

WKE

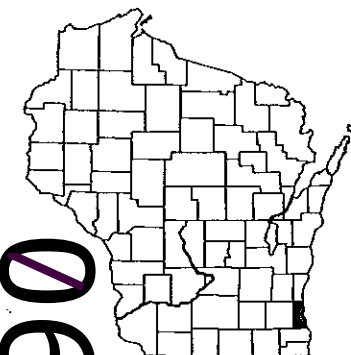
PROJECT ID: 1100-20-60
WITH:

COUNTY: MILWAUKEE

JAN 2015
ORDER OF SHEETS

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

TOTAL SHEETS = 476



DESIGN DESIGNATION

A.A.D.T. 2010	= 108,000 - 140,000
A.A.D.T. 2035	= 132,500 - 169,000
D.H.V.	= 16,760
D.D.	= 49-51
T.	= 6.8
DESIGN SPEED	= 60
ESALS	= 10,380,600

CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	---
ORIGINAL GROUND	---
MARSH OR ROCK PROFILE (To be noted as such)	---
SPECIAL DITCH	---
GRADE ELEVATION	---
CULVERT (Profile View)	---
UTILITIES	
ELECTRIC	---
FIBER OPTIC	---
GAS	---
SANITARY SEWER	---
STORM SEWER	---
TELEPHONE	---
WATER	---
UTILITY PEDESTAL	---
POWER POLE	---
TELEPHONE POLE	---

STRUCTURE B-40-350 & 351
STA. 55+40 TO STA. 56+95
EXCEPTION TO NET C.L. LENGTH

STRUCTURE B-40-348 & 349
STA. 46+97 TO STA. 49+00
EXCEPTION TO NET C.L. LENGTH

STRUCTURE B-40-363 & 364
STA. 335+36 TO STA. 336+96
EXCEPTION TO NET C.L. LENGTH

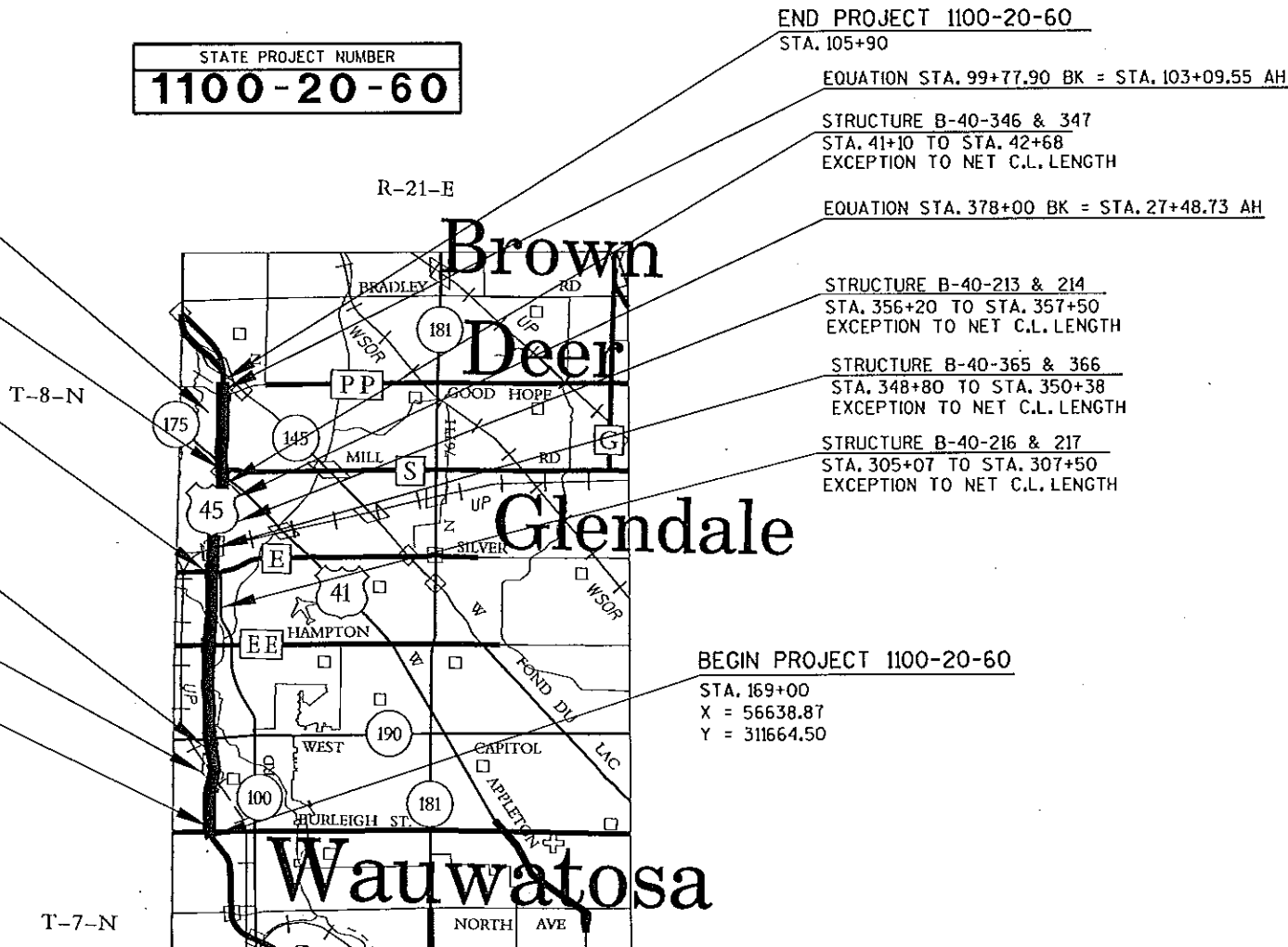
STRUCTURE B-40-333 & 334
STA. 232+45.50 TO STA. 234+70.50
EXCEPTION TO NET C.L. LENGTH

STRUCTURE B-40-358 & 359
STA. 209+10.44 TO STA. 212+73.60
EXCEPTION TO NET C.L. LENGTH

STRUCTURE B-40-356 & 357
STA. 179+72.84 TO STA. 181+44.74
EXCEPTION TO NET C.L. LENGTH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ROADWAY MAINTENANCE PROJECT
ZOO FREEWAY
BURLEIGH STREET TO GOOD HOPE ROAD
USH 45
MILWAUKEE COUNTY

STATE PROJECT NUMBER
1100-20-60



END PROJECT 1100-20-60
STA. 105+90
EQUATION STA. 99+77.90 BK = STA. 103+09.55 AH
STRUCTURE B-40-346 & 347
STA. 41+10 TO STA. 42+68
EXCEPTION TO NET C.L. LENGTH
EQUATION STA. 378+00 BK = STA. 27+48.73 AH
STRUCTURE B-40-213 & 214
STA. 356+20 TO STA. 357+50
EXCEPTION TO NET C.L. LENGTH
STRUCTURE B-40-365 & 366
STA. 348+80 TO STA. 350+38
EXCEPTION TO NET C.L. LENGTH
STRUCTURE B-40-216 & 217
STA. 305+07 TO STA. 307+50
EXCEPTION TO NET C.L. LENGTH
BEGIN PROJECT 1100-20-60
STA. 169+00
X = 56638.87
Y = 311664.50

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF CENTERLINE = 5.008 MI.

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	WISDOT
Surveyor	GEORGIA VERGOU
Designer	JOE GALLAMORE
Project Manager	JOE GALLAMORE
Regional Examiner	JOE GALLAMORE
Regional Supervisor	JOE GALLAMORE
C.O. Examiner	
APPROVED FOR THE DEPARTMENT	
DATE: 10/01/14	(Signature)

ABBREVIATIONS

ABUT.	ABUTMENT
A.D.T.	AVERAGE DAILY TRAFFIC
B.F.	BACK FACE
B.M.	BENCH MARK
B.O.C.	BACK OF CURB
CTR.	CENTER
C.L.	CENTERLINE
D.	LANE DISTRIBUTION
D.H.V.	DESIGN HOURLY VOLUME
DIA.	DIAMETER
DIM.	DIMENSION
EL. OR ELEV.	ELEVATION
EXC.	EXCAVATION
F.F.	FRONT FACE
MAX.	MAXIMUM
MIN.	MINIMUM
NORM.	NORMAL
O.H.	OVERHEAD POWER LINE
P.O.L.	POINT ON LINE
REQ'D	REQUIRED
RDWY.	ROADWAY
R.H.F.	RIGHT HAND FORWARD
S.E.	SUPERELEVATIOON
SPA.	SPACE
STA.	STATION
SYM.	SYMMETRICAL
T.	PERCENT TRUCKS
TYP.	TYPICAL
V.	DESIGN SPEED

GENERAL NOTES

EXISTING CONCRETE PAVEMENT ON USH 45 IS DOWELED.

THE REMOVAL OF RAISED PAVEMENT MARKERS IS INCIDENTAL TO REMOVING ASPHALTIC SURFACE MILLING.

REMOVING CONCRETE SURFACE PARTIAL DEPTH IS INCIDENTAL TO REMOVING ASPHALTIC SURFACE MILLING.

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. CONTACT SEPARATELY ANY MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE. CONTACT RAILROAD COMPANY SEPARATELY.

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

THE APPROXIMATE LOCATION OF SECTION CORNERS AND WITENSS CORNERS AFFECTED BY THE PROJECT IS SHOWN IN THE PLAN SHEETS. CONTRACTOR MUST CONTACT THE PROJECT ENGINEER AND SEWRPC (JOHN WASHBURN); AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC MONUMENT.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED. TOPSOIL, SEEDING AND FERTILIZER ARE INCIDENTAL TO THE BARRIER SYSTEM GRADING SHAPING FINISHING ITEM.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED. TOPSOIL, SEEDING AND FERTILIZER ARE INCIDENTAL TO THE BARRIER SYSTEM GRADING SHAPING FINISHING ITEM.

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

AT THE FIVE LOCATIONS WITH NEW BEAM GUARD EXTENSIONS, REPLACE BOLTS AND OFFSET BLOCKS THAT ARE EITHER UNSERVICABLE OR MISSING FOR THE REMAINING LENGTH OF THE EXISTING BEAM GUARD. THIS WILL BE CONSIDERED INCIDENTAL TO THE MGS GUARDRAIL 3 AND STEEL PLATE BEAM GUARD CLASS A BID ITEMS.

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- FTMS
- EROSION CONTROL
- SIGNING REMOVAL PLAN
- PERMANENT SIGNING
- LIGHTING
- TRAFFIC CONTROL
- PAVEMENT MARKING

OTHER CONTACTS

WISDOT REGION CONTACT

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141 NW BARSTOW ST
WAUKESHA, WI 53187
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joe.gallamore@dot.wi.gov

WISDOT STOC

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jeffrey.madson@dot.wi.gov

CITY OF MILWAUKEE

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841 N. BROADWAY RM 701
MILWAUKEE, WI 53202
PHONE: (414) 286-3701
FAX: (414) 286-5994
jeffrey.polenske@milwaukee.gov

CITY OF WAUWATOSA

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7725 W. NORTH AVE.
WAUWATOSA, WI 53213
PHONE: (414) 479-8929
FAX: (414) 471-8492
wwehrley@waywatosa.net

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UNION PACIFIC RAILROAD COMPANY

JOHN VENICE
101 N. WACKER DRIVE, STE 1920
CHICAGO, IL 60606
PHONE: (312) 777-2043
FAX: (402) 233-2769
jnvenice@up.com

WE ENERGIES – ELECTRIC

LaTROY BRUMFIELD
333 W. EVERETT ST. A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
latroy.brumfield@we-energies.com

ATC MANAGEMENT, INC

MIKE OLSEN
801 O'KEEFE ROAD
PO BOX 6113
DEPERE, WI 54115-6113
PHONE: (920) 338-6582
molsen@atcllc.com

WISC GAS COMPANY

D/B/A WE ENERGIES
LaTROY BRUMFIELD
333 W. EVERETT ST. A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617
FAX: (414) 221-2336
latroy.brumfield@we-energies.com

UTILITY CONTACTS

TELEPORT COMMUNICATIONS AMERICA

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C/O NORTHWIND TECHNICAL SERVICES
MILWAUKEE, WI 53215
PHONE: (414) 459-3572
d.saddler@northwindtech.com

MIDWEST FIBER NETWORKS

RICHARD TRGOVEC
3701 W BURNHAM ST, STE C
MILWAUKEE, WI 53215
PHONE: (414) 672-5612
FAX: (414) 226-2269
rtrgovec@midwestfibernetworks.com

WISDOT ATR PULL BOXES

CLIFF SEROWSKI
935 S 60TH ST
WEST ALLIS, WI 53214
PHONE: (414) 266-1157
clifford.serowski@dot.wi.gov

WISDOT LIGHTING

ERIC PEREA
141 NW BARSTOW ST.
WAUKESHA, WI 53087-0798
PHONE: (262) 574-5422
eric.perea@dot.wi.gov

SPRINT COMMUNICATIONS

JIM BURTON
5600 N RIVER RD, STE 200
ROSEMONT, IL 60018
PHONE: (708) 955-6659
FAX: (630) 379-5958
james.m.burton@sprint.com

TIME WARNER CABLE

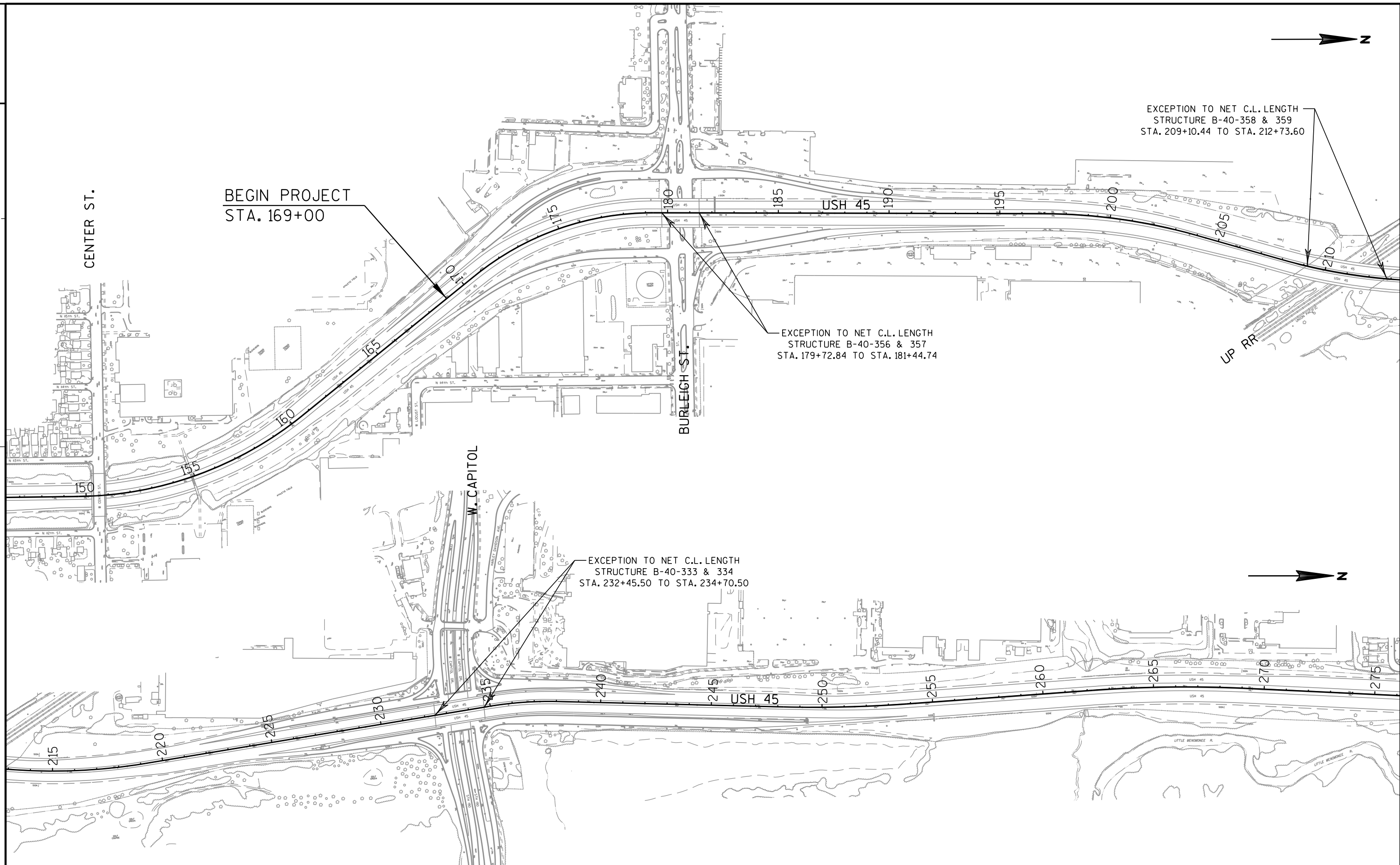
STEVE CRAMER
1320 N. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: (414) 277-4045
wis.engineering@twcable.com

MILWAUKEE METRO SEWERAGE DIST.

DEBRA JENSEN
260 W SEEBOTH ST.
MILWAUKEE, WI 53204
PHONE: (414) 225-2143
djensen@mmsd.com

HMA PAVEMENT				
PAVEMENT TYPE	TOTAL LAYER	LAYERS	NOMINAL SIZE	PERFORMANCE GRADE
E-10	2"	2" UPPER	12.5 MM	PG 64-28P





PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PROJECT OVERVIEW

SHEET

3

E

FILE NAME : N:\PD5\Projects\11002030\Microstation\Final_2013\020201_po.dgn

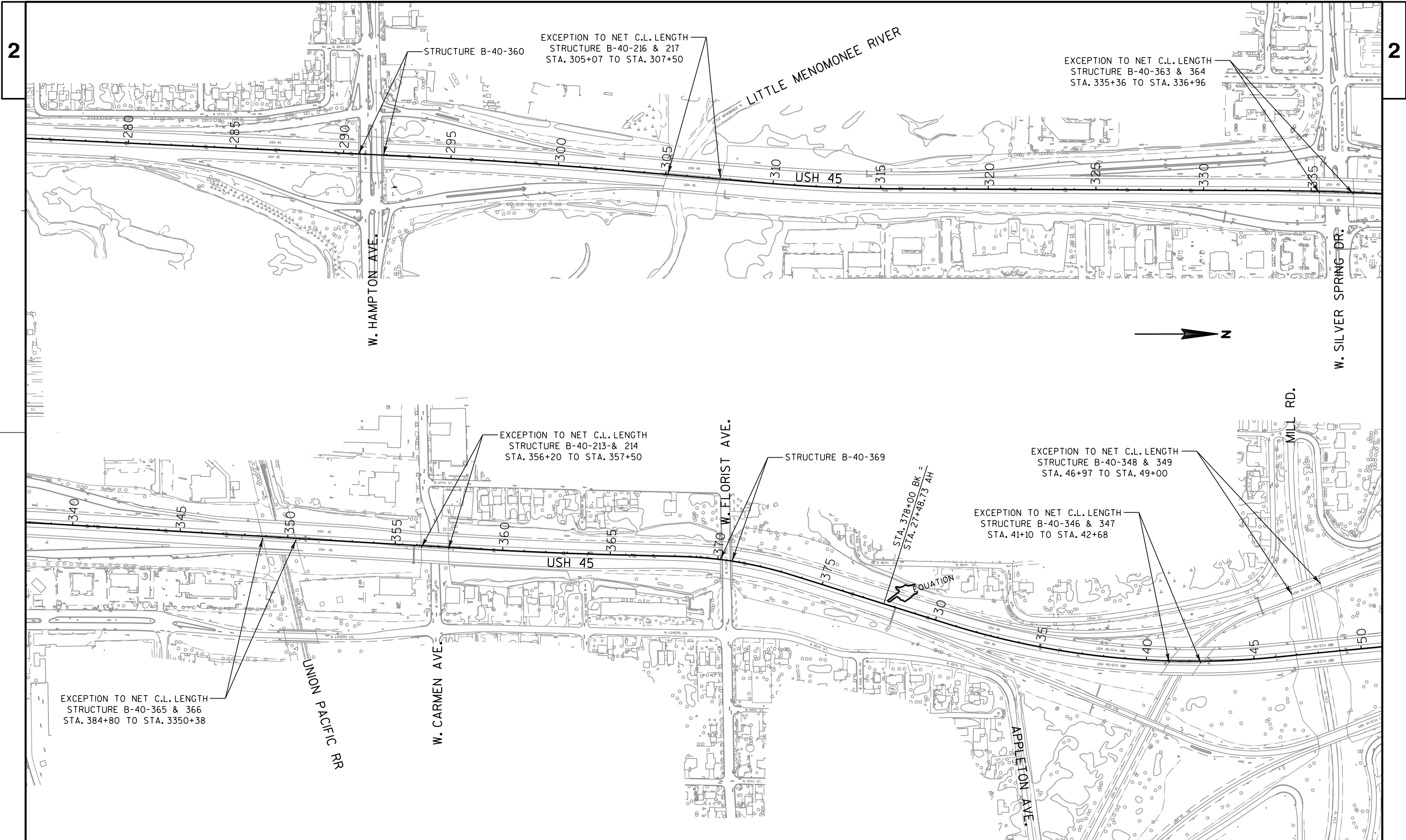
PLOT DATE : 31-JUL-2014 20:14

PLOT BY : dotdjf

PLOT NAME :

PLOT SCALE : 400:1

WISDOT/CADDs SHEET 42



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PROJECT OVERVIEW

SHEET

4

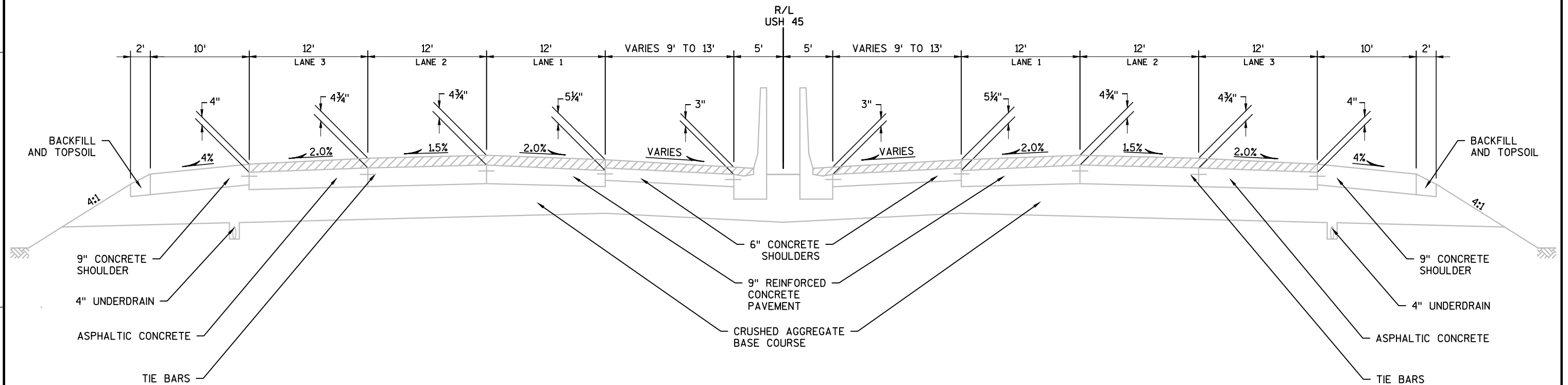
E

2



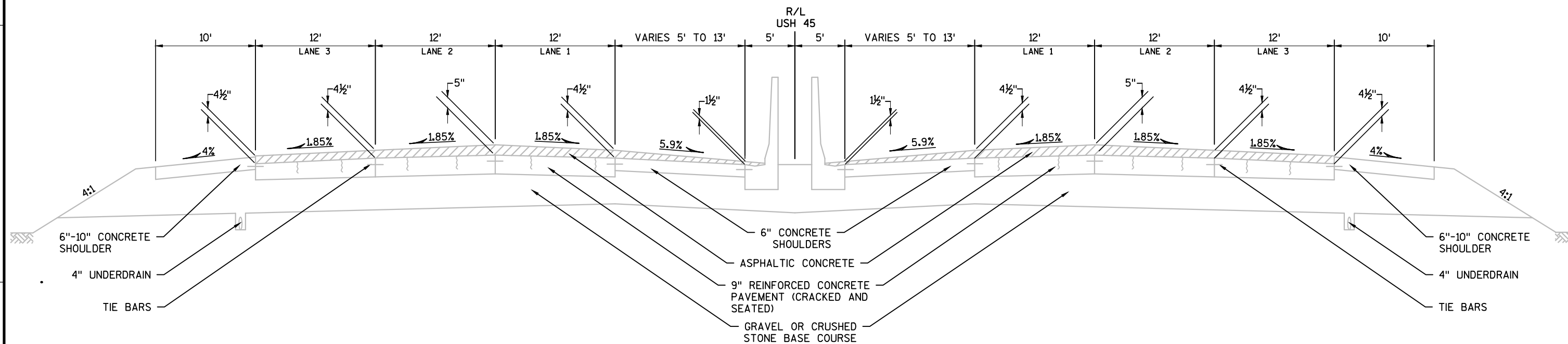
E

WISDOT/CADDS SHEET 42



EXISTING TYPICAL NORMAL SECTION
USH 45

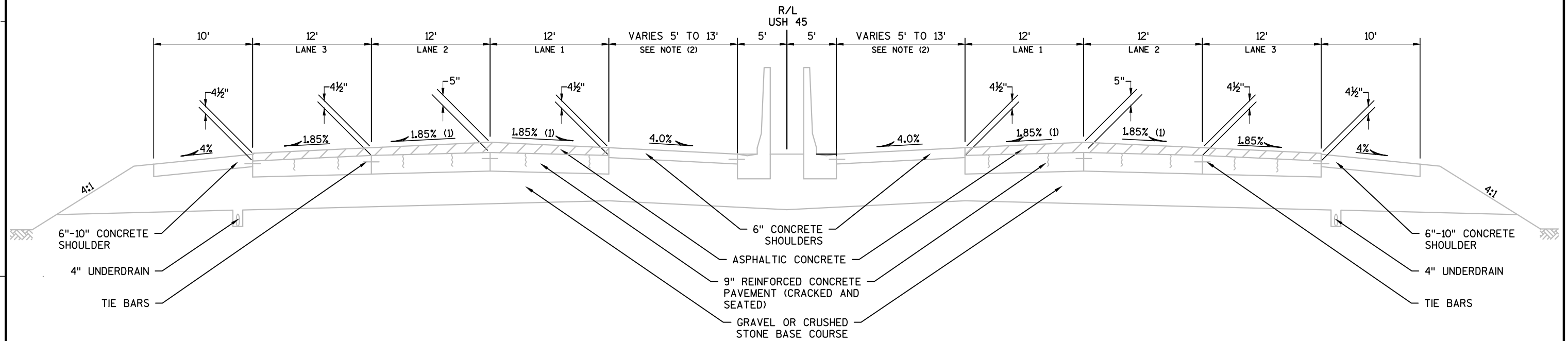
STA. 169+00 TO STA. 240+00



EXISTING TYPICAL NORMAL SECTION

USH 45

STA. 240+00 TO STA. 375+00



EXISTING TYPICAL NORMAL SECTION
USH 45

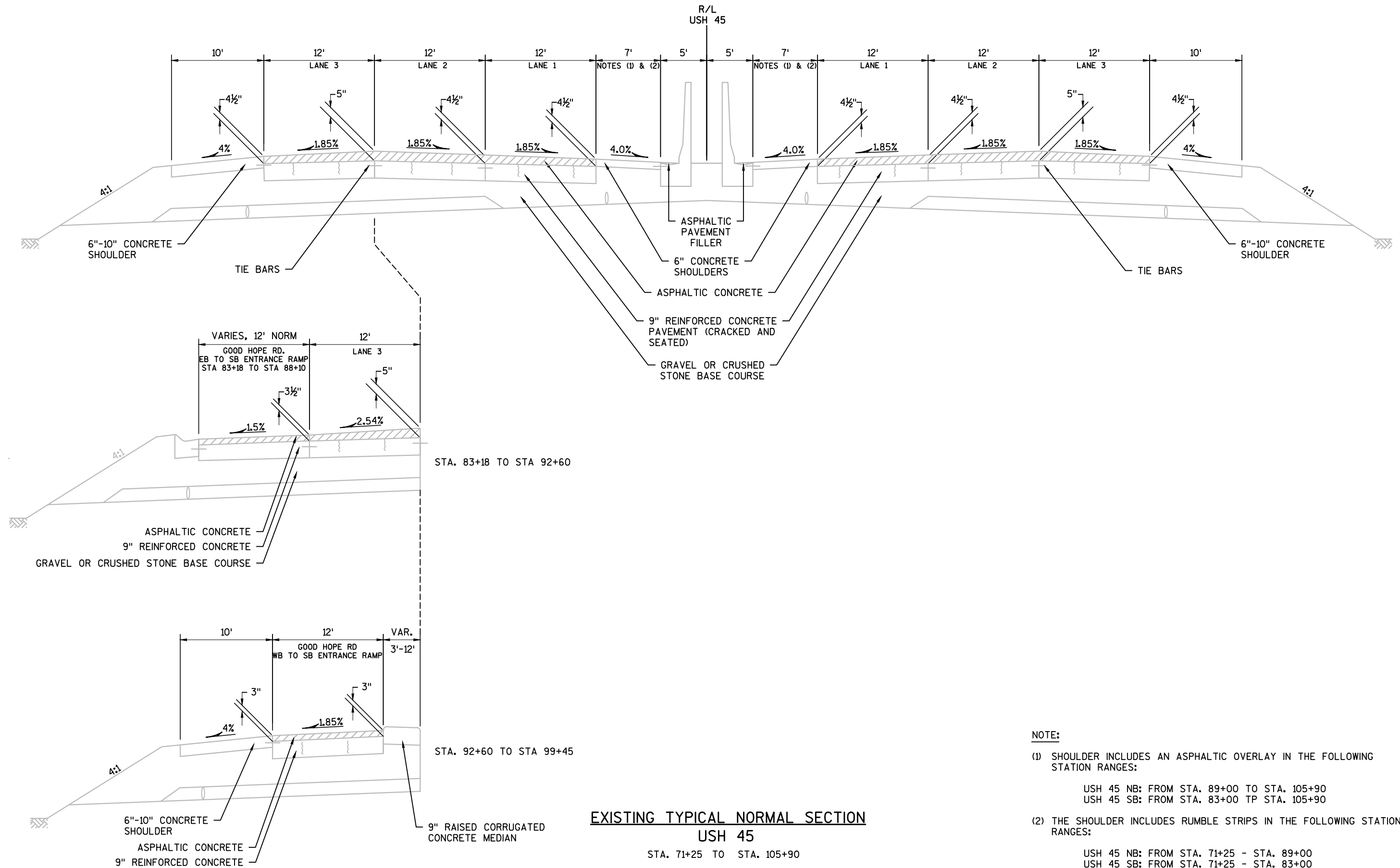
STA. 375+00 TO STA. 378+00
EQUATION STA. 378+00 BK = STA. 27+48.73 AH
STA. 27+48.73 TO STA. 71+25

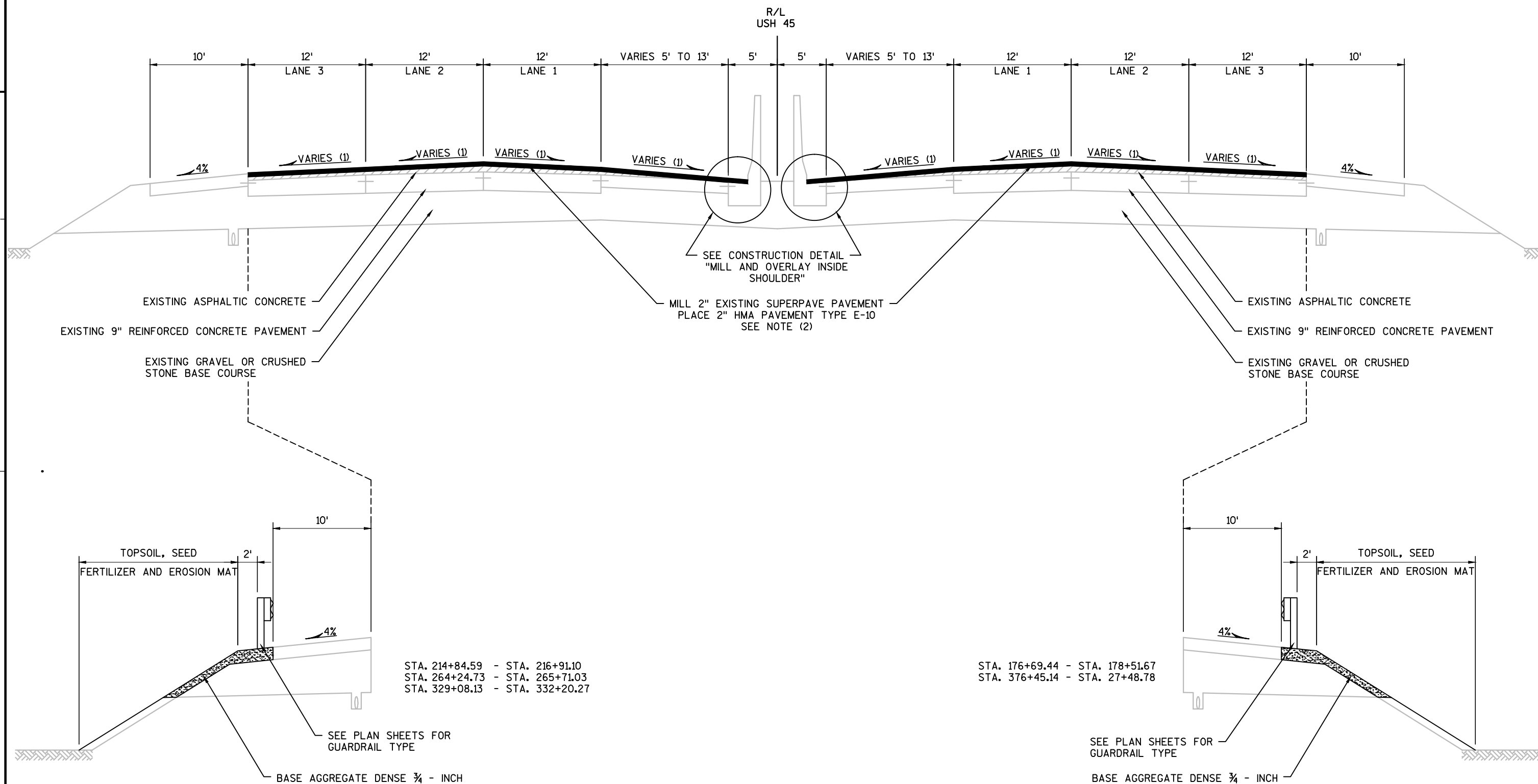
NOTES:

(1) CROSS SLOPE FOR LANES 1 AND 2 IS 1.67% TOWARDS
OUTSIDE IN THE FOLLOWING STATION RANGES.
USH 45 NB: FROM STA. 46+25 TO STA. 52+00
FROM STA. 60+50 TO STA. 64+75

USH 45 SB: FROM STA. 45+50 TO STA. 52+25
FROM STA. 59+75 TO STA. 66+00

(2) SHOULDER INCLUDES RUMBLE STRIPS





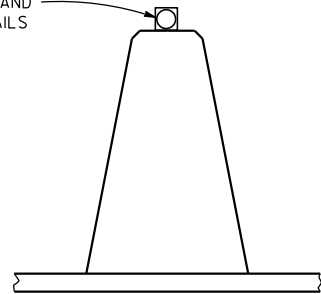
FINISHED TYPICAL SECTION USH 45

STA. 169+00 TO STA. 378+00
EQUATION STA. 378+00 BK = STA. 27+48.73 AH
STA. 27+48.73 TO STA. 105+90

NOTES:

- (1) MATCH EXISTING SLOPES. SEE EXISTING TYPICAL SECTIONS FOR DETAILS AND VERIFY CROSS SLOPES IN THE FIELD.
- (2) THE LIMITS OF THE INSIDE SHOULDER MILL AND OVERLAY ARE FROM STA. 169+00 TO STA. 375+00

SEE SDD "DELINEATOR POST,
DELINEATOR BRACKET AND
DELINEATOR" FOR DETAILS



DELINEATION

DELINEATION SPACING ON RADIUS GREATER
THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTIONS
ONEWAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWOWAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWOWAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	

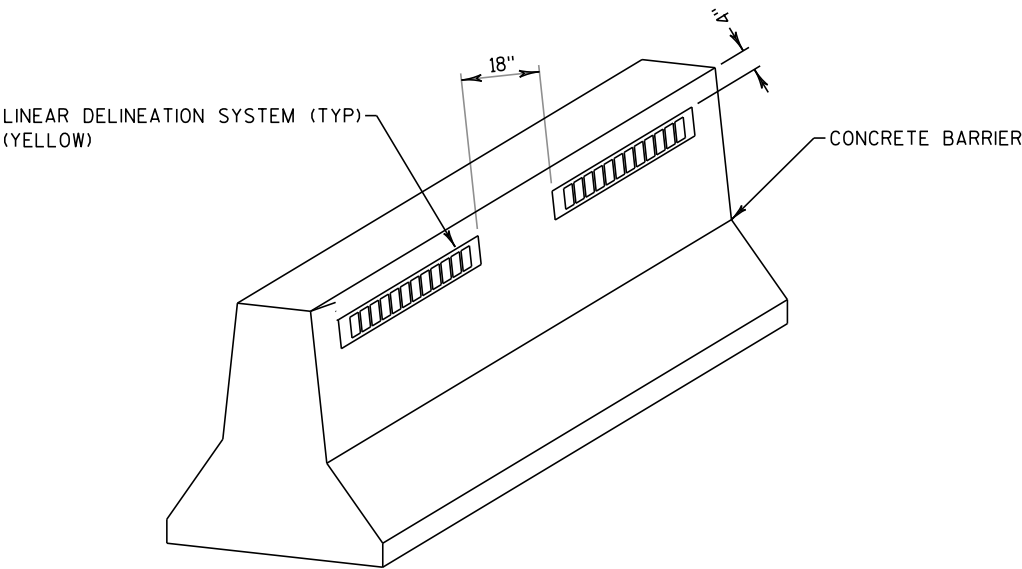
DELINEATION SPACING
ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

FROM STATION	TO STATION	DIR.
170+64	179+37	SB
207+97	219+21	NB
226+75	242+75	NB
226+00	239+50	SB
332+89	399+11	SB
369+50	371+00	SB
40+80	45+89	NB

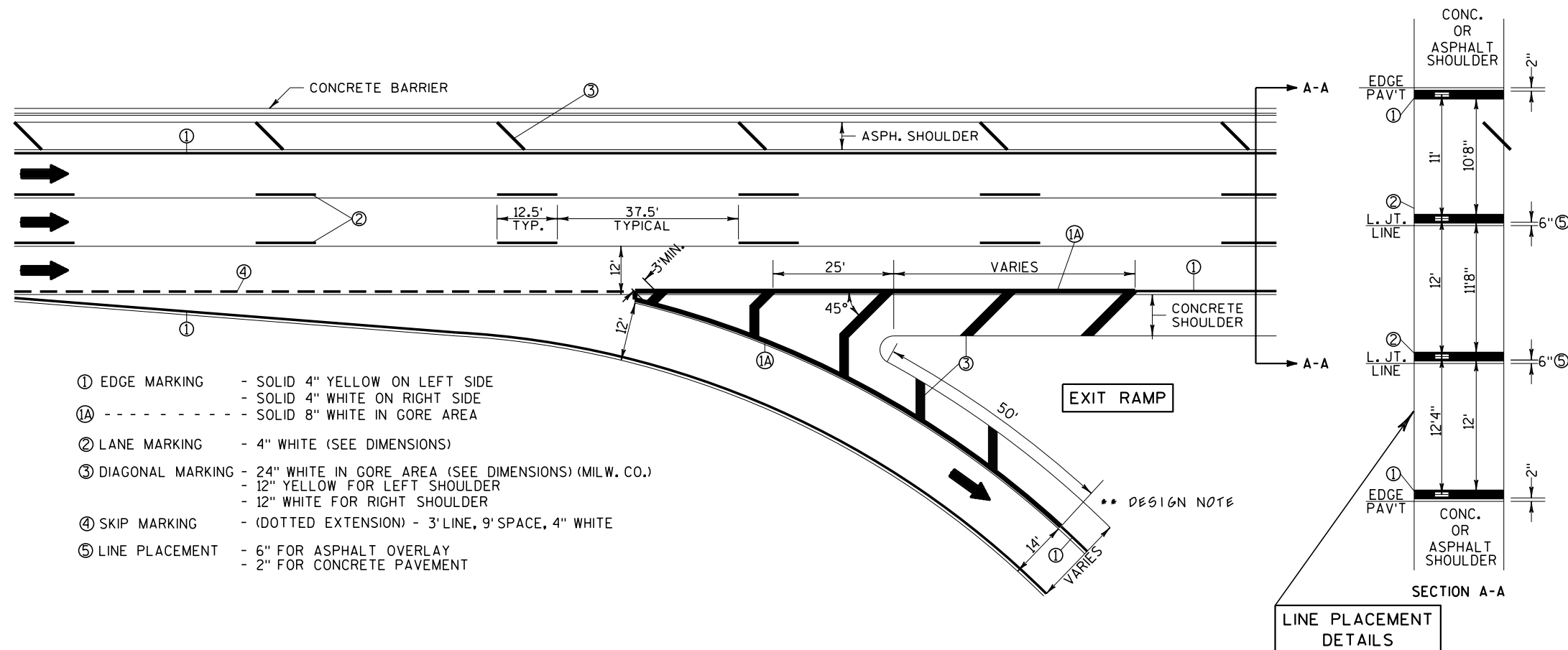
NOTE:
ALL DELINEATORS ARE WHITE AND
INSTALLED ON CONCRETE BARRIER
ADJACENT TO OUTSIDE SHOULDER

ALL CURVE RADIUS ARE GREATER
THAN 1000 FEET



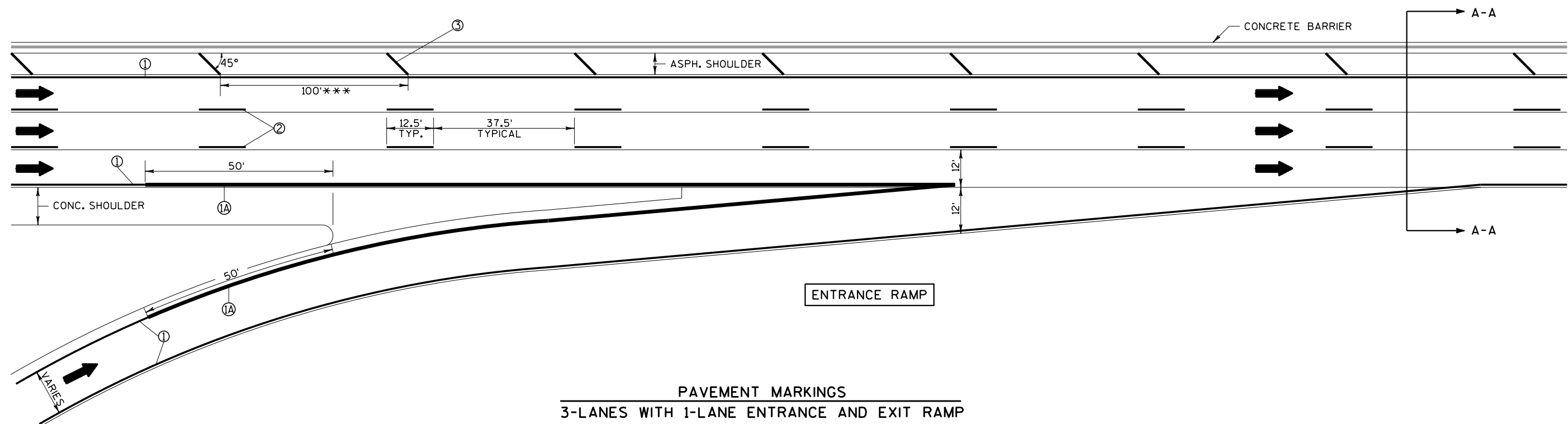
LINEAR DELINEATION SYSTEM
FOR CONCRETE BARRIER

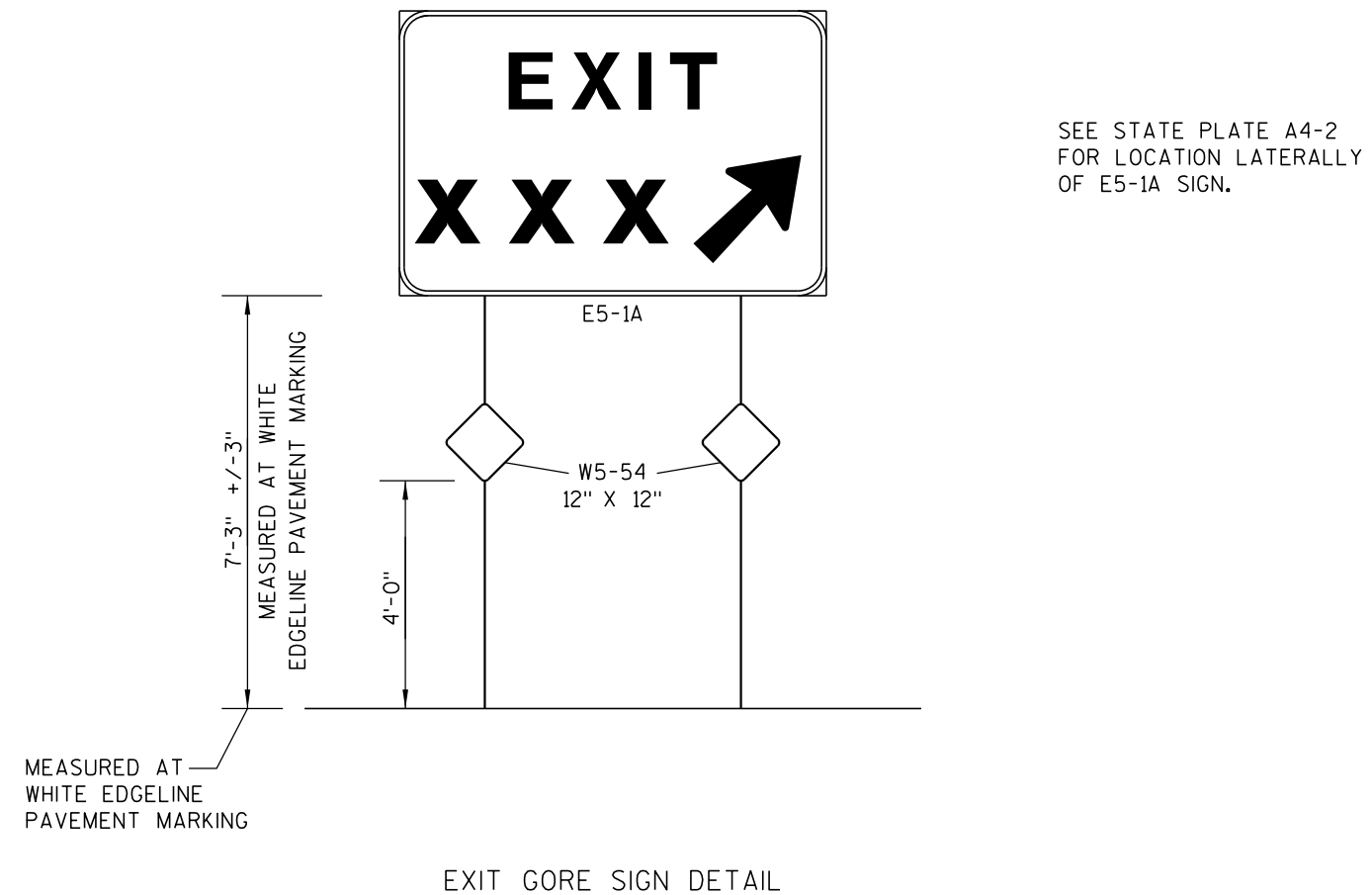
NORTH BOUND
STA. 170+64 TO STA. 179+34
SOUTH BOUND
STA. 232+50 TO STA. 238+05

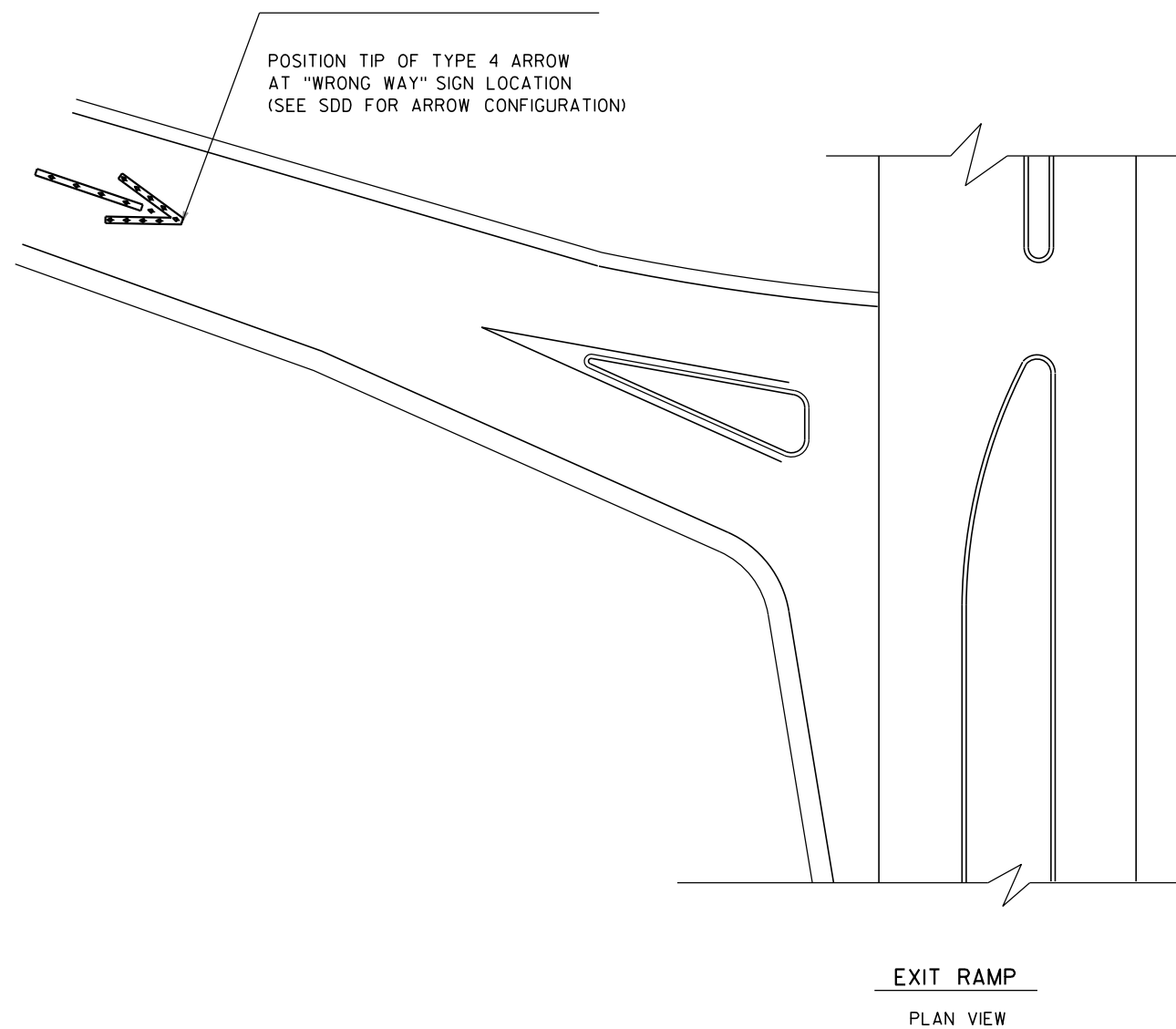


NOTES:

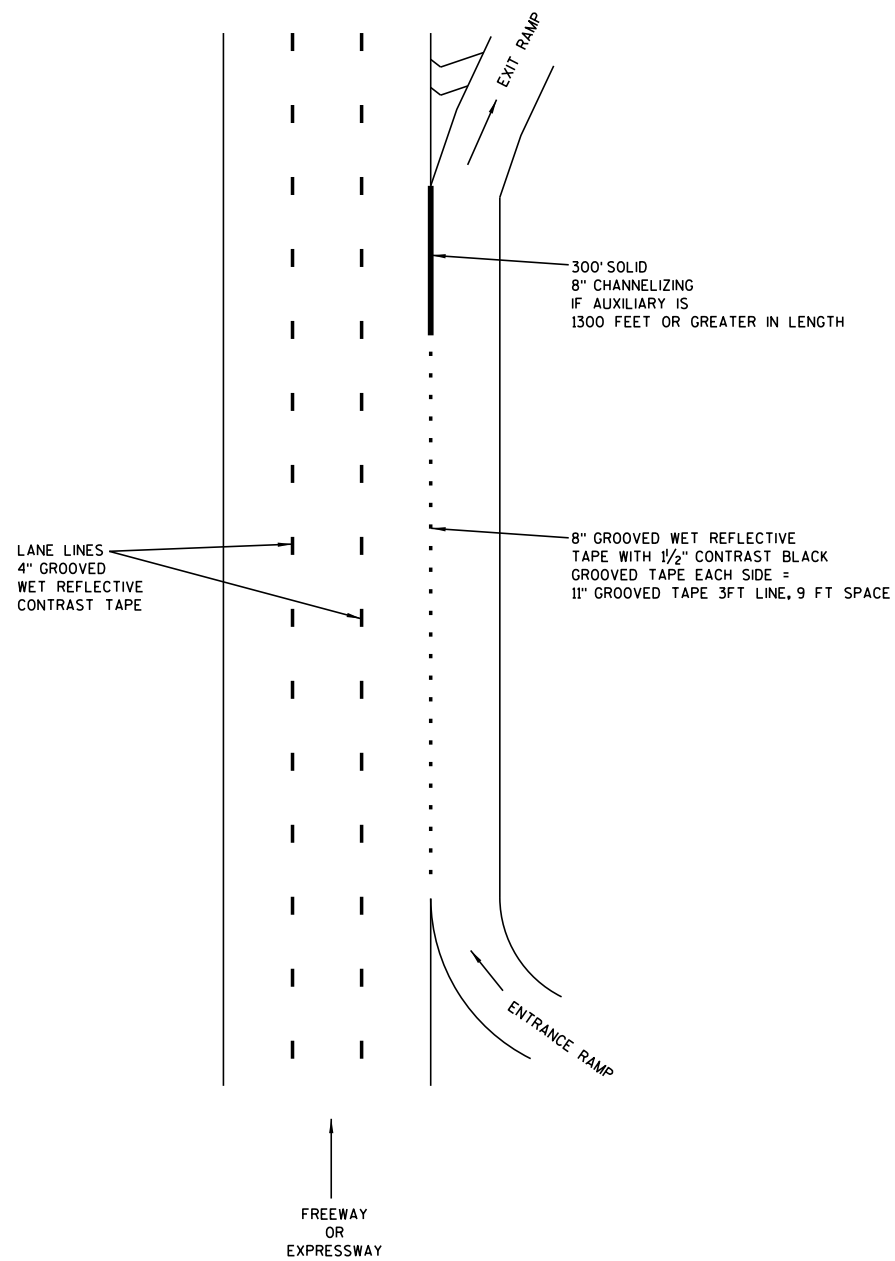
1. THE 12" WIDE DIAGONAL SHOULDER MARKING SHALL BE USED ONLY WHERE THE ASPHALTIC CONCRETE SHOULDER ABUTS ASPHALTIC CONC. PAV'T. IF THERE ARE CONTINUOUS RUMBLE STRIPS, DO NOT USE DIAGONAL SHOULDER MARKING.
2. WHERE THE DOTTED EXTENSION OF THE RIGHT EDGE LINE IS SHOWN ON THE PLAN, IT SHALL BE 4" WIDE, WITH A LINE SKIP PATTERN CONSISTING OF A 3' LONG LINE AND A 9' SKIP.
3. PAVEMENT LANE MARKINGS SHALL BE LOCATED 6" OFF THE LONGITUDINAL JOINT OF THE UNDERLYING CONC. PAVEMENT.
4. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
5. SPOTTING FOR PAVEMENT LANE MARKINGS AND EDGE LINES SHALL BE 4"x4" PIECES OF REFLECTORIZED PAV'T MARKING TAPE SPACED AT 50' INTERVALS, INCIDENTAL TO PAV'T MARKING.



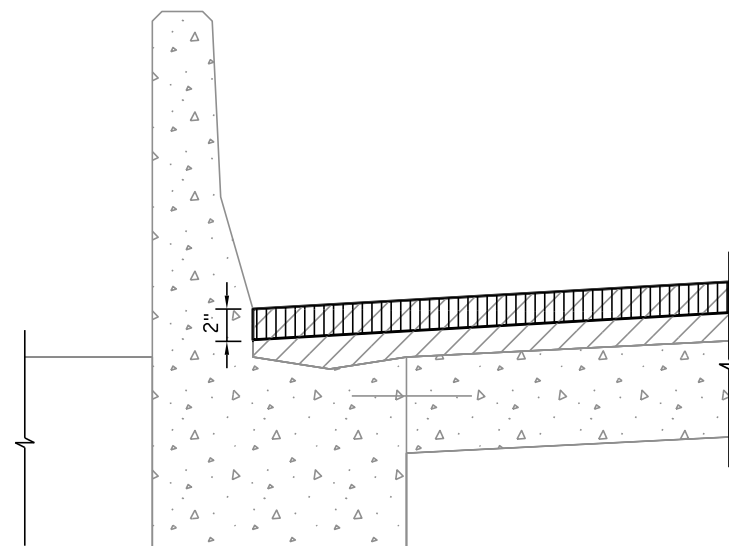




WET WEATHER MARKINGS - WRONG WAY ARROW
EXIT RAMP

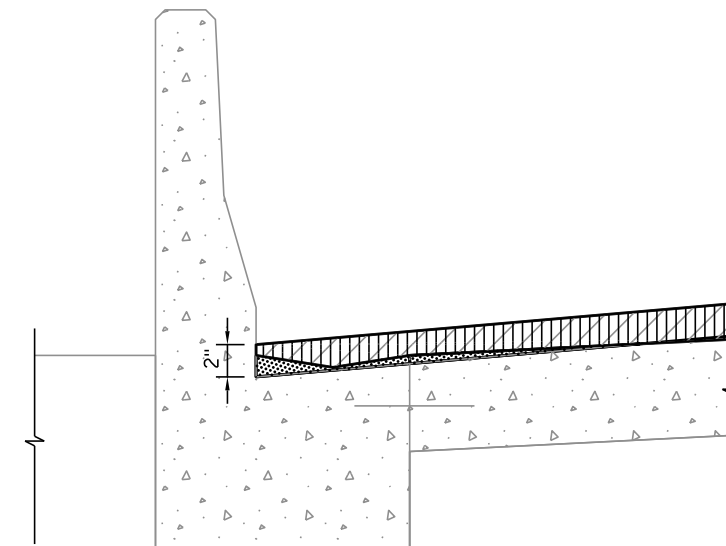


LANE DROP MARKINGS
SERVICE INTERCHANGES



-  EXISTING CONCRETE PAVEMENT
-  EXISTING ASPHALTIC CONCRETE
-  MILL EXISTING ASPHALTIC CONCRETE

DETAIL A
STA. 169+00 TO STA. 240+00



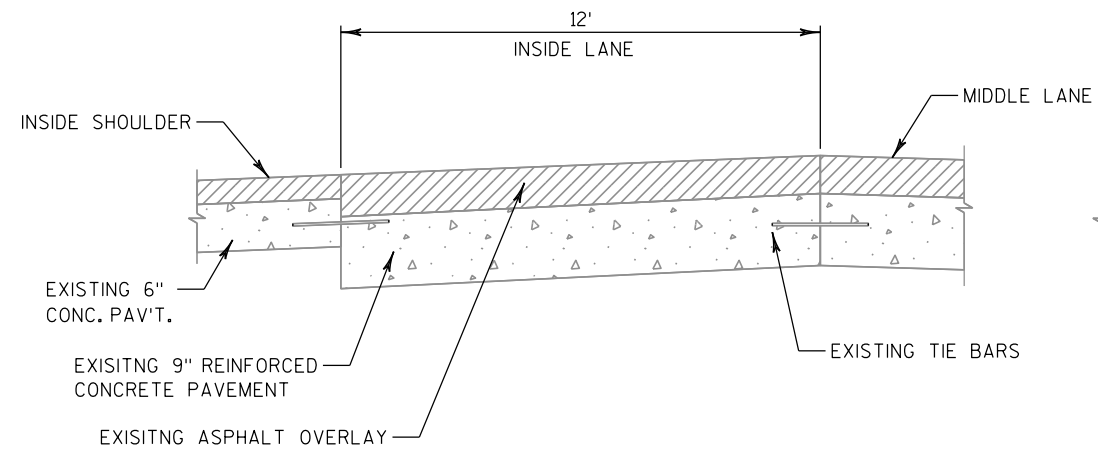
-  EXISTING CONCRETE PAVEMENT
-  EXISTING ASPHALTIC CONCRETE
-  MILL EXISTING ASPHALTIC CONCRETE
-  REMOVING CONCRETE SURFACE PARTIAL DEPTH INCIDENTAL TO REMOVING ASPHALTIC SURFACE MILLING

DETAIL B
STA. 240+00 TO STA. 375+00

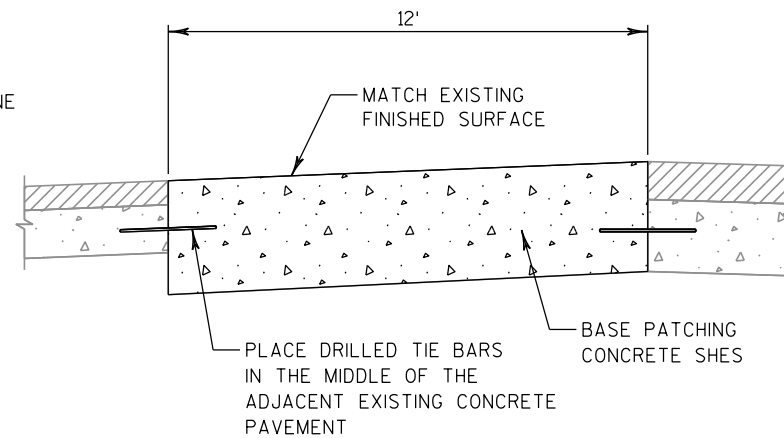
MILL AND OVERLAY OF INSIDE SHOULDER

NOTE:

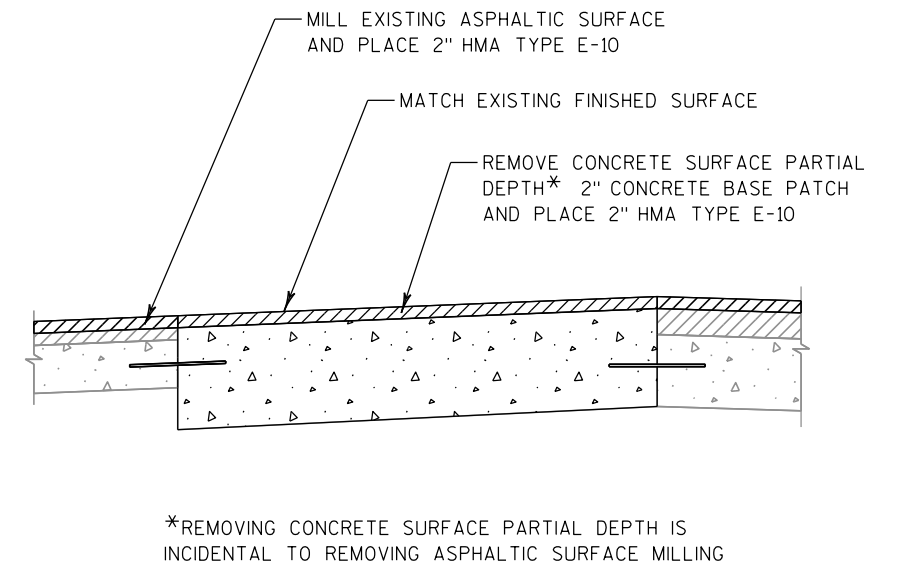
DETAILS APPLY TO BOTH DIRECTIONS



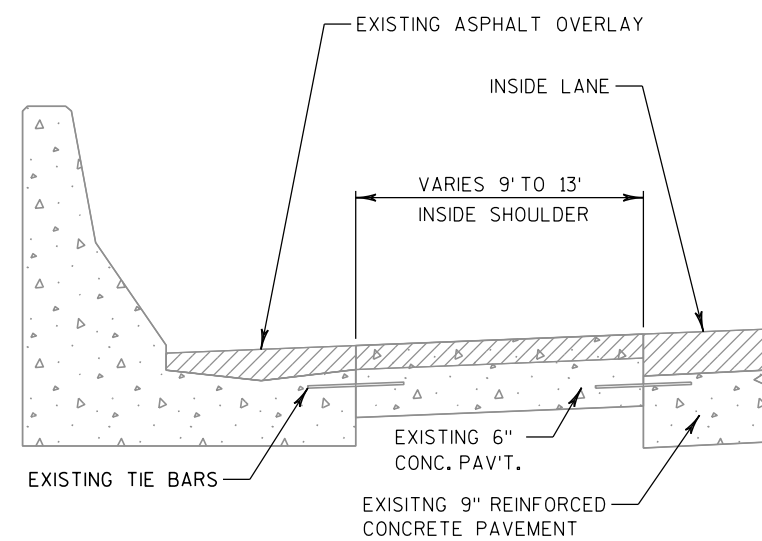
EXISTING SECTION



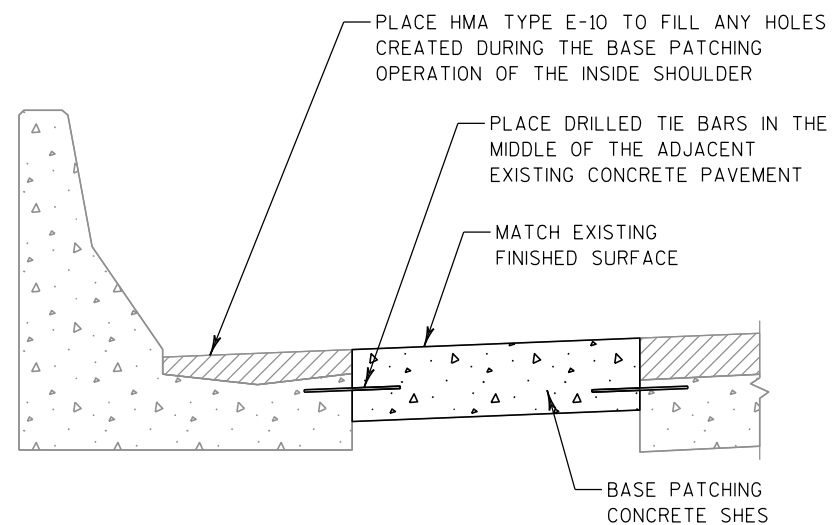
BASE PATCHING



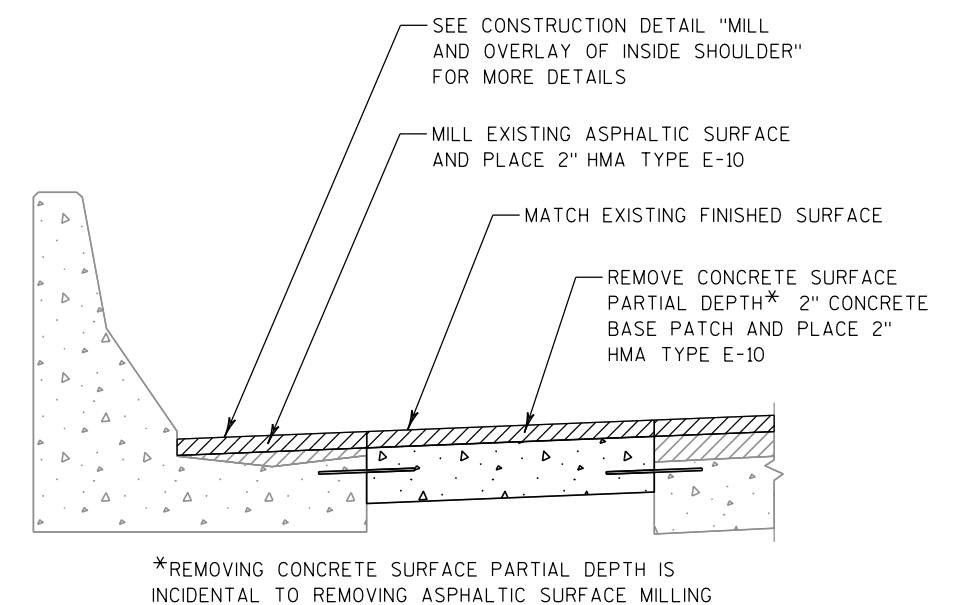
MILL AND OVERLAY

LANE BASE PATCHING AND MILL/OVERLAY OPERATIONS

EXISTING SECTION



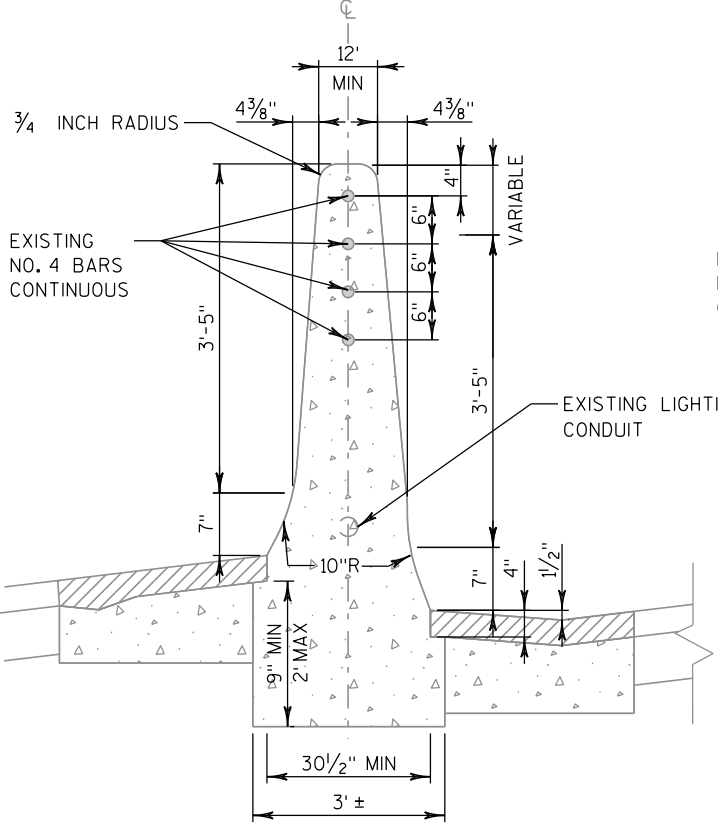
BASE PATCHING



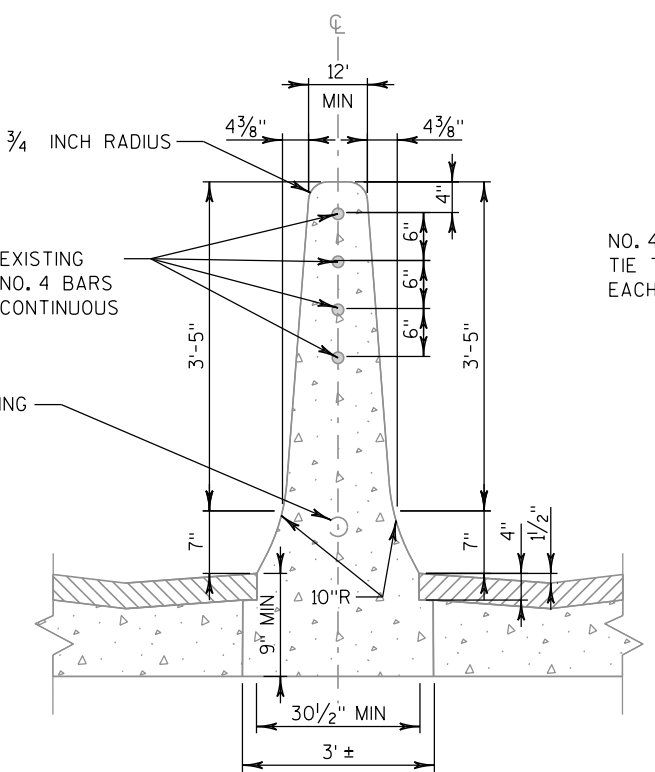
MILL AND OVERLAY

SHOULDER BASE PATCHING AND MILL/OVERLAY OPERATIONS

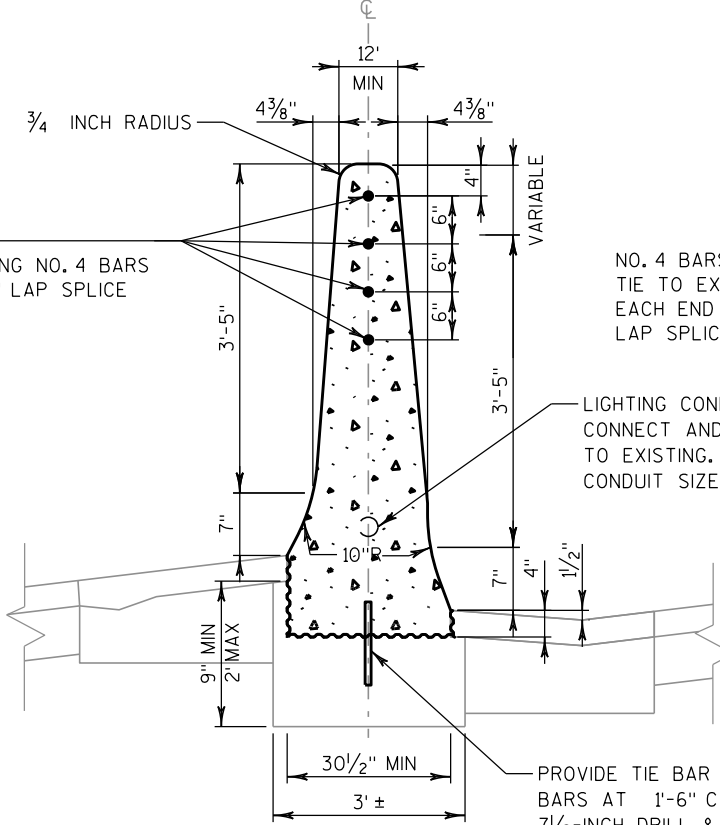
2



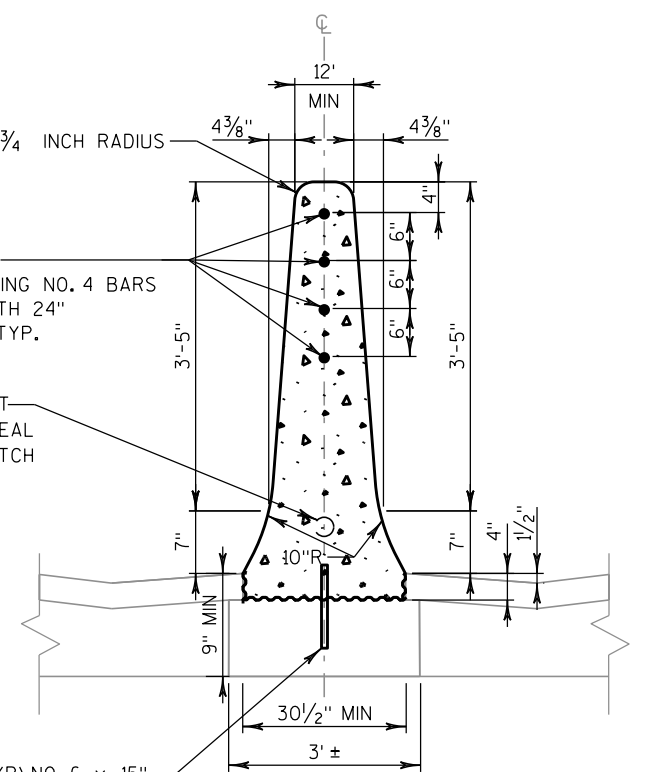
EXISTING CAST-IN-PLACE
IN STEPPED MEDIAN



EXISTING CAST IN PLACE
IN SYMMETRICAL MEDIAN



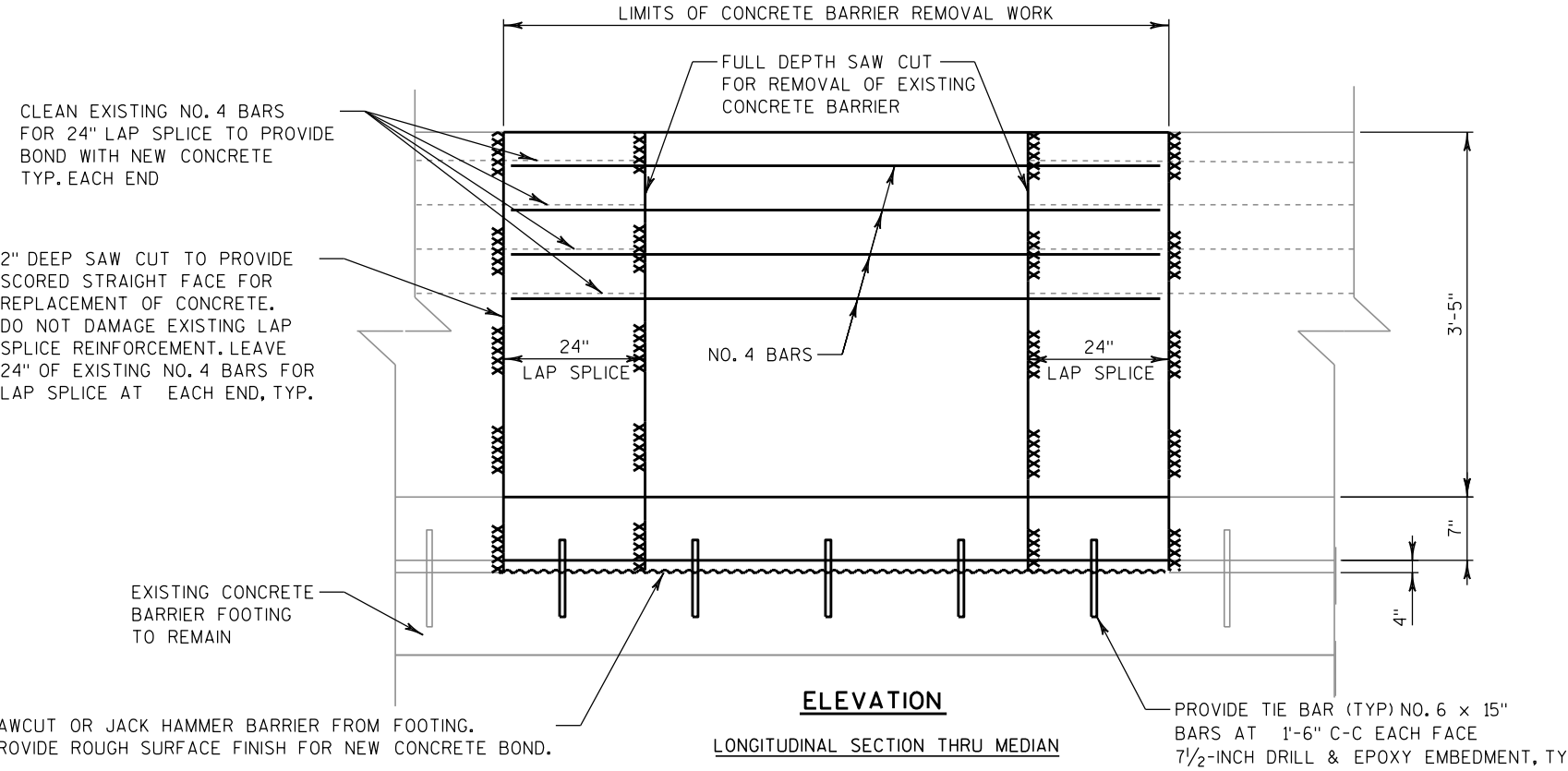
CAST-IN-PLACE IN STEPPED MEDIAN



CAST IN PLACE
IN SYMMETRICAL MEDIAN

EXISTING CONCRETE BARRIER DOUBLE-FACED 51-INCH, MODIFIED

CONCRETE BARRIER DOUBLE-FACED 51-INCH, SPECIAL



PROJECT NO: 1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CONSTRUCTION DETAILS

SHEET

18

FILE NAME : N:\PDS\Projects\11002030\Microstation\Final_2013\021001_cd.dgn

PLOT DATE : 13-OCT-2014 16:52

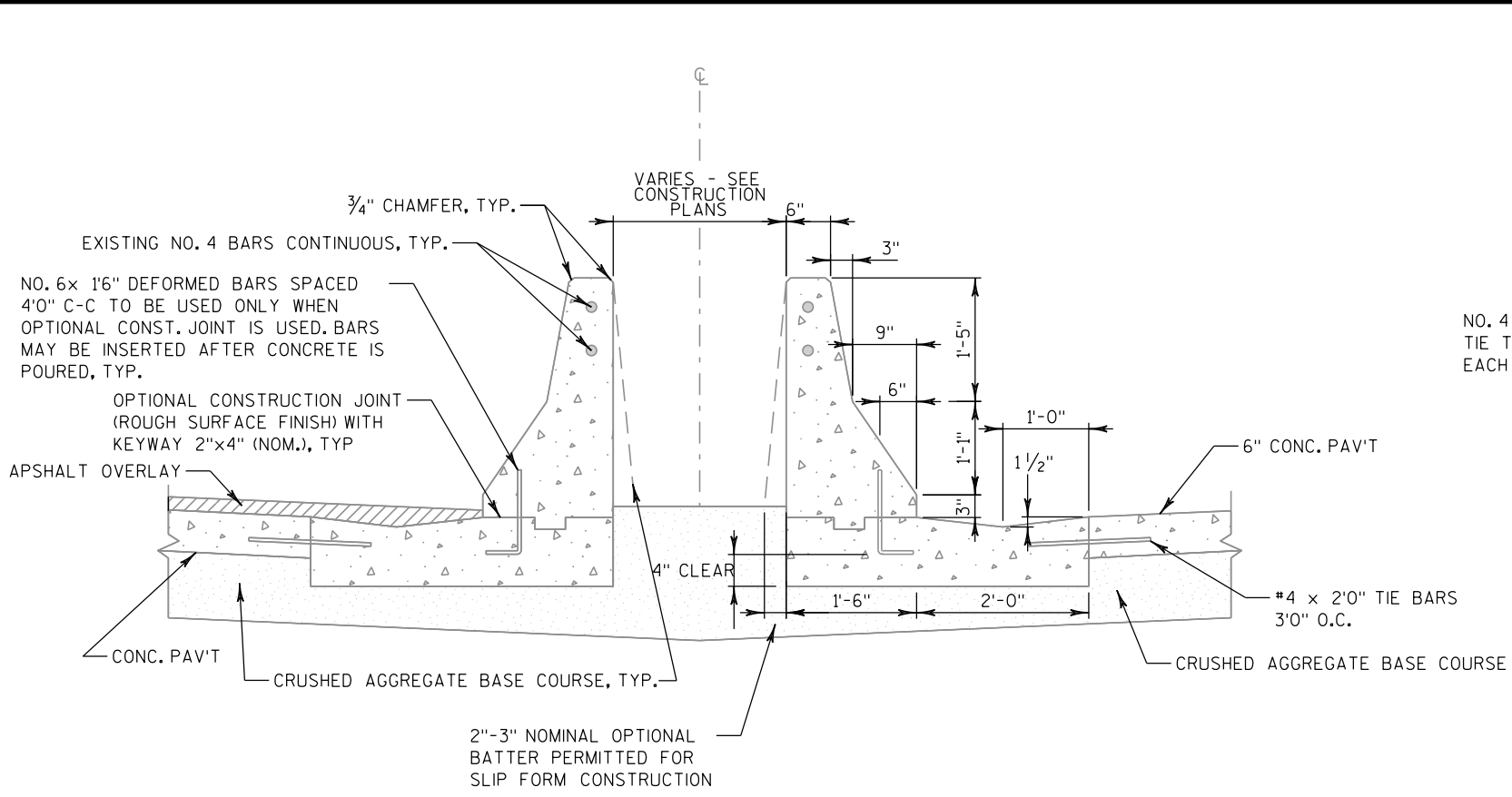
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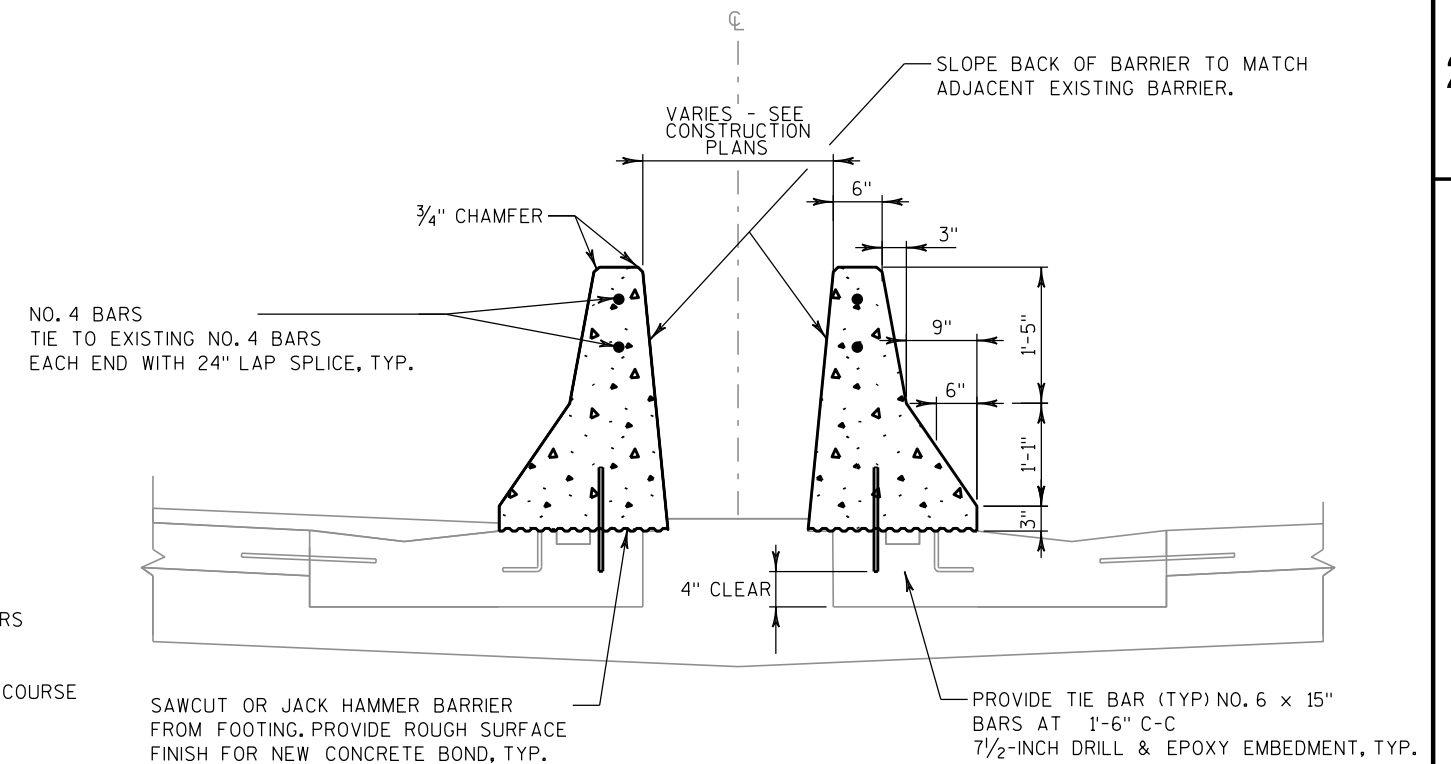
WISDOT/CADDS SHEET 42

2



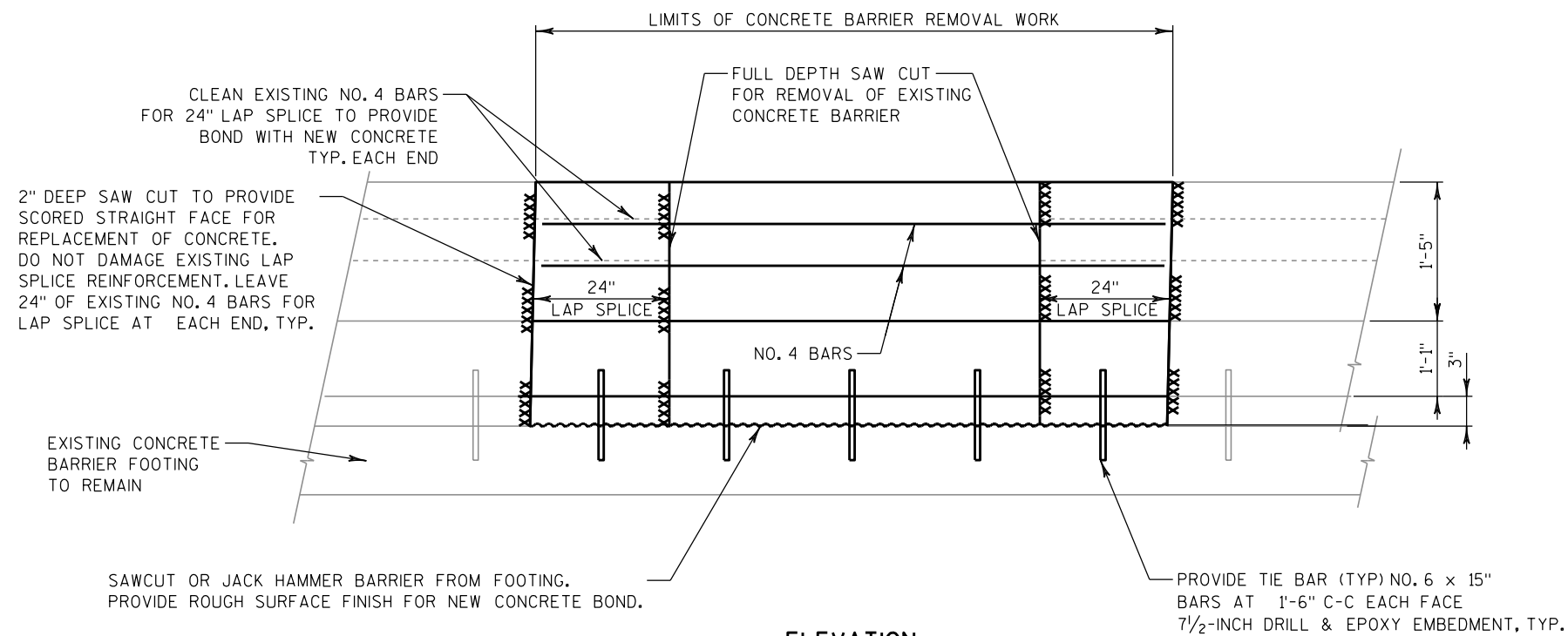
EXISTING CONCRETE BARRIER SINGLE-FACED 32-INCH, MODIFIED

TRANSVERSE SECTION THRU MEDIAN



CONCRETE BARRIER SINGLE-FACED 32-INCH, SPECIAL

TRANSVERSE SECTION THRU MEDIAN

ELEVATION

LONGITUDINAL SECTION THRU MEDIAN

FTMS STANDARD ABBREVIATIONS	
CCTV	CLOSED CIRCUIT TELEVISION SITE
SDS	SYSTEM DETECTOR STATION
CB	CONTROLLER CABINET
PB	PULL BOX
MH	MANHOLE
CV	COMMUNICATIONS VAULT
MD	MICROWAVE DETECTOR
TMD	TEMPORARY MICROWAVE DETECTOR
PCCTV	PORTABLE CCTV VIDEO SURVEILLANCE SYSTEM
F.O.C.	FIBER OPTIC CABLE
S-F	STATE-FURNISHED
RG	RAMP GATE
RGSC	RAMP GATE SOLAR CABINET

LEGEND	EXISTING	PROPOSED
JUNCTION BOX	---	---
CCTV CAMERA AND POLE	---	---
FTMS CONTROL CABINET AND BASE	---	---
METER BREAKER PEDESTAL	---	---
24"X36" STEEL PULL BOX	---	---
MANHOLE	---	---
MICROWAVE DETECTOR	---	---
DETECTION ZONE	---	---
LOOP DETECTOR	---	---
ITS CONDUIT	---	---
VAULT	---	---
MICROWAVE DETECTOR AND POLE	---	---
RAMP METER ADVANCE FLASHER ASSEMBLY	---	---
HAR TRANSMITTER POLE AND GROUND PLANE	---	---

FTMS GENERAL NOTES

THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS, THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER AND SEED, AND MULCH. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION WILL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS. NO PAYMENT WILL BE MADE FOR RESTORING AREAS DISTURBED FOR FTMS CONSTRUCTION OPERATIONS.

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

BE ADVISED THAT DUE TO RAMP, LANE, AND SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.

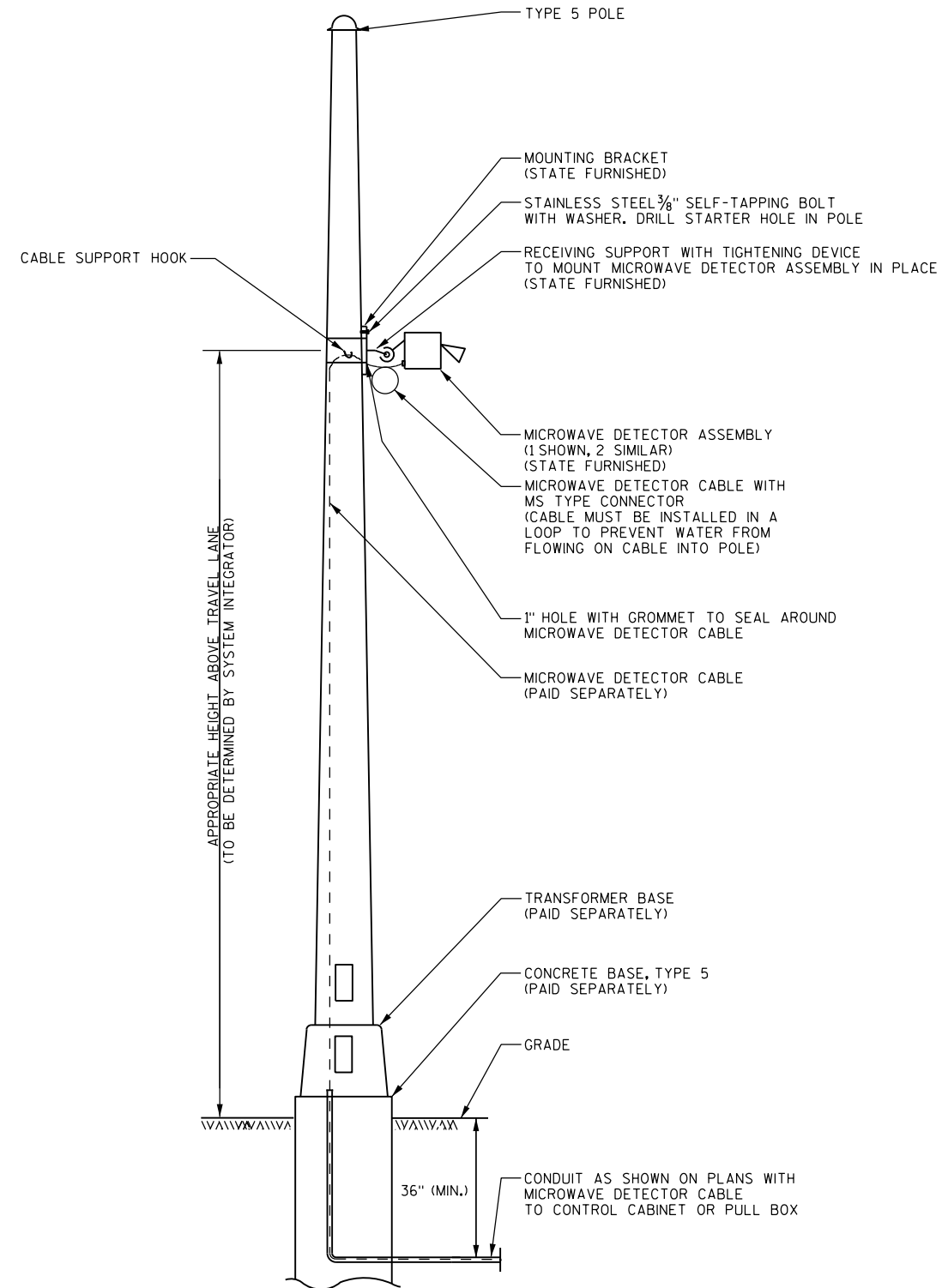
THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.

CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.

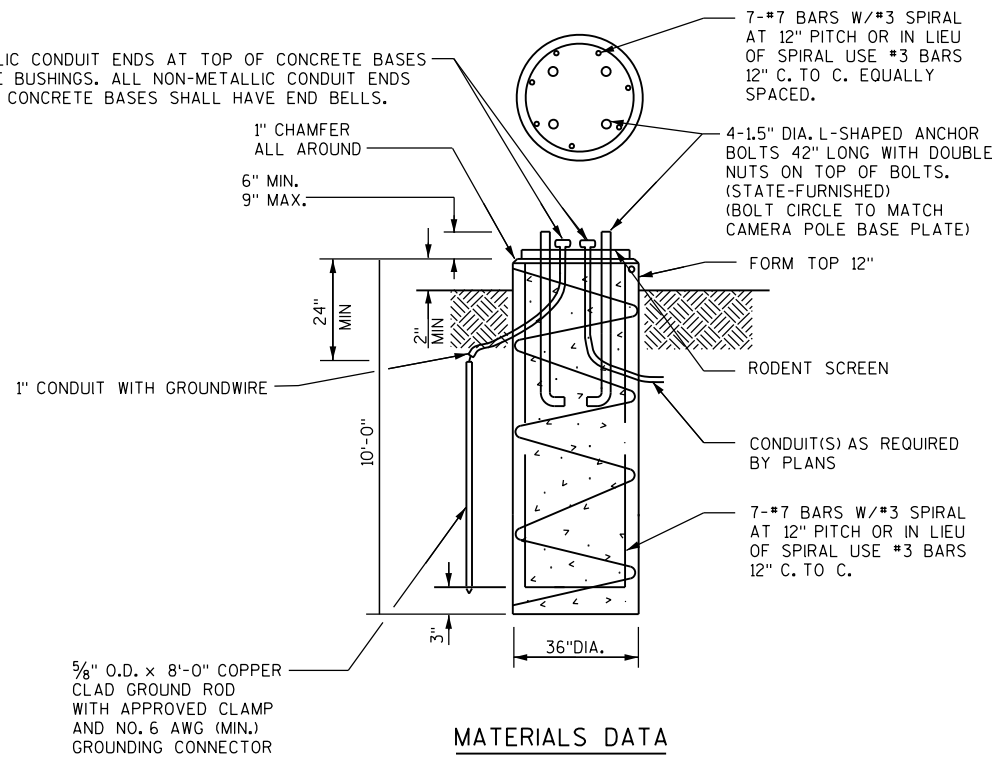
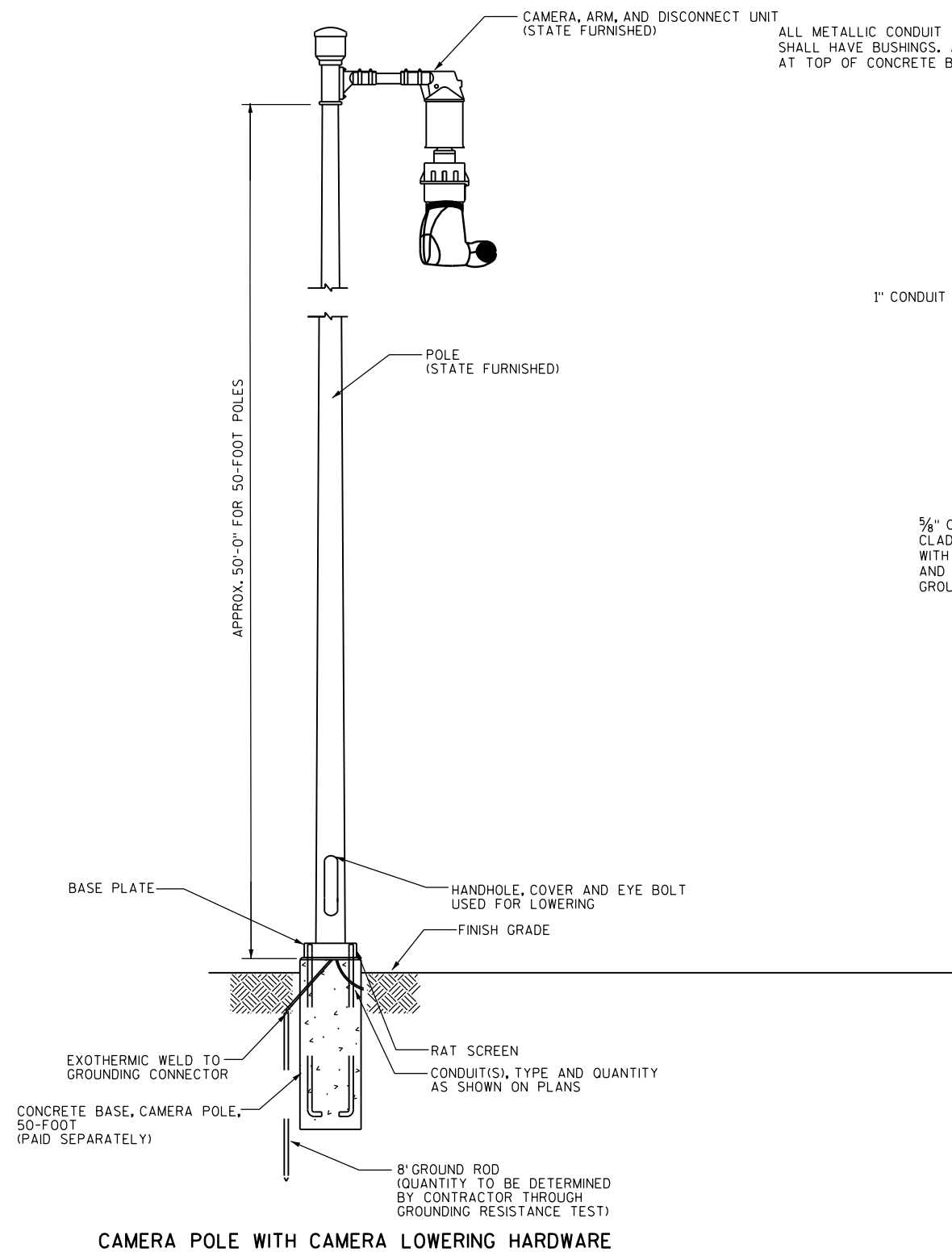
ALL LOOP DETECTORS STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.

HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.

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



MICROWAVE DETECTOR INSTALLATION
ON TYPE 5 POLE

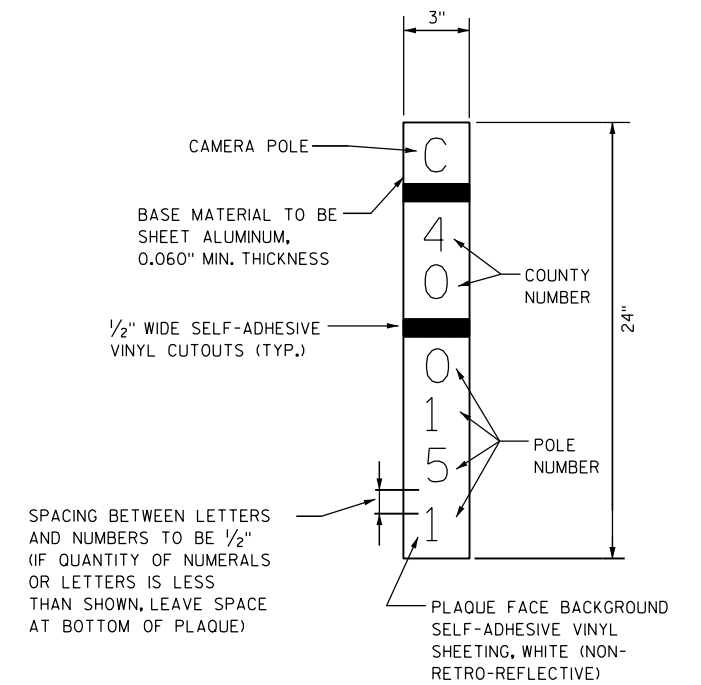


MATERIALS DATA

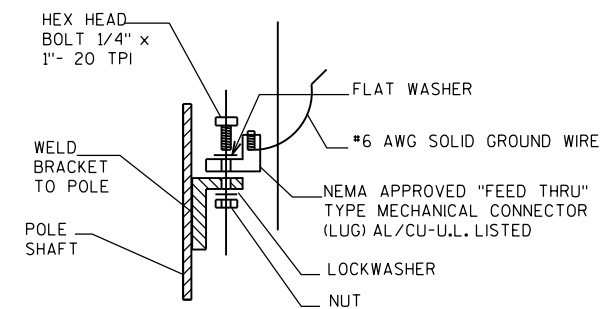
CONCRETE $f'c=3,500$ psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT $f_y = 60,000$ psi

CONCRETE BASE, 50' CAMERA POLE

NOT TO SCALE



POLE IDENTIFICATION PLAQUE DETAIL

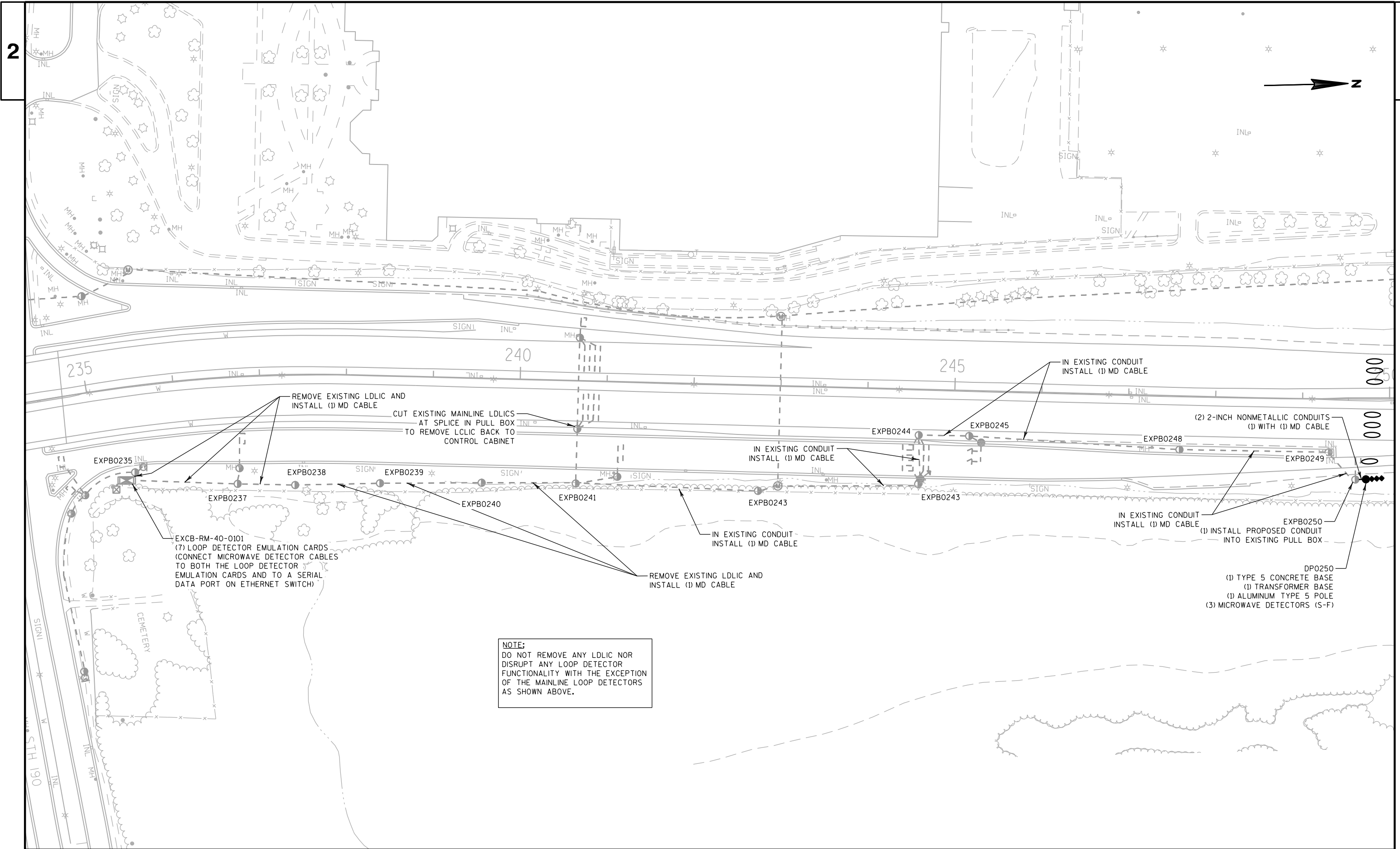


FIELD INSTALLED GROUNDING LUG

CAMERA POLES & FOUNDATIONS

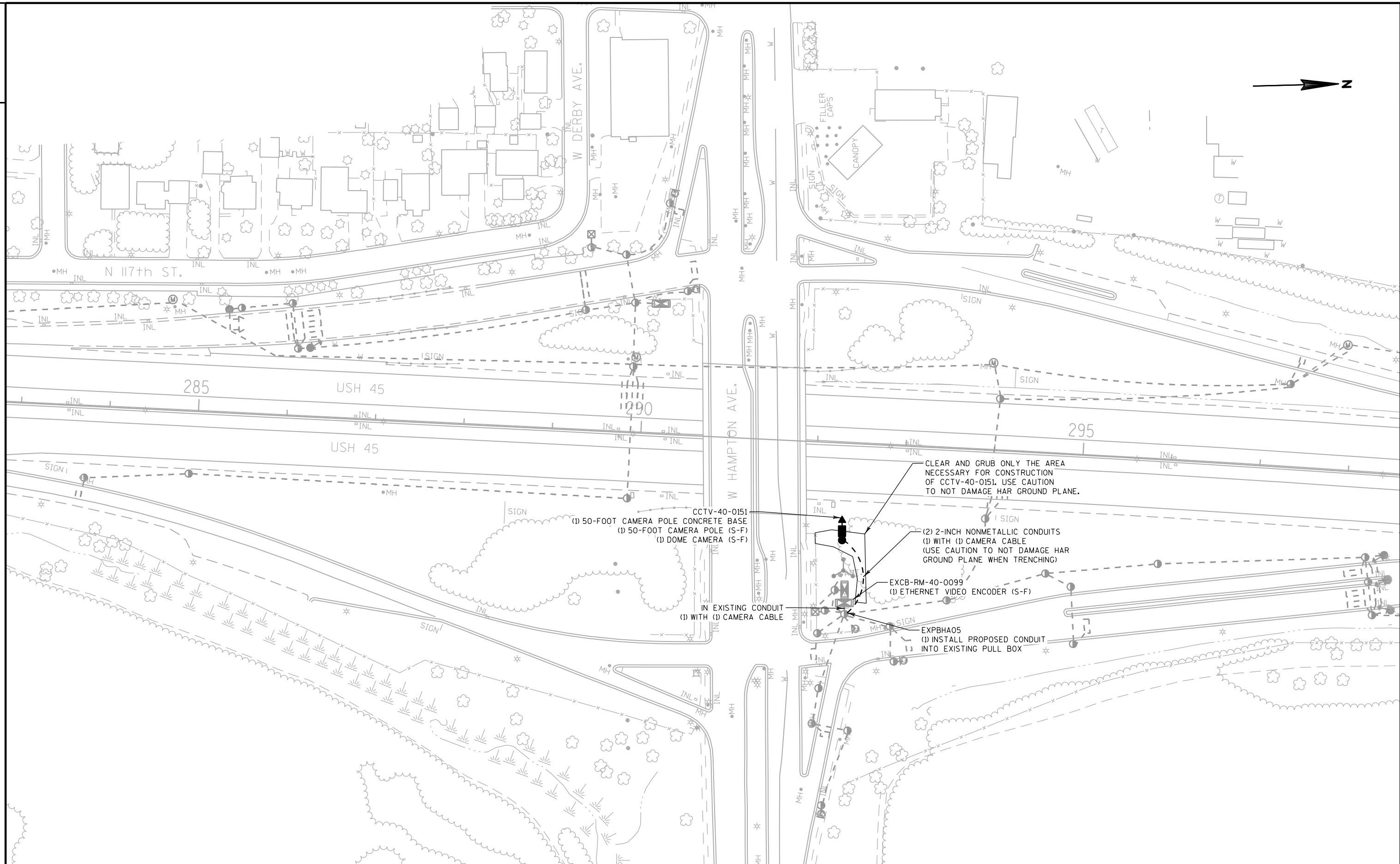
NOTES

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



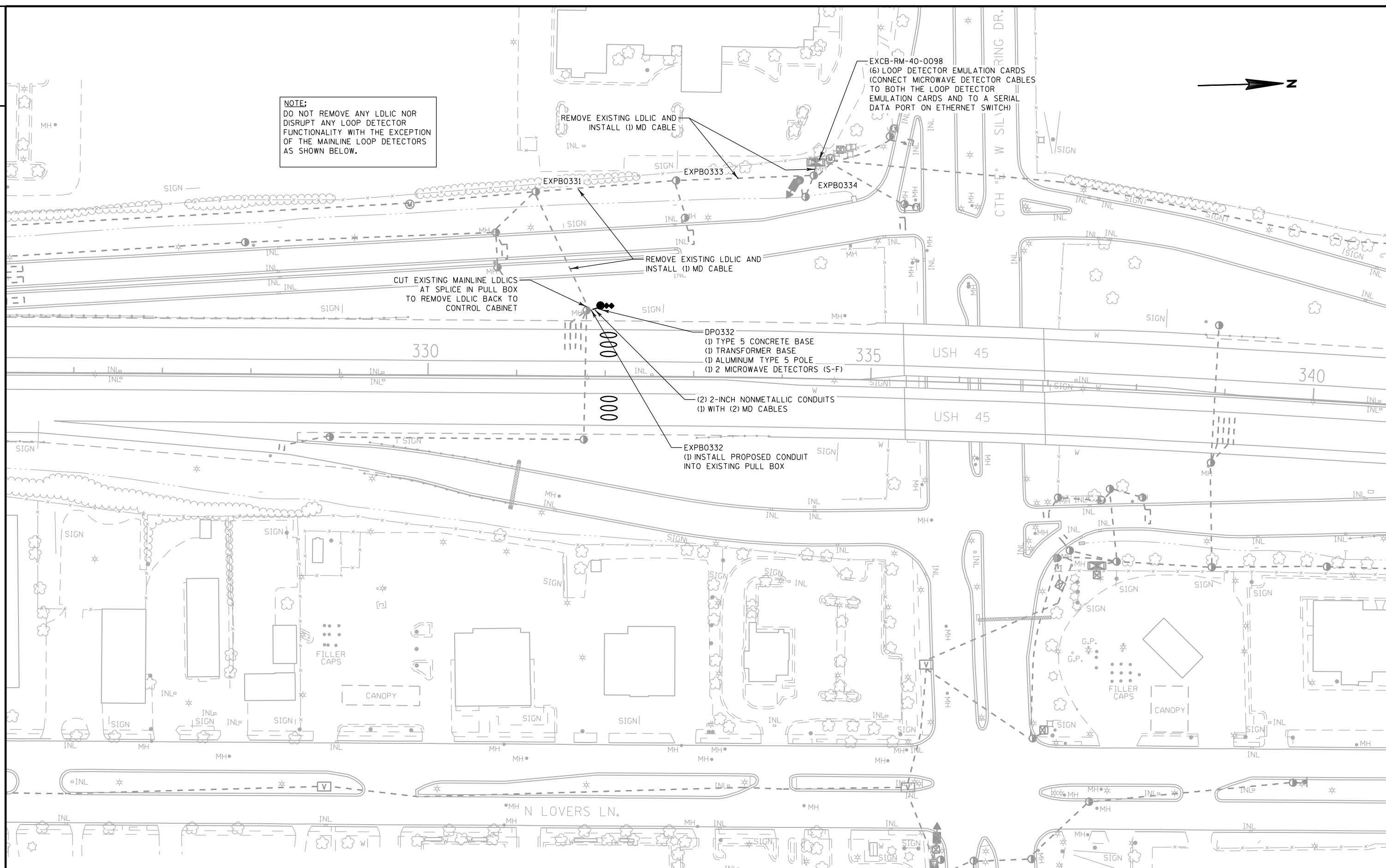
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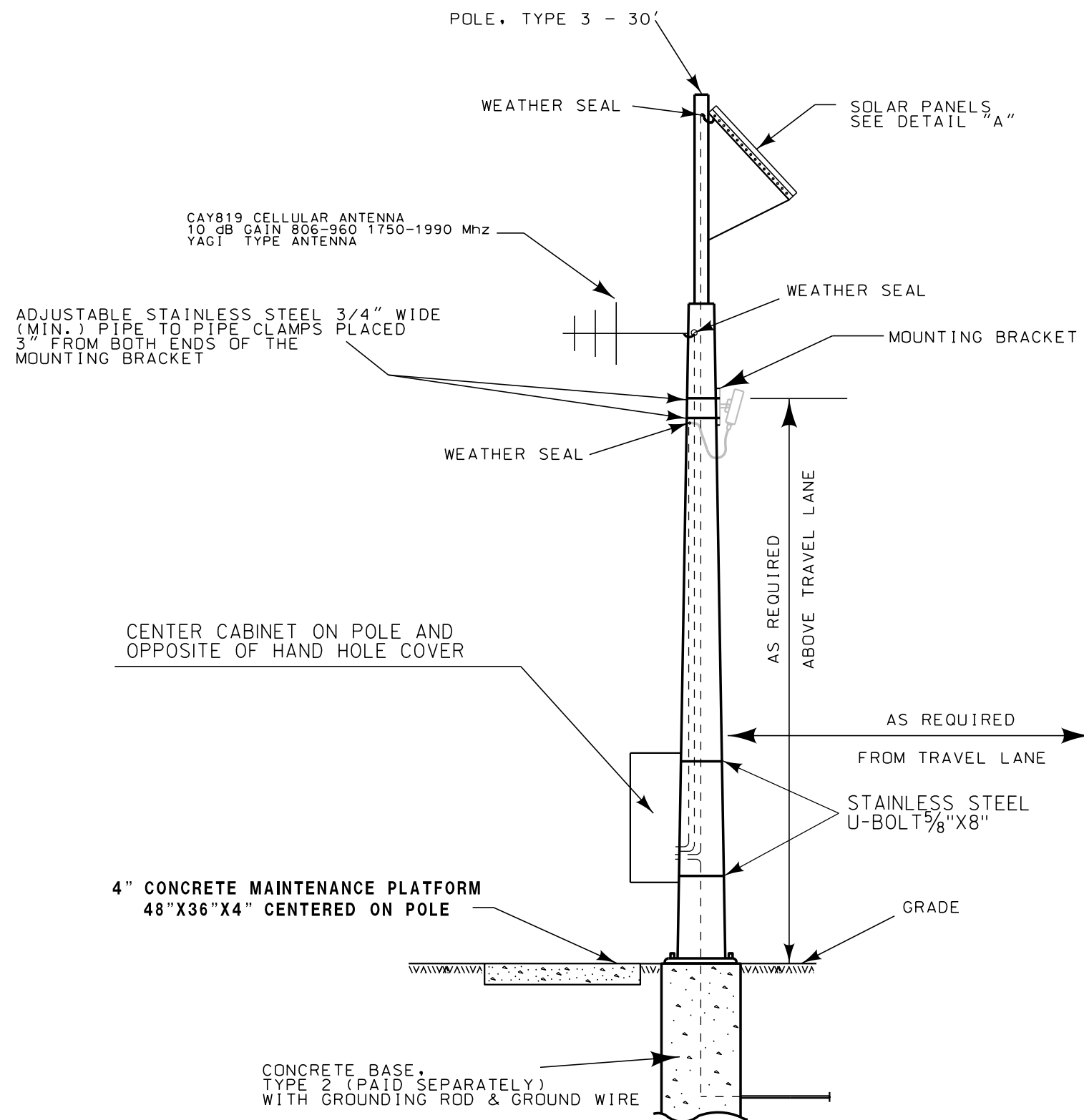
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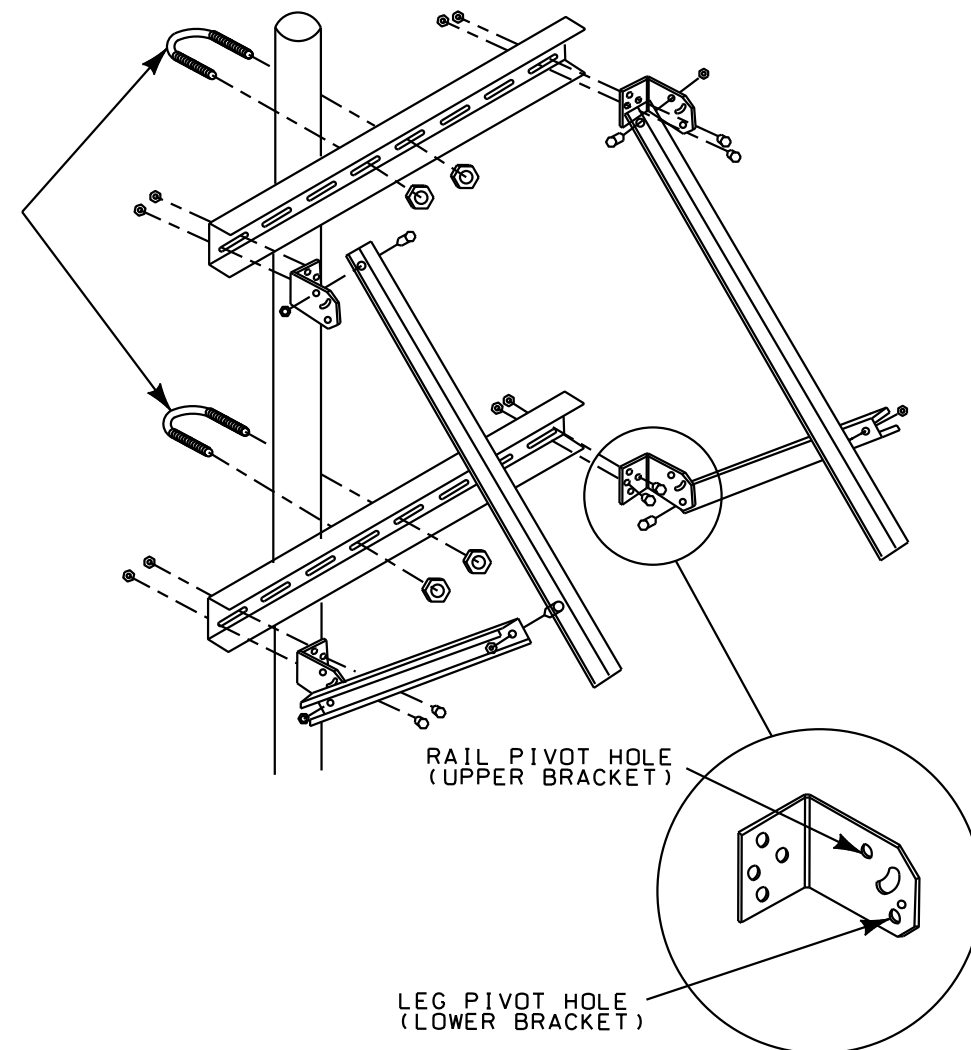
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2





STAINLESS STEEL
U-BOLT 5/8" X 6"

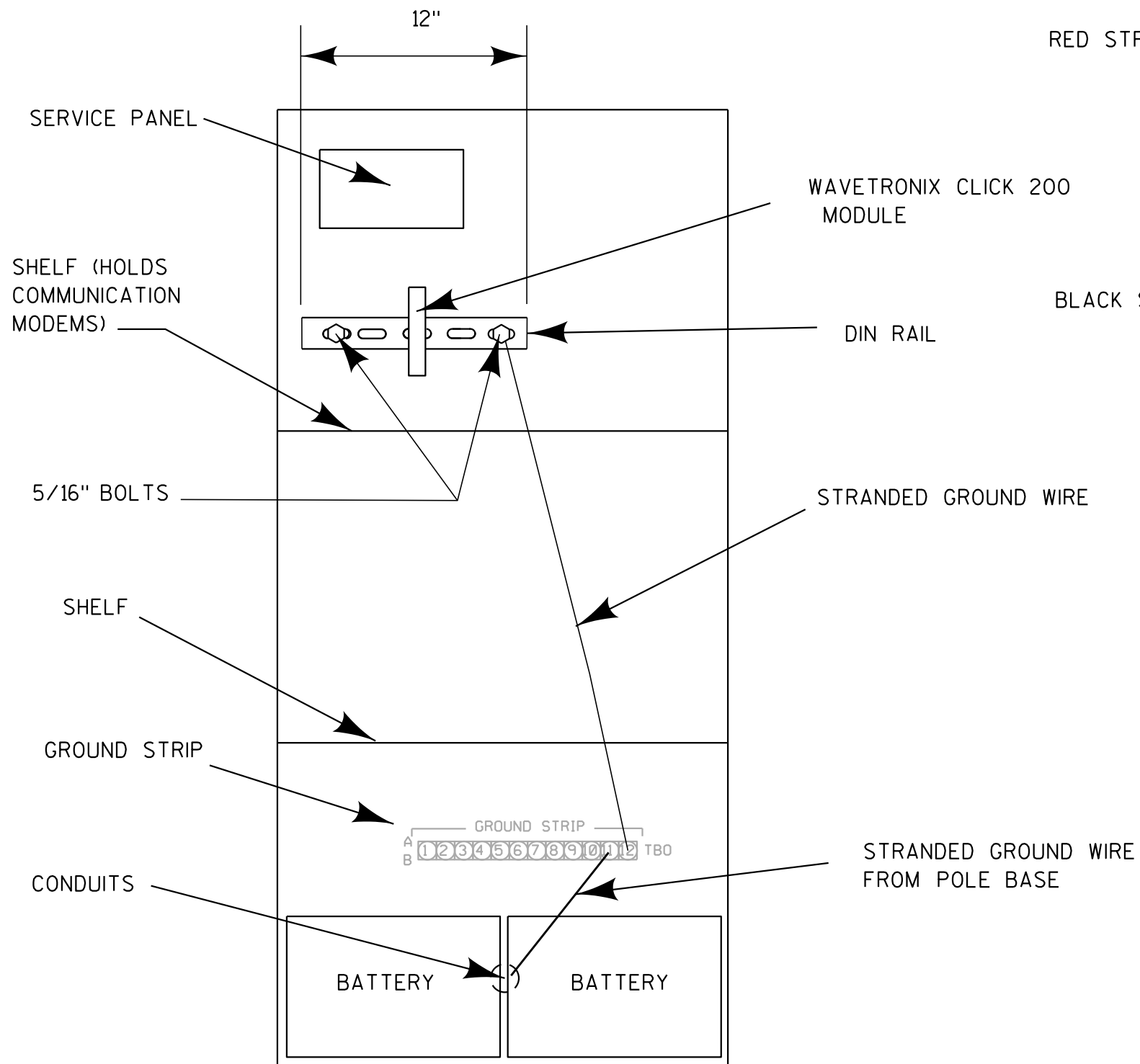


SOLAR PANELS
DETAIL "A"

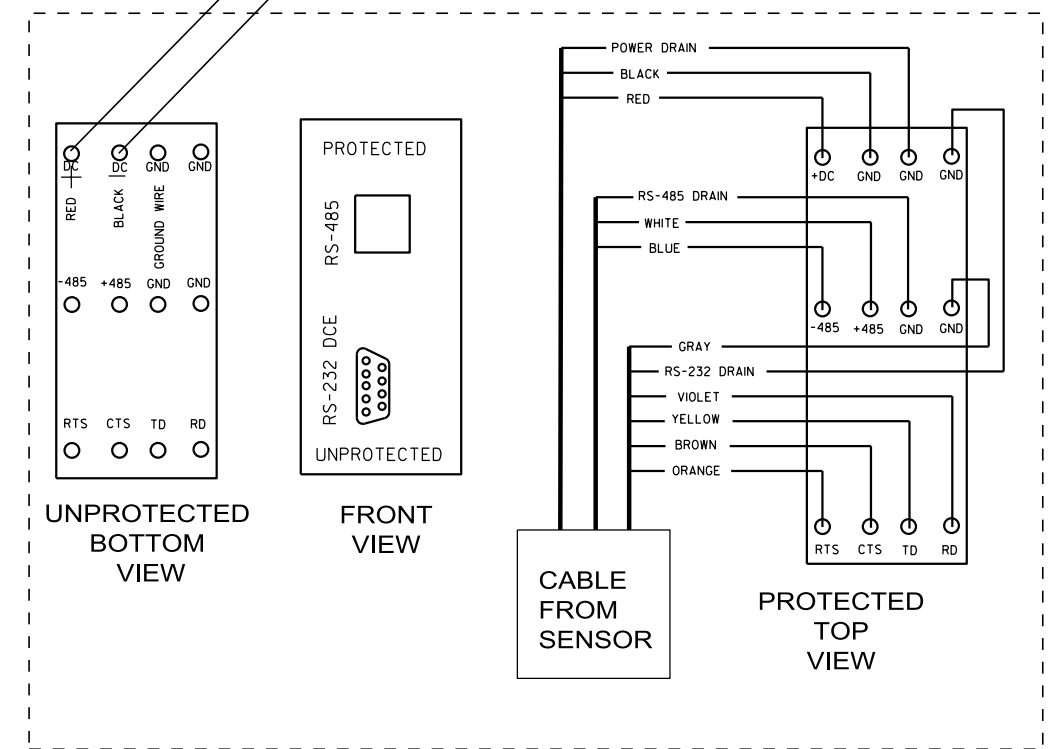
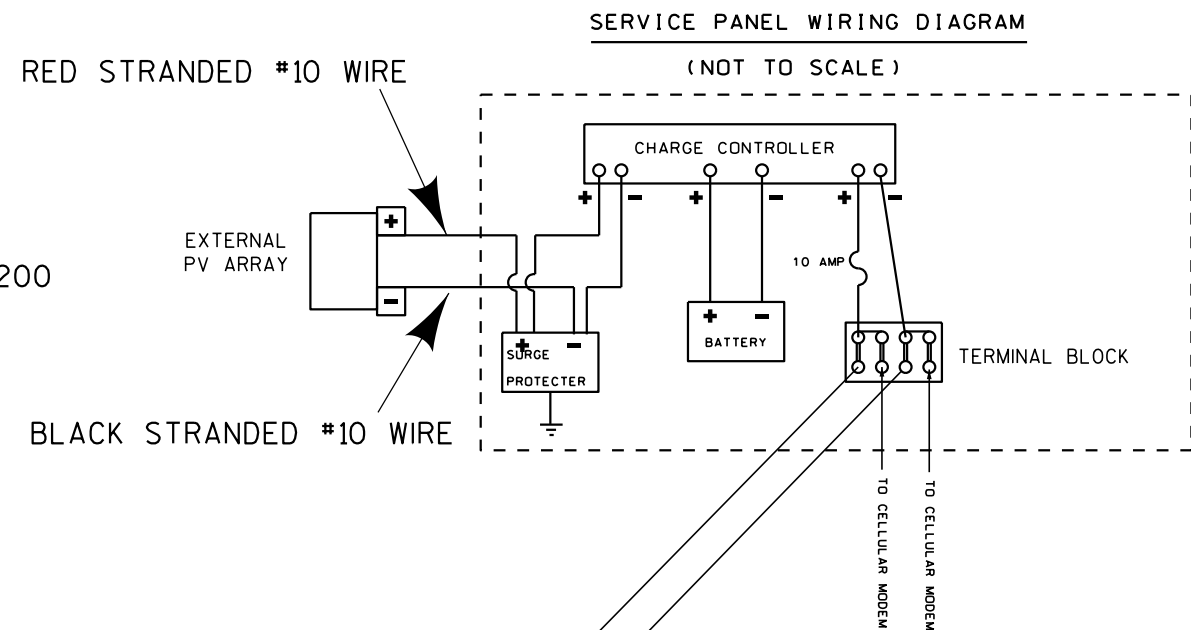
TRAVEL LANE

NOTE: SOLAR PANELS TO BE
POINTED DUE SOUTH

WAVETRONIX DETECTOR INSTALLATION
INCLUDES SOLAR POWER, CELLULAR ANTENNA ON TYPE 3 POLE
(NOT TO SCALE)



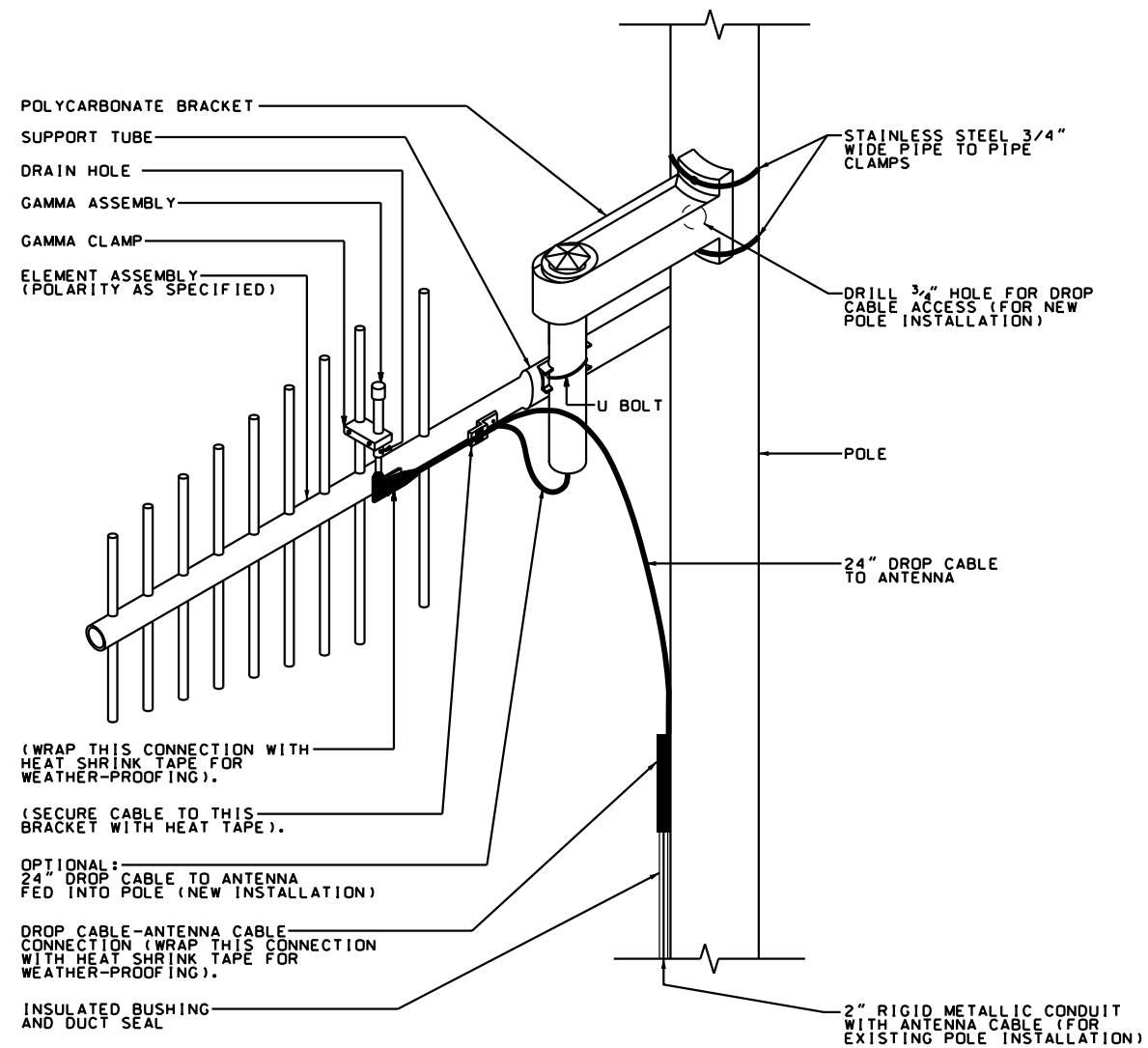
FRONT VIEW/LAYOUT
(NOT TO SCALE)



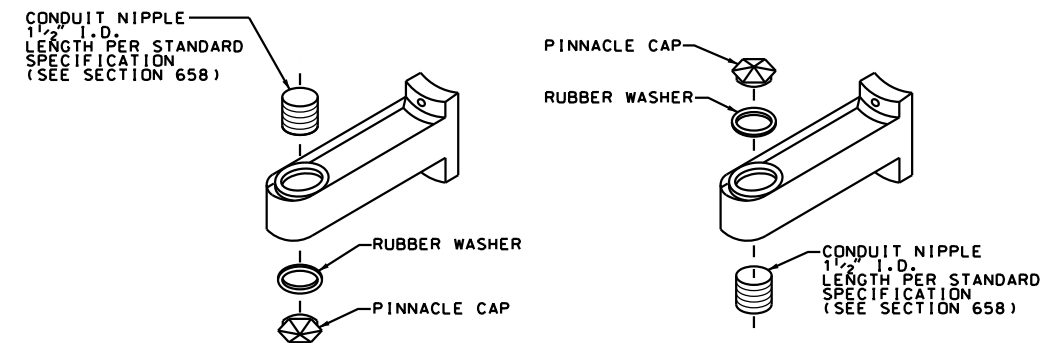
WAVETRONIX CLICK 200 MODULE
WIRING DIAGRAM
(NOT TO SCALE)

ATR POLE-MOUNTED CABINET SOLAR INSTALLATION LAYOUT

ATR - WAVETRONIX



CELLULAR ANTENNA
MOUNTING ASSEMBLY DETAIL
(YAGI TYPE)
(NOT TO SCALE)



POLYCARBONATE BRACKET
(NOT TO SCALE)

GENERAL NOTES

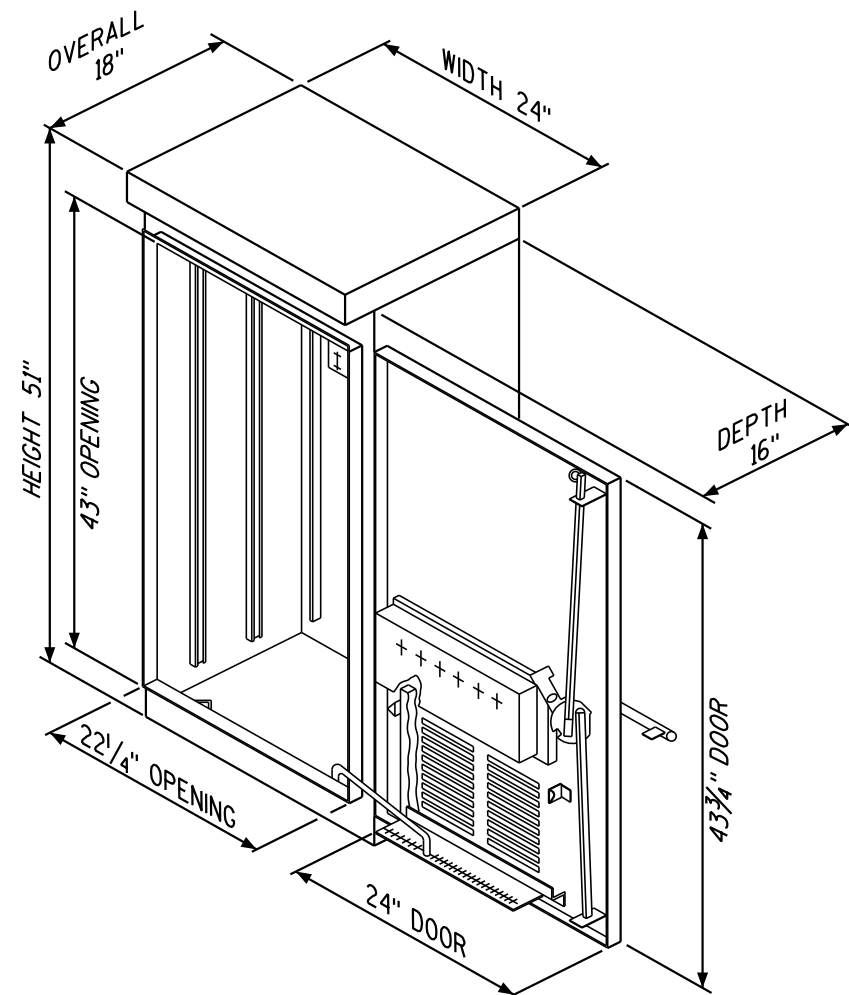
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

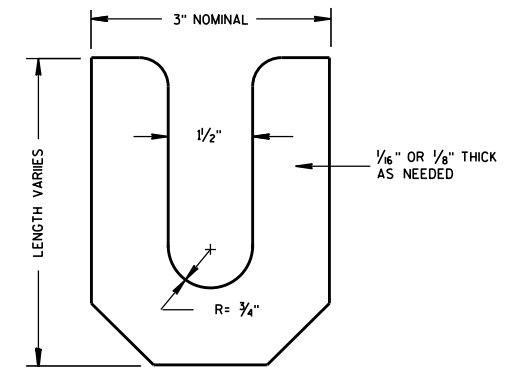
DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

CONNECTION BETWEEN THE SOLAR PANELS AND THE SOLAR CONTROLLER WIRE SIZE TO BE #10 AWG STRANDED WIRE.



POLE, TYPE 3 STEEL

CABINET - 51"Hx24"Wx16"D

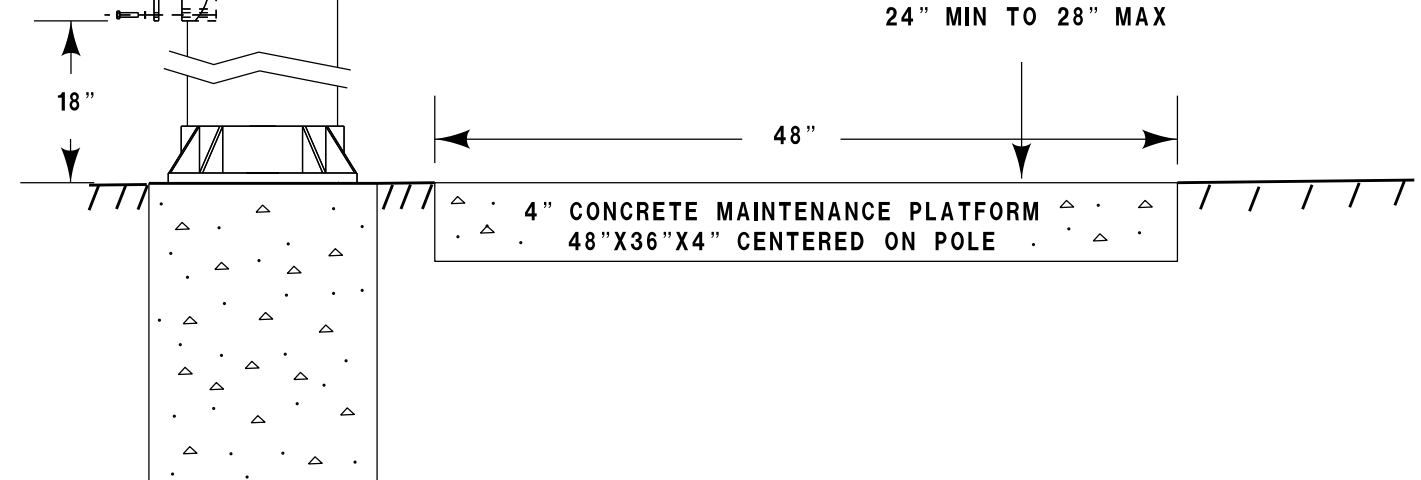


LEVELING SHIM

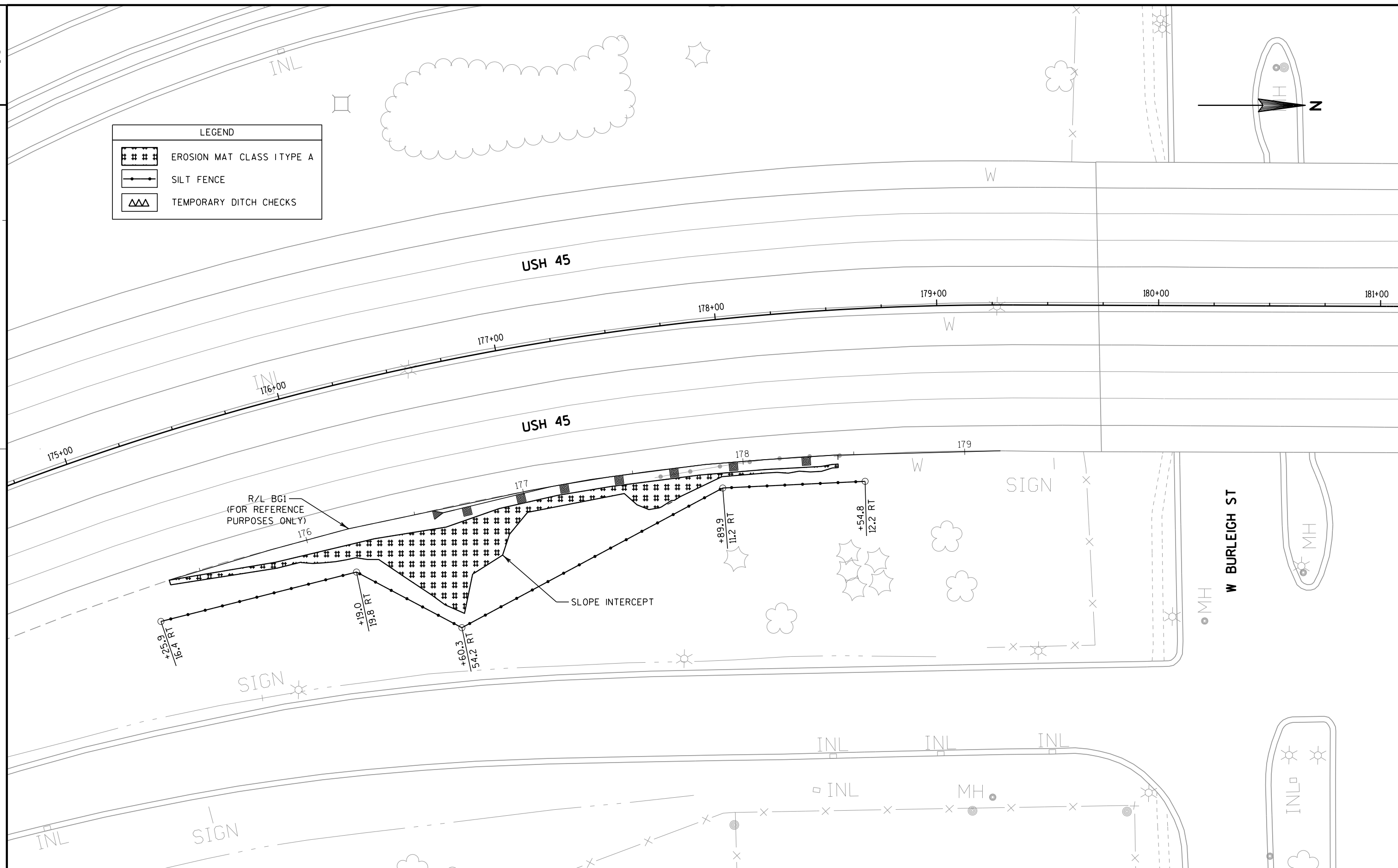
STAINLESS STEEL U-BOLT 5/8"x8" PIPE

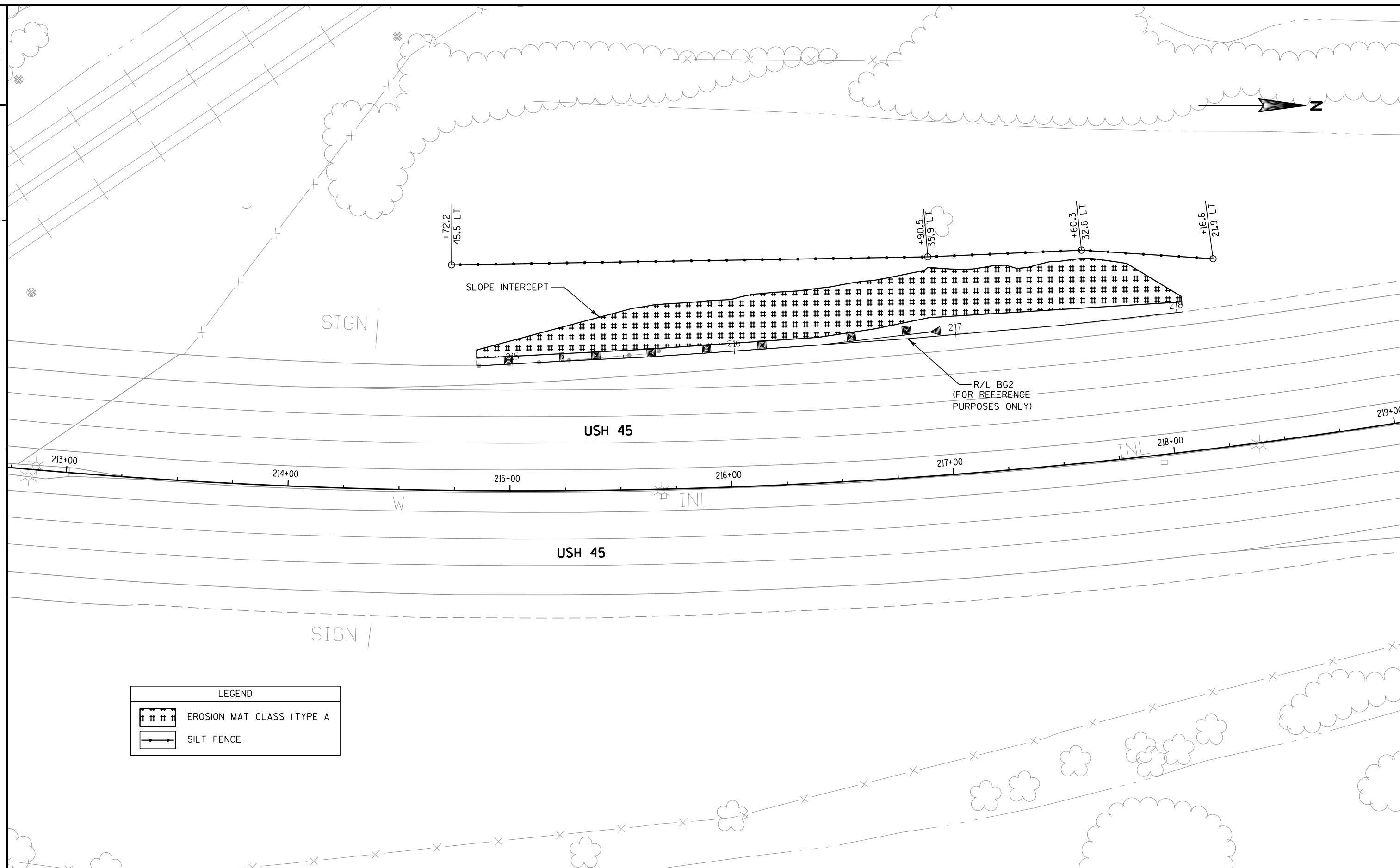
HAND HOLE TO FACE
TRAVEL LANES
BOLT, LOCK WASHER,
HAND HOLE COVERCENTER CABINET ON POLE AND
OPPOSITE OF HAND HOLE COVER

24" MIN TO 28" MAX

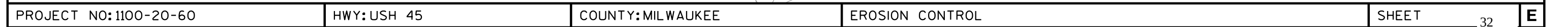
**INSTALLATION OF ATR CABINET ON POLE**

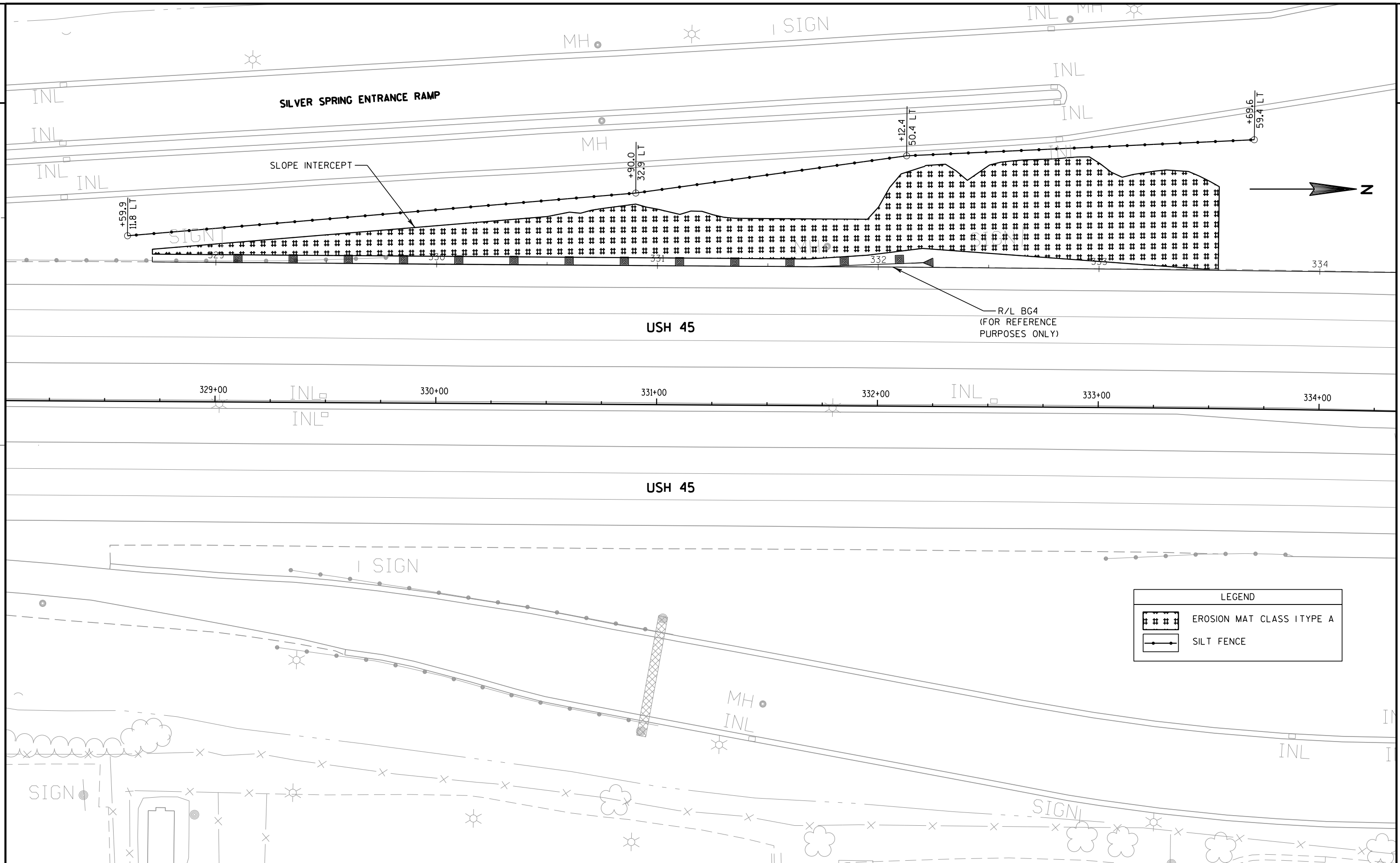
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	EROSION MAT CLASS I TYPE A
	SILT FENCE
	TEMPORARY DITCH CHECKS





2

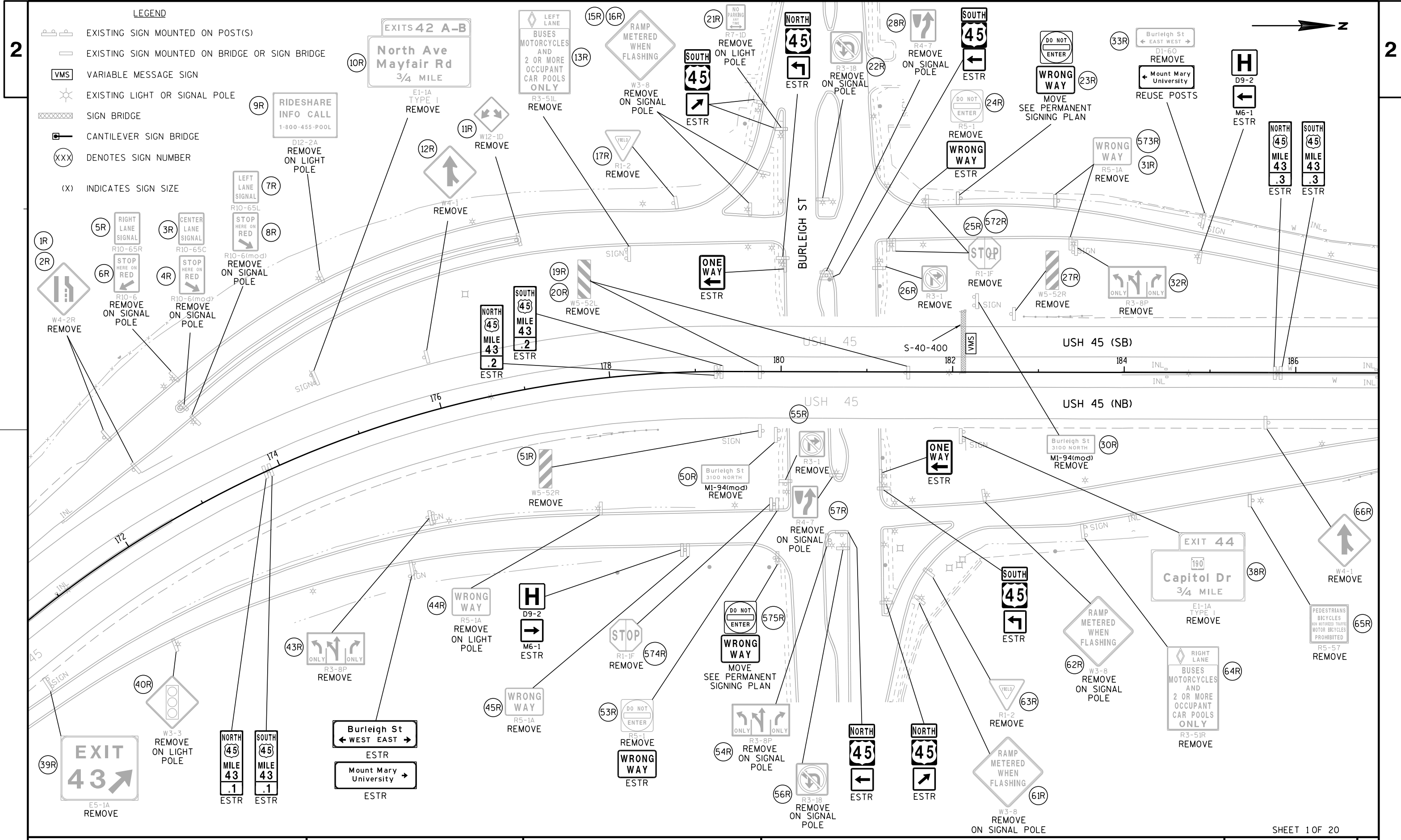


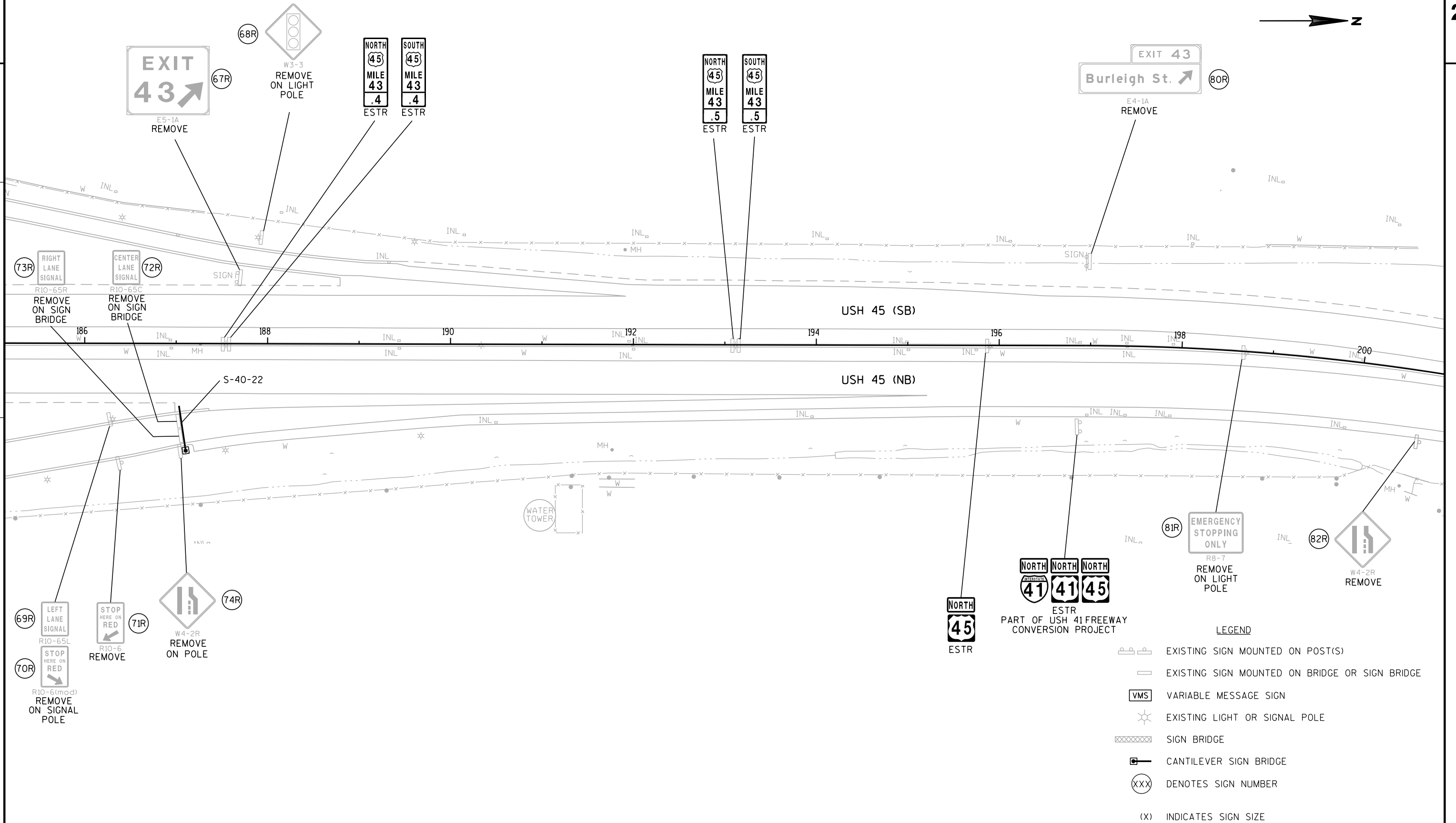


LEGEND	
	EROSION MAT CLASS I TYPE A
	SILT FENCE

2



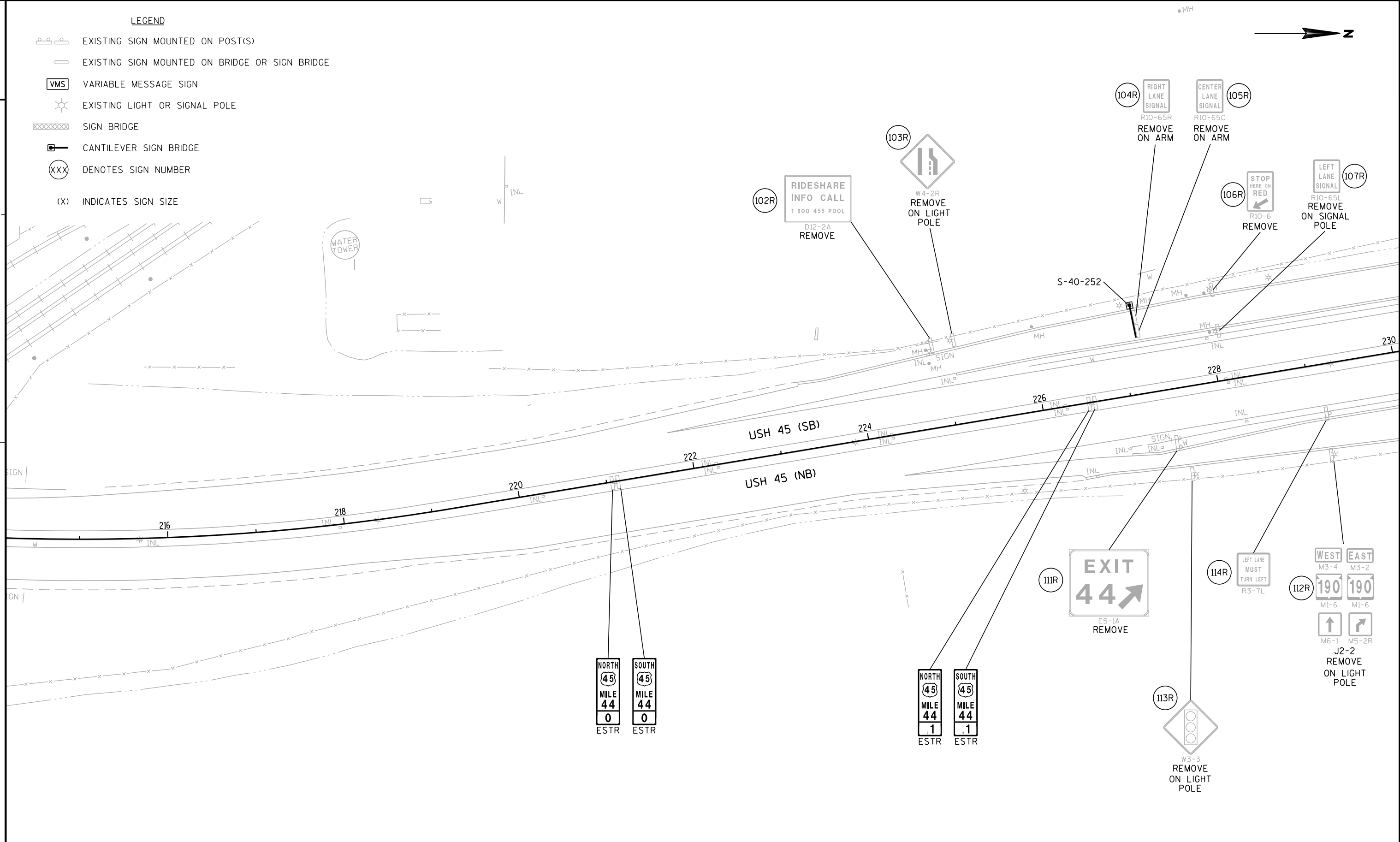


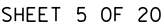




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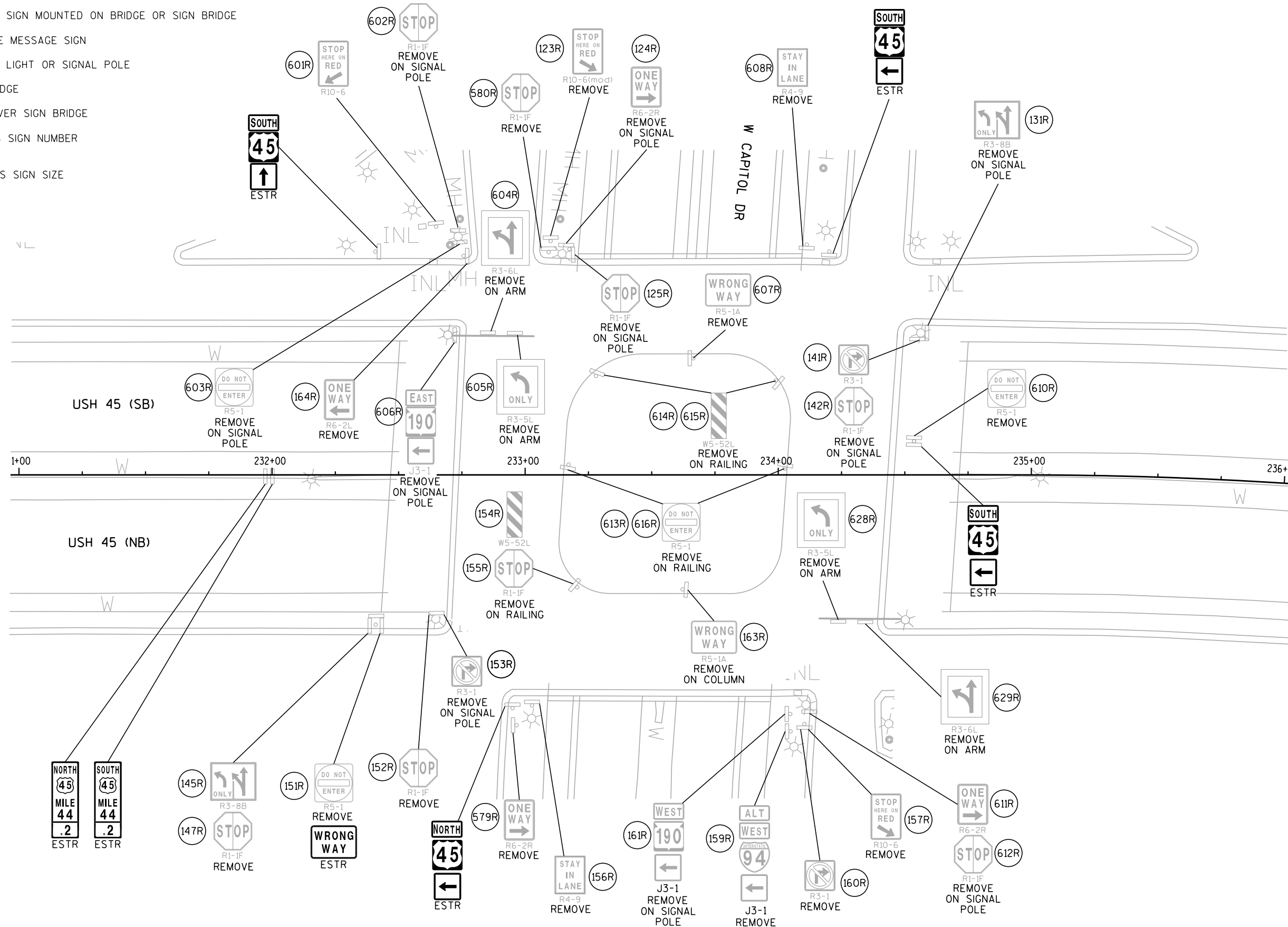
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-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE





LEGEND

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SIGN BRIDGE
CANTILEVER SIGN BRIDGE
XXX DENOTES SIGN NUMBER
(X) INDICATES SIGN SIZE



SHEET 5A OF 20

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

SIGNING REMOVAL PLAN

SHEET

40

E

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PLOT DATE : 12-FEB-2014 10:45

PLOT BY : mscpp1

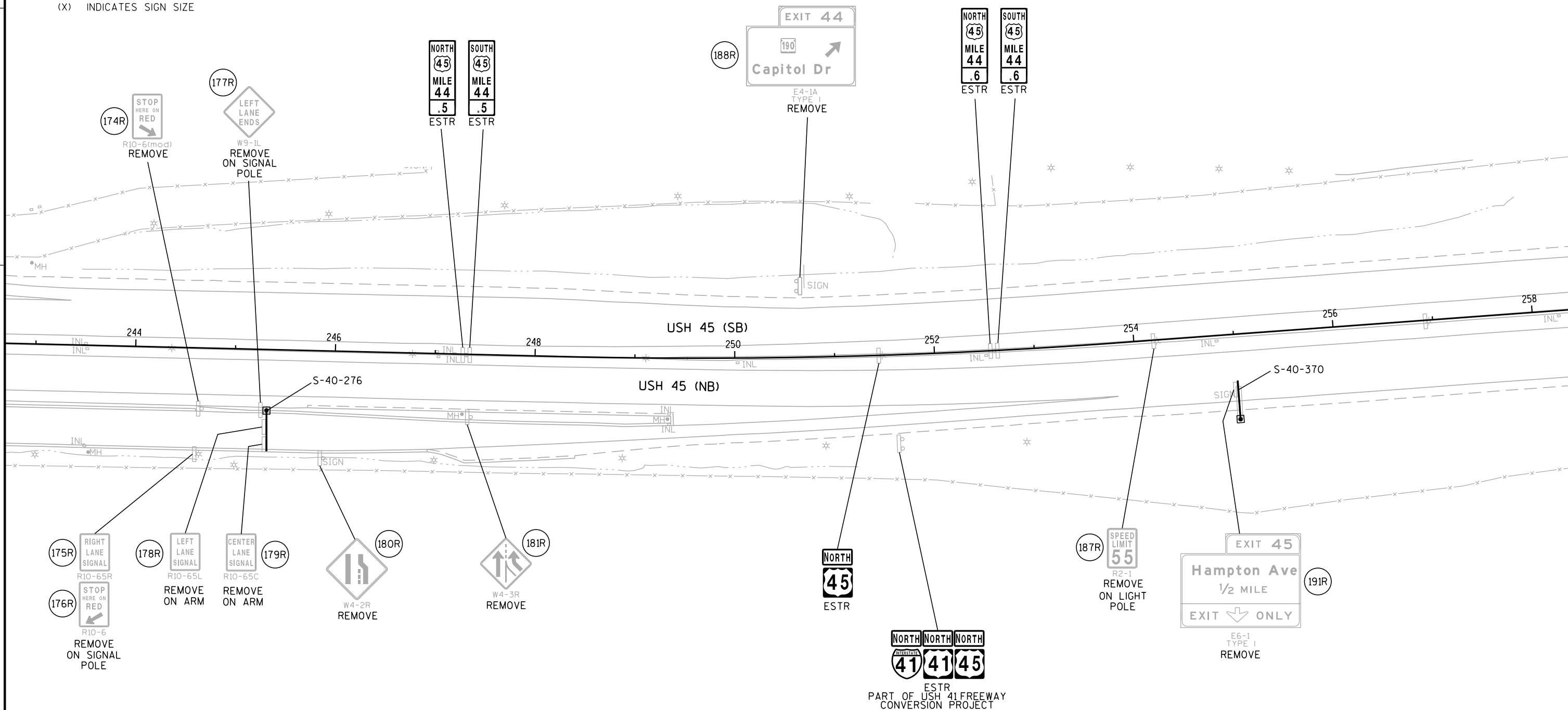
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PLOT SCALE : 40:1

WISDOT/CADDs SHEET 42

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-  DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



SHEET 6 OF 20

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

SIGNING REMOVAL PLAN

SHEET

41

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PLOT BY : mscpp1

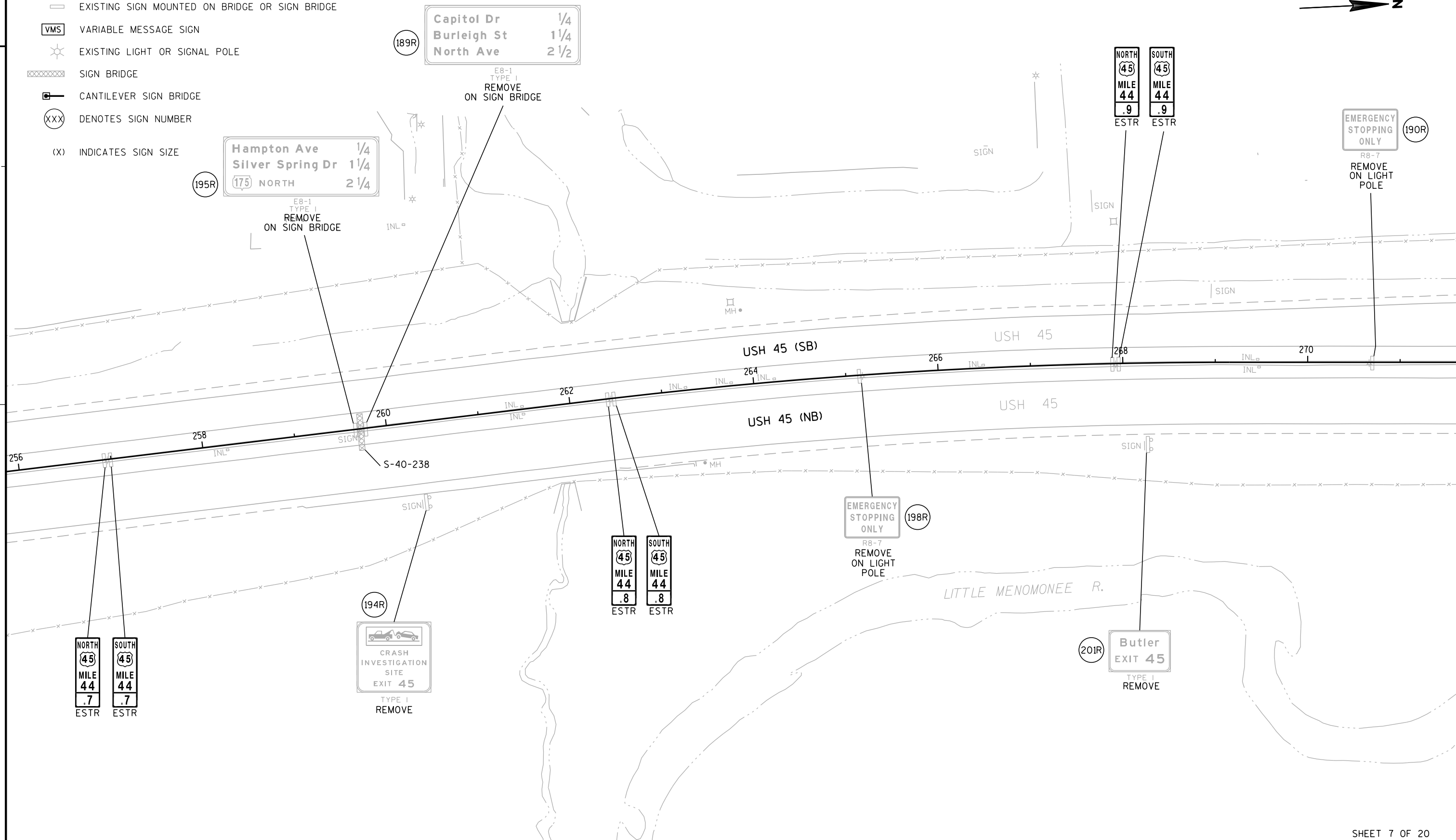
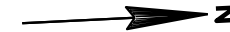
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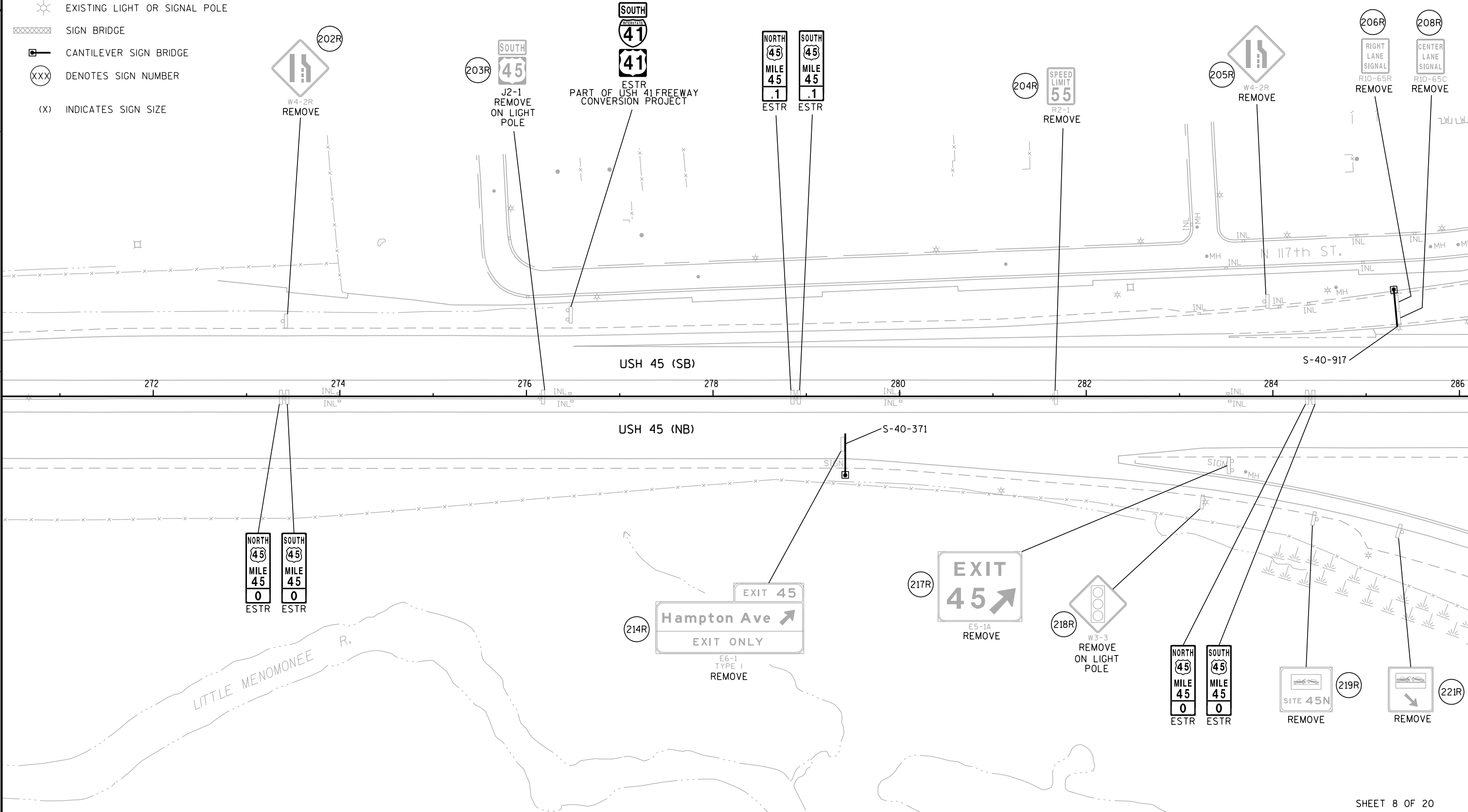
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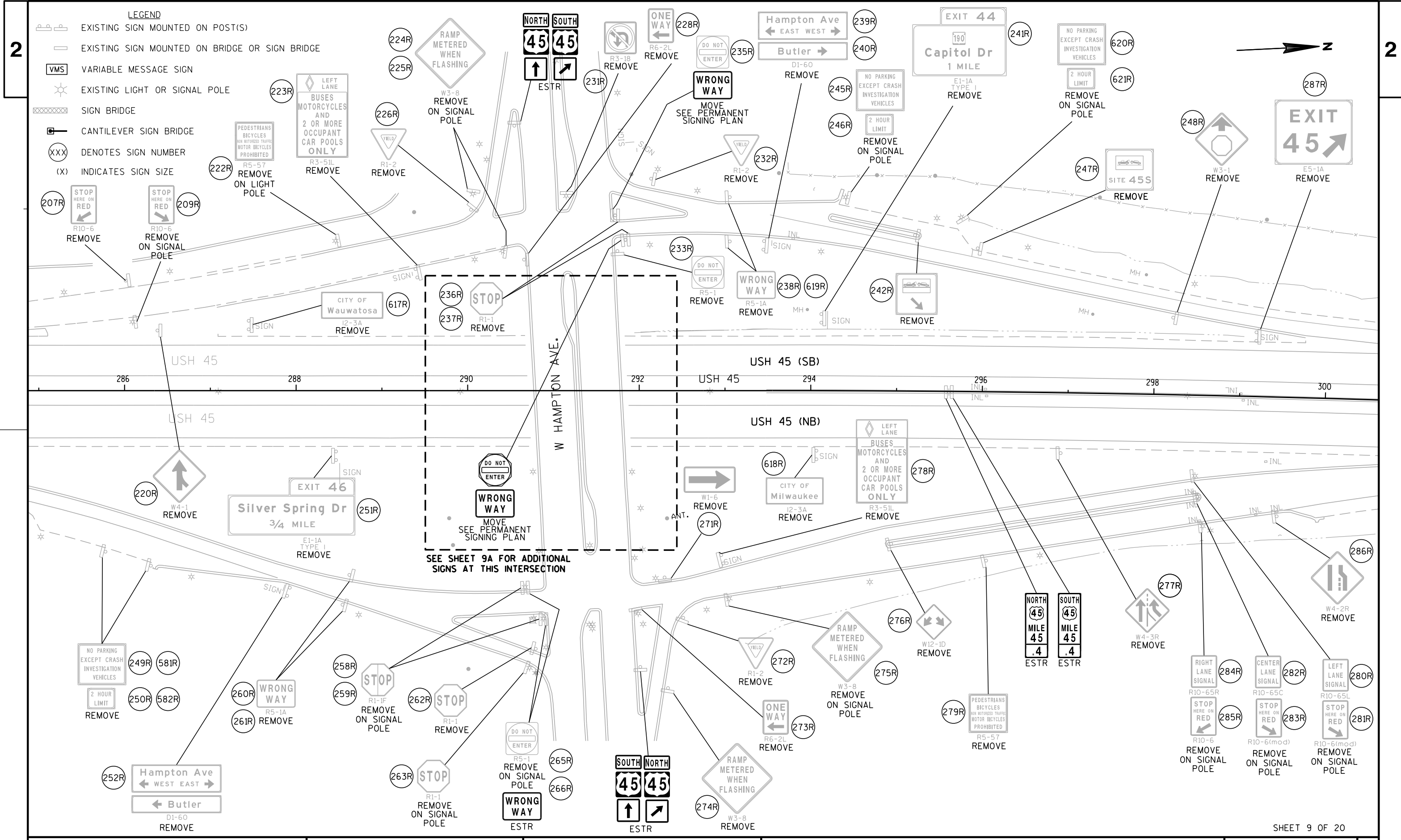
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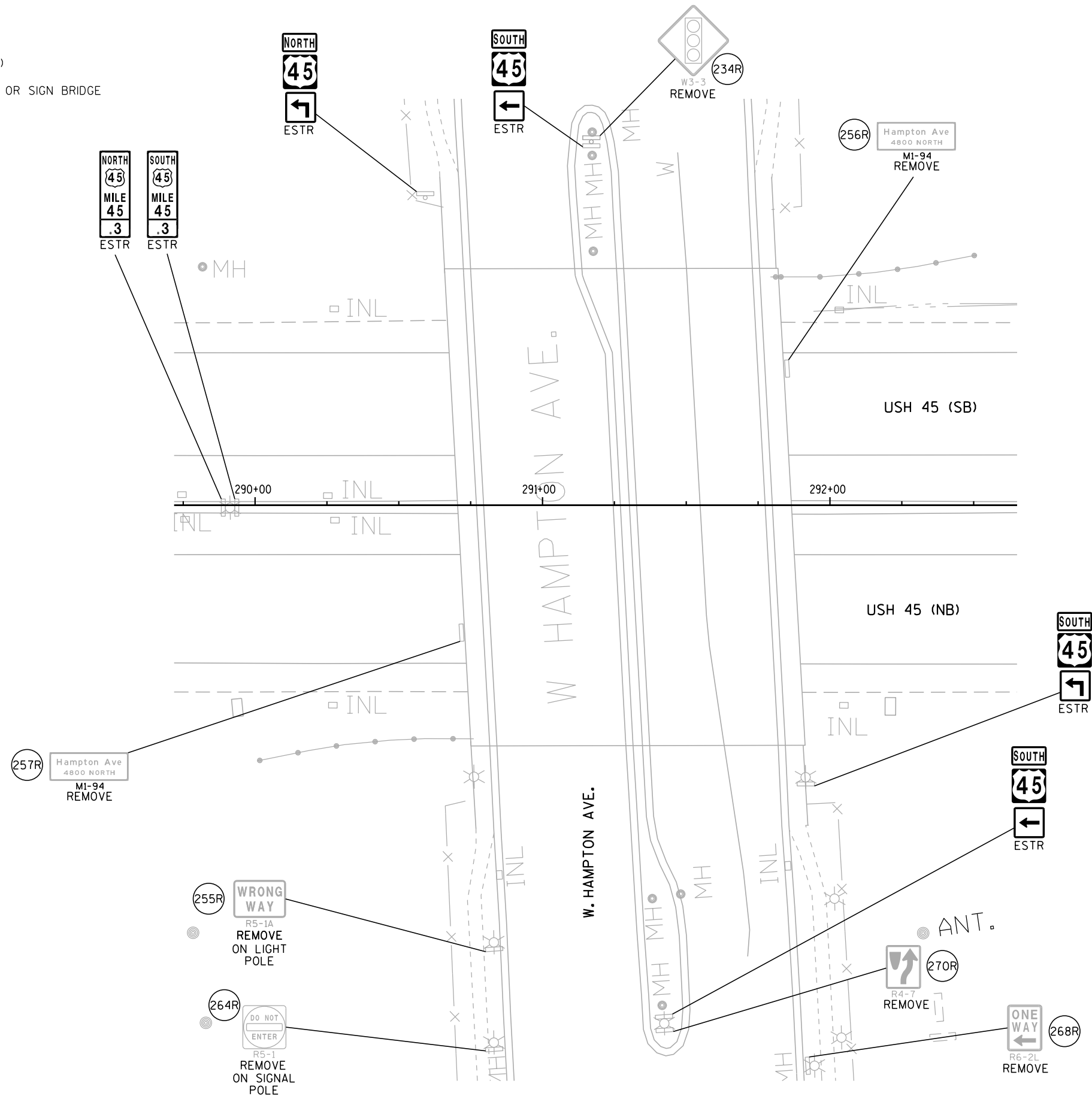
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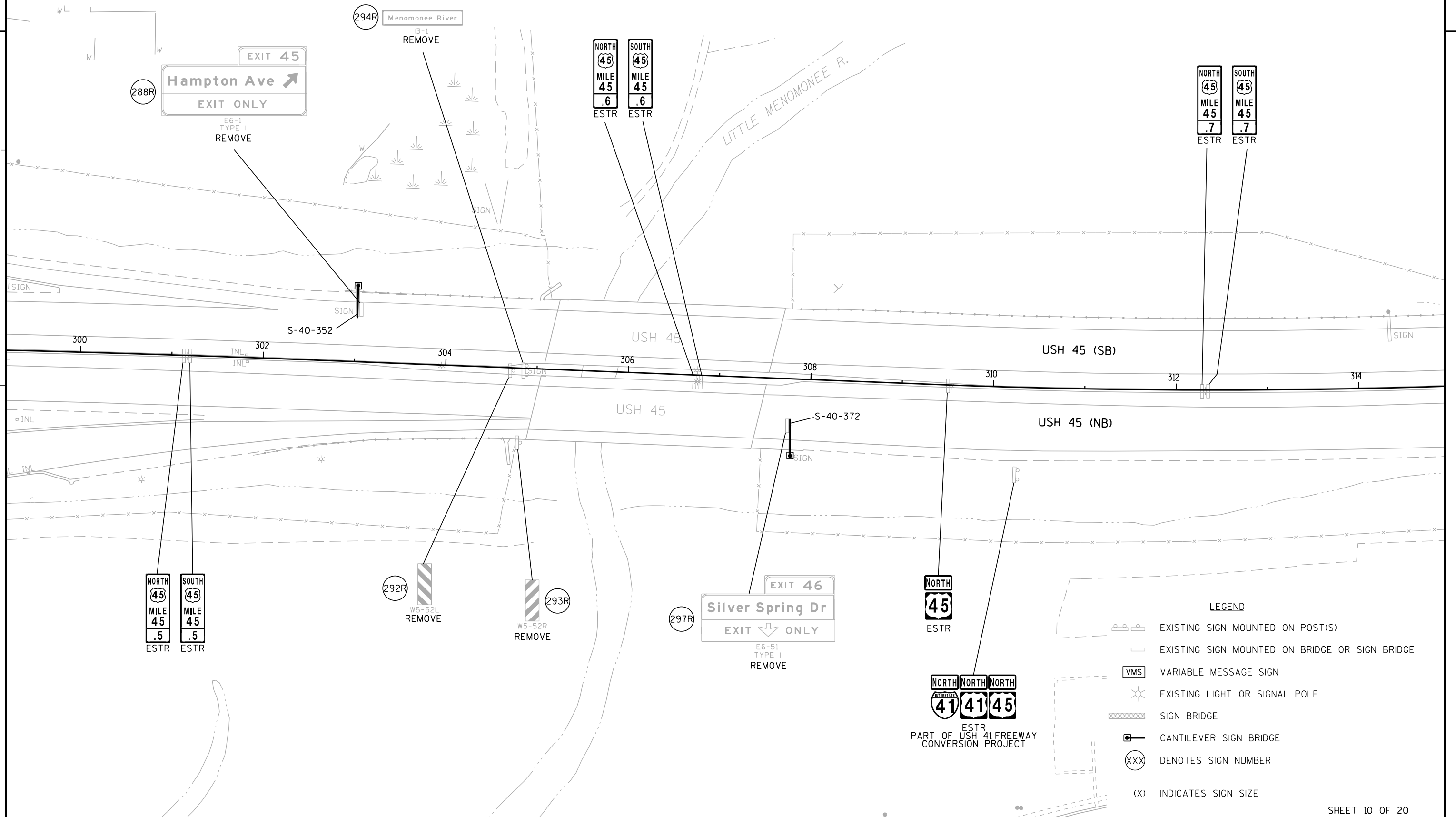




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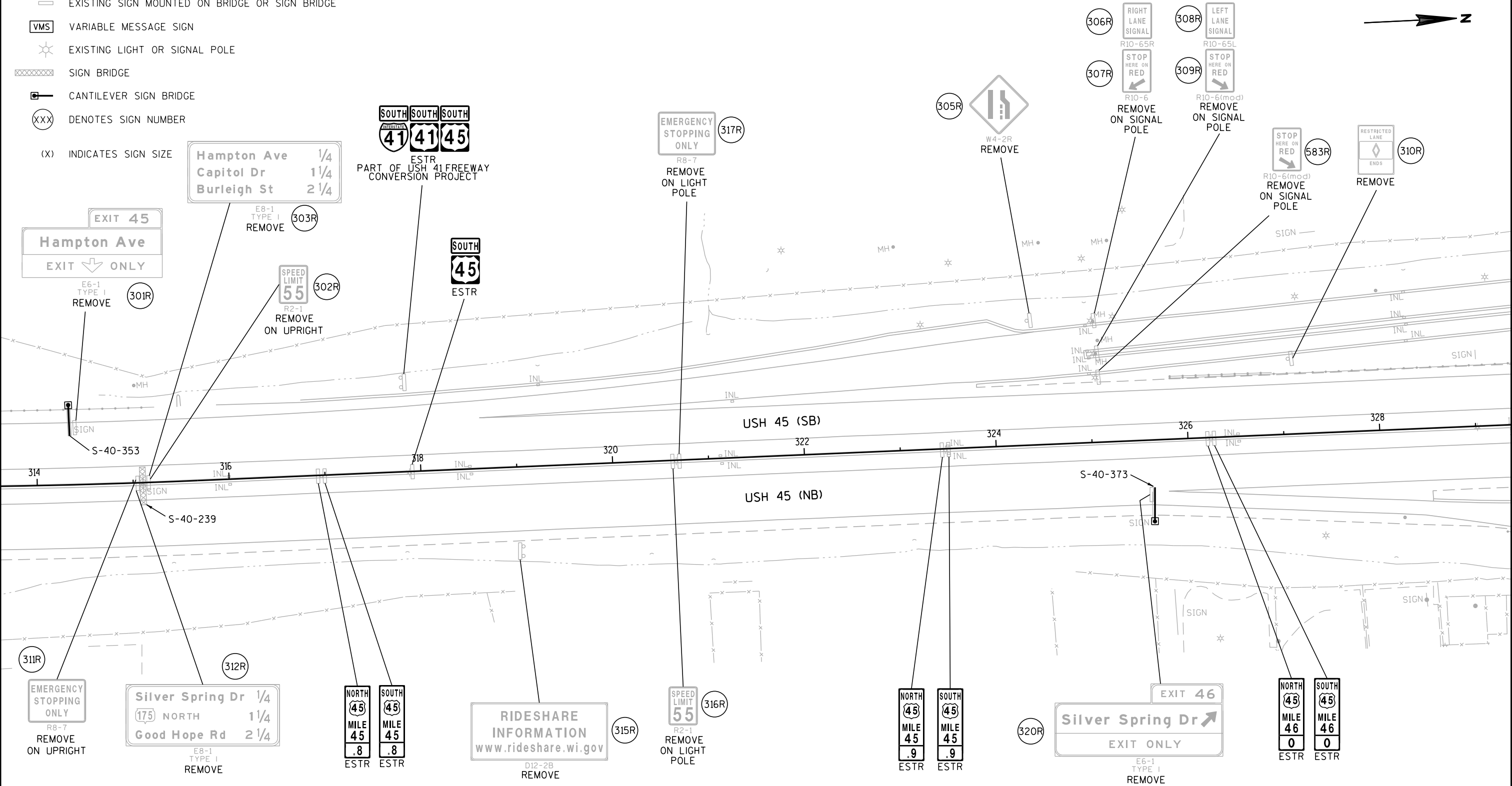
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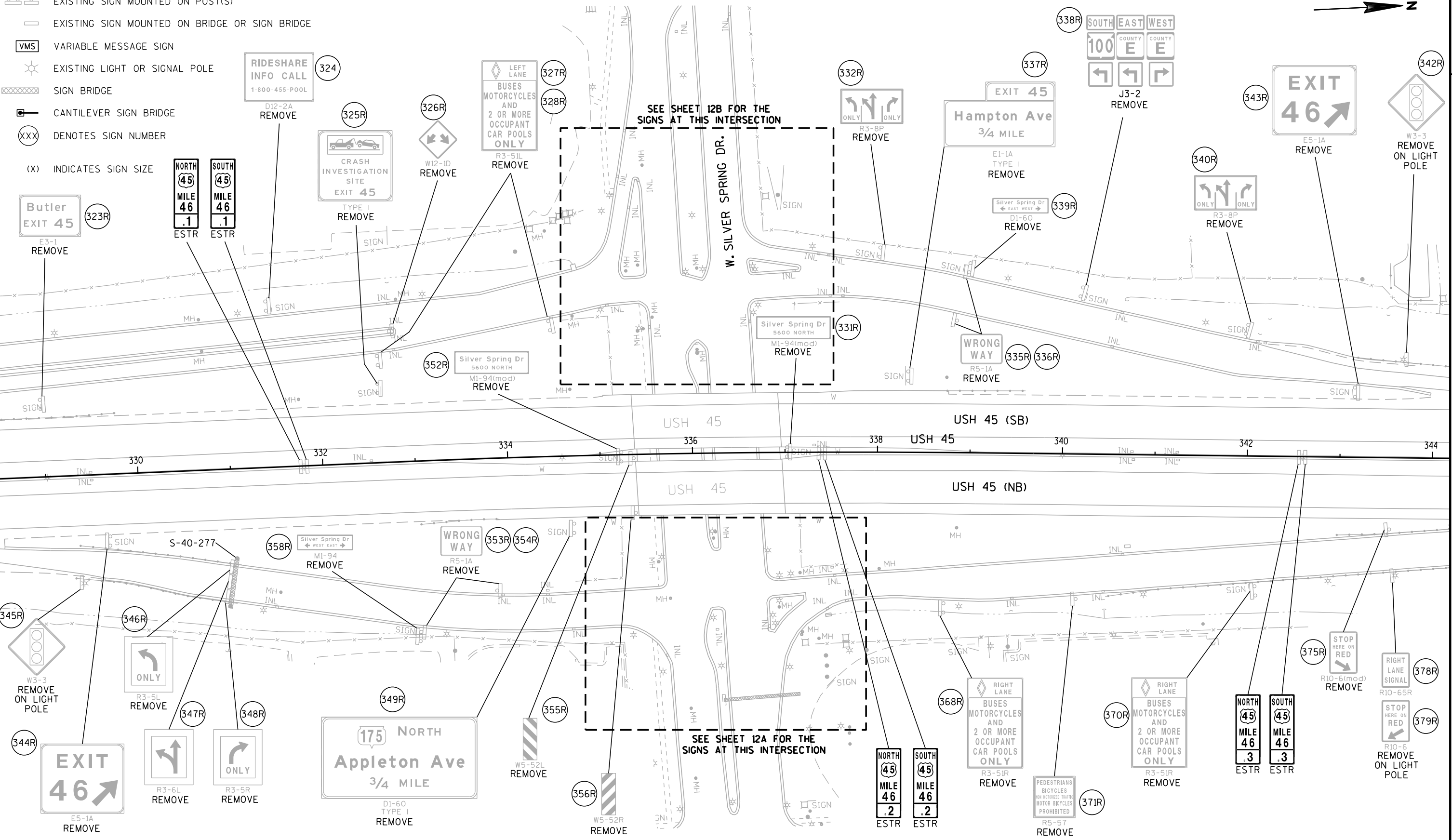
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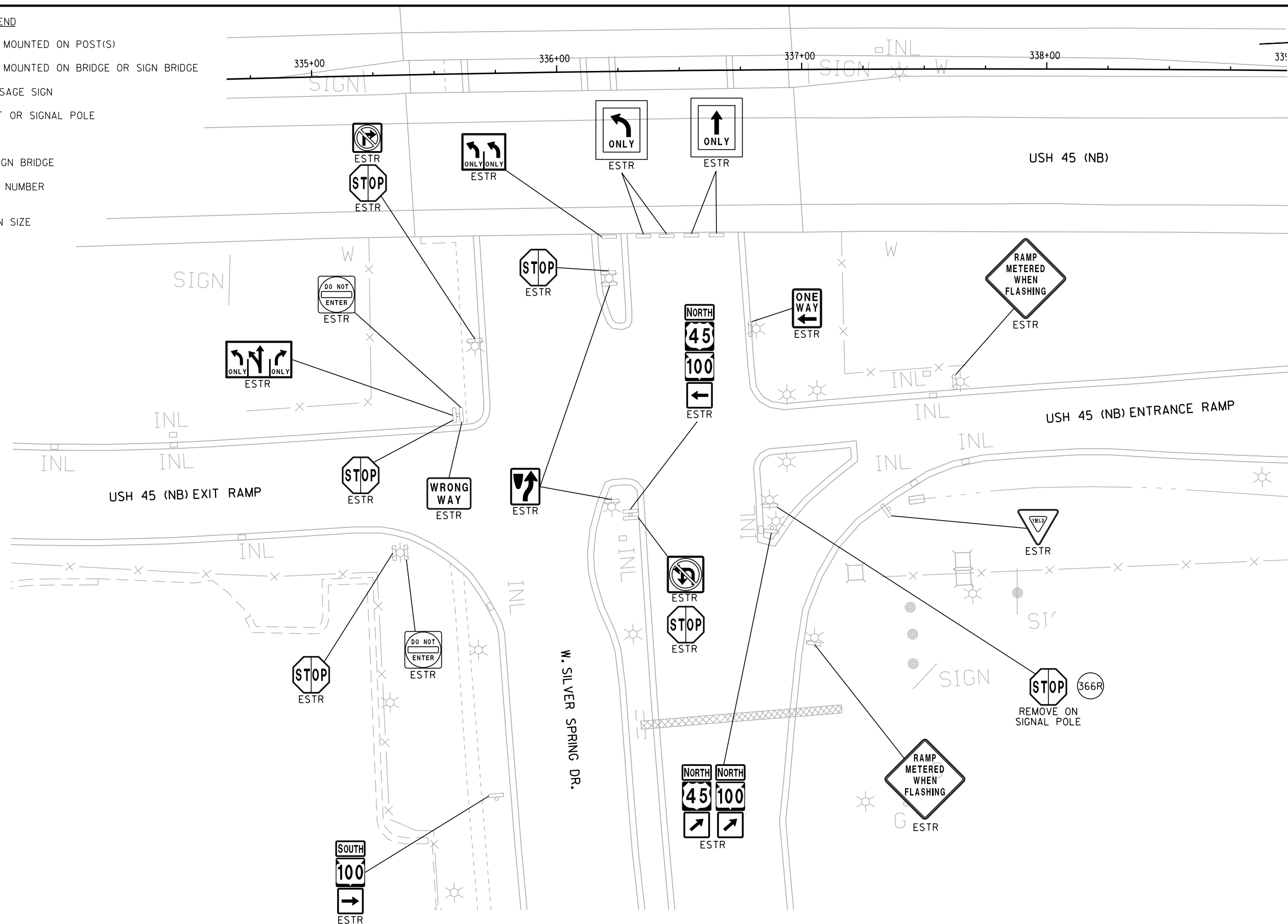
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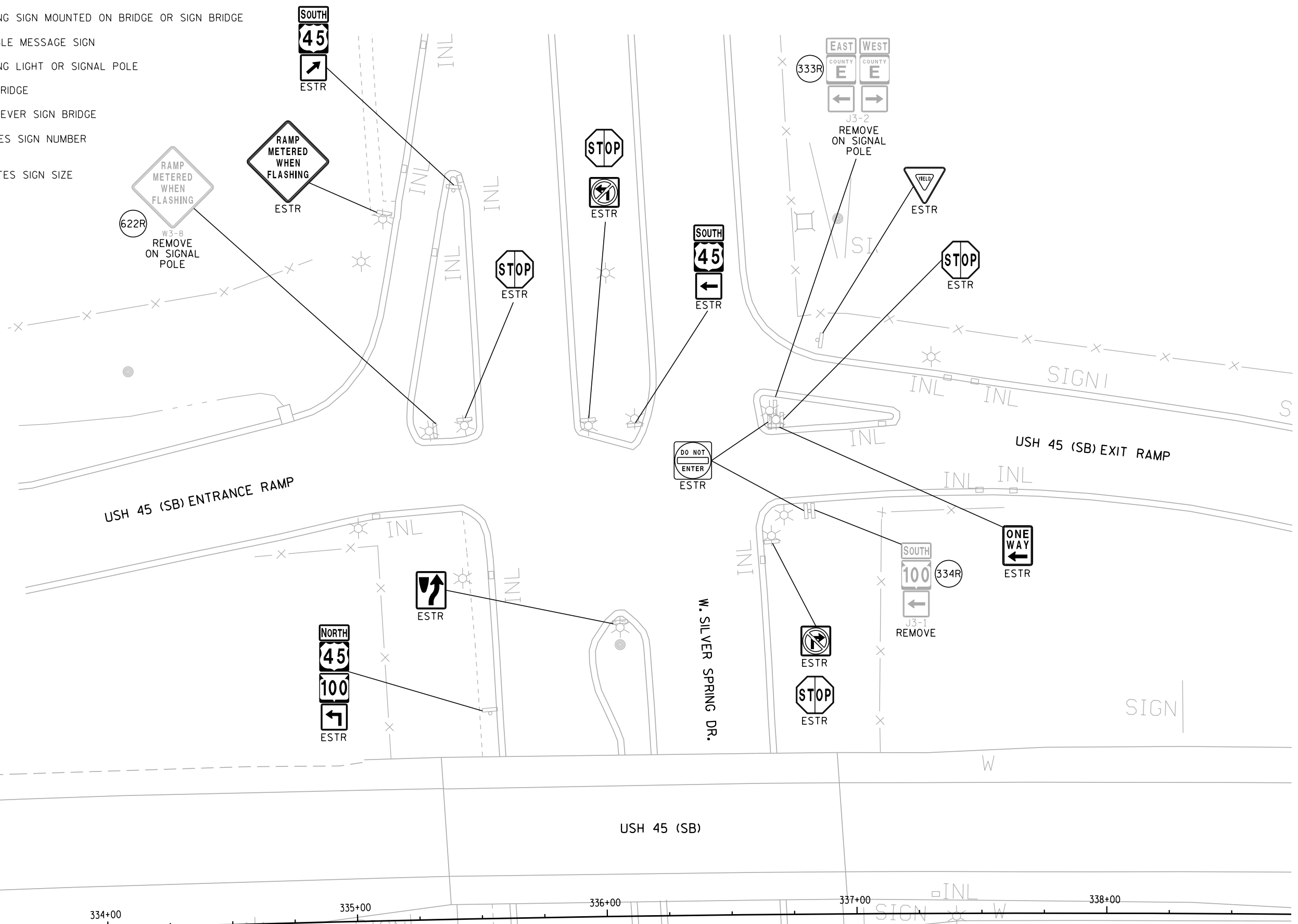
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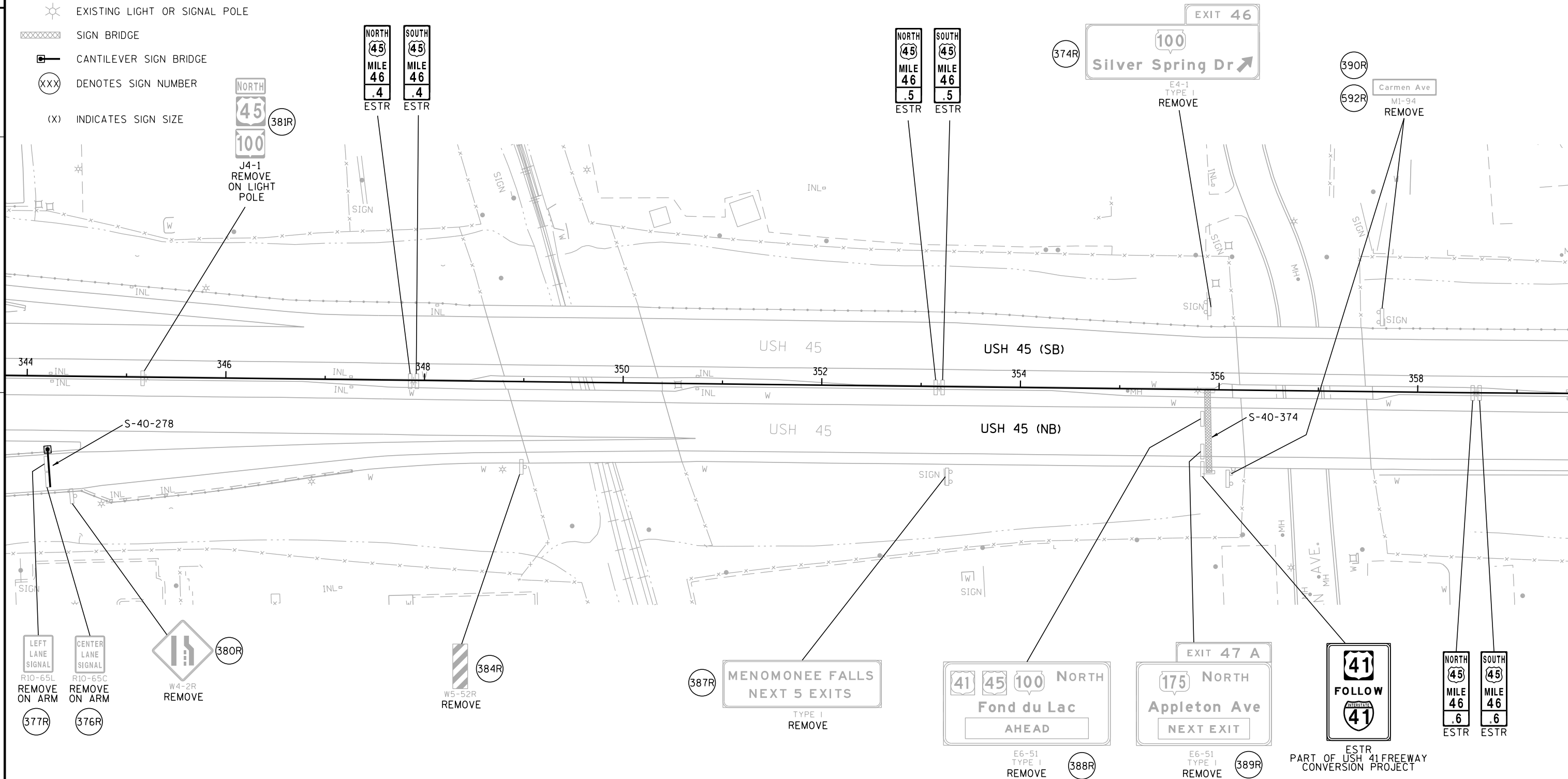
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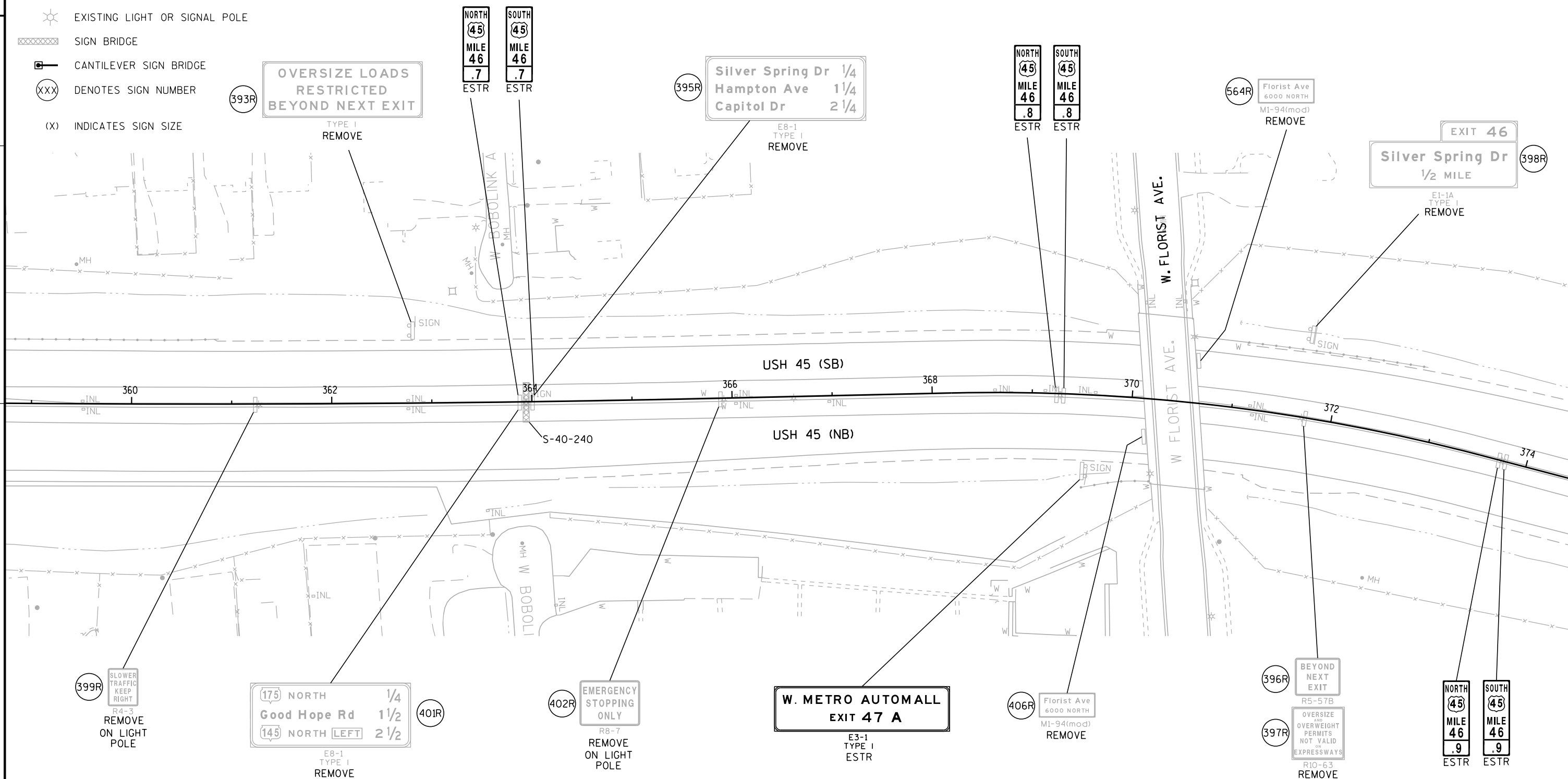
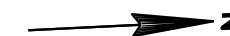
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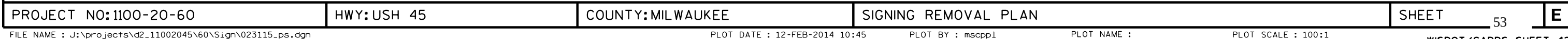
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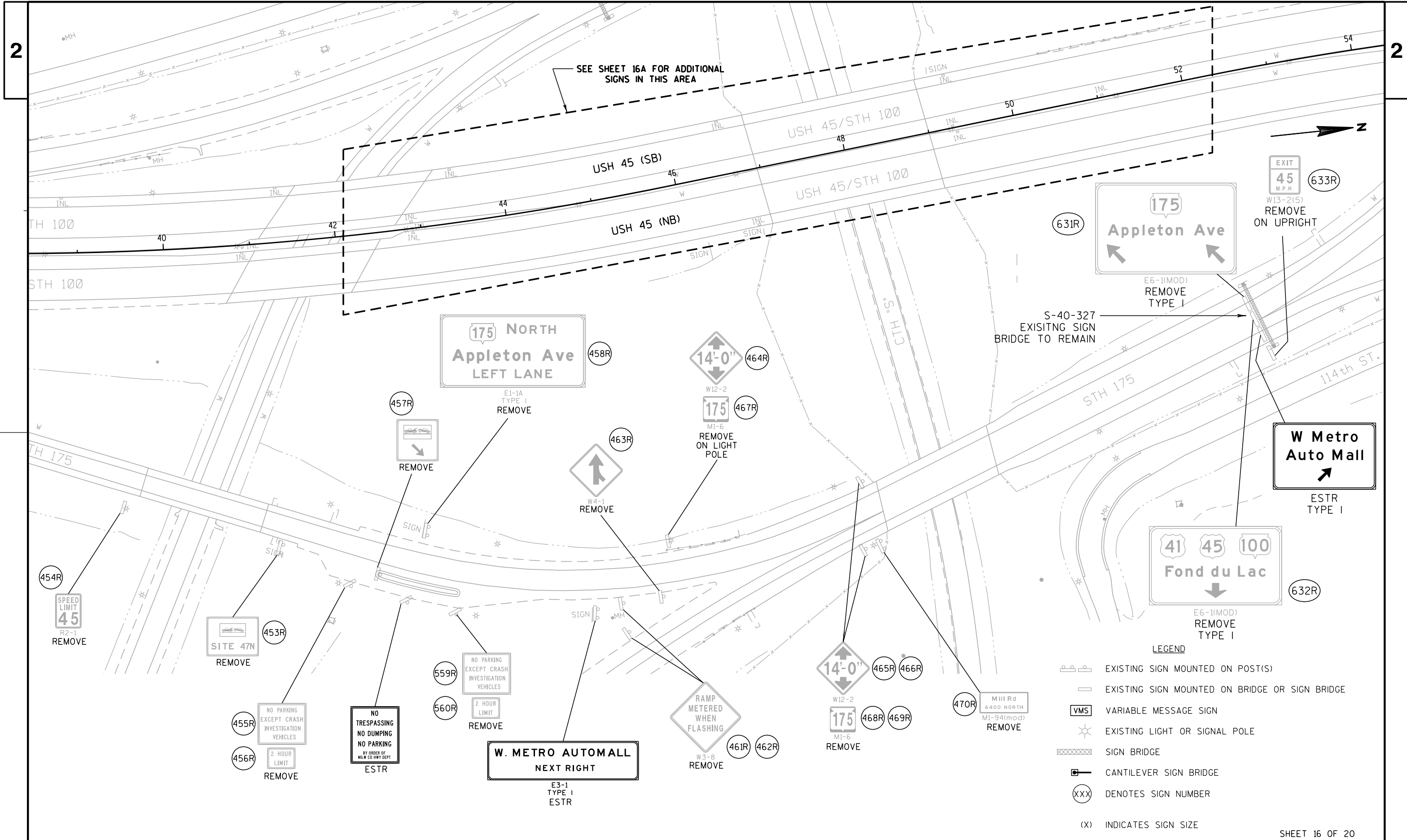


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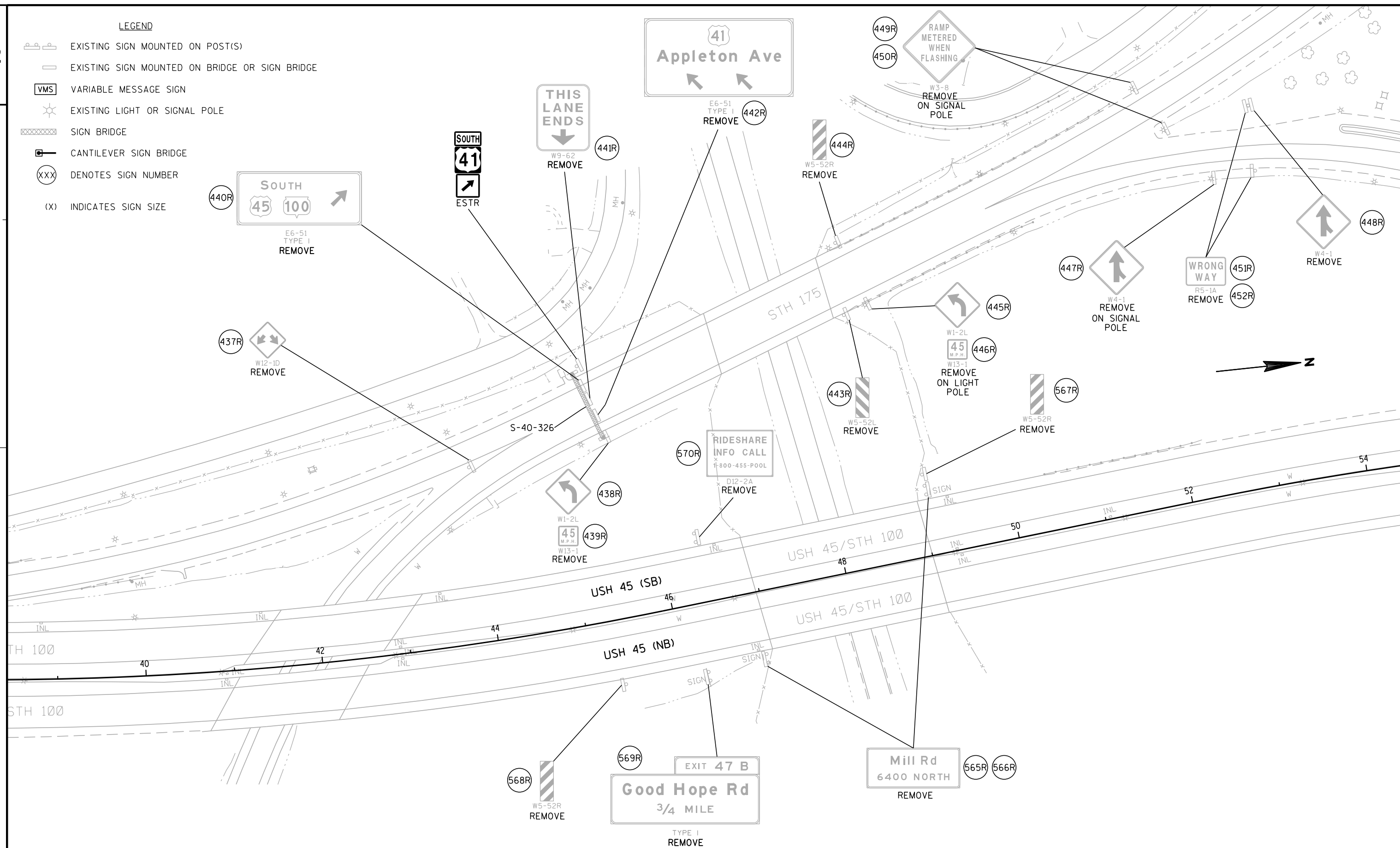


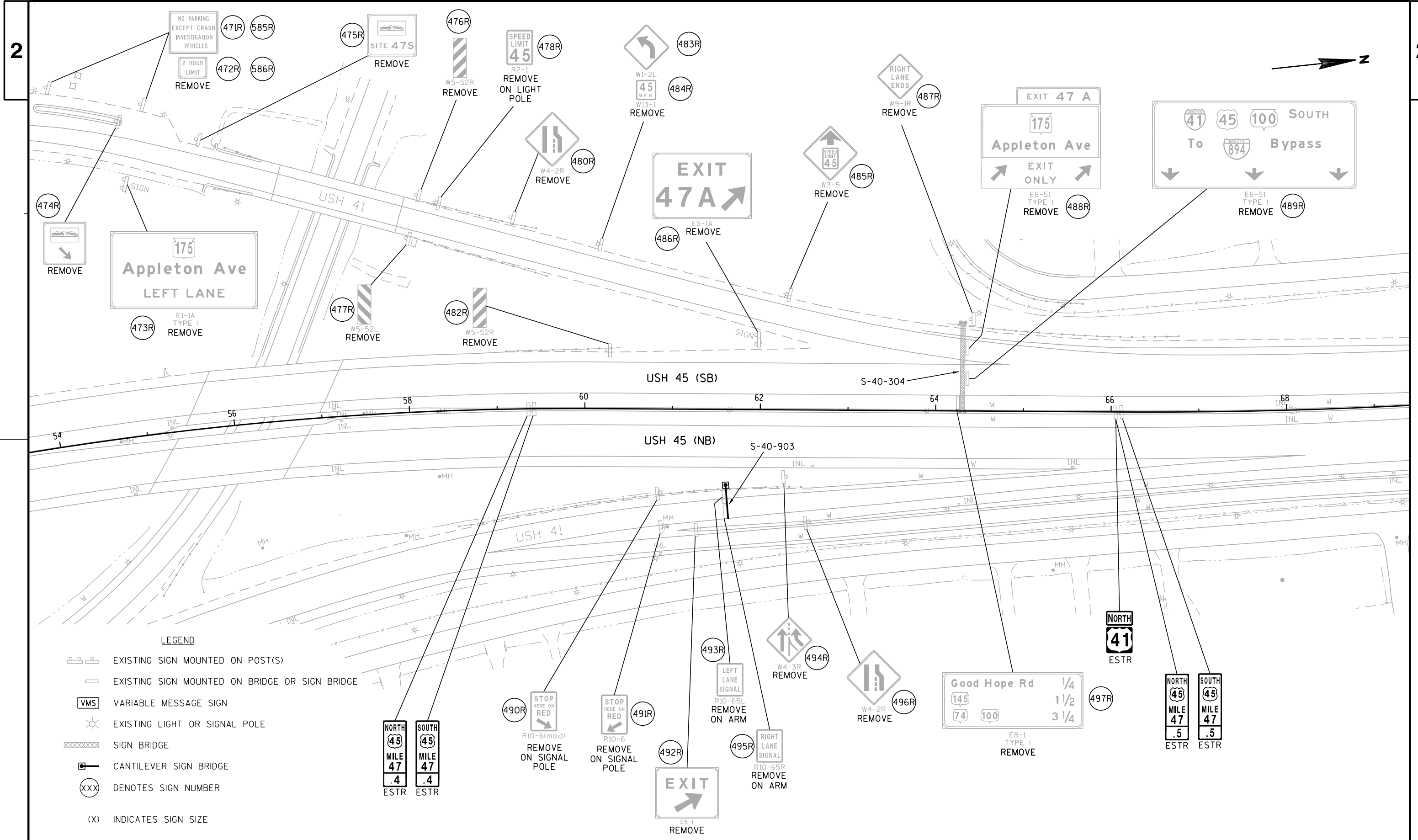




- LEGEND
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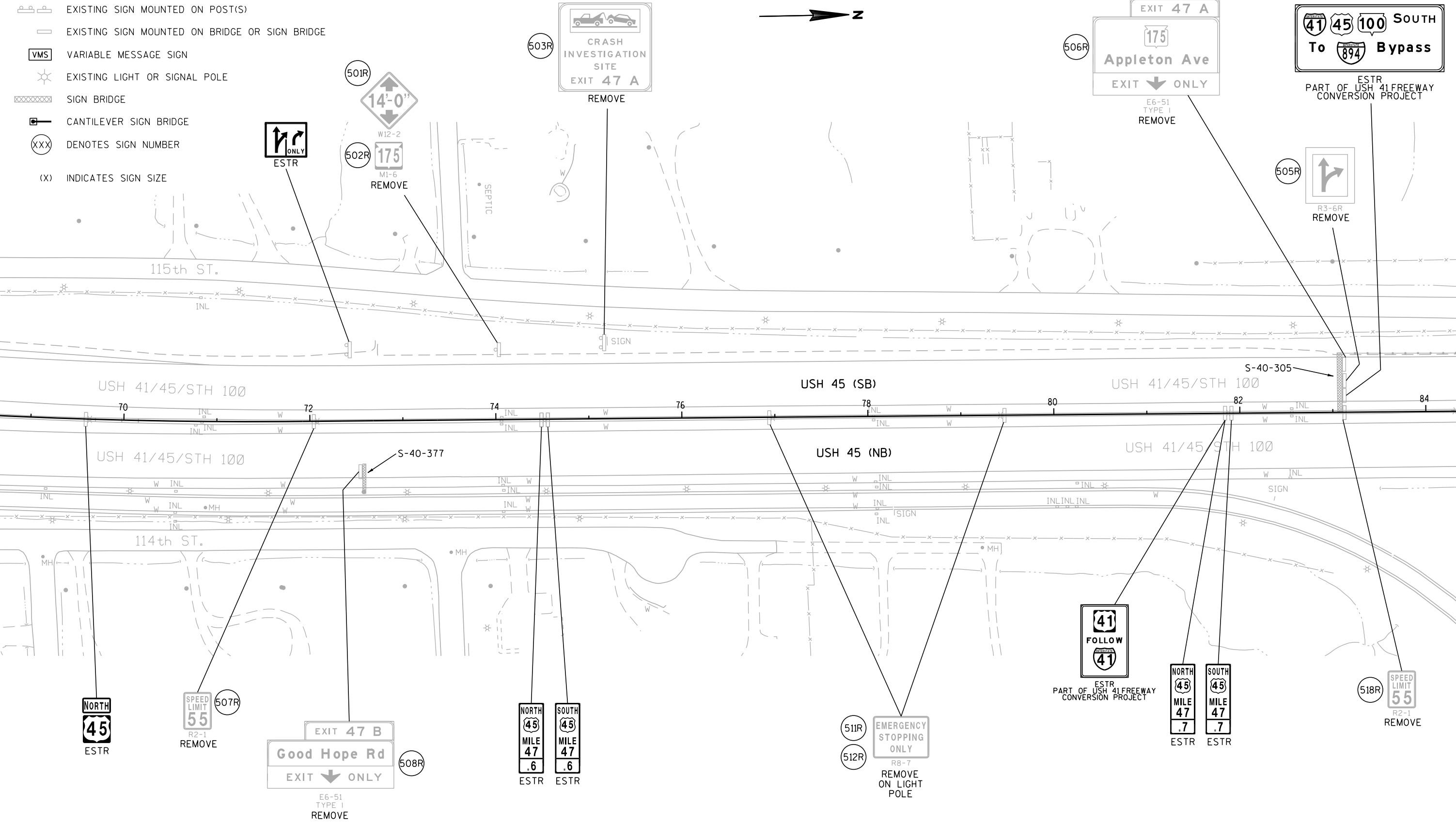
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	EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	VARIABLE MESSAGE SIGN
	EXISTING LIGHT OR SIGNAL POLE
	SIGN BRIDGE
	CANTILEVER SIGN BRIDGE
	DENOTES SIGN NUMBER
(X)	INDICATES SIGN SIZE



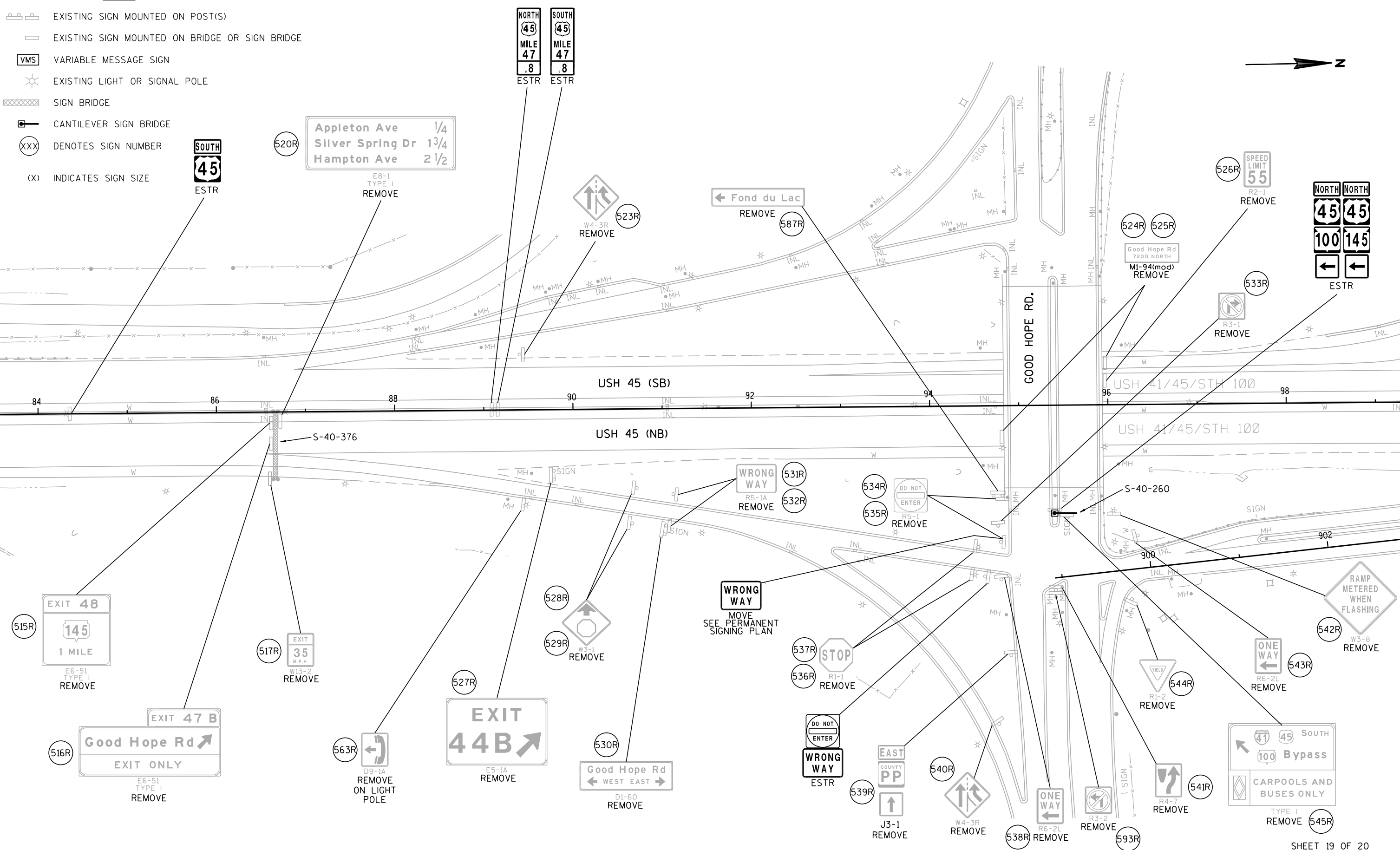


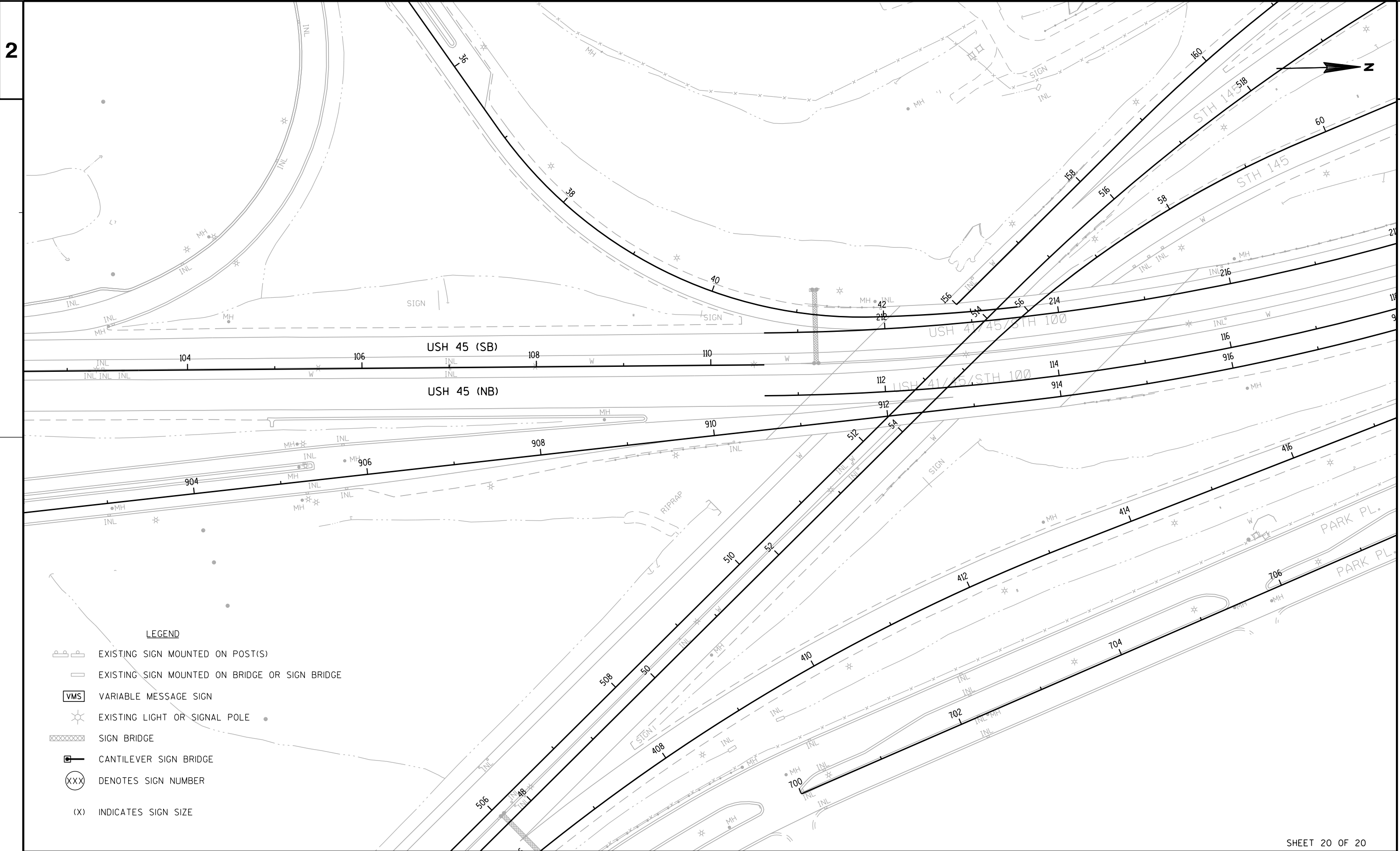
LEGEND

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



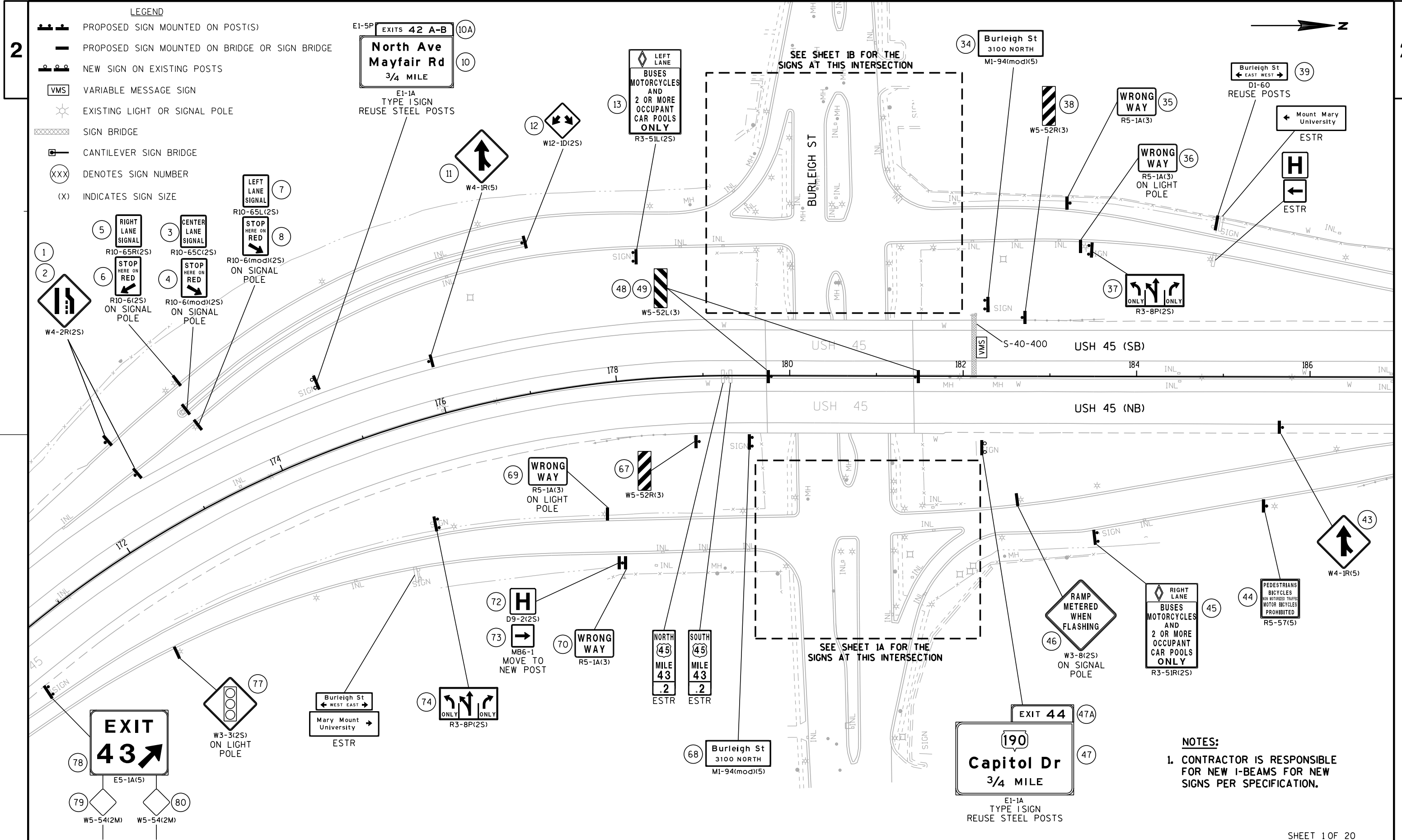
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	SIGN BRIDGE	
	CANTILEVER SIGN BRIDGE	
	DENOTES SIGN NUMBER	
(X)	INDICATES SIGN SIZE	





LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE

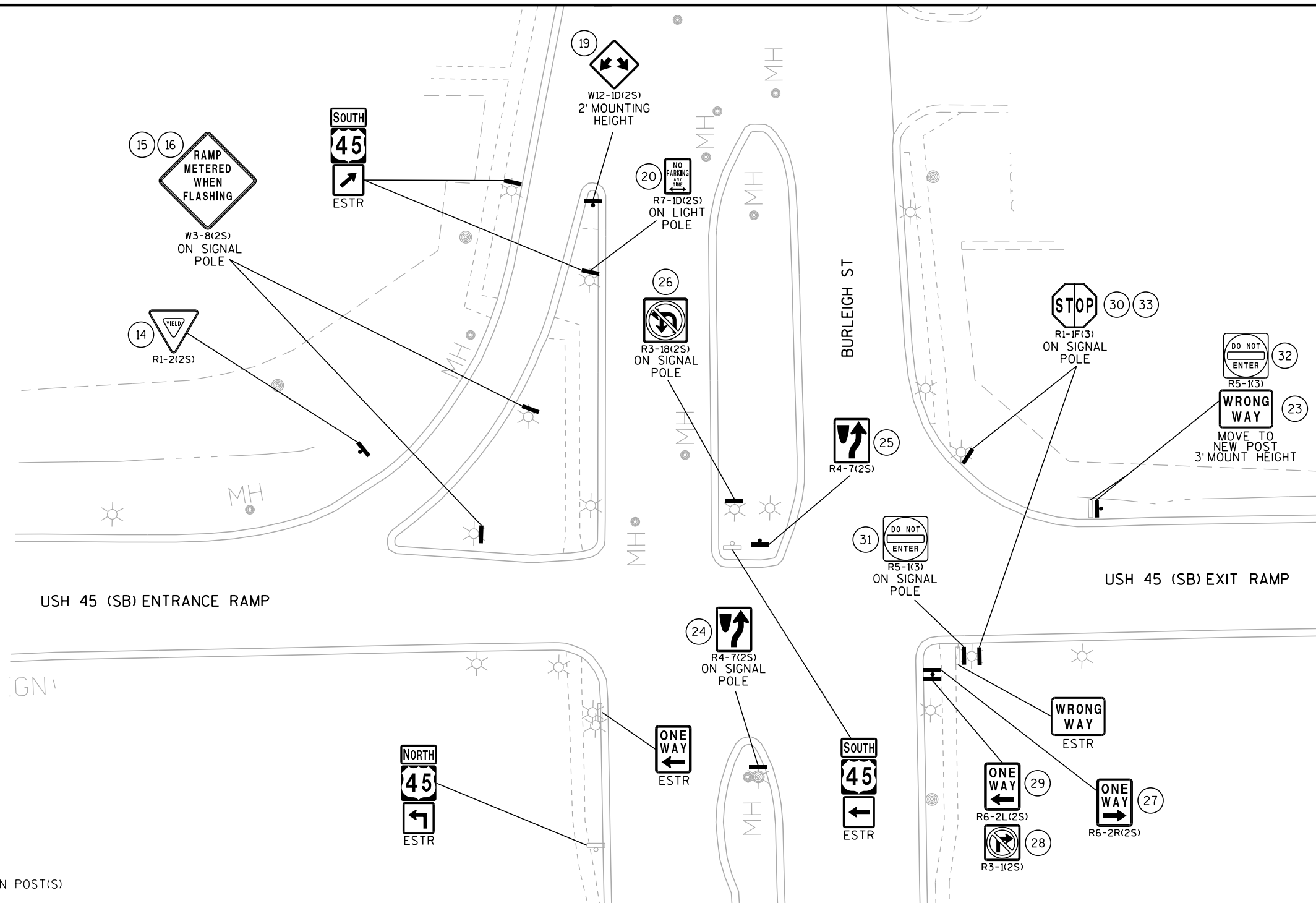


- LEGEND**
- PROPOSED SIGN MOUNTED ON POST(S)
 - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 - NEW SIGN ON EXISTING POSTS
 - VMS VARIABLE MESSAGE SIGN
 - EXISTING LIGHT OR SIGNAL POLE
 - SIGN BRIDGE
 - CANTILEVER SIGN BRIDGE
 - DENOTES SIGN NUMBER
 - (X) INDICATES SIGN SIZE

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR NEW I-BEAMS FOR NEW SIGNS PER SPECIFICATION.



