MAD

PROJECT ID: 1206-04-69

WITH: N/A

COUNTY: DANE

MAY 2018

ORDER OF SHEETS

TOTAL SHEETS = 72

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - CAMBRIDGE

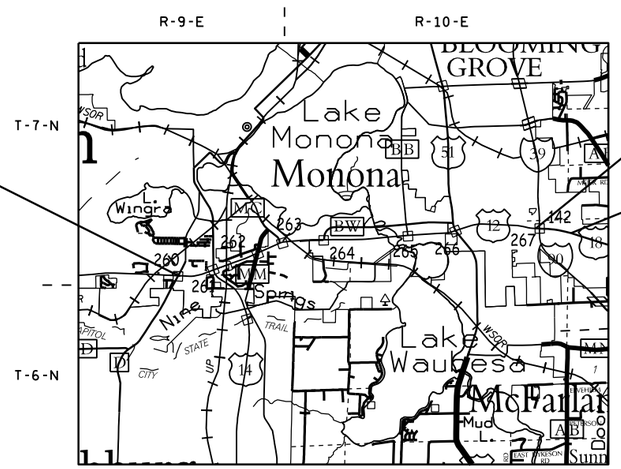
CTH D TO IH 39/90

USH 12

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1206-04-69	WISC 2018233	1

STATE PROJECT NUMBER
1206-04-69



DESIGN DESIGNATION		USH 12/18
A.A.D.T. (2016)	=	122,130 - 141,140
A.A.D.T. (2036)	=	139,650 - 164,190
D.H.V. (2036)	=	13,686 - 15,926
D.D.	=	54/46
T.	=	6.2% - 8.0%
DESIGN SPEED	=	60 MPH
ESALS	=	11,899,000

LAYOUT
SCALE 0 1.0 MI.

TOTAL NET LENGTH OF USH 12 MADISON BELTLINE CENTERLINE = 0.000 MI.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88 (2011).

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- PROPOSED JOINT LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

- COMMUNICATION OVERHEAD (C-OH)
- COMMUNICATION UNDERGROUND (C-UG)
- ELECTRIC OVERHEAD (OH)
- ELECTRIC UNDERGROUND (E)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ORIGINAL PLANS PREPARED BY

HNTB
10 W MIFFLIN STREET
SUITE 300
MADISON, WI 53711
(608) 259-0045

WISCONSIN
NICHOLAS E. BENNETT
E-43352-6
MADISON, WI
PROFESSIONAL ENGINEER

1/31/2018 (Date)
(Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	
Designer	HNTB
Project Manager	DAVID LAYTON
Regional Examiner	SW REGION
Regional Supervisor	BRENDA SCHOENFELD
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 2/1/2018 (Signature)

E

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PAUL.WOODARD@CITY.FITCHBURG.WI.US

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DDRYER@CITYOFMADISON.COM

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RUSSELL.W.RYAN@FTR.COM

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COTTAGE GROVE, MN 55016
651-437-0877
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RAYS@MADSEWER.ORG

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GROSSING@MGE.COM

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GROSSING@MGE.COM

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ERICH@MADSEWER.ORG

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MADISON, WI 53713
608-266-9121
AWIEDERHOEFT@MADISONWATER.ORG

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MONONA, WI 53716
608-222-2525
DSTEPHANY@CI.MONONA.WI.US

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608-210-7260
SCHWASSR@TOWN.MADISON.WI.US

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MARY.B.FISHER@WINDSTREAM.COM

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MCFARLAND, WI 53558
608-838-3153

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414-225-3723
JEFFREY.MADSON@DOT.WI.GOV

WISDOT – RWIS
MIKE ADAMS
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MADISON, WI 53707
608-266-5004
MICHAEL.ADAMS@DOT.WI.GOV

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EAU CLAIRE, WI 54703
715-838-4406
HAMMETTER@WINS.NET

WAUNONA SANITARY DISTRICT
TERRI WINANS
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MADISON, WI 53714
608-249-0705

WINDSTREAM KDL – COMMUNICATION
KEVIN PARRIS

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608-819-5016
KEVIN.J.PARRIS@WINDSTREAM.COM

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

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ERIC.HEGGELUND@WISCONSIN.GOV

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DESIGN CONTACT

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MADISON, WI 53703
(608) 294-5001
NBENNETT@HNTB.COM

ORDER OF SECTION 2 DETAIL SHEETS

2

GENERAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE OR AS OTHERWISE DIRECTED BY THE FIELD ENGINEER.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL OR EQUIPMENT WITHIN WETLANDS OR PROTECTED AREAS IS NOT ALLOWED. WETLAND BOUNDARIES ARE SHOWN ON PLAN SHEETS.

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND EMATTED AT THE CONTRACTOR'S EXPENSE OR AS OTHERWISE DIRECTED BY THE FIELD ENGINEER.

REMOVING CONCRETE INCLUDES ANY MESH OR REINFORCEMENT THAT MAY BE PART OF THE PAVEMENT STRUCTURE. EXISTING PAVEMENT DEPTHS ARE BASED ON AS-BUILT DATA AND MAY VARY IN THE FIELD.

SEE MISCELLANEOUS QUANTITIES FOR EROSION CONTROL INFORMATION.

CONCRETE PAVEMENT REPAIR OVERNIGHT, CONCRETE PAVEMENT REPLACEMENT OVERNIGHT, AND CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

LOCATIONS OF REMOVING PAVEMENT PATCHES AND PATCH WITH HMA ITEM TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

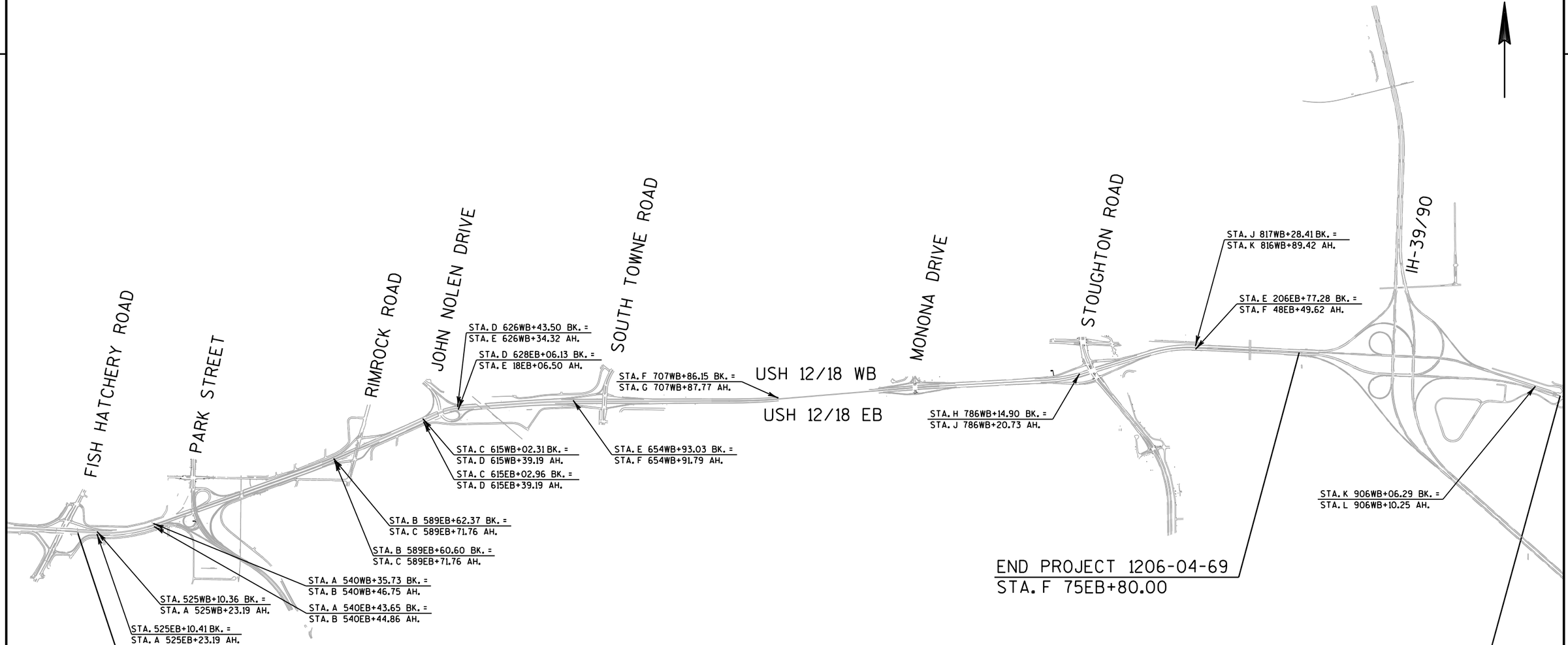
ALIGNMENT IDENTIFIERS	
EB	USH 12/18 EB
WB	USH 12/18 WB

ABBREVIATIONS

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

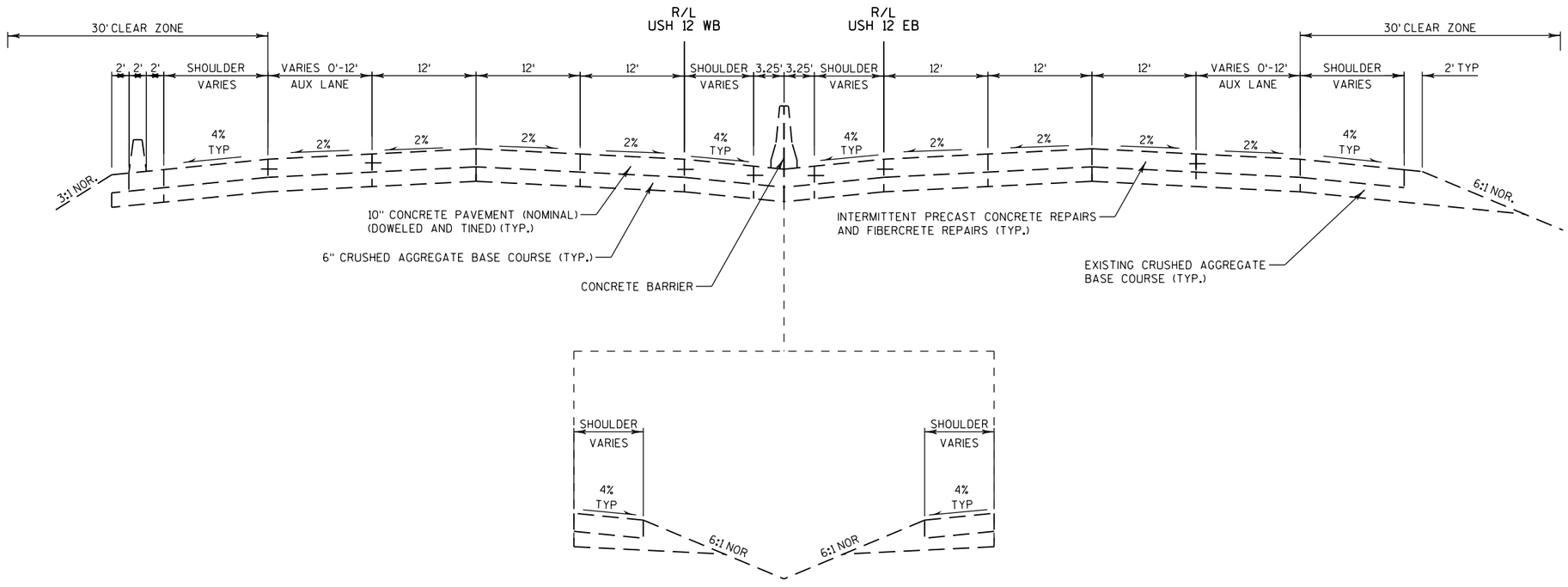
2

2



PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PROJECT OVERVIEW	SHEET 4	E

2



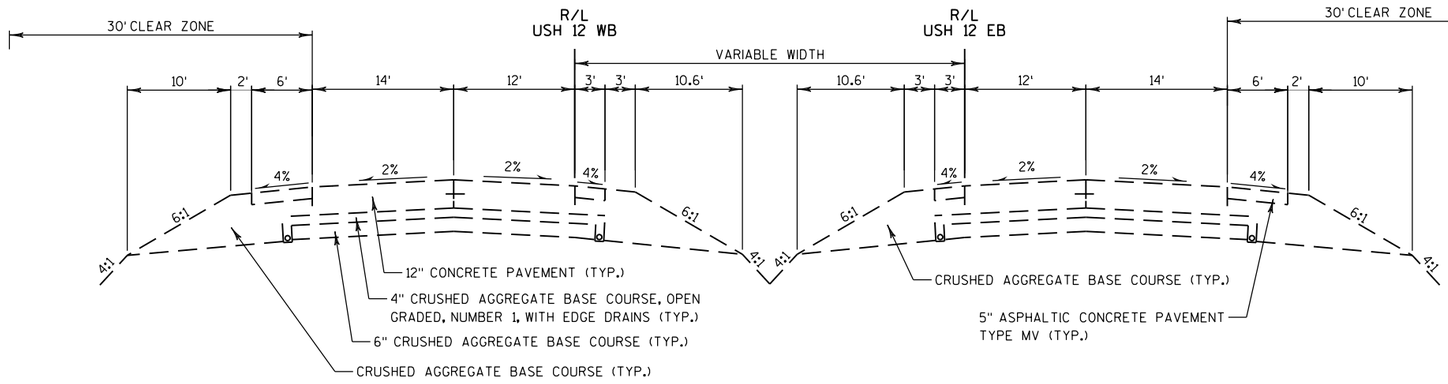
STA F 51EB+94 TO F 75EB+80
STA K 819WB+94 TO K 843WB+80

TYPICAL EXISTING SECTION

CTH D TO IH 39-90
STA 519EB+95 TO F 75EB+80
STA 519WB+95 TO K 843WB+80

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS: EXISTING	SHEET 5	E

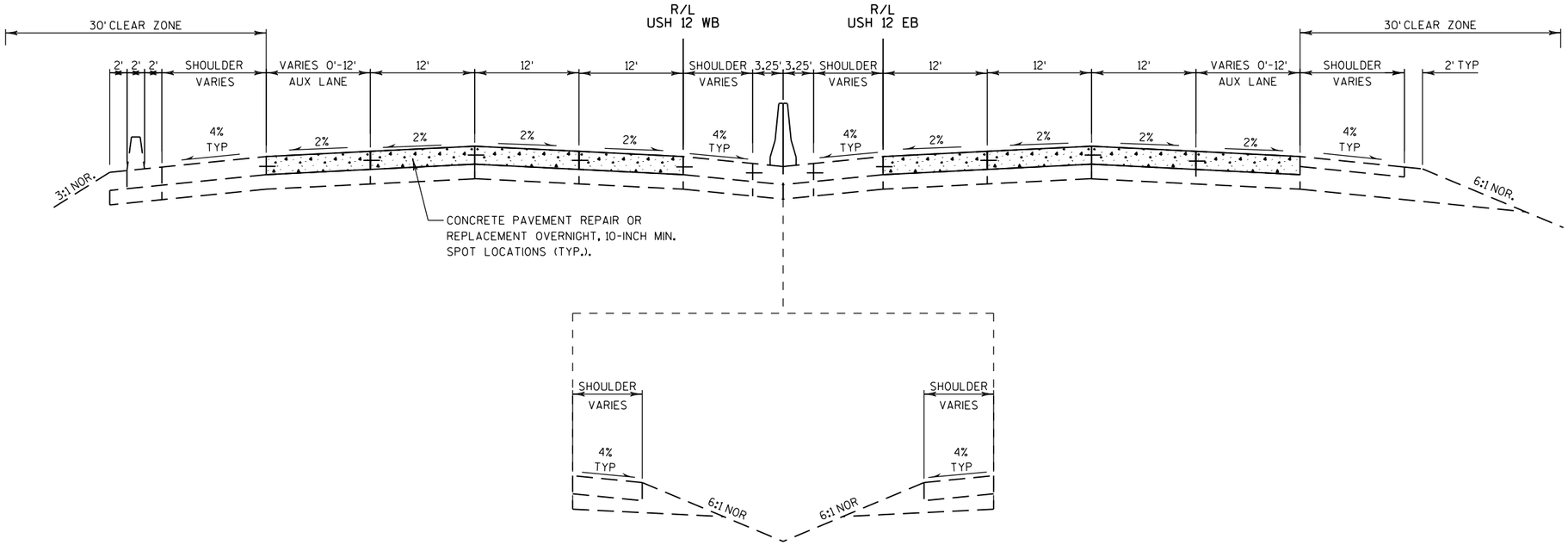
2



TYPICAL EXISTING SECTION

IH 39-90 TO MILLPOND ROAD
STA F 75EB+80 TO 145EB+00
STA K 843WB+80 TO L 913WB+00

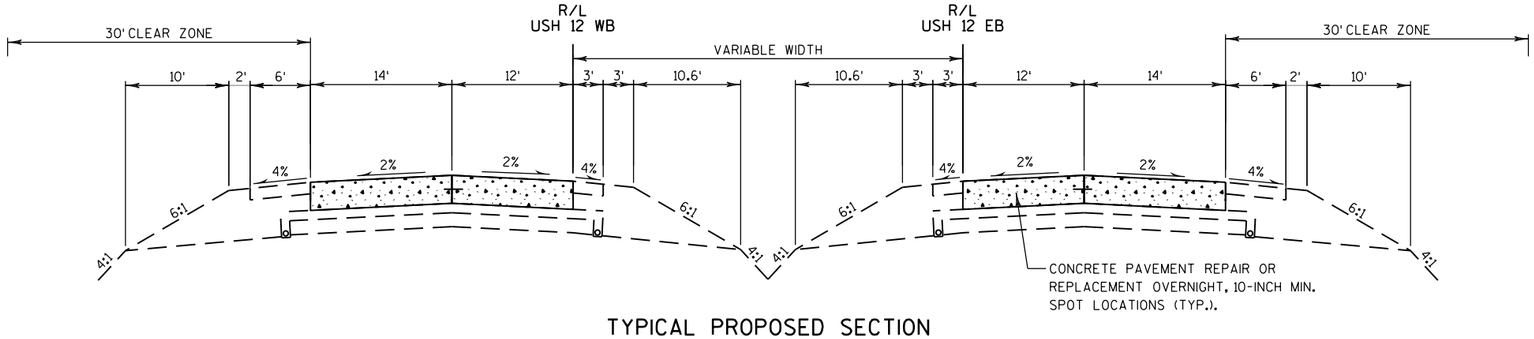
PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS: EXISTING	SHEET 6	E



STA F 51EB+94 TO F 75EB+80
STA K 819WB+94 TO K 843WB+80

TYPICAL PROPOSED SECTION

CTH D TO IH-39
STA 519EB+95 TO F 75EB+80
STA 519WB+95 TO K 843WB+80



TYPICAL PROPOSED SECTION

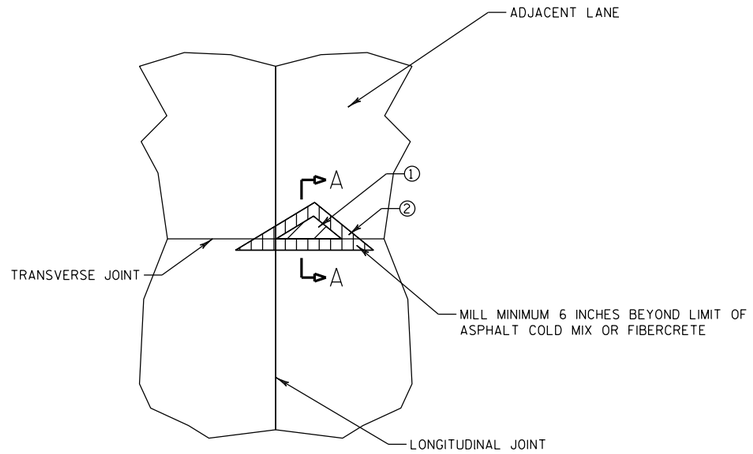
IH-39 TO MILLPOND ROAD
STA F 75EB+80 TO 145EB+00
STA K 843WB+80 TO L 913WB+00

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS: PROPOSED	SHEET 7	E

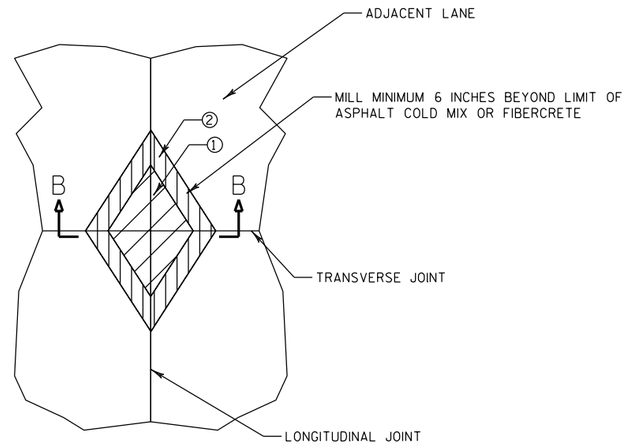
2

NOTES:

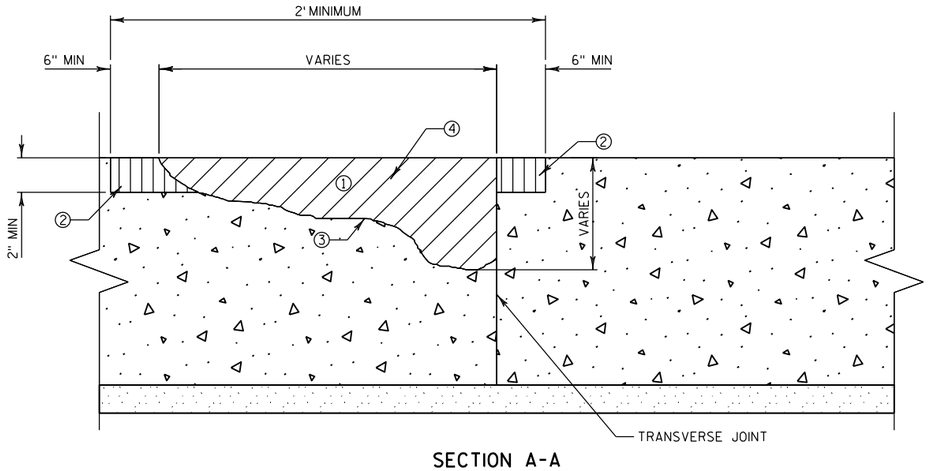
1) ASPHALT COLD MIX AND FIBERCRETE REMOVAL, MILLING, CONCRETE SURFACE CLEANING AND DRYING, TACK COAT, AND HMA ARE INCIDENTAL TO COST OF "REMOVING PAVEMENT PATCHES AND PATCH WITH HMA" ITEM.



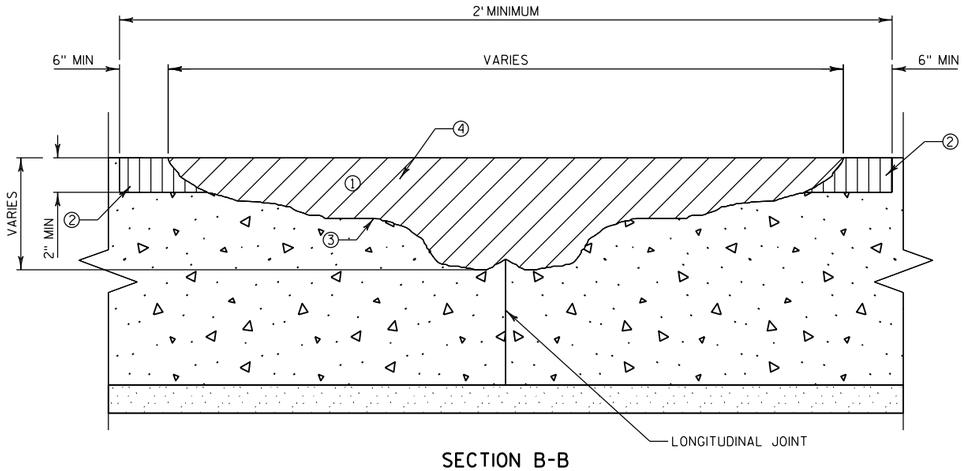
PLAN VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

① REMOVE ALL EXISTING ASPHALT COLD MIX OR FIBERCRETE AND LOOSE CONCRETE DOWN TO SOUND CONCRETE.

② MILL NEW PATCH A MINIMUM OF 6 INCHES BEYOND THE ORIGINAL PATCH LIMITS AND TO A MINIMUM DEPTH OF 2 INCHES

③ BLOW OUT REPAIR AREAS WITH 80 PSI MINIMUM COMPRESSED AIR, DRY SURFACE, AND APPLY TACK COAT AT RATE OF 0.12 GALLONS PER SQUARE YARD.

④ HMA PAVEMENT 4 HT 58-28 V. COMPACT UNTIL THERE IS NO APPRECIABLE MOVEMENT OF THE MATERIAL.

EDGE REPAIR

① REMOVE ALL EXISTING ASPHALT COLD MIX OR FIBERCRETE AND LOOSE CONCRETE DOWN TO SOUND CONCRETE.

② MILL NEW PATCH A MINIMUM OF 6 INCHES BEYOND THE ORIGINAL PATCH LIMITS AND TO A MINIMUM DEPTH OF 2 INCHES

③ BLOW OUT REPAIR AREAS WITH 80 PSI MINIMUM COMPRESSED AIR, DRY SURFACE, AND APPLY TACK COAT AT RATE OF 0.12 GALLONS PER SQUARE YARD.

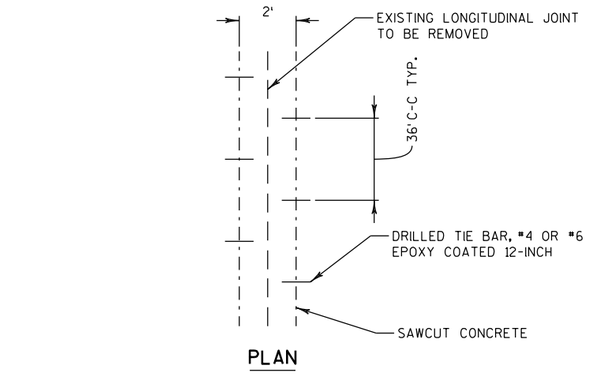
④ HMA PAVEMENT 4 HT 58-28 V. COMPACT UNTIL THERE IS NO APPRECIABLE MOVEMENT OF THE MATERIAL.

CORNER REPAIR

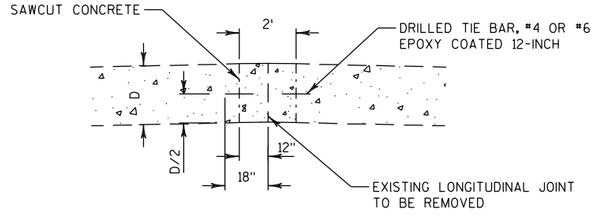
REMOVING PAVEMENT PATCHES AND PATCH WITH HMA DETAIL

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 8	E

2
2



PLAN

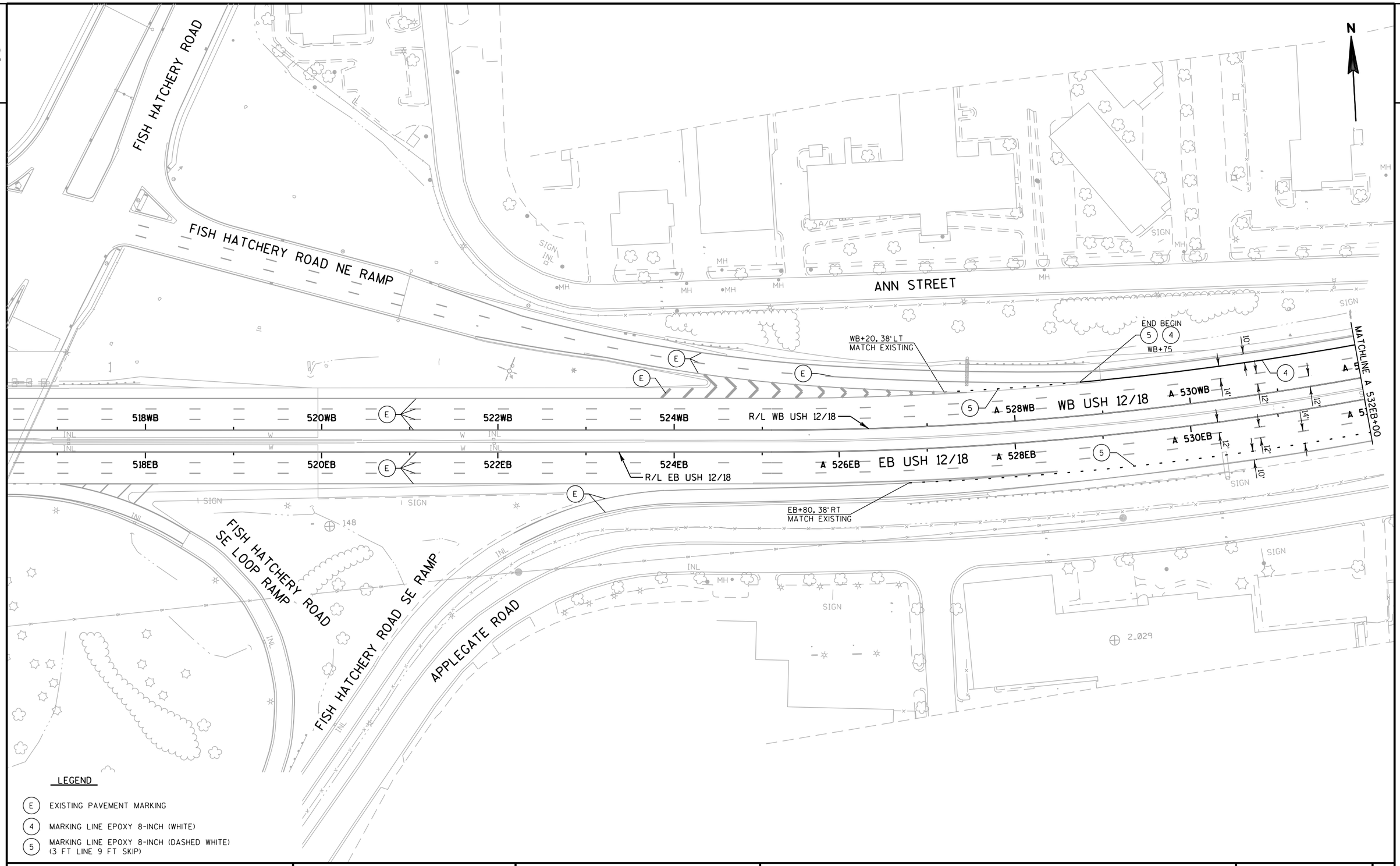


SECTION

CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT DETAIL

NOTE: TIE BAR MAY BE DRILLED AT AN ANGLE, THEN BENT PERPENDICULAR TO JOINT AFTER INSTALLATION.

