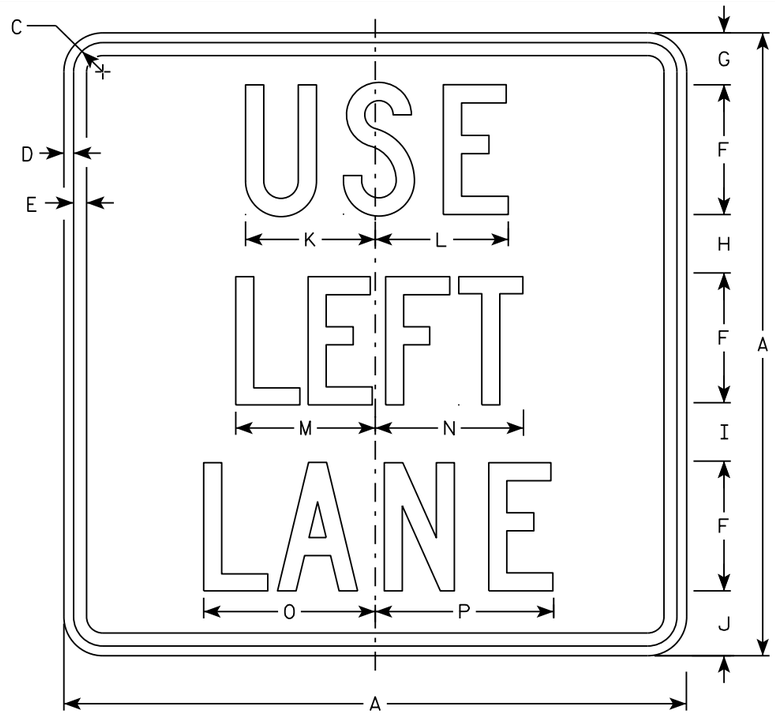
STANDARD SIGN
M4-10

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-10.2

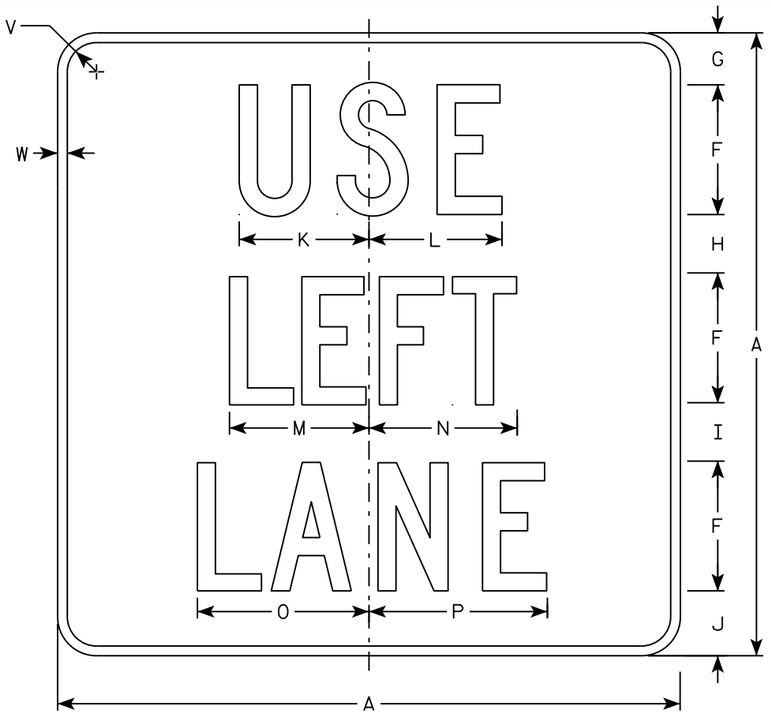
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 249	E



M4-20L

A

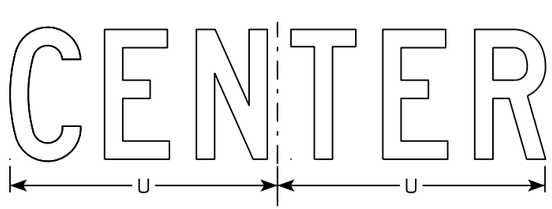
M4-20L
MM4-20L
M04-20L
MP4-20L



MB4-20L

A

MB4-20L
MK4-20L
MN4-20L
MR4-20L



M4-20C
MB4-20C
MK4-20C
MM4-20C
MN4-20C
M04-20C
MP4-20C
MR4-20C



M4-20R
MB4-20R
MK4-20R
MM4-20R
MN4-20R
M04-20R
MP4-20R
MR4-20R

NOTES

1. Sign is Type II - Type H except as Shown
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. M4-20 Background - White
   Message - Black
   MB4-20 Background - Blue
   Message - White
   MK4-20 Background - Green
   Message - White
   MM4-20 Background - White
   Message - Green
   MN4-20 Background - Brown
   Message - White
   M04-20 Background - Orange - Type F Reflective
   Message - Black
   MP4-20 Background - White
   Message - Blue
   MR4-20 Background - Brown
   Message - Yellow

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 1/8	3/8	1/2	5	2	2 1/4	2 1/4	2 1/2	5	5 1/8	5 3/8	5 3/4	6 5/8	6 7/8			7	7 5/8	10 1/4	1 1/2	1/2				4.0
3	36		1 5/8	5/8	3/4	7	4	3	3 1/2	4 1/2	7 1/2	7 3/4	8	8 5/8	9 7/8	10 1/4			10 3/8	11 3/8	14 3/8	1 7/8	1/2				9.0
4																											
5																											

STANDARD SIGN
M4-20

WISCONSIN DEPT OF TRANSPORTATION

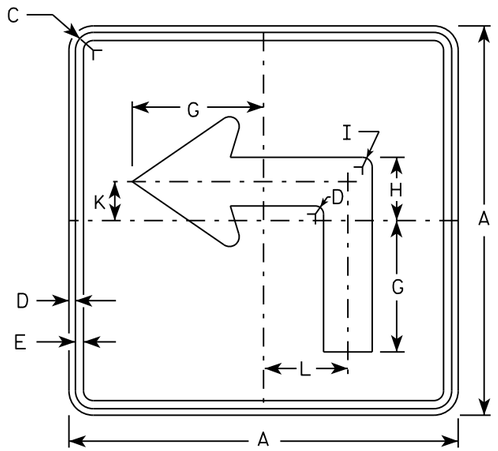
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 10/15/15 PLATE NO M4-20.5

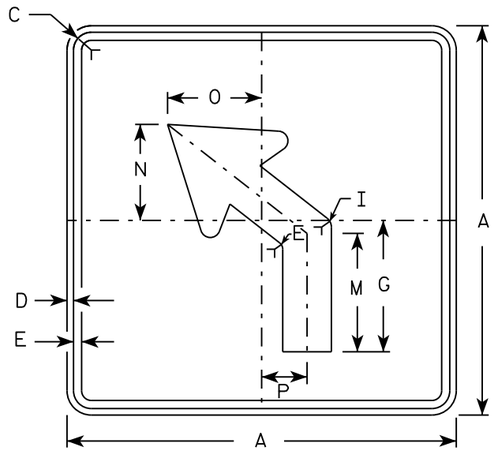
250

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

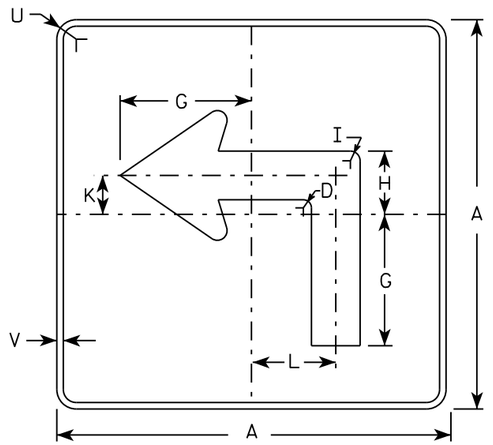
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M420.DGN PLOT DATE : 01-DEC-2015 18:03 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.837526:1.000000



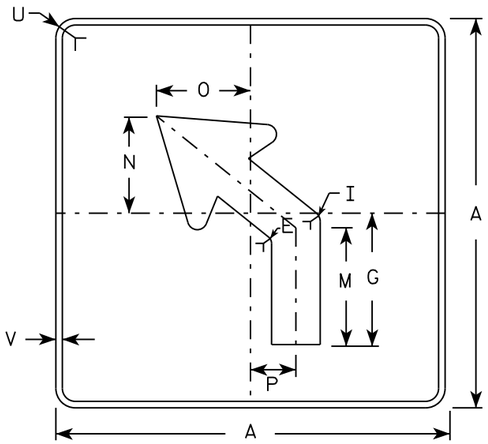
M5-1L
MM5-1L
MO5-1L
MP5-1L



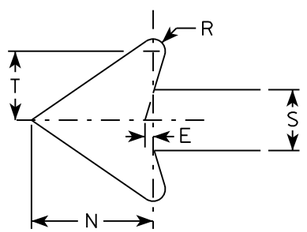
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective 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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts 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	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

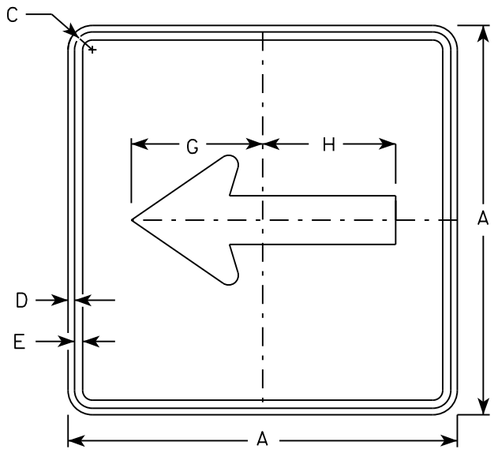
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

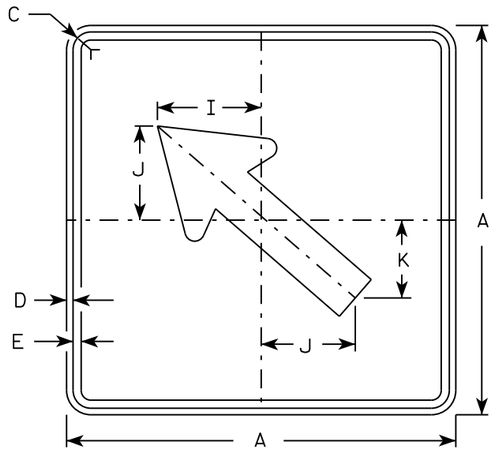
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



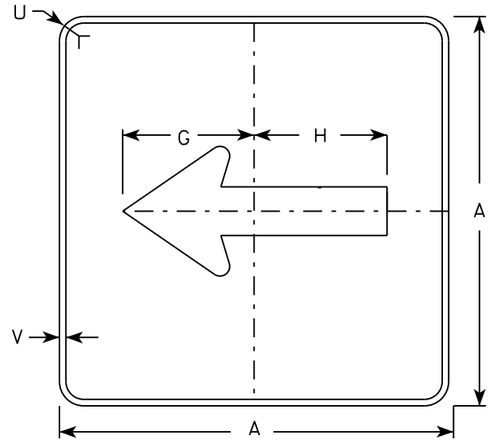
M6-1
MM6-1
MO6-1
MP6-1



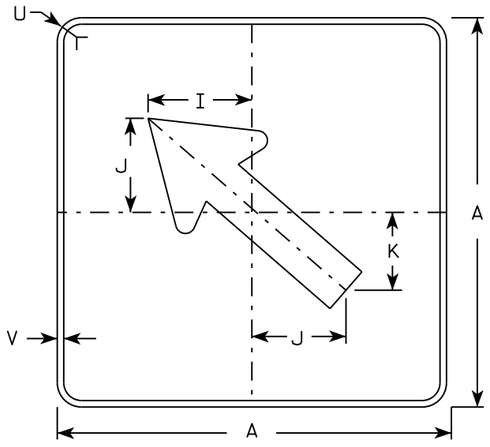
M6-2
MM6-2
MO6-2
MP6-2

NOTES

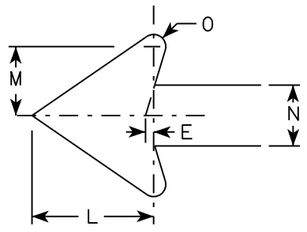
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background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



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



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



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

STANDARD SIGN M6-1 & M6-2 SERIES

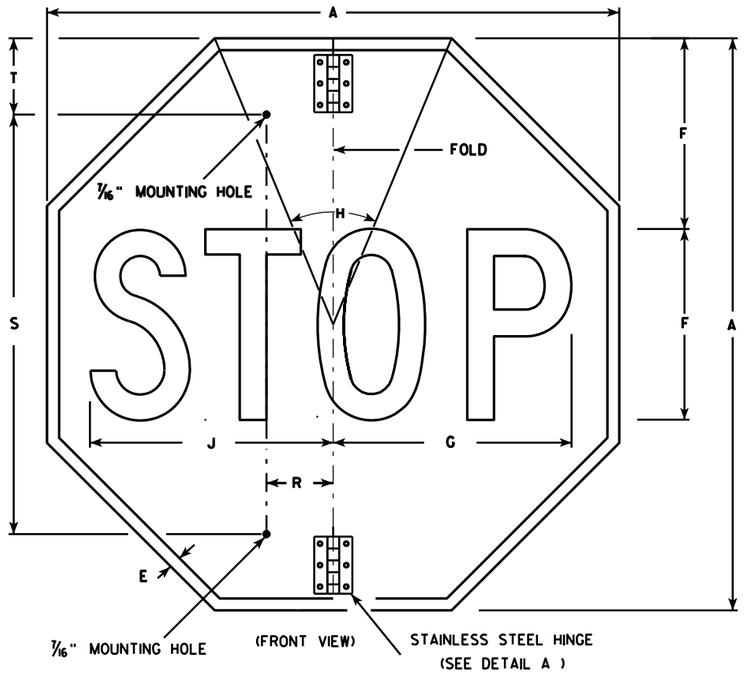
WISCONSIN DEPT OF TRANSPORTATION

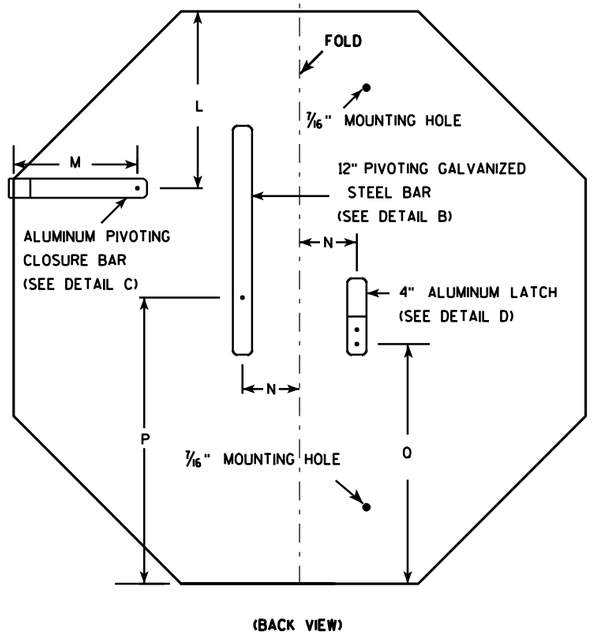
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 252 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

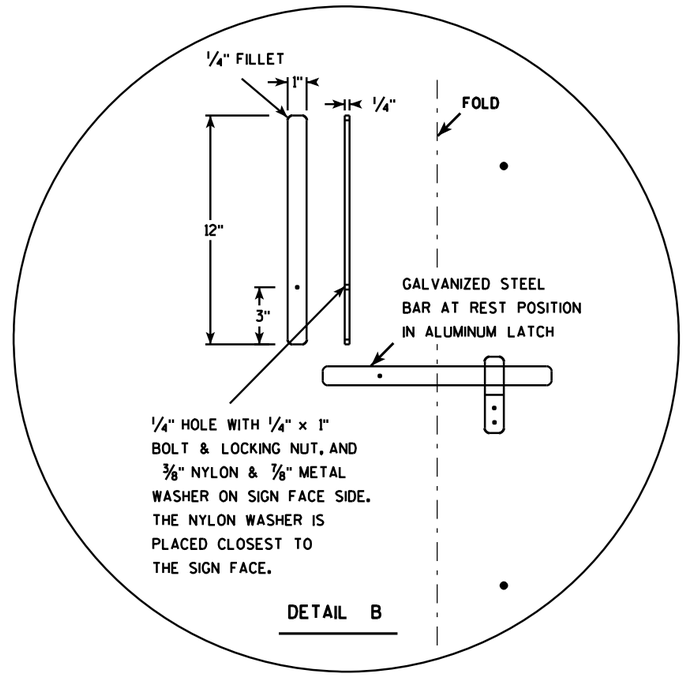
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000

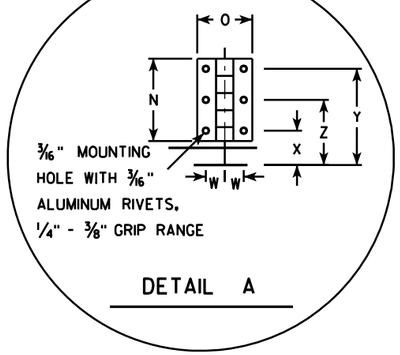


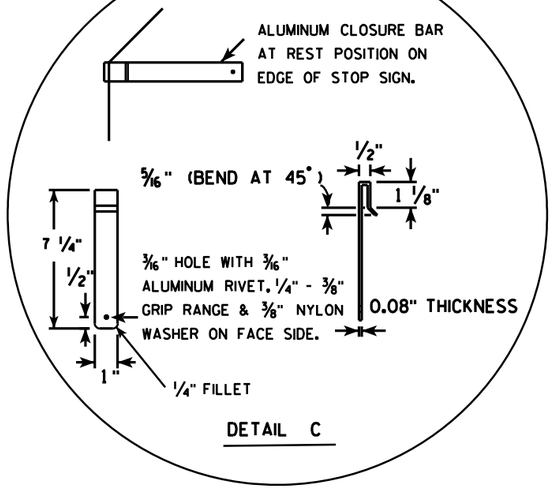


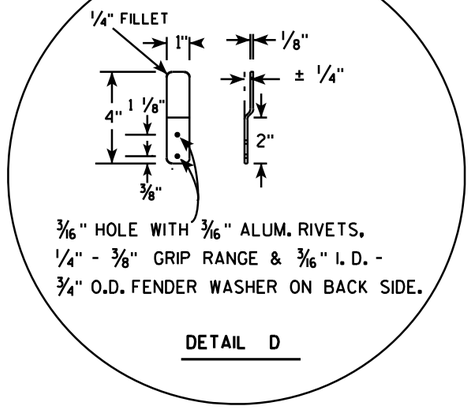
NOTES

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
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.









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	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

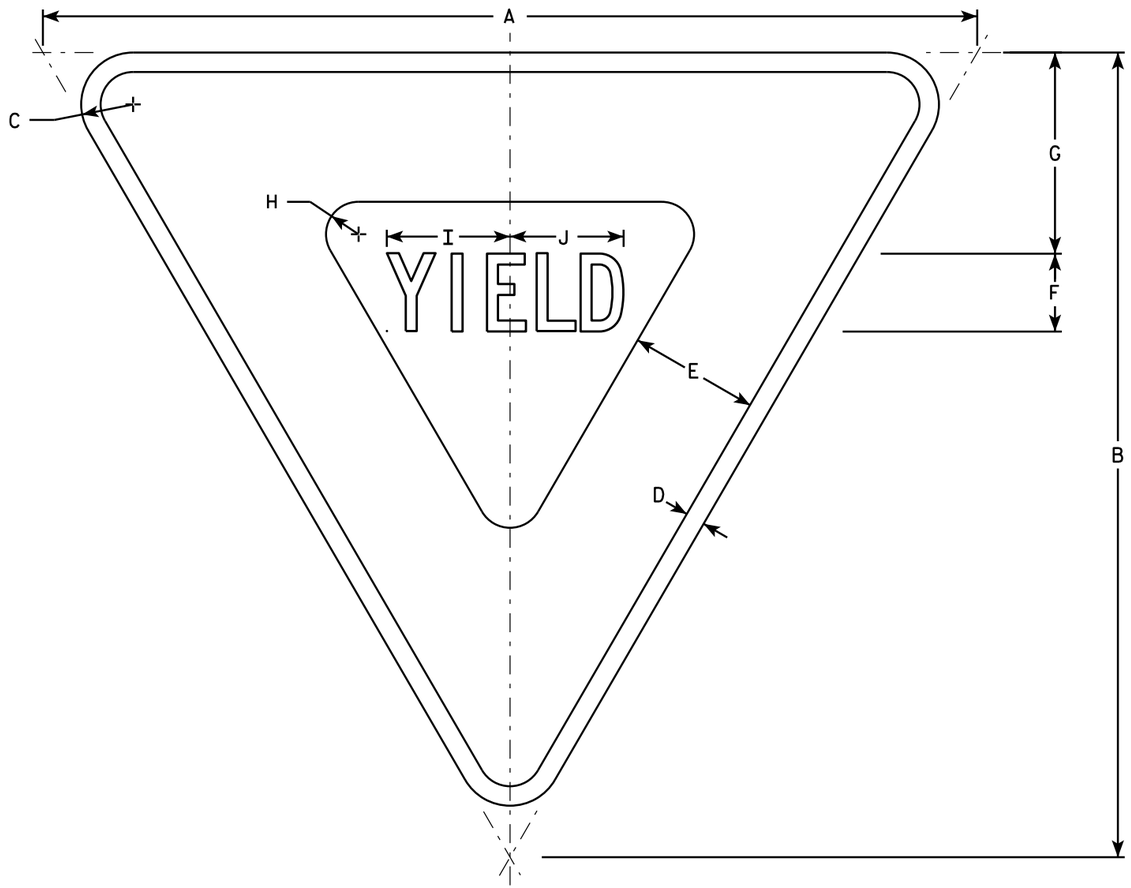
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 253 | 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

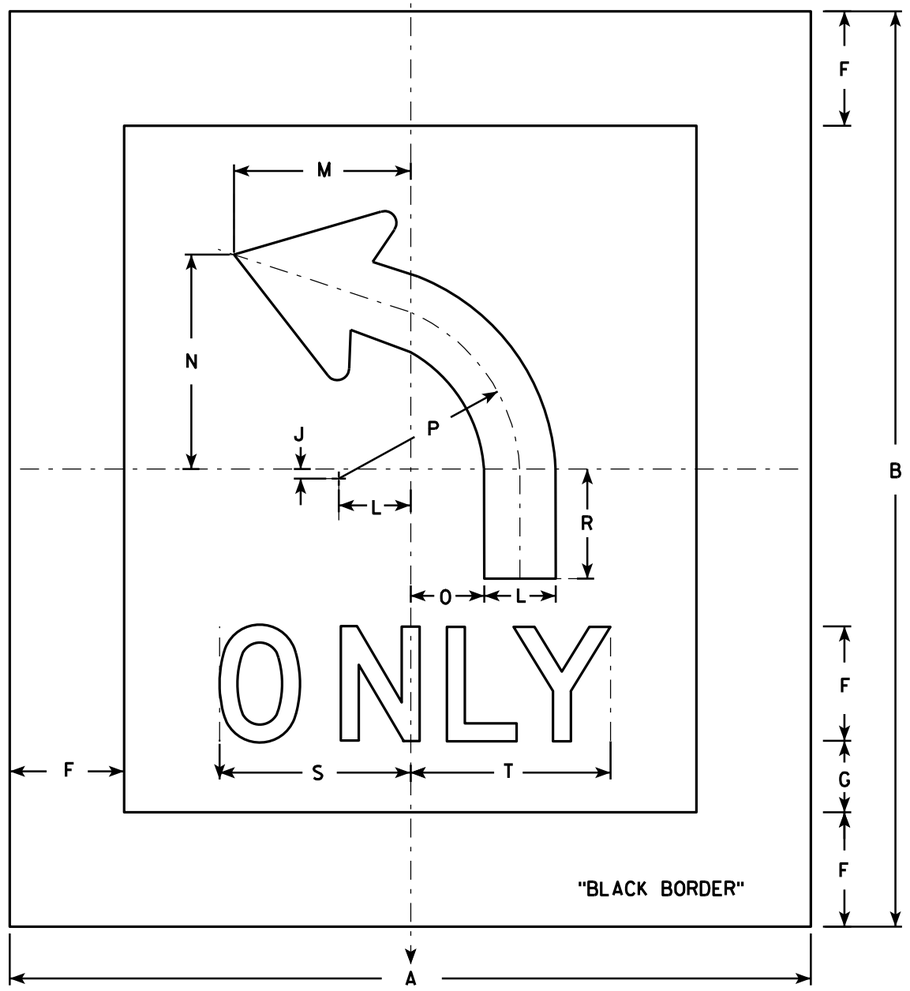
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

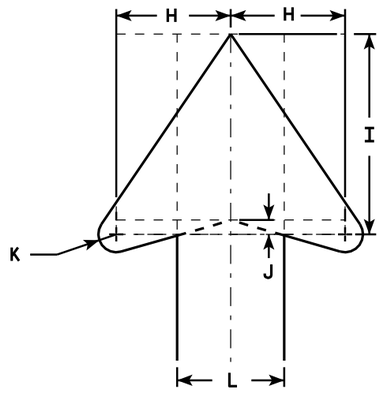
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



R3-5L

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. When base material is metal, the corners shall be rounded.
5. R3-5R is the same as R3-5L except curved portion of arrow points right.
6. The 6" border is non-reflective black.



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	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
2M	42	48				6	3 3/4	4	7	1/2	5/8	3 3/4	9 1/4	11 1/4	3 7/8	9 1/2		5 3/4	10	10 1/2							1.26
3																											
4																											
5																											

STANDARD SIGN
R3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/24/11 PLATE NO. R3-5.6

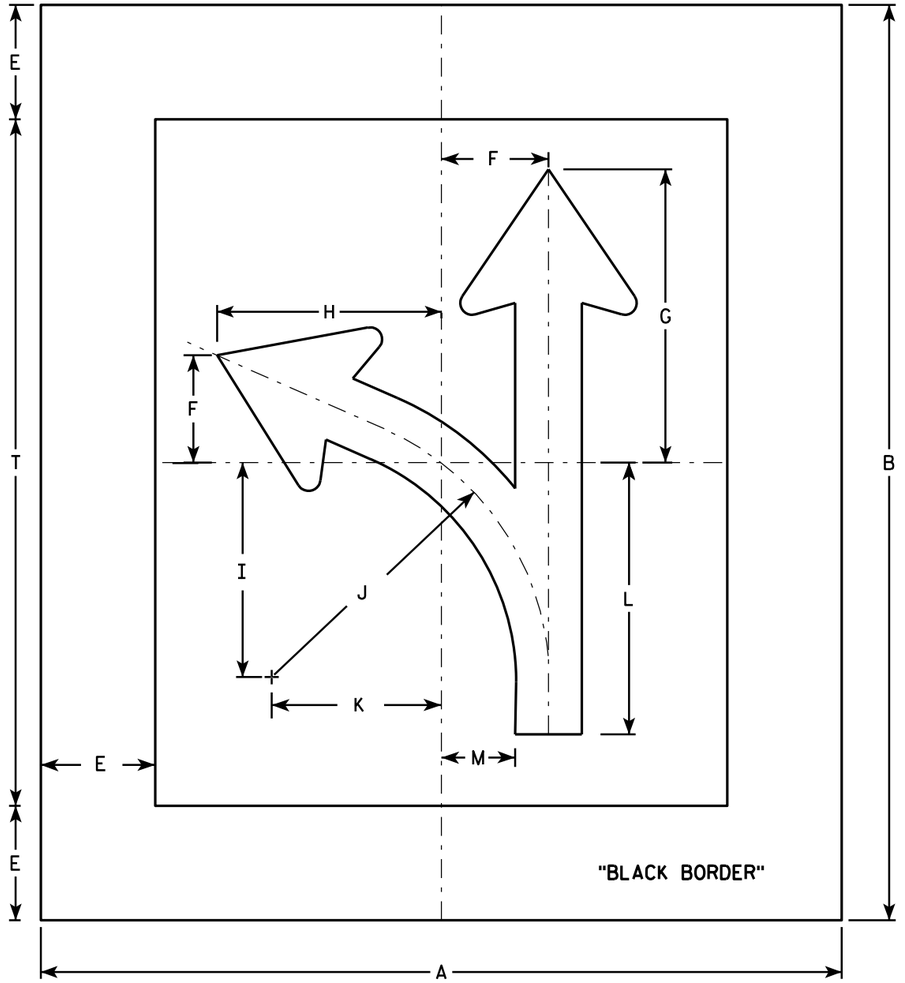
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 255 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R35.DGN PLOT DATE : 24-FEB-2011 14:53 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 7.945391:1.000000

WISDOT/CADDS SHEET 42

7

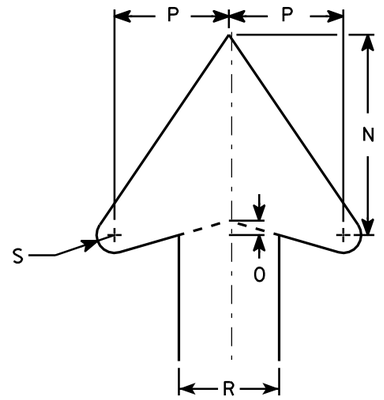
7



R3-6L

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. Corners may be square or rounded when base material is plywood. When base material is metal, the corners shall be rounded.
4. R3-6R is the same as R3-6L except curved portion of arrow points right.
5. The 6" border is non-reflective black.



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	42	48			6	5 5/8	15 3/8	11 3/4	11 1/4	14 1/2	8 7/8	14 1/4	3 7/8	7	1/2	4		3 1/2	5/8	36							14.0
2M	42	48			6	5 5/8	15 3/8	11 3/4	11 1/4	14 1/2	8 7/8	14 1/4	3 7/8	7	1/2	4		3 1/2	5/8	36							14.0
3																											
4																											
5																											

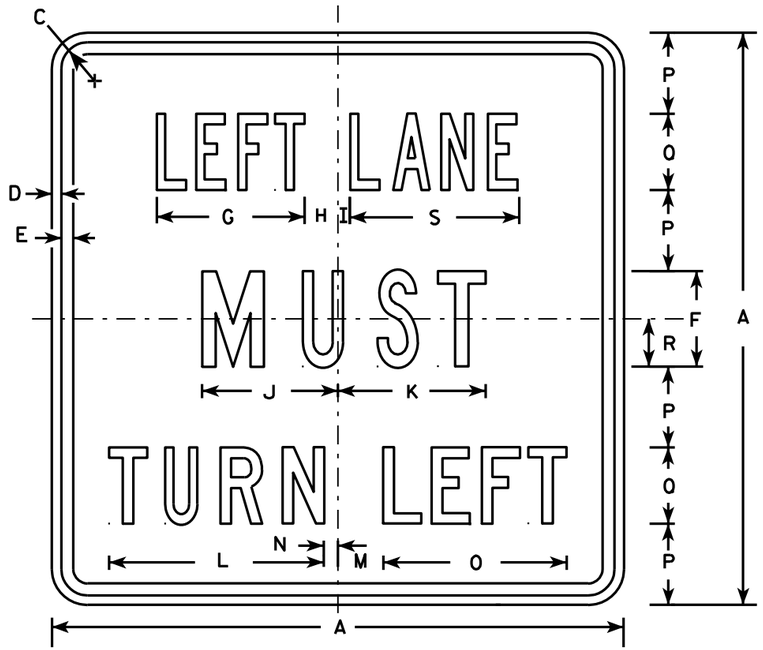
STANDARD SIGN
R3-6

WISCONSIN DEPT OF TRANSPORTATION

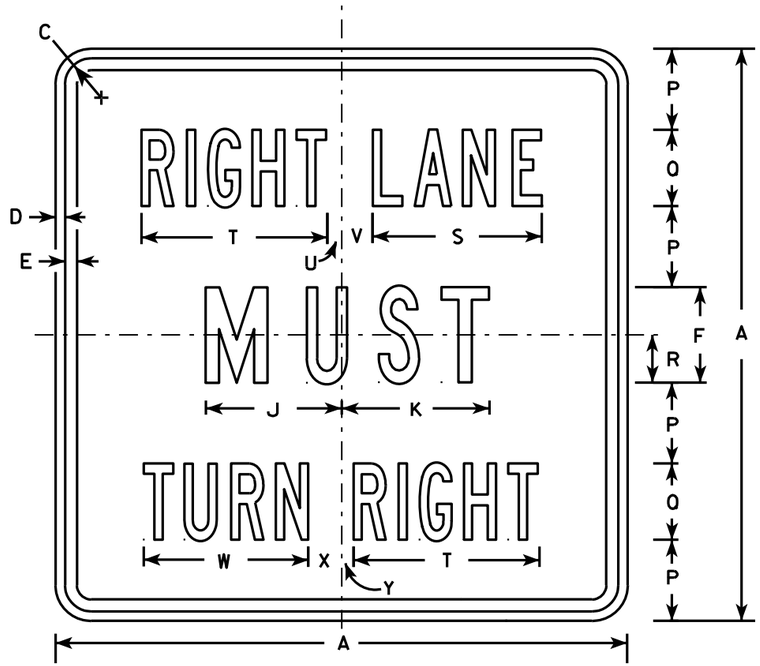
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-6.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 256 | E



R3-7L



R3-7R

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 - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

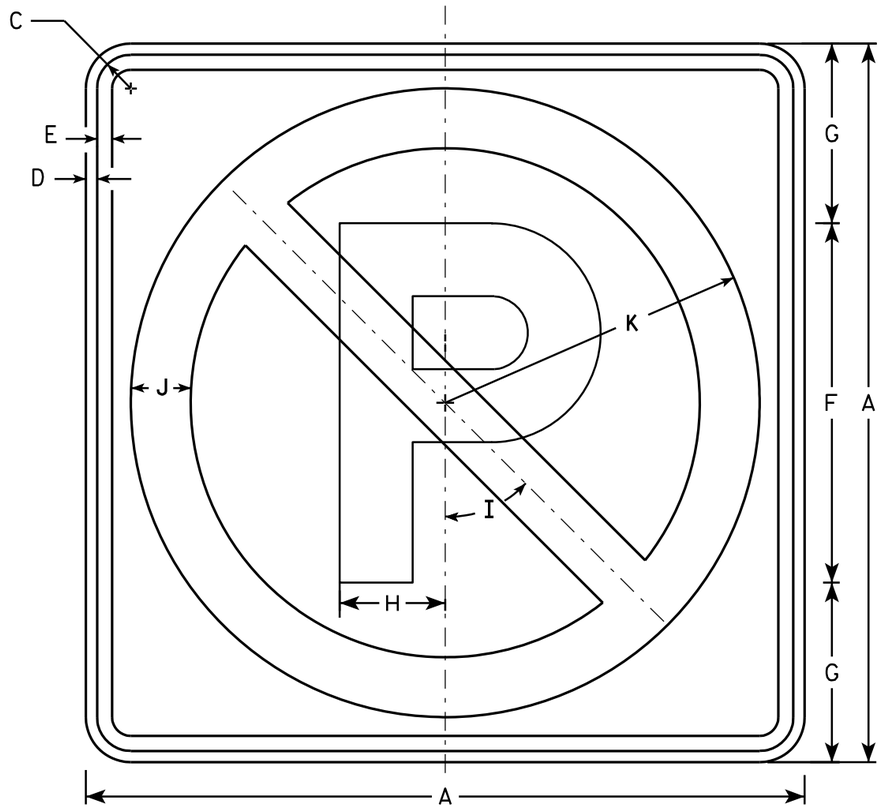
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 257 | E



R3-8A

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 & Letter P 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	12	6	3 1/2	45°	2	10 1/2																4.0
2M	24		1 1/8	3/8	1/2	12	6	3 1/2	45°	2	10 1/2																4.0
3																											
4																											
5																											

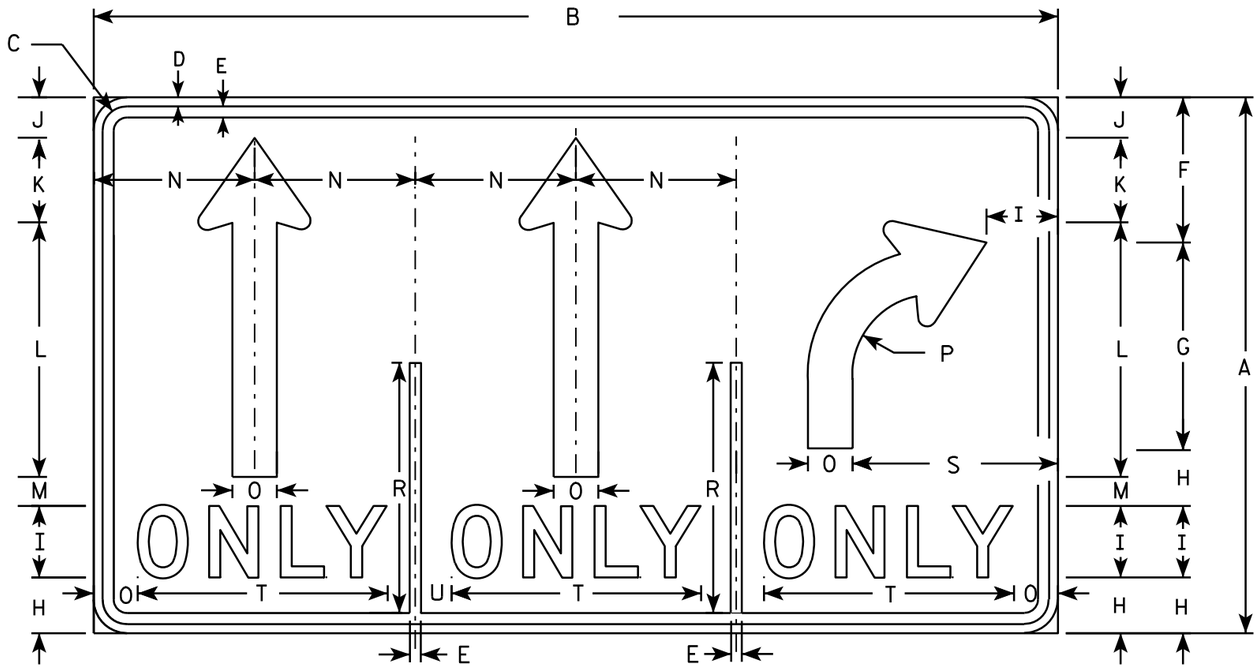
STANDARD SIGN
R3-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/01/12 PLATE NO. R3-8A.1

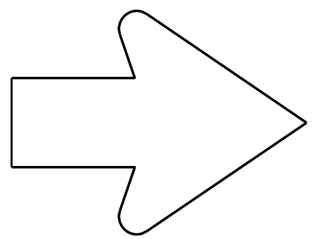
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 258 | E



R3-8X

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.