	PROPOSED SIGN MOUNTED ON POST(S)
	EXISTING SIGN MOUNTED ON POST(S)
	PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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	EXISTING LIGHT OR SIGNAL POLE
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	DENOTES SIGN NUMBER
(X)	INDICATES SIGN SIZE

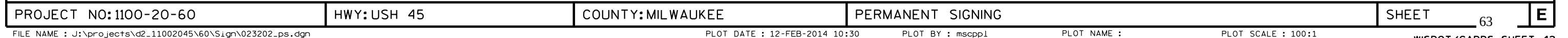


LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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USH 45 (SB) USH 45

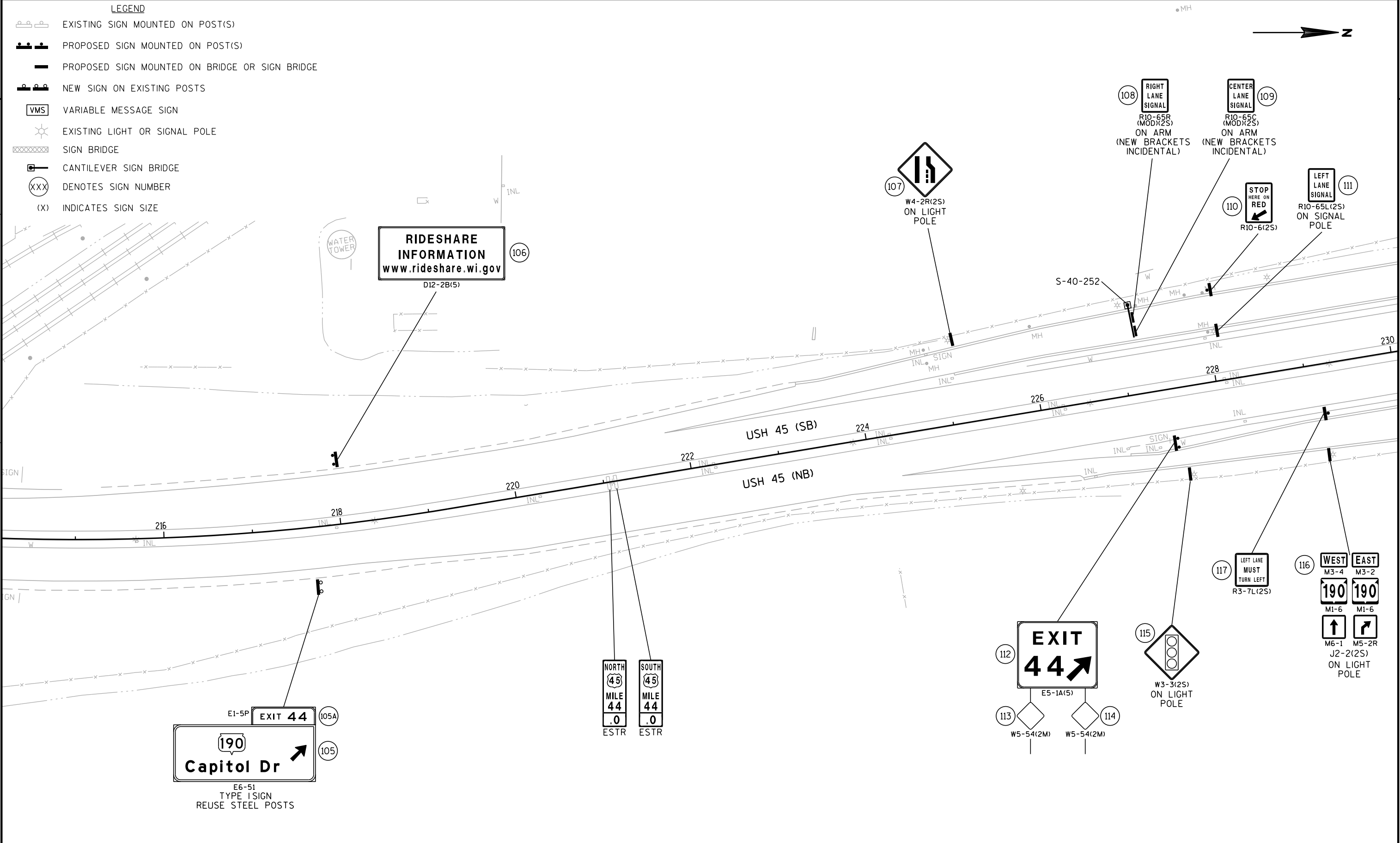
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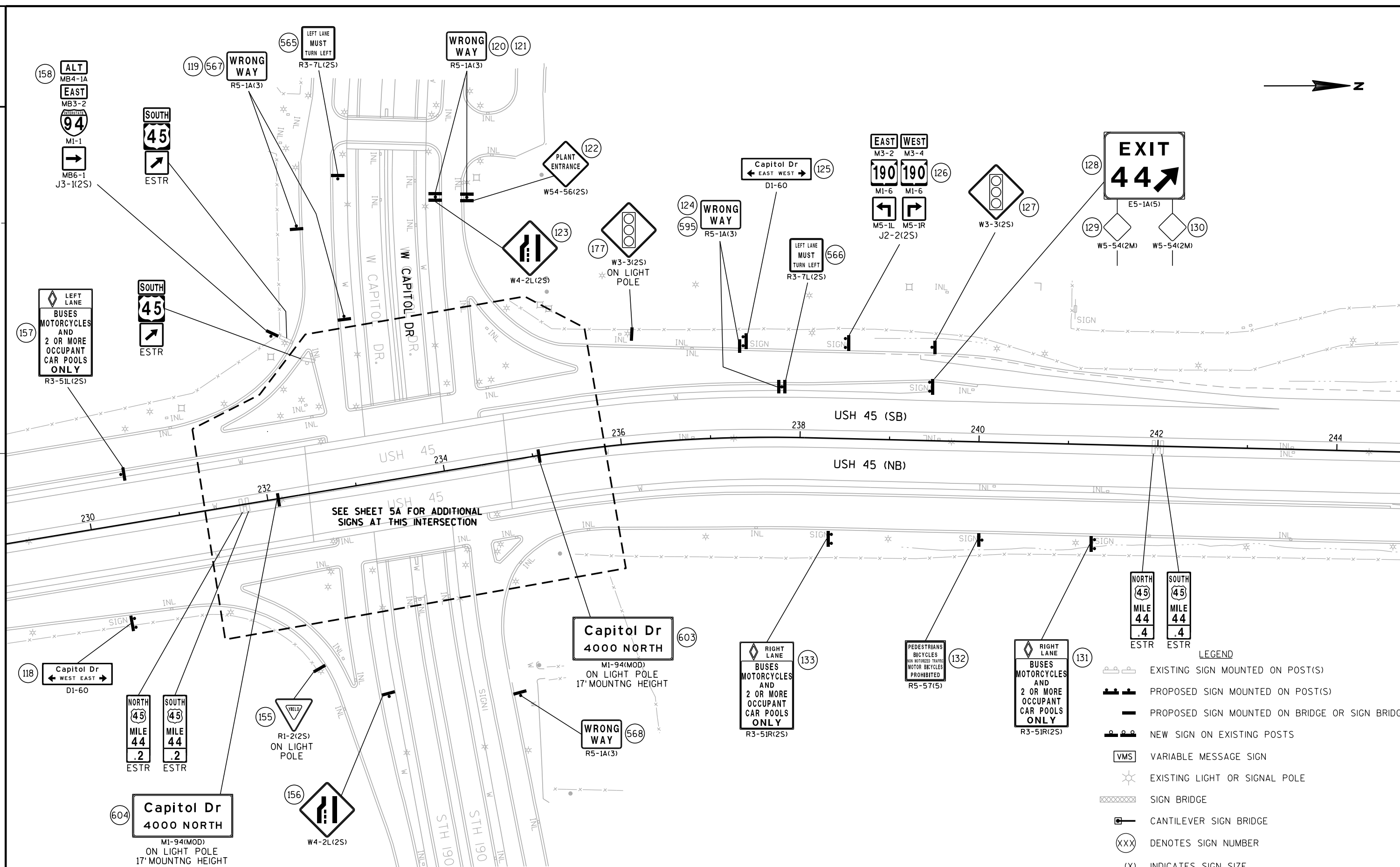




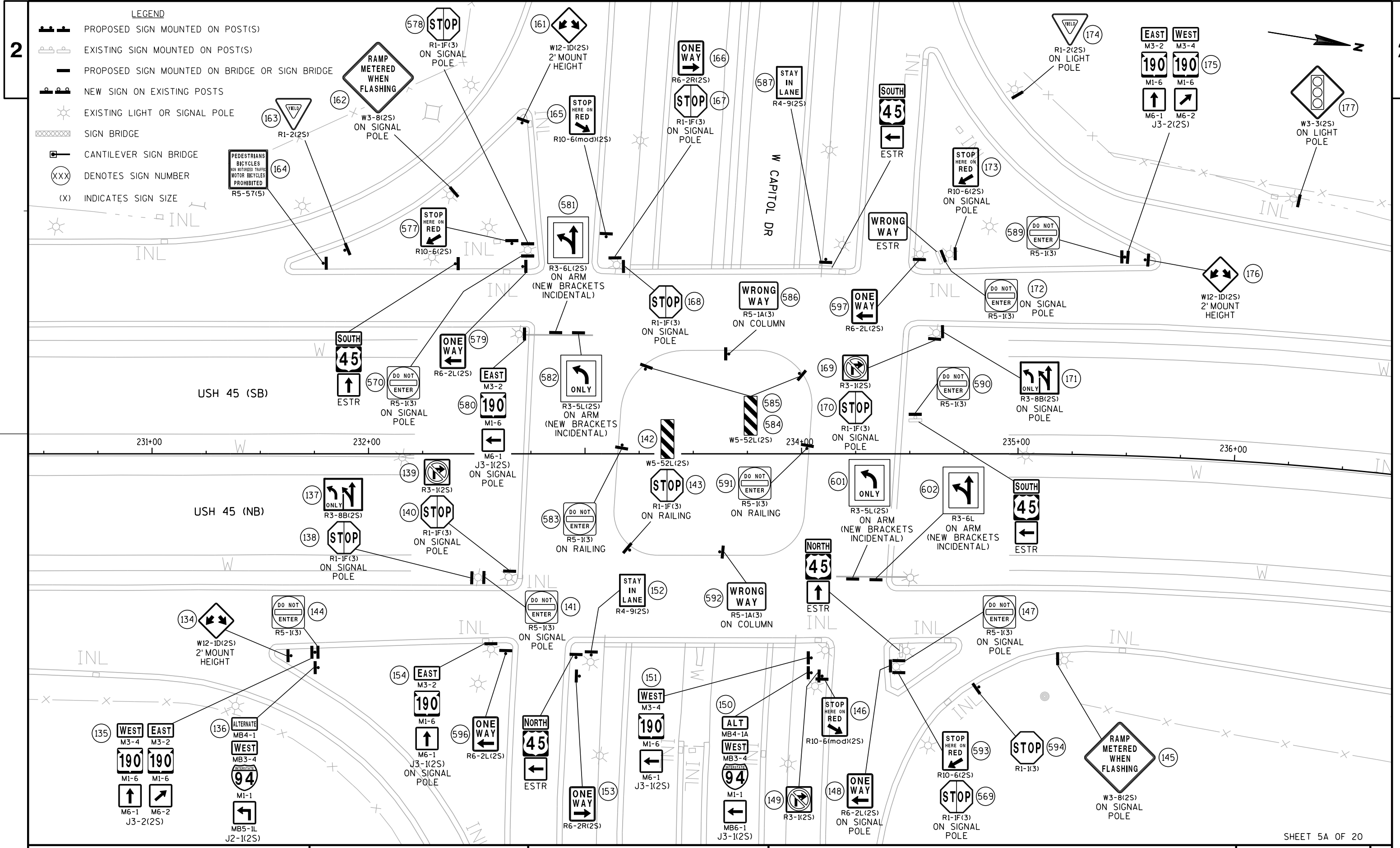
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE



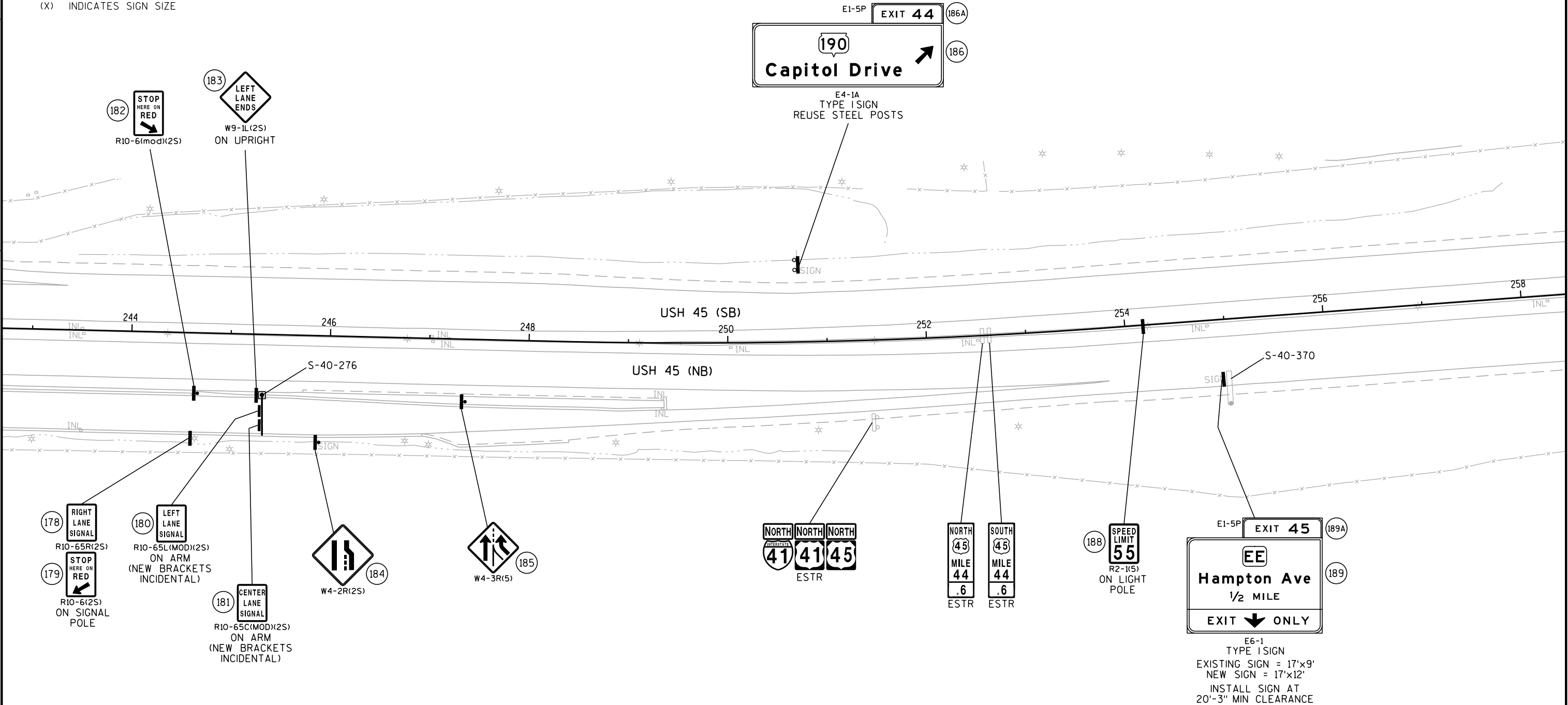


- LEGEND
- EXISTING SIGN MOUNTED ON POST(S)
 - PROPOSED SIGN MOUNTED ON POST(S)
 - PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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 - EXISTING LIGHT OR SIGNAL POLE
 - SIGN BRIDGE
 - CANTILEVER SIGN BRIDGE
 - (XXX) DENOTES SIGN NUMBER
 - (X) INDICATES SIGN SIZE



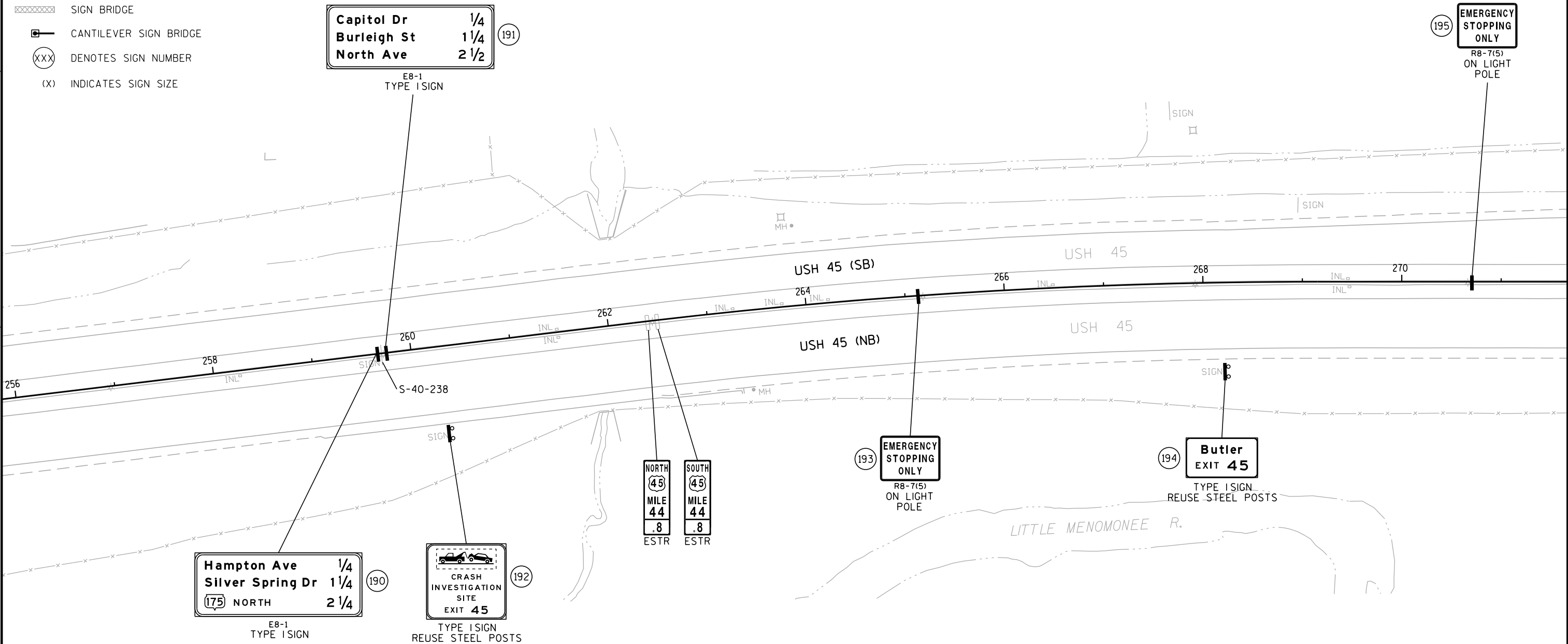
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- PROPOSED SIGN MOUNTED ON POST(S)
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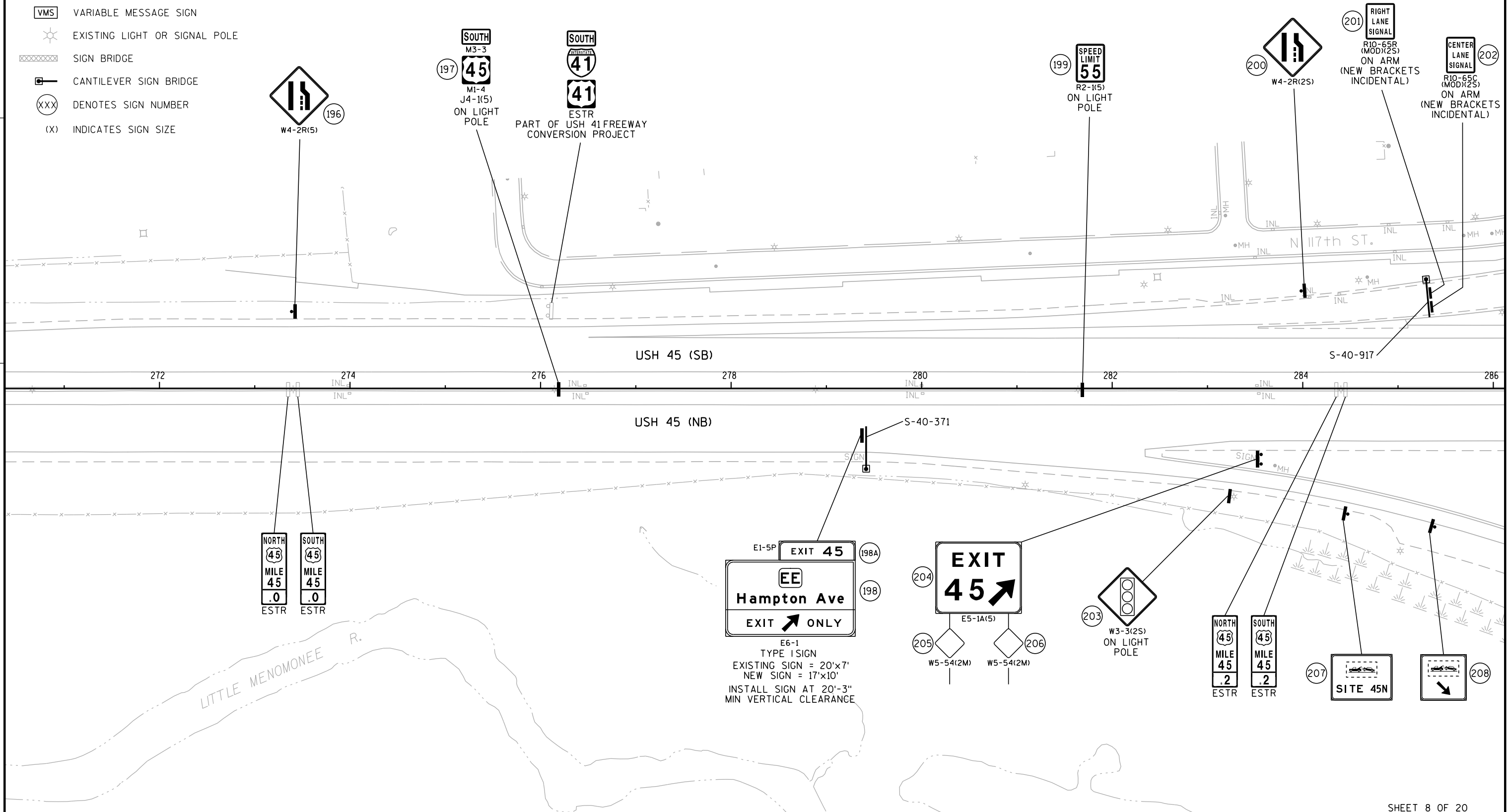
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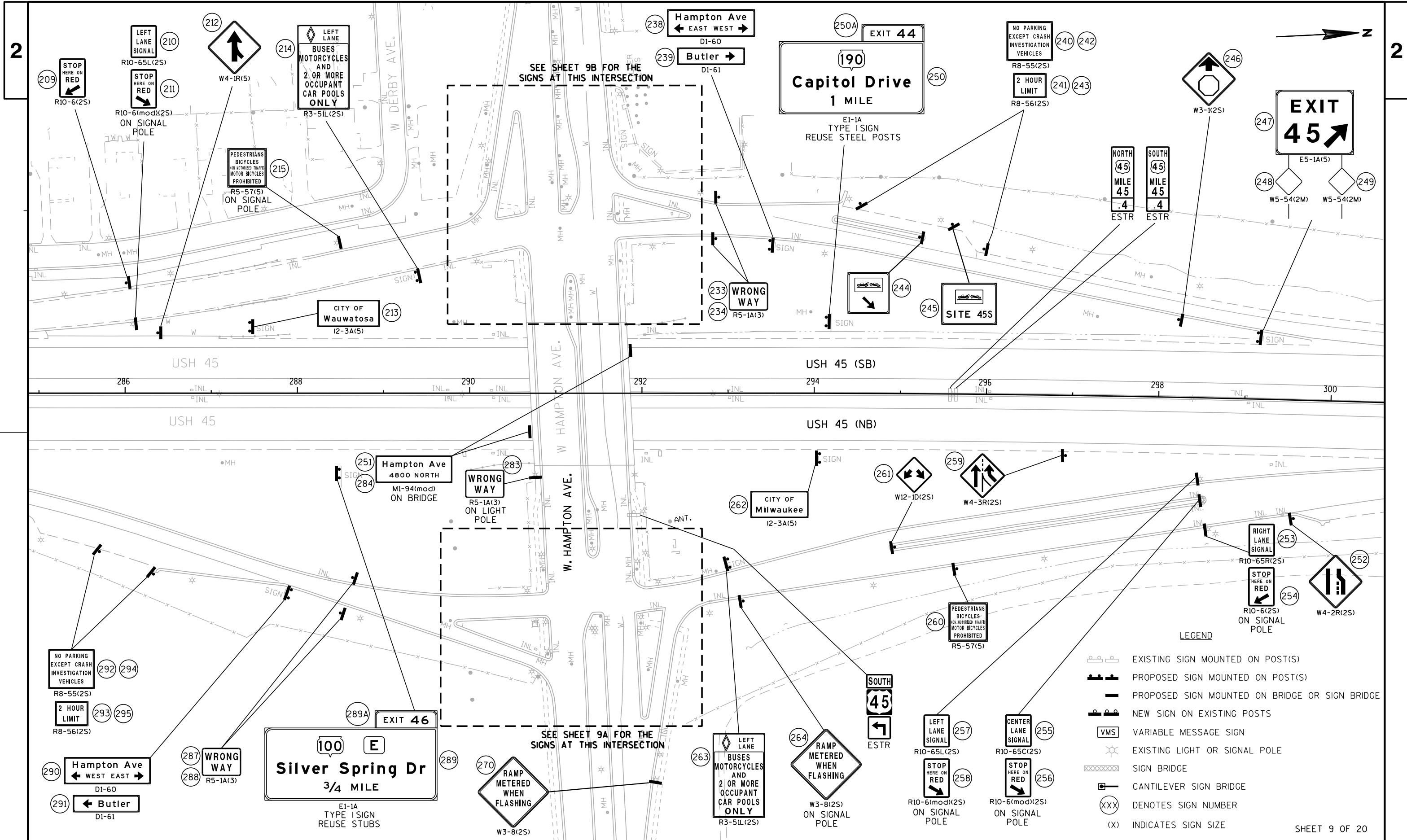
- PROPOSED SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON POST(S)
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- NEW SIGN ON EXISTING POSTS
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- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



LEGEND

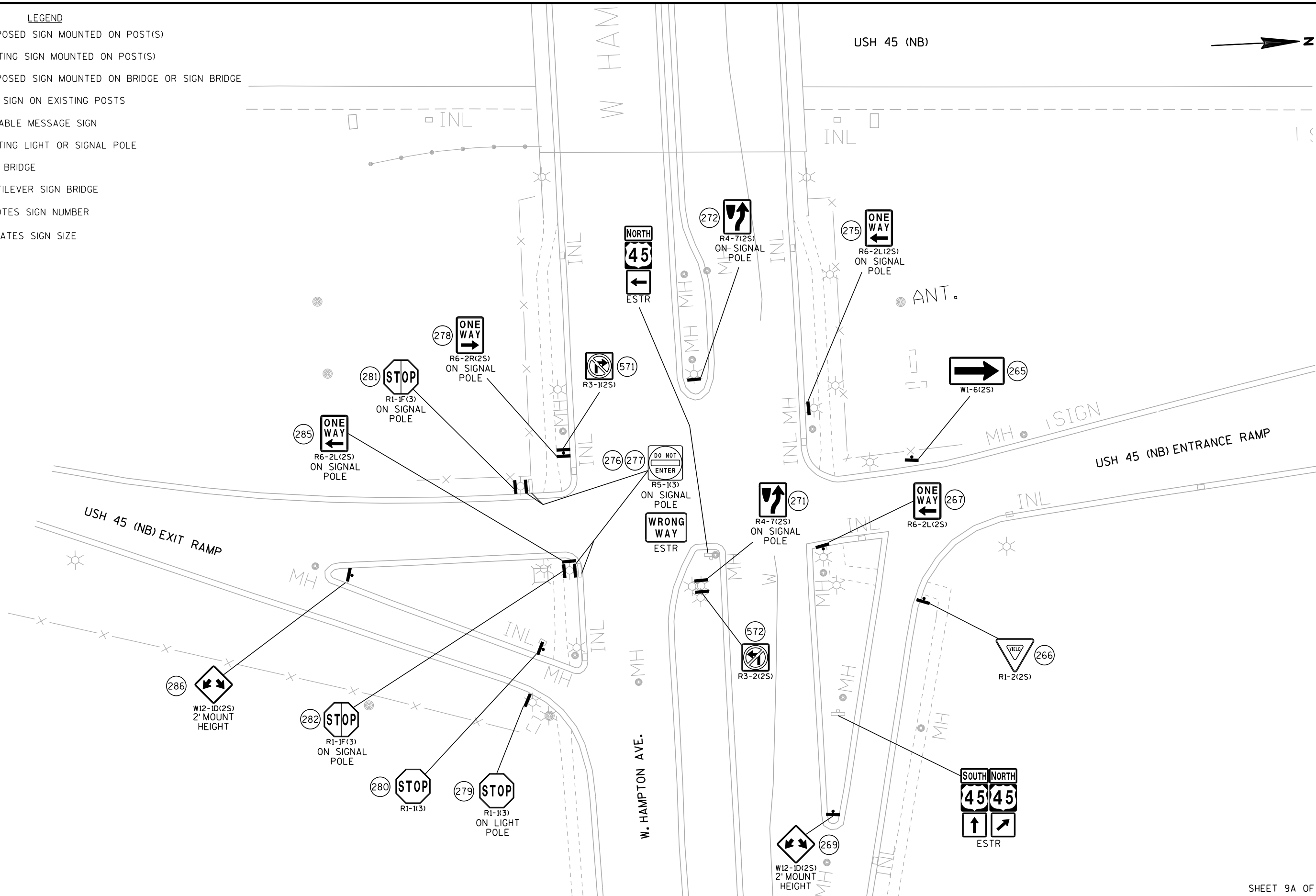
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- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
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- SIGN BRIDGE
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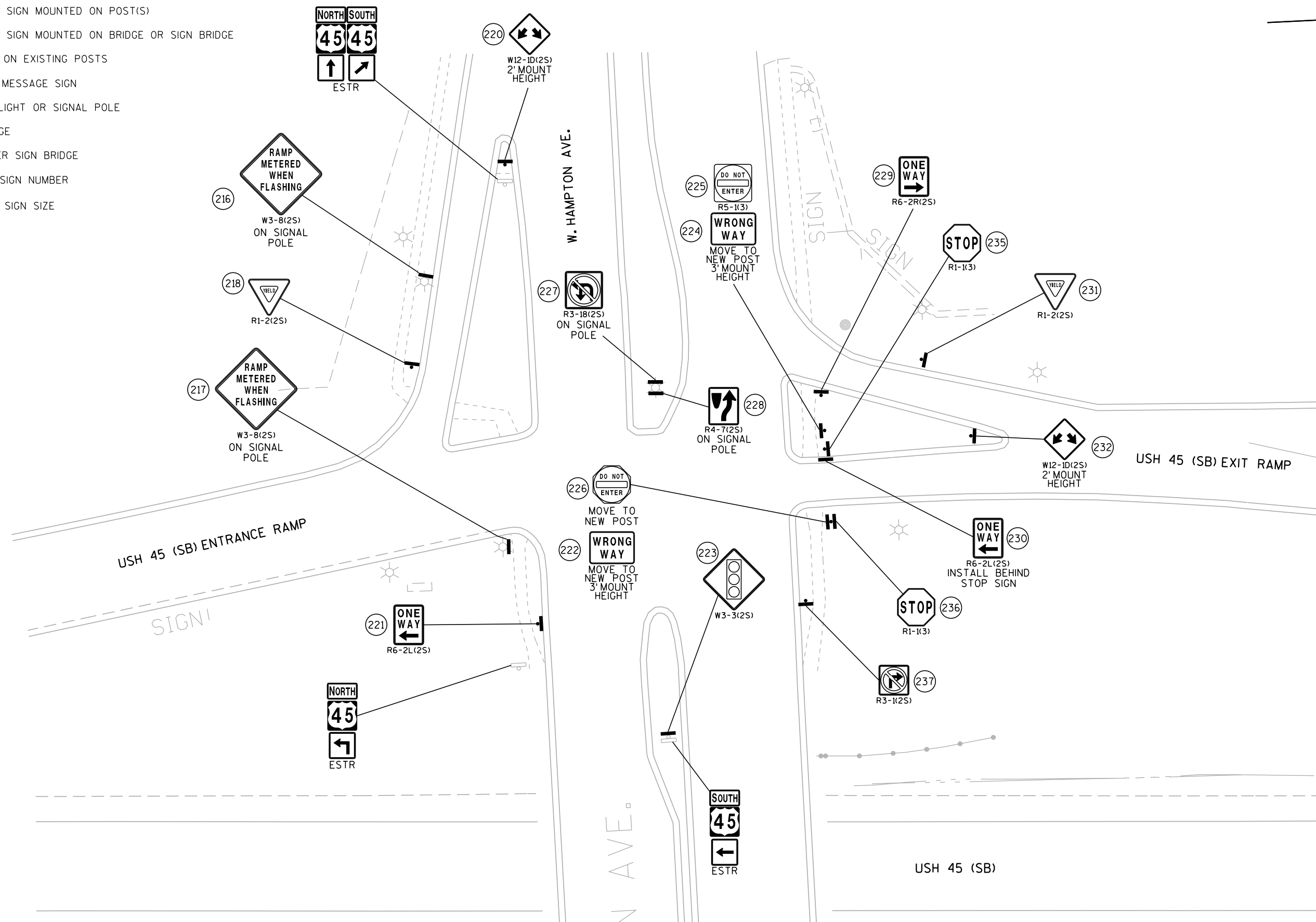


LEGEND

- PROPOSED SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
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- SIGN BRIDGE
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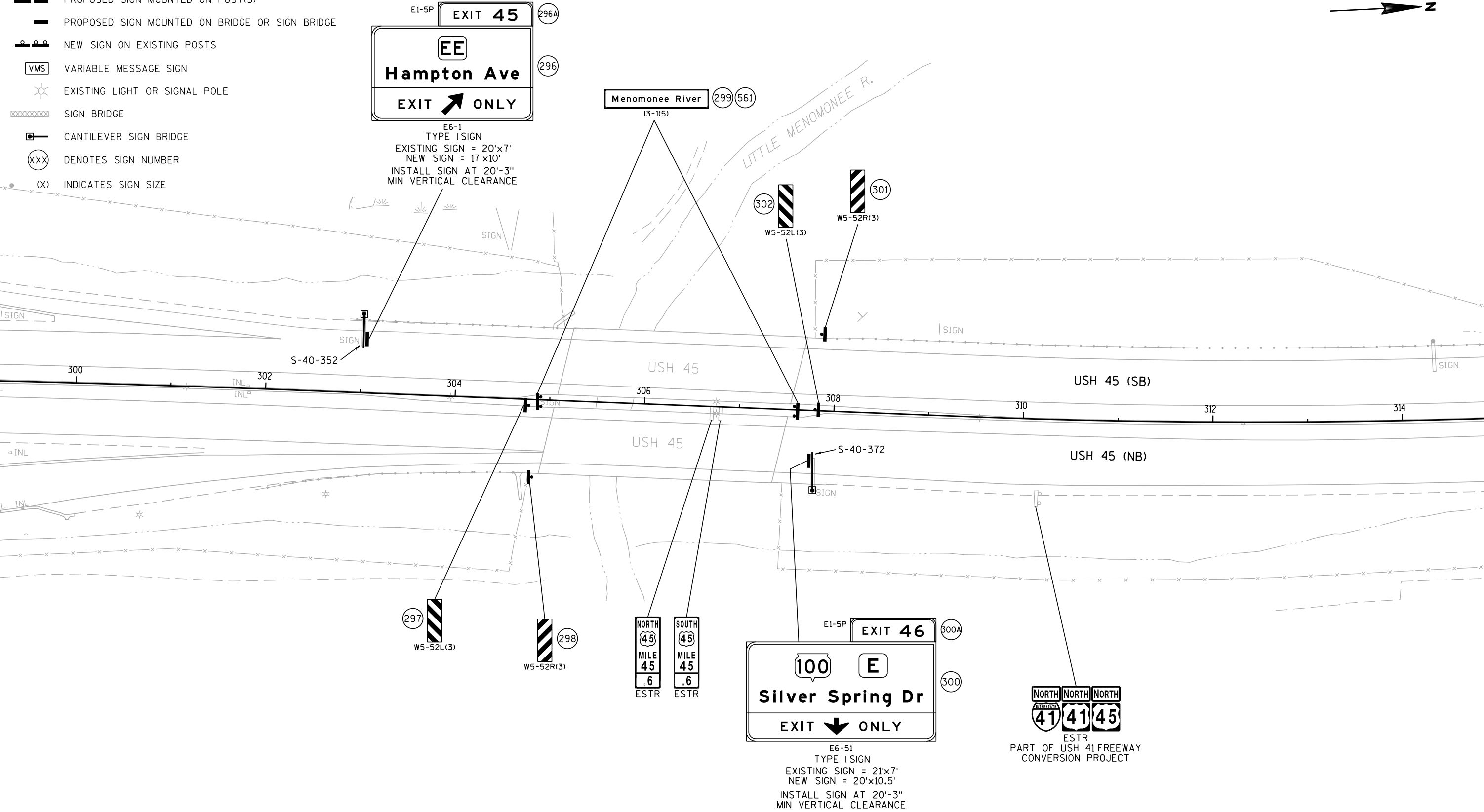


	EXISTING SIGN MOUNTED ON POST(S)
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	NEW SIGN ON EXISTING POSTS
	VARIABLE MESSAGE SIGN
	EXISTING LIGHT OR SIGNAL POLE
	SIGN BRIDGE
	CANTILEVER SIGN BRIDGE
	DENOTES SIGN NUMBER
(X)	INDICATES SIGN SIZE



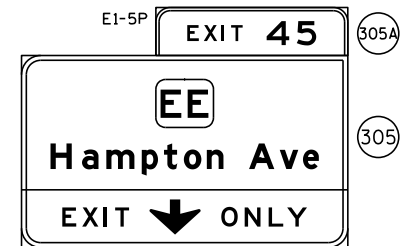
LEGEND

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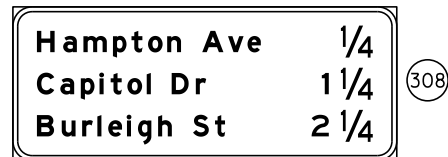


LEGEND

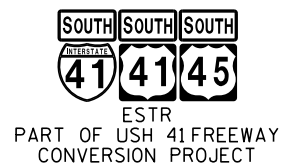
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
- VMS VARIABLE MESSAGE SIGN
- ☀ EXISTING LIGHT OR SIGNAL POLE
- XXXXX SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE



E6-1
TYPE 1 SIGN
EXISTING SIGN = 17'x6.5'
NEW SIGN = 17'x10'
INSTALL SIGN AT 20'-3"
MIN VERTICAL CLEARANCE

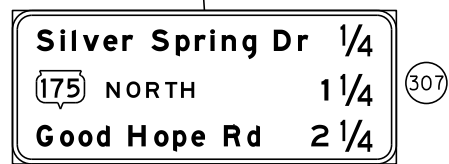


E8-1
TYPE 1 SIGN

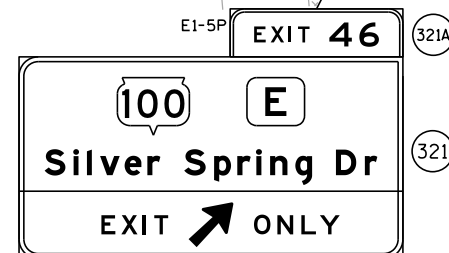
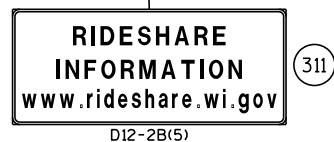
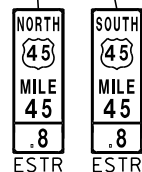


USH 45 (SB)

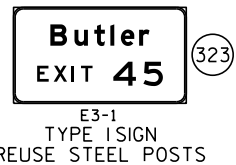
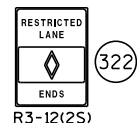
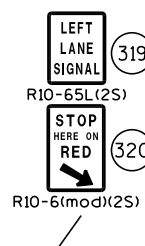
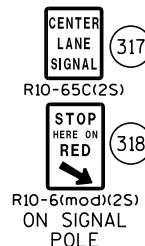
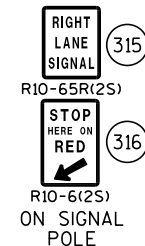
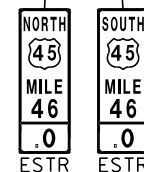
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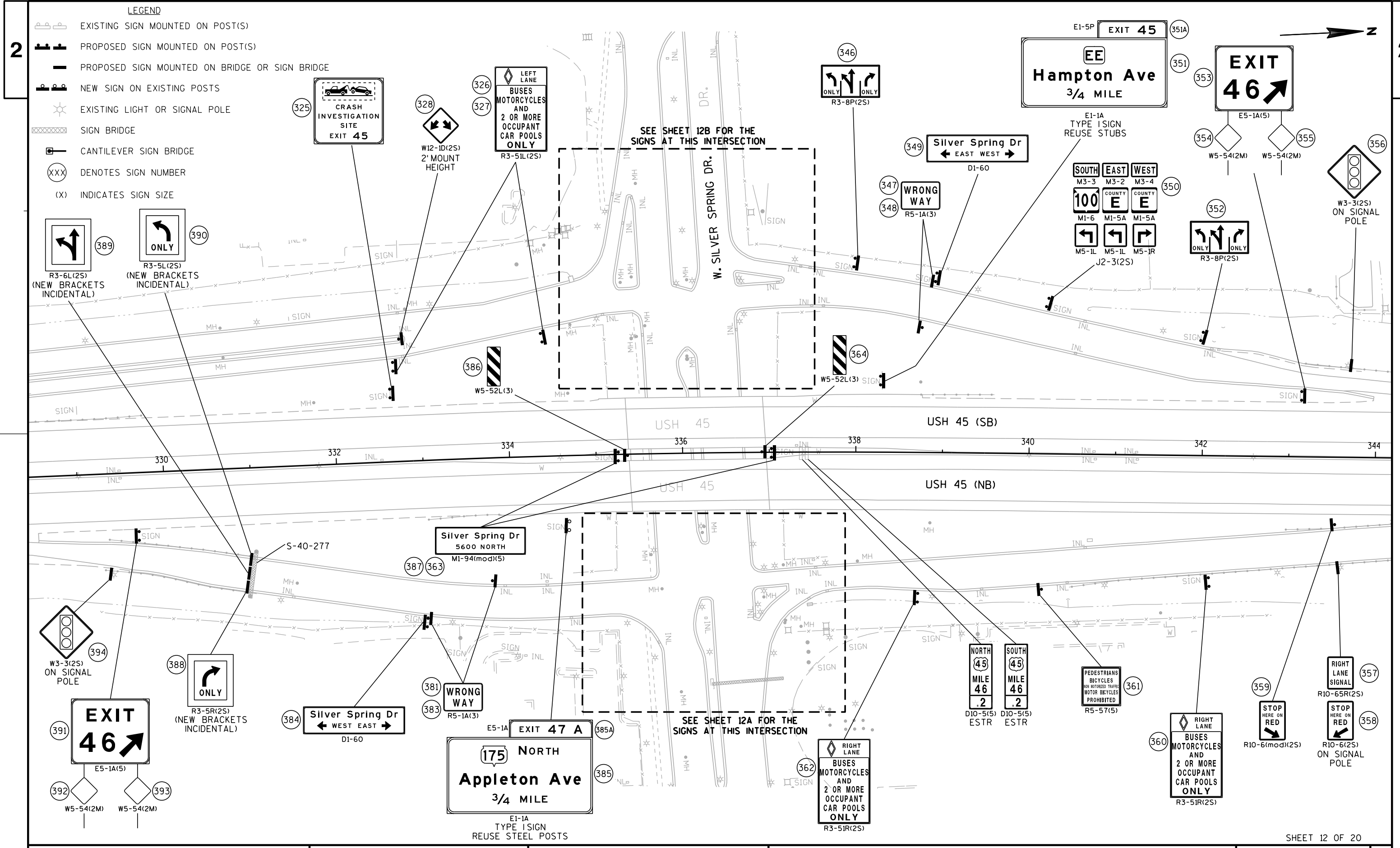


E8-1
TYPE 1 SIGN



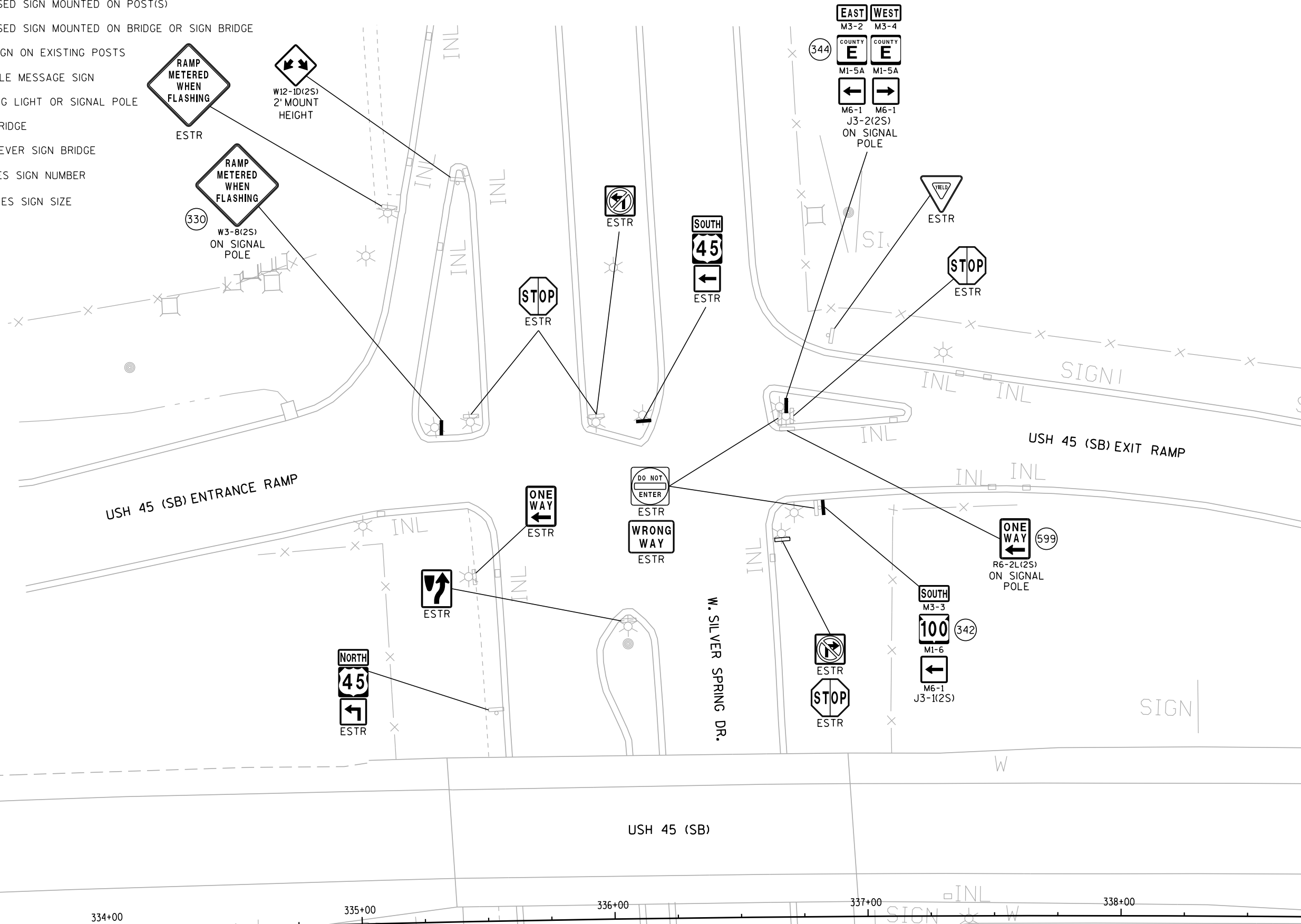
E6-1(MOD)
TYPE 1 SIGN
EXISTING SIGN = 24'x7'
NEW SIGN = 20'x10.5'
INSTALL SIGN AT 20'-3"
MIN VERTICAL CLEARANCE





LEGEND

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



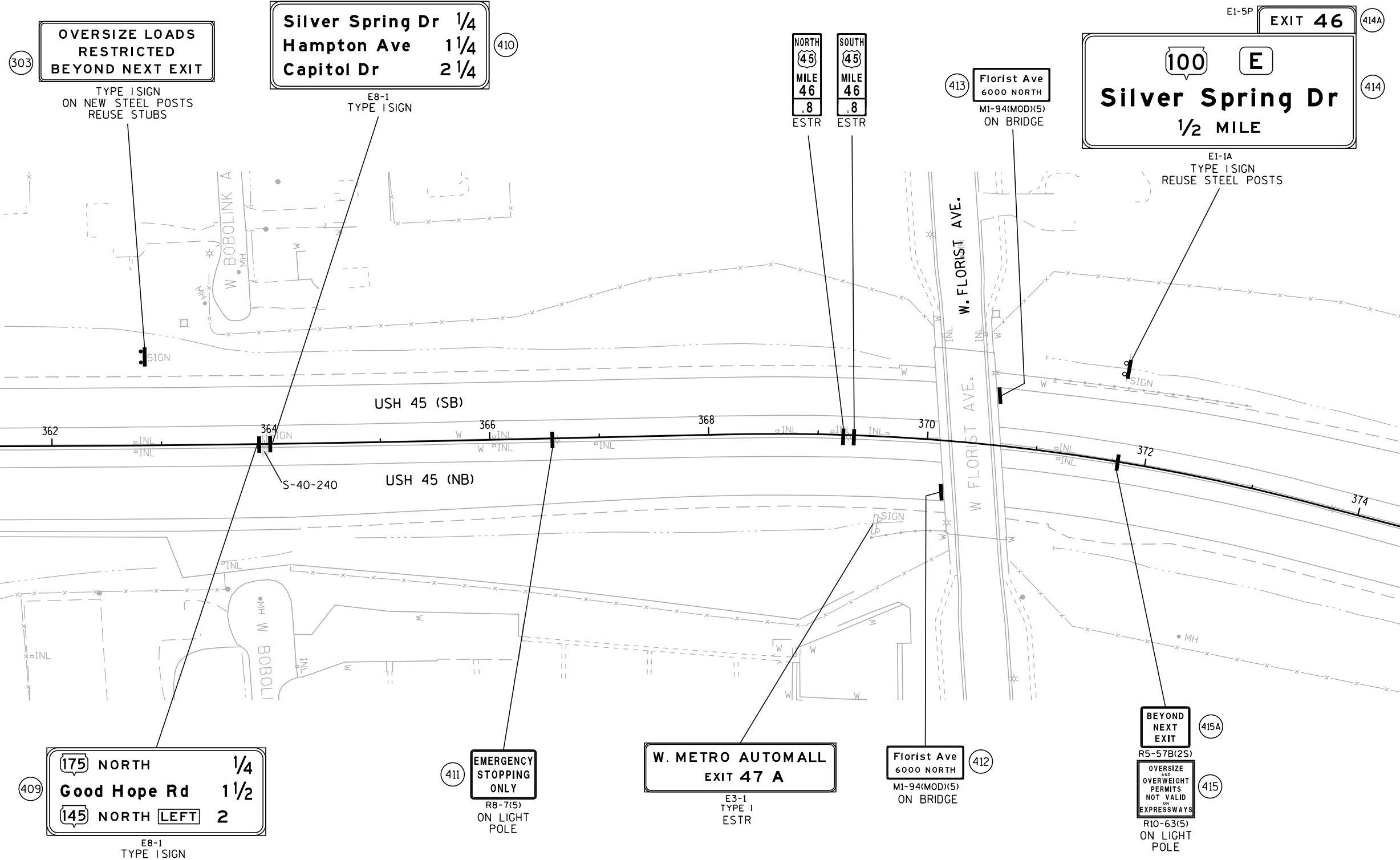
$\rightarrow \mathbf{z}$

-
- E1-5P
- EXIT 46
- 404
- 404
- 100 E
- Silver Spring Dr
- Carmen Ave
- 405 406
- E1-1A
- TYPE 1 SIGN
- REUSE STEEL POSTS
- MI-94(5)



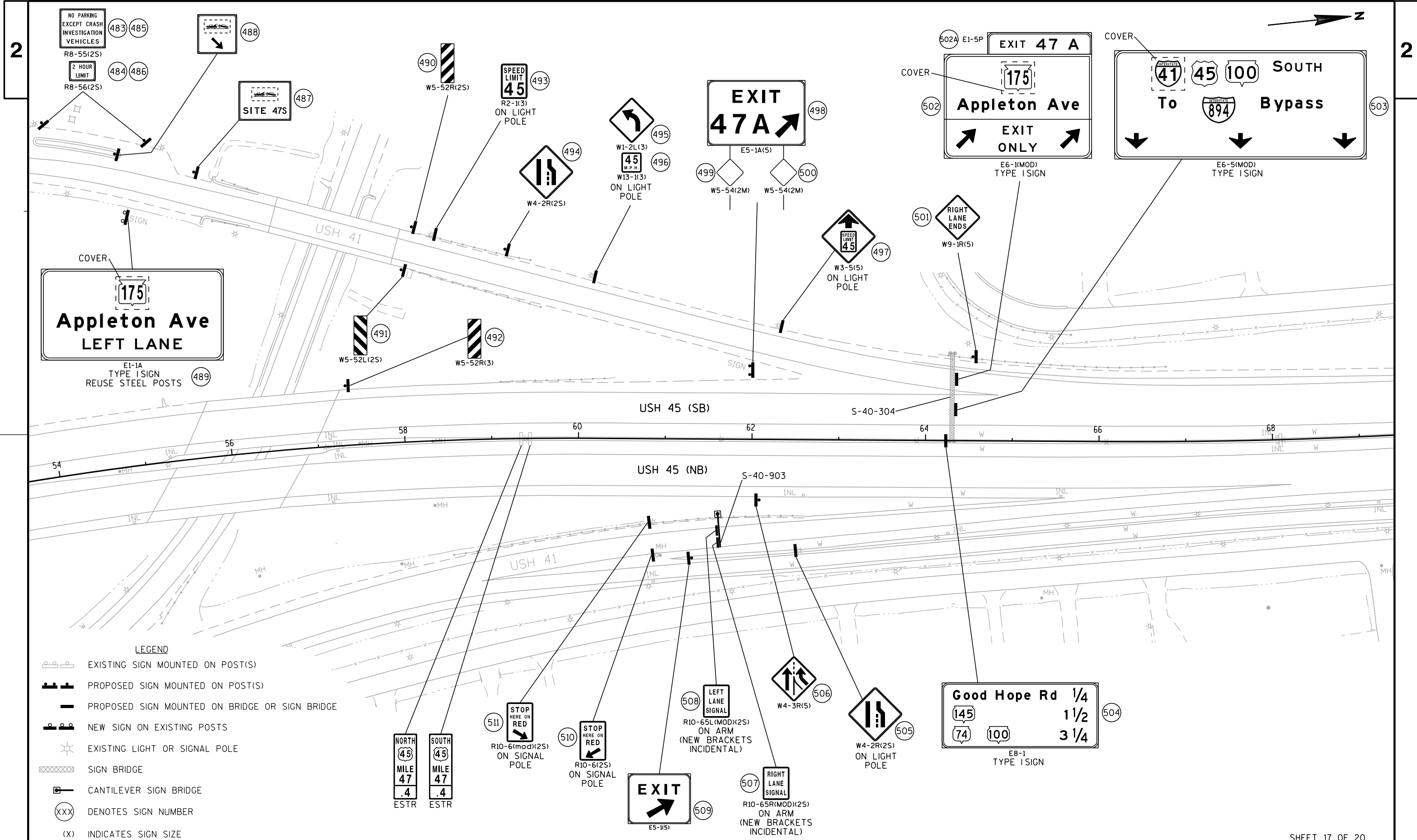
LEGEND

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









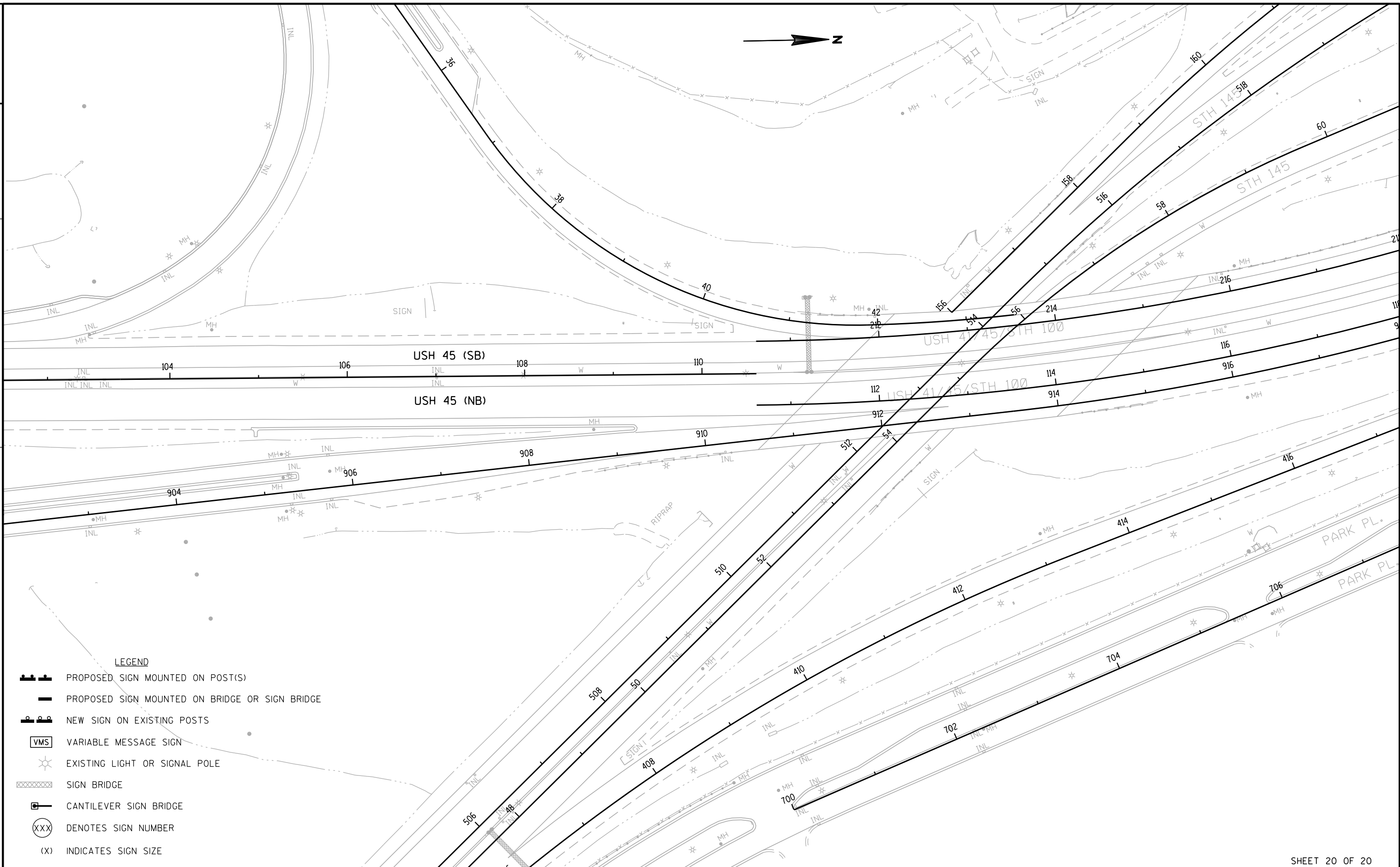
LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
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- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE

→ z

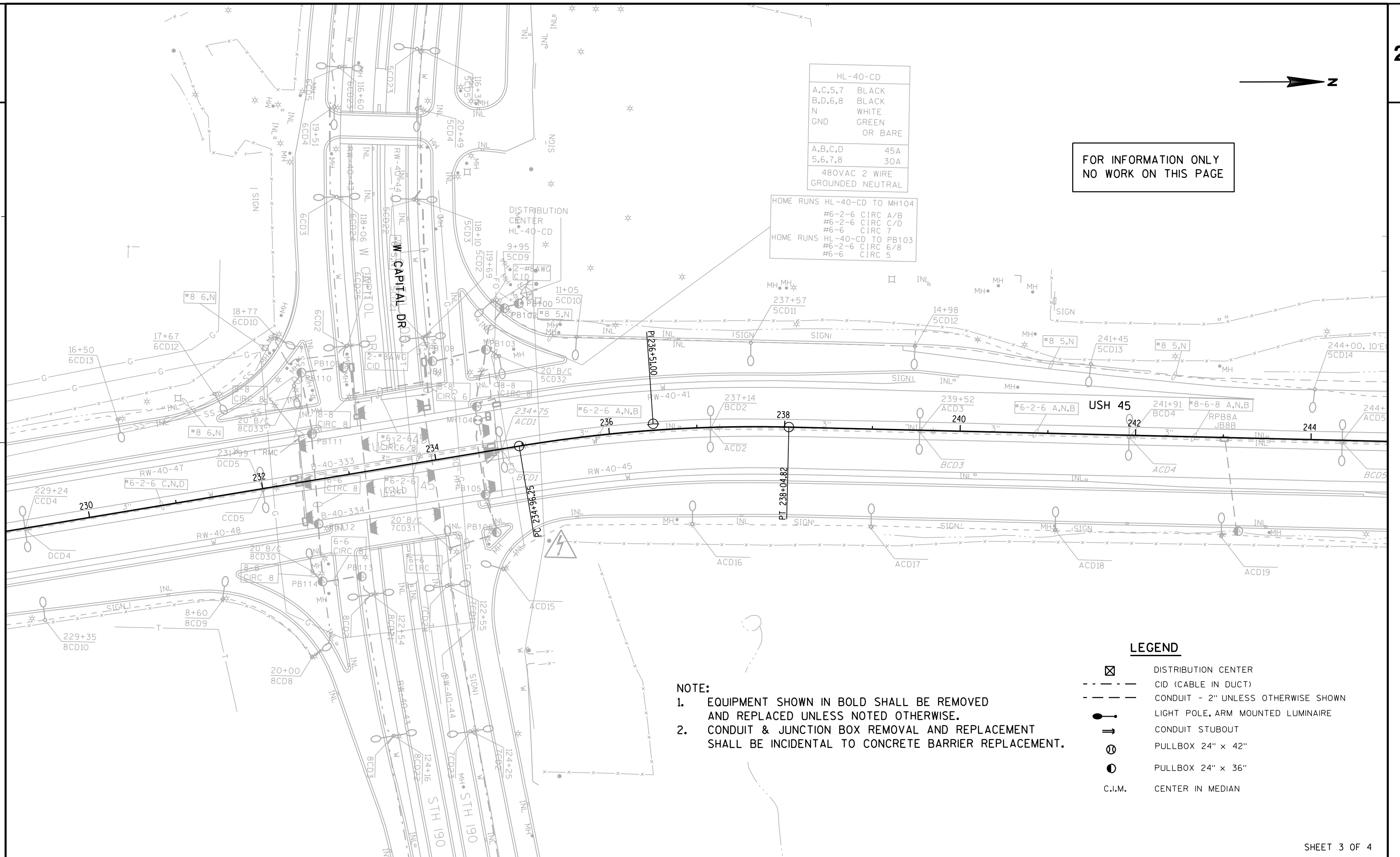
- | | |
|------------------|----------------|
| Appleton Ave | $\frac{1}{4}$ |
| Silver Spring Dr | $1\frac{3}{4}$ |
| Hampton Ave | $2\frac{1}{2}$ |





LEGEND

- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- NEW SIGN ON EXISTING POSTS
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
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LEGEND

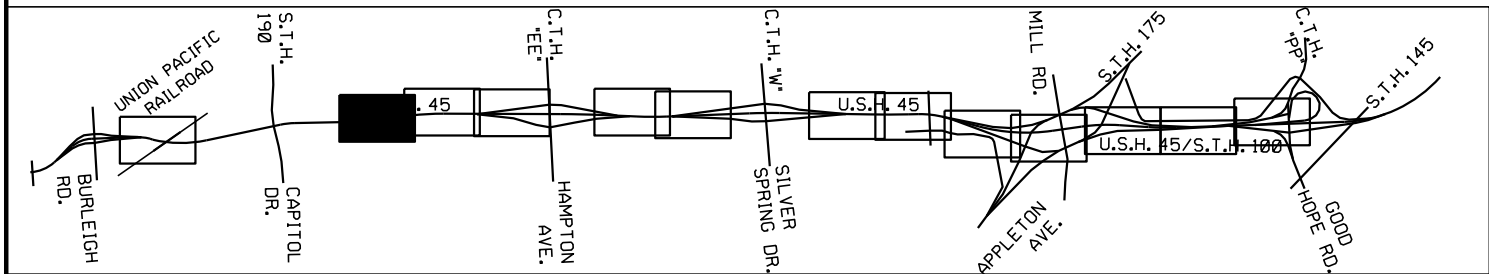
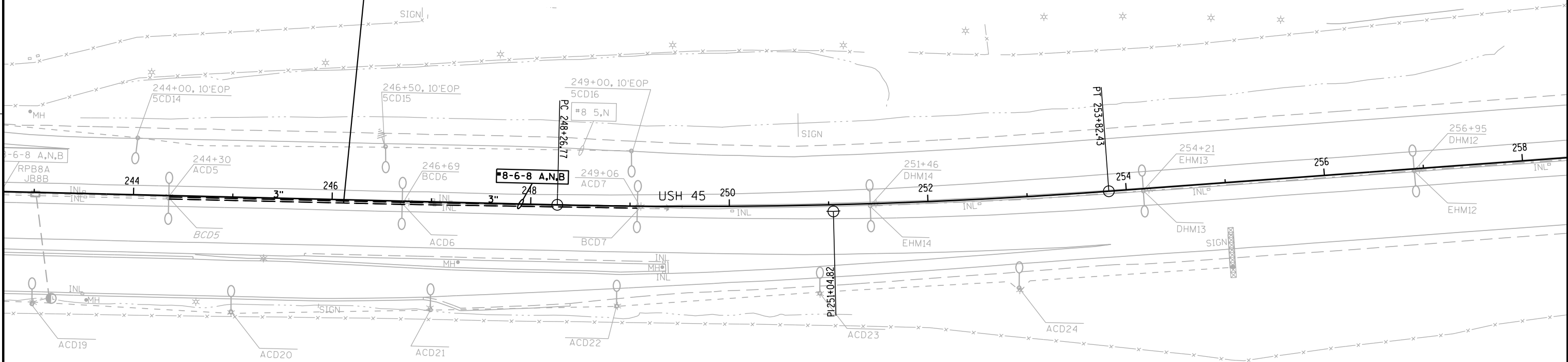
- ☒ DISTRIBUTION CENTER
- - - - - CID (CABLE IN DUCT)
- - - - - CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- CONDUIT STUBOUT
- ⊗ PULLBOX 24" x 42"
- ⊙ PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN

BOLDED REPRESENTS ITEMS
TO BE REMOVED

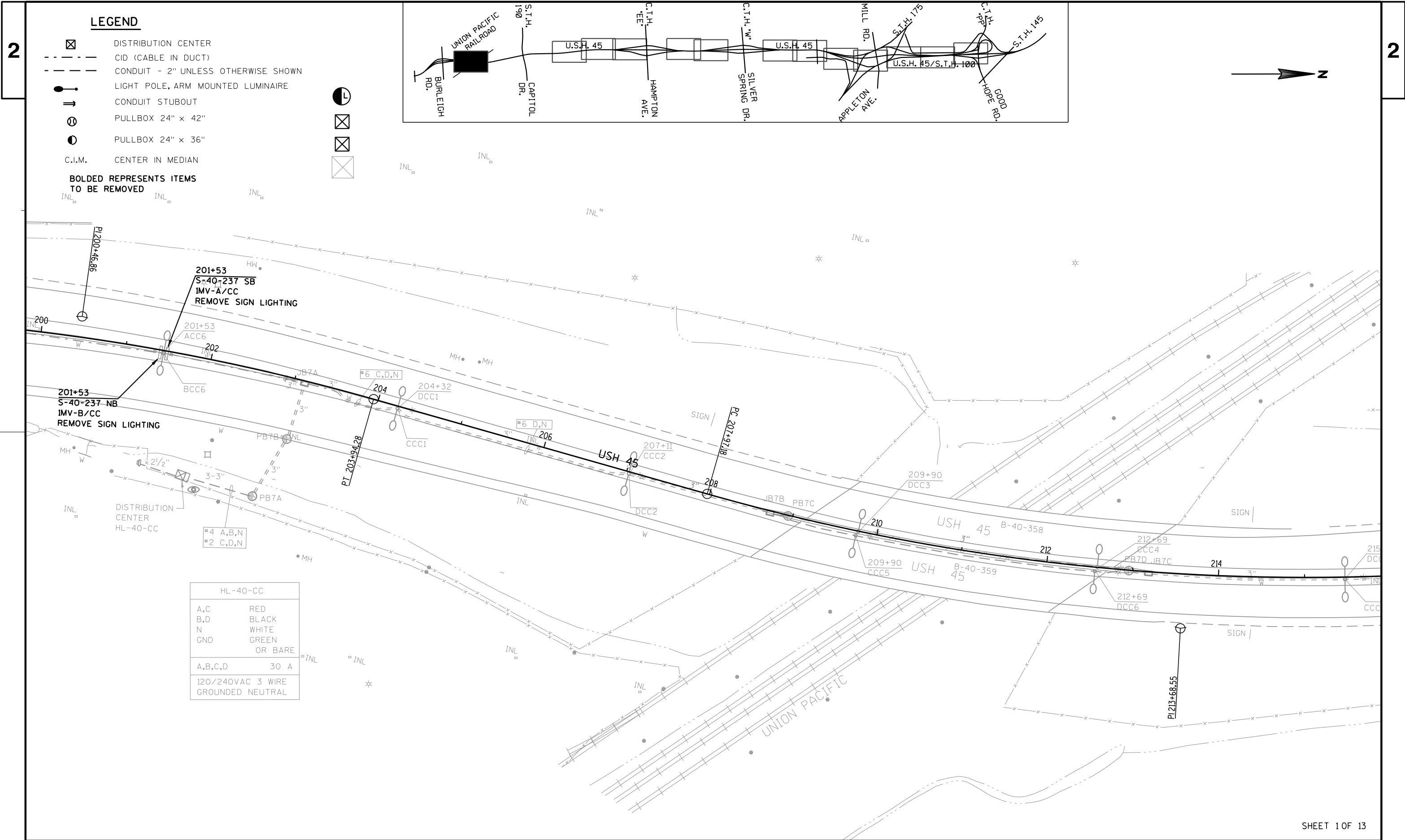


REMOVE WIRE FROM CONDUIT AND INSTALL NEW
WIRE AFTER CONCRETE BARRIER REPLACEMENT
STA. 244+30 TO STA. 249+06

CONDUIT REMOVAL WILL BE INCIDENTAL
TO CONCRETE BARRIER REMOVAL
STA. 246+37 TO 246+72 AND
STA. 246+82 TO STA. 247+07



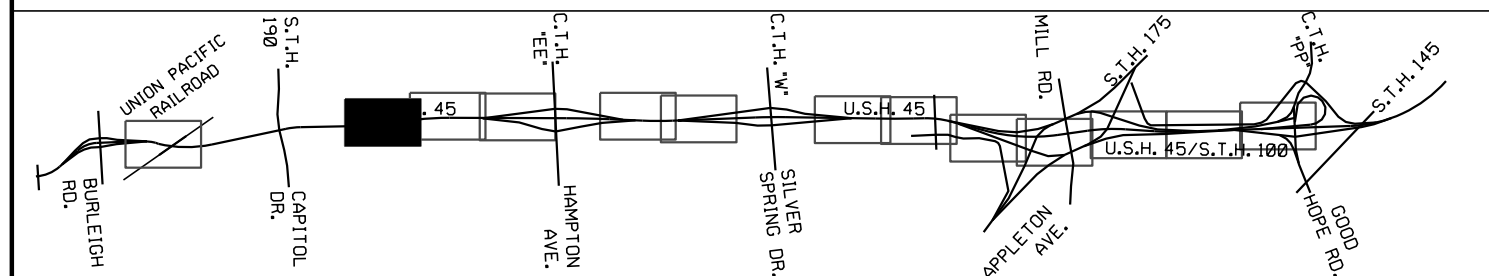
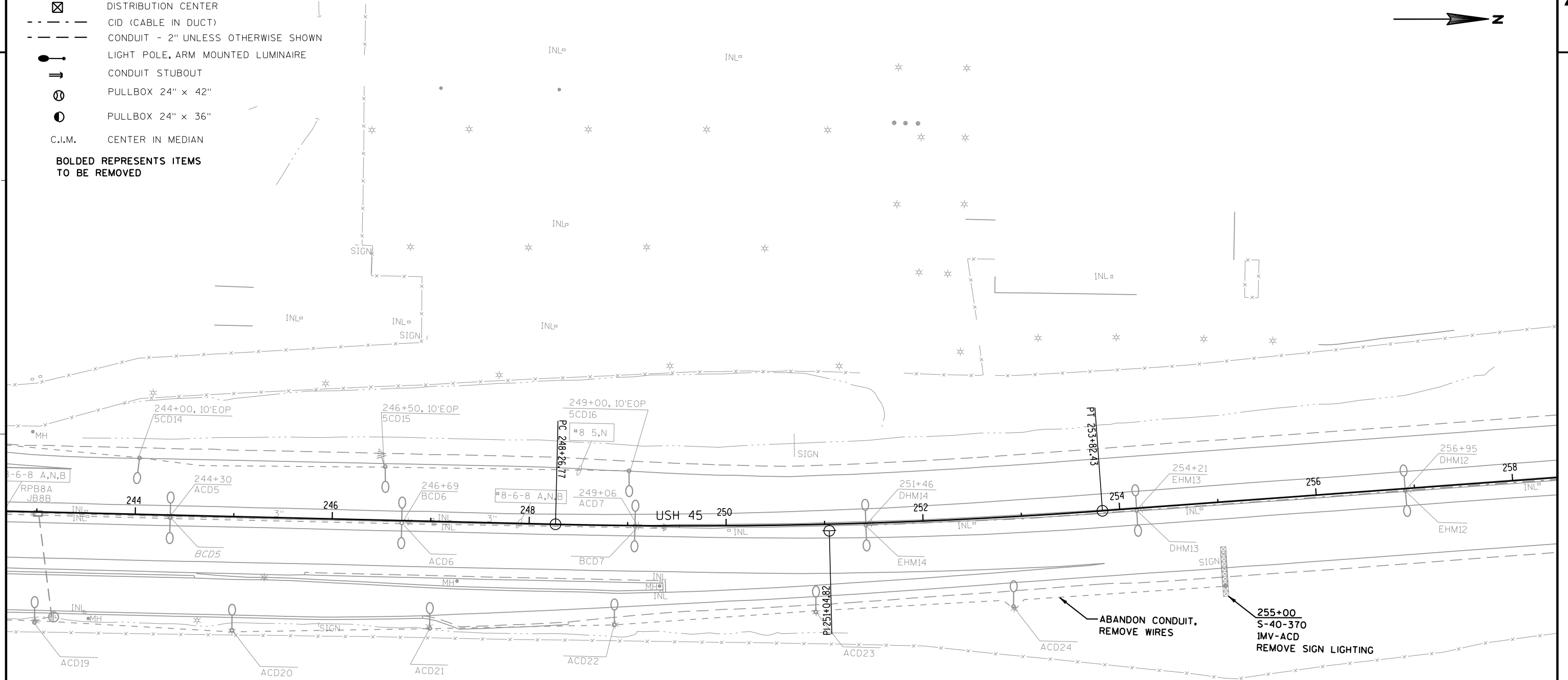
- NOTE:
- 1. EQUIPMENT SHOWN IN BOLD SHALL BE REMOVED AND REPLACED UNLESS NOTED OTHERWISE.
 - 2. CONDUIT & JUNCTION BOX REMOVAL AND REPLACEMENT SHALL BE INCIDENTAL TO CONCRETE BARRIER REPLACEMENT.



LEGEND

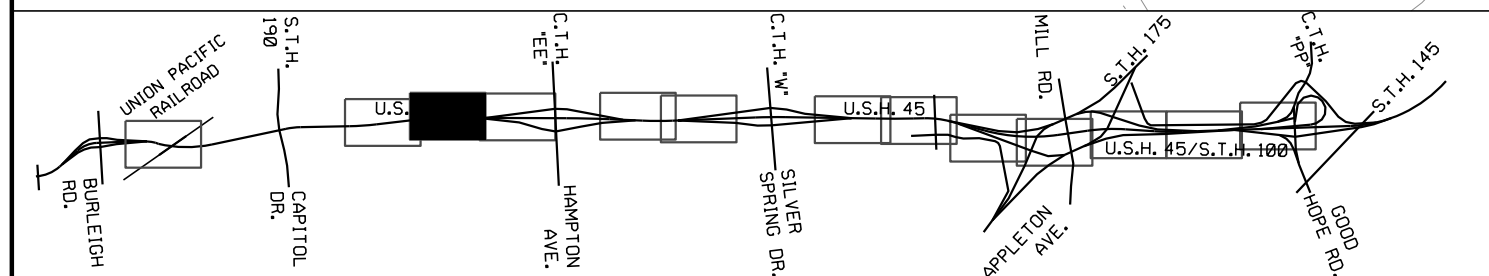
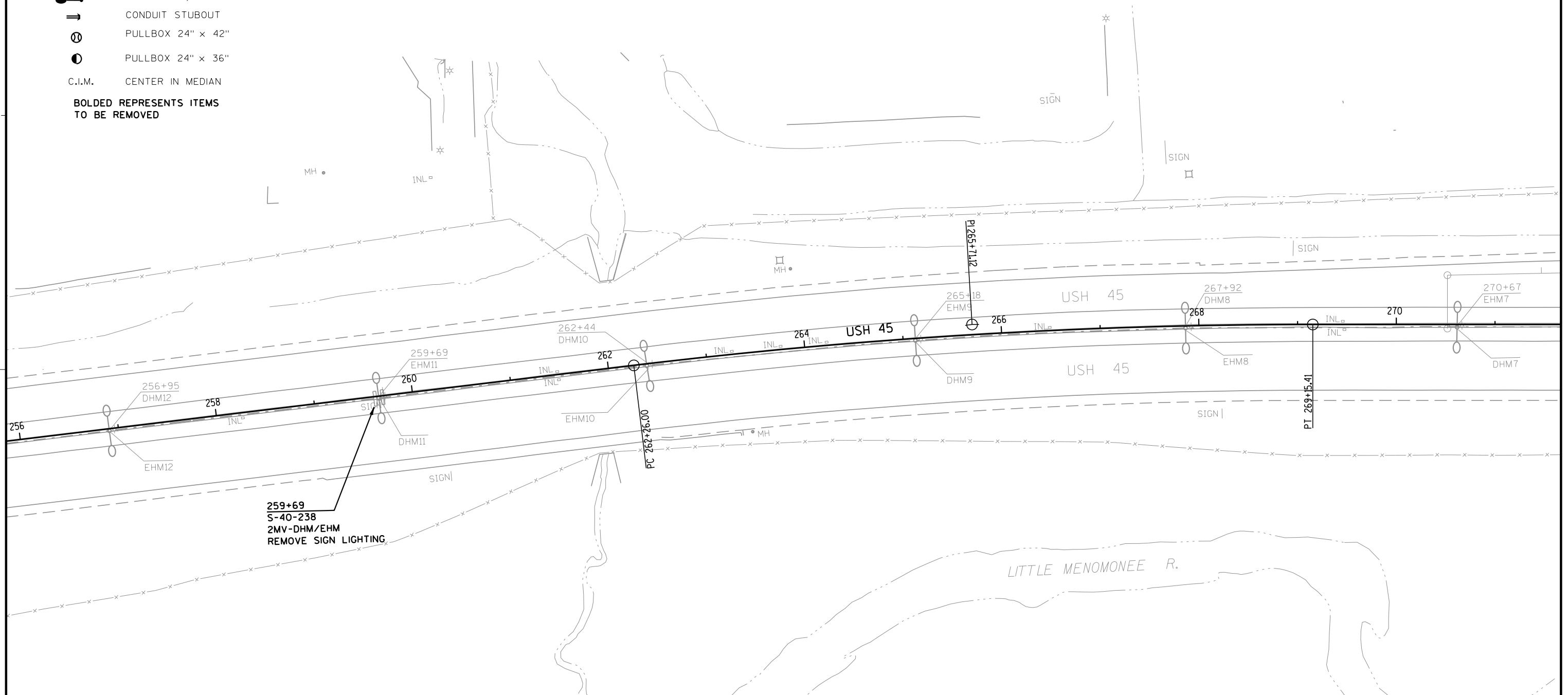
- ☒ DISTRIBUTION CENTER
- - - - - CID (CABLE IN DUCT)
- - - - - CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- ⇒ CONDUIT STUBOUT
- ⊙ PULLBOX 24" x 42"
- ⦿ PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN

**BOLDED REPRESENTS ITEMS
TO BE REMOVED**



LEGEND

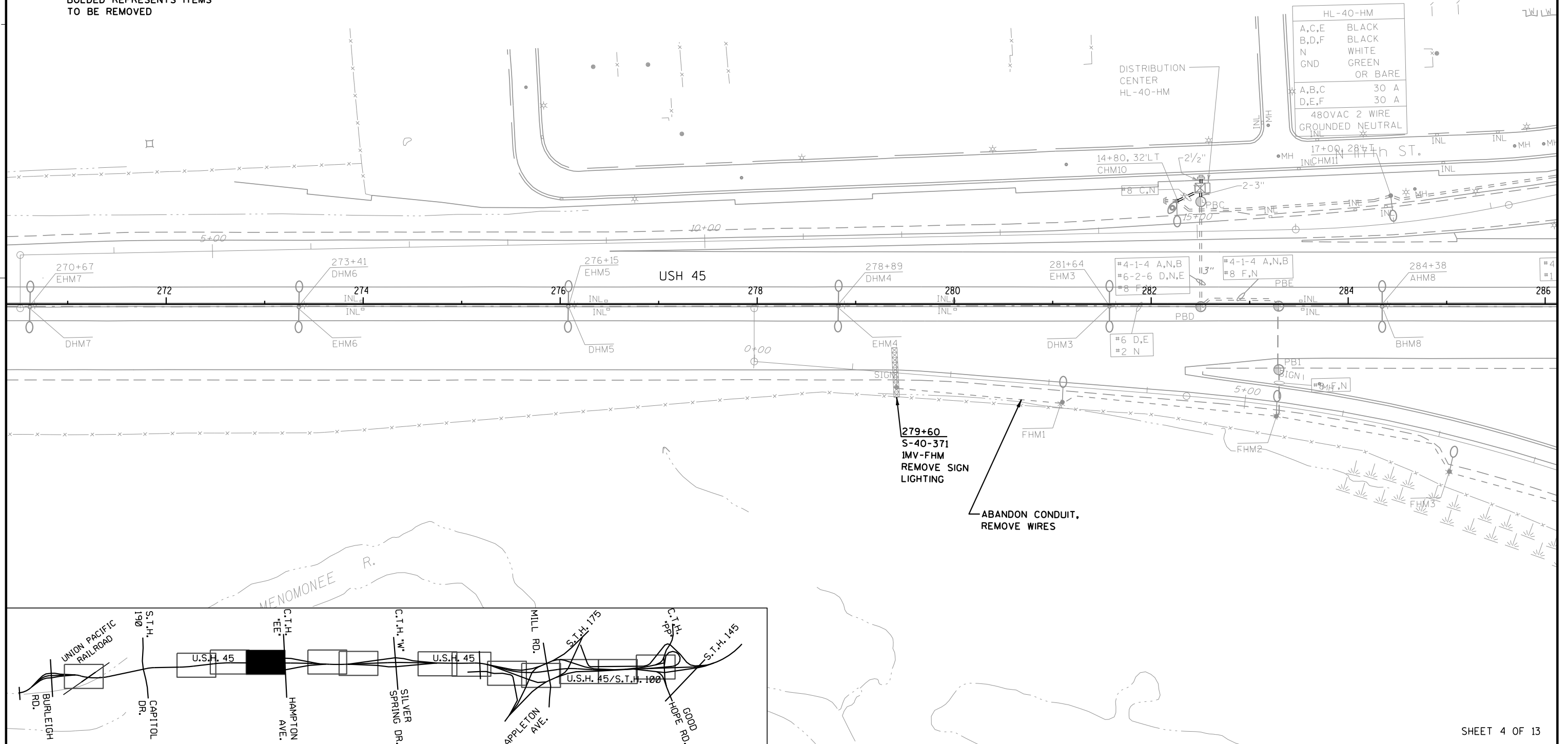
- ⊠ DISTRIBUTION CENTER
- - - - - CID (CABLE IN DUCT)
- - - - - CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- ⇨ CONDUIT STUBOUT
- ⊙ PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN
- BOLDED REPRESENTS ITEMS TO BE REMOVED**



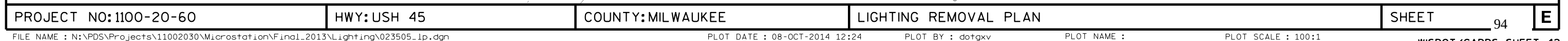
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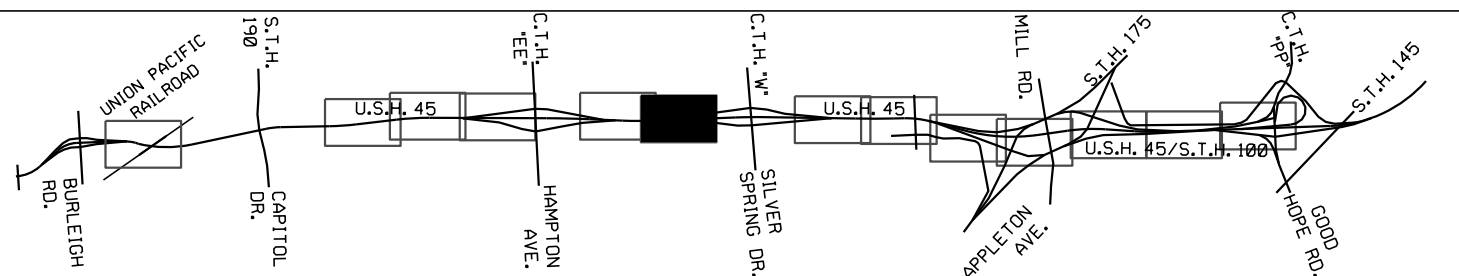
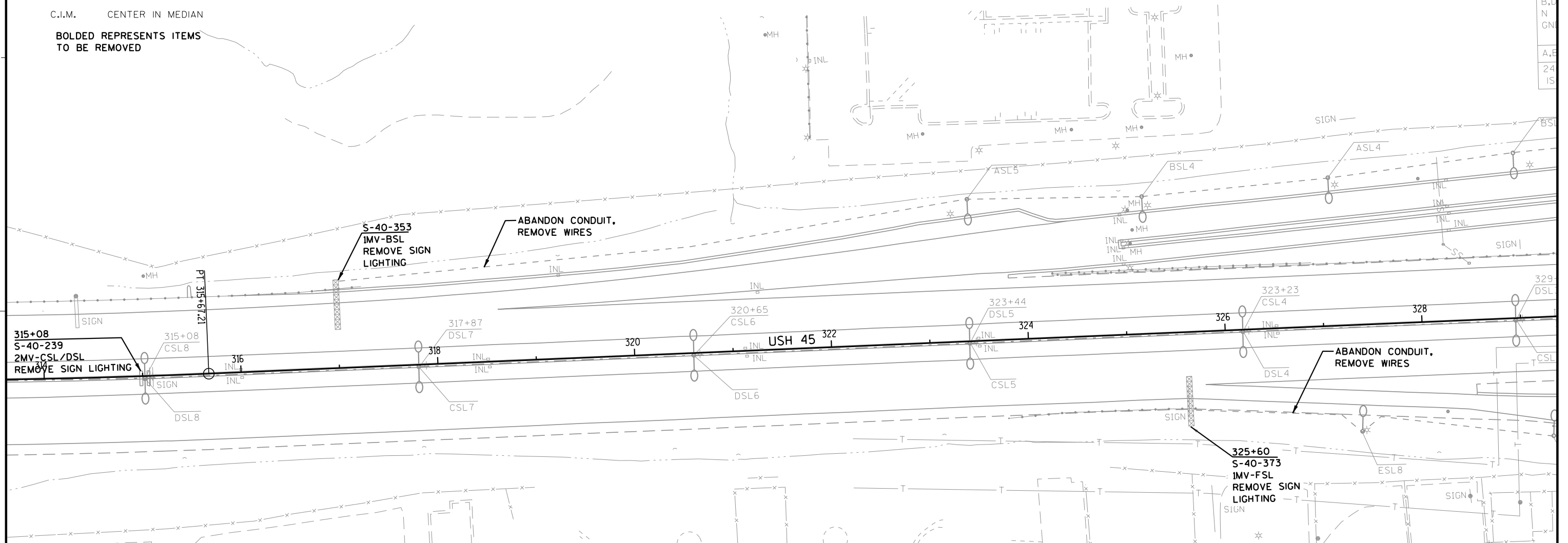
- ☒ DISTRIBUTION CENTER
- - - - - CID (CABLE IN DUCT)
- - - - - CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- ⇒ CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN

**BOLDDED REPRESENTS ITEMS
TO BE REMOVED**



SHEET 4 OF 13



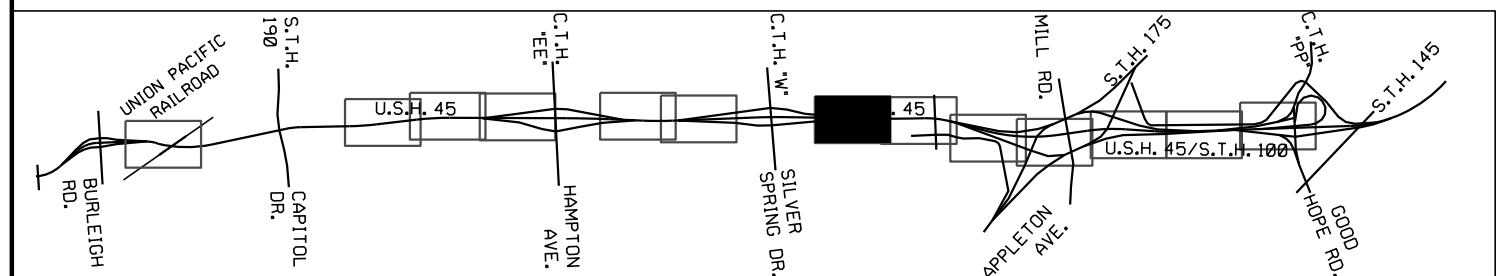
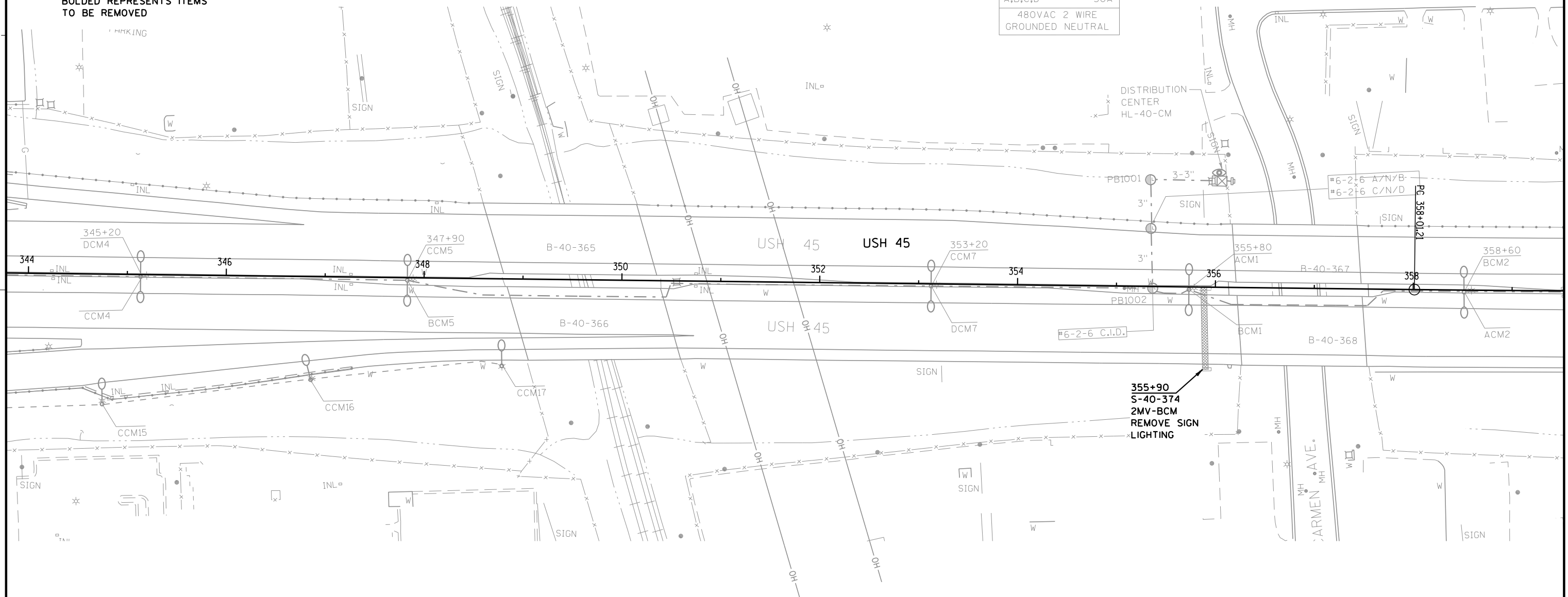


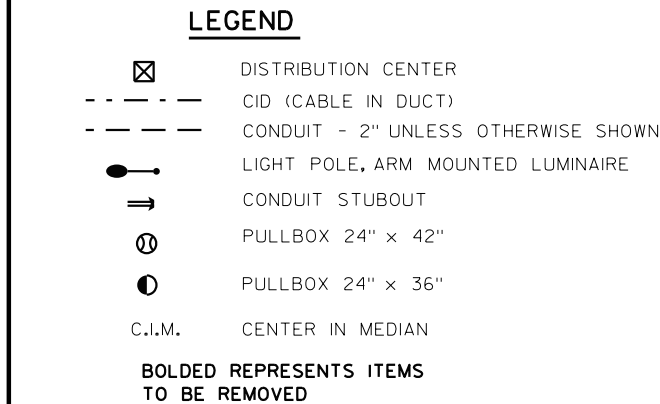
LEGEND

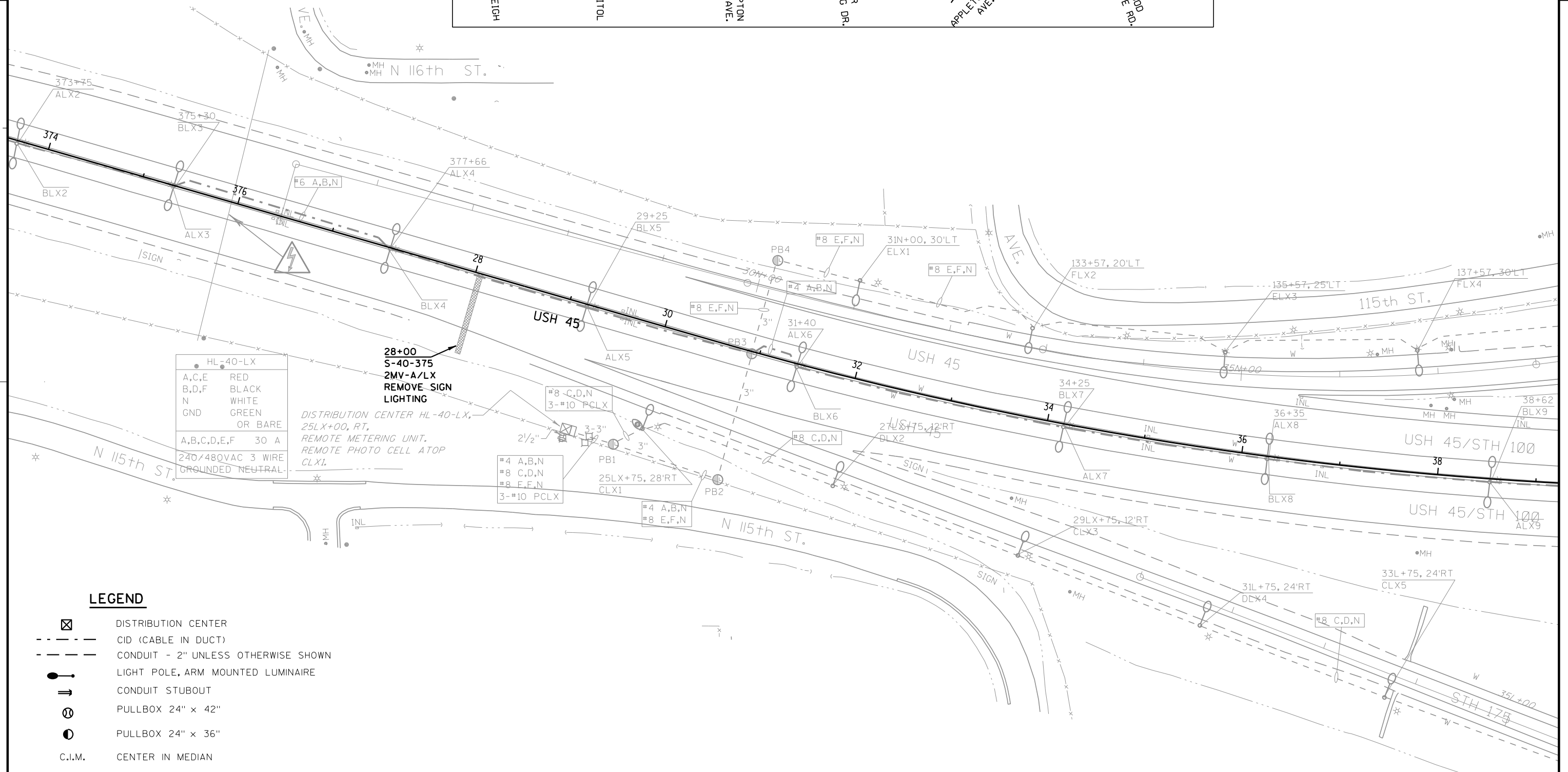
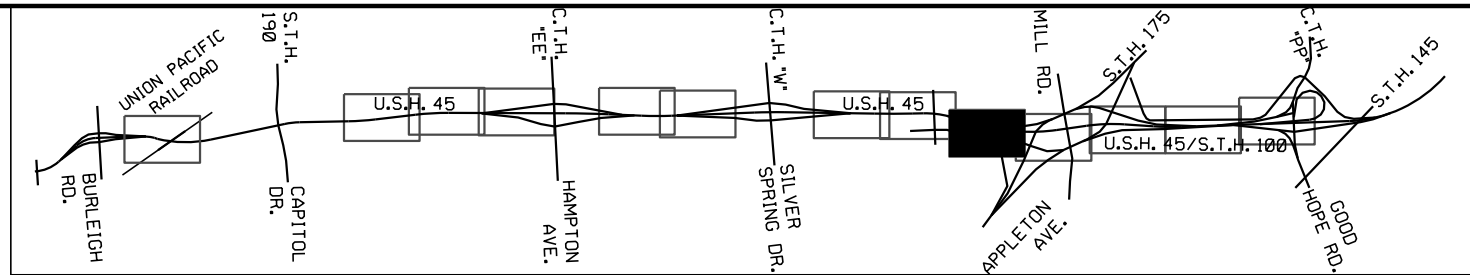
- ☒ DISTRIBUTION CENTER
- - - - - CID (CABLE IN DUCT)
- - - - - CONDUIT - 2" UNLESS OTHERWISE SHOWN
- LIGHT POLE, ARM MOUNTED LUMINAIRE
- ⇨ CONDUIT STUBOUT
- PULLBOX 24" x 42"
- PULLBOX 24" x 36"
- C.I.M. CENTER IN MEDIAN

**BOLDED REPRESENTS ITEMS
TO BE REMOVED**

HL-40-CM	
A,B,C,D	BLACK
A,B,C,D	30A
480VAC 2 WIRE GROUNDED NEUTRAL	





**LEGEND**

-  DISTRIBUTION CENTER
-  CID (CABLE IN DUCT)
-  CONDUIT - 2" UNLESS OTHERWISE SHOWN
-  LIGHT POLE, ARM MOUNTED LUMINAIRE
-  CONDUIT STUBOUT
-  PULLBOX 24" x 42"
-  PULLBOX 24" x 36"
-  C.I.M. CENTER IN MEDIAN

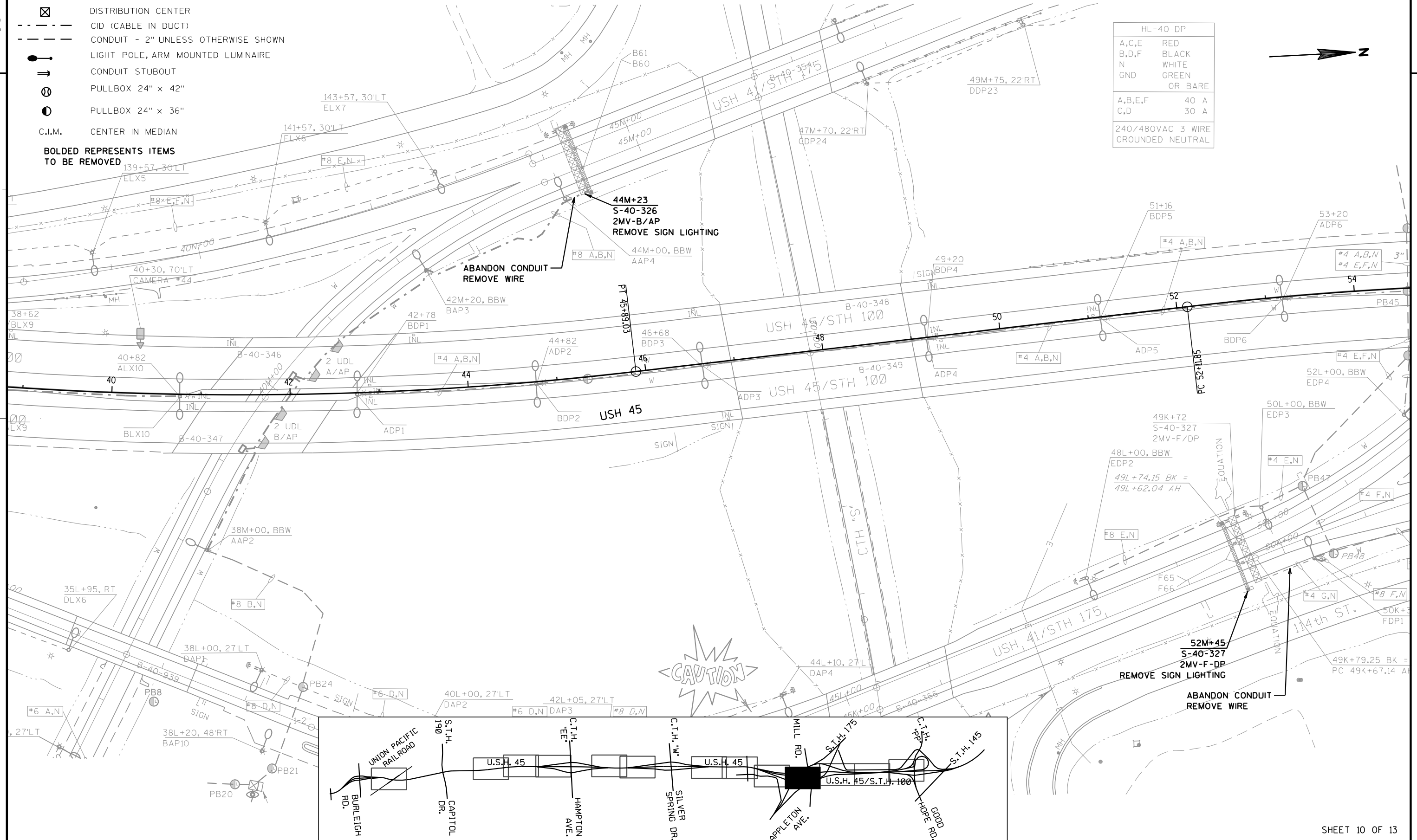
**BOLDED REPRESENTS ITEMS
TO BE REMOVED**

LEGEND

- ☒ DISTRIBUTION CENTER
--- CID (CABLE IN DUCT)
--- CONDUIT - 2" UNLESS OTHERWISE SHOWN
● LIGHT POLE, ARM MOUNTED LUMINAIRE
⇒ CONDUIT STUBOUT
⊙ PULLBOX 24" x 42"
⊙ PULLBOX 24" x 36"
C.I.M. CENTER IN MEDIAN

**BOLDED REPRESENTS ITEMS
TO BE REMOVED**

HL-40-DP	
A,C,E	RED
B,D,F	BLACK
N	WHITE
GND	GREEN OR BARE
A,B,E,F	40 A
C,D	30 A
240/480VAC 3 WIRE GROUNDED NEUTRAL	



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

LIGHTING REMOVAL PLAN

SHEET

99

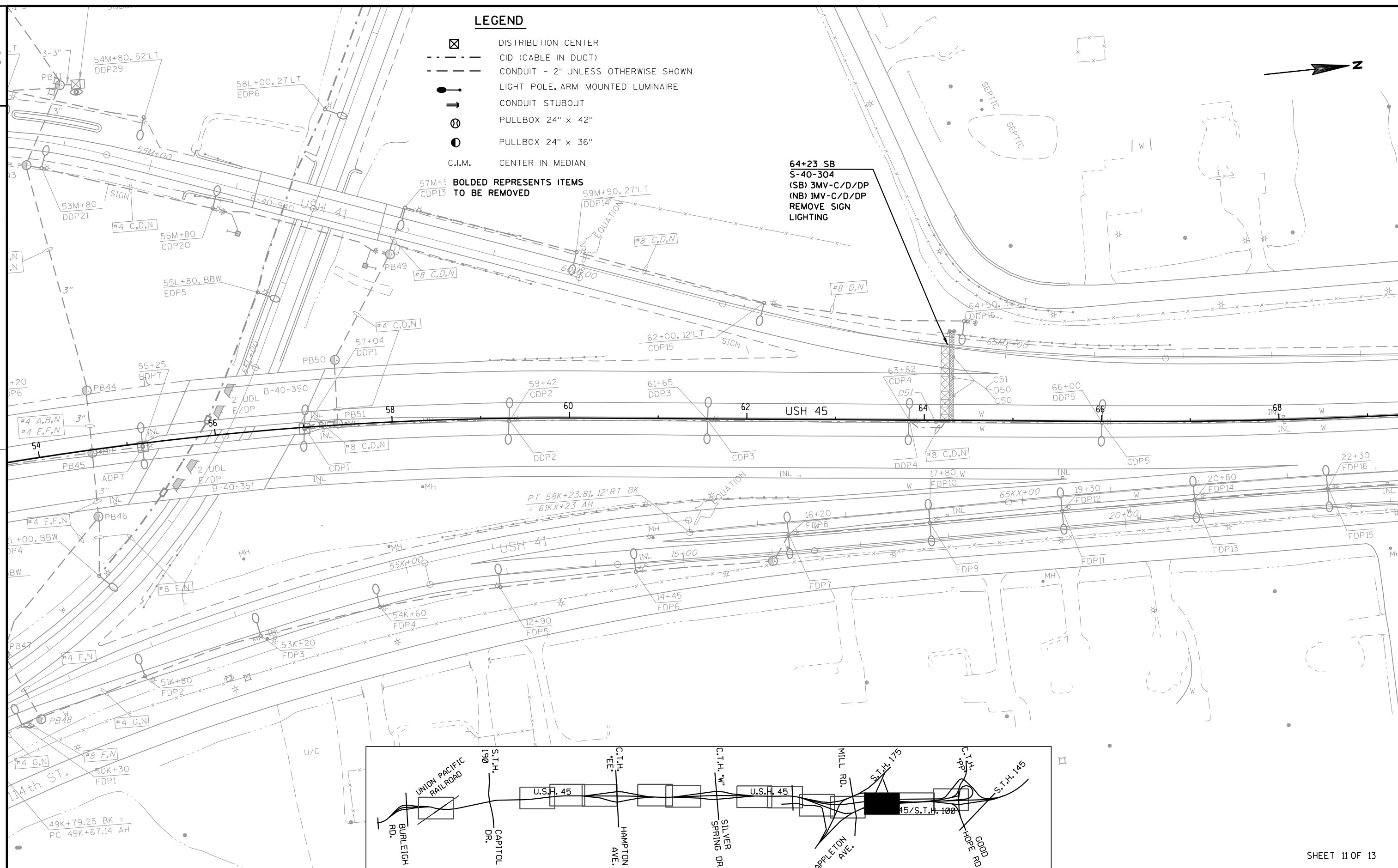
E

LEGEND

- ☒ DISTRIBUTION CENTER
--- CID (CABLE IN DUCT)
--- CONDUIT - 2" UNLESS OTHERWISE SHOWN
● LIGHT POLE, ARM MOUNTED LUMINAIRE
= CONDUIT STUBOUT
○ PULLBOX 24" x 42"
● PULLBOX 24" x 36"
C.I.M. CENTER IN MEDIAN

**BOLDED REPRESENTS ITEMS
TO BE REMOVED**

**64+23 SB
S-40-304
(SB) 3MV-C/D/DP
(NB) 1MV-C/D/DP
REMOVE SIGN
LIGHTING**



SHEET 11 OF 13

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

LIGHTING REMOVAL PLAN

SHEET

100

E

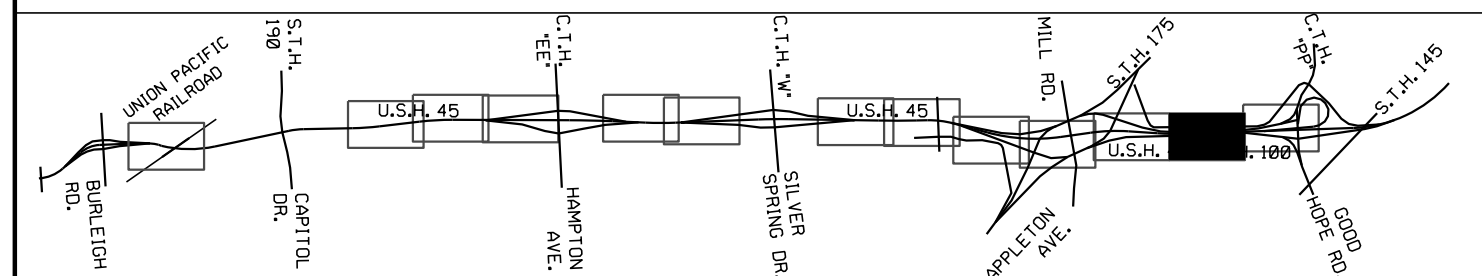
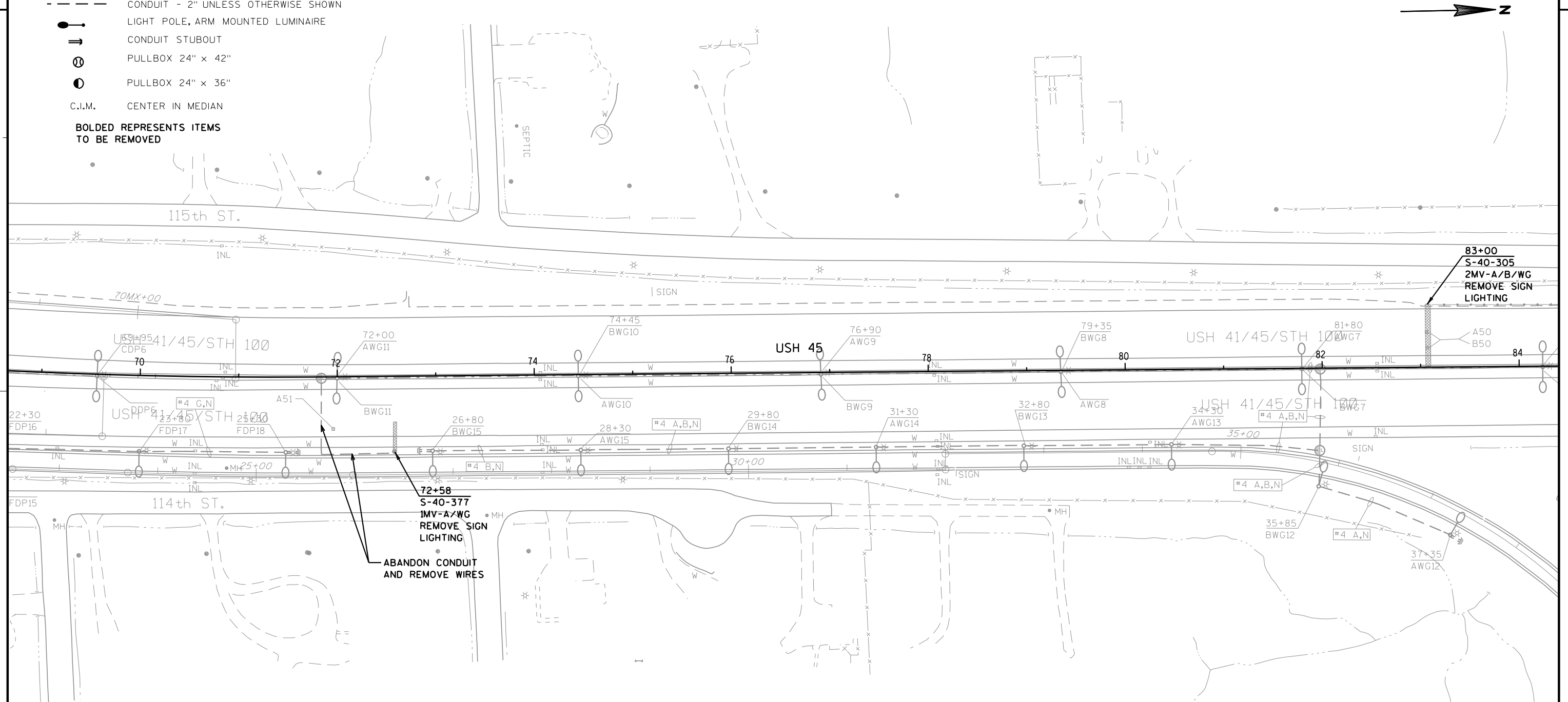
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LEGEND

- | | |
|---|-------------------------------------|
|  | DISTRIBUTION CENTER |
|  | CID (CABLE IN DUCT) |
|  | CONDUIT - 2" UNLESS OTHERWISE SHOWN |
|  | LIGHT POLE, ARM MOUNTED LUMINAIRE |
|  | CONDUIT STUBOUT |
|  | PULLBOX 24" x 42" |
|  | PULLBOX 24" x 36" |
| C.I.M. | CENTER IN MEDIAN |

BOLDED REPRESENTS ITEMS
TO BE REMOVED

2 |



SHEET 12 OF 13

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

LIGHTING REMOVAL PLAN

SHEET 101

3

FILE NAME : N:\PDS\Projects\11002030\Microstation\Final_2013\Lighting\023512_lp.dgn

PLOT DATE : 08-OCT-2014 12:24

PL0T BY : dotgxv

PLOT NAME :

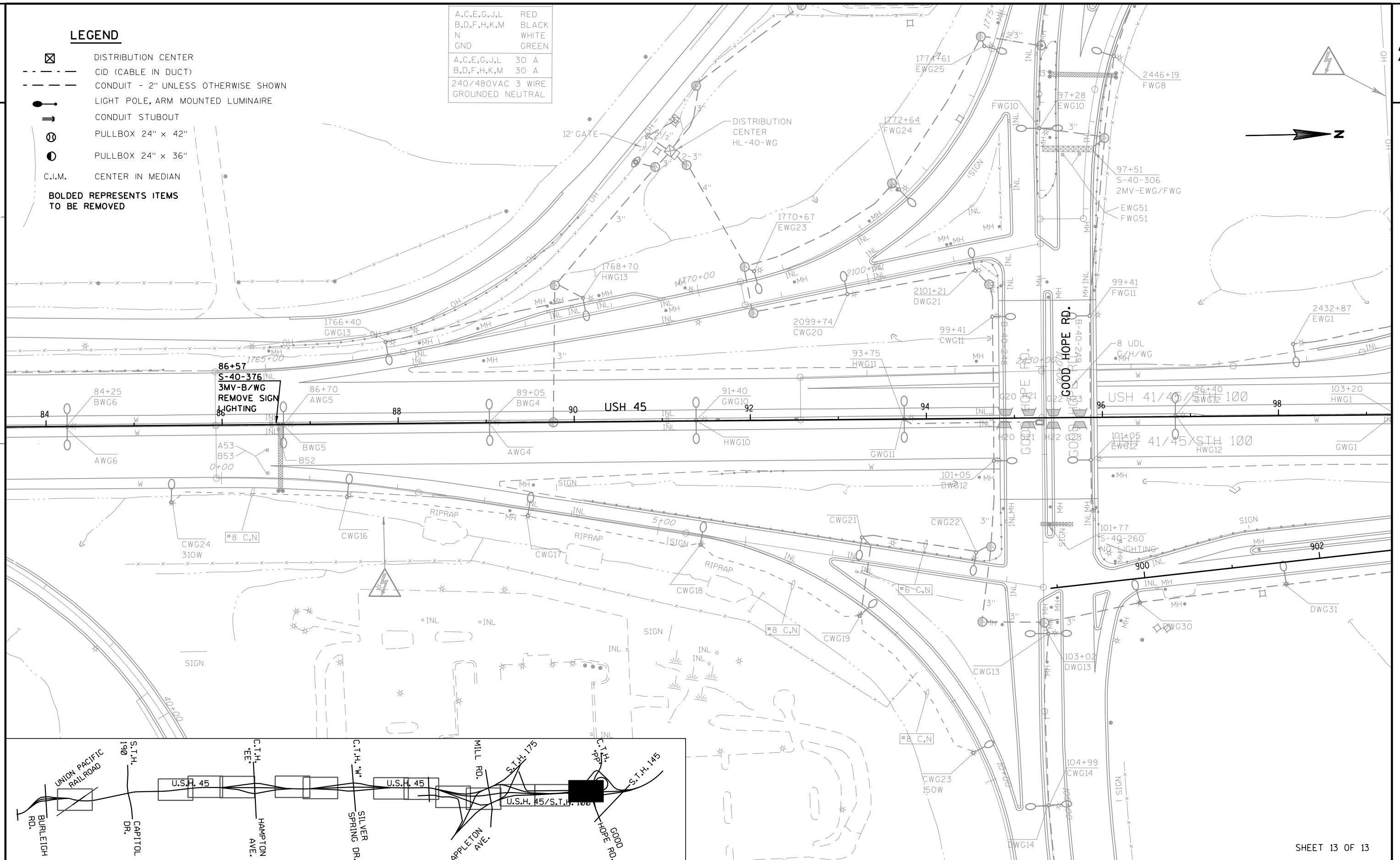
PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

LEGEND

- ☒ DISTRIBUTION CENTER
--- CID (CABLE IN DUCT)
--- CONDUIT - 2" UNLESS OTHERWISE SHOWN
● LIGHT POLE, ARM MOUNTED LUMINAIRE
⇨ CONDUIT STUBOUT
⊙ PULLBOX 24" x 42"
● PULLBOX 24" x 36"
C.I.M. CENTER IN MEDIAN
BOLDED REPRESENTS ITEMS TO BE REMOVED

A,C,E,G,J,L	RED
B,D,F,H,K,M	BLACK
N	WHITE
GND	GREEN
A,C,E,G,J,L	30 A
B,D,F,H,K,M	30 A
240/480VAC	3 WIRE
	GROUNDING NEUTRAL



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

LIGHTING REMOVAL PLAN

SHEET

102

E

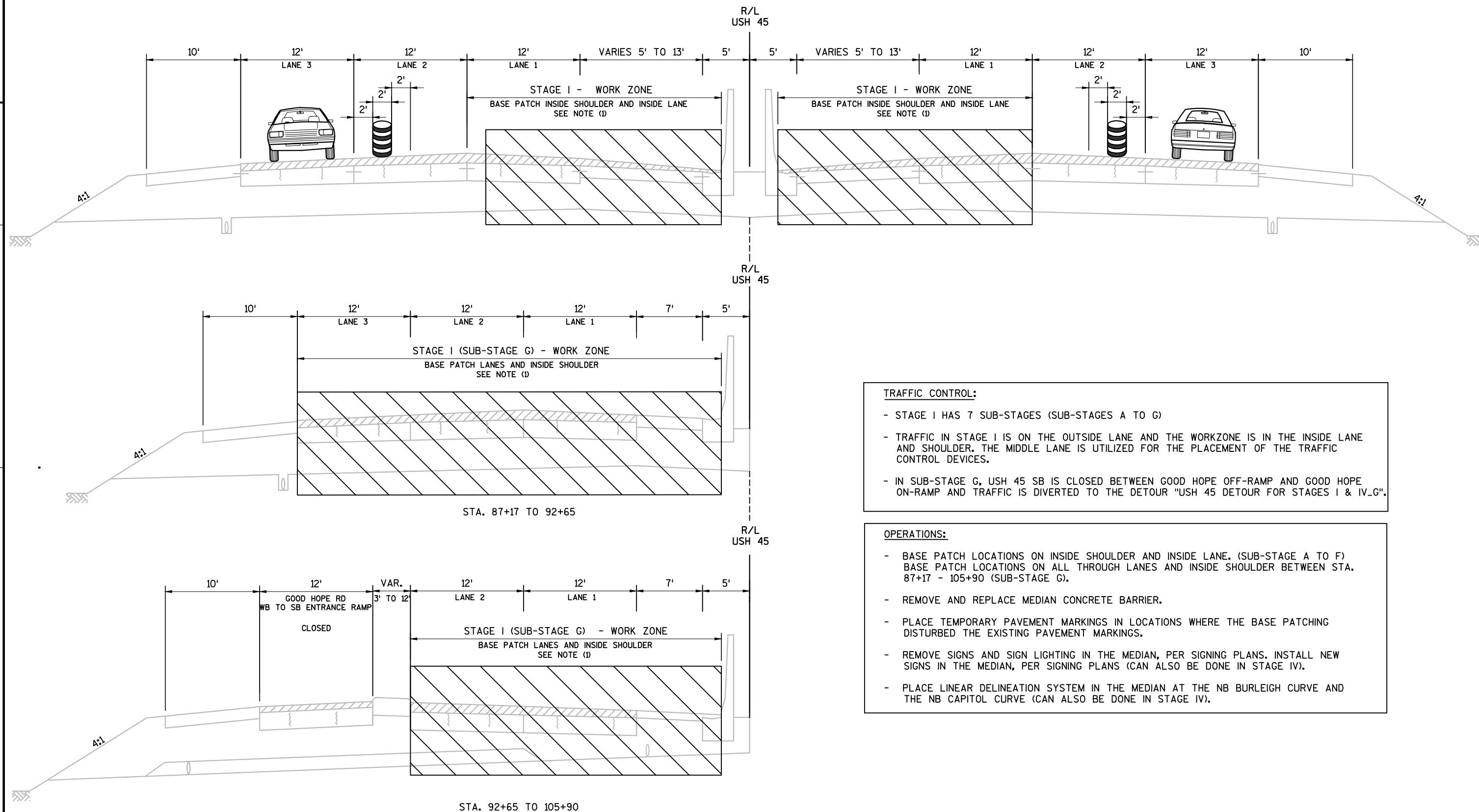
GENERAL NOTES TRAFFIC CONTROL

- THE LANE CLOSURE TAPERS SHOULD BE AVOIDED ON HORIZONTAL CURVES.
- THE MAXIMUM LENGTH OF LANE CLOSURE IS THREE MILES. THE MINIMUM DISTANCE BETWEEN SUCCESSIVE CLOSURES IS TWO MILES. TWO OR MORE DIFFERENT STAGES IN THE SAME DIRECTION ARE NOT PERMITTED.
- TWO CONSECUTIVE ON-RAMPS OR OFF-RAMPS SHALL NOT BE CLOSED AT THE SAME NIGHT.
- THE MAXIMUM LENGTH OF SHOULDER CLOSURE IS TWO MILES. AT ANY LOCATION ON USH 45, AT LEAST ONE OF THE SHOULDERS ON EITHER SIDE OF THE ROADWAY IN EACH DIRECTION SHALL BE OPEN AT ALL TIMES.
- SHOULDER CLOSURES SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL DRAWINGS (SDD) AND HAVE THE APPROVAL OF THE ENGINEER.
- TEMPORARY PAVEMENT MARKING SKIPS FOR LANE LINES SHALL BE 12.5' IN LENGTH WITH A 37.5' GAP BETWEEN EACH SUCCESSIVE MARKING.
- DRUMS SHALL NOT BE PLACED WITHIN A TRAVEL LANE WITH LIVE TRAFFIC. PROVIDE PROPER SHY DISTANCE BETWEEN LIVE TRAFFIC AND DRUMS AS SHOWN IN THE PLANS.
- OTHER OPERATIONS, SUCH AS FTMS, SIGN REPLACEMENT, INSTALLATION OF DELINEATION SYSTEMS ON THE INSIDE AND OUTSIDE BARRIERS SHALL BE COORDINATED WITH THE BASE PATCHING AND MILL/OVERLAY OPERATIONS TO AVOID ADDITIONAL LANE CLOSURES.
- THE OVERHEAD SIGN PANEL REPLACEMENT AND OVERHEAD SIGN LIGHTING REMOVAL SHALL BE COORDINATED WITH THE BASE PATCHING AND MILL/OVERLAY OPERATIONS, SO THAT ADDITIONAL LANE CLOSURES ARE NOT REQUIRED. THE FOLLOWING OVERHEAD SIGN WILL NEED A FULL FREEWAY CLOSURE:

 USH 45 SB, STA. 64+30 (SIGN PANEL ON ALL THREE LANES): FREEWAY CLOSED, USE DETOUR
- THE BASE PATCHES IN THE INSIDE SHOULDER SHALL BE COMPLETED PRIOR TO ANY TRAFFIC BEING PLACED NEXT TO THE SHOULDERS.
- EACH BEAM GUARD REPLACEMENT LOCATION SHALL BE COMPLETED IN THE SAME NIGHT IT STARTED.
- EACH MEDIAN CONCRETE BARRIER REPLACEMENT LOCATION SHALL BE COMPLETED IN THE SAME NIGHT IT STARTED
- THE HIGH SURFACE FRICTION TREATMENT SHALL NOT BE APPLIED ON NEW HMA PAVEMENT UNTIL AFTER NEW HMA PAVEMENT HAS BEEN IN PLACE FOR AT LEAST 24 HOURS.
- FINAL GROOVED WET REFLECTIVE PAVEMENT MARKINGS ON MAINLINE SHALL BE PLACED 5 DAYS AFTER THE PLACEMENT OF THE NEW ASPHALT. THE FINAL PAVEMENT MARKINGS AT THE BURLEIGH STREET CURVE SHALL BE APPLIED 5 DAYS AFTER THE APPLICATION OF THE HIGH FRICTION SURFACE TREATMENT.
- FINAL PAVEMENT MARKINGS ON RAMPS SHALL BE PERFORMED UNDER RAMP CLOSURES FOR USH 45 MILL/OVERLAY OPERATIONS DURING STAGE III.

2

2



TYPICAL SECTION-STAGE I

USH 45

STA. 169+00 TO STA. 378+00
EQUATION STA. 378+00 BK = STA. 27+48.73 AH
STA. 27+48.73 TO STA. 105+90

TRAFFIC CONTROL:

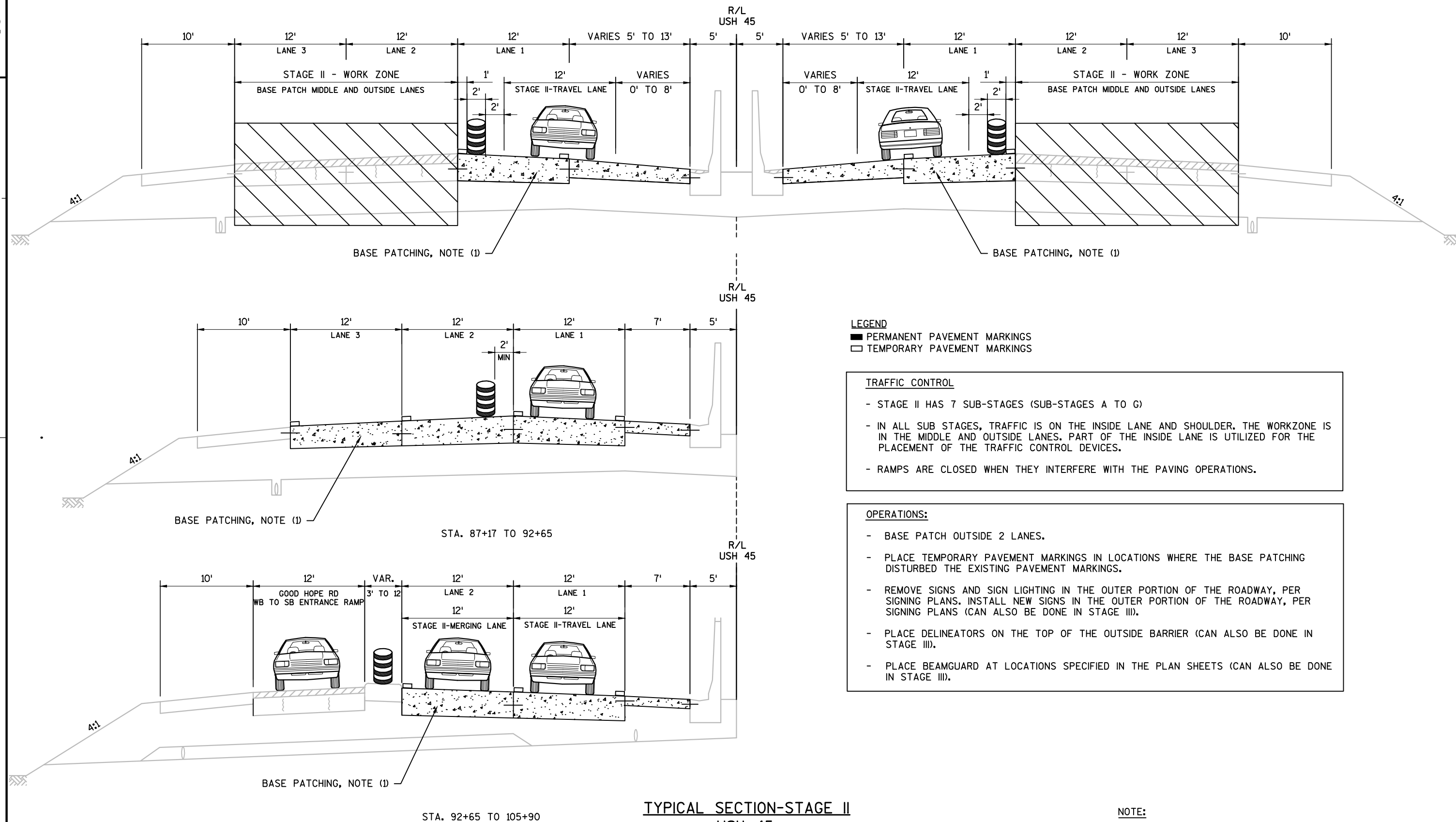
- STAGE I HAS 7 SUB-STAGES (SUB-STAGES A TO G)
- TRAFFIC IN STAGE I IS ON THE OUTSIDE LANE AND THE WORKZONE IS IN THE INSIDE LANE AND SHOULDER. THE MIDDLE LANE IS UTILIZED FOR THE PLACEMENT OF THE TRAFFIC CONTROL DEVICES.
- IN SUB-STAGE G, USH 45 SB IS CLOSED BETWEEN GOOD HOPE OFF-RAMP AND GOOD HOPE ON-RAMP AND TRAFFIC IS DIVERTED TO THE DETOUR "USH 45 DETOUR FOR STAGES I & IV_G".

OPERATIONS:

- BASE PATCH LOCATIONS ON INSIDE SHOULDER AND INSIDE LANE. (SUB-STAGE A TO F)
- BASE PATCH LOCATIONS ON ALL THROUGH LANES AND INSIDE SHOULDER BETWEEN STA. 87+17 - 105+90 (SUB-STAGE G).
- REMOVE AND REPLACE MEDIAN CONCRETE BARRIER.
- PLACE TEMPORARY PAVEMENT MARKINGS IN LOCATIONS WHERE THE BASE PATCHING DISTURBED THE EXISTING PAVEMENT MARKINGS.
- REMOVE SIGNS AND SIGN LIGHTING IN THE MEDIAN, PER SIGNING PLANS. INSTALL NEW SIGNS IN THE MEDIAN, PER SIGNING PLANS (CAN ALSO BE DONE IN STAGE IV).
- PLACE LINEAR DELINEATION SYSTEM IN THE MEDIAN AT THE NB BURLEIGH CURVE AND THE NB CAPITOL CURVE (CAN ALSO BE DONE IN STAGE IV).

NOTE:

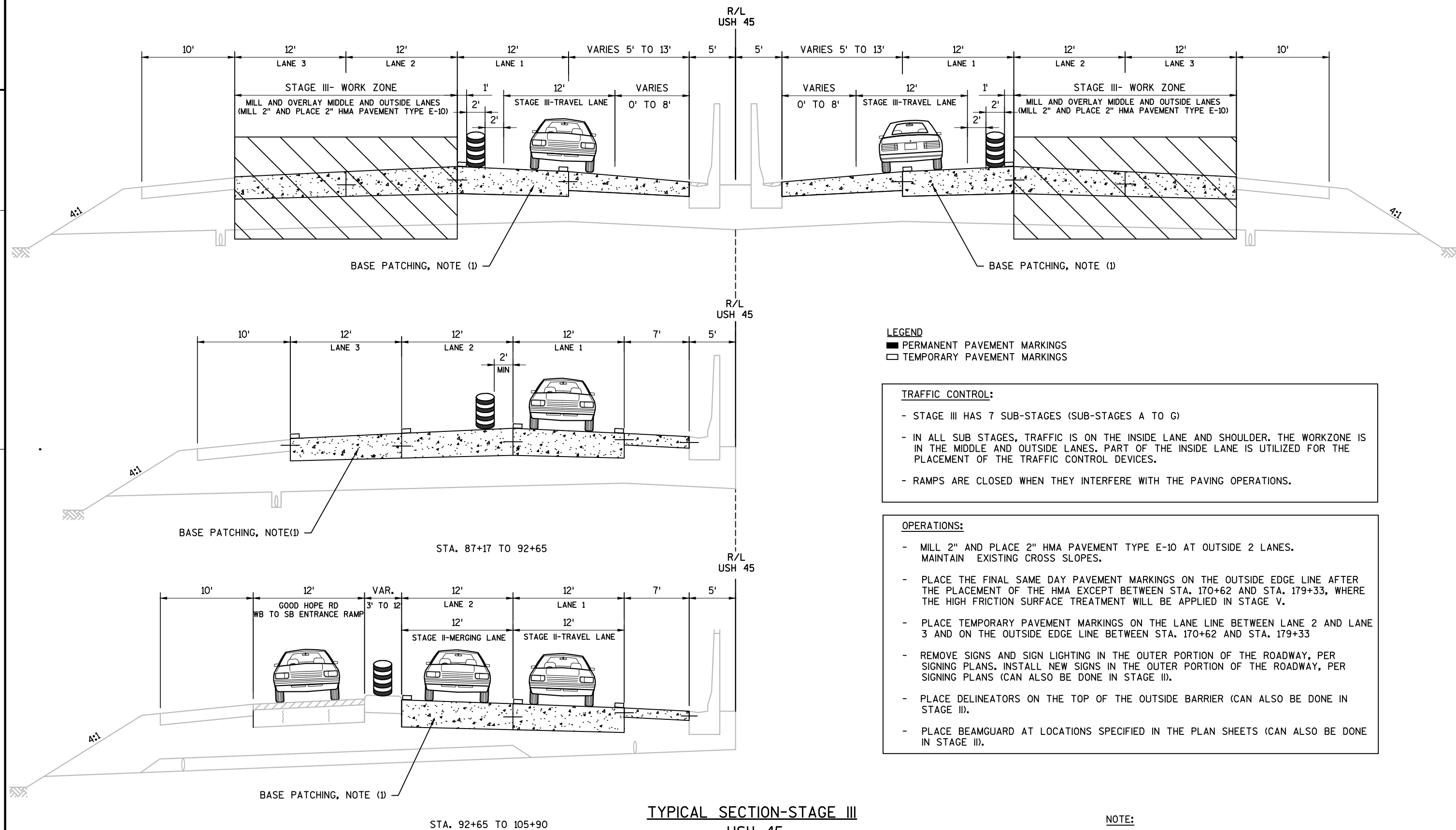
- (1) SEE PLANS AND MISCELLANEOUS QUANTITIES FOR BASE PATCHING LOCATIONS. THE ENGINEER SHALL VERIFY LOCATION IN THE FIELD.



TYPICAL SECTION-STAGE II

USH 45

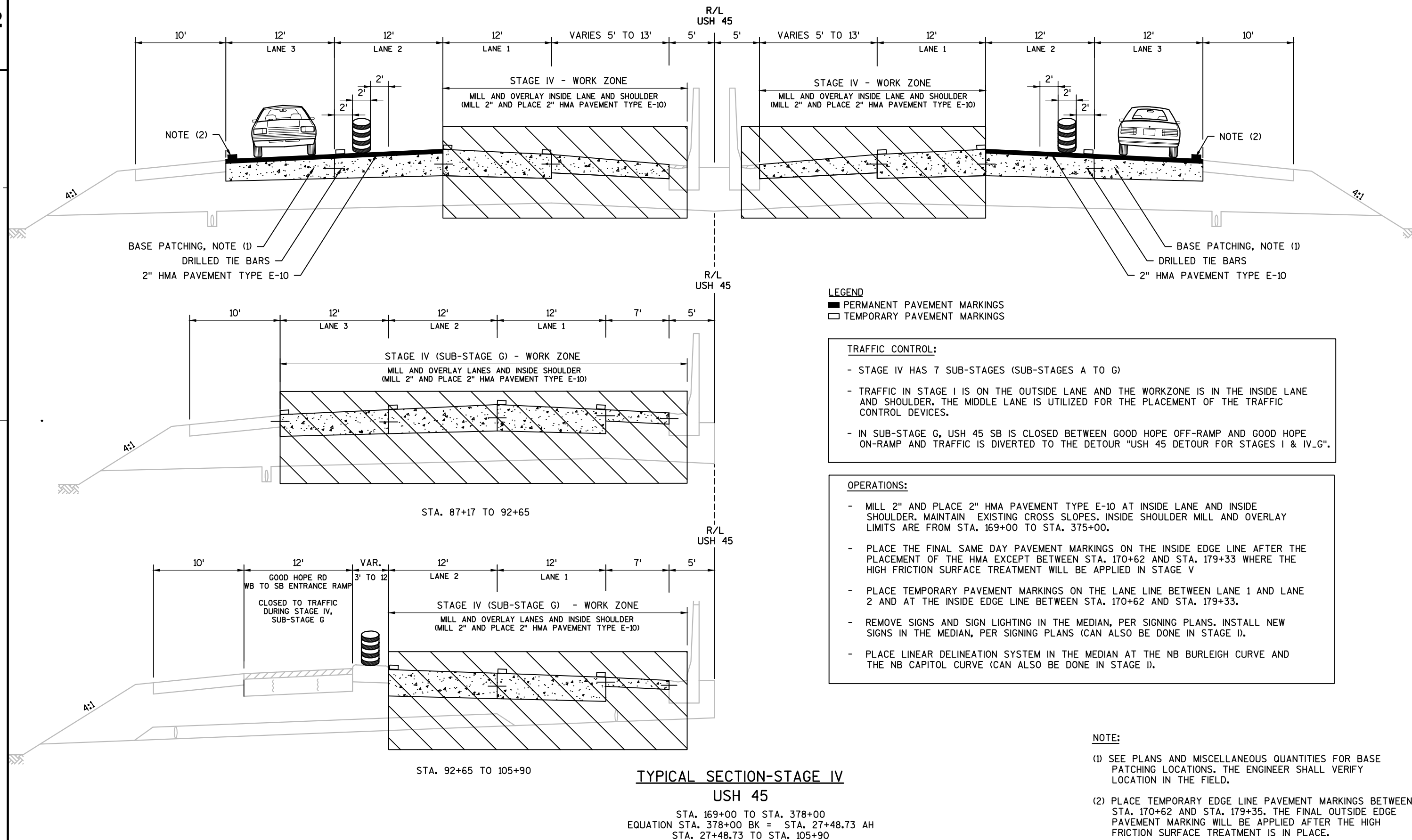
STA. 169+00 TO STA. 378+00
EQUATION STA. 378+00 BK = STA. 27+48.73 AH
STA. 27+48.73 TO STA. 105+90

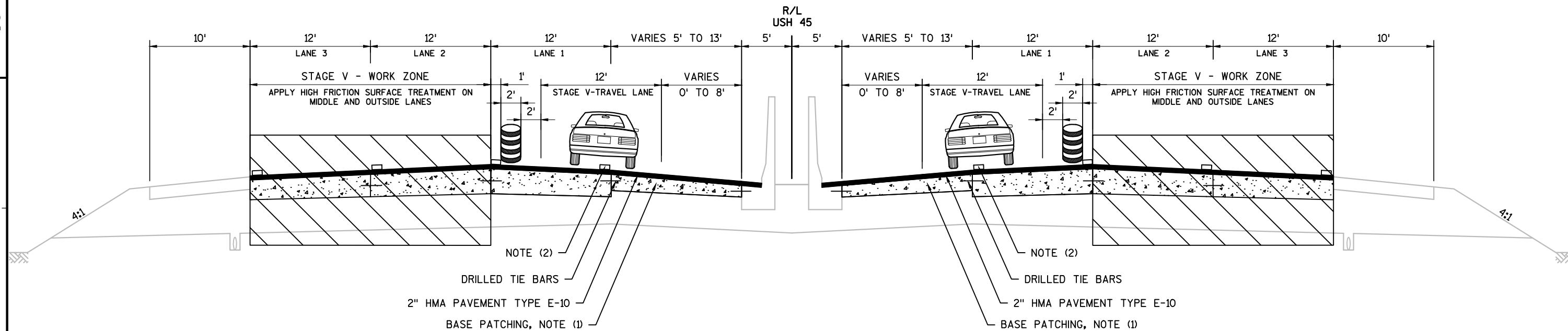


TYPICAL SECTION-STAGE III

USH 45

STA. 169+00 TO STA. 378+00
 EQUATION STA. 378+00 BK = STA. 27+48.73 AH
 STA. 27+48.73 TO STA. 105+90





LEGEND

- PERMANENT PAVEMENT MARKINGS
- TEMPORARY PAVEMENT MARKINGS

TRAFFIC CONTROL

IN STAGE V TRAFFIC IS ON THE INSIDE LANE AND SHOULDER. THE WORKZONE IS IN THE MIDDLE AND OUTSIDE LANES. PART OF THE INSIDE LANE IS UTILIZED FOR THE PLACEMENT OF THE TRAFFIC CONTROL DEVICES.

OPERATIONS:

- APPLY HIGH FRICTION SURFACE TREATMENT ON MIDDLE AND OUTSIDE LANES
- PLACE FINAL SAME DAY PAVEMENT MARKINGS ON THE OUTSIDE EDGE LINE BETWEEN STA. 170+62 AND STA. 179+35.
- PLACE TEMPORARY LANE LINE PAVEMENT MARKINGS BETWEEN LANE 2 AND LANE 3.

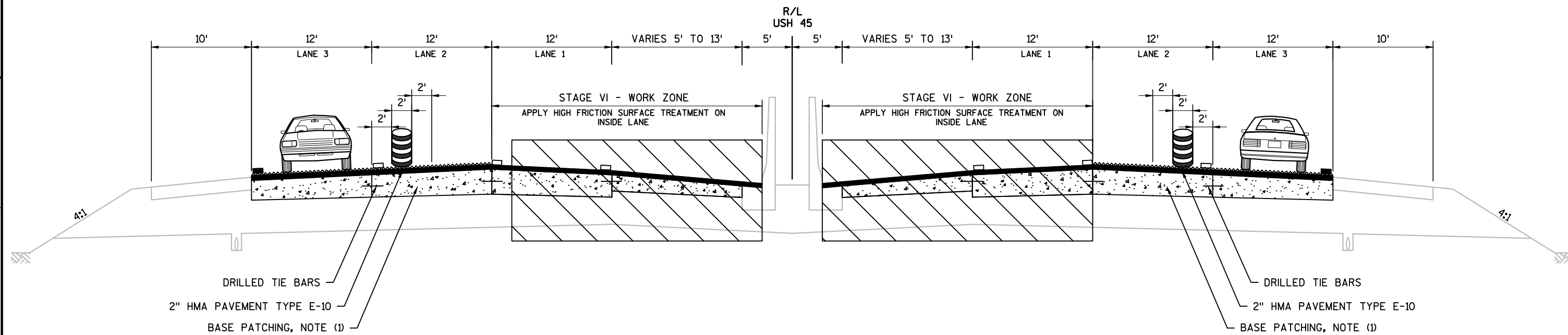
TYPICAL SECTION-STAGE V

USH 45

STA. 170+62 - STA. 179+35

NOTE:

- (1) SEE PLANS AND MISCELLANEOUS QUANTITIES FOR BASE PATCHING LOCATIONS. THE ENGINEER SHALL VERIFY LOCATION IN THE FIELD.
- (2) PERMANENT INSIDE EDGE LINE PAVEMENT MARKINGS ARE IN PLACE BEYOND STA. 170+65 TO STA. 179+35.



LEGEND

- PERMANENT PAVEMENT MARKINGS
- TEMPORARY PAVEMENT MARKINGS
- △△ HIGH FRICTION SURFACE TREATMENT

TRAFFIC CONTROL

TRAFFIC IN STAGE VI IS ON THE OUTSIDE LANE AND THE WORKZONE IS IN THE INSIDE LANE AND SHOULDER. THE MIDDLE LANE IS UTILIZED FOR THE PLACEMENT OF THE TRAFFIC CONTROL DEVICES.

OPERATIONS:

- APPLY HIGH FRICTION SURFACE TREATMENT ON INSIDE LANE.
- PLACE FINAL SAME DAY PAVEMENT MARKINGS ON THE INSIDE EDGE LINE BETWEEN STA. 170+62 AND STA. 179+35.
- PLACE TEMPORARY LANE LINE PAVEMENT MARKINGS BETWEEN LANE 1 AND LANE 2.

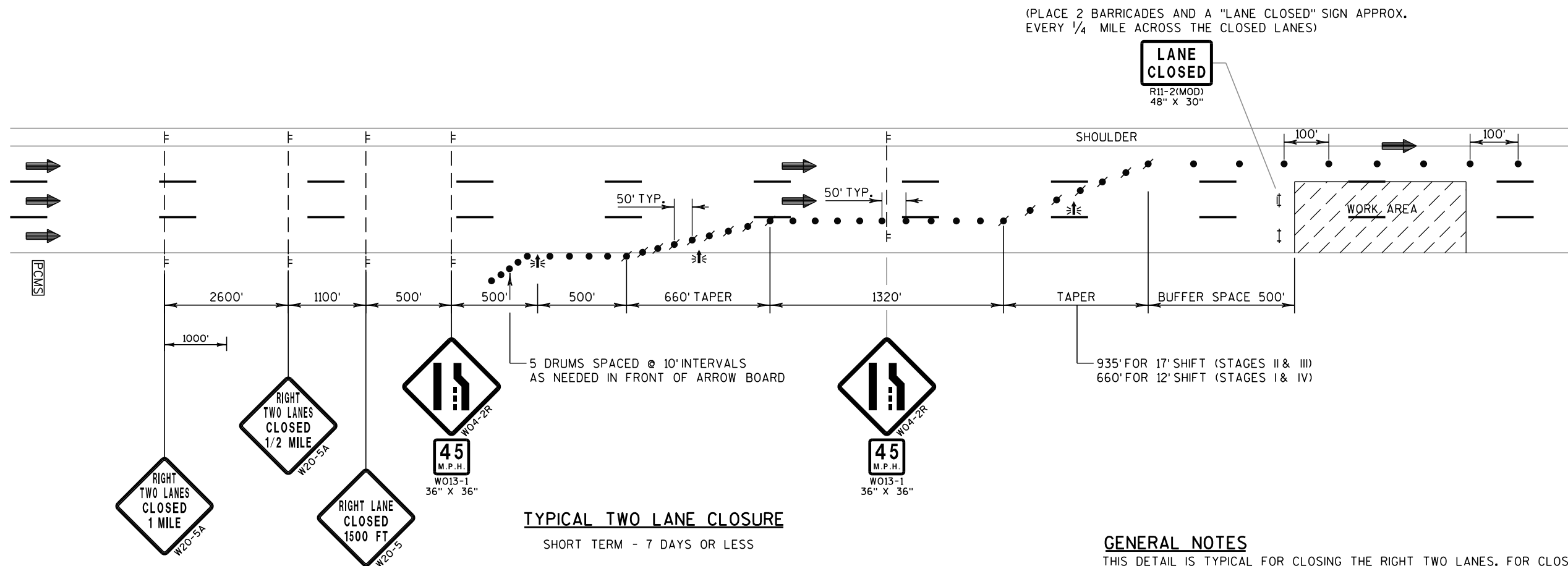
NOTE:

(1) SEE PLANS AND MISCELLANEOUS QUANTITIES FOR BASE PATCHING LOCATIONS. THE ENGINEER SHALL VERIFY LOCATION IN THE FIELD.

TYPICAL SECTION-STAGE VI

USH 45

STA. 170+62 - STA. 179+35



TYPICAL TWO LANE CLOSURE

SHORT TERM - 7 DAYS OR LESS

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⊢ SIGN ON TEMPORARY SUPPORT
- ↑ TYPE III BARRICADE
- ↑ TYPE III BARRICADE WITH SIGN
- ⚡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- PCMS PORTABLE CHANGEABLE MESSAGE BOARD

TYPICAL TWO LANE CLOSURE SPEEDS 45 MPH OR GREATER

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

REMOVE OR COVER ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

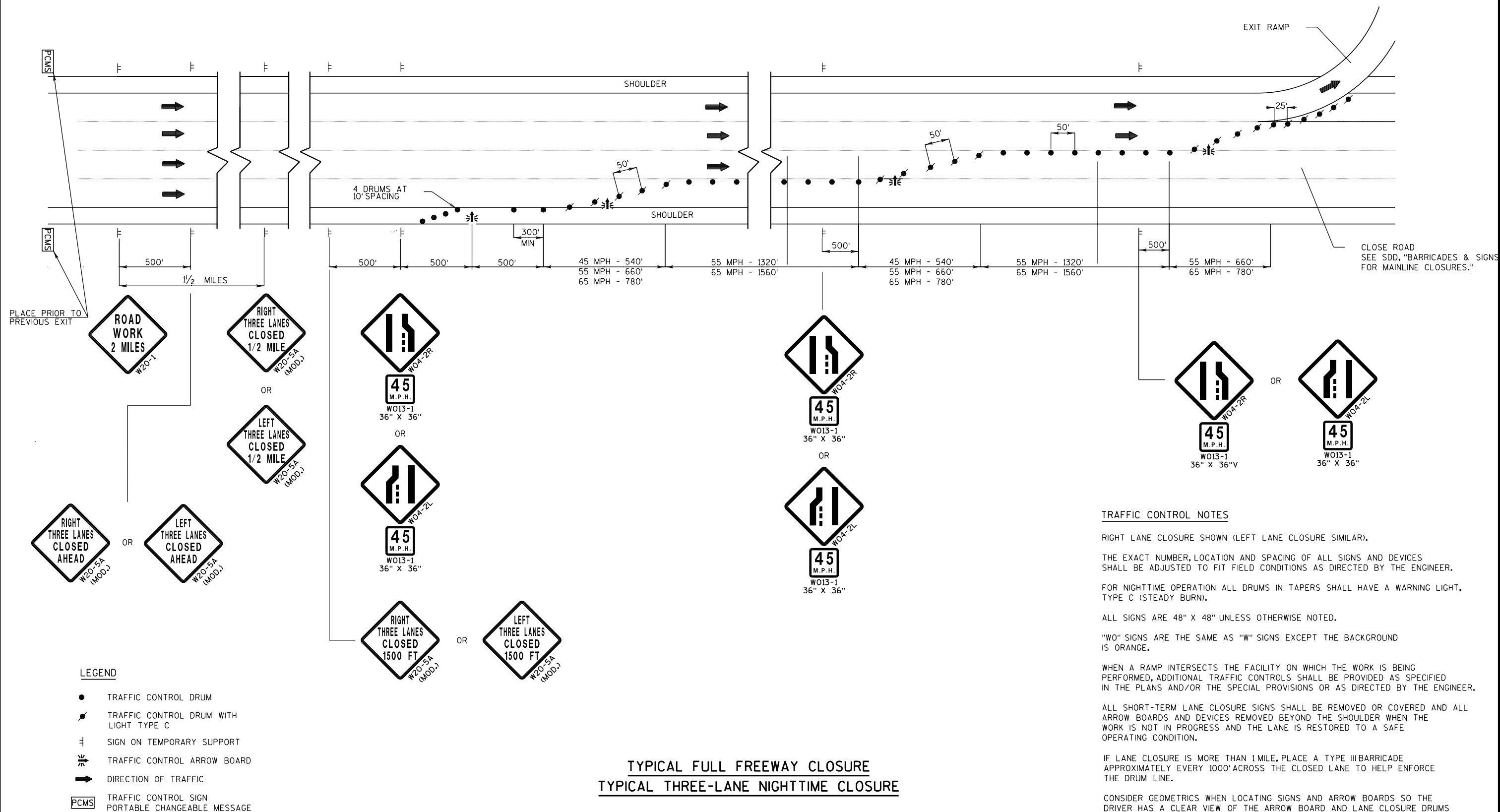
WHEN A RAMP OR SIDE ROAD INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

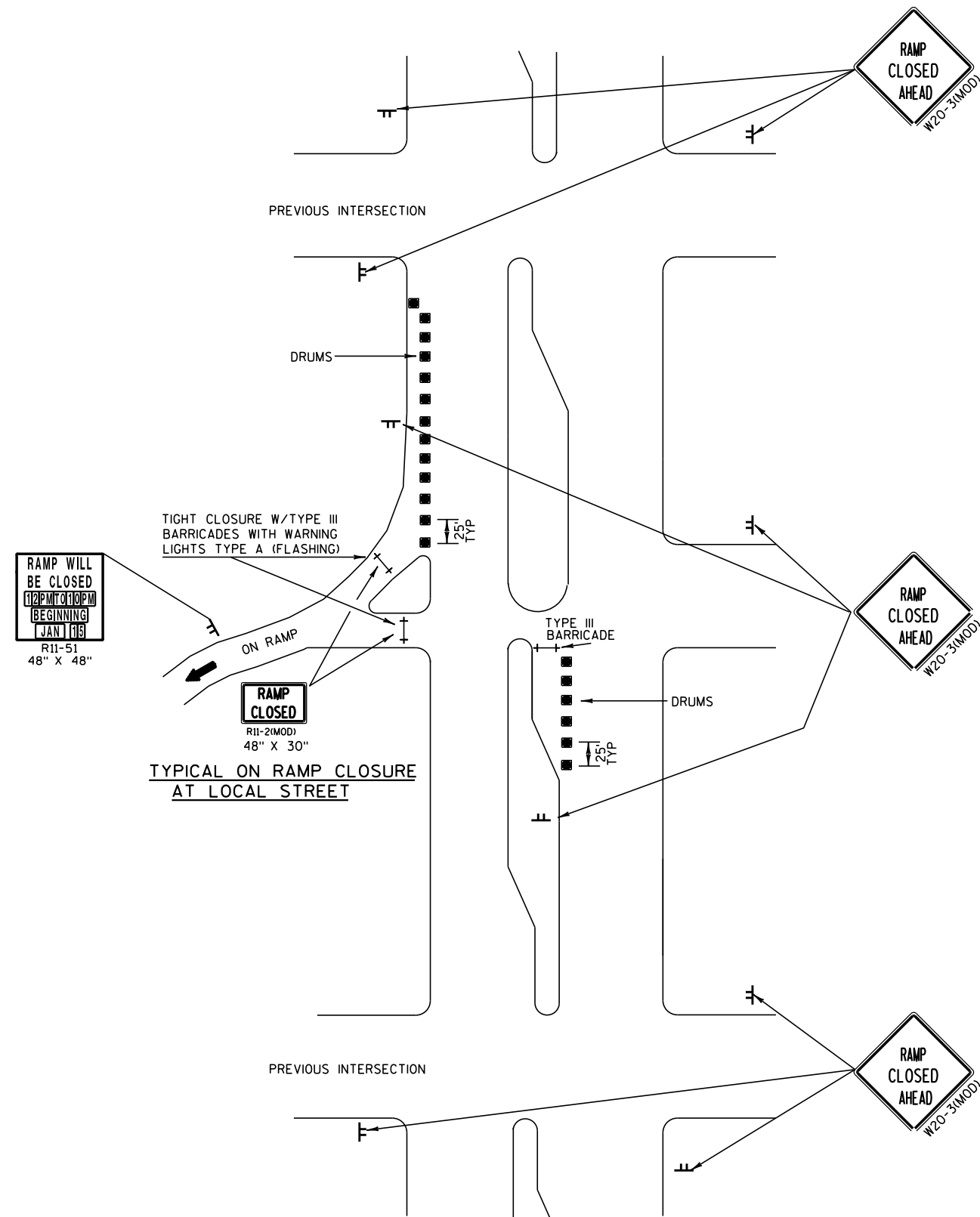
IMMEDIATELY RE-ESTABLISH BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION, UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

PULL BACK CHANNELIZING DEVICES, PLACED ADJACENT TO WORK AREA, FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

THIS DETAIL IS TYPICAL FOR NIGHT TIME HOURS 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.

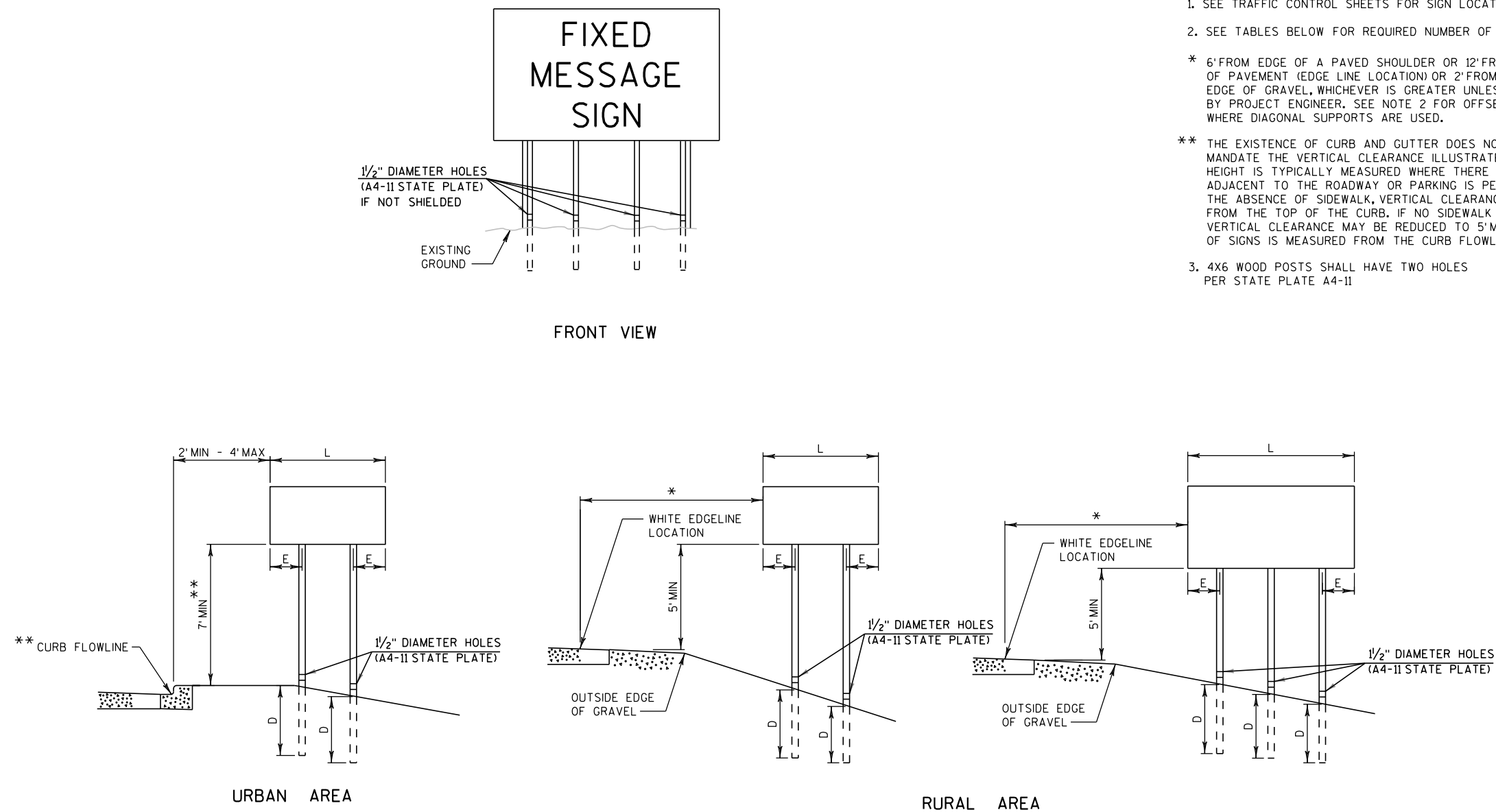
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

LEGEND

- DRUM WITH WARNING LIGHT, TYPE C
- DRUM
- ⊥ SIGN ON TEMPORARY SUPPORT FOR SHORT TERM 3 DAYS OR LESS
- ⊥ TYPE III BARRICADE
- ⊗ WARNING LIGHT, TYPE A (FLASHING)

TRAFFIC CONTROL FOR ON-RAMP CLOSURE (SHORT TERM ONLY)



NOTES

1. SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.
2. SEE TABLES BELOW FOR REQUIRED NUMBER OF POSTS.
- * 6' FROM EDGE OF A PAVED SHOULDER OR 12' FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2' FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY PROJECT ENGINEER. SEE NOTE 2 FOR OFFSET REQUIREMENTS WHERE DIAGONAL SUPPORTS ARE USED.
- ** 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' MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
3. 4X6 WOOD POSTS SHALL HAVE TWO HOLES PER STATE PLATE A4-II

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
GREATER THAN 48" LESS THAN 60"	12"
60" TO 120"	L/5

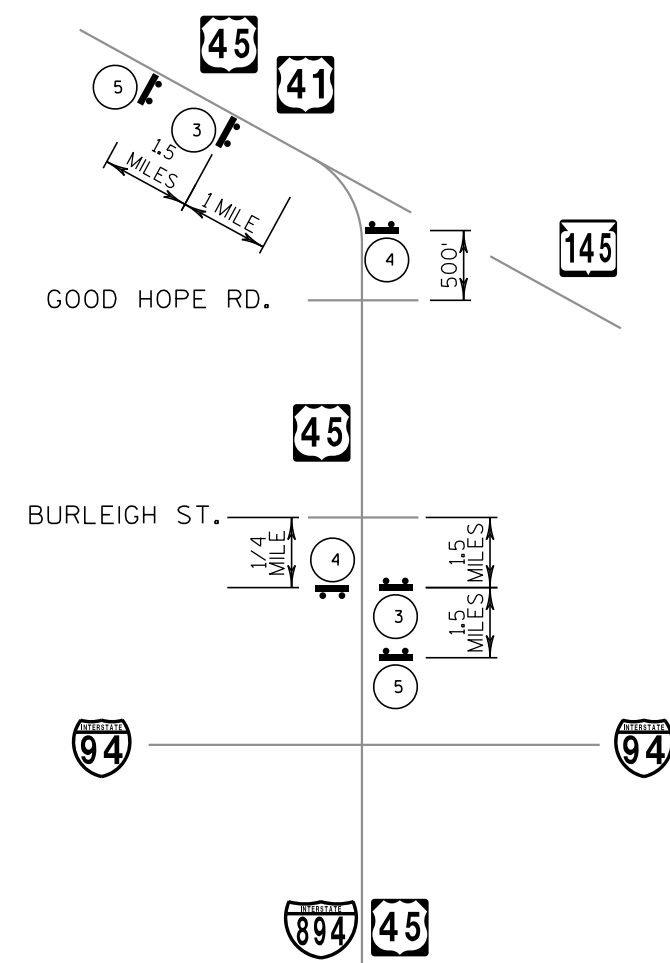
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
GREATER THAN 120" LESS THAN 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" AND GREATER	12"

POST EMBEDMENT DEPTH

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

POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS



EXISTING SPEED
LIMIT SIGN

W21-62Q
30" X 48"

**WORK
ZONE**

**SPEED
LIMIT
55**

**FINES
DOUBLE**

W21-62R
30" X 48"

PROPOSED SPEED
LIMIT SIGN

W21-62Q
30" X 48"

**WORK
ZONE**

**SPEED
LIMIT
55**

**FINES
DOUBLE**

W21-62R
30" X 48"

APPROXIMATE LOCATIONS OF SPEED LIMIT SIGNS

NORTHBOUND	SOUTHBOUND
254+20 MI	281+70 MI
320+60 MI	315+10 MI
72+00 MI	29+30 MI
	83+12 MI (ON UPRIGHT)
	96+00 MI (ON BRIDGE)

3

**FINES
DOUBLE
IN WORK
ZONES**

\$200 MINIMUM

**Give 'em a
BRAKE
SLOW
DOWN**

W21-62
96" X 48"

W21-62P
96" X 12"

4

**END
ROAD WORK**

G20-2A
48" X 24"

5

**ROAD
WORK
AHEAD**

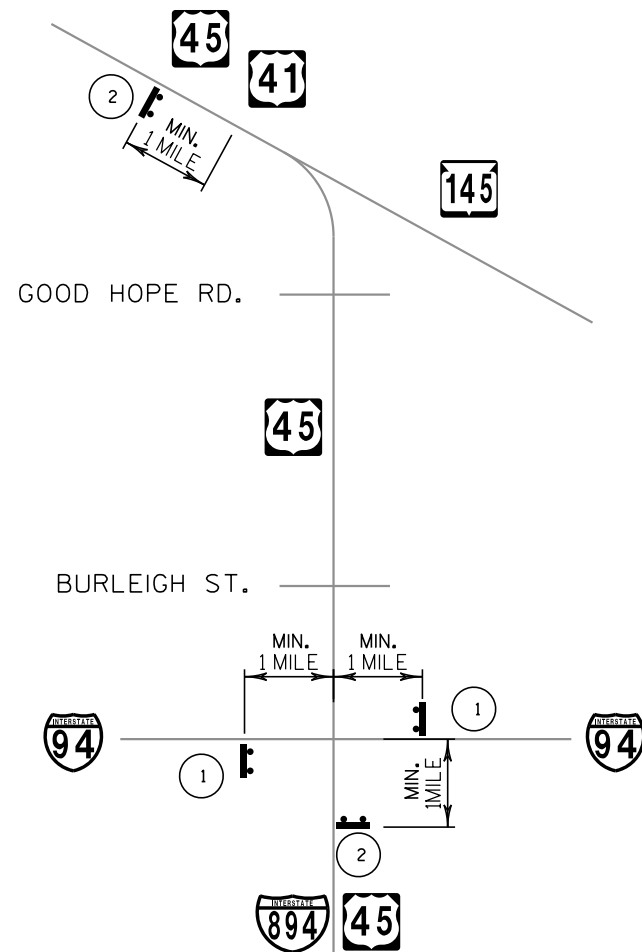
W20-1

GENERAL NOTES:

1. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
 2. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.
 3. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."
 4. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.
- (X) = SIGN NUMBER

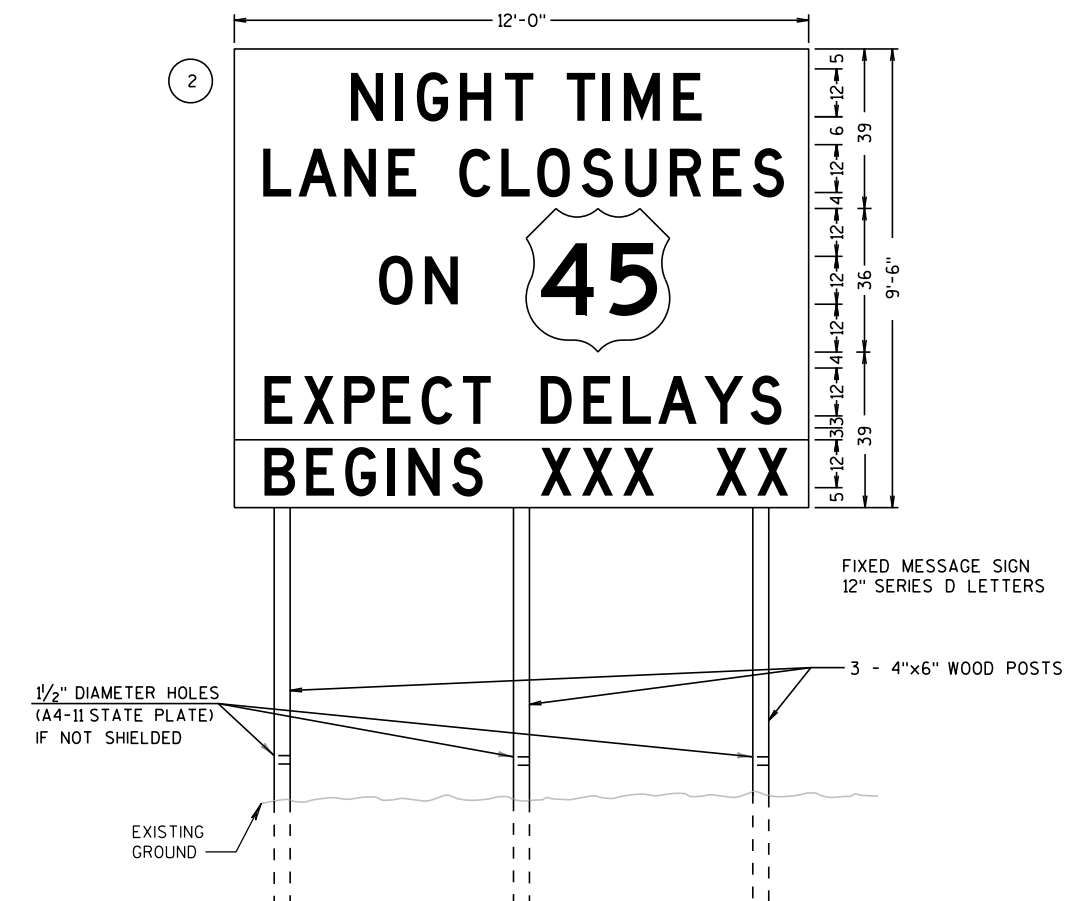
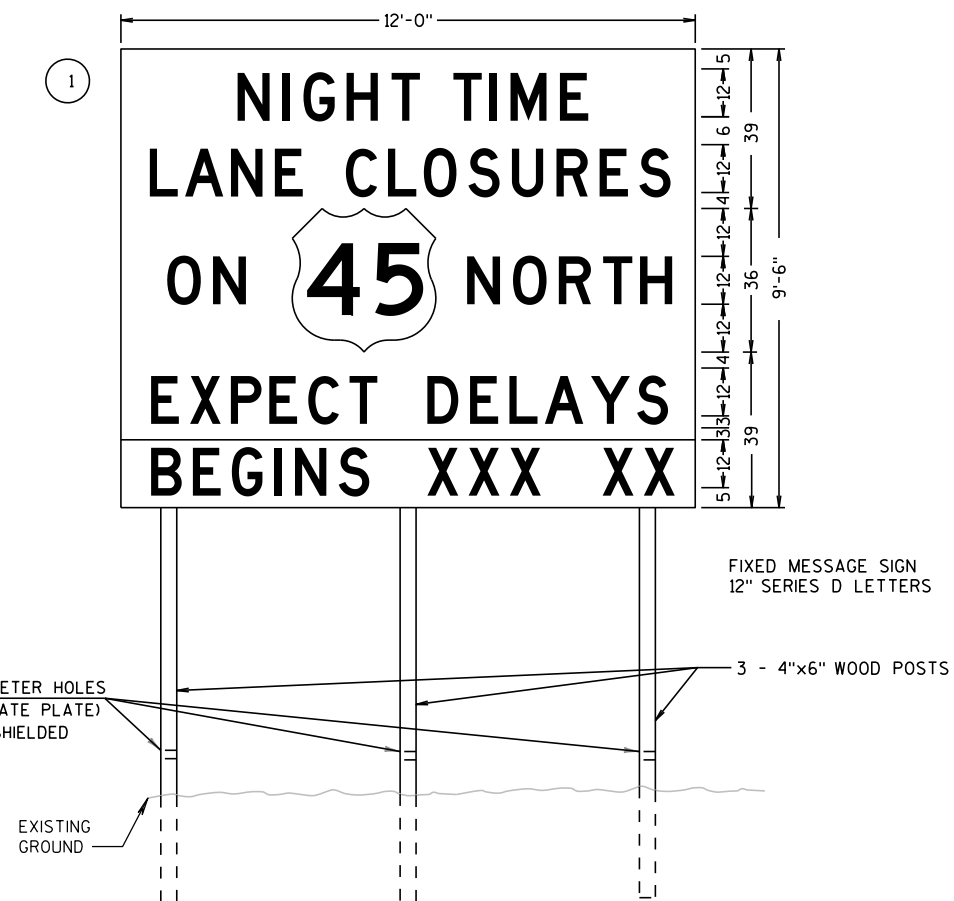
NOTE:

- ADD WORK ZONE SIGNS 3, 4, AND 5 AS SHOWN.
- ADD FINES DOUBLE SIGN AS SHOWN TO EXISTING "SPEED LIMITS 55" SIGNS THROUGH PROJECT LIMITS. THE WORK ZONE AND FINES DOUBLE SIGNS SHALL BE MOUNTED ON THE NEW SPEED LIMIT SIGNS AFTER THOSE ARE IN PLACE, UNTIL CONSTRUCTION IS COMPLETE.
- ADD "ROAD WORK AHEAD" SIGNS WITHIN EACH ENTRANCE RAMP.

**GENERAL NOTES:**

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.
2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.
4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."
5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
12" CAPS SHALL BE SERIES "D"
6" CAPS SHALL BE SERIES "C"
7. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.
8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
9. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.
10. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

(X) = SIGN NUMBER

**FOR PLAN SHEETS****LEGEND: FIXED MESSAGE SIGNS**

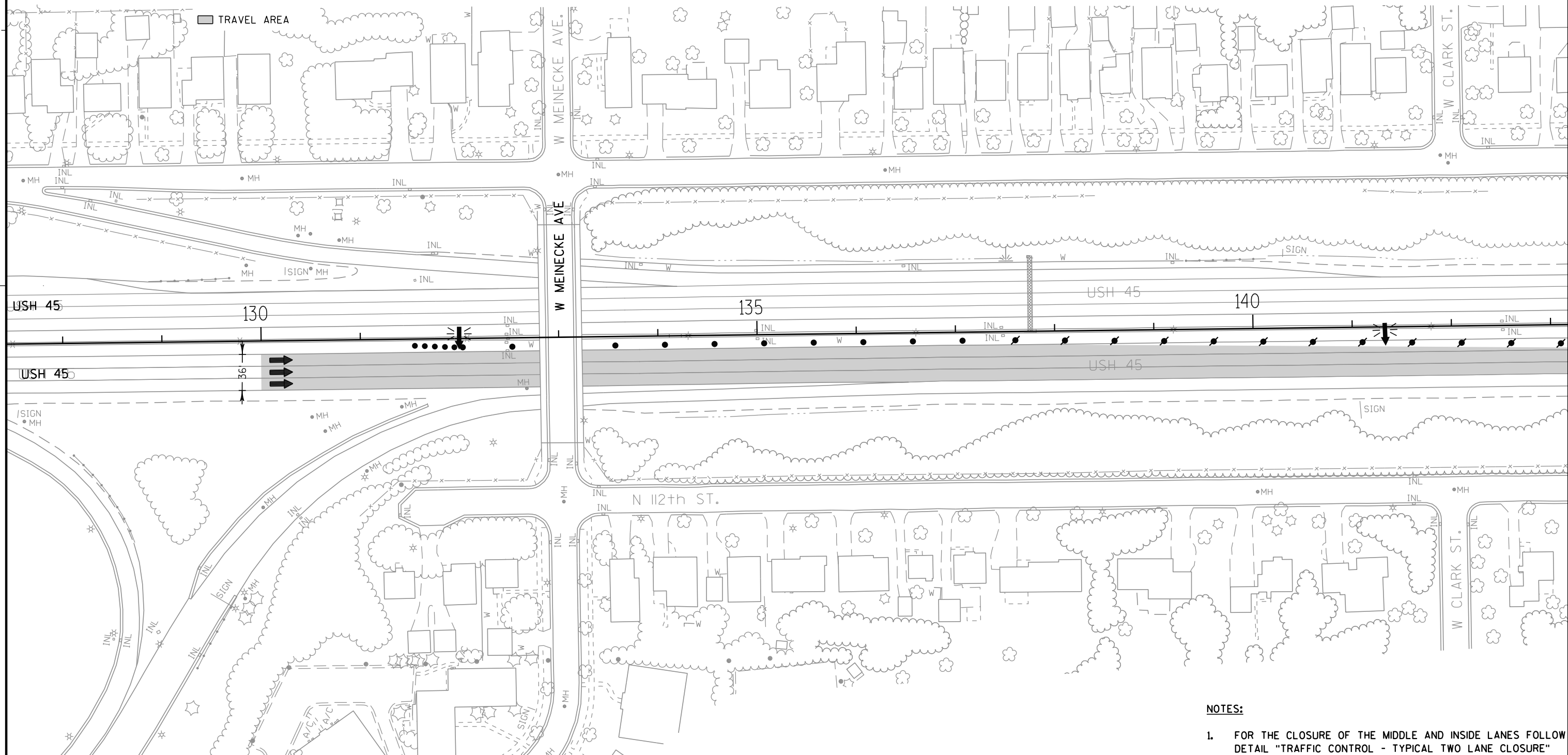
- EXISTING GUIDE SIGN TO BE COVERED
- FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS
- (XX) FIXED MESSAGE SIGN NUMBER
- (A1) CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
- CMS CHANGEABLE MESSAGE SIGN

NOTES: FIXED MESSAGE SIGNS

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.
2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.
4. COVER DETOUR SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.
5. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIA

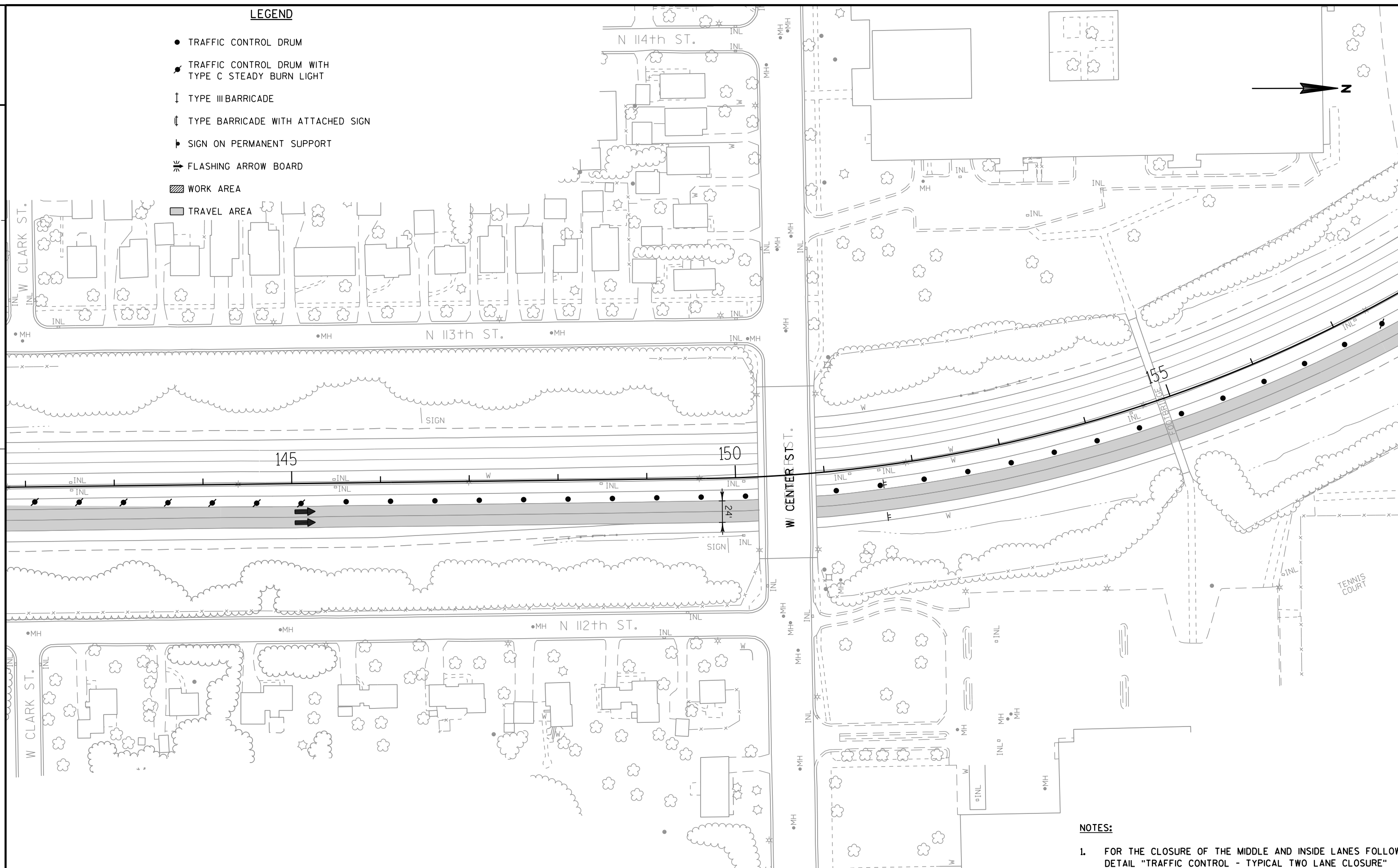
SHEET

117

E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

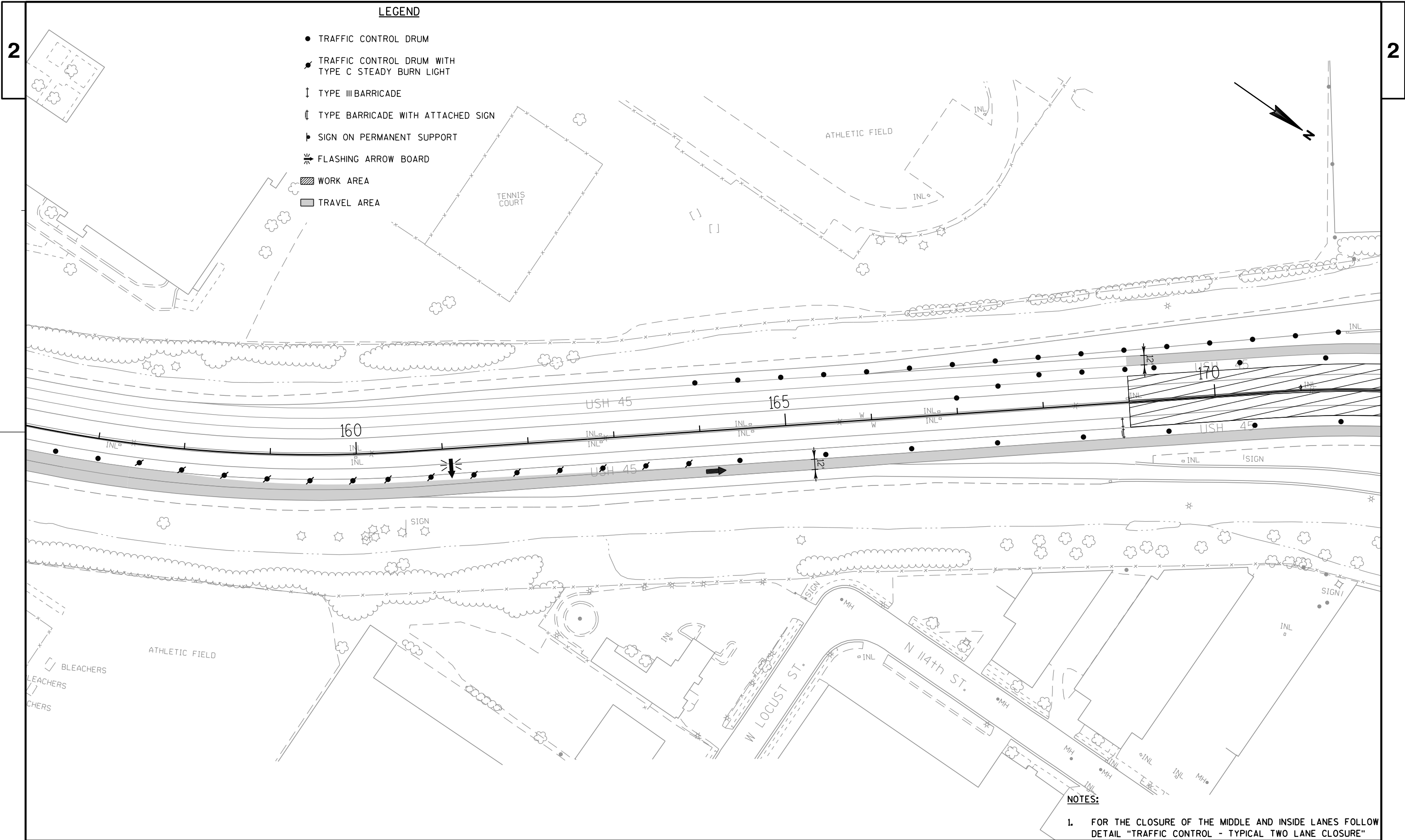
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIA

SHEET

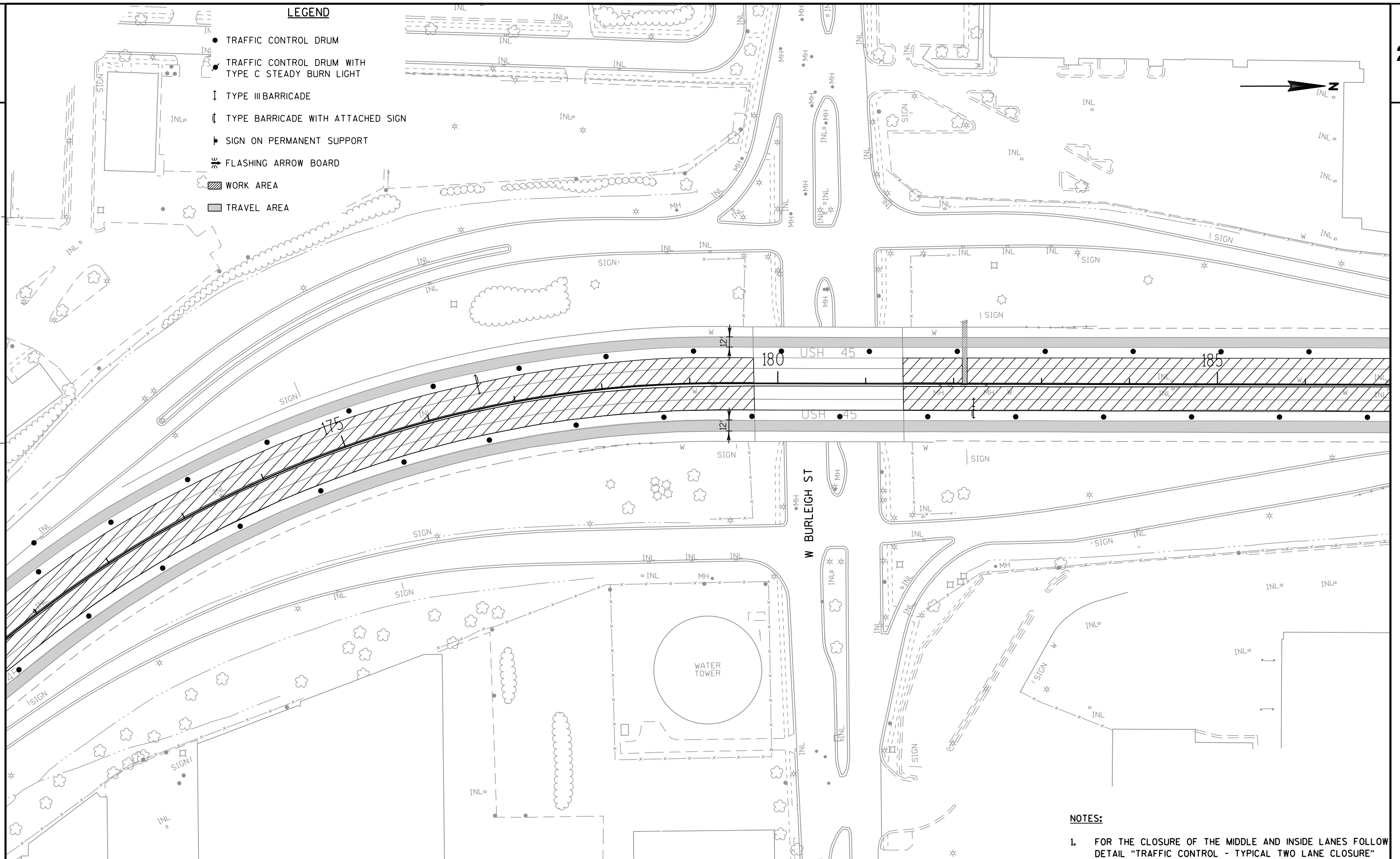
118

E



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

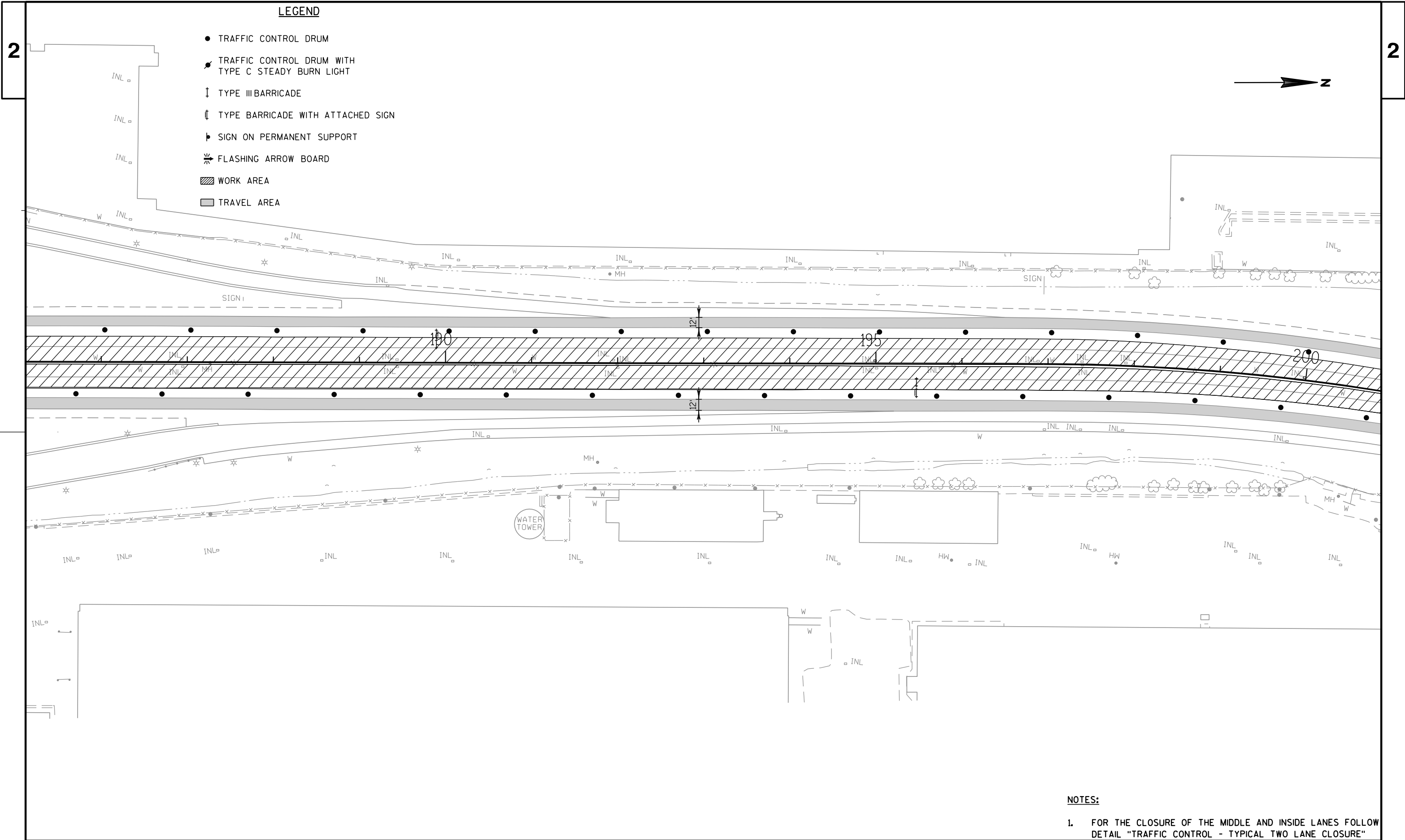
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIA

SHEET

120

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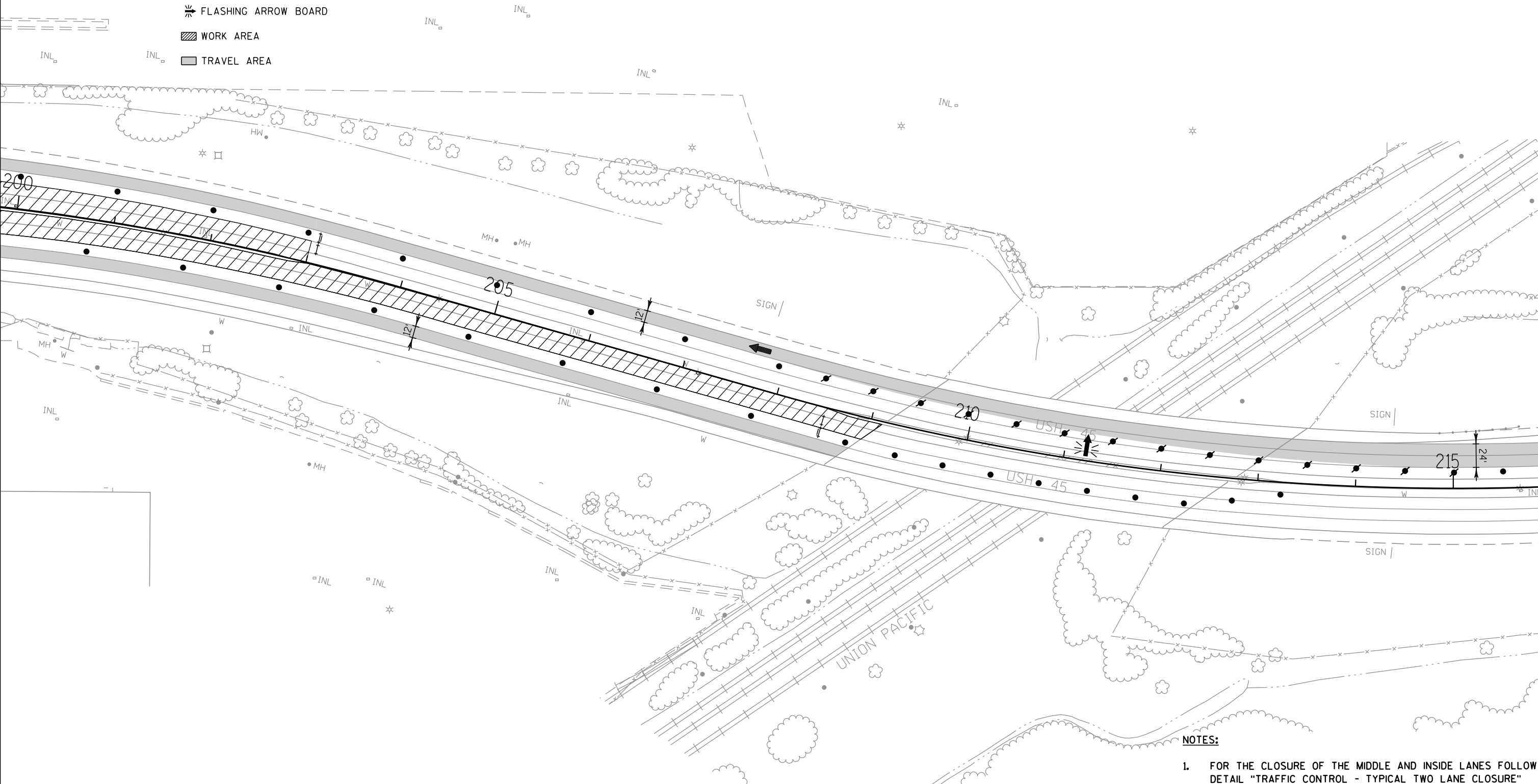


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

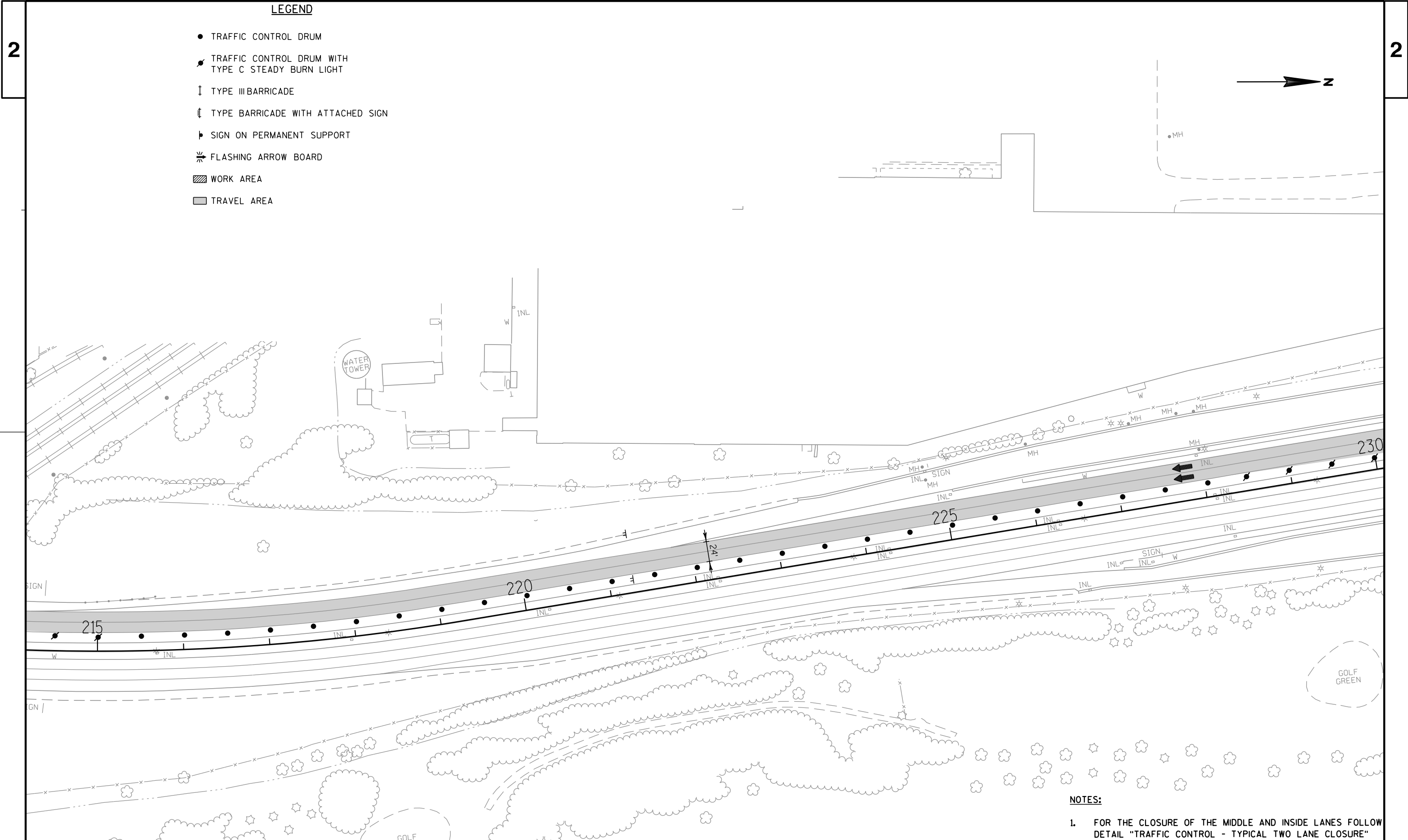
LEGEND

- TRAFFIC CONTROL DRUM
- ✱ TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⌄ TYPE III BARRICADE
- ⌄ TYPE BARRICADE WITH ATTACHED SIGN
- ♣ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
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NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

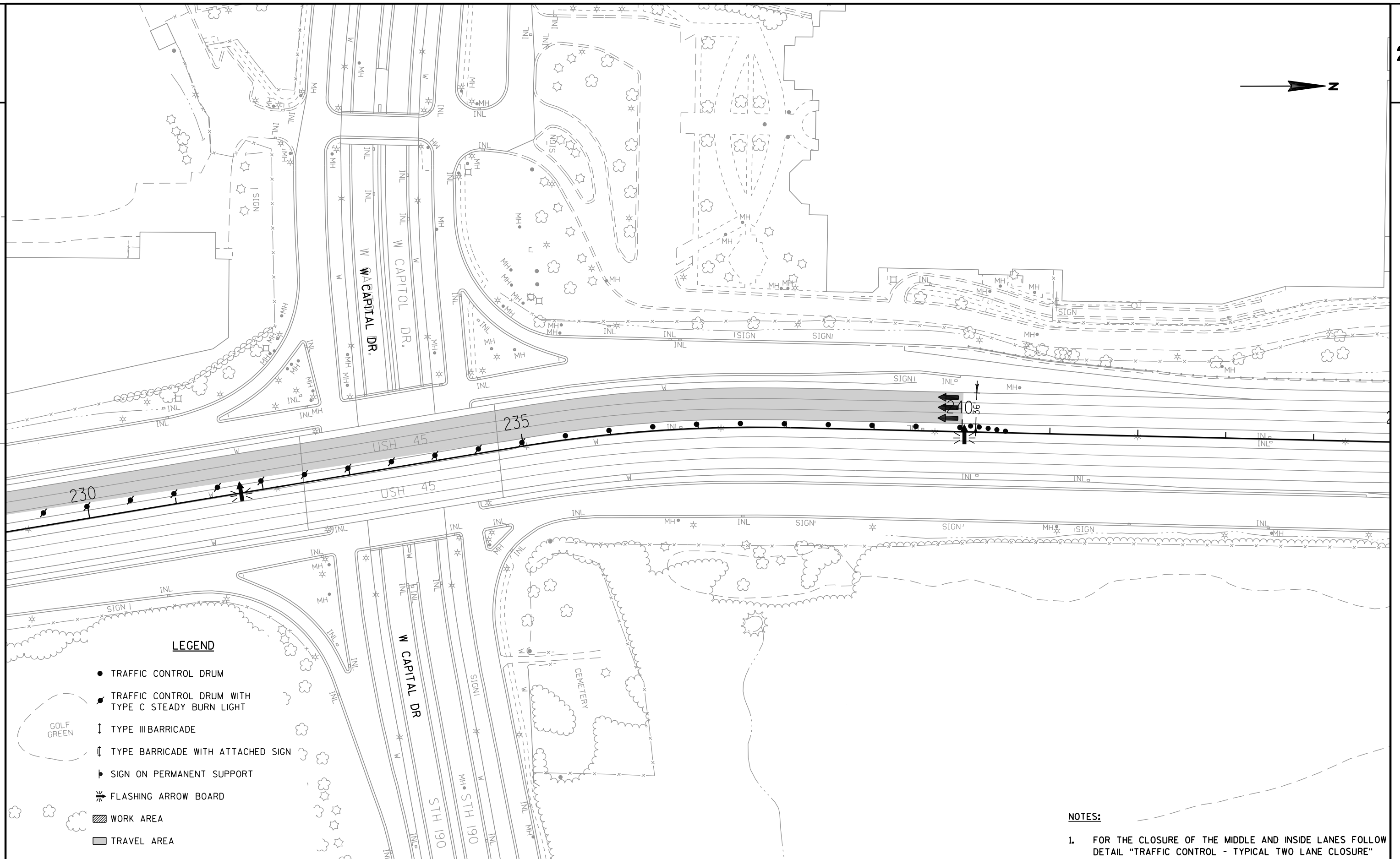
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIA

SHEET

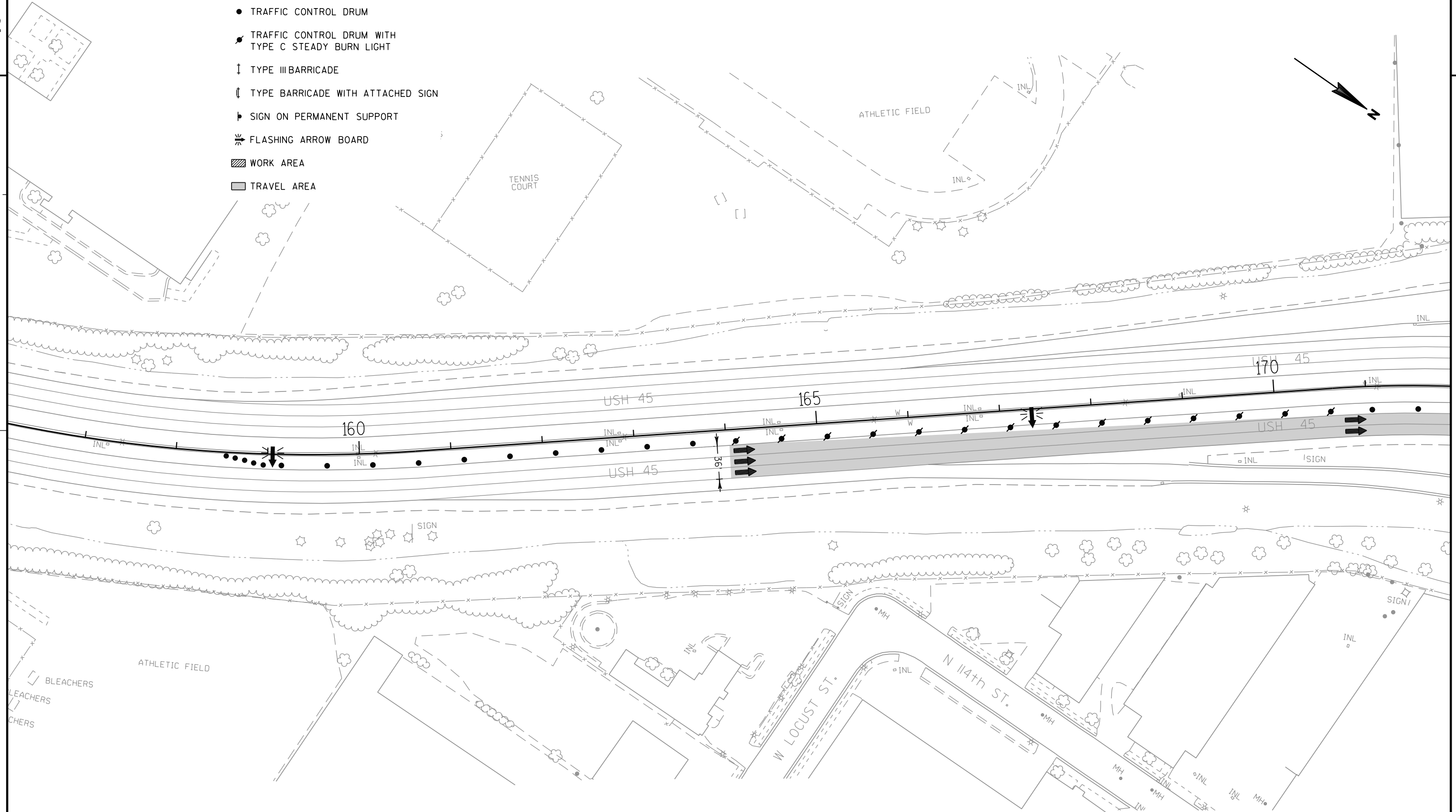
123

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LEGEND

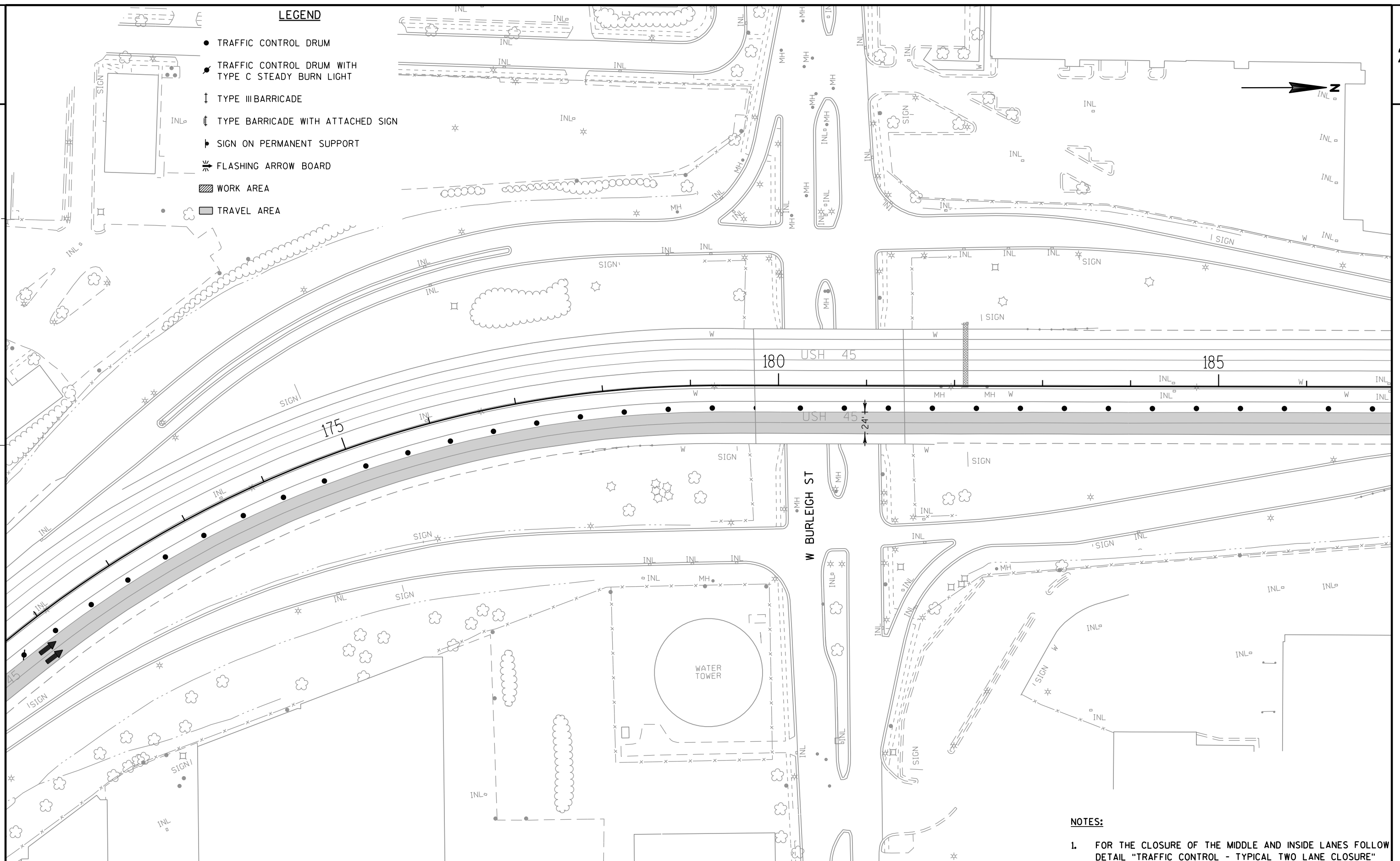
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
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NOTES:
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DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
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**NOTES:**

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DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

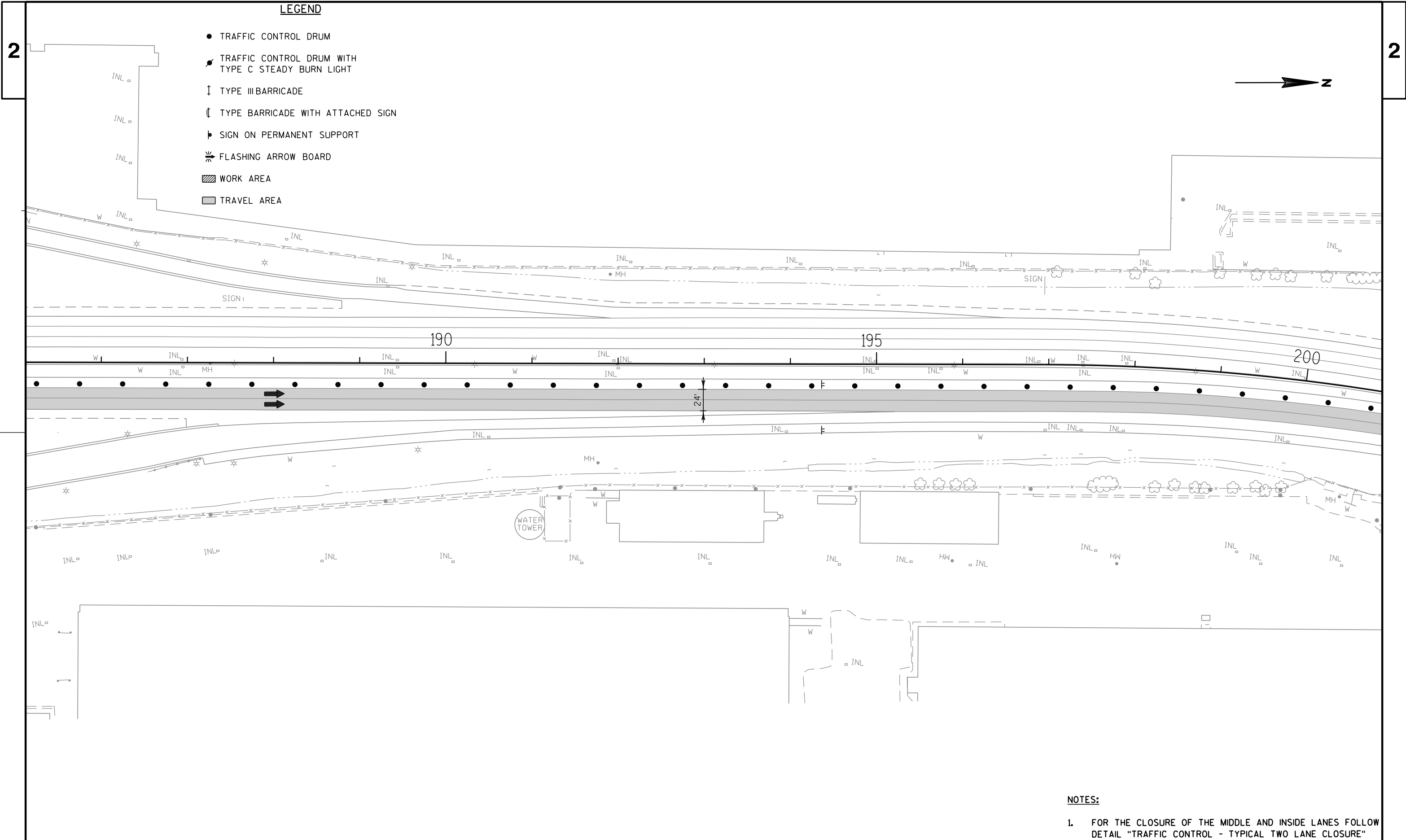
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIB

SHEET

126

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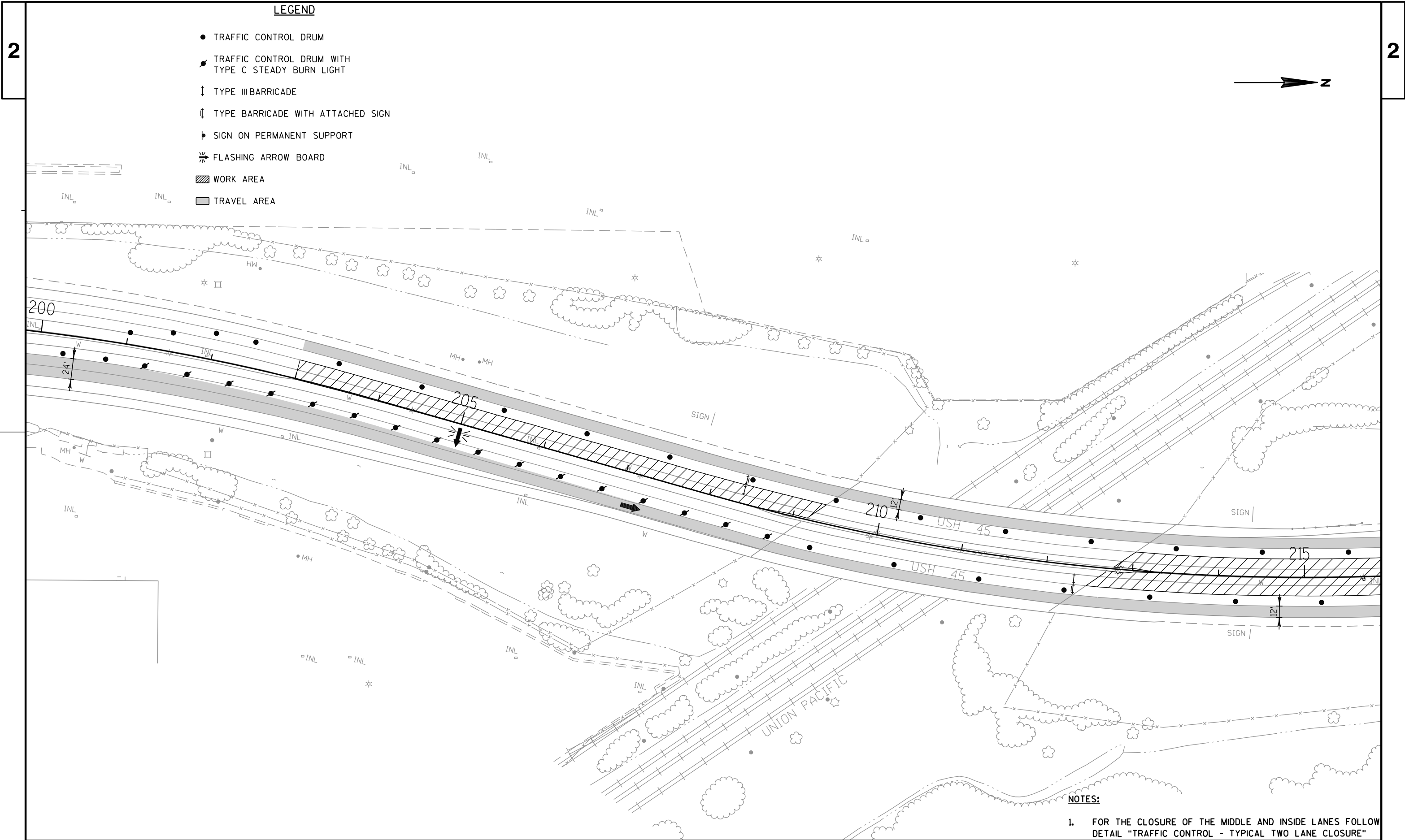


LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⌄ TYPE III BARRICADE
- ⌄ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

