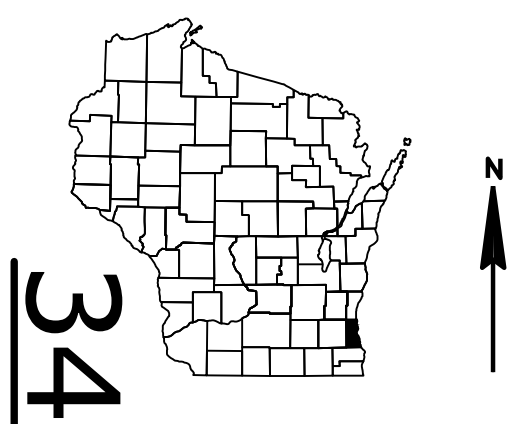


WKE
PROJECT ID: 1100-20-72
WITH:
COUNTY: MILWAUKEE

MAY 2021

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	Gross Sections
TOTAL SHEETS =		94



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

CONVENTIONAL SYMBOLS

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

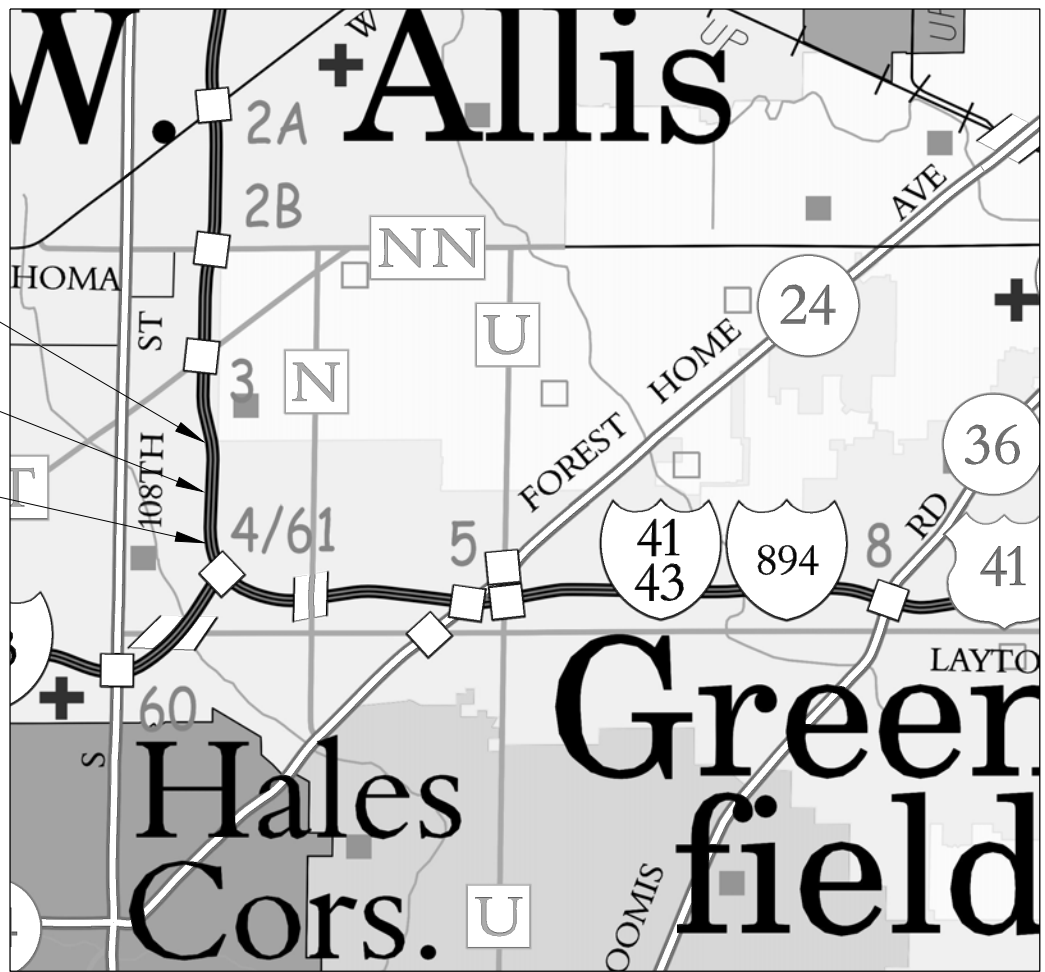
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
ZOO FREEWAY
COLD SPRING RD TO HOWARD AVE
IH 41
MILWAUKEE COUNTY

STATE PROJECT NUMBER
1100-20-72

END PROJECT
STA 96+37.58

N-40-97

BEGIN PROJECT
STA 30+71.16
Y = 571429.23
X = 273197.81



LAYOUT
SCALE 0 1.0 MI
TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

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

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1100-20-72	WISC 2021354	1

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	_____
Designer	WISDOT
Project Manager	AMANDA JOHANSEN
Regional Examiner	_____
Regional Supervisor	WAFA ELQAAQ
APPROVED FOR THE DEPARTMENT	
DATE: 1/4/21	Amanda Johansen (Signature)

AT&T LEGACY - COMMUNICATION LINE

KENNETH COLWELL
222 W JACKSON
WOODSTOCK, IL 60098
PHONE: (312) 734-2223
kc1298@att.com

AT&T LOCAL NETWORK - COMMUNICATION LINE

JENNIFER NAVARRO
6070 N FLINT RD
GLENDALE, WI 53209
PHONE: (414) 459-3564
j.navarro@northwindtech.com

AT&T WISCONSIN - COMMUNICATION LINE

MATTHEW DINNAUER
2005 PEWAUKEE RD
WAUKESHA, WI 53188
PHONE: (262) 896-7690
md9542@att.com

ATC MANAGEMENT, INC. - ELECTRICITY-TRANSMISSION

801 O'KEEFE RD
P.O. BOX 6113
DE PERE, WI 54115
PHONE: (920) 338-6582
dl-ATCDOTNotifications@atcllc.com

CHARTER COMMUNICATIONS - COMMUNICATION LINE

BEAU ABUYA
1320 N DR MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
PHONE: (414) 908-1343
wis.engineering@charter.com

CITY OF GREENFIELD - ROAD FACILITY & SEWER

JEFF KATZ
CITY OF GREENFIELD - ROAD FACILITY
7325 W FOREST HOME AVE
GREENFIELD, WI 53220
PHONE (414) 329-5325
jeffk@greenfieldwi.us

LEVEL 3 COMMUNICATIONS LLC - COMMUNICATION LINE

NETWORK RELOCATIONS
1025 ELDORADO BLVD
BROOMFIELD, CO 80021
NationalRelo@centurylink.com

MIDWEST FIBER NETWORKS LLC - COMMUNICATION LINE

RICHARD TRGOVEC
6070 NORTH FLINT RD
GLENDALE, WI 53209
PHONE: (414) 459-3554
rtrgovec@midwestfibernetworks.com

MILWAUKEE COUNTY PARKS DEPARTMENT - ROAD FACILITY

DANIEL MURPHY
10320 WATERTOWN PLANK RD
WAUWATOSA, WI 53226
PHONE: (414) 257-5942
Daniel.murphy@milwaukeecountywi.gov

MILWAUKEE COUNTY PARKS DEPARTMENT - ELECTRICITY

BLAKE PRUSAK
1150 N 68TH STREET
MILWAUKEE, WI 53213
Blake.Prusak@milwaukeecountywi.gov

UTILITY CONTACTS

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT - SEWER

MICKI KLAPPA-SULLIVAN
260 W SEEBOTH ST
MILWAUKEE, WI 53204
PHONE: (414) 225-2178
MKlappaSullivan@mmsd.com

MILWAUKEE WATER WORKS

PAETEC COMMUNICATIONS, LLC - COMMUNICATION LINE

MARY FISHER
13935 BISHOPS DR
BROOKFIELD, WI 53005
PHONE: (262) 792-7938
Mary.B.Fisher@windstream.com

SPRINT COMMUNICATIONS CO LP - COMMUNICATION LINE

JASON JARVIS
7459 W 79TH ST
BRIDGEVIEW, IL 60455
PHONE: (219) 433-4091
jason.m.jarvis@sprint.com

TDS METROCOM LLC - COMMUNICATION LINE

MICHAEL SWEET
525 JUNCTION RD
MADISON, WI 53717
PHONE: (608) 664-4539
Michael.Sweet@tdstelecom.com

WE ENERGIES - ELECTRICITY

WE ENERGIES - GAS/PETROLEUM

WEST SHORE PIPE LINE COMPANY - GAS/PETROLEUM

DAVID JONES
FIVE TEK PARK, 9999 HAMILTON BLVD
BREINIGSVILLE, PA 18031
PHONE: (610) 904-4409
DAJones@buckeye.com

WINDSTREAM NTI, LLC - COMMUNICATION LINE

MARY FISHER
13935 BISHOPS DR
BROOKFIELD, WI 53005
PHONE: (262) 792-7938
Mary.B.Fisher@windstream.com

WISCONSIN DEPARTMENT OF TRANSPORTATION - COMMUNICATION LINE

JEFF MADSON
STE. 300
433 W. ST. PAUL AVE.
MILWAUKEE, WI 53203-3007
PHONE: (414) 225-3723
Jeffrey.Madson@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION - STREET LIGHTING

ERIC PEREA
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (262) 574-5422
Eric.Perea@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION - WISCONSIN SIGNAL

DERRIN WOLFORD
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (262) 521-4409
derrin.wolford@dot.wi.gov

WISCONSIN DOT RWIS PROGRAM - COMMUNICATION TOWER

MIKE ADAMS
P.O. BOX 7986
MADISON, WI 53707-7986
PHONE: (608) 266-5004
Michael.Adams@dot.wi.gov

WISCONSIN INDEPENDENT NETWORK, LLC - COMMUNICATION LINE

DICK HAMMETTER
SUITE 219
800 WISCONSIN AVE
EAU CLAIRE, WI 54703
PHONE: (715) 838-4406
Hammetter@WINS.net

OTHER CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION

AMANDA JOHANSEN - PROJECT MANAGER
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WAUKESHA, WI 53187
PHONE: (262) 521-4465
amanda.johansen@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION

AMANDA WILKER
UTILITY COORDINATOR
141 NW BARSTOW ST
WAUKESHA, WI 53187
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CELL: (507) 676-4719
amanda.wilker@dot.wi.gov

WISCONSIN DEPARTMENT OF TRANSPORTATION

TOMMY CURRAN
ENVIRONMENTAL COORDINATOR
141 NW BARSTOW ST
WAUKESHA, WI 53187
PHONE: (262) 548-5682
thomas1.curran@dot.wi.gov

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

KRISTINA BETZOLD
2300 N MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212
PHONE: (414) 263-8517
CELL: (414) 507-4946
kristina.betzold@wisconsin.gov

SOUTHEAST WISCONSIN REGIONAL PLANNING COMMISSION

ROB MERRY
W239 N1812 ROCKWOOD DR
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4289
CELL: (920) 912-1036
rmerry@sewrpc.org

MILWAUKEE COUNTY TRANSIT SYSTEM (MCTS)

1942 N 17TH ST
MILWAUKEE, WI 53205

MELANIE FLYNN
LEAD & COORDINATOR OF STREET SUPERVISION (ROUTES)
PHONE: (414) 343-1764
mflynn@mcts.org

ANDY TILLMAN
TRANSIT PLANNER (STOPS/SHELTERS)
PHONE: (414) 343-1728
atillman@mcts.org

DAVID LOCHER
TRANSPORTATION SPECIALIST (DETOUR/SPECIAL EVENTS)
PHONE: (414) 343-1727
dlocher@mtcs.org



GENERAL NOTES

NO 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.

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

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND 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.

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.

EROSION CONTROL BMPS ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR’S ECIP AND BY THE ENGINEER. EROSION CONTROL BMPS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

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

ORDER OF SECTION 2 DETAIL SHEETS

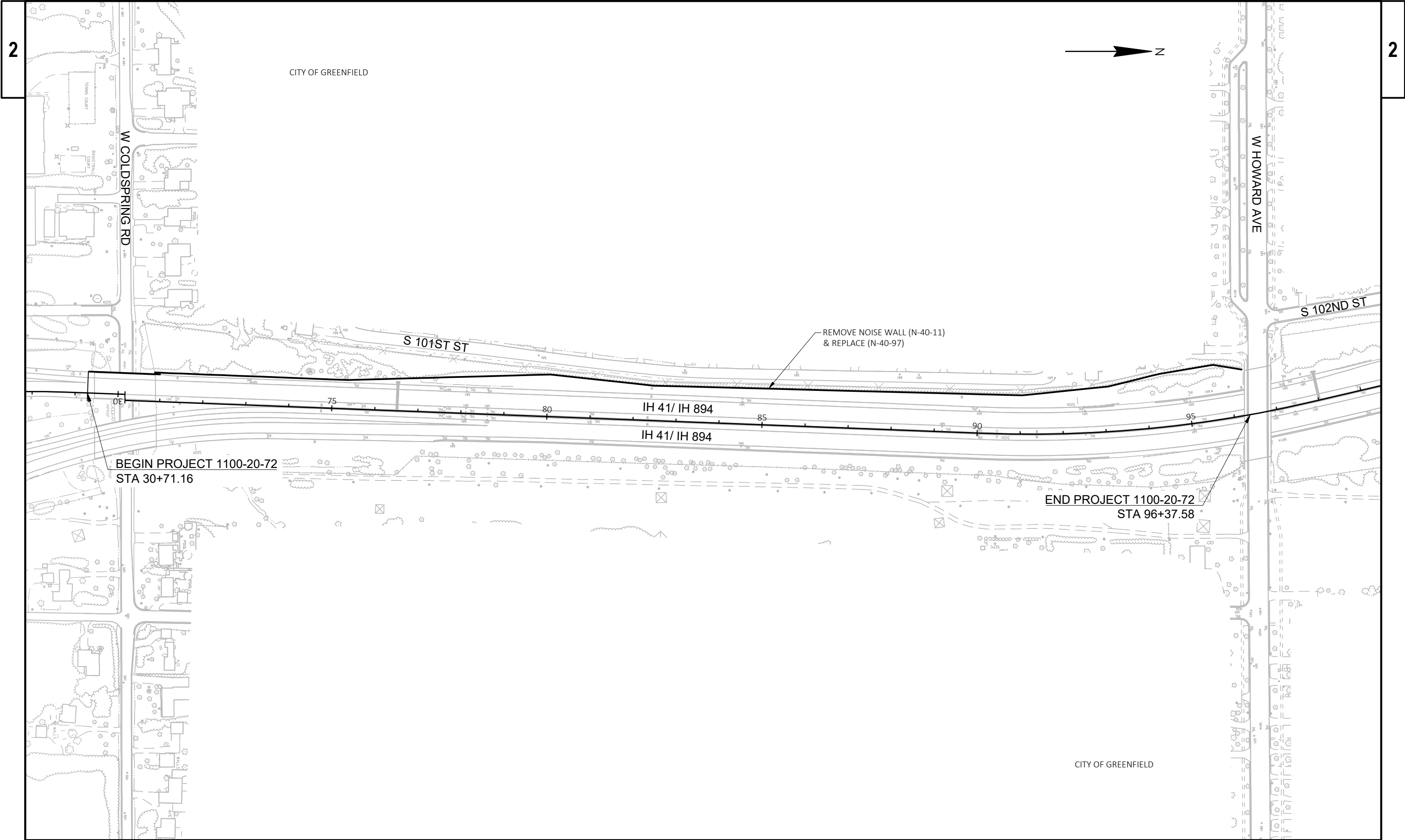
- GENERAL NOTES & UTILITY CONTACTS
- PROJECT OVERVIEW
- CONSTRUCTION DETAILS
- REMOVAL PLANS
- PLAN DETAILS
- EROSION CONTROL
- PERMANENT SIGNING
- TRAFFIC CONTROL
- ALIGNMENT LAYOUT

STANDARD ABBREVIATIONS

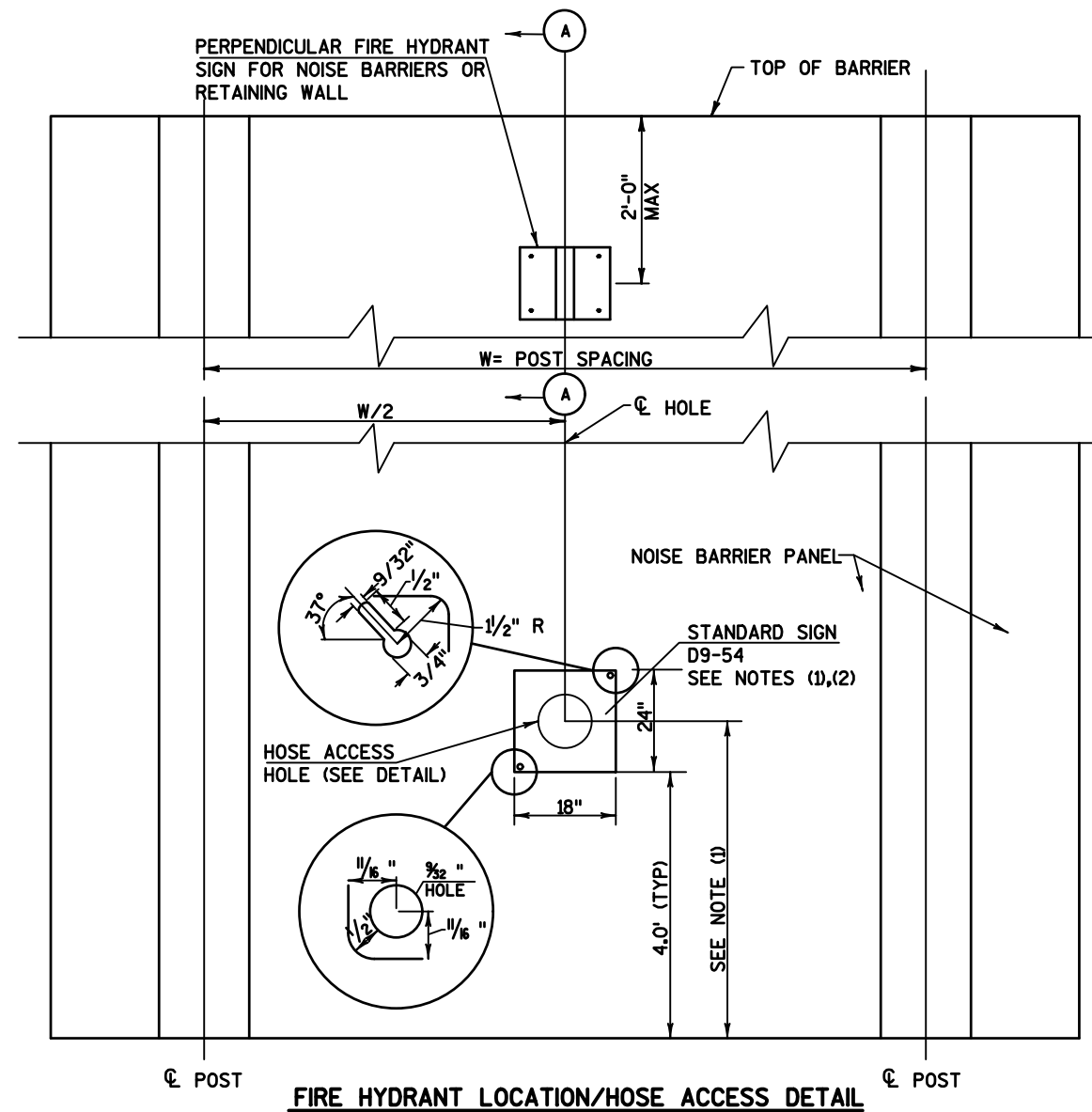
AEW	APRON END WALL
AGG	AGGREGATE
ASPH	ASPHALTIC
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
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	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND



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



PROJECT NO: 1100-20-72	HWY: IH 41	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET	E
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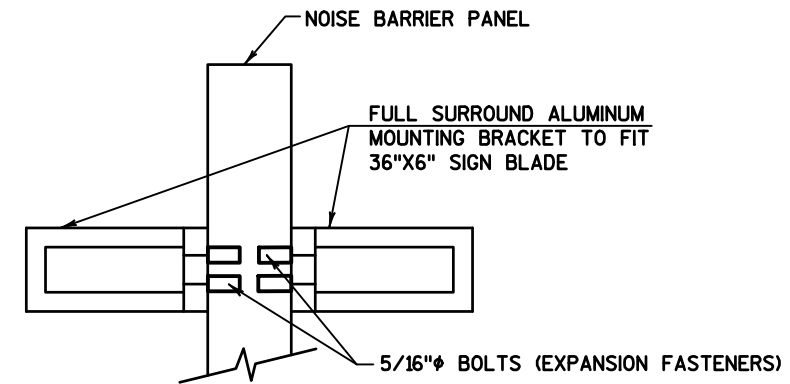


NOTES:

1. STANDARD SIGNS D9-54 SHALL BE FURNISHED BY THE CONTRACTOR. SEE PLAN.
2. TWO STANDARD SIGNS D9-54 TO BE FURNISHED PER STATION. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER.
3. FIRE HYDRANT SIGN BLADE SHALL BE ATTACHED TO THE NOISE BARRIER PANEL OR RETAINING WALL NEAR THE TOP OF THE BARRIER. SEE DETAIL ABOVE.

NOTE:

EXPANSION FASTENERS FOR SIGN (D9-54) SIGN ARE INCIDENTAL TO SIGN.

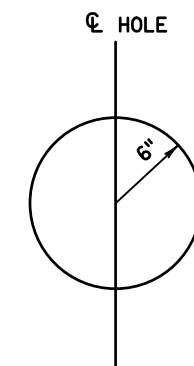


SECTION A-A

PERPENDICULAR FIRE HYDRANT SIGN FOR NOISE BARRIER OR RETAINING WALL

NOTE:

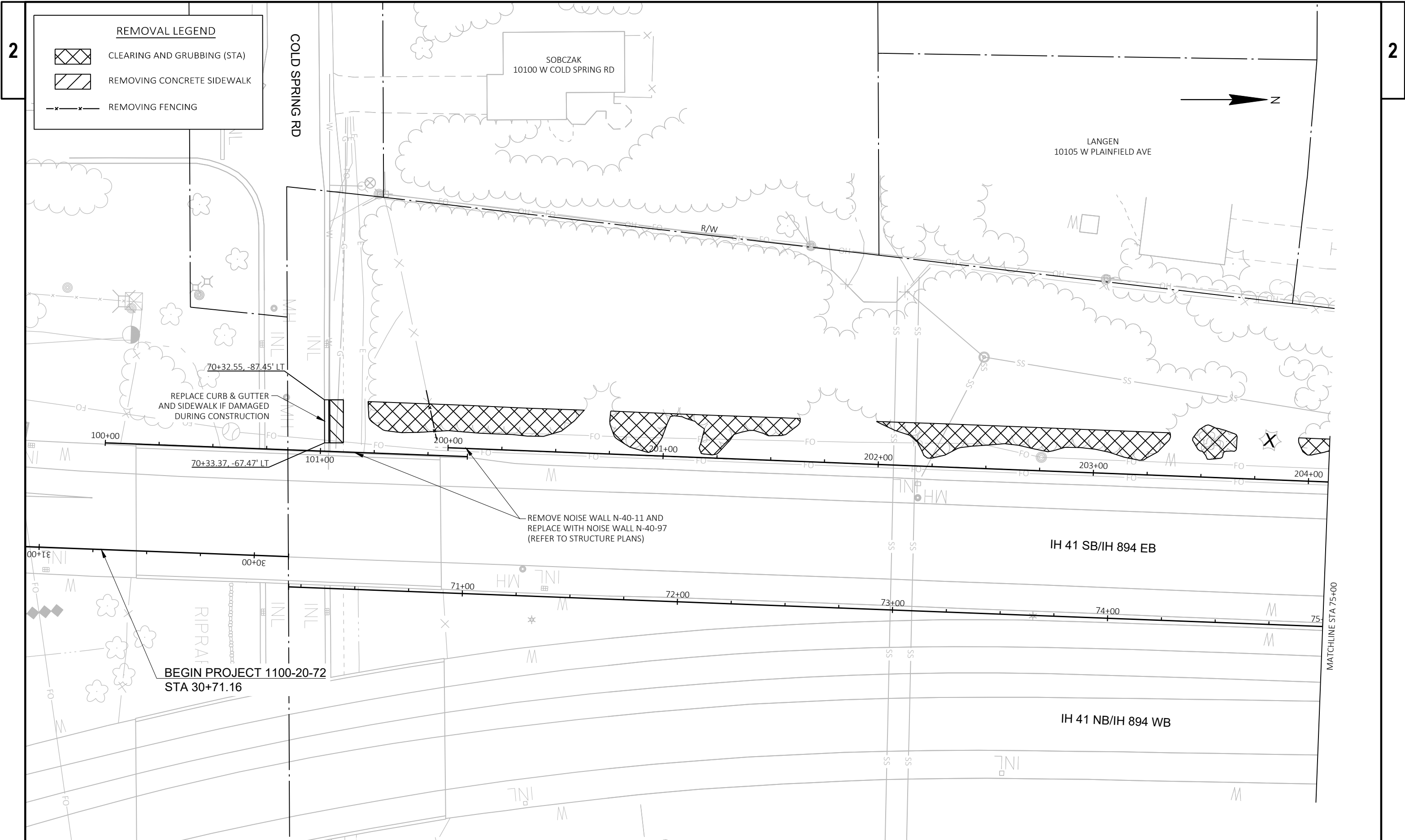
MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO SIGN



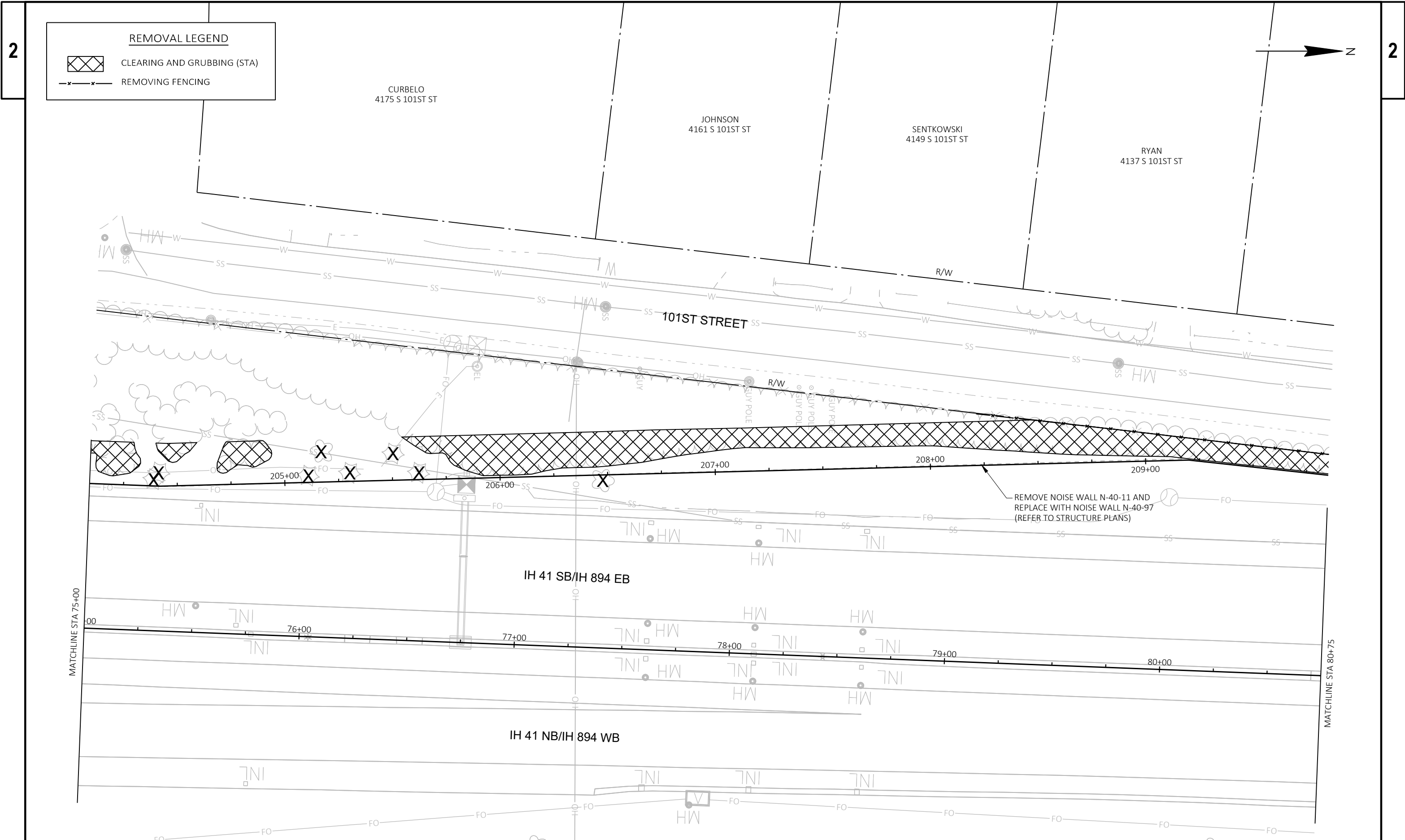
HOSE ACCESS HOLE DETAIL

NOTE:

PLACE SIGNS ADJACENT TO OPENING WHERE SIGNING PLAN SHEETS SO INDICATE OTHERWISE, INSTALL PER THIS DETAIL.



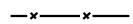
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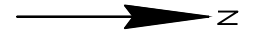
REMOVAL LEGEND



CLEARING AND GRUBBING (STA)



REMOVING FENCING

STEFANOVICE LIFE ESTATES
4125 S 101ST STLARSEN
4113 S 101ST STDAMM
4101 S 101ST STHAMBURGER
4071 S 101ST STLIPKA
4061 S 101ST STWITTLIEFF
4051 S 101ST ST

R/W

101ST STREET

R/W

REMOVE NOISE WALL N-40-11 AND
REPLACE WITH NOISE WALL N-40-97
(REFER TO STRUCTURE PLANS)

IH 41 SB/IH 894 EB

IH 41 NB/IH 894 WB

PROJECT NO: 1100-20-72

HWY: IH 41

COUNTY: MILWAUKEE

REMOVAL PLANS

SHEET

E

REMOVAL LEGEND



CLEARING AND GRUBBING (STA)



REMOVING FENCING

LAUGHRIN & RIEGERT
4041 S 101ST STBENZINGER
4031 S 101ST STSAIIA
4021 S 101ST STFUERST
4011 S 101ST STEICHHORN
4001 S 101ST ST

R/W

R/W

R/W

101ST STREET

216+00

217+00

218+00

219+00

220+00

221+00

REMOVE NOISE WALL N-40-11 AND
REPLACE WITH NOISE WALL N-40-97
(REFER TO STRUCTURE PLANS)

IH 41 SB/IH 894 EB

87+00

88+00

89+00

90+00

91+00

92+00

IH 41 NB/IH 894 WB

MATCHLINE STA 86+50

MATCHLINE STA 92+50

PROJECT NO: 1100-20-72

HWY: IH 41

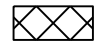
COUNTY: MILWAUKEE

REMOVAL PLANS

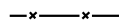
SHEET

E

REMOVAL LEGEND



CLEARING AND GRUBBING (STA)



REMOVING FENCING

102ND STREET

DIESSNER
10101 W HOWARD AVELAMPRECHT
10102 W NORWICH AVEREMOVE NOISE WALL N-40-11 AND
REPLACE WITH NOISE WALL N-40-97
(REFER TO STRUCTURE PLANS)

HOWARD AVENUE

IH 41 SB/IH 894 EB

IH 41 NB/IH 894 WB

END PROJECT 1100-20-72
STA 96+37.58

PROJECT NO: 1100-20-72

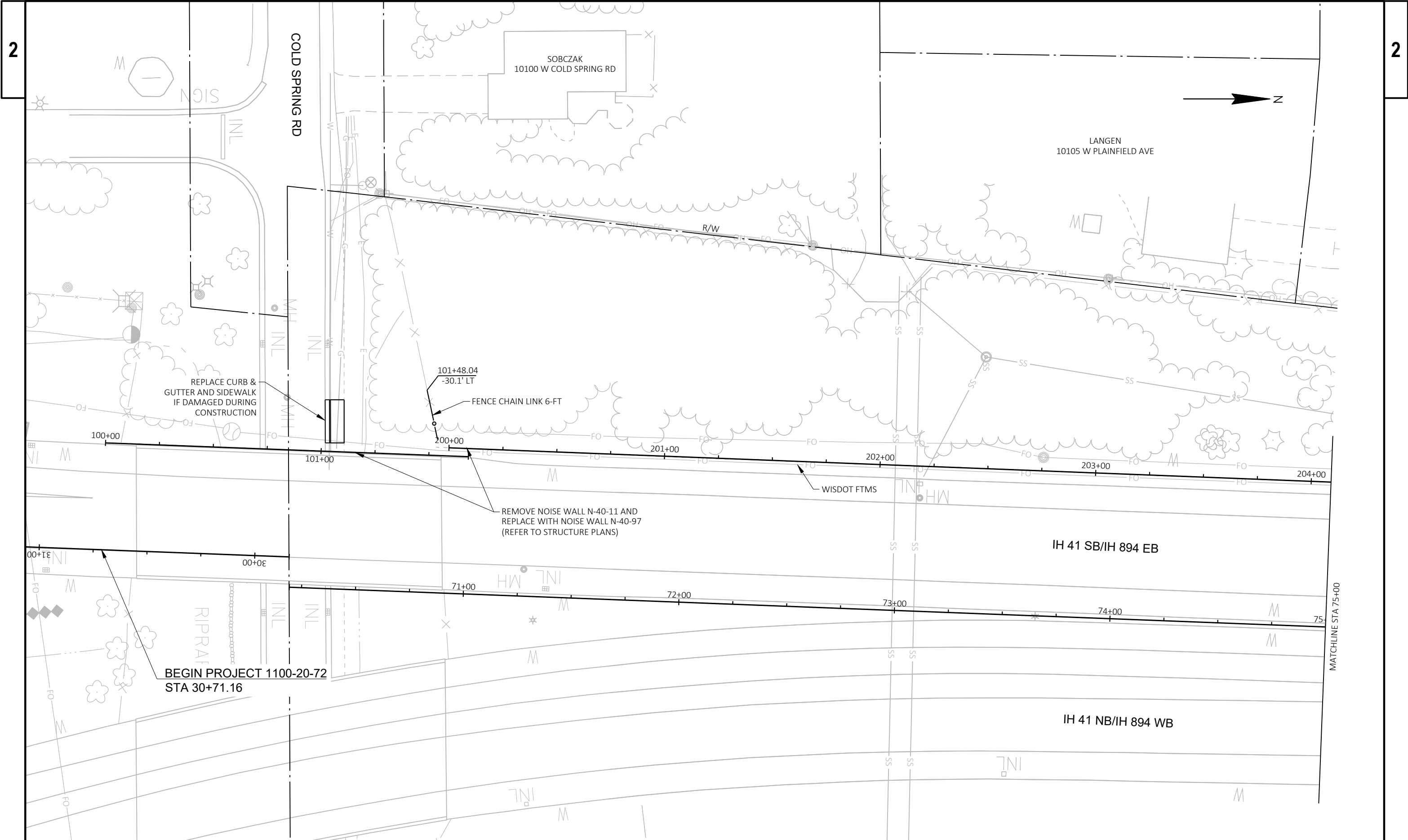
HWY: IH 41

COUNTY: MILWAUKEE

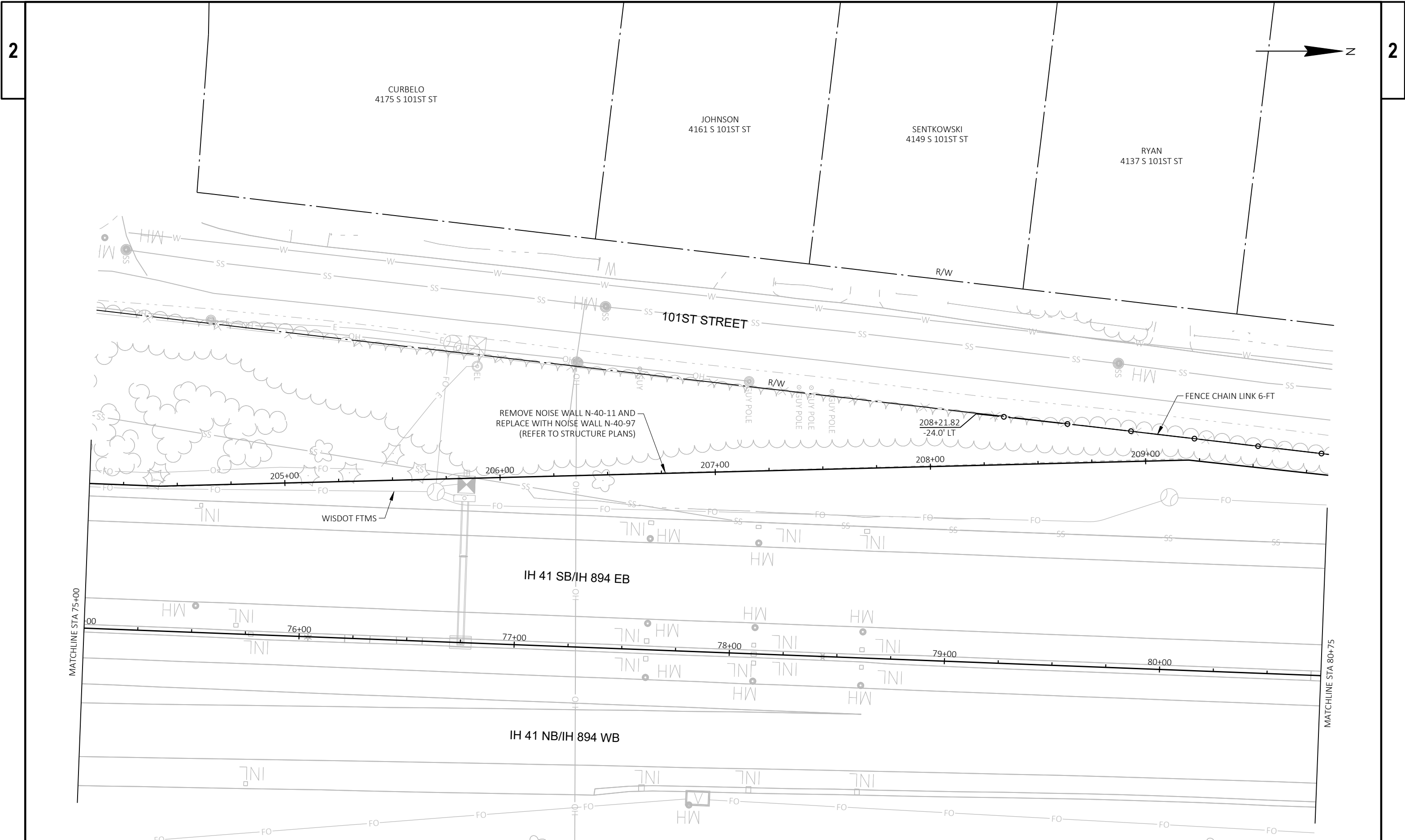
REMOVAL PLANS

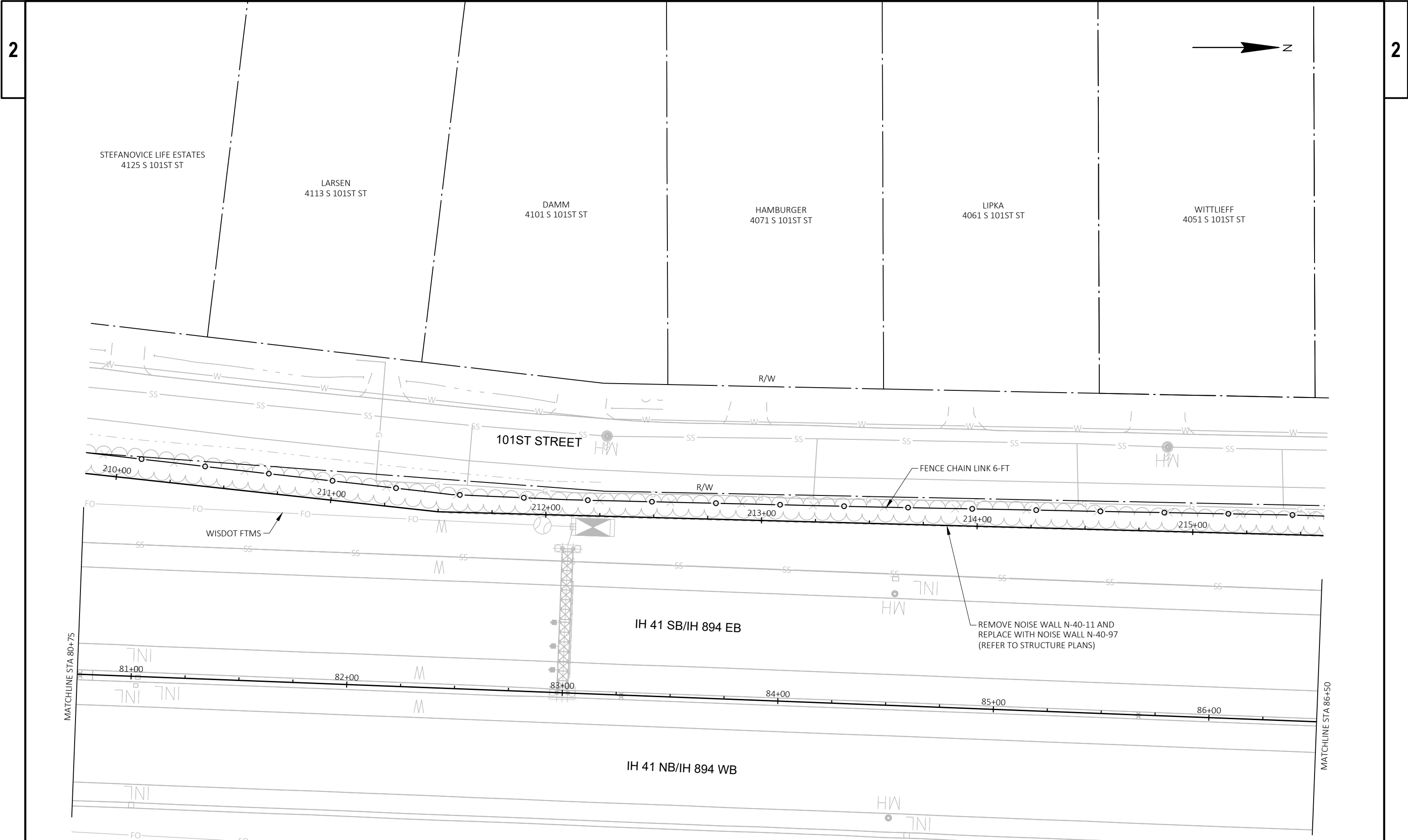
SHEET

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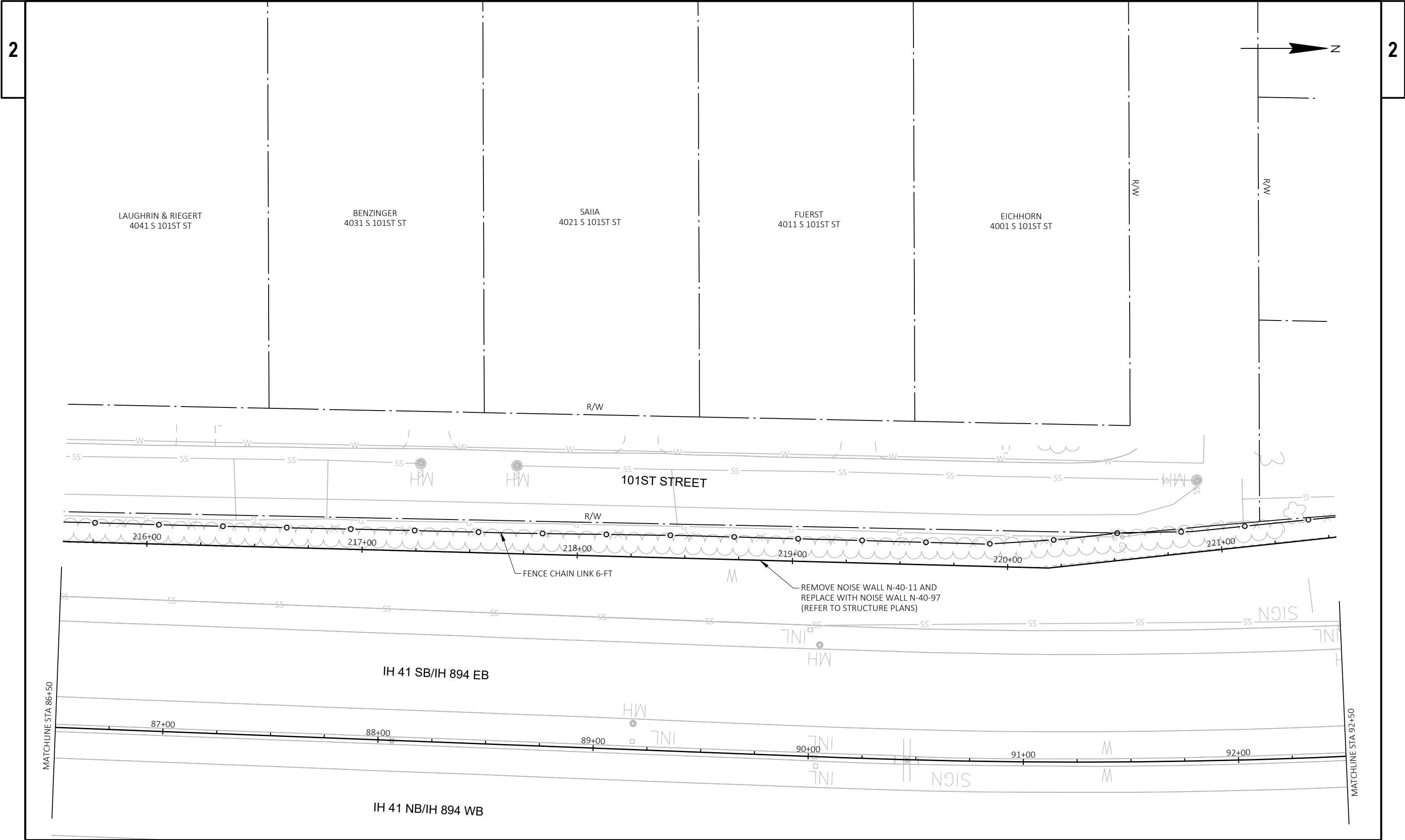


PROJECT NO: 1100-20-72	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET	E
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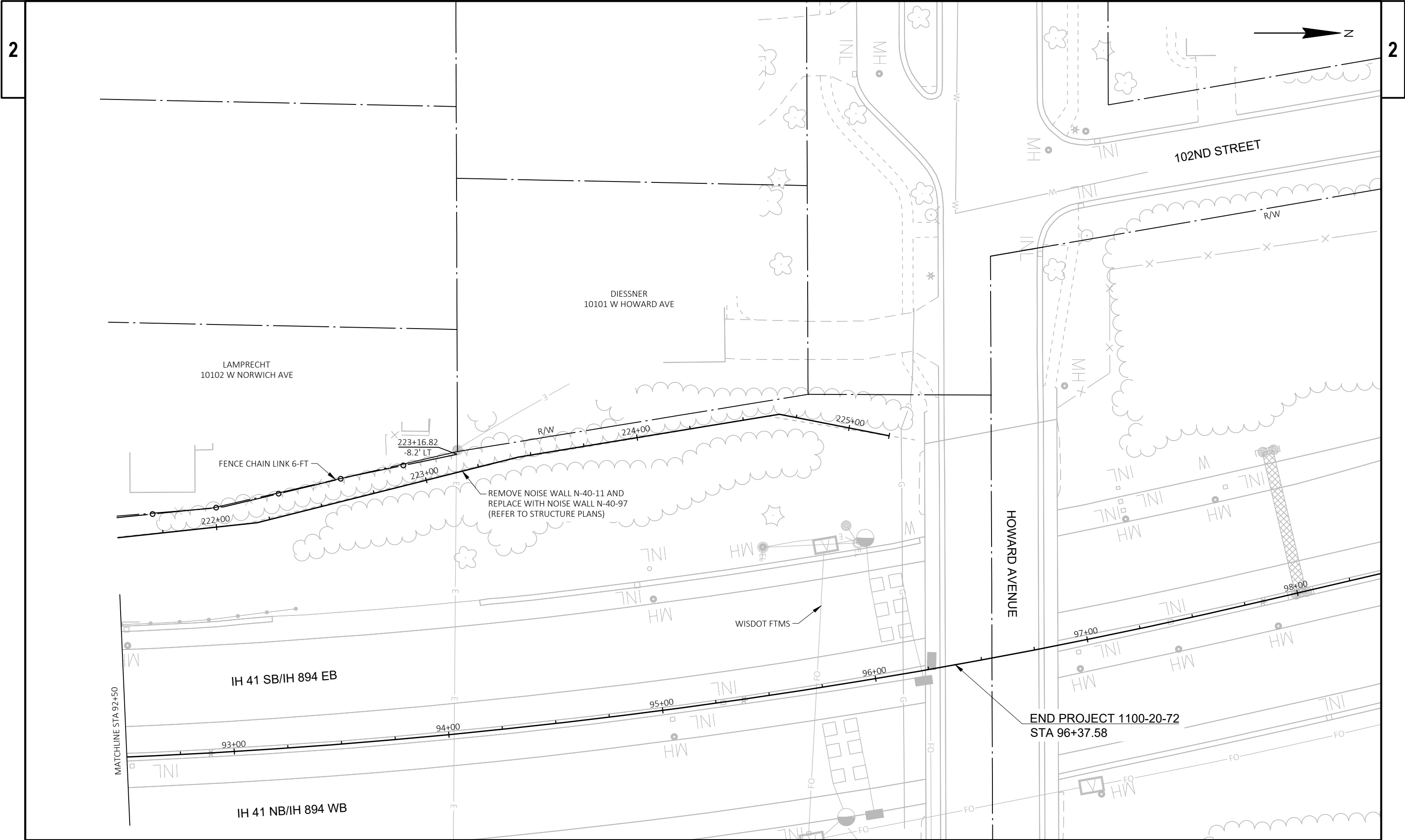