SEE R3-8 FOR 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	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
3																											
4	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7 5/8	23	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0
5	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7 5/8	23	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0

STANDARD SIGN
R3-8X

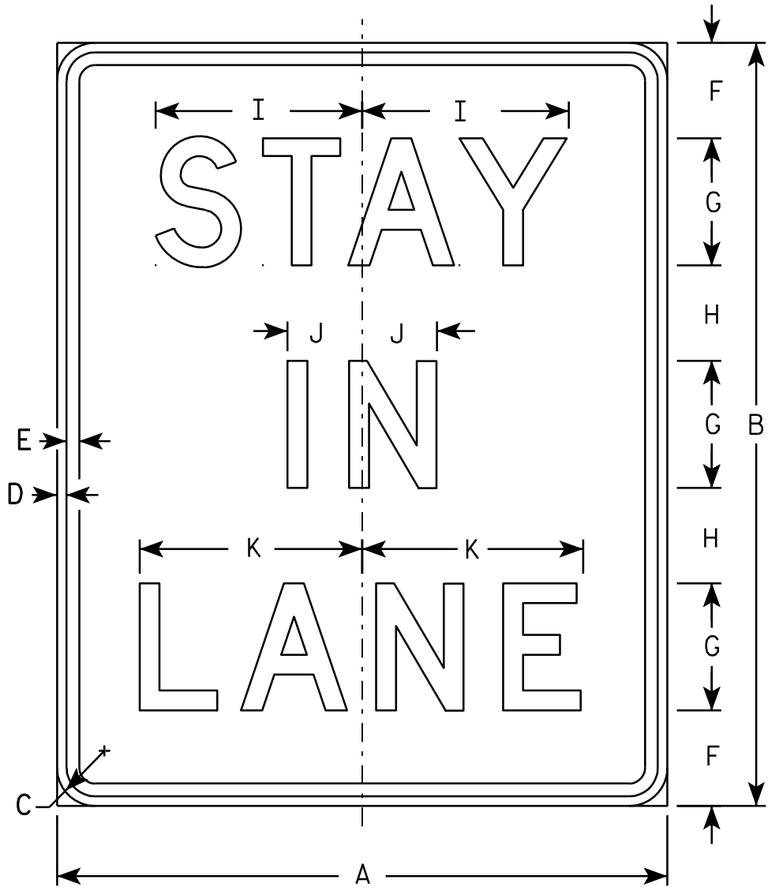
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/25/13 PLATE NO. R3-8X.3

PROJECT NO:

SHEET NO: 259 E



R4-9

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 - 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	18	24	1 1/8	3/8	3/8	3	4	3	6 1/2	2 3/8	7																3.0
2S	24	30	1 1/8	3/8	1/2	3 5/8	5	3 7/8	8 1/8	3	8 3/4																5.0
2M	24	30	1 1/8	3/8	1/2	3 5/8	5	3 7/8	8 1/8	3	8 3/4																5.0
3	36	48	1 3/8	1/2	5/8	8 1/4	7	5 1/4	11 3/8	4 1/8	12 1/4																12.0
4	36	48	1 3/8	1/2	5/8	8 1/4	7	5 1/4	11 3/8	4 1/8	12 1/4																12.0
5	48	60	2 1/4	3/4	1	7 1/2	10	7 1/2	16 1/4	5 7/8	17 1/2																20.0

STANDARD SIGN
R4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-9.2

PROJECT NO:

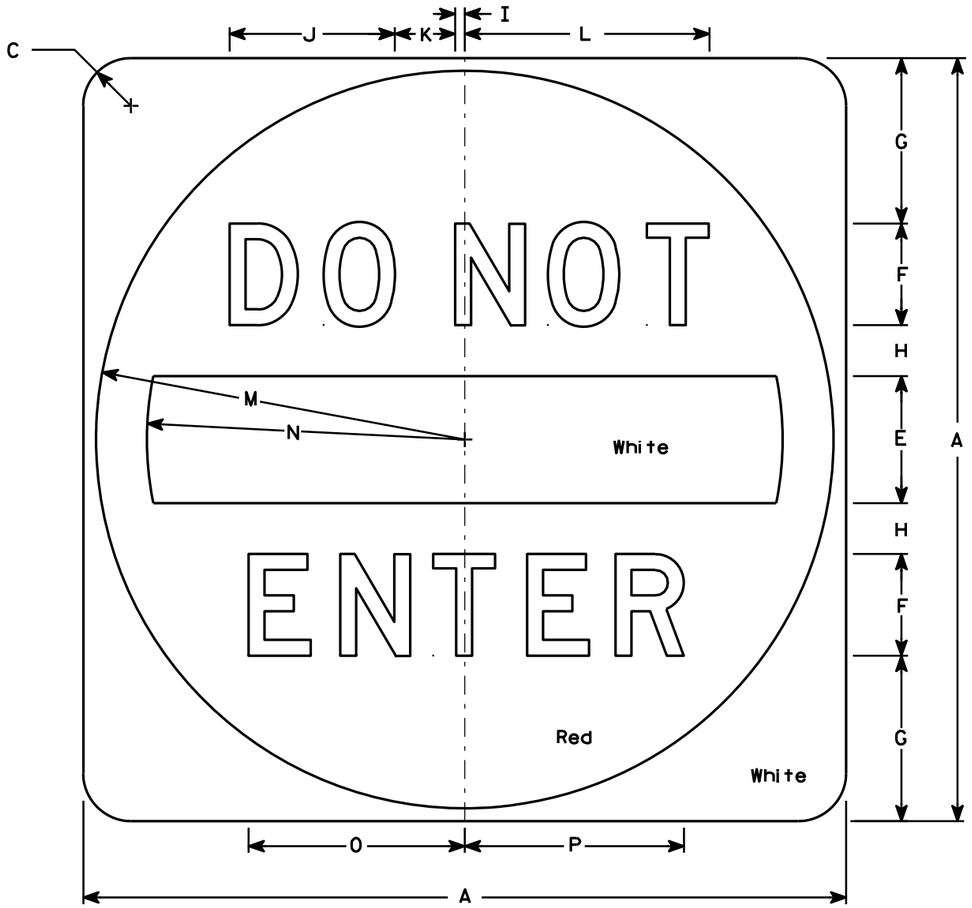
SHEET NO: 260 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R49.DGN PLOT DATE : 25-MAR-2011 14:17 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7



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

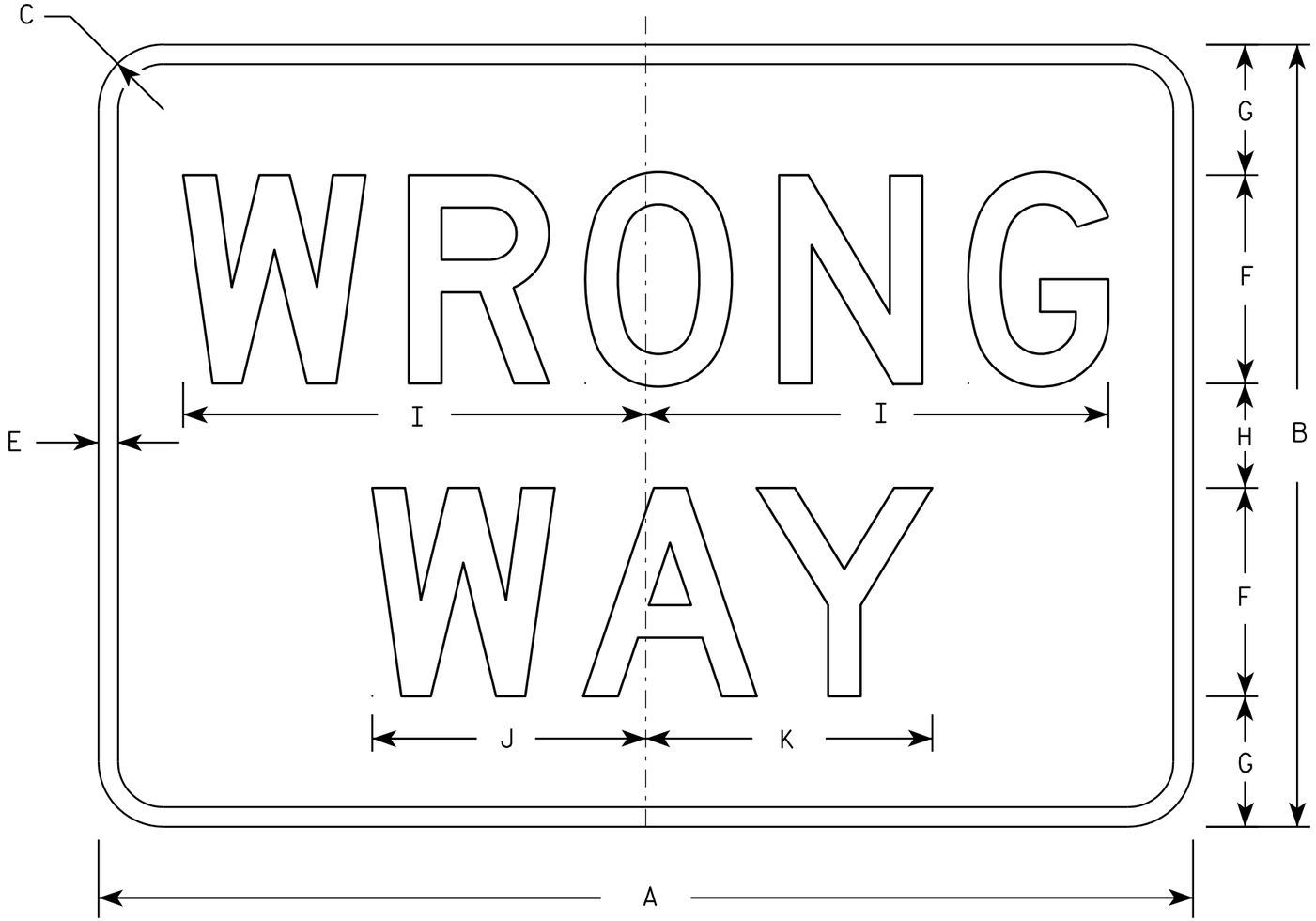
STANDARD SIGN
R5-1

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: 261 | 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: 262 | 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

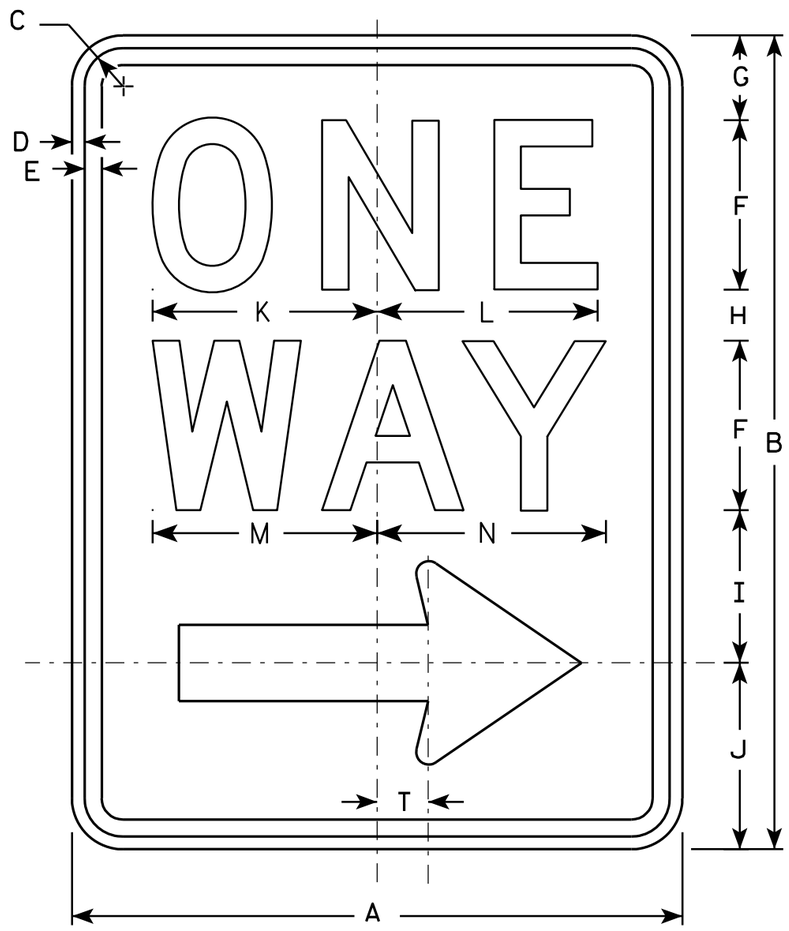
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

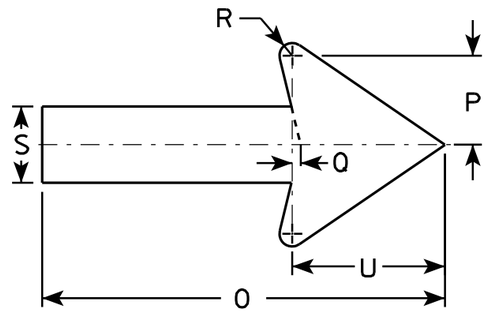
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 263 | E



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																										

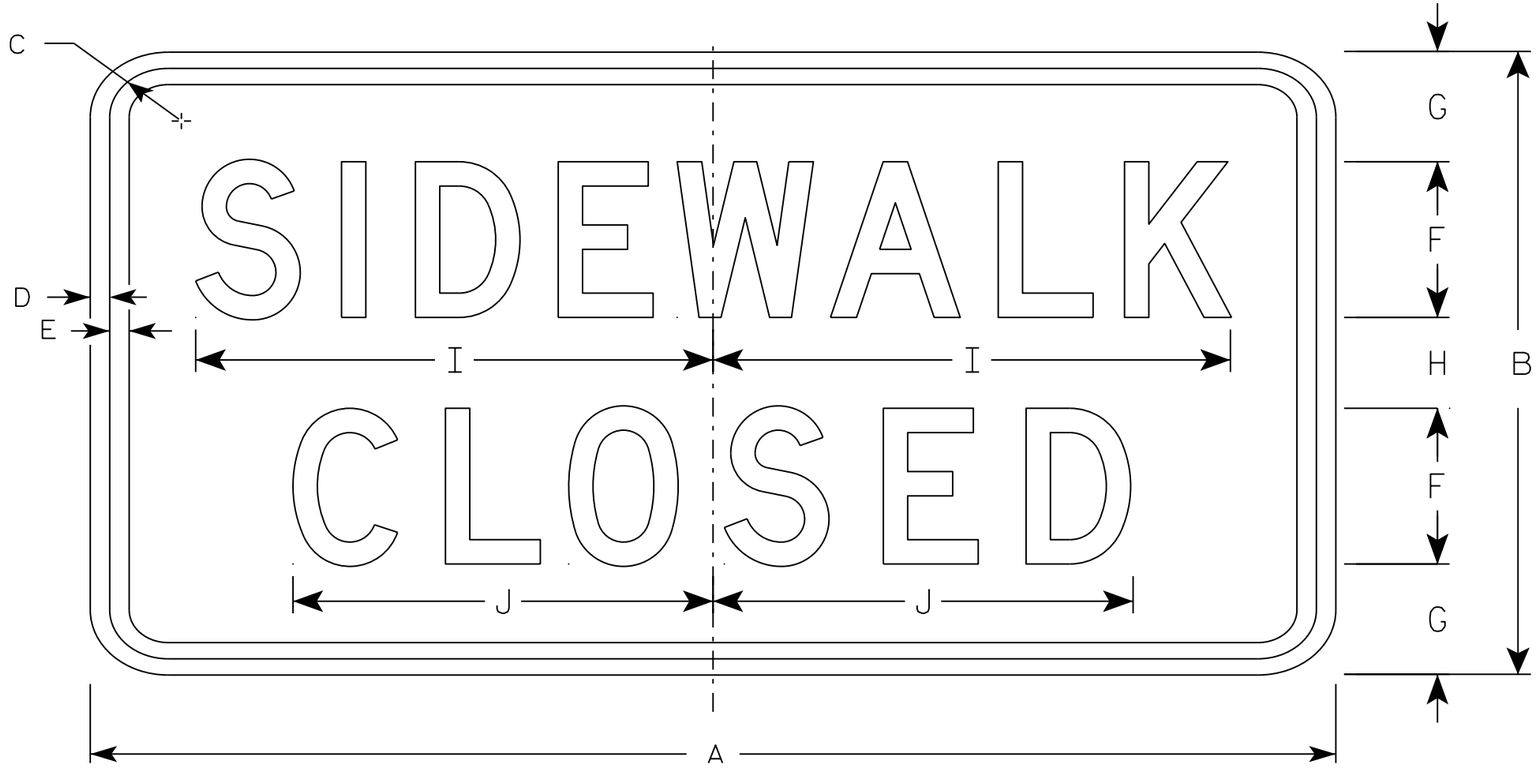
STANDARD SIGN
R6-2 R&L

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: 264	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.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

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

STANDARD SIGN
R9-9

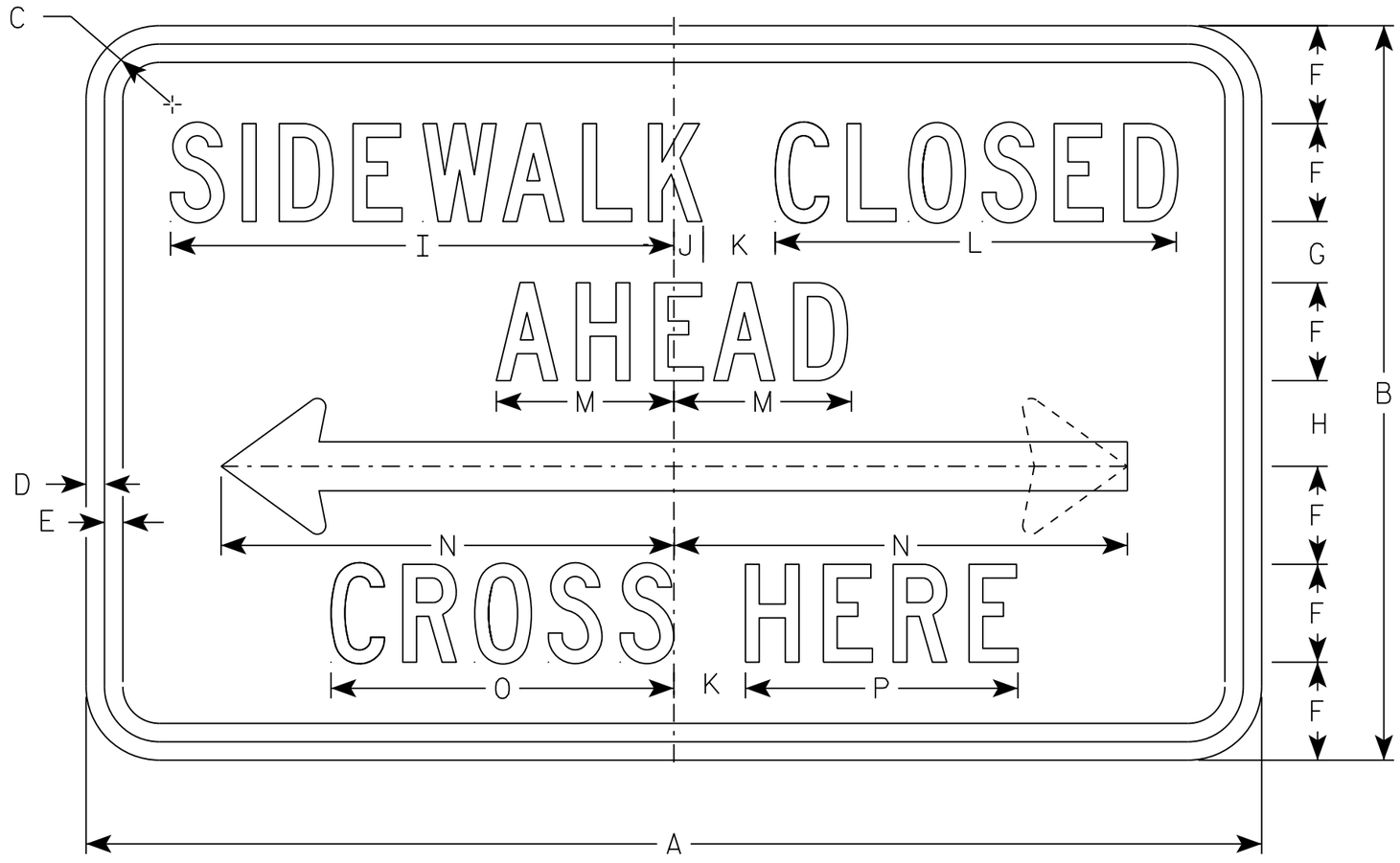
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

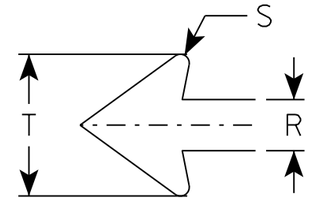
DATE 8/11/16 PLATE 265 R9-9.6

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

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



R9-11



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C except Size 1 is 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. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

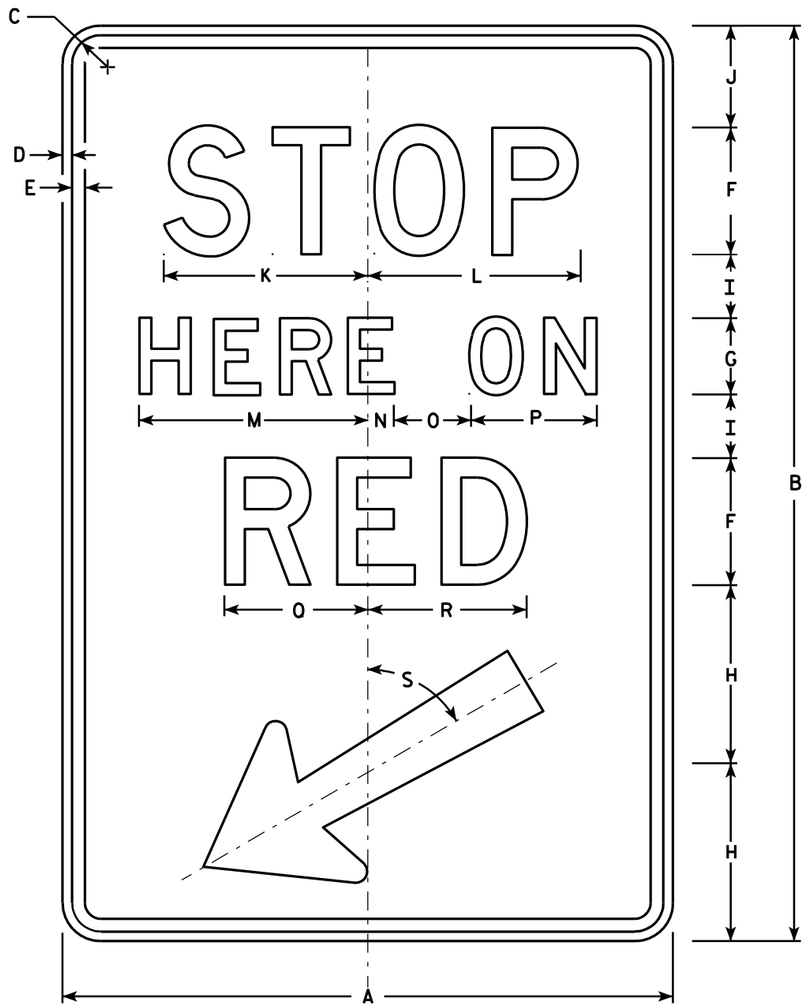
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-11.3

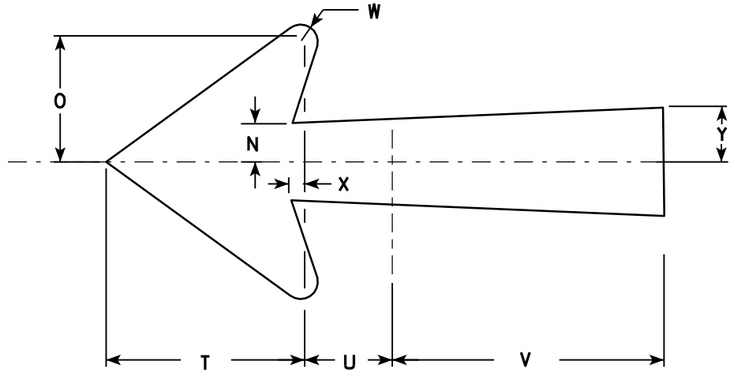
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 266	E



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																											

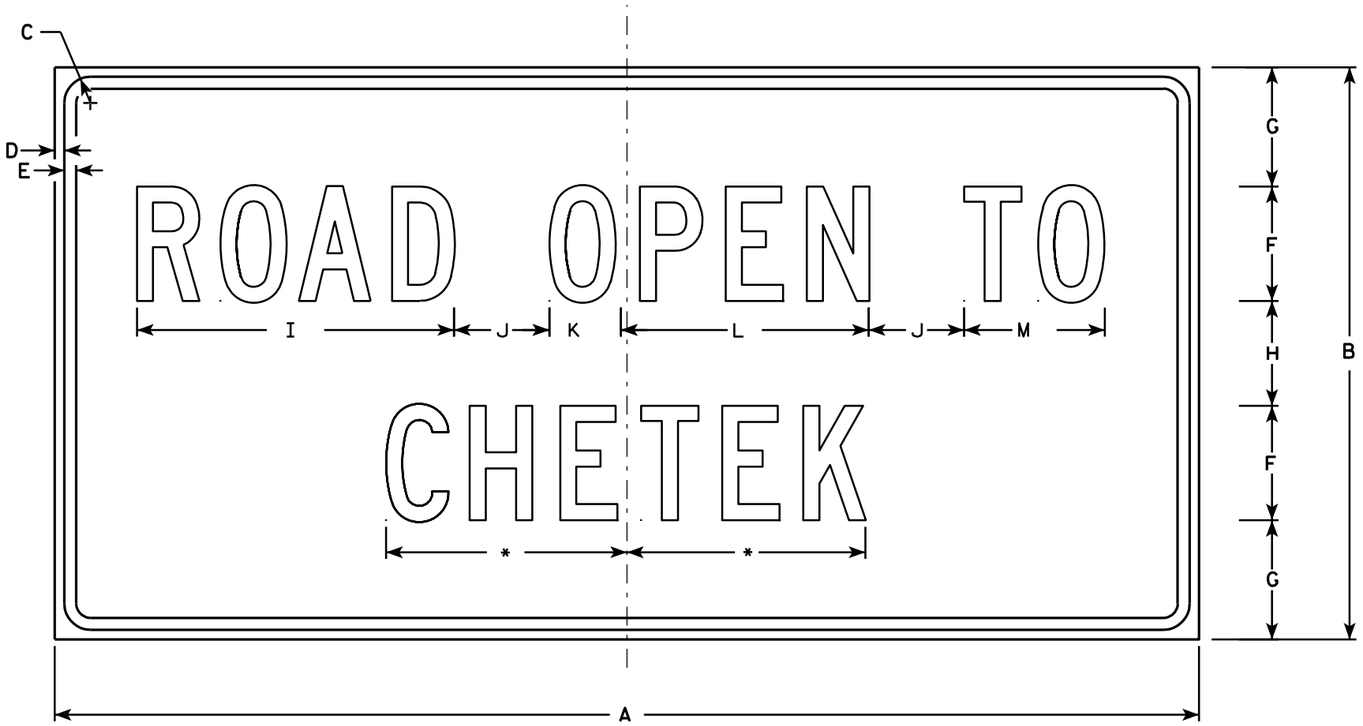
STANDARD SIGN
R10-6

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: 267	E



R10-61

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. Substitute appropriate message and optically balance.

*See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 3/8	1/2	5/8	4	5 1/2	5	10 3/4	2	2 1/8	8 3/8	4 5/8														6.0
2S	60	30	1 3/8	1/2	5/8	6	6 1/4	5 1/2	16 5/8	5	3 3/4	13	7 3/8														12.5
2M	60	30	1 3/8	1/2	5/8	6	6 1/4	5 1/2	16 5/8	5	3 3/4	13	7 3/8														12.5
3																											
4																											
5																											

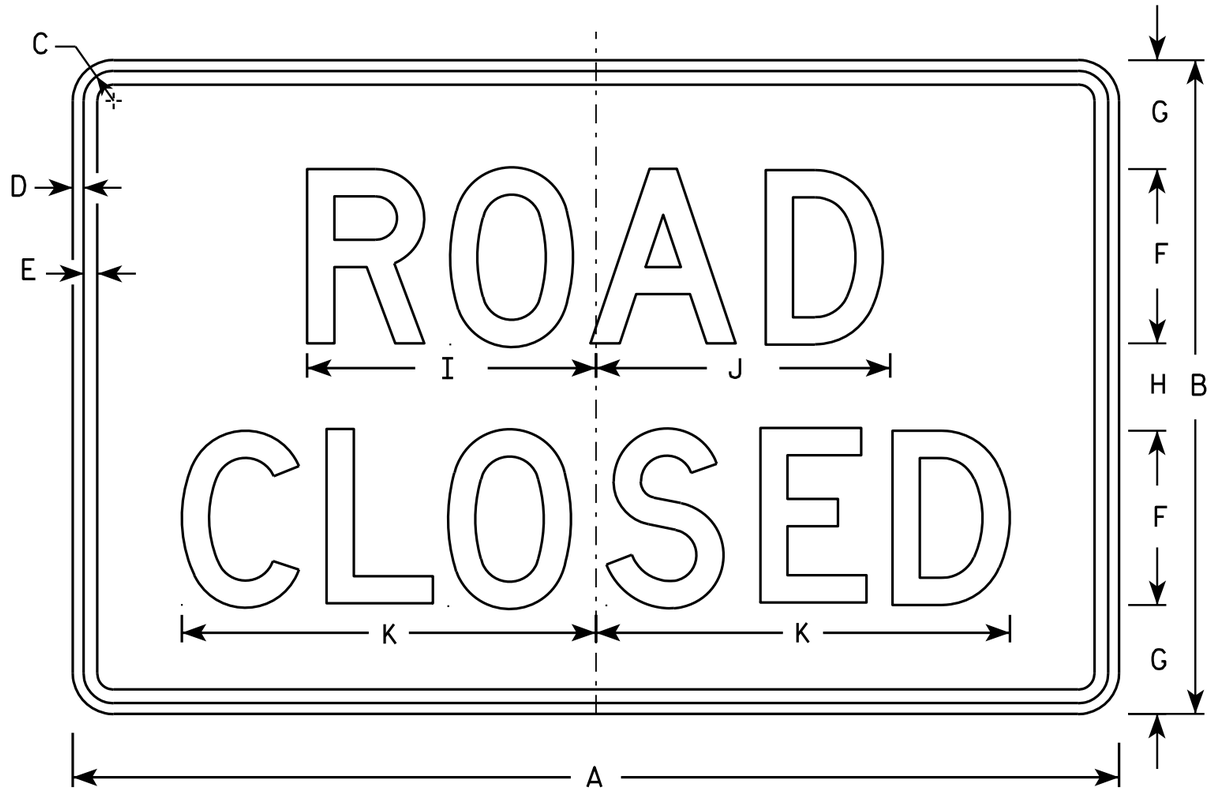
STANDARD SIGN
R10-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-61.5

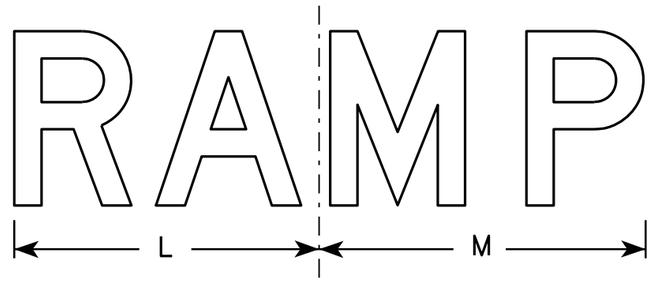
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 268	E



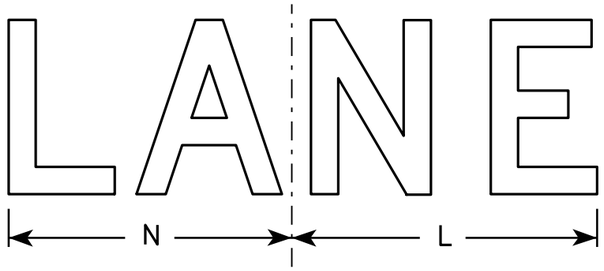
R11-2

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

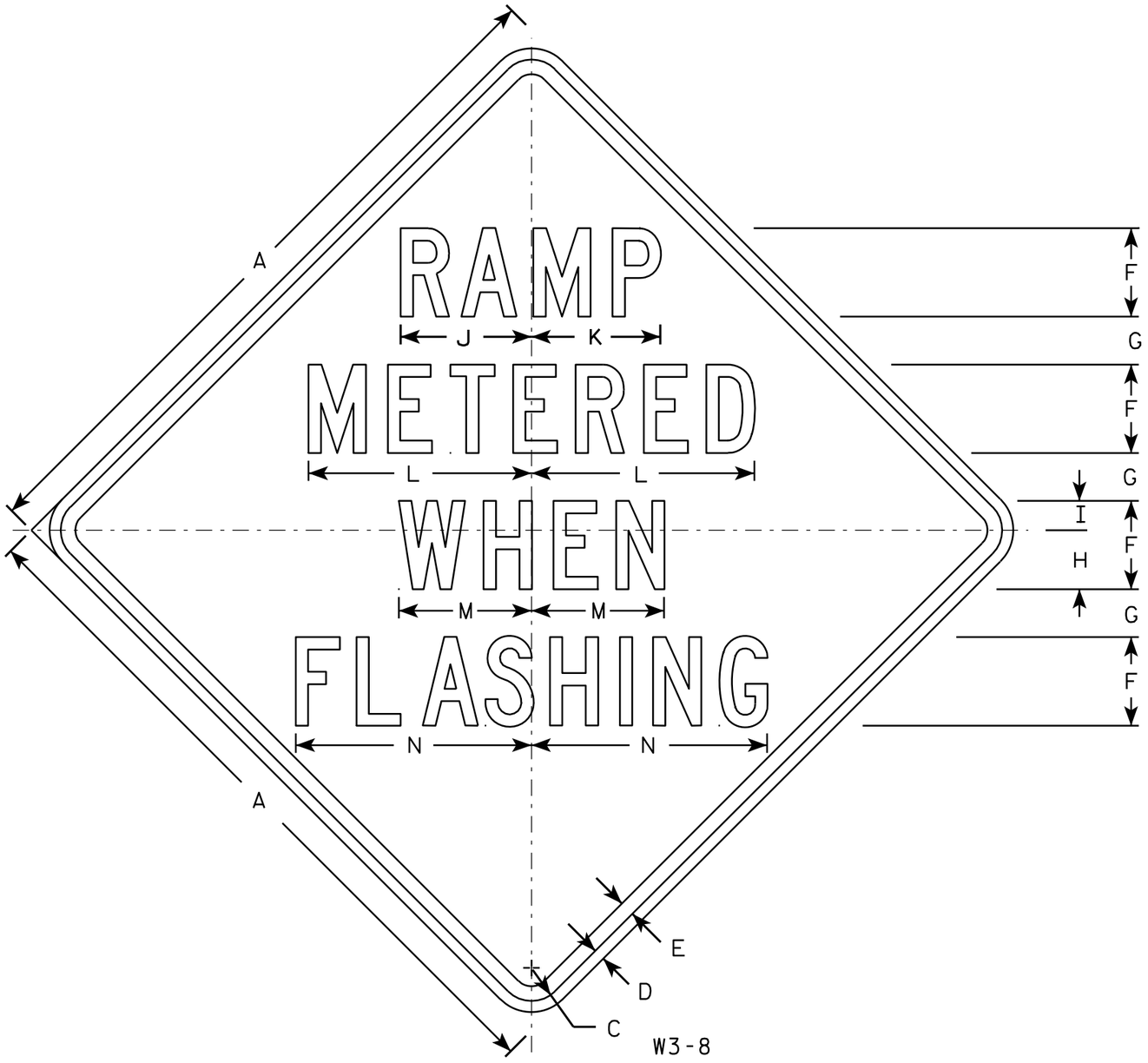
STANDARD SIGN
R11-2

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: 269 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
2M	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
3	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
4	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0
5	48		2 1/4	3/4	1	6	3 3/4	4	2	8 7/8	8 3/4	15 1/8	9	16													16.0

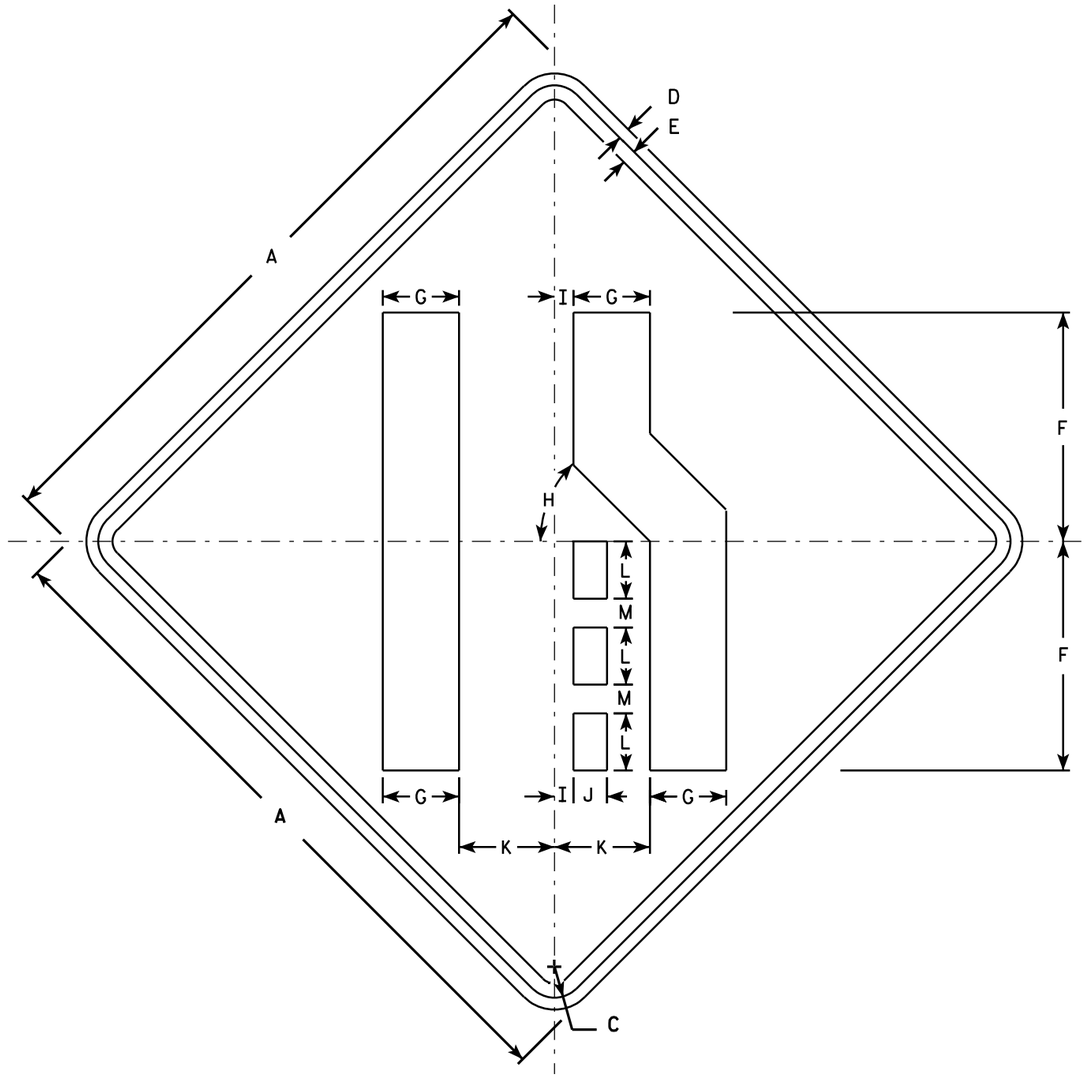
STANDARD SIGN
W3-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W3-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 270	E



W4-2R

NOTES

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

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

STANDARD SIGN
W4-2

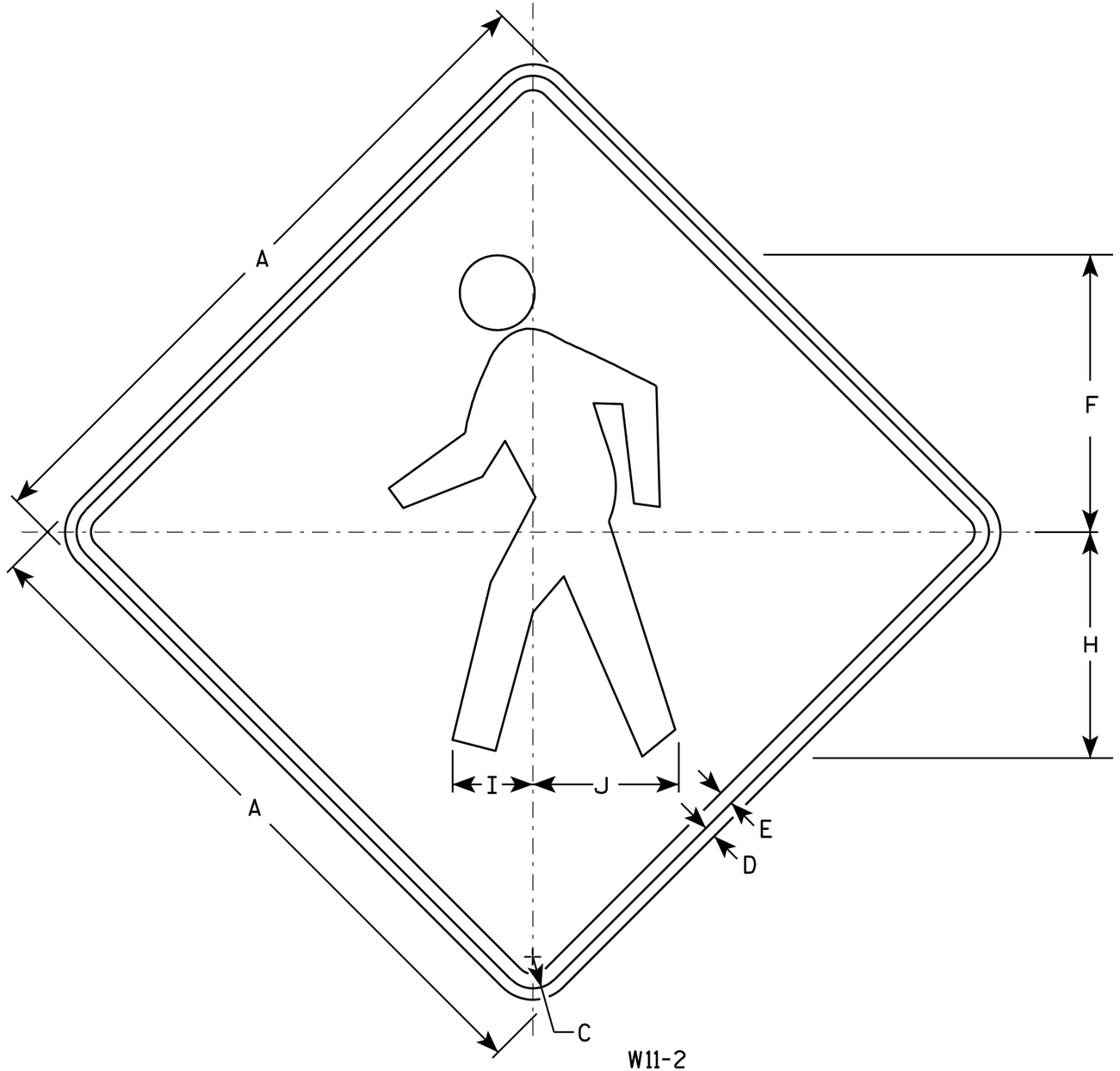
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/12/13 PLATE NO. W4-2.14