2

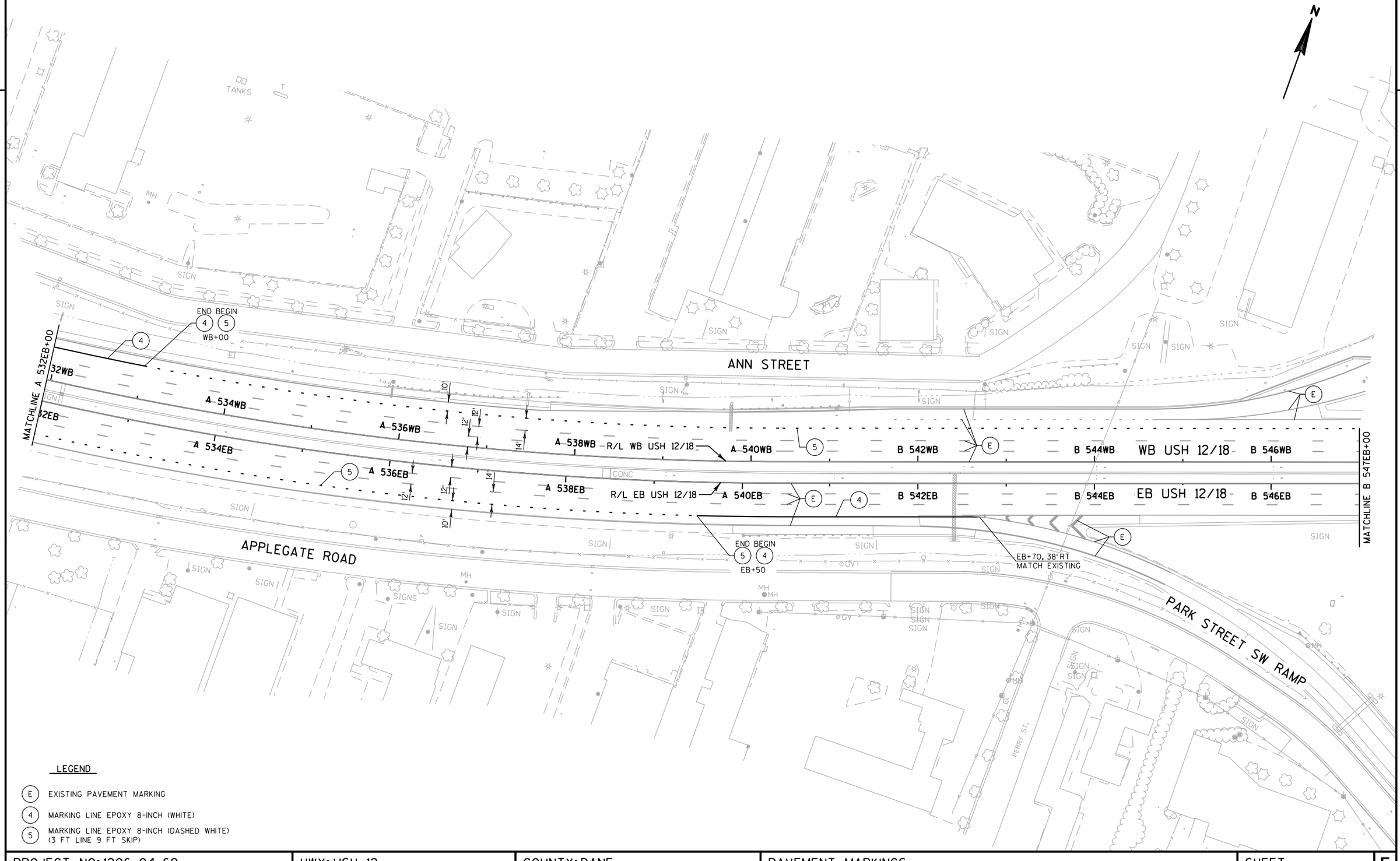


LEGEND

- (E) EXISTING PAVEMENT MARKING
- (4) MARKING LINE EPOXY 8-INCH (WHITE)
- (5) MARKING LINE EPOXY 8-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 10	E

2



LEGEND

(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\024502_pm.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 100:1

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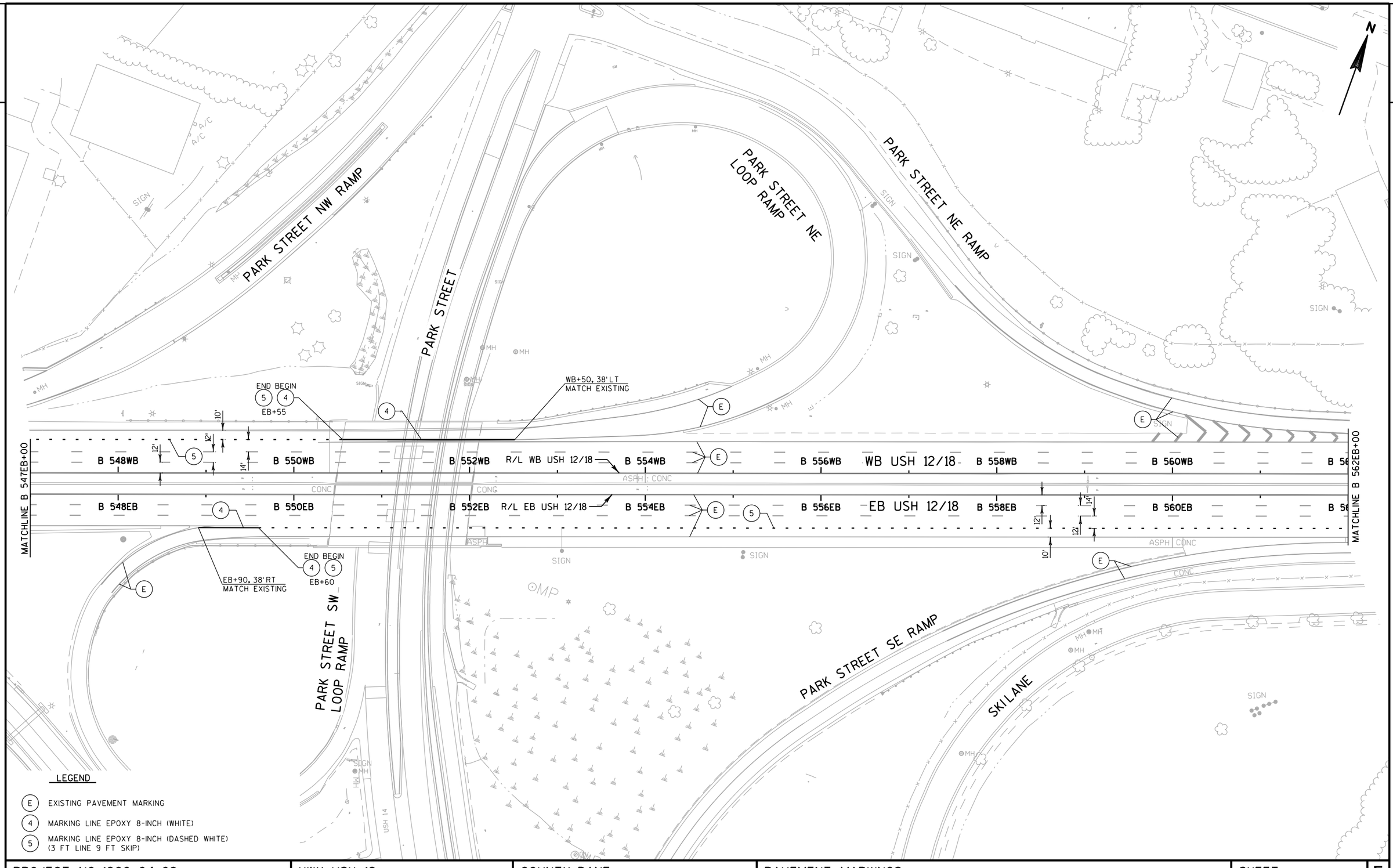
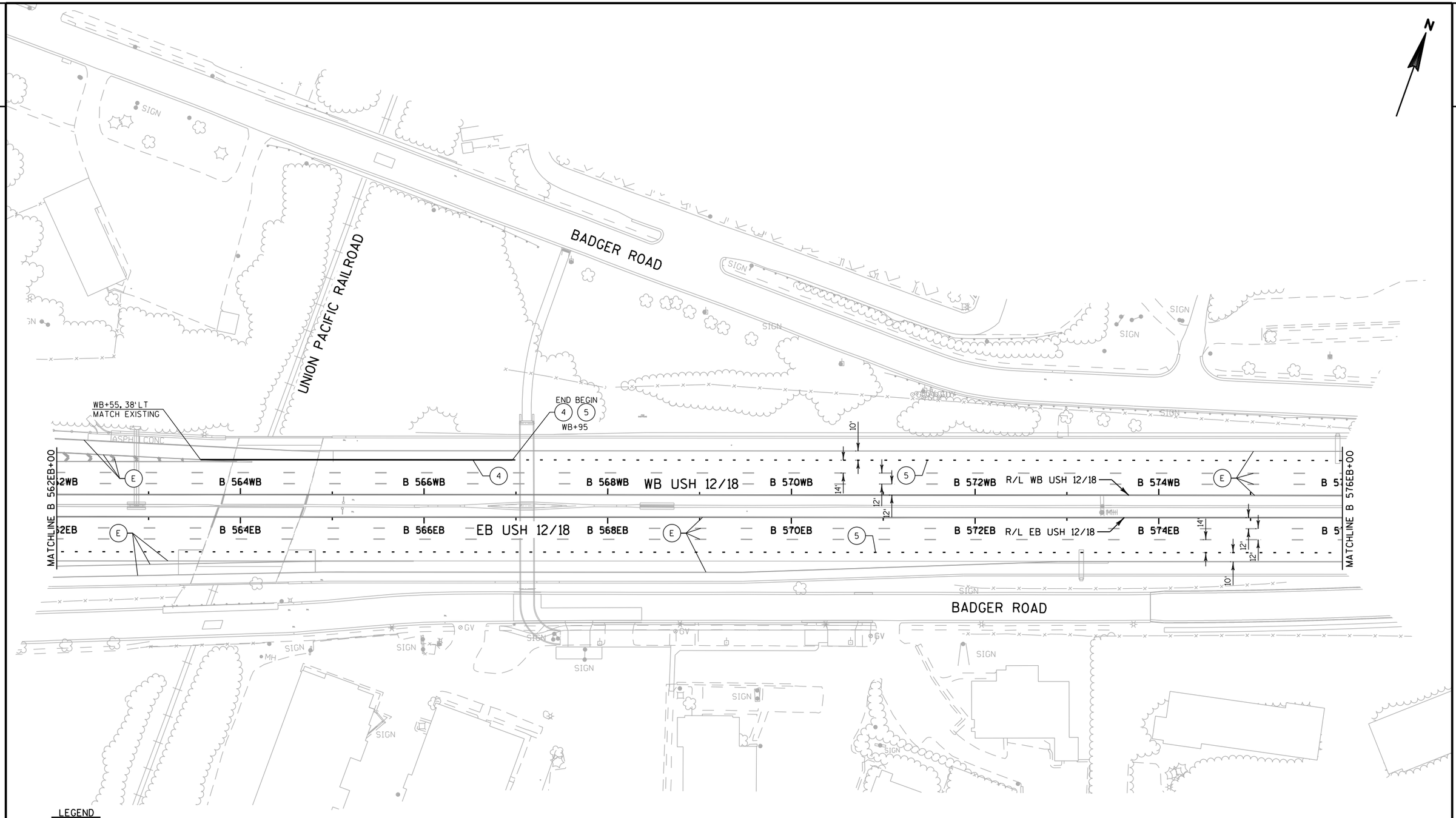


LEGEND

- (E) EXISTING PAVEMENT MARKING
- (4) MARKING LINE EPOXY 8-INCH (WHITE)
- (5) MARKING LINE EPOXY 8-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 12	E



LEGEND

(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 13	E

2

N

RUSK AVENUE

BADGER ROAD

RIMROCK ROAD NW RAMP

WB+30, 38' LT
MATCH EXISTING

CONC | ASPH

MATCHLINE B 576EB+00

MATCHLINE C 591EB+00

B 576WB

B 578WB

B 580WB

B 582WB

WB USH 12/18

B 584WB

B 586WB

R/L WB USH 12/18

B 588WB

C 590WB

B 576EB

B 578EB

B 580EB

B 582EB

EB USH 12/18

B 584EB

B 586EB

R/L EB USH 12/18

B 588EB

C 590EB

END BEGIN

EB+40

EB+40, 38' RT
MATCH EXISTING

PHEASANT RIDGE TRAIL

BADGER ROAD

SIGN

MH

LEGEND

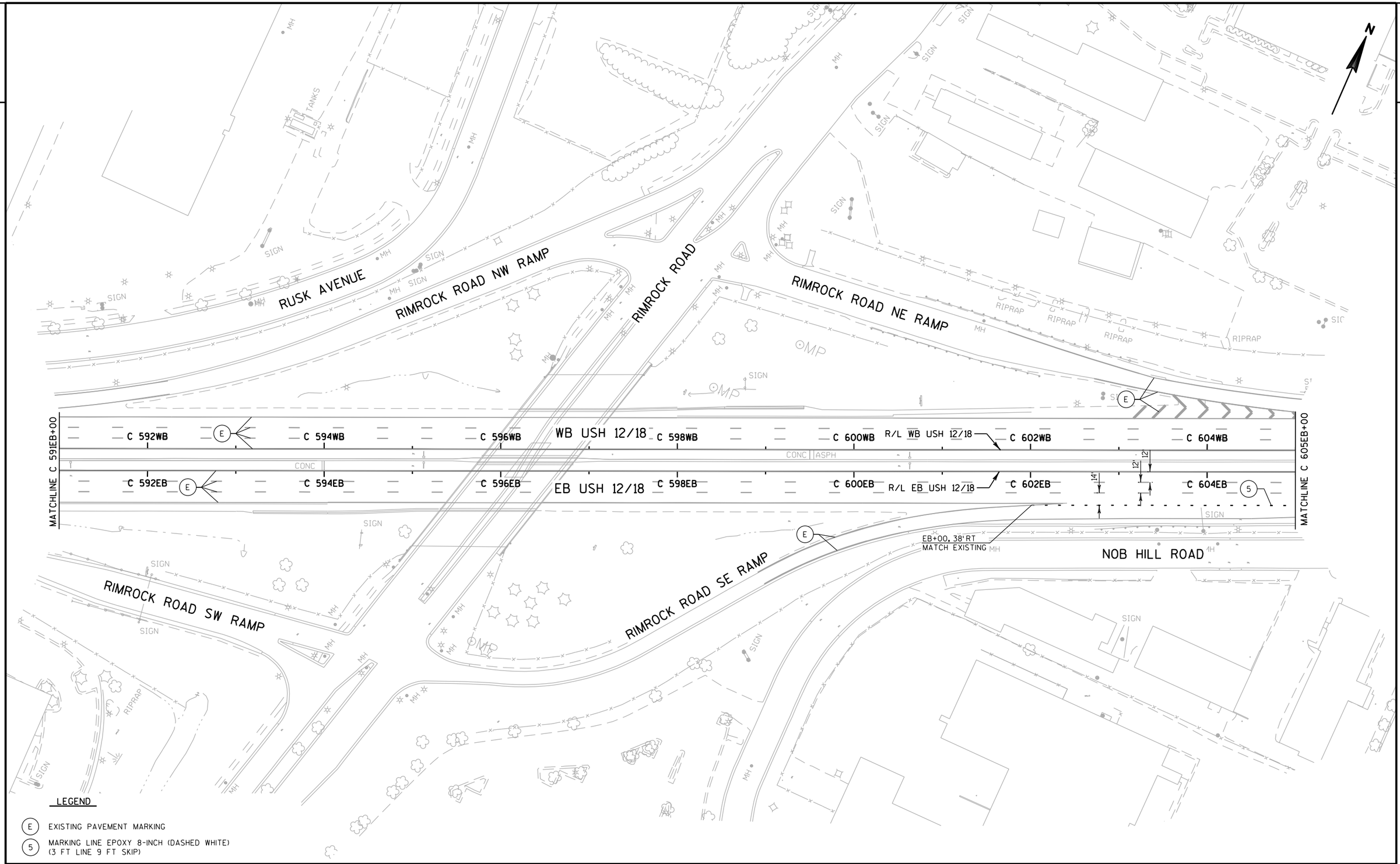
(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 14	E

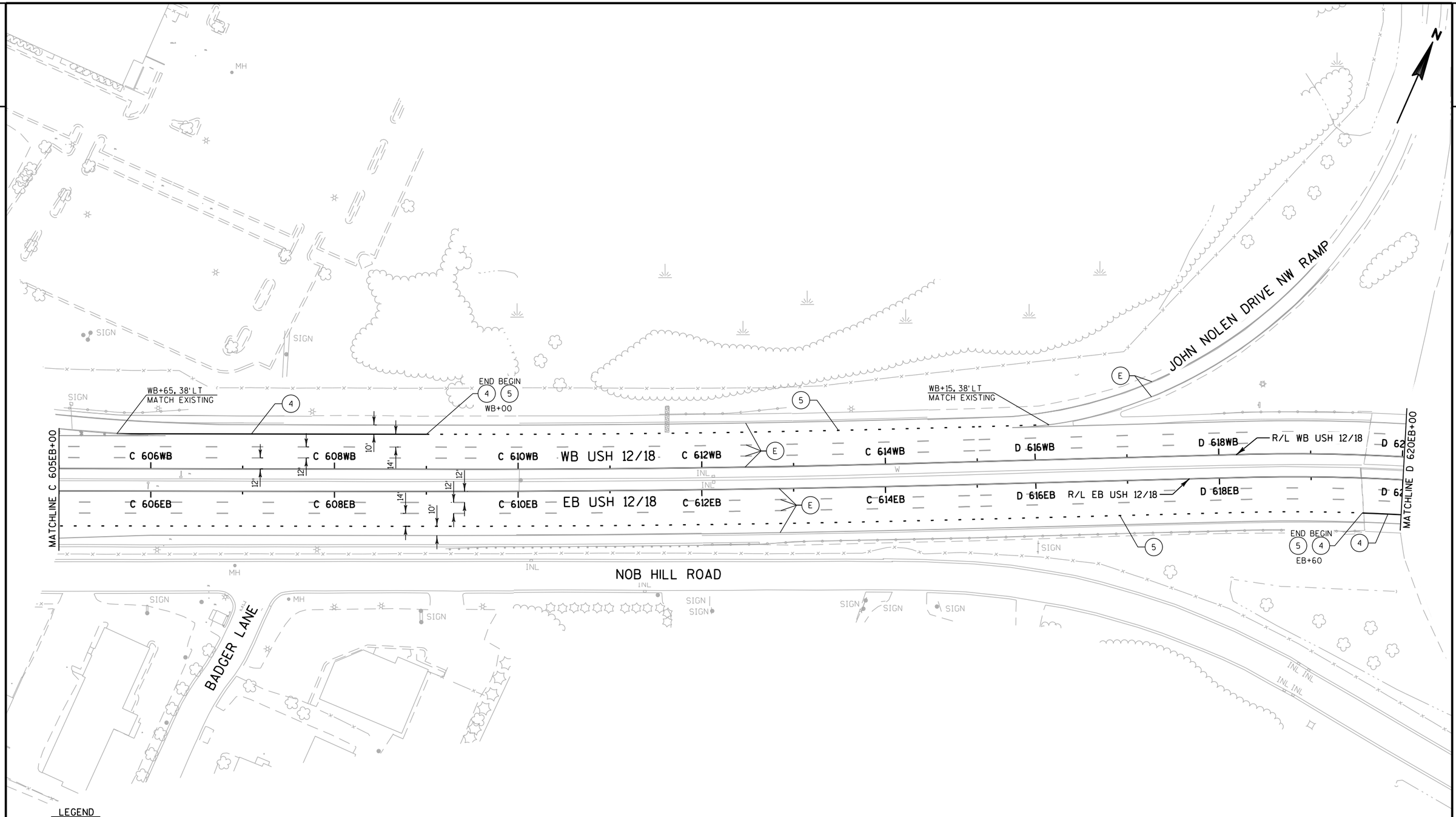
2



PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\024506_pm.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 100:1
WISDOT/CADDS SHEET 42

2



LEGEND

(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 16	E

2

N

JOHN NOLEN DRIVE NE RAMP

WISCONSIN & SOUTHERN RAILROAD

JOHN NOLEN DRIVE SW RAMP

JOHN NOLEN DRIVE SE RAMP

MATCHLINE D 620EB+00

MATCHLINE E 24EB+00

D 622WB

D 624WB

D 626WB

E 628WB

R/L WB USH 12/18

E 630WB WB USH 12/18

E 632WB

D 620WB

D 622EB

D 624EB

D 626EB

R/L EB USH 12/18

D 628EB

E 20EB

EB USH 12/18

E 22EB

WB+35, 38' LT
MATCH EXISTING

END BEGIN
WB+65

EB+50, 38' RT
MATCH EXISTING

EB+00, 38' RT
MATCH EXISTING

END BEGIN
EB+65

LEGEND

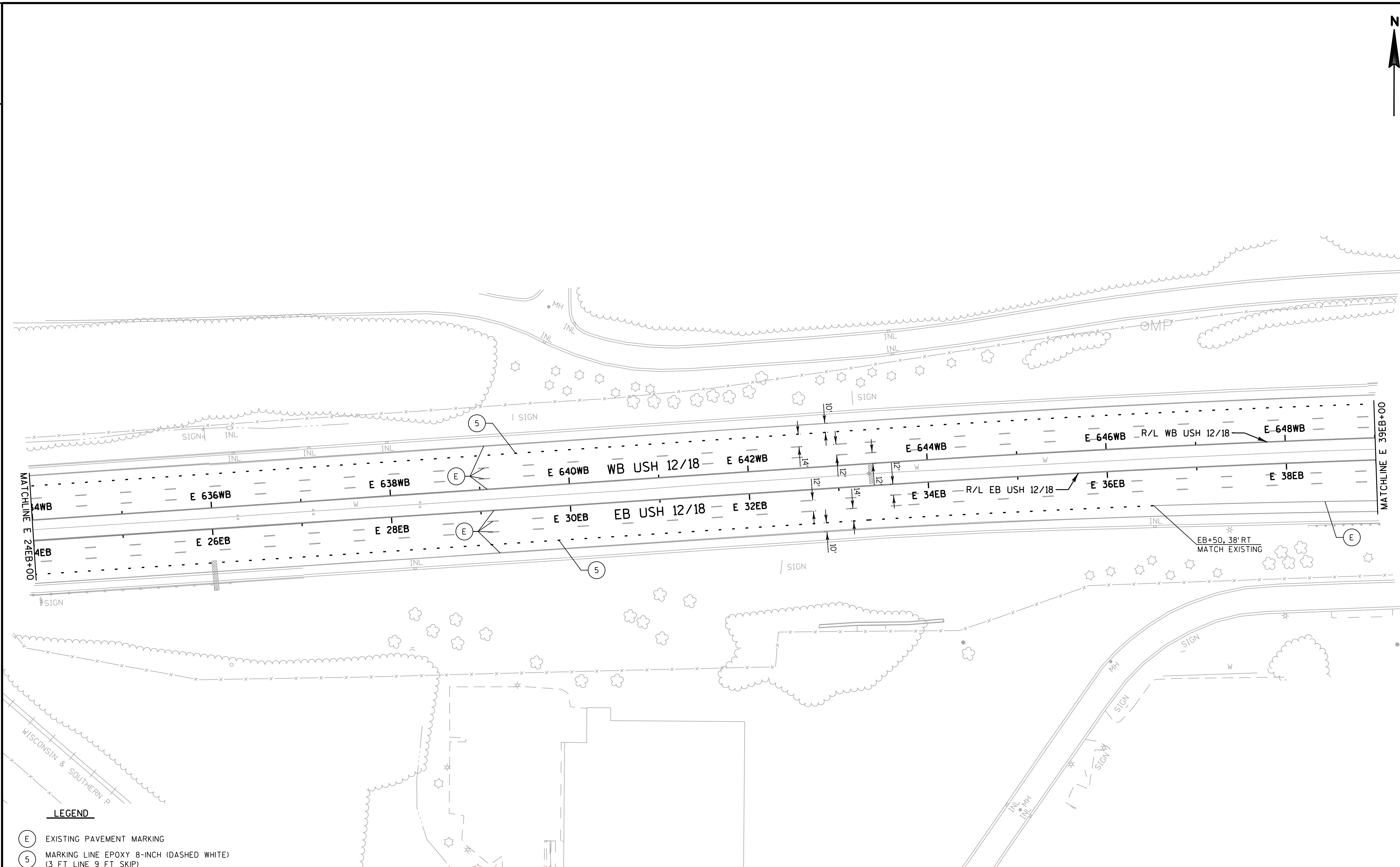
(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 17	E

2



LEGEND

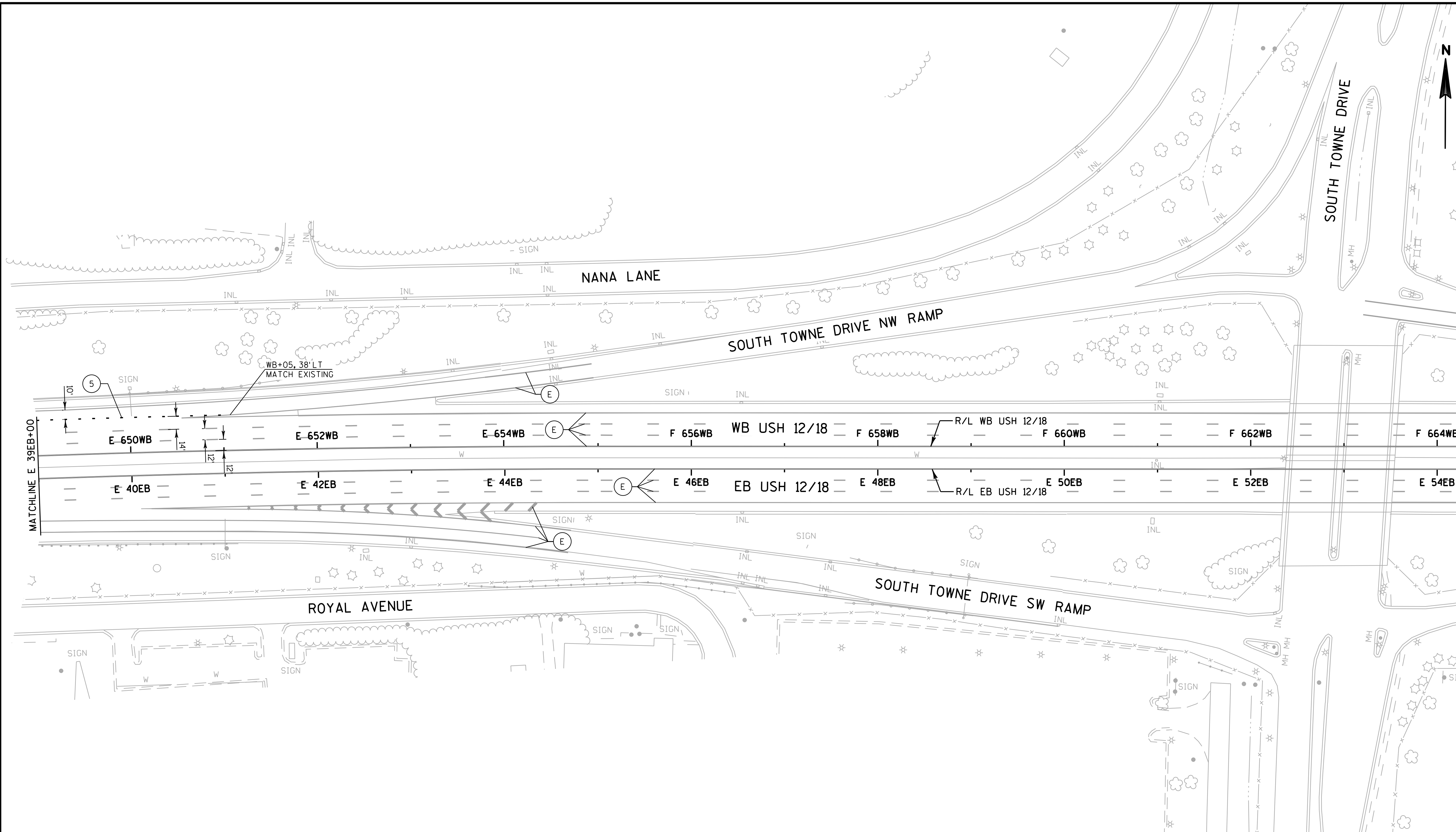
(E) EXISTING PAVEMENT MARKING

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)