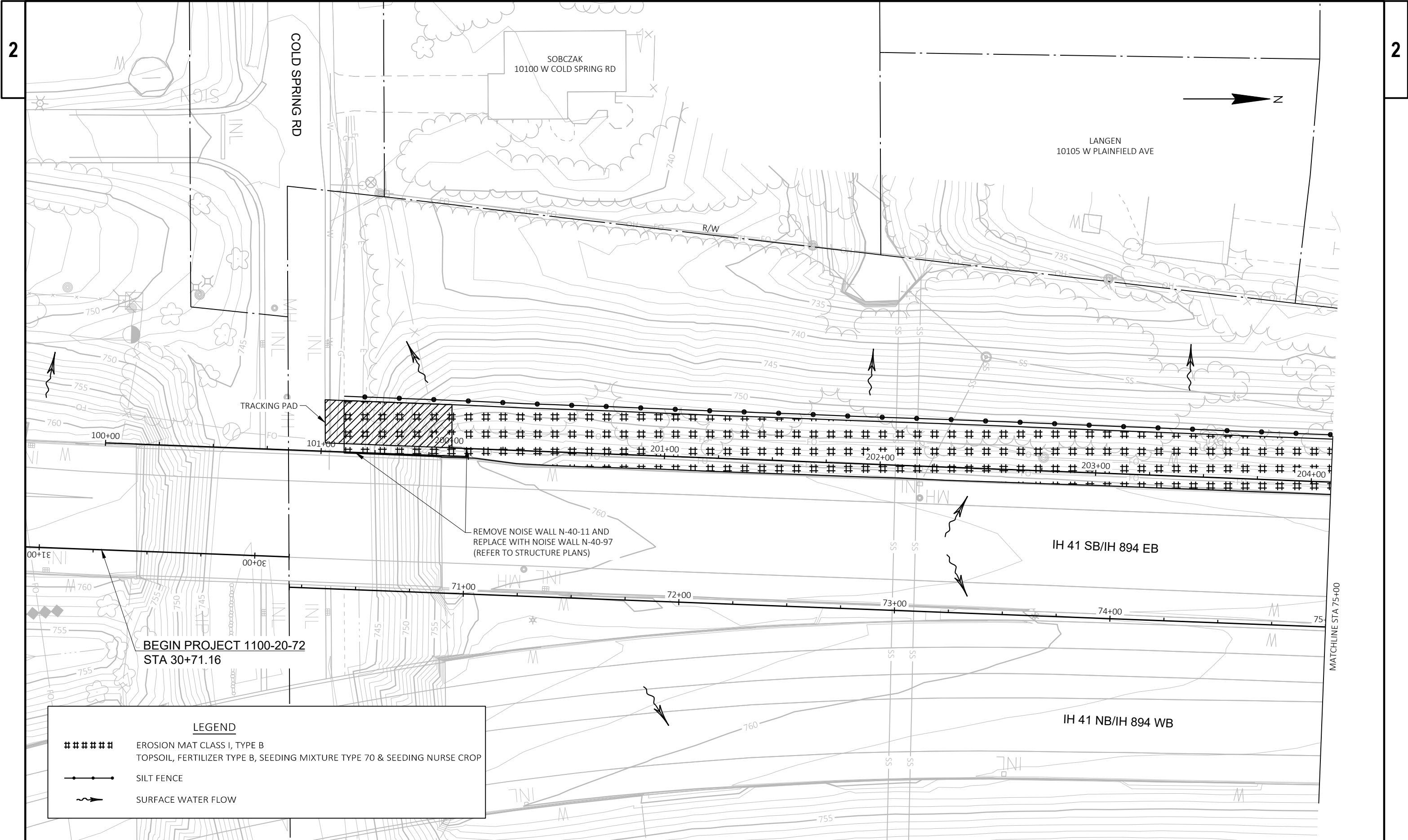
PROJECT NO: 1100-20-72	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET	E
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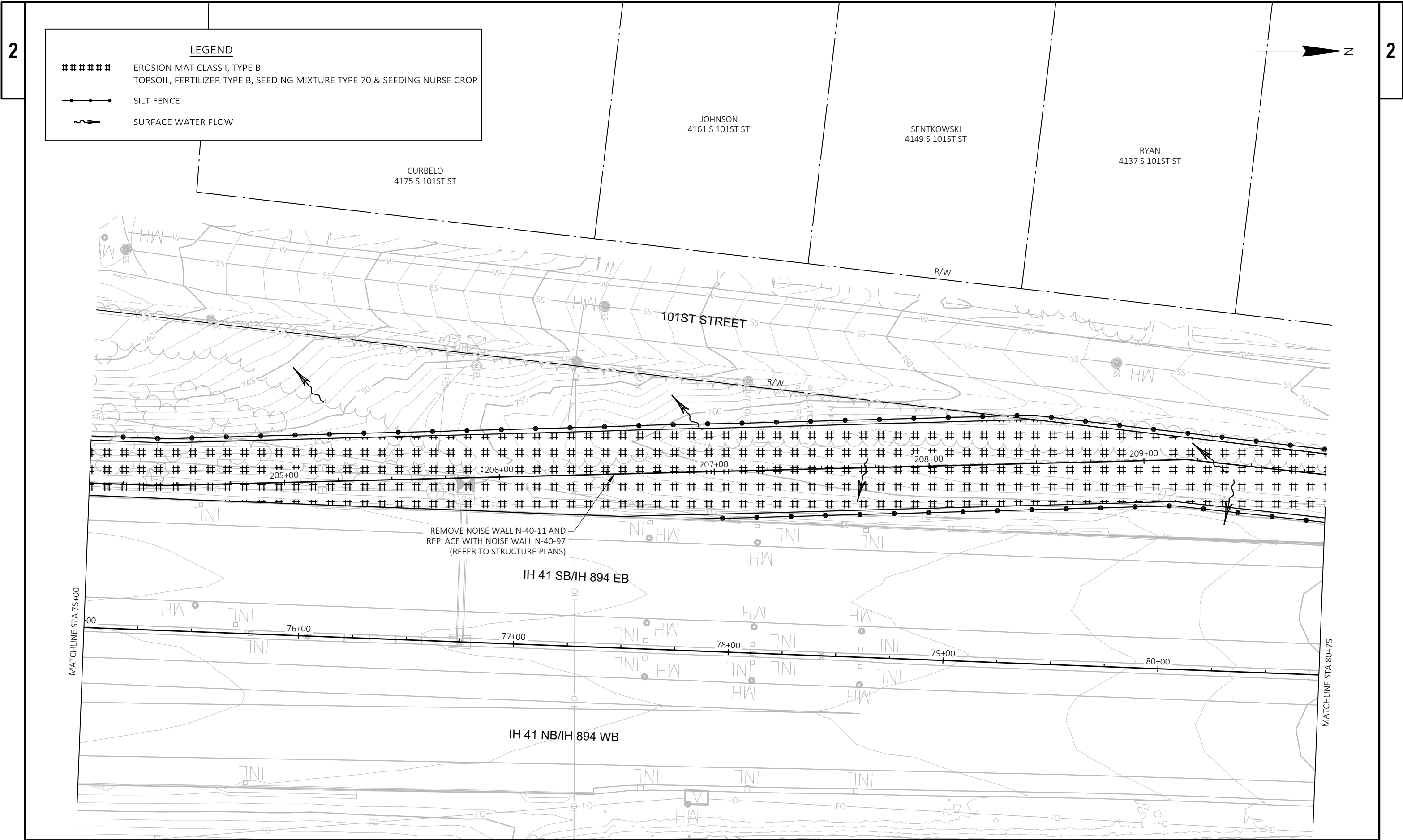


PROJECT NO: 1100-20-72	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET	E
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PROJECT NO: 1100-20-72	HWY: IH 41	COUNTY: MILWAUKEE	PLAN DETAILS	SHEET	E
------------------------	------------	-------------------	--------------	-------	---





LEGEND

- ##### EROSION MAT CLASS I, TYPE B
TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE TYPE 70 & SEEDING NURSE CROP
- SILT FENCE
- ~> SURFACE WATER FLOW



STEFANOVIC LIFE ESTATES
4125 S 101ST ST

LARSEN
4113 S 101ST ST

DAMM
4101 S 101ST ST

HAMBURGER
4071 S 101ST ST

LIPKA
4061 S 101ST ST

WITTLIEFF
4051 S 101ST ST

R/W

101ST STREET

REMOVE NOISE WALL N-40-11 AND
REPLACE WITH NOISE WALL N-40-97
(REFER TO STRUCTURE PLANS)

IH 41 SB/IH 894 EB

IH 41 NB/IH 894 WB

PROJECT NO: 1100-20-72

HWY: IH 41

COUNTY: MILWAUKEE

EROSION CONTROL PLAN

SHEET

E

FILE NAME: N:\PDS\C3D\11002002\SHEETS\PLAN\022001_EC.DWG
LAYOUT NAME - 022003_ec

PLOT DATE: 10/26/2020 10:26 AM

PLOT BY: JOHANSEN, AMANDA A

PLOT NAME:

PLOT SCALE: 1 IN=40 FT

WISDOT/CADDs SHEET 42

LEGEND

- ##### EROSION MAT CLASS I, TYPE B
TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE TYPE 70 & SEEDING NURSE CROP
- SILT FENCE
- ~> SURFACE WATER FLOW

LAUGHRIN & RIEGERT
4041 S 101ST ST

BENZINGER
4031 S 101ST ST

SAIIA
4021 S 101ST ST

FUERST
4011 S 101ST ST

EICHHORN
4001 S 101ST ST

R/W

R/W

R/W

101ST STREET

IH 41 SB/IH 894 EB

IH 41 NB/IH 894 WB

REMOVE NOISE WALL N-40-11 AND
REPLACE WITH NOISE WALL N-40-97
(REFER TO STRUCTURE PLANS)

MATCHLINE STA 86+50

MATCHLINE STA 92+50

PROJECT NO: 1100-20-72

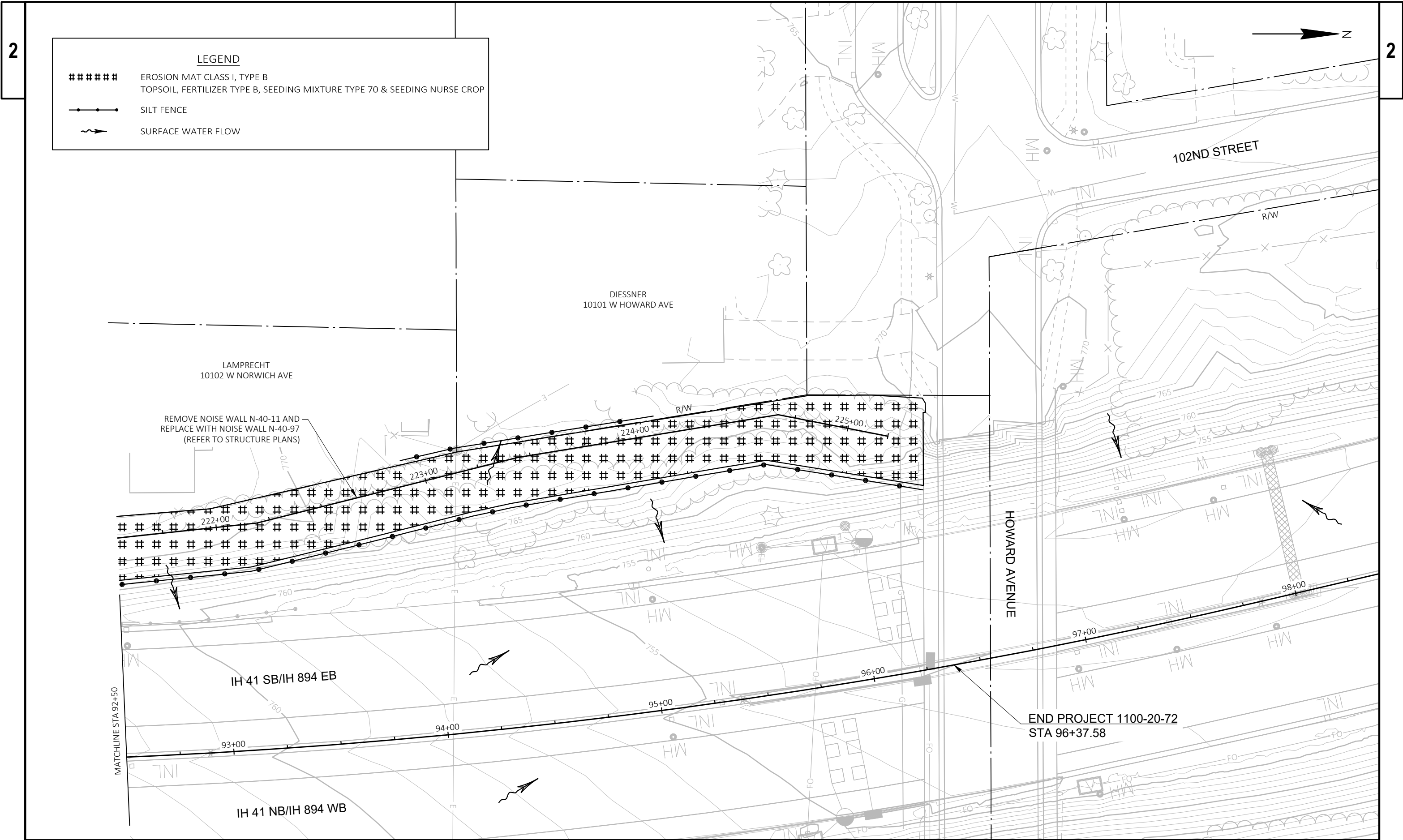
HWY: IH 41

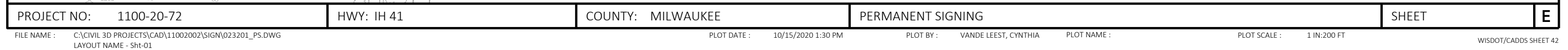
COUNTY: MILWAUKEE

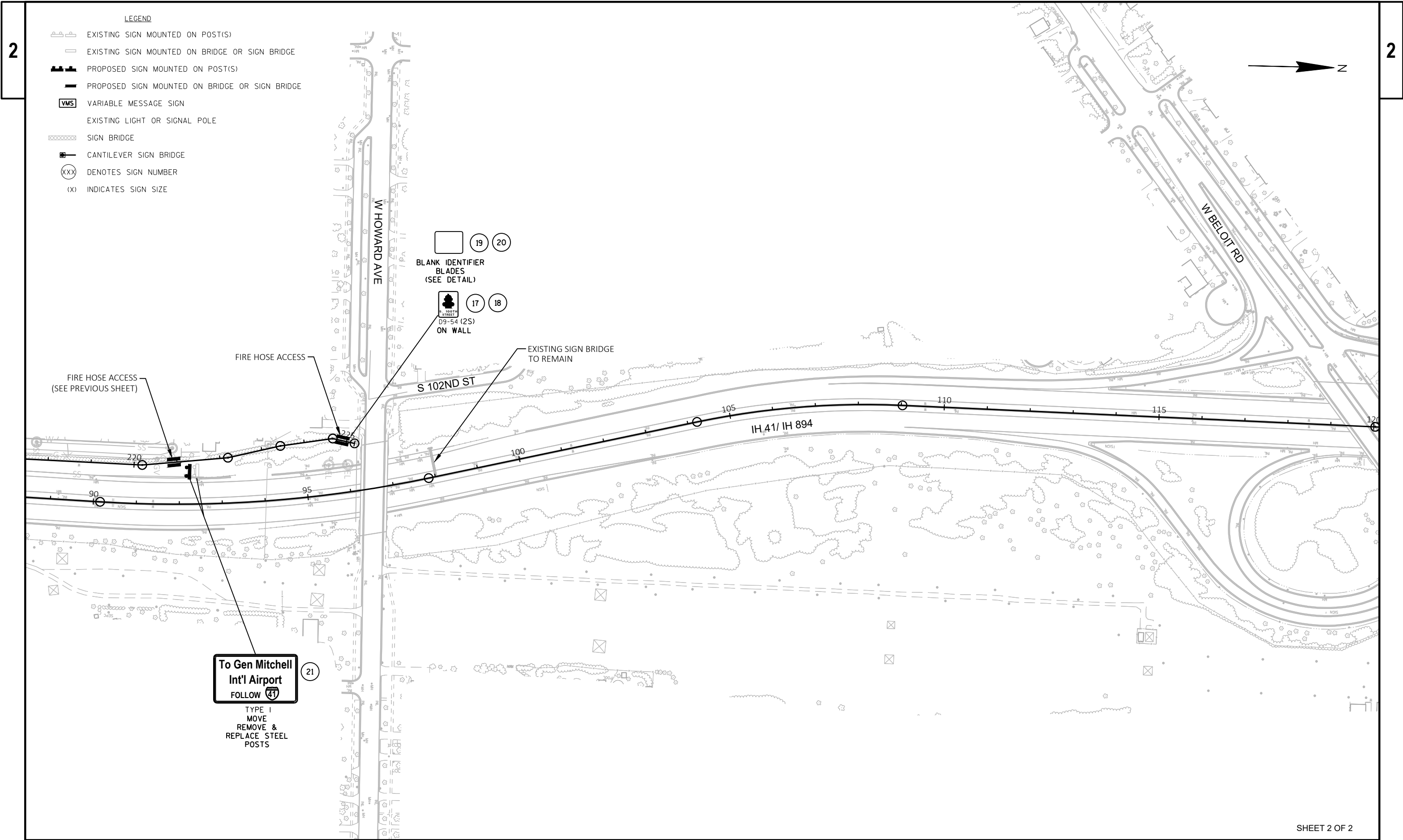
EROSION CONTROL PLAN

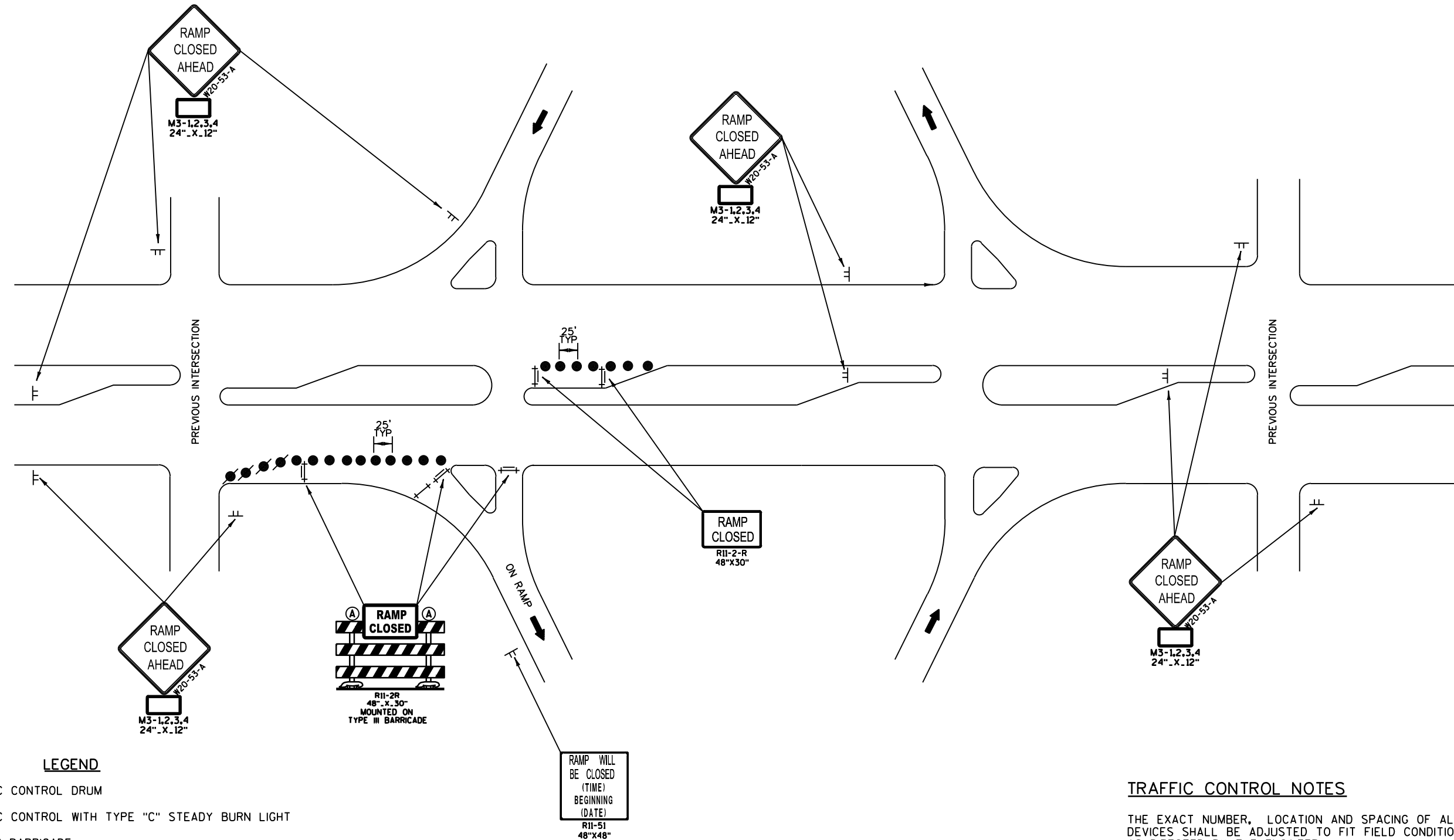
SHEET

E







**LEGEND**

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL WITH TYPE "C" STEADY BURN LIGHT
- † TYPE III BARRICADE
- †† TYPE III BARRICADE WITH 2 TYPE "A" WARNING LIGHT (FLASHING)
- SIGN ON PERMANENT SUPPORT
- † SIGN ON TEMPORARY SUPPORT
- ➔ DIRECTION OF TRAFFIC

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
SHORT TERM ONLY

TRAFFIC CONTROL 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.

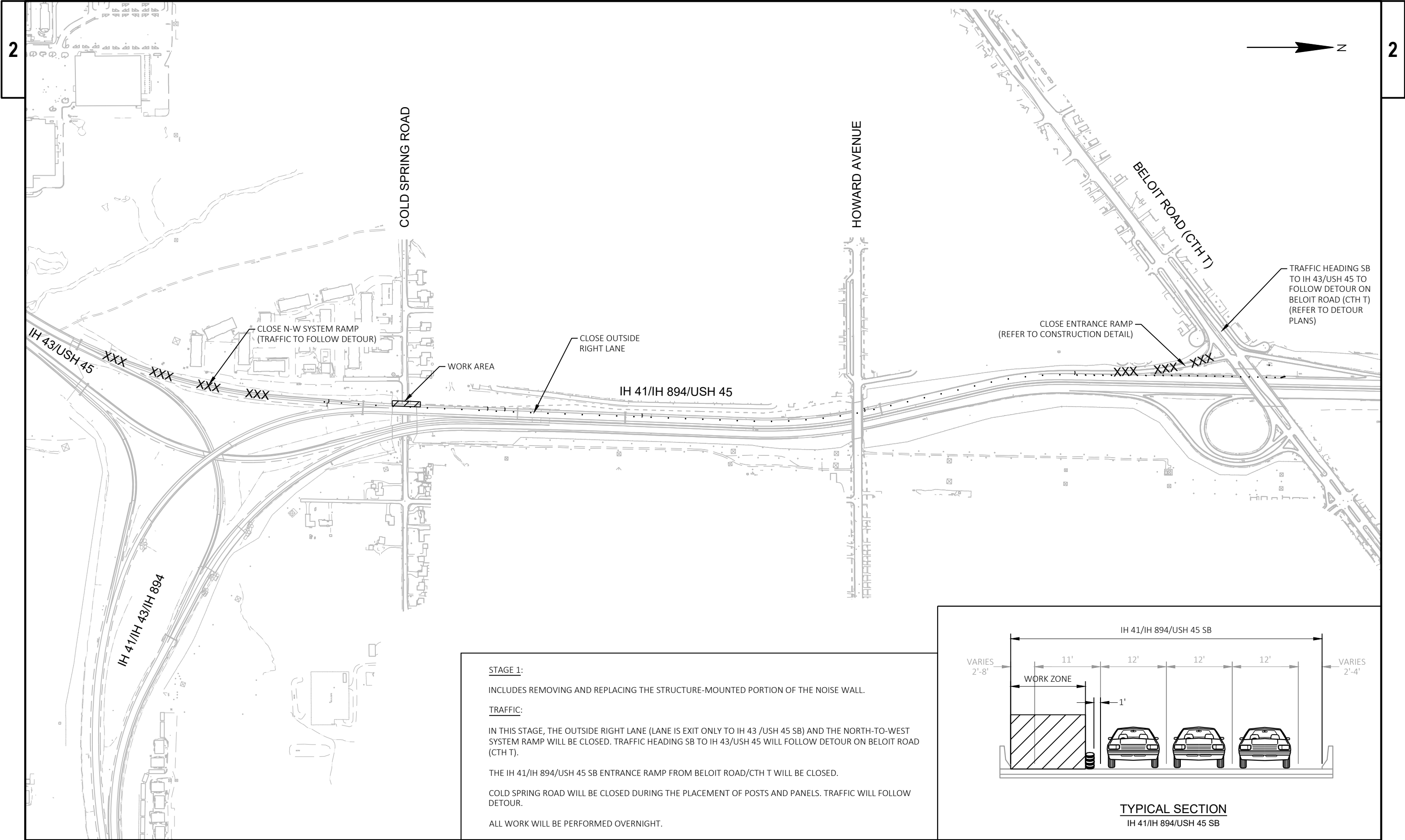
SHORT TERM DEFINED AS 7 DAYS/NIGHTS OR LESS. FOR NIGHT TIME OPERATIONS ALL DRUMS IN TAPERS SHALL HAVE WARNING LIGHT, TYPE C (STEADY BURN). MAY BE APPLIED TO ARTERIALS OR LOCAL ROADS.

NORTH
M3-1
24" X 12"

EAST
M3-2
24" X 12"

SOUTH
M3-3
24" X 12"

WEST
M3-4
24" X 12"



STAGE 1:

INCLUDES REMOVING AND REPLACING THE STRUCTURE-MOUNTED PORTION OF THE NOISE WALL.

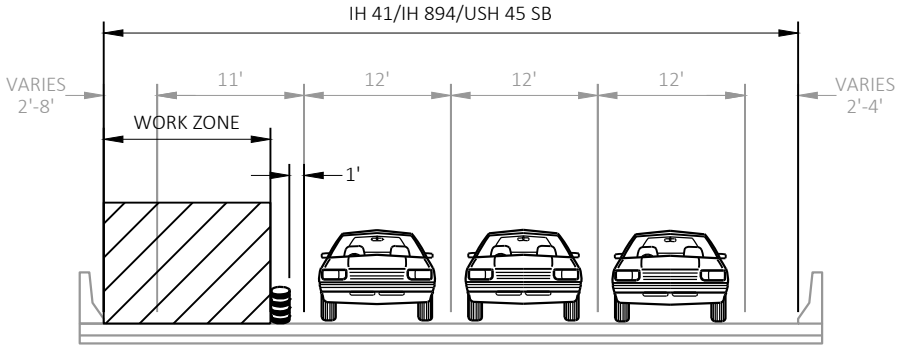
TRAFFIC:

IN THIS STAGE, THE OUTSIDE RIGHT LANE (LANE IS EXIT ONLY TO IH 43 /USH 45 SB) AND THE NORTH-TO-WEST SYSTEM RAMP WILL BE CLOSED. TRAFFIC HEADING SB TO IH 43/USH 45 WILL FOLLOW DETOUR ON BELOIT ROAD (CTH T).

THE IH 41/IH 894/USH 45 SB ENTRANCE RAMP FROM BELOIT ROAD/CTH T WILL BE CLOSED.

COLD SPRING ROAD WILL BE CLOSED DURING THE PLACEMENT OF POSTS AND PANELS. TRAFFIC WILL FOLLOW DETOUR.

ALL WORK WILL BE PERFORMED OVERNIGHT.



TYPICAL SECTION
IH 41/IH 894/USH 45 SB

PROJECT NO: 1100-20-72

HWY: IH 41

COUNTY: MILWAUKEE

TRAFFIC CONTROL PLAN - STAGE 1 OVERVIEW

SHEET

E

LEGEND

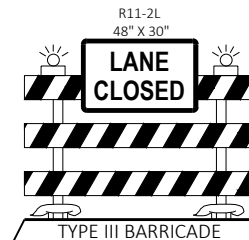
- ↑ TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- ↑ TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⬅ FLASHING ARROW BOARD
- ⬅ SIGN ON TEMPORARY SUPPORT
- ▨ WORK AREA
- ➔ DIRECTION OF TRAFFIC



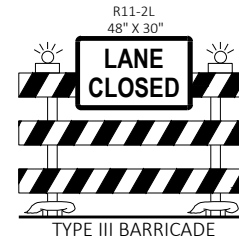
*PROVIDE TEMPORARY SIGN
(DURING THE DAY WHEN LANE IS
OPEN TO TRAFFIC) IF PERMANENT
SIGN IS TEMPORARILY REMOVED.

**RIGHT LANE
MUST EXIT**

R3-33R
78"X36"



101ST STREET



*PROVIDE TEMPORARY FMS IF
PERMANENT SIGN IS
TEMPORARILY REMOVED.



1000'

MATCHLINE 79+00

MATCHLINE 94+00

IH 41/IH 894/USH 45 SB

IH 41/IH 894/USH 45 NB

PROJECT NO: 1100-20-72

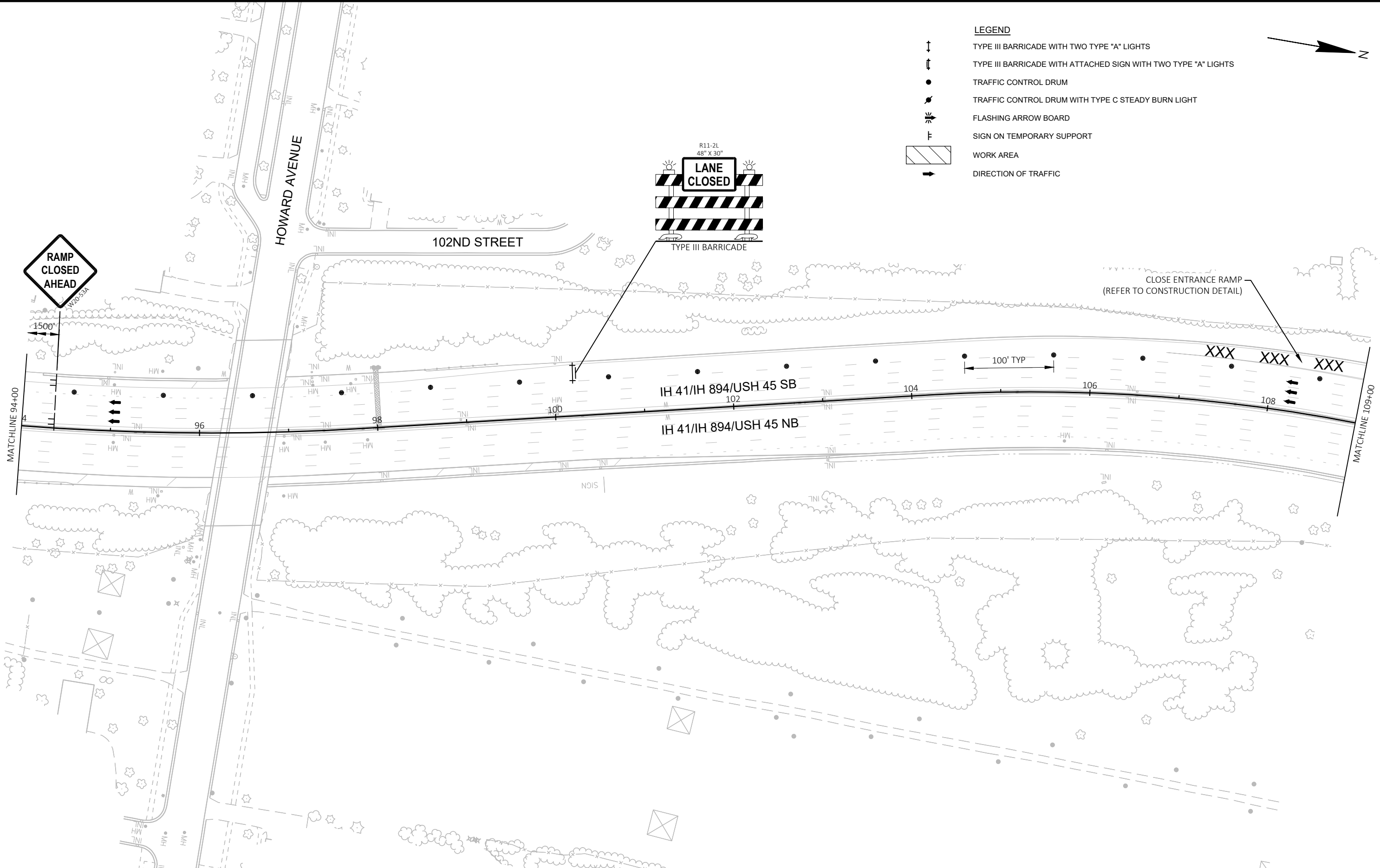
HWY: IH 41

COUNTY: MILWAUKEE

TRAFFIC CONTROL PLAN - STAGE 1

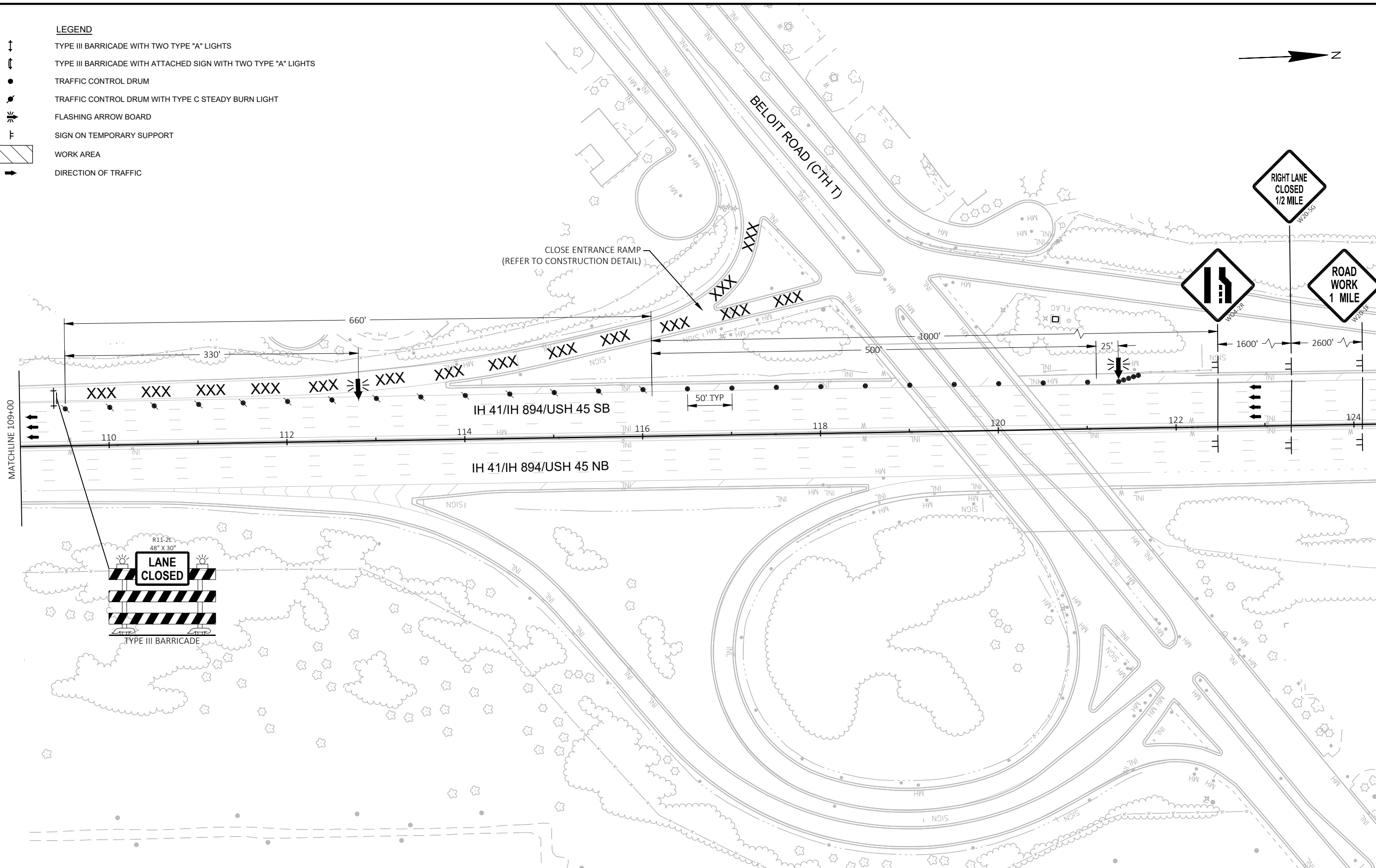
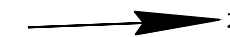
SHEET

E



LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" LIGHTS
- TYPE III BARRICADE WITH ATTACHED SIGN WITH TWO TYPE "A" LIGHTS
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC



PROJECT NO: 1100-20-72

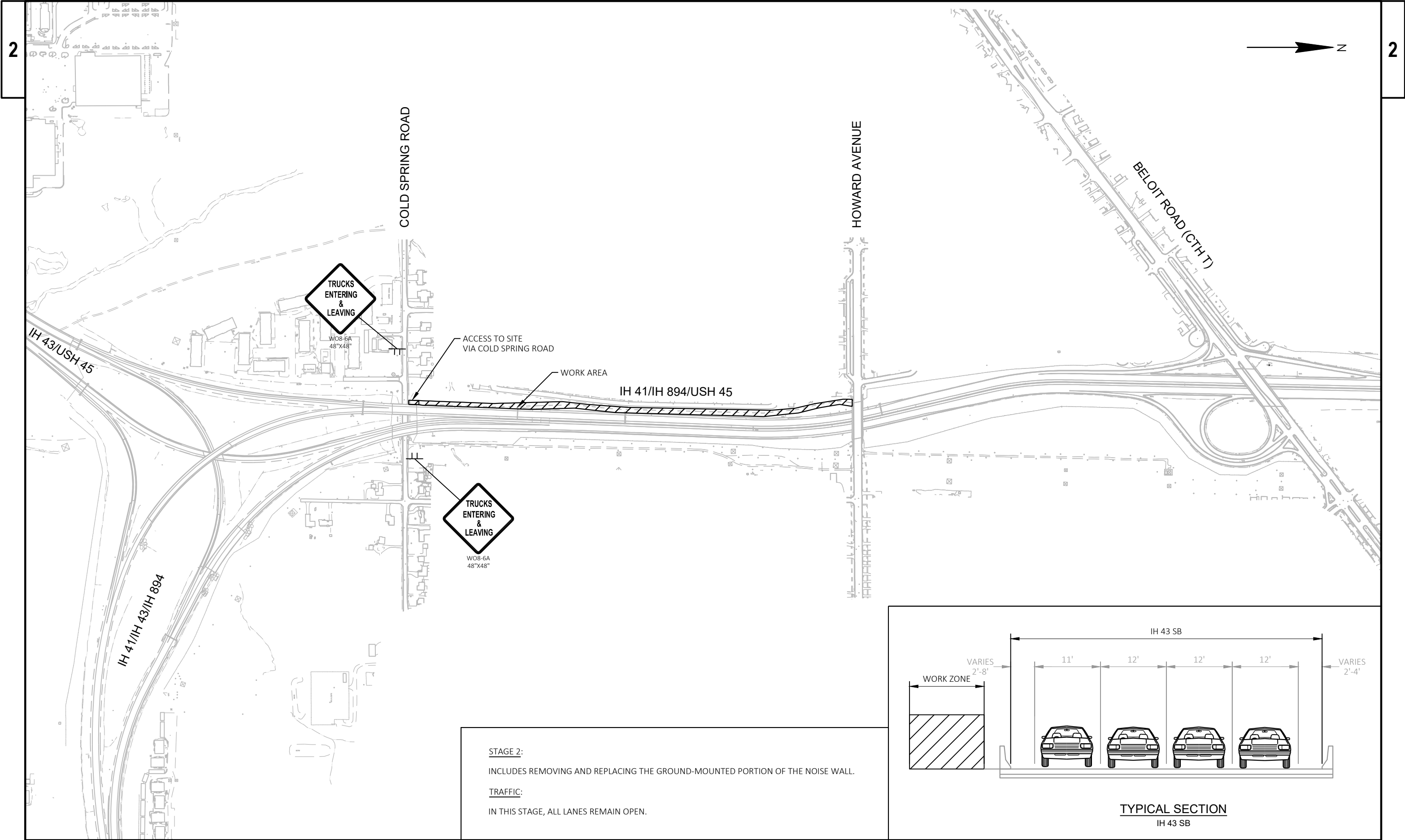
HWY: IH 41

COUNTY: MILWAUKEE

TRAFFIC CONTROL PLAN - STAGE 1

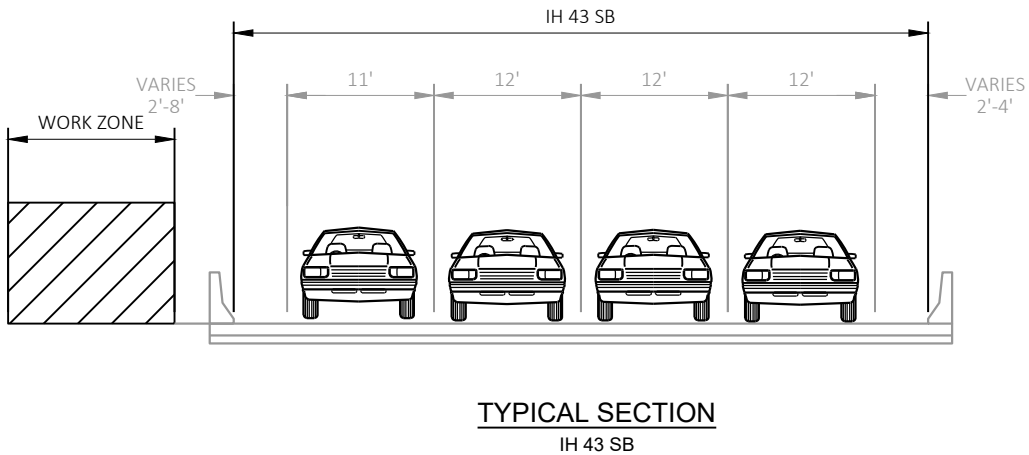
SHEET

E



STAGE 2:
INCLUDES REMOVING AND REPLACING THE GROUND-MOUNTED PORTION OF THE NOISE WALL.

TRAFFIC:
IN THIS STAGE, ALL LANES REMAIN OPEN.



2

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS. SIGNS MAY BE MOUNTED ON EXISTING POSTS, LIGHTS, OR TEMPORARY SIGN SUPPORTS AS APPROVED BY THE ENGINEER.

3. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED HIGHWAY.

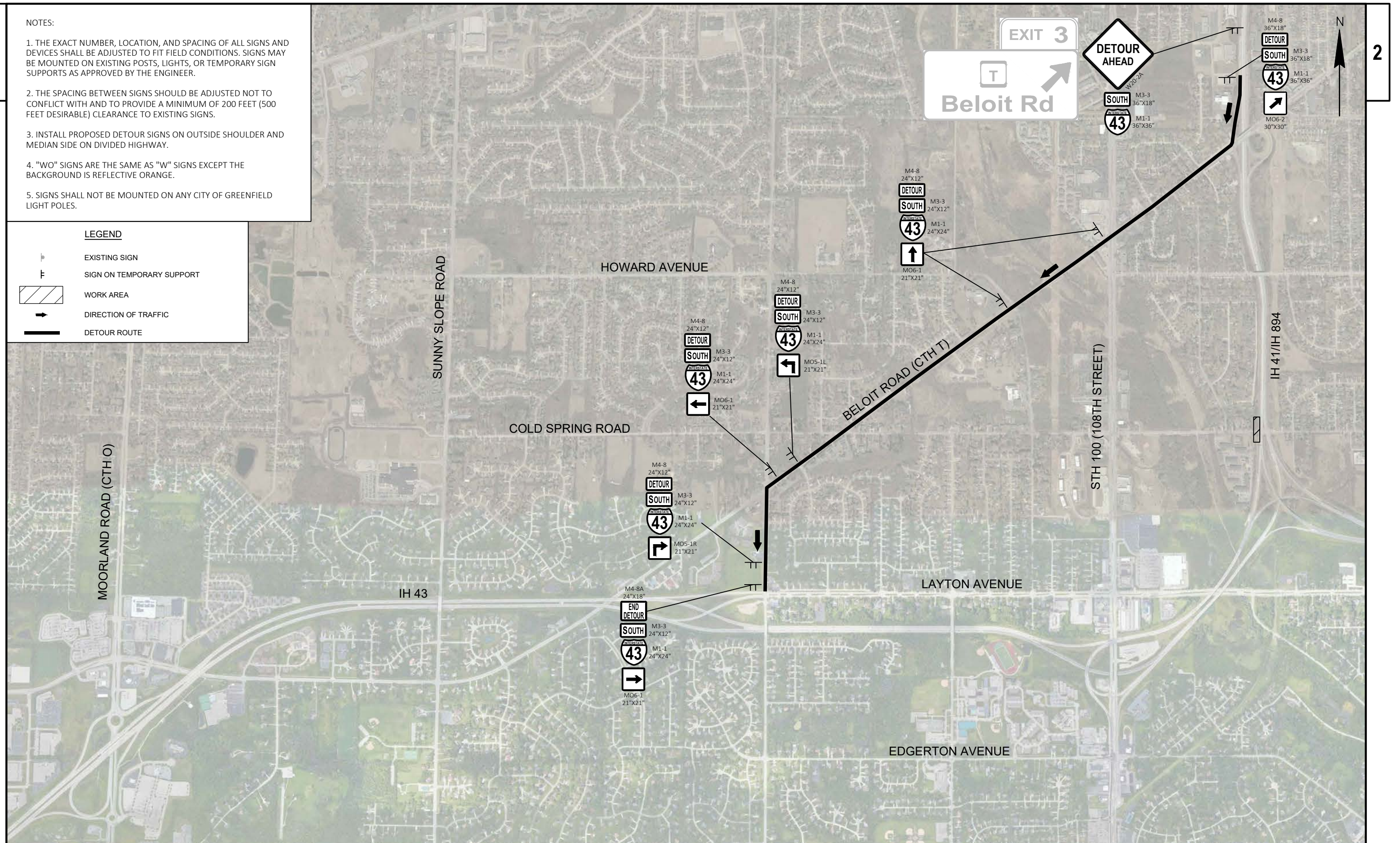
5. SIGNS SHALL NOT BE MOUNTED ON ANY CITY OF GREENFIELD LIGHT POLES.