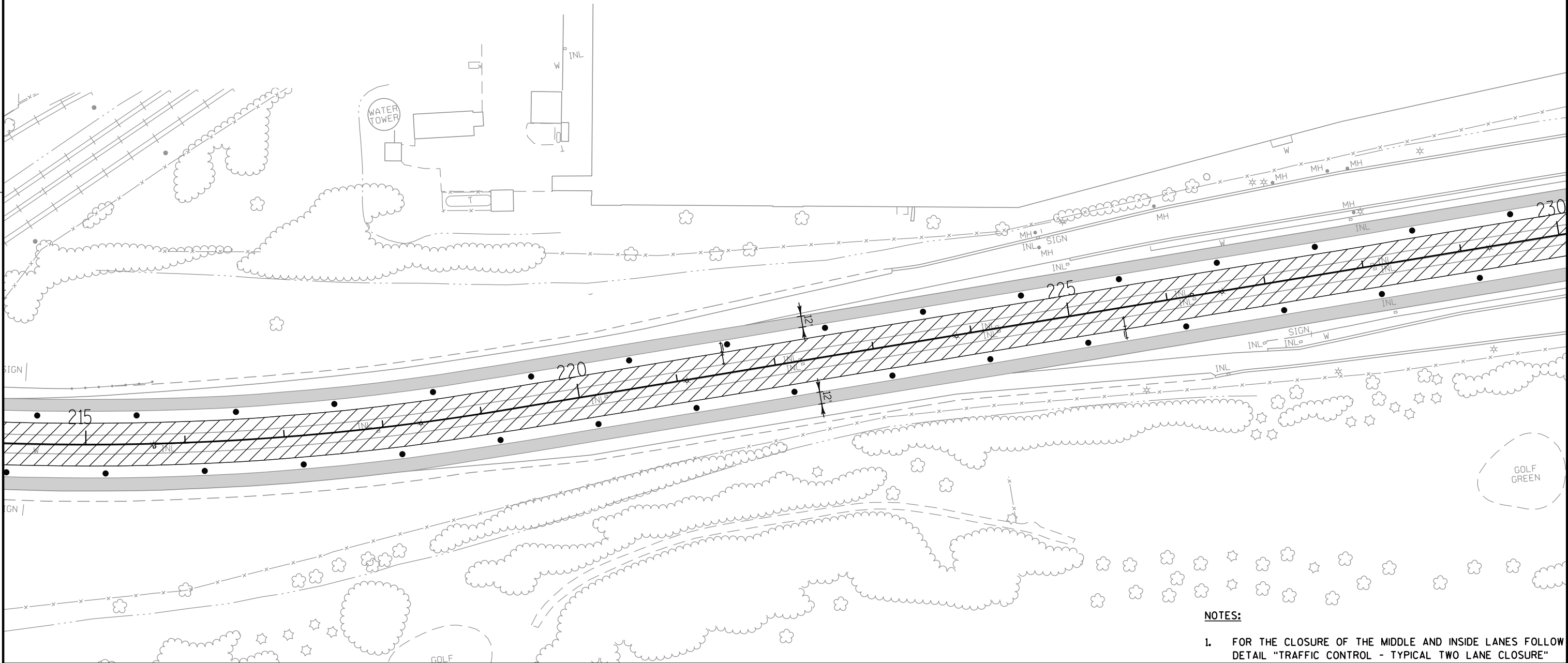
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



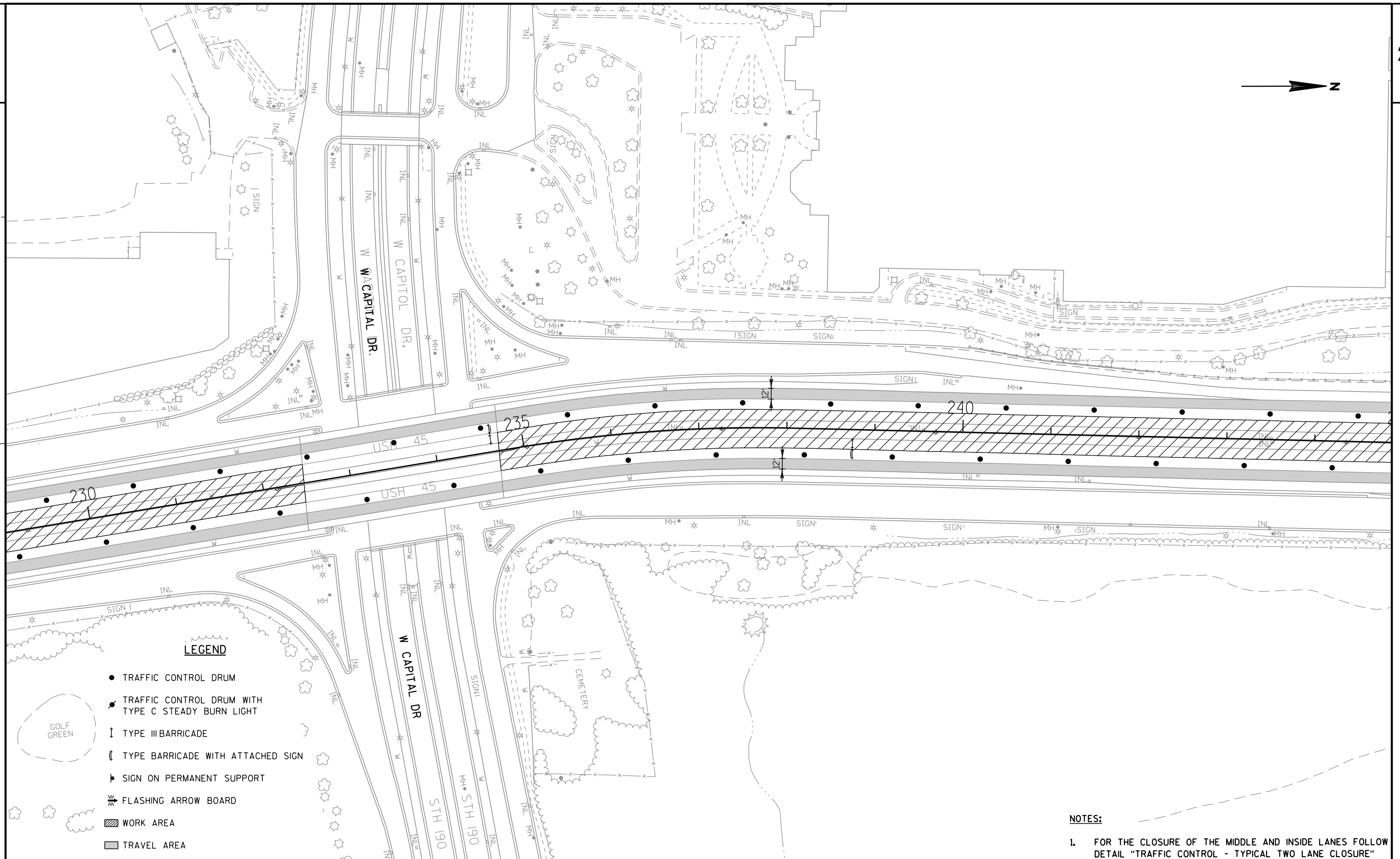
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
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- ▭ TRAVEL AREA



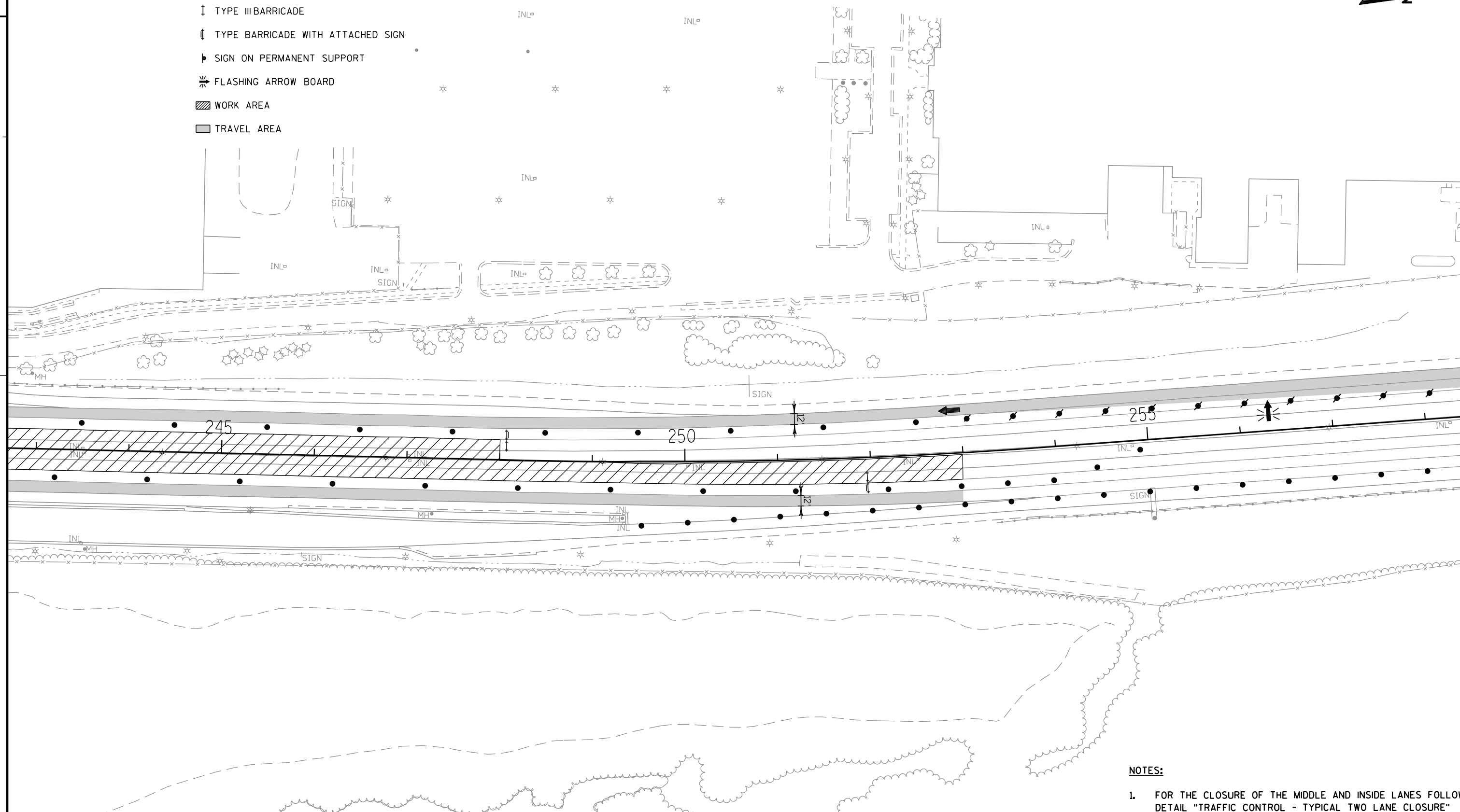
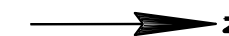
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1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



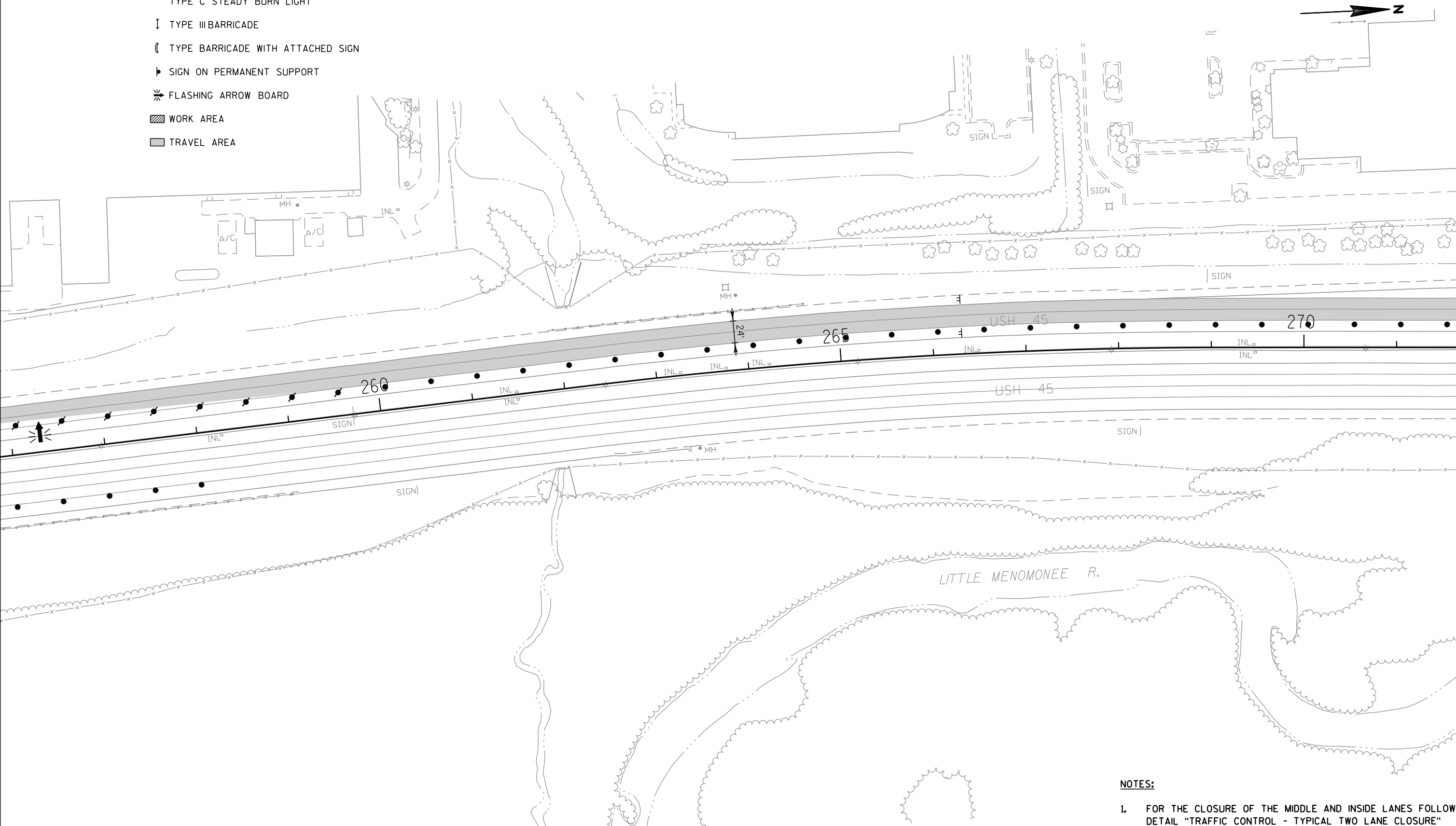
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ‡ TYPE III BARRICADE
- ‡ TYPE BARRICADE WITH ATTACHED SIGN
- ‡ SIGN ON PERMANENT SUPPORT
- ➡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



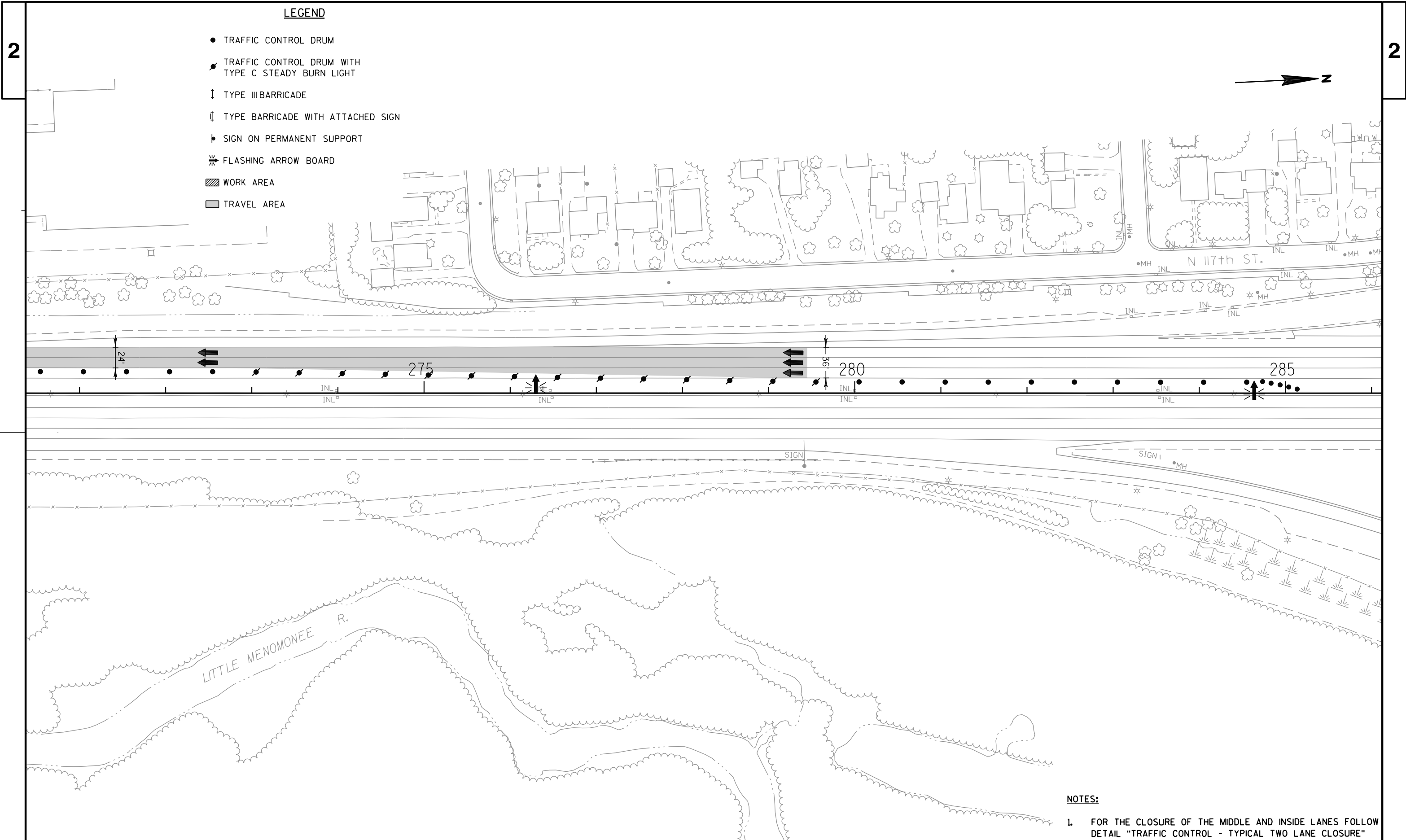
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
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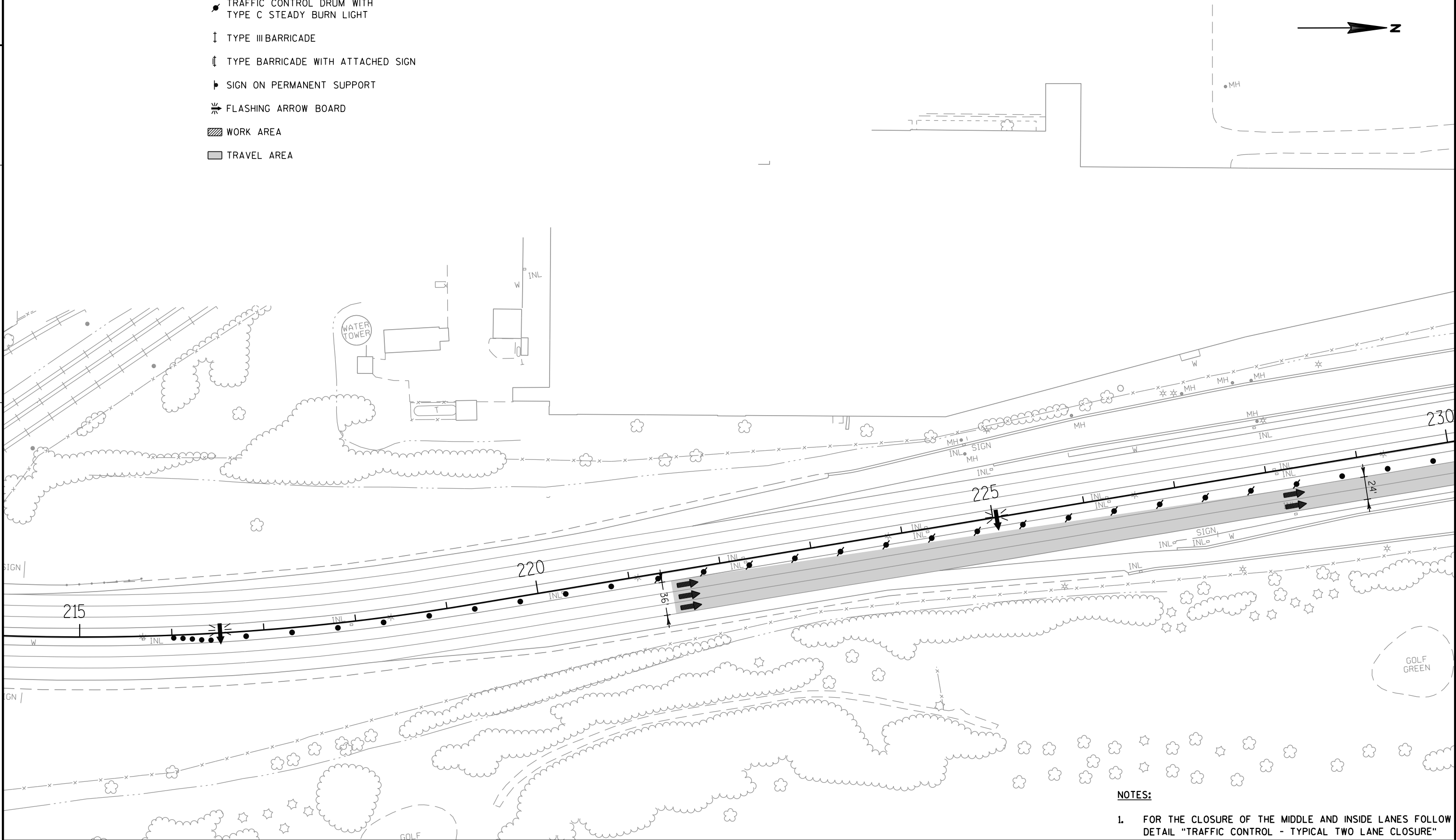
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



LEGEND

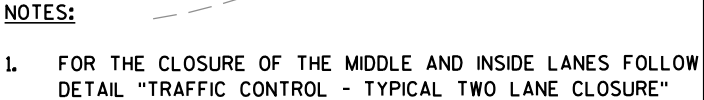
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▬ SIGN ON PERMANENT SUPPORT
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- ▭ TRAVEL AREA



NOTES:

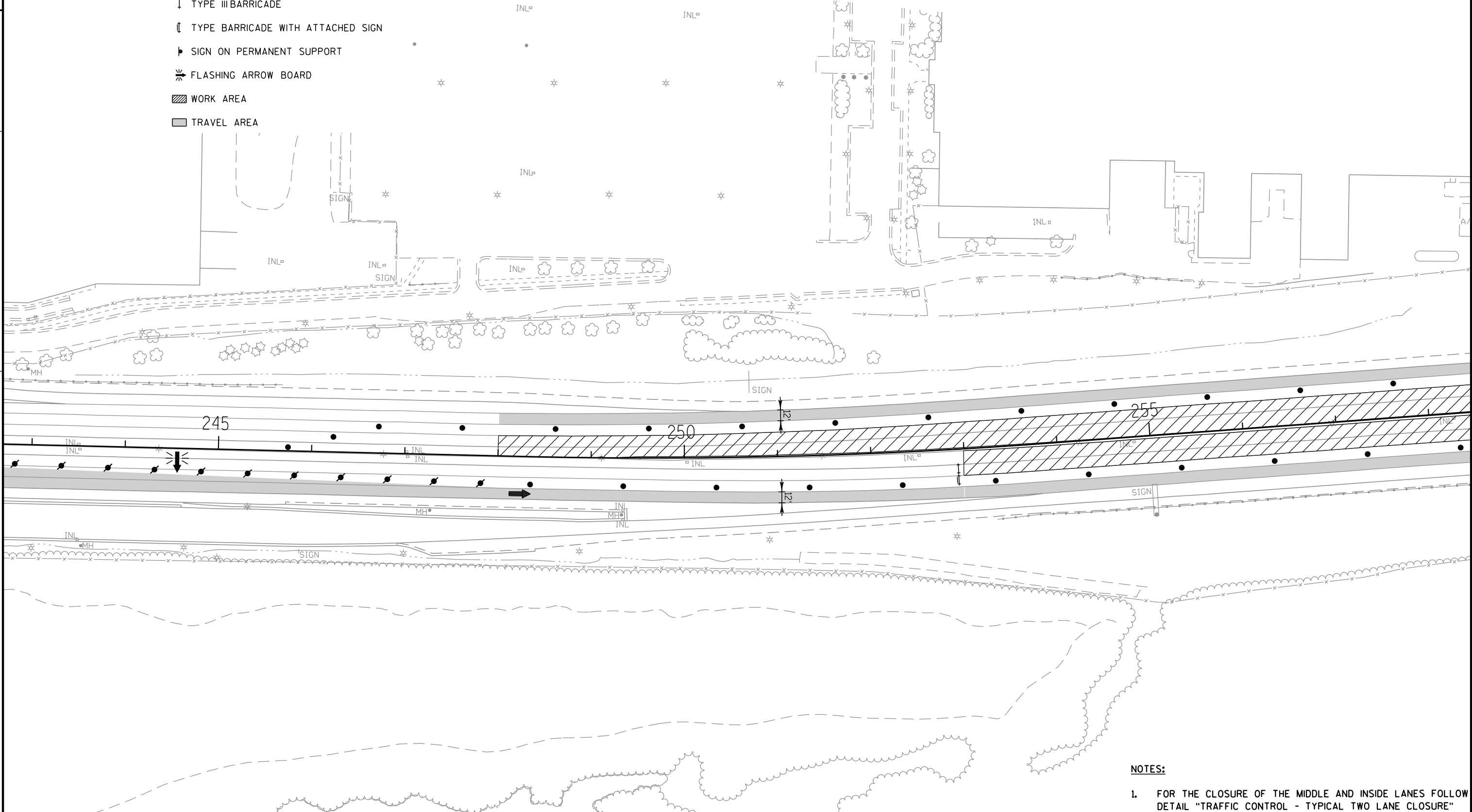
1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

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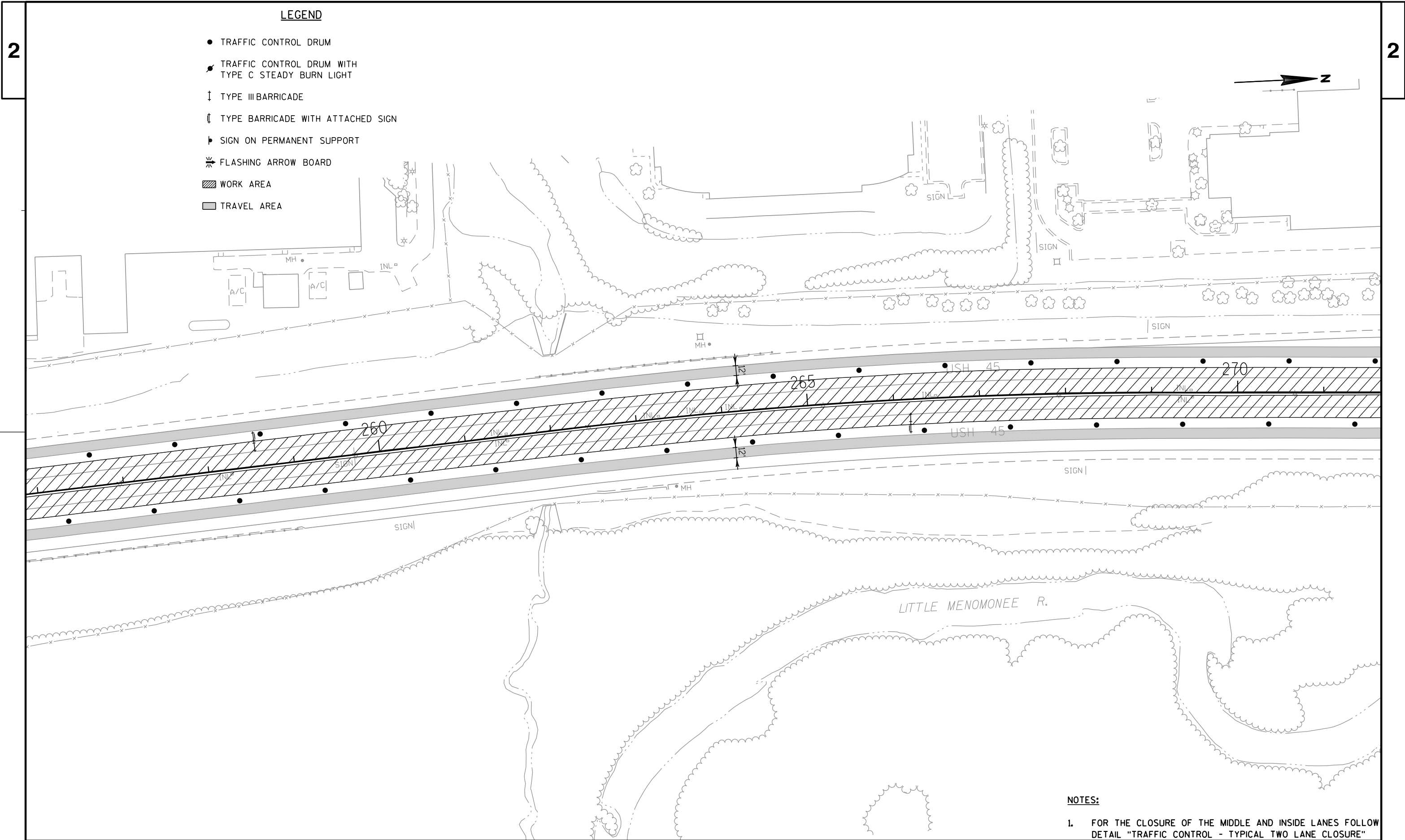
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
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NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIC

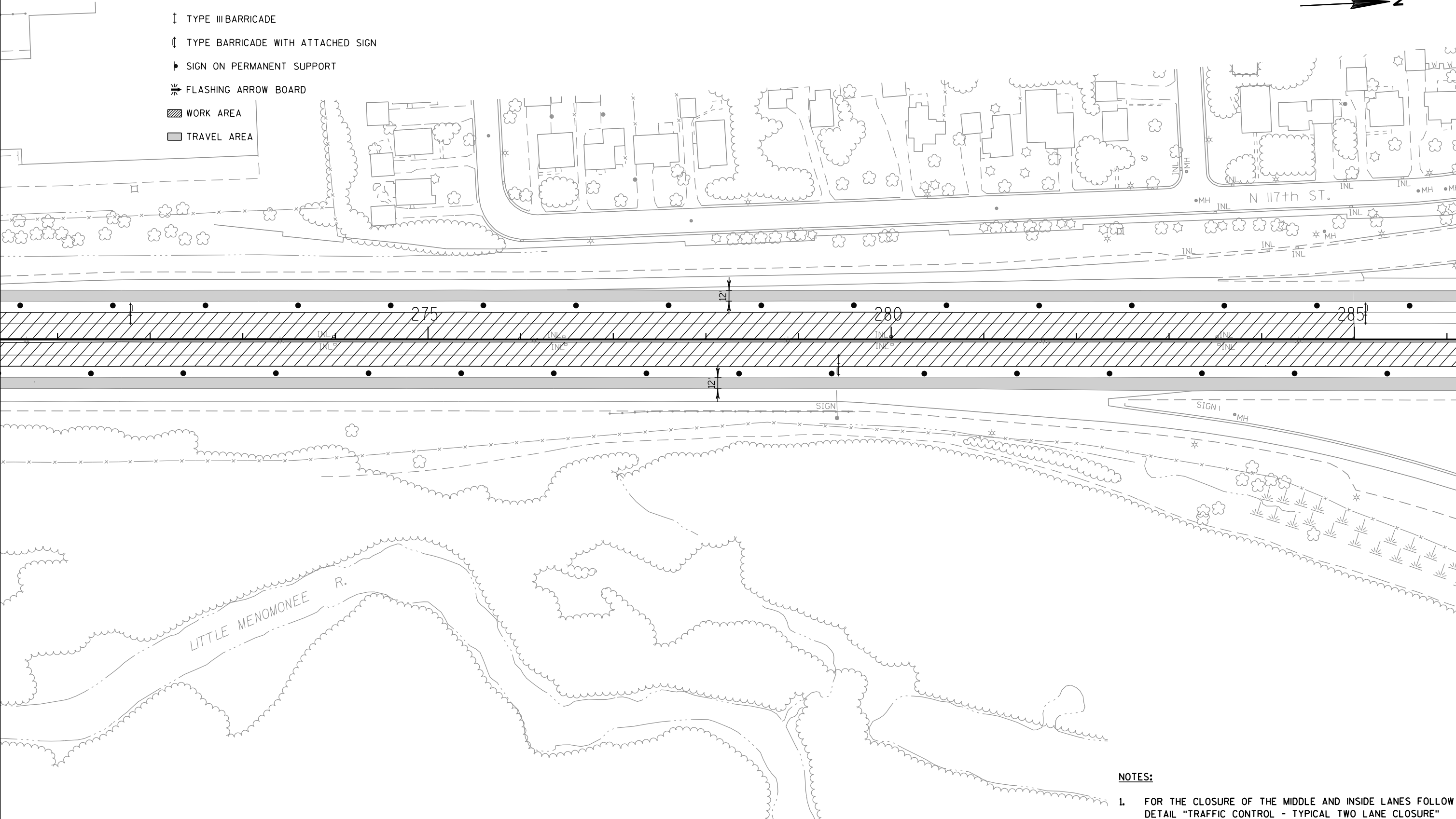
SHEET

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LEGEND

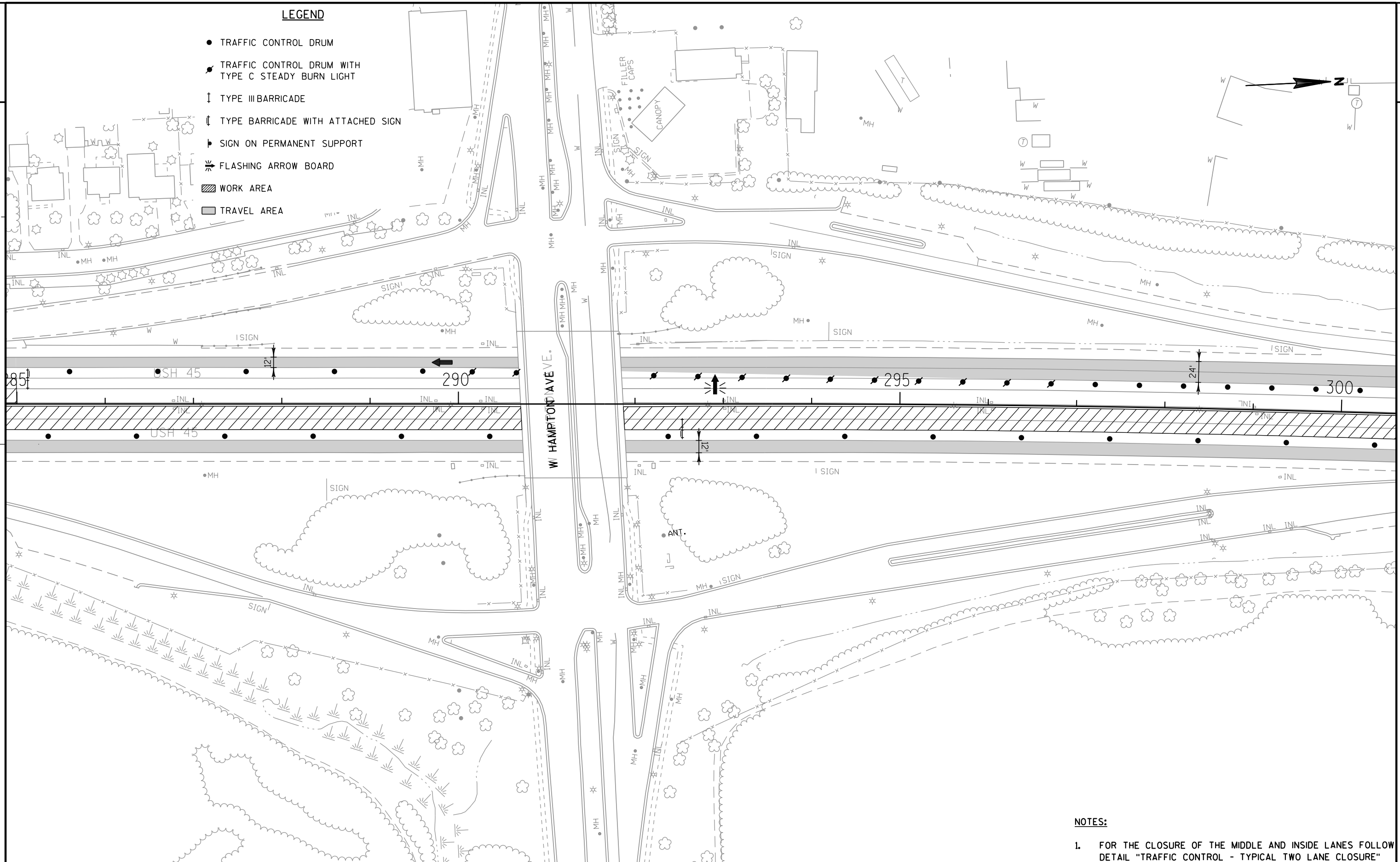
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
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- NOTES:
1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

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NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIC

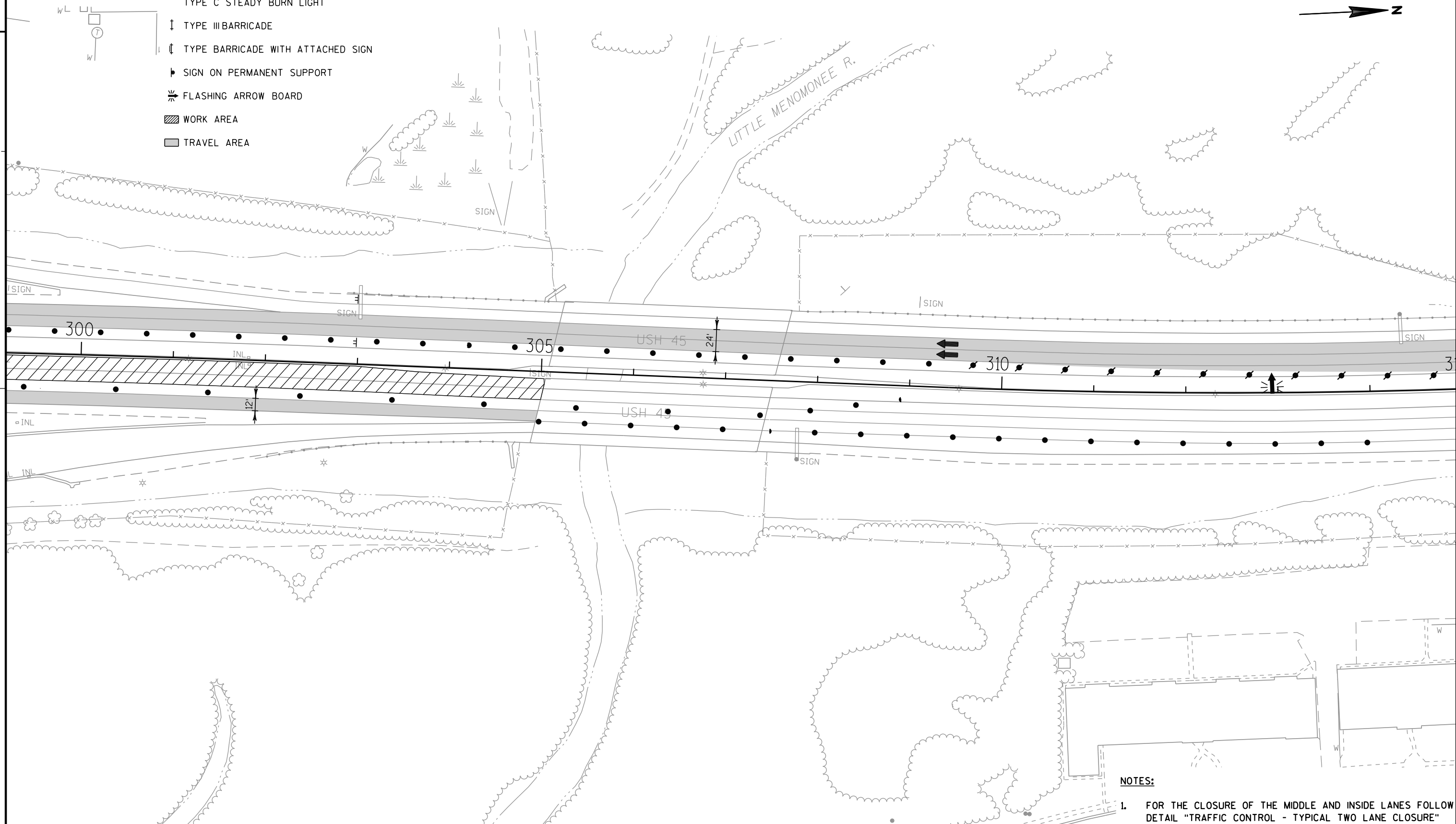
SHEET

139

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

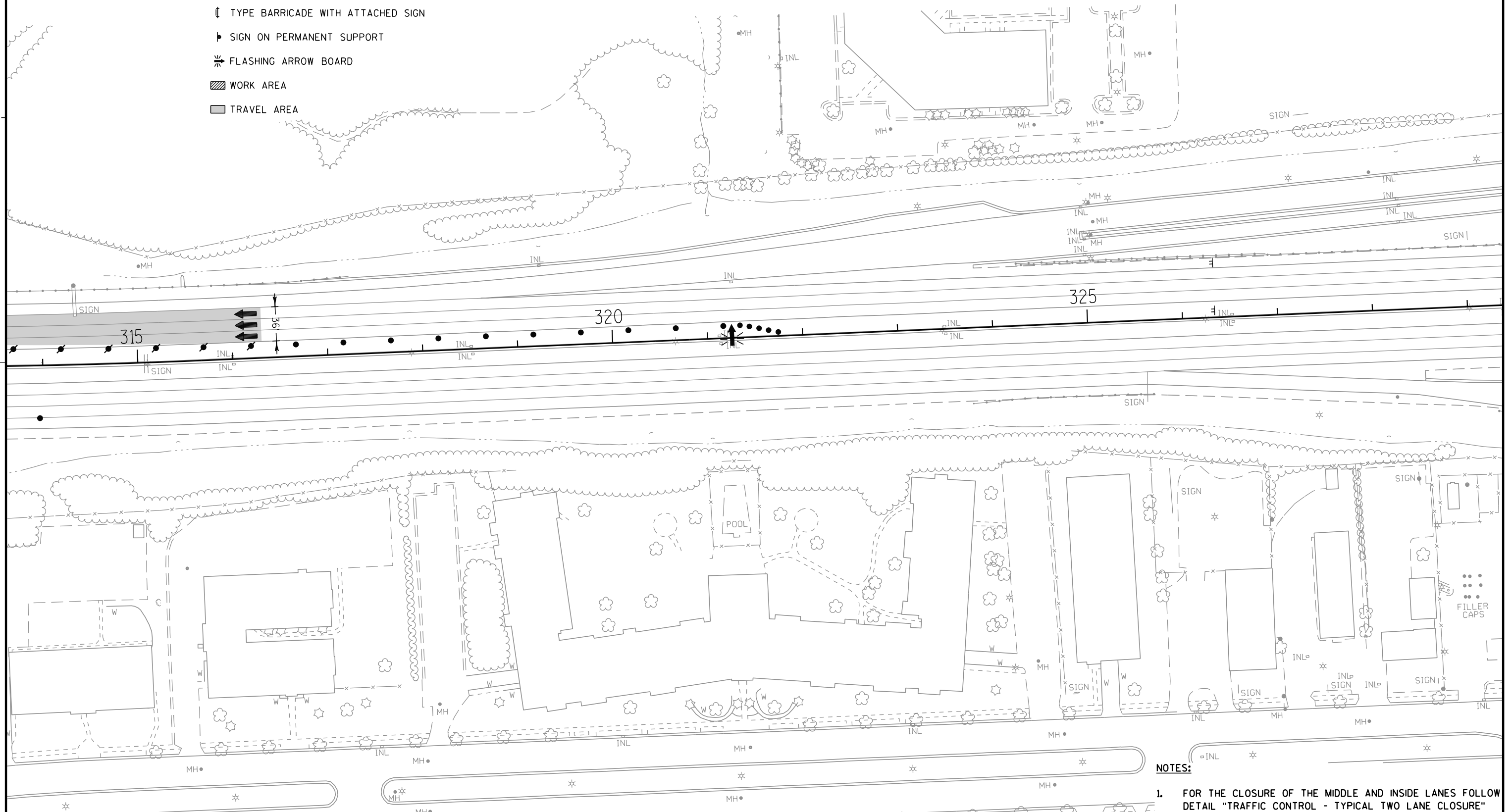


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
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NOTES:

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PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIC

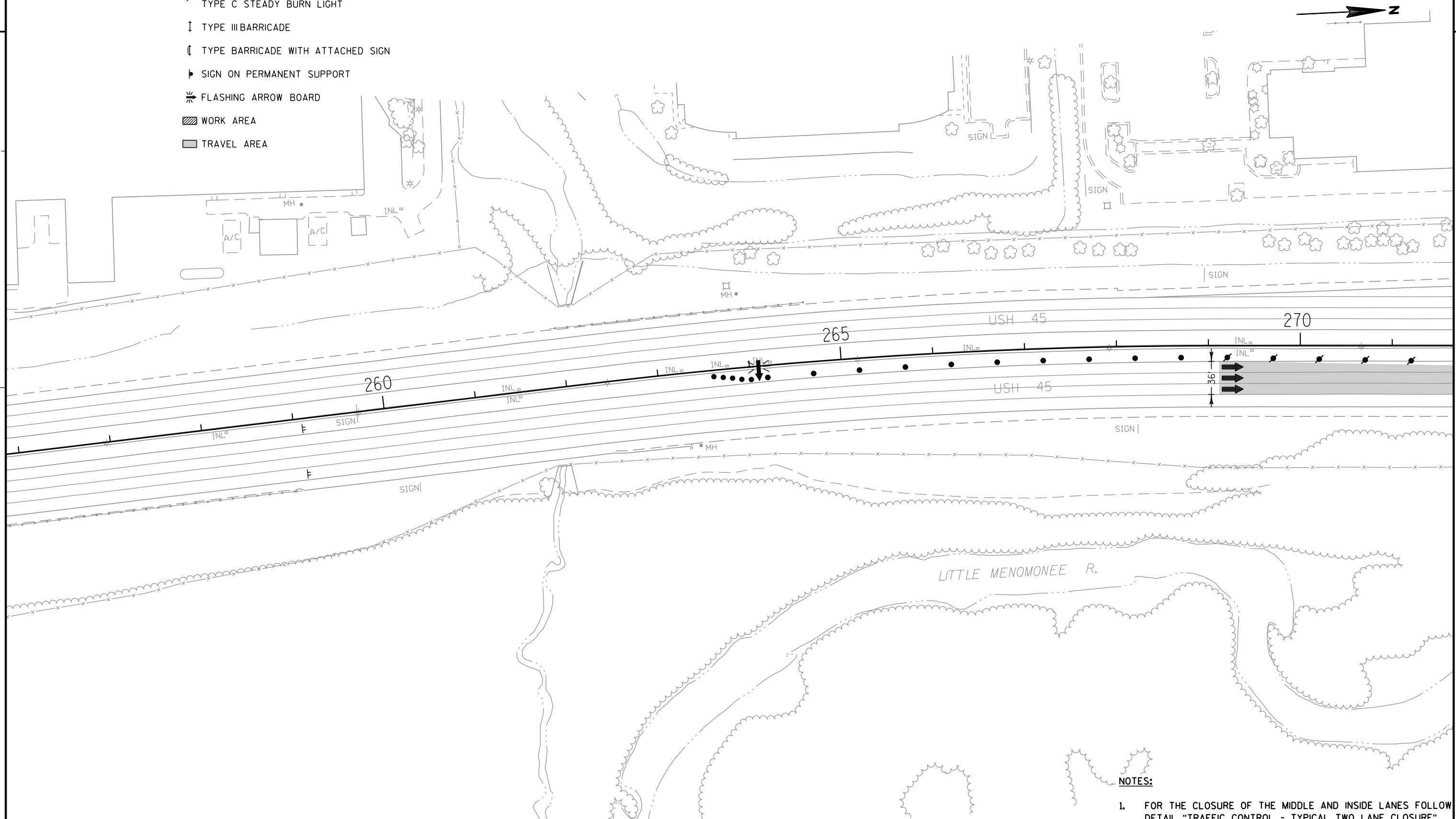
SHEET

141

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
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NOTES:

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PROJECT NO: 1100-20-60

HWY: USH 45

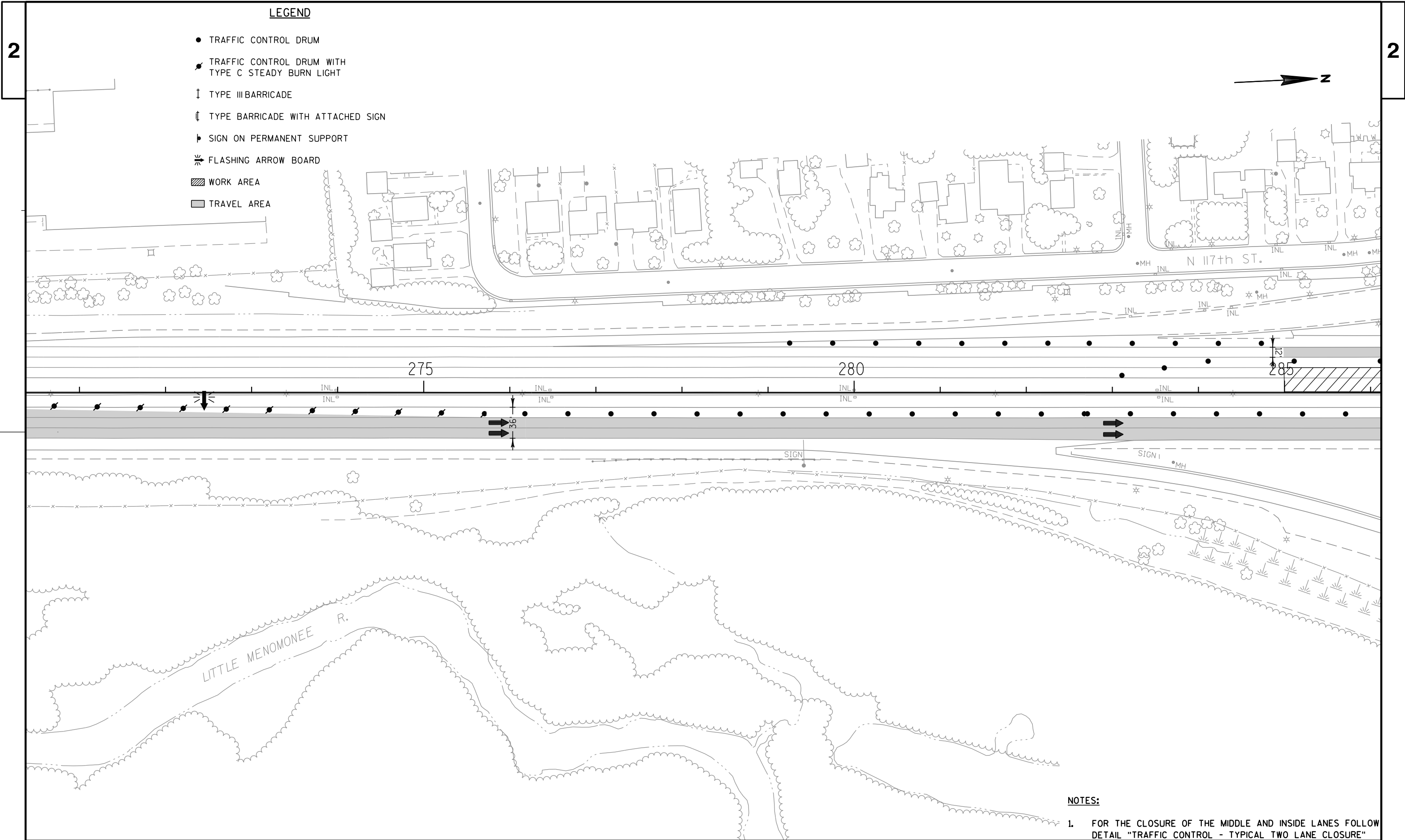
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VID

SHEET

142

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
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NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VID

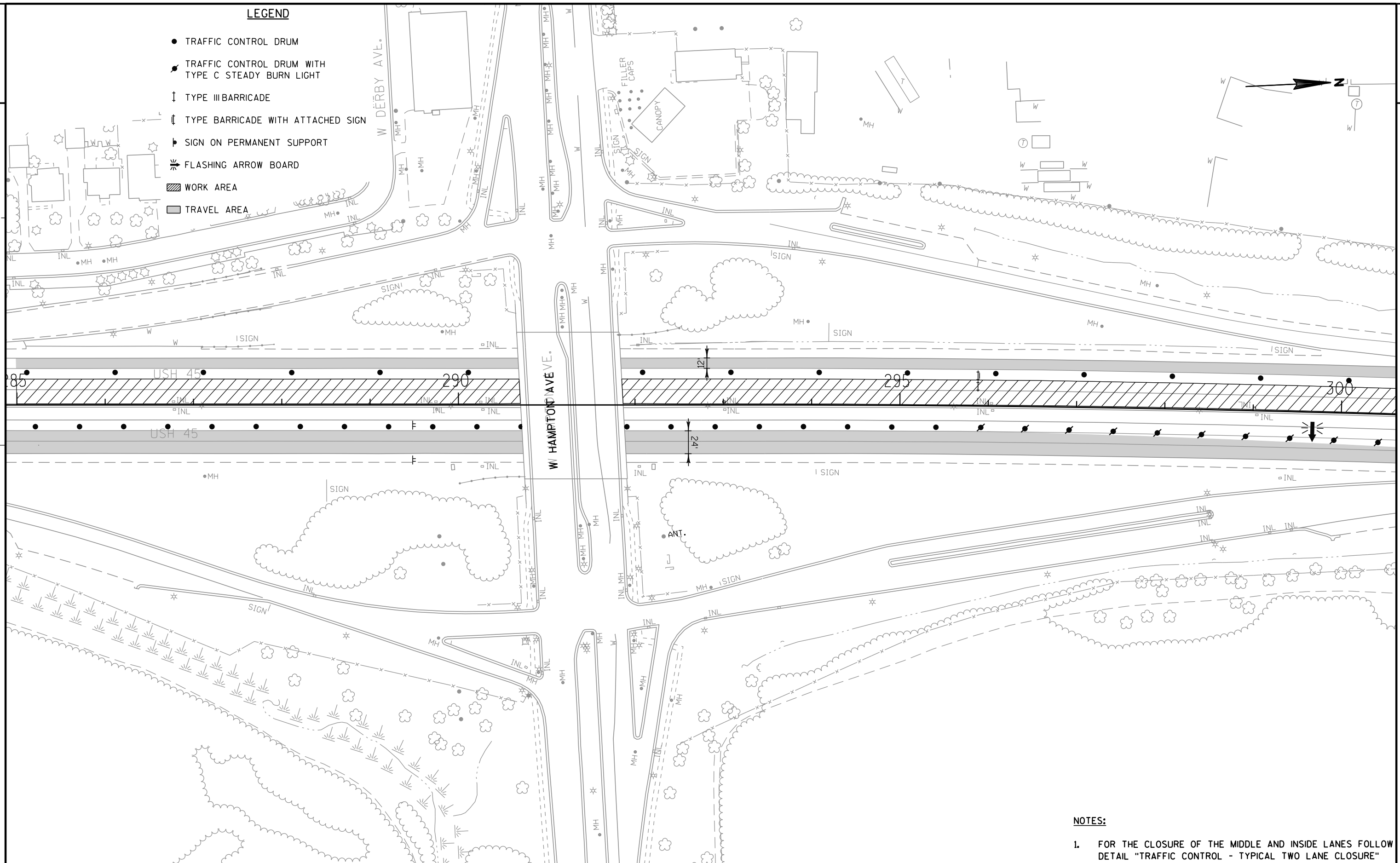
SHEET

143

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

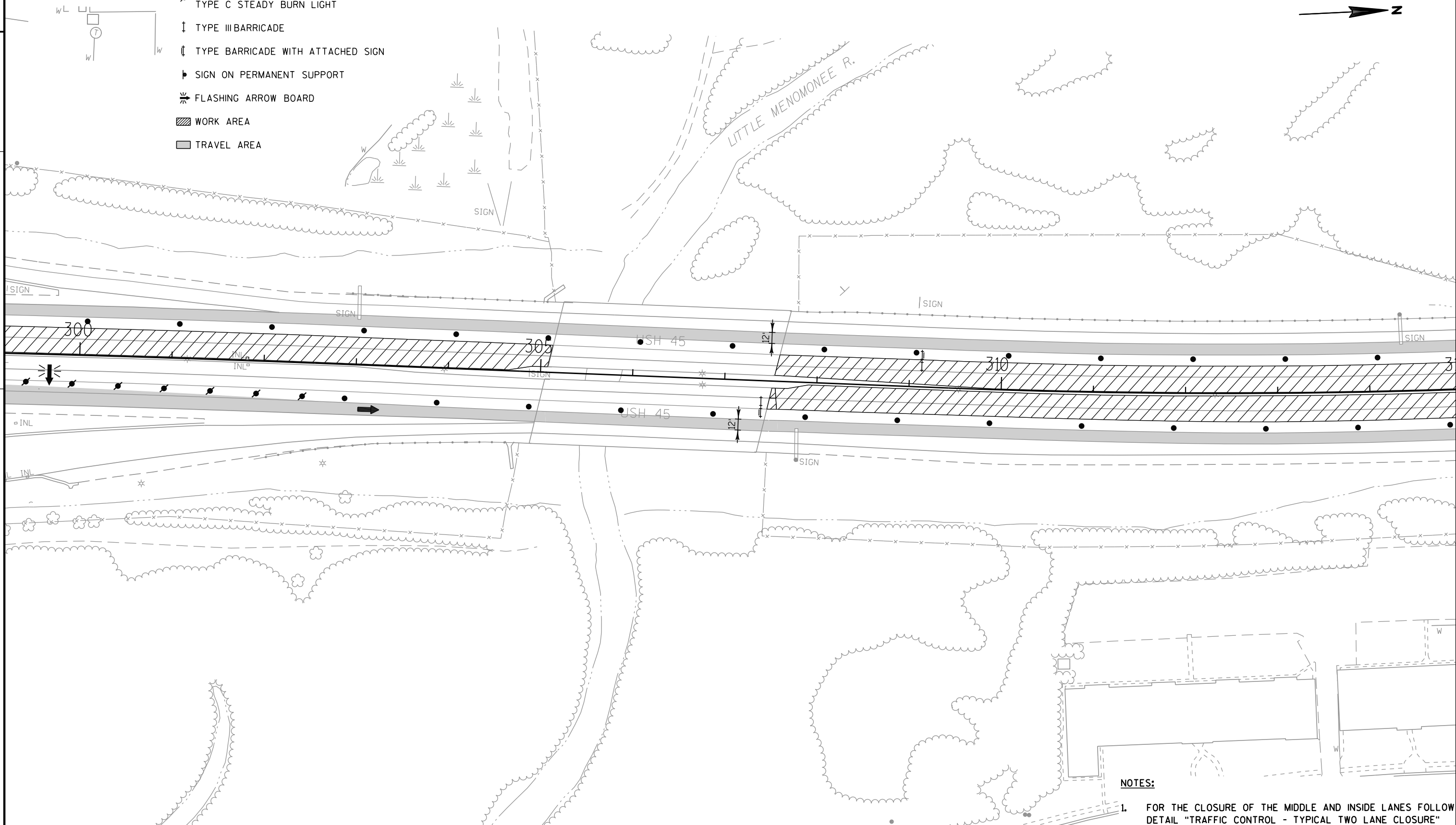


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
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PROJECT NO: 1100-20-60

HWY: USH 45

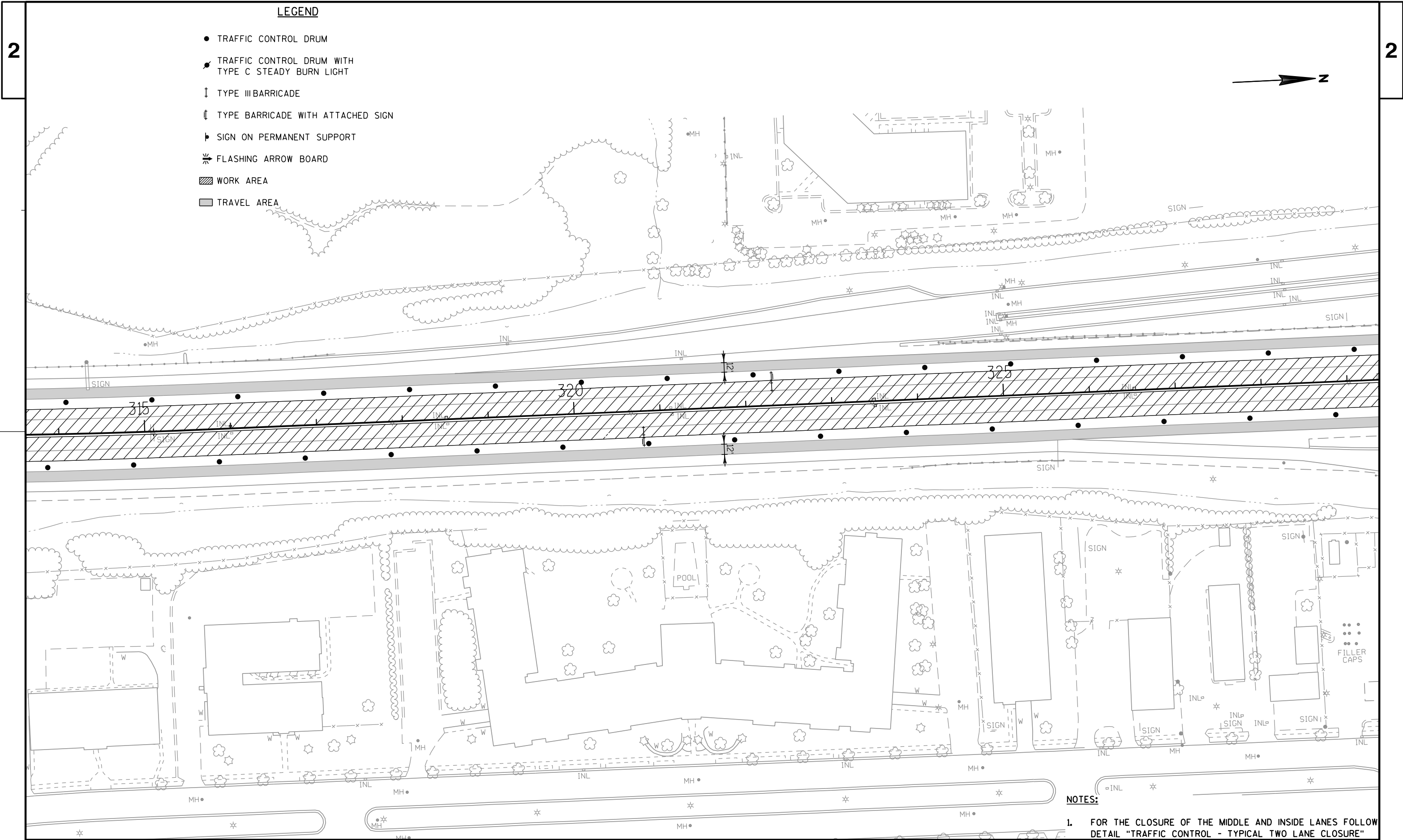
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VID

SHEET

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
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NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VID

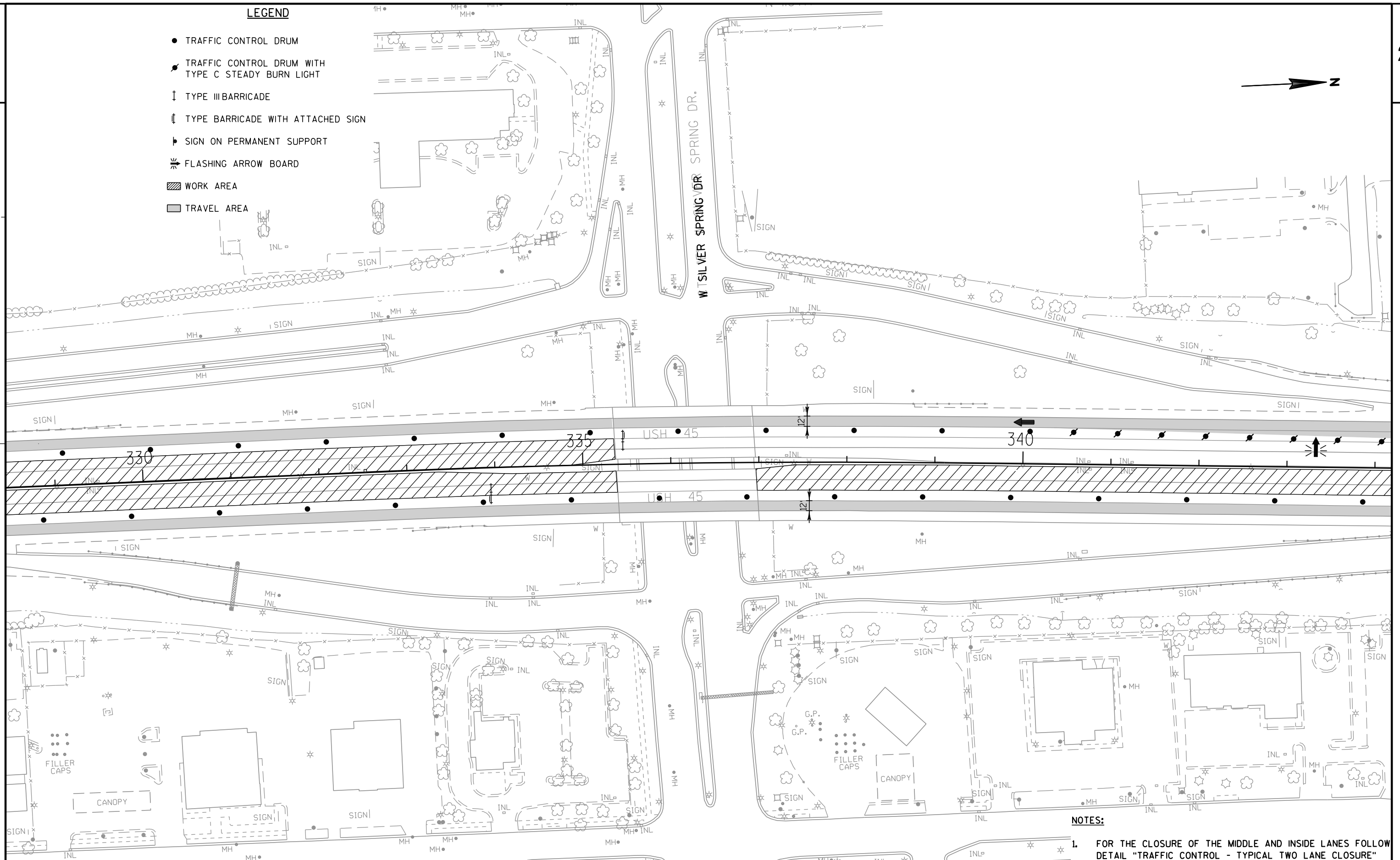
SHEET

146

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
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NOTES:

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DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VID

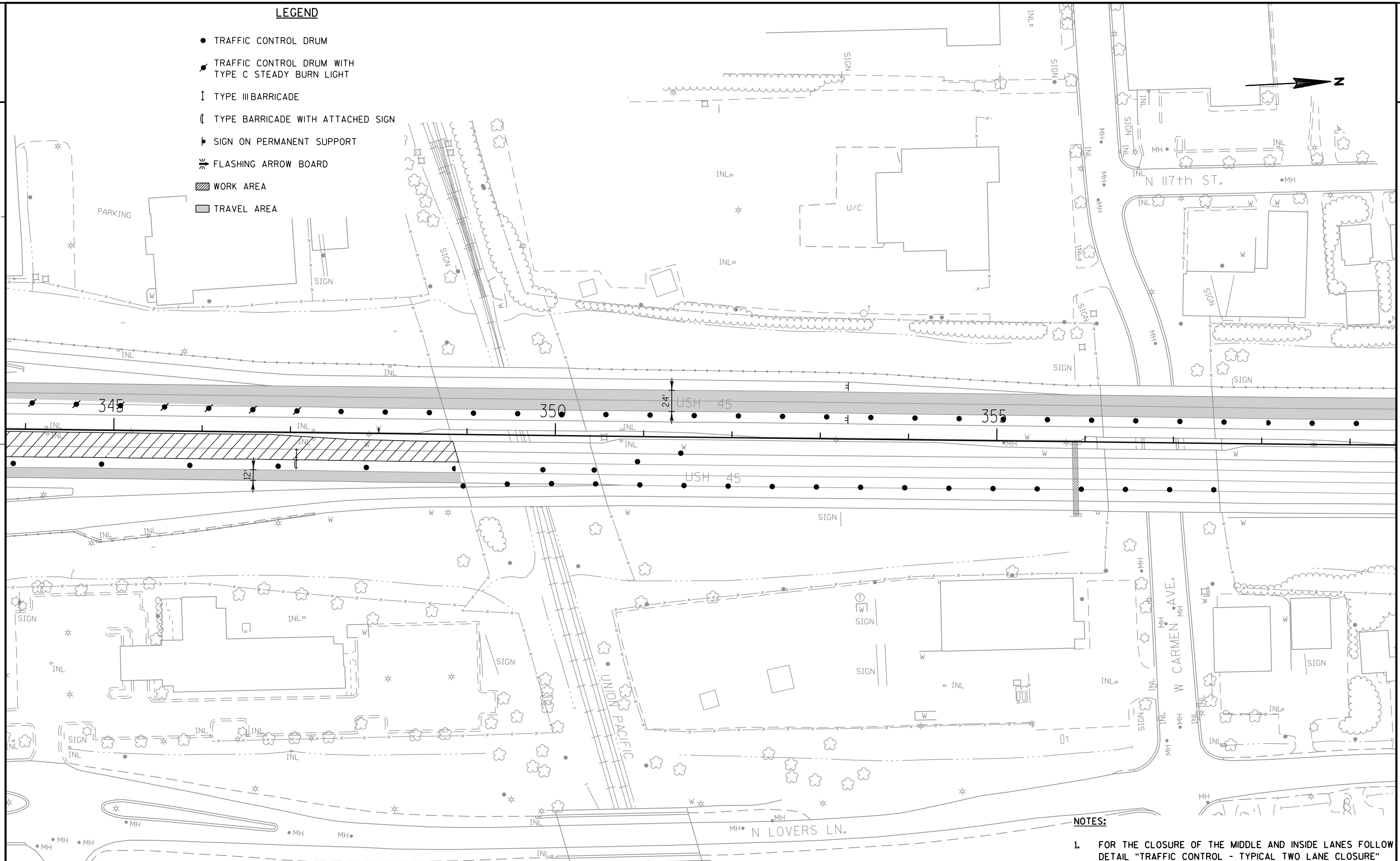
SHEET

147

E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
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- ▭ TRAVEL AREA



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VID

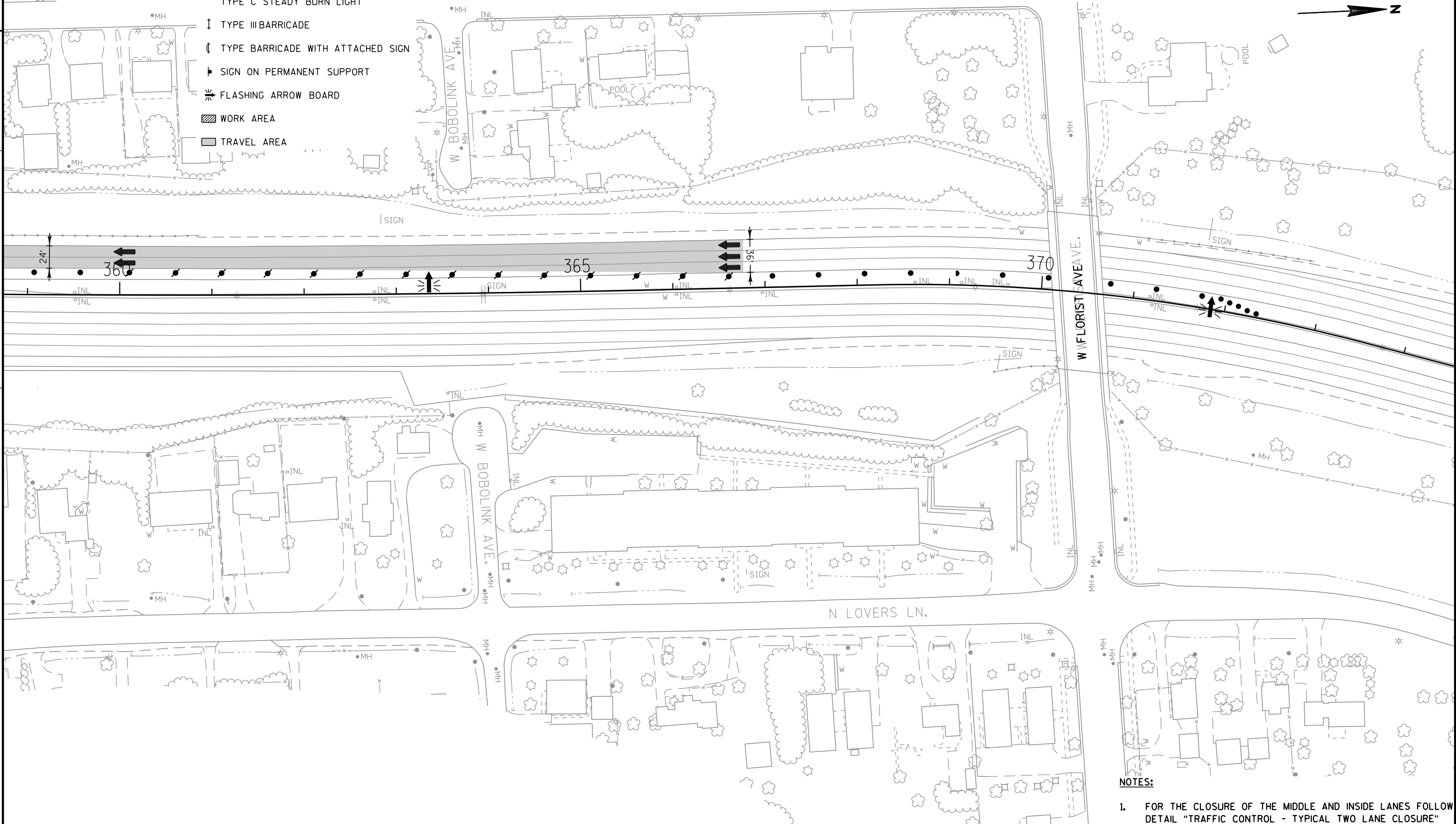
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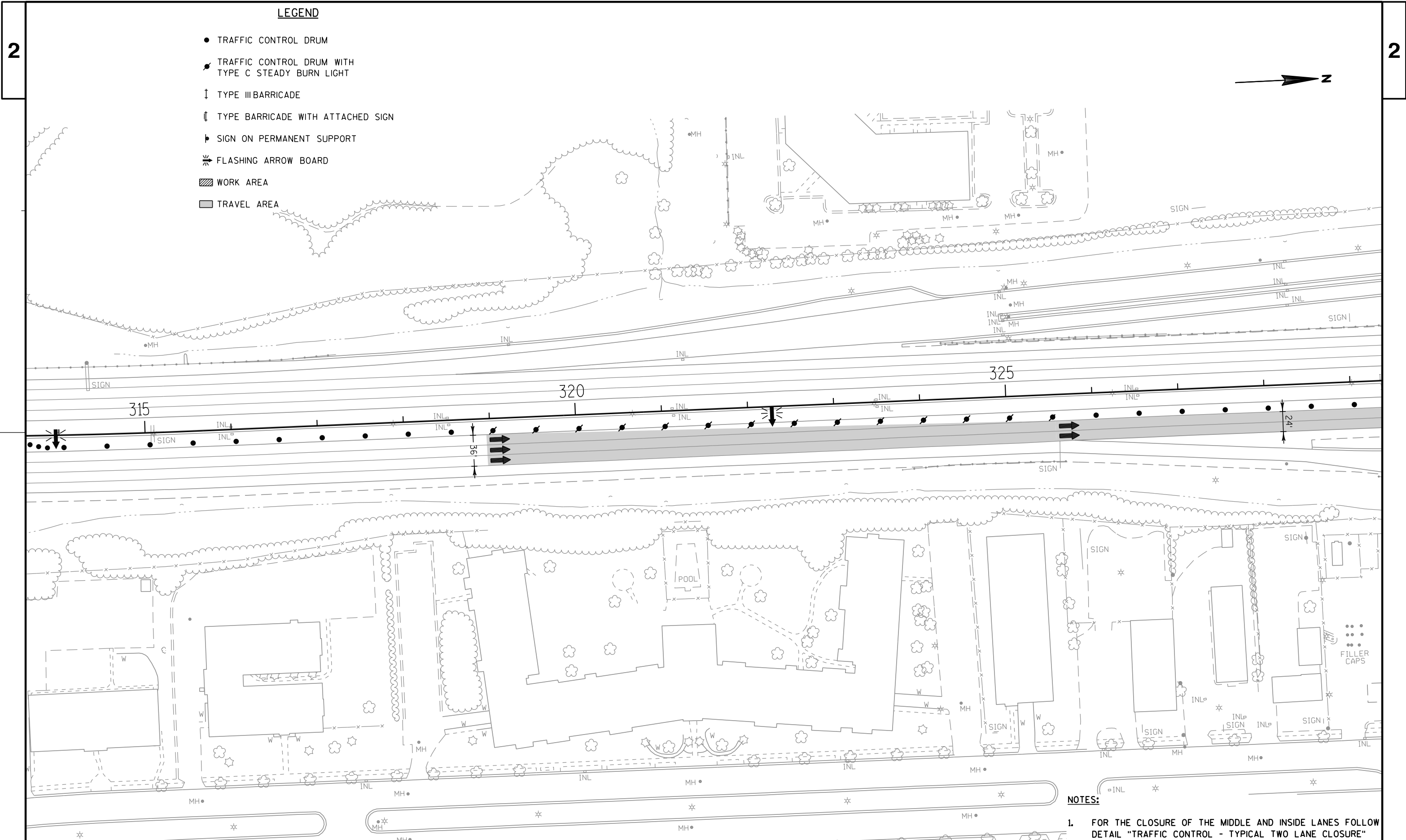
148

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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
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LEGEND

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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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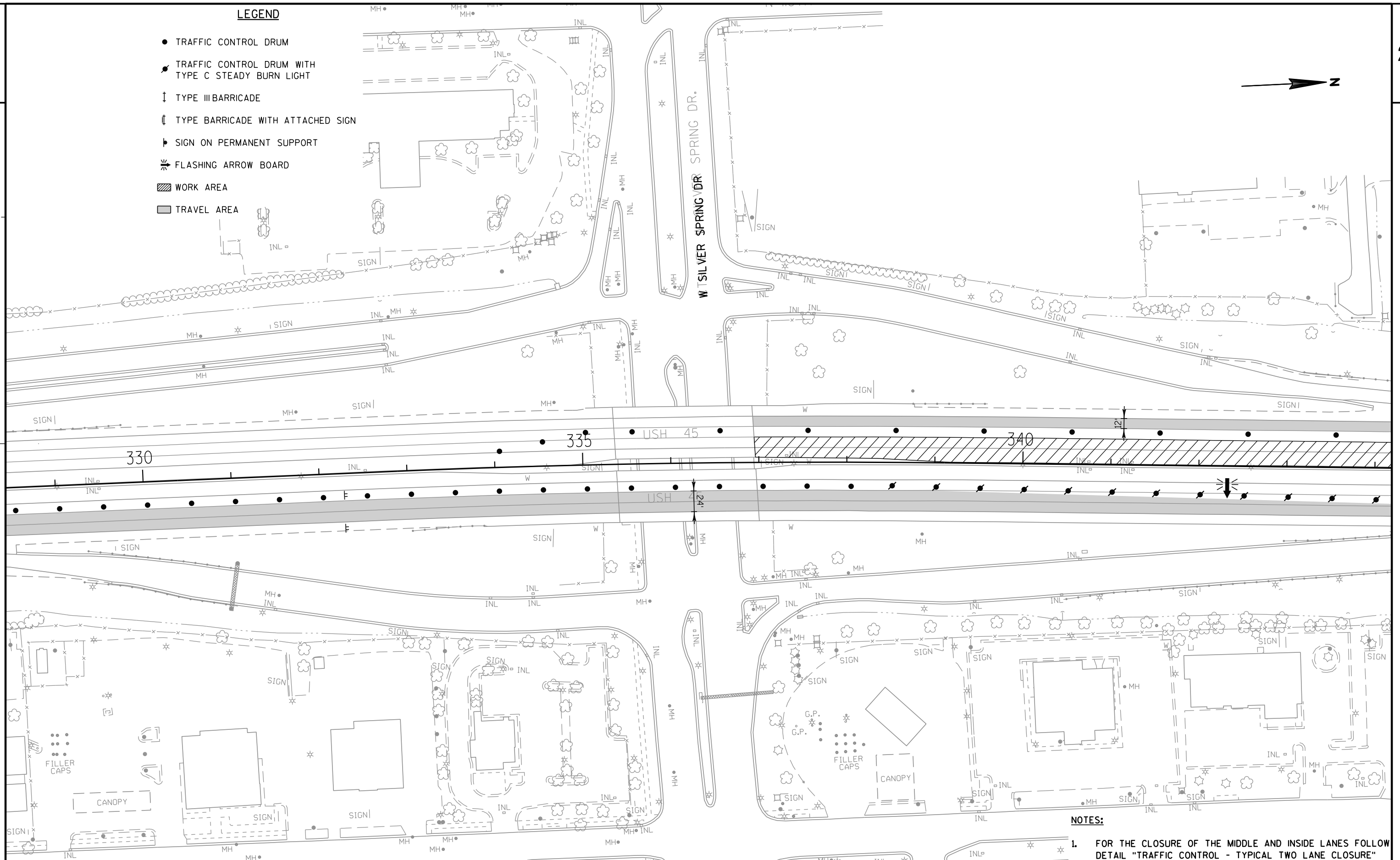


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
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PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIE

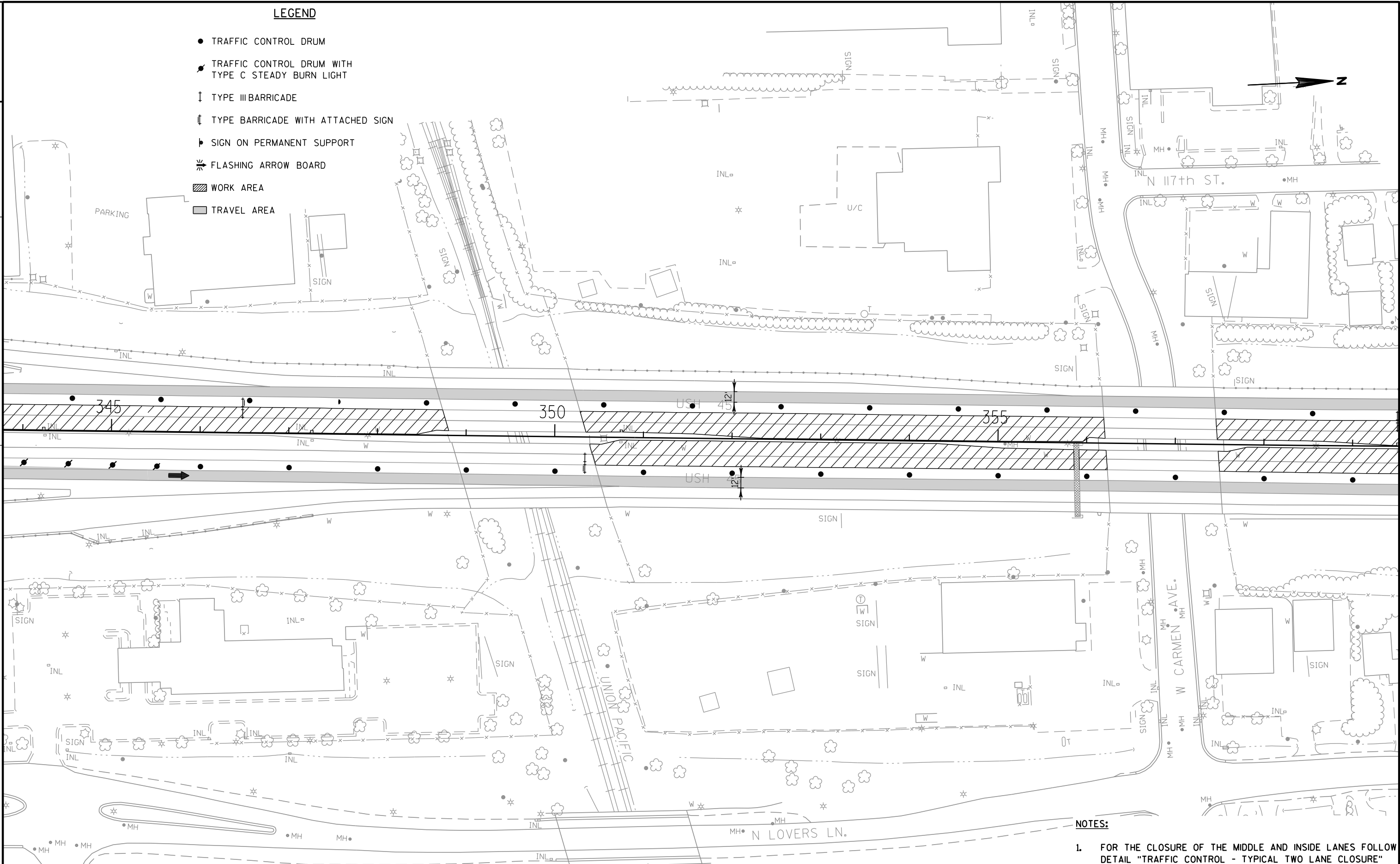
SHEET

151

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LEGEND

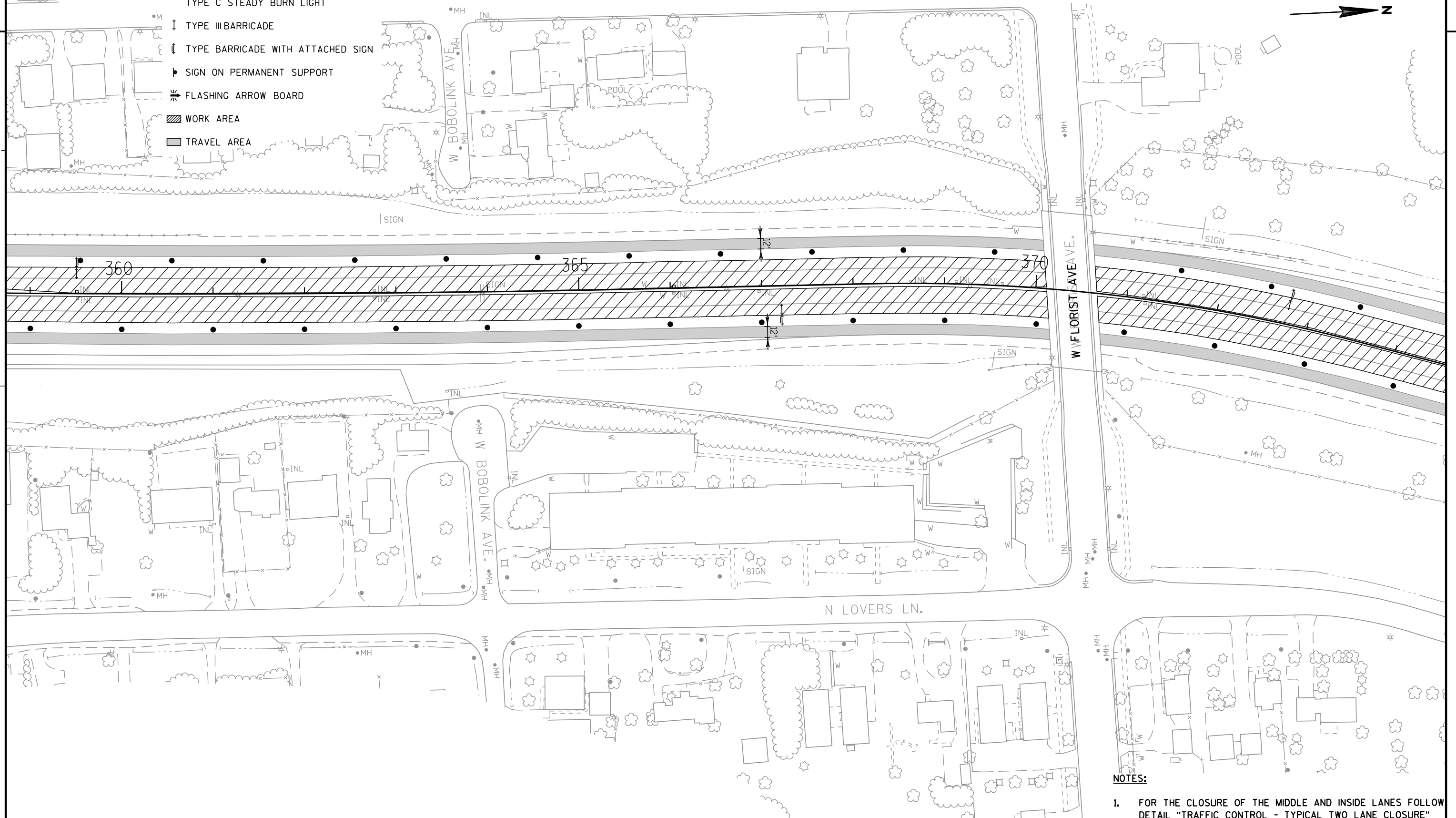
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
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NOTES:
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DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- ↑ TYPE BARRICADE WITH ATTACHED SIGN
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- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- TRAVEL AREA

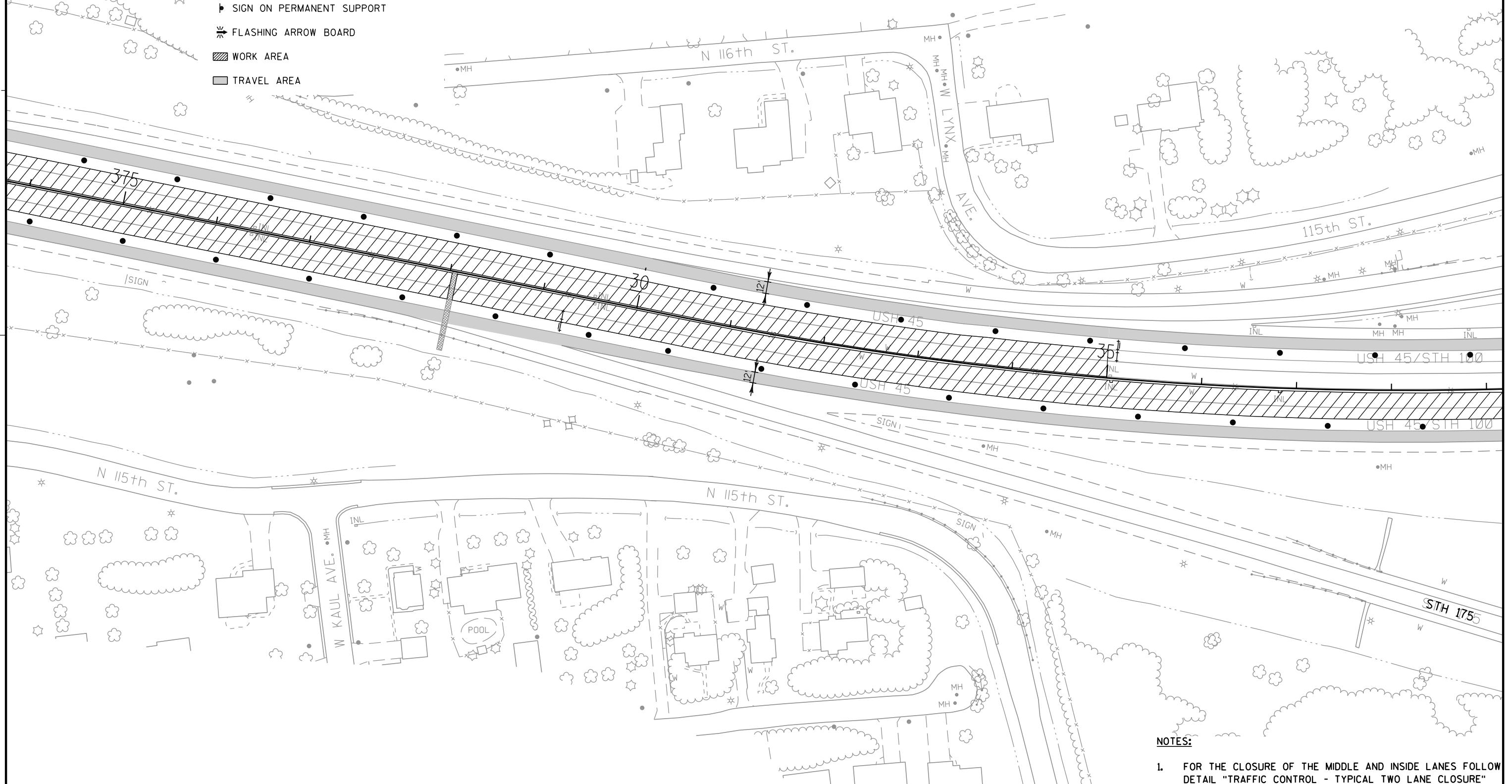


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
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- ▭ TRAVEL AREA



PROJECT NO: 1100-20-60

HWY: USH 45

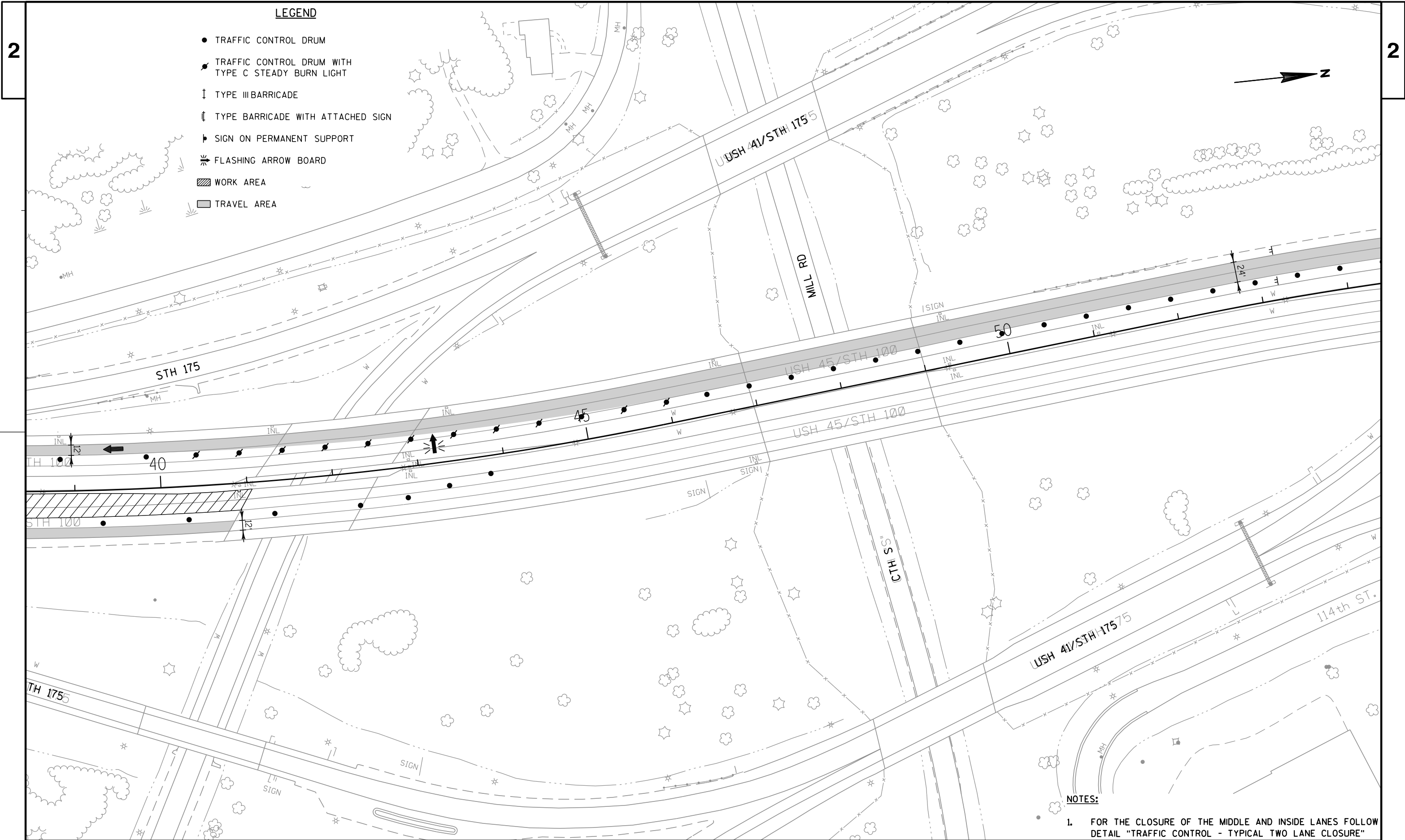
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VI

SHEET

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PROJECT NO: 1100-20-60

HWY: USH 45

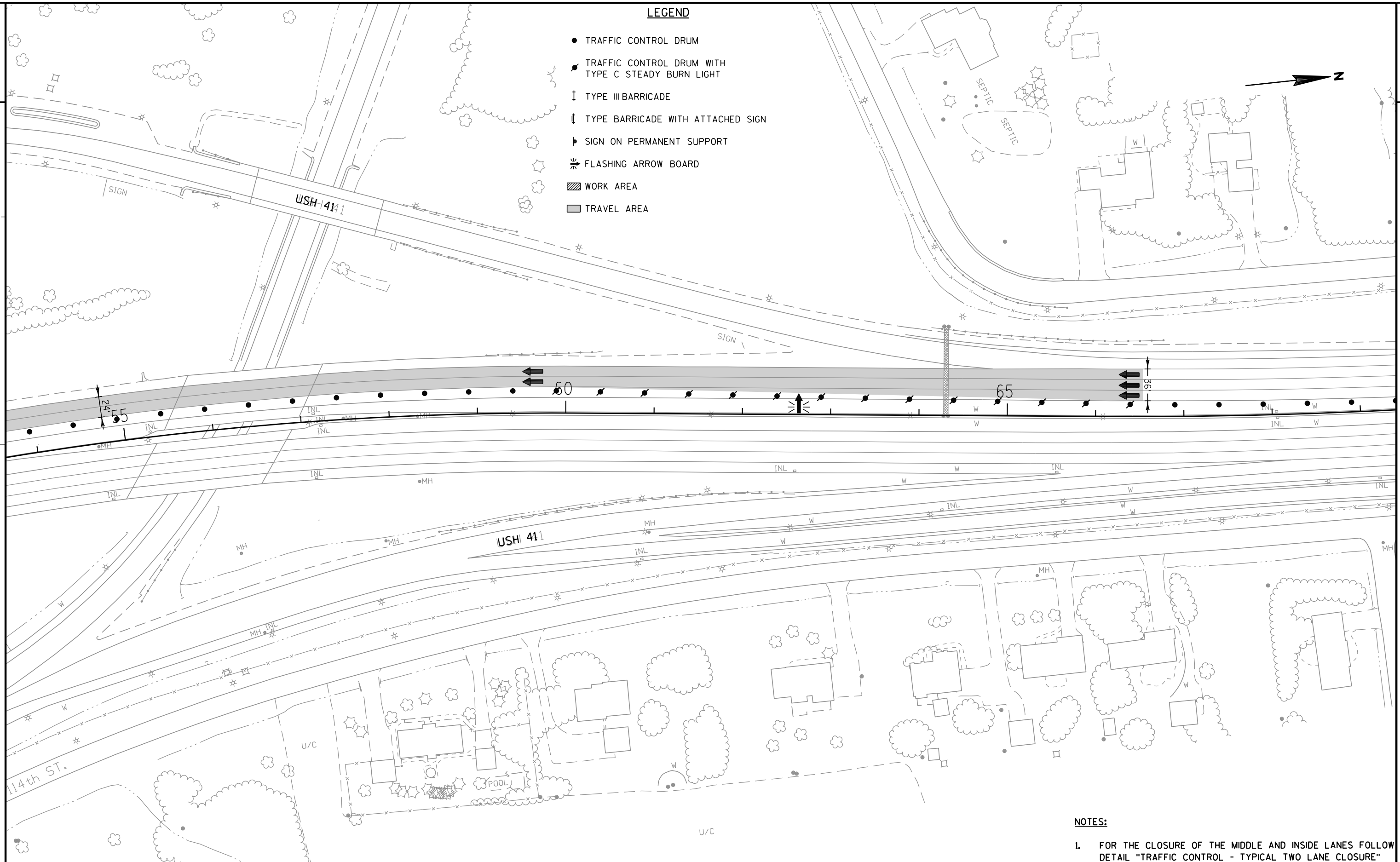
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIE

SHEET

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E



LEGEND

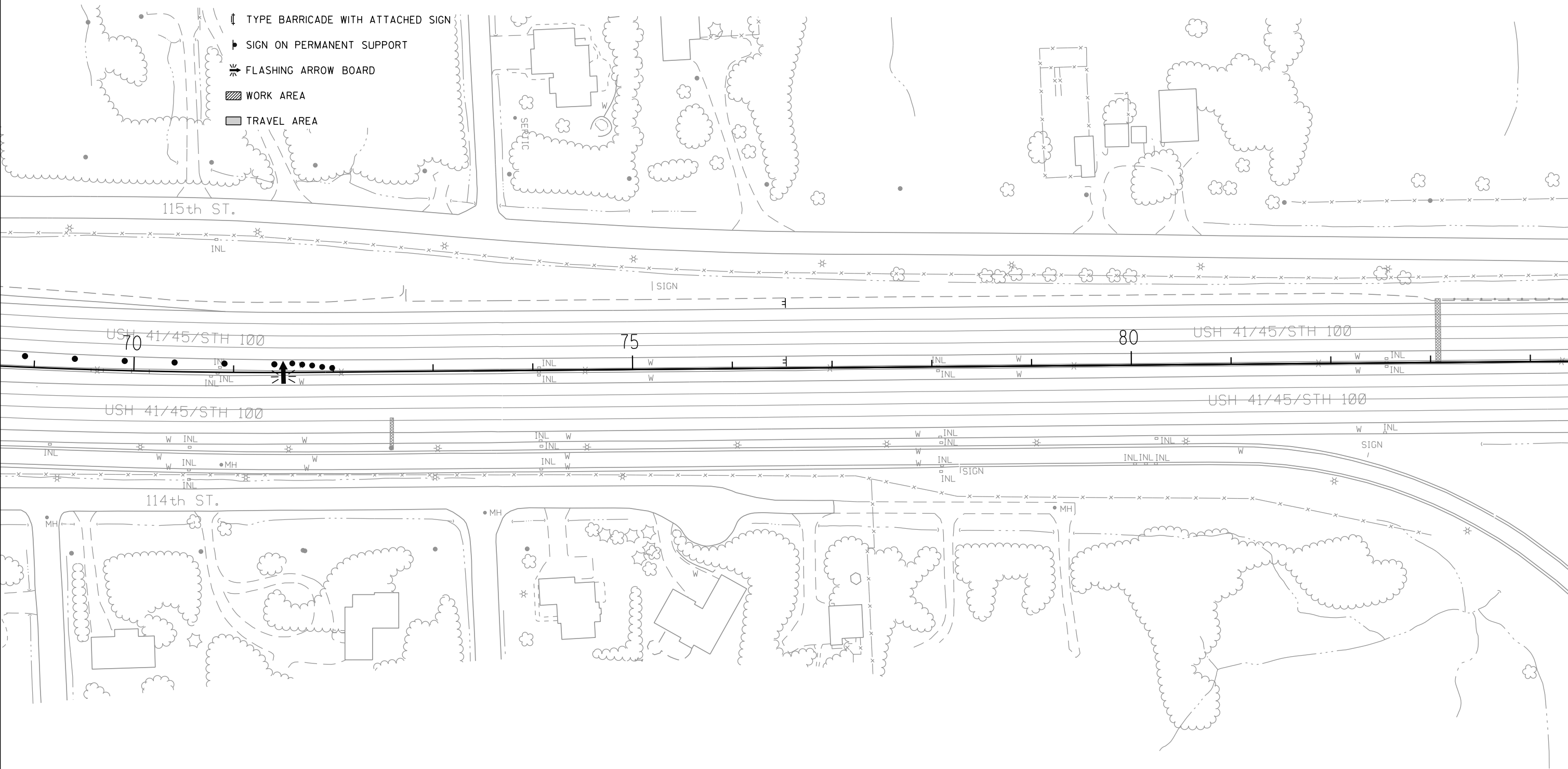
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- TRAVEL AREA

NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

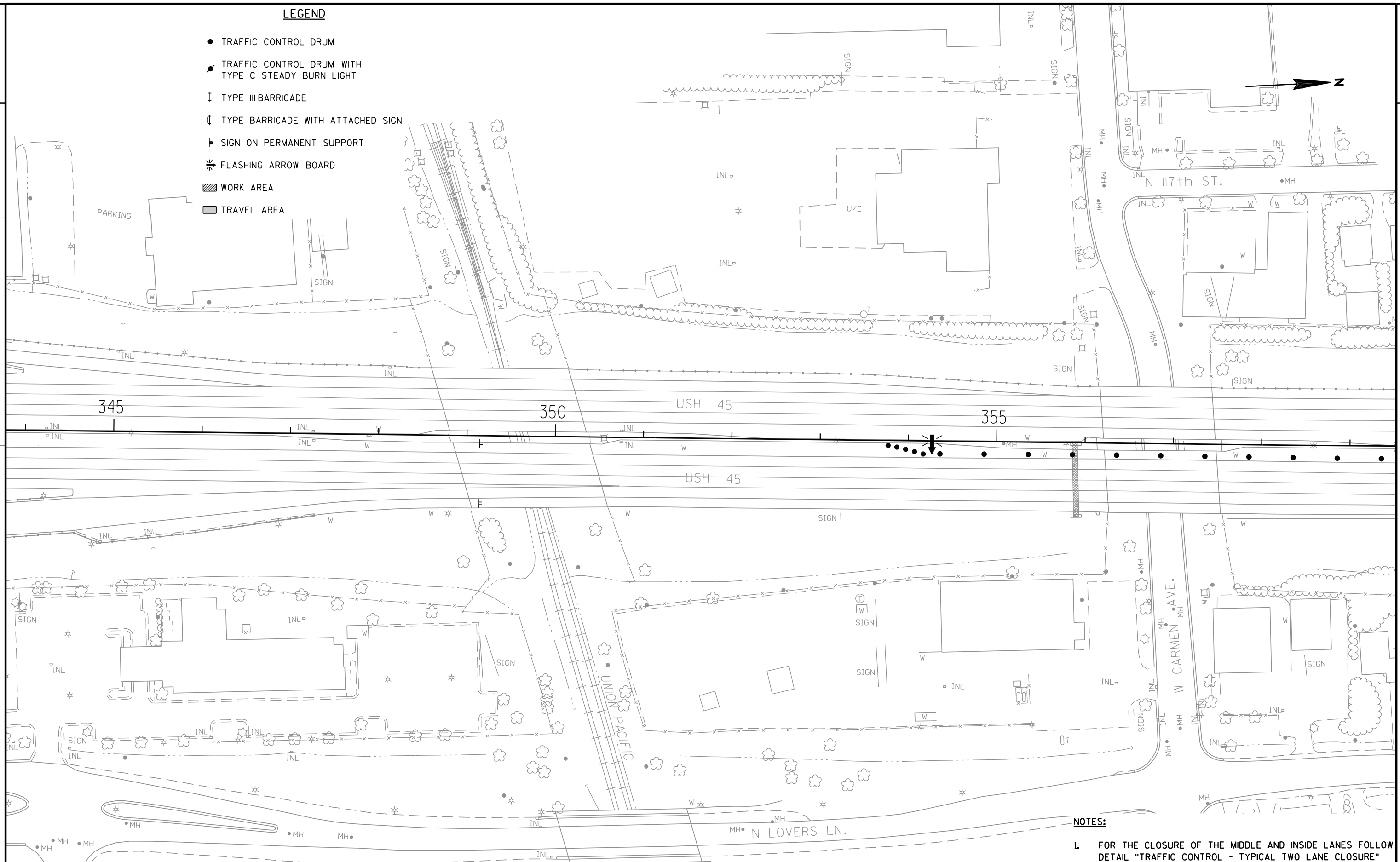


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

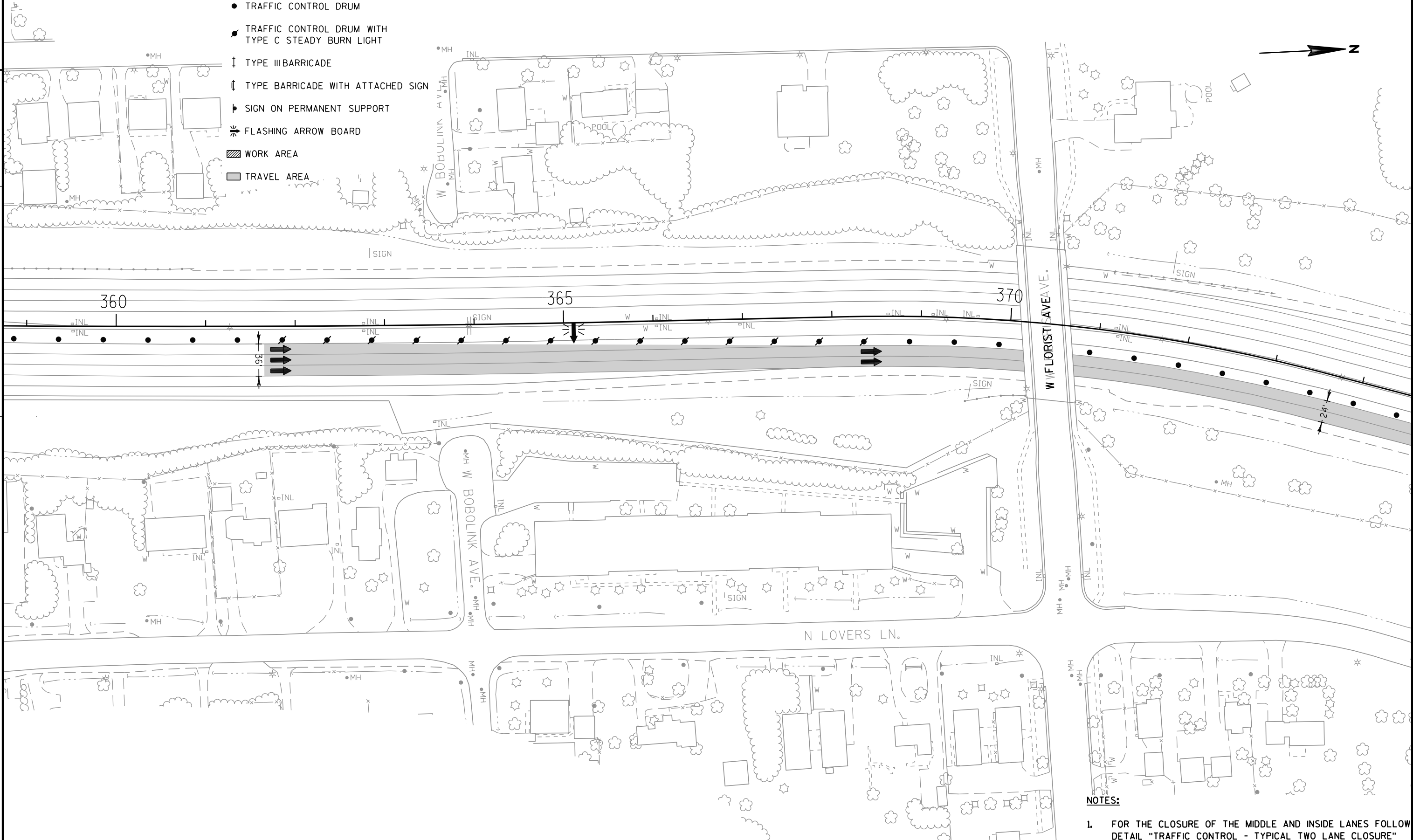
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:
1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

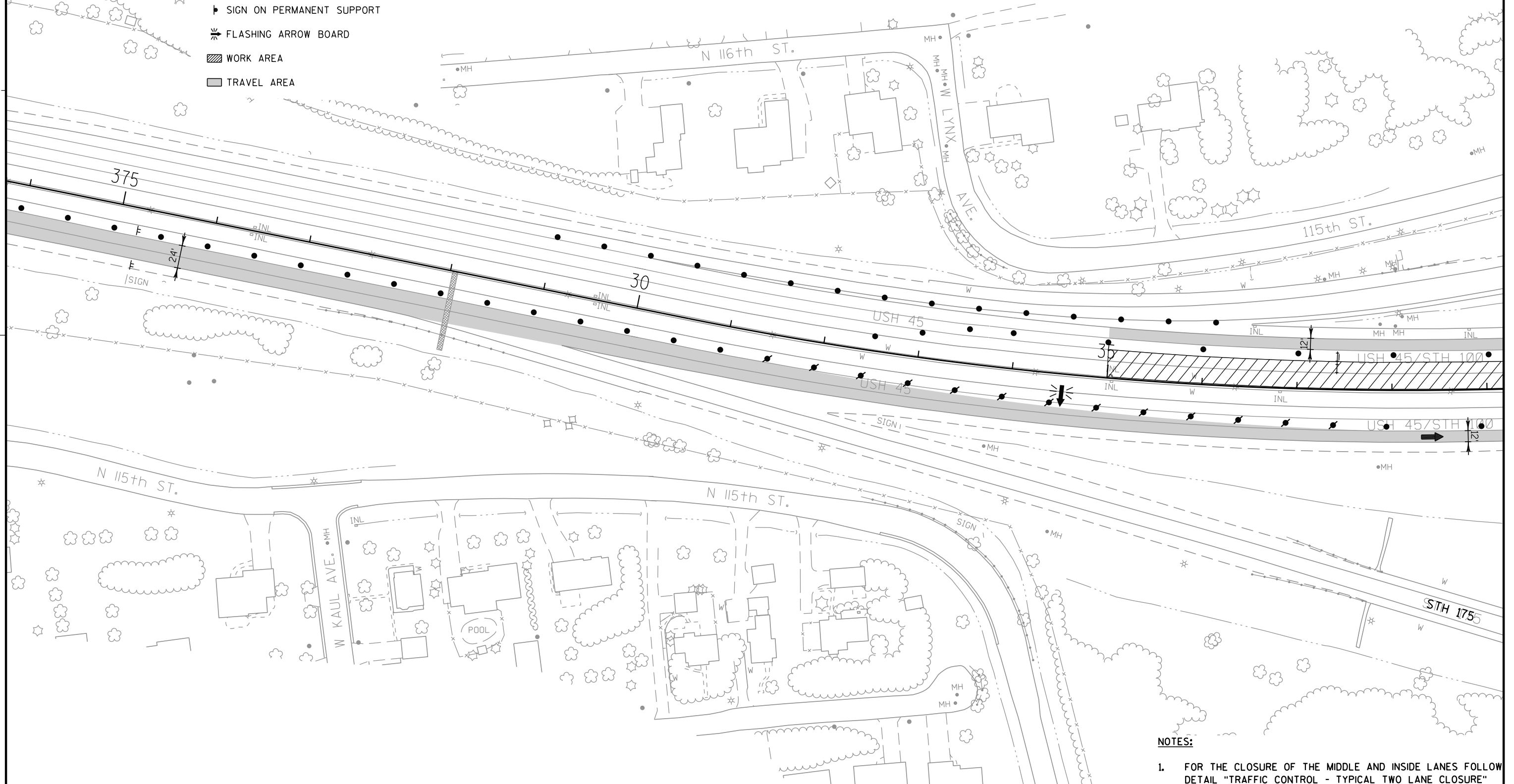


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIF

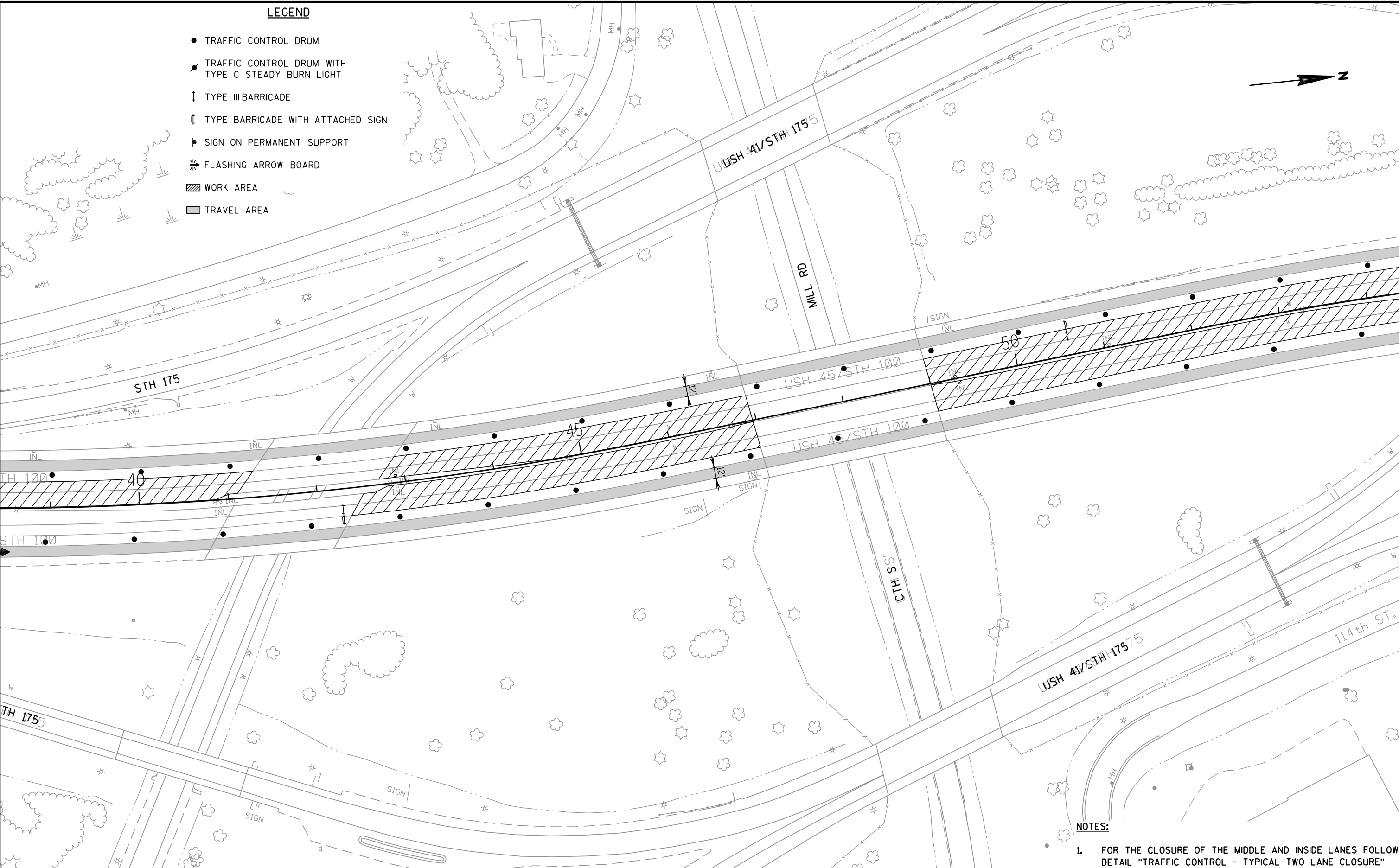
SHEET

160

E

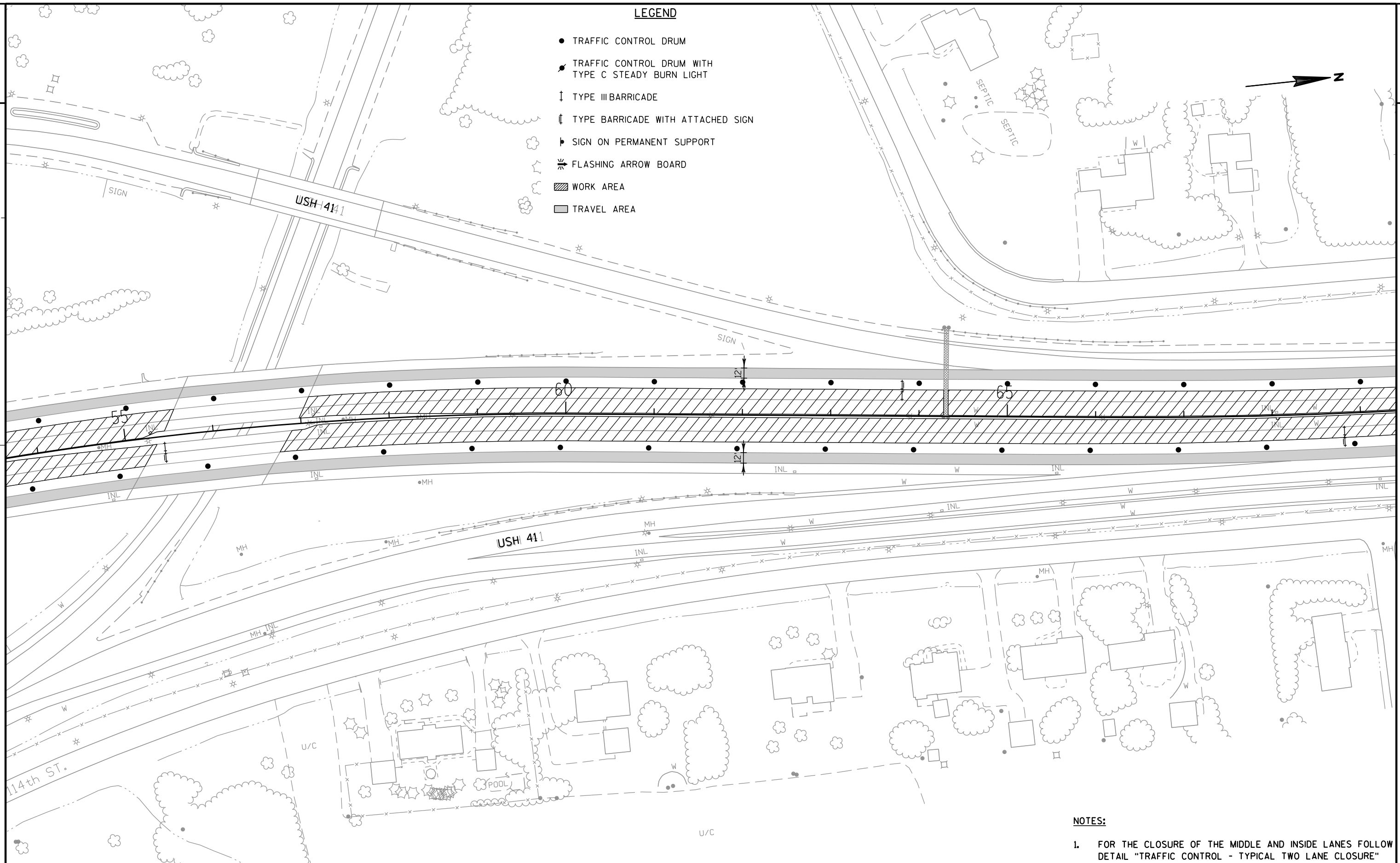
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



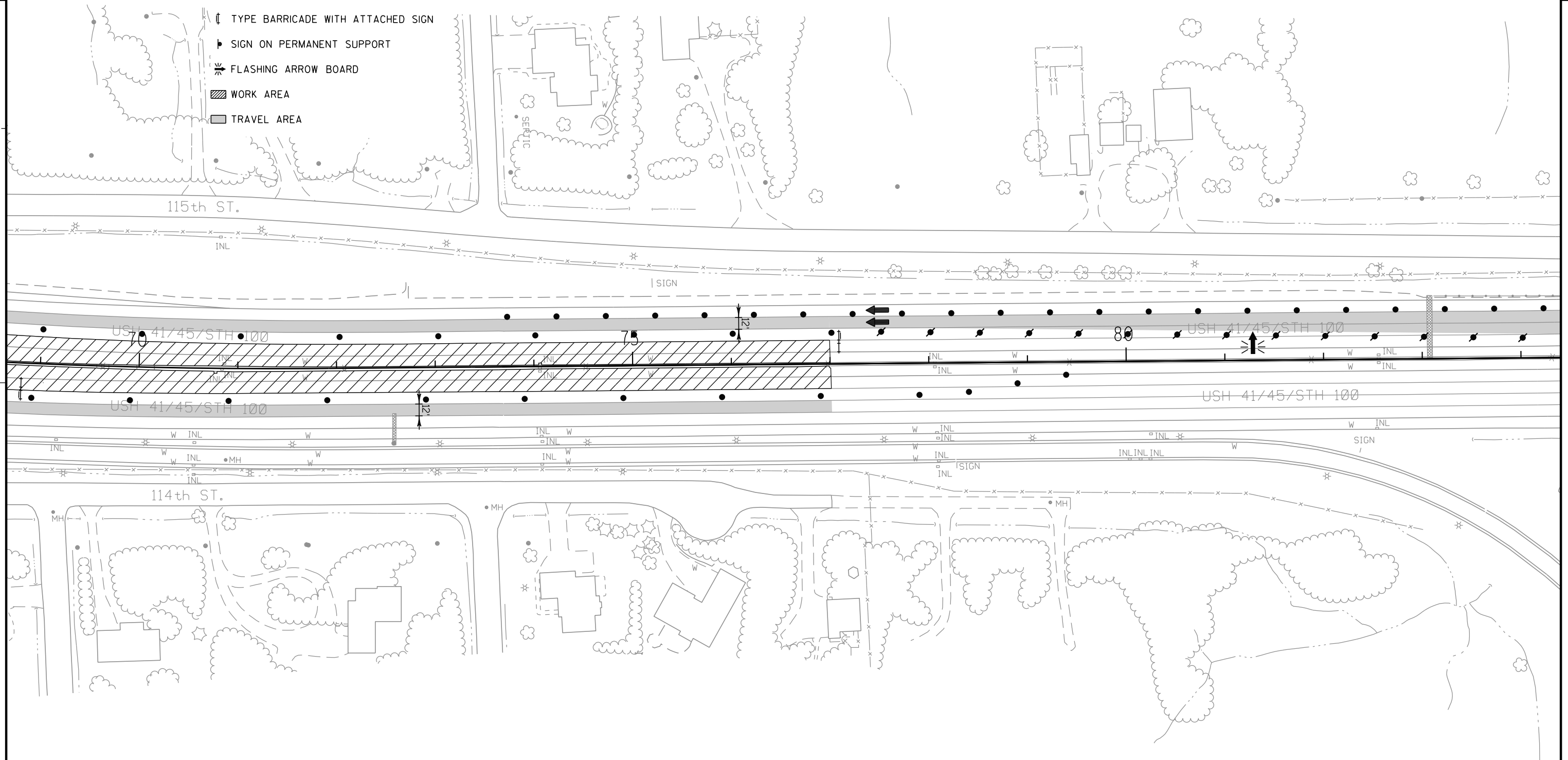
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

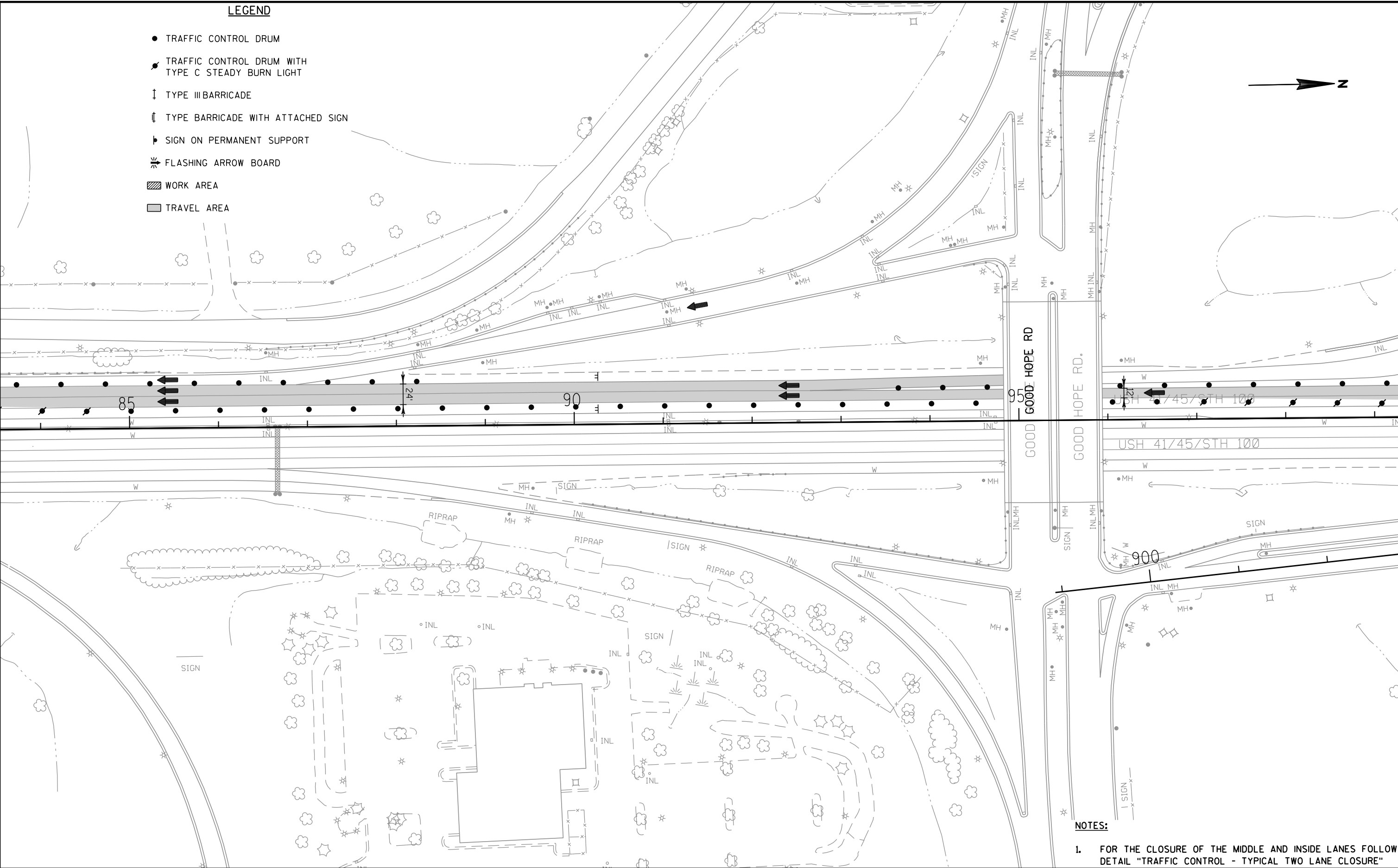
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⌄ TYPE III BARRICADE
- ⌄ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



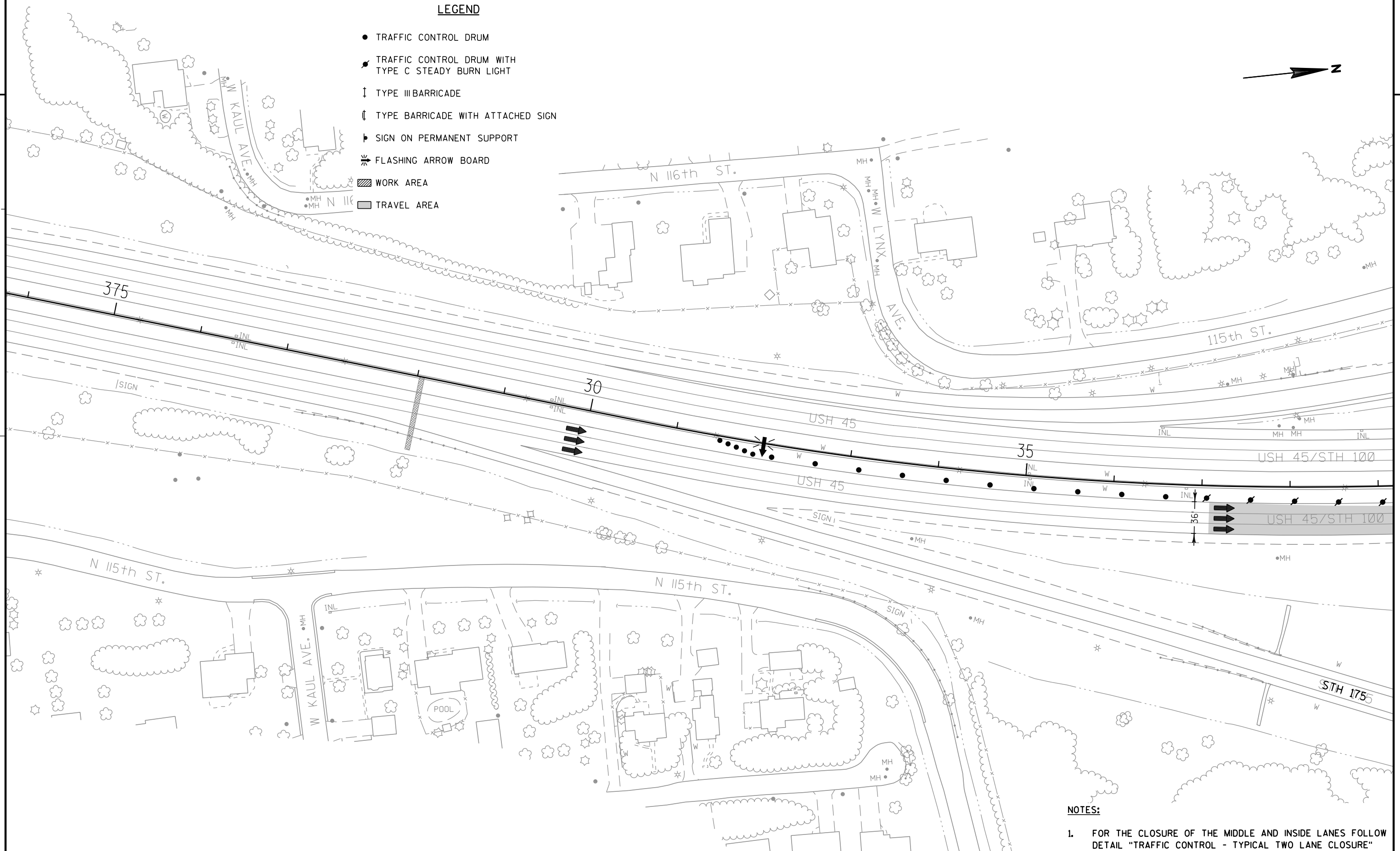
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VI

SHEET

166

E

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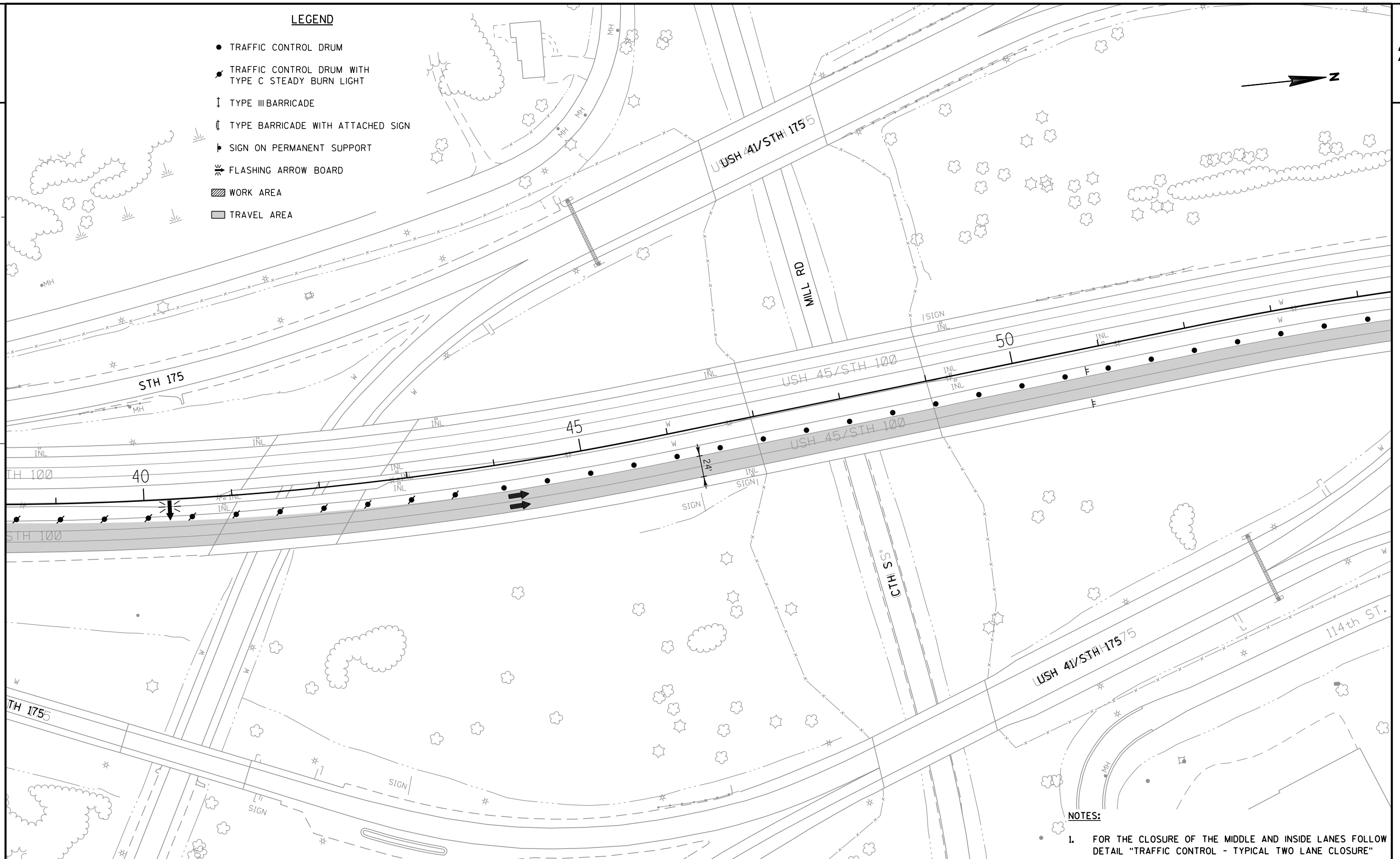
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PLOT SCALE : 100:1

WISDOT/CADDs SHEET 42

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

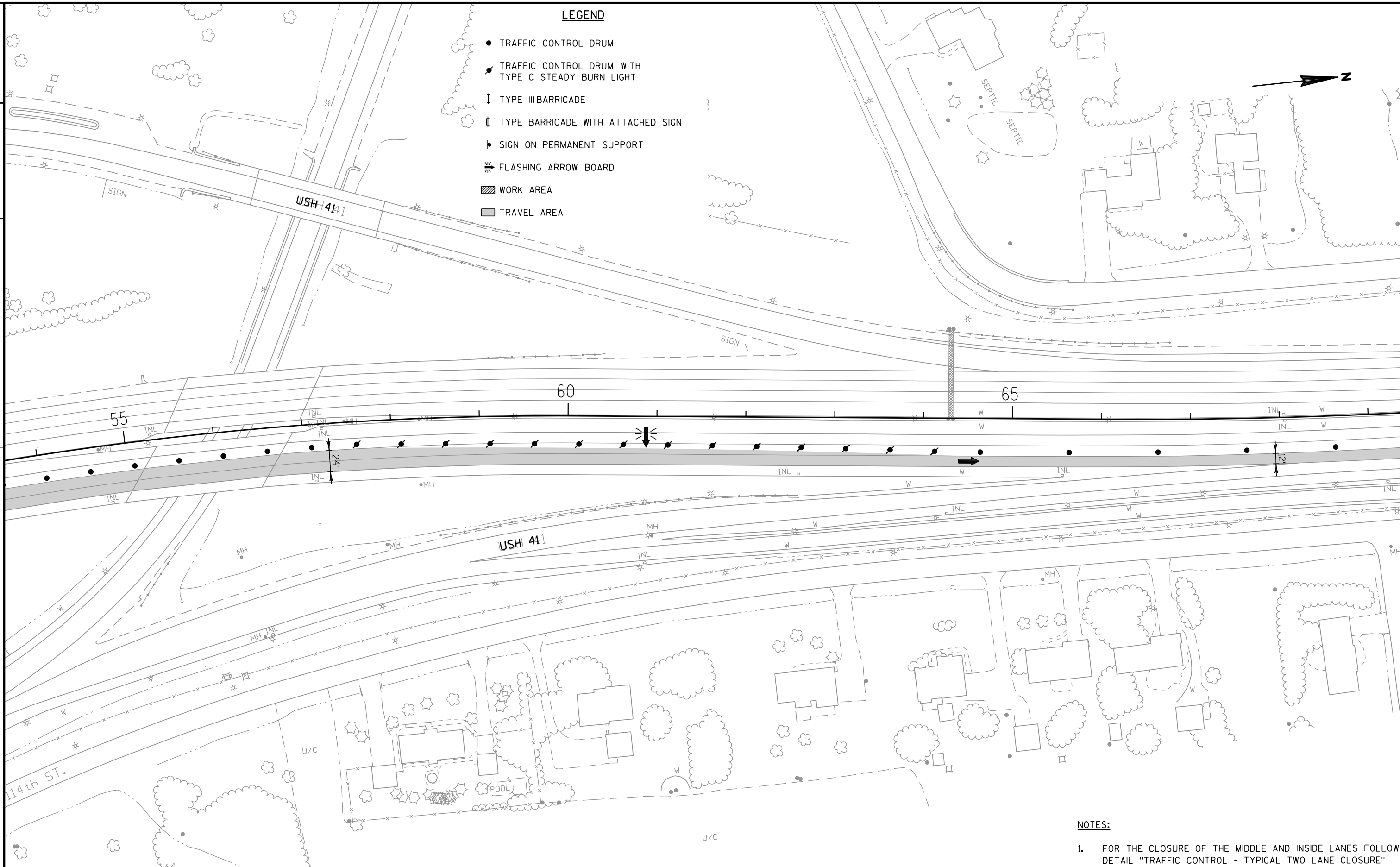
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VIG

SHEET

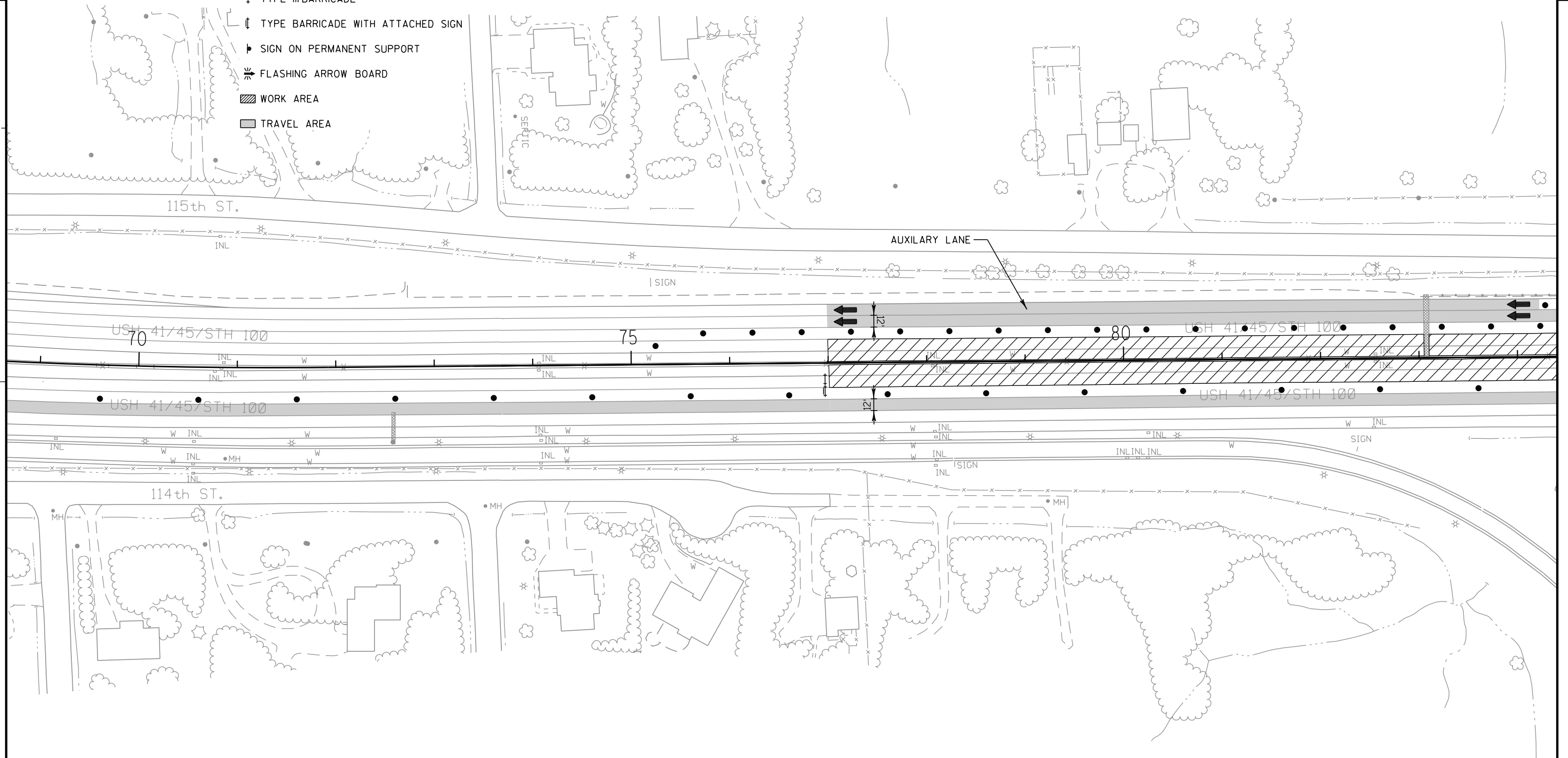
167

E



LEGEND

- TRAFFIC CONTROL DRUM
- ✱ TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VI G

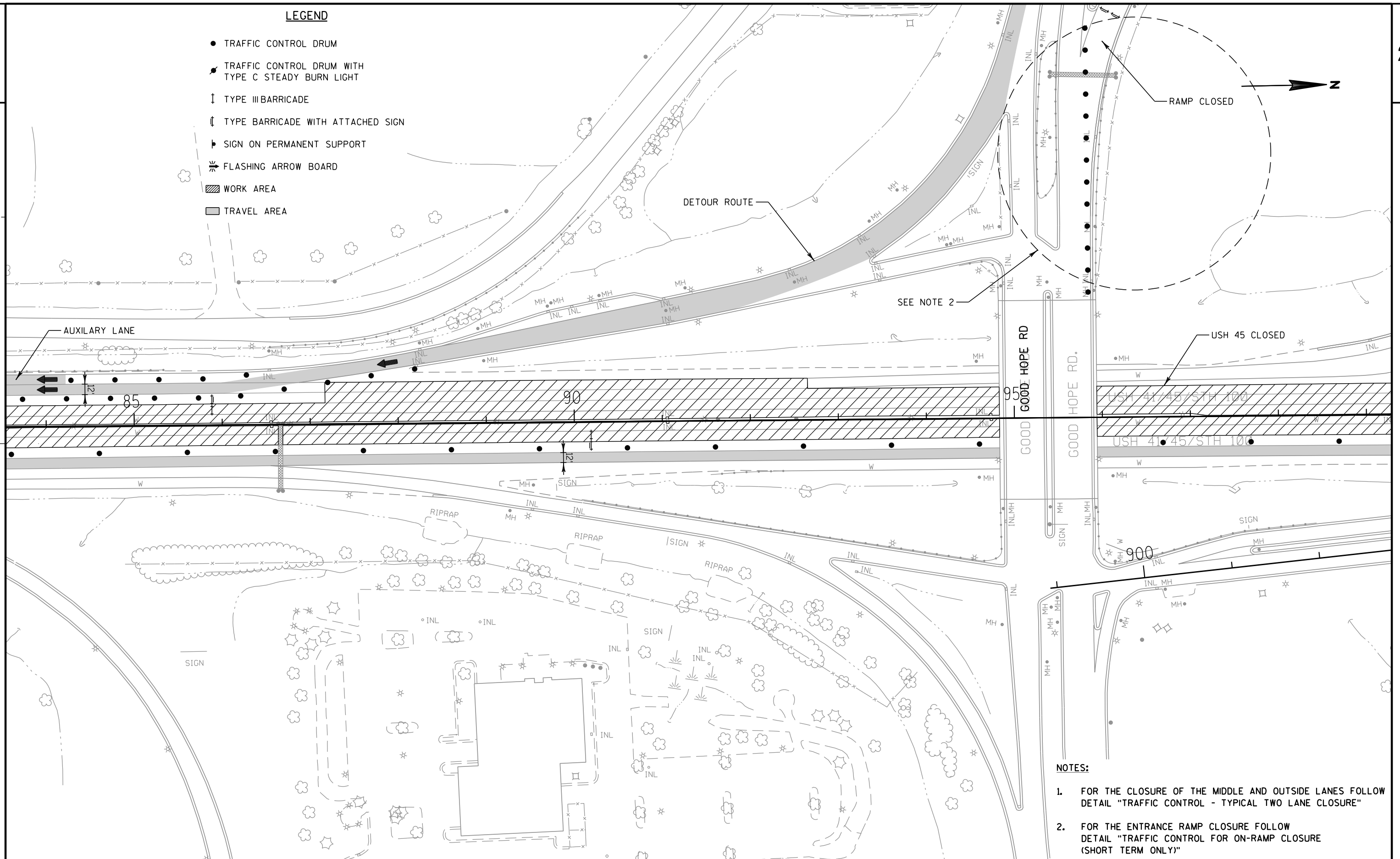
SHEET

169

E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE ENTRANCE RAMP CLOSURE FOLLOW
DETAIL "TRAFFIC CONTROL FOR ON-RAMP CLOSURE
(SHORT TERM ONLY)"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

— DETOUR ROUTE

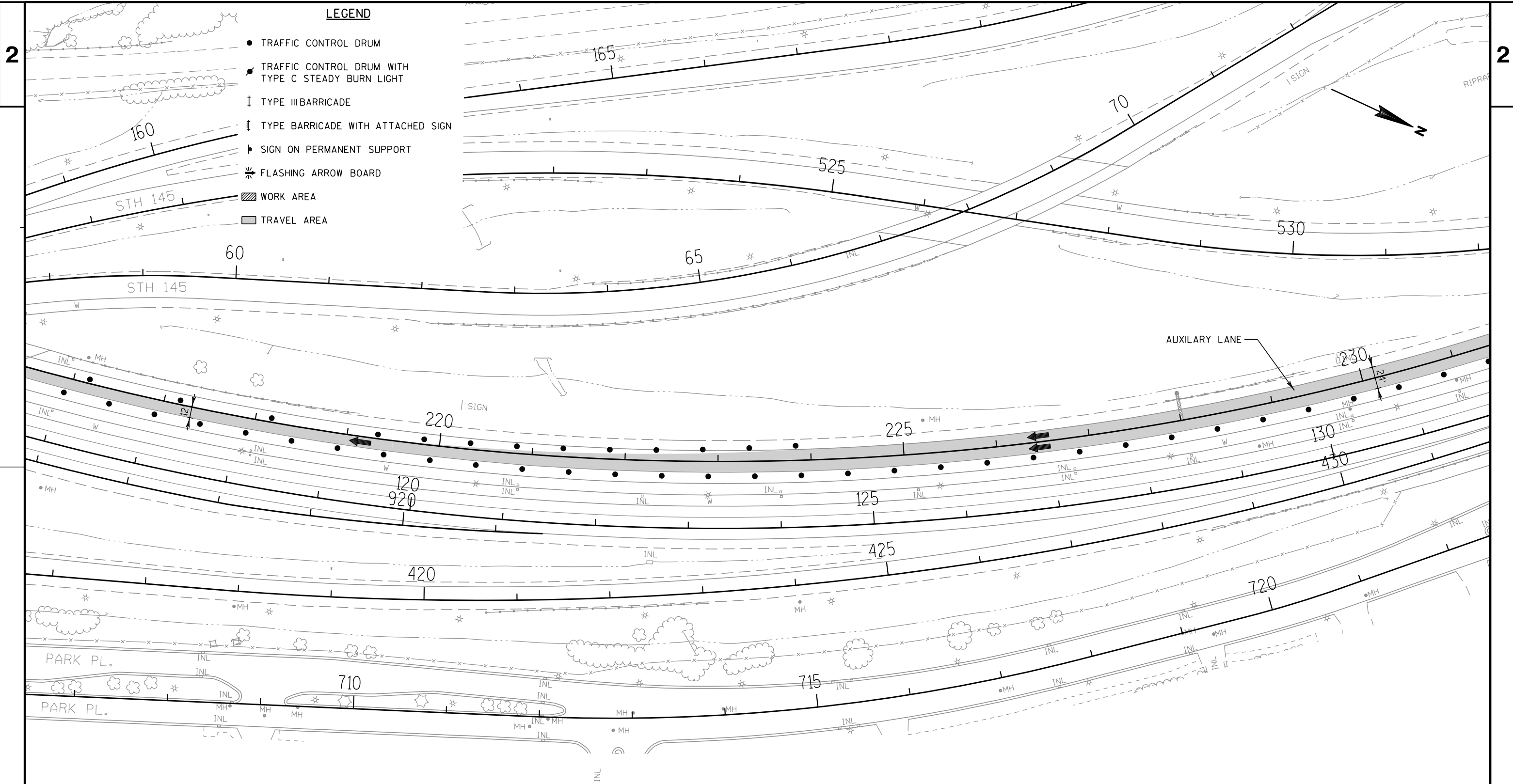
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— USH 45 CLOSED

NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

2



2

NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

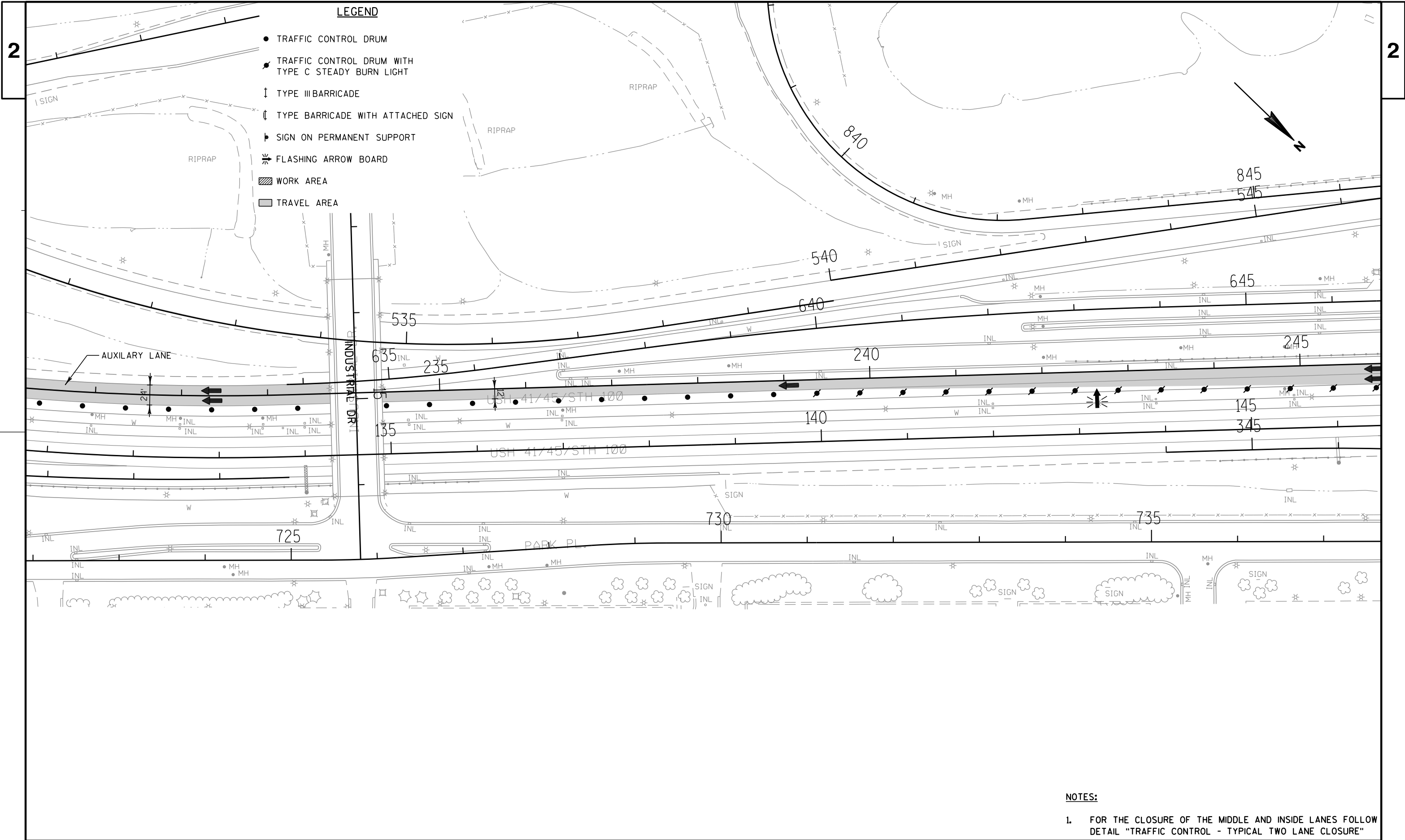
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VI

SHEET

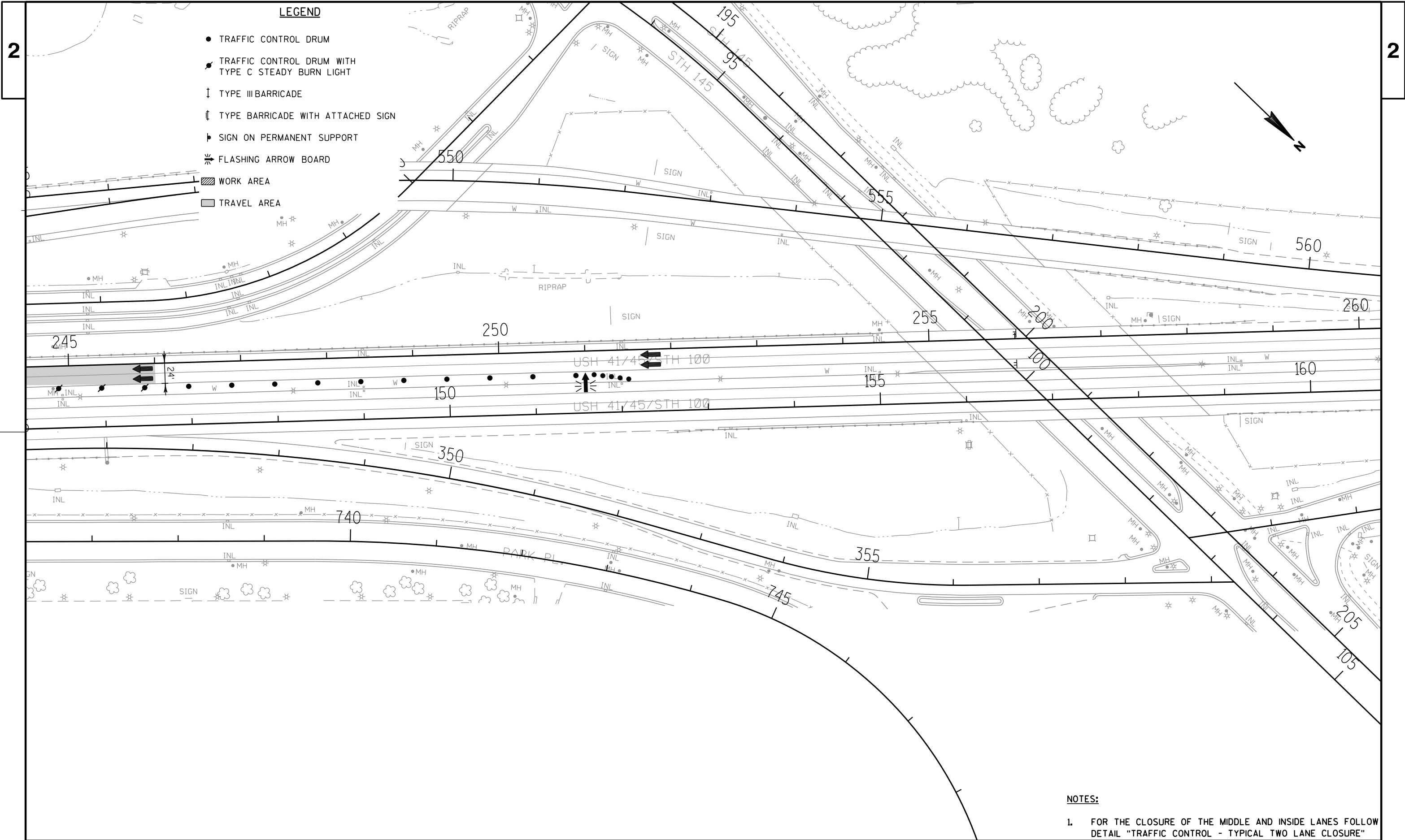
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E



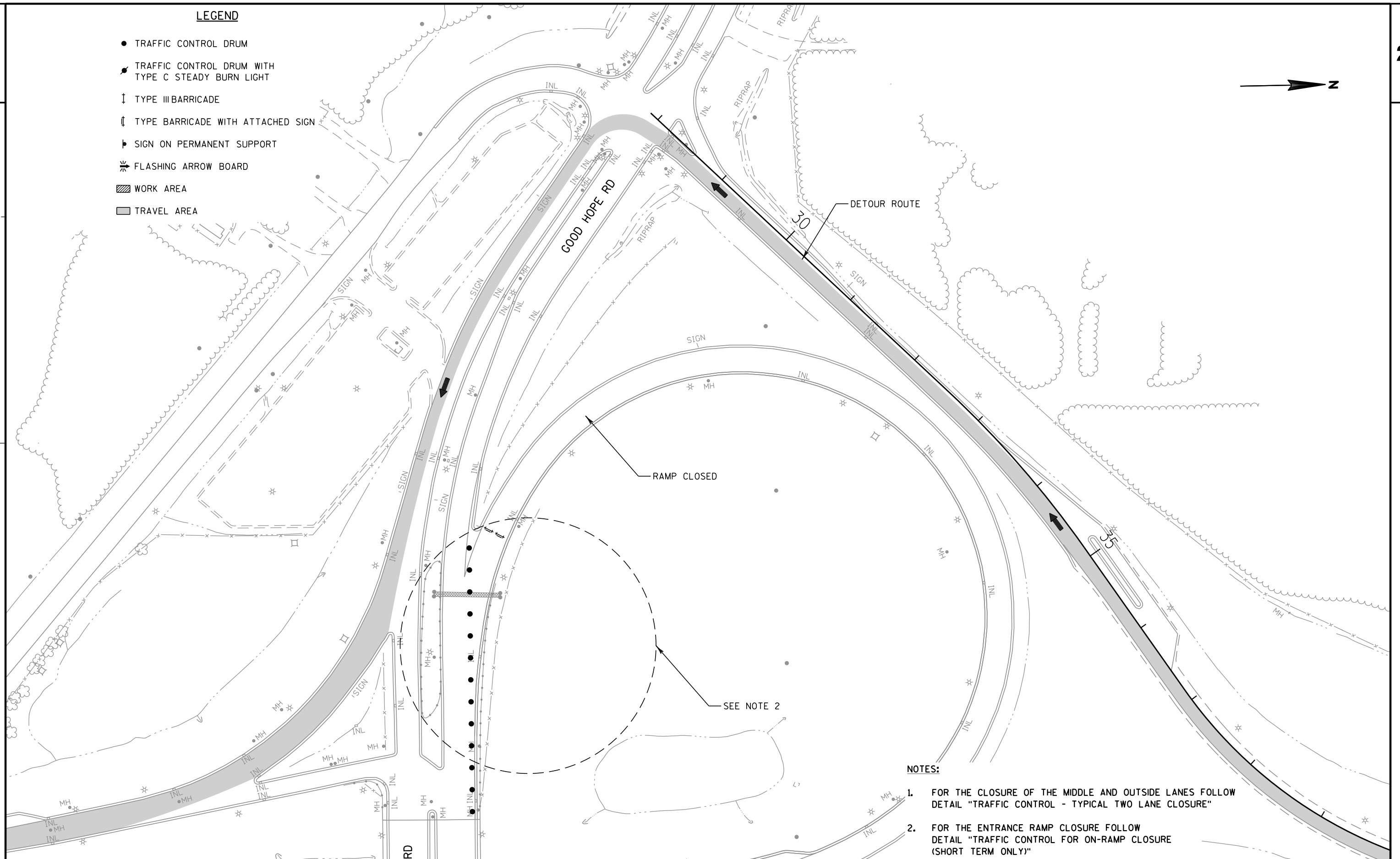
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE ENTRANCE RAMP CLOSURE FOLLOW DETAIL "TRAFFIC CONTROL FOR ON-RAMP CLOSURE (SHORT TERM ONLY)"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE I, IV, & VI G

SHEET

175

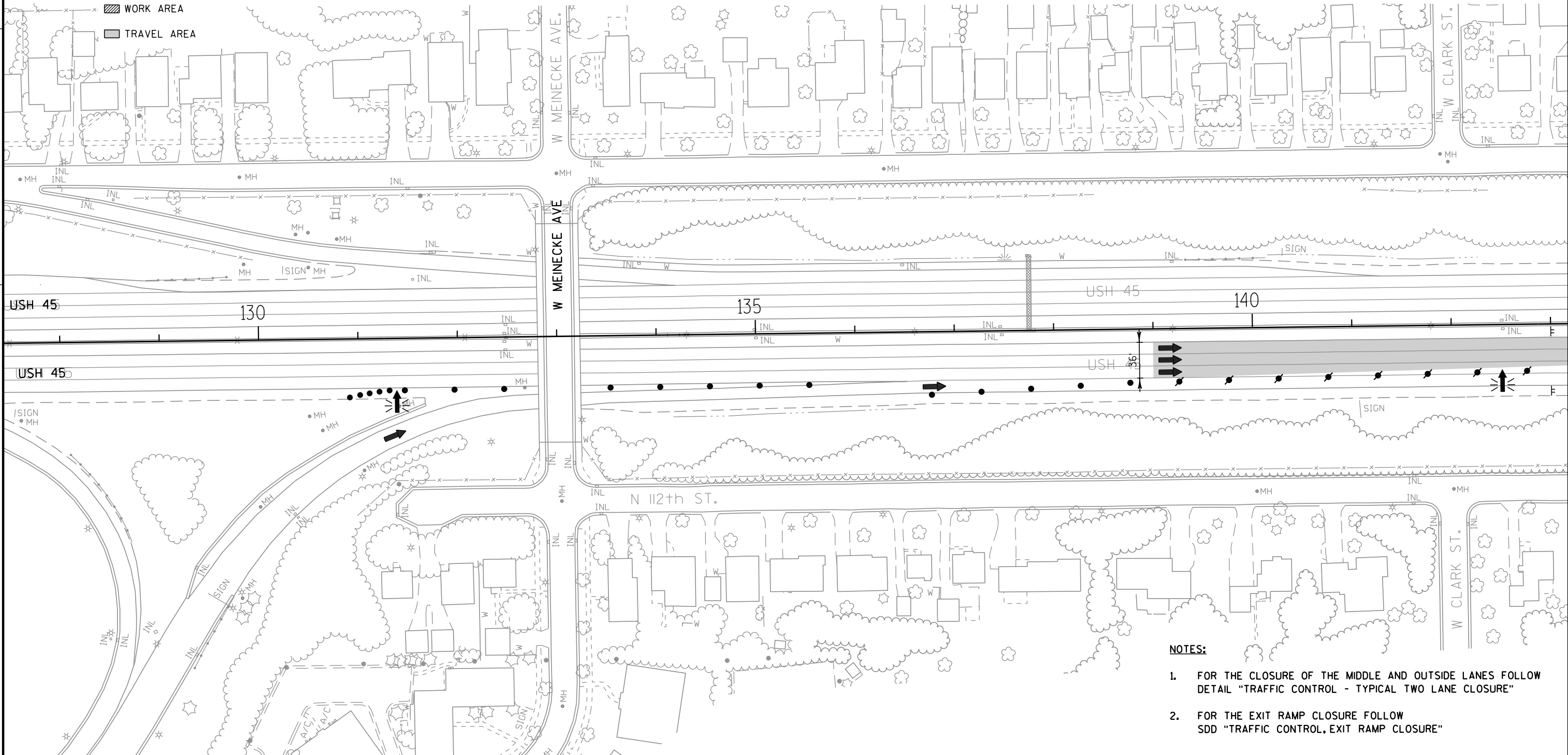
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LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ↑ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD

▨ WORK AREA

▨ TRAVEL AREA



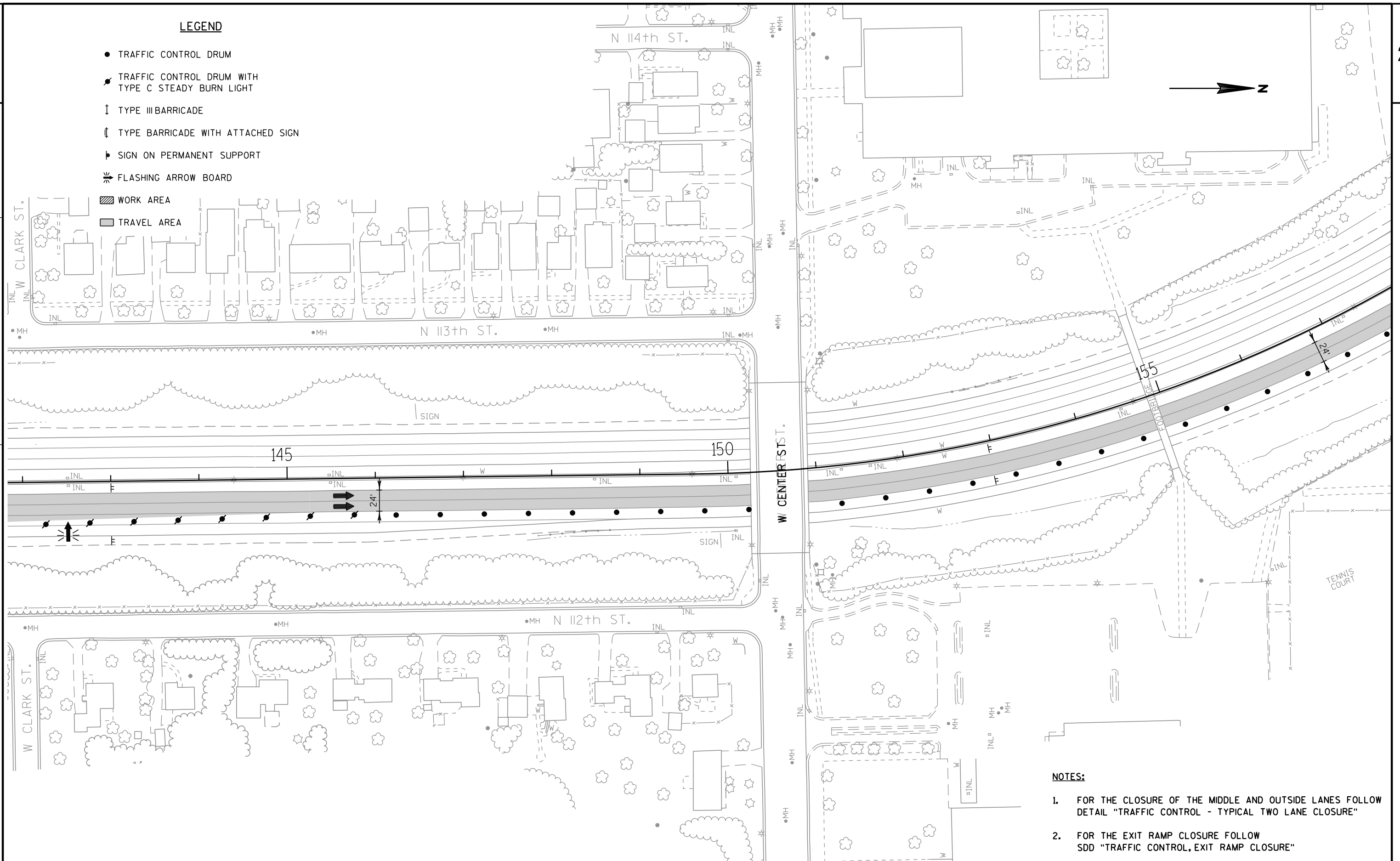
- NOTES:
1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
 2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD

▨ WORK AREA

▨ TRAVEL AREA

**NOTES:**

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII A

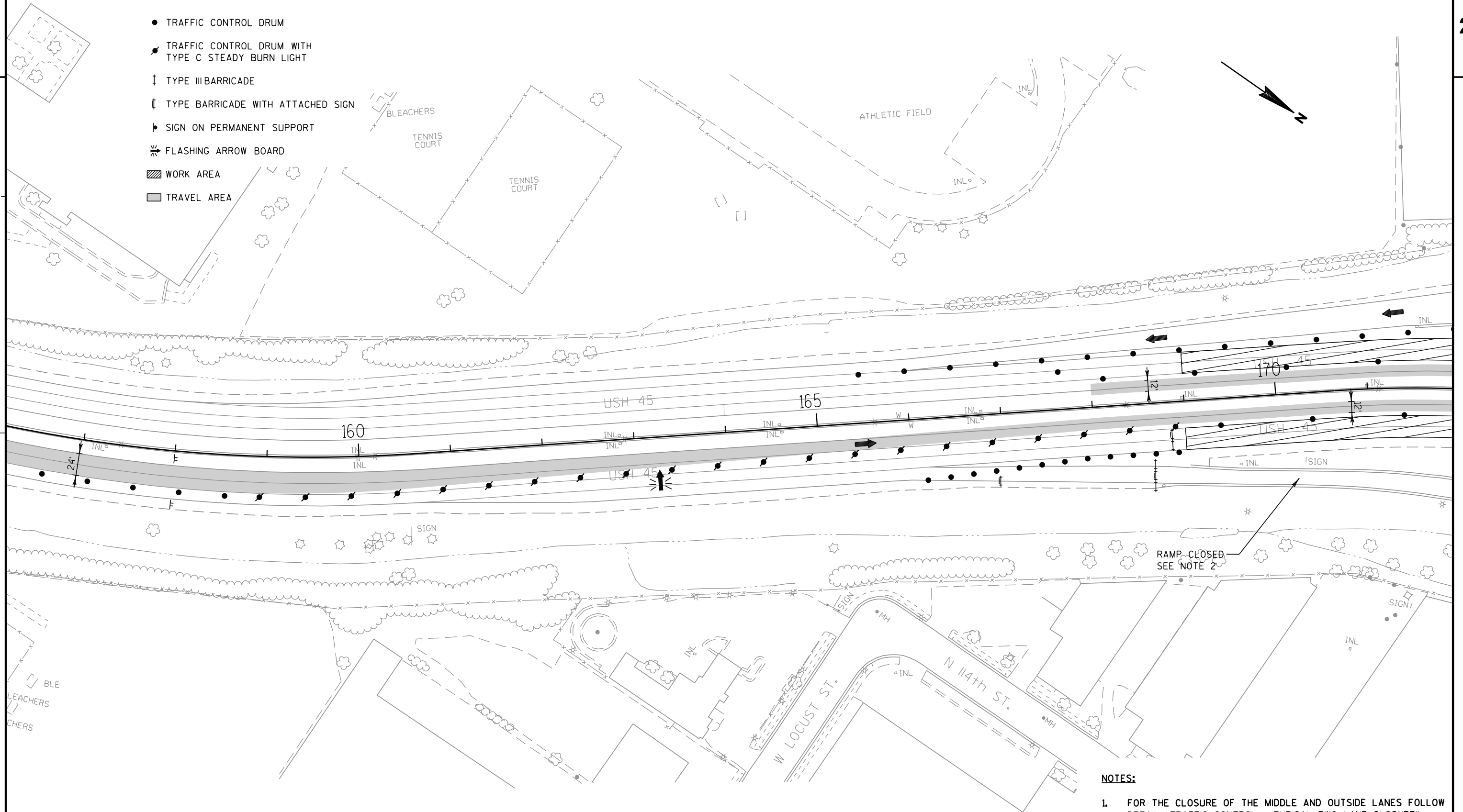
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177

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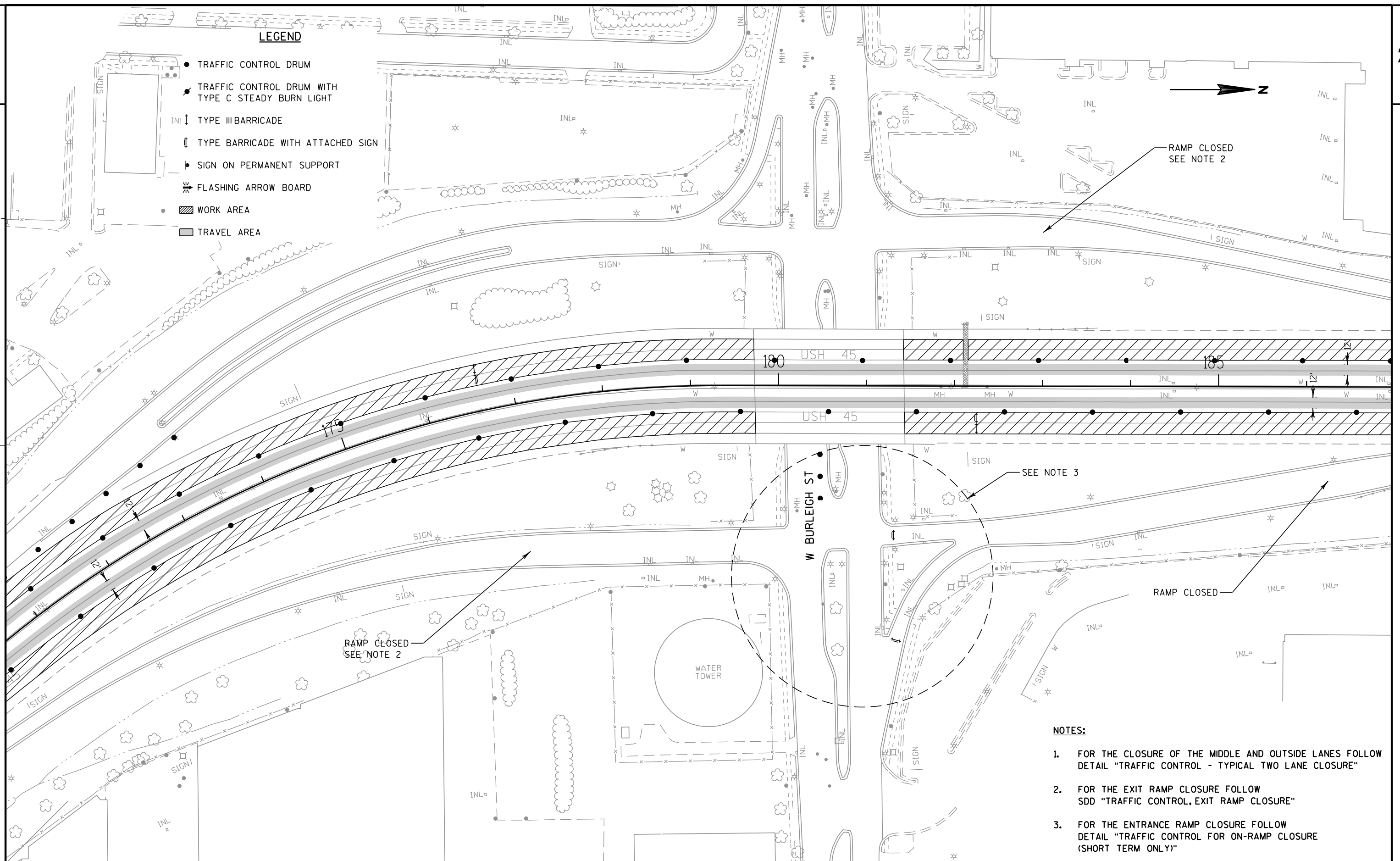
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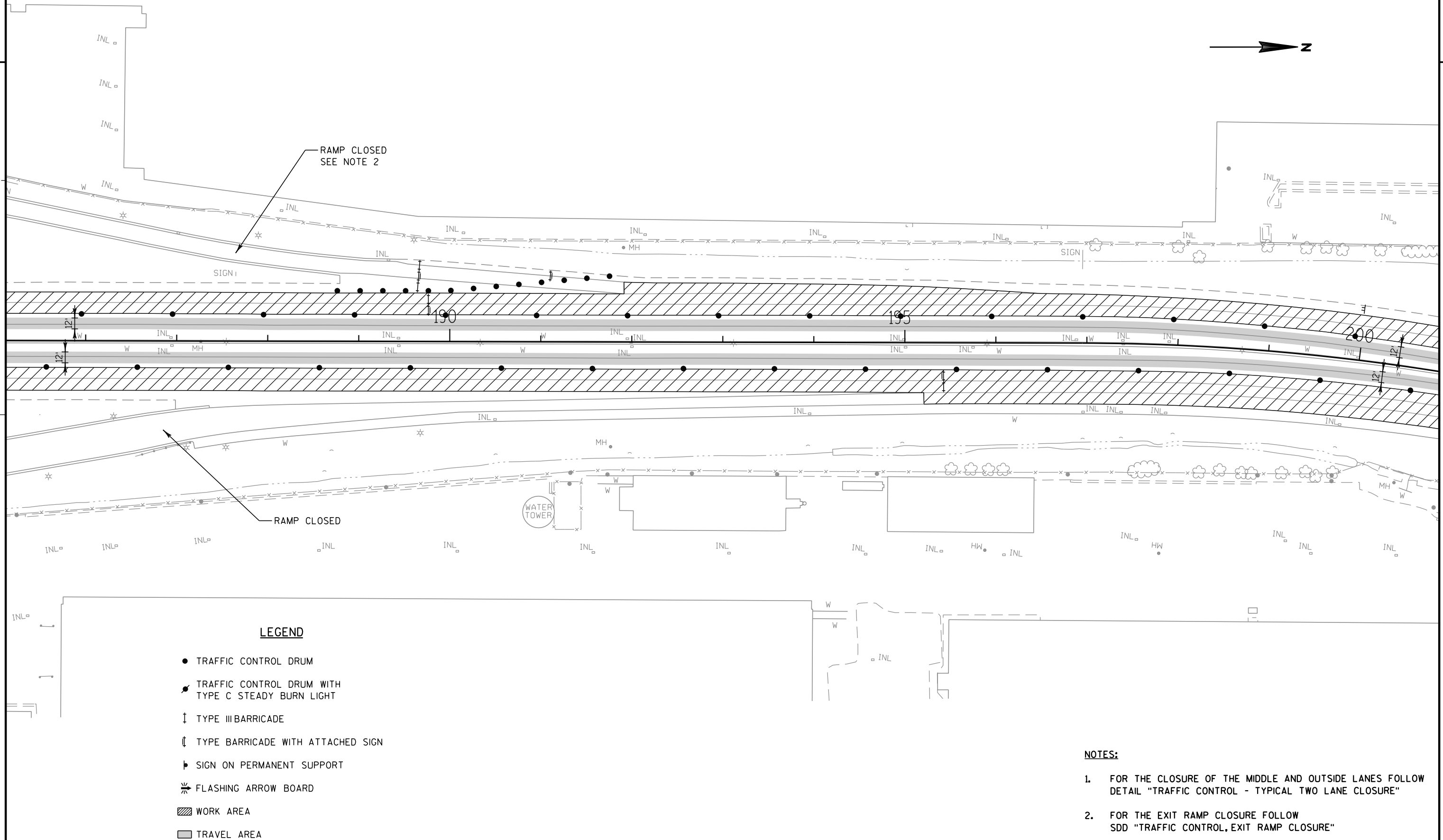
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

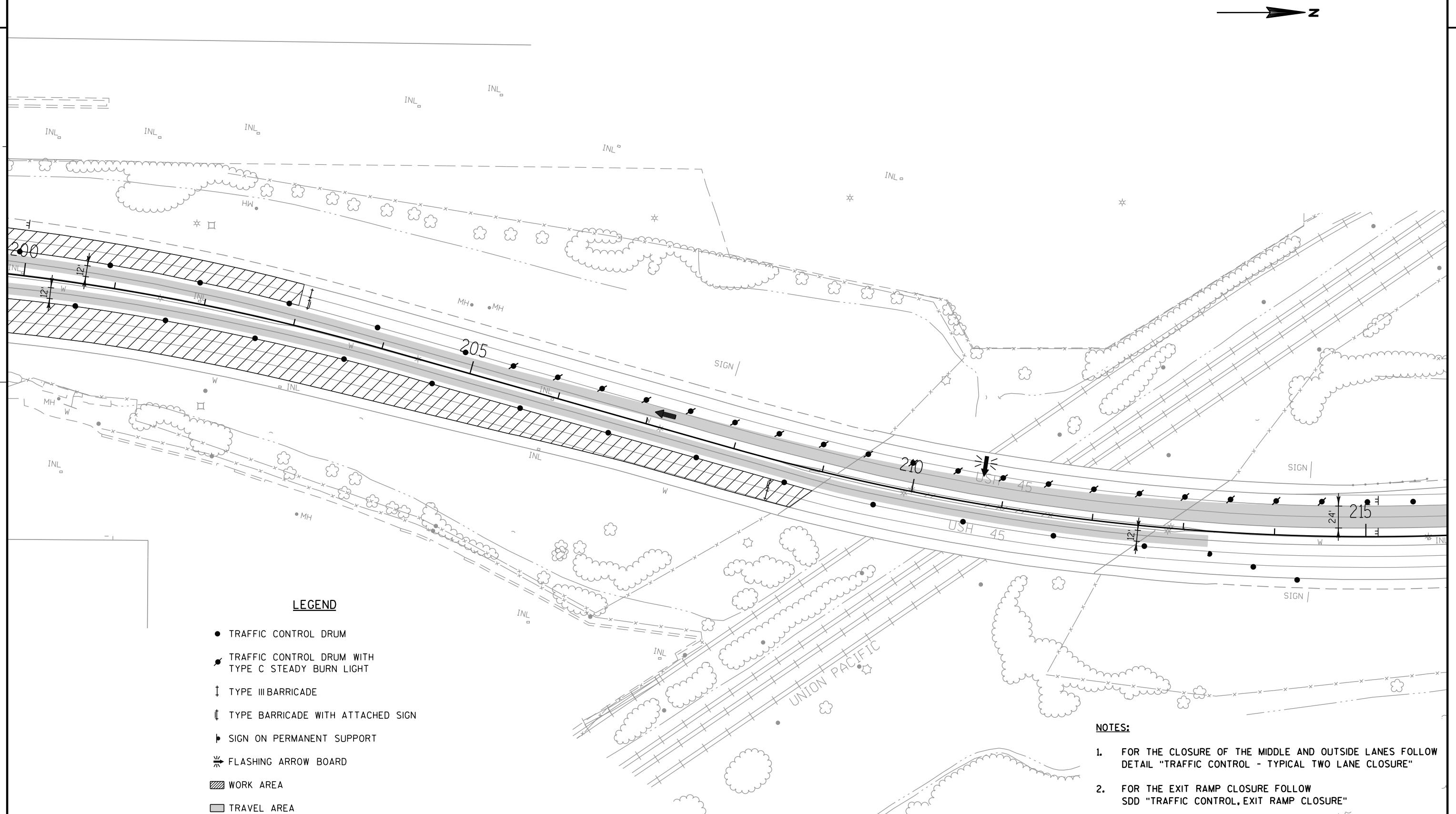


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

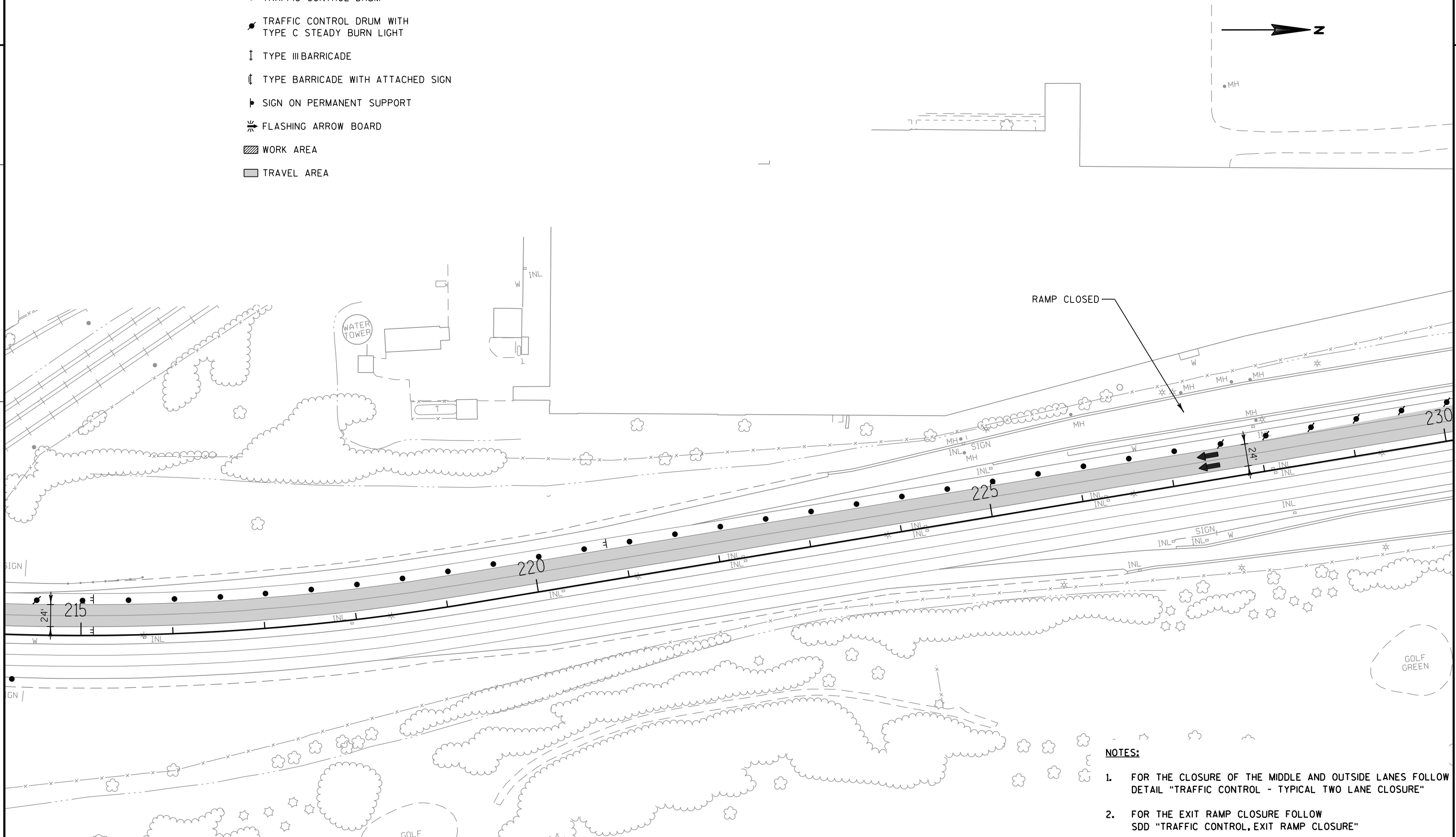






LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ↗ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

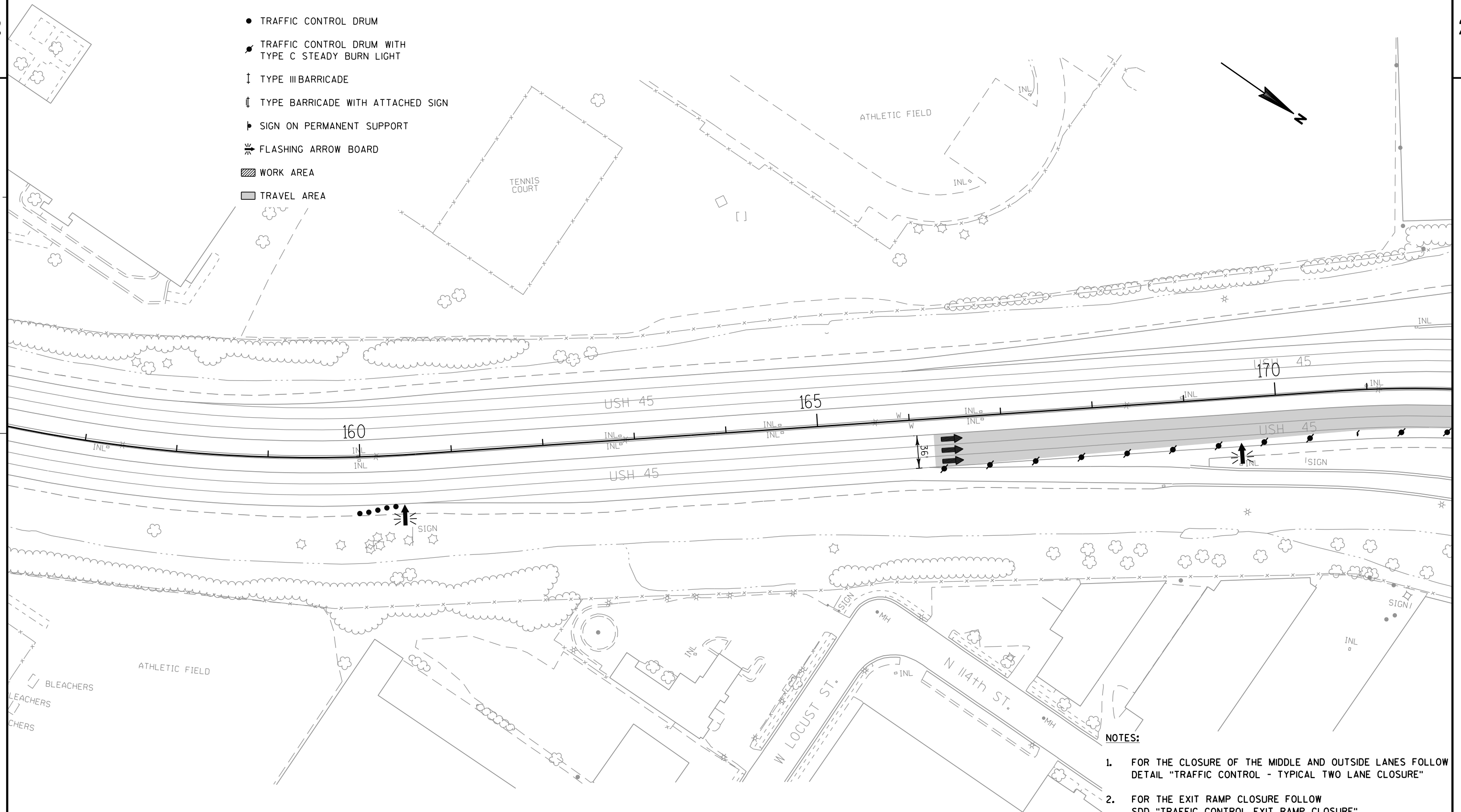
1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"



83

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"
3. FOR THE ENTRANCE RAMP CLOSURE FOLLOW
DETAIL "TRAFFIC CONTROL FOR ON-RAMP CLOSURE
(SHORT TERM ONLY)"

PROJECT NO: 1100-20-60

HWY: USH 45

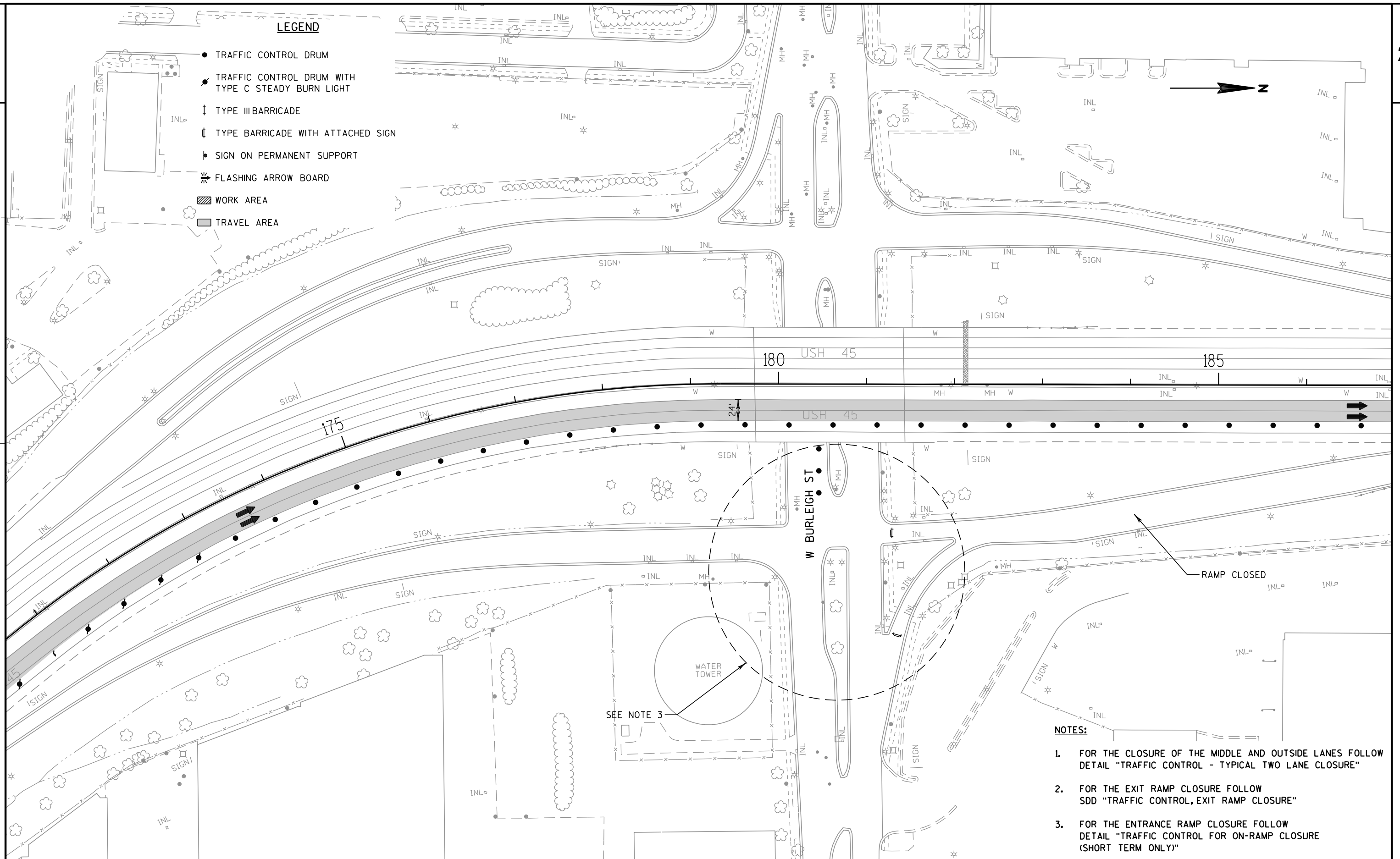
COUNTY: MILWAUKEE

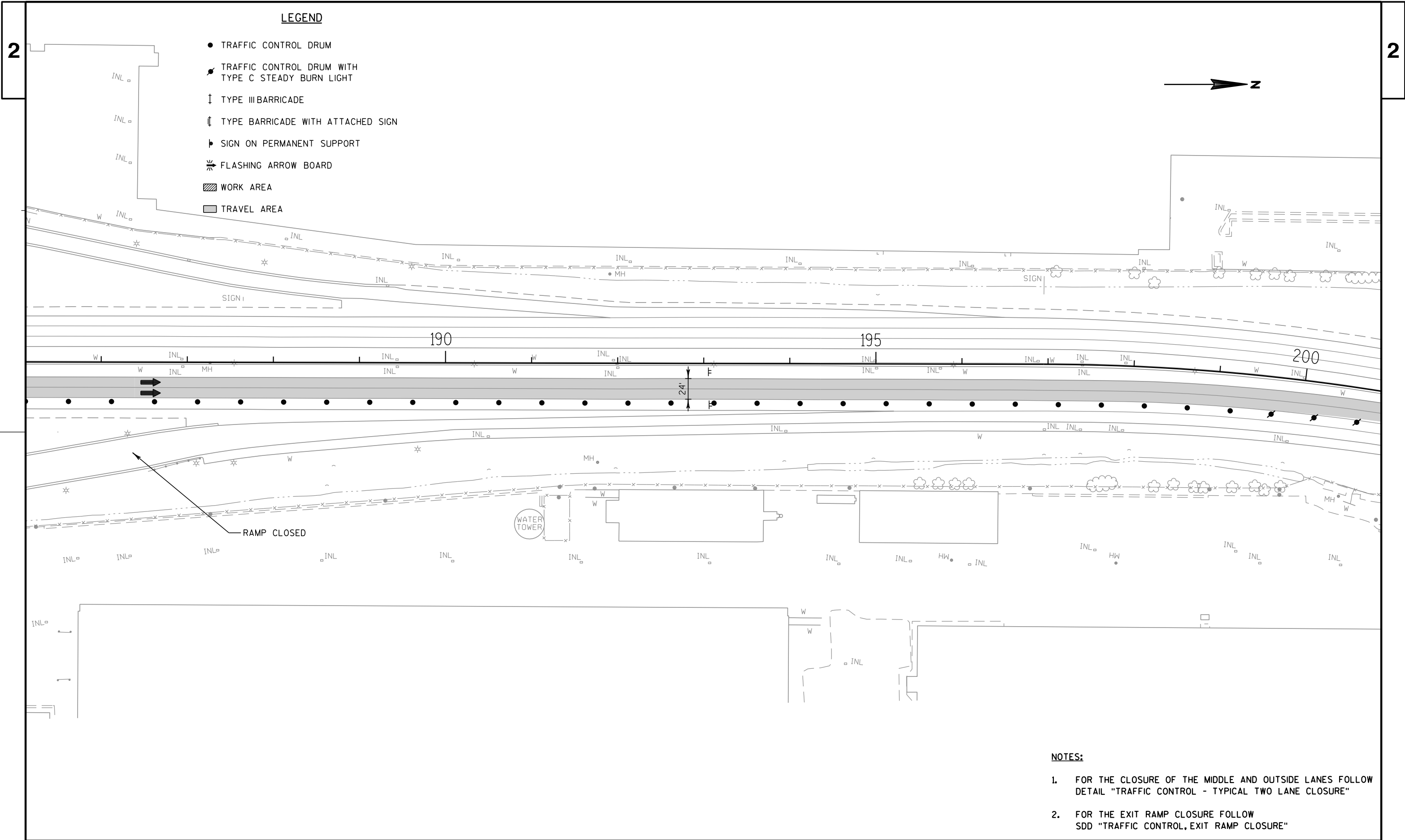
TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII B

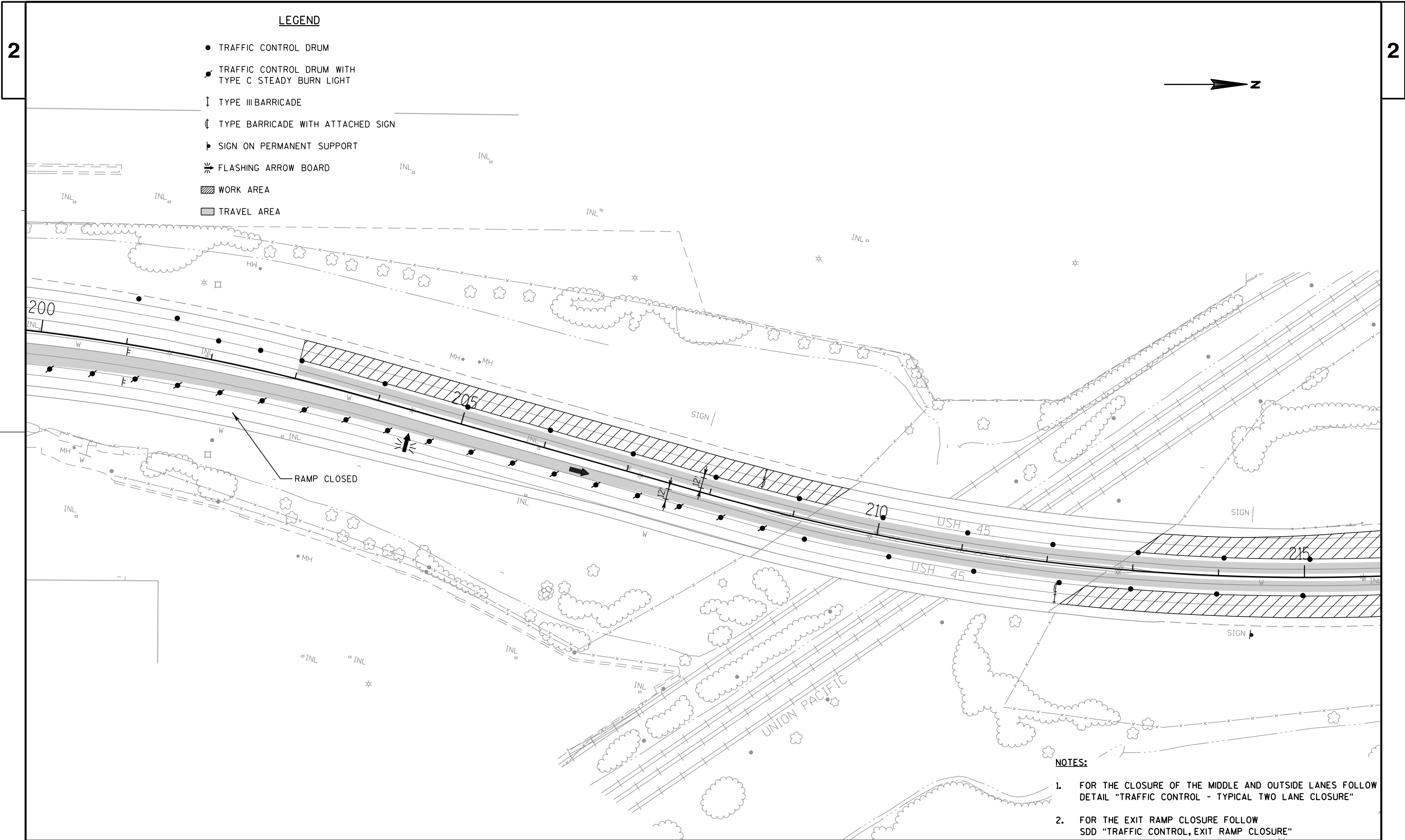
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184

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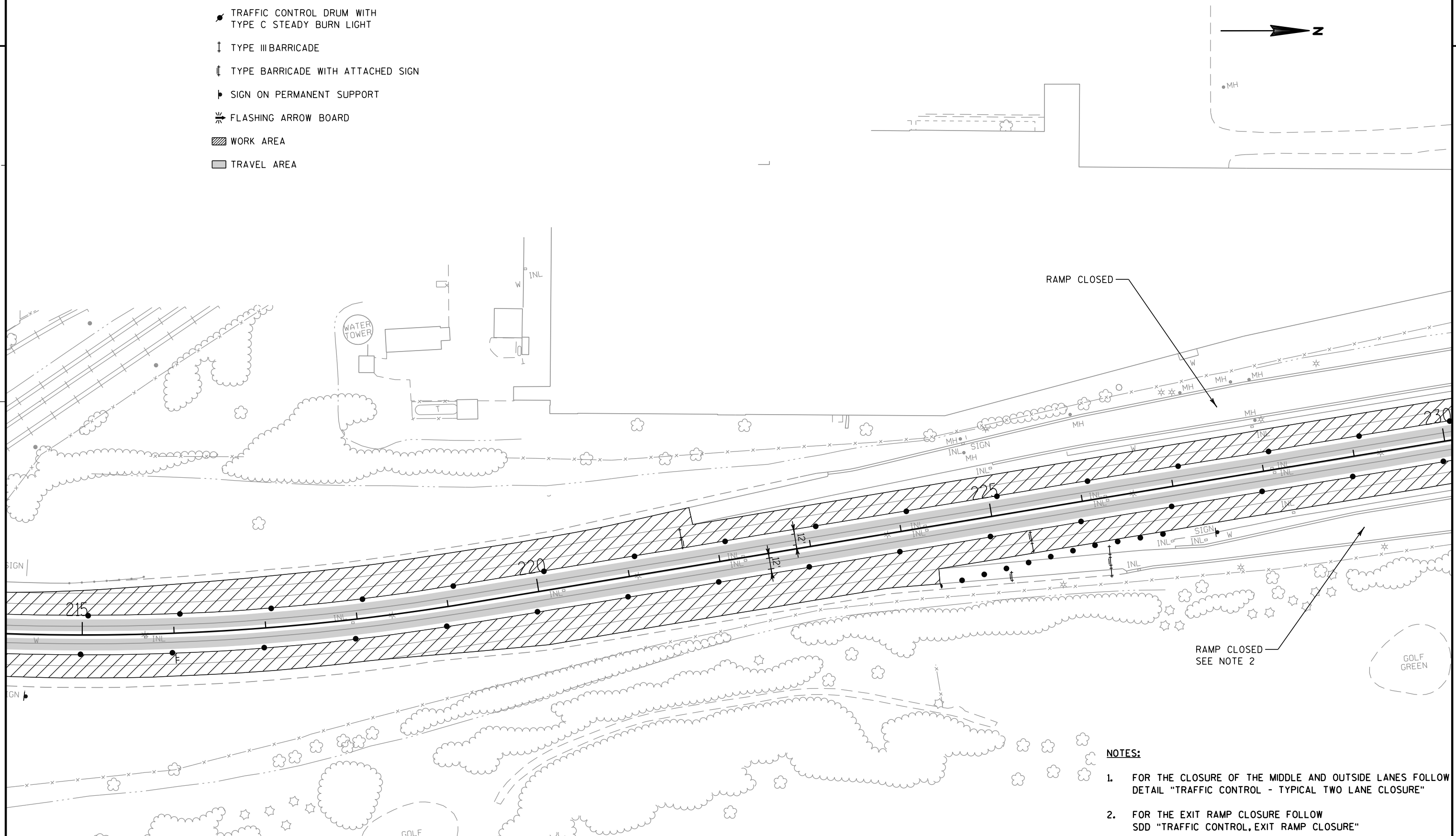


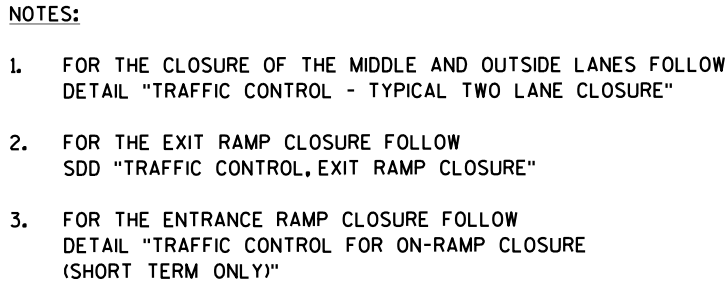




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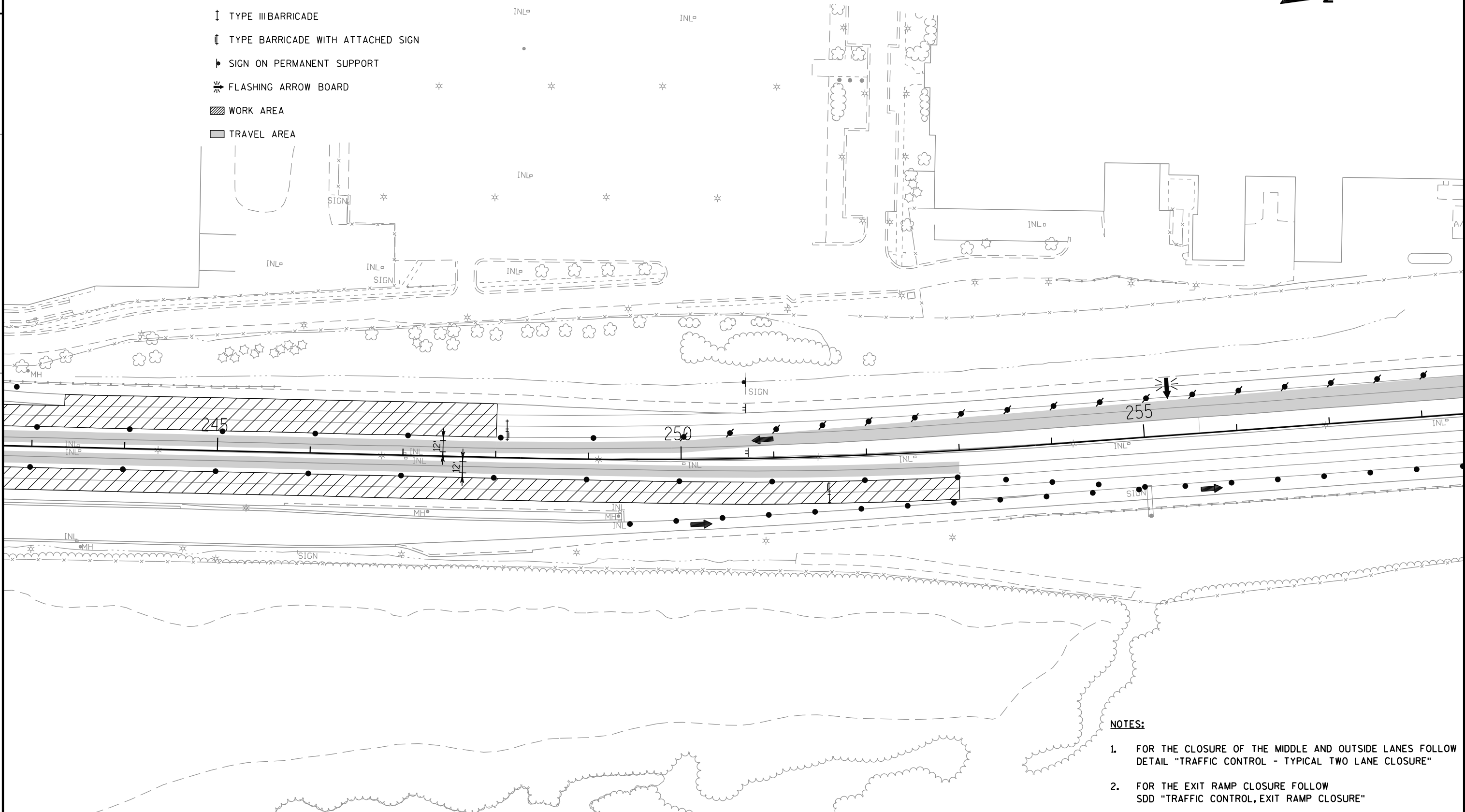
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- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA





LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

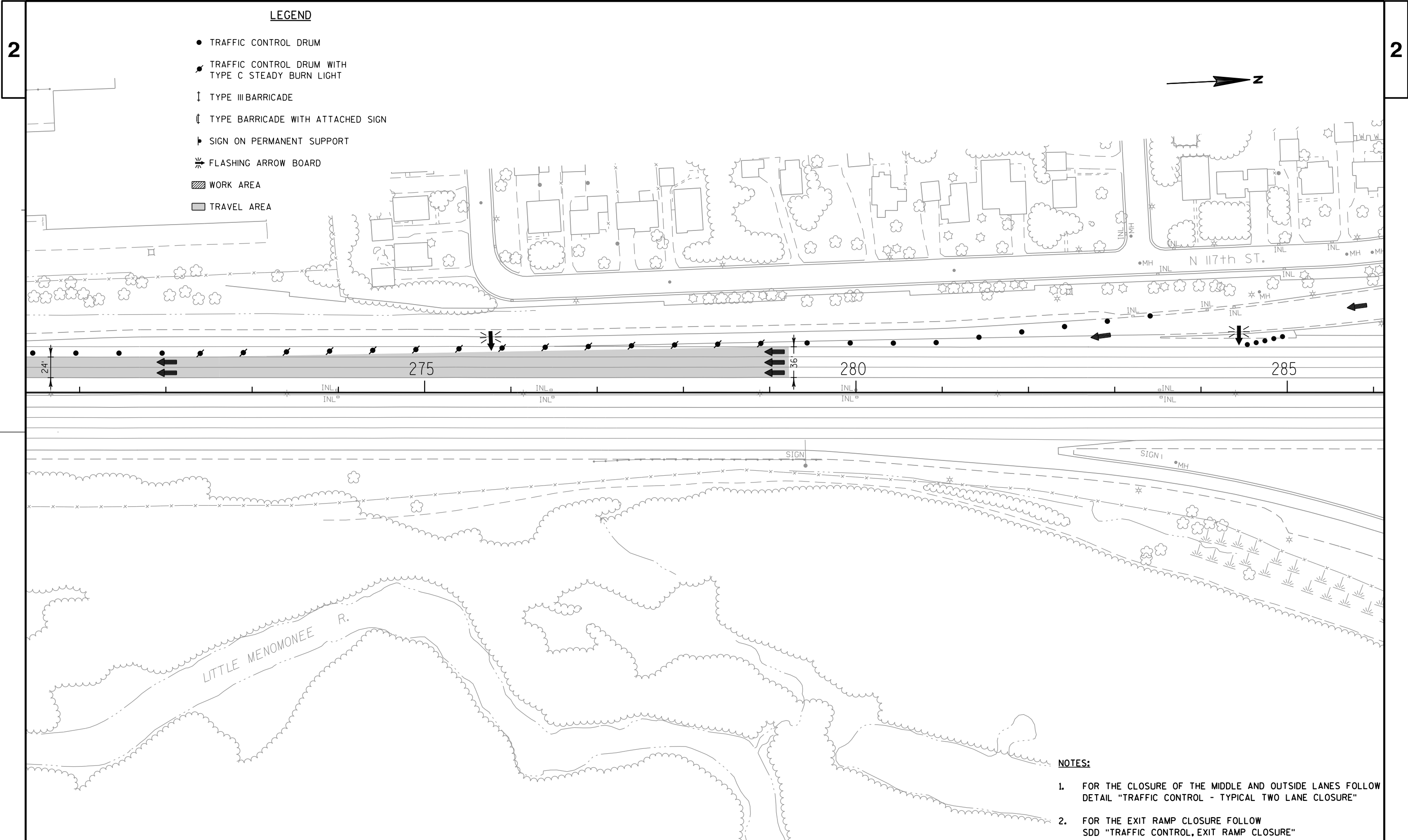
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII B

SHEET

191

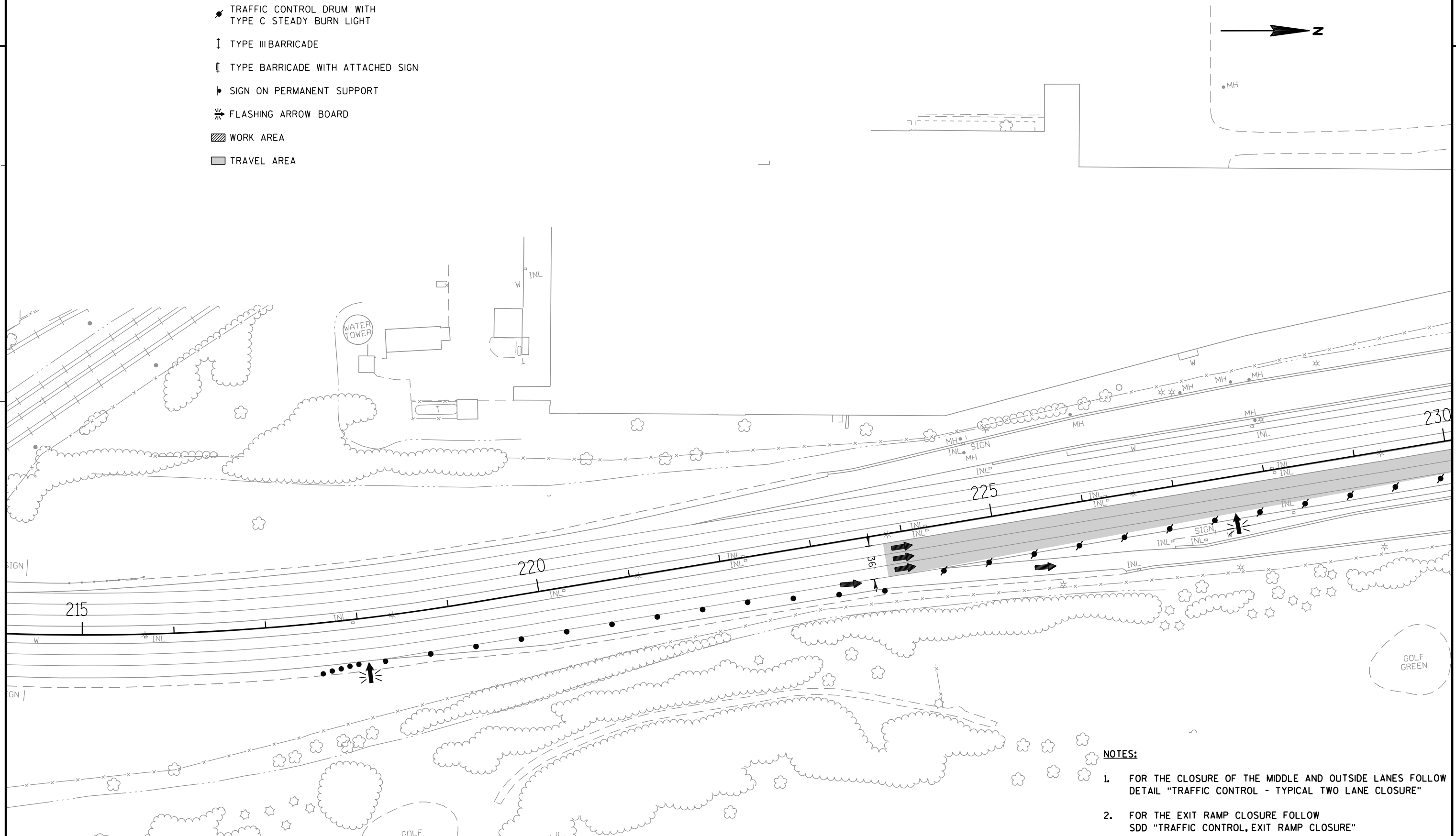
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- NOTES:**
1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
 2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

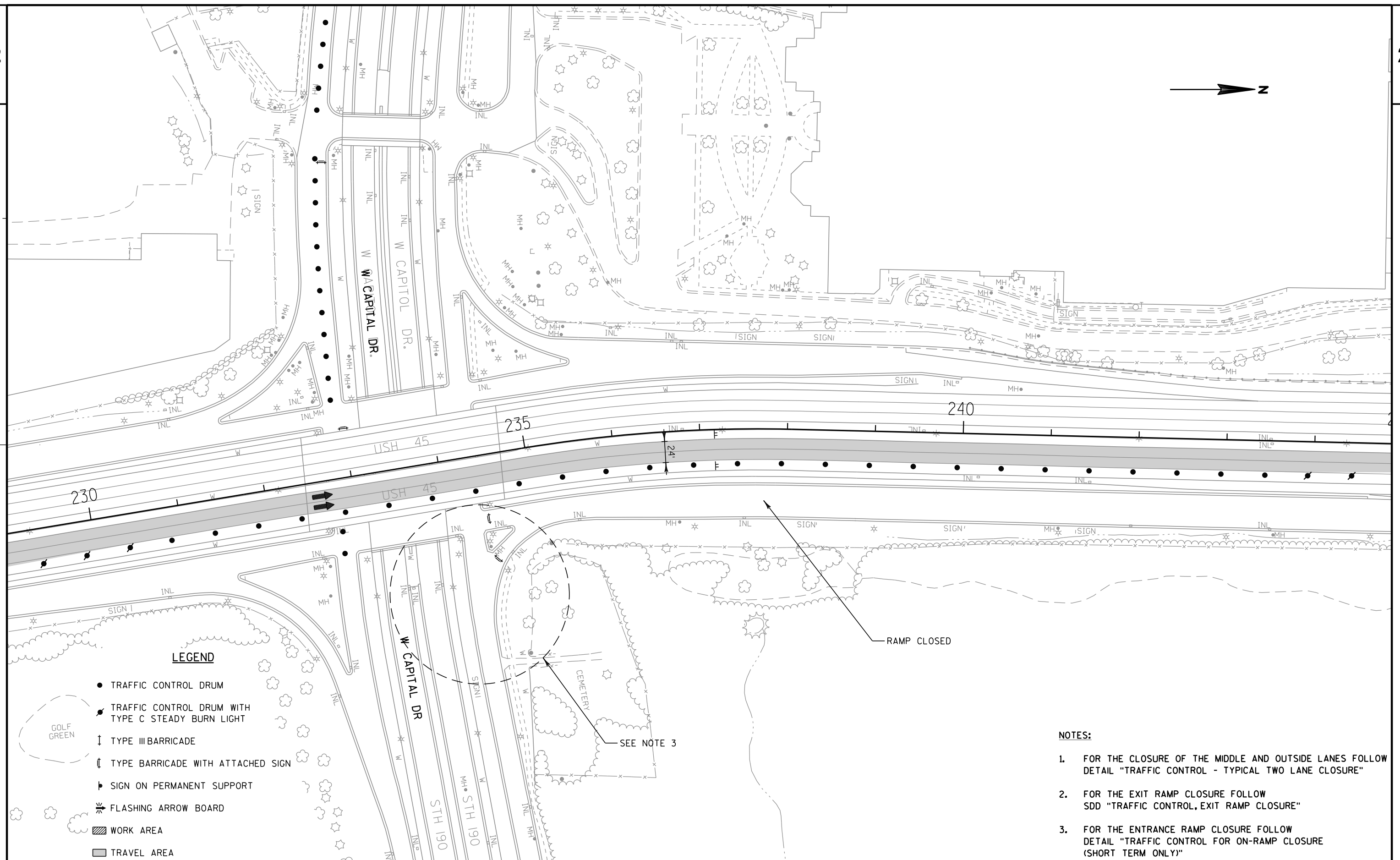
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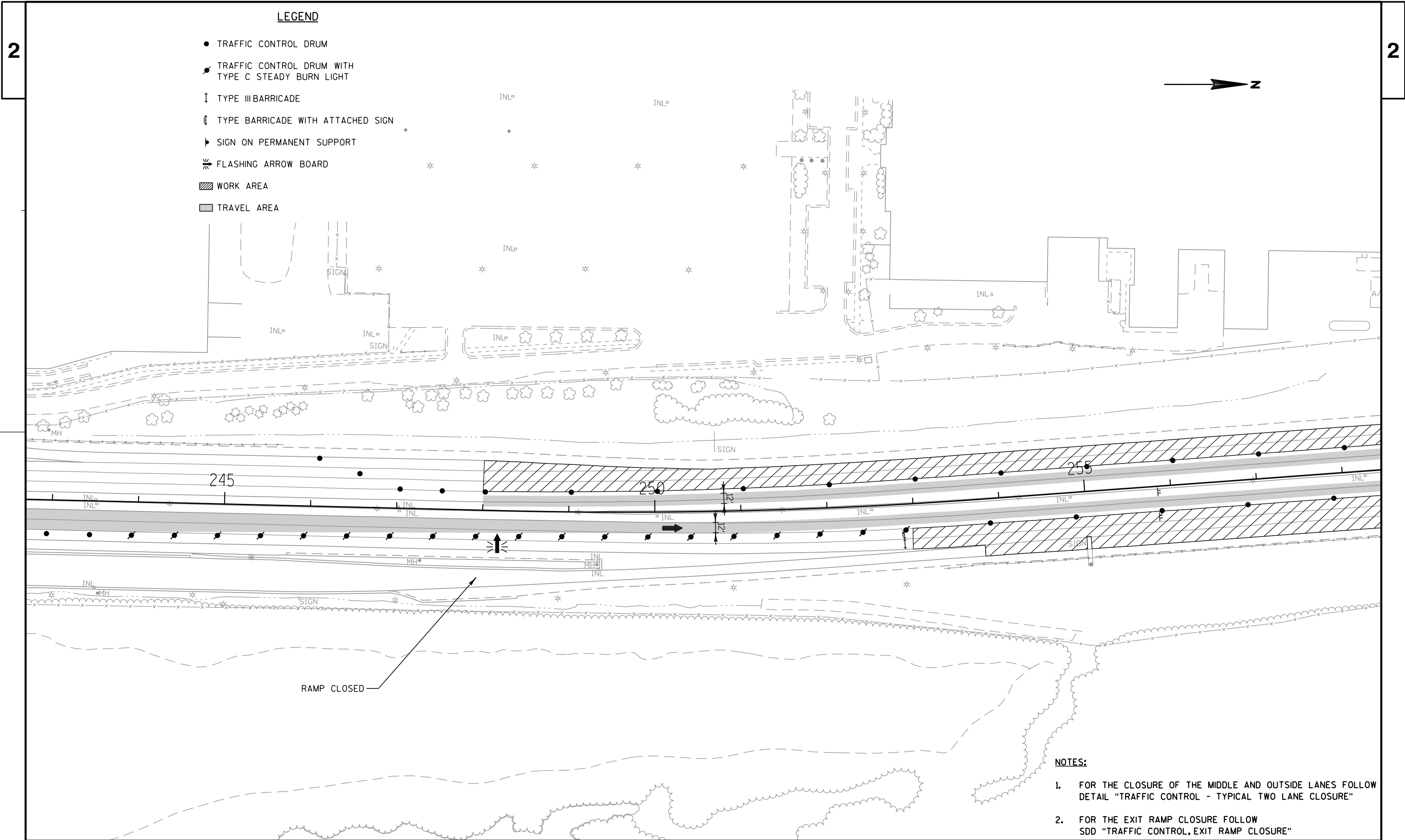
TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII C