PROJECT NO:

SHEET NO: 271 E



W11-2

NOTES

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

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

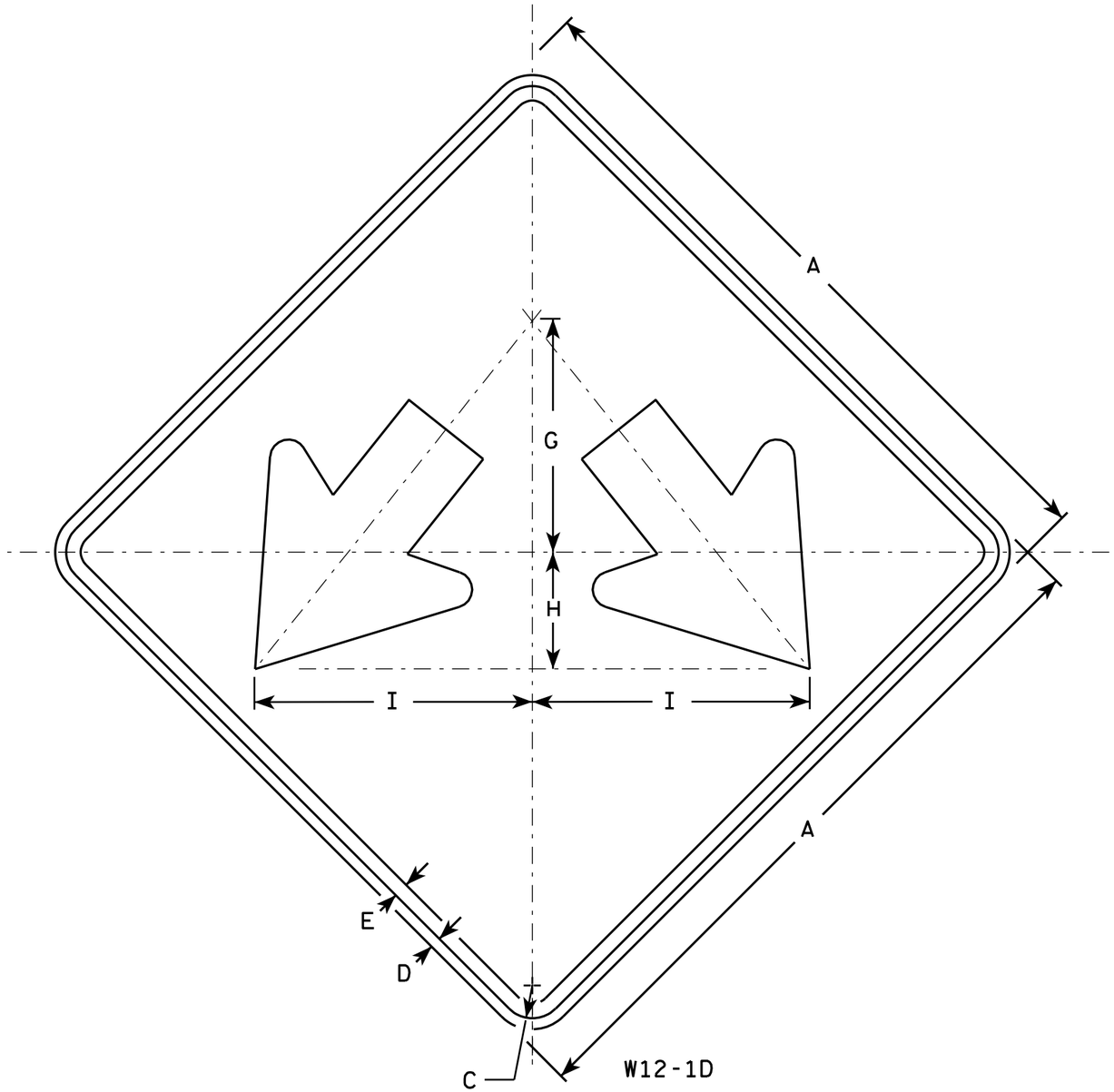
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

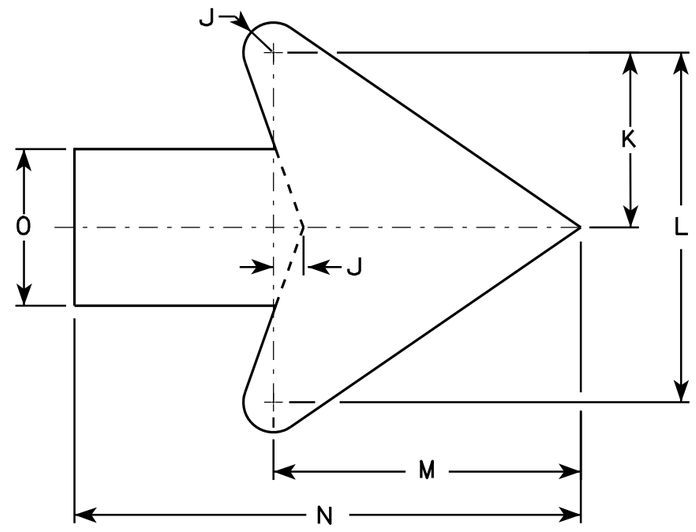
DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 272	E



NOTES

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



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

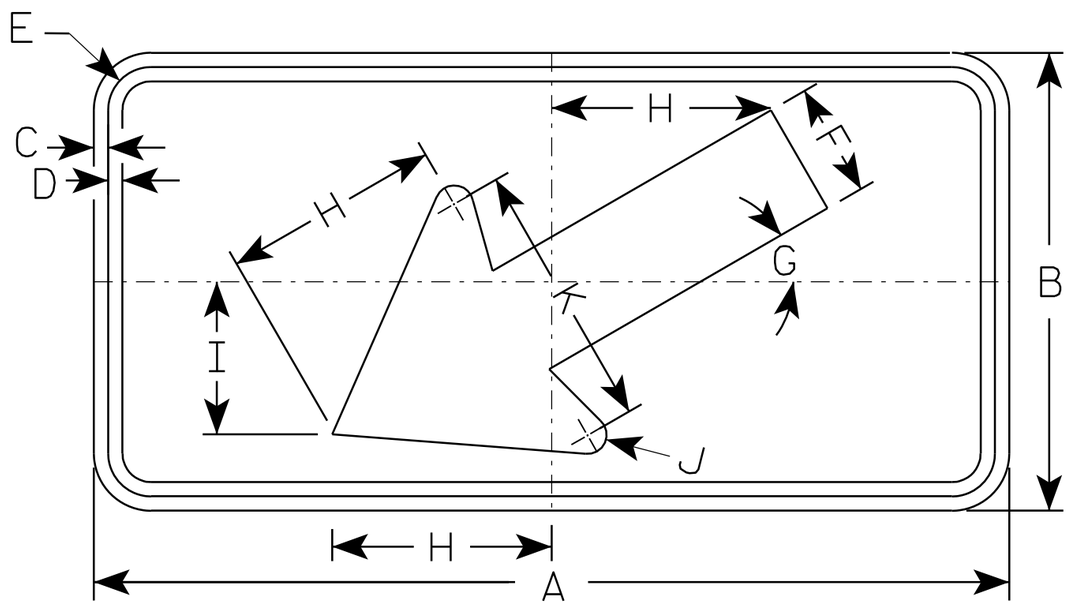
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 273	E



W16-7L

NOTES

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

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

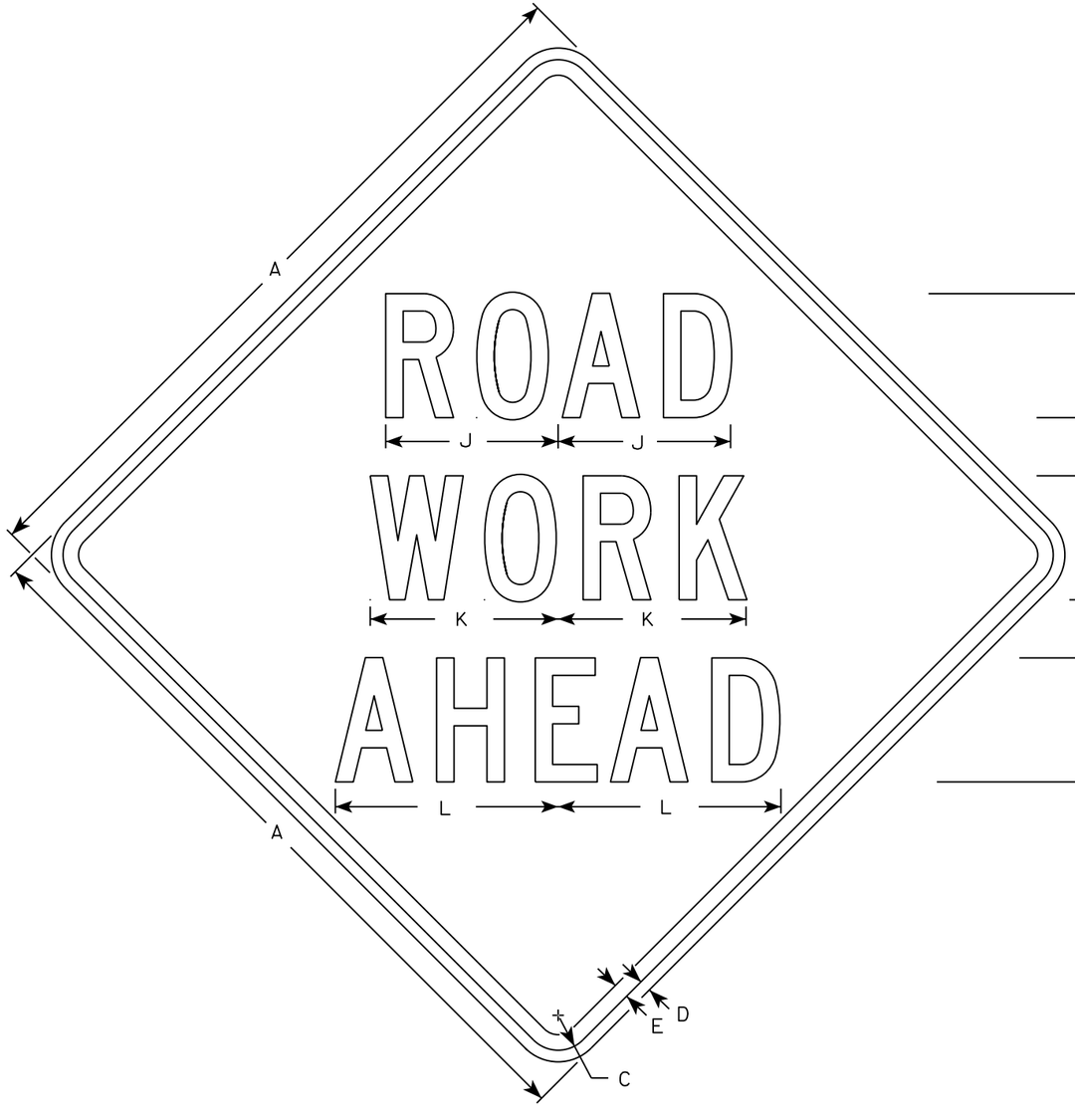
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

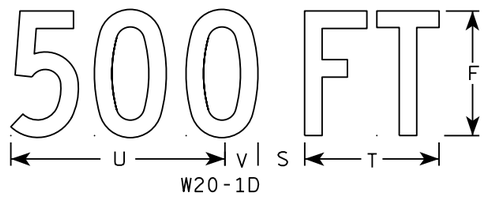
APPROVED Matthew R Rauch
for State Traffic Engineer

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

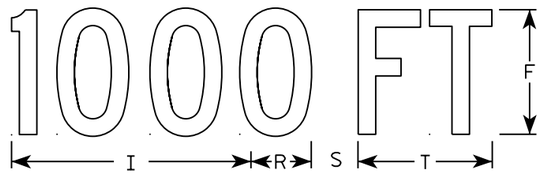
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 274	E



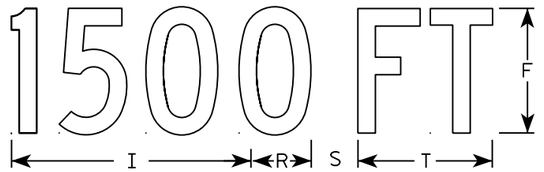
W20-1A



W20-1D



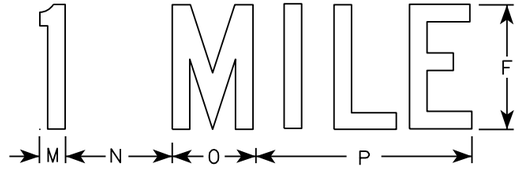
W20-1C



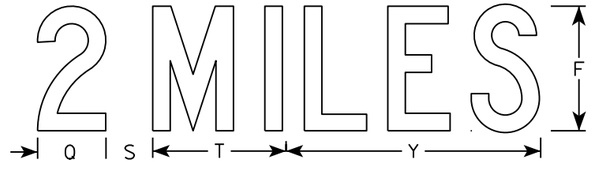
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

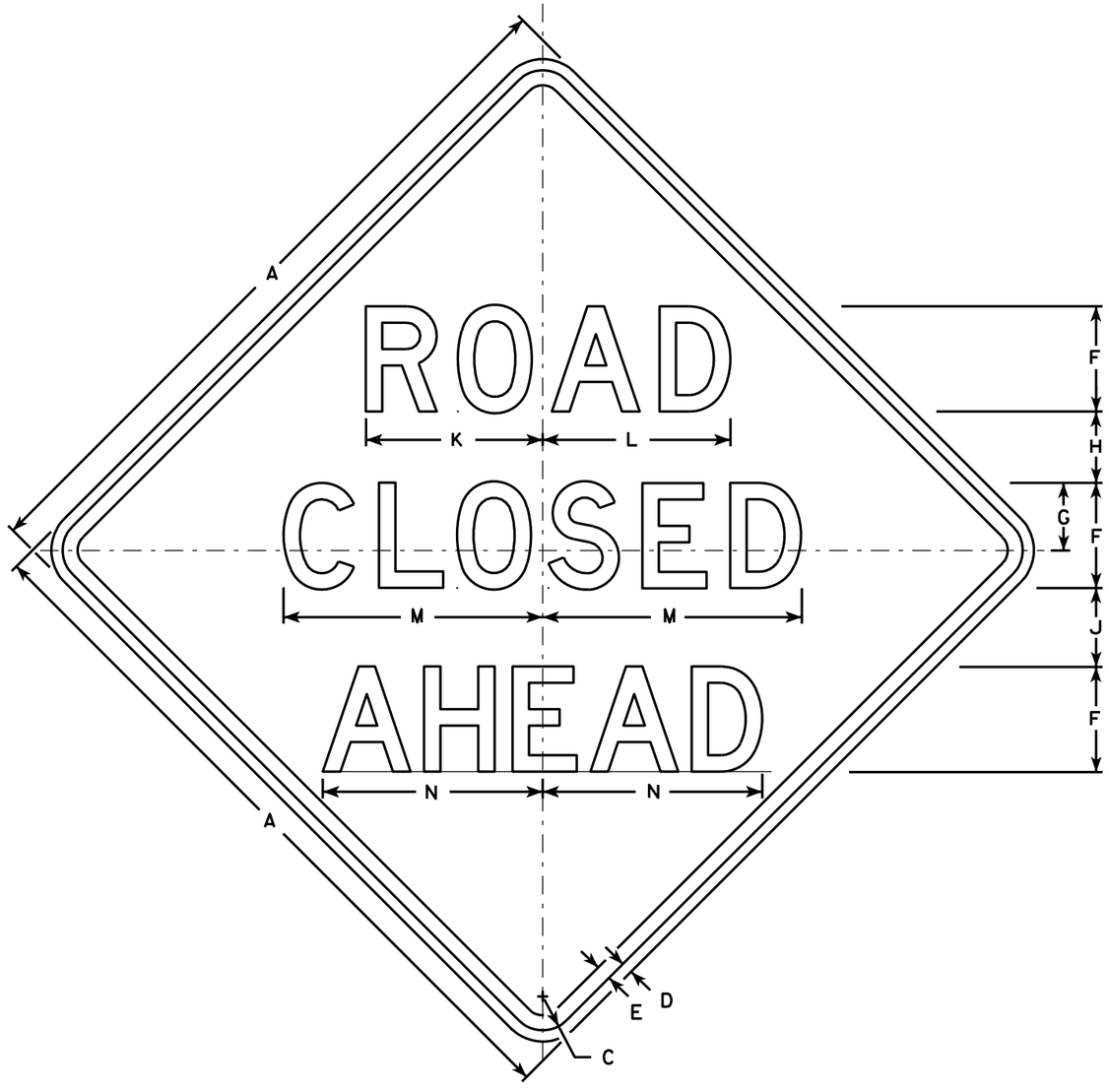
APPROVED Matthew R Rauch
for State Traffic Engineer

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

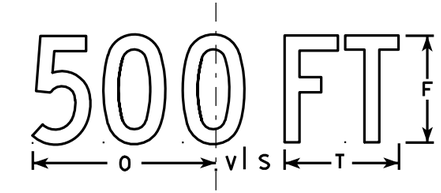
PROJECT NO:

SHEET NO: E

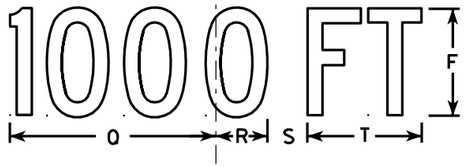
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



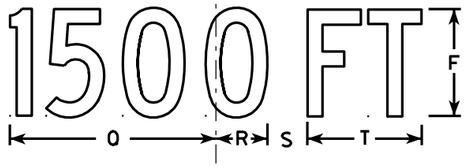
W20-3A



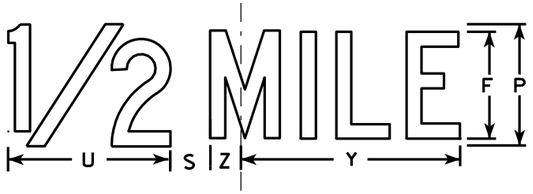
W20-3D



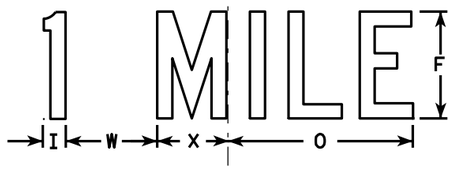
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

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

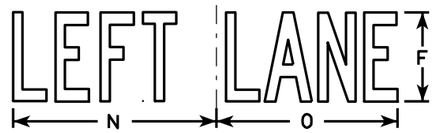
7

7

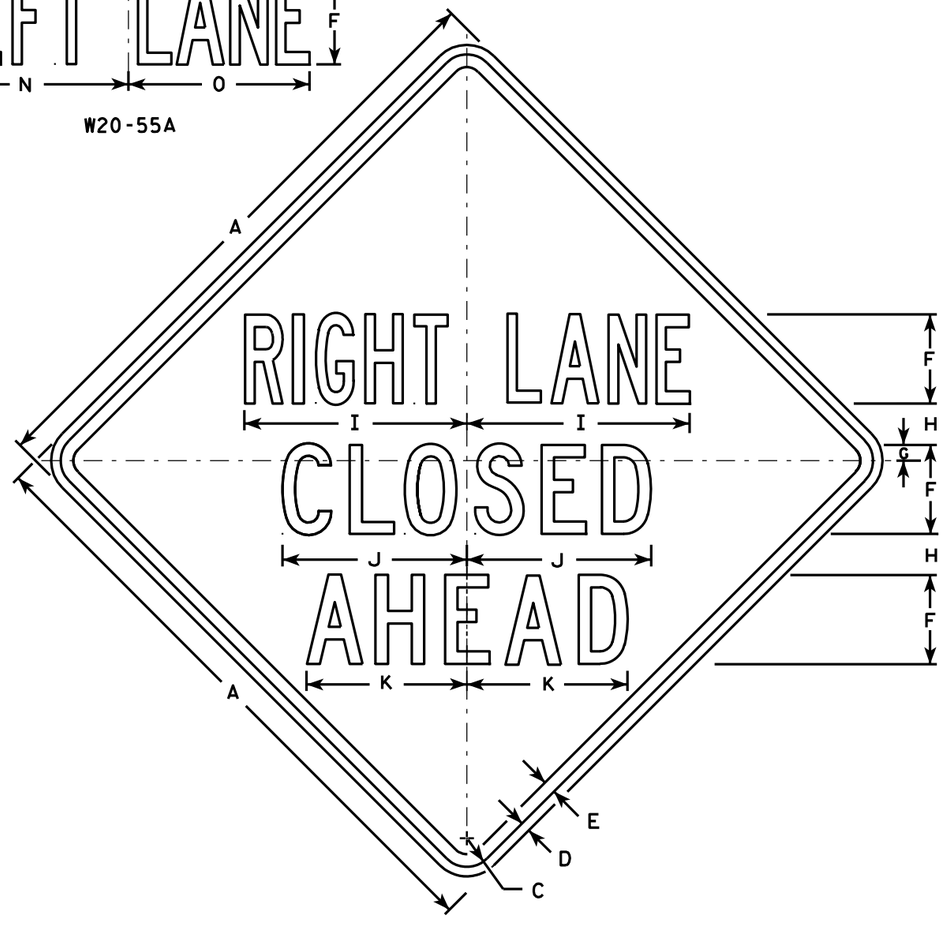
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 276 | E



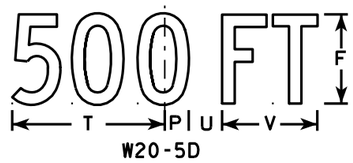
W20-56A



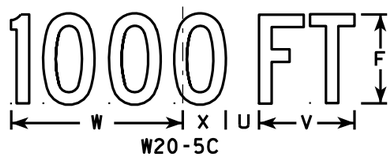
W20-55A



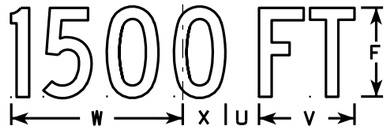
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

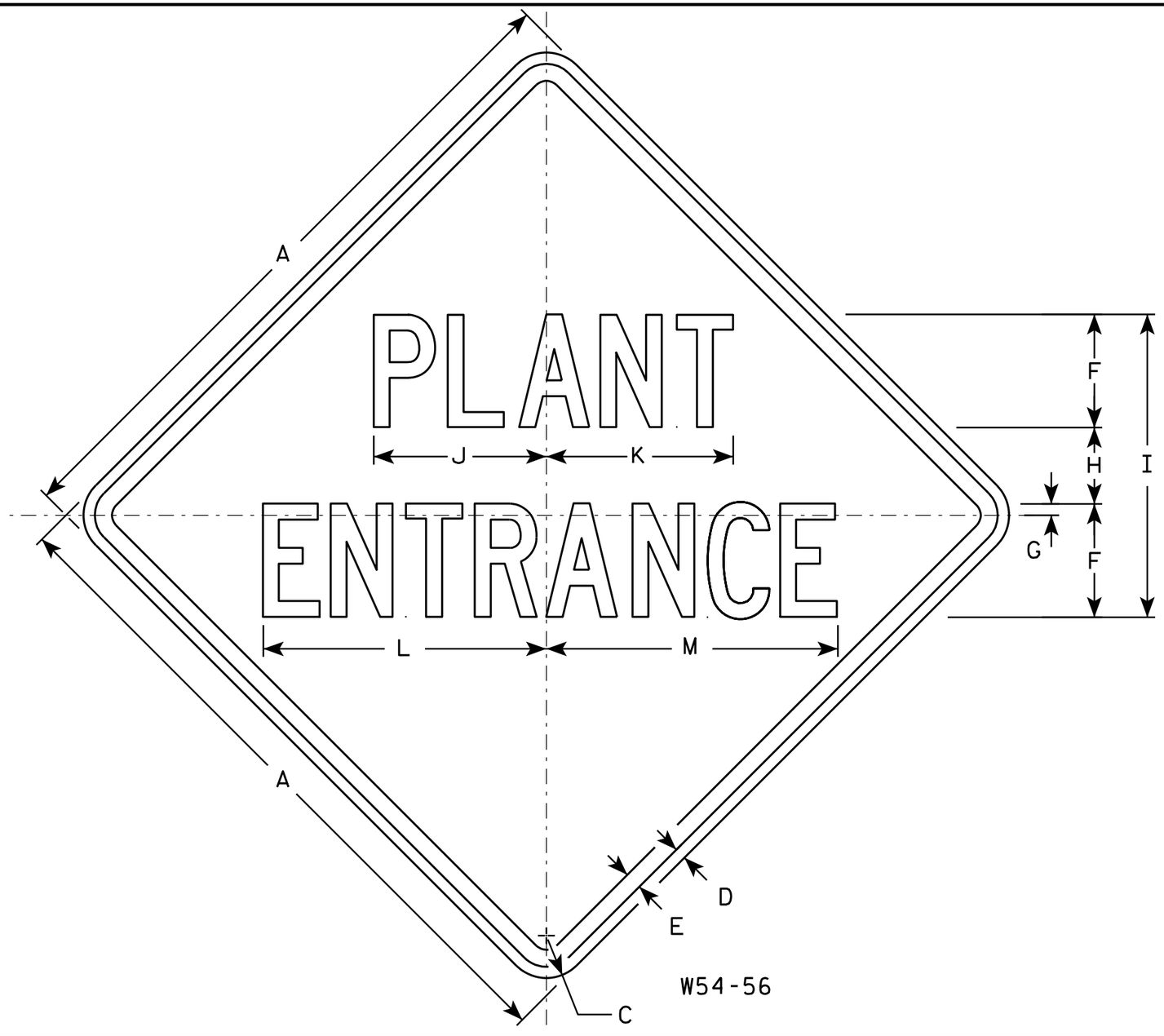
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 277 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - 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		1 1/8	3/8	1/2	4	3/8	2 3/4	10 3/4	6 1/8	6 5/8	10	10 3/8														4.00
2S	30		1 3/8	1/2	5/8	5	1/2	3 3/8	13 3/8	7 5/8	8 1/4	12 1/2	12 7/8														6.25
2M	36		1 5/8	5/8	3/4	6	5/8	4 1/8	16 1/8	9 1/8	9 7/8	15	15 3/8														9.00
3	36		1 5/8	5/8	3/4	6	5/8	4 1/8	16 1/8	9 1/8	9 7/8	15	15 3/8														9.00
4																											
5																											

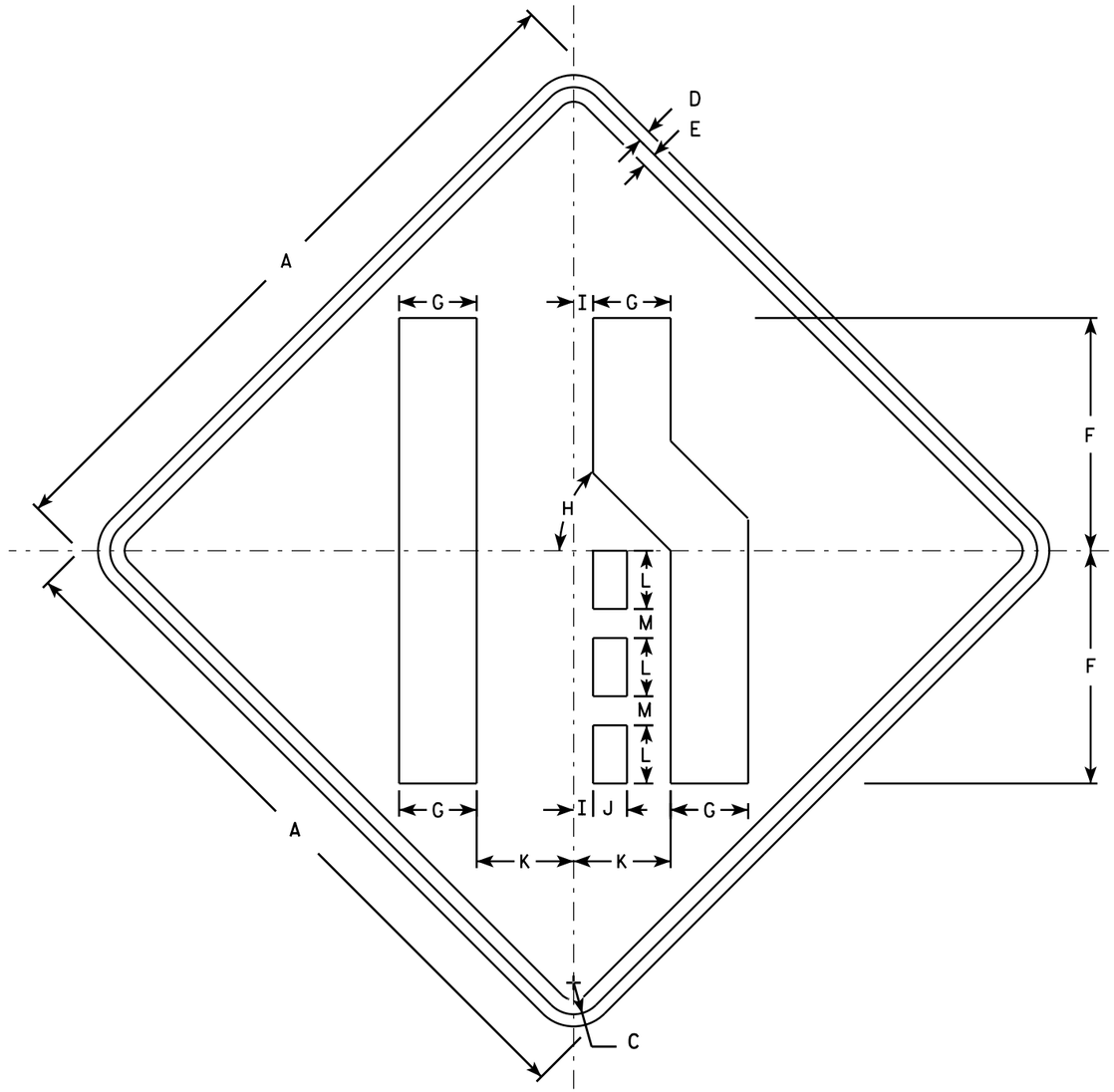
STANDARD SIGN
W54-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W54-56.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 278	E



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

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

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

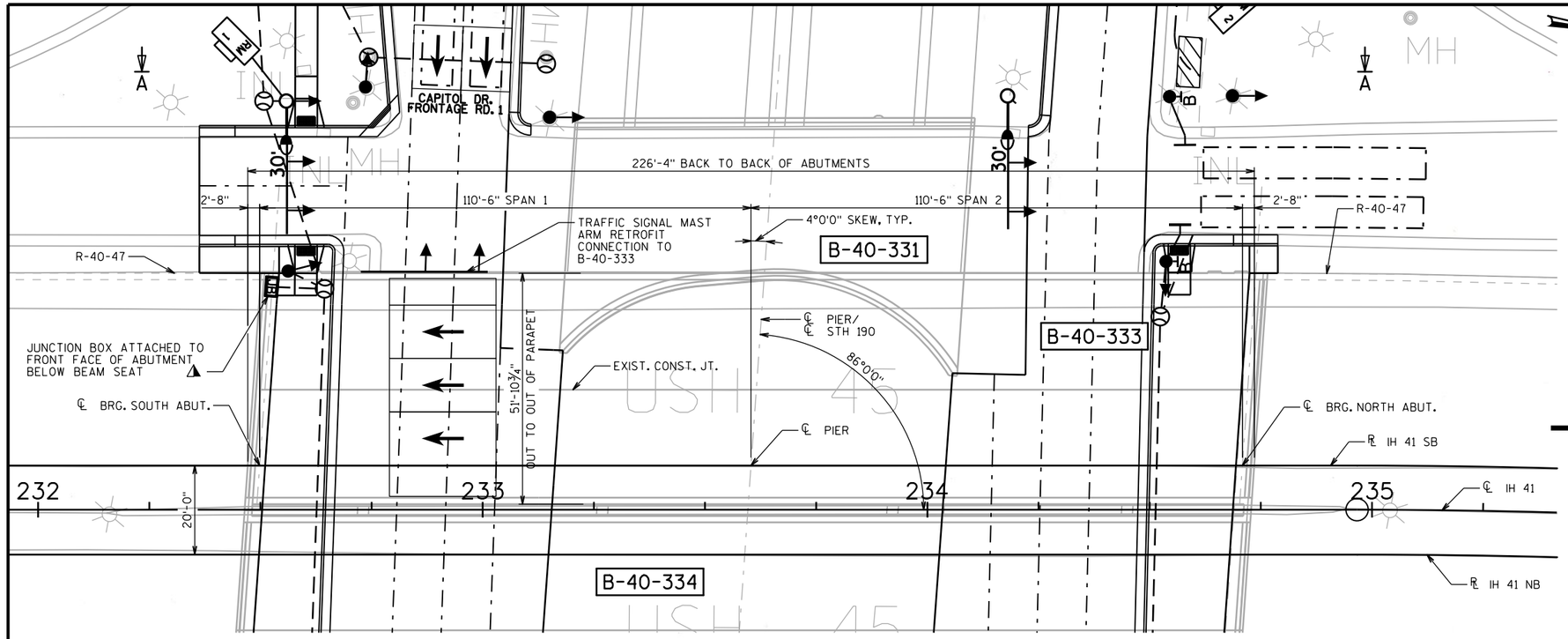
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 279 W04-2.1

PROJECT NO:

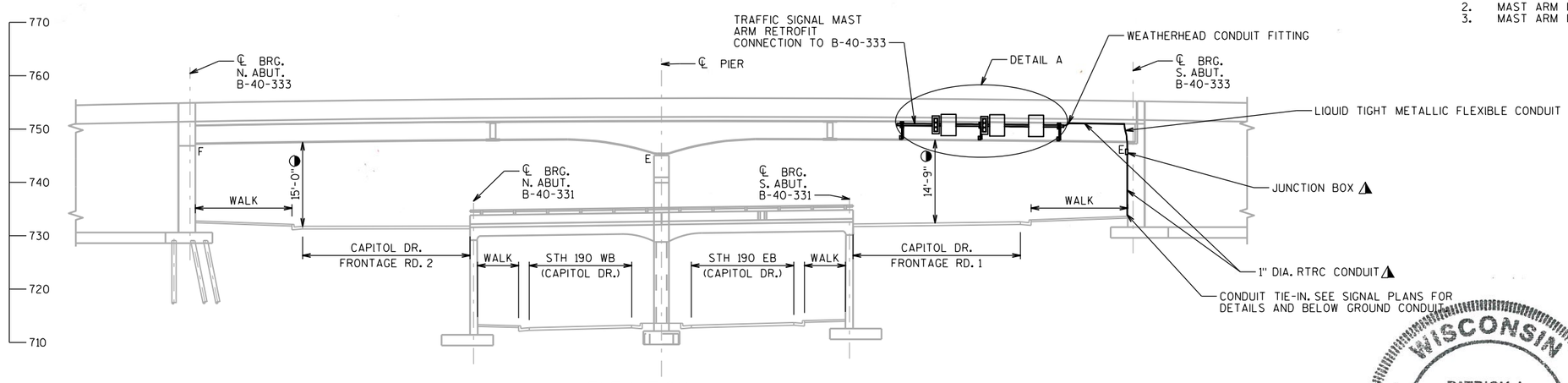
SHEET NO: E

STATE PROJECT NUMBER
1360-09-71



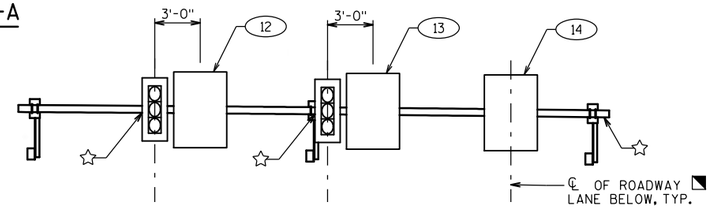
PLAN

(EXISTING 2 SPAN CONTINUOUS HAUNCHED STEEL PLATE GIRDER)



ELEVATION A-A

(LOOKING EAST)



DETAIL A

TRAFFIC DATA

IH 41 SB
EXISTING A.D.T. = 68,250 (2012)
FUTURE A.D.T. = 84,650 (2040)
R.D.S. = 60 M.P.H.

INTERCHANGE RD. EB
EXISTING A.D.T. = 18,150 (2014)
FUTURE A.D.T. = 20,500 (2040)
R.D.S. = 35 M.P.H.

INTERCHANGE RD. WB
EXISTING A.D.T. = 18,150 (2014)
FUTURE A.D.T. = 20,500 (2040)
R.D.S. = 35 M.P.H.

STH 190-CAPITOL DR.
EXISTING A.D.T. = 21,700 (2010)
FUTURE A.D.T. = 25,000 (2040)
R.D.S. = 50 M.P.H.

DESIGN DATA

BRIDGE

STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 17TH ED.

LIVE LOAD:

DESIGN LOADING: HS20
INVENTORY RATING: HS18
OPERATING RATING: HS31
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 210 KIPS

MAST ARM

DEAD LOAD - 3 PSF OF SIGN, WT. OF SUPPORTING STRUCTURE.
ICE LOAD - 3 PSF TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND LOAD - 90 MPH (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.
FATIGUE CATEGORY I (CANTILEVERED SIGN OR TRAFFIC SIGNAL SUPPORT)

DESIGN ACCORDING TO THE 6TH EDITION AND INTERIM REVISIONS OF AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."

LEGEND

- TRAFFIC DIRECTION
- LOCATION PER EXISTING PLANS AND MIN. CLEARANCE TAKEN FROM HSI SYSTEM 9-29-2016
- PLACE SIGN OR SIGNAL CENTERED OVER THE LANE BELOW AS INDICATED IN DETAIL A. ADJUST LOCATION OF SIGNALS AND SIGNS AS NEEDED TO MISS MOUNTING BRACKET U-BOLTS.
- ATTACH TO FRONT FACE OF ABUTMENT OR UNDERSIDE OF DECK WITH EXTERIOR GRADE CONCRETE MASONRY SELF-TAPPING SCREWS.
- SHOP DRILL HOLE IN BOTTOM OF MAST ARM PIPE AT EACH TRAFFIC SIGNAL LOCATION AND 3" FROM END OF MAST ARM PIPE NEAREST THE ABUTMENT. DRILL PRIOR TO GALVANIZING. INSTALL RUBBER GROMMET TO PROTECT CABLE AND PROVIDE WEATHERPROOF SEAL.
- (XX) SIGN NUMBER, SEE PERMANENT SIGNING PLANS.