EXISTING SIGN
SIGN ON TEMPORARY SUPPORT
WORK AREA
DIRECTION OF TRAFFIC
DETOUR ROUTE

F

SIGN ON TEMPORARY SUPPORT

WORK AREA



PROJECT NO:	1100-20-72
-------------	------------

HWY: IH 41

COUNTY: MILWAUKEE

DETOUR PLAN - IH 43 SB

SHEET

E

FILE NAME : N:\PDS\C3D\11002002\SHEETSP\027001_DT.DWG
LAYOUT NAME - 027001_dt

PLOT DATE : 9/23/2020 10:17 AM

PLOT BY : JOHANSEN, AMANDA A

PLOT NAME : _____

PLOT SCALE : 1 IN:1400 FT

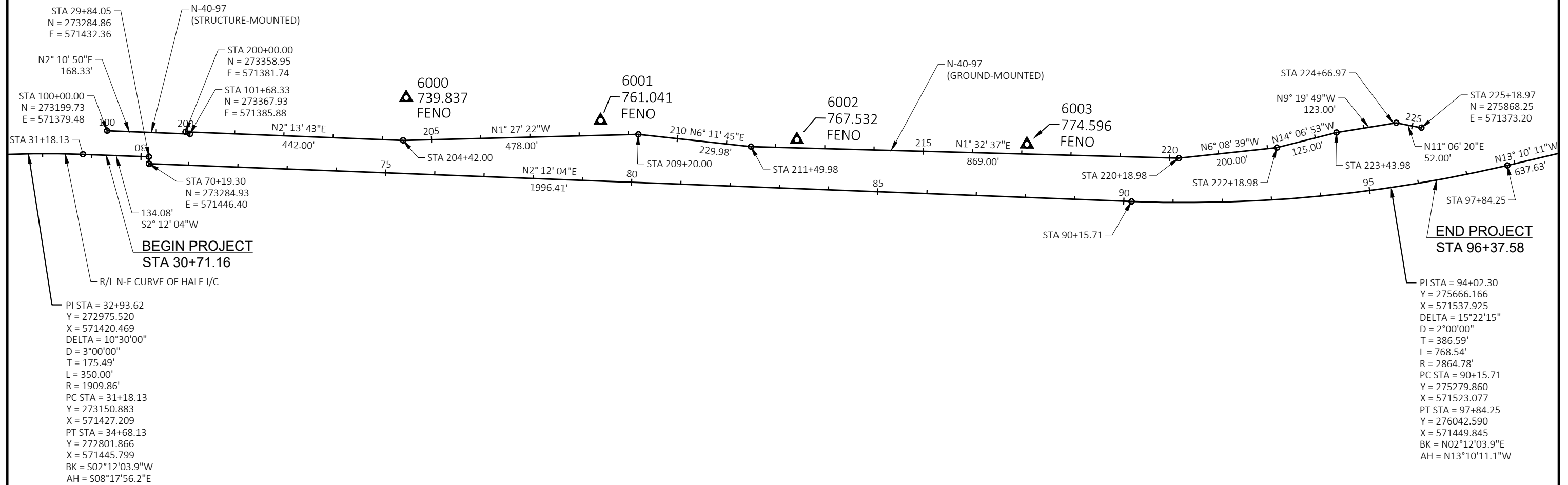
WISDOT/CADDS SHEET 42

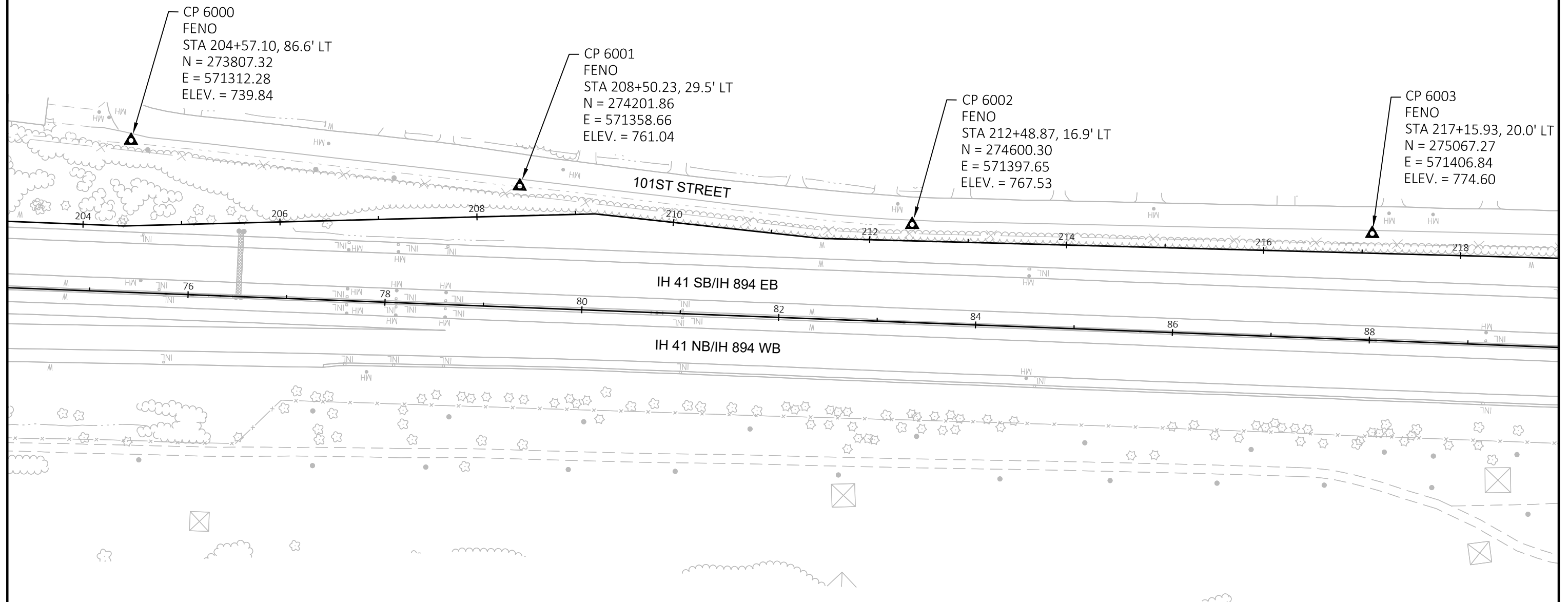


- NOTES:
1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS. SIGNS MAY BE MOUNTED ON EXISTING POSTS, LIGHTS, OR TEMPORARY SIGN SUPPORTS AS APPROVED BY THE ENGINEER.
 2. THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED NOT TO CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.
 3. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED HIGHWAY.
 4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
 5. SIGNS SHALL NOT BE MOUNTED ON ANY CITY OF GREENFIELD LIGHT POLES.

LEGEND

- EXISTING SIGN
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- DETOUR ROUTE





Estimate Of Quantities

1100-20-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	27.000	27.000
0004	201.0205	Grubbing	STA	27.000	27.000
0006	203.0200	Removing Old Structure (station) 0001. 8+46.60	LS	1.000	1.000
0008	204.0150	Removing Curb & Gutter	LF	20.000	20.000
0010	204.0155	Removing Concrete Sidewalk	SY	14.000	14.000
0012	204.0170	Removing Fence	LF	1,517.000	1,517.000
0014	204.9060.S	Removing (item description) 0001. Removing Existing Footings	EACH	13.000	13.000
0016	213.0100	Finishing Roadway (project) 0001. 1100-20-72	EACH	1.000	1.000
0018	531.1100	Concrete Masonry Ancillary Structures Type NS	CY	2.000	2.000
0020	531.1140	Steel Reinforcement HS Ancillary Structures Type NS	LB	302.000	302.000
0022	541.0300.S	Noise Barriers Double-Sided Sound Absorptive (structure) 0001. N-40-97	SF	51,570.000	51,570.000
0024	601.0331	Concrete Curb & Gutter 31-Inch	LF	20.000	20.000
0026	602.0410	Concrete Sidewalk 5-Inch	SF	126.000	126.000
0028	616.0206	Fence Chain Link 6-FT	LF	1,517.000	1,517.000
0030	618.0100	Maintenance And Repair of Haul Roads (project) 0001. 1100-20-72	EACH	1.000	1.000
0032	619.1000	Mobilization	EACH	1.000	1.000
0034	625.0100	Topsoil	SY	9,180.000	9,180.000
0036	628.1504	Silt Fence	LF	3,476.000	3,476.000
0038	628.1520	Silt Fence Maintenance	LF	3,476.000	3,476.000
0040	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0042	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0044	628.2004	Erosion Mat Class I Type B	SY	9,180.000	9,180.000
0046	628.7560	Tracking Pads	EACH	1.000	1.000
0048	629.0210	Fertilizer Type B	CWT	6.000	6.000
0050	630.0170	Seeding Mixture No. 70	LB	33.000	33.000
0052	630.0200	Seeding Temporary	LB	248.000	248.000
0054	630.0400	Seeding Nurse Crop	LB	66.000	66.000
0056	630.0500	Seed Water	MGAL	206.000	206.000
0058	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	2.000	2.000
0060	635.0200	Sign Supports Structural Steel HS	LB	1,200.000	1,200.000
0062	637.2210	Signs Type II Reflective H	SF	19.500	19.500
0064	638.2101	Moving Signs Type I	EACH	1.000	1.000
0066	638.2602	Removing Signs Type II	EACH	1.000	1.000
0068	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0070	638.3100	Removing Structural Steel Sign Supports	EACH	2.000	2.000
0072	642.5401	Field Office Type D	EACH	1.000	1.000
0074	643.0300	Traffic Control Drums	DAY	5,900.000	5,900.000

Estimate Of Quantities

1100-20-72

Line	Item	Item Description	Unit	Total	Qty
0076	643.0420	Traffic Control Barricades Type III	DAY	750.000	750.000
0078	643.0705	Traffic Control Warning Lights Type A	DAY	1,500.000	1,500.000
0080	643.0715	Traffic Control Warning Lights Type C	DAY	1,100.000	1,100.000
0082	643.0800	Traffic Control Arrow Boards	DAY	100.000	100.000
0084	643.0900	Traffic Control Signs	DAY	4,838.000	4,838.000
0086	643.1000	Traffic Control Signs Fixed Message	SF	198.000	198.000
0088	643.1050	Traffic Control Signs PCMS	DAY	50.000	50.000
0090	643.4100.S	Traffic Control Interim Lane Closure	EACH	20.000	20.000
0092	643.5000	Traffic Control	EACH	1.000	1.000
0094	646.1020	Marking Line Epoxy 4-Inch	LF	1,000.000	1,000.000
0096	646.1555	Marking Line Grooved Contrast Permanent Tape 4-Inch	LF	100.000	100.000
0098	646.3555	Marking Line Grooved Contrast Permanent Tape 8-Inch	LF	30.000	30.000
0100	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,500.000	1,500.000
0102	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,400.000	2,400.000
0104	SPV.0060	Special 0001. Traffic Control Close-Open Freeway Entrance Ramp	EACH	40.000	40.000
0106	SPV.0060	Special 0002. Traffic Control Close-Open Freeway to Freeway System Ramp	EACH	40.000	40.000
0108	SPV.0060	Special 0003. Traffic Control Local Road Lane Closures	EACH	10.000	10.000
0110	SPV.0075	Special 0001. Pavement Cleanup Project 1100-20-72	HRS	100.000	100.000
0112	SPV.0105	Special 0001. Survey Project 1100-20-72	LS	1.000	1.000

REMOVALS										
						201.0105	201.0205	204.0150	204.0155	204.0170
								REMOVING	REMOVING	
						CLEARING	GRUBBING	CURB & GUTTER	CONCRETE	REMOVING
CATEGORY	LOCATION	STATION	TO	STATION	LOCATION	STA	STA	LF	SY	LF
1000	COLD SPRING RD NOISE WALL	101+00	-	101+15	LT	--	--	20	14	--
		101+20	-	101+68	LT	1	1	--	--	23
		200+00	-	225+19	LT	26	26	--	--	1,494
TOTAL:						27	27	20	14	1,517

FENCING						
						616.0206
						FENCE
						CHAIN LINK
						6-FT
CATEGORY	LOCATION	STATION	TO	STATION	LOCATION	LF
1000	NOISE WALL	101+48	-	101+54	LT	23
		208+22	-	223+17	LT	1,494
TOTAL:						1,517

EROSION CONTROL										
					628.1504	628.1520	628.1905	628.1910	628.2004	628.7560
						SILT FENCE	MOBILIZATIONS	MOBILIZATIONS	EROSION MAT	
					SILT FENCE	MAINTENANCE	EROSION CONTROL	EROSION CONTROL	CLASS I	TRACKING
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	EACH	EACH	SY	PADS
										EACH
1000	101+00	-	225+19	LT	3,476	3,476	1	1	9,180	1

CONCRETE ITEMS								601.0331	602.0410
								CONCRETE	CONCRETE
								CURB & GUTTER	SIDEWALK
								31-INCH	5-INCH
CATEGORY	LOCATION	STATION	TO	STATION	LOCATION			LF	SF
1000	COLD SPRING RD	101+00	-	101+15	LT			20	126

RESTORATION ITEMS											
CATEGORY	LOCATION	STATION	TO	STATION	LOCATION	625.0100	629.0210	630.0170	630.0200	630.0400	630.0500
						TOPSOIL	FERTILIZER	SEEDING	SEEDING	SEED	
						SY	TYPE B	MIXTURE	TEMPORARY	NURSE CROP	WATER
							CWT	NO. 70	LB	LB	MGAL
1000	NOISE WALL	101+00	-	101+15	LT	9,180	6	33	248	66	206

PAVEMENT MARKINGS

		646.1020	646.1555	646.3555
		MARKING LINE EPOXY 4-INCH	MARKING LINE GROOVED CONTRAST PERMANENT TAPE 4-INCH	MARKING LINE GROOVED CONTRAST PERMANENT TAPE 8-INCH
CATEGORY	LOCATION	LF	LF	LF
1000	UNDISTRIBUTED	1000	100	30

FIXED MESSAGE SIGNS

					643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE
CATEGORY	LOCATION	SIZE	SF	NOTES	
1000	COLD SPRING RD DETOUR IH 41/IH 894/US 45 SB	24"x48" 144"x54"	144 54	"COLD SPRING RD" "TO GEN MITCHELL INT'L AIRPORT FOLLOW 1-41"	
TOTAL:			198		

TRAFFIC CONTROL

			643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		643.4100.S		SPV.0060.0001		SPV.0060.0002		SPV.0060.0003			
					TRAFFIC CONTROL		TRAFFIC CONTROL BARRICADES		CONTROL WARNING LIGHTS		CONTROL WARNING LIGHTS		TRAFFIC CONTROL ARROW BOARDS		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL SIGNS PCMS		TRAFFIC CONTROL INTERIM LANE CLOSURE		TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP		TRAFFIC CONTROL CLOSE-OPEN FREEWAY TO FREEWAY SYSTEM RAMP		TRAFFIC CONTROL LOCAL ROAD LANE CLOSURES	
CATEGORY	STAGE	LOCATION	* DAYS	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH		EACH		EACH		EACH		
1000	1	IH 41/IH 894/US 45 SB	30	89	2,670	9	270	18	540	14	420	2	60	23	690	2	10	20		--		--		--		
		ENTRANCE RAMP OFF BELOIT RD	30	29	870	6	180	12	360	8	240	--	--	28	840	--	--	--		30		--		--		
		IH 43 SB DETOUR	30	--	--	--	--	--	--	--	--	--	--	31	930	--	--	--		--		30		--		
		COLD SPRING RD DETOUR	10	--	--	--	--	--	--	--	--	--	--	48	480	--	--	--		--		--		10		
		STAGE 1 TOTAL			3,540		450		900		660		60		2,940		10	20		30		30		10		
	2	COLD SPRING RD	55	--	--	--	--	--	--	--	--	--	--	--	2	110	--	--	--		--		--		--	
		IH 41/IH 894/US 45 SB	10	89	890	9	90	18	180	14	140	2	20	23	230	2	10	--		--		--		--		
		ENTRANCE RAMP OFF BELOIT RD	10	29	290	6	60	12	120	8	80	--	--	28	280	--	--	--		10		--		--		
		IH 43 SB DETOUR	10	--	--	--	--	--	--	--	--	--	--	31	310	--	--	--		--		10		--		
		STAGE 2 TOTAL			1,180		150		300		220		20		930		10	--		10		10		--		
UNDISTRIBUTED				1,180		150		300		220		20		968		30										
TOTAL:				5900		750		1500		1100		100		4838		50	20		40		40		10			

* FOR INFORMATION ONLY

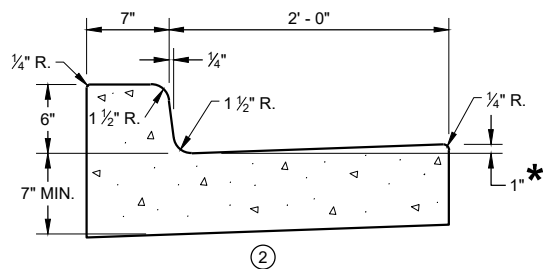
TYPE I AND II PERMANENT SIGNING -

Project 1100-20-72

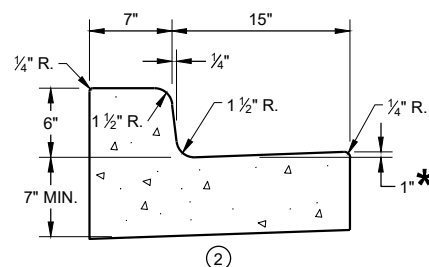
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	638.2102	REMARKS / NEW SIGN LOCATION	637.2210	638.2602	638.3000	634.0622	638.2101	638.3100	635.0200	531.1100	531.1140
			SIGN SIZE			SIGNS TYPE II REFLECTIVE	MOVING SIGNS TYPE II		SIGNS TYPE II REFLECTIVE	REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	POSTS WOOD 4 X 6 INCH X 22 FT	MOVING SIGNS TYPE I	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	SIGN SUPPORTS STRUCTURAL STEEL HS	CONCRETE MASONRY ANCILLIARY STRUCTURES TYPE NS	STEEL REINFORCEMENT HS ANCILIARY STRUCTURES TYPE NS
			W	X	H	H	TYPE II		H	TYPE II	SMALL SIGN SUPPORTS		TYPE I	STEEL SIGN SUPPORTS	HS	EST	EST
			[IN.]	x	[IN.]	[SF]	EACH		SF	EACH	EACH	EACH	EACH	EACH	LBS	CY	LB
1	D9-54(2S)	10110 W. COLD SPRING RD	18	X	24	3.000		MOUNT ON WALL - SEE DETAIL									
2	D9-54(2S)	10110 W. COLD SPRING RD	18	X	24	3.000											
3	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
4	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
5	D9-54(2S)	4175 S. 101ST ST	18	X	24	3.000											
6	D9-54(2S)	4175 S. 101ST ST	18	X	24	3.000											
7	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
8	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
9	D9-54(2S)	4101 S. 101ST ST	18	X	24	3.000		MOUNT ON WALL - SEE DETAIL									
10	D9-54(2S)	4101 S. 101ST ST	18	X	24	3.000		MOUNT ON WALL - SEE DETAIL									
11	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
12	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
13	D9-54(2S)	10102 W. NORWICH AVE	18	X	24	3.000		MOUNT ON WALL - SEE DETAIL									
14	D9-54(2S)	10102 W. NORWICH AVE	18	X	24	3.000		MOUNT ON WALL - SEE DETAIL									
15	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
16	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
17	D9-54(2S)	10101 W. HOWARD AVE	18	X	24	3.000		MOUNT ON WALL -SEE DETAIL BRACKETS INCIDENTAL									
18	D9-54(2S)	10101 W. HOWARD AVE	18	X	24	3.000		MOUNT ON WALL -SEE DETAIL									
19	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL									
20	NONE	BLANK - IDENTIFIER BLADE	36	X	6	1.500		BLUE BACKGROUND - MOUNT ON WALL BRACKETS INCIDENTAL									
21	NA	TO GEN MITCHELL INT'L AIRPORT FOLLOW 41						MOVE IF NECESSARY					1.0	2.0	1200.0	2.0	302.0
22	R3-33R UNDISTRIBUTED	RIGHT LANE MUST EXIT	78	X	36		1.000		19.5	1.0	2.0 2.0	2.0					
TOTALS						45.000			19.5	1.0	4.0	2.0	1.0	2.0	1200.0	2.0	302.0

Standard Detail Drawing List

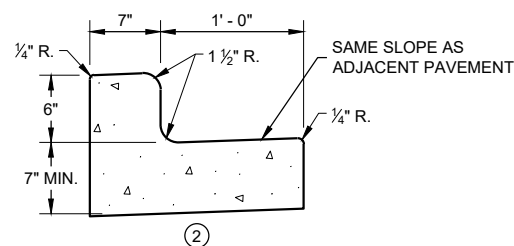
08D16-11	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C11-08B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D12-09A	TRAFFIC CONTROL, LANE CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



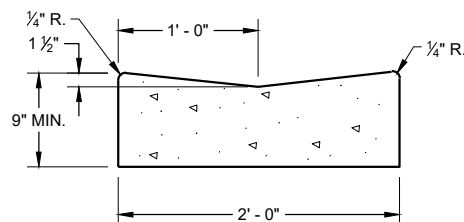
CONCRETE CURB AND GUTTER 31" ①



CONCRETE CURB AND GUTTER 22" ①

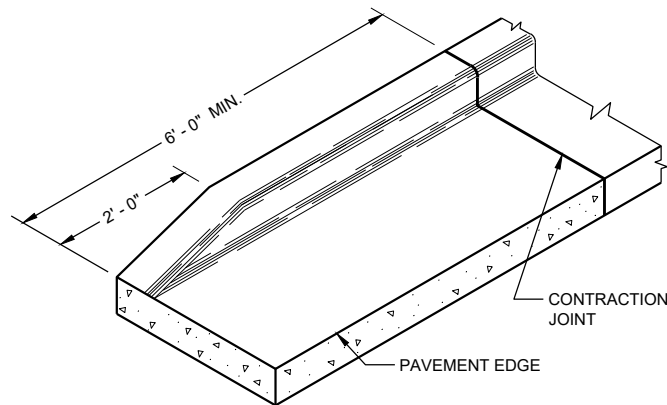


CONCRETE CURB AND GUTTER 19" ①

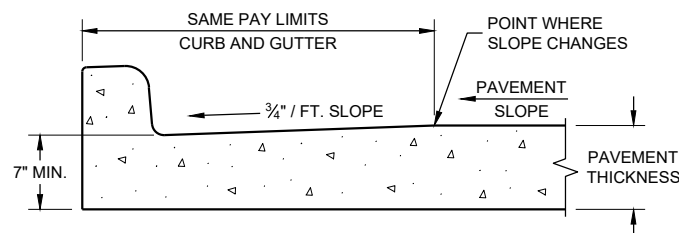


CONCRETE GUTTER 24" ①

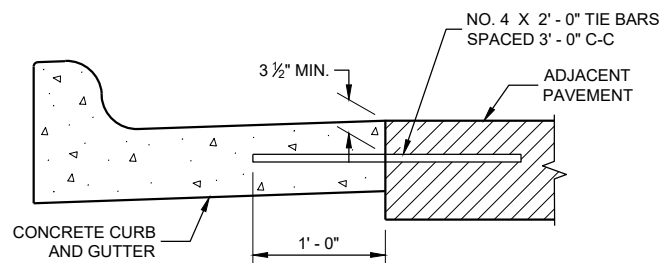
* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



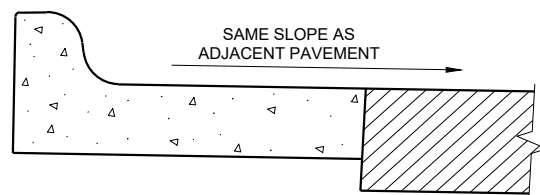
END SECTION CURB AND GUTTER



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER



TYPICAL TIE BAR LOCATION ①



HIGH SIDE SECTION ③
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

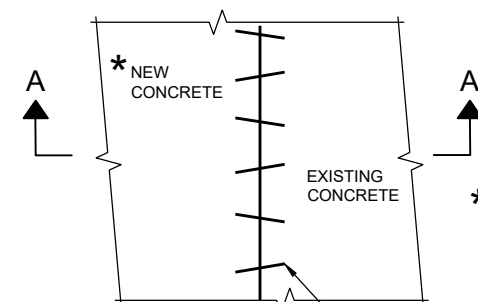
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

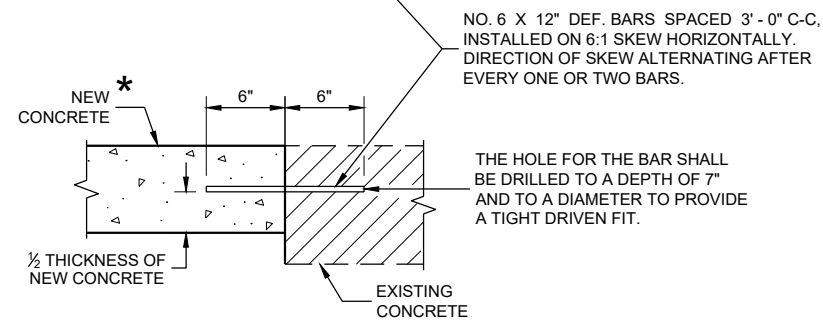
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

- 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" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLANS



PLAN VIEW



SECTION A - A

PAVEMENT TIES

**CONCRETE GUTTER,
CURB AND GUTTER AND
PAVEMENT TIES**
(For Optional use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

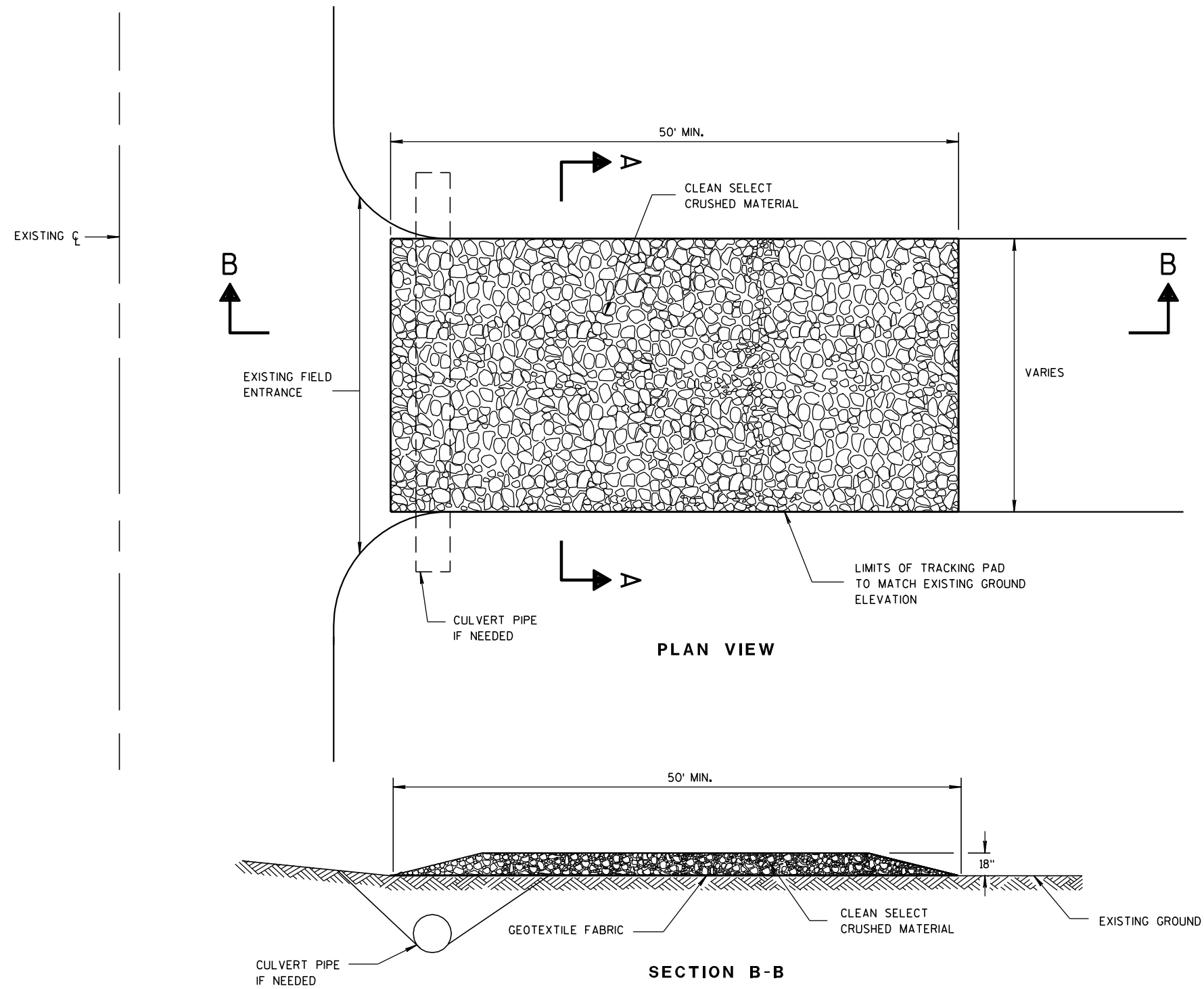
APPROVED
February 2020 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



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



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



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

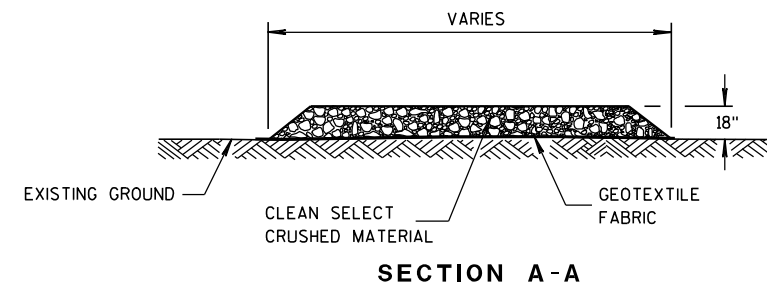
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011

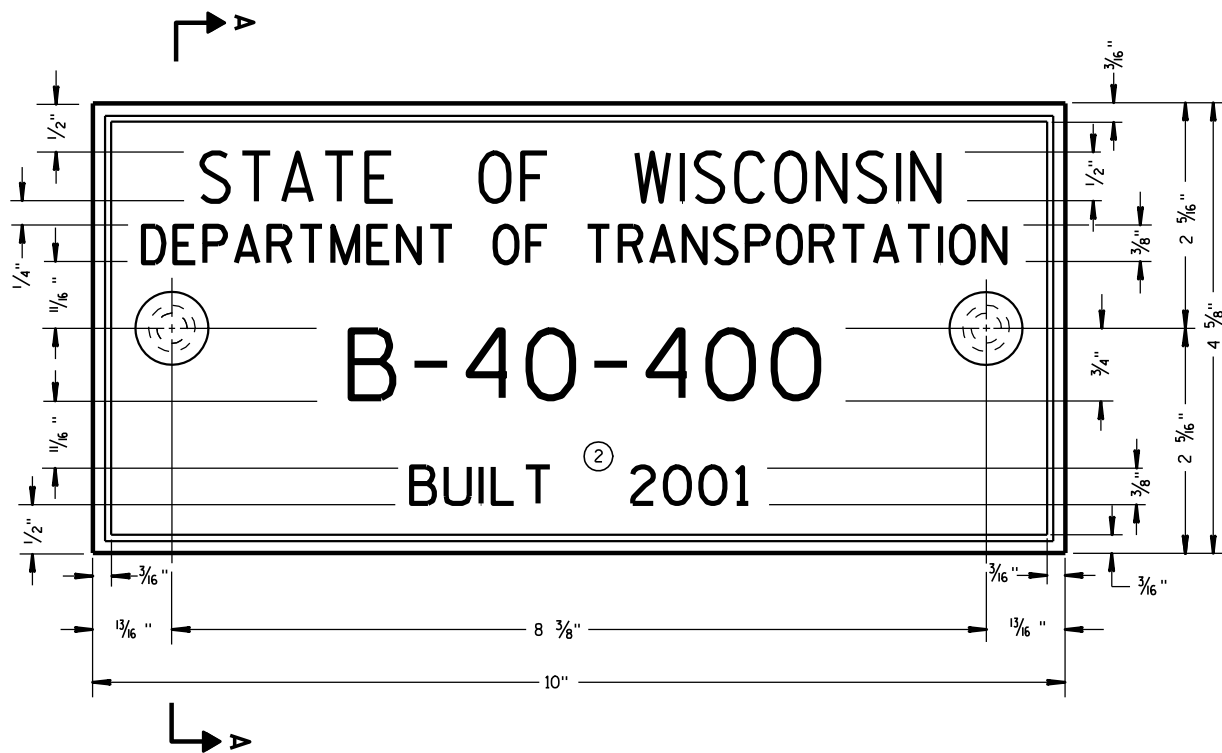
DATE

FHWA

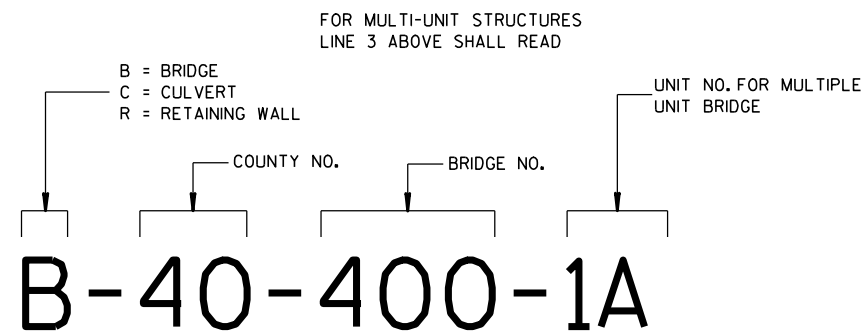
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



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



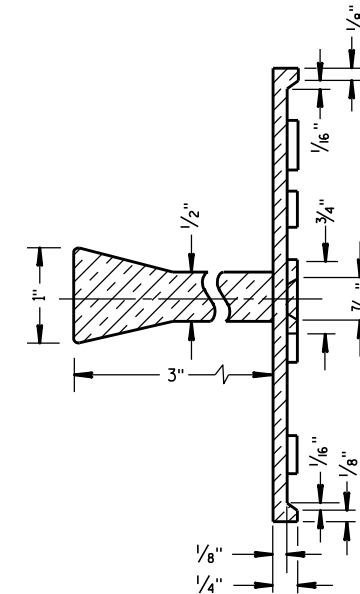
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

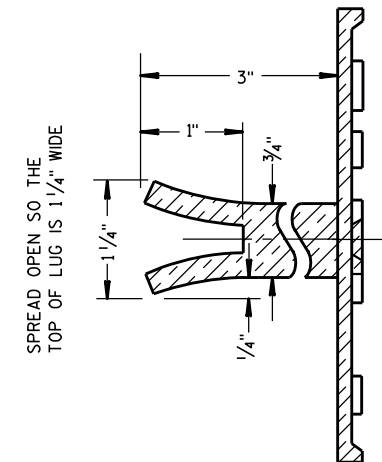
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

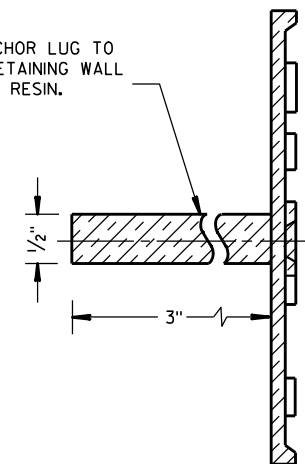


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

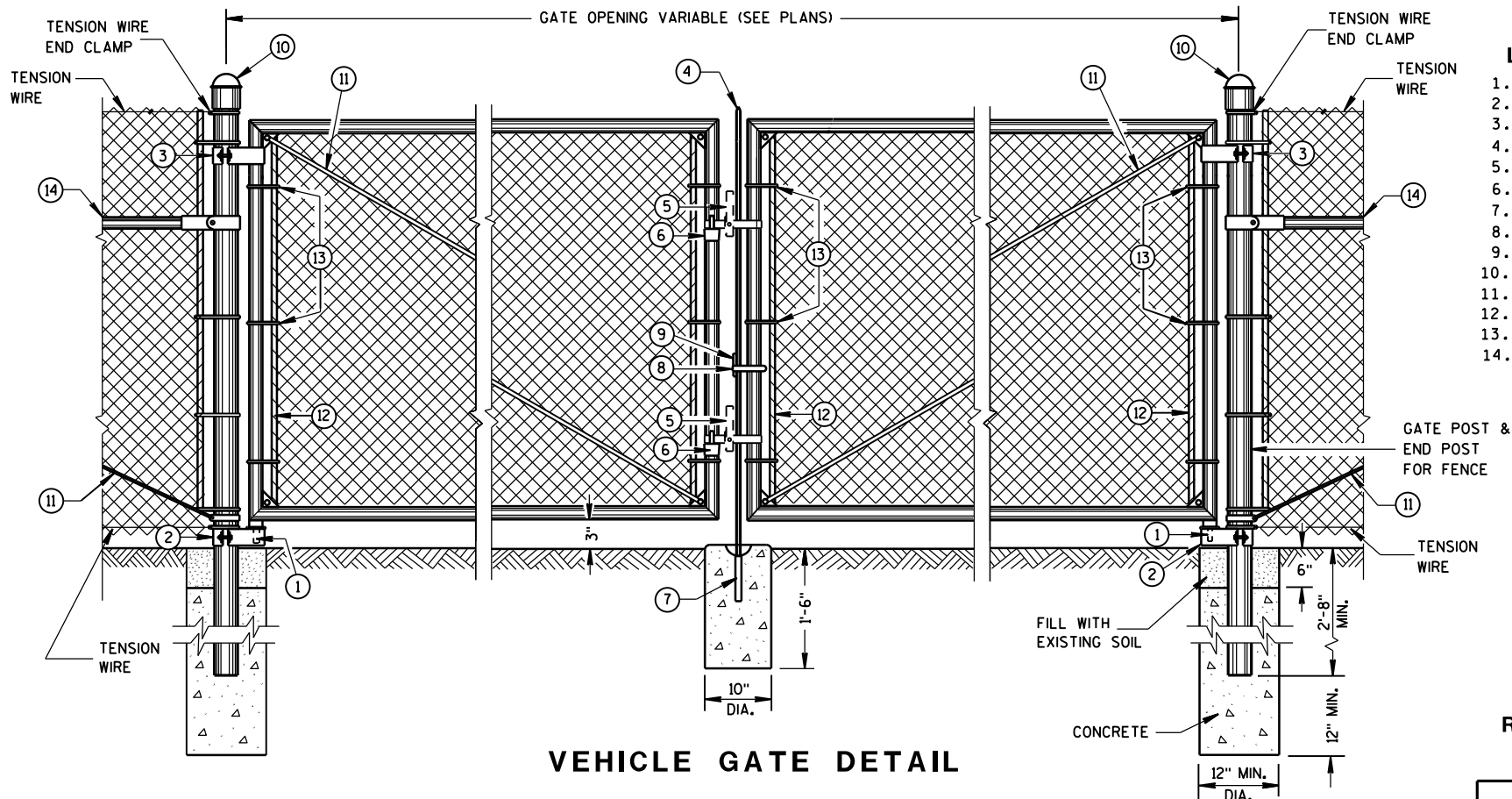
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

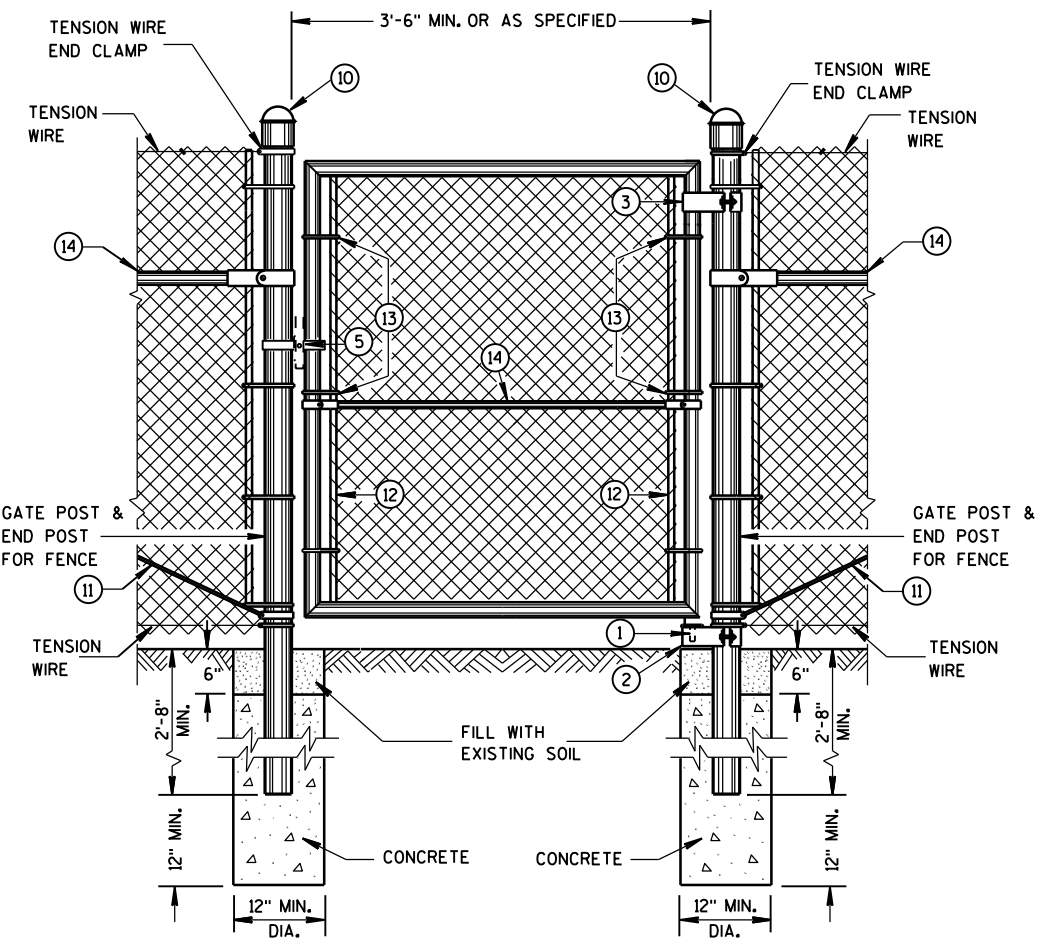
3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

- 1. STRAIGHT PLUG
- 2. BOTTOM HINGE
- 3. TOP HINGE
- 4. PLUNGER ROD
- 5. FULCRUM LATCH
- 6. FORK CATCH *
- 7. PLUNGER ROD CATCH
- 8. LOCK KEEPER GUIDE
- 9. LOCK KEEPER
- 10. DOME TOPS
- 11. TRUSS RODS
- 12. TENSION BAR
- 13. TENSION BANDS
- 14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

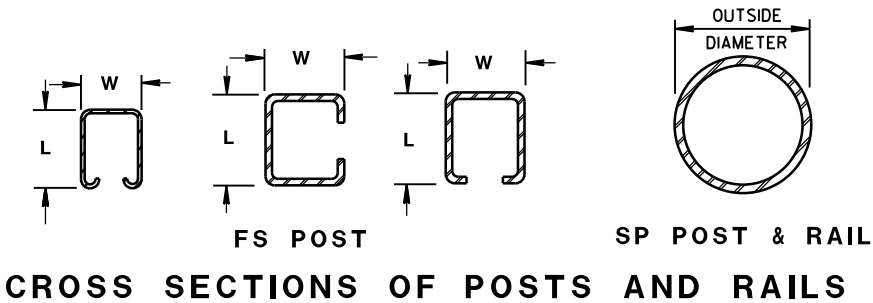
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



ROLLED-FORMED STEEL FENCE POST
(2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST
(1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST
SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

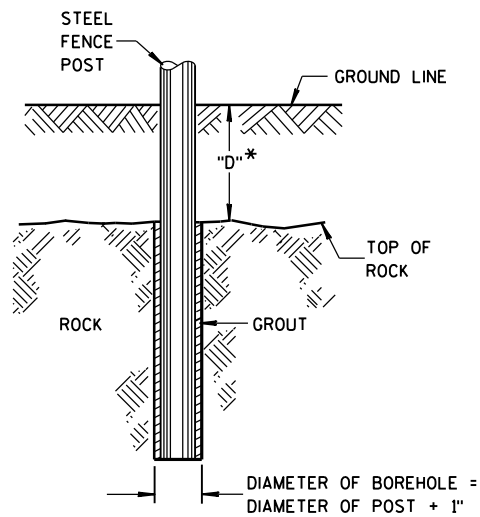
BRACE RAIL TYPES

USE	TYPE
BRACE RAIL	SP1 OR FS1

** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

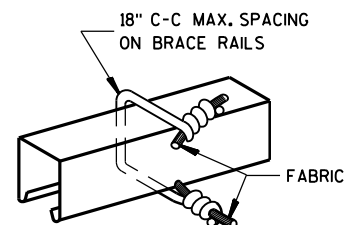
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



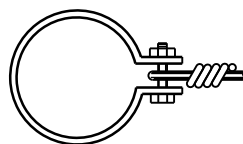
* IF "D" IS LESS THAN 2'-6",
DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

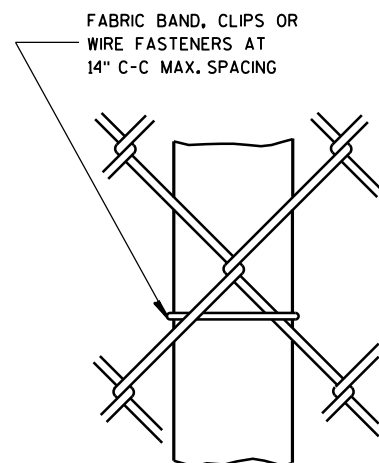


BRACE RAIL FABRIC FASTENER

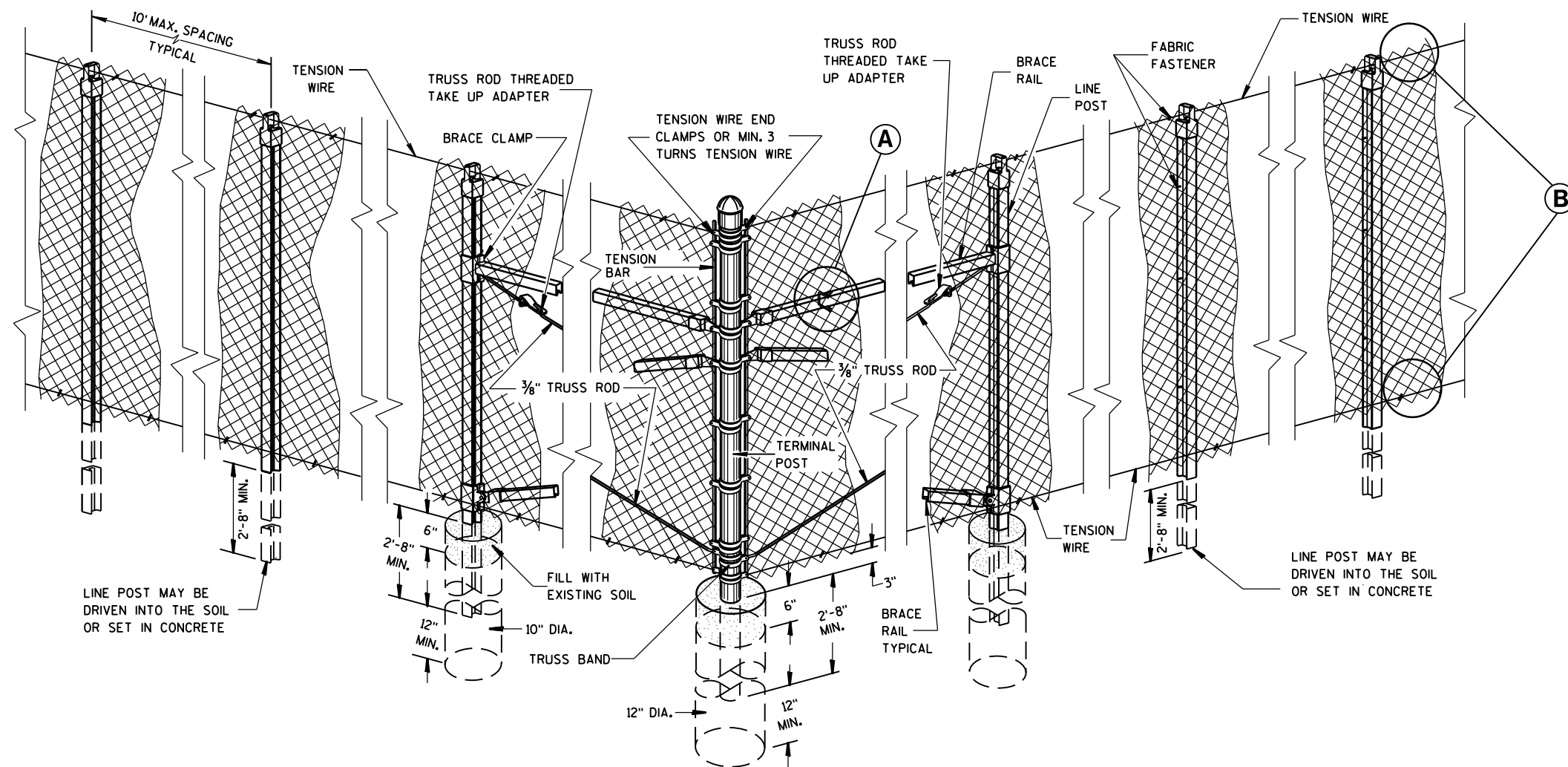
(A)



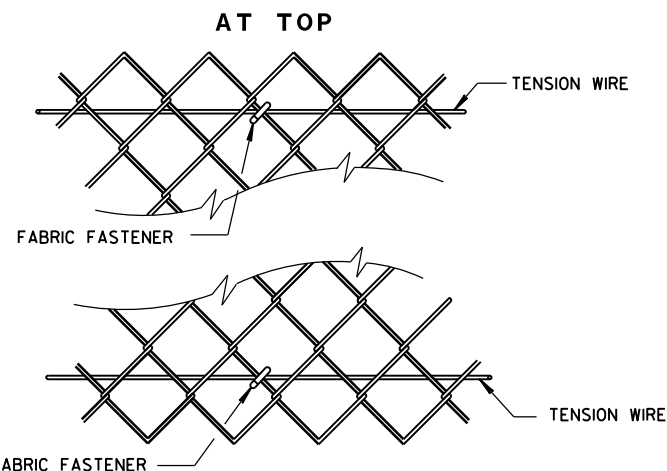
TENSION WIRE END CLAMP



LINE POST FABRIC FASTENER



END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS

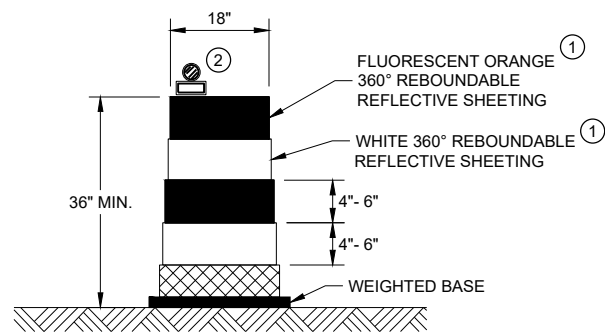


(B)

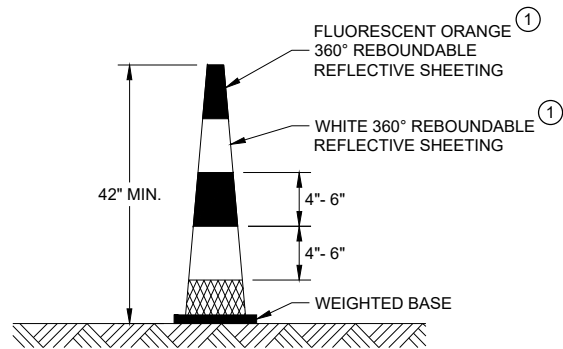
FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
FEB. 2015
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

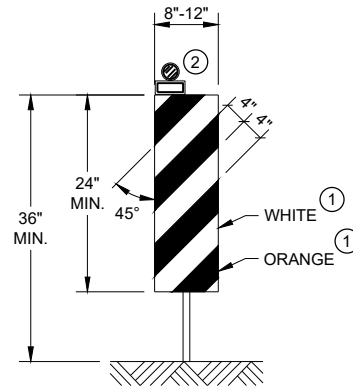


DRUM



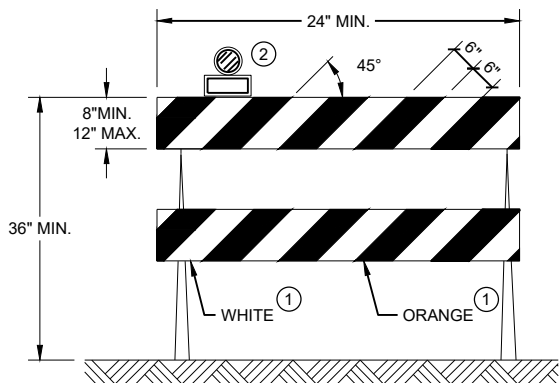
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



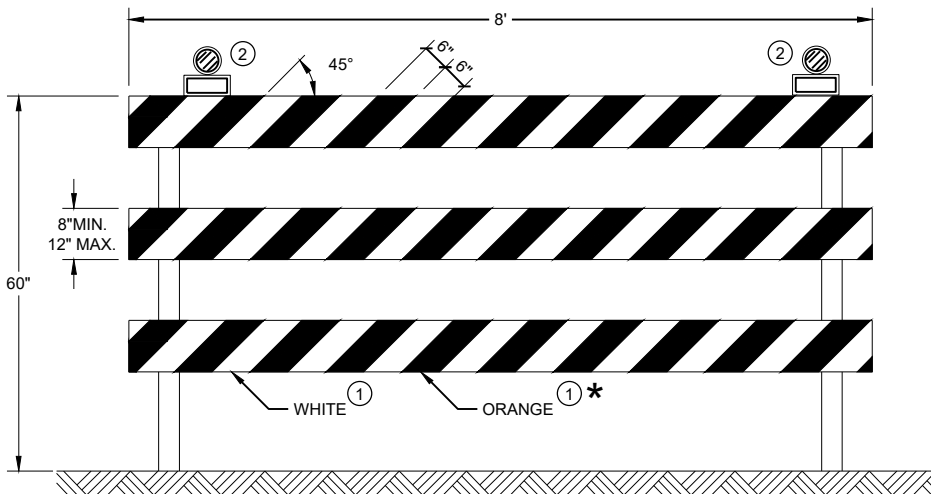
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

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

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

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 DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" 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 OR AS APPROVED BY THE ENGINEER.