PROJECT NO:1206-04-69	HWY:USH 12	COUNTY:DANE	PAVEMENT MARKINGS	SHEET 18	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\024509_pm.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42



LEGEND

(E) EXISTING PAVEMENT MARKING

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO:1206-04-69	HWY:USH 12	COUNTY:DANE	PAVEMENT MARKINGS	SHEET 19	E

2

2

N

ATHLETIC FIELD

SLAB SIGN

SIGN

INL

W

MH

OMP

MONONA DRIVE NE RAMP

CONC | ASPH

WB+40, 38' LT
MATCH EXISTING

END BEGIN
WB+85

G 748WB | H 750WB | H 752WB | H 754WB | H 756WB | WB USH 12/18 | H 758WB | H 760WB | R/L WB USH 12/18 | H 76

MATCHLINE E 152EB+00

E 138EB | E 140EB | E 142EB | E 144EB | E 146EB | EB USH 12/18 | E 148EB | E 150EB | R/L EB USH 12/18 | E 15

MONONA DRIVE SE RAMP

EB+70, 38' RT
MATCH EXISTING

12' 12' 10' 14' 12' 12' 10' 14'

LEGEND

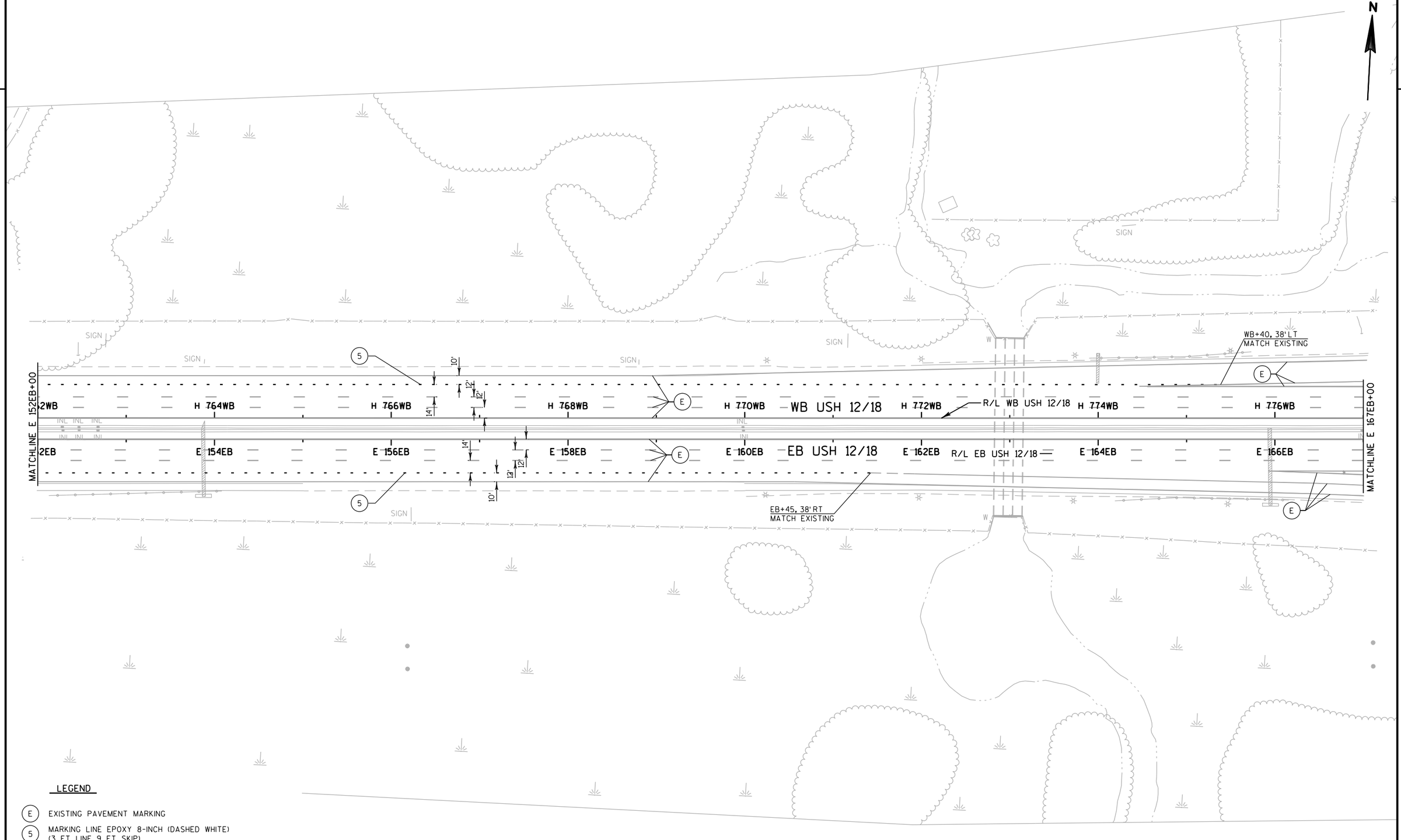
(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 20	E

2



LEGEND

(E) EXISTING PAVEMENT MARKING

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 21	E

2

N

STOUGHTON ROAD

STOUGHTON ROAD NW RAMP

MATCHLINE E 167EB+00

H 778WB

E 168EB

H 780WB

E 170EB

H 782WB

E 172EB

H 784WB

E 174EB

H 786WB

E 176EB

J 788WB

E 178EB

J 790WB

E 180EB

J 79

MATCHLINE E 182EB+00

WB USH 12/18

EB USH 12/18

R/L WB USH 12/18

R/L EB USH 12/18

STOUGHTON ROAD SW RAMP

BIKE PATH

SIGN

INL

MH

LEGEND

(E) EXISTING PAVEMENT MARKING

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 22	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\024513_pm.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 100:1

2

2

COLLINS COURT

STOUGHTON ROAD NE RAMP

STOUGHTON ROAD SE RAMP

S DUTCH MILLS ROAD

WB USH 12/18

EB USH 12/18

WB+45, 38' LT
MATCH EXISTING

END BEGIN
WB+55

R/L WB USH 12/18

R/L EB USH 12/18

MATCHLINE E 182EB+00

MATCHLINE E 196EB+00

J 794WB J 796WB J 798WB J 800WB J 802WB J 804WB

E 184EB E 186EB E 188EB E 190EB E 192EB E 194EB

LEGEND

(E) EXISTING PAVEMENT MARKING

(4) MARKING LINE EPOXY 8-INCH (WHITE)

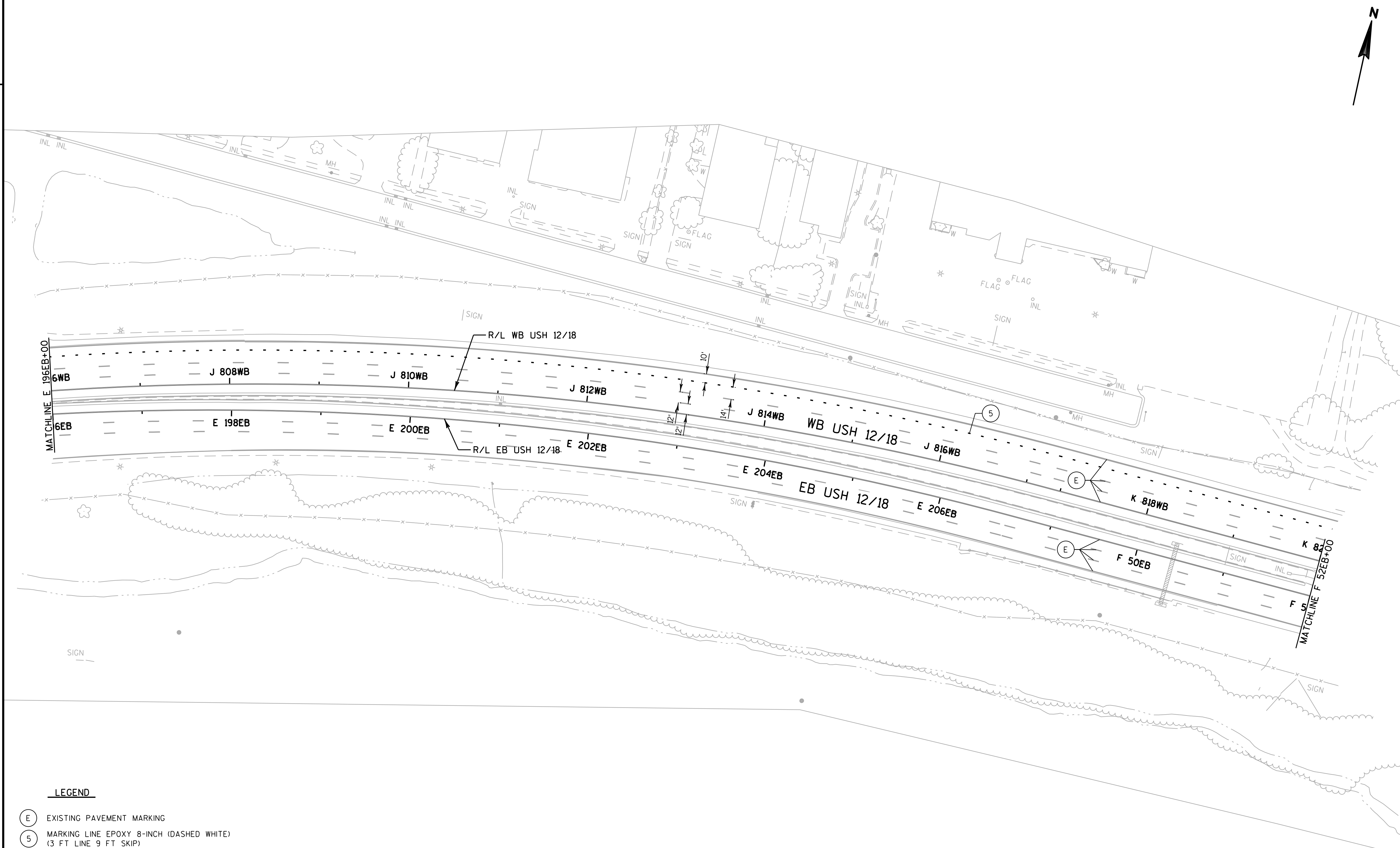
(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE)
(3 FT LINE 9 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 23	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\024514_pm.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

2

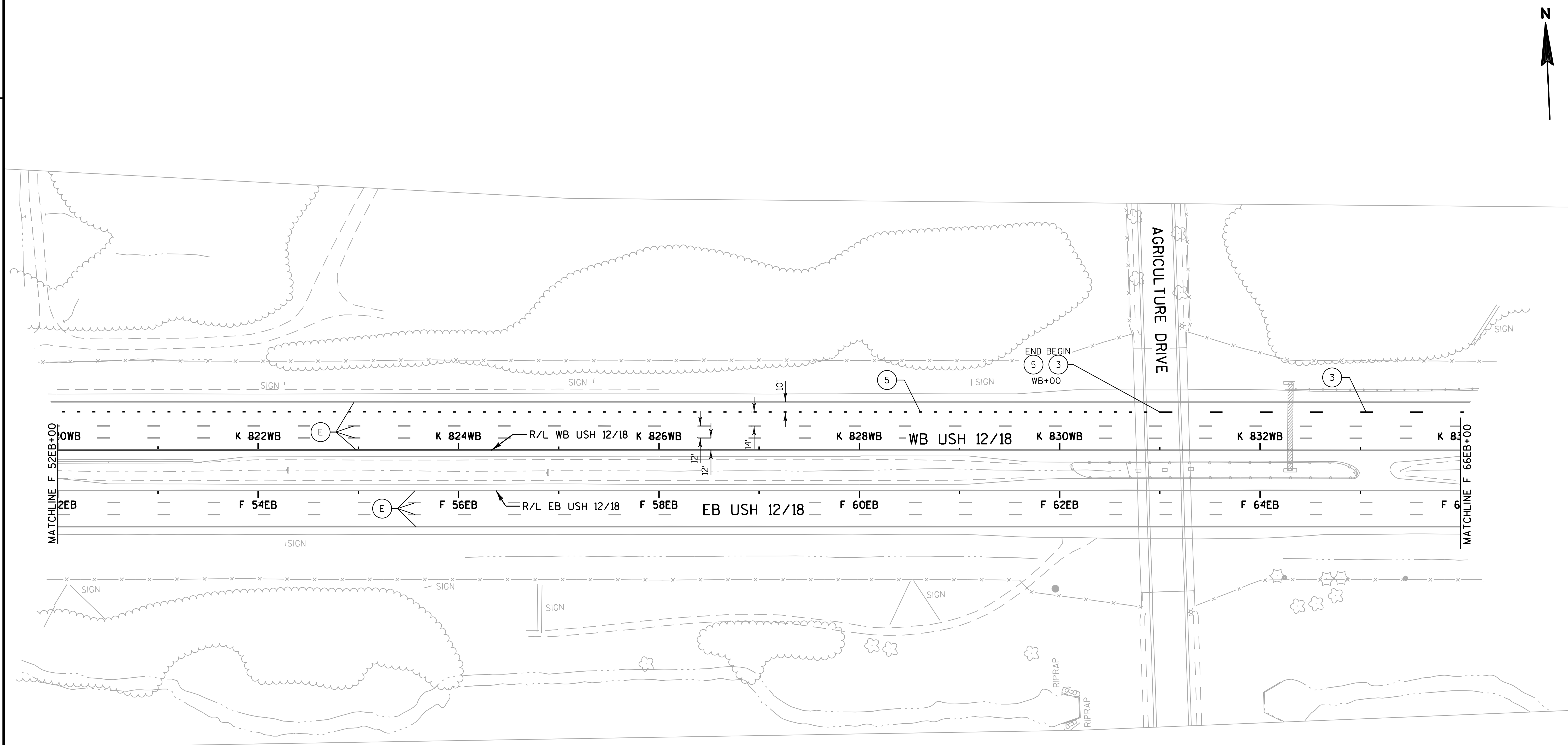


LEGEND

(E) EXISTING PAVEMENT MARKING

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)

PROJECT NO:1206-04-69	HWY:USH 12	COUNTY:DANE	PAVEMENT MARKINGS	SHEET 24	E



LEGEND

(E) EXISTING PAVEMENT MARKING

(3) MARKING LINE EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)

(5) MARKING LINE EPOXY 8-INCH (DASHED WHITE) (3 FT LINE 9 FT SKIP)

PROJECT NO:1206-04-69	HWY:USH 12	COUNTY:DANE	PAVEMENT MARKINGS	SHEET 25	E

2

N

END BEGIN
3 2
WB+90
38' LT

WB+00, 36' LT
MATCH EXISTING

10'
14'
12'
12'
12'

K 836WB K 838WB WB USH 12/18 K 840WB K 842WB K 844WB K 846WB K 848WB

R/L WB USH 12/18

MATCHLINE F 66EB+00

F 66EB F 68EB F 70EB EB USH 12/18 F 72EB F 74EB F 76EB F 78EB F 80EB

R/L EB USH 12/18

USH 12/18 EB TO
IH 39 SB RAMP

SIGN

INL

NOIS

LEGEND

(E) EXISTING PAVEMENT MARKING

(2) MARKING LINE EPOXY 4-INCH (WHITE)

(3) MARKING LINE EPOXY 4-INCH (DASHED WHITE)
(12.5 FT LINE 37.5 FT SKIP)

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	PAVEMENT MARKINGS	SHEET 26	E

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) CONFLICTING PERMANENT SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER. CONFLICTING PERMANENT SIGNS WILL BE COVERED USING THE STANDARD BID ITEM, TRAFFIC CONTROL COVERING SIGNS.

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

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

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

6) ALL TRAFFIC CONTROL SIGNING SHALL CONFORM TO PART VI OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE WISCONSIN SUPPLEMENT TO THE MUTCD, AND OTHER CONTRACT DOCUMENTS.

7) CONTRACTORS EQUIPMENT AND MATERIALS STOCKPILES MAY NOT BE STORED WIHTIN 30-FEET OF THE EDGE OF TRAVEL LANE OF USH 12 OR USH 12 RAMPS WHILE THE CONTRACTOR IS NOT WORKING, UNLESS THEY ARE PROTECTED BY CONCRETE BARRIER TEMPORARY PRECAST, PAID FOR AT THE CONTRACTOR'S EXPENSE.

8) TURNING TRAFFIC CONTROL DEVICES WHEN NOT IN USE TO OBSCURE THE MESSAGE IS NOT ALLOWED.

9) CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AS DIRECTED BY ENGINEER

10) STATIONING, DISTANCES, AND OFFSETS FOR TRAFFIC CONTROL SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER

11) SEE "TRAFFIC CONTROL, LANE CLOSURE," "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)," "TRAFFIC CONTROL, RAMP WITHIN LANE CLOSURE," AND "TRAFFIC CONTROL, EXIT RAMP CLOSURE" S.D.D.'S FOR APPLICABLE TRAFFIC CONTROL DETAILS.

TRAFFIC CONTROL LEGEND

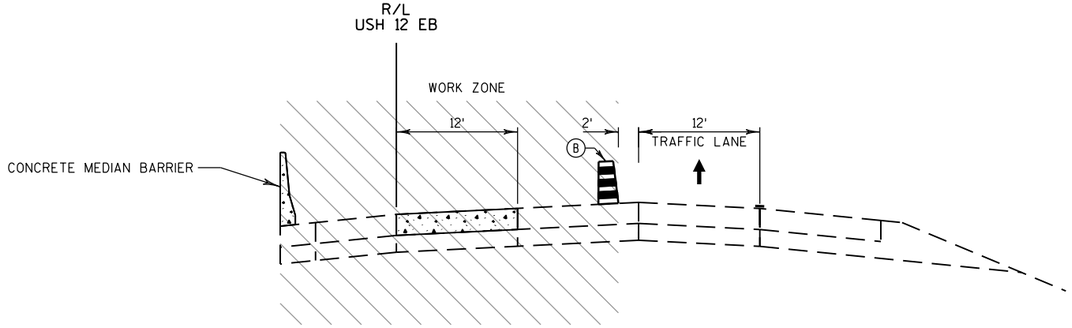
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC CONTROL ARROW BOARD
- TRAFFIC CONTROL SIGN(S) ON PERMANENT SUPPORT
- TRAFFIC CONTROL SIGN(S) ON TEMPORARY SUPPORT
- PCMS — TRAFFIC CONTROL SIGNS PORTABLE CHANGABLE MESSAGE
- TRAFFIC FLOW ARROW

2

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL DETAILS	SHEET 27	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\025100_tc.dgn
PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : $FILE$ PLOT SCALE : 40:1
WISDOT/CADDS SHEET 42

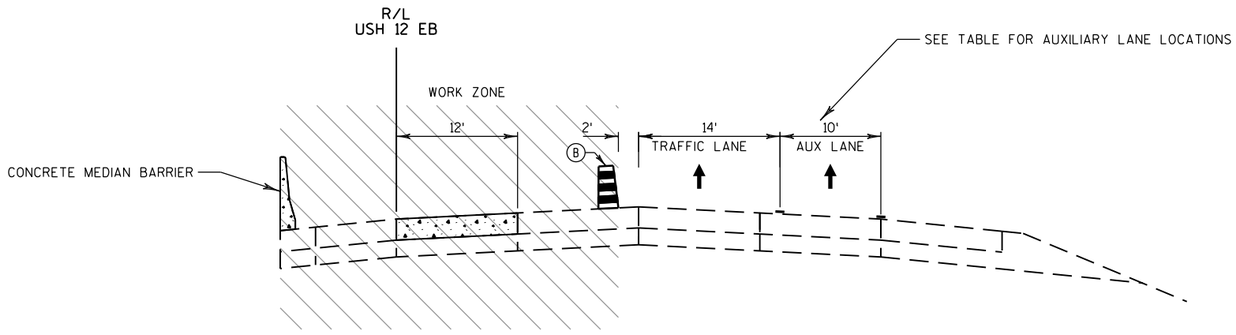
2



STAGING TYPICAL SECTION - INSIDE LANE REPAIR/CONCRETE BARRIER REPLACEMENT

USH 12

FISH HATCHERY ROAD TO IH 39/90
(EB SHOWN, WB SIMILAR)



STAGING TYPICAL SECTION - INSIDE LANE REPAIR/CONCRETE BARRIER REPLACEMENT

USH 12

FISH HATCHERY ROAD TO IH 39/90
(EB SHOWN, WB SIMILAR)

AUXILIARY LANE LOCATIONS			
ROADWAY DIRECTION	STATION BEGIN	STATION END	COMMENTS
EB USH 12	A 528EB+46	B 542EB+74	FISH HATCHERY ROAD TO PARK STREET
	B 548EB+81	B 586EB+18	PARK STREET TO RIMROCK ROAD
	C 602EB+41	D 622EB+66	RIMROCK ROAD TO JOHN NOLEN DRIVE
	E 19EB+09	E 40EB+10	JOHN NOLEN DRIVE TO SOUTH TOWNE DRIVE
	E 144EB+23	E 166EB+05	MONONA DRIVE TO STOUGHTON ROAD
WB USH 12	A 529WB+01	B 550WB+27	FISH HATCHERY ROAD TO PARK STREET
	B 564WB+13	B 586WB+50	PARK STREET TO RIMROCK ROAD
	C 606WB+16	D 616WB+43	RIMROCK ROAD TO JOHN NOLEN DRIVE
	D 626WB+63	E 651WB+81	JOHN NOLEN DRIVE TO SOUTH TOWNE DRIVE
	H 753WB+90	H 774WB+56	MONONA DRIVE TO STOUGHTON ROAD
	J 801WB+93	K 848WB+74	STOUGHTON ROAD TO IH-39

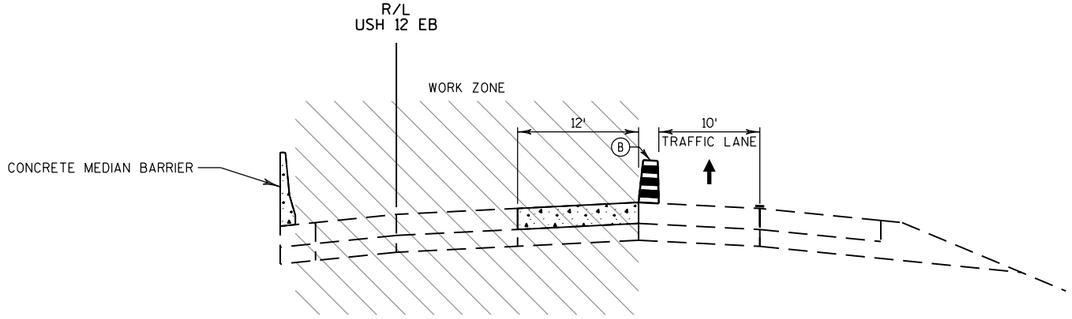
LEGEND

Ⓑ TRAFFIC CONTROL DRUM

TRAFFIC FLOW

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS: TRAFFIC CONTROL NIGHTTIME LANE CLOSURES	SHEET 28	E

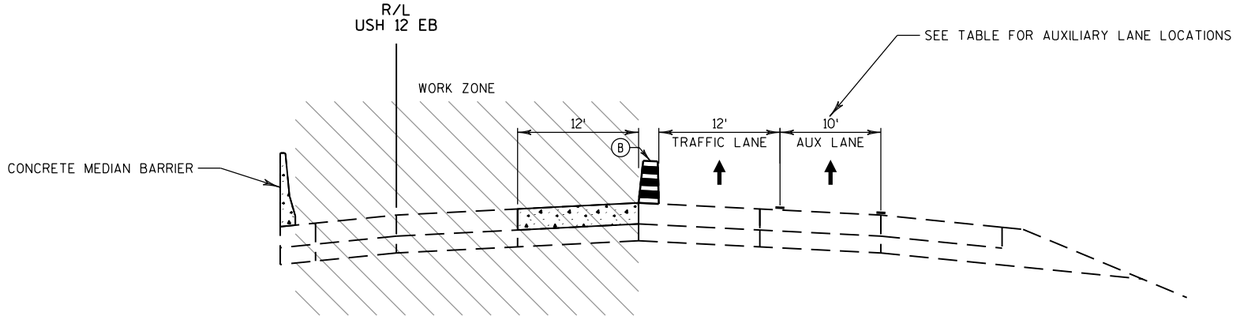
2



STAGING TYPICAL SECTION - MIDDLE LANE REPAIR/CONCRETE BARRIER REPLACEMENT

USH 12

FISH HATCHERY ROAD TO IH 39/90
(EB SHOWN, WB SIMILAR)



STAGING TYPICAL SECTION - MIDDLE LANE REPAIR/CONCRETE BARRIER REPLACEMENT

USH 12

FISH HATCHERY ROAD TO IH 39/90
(EB SHOWN, WB SIMILAR)

AUXILIARY LANE LOCATIONS			
ROADWAY DIRECTION	STATION BEGIN	STATION END	COMMENTS
EB USH 12	A 528EB+46	B 542EB+74	FISH HATCHERY ROAD TO PARK STREET
	B 548EB+81	B 586EB+18	PARK STREET TO RIMROCK ROAD
	C 602EB+41	D 622EB+66	RIMROCK ROAD TO JOHN NOLEN DRIVE
	E 19EB+09	E 40EB+10	JOHN NOLEN DRIVE TO SOUTH TOWNE DRIVE
	E 144EB+23	E 166EB+05	MONONA DRIVE TO STOUGHTON ROAD
WB USH 12	A 529WB+01	B 550WB+27	FISH HATCHERY ROAD TO PARK STREET
	B 564WB+13	B 586WB+50	PARK STREET TO RIMROCK ROAD
	C 606WB+16	D 616WB+43	RIMROCK ROAD TO JOHN NOLEN DRIVE
	D 626WB+63	E 651WB+81	JOHN NOLEN DRIVE TO SOUTH TOWNE DRIVE
	H 753WB+90	H 774WB+56	MONONA DRIVE TO STOUGHTON ROAD
	J 801WB+93	K 848WB+74	STOUGHTON ROAD TO IH-39

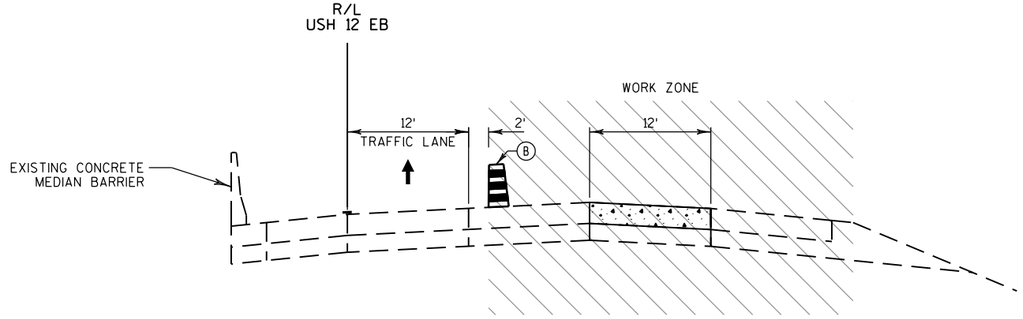
LEGEND

Ⓑ TRAFFIC CONTROL DRUM

TRAFFIC FLOW

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TYPICAL SECTIONS: TRAFFIC CONTROL NIGHTTIME LANE CLOSURES	SHEET 29	E

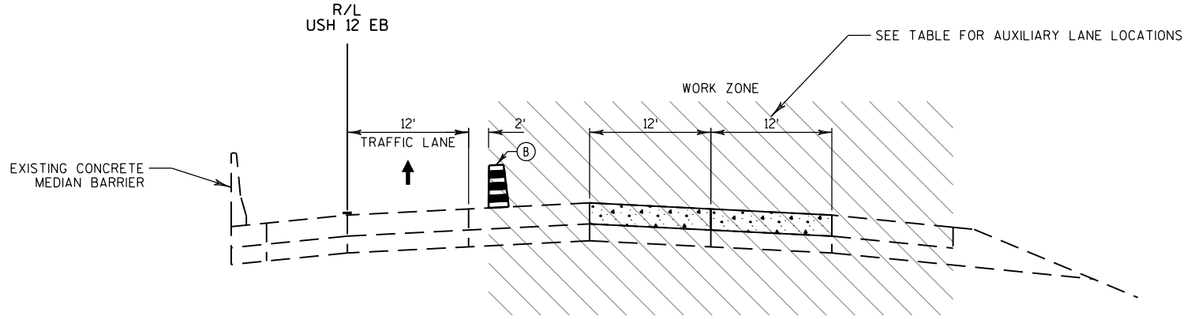
2



STAGING TYPICAL SECTION - OUTSIDE LANE REPAIR

USH 12

FISH HATCHERY ROAD TO IH 39/90
(EB SHOWN, WB SIMILAR)