SHEET

193

E





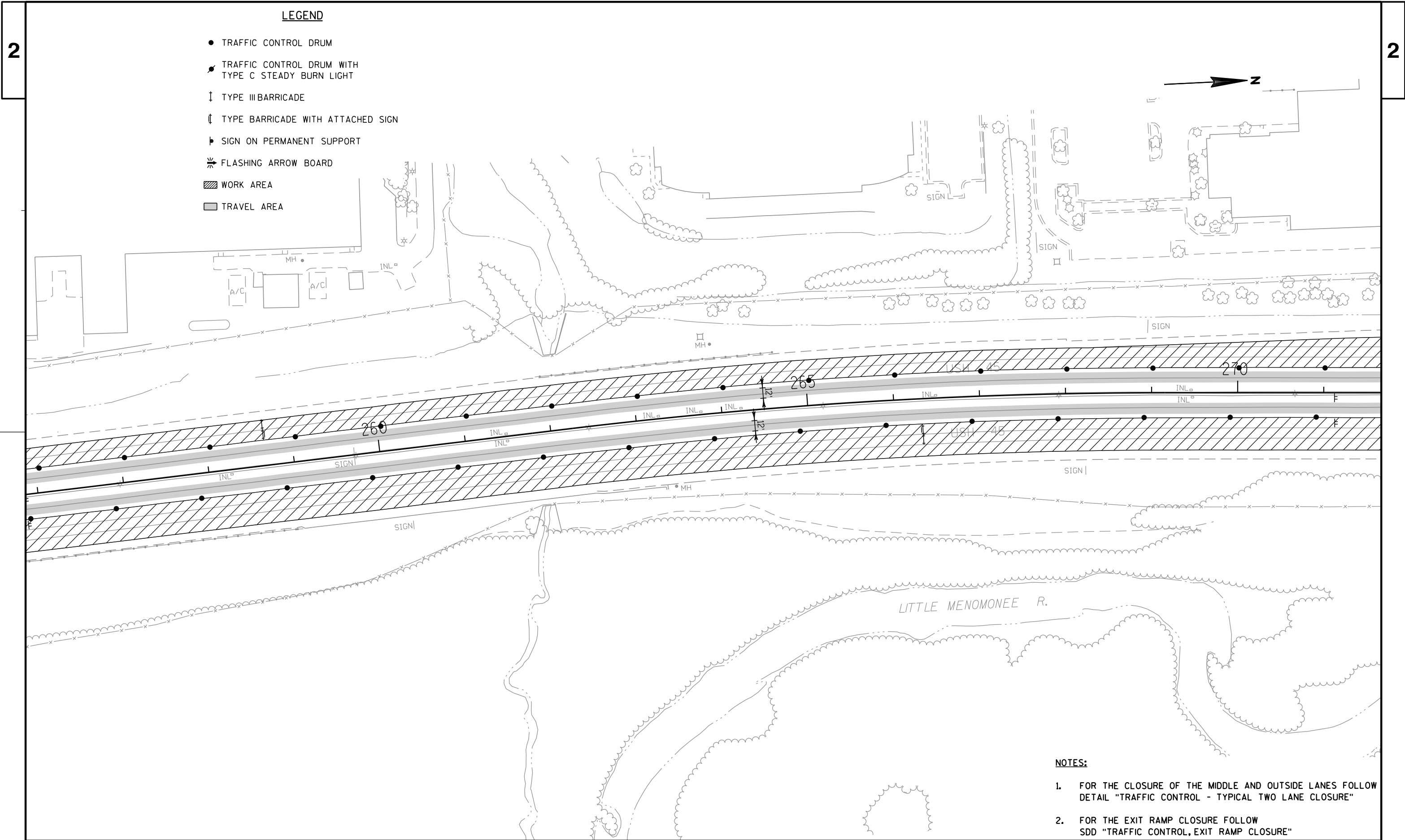
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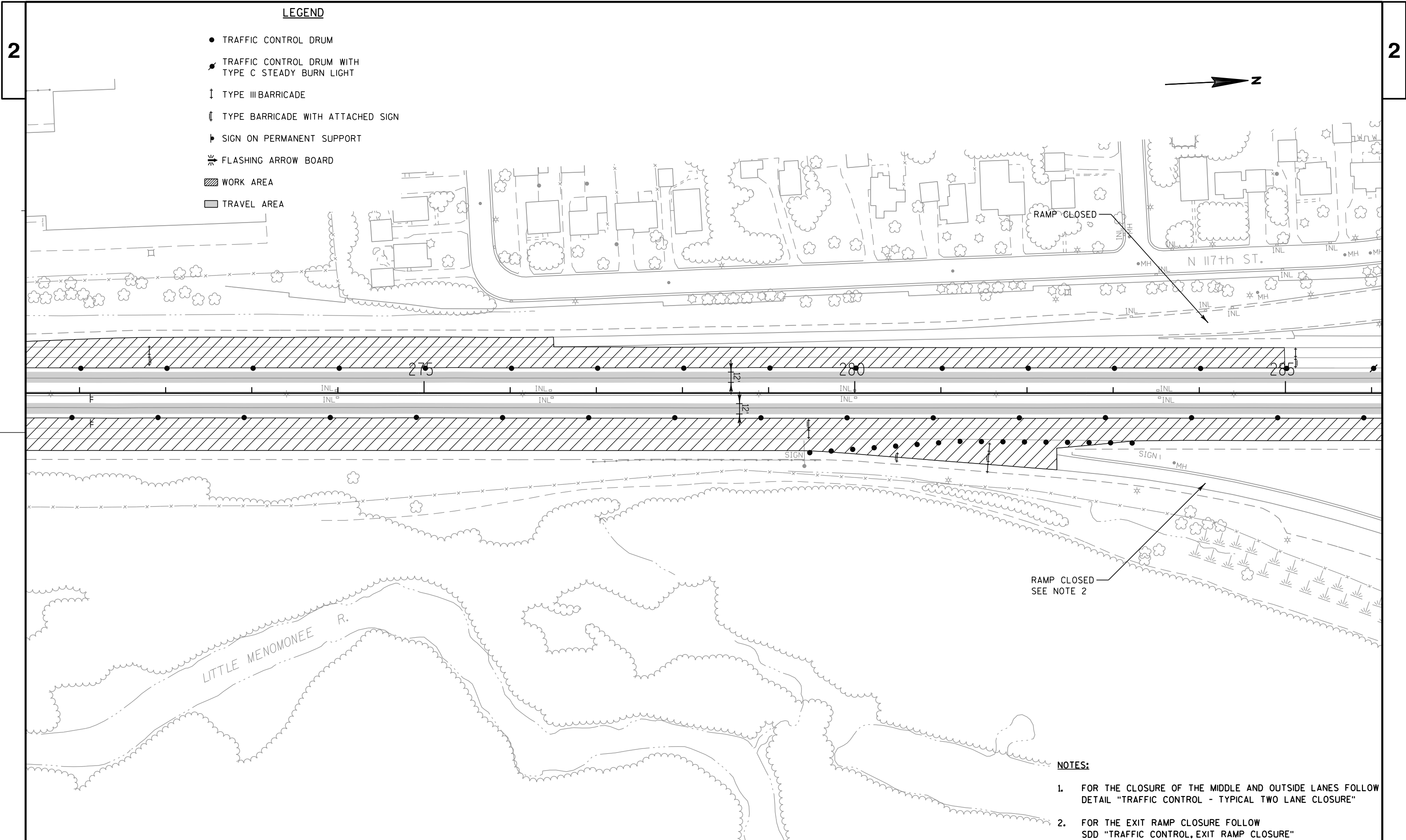
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

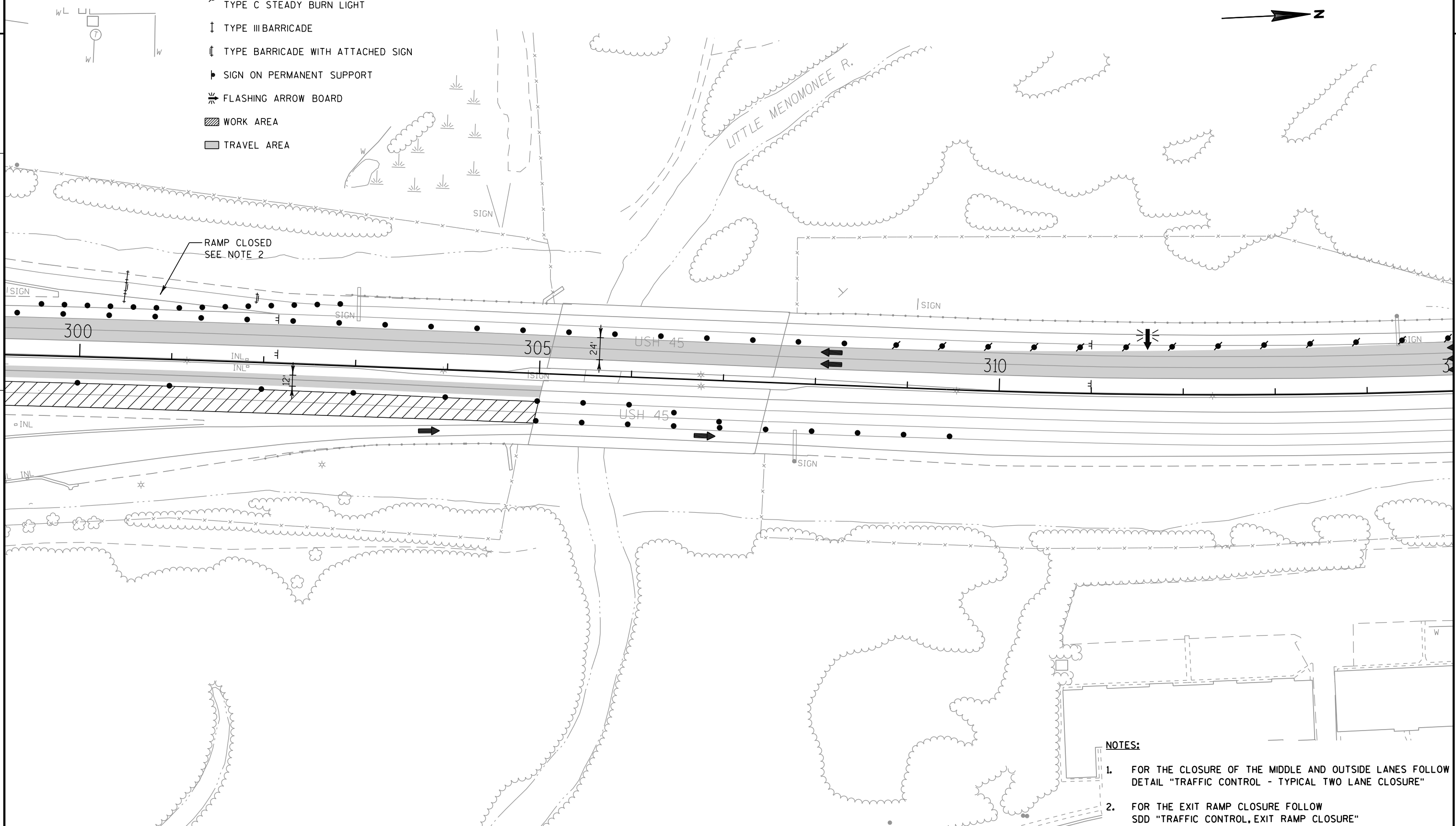
1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"





LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

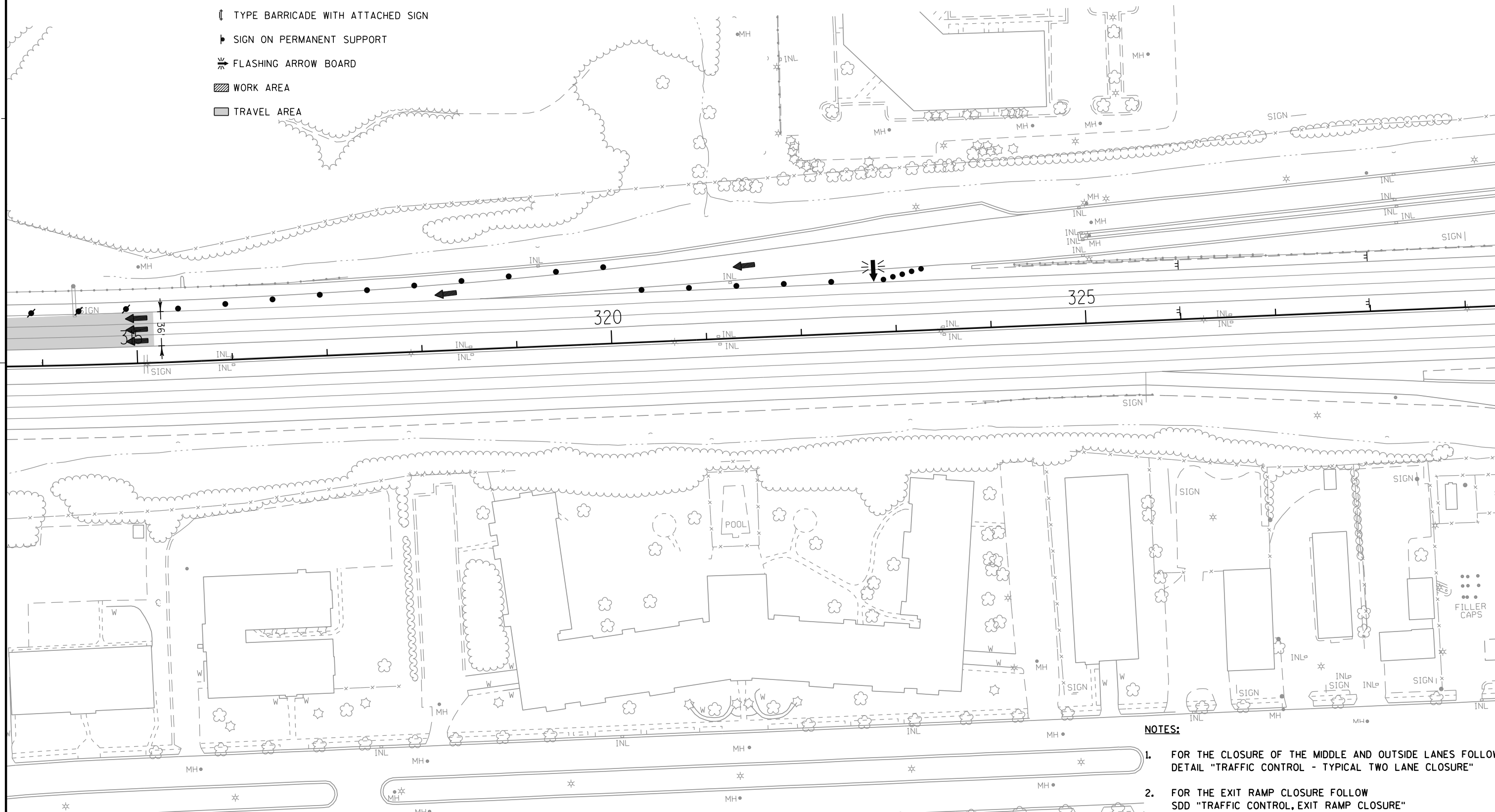


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII C

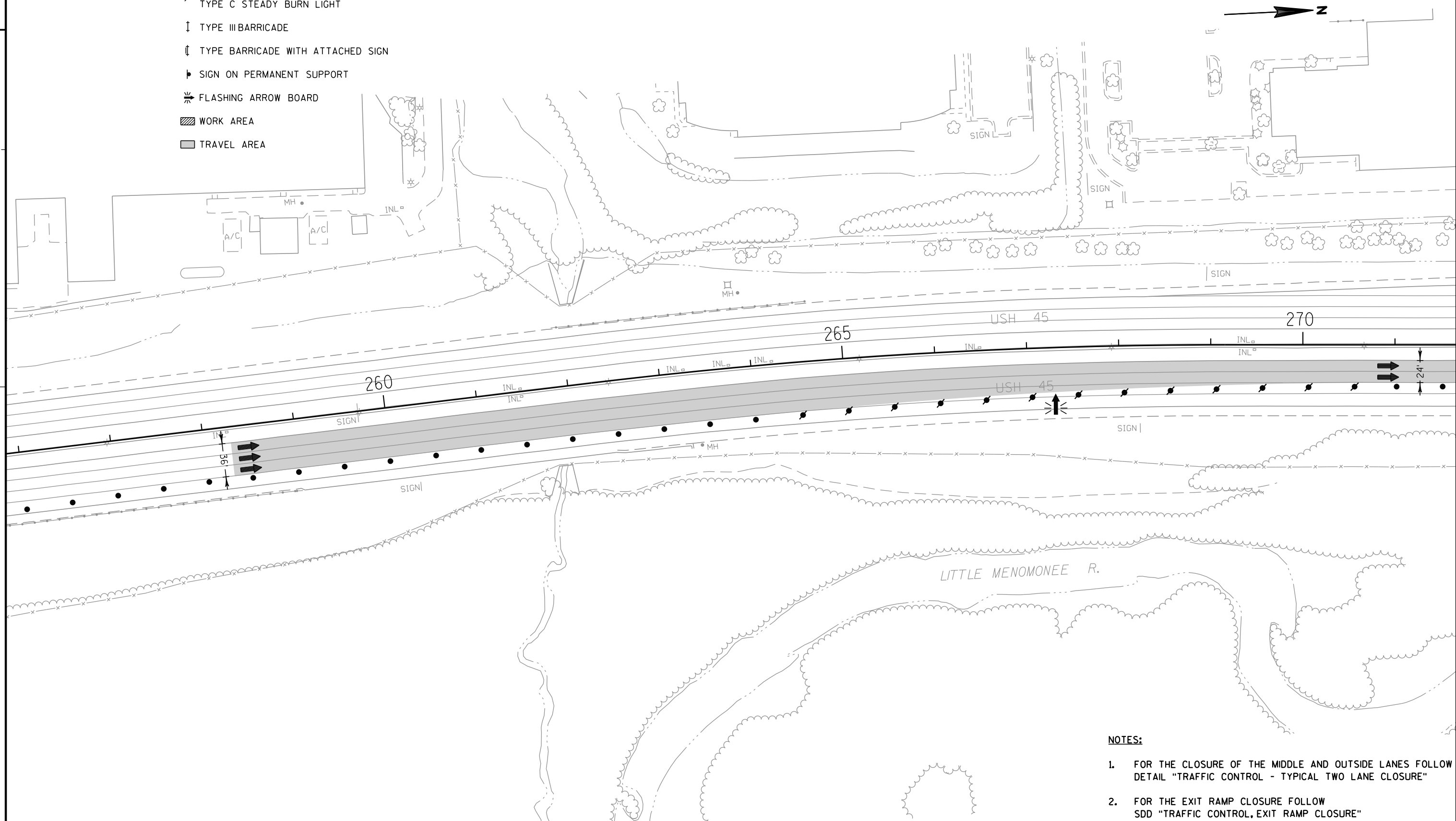
SHEET

200

E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

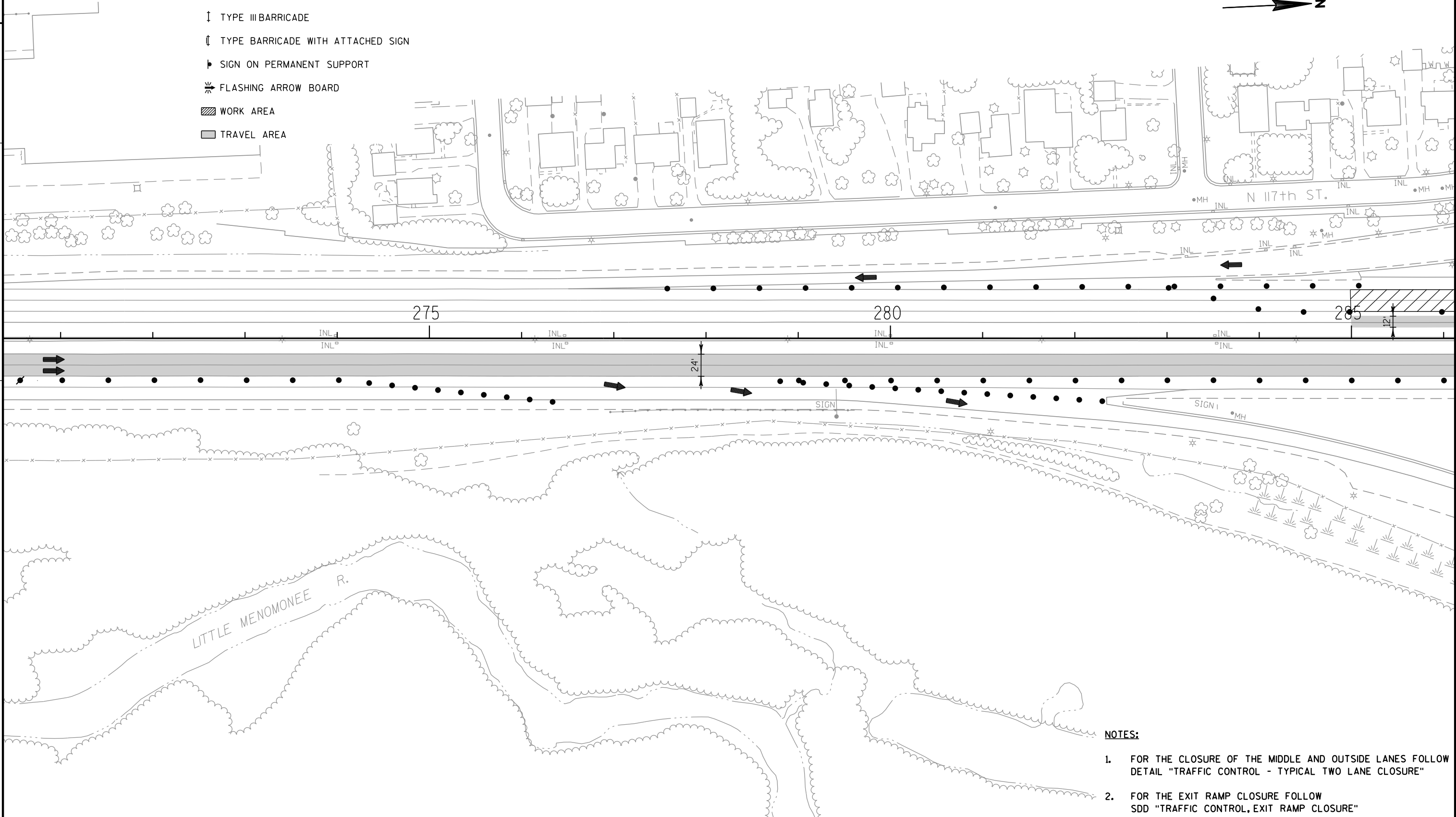


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

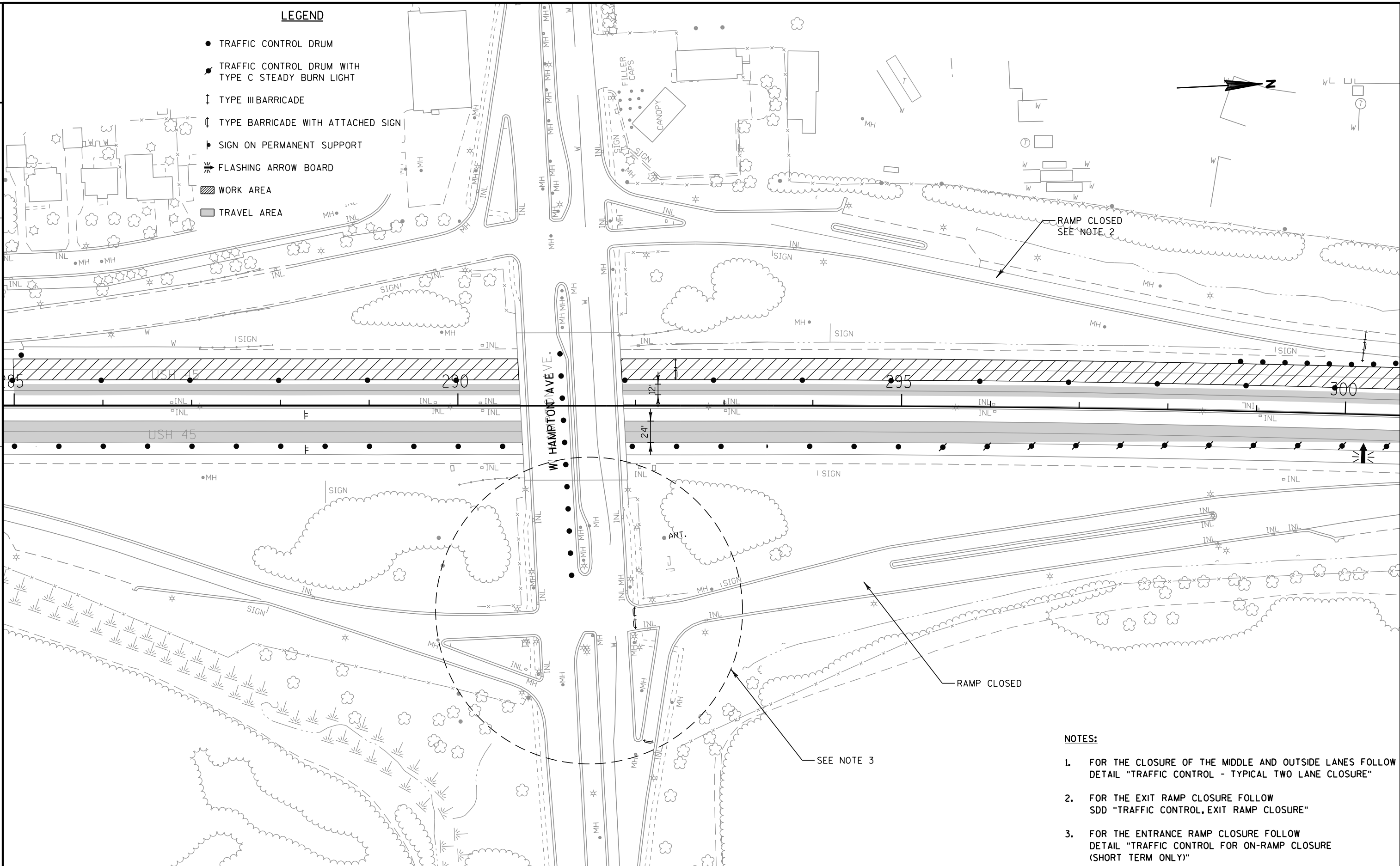


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

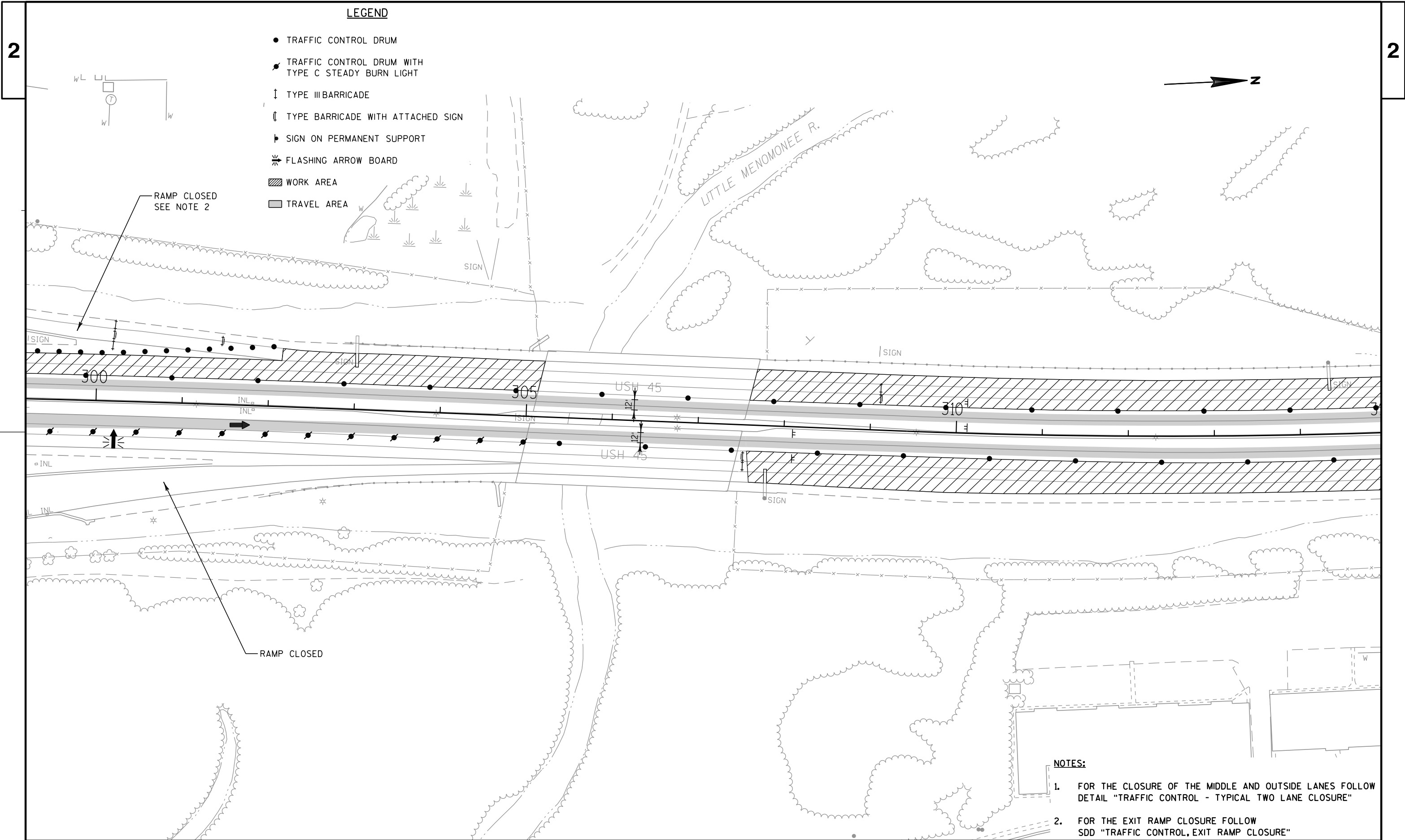
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ↗ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



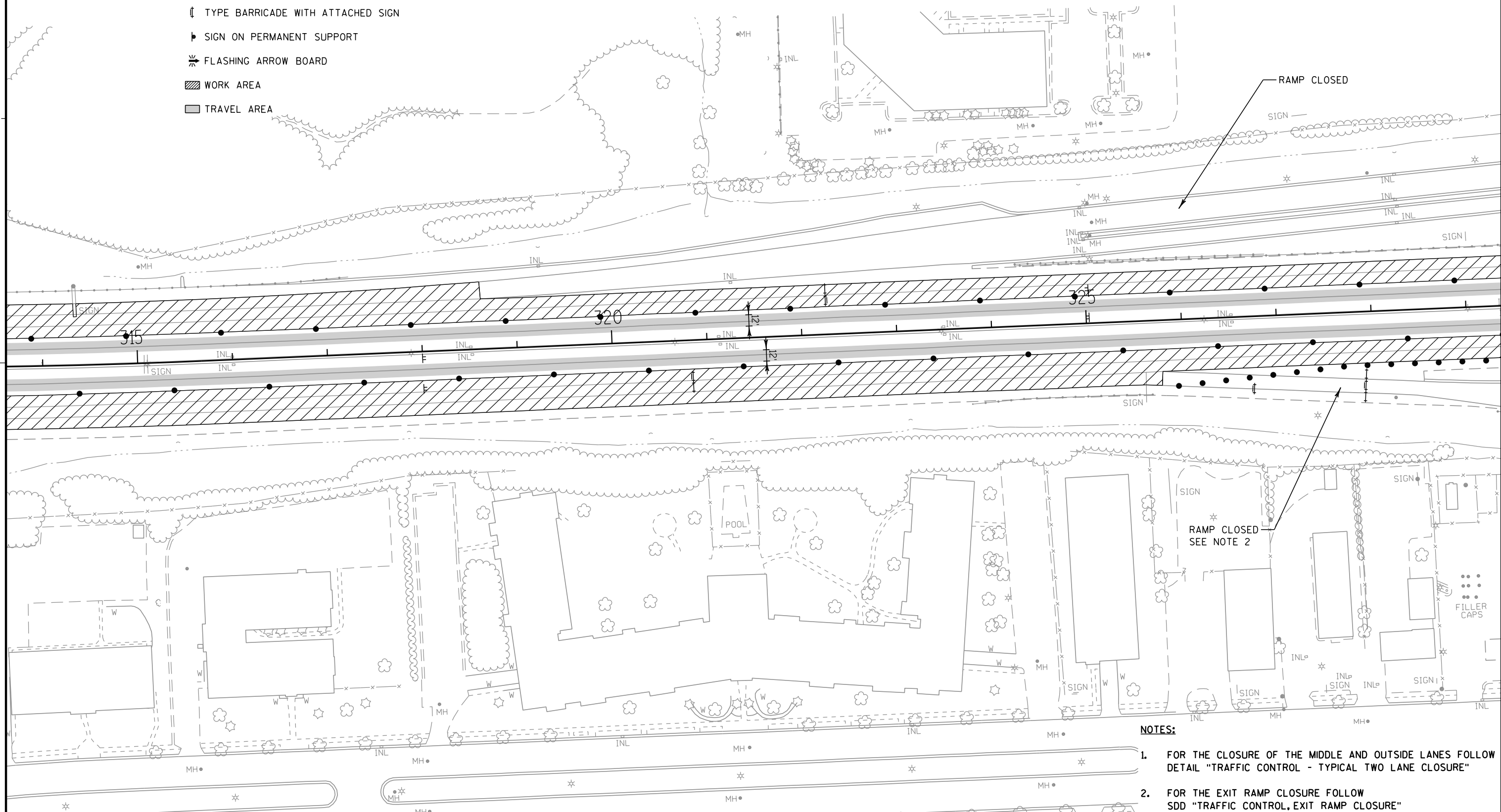
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"
3. FOR THE ENTRANCE RAMP CLOSURE FOLLOW DETAIL "TRAFFIC CONTROL FOR ON-RAMP CLOSURE (SHORT TERM ONLY)"



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



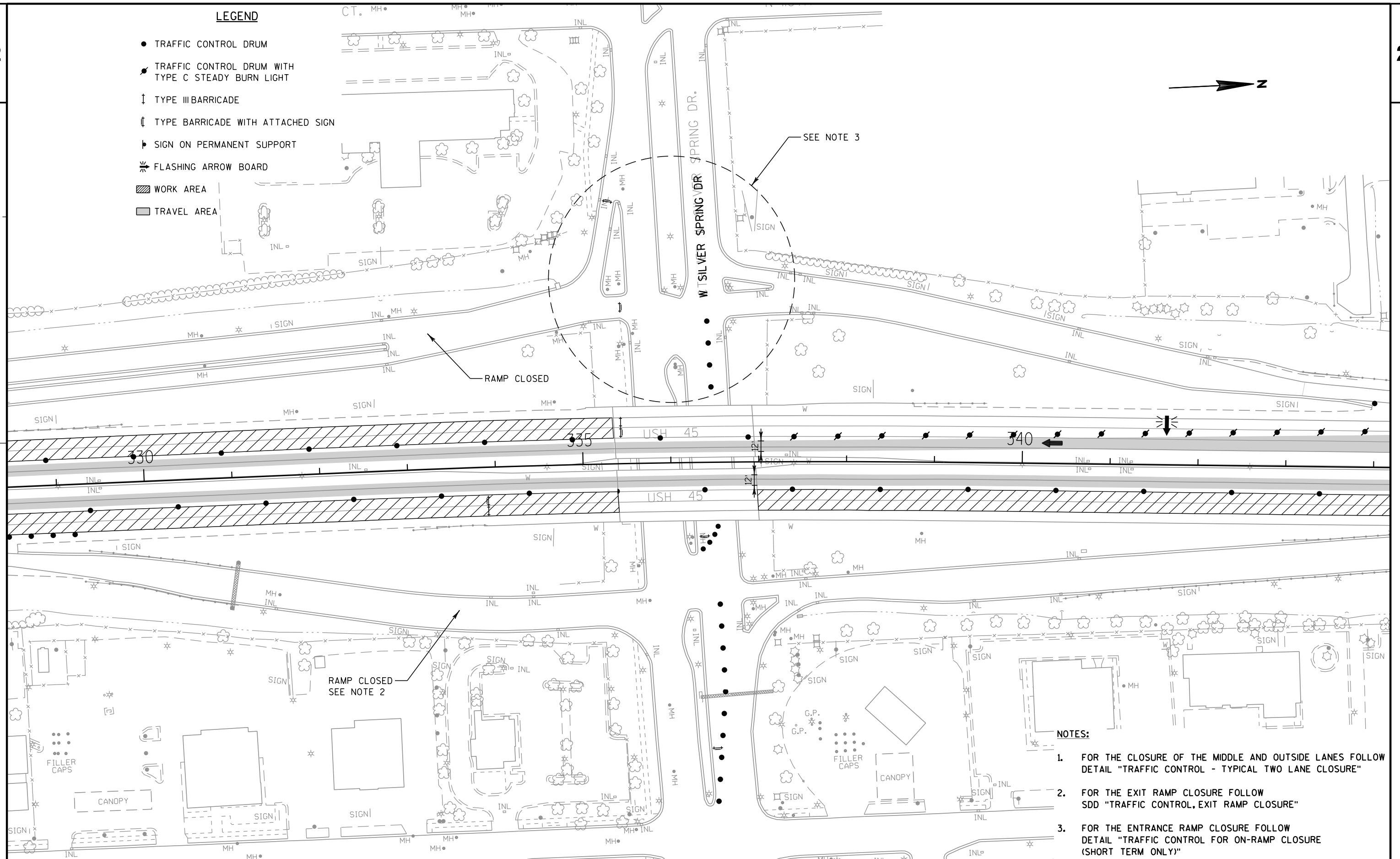
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD

WORK AREA

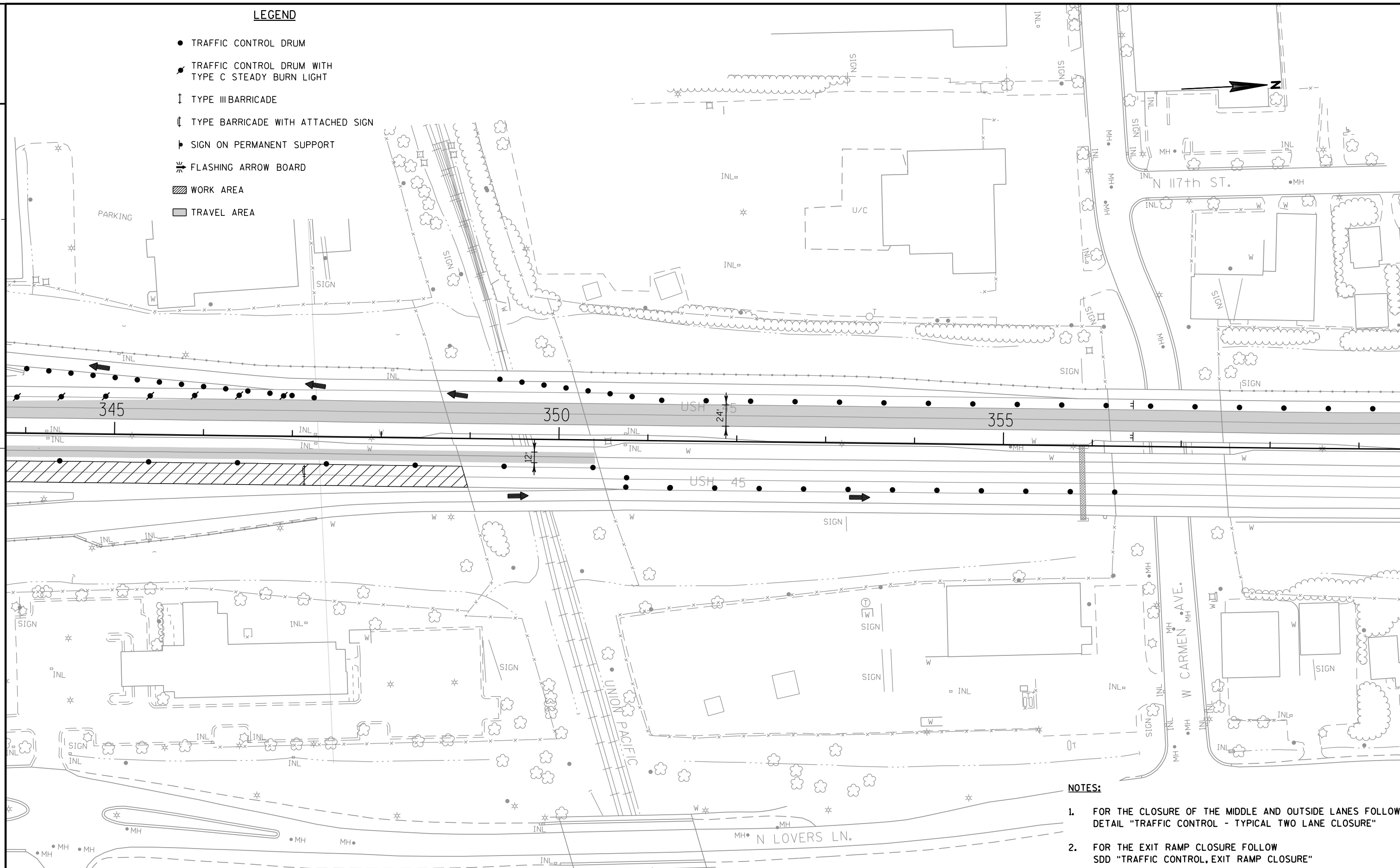
TRAVEL AREA



SHEET 207

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII D

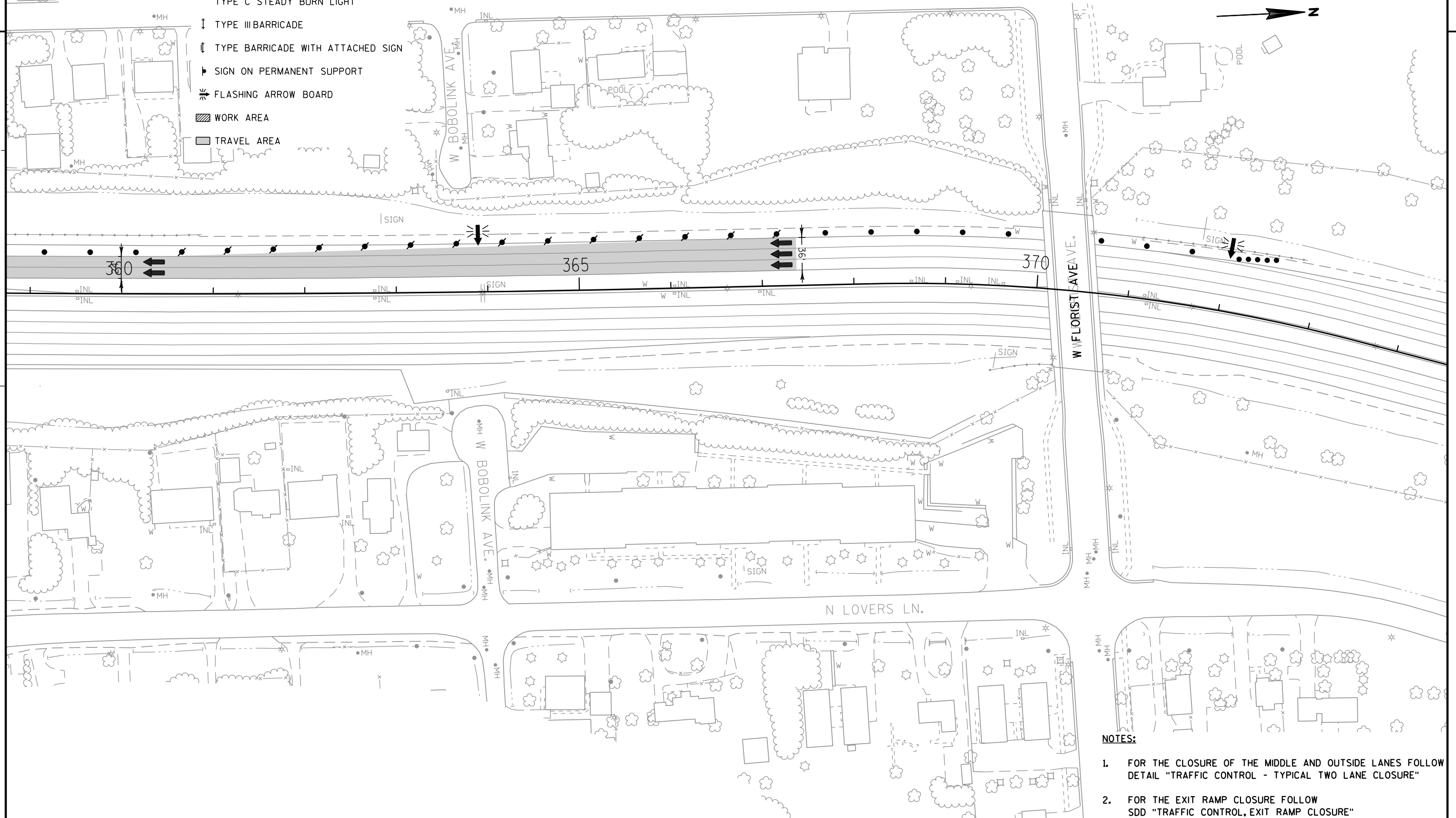
SHEET

208

E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

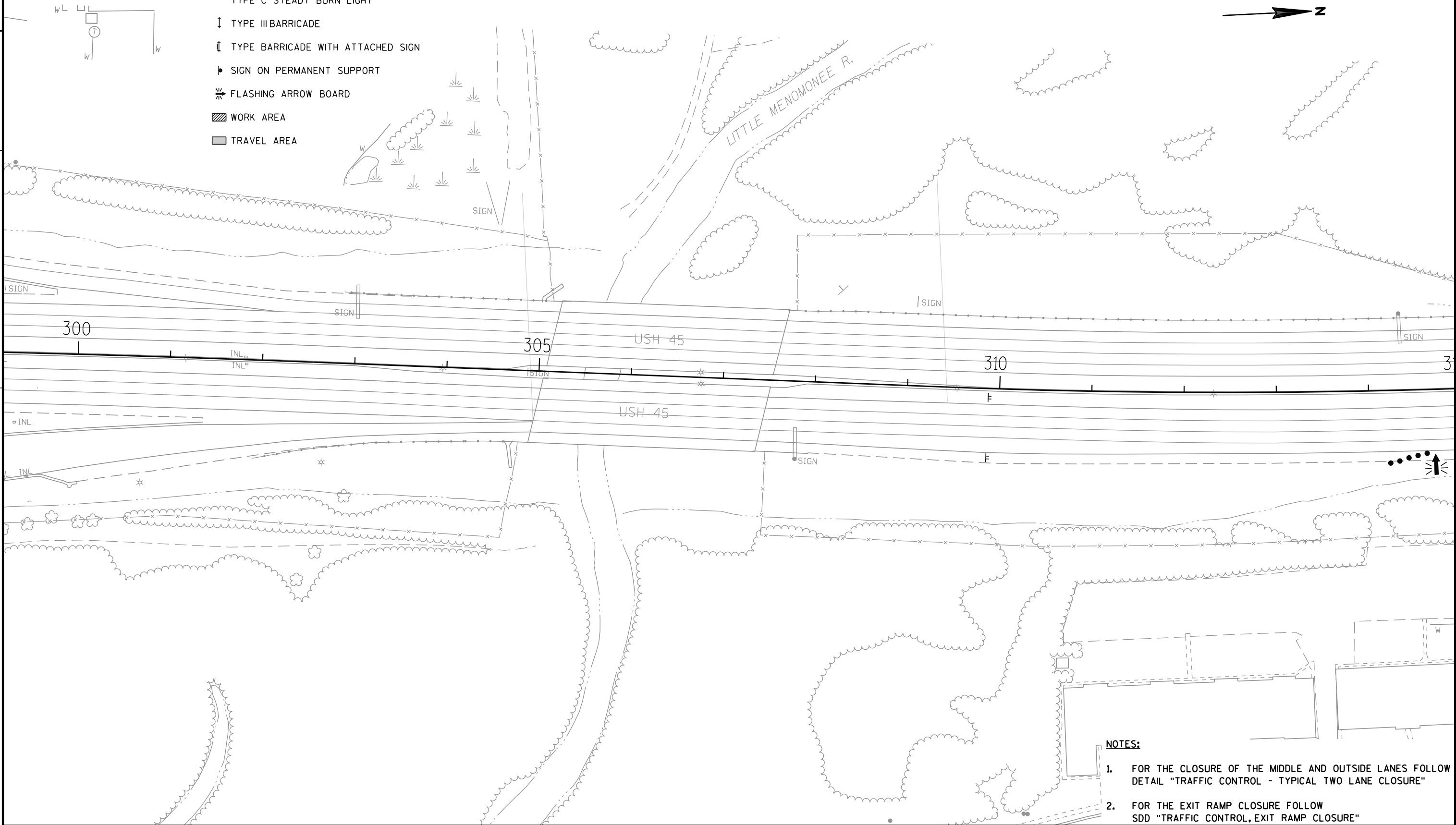


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

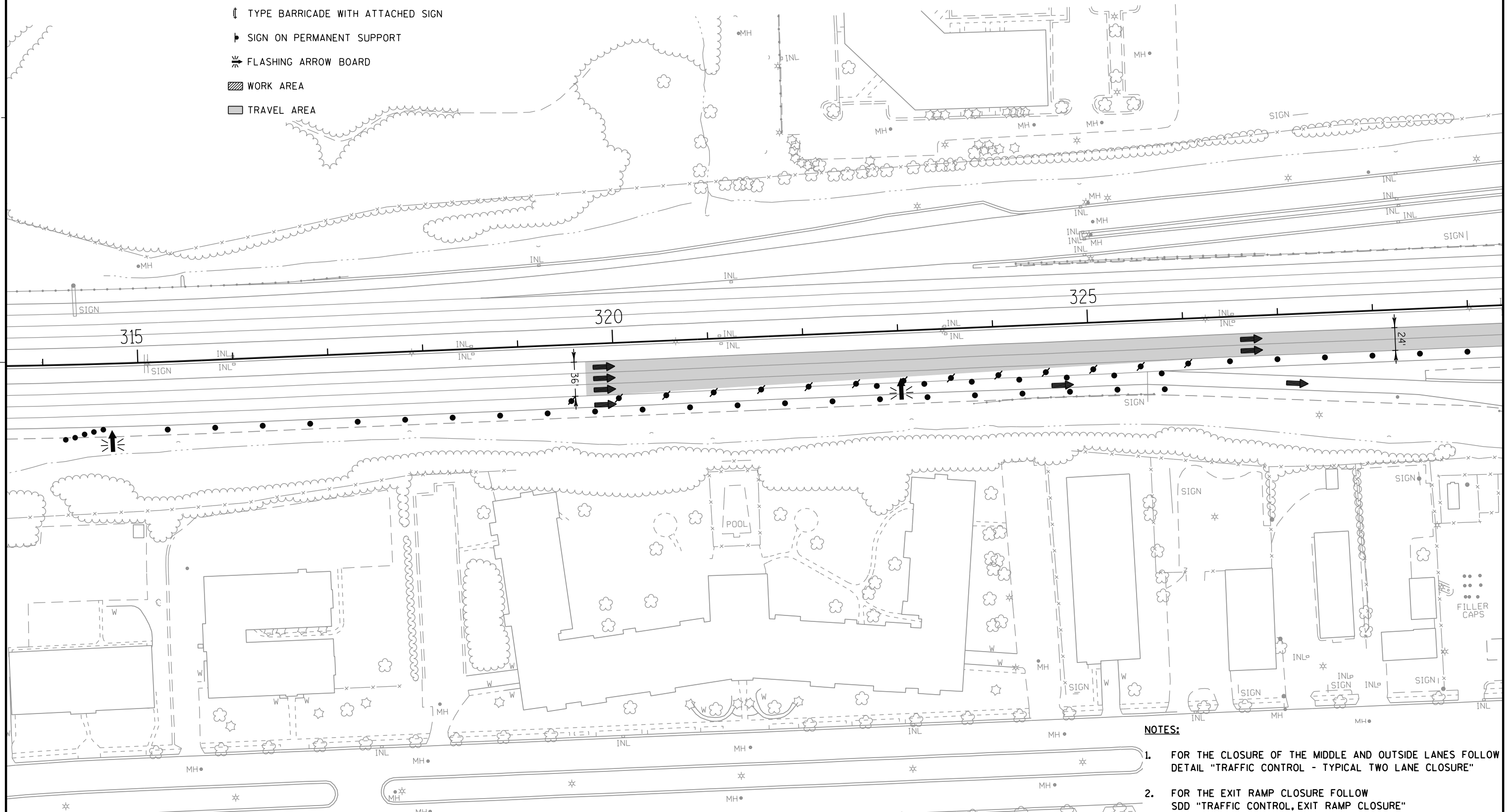


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

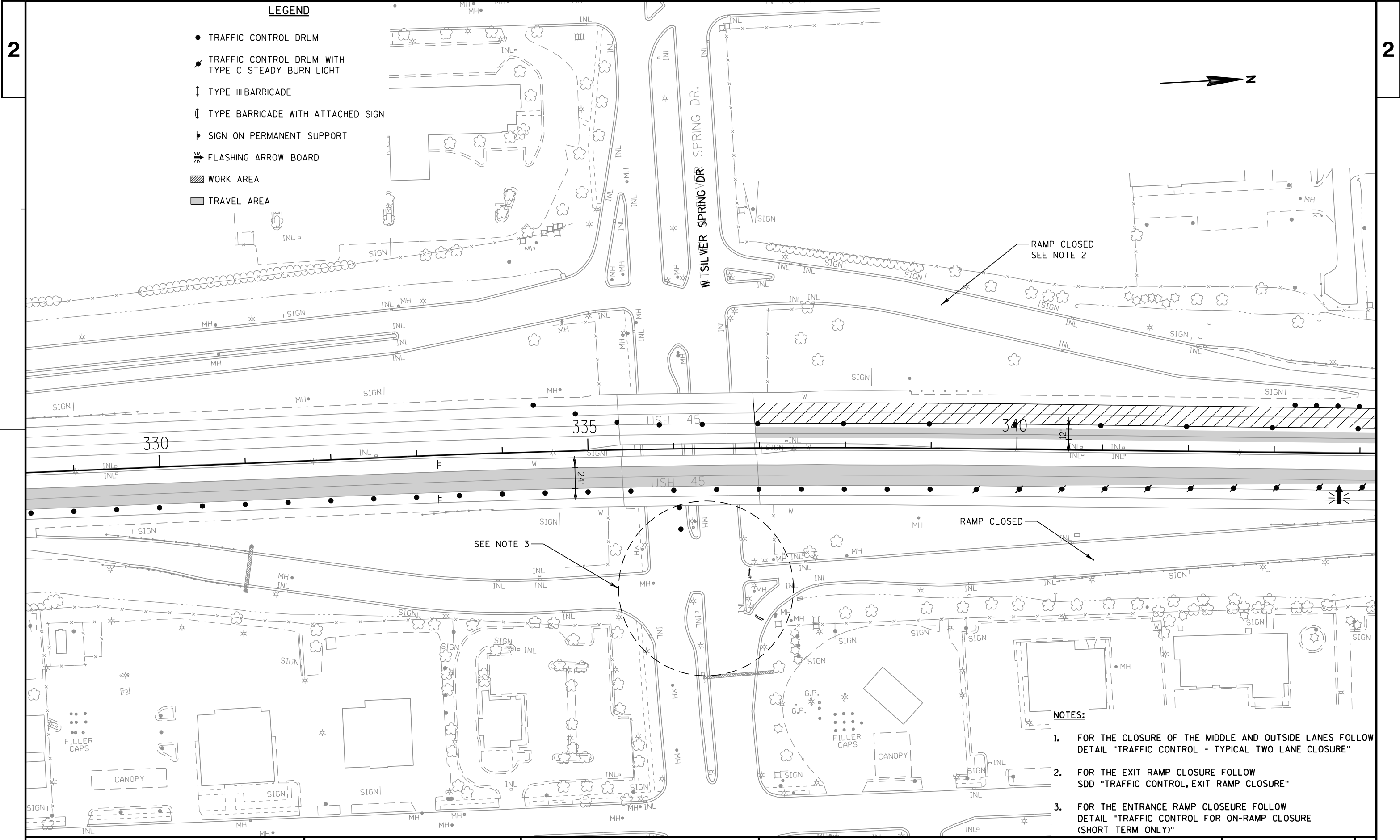
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII E

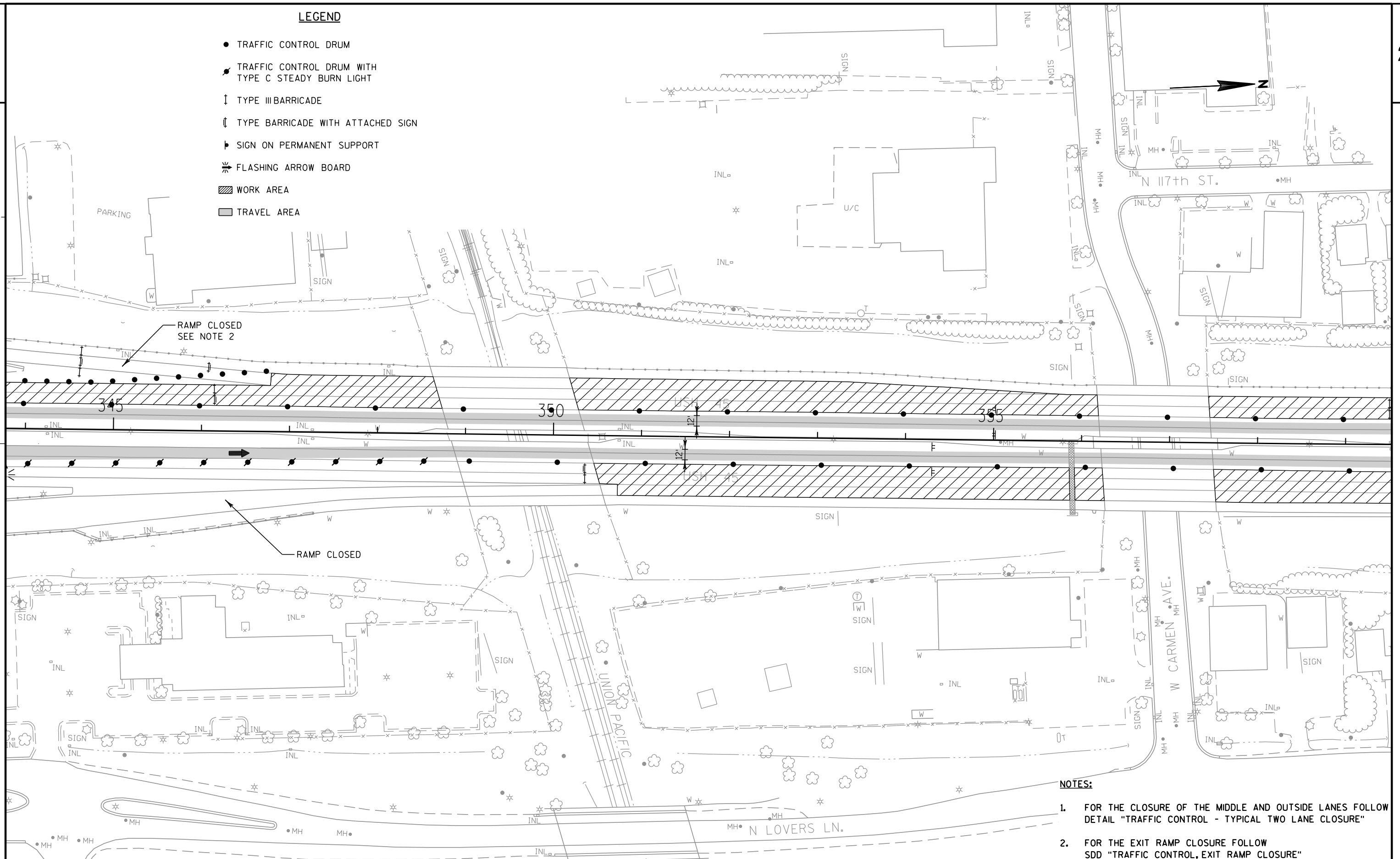
SHEET

211

E



- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- TRAVEL AREA

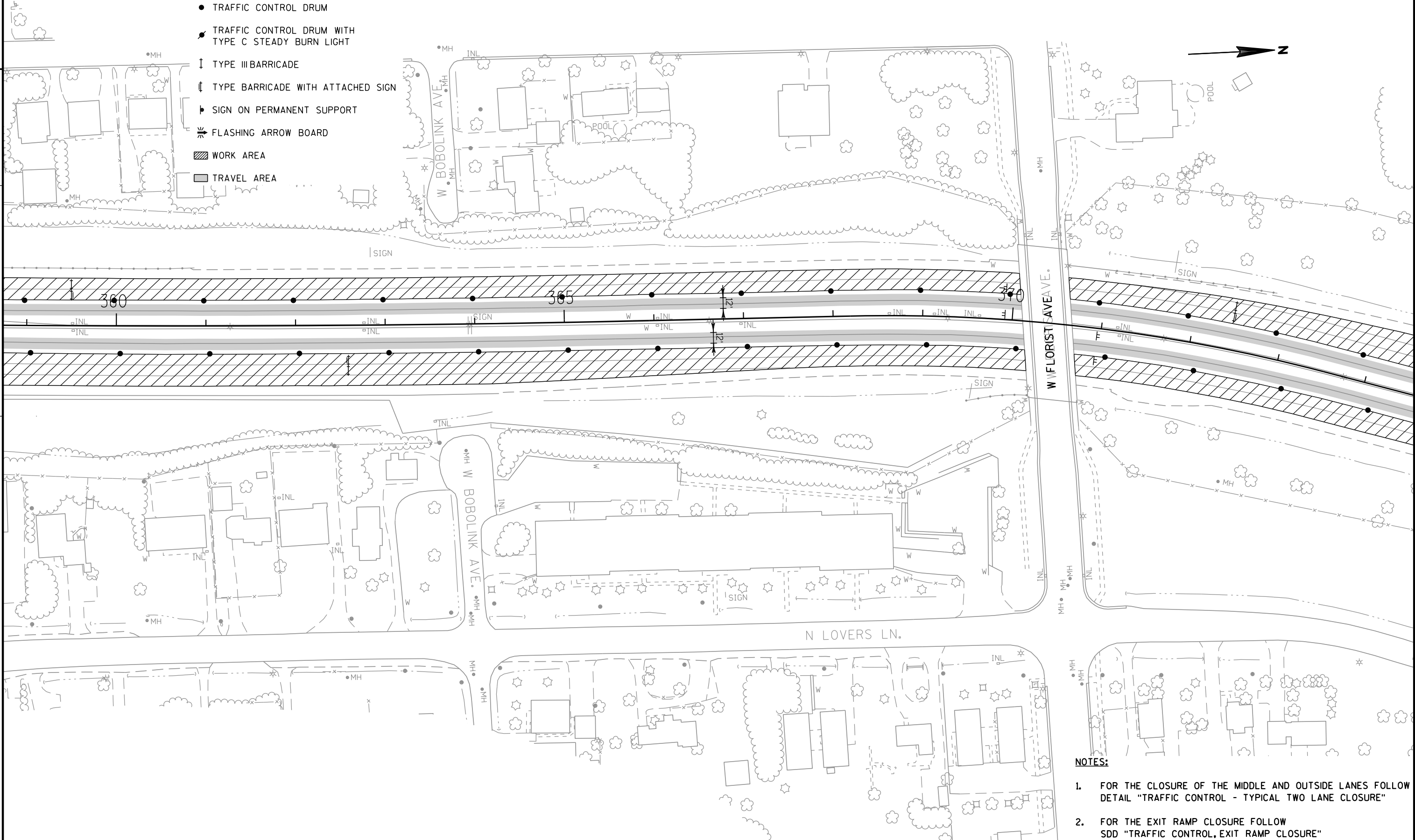


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

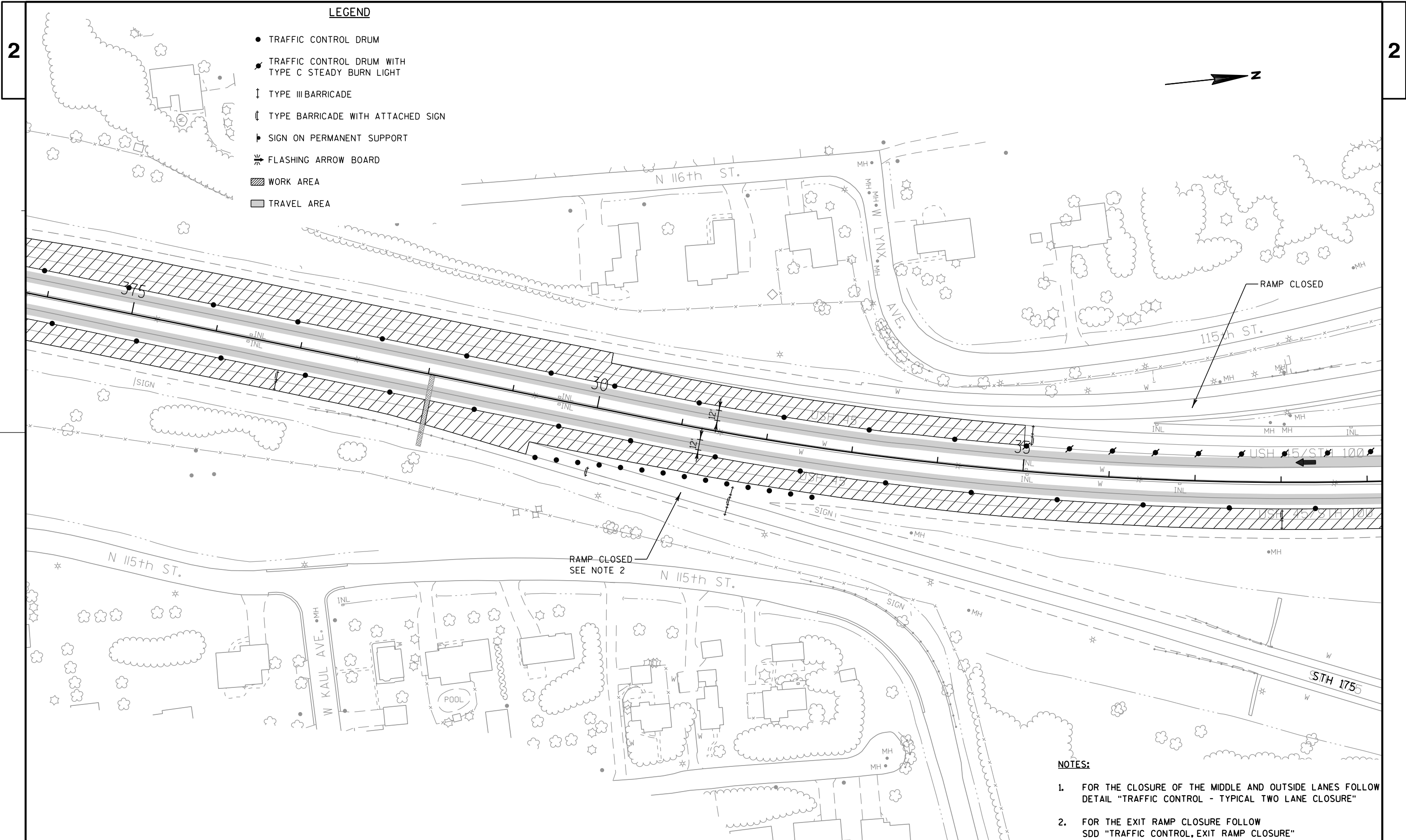
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"



LEGEND

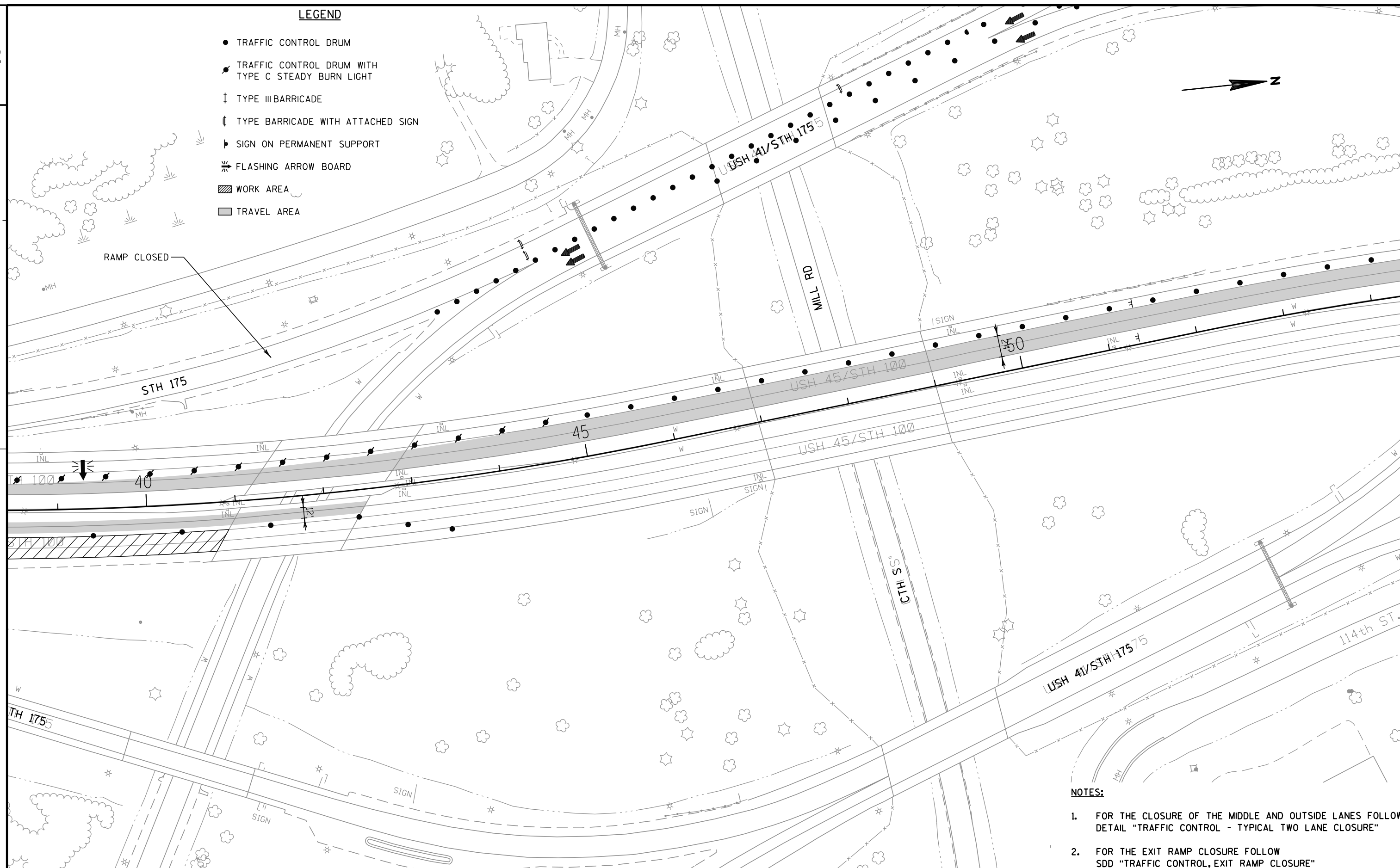
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

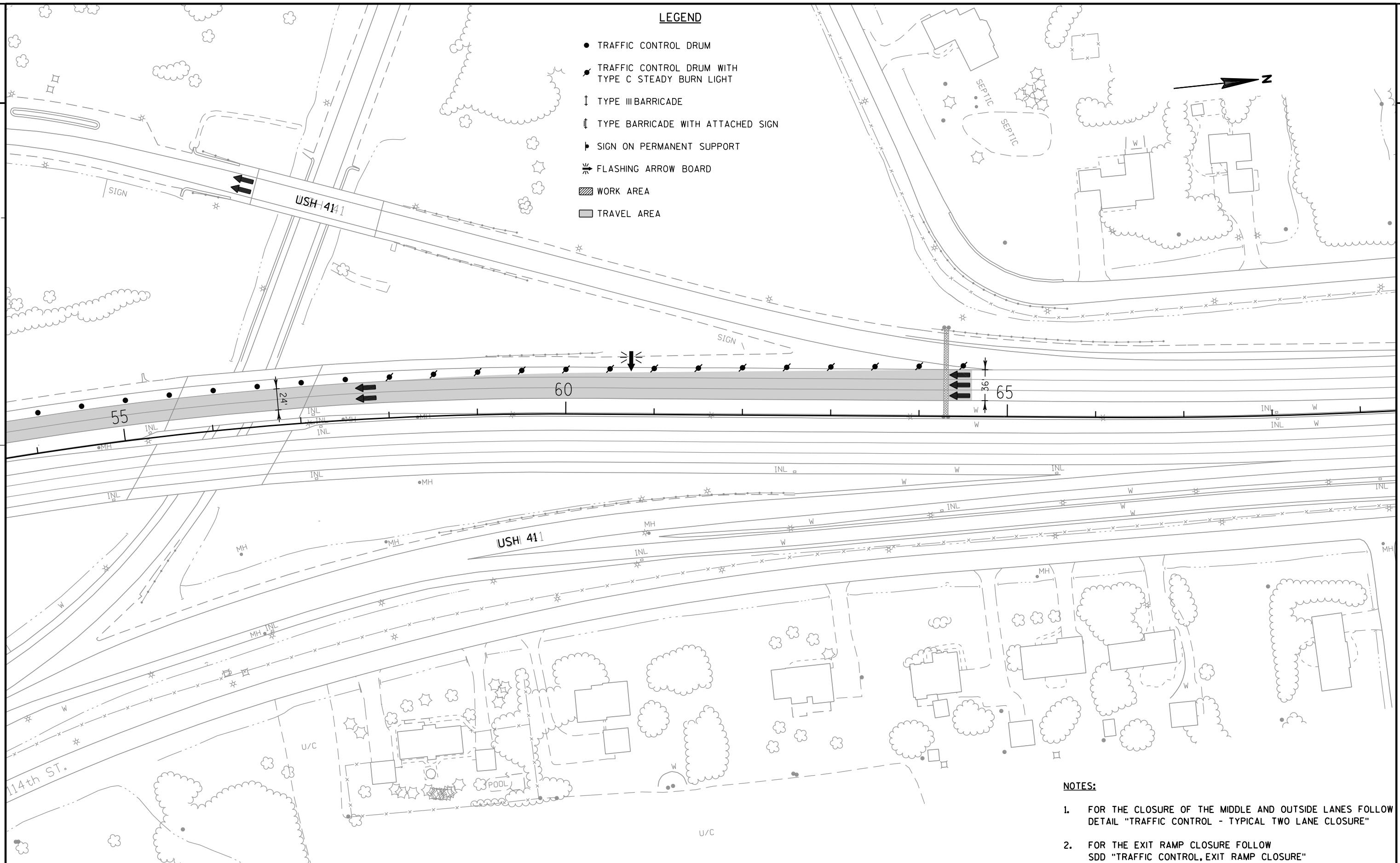
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII E

SHEET

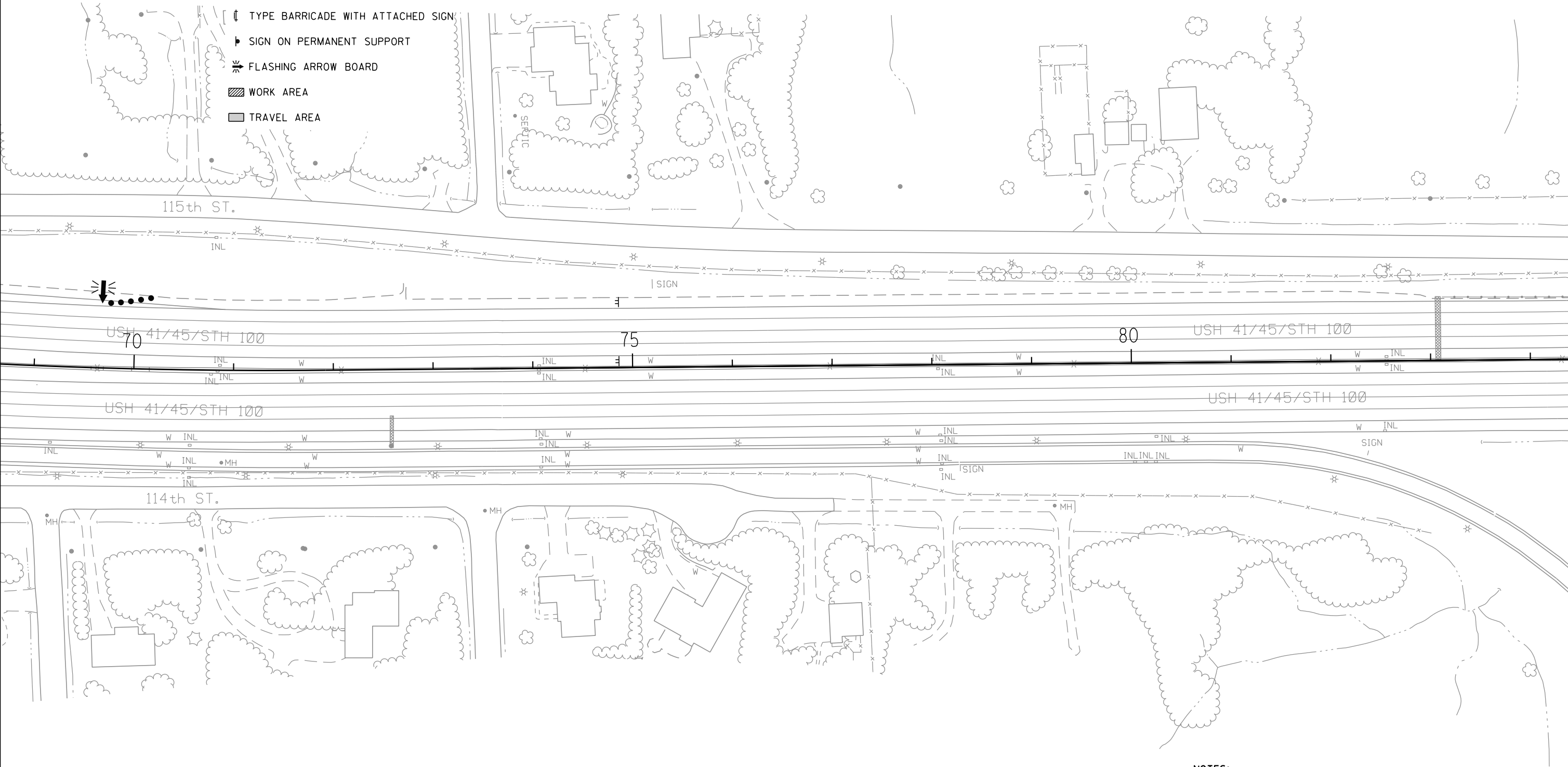
216

E



LEGEND

- TRAFFIC CONTROL DRUM
- ☼ TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⌄ TYPE III BARRICADE
- ⌄ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ☼ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

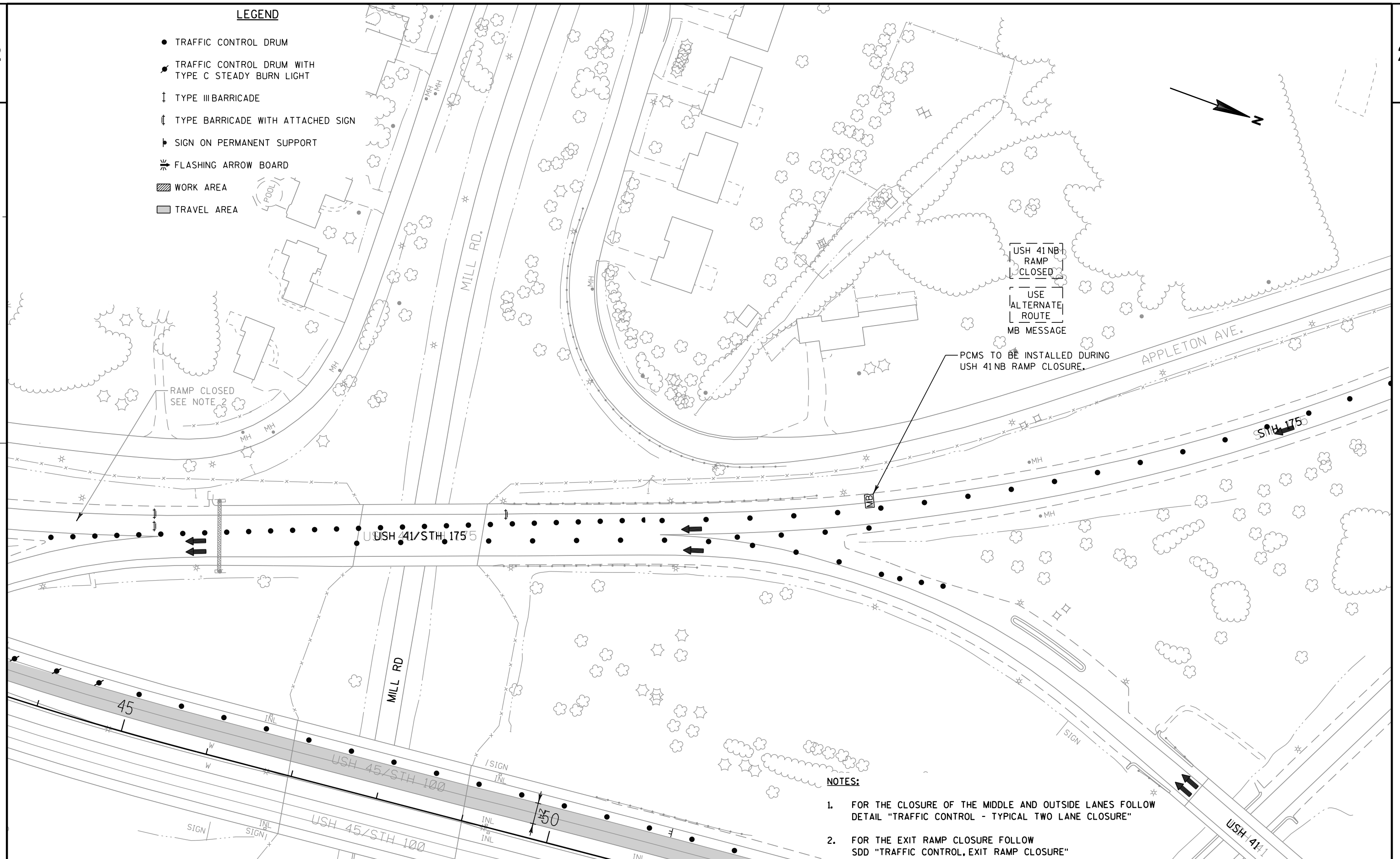


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ↑ SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

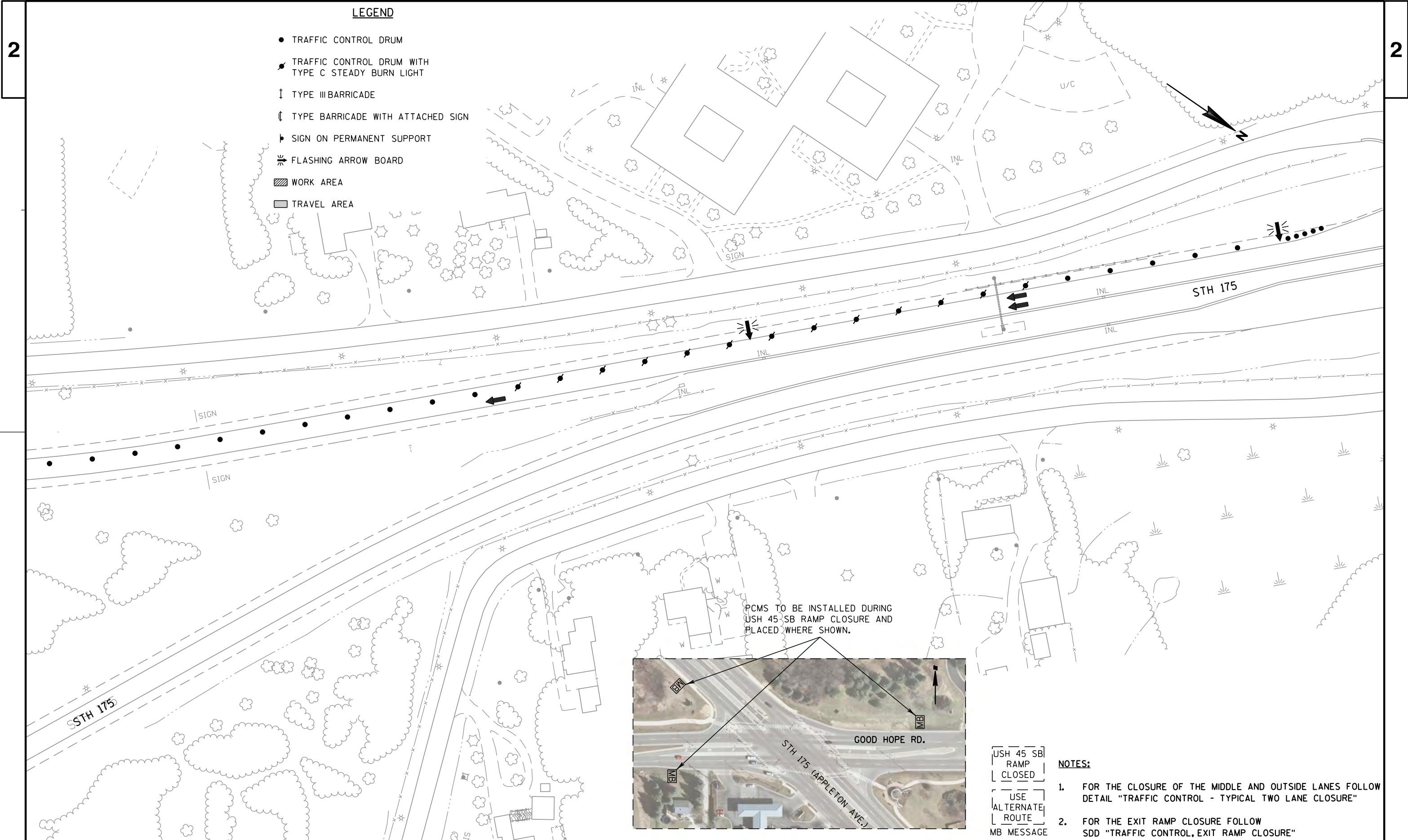
COUNTY: MILWAUKEE

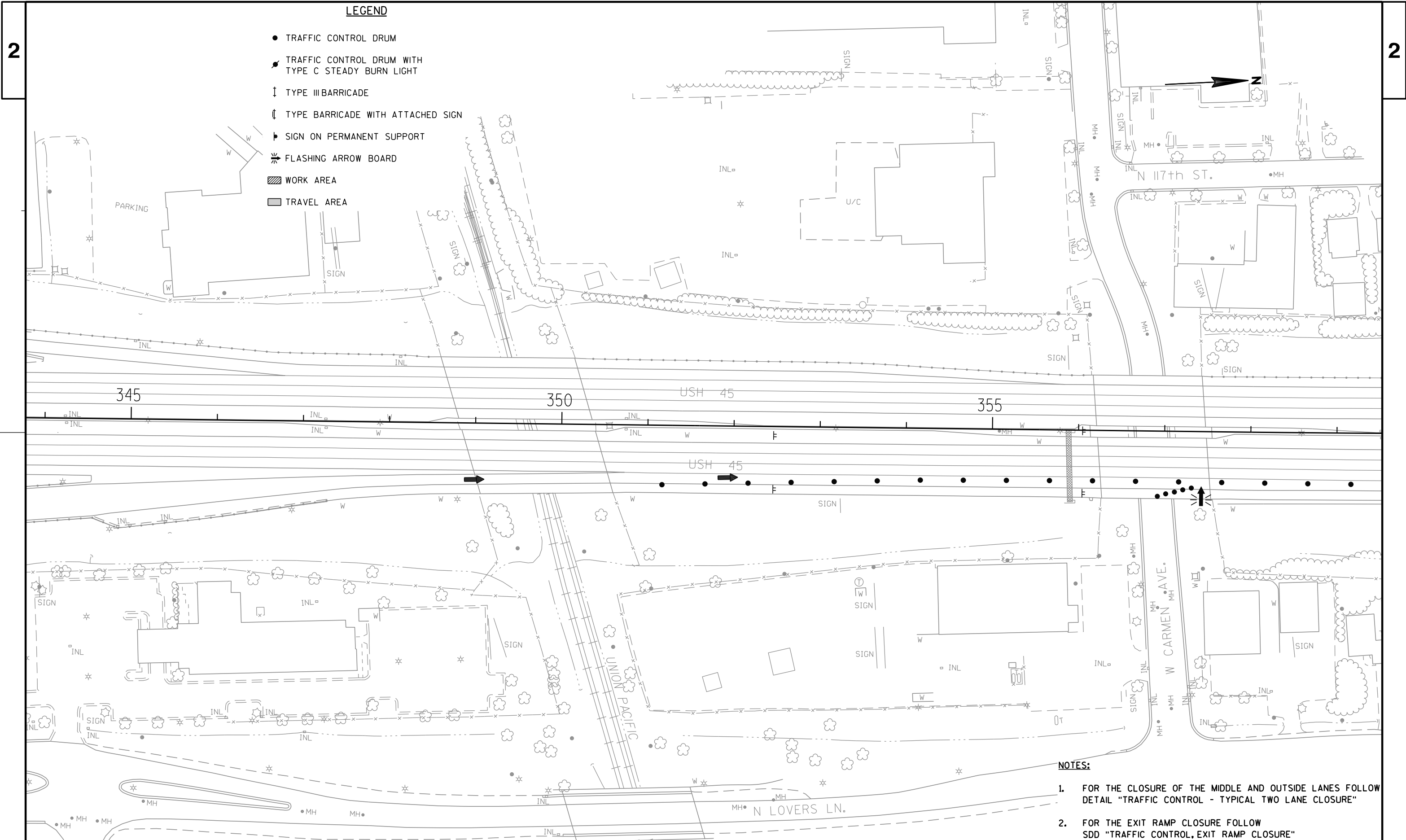
TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII E

SHEET

219

E



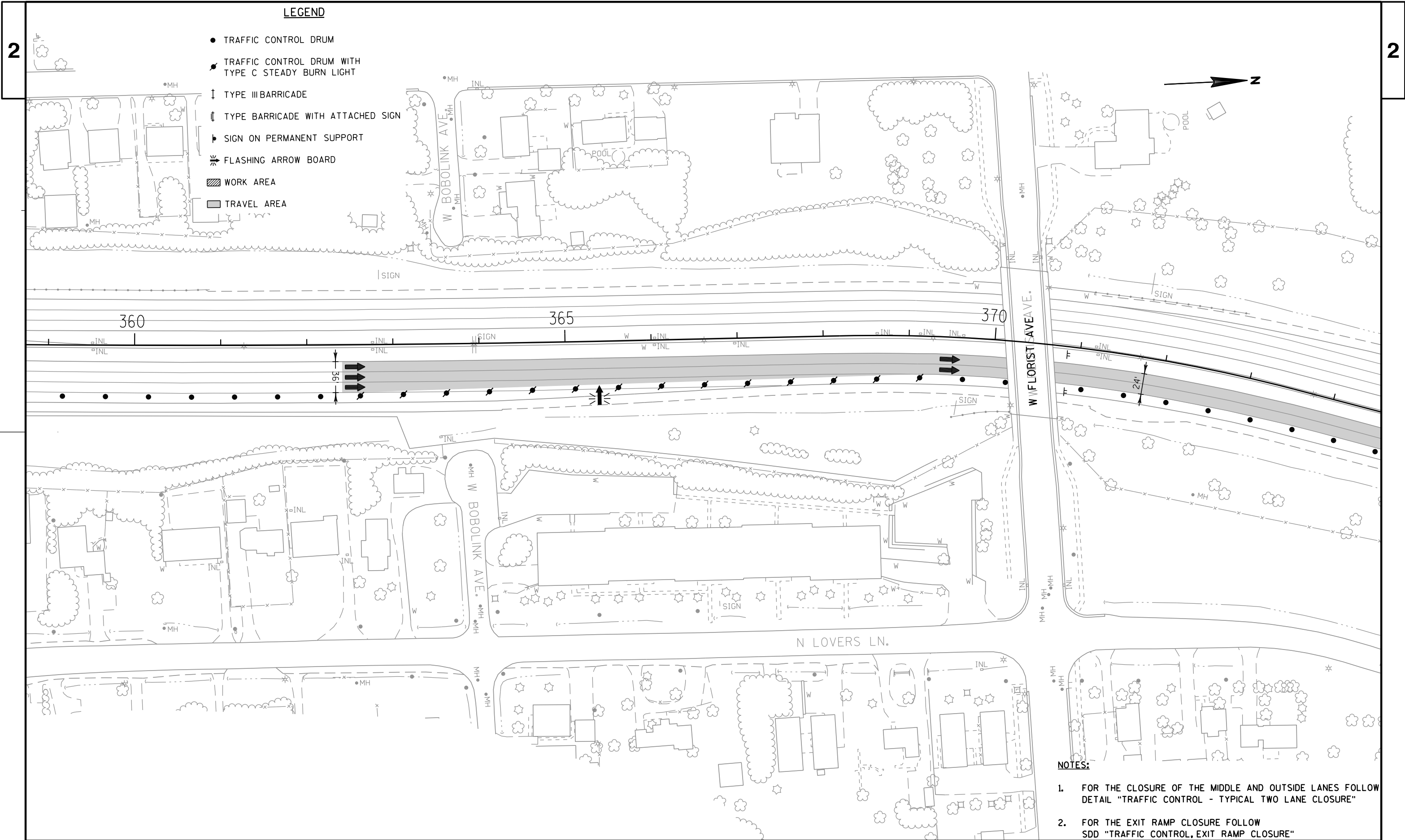


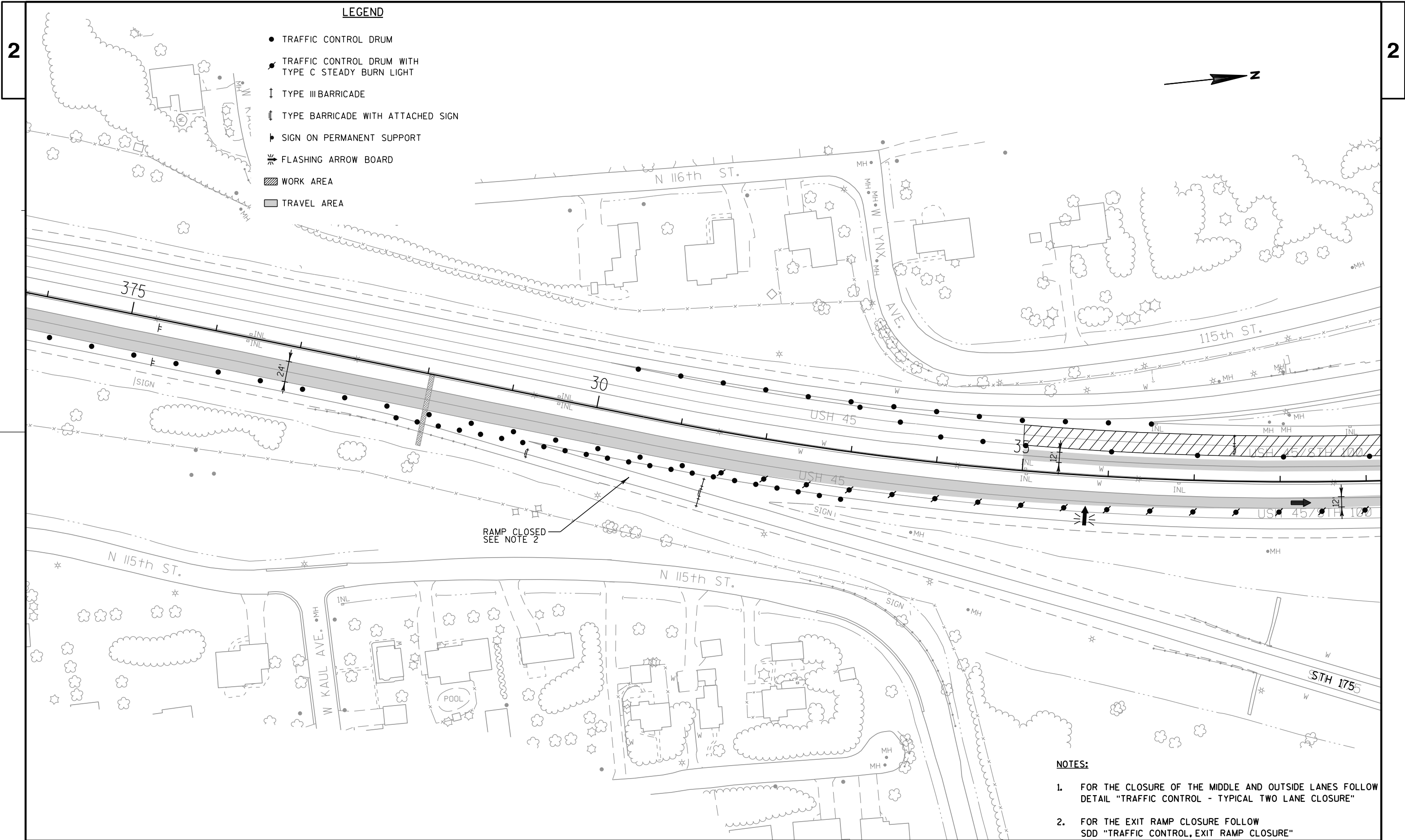
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

NOTES:

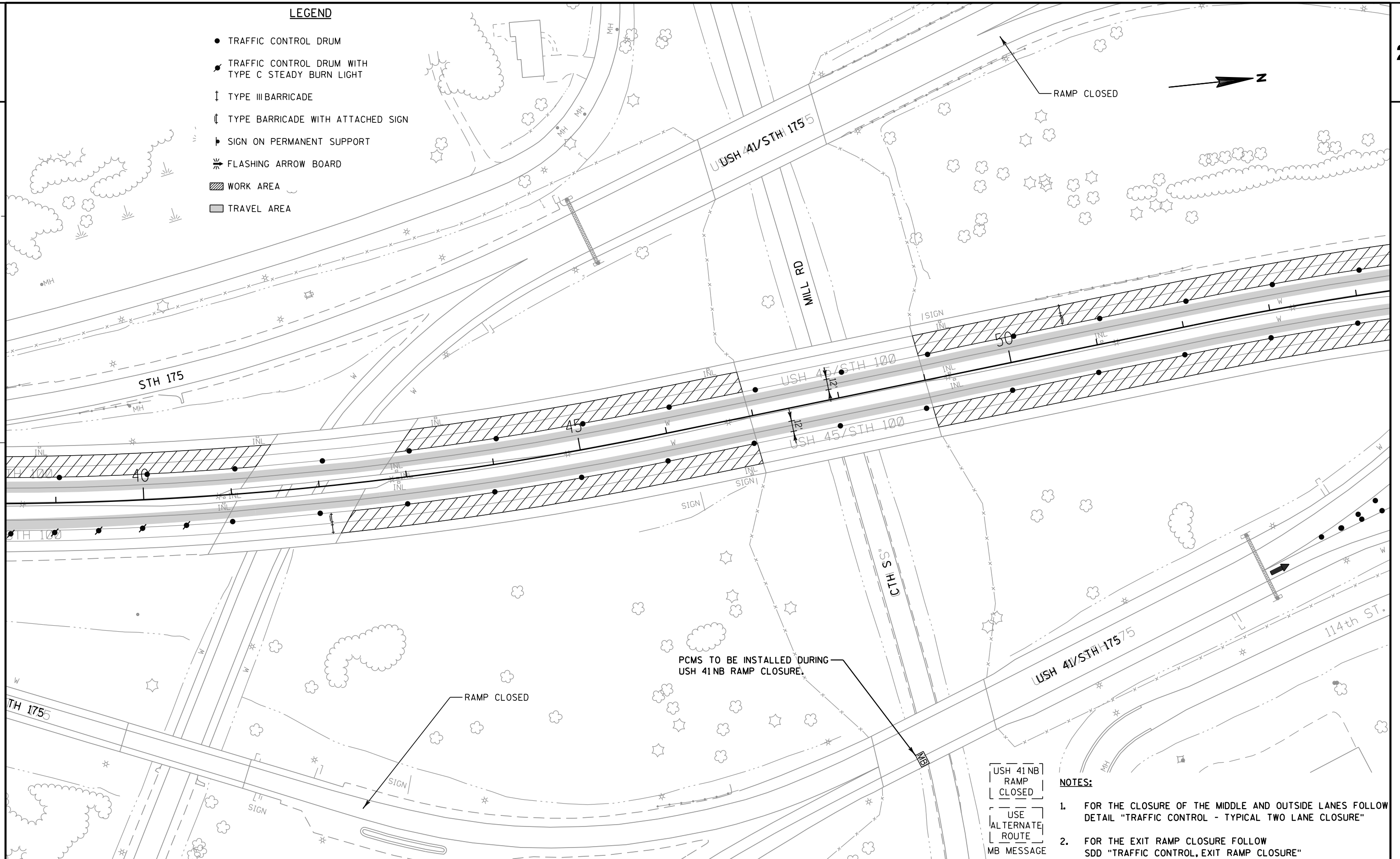
1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"





LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- ↔ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII F

SHEET

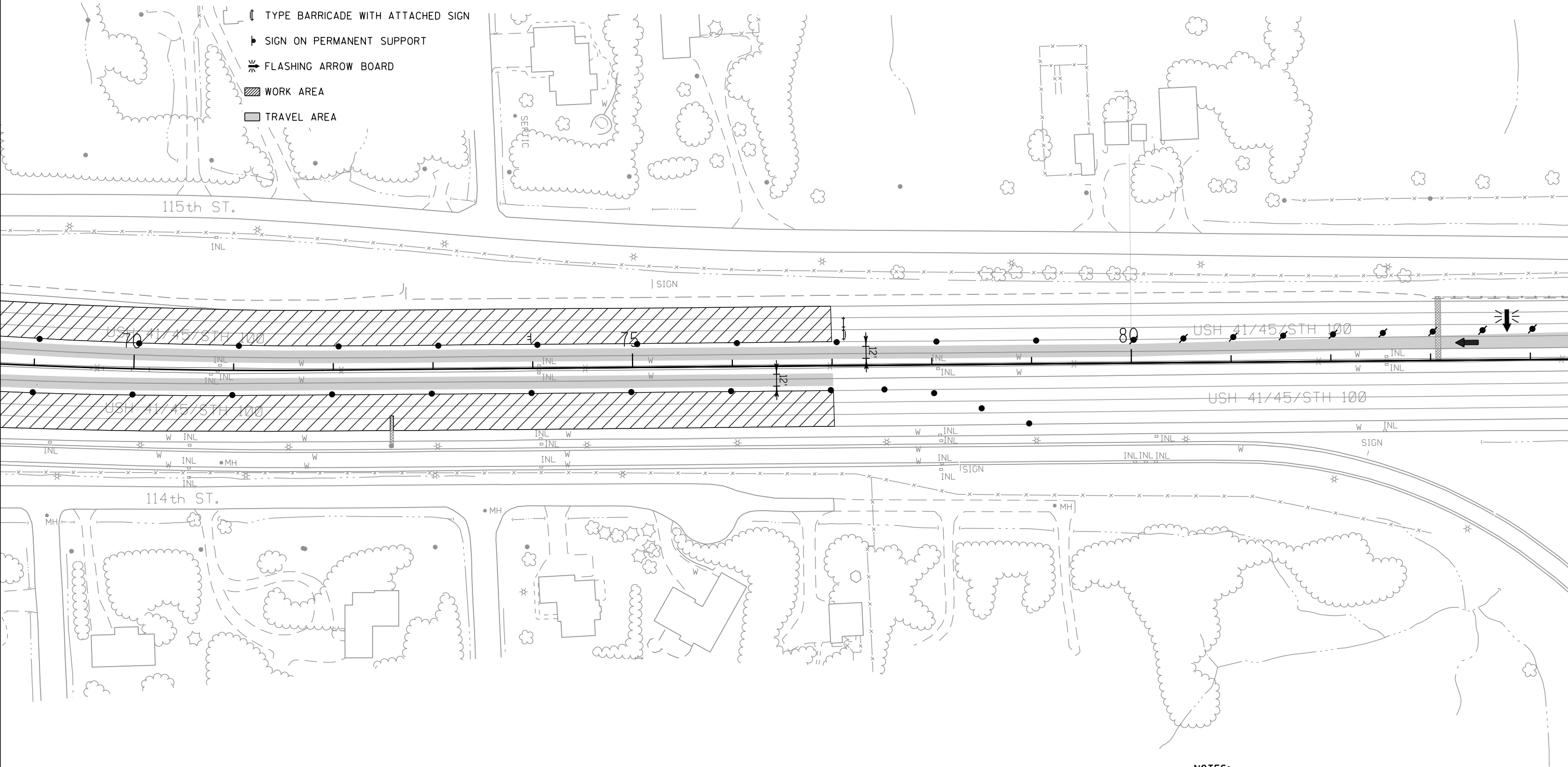
224

E



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



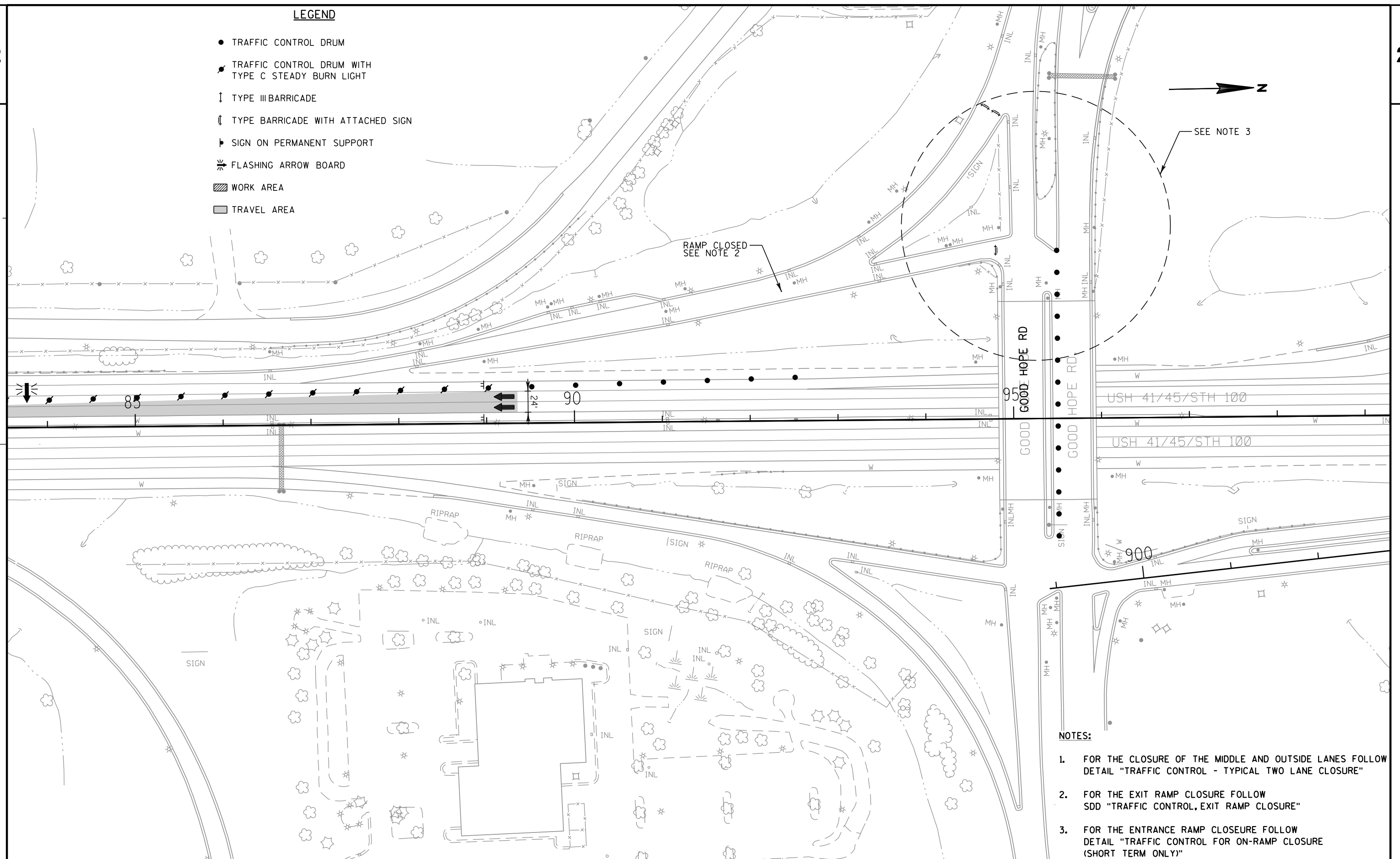
NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

LEGEND

- TRAFFIC CONTROL DRUM
- ⚡ TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ⏏ TYPE III BARRICADE
- ⏏ TYPE BARRICADE WITH ATTACHED SIGN
- 🚧 SIGN ON PERMANENT SUPPORT
- 🚧 FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

2 |



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND OUTSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"
3. FOR THE ENTRANCE RAMP CLOSEURE FOLLOW
DETAIL "TRAFFIC CONTROL FOR ON-RAMP CLOSURE
(SHORT TERM ONLY)"

PROJECT NO: 1100-20-60

HWY: USH 45

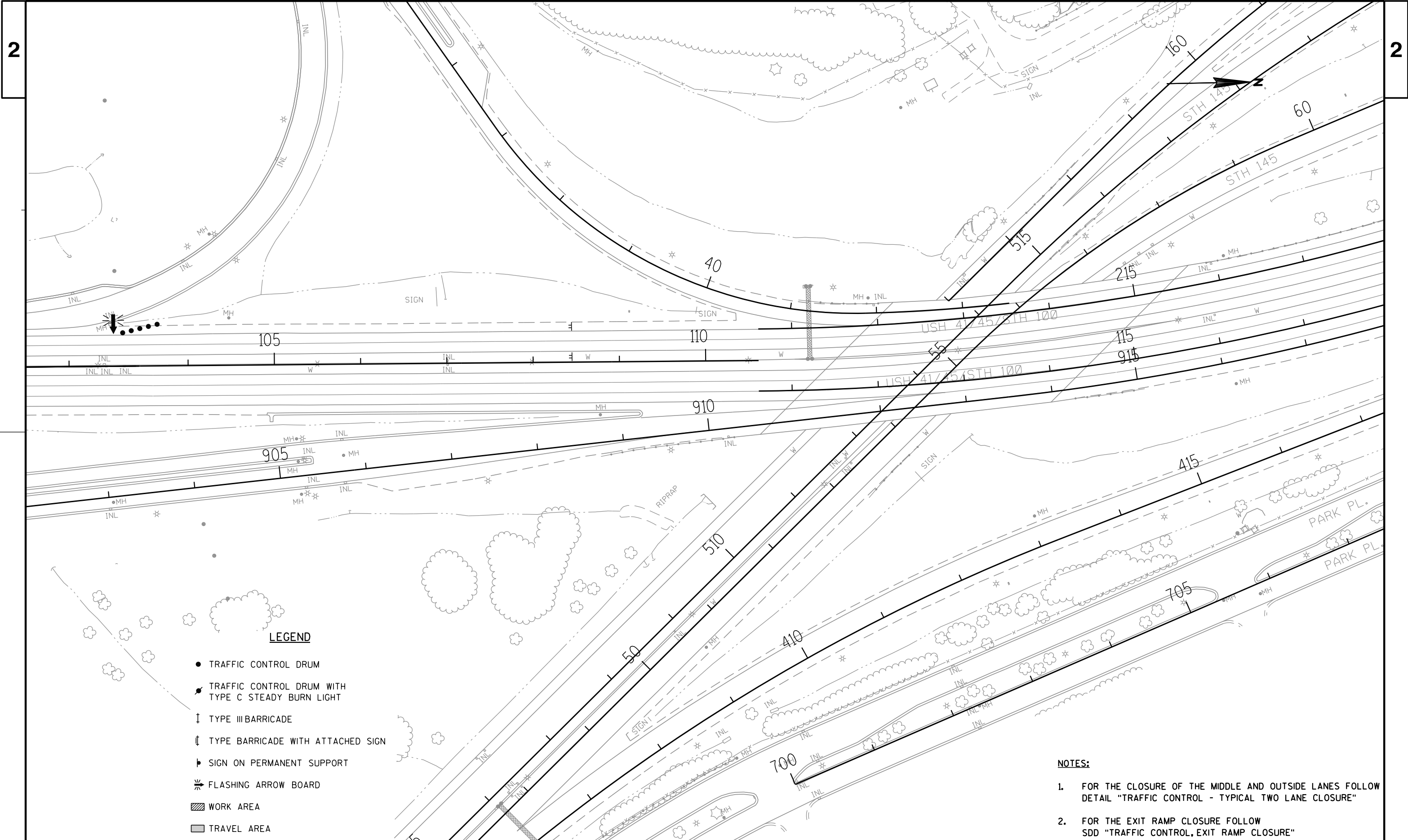
COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII F

SHEET

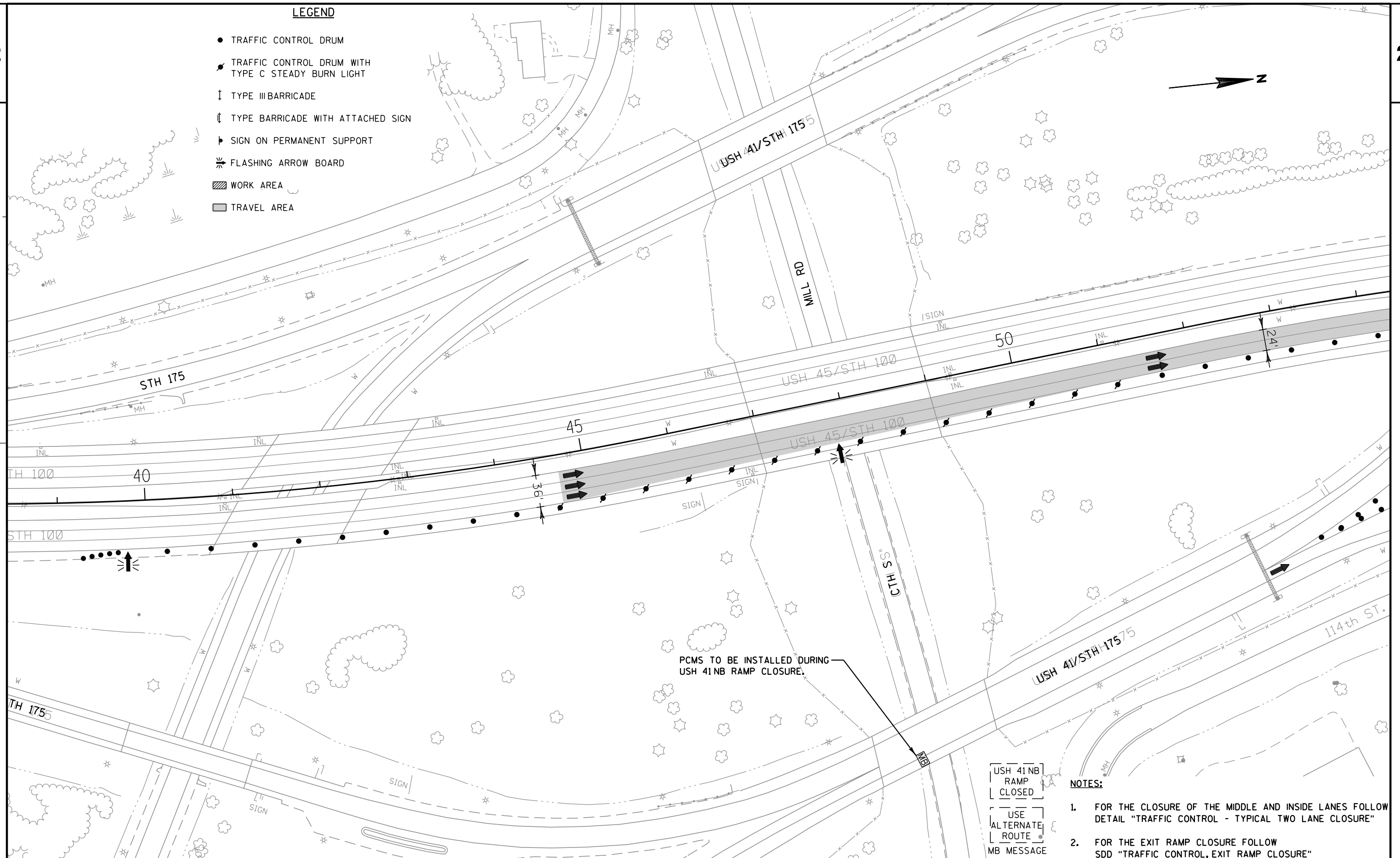
227

11



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



PCMS TO BE INSTALLED DURING
USH 41 NB RAMP CLOSURE.

USH 41 NB
RAMP
CLOSED
USE
ALTERNATE
ROUTE
MB MESSAGE

NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII G

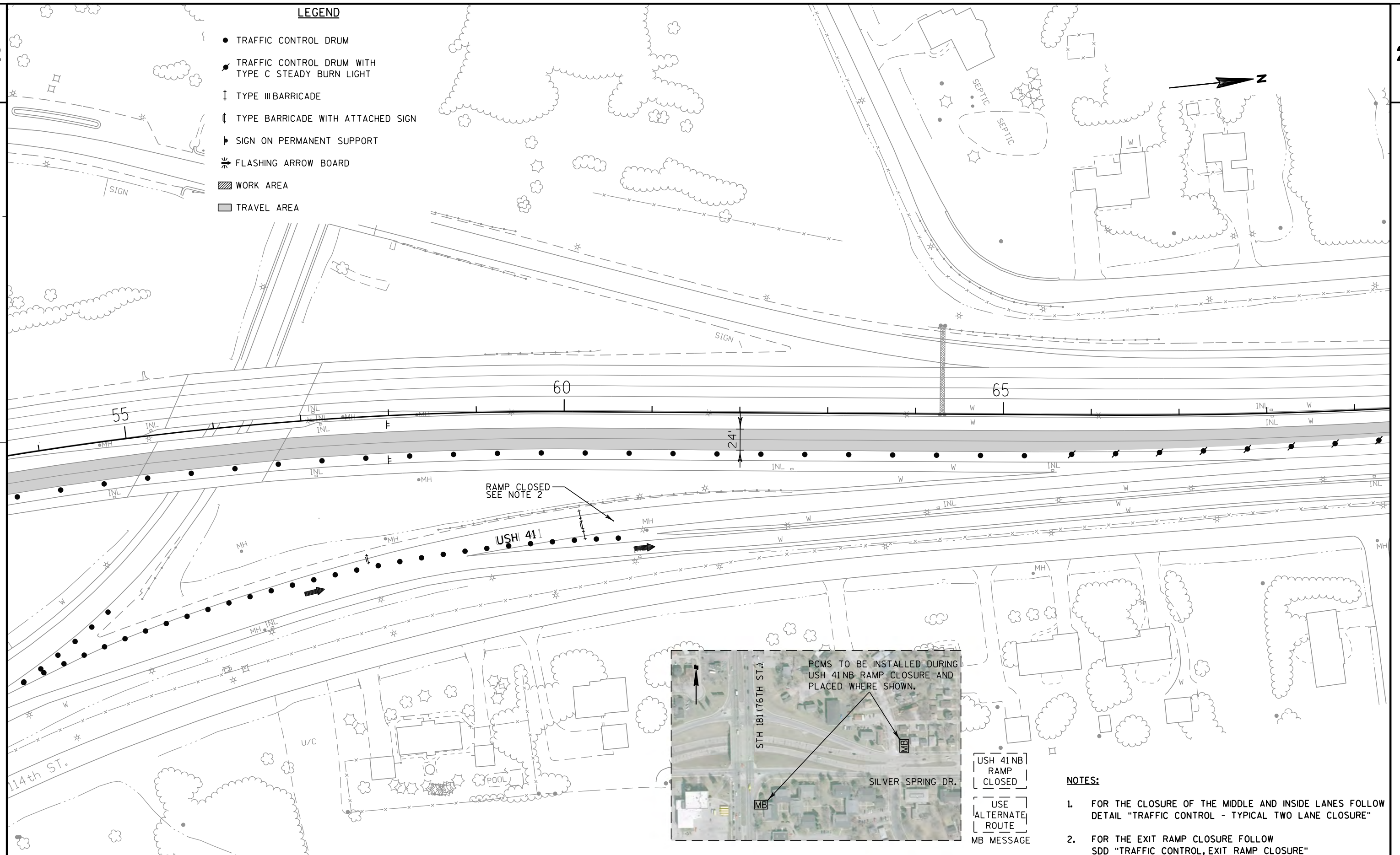
SHEET

229

E

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

TRAFFIC CONTROL/CONSTRUCTION STAGE II, III, V, & VII G

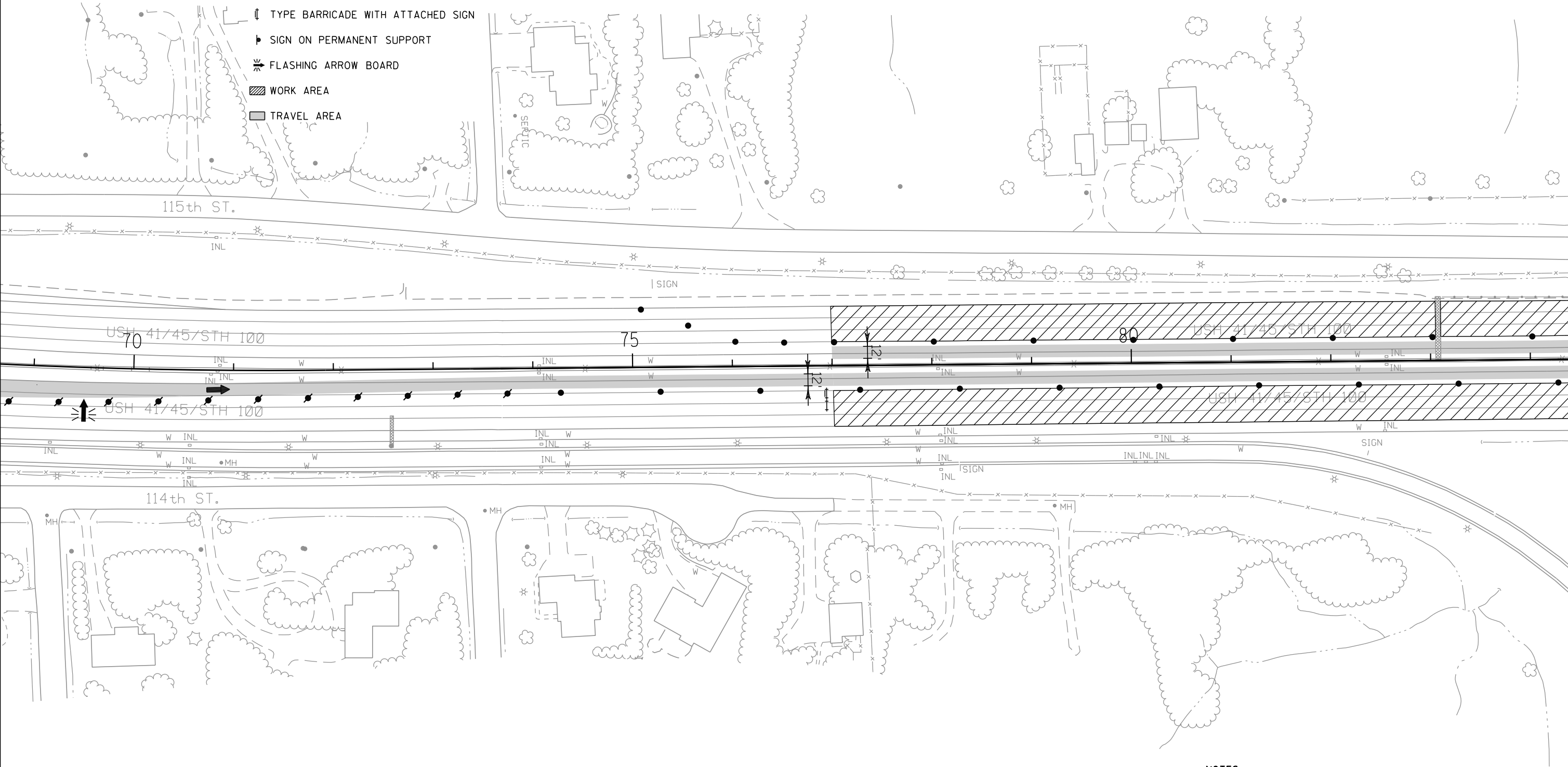
SHEET

230

11

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH
TYPE C STEADY BURN LIGHT
- ↑ TYPE III BARRICADE
- ↑ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ↗ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

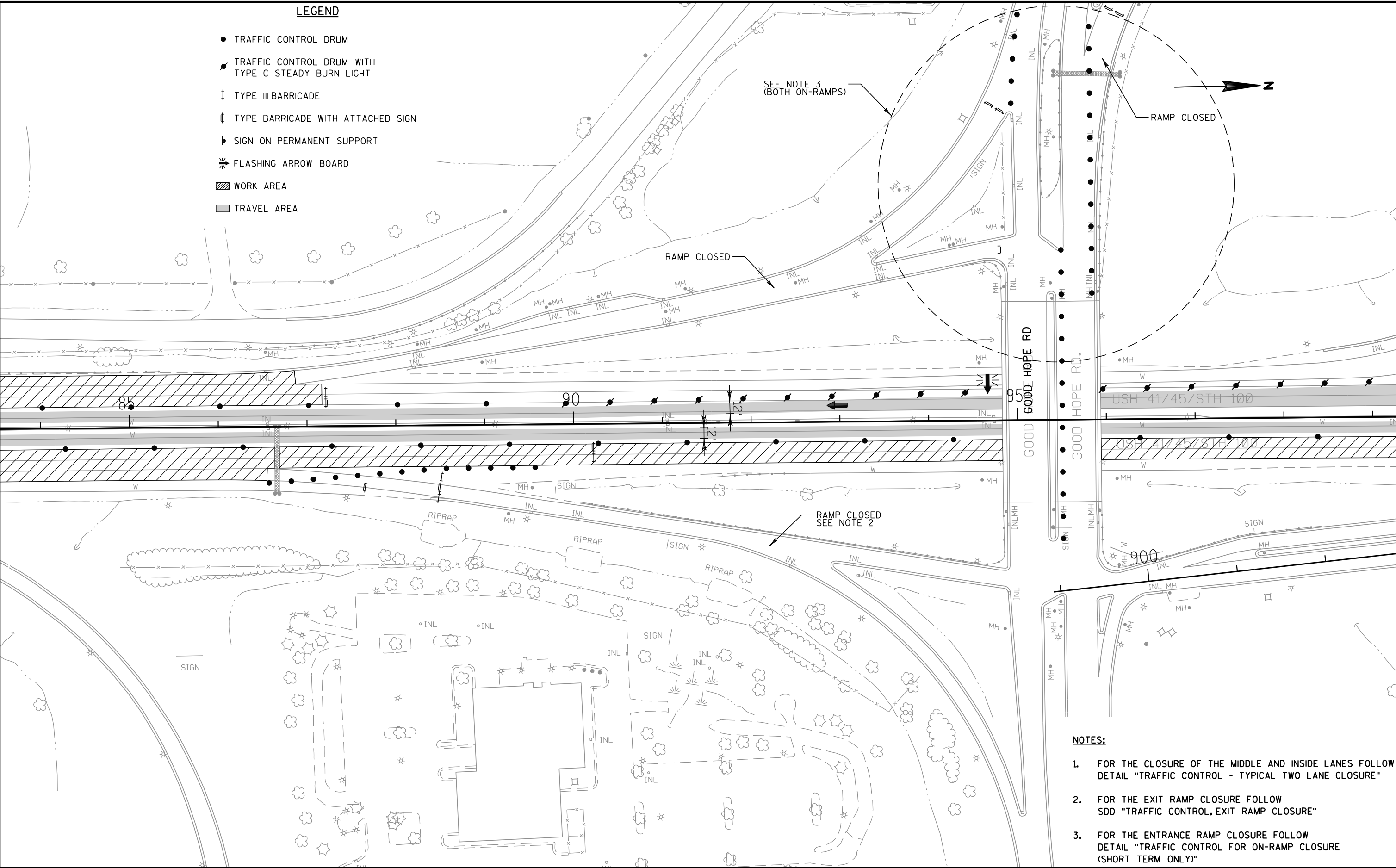


NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW
DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW
SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

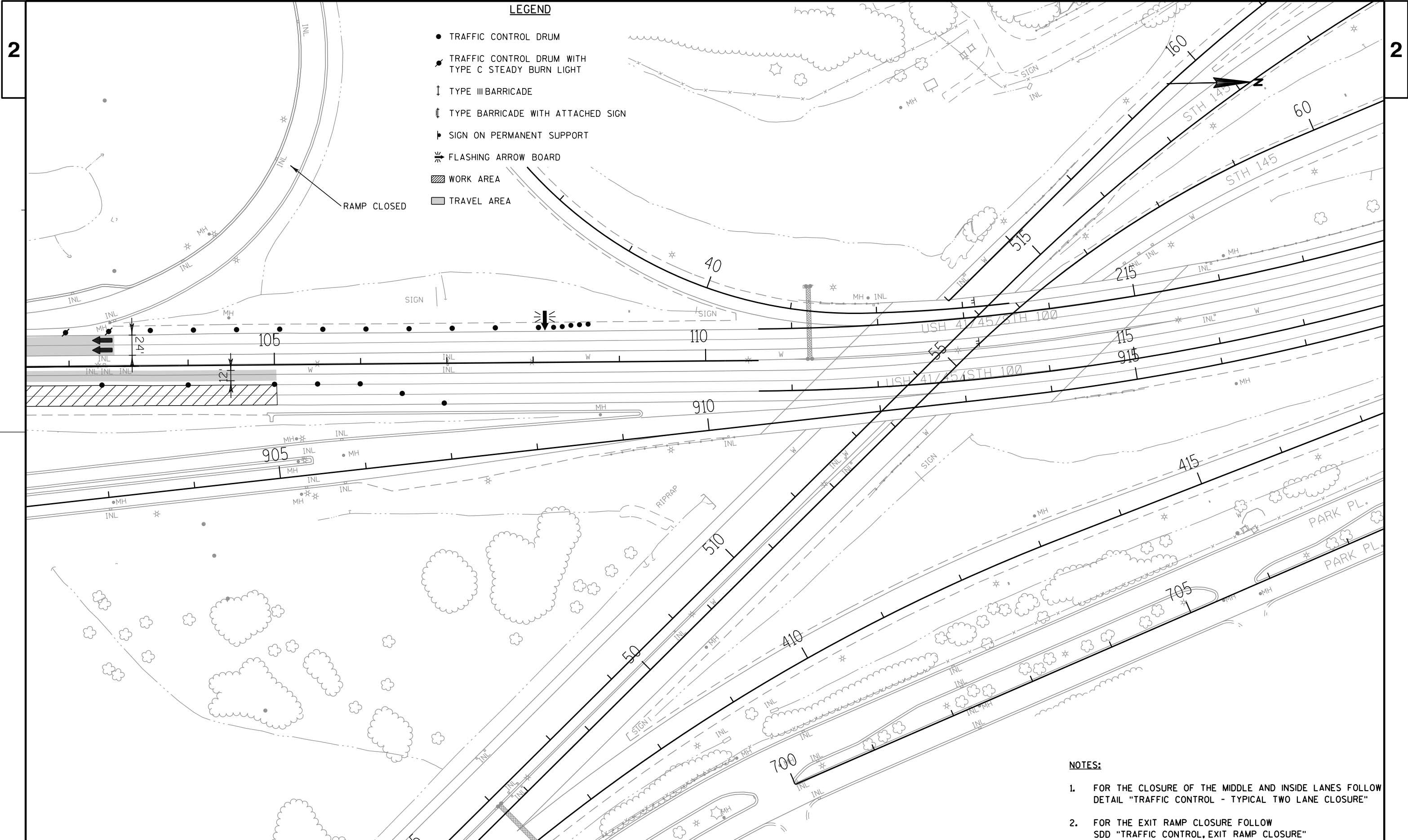
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▶ SIGN ON PERMANENT SUPPORT
- ✱ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA



NOTES:

1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"
3. FOR THE ENTRANCE RAMP CLOSURE FOLLOW DETAIL "TRAFFIC CONTROL FOR ON-RAMP CLOSURE (SHORT TERM ONLY)"



LEGEND

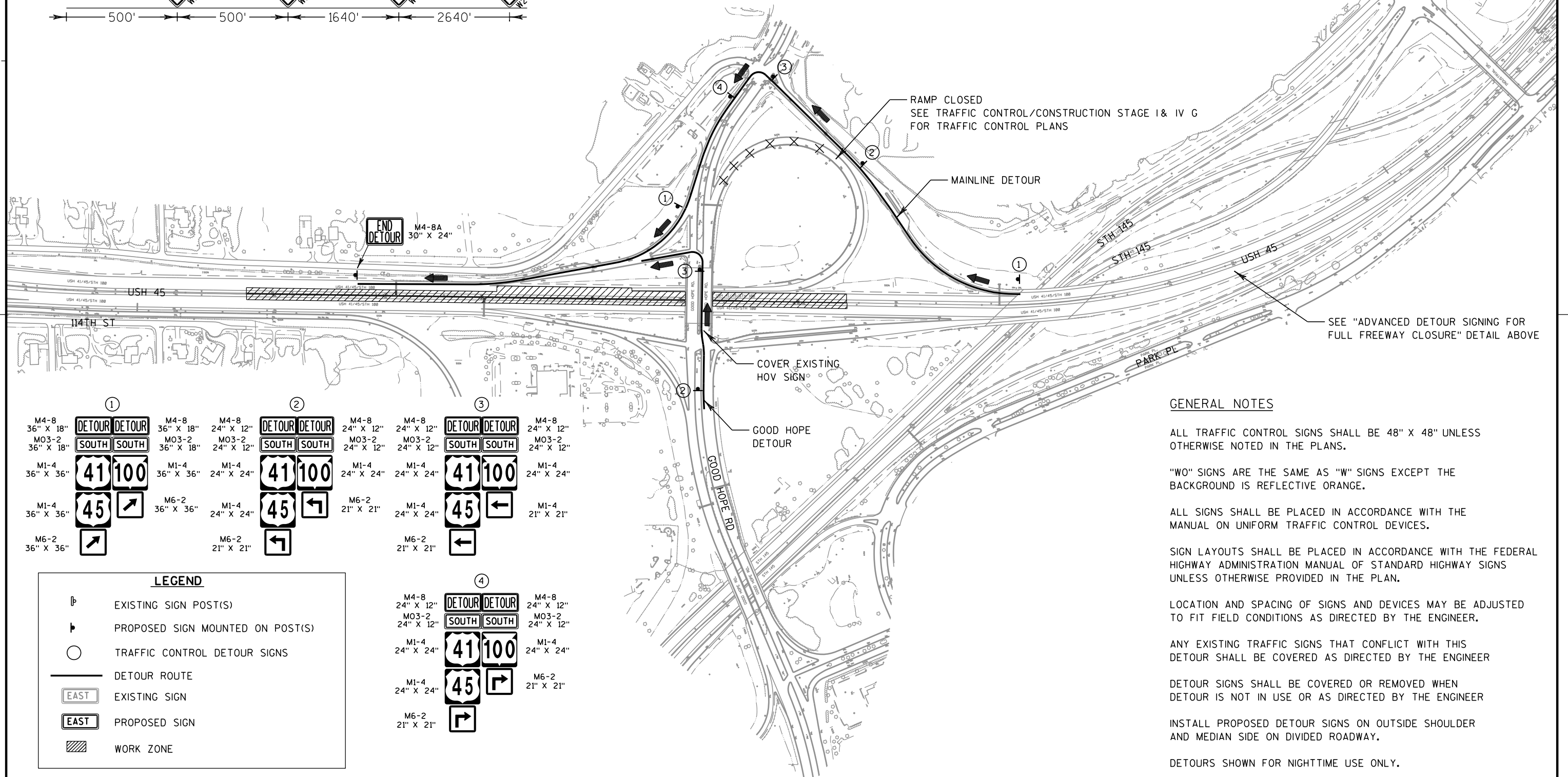
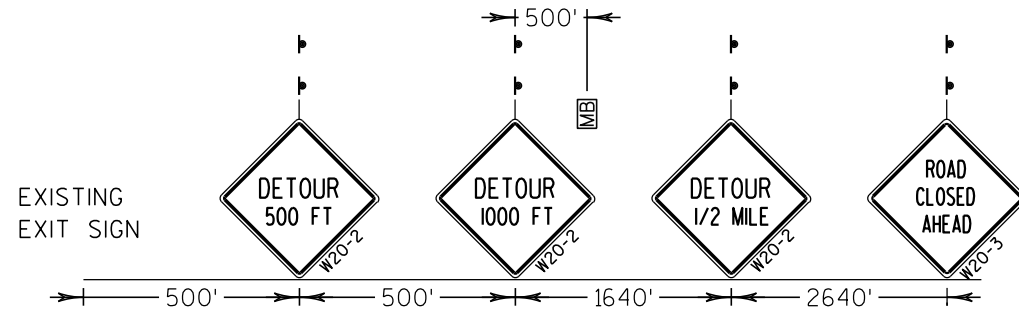
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- ↓ TYPE III BARRICADE
- ↓ TYPE BARRICADE WITH ATTACHED SIGN
- ▮ SIGN ON PERMANENT SUPPORT
- ⚡ FLASHING ARROW BOARD
- ▨ WORK AREA
- ▭ TRAVEL AREA

RAMP CLOSED

NOTES:

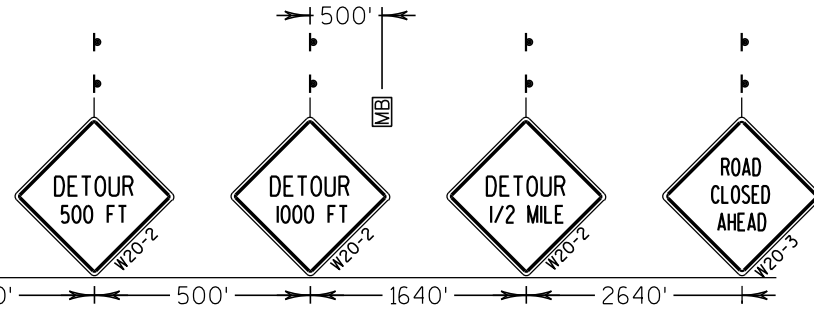
1. FOR THE CLOSURE OF THE MIDDLE AND INSIDE LANES FOLLOW DETAIL "TRAFFIC CONTROL - TYPICAL TWO LANE CLOSURE"
2. FOR THE EXIT RAMP CLOSURE FOLLOW SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

FREEWAY
CLOSED
AHEAD
FOLLOW
DETOUR
MB MESSAGE

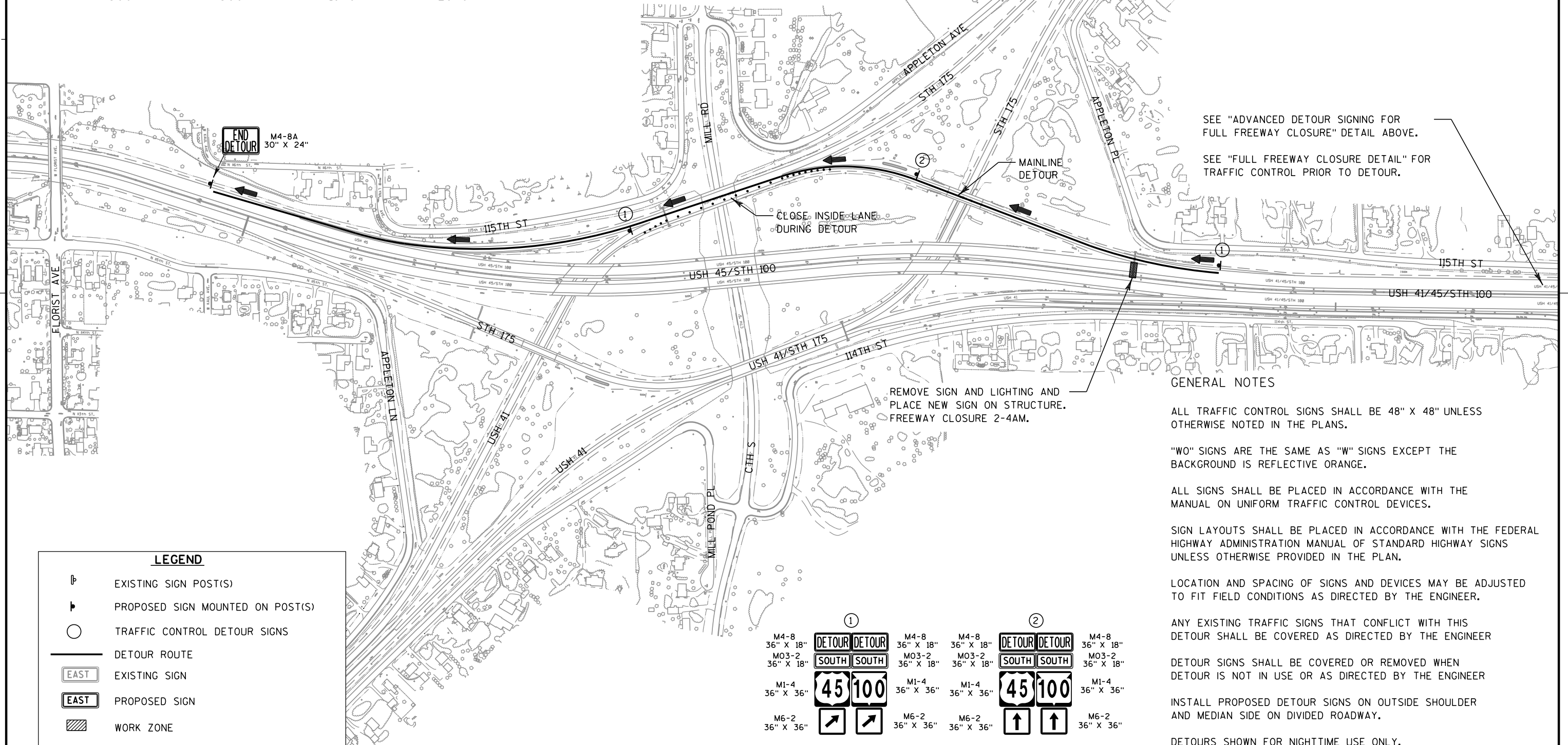


DETOURS SHOWN FOR NIGHTTIME USE ONLY.

EXISTING
EXIT SIGN



FREEWAY
CLOSED
AHEAD
FOLLOW
DETOUR
MB MESSAGE



SEE "ADVANCED DETOUR SIGNING FOR
FULL FREEWAY CLOSURE" DETAIL ABOVE.

SEE "FULL FREEWAY CLOSURE DETAIL" FOR
TRAFFIC CONTROL PRIOR TO DETOUR.

GENERAL NOTES

ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.

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

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SIGN LAYOUTS SHALL BE PLACED IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS OTHERWISE PROVIDED IN THE PLAN.

LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED
TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS
DETOUR SHALL BE COVERED AS DIRECTED BY THE ENGINEER

DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN
DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER

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

DETOURS SHOWN FOR NIGHTTIME USE ONLY.

PROJECT NO: 1100-20-60

HWY: USH 45

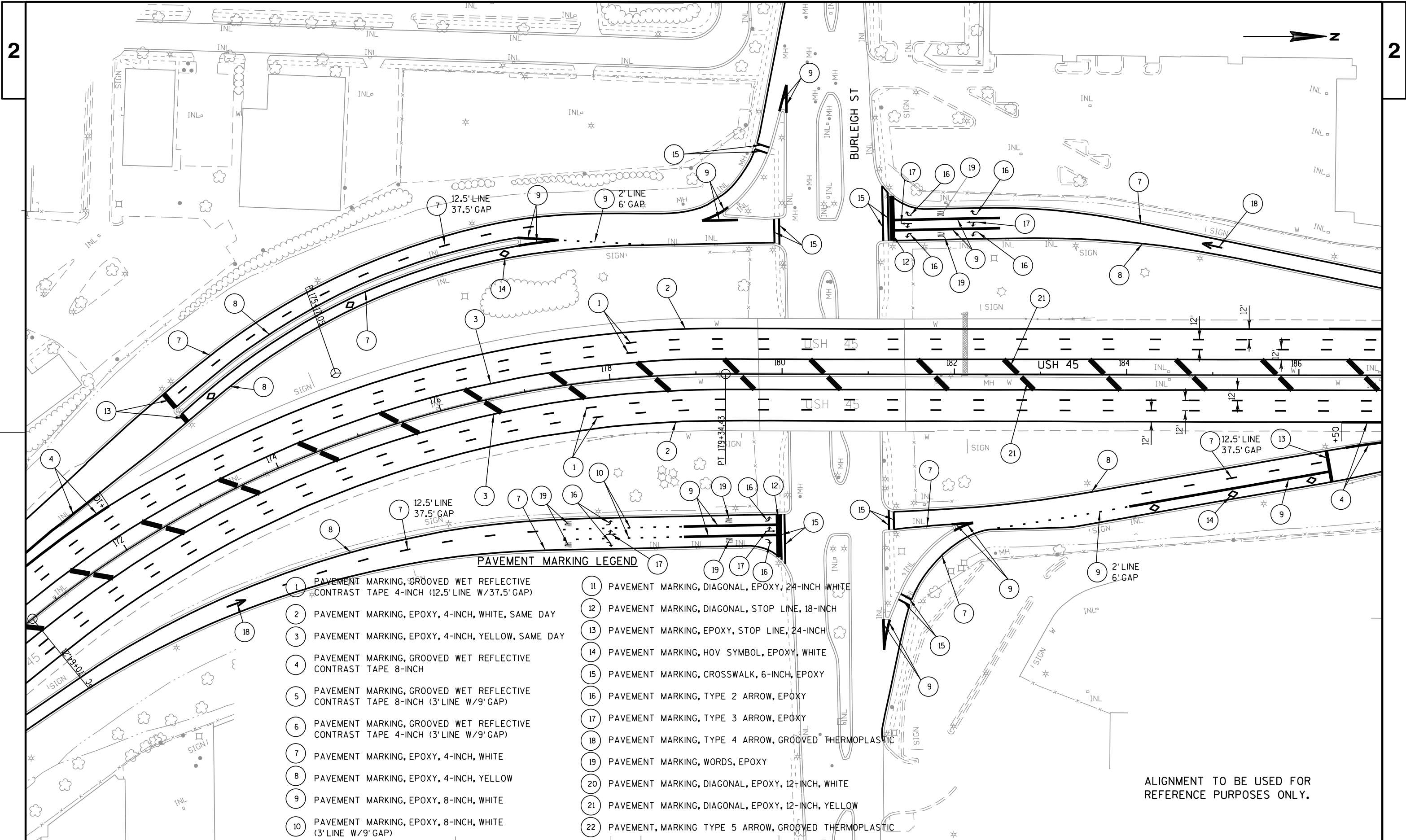
COUNTY: MILWAUKEE

USH 45 DETOUR FOR SIGN REPLACEMENT

SHEET

235

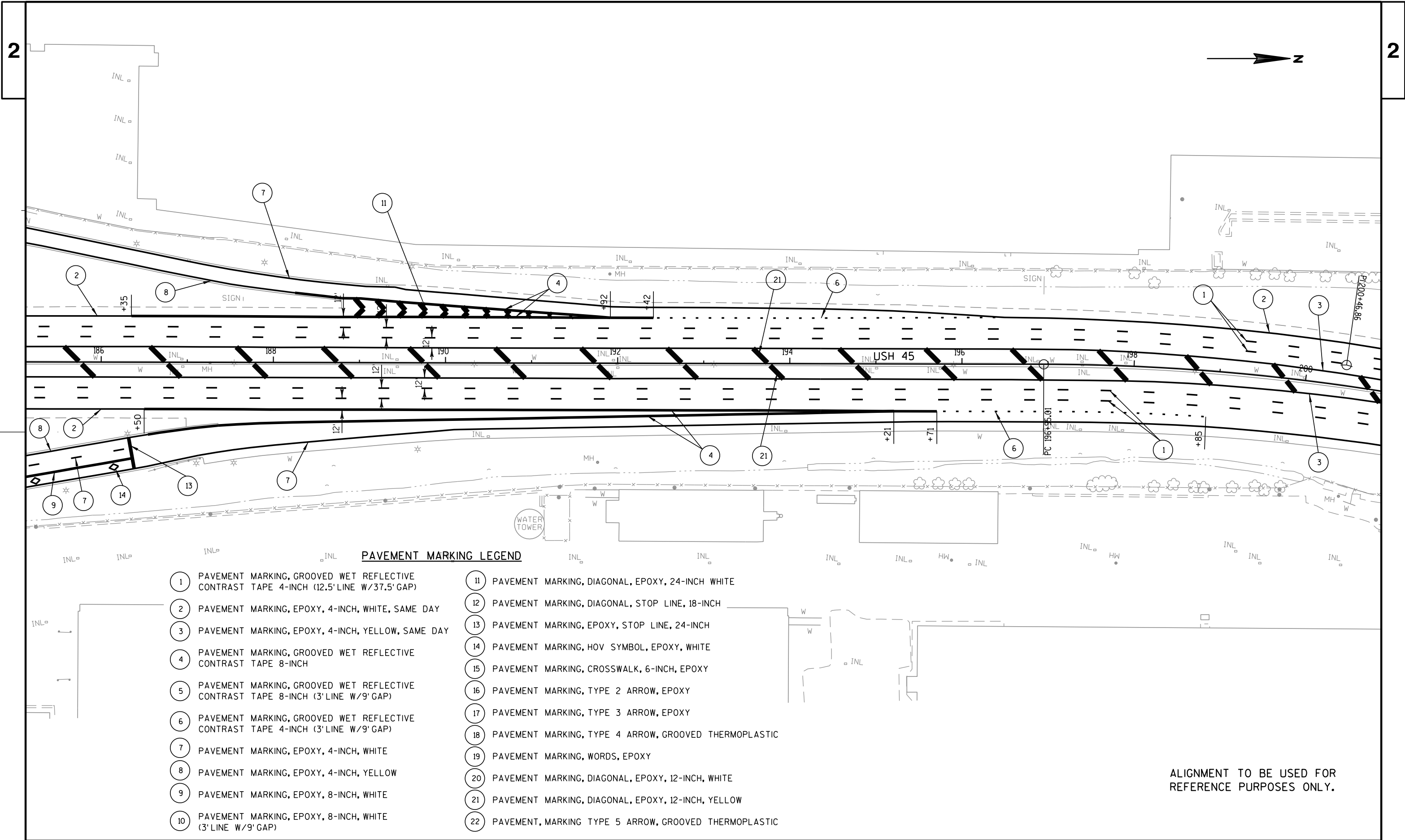
11



PAVEMENT MARKING LEGEND

- | | |
|--|--|
| 1 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (12.5' LINE W/37.5' GAP) | 11 PAVEMENT MARKING, DIAGONAL, EPOXY, 24-INCH WHITE |
| 2 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, SAME DAY | 12 PAVEMENT MARKING, DIAGONAL, STOP LINE, 18-INCH |
| 3 PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW, SAME DAY | 13 PAVEMENT MARKING, EPOXY, STOP LINE, 24-INCH |
| 4 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH | 14 PAVEMENT MARKING, HOV SYMBOL, EPOXY, WHITE |
| 5 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (3' LINE W/9' GAP) | 15 PAVEMENT MARKING, CROSSWALK, 6-INCH, EPOXY |
| 6 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (3' LINE W/9' GAP) | 16 PAVEMENT MARKING, TYPE 2 ARROW, EPOXY |
| 7 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE | 17 PAVEMENT MARKING, TYPE 3 ARROW, EPOXY |
| 8 PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW | 18 PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC |
| 9 PAVEMENT MARKING, EPOXY, 8-INCH, WHITE | 19 PAVEMENT MARKING, WORDS, EPOXY |
| 10 PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP) | 20 PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, WHITE |
| | 21 PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, YELLOW |
| | 22 PAVEMENT, MARKING TYPE 5 ARROW, GROOVED THERMOPLASTIC |

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.



PAVEMENT MARKING LEGEND

- | | |
|--|--|
| 1 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (12.5' LINE W/37.5' GAP) | 11 PAVEMENT MARKING, DIAGONAL, EPOXY, 24-INCH WHITE |
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| 5 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (3' LINE W/9' GAP) | 15 PAVEMENT MARKING, CROSSWALK, 6-INCH, EPOXY |
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| 7 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE | 17 PAVEMENT MARKING, TYPE 3 ARROW, EPOXY |
| 8 PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW | 18 PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC |
| 9 PAVEMENT MARKING, EPOXY, 8-INCH, WHITE | 19 PAVEMENT MARKING, WORDS, EPOXY |
| 10 PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP) | 20 PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, WHITE |
| | 21 PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, YELLOW |
| | 22 PAVEMENT, MARKING TYPE 5 ARROW, GROOVED THERMOPLASTIC |

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.

PROJECT NO: 1100-20-60

HWY: USH 45

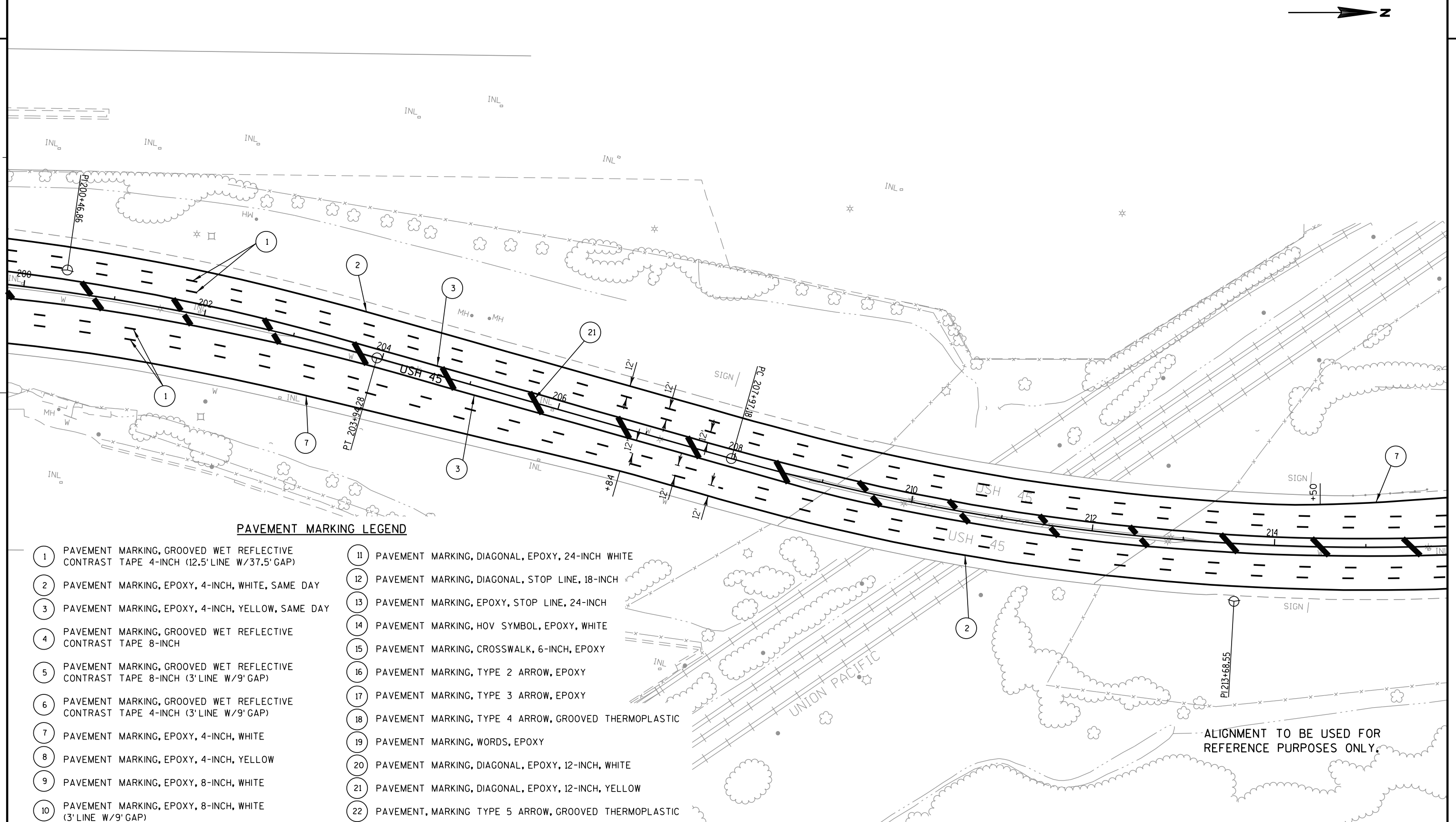
COUNTY: MILWAUKEE

PAVEMENT MARKING

SHEET

238

E



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PAVEMENT MARKING

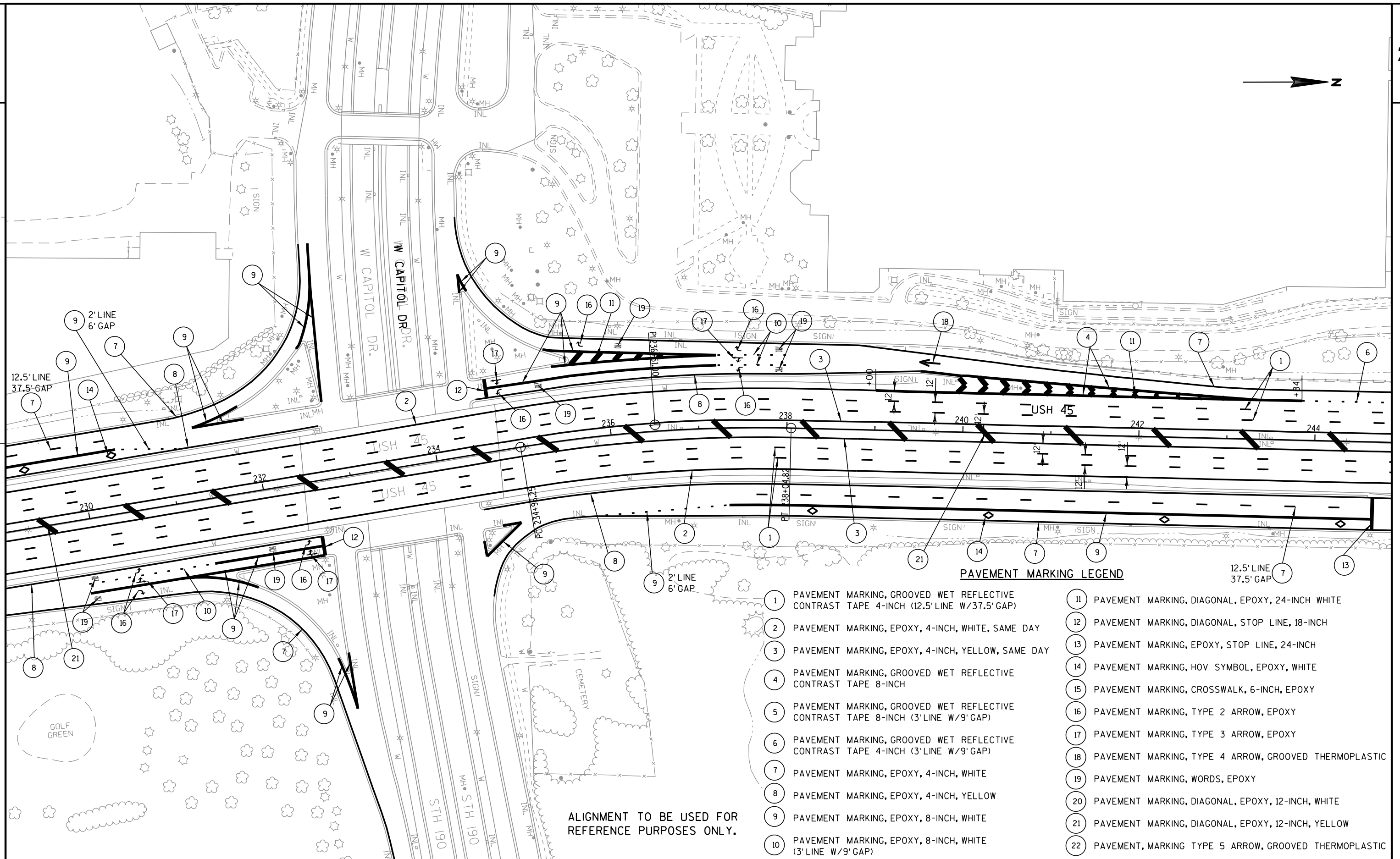
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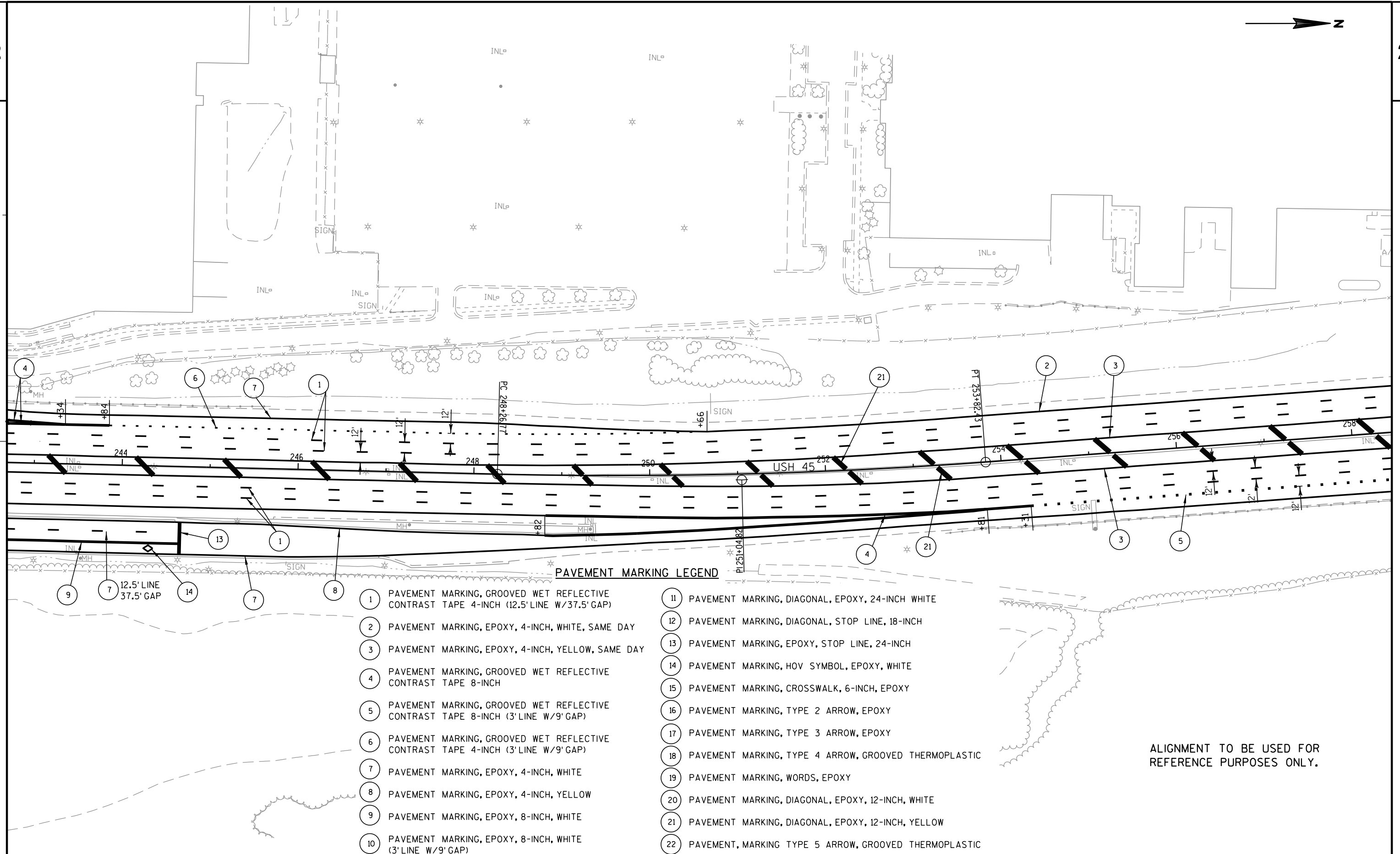
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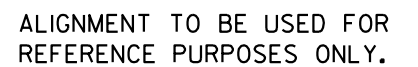
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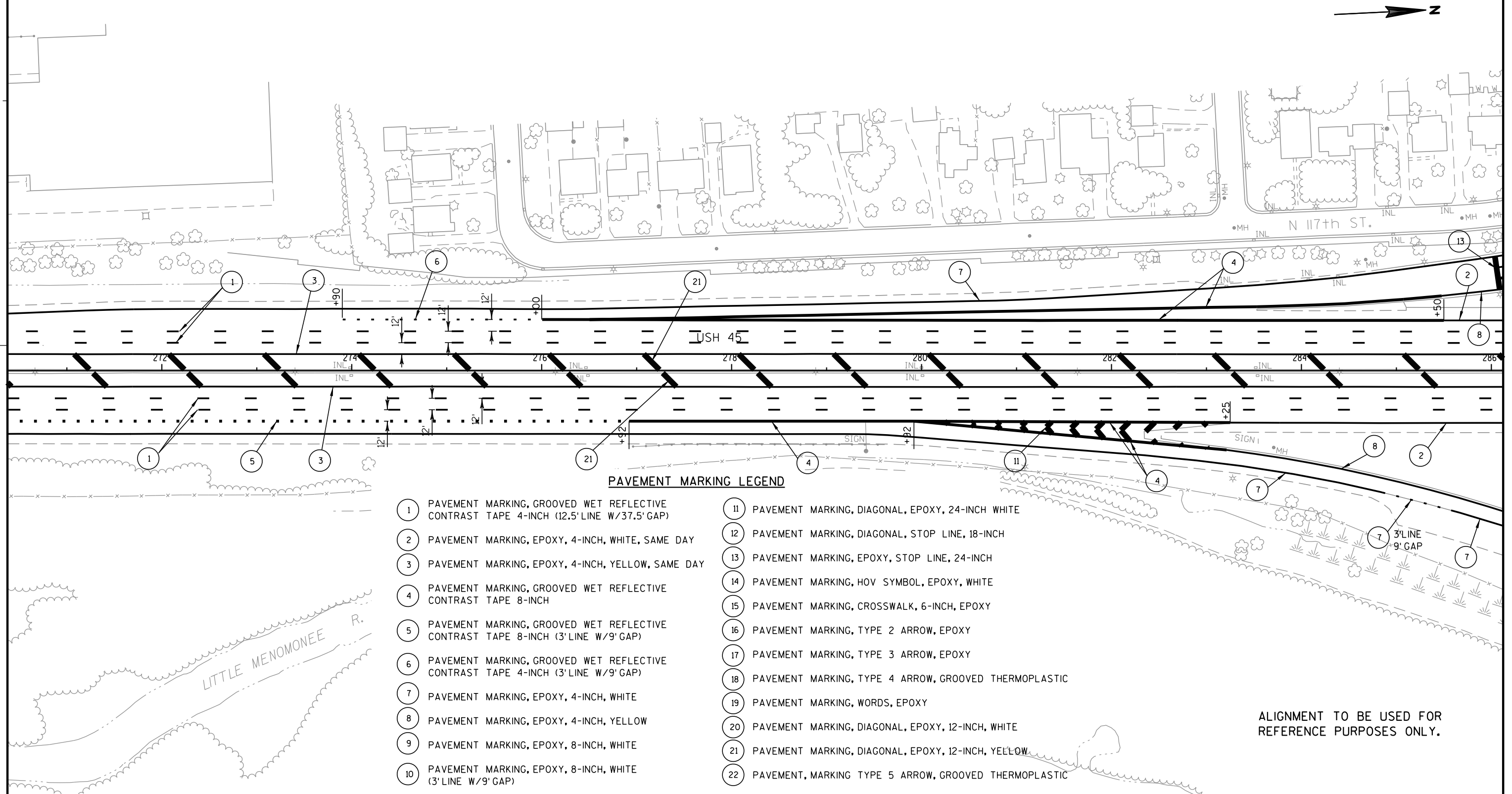
1	PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (12.5' LINE W/37.5' GAP)	11	PAVEMENT MARKING, DIAGONAL, EPOXY, 24-INCH WHITE
2	PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, SAME DAY	12	PAVEMENT MARKING, DIAGONAL, STOP LINE, 18-INCH
3	PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW, SAME DAY	13	PAVEMENT MARKING, EPOXY, STOP LINE, 24-INCH
4	PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	14	PAVEMENT MARKING, HOV SYMBOL, EPOXY, WHITE
5	PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (3' LINE W/9' GAP)	15	PAVEMENT MARKING, CROSSWALK, 6-INCH, EPOXY
6	PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (3' LINE W/9' GAP)	16	PAVEMENT MARKING, TYPE 2 ARROW, EPOXY
7	PAVEMENT MARKING, EPOXY, 4-INCH, WHITE	17	PAVEMENT MARKING, TYPE 3 ARROW, EPOXY
8	PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW	18	PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC
9	PAVEMENT MARKING, EPOXY, 8-INCH, WHITE	19	PAVEMENT MARKING, WORDS, EPOXY
10	PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP)	20	PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, WHITE
		21	PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, YELLOW
		22	PAVEMENT, MARKING TYPE 5 ARROW, GROOVED THERMOPLASTIC

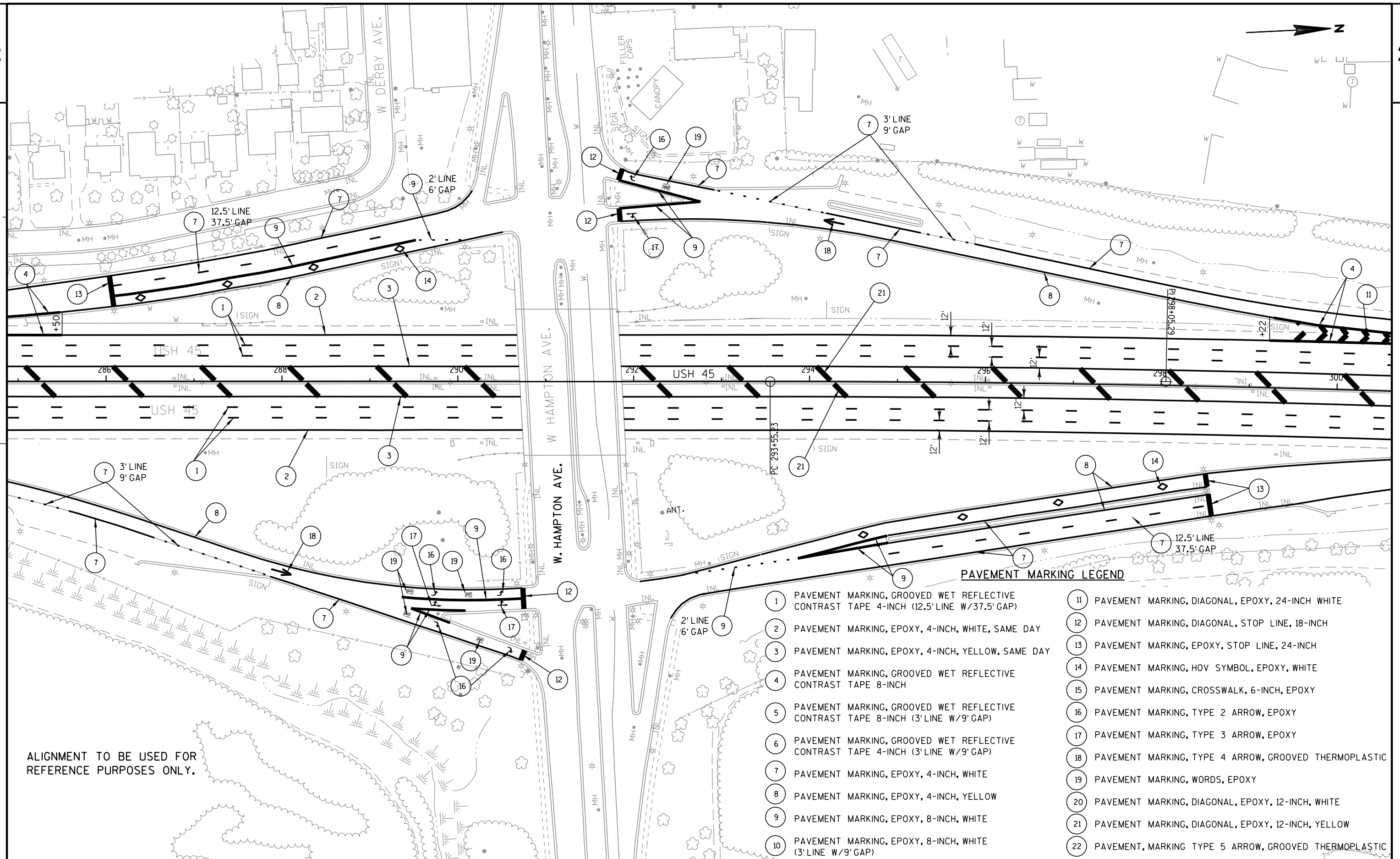


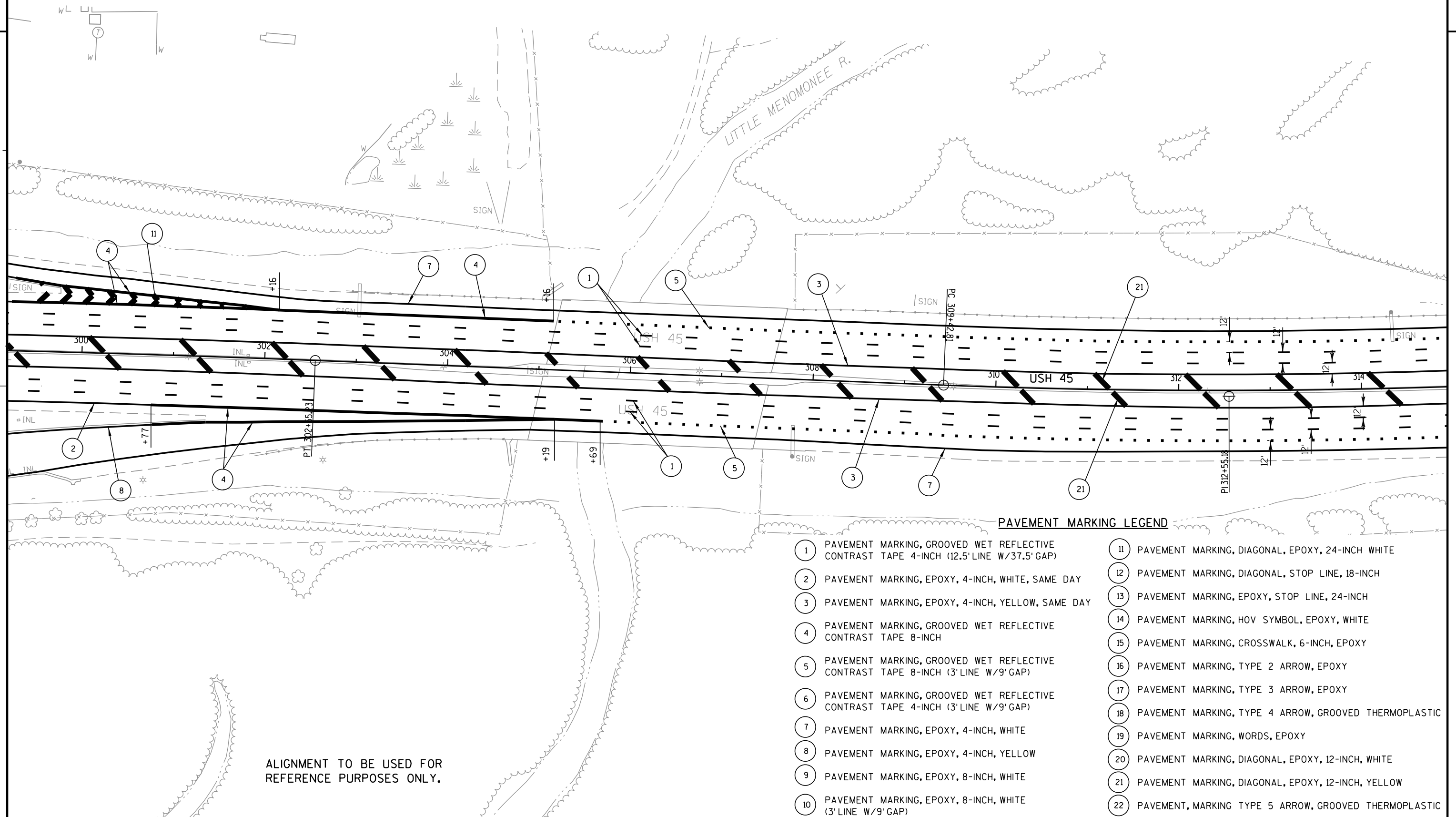




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4	PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	14	PAVEMENT MARKING, HOV SYMBOL, EPOXY, WHITE
5	PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (3' LINE W/9' GAP)	15	PAVEMENT MARKING, CROSSWALK, 6-INCH, EPOXY
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7	PAVEMENT MARKING, EPOXY, 4-INCH, WHITE	17	PAVEMENT MARKING, TYPE 3 ARROW, EPOXY
8	PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW	18	PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC
9	PAVEMENT MARKING, EPOXY, 8-INCH, WHITE	19	PAVEMENT MARKING, WORDS, EPOXY
10	PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP)	20	PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, WHITE
		21	PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, YELLOW
		22	PAVEMENT, MARKING TYPE 5 ARROW, GROOVED THERMOPLASTIC







PROJECT NO: 1100-20-60

HWY: USH 45

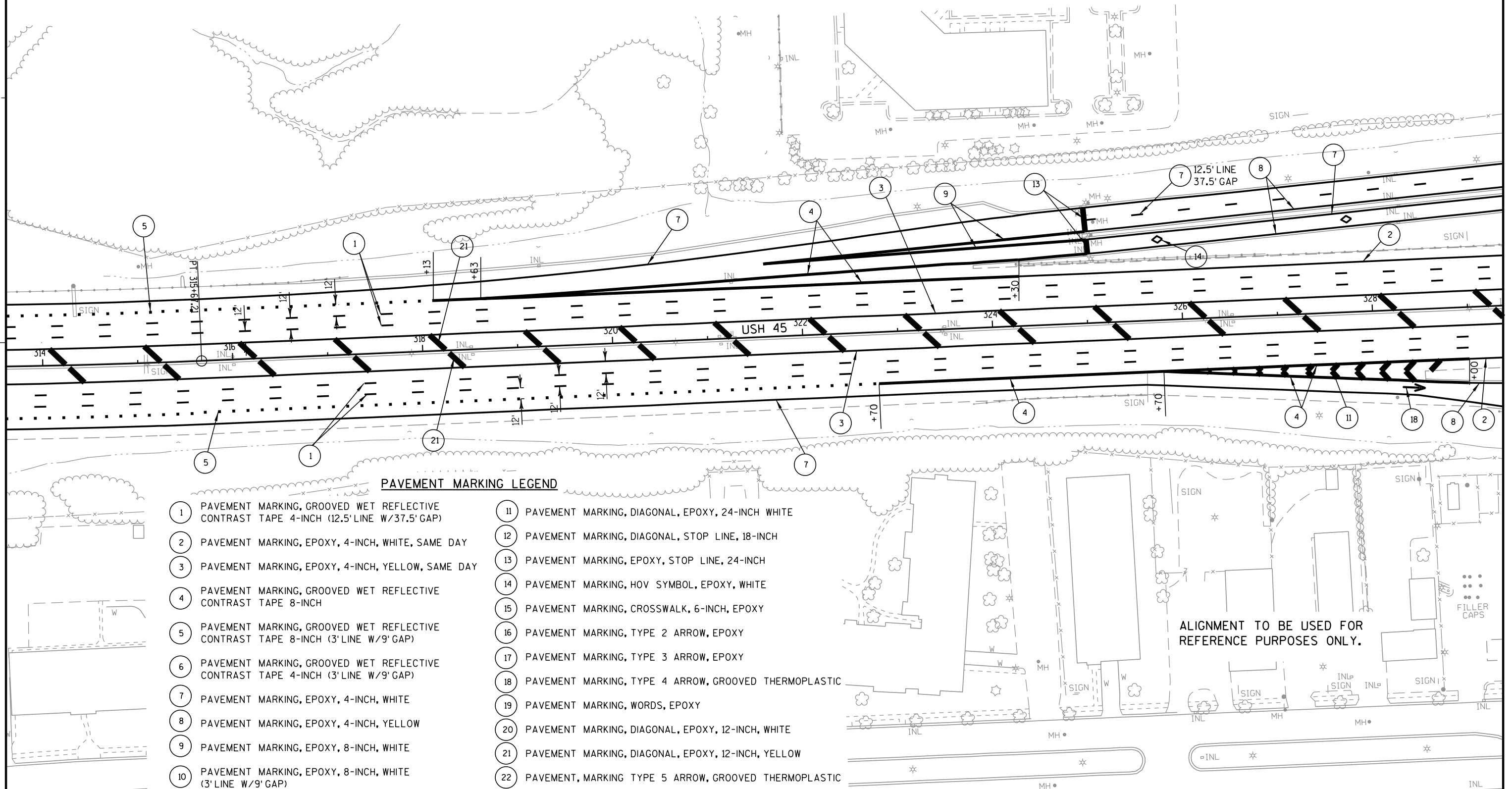
COUNTY: MILWAUKEE

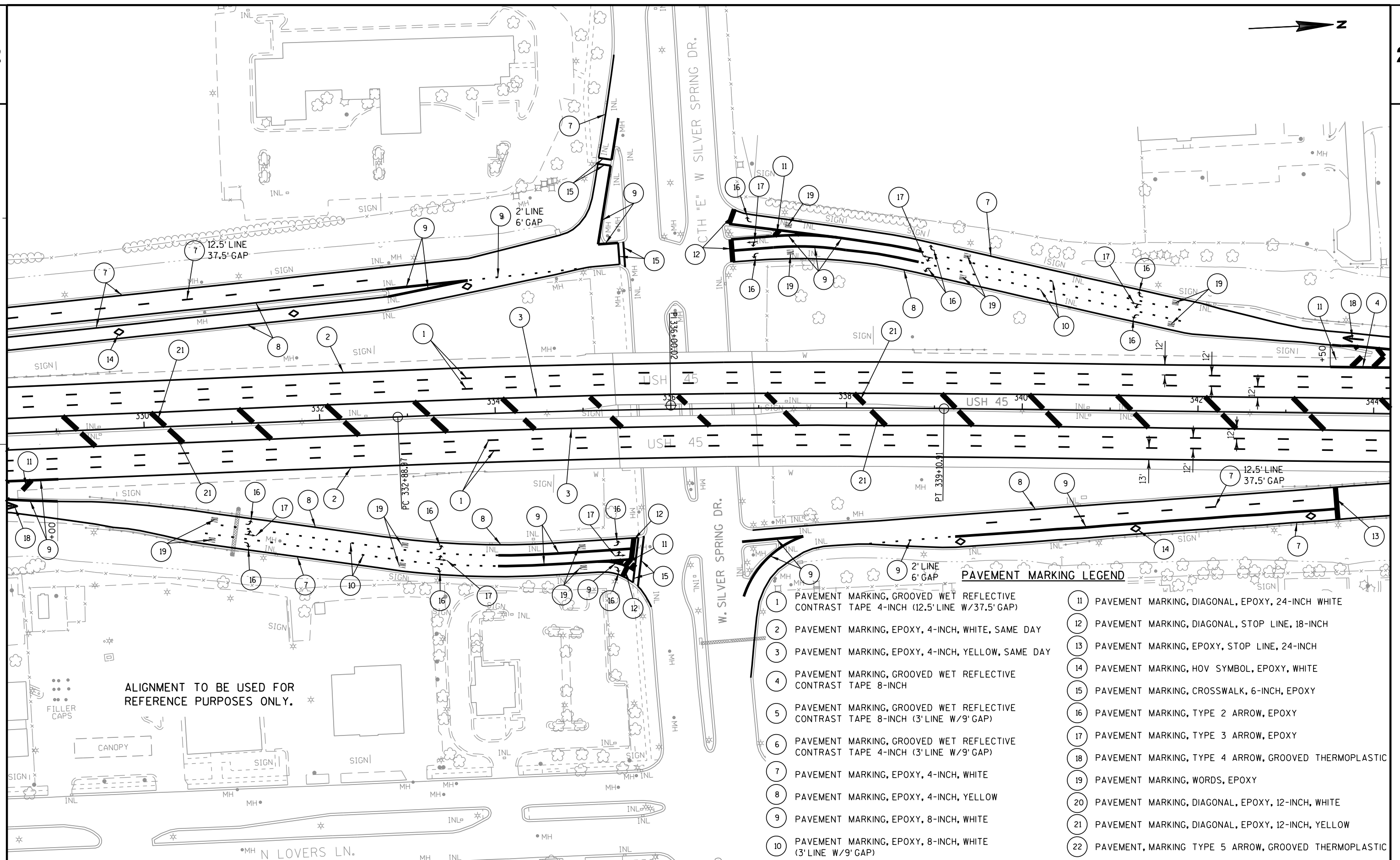
PAVEMENT MARKING

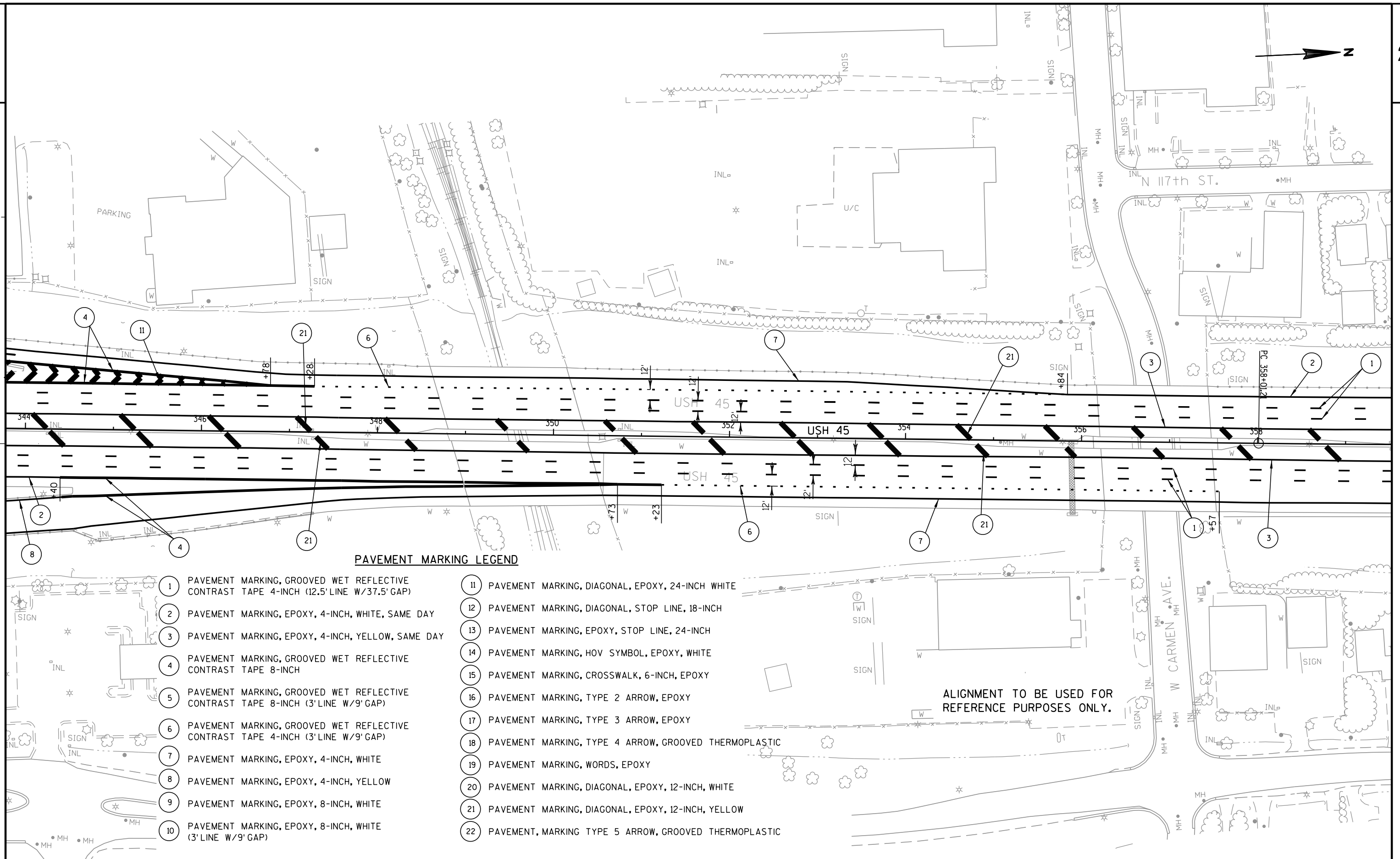
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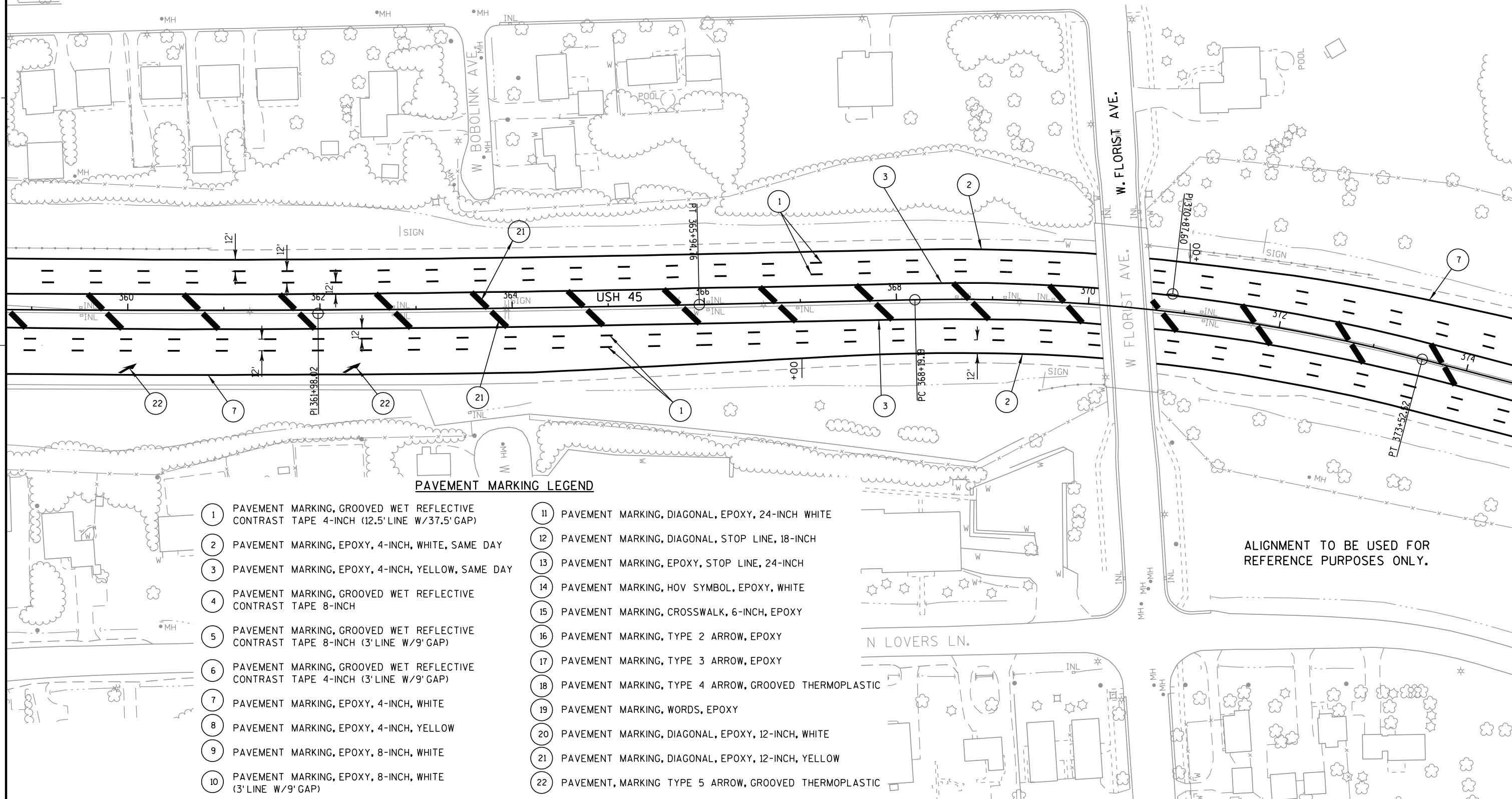
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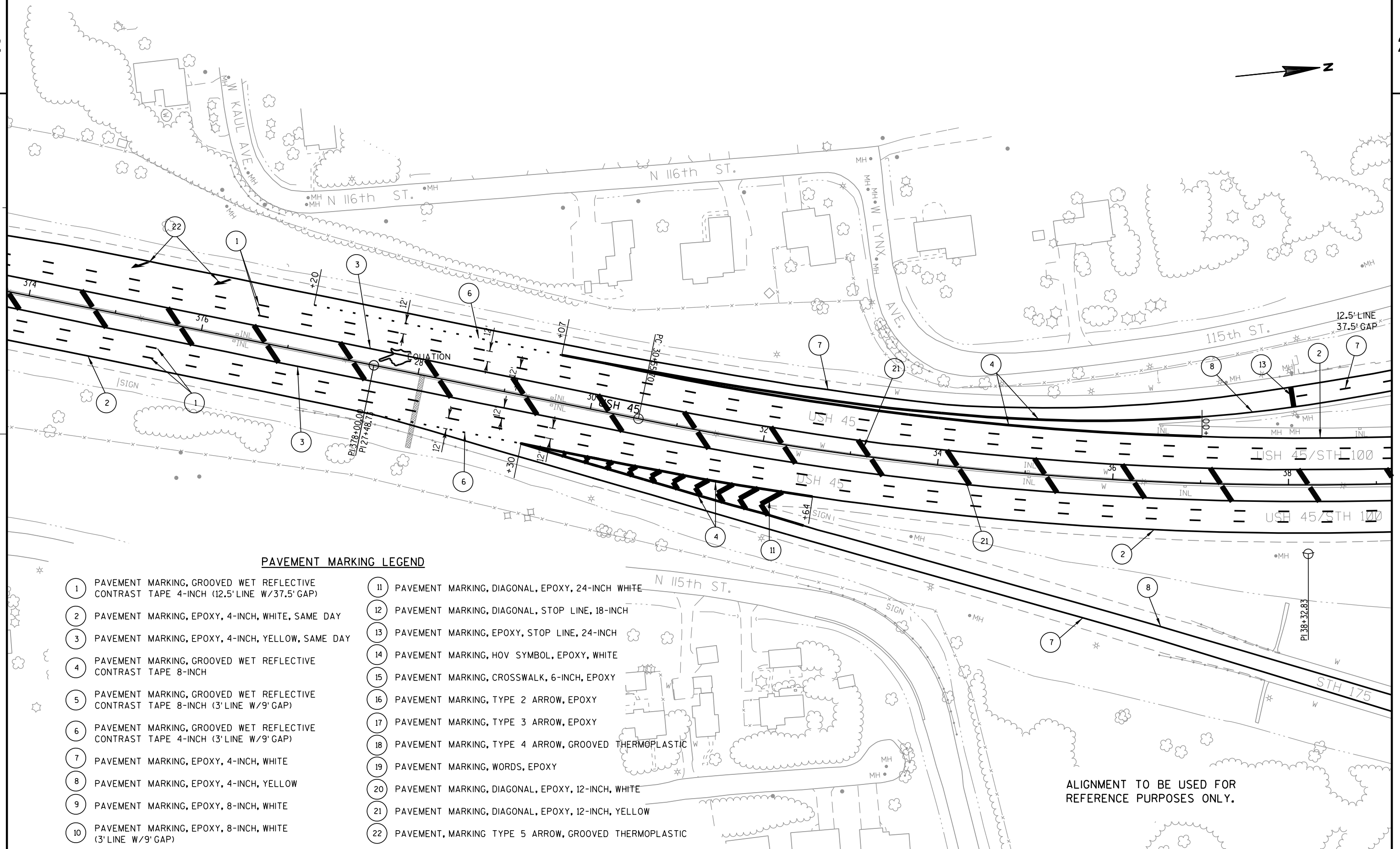
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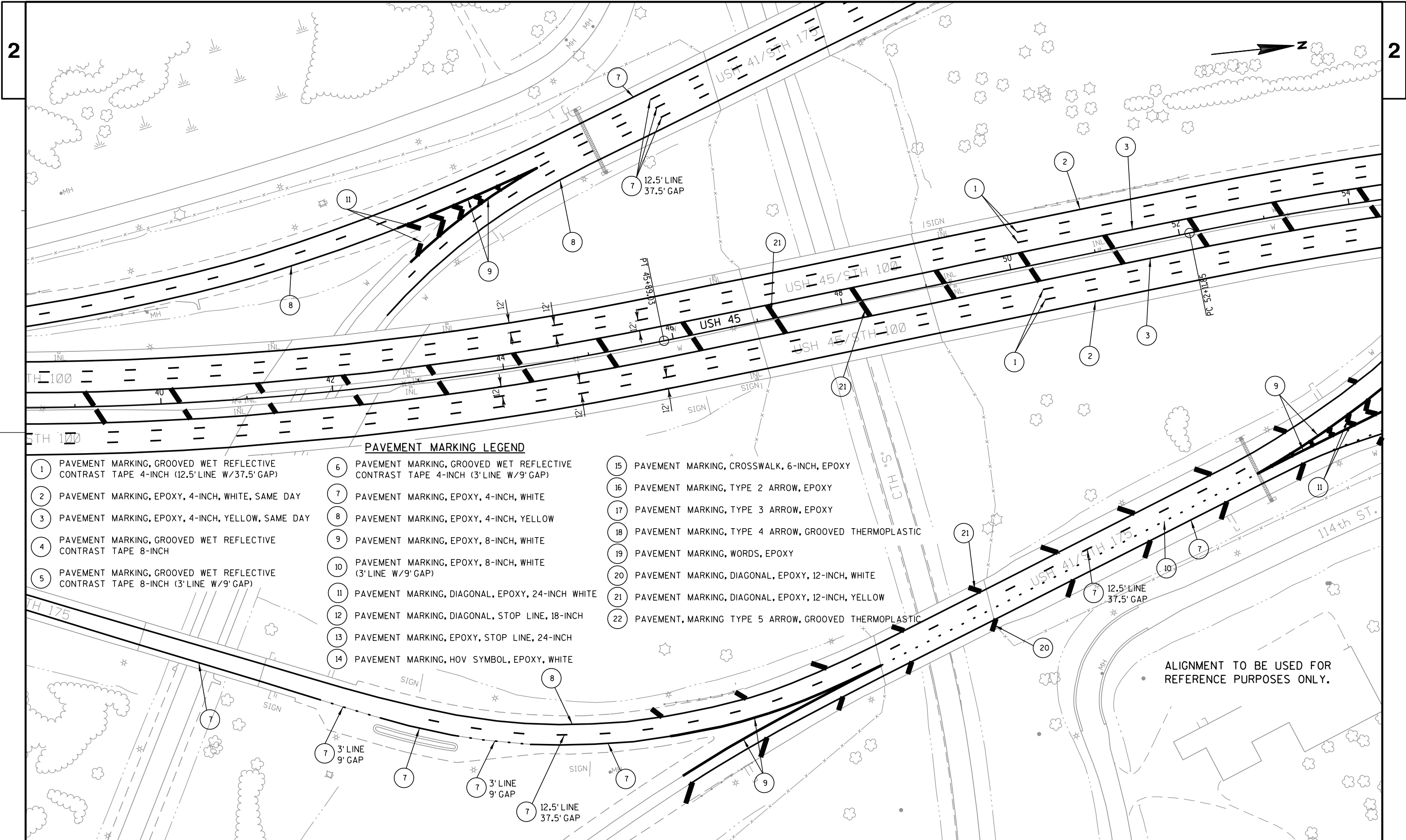












PAVEMENT MARKING LEGEND

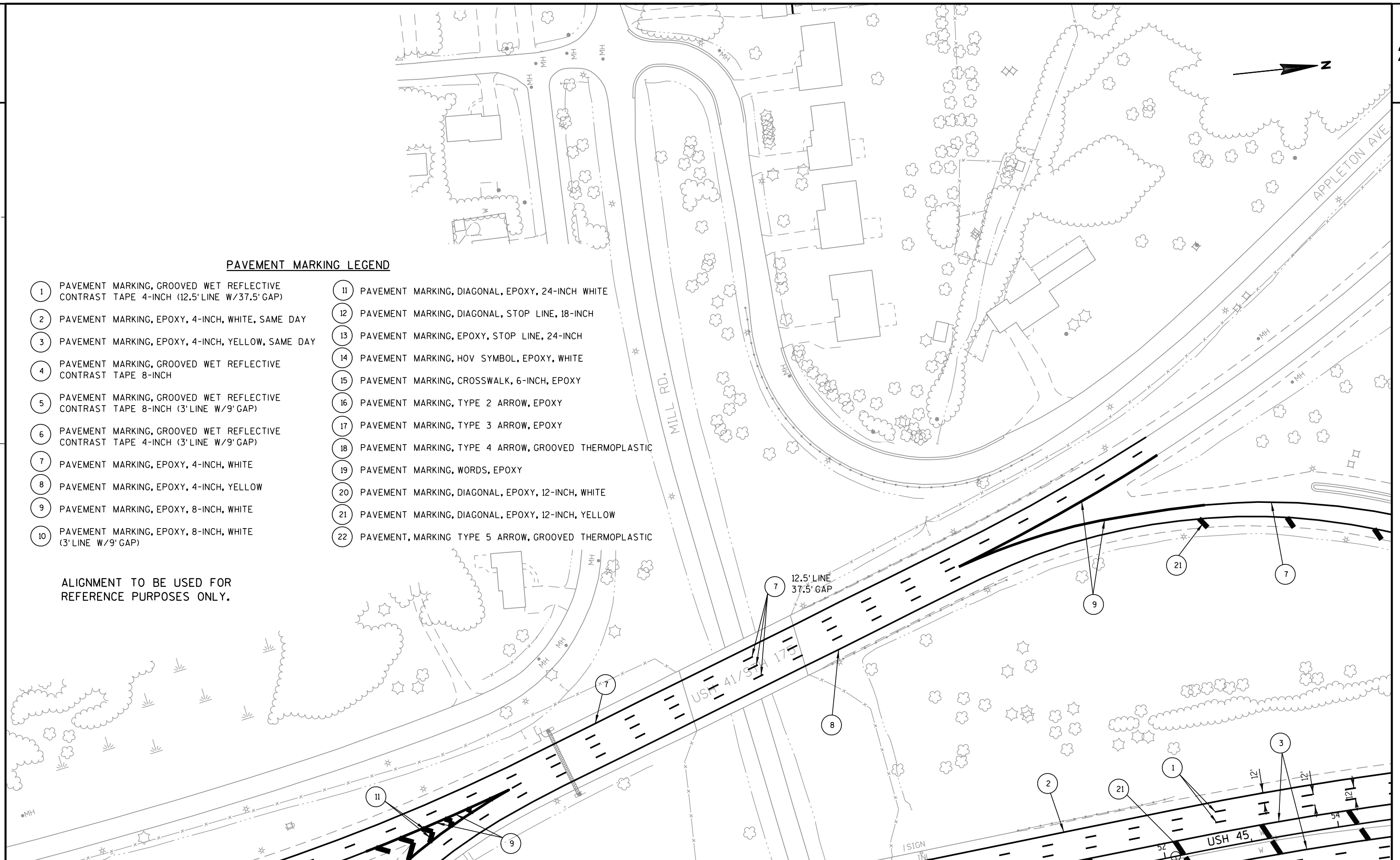
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|--|--|--|
| 1 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (12.5' LINE W/37.5' GAP) | 6 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (3' LINE W/9' GAP) | 15 PAVEMENT MARKING, CROSSWALK, 6-INCH, EPOXY |
| 2 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE, SAME DAY | 7 PAVEMENT MARKING, EPOXY, 4-INCH, WHITE | 16 PAVEMENT MARKING, TYPE 2 ARROW, EPOXY |
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| 4 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH | 9 PAVEMENT MARKING, EPOXY, 8-INCH, WHITE | 18 PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC |
| 5 PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (3' LINE W/9' GAP) | 10 PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP) | 19 PAVEMENT MARKING, WORDS, EPOXY |
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| | 12 PAVEMENT MARKING, DIAGONAL, STOP LINE, 18-INCH | 21 PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, YELLOW |
| | 13 PAVEMENT MARKING, EPOXY, STOP LINE, 24-INCH | 22 PAVEMENT MARKING, TYPE 5 ARROW, GROOVED THERMOPLASTIC |
| | 14 PAVEMENT MARKING, HOV SYMBOL, EPOXY, WHITE | |

ALIGNMENT TO BE USED FOR REFERENCE PURPOSES ONLY.

PAVEMENT MARKING LEGEND

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| 9 | PAVEMENT MARKING, EPOXY, 8-INCH, WHITE | 19 | PAVEMENT MARKING, WORDS, EPOXY |
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| | | 22 | PAVEMENT, MARKING TYPE 5 ARROW, GROOVED THERMOPLASTIC |

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.



PROJECT NO: 1100-20-60

HWY: USH 45

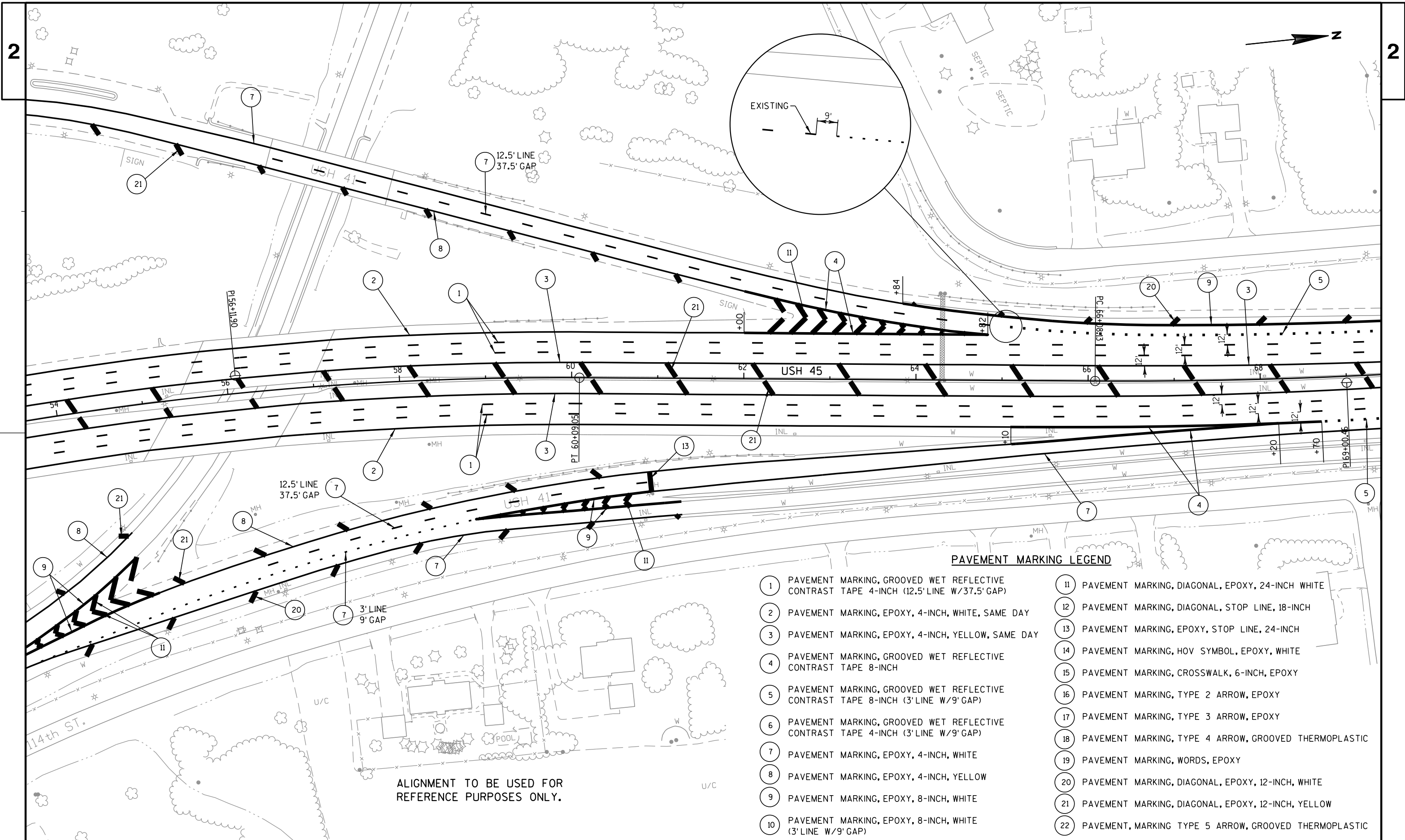
COUNTY: MILWAUKEE

PAVEMENT MARKING

SHEET

253

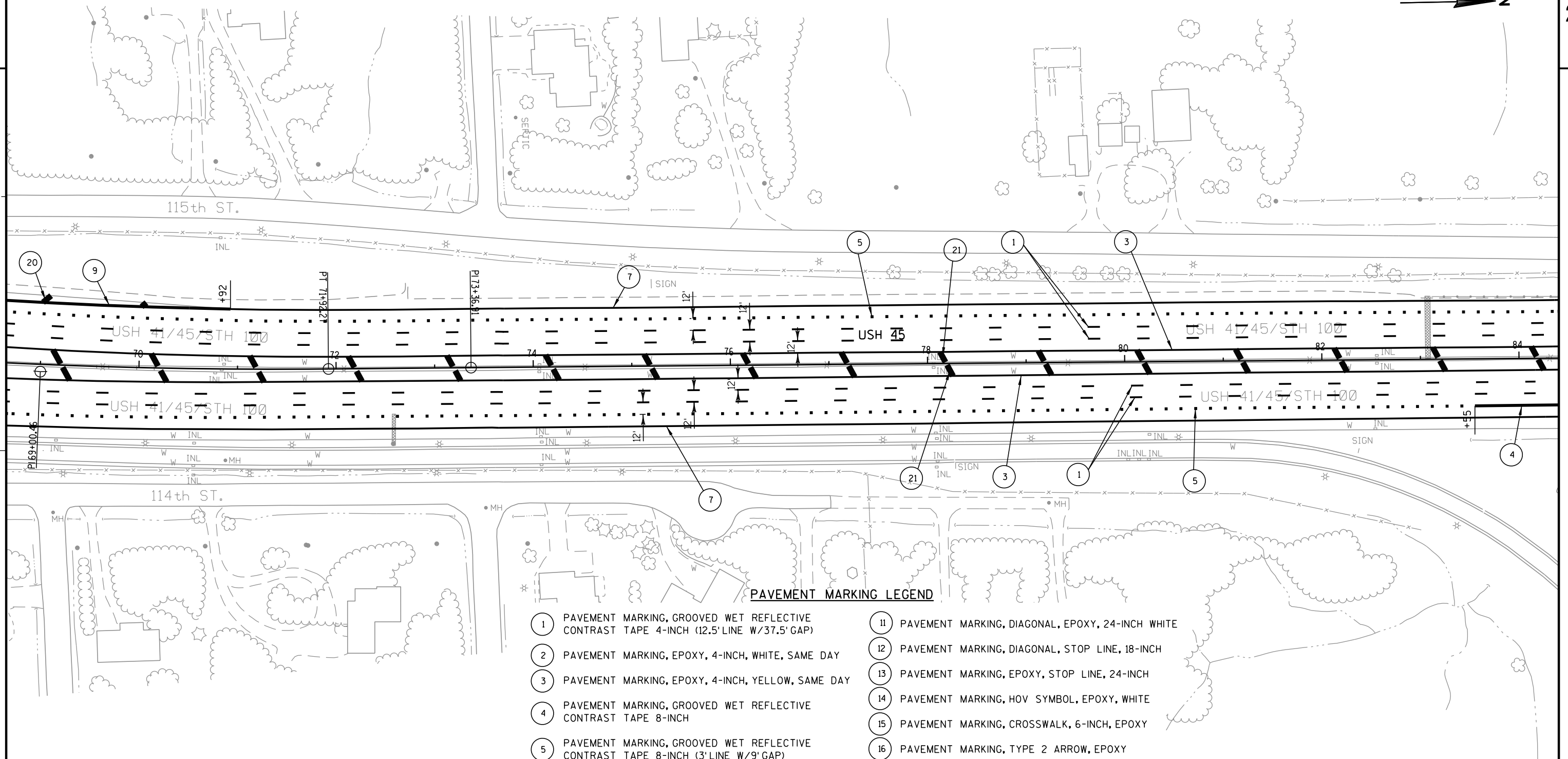
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ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.

PAVEMENT MARKING LEGEND

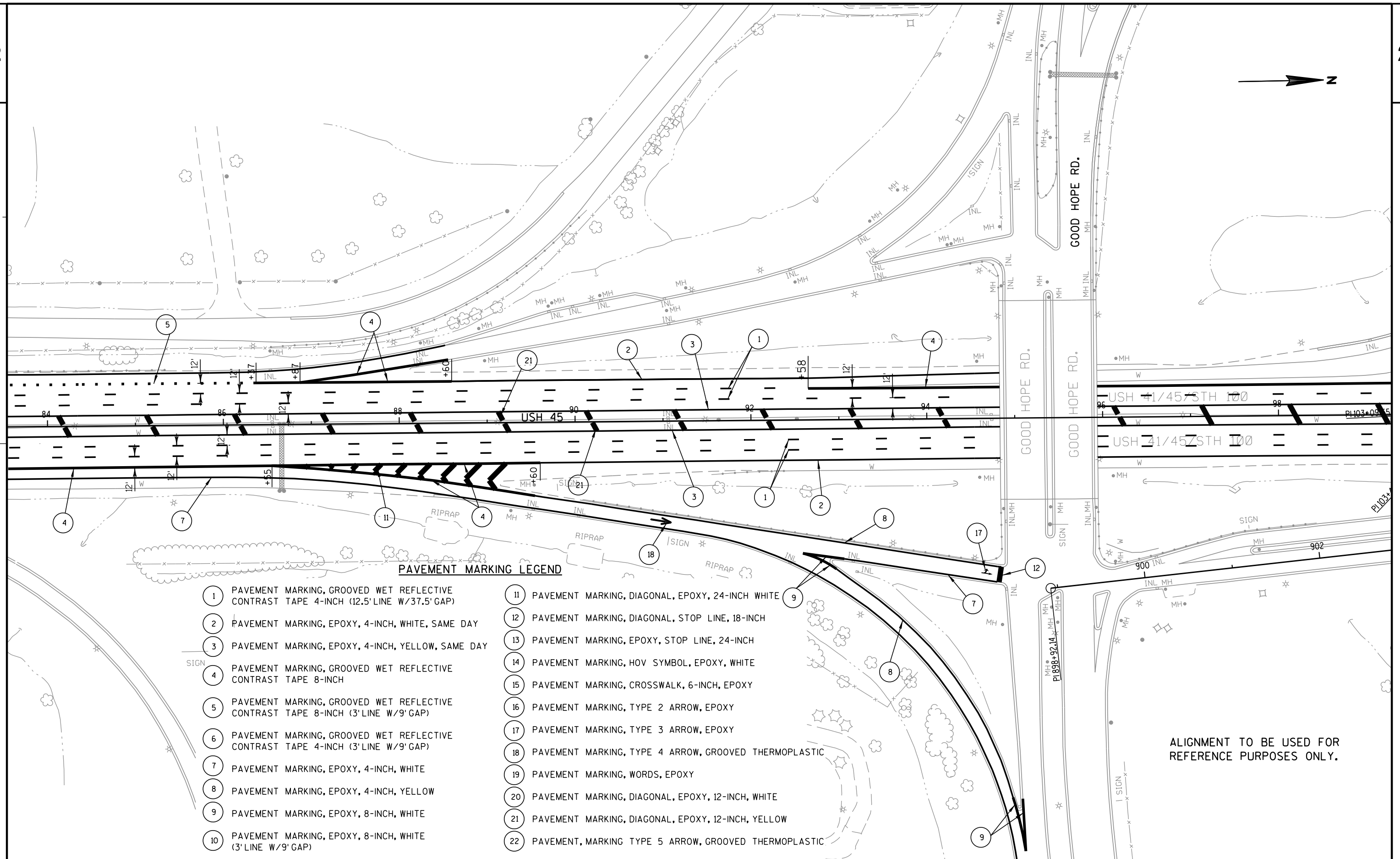
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|----|--|----|---|
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| 8 | PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW | 18 | PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC |
| 9 | PAVEMENT MARKING, EPOXY, 8-INCH, WHITE | 19 | PAVEMENT MARKING, WORDS, EPOXY |
| 10 | PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP) | 20 | PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, WHITE |
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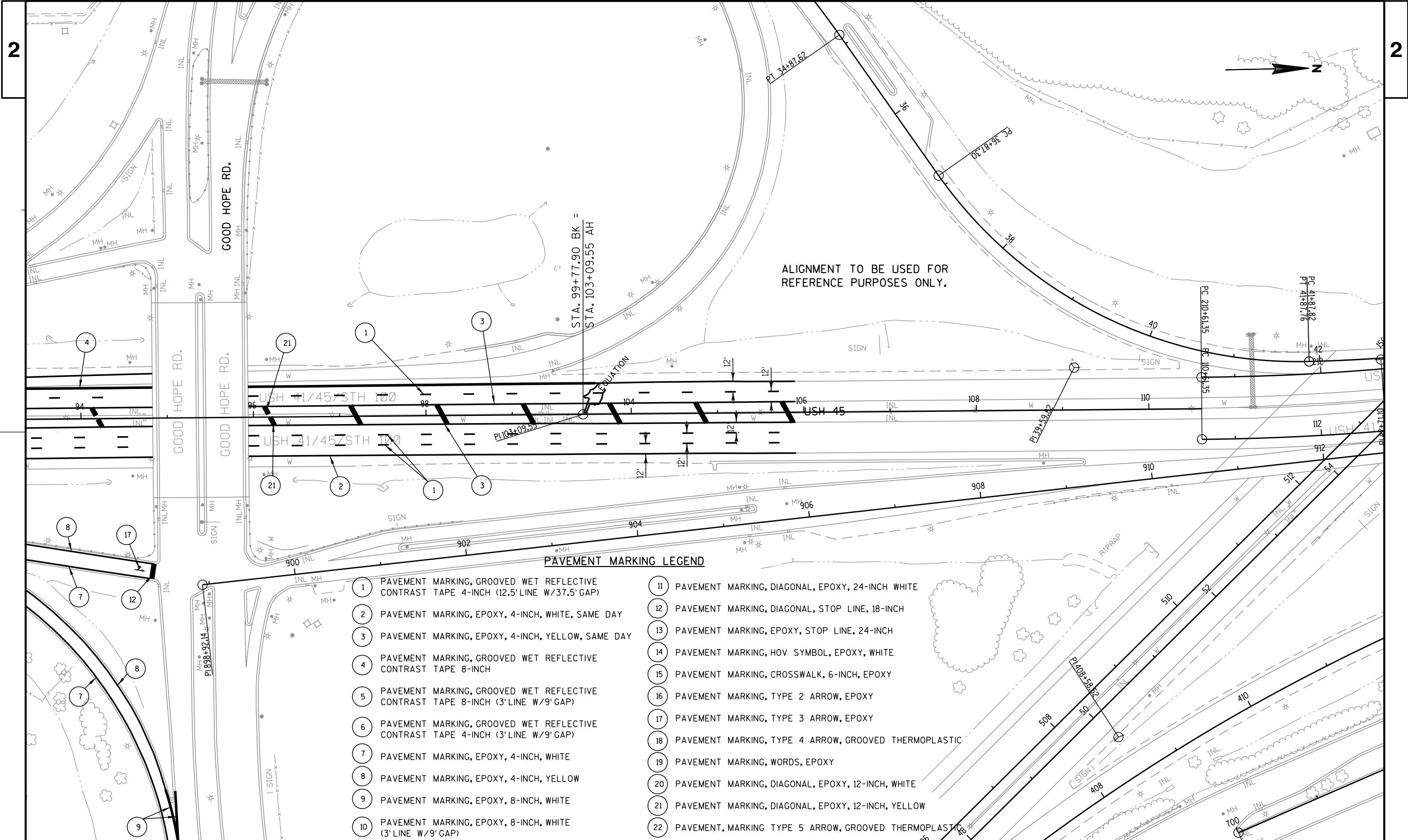


ALIGNMENT TO BE USED FOR
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PAVEMENT MARKING LEGEND

- | | |
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| ① PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (12.5' LINE W/37.5' GAP) | ⑪ PAVEMENT MARKING, DIAGONAL, EPOXY, 24-INCH WHITE |
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| ③ PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW, SAME DAY | ⑬ PAVEMENT MARKING, EPOXY, STOP LINE, 24-INCH |
| ④ PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH | ⑭ PAVEMENT MARKING, HOV SYMBOL, EPOXY, WHITE |
| ⑤ PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (3' LINE W/9' GAP) | ⑮ PAVEMENT MARKING, CROSSWALK, 6-INCH, EPOXY |
| ⑥ PAVEMENT MARKING, GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (3' LINE W/9' GAP) | ⑯ PAVEMENT MARKING, TYPE 2 ARROW, EPOXY |
| ⑦ PAVEMENT MARKING, EPOXY, 4-INCH, WHITE | ⑰ PAVEMENT MARKING, TYPE 3 ARROW, EPOXY |
| ⑧ PAVEMENT MARKING, EPOXY, 4-INCH, YELLOW | ⑱ PAVEMENT MARKING, TYPE 4 ARROW, GROOVED THERMOPLASTIC |
| ⑨ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE | ⑲ PAVEMENT MARKING, WORDS, EPOXY |
| ⑩ PAVEMENT MARKING, EPOXY, 8-INCH, WHITE (3' LINE W/9' GAP) | ⑳ PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, WHITE |
| | ㉑ PAVEMENT MARKING, DIAGONAL, EPOXY, 12-INCH, YELLOW |
| | ㉒ PAVEMENT, MARKING TYPE 5 ARROW, GROOVED THERMOPLASTIC |





PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PAVEMENT MARKING

SHEET

257

E

3

DATE 19NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE					1100-20-60
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	108.4400	CPM PROGRESS SCHEDULE	EACH	1.000	1.000
0020	201.0110	CLEARING **P**	SY	100.000	100.000
0030	201.0210	GRUBBING **P**	SY	100.000	100.000
0040	204.0125	REMOVING ASPHALTIC SURFACE MILLING	TON	31,069.000	31,069.000
0050	204.0157	REMOVING CONCRETE BARRIER **P**	LF	137.000	137.000
0060	204.0165	REMOVING GUARDRAIL **P**	LF	165.000	165.000
0070	213.0100	FINISHING ROADWAY (PROJECT) 01. 1100-20-60	EACH	1.000	1.000
0080	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	184.000	184.000
0090	390.0403	BASE PATCHING CONCRETE SHES	SY	10,015.000	10,015.000
0100	416.0610	DRILLED TIE BARS	EACH	6,931.000	6,931.000
0110	416.0620	DRILLED DOWEL BARS	EACH	14,675.000	14,675.000
0120	440.4410.S	INCENTIVE IRI RIDE	DOL	52,954.000	52,954.000
0130	455.0140	ASPHALTIC MATERIAL PG64-28P	TON	1,709.000	1,709.000
0140	455.0605	TACK COAT	GAL	18,912.000	18,912.000
0150	460.1110	HMA PAVEMENT TYPE E-10	TON	31,069.000	31,069.000
0160	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	20,978.000	20,978.000
0170	460.4000	HMA COLD WEATHER PAVING	TON	2,500.000	2,500.000
0180	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	5.000	5.000
0190	614.0305	STEEL PLATE BEAM GUARD CLASS A **P**	LF	499.000	499.000
0200	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	3.000	3.000
0210	614.0925	SALVAGED GUARDRAIL END TREATMENTS	EACH	5.000	5.000
0220	614.2300	MGS GUARDRAIL 3 **P**	LF	201.000	201.000
0230	614.2500	MGS THRIE BEAM TRANSITION **P**	LF	78.000	78.000
0240	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	2.000	2.000
0250	619.1000	MOBILIZATION	EACH	1.000	1.000
0260	628.1504	SILT FENCE	LF	2,169.000	2,169.000
0270	628.1520	SILT FENCE MAINTENANCE	LF	2,169.000	2,169.000
0280	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	15.000	15.000
0290	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	5.000	5.000
0300	628.2002	EROSION MAT CLASS I TYPE A	SY	2,939.000	2,939.000
0310	628.7020	INLET PROTECTION TYPE D	EACH	295.000	295.000
0320	628.7504	TEMPORARY DITCH CHECKS	LF	100.000	100.000
0330	633.0500	DELINEATOR REFLECTORS	EACH	60.000	60.000
0340	633.1000	DELINEATOR BRACKETS	EACH	60.000	60.000
0350	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	10.000	10.000
0360	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	10.000	10.000
0370	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	281.000	281.000
0380	634.0622	POSTS WOOD 4X6-INCH X 22-FT	EACH	10.000	10.000
0390	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	3,450.000	3,450.000
0400	635.0300	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS	EACH	48.000	48.000
0410	636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	5.000	5.000
0420	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT	LB	500.000	500.000
0430	637.1220	SIGNS TYPE I REFLECTIVE SH	SF	9,536.500	9,536.500
0440	637.2210	SIGNS TYPE II REFLECTIVE H	SF	3,730.510	3,730.510
0450	637.2215	SIGNS TYPE II REFLECTIVE H FOLDING	SF	119.360	119.360
0460	637.2230	SIGNS TYPE II REFLECTIVE F	SF	1,201.500	1,201.500
0470	638.2102	MOVING SIGNS TYPE II	EACH	8.000	8.000
0480	638.2601	REMOVING SIGNS TYPE I	EACH	50.000	50.000
0490	638.2602	REMOVING SIGNS TYPE II	EACH	433.000	433.000
0500	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	259.000	259.000
0510	638.3100	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	EACH	6.000	6.000

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DATE 19NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE				1100-20-60	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0520	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0530	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1100-20-60	DAY	157.000	157.000
0540	643.0300	TRAFFIC CONTROL DRUMS	DAY	27,903.000	27,903.000
0550	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	2,132.000	2,132.000
0560	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	1,606.000	1,606.000
0570	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	5,639.000	5,639.000
0580	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	544.000	544.000
0590	643.0900	TRAFFIC CONTROL SIGNS	DAY	5,872.000	5,872.000
0600	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	9.000	9.000
0610	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	920.000	920.000
0620	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	889.000	889.000
0630	643.1055.S	TRUCK OR TRAILER MOUNTED ATTENUATOR .	DAY	162.000	162.000
0640	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1100-20-60	EACH	1.000	1.000
0650	646.0106	PAVEMENT MARKING EPOXY 4-INCH **P**	LF	70,055.000	70,055.000
0660	646.0126	PAVEMENT MARKING EPOXY 8-INCH **P**	LF	11,290.000	11,290.000
0670	646.0406	PAVEMENT MARKING SAME DAY EPOXY 4-INCH **P**	LF	86,705.000	86,705.000
0680	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH **P**	LF	29,413.000	29,413.000
0690	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH **P**	LF	24,855.000	24,855.000
0700	647.0166	PAVEMENT MARKING ARROWS EPOXY TYPE 2	EACH	32.000	32.000
0710	647.0176	PAVEMENT MARKING ARROWS EPOXY TYPE 3	EACH	18.000	18.000
0720	647.0256	PAVEMENT MARKING SYMBOLS EPOXY	EACH	29.000	29.000
0730	647.0356	PAVEMENT MARKING WORDS EPOXY	EACH	30.000	30.000
0740	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH **P**	LF	310.000	310.000
0750	647.0576	PAVEMENT MARKING STOP LINE EPOXY 24-INCH **P**	LF	342.000	342.000
0760	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH **P**	LF	11,425.000	11,425.000
0770	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH **P**	LF	2,725.000	2,725.000
0780	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH **P**	LF	590.000	590.000
0790	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH **P**	LF	35,000.000	35,000.000
0800	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH **P**	LF	6,000.000	6,000.000
0810	650.7500	CONSTRUCTION STAKING CONCRETE BARRIER	LF	137.000	137.000
0820	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE **P**	LF	26,442.000	26,442.000
0830	650.8500	CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 1100-20-60	LS	1.000	1.000
0840	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH **P**	LF	240.000	240.000
0850	652.0235	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH **P**	LF	480.000	480.000
0860	652.0700.S	INSTALL CONDUIT INTO EXISTING ITEM	EACH	6.000	6.000
0870	654.0102	CONCRETE BASES TYPE 2	EACH	2.000	2.000
0880	654.0105	CONCRETE BASES TYPE 5	EACH	5.000	5.000
0890	655.0620	ELECTRICAL WIRE LIGHTING 8 AWG **P**	LF	992.000	992.000
0900	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG **P**	LF	496.000	496.000

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DATE 19NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE					1100-20-60
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0910	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	5.000	5.000
0920	657.0322	POLES TYPE 5-ALUMINUM	EACH	5.000	5.000
0930	659.0802	PLAQUES SEQUENCE IDENTIFICATION	EACH	1.000	1.000
0940	670.0100	FIELD SYSTEM INTEGRATOR 01. ITS	LS	1.000	1.000
0950	670.0200	ITS DOCUMENTATION 01. ITS	LS	1.000	1.000
0960	672.0250	BASE CAMERA POLE 50-FT	EACH	1.000	1.000
0970	674.0200	CABLE MICROWAVE DETECTOR **P**	LF	2,625.000	2,625.000
0980	674.0300	REMOVE CABLE **P**	LF	1,700.000	1,700.000
0990	675.0300	INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	EACH	8.000	8.000
1000	677.0100	INSTALL CAMERA POLE	EACH	1.000	1.000
1010	677.0200	INSTALL CAMERA ASSEMBLY	EACH	1.000	1.000
1020	677.0300.S	INSTALL VIDEO ENCODER	EACH	1.000	1.000
1030	690.0250	SAWING CONCRETE	LF	35,341.000	35,341.000
1040	SPV.0045	SPECIAL 01. PCMS REMOTE COMMUNICATIONS	DAY	314.000	314.000
1050	SPV.0060	SPECIAL 01. REMOVING SIGN LIGHTING	EACH	18.000	18.000
1060	SPV.0060	SPECIAL 02. LAMP DISPOSAL HIGH INTENSITY DISCHARGE	EACH	38.000	38.000
1070	SPV.0060	SPECIAL 03. LINEAR DELINEATION SYSTEM	EACH	330.000	330.000
1080	SPV.0060	SPECIAL 04. INSTALL POLES TYPE 3	EACH	2.000	2.000
1090	SPV.0060	SPECIAL 05. INSTALL SOLAR POWER UNIT 120 WATT	EACH	2.000	2.000
1100	SPV.0060	SPECIAL 06. INSTALL WAVETRONIX HD 125 MODULE AND CABLE	EACH	2.000	2.000
1110	SPV.0060	SPECIAL 07. INSTALL WAVETRONIX CLICK 200 MODULE	EACH	2.000	2.000
1120	SPV.0060	SPECIAL 08. INSTALL POLE MOUNTED CABINET 24"X51"	EACH	2.000	2.000
1130	SPV.0060	SPECIAL 09. INSTALL CELLULAR ANTENNA AND ANTENNA CABLE	EACH	2.000	2.000
1140	SPV.0060	SPECIAL 10. CONCRETE MAINTENANCE PLATFORM 48"X36"X4"	EACH	2.000	2.000
1150	SPV.0060	SPECIAL 11. TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE	EACH	115.000	115.000
1160	SPV.0060	SPECIAL 12. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	EACH	74.000	74.000
1170	SPV.0060	SPECIAL 13. TRAFFIC CONTROL FULL FREEWAY CLOSURE	EACH	3.000	3.000
1180	SPV.0060	SPECIAL 14. PAVEMENT MARKING GROOVED THERMOPLASTIC ARROWS TYPE 4	EACH	9.000	9.000
1190	SPV.0060	SPECIAL 15. PAVEMENT MARKING GROOVED THERMOPLASTIC ARROWS TYPE 5	EACH	4.000	4.000
1200	SPV.0060	SPECIAL 21. GROUND ROD	EACH	6.000	6.000
1210	SPV.0060	SPECIAL 22. REFOCUS MICROWAVE VEHICLE DETECTOR ASSEMBLY	EACH	10.000	10.000
1220	SPV.0090	SPECIAL 01. CONCRETE BARRIER SINGLE-FACED 32-INCH, SPECIAL **P**	LF	77.000	77.000
1230	SPV.0090	SPECIAL 02. CONCRETE BARRIER DOUBLE-FACED 51-INCH, SPECIAL **P**	LF	60.000	60.000
1240	SPV.0090	SPECIAL 03. REMOVING ELECTRICAL WIRE FROM CONDUIT **P**	LF	510.000	510.000
1250	SPV.0090	SPECIAL 04. REMOVING PAVEMENT MARKING WATER BLASTING **P**	LF	158.000	158.000
1260	SPV.0105	SPECIAL 01. PAVEMENT CLEANUP PROJECT	LS	1.000	1.000
1270	SPV.0105	SPECIAL 02. MAINTENANCE OF LIGHTING SYSTEMS	LS	1.000	1.000

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DATE 19NOV14			E S T I M A T E O F Q U A N T I T I E S		
LINE			1100-20-60		
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1280	SPV.0180	SPECIAL 01. HIGH FRICTION SURFACE TREATMENT, ASPHALT	SY	6,925.000	6,925.000
1290	SPV.0195	SPECIAL 01. COLD PATCH	TON	10.000	10.000

REMOVING ASPHALTIC SURFACE MILLING - MAINLINE

					REMOVING ASPHALTIC SURFACE MILLING* 204.0125		
CATEGORY	ROADWAY	STATION TO	STATION	LOCATION	TON		
1000	USH 45 NB - MAINLINE	169+00	-	179+73	TRAVEL LANES	483	
		181+44	-	209+10	TRAVEL LANES	1259	
		212+74	-	232+45	TRAVEL LANES	925	
		234+70	-	305+07	TRAVEL LANES	3230	
		307+50	-	335+38	TRAVEL LANES	1285	
		336+96	-	348+80	TRAVEL LANES	549	
		350+38	-	356+20	TRAVEL LANES	267	
		357+48	-	378+00	TRAVEL LANES	943	
		EQUATION					
		27+48	-	41+10	TRAVEL LANES	620	
		42+45	-	46+97	TRAVEL LANES	217	
		49+00	-	55+40	TRAVEL LANES	280	
		56+88		99+78	TRAVEL LANES	1945	
		EQUATION					
		103+10	-	105+90	TRAVEL LANES	109	
		SUB TOTAL USH 45 NB - MAININE					12112
		1000	USH 45 SB - MAINLINE	169+00	-	179+73	TRAVEL LANES
181+44	-			209+10	TRAVEL LANES	1291	
212+74	-			232+45	TRAVEL LANES	889	
234+70	-			305+07	TRAVEL LANES	3242	
307+50	-			335+38	TRAVEL LANES	1276	
336+96	-			348+80	TRAVEL LANES	542	
350+38	-			356+20	TRAVEL LANES	272	
357+48	-			378+00	TRAVEL LANES	949	
EQUATION							
27+48	-			41+10	TRAVEL LANES	633	
42+45	-			46+97	TRAVEL LANES	182	
49+00	-			55+40	TRAVEL LANES	307	
56+88				99+78	TRAVEL LANES	1814	
EQUATION							
56+88	-			105+90	TRAVEL LANES	87	
SUB TOTAL USH 45 SB - MAINLINE					11989		
TOTAL MAINLINE					24101		

* There are additional quantities elsewhere within the plan

REMOVING ASPHALTIC SURFACE MILLING - SHOULDERS

					REMOVING ASPHALTIC SURFACE MILLING* 204.0125	
CATEGORY	ROADWAY	STATION TO	STATION	LOCATION	TON	
1000	USH 45 NB - INSIDE SHOULDERS	169+00	-	179+73	LT	218
		181+44	-	209+10	LT	476
		212+74	-	232+45	LT	249
		234+70	-	305+07	LT	1215
		307+50	-	335+38	LT	547
		336+96	-	348+80	LT	236
		350+38	-	356+20	LT	107
		357+48	-	374+82	LT	354
SUB TOTAL USH 45 NB-INSIDE SHOULDERS					3401	
1000	USH 45 SB - INSIDE SHOULDERS	169+00	-	179+73	RT	210
		181+44	-	209+10	RT	509
		212+74	-	232+45	RT	242
		234+70	-	305+07	RT	1351
		307+50	-	335+38	RT	570
		336+96	-	348+80	RT	226
		350+38	-	356+20	RT	111
		357+48	-	375+06	RT	349
SUB TOTAL USH 45 SB-INSIDE SHOULDERS					3567	
TOTAL INSIDE SHOULDERS					6968	
TOTAL 1000					31069	

* There are additional quantities elsewhere within the plan

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FINISHING ROADWAY (PROJECT)

CATEGORY	STATION TO	STATION	LOCATION	FINISHING ROADWAY 213.0100 EACH
1000	169+00 -	105+90	NB & SB	1
TOTAL 1000				1

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BEAM GUARD ITEMS

						REMOVING GUARDRAIL 204.0165	
CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	LF	
1000	USH 45 NB	177+60	-	178+53	RT	43	
		377+21	-	378+00	RT	29	
		TOTAL USH 45 NB					72
1000	USH 45 SB	214+84	-	215+70	LT	36	
		264+25	-	264+65	LT	-	
		328+71	-	329+78	LT	57	
		TOTAL USH 45 SB					93
TOTAL 1000						165	

REMOVING PAVEMENT MARKINGS

CATEGORY	ROADWAY	STATION TO	STATION	REMOVING PAVEMENT MARKINGS WATER BLASTING SPV.0090.04	REMARKS
1000	USH 45 SB - MAINLINE	348+80 -	350+38	158	Remove Continuous Pavement Marking on structure between mainline and auxiliary lane.
TOTAL 1000				158	

CONCRETE BARRIER ITEMS

					REMOVING CONCRETE BARRIER 204.0157
CATEGORY	ROADWAY	STATION TO	STATION	LOCATION	LF
1000	USH 45 NB	246+37 -	246+72	MI	35
		246+82 -	247+07	MI	25
		70+81 -	71+03	MI	22
		TOTAL USH 45 NB			
1000	USH 45 SB	76+33 -	76+73	MI	40
		95+94 -	96+09	MI	15
		TOTAL USH 45 SB			
TOTAL 1000					137

ASPHALTIC ITEMS-MAINLINE											
CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	INCENTIVE IRI		ASPHALTIC		HMA	INCENTIVE
						RIDE*		MATERIAL	TACK COAT*	PAVEMENT	DENSITY
						440.44	10.5	PG64-28P*	455.0605	TYPE E-10*	HMA
						DOL	TON	GAL	TON	PAVEMENT*	
										460.2000	
						DOL	TON	GAL	TON	DOL	
1000	USH 45 NB - MAINLINE	169+00	-	179+73	TRAVEL LANES	169+00 - 179+73	27	294	483	-	
		181+44	-	209+10	TRAVEL LANES	181+44 - 209+10	69	767	1259	-	
		212+74	-	232+45	TRAVEL LANES	212+74 - 232+45	51	563	925	-	
		234+70	-	305+07	TRAVEL LANES	234+70 - 305+07	178	1966	3230	-	
		307+50	-	335+38	TRAVEL LANES	307+50 - 335+38	71	782	1285	-	
		336+96	-	348+80	TRAVEL LANES	336+96 - 348+80	30	334	549	-	
		350+38	-	356+20	TRAVEL LANES	350+38 - 356+20	15	163	267	-	
		357+48	-	378+00	TRAVEL LANES	357+48 - 378+00	52	574	943	-	
		EQUATION									
		27+48	-	41+10	TRAVEL LANES	27+48 - 41+10	34	377	620	-	
		42+45	-	46+97	TRAVEL LANES	42+45 - 46+97	12	132	217	-	
		49+00	-	55+40	TRAVEL LANES	49+00 - 55+40	15	170	280	-	
		56+88		99+78	TRAVEL LANES	56+88 99+78	107	1184	1945		
		EQUATION									
		103+10	-	105+90	TRAVEL LANES	103+10 - 105+90	6	66	109	-	
	SUB TOTAL USH 45 NB - MAININE					26477	666	7373	12112	8178	
1000	USH 45 SB - MAINLINE	169+00	-	179+73	TRAVEL LANES	169+00 - 179+73	28	307	504	-	
		181+44	-	209+10	TRAVEL LANES	181+44 - 209+10	71	786	1291	-	
		212+74	-	232+45	TRAVEL LANES	212+74 - 232+45	49	541	889	-	
		234+70	-	305+07	TRAVEL LANES	234+70 - 305+07	178	1974	3242	-	
		307+50	-	335+38	TRAVEL LANES	307+50 - 335+38	70	777	1276	-	
		336+96	-	348+80	TRAVEL LANES	336+96 - 348+80	30	330	542	-	
		350+38	-	356+20	TRAVEL LANES	350+38 - 356+20	15	166	272	-	
		357+48	-	378+00	TRAVEL LANES	357+48 - 378+00	52	578	949	-	
		EQUATION									
		27+48	-	41+10	TRAVEL LANES	27+48 - 41+10	35	385	633	-	
		42+45	-	46+97	TRAVEL LANES	42+45 - 46+97	10	111	182	-	
		49+00	-	55+40	TRAVEL LANES	49+00 - 55+40	17	187	307	-	
		56+88		99+78	TRAVEL LANES	56+88 99+78	100	1104	1814		
		EQUATION									
		103+10	-	105+90	TRAVEL LANES	103+10 - 105+90	5	53	87	-	
	SUB TOTAL USH 45 SB - MAINLINE					26477	659	7297	11989	8095	
TOTAL MAINLINE						52954	1326	14670	24101	16273	

* There are additional quantities elsewhere within the plan

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ASPHALTIC ITEMS-SHOULDERS										
CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	INCENTIVE IRI RIDE* 440.4410.S DOL	ASPHALTIC MATERIAL PG64-28P* 455.0140 TON	TACK COAT* 455.0605 GAL	HMA PAVEMENT TYPE E-10* 460.1110 TON	INCENTIVE DENSITY HMA PAVEMENT* 460.2000 DOL
1000	USH 45 NB - INSIDE SHOULDERS	169+00	-	179+73	LT	-	12	132	218	-
		181+44	-	209+10	LT	-	26	290	476	-
		212+74	-	232+45	LT	-	14	151	249	-
		234+70	-	305+07	LT	-	67	740	1215	-
		307+50	-	335+38	LT	-	30	333	547	-
		336+96	-	348+80	LT	-	13	143	236	-
		350+38	-	356+20	LT	-	6	65	107	-
		357+48	-	374+82	LT	-	19	215	354	-
SUB TOTAL USH 45 NB-INSIDE SHOULDERS						-	187	2070	3401	2297
1000	USH 45 SB - INSIDE SHOULDERS	169+00	-	179+73	RT	-	12	128	210	-
		181+44	-	209+10	RT	-	28	310	509	-
		212+74	-	232+45	RT	-	13	147	242	-
		234+70	-	305+07	RT	-	74	822	1351	-
		307+50	-	335+38	RT	-	31	347	570	-
		336+96	-	348+80	RT	-	12	137	226	-
		350+38	-	356+20	RT	-	6	67	111	-
		357+48	-	375+06	RT	-	19	213	349	-
SUB TOTAL USH 45 SB-INSIDE SHOULDERS						-	196	2171	3567	2408
TOTAL SHOULDERS						-	383	4242	6968	4705
TOTAL 1000						52954	1709	18912	31069	20978
* There are additional quantities elsewhere within the plan										

HMA COLD WEATHER PAVING			
HMA COLD WEATHER PAVING 460.4000			
CATEGORY	PROJECT	TON	COMMENTS
1000	1100-20-60	2500	This quantity is based on 25% of the HMA tonage that can be placed during the probable working days between May 1st and May 15th.
TOTAL 1000		2500	

BASE PATCHING ITEMS												
CATEGORY	ROADWAY	STATION	TO	STATION	WIDTH	LENGTH	AREA	BASE PATCHING	DRILLED	DRILLED	SAWING	REMARKS
					LF	LF	SY	CONCRETE SHES	TIE BARS	DOWEL BARS	CONCRETE	
								390.0403	416.0610	416.0620	690.0250	
								SY	EACH	EACH	LF	
1000	USH 45 NB - SHOULDER	374+80	-	375+20	15	40	66.67	67	44	28	110	Inside Shoulder
		39+30	-	40+20	12	90	120.00	120	60	55	204	Inside Shoulder
		43+00	-	44+90	15	190	317	317	124	158	410	Inside Shoulder
		45+60	-	46+95	15	135	225	225	90	112	300	Inside Shoulder
		54+85	-	55+30	12	45	60	60	30	30	114	Inside Shoulder
		56+85	-	57+75	15	90	150	150	60	75	210	Inside Shoulder
		72+70	-	74+25	15	155	258	258	102	85	340	Inside Shoulder
		76+00	-	78+65	10	265	294	294	175	161	550	Inside Shoulder
		80+10	-	82+60	10	250	278	278	165	152	520	Inside Shoulder
		83+10	-	83+50	10	40	44	44	44	28	100	Inside Shoulder
		84+30	-	85+30	10	100	111	111	66	60	220	Inside Shoulder
		86+30	-	86+65	10	35	39	39	25	23	90	Inside Shoulder
		87+85	-	91+00	10	315	350	350	252	198	650	Inside Shoulder
SUB TOTAL USH 45 NB - SHOULDER							2127	2126	1237	1165	3818	
1000	USH 45 SB - SHOULDER	375+05	-	376+00	10	95	106	106	64	52	210	Inside Shoulder
		376+94	-	377+06	10	12	13	13	10	12	44	Inside Shoulder
		43+60	-	45+20	8	160	142	142	108	100	336	Inside Shoulder
		53+00	-	55+20	10	220	244	244	148	136	460	Inside Shoulder
		57+40	-	59+25	8	185	164	164	122	97	386	Inside Shoulder
		63+25	-	63+50	10	25	28	28	20	18	70	Inside Shoulder
		64+30	-	65+15	10	85	94	94	58	55	190	Inside Shoulder
		65+65	-	65+85	10	20	22	22	16	18	60	Inside Shoulder
		66+70	-	66+85	10	15	17	17	12	16	50	Inside Shoulder
		74+00	-	83+00	10	900	1000	1000	600	552	1820	Inside Shoulder
SUB TOTAL USH 45 NB - SHOULDER							1831	1830	1158	1056	3626	
TOTAL SHOULDERS								3956	2395	2221	7444	
1000	UNDISTRIBUTED*	USH 45 NB & SB - MAINLINE						6059	4536	12454	27897	
Total	1000							10015	6931	14675	35341	

* Undistributed quantities are based on approximately 3% mainline base patching.