LIST OF DRAWINGS

1. MAST ARM RETROFIT GENERAL PLAN & ELEVATION
2. MAST ARM RETROFIT TYPICAL SECTION AND QUANTITIES
3. MAST ARM RETROFIT FRAMING PLAN & DETAILS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
PAT CASHIN (414) 359-2300

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

HNTB
11414 W. PARK PLACE
MILWAUKEE, WI 53224
(414) 359-2300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 12/19/16
CHIEF STRUCTURES DESIGN ENGINEER DATE

PATRICK J. CASHIN 27764 MILWAUKEE, WI — WISCONSIN — PROFESSIONAL ENGINEER

Patrick J. Cashin 12/15/2016

STRUCTURE B-40-333

IH 41 SB OVER RAMP IH 41 - STH 190

COUNTY	TOWN/~~CITY~~/~~VILLAGE~~
MILWAUKEE	WAUWATOSA

DESIGN SPEC. AASHTO SIGN SPEC 6TH EDITION

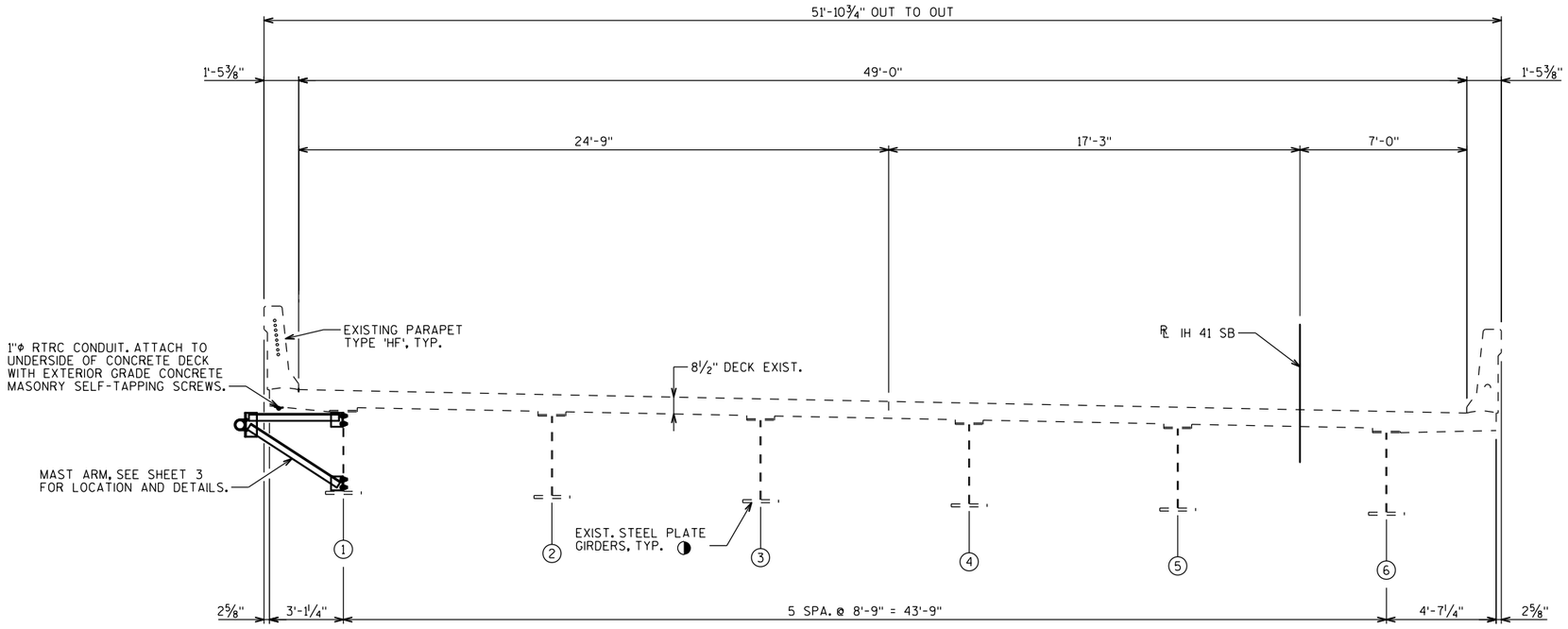
DESIGNED BY	ENS	DESIGN CK'D.	JWC	DRAWN BY	EAJ	PLANS CK'D.	PJC

MAST ARM RETROFIT GENERAL PLAN & ELEVATION

SHEET 1 OF 3

FILE NAME : W:\JOBS\59975 USH 45 Rehab\0800 Traffic\0840_IH41_STH190_Traffic_Signals\CADD\b1\B-40-333\333_080101_gp.dgn PLOT DATE : 12/15/2016 2:29:26 PM PLOT BY : jodenwald PLOT NAME : $FILE$ PLOT SCALE : 30:1

STATE PROJECT NUMBER
1360-09-71



TYPICAL SECTION

(LOOKING NORTH)

◑ 40" WEBS TYPICAL, 72" WEB MAX. AT PIER

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	TOTAL
SPV.0105.3200	MAST ARM RETROFIT, STRUCTURE B-40-333	LS	1

ALL ITEMS ARE CATEGORY 2000

MAST ARM RETROFIT COMPONENTS ⚠	UNIT	TOTAL
STEEL STANDARD WEIGHT PIPE-MAST ARM	LB	431
STRUCTURAL CARBON STEEL-MOUNTING BRACKETS	LB	400
HIGH STRENGTH BOLTS 3/4" DIAMETER	EA	12
STAINLESS STEEL U-BOLTS 1/2 INCH DIAMETER	EA	6
REINFORCED THERMAL RESIN COUPLER (RTRC) 1-INCH	LF	30
LIQUIDTIGHT FLEXIBLE CONDUIT 1-INCH	LF	4
WEATHERHEAD CONDUIT FITTING, EXTERIOR GRADE	EA	1
JUNCTION BOX 6" X 8" X 4" NEMA TYPE 4	EA	1
CONCRETE MASONRY SCREWS ⧓	EA	AS REQ'D

⚠ COMPONENT QUANTITIES PROVIDED FOR INFORMATION ONLY. ALL ITEMS INCLUDED UNDER LUMP SUM BID ITEM "MAST ARM RETROFIT, STRUCTURE B-40-333"

⧓ CONCRETE MASONRY SCREWS, EXTERIOR GRADE, STAINLESS STEEL , 1¼-INCH MAX LENGTH

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-333

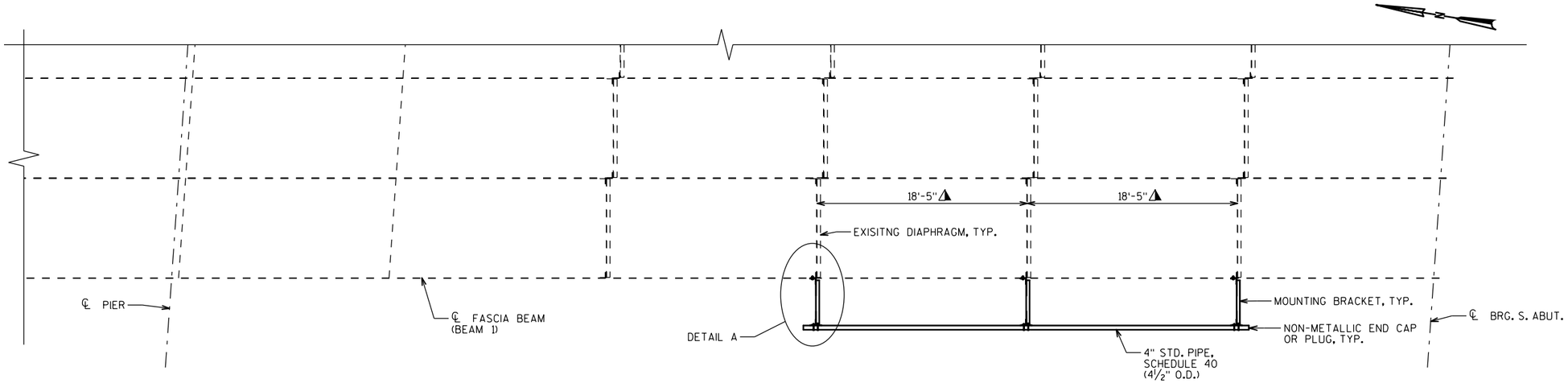
DRAWN BY JJO | PLANS CK'D. PJC

MAST ARM RETROFIT TYPICAL SECTION, AND QUANTITIES

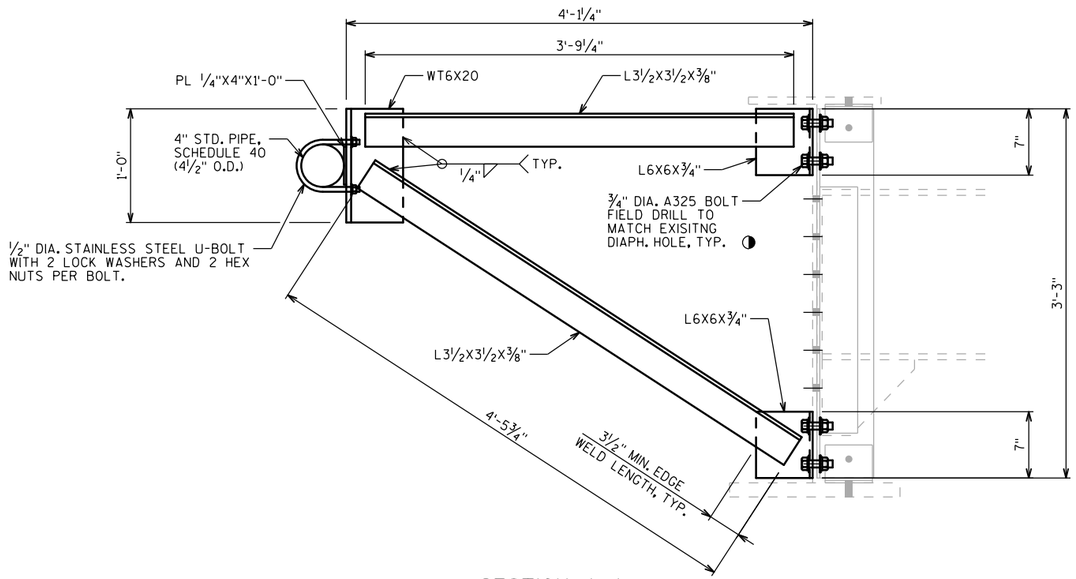
SHEET 2 OF 3

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STATE PROJECT NUMBER
1360-09-71

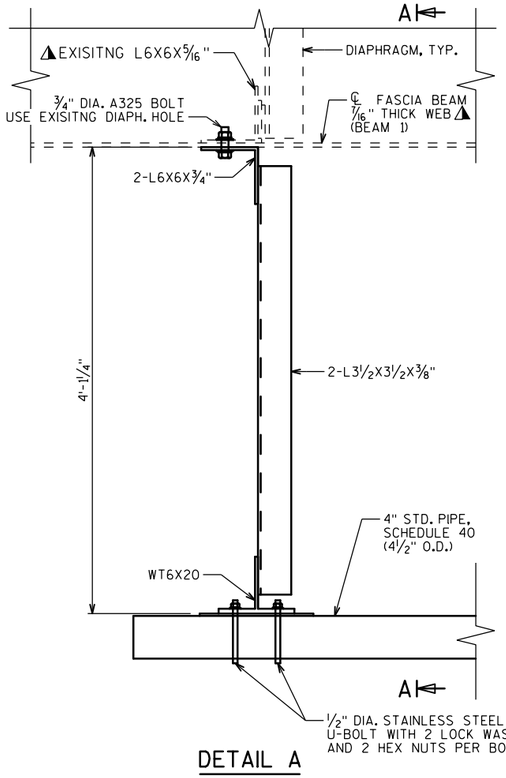


PARTIAL FRAMING PLAN

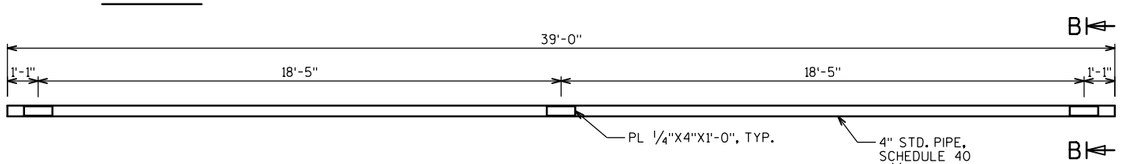


SECTION A-A

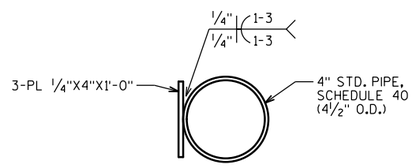
MOUNTING BARCKET



DETAIL A



MAST ARM PIPE LAYOUT



SECTION B-B

NOTES

DRAWING SHALL NOT BE SCALED

STEEL PIPES SHALL BE API SPEC. 5L GRADE X42, PSL-2, Fy = 42,000 PSI **

PLATES, BARS & STRUCTURAL ANGLES SHALL BE ASTM A709 GRADE 36, Fy = 36,000 PSI

UNLESS DETAILED OTHERWISE IN THE PLANS, ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

ALL STRUCTURAL SHEEL MEMBERS, PIPES, PLATES, H.S. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER SECTION 641 OF TE WISDOT STANDARD SPECIFICATIONS.

WELD TEST AS PER AWS D1.1.

SEE SIGN PLATE NO. A4-6 OF THE SIGN PLATE MANUAL FOR INSTRUCTION ON CENTERING SIGN VERTICALLY ON TRUSS.

** SEE WISDOT BRIDGE MANUAL SECTION 39.3 FOR ACCEPTABLE ALTERNATE MATERIAL. STEEL WITH WIELD STRENGTH BELOW 42,000 PSI REQUIRES A COMPLETE ANALYSIS OF THE STRUCTRE.

◑ REMOVE EXISTING BOLTS, FIELD DRILL 13/16 " DIA. HOLES THROUGH THE ANGLE LEG TO MATCH EXISITNG DIAPHRAGM CONNECTION BOLTS AND FASTEN NEW BOLTS.

◭ DIMENSIONS ARE BASED ON EXISITNG PLANS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-333

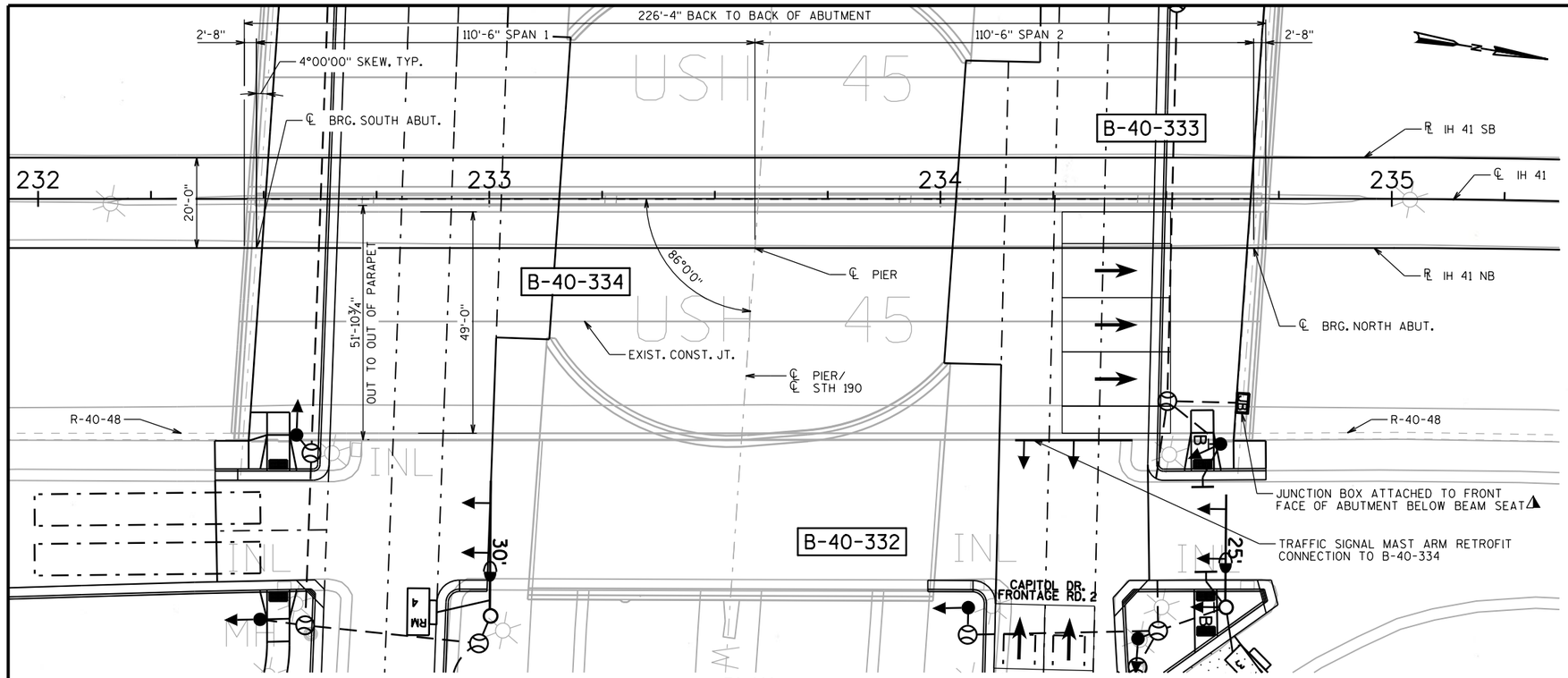
DRAWN BY JJO | PLANS CK'D. PJC

MAST ARM RETROFIT FRAMING PLAN & DETAILS

SHEET 3 OF 3

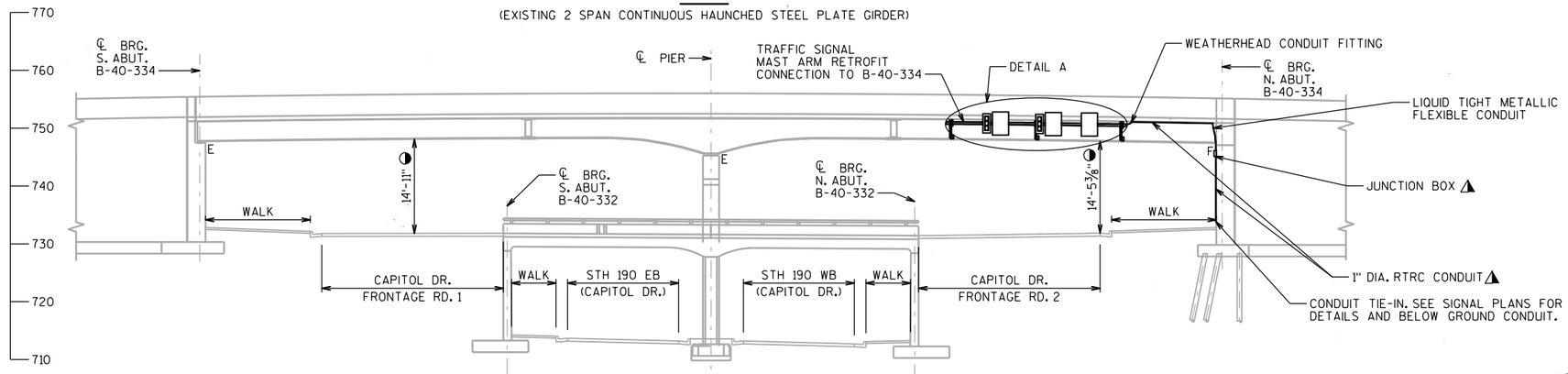
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STATE PROJECT NUMBER
1360-09-71



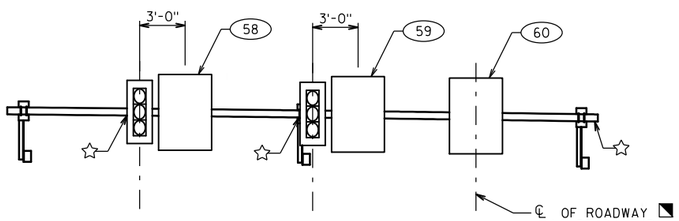
PLAN

(EXISTING 2 SPAN CONTINUOUS HAUNCHED STEEL PLATE GIRDER)



ELEVATION

(LOOKING WEST)



DETAIL A

DESIGN DATA

BRIDGE

STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 17TH ED.

LIVE LOAD:

DESIGN LOADING: HS20
INVENTORY RATING: HS18
OPERATING RATING: HS31
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 210 KIPS

MAST ARM

DEAD LOAD - 3 PSF OF SIGN, WT. OF SUPPORTING STRUCTURE.
ICE LOAD - 3 PSF TO 1 FACE OF SIGN & AROUND SURFACE OF MEMBERS.
WIND LOAD - 90 MPH (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.
FATIGUE CATEGORY I (CANTILEVERED SIGN OR TRAFFIC SIGNAL SUPPORT)

DESIGN ACCORDING TO THE 6TH EDITION AND INTERIM REVISIONS OF AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS."

LEGEND

- TRAFFIC DIRECTION
- ◑ LOCATION PER EXISTING PLANS AND MIN. CLEARANCE TAKEN FROM HSI SYSTEM 9-29-2016
- ◥ PLACE SIGN OR SIGNAL CENTERED OVER THE LANE BELOW AS INDICATED IN DETAIL A. ADJUST LOCATION OF SIGNALS AND SIGNS AS NEEDED TO MISS MOUNTING BRACKET U-BOLTS.
- ▲ ATTACH TO FRONT FACE OF ABUTMENT OR UNDERSIDE OF DECK WITH EXTERIOR GRADE CONCRETE MASONRY SELF-TAPPING SCREWS.
- ☆ SHOP DRILL HOLE IN BOTTOM OF MAST ARM PIPE AT EACH TRAFFIC SIGNAL LOCATION AND 3" FROM END OF MAST ARM PIPE NEAREST THE ABUTMENT. DRILL PRIOR TO GALVANIZING. INSTALL RUBBER GROMMET TO PROTECT CABLE AND PROVIDE WEATHERPROOF SEAL.
- (XX) SIGN NUMBER, SEE PERMANENT SIGNING PLANS.

LIST OF DRAWINGS

1. MAST ARM RETROFIT GENERAL PLAN & ELEVATION
2. MAST ARM RETROFIT TYPICAL SECTION AND QUANTITIES
3. MAST ARM RETROFIT FRAMING PLAN & DETAILS

TRAFFIC DATA

IH 41 NB
EXISTING A.D.T. = 68,250 (2012)
FUTURE A.D.T. = 84,650 (2040)
R.D.S. = 60 M.P.H.

INTERCHANGE RD. EB
EXISTING A.D.T. = 18,150 (2014)
FUTURE A.D.T. = 20,500 (2040)
R.D.S. = 35 M.P.H.

INTERCHANGE RD. WB
EXISTING A.D.T. = 18,150 (2014)
FUTURE A.D.T. = 20,500 (2040)
R.D.S. = 35 M.P.H.

STH 190-CAPITOL DR.
EXISTING A.D.T. = 21,700 (2010)
FUTURE A.D.T. = 25,000 (2040)
R.D.S. = 50 M.P.H.

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
PAT CASHIN (414) 359-2300

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
HNTB
11414 W. PARK PLACE
MILWAUKEE, WI 53224
(414) 359-2300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 12/19/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
PATRICK J. CASHIN
27764
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Patrick J. Cashin
12/15/2016

STRUCTURE B-40-334

IH 41 NB OVER RAMP IH 41 - STH 190

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	WAUWATOSA

DESIGN SPEC.
AASHTO SIGN SPEC. 6TH EDITION

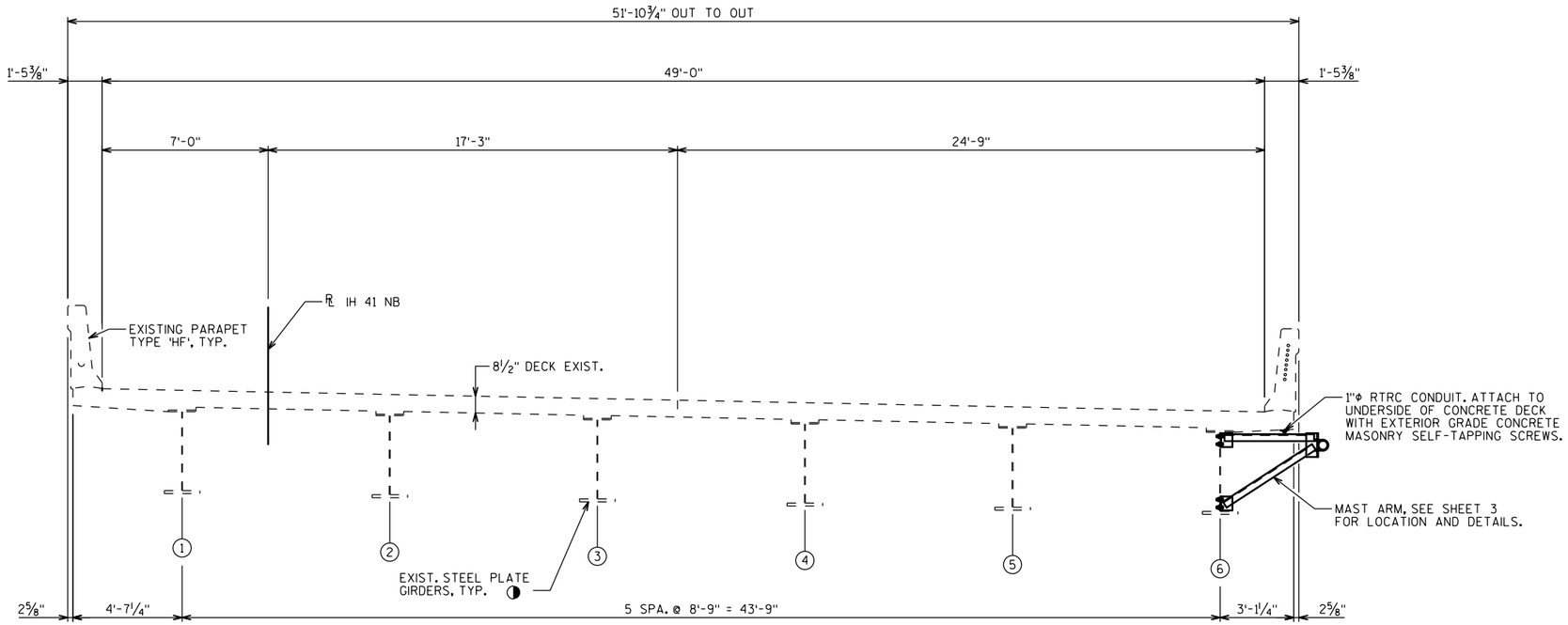
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ENS	JWC	EAJ	PJC

MAST ARM RETROFIT GENERAL PLAN & ELEVATION

SHEET 1 OF 3

FILE NAME : W:\JOBS\59975 USH 45 Rehab\0800 Traffic\0840_IH41_STH190_Traffic_Signals\CADD\b1\B-40-334\334_080101_gp.dgn
PLOT DATE : 12/15/2016 2:27:53 PM
PLOT BY : jodenwald
PLOT NAME : $FILE$
PLOT SCALE : 30:1

STATE PROJECT NUMBER
1360-09-71



TYPICAL SECTION

(LOOKING NORTH)

◑ 40" WEBS TYPICAL, 72" WEB MAX. AT PIER

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	TOTAL
SPV.0150.3210	MAST ARM RETROFIT, STRUCTURE B-40-334	LS	1

ALL ITEMS ARE CATEGORY 2010

MAST ARM RETROFIT COMPONENTS ⚠	UNIT	TOTAL
STEEL STANDARD WEIGHT PIPE-MAST ARM	LB	431
STRUCTURAL CARBON STEEL-MOUNTING BRACKETS	LB	400
HIGH STRENGTH BOLTS 3/4" DIAMETER	EA	12
STAINLESS STEEL U-BOLTS 1/2 INCH DIAMETER	EA	6
REINFORCED THERMAL RESIN COUPLER (RTRC) 1-INCH	LF	30
LIQUIDTIGHT FLEXIBLE CONDUIT 1-INCH	LF	4
WEATHERHEAD CONDUIT FITTING, EXTERIOR GRADE	EA	1
JUNCTION BOX 6" X 8" X 4" NEMA TYPE 4	EA	1
CONCRETE MASONRY SCREWS ⧓	EA	AS REQ'D

⚠ COMPONENT QUANTITIES PROVIDED FOR INFORMATION ONLY. ALL ITEMS INCLUDED UNDER LUMP SUM BID ITEM "MAST ARM RETROFIT, STRUCTURE B-40-334"

⧓ CONCRETE MASONRY SCREWS, EXTERIOR GRADE, STAINLESS STEEL , 1¼-INCH MAX LENGTH

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-334

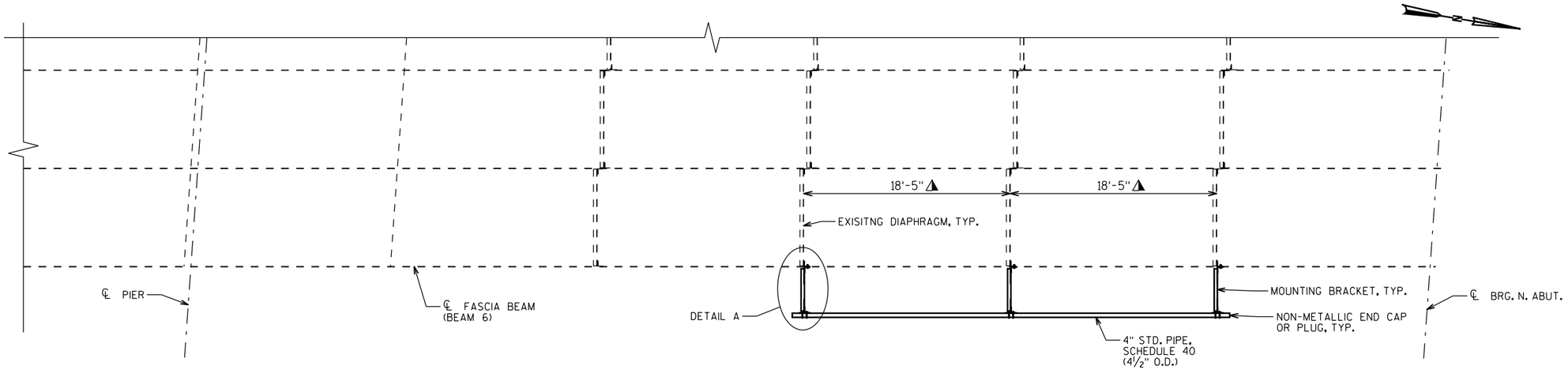
DRAWN BY EAJ | PLANS CK'D. PJC

MAST ARM RETROFIT TYPICAL SECTION AND QUANTITIES

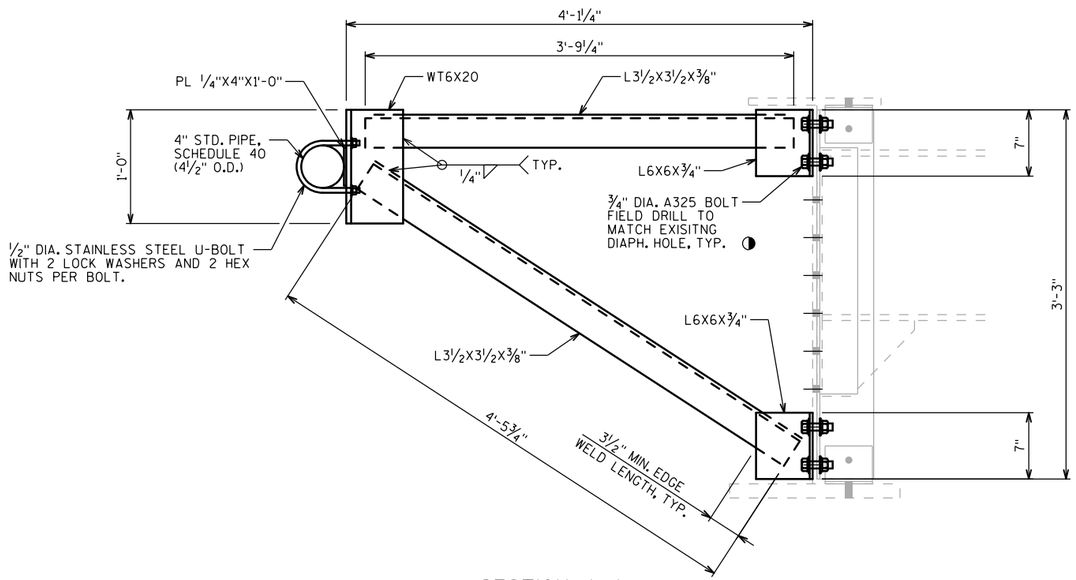
SHEET 2 OF 3

FILE NAME : W:\JOBS\59975 USH 45 Rehab\0800 Traffic\0840_IH41_STH190_Traffic_Signals\CADD\b1\B-40-334\334_080102_ts.dgn PLOT DATE : 12/15/2016 2:27:54 PM PLOT BY : jodenwald PLOT NAME : $FILE$ PLOT SCALE : 6:1

STATE PROJECT NUMBER
1360-09-71

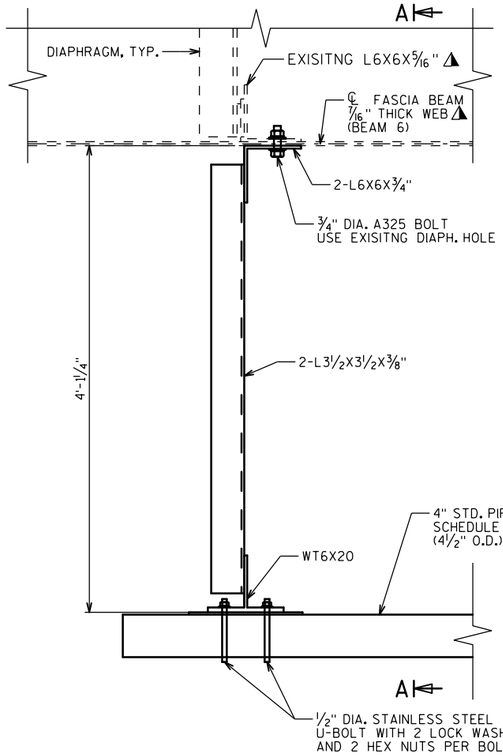


PARTIAL FRAMING PLAN

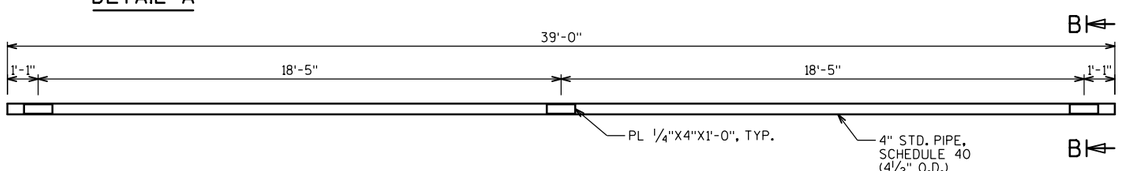


SECTION A-A

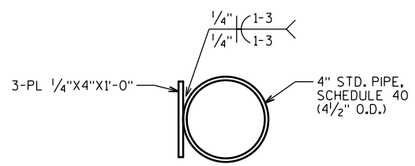
MOUNTING BARCKET



DETAIL A



MAST ARM PIPE LAYOUT



SECTION B-B

NOTES

DRAWING SHALL NOT BE SCALED

STEEL PIPES SHALL BE API SPEC. 5L GRADE X42, PSL-2, Fy = 42,000 PSI **

PLATES, BARS & STRUCTURAL ANGLES SHALL BE ASTM A709 GRADE 36, Fy = 36,000 PSI

UNLESS DETAILED OTHERWISE IN THE PLANS, ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" DIA. A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

ALL STRUCTURAL SHEEL MEMBERS, PIPES, PLATES, H.S. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER SECTION 641 OF TE WISDOT STANDARD SPECIFICATIONS.

WELD TEST AS PER AWS D1.1.

SEE SIGN PLATE NO. A4-6 OF THE SIGN PLATE MANUAL FOR INSTRUCTION ON CENTERING SIGN VERTICALLY ON TRUSS.

** SEE WISDOT BRIDGE MANUAL SECTION 39.3 FOR ACCEPTABLE ALTERNATE MATERIAL. STEEL WITH WIELD STRENGTH BELOW 42,000 PSI REQUIRES A COMPLETE ANALYSIS OF THE STRUCTRE.

◑ REMOVE EXISTING BOLTS, FIELD DRILL 13/16 " DIA. HOLES THROUGH THE ANGLE LEG TO MATCH EXISITNG DIAPHRAGM CONNECTION BOLTS AND FASTEN NEW BOLTS.