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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

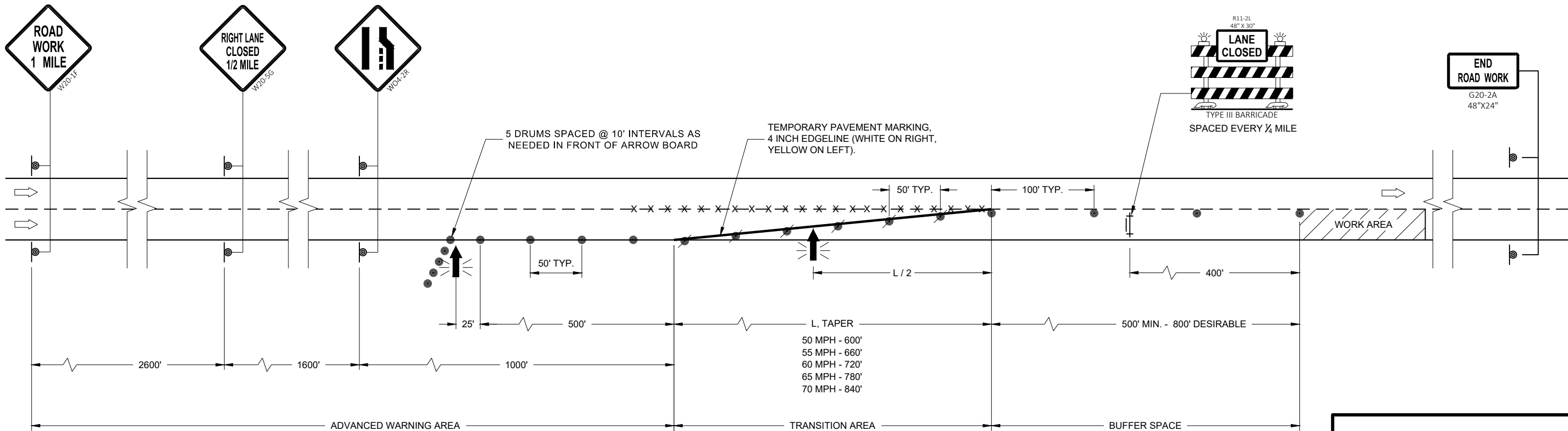
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE 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 ONE HALF 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.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD

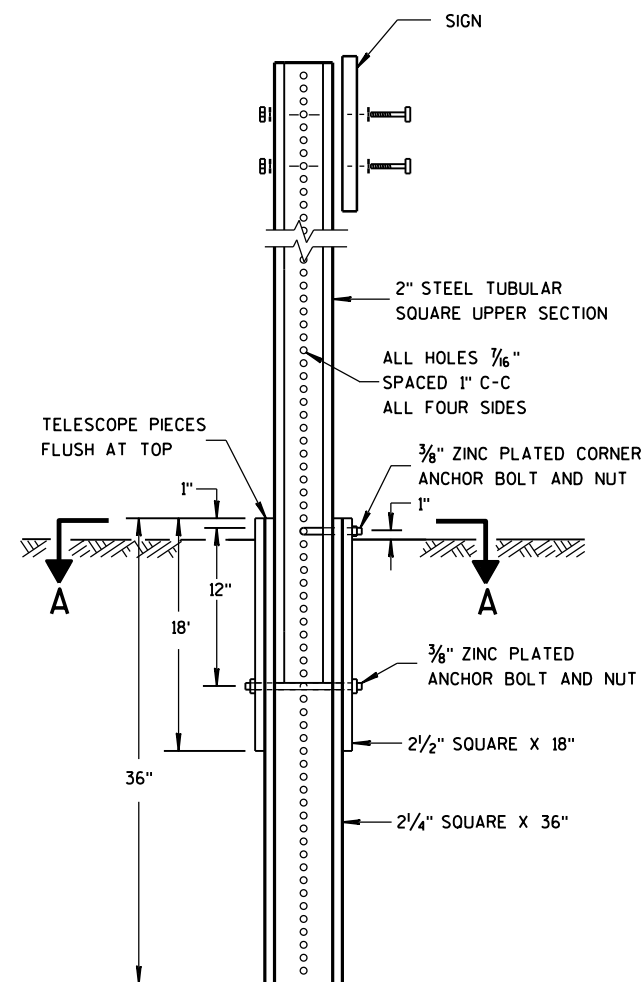


TRAFFIC CONTROL
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE /S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

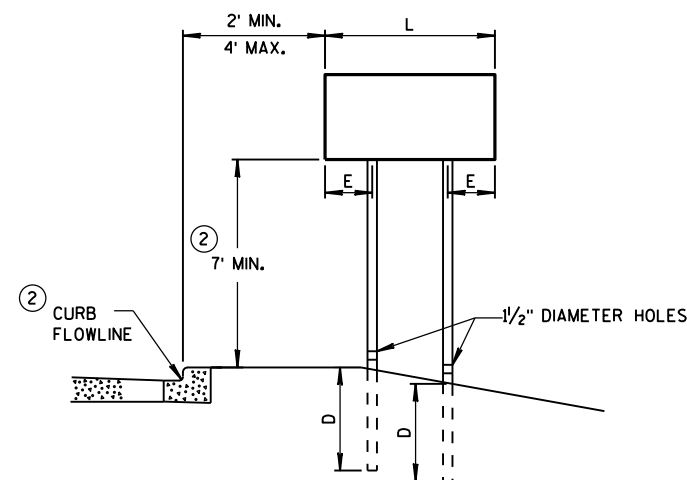
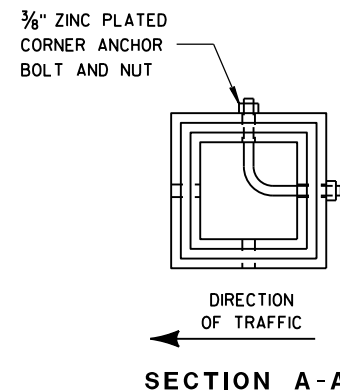


DETAIL OF TUBULAR
STEEL SIGN POST

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.

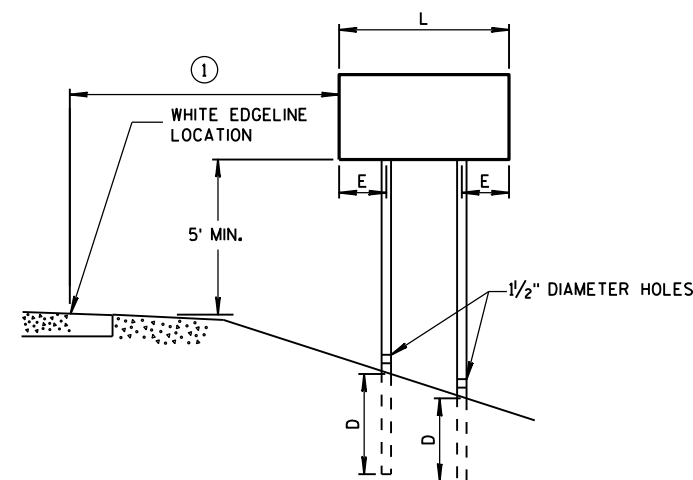
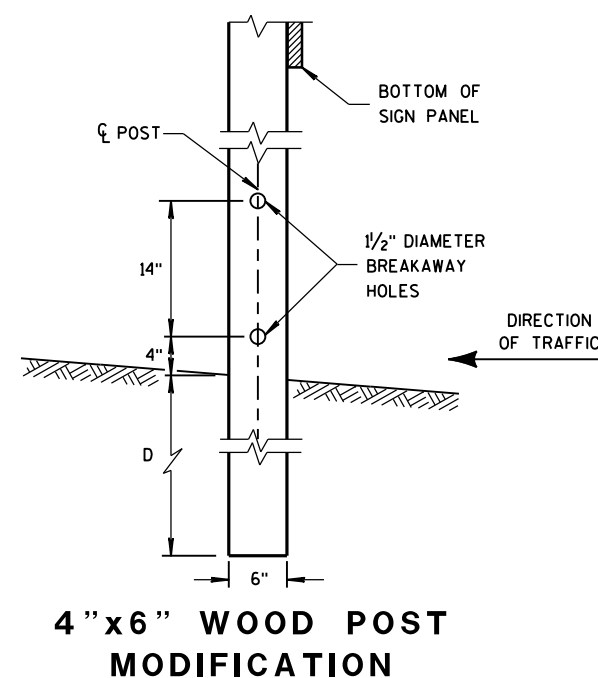


URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

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



RURAL AREA

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

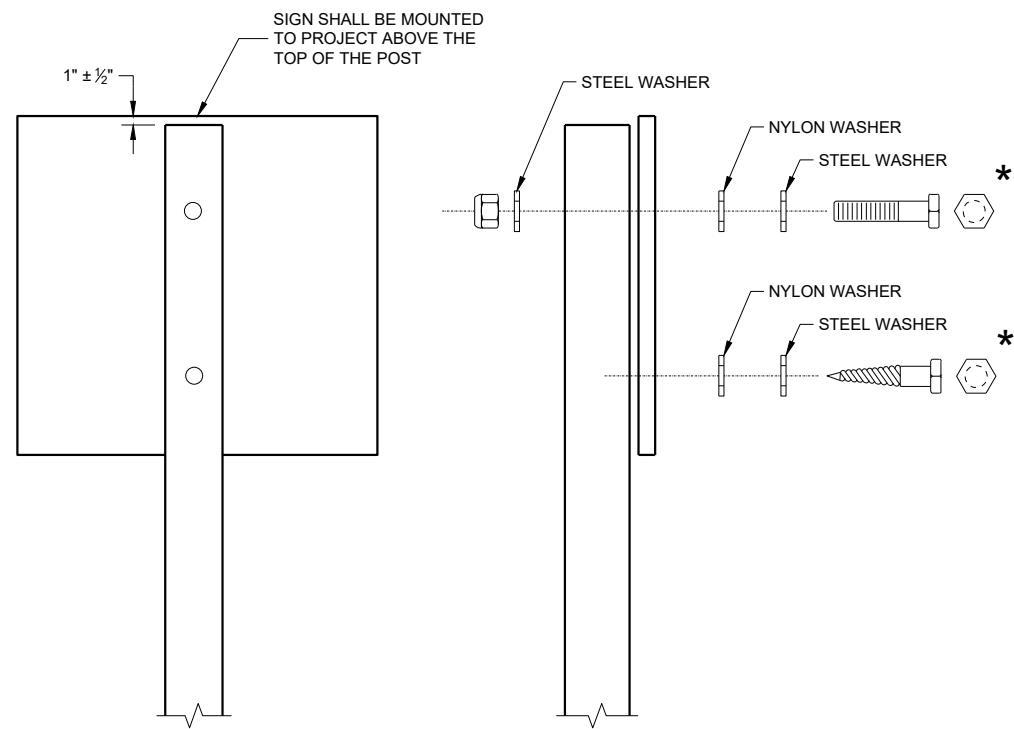
SEE NOTE ③

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.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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 POST (4" x 6")
LAG SCREWS - 3/8" x 3"
MACHINE BOLTS - 5/16" x 6 1/2" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

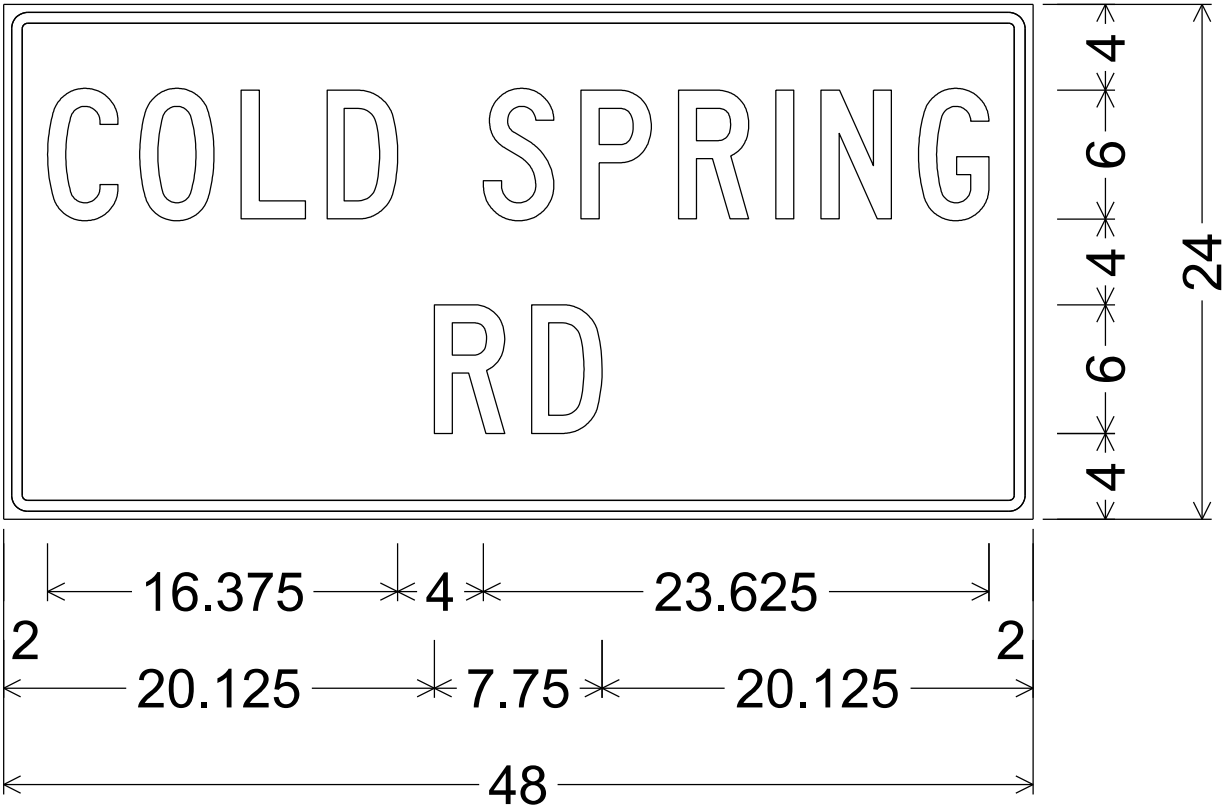
WASHERS (ALL POSTS) -
1 1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1 1/4" O.D. x 3/8" I.D. x 0.080 NYLON

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER
THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

NOTES

- 1. Fixed Message Sign Type II- Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C



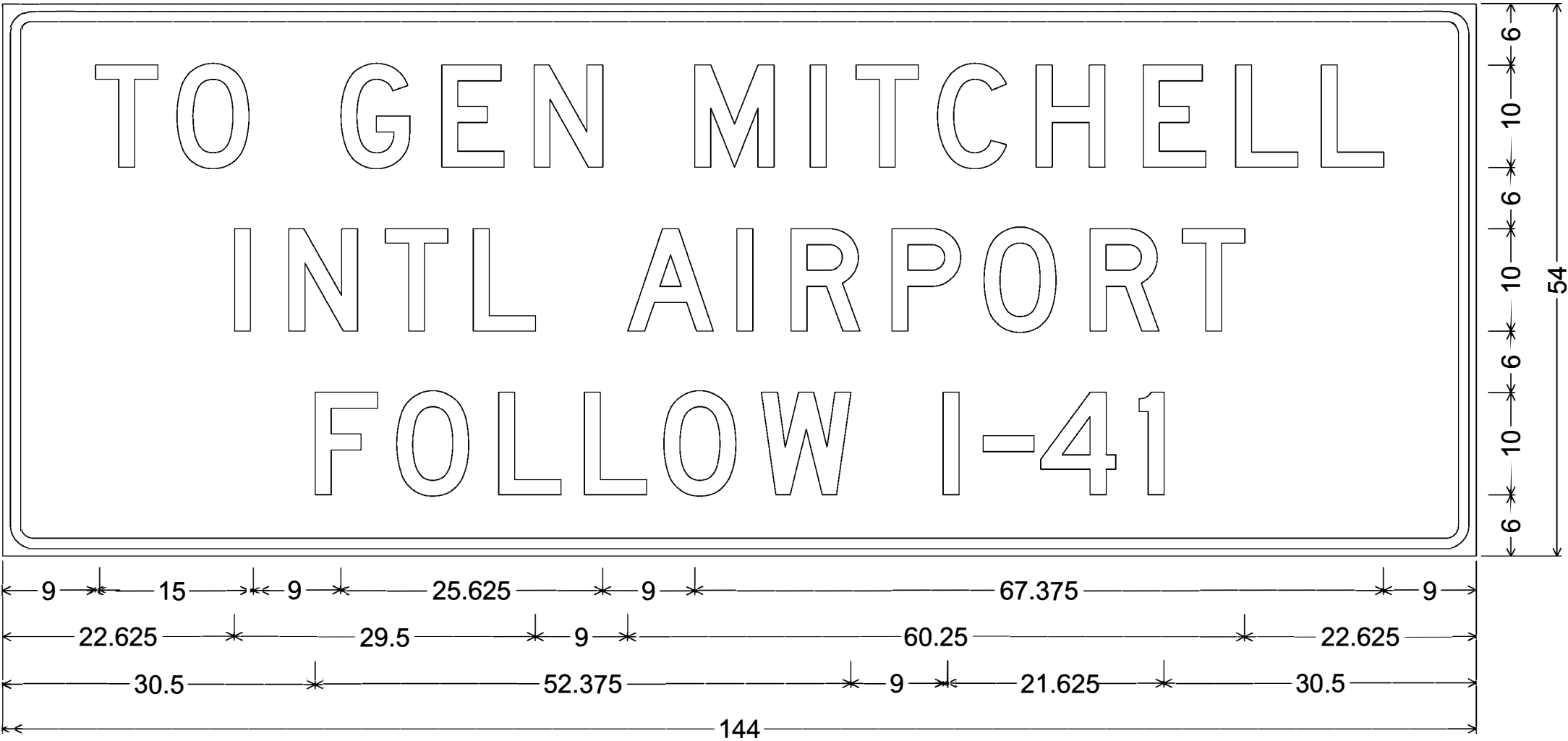
1.125" Radius, 0.500" Border, 0.375" Indent

7

7

NOTES

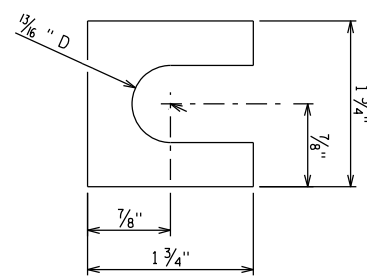
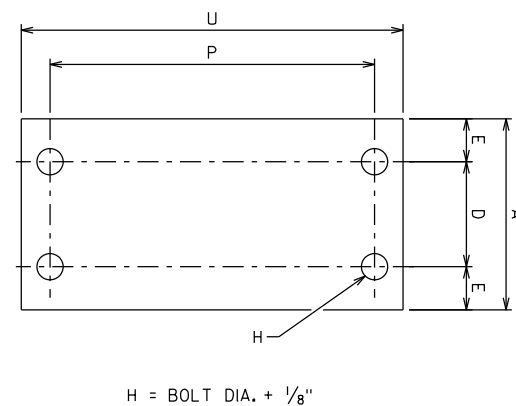
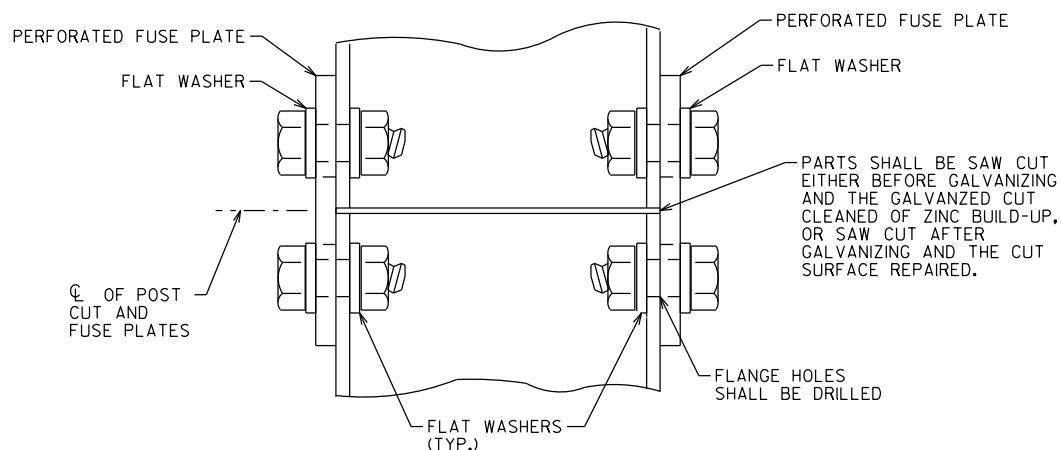
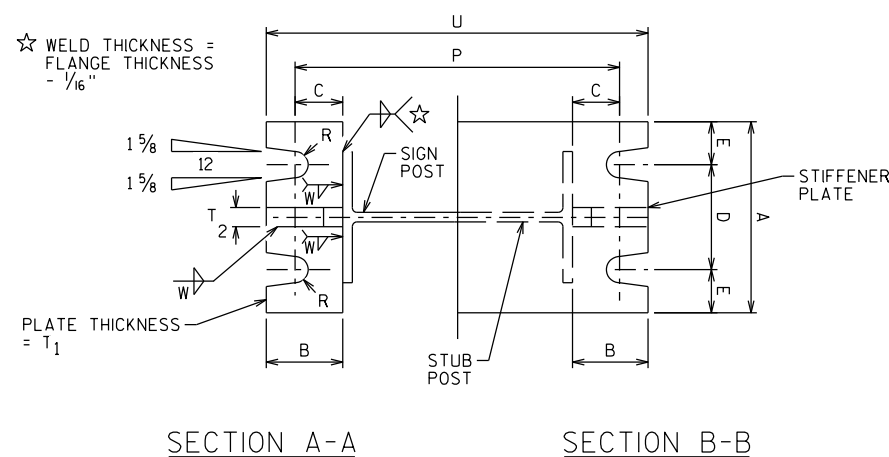
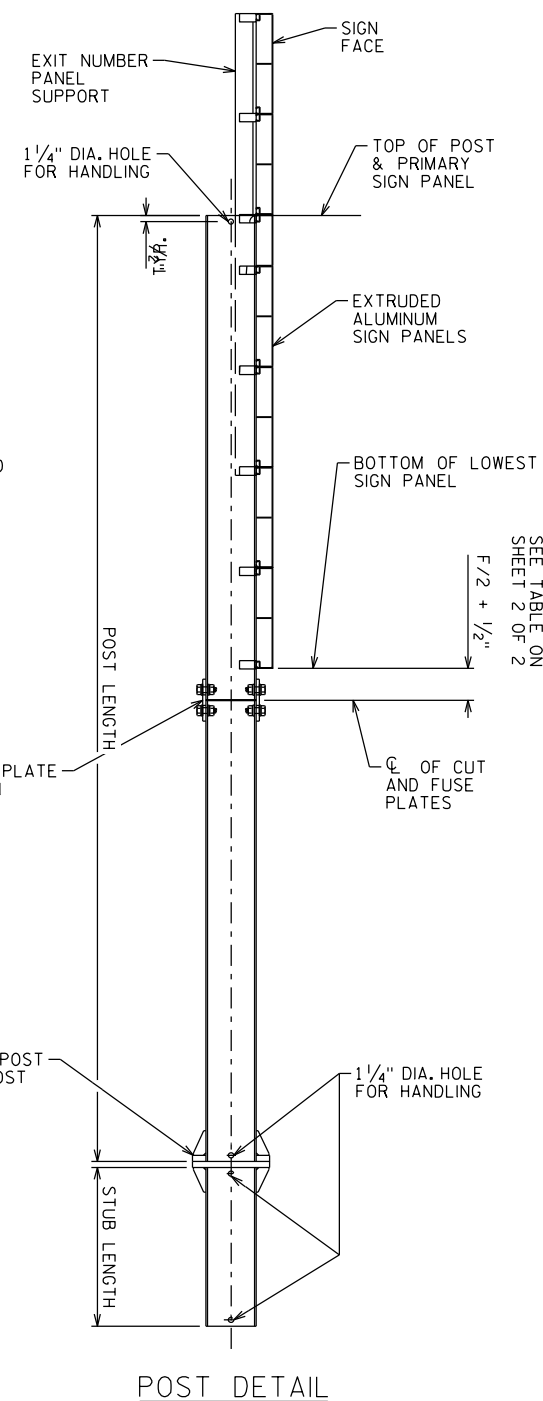
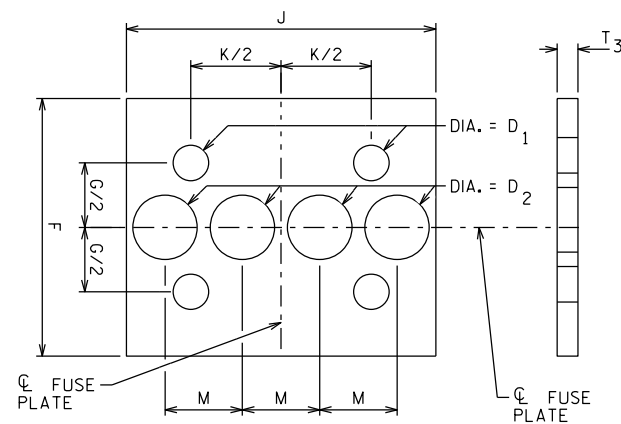
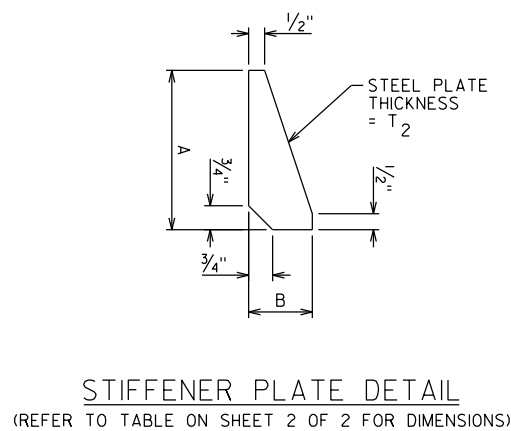
- 1. Fixed Message Sign - Type II Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - D



3.000" Radius, 1.000" Border, 0.750" Indent

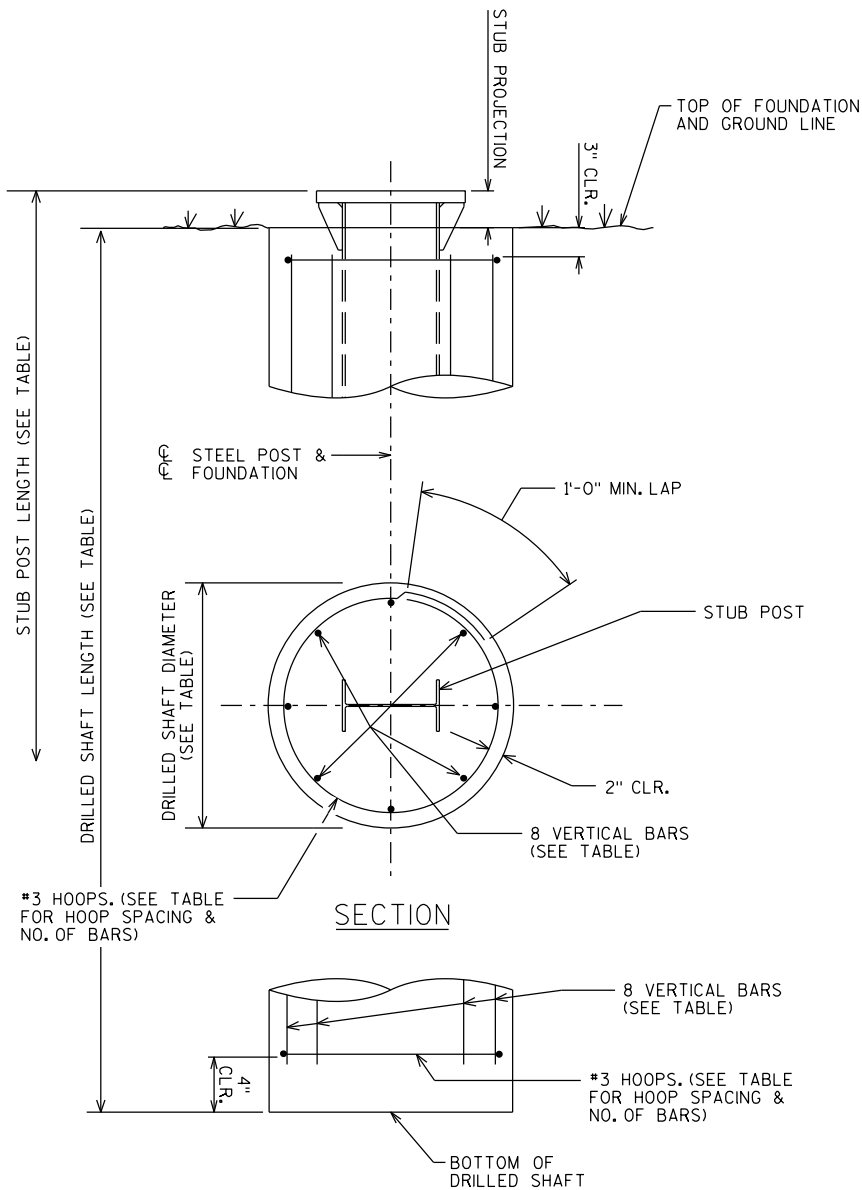
7

7

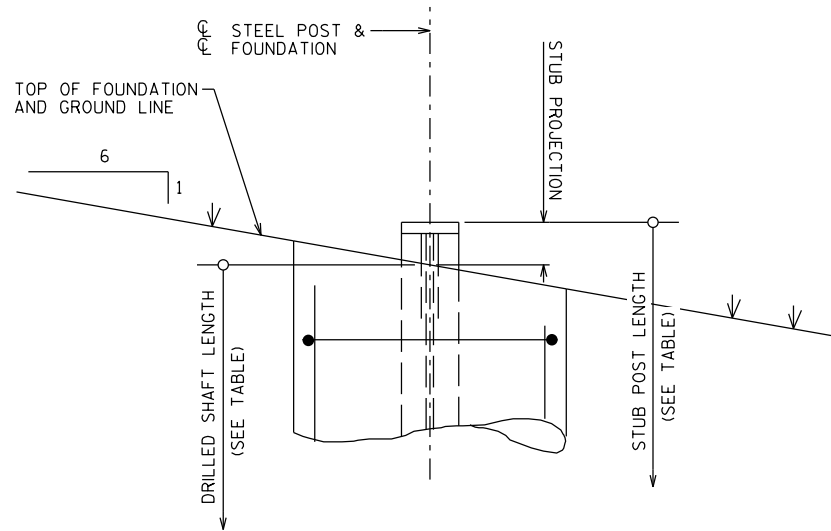


1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE 1 SIGNS			
		DRAWN BY	PLANS CK'D.
CONNECTION & FOUNDATION DETAILS 1 OF 2		SHEET A3-1.20	



FOUNDATION DETAIL



SHAFT PLACEMENT

FOUNDATION DATA TABLE

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME	TOTAL REINF. WEIGHT
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2½"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2½"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2½"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

BASE CONNECTION & FUSE PLATE DATA TABLE

		BASE CONNECTION DATA										BOLT KEEPER PLATE DATA		PERFORATED FUSE PLATE DATA													
POST SHAPE	WEIGHT PER FOOT	BOLT SIZE & TORQUE	A	B	C	D	E	T1	T2	W	R	P	U	F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS	BOLT LENGTH	V 		
W6X15	15 LB	5/8" DIA. X 4"	5"	2"	1/4"	2 3/4"	1/8"	1 1/4"	1/2"	1/4"	11/32"	8 1/2"	10"	5"	2 1/2"	6"	3 1/2"	1 1/2"	1 1/16"	1 1/4"	3/8"	5/8"	2.4	2	73.0 LB		
W8X18	18 LB	36 TO 38 FT-LB										10 5/8"	12 7/8"	5"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	1 1/16"	1 1/16"	3/8"	5/8"	2.0	2	83.0 LB		
W8X21	21 LB	3/4" DIA. X 4 3/4"	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1 1/2"	3/4"	5/16"	11/32"	11"	12 3/4"	5 1/2"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	1 3/16"	1"	1/2"	3/4"	3.1	2 1/4"	124.0 LB		
W10X22	22 LB											12 7/8"	14 3/8"	6"	3"	5 3/4"	2 3/4"	1 3/8"	1 3/16"	1 1/8"	1/2"	3/4"	3.9	2 1/4"	134.0 LB		
W12X26	26 LB											15"	16 3/4"	6"	3"	6 1/2"	3 1/2"	1 5/8"	1 3/16"	1 1/2"	3/4"	4.5	2 1/4"	152.0 LB			

■ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST
= V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER
PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND
WASHERS.

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED
- MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF
TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS
NOTED OTHERWISE.
- FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF
TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.
- ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM
A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.
- THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE
SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER
FABRICATION.
- H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

FOUNDATION MATERIAL PROPERTIES

CONCRETE MASONRY F'C = 3,500 P.S.I.
BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60 FY = 60,000 P.S.I.

DESIGN DATA

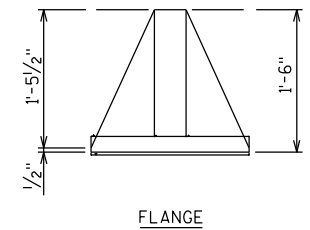
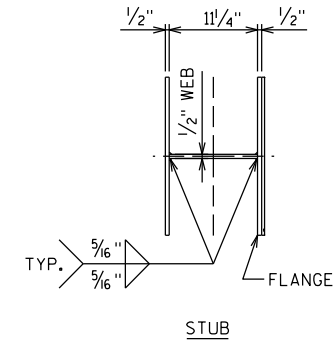
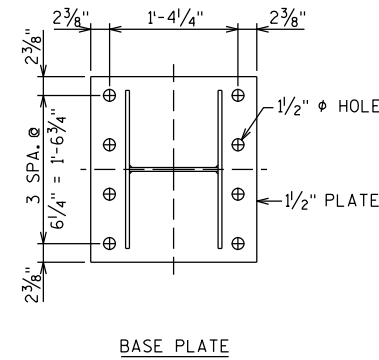
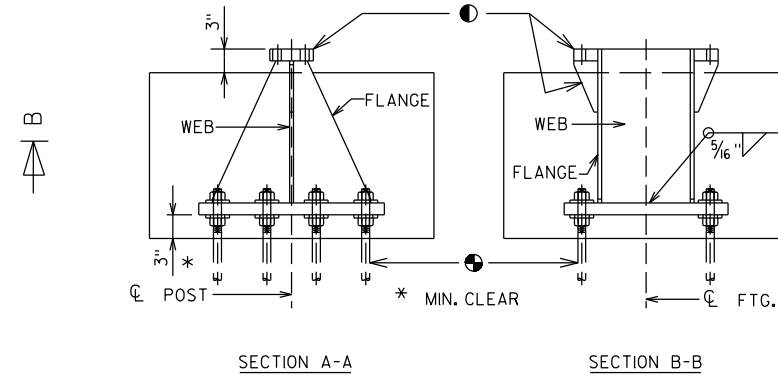
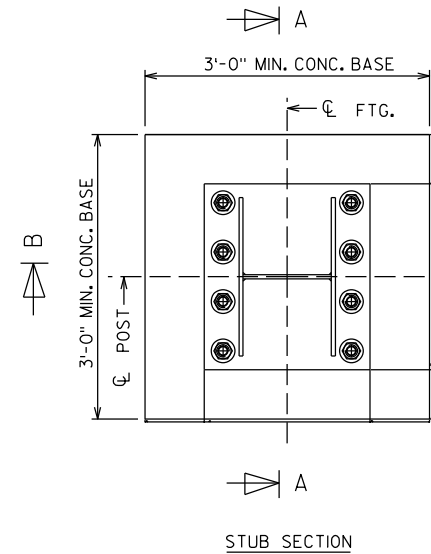
- DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND
TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM
REVISIONS).
- DEAD LOADS (DL):
- STEEL POST SELF WEIGHT
 - SIGN PANEL WEIGHT = 3 PSF
- WIND LOADS (WL):
- WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN
PANELS AND THE STEEL SIGN POSTS.
- BASIC WIND SPEED = 76 MPH
 - MEAN RECURRENCE INTERVAL (MRI) = 10 YEARS
 - HEIGHT & EXPOSURE FACTOR = 1.00
 - DIRECTIONALITY FACTOR = 0.85
 - GUST EFFECT FACTOR = 1.14
- WIND LOAD CASES:
- WL CASE 1: 1.0 X NORMAL WIND
 - WL CASE 2: 1.0 X TRANSVERSE WIND
 - WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

FOUNDATION DESIGN DATA

- THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE
SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:
- SOIL UNIT WEIGHT = 115 PCF
 - ANGLE OF INTERNAL FRICTION = 24 DEGREES
 - SOIL MODULUS PARAMETER = 25 LB/IN³

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
		DRAWN BY	PLANS CK'D.
CONNECTION & FOUNDATION DETAILS 2 OF 2		SHEET A3-120	



- SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.
- ADHESIVE ANCHORS 1/4-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

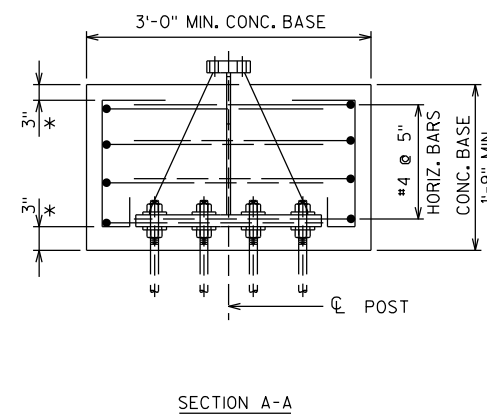
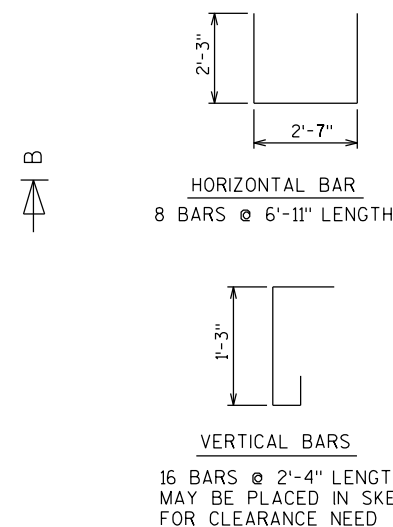
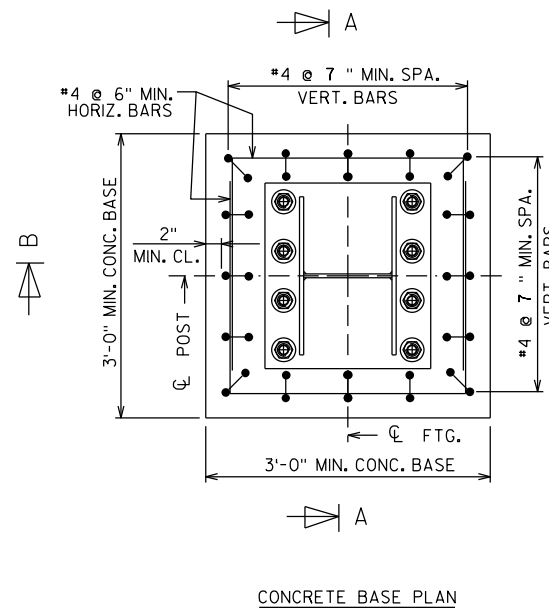
GENERAL NOTES:

QUANTITIES PER BASE:
 REINFORCING STEEL = 62 LB
 CONCRETE = 0.6 CY
 STRUCTURAL STEEL = 335 LB

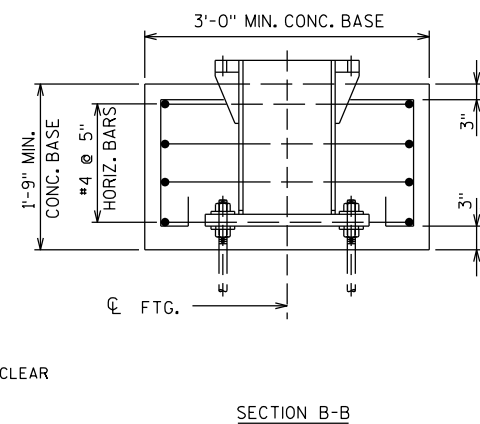
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

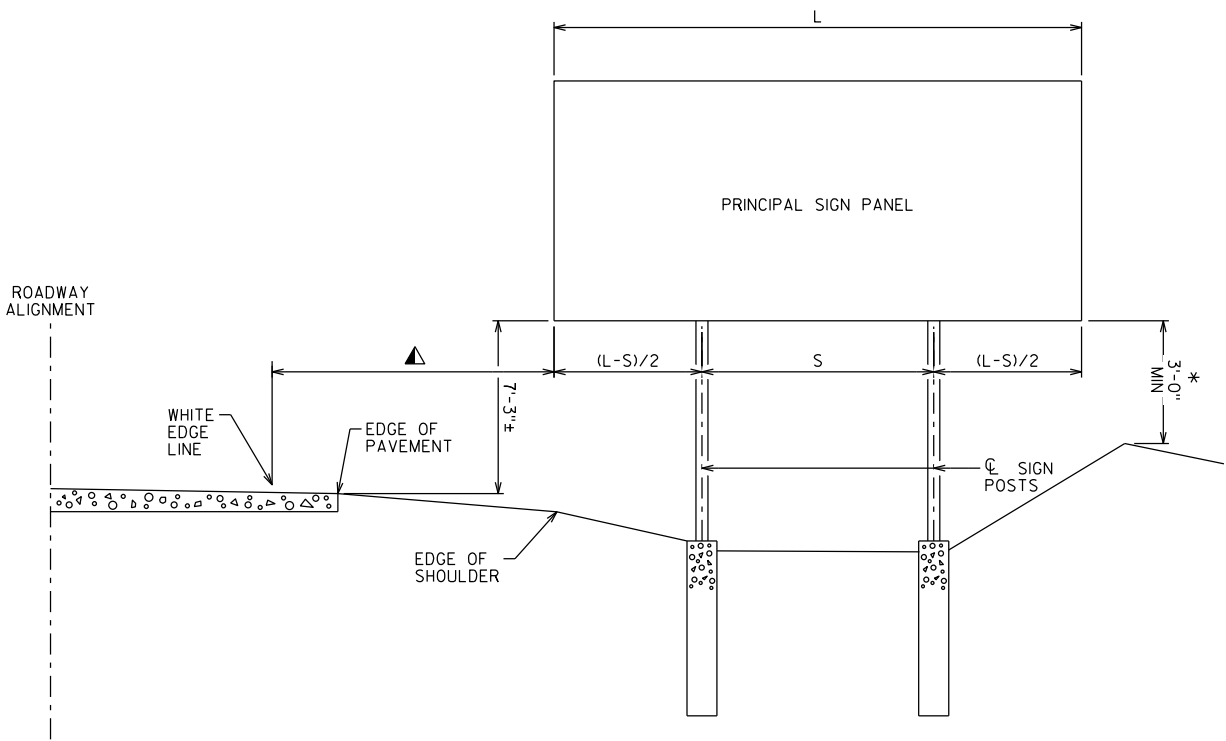
CONCRETE BASE DETAILS



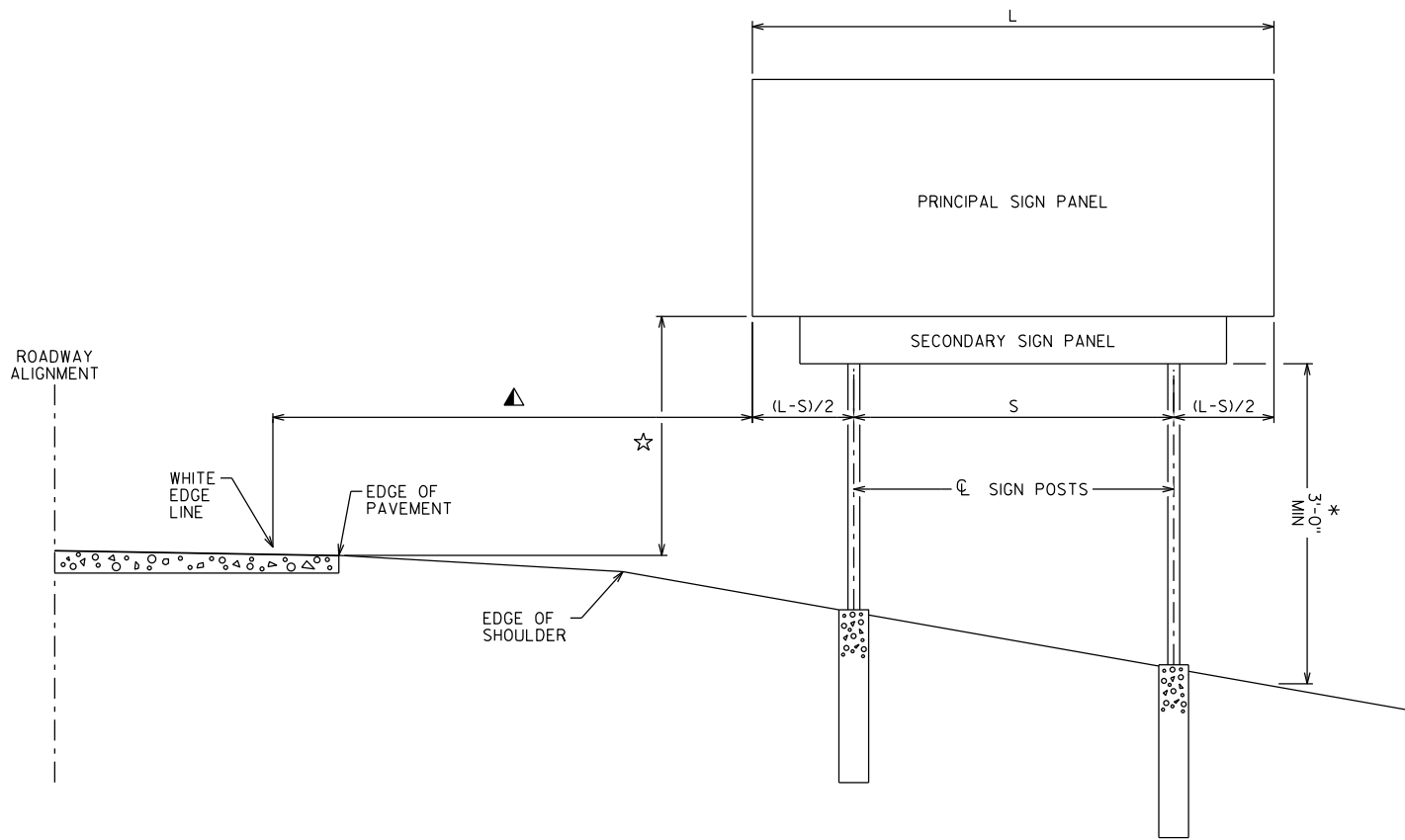
* MIN. CLEAR



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
DRAWN BY		PLANS CK'D.	
ALTERNATE BREAK-AWAY BASE ON ROCK			SHEET A3-1M.2



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS, FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