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BARRIER SYSTEM GRADING SHAPING FINISHING ITEMS						
CATEGORY	ROADWAY	STATION	TO	STATION	BARRIER SYSTEM GRADING SHAPING FINISHING 614.0010 EACH	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON
1000	USH 45 NB	176+35	-	178+53	1	31
		375+59	-	378+00	1	30
	USH 45 SB	214+84	-	218+03	1	36
		263+63	-	267+00	1	37
		328+71	-	335+51	1	50
		TOTAL 1000				

LINEAR DELINEATION SYSTEM				
CATEGORY	ROADWAY	STATION TO	STATION	LINEAR DELINEATION SYSTEM SPV.0060.03 EACH YELLOW
1000	USH 45 NB	170+64 -	179+34	201
	USH 45 SB	232+50 -	238+05	129
TOTAL 1000				330

HIGH FRICTION SURFACE TREATMENT ASPHALT				
CATEGORY	ROADWAY	STATION TO	STATION	HIGH FRICTION SURFACE TREATMENT ASPHALT SPV.0180.01 SY
1000	USH 45 NB	170+64 -	179+35	3400
	USH 45 SB	170+64 -	179+35	3525
TOTAL 1000				6925

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BARRIER SYSTEM GRADING SHAPING FINISHING *

ROADWAY	STATION	TO	STATION	EXCAVATION COMMON 205.0100 CY	BORROW 208.0100 CY	TOPSOIL 625.0100 SY	MULCHING 627.0205 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 30 630.0130 LB	CONSTRUCTION STAKING SLOPE STAKES 650.9920 LF
USH 45 NB	175+35	-	178+53	20	10	290	-	18	5	318
	375+59	-	378+00	5	2	86	-	5	2	241
USH 45 SB	214+84	-	218+03	24	48	640	-	40	12	319
	263+63	-	267+00	20	2	110	-	7	2	337
	328+71	-	333+51	15	210	1225	-	77	22	480
TOTAL				84	272	2351	0	148	42	1695

* Quantities shown in this table are for information only.
The items in the table are incidental to Barrier system Grading Shaping Finishing.

3

DELINEATOR SYSTEM FOR HORIZONTAL CURVES

				DELINEATOR REFLECTORS 633.0500	DELINEATOR BRACKETS 633.1000
CATEGORY	ROADWAY	STATION TO	STATION	EACH	EACH
				<u>white</u>	
1000	USH 45 NB - MAINLINE	207+97 -	219+21	7	7
		226+75 -	242+75	17	17
		40+80 -	45+89	6	6
		SUB TOTAL USH 45 NB - MAINLINE		30	30
1000	USH 45 SB - MAINLINE	170+64 -	179+37	8	8
		226+00 -	239+50	14	14
		332+89 -	399+11	5	5
		369+50 -	371+00	3	3
		SUB TOTAL USH 45 SB - MAINLINE		30	30
TOTAL	1000			60	60

CONSTRUCTION STAKING RESURFACING REFERENCE

CATEGORY	ROADWAY	STATION TO	STATION	CONSTRUCTION STAKING RESURFACING REFERENCE 650.8000 LF
1000	USH 45	169+00 -	105+90	26442
TOTAL 1000				26442

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BEAM GUARD ITEMS

CATEGORY	ROADWAY	STATION	TO	STATION	LOCATION	MGS GUARDRAIL	MGS	MGS THRIE	STEEL PLATE BEAM	STEEL PLATE	SALVAGED
						TERMINAL EAT	GUARDRAIL 3	BEAM	GUARD ENERGY	BEAM GUARD	GUARDRAIL END
						614.2610	614.2300	614.2500	614.0370	614.0305	614.0925
						EACH	LF	LF	EACH	LF	EACH
1000	USH 45 NB	176+62	-	177+16	RT	1	-	-	-	-	
		177+16	-	178+04	RT	-	88	-	-	-	
		178+04	-	178+43	RT	-	-	39	-	-	
		376+50	-	377+00	RT	-	-	-	1	-	
		377+00	-	378+00	RT	-	-	-	-	100	
	TOTAL USH 45 NB					1	88	39	1	100	2
	USH 45 SB	214+84	-	215+23	LT	-	-	39	-	-	
		215+23	-	216+36	LT	-	113	-	-	-	
		216+36	-	216+89	LT	1	-	-	-	-	
		264+25	-	265+25	LT	-	-	-	-	100	
		265+25		265+75	LT	-	-	-	1	-	
		328+71	-	331+70	LT	-	-	-	-	299	
		331+70	-	332+20	LT	-	-	-	1	-	
TOTAL USH 45 SB					1	113	39	2	399	3	
TOTAL 1000					2	201	78	3	499	5	

FIELD OFFICE TYPE C

CATEGORY	PROJECT	FIELD OFFICE TYPE C 642.5201 EACH
1000	1100-20-60	1
TOTAL 1000		1

MOBILIZATION

CATEGORY	PROJECT	MOBILIZATION 619.1000 EACH
1000	1100-20-60	1
TOTAL 1000		1

CONCRETE BARRIER ITEMS

CATEGORY	ROADWAY	STATION TO	STATION	LOCATION	CONSTRUCTION	CONCRETE BARRIER	CONCRETE BARRIER
					STAKING CONCRETE	SINGLE-FACED	DOUBLE-FACED
					BARRIER	32-INCH, SPECIAL	51-INCH, SPECIAL
					650.7500	SPV.0090.01	SPV.0090.02
					LF	LF	LF
1000	USH 45 NB	246+37 -	246+72	MI	35	-	35
		246+82 -	247+07	MI	25	-	25
		70+81 -	71+03	MI	22	22	-
	TOTAL USH 45 NB				82	22	60
	USH 45 SB	76+33 -	76+73	MI	40	40	-
		95+94 -	96+09	MI	15	15	-
		TOTAL USH 45 SB				55	55
	TOTAL 1000				137	77	60

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TRAFFIC CONTROL USH 45 NB										
CATEGORY	LOCATION	STAGE	TRAFFIC	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC	TRAFFIC CONTROL	REMARKS
			CONTROL DRUMS* 643.0300 DAY	BARRICADES TYPE III* 643.0420 DAY	WARNING LIGHTS TYPE A* 643.0705 DAY	WARNING LIGHTS TYPE C* 643.0715 DAY	ARROW BOARDS* 643.0800 DAY	CONTROL SIGNS* 643.0900 DAY	SIGNS PCMS* 643.1050 DAY	
1000	USH 45 - NB	Stage I A	124	8	-	30	3	18	3	
		Stage I B	172	8	-	30	3	18	3	
		Stage I C	150	8	-	28	3	18	3	
		Stage I D	151	8	-	28	3	18	3	
		Stage I E	121	6	-	29	3	17	3	
		Stage I F	118	6	-	28	3	17	3	
		Stage I G	111	4	-	28	3	16	3	
		TOTAL STAGE I	947	48	0	201	21	122	21	
1000	USH 45 - NB	Stage II A	148	17	18	35	3	43	6	
		Stage II B	193	17	18	33	3	43	6	
		Stage II C	188	17	18	32	3	43	6	
		Stage II D	225	18	20	33	3	46	6	
		Stage II E	161	17	18	33	3	44	6	
		Stage II F	168	13	10	33	3	31	15	ADDITIONAL PCMS REQUIRED FOR APPLETON AVE ON-RAMP TO USH 45 CLOSURE
		Stage II G	137	11	14	31	3	30	15	ADDITIONAL PCMS REQUIRED FOR APPLETON AVE ON-RAMP TO USH 45 CLOSURE
		TOTAL STAGE II	1220	110	116	230	21	280	60	
1000	USH 45 - NB	Stage III A	148	17	18	35	3	43	3	
		Stage III B	193	17	18	33	3	43	3	
		Stage III C	188	17	18	32	3	43	3	
		Stage III D	225	18	20	33	3	46	3	
		Stage III E	161	17	18	33	3	44	3	
		Stage III F	168	13	10	33	3	31	15	ADDITIONAL PCMS REQUIRED FOR APPLETON AVE ON-RAMP TO USH 45 CLOSURE
		Stage III G	137	11	14	31	3	30	15	ADDITIONAL PCMS REQUIRED FOR APPLETON AVE ON-RAMP TO USH 45 CLOSURE
		TOTAL STAGE III	1220	110	116	230	21	280	45	
1000	USH 45 - NB	Stage IV A	124	8	-	30	3	18	3	
		Stage IV B	172	8	-	30	3	18	3	
		Stage IV C	150	8	-	28	3	18	3	
		Stage IV D	151	8	-	28	3	18	3	
		Stage IV E	121	6	-	29	3	17	3	
		Stage IV F	118	6	-	28	3	17	3	
		Stage IV G	111	4	-	28	3	16	3	
		TOTAL STAGE IV	947	48	0	201	21	122	21	
1000	USH 45 - NB	STAGE VI	85	2	-	30	3	28	3	FRICTION TREATMENT
		STAGE V	109	14	18	35	3	52	3	FRICTION TREATMENT
		STAGE VII	1525	138	145	288	26	350	56	PAVEMENT MARKING
		TOTAL MISC	1719	154	163	353	32	430	62	
1000	USH 45 - NB	UNDISTRIBUTED	8178	554	336	1652	164	1410	277	INCLUDES TOTAL ADDITIONAL SUB STAGES A-G NEEDED TO COMPLETE BASE PATCHING
	TOTAL USH 45 NB		14231	1024	731	2866	280	2644	486	
* There are additional quantities elsewhere within the plan										
PROJECT NO: 1100-20-60			HWY: USH 45			COUNTY: MILWAUKEE			MISCELLANEOUS QUANTITIES	
									SHEET: 272	
									E	

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TRAFFIC CONTROL USH 45 SB										
CATEGORY	LOCATION	STAGE	TRAFFIC	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC CONTROL	TRAFFIC	TRAFFIC CONTROL	REMARKS
			CONTROL DRUMS* 643.0300	BARRICADES TYPE III* 643.0420	WARNING LIGHTS TYPE A* 643.0705	WARNING LIGHTS TYPE C* 643.0715	ARROW BOARDS* 643.0800	CONTROL SIGNS* 643.0900	SIGNS PCMS* 643.1050	
1000	USH 45 - SB	Stage I A	130	6	-	28	3	17	3	INCLUDES QUANTITIES FOR GOOD HOPE DETOUR
		Stage I B	123	8	-	28	3	18	3	
		Stage I C	114	6	-	28	3	17	3	
		Stage I D	139	8	-	28	3	18	3	
		Stage I E	127	8	-	26	3	18	3	
		Stage I F	171	8	-	29	3	18	3	
		Stage I G	166	8	16	14	2	92	7	
		TOTAL STAGE I	970	52	16	181	20	198	25	
1000	USH 45 - SB	Stage II A	159	15	18	33	3	44	3	ADDITIONAL PCMS REQUIRED FOR APPLETON AVE ON-RAMP TO USH 45 CLOSURE
		Stage II B	155	18	18	33	3	43	3	
		Stage II C	146	16	20	33	3	42	3	
		Stage II D	200	18	20	34	3	46	3	
		Stage II E	209	15	8	61	3	33	18	
		Stage II F	129	18	20	19	2	41	3	
		Stage II G	85	19	16	20	2	36	3	
		TOTAL STAGE II	1083	119	120	233	19	285	36	
1000	USH 45 - SB	Stage III A	159	15	18	33	3	44	3	ADDITIONAL PCMS REQUIRED FOR APPLETON AVE ON-RAMP TO USH 45 CLOSURE
		Stage III B	155	18	18	33	3	43	3	
		Stage III C	146	16	20	33	3	42	3	
		Stage III D	200	18	20	34	3	46	3	
		Stage III E	209	15	8	61	3	33	18	
		Stage III F	129	18	20	19	2	41	3	
		Stage III G	85	19	16	20	2	36	3	
		TOTAL STAGE III	1083	119	120	233	19	285	36	
1000	USH 45 - SB	Stage IV A	130	6	-	28	3	17	3	INCLUDES QUANTITIES FOR GOOD HOPE DETOUR
		Stage IV B	123	8	-	28	3	18	3	
		Stage IV C	114	6	-	28	3	17	3	
		Stage IV D	139	8	-	28	3	18	3	
		Stage IV E	127	8	-	26	3	18	3	
		Stage IV F	171	8	-	29	3	18	3	
		Stage IV G	166	8	16	14	2	92	7	
		TOTAL STAGE IV	970	52	16	181	20	198	25	
1000	USH 45 - SB	STAGE VI	100	2	-	28	3	27	3	FRICITION TREATMENT
		STAGE V	127	12	18	33	3	53	3	FRICITION TREATMENT
		DETOUR STA 64+25	91	4	8	30	3	29	3	DETOUR FOR SIGN REPLACEMENT
		STAGE VII	1354	149	150	291	24	356	45	PAVEMENT MARKING (STAGE VII)
		TOTAL MISC	1672	167	176	382	33	465	54	
1000	USH 45 - SB	UNDISTRIBUTED	7894	600	426	1563	153	1797	227	INCLUDES TOTAL ADDITIONAL SUB STAGES A-G NEEDED TO COMPLETE BASE PATCHING
		TOTAL USH 45 SB	13671	1109	874	2773	264	3228	403	
TOTAL	1000		27903	2132	1606	5639	544	5872	889	

* There are additional quantities elsewhere within the plan

PAVEMENT MARKING USH 45 NB

CATEGORY	ROADWAY	STATION	TO	STATION	PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING SAME DAY	PAVEMENT MARKING GROOVED WET		PAVEMENT MARKING GROOVED WET		PAVEMENT MARKING ARROWS	PAVEMENT MARKING ARROWS	PAVEMENT MARKING GROOVED	PAVEMENT MARKING GROOVED	PAVEMENT MARKING STOP LINE	PAVEMENT MARKING STOP LINE	PAVEMENT MARKING DIAGONAL	PAVEMENT MARKING DIAGONAL	PAVEMENT MARKING CROSSWALK	TEMPORARY PAVEMENT MARKING	TEMPORARY PAVEMENT MARKING	
					EPOXY		EPOXY			REFLECTIVE CONTRAST		REFLECTIVE CONTRAST													
					4-INCH*		8-INCH*			TAPE 4-INCH*		TAPE 8-INCH*													
					646.0106	646.0126	646.0406	646.0841.S	646.0843.S	647.0166	647.0176	SPV.0060.14	SPV.0060.15	647.0256	647.0356	647.0566	647.0576	647.0726	647.0746	647.0766	649.0400	649.0801			
					LF	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	LF	LF	LF	LF	LF	LF	LF	LF	
					White	Yellow	White	Yellow											White	Yellow					
1000	MAINLINE	160+00	-	378+00	-	-	-	20900	10450	-	-	-	-	-	-	-	-	-	-	4005	-	-	11141	-	
		27+48	-	99+78	-	-	-	7230	3615	-	-	-	-	-	-	-	-	-	-	1155	-	-	3791	-	
		103+45	-	105+90	-	-	-	245	123	-	-	-	-	-	-	-	-	-	-	45	-	-	209	-	
		160+63	-	166+19	620	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		166+19	-	169+75	-	-	-	-	-	410	-	-	-	-	-	-	-	-	-	-	-	-	-	17	
		169+75	-	186+50	-	-	-	1675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		186+50	-	195+50	-	-	-	-	-	925	-	-	-	-	-	-	-	-	-	-	-	-	-	201	
		195+50	-	199+75	425	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		199+75	-	206+50	675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		206+50	-	218+25	-	-	-	1175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		218+25	-	223+75	550	-	-	-	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		223+75	-	227+55	-	-	-	-	-	375	-	-	-	-	-	-	-	-	-	-	-	-	-	85	
		227+55	-	248+82	-	-	-	2130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		248+82	-	253+82	-	-	-	-	-	455	-	-	-	-	-	-	-	-	-	-	-	-	-	112	
		253+82	-	279+92	2610	-	-	-	-	915	-	-	-	-	-	-	-	-	-	-	-	-	-	146	
		279+92	-	283+25	-	-	-	-	-	335	-	-	-	-	-	-	-	-	-	-	-	-	-	64	
		283+25	-	300+77	-	-	-	1760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		300+77	-	305+07	-	-	-	-	-	450	-	-	-	-	-	-	-	-	-	-	-	-	-	96	
		305+07	-	325+70	2070	-	-	-	-	780	-	-	-	-	-	-	-	-	-	-	-	-	-	115	
		325+70	-	329+00	-	-	-	-	-	325	-	-	-	-	-	-	-	-	-	-	-	-	-	74	
		329+00	-	344+40	-	-	-	1540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		344+40	-	351+00	-	-	-	-	-	685	-	-	-	-	-	-	-	-	-	-	-	-	-	159	
		351+00	-	358+00	700	-	-	-	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		358+00	-	367+00	900	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	
STAEQ 378+00 = 27+48.73		367+00	-	378+00	-	-	-	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		27+48	-	29+25	180	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		29+25	-	32+35	-	-	-	-	-	335	-	-	-	-	-	-	-	-	-	-	-	-	-	69	
		32+35	-	65+10	-	-	-	3275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		65+10	-	68+20	-	-	-	-	-	315	-	-	-	-	-	-	-	-	-	-	-	-	-	69	
		68+20	-	86+50	1830	-	-	-	-	725	-	-	-	-	-	-	-	-	-	-	-	-	-	103	
		86+50	-	89+60	-	-	-	-	-	305	-	-	-	-	-	-	-	-	-	-	-	-	-	69	
		89+60	-	99+78	-	-	-	1020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		103+45	-	105+90	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
UNDISTRIBUTED					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1200		
TOTAL USH 45 NB					10560	0	0	13925	28375	14743	7335	0	0	0	2	0	0	0	0	0	5205	0	0	16500	3000
					10560			42300											5205						

* There are additional quantities elsewhere within the plan

PAVEMENT MARKING USH 45 SB

CATEGORY	ROADWAY	STATION	TO	STATION	PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		TEMPORARY PAVEMENT MARKING		TEMPORARY PAVEMENT MARKING					
					EPOXY	EPOXY	EPOXY	REFLECTIVE CONTRAST	REFLECTIVE CONTRAST	EPOXY	EPOXY	THERMOPLASTIC	THERMOPLASTIC	SYMBOLS	WORDS	EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	EPOXY	REMOVABLE	REMOVABLE					
					4-INCH*	8-INCH*	4-INCH*	TAPE 4-INCH*	TAPE 8-INCH*	TYPE 2*	TYPE 3*	ARROWS	ARROWS	EPOXY*	EPOXY*	18-INCH*	24-INCH*	12-INCH*	24-INCH*	6-INCH*	TAPE 4-INCH*	TAPE 8-INCH*						
					646.0106	646.0126	646.0406	646.0841.S	646.0843.S	647.0166	647.0176	SPV.0060.14	SPV.0060.15	647.0256	647.0356	647.0566	647.0576	647.0726	647.0746	647.0766	649.0400	649.0801						
					LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	LF	LF	LF	LF	LF	LF	LF						
					White	Yellow	White	Yellow															White	Yellow				
1000	MAINLINE	160+00	-	378+00	-	-	-	20900	10450	-	-	-	-	-	-	-	-	-	-	11141	-							
		27+48	-	92+58	-	-	-	6510	3255	-	-	-	-	-	-	-	-	-	4260	-								
		92+58	-	99+78	-	-	-	720	180	-	-	-	-	-	-	-	-	-	1095	-								
		103+45	-	105+90	-	-	-	245	65	-	-	-	-	-	-	-	-	-	80	-								
		160+00	-	164+00	400	-	-	-	-	-	-	-	-	-	-	-	-	40	-	123	-							
					164+00	-	165+50	150	-	-	-	-	45	-	-	-	-	-	-	-	-							
					165+50	-	172+10	-	-	-	-	670	-	-	-	-	-	-	-	-	123							
					172+10	-	186+35	-	-	-	1425	-	-	-	-	-	-	-	-	-	-							
					186+35	-	192+50	-	-	-	-	-	610	-	-	-	-	-	-	-	83							
					192+50	-	196+50	400	-	-	-	-	105	-	-	-	-	-	-	-	-							
					196+50	-	214+50	-	-	-	1800	-	-	-	-	-	-	-	-	-	-							
					214+50	-	219+21	475	-	-	-	-	-	-	-	-	-	-	-	-	-							
					219+21	-	221+50	230	-	-	-	55	-	-	-	-	-	-	-	-	-							
					221+50	-	226+40	-	-	-	-	-	515	-	-	-	-	-	-	-	107							
					226+40	-	239+00	-	-	-	1260	-	-	-	-	-	-	-	-	-	-							
					239+00	-	244+00	-	-	-	-	-	485	-	-	-	-	-	-	-	89							
					244+00	-	250+66	650	-	-	-	170	-	-	-	-	-	-	-	-	-							
					250+50	-	268+50	-	-	-	1800	-	-	-	-	-	-	-	-	-	-							
					268+50	-	273+90	540	-	-	-	-	-	-	-	-	-	-	-	-	-							
					273+90	-	276+00	210	-	-	-	55	-	-	-	-	-	-	-	-	-							
					276+00	-	285+50	-	-	-	-	-	950	-	-	-	-	-	-	-	203							
					285+50	-	299+22	-	-	-	1375	-	-	-	-	-	-	-	-	-	-							
					299+22	-	302+12	-	-	-	-	-	295	-	-	-	-	-	-	-	61							
					302+12	-	318+20	1610	-	-	-	-	675	-	-	-	-	-	-	-	90							
					318+20	-	324+30	-	-	-	-	-	570	-	-	-	-	-	-	-	156							
					324+30	-	343+50	-	-	-	1920	-	-	-	-	-	-	-	-	-	-							
					343+50	-	347+40	-	-	-	-	-	380	-	-	-	-	-	-	-	89							
					347+40	-	355+84	845	-	-	-	215	-	-	-	-	-	-	-	-	-							
					355+84	-	371+00	-	-	-	1520	-	-	-	2	-	-	-	-	-	-							
STA EQ 378+00 = 27+48.73					371+00	-	378+00	700	-	-	-	25	-	-	-	-	-	-	-	-	-							
					27+48	-	29+50	205	-	-	205	50	-	-	-	-	-	-	-	-	-							
					29+50	-	37+00	-	-	-	-	-	740	-	-	-	-	-	-	-	173							
					37+00	-	62+00	-	-	-	2500	-	-	-	-	-	-	-	-	-	-							
					62+00	-	64+85	-	-	-	-	-	285	-	-	-	-	-	-	-	61							
					64+87	-	70+92	-	-	605	-	-	145	-	-	-	-	-	-	-	119							
					70+92	-	86+87	-	-	-	1595	-	-	440	-	-	-	-	-	-	-							
					86+85	-	88+60	-	-	-	-	-	175	-	-	-	-	-	-	-	39							
					88+60	-	92+58	-	-	-	400	-	-	-	-	-	-	-	-	-	-							
					92+58	-	99+78	-	-	-	-	-	720	-	-	-	-	-	-	-	-							
					103+45	-	103+60	-	-	-	-	-	15	-	-	-	-	-	-	-	164							
					103+60	-	105+90	-	-	-	230	-	-	-	-	-	-	-	-	-	-							
UNDISTRIBUTED					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1300							
TOTAL USH 45 SB					6415	0	605	16030	28375	14670	7670	0	0	0	2	0	0	0	0	0	5475	0	0	16500	3000			
					6415			44405												5475								

* There are additional quantities elsewhere within the plan

PAVEMENT MARKING RAMPS																																								
CATEGORY	ROADWAY	LOCATION	PAVEMENT MARKING EPOXY 4-INCH*		PAVEMENT MARKING EPOXY 8-INCH*		PAVEMENT MARKING SAME DAY EPOXY 4-INCH*		PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH*		PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH*		PAVEMENT MARKING ARROWS EPOXY TYPE 2*		PAVEMENT MARKING ARROWS EPOXY TYPE 3*		PAVEMENT MARKING GROOVED THERMOPLASTIC ARROWS TYPE 4*		PAVEMENT MARKING GROOVED THERMOPLASTIC ARROWS TYPE 5*		PAVEMENT MARKING SYMBOLS EPOXY*		PAVEMENT MARKING WORDS EPOXY*		PAVEMENT MARKING STOP LINE EPOXY 18-INCH*		PAVEMENT MARKING STOP LINE EPOXY 24-INCH*		PAVEMENT MARKING DIAGONAL EPOXY 12-INCH*		PAVEMENT MARKING DIAGONAL EPOXY 24-INCH*		PAVEMENT MARKING CROSSWALK EPOXY 6-INCH*		TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH*		TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH*			
			646.0106	646.0126	646.0406	646.0841.S	646.0843.S	647.0166	647.0176	SPV.0060.14	SPV.0060.15	647.0256	647.0356	647.0566	647.0576	647.0726	647.0746	647.0766	649.0400	649.0801																				
			LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
			White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow	White	Yellow
1000	RAMPS	BURLEIGH ST NB OFF	1415	940	290	-	-	-	360	4	2	1	-	-	4	50	-	-	145	110	-	-																		
		BURLEIGH ST NB ON	1705	530	400	-	-	-	870	-	-	-	-	3	-	37	-	-	-	75	-	-																		
		BURLEIGH ST SB OFF	1090	705	250	-	-	-	370	4	2	1	-	-	2	52	-	-	180	120	-	-																		
		BURLEIGH ST SB ON	2645	1320	265	-	-	-	620	-	-	-	-	3	-	32	-	-	-	90	-	-																		
		CAPITOL DR NB OFF	1550	535	650	-	-	-	290	3	2	1	-	-	3	22	-	-	140	-	-	-																		
		CAPITOL DR NB ON	2150	1430	865	-	-	-	505	-	-	-	-	4	-	37	-	-	-	-	-	-																		
		CAPITOL DR SB OFF	995	510	735	-	-	-	385	4	2	1	-	-	4	22	-	-	285	-	-	-																		
		CAPITOL DR SB ON	1270	635	640	-	-	-	465	-	-	-	-	3	-	37	-	-	-	-	-	-																		
		HAMPTON AVE NB OFF	950	775	250	-	-	-	330	4	2	1	-	-	4	36	-	-	170	-	-	-																		
		HAMPTON AVE NB ON	1730	1250	245	-	-	-	440	-	-	-	-	4	-	41	-	-	-	-	-	-																		
		HAMPTON AVE SB OFF	905	755	190	-	-	-	290	1	1	1	-	-	1	29	-	-	165	-	-	-																		
		HAMPTON AVE SB ON	1470	515	365	-	-	-	900	-	-	-	-	4	-	35	-	-	-	-	-	-																		
		SILVER SPRING DR NB OFF	1015	665	525	-	-	-	320	6	3	1	-	-	6	37	-	-	215	110	-	-																		
		SILVER SPRING DR NB ON	1600	765	635	-	-	-	630	-	-	-	-	3	-	37	-	-	-	-	-	-																		
		SILVER SPRING DR SB OFF	1025	695	715	-	-	-	330	6	3	1	-	-	6	44	-	-	225	-	-	-																		
		SILVER SPRING DR SB ON	2825	1835	1060	-	-	-	640	-	-	-	-	5	-	40	-	-	-	85	-	-																		
from gore to 2nd gore	APPLETON AVE NB OFF	2630	2125	645	-	-	-	335	-	-	-	-	-	-	-	165	145	275	-	-	-																			
from gore to 2nd gore	APPLETON AVE NB ON	1840	1275	945	-	-	-	315	-	-	-	-	-	-	23	125	125	300	-	-	-																			
from gore to 2nd gore	APPLETON AVE SB OFF	2700	1830	655	-	-	-	290	-	-	-	-	-	-	-	60	125	280	-	-	-																			
from gore to 2nd gore	APPLETON AVE SB ON	1650	830	360	-	-	-	685	-	-	-	-	-	-	23	-	-	125	-	-	-																			
	GOOD HOPE RD NB OFF	1865	870	215	-	-	-	305	-	1	1	-	-	-	18	-	-	220	-	-	-																			
	GOOD HOPE RD SB ON	170	-	-	-	-	-	175	-	-	-	-	-	-	-	-	-	-	-	-	-																			
TOTAL USH 45 RAMPS			33160	19920	10685	0	0	0	9850	32	18	9	0	29	30	310	342	350	395	2725	590	0	0																	
			53080			0																																		
TOTAL 1000			50135	19920	11290	29955	56750	29413	24855	32	18	9	4	29	30	310	342	350	11075	2725	590	35000	6000																	
			70055			86705												11425																						

* There are additional quantities elsewhere within the plan

TRAFFIC CONTROL		
TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE 643.0200		
CATEGORY	PROJECT	DAY
1000	1100-20-60	157
TOTAL 1000		157

TRAFFIC CONTROL		
PCMS REMOTE COMMUNICATIONS SPV.0045.01		
CATEGORY	LOCATION	DAY
1000	USH 45 NB	157
	USH 45 SB	157
TOTAL 1000		314

TRAFFIC CONTROL		
TRAFFIC CONTROL SIGNS FIXED MESSAGE 643.1000		
CATEGORY	LOCATION	SF
1000	USH 45 ON-RAMPS	744 176
TOTAL 1000		920

TRAFFIC CONTROL		
TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE SPV.0060.11		
CATEGORY	PROJECT	EACH
1000	1100-20-60	115
TOTAL 1000		115

TRAFFIC CONTROL		
TRAFFIC CONTROL DETOUR (PROJECT) 643.2000		
CATEGORY	PROJECT	EACH
1000	1100-20-60	1
TOTAL 1000		1

TRAFFIC CONTROL		
TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP SPV.0060.12		
CATEGORY	PROJECT	EACH
1000	1100-20-60	74
TOTAL 1000		74

TRAFFIC CONTROL

TRAFFIC CONTROL FULL FREEWAY CLOSURE SPV.0060.13 EACH		
CATEGORY	PROJECT	
1000	1100-20-60	3
TOTAL 1000		3

COLD PATCH

COLD PATCH SPV.0195.01 TON		
CATEGORY	PROJECT	
1000	1100-20-60	10
TOTAL 1000		10

TRAFFIC CONTROL

TRAFFIC CONTROL TRUCK OR TRAILER MOUNTED ATTENUATOR 643.1055.S DAY		
CATEGORY	PROJECT	
1000	1100-20-60	162
TOTAL 1000		162

CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS

CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 650.8500 LS		
CATEGORY	PROJECT	
1100	1100-20-60	0.3
1300	1100-20-60	0.7
TOTAL 1100 & 1300		1.0

EROSION CONTROL ITEMS									
CATEGORY	ROADWAY	STATION TO	STATION	MOBILIZATIONS		MOBILIZATIONS		MOBILIZATIONS	
				SILT FENCE	SILT FENCE	EROSION	EROSION	EROSION MAT	TEMPORARY
				628.1504	628.1520	CONTROL	CONTROL	CLASS I	DITCH
				LF	LF	628.1905	628.1910	TYPE A	CHECKS
						EACH	EACH	628.2002	628.7504
								SY	LF
1000	USH 45 NB	175+35	- 178+53	345	345	3	-	290	-
		375+59	- 378+00	240	240	3	-	86	-
	USH 45 SB	214+84	- 218+03	345	345	3	-	640	-
		263+63	- 267+00	290	290	3	-	110	-
		328+71	- 333+51	515	515	3	-	1225	-
1000	UNDISTRIBUTED			434	434	-	5	588	100
TOTAL 1000				2169	2169	15	5	2939	100

AUTOMATED TRAFFIC RECORDER (ATR) ITEMS										
CATEGORY	ROADWAY	STATION	CONCRETE	INSTALL	INSTALL	INSTALL	INSTALL POLE	INSTALL	CONCRETE	
			BASES TYPE 2	POLES TYPE 3	SOLAR POWER	WAVETRONIX HD	WAVETRONIX	MOUNTED	CELLULAR	MAINTENANCE
			654.0102	SPV.0060.04	UNIT 120	125 MODULE	CLICK 200	CABINET	ANTENNA AND	PLATFORM
			EACH	EACH	WATT	AND CABLE	MODULE	24"X51"	ANTENNA CABLE	48"X36"X4"
					SPV.0060.05	SPV.0060.06	SPV.0060.07	SPV.0060.08	SPV.0060.09	SPV.0060.10
			EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
1000	USH 45 NB	365+50	1	1	1	1	1	1	1	1
	USH 45 SB	366+00	1	1	1	1	1	1	1	1
TOTAL 1000			2	2	2	2	2	2	2	2

EARTHWORK TABLE FOR BEAM GUARD INSTALLATION

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) (item #205.0500)	Rock Excavation (7) (item #205.0200)	Reduced Marsh in Fill (8) Factor 0.60	Reduced EBS in Fill (9) Factor 0.80	Expanded Marsh Backfill (10) Factor 1.50	Expanded EBS Backfill (11) Factor 1.30	Expanded Rock (12) Factor 1.10	Unexpanded Fill	Expanded Fill (13) Factor 1.25	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Comment:
			Cut (2)	EBS Excavation (3)															
1	176+69-178+51	USH 45 NB	20			0.0			0	0	0	0	0	8	10	-10	20	10	The excavation includes the top layer of the ground consisting mostly of gravel and grass so it is considered unusable.
	376+45 - 378+00	USH 45NB	5			0.0								2	2	-2	5	2	
	214+84-216+91	USH 45 SB	24			0.0								38	48	-48	24	48	
	264+24-265+71	USH 45 SB	20											2	2	-2	20	2	
	329+00-332+20	USH 45 SB	15			0.0								168	210	-210	15	210	
Grand Total			84	0	0	0	0	0	0	0	0	0	0	218	272	-272	84	272	
Total Common Exc			84																

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
7) Rock Excavation item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
12) Expanded Rock - Factor = 1.1.
13) Expanded Fill. Factor = 1.25
Depending on selections:

Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
15) The total Cut Quantity is considered as Waste since it is a thin layer that inlcudes gravel and grass.

NOTE: THIS TABLE IS FOR INFORMATION ONLY. THE COMMON EXCAVATION AND BORROW ARE INCIDENTAL TO THE BARRIER SYSTEM GRADING SHAPING FINISHING ITEM

ALL SIGNING REMOVAL
QUANTITIES BELONG TO
CATEGORY 1000 UNLESS
OTHERWISE NOTED

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TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
1R	W4-2R		1	1	--	--	--
2R	W4-2R		1	1	--	--	--
3R	R10-65 C		1	--	--	--	--
4R	R10-6 MOD		1	--	--	--	--
5R	R10-65-R		1	--	--	--	--
6R	R10-6	NORTH AVE / MAYFAIR RD 3/4 MILE	1	--	--	--	--
7R	R10-65 L		1	--	--	--	--
8R	R10-6 MOD		1	--	--	--	--
9R	D12-2A		1	--	--	--	--
10R	E1-1A		--	--	1	--	REUSE STEEL POSTS
11R	W12-1		1	1	--	--	--
12R	W4-1R		1	1	--	--	--
13R	R3-51L		1	2	--	--	--
14R	*NOT USED*		--	--	--	--	--
15R	W3-8		1	--	--	--	--
16R	W3-8		1	--	--	--	--
17R	R1-2		1	1	--	--	--
18R	*NOT USED*		--	--	--	--	--
19R	W5-52L		1	1	--	--	--
20R	W5-52L		1	1	--	--	--
21R	R7-1D		1	--	--	--	--
22R	R3-18		1	--	--	--	--
23R	R5-1		1	1	--	--	--
24R	R5-1		1	--	--	--	--
25R	R1-1F		1	--	--	--	--
26R	R3-18	BURLEIGH ST 3100 NORTH	1	1	--	--	--
27R	W5-53R		1	1	--	--	--
28R	R4-7		1	--	--	--	--
29R	*NOT USED*		--	--	--	--	--
30R	M1-94 MOD		1	2	--	--	--
31R	R5-1A	BURLEIGH ST E/W	1	1	--	--	--
32R	R3-8P		1	1	--	--	--
33R	D1-60		1	--	--	--	--
34R - 37R	*NOT USED*		--	--	--	--	--
38R	E1-1A		--	--	1	--	REUSE STEEL POSTS
39R	E5-1A	EXIT 43	1	2	--	--	--
40R	W3-3		1	--	--	--	--
41R	*NOT USED*		--	--	--	--	--
42R	*NOT USED*		--	--	--	--	--
43R	R3-8P		1	2	--	--	--
44R	R5-1A	BURLEIGH ST 3100 NORTH	1	--	--	--	--
45R	R5-1A		1	--	--	--	--
46R - 49R	*NOT USED*		--	--	--	--	--
50R	M1-94 MOD		1	2	--	--	--
51R	W5-52R		1	1	--	--	--

3

3

TYPE I & II SIGN REMOVAL				USH 45 1100-20-60			
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
52R	*NOT USED*		--	--	--	--	--
53R	R5-1		1	--	--	--	--
54R	R3-8A		1	--	--	--	--
55R	R3-1		1	1	--	--	--
56R	R3-18		1	--	--	--	--
57R	R4-7		1	--	--	--	--
58R - 60R	*NOT USED*		--	--	--	--	--
61R	W3-8		1	--	--	--	--
62R	W3-8		1	--	--	--	--
63R	61-2		1	1	--	--	--
64R	R3-51R		1	2	--	--	--
65R	R5-57		1	1	--	--	--
66R	W4-1R		1	1	--	--	--
67R	E5-1A	EXIT 43	1	2	--	--	--
68R	W3-3		1	--	--	--	--
69R	610-65L		1	--	--	--	--
70R	R10-6 MOD		1	--	--	--	--
71R	R10-6		1	1	--	--	--
72R	R10-65C		1	--	--	--	--
73R	R10-65R		1	--	--	--	--
74R	W4-2R		1	--	--	--	--
75R - 79R	*NOT USED*		--	--	--	--	--
80R	E4-1A	BURLEIGH ST, ARROW RIGHT, EXIT 43	--	--	1	--	REUSE STEEL POSTS
81R	R8-7		1	--	--	--	--
82R	W4-2R		1	1	--	--	--
83R	E8-1	CAPITOL / HAMPTON / SILVER SPRING	--	--	1	--	S-40-237 SIGN BRIDGE
84R	E8-1	BURLEIGH / NORTH / WATERTOWN PLANK	--	--	1	--	S-40-237 SIGN BRIDGE
85R	*NOT USED*		--	--	--	--	--
86R	W12-2		1	1	--	--	--
87R	W57-52		1	--	--	--	--
88R - 90R	*NOT USED*		--	--	--	--	--
91R	W5-52L		1	1	--	--	--
92R	*NOT USED*		--	--	--	--	--
93R	E6-51	BURLEIGH ST 1/2 MILE, EXIT 43	--	--	1	--	REUSE STEEL POSTS
94R	*NOT USED*		--	--	--	--	--
95R	*NOT USED*		--	--	--	--	--
96R	W5-52L		1	1	--	--	--
97R	*NOT USED*		--	--	--	--	--
98R	J3-1	ALT / WEST / 94	1	1	--	--	--
99R	E4-1A	190 CAPITOL DR, ARROW RIGHT, EXIT 44	--	--	1	--	REUSE STEEL POSTS
100R	*NOT USED*		--	--	--	--	--
101R	*NOT USED*		--	--	--	--	--
102R	D12-2A		1	2	--	--	--
103R	W4-2R		1	--	--	--	--
104R	R10-65R		1	--	--	--	S-40-252 OVERHEAD SIGN SUPPORT

3

TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
105R	R10-65C	EXIT 44	1	--	--	--	S-40-252 OVERHEAD SIGN SUPPORT
106R	R10-6		1	1	--	--	--
107R	R10-65L		1	--	--	--	--
108R-110R	*NOT USED*		--	--	--	--	--
111R	E5-1A		1	2	--	--	--
112R	J2-2	WEST-190- / EAST-190-	1	--	--	--	--
113R	W3-3		1	--	--	--	--
114R	R3-7L		1	1	--	--	--
115R	R5-1		1	1	--	--	--
116R	R3-51L		1	1	--	--	--
117R	R5-57	ALT-EAST-94-	1	1	--	--	--
118R	*NOT USED*		--	--	--	--	--
119R	*NOT USED*		--	--	--	--	--
120R	J3-1		1	1	--	--	--
121R	W3-8		1	--	--	--	--
122R	R1-2		1	1	--	--	--
123R	R10-6 MOD		1	1	--	--	--
124R	R6-26		1	--	--	--	--
125R	R1-1F		1	--	--	--	--
126R	R5-1A		1	1	--	--	--
127R	W54-56	PLANT ENTRANCE	1	1	--	--	--
128R	R1-2		1	--	--	--	--
129R	W4-2L		1	--	--	--	--
130R	R10-6		1	--	--	--	--
131R	R3-8B		1	--	--	--	--
132R	J3-2	EAST-190- / WEST-190- CAPITOL DR E/W	1	1	--	--	--
133R	W3-3		1	--	--	--	--
134R	R5-1A		1	--	--	--	--
135R	D1-60		1	2	--	--	--
136R	R3-7L		1	1	--	--	--
137R	J2-2	EAST-190- / WEST-190- EXIT 44	1	2	--	--	--
138R	W3-3		1	1	--	--	--
139R	E5-1A		1	2	--	--	--
140R	R5-1		1	--	--	--	--
141R	R3-1		1	--	--	--	--
142R	R1-1F	WEST-190- / EAST-190-	1	--	--	--	--
143R	*NOT USED*		--	--	--	--	--
144R	*NOT USED*		--	--	--	--	--
145R	R3-8B		1	1	--	--	--
146R	J3-2		1	1	--	--	--
147R	R1-1F	ALT-WEST-94-	1	--	--	--	--
148R	R1-2		1	--	--	--	--
149R	J2-1		1	1	--	--	--
150R	W4-2L		1	1	--	--	--
151R	R5-1		1	--	--	--	--

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TYPE I & II SIGN REMOVAL				USH 45 1100-20-60			
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
152R	R1-1F		1	--	--	--	--
153R	R3-1		1	--	--	--	--
154R	R1-1F		1	1	--	--	--
155R	W5-52L		1	--	--	--	--
156R	R4-9		1	1	--	--	--
157R	R10-6	EAST-190- ALT-WEST-94- WEST-190-	1	--	--	--	--
158R	J3-1		1	--	--	--	--
159R	J3-1		1	1	--	--	--
160R	R3-1		1	1	--	--	--
161R	J3-1		1	--	--	--	--
162R	R1-1F		1	--	--	--	--
163R	R5-1A		1	--	--	--	--
164R	R6-2L		1	1	--	--	--
165R	*NOT USED*		--	--	--	--	--
166R	W3-8		1	--	--	--	--
167R	R5-1		1	1	--	--	--
168R	R6-2L		1	1	--	--	--
169R	*NOT USED*		--	--	--	--	--
170R	R3-51R		1	2	--	--	--
171R	R5-57		1	1	--	--	--
172R	R10-6		1	--	--	--	--
173R	R5-1		1	--	--	--	--
174R	R10-6 MOD		1	1	--	--	--
175R	610-65R		1	--	--	--	--
176R	R10-6		1	--	--	--	--
177R	W9-1L		1	--	--	--	--
178R	R10-65L		1	--	--	--	S-40-276 OVERHEAD SIGN SUPPORT
179R	R10-65-C		1	--	--	--	S-40-276 OVERHEAD SIGN SUPPORT
180R	W4-2R		1	1	--	--	--
181R	W4-3R		1	1	--	--	--
182R-186R	*NOT USED*	190 CAPITOL DR, ARROW RIGHT, EXIT 44 CAPITOL / BURLEIGH / NORTH	--	--	--	--	--
187R	R2-1		1	--	--	--	--
188R	E4-1A		--	--	1	--	REUSE STEEL POSTS
189R	E8-1		--	--	1	--	S-40-238 SIGN BRIDGE
190R	R8-7		1	--	--	--	--
191R	E6-1	HAMPTON AVE 1/2 MILE EXIT ONLY, EXIT 45 (CRASH LOGO) CRASH INV SITE EXIT 45 HAMPTON / SILVER SPRING / 175 NORTH	--	--	1	--	S-40-370 SIGN BRIDGE
192R	*NOT USED*		--	--	--	--	--
193R	*NOT USED*		--	--	--	--	--
194R			--	--	1	--	REUSE STEEL POSTS
195R	E8-1		--	--	1	--	S-40-238 SIGN BRIDGE
196R	*NOT USED*		--	--	--	--	--
197R	*NOT USED*		--	--	--	--	--
198R	R8-7		1	--	--	--	--
199R	*NOT USED*		--	--	--	--	--
200R	*NOT USED*		--	--	--	--	--

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TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
201R	W4-2R	BUTLER EXIT 45	--	--	1	--	REUSE STEEL POSTS
202R			1	1	--	--	--
203R		J4-1	SOUTH-45	1	--	--	--
204R		R2-1	55 MPH	1	--	--	--
205R		W4-2R		1	1	--	--
206R	R10-65R		1	--	--	--	S-40-917 OVERHEAD SIGH SUPPORT
207R	R10-6		1	1	--	--	--
208R	R10-65C		1	--	--	--	S-40-917 OVERHEAD SIGH SUPPORT
209R	R10-6 MOD		1	--	--	--	--
210R-213R	*NOT USED*		--	--	--	--	--
214R	E6-1	HAMPTON AVE / EXIT ONLY, EXIT 45	--	--	1	--	S-40-371 SIGN BRIDGE
215R	*NOT USED*	EXIT 45	--	--	--	--	--
216R	*NOT USED*		--	--	--	--	--
217R	E5-1A		1	2	--	--	--
218R	W3-3		1	--	--	--	--
219R	W4-1	(CRASH LOGO) SITE 45	1	1	--	--	--
220R			1	1	--	--	--
221R			1	1	--	--	--
222R		R5-57	1	--	--	--	--
223R		R3-51L	1	2	--	--	--
224R	R3-8		1	--	--	--	--
225R	R3-8		1	--	--	--	--
226R	R2-1		1	1	--	--	--
227R	*NOT USED*		--	--	--	--	--
228R	R6-2L		1	1	--	--	--
229R	*NOT USED*		--	--	--	--	--
230R	*NOT USED*		--	--	--	--	--
231R	R3-18		1	--	--	--	--
232R	R1-2		1	1	--	--	--
233R	R5-1		1	1	--	--	--
234R	W3-3		1	--	--	--	--
235R	R5-1		1	1	--	--	--
236R	R1-1		1	1	--	--	--
237R	R1-1		1	--	--	--	--
238R	R5-1A		1	1	--	--	--
239R	D1-60	HAMPTON AVE E/W	1	2	--	--	--
240R	D1-61	BUTLER	1	--	--	--	--
241R		190 CAPITOL DRIVE/ 1 MILE, EXIT 44	--	--	1	--	REUSE STEEL POSTS
242R		((CRASH LOGO) (ARROW)	1	1	--	--	--
243R		*NOT USED*	--	--	--	--	--
244R	*NOT USED*	(CRASH LOGO) SITE 45S	--	--	--	--	--
245R	R8-55		1	--	--	--	--
246R	R8-56		1	--	--	--	--
247R	W3-1		1	1	--	--	--
248R			1	1	--	--	--

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TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
249R	R8-55	SILVER SPRING DR 3/4 MILE, EXIT 46 BUTLER	1	1	--	--	--
250R	R8-56		1	--	--	--	--
251R	E1-1A		--	--	1	2	REUSE STUBS
252R	D1-61		1	2	--	--	--
253R	*NOT USED*		--	--	--	--	--
254R	*NOT USED*	HAMPTON AVE 4800 NORTH HAMPTON AVE 4800 NORTH	--	--	--	--	--
255R	R5-1A		1	--	--	--	--
256R	M1-94		1	--	--	--	ON BRIDGE
257R	M1-94		1	--	--	--	ON BRIDGE
258R	R1-1F		1	--	--	--	--
259R	R1-1F		1	--	--	--	--
260R	R5-1A		1	1	--	--	--
261R	R5-1A		1	1	--	--	--
262R	R1-1		1	1	--	--	--
263R	R1-1		1	--	--	--	--
264R	R5-1		1	--	--	--	--
265R	R5-2		1	--	--	--	--
266R	R5-3		1	--	--	--	--
267R	*NOT USED*		--	--	--	--	--
268R	R6-2L		1	--	--	--	--
269R	*NOT USED*		--	--	--	--	--
270R	R4-7		1	--	--	--	--
271R	W1-6R		1	1	--	--	--
272R	R1-2		1	1	--	--	--
273R	R6-2L		1	1	--	--	--
274R	W3-8		1	1	--	--	--
275R	W3-8		1	--	--	--	--
276R	W12-1		1	1	--	--	--
277R	W4-3R		1	1	--	--	--
278R	R3-51L		1	2	--	--	--
279R	R10-6 MOD		1	1	--	--	--
280R	R5-57		1	--	--	--	--
281R	R10-65L		1	--	--	--	--
282R	R10-65C		1	--	--	--	--
283R	R10-6 MOD		1	--	--	--	--
284R	R10-65R	EXIT 45 EXIT 45 / HAMPTON AVE / EXIT ONLY / EXIT 45	1	--	--	--	--
285R	R10-6		1	--	--	--	--
286R	W4-26		1	1	--	--	--
287R	E5-1A		1	2	--	--	--
288R	E6-1		--	--	1	--	S-40-352 SIGN BRIDGE
289R	*NOT USED*	--	--	--	--	--	--
290R	*NOT USED*		--	--	--	--	--
291R	*NOT USED*		--	--	--	--	--
292R	W5-52L		1	1	--	--	--
293R	W5-52R		1	1	--	--	--

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TYPE I & II SIGN REMOVAL				USH 45 1100-20-60			
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
294R	I3-1	MENOMONEE RIVER	1	2	--	--	--
295R	*NOT USED*		--	--	--	--	--
296R	*NOT USED*		--	--	--	--	--
297R	E6-51	EXIT 46 / SILVER SPRING / EXIT ONLY	--	--	1	--	S-40-372 SIGN BRIDGE
298R-300R	*NOT USED*		--	--	--	--	--
301R	E6-1	EXIT 45 / HAMPTON AVE / EXIT ONLY	--	--	1	--	S-40-353 SIGN BRIDGE
302R	R2-1	55 MPH	1	--	--	--	--
303R	E8-1	HAMPTON / CAPITOL / BURLEIGH	--	--	1	--	S-40-239 SIGN BRIDGE
304R	*NOT USED*		--	--	--	--	--
305R	W4-2R		1	1	--	--	--
306R	R10-65R		1	--	--	--	--
307R	R10-6		1	--	--	--	--
308R	R10-65C		1	--	--	--	--
309R	R10-6 MOD		1	--	--	--	--
310R		RESTRICTED LANE ENDS	1	1	--	--	--
311R	R8-4		1	--	--	--	--
312R	E8-1	SILVER SPRING / 175 NORTH / GOOD HOPE	--	--	1	--	S-40-239 SIGN BRIDGE
313R	*NOT USED*		--	--	--	--	--
314R	*NOT USED*		--	--	--	--	--
315R	D12-2B		1	2	--	--	--
316R	R2-1	55 MPH	1	--	--	--	--
317R	R8-4		1	--	--	--	--
318R	*NOT USED*		--	--	--	--	--
319R	*NOT USED*		--	--	--	--	--
320R	E6-1	SILVER SPRING / EXIT ONLY / EXIT 46	--	--	1	--	S-40-373 SIGN BRIDGE
321R	*NOT USED*		--	--	--	--	--
322R	*NOT USED*		--	--	--	--	--
323R	E3-1	BUTLER	1	2	--	--	--
324R	D12-2A		1	2	--	--	--
325R		(CRASH LOGO) CRASH INV SITE EXIT 45	1	2	--	--	--
326R	W12-1		1	1	--	--	--
327R	R3-51L		1	2	--	--	--
328R	R3-51L		1	2	--	--	--
329R	*NOT USED*		--	--	--	--	--
330R	*NOT USED*		--	--	--	--	--
331R	M1-94 MOD	SILVER SPRING DR 5600 NORTH	1	2	--	--	--
332R	R3-8P		1	2	--	--	--
333R	J3-2	EAST-E-/WEST-E-	1	--	--	--	--
334R	J3-1	SOUTH-100-	1	1	--	--	--
335R	R5-1A		1	1	--	--	--
336R	R5-1A		1	--	--	--	--
337R	E1-1A	HAMPTON AVE / 3/4 MILE / EXIT 45	--	--	1	2	REUSE STUBS
338R	J2-3	SOUTH-100- / EAST-E- / WEST-E-	1	2	--	--	--
339R	D1-60	SILVER SPRING DR E/W	1	2	--	--	--
340R	R3-8P		1	2	--	--	--

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TYPE I & II SIGN REMOVAL				USH 45 1100-20-60			
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
341R	*NOT USED*	EXIT 46 EXIT 46	--	--	--	--	--
342R	W3-3		1	--	--	--	--
343R	E5-1A		1	2	--	--	--
344R	E5-1A		1	2	--	--	--
345R	W3-3		1	--	--	--	--
346R	R3-5L	175 NORTH / APPLETON AVE /3/4 MILE / EXIT 47A	1	--	--	--	S-40-277 OVERHEAD SIGN SUPPORT
347R	R3-6L		1	--	--	--	S-40-277 OVERHEAD SIGN SUPPORT
348R	R3-5R		1	--	--	--	S-40-277 OVERHEAD SIGN SUPPORT
349R	E1-1A		--	--	1	--	REUSE STEEL POSTS
350R	*NOT USED*		--	--	--	--	--
351R	*NOT USED*	SILVER SPRING DR 5600 NORTH	--	--	--	--	--
352R	M1-94 MOD		1	2	--	--	--
353R	R5-1A		1	1	--	--	--
354R	R5-1A		1	--	--	--	--
355R	W5-52L		1	1	--	--	--
356R	W5-52R	SILVER SPRING DR W/E	1	1	--	--	--
357R	*NOT USED*		--	--	--	--	--
358R	D1-60		1	2	--	--	--
359R-365R	*NOT USED*		--	--	--	--	--
366R	R1-1F		1	--	--	--	--
367R	*NOT USED*		--	--	--	--	--
368R	R3-51R		1	2	--	--	--
369R	*NOT USED*		--	--	--	--	--
370R	R3-51R		1	2	--	--	--
371R	R5-57		1	1	--	--	--
372R	*NOT USED*	100 / SILVER SPRING (ARROW RIGHT) EXIT 46	--	--	--	--	--
373R	*NOT USED*		--	--	--	--	--
374R	E4-1A		--	--	1	--	REUSE STEEL POSTS
375R	R10-6 MOD		1	1	--	--	--
376R	R10-65-C		1	--	--	--	S-40-278 OVERHEAD SIGN BRIDGE
377R	R10-65-L	NORTH-45-100	1	--	--	--	S-40-278 OVERHEAD SIGN BRIDGE
378R	R10-65-R		1	--	--	--	--
379R	R10-6		1	--	--	--	--
380R	W4-2R		1	1	--	--	--
381R	J4-1		1	--	--	--	--
382R	*NOT USED*		--	--	--	--	--
383R	*NOT USED*		--	--	--	--	--
384R	W5-52R		1	1	--	--	--
385R	*NOT USED*		--	--	--	--	--
386R	*NOT USED*		--	--	--	--	--
387R		MENOMONEE FALLS NEXT 5 EXITS	1	--	--	--	--
388R	E6-51	41 45 100 NORTH / FOND DU LAC	--	--	1	--	S-40-374 SIGN BRIDGE
389R	E6-51	175 NORTH / APPLETON AVE / EXIT 47A	--	--	1	--	S-40-374 SIGN BRIDGE
390R	M1-94	CARMEN AVE	1	2	--	--	--
391R	*NOT USED*		--	--	--	--	--

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TYPE I & II SIGN REMOVAL				USH 45 1100-20-60			
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
392R	*NOT USED*	OVERSIZED LOADS...	--	--	--	--	--
393R			--	--	1	2	--
394R	*NOT USED*	SILVER SPRING / HAMPTON AVE / CAPITOL BEYOND NEXT EXIT	--	--	--	--	--
395R	E8-1		--	--	1	--	S-40-240 SIGN BRIDGE
396R			1	--	--	--	--
397R		OVERSIZE AND OVERWEIGHT...	1	--	--	--	--
398R	E1-1A	100 / SILVER SPRING DR /1/2 MILE / EXIT 46	--	--	1	--	REUSE STEEL POSTS
399R	R4-3		1	--	--	--	--
400R	*NOT USED*	175 NORTH / GOOD HOPE / 145 NORTH	--	--	--	--	--
401R	E8-1		--	--	1	--	S-40-240 SIGN BRIDGE
402R	R8-7	FLORIST AVE / 6000 NORTH	1	--	--	--	--
403R-405R	*NOT USED*		--	--	--	--	--
406R	M1-94		1		--	--	ON BRIDGE
407R	*NOT USED*		--	--	--	--	--
408R	*NOT USED*		--	--	--	--	--
409R	R4-3	55 MPH	1	--	--	--	--
410R	R6-7		1	--	--	--	--
411R	R4-2R		1	1	--	--	--
412R	R2-1		1	--	--	--	--
413R-415R	*NOT USED*		--	--	--	--	--
416R	R10-65L		1	--	--	--	S-40-272 OVERHEAD SIGN SUPPORT
417R	R10-65R		1	--	--	--	S-40-272 OVERHEAD SIGN SUPPORT
418R	R10-65L		1	--	--	--	--
419R	R10-6MOD		1	--	--	--	--
420R	R4-2L		1	--	--	--	--
421R	R10-65R	(CRASH LOGO) CRASH INV SITE NEXT RIGHT 41 45 100 NORTH / FOND DU LAC	1	--	--	--	--
422R	R10-6		1	--	--	--	--
423R	W4-1R		1	1	--	--	--
424R			1	--	--	--	--
425R			--	--	1	--	S-40-375 SIGN BRIDGE
426R	E6-51	EXIT 47A / 175 NORTH / APPLETON AVE	--	--	1	--	S-40-375 SIGN BRIDGE
427R	*NOT USED*		--	--	--	--	--
428R	*NOT USED*		--	--	--	--	--
429R	W12-2		1	--	--	--	--
430R	M1-6		1	--	--	--	--
431R	E5-1A	EXIT 47A 45 MPH	1	2	--	--	--
432R	W3-5		1	--	--	--	--
433R	W5-52L		1	1	--	--	--
434R	W5-52R		1	1	--	--	--
435R	W1-2L		1	1	--	--	--
436R	W13-1	45 MPH	1	--	--	--	--
437R	W12-1		1	1	--	--	--
438R	W1-2L		1	--	--	--	--
439R	W13-1		1	--	--	--	--
440R	E6-51		--	--	1	--	S-40-326 SIGN BRIDGE

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TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
441R	W9-62	41 / APPLETON AVE	1	--	--	--	S-40-326 SIGN BRIDGE
442R	E6-51		--	--	1	--	S-40-326 SIGN BRIDGE
443R	W5-52L		1	1	--	--	--
444R	W5-52R		1	1	--	--	--
445R	W1-2L		1	--	--	--	--
446R	W13-1	45 MPH	1	--	--	--	--
447R	W4-1R		1	--	--	--	--
448R	W4-1R		1	--	--	--	--
449R	W3-8		1	--	--	--	--
450R	W3-8		1	--	--	--	--
451R	R5-1A	(LOGO) SITE 47N 45 MPH	1	1	--	--	--
452R	R5-1A		1	1	--	--	--
453R			1	2	--	--	--
454R	R2-1		1	--	--	--	--
455R	R8-55		1	1	--	--	--
456R	R8-56	(CRASH LOGO) (ARROW) 175 NORTH / APPLETON AVE / LEFT LANE	1	--	--	--	--
457R			1	1	--	--	--
458R	E1-1A		--	--	1	--	REUSE STEEL POSTS
459R	*NOT USED*		--	--	--	--	--
460R	*NOT USED*		--	--	--	--	--
461R	W3-8		1	1	--	--	--
462R	W3-8		1	1	--	--	--
463R	W4-1R		1	1	--	--	--
464R	W2-2		1	--	--	--	--
465R	W2-2		1	1	--	--	--
466R	W2-2	MILL RD / 6400 NORTH	1	1	--	--	--
467R	M1-6		1	--	--	--	--
468R	M1-6		1	--	--	--	--
469R	M1-6		1	--	--	--	--
470R	M1-94 MOD		1	2	--	--	--
471R	R8-55	41 / APPLETON AVE / LEFT LANE (CRASH LOGO) (CRASH LOGO) SITE 47S	1	1	--	--	--
472R	R8-56		1	--	--	--	--
473R	E1-1A		--	--	1	--	REUSE STEEL POSTS
474R			1	1	--	--	--
475R			1	1	--	--	--
476R	W5-52R	45 MPH	1	1	--	--	--
477R	W5-52L		1	1	--	--	--
478R	R2-1		1	--	--	--	--
479R	*NOT USED*		--	--	--	--	--
480R	W4-2R		1	1	--	--	--
481R	*NOT USED*		--	--	--	--	--
482R	W5-52R		1	1	--	--	--
483R	W1-2L		1	--	--	--	--
484R	W13-1		1	--	--	--	--
485R	W3-5		1	--	--	--	--

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TYPE I & II SIGN REMOVAL				USH 45 1100-20-60			
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
486R	E5-1A	EXIT 47A	1	2	--	--	--
487R	W9-1		1	1	--	--	--
488R	E6-51	41 / APPLETON AVE / EXIT ONLY EXIT 47A	--	--	1	--	S-40-304 SIGN BRIDGE
489R	E6-51	45 100 SOUTH / TO 894 BYPASS	--	--	1	--	S-40-304 SIGN BRIDGE
490R	R10-6 MOD		1	--	--	--	--
491R	R10-6		1	--	--	--	--
492R	E5-1		1	1	--	--	--
493R	610-65L		1	--	--	--	--
494R	W4-3R		1	1	--	--	--
495R	R10-65R		1	--	--	--	--
496R	W4-2R		1	--	--	--	--
497R	E8-1	GOOD HOPE / 175 /74 100	--	--	1	--	S-40-304 SIGN BRIDGE
498R-500R	*NOT USED*		--	--	--	--	--
501R	W12-2	14'-0"	1	1	--	--	--
502R	M1-6	175	1	--	--	--	--
503R		(CRASH LOGO) CRASH INV SITE EXIT 47A	--	--	1	--	REUSE STEEL POSTS
504R	*NOT USED*		--	--	--	--	--
505R	R3-6R		1	--	--	--	S-40-305 SIGN BRIDGE
506R	E6-51	41 / APPLETON AVE / EXIT ONLY / EXIT 47A	--	--	1	--	S-40-305 SIGN BRIDGE
507R	R2-1	55 MPH	1	--	--	--	--
508R	E6-51	GOOD HOPE RD / EXIT ONLY / EXIT 47B	--	--	1	--	S-40-377 SIGN BRIDGE
509R	*NOT USED*		--	--	--	--	--
510R	*NOT USED*		--	--	--	--	--
511R	R8-7		1	--	--	--	--
512R	R8-7		1	--	--	--	--
513R	*NOT USED*		--	--	--	--	--
514R	*NOT USED*		--	--	--	--	--
515R	E6-51	145 / 1 MILE / EXIT 48	--	--	1	--	S-40-376 SIGN BRIDGE
516R	E6-51	GOOD HOPE RD / EXIT ONLY / EXIT 47B	--	--	1	--	S-40-376 SIGN BRIDGE
517R	W13-2		1	--	--	--	--
518R	R2-1	55 MPH	1	--	--	--	--
519R	J4-1	SOUTH-45	1	--	--	--	--
520R	E8-1	APPLETON / SILVER SPRING / HAMPTON	--	--	1	--	S-40-376 SIGN BRIDGE
521R	*NOT USED*		--	--	--	--	--
522R	*NOT USED*		--	--	--	--	--
523R	R4-3R		1	1	--	--	--
524R	M1-94 MOD	GOOD HOPE RD / 7200 NORTH	1	--	--	--	ON BRIDGE
525R	M1-94 MOD	GOOD HOPE RD / 7200 NORTH	1	--	--	--	ON BRIDGE
526R	R2-1	55 MPH	1	--	--	--	ON BRIDGE
527R	E5-1A	EXIT 47B	1	2	--	--	--
528R	W3-1		1	1	--	--	--
529R	W3-1		1	1	--	--	--
530R	D1-60	GOOD HOPE RD W/E	1	2	--	--	--
531R	R5-1A		1	--	--	--	--
532R	R5-1A		1	1	--	--	--

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TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
533R	R3-1		1	1	--	--	--
534R	R5-1		1	1	--	--	--
535R	R5-1		1	--	--	--	--
536R	R1-1		1	--	--	--	--
537R	R1-1		1	--	--	--	--
538R	R6-2L	EAST-PP-	1	1	--	--	--
539R	J3-1		1	1	--	--	--
540R	R4-3R		1	1	--	--	--
541R	R4-7		1	1	--	--	--
542R	W3-8		1	--	--	--	--
543R	R6-2L	41 45 SOUTH / 100 BYPASS / CARPOOL...	1	1	--	--	--
544R	R1-2		1	1	--	--	--
545R			--	--	1	--	S-40-260 SIGN BRIDGE
546R	R5-1A		1	--	--	--	--
547R	R1-1F		1	1	--	--	--
548R	*NOT USED*		--	--	--	--	--
549R	R5-1A		1	--	--	--	--
550R	R5-1A		1	1	--	--	--
551R	R8-55		1	--	--	--	--
552R	R8-56		1	--	--	--	--
553R	R8-55	HAMPTON AVE W/E SOUTH-45-	1	1	--	--	--
554R	R8-56		1	--	--	--	--
555R	D1-60		1	2	--	--	--
556R	610-6 MOD		1	--	--	--	--
557R	J3-1		1	--	--	--	--
558R	M1-94	CARMEN AVE	1	2	--	--	--
559R	R8-55		1	1	--	--	SEE SHEET 16 OF 20
560R	R8-56		1	--	--	--	SEE SHEET 16 OF 20
561R	*NOT USED*		--	--	--	--	--
562R	*NOT USED*		--	--	--	--	--
563R	D9-1A	FLORIST AVE 6000 NORTH MILL RD / 6400 NORTH MILL RD / 6400 NORTH	1	--	--	--	SHEET 19 OF 20
564R	M1-94		1	--	--	--	ON BRIDGE; SEE SHEET 14 OF 20
565R	M1-94		1	2	--	--	SEE SHEET 16A OF 20
566R	M1-94		1	2	--	--	SEE SHEET 16A OF 20
567R	W5-52R		1	1	--	--	SEE SHEET 16A OF 20
568R	W5-52R	GOOD HOPE RD, 3/4 MILE, EXIT 47B	1	1	--	--	SEE SHEET 16A OF 20
569R	E10-11A		--	--	1	--	REUSE STEEL POSTS; SEE SHEET 16A
570R	D12-2B		1	2	--	--	SEE SHEET 16A OF 20
571R	*NOT USED*		--	--	--	--	--
572R	R1-1F		1	--	--	--	SEE SHEET 1 OF 20
573R	R5-1A		1	--	--	--	SEE SHEET 1 OF 20
574R	R1-1F		1	--	--	--	SEE SHEET 1 OF 20
575R	R5-1		1	--	--	--	SEE SHEET 1 OF 20
576R	*NOT USED*		--	--	--	--	--
577R	R5-1A		1	--	--	--	SEE SHEET 5 OF 20

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TYPE I & II SIGN REMOVAL							USH 45 1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION
578R	R3-7L		1	1	--	--	SEE SHEET 5 OF 20
579R	R6-2R		1	--	--	--	SEE SHEET 5A OF 20
580R	R1-1F		1	1	--	--	SEE SHEET 5A OF 20
581R	R8-55		1	1	--	--	SEE SHEET 9 OF 20
582R	R8-56		1	--	--	--	SEE SHEET 9 OF 20
583R	R10-6 MOD	FOND DU LAC	1	--	--	--	SEE SHEET 11 OF 20
584R	*NOT USED*		--	--	--	--	--
585R	R8-55		1	--	--	--	SEE SHEET 17 OF 20
586R	R8-56		1	1	--	--	SEE SHEET 17 OF 20
587R	D1-1		1	2	--	--	SEE SHEET 19 OF 20
588R-591R	*NOT USED*		--	--	--	--	--
592R	M1-94		1	2	--	--	SEE SHEET 13 OF 20
593R	R3-2		1	--	--	--	SEE SHEET 19 OF 20
594R	*NOT USED*		--	--	--	--	--
595R	*NOT USED*		--	--	--	--	--
596R	R5-1		1	--	--	--	SEE SHEET 5 OF 20
597R	R1-1		1	1	--	--	SEE SHEET 5 OF 20
598R	R10-6		1	--	--	--	SEE SHEET 5 OF 20
599R	R1-1F		1	--	--	--	SEE SHEET 5 OF 20
600R	*NOT USED*		--	--	--	--	--
601R	R10-6		1	1	--	--	SEE SHEET 5A OF 20
602R	R1-1F		1	--	--	--	SEE SHEET 5A OF 20
603R	R5-1		1	--	--	--	SEE SHEET 5A OF 20
604R	R3-6L		1	--	--	--	SEE SHEET 5A OF 20
605R	R3-5L		1	--	--	--	SEE SHEET 5A OF 20
606R	J3-1		1	--	--	--	SEE SHEET 5A OF 20
607R	R5-1A		1	--	--	--	SEE SHEET 5A OF 20
608R	R4-9		1	1	--	--	SEE SHEET 5A OF 20
609R	*NOT USED*		--	--	--	--	--
610R	R5-1		1	--	--	--	SEE SHEET 5A OF 20
611R	R6-2R		1	--	--	--	SEE SHEET 5A OF 20
612R	R1-1F		1	--	--	--	SEE SHEET 5A OF 20
613R	R5-1		1	1	--	--	SEE SHEET 5A OF 20
614R	W5-52L		1	1	--	--	SEE SHEET 5A OF 20
615R	W5-52L		1	1	--	--	SEE SHEET 5A OF 20
616R	R5-1	CITY OF WAUWATOSA CITY OF MILWAUKEE	1	1	--	--	SEE SHEET 5A OF 20
617R	I2-3A		1	2	--	--	SEE SHEET 9 OF 20
618R	I2-3A		1	2	--	--	SEE SHEET 9 OF 20
619R	R5-1A		1	1	--	--	SEE SHEET 9 OF 20
620R	R8-55		1	--	--	--	SEE SHEET 9 OF 20
621R	R8-56		1	--	--	--	SEE SHEET 9 OF 20
622R	R3-8		1	--	--	--	SEE SHEET 12B OF 20
623R-627R	*NOT USED*		--	--	--	--	--
628R	R3-5L		1	--	--	--	SEE SHEET 5A OF 20
629R	R3-6L		1	--	--	--	SEE SHEET 5A OF 20

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TYPE I & II SIGN REMOVAL							USH 45	1100-20-60
SIGN NO.	SIGN CODE	SIGN MESSAGE	638.2602 REM SIGNS TYPE II [EA]	638.3000 REM SMALL SIGN SUP [EA]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	REMARKS / SIGN LOCATION	
630R	R3-51R	41 / APPLETON AVE 41-45-100 / FOND DU LAC	1	2	--	--	SEE SHEET 5 OF 20	
631R	E6-1		--	--	1	--	SHEET 16 OF 20	
632R	E6-1		--	--	1	--	SHEET 16 OF 20	
633R	W13-2		1	--	--	--	SHEET 16 OF 20	
--	--		--	--	--	--	--	
TOTALS			433	259	50	6		

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

ALL PERMANENT SIGNING
QUANTITIES BELONG TO CATEGORY
1000 UNLESS OTHERWISE NOTED

ALL PERMANENT SIGNING QUANTITIES BELONG TO CATEGORY 1000 UNLESS OTHERWISE NOTED				TYPE II SIGN SIZE W x H [IN.] x [IN.]			637.2210 SIGNS TYPE II REFLC H F [SF] [SF]		637.2230 SIGNS TYPE II REFLC F F [SF] [SF]		634.0618 WOOD POSTS 4"x6"x18" [EA]		637.2215 SIGNS TYPE II REFLC H FOLDING [SF]		638.2102 MOVE SIGNS TYPE II [EA]		MOUNT ON SAME POST AS SIGN #		REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT] x [FT]			637.1220 SIGNS TYPE I REFLC SH [SF]		STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]		636.0500 SIGN SUPPORTS STEEL REINF [LBS]		635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]		635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]		643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EA																																																																																																																																																											
SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	W	x	H	REFLC H	REFLC F	WOOD POSTS	SIGNS TYPE II REFLC H FOLDING	MOVE SIGNS TYPE II	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	W	x	H	SIGNS TYPE I REFLC SH	STEEL POST TYPE		SIGN SUPPORTS CONCRETE MASONRY	SIGN SUPPORTS STEEL REINF	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS		SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	SIGN SUPPORTS STRUCTURAL STEEL HS

SHEET 1 OF 17

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PERMANENT SIGNING QUANTITIES

SHEET:

E

3

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910	
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" FOLDING	SIGNS TYPE II REFLC H	MOVE SIGNS TYPE II		MOUNT ON SAME POST AS SIGN #	W	x	H		SIGNS TYPE I REFLC SH	SIGN SUPPORTS CONCRETE MASONRY	SIGN SUPPORTS STEEL REINF	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]	[EA]	[SF]	[EA]		[FT]	x	[FT]	[SF]		[CY]	[LBS]	[EST LBS]	[EA]		
47	E1-1A	I	[190] CAPITOL DR 3/4 MILE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	17	x	10.5	178.500	--	--	--	--	2	--	
47A	E1-5P	I	EXT 44	--	x	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--	
48	W5-52L(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--		
49	W5-52L(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--		
50	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--		
51	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--		
52	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--		
53	R4-7(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--		
54	R4-7(2S)	II		24	x	30	5.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--		
55	R1-2(2S)	II		36	x	31	3.880	--	1	--	--	--	--	x	--	--	--	--	--	--	--		
56	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--		
57	R5-1A	--		--	x	--	--	--	--	--	1	#62	3' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	
58	W12-1D(2S)	II		24	x	24	--	4.000	1	--	--	2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--		
59	R3-18(2S)	II		24	x	24	4.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--		
60	R3-8P(2S)	II		54	x	30	11.250	--	2	--	--	--	--	x	--	--	--	--	--	--	--		
61	R5-1(3)	II		36	x	36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--		
62	R5-1(3)	II		36	x	36	9.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--		
63	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--		
64	R3-1(2S)	II		24	x	24	4.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--		
65	R6-2L(2S)	II		24	x	30	5.000	--	--	--	--	#64	--	x	--	--	--	--	--	--	--		
66	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--		
67	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--		
68	M1-94(MOD)(5)	II	BURLEIGH ST 3100 NORTH	90	x	36	22.500	--	2	--	--	--	--	x	--	--	--	--	--	--	--		
69	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--		
70	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--		
71	R6-2L(2S)	II		24	x	30	5.000	--	--	--	--	--	MOUNT ON BACK OF #65	--	x	--	--	--	--	--	--		
72	D9-2	II		--	x	--	--	--	--	--	1	--	MOUNT ON BACK OF #70	--	x	--	--	--	--	--	--		
73	MB6-1	II		--	x	--	--	--	--	--	1	--	--	x	--	--	--	--	--	--	--		
74	R3-8P(2S)	II		54	x	30	11.250	--	2	--	--	--	--	x	--	--	--	--	--	--	--		
75	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--		
76	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--		
77	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--		
78	E5-1A(5)	II	EXT 43 [A]	72	x	60	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--		
79	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#78	--	x	--	--	--	--	--	--	--		
80	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#78	--	x	--	--	--	--	--	--	--		
81	R10-65L(2S)	II		24	x	30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--		
82	R10-6(MOD)	II		24	x	36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--		
83	R10-6(MOD)	II		24	x	36	6.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--		
84	R10-65R(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	INSTALL ON S-40-222 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--		
85	R10-65C(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-222 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--		
86	W4-2R(2S)	II		36	x	36	--	9.000	--	--	--	MOUNT ON UPRIGHT OF S-40-222	--	x	--	--	--	--	--	--	--		
87	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--		
88	E5-1A(5)	II	EXT 43 [A]	72	x	60	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--		

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18"	SIGNS TYPE II REFLC H FOLDING	MOVE SIGNS TYPE II			SIGNS TYPE I REFLC SH	SIGN SUPPORTS CONCRETE MASONRY	SIGN SUPPORTS STEEL REINF	SIGN SUPPORTS STRUCTURAL STEEL HS		SIGN SUPPORTS REPLACING BASE CONN. BOLTS	TRAFFIC CONTROL COVERING SIGNS TYPE I			
				[IN.]	x	[IN.]	[SF]	[SF]	[EA]	[SF]	[EA]			[FT]	x	[FT]	[SF]		[CY]	[LBS]	[EST LBS]	[EA]	[EA]
89	W5-54(2M)	II	BURLEIGH ST [A] EXT 43	18	x	18	--	2.250	--	--	--	#88	--	-- x --	--	--	--	--	--	--	--		
90	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#88	--	-- x --	--	--	--	--	--	--	--		
91	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--		
92	E4-1A	I		--	x	--	--	--	2	--	--	--	RE-USE STEEL POSTS	21 x 4.5	94.500	--	--	--	--	2	--		
92A	E1-5P	I		--	x	--	--	--	--	--	--	--	--	9 x 2.5	22.500	--	--	--	--	--	--		
93	R8-7(5)	II	W4-2R(5)	48	x	36	12.000	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--		
94	W4-2R(5)	II		48	x	48	--	16.000	1	--	--	--	--	-- x --	--	--	--	--	--	--	--		
95	E8-1	I	CAPITOL DR 1/2 HAMPTON AVE 1 1/2 SILVER SPRING 2 1/2	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-237	23 x 7.5	172.500	--	--	--	--	--	--		
96	E8-1	I	BURLEIGH ST 1/4 NORTH AVE 1 1/4 WATERTOWN PLANK RD 2 1/2	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-237	23 x 7.5	172.500	--	--	--	--	--	--		
97	*NOT USED*	II	14'-0"	--	x	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--		
98	W12-2(5)			48	x	48	--	16.000	1	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	
99	W57-52(5)			II	48	x	36	--	12.000	--	--	--	#98	--	-- x --	--	--	--	--	--	--	--	
100	*NOT USED*			--	--	x	--	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--	
101	W5-52L(3)			II	18	x	54	--	6.750	1	--	--	--	--	-- x --	--	--	--	--	--	--	--	
102	W5-52L(3)	II		18	x	54	--	6.750	1	--	--	--	--	-- x --	--	--	--	--	--	--	--		
103	J3-1(5) MB4-1 MB3-4 M1-1 MB6-2	II	IH-94	36	x	102	25.500	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--		
				36	x	18																	
				36	x	18																	
				36	x	36																	
				30	x	30																	
104	E6-51	I	BURLEIGH ST 1/2 MILE	--	x	--	--	--	--	--	--	--	RE-USE STEEL POSTS	18 x 7	126.000	--	--	--	--	2	--		
104A	E1-5P	I	EXT 43	--	x	--	--	--	--	--	--	--	--	9 x 2.5	22.500	--	--	--	--	--	--		
105	E4-1A	I	[190] CAPITOL DR [A]	--	x	--	--	--	--	--	--	--	RE-USE STEEL POSTS	20 x 8	160.000	--	--	--	--	2	--		
105A	E1-5P	I	EXT 44	--	x	--	--	--	--	--	--	--	--	9 x 2.5	22.500	--	--	--	--	--	--		
106	D12-2B(5)	II	W4-2R(2S) R10-65R(MOD)(2S)	114	x	48	38.000	--	2	--	--	--	--	-- x --	--	--	--	--	--	--	--		
107	W4-2R(2S)	II		36	x	36	--	9.000	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--		
108	R10-65R(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-252 NEW BRACKETS - INCIDENTAL	-- x --	--	--	--	--	--	--	--		
109	R10-65C(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-252 NEW BRACKETS - INCIDENTAL	-- x --	--	--	--	--	--	--	--		
110	R10-6(2S)	II		24	x	36	6.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--		
111	R10-65L(2S)	II	EXT 44	24	x	30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--		
112	E5-1A	II		72	x	60	30.000	--	2	--	--	--	--	-- x --	--	--	--	--	--	--	--		
113	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#112	--	-- x --	--	--	--	--	--	--	--		
114	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#112	--	-- x --	--	--	--	--	--	--	--		
115	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--		
116	J2-2(2S) M3-4 M1-6 M6-1 M3-2 M1-6 M5-2R	II	STH 190 STH 190	48	x	57	19.000	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--		
				24	x	12																	
				24	x	24																	
				21	x	21																	
				24	x	12																	
				24	x	24																	
				21	x	21																	
117	R3-7L(2S)	II		36	x	36	9.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--		
118	D1-60	II	CAPITOL DR [A] WEST EAST [A]	78	x	24	13.000	--	2	--	--	--	--	-- x --	--	--	--	--	--	--	--		

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18' [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]			W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]		[SF]				[FT]	x	[FT]							
119	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
120	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
121	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
122	W54-56(2S)	II		30	x	30	--	6.250	--	--	--	--	BACK OF SIGN #121	--	x	--	--	--	--	--	--	--	--
123	W4-2L(2S)	II		36	x	36	--	9.000	--	--	--	--	BACK OF SIGN #120	--	x	--	--	--	--	--	--	--	--
124	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	#125	MOUNT ON BACK OF #125	--	x	--	--	--	--	--	--	--	--
125	D1-60	II	CAPITOL DR [A] EAST WEST [A]	78	x	24	13.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	--
126	J2-2 (2S) M3-2 M1-6 M5-1L M3-4 M1-6 M5-1R	II	STH 190 STH 190	48 24 24 21 24 24 21	x x x x x x x	57 12 24 21 12 24 21	19.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	--
127	W3-3(2S)	II		36	x	36	--	9.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
128	E5-1A(5)	II	EXT 44 [A]	72	x	60	30.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	--
129	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#128	--	--	x	--	--	--	--	--	--	--	--
130	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#128	--	--	x	--	--	--	--	--	--	--	--
131	R3-51R(2S)	II		48	x	78	26.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	--
132	R5-57(5)	II		36	x	36	9.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
133	R3-51R(2S)	II		48	x	78	26.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	--
134	W12-1D(2S)	II		24	x	24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
135	J3-2 (2S) M3-4 M1-6 M6-1 M3-2 M1-6 M6-2	II	STH 190 STH 190	48 24 24 21 24 24 21	x x x x x x x	57 12 24 21 12 24 21	19.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
136	J2-1(2S) MB4-1 MB3-4 M1-1 MB5-1L	II	IH-94	24 24 24 24 21	x x x x x	69 12 12 24 21	11.500	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
137	R3-8A(2S)	II		30	x	36	7.500	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
138	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
139	R3-1(2S)	II		24	x	24	4.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
140	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
141	R5-1(3)	II		36	x	36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
142	W5-52L(2S)	II		12	x	36	--	3.000	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
143	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
144	R5-1(3)	II		36	x	36	9.000	--	--	--	--	#135	BACK OF #135	--	x	--	--	--	--	--	--	--	--
145	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
146	R10-6(MOD)(2S)	II		24	x	36	6.000	--	--	--	--	#149	--	--	x	--	--	--	--	--	--	--	--
147	R5-1(3)	II		36	x	36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
148	R6-2L(2S)	II		24	x	30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
149	R3-1(2S)	II		24	x	24	4.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	634.0618 WOOD POSTS 4"x6"x18" [EA]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT] x [FT]	637.1220 SIGNS TYPE I REFLC SH [SF]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EA]
150	J3-1(2S) MB4-1A MB3-4 M1-1 MB6-1	II	IH-94	24 x 69 24 x 12 24 x 12 24 x 24 21 x 21	11.500	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
151	J3-1(2S) M3-4 M1-6 M6-1	II	STH 190	24 x 57 24 x 12 24 x 24 21 x 21	9.500	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
152	R4-9(2S)	II		24 x 30	5.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
153	R6-2R(2S)	II		24 x 30	5.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
154	J3-1(2S) M3-2 M1-6 M6-1	II	STH 190	24 x 57 24 x 12 24 x 24 21 x 21	9.500	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
155	R1-2(2S)	II		36 x 31	3.880	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--
156	W4-2L(2S)	II		36 x 36	--	9.000	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
157	R3-51L(2S)	II		48 x 78	26.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
158	J3-1(2S) MB4-1A MB3-2 M1-1 MB6-1	II	IH-94	24 x 69 24 x 12 24 x 12 24 x 24 21 x 21	11.500	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
159	*NOT USED*	--		-- x --	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--
160	*NOT USED*	--		-- x --	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--
161	W12-1D(2S)	II		24 x 24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	-- x --	--	--	--	--	--	--	--
162	W3-8(2S)	II		48 x 48	--	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
163	R1-2(2S)	II		36 x 31	3.880	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
164	R5-57(5)	II		36 x 36	9.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
165	R10-6(2S)	II		24 x 36	6.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
166	R6-2R(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
167	R1-1F(3)	II		36 x 36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
168	R1-1F(3)	II		36 x 36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
169	R3-1(2S)	II		24 x 24	4.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
170	R1-1F(3)	II		36 x 36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
171	R3-8B(2S)	II		30 x 36	7.500	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
172	R5-1(3)	II		36 x 36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
173	R10-6(2S)	II		24 x 36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
174	R1-2(2S)	II		36 x 31	3.880	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--
175	J3-2 (2S) M3-2 M1-6 M6-1 M3-4 M1-6 M6-2	II	STH 190 STH 190	48 x 57 24 x 12 24 x 24 21 x 21 24 x 12 24 x 24 21 x 21	19.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
176	W12-1D(2S)	II		24 x 24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	-- x --	--	--	--	--	--	--	--
177	W3-3(2S)	II		36 x 36	--	9.000	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--
178	R10-65R(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
179	R10-6(2S)	II		24 x 36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
180	R10-65L(MOD)(2S)	II		36 x 42	10.500	--	--	--	--	--	INSTALL ON S-40-276 NEW BRACKETS - INCIDENTAL	-- x --	--	--	--	--	--	--	--

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]			SIGNS TYPE I REFLC SH [SF]	SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]		SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA			
				[IN.]		[IN.]	[SF]	[SF]	[EA]	[SF]	[EA]			[FT]	x	[FT]	[SF]						
181	R10-65C(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-276 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	
182	R10-6(MOD)(2S)	II		24	x	36	6.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
183	W9-1L(2S)	II		36	x	36	--	9.000	--	--	--	--	MOUNT ON UPRIGHT OF S-40-276	--	x	--	--	--	--	--	--	--	
184	W4-2R(2S)	II		36	x	36	--	9.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
185	W4-3R(5)	II		48	x	48	--	16.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
186	E4-1A	I	[190] CAPITOL DRIVE [A]	--	x	--	--	--	--	--	--	--	RE-USE STEEL POSTS	24	x	8	192.000	--	--	--	--	2	--
186A	E1-5P		EXIT 44	--	x	--	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--
187	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
188	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
189	E6-1	I	[EE] HAMPTON AVE 1/2 MILE EXIT [A] ONLY	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-370 AT 20'-3" MIN CLEARANCE	17	x	12	204.000	--	--	--	--	--	--
189A	E1-5P	I	EXT 45	--	x	--	--	--	--	--	--	--	--	10	x	2.5	25.000	--	--	--	--	--	--
190	E8-1	I	HAMPTON AVE 1/4 SILVER SPRING 1 1/4 [175] NORTH 2 1/4	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-238	21	x	8	168.000	--	--	--	--	--	--
191	E8-1	I	CAPITOL DR 1/2 HAMPTON AVE 1 1/2 SILVER SPRING 2 1/2	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-238	23	x	7.5	172.500	--	--	--	--	--	--
192	--	I	CRASH INVESTIGATION SITE EXT 45	--	x	--	--	--	--	--	--	--	RE-USE STEEL POSTS	10	x	9.5	95.000	--	--	--	--	2	--
193	R8-7(5)	II		48	x	36	12.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
194	--	I	BUTLER EXIT 45	--	x	--	--	--	--	--	--	--	RE-USE STEEL POSTS	9	x	5	45.000	--	--	--	--	2	--
195	R8-7(5)	II		48	x	36	12.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
196	W4-2R(5)	II		48	x	48	--	16.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
197	J4-1(5) M3-3 M1-4	II	USH 45	36	x	54 18 36	13.500	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
198	E6-1	I	[EE] HAMPTON AVE EXIT [A] ONLY	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-371 AT 20'-3" MIN CLEARANCE	17	x	10	170.000	--	--	--	--	--	--
198A	E1-5P(5)	I	EXT 45	--	x	--	--	--	--	--	--	--	--	10	x	2.5	25.000	--	--	--	--	--	--
199	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
200	W4-2R(2S)	II		36	x	36	--	9.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
201	R10-65R(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-917 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
202	R10-65C(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-917 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
203	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
204	E5-1A(5)	II	EXIT 45	72	x	60	30.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	--
205	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#204	--	--	x	--	--	--	--	--	--	--	--
206	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#204	--	--	x	--	--	--	--	--	--	--	--
207	--	II	[CRASH LOGO] SITE 45N	48	x	36	12.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--
208	--	II	[CRASH LOGO] [A]	36	x	36	9.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--	--

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18'	SIGNS TYPE II REFLC H FOLDING	MOVE SIGNS TYPE II [EA]		W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]	[EA]	[SF]			[FT]	x	[FT]	[SF]						
209	R10-6(2S)	II		24	x	36	6.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
210	R10-65L(2S)	II		24	x	36	6.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
211	R10-6(MOD)(2S)	II		24	x	36	6.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
212	W4-1R(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
213	I2-3A(5)	II	CITY OF WAUWATOSA	84	x	36	21.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
214	R3-51L(2S)	II		48	x	78	26.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
215	R5-57(5)	II		36	x	36	9.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
216	R3-8(2S)	II		48	x	48	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
217	R3-8(2S)	II		48	x	48	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
218	R1-2(2S)	II		31	x	36	3.880	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
219	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
220	W12-1D(2S)	II		24	x	24	--	4.000	1	--	--	2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
221	R6-2L(2S)	II		24	x	30	5.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
222	R5-1A	--		--	x	--	--	--	--	--	1	#236 3' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
223	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	BACK OF SIGN #224	--	x	--	--	--	--	--	--	--	--
224	R5-1A	--		--	x	--	--	--	--	--	1	#225 3' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
225	R5-1(3)	II		36	x	36	9.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
226	R5-1	--		--	x	--	--	--	--	--	1	#236 --	--	x	--	--	--	--	--	--	--	--
227	R3-18(2S)	II		24	x	24	4.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
228	R4-7(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
229	R6-2R(2S)	II		24	x	30	5.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
230	R6-2L(2S)	II		24	x	30	5.000	--	--	--	--	#235 --	--	x	--	--	--	--	--	--	--	--
231	R1-2(2S)	II		31	x	36	3.880	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
232	W12-1D(2S)	II		24	x	24	--	4.000	1	--	--	2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
233	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
234	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
235	R1-1(3)	II		36	x	36	7.460	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
236	R1-1(3)	II		36	x	36	7.460	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
237	R3-1(2S)	II		24	x	24	4.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
238	D1-60	II	HAMPTON AVE [A] EAST WEST [A]	78	x	24	13.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
239	D1-61	II	BUTLER [A]	60	x	15	6.250	--	--	--	--	#238 --	--	x	--	--	--	--	--	--	--	--
240	R8-55(2S)	II		42	x	36	10.500	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
241	R8-56(MOD)(2S)	II		24	x	18	3.000	--	--	--	--	#240 --	--	x	--	--	--	--	--	--	--	--
242	R8-55(2S)	II		42	x	36	10.500	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
243	R8-56(MOD)(2S)	II		24	x	18	3.000	--	--	--	--	#242 --	--	x	--	--	--	--	--	--	--	--
244	--	II	[CRASH LOGO] [A]	36	x	36	9.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
245	--	II	[CRASH LOGO] SITE 45S	48	x	36	12.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
246	W3-1(2S)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
247	E5-1A(5)	II	EXIT 45 [A]	72	x	60	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
248	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#247 --	--	x	--	--	--	--	--	--	--	--
249	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#247 --	--	x	--	--	--	--	--	--	--	--
250	E1-1A	I	[190] CAPITOL DRIVE 1 MILE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	21	x	10.5	220.500	--	--	--	--	2	--
250A	E1-5P(5)	I	EXIT 44	--	x	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--
251	M1-94(MOD)(5)	II	HAMPTON AVE 4800 NORTH	102	x	36	25.500	--	--	--	--	INSTALL ON BRIDGE	--	x	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	634.0618 WOOD POSTS 4"x6"x18" [EA]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT] x [FT]	637.1220 SIGNS TYPE I REFLC SH [SF]	STEEL POST TYPE	636.0100 SIGN SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EA
252	W4-2(2S)	II		36 x 36	--	9.000	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
253	R10-65R(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
254	R10-6(2S)	II		24 x 36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
255	R10-65C(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
256	R10-6(MOD)(2S)	II		24 x 36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
257	R10-65L(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
258	R10-6(MOD)(2S)	II		24 x 36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
259	W4-3R(5)	II		48 x 48	--	16.000	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
260	R5-57(5)	II		36 x 36	9.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
261	W12-1D(2S)	II		24 x 24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	-- x --	--	--	--	--	--	--	--
262	I2-3A(5)	II	CITY OF MILWAUKEE	78 x 36	19.500	--	2	--	--	--	--	-- x --	--	--	--	--	--	--	--
263	R3-51L(2S)	II		48 x 78	26.000	--	2	--	--	--	--	-- x --	--	--	--	--	--	--	--
264	W3-8(2S)	II		48 x 48	--	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
265	W1-6R(2S)	II		48 x 24	--	8.000	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
266	R1-2(2S)	II		36 x 31	3.880	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
267	R6-2L(2S)	II		24 x 30	5.000	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
268	*NOT USED*	--		-- x --	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--
269	W12-1D(2S)	II		24 x 24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	-- x --	--	--	--	--	--	--	--
270	W3-8(2S)	II		48 x 48	--	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
271	R4-7(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
272	R4-7(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
273	*NOT USED*	--		-- x --	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--
274	*NOT USED*	--		-- x --	--	--	--	--	--	--	--	-- x --	--	--	--	--	--	--	--
275	R6-2L(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
276	R5-1(3)	II		36 x 36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
277	R5-1(3)	II		36 x 36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
278	R5-1(3)	II		36 x 36	9.000	--	--	--	--	--	MOUNT ON BACK OF #571	-- x --	--	--	--	--	--	--	--
279	R1-1(3)	II		36 x 36	7.460	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--
280	R1-1(3)	II		36 x 36	7.460	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
281	R1-1F(3)	II		36 x 36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
282	R1-1F(3)	II		36 x 36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
283	R5-1A(3)	II		42 x 30	8.750	--	--	--	--	--	MOUNT ON LIGHT POLE	-- x --	--	--	--	--	--	--	--
284	M1-94(MOD)(5)	II	HAMPTON AVE 4800 NORTH	102 x 36	25.500	--	--	--	--	--	INSTALL ON BRIDGE	-- x --	--	--	--	--	--	--	--
285	R6-2L(2S)	II		24 x 30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	-- x --	--	--	--	--	--	--	--
286	W12-1D(2S)	II		24 x 24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	-- x --	--	--	--	--	--	--	--
287	R5-1A(3)	II		42 x 30	8.750	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
288	R5-1A(3)	II		42 x 30	8.750	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
289	E1-1A	I	[100] [E] SILVER SPRING DR 3/4 MILE	-- x --	--	--	--	--	--	--	RE-USE STUBS	25 x 10.5	262.500	B	--	--	700	2	--
289A	E1-5P(5)	I	EXIT 46	-- x --	--	--	--	--	--	--	--	9 x 2.5	22.500	--	--	--	--	--	--
290	D1-60	II	HAMPTON AVE [A] WEST EAST [A]	78 x 24	13.000	--	2	--	--	--	--	-- x --	--	--	--	--	--	--	--
291	D1-61	II	[A] BUTLER	60 x 15	6.250	--	--	--	--	#290	--	-- x --	--	--	--	--	--	--	--
292	R8-55(2S)	II		42 x 36	10.500	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
293	R8-56(2S)	II		24 x 12	2.000	--	--	--	--	#292	--	-- x --	--	--	--	--	--	--	--
294	R8-55(2S)	II		42 x 36	10.500	--	1	--	--	--	--	-- x --	--	--	--	--	--	--	--
295	R8-56(2S)	II		24 x 12	2.000	--	--	--	--	#294	--	-- x --	--	--	--	--	--	--	--

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TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18'	SIGNS TYPE II REFLC H FOLDING	MOVE SIGNS TYPE II		W	x	H	SIGNS TYPE I REFLC SH		SIGN SUPPORTS CONCRETE MASONRY	SIGN SUPPORTS STEEL REINF	SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	TRAFFIC CONTROL COVERING SIGNS TYPE I
				[IN.]	x	[IN.]	[SF]	[SF]	[EA]	[SF]	[EA]		[FT]	x	[FT]	[SF]		[CY]	[LBS]	[EST LBS]	[EA]	EA
296	E6-1	I	[EE] HAMPTON AVE EXT [A] ONLY	--	x	--	--	--	--	--	--	INSTALL ON S-40-352 AT 20'-3" MIN CLEARANCE	17	x	10	170.000	--	--	--	--	2	--
296A	E1-5P		EXT 45	--	x	--	--	--	--	--	--	--	10	x	2.5	25.000	--	--	--	--	--	--
297	W5-52L(3)	II	MENOMONEE RIVER	18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	
298	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	
299	I3-1(5)	II		132	x	24	22.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	
300	E6-51	I	[100] [E] SILVER SPRING DR EXT [A] ONLY	--	x	--	--	--	--	--	--	INSTALL ON S-40-372 AT 20'-3" MIN CLEARANCE	20	x	10.5	210.000	--	--	--	--	--	--
300A	E1-5P	I	EXIT 45	--	x	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--
301	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	
302	W5-52L(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	
303	--	I	OVERSIZE LOADS RESTRICTED BEYOND NEXT EXIT	--	x	--	--	--	--	--	--	NEW STEEL POSTS RE-USE STUBS SHEET 14 OF 20	16	x	5.5	88.000	A	--	--	600	2	--
304	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
305	E6-1	I	[EE] HAMPTON AVE EXT [A] ONLY	--	x	--	--	--	--	--	--	INSTALL ON S-40-353 AT 20'-3" MIN CLEARANCE	17	x	10	170.000	--	--	--	--	--	--
305A	E1-5P	I	EXIT 45	--	x	--	--	--	--	--	--	--	10	x	2.5	25.000	--	--	--	--	--	--
306	R8-7(5)	II		48	x	36	12.000	--	--	--	--	MOUNT ON UPRIGHT OF S-40-239	--	x	--	--	--	--	--	--	--	--
307	E8-1	I	SILVER SPRING DR 1/4 [175] NORTH 1 1/4 GOOD HOPE RD 2 1/4	--	x	--	--	--	--	--	--	INSTALL ON S-40-239	20	x	8	160.000	--	--	--	--	--	--
308	E8-1	I	HAMPTON AVE 1/4 CAPITOL DR 1 1/4 BURLEIGH ST 2 1/4	--	x	--	--	--	--	--	--	INSTALL ON S-40-239	20	x	8	160.000	--	--	--	--	--	--
309	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	MOUNT ON UPRIGHT OF S-40-239	--	x	--	--	--	--	--	--	--	--
310	*NOT USED*	--	55 MPH	--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
311	D12-2B(5)	II		114	x	48	38.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
312	R2-1(5)	II		48	x	60	20.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--
313	R8-7(5)	II		48	x	36	12.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--
314	W4-2R(2S)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
315	R10-65R(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
316	R10-6(2S)	II		24	x	36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--
317	R10-65C(2S)	II		24	x	30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--
318	R10-6(MOD)(2S)	II		24	x	36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--
319	R10-65L(2S)	II		24	x	30	5.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--
320	R10-6(MOD)(2S)	II		24	x	36	6.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
321	E6-1(MOD)	I	[100] [E] SILVER SPRING DR EXT [A] ONLY	--	x	--	--	--	--	--	--	INSTALL ON S-40-373 AT 20'-3" MIN CLEARANCE	20	x	10.5	210.000	--	--	--	--	--	--
321A	E1-5P	I	EXIT 46	--	x	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--
322	R3-12(2S)	II		30	x	42	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
323	E3-1	I	BUTLER EXT 45	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	9	x	5	45.000	--	--	--	--	2	--
324	D12-2B(5)	II		114	x	48	38.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]		W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]					[FT]	x	[FT]							
325	D4-52(2)	II	CRASH INVESTIGATION SITE EXIT 45	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	10	x	9.5	95.000	--	--	--	--	2	--
326	R3-51L(2S)	II		48	x	78	26.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
327	R3-51L(2S)	II		48	x	78	26.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
328	W12-1D(2S)	II		24	x	24	--	4.000	1	--	--	2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
329	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
330	R3-8(2S)	II		48	x	48	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
331 - 341	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
342	J3-1(2S) M3-3 M1-6 M6-1	II	STH 100	24	x	57	9.500	--	--	--	--	MOUNT ON BACK OF EXISTING SIGN	--	x	--	--	--	--	--	--	--	--
343	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
344	J3-2(2S) M3-2 M1-5A M6-1 M3-1 M1-5A M6-1	II	CTH E CTH E	48	x	57	19.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
345	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
346	R3-8P(2S)	II		54	x	30	11.250	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
347	R5-1A	II		42	x	30	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
348	R5-1A	II		42	x	30	8.750	--	--	--	--	MOUNT ON BACK OF #349	--	x	--	--	--	--	--	--	--	--
349	D1-60	II	SILVER SPRING DR [A] EAST WEST [A]	90	x	24	15.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
350	J2-3 (2S) M3-3 M1-6 M5-1L M3-2 M1-5A M5-1L M3-4 M1-5A M5-1R	II	STH 100 CTH E CTH E	72	x	57	28.500	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
351	E1-1A	I	[EE] HAMPTON AVE 3/4 MILE	--	x	--	--	--	--	--	--	RE-USE STUBS	21	x	10	210.000	B	--	--	700	2	--
351A	E1-5P	I	EXIT 45	--	x	--	--	--	--	--	--	--	10	x	2.5	25.000	--	--	--	--	--	--
352	R3-8P(2S)	II		54	x	30	11.250	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
353	E5-1A(5)	II	EXIT 45 [A]	72	x	60	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
354	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	--	--	x	--	--	--	--	--	--	--	--
355	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	--	--	x	--	--	--	--	--	--	--	--
356	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
357	R10-65R(2S)	II		24	x	30	5.000	--	--	--	--	INSTALL ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
358	R10-6(2S)	II		24	x	36	6.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]		W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]					[FT]	x	[FT]							
359	R10-6(MOD)(2S)	II		24	x	36	6.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
360	R3-51R(2S)	II		48	x	78	26.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
361	R5-57(5)	II		36	x	36	9.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
362	R3-51R(2S)	II		48	x	78	26.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
363	M1-94(MOD)(5)	II	SILVER SPRING DR 5600 NORTH	120	x	36	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
364	W5-52L(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
365	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
366	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
367	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
368	W12-1D(2S)	II		24	x	24	--	4.000	--	--	--	#367 2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
369	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
370 - 380	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
381	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
382	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
383	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	MOUNT ON BACK OF #384	--	x	--	--	--	--	--	--	--	--
384	D1-60	II	SILVER SPRING DR [A] WEST EAST [A]	90	x	24	15.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
385	E1-1A	I	[175] NORTH APPLETON AVE 3/4 MILE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	21	x	11	231.000	--	--	--	--	2	--
385A	E5-1A	I	EXT 47A	--	x	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	--
386	W5-52L(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
387	M1-94(MOD)(5)	II	SILVER SPRING DR 5600 NORTH	120	x	36	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
388	R3-5R(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON S-40-277 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
389	R3-6L(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON S-40-277 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
390	R3-5L(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON S-40-277 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
391	E5-1A(5)	II	EXIT 46 [A]	72	x	60	30.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
392	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	--	--	x	--	--	--	--	--	--	--	--
393	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	--	--	x	--	--	--	--	--	--	--	--
394	W3-3(2S)	II		36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
395	R10-65L(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	INSTALL ON S-40-278 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
396	R10-65C(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	INSTALL ON S-40-278 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
397	W4-2R(2S)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
398	J4-1(5) M3-1 M1-4 M1-6	II	USH 45 STH 100	36	x	90 18 36 36	22.500	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
399	W5-52L(3)	II		18	x	57	--	7.125	1	--	--	--	--	x	--	--	--	--	--	--	--	--
400	W5-52L(3)	II		18	x	57	--	7.125	1	--	--	--	--	x	--	--	--	--	--	--	--	--
401	--	I	MENOMONEE FALLS NEXT 5 EXITS	--	x	--	--	--	--	--	--	RE-USE STUBS	17	x	5	85.000	A	--	--	450	2	--
402	E6-51	I	[175] NORTH APPLETON AVE NEXT EXIT	--	x	--	--	--	--	--	--	INSTALL ON S-40-374 I-BEAMS INCIDENTAL	17	x	9.5	161.500	--	--	--	--	--	--
402A	E1-5P	I	EXT 47A	--	x	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18'	SIGNS TYPE II REFLC H FOLDING	MOVE SIGNS TYPE II		MOUNT ON SAME POST AS SIGN #	SIGNS TYPE I REFLC SH	SIGN SUPPORTS CONCRETE MASONRY	SIGN SUPPORTS STEEL REINF		SIGN SUPPORTS STRUCTURAL STEEL HS	SIGN SUPPORTS REPLACING BASE CONN. BOLTS	TRAFFIC CONTROL COVERING SIGNS TYPE I		
				[IN.]	x	[IN.]	[SF]	[SF]	[EA]	[SF]	[EA]		[SF]	[FT]	x	[FT]		[SF]	[CY]	[LBS]	[EST LBS]	[EA]
403	E6-51	I	[41] [45] [100] NORTH FOND DU LAC AHEAD	--	x	--	--	--	--	--	--	INSTALL ON S-40-374 I-BEAMS INCIDENTAL	21	x	9.5	199.500	--	--	--	--	--	1
404	E4-1A	I	[100] [E] SILVER SPRING DR [A]	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	28	x	8	224.000	--	--	--	--	2	--
404A	E1-5P	I	EXT 46	--	x	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--
405	M1-94(5)	II	CARMEN AVE	96	x	24	16.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	
406	M1-94(5)	II	CARMEN AVE	96	x	24	16.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	
407	R4-3(5)	II		48	x	60	20.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
408	*NOT USED*	--	--	--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
409	E8-1	I	[175] NORTH 1/4 GOOD HOPE RD 1 1/4 145 NORTH 2 1/2	--	x	--	--	--	--	--	--	INSTALL ON S-40-240	20	x	8	160.000	--	--	--	--	--	--
410	E8-1	I	SILVER SPRING DR 1/4 HAMPTON AVE 1 1/4 CAPITOL DR 2 1/4	--	x	--	--	--	--	--	--	INSTALL ON S-40-240	20	x	8	160.000	--	--	--	--	--	--
411	R8-7(5)	II		48	x	36	12.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
412	M1-94(5)	II	FLORIST AVE 6000 NORTH	84	x	36	21.000	--	--	--	--	INSTALL ON BRIDGE	--	x	--	--	--	--	--	--	--	
413	M1-94(5)	II	FLORIST AVE 6000 NORTH	84	x	36	21.000	--	--	--	--	INSTALL ON BRIDGE	--	x	--	--	--	--	--	--	--	
414	E1-1A	I	[100] [E] SILVER SPRING DR 1/2 MILE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	25	x	10.5	262.500	--	--	--	--	2	--
414A	E1-5P	I	EXT 46	--	x	--	--	--	--	--	--	--	9	x	2.5	22.500	--	--	--	--	--	--
415A	R5-57B(2S)	II		36	x	30	7.500	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
415	R10-63(5)	II		42	x	42	12.250	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
416	R4-3(5)	II		48	x	60	20.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
417	D4-52(2)	I	CRASH INVESTIGATION SITE EXIT 47A	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	10	x	9.5	95.000	--	--	--	--	2	--
418	R8-7(5)	II		48	x	36	12.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
419	--	I	[41] [45] [100] NORTH FOND DU LAC	--	x	--	--	--	--	--	--	INSTALL ON S-40-375	23	x	7.5	172.500	--	--	--	--	--	1
420	E6-51	I	[175] NORTH APPLETON AVE [A]	--	x	--	--	--	--	--	--	INSTALL ON S-40-375	20	x	7.5	150.000	--	--	--	--	--	--
420A	E1-5P		EXT 47A	--	x	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	--
421	R4-2R(5)	II		48	x	48	16.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	
422	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
423	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
424	W12-2(2S)	II	14'-0"	36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
425	M1-6(2)	II	STH 175	24	x	24	4.000	--	--	--	#424	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
426	E5-1A(5)	II	EXT 47A [A]	90	x	60	37.500	--	2	--	--	--	--	x	--	--	--	--	--	--	--	
427	W5-54(2M)	II		18	x	18	--	2.250	--	--	#426	--	--	x	--	--	--	--	--	--	--	
428	W5-54(2M)	II		18	x	18	--	2.250	--	--	#426	--	--	x	--	--	--	--	--	--	--	
429	W3-5(2S)	II	45 MPH	36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
430	R10-65L(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	INSTALL ON S-40-272 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]		W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]					[FT]	x	[FT]							
431	R10-65R(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	INSTALL ON S-40-272 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
432	R10-65L(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
433	R10-6(MOD)(2S)	II		24	x	36	6.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
434	W4-2L(2S)	II		36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
435	R10-65R(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
436	R10-6(2S)	II		24	x	36	6.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
437	W4-1R(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
438	W5-52L(2S)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
439	W5-52R(2S)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
440	W1-2L(3)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
441	W13-1(3)	II	45 MPH	24	x	24	--	4.000	--	--	--	#440	--	x	--	--	--	--	--	--	--	--
442	W12-1D(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
443	E6-51	I	SOUTH [41] [45] [100] [A]	--	x	--	--	--	--	--	--	INSTALL ON S-40-326 AT 20'-3" MIN CLEARANCE	17	x	7	119.000	--	--	--	--	--	--
444	W9-62(5)	II		72	x	90	--	45.000	--	--	--	INSTALL ON S-40-326 AT 20'-3" MIN CLEARANCE	--	x	--	--	--	--	--	--	--	--
445	E6-51	I	[SHIELD] APPLETON AVE [A] [A]	--	x	--	--	--	--	--	--	INSTALL ON S-40-326 AT 20'-3" MIN CLEARANCE	17	x	10.5	178.500	--	--	--	--	--	1
446	W1-2L(3)	II		36	x	36	--	9.000	1	--	--	MOUNT ON UPRIGHT OF S-40-326	--	x	--	--	--	--	--	--	--	--
447	W13-1(3)	II	45 MPH	24	x	24	--	4.000	--	--	--	#446	--	x	--	--	--	--	--	--	--	--
448	W5-52R(2S)	II		12	x	36	--	3.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
449	W5-52L(2S)	II		12	x	36	--	3.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
450	W1-2L(3)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
451	W13-1(3)	II	45 MPH	24	x	24	--	4.000	--	--	--	#450	--	x	--	--	--	--	--	--	--	--
452	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
453	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
454	W4-1R(5)	II		48	x	48	--	16.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
455	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	MOUNT TO BACK OF SIGN #457	--	x	--	--	--	--	--	--	--	--
456	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
457	W4-1R(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
458	D12-2B(5)	II		114	x	48	38.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
459	M1-94(MOD)(5)	II	MILL RD 6400 NORTH	84	x	36	21.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
460	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
461	M1-94(MOD)(5)	II	MILL RD 6400 NORTH	84	x	36	21.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
462	E1-1A	I	GOOD HOPE RD 3/4 MILE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	21	x	7	147.000	--	--	--	--	2	--
462A	E1-5P	I	EXIT 47B	--	x	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	--
463	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
464	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
465	R2-1(3)	II	45 MPH	36	x	48	12.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
466	--	II		48	x	36	12.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
467	R8-55(2S)	II		42	x	36	10.500	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
468	R8-56(2S)	II		24	x	12	2.000	--	--	--	--	#467	--	x	--	--	--	--	--	--	--	--
469	R8-55(2S)	II		42	x	36	10.500	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
470	R8-56(2S)	II		24	x	12	2.000	--	--	--	--	#469	--	x	--	--	--	--	--	--	--	--
471	E1-1A	I	[175] NORTH APPLETON AVE LEFT LANE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	21	x	10.5	220.500	--	--	--	--	2	--

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]		W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]					[FT]	x	[FT]							
472	--	II	[CRASH LOGO] [A]	36	x	36	9.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
473	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	MOUNT TO SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
474	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	MOUNT TO SIGNAL POLE	--	x	--	--	--	--	--	--	--	--
475	W4-1R(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
476	W12-2(2S)	II		36	x	36	--	9.000	--	--	--	MOUNT TO LIGHT POLE	--	x	--	--	--	--	--	--	--	--
477	M1-6	II		24	x	24	4.000	--	--	--	--	#476 MOUNT TO LIGHT POLE	--	x	--	--	--	--	--	--	--	--
478	W12-2(2S)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
479	M1-6	II		24	x	24	4.000	--	--	--	--	#478 --	--	x	--	--	--	--	--	--	--	--
480	W12-2(2S)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
481	M1-6	II		24	x	24	4.000	--	--	--	--	#480 --	--	x	--	--	--	--	--	--	--	--
482	M1-94(MOD)(5)	II	MILL RD 6400 NORTH	84	x	36	21.000	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
483	R8-55(2S)	II		42	x	36	10.500	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
484	R8-56(MOD)(2S)	II		24	x	18	3.000	--	--	--	--	#483 --	--	x	--	--	--	--	--	--	--	--
485	R8-55(2S)	II		42	x	36	10.500	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
486	R8-56(MOD)(2S)	II		24	x	18	3.000	--	--	--	--	#485 --	--	x	--	--	--	--	--	--	--	--
487	--	II	[CRASH LOGO] SITE 47S	48	x	36	12.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
488	--	II	[CRASH LOGO] [A]	36	x	36	9.000	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
489	E1-1A	I	[41] APPLETON AVE LEFT LANE	--	x	--	--	--	--	--	--	RE-USE STEEL POSTS	21	x	10.5	220.500	--	--	--	--	2	1
490	W5-52R(2S)	II	45 MPH	12	x	36	--	3.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
491	W5-52L(2S)	II		12	x	36	--	3.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
492	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	--	x	--	--	--	--	--	--	--	--
493	R2-1(3)	II		36	x	48	12.000	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
494	W4-2R(2S)	II		36	x	36	--	9.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
495	W1-2L(3)	II	45 MPH	36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
496	W13-1(3)	II		24	x	24	--	4.000	--	--	--	#495 MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
497	W3-5(5)	II		48	x	48	--	16.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
498	E5-1A(5)	II	EXIT 47A [A]	90	x	60	37.500	--	2	--	--	--	--	x	--	--	--	--	--	--	--	--
499	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#498 --	--	x	--	--	--	--	--	--	--	--
500	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#498 --	--	x	--	--	--	--	--	--	--	--
501	W9-1(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--
502	E6-51	I	[41] APPLETON AVE [A] EXT [A] ONLY	--	x	--	--	--	--	--	--	INSTALL ON S-40-304	17	x	12	204.000	--	--	--	--	--	1
502A	E1-5P	I	EXT 47A	--	x	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	--
503	E6-51	I	[45] [100] SOUTH TO [894] BYPASS [A] [A] [A]	--	x	--	--	--	--	--	--	INSTALL ON S-40-304	29	x	12.5	362.500	--	--	--	--	--	1
504	E8-1	I	GOOD HOPE RD 1/4 [145] 1 1/2 [74] [100] 3 1/4	--	x	--	--	--	--	--	--	INSTALL ON S-40-304	18	x	7.5	135.000	--	--	--	--	--	--
505	W4-2R(2S)	II		36	x	36	--	9.000	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	--
506	W4-3R(5)	II		48	x	48	--	16.000	1	--	--	--	--	x	--	--	--	--	--	--	--	--

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]			SIGNS TYPE I REFLC SH [SF]	SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]		SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA]			
				[IN.]	x	[IN.]	[SF]	[SF]	[EA]	[SF]	[EA]			[FT]	x	[FT]	[SF]						
507	R10-65R(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-903 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	
508	R10-65L(MOD)(2S)	II		36	x	42	10.500	--	--	--	--	--	INSTALL ON S-40-903 NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	
509	E5-1(5)	II		72	x	60	30.000	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	
510	R10-6(2S)	II		24	x	36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	
511	R10-6(MOD)(2S)	II		24	x	36	6.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--	
512	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
513	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
514	E6-51	I	GOOD HOPE RD EXIT [A] ONLY	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-377	17	x	6.5	110.500	--	--	--	--	--	
514A	E1-5P		EXIT 47B	--	x	--	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	
515	W12-2(5)	II	14'-0"	48	x	48	--	16.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
516	M1-6(5)	II	STH 175	36	x	36	9.000	--	--	--	--	#515	--	--	x	--	--	--	--	--	--	--	
517	--	I	CRASH INVESTIGATION SITE EXIT 47 A	--	x	--	--	--	--	--	--	--	RE-USE STEEL POSTS	10	x	9.5	95.000	--	--	--	--	2	
518	R8-7(5)	II		48	x	36	12.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
519	R8-7(5)	II		48	x	36	12.000	--	--	--	--	--	MOUNT ON LIGHT POLE	--	x	--	--	--	--	--	--	--	
520	E11-1	I	[41] APPLETON AVE EXIT [A] ONLY	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-305	17	x	10.5	178.500	--	--	--	--	1	
520A	E1-5P	I	EXIT 47A	--	x	--	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	
521	--	II	DIAGRAMMATIC	42	x	48	14.000	--	--	--	--	--	INSTALL ON S-40-305	--	x	--	--	--	--	--	--	--	
522	*NOT USED*	--	--	--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
523	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	--	MOUNT ON UPRIGHT OF S-40-305	--	x	--	--	--	--	--	--	--	
524	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
525	E8-1	I	APPLETON AVE 1/4 SILVER SPRING DR 1 3/4 HAMPTON AVE 2 1/2	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-376	21	x	7.5	157.500	--	--	--	--	--	
526	*NOT USED*			--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
527	E6-51	I	[145] 1 MILE	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-376	10	x	7	70.000	--	--	--	--	--	
527A	E1-5P	I	EXIT 48	--	x	--	--	--	--	--	--	--	--	10	x	2.5	25.000	--	--	--	--	--	
528	E6-51	I	GOOD HOPE RD EXIT [A] ONLY	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-376	17	x	7	119.000	--	--	--	--	--	
528A	E1-5P	I	EXIT 47B	--	x	--	--	--	--	--	--	--	--	12	x	2.5	30.000	--	--	--	--	--	
529	E5-1A(5)	II	35 MPH	48	x	60	20.000	--	--	--	--	--	MOUNT ON UPRIGHT OF S-40-376	--	x	--	--	--	--	--	--	--	
530	*NOT USED*			--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	
531	E5-1A(5)	II	EXIT 47B [A]	90	x	60	37.500	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--	
532	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#531	--	--	x	--	--	--	--	--	--	--	
533	W5-54(2M)	II		18	x	18	--	2.250	--	--	--	#531	--	--	x	--	--	--	--	--	--	--	
534	W3-1(2S)	II		36	x	36	--	9.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
535	W3-1(2S)	II		36	x	36	--	9.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
536	W4-3R(5)	II		48	x	48	--	16.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--	
537	D1-60	II	GOOD HOPE RD [A] WEST EAST [A]	78	x	24	13.000		2	--	--	--	--	--	x	--	--	--	--	--	--	--	

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910					
				W [IN.]	x	H [IN.]	SIGNS	SIGNS	WOOD	SIGNS	MOVE			SIGNS	SIGNS	SIGNS	SIGNS		SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS		
							TYPE II	TYPE II	POSTS	TYPE II	SIGNS			TYPE II	TYPE II	TYPE II	TYPE II		TYPE II	TYPE II	TYPE II	TYPE II	TYPE II	TYPE II	TYPE II	TYPE II	TYPE II	TYPE II
							REFLC	REFLC	F	REFLC	FOLDING			ON SAME	ON SAME	ON SAME	ON SAME		ON SAME	ON SAME	ON SAME	ON SAME	ON SAME	ON SAME	ON SAME	ON SAME	ON SAME	ON SAME
538	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	--	MOUNT ON BACK OF #537	--	x	--	--	--	--	--	--	--						
539	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
540	W12-1D(2S)	II		24	x	24	--	4.000	1	--	--	--	2' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--						
541	R1-1(3)	II		36	x	36	7.460	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
542	R1-1(3)	II		36	x	36	7.460	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
543	R3-1(2S)	II		24	x	24	4.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
544	D1-1	II	[A] FOND DU LAC	84	x	15	8.750	--	2	--	--	--	--	--	x	--	--	--	--	--	--	--						
545	R6-2L(2S)	II		24	x	30	5.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
546	J3-1(2S)	II		24	x	57	9.500	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
	M3-2		CTH PP	24	x	12																						
	M1-5A			24	x	24																						
	M6-1			21	x	21																						
547	W4-3R(2S)	II		36	x	36	--	9.000	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
548	R3-2(2S)	II		24	x	24	4.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
549	R4-7(2S)	II		24	x	30	5.000	--	--	--	--	#548	MOUNT ON BACK OF #548	--	x	--	--	--	--	--	--	--						
550	R1-2(2S)	II		36	x	31	7.750	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
551	R6-2L(2S)	II		24	x	30	5.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
552	--	I	[41] [45] SOUTH [100] BYPASS CARPOOLS AND BUSES ONLY	--	x	--	--	--	--	--	--	--	INSTALL ON S-40-260	15	x	11.5	172.500	--	--	--	--	1						
553	W3-8(2S)	II		48	x	48	--	16.000	--	--	--	--	MOUNT ON SIGNAL POLE	--	x	--	--	--	--	--	--	--						
554	R5-1A	--		--	x	--	--	--	--	--	1	#555	3' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--						
555	R5-1(3)	II		36	x	36	9.000	--	1	--	--	--	--	--	x	--	--	--	--	--	--	--						
556	R5-1(3)	II		36	x	36	9.000	--	--	--	--	--	MOUNT ON BACK OF #544	--	x	--	--	--	--	--	--	--						
557	R4-7(2S)	II		24	x	30	5.000	--	--	--	--	--	MOUNT ON UPRIGHT OF S-40-260	--	x	--	--	--	--	--	--	--						
558	R2-1(5)	II	55 MPH	48	x	60	20.000	--	--	--	--	--	INSTALL ON BRIDGE	--	x	--	--	--	--	--	--	--						
559	M1-94(MOD)(5)	II	GOOD HOPE RD 7200 NORTH	102	x	36	25.500	--	--	--	--	--	INSTALL ON BRIDGE	--	x	--	--	--	--	--	--	--						
560	M1-94(MOD)(5)	II	GOOD HOPE RD 7200 NORTH	102	x	36	25.500	--	--	--	--	--	INSTALL ON BRIDGE	--	x	--	--	--	--	--	--	--						
561	I3-1(5)	II	MENOMONEE RIVER	132	x	24	22.000	--	2	--	--	--	SEE SHEET 10 OF 20	--	x	--	--	--	--	--	--	--						
562	R3-7L(2S)	II		30	x	30	6.250	--	1	--	--	--	SEE SHEET 5 OF 20	--	x	--	--	--	--	--	--	--						
563	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	#382	SEE SHEET 12 OF 20	--	x	--	--	--	--	--	--	--						
564	W5-52R(3)	II		18	x	54	--	6.750	1	--	--	--	SEE SHEET 12 OF 20	--	x	--	--	--	--	--	--	--						
565	R3-7L(2S)	II		30	x	30	6.250	--	1	--	--	--	SEE SHEET 5 OF 20	--	x	--	--	--	--	--	--	--						
566	R3-7L(2S)	II		30	x	30	6.250	--	1	--	--	--	SEE SHEET 5 OF 20	--	x	--	--	--	--	--	--	--						
567	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	SEE SHEET 5 OF 20	--	x	--	--	--	--	--	--	--						
568	R5-1A(3)	II		42	x	30	8.750	--	1	--	--	--	SEE SHEET 5 OF 20	--	x	--	--	--	--	--	--	--						
569	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE - SHT 5A	--	x	--	--	--	--	--	--	--						
570	R5-1(3)	II		36	x	36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE - SHT 5A	--	x	--	--	--	--	--	--	--						
571	R3-1(2S)	II		24	x	24	4.000	--	1	--	--	--	SEE SHEET 9A OF 20	--	x	--	--	--	--	--	--	--						
572	R3-2(2S)	II		24	x	24	4.000	--	--	--	--	--	MOUNT ON SIGNAL POLE - SHT 9A	--	x	--	--	--	--	--	--	--						
573	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--						
574	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--						
575	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--						
576	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--						
577	R10-6(2S)	II		24	x	30	5.000	--	1	--	--	--	SEE SHEET 5A OF 20	--	x	--	--	--	--	--	--	--						
578	R1-1F(3)	II		36	x	36	--	--	--	7.46	--	--	MOUNT ON SIGNAL POLE - SHT 5A	--	x	--	--	--	--	--	--	--						
579	R6-2L(2S)	II		24	x	30	5.000	--	1	--	--	--	SEE SHEET 5A OF 20	--	x	--	--	--	--	--	--	--						

TYPE I & II PERMANENT SIGNING

USH 45 1100-20-60

SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE			637.2210	637.2230	634.0618	637.2215	638.2102	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE			637.1220	STEEL POST TYPE	636.0100	636.0500	635.0200	635.0300	643.0910
				W	x	H	SIGNS TYPE II REFLC H	SIGNS TYPE II REFLC F	WOOD POSTS 4"x6"x18" [EA]	SIGNS TYPE II REFLC H FOLDING [SF]	MOVE SIGNS TYPE II [EA]		W	x	H	SIGNS TYPE I REFLC SH [SF]		SIGN SUPPORTS CONCRETE MASONRY [CY]	SIGN SUPPORTS STEEL REINF [LBS]	SIGN SUPPORTS STRUCTURAL STEEL HS [EST LBS]	SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	TRAFFIC CONTROL COVERING SIGNS TYPE I EA
				[IN.]	x	[IN.]	[SF]	[SF]					[FT]	x	[FT]							
580	J3-1(2S) M3-2 M1-6 M6-1	II	STH 190	24	x	57	9.500	--	--	--	--	MOUNT ON SIGNAL POLE SEE SHEET 5A OF 20	--	x	--	--	--	--	--	--	--	--
581	R3-6L(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON ARM - SHEET 5A NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
582	R3-5L(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON ARM - SHEET 5A NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
583	R5-1(3)	II		42	x	30	8.750	--	--	--	--	INSTALL ON RAILING - SHEET 5A	--	x	--	--	--	--	--	--	--	--
584	W5-52L(2S)	II		12	x	36	--	3.000	--	--	--	INSTALL ON RAILING - SHEET 5A	--	x	--	--	--	--	--	--	--	--
585	W5-52L(2S)	II		12	x	36	--	3.000	--	--	--	INSTALL ON RAILING - SHEET 5A	--	x	--	--	--	--	--	--	--	--
586	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	MOUNT ON COLUMN - SHEET 5A	--	x	--	--	--	--	--	--	--	--
587	R4-9(2S)	II		24	x	30	5.000	--	1	--	--	SEE SHEET 5A OF 20	--	x	--	--	--	--	--	--	--	--
588	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
589	R5-1(3)	II		36	x	36	9.000	--	--	--	--	MOUNT ON BACK OF #175 - SHT 5A	--	x	--	--	--	--	--	--	--	--
590	R5-1(3)	II		36	x	36	9.000	--	--	--	--	MOUNT ON BACK OF #144 - SHT 5A	--	x	--	--	--	--	--	--	--	--
591	R5-1(3)	II		36	x	36	9.000	--	--	--	--	MOUNT ON RAILING - SHEET 5A	--	x	--	--	--	--	--	--	--	--
592	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	MOUNT ON COLUMN - SHEET 5A	--	x	--	--	--	--	--	--	--	--
593	R10-6(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON SIGNAL POLE - SHT 5A	--	x	--	--	--	--	--	--	--	--
594	R1-1(3)	II		36	x	36	7.460	--	1	--	--	--	--	x	--	--	--	--	--	--	--	--
595	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	MOUNT ON BACK OF #566- SHEET 5	--	x	--	--	--	--	--	--	--	--
596	R6-2L(2S)	II		24	x	30	5.000	--	1	--	--	SEE SHEET 5A OF 20	--	x	--	--	--	--	--	--	--	--
597	R6-2L(2S)	II		24	x	30	5.000	--	--	--	--	MOUNT ON SIGNAL POLE - SHEET 5A	--	x	--	--	--	--	--	--	--	--
598	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
599	*NOT USED*	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
600	R6-2R(2S)	II		24	x	30	5.000	--	--	--	--	#555 SEE SHEET 19 OF 20	--	x	--	--	--	--	--	--	--	--
601	R3-5L(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON ARM - SHEET 5A NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
602	R3-6L(2S)	II		42	x	48	14.000	--	--	--	--	INSTALL ON ARM - SHEET 5A NEW BRACKETS - INCIDENTAL	--	x	--	--	--	--	--	--	--	--
603	M1-94(MOD)(5)	II	CAPITOL DR 4000 NORTH	84	x	36	21.000	--	--	--	--	MOUNT ON LIGHT POLE - SHEET 5A 17' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
604	M1-94(MOD)(5)	II	CAPITOL DR 4000 NORTH	84	x	36	21.000	--	--	--	--	MOUNT ON LIGHT POLE - SHEET 5A 17' MOUNTING HEIGHT	--	x	--	--	--	--	--	--	--	--
605	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	#116 SHEET 4 OF 20	--	x	--	--	--	--	--	--	--	--
606	R5-1A(3)	II		42	x	30	8.750	--	--	--	--	#117 SHEET 4 OF 20	--	x	--	--	--	--	--	--	--	--
607	--	I	[175] APPLETON AVE [A] [A]	--	x	--	--	--	--	--	--	MOUNT ON S-40-327 I-BEAMS INCIDENTAL SHEET 16 OF 20	17	x	11	187.000	--	--	--	--	--	--
608	--	I	[41] [45] [100] FOND DU LAC [A]	--	x	--	--	--	--	--	--	MOUNT ON S-40-327 I-BEAMS INCIDENTAL COVER I-41 SHIELD - SHEET 16 OF 20	16	x	9.5	152.000	--	--	--	--	--	1
609	J3-1(5) M3-1 M1-4 M6-2	II	USH 41	36	x	84	21.000	--	2	--	--	SHEET 16 OF 20	--	x	--	--	--	--	--	--	--	--
610	W13-2(5)	II	45 MPH	48	x	60	--	20.000	--	--	--	MOUNT ON UPRIGHT S-40-327	--	x	--	--	--	--	--	--	--	--
--	--	--		--	x	--	--	--	--	--	--	--	--	x	--	--	--	--	--	--	--	--
UNDISTRIBUTED							--	--	--	--	--					--	--	5	500	1000	--	--
TOTALS							3730.510	1201.500	281	119.360	8	--				9536.50	--	5.0	500	3450	48	9

MISC SIGN POSTS		USH 45		1100-20-60
	634.0612	634.0616	634.0622	
	POSTS WOOD 4" x 6" x 12 ft	POSTS WOOD 4" x 6" x 16 ft	POSTS WOOD 4" x 6" x 22 ft	
	[EA]	[EA]	[EA]	
UNDISTRIBUTED	10	10	10	
TOTAL	10	10	10	

REMOVING SIGN LIGHTING

CATEGORY	BRIDGE	LOCATION	SYSTEM	REMOVING SIGN LIGHTING	LAMP DISPOSAL HIGH INTENSITY DISCHARGE
				SPV.0060.01 EACH	SPV.0060.02 EACH
1100	S-40-237	MAINLINE MEDIAN STA 201+50	HL-40-CC	1	2
	S-40-370	CAPITOL ST NB ON-RAMP STA 255+00	HL-40-CD	1	1
	S-40-238	MAINLINE MEDIAN STA 259+70	HL-40-HM	1	2
	S-40-371	MAINLINE STA 279+41	HL-40-HM	1	1
	S-40-352	MAINLINE STA 303+00	HL-40-HM	1	1
	S-40-372	MAINLINE STA 307+81	HL-40-HM	1	1
	S-40-239	MAINLINE MEDIAN STA 315+10	HL-40-SL	1	2
	S-40-353	MAINLINE STA 314+37	HL-40-SL	1	1
	S-40-373	MAINLINE STA 325+60	HL-40-SL	1	1
	S-40-374	MAINLINE STA 355+88	HL-40-CM	1	2
	S-40-240	MAINLINE MEDIAN STA 364+00	HL-40-CM	1	8
	S-40-375	MAINLINE STA 28+05	HL-40-LX	1	2
	S-40-326	USH 41/STH 175 SB STA 45+50	HL-40-AP	1	2
	S-40-327	USH 41/STH 175 NB STA 52+50	HL-40-DP	1	2
	S-40-304	MAINLINE STA 64+30	HL-40-DP	1	4
	S-40-377	MAINLINE NB STA 72+58	HL-40-WG	1	1
	S-40-305	MAINLINE SB STA 83+08	HL-40-WG	1	2
	S-40-376	MAINLINE NB STA 86+66	HL-40-WG	1	3
TOTAL 1100				18	38

3

LIGHTING REMOVAL ITEMS				
				REMOVING ELECTIRCAL WIRE FROM CONDUIT SPV.0090.03
CATEGORY	SYSTEM	LOCATION	ITEM	LF
1100	HL-40-CD	244+30-249+06, C/L	ELECTRICAL WIRE	510
TOTAL 1100				510

LIGHTING SYSTEM ITEMS			
			MAINTENANCE OF LIGHTING SYSTEMS SPV.0105.02
CATEGORY	SYSTEM	LOCATION	LS
1100	HL-40-CD	USH 45	1
TOTAL 1100			1

3

LIGHTING BRANCH CIRCUIT CONDUIT					
				CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH 652.0235	
CATEGORY	SYSTEM	LOCATION		LF	COMMENTS
1100	HL-40-CD	EXISTING LIGHT POLE ACD5/BCD5 TO EXISTING LIGHT POLE ACD6/BCD6		240	INTERCEPT EXISTING CONDUIT TO THE SOUTH AND NORTH
	HL-40-CD	EXISTING LIGHT POLE ACD6/BCD6 TO EXISTING LIGHT POLE ACD7/BCD7		240	INTERCEPT EXISTING CONDUIT TO THE NORTH
TOTAL 1100				480	

LIGHTING WIRE QUANTITIES							
240/480 VAC 3-WIRE GROUNDED NEUTRAL SYSTEM							
				ELECTRICAL WIRE LIGHTING 8 AWG 655.0620		ELECTRICAL WIRE LIGHTING 6 AWG 655.0625	
CATEGORY	SYSTEM	NETWORK	LOCATION	DISTANCE	LF	LF	
1100	HL-40-CD	A/N/B	EXISTING LIGHT POLE ACD5/BCD5 TO EXISTING LIGHT POLE ACD6/BCD6	239	498	249	
	HL-40-CD	A/N/B	EXISTING LIGHT POLE ACD6/BCD6 TO EXISTING LIGHT POLE ACD7/BCD7	237	494	247	
TOTAL 1100					992	496	

3

ALL MISCELLANEOUS QUANTITIES ON THIS SHEET BELONG TO CATEGORY 1300 UNLESS OTHERWISE NOTED

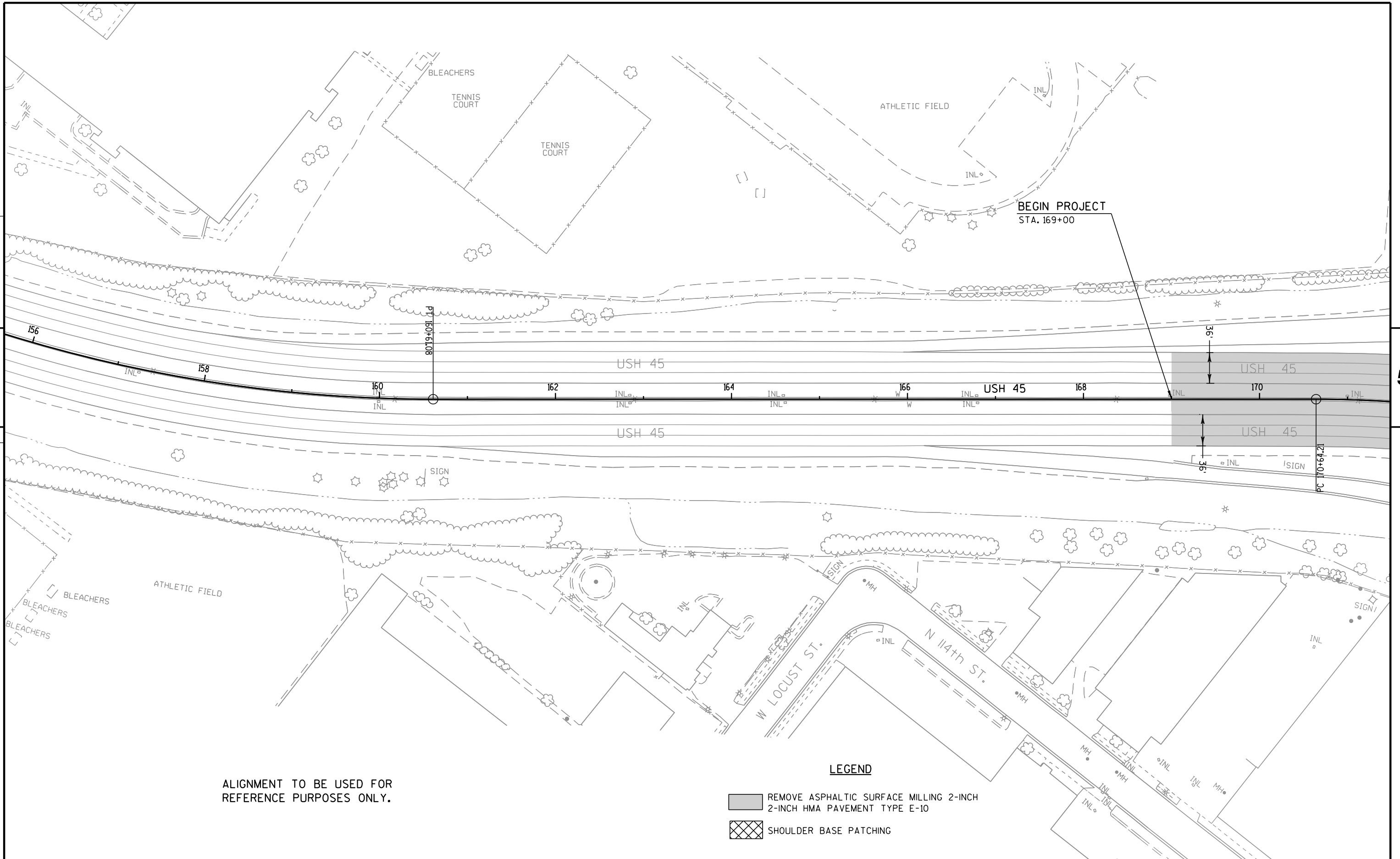
PULL BOXES, CONDUIT, AND CABLING				
LOCATION	ITEM ID	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EA	674.0300 REMOVE CABLE LF
USH 45 AT CAPITOL DR.	EXPB0250	--	1	--
	EXPB0250 - DP250	20	--	--
	EXPB0250 - EXCB-RM-40-0101	--	--	700
USH 45 AT W. HAMPTON AVE	EXPBHA05 - CCTV-40-0151	100	--	--
	EXPBHA05	--	1	--
USH 45 AT SILVER SPRING DR.	EXPB0332	--	1	--
	DP0332 - EXPB0332	20	--	--
	EXPB0332 - EXCB-RM-40-0098	--	--	500
PROJECT	UNDISTRIBUTED	100	3	500
TOTAL		240	6	1700

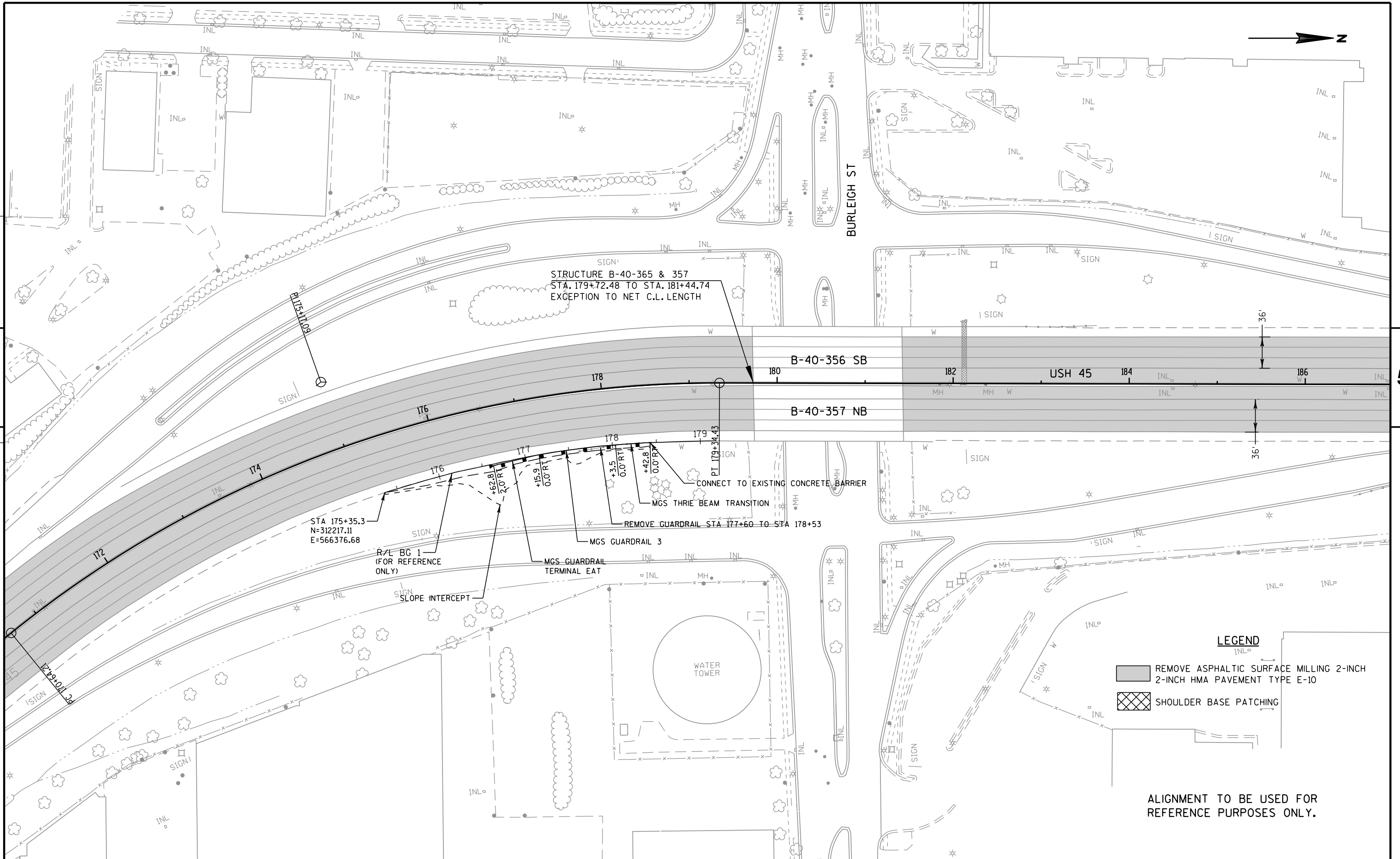
ITS LUMP SUM ITEMS		
ITEM ID	670.0100 FIELD SYSTEM INTEGRATOR LS	670.0200 ITS DOCUMENTATION LS
PROJECT	1	1
TOTAL	1	1

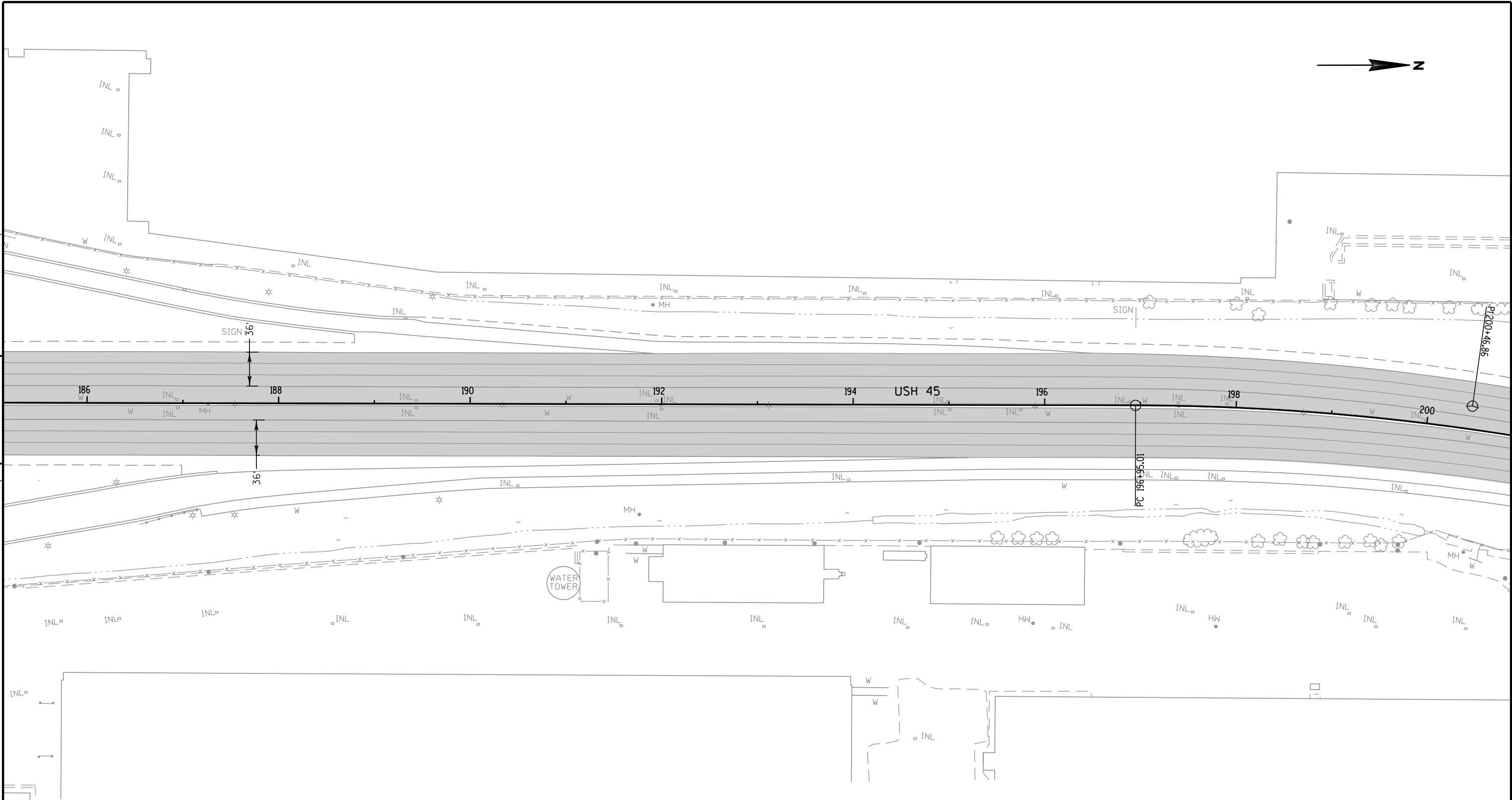
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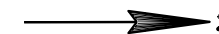
CABINET LOCATIONS AND CONTENTS									
LOCATION	ITEM I.D.	201.0110 CLEARING SY	201.0210 GRUBBING SY	659.0802 PLAQUES SEQUENCE IDENTIFICATION EA	672.0250 BASE CAMERA POLE 50-FT EA	677.0100 INSTALL CAMERA POLE EA	677.0200 INSTALL CAMERA ASSEMBLY EA	677.0300.S INSTALL VIDEO ENCODER EA	SPV.0060.21 GROUND ROD EA
USH 45 AT CAPITOL DR.	DP0250	--	--	--	--	--	--	--	1
USH 45 AT W. HAMPTON AVE	CCTV-40-0151	100	100	1	1	1	1	--	1
	EXCB-RM-40-0099	--	--	--	--	--	--	1	--
USH 45 AT SILVER SPRING DR.	DP0332	--	--	--	--	--	--	--	1
PROJECT	UNDISTRIBUTED	--	--	--	--	--	--	--	3
TOTAL		100	100	1	1	1	1	1	6

DETECTION ITEMS							
LOCATION	ITEM I.D.	654.0105 CONCRETE BASES TYPE 5 EACH	657.0322 POLES TYPE 5- ALUMINUM EACH	657.0255 TRANSFORMER BASES BREA KAWAY 11 1/2-INCH BOLT CIRCLE EACH	674.0200 CABLE MICROWAVE DETECTOR L.F.	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY EACH	SPV.0060.22 REFOCUS MICROWAVE VEHICLE DETECTOR ASSEMBLY EACH
USH 45 AT CAPITOL DR.	DP0250	1	1	1	--	3	--
	DP250 - EXCB-RM-40-0101	--	--	--	1575	--	--
USH 45 AT SILVER SPRING DR.	DP0332	1	1	1	--	2	--
	DP0332 - EXCB-RM-40-0098	--	--	--	550	--	--
PROJECT	UNDISTRIBUTED	3	3	3	500	3	10
TOTAL		5	5	5	2625	8	10



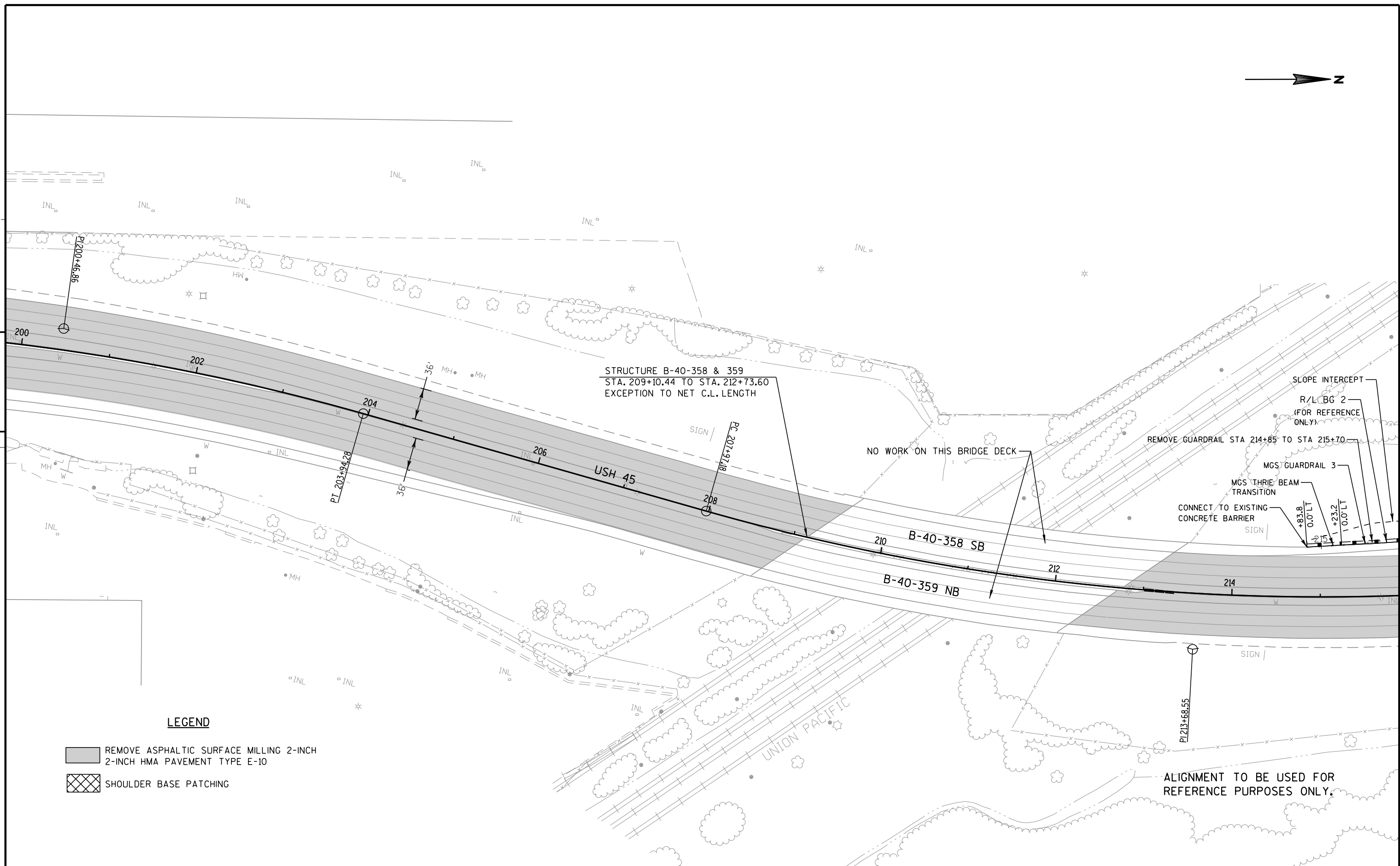






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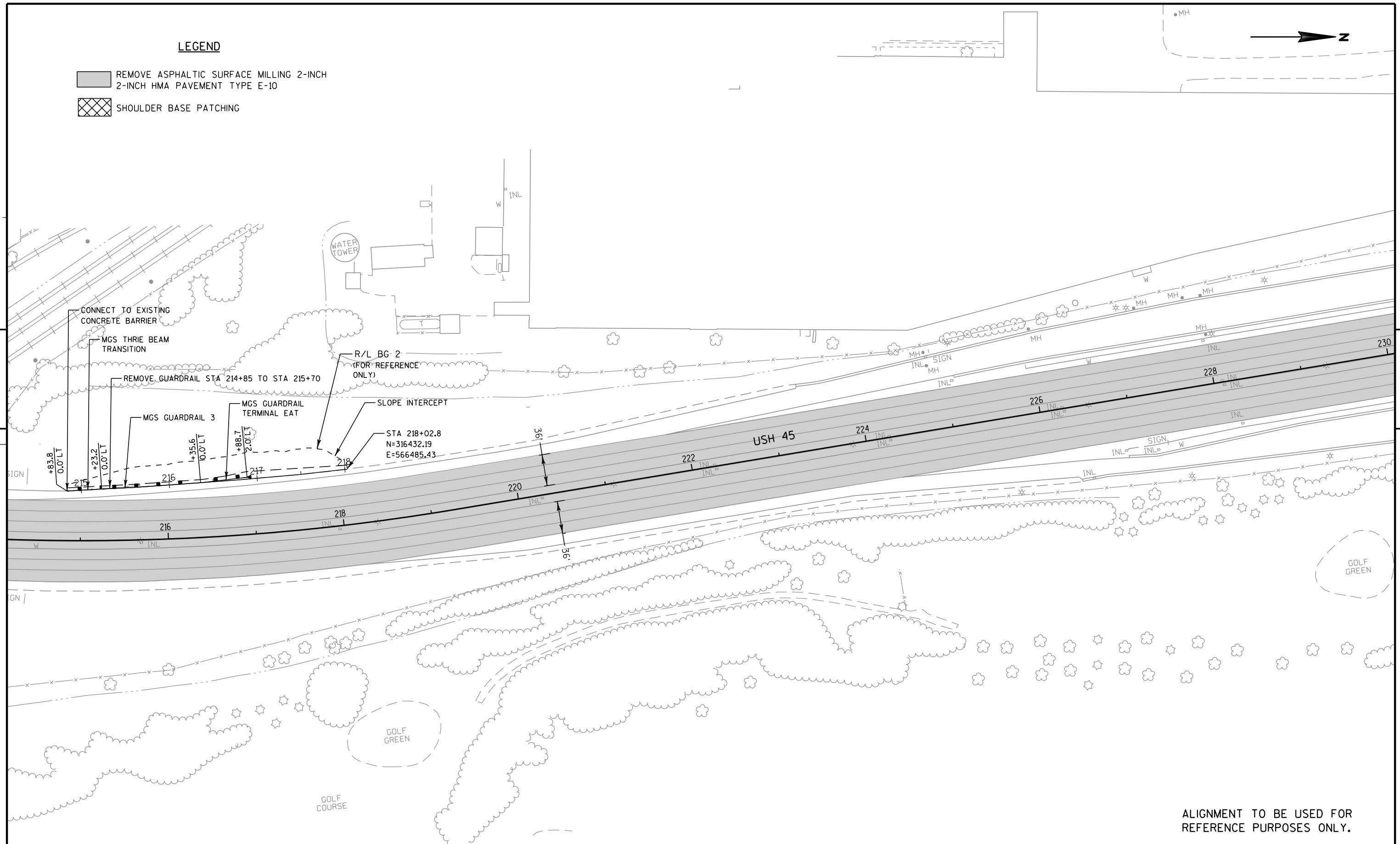


LEGEND

- REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
- SHOULDER BASE PATCHING

LEGEND

- REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
- SHOULDER BASE PATCHING



ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PLAN SHEET

SHEET

320

E

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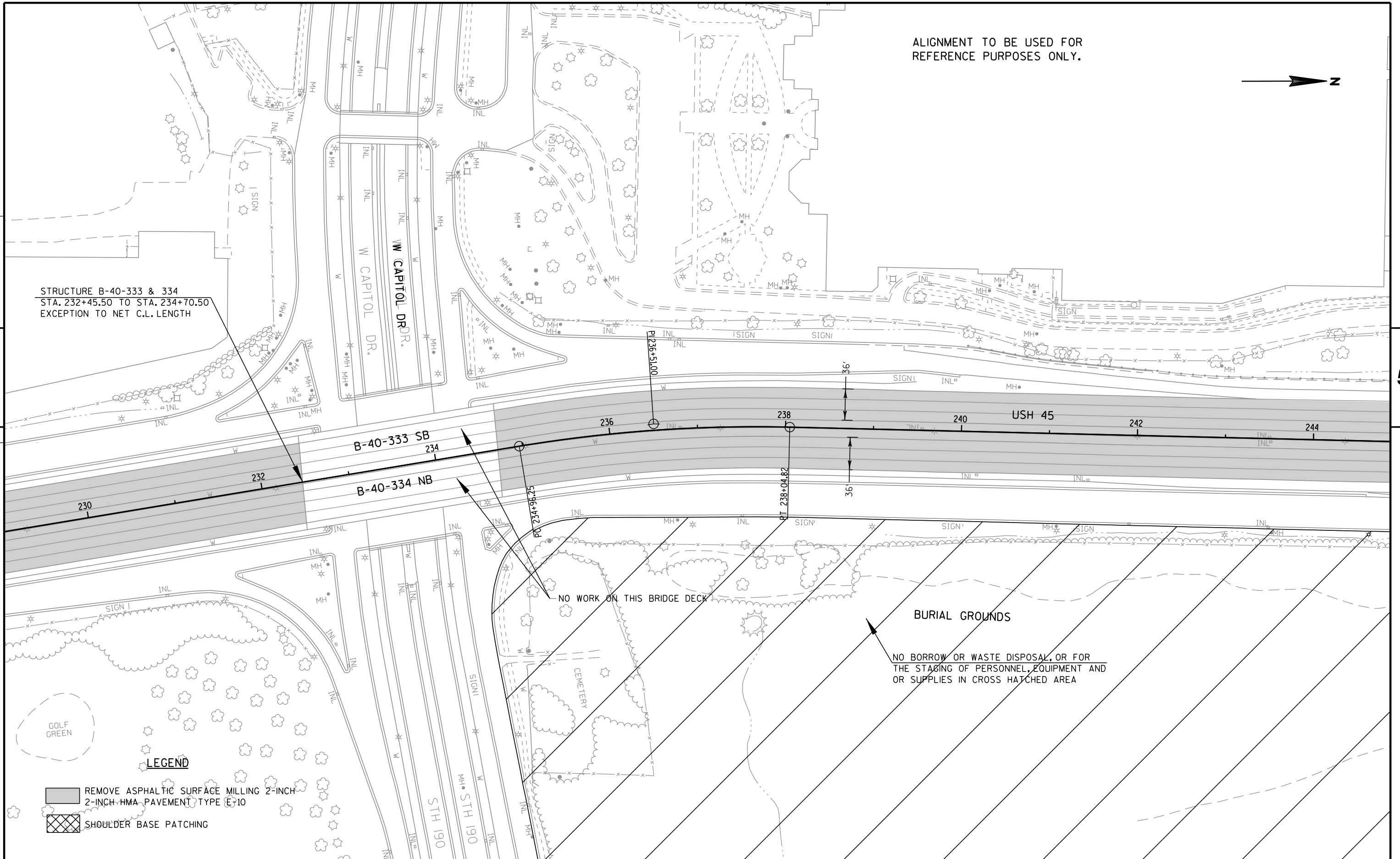
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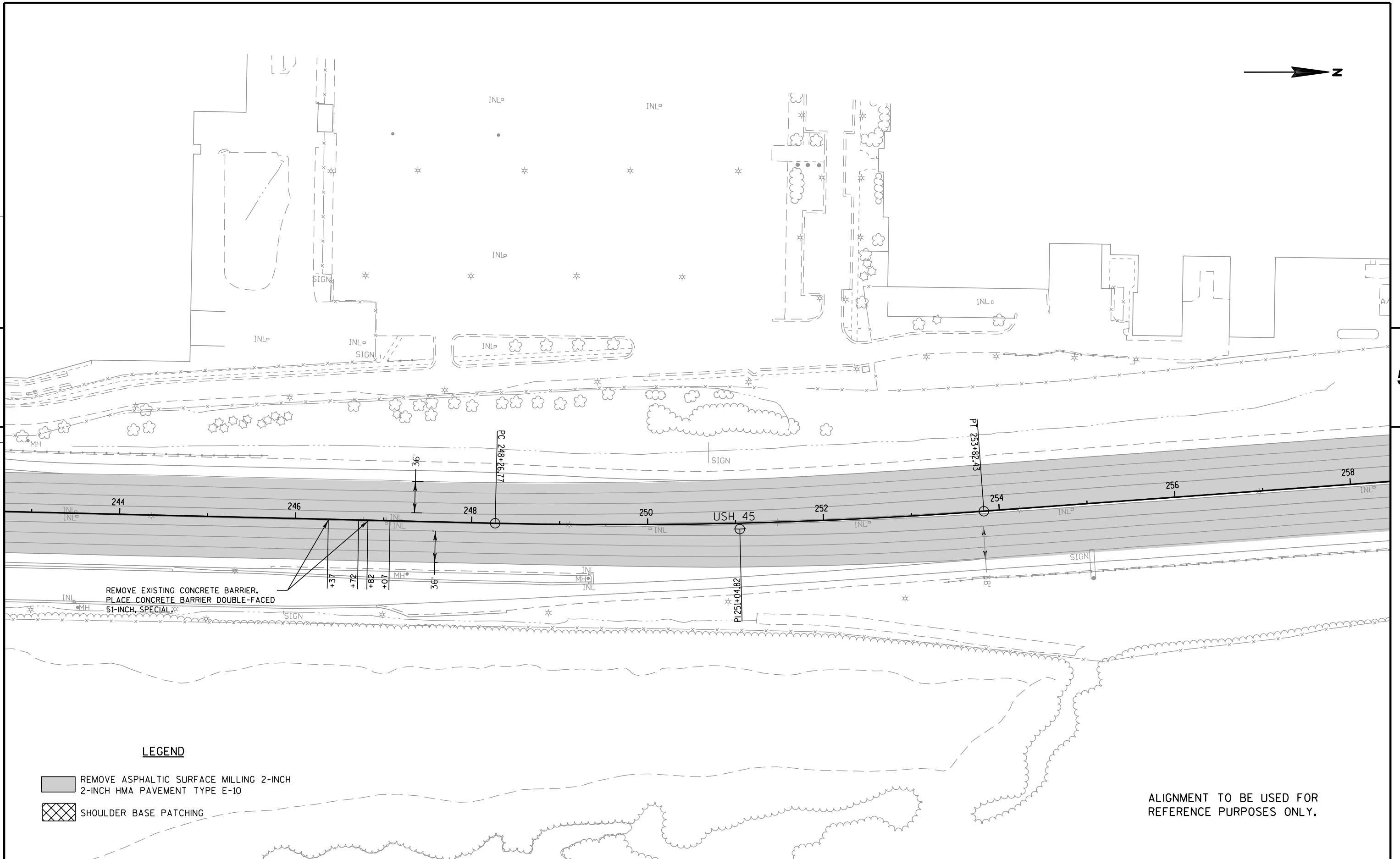
PLOT BY : dotd.jf

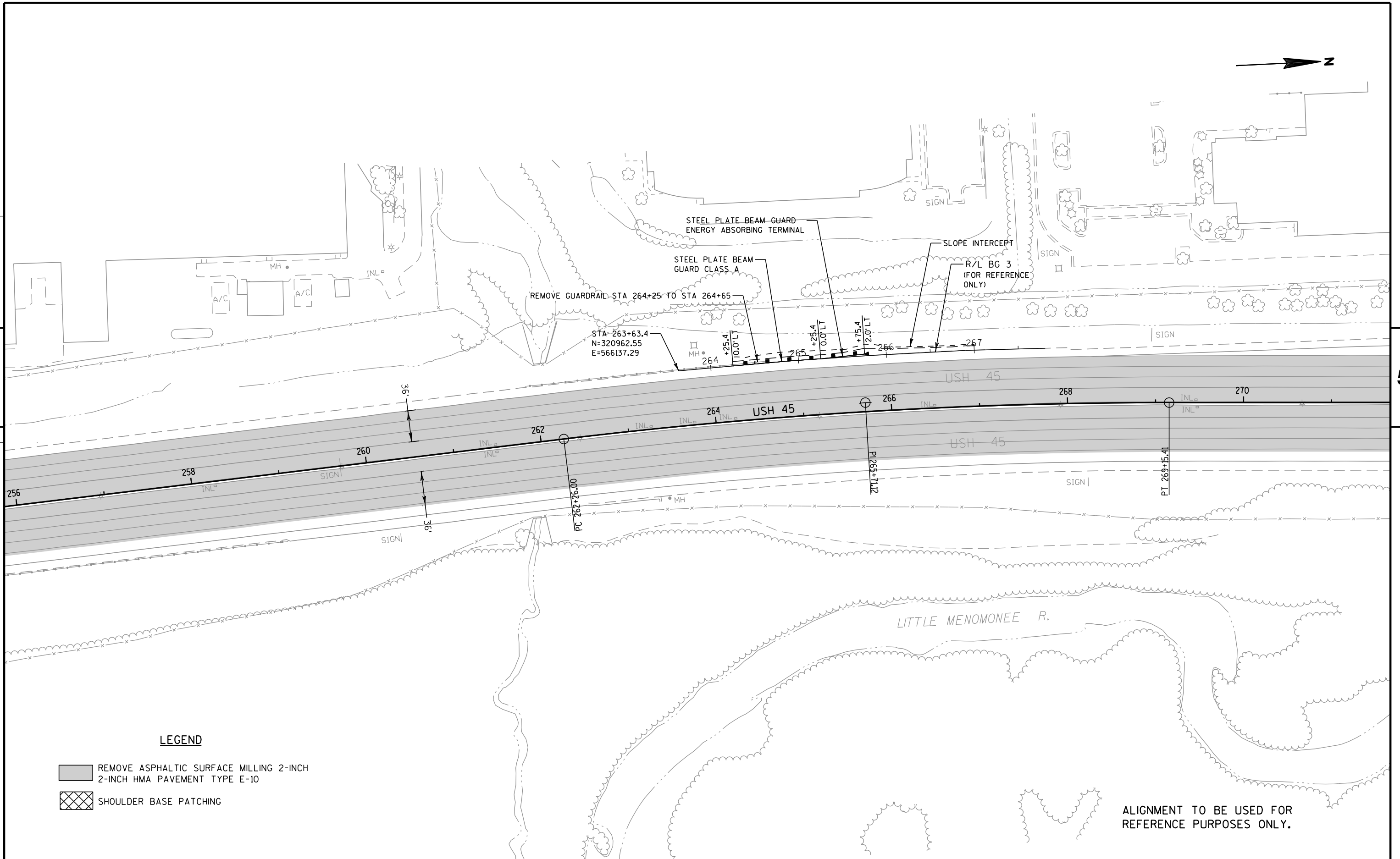
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PLOT SCALE : 100:1

WISDOT/CADDs SHEET 44







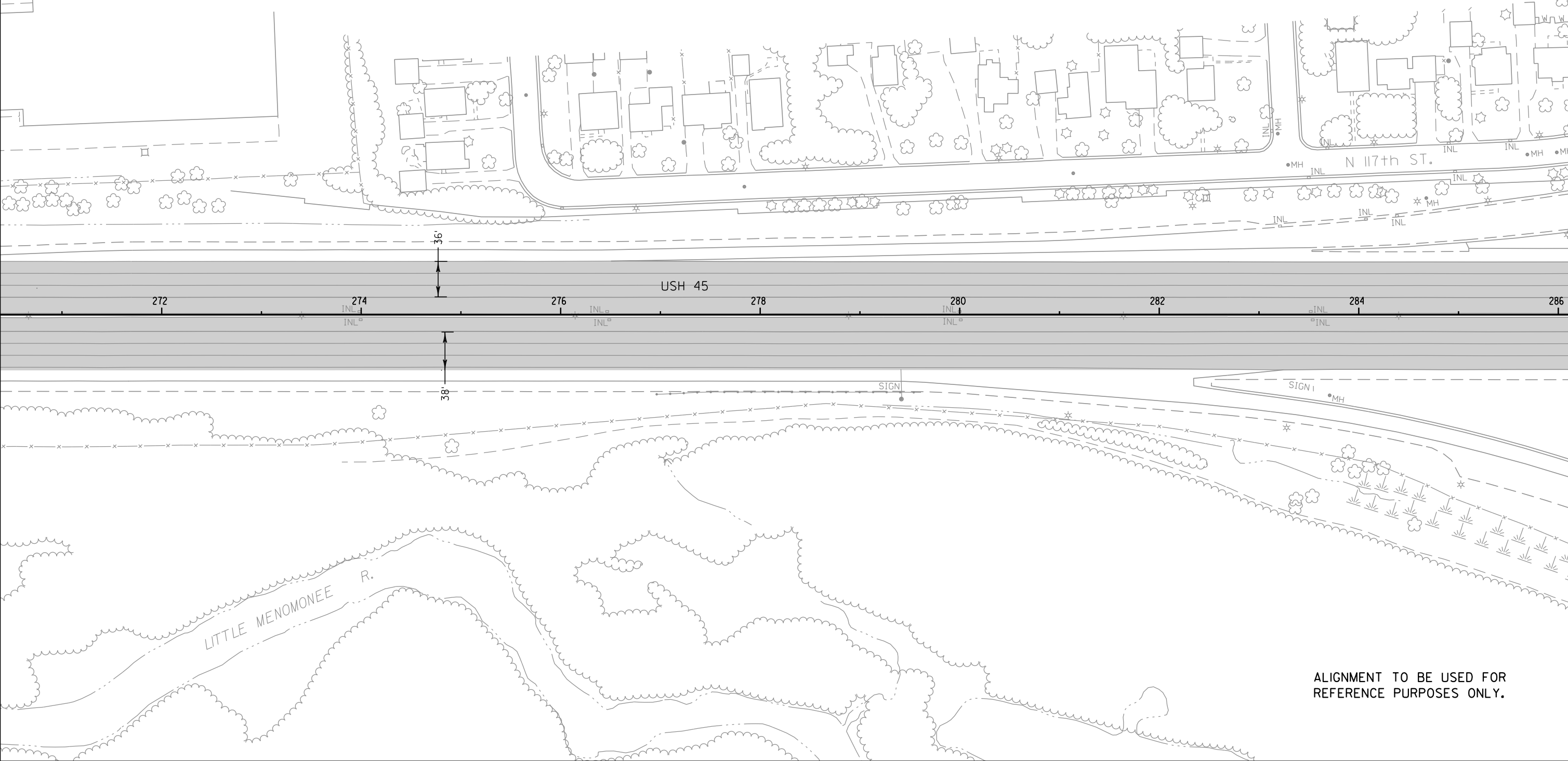
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- REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
- SHOULDER BASE PATCHING

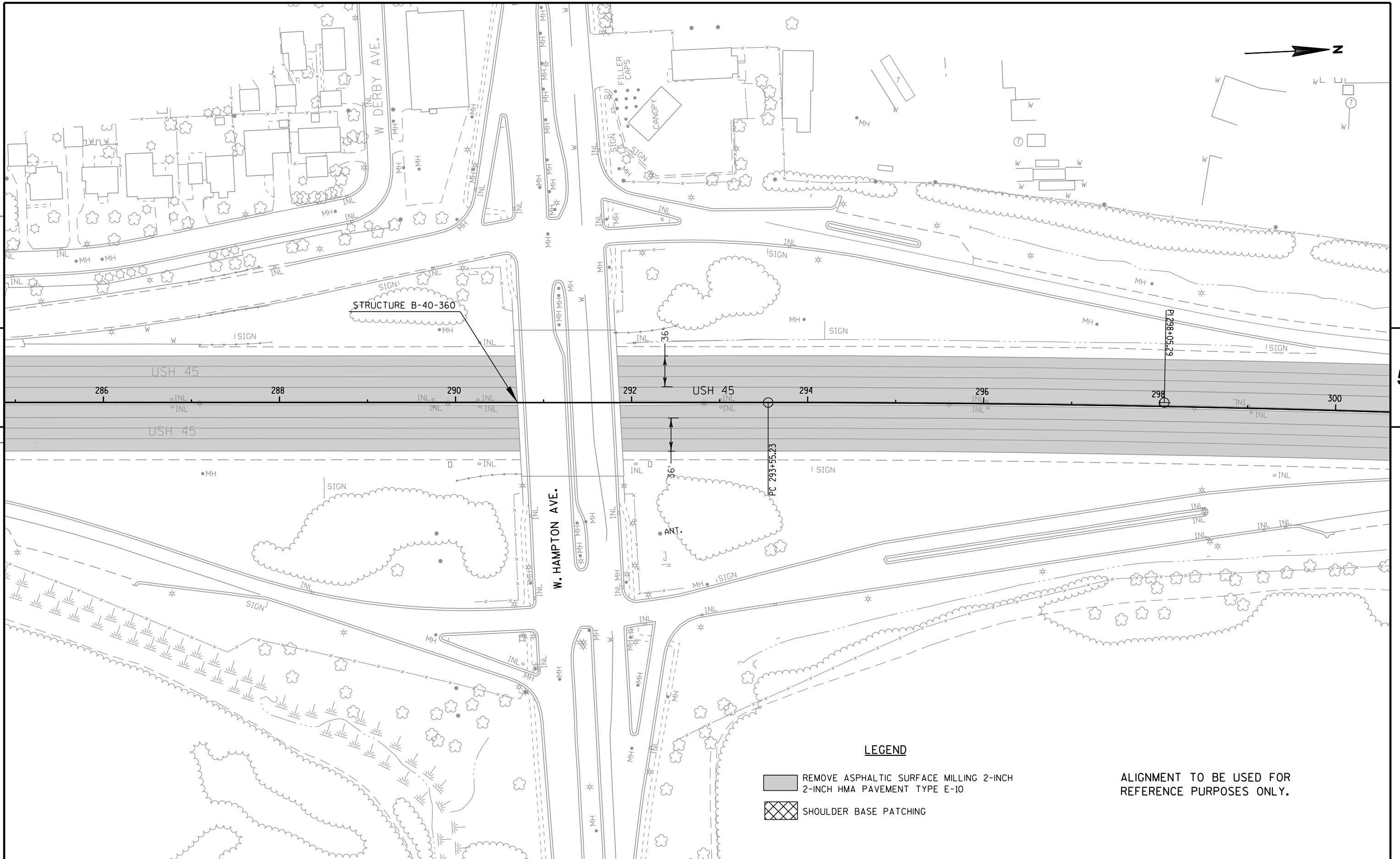


5

5



ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.



LEGEND

- REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
- SHOULDER BASE PATCHING

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.



STRUCTURE B-40-216 & 217
STA. 305+07 TO STA. 307+50
EXCEPTION TO NET C.L. LENGTH

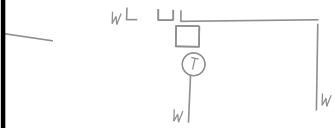
SIGN

B-40-216 SB

B-40-217 NB

NO WORK ON THIS BRIDGE DECK
OR APPROACH SLABS

USH 45



SIGN

SIGN

SIGN

SIGN

SIGN

PT 302+55.23

PT 308+77

PT 312+55.18

PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PLAN SHEET

SHEET

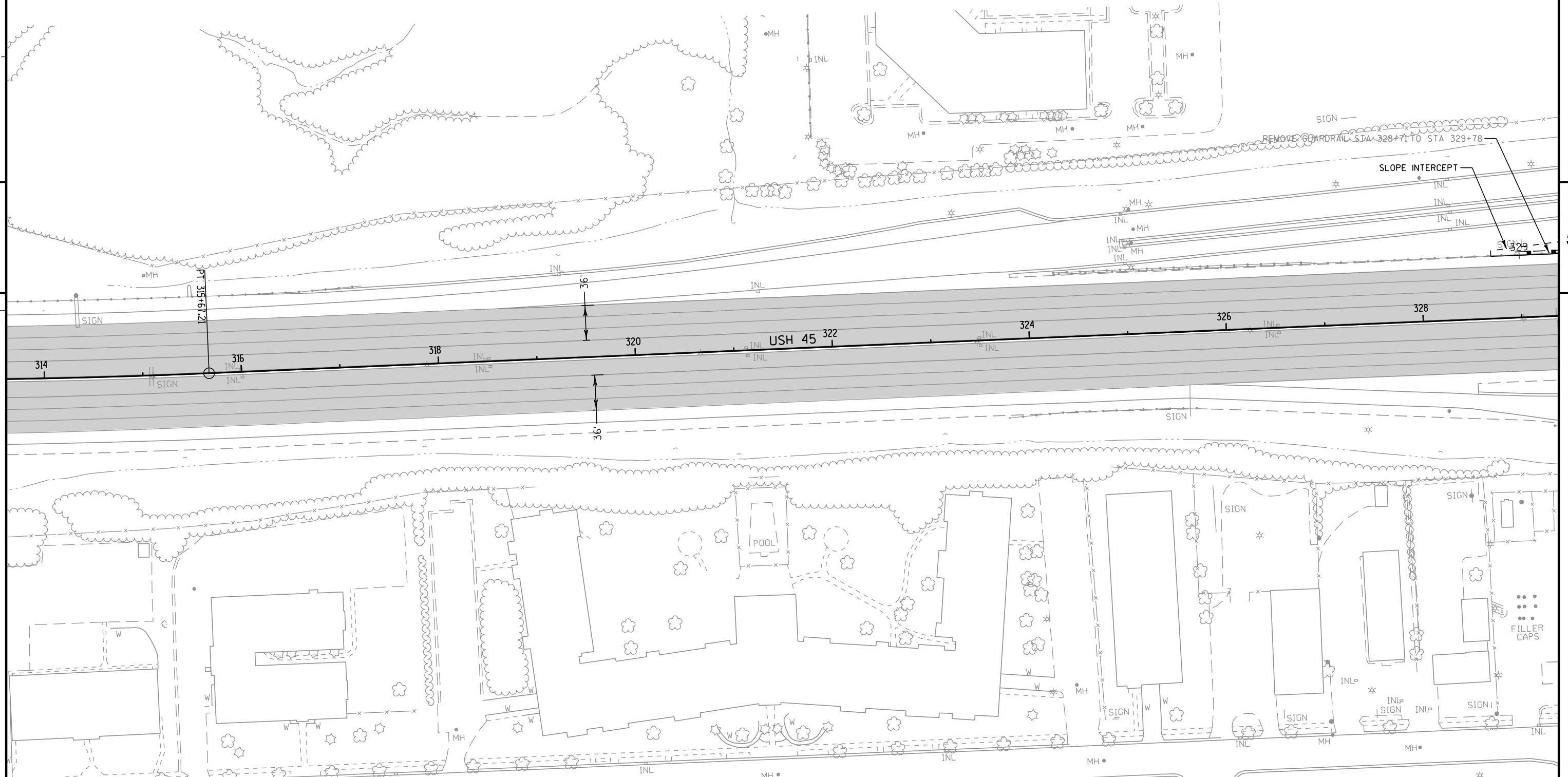
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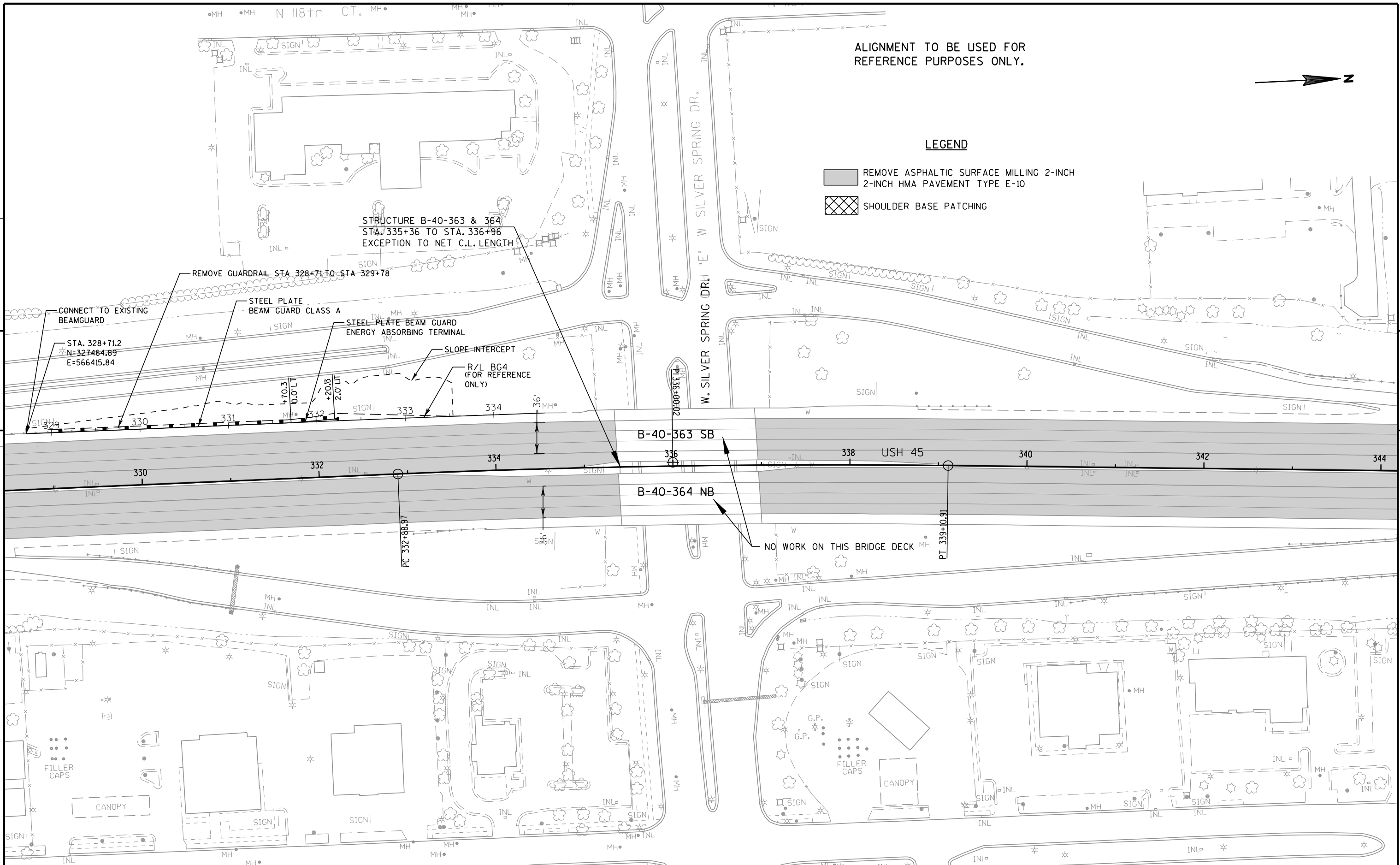
LEGEND

-  REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
-  SHOULDER BASE PATCHING

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.



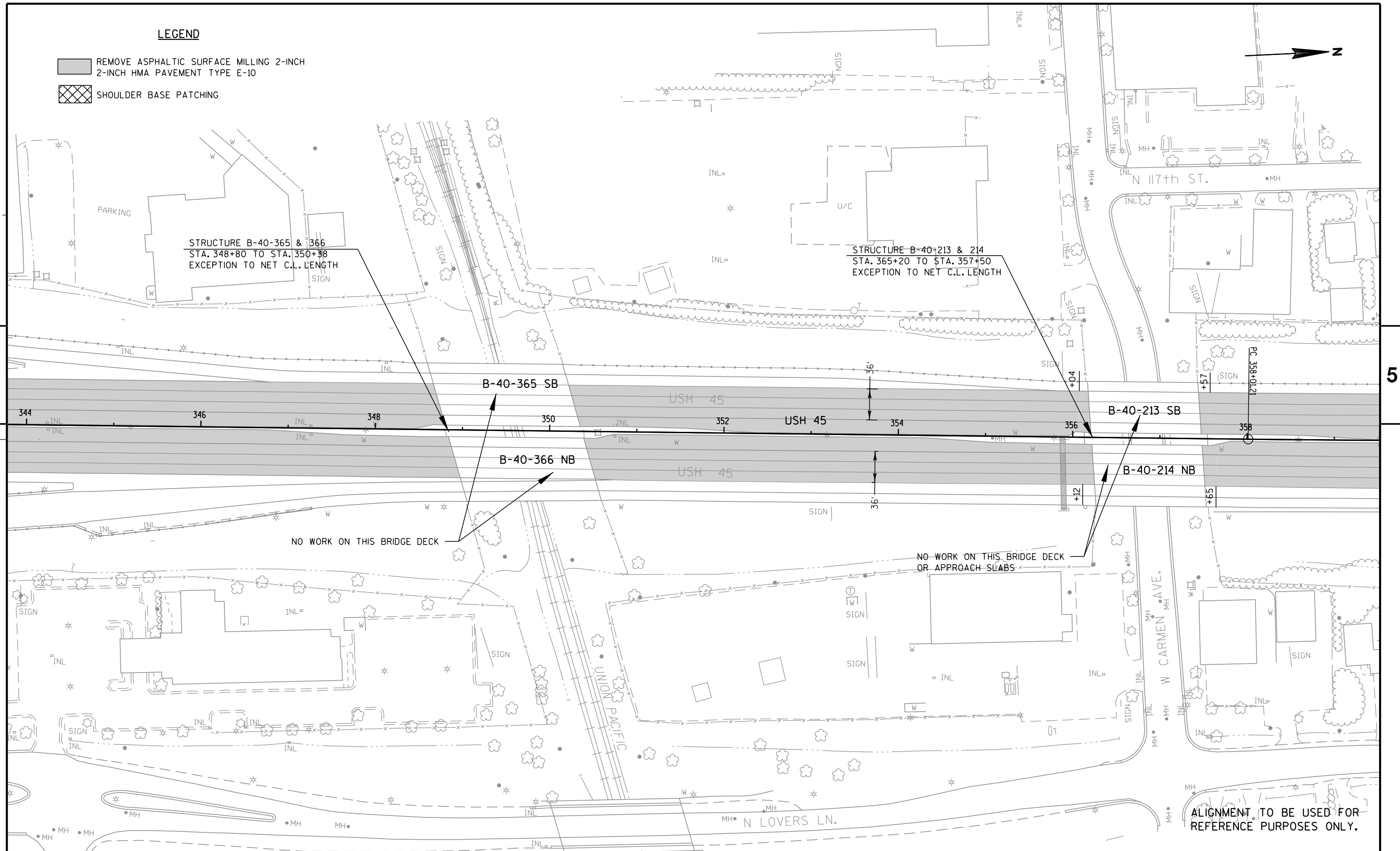
PROJECT NO: 1100-20-60	HWY: USH 45	COUNTY: MILWAUKEE	PLAN SHEET	SHEET 327	E
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LEGEND

REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10

SHOULDER BASE PATCHING



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

PLAN SHEET

SHEET

329

E

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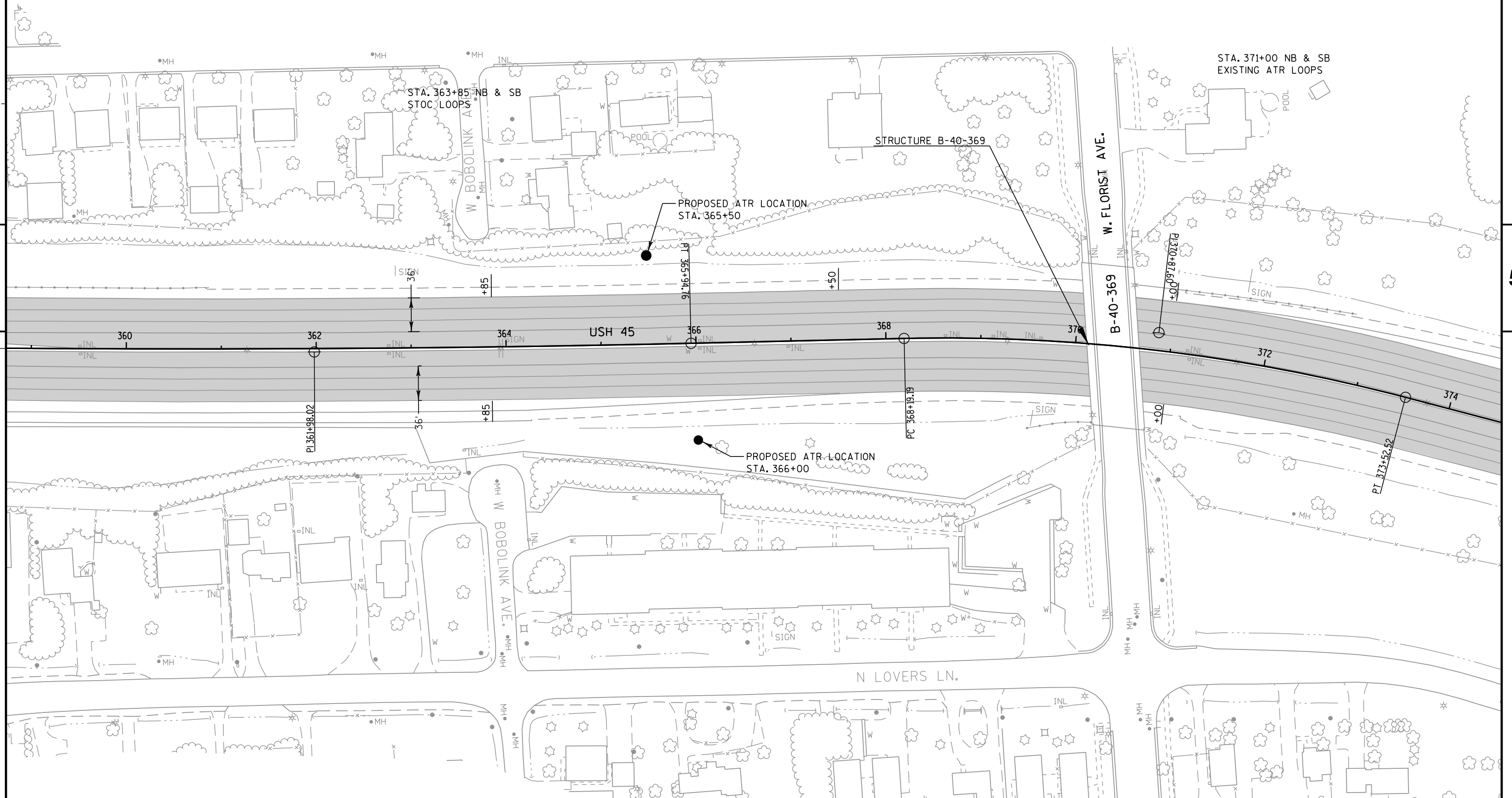
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WISDOT/CADDs SHEET 44

LEGEND

-  REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
-  SHOULDER BASE PATCHING

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.



PROJECT NO: 1100-20-60

HWY: USH 45

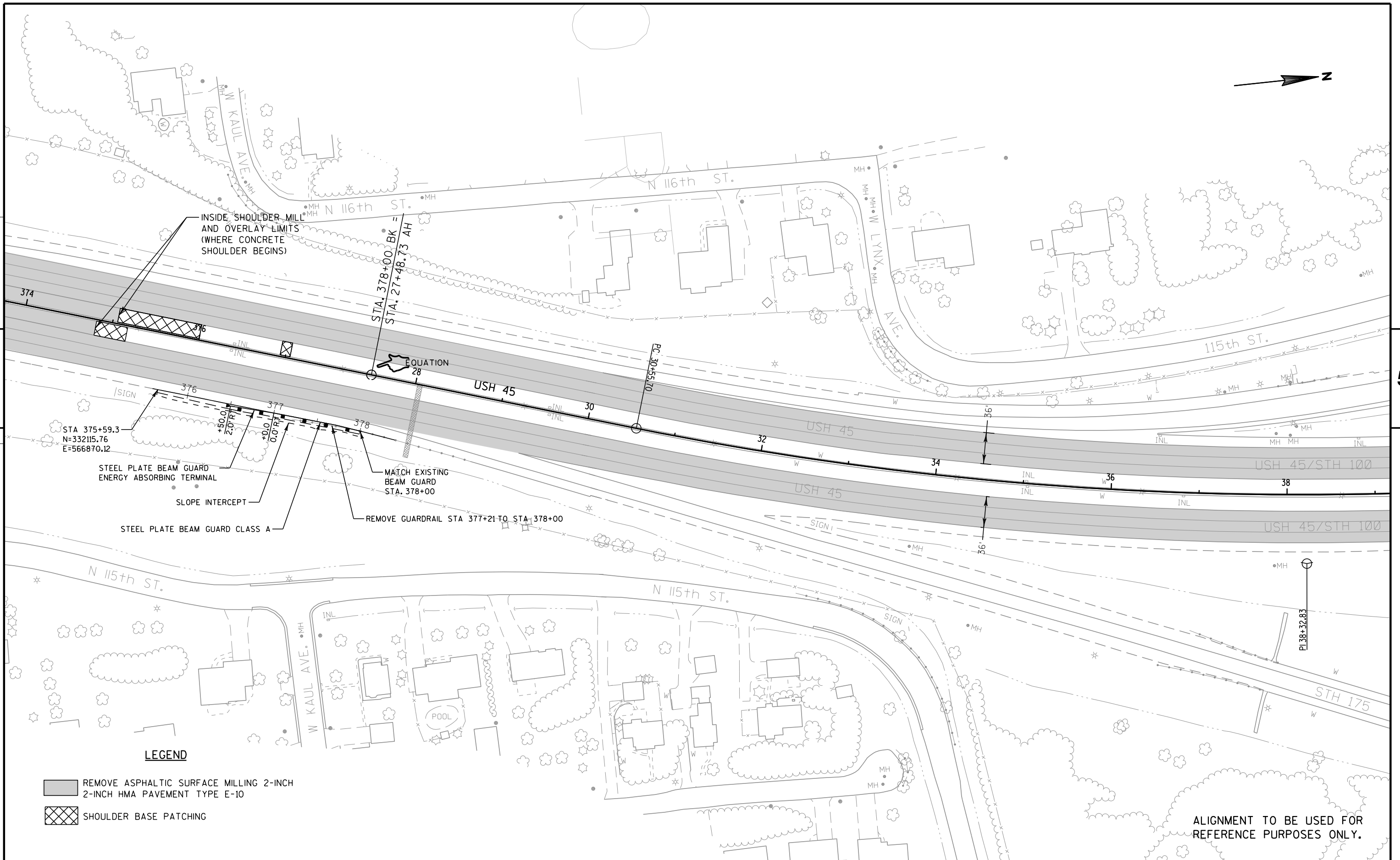
COUNTY: MILWAUKEE

PLAN SHEET

SHEET

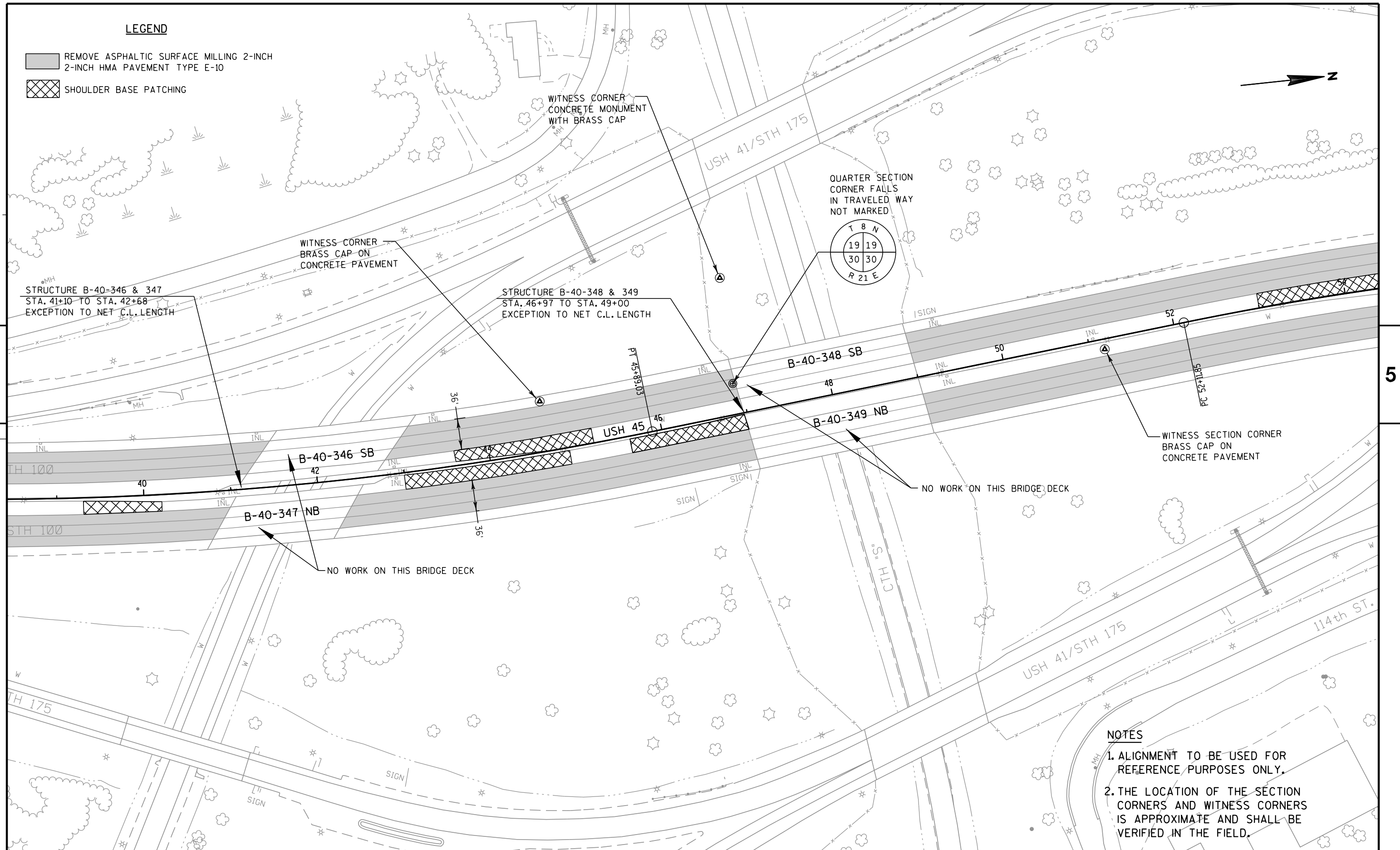
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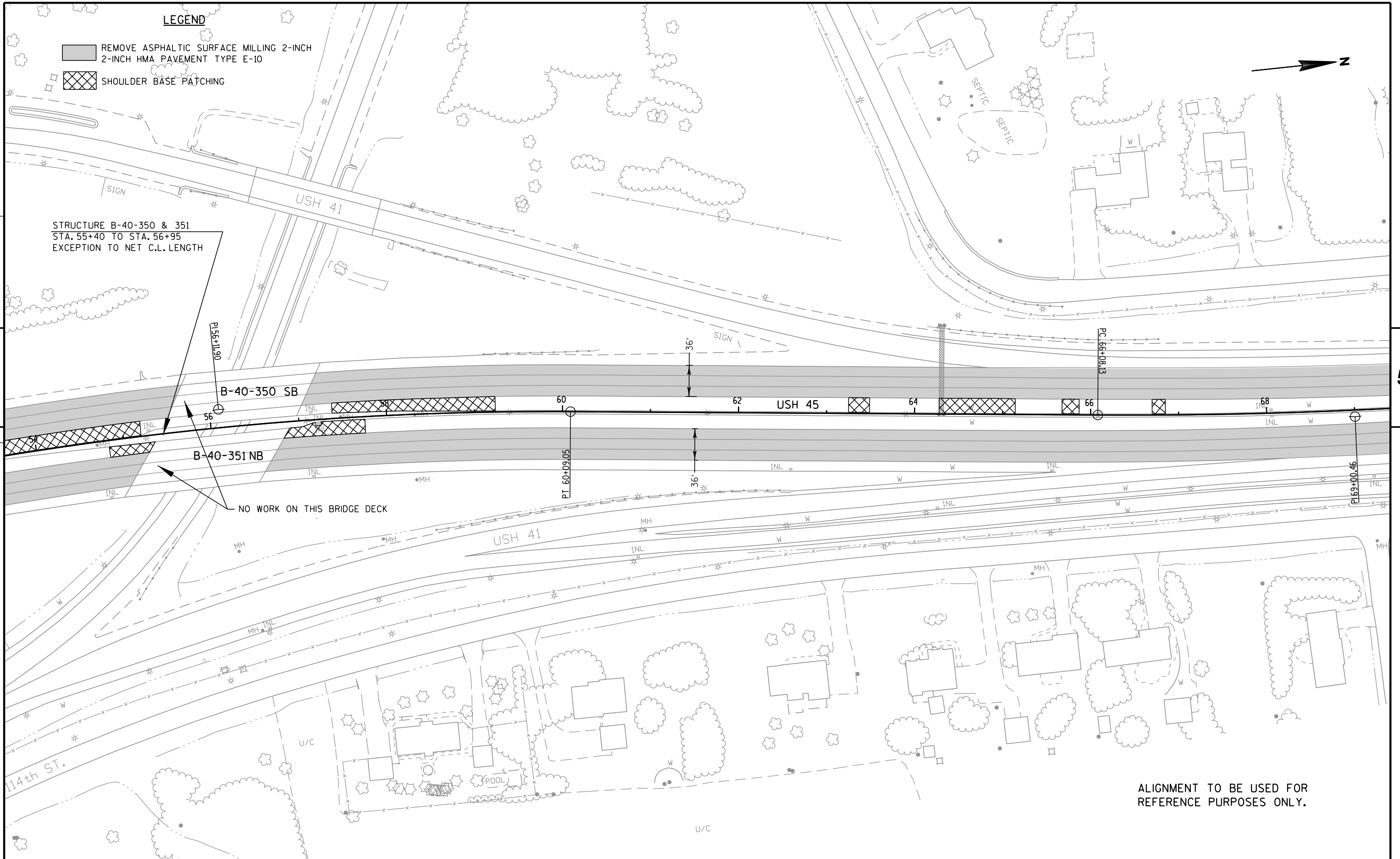
 REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10

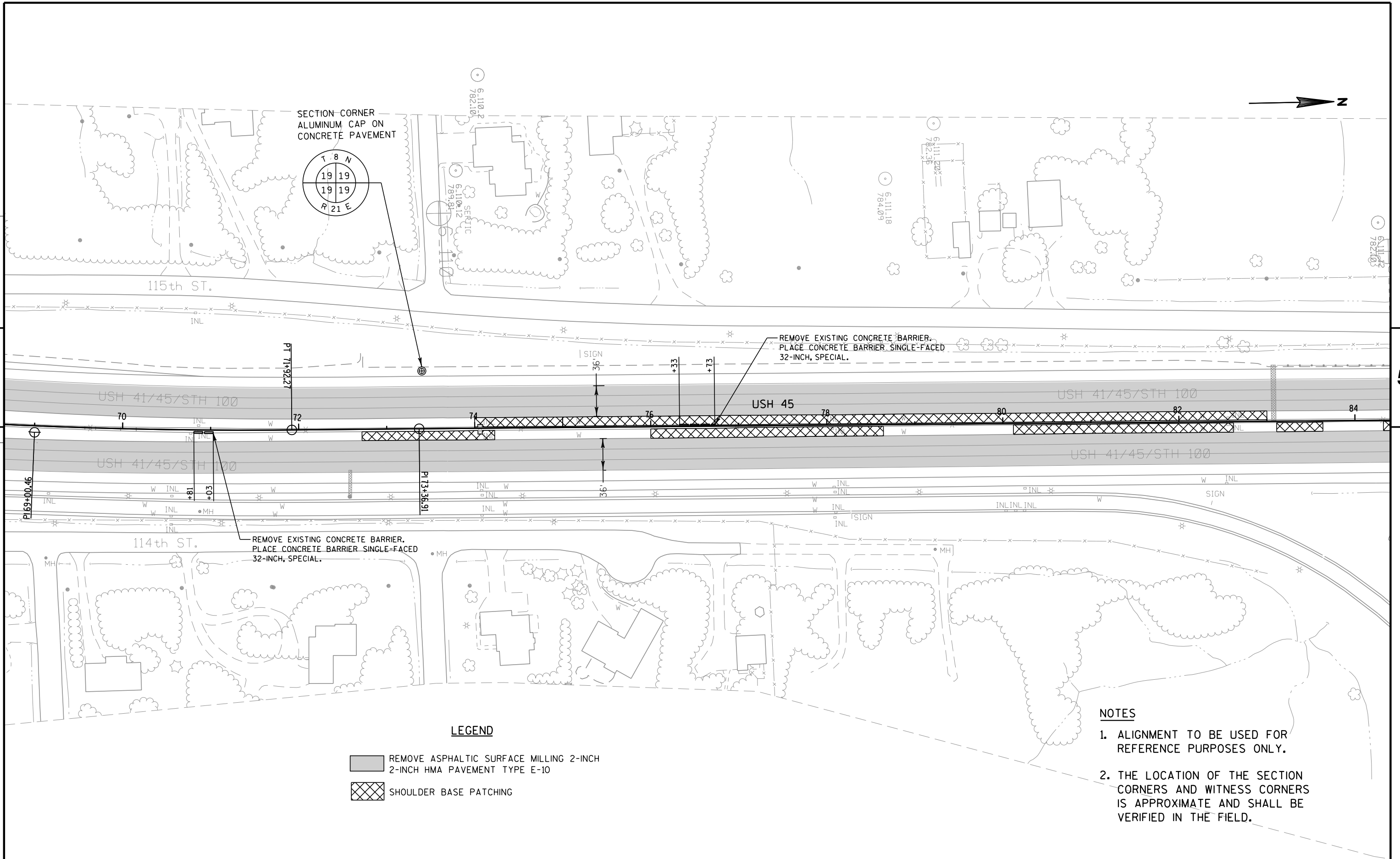
 SHOULDER BASE PATCHING



32

WISDOT/CADDS SHEET 44





LEGEND

- REMOVE ASPHALTIC SURFACE MILLING 2-INCH
2-INCH HMA PAVEMENT TYPE E-10
- SHOULDER BASE PATCHING



STRUCTURE B-40-248 & 249

GOOD HOPE RD.

B-40-249

B-40-248

USH 45

REMOVE EXISTING CONCRETE BARRIER.
PLACE CONCRETE BARRIER SINGLE-FACED
32-INCH, SPECIAL.

ALIGNMENT TO BE USED FOR
REFERENCE PURPOSES ONLY.

PROJECT NO: 1100-20-60

HWY: USH 45

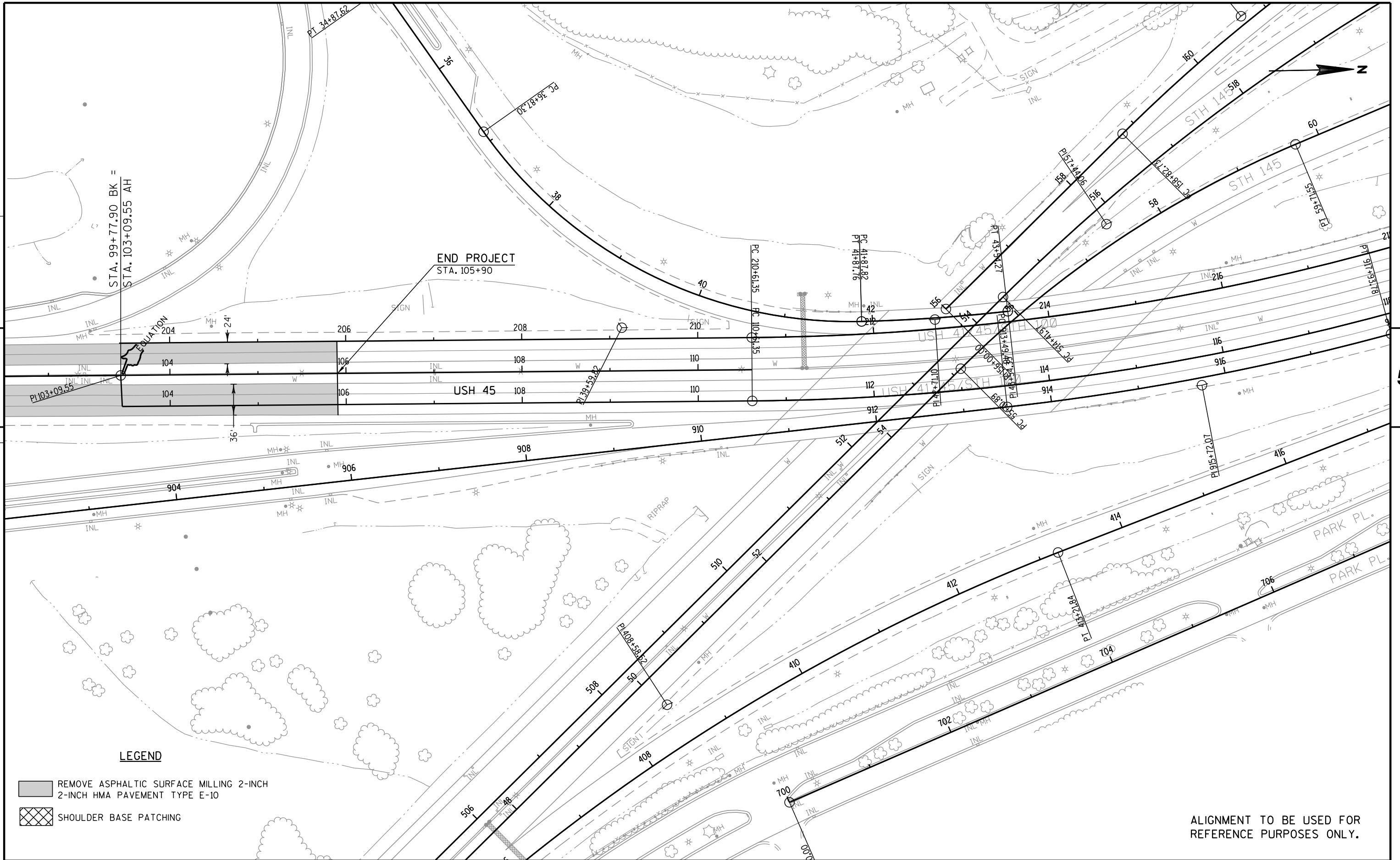
COUNTY: MILWAUKEE

PLAN SHEET

SHEET

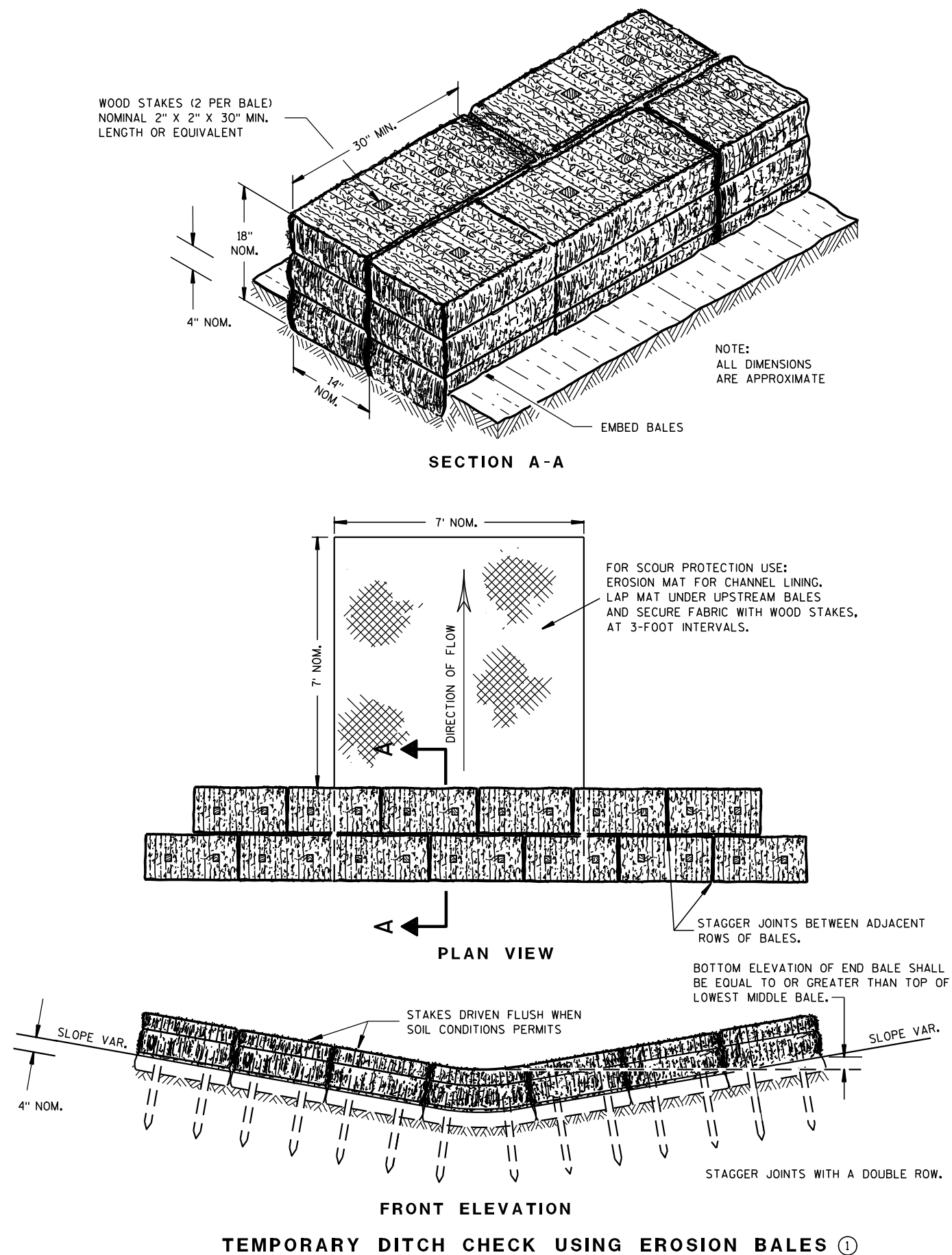
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E



Standard Detail Drawing List

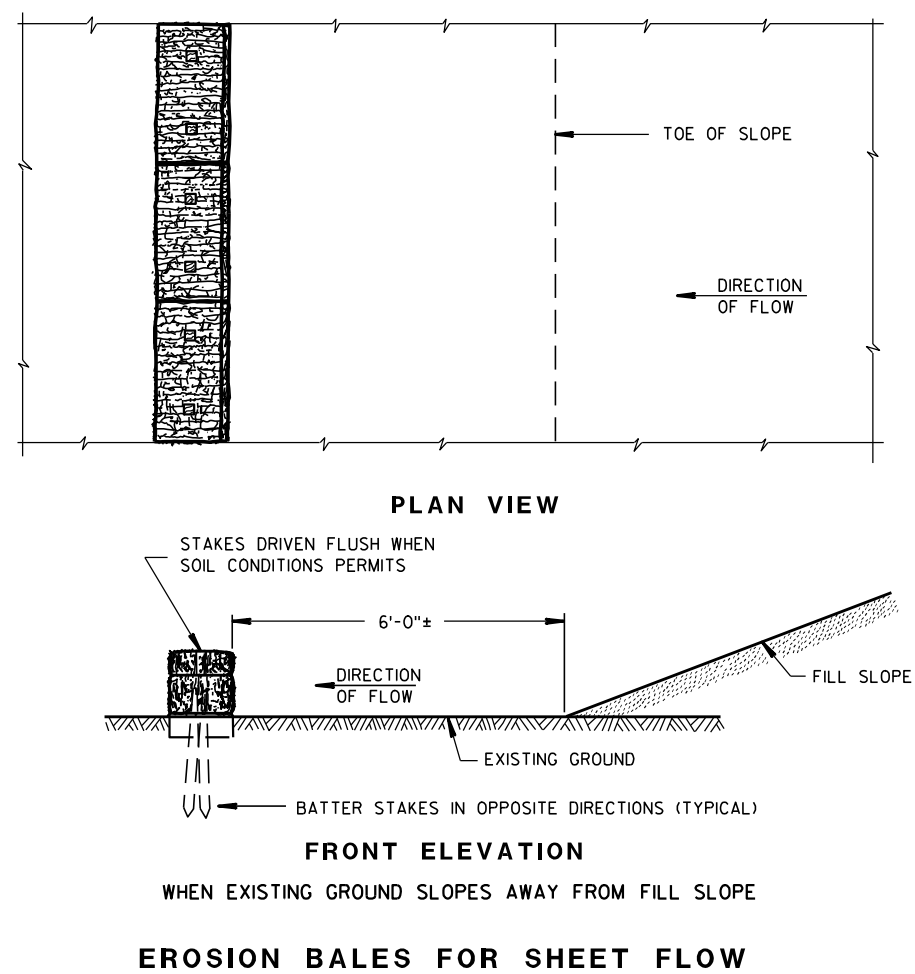
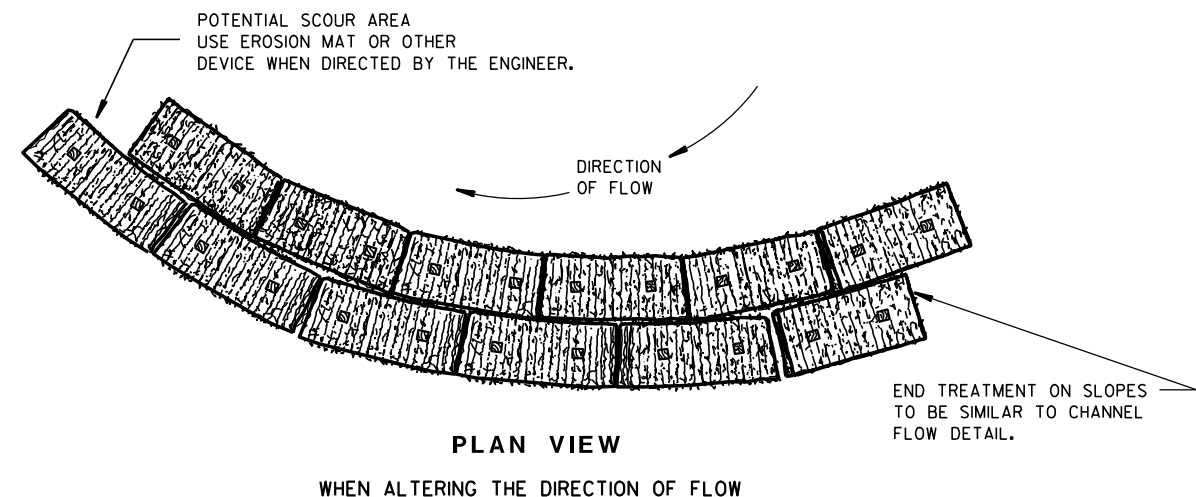
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09E01-12B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
09E01-12D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-12G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E02-03	FREEWAY LIGHTING UNIT POLE WIRING
10A01-02	ELECTRICAL HANDHOLE WIRING
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A06-02	DELINEATOR LAYOUT
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C07-12D	ROUNDAABOUT ARROWS
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C27-01	DOUBLE ARROW WARNING SIGN PLACEMENT
15C31-01D	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



GENERAL NOTES

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

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

/S/ Beth Conn-----
CHIEF ROADWAY DEVELOP 339 ENGINEER

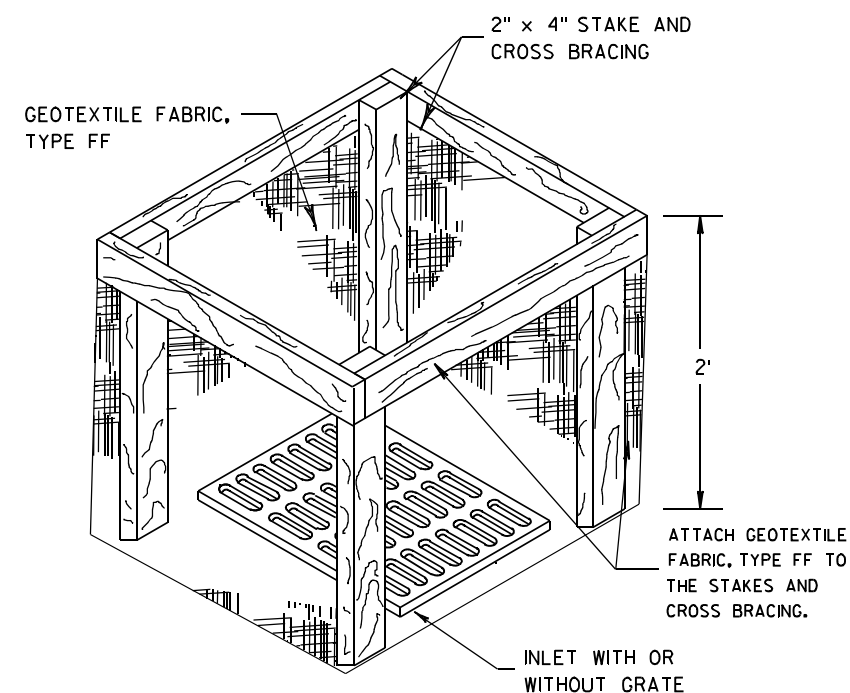
FHWA



- 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 1 1/8" X 1 1/8" 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.