⚠ DIMENSIONS ARE BASED ON EXISITNG PLANS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

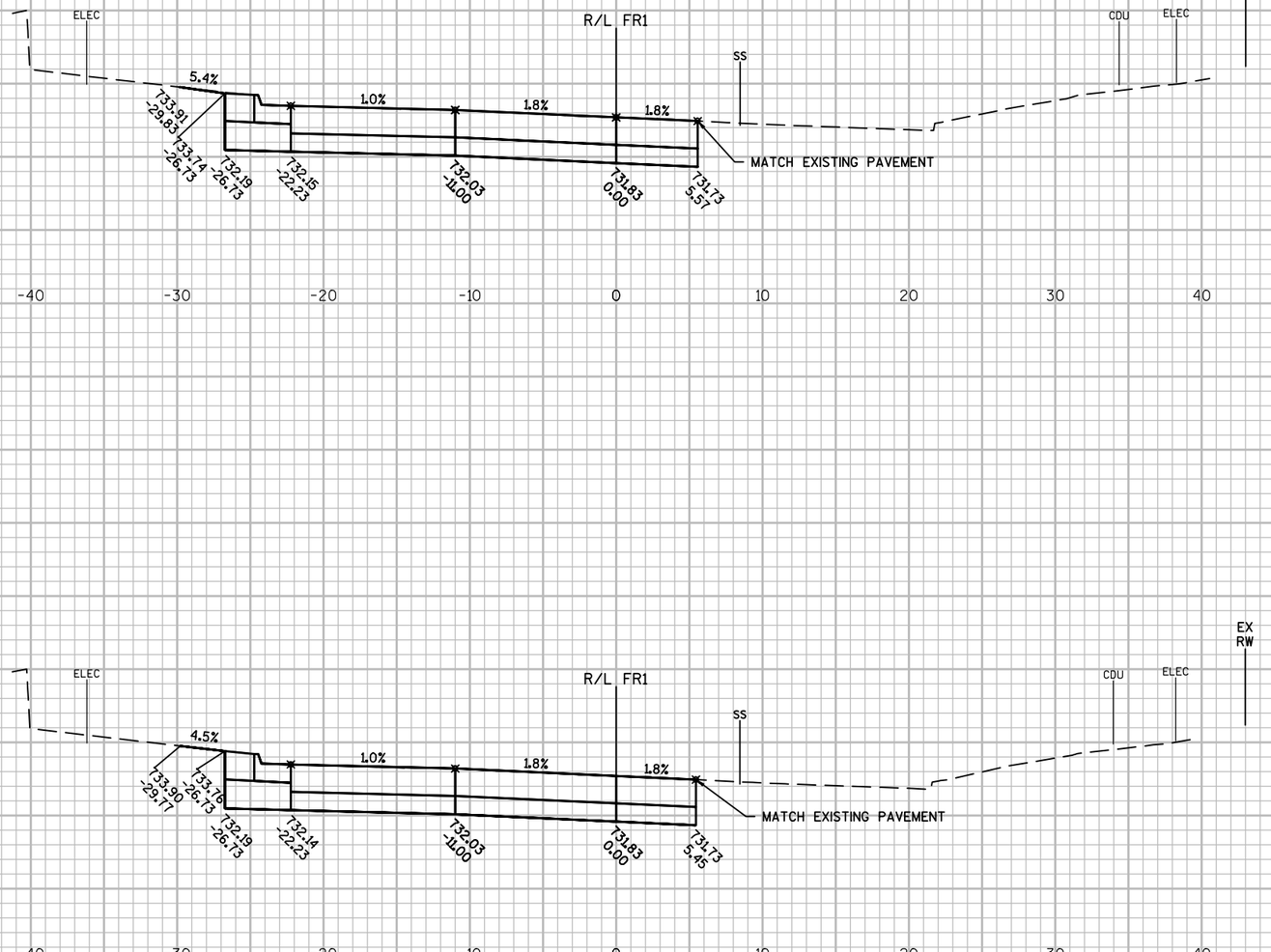
STRUCTURE B-40-334

DRAWN BY JJO | PLANS CK'D. PJC

MAST ARM RETROFIT FRAMING PLAN & DETAILS

SHEET 3 OF 3

285



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 286	E

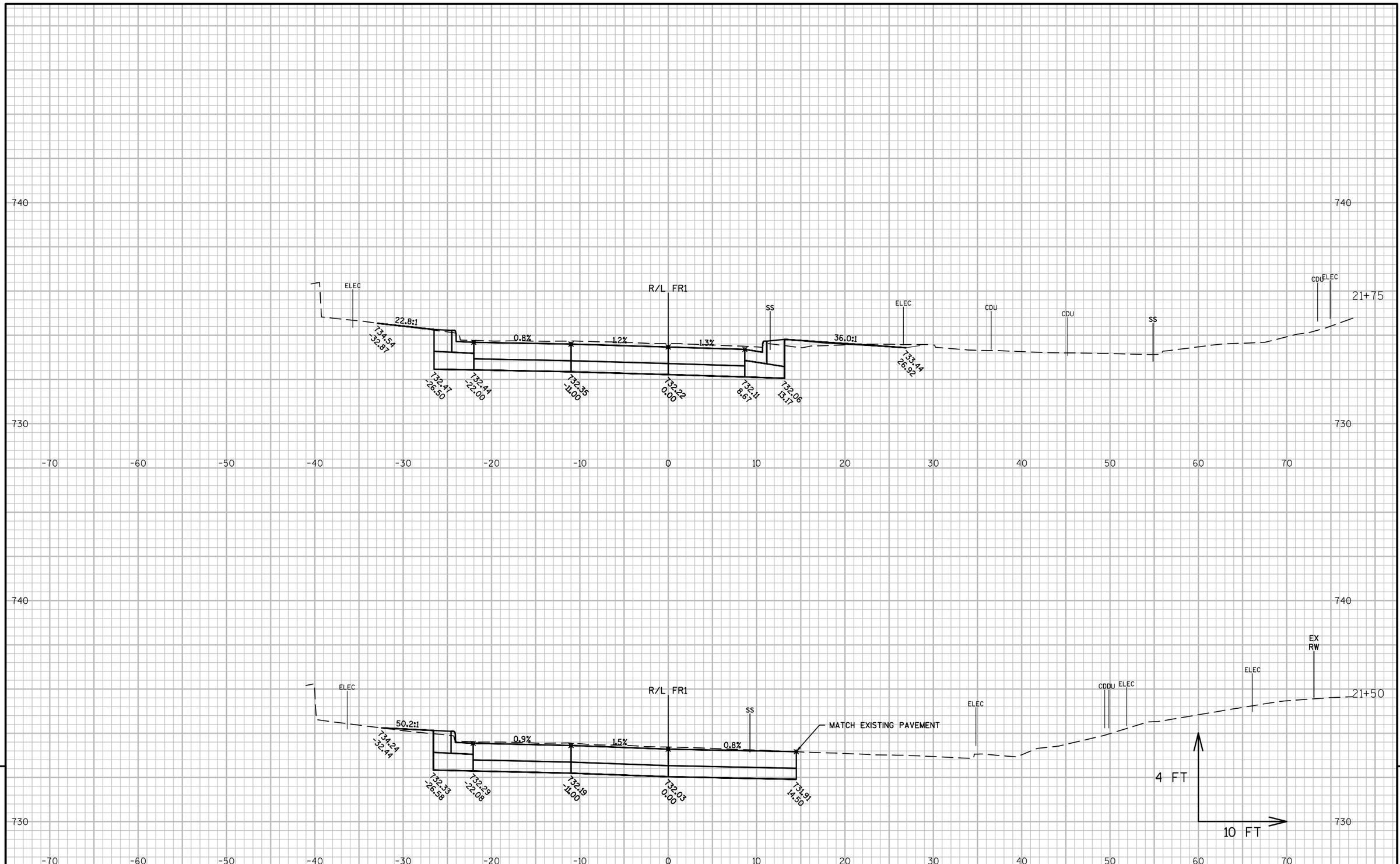
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LAYOUT NAME - 0902 - (1)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 287	E

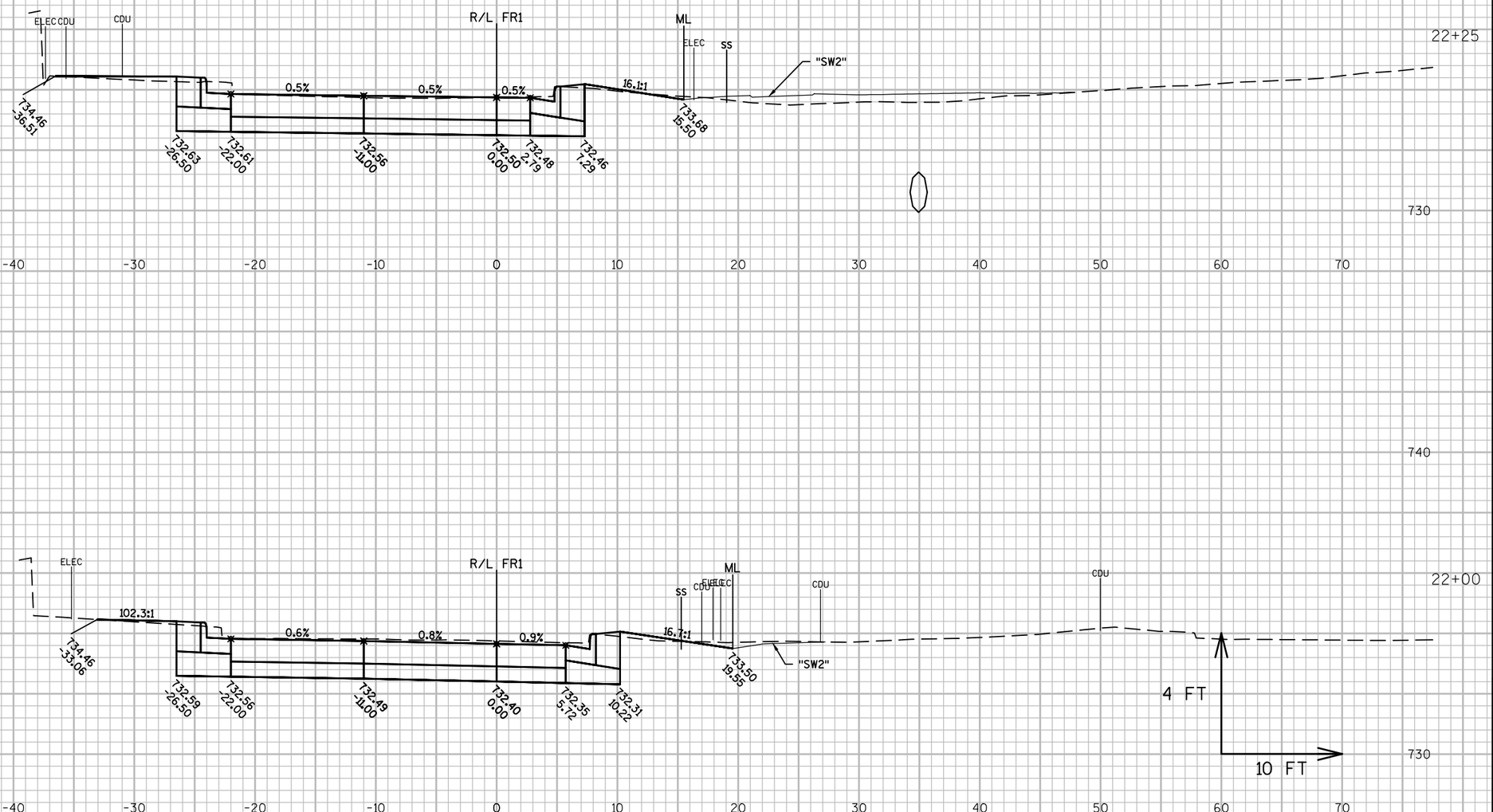
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LAYOUT NAME - 0902 - (2)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 288	E

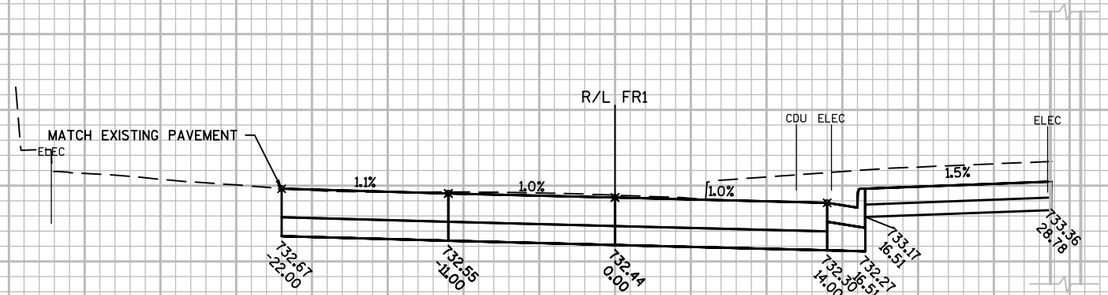
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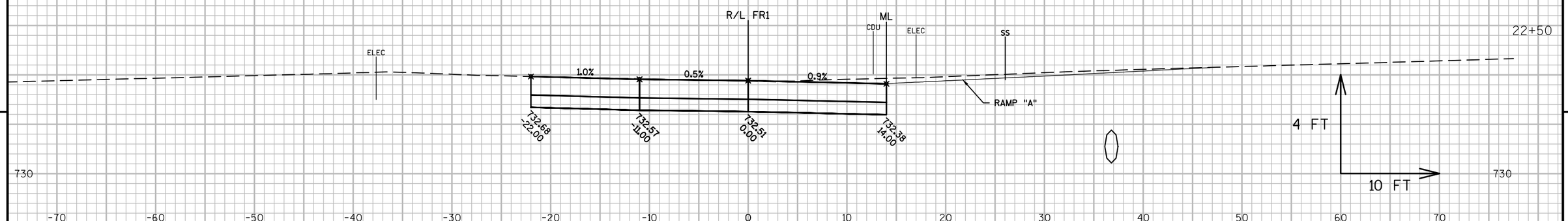
PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





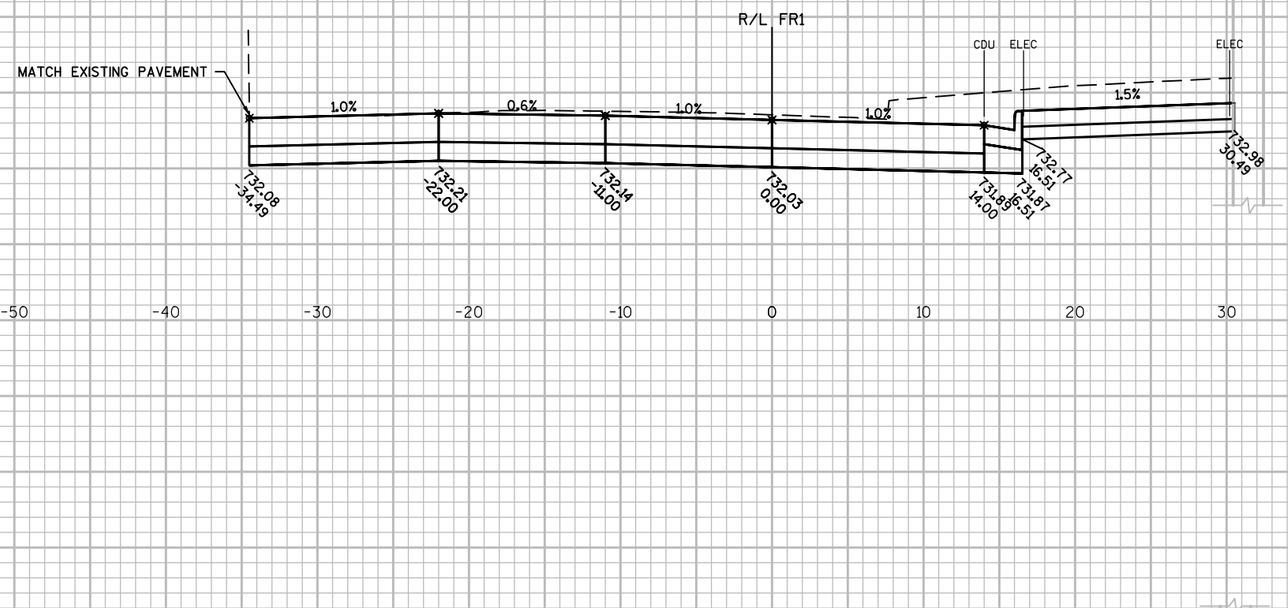
740
730
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70
22+75
22+50

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 289	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (4)
PLOT DATE : ----
PLOT BY : VERGOU, GEORGIA
PLOT NAME :
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 290 E

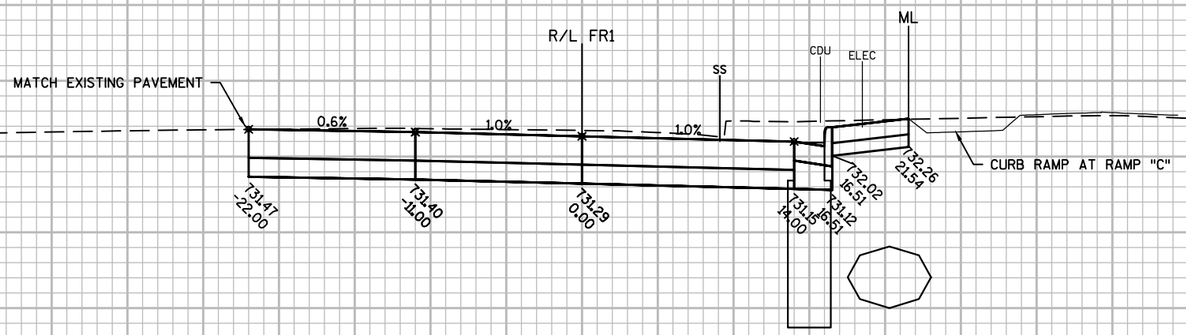
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LAYOUT NAME - 0902 - (5)

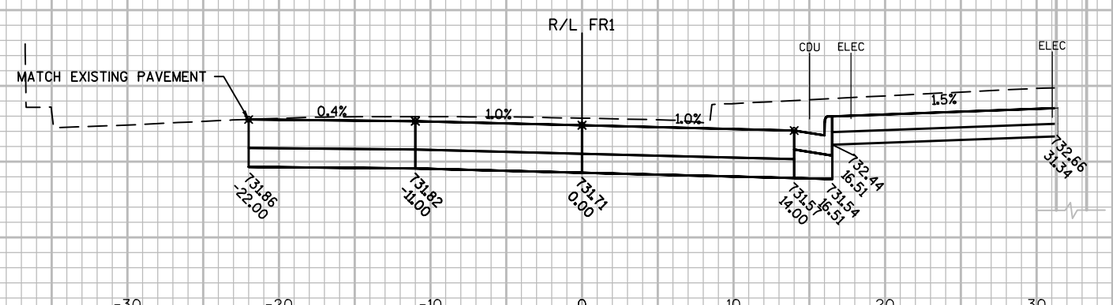
PLOT DATE : ----

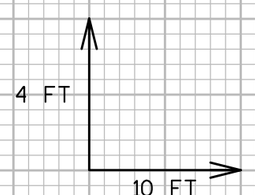
PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49







9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 291	E

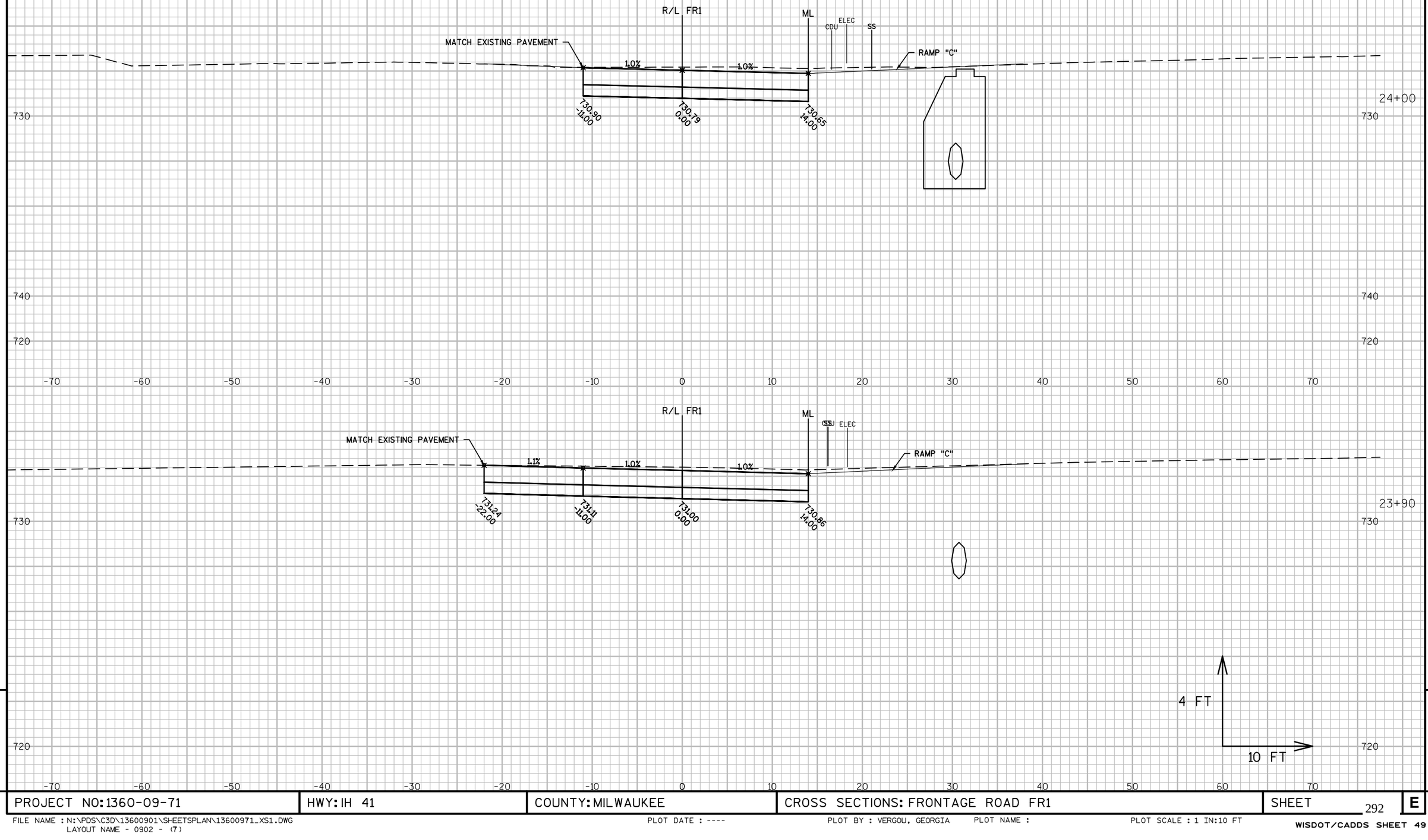
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LAYOUT NAME - 0902 - (6)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 292	E

9

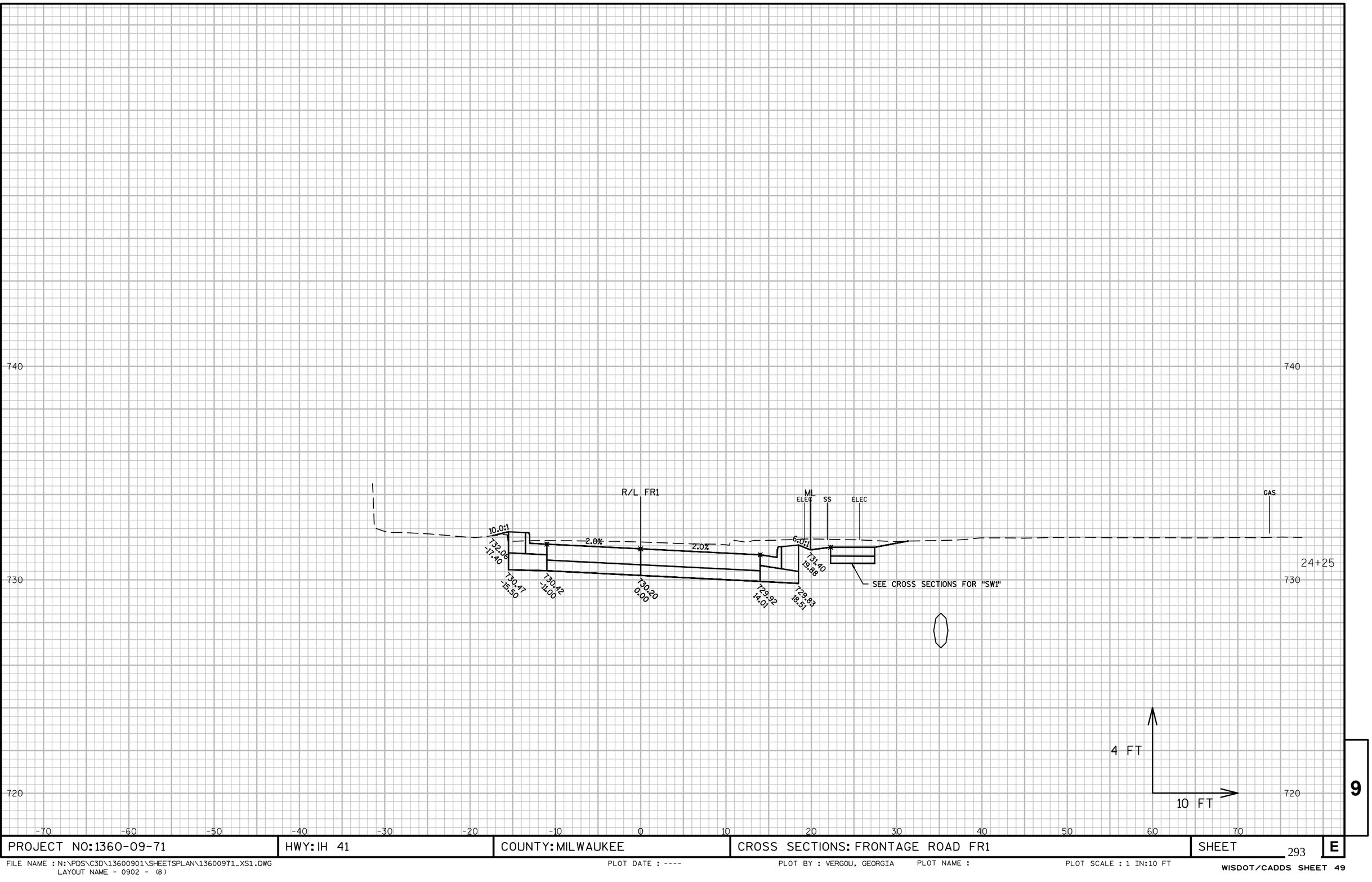
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LAYOUT NAME - 0902 - (7)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



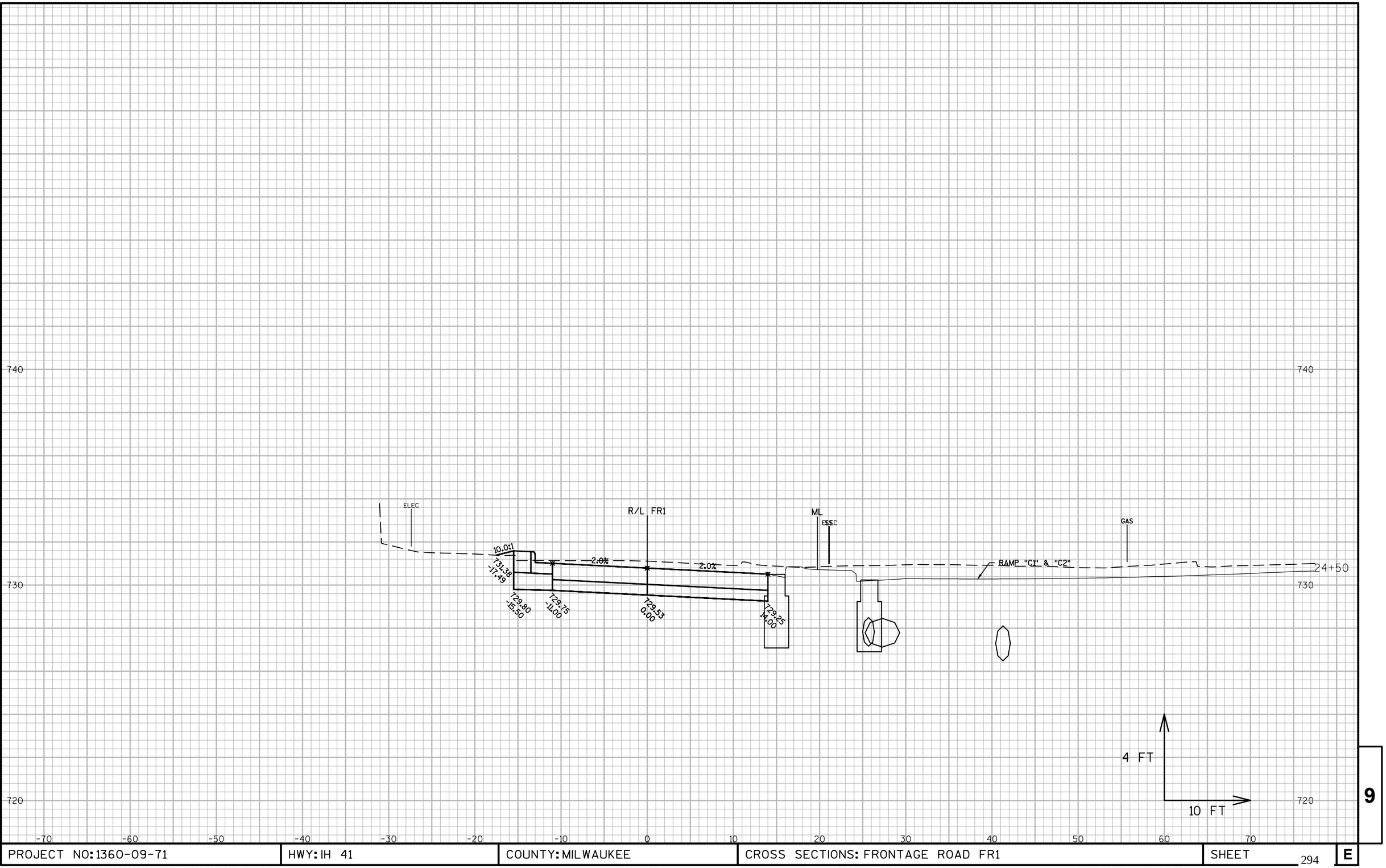
PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 293	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (8)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 294	E

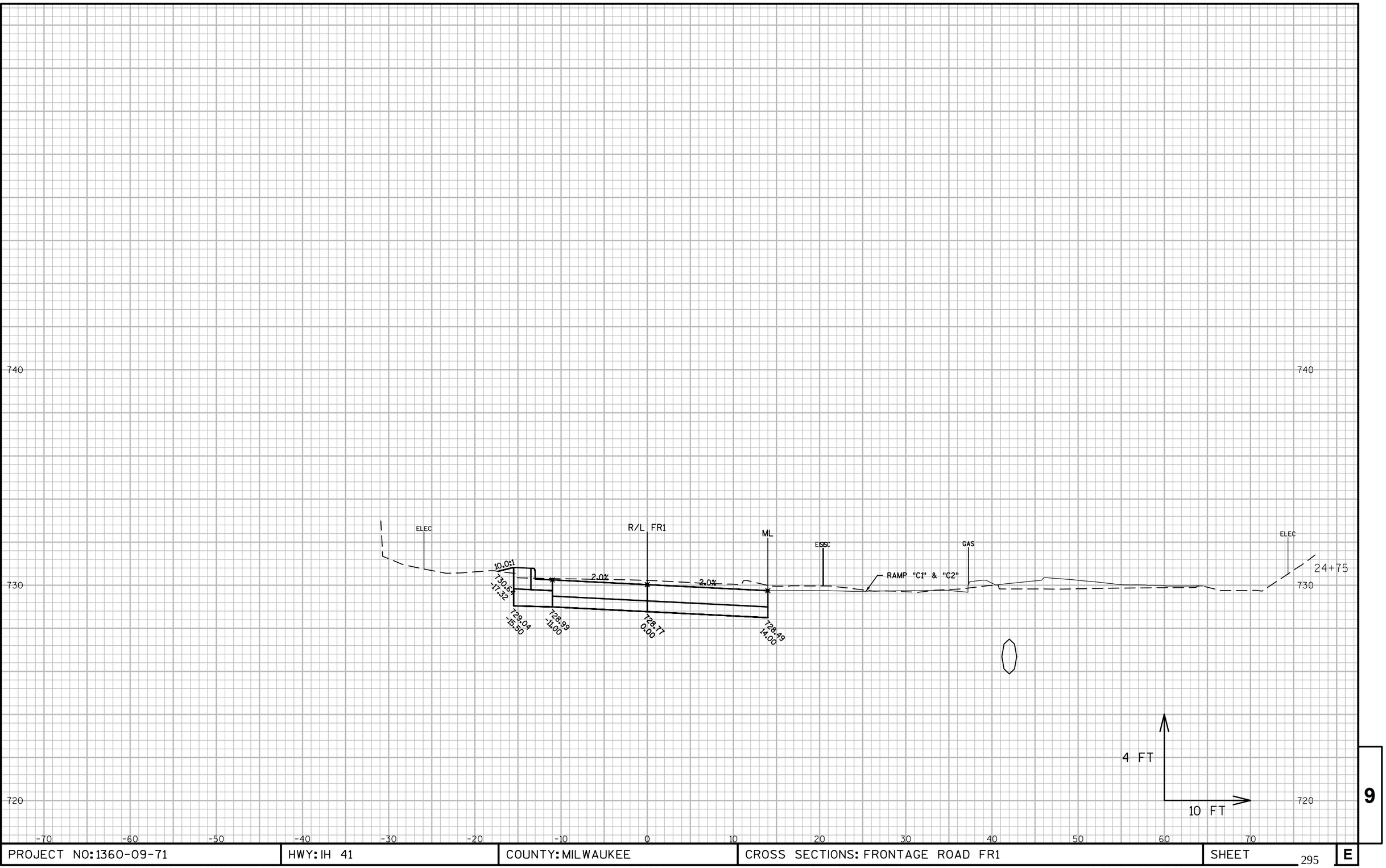
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LAYOUT NAME - 0902 - (9)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 295	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (10)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

740

730

720

ELEC

10.0:1

729.64
-18.89

728.19
-15.50

728.15
-11.00

R/L FR1

2.0%

2.0%

727.93
0.00

ML

727.65
14.00

ELEC SS

RAMP "C2"

ELEC

EX
RW

25+00

0

4 FT

10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 296	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (11)

PLOT DATE : ----

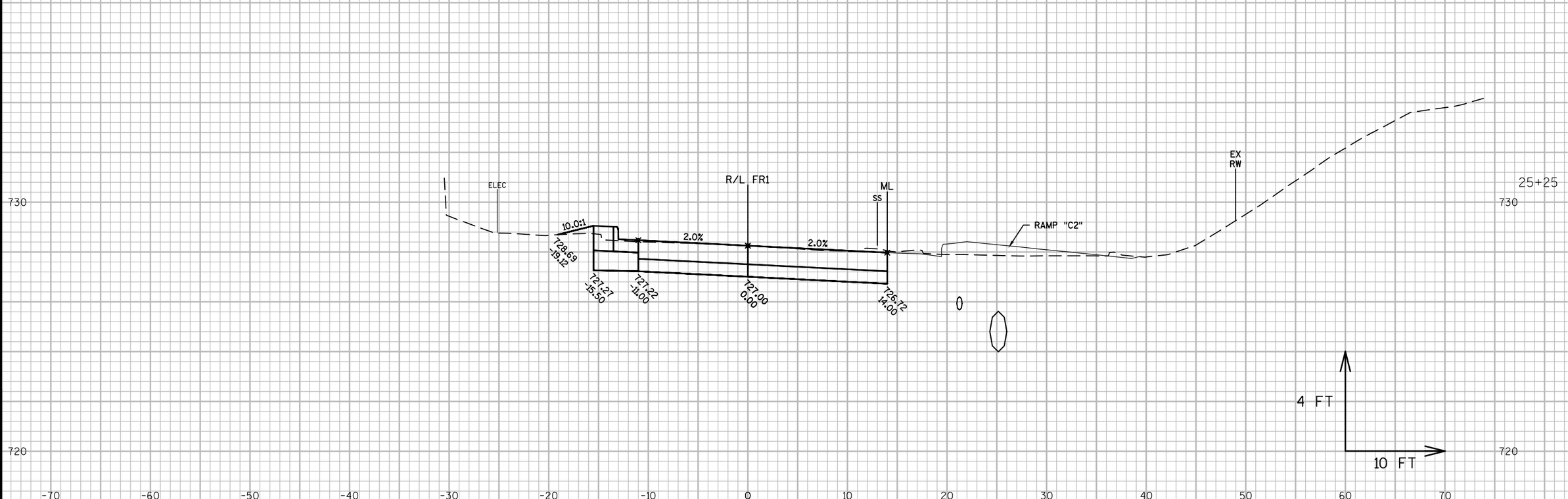
PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 297	E

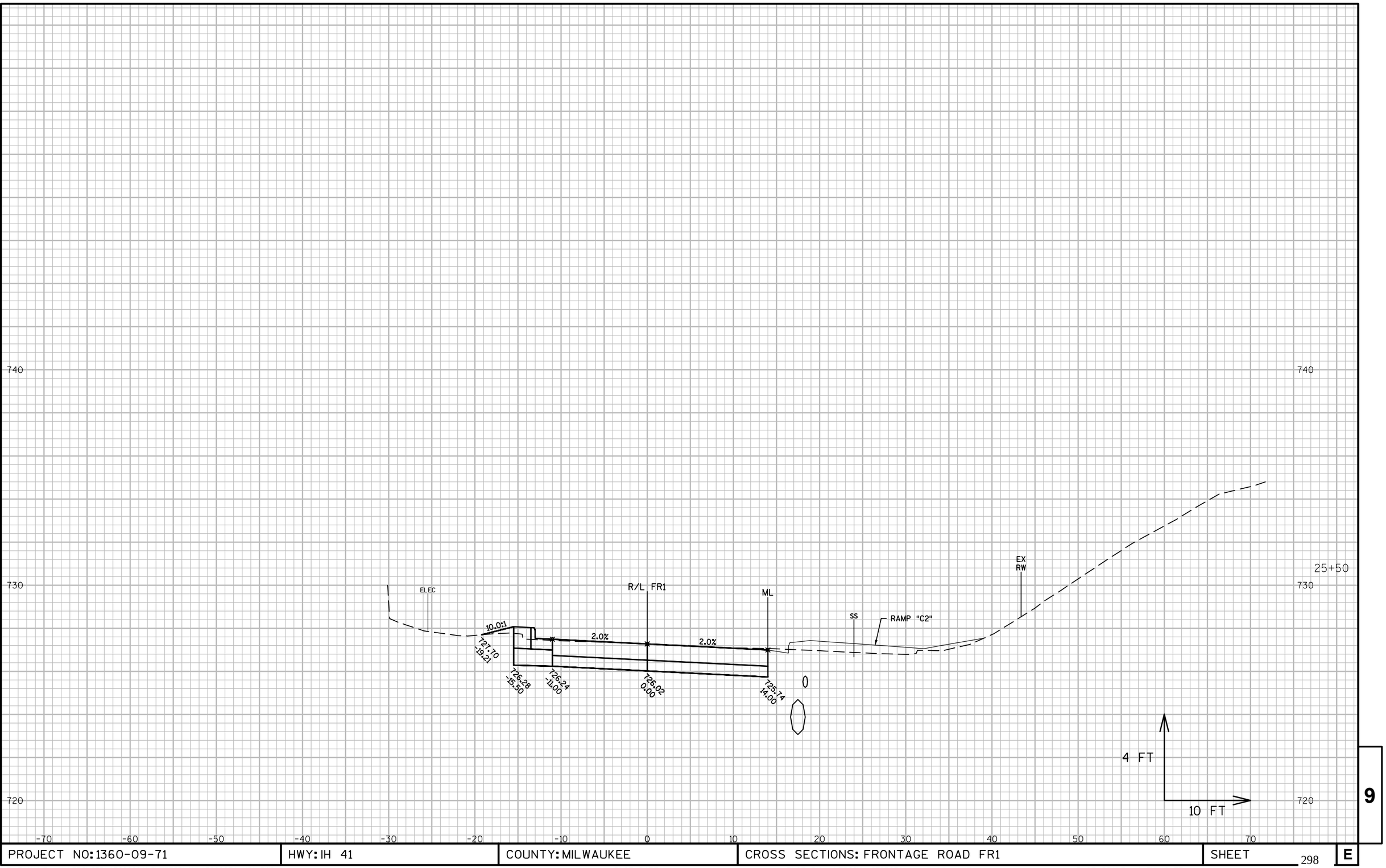
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (12)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 298	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (13)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740

730

730

720

720

ELEC

R/L FR1

EX
RW

SS

10.0:1

2.0%

2.0%

50.0:1

726.69
-19.40

725.30
-15.50

725.25
-11.00

725.03
0.00

724.75
14.00

724.66
18.50

726.80
35.49

25+75

4 FT

10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 299	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (14)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740

730

730

26+00

720

720

ELEC

10.0:1

725.62
-20.30

2.0%

R/L FR1

2.0%

724.31
-15.50

724.27
-11.00

724.05
0.00

723.77
14.00

723.68
18.50

SS

50.0:1

EX
RW

725.75
32.14

4 FT

10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

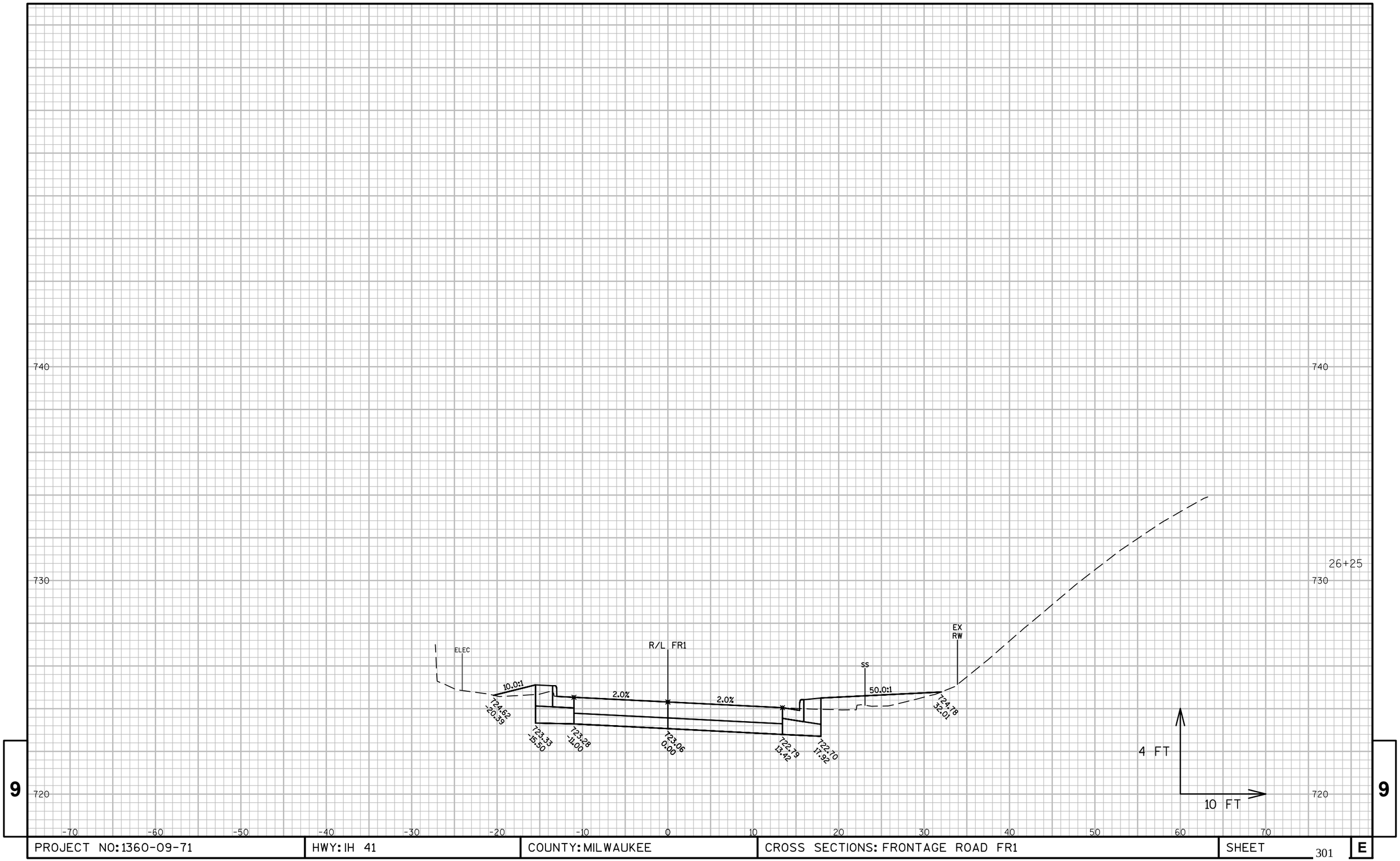
PROJECT NO:1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 300	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (15)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