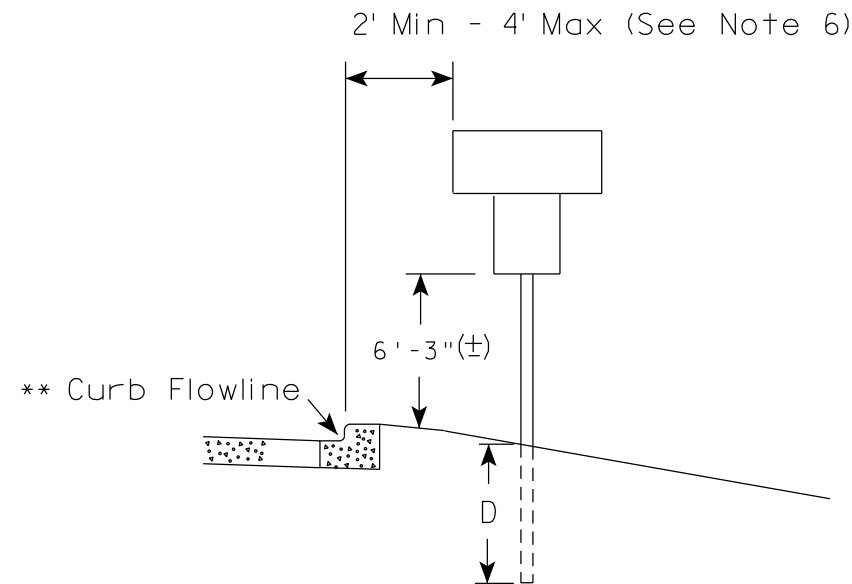
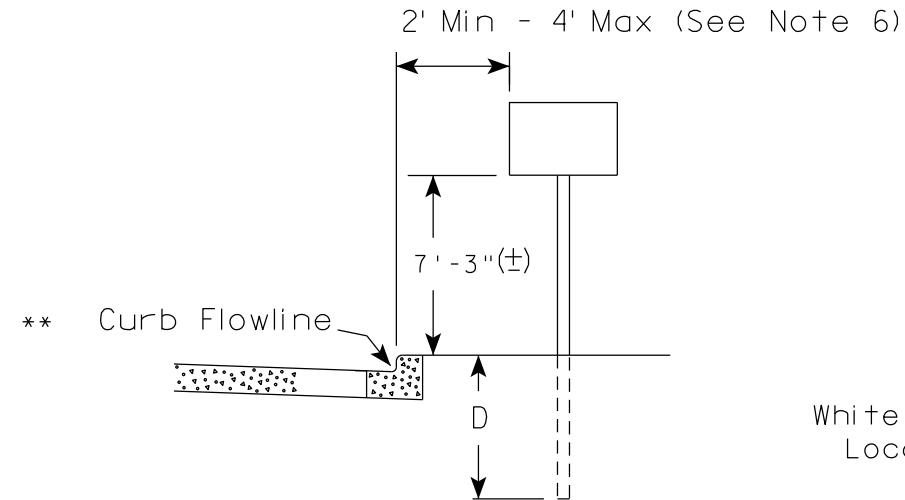
THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

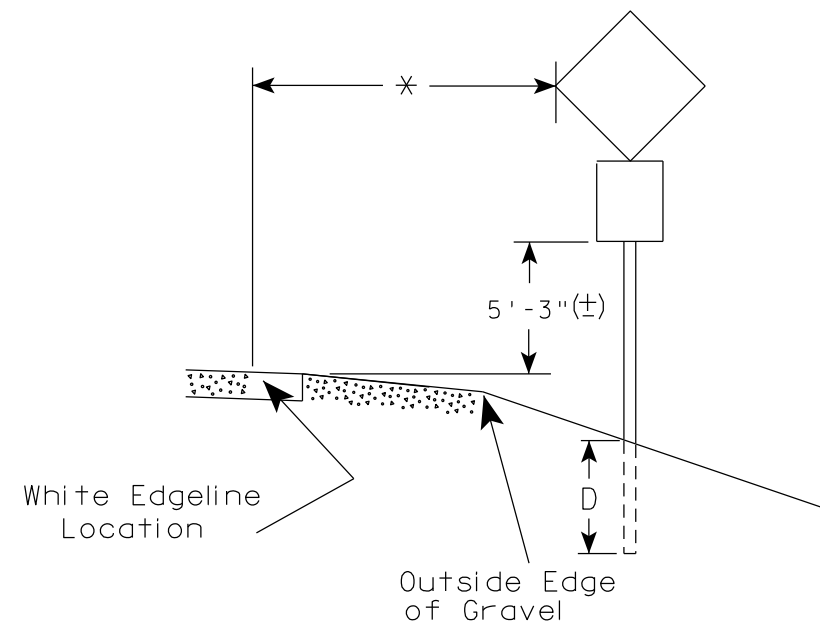
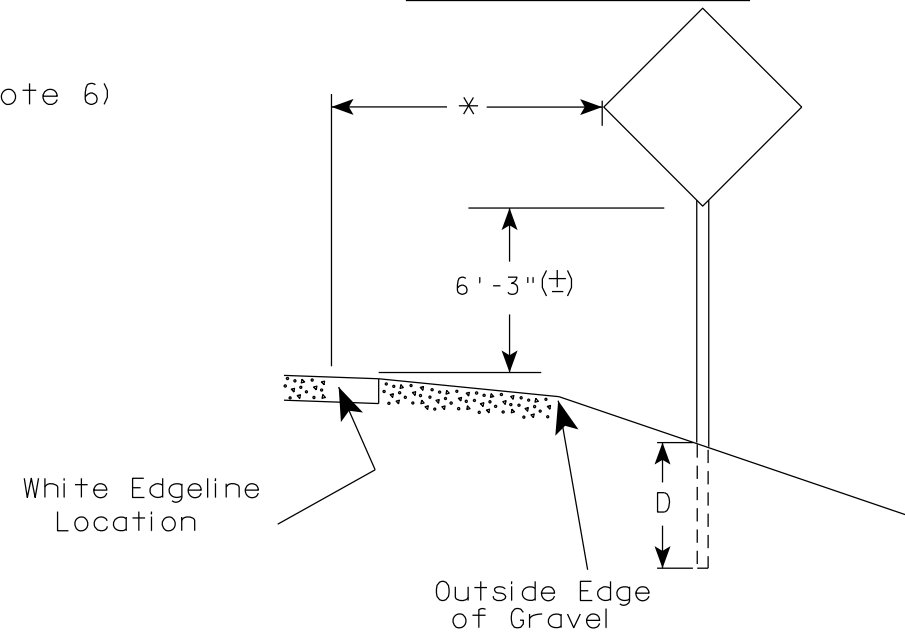
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE BTO TYPE I SIGNS			
		DRAWN BY	PLANS CK'D.
TYPICAL TYPE I SIGN INSTALLATION		SHEET A4-1.10	

URBAN AREA



** 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.

RURAL AREA (See Note 2)



* 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 or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

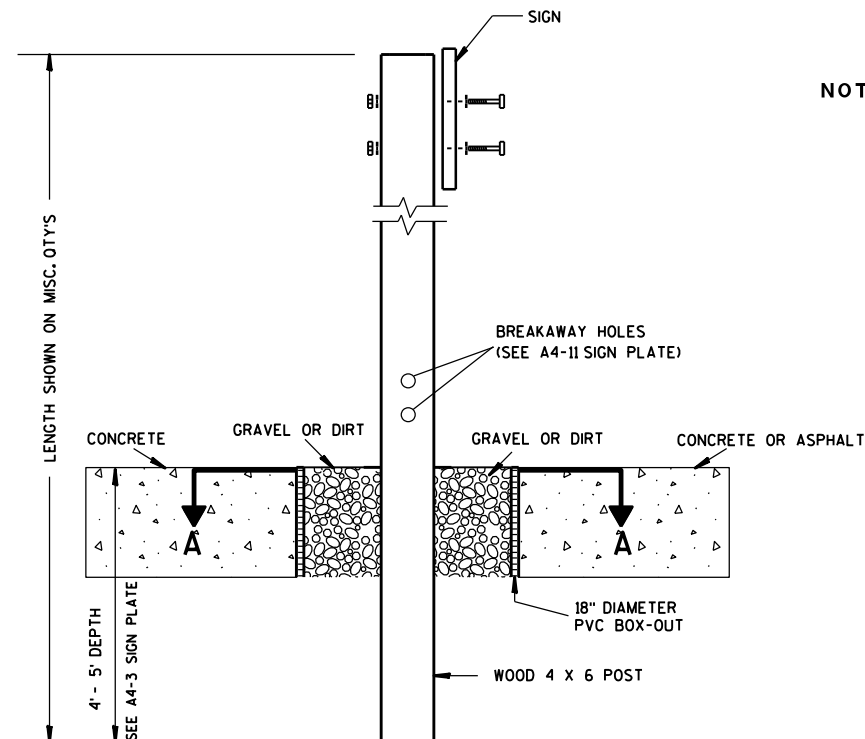
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

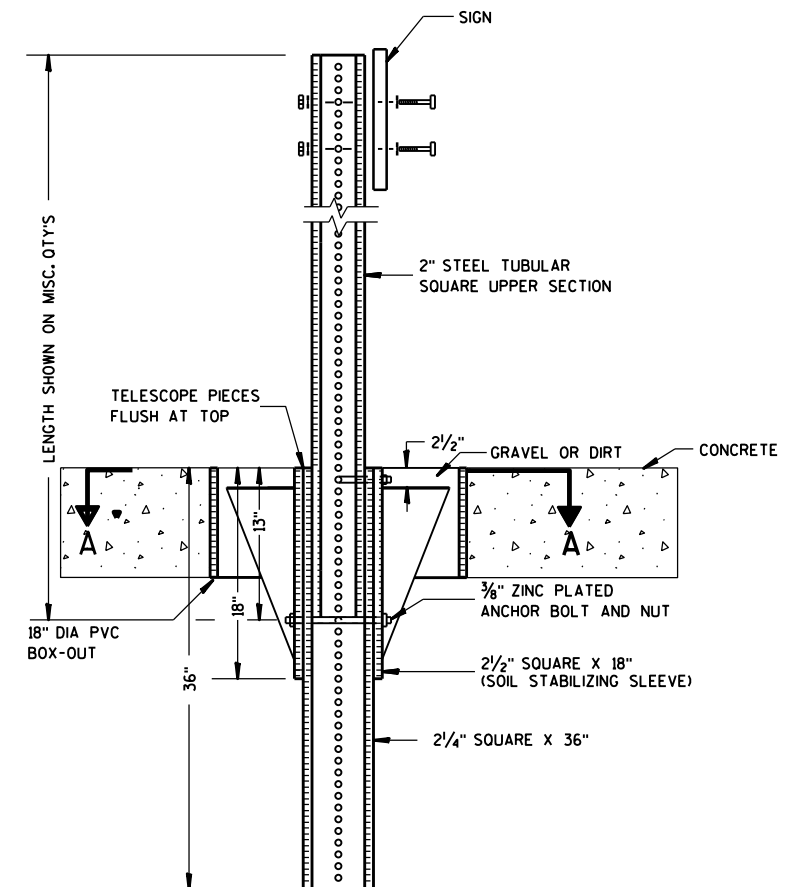
E



ELEVATION VIEW

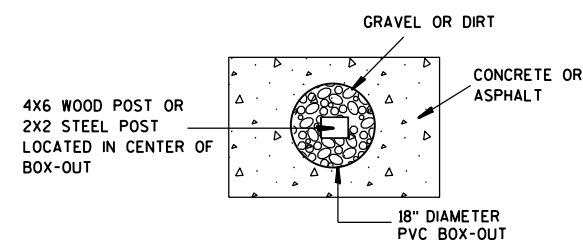
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

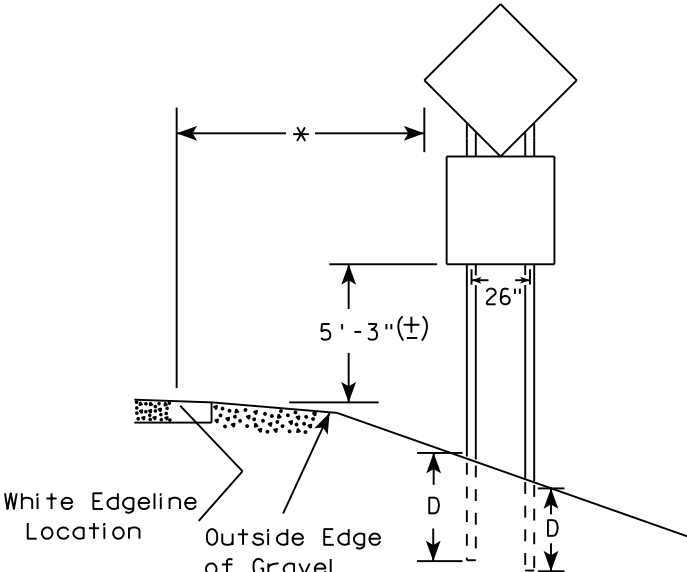
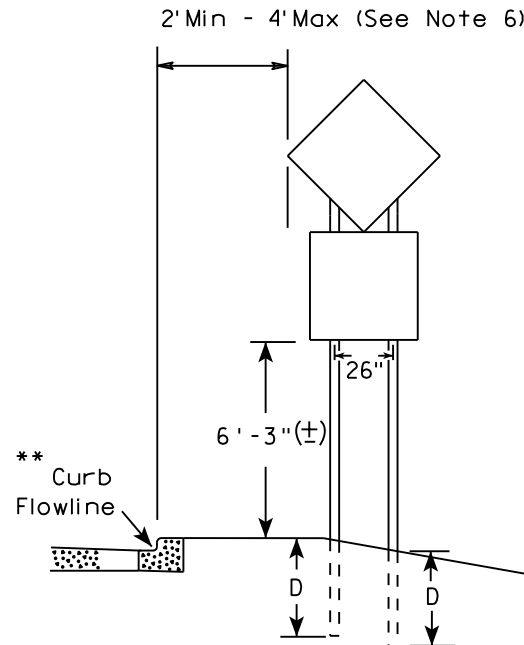
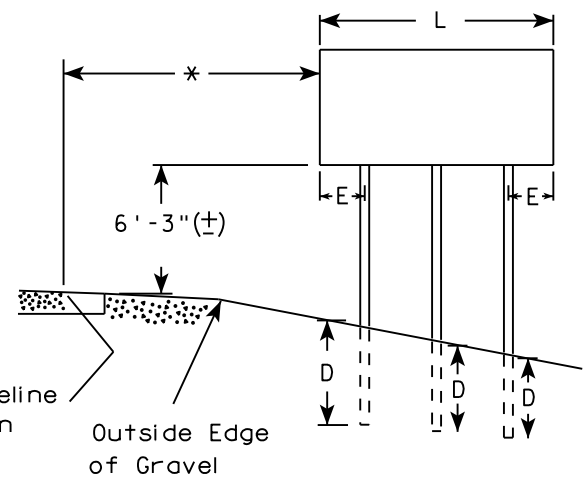
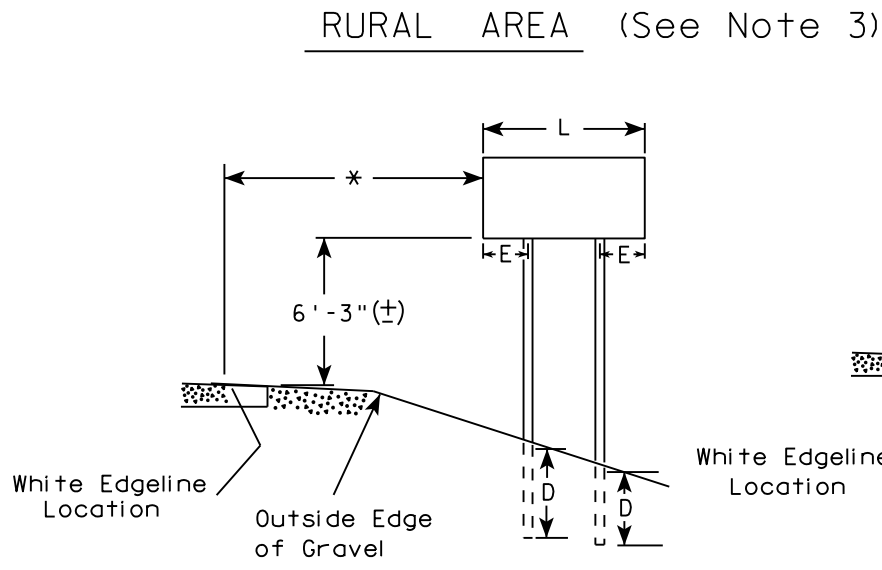
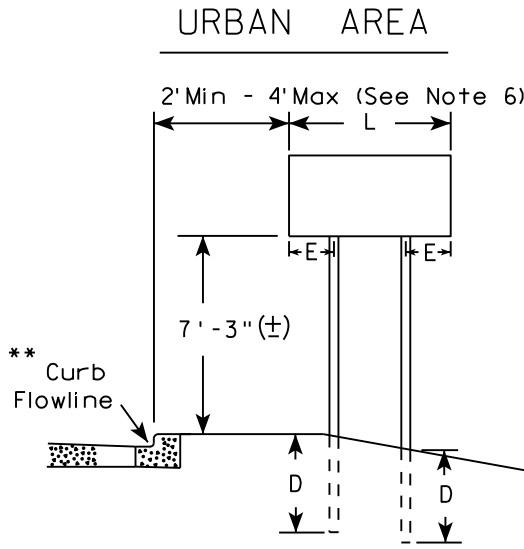
FOR NEW CONCRETE/ASPHALT INSTALLATIONS

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



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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

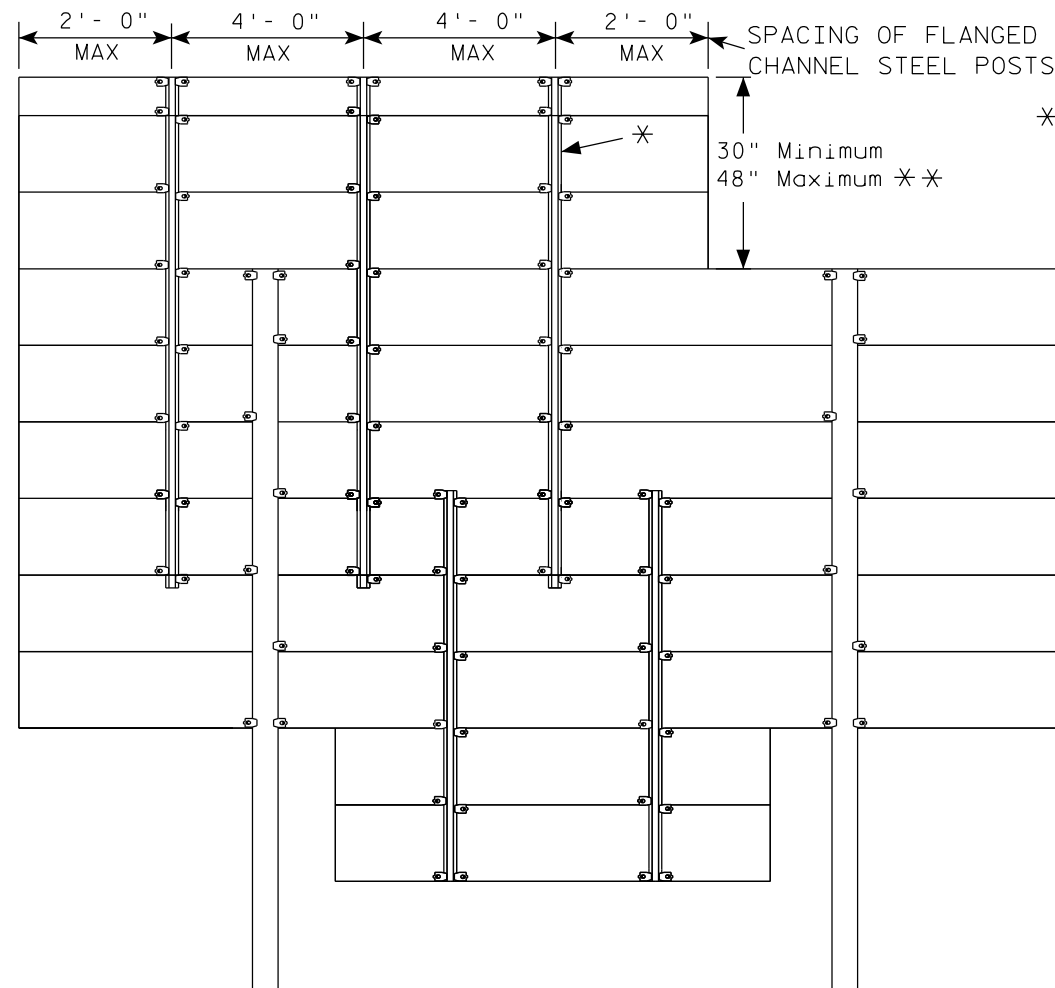
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

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

- * 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- ** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- *** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

GROUND MOUNTED SIGN



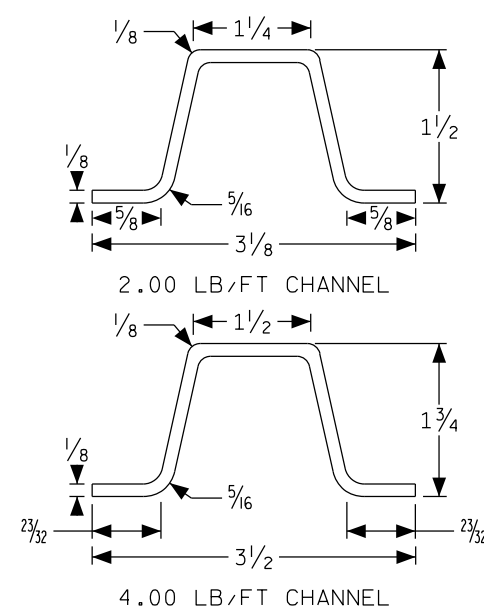
* = 2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

* * = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

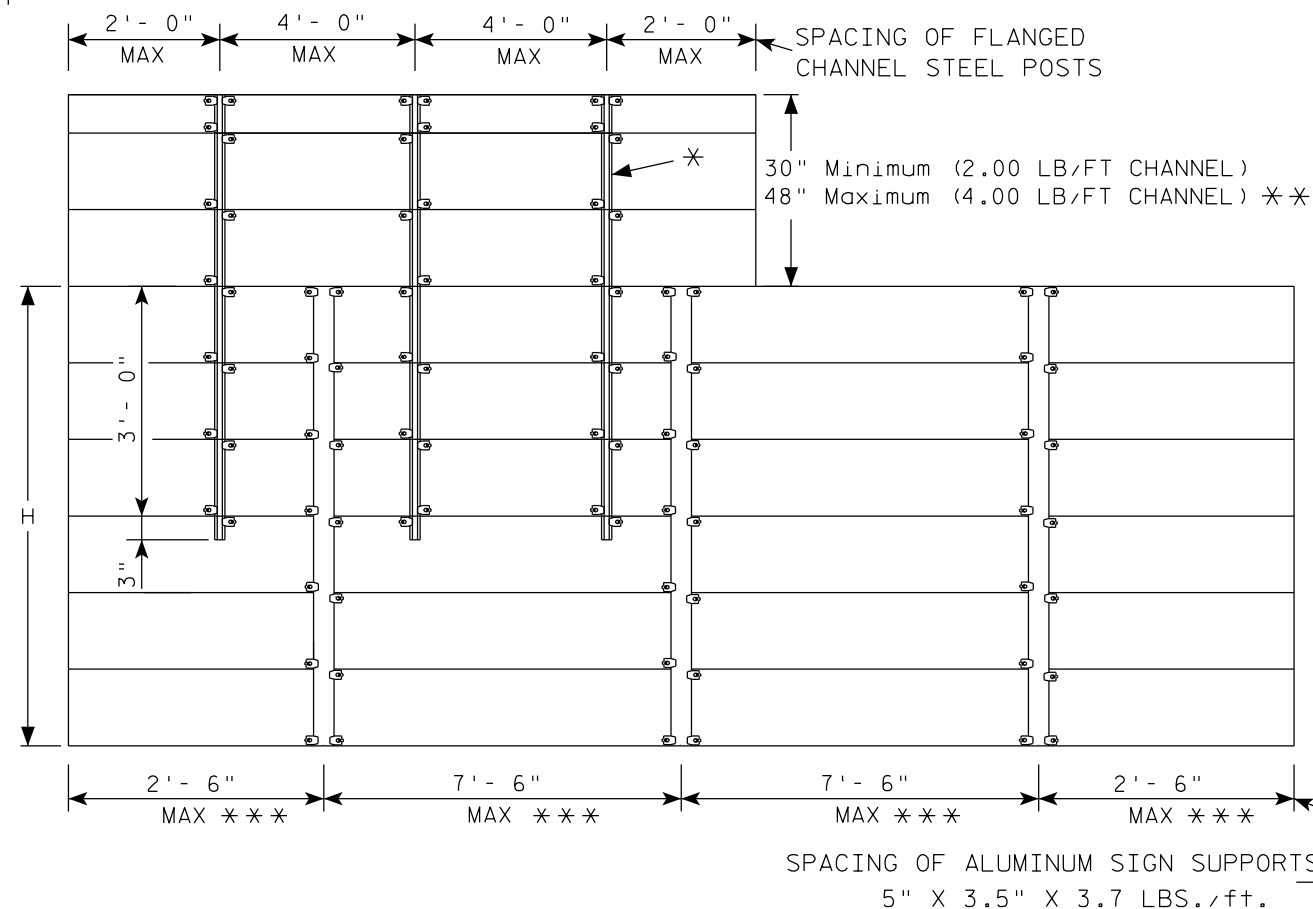
* * * THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

NOT TO SCALE



SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:
 PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
 PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS
 PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS
 If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
 for State Traffic Engineer

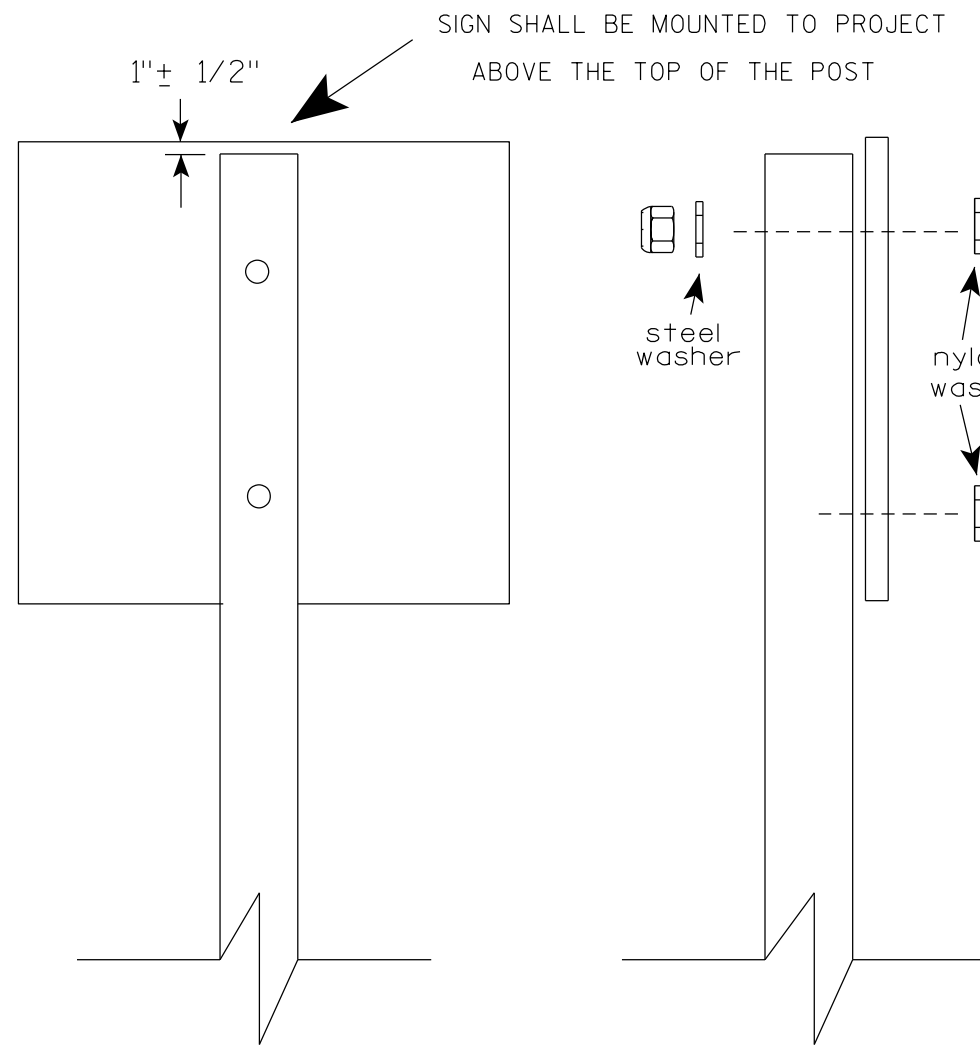
DATE 1/07/20

PLATE NO. A4-6.12

PROJECT NO:

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.

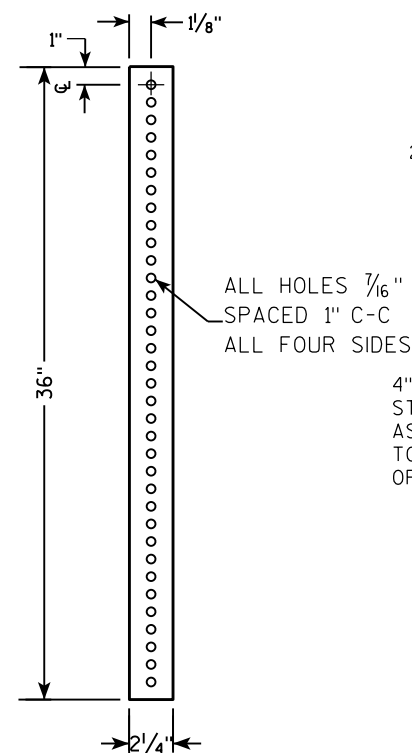
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

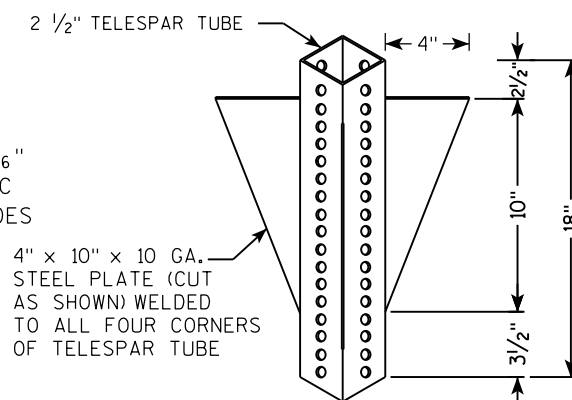
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



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

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: LENGTH SHOWN ON MISC. QTYS
- Top section height: 81"
- Section below top: 18"
- Section below that: 12"
- Section below that: 36"

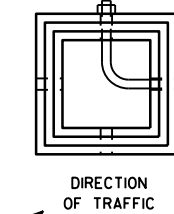
End View Dimensions:

- Top section width: 2"
- Section below top: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Bottom section width: 2 1/4" SQUARE X 36"

Labels and Notes:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- TELESCOPE PIECES FLUSH AT TOP
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



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 NO. A4-9.9

PROJECT NO:

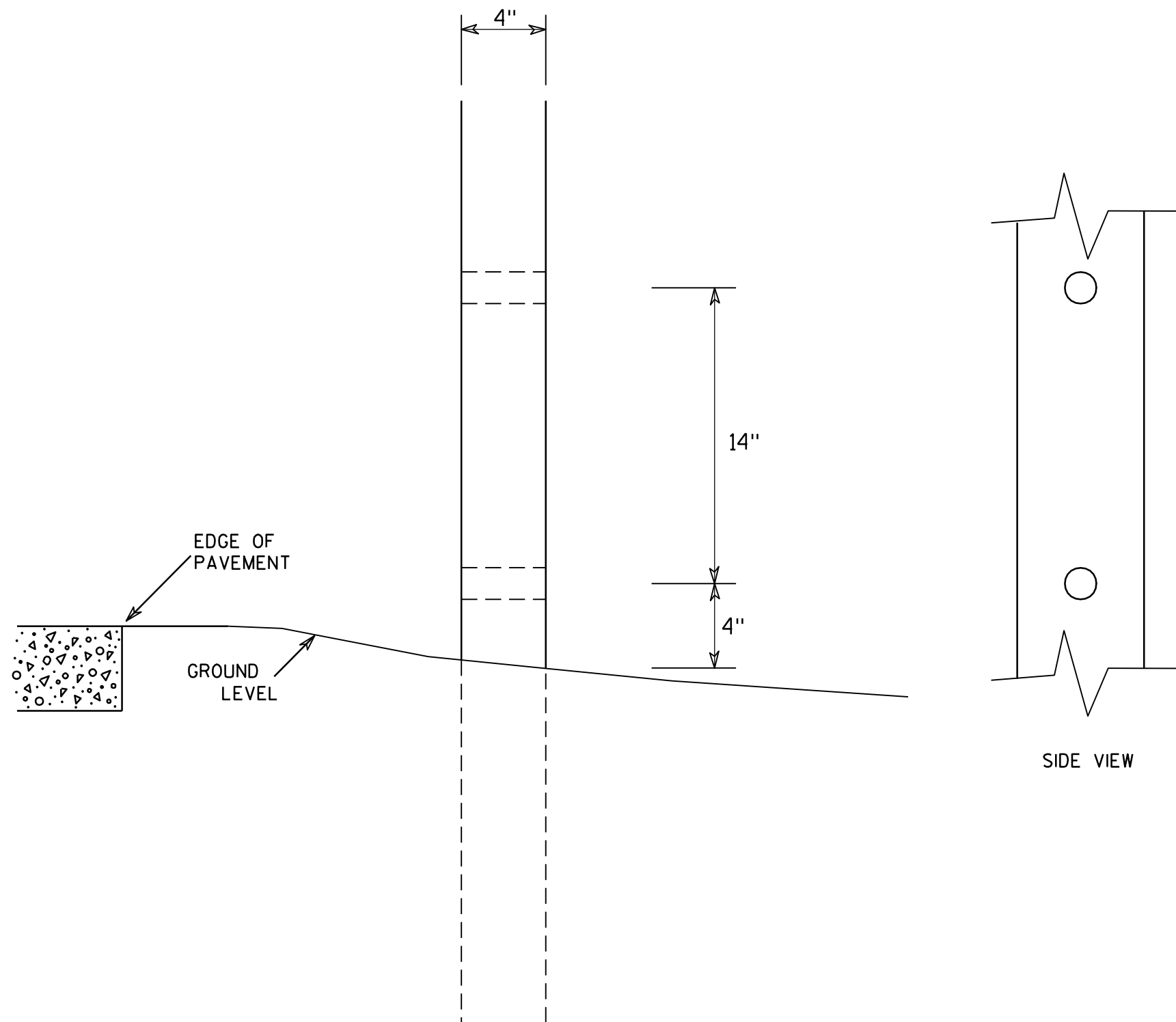
HWY:

COUNTY:

SHEET NO:

E

7

GENERAL NOTES

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

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

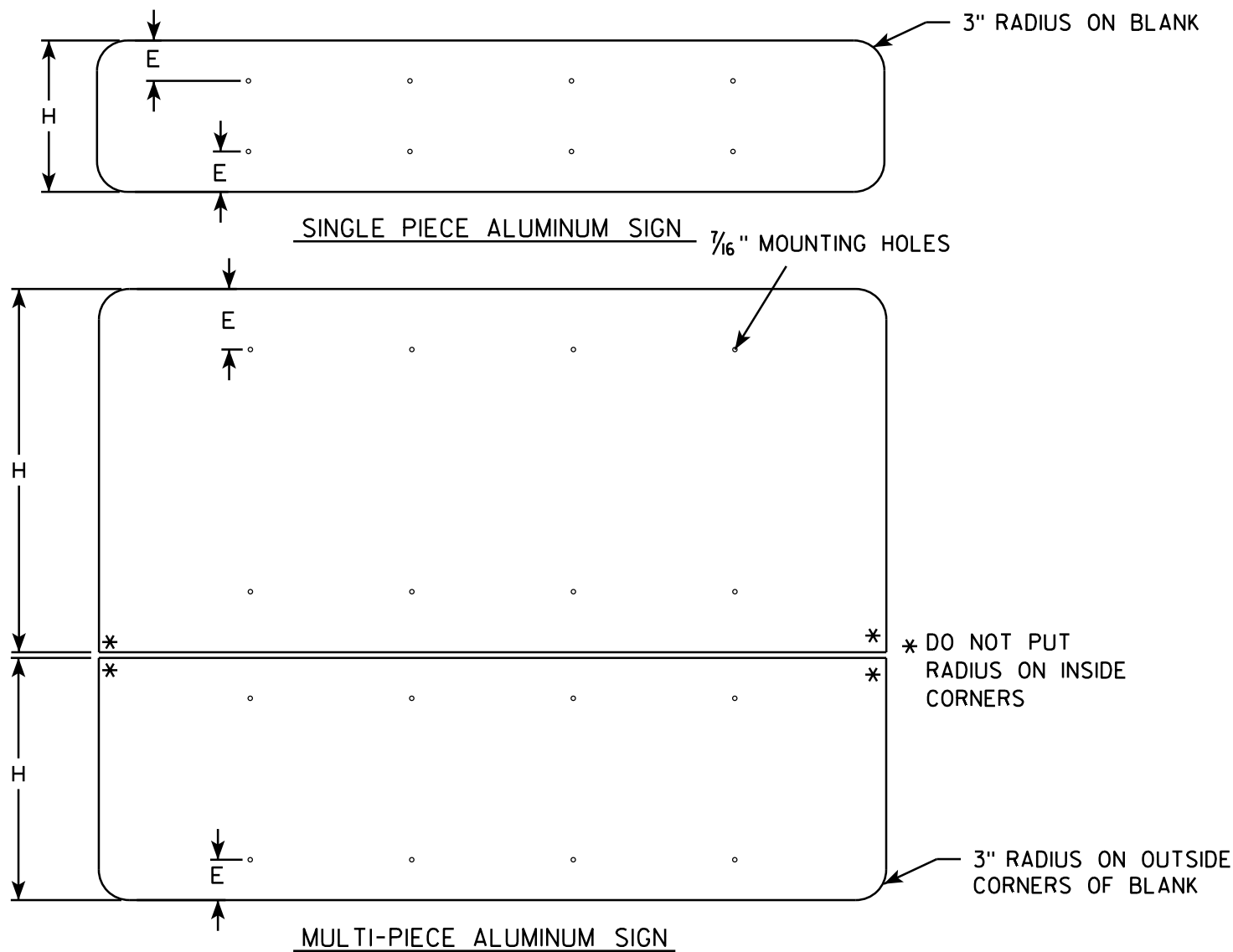
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HWY:

COUNTY:

SHEET NO:

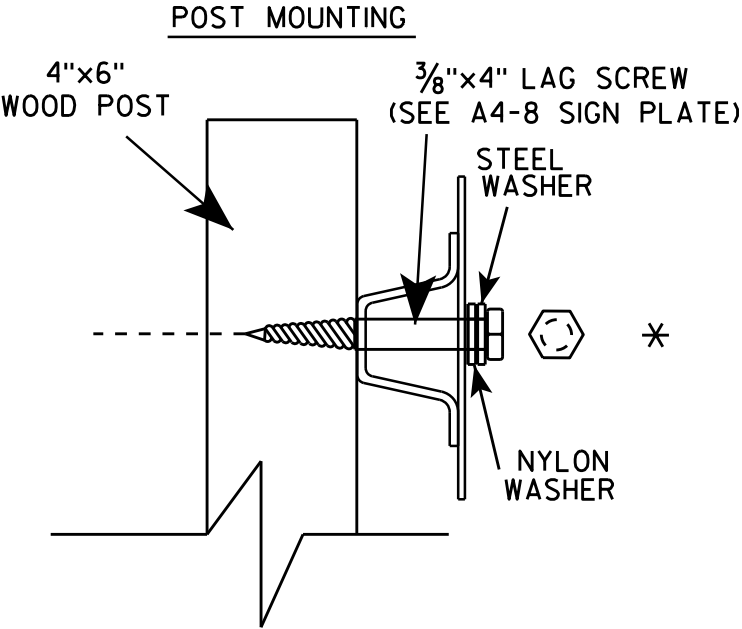
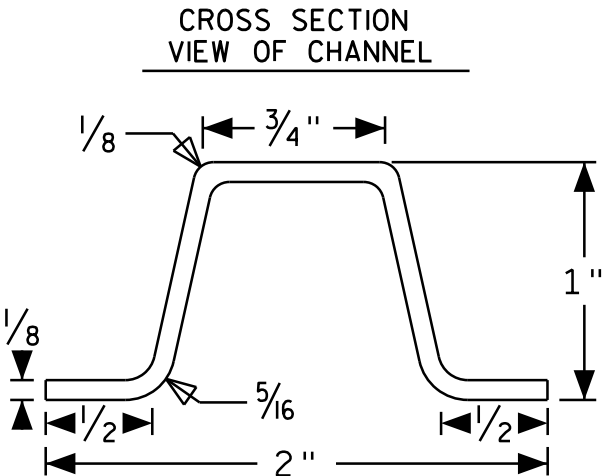
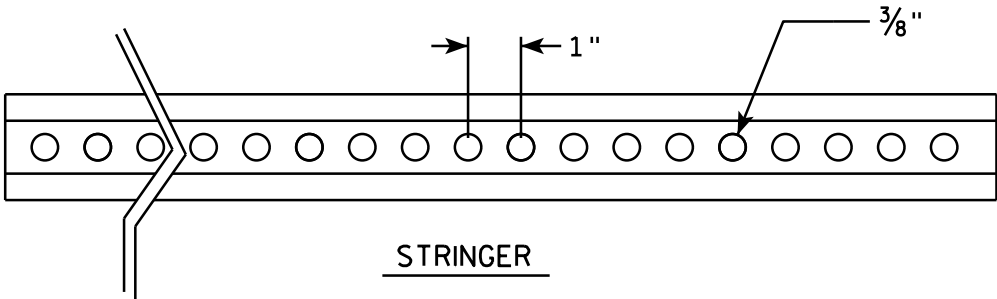
E



GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES			
78"	72"	2	16"	15"	31"	47"	63"
84"	72"	2	17"	16 1/2"	33 1/2"	50 1/2"	67 1/2"
90"	72"	2	18"	18"	36"	54"	72"
96"	90"	2	19"	19 1/2"	38 1/2"	57 1/2"	76 1/2"
102"	90"	2	20"	21"	41"	61"	81"
108"	90"	2	21"	22 1/2"	43 1/2"	64 1/2"	85 1/2"
114"	108"	3	15"	12"	27"	42"	57" 72" 87" 102"
120"	108"	3	16"	12"	28"	44"	60" 76" 92" 108"
126"	108"	3	17"	12"	29"	46"	63" 80" 97" 114"
132"	126"	3	18"	12"	30"	48"	66" 84" 102" 120"
138"	126"	3	19"	12"	31"	50"	69" 88" 107" 126"
144"	126"	3	20"	12"	32"	52"	72" 92" 112" 132"



SIGN STRINGER
MOUNTING REQUIREMENTS

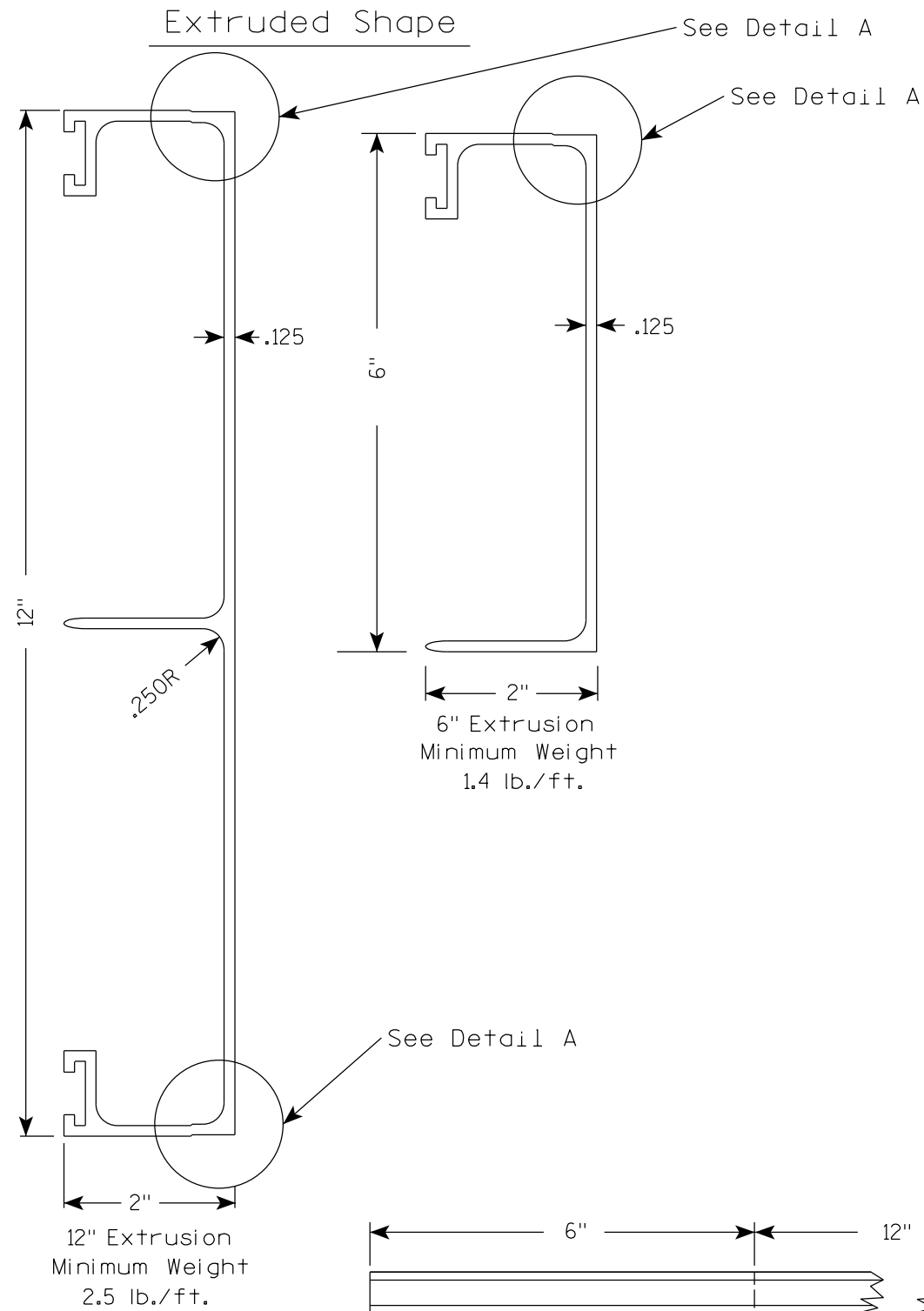
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/26/16 PLATE NO. A4-18.1

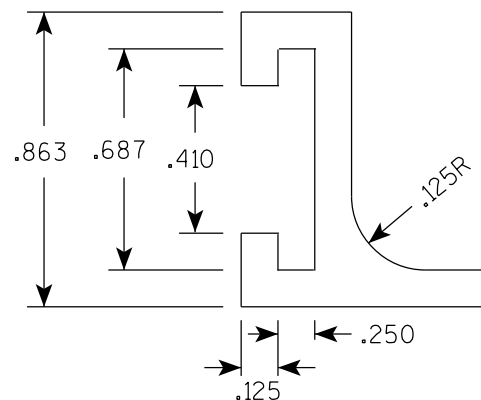
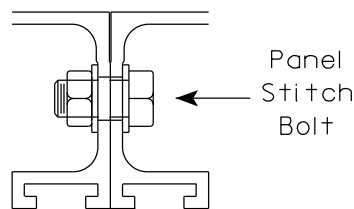
Extruded Shape

Hardware



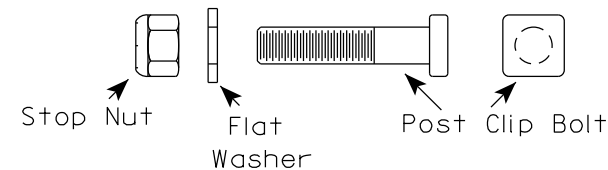
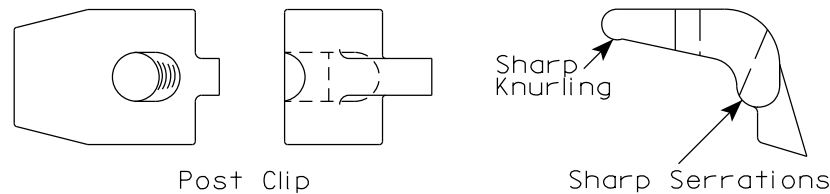
STITCH BOLT, WASHER & NUT

The hardware includes:
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



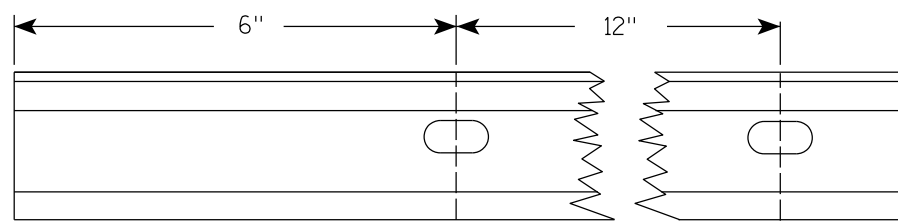
POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.