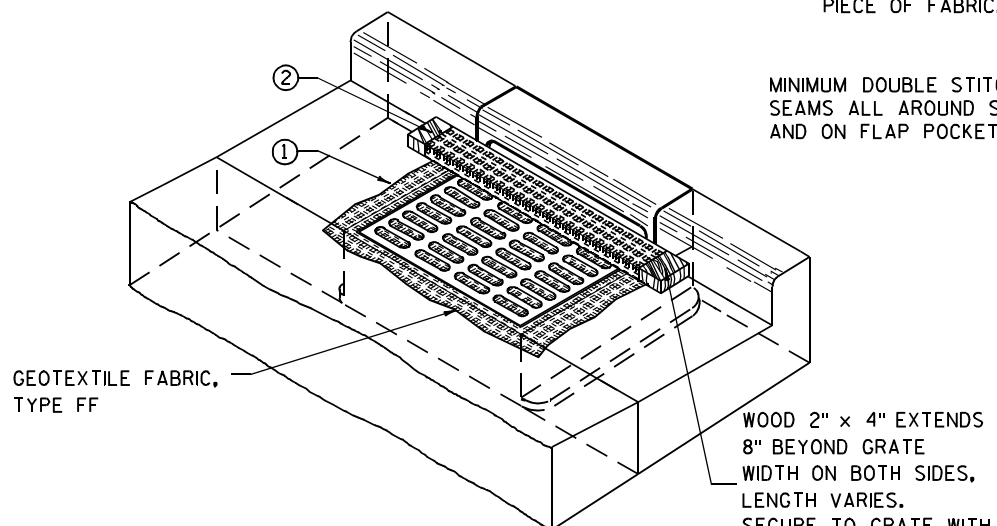
SILT FENCE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED <u>4-29-05</u> DATE <u>/S/ Beth Connolly</u> CHIEF ROADWAY DEVELOP <u>340</u> ENGINEER



GENERAL NOTES

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

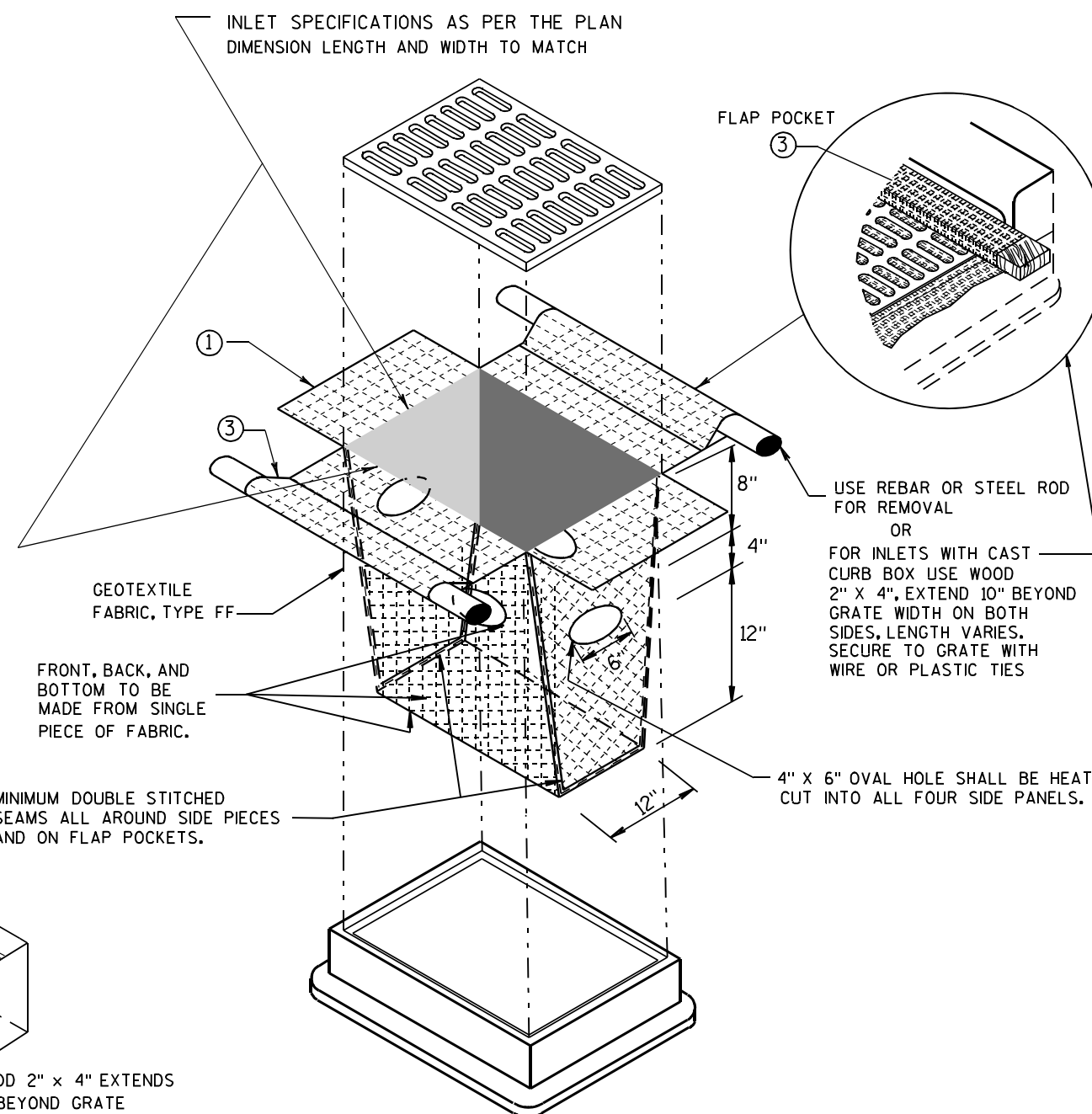
- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



INLET PROTECTION, TYPE C (WITH CURB BOX)

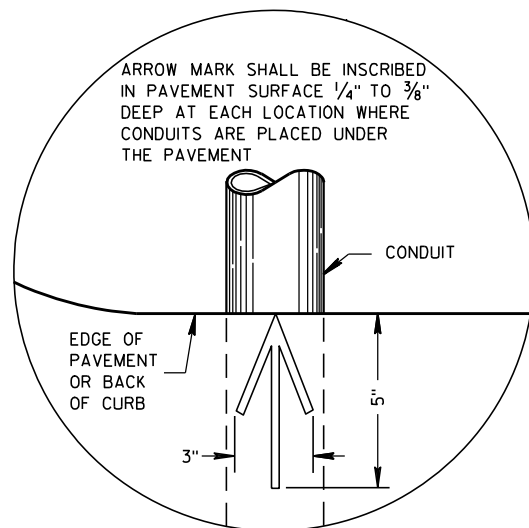
INSTALLATION NOTES

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

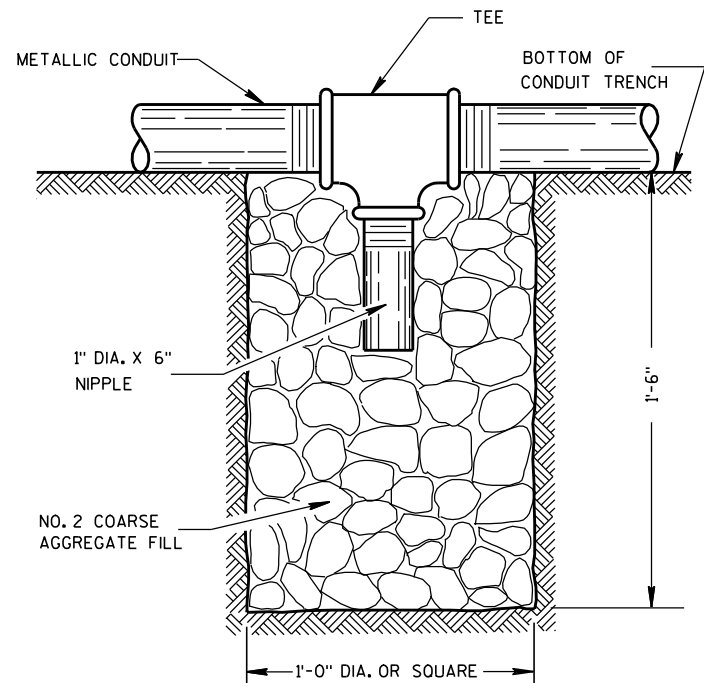


(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE (2))

APPROVED
10/16/02 /S/ Beth Connolly
DATE 341
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

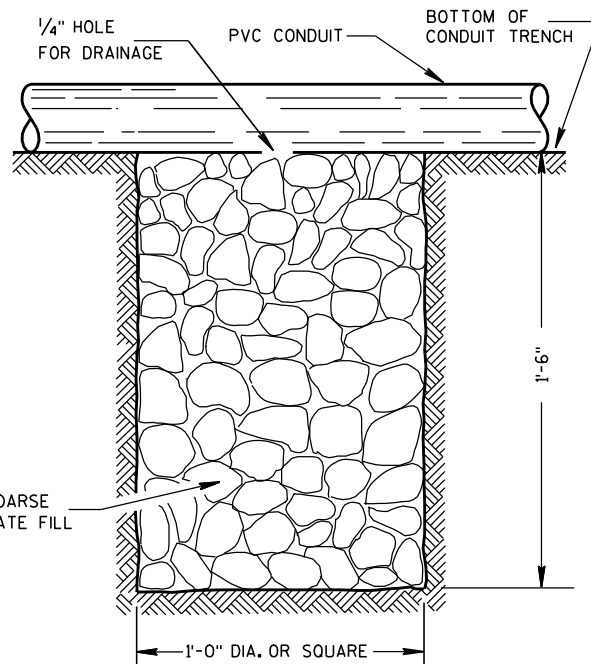


PLAN VIEW
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

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

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

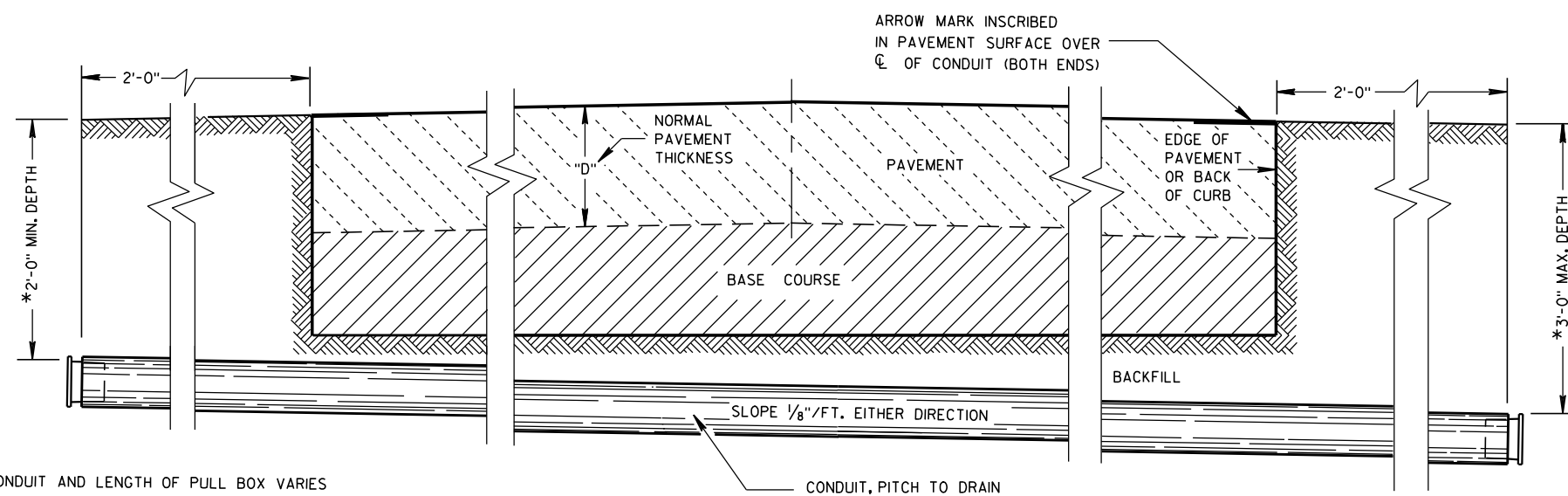
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03

DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER 342 HWYS

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

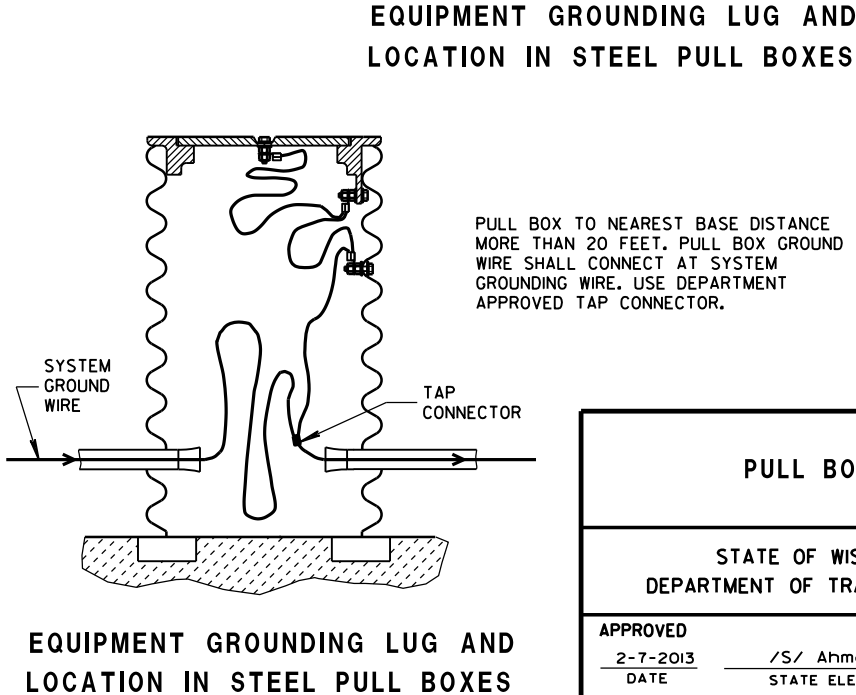
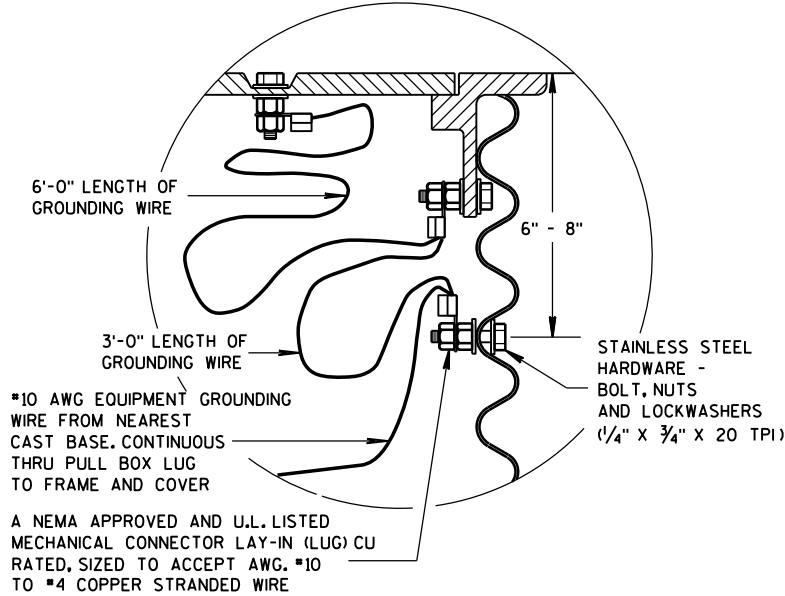
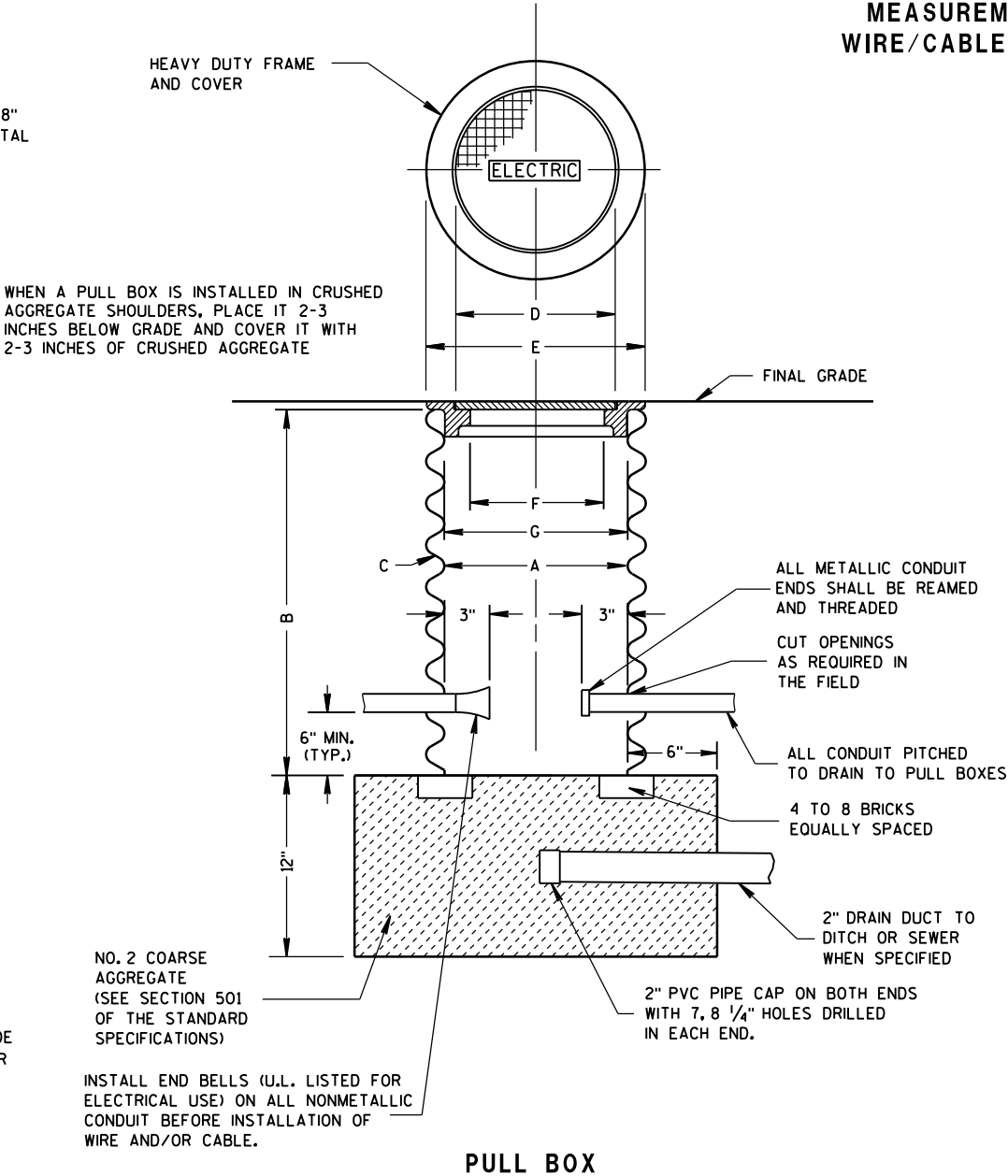
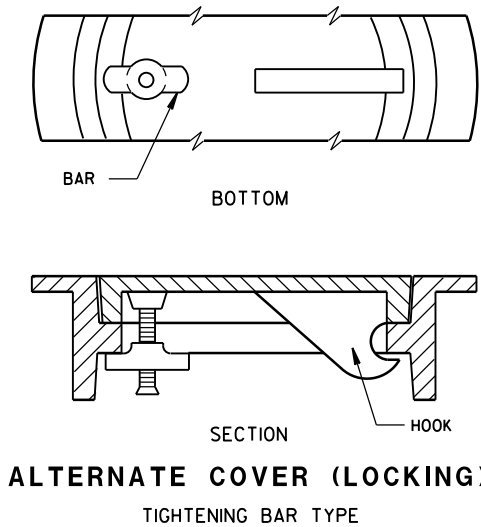
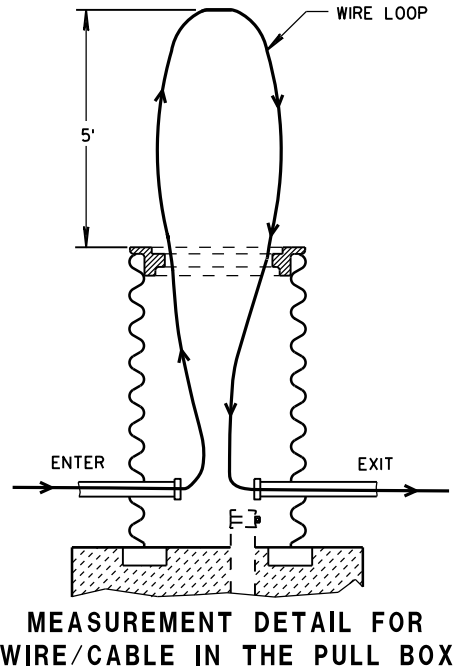
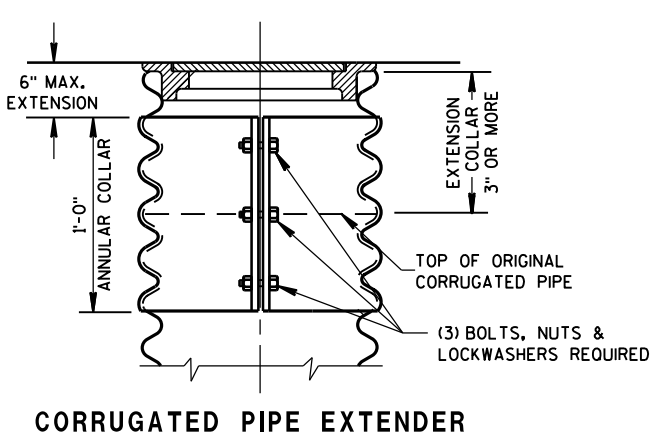
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

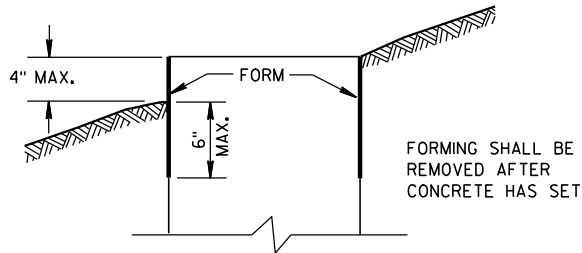
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 343
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD, ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

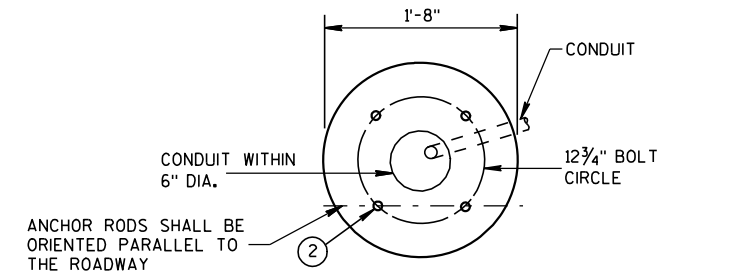
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

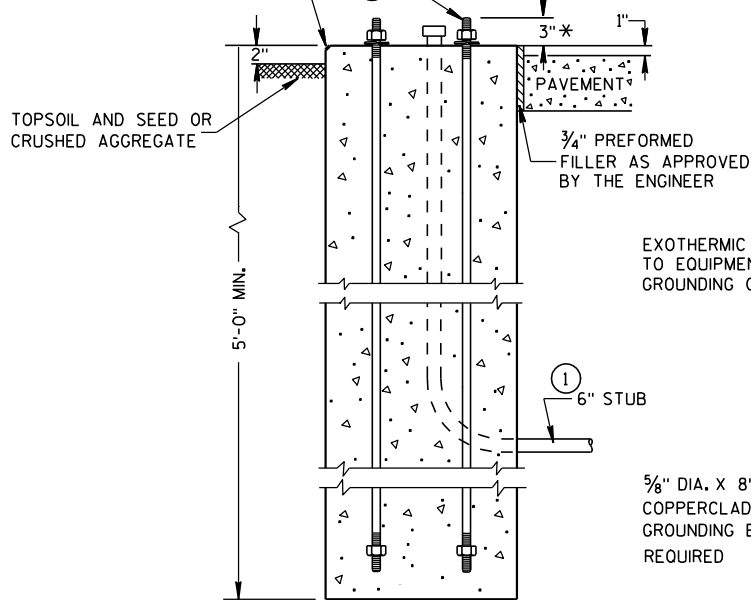
1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
- 4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- 6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

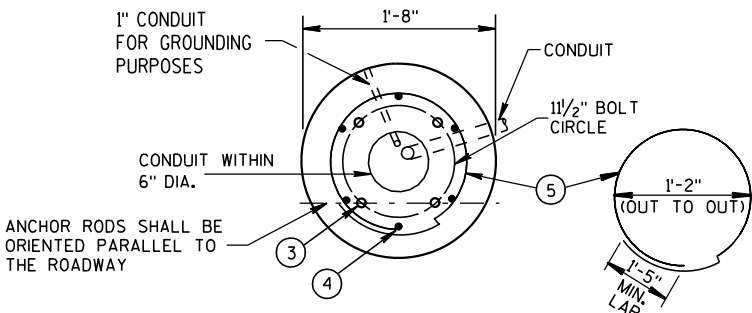


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

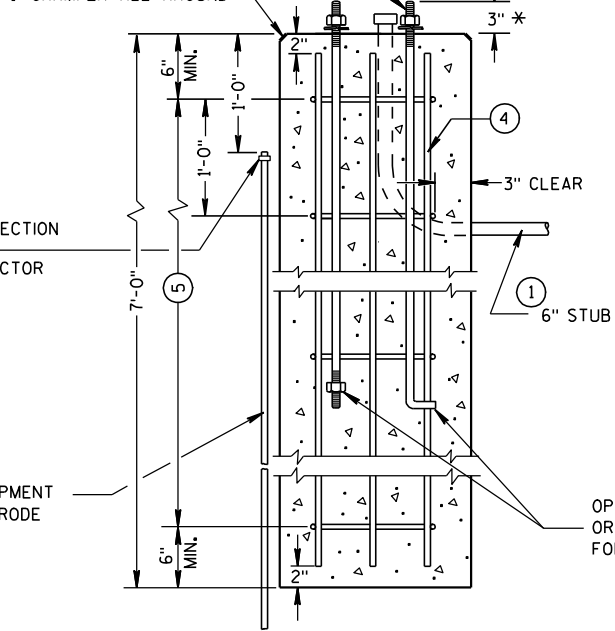
HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2 & 5)



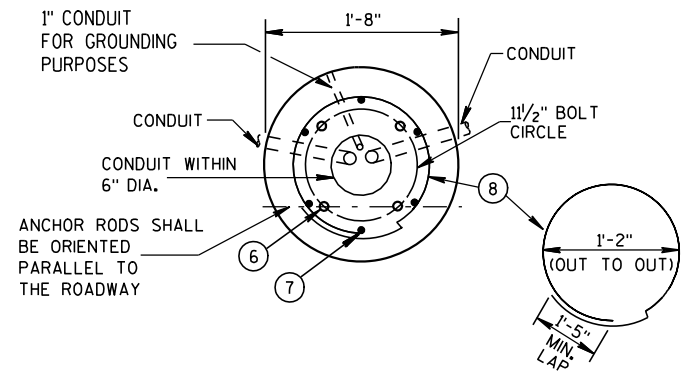
TYPE 1



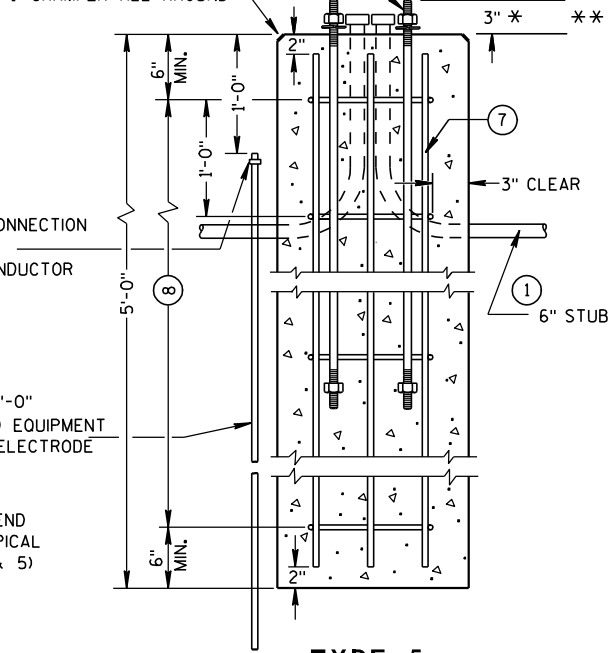
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10

DATE

FHWA

/S/ Joanna L. Bush

STATE ELECTRICAL ENGR 344

HWYS

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

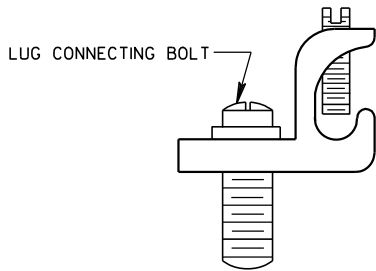
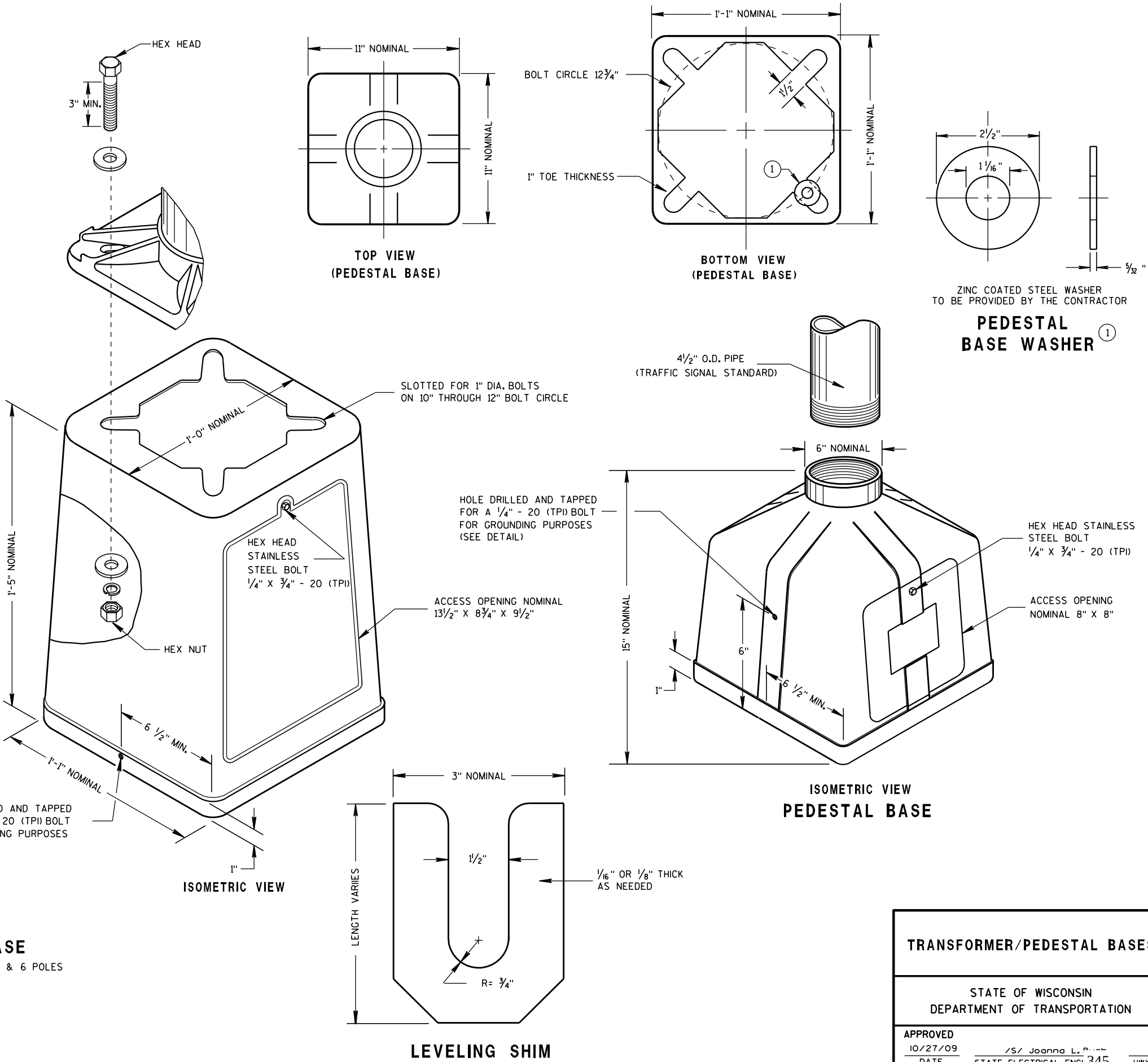
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

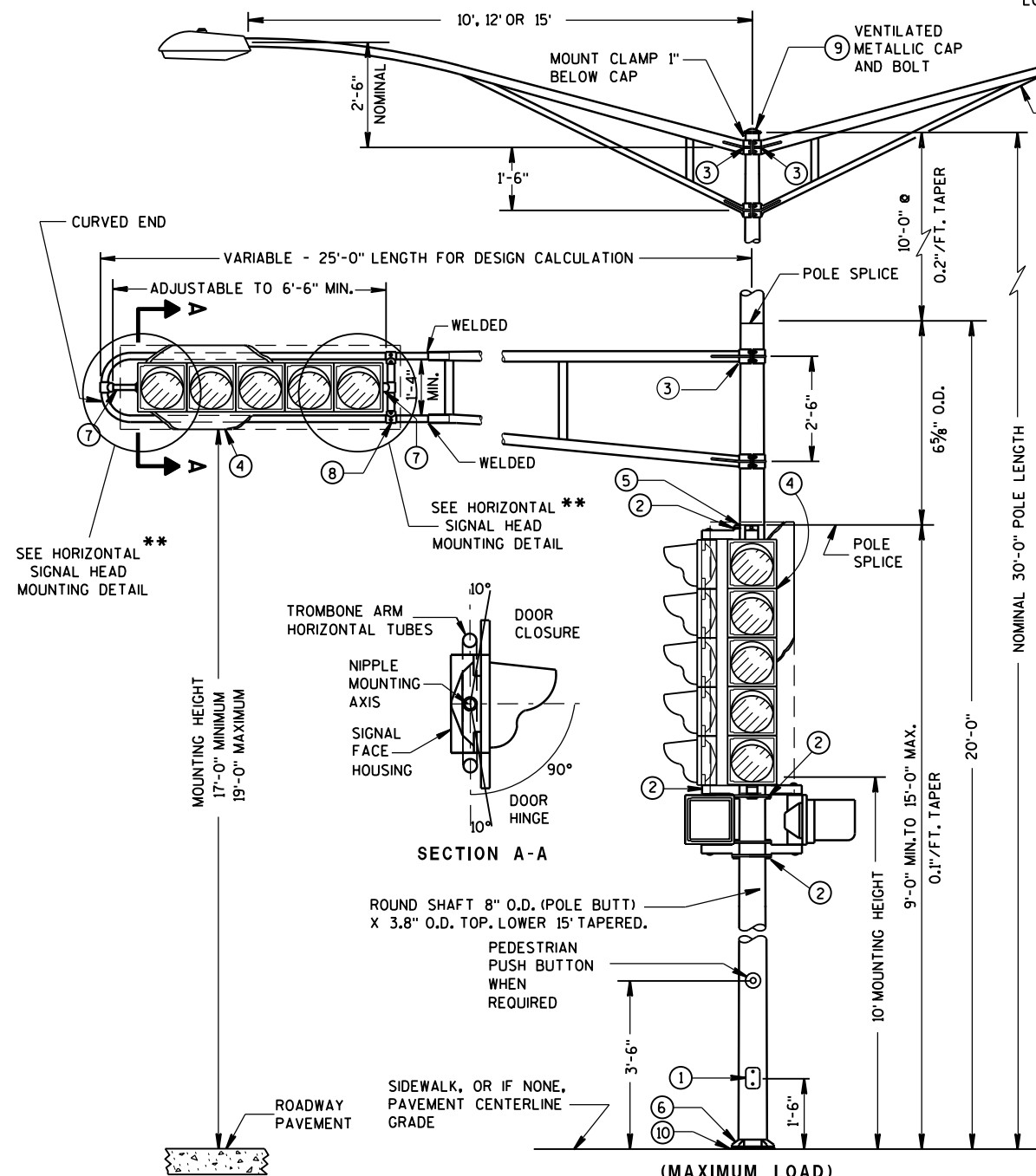
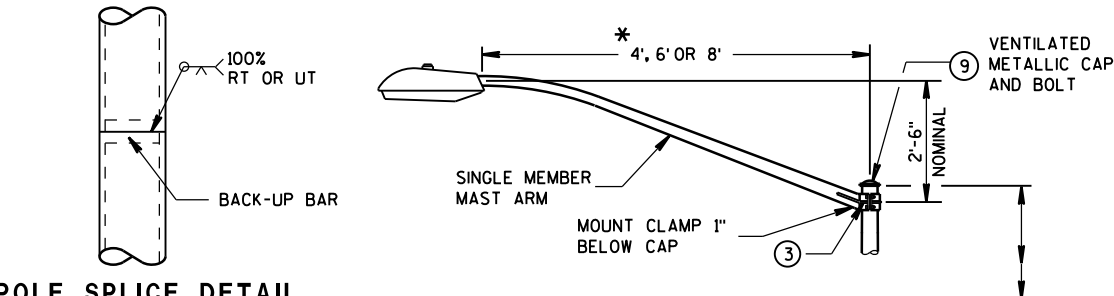
APPROVED
10/27/09
DATE
/S/ Joanna L. P...
STATE ELECTRICAL ENGI 345
HWYS
FHWA

FOR MANUFACTURERS USE ONLY

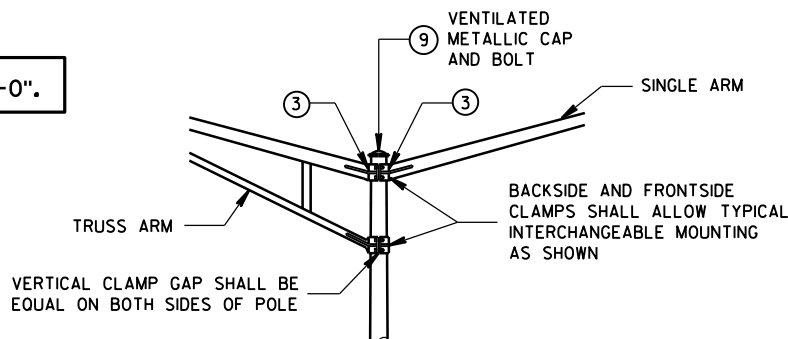
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

* RISE FOR 4' ARM SHALL BE 2'-0".

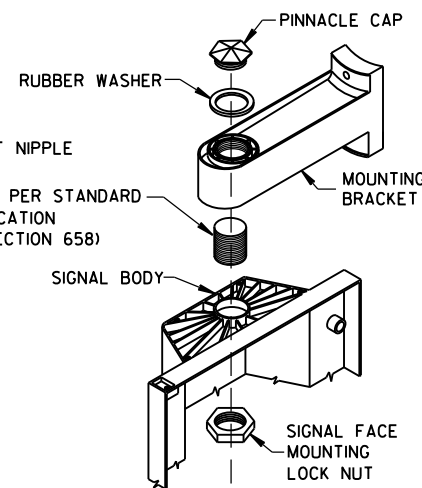
POLE SPLICE DETAIL



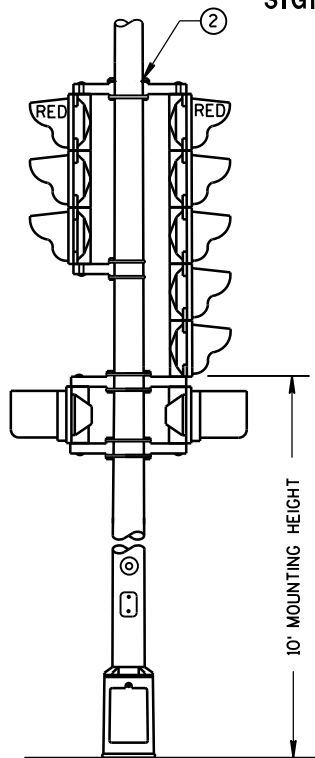
INTERCHANGEABLE MOUNTING DETAIL



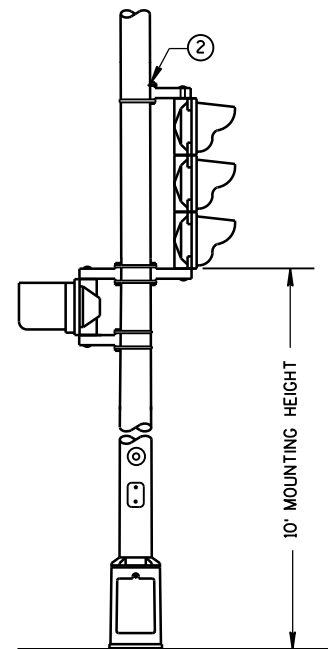
LUMINAIRE
WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.



**SIGNAL FACE MOUNTING DETAIL
(BANDED)**



TYPICAL MOUNTING OF BACK TO BACK
3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

TYPE 3 POLE MOUNTING CONFIGURATION

GENERAL NOTES

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

ALL TYPE 3 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL.

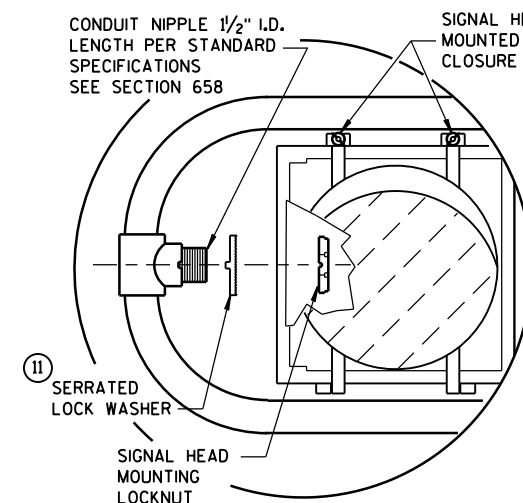
SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

A PULL WIRE/ROPE IN ACCORDANCE WITH STANDARD SPECIFICATION 652, SHALL BE INSTALLED IN EACH TROMBONE ARM RACEWAY DURING THE MANUFACTURING PROCESS.

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8" INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

- 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" X 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)
- GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.
- POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.
- TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.
- MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1 1/2 INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)
- VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4" X 3/4" - 20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.
- FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



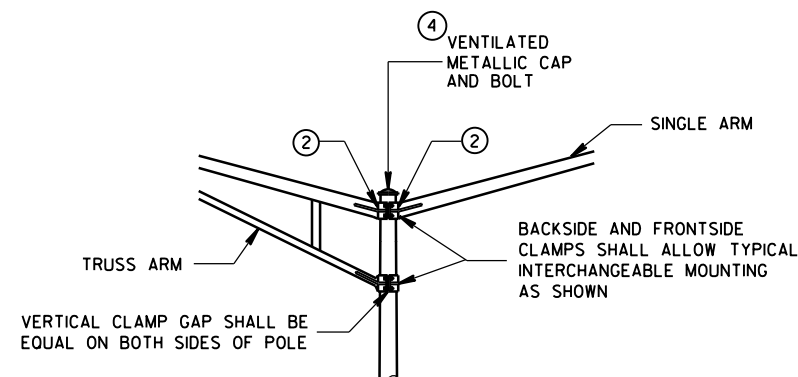
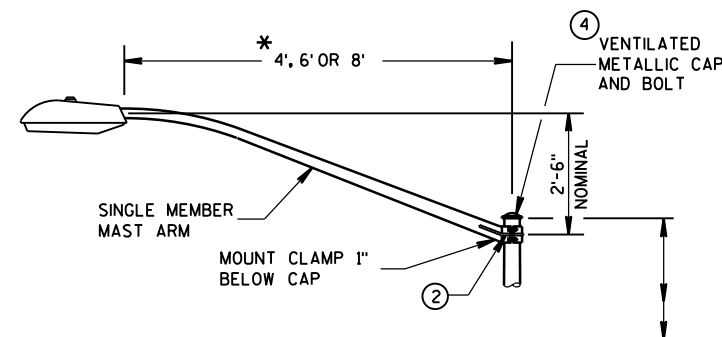
HORIZONTAL SIGNAL HEAD MOUNTING DETAIL **

** SIGNAL HEAD ATTACHMENT ALSO APPLYS TO MOUNTING AT CROSS BAR

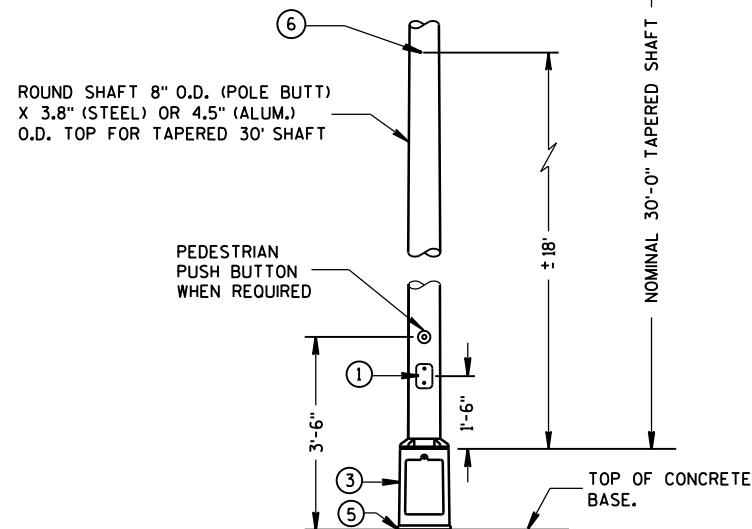
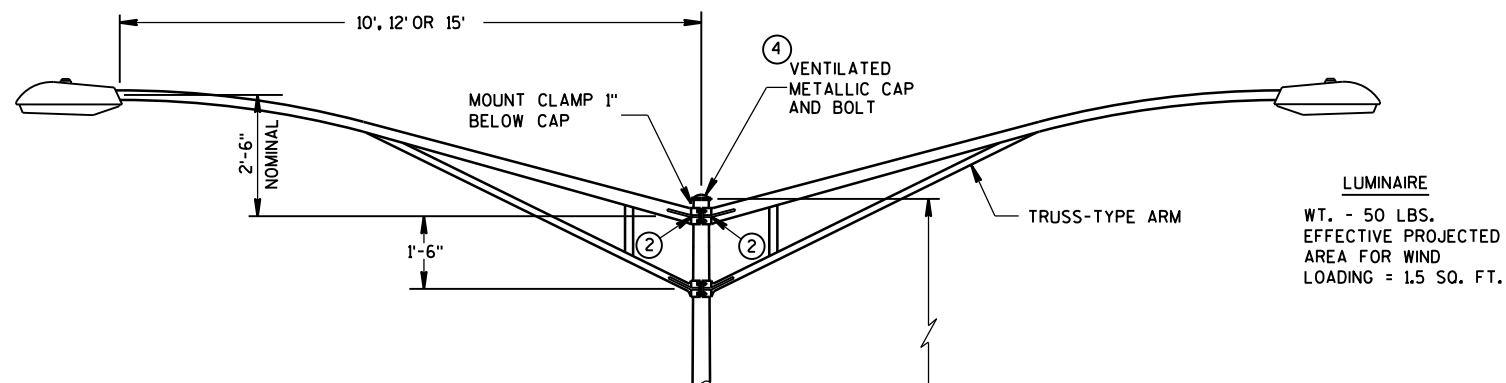
**POLE MOUNTINGS FOR
TRAFFIC SIGNALS AND
LIGHTING UNITS, TYPE 3
(HEAVY DUTY)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

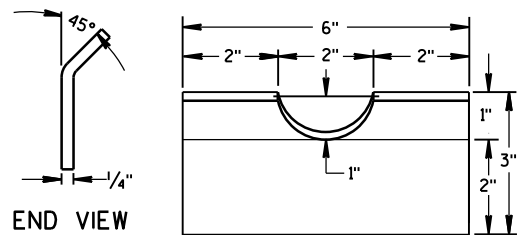
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL $2\frac{3}{8}$ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

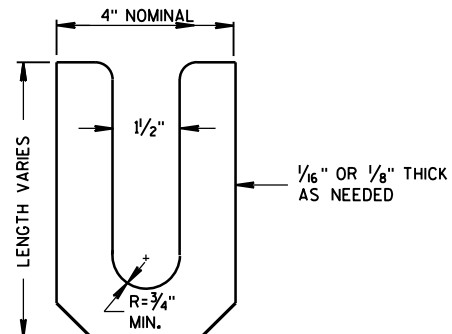
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR $1\frac{3}{8}$ " HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

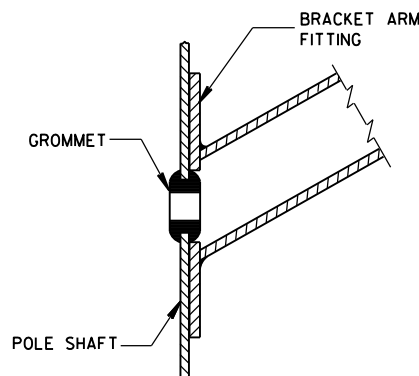
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 347



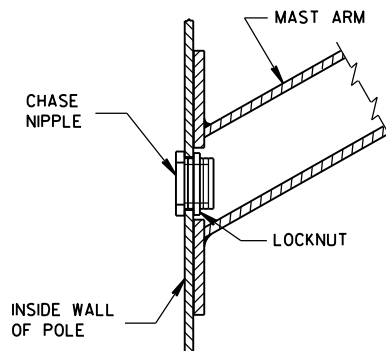
FRONT VIEW
RECTANGULAR CLAMP SHIM
(4 TO A SET)



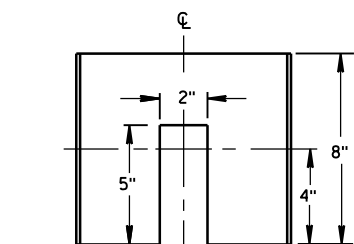
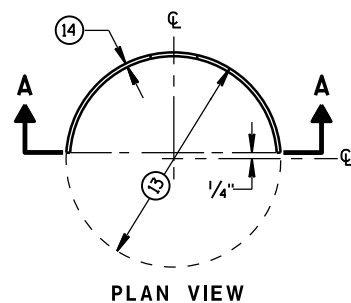
LEVELING SHIM
SHALL BE ALUMINUM



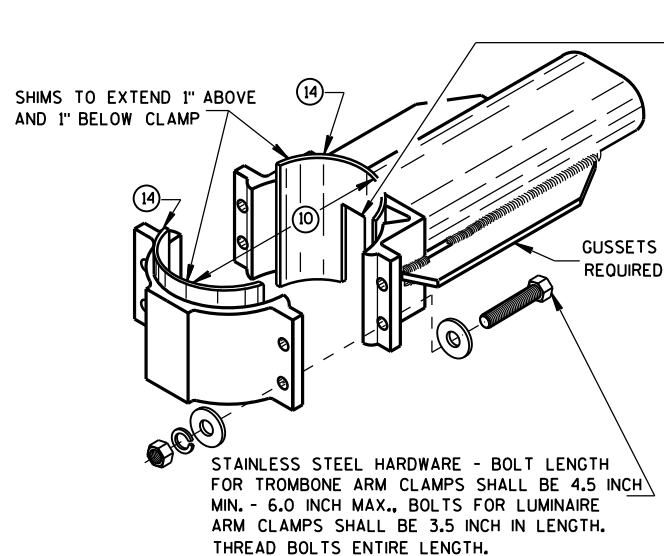
TYPICAL APPLICATION OF
GROMMET IN POLE SHAFT



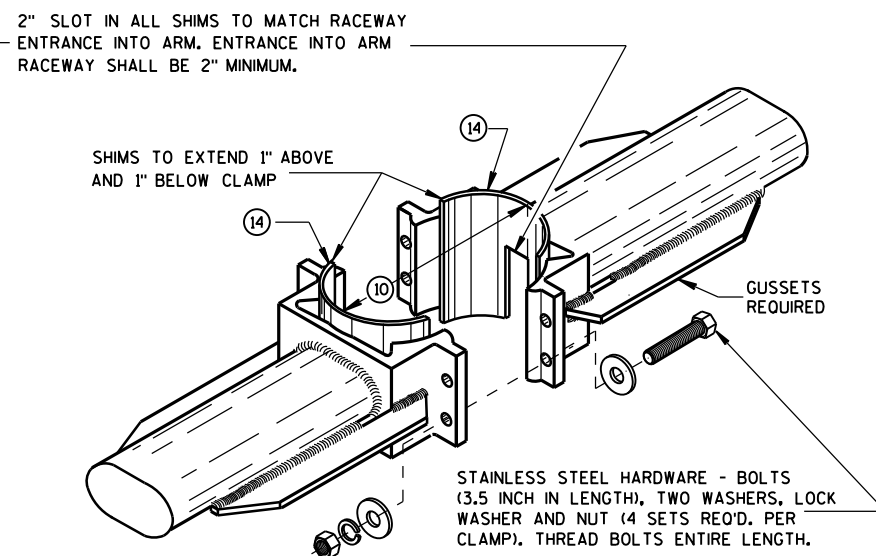
TYPICAL APPLICATION OF
CHASE NIPPLE IN POLE SHAFT



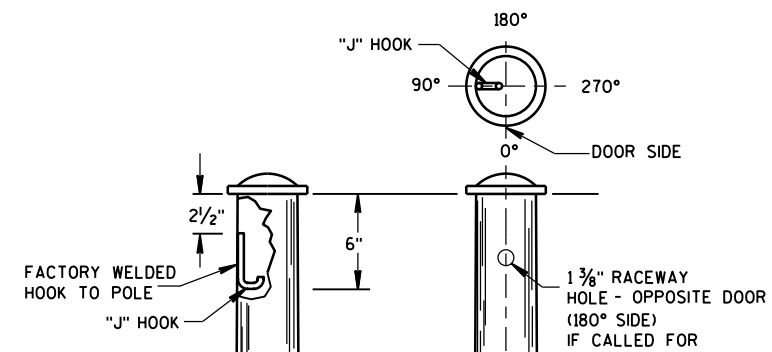
SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



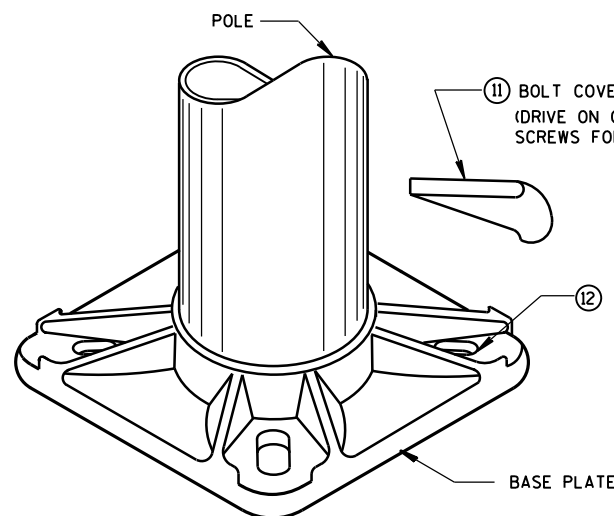
TYPICAL TROMBONE MAST ARM AND SINGLE
LUMINAIRE MAST ARM MOUNTING CLAMP



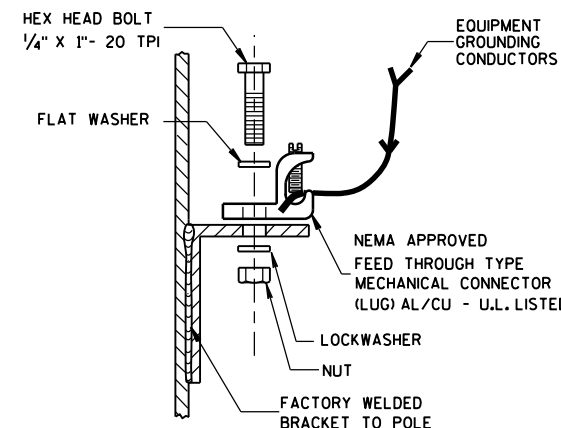
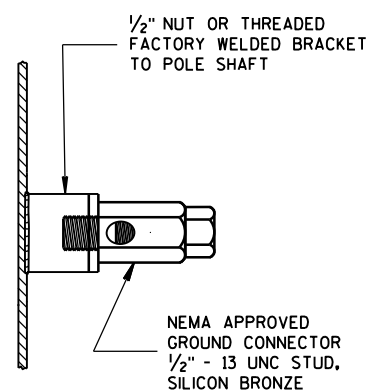
TYPICAL LUMINAIRE MAST ARM
(DOUBLE) MOUNTING BRACKETS



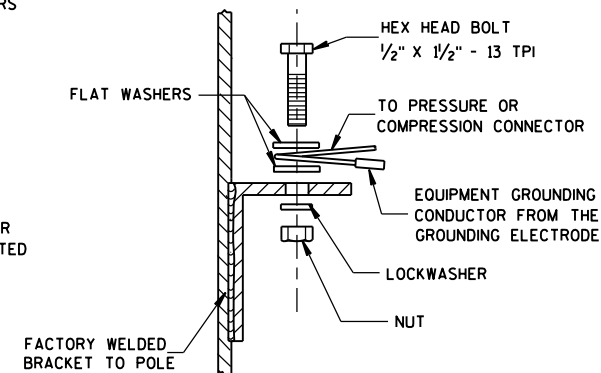
TYPICAL "J" HOOK LOCATION



BASE PLATE



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



GENERAL NOTES

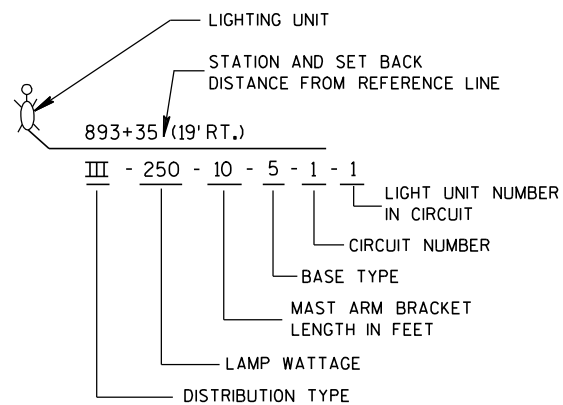
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- 10 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- 11 INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- 12 BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT
CIRCLE USING 1" DIAMETER ANCHOR RODS.
- 13 OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)
- 14 VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35",
0.53" OR 0.70".
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10",
0.25" OR 0.35".
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS
SHALL BE 1/4" HIGH AND LEGIBLE.
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS
TO THE ENGINEER FOR APPROVAL.
- 15 LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING
POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT
ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE
CONCRETE BASE AND A METALLIC BASE PLATE.
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE
AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

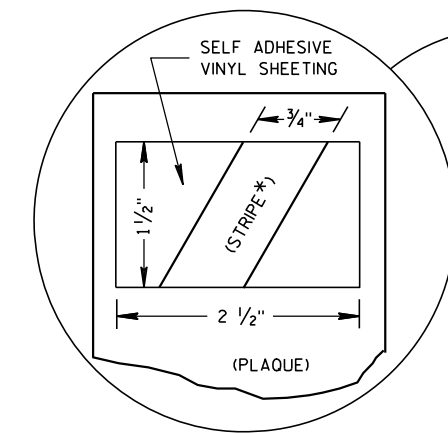
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/7/2013
DATE /S/ Ahmet Demirbilek
STATE ELECTRICAL 348
FHWA



LIGHTING UNIT CODE
(TYPICAL)

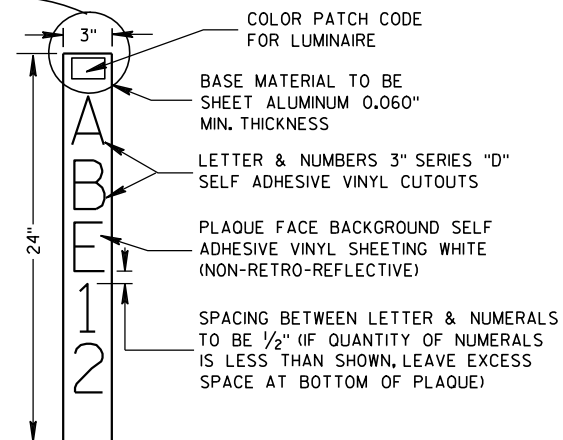


COLOR PATCH CODE FOR LUMINAIRES
(HIGH PRESSURE SODIUM)

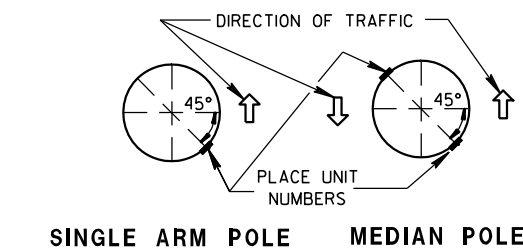
1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE W/WHITE STRIPE*
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN

(MERCURY VAPOR)

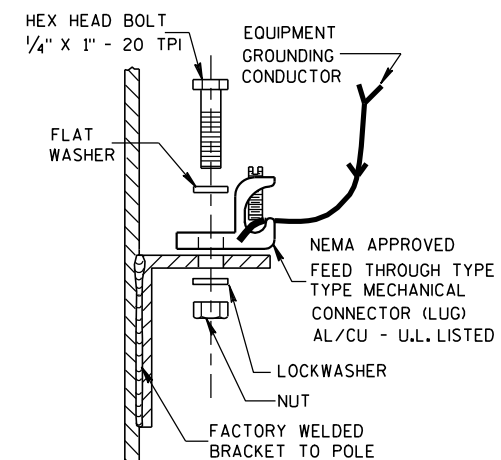
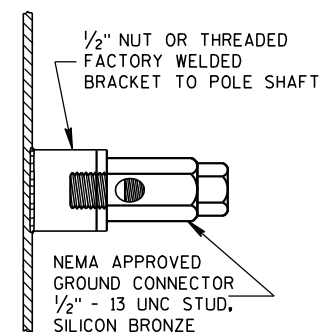
400 WATT - (NO PATCH)
250 WATT - YELLOW



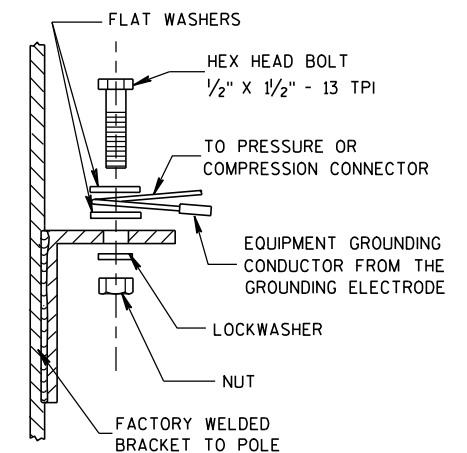
IDENTIFICATION PLAQUE



LIGHTING UNIT IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENT
(TYPICAL ALL LIGHTING UNITS)
FURNISH PLAQUE WHEN CALLED FOR BY SPECIAL PROVISIONS



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

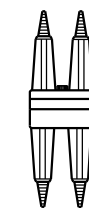


GENERAL NOTES

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

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

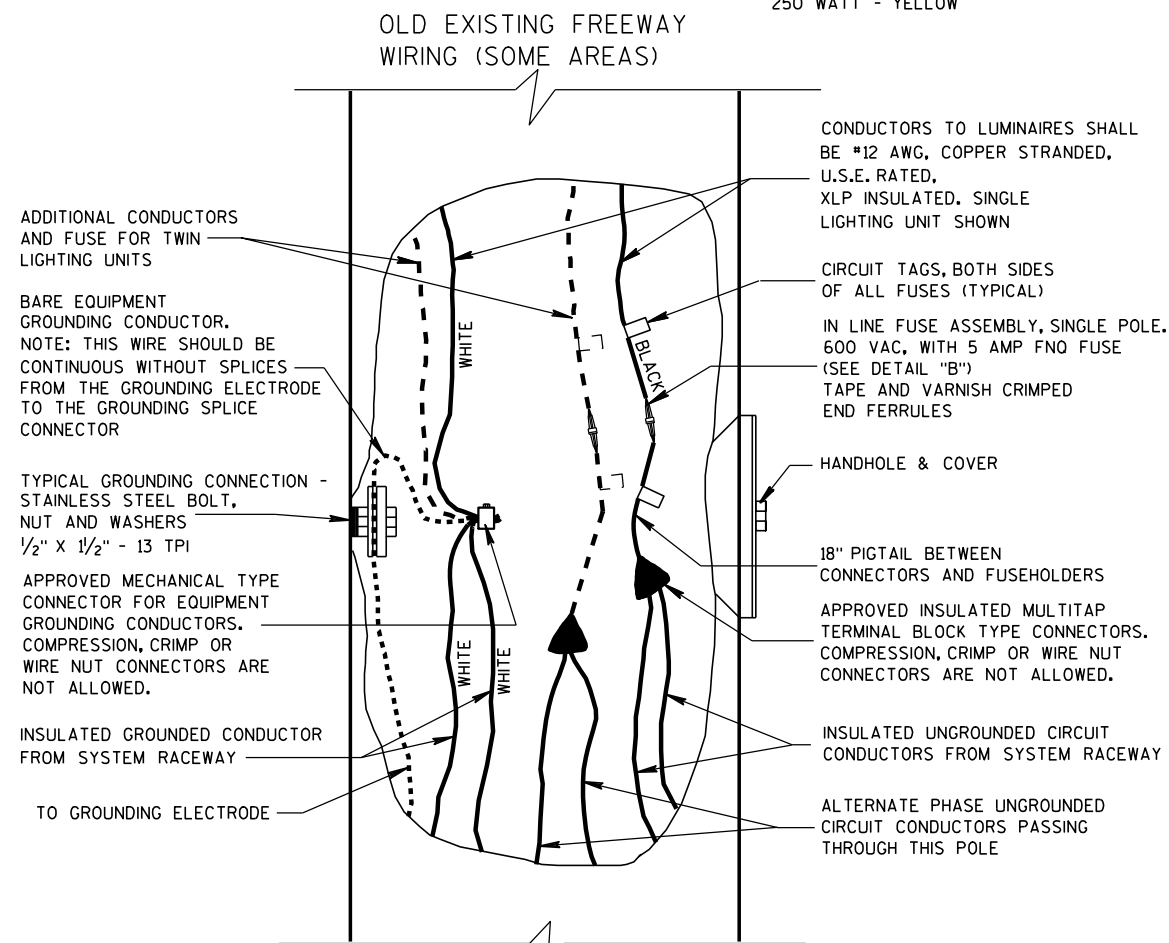
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



2 WIRE - 120, 240 OR 480 VAC TO GROUND

UNGROUNDING CONDUCTORS TO LUMINAIRES TO BE #12 AWG, COPPER STRANDED, U.S.E. RATED, XLP INSULATED, SINGLE LIGHTING UNIT SHOWN

TWIN LIGHTING UNITS REQUIRE INDIVIDUAL SETS OF UNGROUNDING CONDUCTORS AND FUSE ASSEMBLY.

TWIN LIGHTING UNIT EQUIPMENT GROUNDING CONDUCTOR

AWG #4 (MIN.) BARE EQUIPMENT GROUNDING CONDUCTOR. NOTE: THIS WIRE SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE TO THE EQUIPMENT GROUNDING CONDUCTOR SPLICE CONNECTOR

TYPICAL GROUNDING CONNECTION - STAINLESS STEEL BOLT, NUT AND WASHERS 1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE CONNECTOR FOR EQUIPMENT GROUNDING CONDUCTORS. COMPRESSION, CRIMP OR WIRE NUT CONNECTORS ARE NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING CONDUCTORS FROM SYSTEM RACEWAY

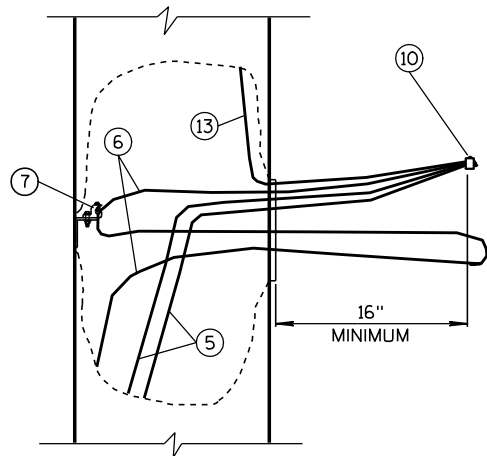
EXOTHERMICALLY WELDED TO GROUNDING ELECTRODE

**2 WIRE - 240 OR 480 VAC (UNGROUNDING CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

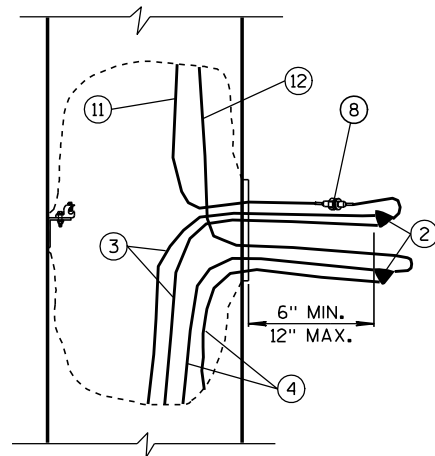
**FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

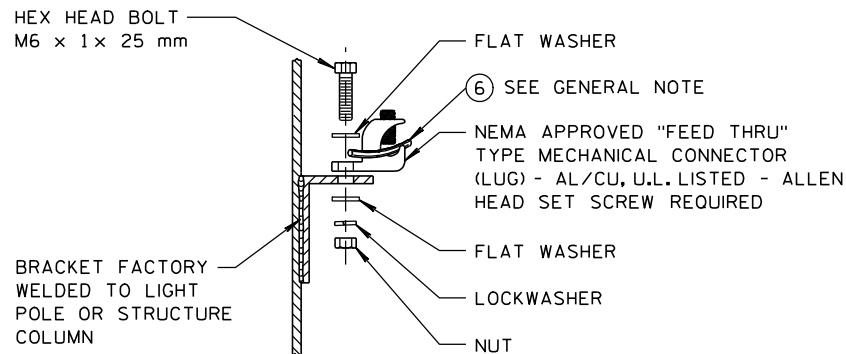
APPROVED
3/2/2011 /S/ Thomas J. Gorman
DATE STATE ELECTRICAL ENGI 349 HWYS
FHWA



EQUIPMENT GROUNDING
CONDUCTOR SLACK



UNGROUND CONDUCTOR SLACK
(AND GROUNDED NEUTRAL SLACK
IN GROUNDED NEUTRAL SYSTEM)



HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS
SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUND LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUND POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS.
WHERE THE PLANS DO NOT SHOW COLOR CODING,
USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK
AND RED FOR TWIN LUMINAIRE POLES.



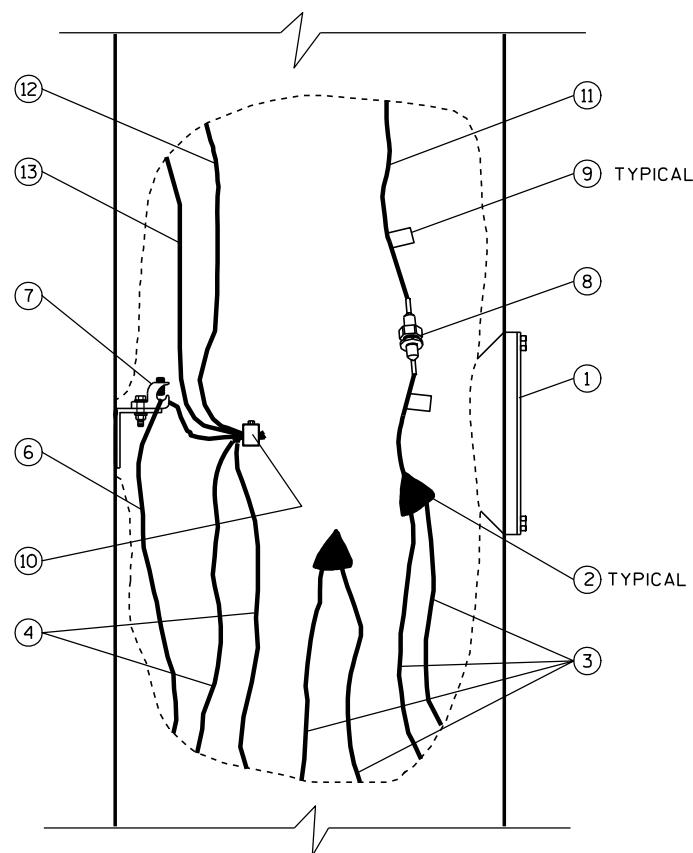
1 POLE (1P)



2 POLE (2P)

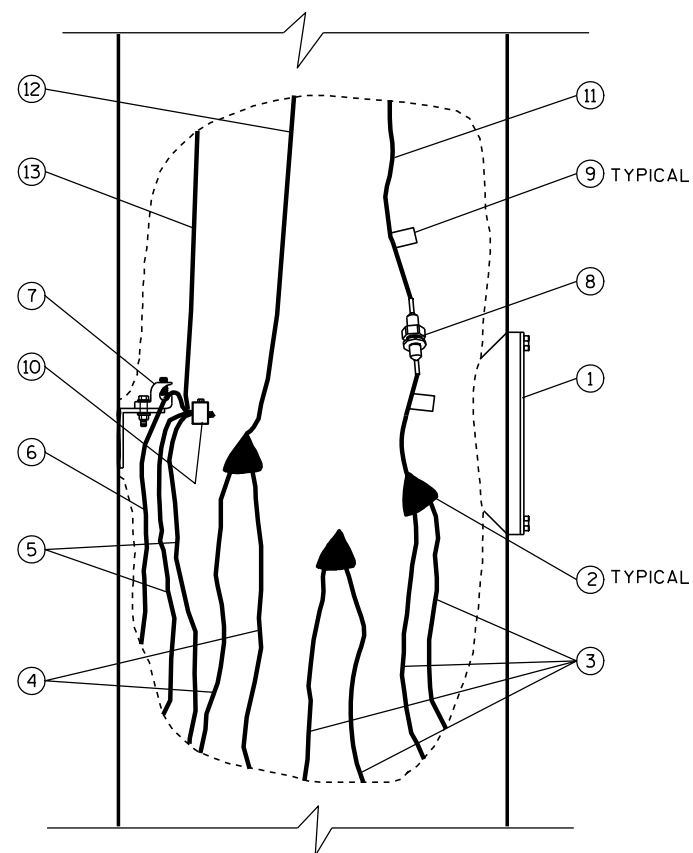
FUSE ASSEMBLIES

TYPICAL CONDUCTOR SLACK AT HANDHOLES



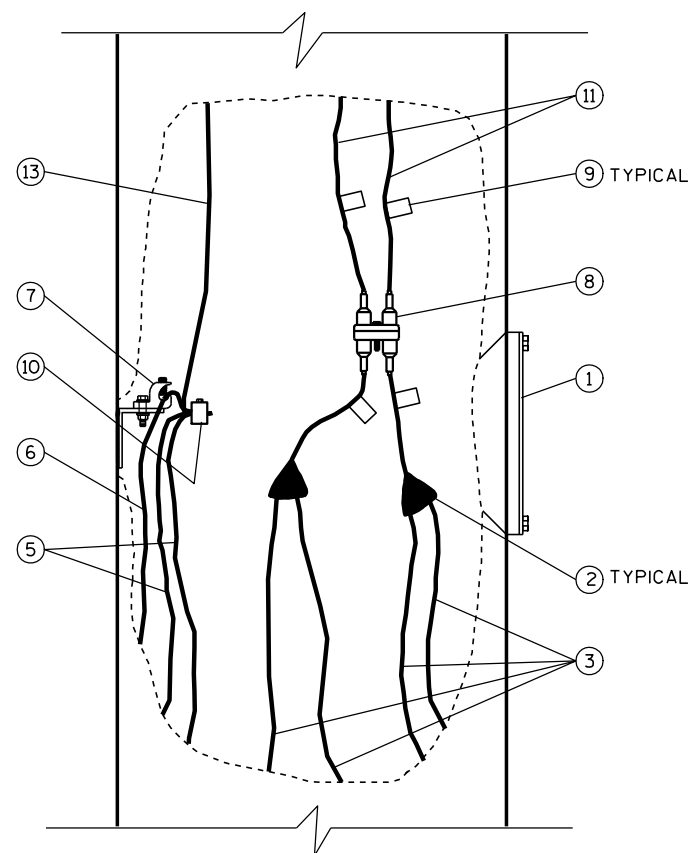
CUTAWAY HANDHOLE DETAIL

GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL

PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE
APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT
SPICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING
LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE.
THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES
ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE,
BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE,
WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL
PROVISIONS.

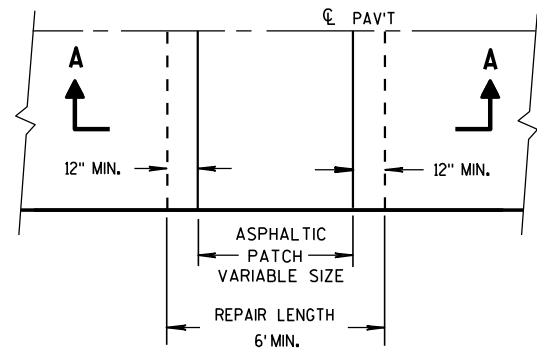
- ① HANDHOLE AND COVER
- ② INSULATED SPLICE
- ③ UNGROUNDED LINE WIRE
- ④ GROUNDED LINE WIRE
- ⑤ SYSTEM GROUNDING LINE WIRE
- ⑥ GROUNDING ELECTRODE CONDUCTOR
- ⑦ HANDHOLE GROUNDING LUG
- ⑧ FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
- ⑨ CIRCUIT TAG (SEE GENERAL NOTE)
- ⑩ REVERSIBLE PRESSURE OR COMPRESSION
GROUNDING CONNECTOR (NOT INSULATED)
- ⑪ UNGROUNDED POLE WIRE
- ⑫ GROUNDED POLE WIRE
- ⑬ EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

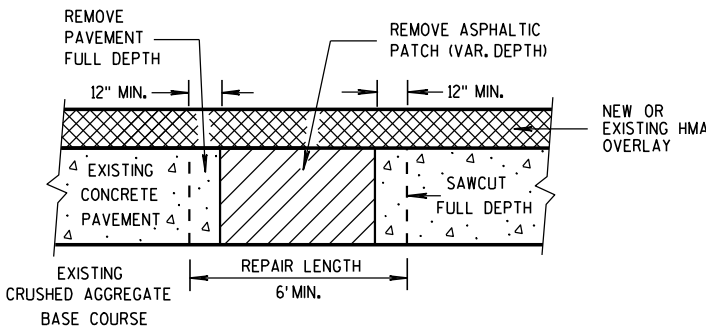
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE /S/ John Co...
STATE ELECTRICAL ENGI 350 HWYS
FHWA

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR
DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

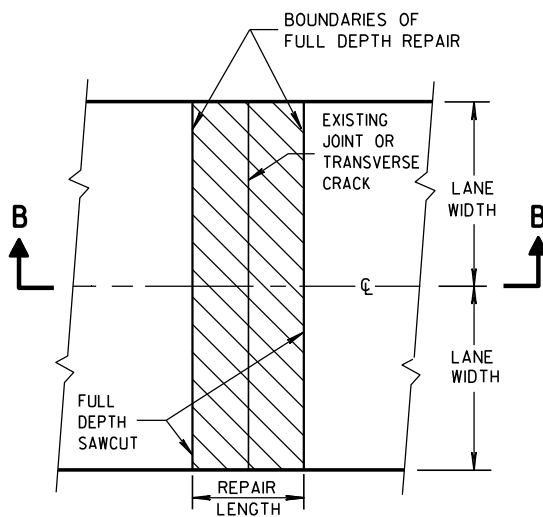


PLAN VIEW

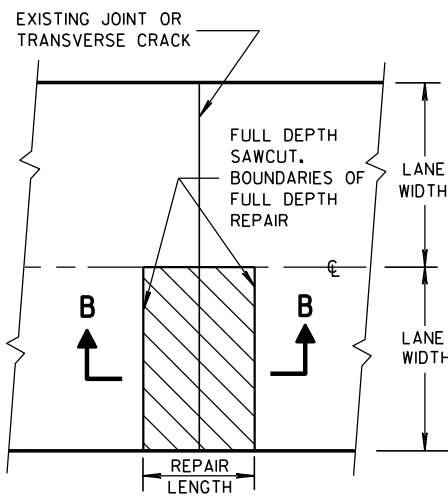


SECTION A-A

HMA PATCH REMOVAL



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

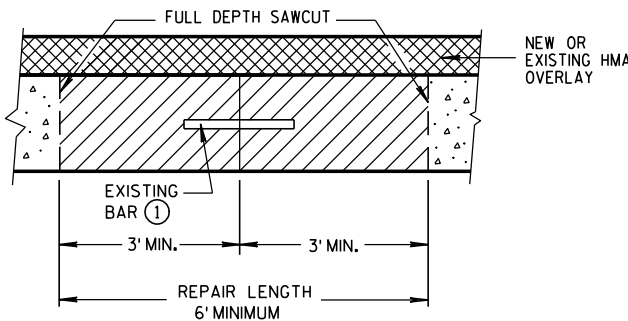
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

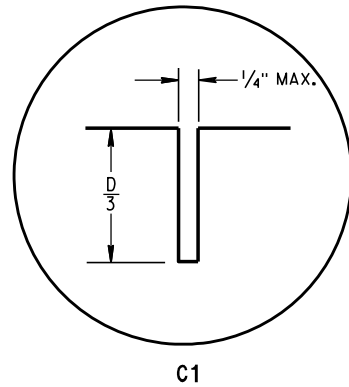
① DOWEL BARS MIGHT NOT EXIST.



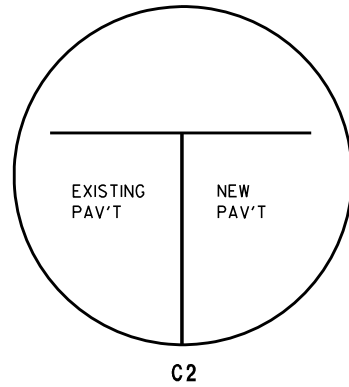
SECTION B-B
CONCRETE REMOVAL

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

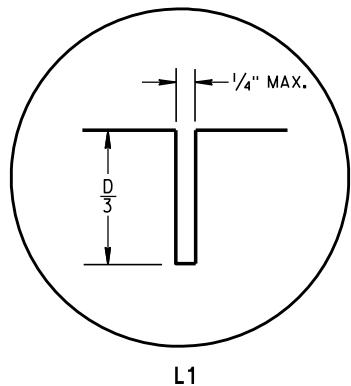


C1

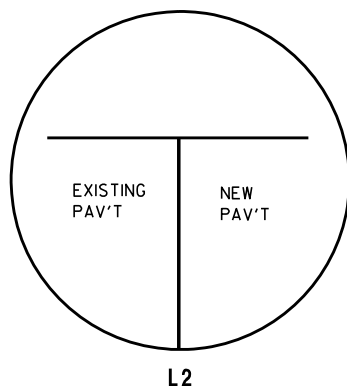


C2

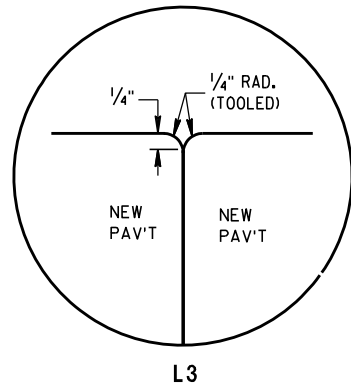
TRANSVERSE JOINTS



L1

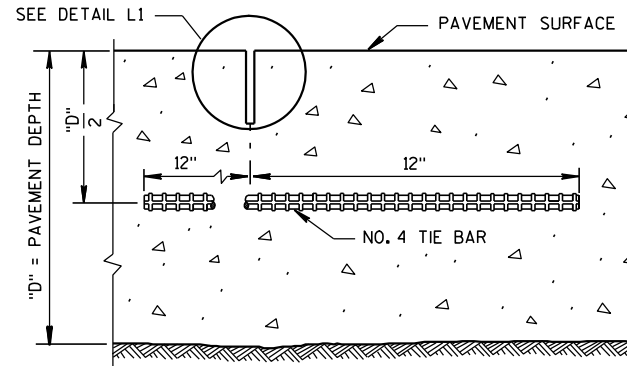


L2

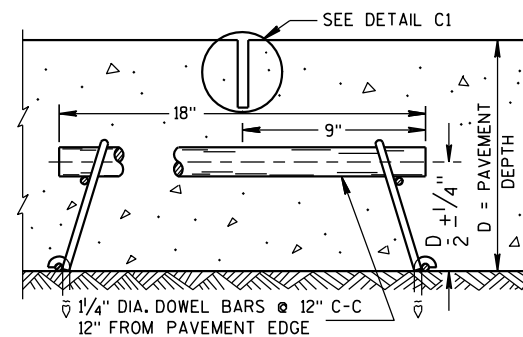


L3

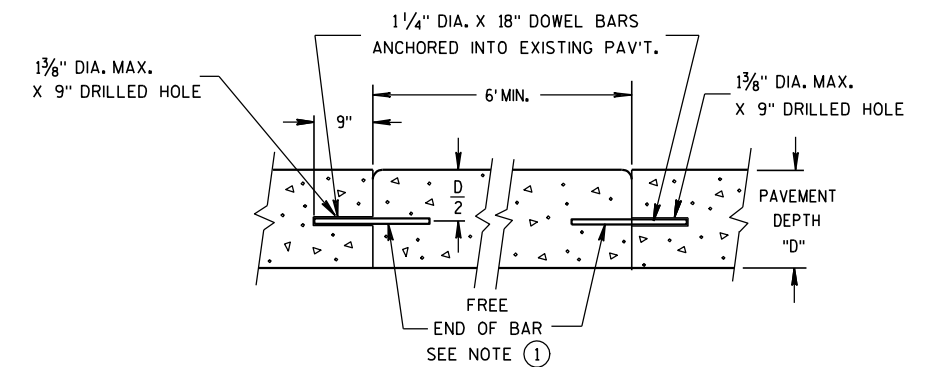
LONGITUDINAL JOINTS



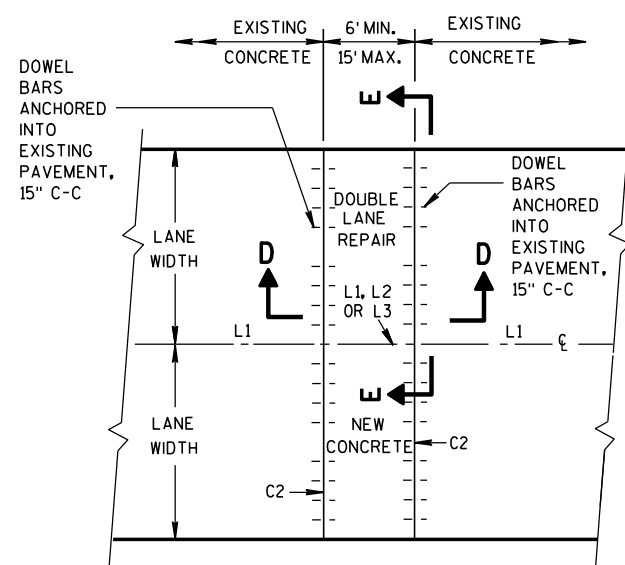
SECTION C-C
SAWED LONGITUDINAL JOINT



SECTION F-F
CONTRACTION JOINT

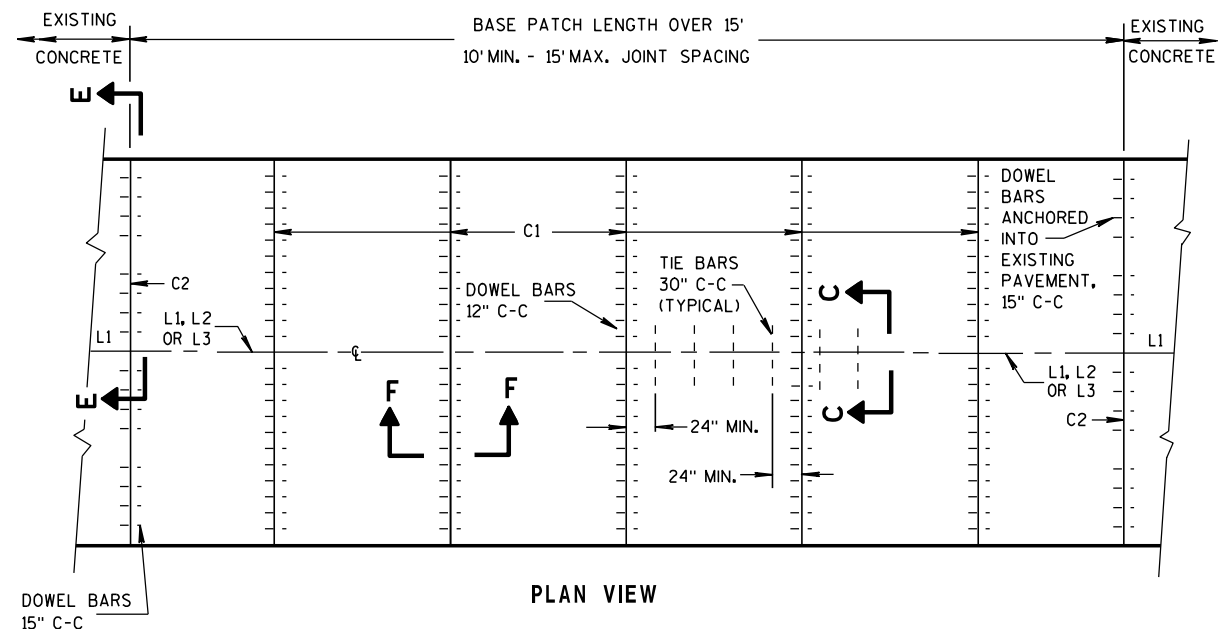


SECTION D-D



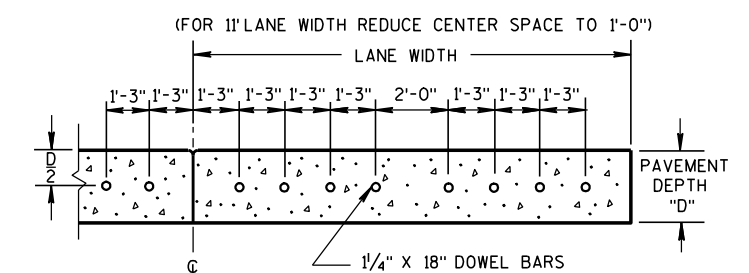
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

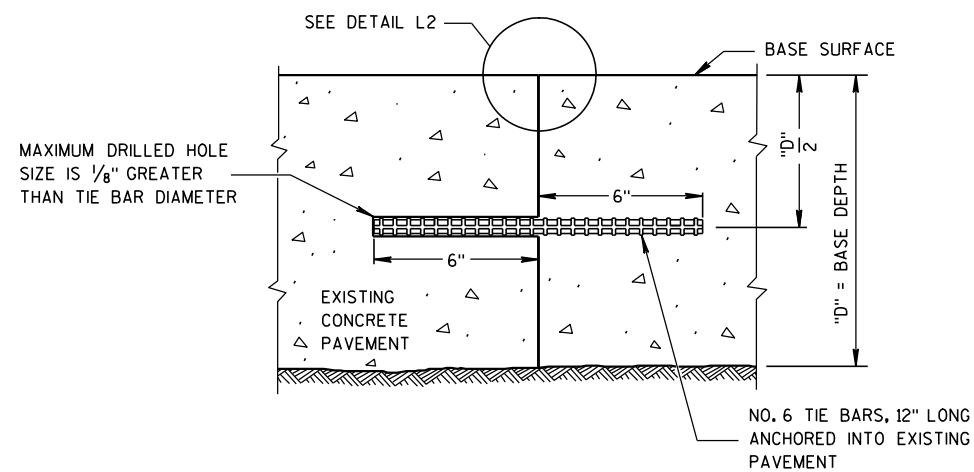
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

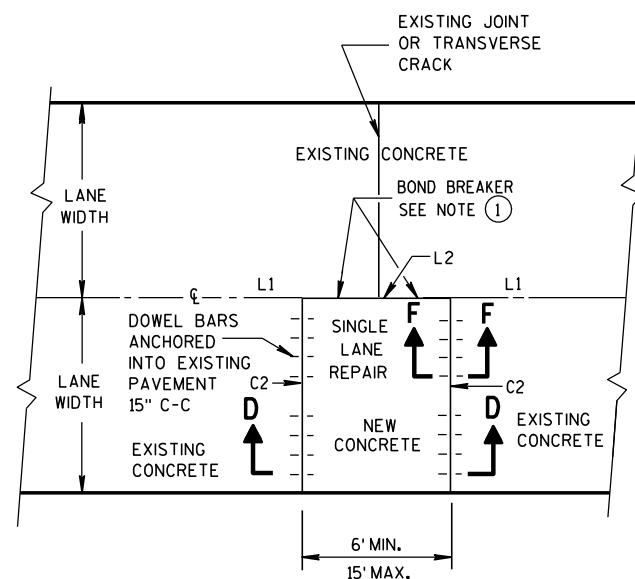
- 1 APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



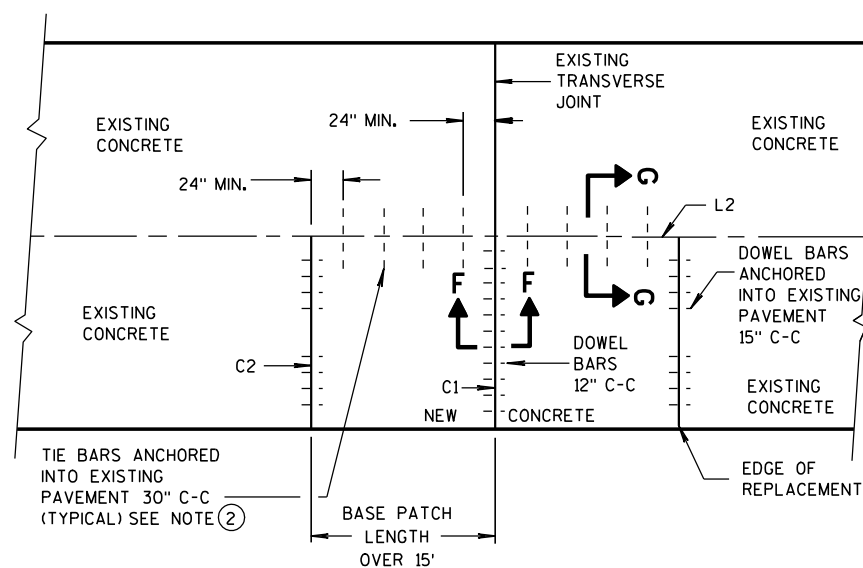
SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

GENERAL NOTES

- ① USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.
- ② WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH

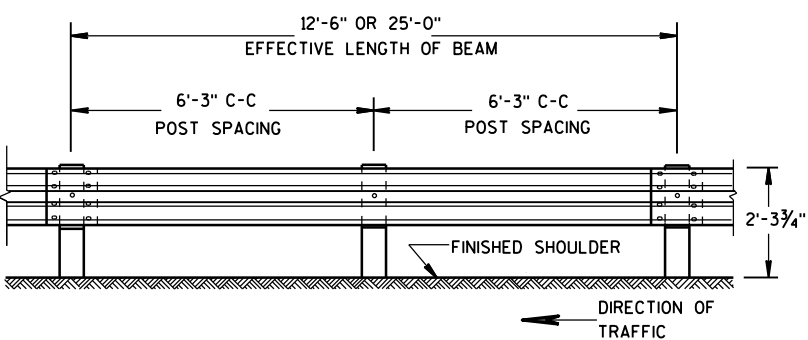
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12-11-2009 /S/ Deb Bischoff
DATE PAVEMENT POLICY & DE 353 NEER

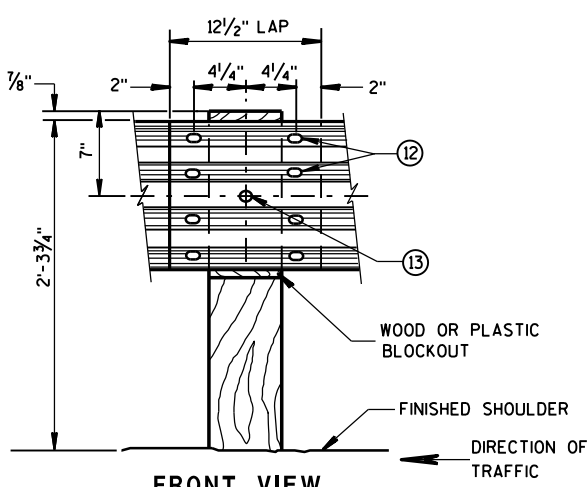
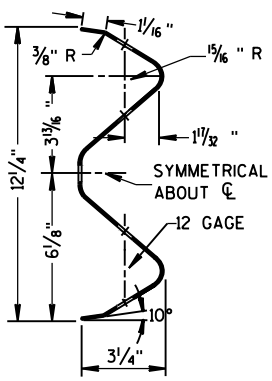
FHWA



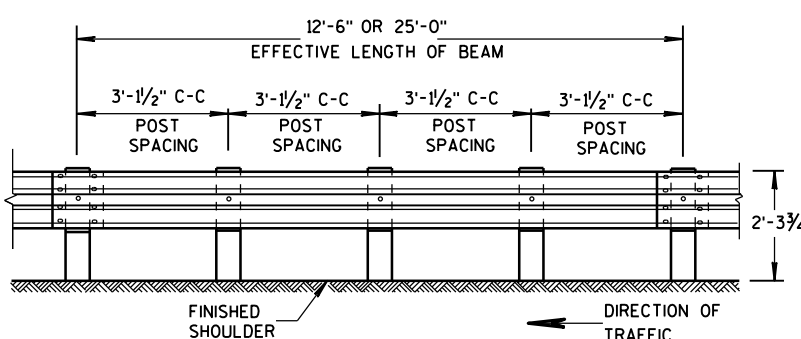
FRONT VIEW

POST SPACING STANDARD INSTALLATION

SECTION THRU W BEAM

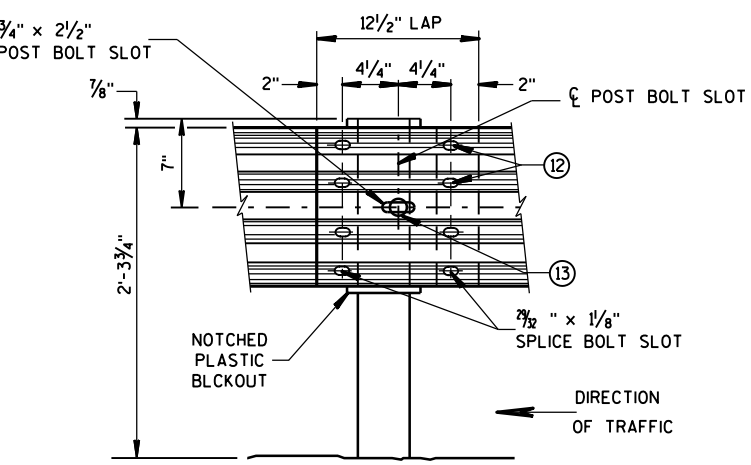


FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL



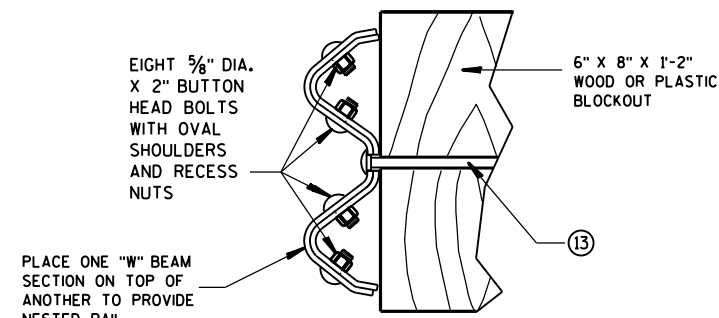
FRONT VIEW

POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW
BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD

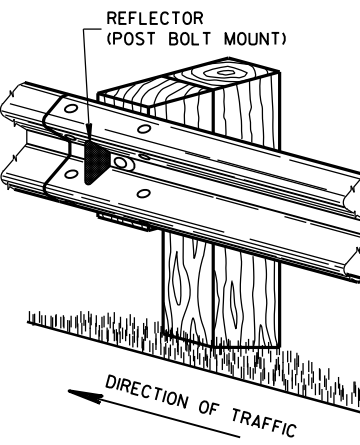


NESTED W BEAM (NW)

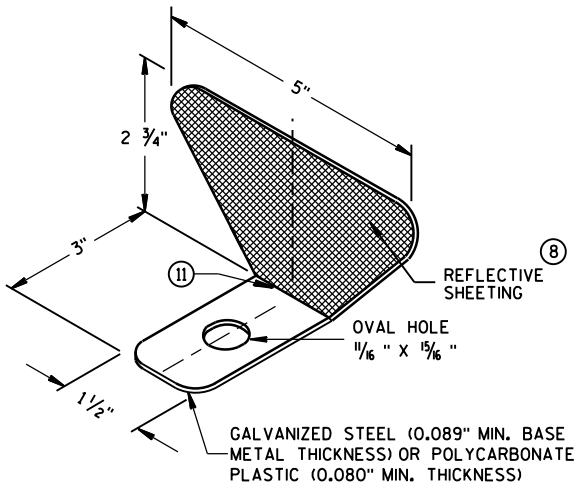
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING^⑨

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ^⑩	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^⑪	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

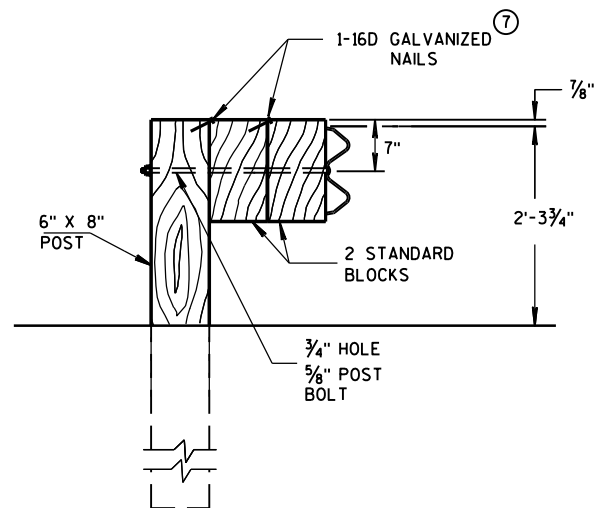


GENERAL NOTES

- ⑧ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- ⑩ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ⑪ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
- ⑫ 8 - 5/8" φ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

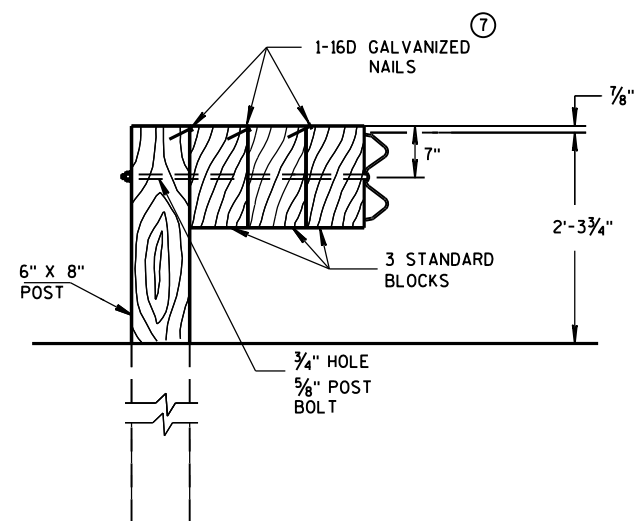
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

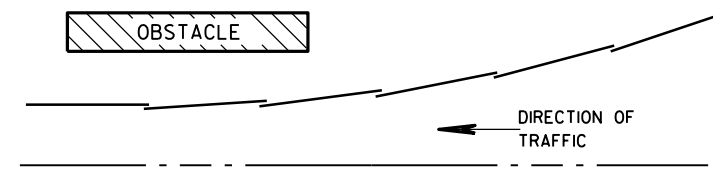


DETAIL FOR TRIPLE BLOCKS

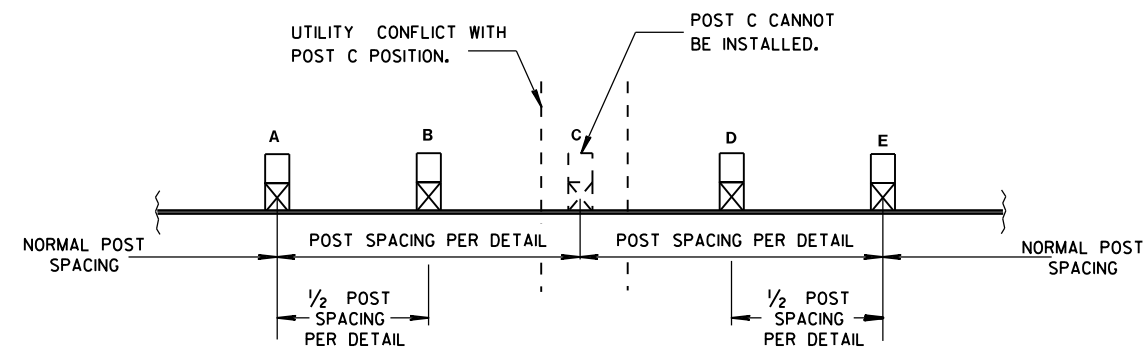
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND
SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION
DISTANCE OF THE BARRIER.



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

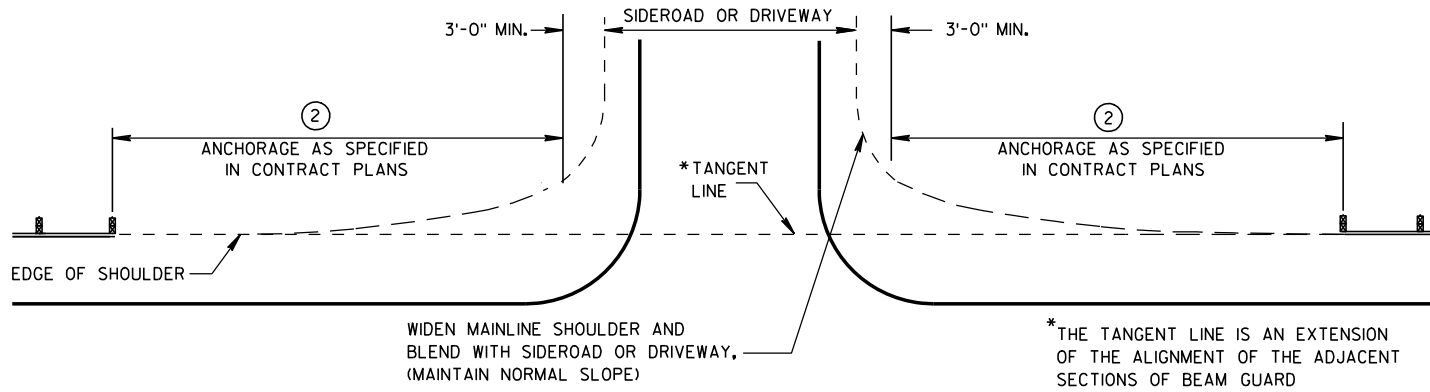
June 2014
DATE

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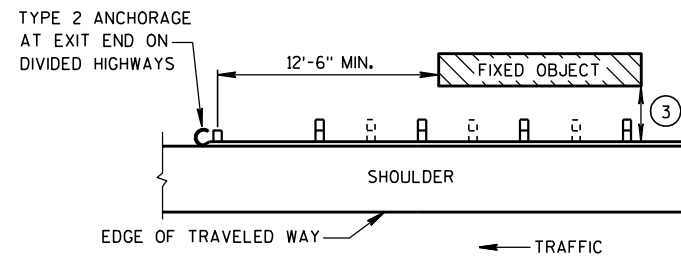
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

356

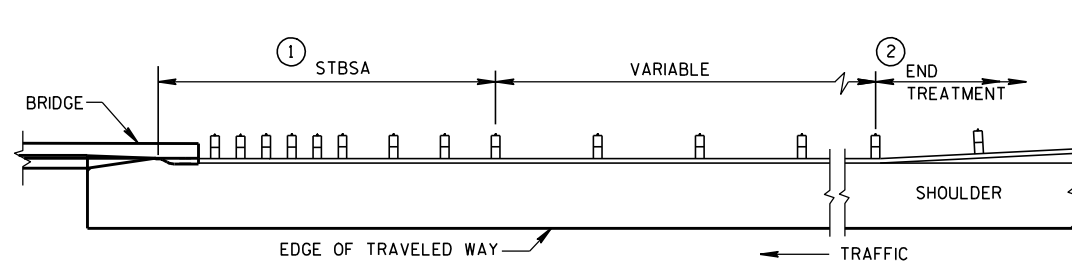
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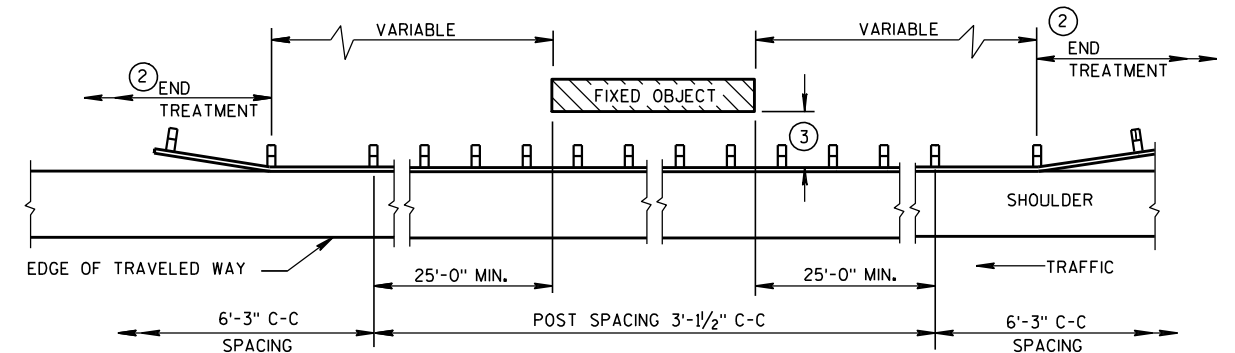
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES

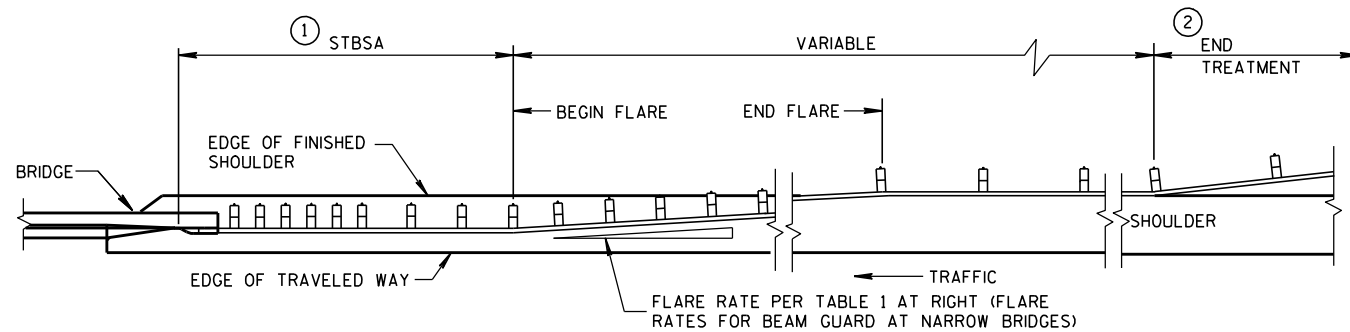


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1



BEAM GUARD AT NARROW BRIDGES (FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

- STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1 1/2"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-21-07

DATE

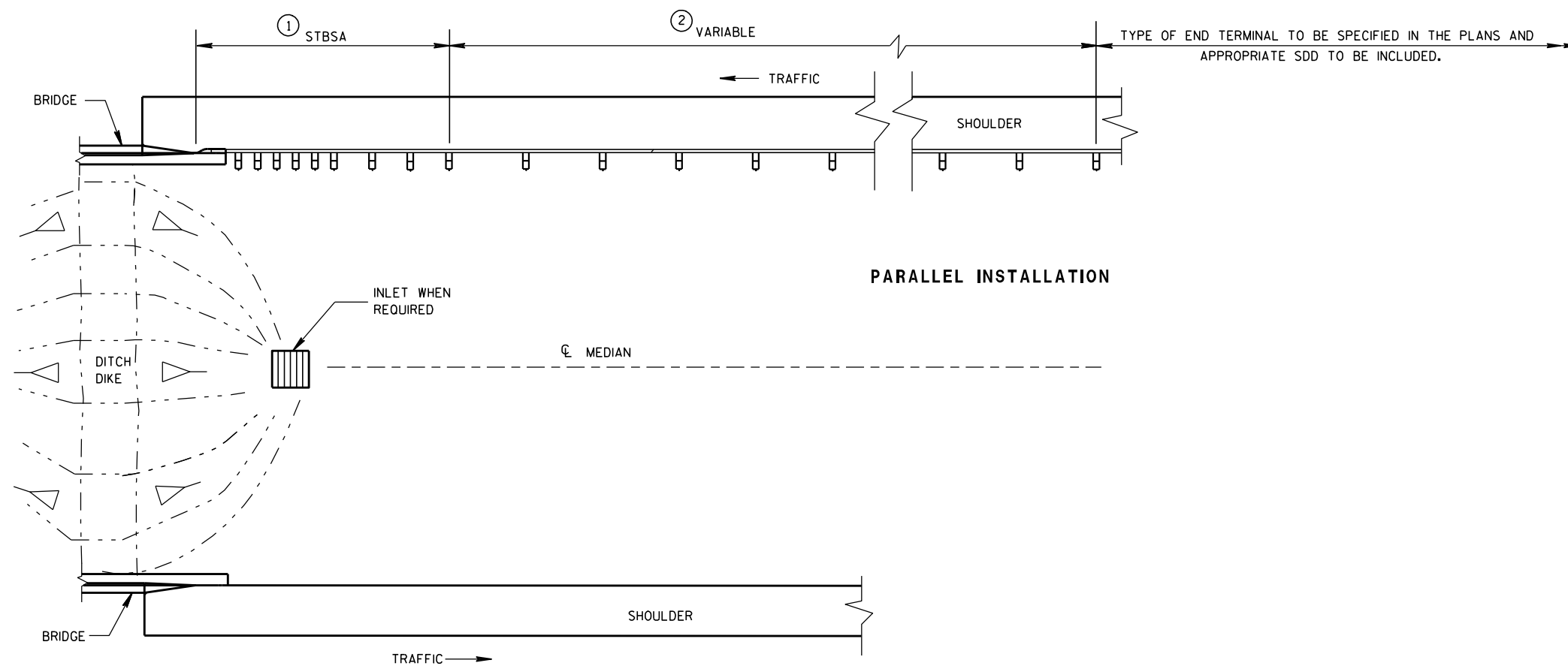
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/s/ Jerry H. Zoon

ROADWAY STANDARDS (357

ENGINEER

INT



BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

GENERAL NOTES

- ① STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- ② LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

STEEL PLATE BEAM GUARD
CLASS "A" AT
MEDIAN APPROACH TO BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

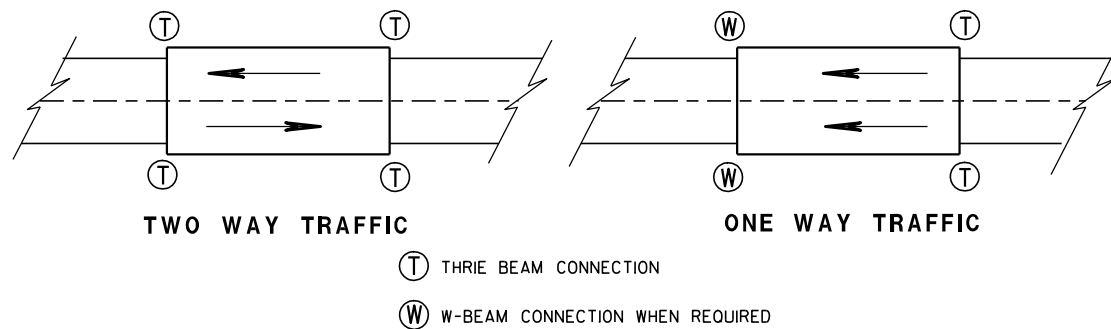
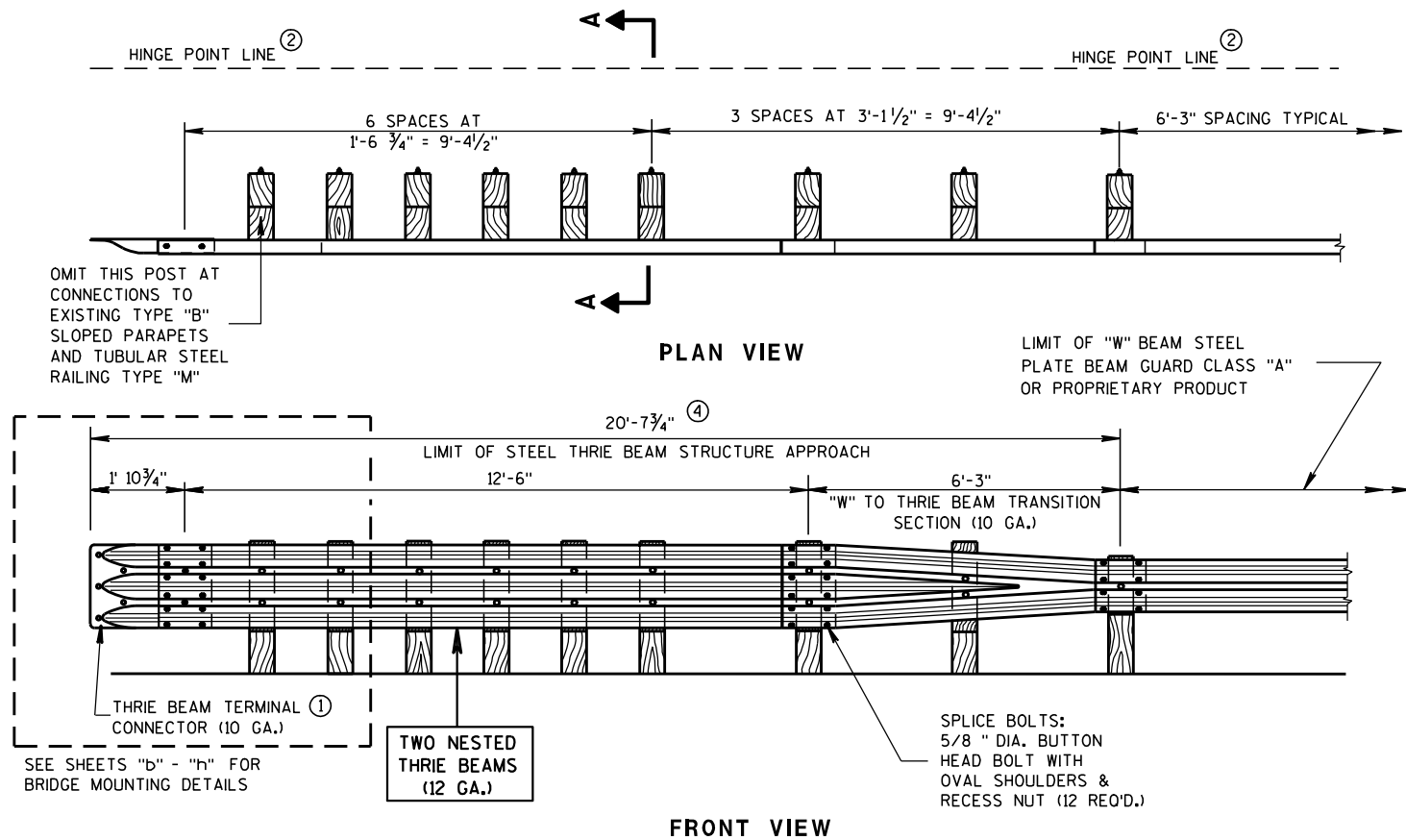
APPROVED

8-21-07
DATE

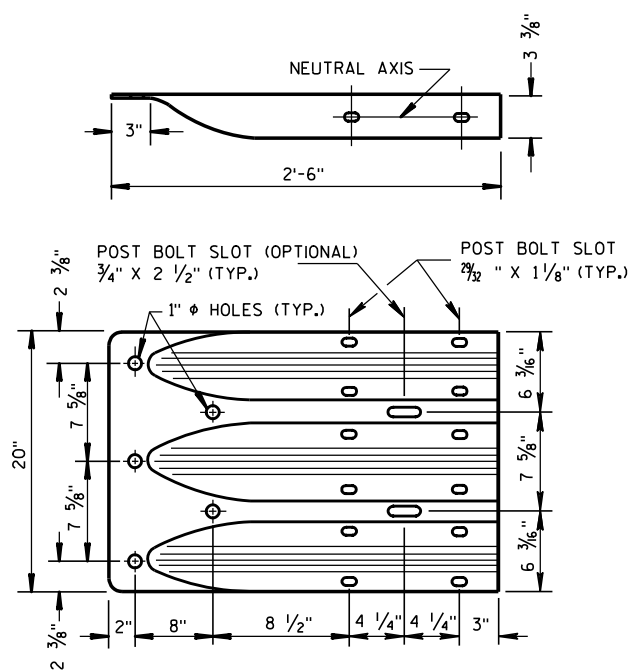
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

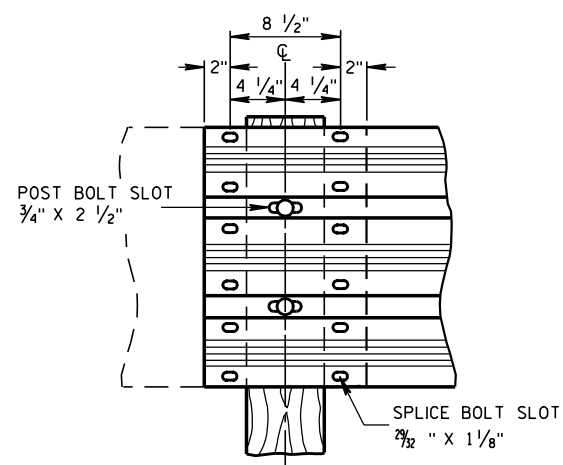
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TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

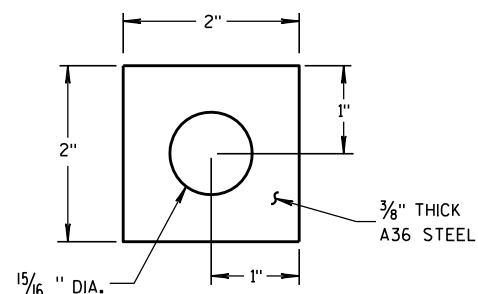
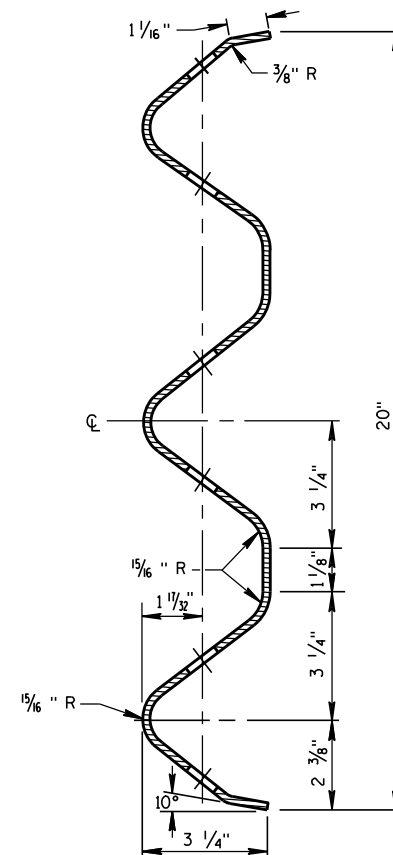


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

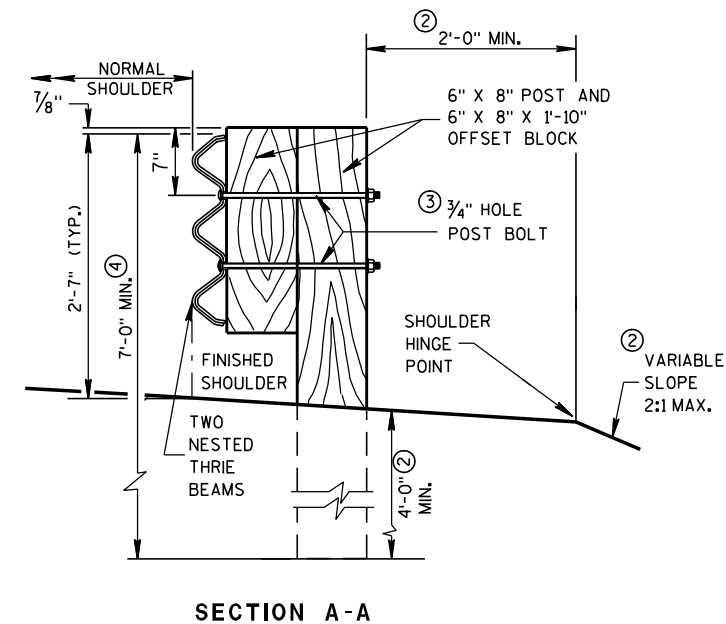
GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

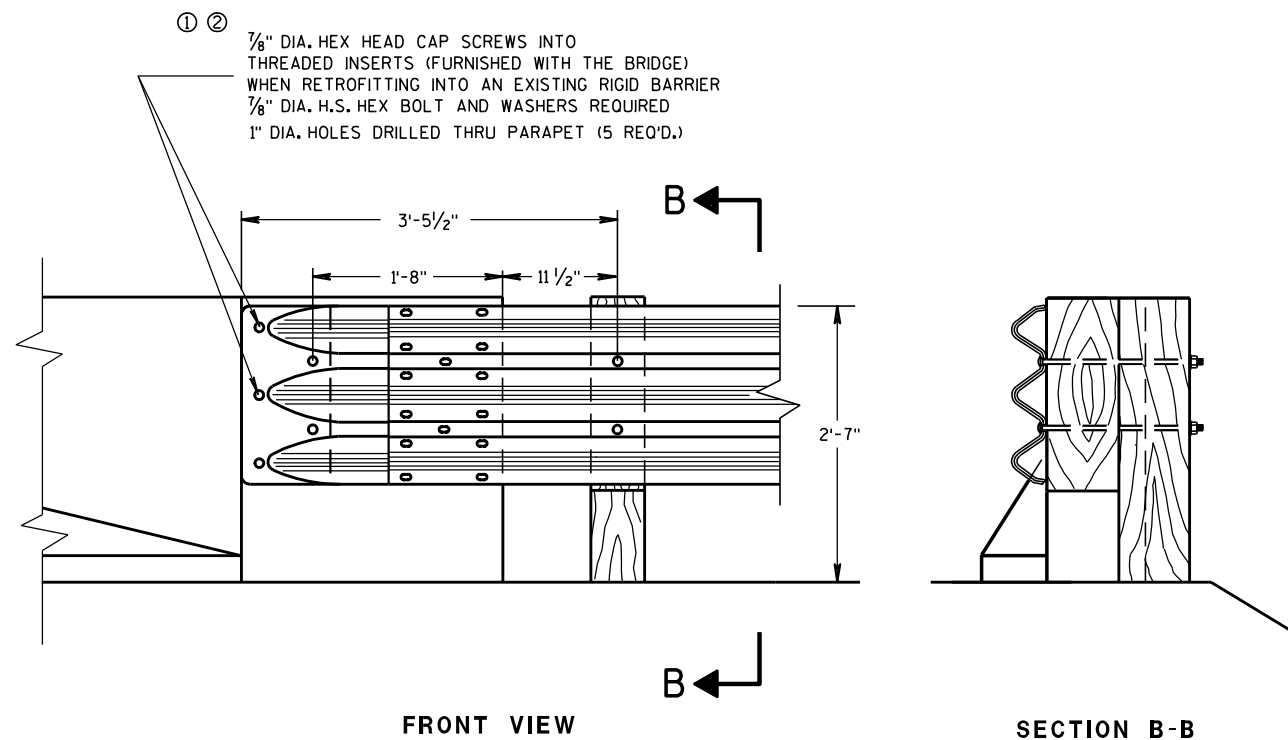
DATE

FHWA

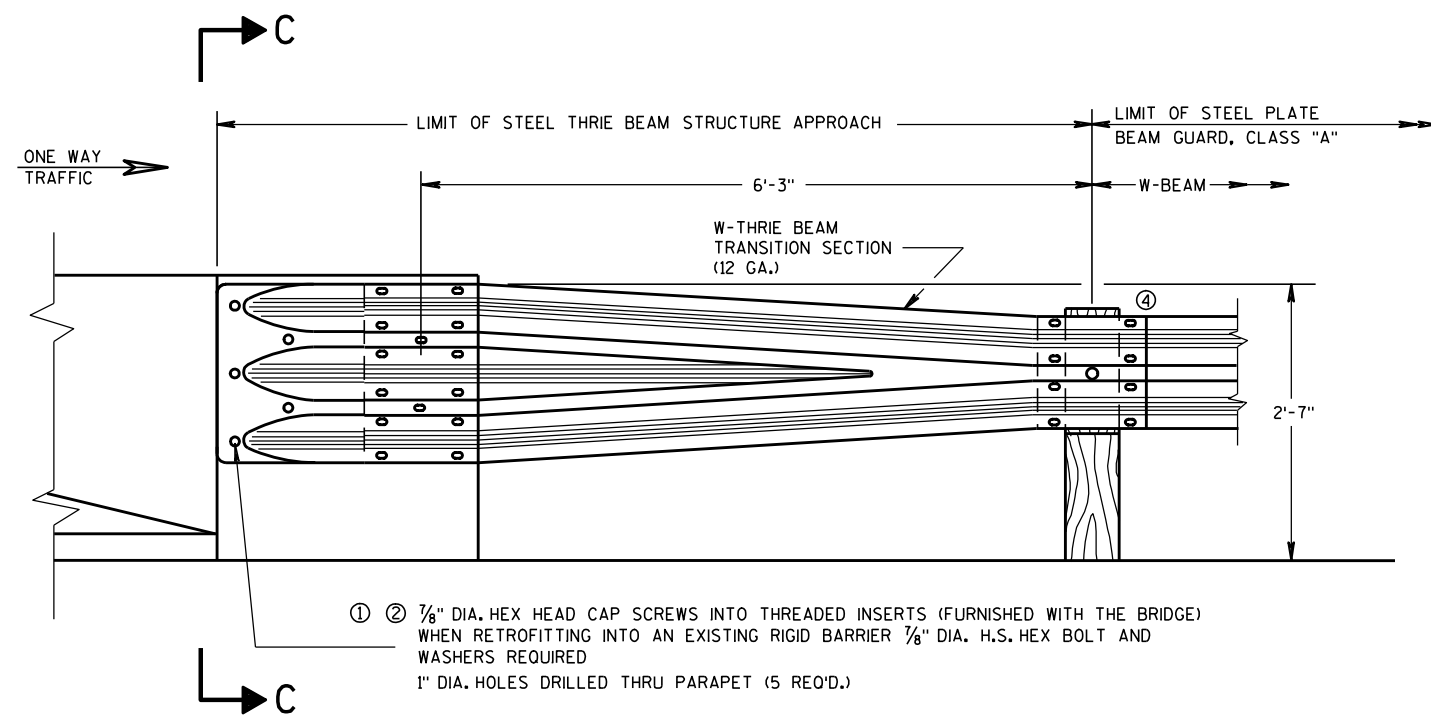
/s/ Jerry H. Zoon

ROADWAY STANDARDS 359

ENGINEER



THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

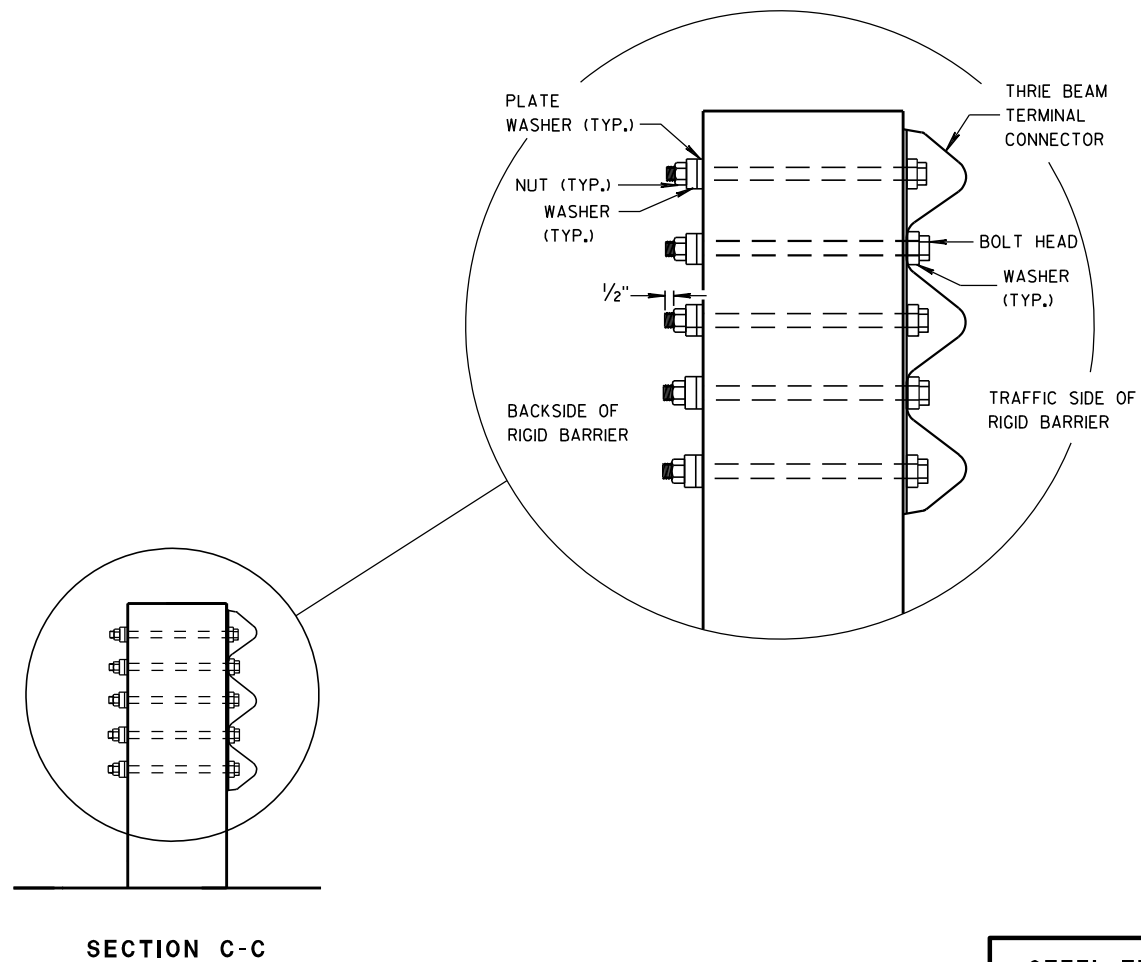
GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS (360) ENGINEER

ENT

GENERAL NOTES

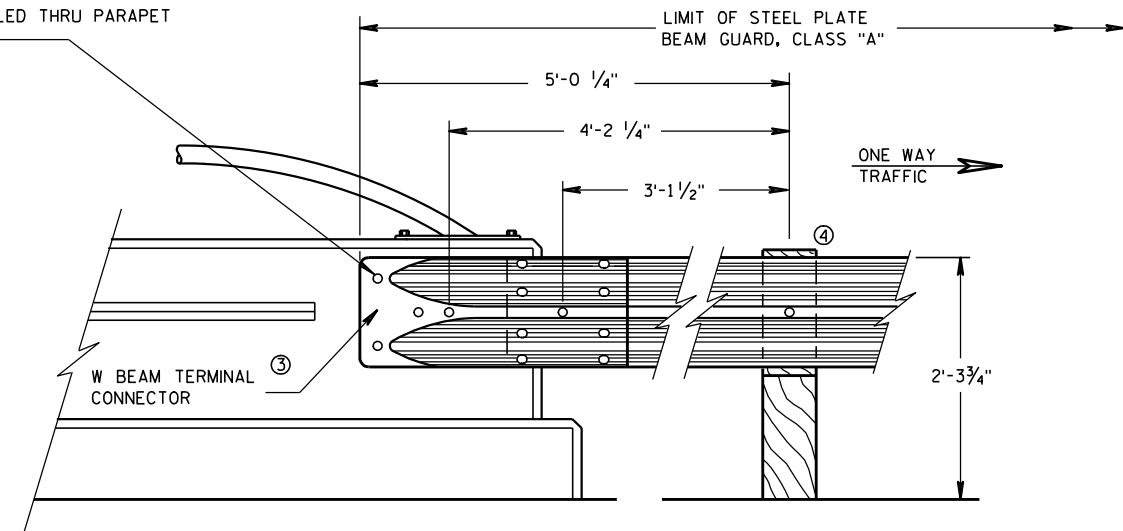
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

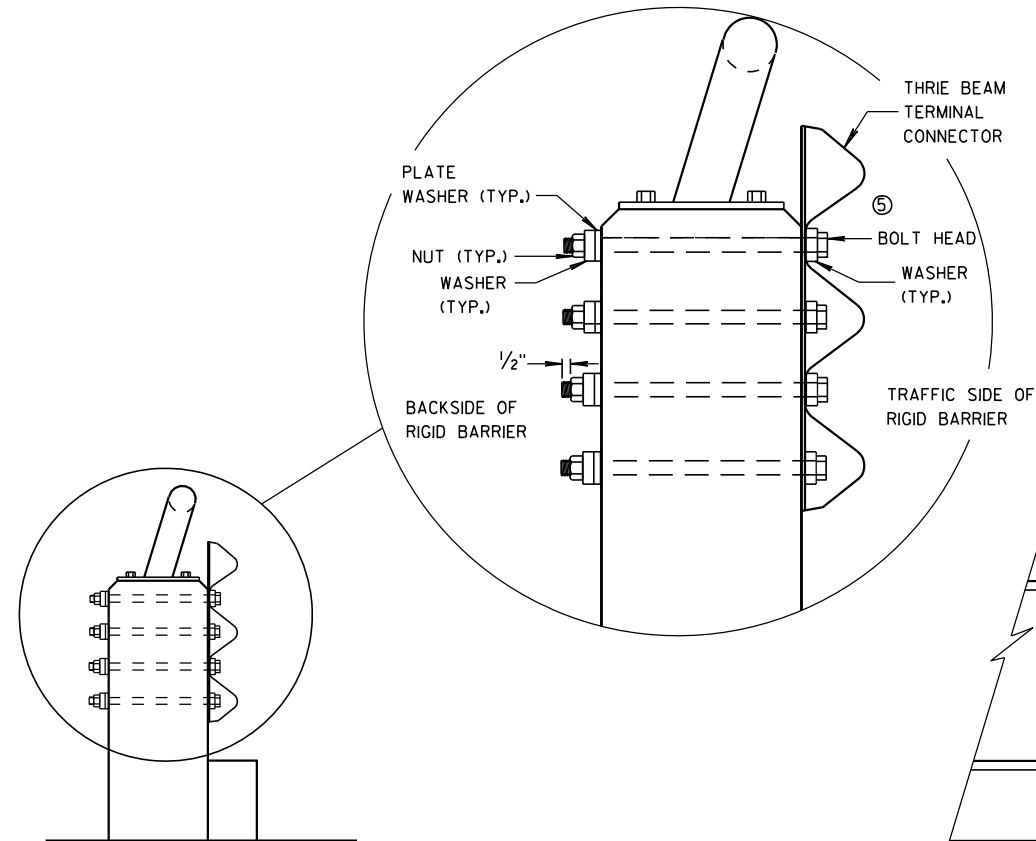
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ".
- ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
- ⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PARAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

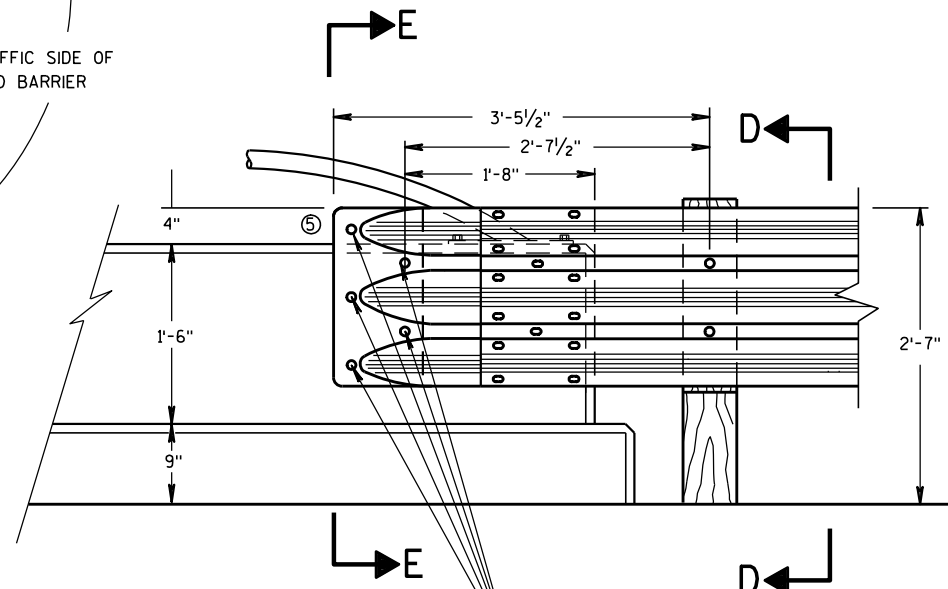
- ① ② $\frac{7}{8}$ " DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}$ " DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW
W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



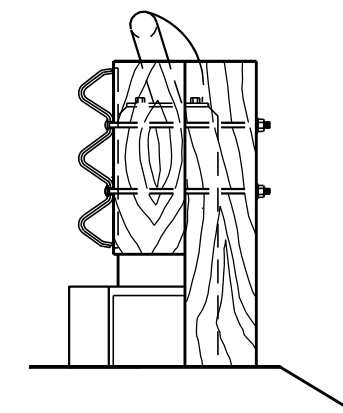
SECTION E-E



- ① ② $\frac{7}{8}$ " DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}$ " DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



SECTION D-D

STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO
VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

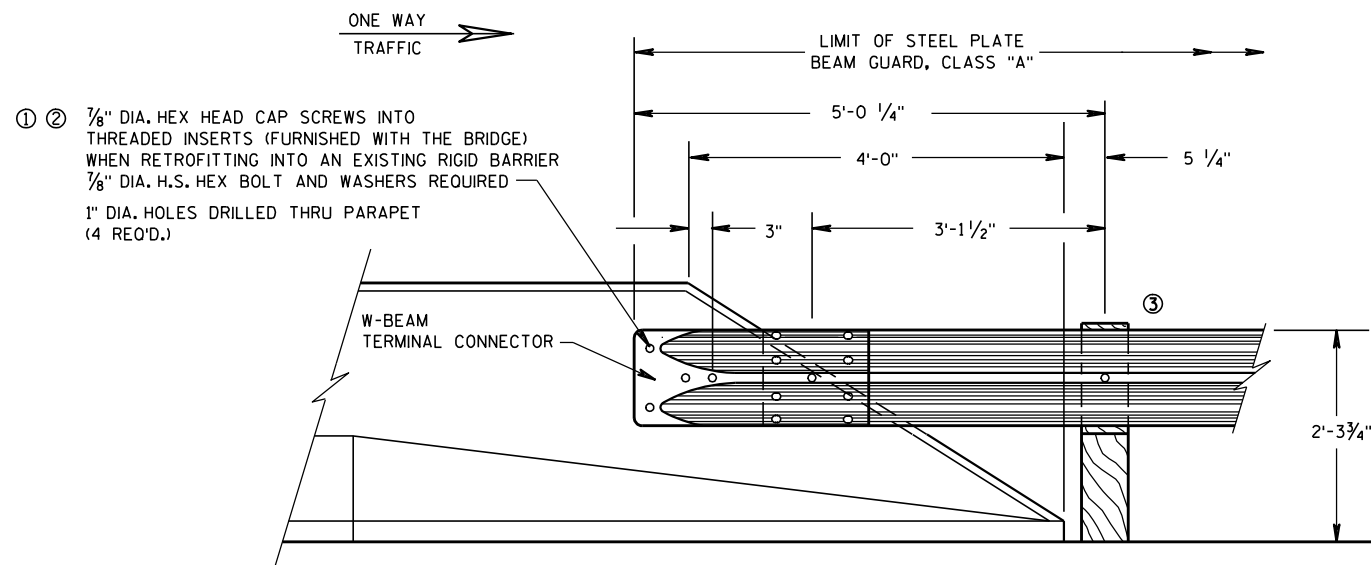
FHWA

/S/ Jerry H. Zoon

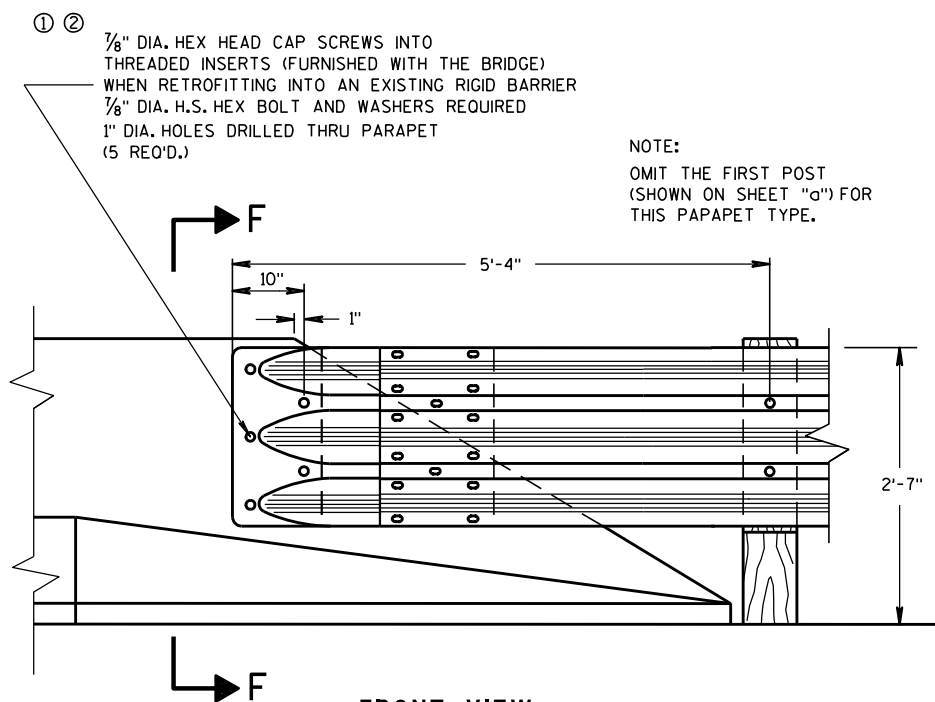
ROADWAY STANDARDS (361

ENGINEER

ENT

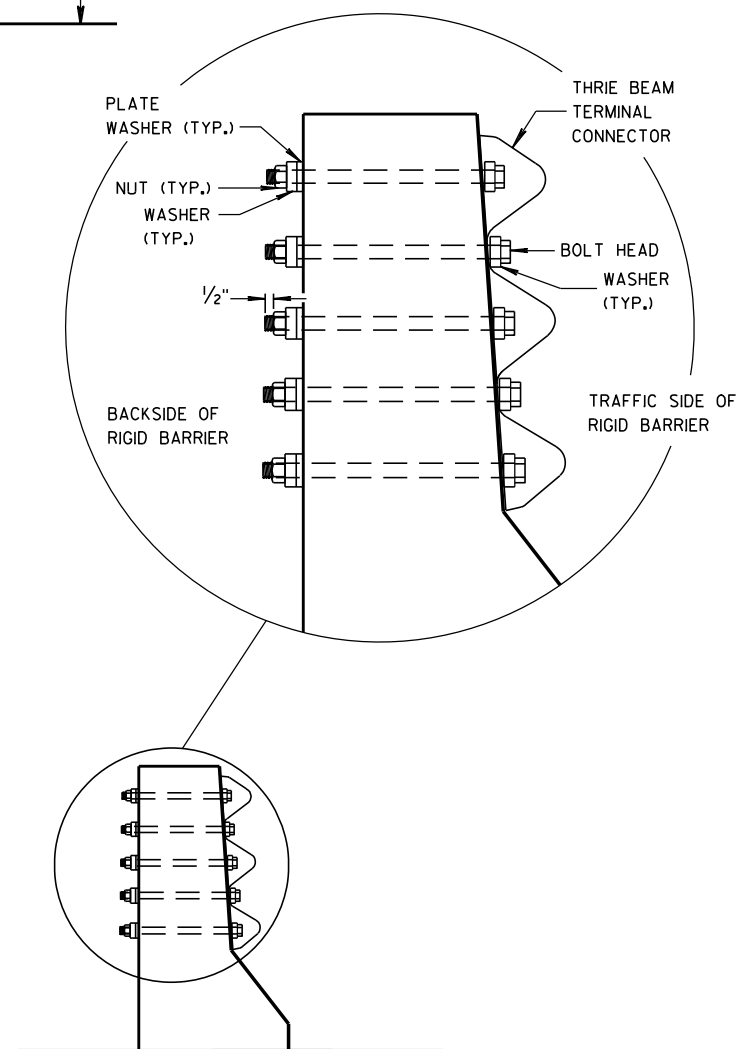


FRONT VIEW
W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS
 (USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)



FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS

NOTE:
 OMIT THE FIRST POST
 (SHOWN ON SHEET "a") FOR
 THIS PARAPET TYPE.



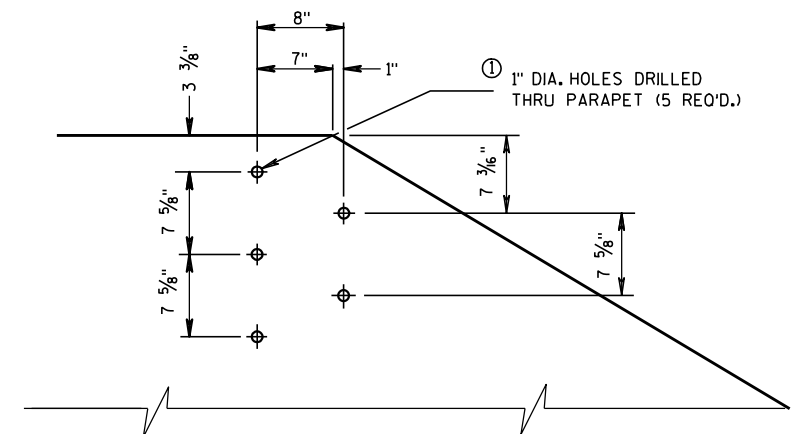
SECTION F-F

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

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- ③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
 DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

STEEL THRIE BEAM STRUCTURE
APPROACH CONNECTION TO
SLOPED END PARAPETS

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

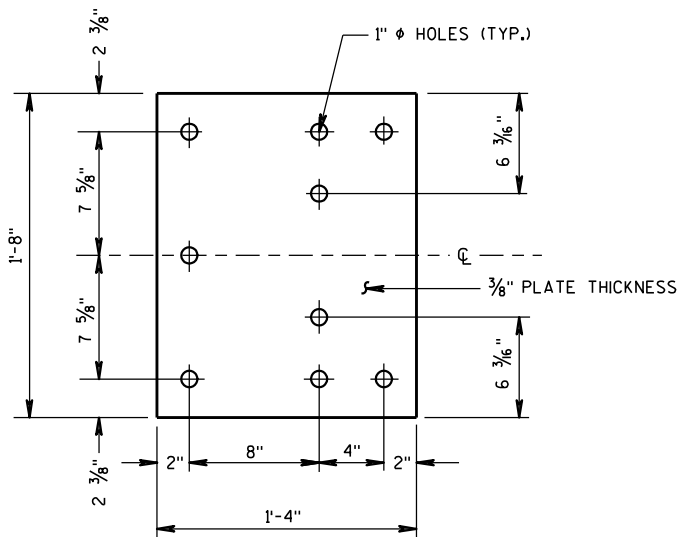
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FHWA

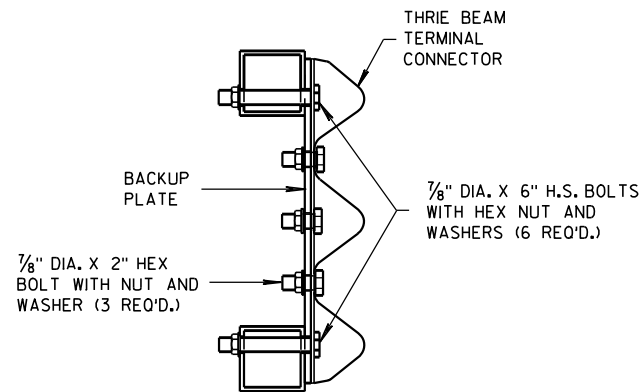
/s/ Jerry H. Zopp

ROADWAY STANDARDS 362

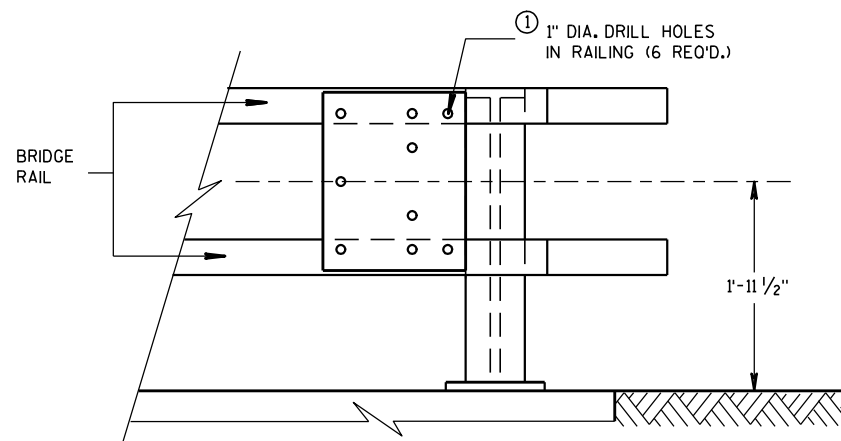
ENGINEER



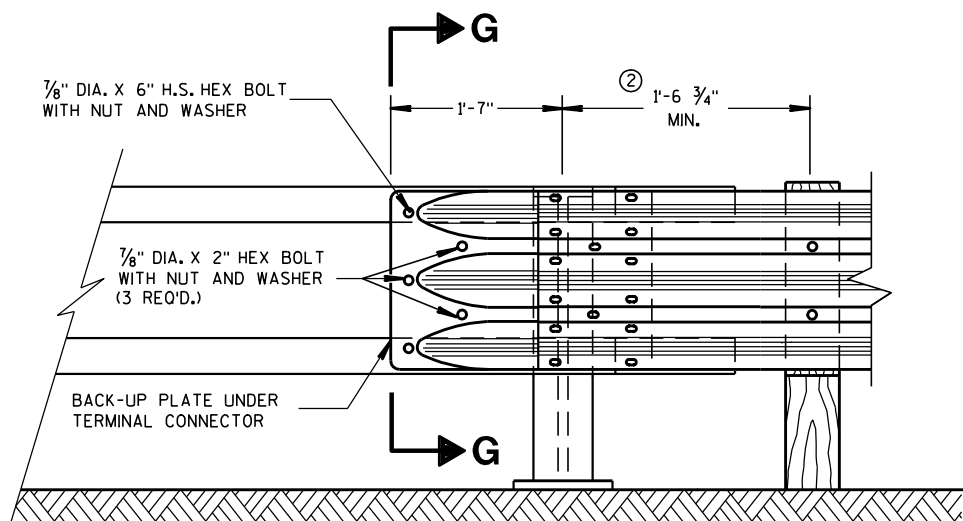
BACK-UP PLATE DETAIL



SECTION G-G

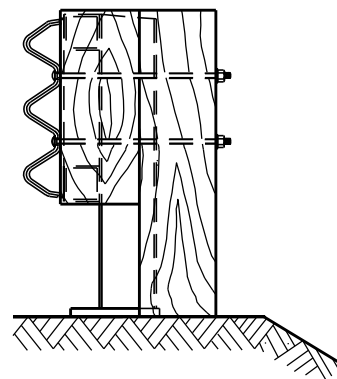


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

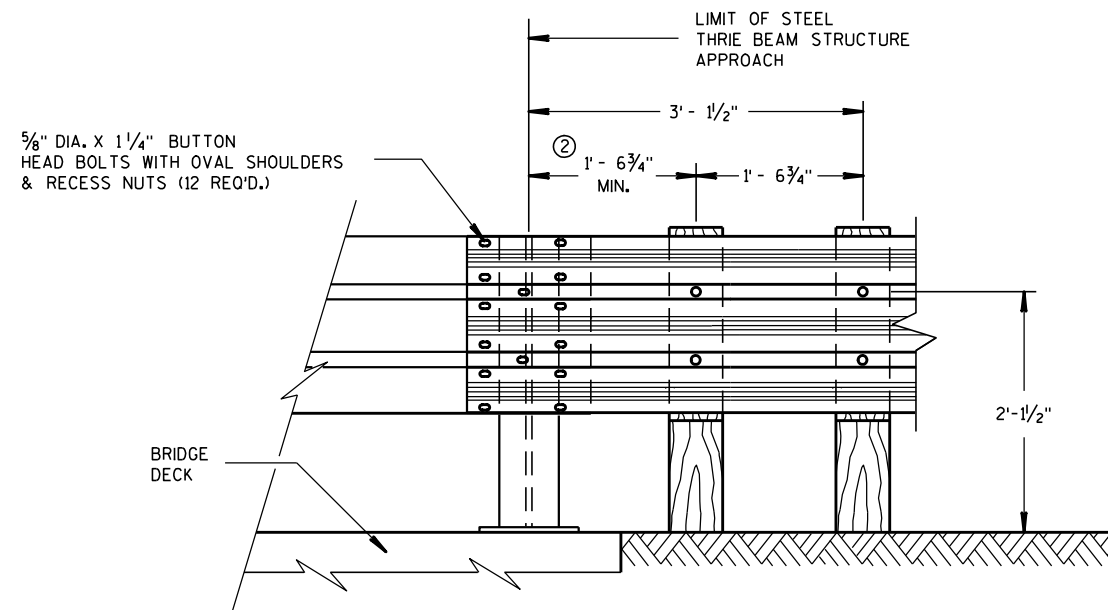


END VIEW

GENERAL NOTES

BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO BRIDGE
RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

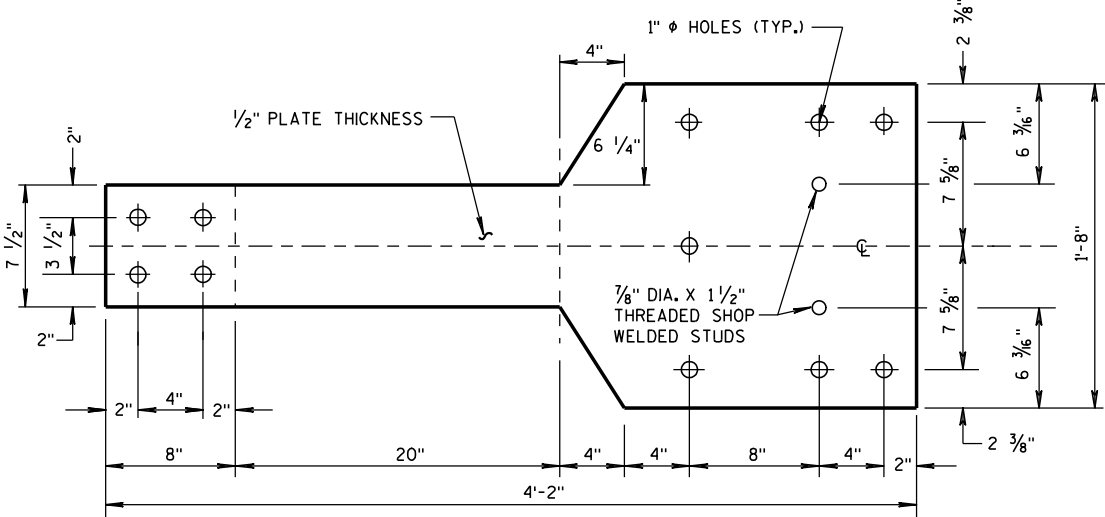
8/31/2012
DATE

FHWA

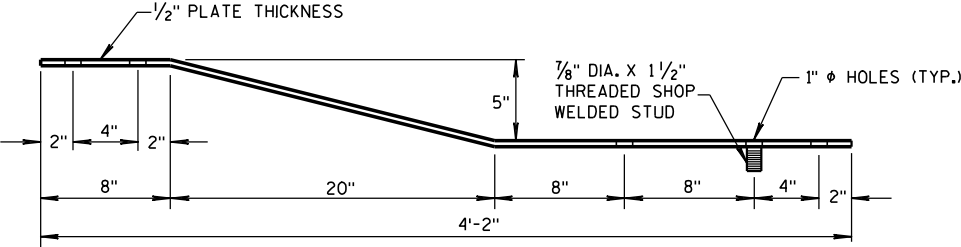
/S/ Jerry H. Zapp
ROADWAY STANDARDS 363 ENT
ENGINEER

GENERAL NOTES

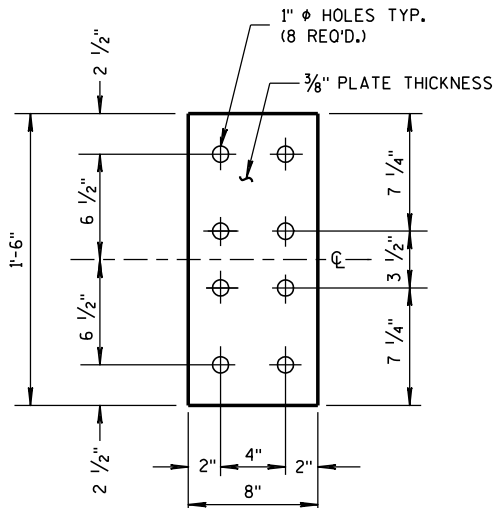
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



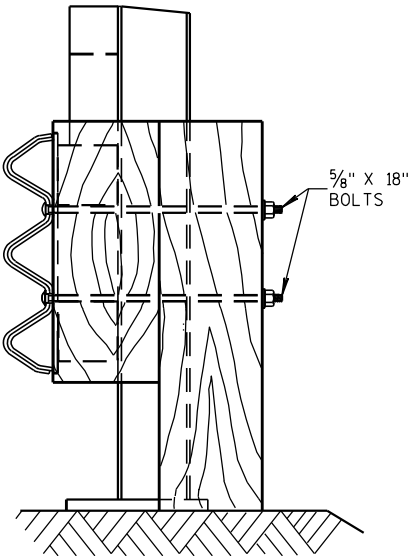
FRONT VIEW



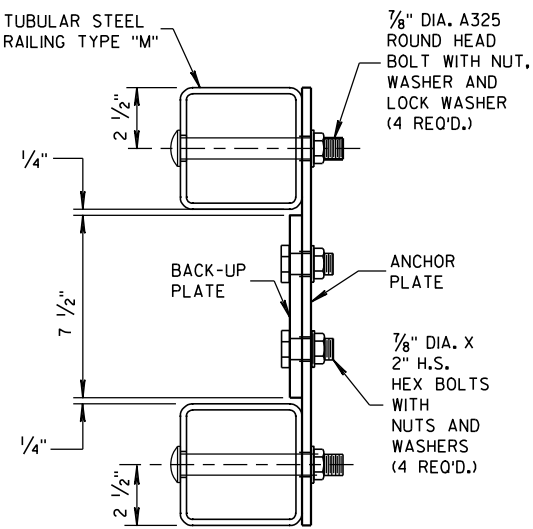
PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"



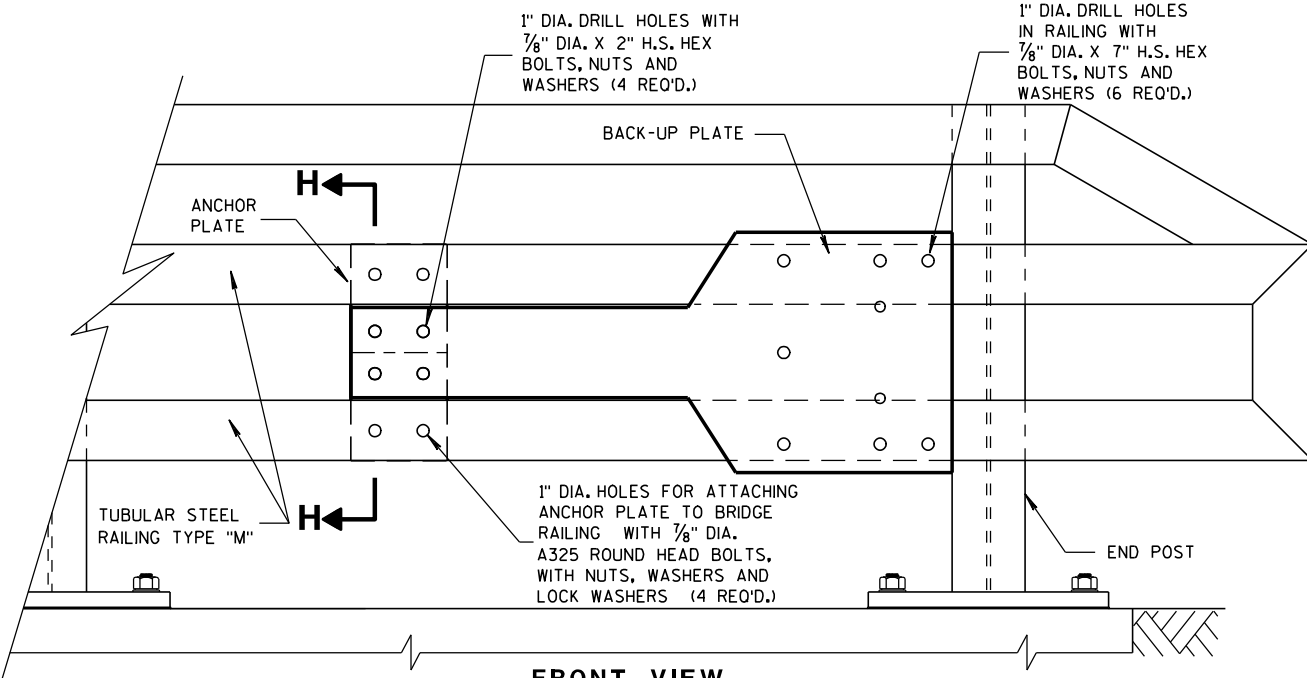
FRONT VIEW
ANCHOR PLATE DETAIL, TYPE "M"



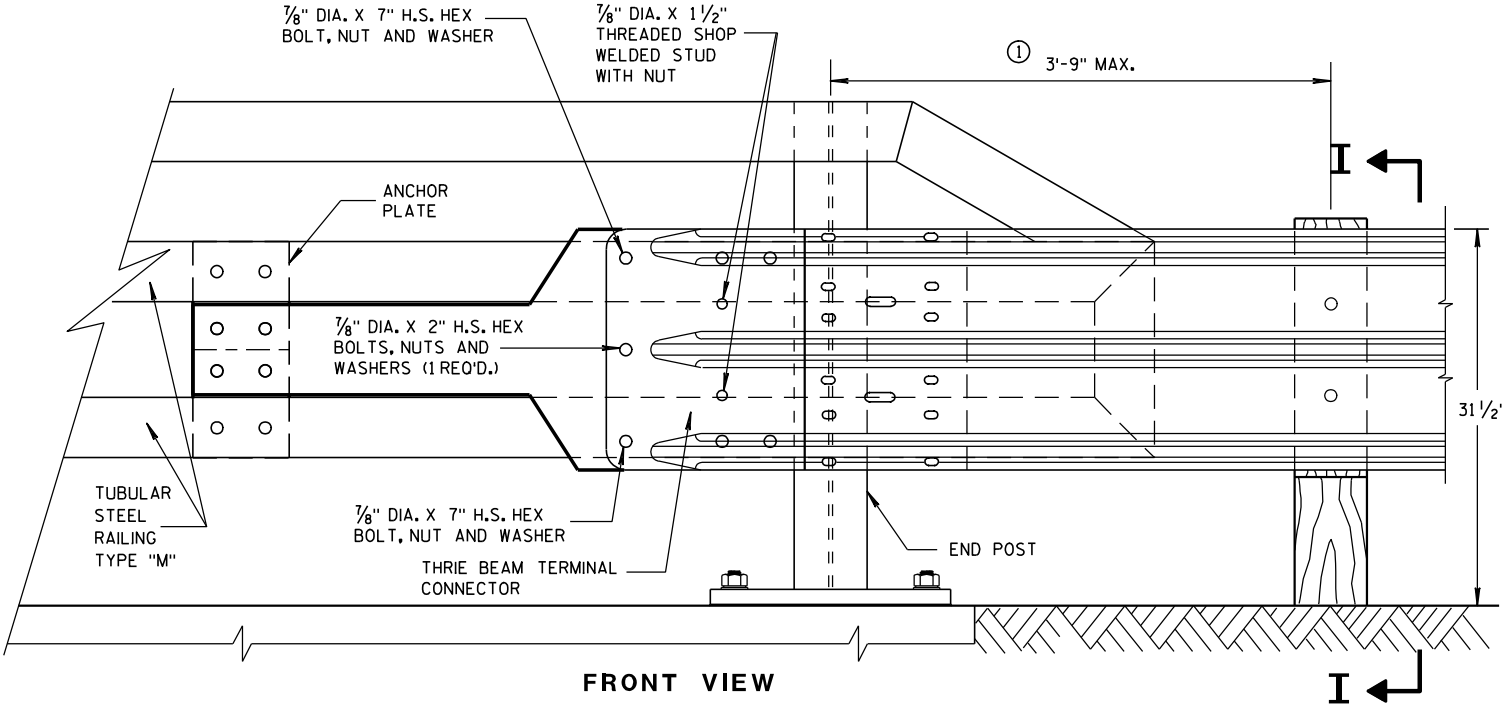
SECTION I-I



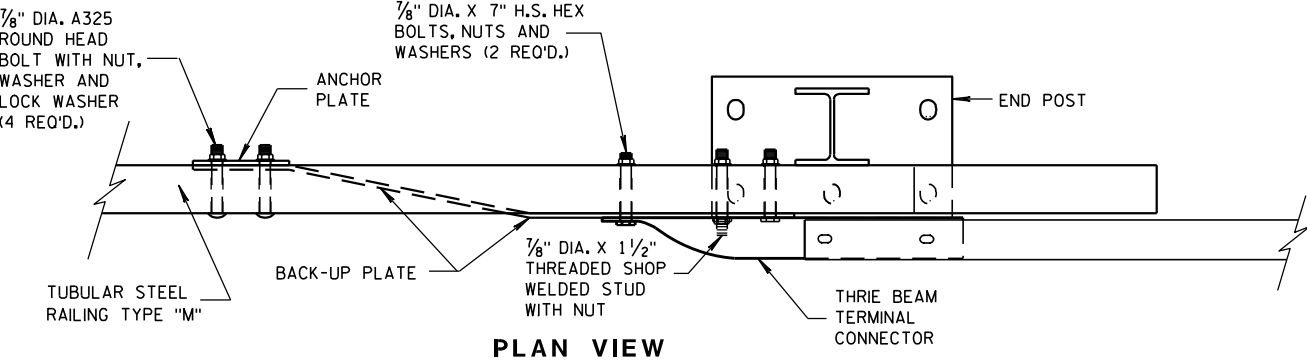
SECTION H-H



FRONT VIEW
ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE
APPROACH CONNECTION TO
BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
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FHWA ROADWAY STANDARDS ENGINEER



CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 3/8"	3/16"
P3	1		39" x 3 3/8" x 20" x 19 1/8"	3/16"
S1	4		18 1/8" x 3 3/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 1/8" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/8"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 1/8" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/8"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.

ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

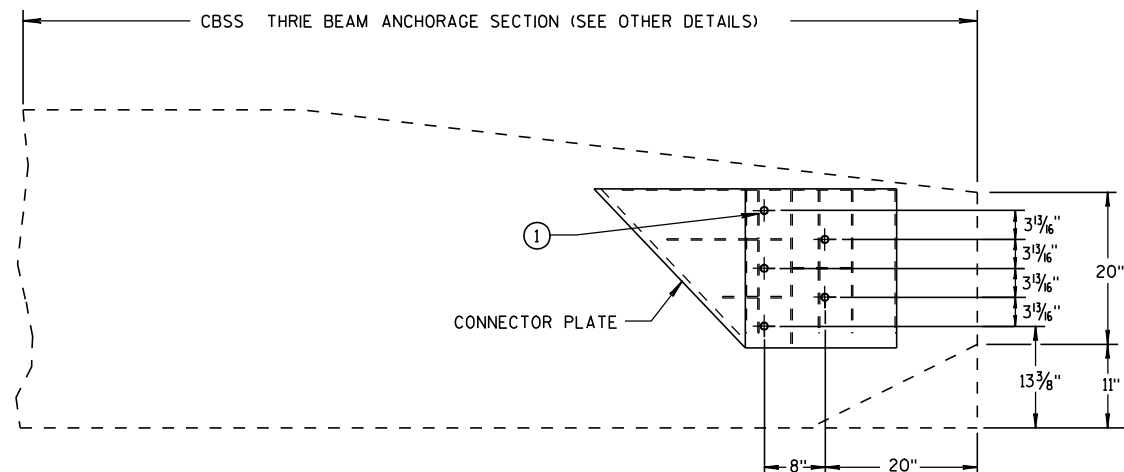
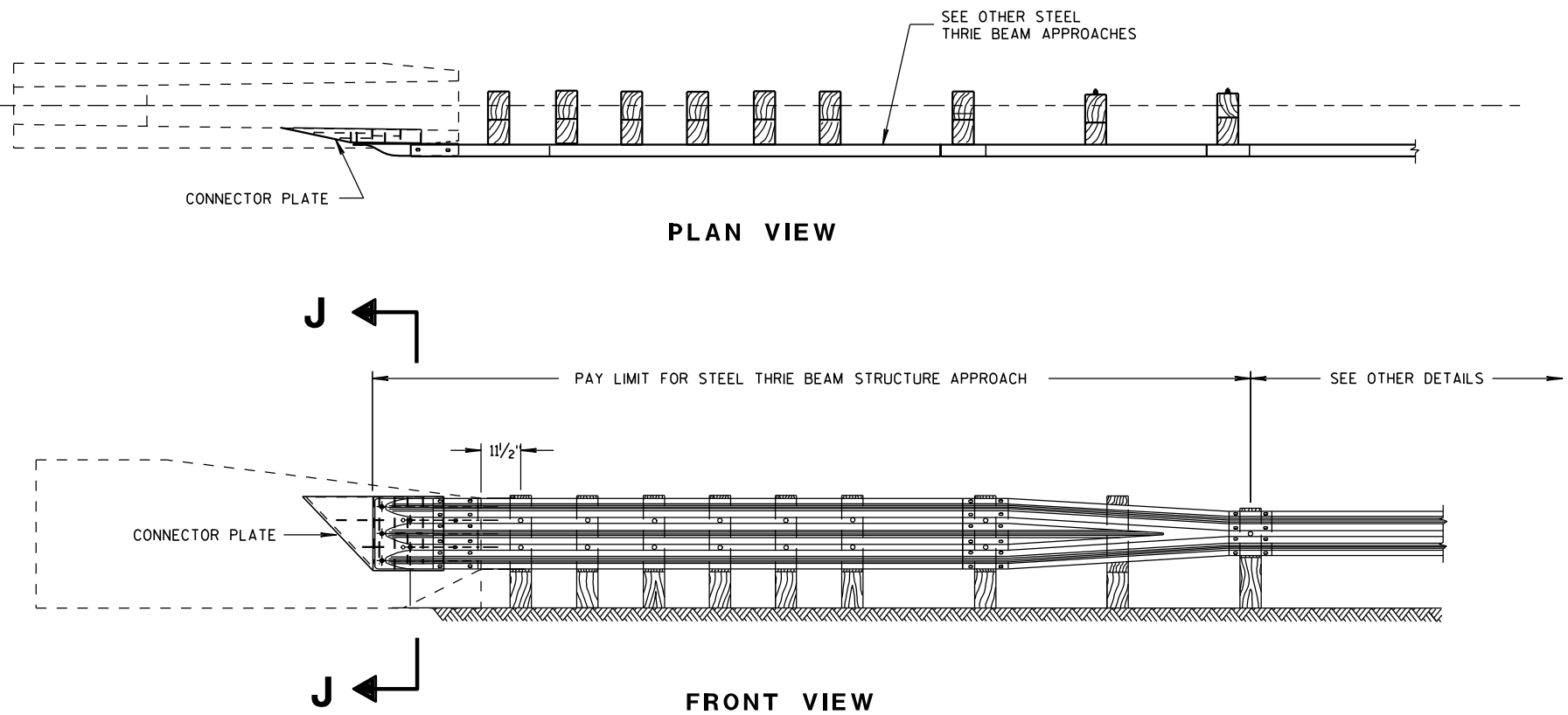
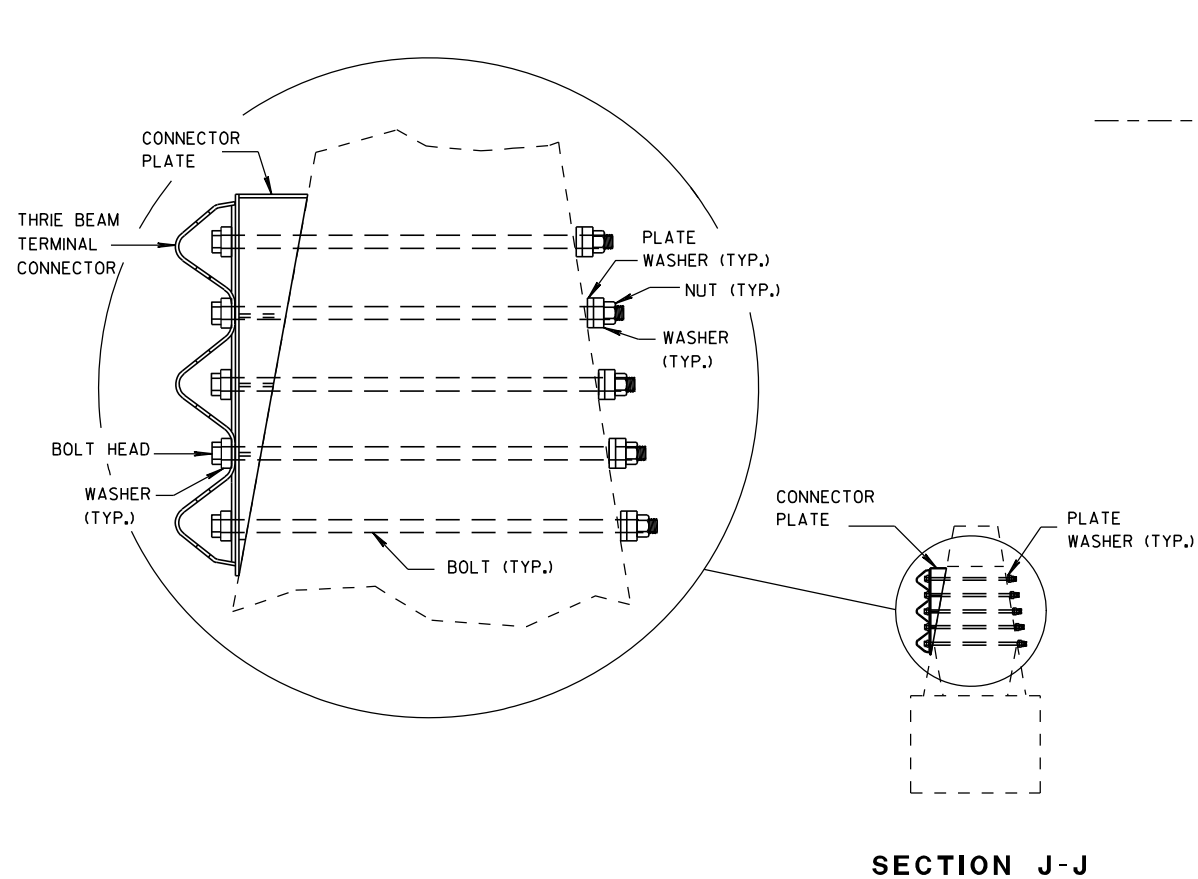
FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- ① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".

**STEEL THRIE BEAM
STRUCTURE APPROACH,
CONNECTOR PLATE DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012 /S/ Jerry H. Zapp
DATE ROADWAY STANDARDS 365 IENT
ENGINEER
FHWA



CONNECTOR PLATE LOCATION

STEEL THRIE BEAM STRUCTURE APPROACH**GENERAL NOTES**

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

**STEEL THRIE BEAM
STRUCTURE APPROACH,
SINGLE SLOPE ATTACHMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012

DATE

FHWA

/S/ Jerry H. Zacc

ROADWAY STANDARDS 366

ENGINEER

IDENT

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANTITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANTITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X 1/4" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA, 13'-6 1/2" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE BEAM: 12 GA, 13'-6 1/2"
⑬	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
⑭	1	REFLECTIVE SHEETING TYPE H: 18" X 18"
⑮	1	E.A.T. MARKER POST

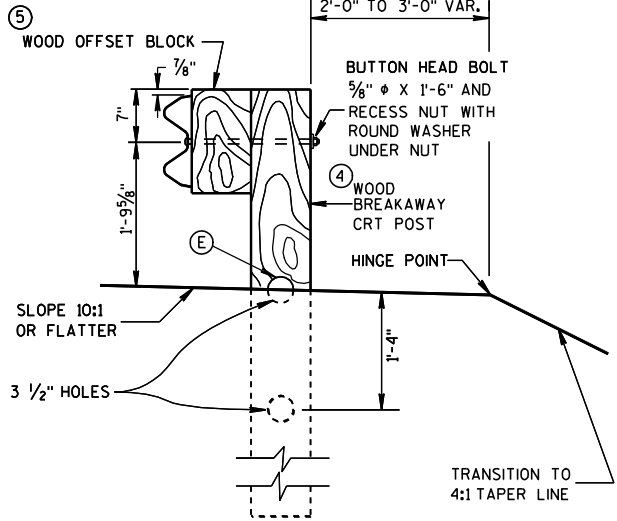
GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL 5/8" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

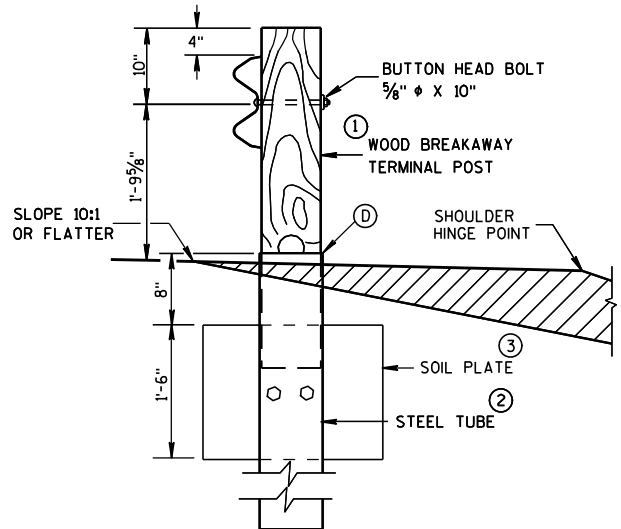
- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.
- (F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER OF E.A.T. STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.
- DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

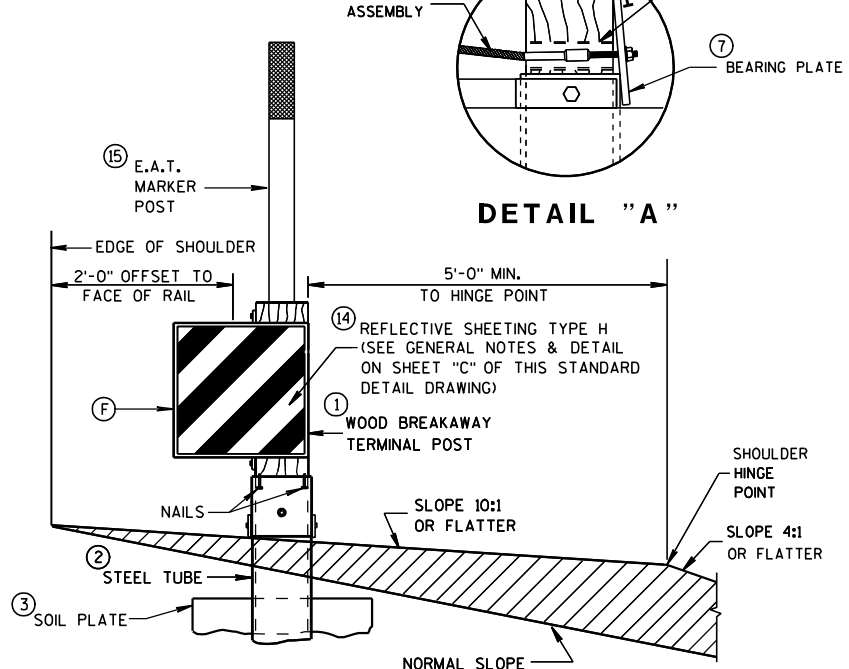
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.



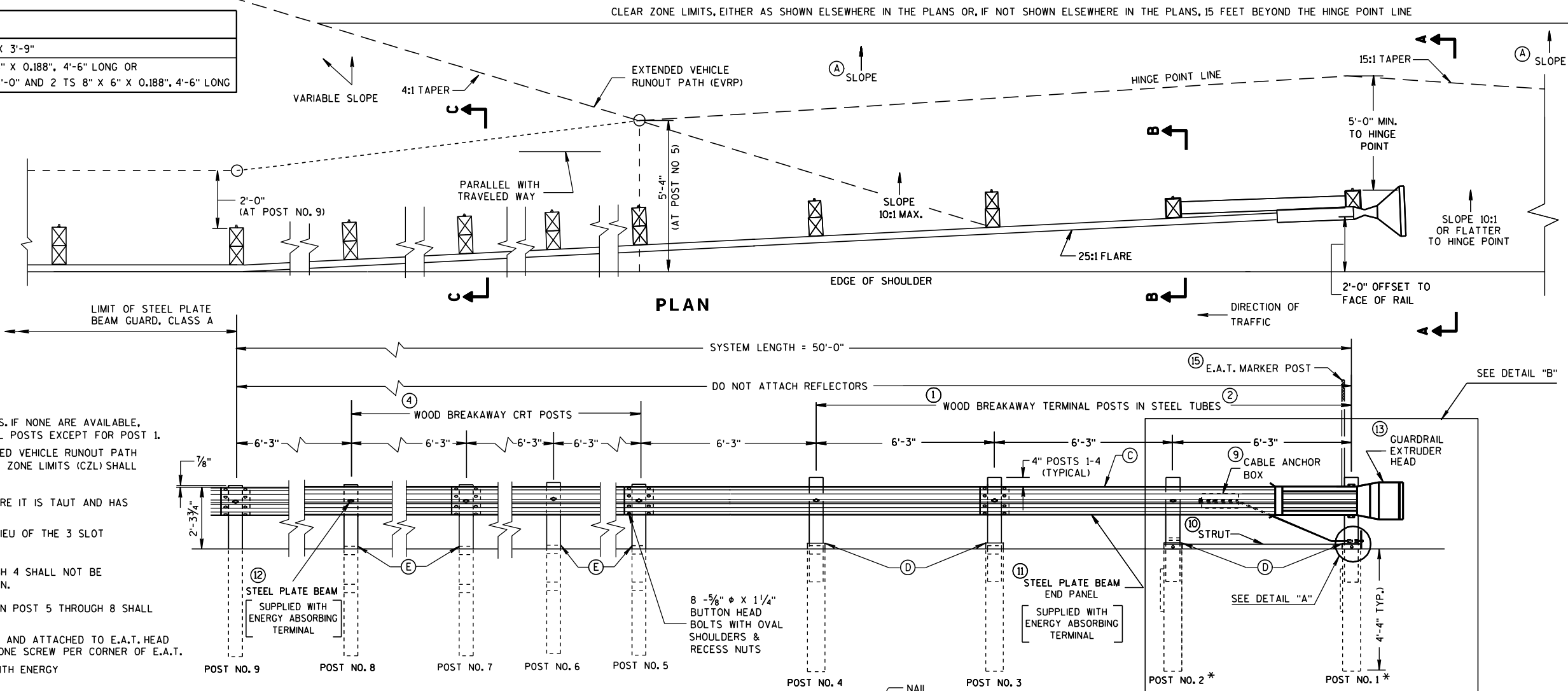
SECTION C-C
TYPICAL AT POST NOS. 6, 8



SECTION B-B
TYPICAL AT POST NO. 2*



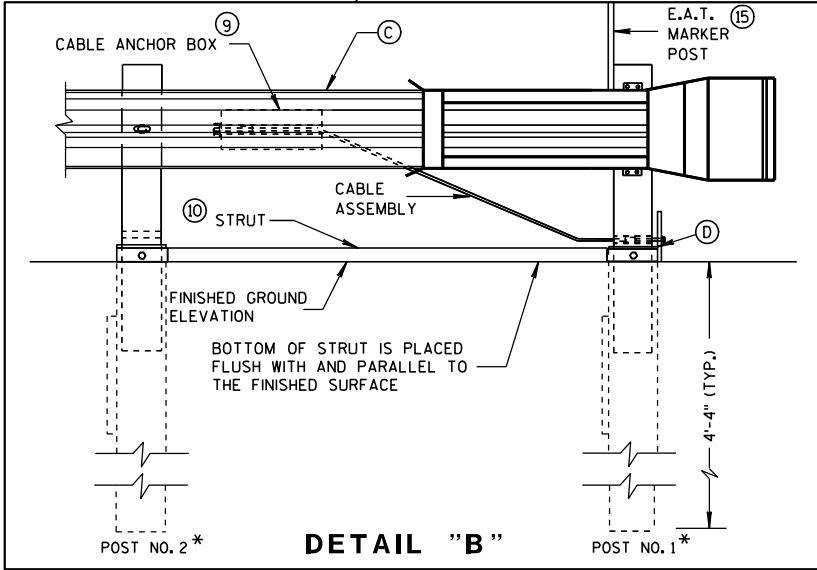
SECTION A-A
TYPICAL AT POST NO. 1*



PLAN

ELEVATION

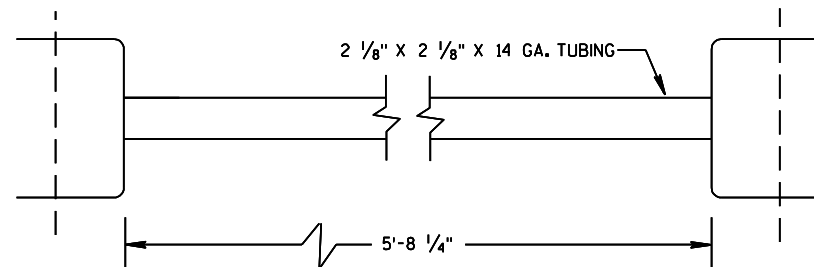
DETAIL "A"



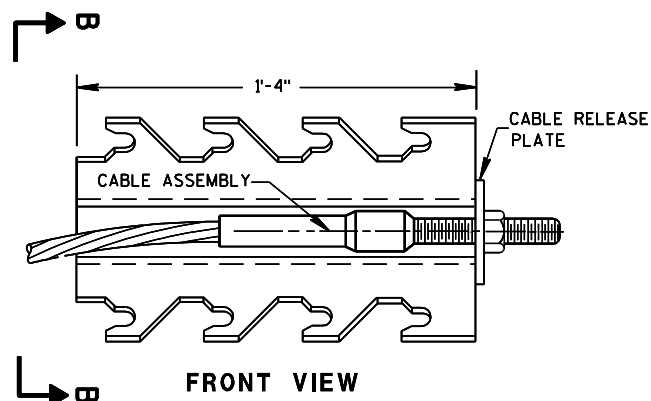
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

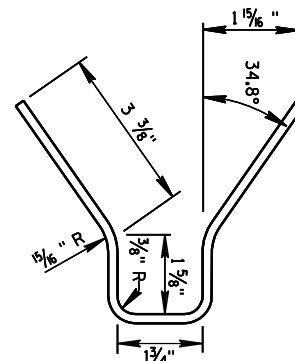


⑩ STRUT DETAIL (SKT-350)

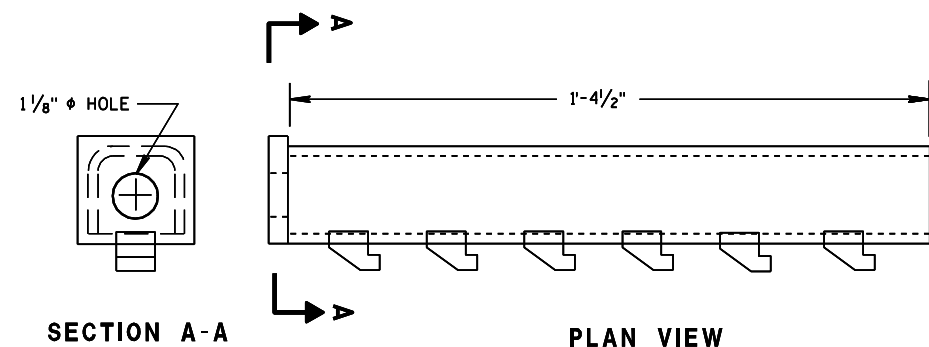


⑨ CABLE ANCHOR BOX (SKT-350)

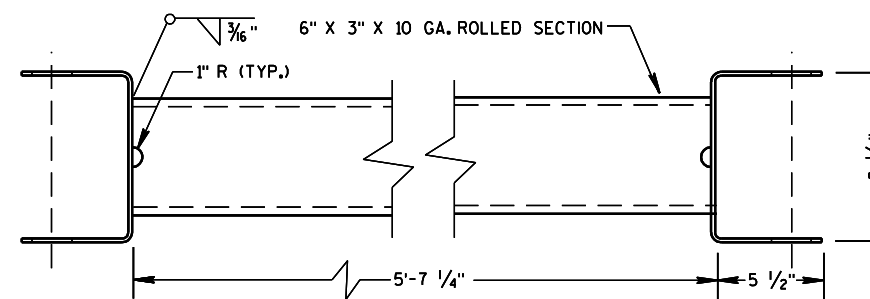
(SKT-350)



SECTION B-B

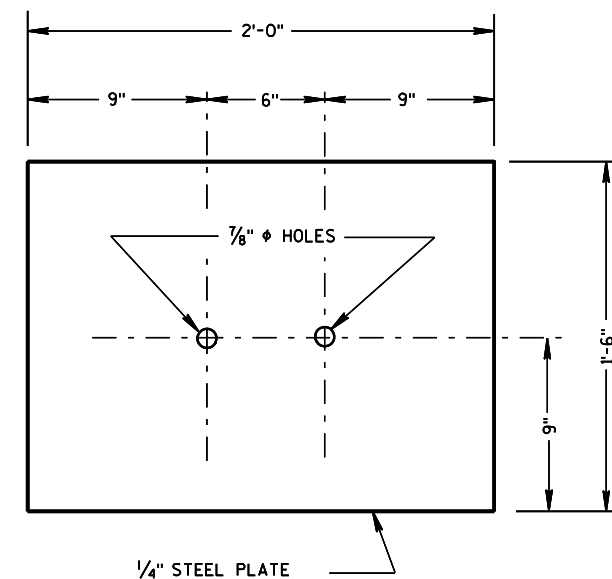


⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)

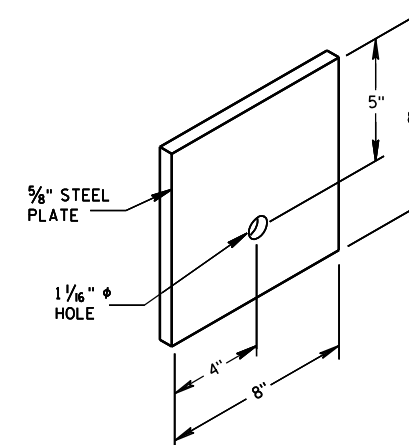


⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



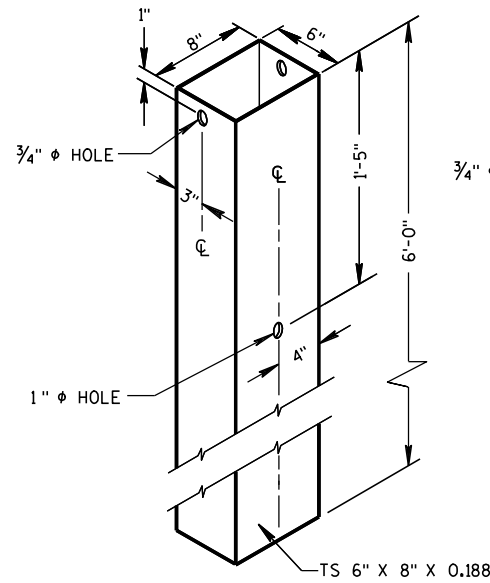
③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)



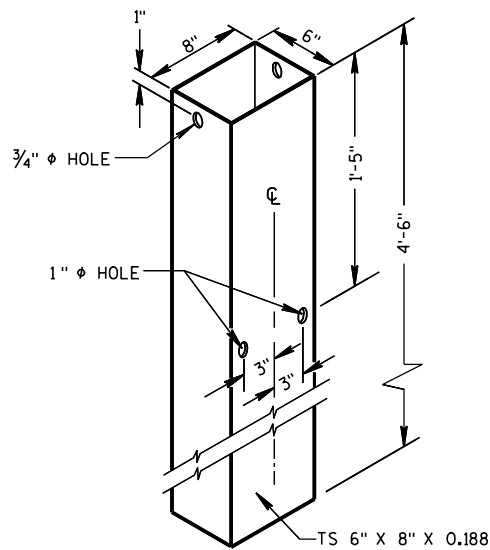
⑦ STEEL BEARING PLATE
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

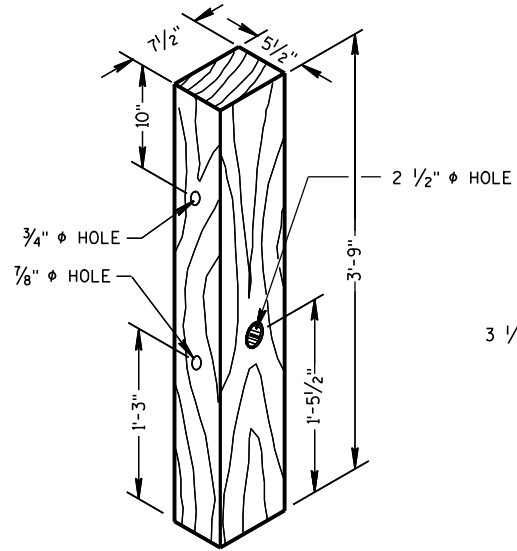
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



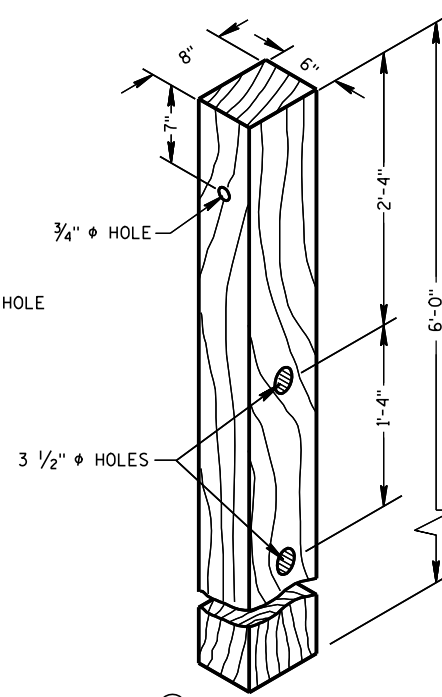
② 72" STEEL TUBE
(POSTS NO. 1-4)



② 54" STEEL TUBE
(POSTS NO. 1-4)

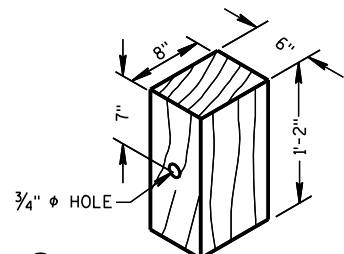


① TERMINAL POST
(POSTS NO. 1-4)

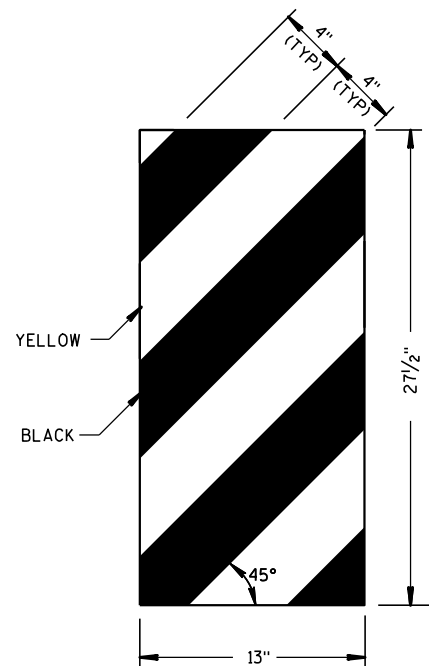


④ CRT POST
(POSTS NO'S 5-8)

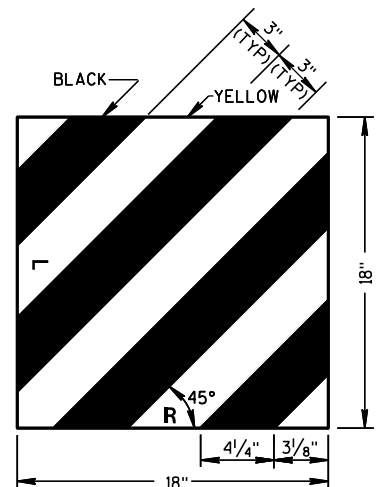
WOOD BREAKAWAY POSTS



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

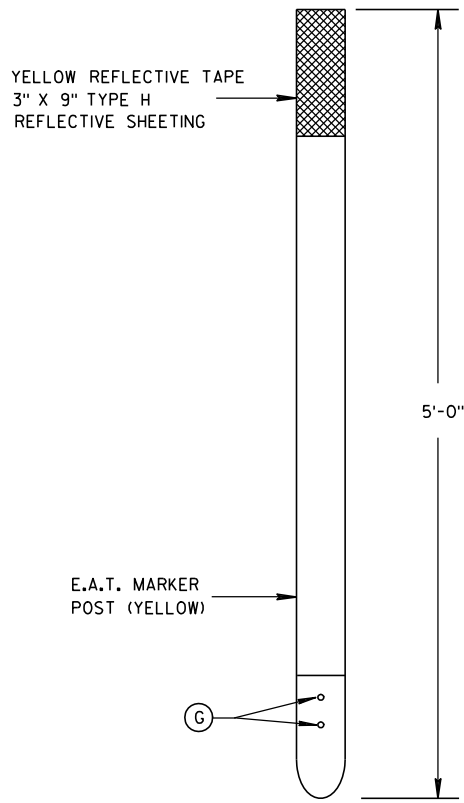


ET-2000 PLUS ONLY



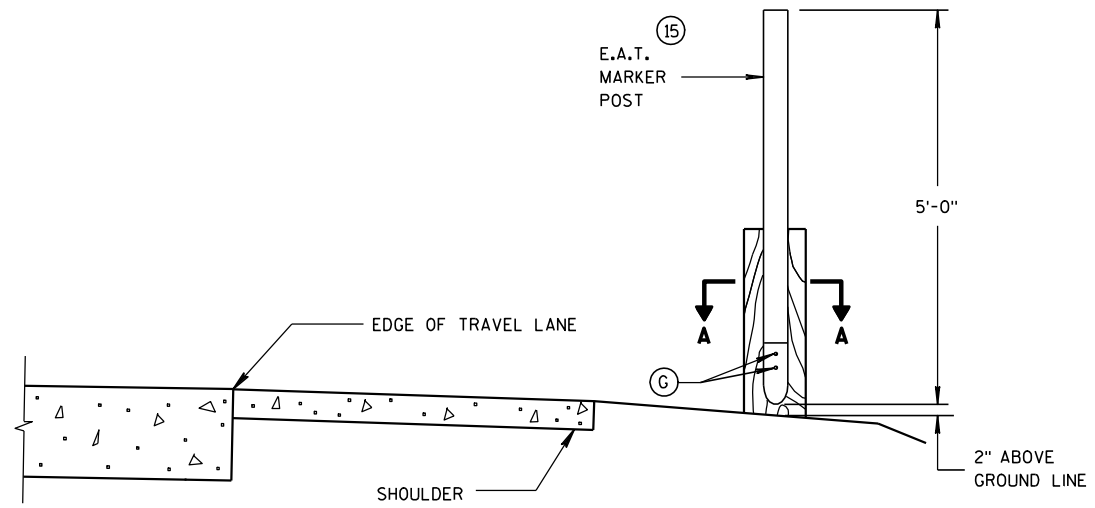
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

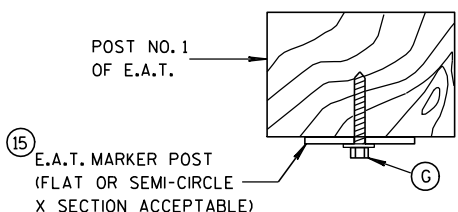


FRONT VIEW SIDE VIEW

⑮ E.A.T. MARKER POST



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

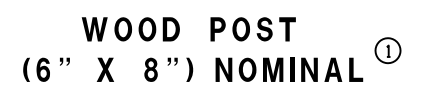
SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

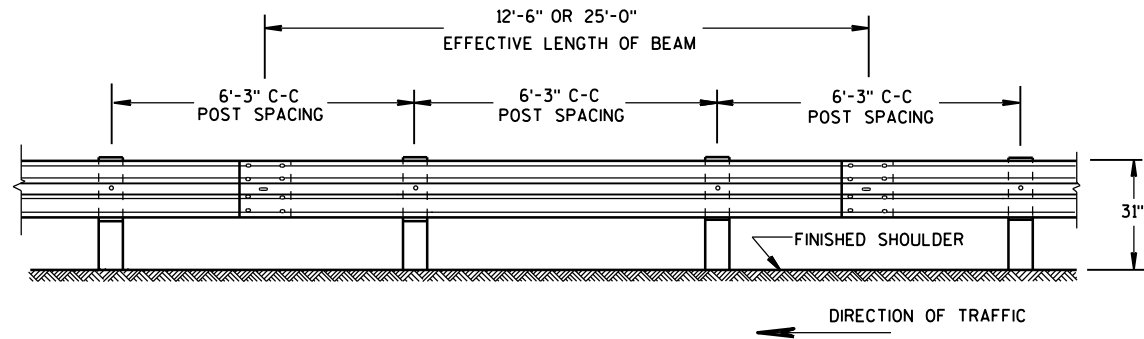
⑮ 1/2" DIA. X 3" LAG BOLT WITH WASHER.

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED	DATE	4-12-10	DATE
FWHA	DATE	4-12-10	DATE
/S/ Jerry H. Zapp ROADWAY STANDARDS 369 ENGINEER			

S.D.D. 14 B 42-3a

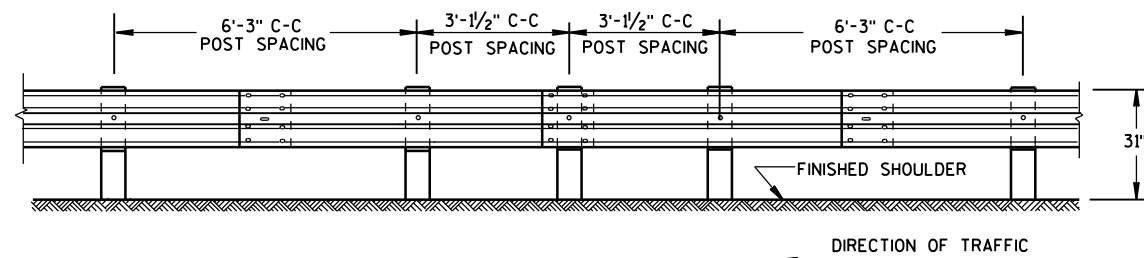
- S.D.D. 14 B 42-3a**





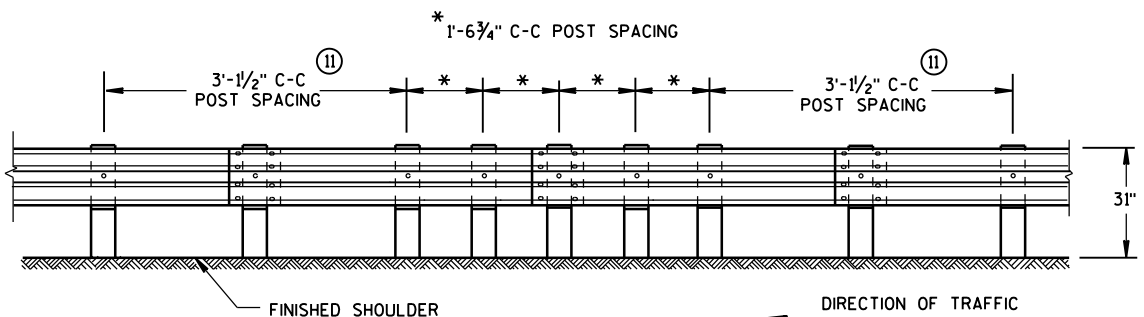
FRONT VIEW

POST SPACING STANDARD INSTALLATION



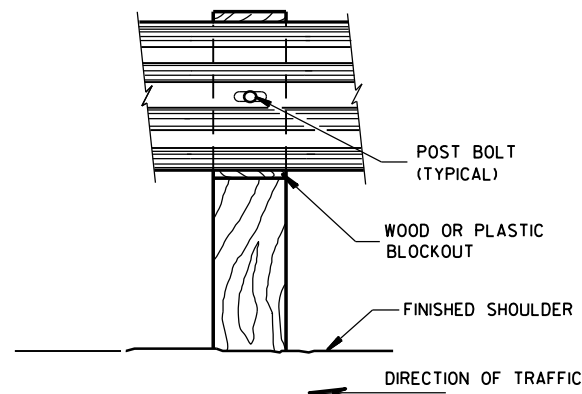
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

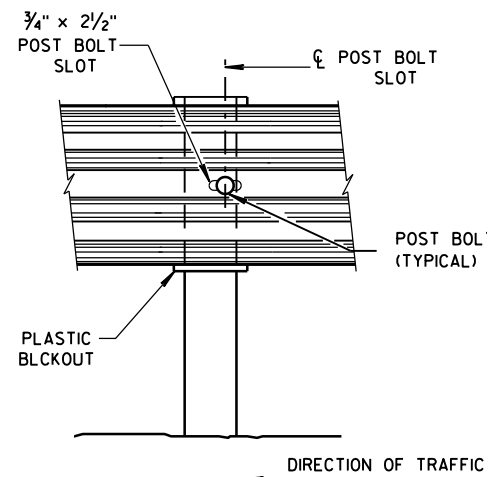


FRONT VIEW

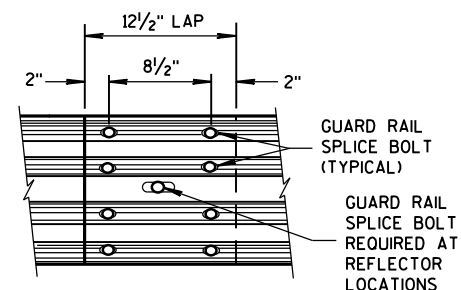
QUARTER POST SPACING (QS)



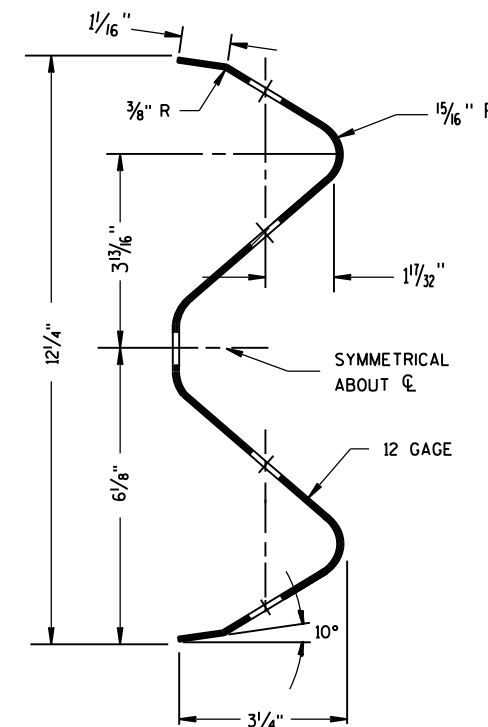
FRONT VIEW AT WOOD POST



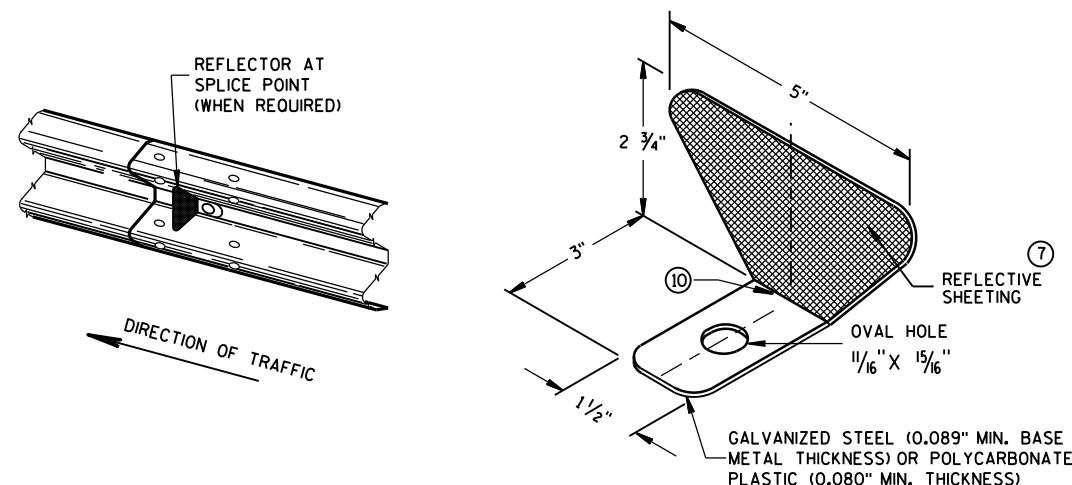
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

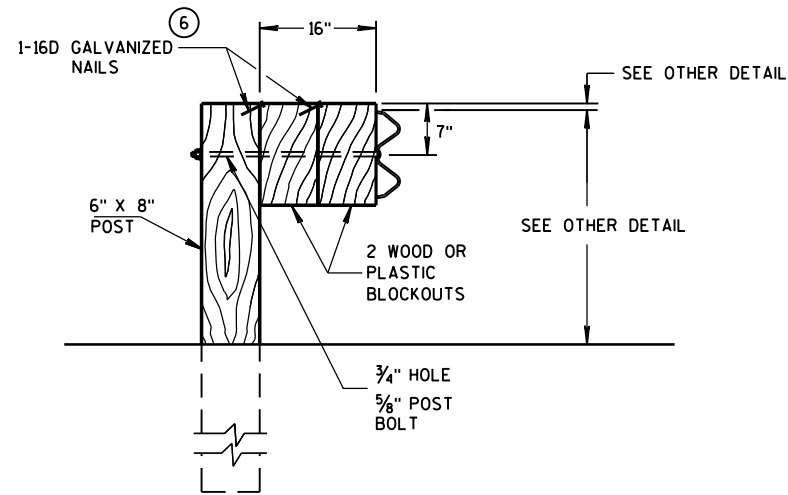
GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

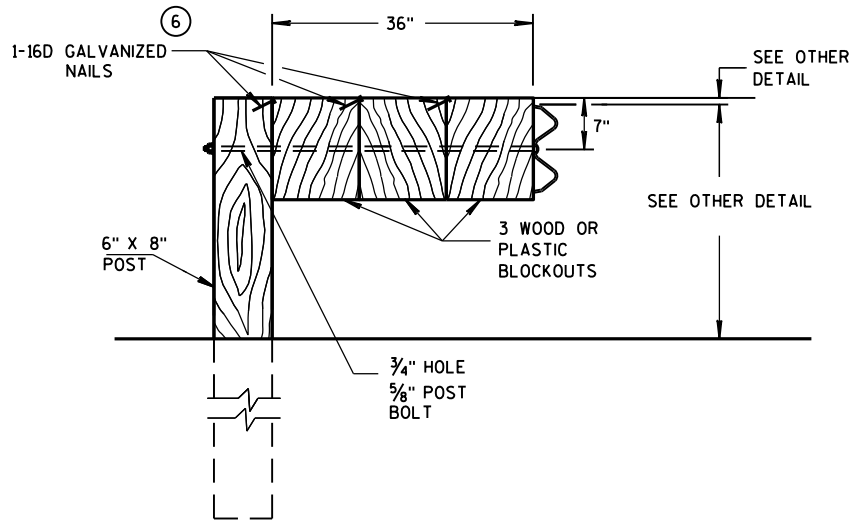
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

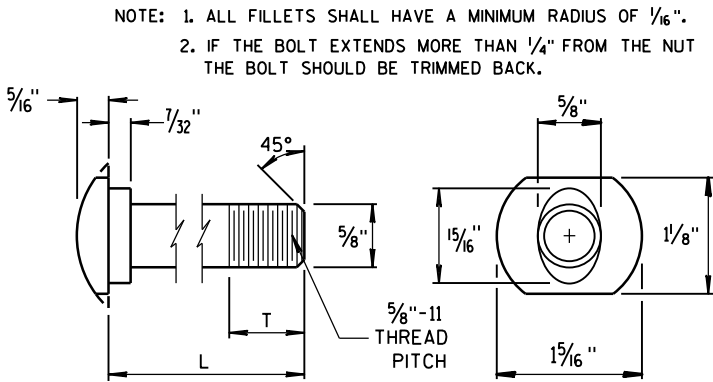
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



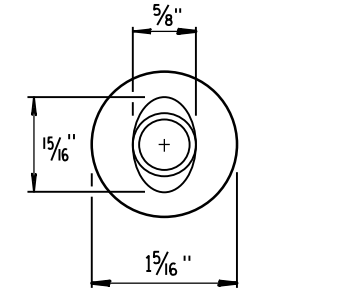
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

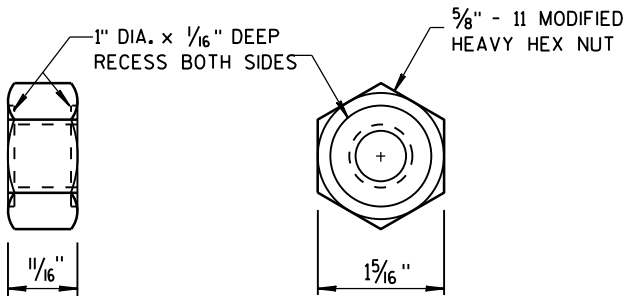
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



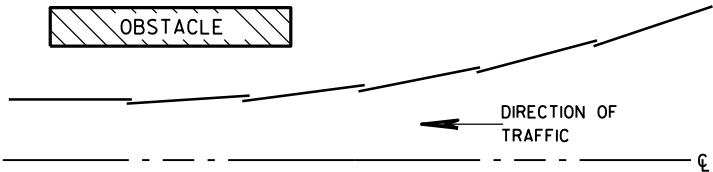
POST BOLT TABLE



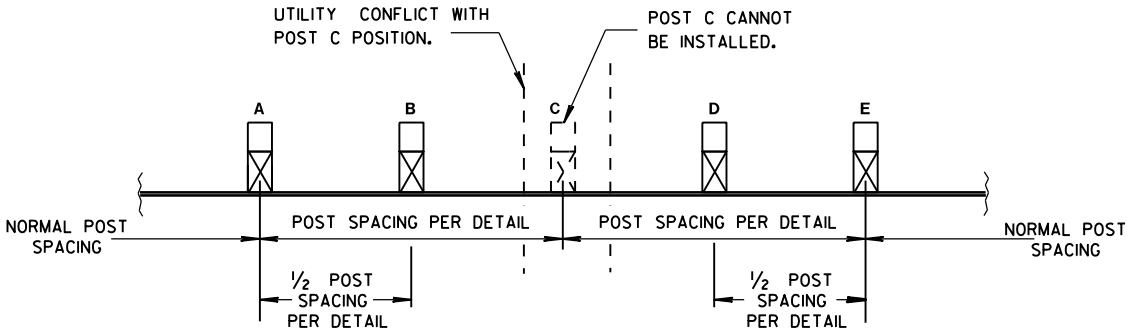
ALTERNATE BOLT HEAD



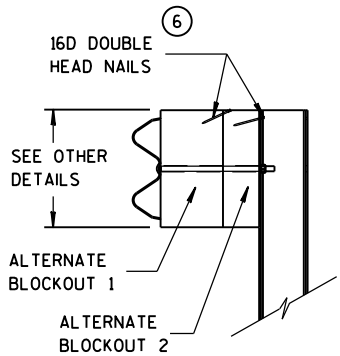
POST BOLT
AND RECESS NUT



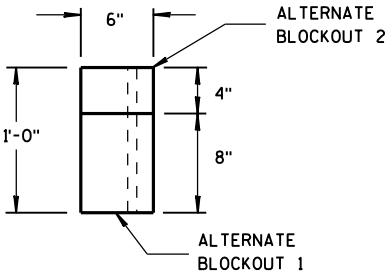
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 372 INT
FHWA ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

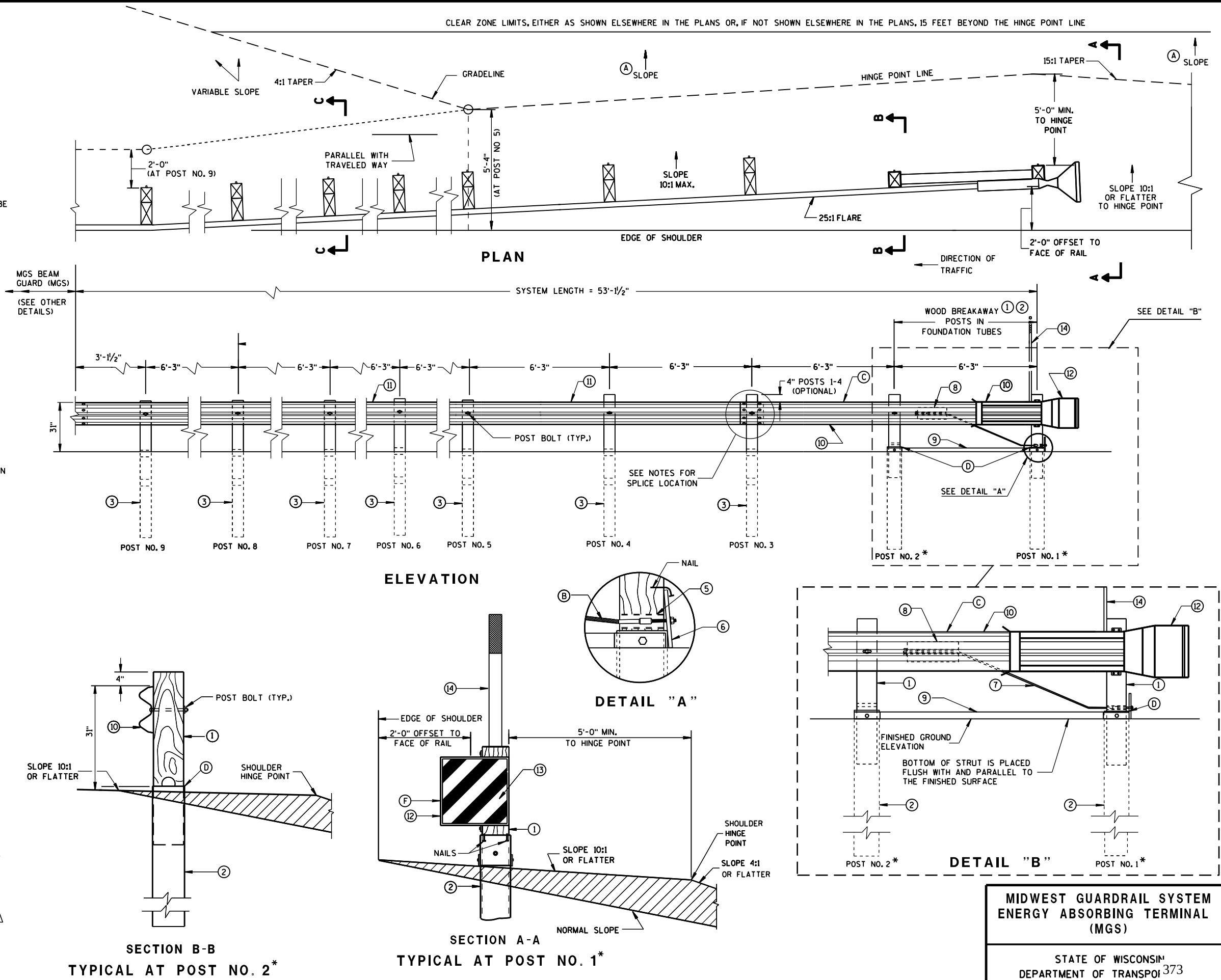
SEE SDD 14B42 FOR MORE INFORMATION.

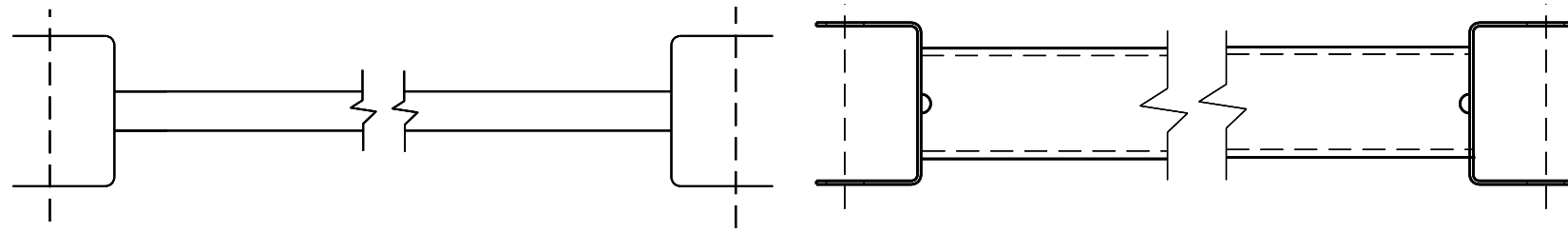
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

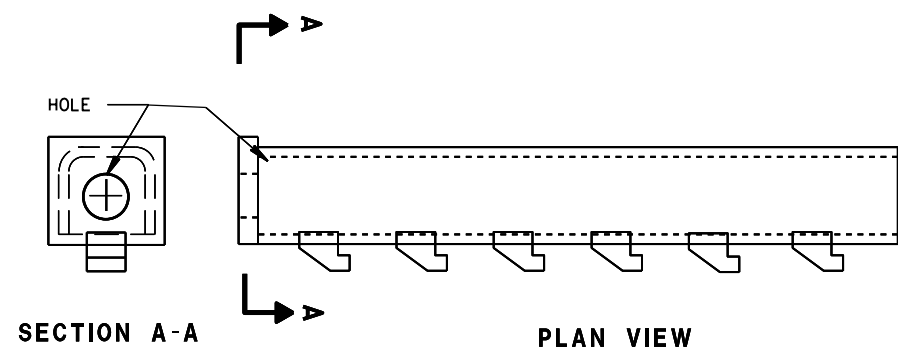
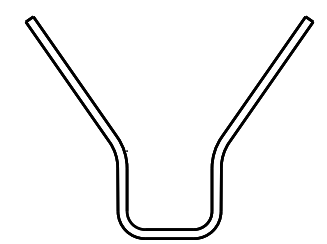
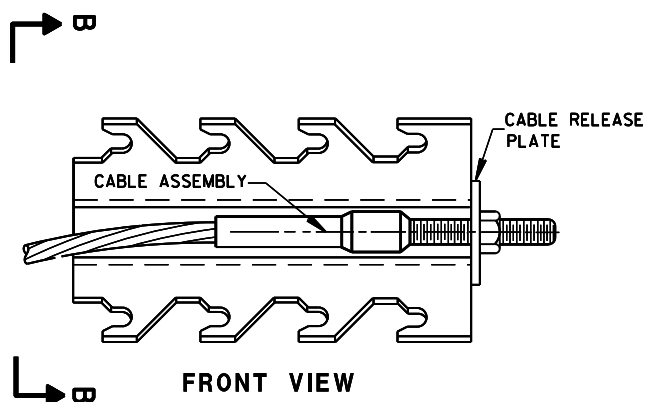
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.