STAGING TYPICAL SECTION - OUTSIDE/AUXILIARY LANE REPAIR

USH 12

FISH HATCHERY ROAD TO IH 39/90
(EB SHOWN, WB SIMILAR)

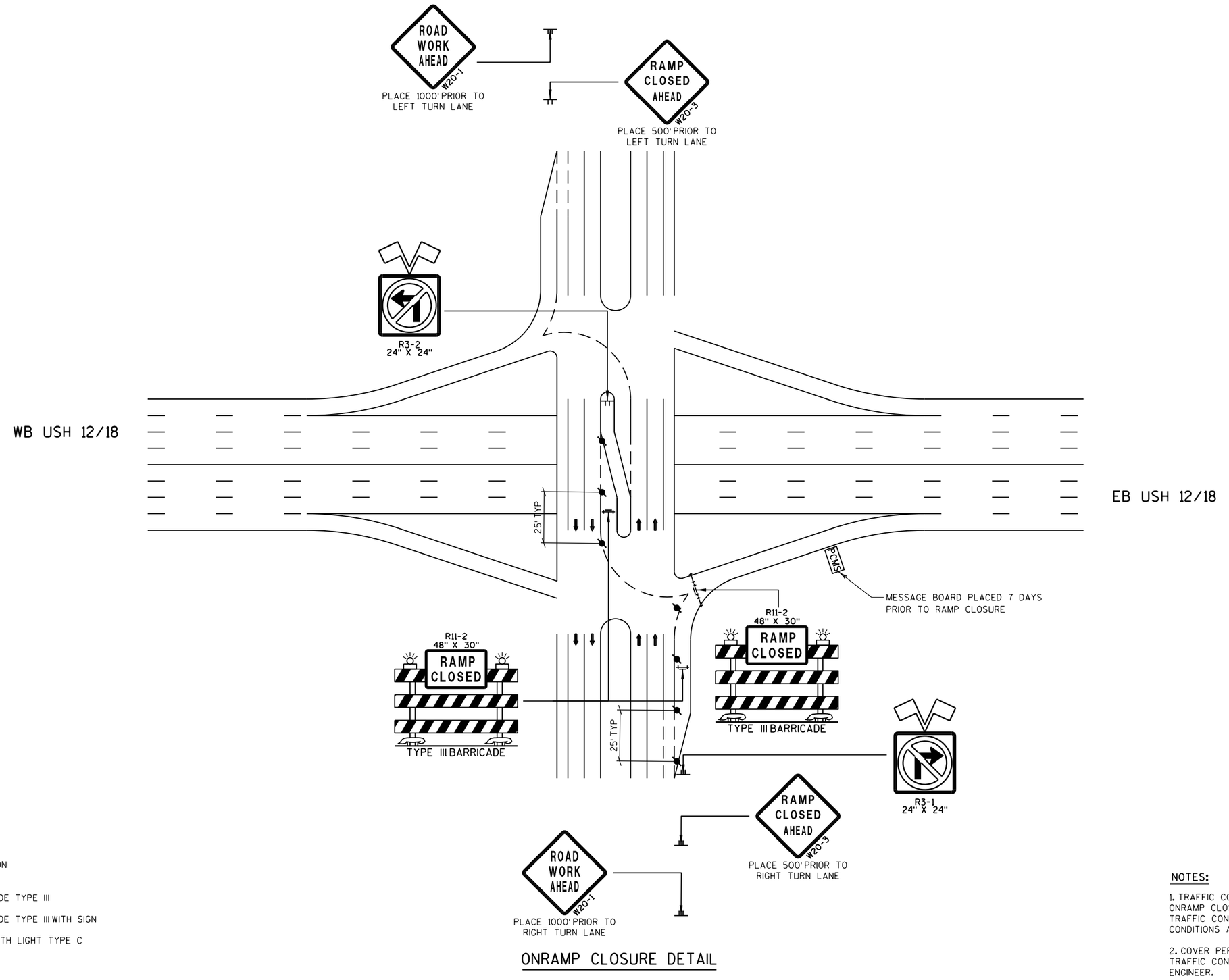
AUXILIARY LANE LOCATIONS			
ROADWAY DIRECTION	STATION BEGIN	STATION END	COMMENTS
EB USH 12	A 528EB+46	B 542EB+74	FISH HATCHERY ROAD TO PARK STREET
	B 548EB+81	B 586EB+18	PARK STREET TO RIMROCK ROAD
	C 602EB+41	D 622EB+66	RIMROCK ROAD TO JOHN NOLEN DRIVE
	E 19EB+09	E 40EB+10	JOHN NOLEN DRIVE TO SOUTH TOWNE DRIVE
	E 144EB+23	E 166EB+05	MONONA DRIVE TO STOUGHTON ROAD
WB USH 12	A 529WB+01	B 550WB+27	FISH HATCHERY ROAD TO PARK STREET
	B 564WB+13	B 586WB+50	PARK STREET TO RIMROCK ROAD
	C 606WB+16	D 616WB+43	RIMROCK ROAD TO JOHN NOLEN DRIVE
	D 626WB+63	E 651WB+81	JOHN NOLEN DRIVE TO SOUTH TOWNE DRIVE
	H 753WB+90	H 774WB+56	MONONA DRIVE TO STOUGHTON ROAD
	J 801WB+93	K 848WB+74	STOUGHTON ROAD TO IH-39

LEGEND

Ⓑ TRAFFIC CONTROL DRUM

TRAFFIC FLOW

2



ONRAMP CLOSURE DETAIL

TRAFFIC CONTROL LEGEND

- TRAFFIC CONTROL SIGN(S) ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE III
- TRAFFIC CONTROL BARRICADE TYPE III WITH SIGN
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- TRAFFIC FLOW ARROW

NOTES:

1. TRAFFIC CONTROL SHOWN IS FOR TYPICAL ONRAMP CLOSURE. ADJUST SIGN PLACEMENT AND TRAFFIC CONTROL DEVICES TO FIT THE SITE CONDITIONS AS DIRECTED BY THE ENGINEER.

2. COVER PERMANENT SIGNS IN CONFLICT WITH TRAFFIC CONTROL DEVICES, AS DIRECTED BY THE ENGINEER.

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	TRAFFIC CONTROL CONSTRUCTION DETAILS	SHEET 31	E

2

POINT OF BEGINNING : EB
PI = 506WB+50.87
X = 814195.19
Y = 468295.47
AH = S 86°47'60" E

POINT OF BEGINNING : WB
PI = 506WB+39.22
X = 814185.00
Y = 468321.01
AH = S 86°47'60" E

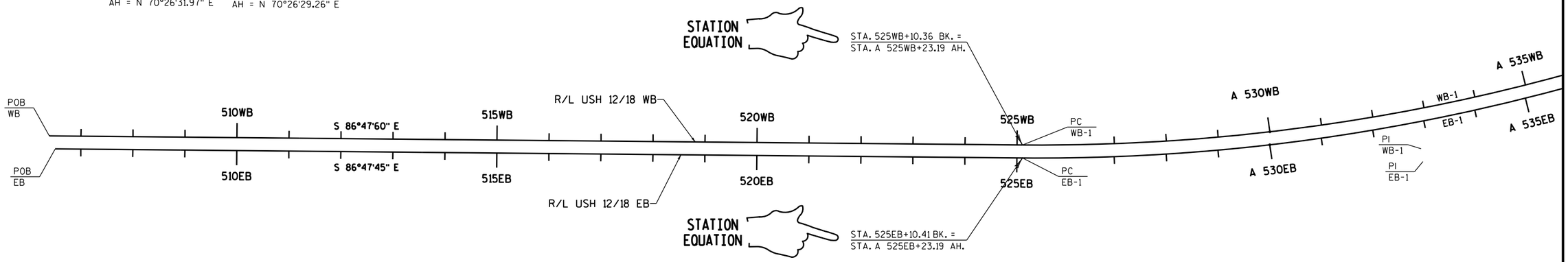
CURVE : EB-1
PC = A 525EB+23.19
X = 816051.82
Y = 468191.53
PI = A 532EB+93.55
X = 816821.00
Y = 468148.85
PT = A 540EB+43.65
X = 817546.92
Y = 468406.73

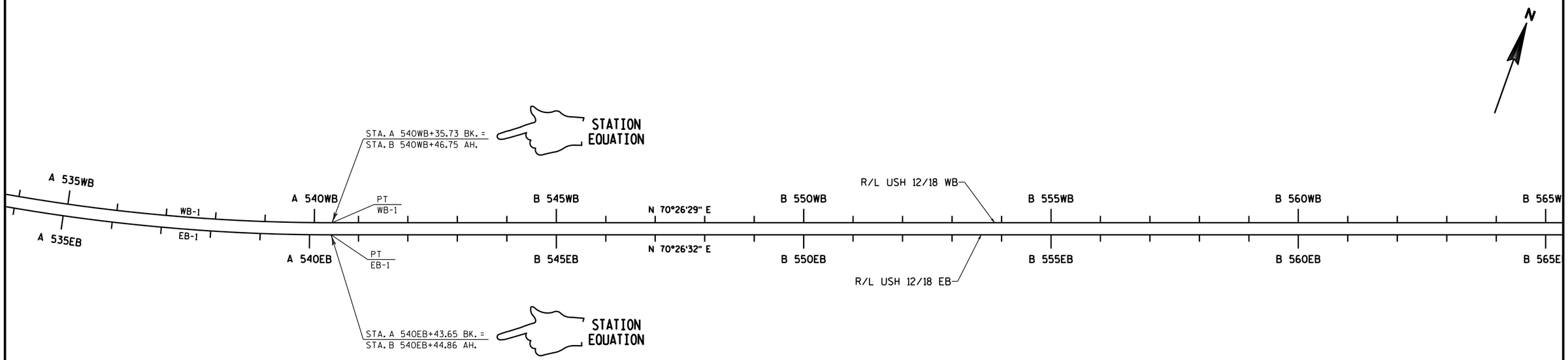
R = 3832.00
DELTA = 22°44'01.78"
D = 1°29'42.69"
L = 1520.46
T = 770.36
E = 76.67
BK = S 86°49'26.25" E
AH = N 70°26'31.97" E

CURVE : WB-1
PC = A 525WB+23.54
X = 816053.57
Y = 568216.54
PI = A 532WB+89.74
X = 816818.57
Y = 468173.77
PT = A 540WB+35.73
X = 817540.56
Y = 468430.27

R = 3807.00
DELTA = 22°45'31.23"
D = 1°30'18.04"
L = 1512.19
T = 766.20
E = 76.34
BK = S 86°47'59.51" E
AH = N 70°26'29.26" E

N





PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\027201_ad.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

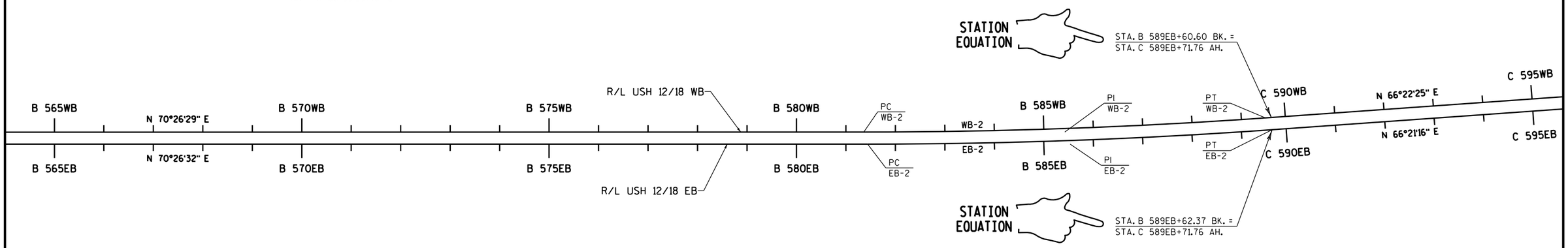
2

CURVE : EB-2
PC = B 581EB+43.97
X = 821409.53
Y = 469778.94
PI = B 585EB+53.34
X = 821795.28
Y = 469915.98
PT = B 589EB+62.37
X = 822170.28
Y = 470080.17

R = 11471.07
DELTA = 4°05'15.82"
D = 0°29'58.13"
L = 818.40
T = 409.37
E = 7.30
BK = N 70°26'31.95" E
AH = N 66°21'16.12" E

CURVE : WB-2
PC = B 581WB+36.03
X = 821393.89
Y = 469799.24
PI = B 585WB+42.55
X = 821776.95
Y = 569935.32
PT = B 589WB+48.72
X = 822149.39
Y = 470098.24

R = 11447.02
DELTA = 4°04'03.82"
D = 0°30'01.91"
L = 812.68
T = 406.51
E = 7.22
BK = N 70°26'29.22" E
AH = N 66°22'25.40" E



CURVE : EB-3
PC = C 608EB+79.58
X = 823917.93
Y = 470845.35
PI = C 611EB+91.29
X = 824203.47
Y = 470970.37
PT = C 615EB+02.96
X = 824485.50
Y = 471103.11

R = 22918.81
DELTA = 1°33'30.28"
D = 0°14'59.98"
L = 623.38
T = 311.71
E = 2.12
BK = N 66°21'15.93" E
AH = N 64°47'45.64" E

CURVE : EB-4
PC = D 618EB+22.80
X = 824742.11
Y = 471223.89
PI = D 622+34.47
X = 825114.58
Y = 471399.19
PT = D 626EB+36.66
X = 825525.28
Y = 471427.48

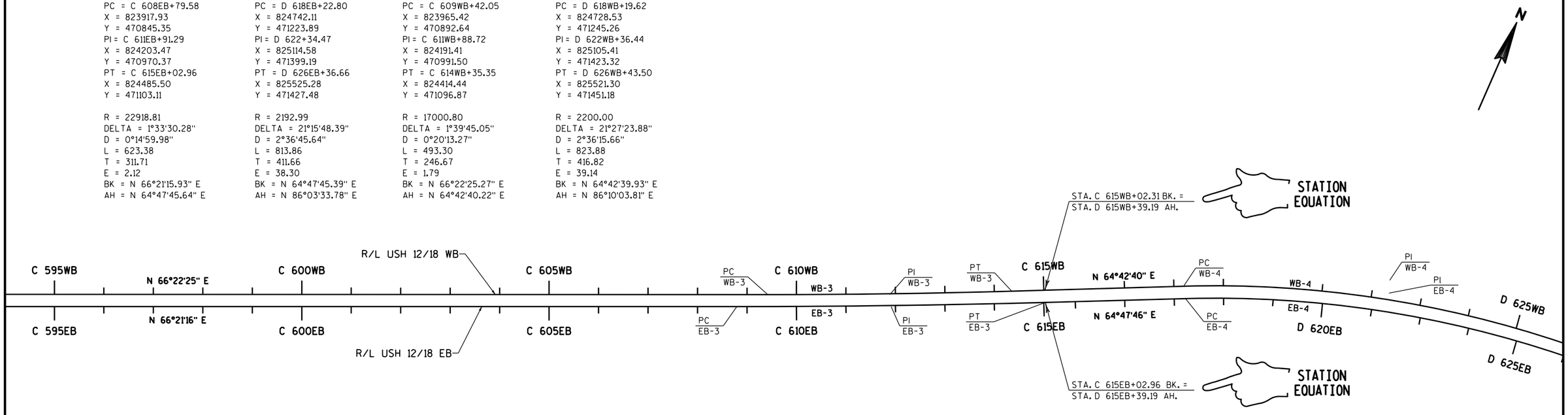
R = 2192.99
DELTA = 21°15'48.39"
D = 2°36'45.64"
L = 813.86
T = 411.66
E = 38.30
BK = N 64°47'45.39" E
AH = N 86°03'33.78" E

CURVE : WB-3
PC = C 609WB+42.05
X = 823965.42
Y = 470892.64
PI = C 611WB+88.72
X = 824191.41
Y = 470991.50
PT = C 614WB+35.35
X = 824414.44
Y = 471096.87

R = 17000.80
DELTA = 1°39'45.05"
D = 0°20'13.27"
L = 493.30
T = 246.67
E = 1.79
BK = N 66°22'25.27" E
AH = N 64°42'40.22" E

CURVE : WB-4
PC = D 618WB+19.62
X = 824728.53
Y = 471245.26
PI = D 622WB+36.44
X = 825105.41
Y = 471423.32
PT = D 626WB+43.50
X = 825521.30
Y = 471451.18

R = 2200.00
DELTA = 21°27'23.88"
D = 2°36'15.66"
L = 823.88
T = 416.82
E = 39.14
BK = N 64°42'39.93" E
AH = N 86°10'03.81" E



PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET 33	E

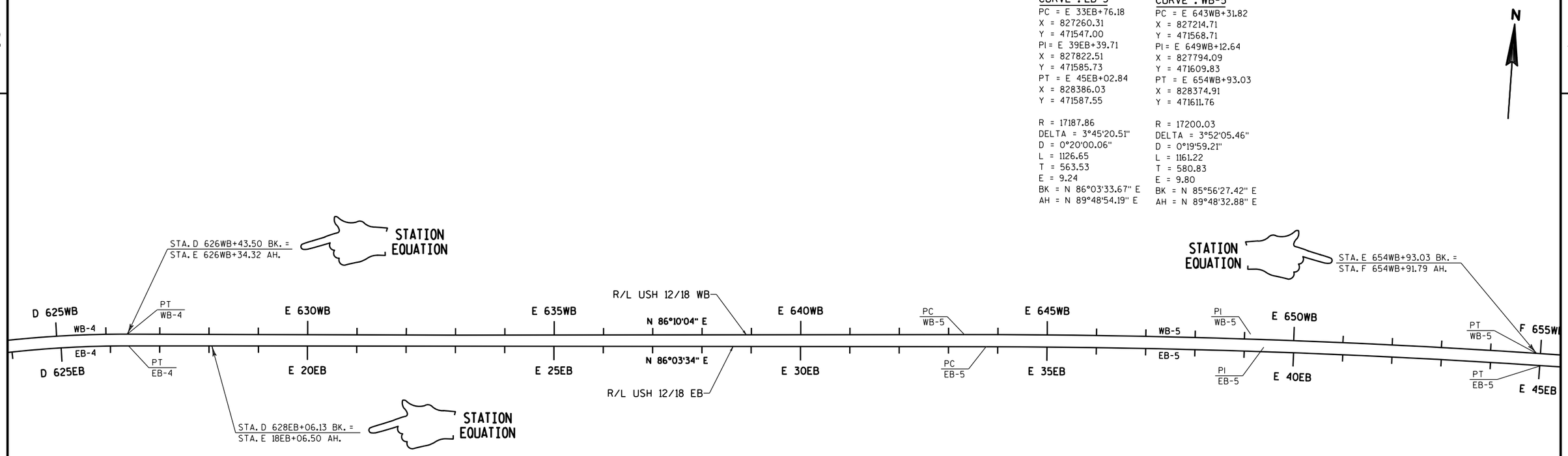
2

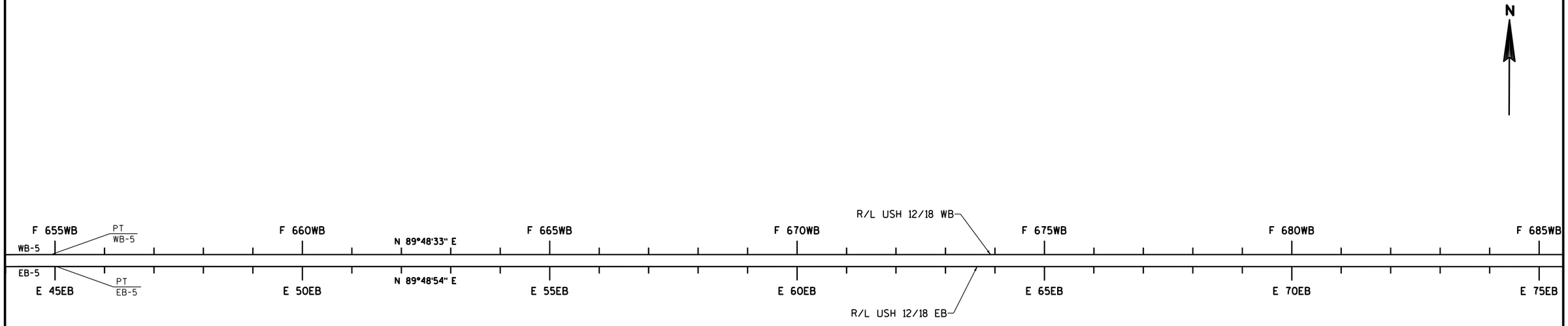
CURVE : EB-5
PC = E 33EB+76.18
X = 827260.31
Y = 471547.00
PI = E 39EB+39.71
X = 827822.51
Y = 471585.73
PT = E 45EB+02.84
X = 828386.03
Y = 471587.55

R = 17187.86
DELTA = 3°45'20.51"
D = 0°20'00.06"
L = 1126.65
T = 563.53
E = 9.24
BK = N 86°03'33.67" E
AH = N 89°48'54.19" E

CURVE : WB-5
PC = E 643WB+31.82
X = 827214.71
Y = 471568.71
PI = E 649WB+12.64
X = 827794.09
Y = 471609.83
PT = E 654WB+93.03
X = 828374.91
Y = 471611.76

R = 17200.03
DELTA = 3°52'05.46"
D = 0°19'59.21"
L = 1161.22
T = 580.83
E = 9.80
BK = N 85°56'27.42" E
AH = N 89°48'32.88" E





PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\027203_ad.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2

CURVE : EB-6

PC = E 86EB+13.77
X = 832496.95
Y = 471600.82
PI = E 91EB+64.82
X = 833048.00
Y = 471602.60
PT = E 97EB+15.28
X = 833597.13
Y = 471648.46

R = 13751.11
DELTA = 4°35'22.46"
D = 0°24'59.99"
L = 1101.51
T = 551.05
E = 11.04
BK = N 89°48'54.06" E
AH = N 85°13'31.60" E

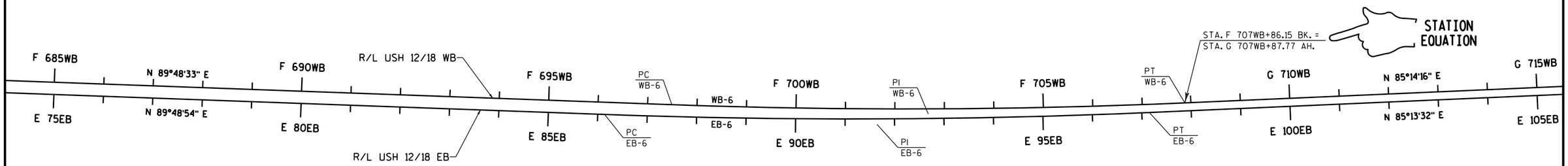
CURVE : WB-6

PC = F 697WB+48.93
X = 832632.03
Y = 471625.94
PI = F 702WB+67.82
X = 833150.91
Y = 471627.67
PT = F 707WB+86.15
X = 833668.01
Y = 471670.75

R = 13000.02
DELTA = 4°34'17.14"
D = 0°26'26.65"
L = 1037.23
T = 518.89
E = 10.35
BK = N 89°48'32.88" E
AH = N 85°14'15.74" E

N

2



CURVE : EB-7

PC = E 130EB+99.63
X = 836969.74
Y = 471930.16
PI = E 133EB+43.41
X = 837212.67
Y = 471950.45
PT = E 135EB+87.15
X = 837456.07
Y = 471963.85

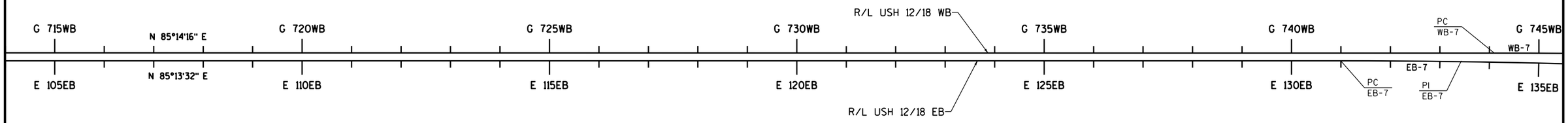
R = 17189.38
DELTA = 1°37'29.96"
D = 0°19'59.95"
L = 487.52
T = 243.77
E = 1.73
BK = N 85°13'31.65" E
AH = N 86°51'01.61" E

CURVE : WB-7

PC = G 744WB+10.15
X = 837277.89
Y = 471971.49
PI = G 746WB+50.27
X = 837517.18
Y = 471991.42
PT = H 748+89.80
X = 837756.94
Y = 472004.59

R = 17000.10
DELTA = 1°37'06.42"
D = 0°20'13.32"
L = 480.21
T = 240.12
E = 1.70
BK = N 85°14'15.74" E
AH = N 86°51'22.13" E

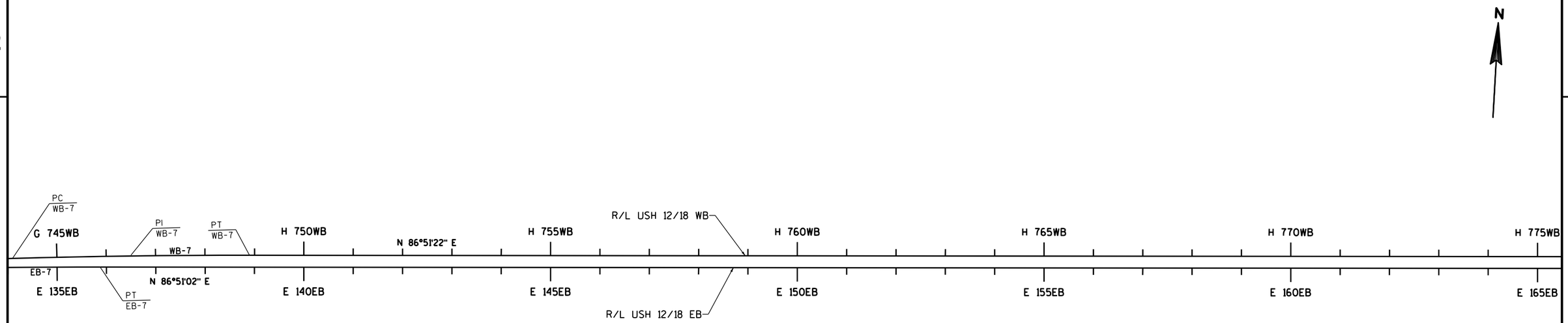
N



PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET 35	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\027204_ad.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 200:1

2



CURVE : EB-8

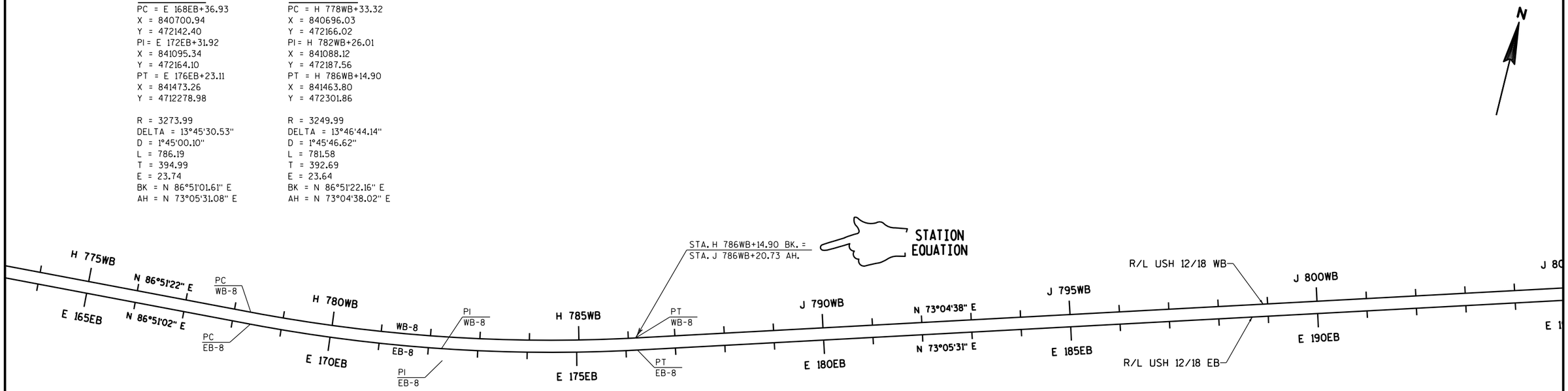
PC = E 168EB+36.93
X = 840700.94
Y = 472142.40
PI = E 172EB+31.92
X = 841095.34
Y = 472164.10
PT = E 176EB+23.11
X = 841473.26
Y = 4712278.98

R = 3273.99
DELTA = 13°45'30.53"
D = 1°45'00.10"
L = 786.19
T = 394.99
E = 23.74
BK = N 86°51'01.61" E
AH = N 73°05'31.08" E

CURVE : WB-8

PC = H 778WB+33.32
X = 840696.03
Y = 472166.02
PI = H 782WB+26.01
X = 841088.12
Y = 472187.56
PT = H 786WB+14.90
X = 841463.80
Y = 472301.86