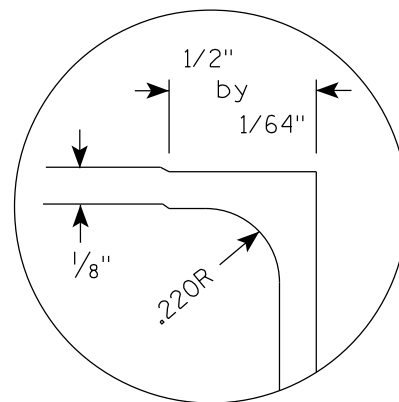


NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR
TYPE I SIGNS

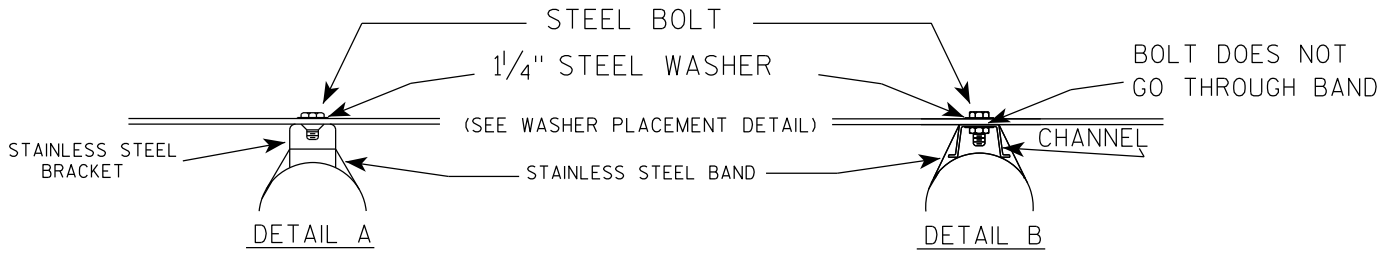
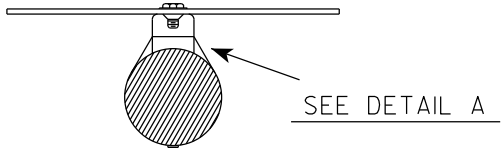
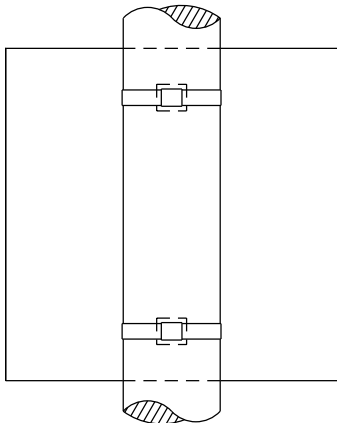
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

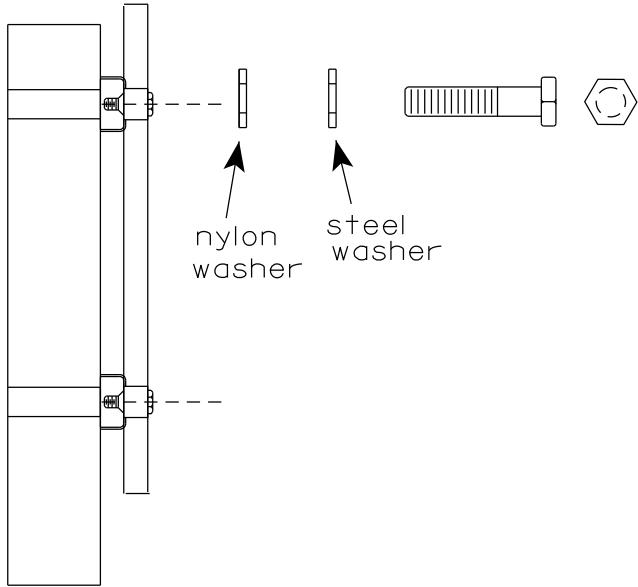
DATE 1/07/20 PLATE NO. A5-2.10

BANDING

SINGLE SIGN



WASHER PLACEMENT

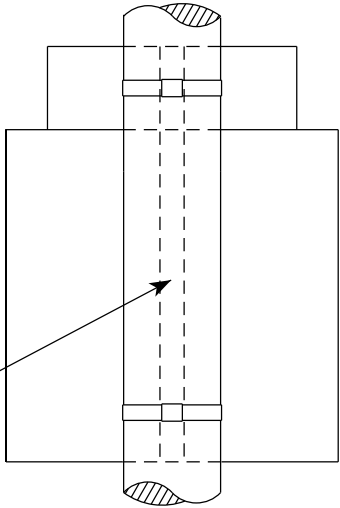


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

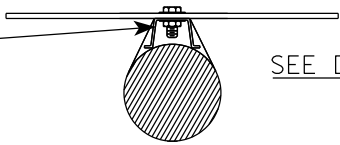
GENERAL NOTES

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.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



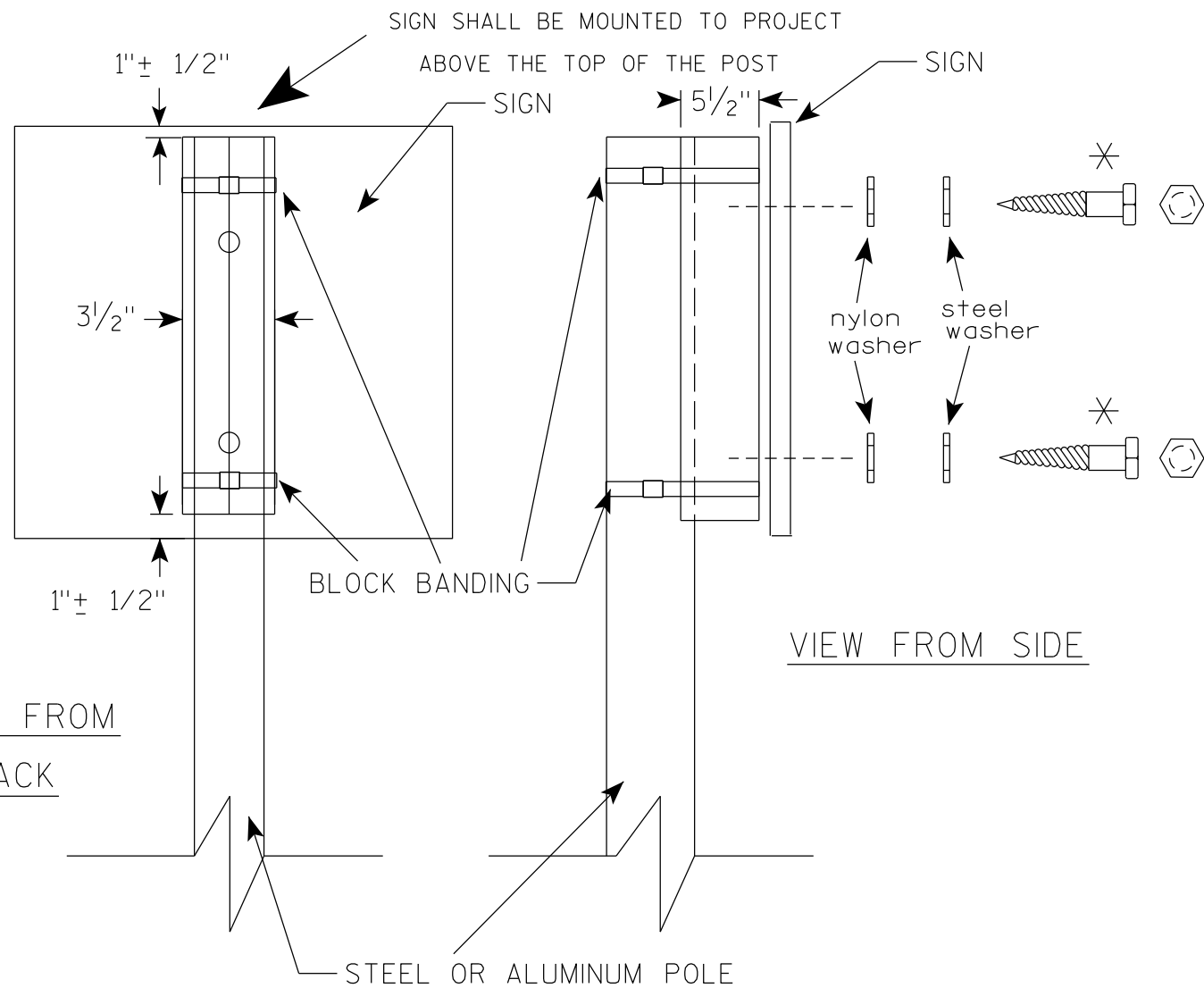
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

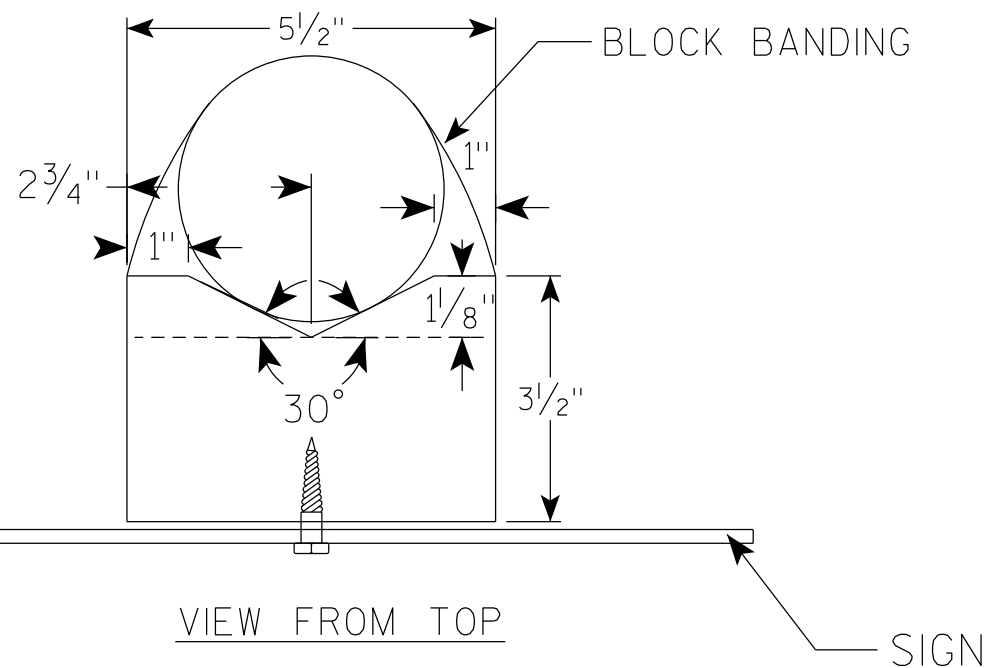
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

VIEW FROM
BACK



VIEW FROM SIDE



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, $\frac{3}{4}$ " 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 NORMALLY 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
 - b. 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 $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO:

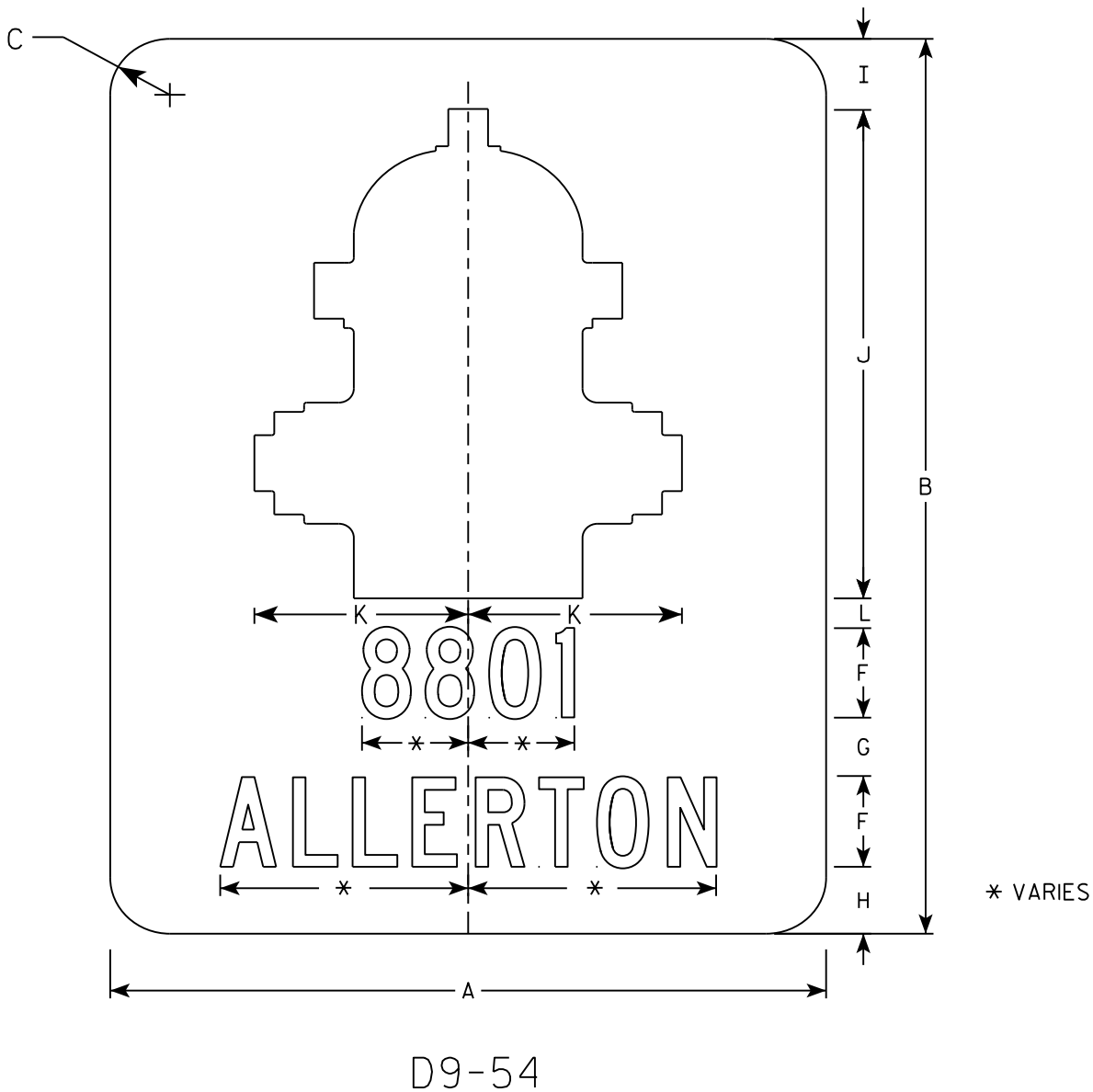
E

7

7

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - Green
 - Message - White
- 3. Message Series - C except Series B if sign will exceed 24" width
- 4. Select appropriate message series and 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																											
2	24	30	1 1/2			3	2	2 1/4	2 3/8	16 3/8	7 1/8	1															5.0
3																											
4																											
5																											

PROJECT NO:

SHEET NO:

E

STANDARD SIGN

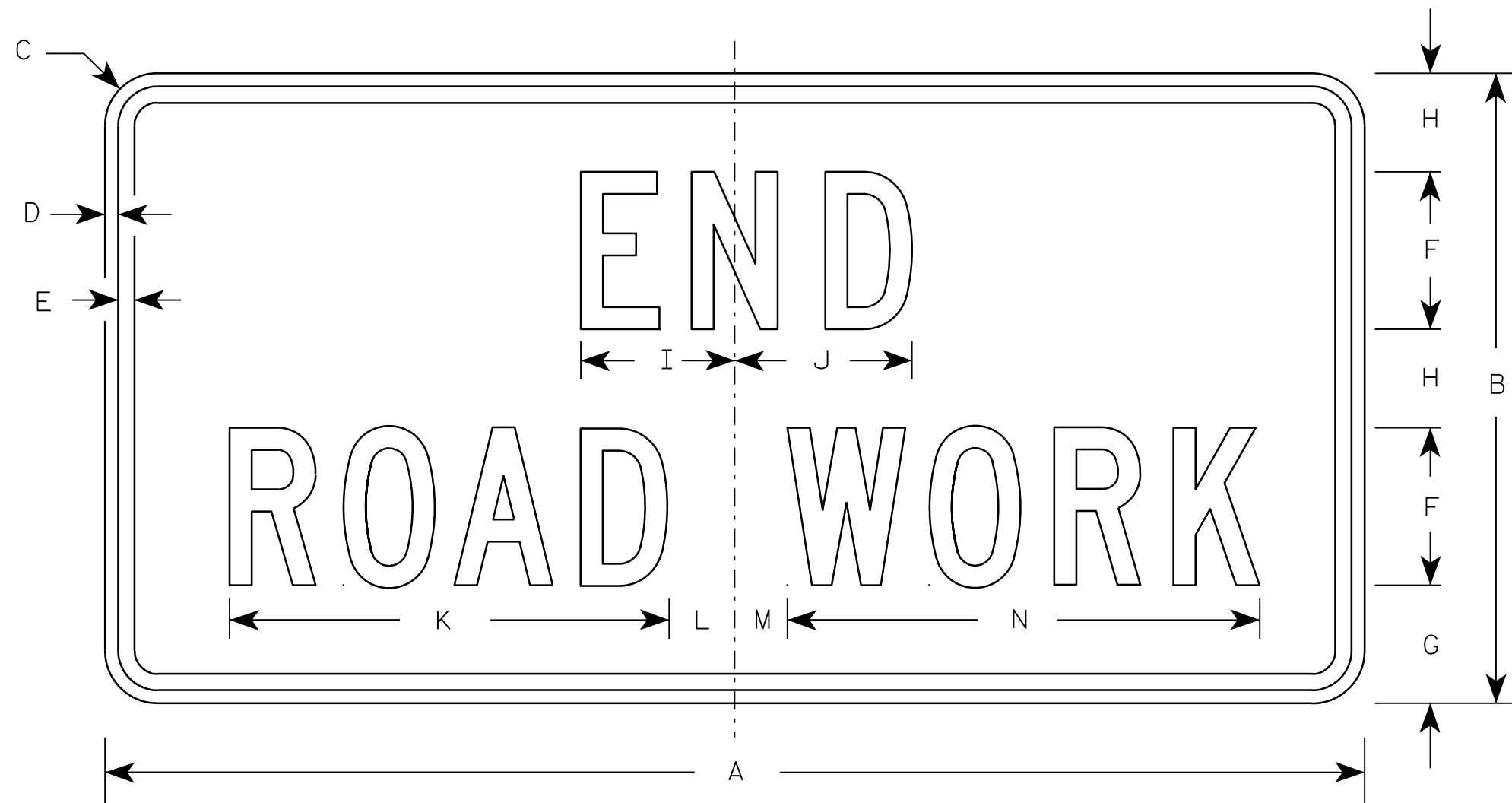
D9-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/16/18 PLATE NO. D9-54.4

7



G20-2A

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 m ²
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

NOTES

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

7

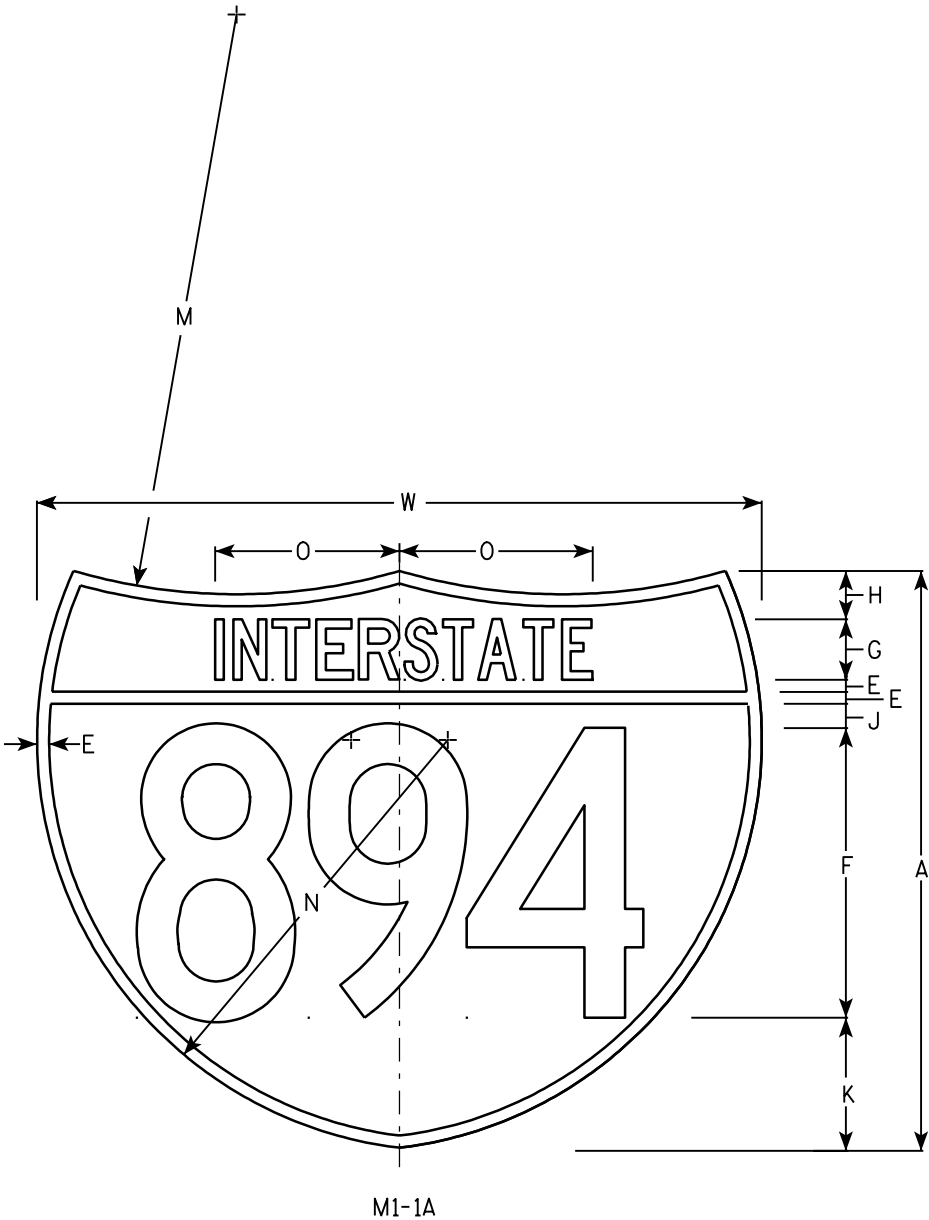
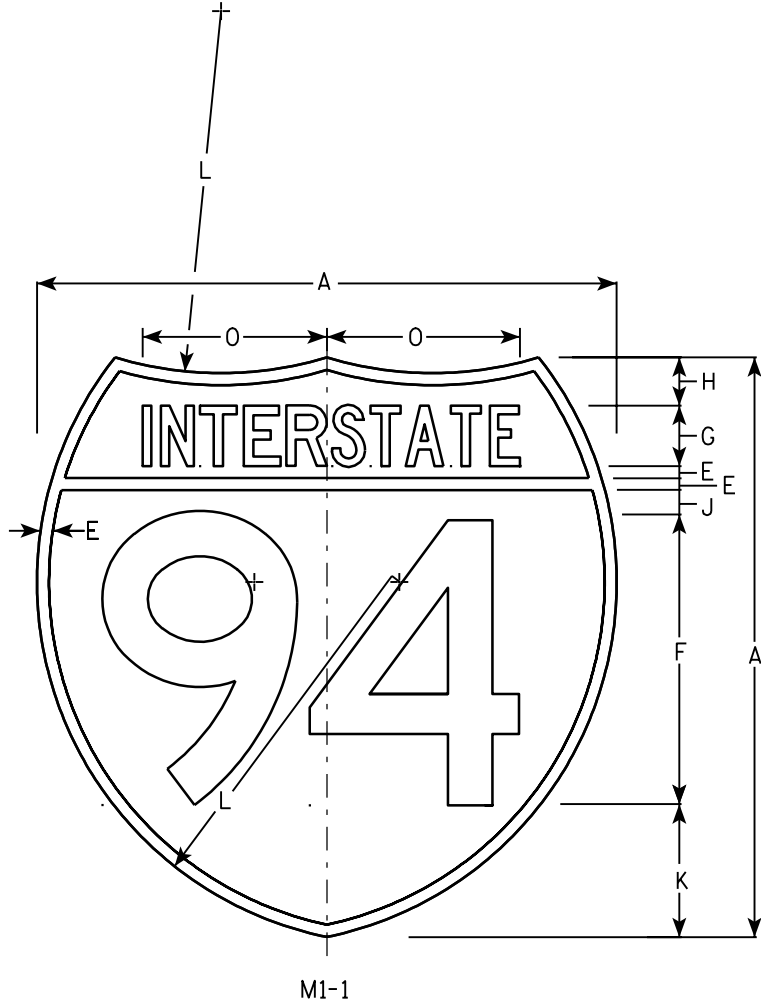
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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 - Top Red - Bottom Blue (See Note 6)
Message - White - See Note 6
- 3. Message Series - See note 5
- 4. Substitute appropriate numerals & adjust 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

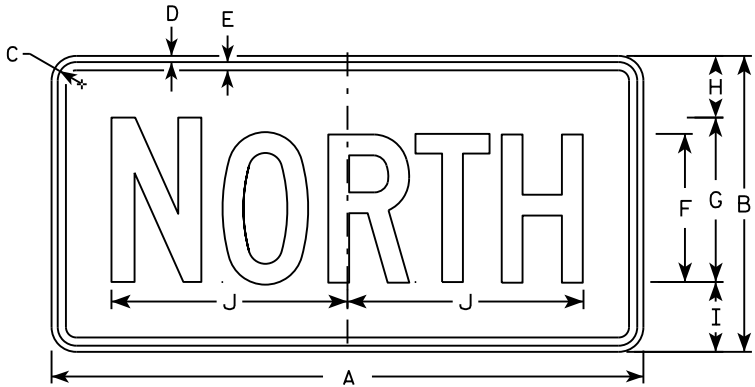
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Area sq. ft.	Area sq. ft.	Area m ²	Area m ²
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				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

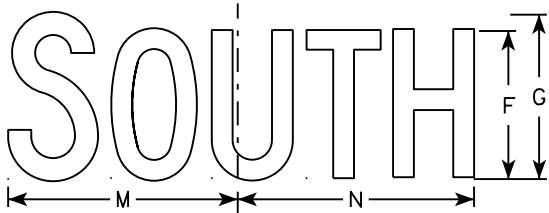
DATE 08/23/05 PLATE NO. M1-1.8



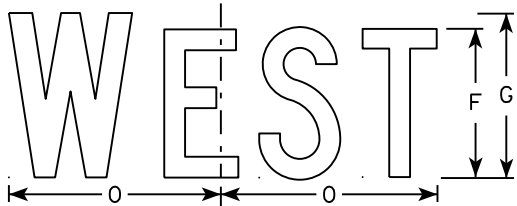
M3-1
MM3-1
MP3-1



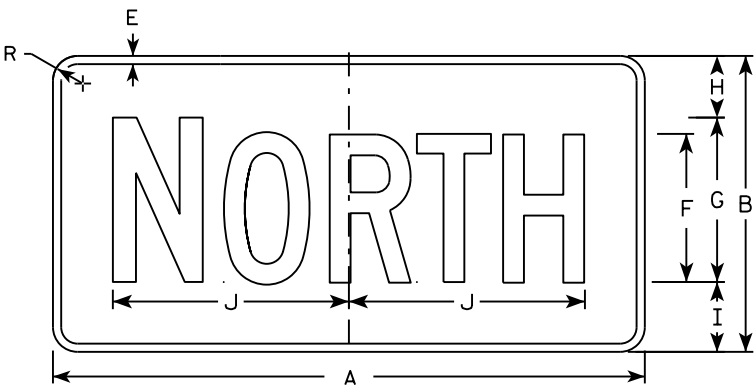
M3-2
MM3-2
MP3-2



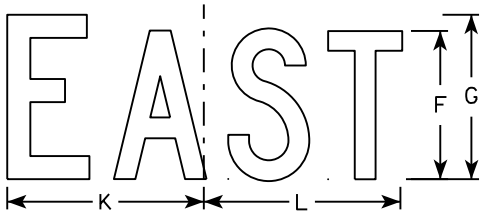
M3-3
MM3-3
MP3-3



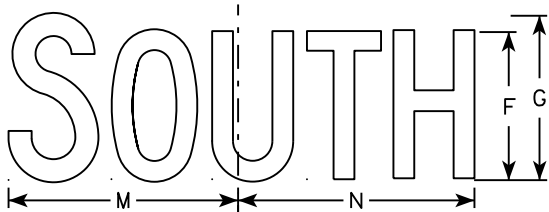
M3-4
MM3-4
MP3-4



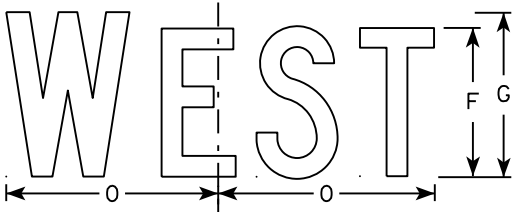
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



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 thru M3-4
SERIES

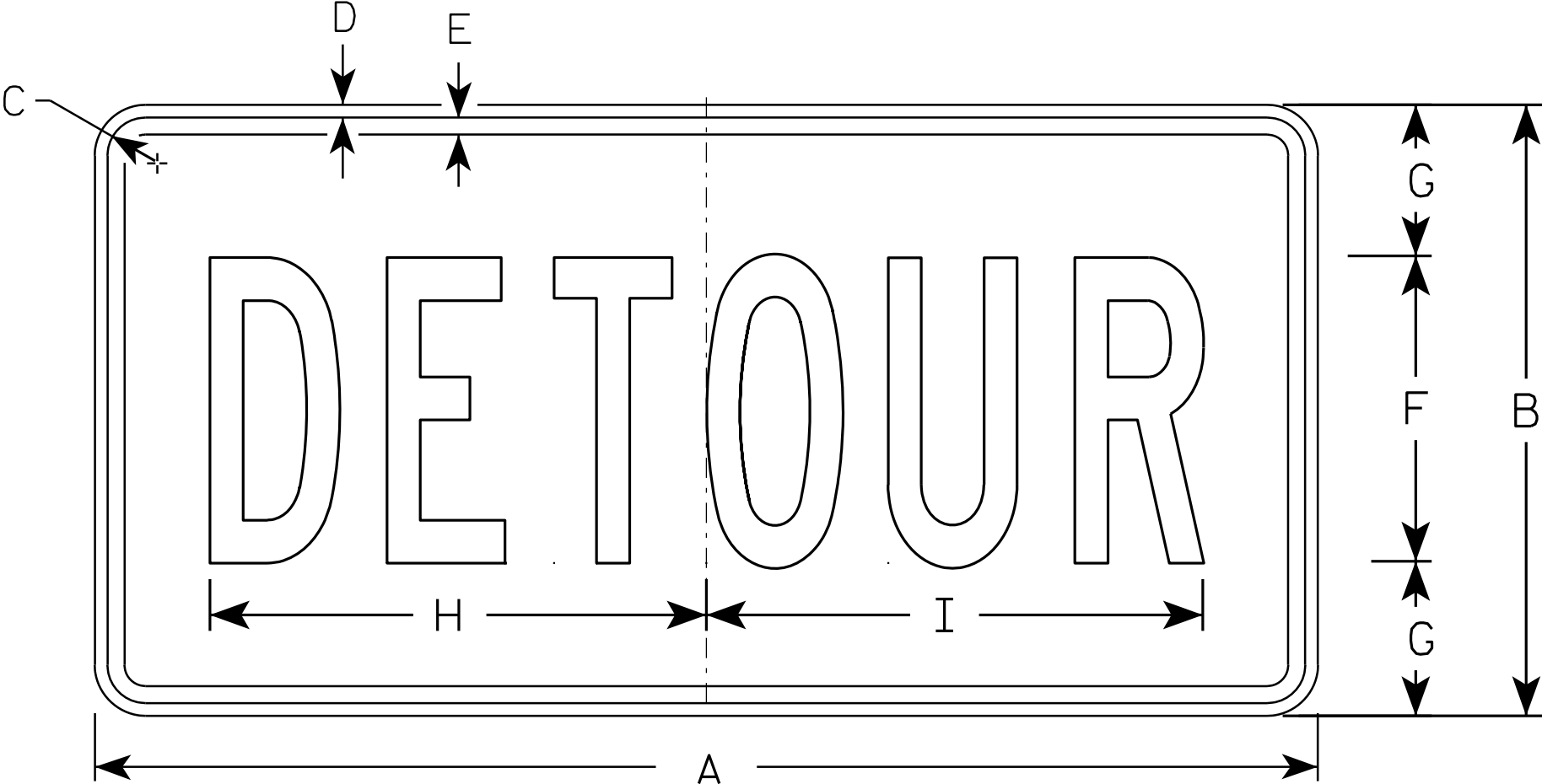
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

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.



M4 - 8

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																											

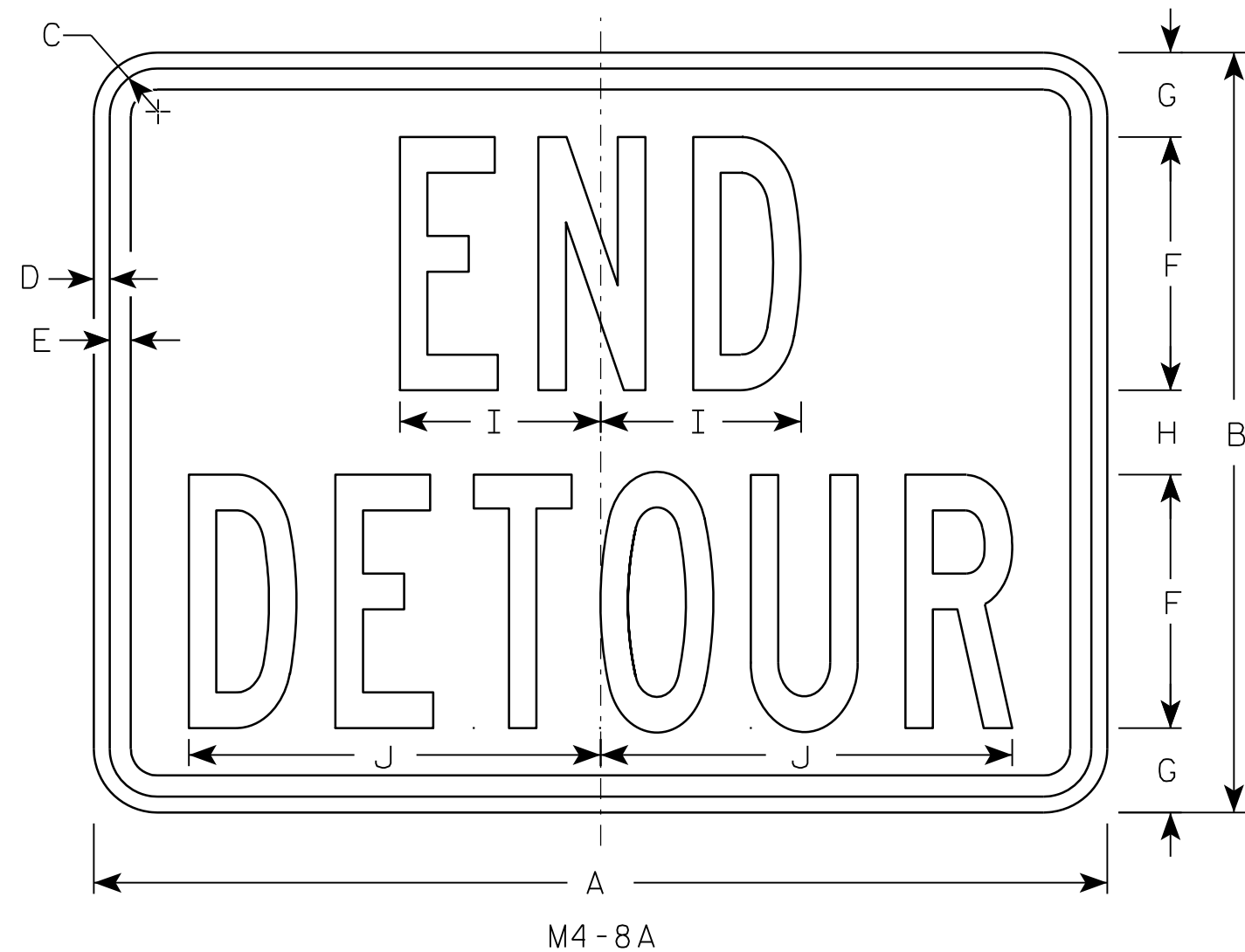
STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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

7



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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																											

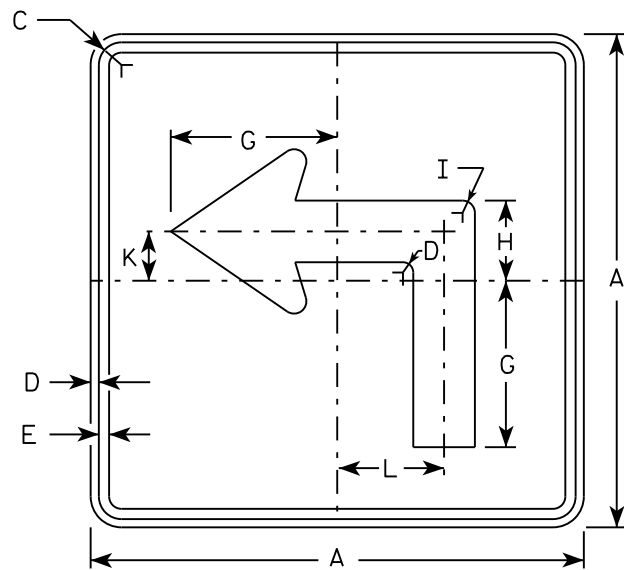
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M4-8A

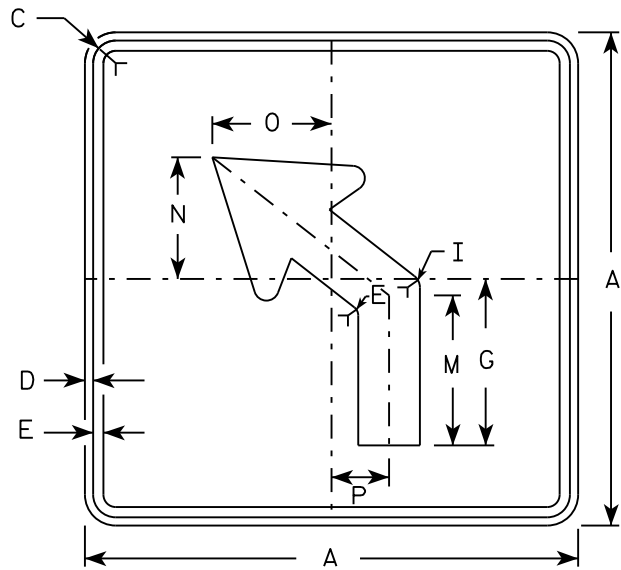
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

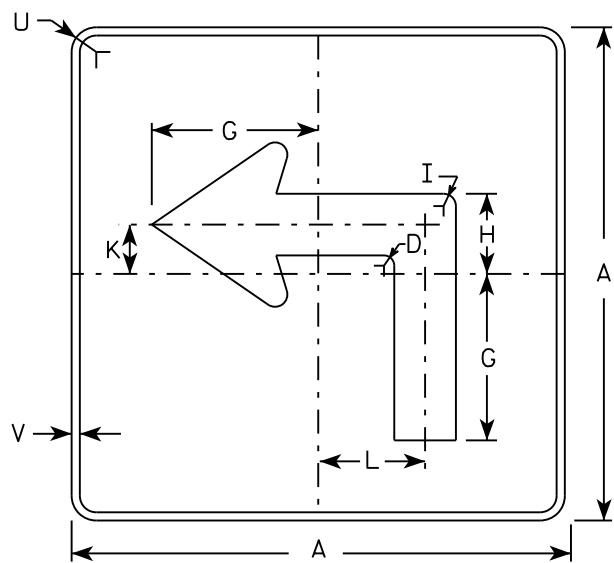
DATE 3/9/11 PLATE NO. M4-8A.2



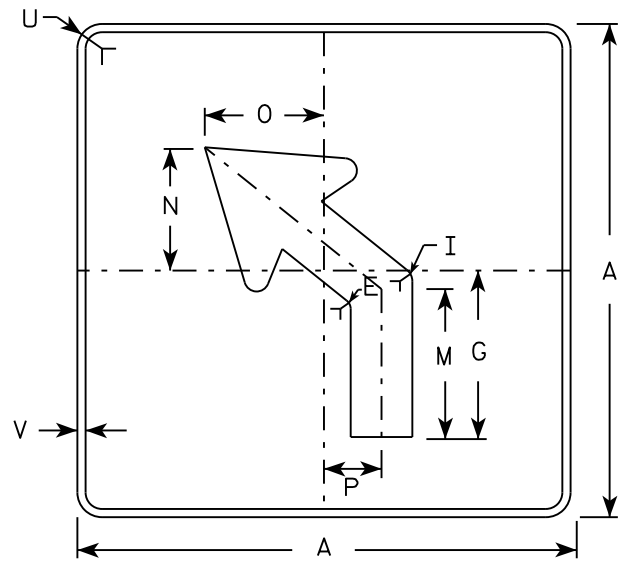
M5-1L
MM5-1L
M05-1L
MP5-1L



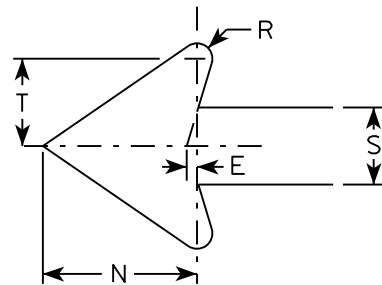
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



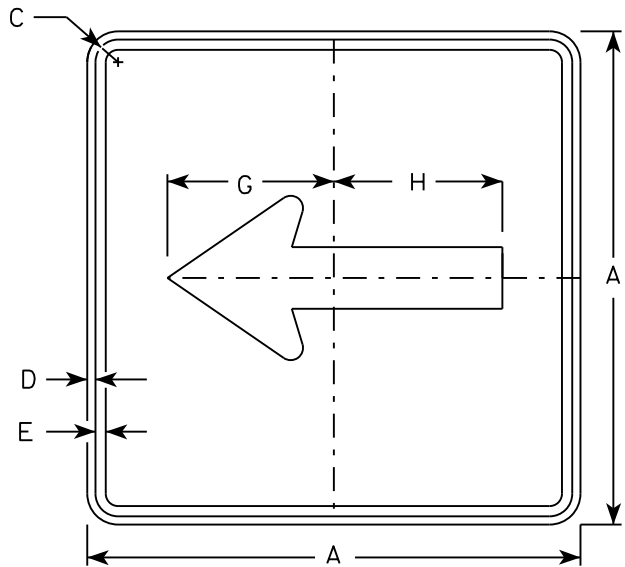
MB5-2L
MK5-2L
MN5-2L
MR5-2L



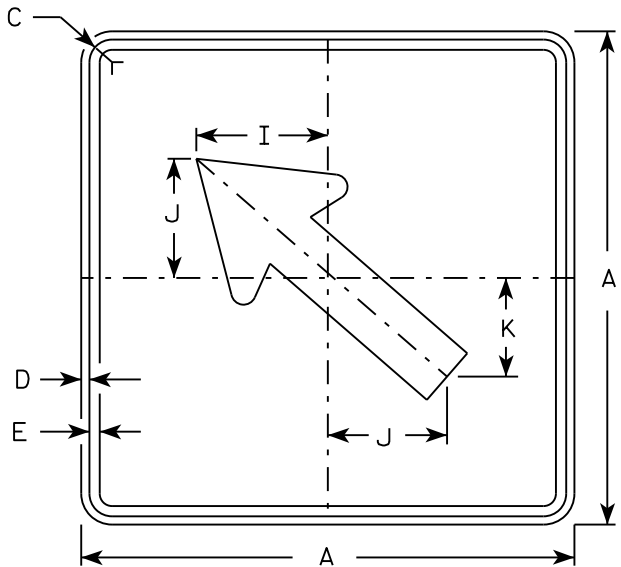
NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 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.
- 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
M05-1 and M05-2 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
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

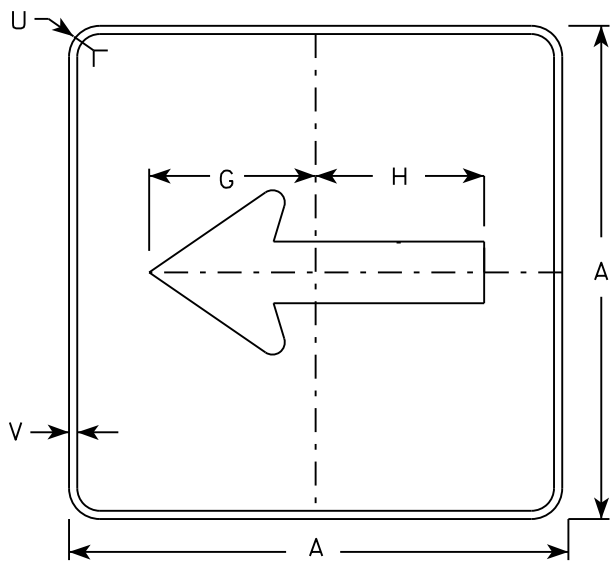
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
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



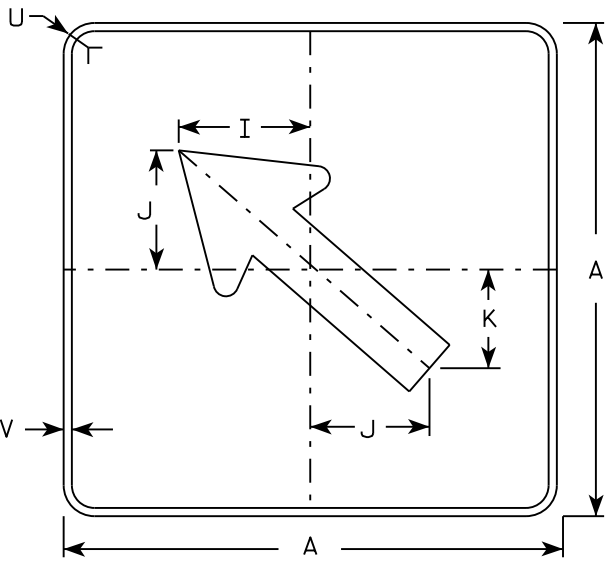
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



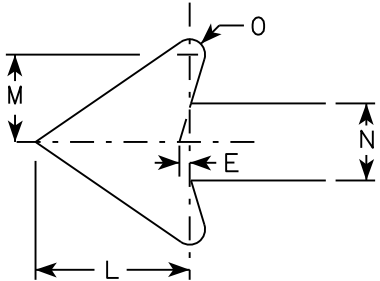
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



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



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



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 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.
- 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
M06-1 and M06-2 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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

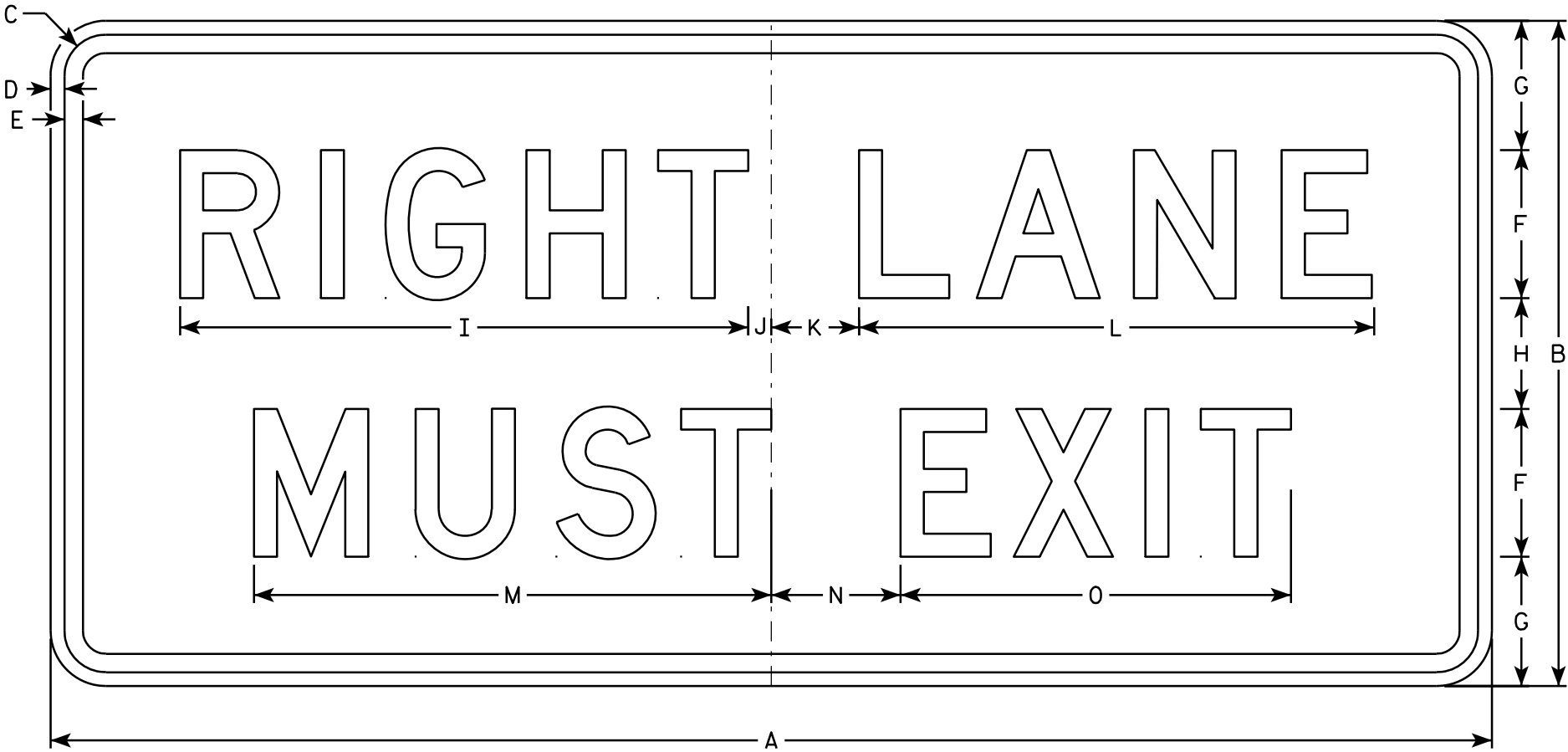
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

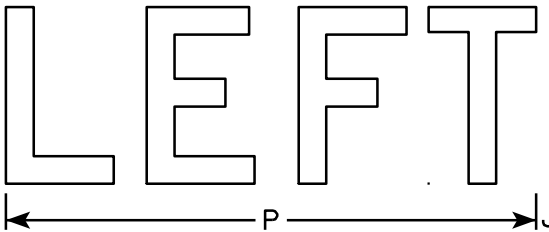
DATE 10/15/15 PLATE NO. M6-1.15

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.