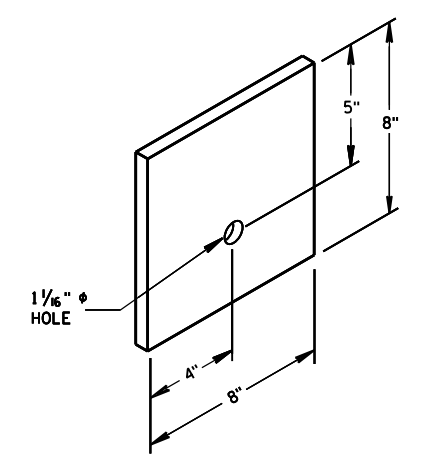
9 H
GENERIC GROUND STRUT



8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

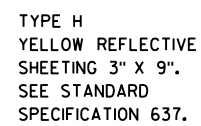
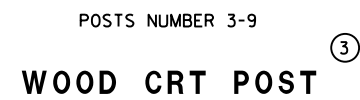
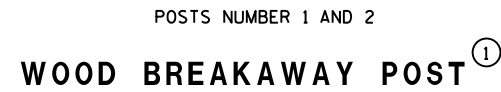
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



⑥
BEARING PLATE

6

6



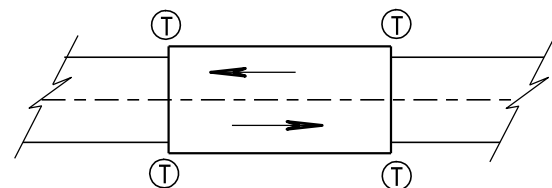
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
June 2014
DATE

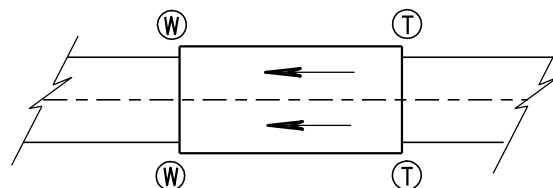
/s/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

1375
ENT



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

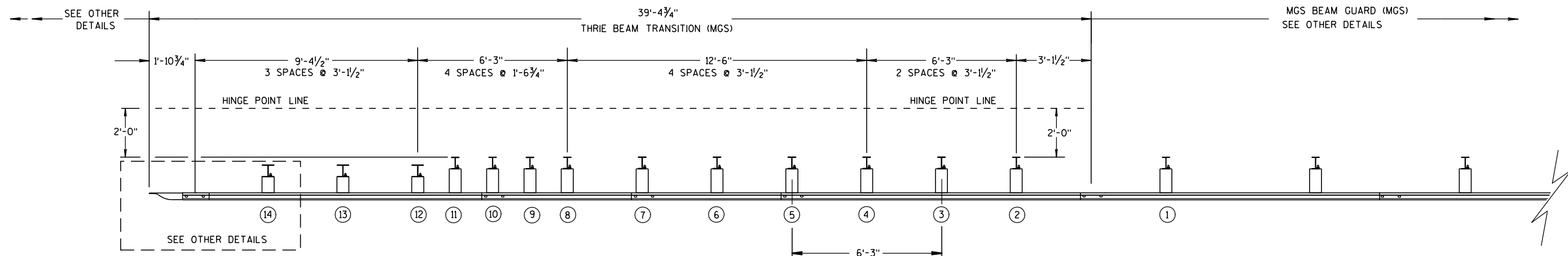
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

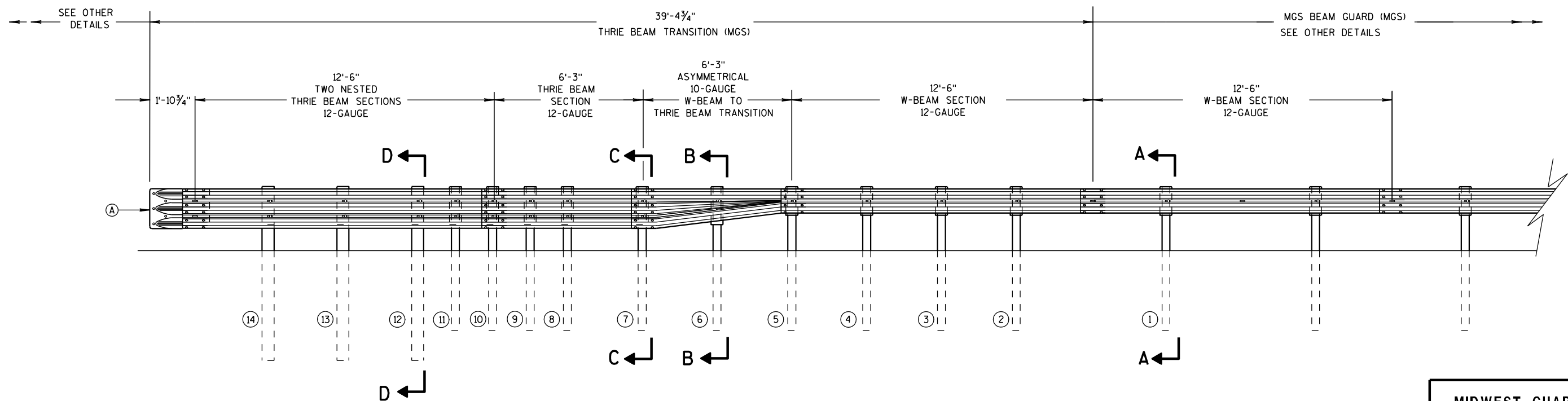
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

376

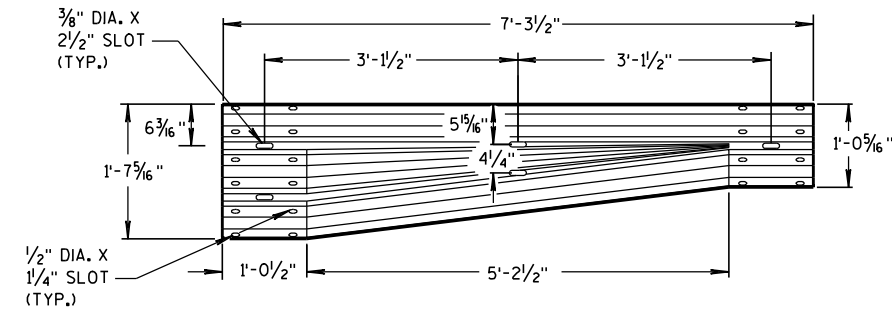
6

S.D.D. 14 B 45-3b

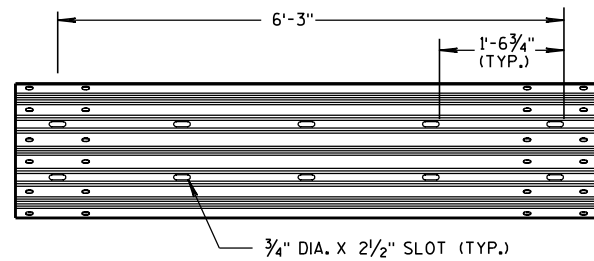


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

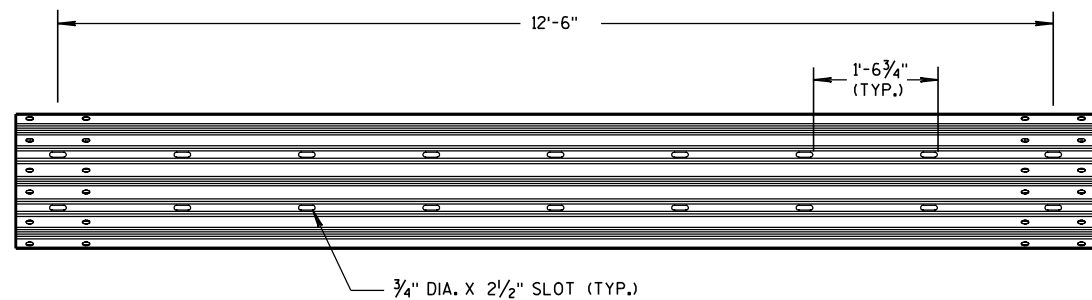
S.D.D. 14 B 45-3b



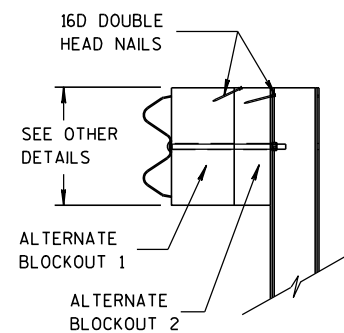
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

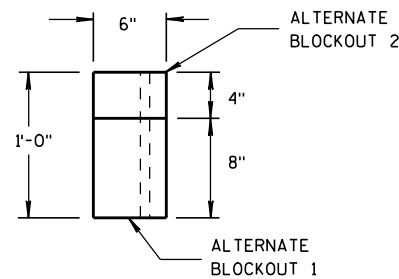


12'-6" THRIE BEAM SECTION

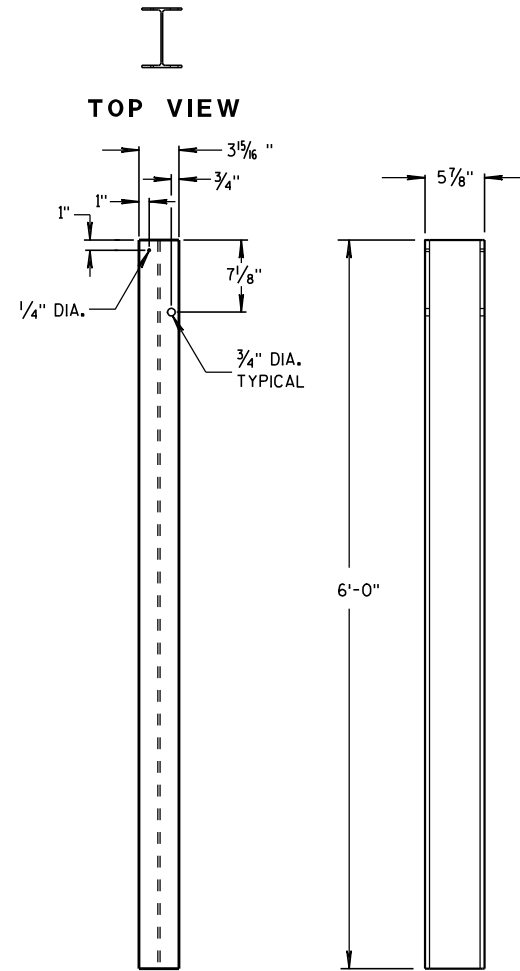


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



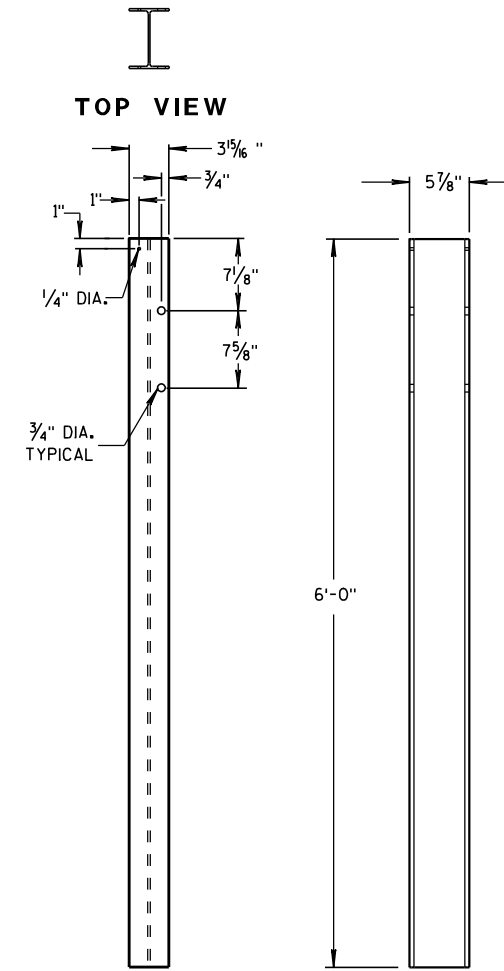
TOP VIEW



FRONT VIEW

SIDE VIEW

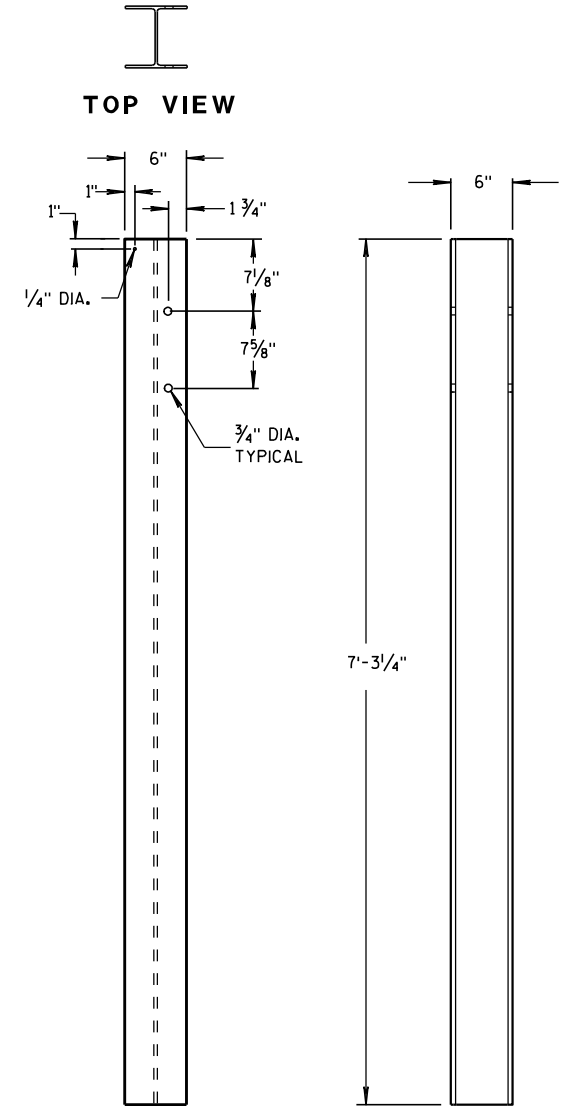
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11



FRONT VIEW

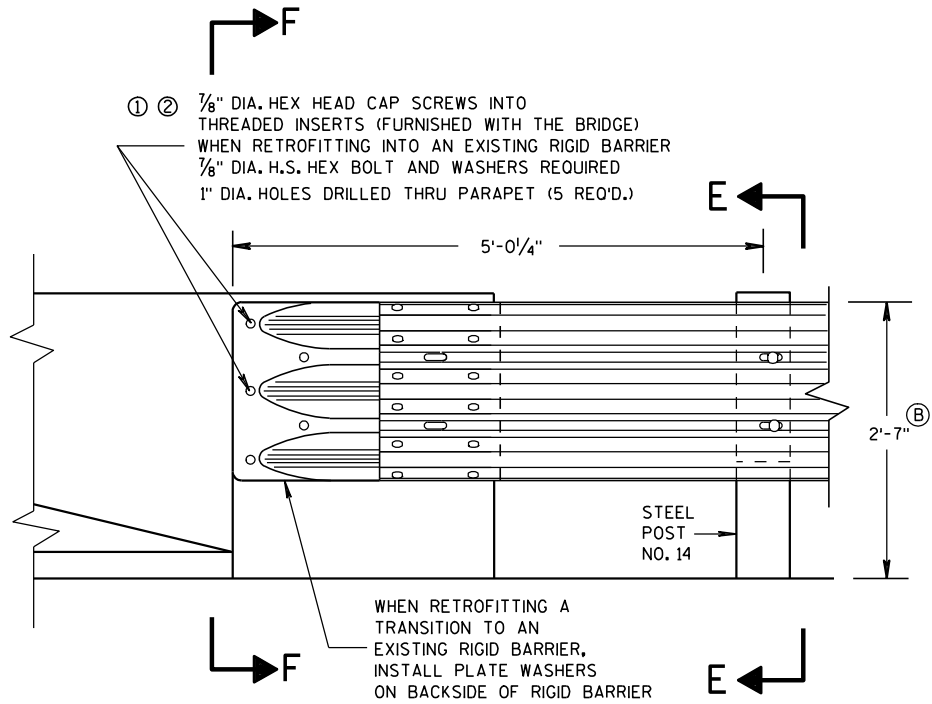
SIDE VIEW

STEEL POSTS 12-14

STEEL POST SIZES

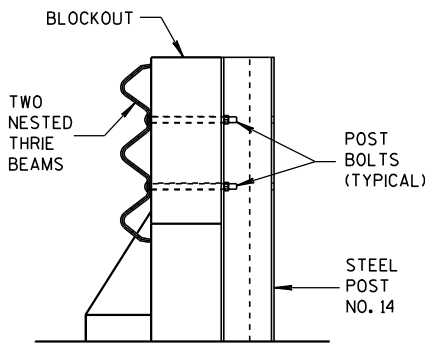
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)



FRONT VIEW

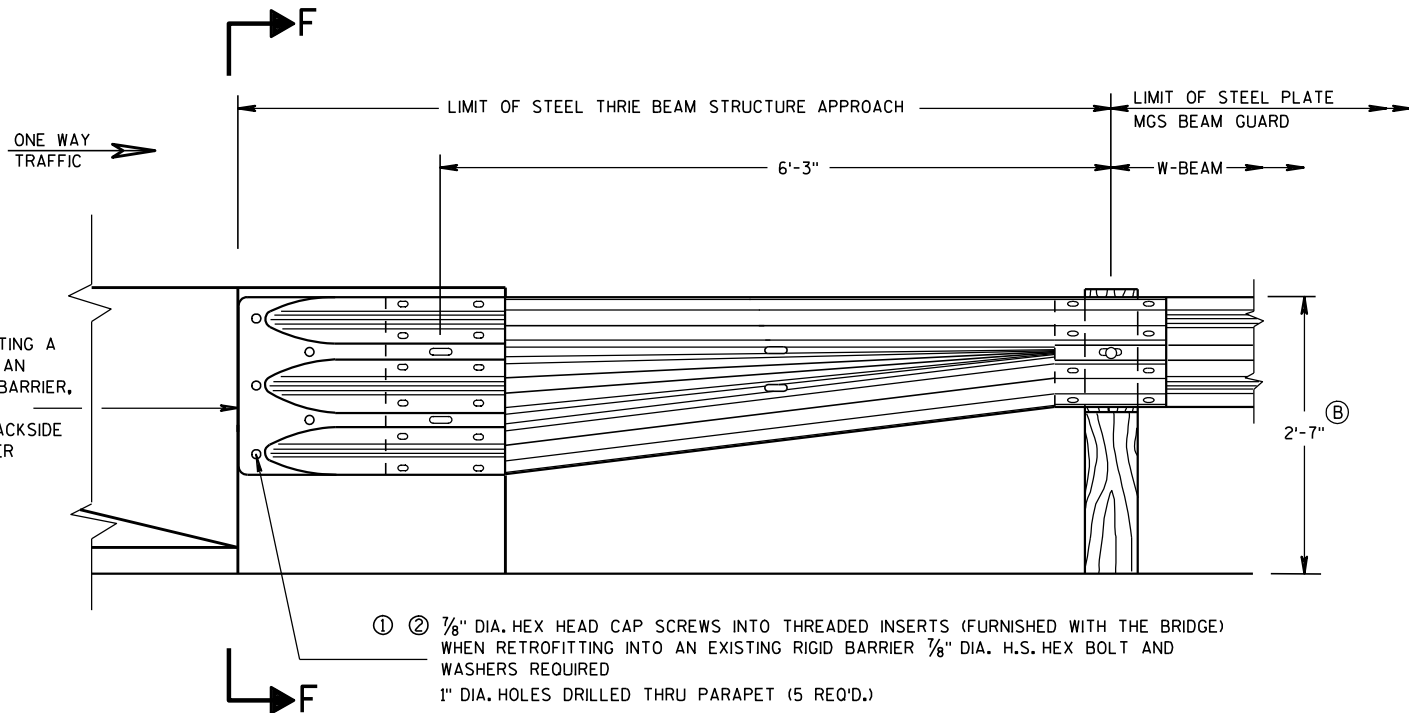
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



SECTION E-E

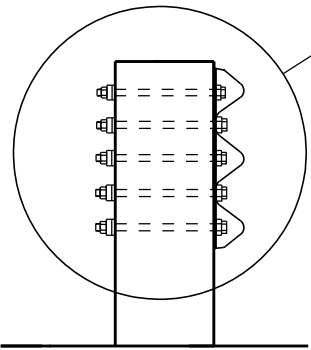
GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
 - ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
 - ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

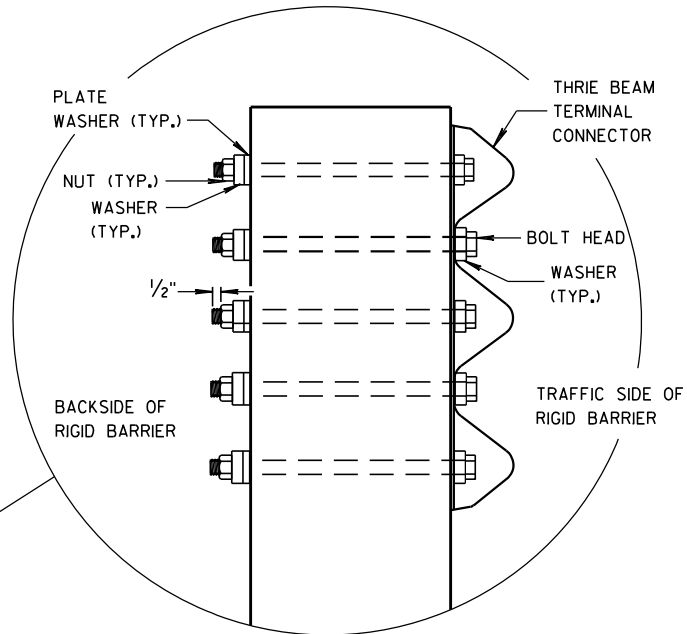


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

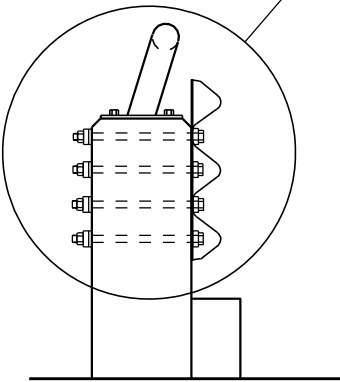
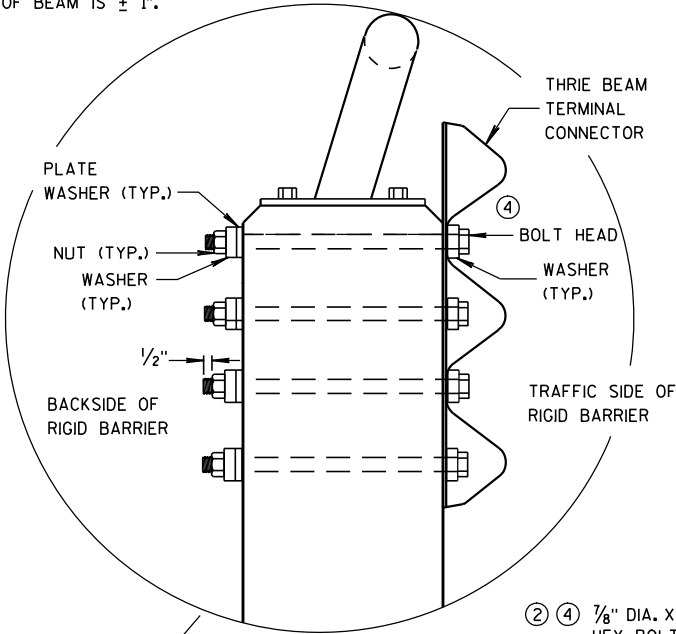


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED	8/31/2012	/S/ Jerry H. Zapp	ENT
	DATE	ROADWAY STANDARDS	ENGINEER
FHWA			

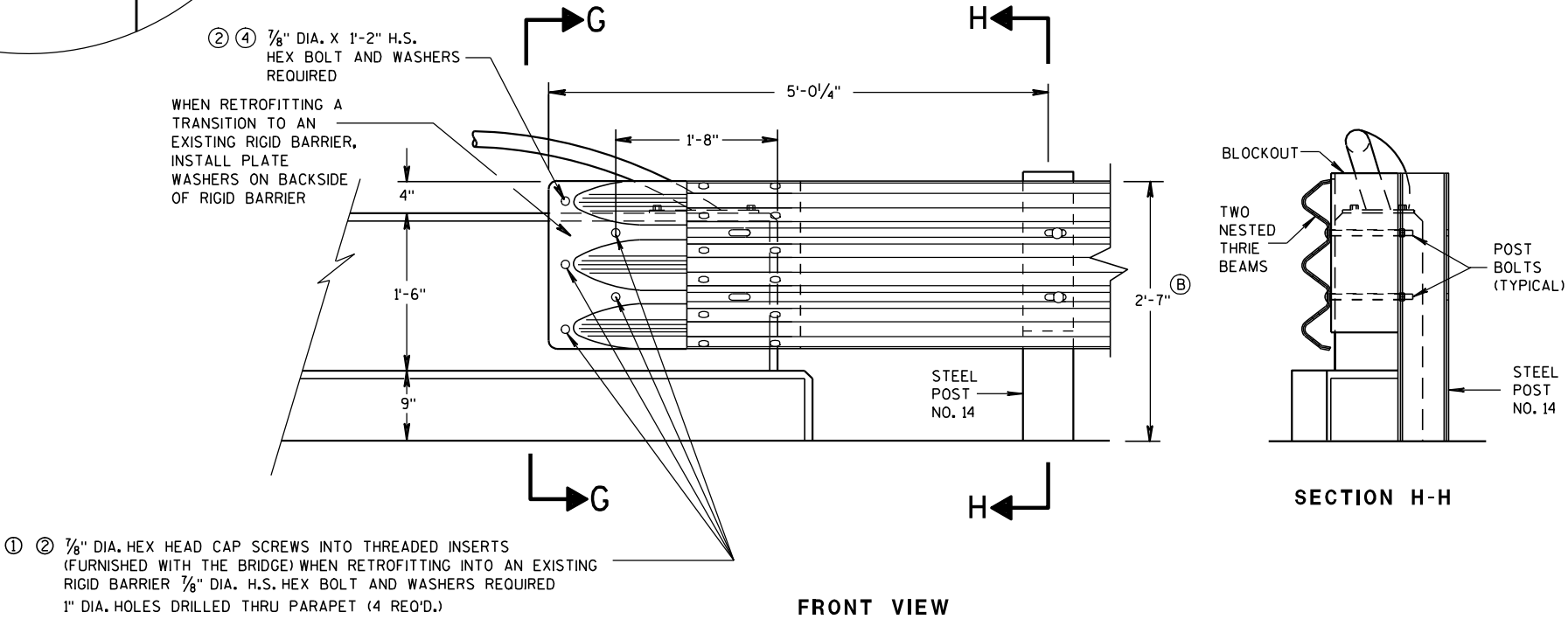
GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- ⓑ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

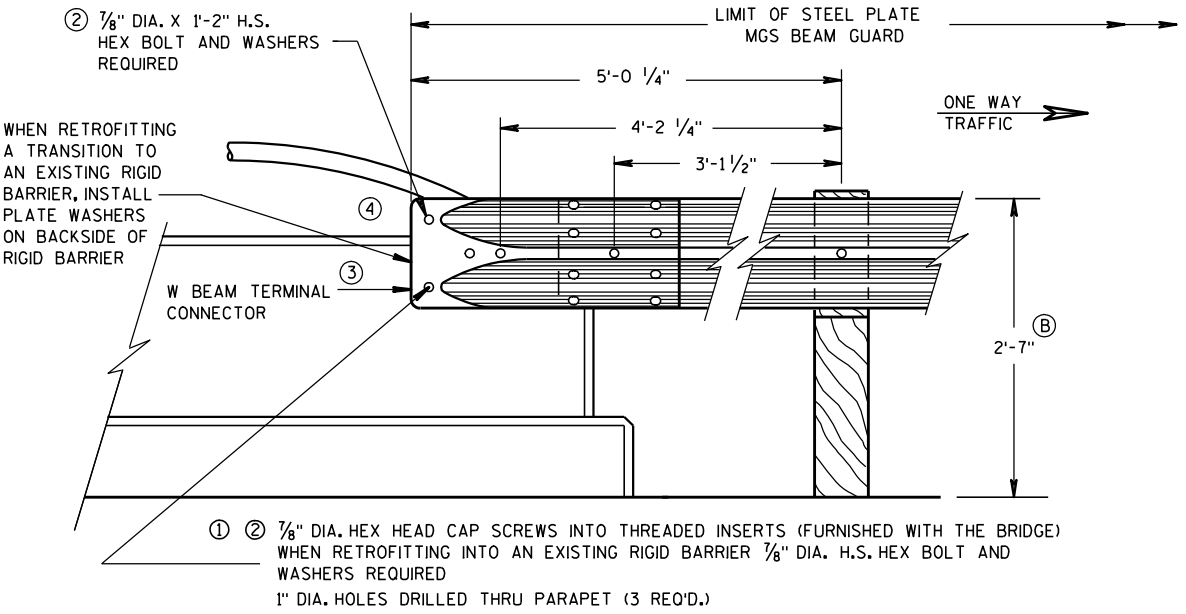


SECTION G-G



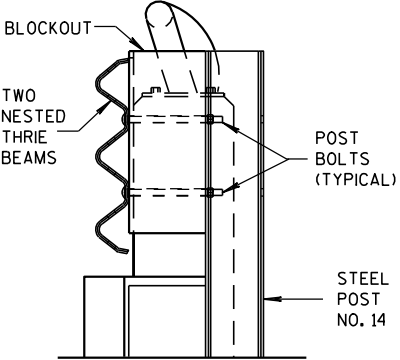
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

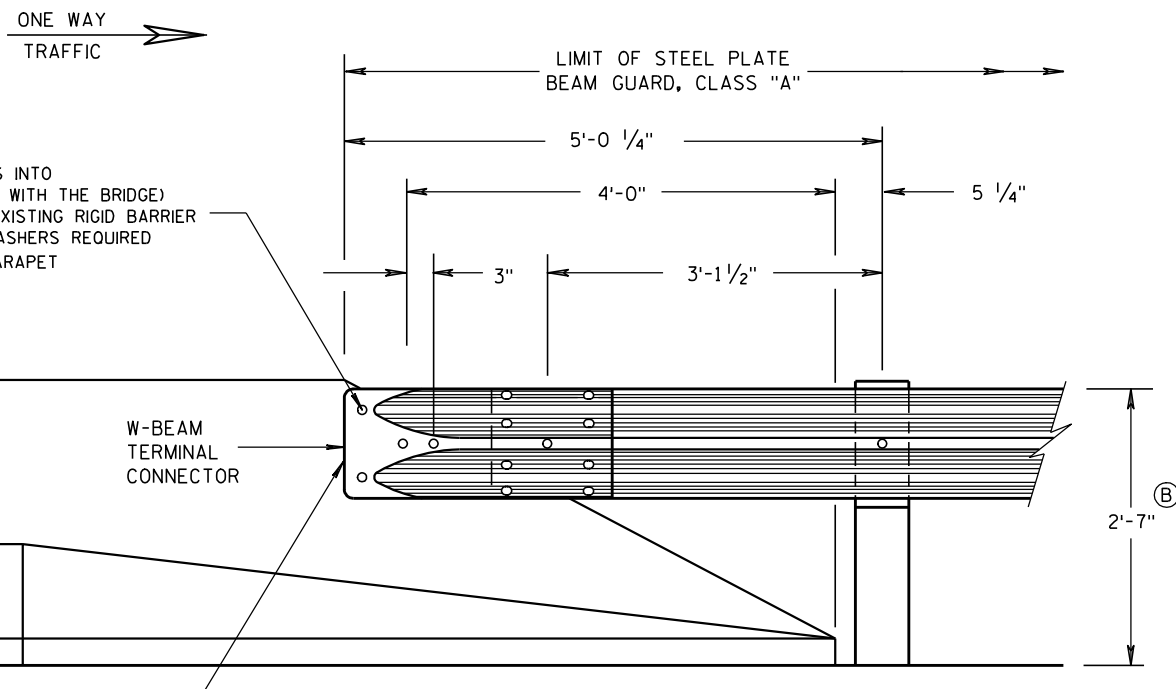


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS (380) ENGINEER
FHWA



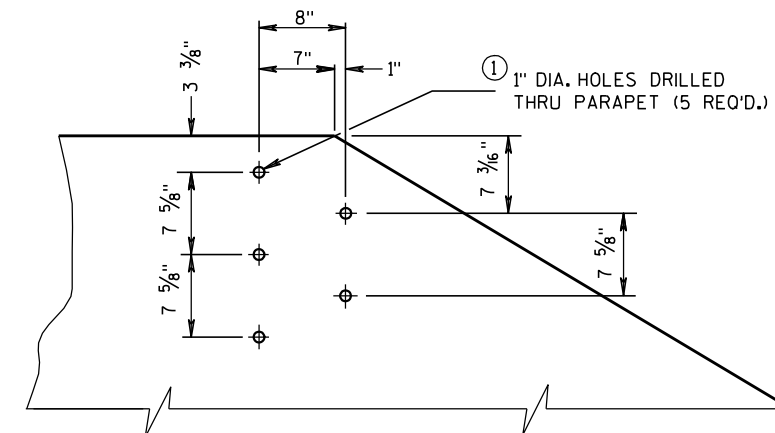
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

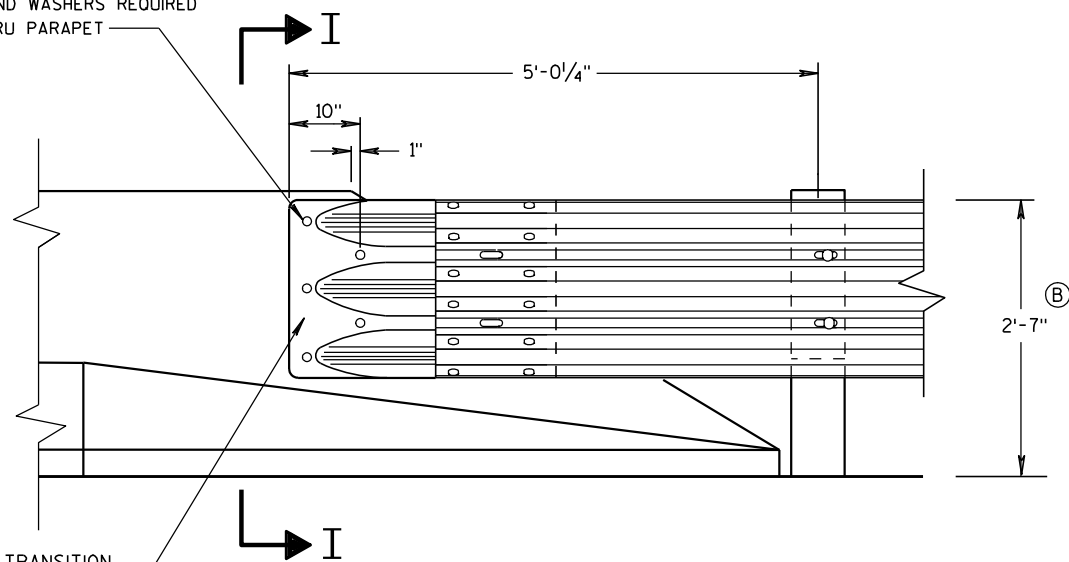
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



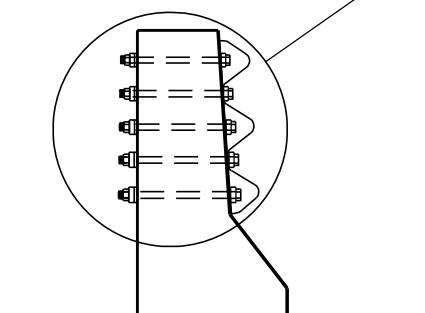
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)

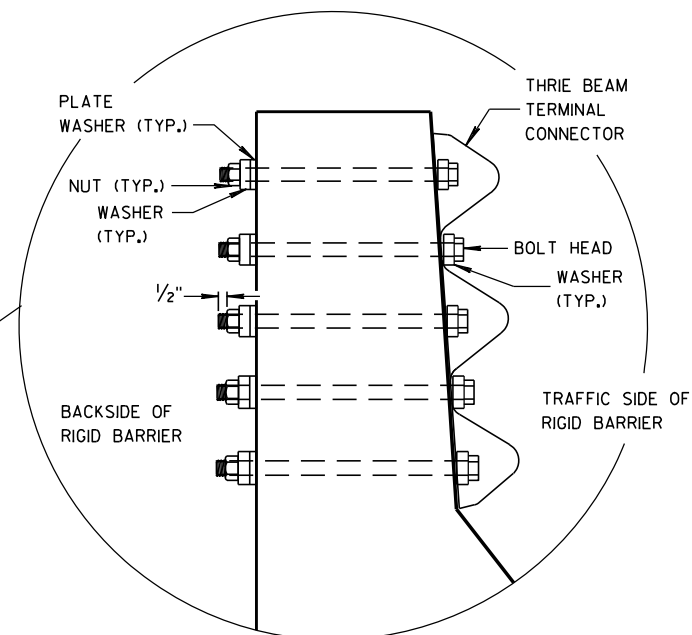


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

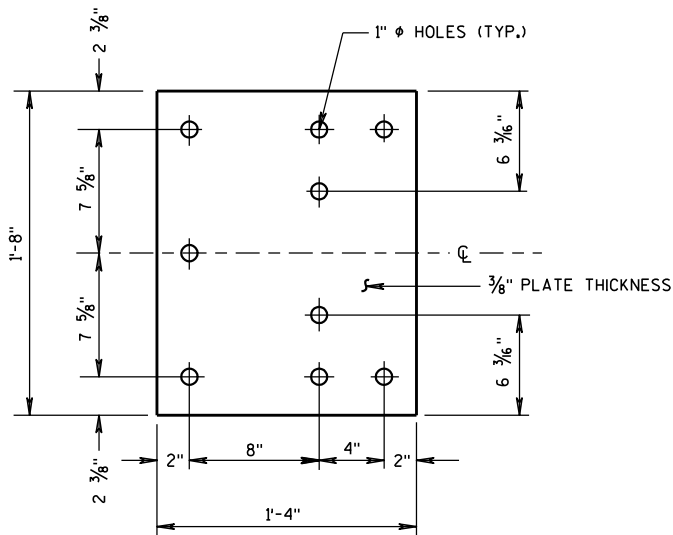
DATE

FHWA

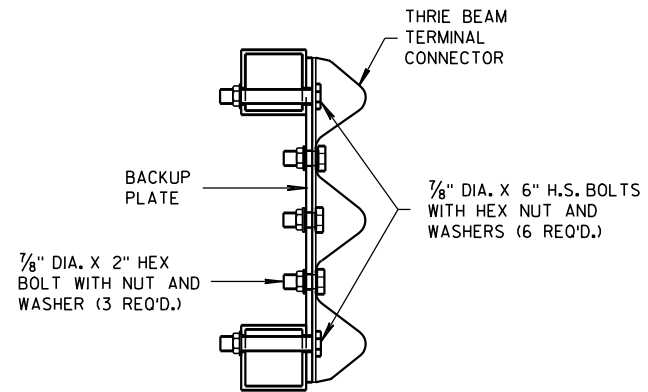
/S/ Jerry H. Zopp

ROADWAY STANDARDS 381

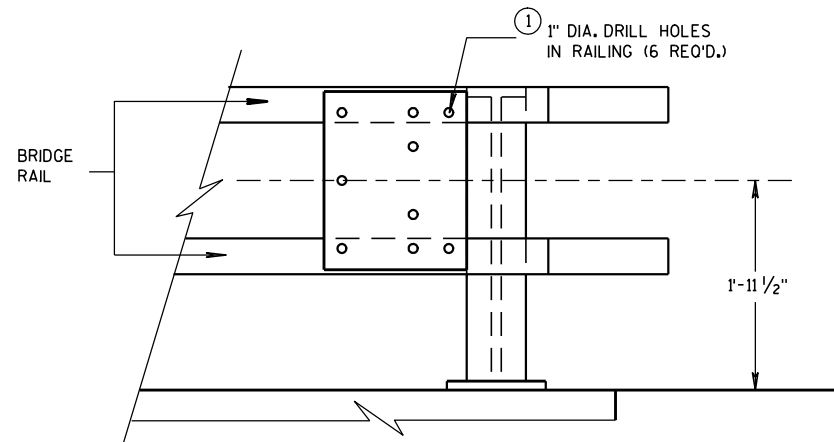
ENGINEER



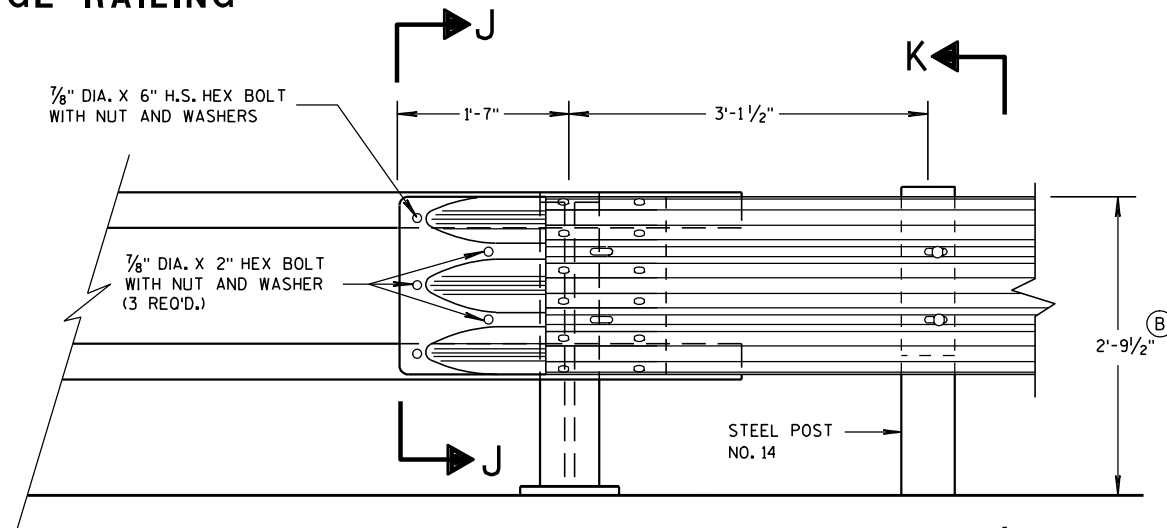
BACK-UP PLATE DETAIL



SECTION J-J

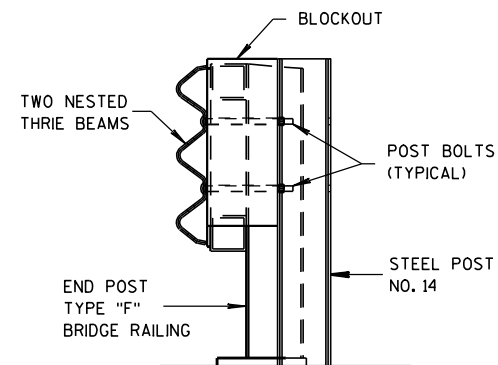


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

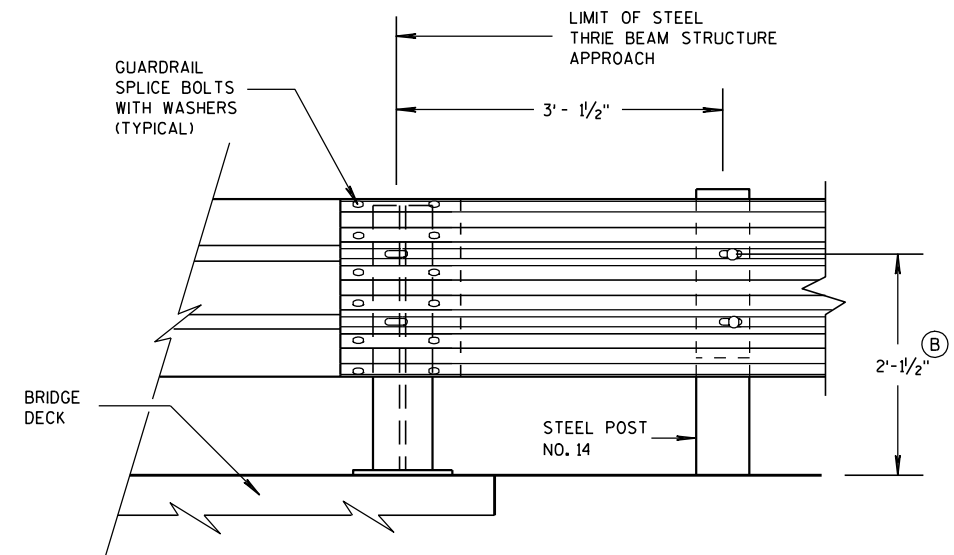
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



FRONT VIEW
THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

FHWA

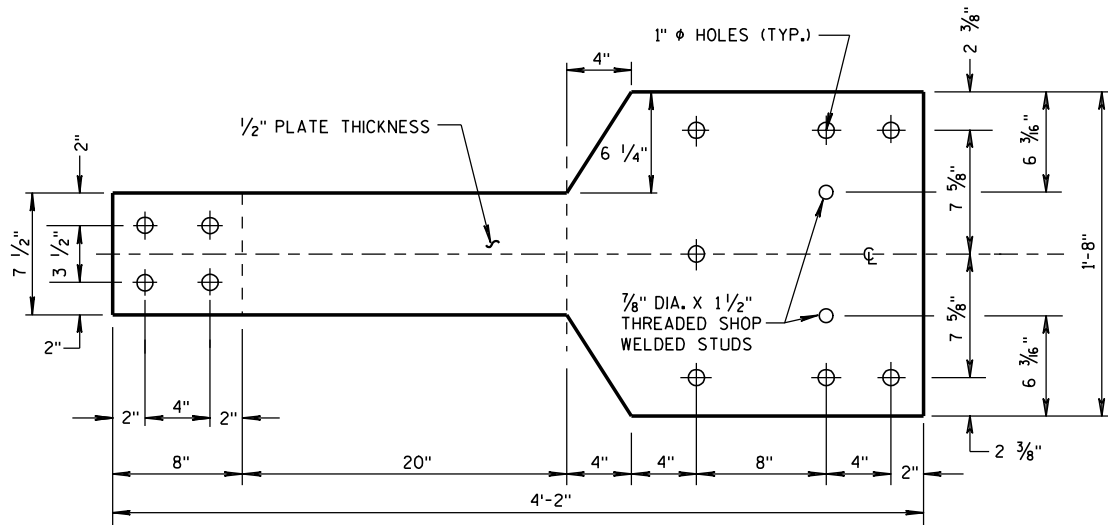
/S/ Jerry H. Zeng

ROADWAY STANDARDS

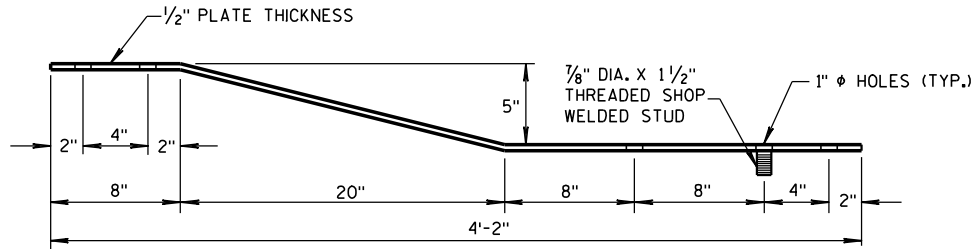
ENGINEER

GENERAL NOTES

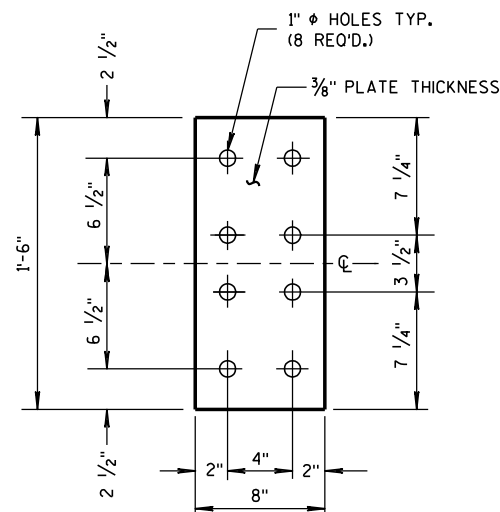
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

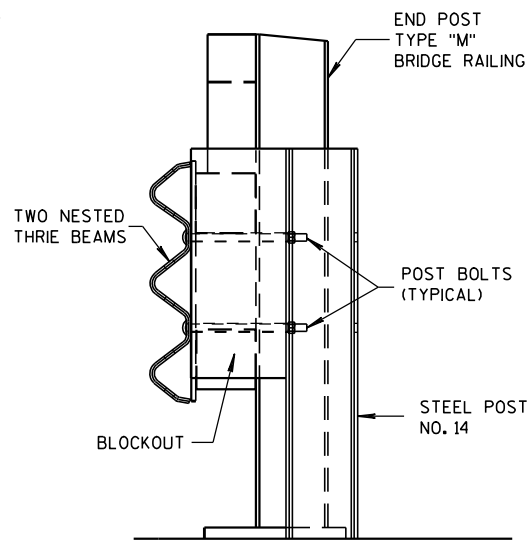


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

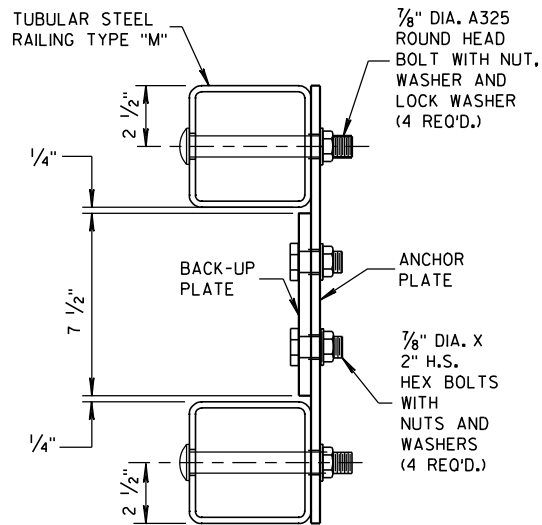


FRONT VIEW

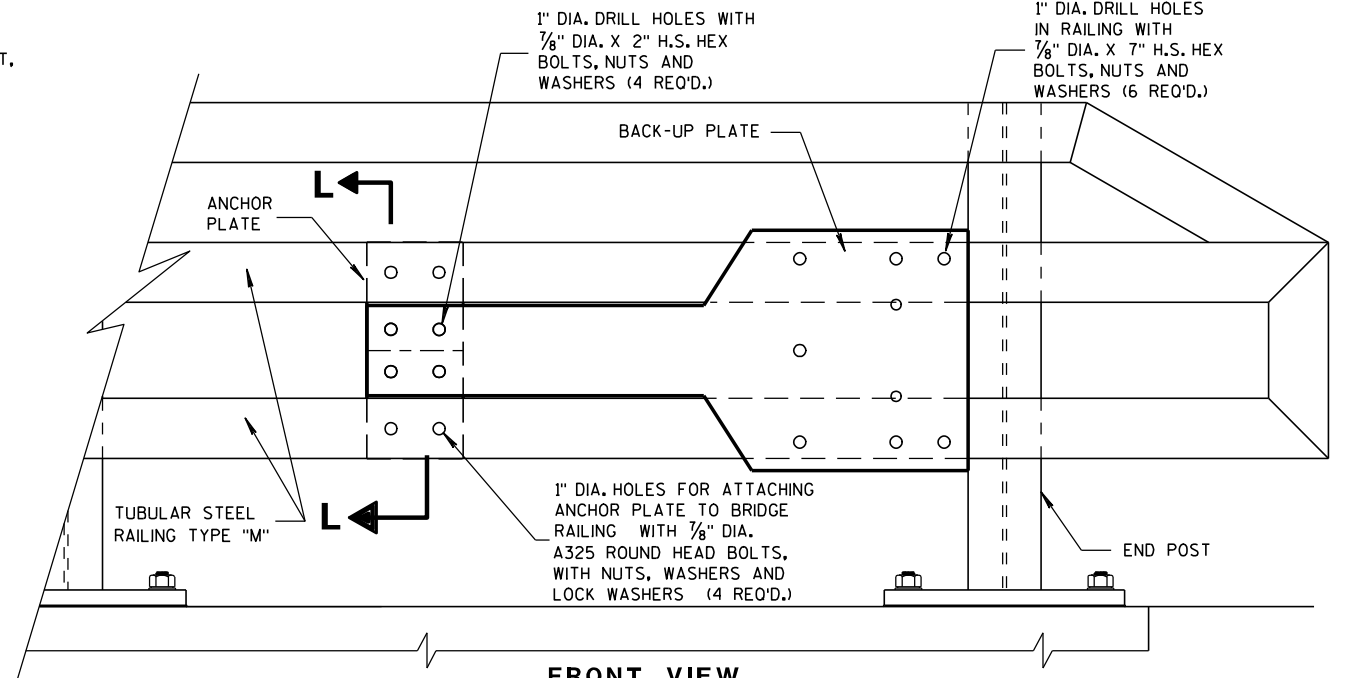
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

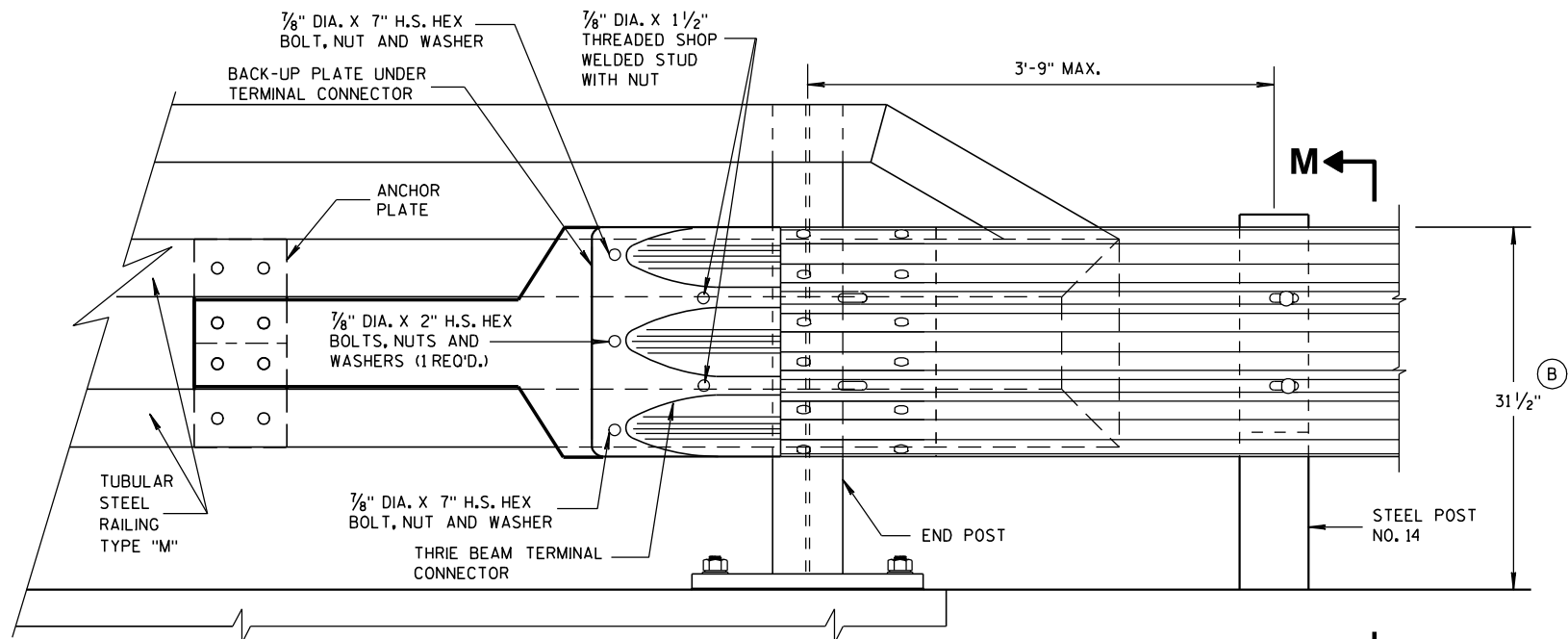


SECTION L-L

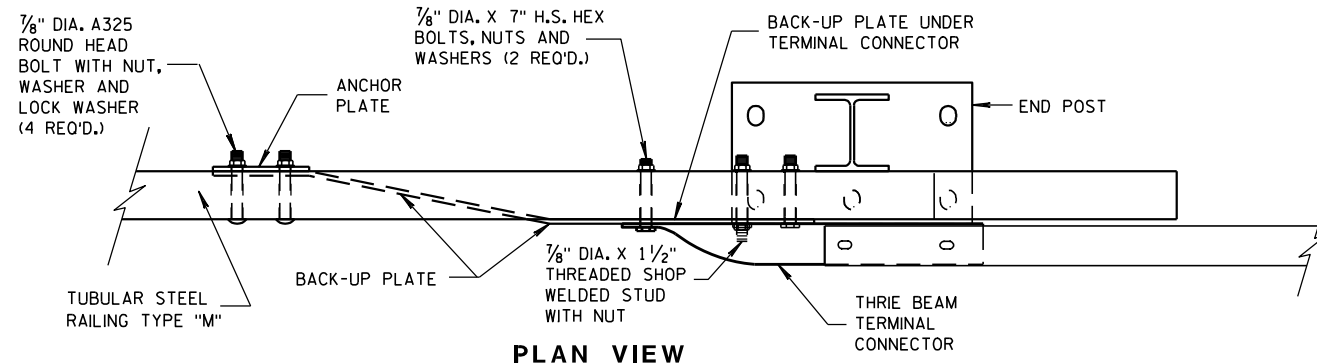


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



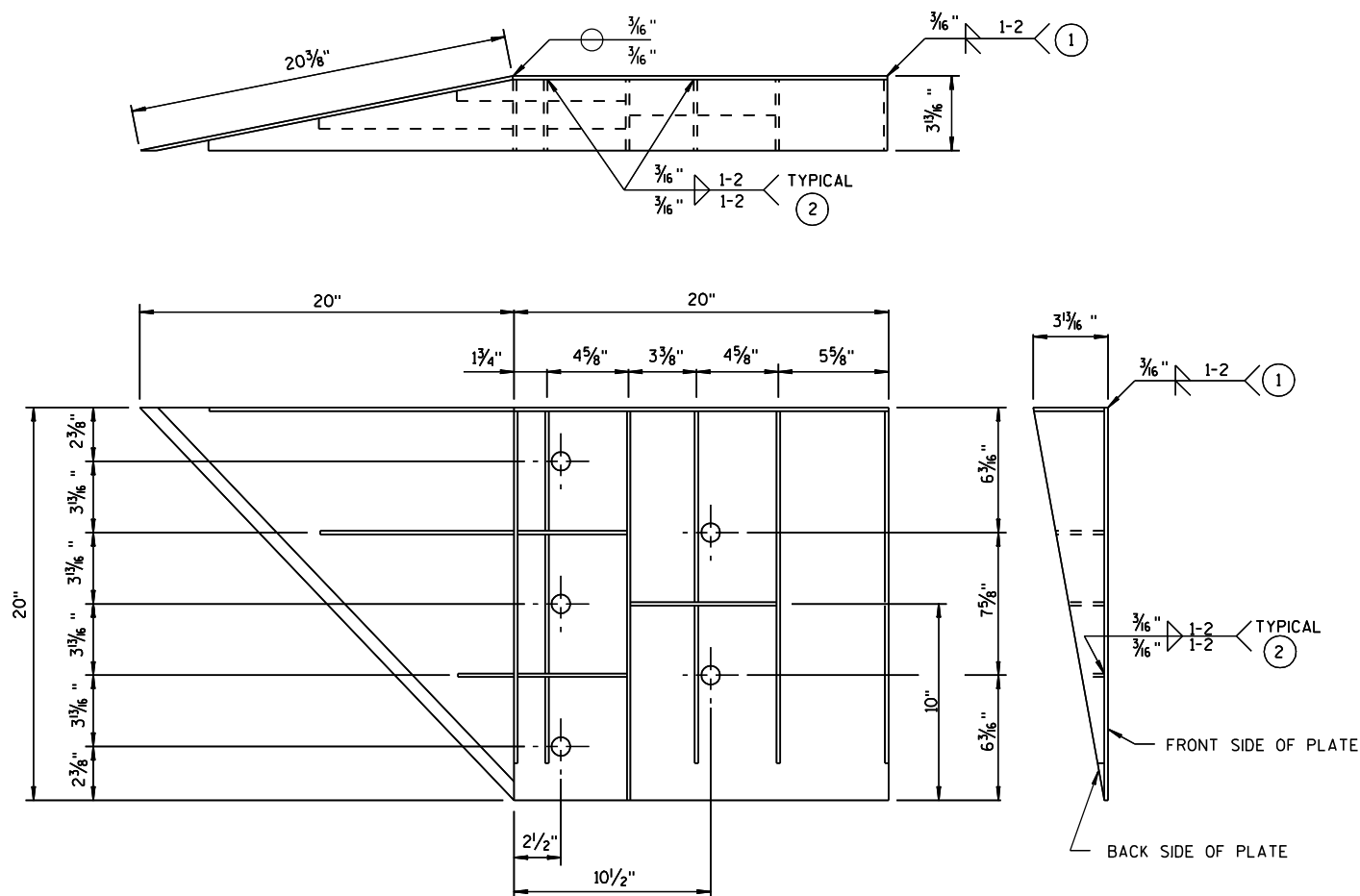
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012
DATE
/S/ Jerry H. Zoon
ROADWAY STANDARDS 383
ENGINEER
ENT

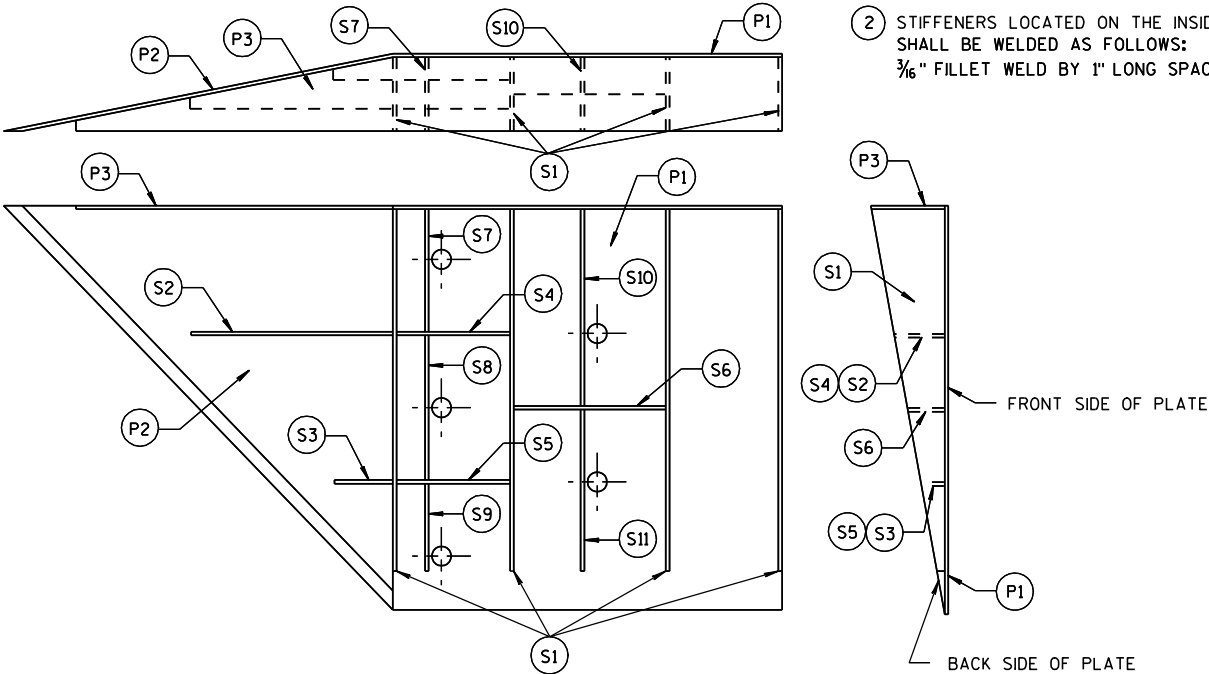


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 3/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 7/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

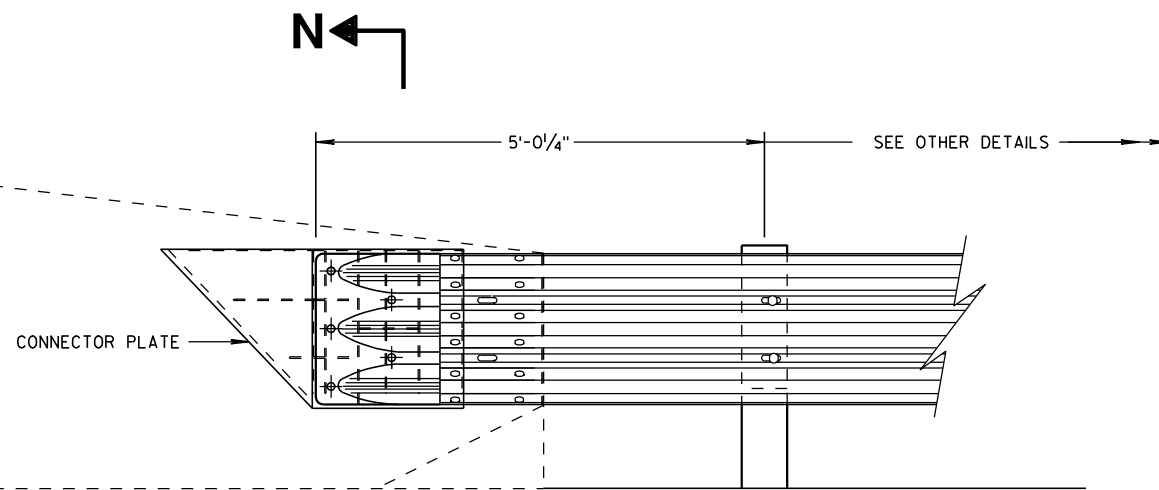
FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

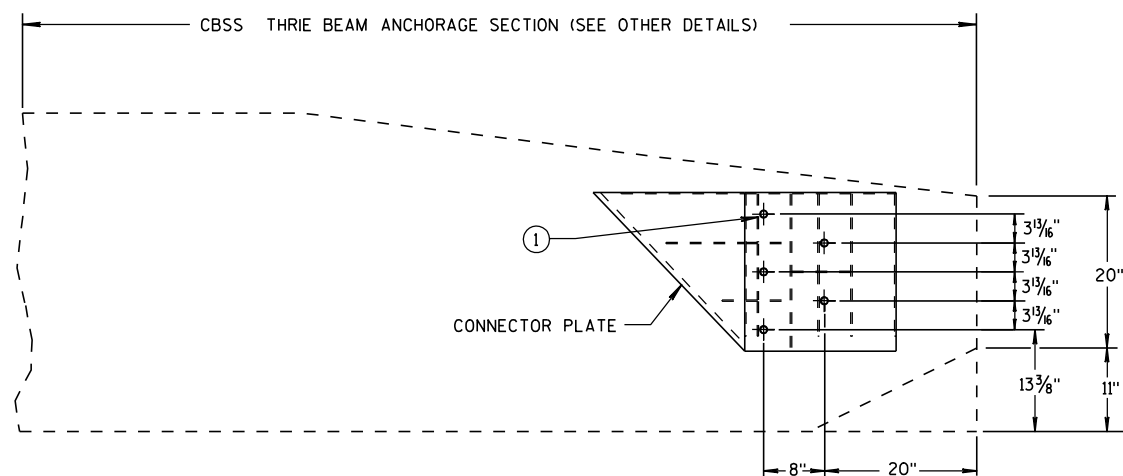
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. 7---
FHWA ROADWAY STANDARDS 384 WENT
ENGINEER



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

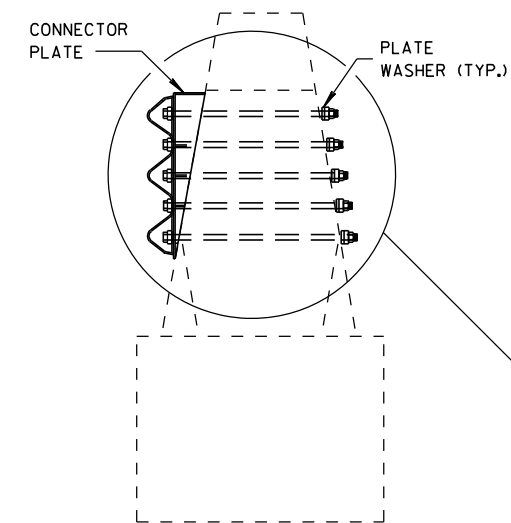


SINGLE SLOPE CONNECTION PLATE PLACEMENT

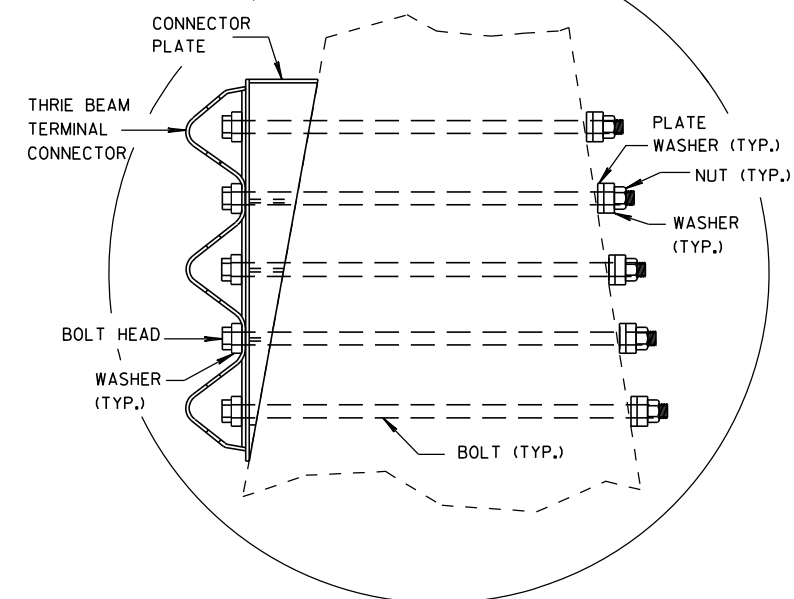
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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SECTION N-N



**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012

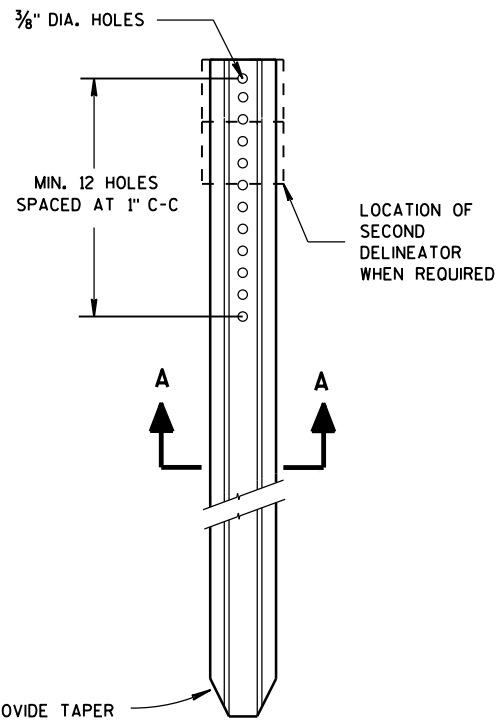
DATE

FHWA

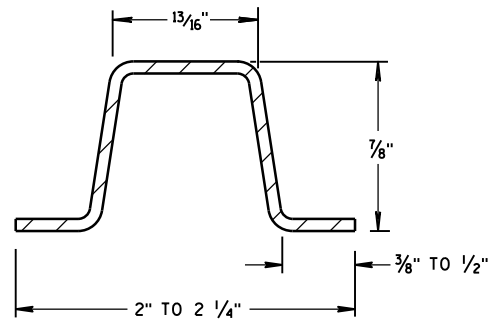
/S/ Jerry H. 385

ROADWAY STANDARDS ENGINEER

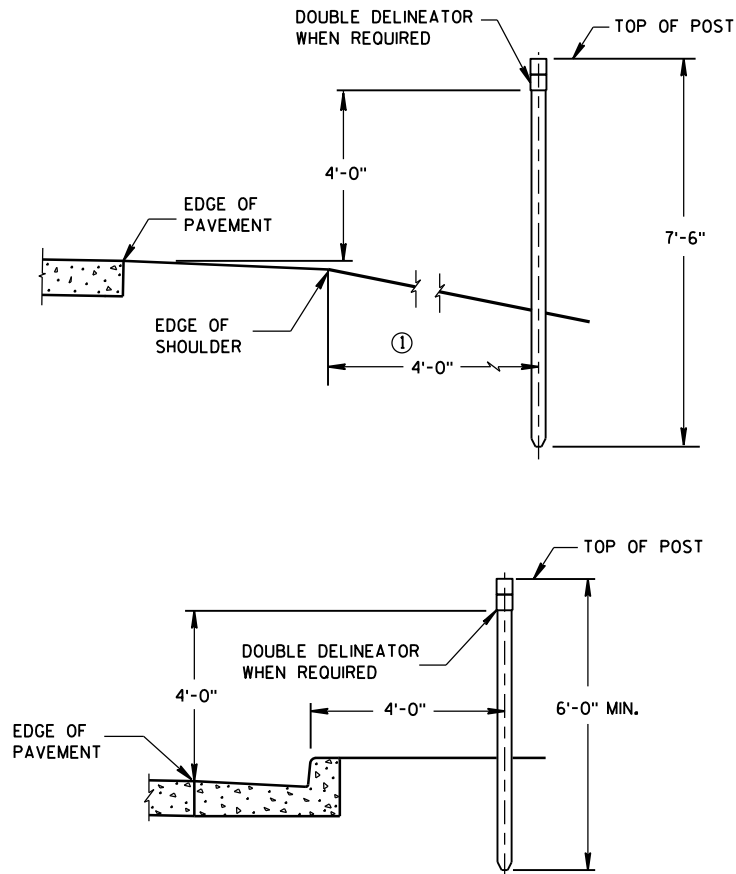
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DELINEATOR POST



SECTION A-A
WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

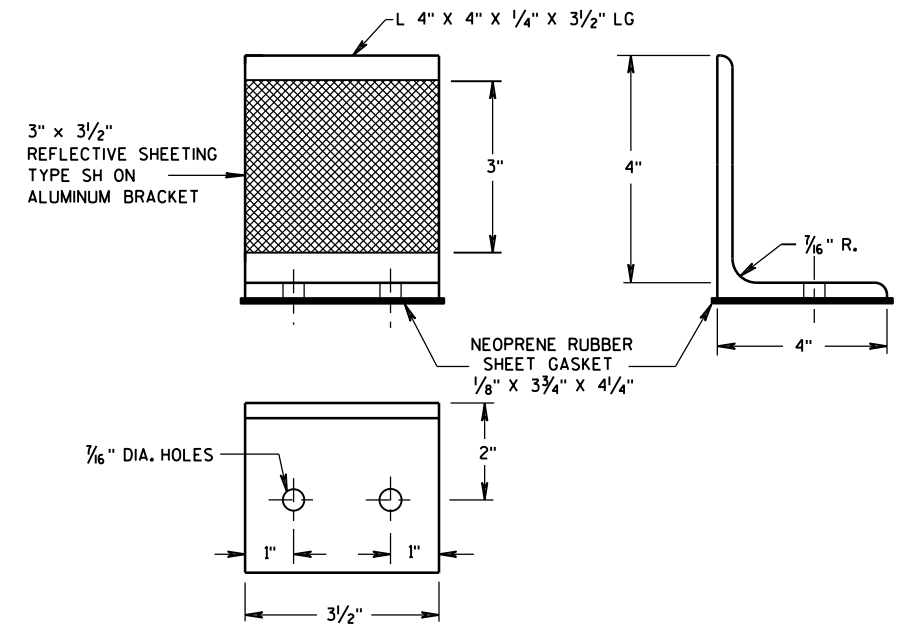


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

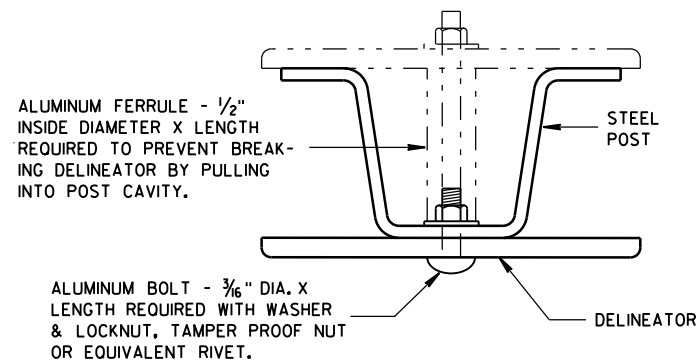
GENERAL NOTES

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

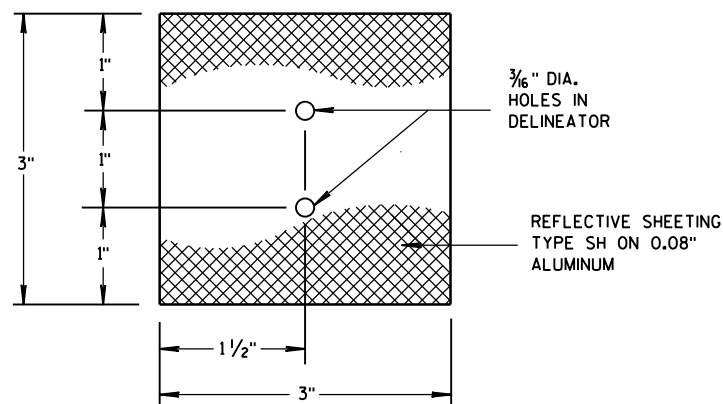
- ① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



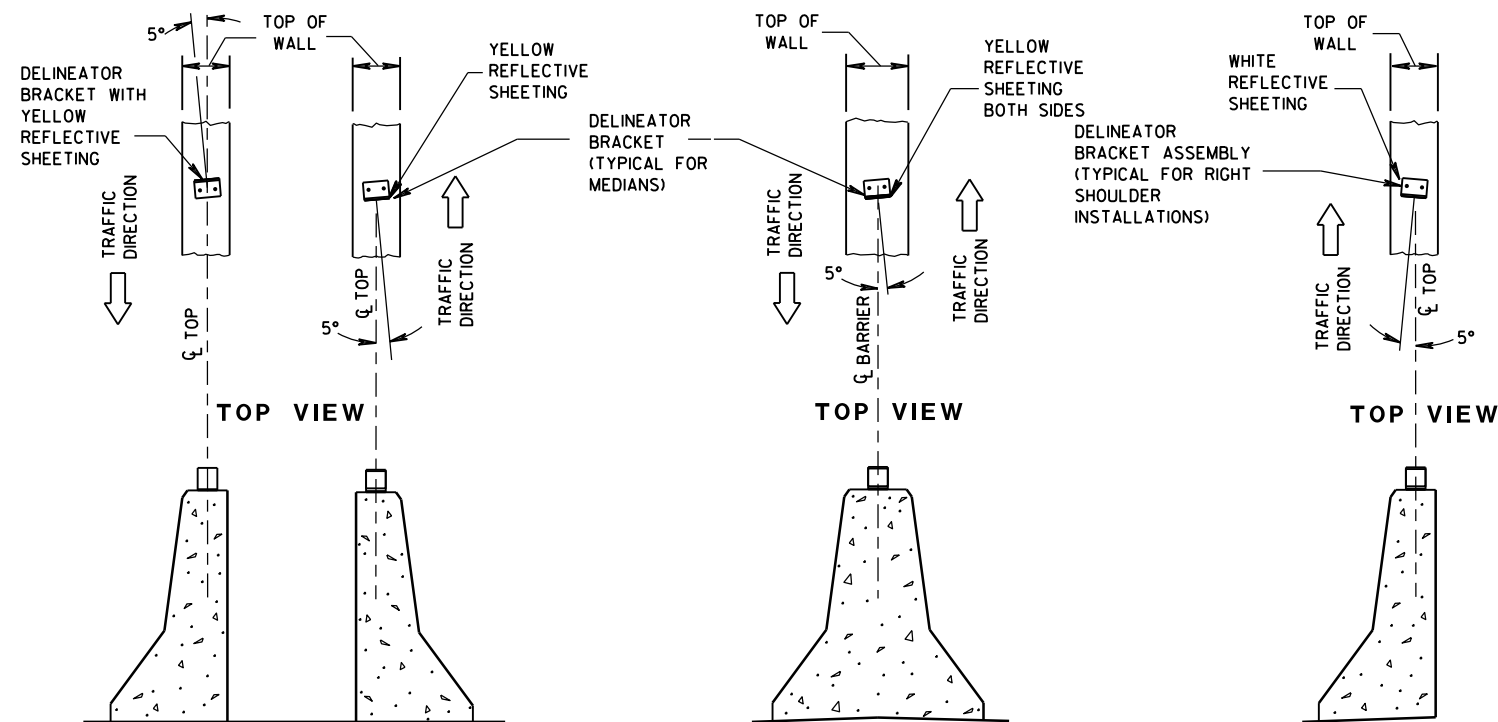
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



3" x 3" DELINEATOR

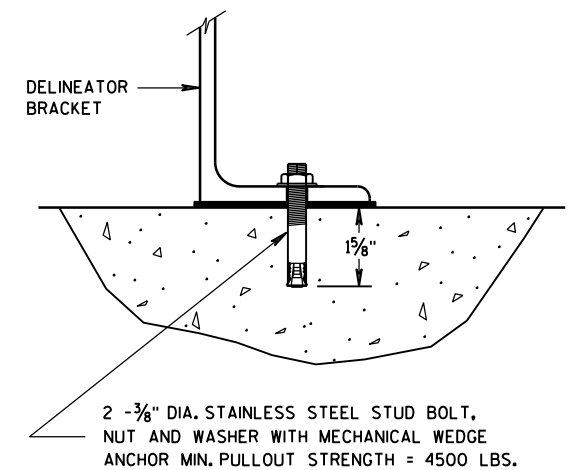


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED
TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS

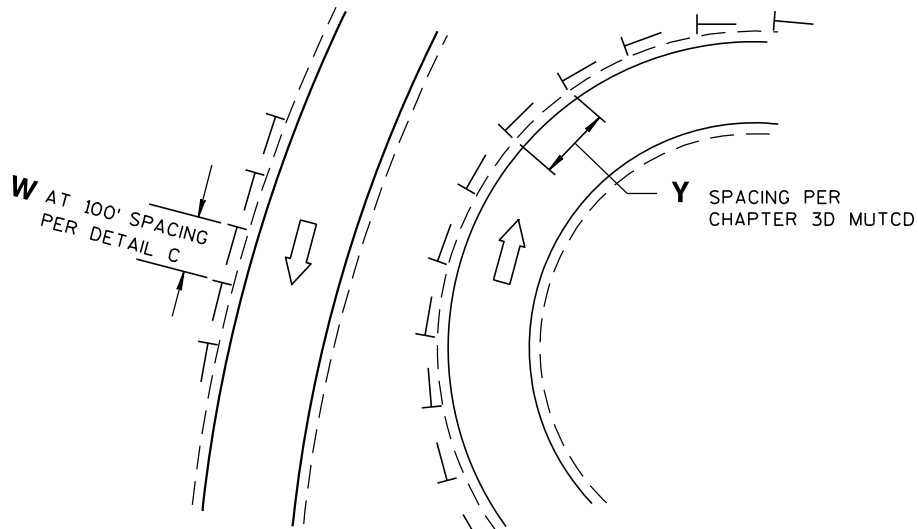


DELINEATOR BRACKET
MOUNTING DETAIL

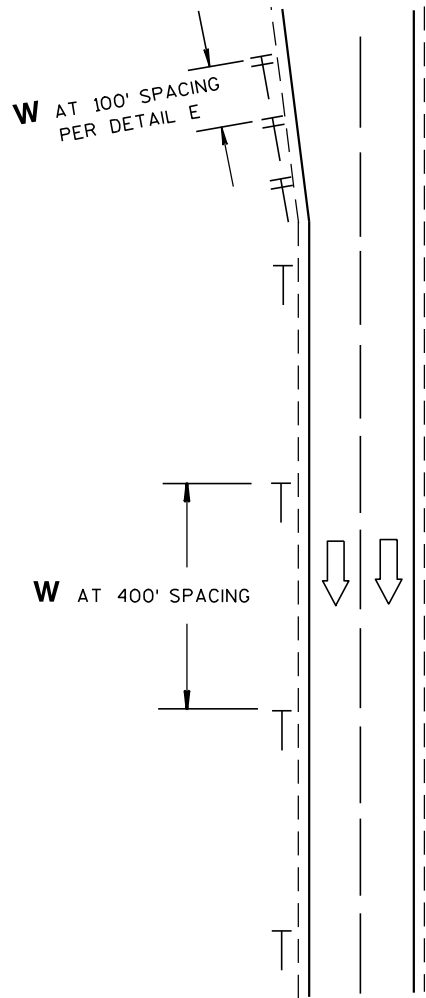
DELINEATOR POST, DELINEATOR,
AND DELINEATOR BRACKET
WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

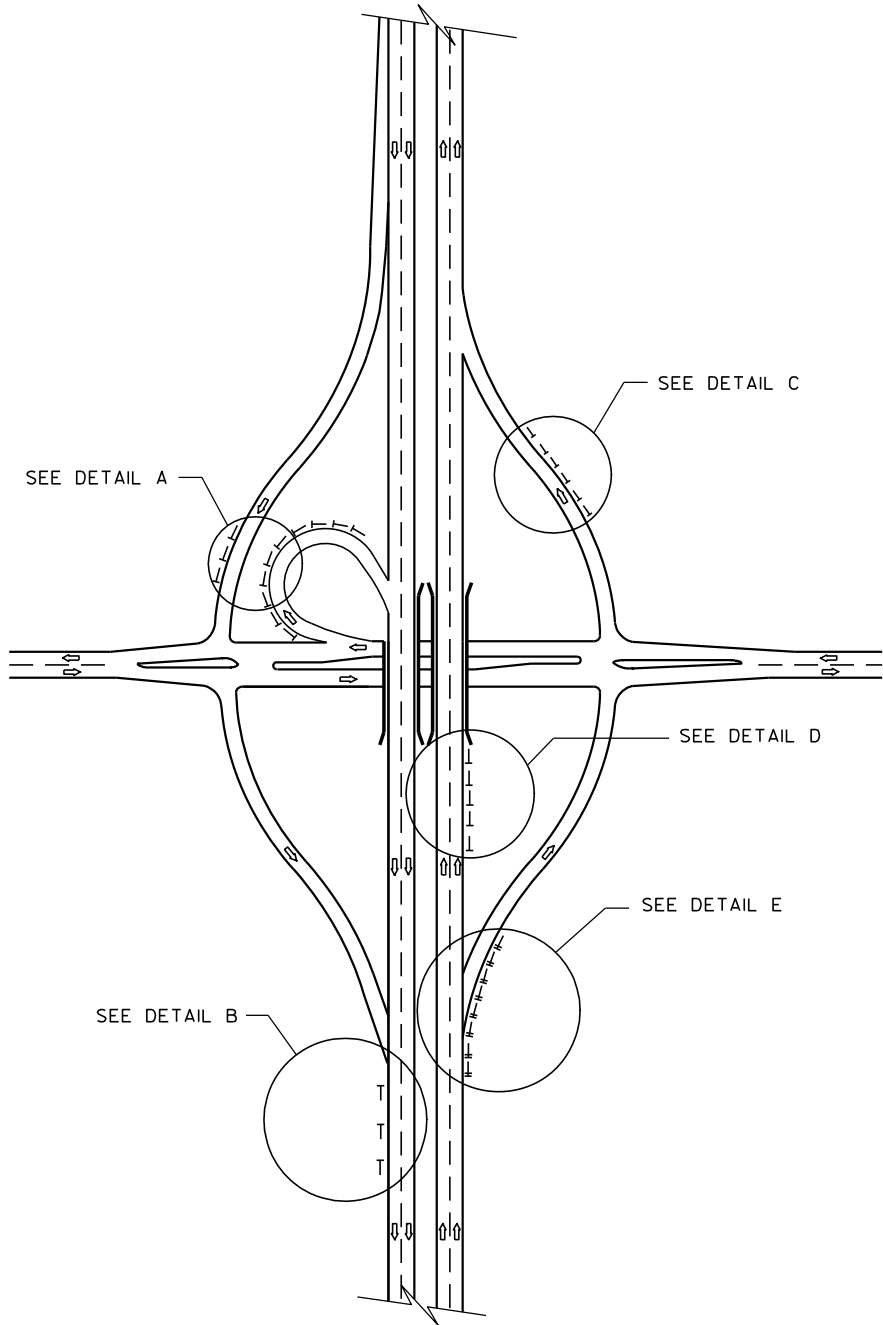
APPROVED
7/2013 DATE /S/ Travis Feltes
STATE TRAFFIC E 386
FHWA



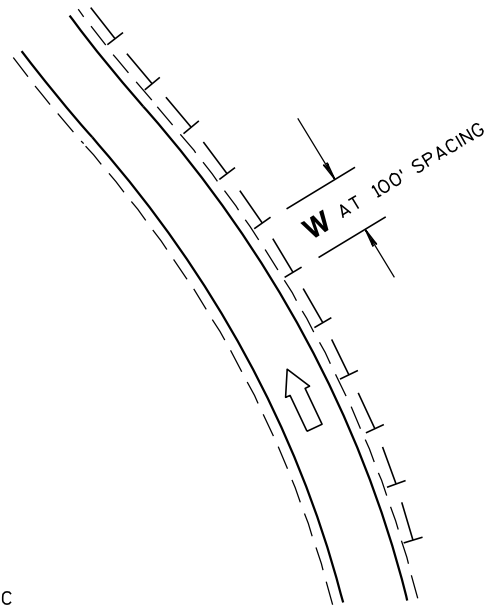
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



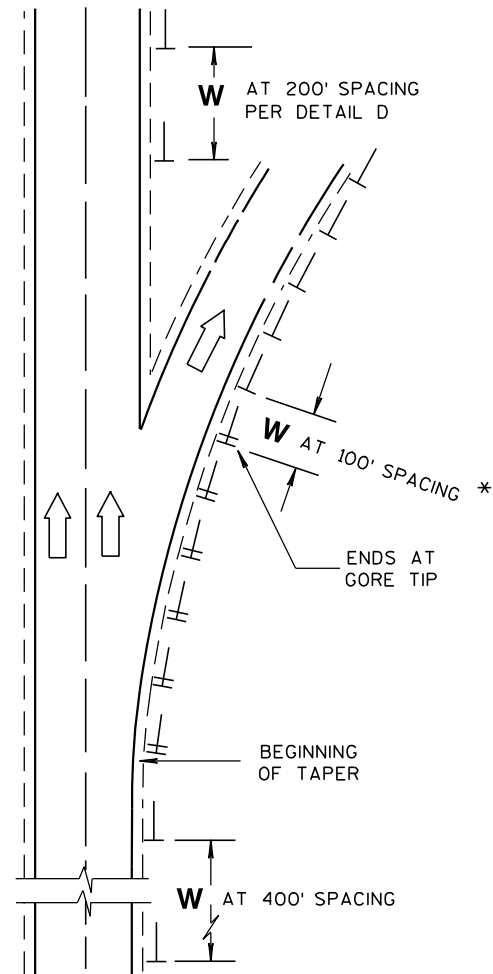
DETAIL B
DELINEATOR LAYOUT
ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL C
DELINEATOR LAYOUT ALONG RAMP



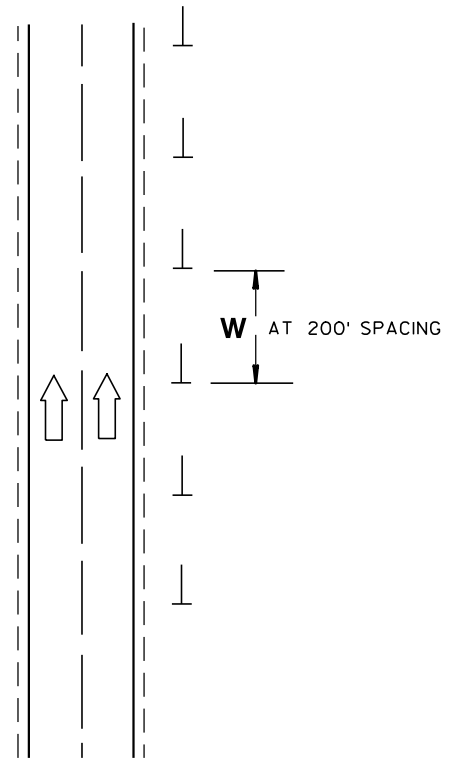
DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION
- DECELERATION LANES AND TAPERS AT RAMPS

GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS.
USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.

LEGEND

- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W** WHITE
- Y** YELLOW

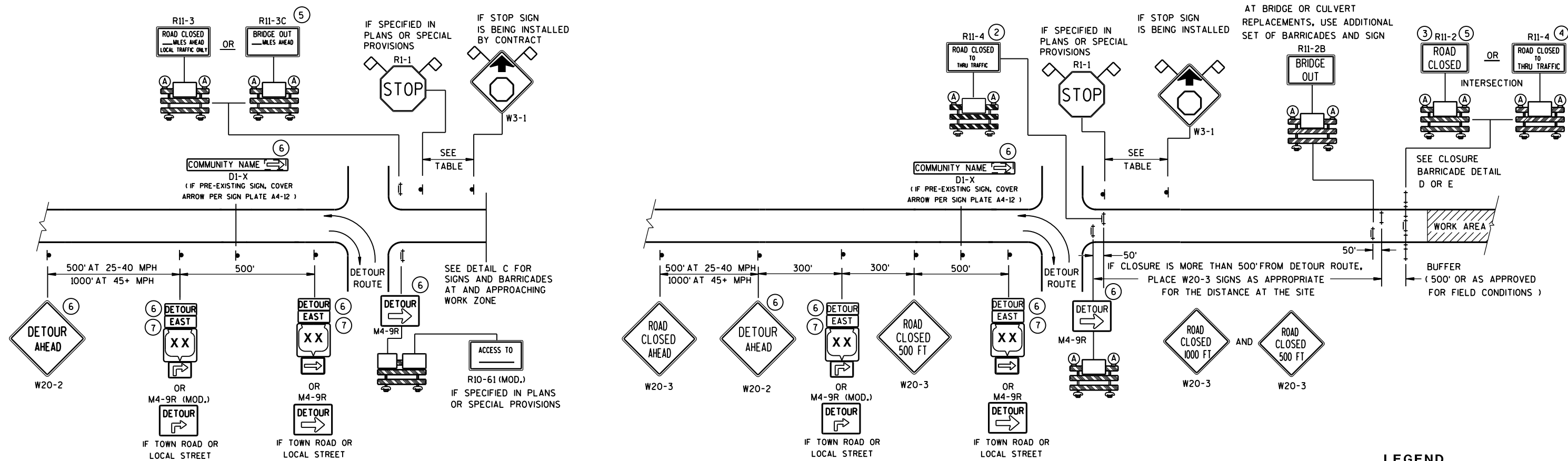


DETAIL D
DELINEATOR LAYOUT
BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

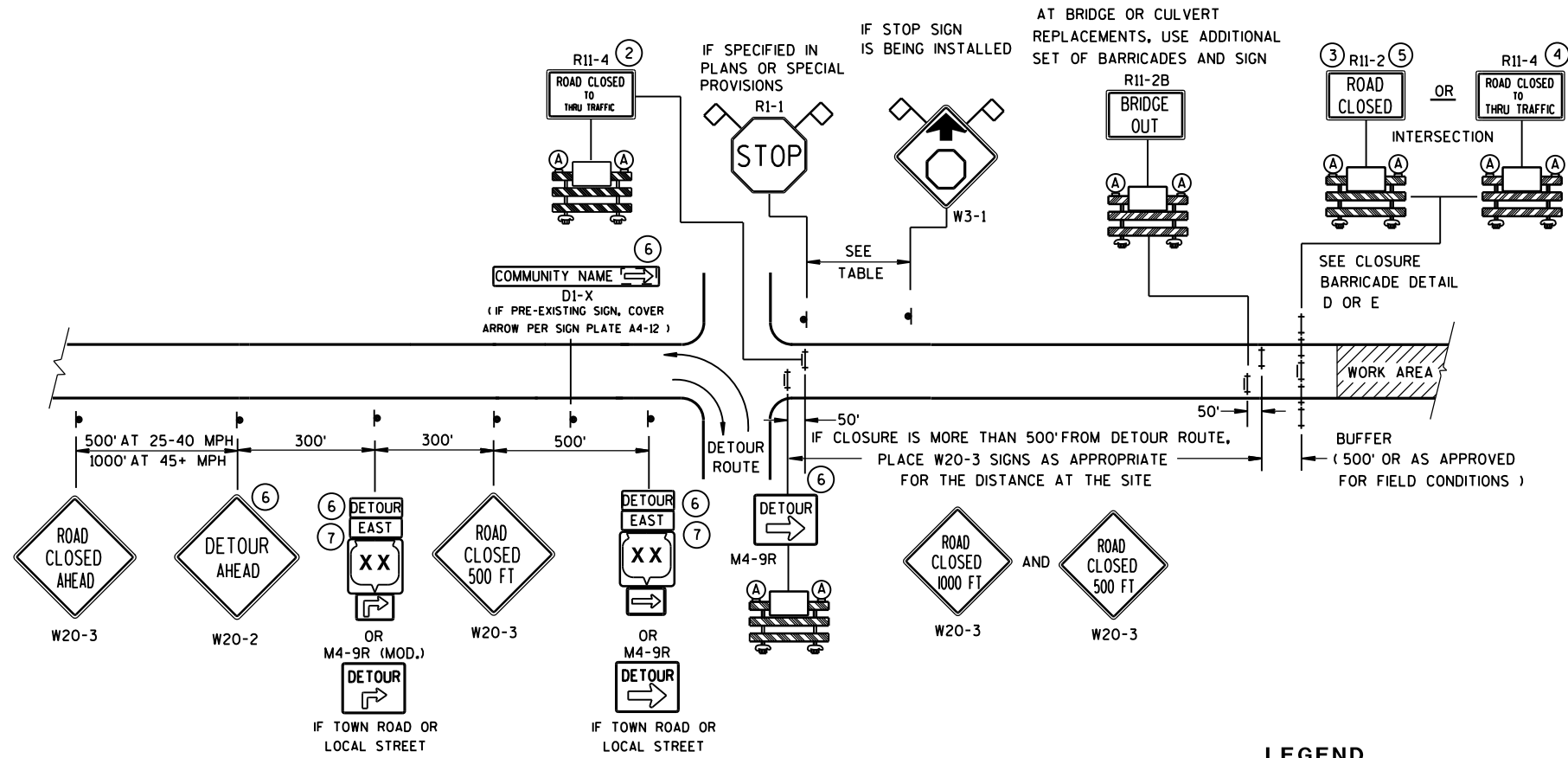
APPROVED
2/5/09 /S/ Thomas N. Nothmann
DATE STATE TRAFFIC ENGINEER 387 SIGN
FHWA



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

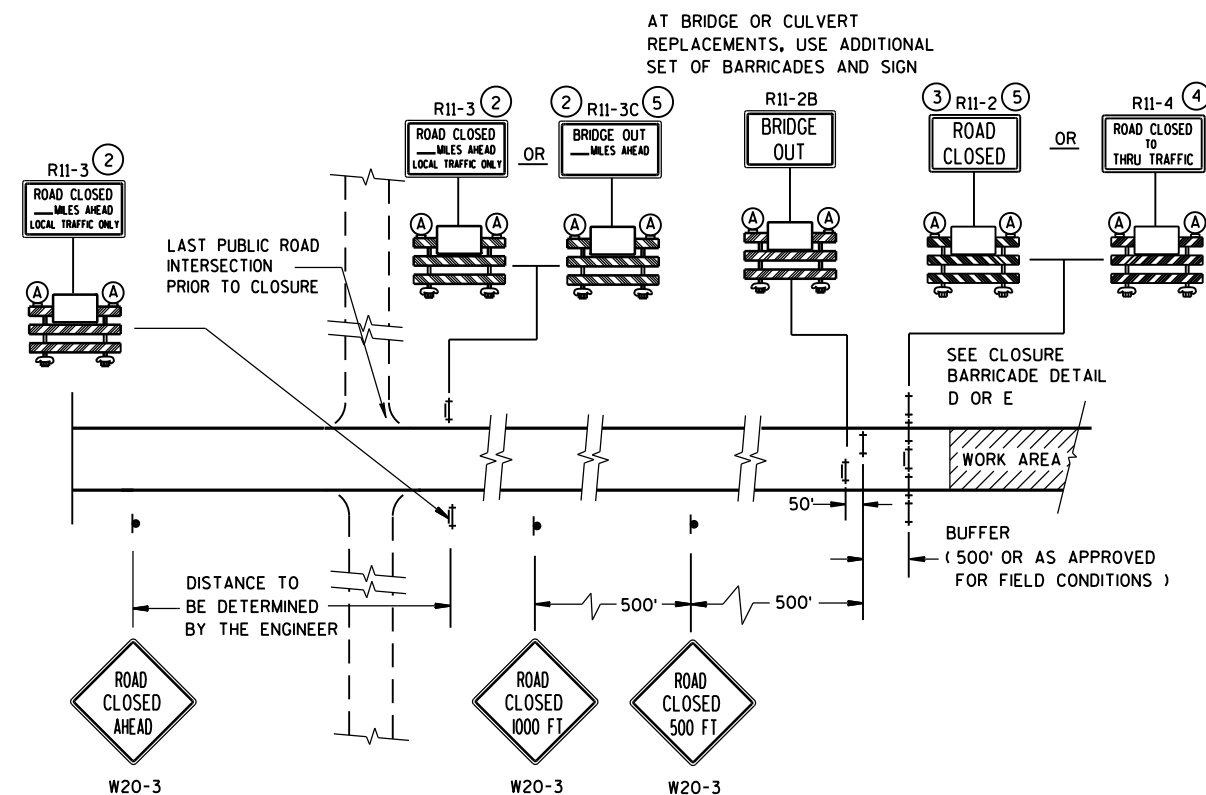
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

LEGEND

- | | |
|---|---------------------------------------|
|  | SIGN ON PERMANENT SUPPORT |
|  | TYPE III BARRICADE |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |
|  | TYPE "A" WARNING LIGHT (FLASHING) |

 WORK AREA

DETOUR M4-8
EAST M3-X

 OR  OR 

M1-4 M1-5A M1-6

 OR 

M05-1 M06-1

 FLAGS, 16" X 16" MIN., (ORANGE)

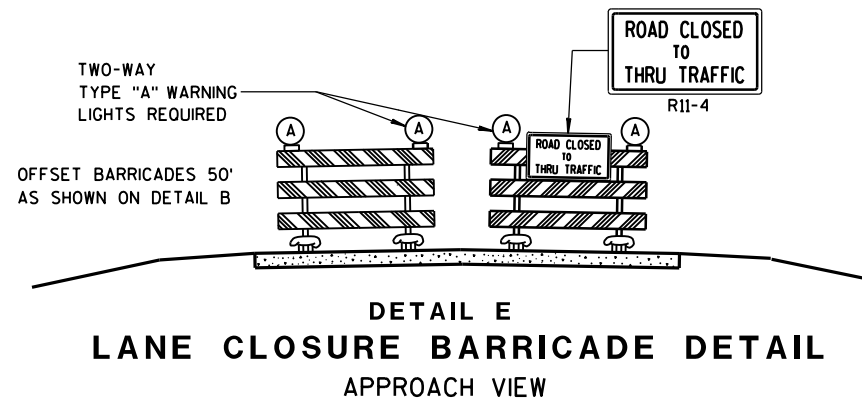
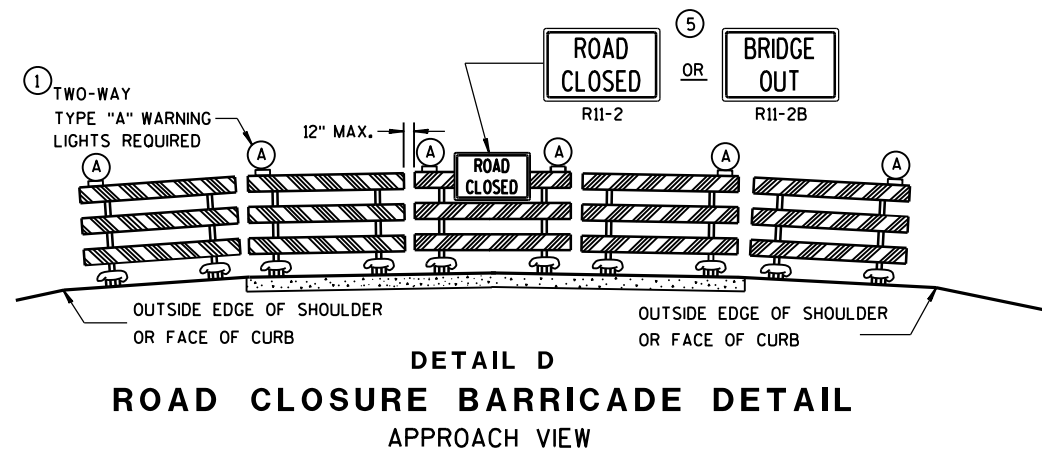
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013	/S/ Travis Feltes	
DATE	STATE TRAFFIC ENGINE 300	ESIGN
FHWA		



SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

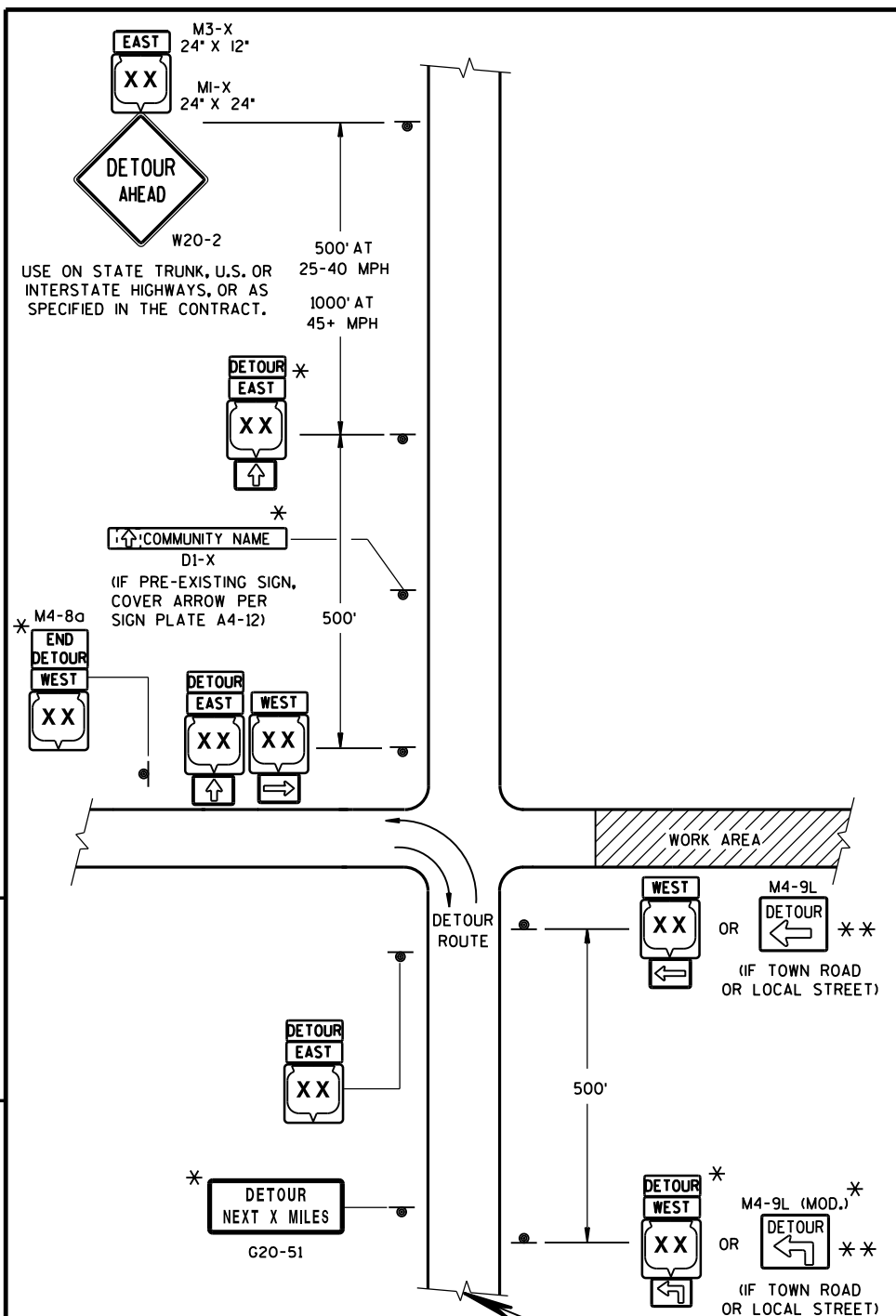
R1-1 SHALL BE 36" X 36".

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 389 ESIGN
FHWA



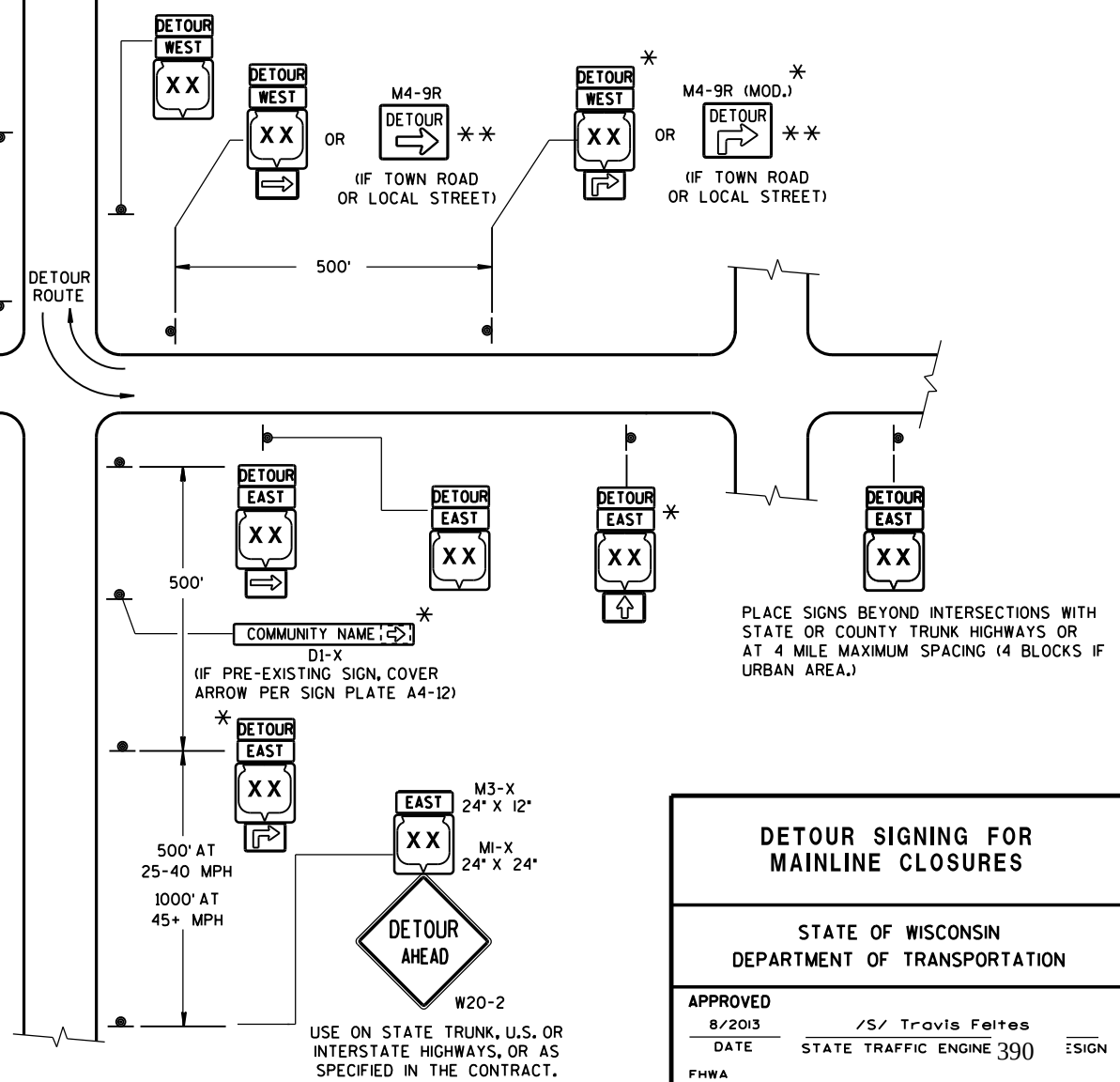
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

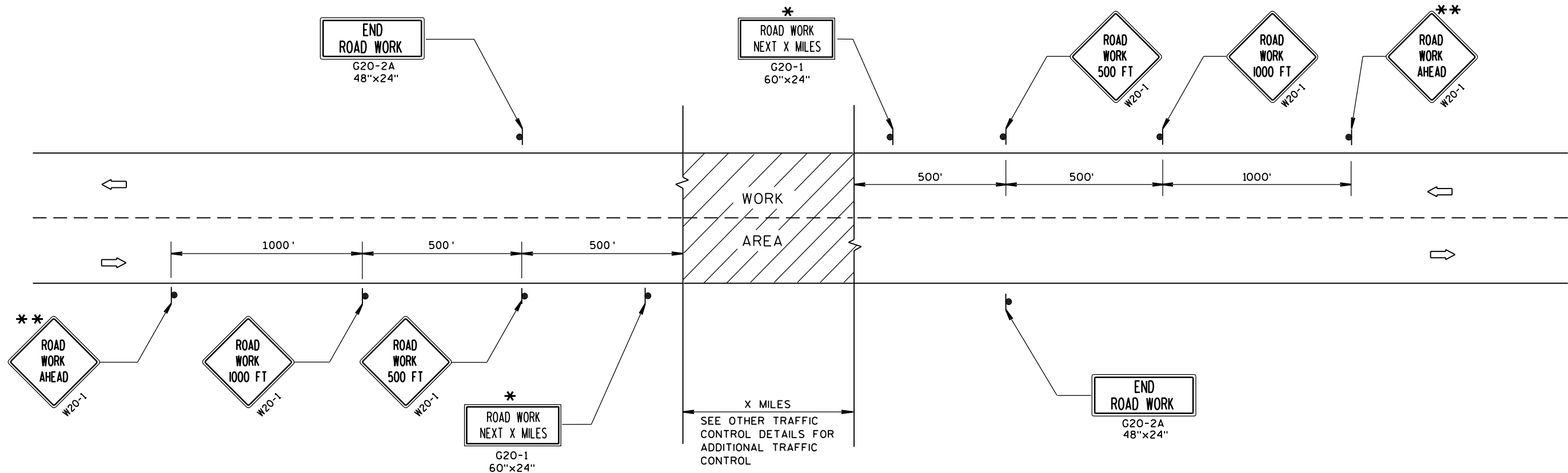
MATCH POINT

DETAIL F
DETOUR SIGNING

GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
 - M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.





TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

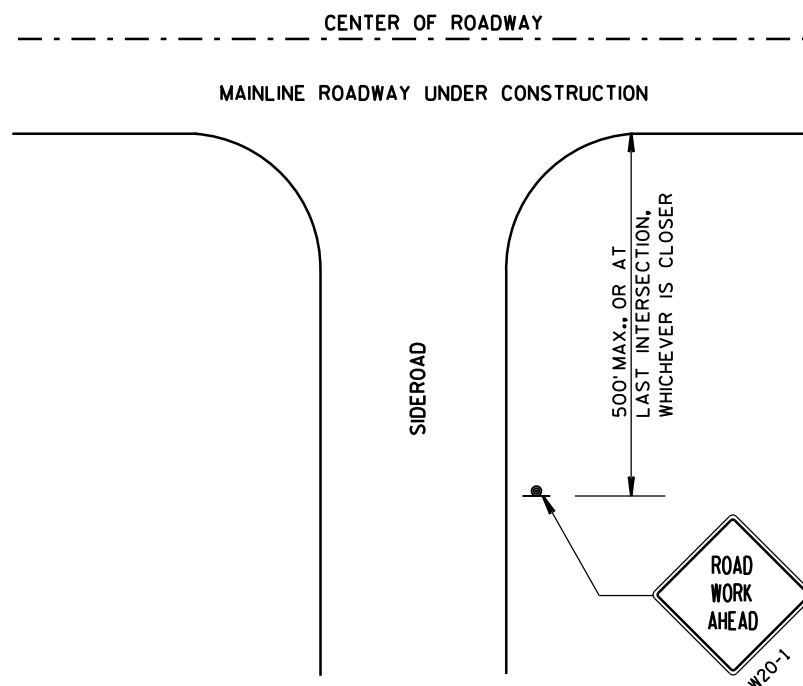
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

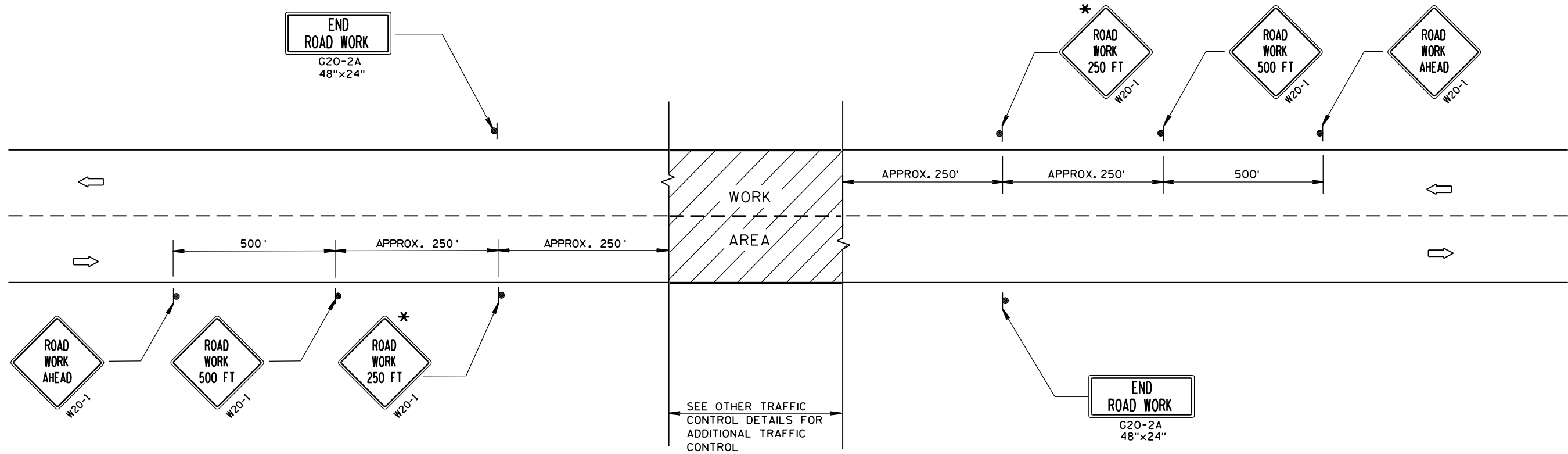
** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 391		
FHWA	SIGN		



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

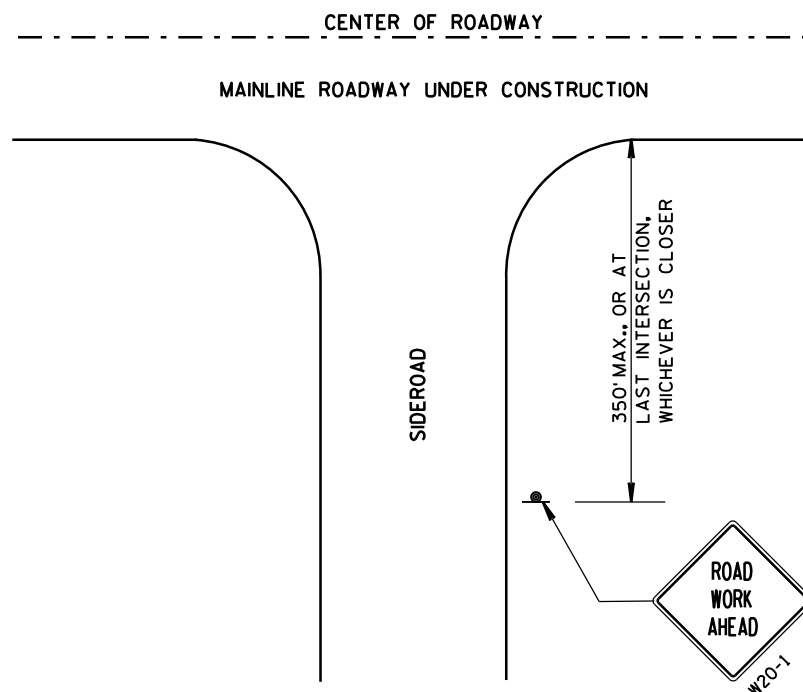
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



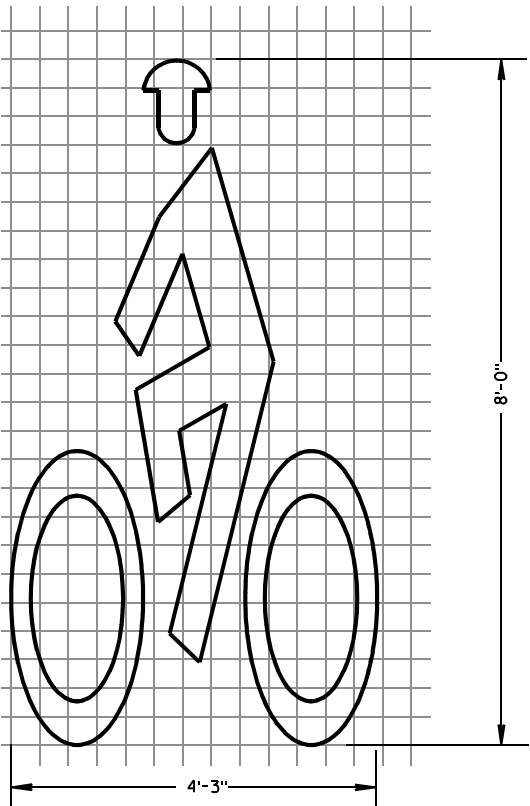
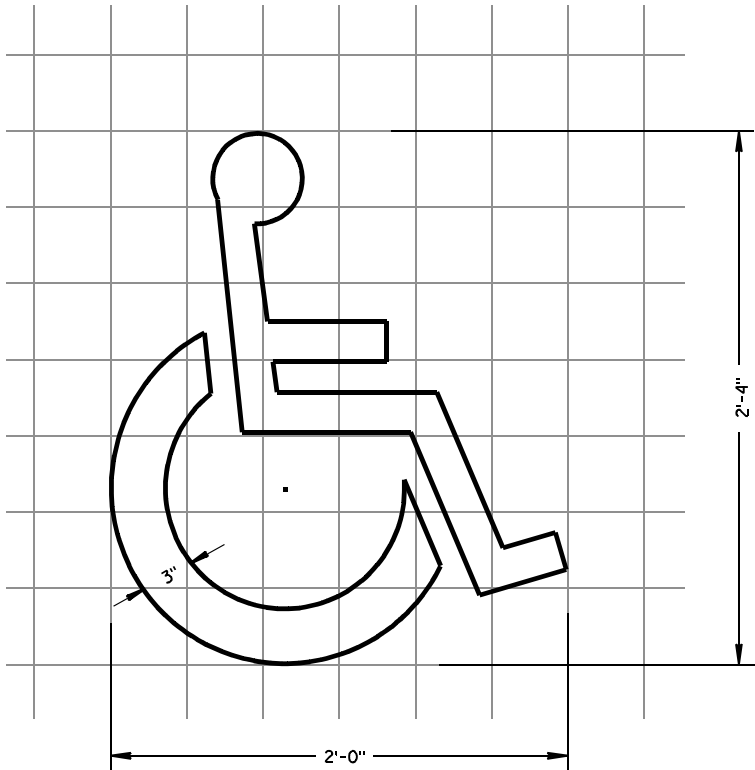
LEGEND

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

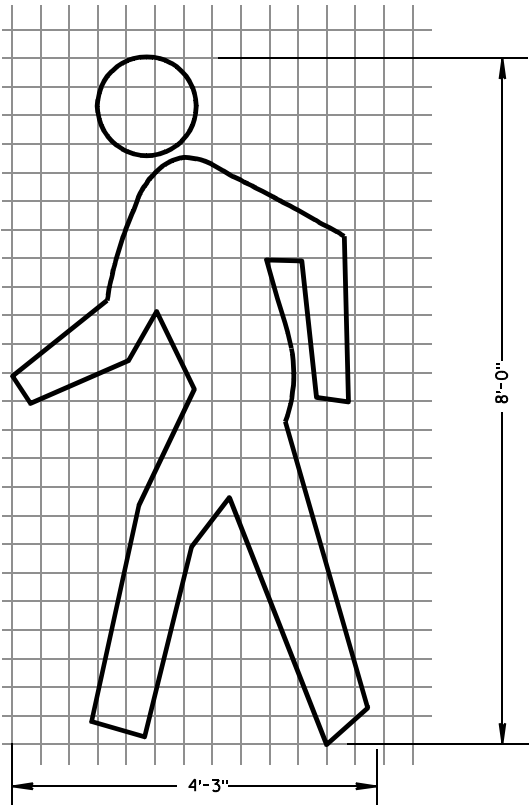
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 40 M.P.H.
OR LESS TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

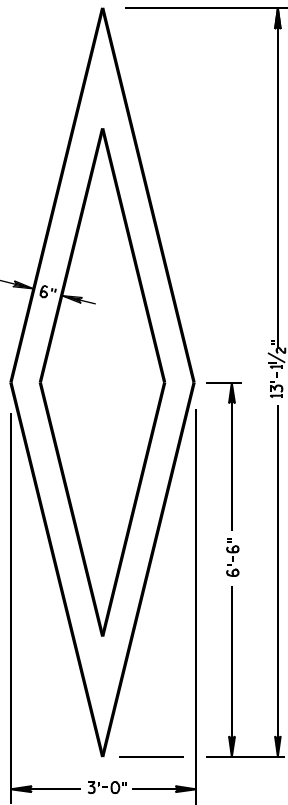
APPROVED
8/2013 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER 392 SIGN
FHWA



BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL
LANE SYMBOL

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

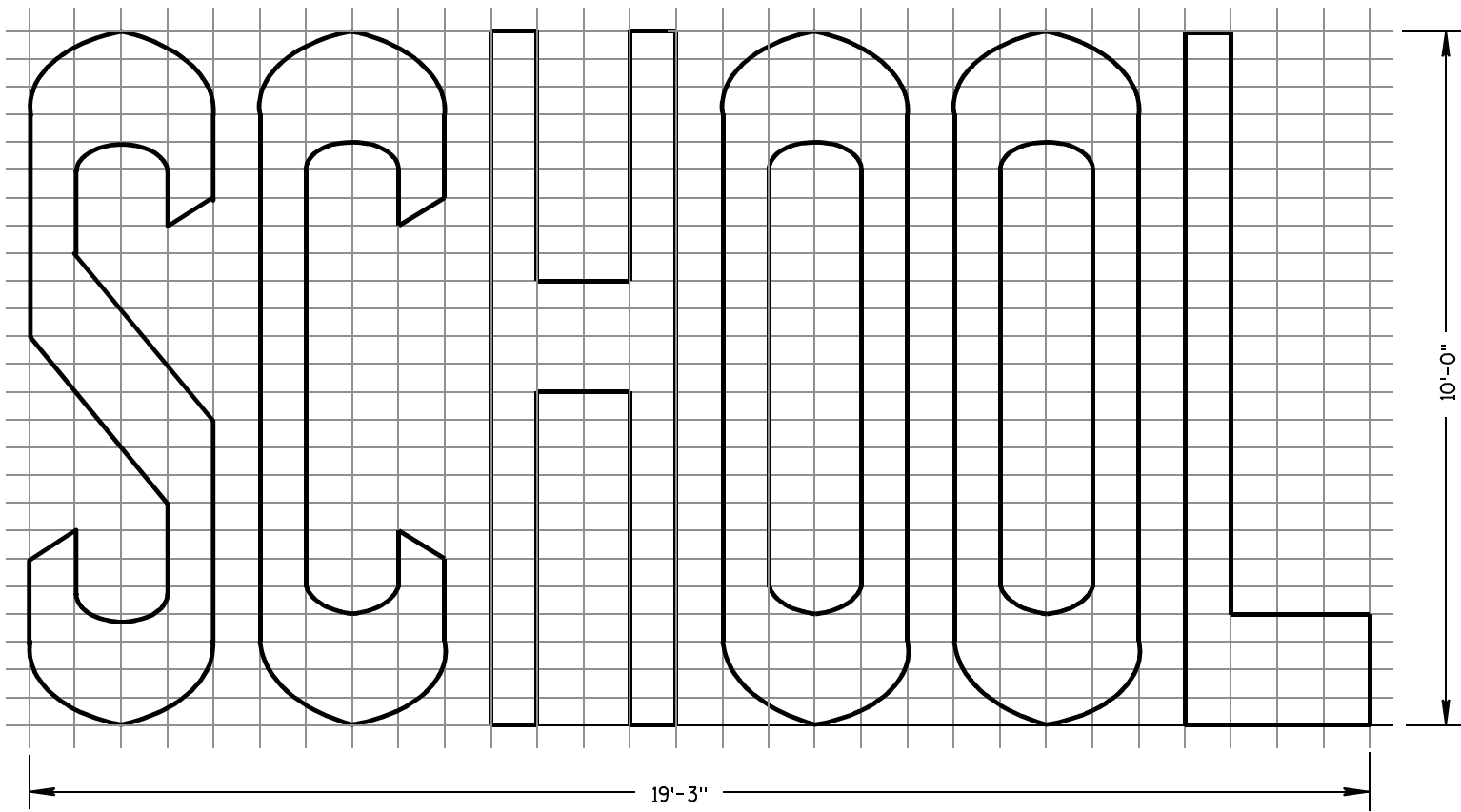
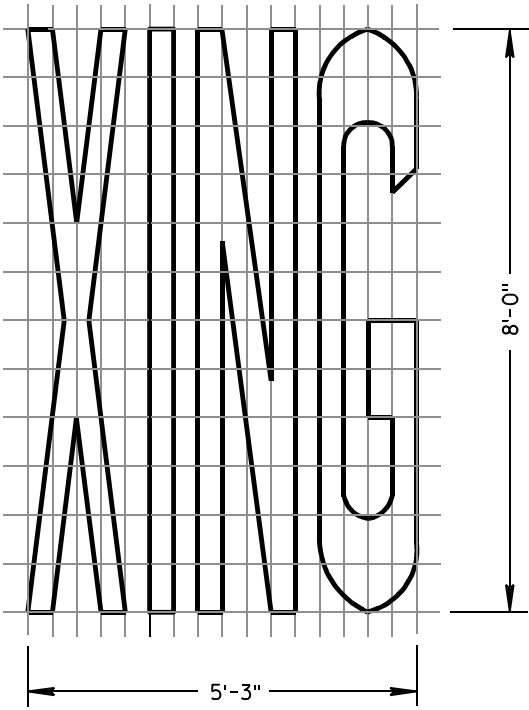
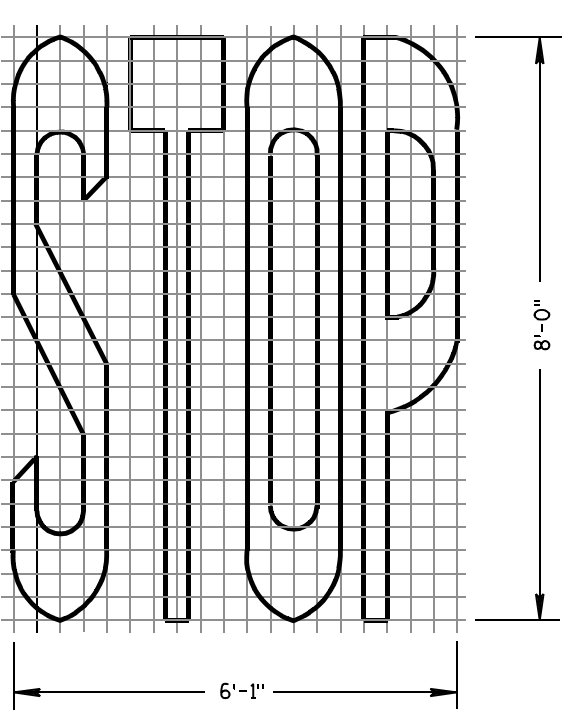
A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

PAVEMENT MARKING SYMBOLS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/1/11 DATE	/S/ Thomas N. Nathan STATE TRAFFIC ENGINEER 393 IGN
FHWA	

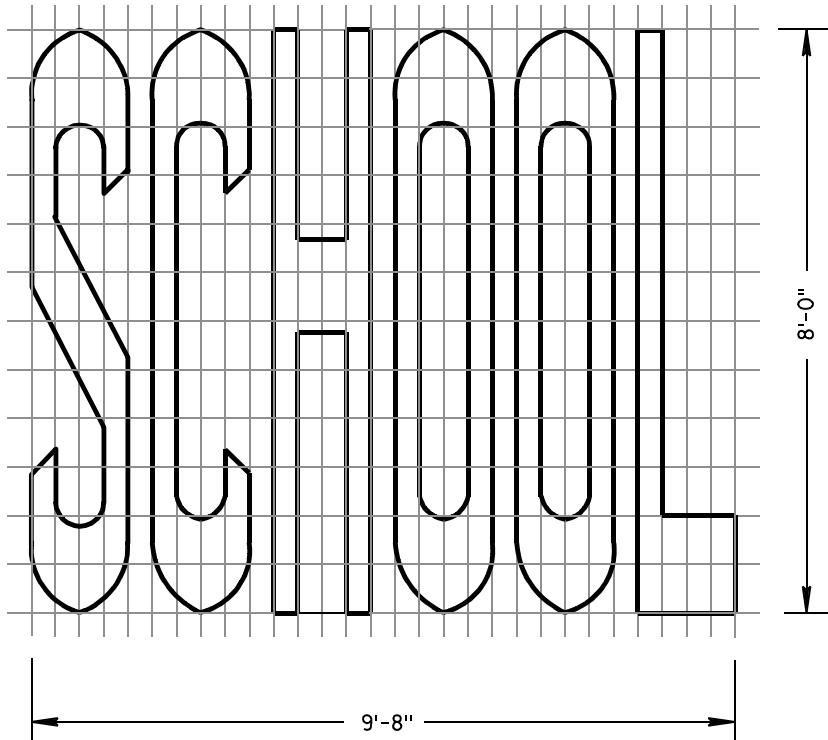
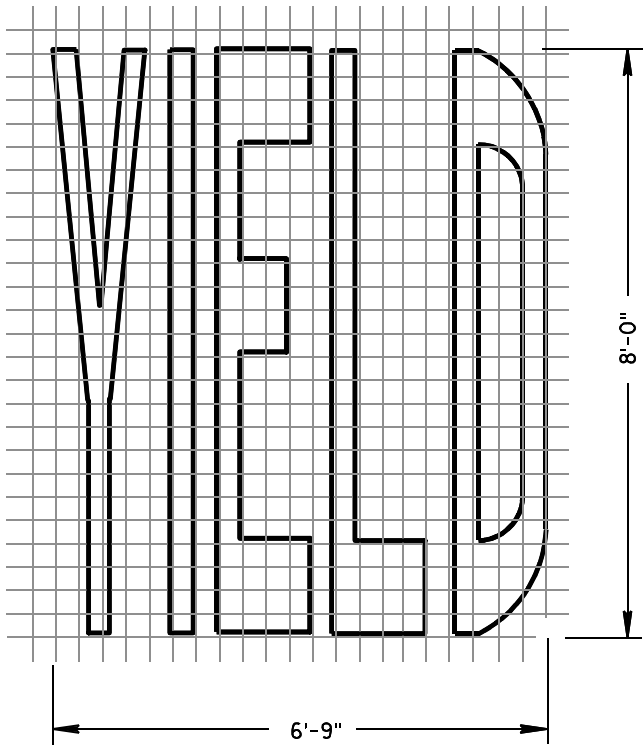
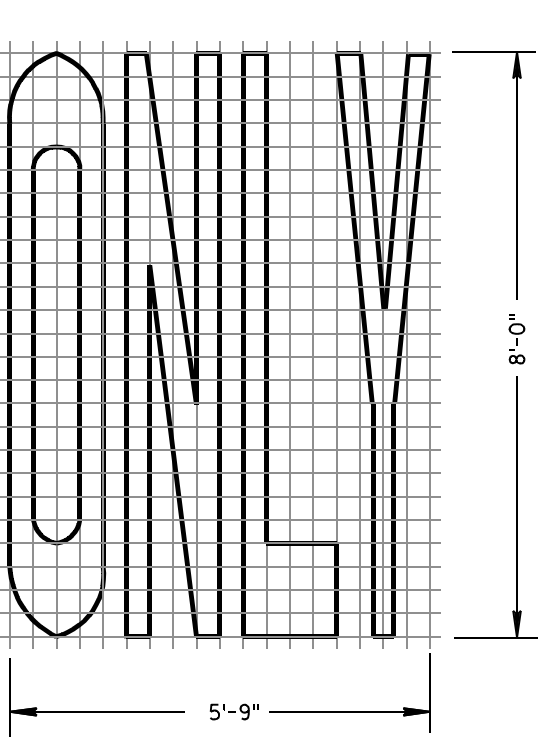
GENERAL NOTES

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

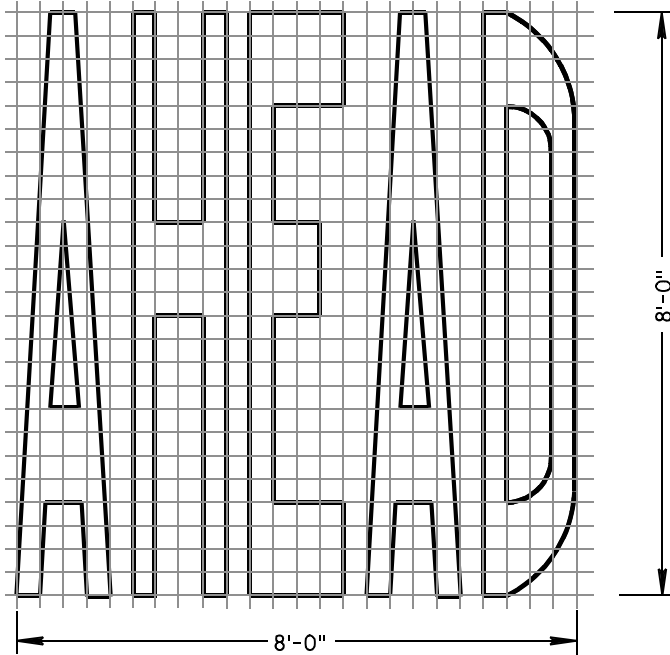
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

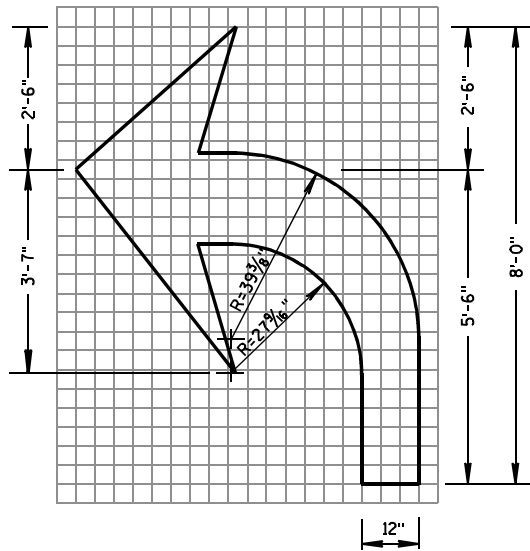
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

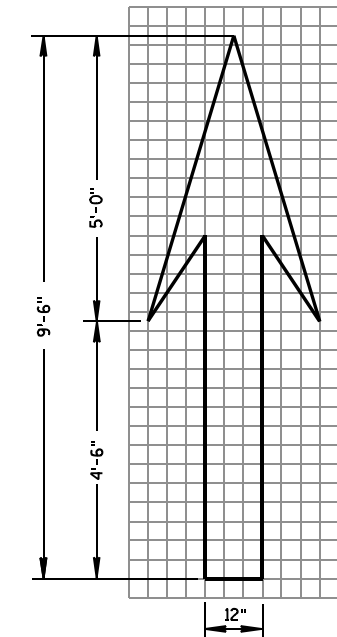
7-1-11
DATE

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER 394 IGN

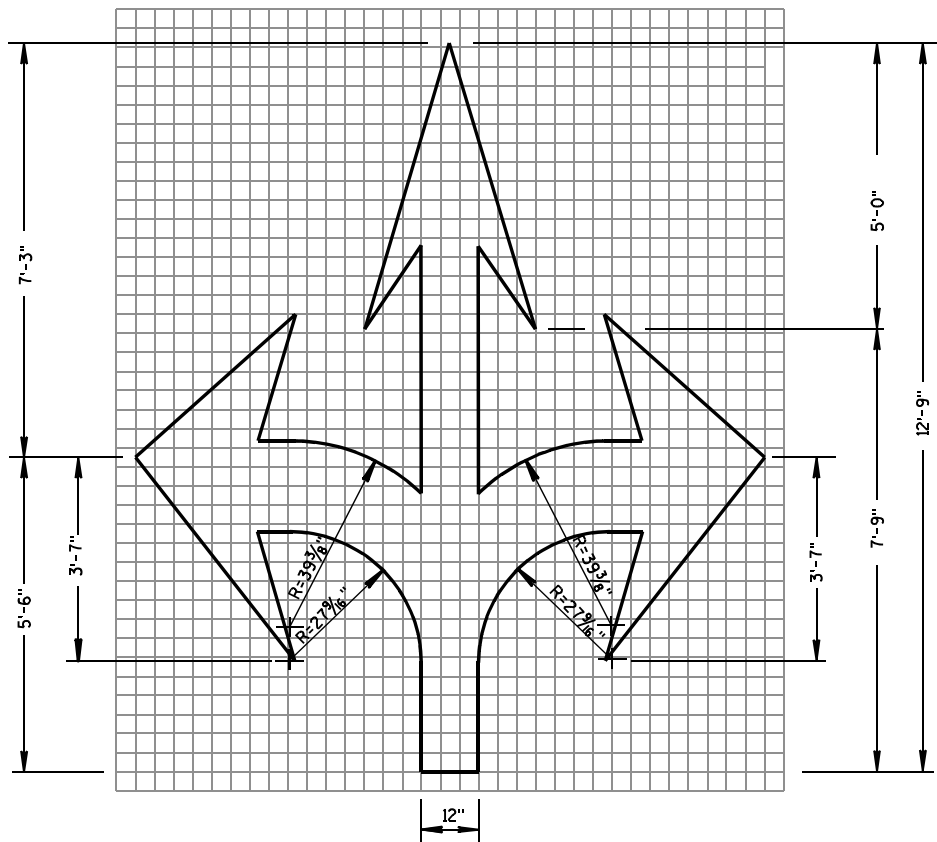
FHWA



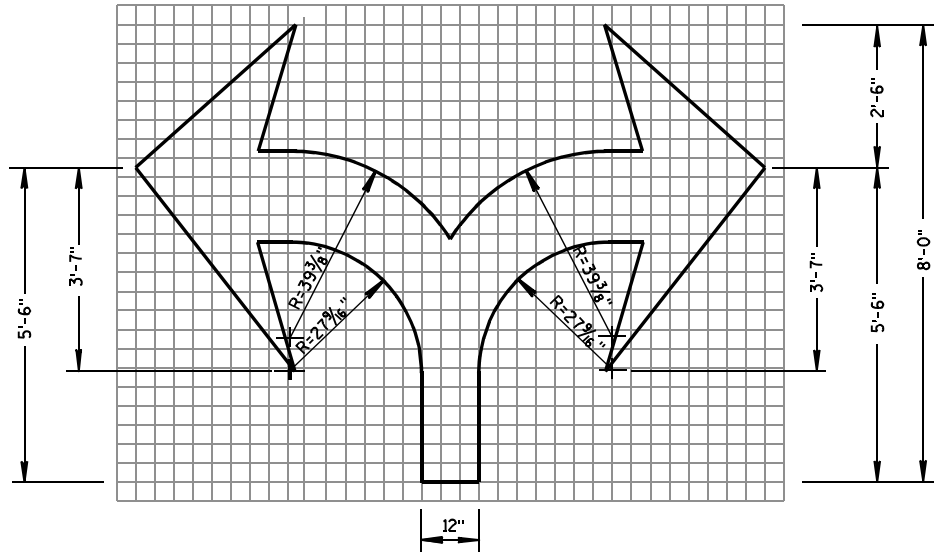
TYPE 2



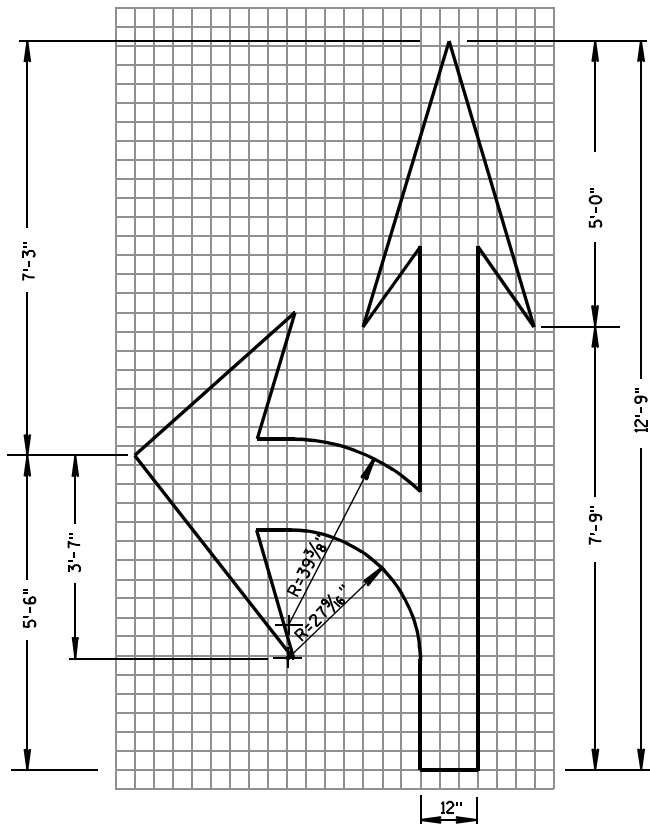
TYPE 1



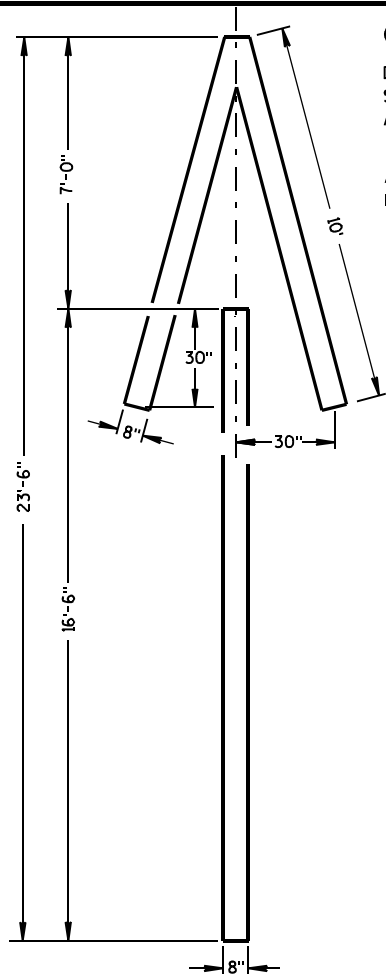
TYPE 6



TYPE 7



TYPE 3

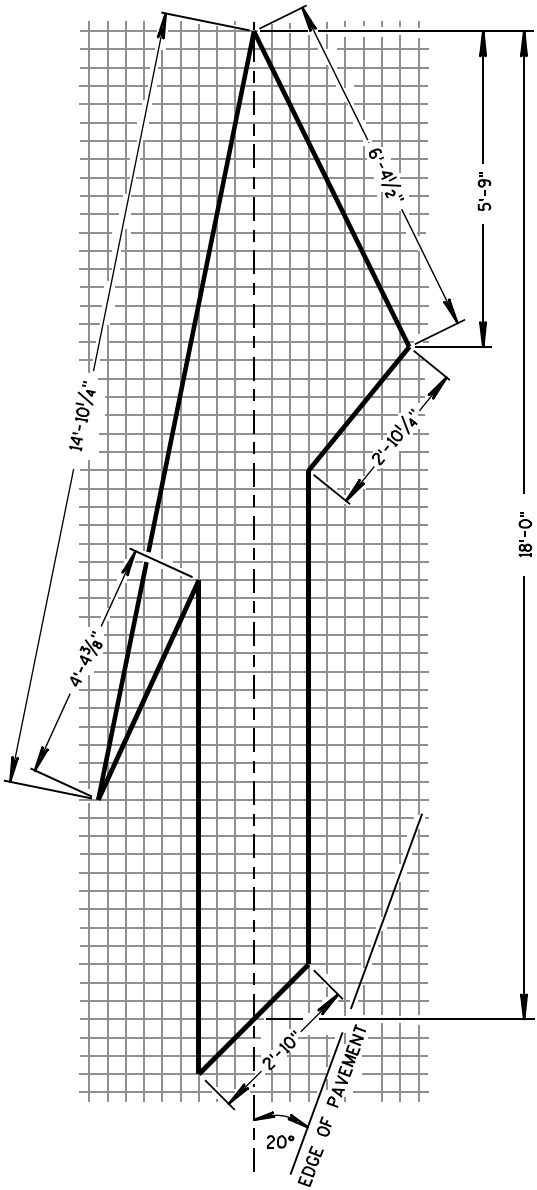


TYPE 4

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



TYPE 5 LANE DROP ARROW

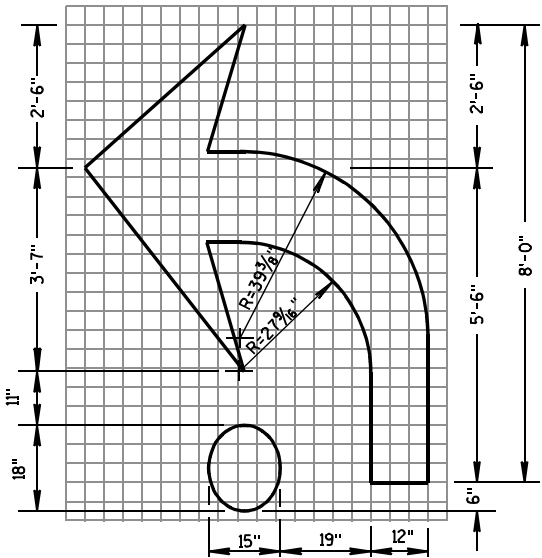
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

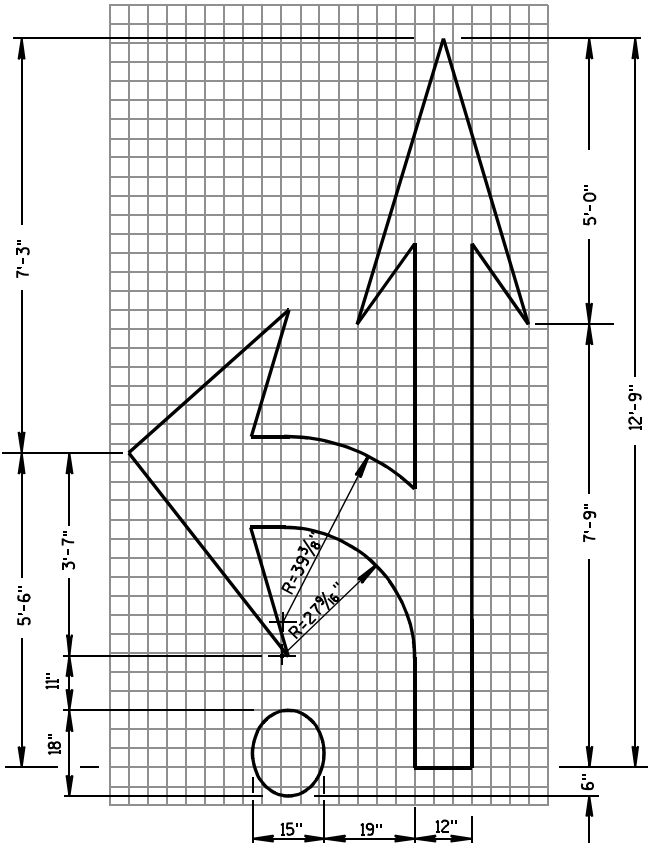
APPROVED

7/1/11 /S/ Thomas N. Nathahn
DATE STATE TRAFFIC ENGINE 395 SIGN

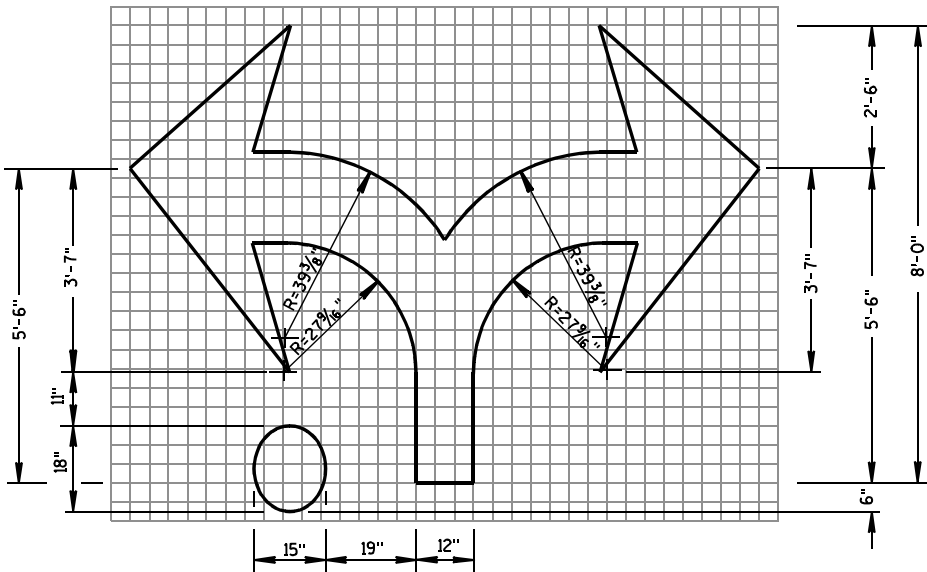
FHWA



TYPE 2R



TYPE 3R

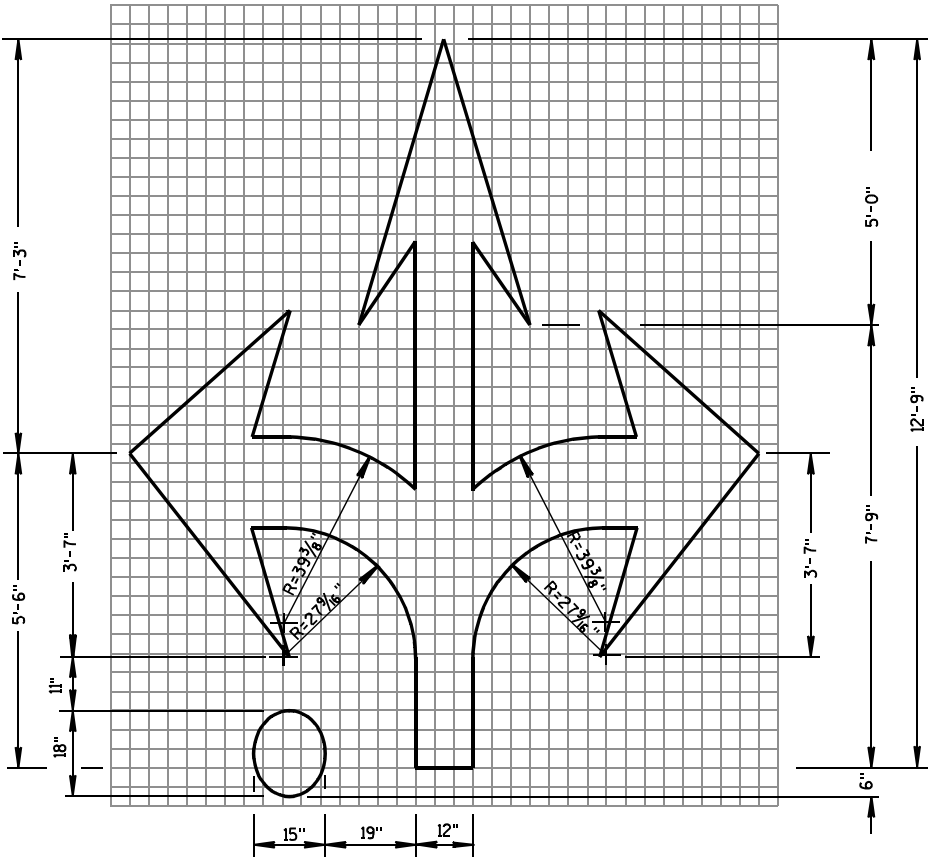


TYPE 7R

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

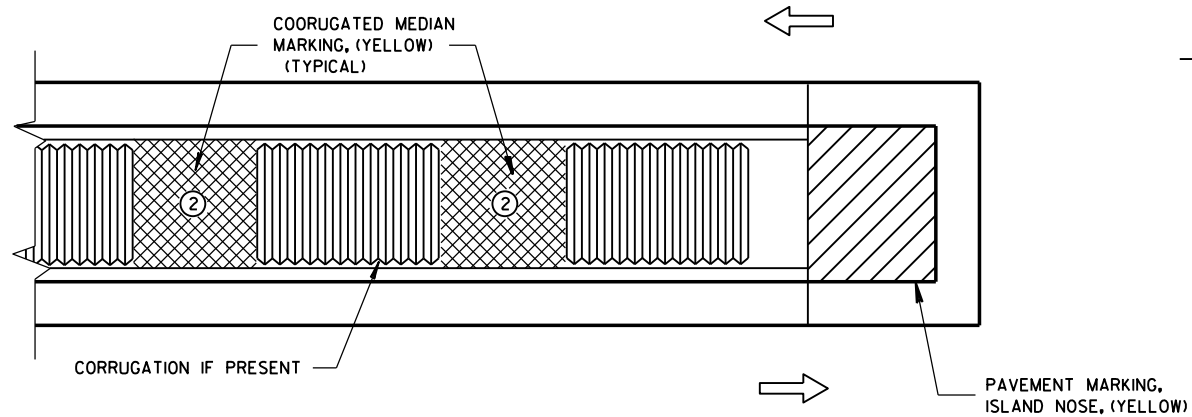


TYPE 6R

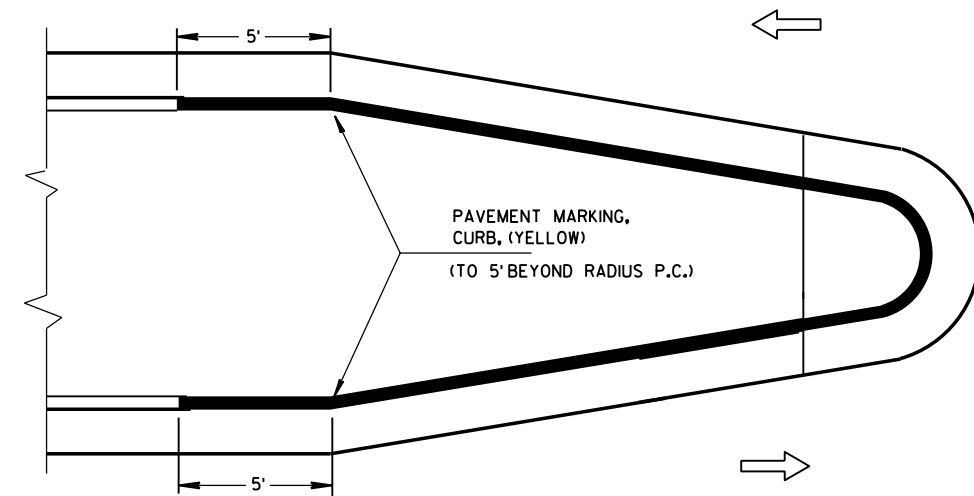
ROUNDBOUT ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

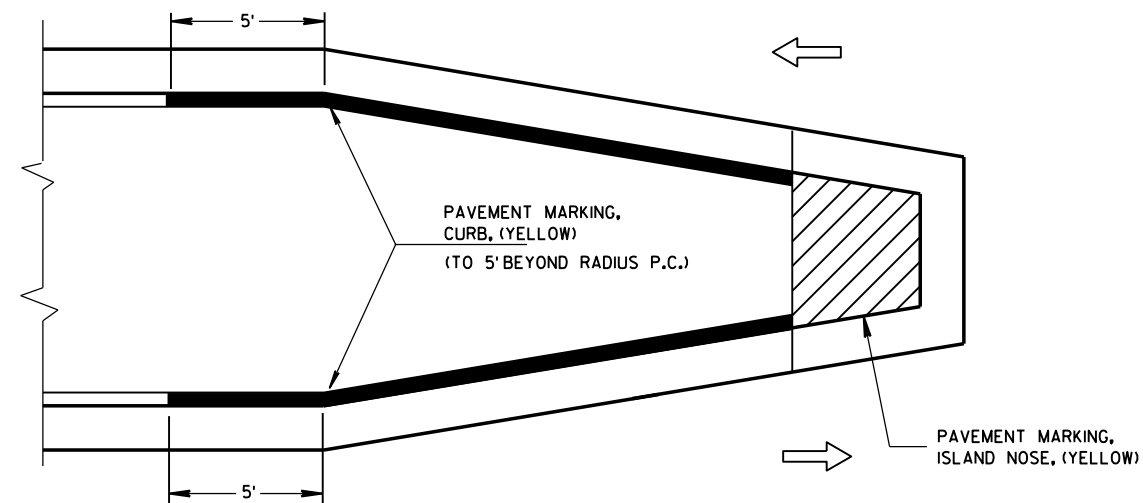
APPROVED
DATE 7/1/11
/S/ Thomas N. Neumann
STATE TRAFFIC ENGINE 396 SIGN
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

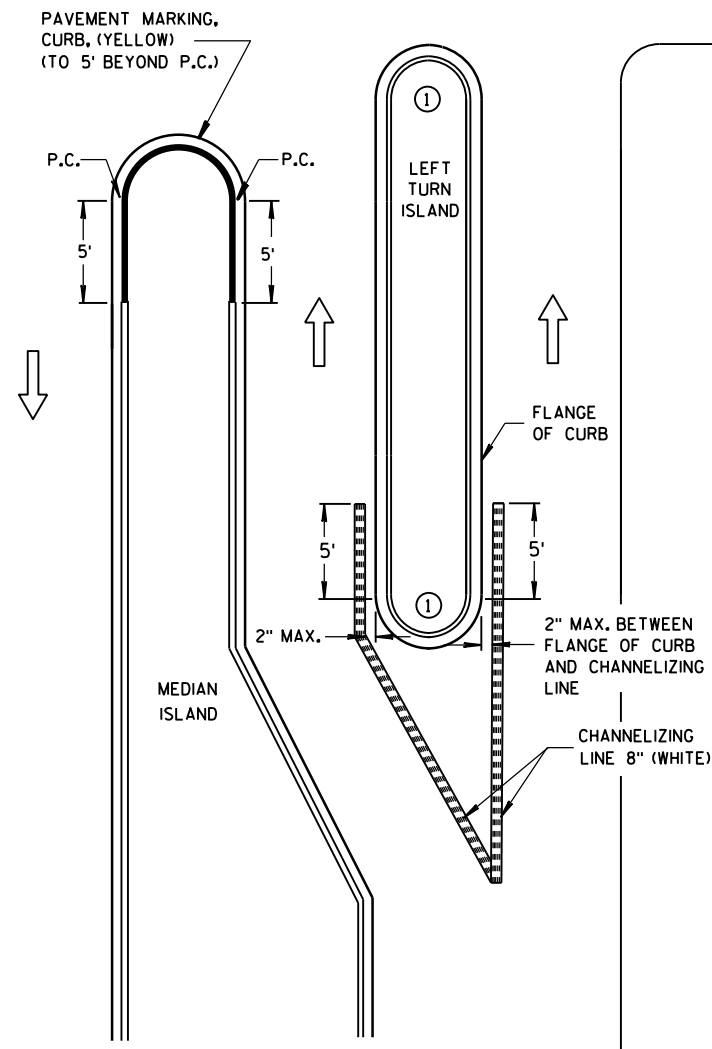


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

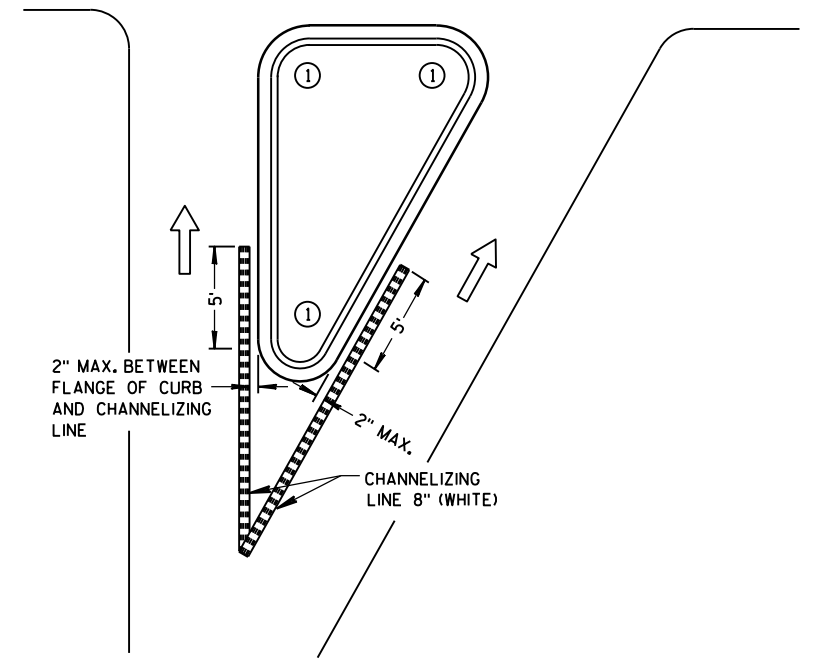
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- ① DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- ② WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN, THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



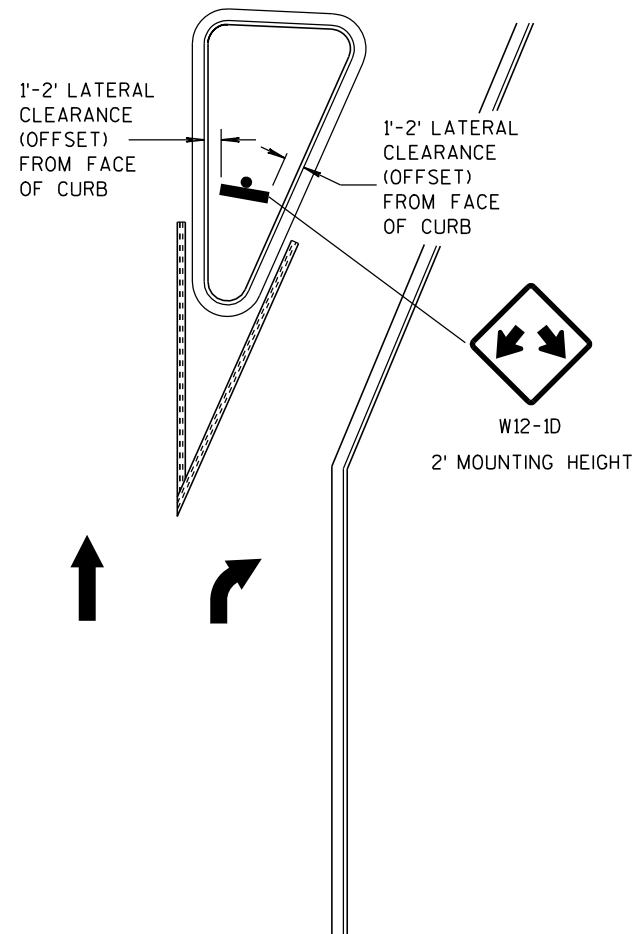
RIGHT TURN ISLAND

LEGEND

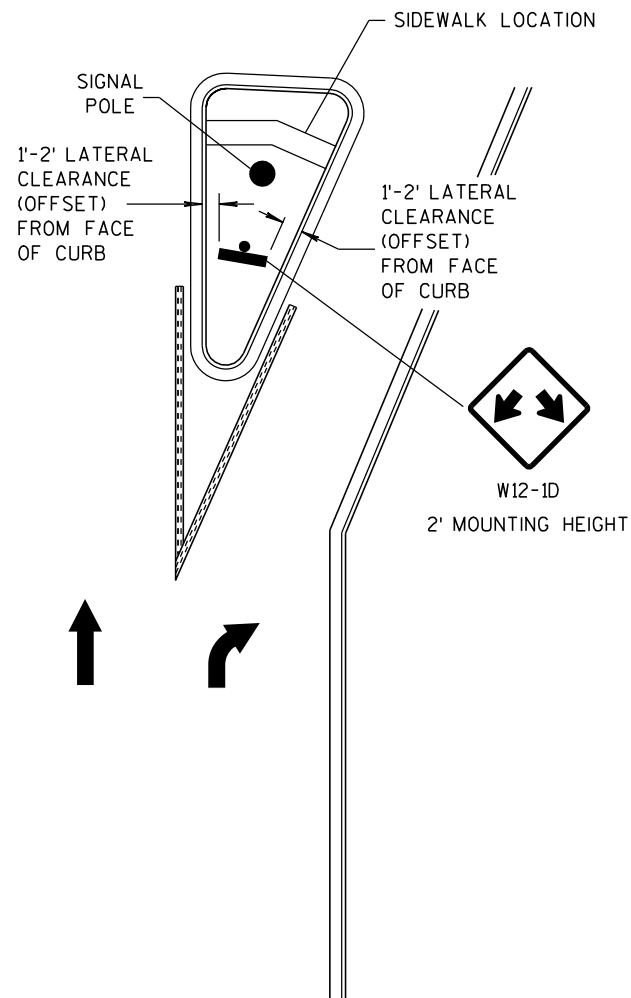
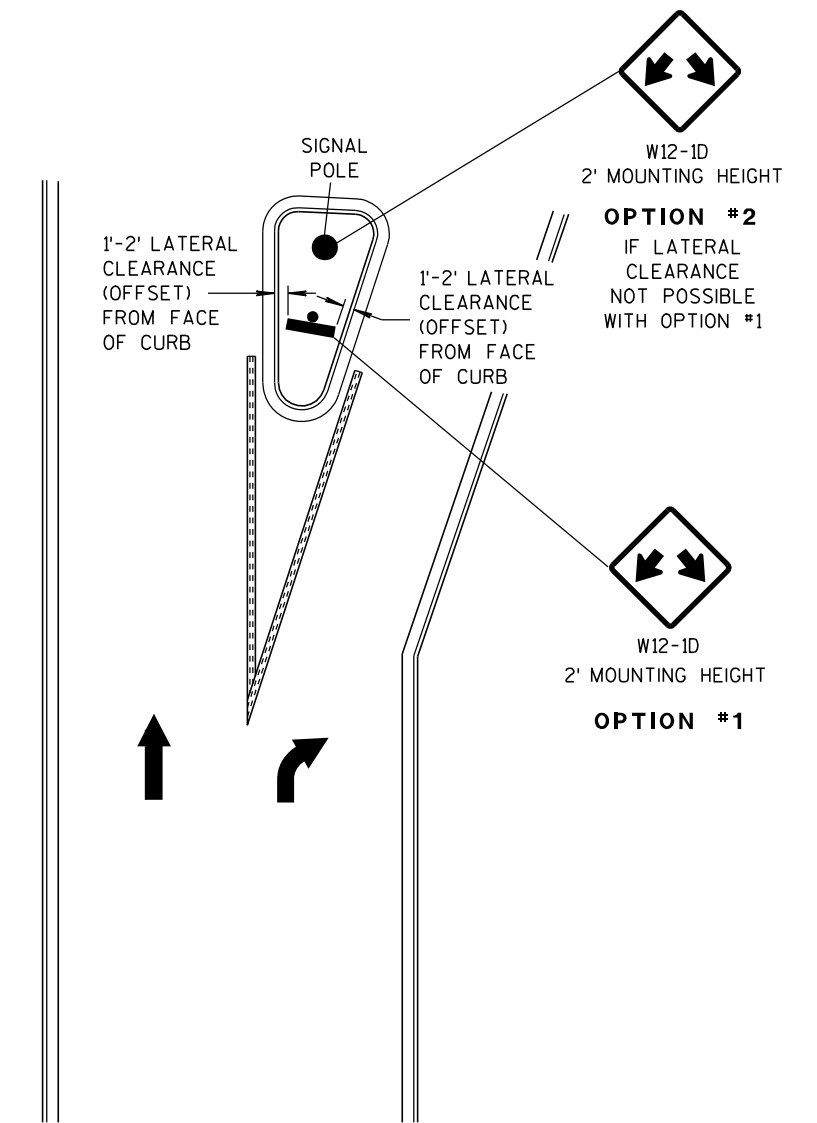
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 397



LARGE RIGHT TURN ISLAND

LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE

SMALL RIGHT TURN ISLAND

GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

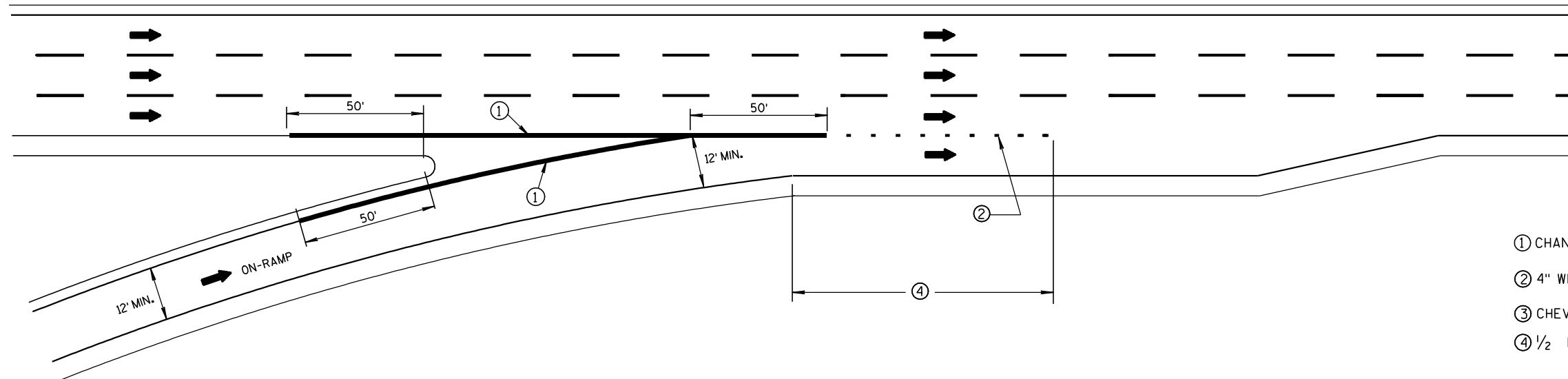
DOUBLE ARROW WARNING SIGN PLACEMENT**DOUBLE ARROW
WARNING SIGN PLACEMENT**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-22-08
DATE

FHWA

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER 398 IGN

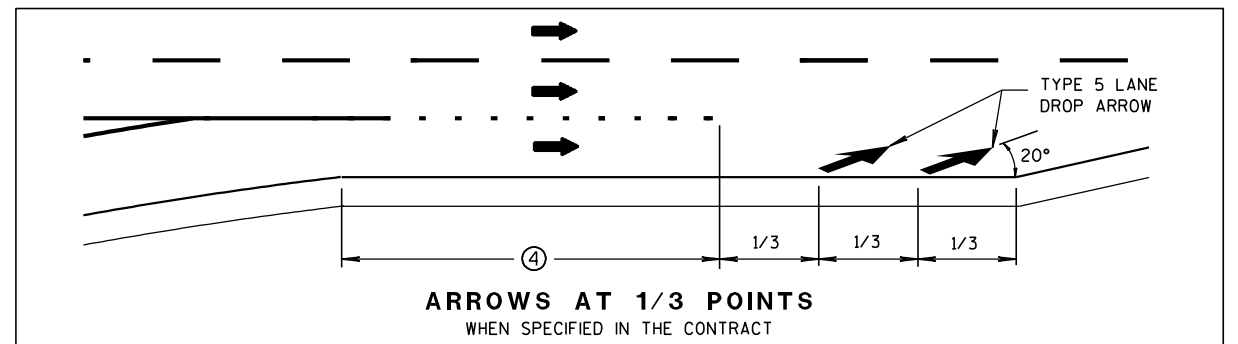
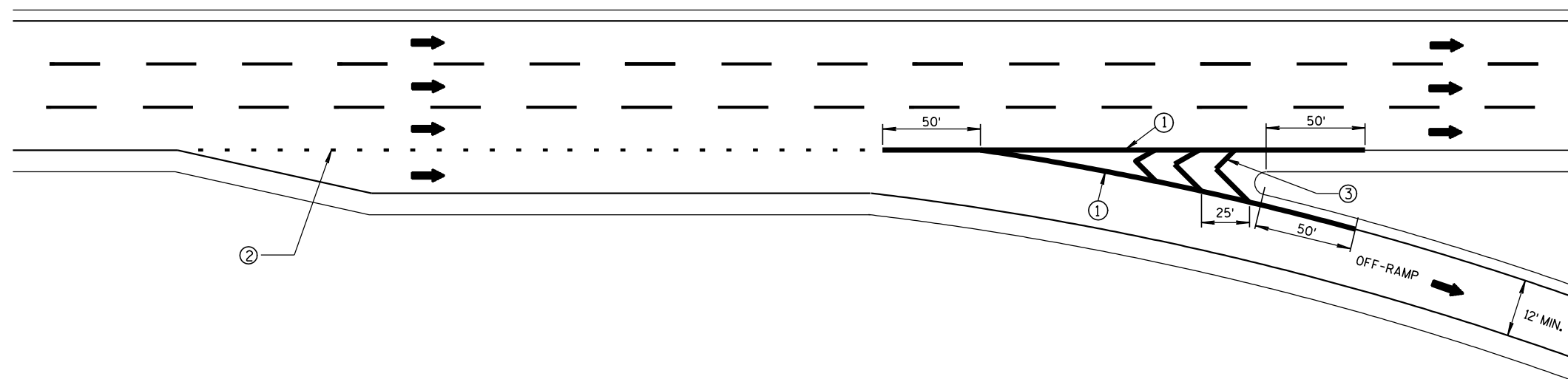


SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

NOTES:

1. AHEAD ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
3. RETRACE EXISTING DIAGONAL MARKINGS.

- ① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA.
- ② 4" WHITE (3' LINE, 9' GAP).
- ③ CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.
- ④ 1/2 LENGTH OF FULL WIDTH ACCELERATION LANE.

ARROWS AT 1/3 POINTS
WHEN SPECIFIED IN THE CONTRACT

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

PAVEMENT MARKING FOR
PARALLEL ON-RAMP AND
PARALLEL OFF-RAMPSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

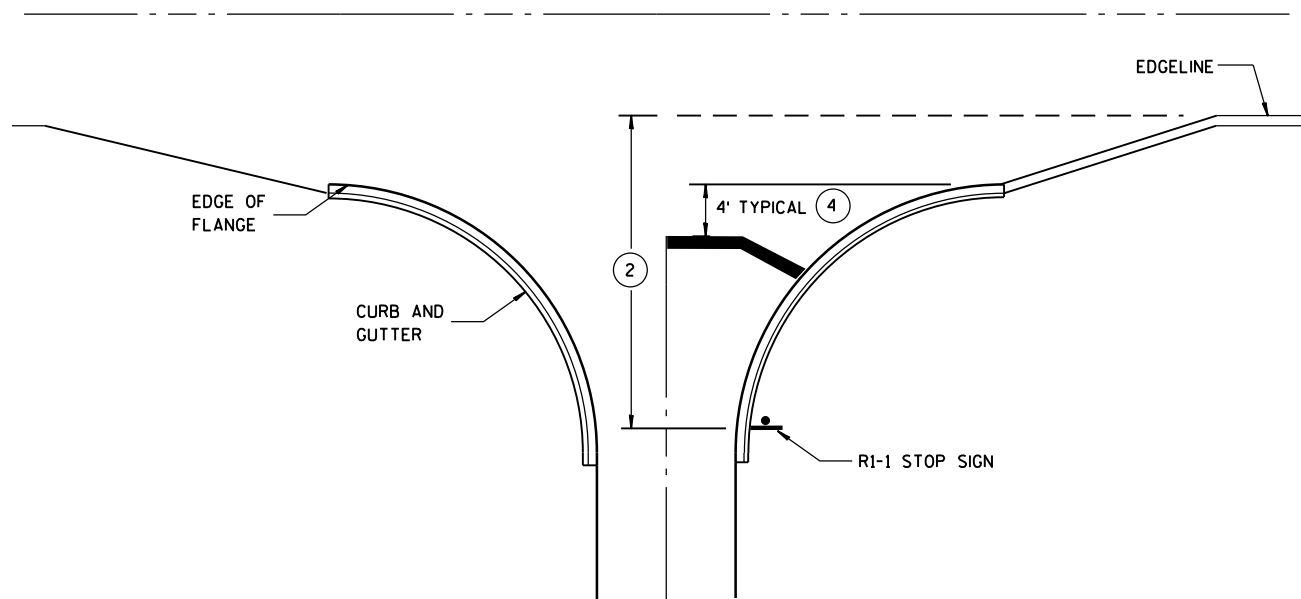
6/23/2011

DATE

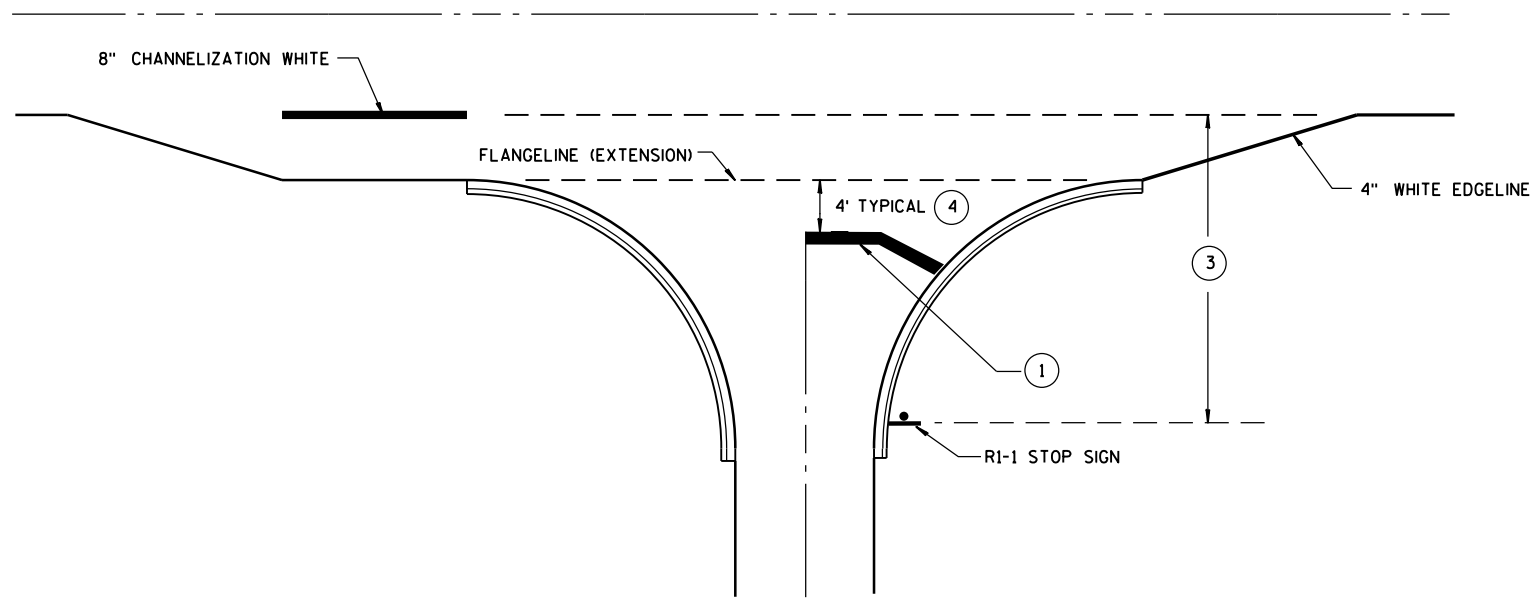
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/S/ Thomas N. Nottingham
STATE TRAFFIC ENGINE 399

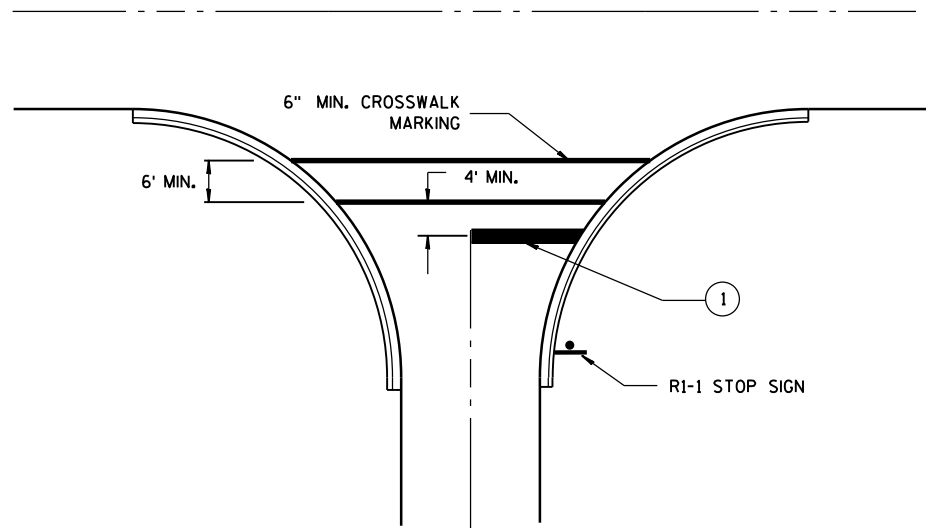
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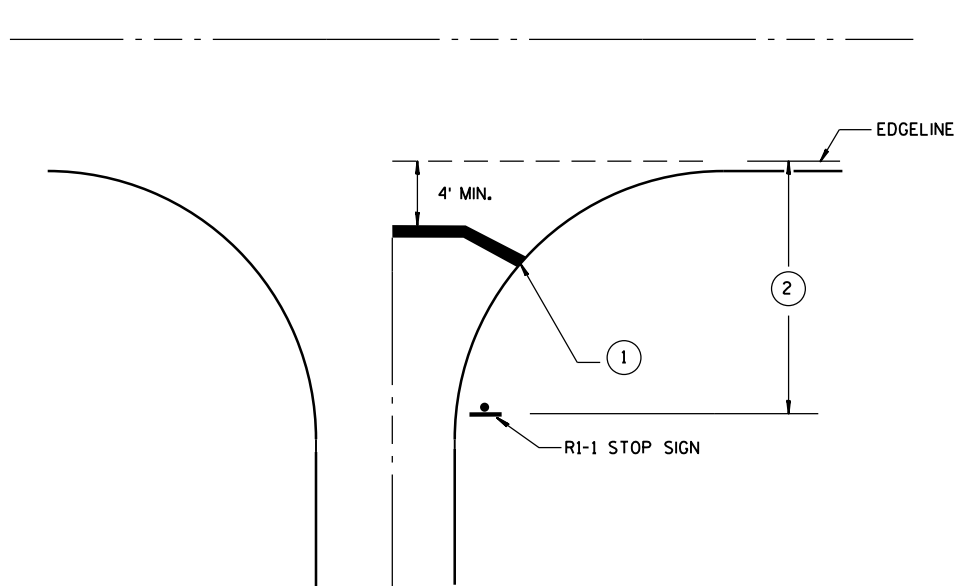
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 4/30/2013	/S/ Travis Feltes STATE TRAFFIC ENGINEER 400
FHWA	

LEGEND

-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  SIGN ON PERMANENT SUPPORT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

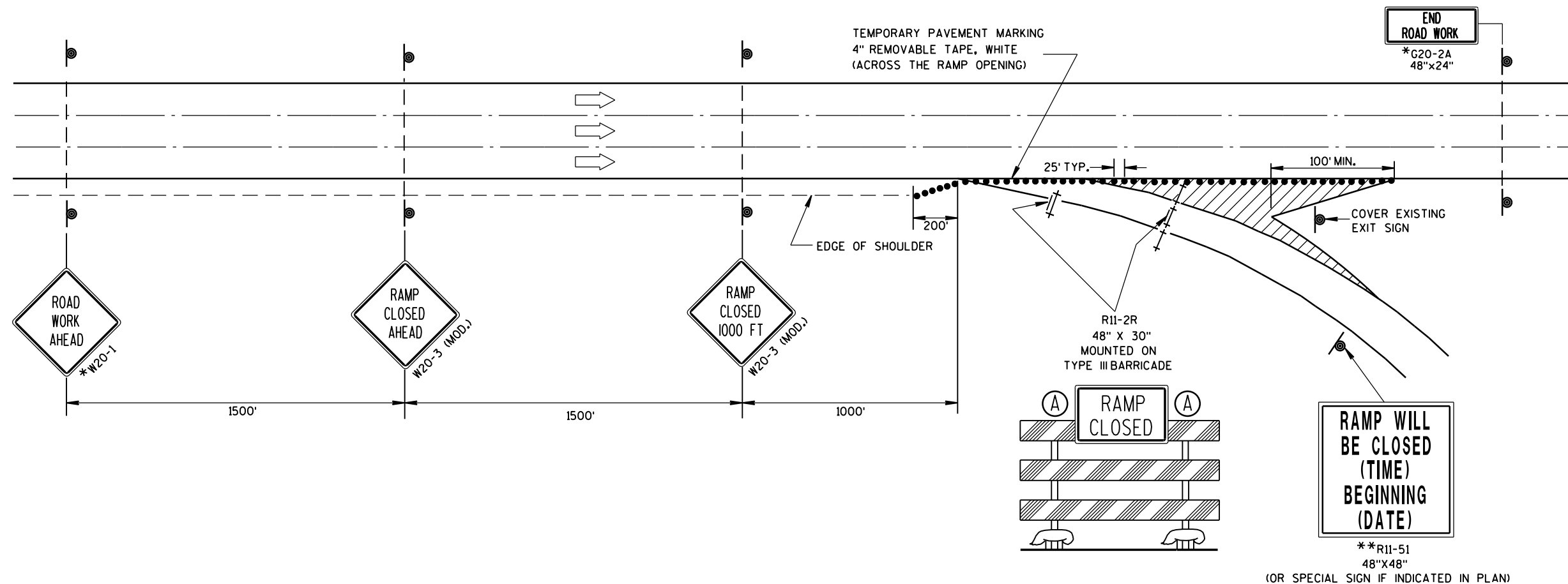
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 401 E SIGN
FHWA

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

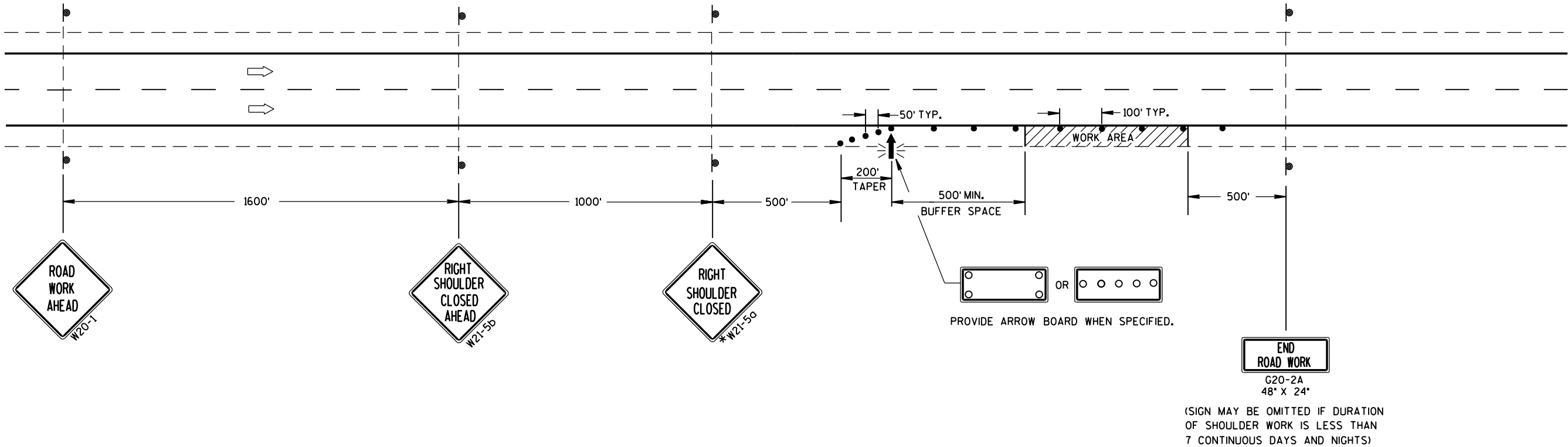
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

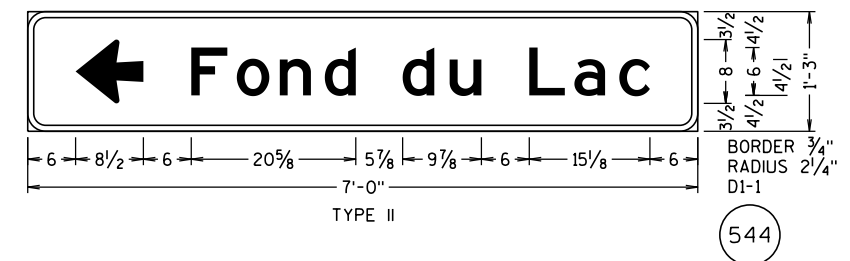
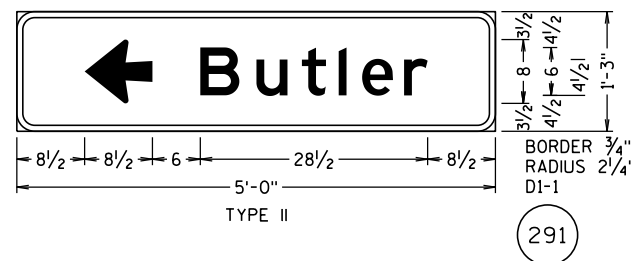
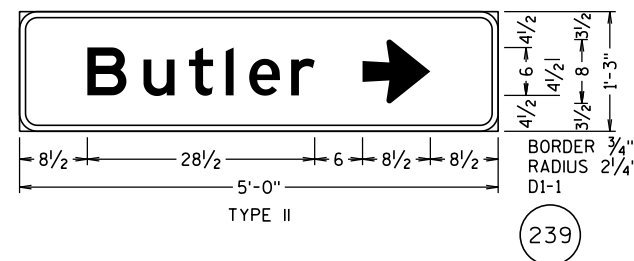
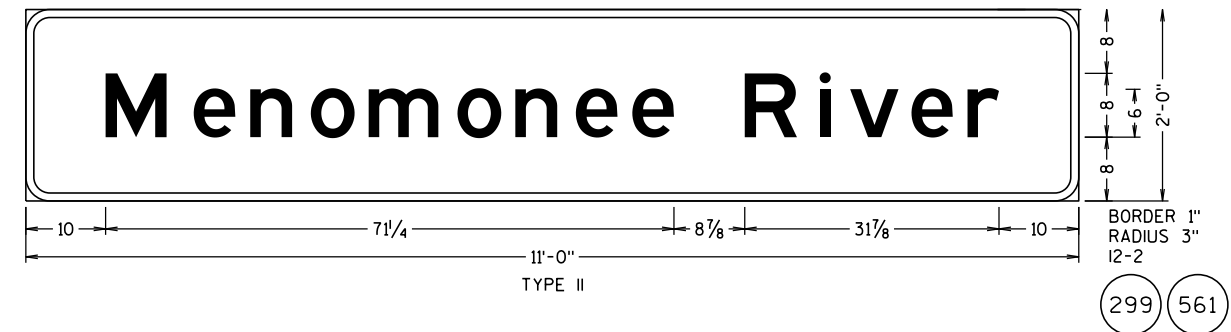
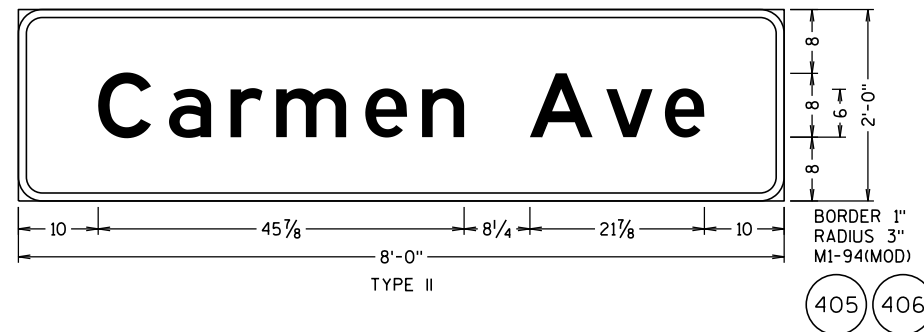
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

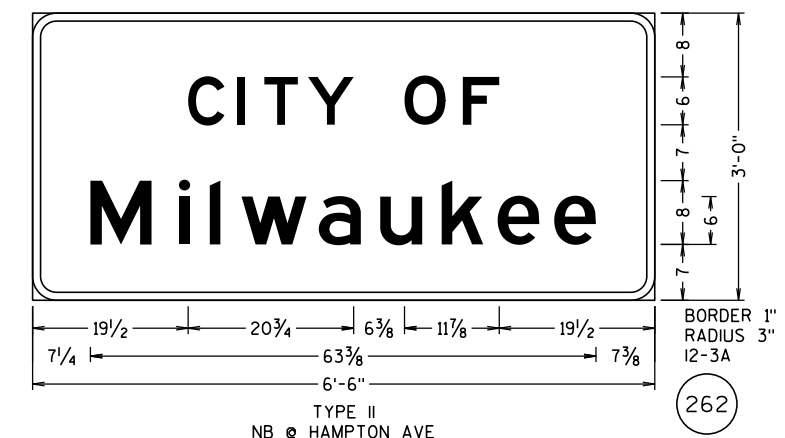
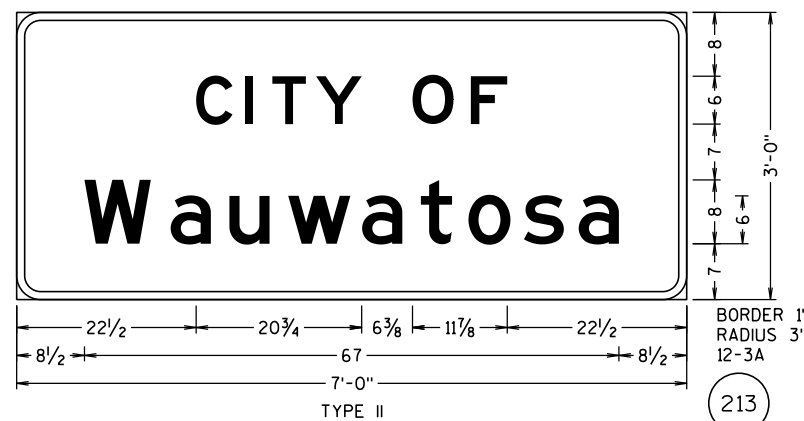
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

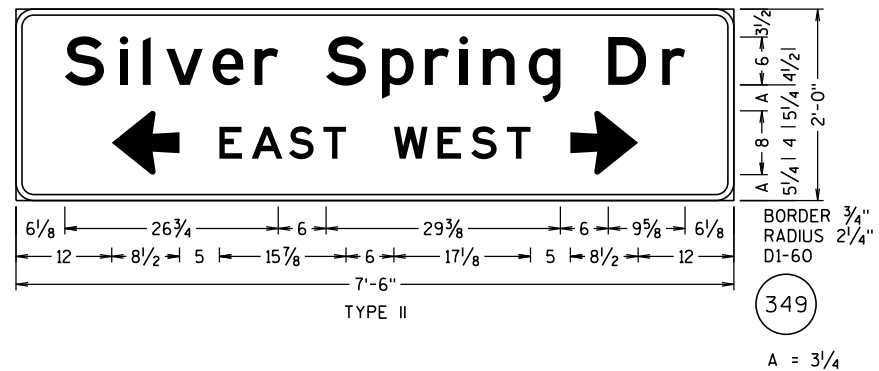
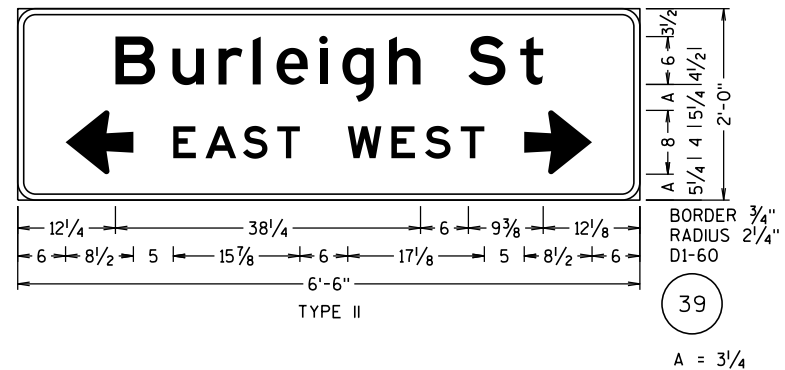
APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINE 402 SIGN
FHWA



GENERAL NOTES:

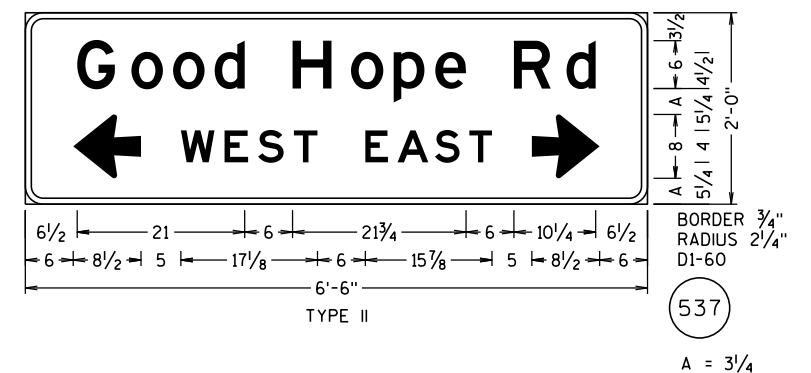
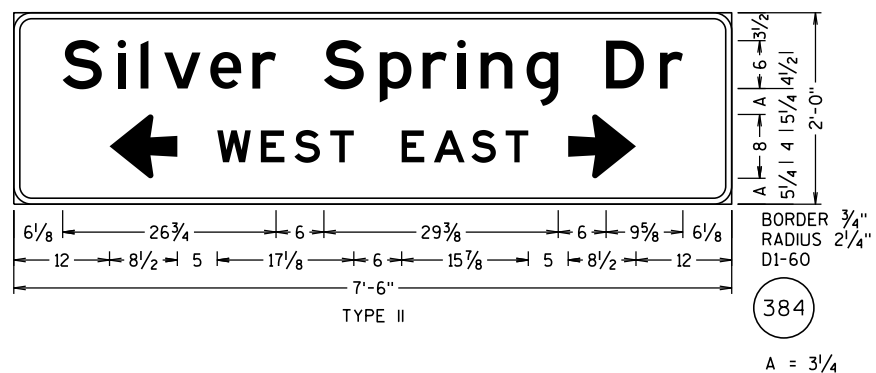
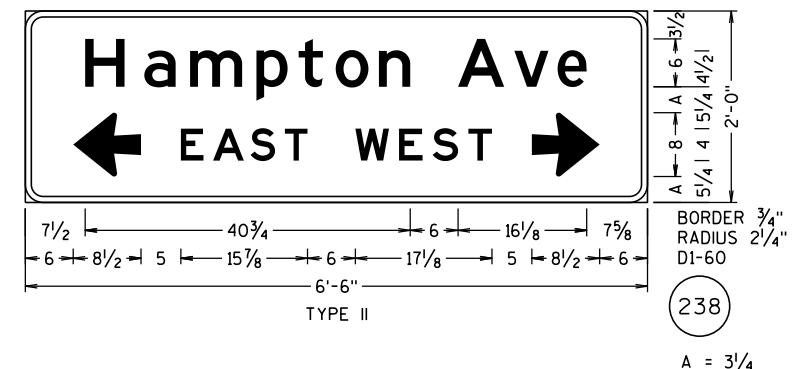
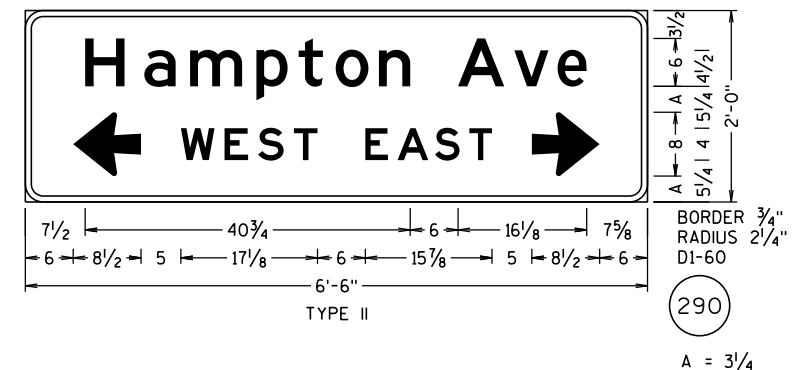
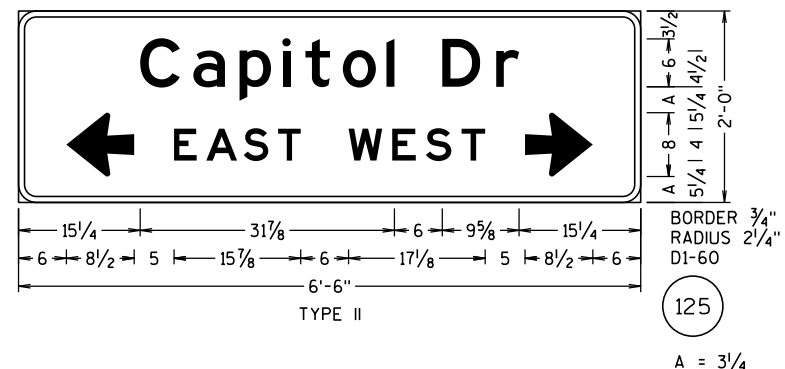
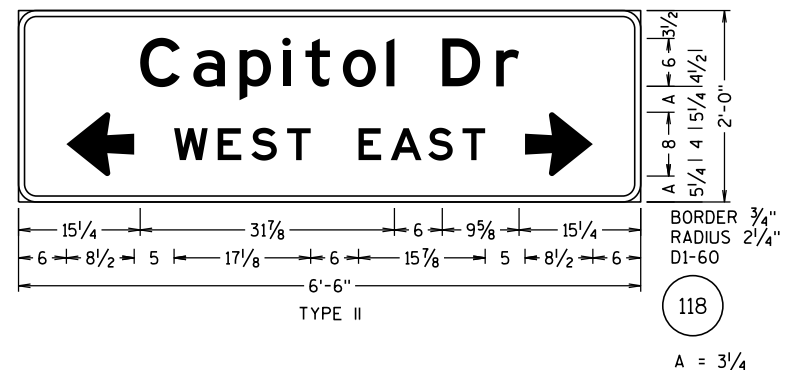
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11. DO NOT SCALE.





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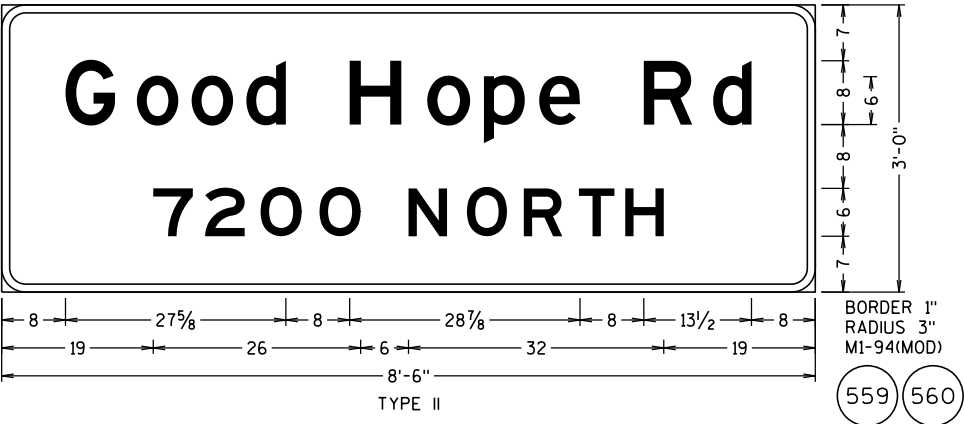
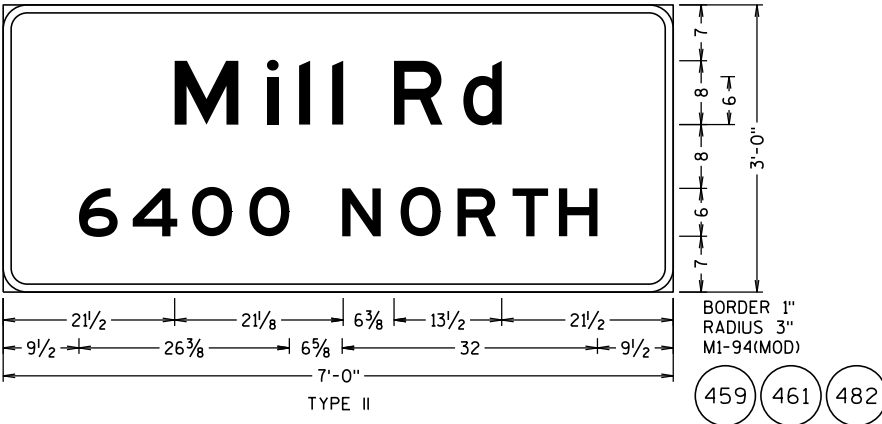
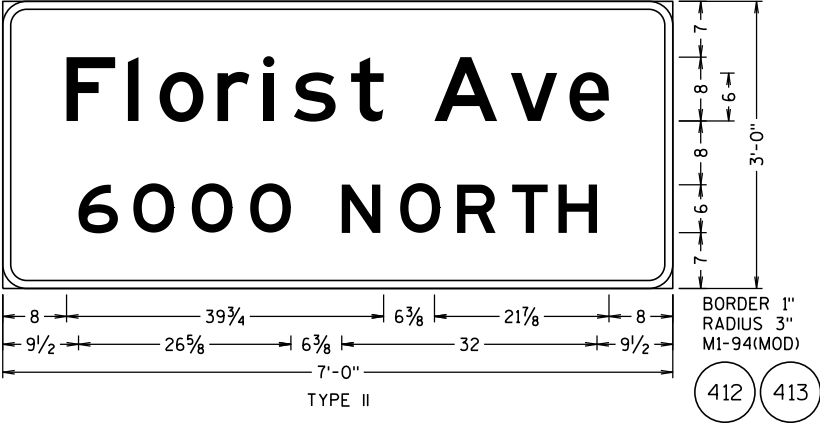
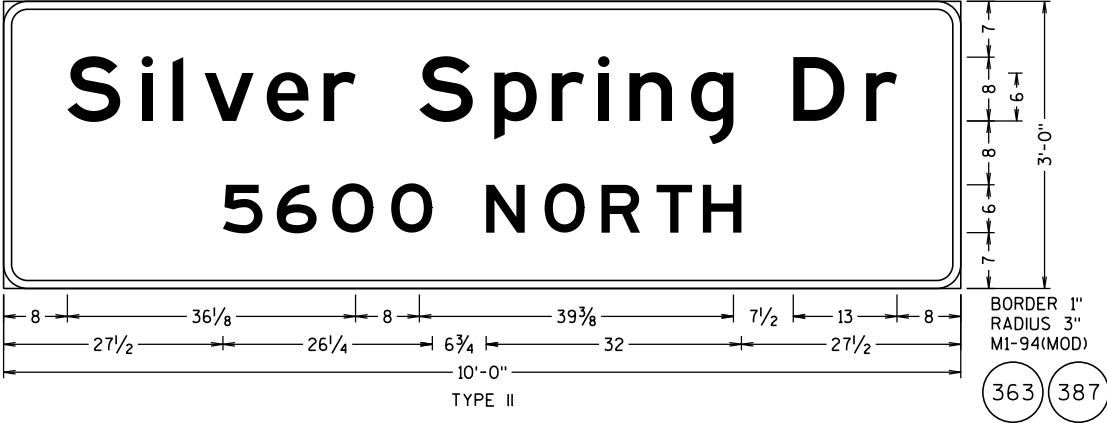
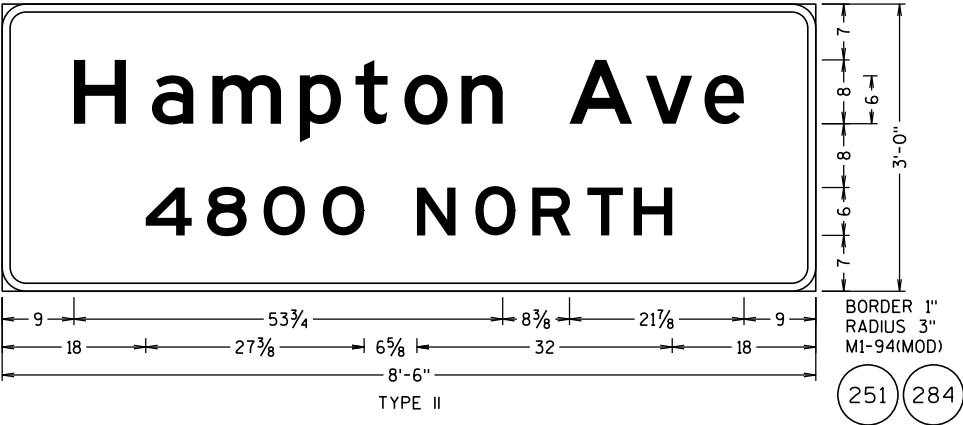
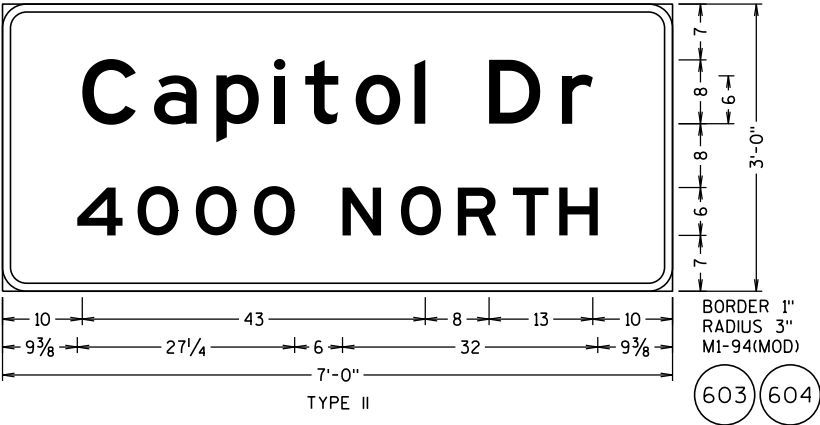
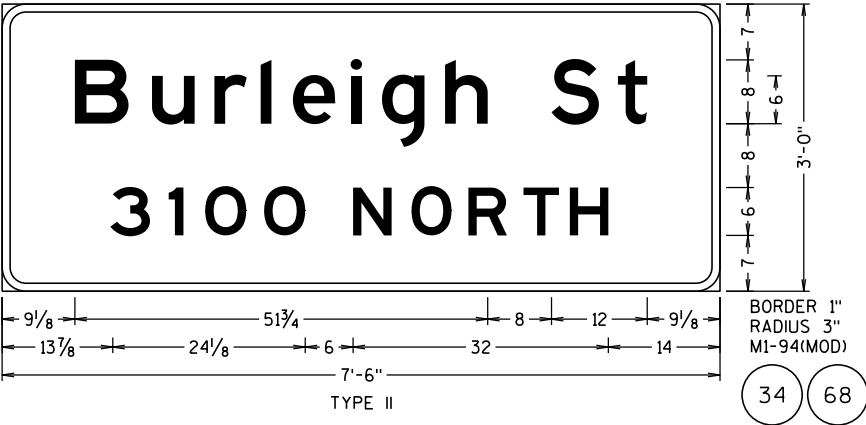


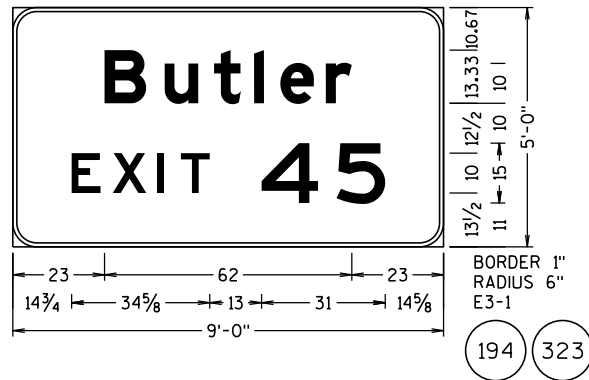
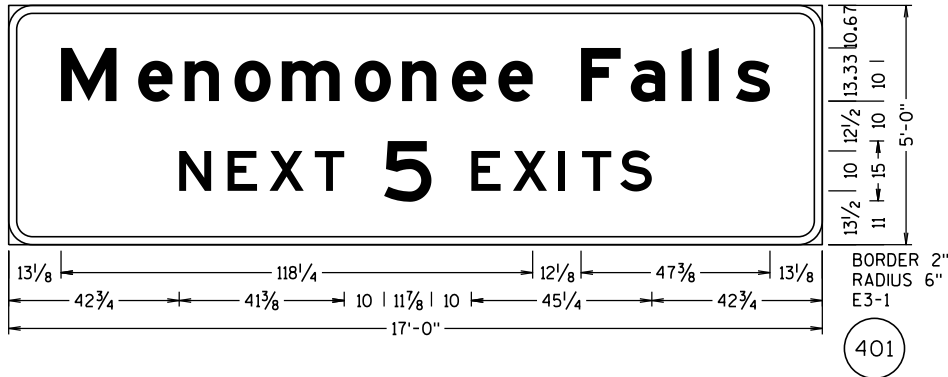
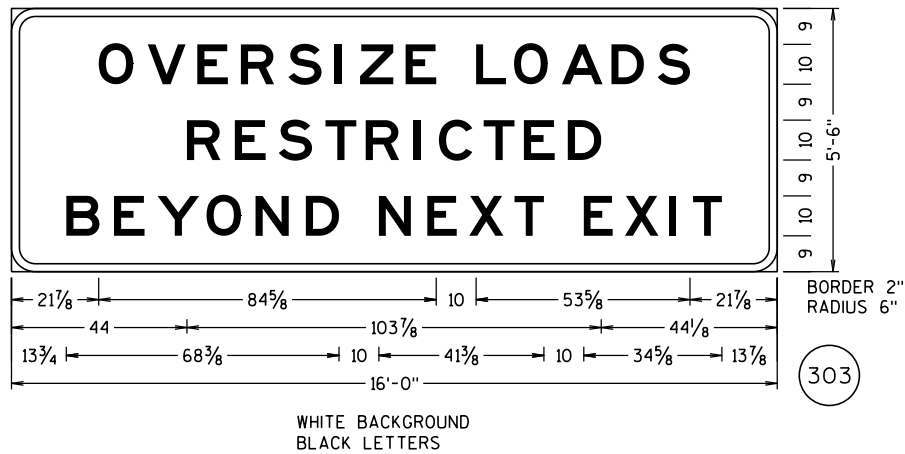
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GENERAL NOTES:

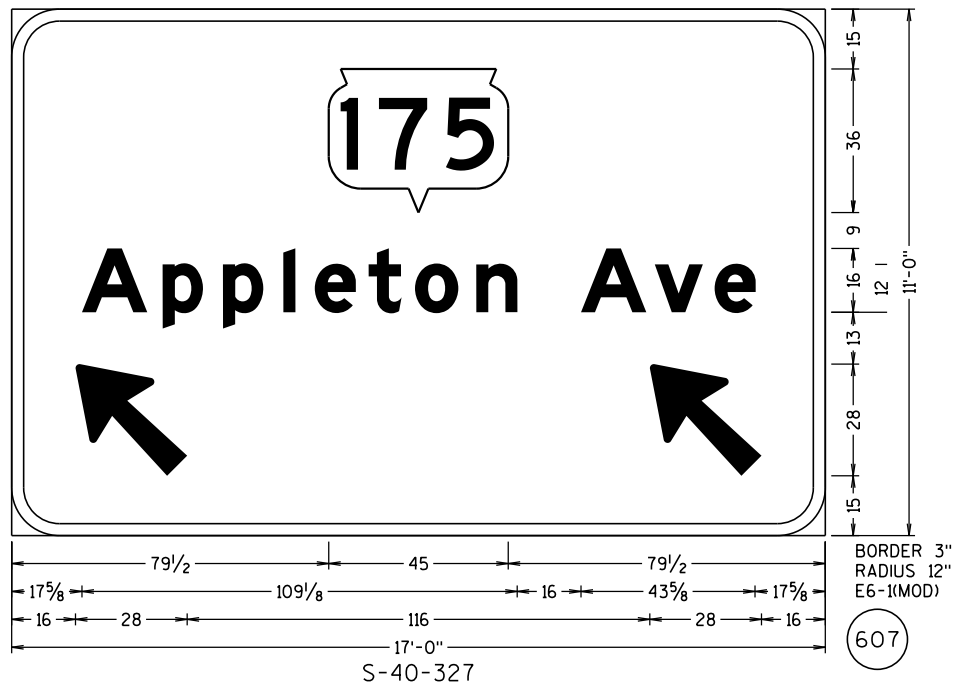
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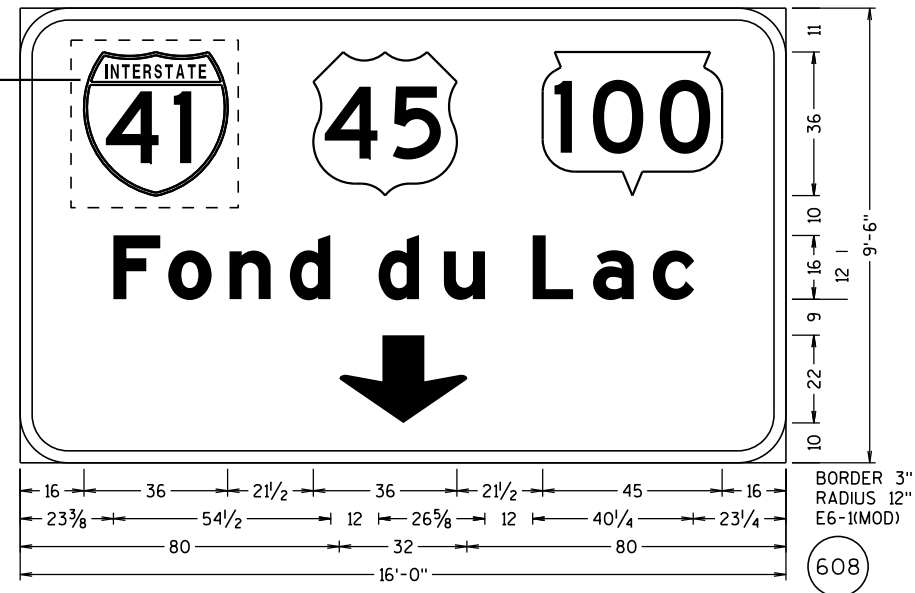


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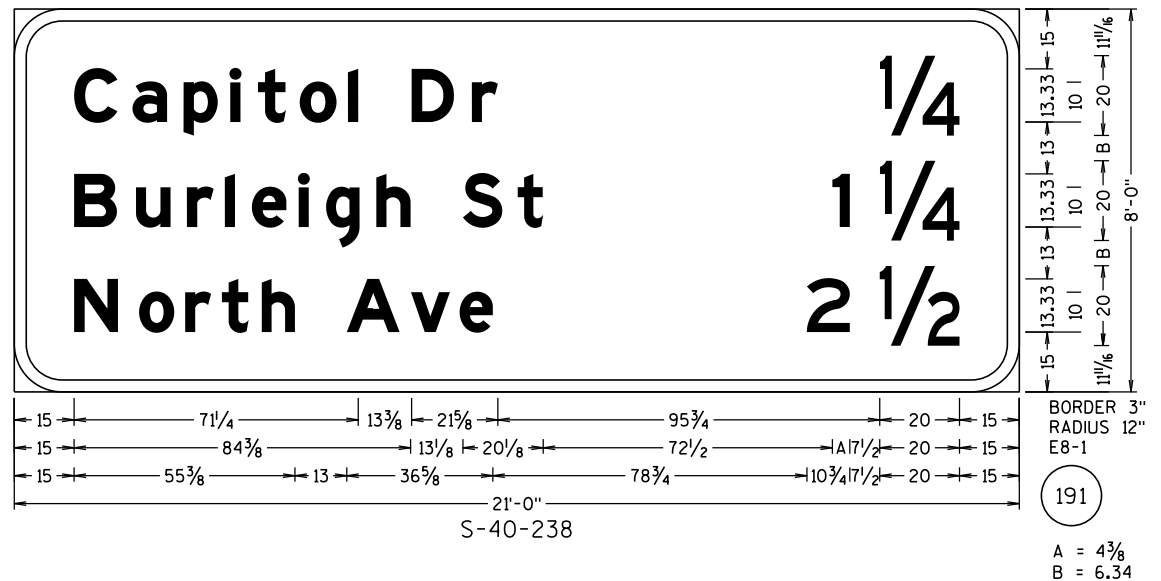
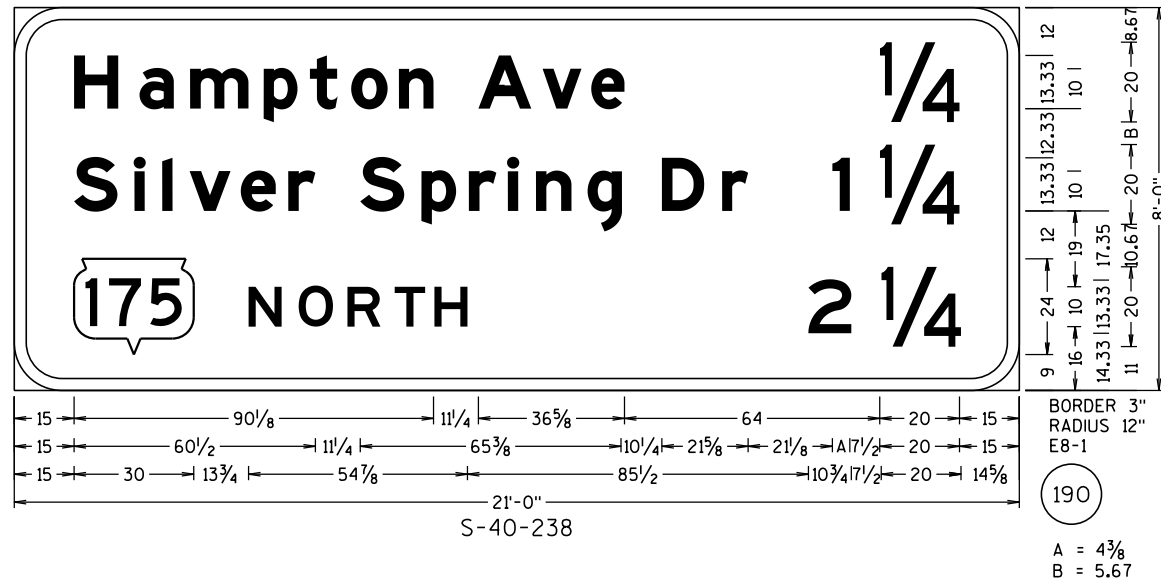
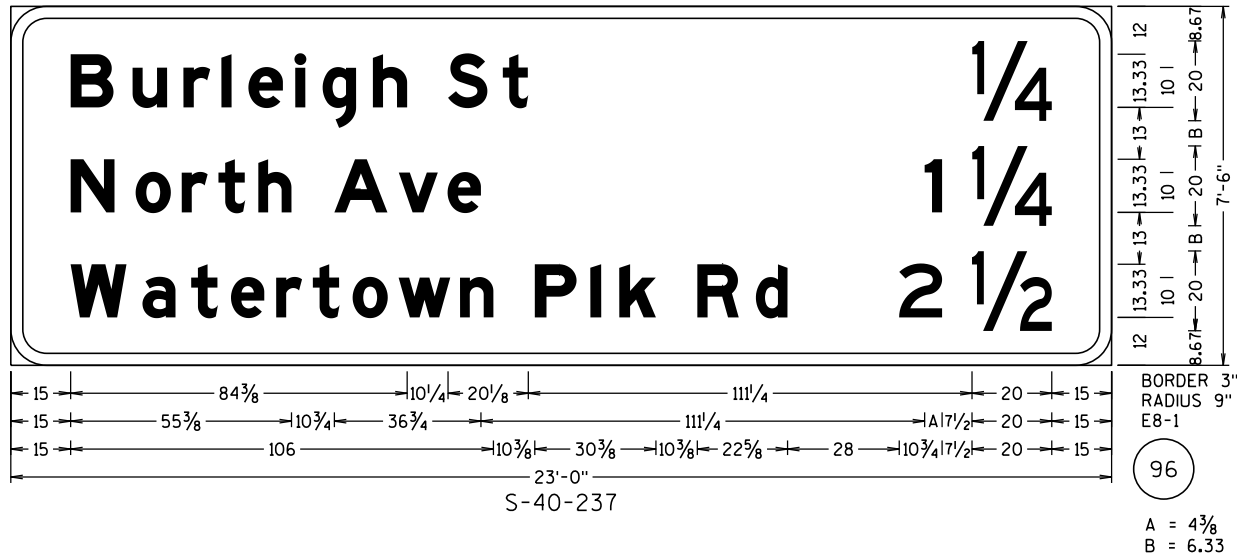
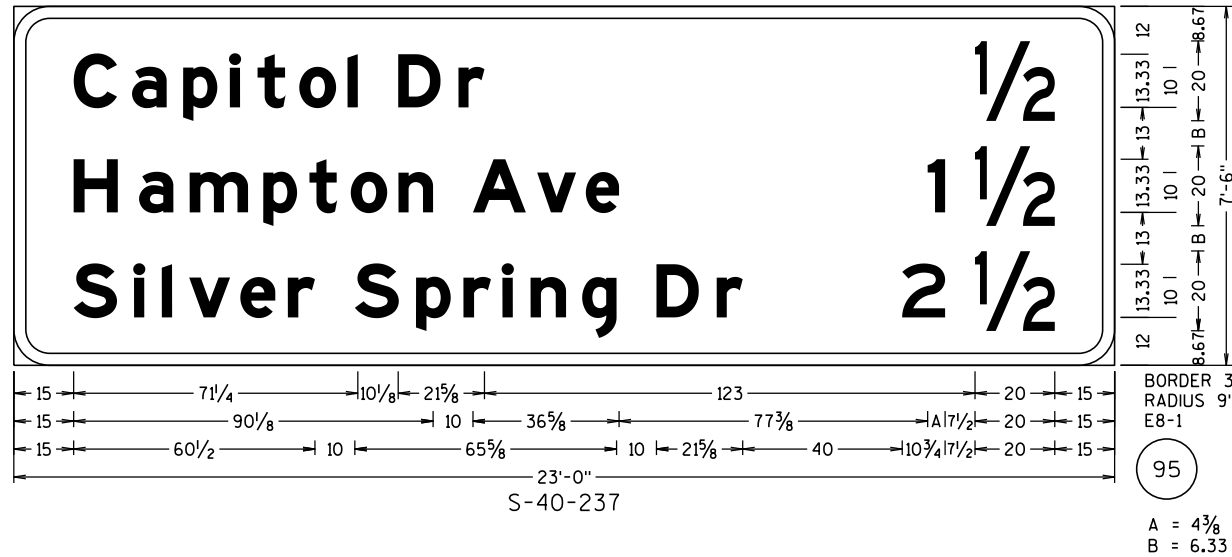


COVER PLAQUE TO COVER IH 41 SHIELD



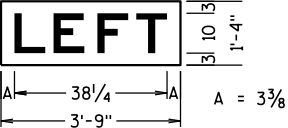
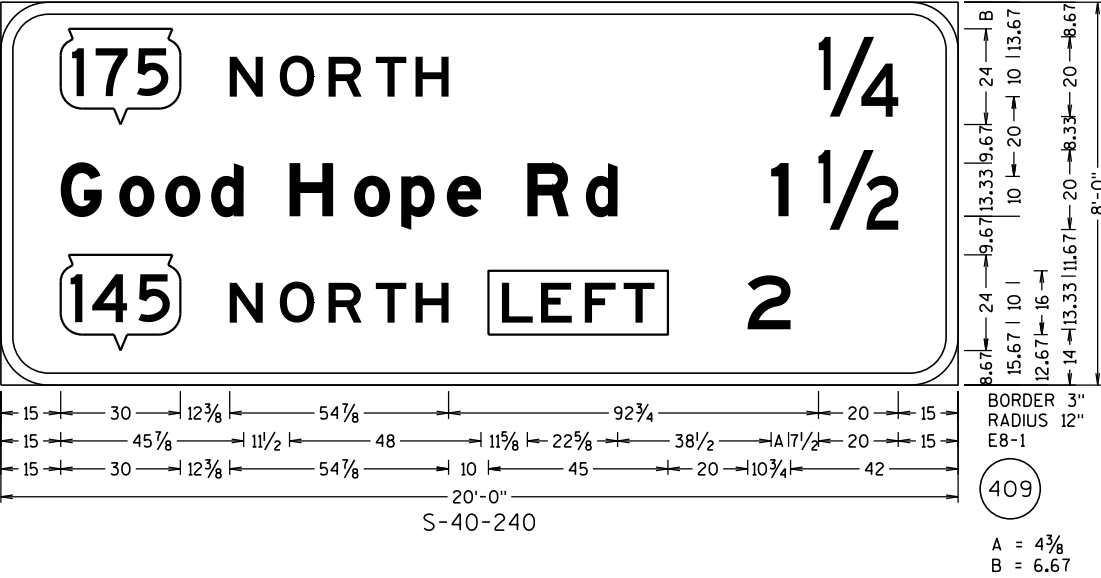
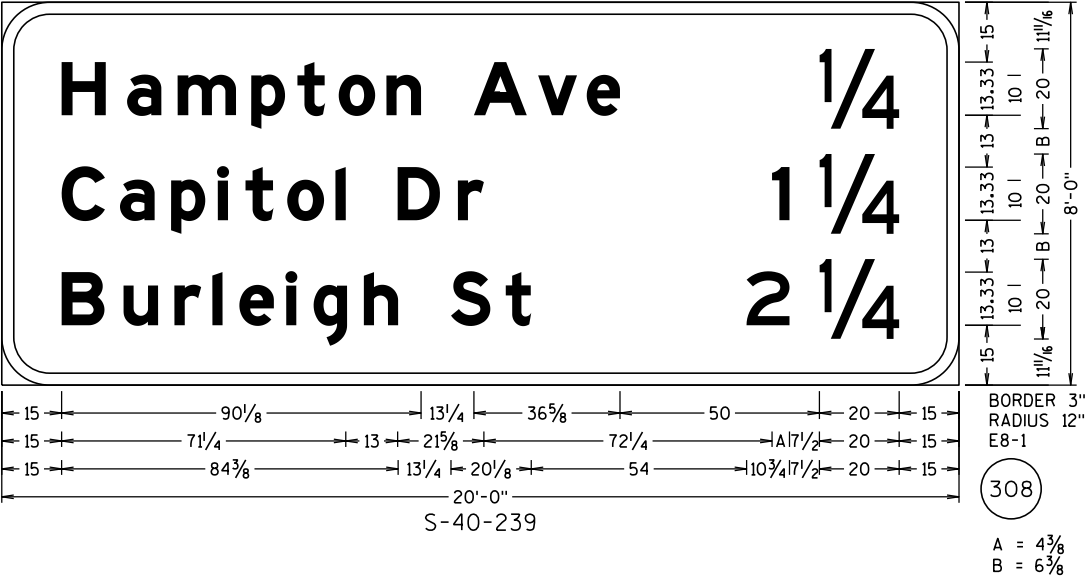
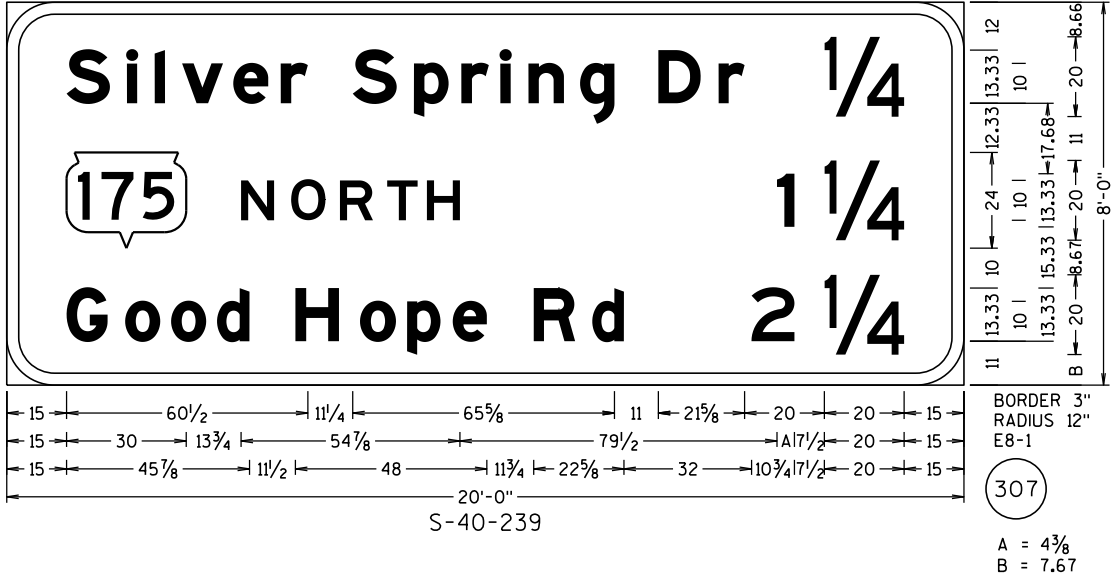
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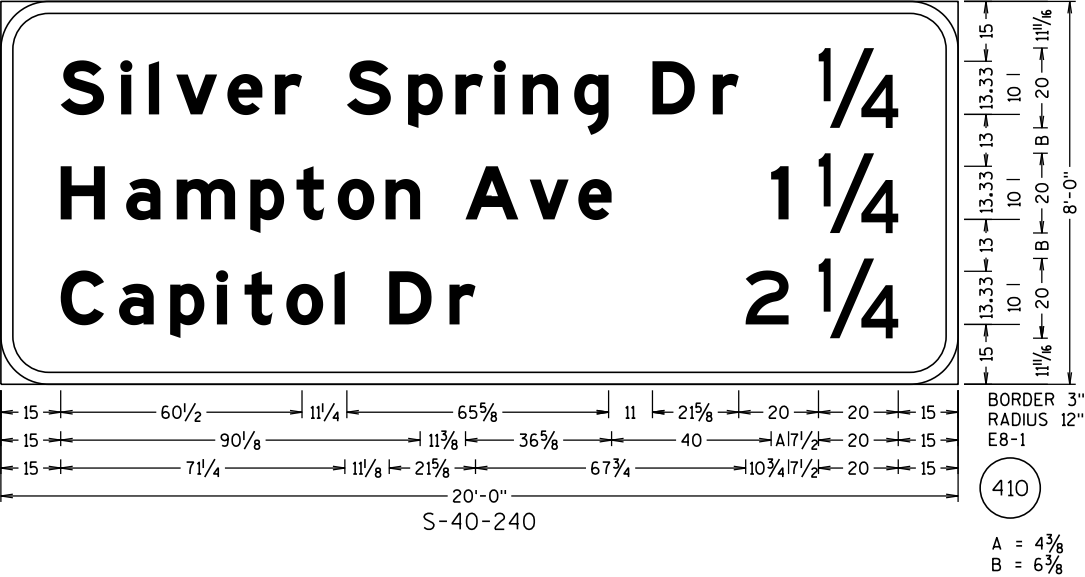


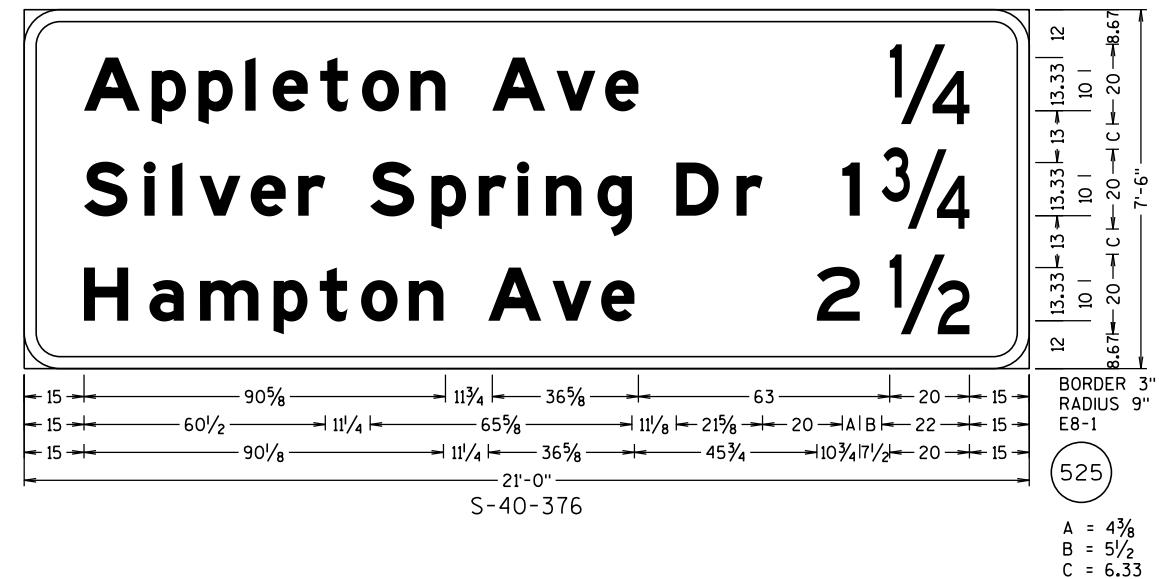
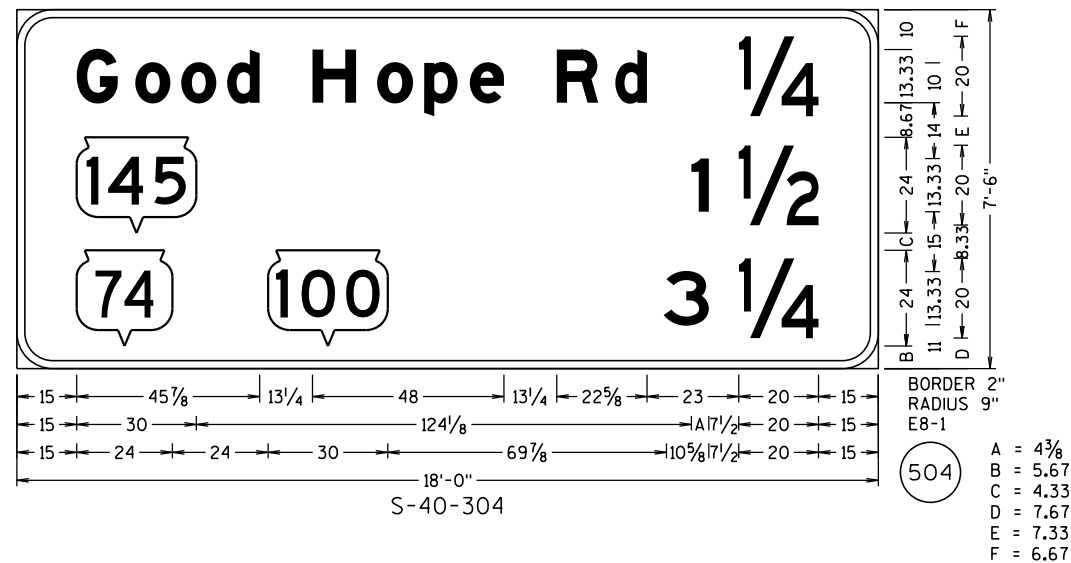
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- 4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
- 5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.
- 6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"
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- 8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
- 9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
- 10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
- 11. DO NOT SCALE.