R = 3249.99
DELTA = 13°46'44.14"
D = 1°45'46.62"
L = 781.58
T = 392.69
E = 23.64
BK = N 86°51'22.16" E
AH = N 73°04'38.02" E



PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\027205_ad.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 200:1

2

2

CURVE : EB-9

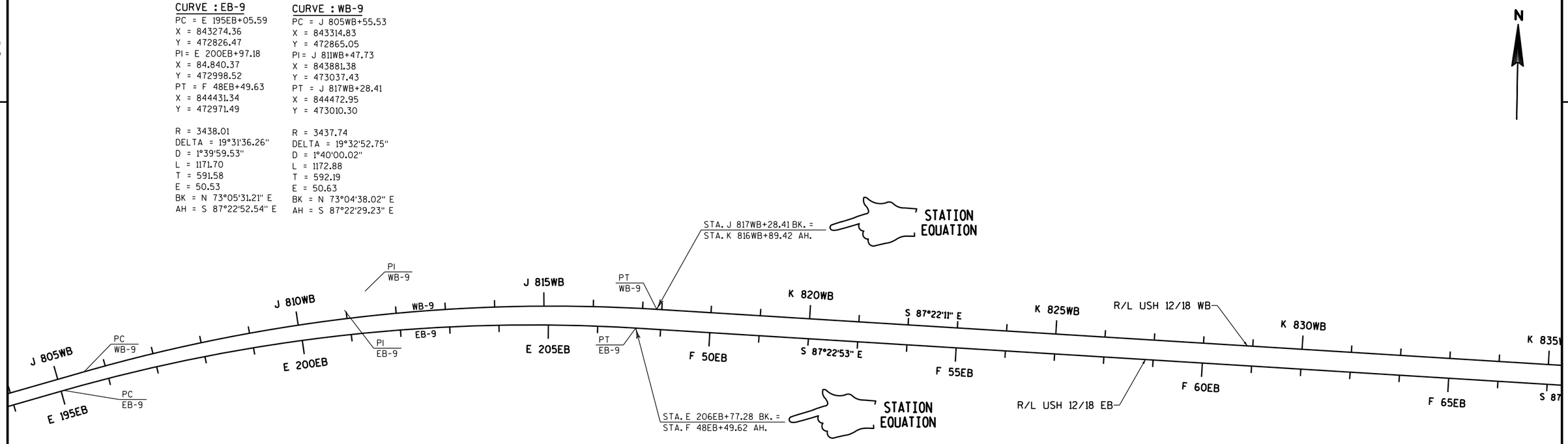
PC = E 195EB+05.59
X = 843274.36
Y = 472826.47
PI = E 200EB+97.18
X = 84.840.37
Y = 472998.52
PT = F 48EB+49.63
X = 844431.34
Y = 472971.49

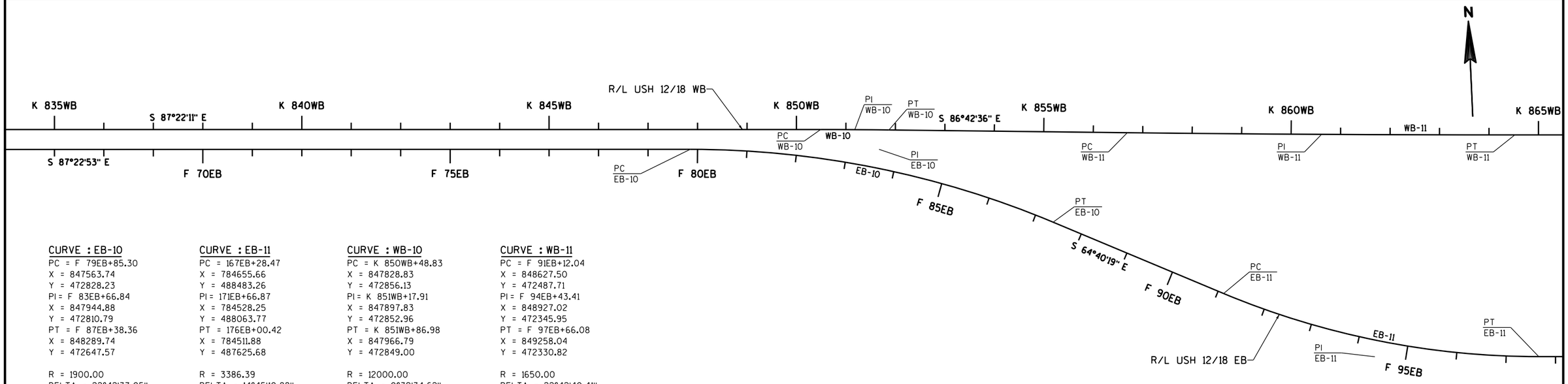
R = 3438.01
DELTA = 19°31'36.26"
D = 1°39'59.53"
L = 1171.70
T = 591.58
E = 50.53
BK = N 73°05'31.21" E
AH = S 87°22'52.54" E

CURVE : WB-9

PC = J 805WB+55.53
X = 843314.83
Y = 472865.05
PI = J 811WB+47.73
X = 843881.38
Y = 473037.43
PT = J 817WB+28.41
X = 844472.95
Y = 473010.30

R = 3437.74
DELTA = 19°32'52.75"
D = 1°40'00.02"
L = 1172.88
T = 592.19
E = 50.63
BK = N 73°04'38.02" E
AH = S 87°22'29.23" E





CURVE : EB-10

PC = F 79EB+85.30
X = 847563.74
Y = 472828.23
PI = F 83EB+66.84
X = 847944.88
Y = 472810.79
PT = F 87EB+38.36
X = 848289.74
Y = 472647.57

R = 1900.00
DELTA = 22°42'33.05"
D = 3°00'56.04"
L = 753.06
T = 381.54
E = 37.93
BK = S 87°22'52.54" E
AH = S 64°40'19.49" E

CURVE : EB-11

PC = 167EB+28.47
X = 784655.66
Y = 488483.26
PI = 171EB+66.87
X = 784528.25
Y = 488063.77
PT = 176EB+00.42
X = 784511.88
Y = 487625.68

R = 3386.39
DELTA = 14°45'10.88"
D = 1°41'31.00"
L = 871.96
T = 438.40
E = 28.26
BK = S 16°53'38.82" W
AH = S 2°08'27.94" W

CURVE : WB-10

PC = K 850WB+48.83
X = 847828.83
Y = 472856.13
PI = K 851WB+17.91
X = 847897.83
Y = 472852.96
PT = K 851WB+86.98
X = 847966.79
Y = 472849.00

R = 12000.00
DELTA = 0°39'34.62"
D = 0°28'38.87"
L = 138.15
T = 39.08
E = 0.20
BK = S 87°22'10.88" E
AH = S 86°42'36.25" E

CURVE : WB-11

PC = F 91EB+12.04
X = 848627.50
Y = 472487.71
PI = F 94EB+43.41
X = 848927.02
Y = 472345.95
PT = F 97EB+66.08
X = 849258.04
Y = 472330.82

R = 1650.00
DELTA = 22°42'40.41"
D = 3°28'20.90"
L = 654.04
T = 331.37
E = 32.95
BK = S 64°40'19.49" E
AH = S 87°22'59.90" E

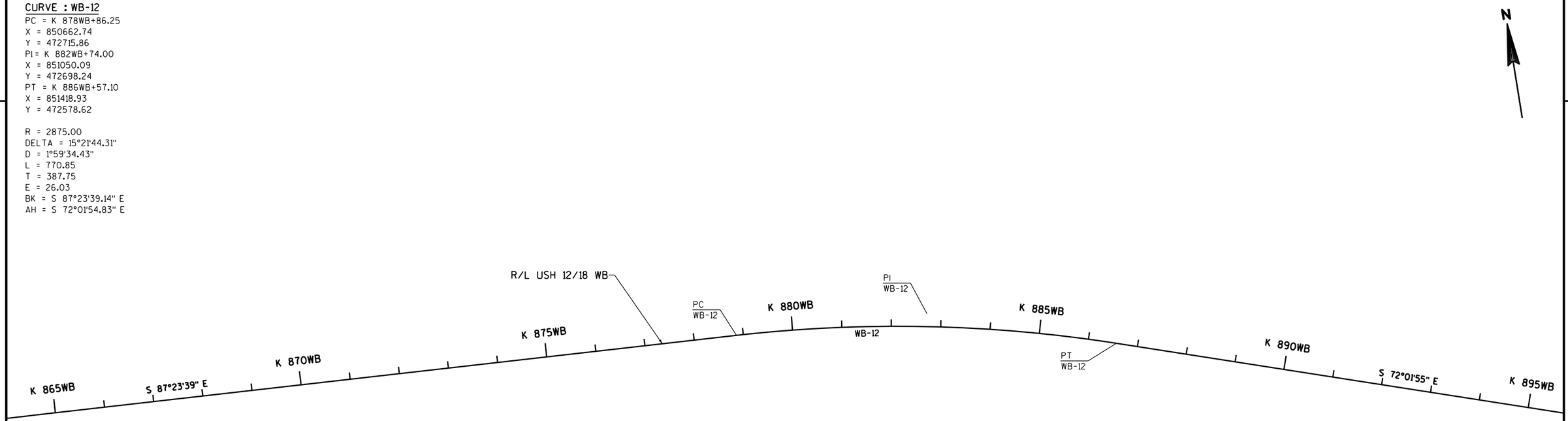
PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET	E

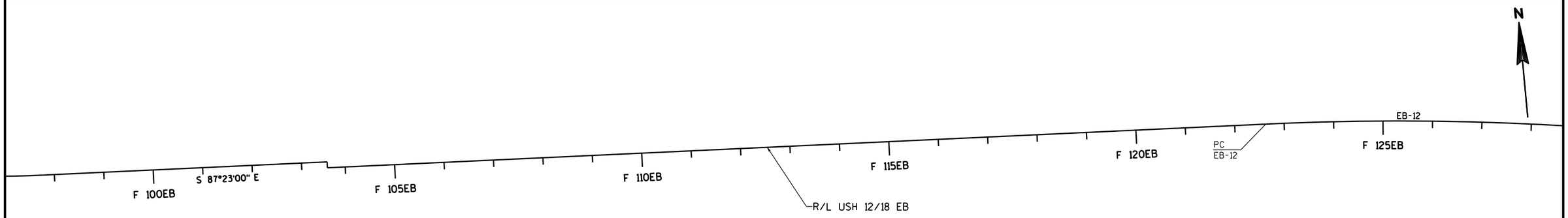
FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\027206_ad.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 200:1

2

CURVE : WB-12
PC = K 878WB+86.25
X = 850662.74
Y = 472715.86
PI = K 882WB+74.00
X = 851050.09
Y = 472698.24
PT = K 886WB+57.10
X = 851418.93
Y = 472578.62

R = 2875.00
DELTA = 15°21'44.31"
D = 1°59'34.43"
L = 770.85
T = 387.75
E = 26.03
BK = S 87°23'39.14" E
AH = S 72°01'54.83" E





CURVE : EB-12
PC = F 122EB+62.94
X = 851739.77
Y = 472205.39
PI = F 130EB+41.26
X = 852517.27
Y = 472169.86
PT = F 138EB+10.25
X = 853257.63
Y = 471929.76

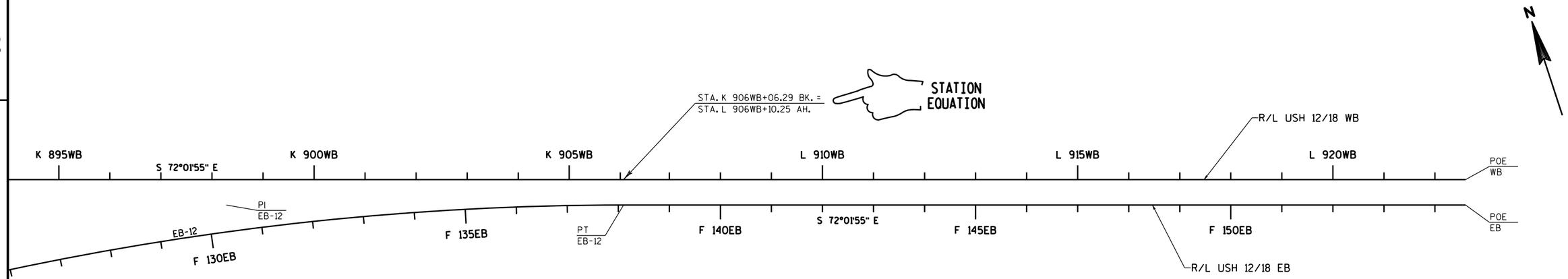
R = 5775.00
DELTA = 15°21'05.07"
D = 0°59'31.68"
L = 1547.31
T = 778.32
E = 52.21
BK = S 87°22'59.90" E
AH = S 72°01'54.83" E

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET	E

FILE NAME : \\madw00\ingrproj\66224\t1\cds\1206-04-69 Base Patching\027207_ad.dgn PLOT DATE : 2/1/2018 PLOT BY : nbennett PLOT NAME : PLOT SCALE : 200:1

WISDOT/CADDS SHEET 42

2



POINT OF ENDING : EB
PI = F 154EB+59.96
X = 854826.88
Y = 471420.84
AH = S 72°01'54.83" E

POINT OF ENDING : WB
PI = L 922WB+59.95
X = 854842.30
Y = 471468.41
AH = S 72°01'54.83" E

PROJECT NO: 1206-04-69	HWY: USH 12	COUNTY: DANE	ALIGNMENT PLAN	SHEET 39	E

1206-04-69

Line	Item	Item Description	Unit	Total	Qty
0002	213.0100	Finishing Roadway (project) 01. 1206-04-69	EACH	1.000	1.000
0004	416.0610	Drilled Tie Bars	EACH	3,196.000	3,196.000
0006	416.0620	Drilled Dowel Bars	EACH	38,139.000	38,139.000
0008	619.1000	Mobilization	EACH	1.000	1.000
0010	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0012	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0014	628.7020	Inlet Protection Type D	EACH	20.000	20.000
0016	642.5401	Field Office Type D	EACH	1.000	1.000
0018	643.0300	Traffic Control Drums	DAY	29,172.000	29,172.000
0020	643.0420	Traffic Control Barricades Type III	DAY	3,437.000	3,437.000
0022	643.0705	Traffic Control Warning Lights Type A	DAY	6,874.000	6,874.000
0024	643.0715	Traffic Control Warning Lights Type C	DAY	8,357.000	8,357.000
0026	643.0800	Traffic Control Arrow Boards	DAY	425.000	425.000
0028	643.0900	Traffic Control Signs	DAY	3,896.000	3,896.000
0030	643.0920	Traffic Control Covering Signs Type II	EACH	60.000	60.000
0032	643.1050	Traffic Control Signs PCMS	DAY	791.000	791.000
0034	643.5000	Traffic Control	EACH	1.000	1.000
0036	646.1020	Marking Line Epoxy 4-Inch	LF	19,261.000	19,261.000
0038	646.3020	Marking Line Epoxy 8-Inch	LF	9,044.000	9,044.000
0040	646.5420	Marking Aerial Enforcement Bar Epoxy	EACH	5.000	5.000
0042	646.7220	Marking Chevron Epoxy 24-Inch	LF	50.000	50.000
0044	646.9010	Marking Removal Line Water Blasting 4-Inch	LF	408.000	408.000
0046	646.9100	Marking Removal Line 8-Inch	LF	2,501.000	2,501.000
0048	646.9110	Marking Removal Line Water Blasting 8-Inch	LF	5,802.000	5,802.000
0050	652.0800	Conduit Loop Detector	LF	200.000	200.000
0052	655.0800	Loop Detector Wire	LF	640.000	640.000
0054	690.0250	Sawing Concrete	LF	68,818.000	68,818.000
0056	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,600.000	1,600.000
0058	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	800.000	800.000
0060	SPV.0060	Special 01. Repositioning Traffic Control Devices for Mainline Closures	EACH	68.000	68.000
0062	SPV.0060	Special 02. Traffic Control Close-Open Freeway Entrance Ramp	EACH	95.000	95.000
0064	SPV.0060	Special 03. Removing Pavement Patches and Patch with HMA	EACH	6,000.000	6,000.000
0066	SPV.0060	Special 04. Remove Loop Detector Wire	EACH	4.000	4.000
0068	SPV.0090	Special 01. Concrete Pavement Repair Longitudinal Joint	LF	3,000.000	3,000.000
0070	SPV.0180	Special 01. Concrete Pavement Repair Overnight	SY	18,100.000	18,100.000
0072	SPV.0180	Special 02. Concrete Pavement Replacement Overnight	SY	2,382.000	2,382.000

MAINLINE CONCRETE REPAIR

ROADWAY	DIRECTION	STATION FROM	STATION TO	SEGMENT	LANE	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0250 SAWING CONCRETE LF	SPV.0060.03 REMOVING PAVEMENT PATCHES AND PATCH WITH HMA EACH	SPV.0090.01 CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT LF	SPV.0180.01 CONCRETE PAVEMENT REPAIR OVERNIGHT SY	SPV.0180.02 CONCRETE PAVEMENT REPLACEMENT OVERNIGHT SY	COMMENTS
USH 12/18	WB	517WB+00	B 550WB+49	FISH HATCHERY RD. TO PARK ST.	INSIDE	30	864	1,368	144	--	408	60	
					MIDDLE	10	480	744	82	--	232	20	
					OUTSIDE	20	544	918	88	--	272	43	
					AUXILIARY	--	80	140	14	--	47	--	
	EB	517EB+00	B 550EB+46		INSIDE	20	736	1,152	122	--	352	40	
					MIDDLE	20	640	1,008	107	--	304	40	
					OUTSIDE	20	544	918	88	--	272	43	
					AUXILIARY	10	256	476	40	--	140	23	
USH 12/18	WB	B 552WB+05	B 563WB+82	PARK STREET TO RAILROAD	INSIDE	10	256	408	43	--	120	20	
					MIDDLE	--	96	144	16	--	48	--	
					OUTSIDE	--	48	78	8	--	26	--	
					AUXILIARY	--	16	24	2	--	8	--	
	EB	B 552EB+02	B 563EB+72		INSIDE	10	208	336	34	--	96	20	
					MIDDLE	10	208	336	35	--	96	20	
					OUTSIDE	10	192	338	31	--	95	22	
					AUXILIARY	--	16	24	2	--	8	--	
USH 12/18	WB	B 564WB+71	C 597WB+00	RAILROAD TO RIMROCK RD.	INSIDE	20	704	1,104	120	--	336	40	
					MIDDLE	10	272	432	46	--	128	20	
					OUTSIDE	--	128	208	22	--	69	--	
					AUXILIARY	--	32	48	5	--	16	--	
	EB	B 564EB+65	C 597EB+00		INSIDE	20	560	888	93	--	264	40	
					MIDDLE	20	576	912	95	--	272	40	
					OUTSIDE	10	512	858	84	--	269	22	
					AUXILIARY	--	32	48	5	--	16	--	
USH 12/18	WB	C 597WB+00	D 619WB+60	RIMROCK RD. TO JOHN NOLEN DR.	INSIDE	10	352	552	61	--	168	20	
					MIDDLE	10	224	360	38	--	104	20	
					OUTSIDE	10	224	390	35	--	113	22	
					AUXILIARY	--	96	168	16	--	56	--	
	EB	C 597EB+00	D 619EB+55		INSIDE	10	416	648	71	--	200	20	
					MIDDLE	10	240	384	41	--	112	20	
					OUTSIDE	10	304	520	50	--	156	22	
					AUXILIARY	10	368	672	59	--	205	23	
USH 12/18	WB	D 621WB+15	E 630WB+38	JOHN NOLEN DR. TO RAILROAD	INSIDE	--	128	192	21	--	64	--	
					MIDDLE	--	128	192	23	--	64	--	
					OUTSIDE	--	128	208	21	--	69	--	
					AUXILIARY	--	32	56	6	--	19	--	
USH 12/18	EB	D 620EB+99	E 20EB+62	JOHN NOLEN DR. TO RAILROAD	INSIDE	10	208	336	37	--	96	20	
					MIDDLE	10	208	336	32	--	96	20	
					OUTSIDE	10	192	338	30	--	95	22	
					AUXILIARY	--	144	252	25	--	84	--	

MAINLINE CONCRETE REPAIR (CONT.)

ROADWAY	DIRECTION	STATION FROM	STATION TO	SEGMENT	LANE	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0250 SAWING CONCRETE LF	SPV.0060.03 REMOVING PAVEMENT PATCHES AND PATCH WITH HMA EACH	SPV.0090.01 CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT LF	SPV.0180.01 CONCRETE PAVEMENT REPAIR OVERNIGHT SY	SPV.0180.02 CONCRETE PAVEMENT REPLACEMENT OVERNIGHT SY	COMMENTS
USH 12/18	WB	E 632WB+57	F 664WB+00	RAILROAD TO SOUTH TOWNE DR.	INSIDE	10	416	648	71	--	200	20	
					MIDDLE	20	496	792	82	--	232	40	
					OUTSIDE	10	416	689	69	--	213	21	
					AUXILIARY	--	112	196	19	--	65	--	
	EB	E 22EB+80	E 54EB+00		INSIDE	20	752	1,176	127	--	360	40	
					MIDDLE	20	656	1,032	110	--	312	40	
					OUTSIDE	20	640	1,071	103	--	323	43	
					AUXILIARY	20	528	980	85	--	289	47	
USH 12/18	WB	F 664WB+00	G 742WB+80	SOUTH TOWNE DR. TO MONONA DR.	INSIDE	20	544	864	91	--	256	40	
					MIDDLE	50	1,488	2,352	248	--	704	100	
					OUTSIDE	40	1,136	2,100	184	--	625	93	
					AUXILIARY	--	16	28	2	--	9	--	
	EB	E 54EB+00	E 132EB+80		INSIDE	30	1,040	1,632	175	--	496	60	
					MIDDLE	40	1,328	2,088	229	--	632	80	
					OUTSIDE	40	1,184	2,184	193	--	653	93	
					AUXILIARY	10	192	364	30	--	103	23	
USH 12/18	WB	G 744WB+17	J 788WB+79	MONONA DR. TO STOUGHTON RD.	INSIDE	30	848	1,344	142	--	400	60	
					MIDDLE	30	880	1,392	148	--	416	60	
					OUTSIDE	40	1,168	2,002	189	--	598	87	
					AUXILIARY	10	256	476	41	--	140	23	
	EB	E 134EB+16	E 178EB+83		INSIDE	50	1,392	2,208	237	--	656	100	
					MIDDLE	50	1,520	2,400	259	--	720	100	
					OUTSIDE	30	896	1,534	145	--	459	65	
					AUXILIARY	20	608	1,120	98	--	336	47	
USH 12/18	WB	J 790WB+68	K 843WB+00	STOUGHTON RD. TO IH-39	INSIDE	40	1,360	2,136	229	--	648	80	
					MIDDLE	50	1,440	2,280	242	--	680	100	
					OUTSIDE	--	112	168	19	--	56	--	
					AUXILIARY	--	96	168	17	--	56	--	
	EB	E 180WB+74	F 75EB+00		INSIDE	50	1,520	2,400	257	--	720	100	
					MIDDLE	50	1,488	2,352	250	--	704	100	
					OUTSIDE	--	64	96	12	--	32	--	
					AUXILIARY	--	32	56	5	--	19	--	
USH 12/18	WB	K 843WB+00	913WB+00	IH-39 TO MILLPOND RD.	INSIDE	--	48	72	--	--	24	--	
					OUTSIDE	--	48	72	--	--	24	--	
	EB	F 75EB+00	145EB+00		INSIDE	--	48	72	--	--	24	--	
					OUTSIDE	--	48	72	--	--	24	--	

MAINLINE CONCRETE REPAIR (CONT.)

ROADWAY	DIRECTION	STATION FROM	STATION TO	SEGMENT	LANE	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	690.0250 SAWING CONCRETE LF	SPV.0060.03 REMOVING PAVEMENT PATCHES AND PATCH WITH HMA EACH	SPV.0090.01 CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT LF	SPV.0180.01 CONCRETE PAVEMENT REPAIR OVERNIGHT SY	SPV.0180.02 CONCRETE PAVEMENT REPLACEMENT OVERNIGHT SY	COMMENTS
USH 12/18	WB			FISH HATCHERY RD. WB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	WB			PARK STREET WB ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			PARK STREET WB LOOP ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			PARK STREET WB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	WB			RIMROCK RD. WB ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			RIMROCK RD. WB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	WB			JOHN NOLEN DR. WB ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			JOHN NOLEN DR. WB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	WB			SOUTH TOWNE DR. WB ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			SOUTH TOWNE DR. WB OFFAMP	RAMP	--	16	30	--	--	10	--	
	WB			MONONA DR. WB ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			MONONA DR. WB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	WB			STOUGHTON RD. WB ONRAMP	RAMP	--	16	30	--	--	10	--	
	WB			STOUGHTON RD WB OFFRAMP	RAMP	--	16	30	--	--	10	--	
USH 12/18	EB			FISH HATCHERY RD. EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			PARK STREET EB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	EB			PARK STREET EB LOOP ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			PARK STREET EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			RIMROCK RD. EB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	EB			RIMROCK RD. EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			JOHN NOLEN DR. EB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	EB			JOHN NOLEN DR. EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			SOUTH TOWNE DR. EB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	EB			SOUTH TOWNE DR. EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			MONONA DR. EB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	EB			MONONA DR. EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			STOUGHTON RD. EB OFFRAMP	RAMP	--	16	30	--	--	10	--	
	EB			STOUGHTON RD EB ONRAMP	RAMP	--	16	30	--	--	10	--	
	EB			USH 12 EB TO IH 39/90 NB RAMP	RAMP	--	16	48	--	--	16	--	CONCRETE REPAIR IN BOTH LANES
TOTALS						1,150	36,672	60,018	6,000	--	18,100	2,382	
UNDISTRIBUTED						46	1,467	2,401	--	--	--	--	
UNDISTRIBUTED - CONCRETE PAVEMENT REPAIR LONGITUDINAL JOINT						2,000	--	6,400	--	3,000	--	--	
PROJECT 1206-04-69 TOTALS						3,196	38,139	68,818	6,000	3,000	18,100	2,382	

3

FINISHING ROADWAY (PROJECT 1206-04-69)

ROADWAY	213.0100 FINISHING ROADWAY 1206-04-69 EACH
PROJECT 1206-04-69	1
PROJECT 1206-04-69 TOTAL	1

ITS

	652.0800 CONDUIT LOOP DETECTOR LF	655.0800 LOOP DETECTOR WIRE LF	SPV.0060.04 REMOVE LOOP DETECTOR WIRE EACH
UNDISTRIBUTED	200	640	4
PROJECT 1206-04-69 TOTAL	200	640	4

MOBILIZATION

ROADWAY	619.1000 MOBILIZATION EACH
PROJECT 1206-04-69	1
PROJECT 1206-04-69 TOTAL	1

FIELD OFFICE TYPE D

ROADWAY	642.5401 FIELD OFFICE TYPE D 1206-04-69 EACH
PROJECT 1206-04-69	1
PROJECT 1206-04-69 TOTAL	1

TRAFFIC CONTROL COVERING SIGNS

ROADWAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	CYCLES	SIGNS	REMARKS
UNDISTRIBUTED	60	--	--	ALL TRAFFIC CONTROL COVERING SIGNS ANTICIPATED FOR ONE CYCLE
PROJECT 1206-04-69 TOTAL	60			

EROSION CONTROL ITEMS

ROADWAY	STATION	TO	STATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7020 INLET PROTECTION TYPE D EACH
PROJECT 1206-04-69						
USH 12	---	-	---	1	1	20
PROJECT 1206-04-69 TOTAL				1	1	20

TRAFFIC CONTROL ITEMS

ROADWAY	DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH*	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH*	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH*	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH*	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH*	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH*	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH*	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	643.5000 TRAFFIC CONTROL EACH
PRE-CONSTRUCTION																
USH 12 EB	7	--	--	--	--	--	--	--	--		--	--	--	1	7	--
USH 12 WB	7	--	--	--	--	--	--	--	--		--	--	--	1	7	--
NIGHTLY RAMP CLOSURES	7	--	--	--	--	--	--	--	--	--	--	--	--	12	84	--
PRE-CONSTRUCTION SUBTOTAL			--		--		--		--		--		--		98	--
STAGE 1 CONSTRUCTION																
USH 12 EB NIGHTLY DOUBLE LANE CLOSURES	56	175	9,800	16	896	32	1,792	28	1,568	3	168	22	1,232	--	--	--
USH 12 WB NIGHTLY DOUBLE LANE CLOSURES	56	175	9,800	16	896	32	1,792	28	1,568	3	168	22	1,232	--	--	--
NIGHTLY RAMP CLOSURES		45	540	12	144	24	288	45	540	--	--	8	96	12	12	--
NIGHTLY RAMP CLOSURES	7	--	--	--	--	--	--	--	--	--	--	--	--	40	280	--
NIGHTLY RAMP CLOSURES		45	1,800	12	480	24	960	45	1,800	--	--	8	320	40	40	--
STAGE 1 SUBTOTAL			21,940		2,416		4,832		5,476		336		2,880		332	--
UNDISTRIBUTED			7,232		1,021		2,042		2,881		89		1,016		361	1
PROJECT 1206-04-69 TOTAL			29,172		3,437		6,874		8,357		425		3,896		791	1

* PROVIDED FOR INFORMATION ONLY

TRAFFIC CONTROL ITEMS (CONT.)