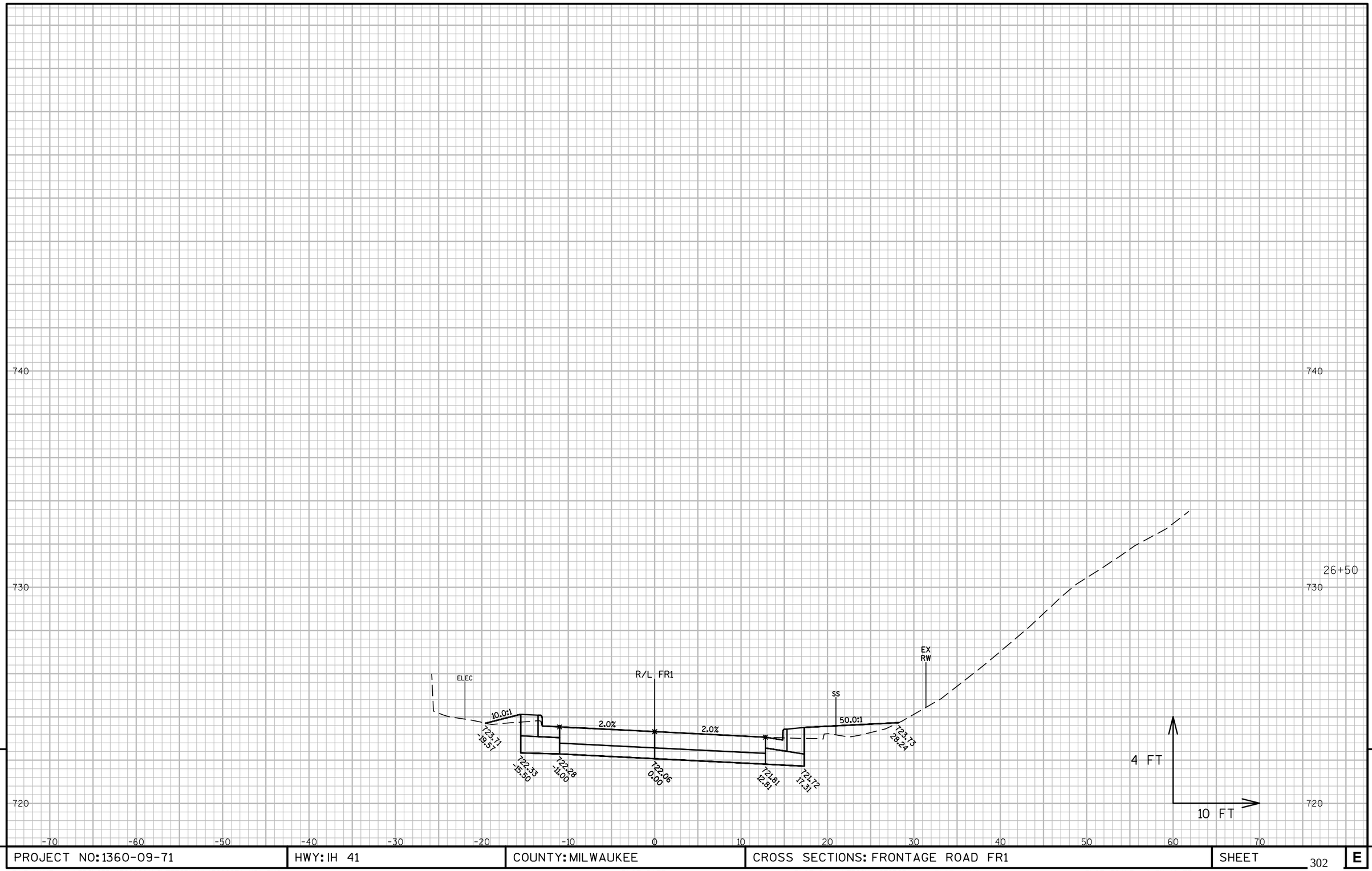
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FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (16)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT



PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 302	E

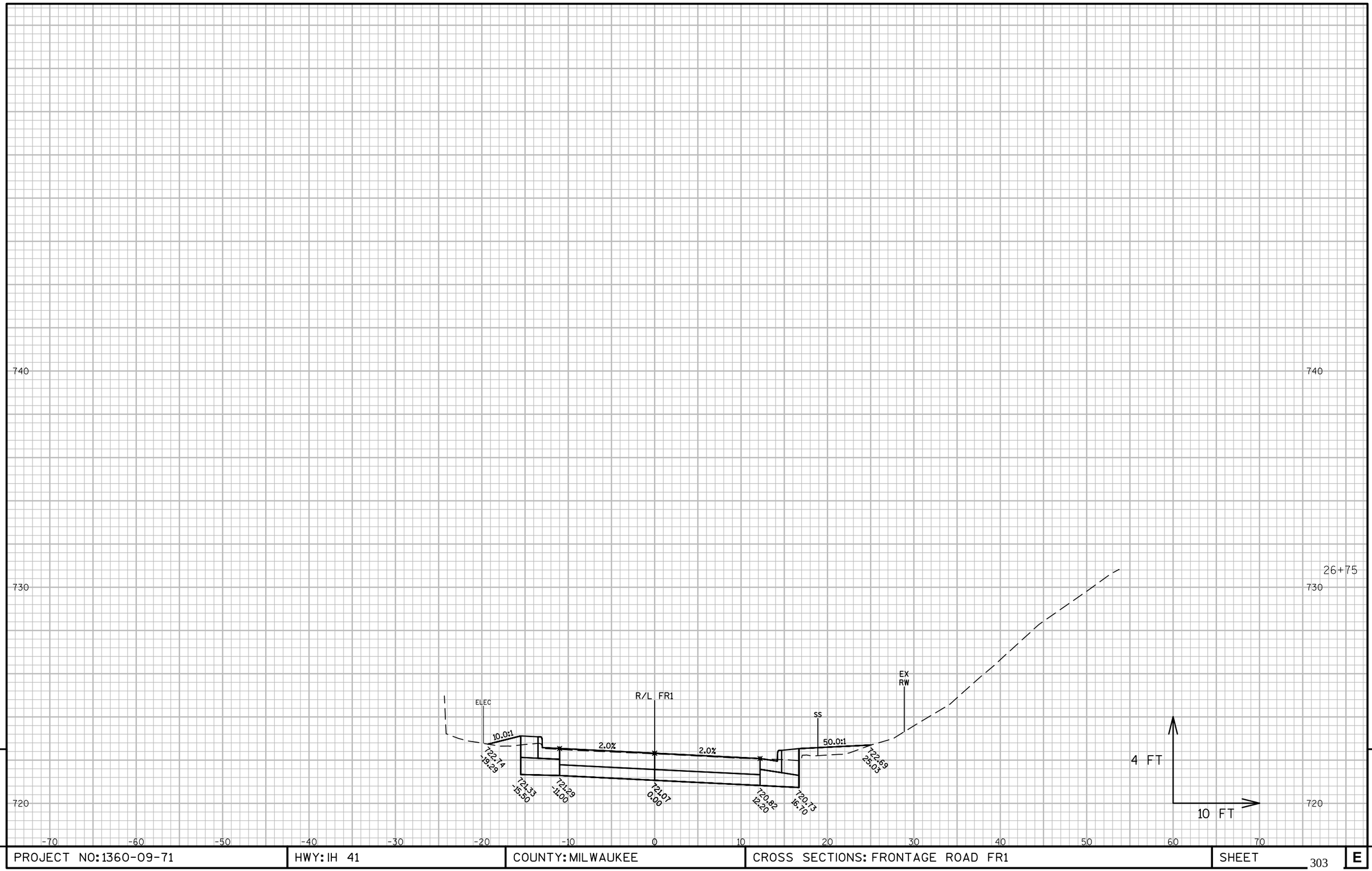
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LAYOUT NAME - 0902 - (17)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 303	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (18)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

730

720

710

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

27+00

ELEC

10.0:1

721.72
-19.53

2.0%

720.33
-15.50

720.29
-11.00

R/L FR1

720.07
0.00

2.0%

719.84
11.60

SS

50.0:1

719.75
16.10

EX
RW

721.70
24.21

4 FT

10 FT

9

9

PROJECT NO:1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 304	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (19)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

740

730

720

710

27+24

ELEC

R/L FR1

SS

EX
RW

1.2%

2.4%

720.66
-15.00

719.30
-15.00

719.25
-10.50

719.13
0.00

718.86
11.02

718.75
15.52

720.28
15.52

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

4 FT

10 FT

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR1	SHEET 305	E

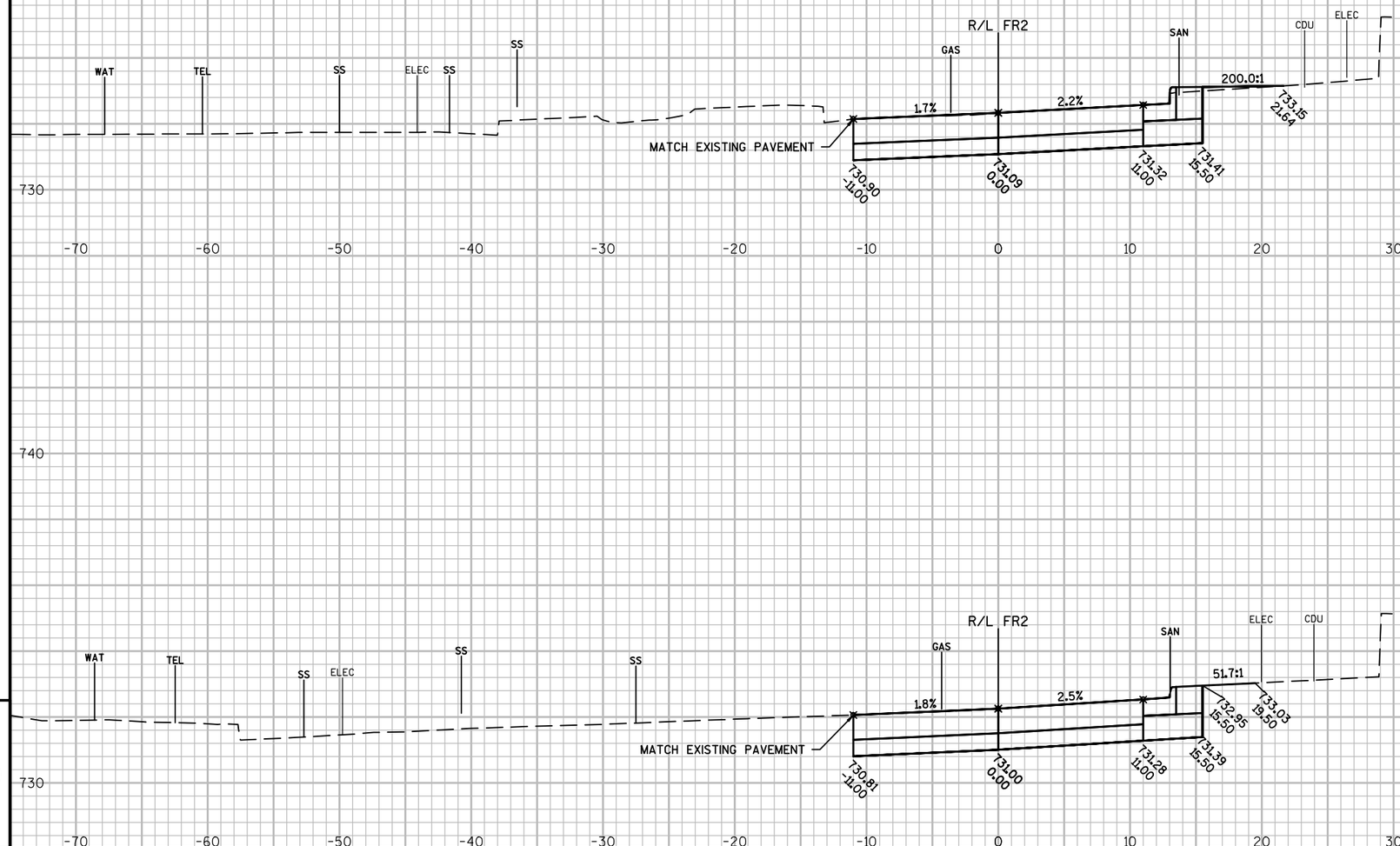
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LAYOUT NAME - 0902 - (20)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 306	E

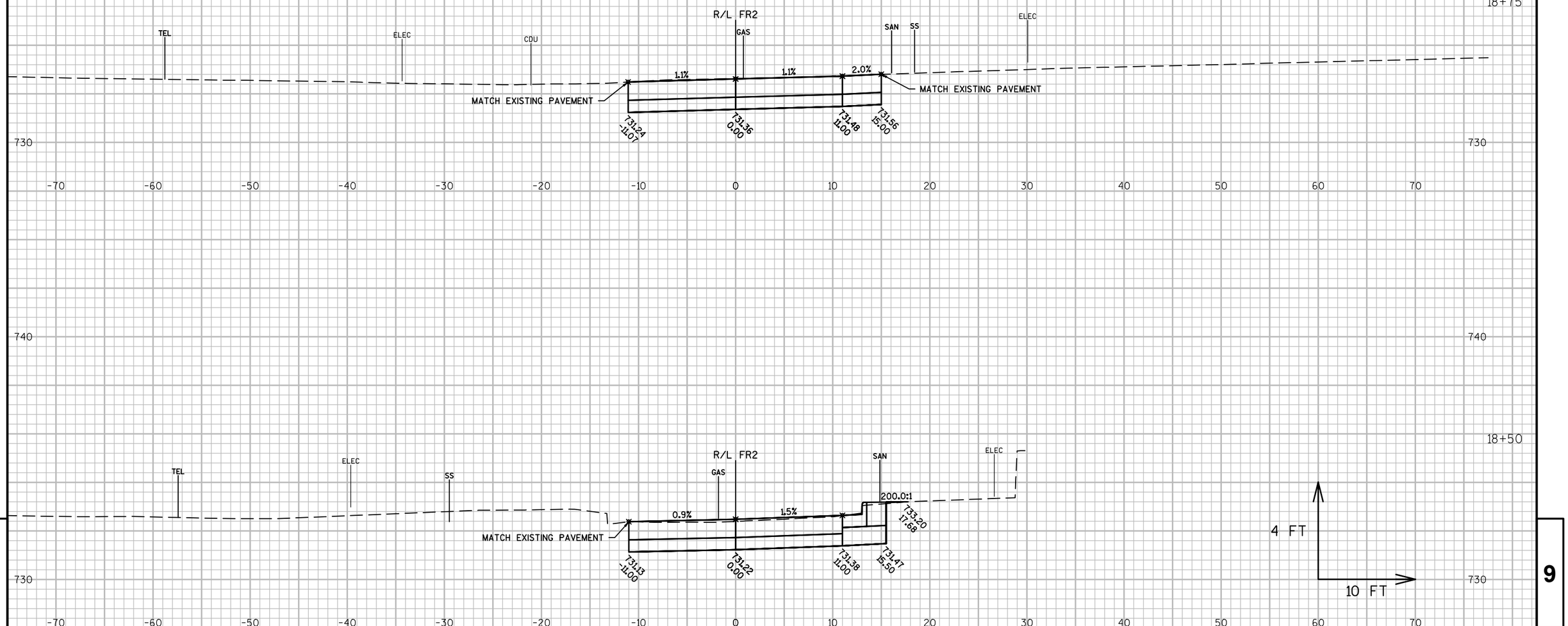
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LAYOUT NAME - 0902 - (21)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 307	E

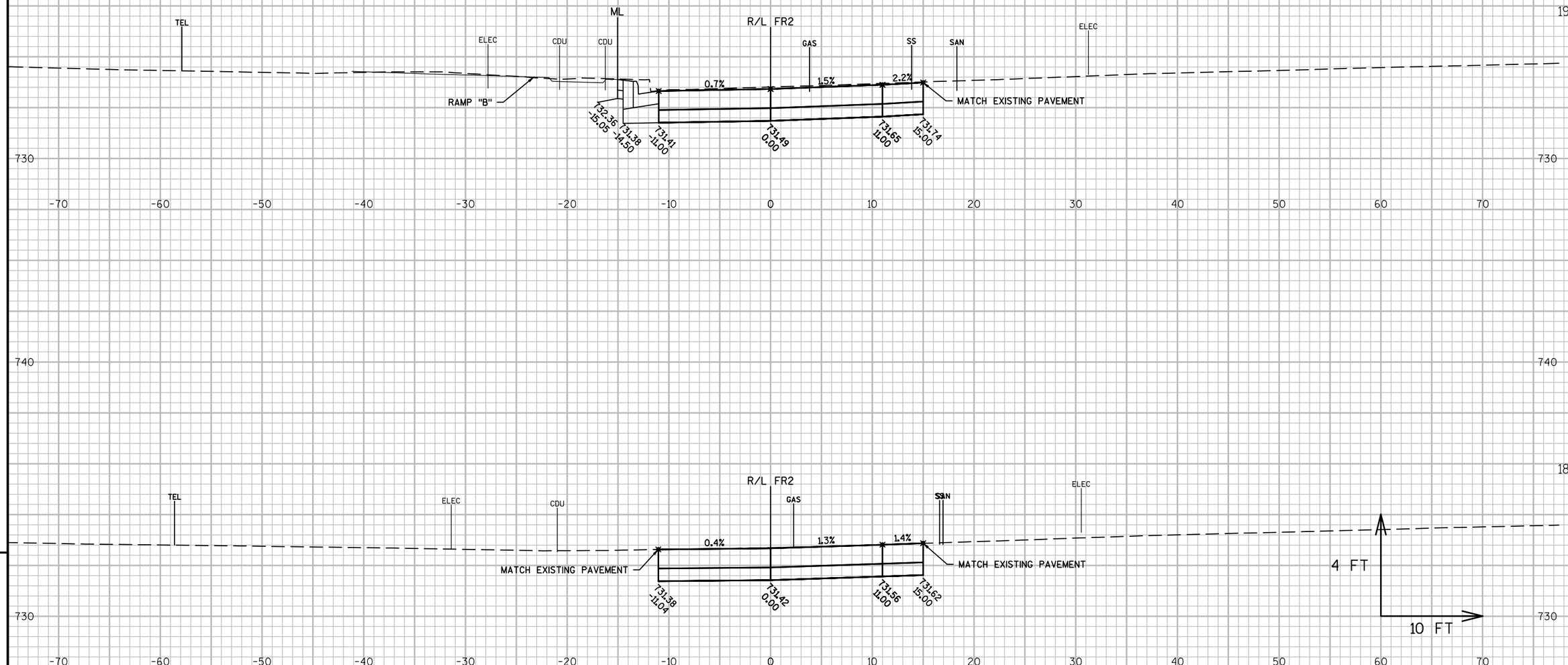
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LAYOUT NAME - 0902 - (22)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 308	E

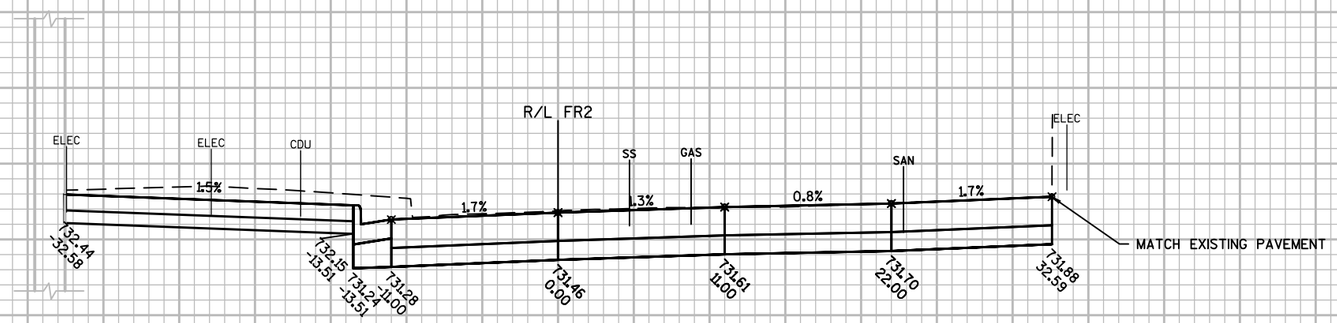
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LAYOUT NAME - 0902 - (23)

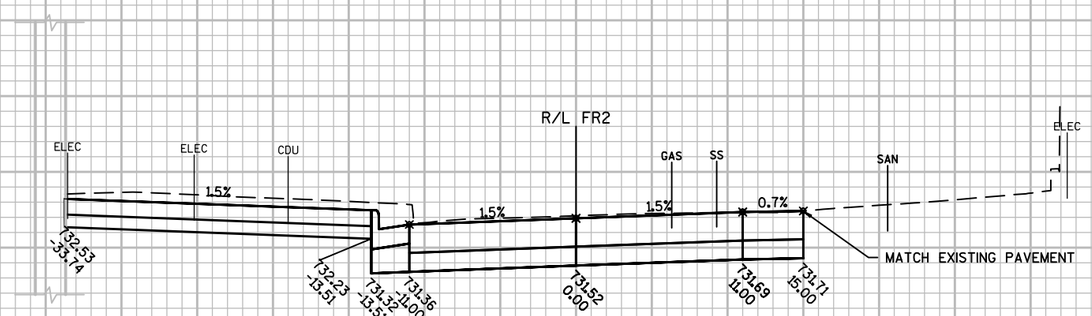
PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 309	E

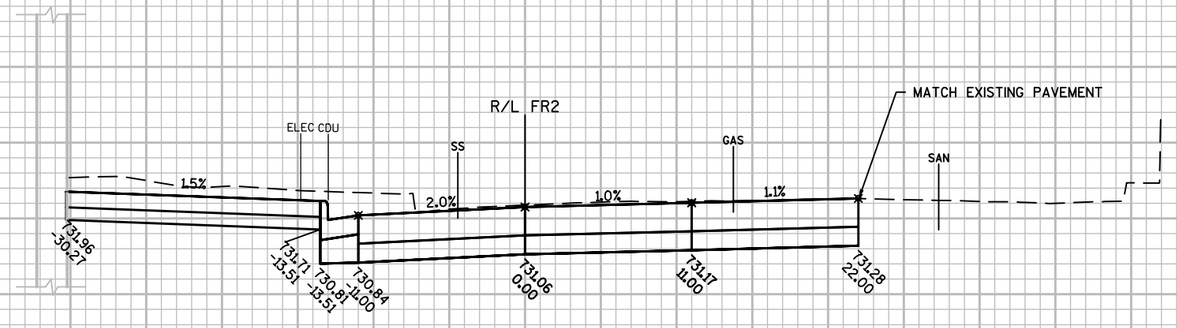
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LAYOUT NAME - 0902 - (24)

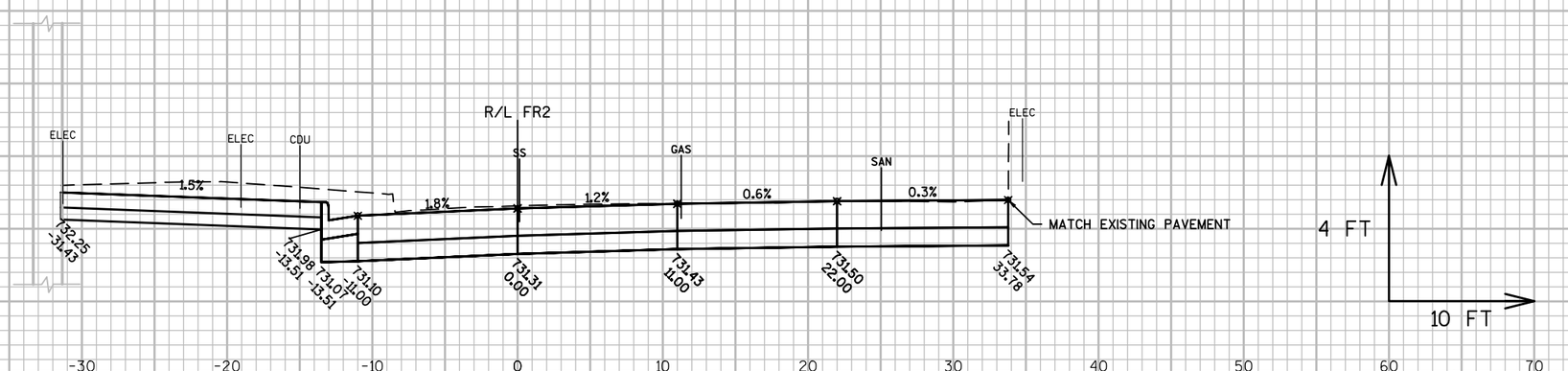
PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 310	E

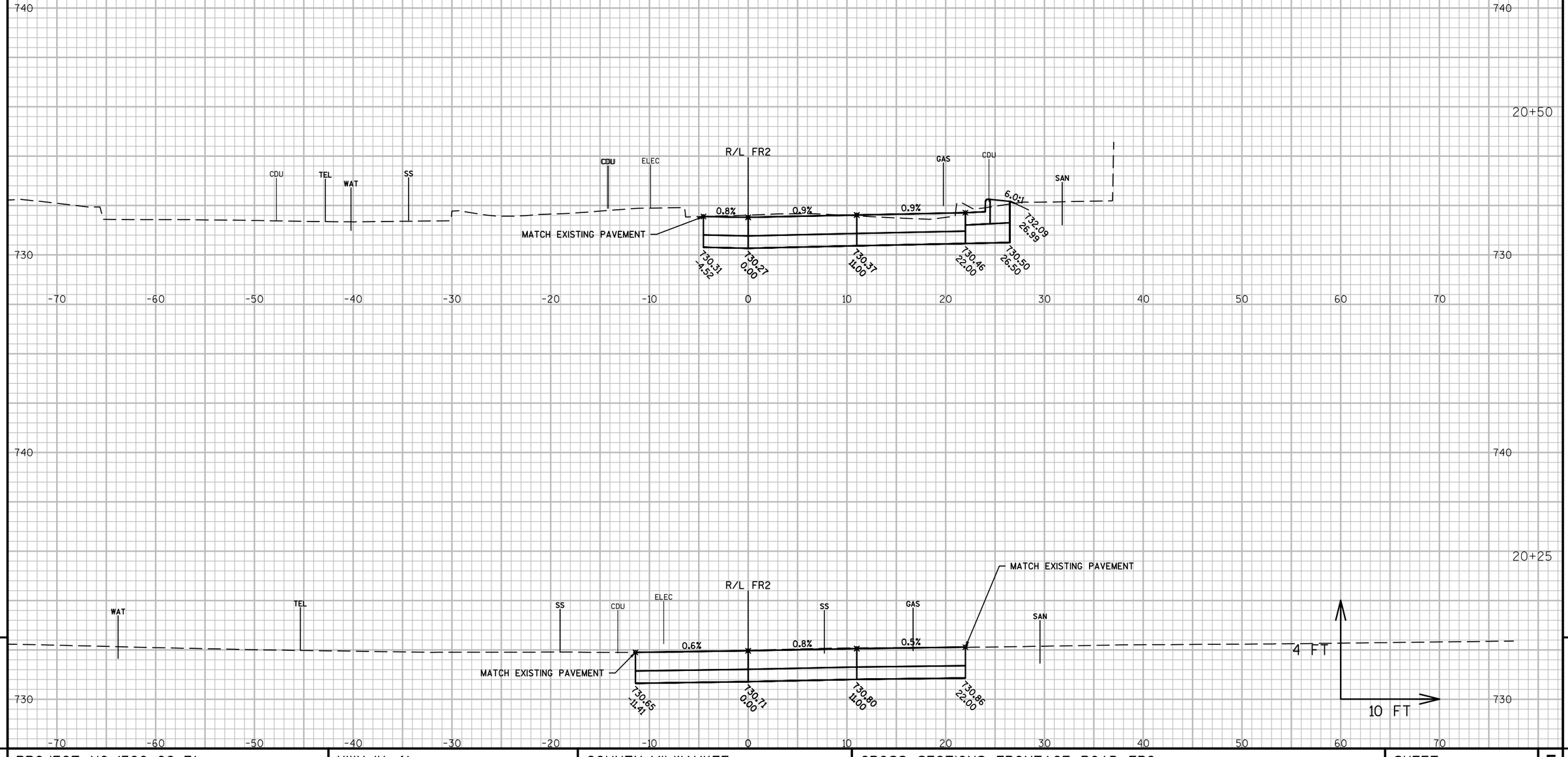
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LAYOUT NAME - 0902 - (25)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 311	E

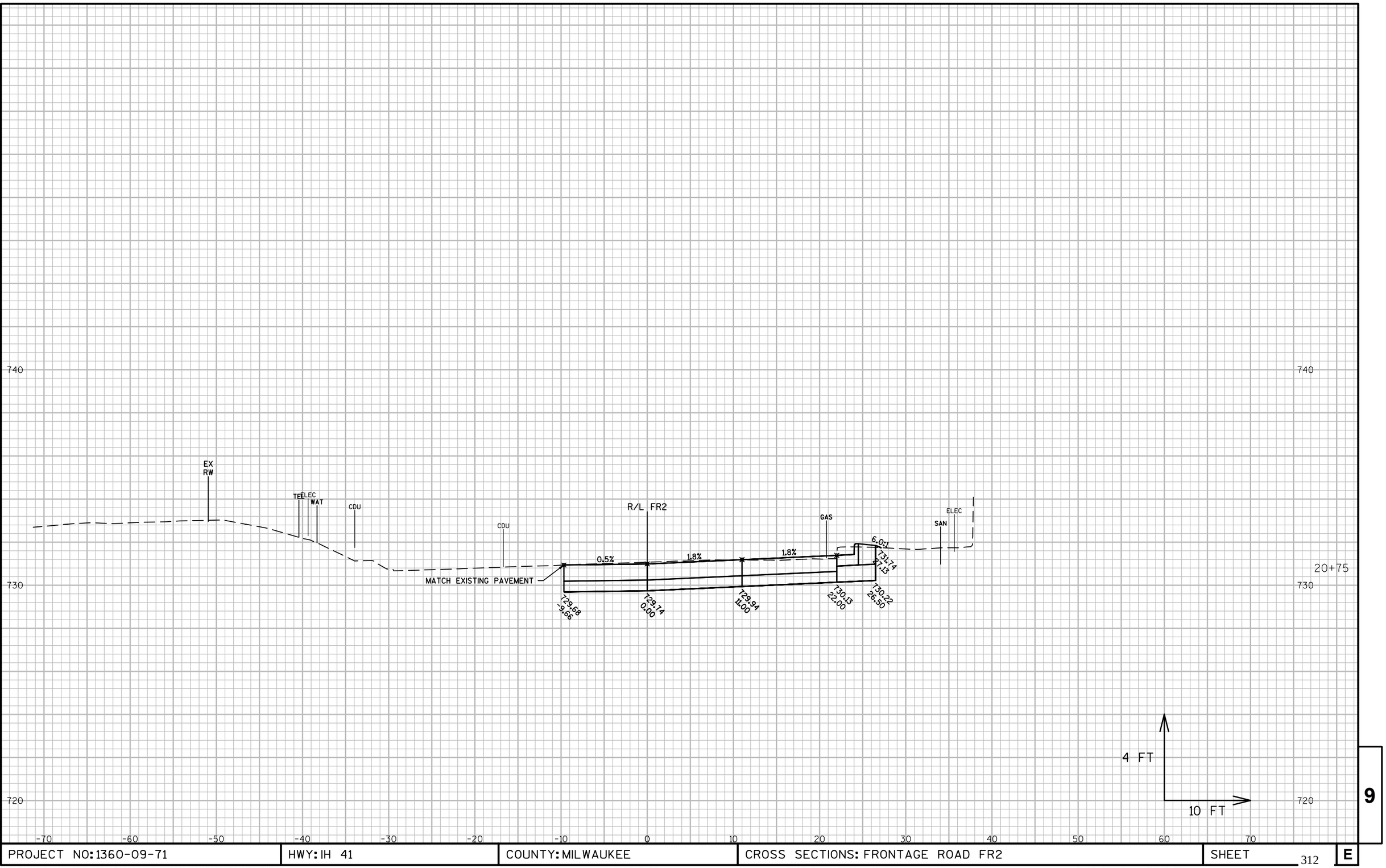
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (26)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 312	E

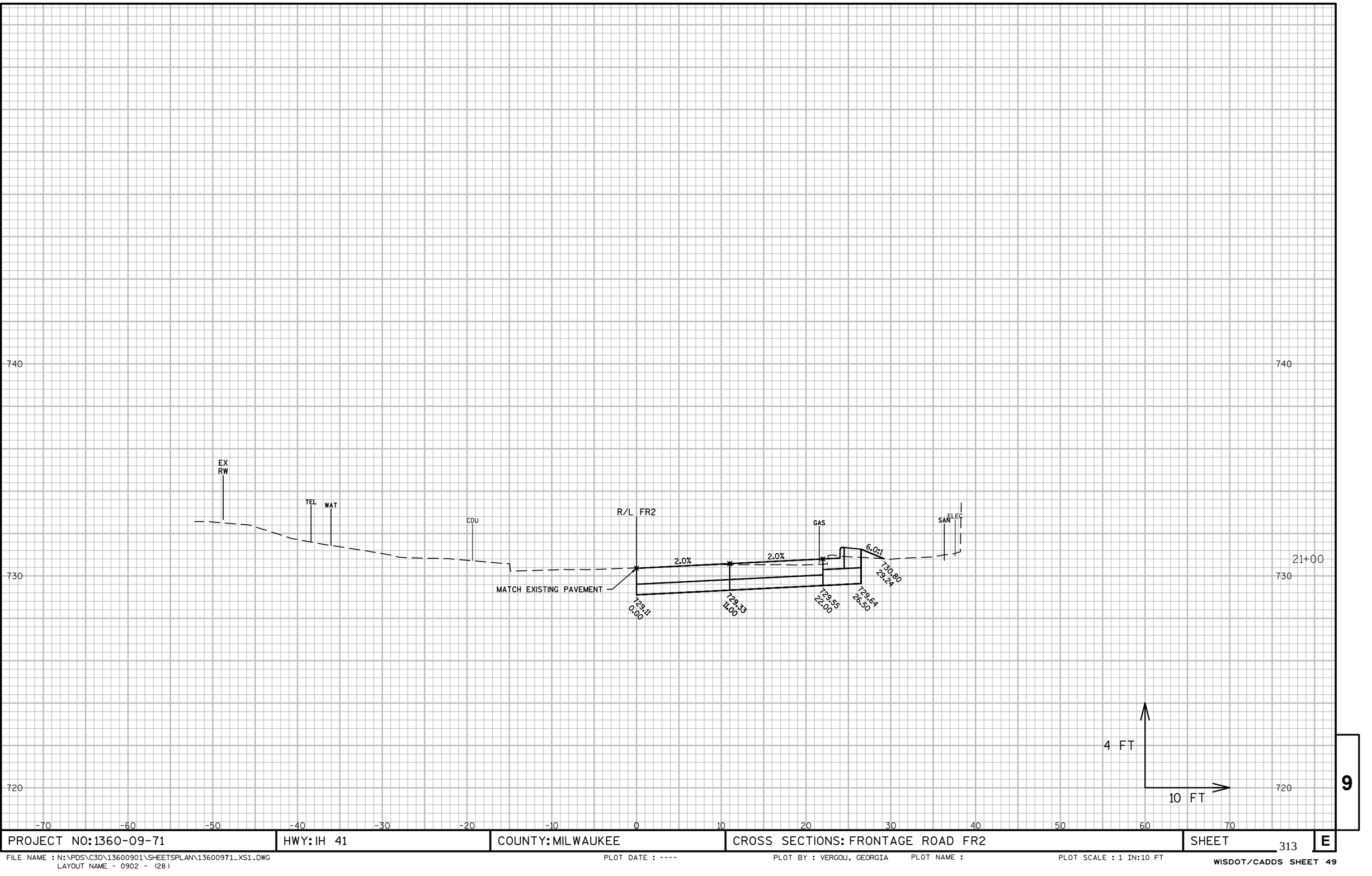
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (27)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 313	E

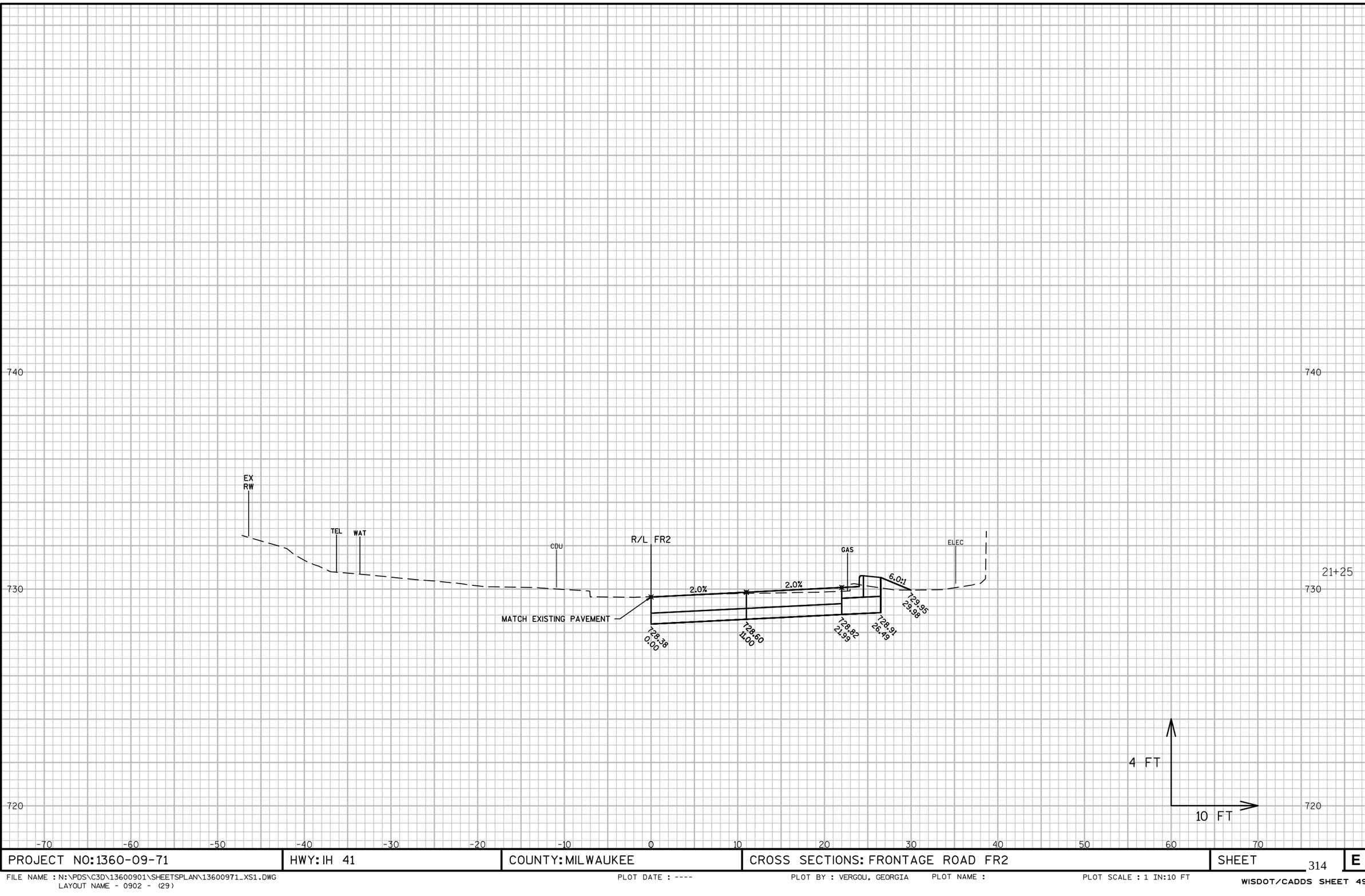
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (28)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 314	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (29)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

