WKE

SEPT 2014

ORDER OF SHEETS

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

TOTAL SHEETS = 312

PROJECT ID: 1370-14-70

COUNTY: WAUKESHA

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

OCONOMOWOC - WAUKESHA

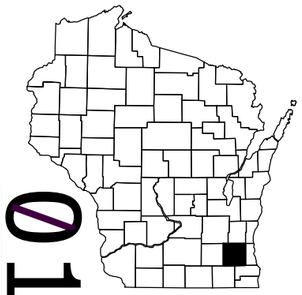
STH 67 TO IH 94

STH 16

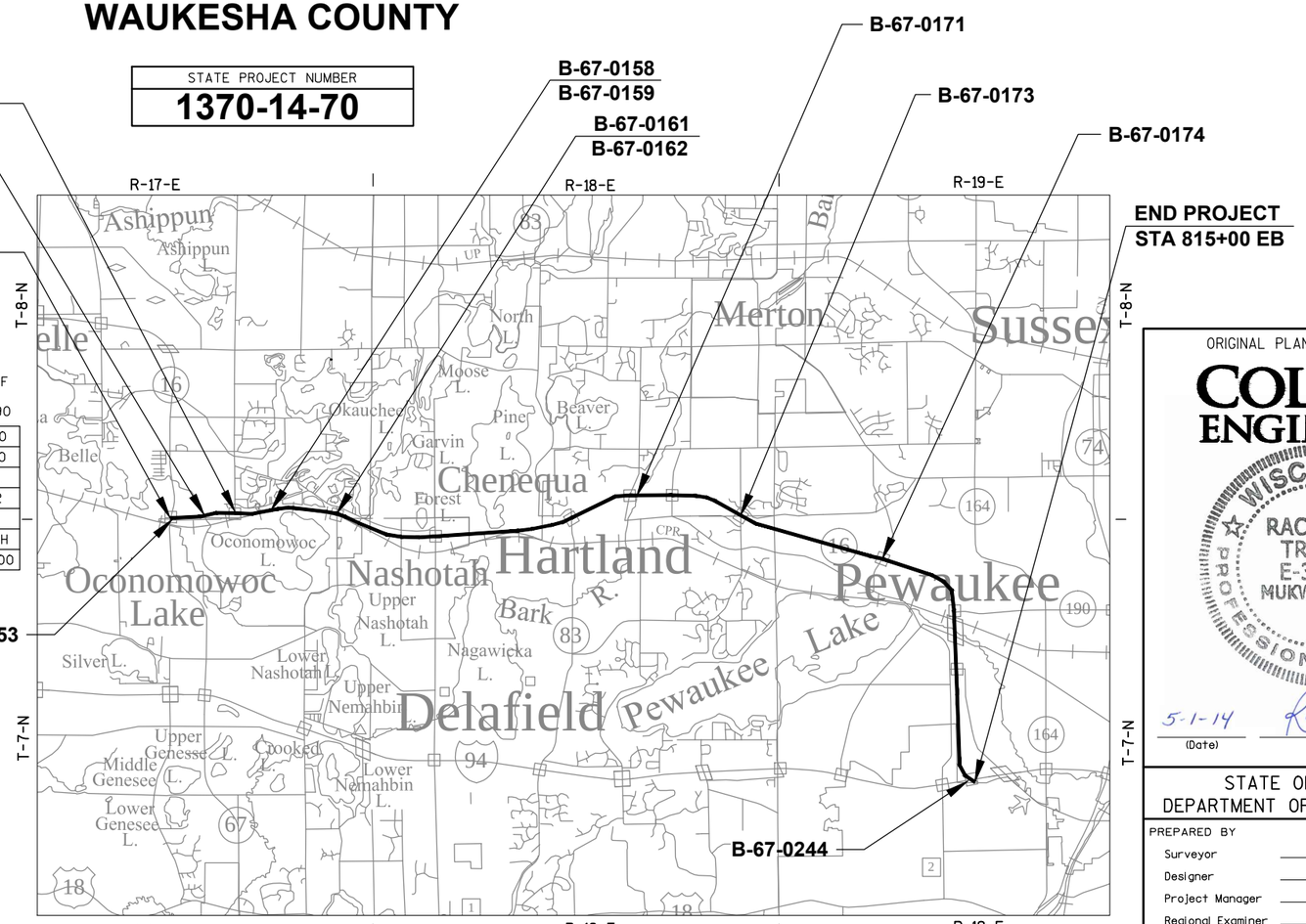
WAUKESHA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1370-14-70	WISC 2014339	1

STATE PROJECT NUMBER
1370-14-70







LAYOUT
SCALE 0 1 MI.

DESIGN DESIGNATION		STH 67 TO BROWN ST	BROWN ST TO SAWYER RD	SAWYER RD TO CTH C	CTH C TO STH 83	STH 83 TO CTH E	CTH E TO CTH KC	CTH KC TO CTH KE	CTH KE TO CTH KF	CTH KF TO STH 190
A.A.D.T.	(2009) =	21,100	23,000	26,500	32,000	33,000	27,500	36,500	38,000	40,000
A.A.D.T.	(2033) =	23,000	28,000	32,000	44,000	44,000	30,000	42,000	48,000	53,000
D.H.V.	=	1,886	2,296	2,624	3,649	3,608	2,460	3,444	3,936	4,821
D.D.	=	58/42	58/42	58/42	58/42	58/42	58/42	58/42	58/42	58/42
T.	=	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%
DESIGN SPEED	=	50 MPH	70 MPH	70 MPH	70 MPH	70 MPH	70 MPH	70 MPH	70 MPH	70 MPH
ESALS	=	7,745,300	6,000,600	6,876,000	8,917,700	9,081,200	6,730,600	9,227,200	10,125,100	11,388,000

CONVENTIONAL SYMBOLS

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

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

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

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

-COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WAUKESHA COUNTY, NAD 1983 (2007).

-ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (2007).

ORIGINAL PLANS PREPARED BY

COLLINS ENGINEERS INC.

WISCONSIN
RACHEL A. TRANEL
E-35075
MUKWONAGO, WI
PROFESSIONAL ENGINEER

5-1-14 (Date) Rachel A. Tranel (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
- Surveyor: KL ENGINEERING
- Designer: COLLINS ENGINEERS
- Project Manager: DOUGLAS A. CAIN, P.E.
- Regional Examiner:
- Regional Supervisor:
- C.O. Examiner:

APPROVED FOR THE DEPARTMENT
DATE: 5/1/2014 Douglas A. Cain (Signature)

E

2

GENERAL NOTES

1. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
4. TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN OR ADJACENT TO WETLANDS. STOCKPILED MATERIAL SHALL BE PLACED IN A VEGETATED UPLAND AREA.
5. A SAWED JOINT IS REQUIRED WHERE NEW HMA SURFACE MEETS EXISTING ASPHALTIC CONCRETE SURFACES.
6. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. PRIOR TO PLACEMENT OF STEEL PLATE BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.
8. THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
9. DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOP SOILED, FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.
10. INLET PROTECTION REQUIRED AT ALL CATCH BASIN AND INLET LOCATIONS AS DIRECTED BY THE ENGINEER.
11. RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 CALENDAR DAYS AFTER GRADING IS COMPLETE.
12. INFORMATION ON EROSION CONTROL AND DRAINAGE CAN BE FOUND EITHER ON THE DETAIL OR ON THE ROAD PLAN SHEETS.
13. HMA PAVEMENT TYPE E-10, WHERE INDICATED ON THE PLANS, SHALL CONSIST OF LAYERS AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

2" DEPTH

2" OF 12.5MM HMA PAVEMENT E-10
PERFORMANCE GRADE PG64-28

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
PAVEMENT MARKING & PERMANENT SIGNING
TRAFFIC CONTROL
DETOUR

ABBREVIATIONS

A.A.D.T.	–	ANNUAL AVERAGE DAILY TRAFFIC
ABUT	–	ABUTMENT
BF	–	BACK FACE
℄	–	CENTER LINE
CY	–	CUBIC YARD
C&G	–	CURB AND GUTTER
CWT	–	HUNDRED WEIGHT
D.H.V.	–	DESIGN HOURLY VOLUME
DIA	–	DIAMETER
DPRC	–	DEPARTMENT OF PARKS RECREATION AND CULTURE
DTPW	–	DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
E	–	EAST
X	–	EAST GRID COORDINATE
EF	–	EACH FACE
EL. OR ELEV	–	ELEVATION
EXP	–	EXPANSION JOINT
EQ	–	EQUAL
HORZ	–	HORIZONTAL
LB	–	POUND
LT	–	LEFT
LONG	–	LONGITUDINAL
LS	–	LUMP SUM
MIN	–	MINIMUM
N	–	NORTH
NE	–	NORTHEAST
NW	–	NORTHWEST
OC	–	ON CENTER
PC	–	POINT OF CURVE
PI	–	POINT OF INTERSECT
PT	–	POINT OF TANGENT
R	–	RADIUS
RAAE	–	REINFORCED CONCRETE APRON ENDWALL
RF	–	RATING FACTOR
L	–	REFERENCE LINE
RT	–	RIGHT
SE	–	SOUTHEAST
SF	–	SQUARE FEET
SPA	–	SPACES
STA	–	STATION
SW	–	SOUTHWEST
T	–	PERCENT TRUCKS
TRANS	–	TRANSVERSE
TYP	–	TYPICAL
U/G	–	UNDER GROUND
VERT	–	VERTICAL
VPI	–	VERTICAL POINT OF INTERSECT

AGENCY CONTACT LIST

VILLAGE OF HARTLAND DPW
MR. MICHAEL EINWECK, DIRECTOR
210 COTTONWOOD AVE.
HARTLAND, WI 53029
PHONE: (262) 367-4880

WAUKESHA COUNTY DPW
MR. GARY EVANS, ENG. SERVICES MGR.
1320 PEWAUKEE ROAD, ROM. 220
WAUKESHA, WI 53188
PHONE: (262) 548-7740
GEVANS@WAUKESHACOUNTY.GOV

WISDOT PROJECT MANAGER
MR. DOUGLAS A. CAIN, PE
141 NW BARSTOW STREET
WAUKESHA, WI 53187
PHONE (262) 548-5603
DOUGLAS.CAIN@DOT.WI.GOV

CANADIAN PACIFIC RAILWAY COMPANY
MR. EDWARD OOM, MGR. PUBLIC WORKS
11306 FRANKLIN AVE
FRANKLIN PARK, IL 60131
(630) 860-4975
EMERGENCY: 1-800-766-4357

CITY OF DELAFIELD PUBLIC WORKS
MR. PAUL ZELLNER, SUPERINTENDENT
500 GENESEE STREET
DELAFIELD, WI 53018
PHONE: (262) 646-6225
PZELLNER@CI.DELAFIELD.WI.US

CITY OF PEWAUKEE
MR. JEFF WEIGEL, DPW
W240 N3065 PEWAUKEE ROAD
PEWAUKEE, WI 53072
PHONE: (262) 691-0770
WEIGEL@PEWAUKEE.WI.US

AMTRAK
MR. ROBERT WERTH, ROAD FORMAN
INTERCITY RAIL SERVICE
433 WEST ST. PAUL AVE, RM. 112
MILWAUKEE, WI 53203-3097
PHONE:(414) 271-9470
EMERGENCY: 1-800-424-0217

TOWN OF OCONOMOWOC
MR. JEFF HERRMANN
W359 N6812 BROWN STREET
OCONOMOWOC, WI 53066
PHONE: (262) 567-0251
JHERMANN@TOWNOCON.COM

DEPARTMENT OF NATURAL RESOURCES
MR. CRAIG WEBSTER
141 N W BARSTOW ST.
RM. 180
WAUKESHA, WI 53187
PHONE: (262) 574-2141

COLLINS ENGINEERS, INC.
MS. RACHEL TRANEL, PE
2033 WEST HOWARD AVENUE
MILWAUKEE WI, 53221
PHONE: (414) 282-6905
RTRANEL@COLLINSENGR.COM

UTILITY CONTACT LIST

ATC MANAGEMENT, INC.
MR. MIKE OLSEN
801 O'KEEFE ROAD
PO BOX 6113
DE PERE, WI 54115-6113
PHONE: (920) 338-6582
MOLSEN@ATCLLC.COM

AT&T WISCONSIN
MR. RICK PODOLAK
304 S DEWEY STREET, 4TH FLOOR
EAU CLAIRE, WI 54701
PHONE: (715) 839-5565

CITY OF OCONOMOWOC UTILITIES (WASTEWATER)
MR. TOM STEINBACH, OPERATIONS MANAGER
900 S WORTHINGTON STREET
OCONOMOWOC, WI 53066
PHONE: (262) 569-2192

VILLAGE OF HARTLAND DPW
MR. MICHAEL EINWECK, DIRECTOR
210 COTTONWOOD AVE.
HARTLAND, WI 53029
PHONE: (262) 367-4880

TDS TELECOM
MR. MICHAEL JOHNSON, OSP ENGINEERING
20875 CROSSROADS CIRCLE, SUITE 800
WAUKESHA, WI 53186
PHONE: (262) 754-3052
MICHAEL.JOHNSON@TDSTELECOM.COM

TIME WARNER CABLE
MR. STEVE CRAMER, UTILITY COORD.
1320 N. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: (262) 277-4045
STEVE.CRAMER@TWCABLE.COM

WE ENERGIES (GAS)
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617

CONSTRUCTION FIELD CONTACT:
MS. DANIELLE FINK
PHONE: (414) 651-3067

WE ENERGIES (ELECTRIC)
SEND ALL CORRESPONDENCE TO:
MR. LATROY BRUMFIELD
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-5617

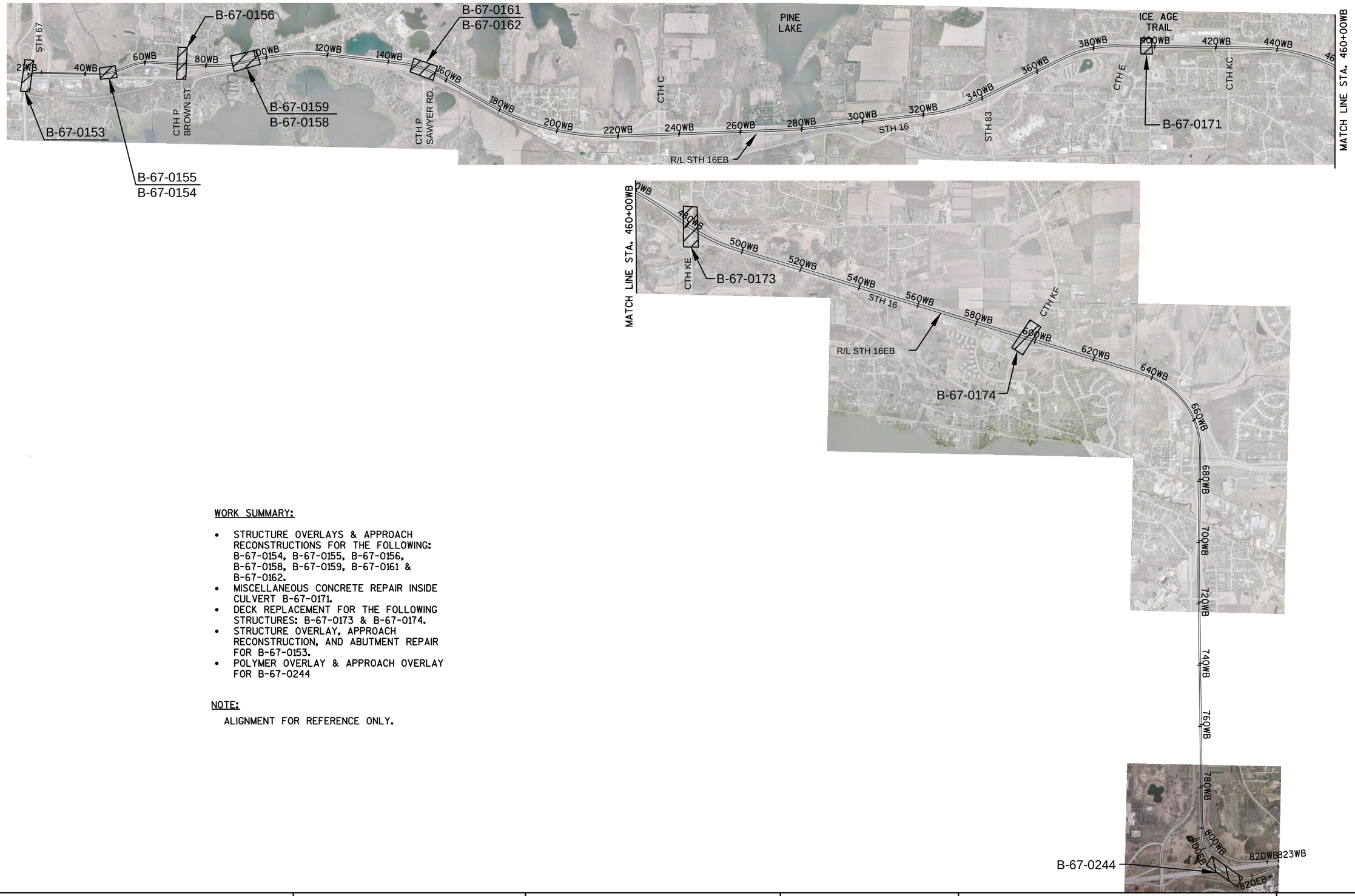
CONSTRUCTION FIELD CONTACT:
MR. TERRY CONNELLY
PHONE: (262) 968-5771

WISDOT SIGNALS
SIGNALS OPERATIONS UNIT
141 NW BARSTOW STREET
PO BOX 798
WAUKESHA, WI 53187
PHONE: (414) 750-2605

WISDOT STOC
MR. JEFF MADSON
433 W ST. PAUL AVE., STE 300
MILWAUKEE, WI 53203
PHONE: (414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

WISDOT TRAFFIC LIGHTING
MR. ERIC PEREA
141 NW BARSTOW STREET
PO BOX 798
WAUKESHA, WI 53187
PHONE: (262) 574-5422





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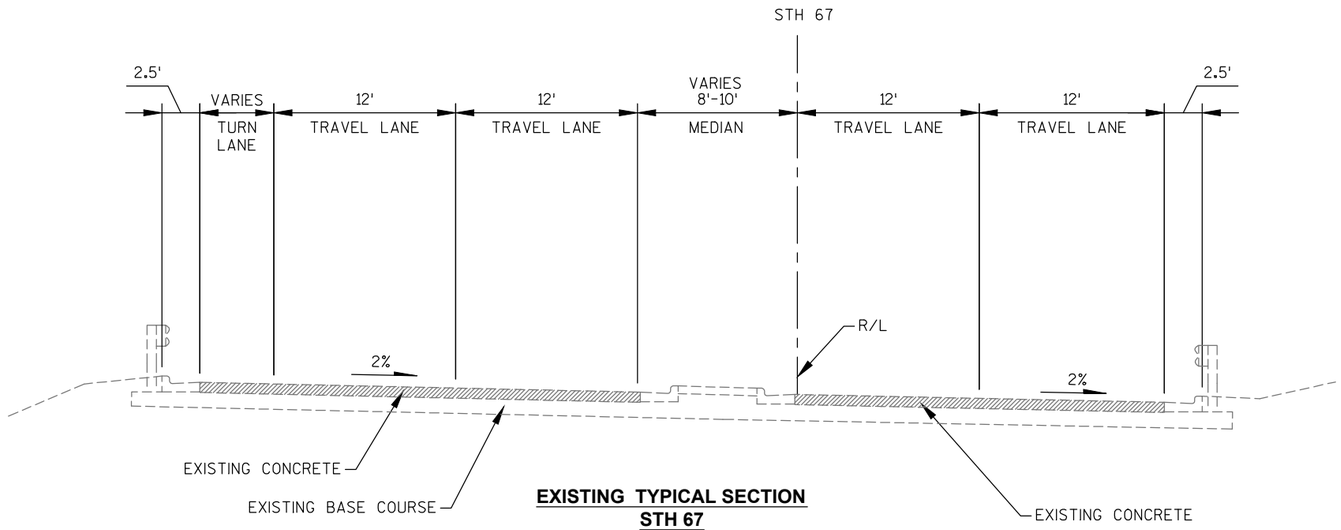
WORK SUMMARY:

- STRUCTURE OVERLAYS & APPROACH RECONSTRUCTIONS FOR THE FOLLOWING: B-67-0154, B-67-0155, B-67-0156, B-67-0158, B-67-0159, B-67-0161 & B-67-0162.
- MISCELLANEOUS CONCRETE REPAIR INSIDE CULVERT B-67-0171.
- DECK REPLACEMENT FOR THE FOLLOWING STRUCTURES: B-67-0173 & B-67-0174.
- STRUCTURE OVERLAY, APPROACH RECONSTRUCTION, AND ABUTMENT REPAIR FOR B-67-0153.
- POLYMER OVERLAY & APPROACH OVERLAY FOR B-67-0244

NOTE:

ALIGNMENT FOR REFERENCE ONLY.

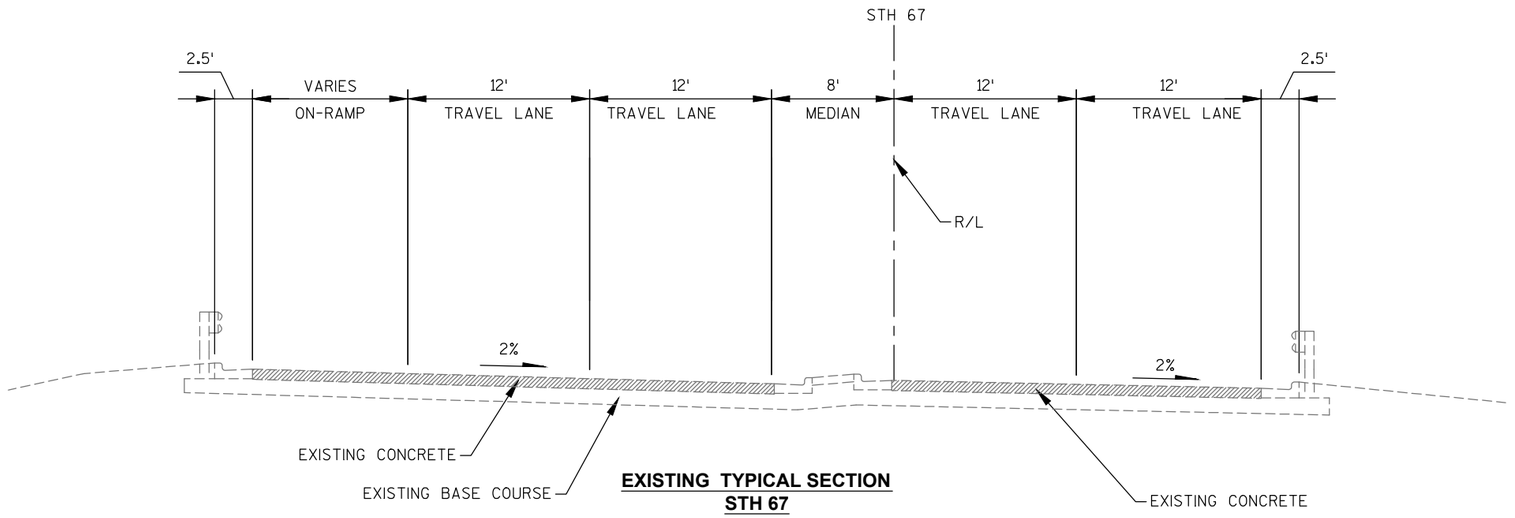
PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PROJECT OVERVIEW	SCALE, FEET 0 1500 3000	SHEET 3	E



EXISTING TYPICAL SECTION
STH 67
(LOOKING NORTH)

B-67-0153

STA. 88+82 TO STA. 89+94
STA 89+94 TO STA. 97+38 B-67-0153 & APPROACHES

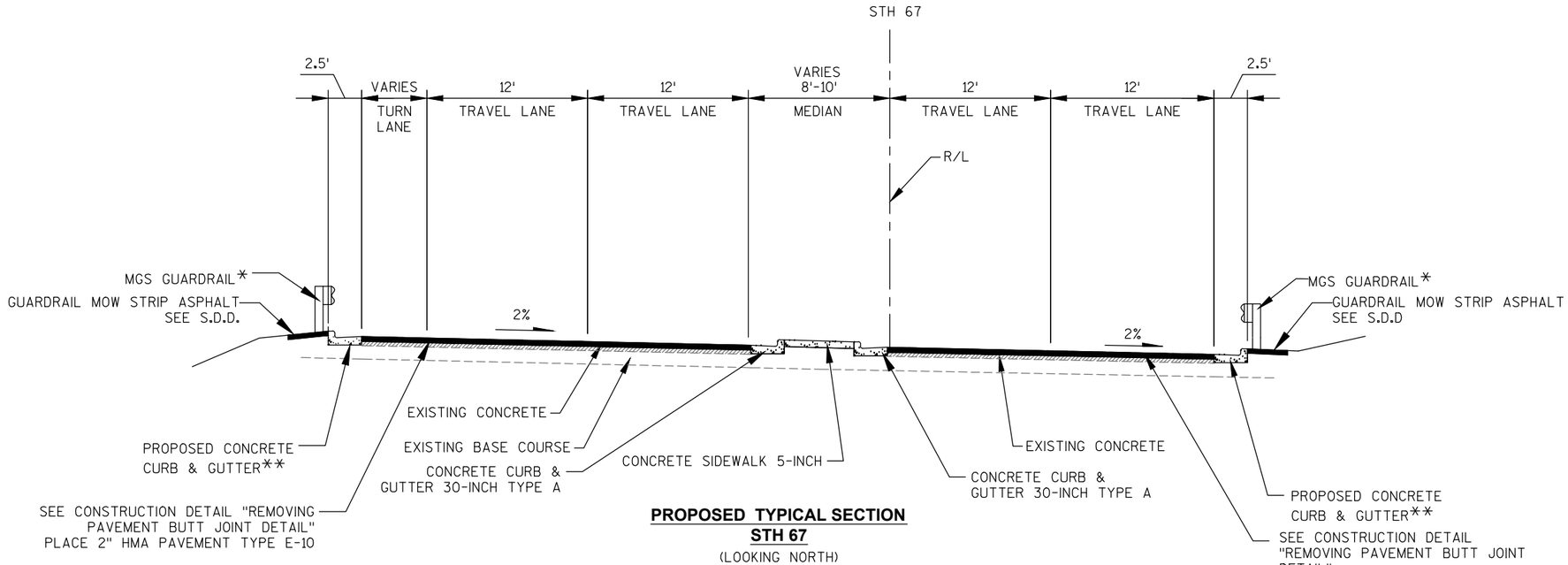


EXISTING TYPICAL SECTION
STH 67
(LOOKING NORTH)

B-67-0153

STA. 97+38 TO STA. 98+33

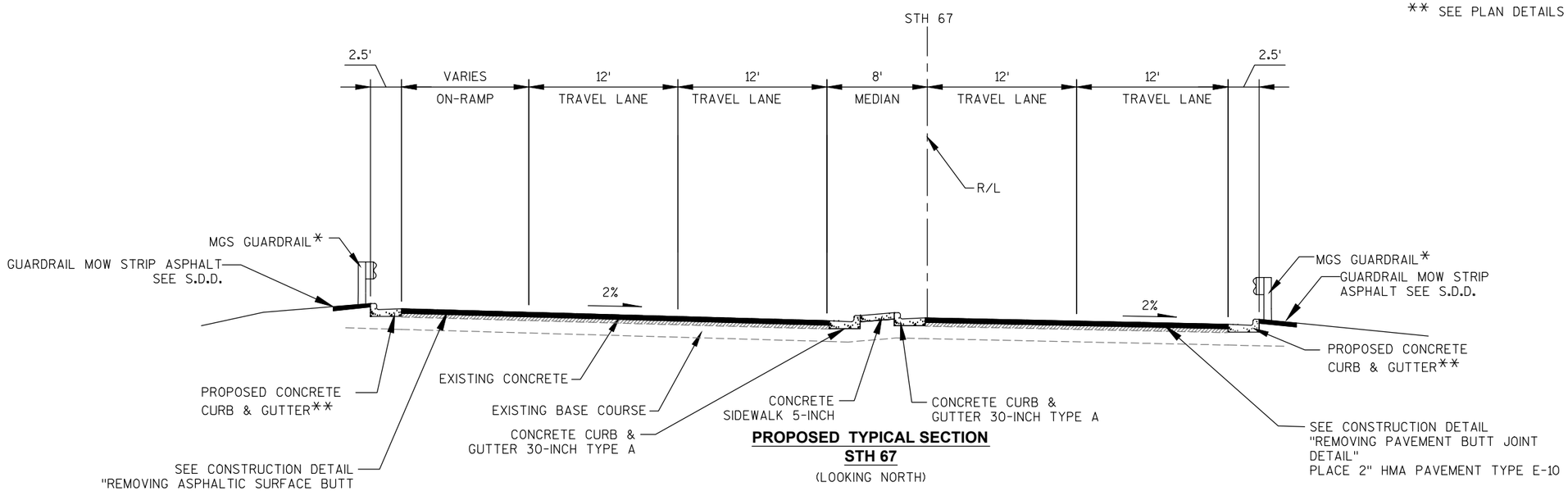
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PROPOSED TYPICAL SECTION
STH 67
(LOOKING NORTH)