ROADWAY	SPV.0060.01 REPOSITIONING TRAFFIC CONTROL DEVICES FOR MAINLINE CLOSURE EACH	SPV.0060.02 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	REMARKS
PRE-CONSTRUCTION			
USH 12 EB	--	--	7 DAYS IN ADVANCE OF CONSTRUCTION
USH 12 WB	--	--	7 DAYS IN ADVANCE OF CONSTRUCTION
NIGHTLY RAMP CLOSURES	--	--	7 DAYS IN ADVANCE OF CONSTRUCTION, 1 @ EACH CONFLICTING RAMP
PRE-CONSTRUCTION SUBTOTAL	--	--	
STAGE 1 CONSTRUCTION			
USH 12 EB NIGHTLY DOUBLE LANE CLOSURES	28	--	ASSUME 2 MILE CLOSURE.
USH 12 WB NIGHTLY DOUBLE LANE CLOSURES	28	--	ASSUME 2 MILE CLOSURE.
NIGHTLY RAMP CLOSURES	--	12	1 DAY @ EACH CONFLICTING ON RAMP FOR STRIPING.
NIGHTLY RAMP CLOSURES	--	--	7 DAYS IN ADVANCE OF CONSTRUCTION, 1 PCMS @ EACH ON RAMP
NIGHTLY RAMP CLOSURES	--	40	NEED 40 RAMP CLOSURES FOR CONCRETE REPAIRS AND PATCHING
STAGE 1 SUBTOTAL	56	52	
UNDISTRIBUTED	12	43	
PROJECT 1206-04-69 TOTAL	68	95	

* PROVIDED FOR INFORMATION ONLY

PAVEMENT MARKING ITEMS

LOCATION	STATION	TO	STATION	646.0120 MARKING LINE EPOXY 4-INCH YELLOW LF	646.0120 MARKING LINE EPOXY 4-INCH WHITE LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE LF	646.5420 MARKING AERIAL ENFORCMENT BAR EPOXY EACH	646.7220 MARKING CHEVRON EPOXY 24-INCH WHITE LF	COMMENTS
STAGE 5									
USH 12 EB	A 527EB+20	-	E 161EB+45	--	--	3,675	--	--	
USH 12 WB	A 526WB+80	-	K 847WB+00	--	483	5,192	--	--	
USH 12 EB/WB	---	-	---	4,600	13,800	--	--	--	CONCRETE REPAIR LOCATIONS
STAGE 5 SUBTOTAL					18,883	8,867	--	--	
UNDISTRIBUTED					378	177	5	50	
PROJECT 1206-04-69 TOTAL					19,261	9,044	5	50	

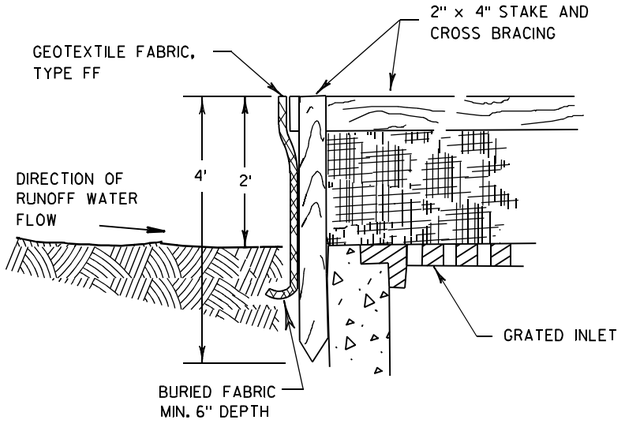
PAVEMENT MARKING REMOVALS

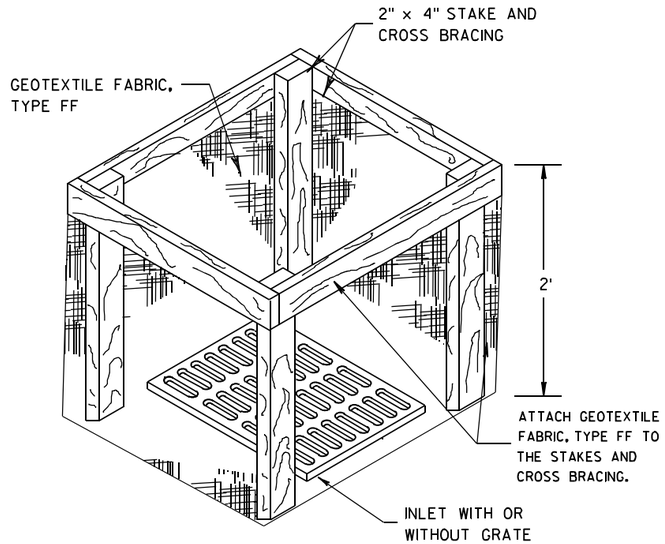
CATEGORY	STAGE	ROADWAY	646.9010 MARKING REMOVAL LINE WATER BLASTING 4-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF	646.9110 MARKING REMOVAL LINE WATER BLASTING 8-INCH LF	COMMENTS
0010	1	USH 12 EB	--	1,050	2,395	
		USH 12 WB	400	1,402	3,293	
STAGE 1 SUBTOTAL			400	2,452	5,688	
UNDISTRIBUTED			8	49	114	
PROJECT 1206-04-69 TOTAL			408	2,501	5,802	

Standard Detail Drawing List

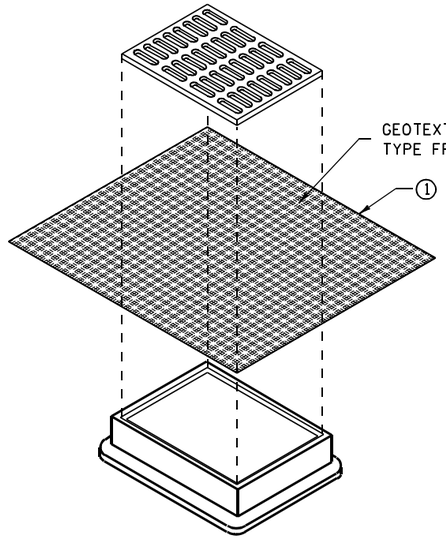
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-10	CONDUIT
09F12-04	LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-14A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-14B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-14C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C14-03	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03C	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15D03-04	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-04A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-04E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

6



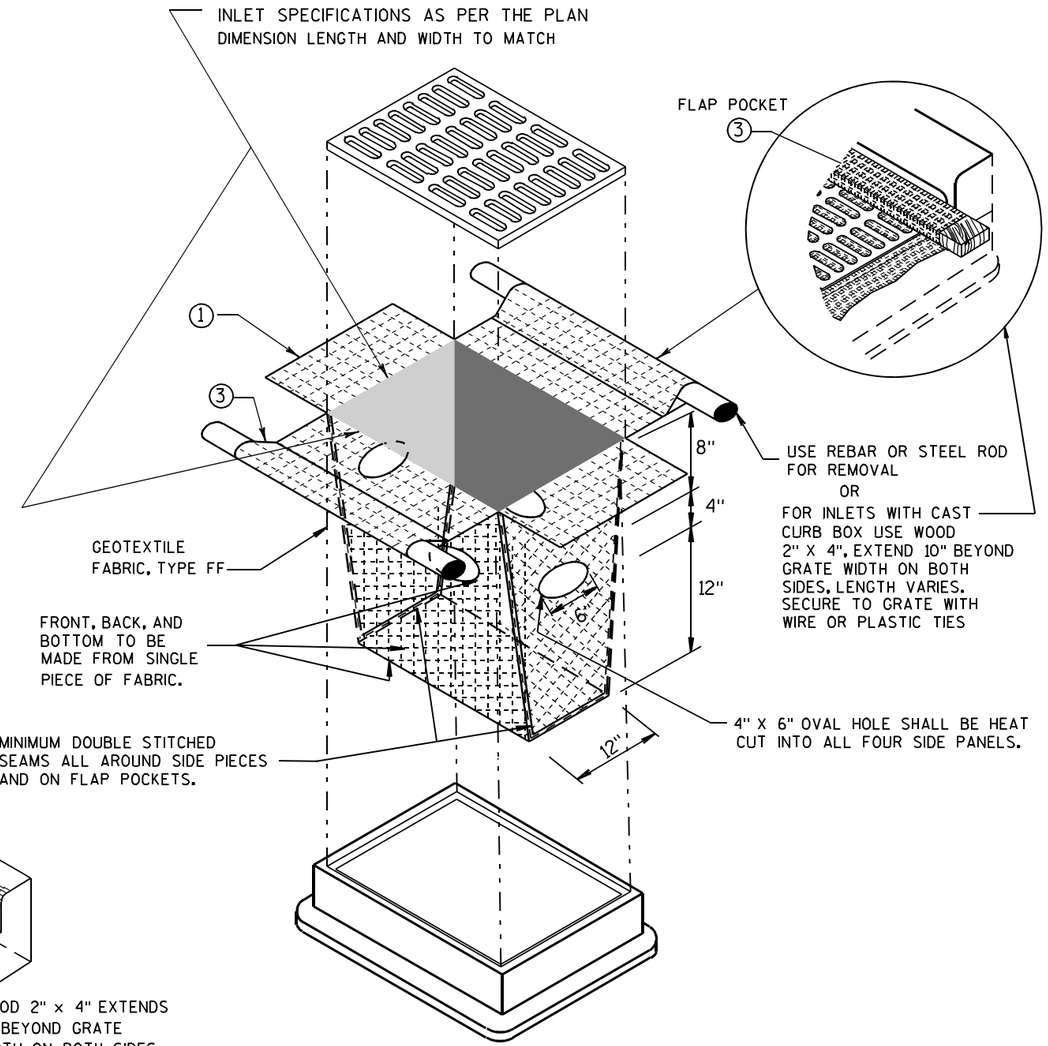


INLET PROTECTION, TYPE A



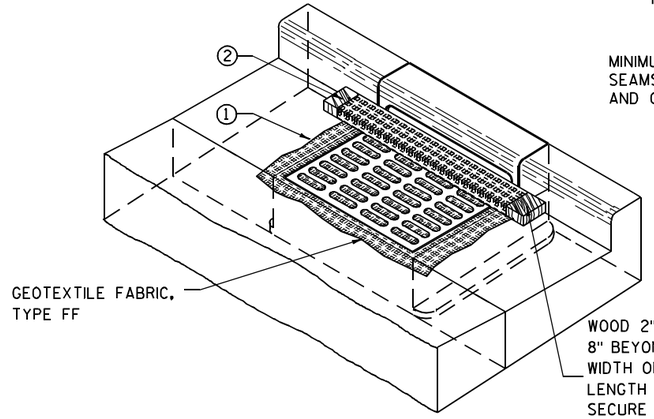
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

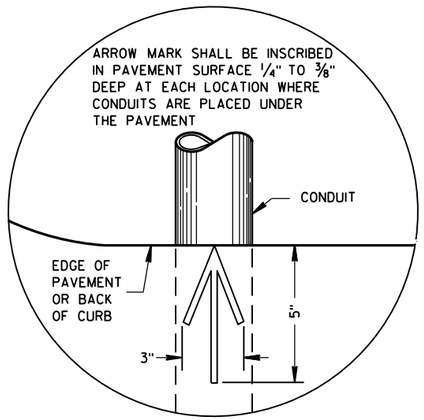
APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

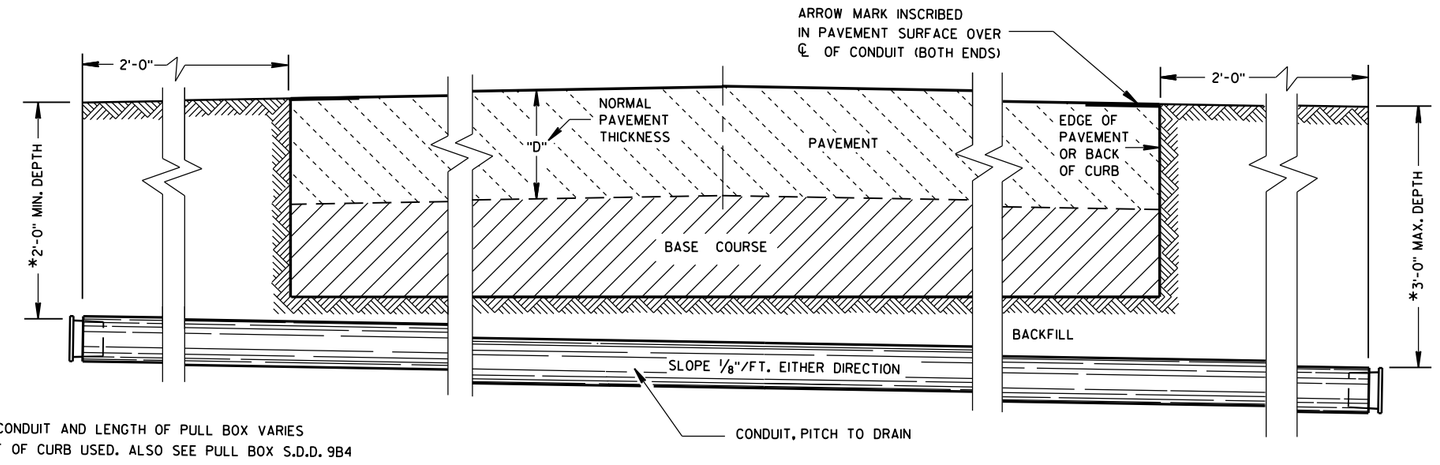
FHWA

6
S.D.D. 8 E 10-2



PLAN VIEW

ARROW MARK



*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

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

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

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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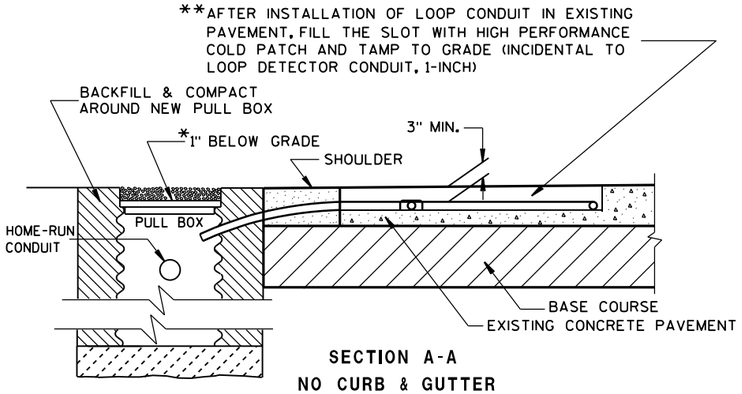
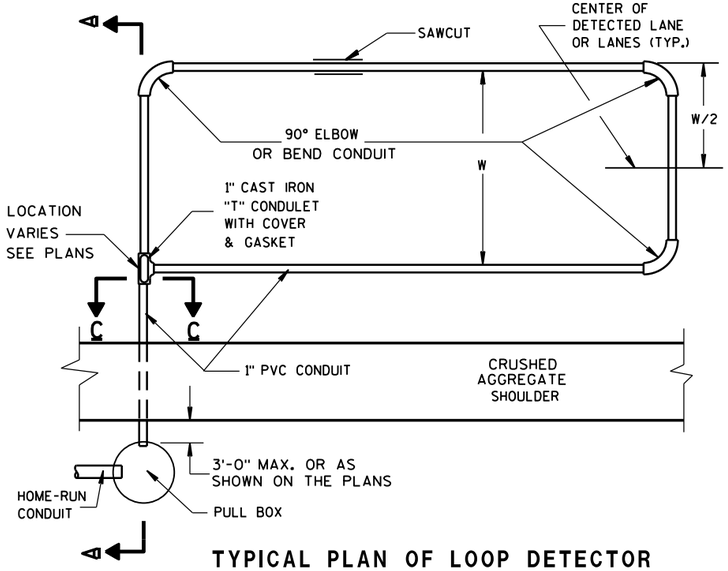


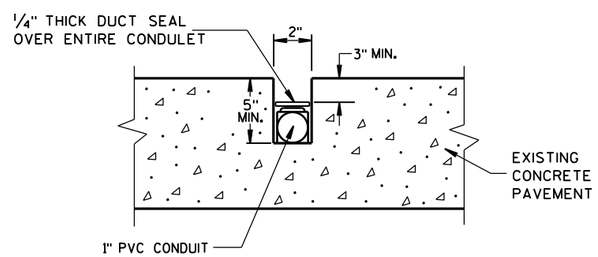
SECTION A-A
NO CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL

*RECESS PULL BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.



TYPICAL PLAN OF LOOP DETECTOR



SIDE VIEW
SECTION C-C

LOOP DETECTOR SLOT DETAIL

GENERAL NOTES

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

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISITANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

BEFORE PLACING THE 1 INCH CONDUIT IN THE CLEANED OUT SLOT, PLACE SOME OF THE TAR OR EPOXY SEALANT IN THE SLOT TO A DEPTH OF APPROXIMATELY $\frac{1}{2}$ INCH.

ONCE THE 2" LOOP SLOT HAS BEEN CHIPPED OUT, THE LOOP INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE LANE(S) TO TRAFFIC.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

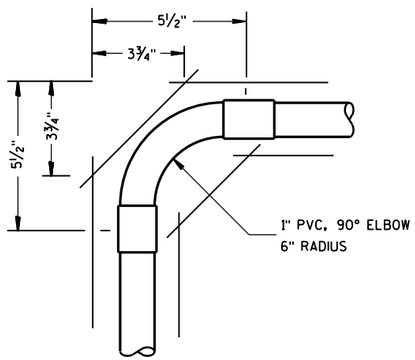
THE #12 AWG LOOP WIRE FROM THE LOOP TO THE ROADSIDE PULL BOX, SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE INSTALLATION.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL BOX, THROUGH THE LOOP CONDUIT BACK TO THE ROADSIDE PULL BOX, AND BE INSTALLED IN ONE, NON-SPLICED, CONTINUOUS LENGTH.

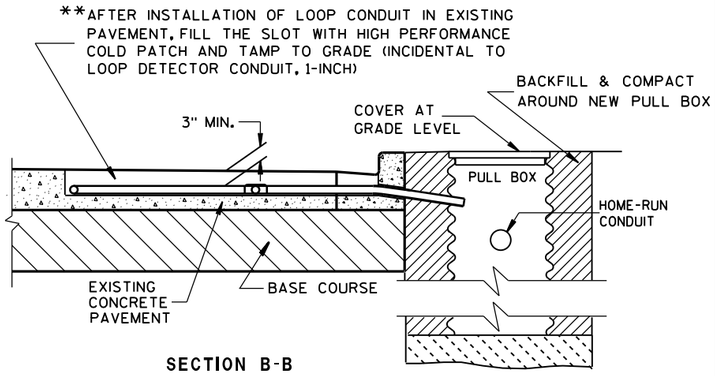
** AFTER THE HIGH PERFORMANCE COLD PATCH HAS BEEN TAMPED, SEAL THE SLOT/HIGH PERFORMANCE COLD PATCH/ PAVEMENT OPENING WITH HOT POURED ELASTIC TYPE MATERIAL CONFORMING TO THE REQUIREMENTS OF THE "SPECIFICATION FOR JOINT SEALANTS, HOT POURED, FOR CONCRETE AND ASPHALT PAVEMENTS, ASTM DESIGNATION: D3405".

IN THE EVENT HIGH PERFORMANCE COLD PATCH IS NOT AVAILABLE, AND FLEXIBLE TYPE EPOXY IS USED AS A LOOP SLOT FILLER, THE 2 INCH SLOT SHALL BE TOTALLY CLEAN AND DRY BEFORE ITS INSTALLATION. EPOXY USE SHALL BE APPROVED BY THE DISTRICT TRAFFIC ENGINEER AND THE FURNISHED EPOXY SHALL BE INSTALLED AFTER WRITTEN APPROVAL BY THE PROJECT ENGINEER.



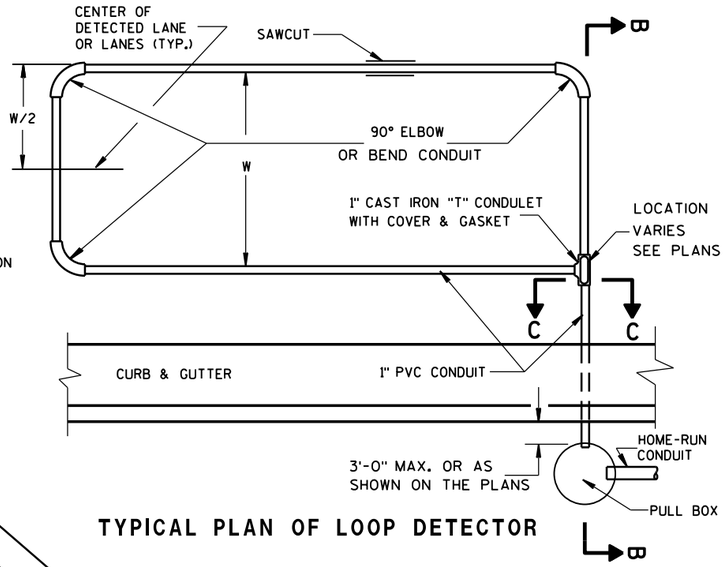
TOP VIEW

CORNER SAW SLOT DETAIL

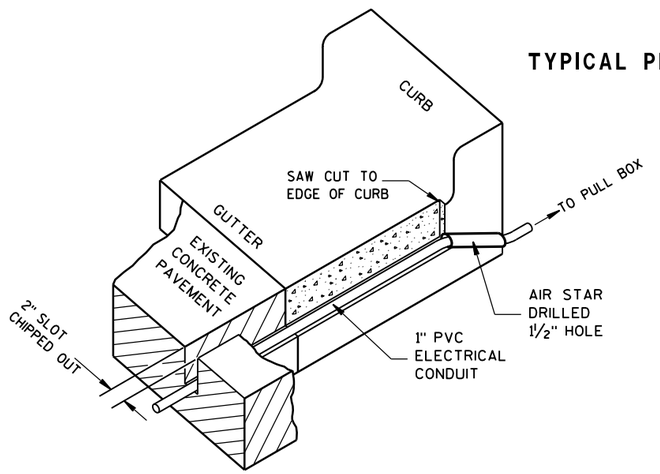


SECTION B-B
CURB & GUTTER

LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PLAN OF LOOP DETECTOR



ISOMETRIC VIEW

TYPICAL SAW CUT DETAIL FOR LEAD-IN CONDUIT

LOOP DETECTOR INSTALLED IN EXISTING CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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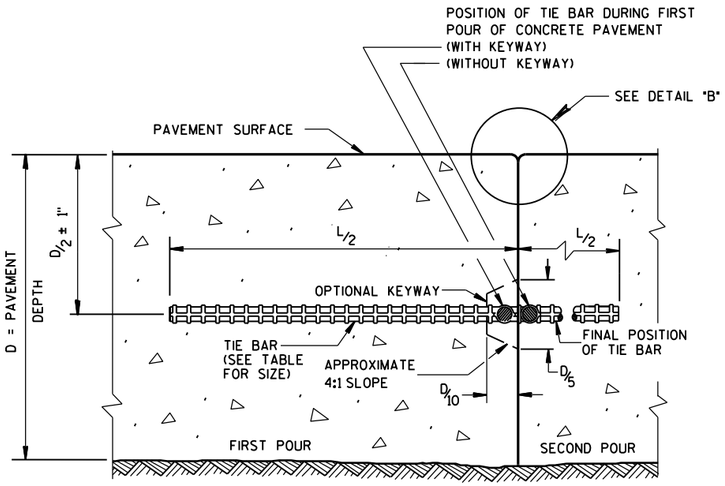
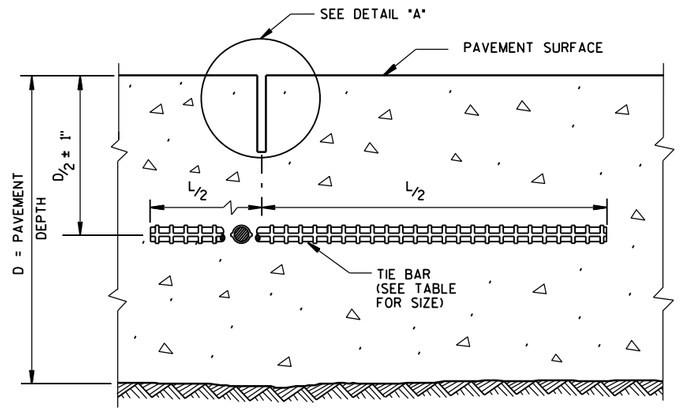


CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

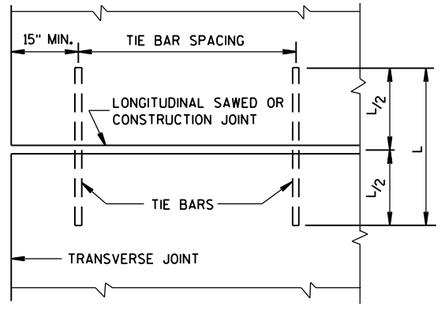
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 C 1-18

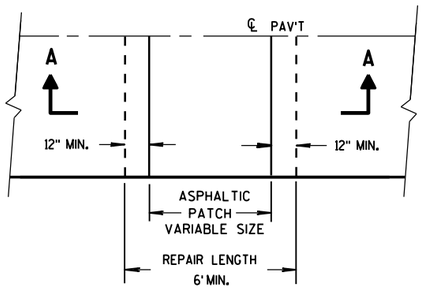
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

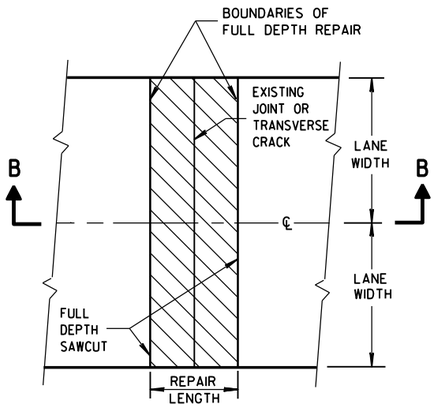
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

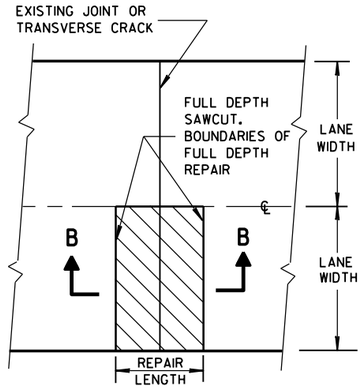
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

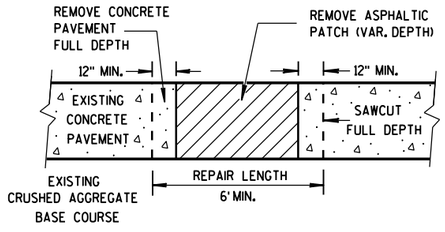


PLAN VIEW
(DOUBLE LANE REPAIR)



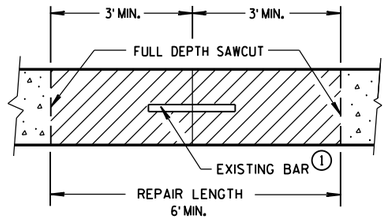
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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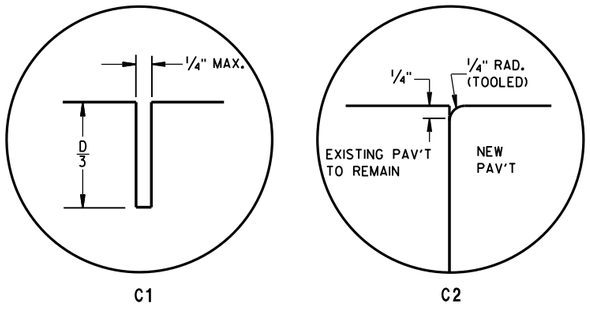


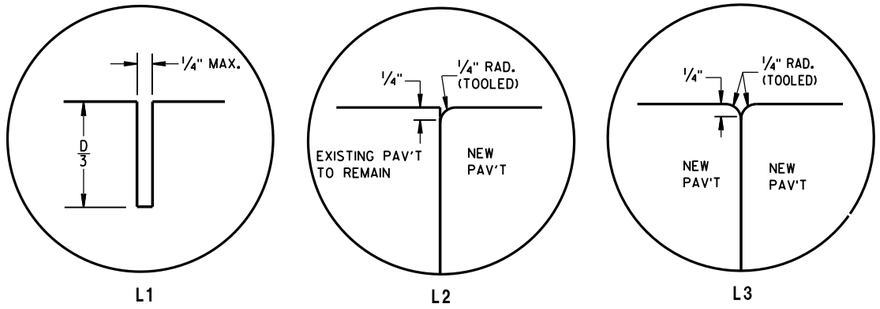
TRANSVERSE JOINTS

TIE BAR TABLE

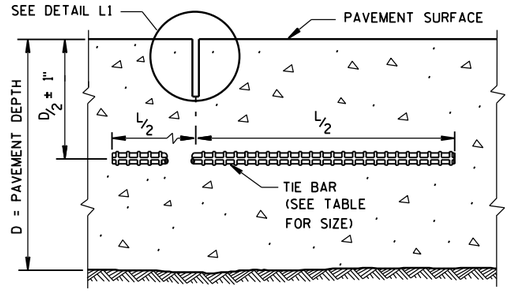
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