740

740

EX
RW

TEL

WAT

CDU

R/L FR2

ELEC

21+50

730

730

2.0%

2.0%

2.0%

6.0:1

729.22
29.46

727.45
-5.42

727.54
-0.92

727.56
0.00

727.78
11.00

728.00
22.00

728.09
26.50

4 FT

10 FT

720

720

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 315	E

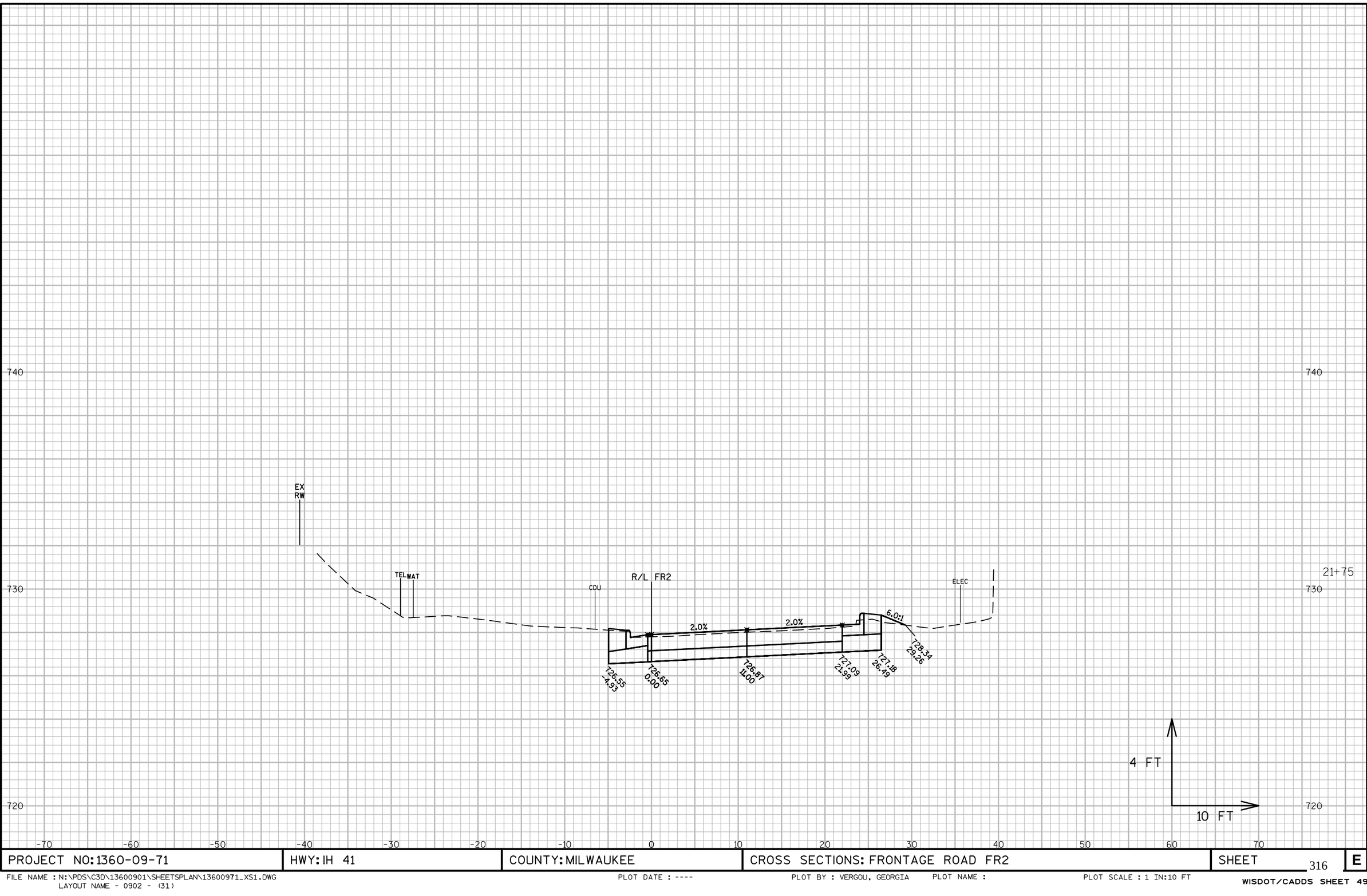
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (30)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 316	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (31)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740

730

730

720

720

22+00

EX
RW

TEL

WAT

CDU

R/L FR2

ELEC

1.5%

2.0%

MATCH EXISTING DRIVEWAY

725.62
-2.80

725.66
0.00

725.82
11.00

726.04
22.00

726.13
26.50

727.60
26.50

727.46
28.11

4 FT

10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 317	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (32)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740

730

730

720

720

22+03

EX
RW

TEL

WAT

CDU

R/L FR2

ELEC

1.4%

2.0%

725.44
-4.57

725.53
-0.07

725.53
0.00

725.69
11.00

725.90
21.90

725.99
26.40

727.41
26.40

727.38
21.83

4 FT

10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: FRONTAGE ROAD FR2	SHEET 318	E

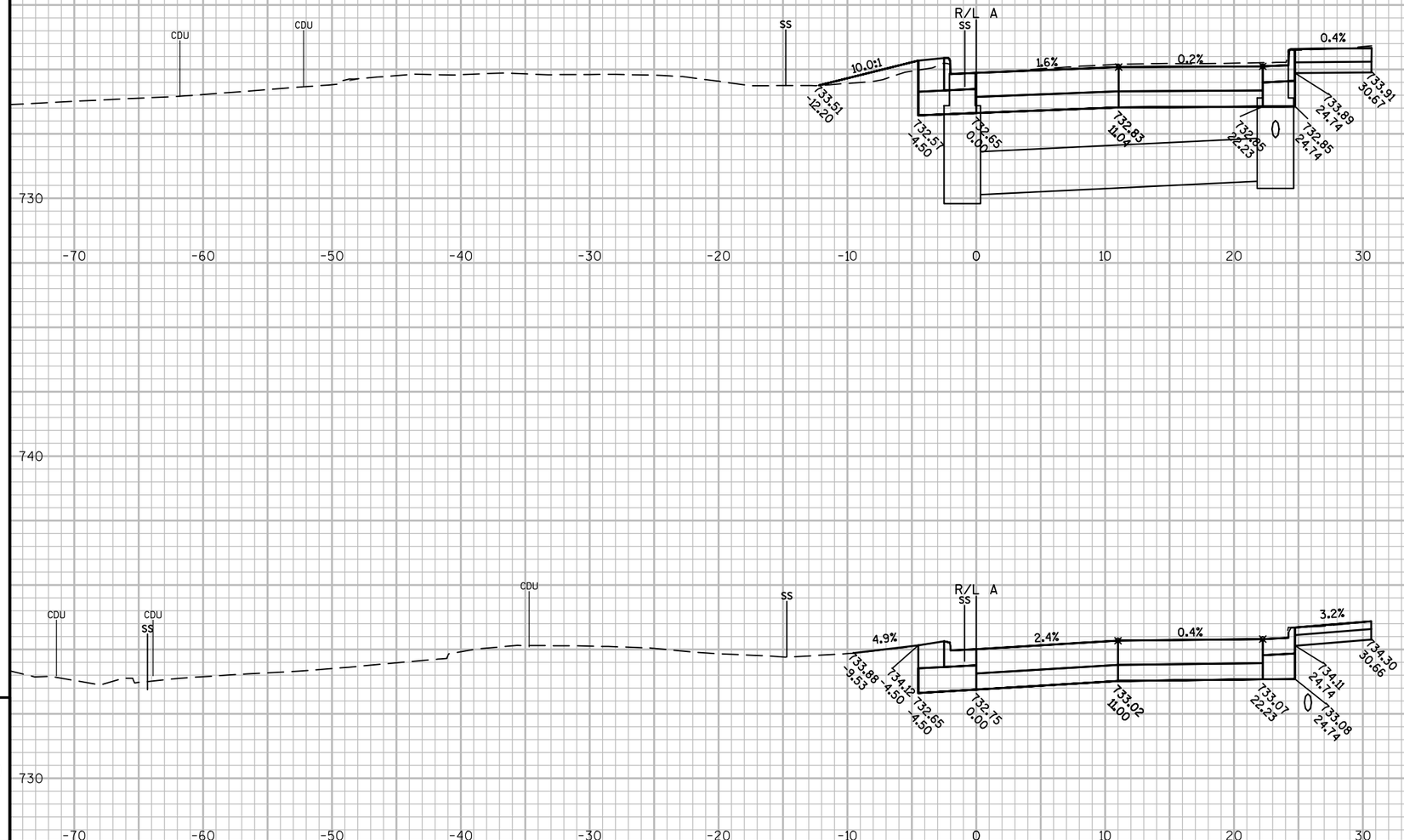
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS1.DWG
LAYOUT NAME - 0902 - (33)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP A	SHEET 319	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (1)

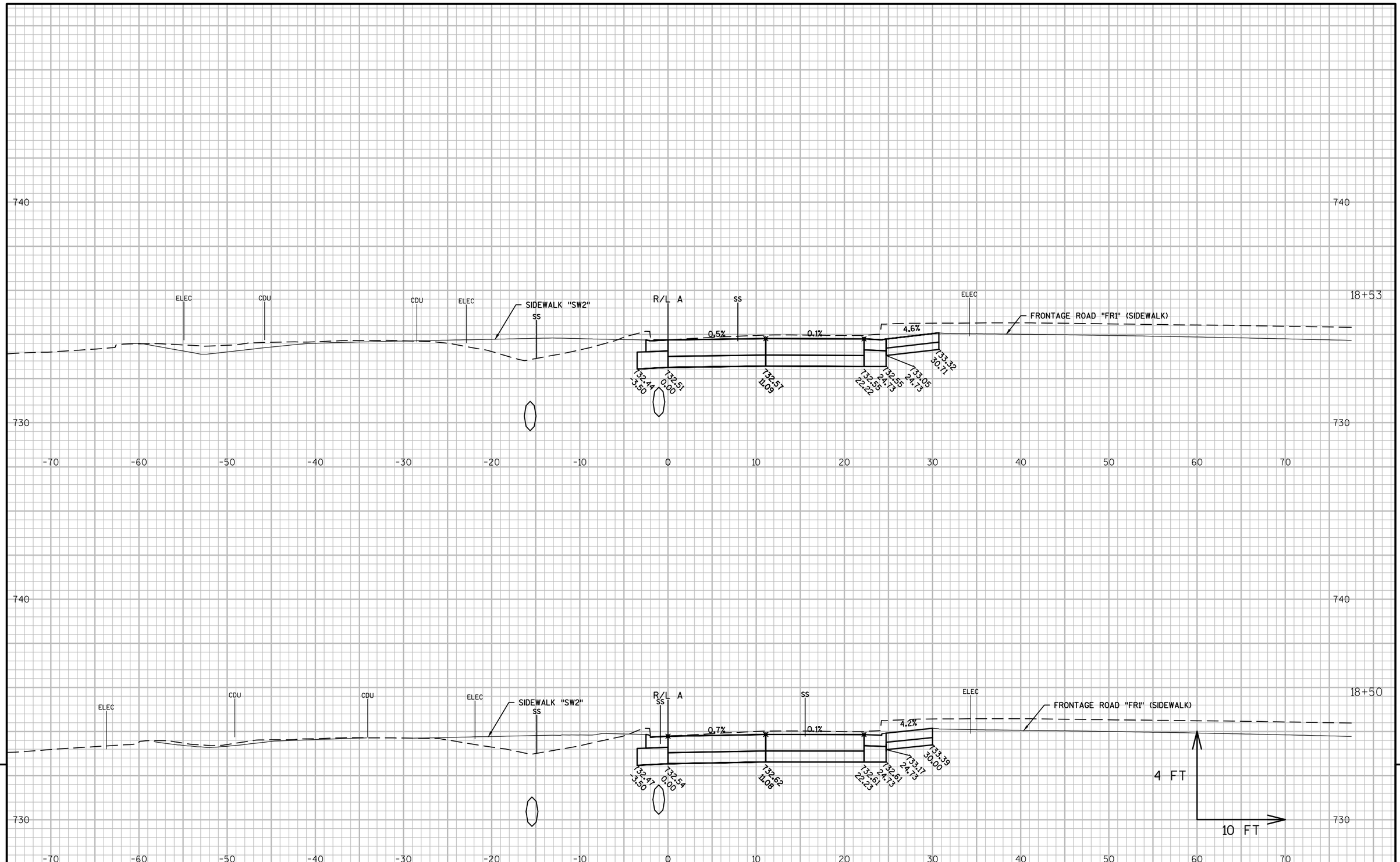
PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP A	SHEET 320	E

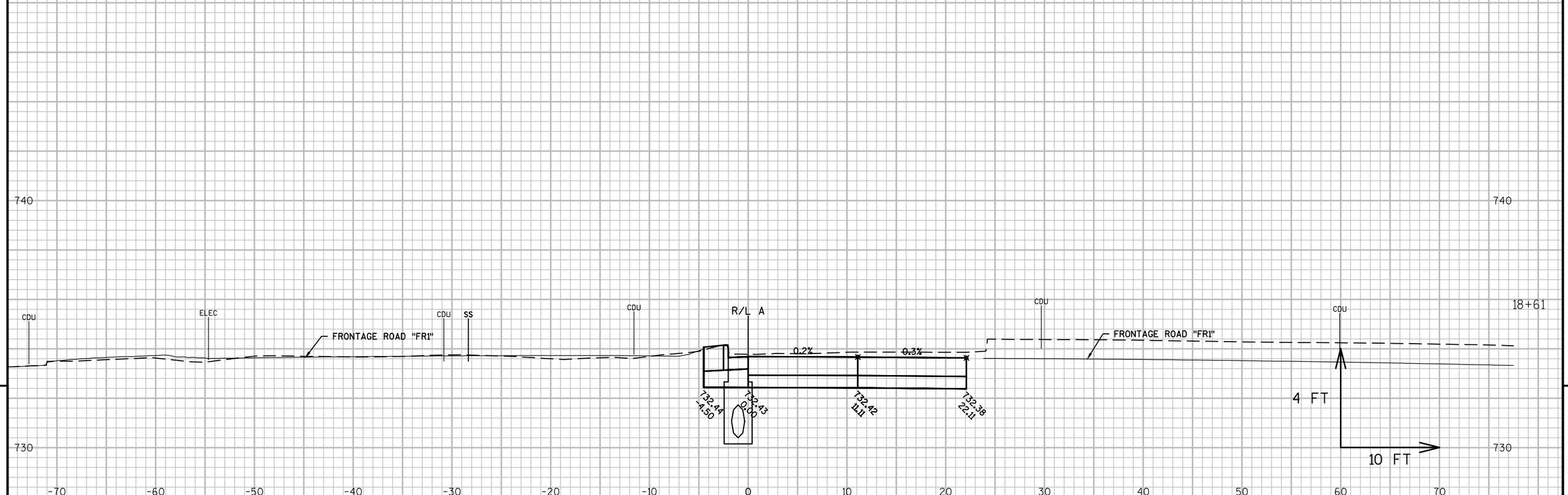
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (2)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP A	SHEET 321	E

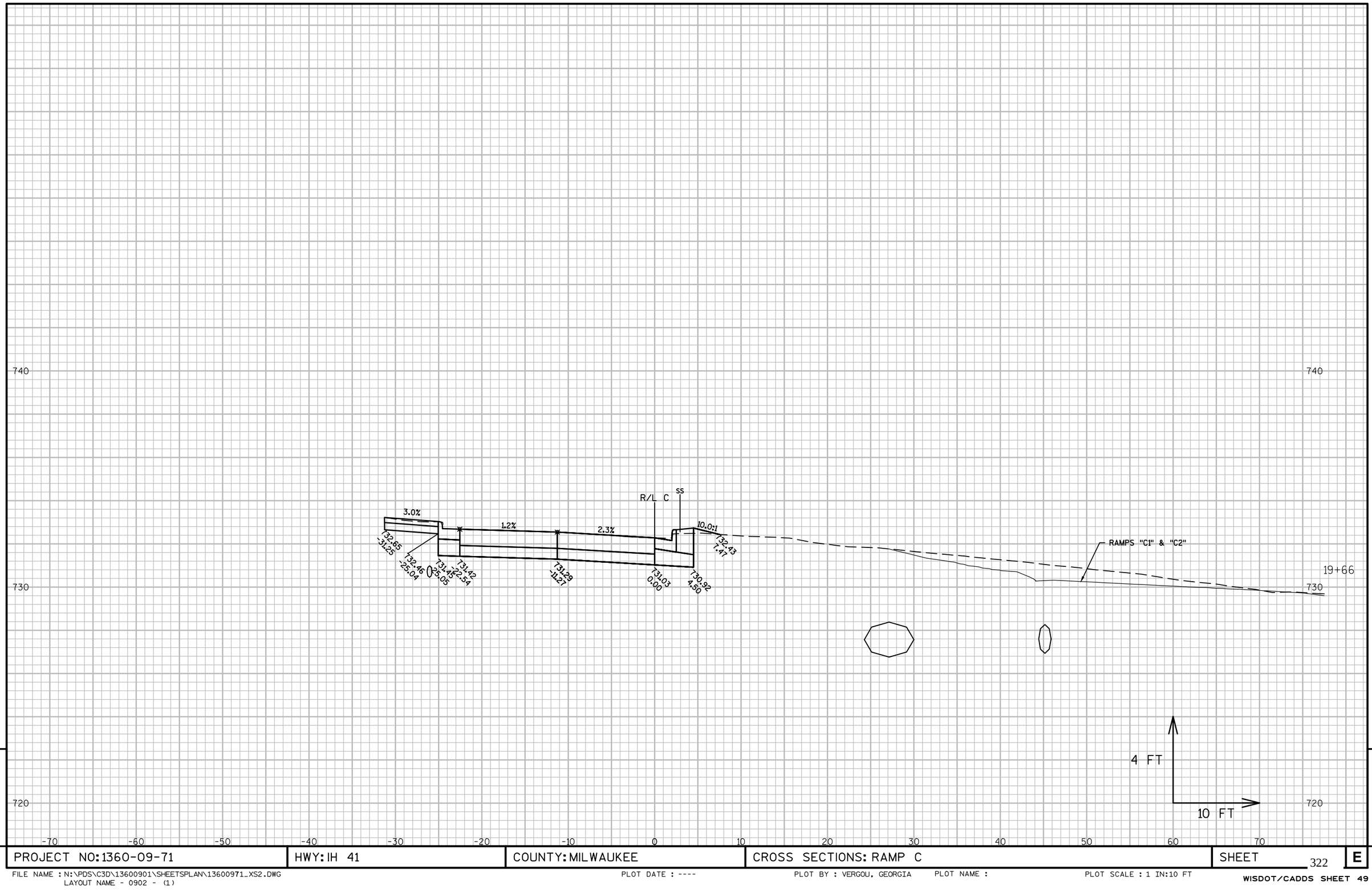
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (3)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C	SHEET 322	E

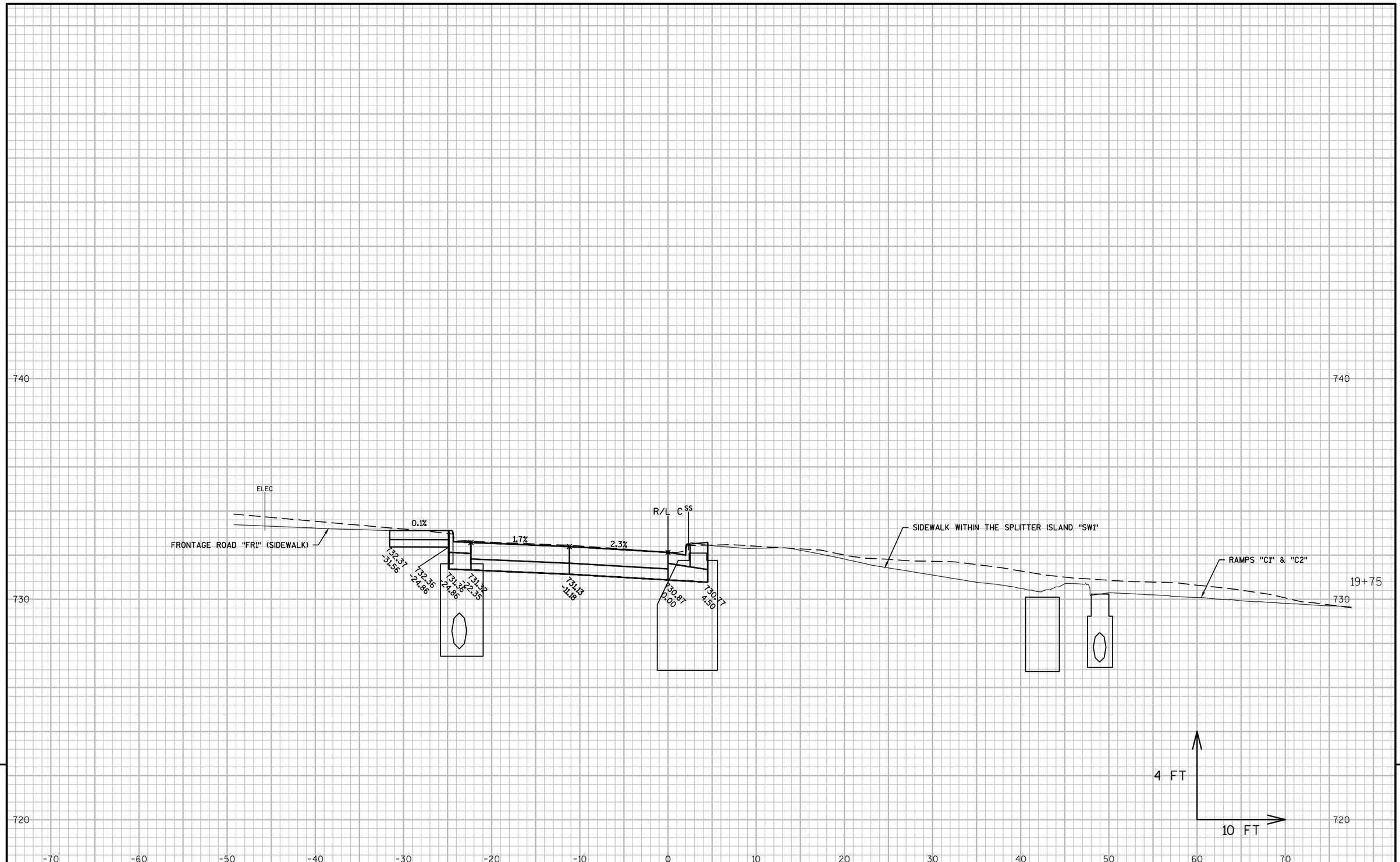
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (1)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



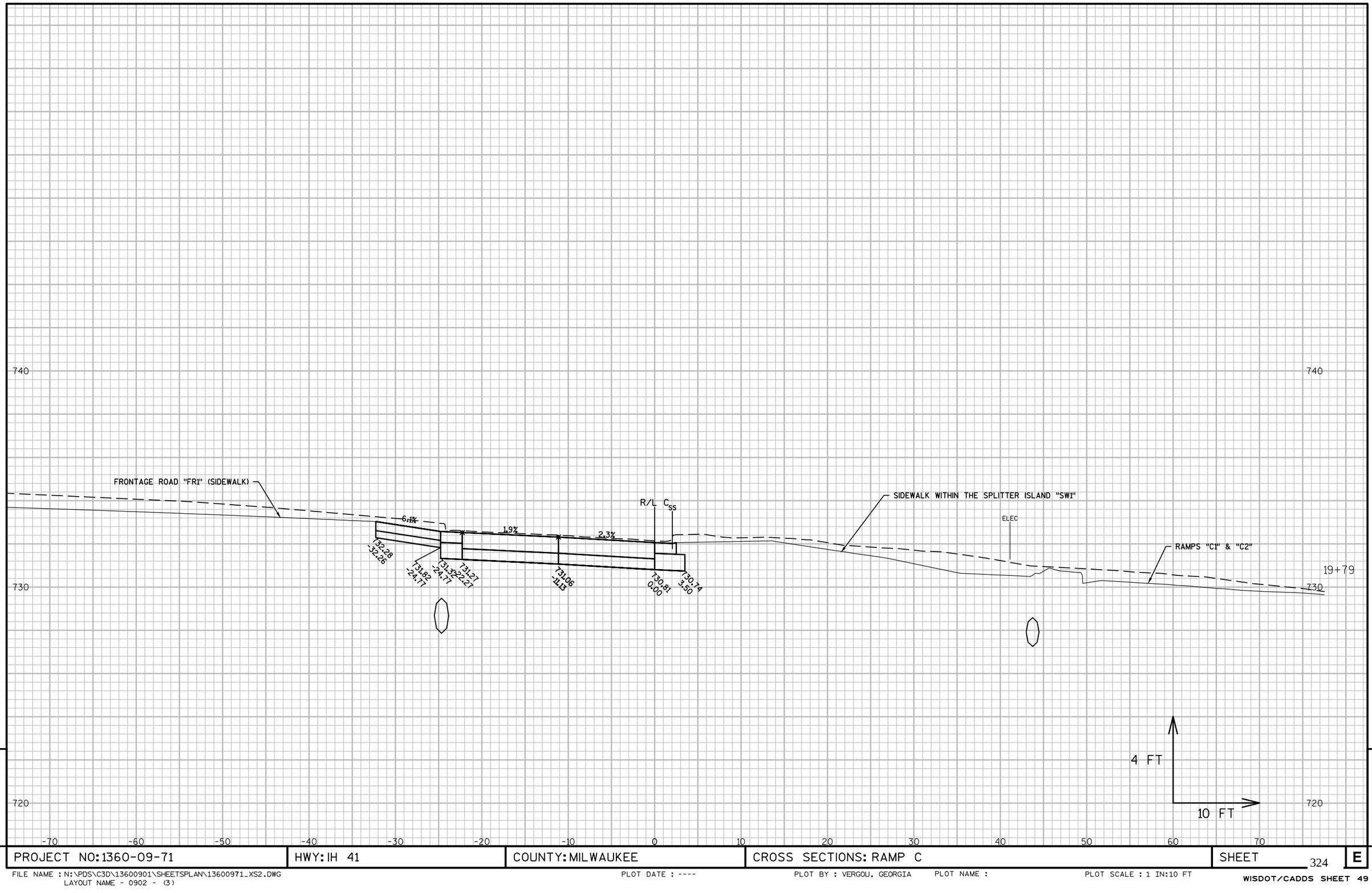
PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C	SHEET 323	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (2)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT



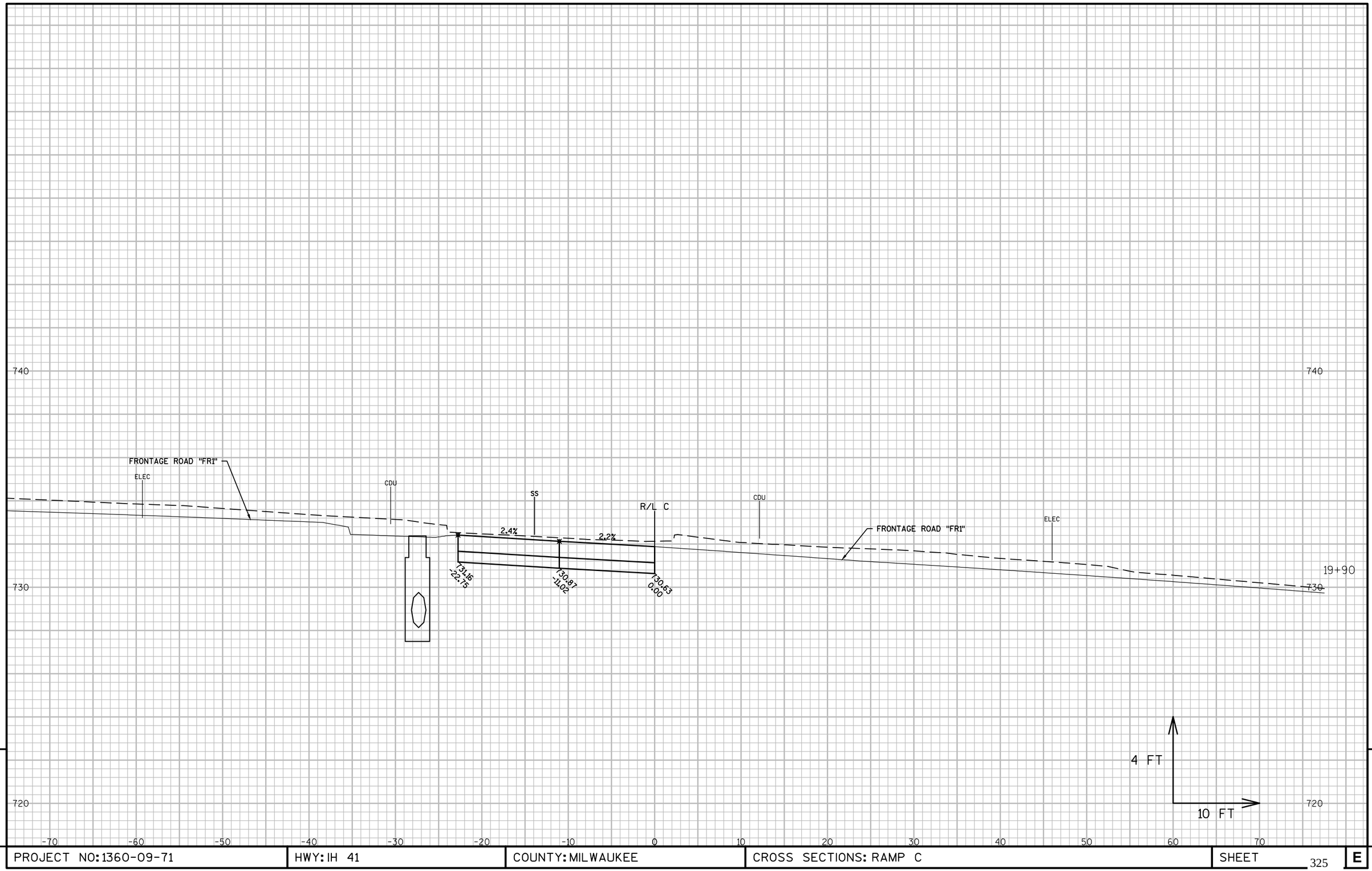
PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C	SHEET 324	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (3)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C	SHEET 325	E

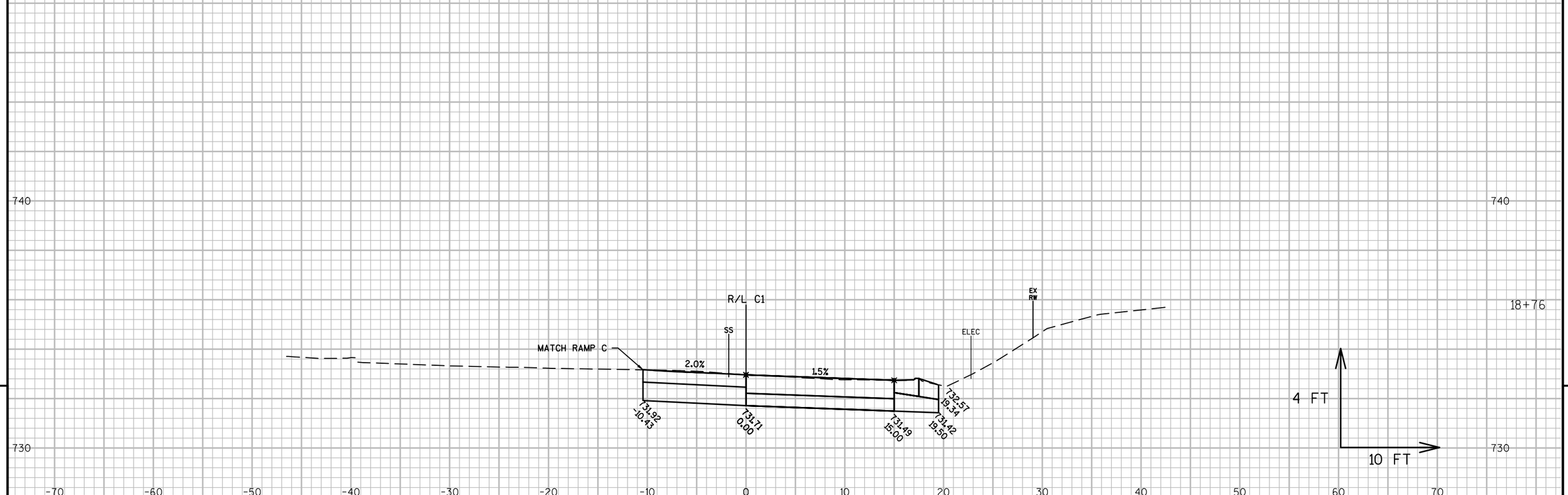
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (4)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 326	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (41)

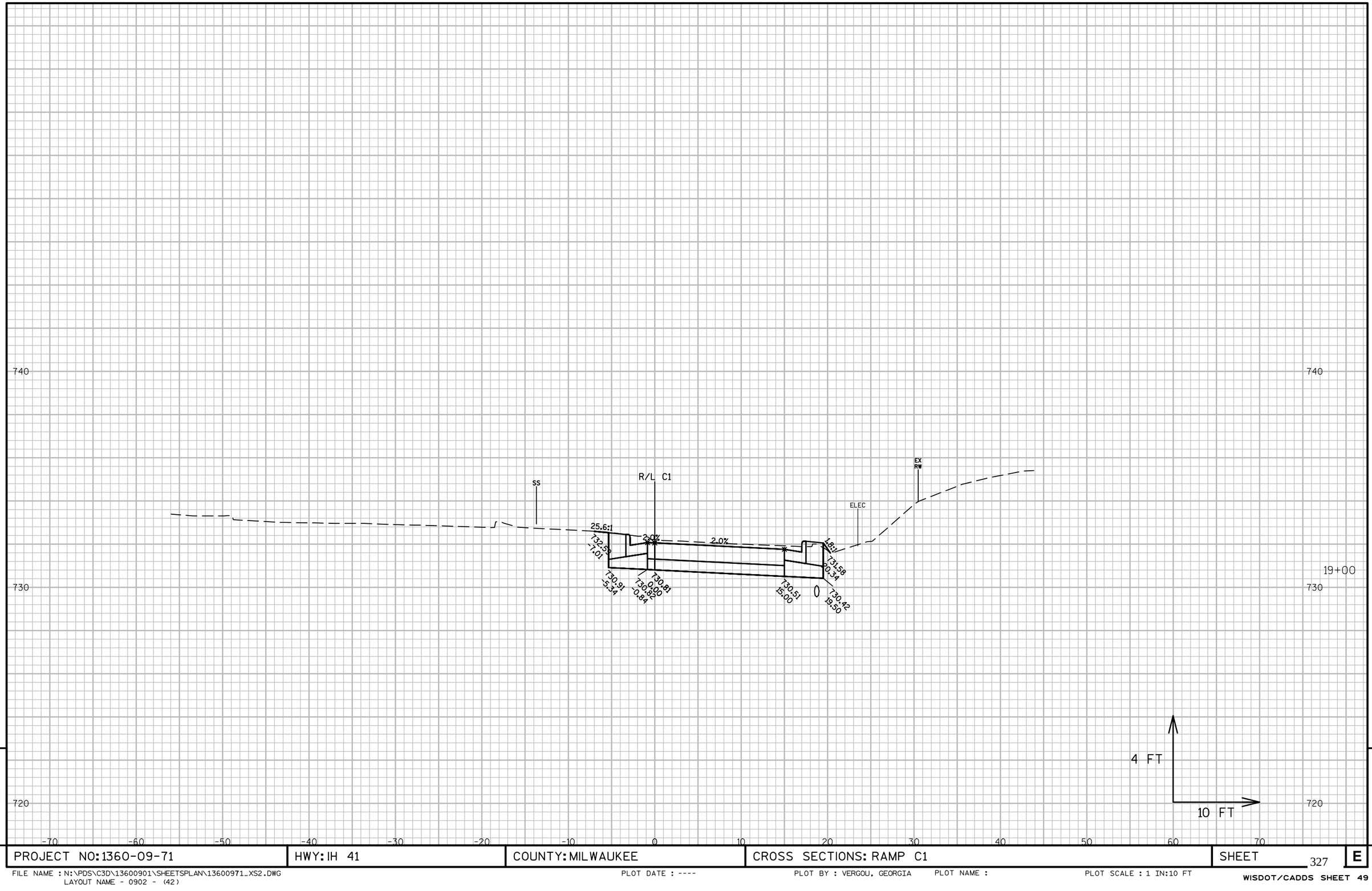
PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 327	E

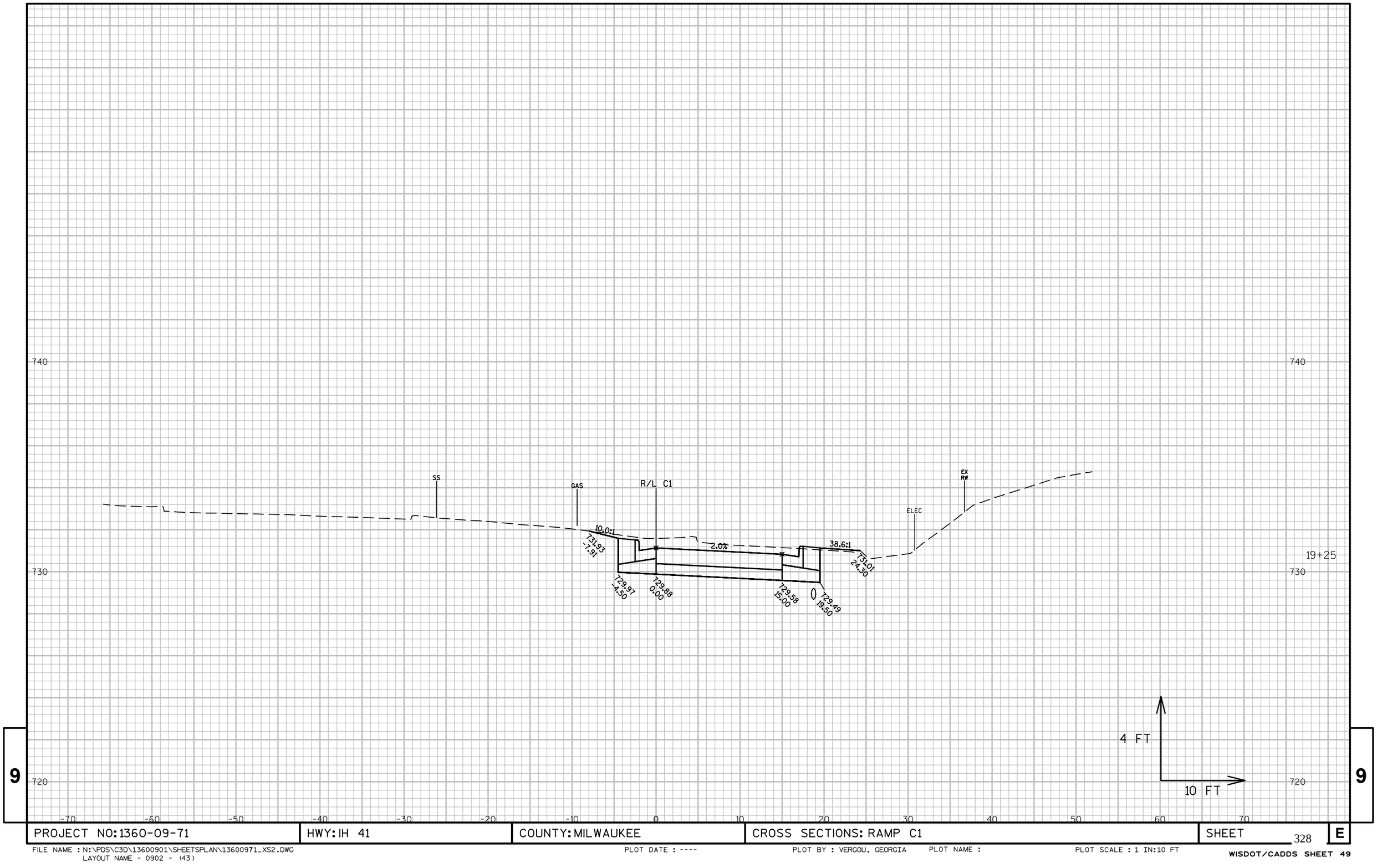
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (42)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 328	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (43)