B-67-0153
STA. 88+82 TO STA. 89+32
STA. 89+32 TO STA. 97+83 B-67-0153 & APPROACHES

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE

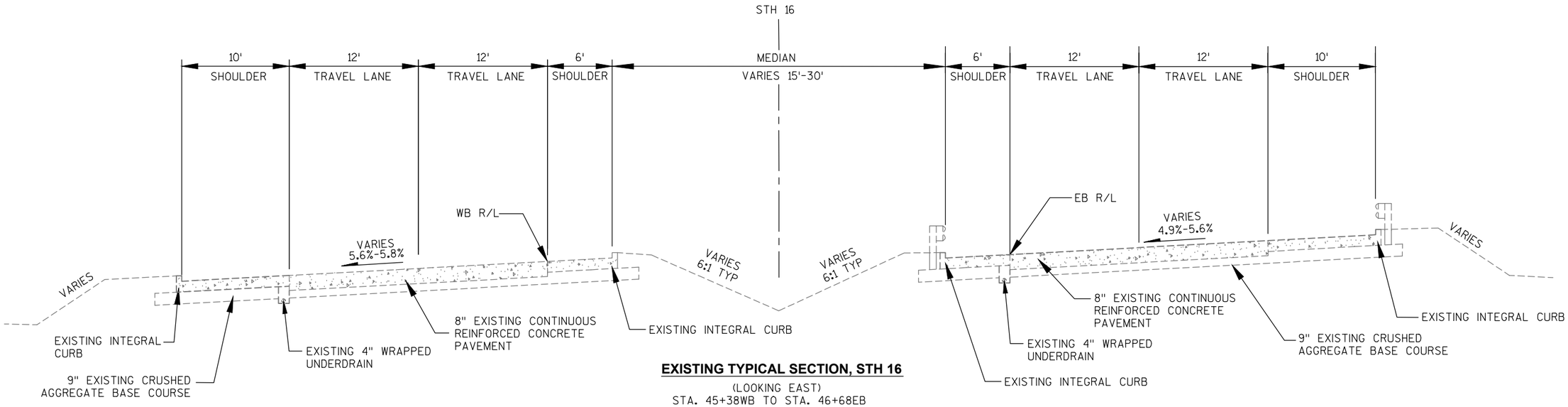


PROPOSED TYPICAL SECTION
STH 67
(LOOKING NORTH)

B-67-0153
STA. 97+83 TO STA. 98+33

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 67	SHEET 5	E

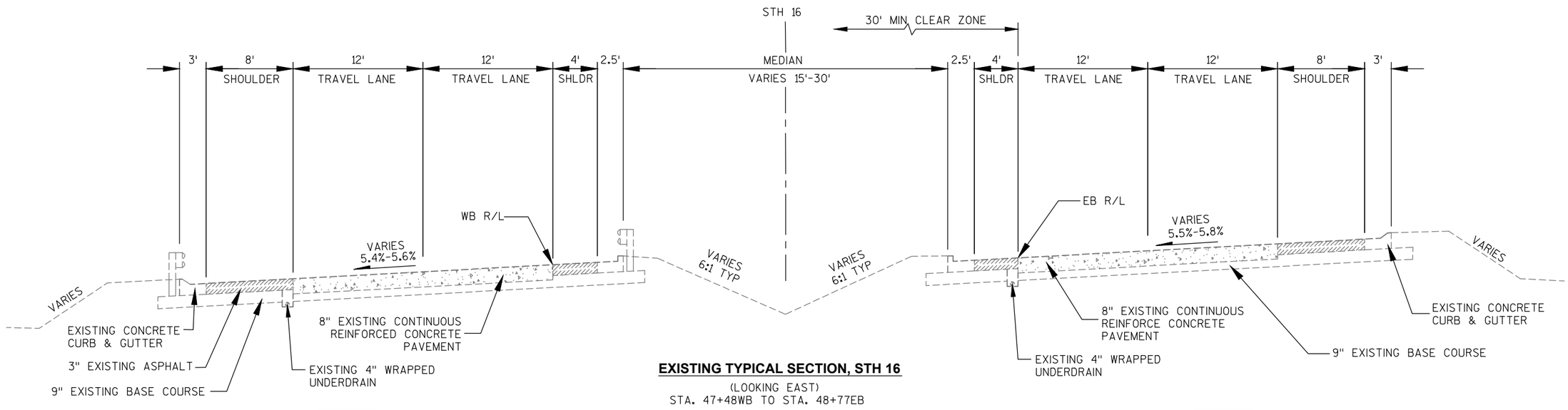


EXISTING TYPICAL SECTION, STH 16

(LOOKING EAST)
STA. 45+38WB TO STA. 46+68EB

B-67-0155
STA. 45+38WB TO STA. 46+33WB
STA. 46+33WB TO STA. 47+48WB B-67-0155 & APPROACHES

B-67-0154
STA. 45+73EB TO STA 46+68EB
STA. 46+68EB TO STA. 47+82EB B-67-0154 & APPROACHES



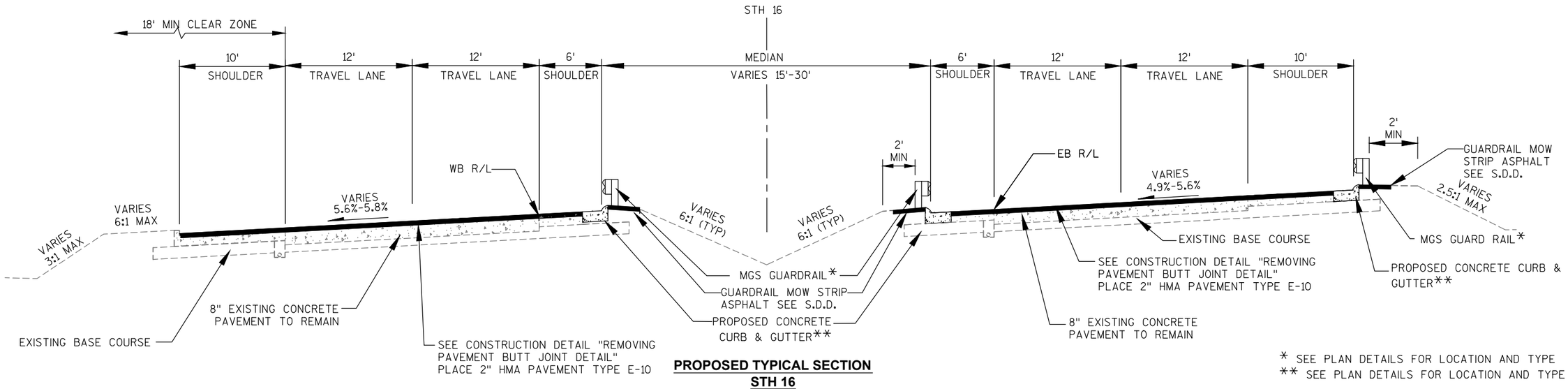
EXISTING TYPICAL SECTION, STH 16

(LOOKING EAST)
STA. 47+48WB TO STA. 48+77EB

B-67-0155
STA. 47+48WB TO STA. 48+43WB

B-67-0154
STA. 48+27EB TO STA. 48+77EB

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16 OVER OCONOMOWOC RIVER	SHEET 6	E



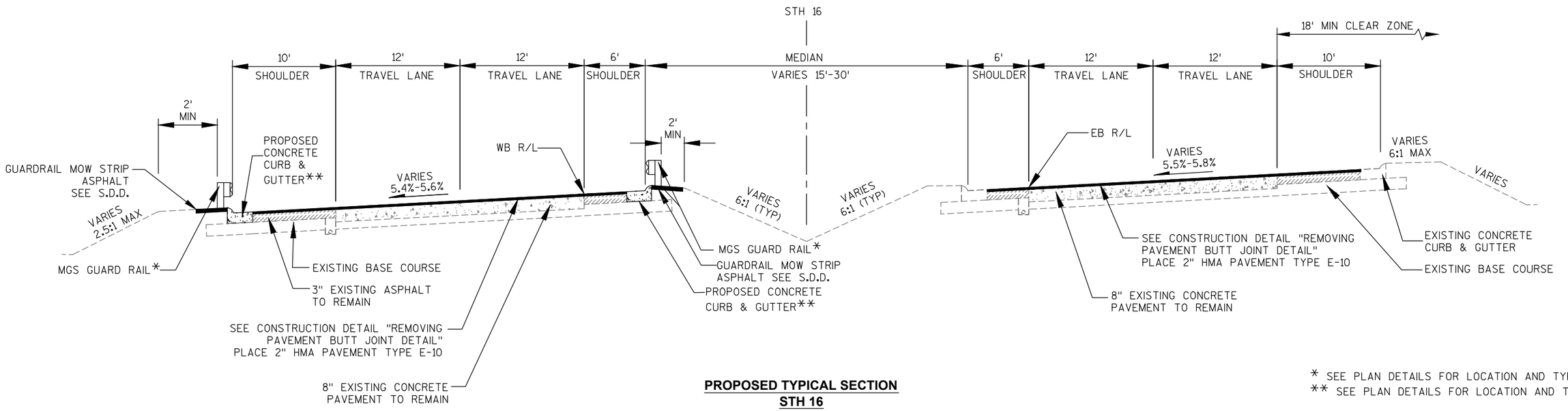
PROPOSED TYPICAL SECTION
STH 16

(LOOKING EAST)
STA. 45+38WB TO STA. 46+23EB

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE

B-67-0155
STA. 45+38WB TO STA. 45+88WB
STA. 45+88WB TO STA. 47+93WB B-67-0155 & APPROACHES

B-67-0154
STA. 45+73EB TO STA. 46+23EB
STA. 46+23EB TO STA. 48+27EB B-67-0154 & APPROACHES



PROPOSED TYPICAL SECTION
STH 16

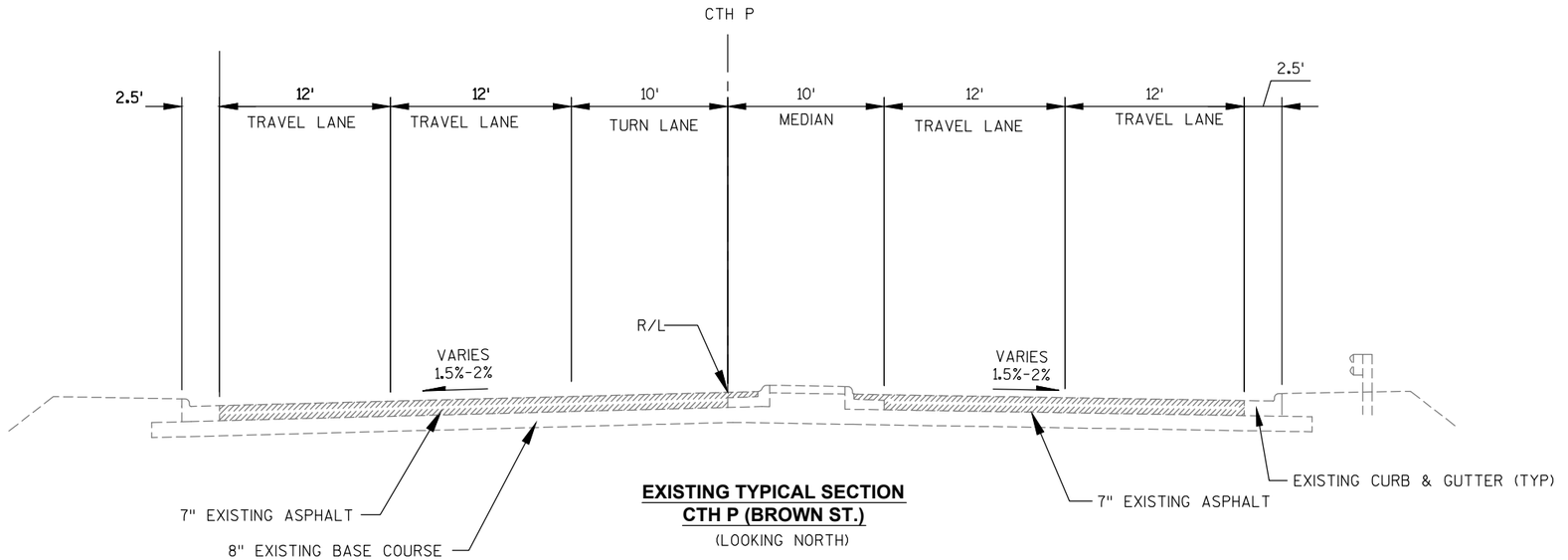
(LOOKING EAST)
STA. 47+93WB TO STA. 48+77EB

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE

B-67-0155
STA. 47+93WB TO STA. 48+43WB

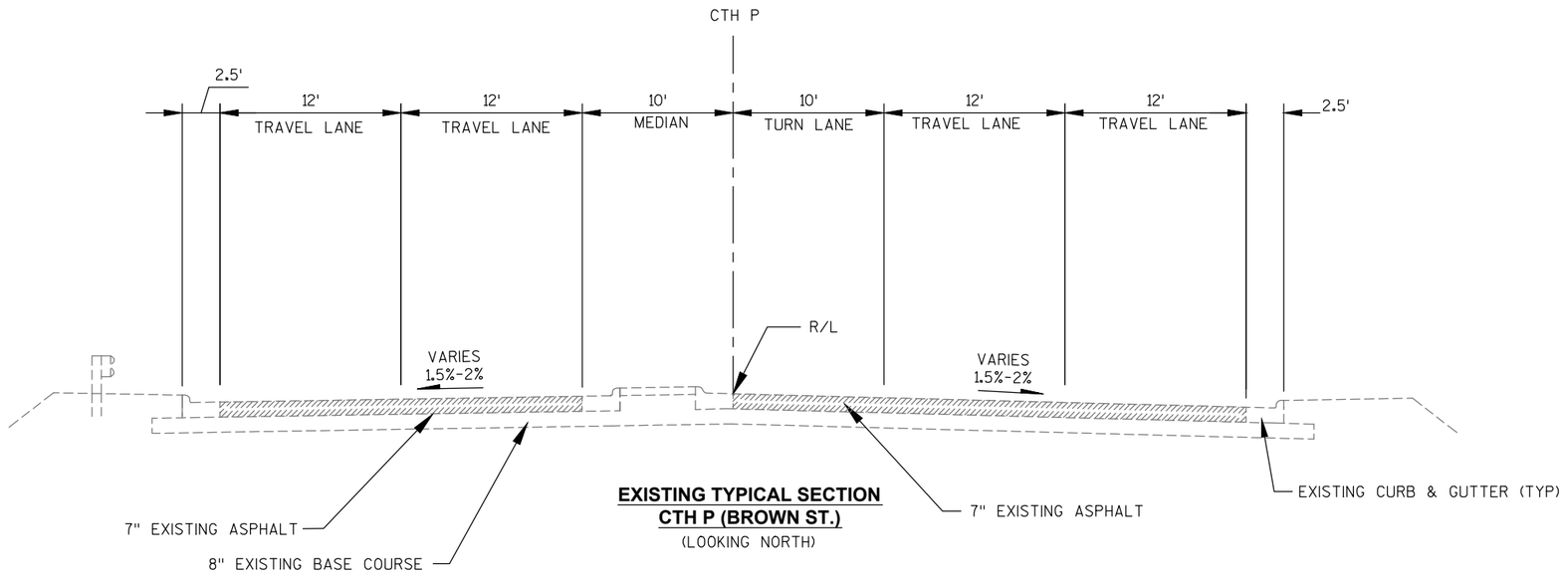
B-67-0154
STA. 48+27EB TO STA. 48+77EB

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16 OVER OCONOMOWOC RIVER	SHEET 7	E



EXISTING TYPICAL SECTION
CTH P (BROWN ST.)
(LOOKING NORTH)

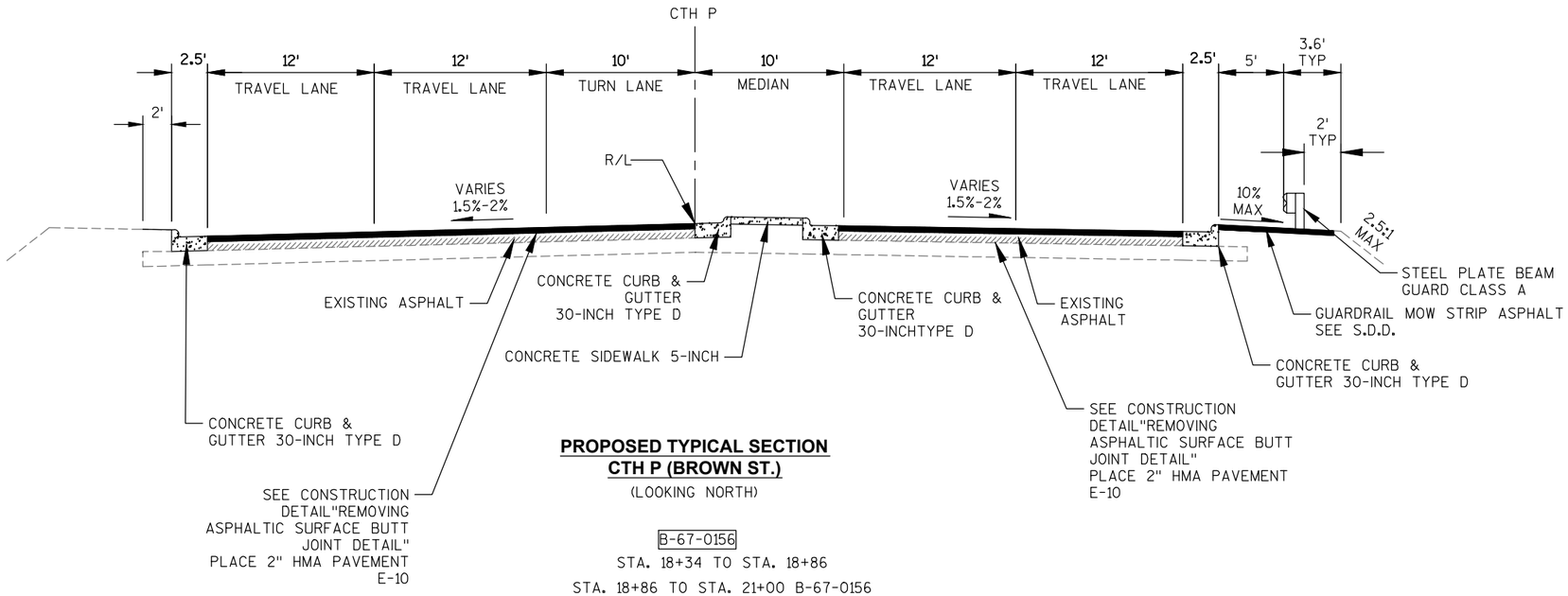
B-67-0156
STA. 18+34 TO STA. 18+86
STA. 18+86 TO STA. 21+00 B-67-0156



EXISTING TYPICAL SECTION
CTH P (BROWN ST.)
(LOOKING NORTH)

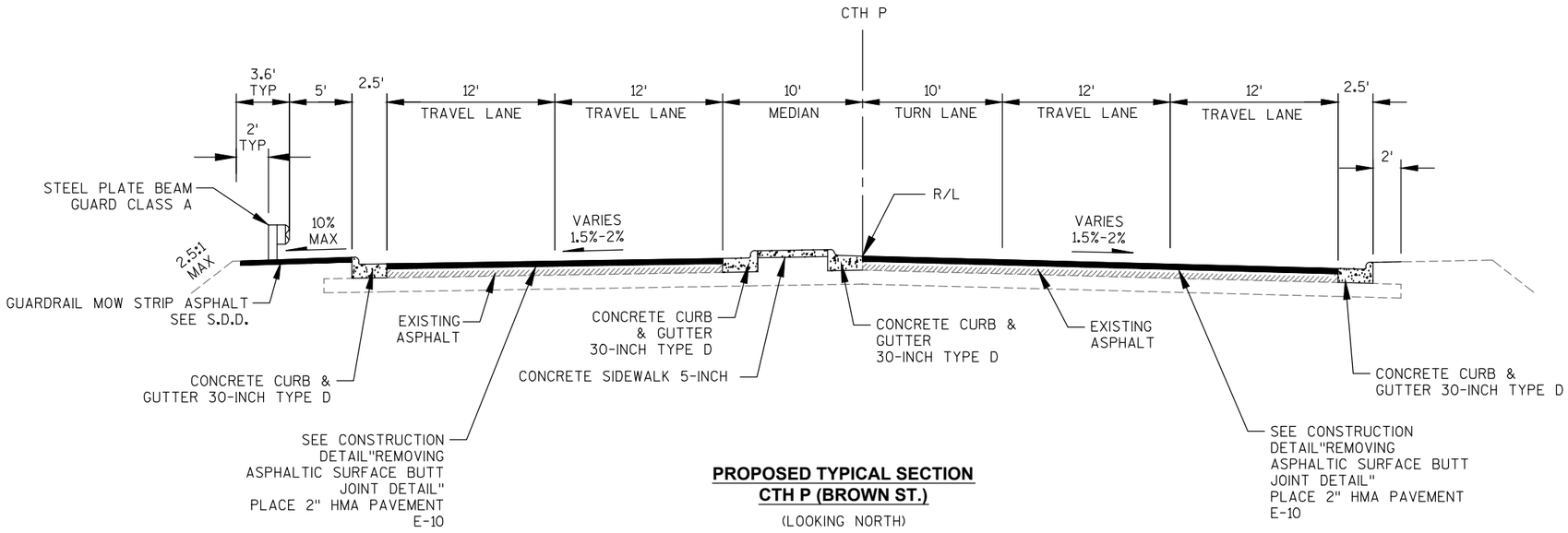
B-67-0156
STA. 21+00 TO STA. 21+50

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - CTH P (BROWN ST.)	SHEET 8	E



PROPOSED TYPICAL SECTION
CTH P (BROWN ST.)
(LOOKING NORTH)

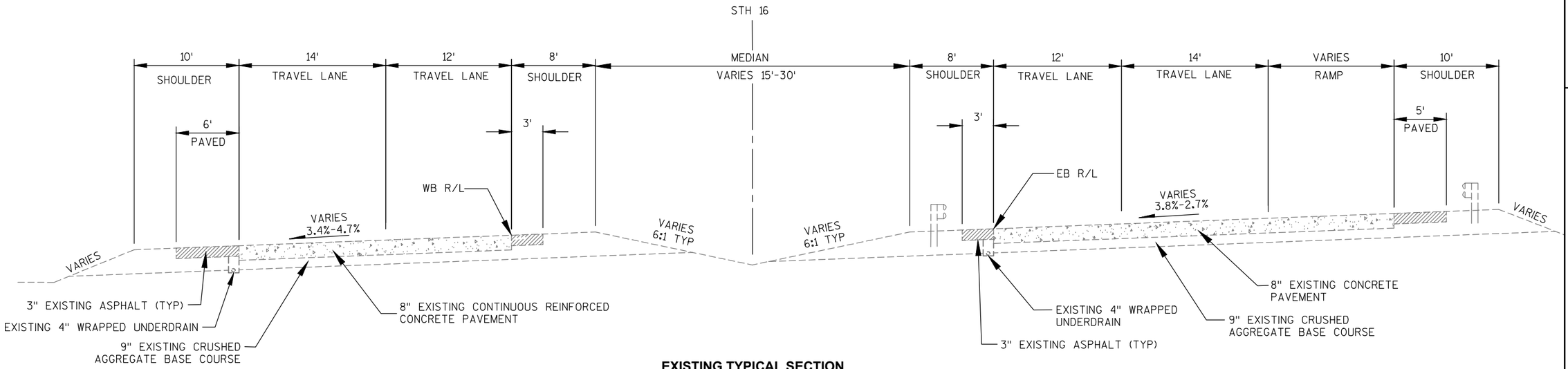
B-67-0156
STA. 18+34 TO STA. 18+86
STA. 18+86 TO STA. 21+00 B-67-0156



PROPOSED TYPICAL SECTION
CTH P (BROWN ST.)
(LOOKING NORTH)

B-67-0156
STA. 21+00 TO STA. 21+50

PROJECT NO:1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - CTH P (BROWN ST.)	SHEET 9	E

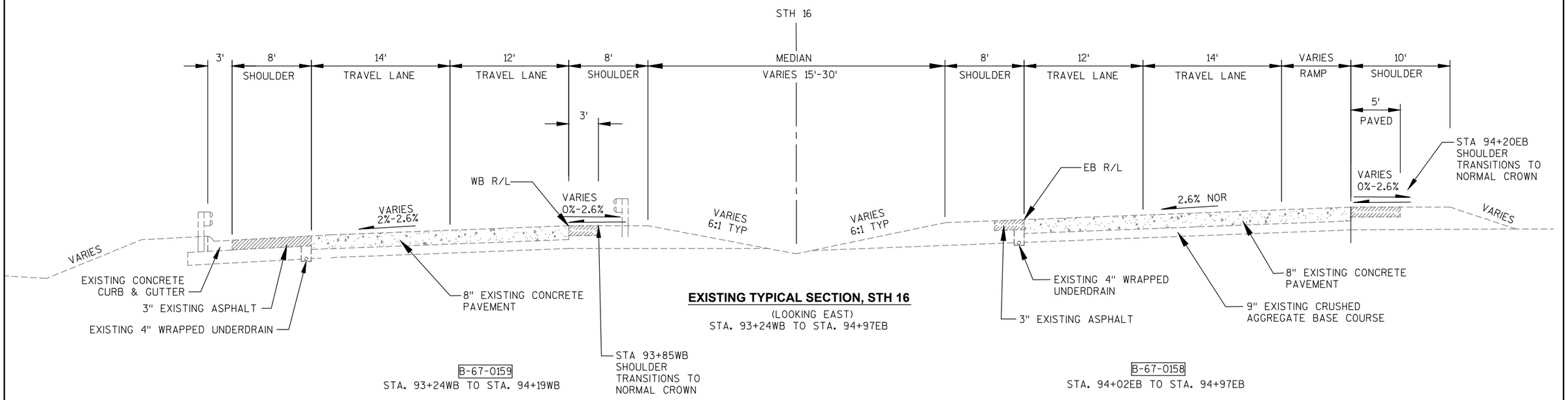


EXISTING TYPICAL SECTION
STH 16

(LOOKING EAST)
STA. 90+60WB TO STA. 94+02EB

B-67-0159
STA. 90+60WB TO STA. 91+55WB
STA. 91+55WB TO STA. 93+24WB B-67-0159 & APPROACHES

B-67-0158
STA. 91+30EB TO STA. 92+25EB
STA. 92+25EB TO STA. 94+02EB B-67-0158 & APPROACHES



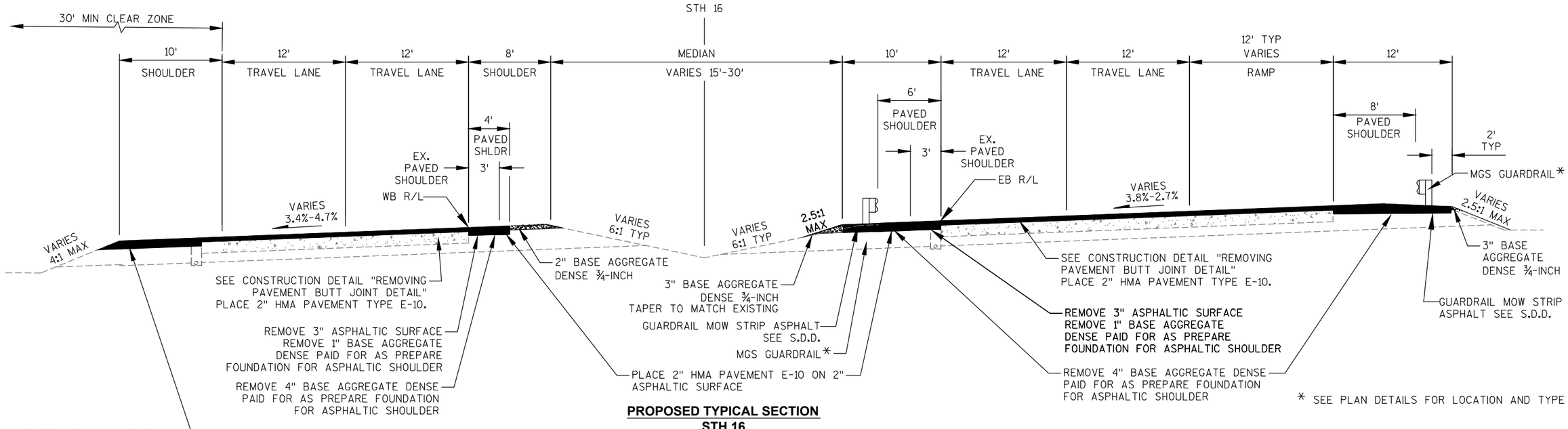
EXISTING TYPICAL SECTION, STH 16

(LOOKING EAST)
STA. 93+24WB TO STA. 94+97EB

B-67-0159
STA. 93+24WB TO STA. 94+19WB

B-67-0158
STA. 94+02EB TO STA. 94+97EB

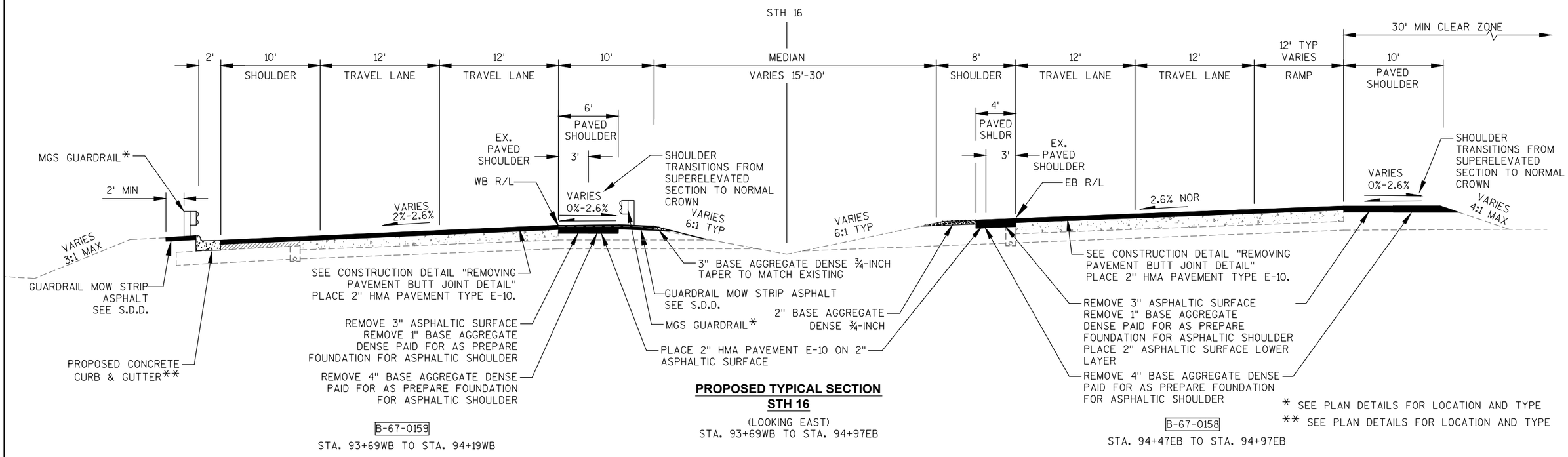
PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16 OVER OCONOMOWOC RIVER	SHEET 10	E