R3-33R



R3-33L

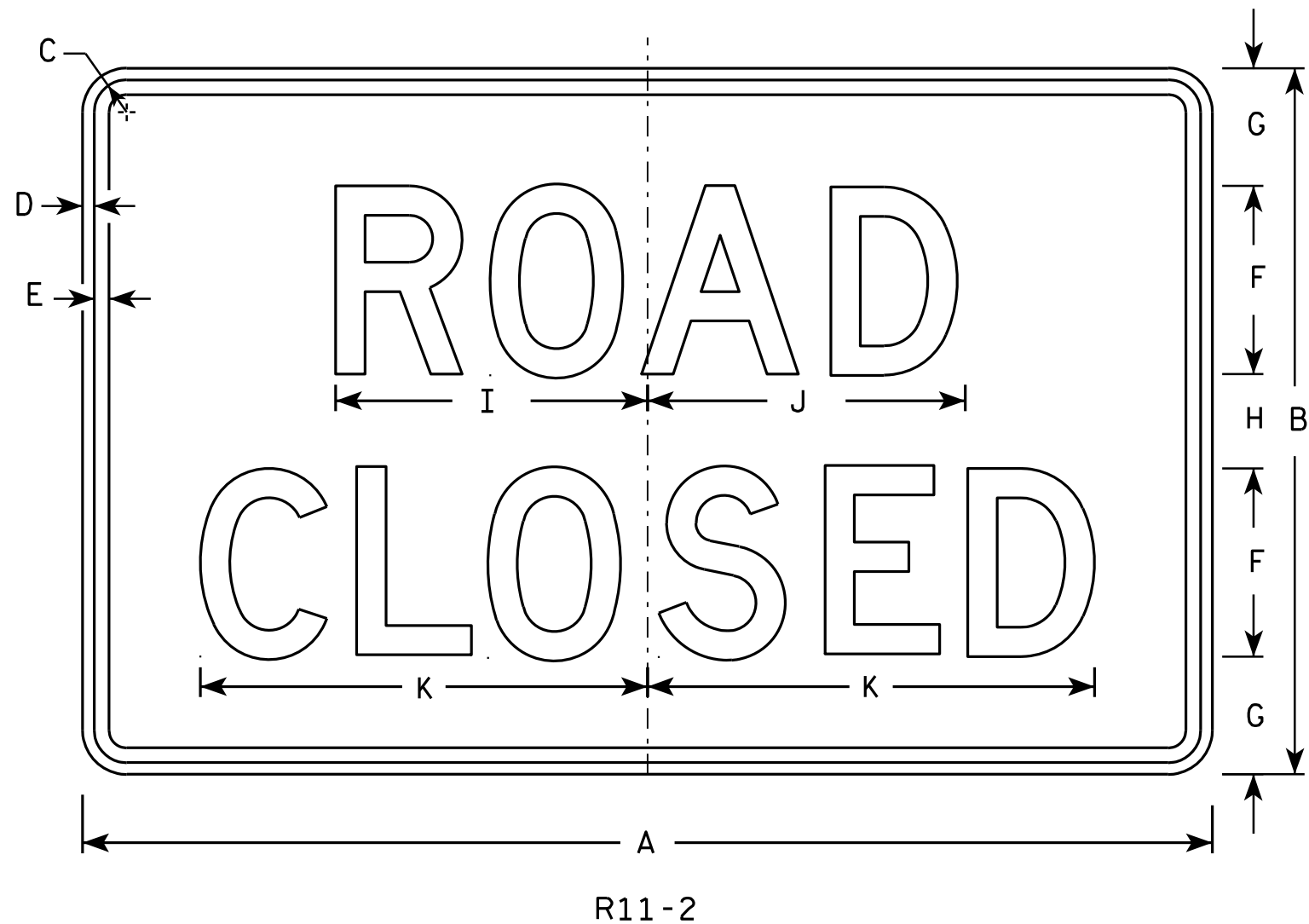
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	78	36	2 1/4	3/4	1	8	7	6	30 3/4	1 1/4	4 3/4	27 7/8	28	7	21 1/8	24											19.5
5	78	36	2 1/4	3/4	1	8	7	6	30 3/4	1 1/4	4 3/4	27 7/8	28	7	21 1/8	24											19.5

STANDARD SIGN
R3-33

WISCONSIN DEPT OF TRANSPORTATION

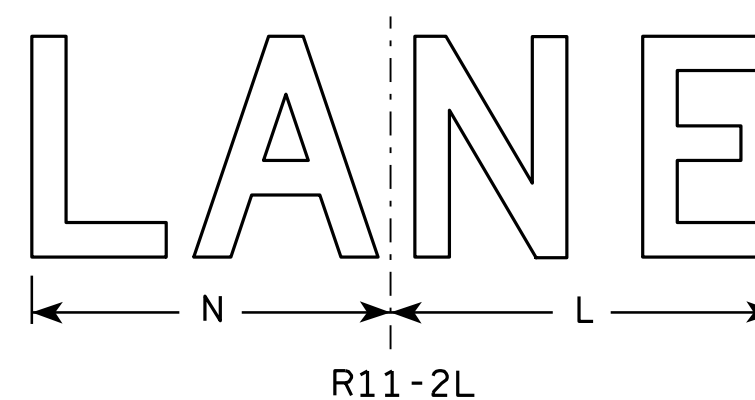
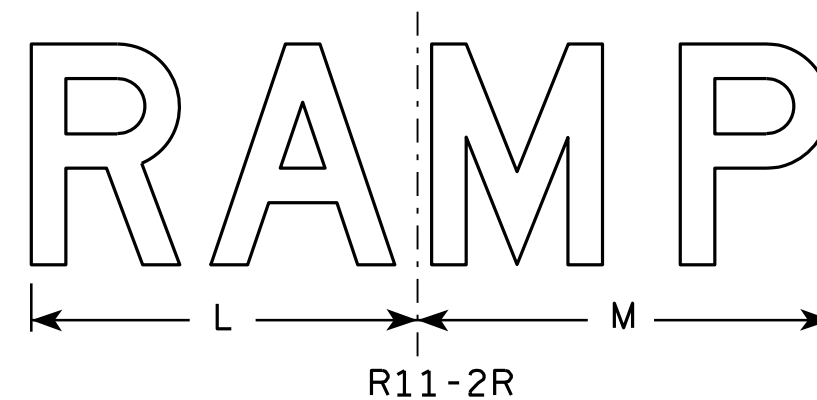
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/7/10 PLATE NO. R3-33.1



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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.

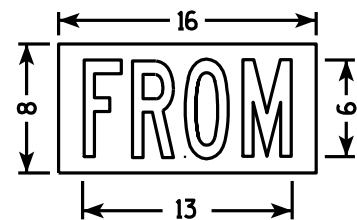
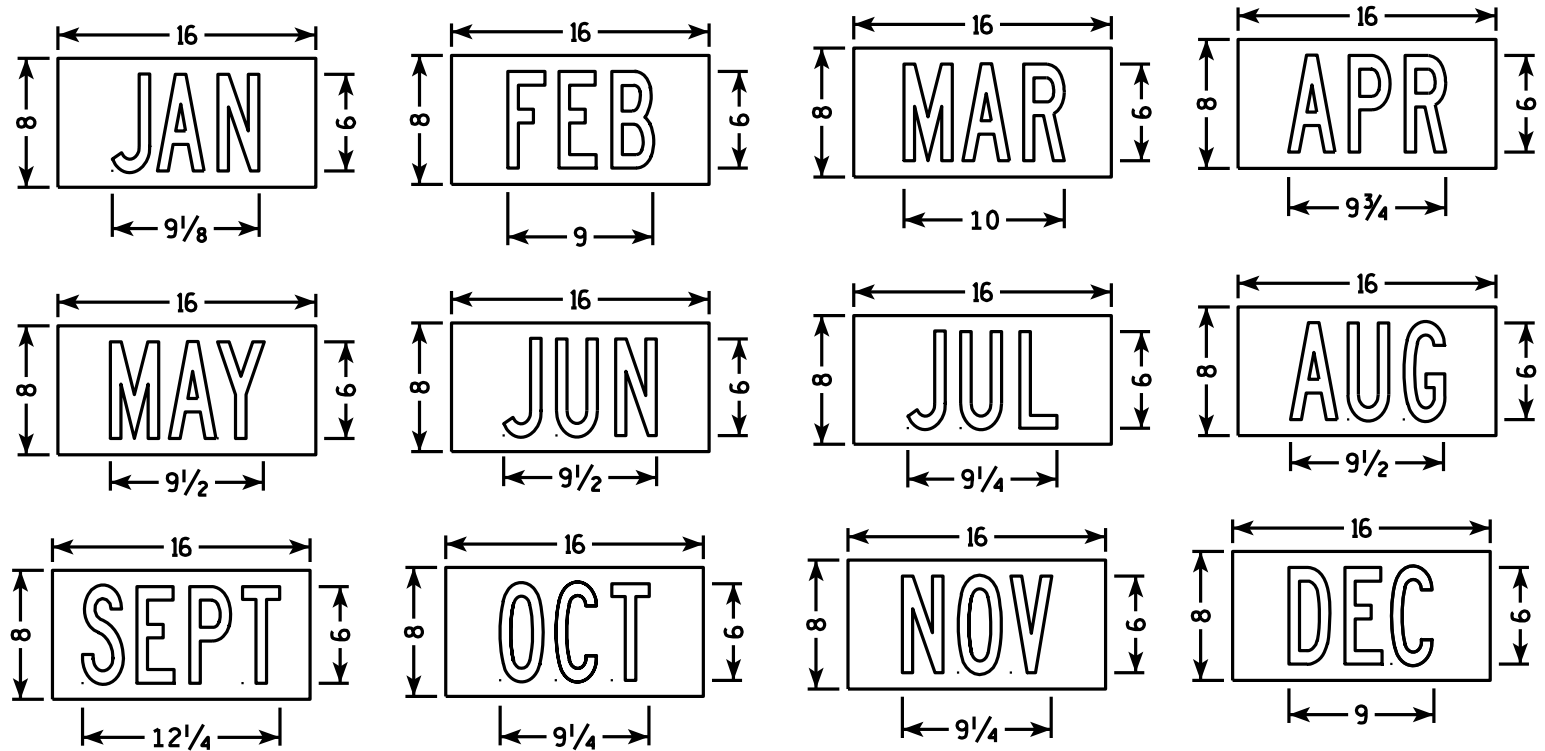
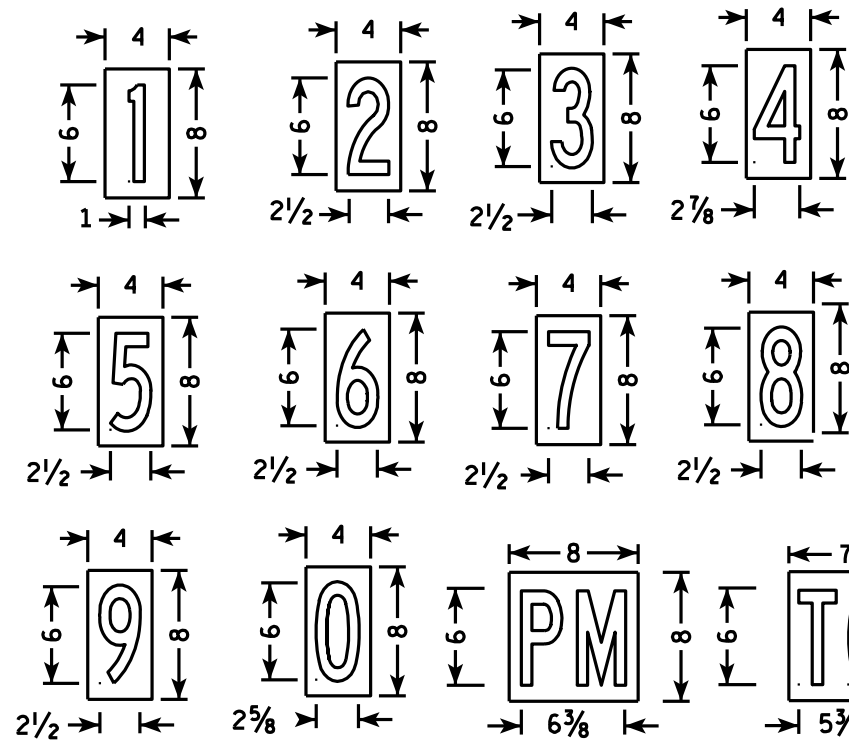
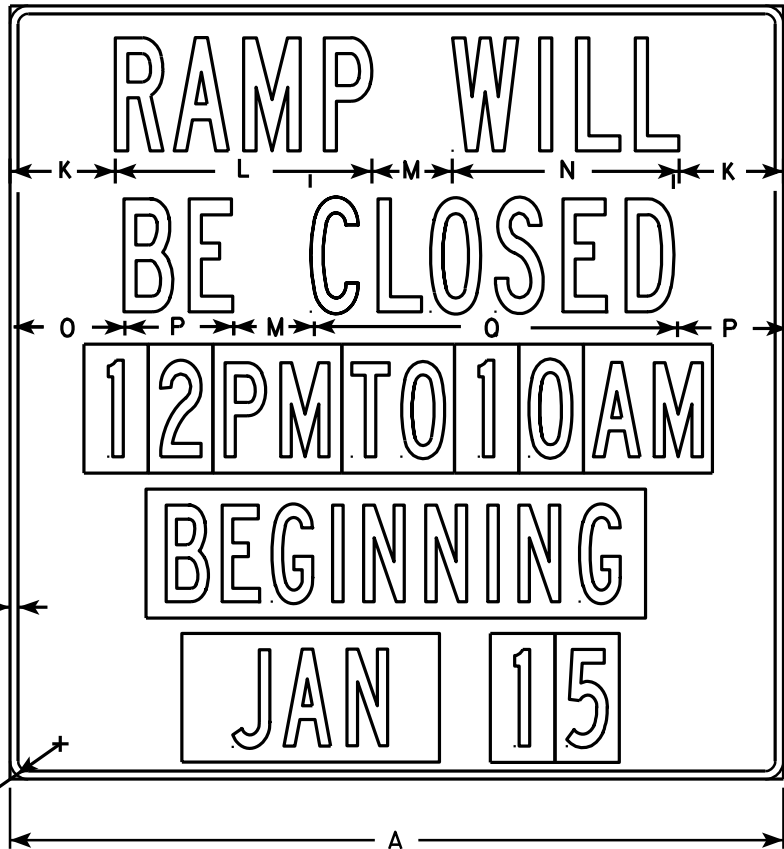


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13				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

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - B
- 4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.

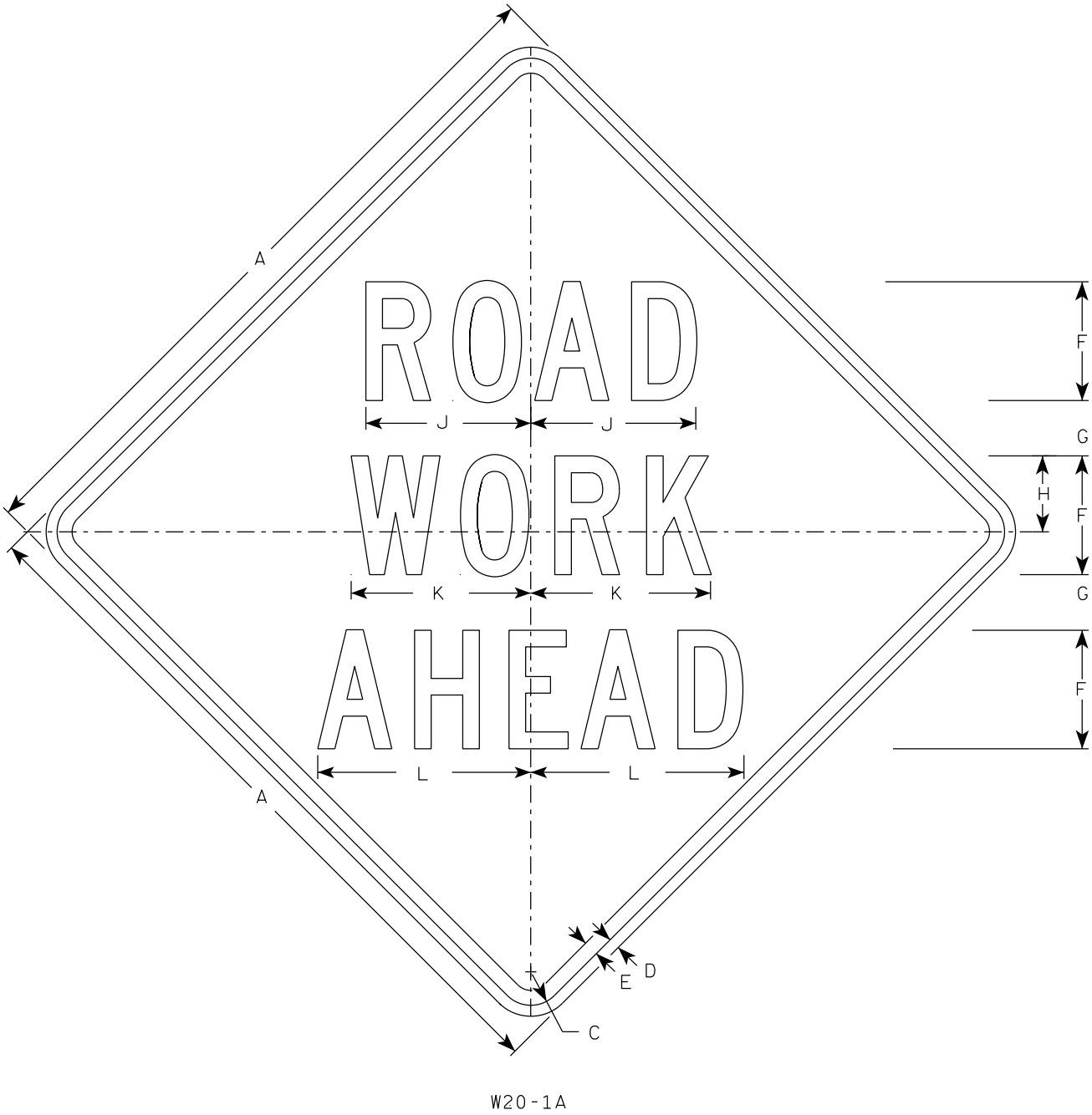
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

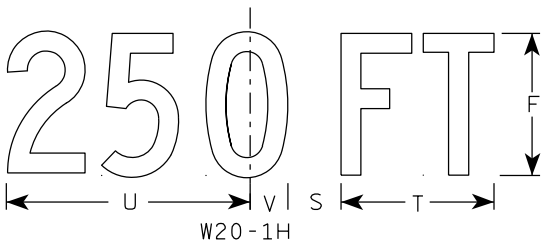
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-51.4

NOTES

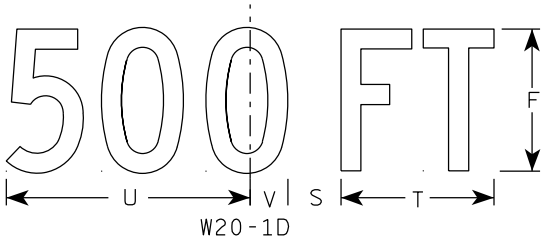
1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



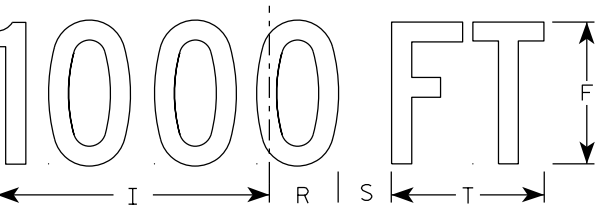
W20-1A



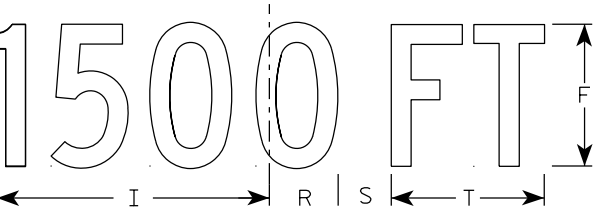
W20-1H



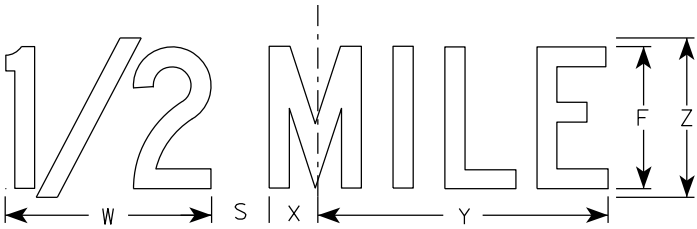
W20-1D



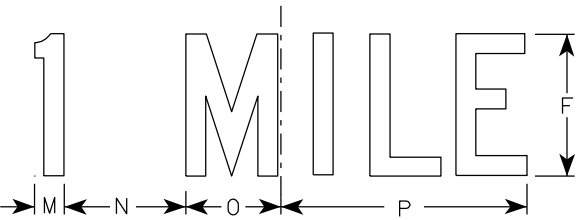
W20-1C



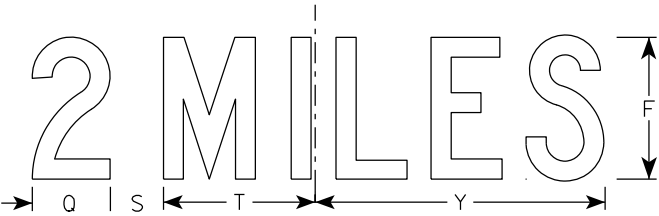
W20-1B



W20-1G



W20-1F



W20-1E

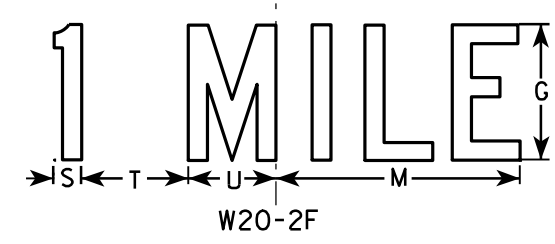
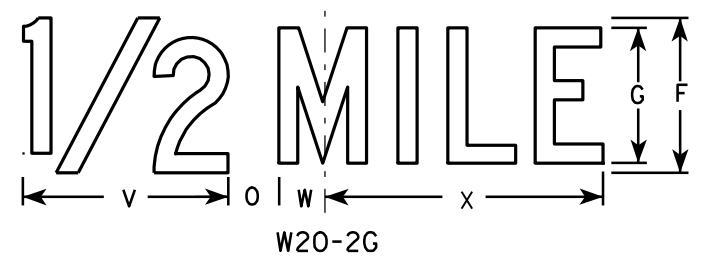
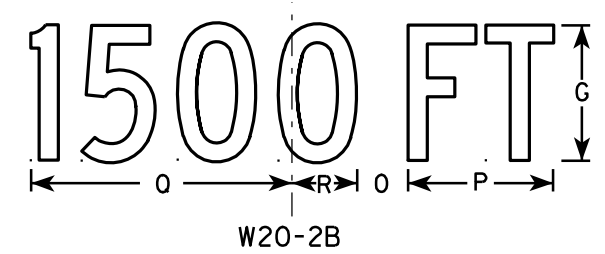
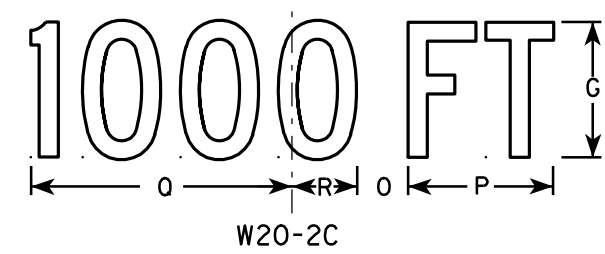
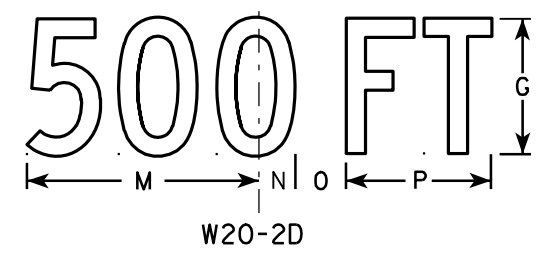
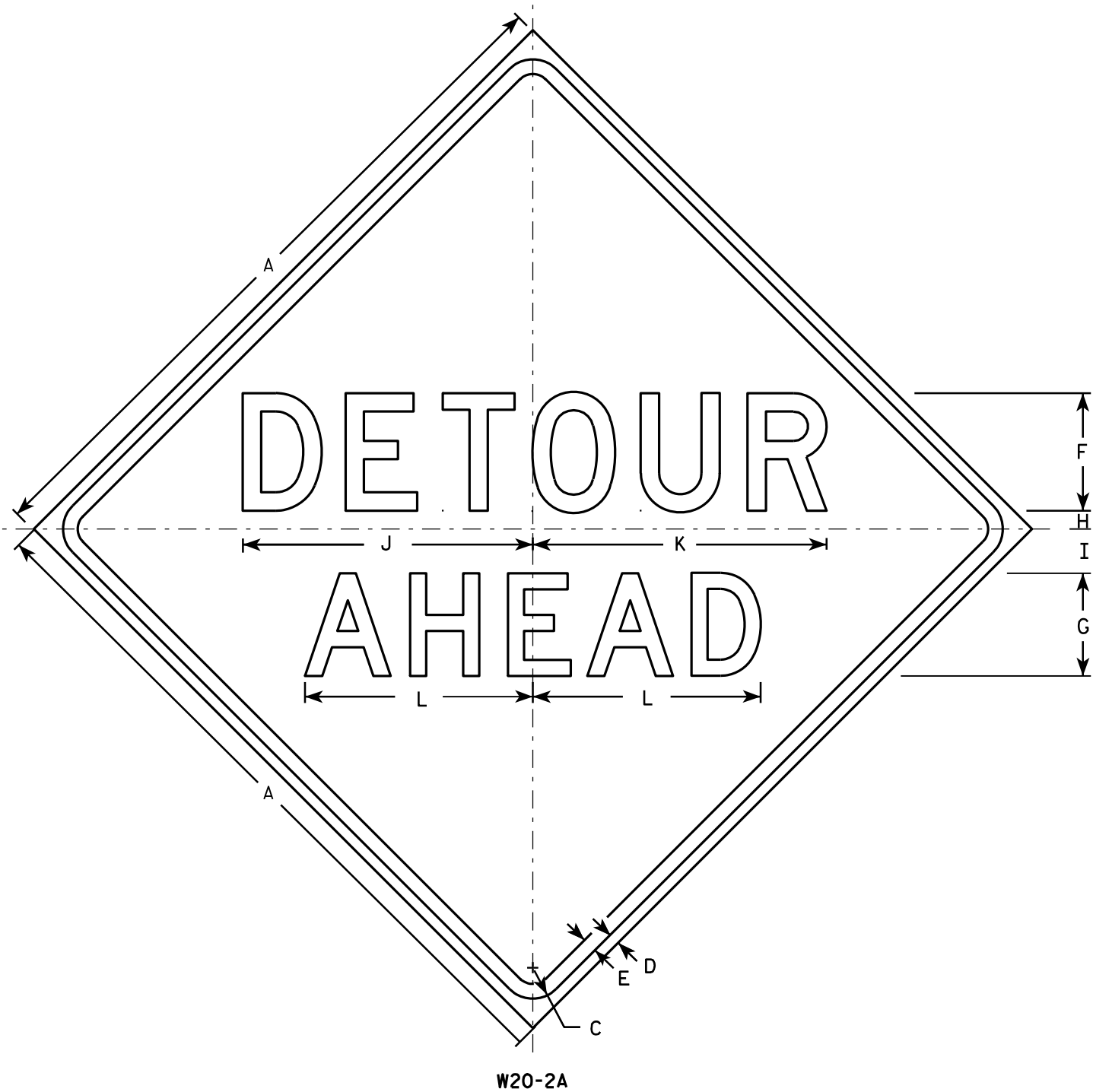
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A _{req} sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11



NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

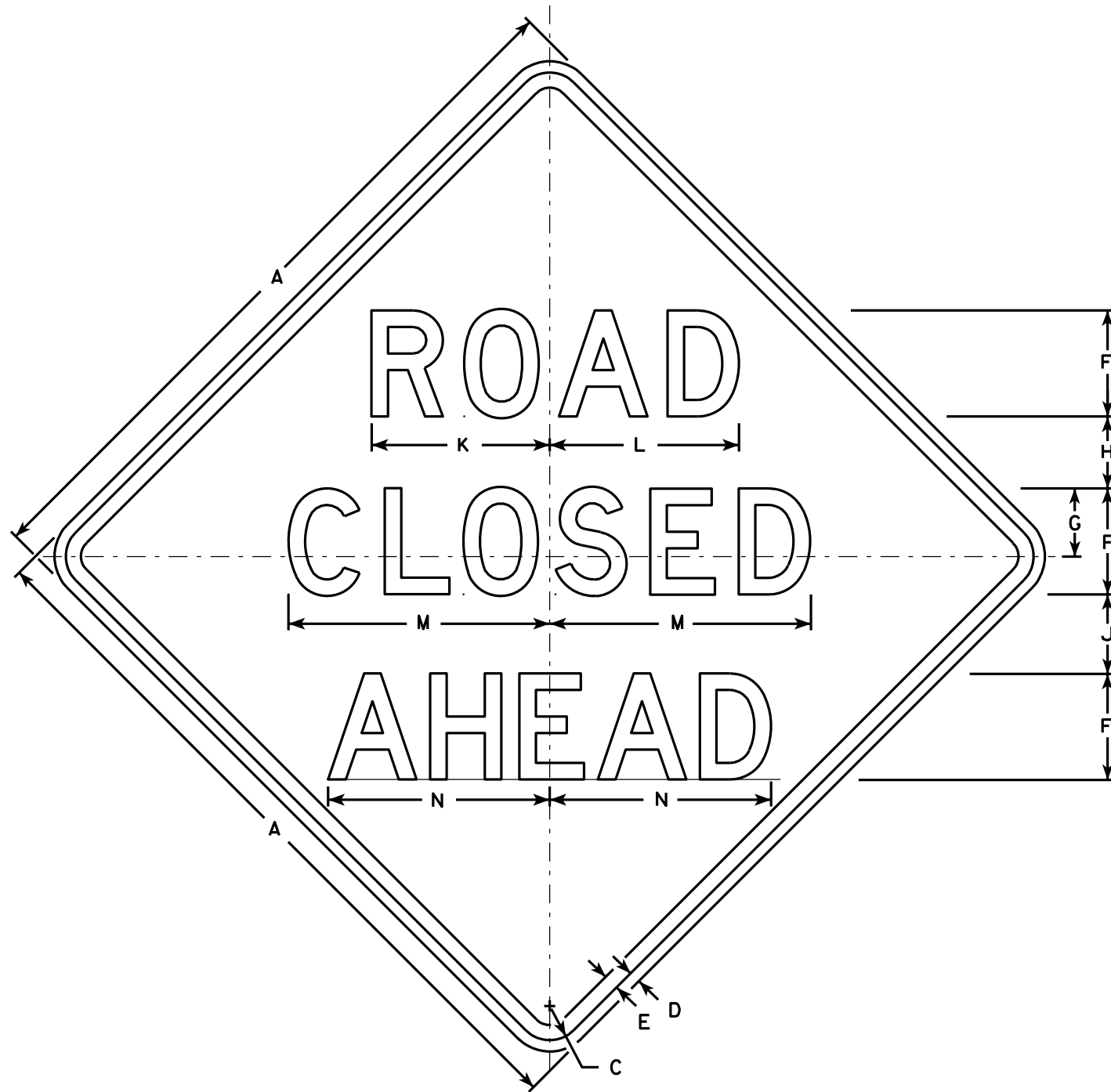
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - see note 5
- 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.
- Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

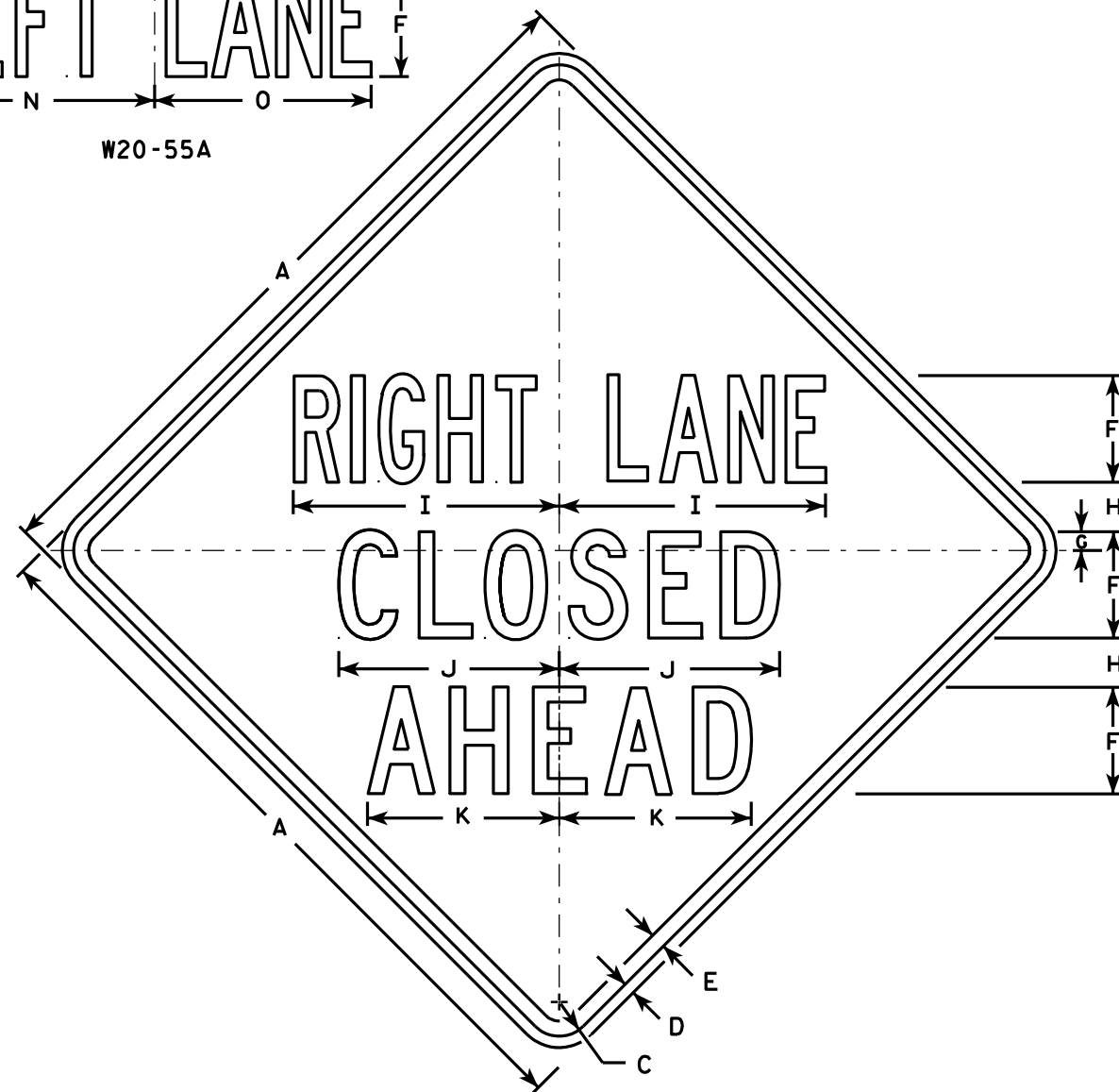
E

CENTER LANE

W20-56A

LEFT LANE

W20-55A



W20-5A

500 FT

W20-5D

1000 FT

W20-5C

1500 FT

W20-5B

1/2 MILE

W20-5G

1 MILE

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	7/8	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 7/8	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

PROJECT NO:

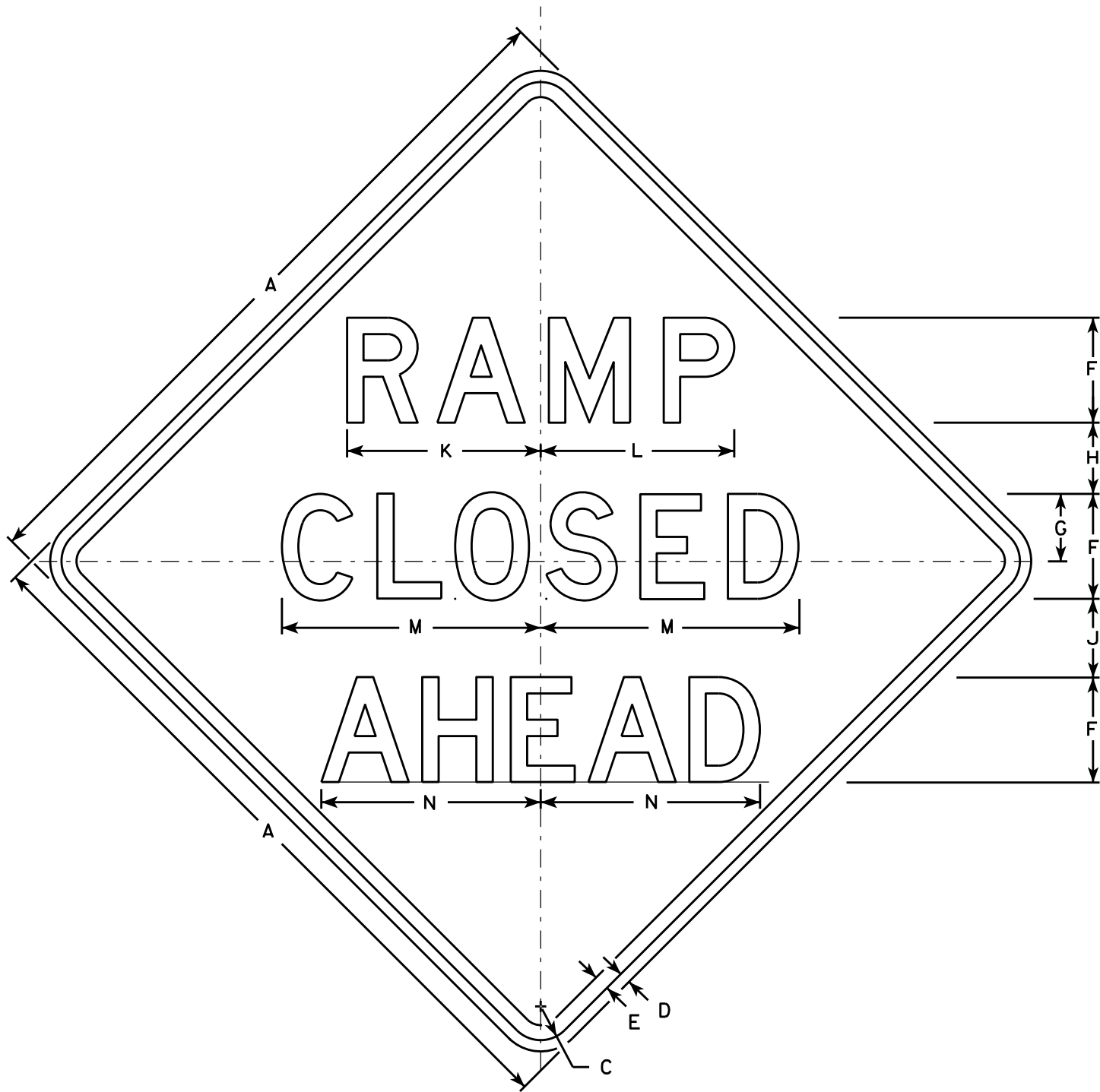
HWY:

COUNTY:

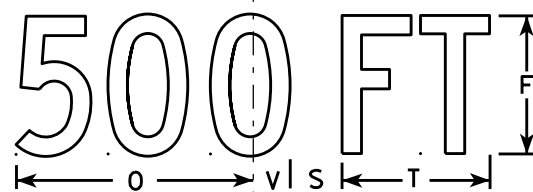
SHEET NO:

E

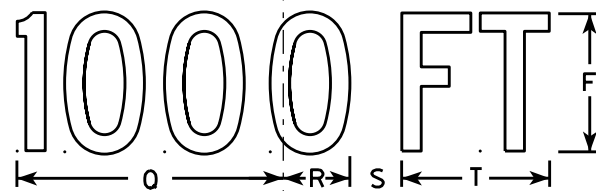
STANDARD SIGN	
W20-5A, B, C, D, F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/18/11	PLATE NO. W20-5.11



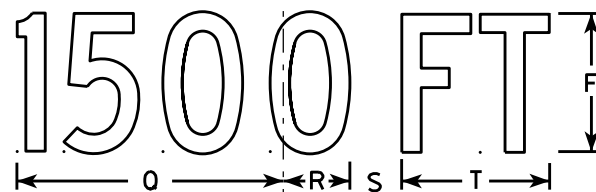
W20-53A



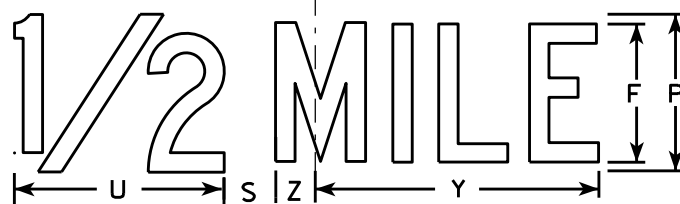
W20-53D



W20-53C



W20-53B



W20-53G



W20-53F

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.

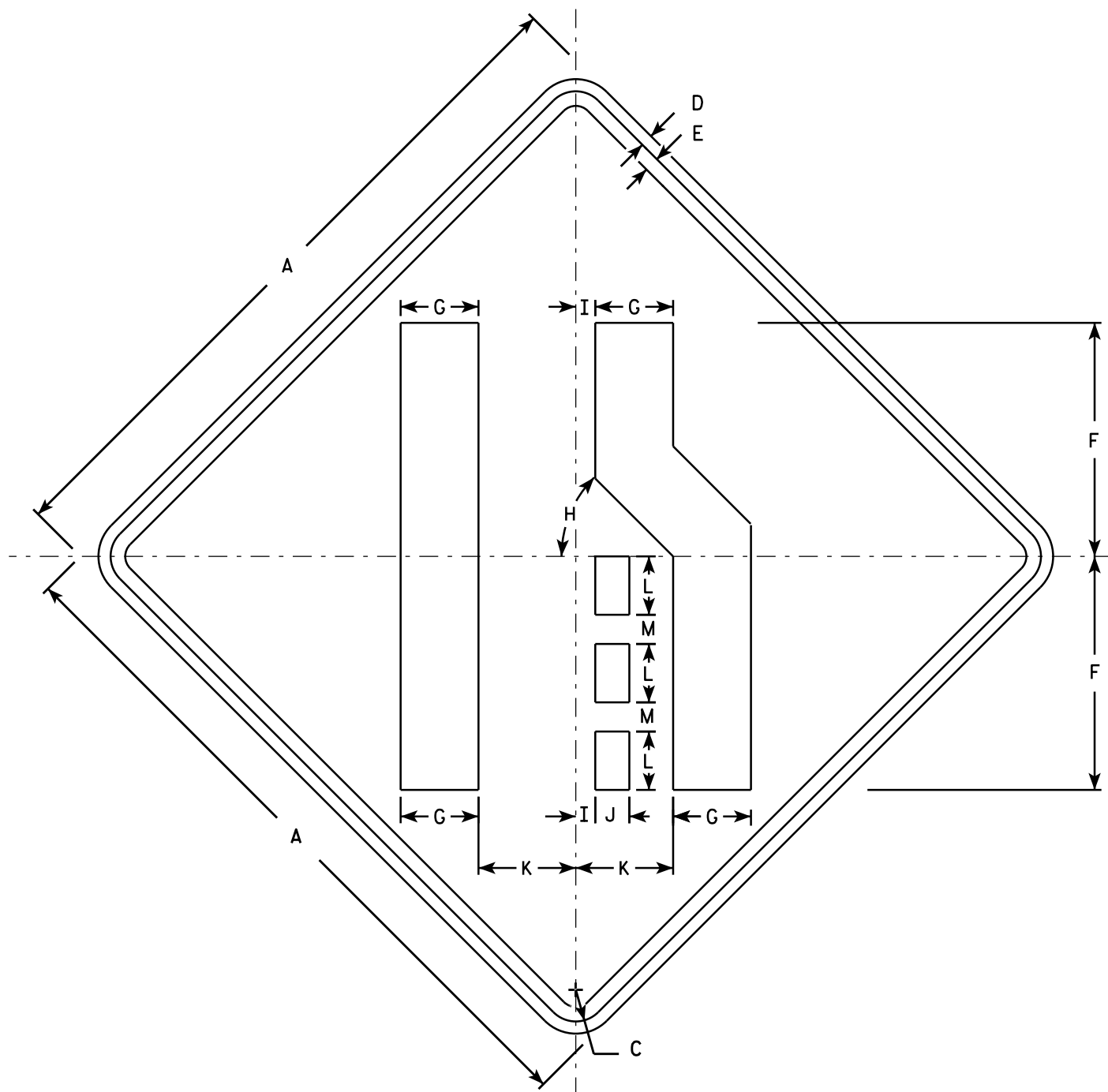
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1



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.

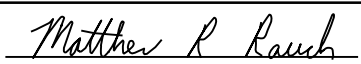
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5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

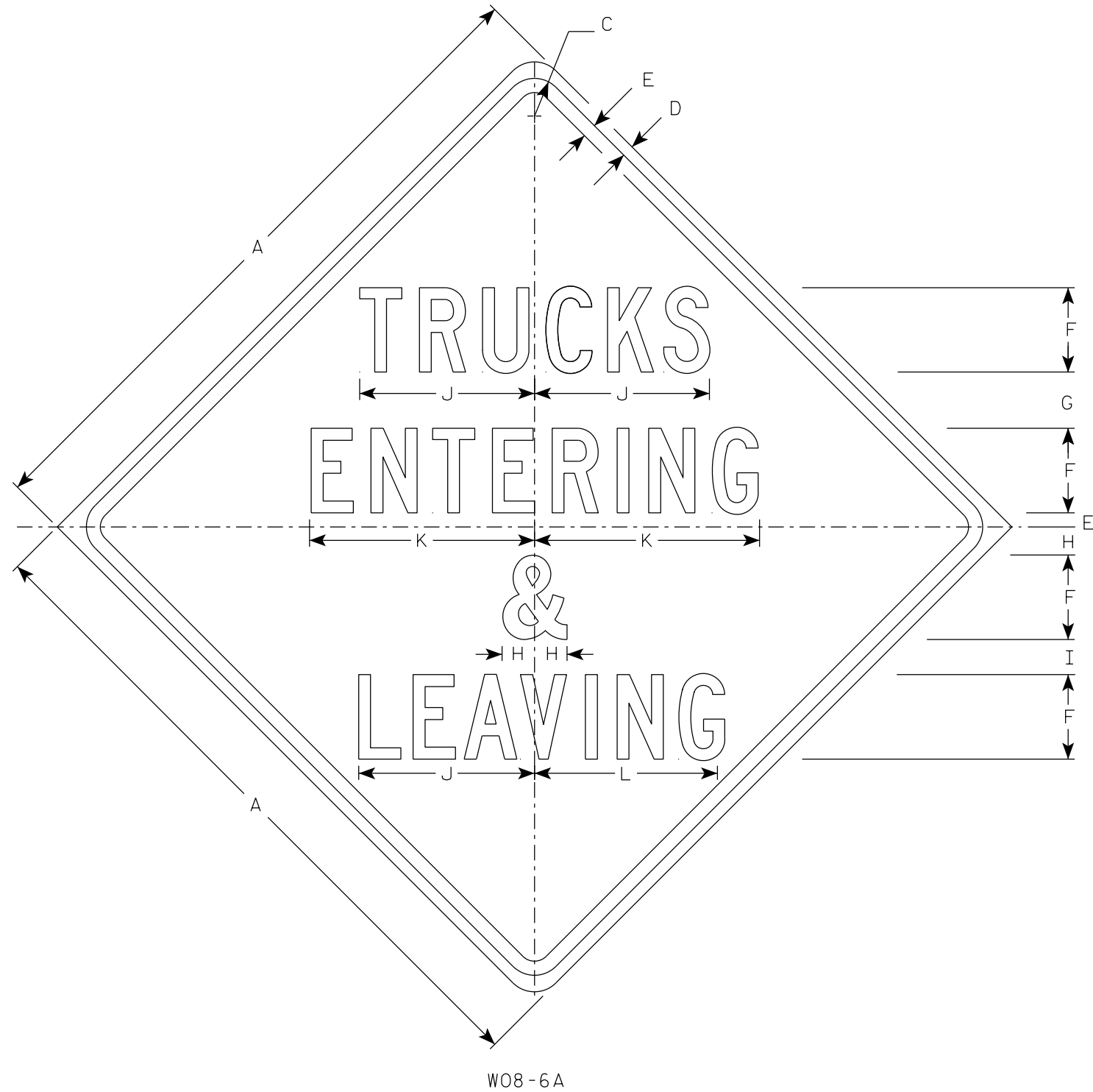


For State Traffic Engineer

DATE 11/20/13

PLATE NO. W04-2.1

7



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.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	4 1/2	3	1 1/2	1 7/8	9 3/8	12	9 3/4															9
2S	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
2M	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
3	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
4	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16
5	48		2 1/4	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16

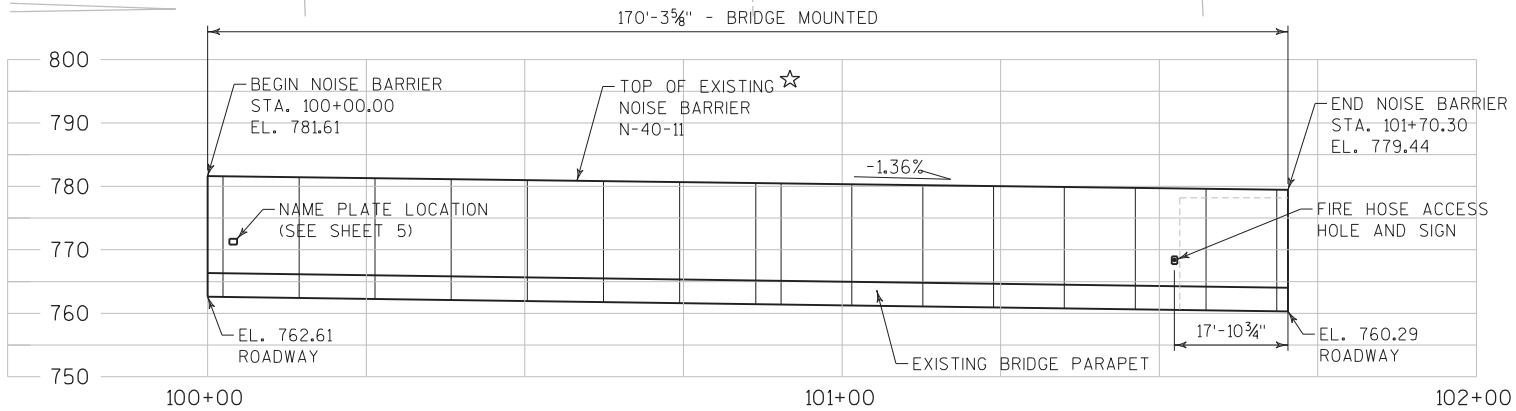
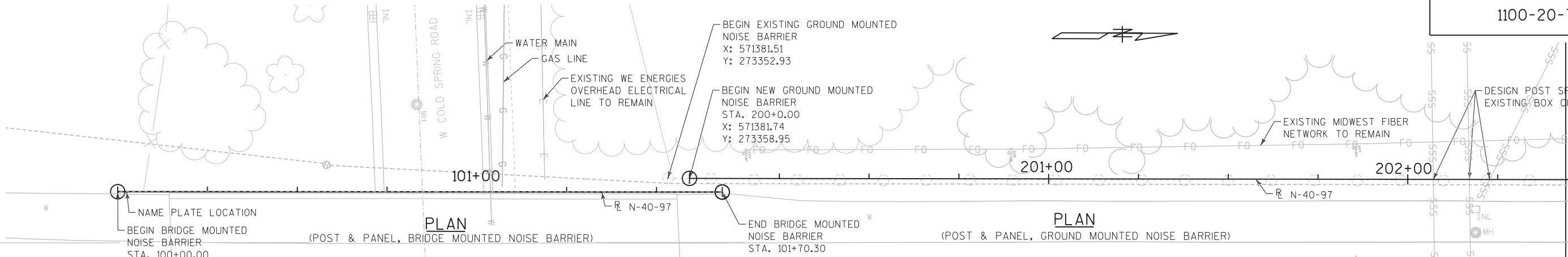
PROJECT NO:		HWY:		COUNTY:		SHEET NO:		E
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STANDARD SIGN
W08-6A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/15/2020 PLATE NO. W08-6A.J



BRIDGE MOUNTED NOISE BARRIER
(STRUCTURE B-40-186)

TRAFFIC DATA

IH894/USH45 COLDSPRING RD
AADT = 128,500 (2031) AADT = 7,100 (2031)
RDS = 60 MPH RDS = 30 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN & ELEVATION 1
2. GENERAL PLAN & ELEVATION 2
3. GENERAL PLAN & ELEVATION 3
4. GENERAL PLAN & ELEVATION 4
5. NOTES & CONSTRUCTION DETAILS
6. SUBSURFACE EXPLORATION
7. AESTHETIC WALL TREATMENT DETAILS RESIDENTIAL SIDE
8. AESTHETIC WALL TREATMENT DETAILS FREEWAY SIDE

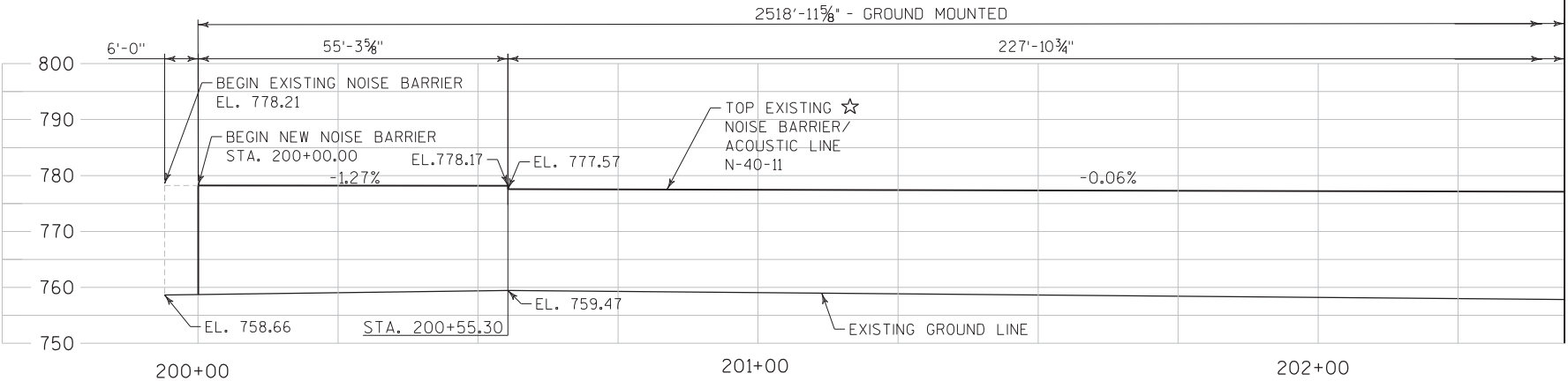
NOTES

LOCATE THE BOTTOM OF THE HYDRANT ACCESS HOLES
4.0' ABOVE THE BOTTOM OF THE NOISE BARRIER.