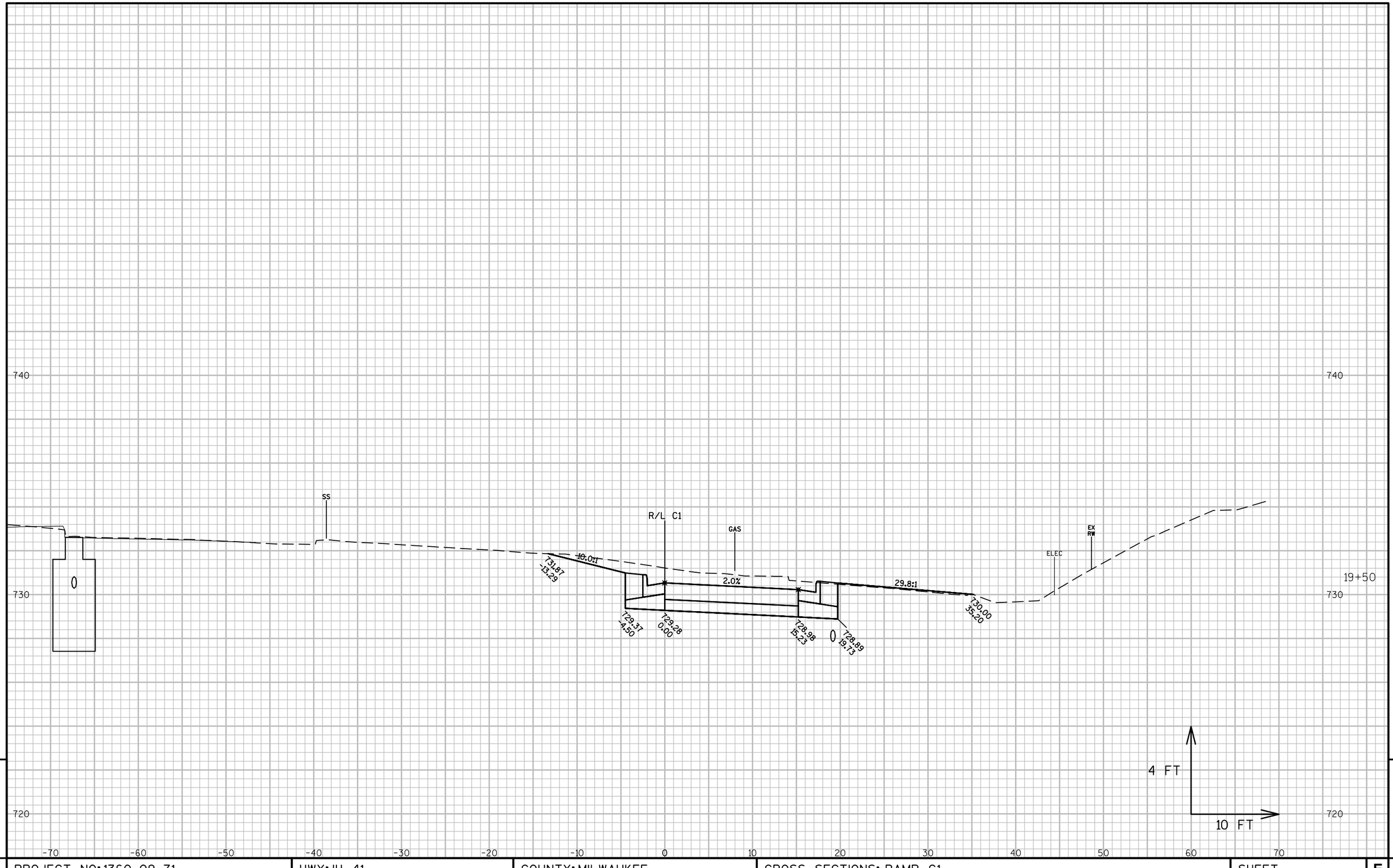
PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 329	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (44)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740

FRONTAGE ROAD "FR1"

CDU

ELEC

CDU

SS

ELEC

SIDEWALK "SW1"

R/L C1

ML

R/L C2

GAS

CURB RAMP

ELEC

EX RW

19+71

2.0%

729.06
0.00

729.76
15.00

SEE CROSS SECTIONS FOR "C2"

730

730

4 FT

10 FT

720

720

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 330	E

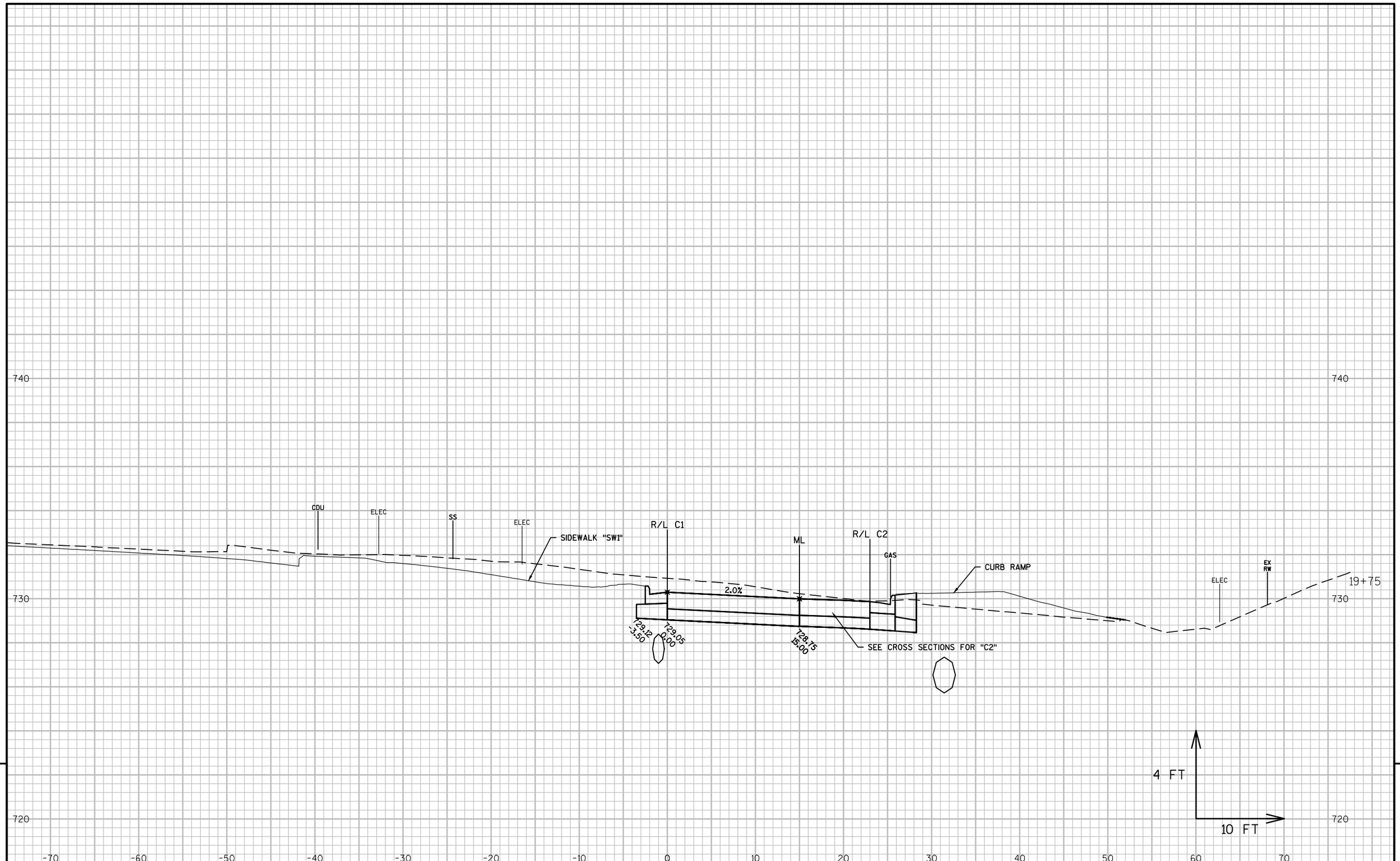
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (45)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 331	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (46)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

740

740

CDU

FRONTAGE ROAD "FR1"

ELEC

R/L C1

ML

ELEC

R/L C2

GAS

ELEC

19+92

3.4%

730

730

729.09
0.00

728.58
15.00

SEE CROSS SECTIONS FOR "C2"

4 FT

10 FT

720

720

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C1	SHEET 332	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (47)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

740

740

FRONTAGE ROAD "FR1"

CDU CDU ELEC SS ELEC

R/L C

R/L C2

ML GAS

EX RW

ELEC

19+62

730

730

1.8%

3.1%

SIDEWALK WITHIN THE SPLITTER ISLAND "SW1"

729.81
21.97

728.92
-2.34

728.72
4.35

SEE CROSS SECTION FOR R/L "C1"

4 FT

10 FT

720

720

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C2	SHEET 333	E

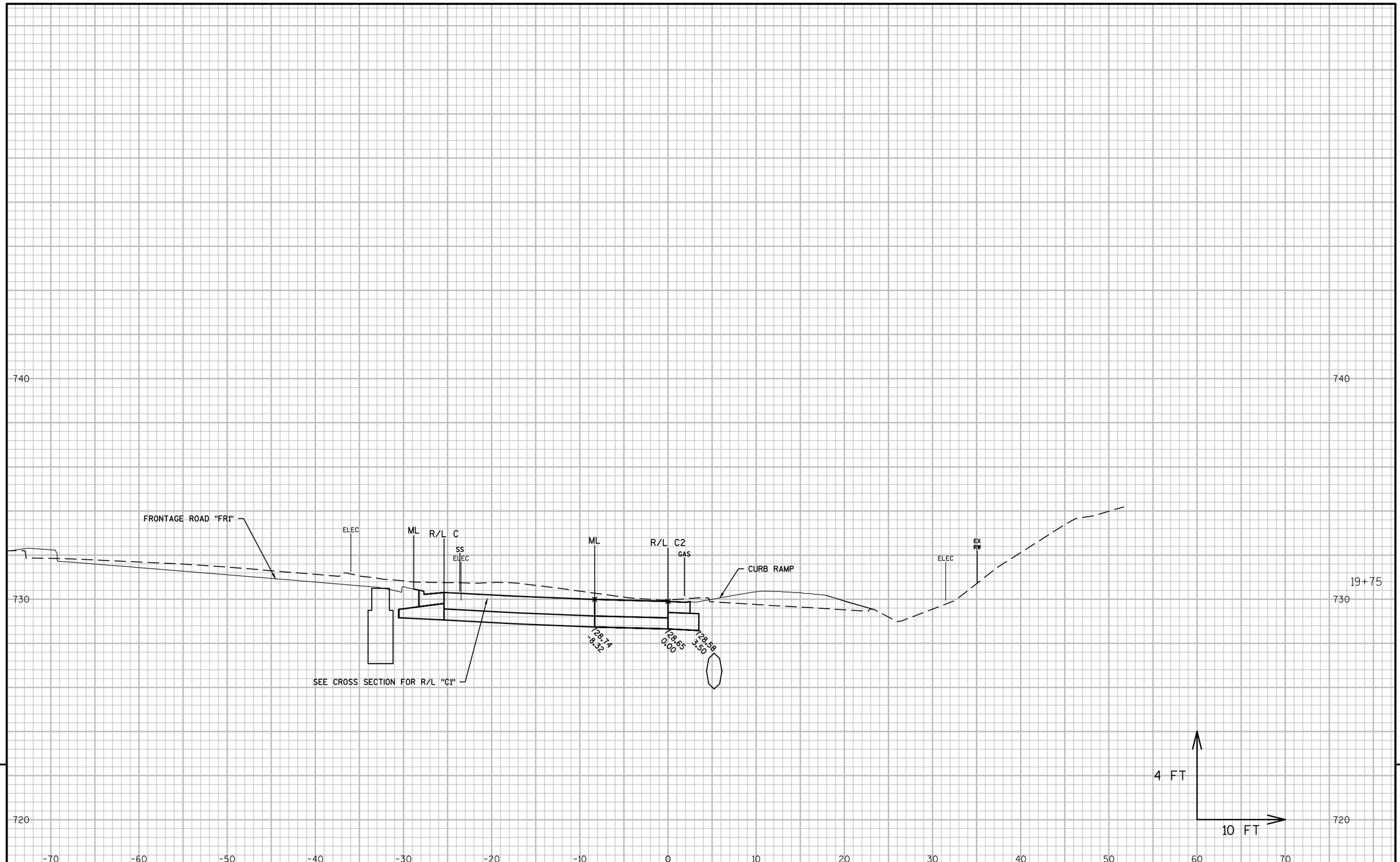
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902- (48)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C2	SHEET 334	E

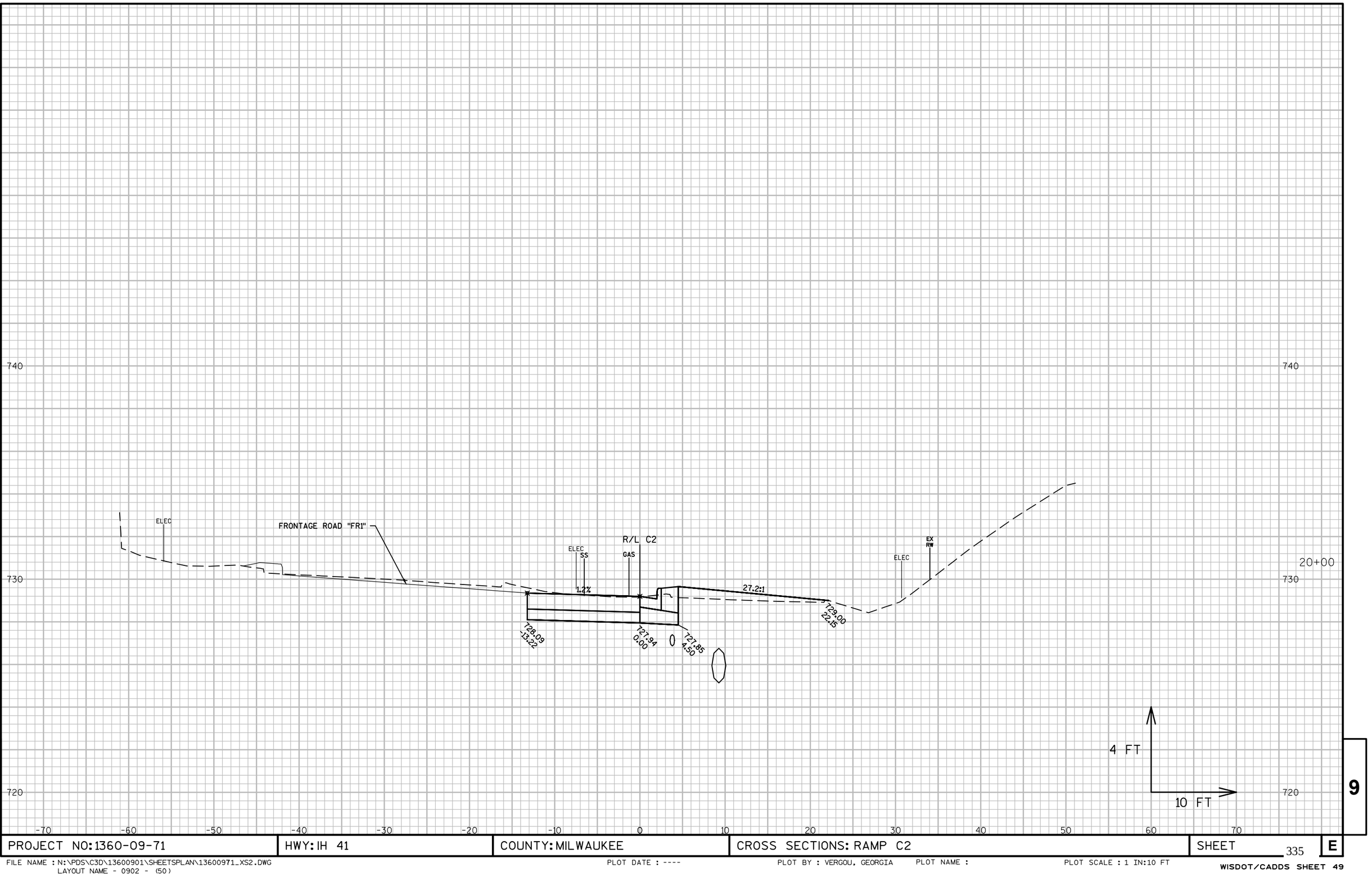
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (49)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C2	SHEET 335	E

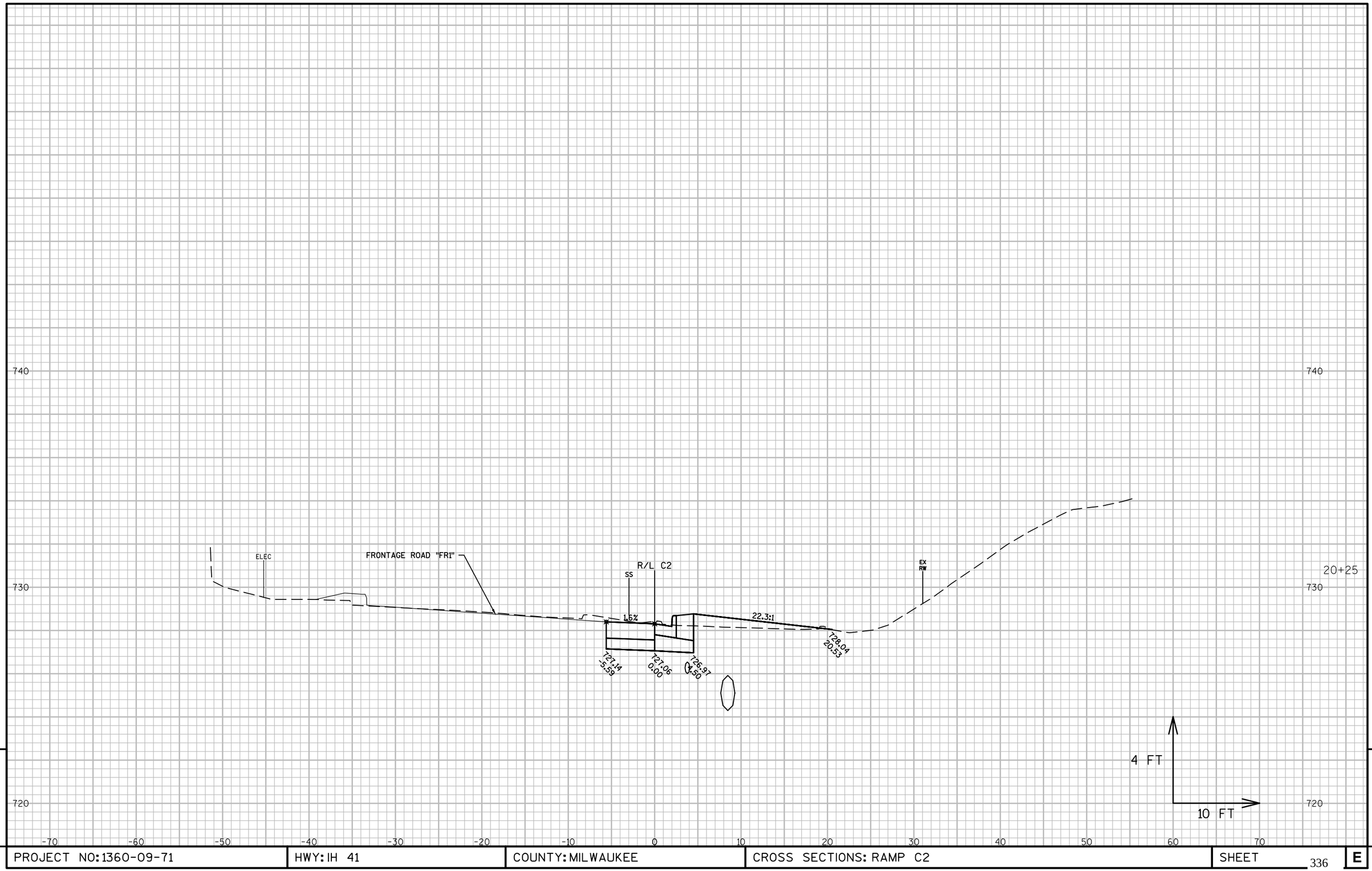
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (50)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C2	SHEET 336	E

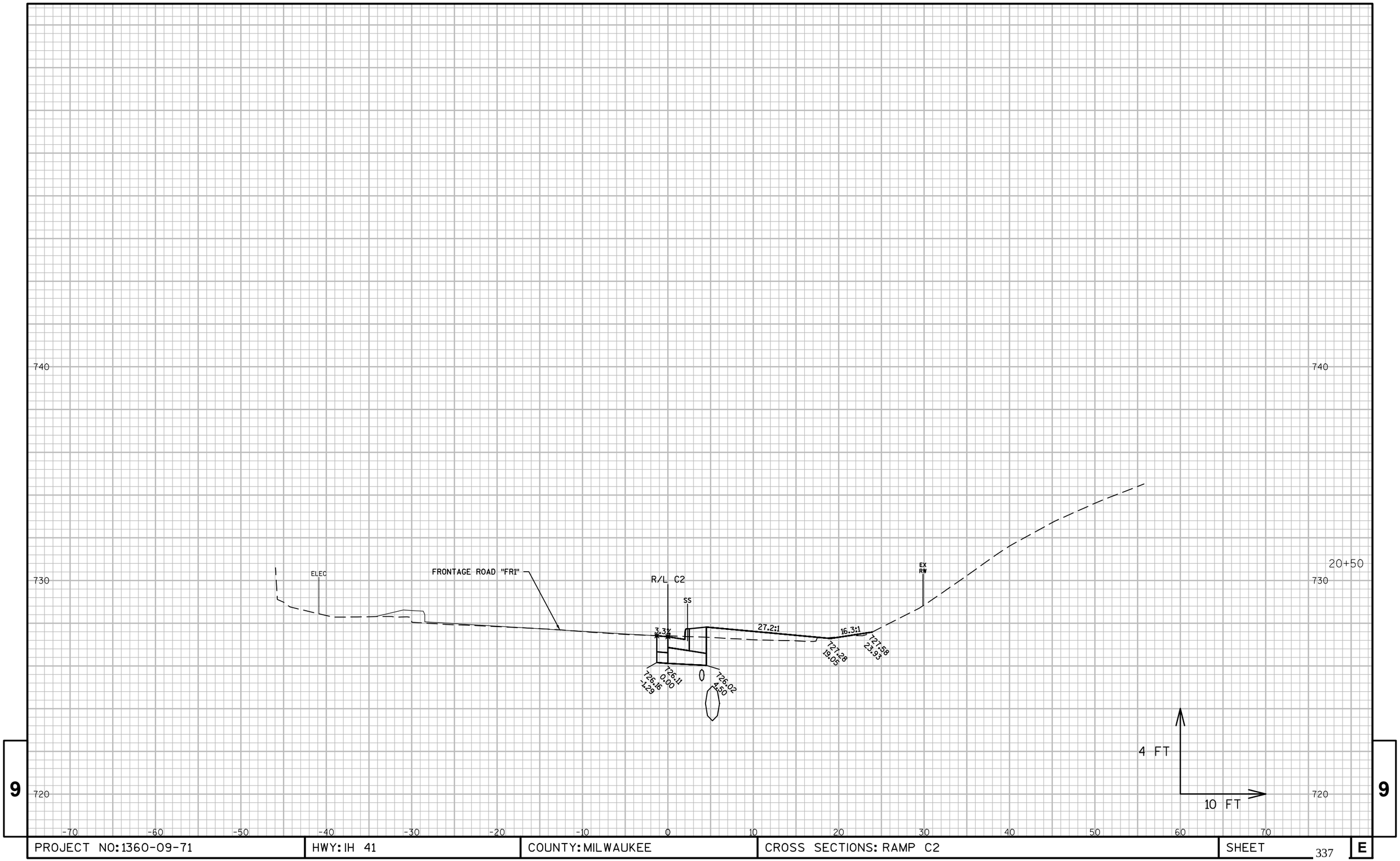
FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (51)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C2	SHEET 337	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (52)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

740

740

730

730

720

720

20+73

ELEC

FRONTAGE ROAD "FR1"

R/L C2

SS

EX RW

108.0:1

30.6:1

721.36
24.36

725.26
0.00

725.17
4.50

4 FT

10 FT

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: RAMP C2	SHEET 338	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (53)

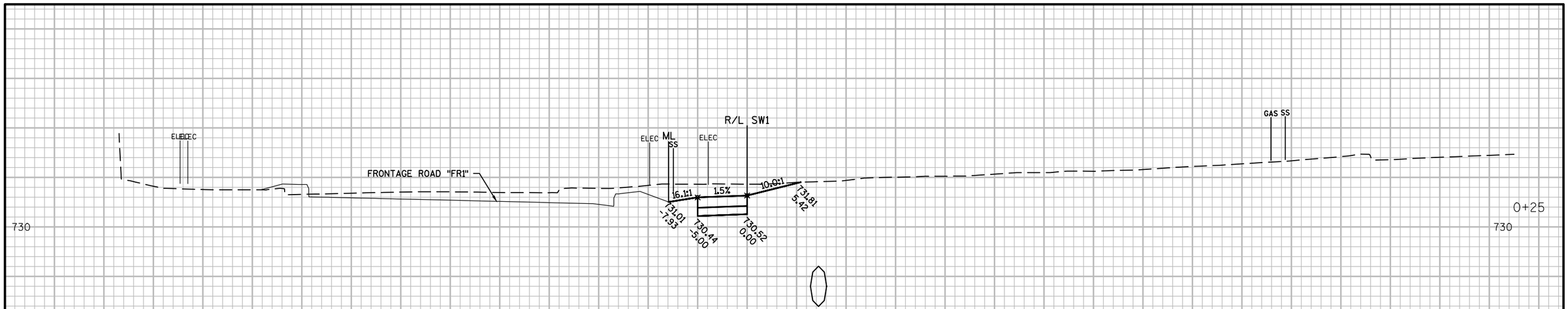
PLOT DATE : ----

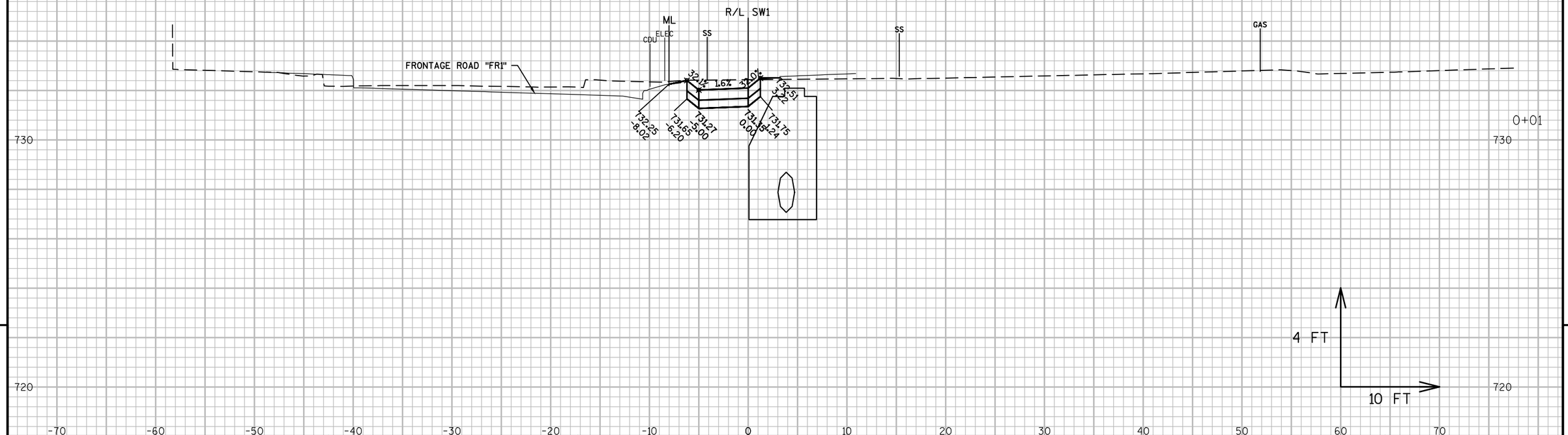
PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





9

9

PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: SIDEWALK SW1	SHEET 339	E

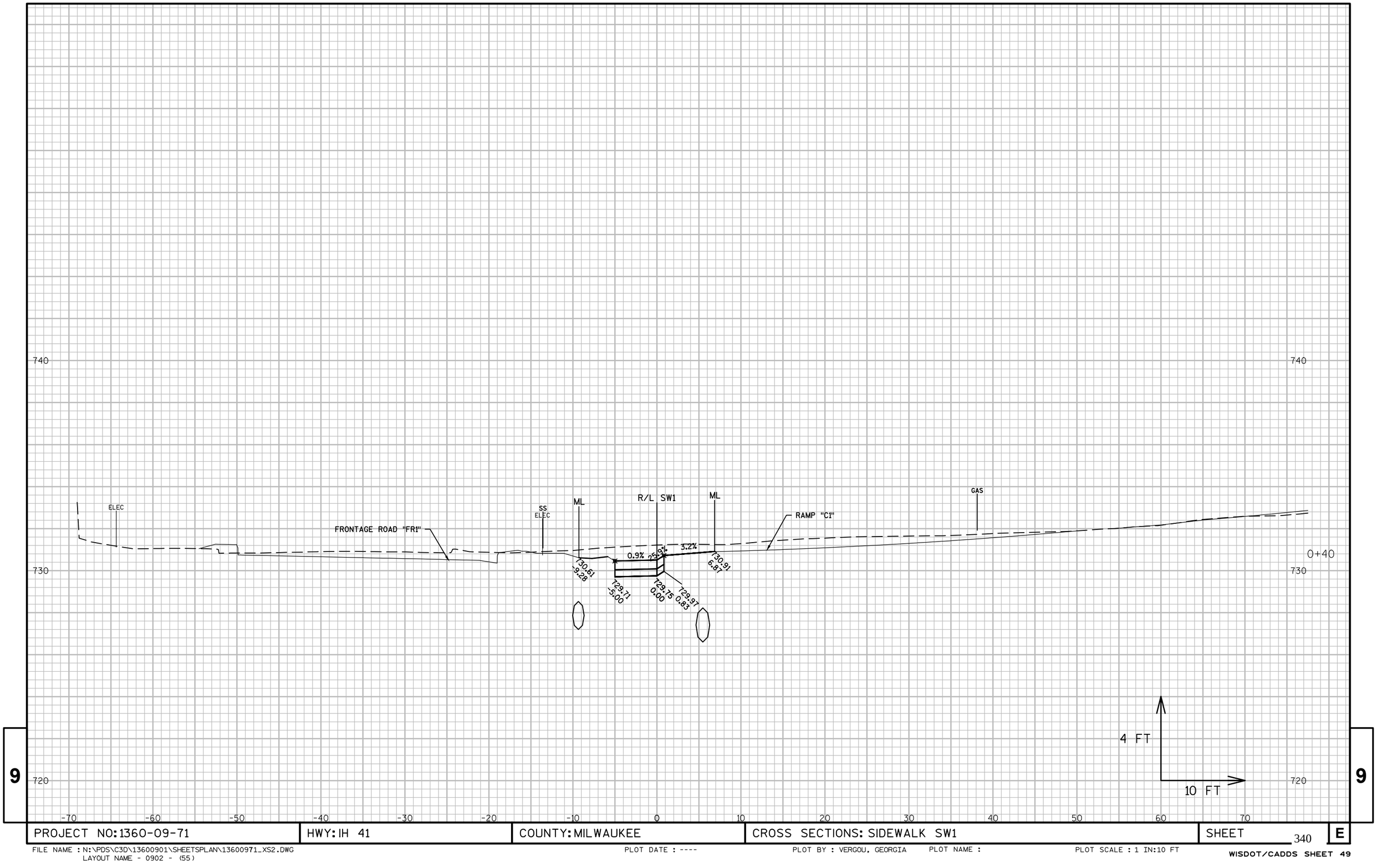
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LAYOUT NAME - 0902 - (54)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



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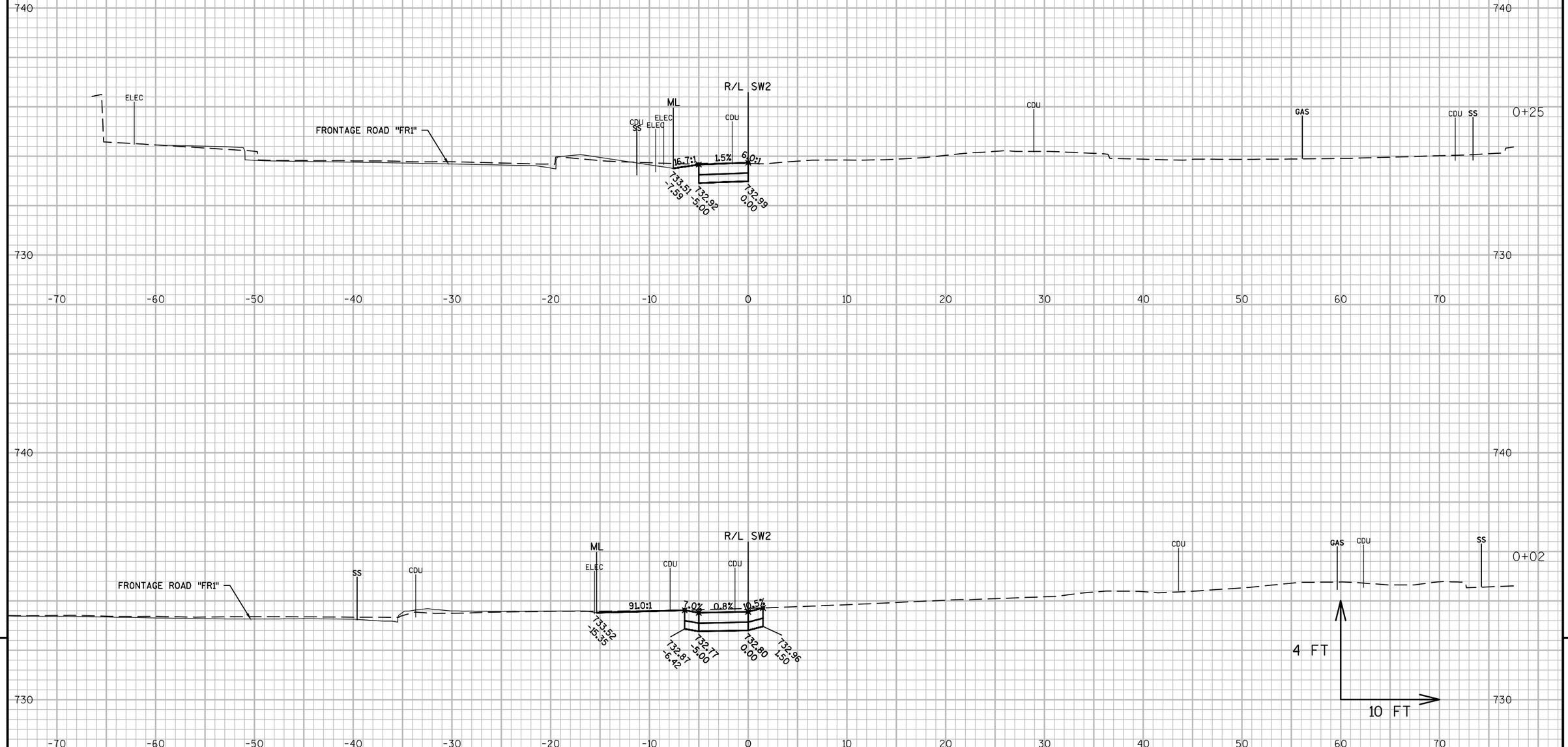
PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: SIDEWALK SW1	SHEET 340	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (55)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT



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PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: SIDEWALK "SW2"	SHEET 341	E

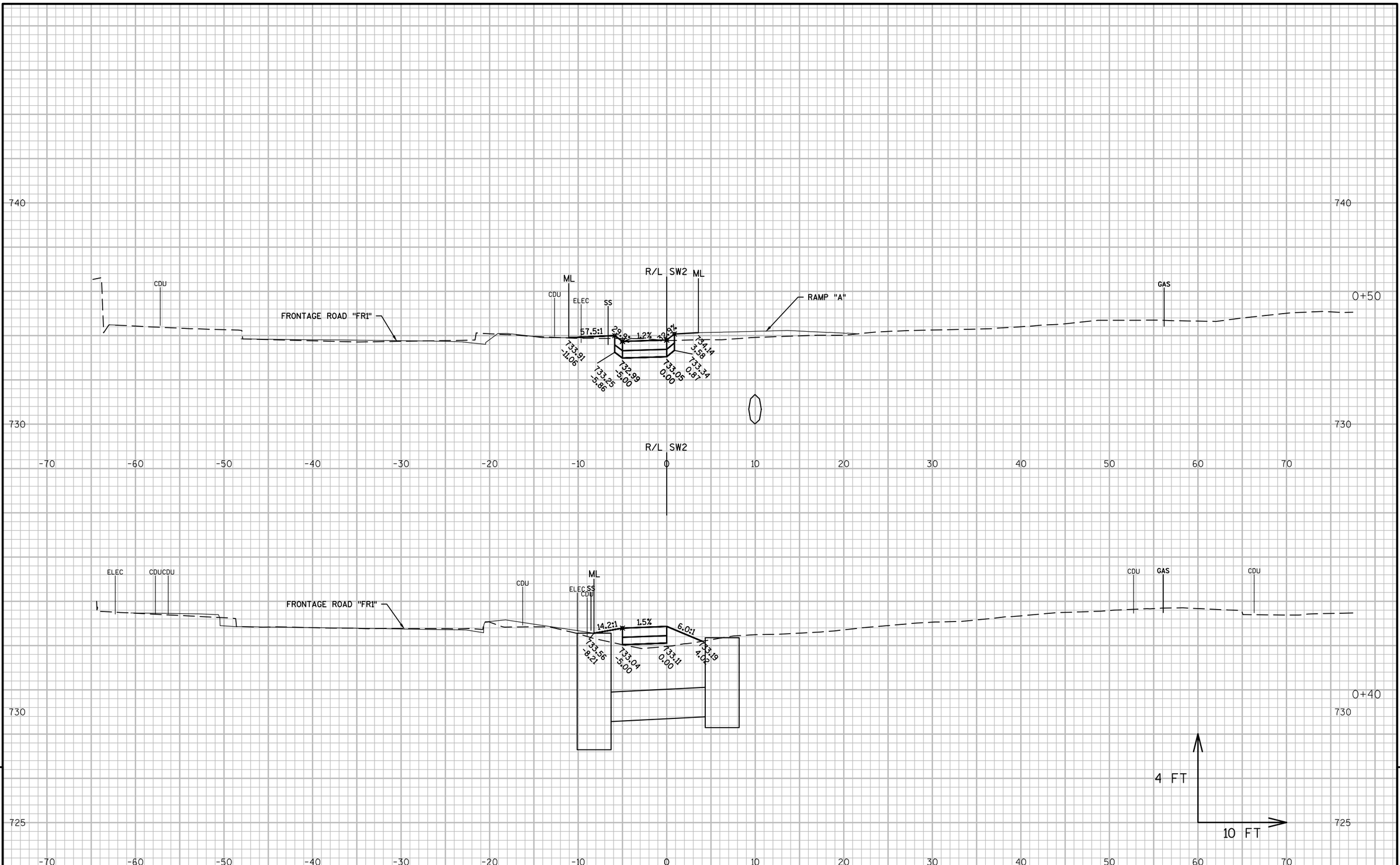
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LAYOUT NAME - 0902 - (56)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9	PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: SIDEWALK "SW2"	SHEET 342 E

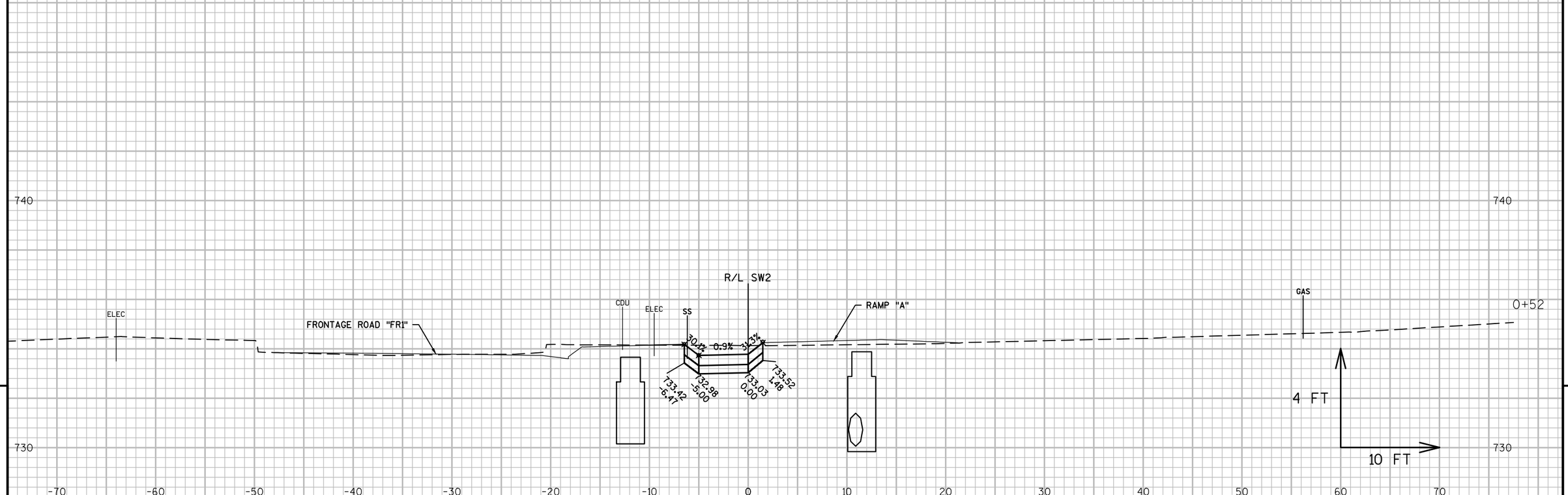
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LAYOUT NAME - 0902 - (57)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



PROJECT NO: 1360-09-71	HWY: IH 41	COUNTY: MILWAUKEE	CROSS SECTIONS: SIDEWALK "SW2"	SHEET 343	E

FILE NAME : N:\PDS\C3D\13600901\SHEETSPLAN\13600971_XS2.DWG
LAYOUT NAME - 0902 - (58)

PLOT DATE : ----

PLOT BY : VERGOU, GEORGIA PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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