PROPOSED TYPICAL SECTION
STH 16
(LOOKING EAST)
STA. 90+60 WB TO STA. 94+47EB

B-67-0159
STA. 90+06WB TO STA. 91+10WB
STA. 91+10WB TO STA. 93+69WB B-67-0159 & APPROACHES

B-67-0158
91+30EB TO STA. 91+80EB
91+80EB TO STA. 94+47EB B-67-0158 & APPROACHES

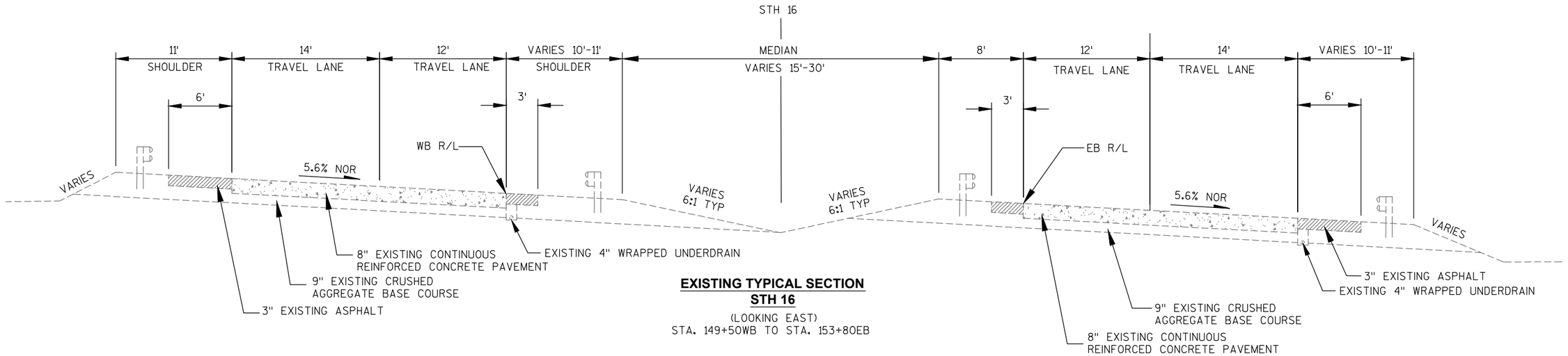


PROPOSED TYPICAL SECTION
STH 16
(LOOKING EAST)
STA. 93+69WB TO STA. 94+97EB

B-67-0159
STA. 93+69WB TO STA. 94+19WB

B-67-0158
STA. 94+47EB TO STA. 94+97EB

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16 OVER OCONOMOWOC RIVER	SHEET 11	E



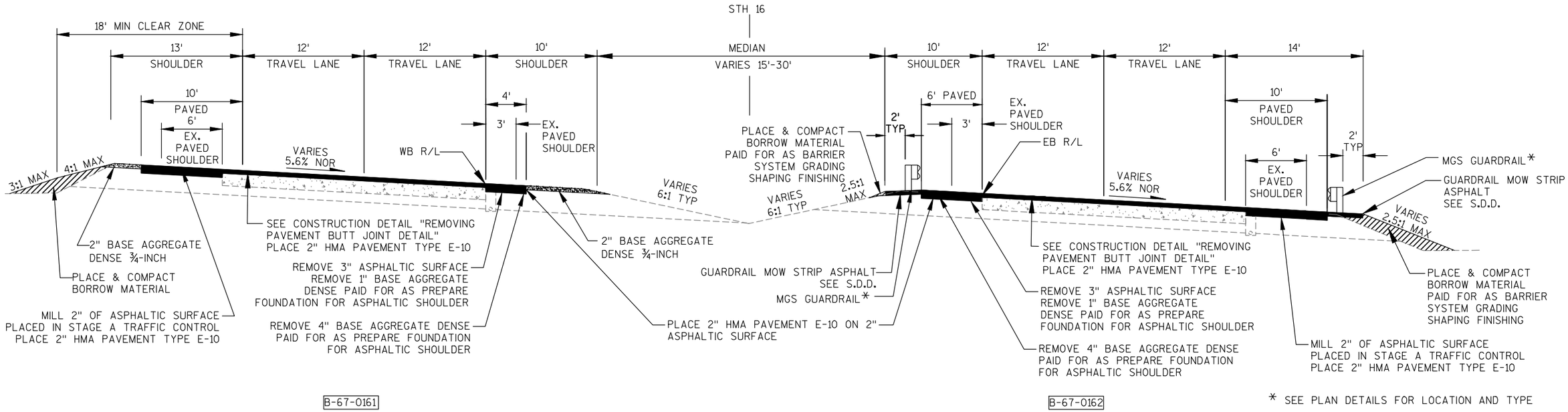
EXISTING TYPICAL SECTION
STH 16

(LOOKING EAST)
STA. 149+50WB TO STA. 153+80EB

B-67-0161
STA. 149+50WB TO STA. 150+47WB
STA. 150+47WB TO STA. 152+59WB B-67-0161 & APPROACHES
STA. 152+59WB TO 153+54WB

B-67-0162
STA. 149+89EB TO STA. 150+84EB
STA. 150+84EB TO STA. 152+85EB B-67-0162 & APPROACHES
STA. 152+85EB TO STA. 153+80EB

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16 OVER CTH P (SAWYER ROAD)	SHEET 12	E



B-67-0161

STA. 149+50WB TO STA. 150+00WB
STA. 150+02WB TO STA. 153+04WB B-67-0161 & APPROACHES

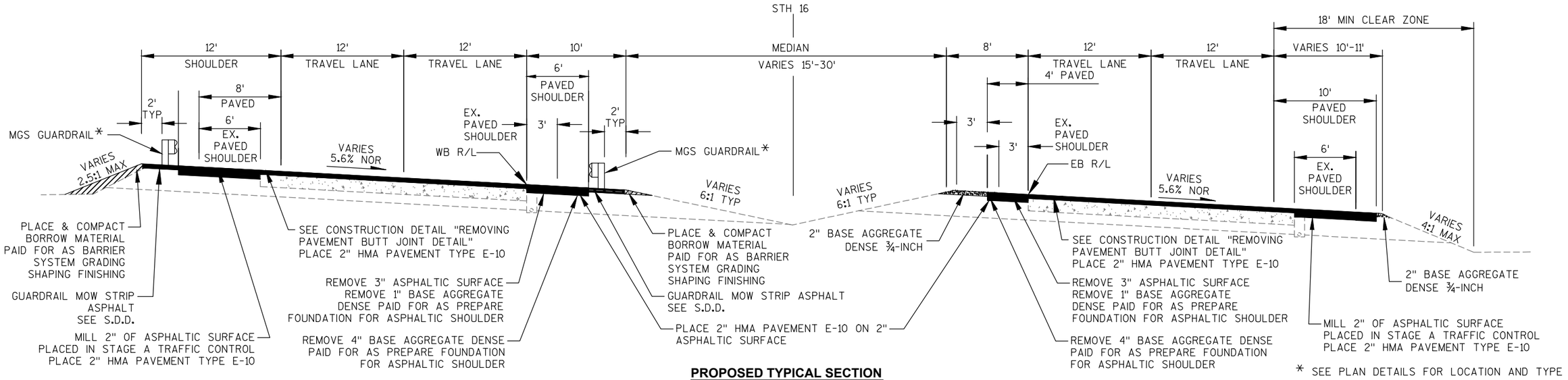
PROPOSED TYPICAL SECTION
STH 16

(LOOKING EAST)
STA. 149+50WB TO STA. 153+30EB

B-67-0162

STA. 149+89EB TO STA. 150+39EB
STA. 150+39EB TO STA. 153+30EB B-67-0162 & APPROACHES

* SEE PLAN DETAILS FOR LOCATION AND TYPE



B-67-0161

STA. 153+04WB TO 153+54WB

PROPOSED TYPICAL SECTION
STH 16

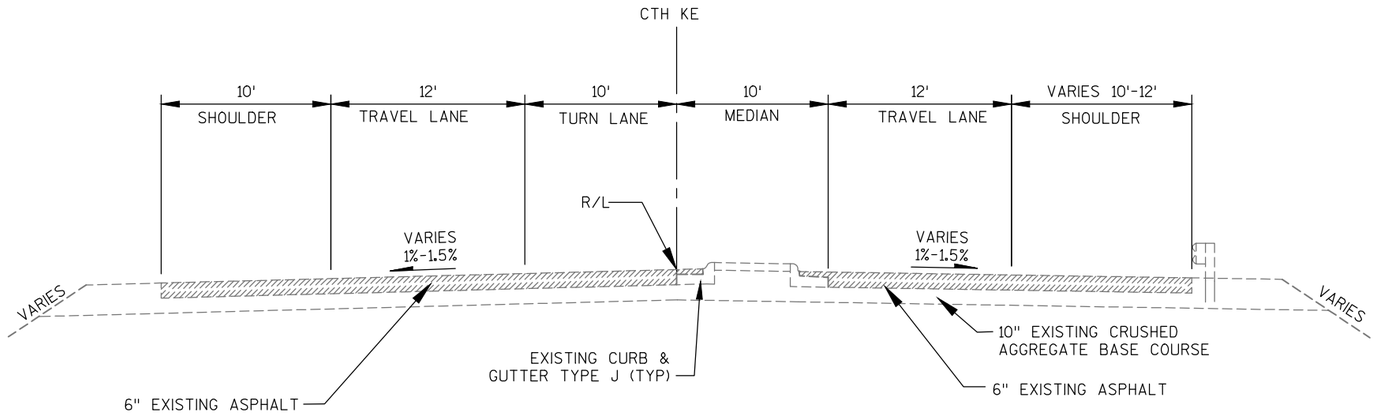
(LOOKING EAST)
STA. 153+04WB TO STA. 153+80EB

B-67-0162

STA. 153+30EB TO STA. 153+80EB

* SEE PLAN DETAILS FOR LOCATION AND TYPE

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16 OVER CTH P (SAWYER ROAD)	SHEET 13	E

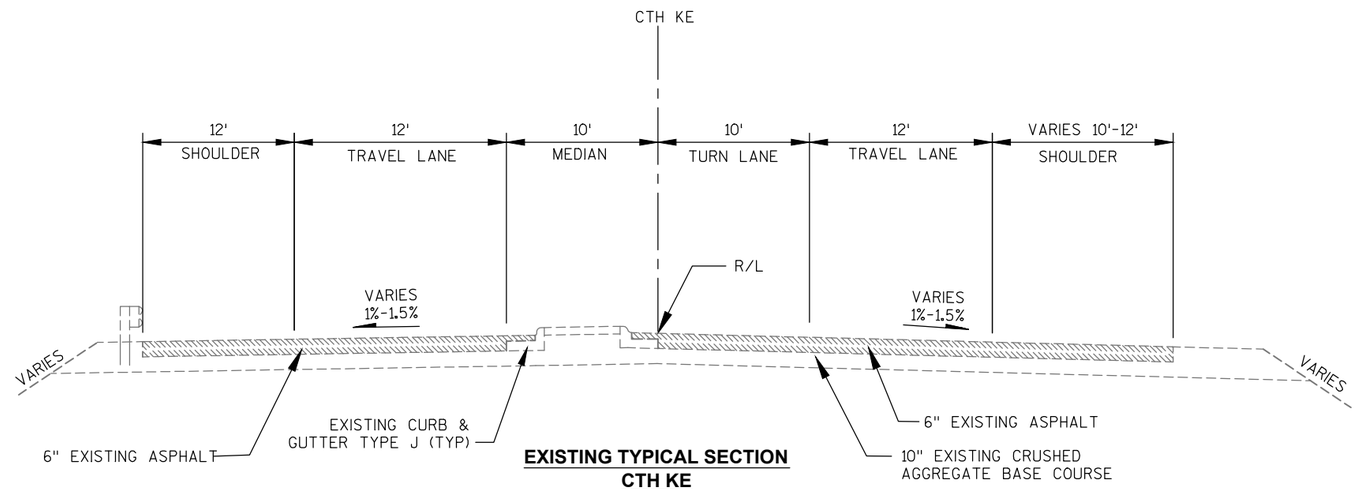


EXISTING TYPICAL SECTION
CTH KE

(LOOKING NORTH)

B-67-0173

STA. 116+54 TO STA 117+70
STA. 117+70 TO STA. 121+81 B-67-0173 & APPROACHES



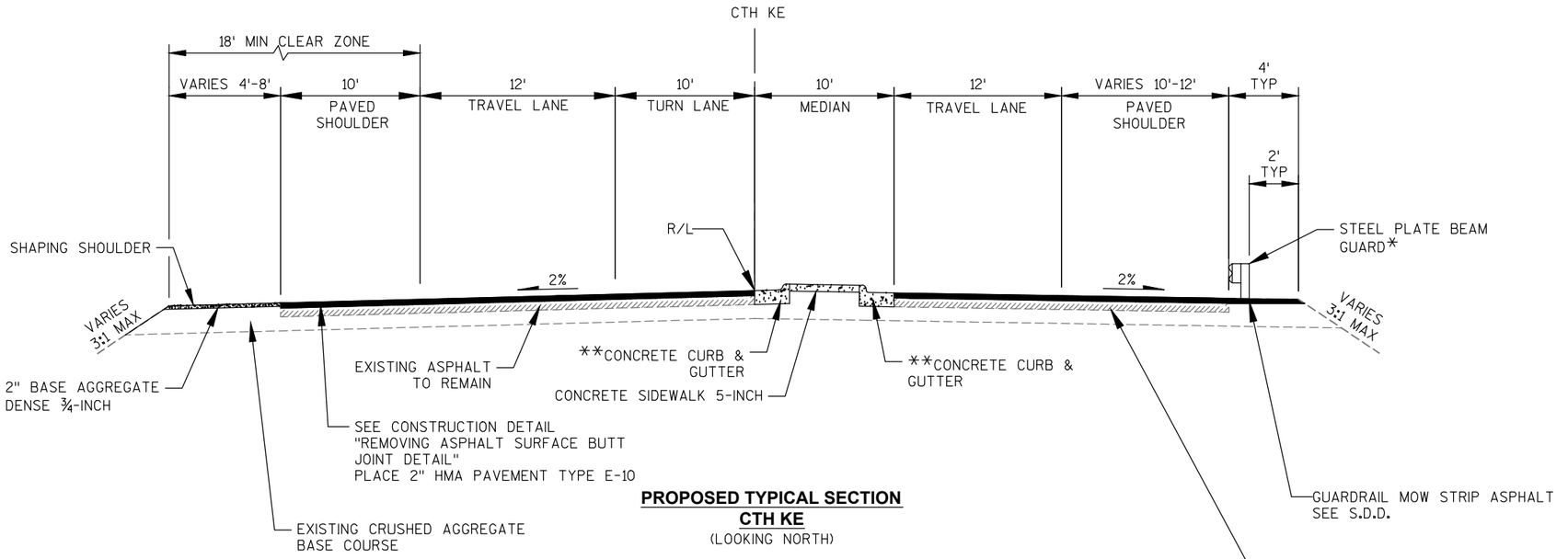
EXISTING TYPICAL SECTION
CTH KE

(LOOKING NORTH)

B-67-0173

STA. 121+81 TO STA. 122+70

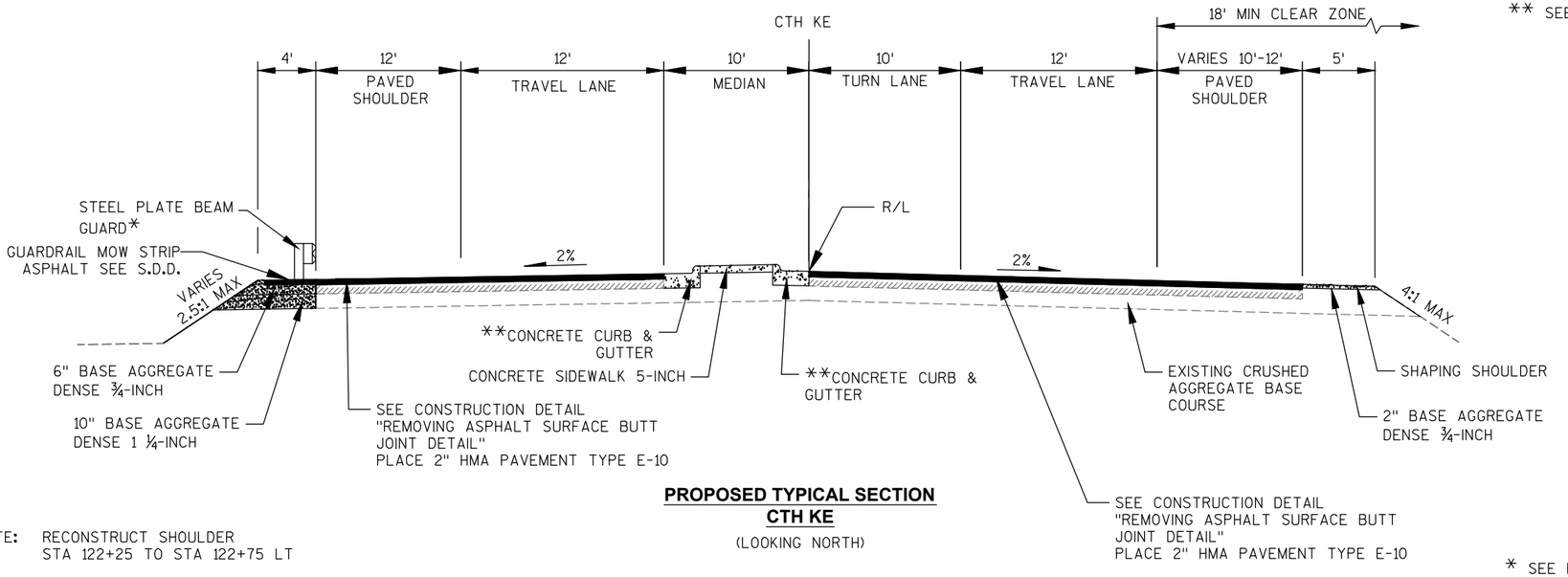
PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS-CTH KE	SHEET 14	E



PROPOSED TYPICAL SECTION
CTH KE
(LOOKING NORTH)

B-67-0173
STA. 116+54 TO STA. 117+33
STA. 117+33 TO STA. 122+25 B-67-0173 & APPROACHES

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE



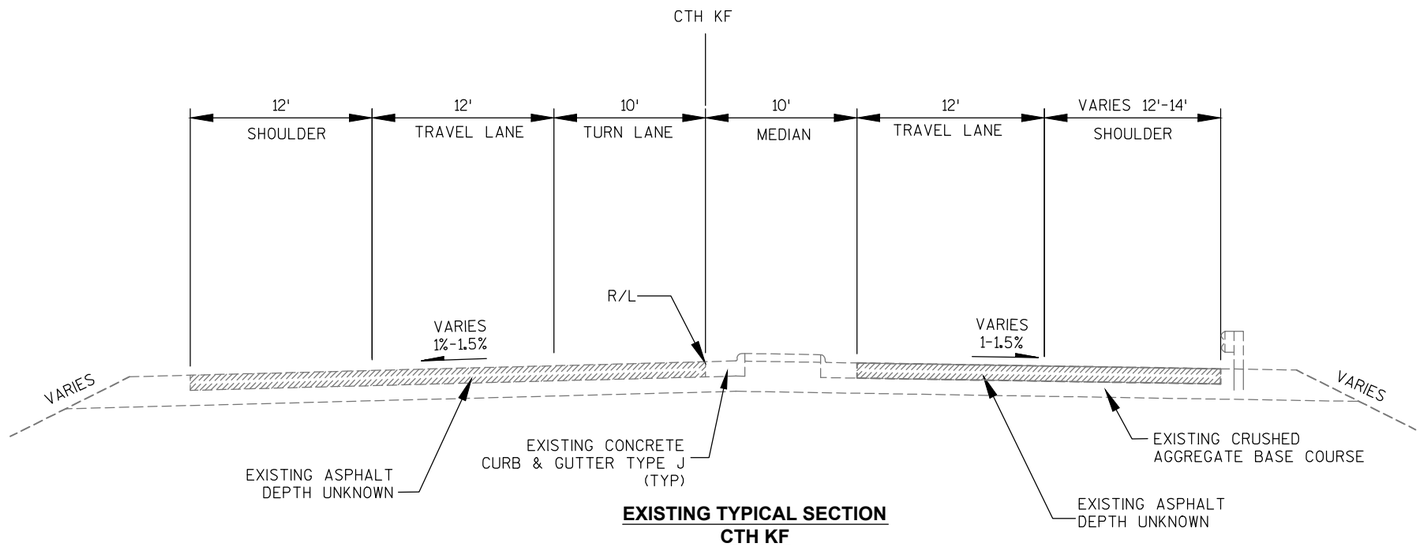
PROPOSED TYPICAL SECTION
CTH KE
(LOOKING NORTH)

B-67-0173
STA. 122+17 TO STA. 122+70

*NOTE: RECONSTRUCT SHOULDER
STA 122+25 TO STA 122+75 LT

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS-CTH KE	SHEET 15	E

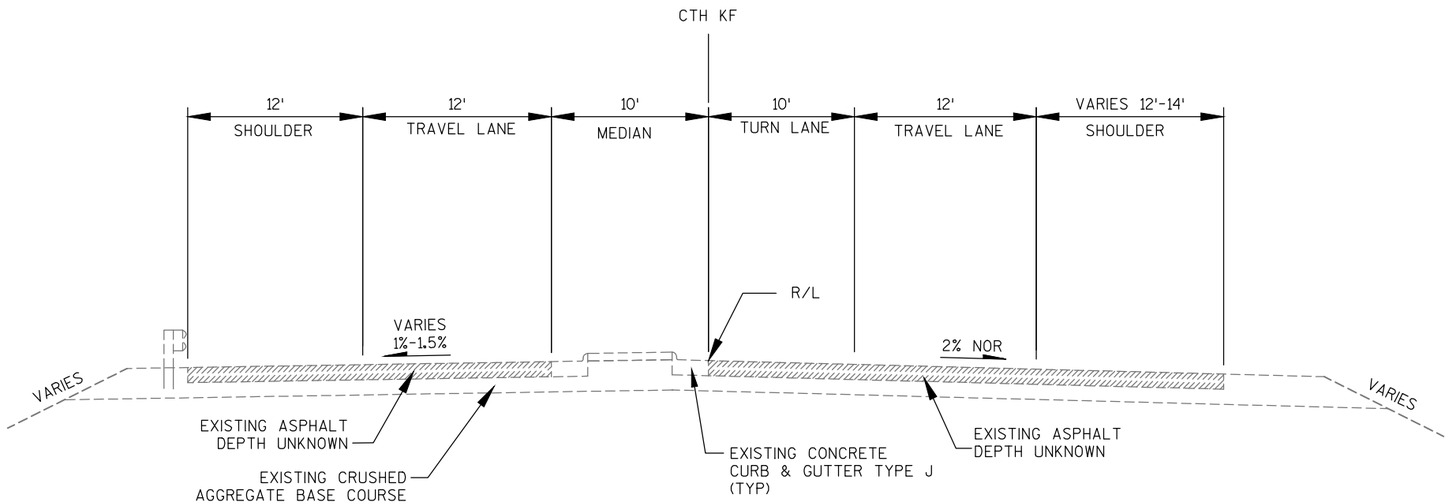


EXISTING TYPICAL SECTION
CTH KF
(LOOKING NORTH)

B-67-0174

STA. 37+13 TO STA. 38+22

STA. 38+22 TO STA. 41+35 B-67-0174 & APPROACHES

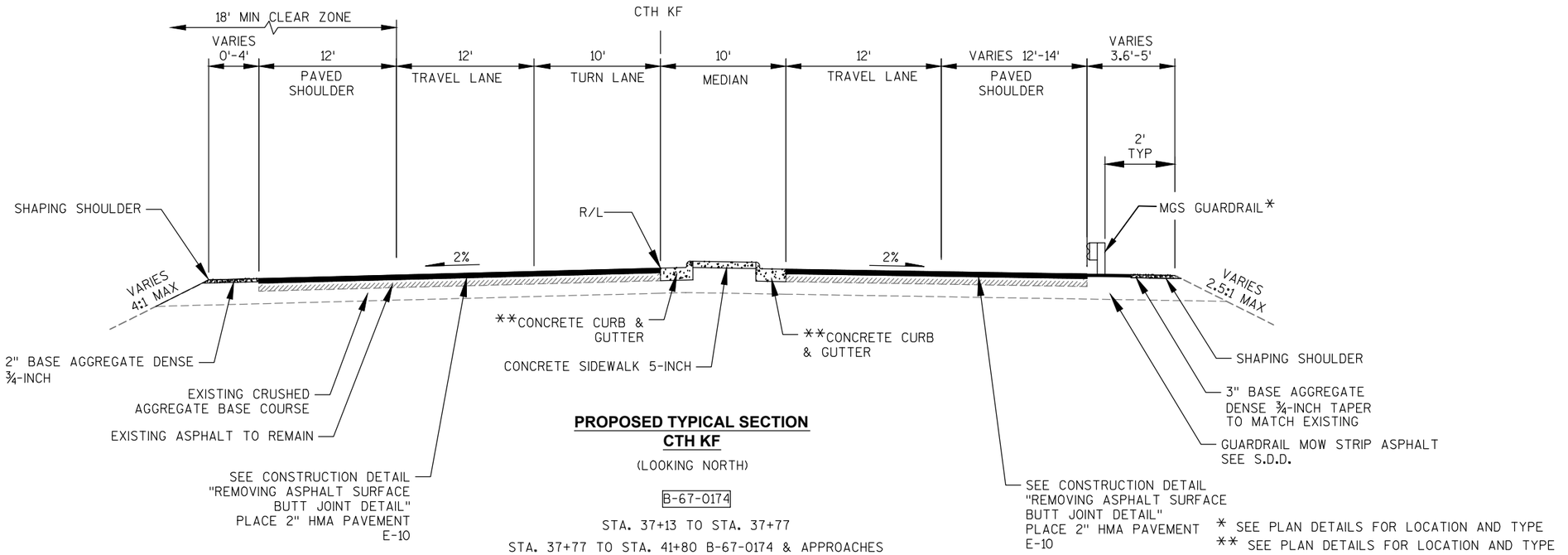


EXISTING TYPICAL SECTION
CTH KF
(LOOKING NORTH)

B-67-0174

STA. 41+35 TO STA. 42+52

PROJECT NO:1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - CTH KF	SHEET 16	E



PROPOSED TYPICAL SECTION
CTH KF

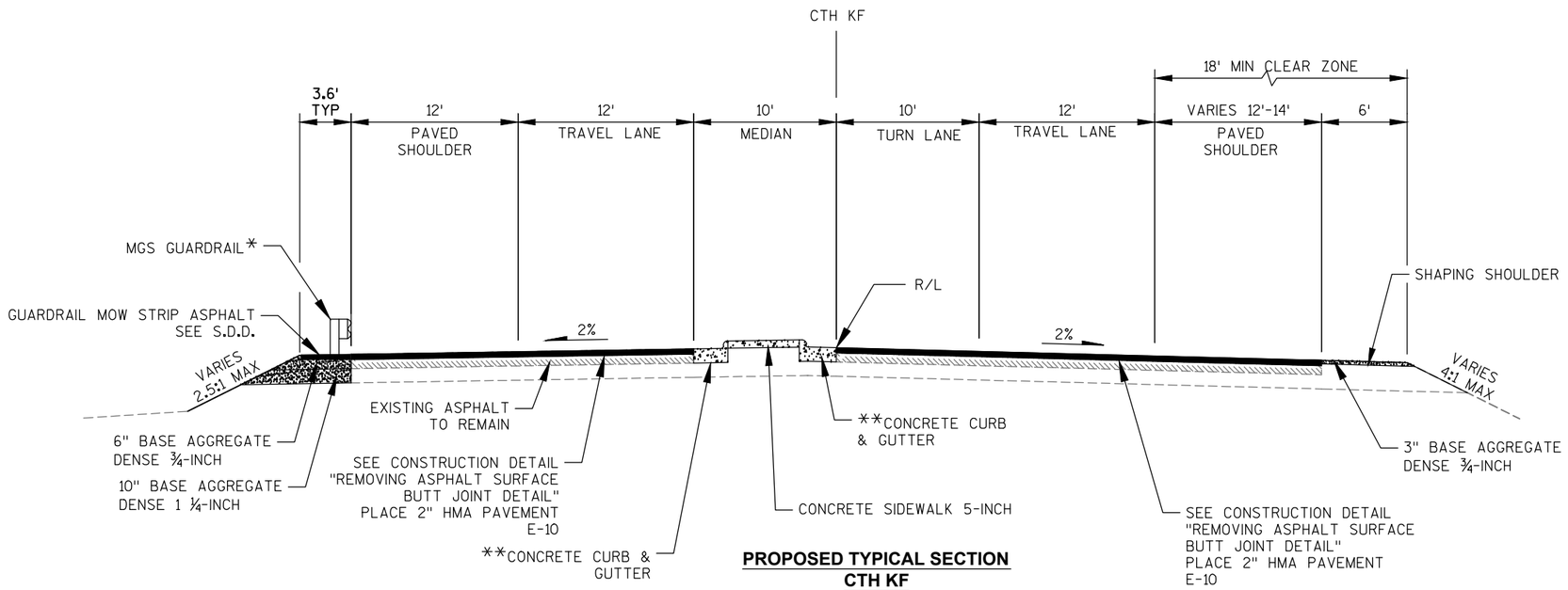
(LOOKING NORTH)