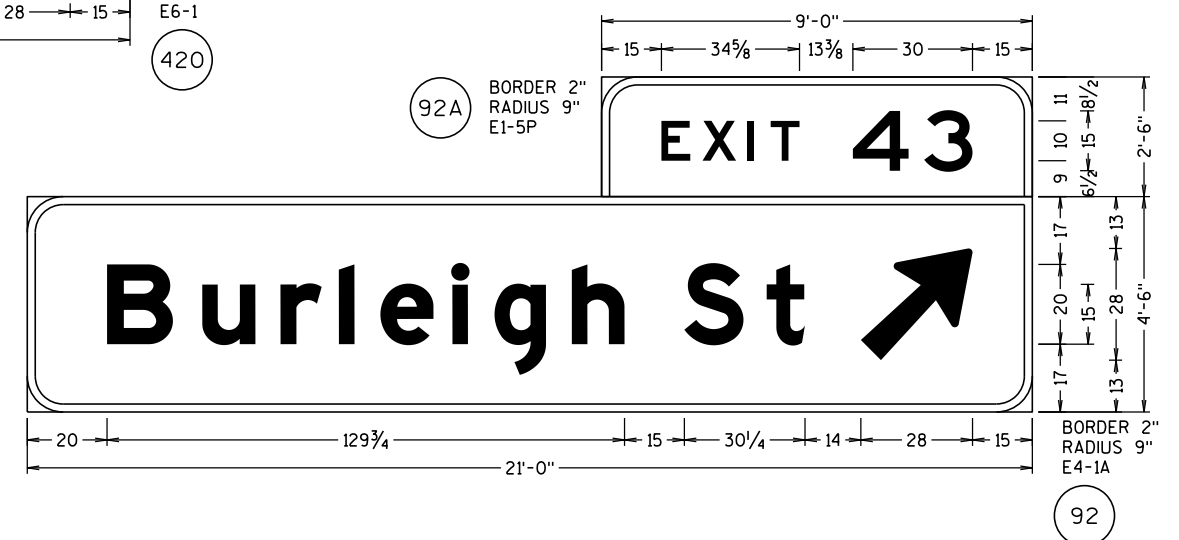
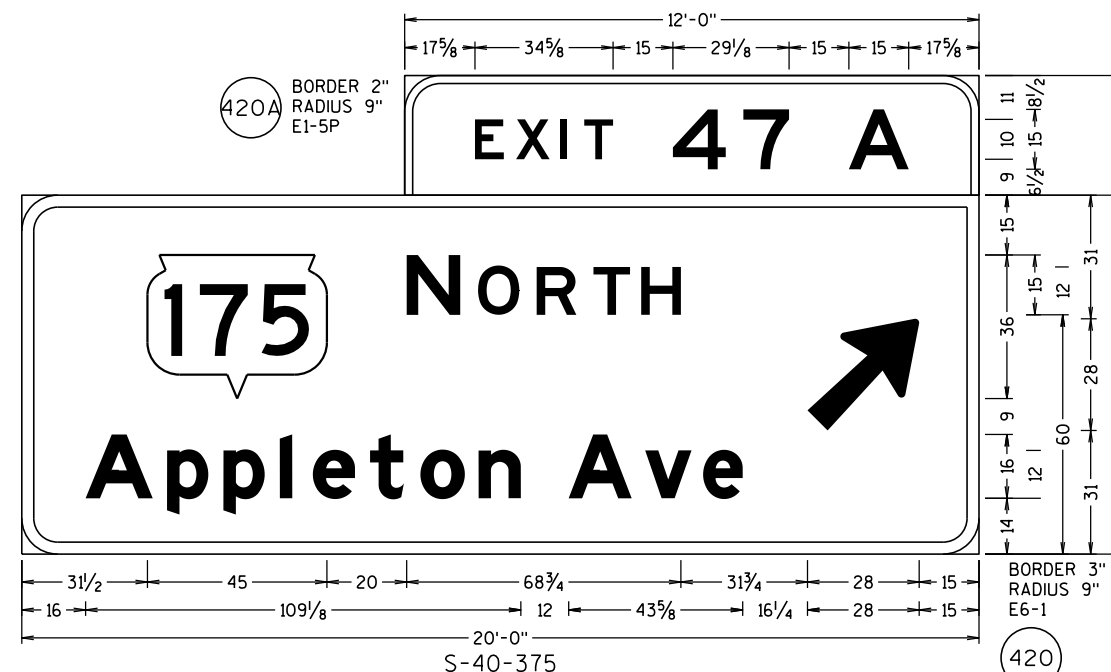
BACKGROUND - YELLOW
MESSAGE - NON-REFLECTIVE BLACK
TYPE H SHEETING 0.063 MIN
THICKNESS NON-CORROSIVE STEEL

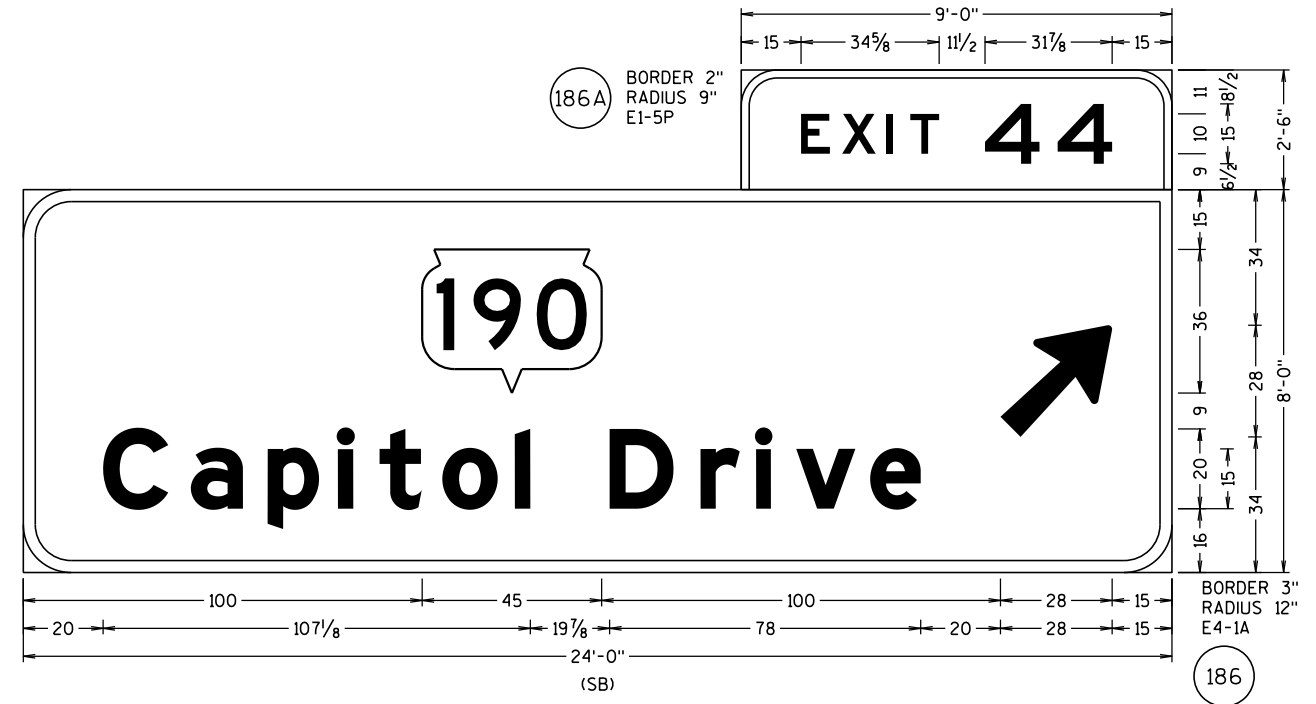
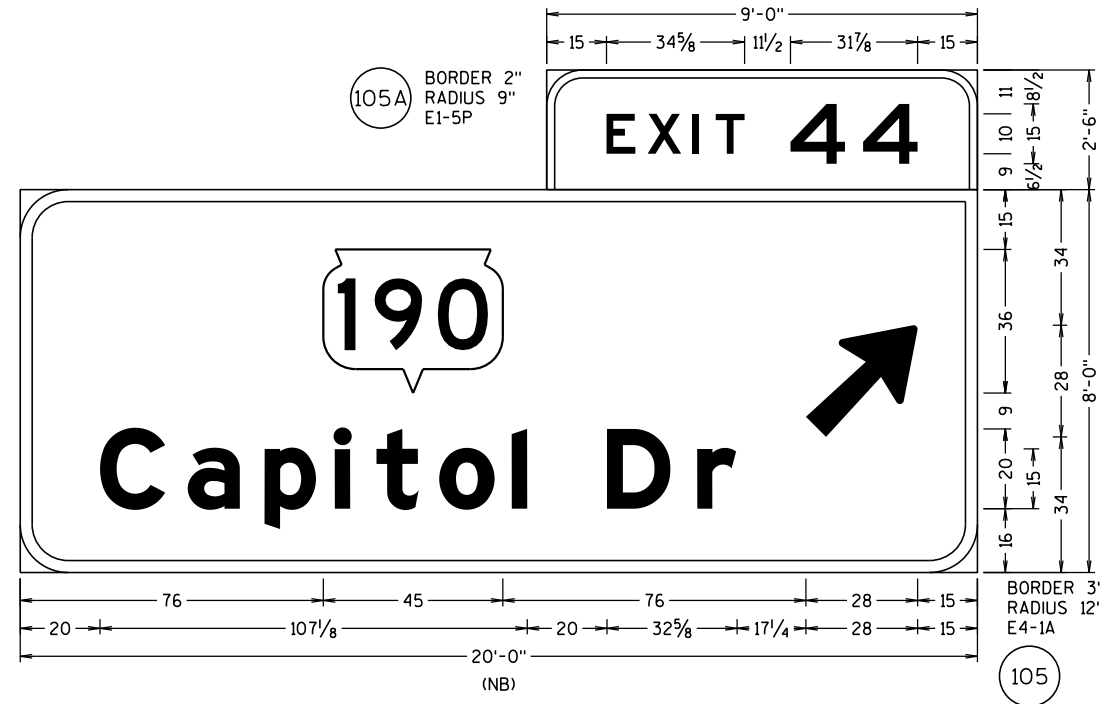




GENERAL NOTES:

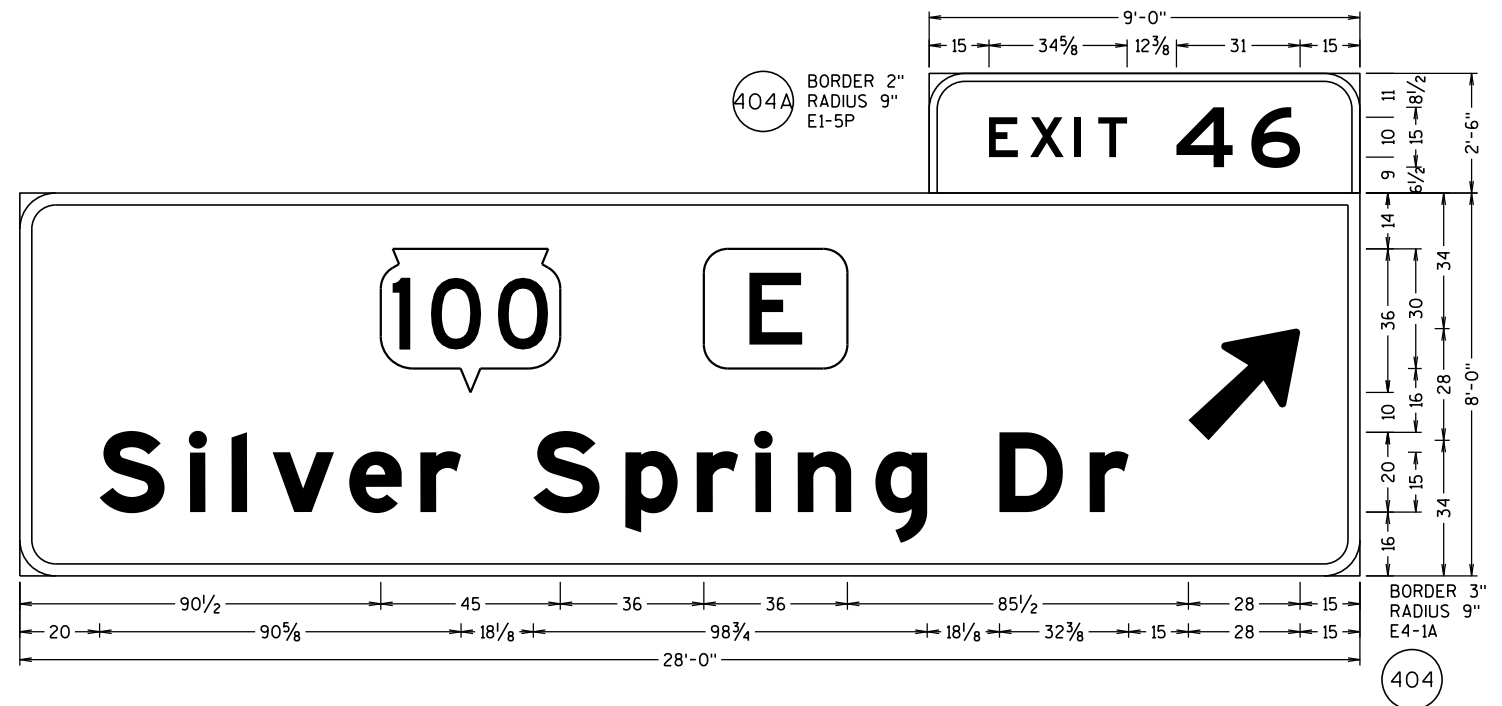
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11. DO NOT SCALE.





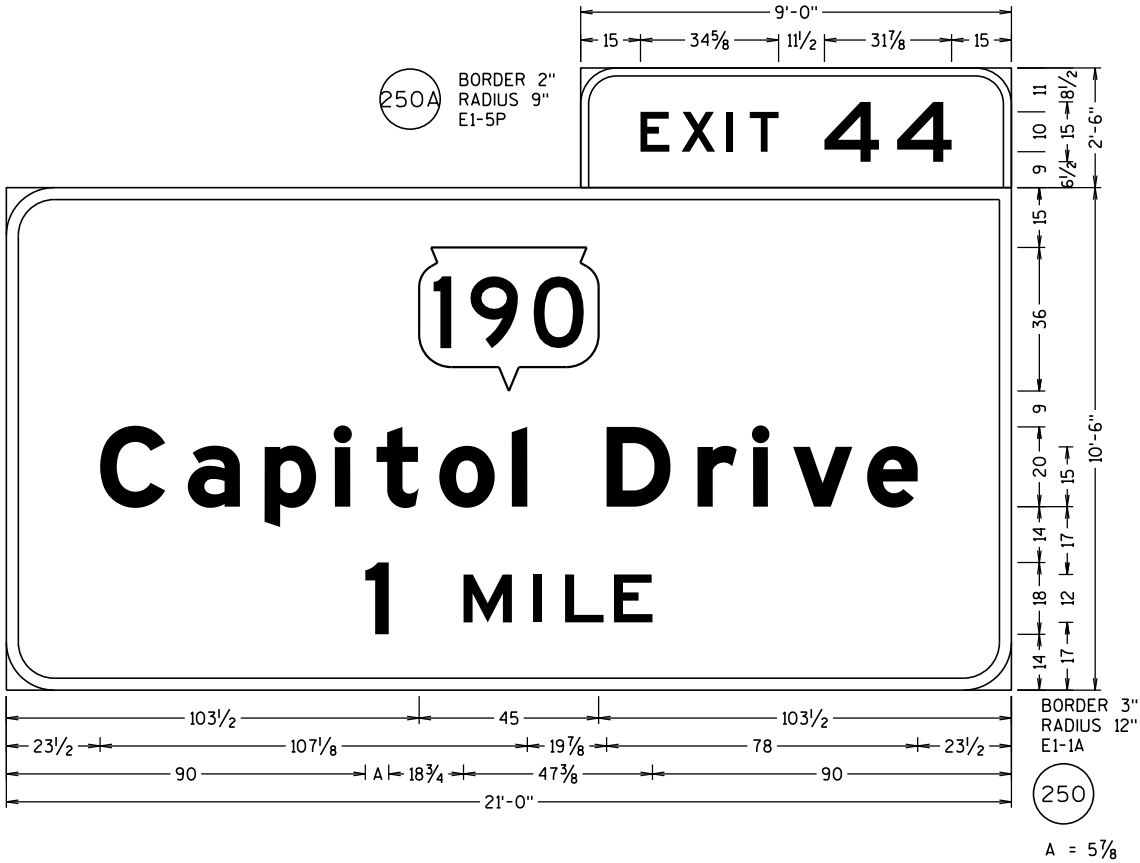
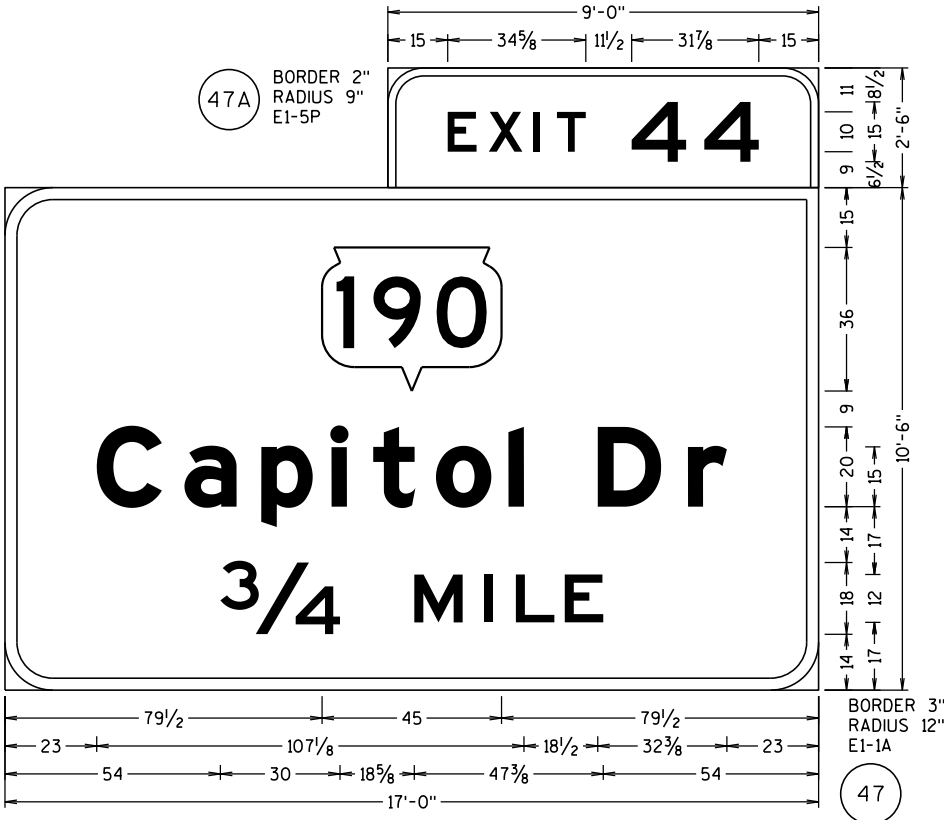
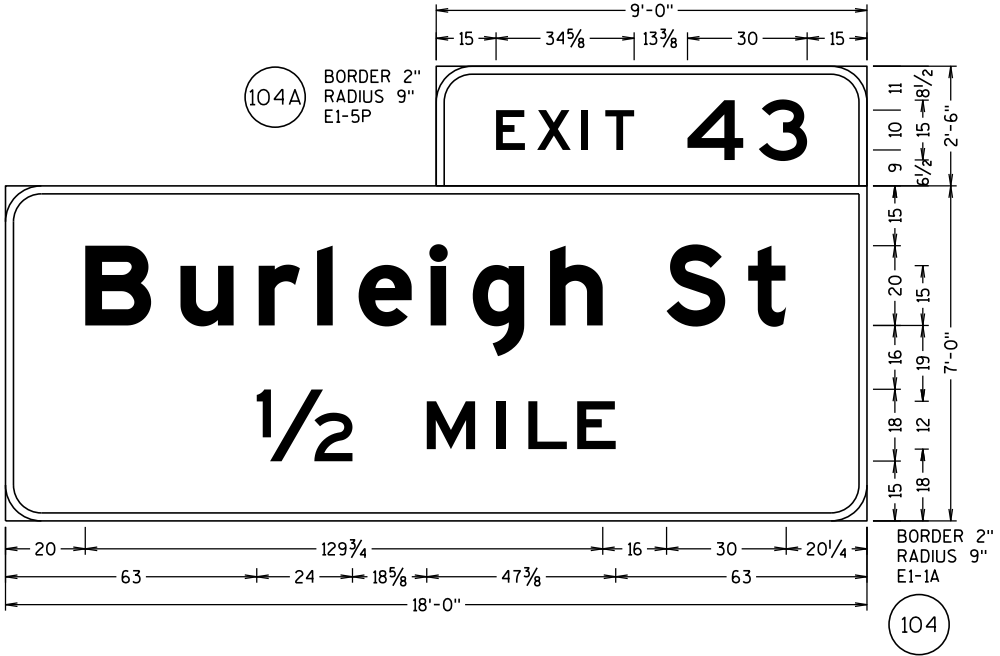
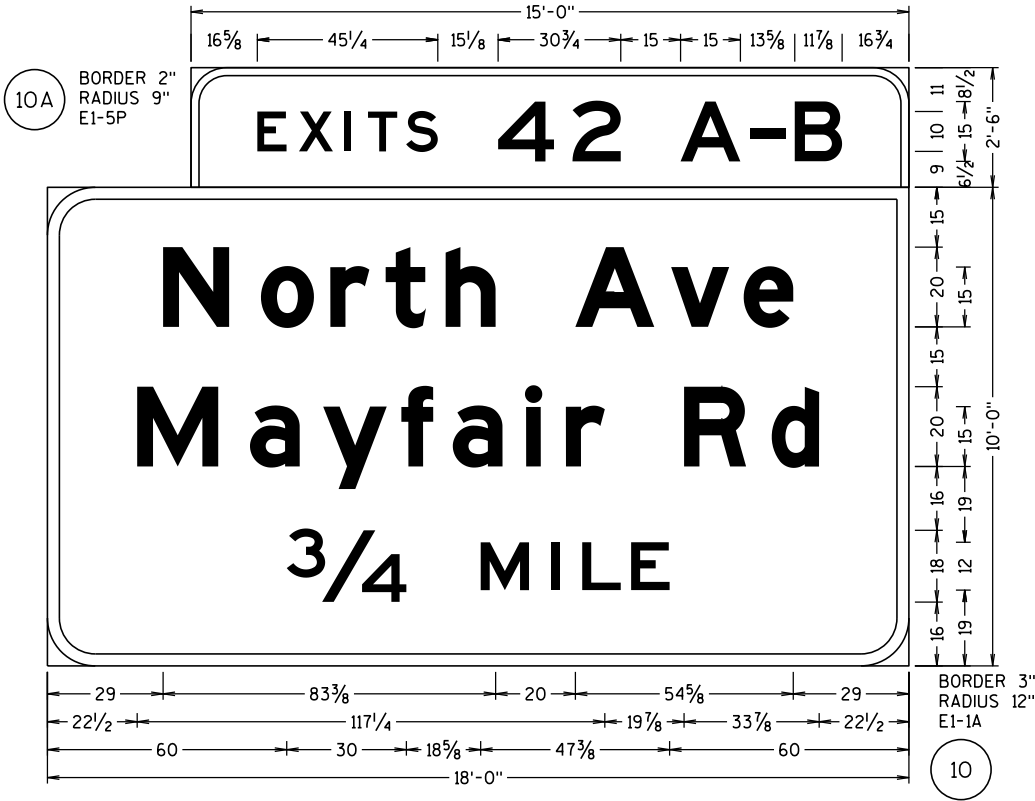
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GENERAL NOTES:

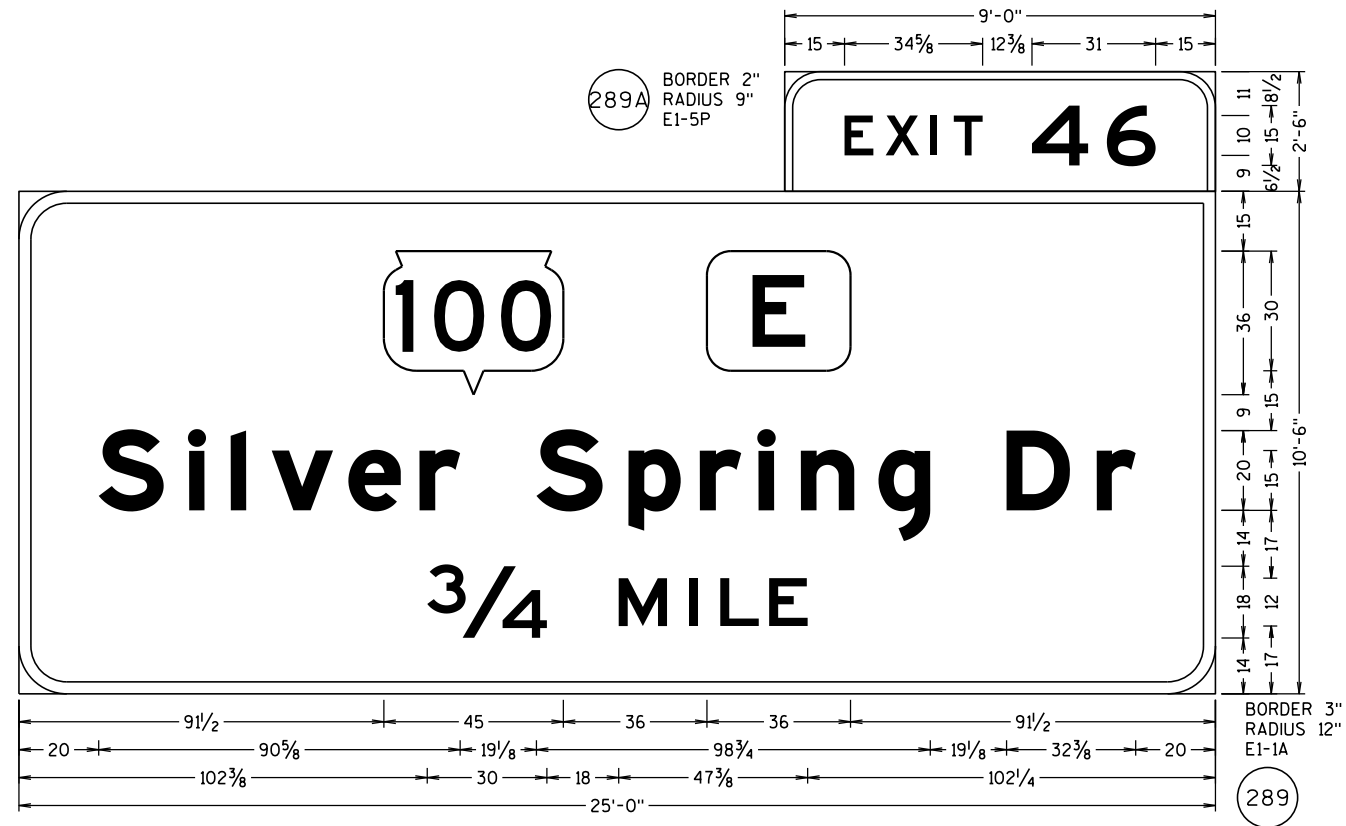
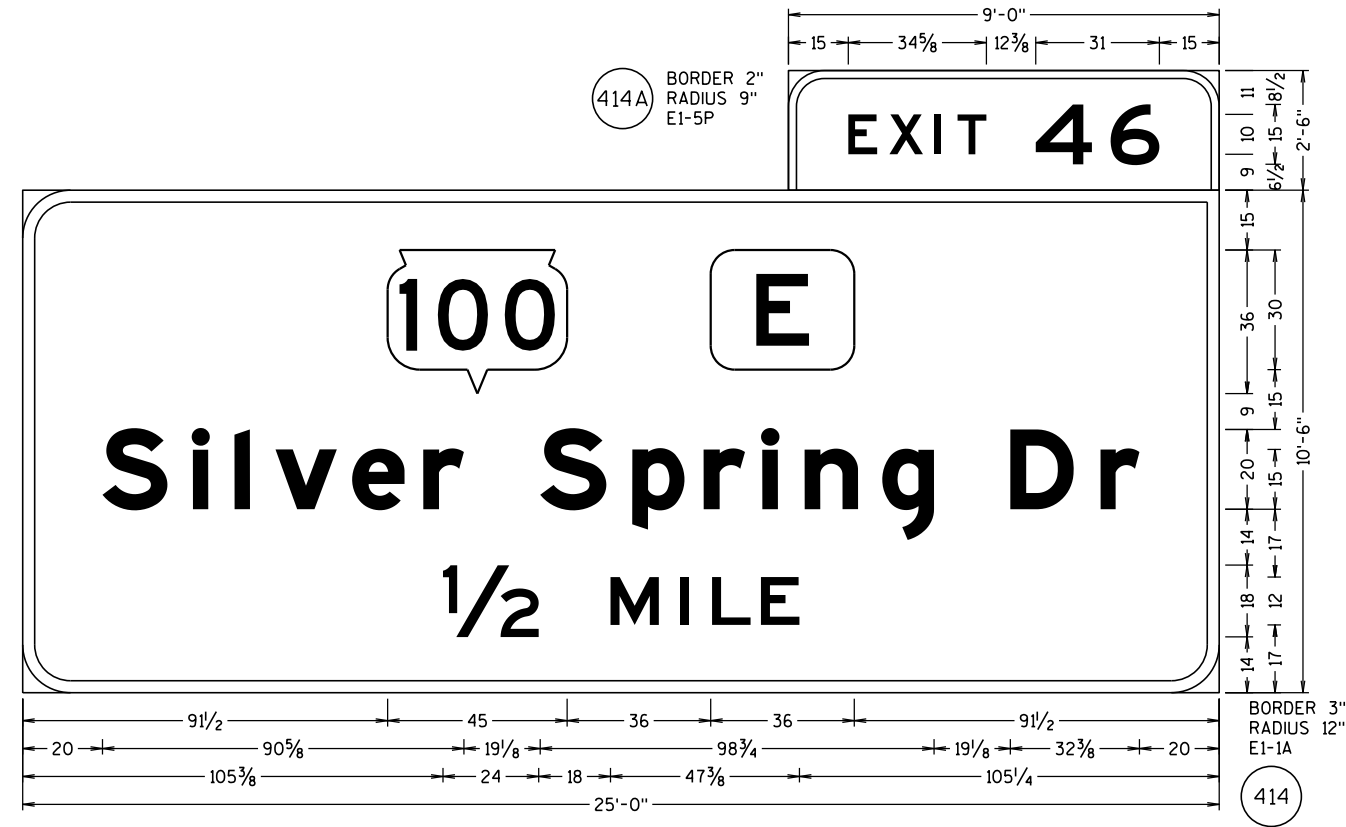
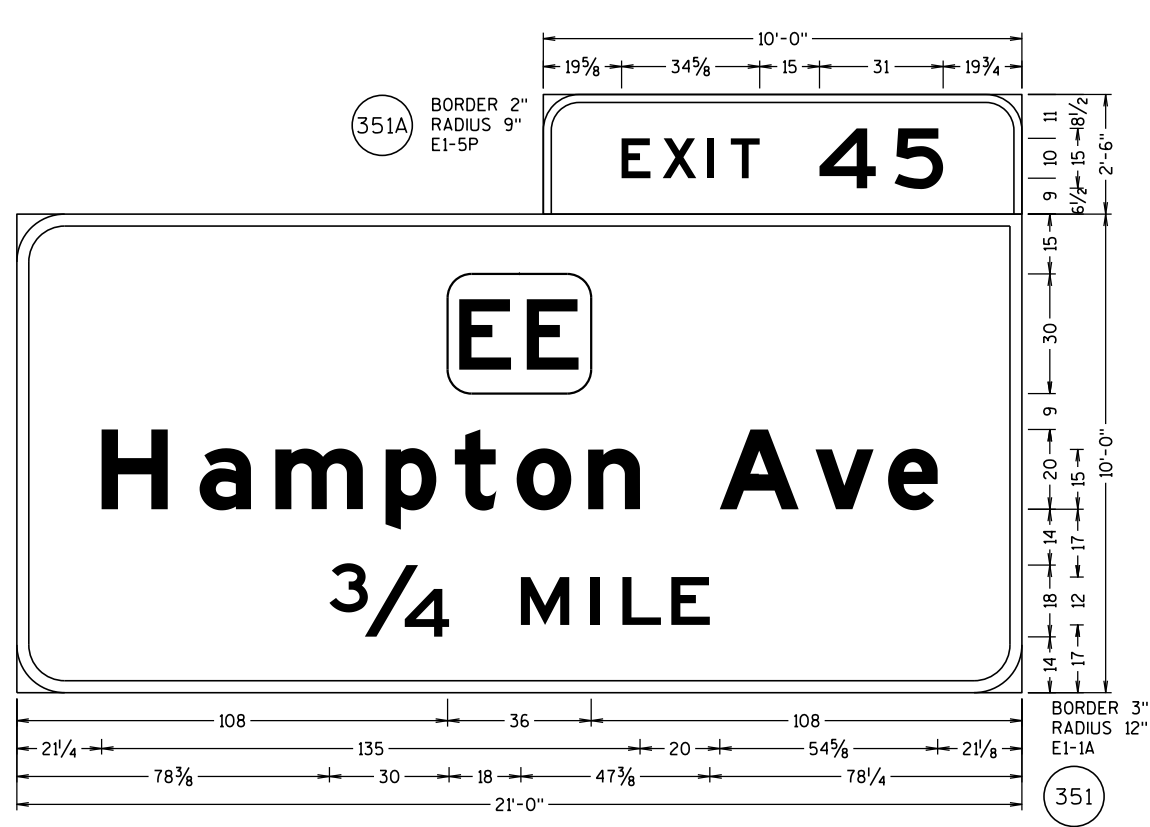
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7

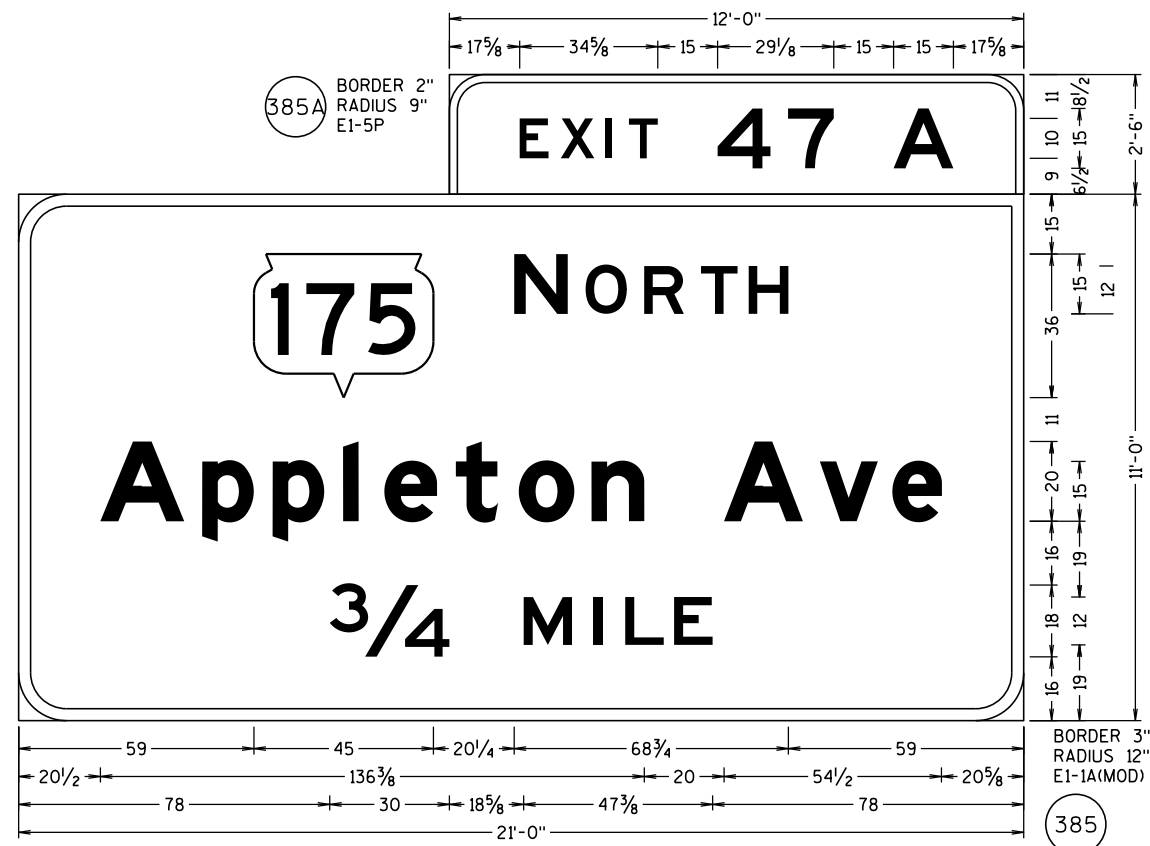
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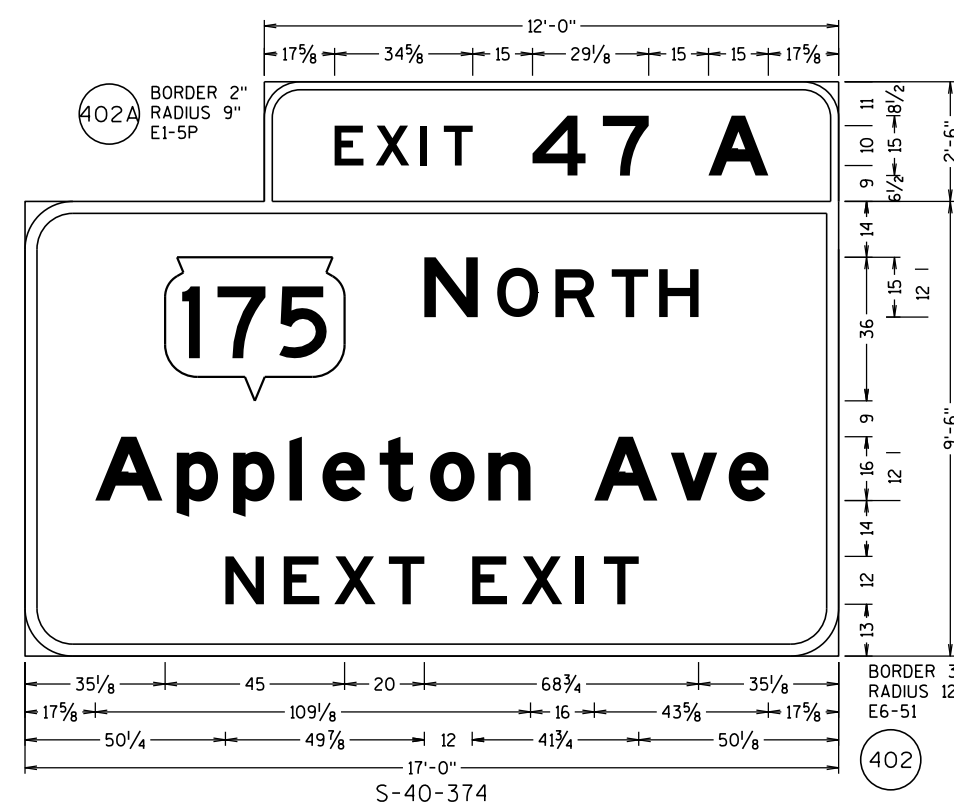
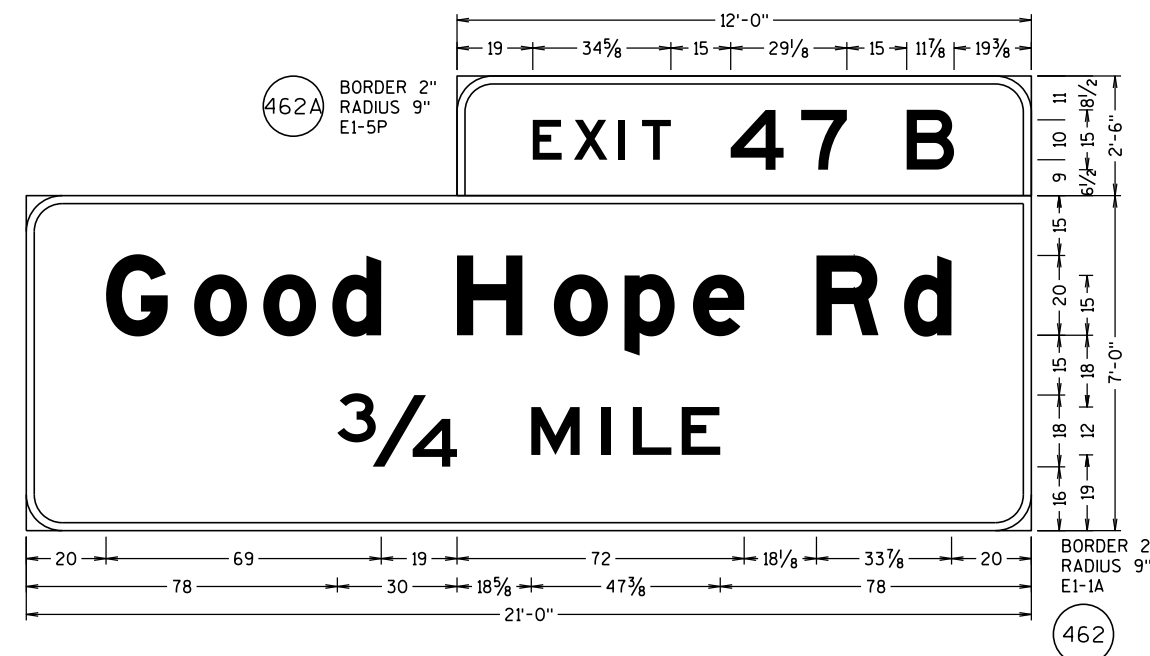
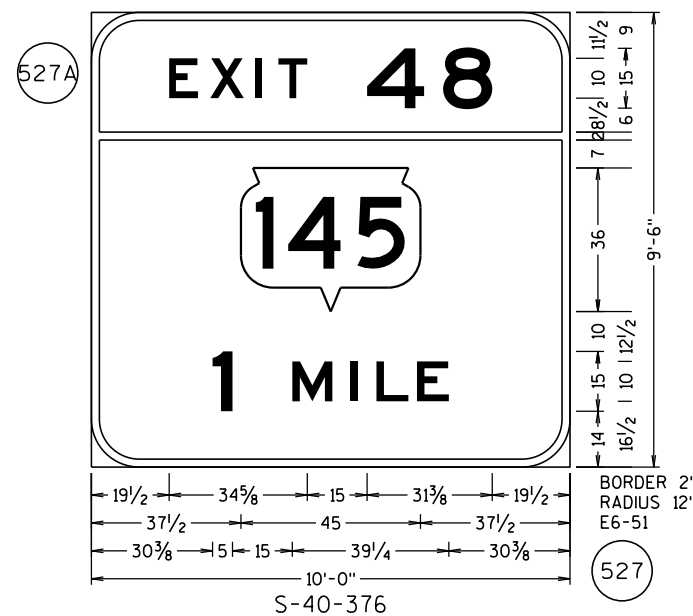
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7



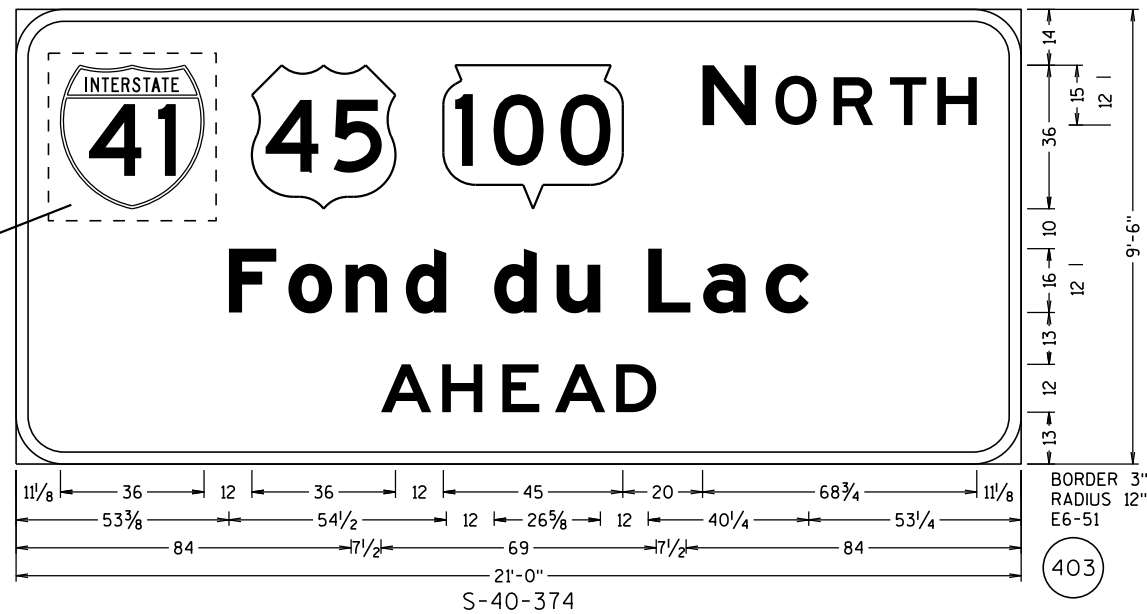
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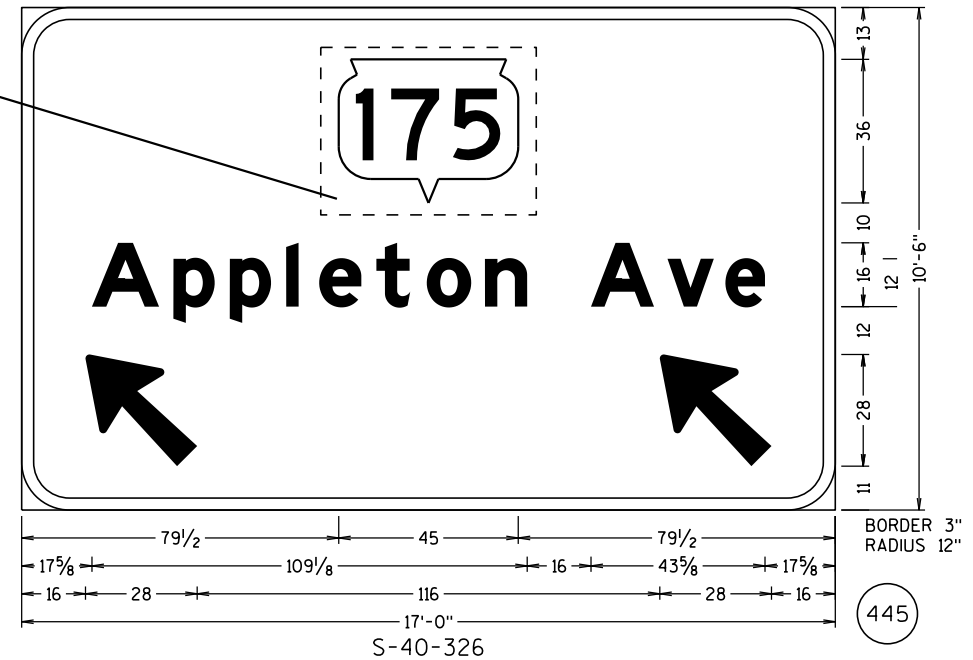


7

COVER
PLAQUE



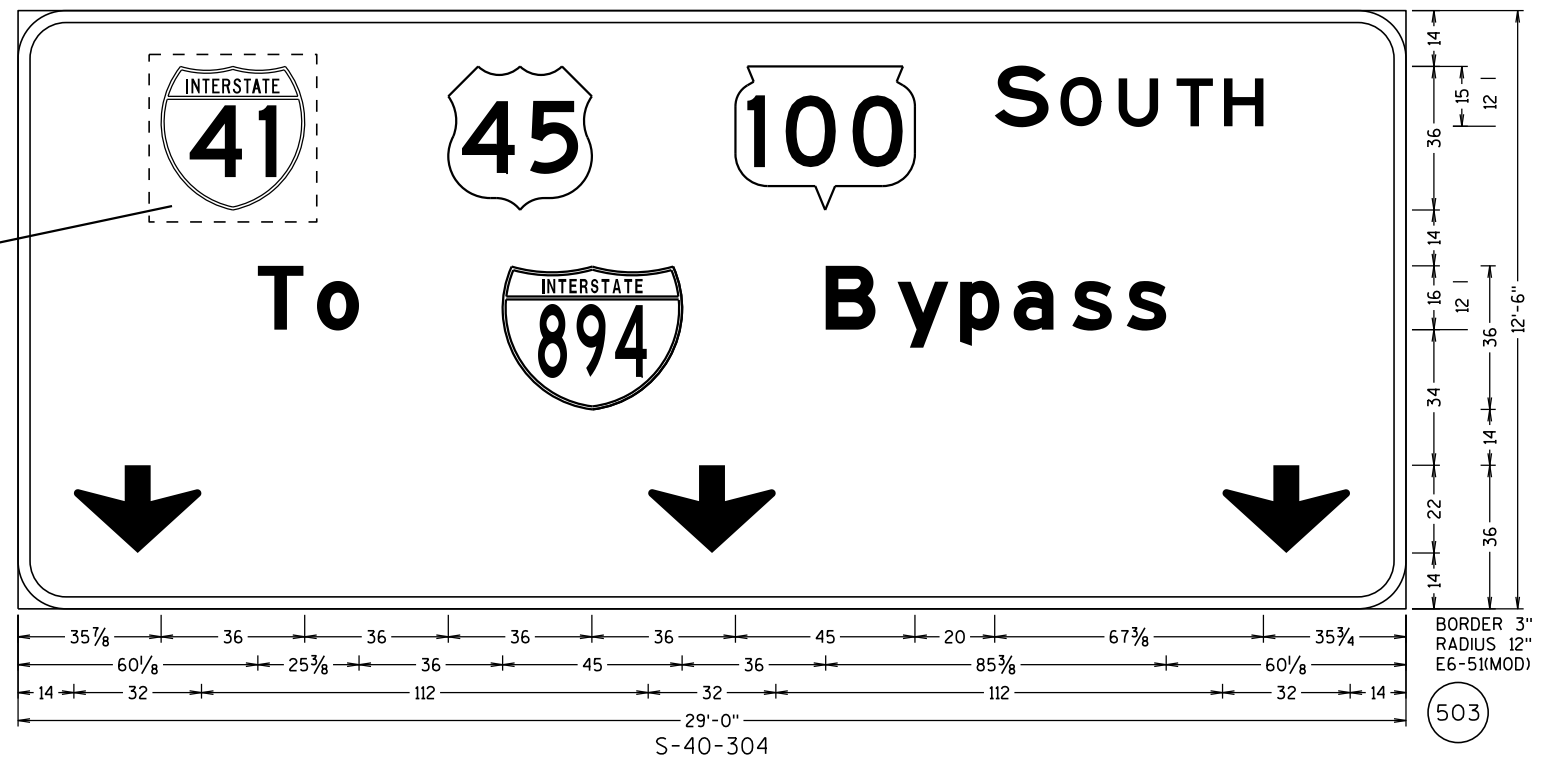
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PLAQUE

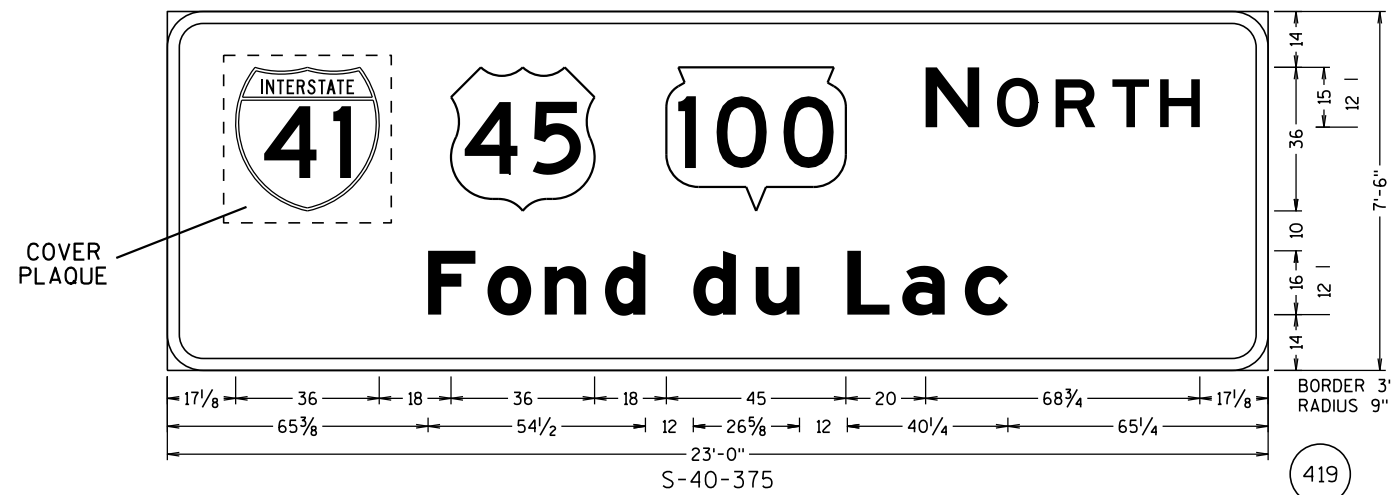


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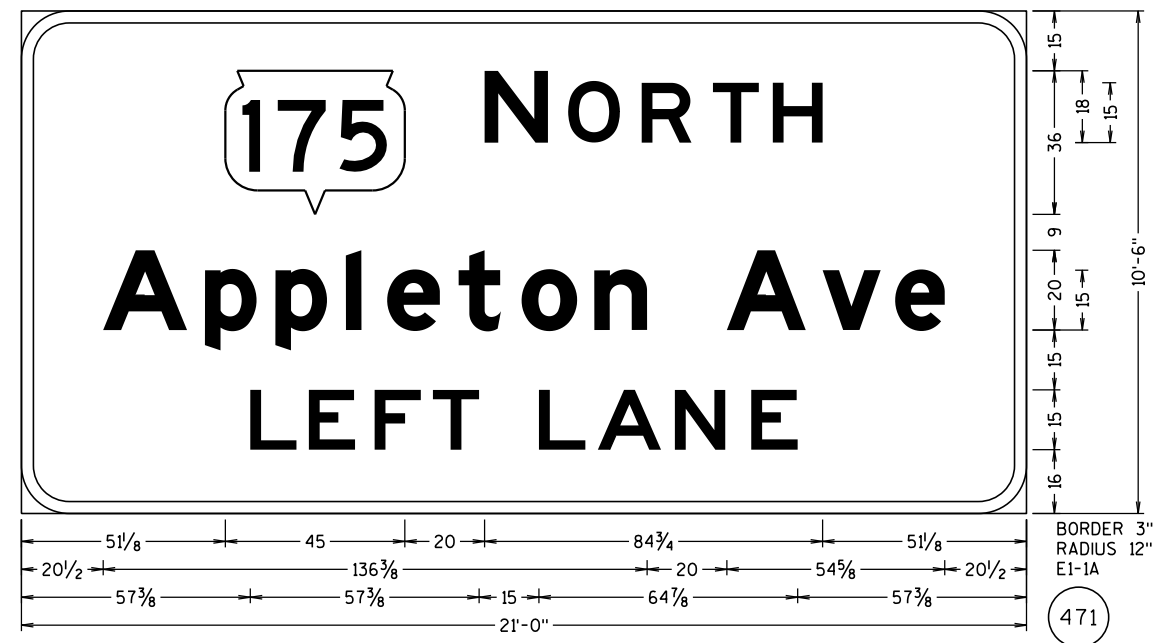
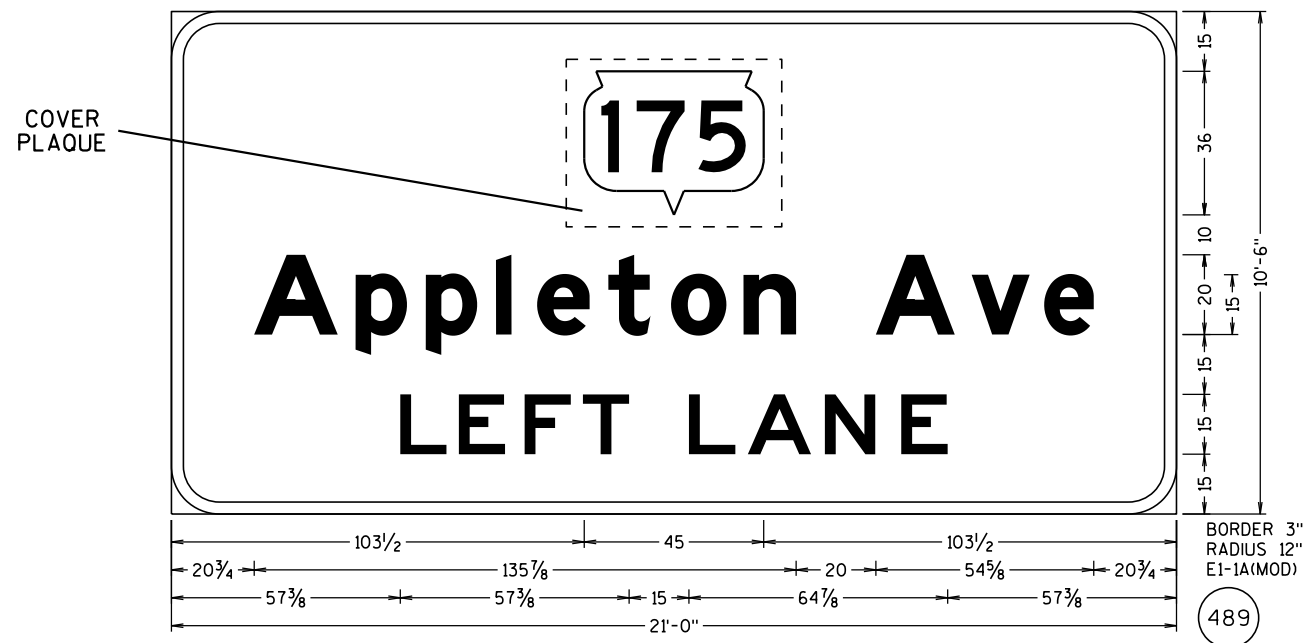
COVER
PLAQUE





GENERAL NOTES:

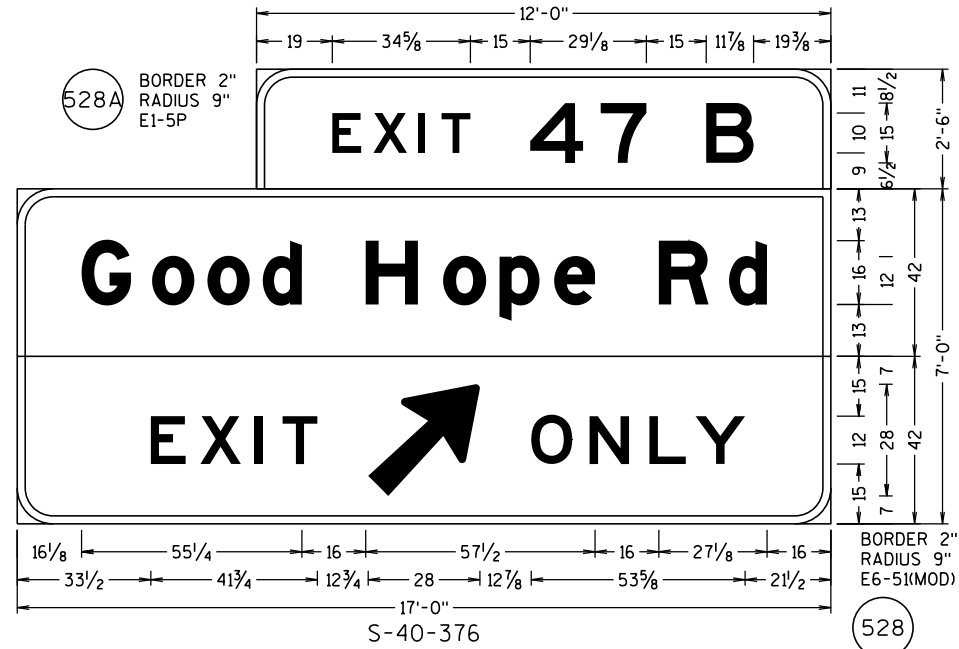
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7

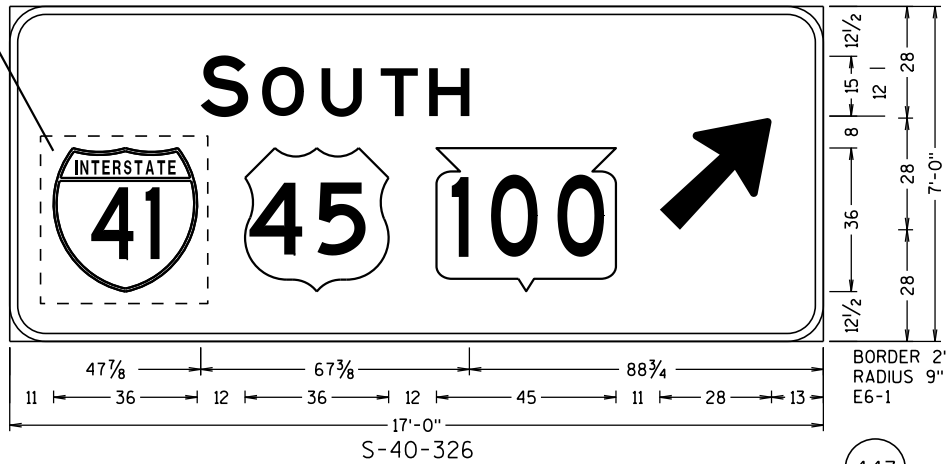
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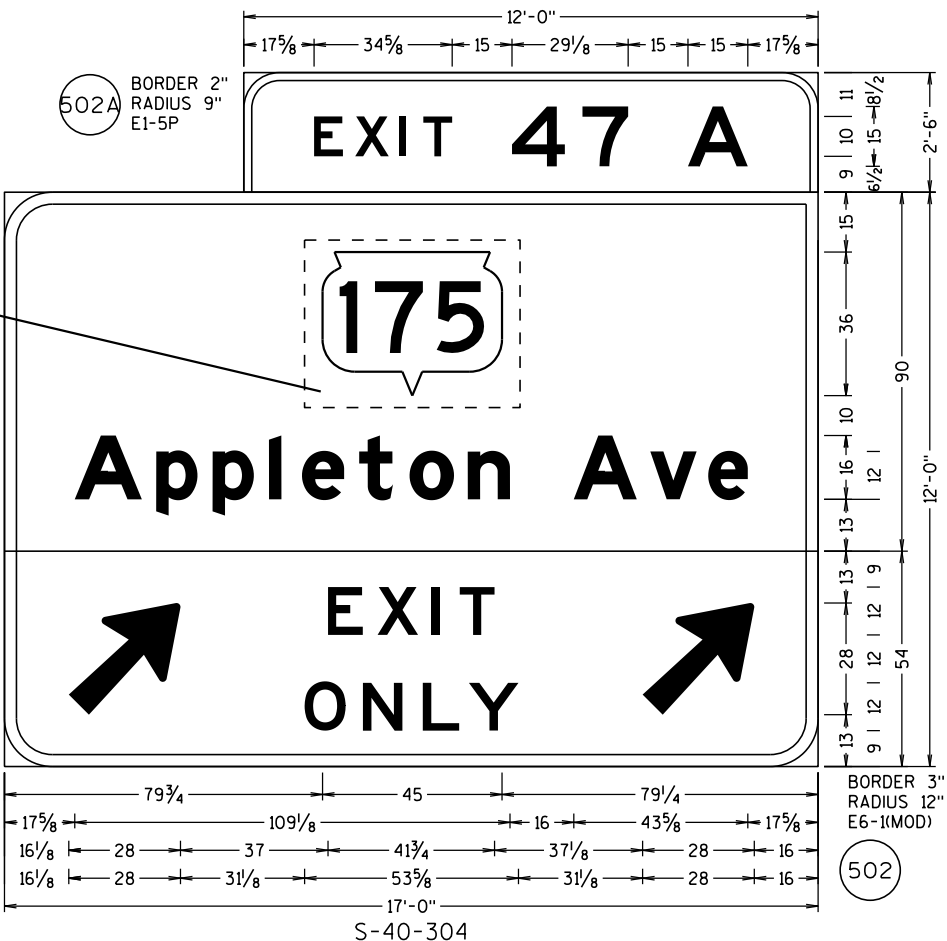


EXIT PANEL E11-1A
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK

COVER
PLAQUE



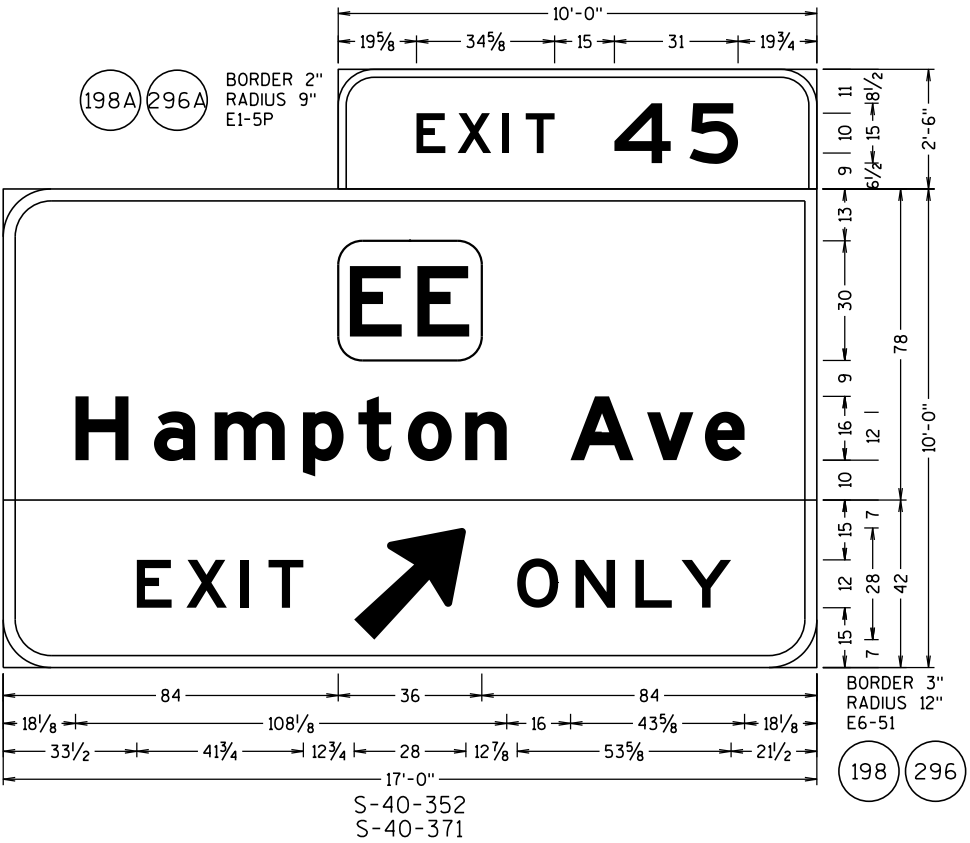
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PLAQUE



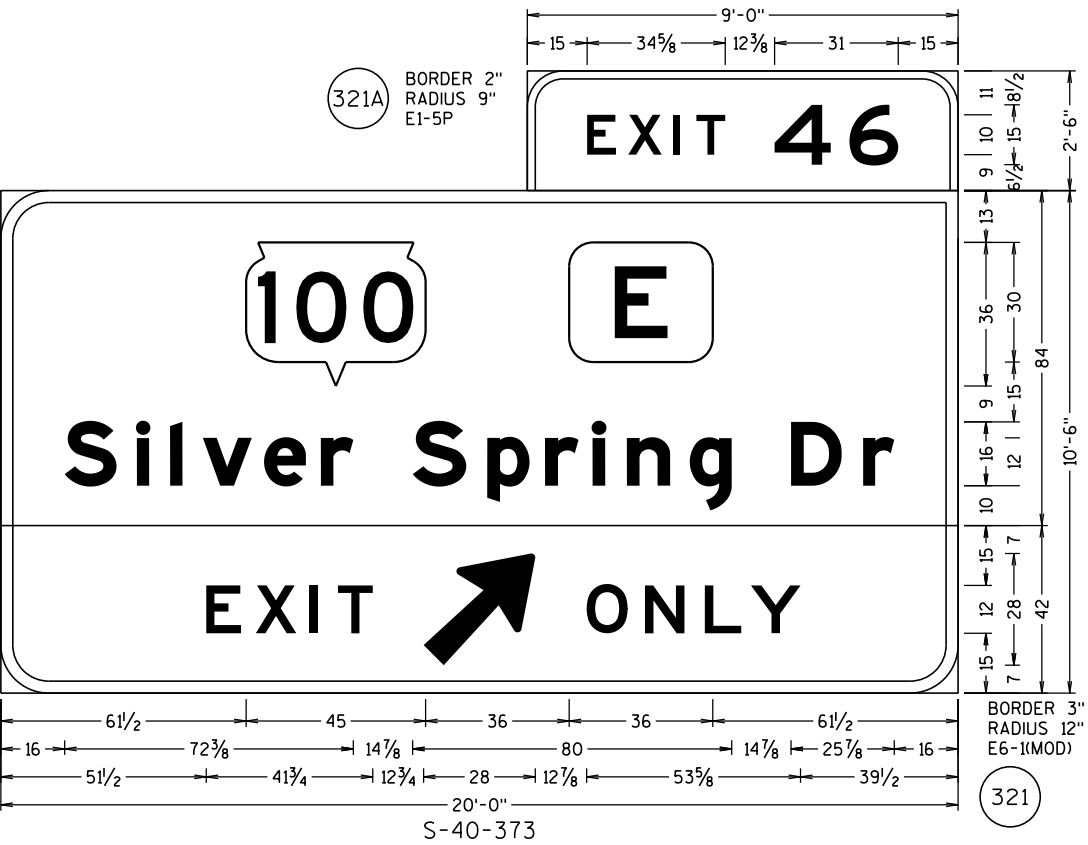
EXIT PANEL E11-1A(MOD)
COLORS:
BACKGROUND - TYPE H REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK
0.063 MIN. THICKNESS, NON-CORROSIVE SHEET

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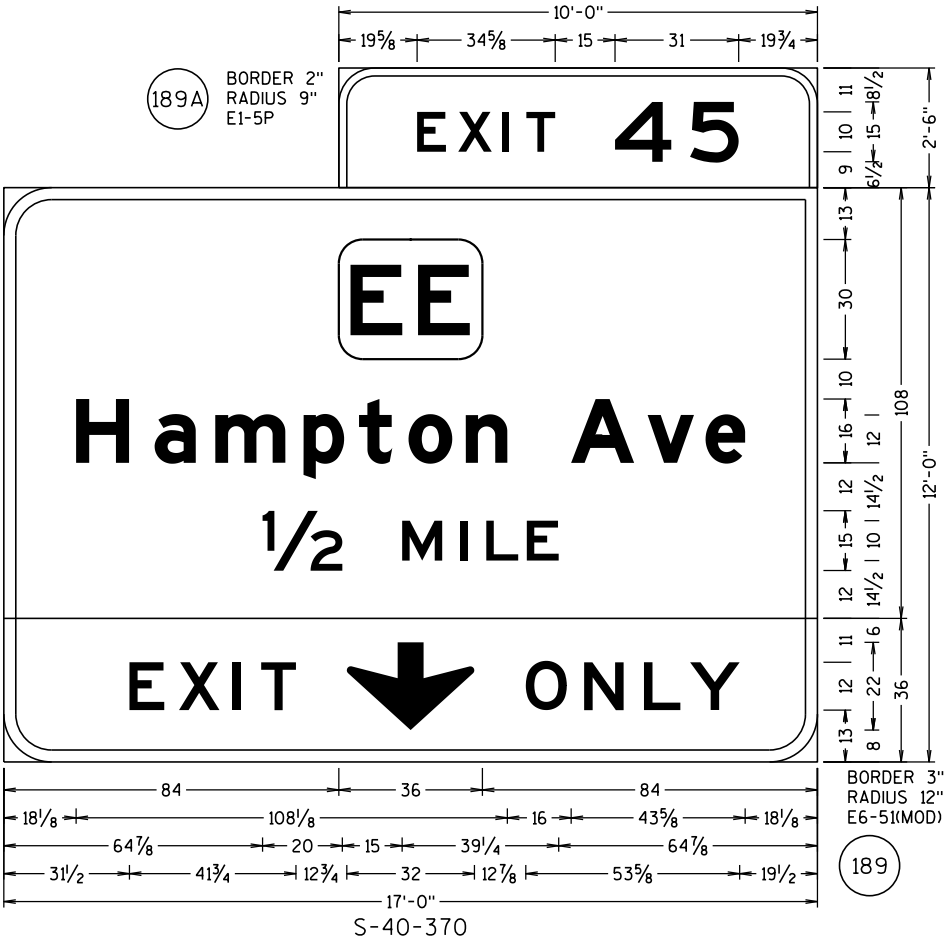
EXIT PANEL E11-1A
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK



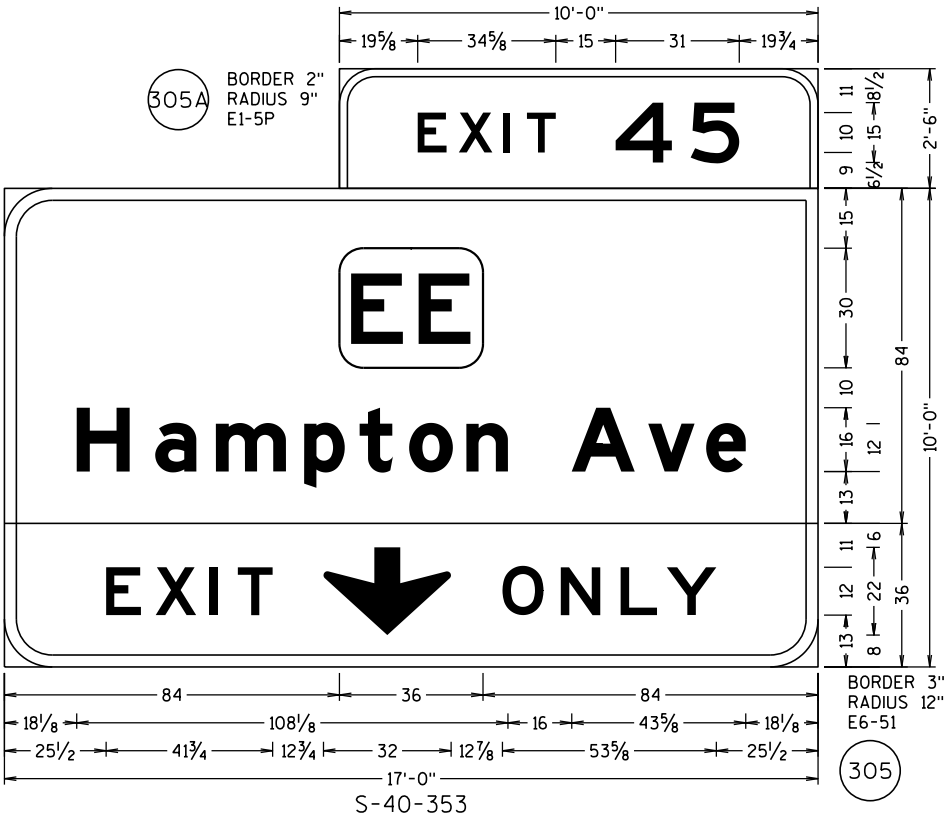
EXIT PANEL E11-1A
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK

GENERAL NOTES:

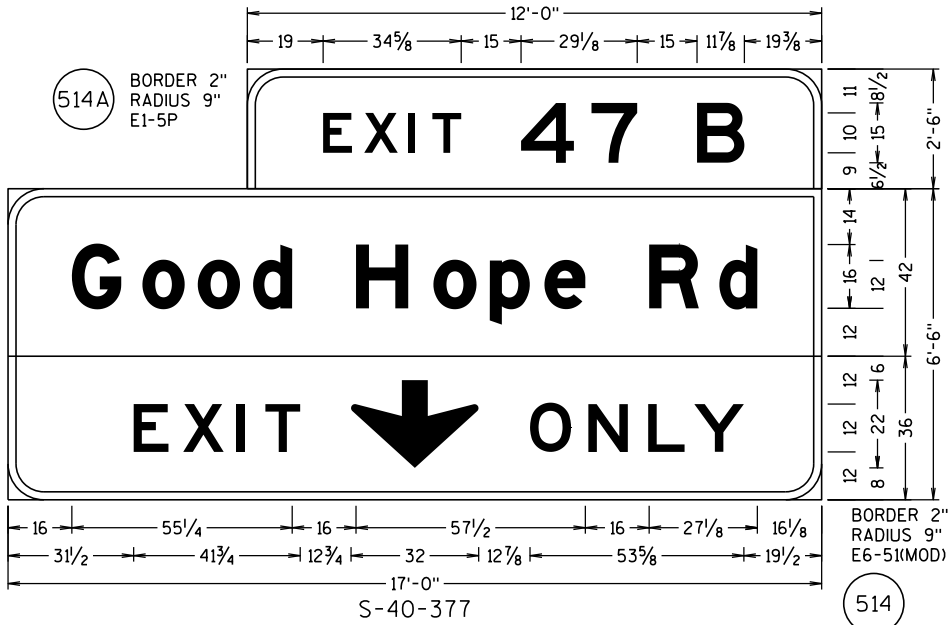
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4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E".
6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
11. DO NOT SCALE.



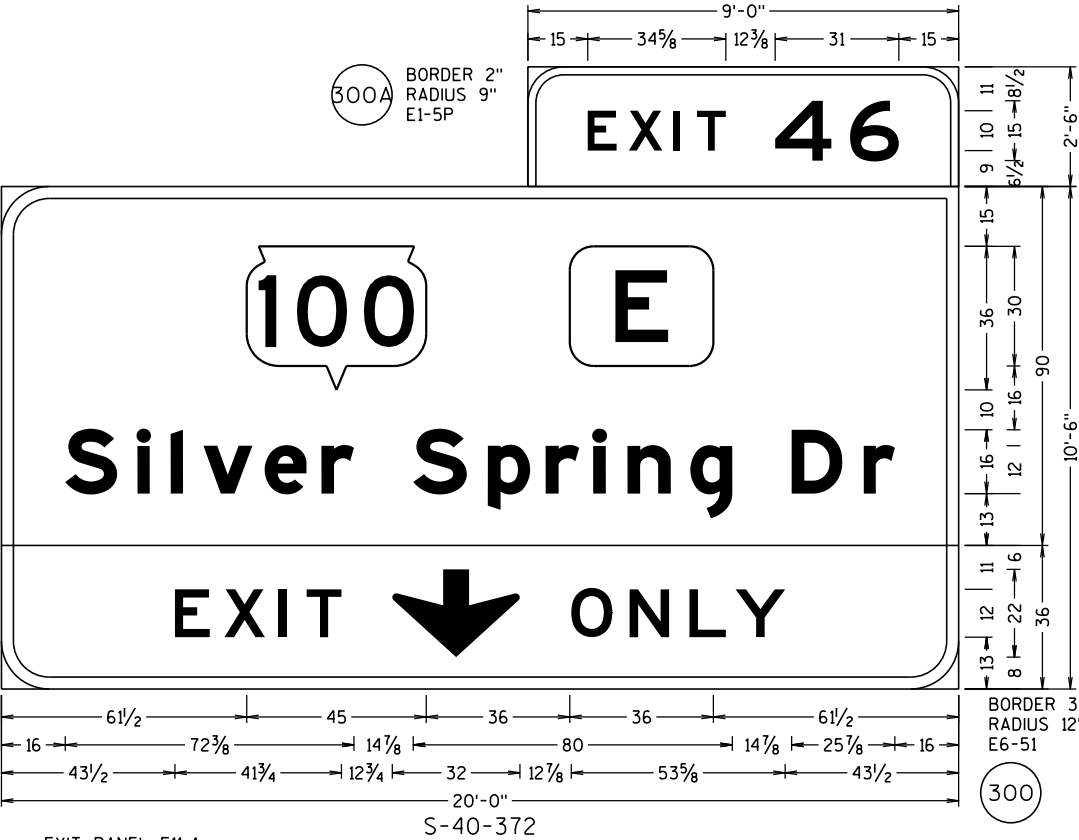
EXIT PANEL E11-1
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK



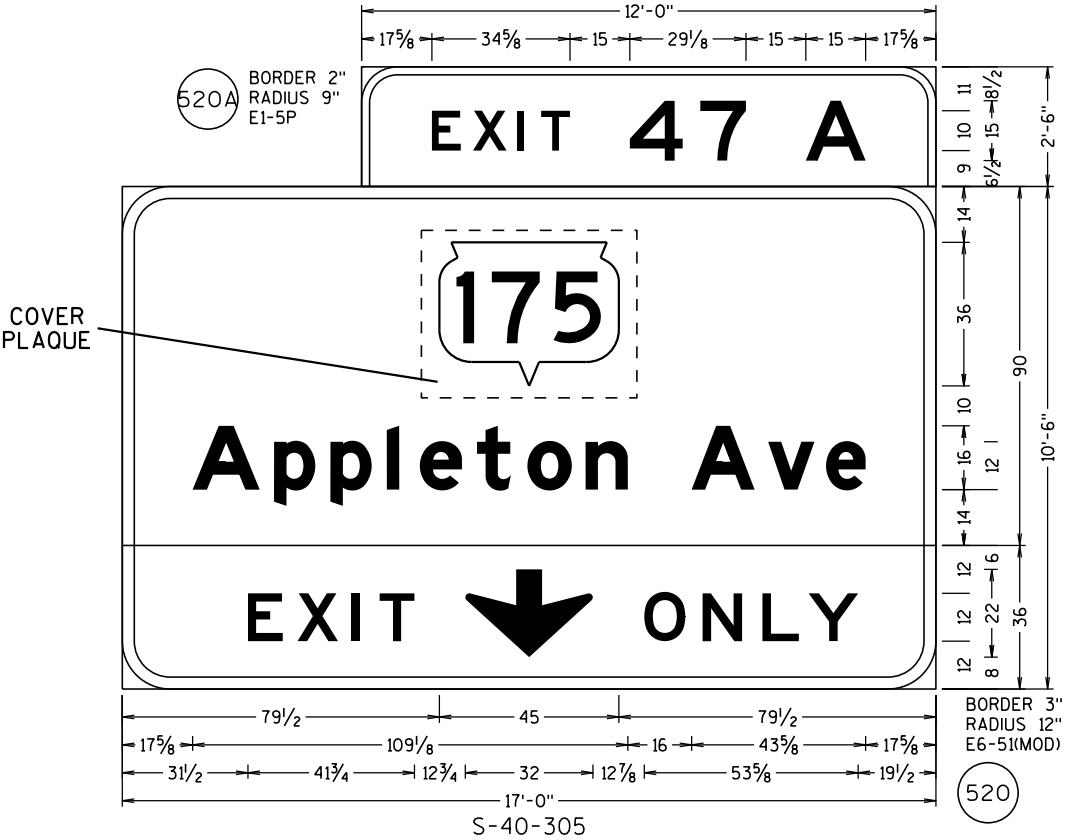
EXIT PANEL E11-1
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK



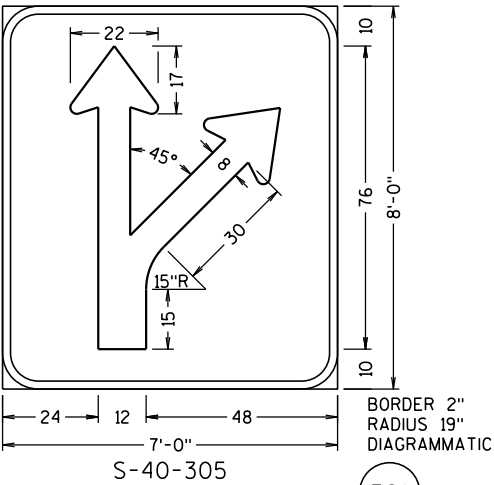
EXIT PANEL E11-1(MOD)
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK
0.063 MIN. THICKNESS, NON-CORROSIVE SHEET



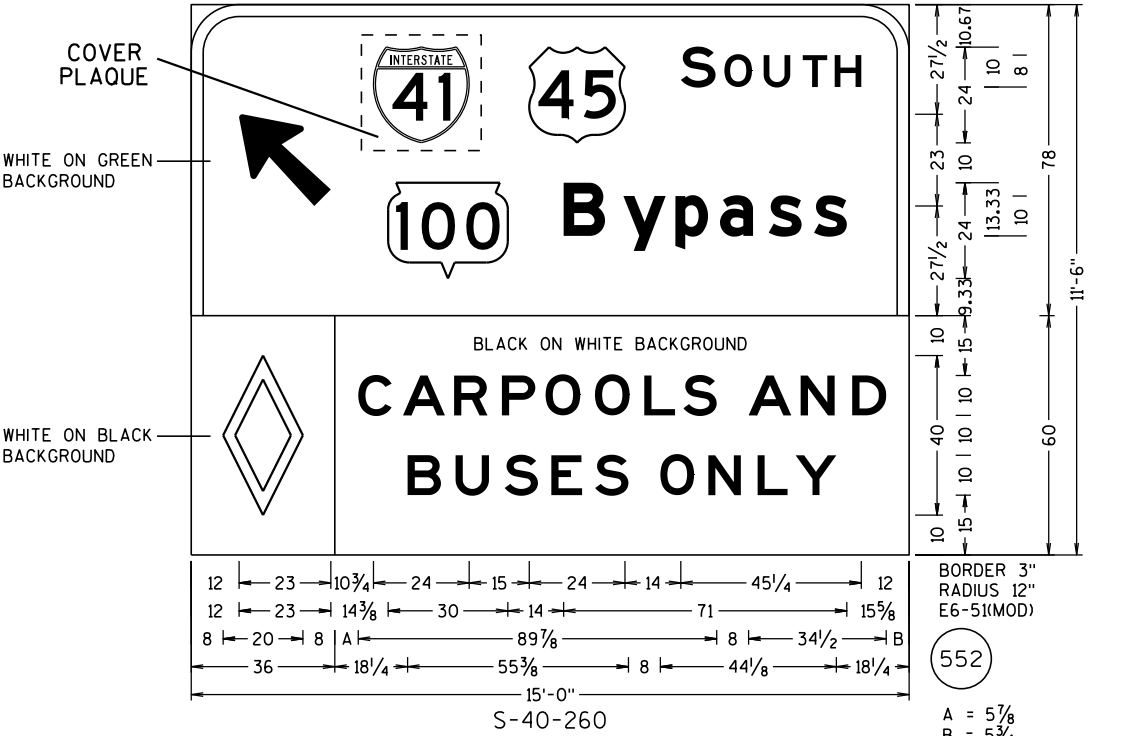
EXIT PANEL E11-1
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK



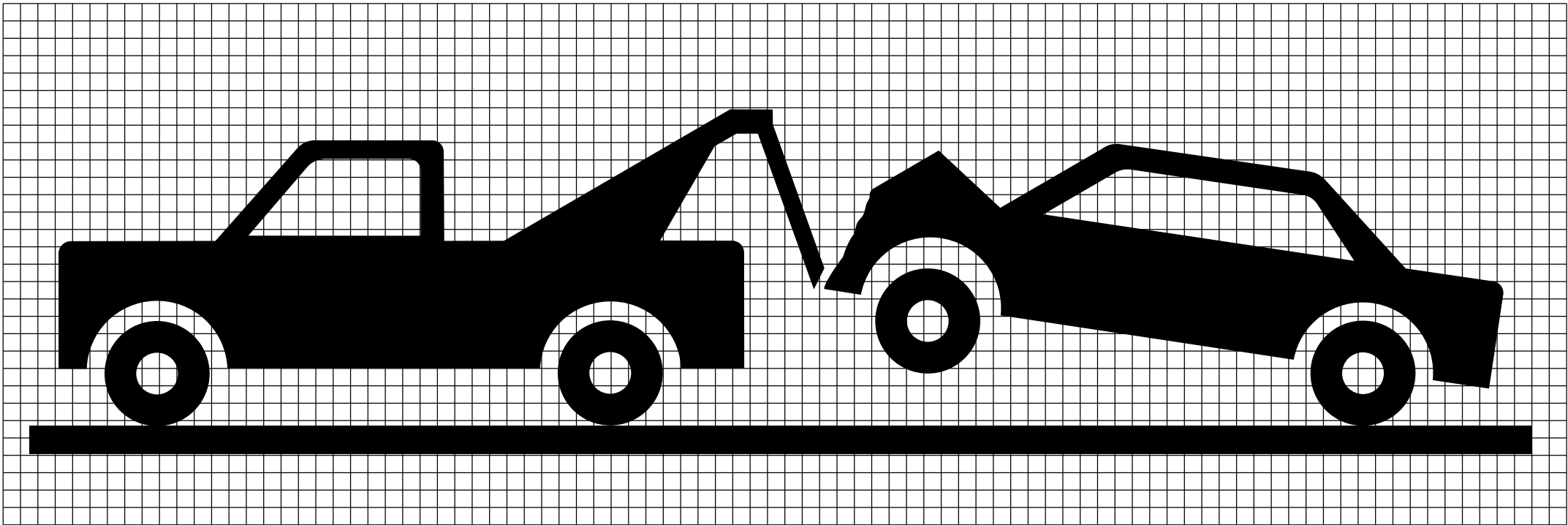
EXIT PANEL E11-1
COLORS:
BACKGROUND - TYPE SH REFLECTIVE YELLOW
MESSAGE - NON REFLECTIVE BLACK
0.063 MIN. THICKNESS, NON-CORROSIVE SHEET



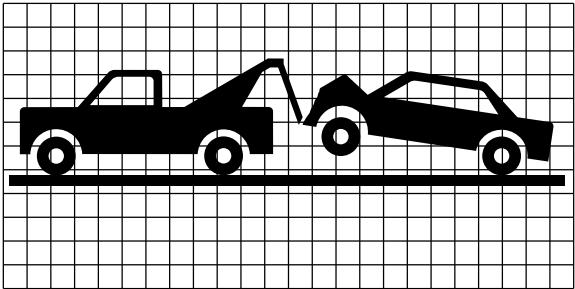
521



LEGEND - NON-REFLECTIVE BLACK
BACKGROUND - REFLECTIVE WHITE
SYMBOL - REFLECTIVE WHITE
BACKGROUND - NON-REFLECTIVE BLACK



DETAIL "A"



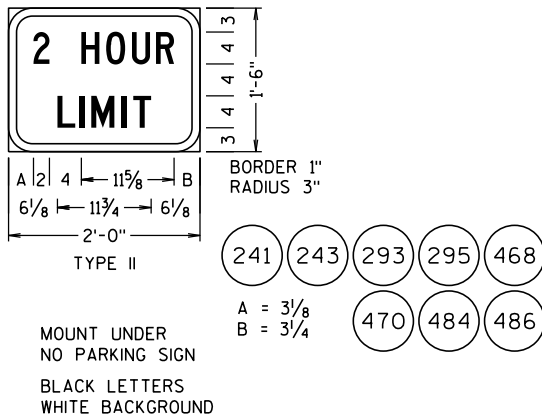
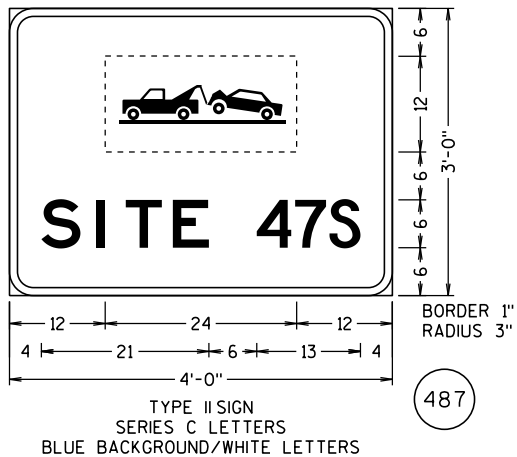
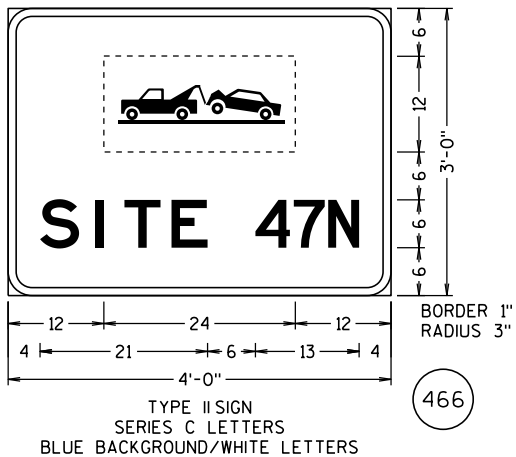
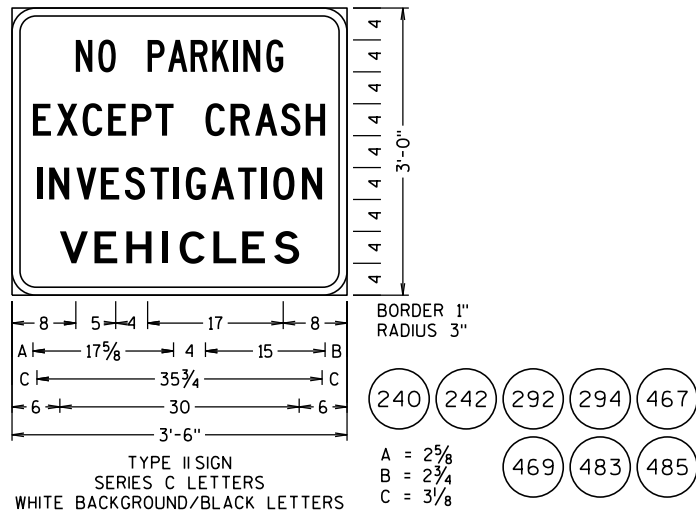
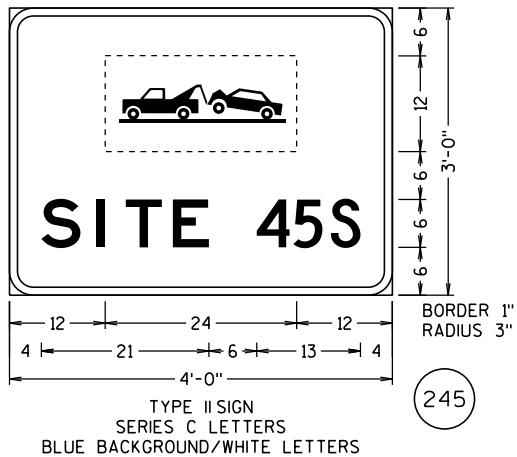
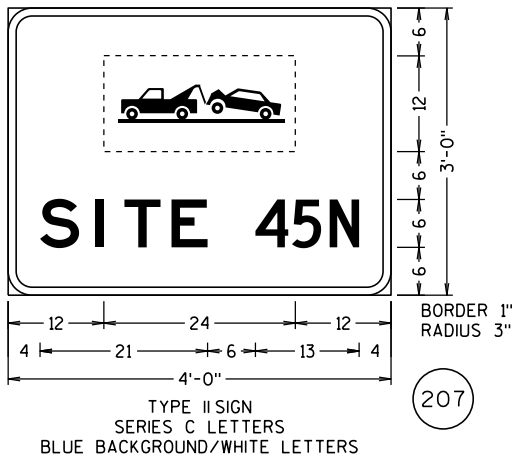
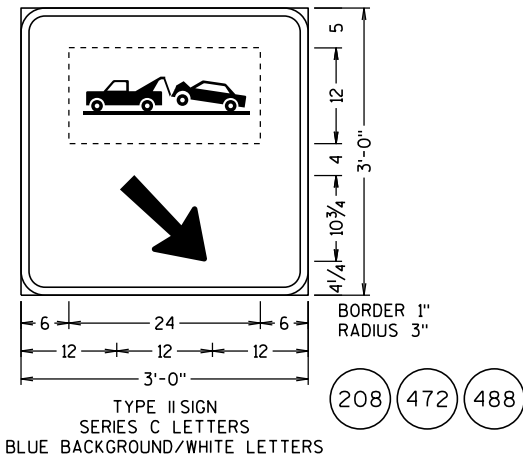
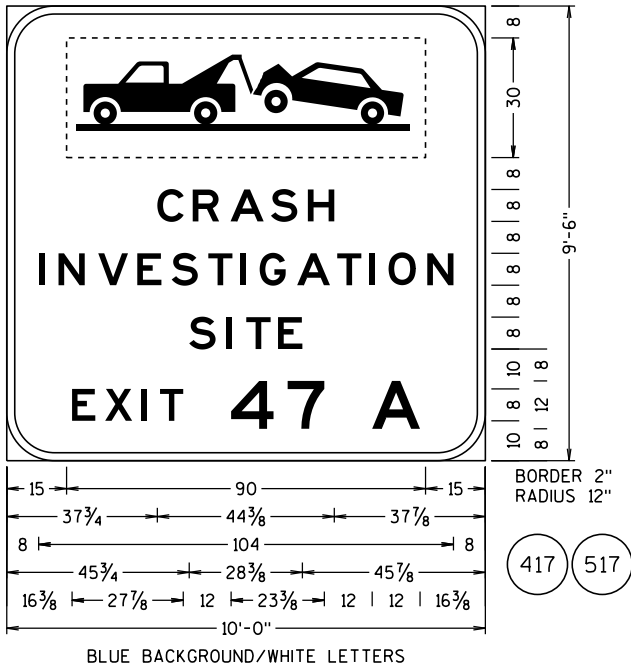
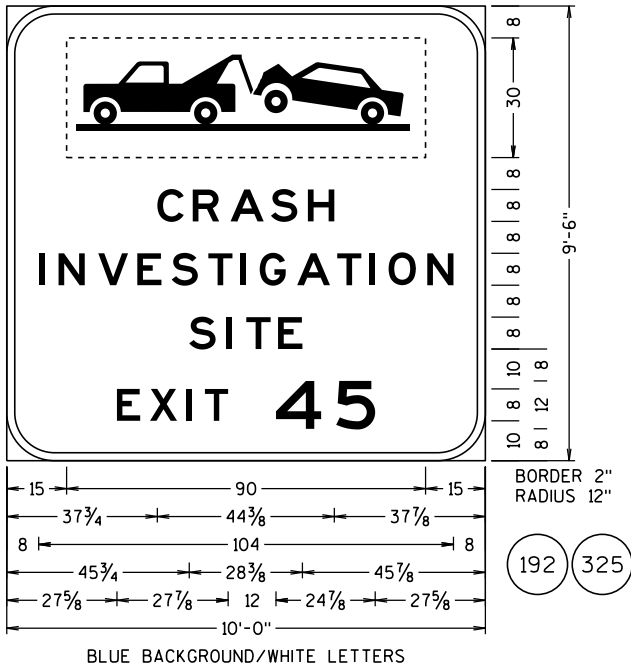
DETAIL "B"

GENERAL NOTES:

- 1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIRMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
- 2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE XX".
- 3. UNLESS OTHERWISE NOTED, TYPE I AND TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL".
- 4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
- 5. ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E, MODIFIED". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E, MODIFIED".
- 6. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
- 7. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
- 8. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
- 9. DO NOT SCALE.

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".
3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.
6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10
11. DO NOT SCALE.



*Cross sections are for informational purposes only

780

780

770

770

RL BG1

175+35

760

760

750

750

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG1

SHEET 422

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL1.XS.DWG
LAYOUT NAME - 090201.XS

PLOT DATE : 7/29/2014 10:13 AM

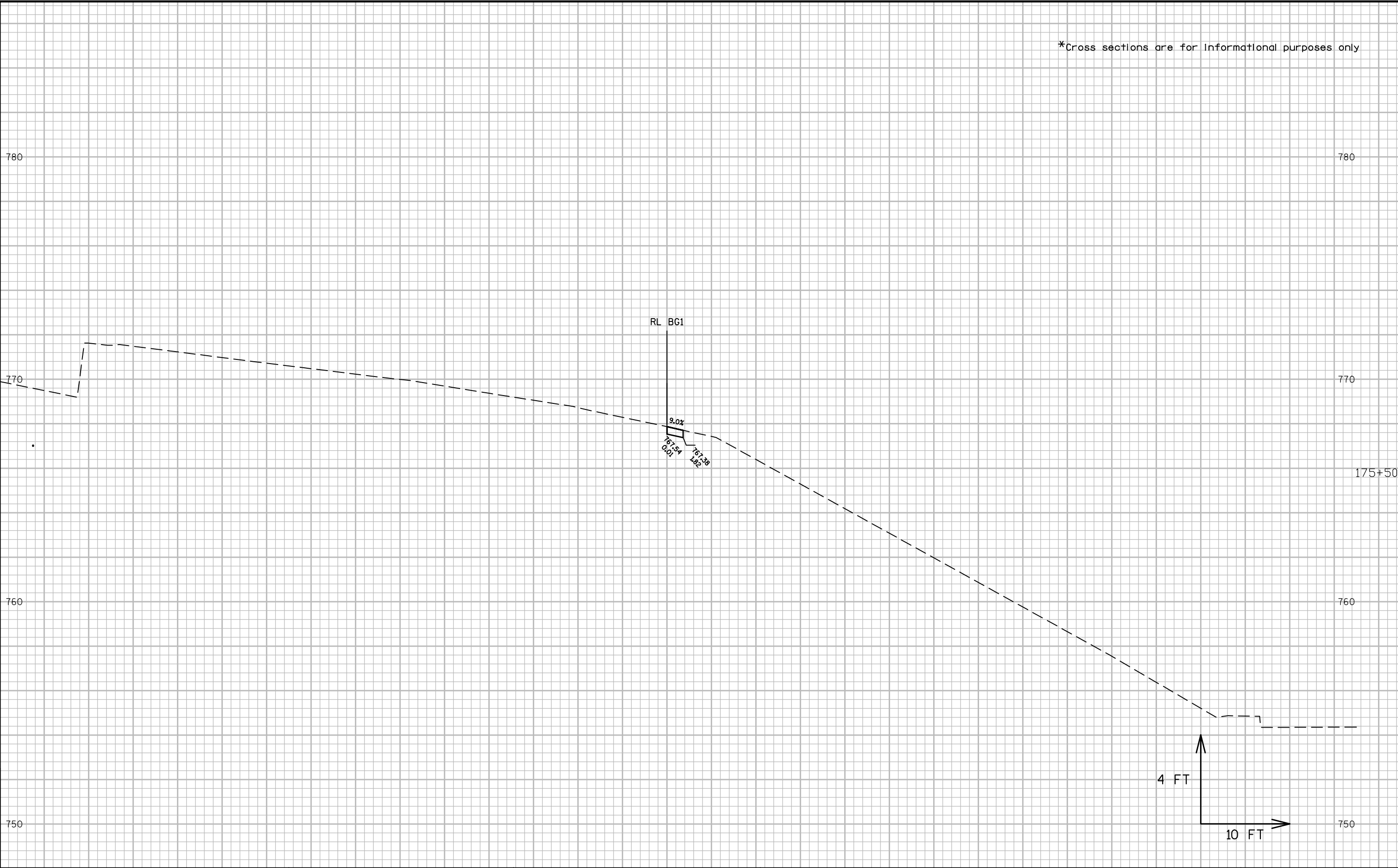
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for Informational purposes only



*Cross sections are for Informational purposes only

780

780

770

770

760

760

750

750

176+00

RL BG1

9.0%

4.0%

168.50
0.00

167.59
9.10

167.14
10.91

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG1

SHEET 424

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL1.XS.DWG
LAYOUT NAME - 090203_XS

PLOT DATE : 7/29/2014 10:12 AM

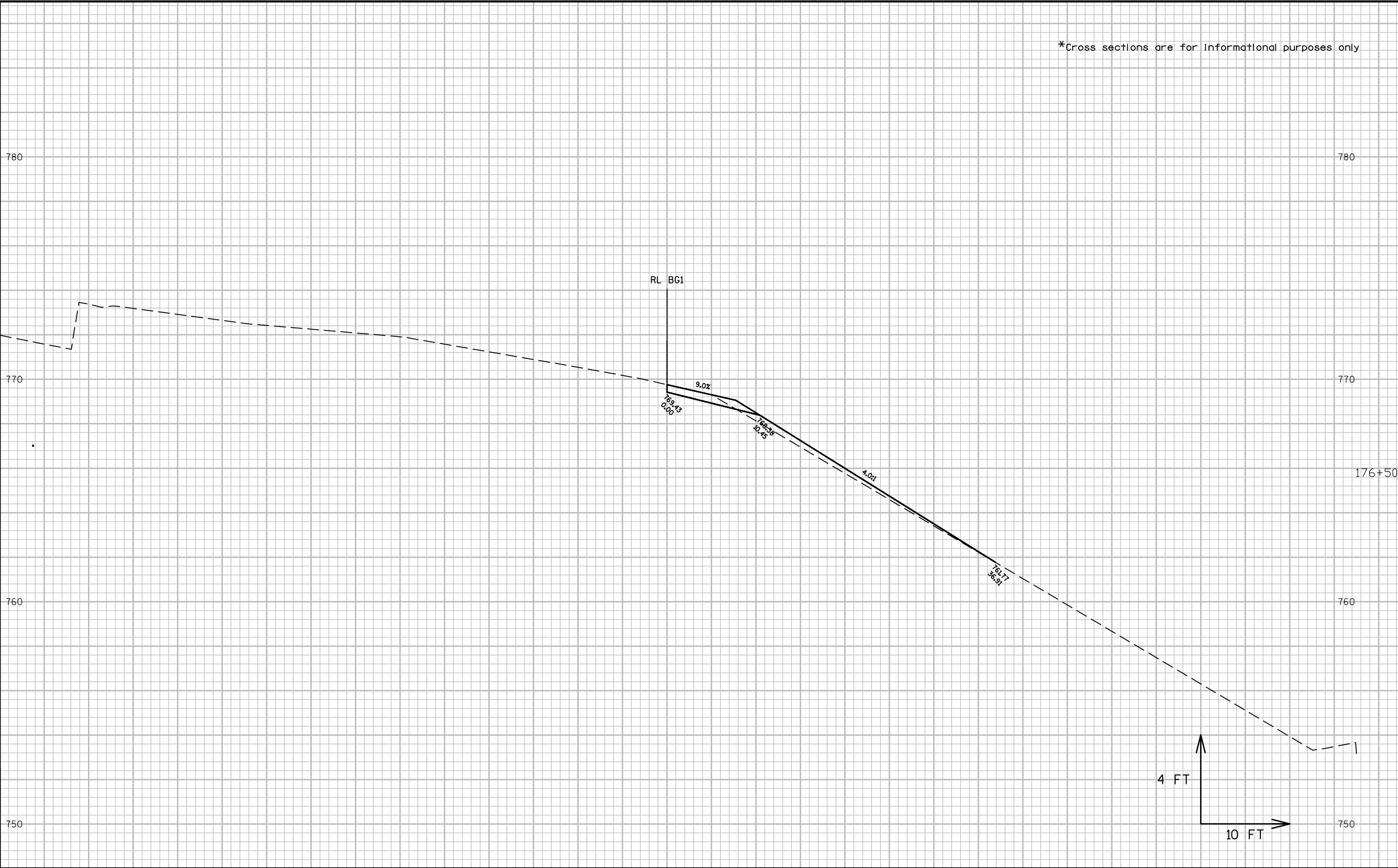
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

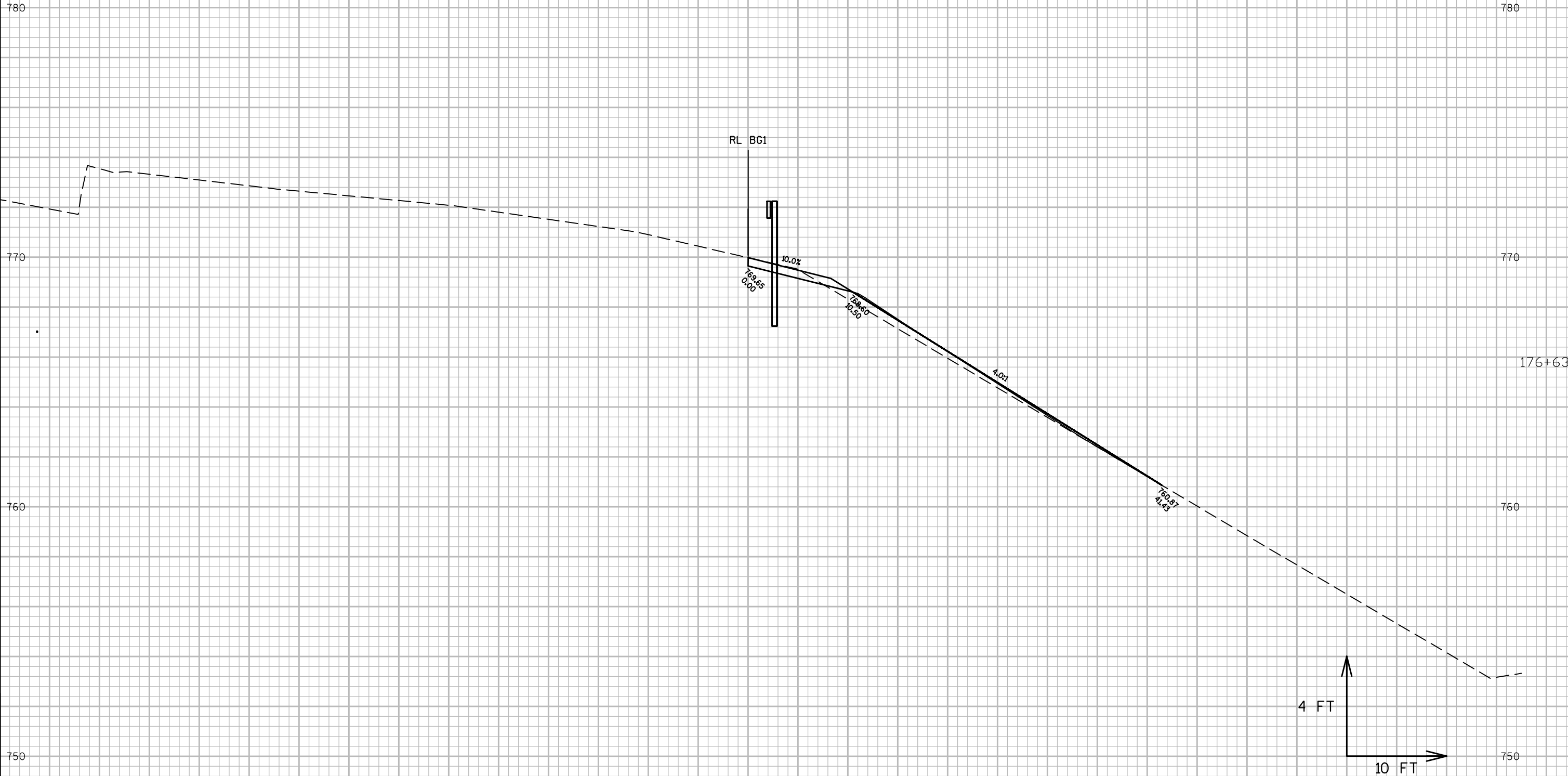
*Cross sections are for Informational purposes only



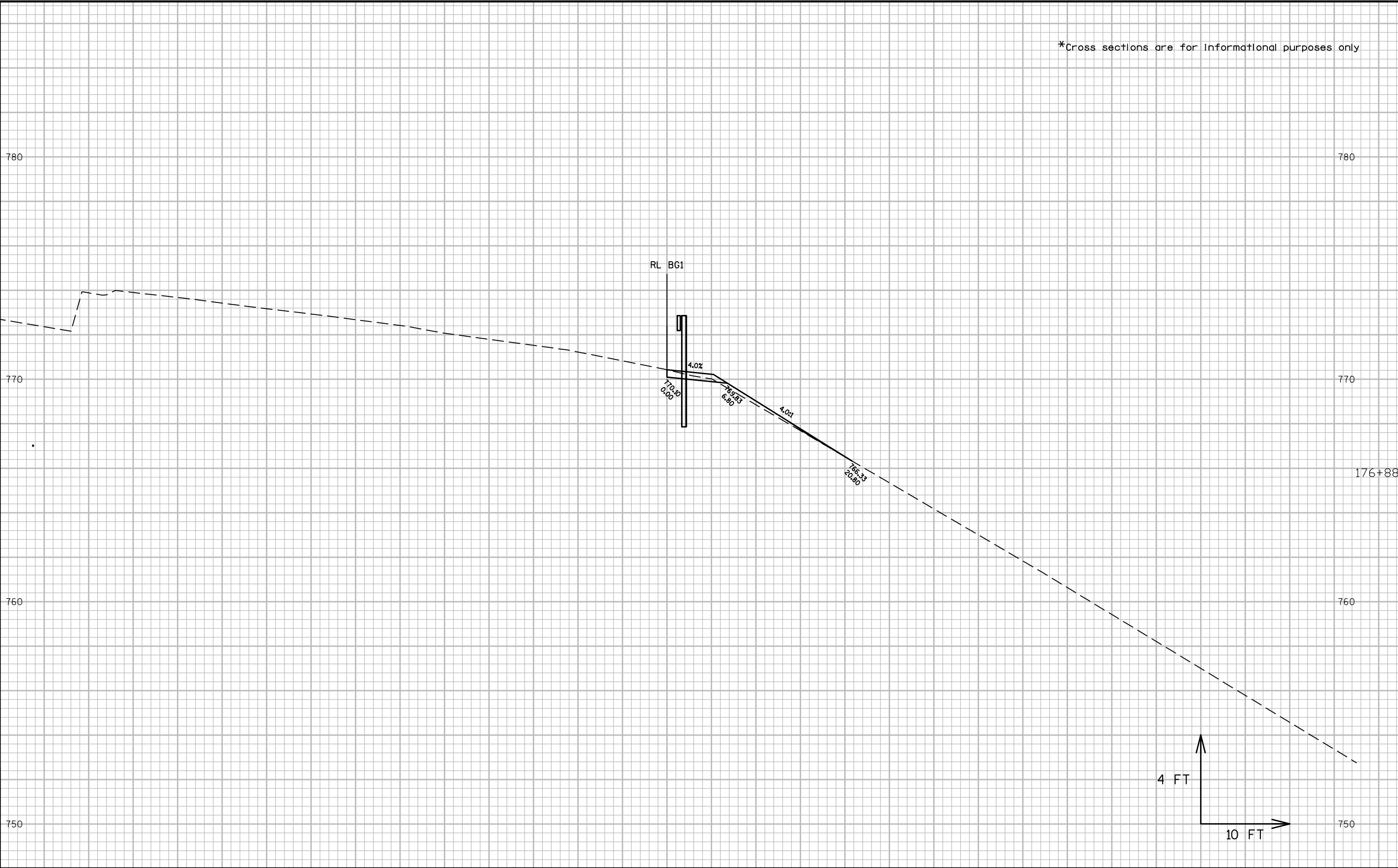
9

9

*Cross sections are for Informational purposes only



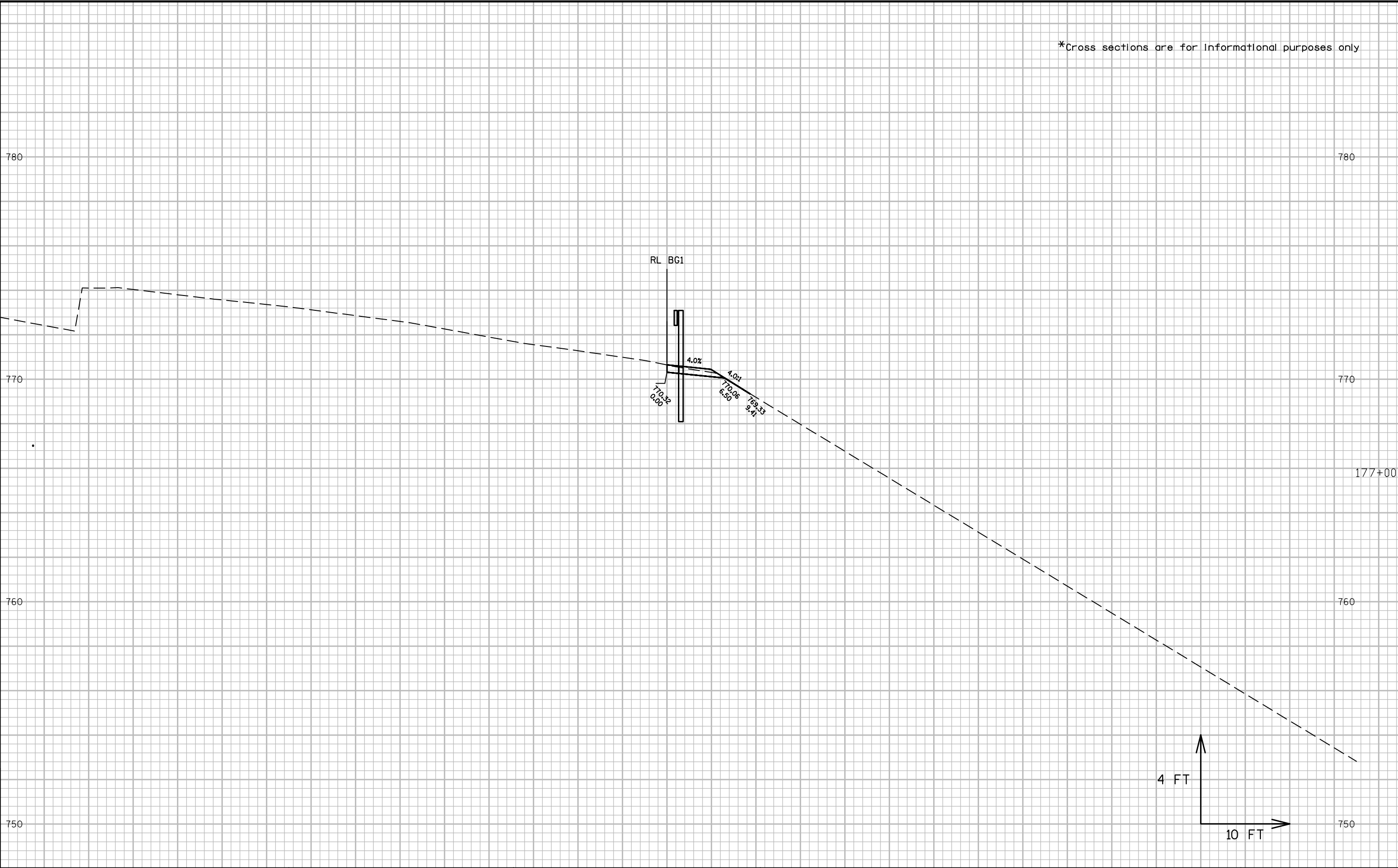
*Cross sections are for informational purposes only



9

9

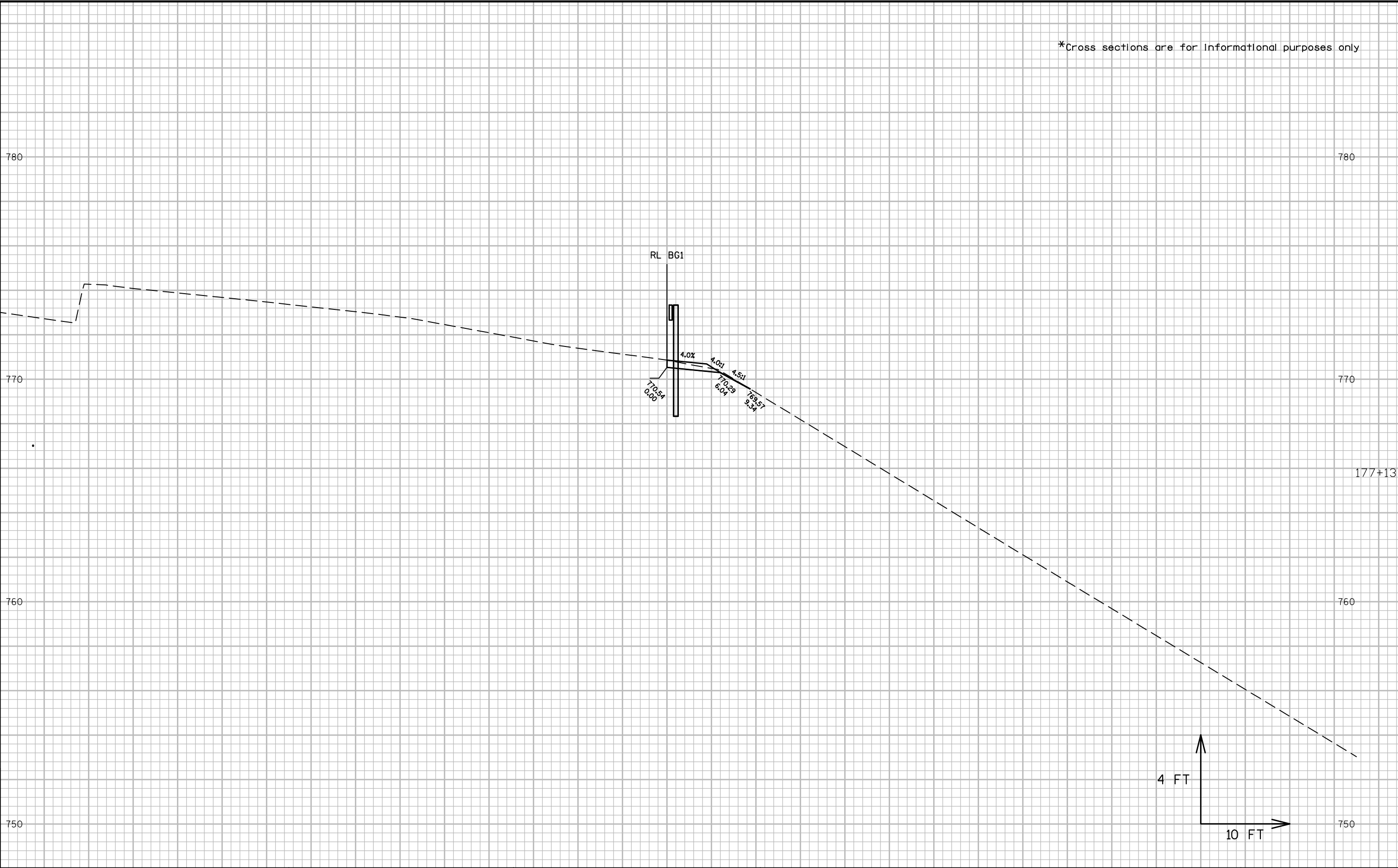
*Cross sections are for informational purposes only



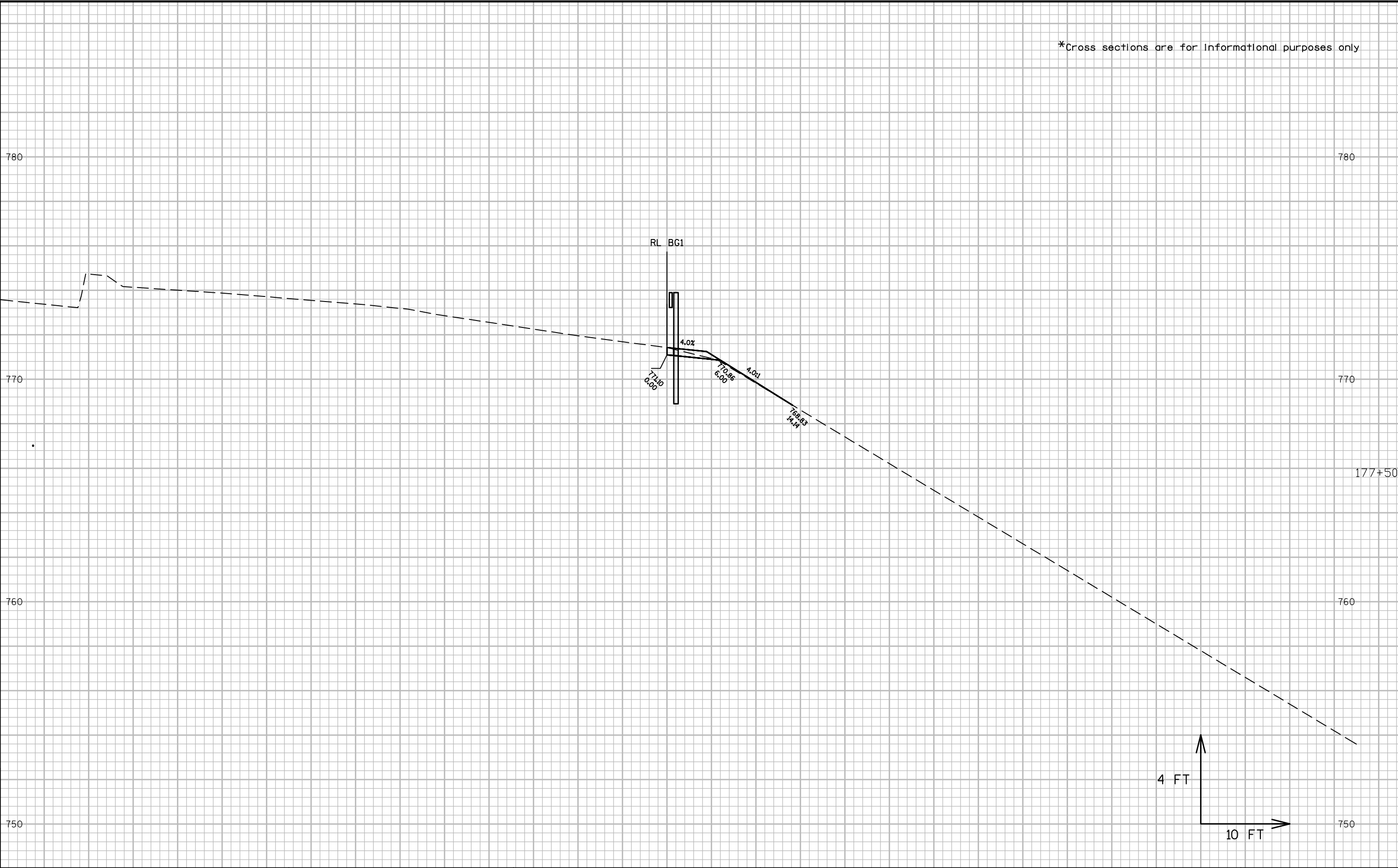
9

9

*Cross sections are for informational purposes only



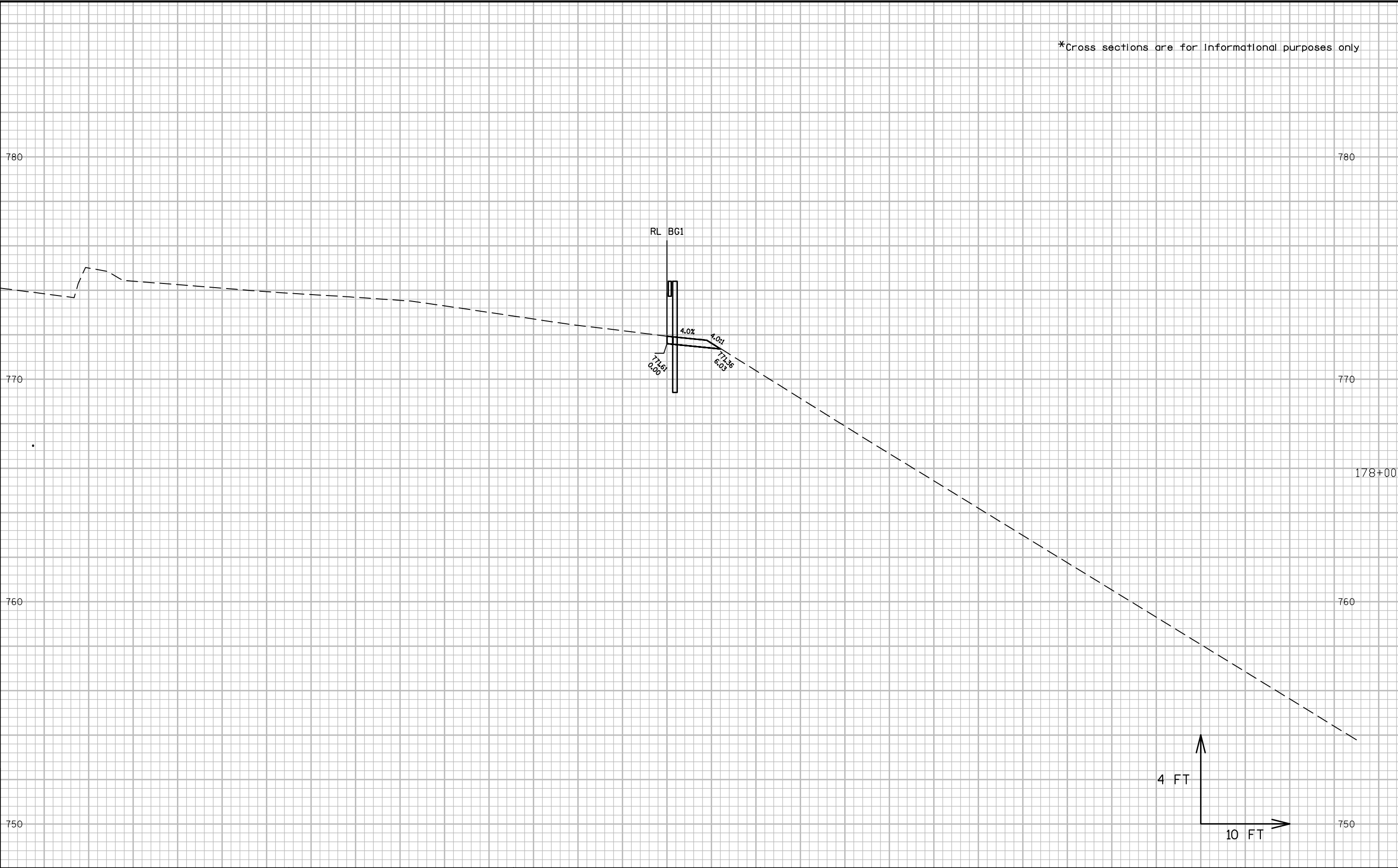
*Cross sections are for informational purposes only



9

9

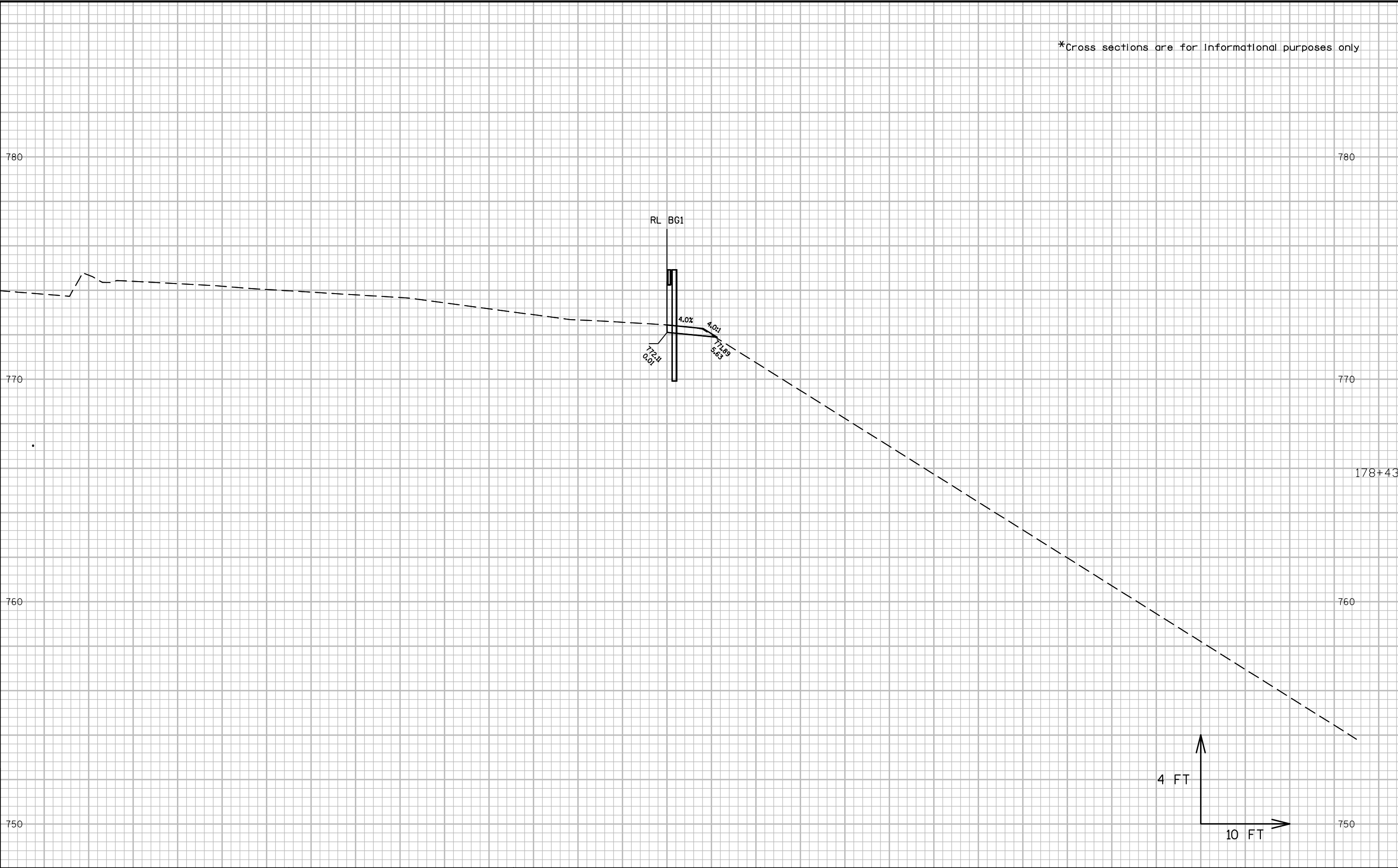
*Cross sections are for informational purposes only



9

9

*Cross sections are for informational purposes only



9

9

*Cross sections are for Informational purposes only

770

770

760

760

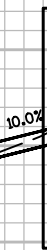
750

750

740

740

RL BG2



214+85

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG2

SHEET

433

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL1.XS.DWG
LAYOUT NAME - 090212.XS

PLOT DATE : 7/29/2014 10:12 AM

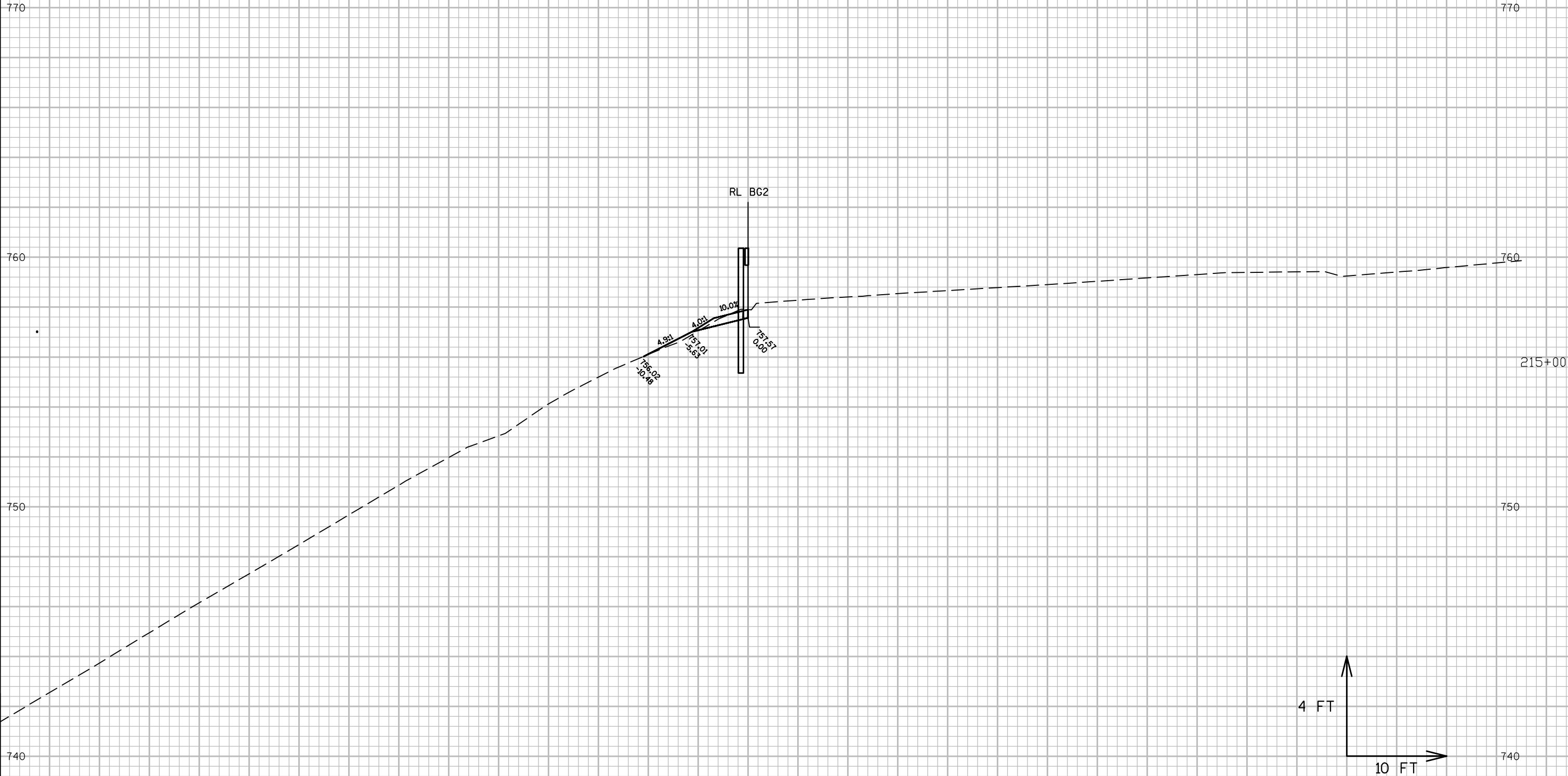
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

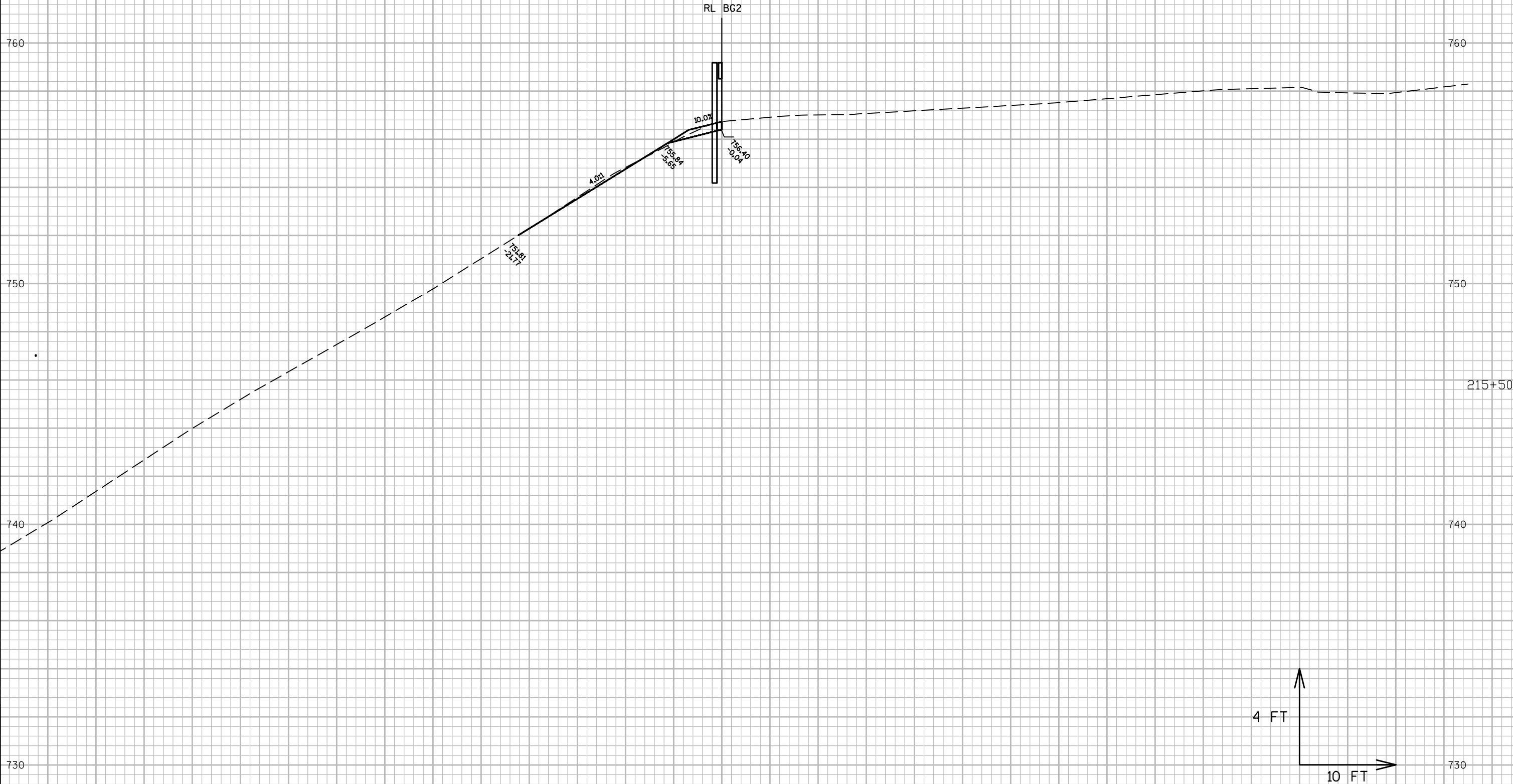
*Cross sections are for informational purposes only



9

9

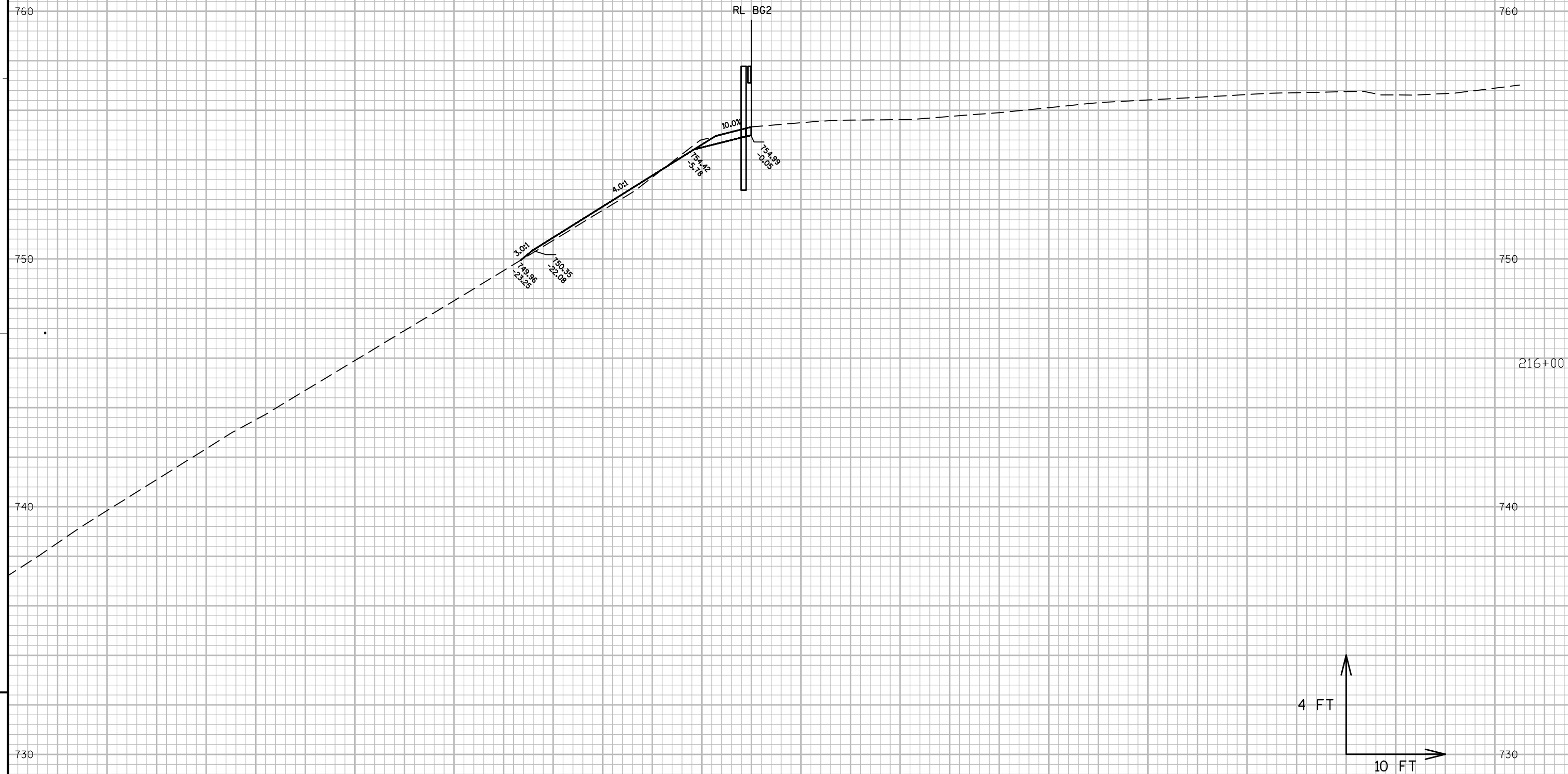
*Cross sections are for informational purposes only



9

9

*Cross sections are for informational purposes only



9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG2

SHEET 436

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL1.XS.DWG
LAYOUT NAME - 090215_XS

PLOT DATE : 7/29/2014 10:12 AM

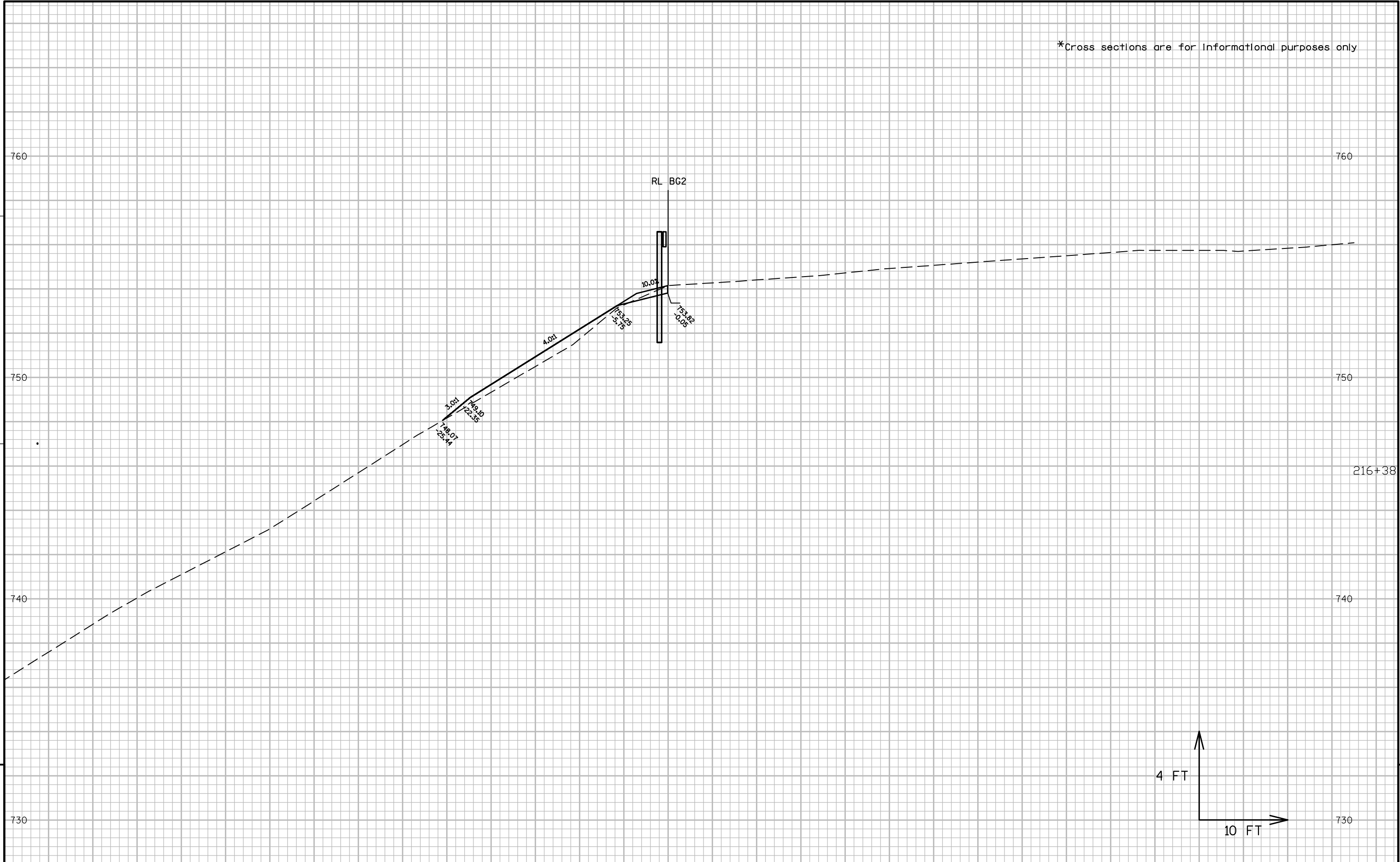
PLOT BY : FILTZ, DEAN J

PLOT NAME :

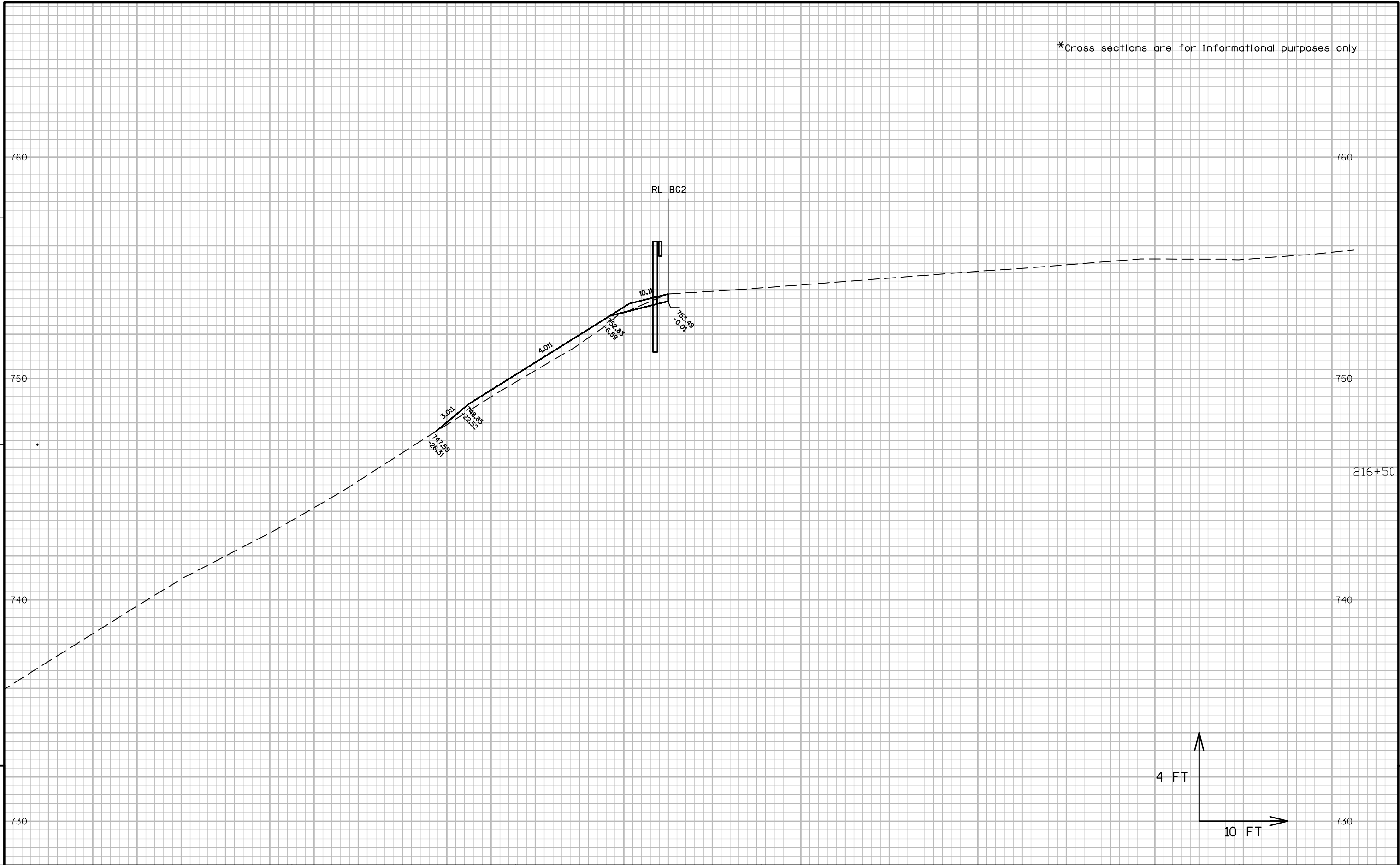
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

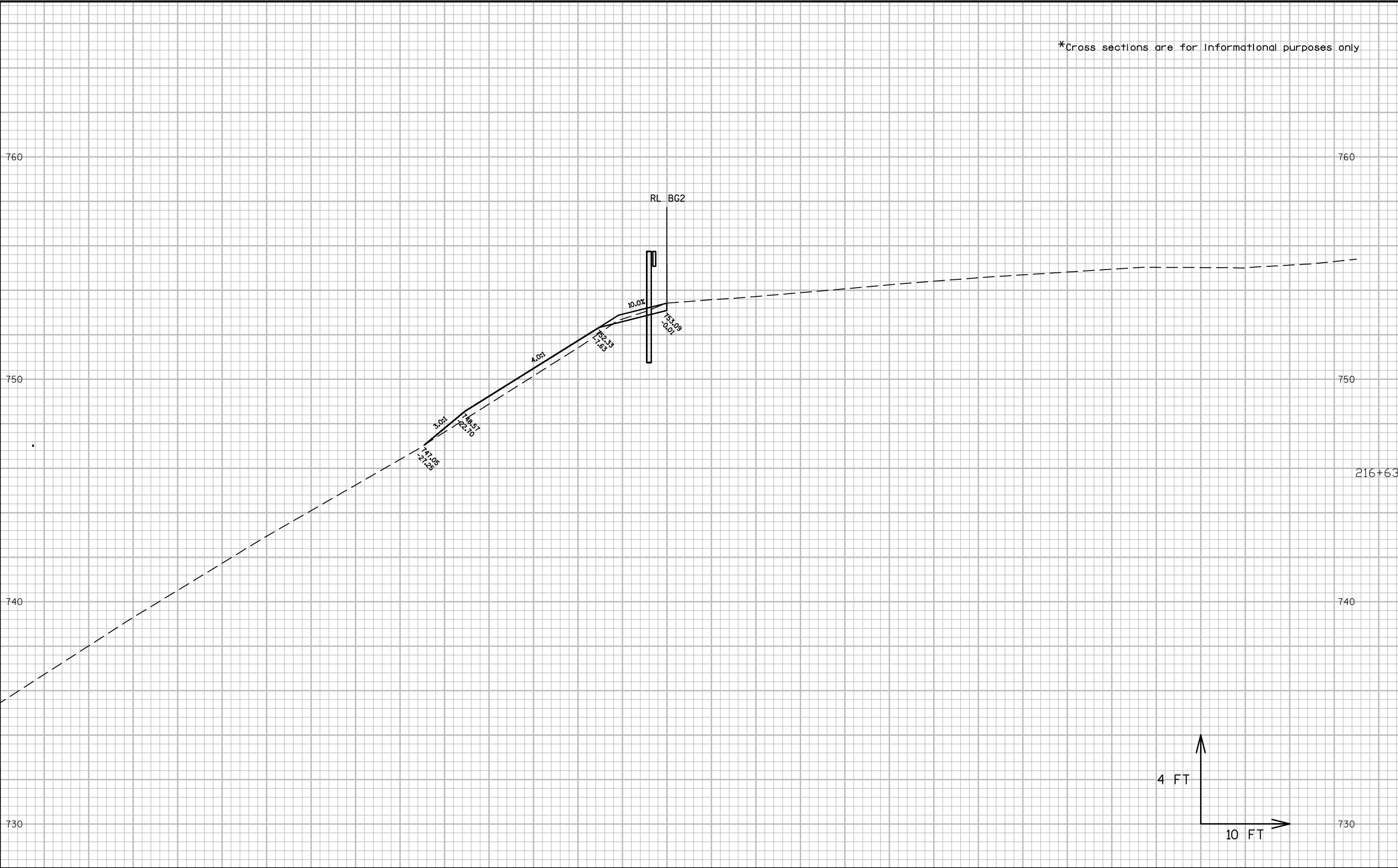
*Cross sections are for informational purposes only



*Cross sections are for informational purposes only



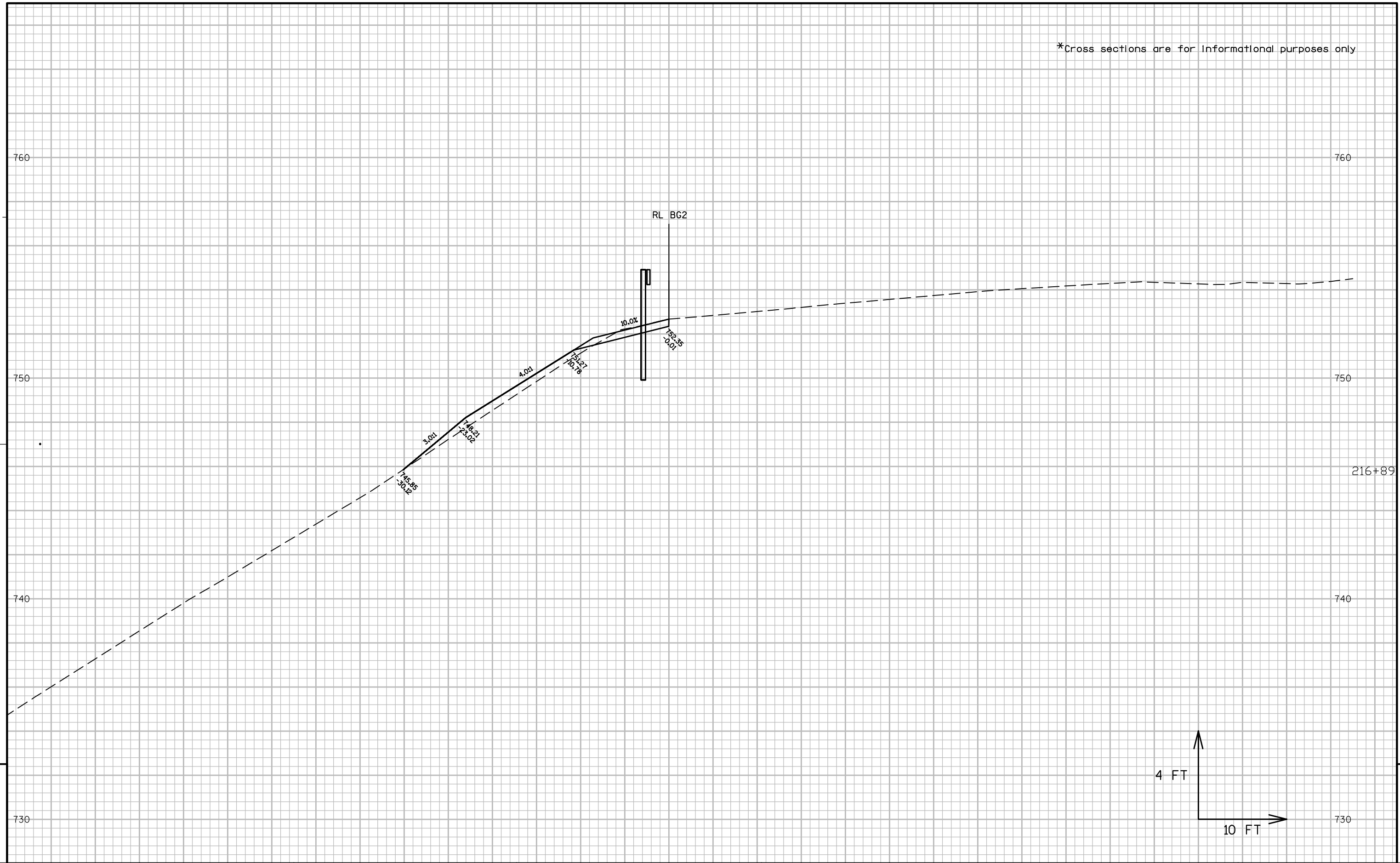
*Cross sections are for informational purposes only



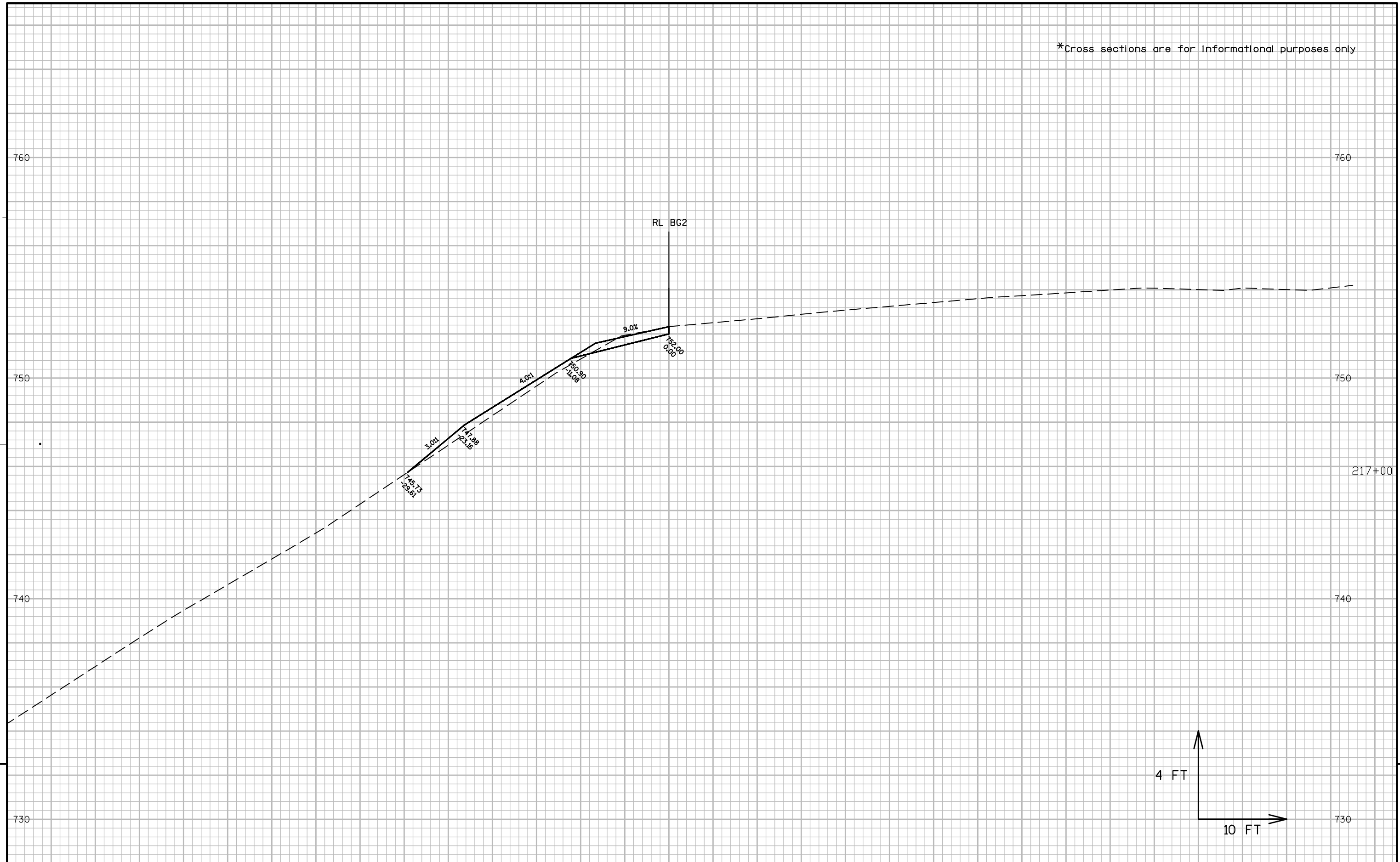
9

9

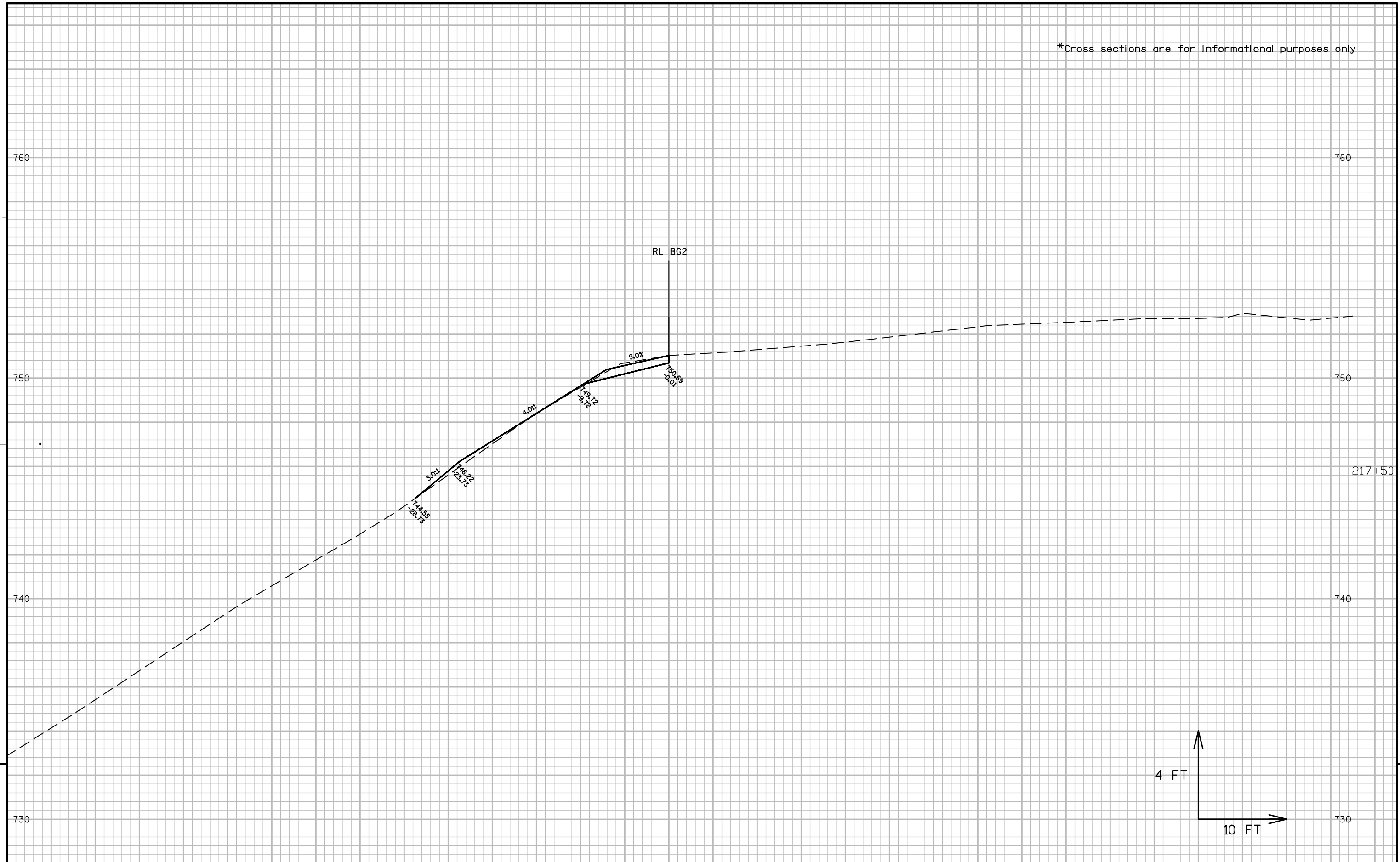
*Cross sections are for informational purposes only



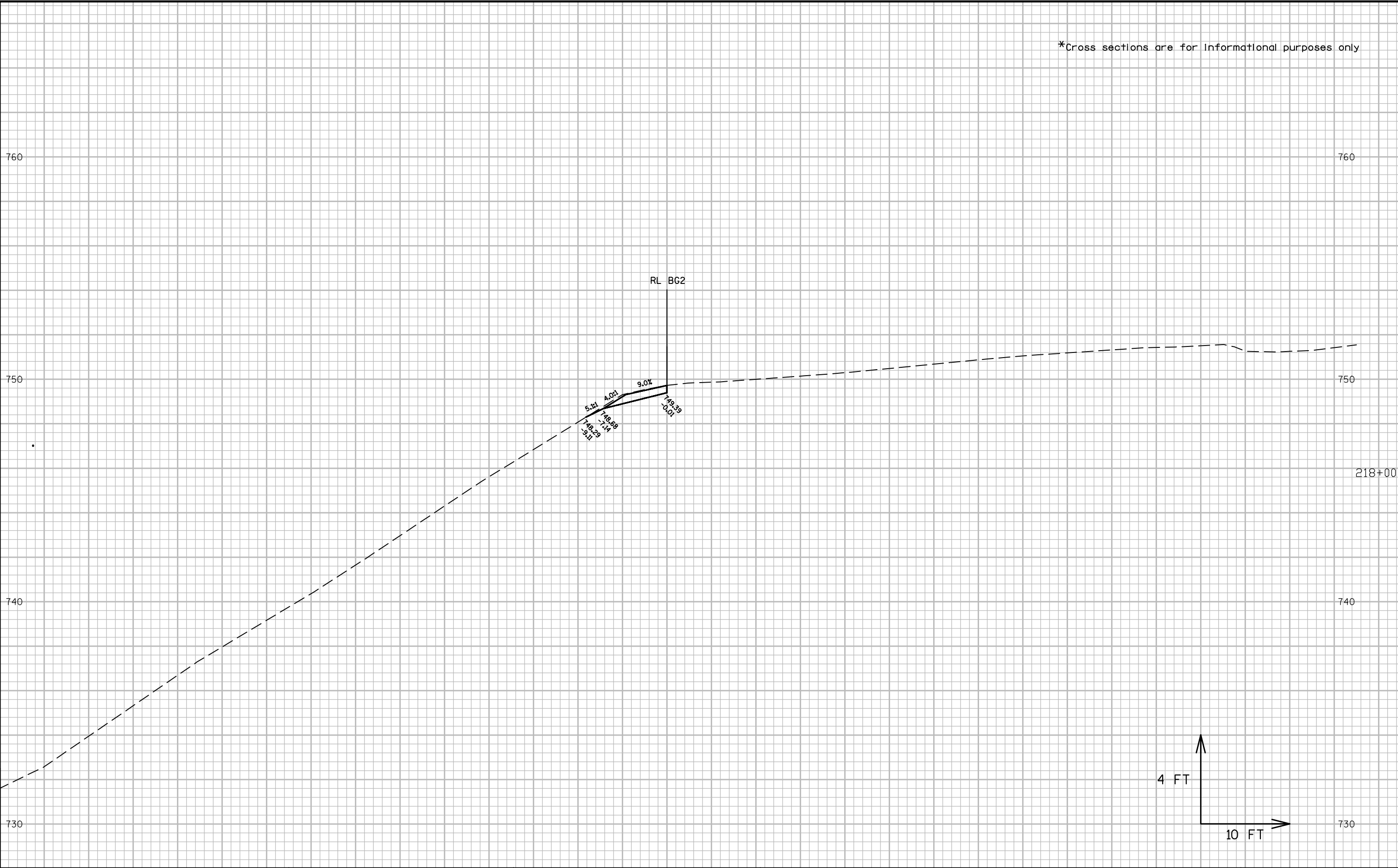
*Cross sections are for informational purposes only



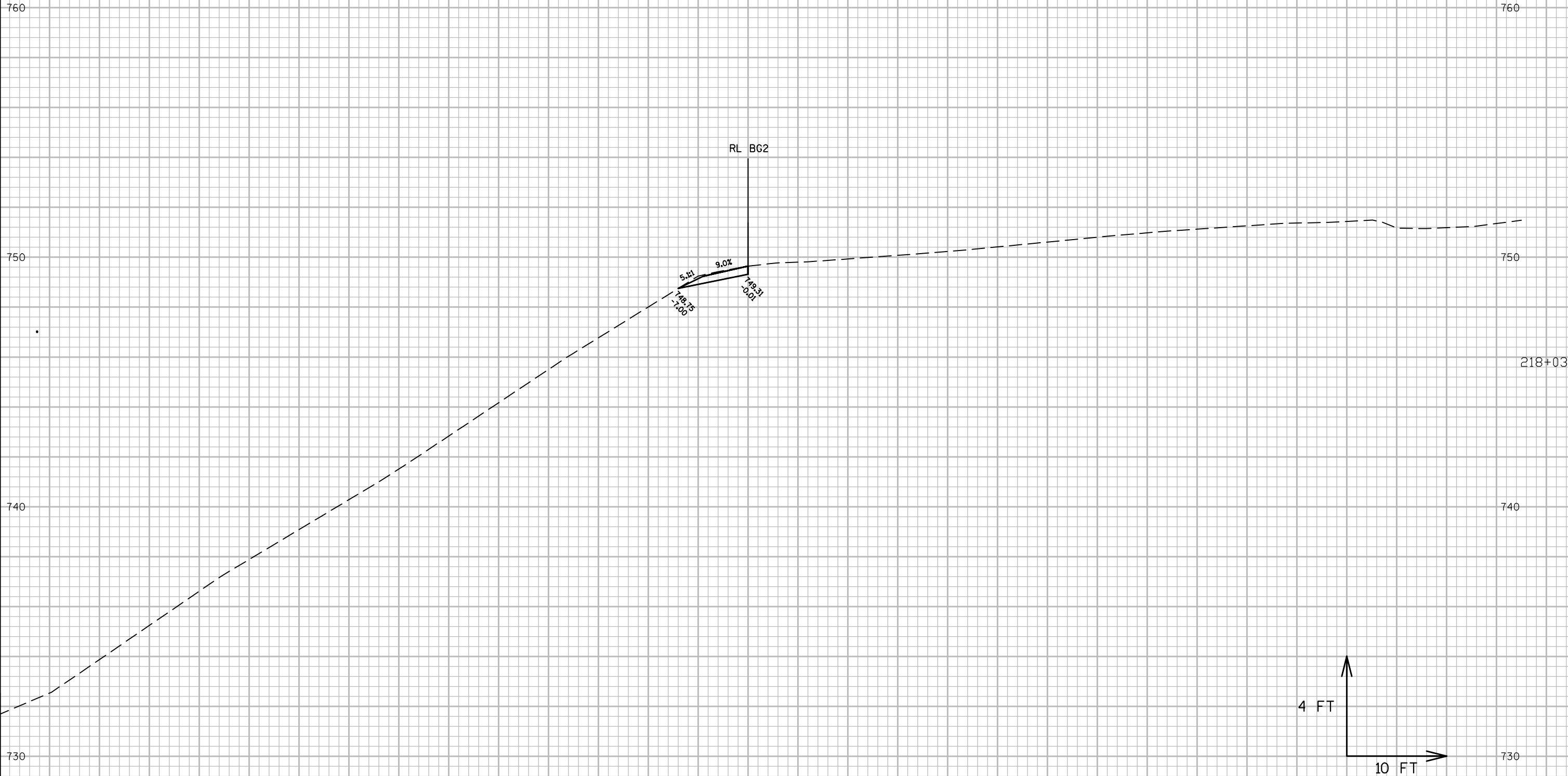
*Cross sections are for informational purposes only



*Cross sections are for informational purposes only



*Cross sections are for informational purposes only



9

9

*Cross sections are for informational purposes only

720

720

RL BG3

4.0%

4.0%

113.84

102.4

114.0

10.01

710

710

264+25

700

700

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG3

SHEET 445

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090224_XS

PLOT DATE : 7/29/2014 10:14 AM

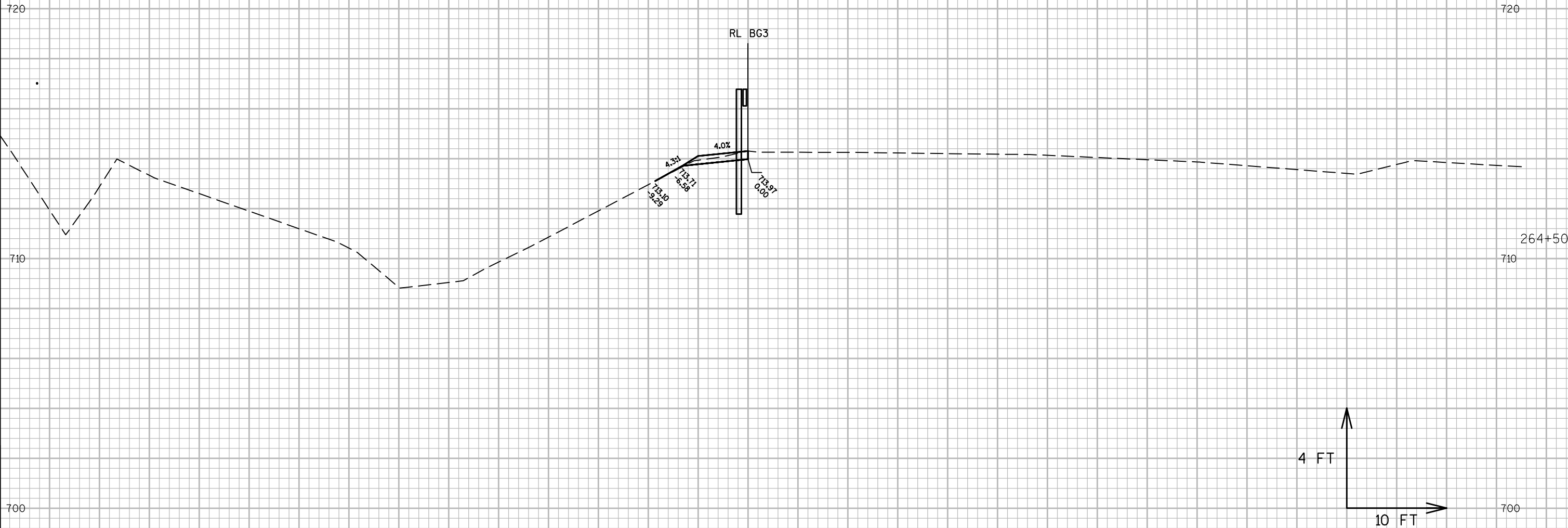
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only



9

9

*Cross sections are for informational purposes only

720

720

RL BG3

9.91
111.55
-10.15
4.01
111.93
-16.45
4.0%
114.18
0.00

710

710

265+00

9

700

700

9

4 FT

10 FT

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG3

SHEET 447

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090226_XS

PLOT DATE : 7/29/2014 10:14 AM

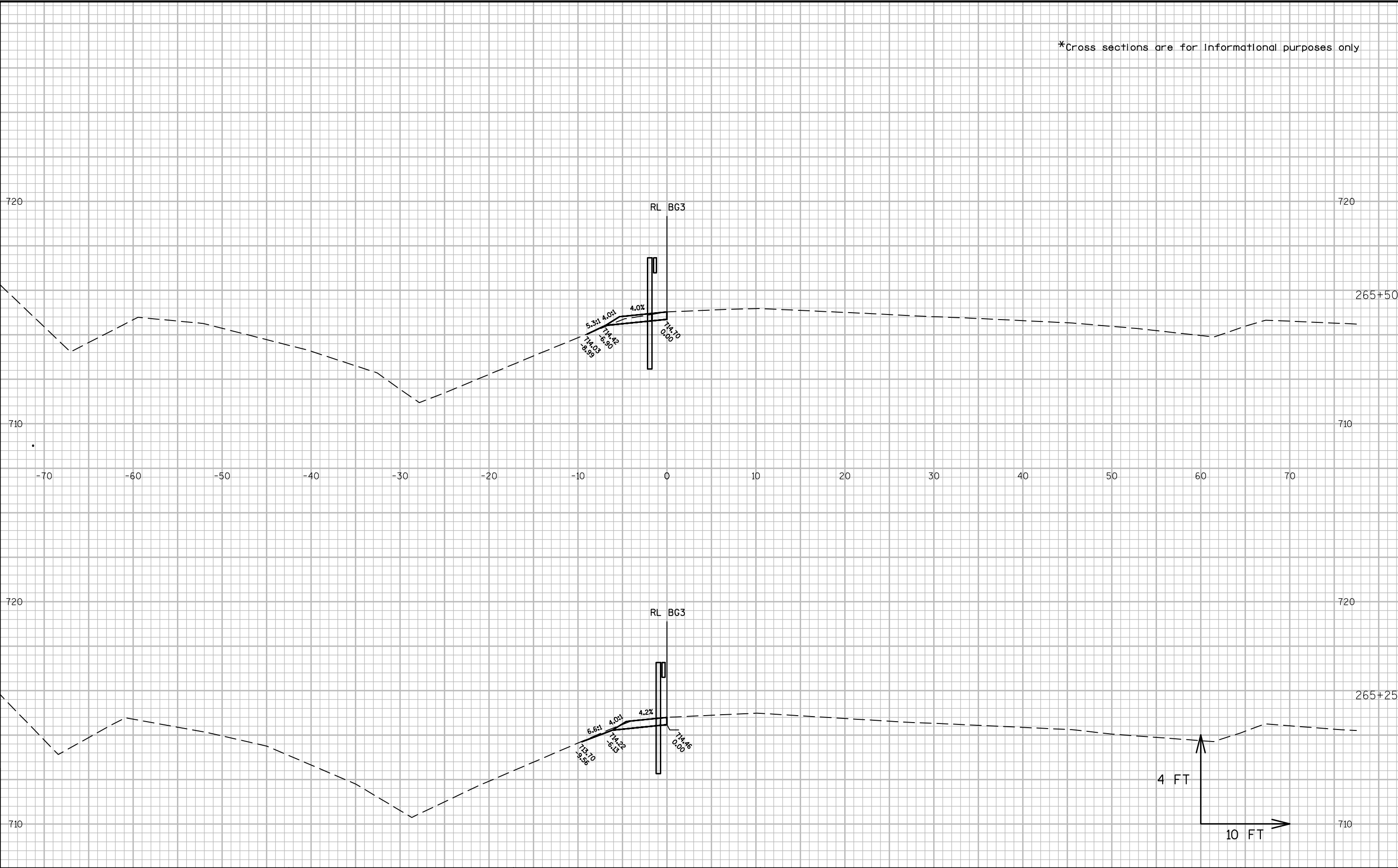
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

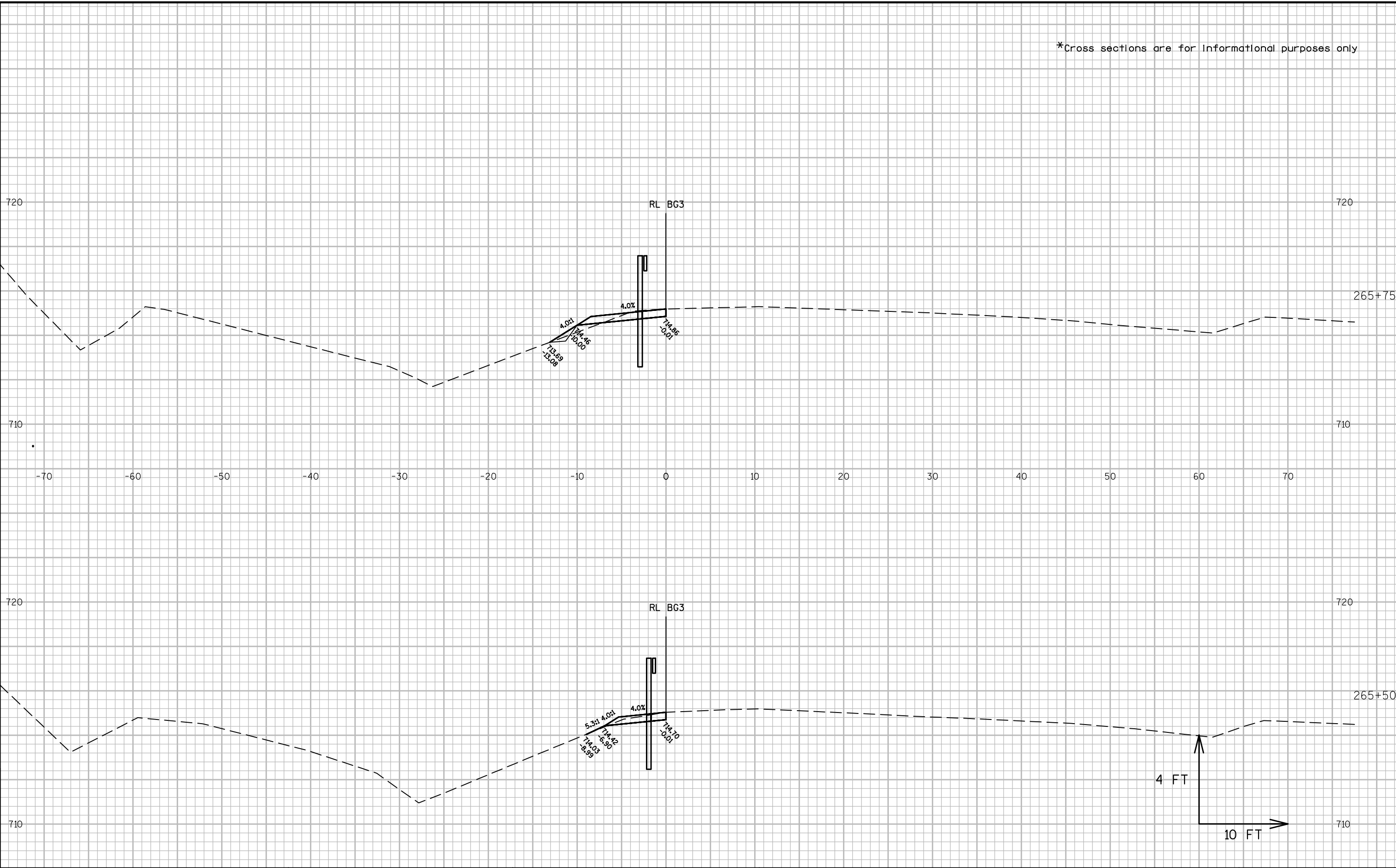
*Cross sections are for Informational purposes only



9

9

*Cross sections are for Informational purposes only



PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG3

SHEET 449

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090228_XS

PLOT DATE : 7/29/2014 10:14 AM

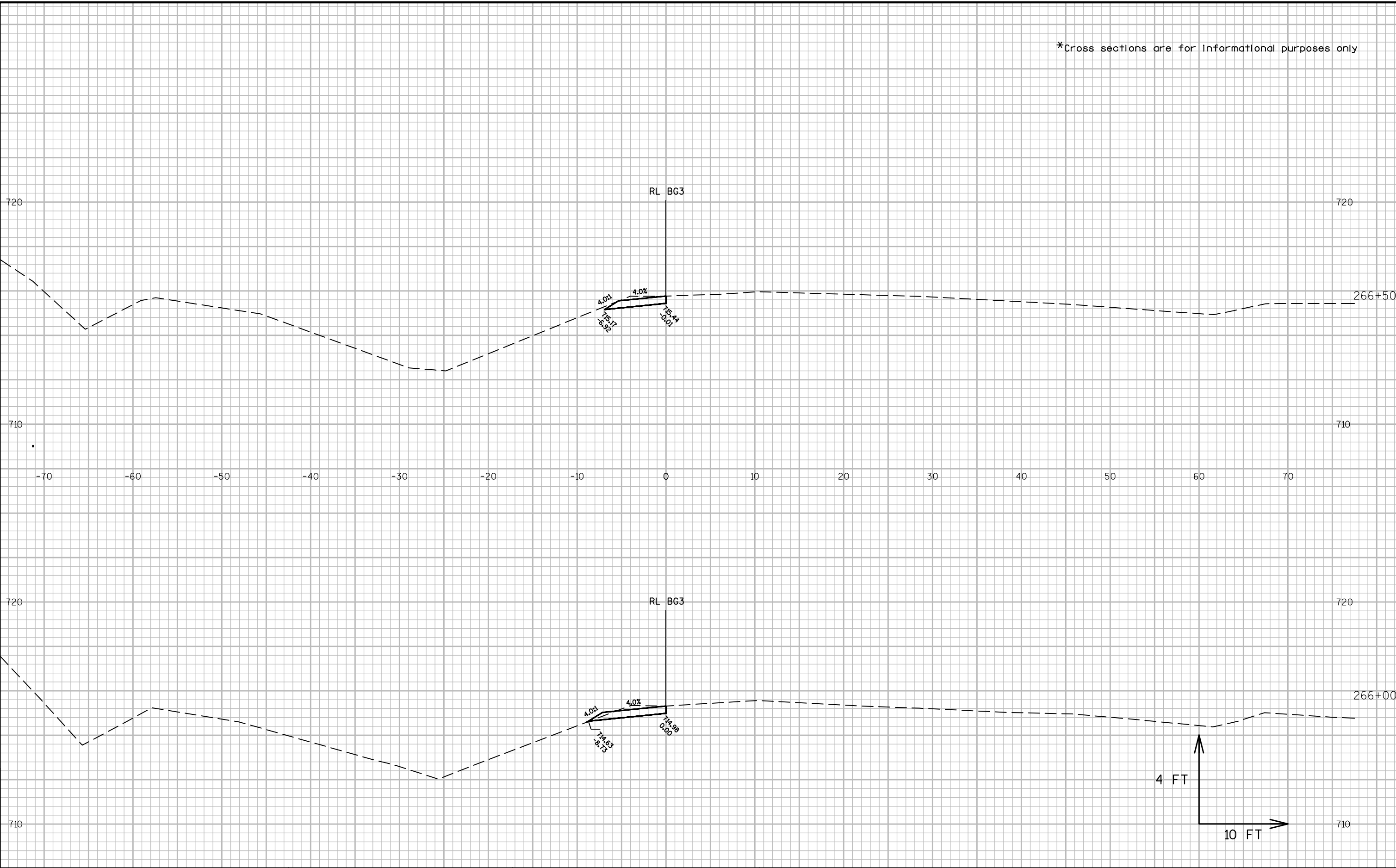
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

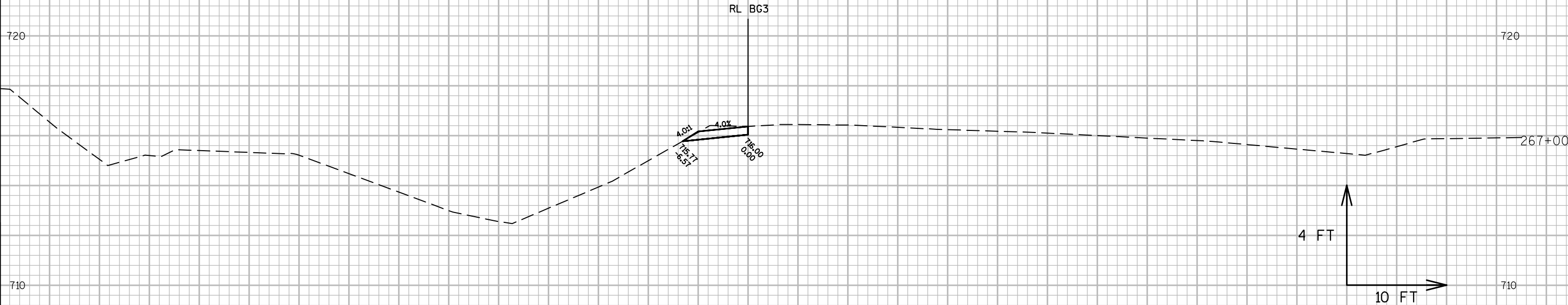
*Cross sections are for Informational purposes only



9

9

*Cross sections are for informational purposes only



9

9

*Cross sections are for informational purposes only

760

760

750

750

328+71

RL BG4

10.0%

747.70

-3.49

748.04

10.01

4 FT

10 FT

740

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 452

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090231_XS

PLOT DATE : 7/29/2014 10:14 AM

PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

760

760

750

329+00

750

RL BG4

19.51
748.06
-0.36
748.72
-0.72
10.0%
748.79
0.00

4 FT

10 FT

740

740

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 453

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090232_XS

PLOT DATE : 7/29/2014 10:14 AM

PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

760

760

750

750

740

740

RL BG4

10.0%

4.01

749.52

-15.76

150.40

-10.01

747.81

-12.91

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET

454

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090233_XS

PLOT DATE : 7/29/2014 10:14 AM

PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

760

760

750

750

330+00

RL BG4

10.0%

4.2%

150.84

-5.85

151.42

0.00

148.25

-11.51

4 FT

10 FT

740

740

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 455

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090234_XS

PLOT DATE : 7/29/2014 10:14 AM

PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

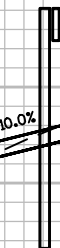
WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

760

760

RL BG4



10.0%

152.29
-5.83

152.87
0.00

3.91

148.08
-22.00

330+50

750

750

740

740

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 456

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090235_XS

PLOT DATE : 7/29/2014 10:14 AM

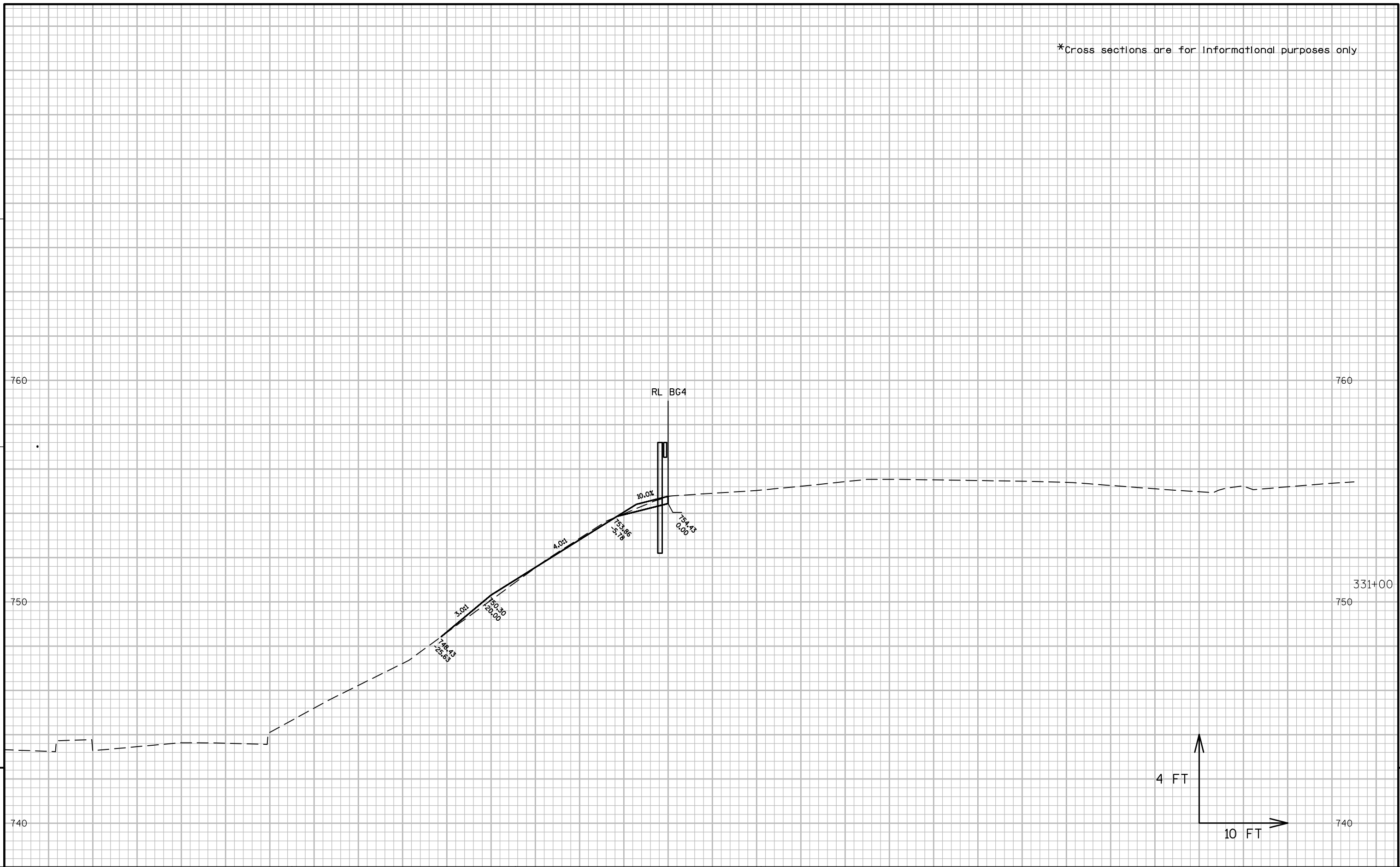
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only



9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 457

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090236_XS

PLOT DATE : 7/29/2014 10:14 AM

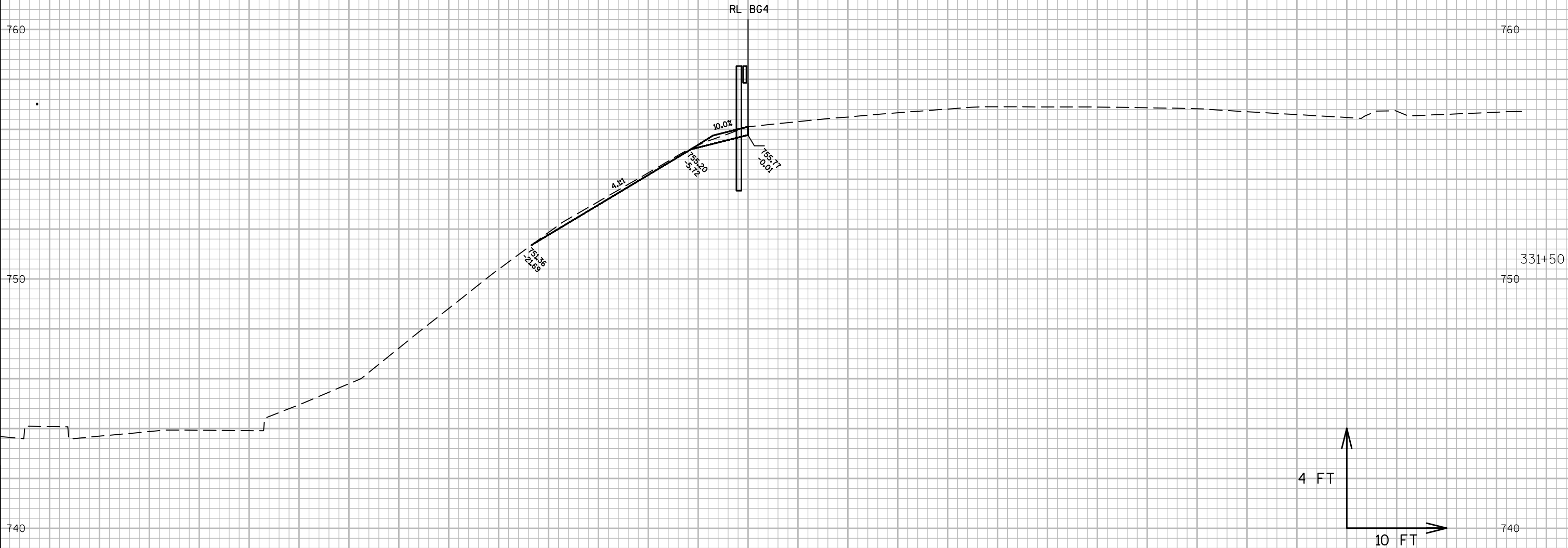
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only



PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 458

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090237_XS

PLOT DATE : 7/29/2014 10:14 AM

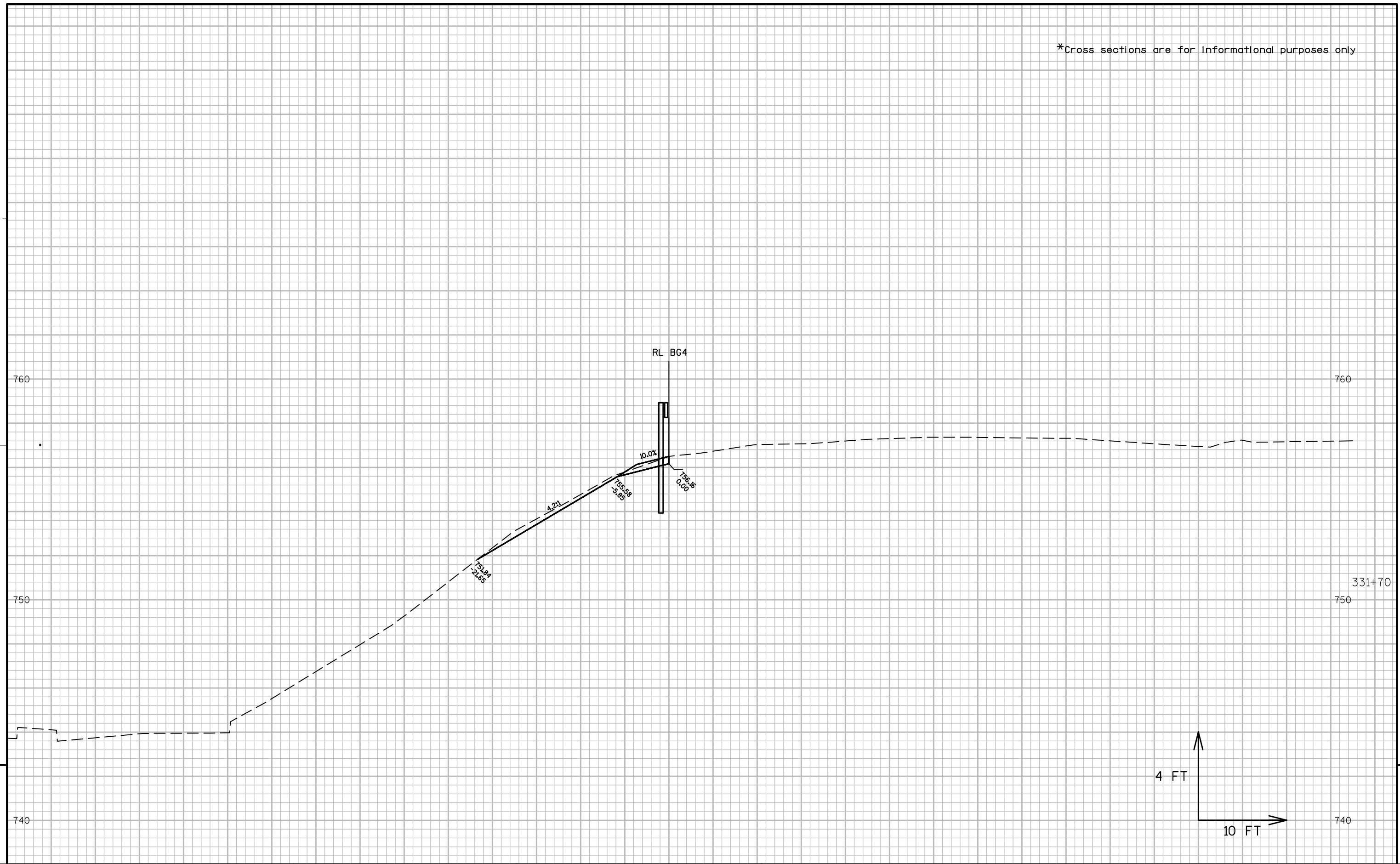
PLOT BY : FILTZ, DEAN J

PLOT NAME :

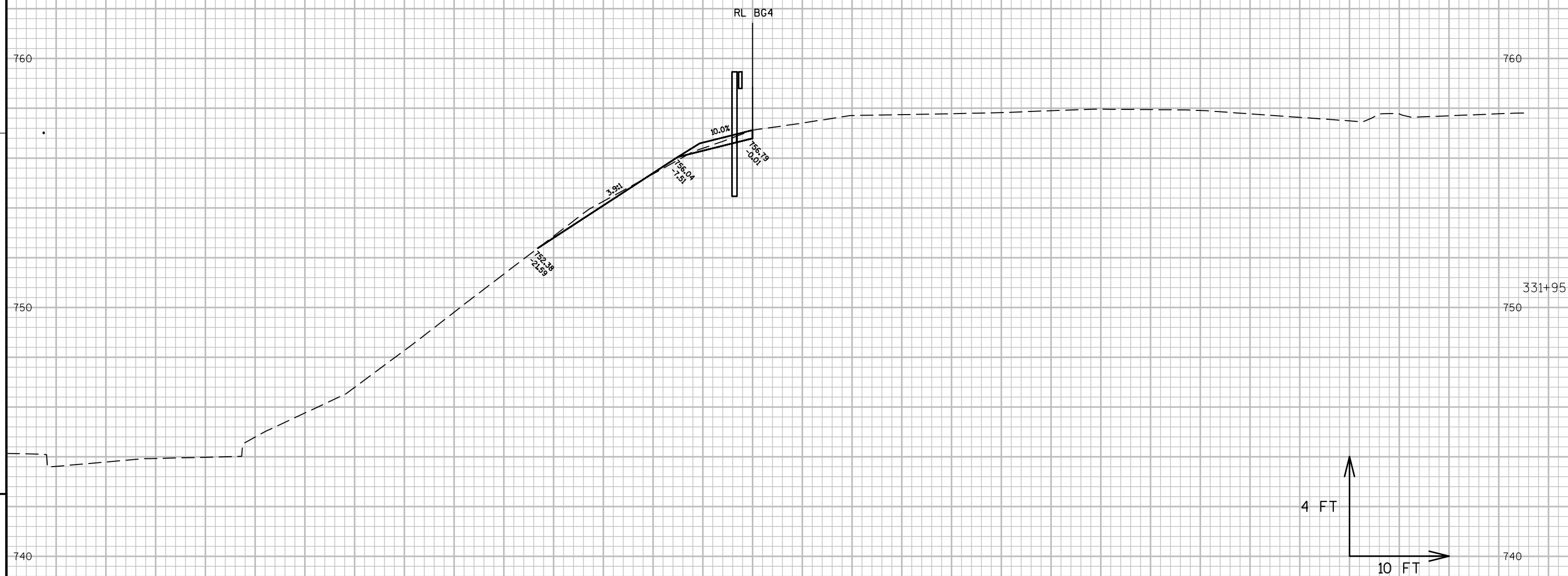
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only



*Cross sections are for Informational purposes only



PROJECT NO: 1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

CROSS SECTIONS: BG4

SHEET	460
-------	-----

T

FILE NAME : N:\PDS\C3D\11002030\SHEETPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090239_XS

PLOT DATE : 7/29/2014 10:14 AM

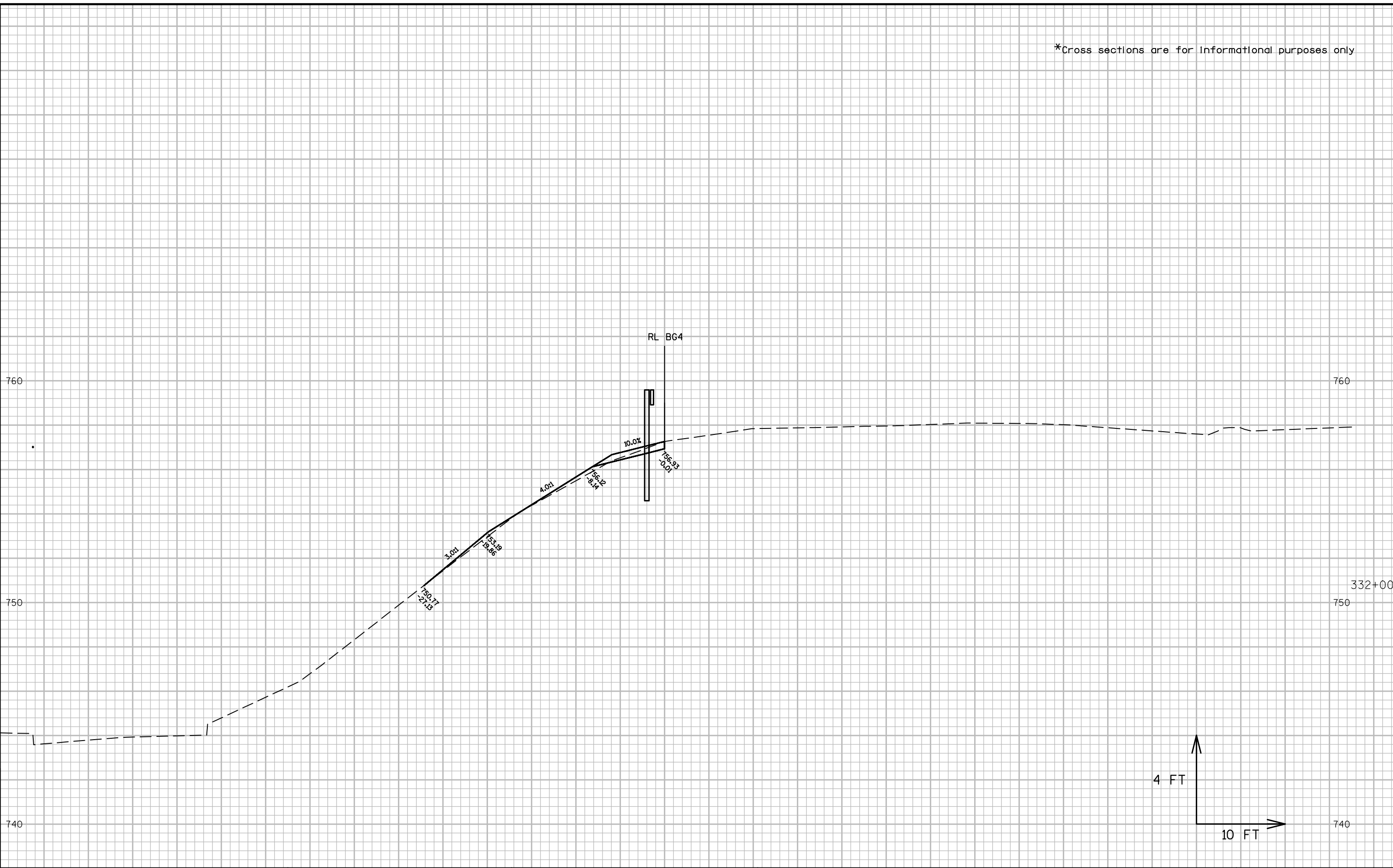
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

*Cross sections are for informational purposes only



9

9

*Cross sections are for Informational purposes only

770

770

760

760

750

750

740

740

332+20

RL BG4

10.0%

15.75

0.00

4.0%

15.54

10.71

15.36

15.87

3.0%

14.51

15.50

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG4

SHEET 462

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090241_XS

PLOT DATE : 7/29/2014 10:14 AM

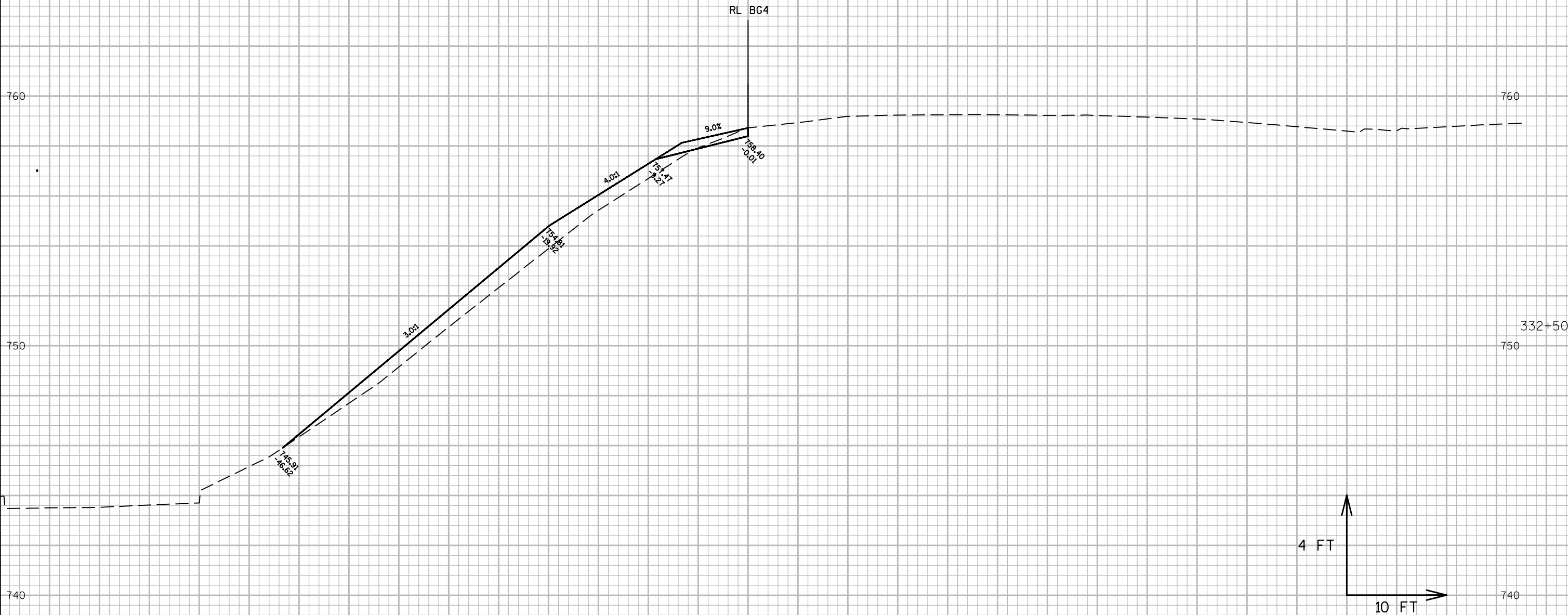
PLOT BY : FILTZ, DEAN J

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

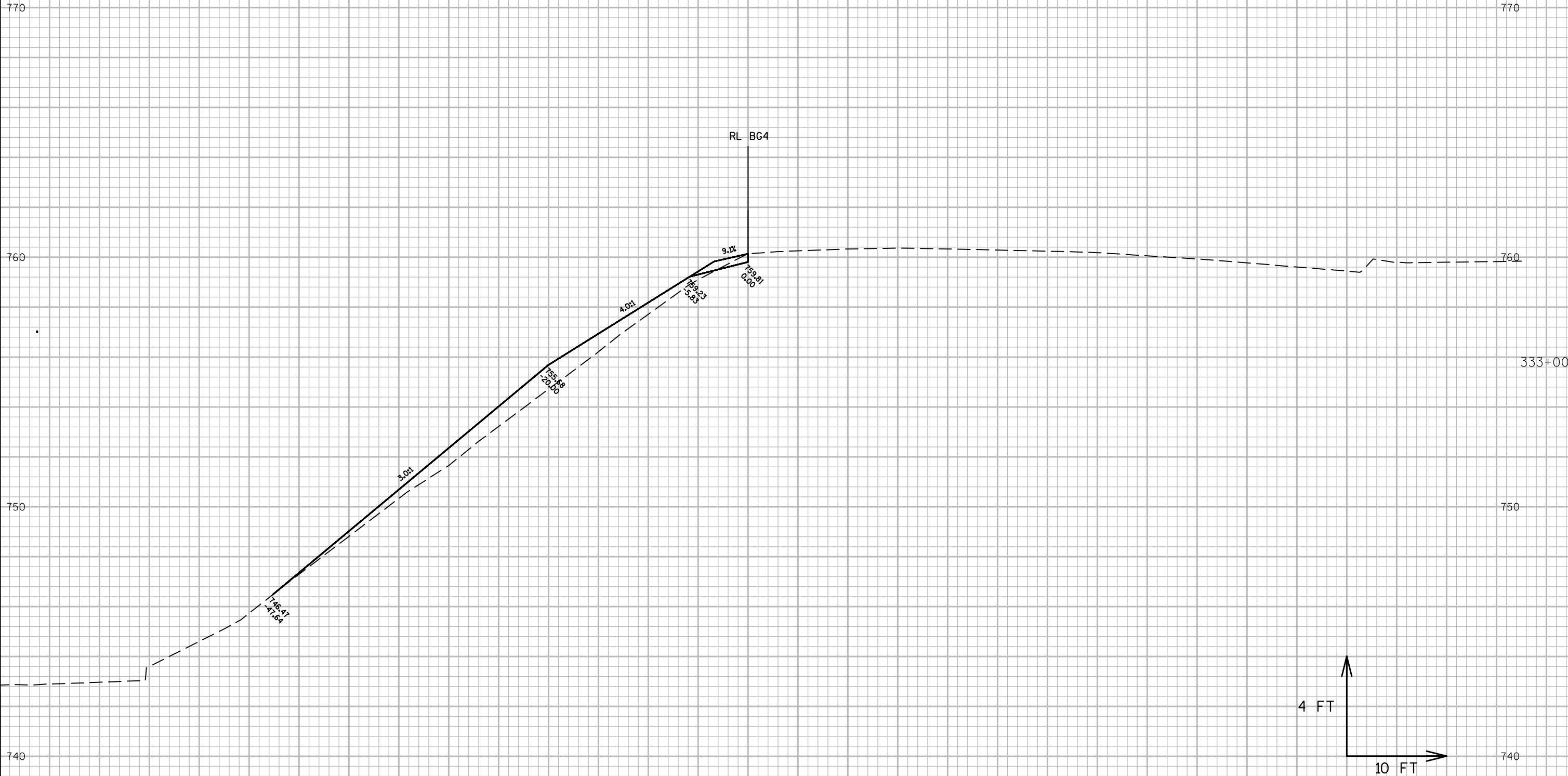
*Cross sections are for informational purposes only



9

9

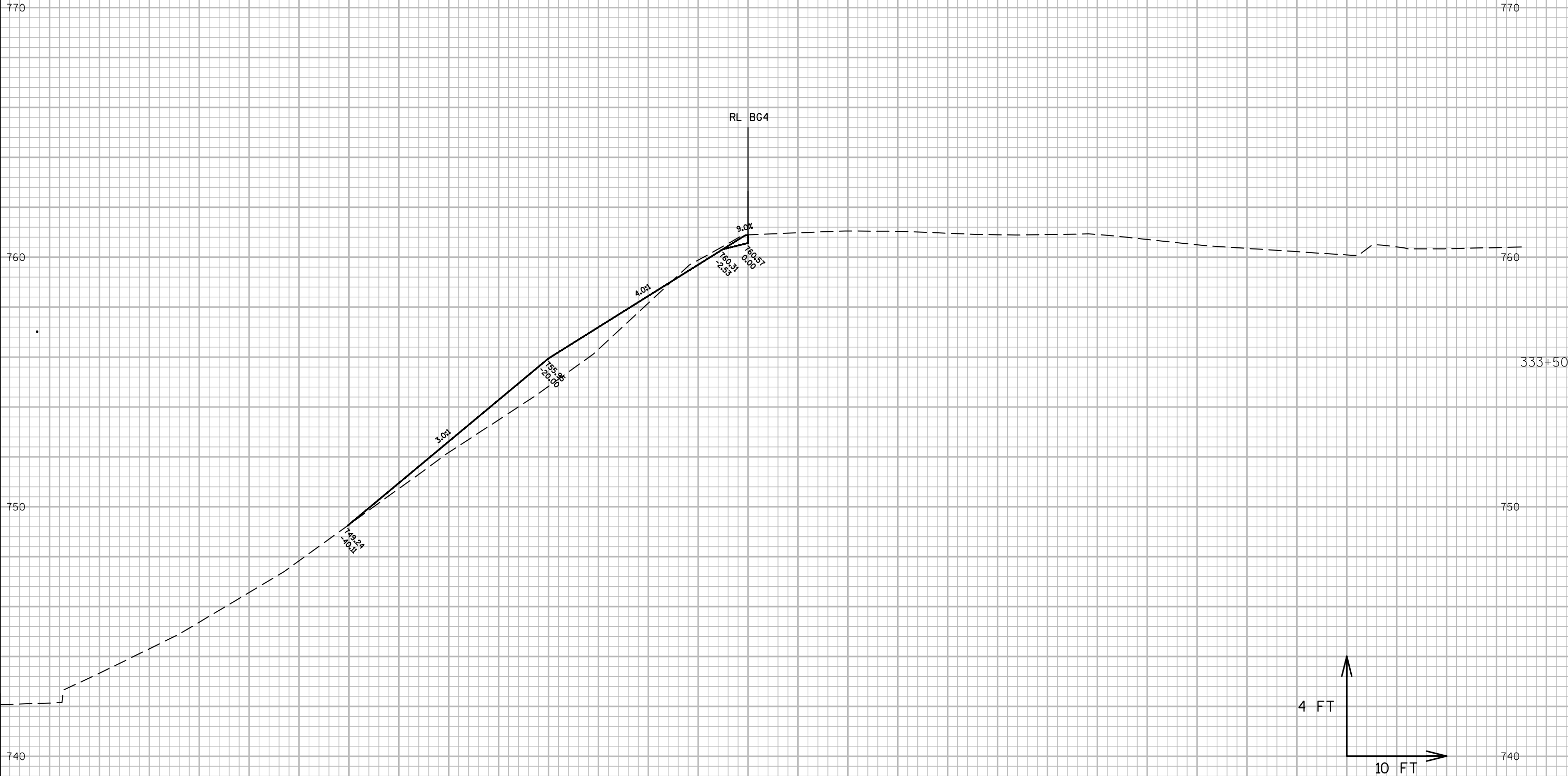
*Cross sections are for informational purposes only



9

9

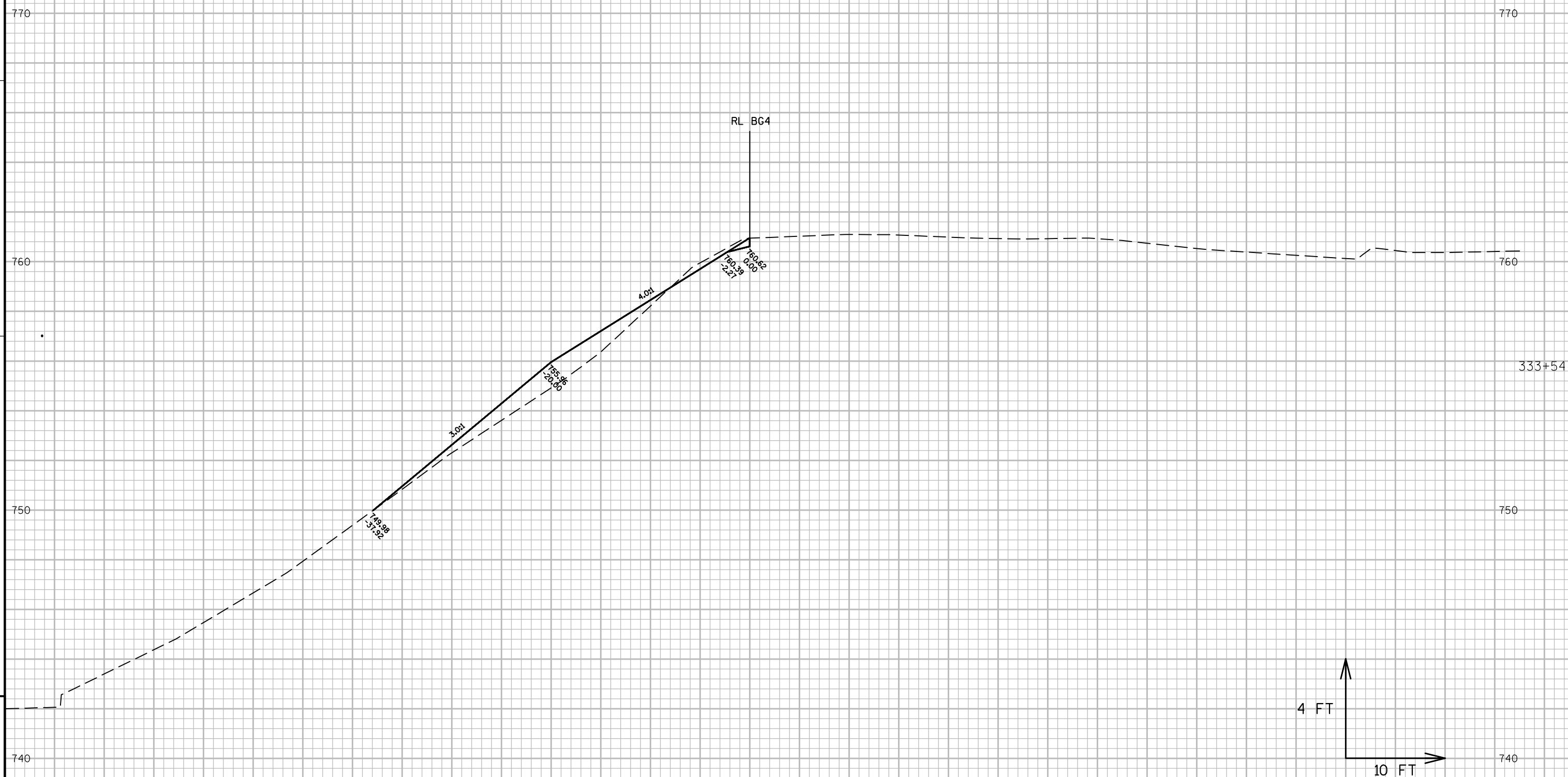
*Cross sections are for informational purposes only



9

9

*Cross sections are for Informational purposes only



PROJECT NO:1100-20-60

HWY: USH 45

COUNTY: MILWAUKEE

CROSS SECTIONS: BG4

SHEET	466
-------	-----

E

*Cross sections are for informational purposes only

790

790

780

375+65

780

RL BG5

10.0%

5.01

175.95

0.00

175.99

6.60

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 467

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090246_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

376+00

780

RL BG5

10.0%

5.5:1

176.53

0.00

175.70

8.33

4 FT

10 FT

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET

468

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090247_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

376+50
780

RL BG5

10.0%

4.0%

11:88
0:00

11:21
1:11

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 469

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090248_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

376+51
780

RL BG5

10.0:1
10.0:1
4.0:1
118.00
0.00
111.23
1.12

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 470

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090249_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

376+76
780

RL BG5

10.0%

10.0%

5.0%

178.63

0.00

177.17

8.52

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 471

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090250_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

780

377+00

RL BG5

179.13

0.00

10.0%

5.0%

178.35

1.85

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 472

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090251_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

780

377+01

RL BG5

10.0%

5.0%

179.5
0.00

178.37
7.35

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 473

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090252_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

780

780

377+50

RL BG5

10.0%

5.5:1

180.34

0.00

179.46

8.51

4 FT

10 FT

770

770

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 474

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090253_XS

PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

*Cross sections are for informational purposes only

790

790

RL BG5

10.0%
781.14
0.00
781.28
1.59
781.31
0.03
780.59
6.32

378+00

780

780

770

770

4 FT

10 FT

9

9

PROJECT NO:1100-20-60

HWY:USH 45

COUNTY:MILWAUKEE

CROSS SECTIONS: BG5

SHEET 475

E

FILE NAME : N:\PDS\C3D\11002030\SHEETSPLAN\GUARDRAIL_XS.DWG
LAYOUT NAME - 090254_XS

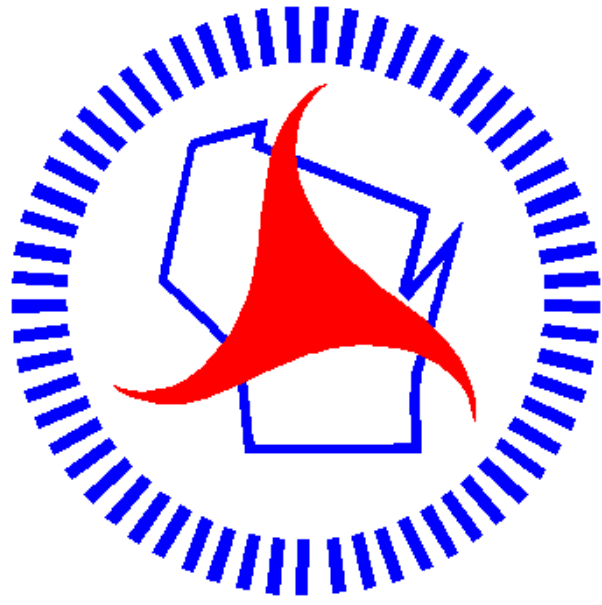
PLOT DATE : 9/3/2014 8:58 AM

PLOT BY : VERGOU, GEORGIA

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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