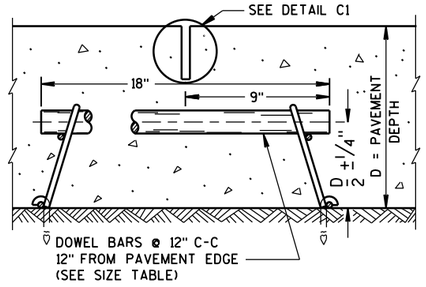
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

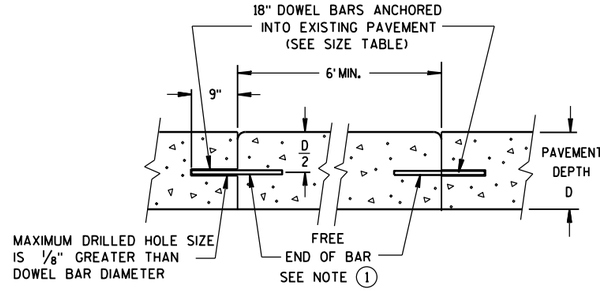
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

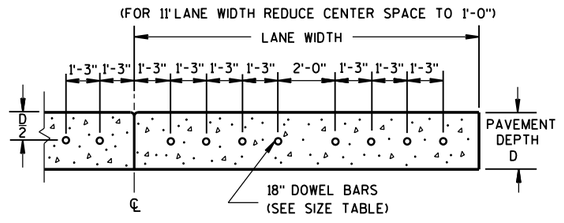


SECTION F-F

CONTRACTION JOINT



SECTION D-D

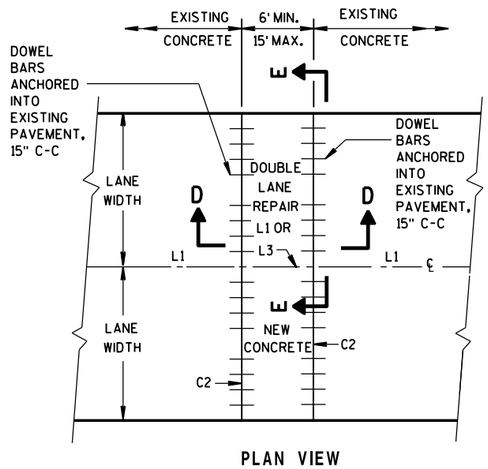


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

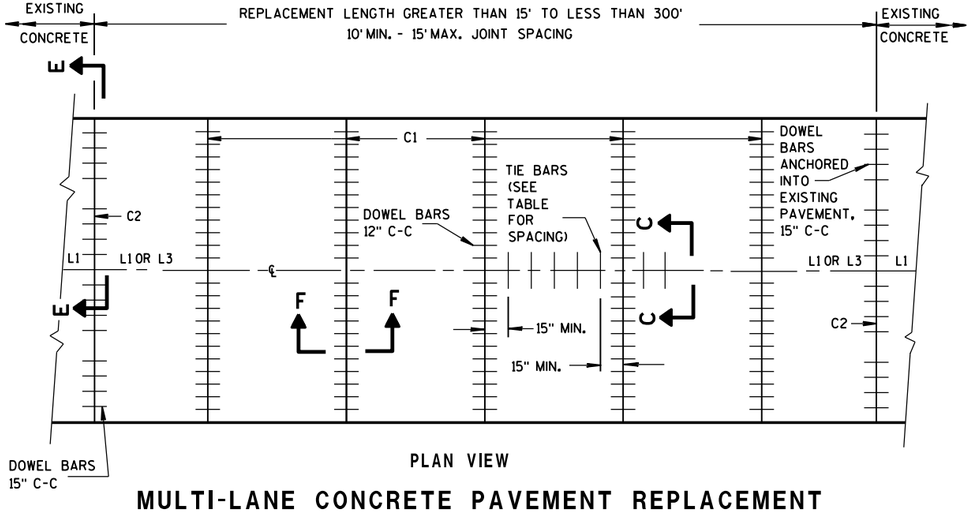
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6",6 ½"	NONE	NONE	12'
7",7 ½"	1"	1"	14'
8",8 ½"	1¼"	1¼"	15'
9",9 ½"	1¼"	1¼"	15'
10" & ABOVE	1½"	1¼"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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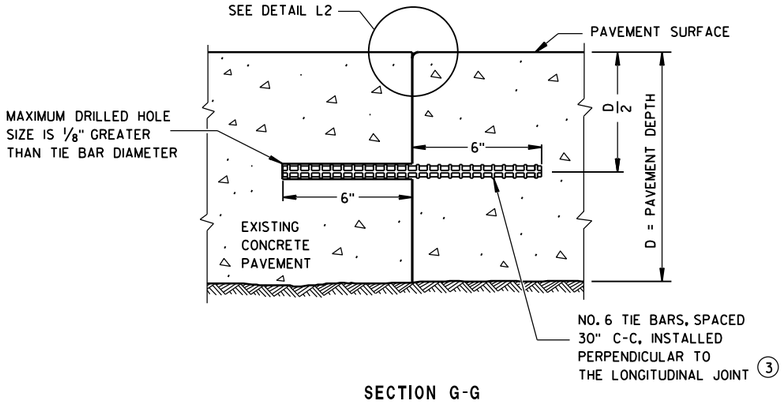
S.D.D. 13 C 9-14b



SECTION G-G

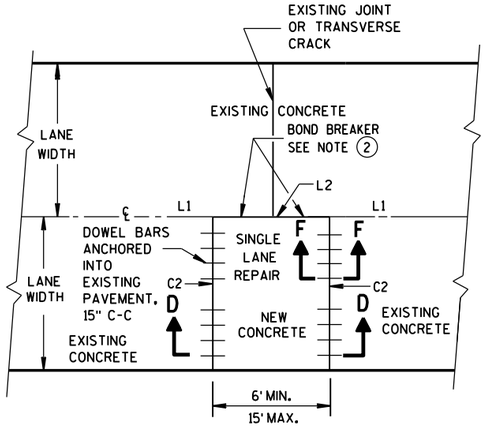
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

(1) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

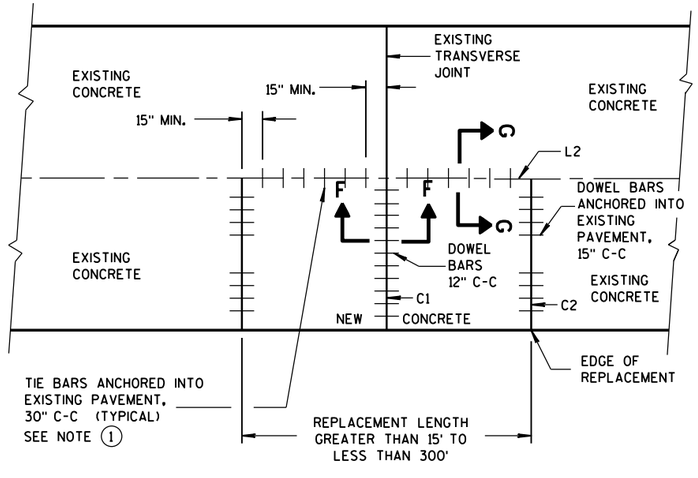
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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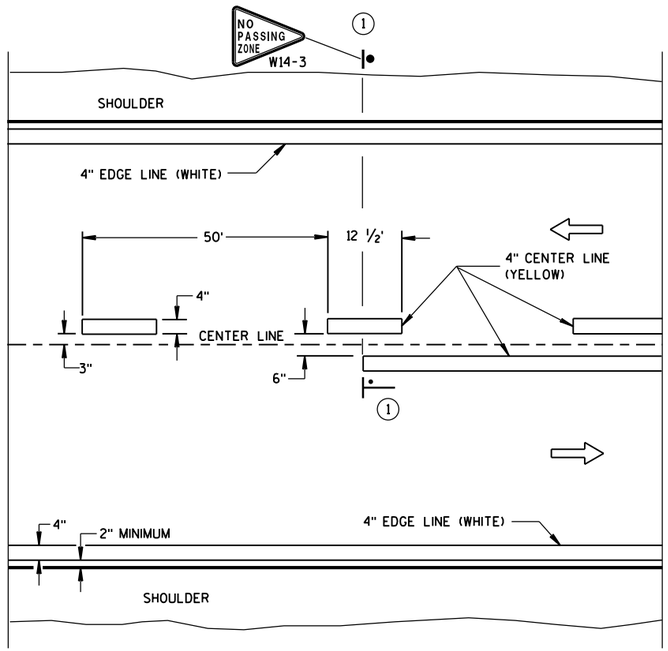
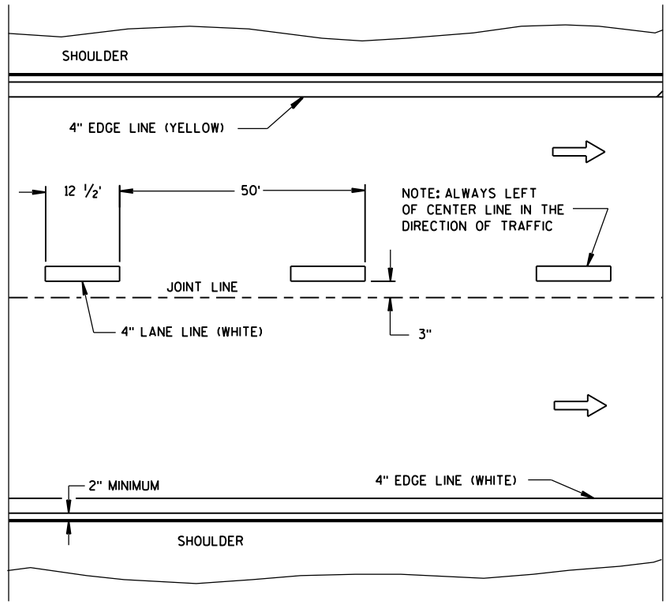
S.D.D. 13 C 9-14c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

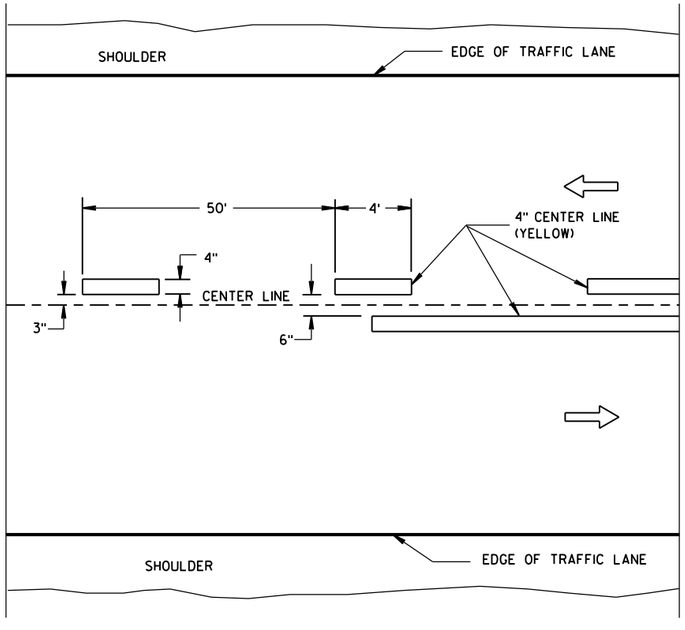
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

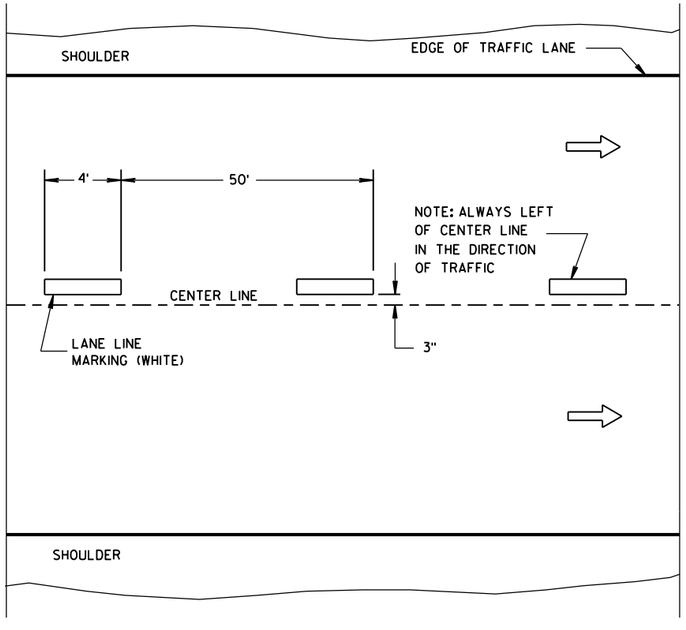
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]INEER
FHWA

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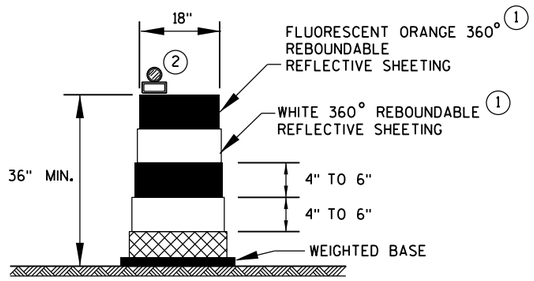
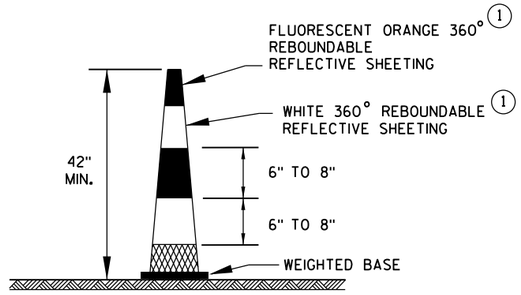
S.D.D. 15 C 8-18a



DRUM

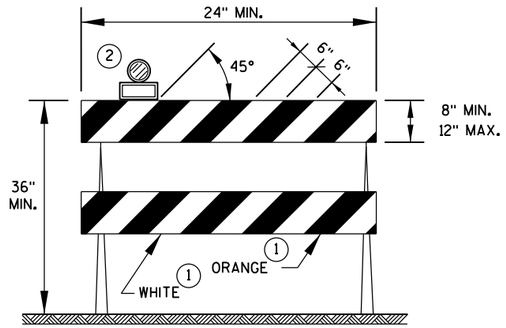


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

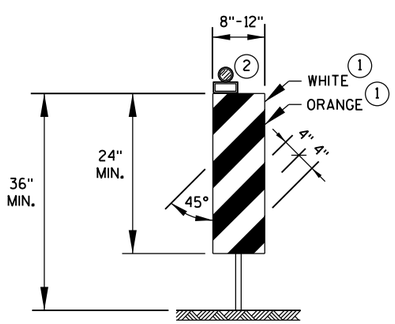
GENERAL NOTES

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



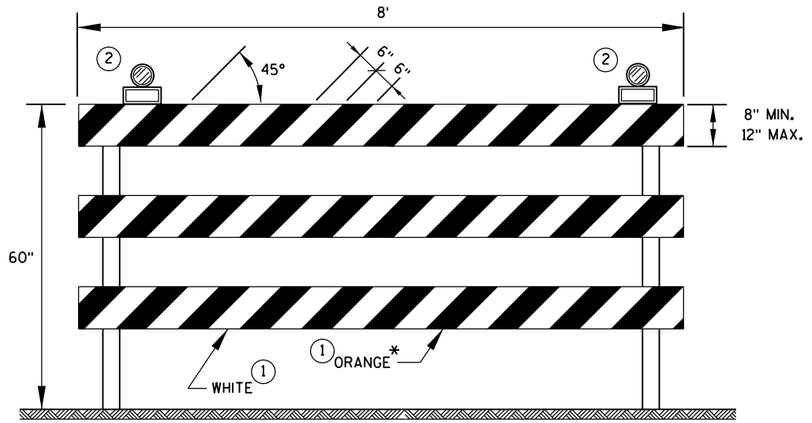
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENG
FHWA	

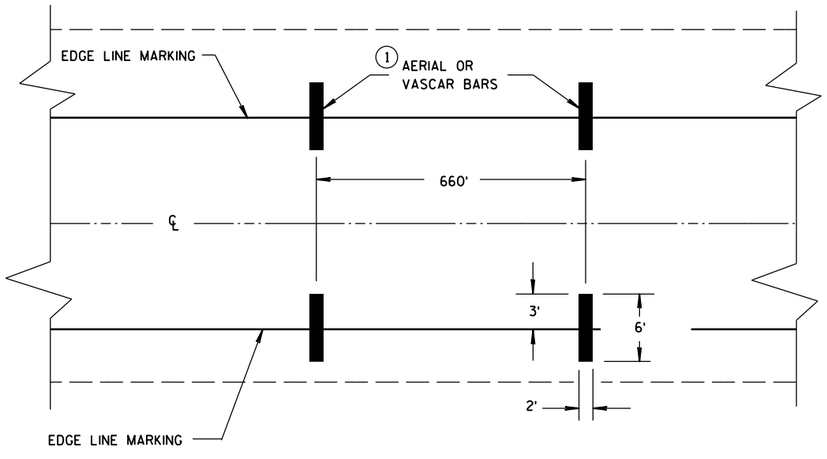
6

S.D.D. 15 C 11-7b

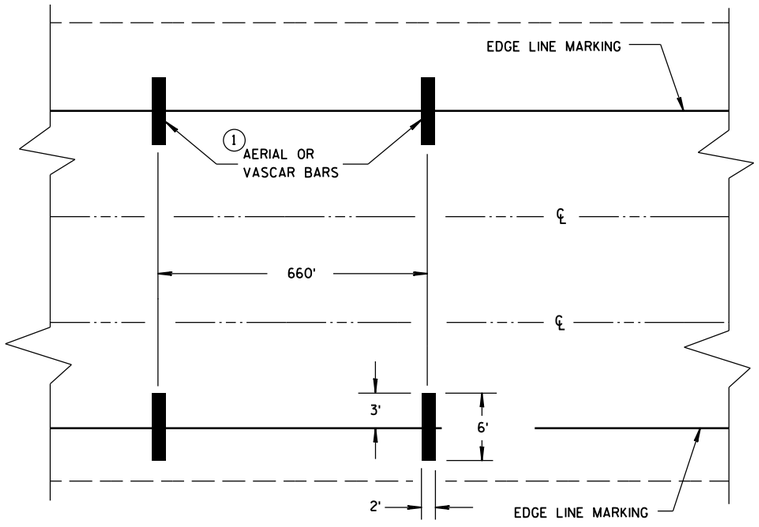
GENERAL NOTES

(1) PLACE TWO TO FIVE AERIAL OR VASCAR BARS AT 660 FOOT SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

6

S.D.D. 15 C 14-3

AERIAL ENFORCEMENT BARS
PAVEMENT MARKING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MAR ...INEER
FHWA

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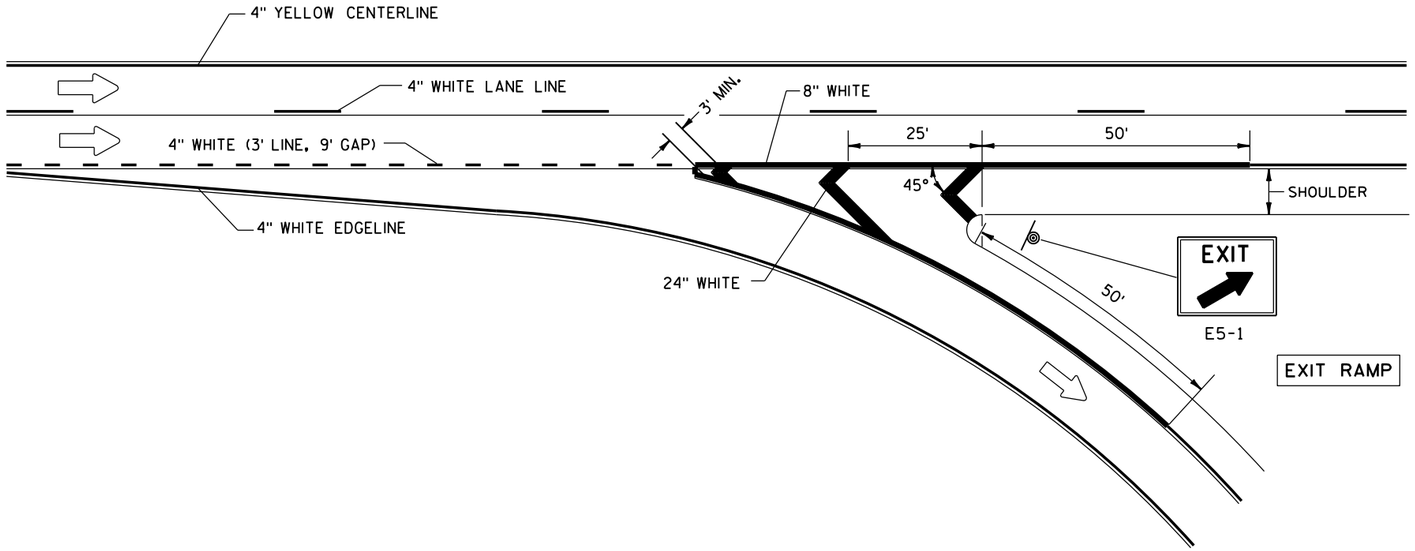
S.D.D. 15 C 14-3



PAVEMENT MARKING FOR EXIT RAMP

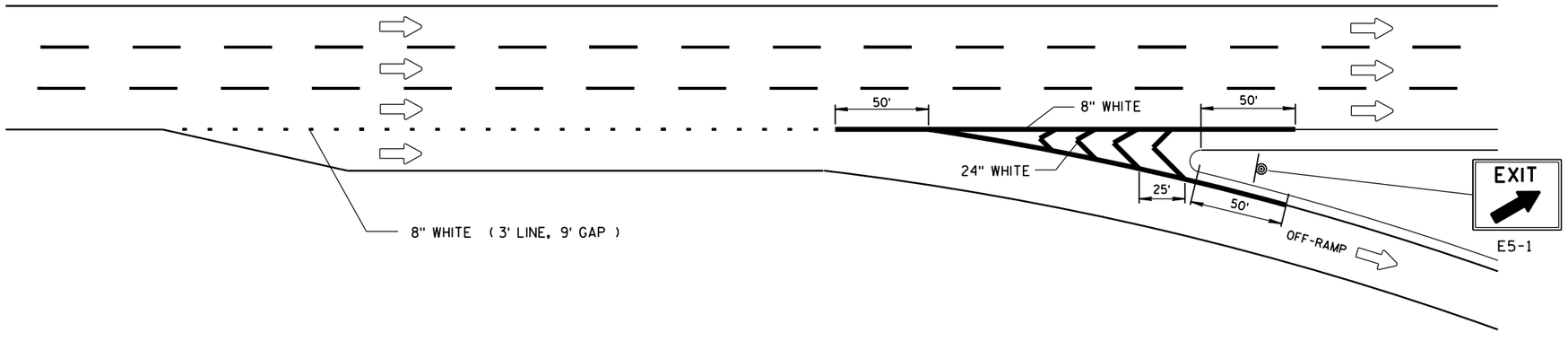
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

DIRECTION OF TRAVEL

SIGN ON PERMANENT SUPPORT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

6

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S.D.D. 15 C 31-3a

S.D.D. 15 C 31-3a

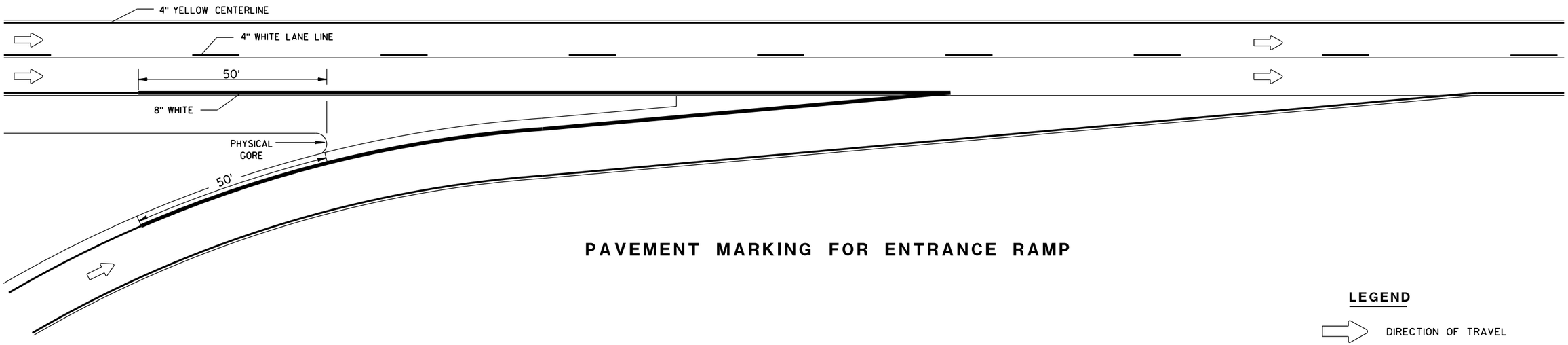
PAVEMENT MARKING (RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

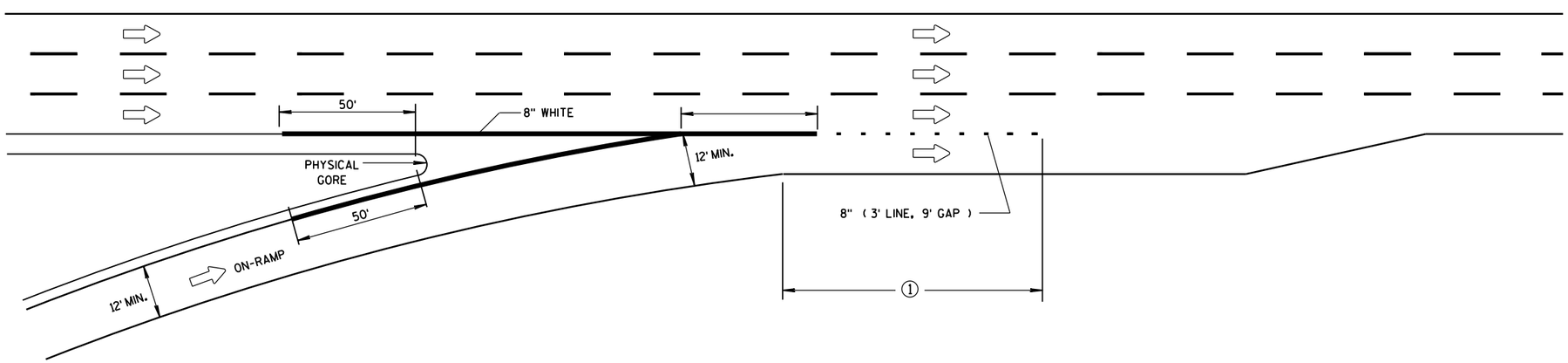
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.



PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 31-3c

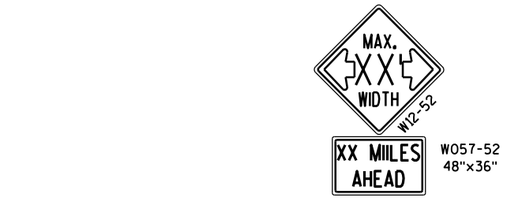
6

S.D.D. 15 C 31-3c

LEGEND

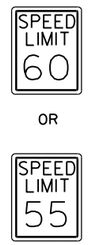
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

L, TAPER LENGTH (MPH)							
SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



R2-1
48"x60"
(BLACK AND WHITE)
LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

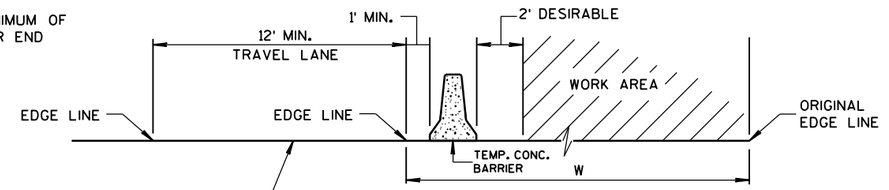
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

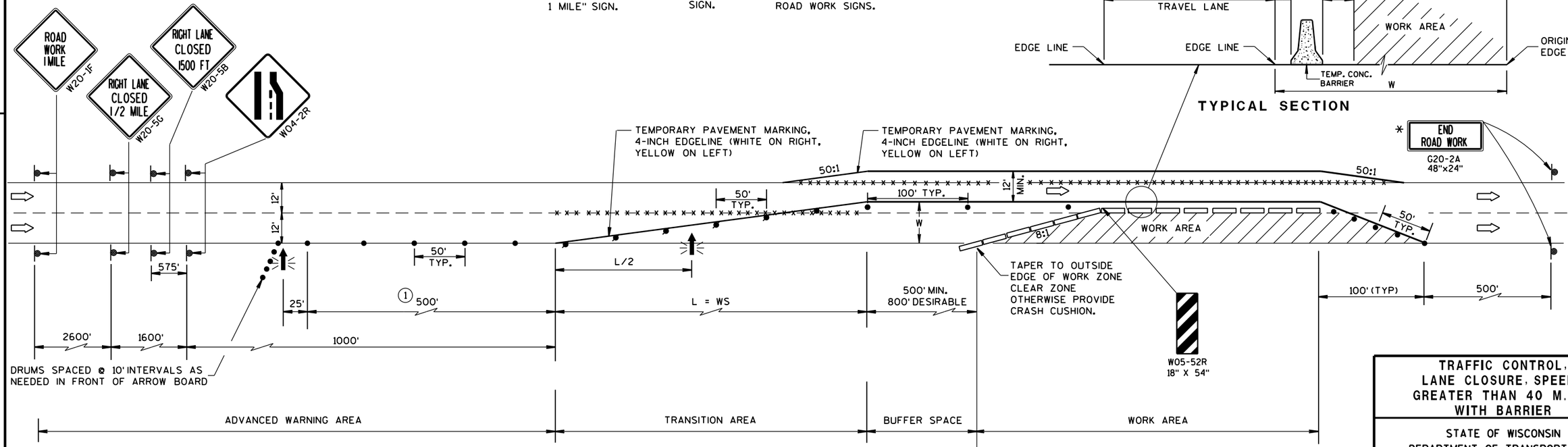
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.