B-67-0174

STA. 37+13 TO STA. 37+77

STA. 37+77 TO STA. 41+80 B-67-0174 & APPROACHES

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE



PROPOSED TYPICAL SECTION
CTH KF

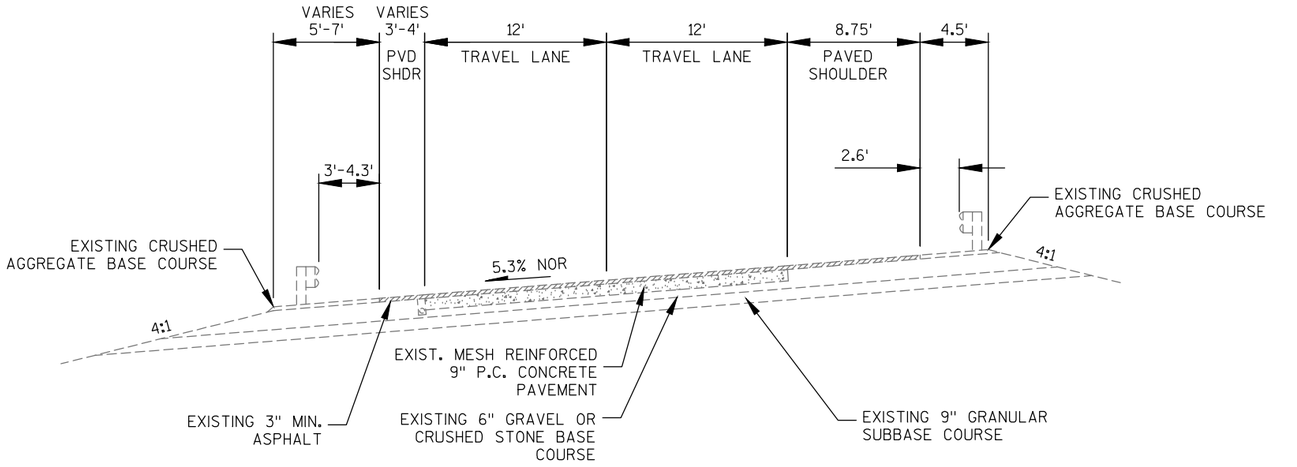
(LOOKING NORTH)

B-67-0174

STA. 41+80 TO STA. 42+52

* SEE PLAN DETAILS FOR LOCATION AND TYPE
** SEE PLAN DETAILS FOR LOCATION AND TYPE

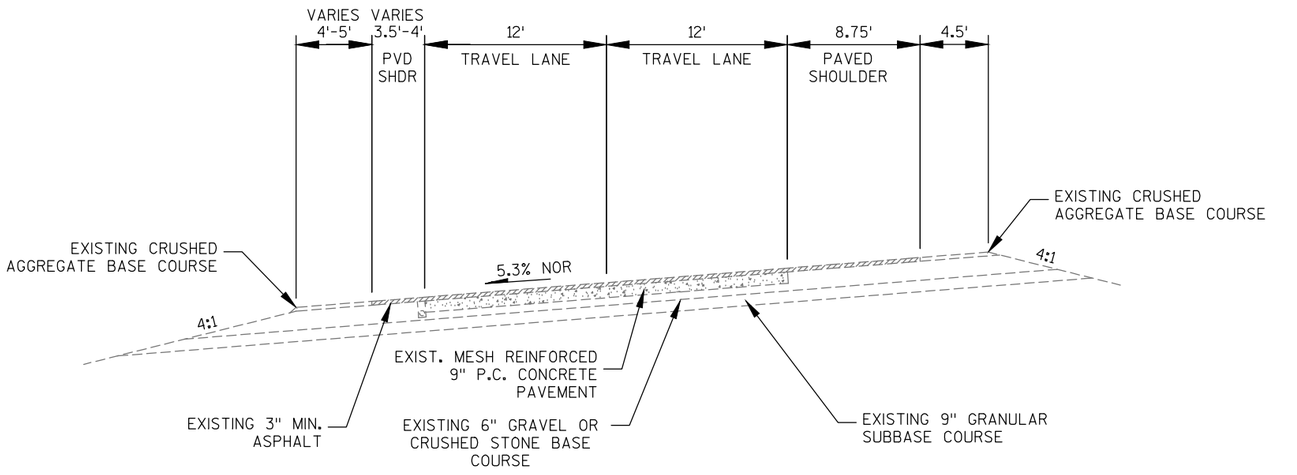
PROJECT NO:1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - CTH KF	SHEET 17	E



EXISTING TYPICAL SECTION
STH 16 RAMP
(LOOKING SOUTH)

B-67-0244

STA. 806+49EB TO STA. 806+99EB
STA. 806+99EB TO STA. 810+90EB B-67-0244 & APPROACHES

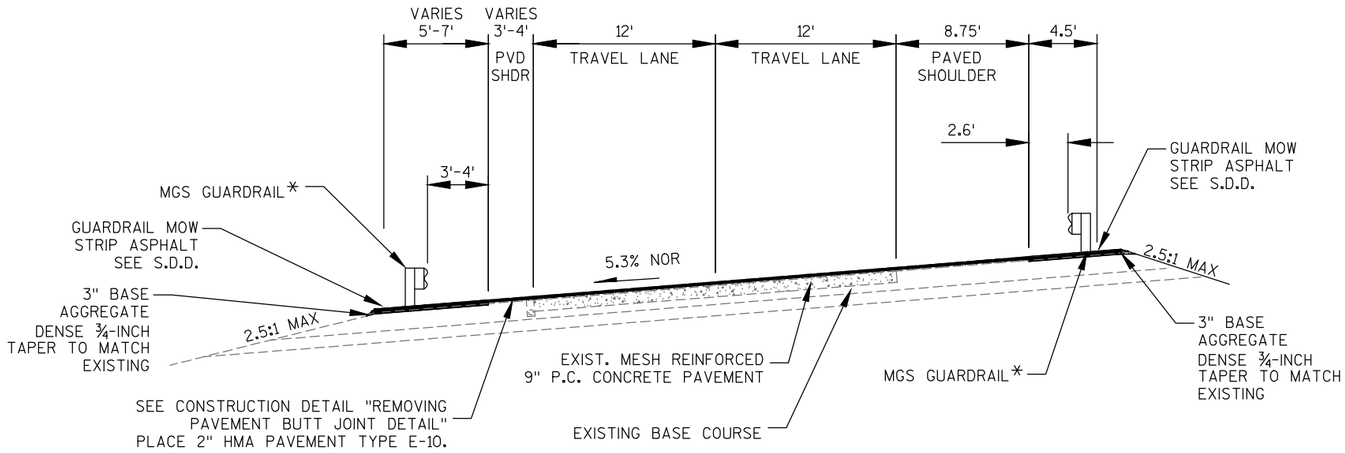


EXISTING TYPICAL SECTION
STH 16 RAMP
(LOOKING SOUTH)

B-67-0244

STA. 810+90EB TO STA. 811+40EB

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	ROADWAY TYPICAL SECTIONS - STH 16	SHEET 18	E

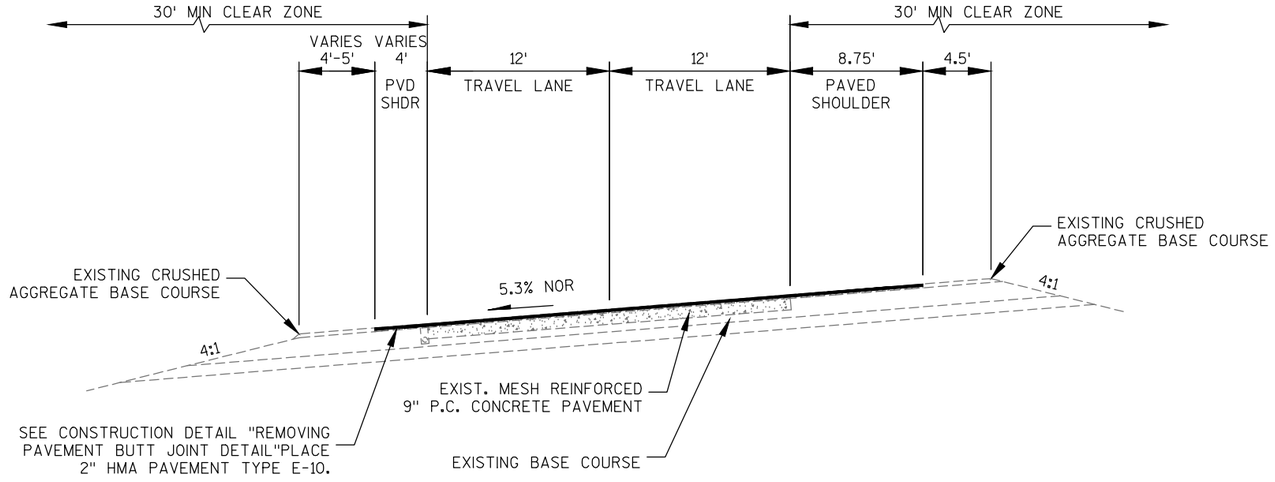


PROPOSED TYPICAL SECTION
STH 16 RAMP
(LOOKING SOUTH)

* SEE PLAN DETAILS FOR LOCATION AND TYPE

B-67-0244

STA. 806+49EB TO STA. 806+99EB
STA. 806+99EB TO STA. 810+90EB B-67-0244 & APPROACHES

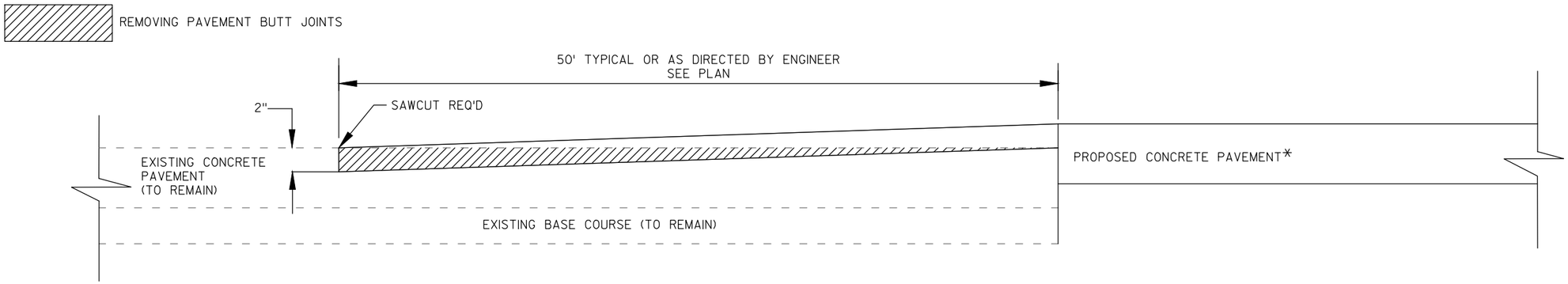


PROPOSED TYPICAL SECTION
STH 16 RAMP
(LOOKING SOUTH)

B-67-0244

STA. 810+90EB TO STA. 811+40EB

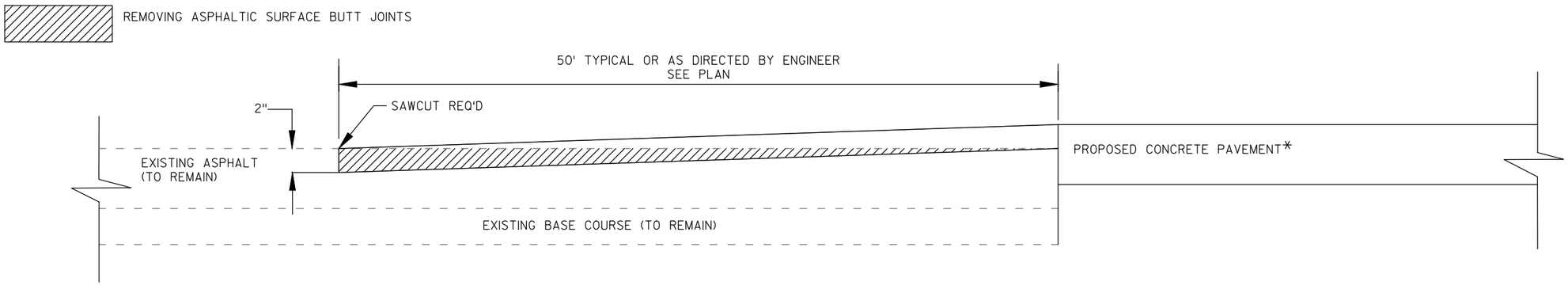
2



REMOVING PAVEMENT BUTT JOINT DETAIL

FOR ROADWAY APPROACHES AT BRIDGES
B-67-0153, B-67-0154, B-67-0155,
B-67-0158, B-67-0159, B-67-0161,
B-67-0162, & B-67-0244*

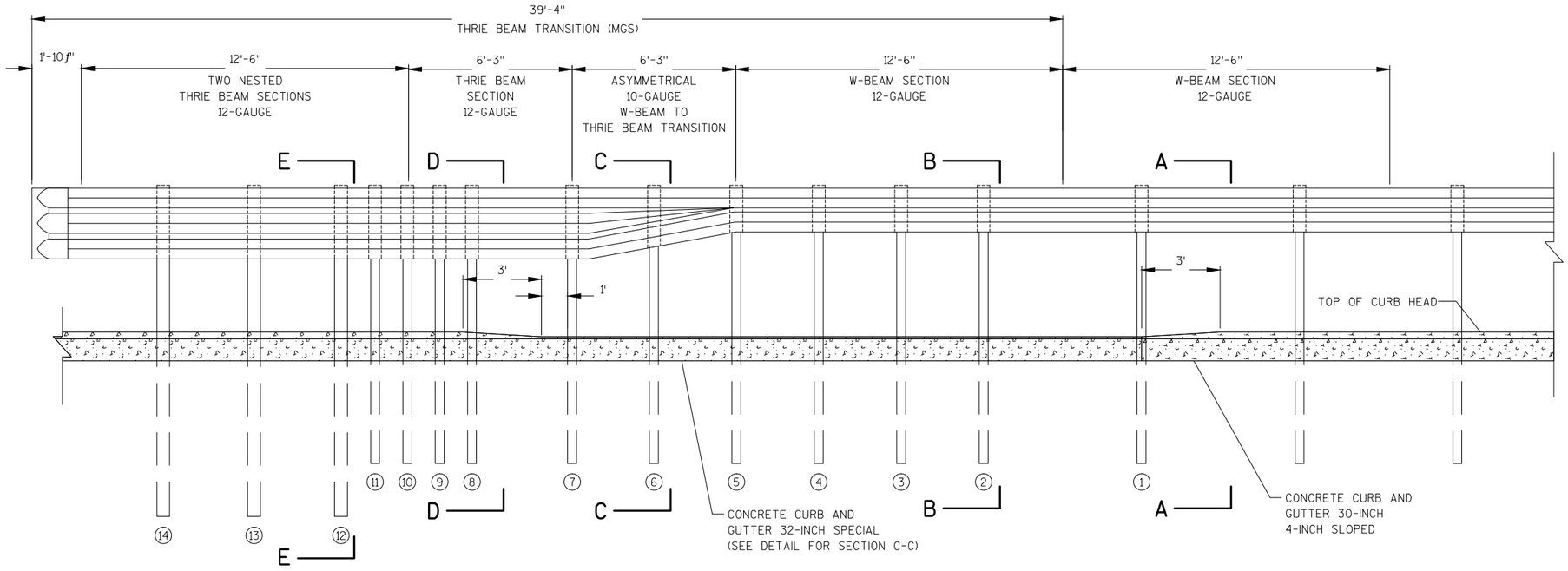
*NOTE: DOES NOT INCLUDE PROPOSED CONCRETE APPROACH SLAB



REMOVING ASPHALTIC SURFACE BUTT JOINT DETAIL

FOR BRIDGES B-67-0156*,
B-67-0173, & B-67-0174

*NOTE: DOES NOT INCLUDE PROPOSED CONCRETE APPROACH SLAB



MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION WITH CONCRETE CURB AND GUTTER

Ⓑ WOOD OR STEEL POSTS (W6X9 OR W6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

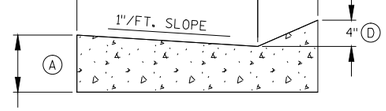
Ⓒ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1".

Ⓓ DEPRESS 4-INCH CURB HEAD TO 1-INCH AT ASYMMETRICAL AND W-BEAM SECTIONS OF THRIE BEAM TRANSITION.

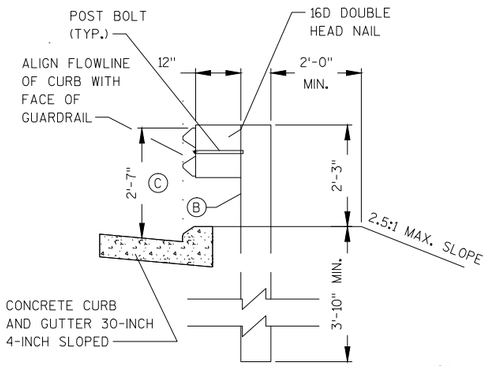
UTILIZE INLET COVER TYPE V, PLACED ON INLETS TYPE 1 WHEN A DRAINAGE STRUCTURE IS REQUIRED. THE TYPICAL LOCATION FOR THE DRAINAGE STRUCTURE IS WHERE THE POST SPACING IS 3'-1½".

SEE MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL AND MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) DETAILS WHEN NECESSARY

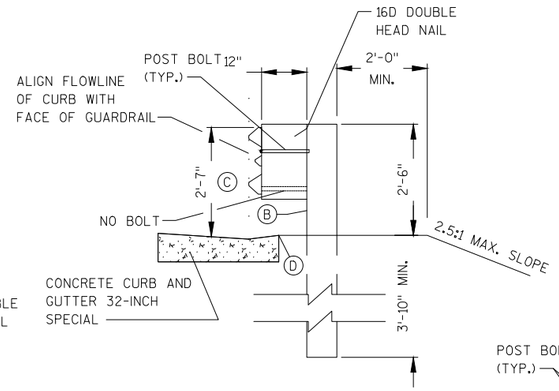
Ⓐ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.



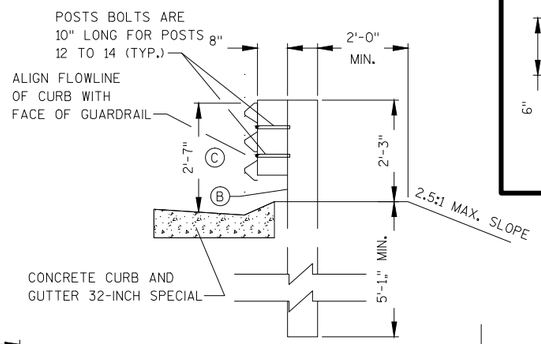
CONCRETE CURB AND GUTTER 32-INCH SPECIAL



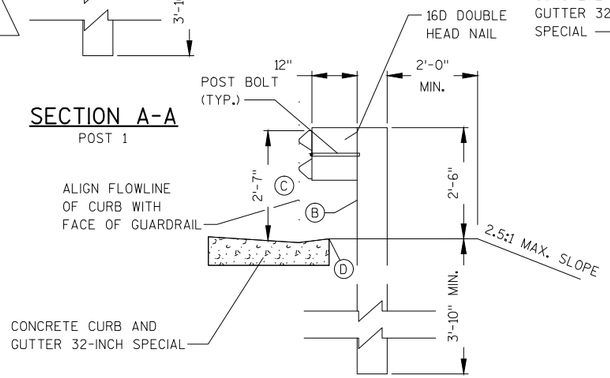
SECTION A-A
POST 1



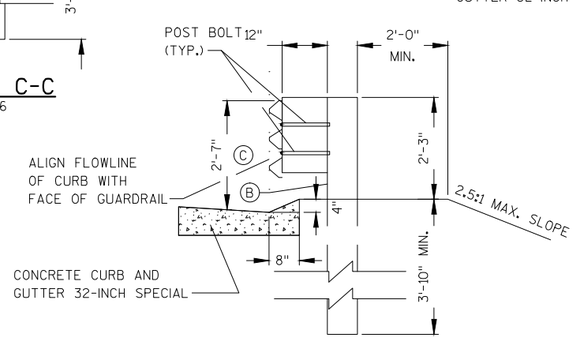
SECTION C-C
POST 6



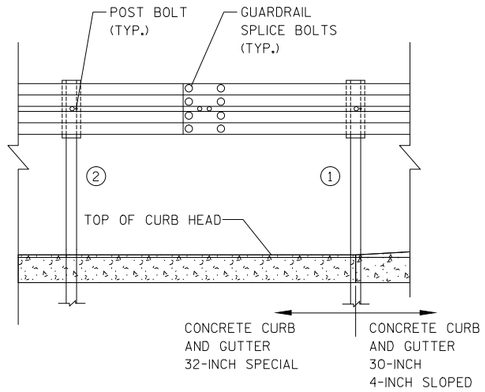
SECTION E-E
POSTS 12-14



SECTION B-B
POSTS 2-5



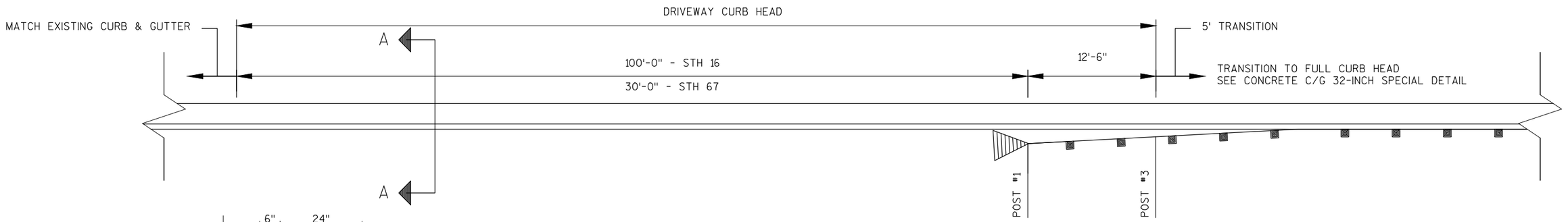
SECTION D-D
POSTS 7-11

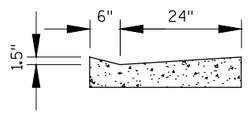


SPLICE DETAIL

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	CONSTRUCTION DETAILS - MGS THRIE BEAM TRANSITION WITH C/G	SHEET 21 E

2



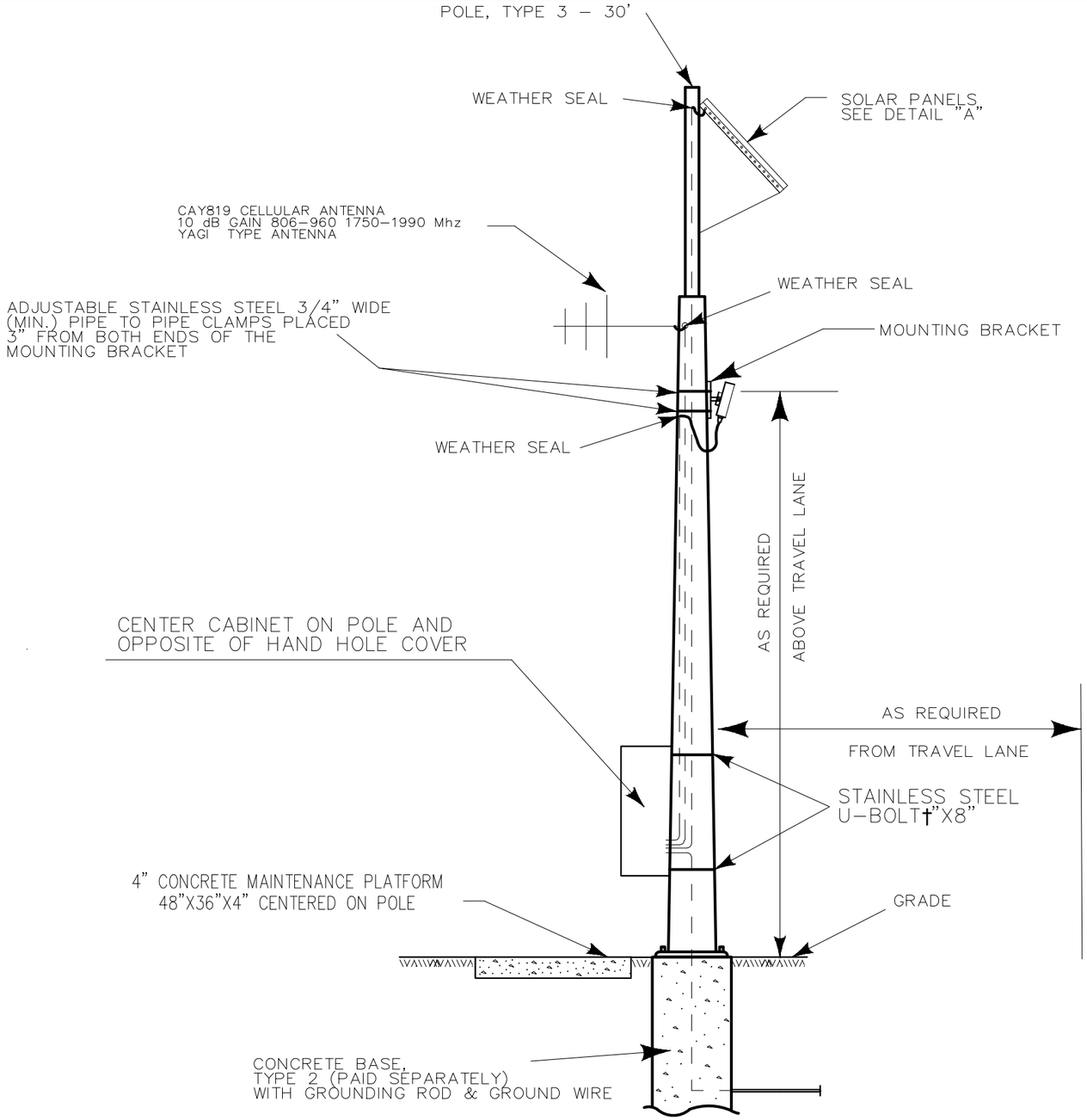


SECTION A-A

DRIVEWAY CURB HEAD AT E.A.T.

SEE PLAN FOR LOCATIONS

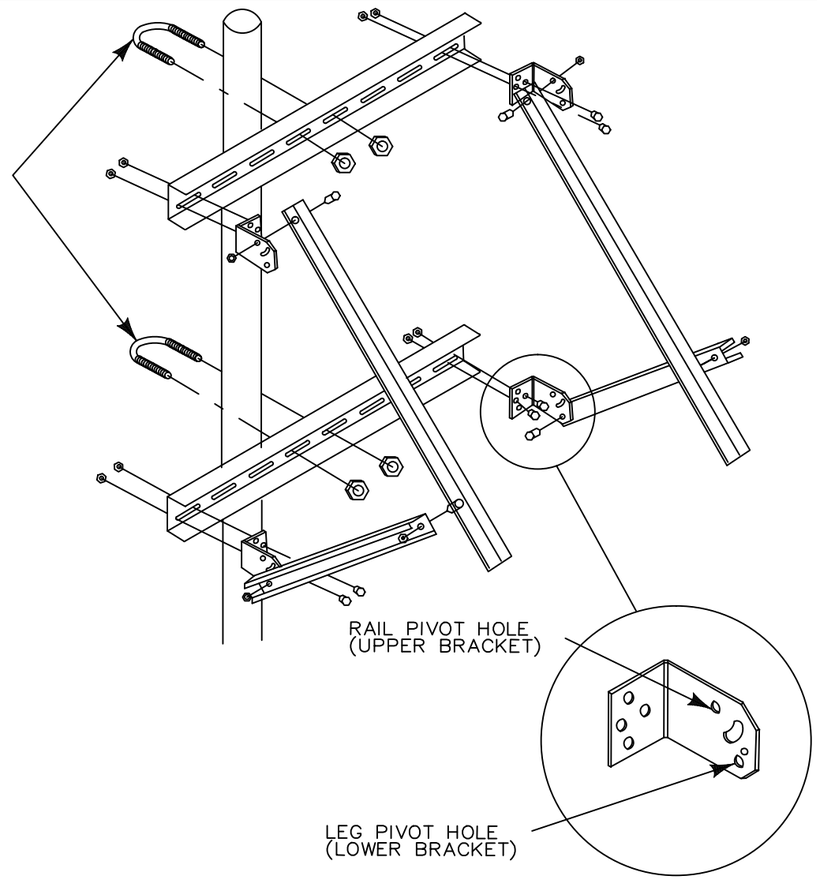
PROJECT NO:1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	CONSTRUCTION DETAILS	SHEET 22	E



WAVETRONIX DETECTOR INSTALLATION

INCLUDES SOLAR POWER, CELLULAR ANTENNA ON TYPE 3 POLE

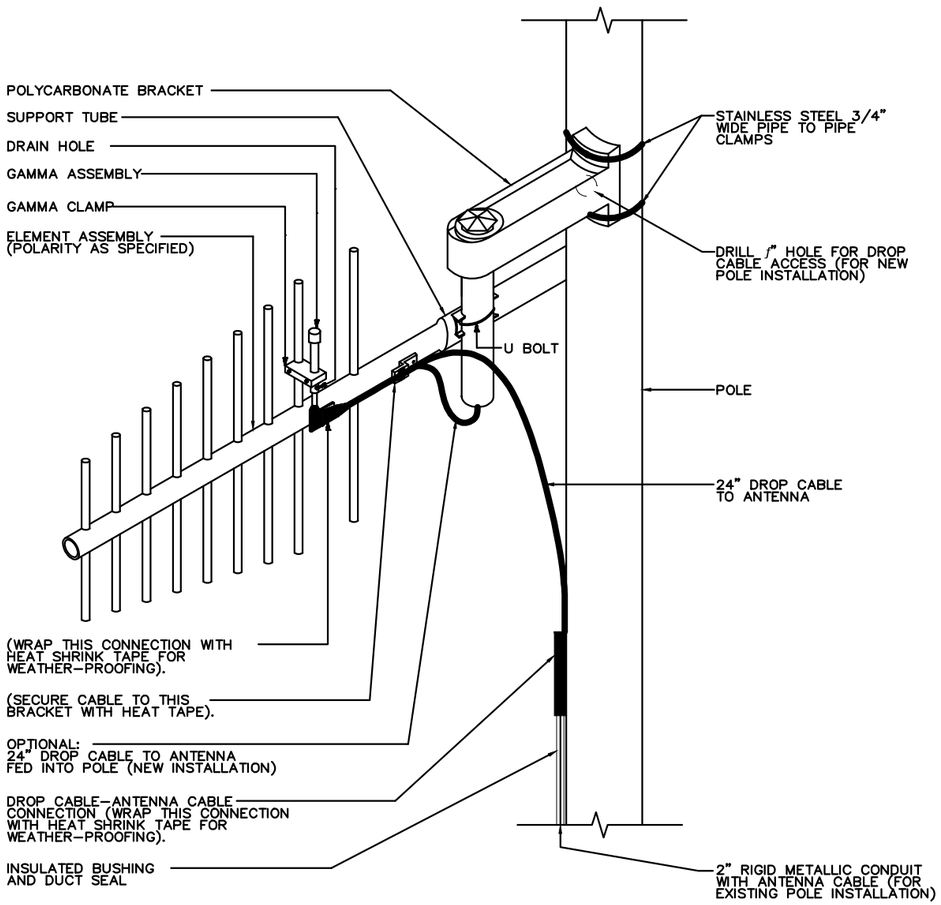
(NOT TO SCALE)