- ☆ - MATCH EXISTING NOISE BARRIER ELEVATIONS
- - EXISTING PILE LOCATIONS
(DESIGN POST SPACING TO AVOID WHERE POSSIBLE)

TOTAL ESTIMATED QUANTITIES			
ITEM NUMBER	BID ITEM	UNIT	TOTAL
203.0200	REMOVE OLD STRUCTURE (STA. 8+46.60)	LS	1
204.9060.S	REMOVING EXISTING FOUNDATIONS	EACH	13
541.0300.S	NOISE BARRIER DOUBLE-SIDED SOUND ABSORPTIVE N-40-97	SF	51570

▲ - QUANTITY IS FOR ESTIMATING PURPOSES ONLY, BASED ON BARRIER ANGLE POINTS.
NEW POST LOCATIONS TO BE AVOID EXISTING PILE LOCATIONS WHERE POSSIBLE.



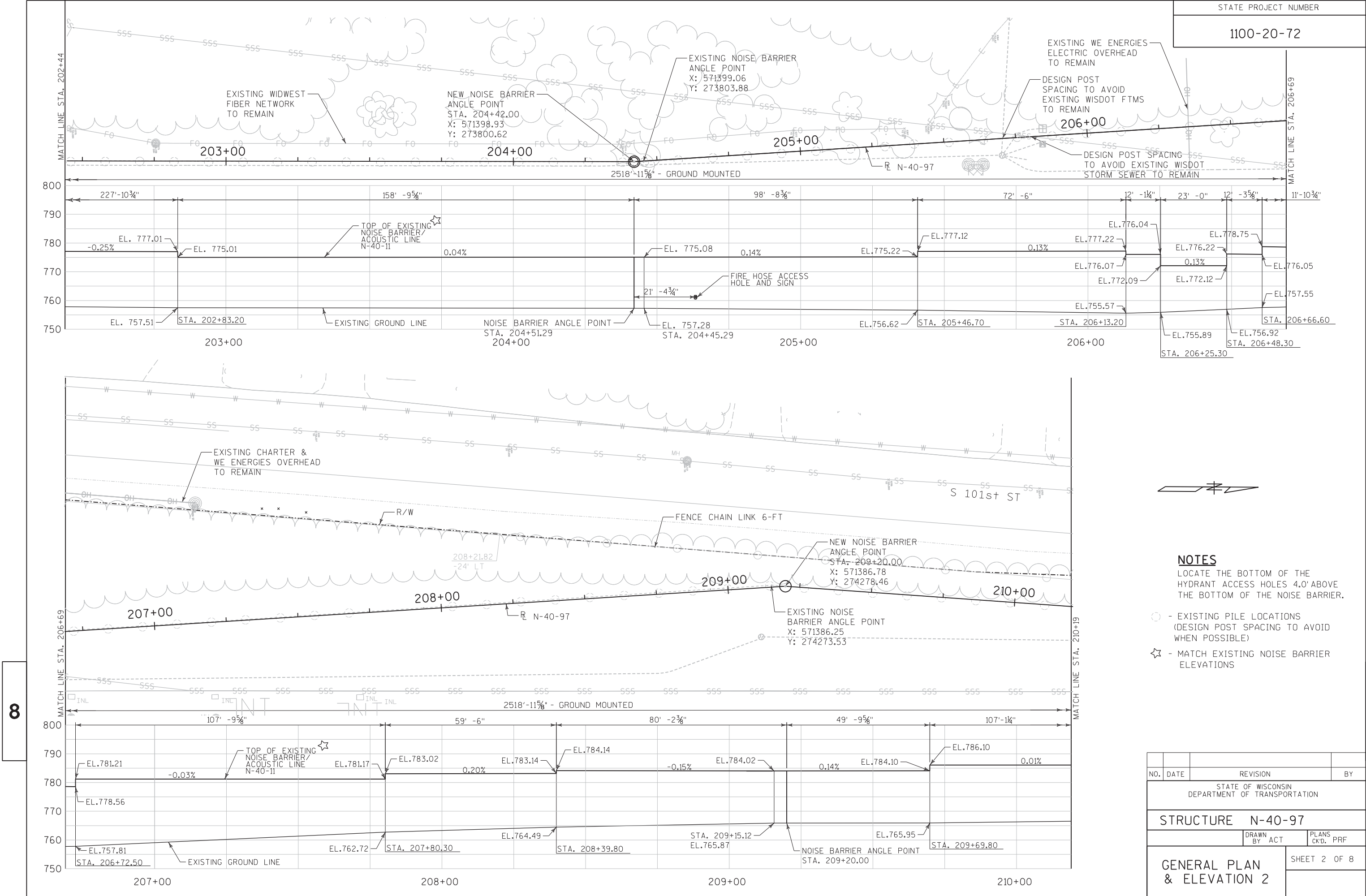
GROUND MOUNTED NOISE BARRIER
(PROFILE)



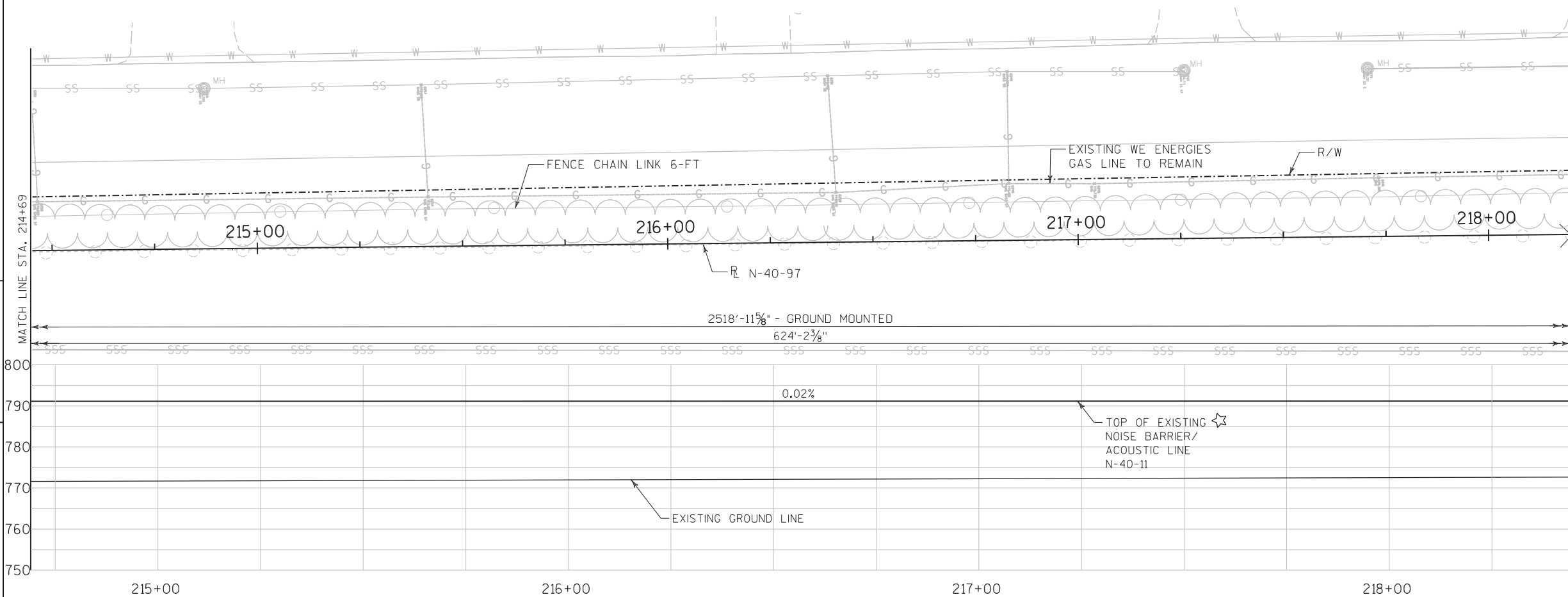
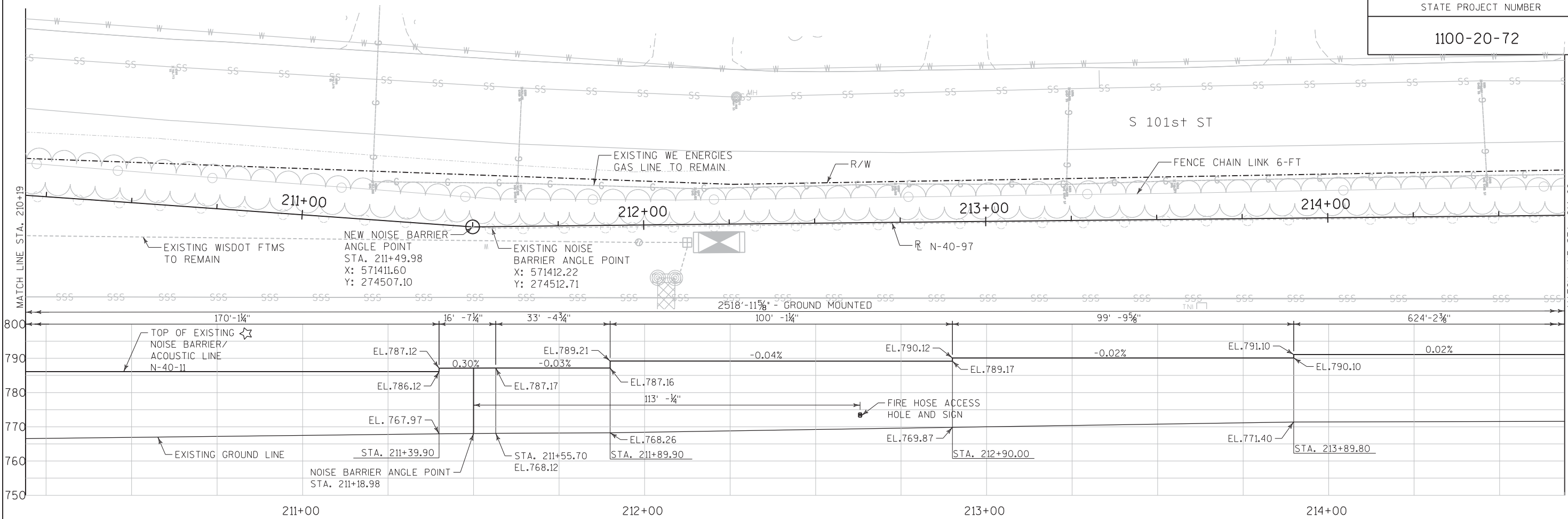
STRUCTURES DESIGN CONTACTS

BUREAU OF STRUCTURES:
AARON BONK (608) 261-0261
CONSULTANT CONTACT:
ANN THIELMANN (608) 229-1414

NO.	DATE	REVISION	BY
 www.daarcorp.com Milwaukee, WI 53202 414-225-9817			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	SDR CHIEF STRUCTURES DESIGN ENGINEER		02/10/21 DATE
STRUCTURE N-40-97			
NOISE BARRIER ALONG I41SB: COLD SPRING RD TO HOWARD AVE			
COUNTY	MILWAUKEE	CITY	GREENFIELD
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	ACT	DESIGN CK'D.	PRF
BY	ACT	DESIGN CK'D.	PRF
GENERAL PLAN & ELEVATION			SHEET 1 OF 8



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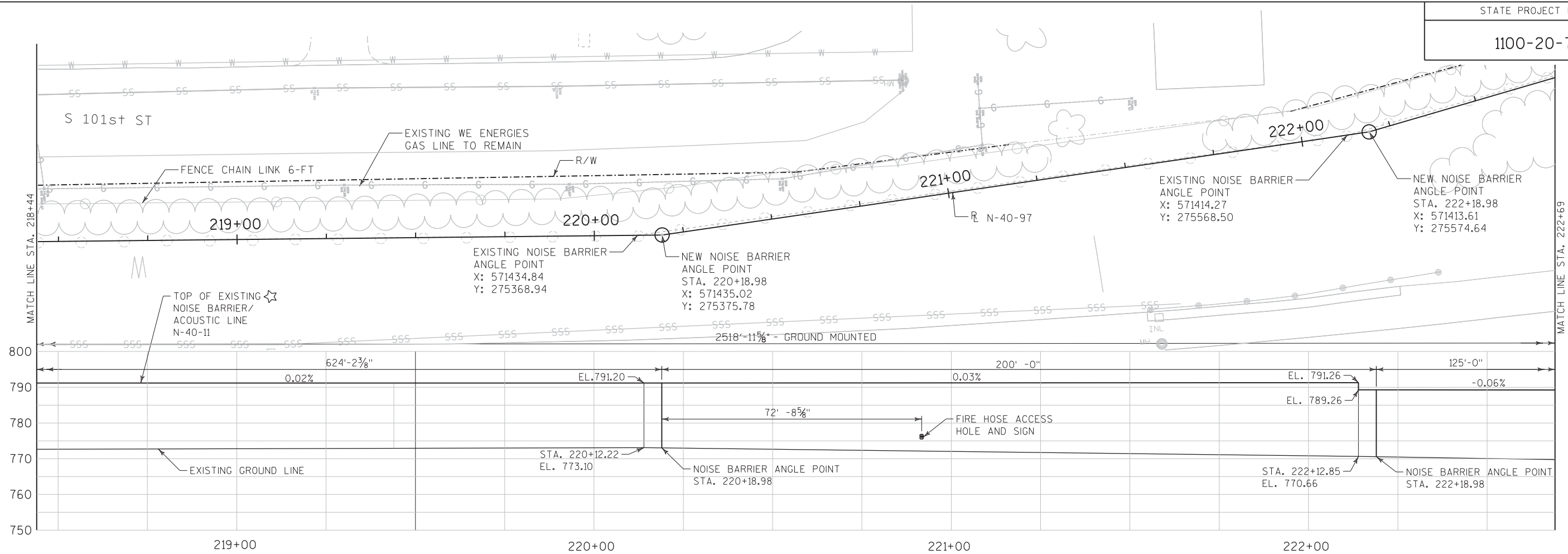
NOTES

LOCATE THE BOTTOM OF THE HYDRANT ACCESS HOLES 4.0' ABOVE THE BOTTOM OF THE NOISE BARRIER.

- EXISTING PILE LOCATIONS (DESIGN POST SPACING TO AVOID WHEN POSSIBLE)
- MATCH EXISTING NOISE BARRIER ELEVATIONS



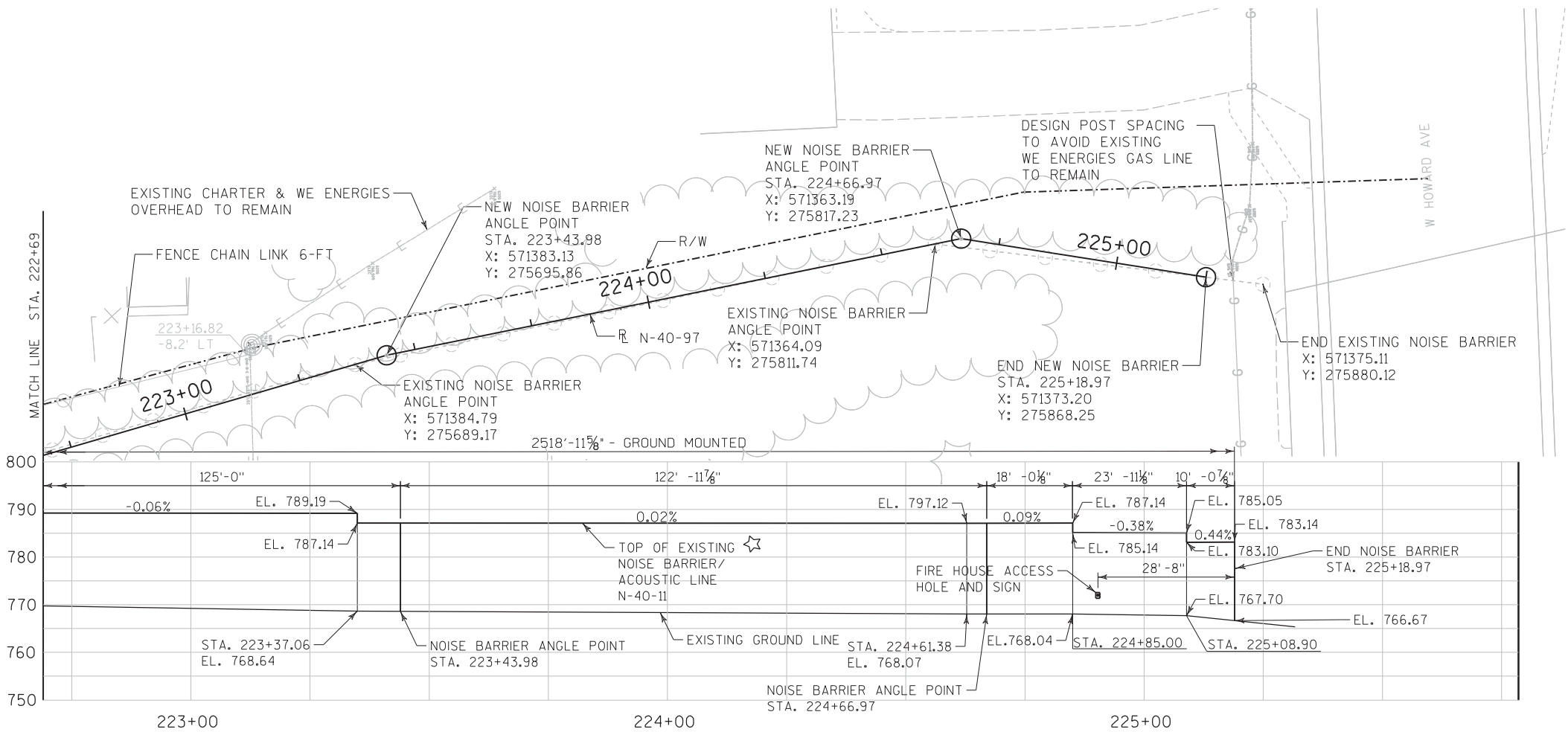
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE N-40-97			
		DRAWN BY ACT	PLANS CK'D. PRF
GENERAL PLAN & ELEVATION 3			SHEET 3 OF 8



NOTES

LOCATE THE BOTTOM OF THE HYDRANT ACCESS HOLES 4.0' ABOVE THE BOTTOM OF THE NOISE BARRIER.

- EXISTING PILE LOCATIONS (DESIGN POST SPACING TO AVOID WHEN POSSIBLE)
- MATCH EXISTING NOISE BARRIER ELEVATIONS



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STRUCTURE N-40-97			
DRAWN BY ACT		PLANS CK'D. PRF	
GENERAL PLAN & ELEVATION 4			SHEET 4 OF 8

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCIDENTAL TO THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97".

PLANS, ELEVATIONS AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE NOISE BARRIER IS TO BE DESIGNED USING THE EXISTING GRADE LINE AND THE EXISTING TOP OF BARRIER/ACOUSTICAL LINE SHOWN ON THE GENERAL PLAN AND ELEVATION SHEETS AND USING THE EXISTING BARRIER ANCHOR ASSEMBLY ON B-40-186.

THE ACOUSTICAL LINE IS THE TOP PAY LIMIT FOR THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97". NOISE BARRIER PLACED ABOVE THE ACOUSTICAL LINE WILL NOT BE MEASURED FOR PAYMENT, UNLESS APPROVED BY THE ENGINEER.

THE EXISTING/FINISHED GRADE LINE IS THE BOTTOM PAY LIMIT FOR THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97". NOISE BARRIER PLACED BELOW THE FINISHED GRADE LINE WILL NOT BE MEASURED FOR PAYMENT.

ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIMS BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS AND WITH THE CURRENT EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING ANY INTERIMS BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

THE FOLLOWING DESIGN PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:

- 35 P.S.F. FOR GROUND MOUNTED BARRIERS
- 40 P.S.F. FOR STRUCTURE MOUNTED BARRIERS

BEARING PADS AND CONCRETE PEDESTALS SHALL BE INCIDENTAL TO THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97".

A COMPRESSIBLE BEARING PAD OF 1/4" THICK SHALL BE PROVIDED BETWEEN THE FOUNDATION AND THE BOTTOM PANELS. THE BEARING PADS SHALL BE PREFORMED EPDM RUBBER CONFORMING TO ASTM D-2000, GRADE 2, TYPE A, CLASS A WITH A MINIMUM DUROMETER HARDNESS OF 80.

PRECAST CONCRETE PEDESTALS PLACED BETWEEN THE FOUNDATION AND THE BOTTOM OF THE PANELS SHALL BE REINFORCED IF OVER 1'-0" HIGH.

INCLUDE THE COST OF THE STONE PATTERN SURFACE TREATMENT, REVEALS, COATING OF STEEL POSTS AND CONNECTIONS, AND COLORING/STAINING THE PANELS, UNDER THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97".

LOCATE HYDRANT ACCESS HOLES IN NOISE BARRIERS WITH COVER SIGNS AT LOCATIONS SHOWN ON THE GENERAL PLAN & ELEVATION SHEETS. PROVIDING HYDRANT ACCESS HOLES IS INCIDENTAL TO THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97".

INSTALL FREE DRAINING GRANULAR MATERIAL ALONG THE ENTIRE LENGTH OF THE WALL AT THE BOTTOM OF THE NOISE BARRIERS AS SHOWN IN THE NOISE BARRIER PLANS AND AS REQUIRED TO FILL IN GAPS UNDER THE NOISE BARRIER PANEL. FREE DRAINING GRANULAR MATERIAL IS INCIDENTAL TO THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97".

THE SUBSURFACE INFORMATION PRESENTED IN THESE PLANS ARE FROM THE ORIGINAL 1988 PLANS, BORINGS COMPLETED BY WARZYN ENGINNERING, INC. AND 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.

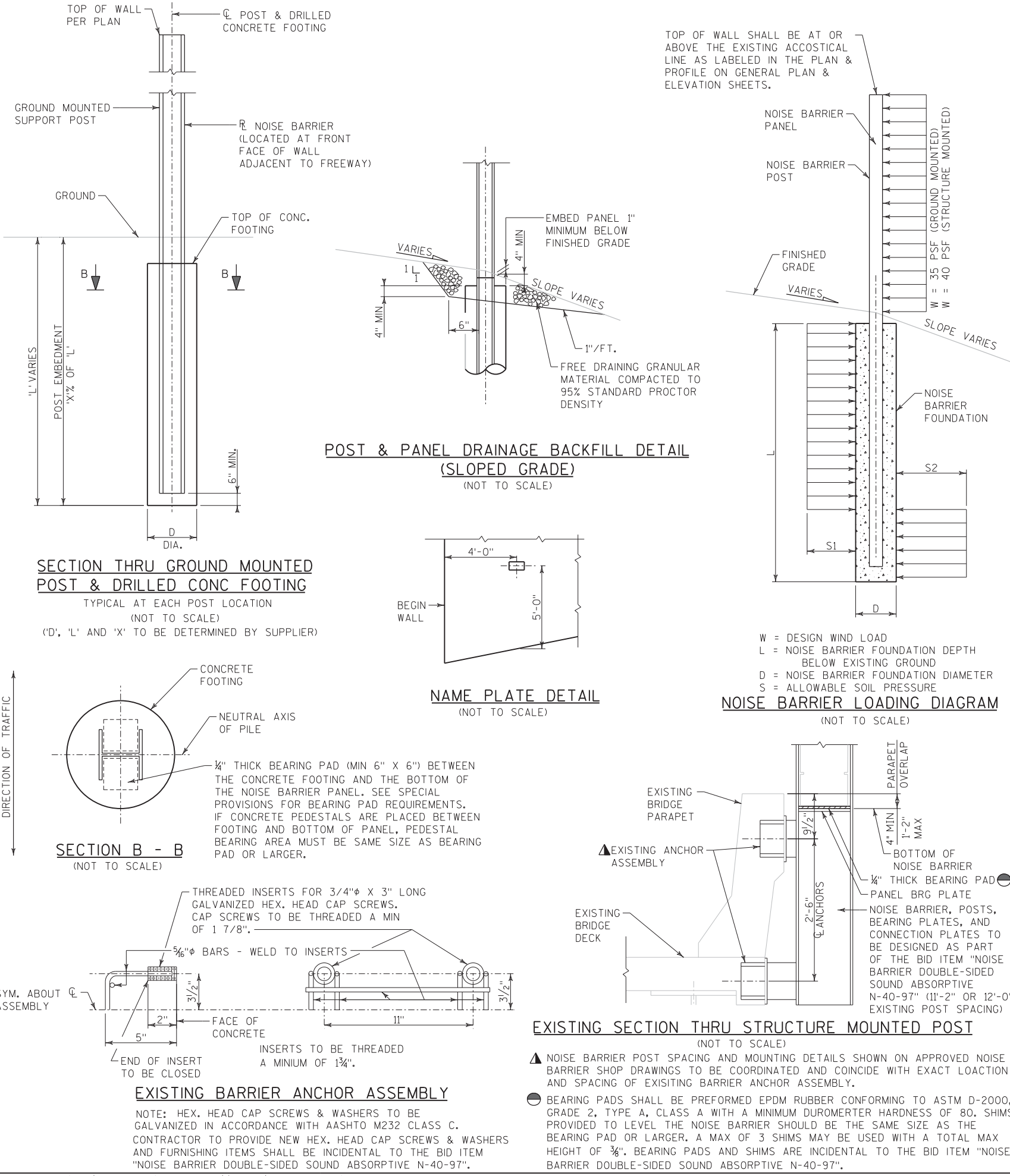
ALL CONCRETE MASONRY FOR NOISE BARRIER FOUNDATIONS IS SUBJECT TO THE OMP REQUIREMENTS FOR CLASS II ANCILLARY CONCRETE. PERFORM OMP TESTING OF CONCRETE MASONRY FOR NOISE BARRIER FOUNDATIONS IN ACCORDANCE WITH SECTION 716 OF THE STANDARD SPECIFICATIONS FOR CLASS II ANCILLARY CONCRETE. OMP TESTING IS INCIDENTAL TO THE BID ITEM "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97".

HOTLINE ALL UTILITIES. IN AREAS WHERE EXISTING UTILITIES ARE WITHIN 3 FEET OF THE PROPOSED WALL, EXPOSE EXISTING UTILITIES PRIOR TO EXCAVATION. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ANY TEMPORARY GRADING DOES NOT IMPACT UTILITIES OR TO COORDINATE WITH AFFECTED UTILITIES TO ACCOMMODATE TEMPORARY GRADING.

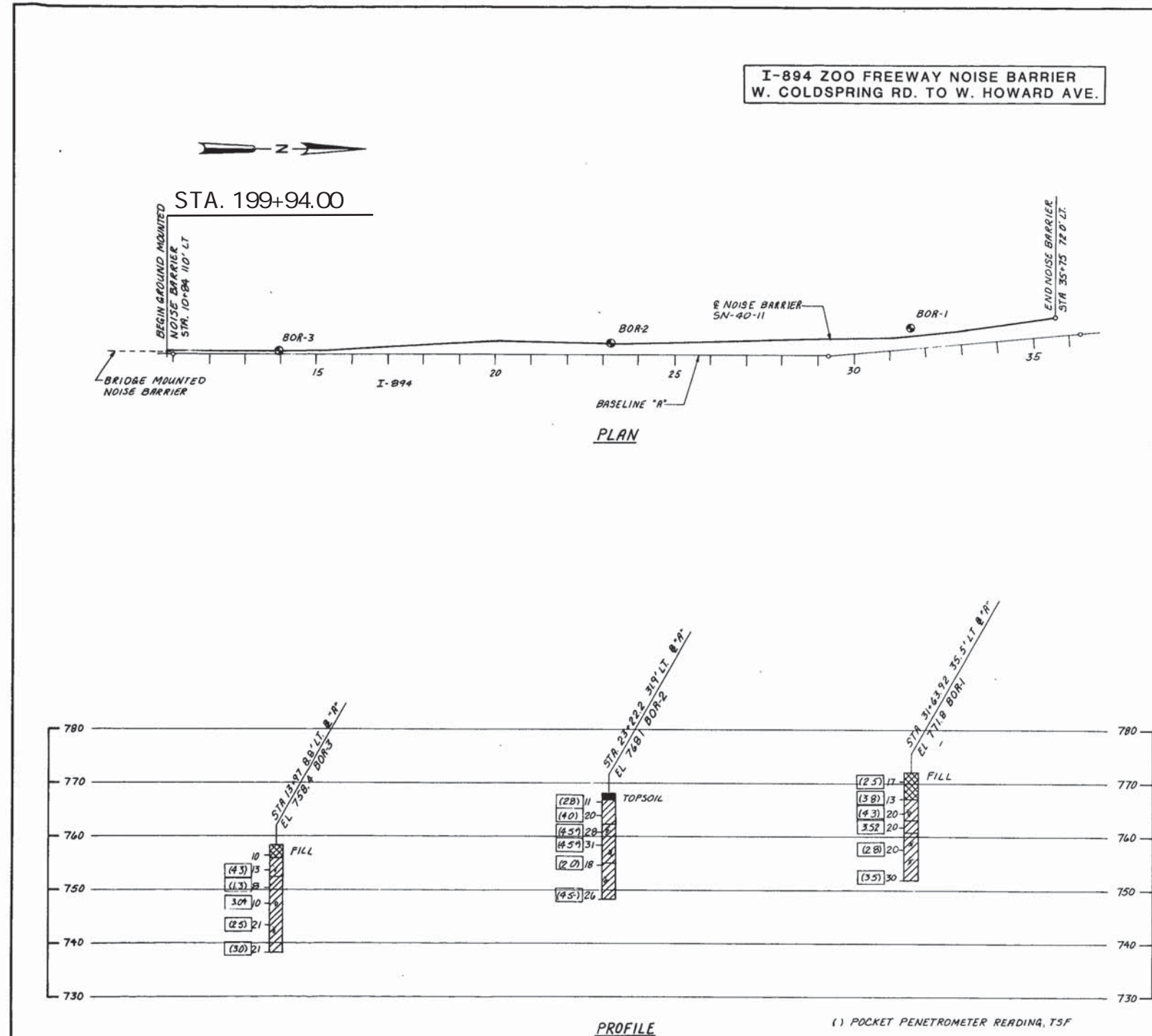
INCLUDE THE FOLLOWING ITEMS AND ACTIVITIES IN THE BID PRICE FOR "NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE N-40-97":

CONTRACTOR ACCESS TO CONSTRUCT NOISE BARRIER INCLUDING ANY TEMPORARY HAUL ROAD IF REQUIRED; DELIVERING ADDITIONAL GRADING MATERIAL; PLACING AND MAINTAINING TEMPORARY GRADING MATERIALS; PREPARING AND MAINTAINING AREA TO STORE NOISE BARRIER COMPONENTS; REMOVING TEMPORARY GRADING MATERIALS; AND RESTORING GRADE TO APPROXIMATELY MATCH THE EXISTING GRADE AND THE LOCALIZED GRADING NEAR THE NOISE BARRIER AS SHOWN IN THESE PLANS.

NOISE BARRIER NAME PLATE SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "NOISE BARRIER DOUBLE-SIDED SOUND ABSORPTIVE N-40-97". LOCATE THE NAME PLATE ON THE FREEWAY SIDE OF THE NOISE BARRIER AT THE BEGINNING OF THE BARRIER WALL. FABRICATE AND INSTALL THE NAME PLATE IN ACCORDANCE WITH S.D.D. 12 A 3-10.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE N-40-97			
DRAWN BY		ACT	PLANS CK'D. PRF
NOTES & CONSTRUCTION DETAILS			SHEET 5 OF 8

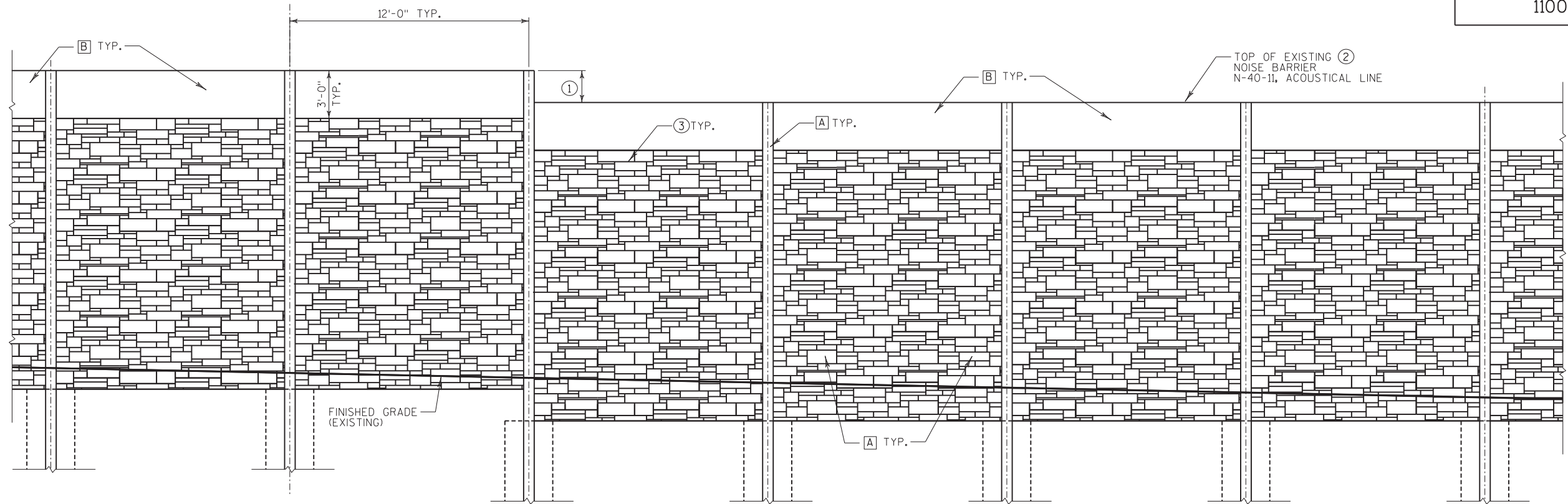


**I-894 ZOO FREEWAY NOISE BARRIER
W. COLDSRING RD. TO W. HOWARD AVE.**

NOTE: THE BORINGS SHOWN ON THIS SHEET WERE DRILLED
BY WARZYN ENGINEERING INC ON JANUARY 20
AND 21, 1987.

STATE PROJECT I.D. 1090-04-01		SHEET NUMBER 8.5	
ABBREVIATIONS F - FINE M - MEDIUM C - COARSE WS - WEATHERED SO - SOUND			
MATERIAL SYMBOLS TOPSOIL SAND GRAVEL SILT PEAT CLAY SANDSTONE LIMESTONE IGNEOUS ROCK			
LEGEND OF PROBING 95/6 = 95 Blows for 6" Penetration Probing taken with a 350# wt. falling 18" on a 2" O.D. Point. 7 Average Blows Per Foot Refusal 95/6			
LEGEND OF BORING Unconfined Strength 7.7 Blows Per Ft. Using 140# Wt. Falling 30" Wash Sample Shelby Tube S.T. Ground Water Elevation No Ground Water Observed Above This Elevation Boring No. Sta. Elev. Sandy Gravel F. Sand Boulders or Cobbles Silty Clay So Limestone			
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURE SN-40-11 Const. 1981 Drawn By MJB Checked By DJB SUBSURFACE EXPLORATION SHEET 6 OF 6 X81686			

STATE PROJECT NUMBER 1100-20-72																							
ABBREVIATIONS F - FINE M - MEDIUM C - COARSE WS - WEATHERED SO - SOUND																							
MATERIAL SYMBOLS TOPSOIL SAND GRAVEL SILT PEAT CLAY SANDSTONE LIMESTONE IGNEOUS ROCK																							
LEGEND OF PROBING 95/6 = 95 Blows for 6" Penetration Probing taken with a 350# wt. falling 18" on a 2" O.D. Point. 7 Average Blows Per Foot Refusal 95/6																							
LEGEND OF BORING Unconfined Strength 7.7 Blows Per Ft. Using 140# Wt. Falling 30" Wash Sample Shelby Tube S.T. Ground Water Elevation No Ground Water Observed Above This Elevation Boring No. Sta. Elev. Sandy Gravel F. Sand Boulders or Cobbles Silty Clay So Limestone																							
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.																							
<table border="1"><tr><td>NO.</td><td>DATE</td><td>REVISION</td><td>BY</td></tr><tr><td colspan="4">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</td></tr><tr><td colspan="4">STRUCTURE N-40-97</td></tr><tr><td colspan="2">DRAWN BY</td><td>ACT</td><td>PLANS PRF KCD.</td></tr><tr><td colspan="3">SUBSURFACE EXPLORATION</td><td>SHEET 6 OF 8</td></tr></table>				NO.	DATE	REVISION	BY	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				STRUCTURE N-40-97				DRAWN BY		ACT	PLANS PRF KCD.	SUBSURFACE EXPLORATION			SHEET 6 OF 8
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DRAWN BY		ACT	PLANS PRF KCD.																				
SUBSURFACE EXPLORATION			SHEET 6 OF 8																				



ELEVATION VIEW - RESIDENTIAL SIDE

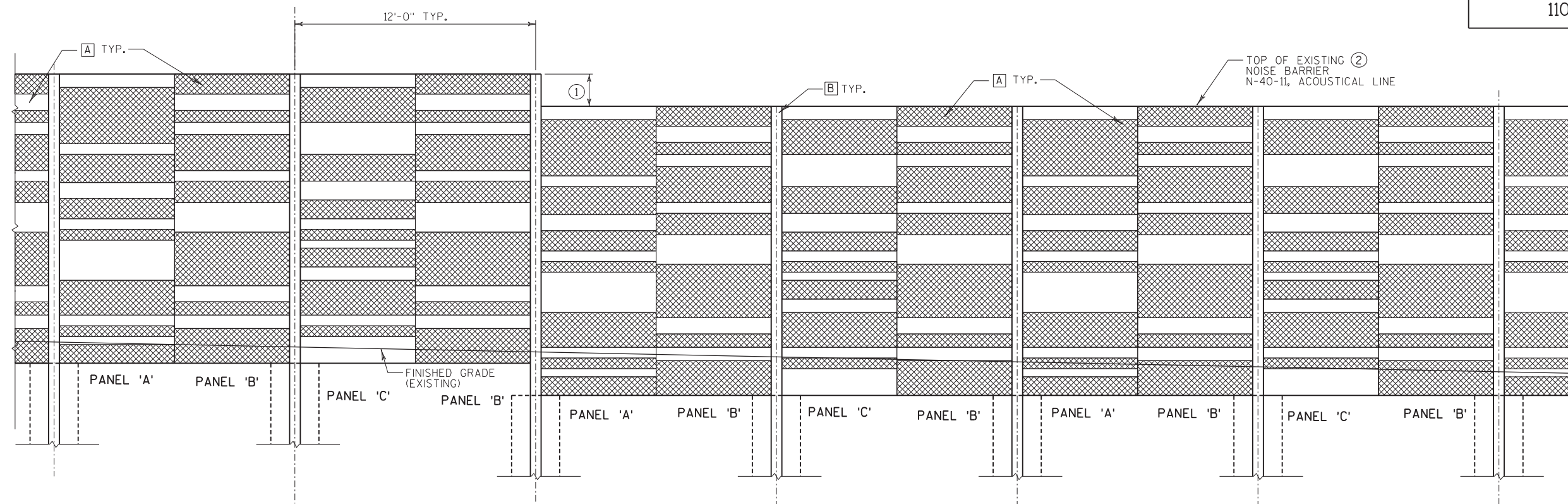
LEGEND

- [A] BASE COLOR
- [B] ACCENT COLOR NO. 1
- ① STEP PANLES IN INCREMENTS OF 2'-0". STEP INCREMENTS LESS THAN 2'-0" SHALL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
- ② ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS. KEEP THE TOP OF PANELS AT THE SAME ELEVATION.
- ③ THE RESIDENTIAL SIDE WALL PATTERN SHALL BE A "RANDOM SPLIT EDGE ASHLAR" PATTERN. THE PATTERN SHALL CONSIST OF RANDOM SIZED PIECES RANGING FROM A MINIMUM OF 1½" HIGH BY 4" LONG TO THE MAXIMUM OF 10" HEIGHT BY 31" LONG WITH A MAXIMUM RELIEF 1½".

STAIN COLORS

THE FINAL COLORING OF THE NOISE BARRIER FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE FEDERAL STANDARD COLOR SYSTEM LISTED BELOW:
BASE COLOR - 33564
ACCENT COLOR NO. 1 - 33448

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE N-40-97			
		DRAWN BY ACT	PLANS CK'D. PRF
AESTHETIC WALL TREATMENT DETAILS RESIDENTIAL SIDE		SHEET 7 OF 8	



ELEVATION VIEW - FREEWAY SIDE

LEGEND

[A] BASE COLOR

[B] ACCENT COLOR NO. 1

① STEP PANELS IN INCREMENTS OF 2'-0". STEP INCREMENTS LESS THAN 2'-0" SHALL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.

② ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS. KEEP THE TOP OF PANELS AT THE SAME ELEVATION.

④ 0.5 X (POST SPA - POST FLANGE WIDTH - 1")

[] PANEL THICKNESS + 0"

[X] PANEL THICKNESS - 3/4" MIN, 1" MAX.

STAIN COLORS

THE FINAL COLORING OF THE NOISE BARRIER FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE FEDERAL STANDARD COLOR SYSTEM LISTED BELOW:

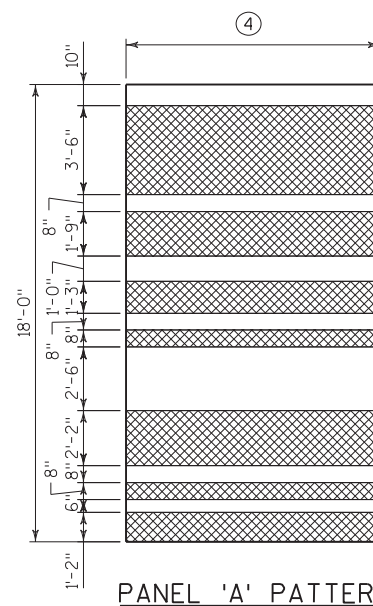
BASE COLOR - 33564

ACCENT COLOR NO. 1 - 33448

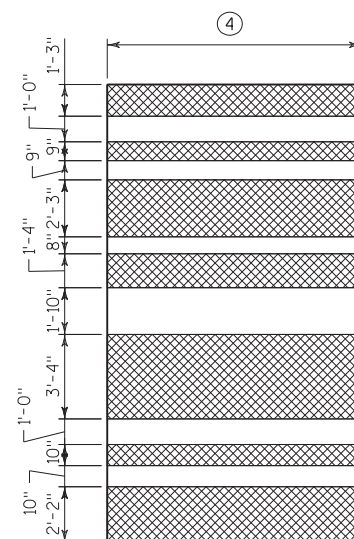
NOTES

ALTERNATE PANEL PATTERNS SHOWN. DO NOT PLACE SAME PATTERN HORIZONTALLY ADJACENT TO EACH OTHER.

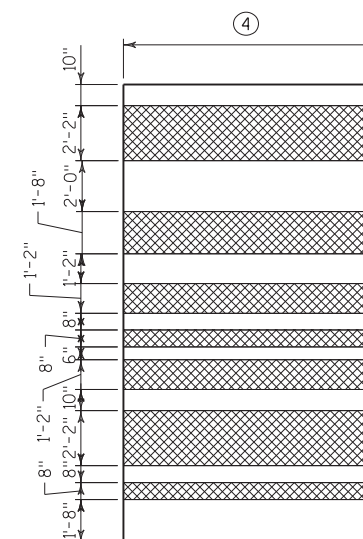
THE PATTERNS SHALL REPEAT VERTICALLY STARTING FROM THE TOP OF WALL AND WORKING DOWNWARD IF WALL HEIGHT GREATER THAN 18'-0" IS REQUIRED.



PANEL 'A' PATTERN



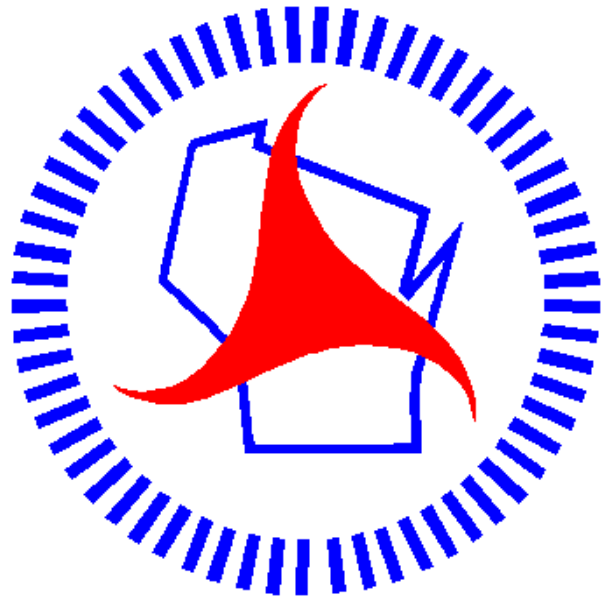
PANEL 'B' PATTERN



PANEL 'C' PATTERN

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AESTHETIC WALL TREATMENT DETAILS FREEWAY SIDE			SHEET 8 OF 8

Notes



Wisconsin Department of Transportation

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