TYPICAL SECTION



TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN — IC
FHWA

S.D.D. 15 D 3-4

S.D.D. 15 D 3-4

LEGEND

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

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

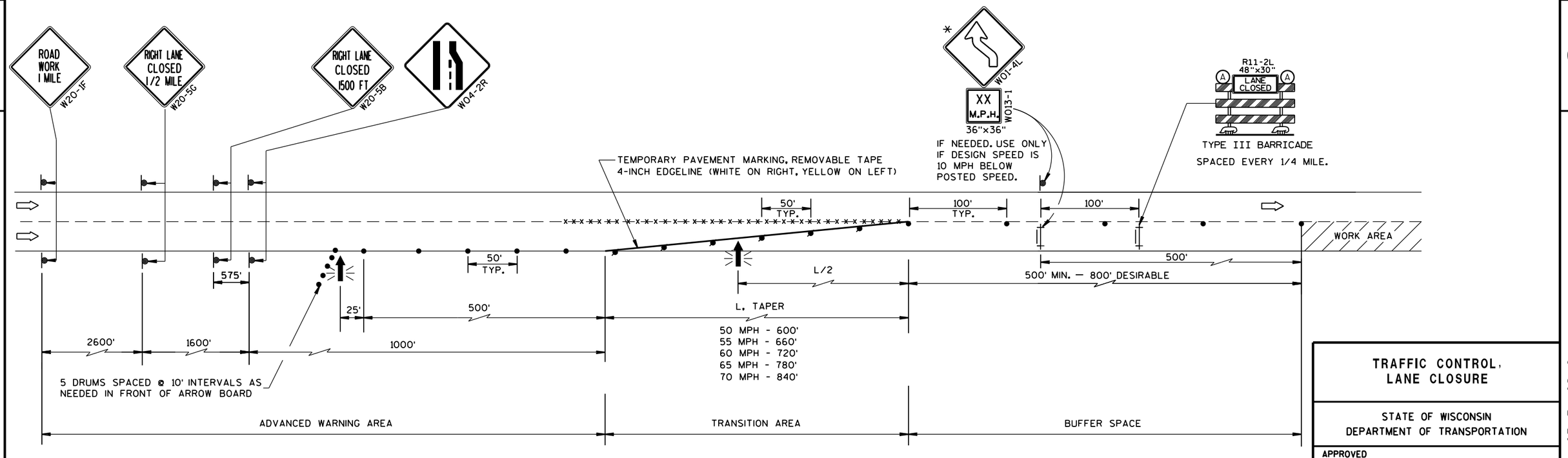
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



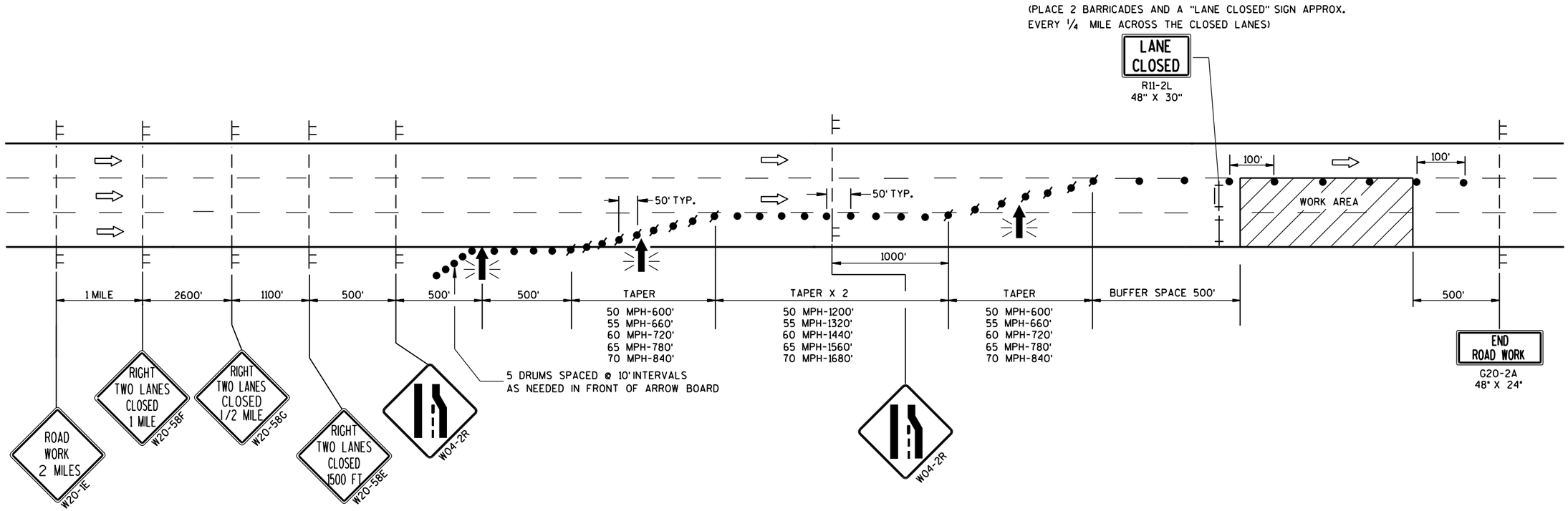
TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 12-6a



LEGEND

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

GENERAL NOTES

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

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

THE SPACING BETWEEN 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.

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

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

W20-1E 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 ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS 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, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

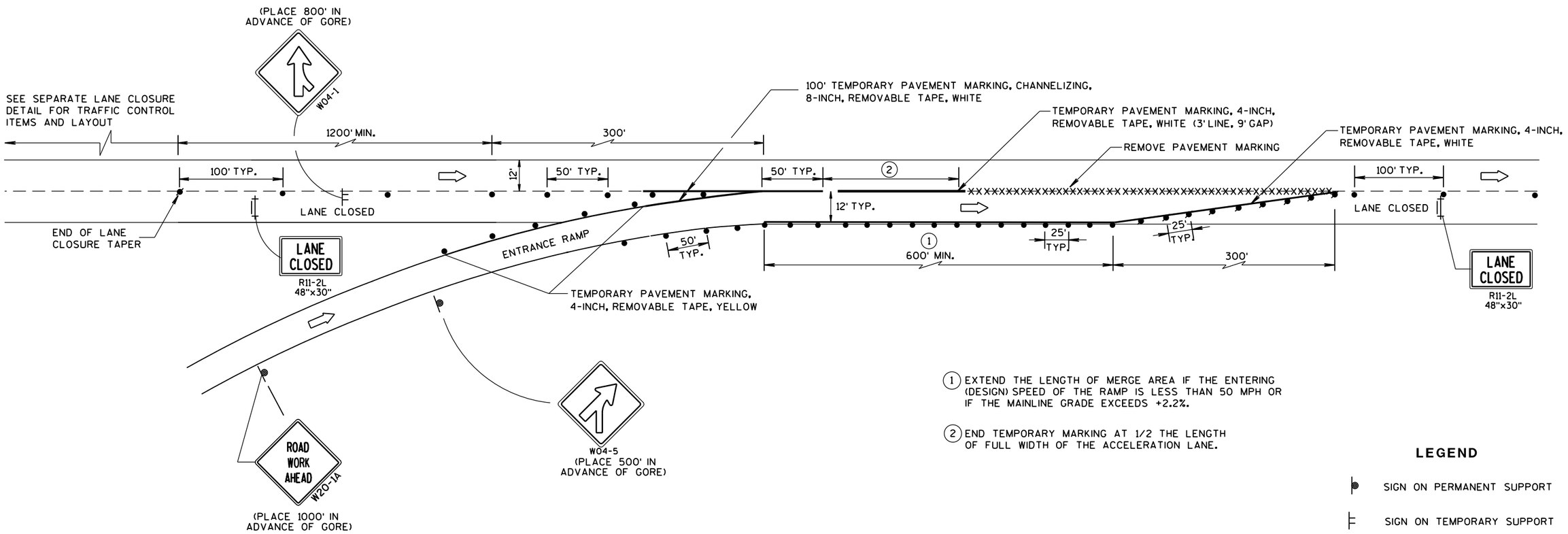
TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6
S.D.D. 15 D 14-3

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



1. EXTEND THE LENGTH OF MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS +2.2%.

2. END TEMPORARY MARKING AT 1/2 THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

PARALLEL ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

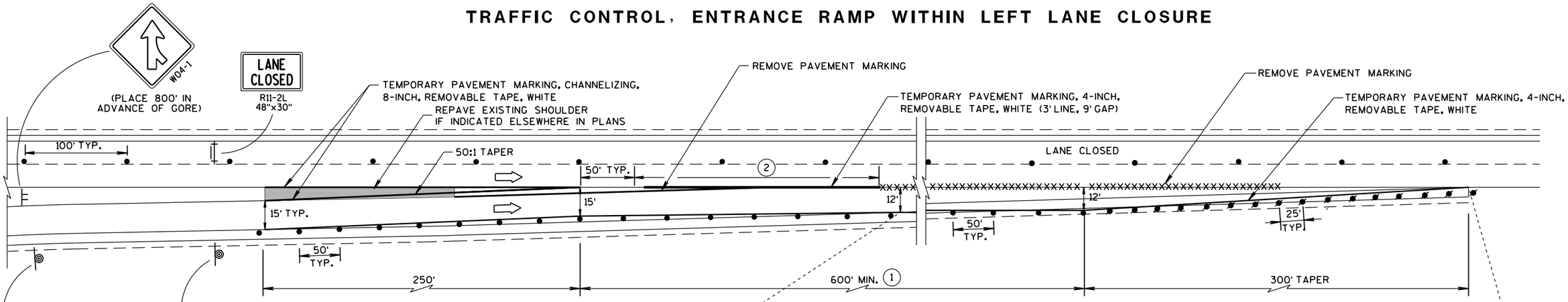
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

6

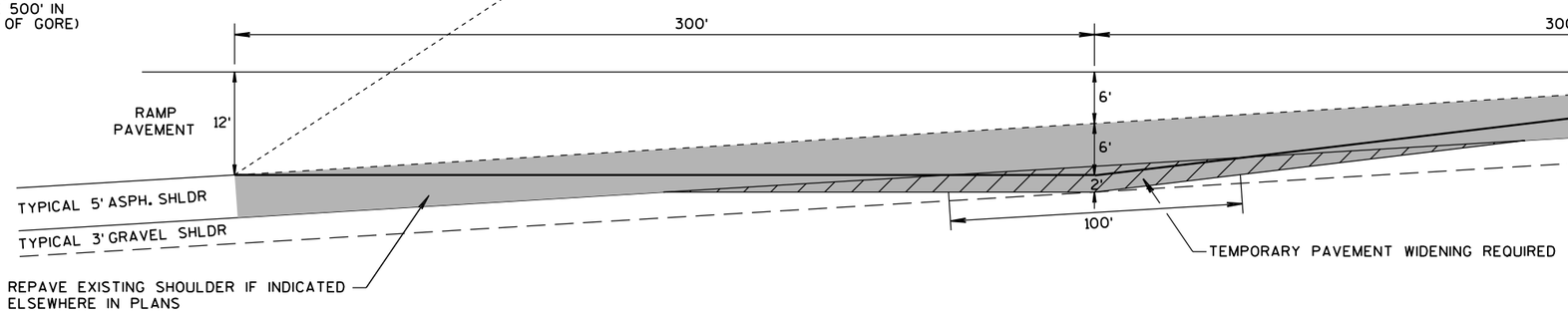
S.D.D. 15 D 15-4a

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



(1) EXTEND THE LENGTH OF MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS +2.2%.

(2) END TEMPORARY MARKING AT 1/2 THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY. ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

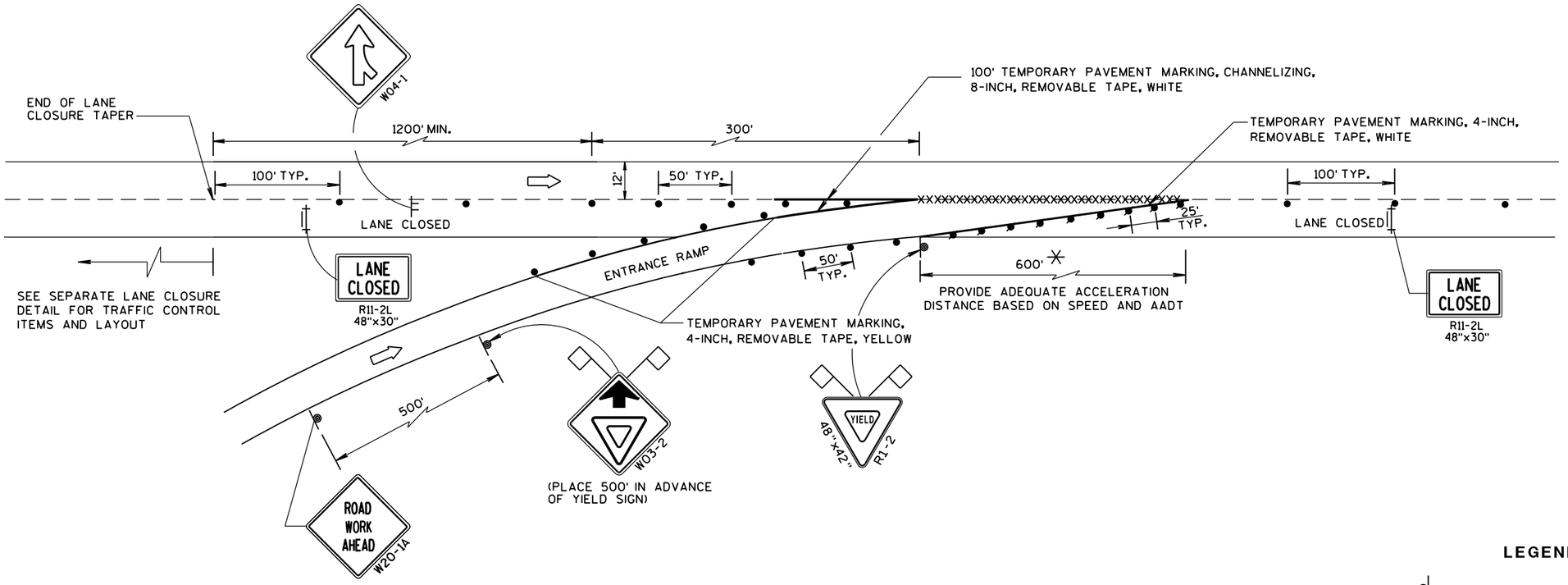
APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 D 15-4b

6

S.D.D. 15 D 15-4b



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

* CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

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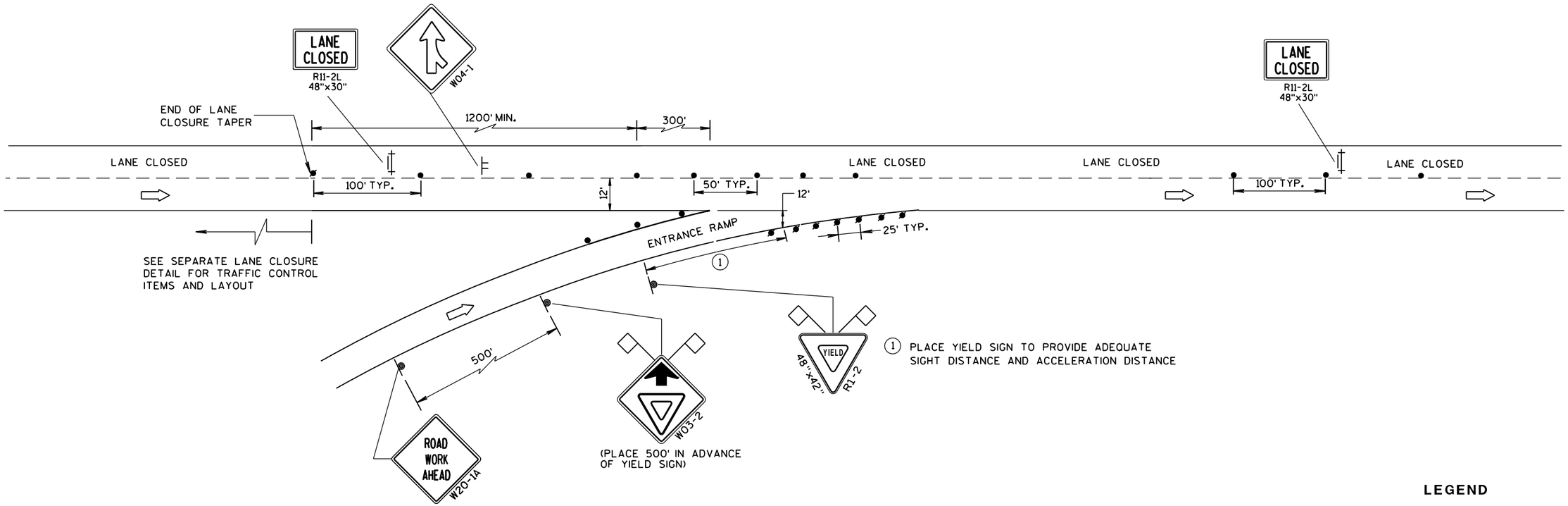
S.D.D. 15 D 15-4c



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE EN(
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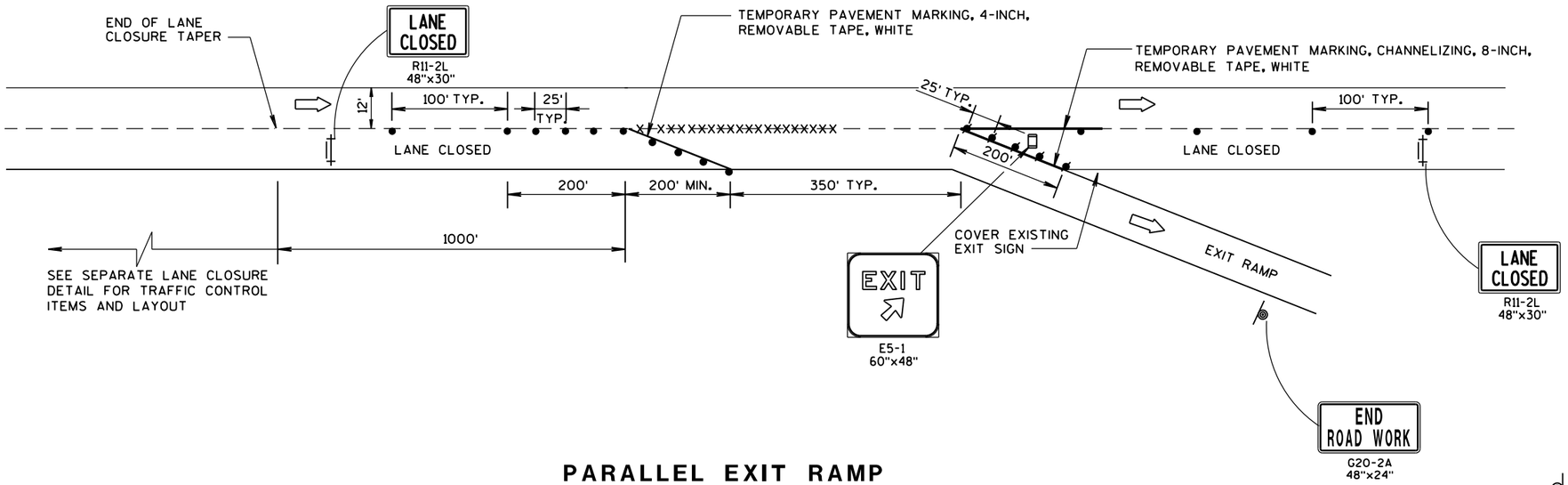

PARALLEL EXIT RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- XXXXXX REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
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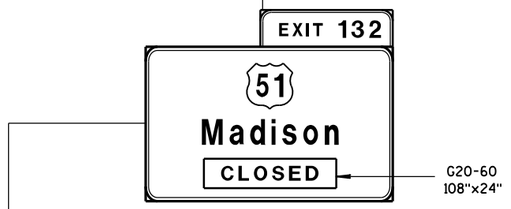
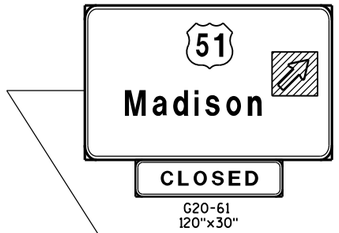
G20-60
108"x24"

OR



G20-60
108"x24"

PLACE SIGN G20-60 OVER MILEAGE
ON EXISTING E1-1A SIGN



COVER ARROW ON
EXISTING E4-1A
SIGN (COVERING
SIGNS TYPE I)

G20-61
120"x30"

TEMPORARY PAVEMENT MARKING
4" REMOVABLE TAPE, WHITE
(ACROSS THE RAMP OPENING)

END
ROAD WORK
*G20-2A
48"x24"

25' TYP.

100' MIN.

200'

EDGE OF SHOULDER

COVER EXISTING
EXIT SIGN

ROAD
WORK
AHEAD
*W20-1A

RAMP
CLOSED
AHEAD
W20-53A

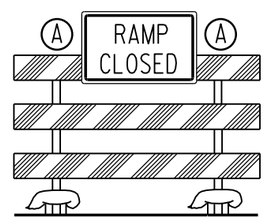
RAMP
CLOSED
1000 FT
W20-53C

1500'

1500'

1000'

R11-2R
48" X 30"
MOUNTED ON
TYPE III BARRICADE



RAMP WILL
BE CLOSED
(TIME)
BEGINNING
(DATE)

**R11-51
48"X48"
(OR SPECIAL SIGN IF INDICATED IN PLAN)

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

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

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC
FHWA

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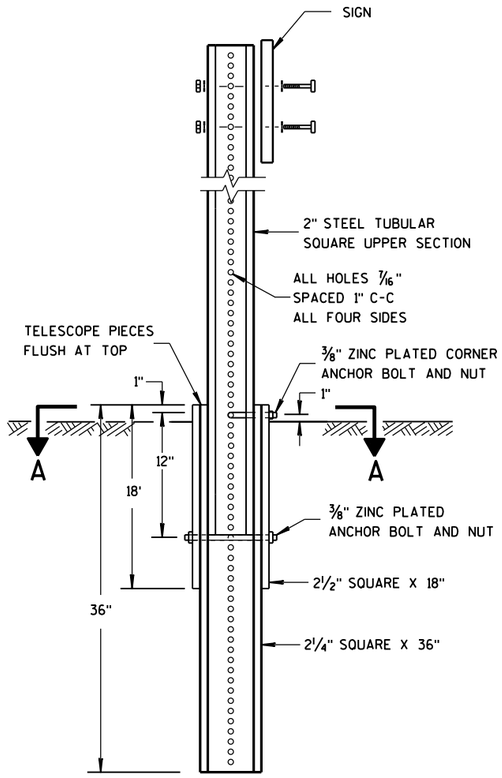
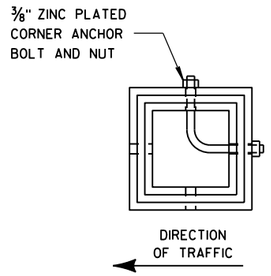
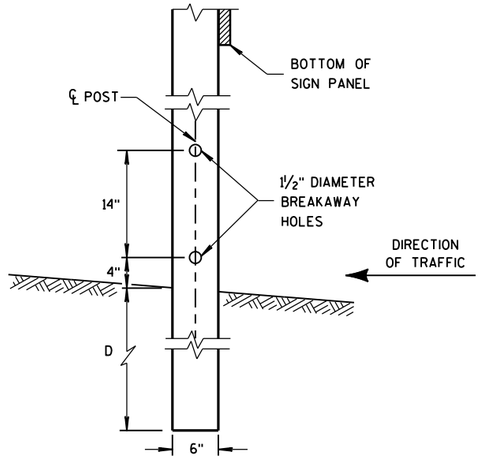


DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



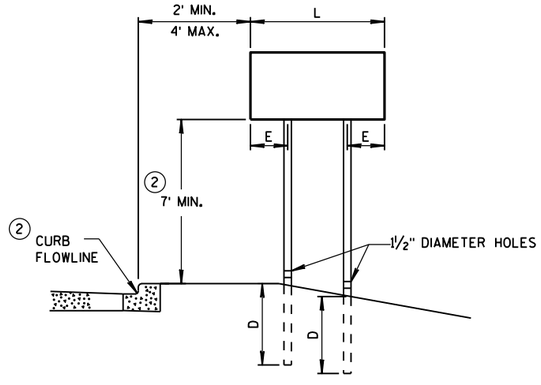
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

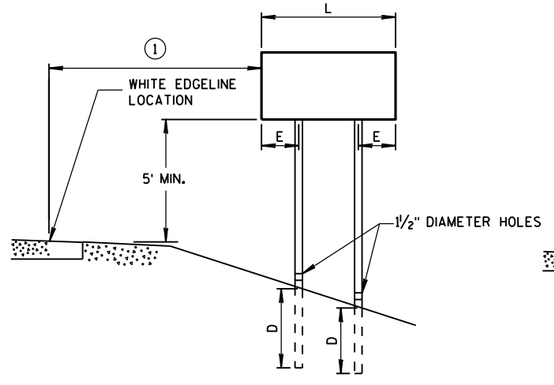
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

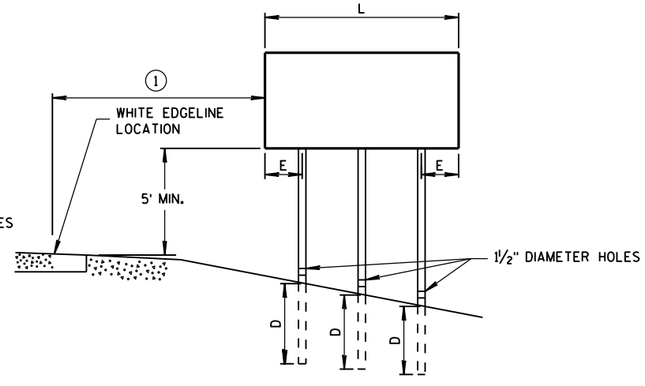
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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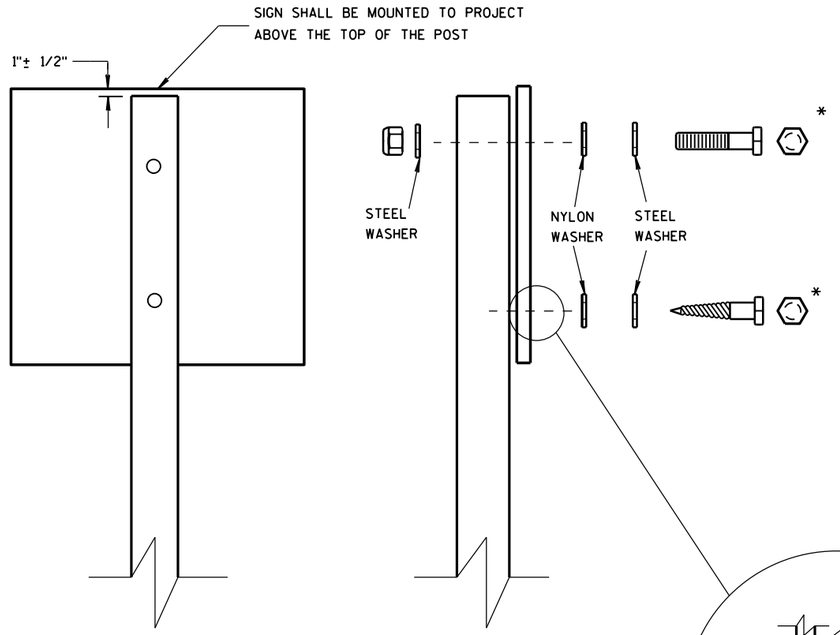

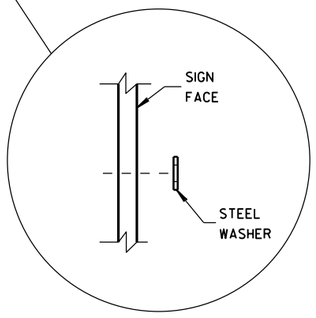

WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

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

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

Notes

Wisconsin Department of Transportation

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through innovation and exceptional service.

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