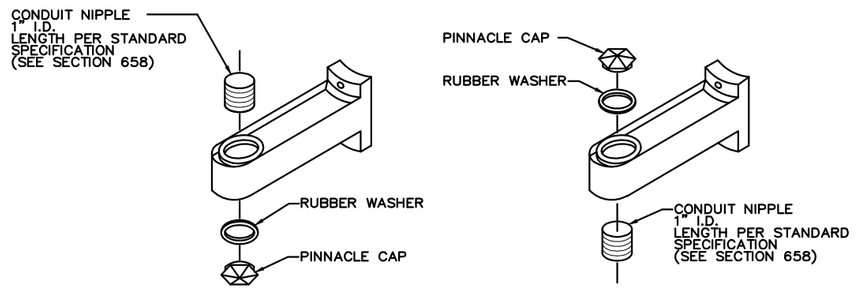
SOLAR PANELS DETAIL "A"

NOTE: SOLAR PANELS TO BE POINTED DUE SOUTH

2



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



POLYCARBONATE BRACKET
(NOT TO SCALE)

GENERAL NOTES

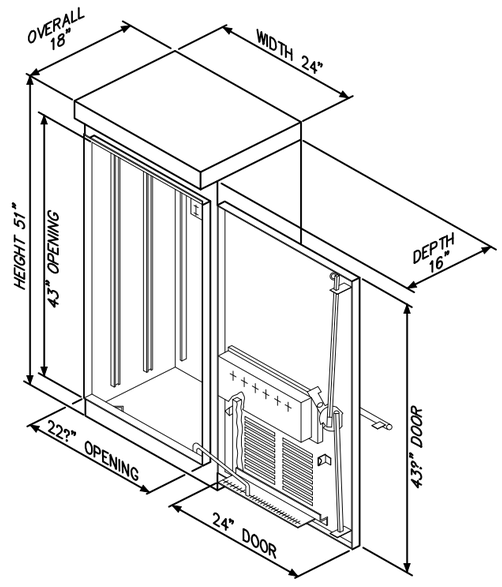
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

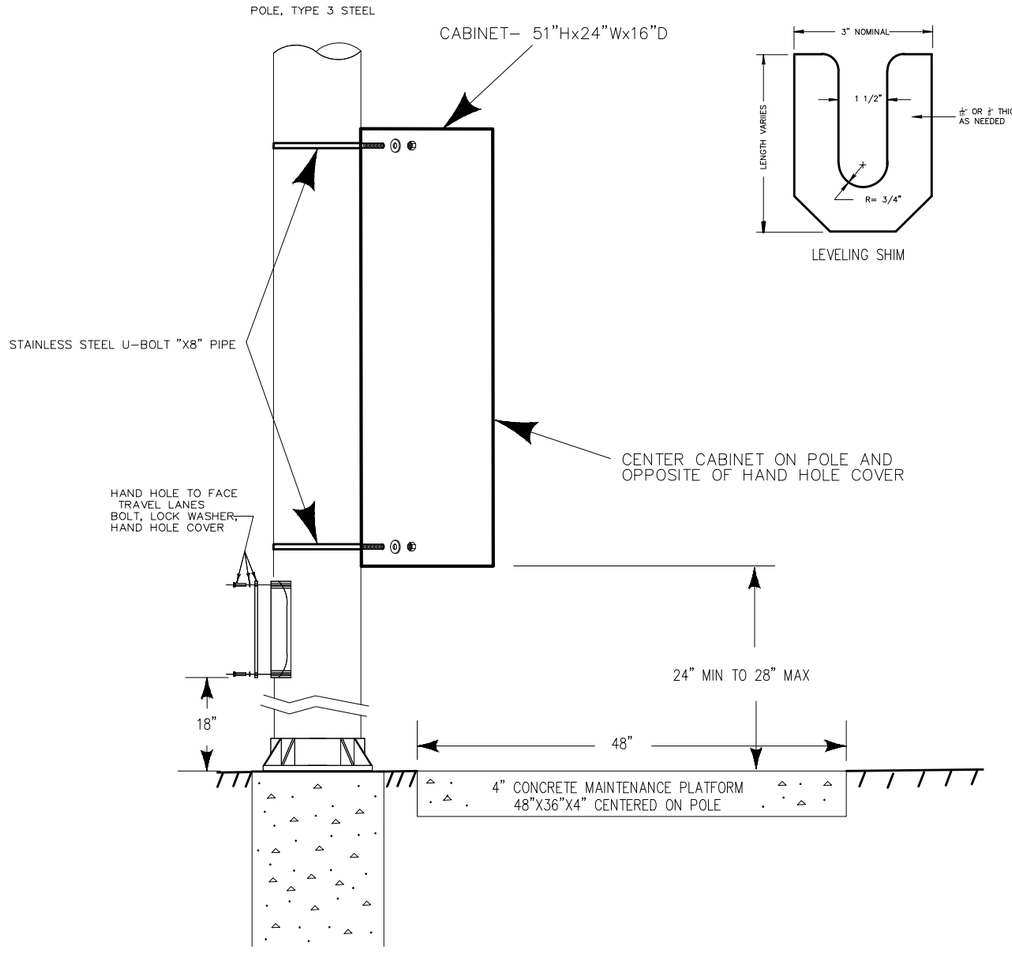
LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

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

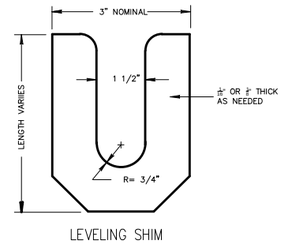
DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

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



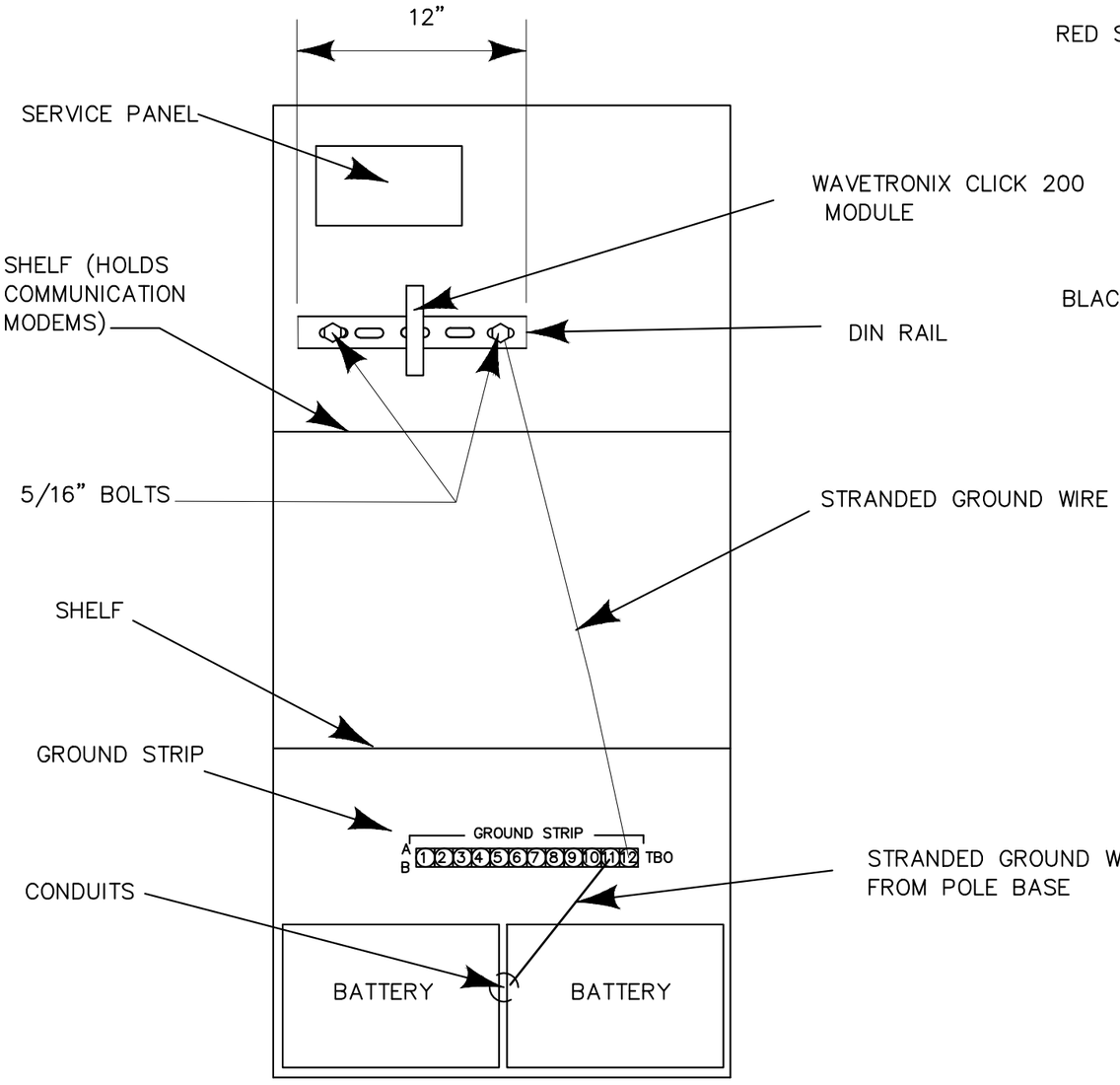


INSTALLATION OF ATR CABINET ON POLE



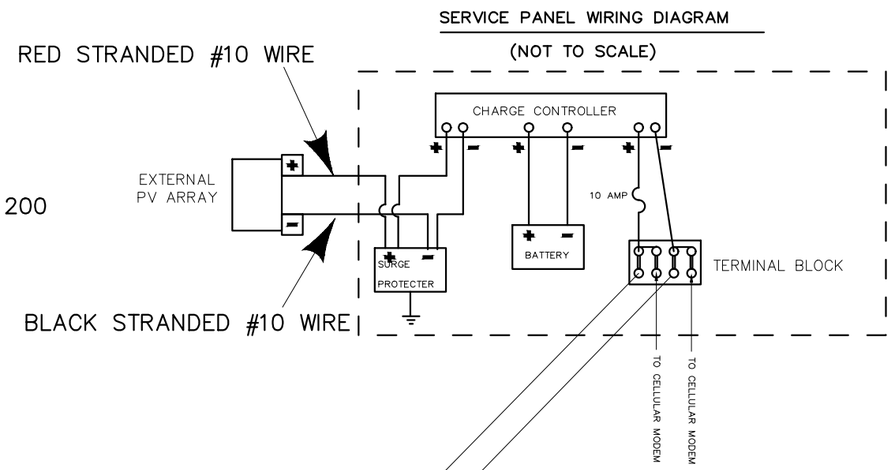
LEVELING SHIM

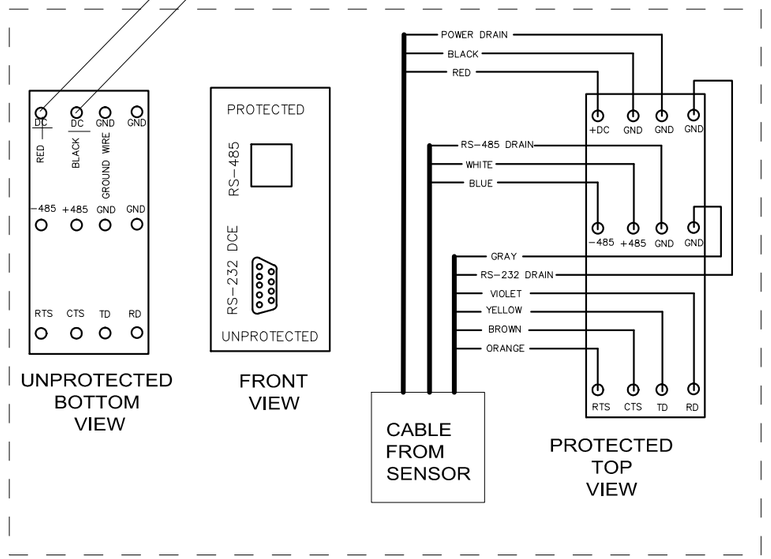
2



FRONT VIEW/LAYOUT
(NOT TO SCALE)

SERVICE PANEL WIRING DIAGRAM
(NOT TO SCALE)



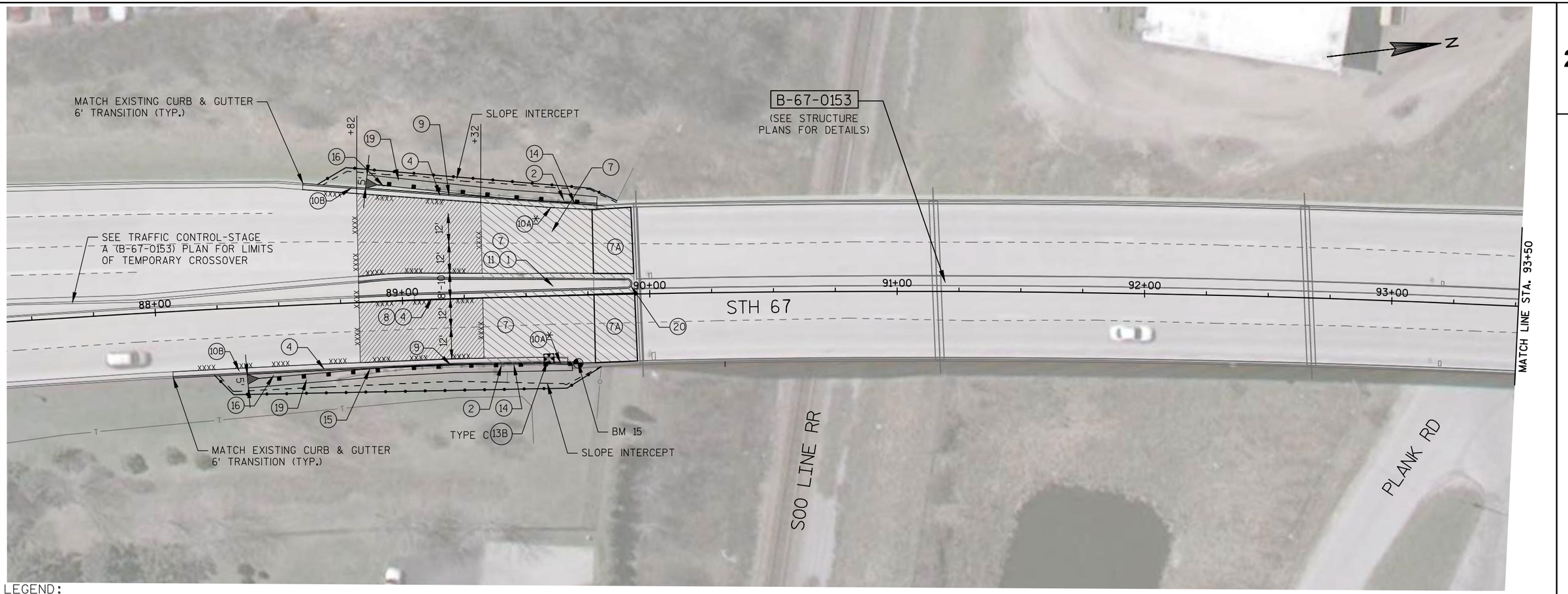


WAVETRONIX CLICK 200 MODULE
WIRING DIAGRAM
(NOT TO SCALE)

ATR POLE-MOUNTED CABINET SOLAR INSTALLATION LAYOUT

ATR - WAVETRONIX

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	CONSTRUCTION DETAILS	SHEET 26	E



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. *CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

- XXXX — SAW CUT
- SILT FENCE
- TEMPORARY DITCH CHECKS
- EROSION BALES
- INLET PROTECTION
- RIPRAP MEDIUM
- REMOVING PAVEMENT
- REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS

B-67-0153

CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)	STA. 89+28 RT - STA. 89+68 RT STA. 89+39 LT - STA. 89+79 LT
CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	STA. 88+54 RT - STA. 89+28 RT STA. 89+03 LT - STA. 89+39 LT
CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")	STA. 88+11 RT - STA. 88+54 RT STA. 88+60 LT - STA. 89+03 LT
CONCRETE CURB & GUTTER 30-INCH TYPE A	STA. 88+82 LT - STA. 89+86 LT STA. 88+82 LT - STA. 89+86 LT

PROPOSED MGS GUARDRAIL

B-67-0153

MGS THRIE BEAM TRANSITION	STA. 89+32 RT - STA. 89+71 RT STA. 89+43 LT - STA. 89+82 LT
MGS GUARDRAIL 3	STA. 88+94 RT - STA. 89+32 RT
MGS GUARDRAIL TERMINAL EAT	STA. 88+41 RT - STA. 88+94 RT STA. 88+90 LT - STA. 89+43 LT

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

*SEE CONSTRUCTION DETAIL "MGS THRIE BEAM TRANSITION WITH CURB & GUTTER

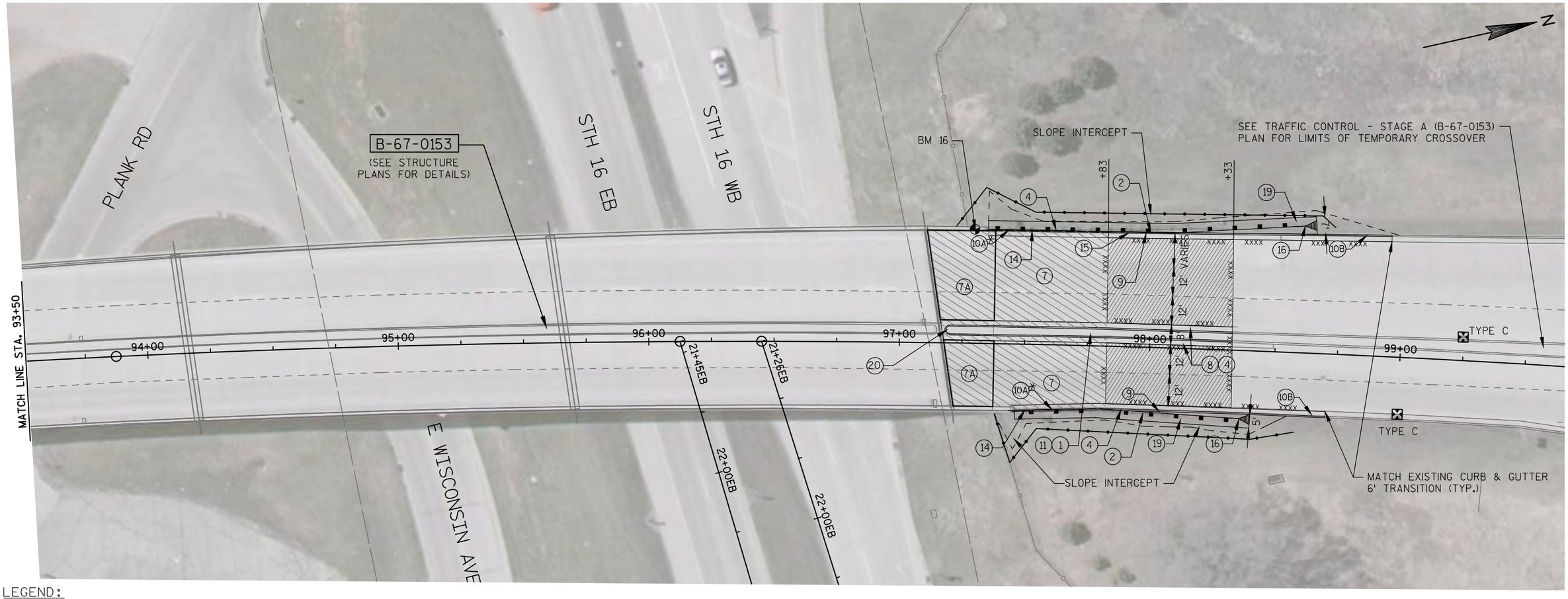
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
15	89+70.37, 27.53' RT	WISDOT DISK SE COR TOP PARAPET B-67-153	911.23
16	97+29.42, 45.43' LT	WISDOT DISK NW COR TOP PARAPET B-67-156	914.83

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 67 B-67-0153 SCALE, FEET 0 20 40	SHEET ____ 27 E

FILE NAME : G:\6423_STH 16\CADD\C3D\SHEETSPLAN\021211_PD.DWG PLOT DATE : 7/31/2013 2:46 PM PLOT BY : CORY IHDE PLOT NAME : ----------

WISDOT/CADDS SHEET 42



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. *CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

XXXX SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS

B-67-0153

CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)	STA. 97+35 LT - STA. 97+75 LT STA. 97+47 RT - STA. 97+87 RT
CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	STA. 97+75 LT - STA. 98+49 LT STA. 97+87 RT - STA. 98+23 RT
CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")	STA. 98+49 LT - STA. 98+92 LT STA. 98+23 RT - STA. 98+66 RT
CONCRETE CURB & GUTTER 30-INCH TYPE A	STA. 97+23 LT - STA. 98+33 LT STA. 97+23 LT - STA. 98+33 LT

PROPOSED MGS GUARDRAIL

B-67-0153

MGS THRIE BEAM TRANSITION	STA. 97+32 LT - STA. 97+71 LT STA. 97+44 RT - STA. 97+83 RT
MGS GUARDRAIL 3	STA. 97+71 LT - STA. 98+09 LT
MGS GUARDRAIL TERMINAL EAT	STA. 98+09 LT - STA. 98+62 LT STA. 97+83 RT - STA. 98+36 RT

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

*SEE CONSTRUCTION DETAIL "MGS THRIE BEAM TRANSITION WITH CURB & GUTTER

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
15	89+70.37, 27.53' RT	WISDOT DISK SE COR TOP PARAPET B-67-153	911.23
16	97+29.42, 45.43' LT	WISDOT DISK NW COR TOP PARAPET B-67-156	914.83

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 67 B-67-0153 SCALE, FEET 0 20 40	SHEET 28 E

FILE NAME : G:\6423_STH 16\CADD\C3D\SHEETSPLAN\021211_PD.DWG PLOT DATE : 7/31/2013 2:46 PM PLOT BY : CORY IHDE PLOT NAME : ----------

WISDOT/CADDS SHEET 42



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

xxxx SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS
HMA PAVEMENT TYPE E-10, PG 64-28P
(SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS
HMA PAVEMENT TYPE E-10, PG 64-28P
(SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

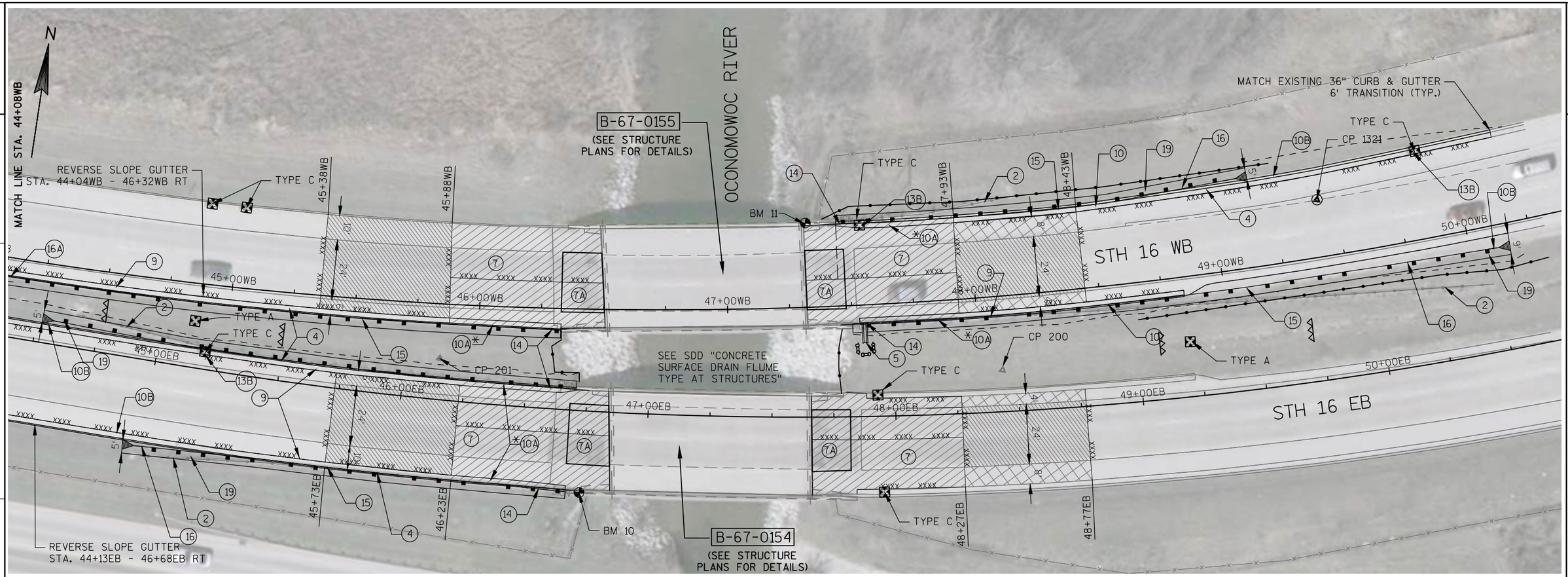
CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 200	196074.14	619566.78	874.48	48+43.93EB	16.82' LT	⅝ IN RB KL CAP
CP 201	196045.05	619341.59	873.14	46+14.13EB	16.58' LT	⅝ IN RB KL CAP
CP 1321	196160.80	619681.98	873.34	49+42.53WB	23.06' LT	MON

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
10	46+74.00EB, 32.98' RT	WISDOT DISK SW COR TOP PARAPET B-67-154-89	878.08
11	47+32.49WB, 33.96' LT	WISDOT DISK NE COR TOP PARAPET B-67-155-89	874.57

PROJECT NO: 1370-14-70 | HWY: STH 16 | COUNTY: WAUKESHA | PLAN DETAILS-STH 16 B-67-0154/155 SCALE, FEET 0 20 40 | SHEET 29 E



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. *CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RAIDUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

PROPOSED CURB & GUTTER

	B-67-0154	B-67-0155
CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)	STA. 46+32EB LT - STA. 46+72EB LT STA. 46+30EB RT - STA.46+70 EB RT	STA. 45+93WB RT - STA. 46+33WB RT STA. 47+43WB LT - STA. 47+83WB LT STA. 47+48WB RT - STA. 47+88WB RT
CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	STA. 44+70EB LT - STA. 46+32EB LT STA. 45+11EB RT - STA. 46+30EB RT	STA. 44+03WB RT - STA. 45+93WB RT STA. 47+83WB LT - STA. 47+93WB LT STA. 47+88WB RT - STA. 47+93WB RT
CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J		STA. 47+93WB LT - 48+99WB LT STA. 47+93WB RT - 48+83WB RT
CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB &GUTTER 4-INCH SLOPED 30-INCH TYPE G")	STA. 43+70EB LT - STA. 44+70EB LT STA. 44+11EB RT - STA. 45+11EB RT	STA. 48+99WB LT - STA. 49+99WB LT

XXXX SAW CUT

SILT FENCE

TEMPORARY DITCH CHECKS

EROSION BALES

INLET PROTECTION

REMOVING PAVEMENT

REMOVING PAVEMENT BUTT JOINTS
HMA PAVEMENT TYPE E-10, PG 64-28P
(SEE CONSTRUCTION DETAILS)

REMOVING ASPHALTIC SURFACE BUTT JOINTS
HMA PAVEMENT TYPE E-10, PG 64-28P
(SEE CONSTRUCTION DETAILS)

PROPOSED MGS GUARDRAIL

	B-67-0154	B-67-0155
MGS THRIE BEAM TRANSITION	STA. 46+36EB LT - STA. 46+75EB LT STA. 46+35EB RT - STA. 46+74EB RT	STA. 47+40WB LT - STA. 47+80WB LT STA. 47+45WB RT - STA. 47+84WB RT STA. 45+96WB RT - STA. 46+35WB RT
MGS GUARDRAIL 3	STA. 45+13EB LT - STA. 46+36EB LT STA. 45+52EB RT - STA. 46+35EB RT	STA. 47+80WB LT - STA. 48+53WB LT STA. 47+84WB RT - STA. 49+53WB RT STA. 44+08WB RT - STA. 45+96WB RT
MGS GUARDRAIL TERMINAL EAT	STA. 44+57EB LT - STA. 45+13EB LT STA. 44+96EB RT - STA. 45+52EB RT	STA. 48+53WB LT - STA. 49+09WB LT STA. 49+53WB RT - STA. 50+09WB RT
MGS TYPE 2 TERMINAL		STA. 44+08WB RT

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

*SEE CONSTRUCTION DETAIL "MGS THRIE BEAM TRANSITION WITH CURB & GUTTER

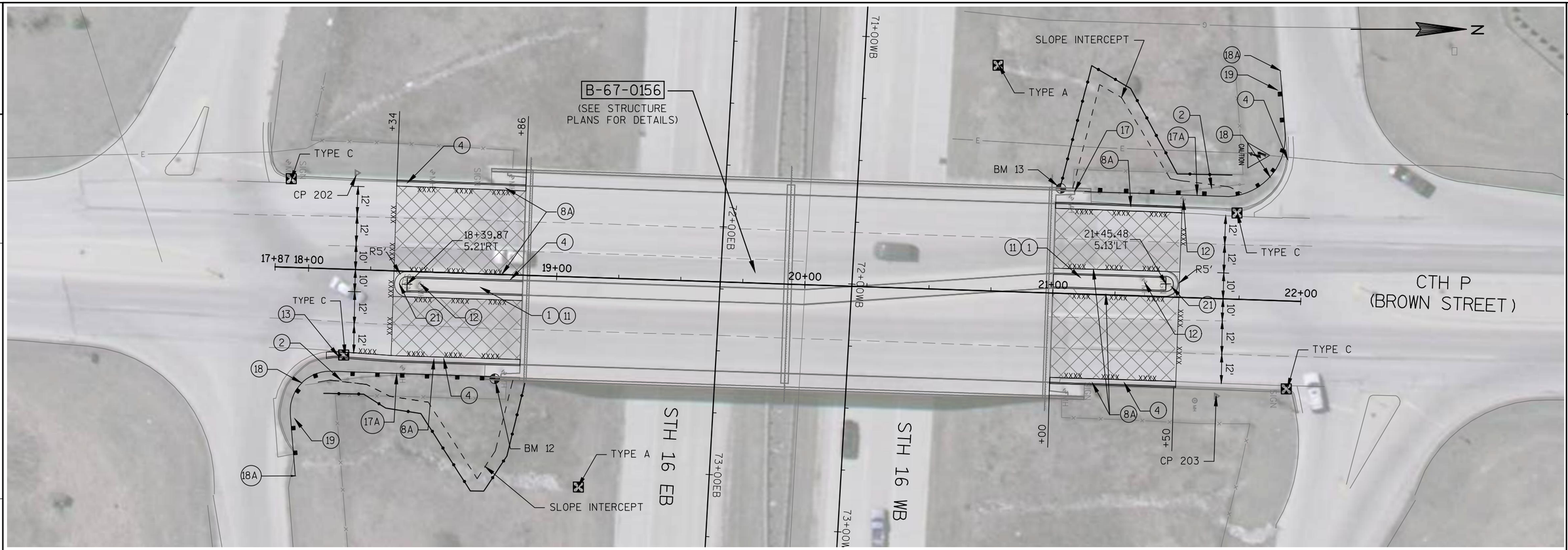
CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 200	196074.14	619566.78	874.48	48+43.93EB	16.82' LT	⅝ IN RB KL CAP
CP 201	196045.05	619341.59	873.14	46+14.13EB	16.58' LT	⅝ IN RB KL CAP
CP 1321	196160.80	619681.98	873.34	49+42.53WB	23.06' LT	MON

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
10	46+74.00EB, 32.98' RT	WISDOT DISK SW COR TOP PARAPET B-67-154-89	878.08
11	47+32.49WB, 33.96' LT	WISDOT DISK NE COR TOP PARAPET B-67-155-89	874.57

PROJECT NO:1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 16 B-67-0154/155 SCALE, FEET 0 20 40	SHEET 30 E



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

XXXX — SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS

CONCRETE CURB & GUTTER 30-INCH TYPE D	STA. 18+08 RT - STA. 18+86 RT
	STA. 18+34 LT - STA. 18+86 LT
	STA. 21+00 RT - STA. 21+50 RT
	STA. 21+00 LT - STA. 21+50 LT

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROPOSED STEEL PLATE BEAM GUARD

B-67-0156

STEEL THRIE BEAM STRUCTURE APPROACH	STA. 18+54 RT - STA. 18+74 RT
	STA. 21+11 LT - STA. 21+31 LT
STEEL PLATE BEAM GUARD CLASS A	STA. 18+23 RT - STA. 18+54 RT
	STA. 21+31 LT - STA. 21+63 LT
STEEL PLATE BEAM GUARD SHORT RADIUS	STA. 17+96, 71' RT - STA. 18+23 RT (16'R)
	STA. 21+69 LT - STA. 21+91, 67' LT (24'R)
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	STA. 17+97, 84' RT - STA. 17+96, 71' RT
	STA. 21+91, 80' LT - STA. 21+88, 93' LT

CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 202	196189.55	621850.80	896.12	18+18.19	38.98' LT	⅝ IN RB KL CAP
CP 203	196535.65	621940.77	897.73	21+67.12	39.29' RT	⅝ IN RB KL CAP

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
12	18+76.40, 42.11' RT	WISDOT DISK SE COR TOP PARAPET B-67-156-89	899.47
13	21+01.75, 42.27' LT	WISDOT DISK NW COR TOP PARAPET B-67-156-89	900.80

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-CTH P B-67-0156 SCALE, FEET 0 20 40	SHEET 31 E



2

LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

xxxx SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

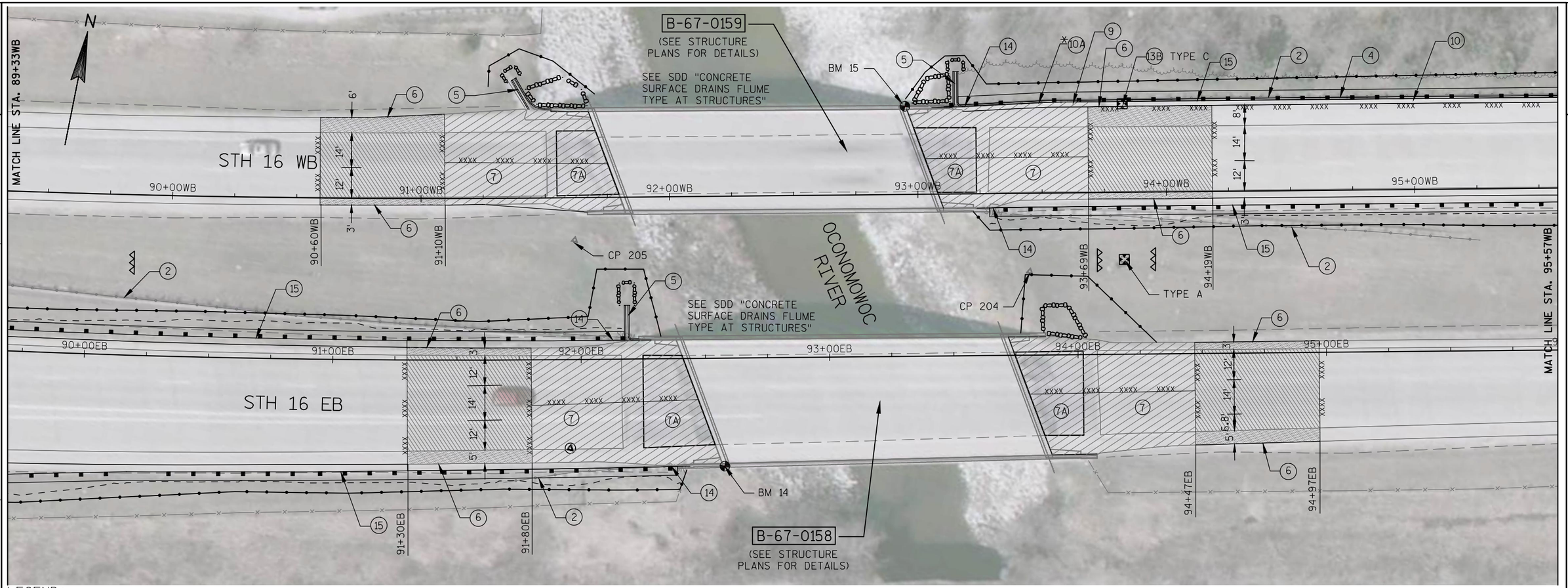
PROPOSED MGS GUARDRAIL

SEE NEXT SHEET FOR LOCATIONS

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 16 B-67-0158/159 SCALE, FEET 0 20 40	SHEET 32 E



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A* CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

XXXX SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS

B-67-0159

CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)	STA. 93+17WB LT - STA. 93+57WB LT
CONCRETE CURB & GUTTER 30-INCH 4-INCH SLOPED TYPE G	STA. 93+57WB LT - STA. 93+69WB LT
CONCRETE CURB & GUTTER 30-INCH 4-INCH SLOPED TYPE J	STA. 93+69WB LT - STA. 97+8WB LT
CONCRETE CURB & GUTTER 30-INCH TERMINAL DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 30-INCH 4-INCH SLOPED TYPE G")	STA. 97+82WB LT. - STA. 98+95WB LT

PROPOSED MGS GUARDRAIL

	B-67-0159	B-67-0158
MGS THRIE BEAM TRANSITION	STA. 93+05WB LT - STA. 93+45WB LT	STA. 91+89EB LT - STA. 92+28EB LT
	STA. 93+24WB RT - STA. 93+63WB RT	STA. 92+04EB RT - STA. 92+43EB RT
MGS GUARDRAIL 3	STA. 93+45WB LT - STA. 97+42WB LT	STA. 89+32EB LT - STA. 91+89EB LT
	STA. 93+63WB RT - STA. 95+85WB RT	STA. 90+28EB RT - STA. 92+04EB RT
MGS GUARDRAIL TERMINAL EAT	STA. 97+42WB LT - STA. 97+95WB LT	STA. 88+76EB LT - STA. 89+32EB LT
	STA. 95+85WB RT - STA. 96+38WB RT	STA. 89+72EB RT - STA. 90+28EB RT

CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 204	196452.24	624034.23	888.10	93+80.90EB	33.65' LT	⅝ IN RB KL CAP
CP 205	196428.42	623852.16	885.95	91+61.66WB	16.99' RT	⅝ IN RB KL CAP

BENCH MARKS

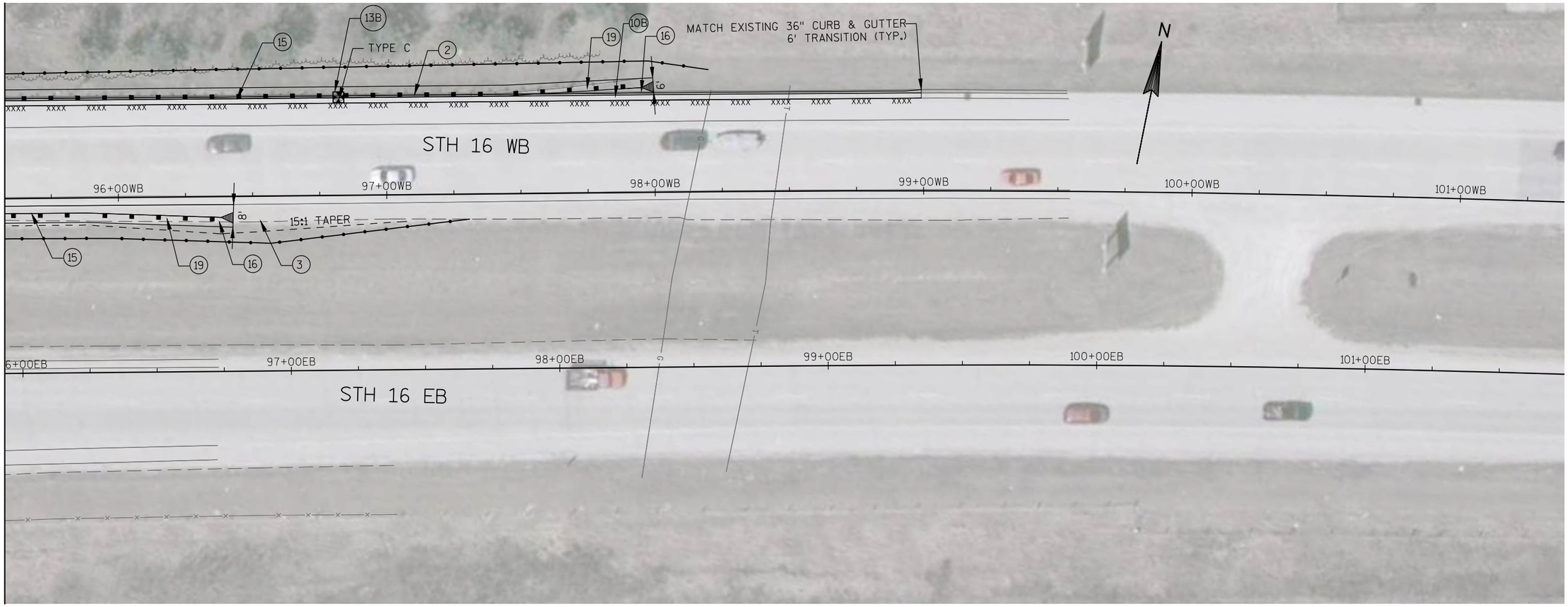
NO.	STATION	DESCRIPTION	ELEV.
14	92+57.41EB, 43.50' RT	WISDOT DISK SW COR TOP PARAPET B-67-158-89	892.66
15	92+95.07WB, 35.40' LT	WISDOT DISK NE COR TOP PARAPET B-67-159-89	888.87

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

*SEE CONSTRUCTION DETAIL "MGS THRIE BEAM TRANSITION WITH CONCRETE CURB AND GUTTER"

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 16 B-67-0158/159 SCALE, FEET 0 20 40	SHEET 33 E



LEGEND:

(1) REMOVING CONCRETE SIDEWALK
(2) REMOVING GUARDRAIL
(3) BASE AGGREGATE DENSE SHOULDER
(4) REMOVING CURB & GUTTER
(5) CONCRETE SURFACE DRAINS
(6) 2-INCH HMA PAVEMENT TYPE E-10
(7) CONCRETE PAVEMENT 8-INCH
(7A) CONCRETE PAVEMENT APPROACH SLAB
(8) CONCRETE CURB & GUTTER 30-INCH TYPE A
(8A) CONCRETE CURB & GUTTER 30-INCH TYPE D
(9) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
(10) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
(10A) CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
(10B) CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
(10C) CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
(10D) CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
(11) CONCRETE SIDEWALK 5-INCH
(12) ADJUST MANHOLE COVERS
(13) ADJUST INLET COVERS
(13A) INLET COVERS TYPE A
(13B) INLET COVERS TYPE V
(14) MGS THRIE BEAM TRANSITION
(15) MGS GUARDRAIL 3
(16) MGS GUARDRAIL TERMINAL EAT
(16A) MGS GUARDRAIL TERMINAL TYPE 2
(17) STEEL THRIE BEAM STRUCTURE APPROACH
(17A) STEEL PLATE BEAM GUARD CLASS A
(18) STEEL PLATE BEAM GUARD SHORT RADIUS
(18A) STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
(19) GUARDRAIL MOW STRIP (ASPHALT)
(20) CONCRETE MEDIAN BLUNT NOSE
(21) CONCRETE MEDIAN SLOPED NOSE TYPE 1

XXXX SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

PROPOSED MGS GUARDRAIL

SEE PREVIOUS SHEET FOR LOCATION

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 16 B-67-0158/159 SCALE, FEET 0 20 40	SHEET 34 E



N

2

LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

xxxx SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

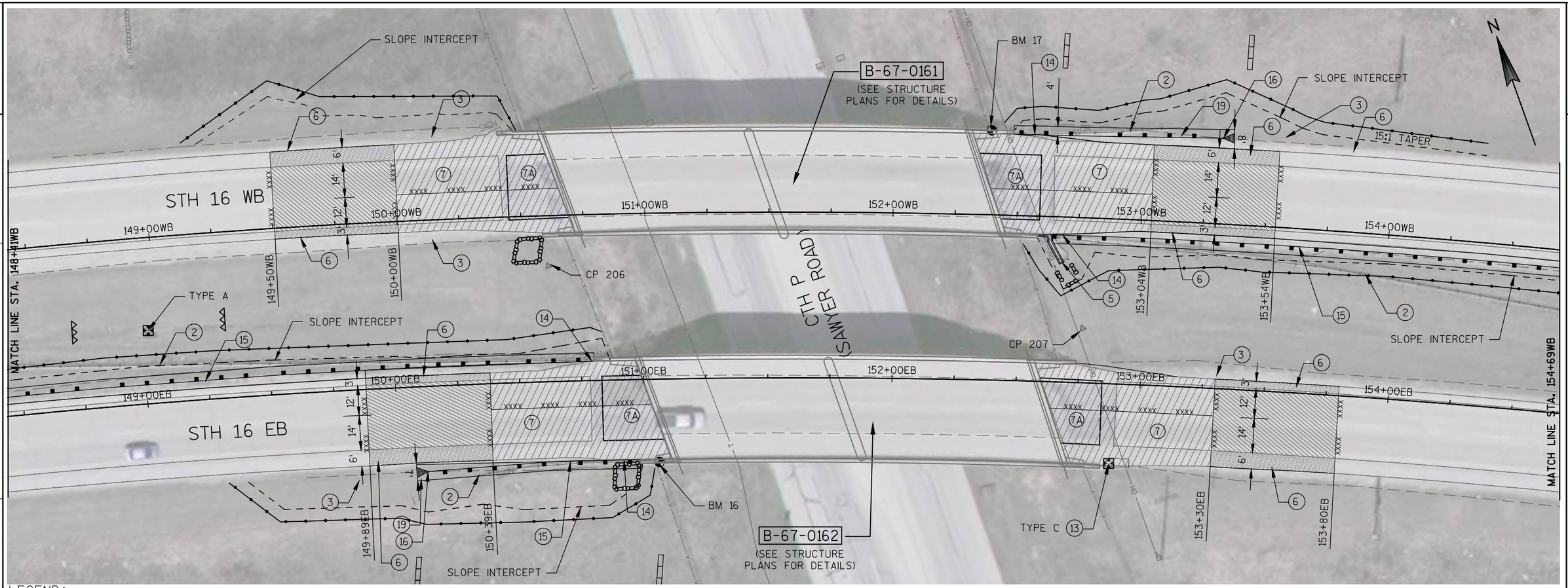
PROPOSED MGS GUARDRAIL

SEE PREVIOUS SHEET FOR LOCATION

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO:1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 16 B-67-0161/162 SCALE, FEET 0 20 40	SHEET 35 E



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

- XXXX — SAW CUT
- SILT FENCE
- TEMPORARY DITCH CHECKS
- EROSION BALES
- INLET PROTECTION
- RIPRAP MEDIUM

- REMOVING PAVEMENT
- REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROPOSED MGS GUARDRAIL

	B-67-0161	B-67-0162
MGS THRIE BEAM TRANSITION	STA. 152+42WB LT - STA. 152+82WB LT	STA. 150+46EB LT - STA. 150+85EB LT
	STA. 152+54WB RT - STA. 152+93WB RT	STA. 150+62EB RT - STA. 151+03EB RT
MGS GUARDRAIL 3	STA. 152+93WB RT - STA. 155+16WB RT	STA. 147+87EB LT - STA. 150+46EB LT
MGS GUARDRAIL TERMINAL EAT	STA. 152+87WB LT - STA. 153+32WB LT	STA. 147+34EB LT - STA. 147+87EB LT
	STA. 155+16WB RT - STA. 155+69WB RT	STA. 150+12EB RT - STA. 150+62EB RT

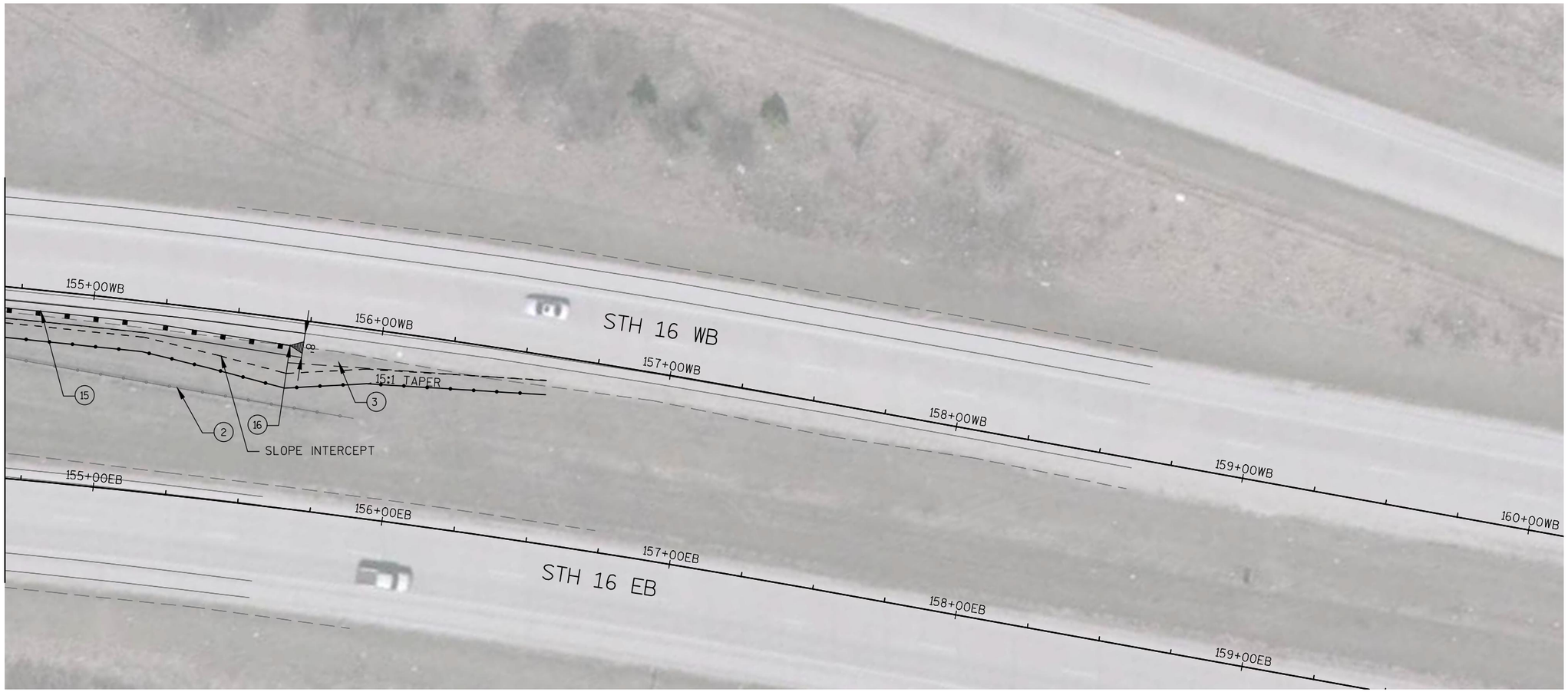
CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 206	196264.64	629682.92	910.32	150+60.50WB	20.31' RT	⅝ IN RB KL CAP
CP 207	196168.68	629877.24	908.76	152+76.08EB	21.93' LT	⅝ IN RB KL CAP

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
16	151+05.72, 33.42' RT	WISDOT DISK SW COR TOP PARAPET B-67-162-89	909.65
17	152+28.89, 34.01' LT	WISDOT DISK NE COR TOP PARAPET B-67-161-89	916.15

2



LEGEND:

- (1) REMOVING CONCRETE SIDEWALK
- (2) REMOVING GUARDRAIL
- (3) BASE AGGREGATE DENSE SHOULDER
- (4) REMOVING CURB & GUTTER
- (5) CONCRETE SURFACE DRAINS
- (6) 2-INCH HMA PAVEMENT TYPE E-10
- (7) CONCRETE PAVEMENT 8-INCH
- (7A) CONCRETE PAVEMENT APPROACH SLAB
- (8) CONCRETE CURB & GUTTER 30-INCH TYPE A
- (8A) CONCRETE CURB & GUTTER 30-INCH TYPE D
- (9) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
- (10) CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
- (10A) CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
- (10B) CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
- (10C) CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
- (10D) CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
- (11) CONCRETE SIDEWALK 5-INCH
- (12) ADJUST MANHOLE COVERS
- (13) ADJUST INLET COVERS
- (13A) INLET COVERS TYPE A
- (13B) INLET COVERS TYPE V
- (14) MGS THRIE BEAM TRANSITION
- (15) MGS GUARDRAIL 3
- (16) MGS GUARDRAIL TERMINAL EAT
- (16A) MGS GUARDRAIL TERMINAL TYPE 2
- (17) STEEL THRIE BEAM STRUCTURE APPROACH
- (17A) STEEL PLATE BEAM GUARD CLASS A
- (18) STEEL PLATE BEAM GUARD SHORT RADIUS
- (18A) STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
- (19) GUARDRAIL MOW STRIP (ASPHALT)
- (20) CONCRETE MEDIAN BLUNT NOSE
- (21) CONCRETE MEDIAN SLOPED NOSE TYPE 1

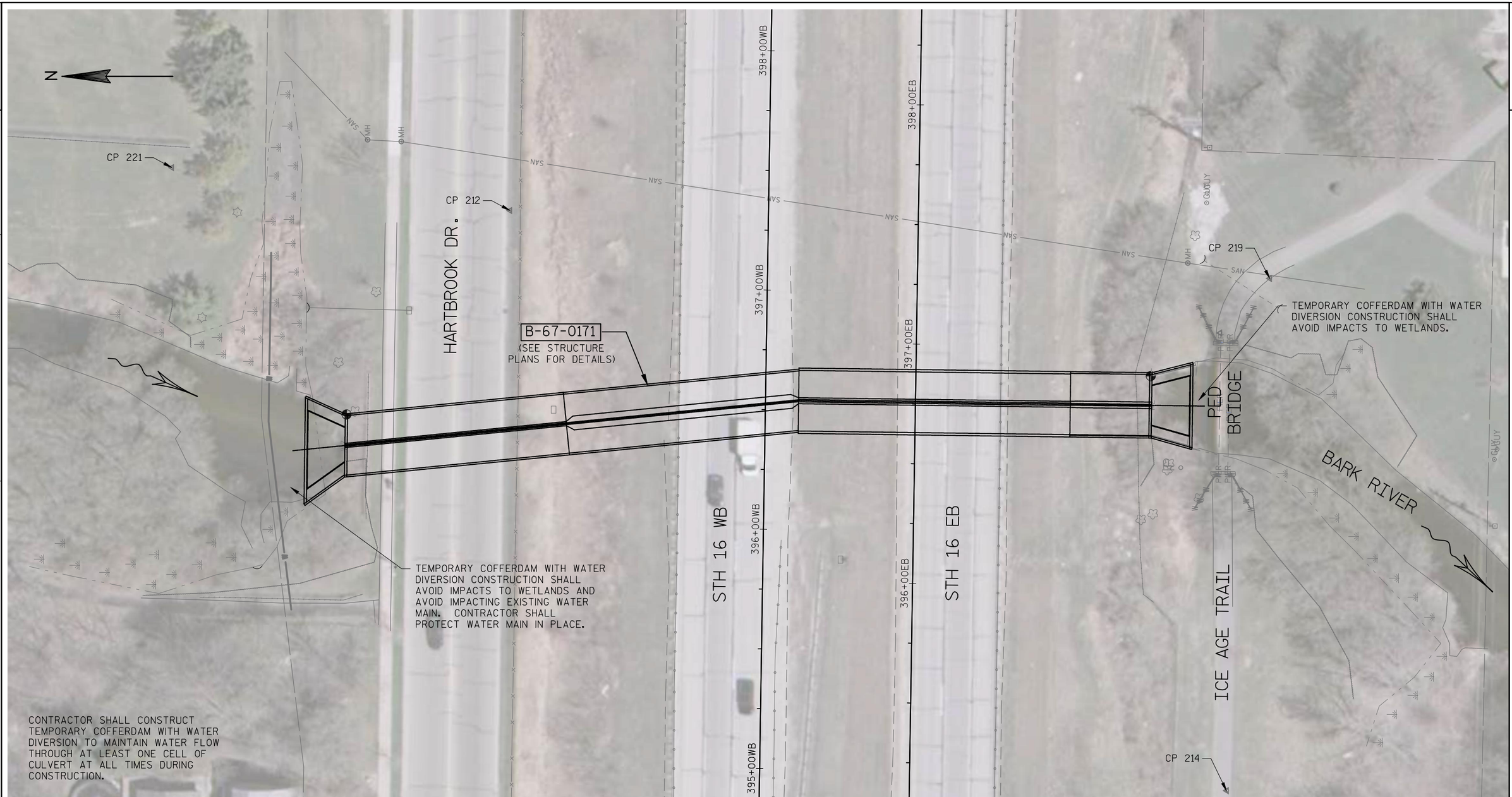
- xxxx SAW CUT
- SILT FENCE
- TEMPORARY DITCH CHECKS
- EROSION BALES
- INLET PROTECTION
- RIPRAP MEDIUM

- REMOVING PAVEMENT
- REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE

PROPOSED MGS GUARDRAIL

SEE PREVIOUS SHEET FOR LOCATION

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-STH 16 B-67-0161/162 SCALE, FEET 0 20 40	SHEET 37 E



CONTROL POINTS

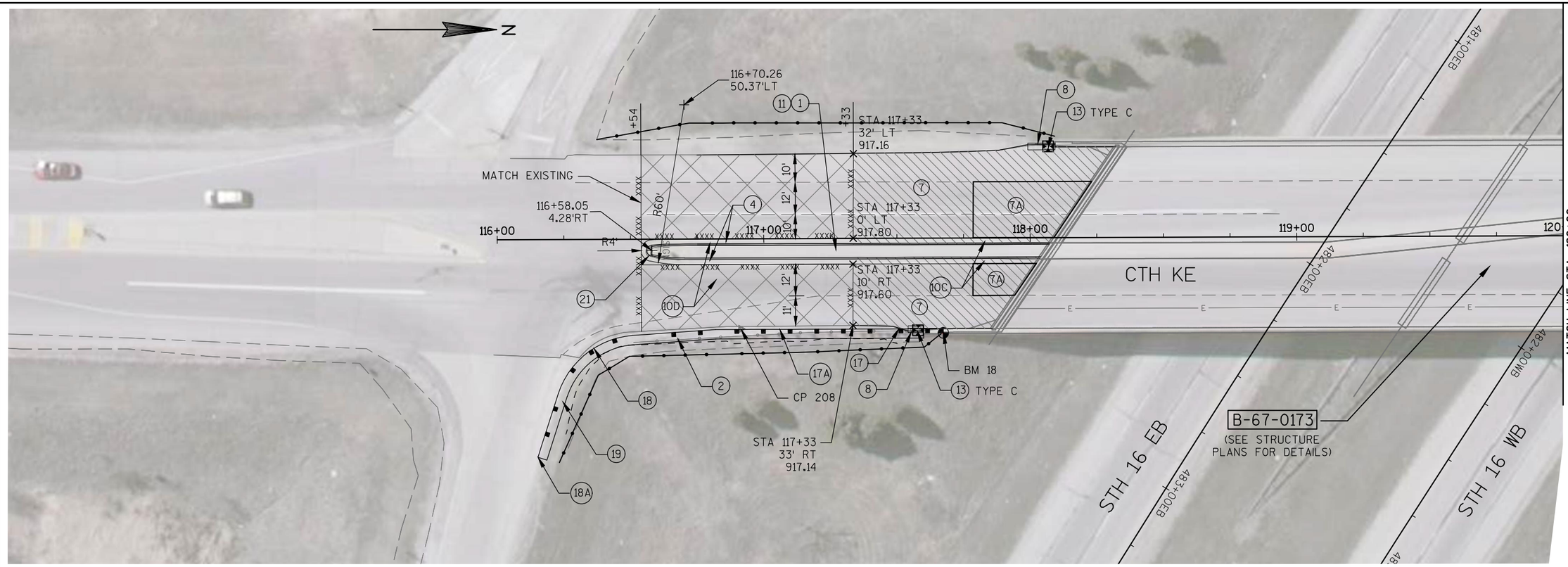
POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 212	197081.59	653394.58	924.41	397+31.53	107.94' LT	⅝ IN RB KL CAP
CP 214	196782.21	653152.08	919.90	395+15.45	132.59' RT	MAG
CP 219	196764.25	653366.16	917.36	397+29.79	147.13' RT	MAG NAIL
CP 221	197222.85	653412.49	917.09	397+47.20	249.47' LT	⅝ IN RB KL CAP

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
22	396+45.19, 174.93' LT	CHIS SQ NE COR TOP PARAPET B-67-0171-73	919.44
23	396+88.20, 98.08' RT	WIS DIV OF HWYS DISK SE COR TOP PARAPET B-67-0171-73	920.28

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS- STH 16 B-67-0171 SCALE, FEET 0 20 40	SHEET 38 E

FILE NAME : G:\6423_STH 16\CADD\C3D\SHEETSPLAN\021209_PD.DWG PLOT DATE : 4/30/2014 11:27 AM PLOT BY : CORY IHDE PLOT NAME : ----------



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
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10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

- XXXX — SAW CUT
- SILT FENCE
- TEMPORARY DITCH CHECKS
- EROSION BALES
- INLET PROTECTION
- RIPRAP MEDIUM

- REMOVING PAVEMENT
- REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS
B-67-0173

CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	STA. 117+33 RT - STA. 118+09 MED
	STA. 117+33 RT - STA. 118+04 MED
CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J	STA. 116+61 RT - STA. 117+33 MED
	STA. 116+61 RT - STA. 117+33 MED
CONCRETE CURB & GUTTER 30-INCH TYPE A	STA. 117+99 LT - STA. 118+09 LT
	STA. 117+54 RT - STA. 117+60 RT

*MEDIAN GUTTER IS REVERSE SLOPE

PROPOSED STEEL PLATE BEAM GUARD
B-67-0173

STEEL THRIE BEAM STRUCTURE APPROACH	STA. 117+44 RT - STA. 117+65 RT
STEEL PLATE BEAM GUARD CLASS A	STA. 116+57 RT - STA. 117+44 RT
STEEL PLATE BEAM GUARD SHORT RADIUS	STA. 116+19, 70' RT - STA. 116+57 RT (32'R)
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	STA. 116+15, 82' RT - STA. 116+19, 70' RT

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

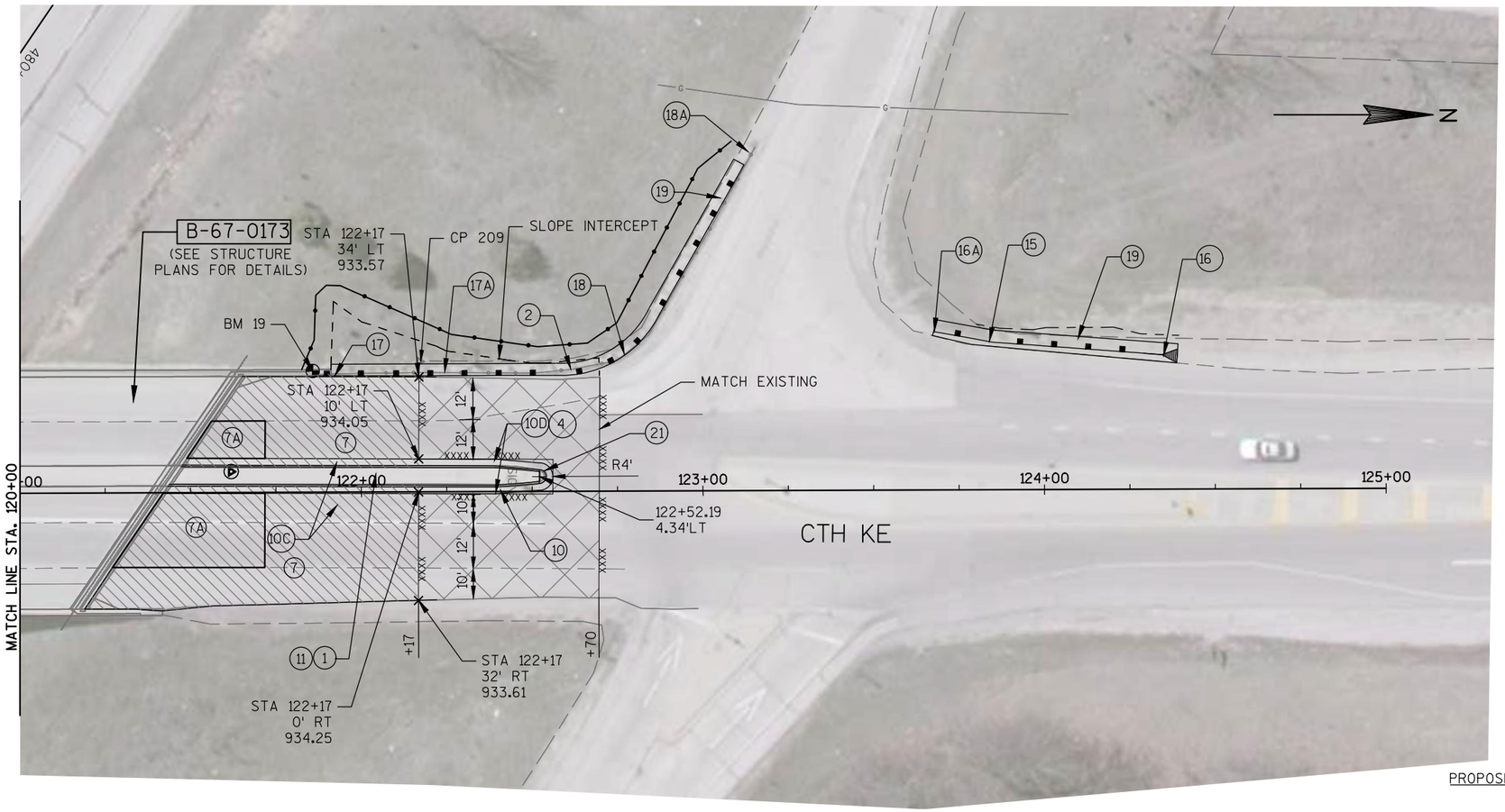
CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 208	194833.85	661410.90	915.29	116+91.34	33.79' RT	⅝ IN RB KL CAP

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
18	117+67.23, 35.58' RT	WIS DIV OF HWYS DISK SE COR TOP PARAPET B-67-173-73	920.87

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS- CTH KE	SCALE, FEET 0 20 40	SHEET 39 E



NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

- XXXX — SAW CUT
- SILT FENCE
- TEMPORARY DITCH CHECKS
- EROSION BALES
- INLET PROTECTION
- RIPRAP MEDIUM

- REMOVING PAVEMENT
- REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
- REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS
B-67-0173

CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	STA. 121+43 LT - STA. 122+17 MED
	STA. 121+47 LT - STA. 122+17 MED
CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J	STA. 122+17 LT - STA. 122+49 MED
	STA. 121+17 LT - STA. 122+49 MED

*MEDIAN GUTTER IS REVERSE SLOPE

PROPOSED STEEL PLATE BEAM GUARD
B-67-0173

STEEL THRIE BEAM STRUCTURE APPROACH	STA. 121+86 LT - STA. 122+07 LT
STEEL PLATE BEAM GUARD CLASS A	STA. 122+07 LT - STA. 122+45 LT
	STA. 122+94, 63' LT - STA. 123+06, 85' LT
STEEL PLATE BEAM GUARD SHORT RADIUS	STA. 122+45 LT - STA. 122+94, 63' LT (32'R)
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	STA. 123+06, 85' LT - STA. 123+12, 95' LT

PROPOSED MGS GUARDRAIL
B-67-0173

MGS GUARDRAIL 3	STA. 123+68 LT - STA. 123+85 LT
MGS GUARDRAIL TERMINAL EAT	STA. 123+85 LT - STA. 124+35 LT
MGS TYPE 2 TERMINAL	STA. 123+68 LT

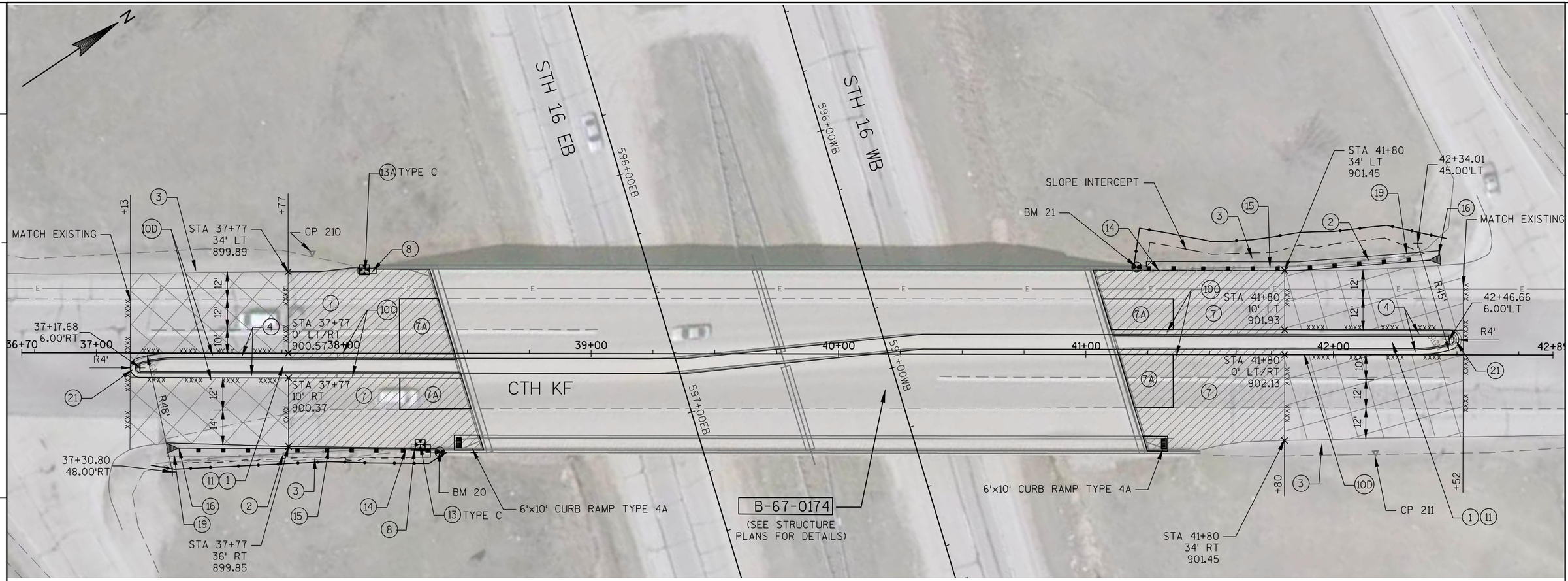
CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 209	195359.37	661336.99	932.56	122+17.13	38.19' LT	⅝ IN RB KL CAP

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
19	121+85.82, 35.46' LT	CHIS SQ NW COR TOP PARAPET B-67-173-73	935.02

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS- CTH KE	SCALE, FEET 0 20 40	SHEET 40 E



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
8A. CONCRETE CURB & GUTTER 30-INCH TYPE D
9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

XXXX SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT

REMOVING PAVEMENT BUTT JOINTS
HMA PAVEMENT TYPE E-10, PG 64-28P
(SEE CONSTRUCTION DETAILS)

REMOVING ASPHALTIC SURFACE BUTT JOINTS
HMA PAVEMENT TYPE E-10, PG 64-28P
(SEE CONSTRUCTION DETAILS)

REMOVING ASPHALTIC SURFACE

PROPOSED CURB SECTIONS

B-67-0174

CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	STA. 37+77 RT - STA. 38+44 MED STA. 37+77 RT - STA. 38+47 MED STA. 41+10 LT - STA. 41+80 MED STA. 41+10 LT - STA. 41+80 MED
CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J	STA. 37+20 RT - STA. 37+77 MED STA. 37+20 RT - STA. 37+77 MED STA. 41+80 LT - STA. 42+45 MED STA. 41+80 LT - STA. 42+45 MED
CONCRETE CURB & GUTTER 30-INCH TYPE A	STA. 38+05 LT - STA. 38+13 LT STA. 38+27 RT - STA. 38+35 RT

*MEDIAN GUTTER IS REVERSE SLOPE

PROPOSED MGS GUARDRAIL

B-67-0174

MGS THRIE BEAM TRANSITION	STA. 37+98 RT - STA. 38+37 RT
	STA. 41+22 LT - STA. 41+61 LT
MGS GUARDRAIL 3	STA. 37+85 RT - STA. 37+98 RT
	STA. 41+61 RT - STA. 41+86 LT
MGS GUARDRAIL TERMINAL EAT	STA. 37+32 RT - STA. 37+85 RT
	STA. 41+86 LT - STA. 42+39 LT

CONTROL POINTS

POINT	NORTHING	EASTING	ELEV	STATION	OFFSET	DESCRIPTION
CP 210	191378.04	672156.81	899.45	37+86.56	42.92' LT	⅝ IN RB KL CAP
CP 211	191690.53	672462.68	900.16	42+16.39	36.95' RT	⅝ IN RB KL CAP

BENCH MARKS

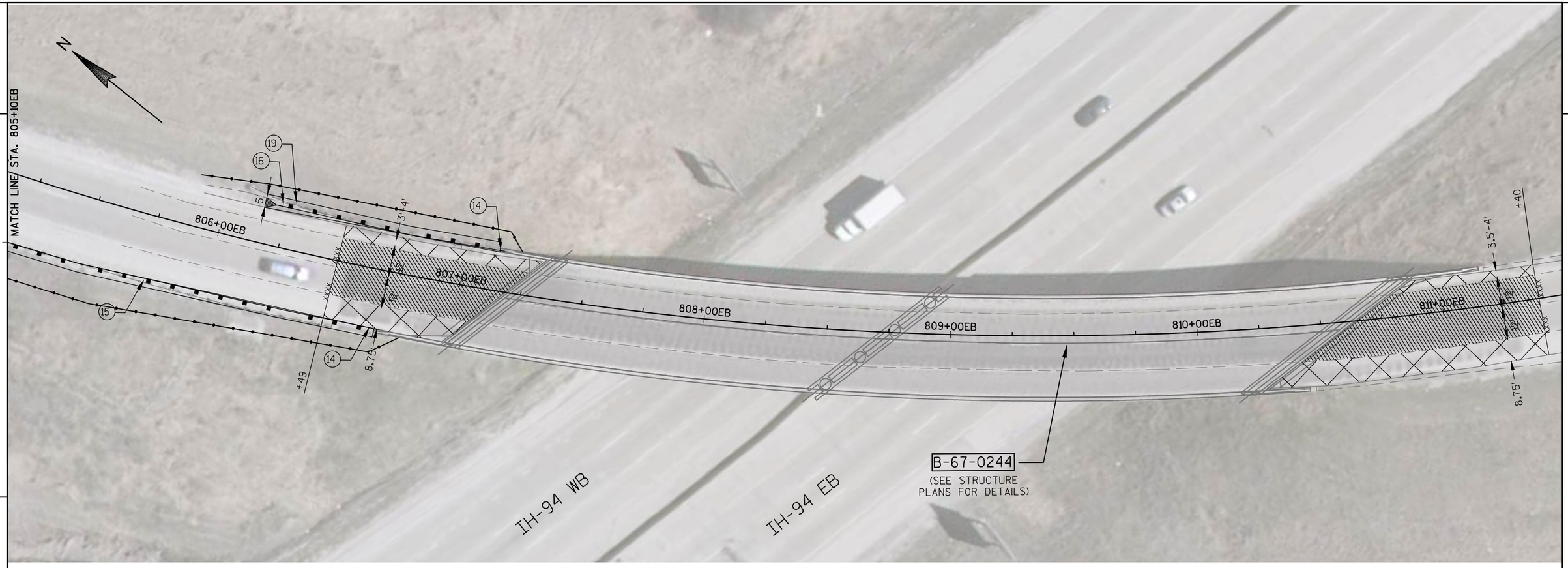
NO.	STATION	DESCRIPTION	ELEV.
20	38+38.10, 37.35' RT	CHIS SQ SE COR TOP PARAPET B-67-174-73	902.77
21	41+19.64, 37.83' LT	CHIS SQ NW COR TOP PARAPET B-67-174-73	903.67

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS- CTH KF	SCALE, FEET 0 20 40	SHEET 41 E

2



LEGEND:

1. REMOVING CONCRETE SIDEWALK
2. REMOVING GUARDRAIL
3. BASE AGGREGATE DENSE SHOULDER
4. REMOVING CURB & GUTTER
5. CONCRETE SURFACE DRAINS
6. 2-INCH HMA PAVEMENT TYPE E-10
7. CONCRETE PAVEMENT 8-INCH
7A. CONCRETE PAVEMENT APPROACH SLAB
8. CONCRETE CURB & GUTTER 30-INCH TYPE A
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9. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G
10. CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J
10A. CONCRETE CURB & GUTTER 32-INCH SPECIAL (SEE SPV .0900.01)
10B. CONCRETE CURB & GUTTER 30-INCH DRIVEWAY ENTRANCE (PAID FOR AS "CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G")
10C. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G
10D. CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J
11. CONCRETE SIDEWALK 5-INCH
12. ADJUST MANHOLE COVERS
13. ADJUST INLET COVERS
13A. INLET COVERS TYPE A
13B. INLET COVERS TYPE V
14. MGS THRIE BEAM TRANSITION
15. MGS GUARDRAIL 3
16. MGS GUARDRAIL TERMINAL EAT
16A. MGS GUARDRAIL TERMINAL TYPE 2
17. STEEL THRIE BEAM STRUCTURE APPROACH
17A. STEEL PLATE BEAM GUARD CLASS A
18. STEEL PLATE BEAM GUARD SHORT RADIUS
18A. STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
19. GUARDRAIL MOW STRIP (ASPHALT)
20. CONCRETE MEDIAN BLUNT NOSE
21. CONCRETE MEDIAN SLOPED NOSE TYPE 1

XXXX SAW CUT
SILT FENCE
TEMPORARY DITCH CHECKS
EROSION BALES
INLET PROTECTION
RIPRAP MEDIUM

REMOVING PAVEMENT
REMOVING PAVEMENT BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE BUTT JOINTS HMA PAVEMENT TYPE E-10, PG 64-28P (SEE CONSTRUCTION DETAILS)
REMOVING ASPHALTIC SURFACE

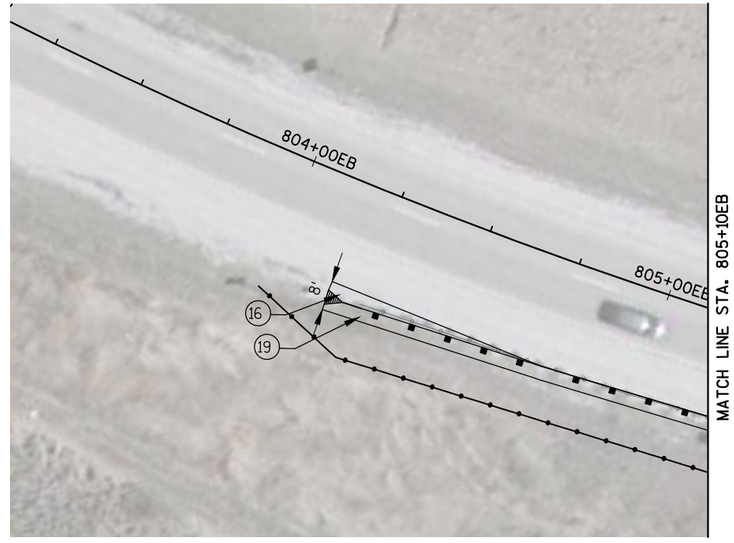
PROPOSED MGS GUARDRAIL

B-67-0244

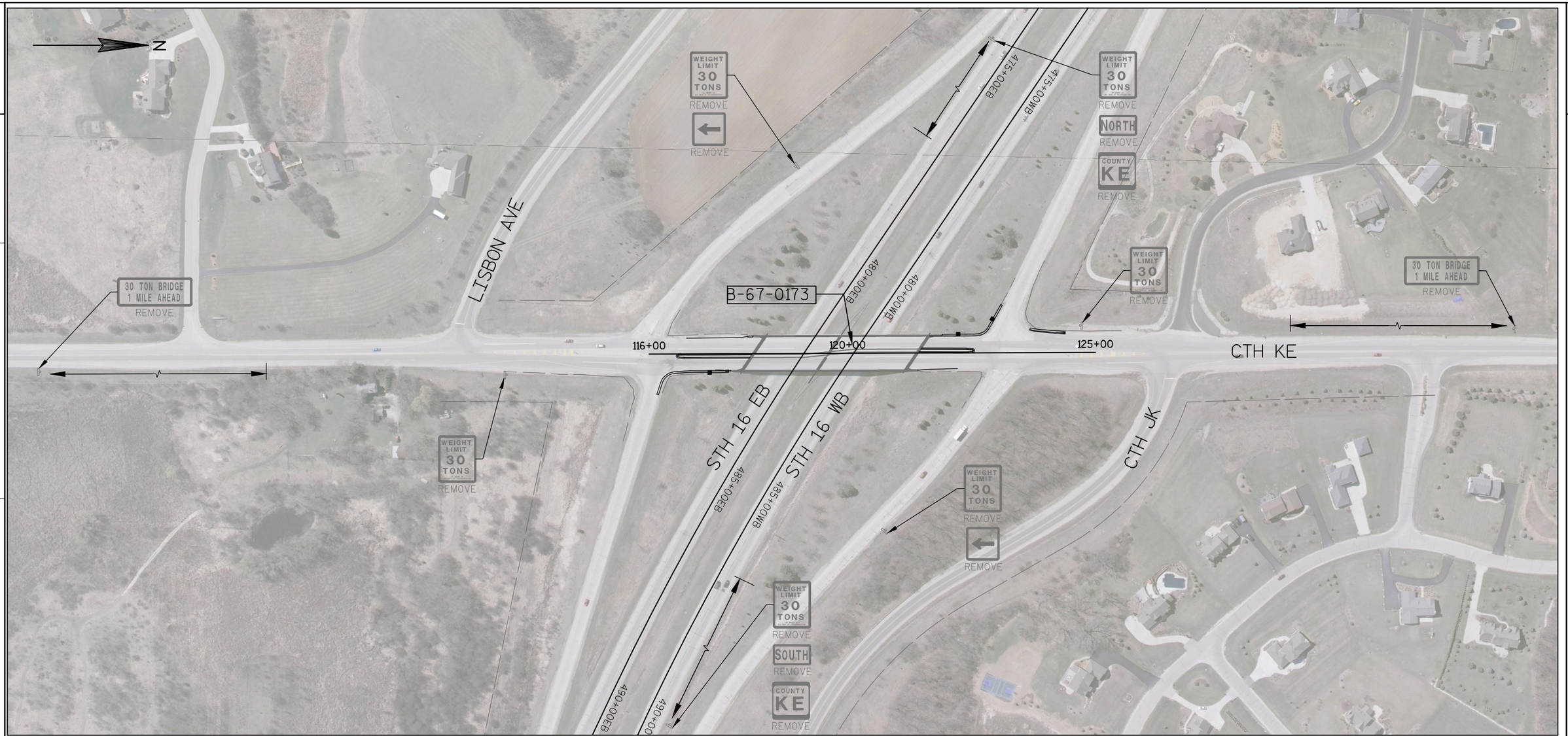
MGS THRIE BEAM TRANSITION	STA. 806+76EB - 807+16EB LT
	STA. 806+32EB - 806+71EB RT
MGS GUARDRAIL 3	STA. 804+75EB - 806+32EB RT
MGS GUARDRAIL TERMINAL EAT	STA. 806+20EB - 806+76EB LT
	STA. 804+21EB - 804+75EB RT

NOTE:

STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.



PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PLAN DETAILS-B-67-0244	SCALE, FEET 0 20 40	SHEET 42	E

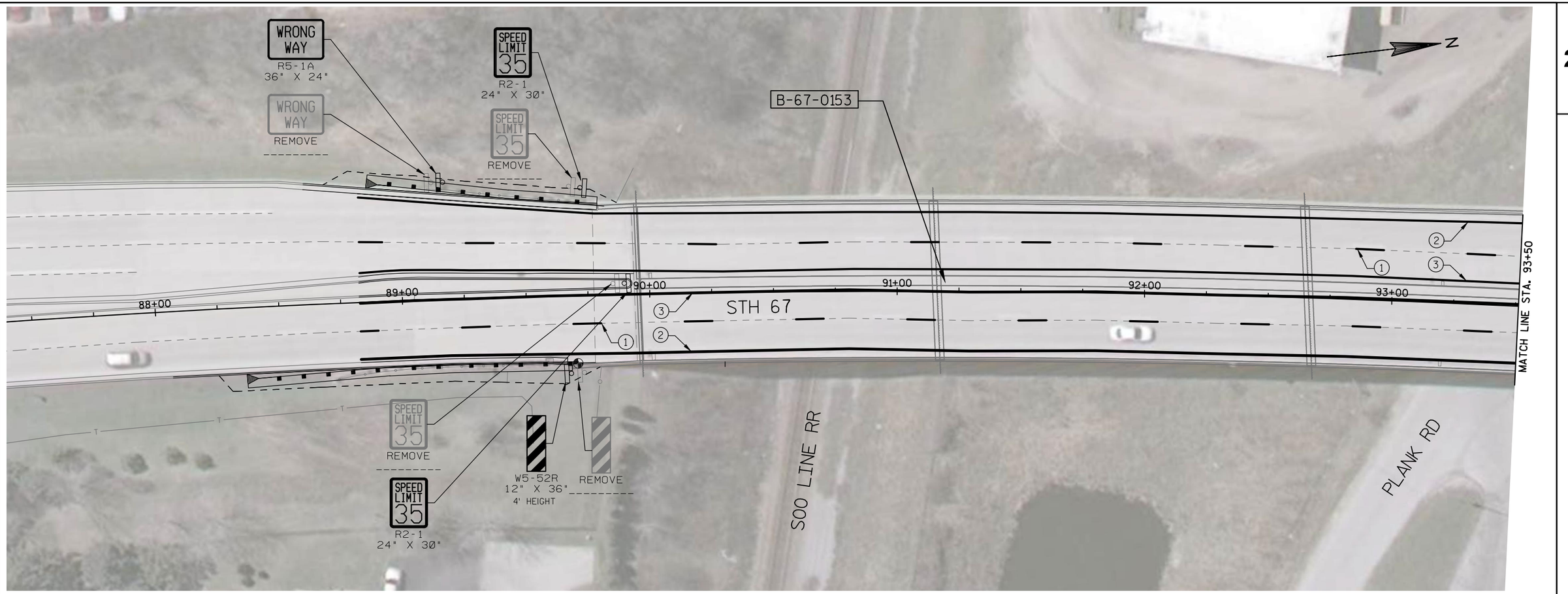


NOTES:

WEIGHT LIMIT SIGNS SHALL NOT BE REMOVED UNTIL CONSTRUCTION IS COMPLETE ON STRUCTURE B-67-0173.

ADDITIONAL SIGN REMOVAL SHOWN ON PAVEMENT MARKING & SIGNING SHEET.

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	SIGN REMOVAL-CTH KE	SCALE, FEET 0 100 200	SHEET 43 E

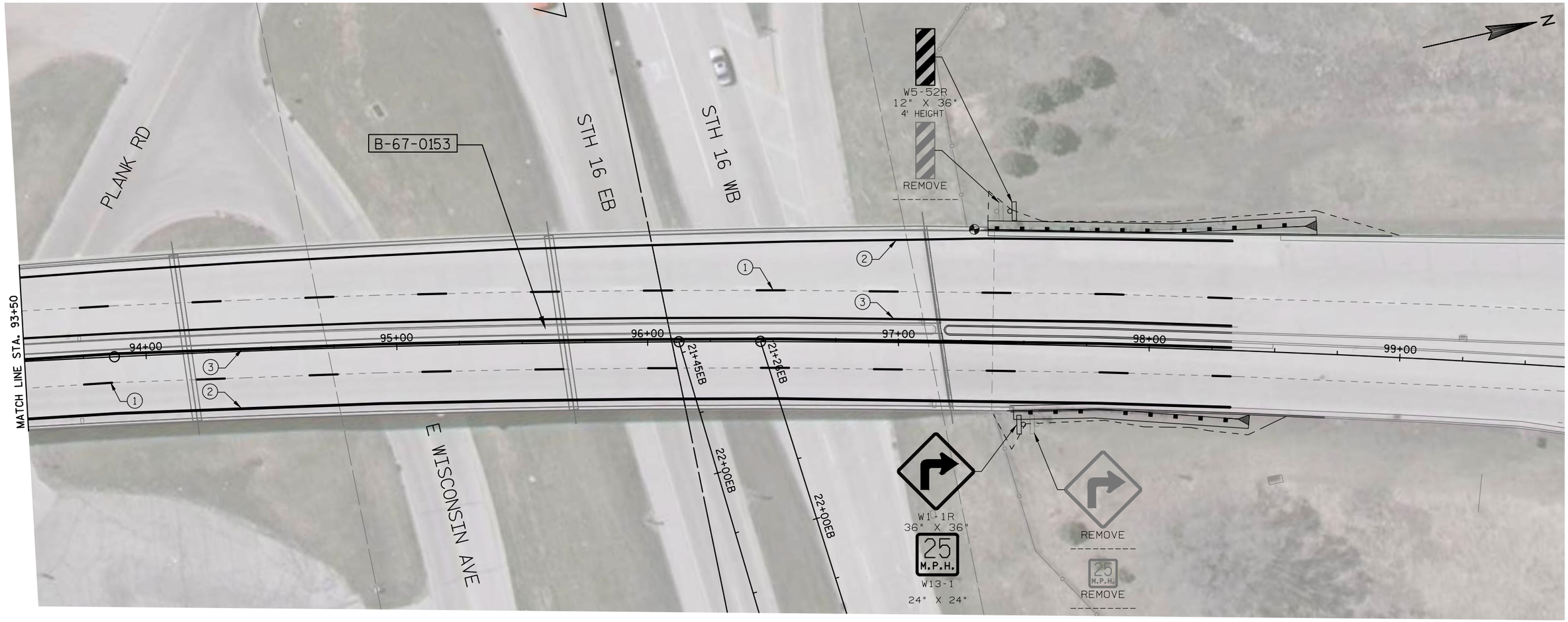


LEGEND:

(1) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(3) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(4) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
(5) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
(6) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
(7) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(8) PAVEMENT MARKING CURB EPOXY

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-STH 67 SCALE, FEET 0 20 40	SHEET 44 E

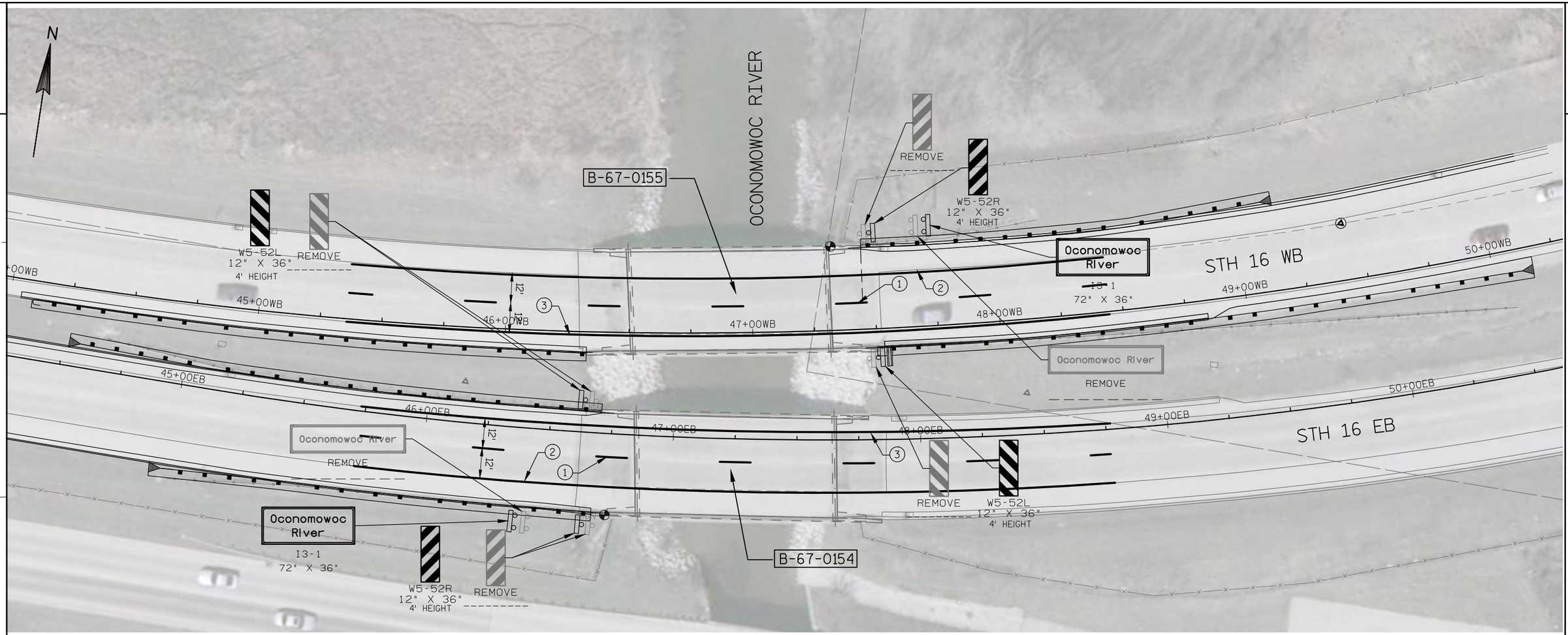
2



LEGEND:

(1) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(3) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(4) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
(5) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
(6) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
(7) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
(8) PAVEMENT MARKING CURB EPOXY

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-STH 67 SCALE, FEET 0 20 40	SHEET 45 E

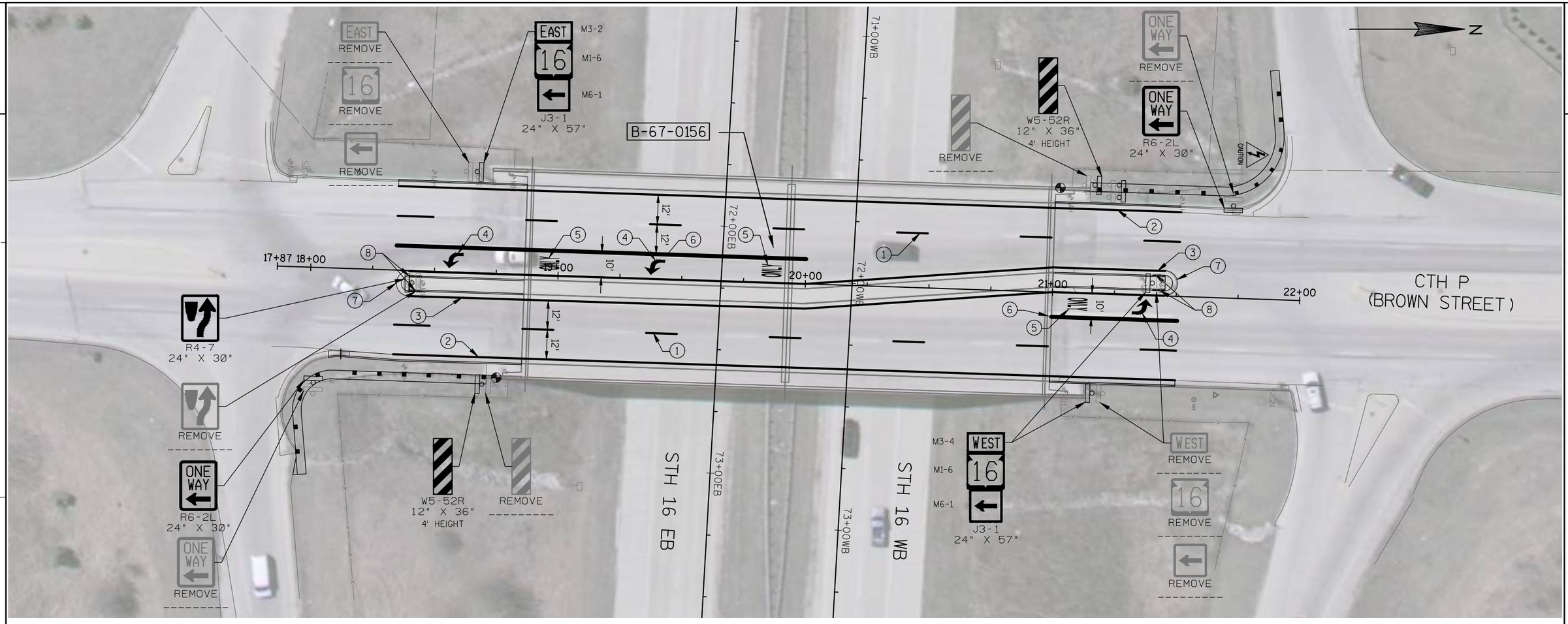


LEGEND:

(1) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)
(3) PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
(4) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
(5) PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
(6) PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
(7) PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-STH 16 SCALE, FEET 0 20 40	SHEET 46 E

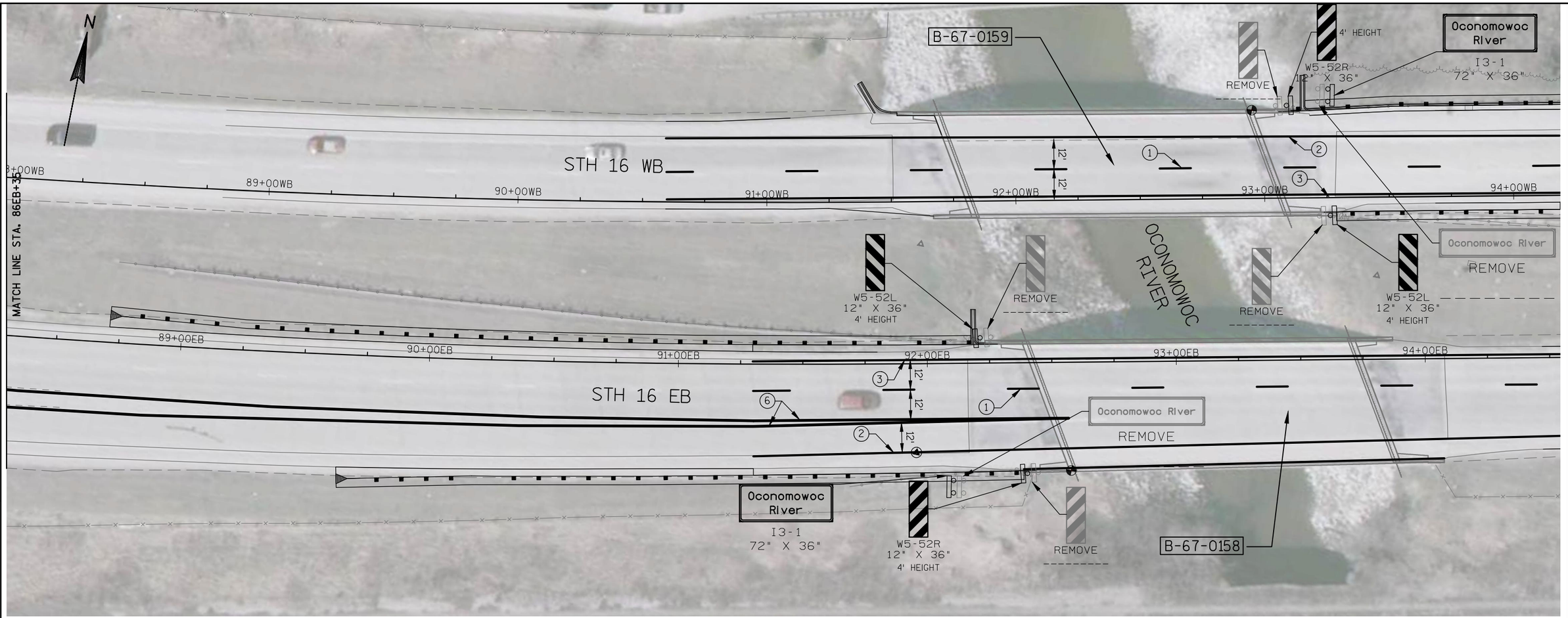
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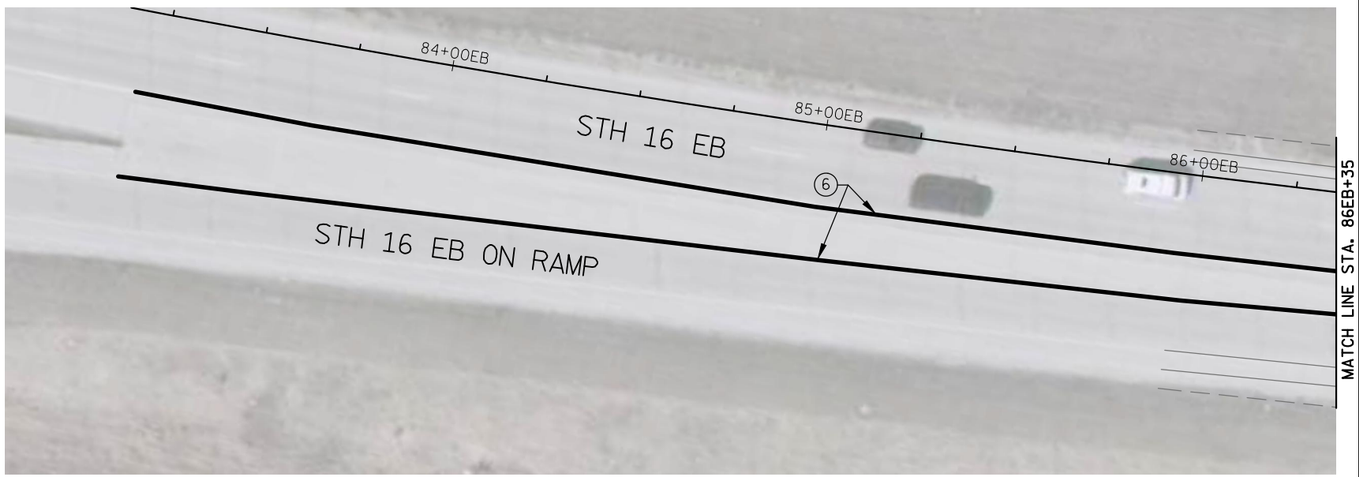


LEGEND:

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
4. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
5. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
8. PAVEMENT MARKING CURB EPOXY

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-CTH P SCALE, FEET 0 20 40	SHEET 47	E



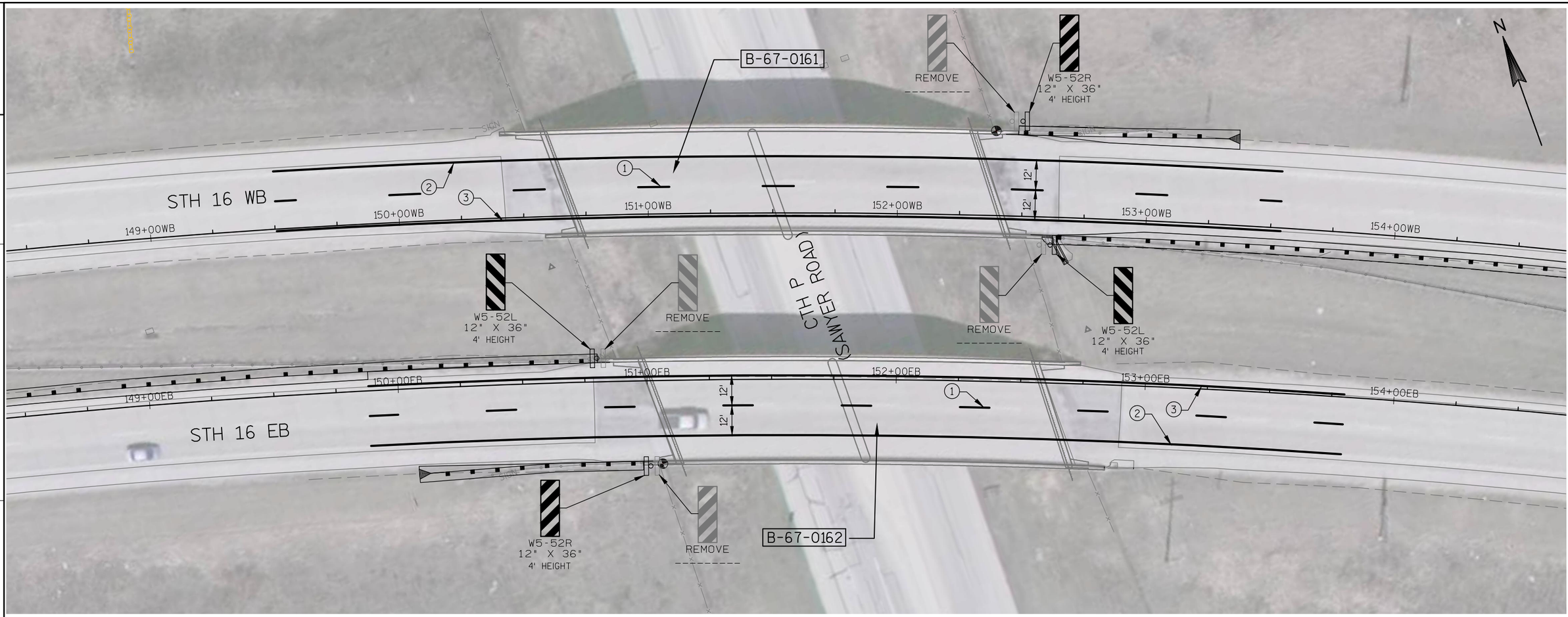


LEGEND:

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
4. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
5. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-STH 16 SCALE, FEET 0 20 40	SHEET 48	E

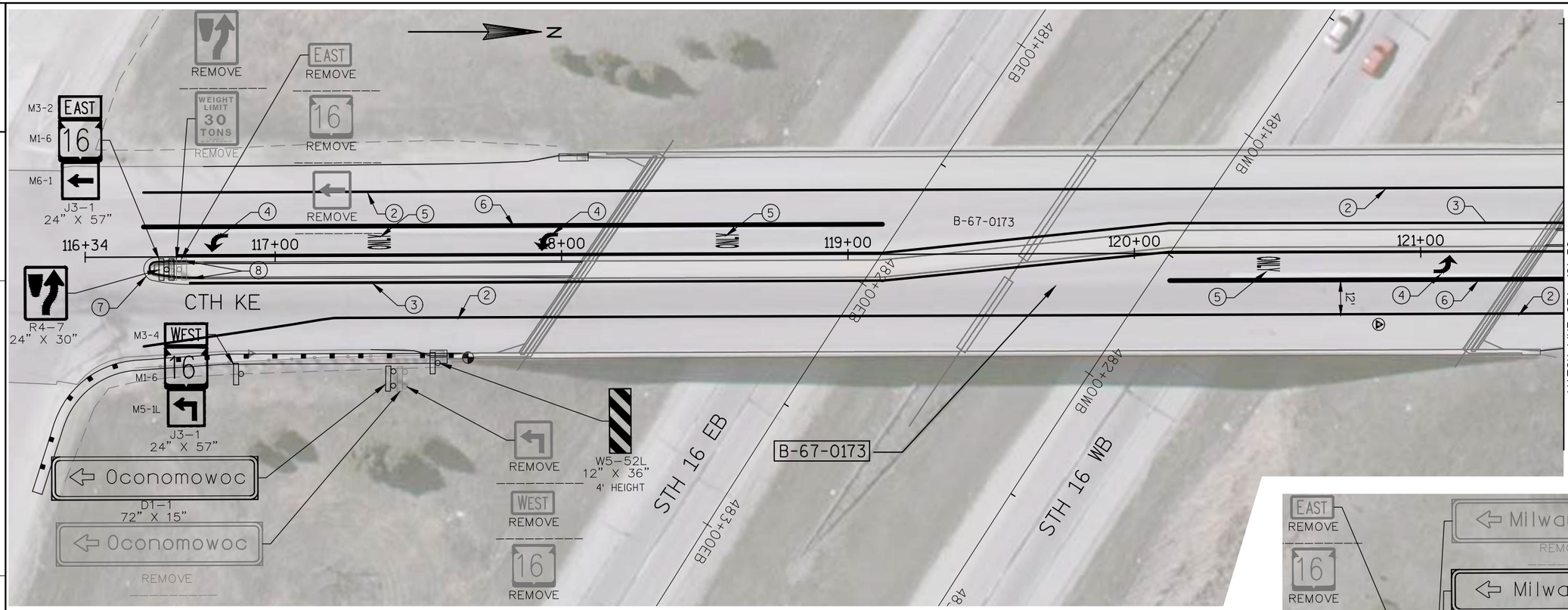
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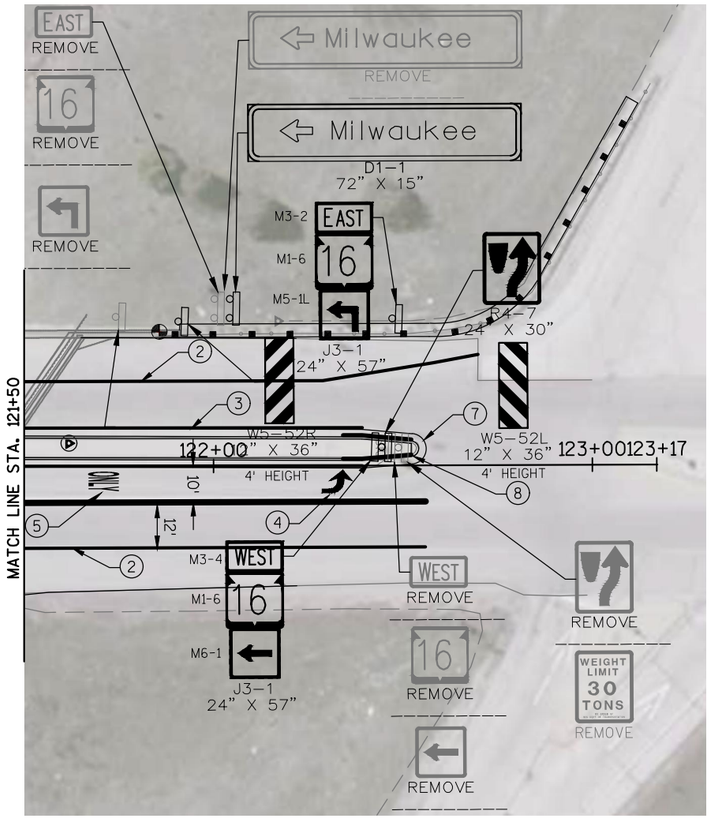


LEGEND:

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
4. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
5. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-STH 16 SCALE, FEET 0 20 40	SHEET 49	E

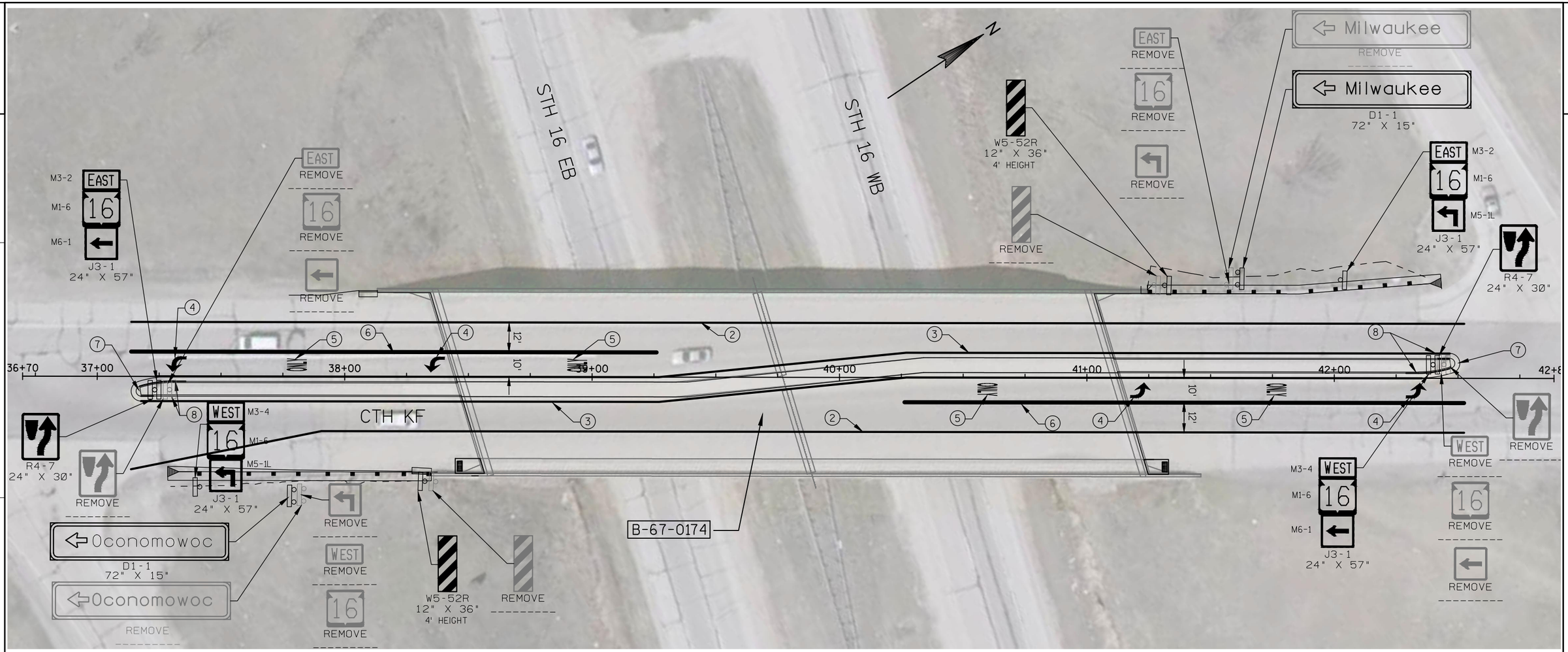




LEGEND:

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
4. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
5. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)
8. PAVEMENT MARKING CURB EPOXY

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-CTH KE SCALE, FEET 0 20 40	SHEET 50 E

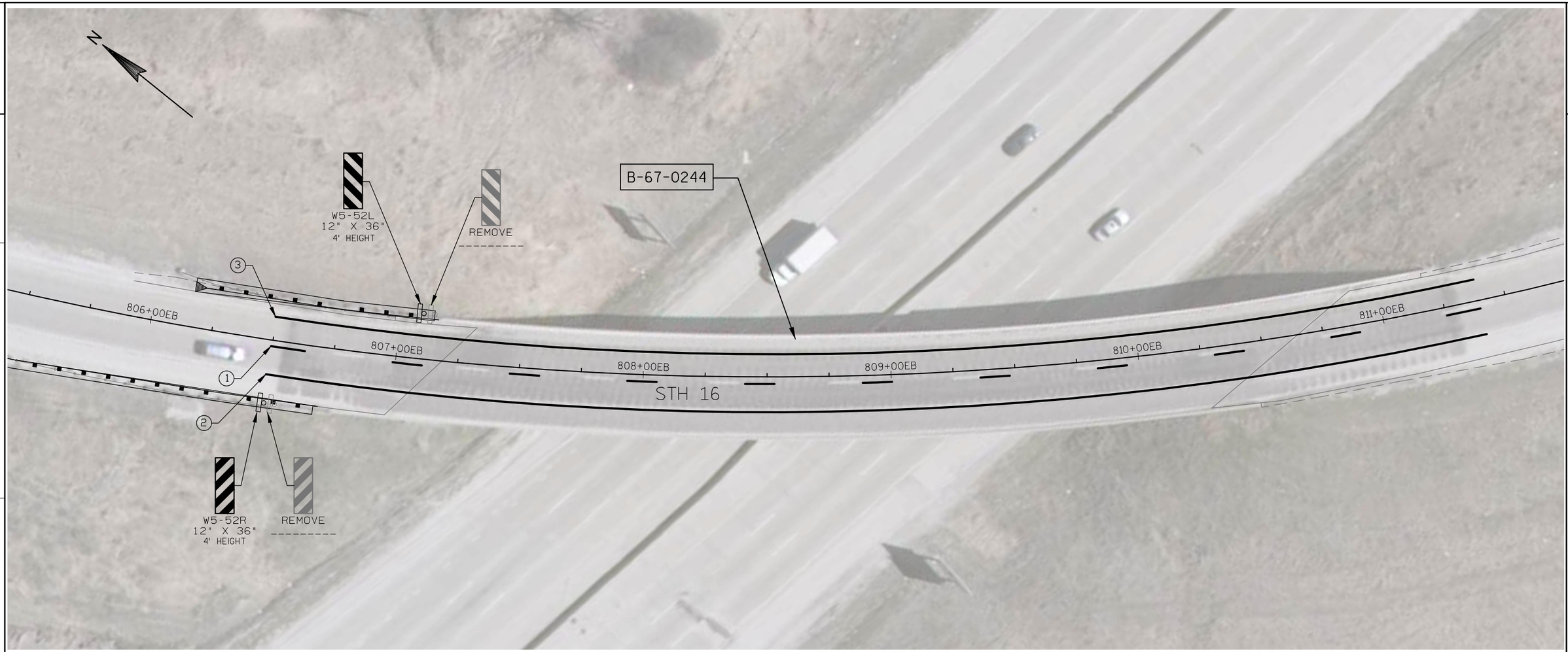


LEGEND:

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
4. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
5. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-CTH KF SCALE, FEET 0 20 40	SHEET 51 E

2



LEGEND:

1. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED WHITE 12.5' LINE 37.5' SKIP)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
4. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE)
5. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE)
6. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
7. PAVEMENT MARKING ISLAND NOSE EPOXY (YELLOW)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	PAVEMENT MARKING & SIGNING-STH 16 SCALE, FEET 0 20 40	SHEET 52 E

CONSTRUCTION OPERATIONS
-SEE TRAFFIC CONTROL SHEETS SPECIFIC TO BRIDGE STRUCTURES
-CONSTRUCT STH 16 BRIDGES CONCURRENTLY

TRAFFIC OPERATIONS
-SEE TRAFFIC CONTROL SHEETS SPECIFIC TO BRIDGE STRUCTURES
-MAINTAIN SINGLE LANE CLOSURE FOR STH 16 BRIDGES FROM OCONOMOWOC RIVER BRIDGES TO CTH P (SAWYER ROAD) AND AT STH 16 EB OVER I-94
-SEE SDD "TRAFFIC CONTROL EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE"

B-67-0153
STH 67 NB & SB LANE
CLOSURES DURING CONSTRUCTION

B-67-0154
B-67-0155
STH 16 EB & WB LANE
CLOSURES DURING CONSTRUCTION

B-67-0156
CTH P NB & SB LANE
CLOSURES DURING
CONSTRUCTION

B-67-0161
B-67-0162
STH 16 EB & WB LANE
CLOSURES DURING
CONSTRUCTION

PCMS

PCMS W/ REMOTE
COMMUNICATIONS REQ'D.

B-67-0158
B-67-0159
STH 16 EB & WB LANE
CLOSURES DURING
CONSTRUCTION

STH 16 EB & WB CONTINUOUS
SINGLE LANE CLOSURE FROM
OCONOMOWOC RIVER BRIDGES
TO CTH P (SAWYER ROAD)

FM-01
LANE CLOSURES
AHEAD 16 EAST
USE ALTERNATE
ROUTE
(SEE DETAIL)
(PLACE SIGN ON STH 16 EB & STH 67 NB
PRIOR TO STH 16/STH 67 INTERCHANGE)

FM-02
LANE CLOSURES
AHEAD 16 WEST
USE ALTERNATE
ROUTE
(SEE DETAIL)

B-67-0171
HARTBROOK DR WB SHOULDER CLOSURE
& STH 16 EB SHOULDER CLOSURE DURING
CONSTRUCTION

B-67-0173
CTH KE CLOSURE & DETOUR
DURING CONSTRUCTION

B-67-0174
CTH KF CLOSURE & DETOUR
DURING CONSTRUCTION

PCMS W/ REMOTE
COMMUNICATIONS REQ'D.

B-67-0244
STH 16 EB LANE
CLOSURES DURING CONSTRUCTION

Hartland
Delafield
Pewaukee
Bark R.
CPRR

TRAFFIC CONTROL PLANS
PREPARED BY
KL Engineering
Transportation • Municipal • Environmental • Survey/GIS

WISCONSIN
BRAD R.
HALVENSLEBEN
34638-006
BELLEVILLE,
WI
PROFESSIONAL ENGINEER

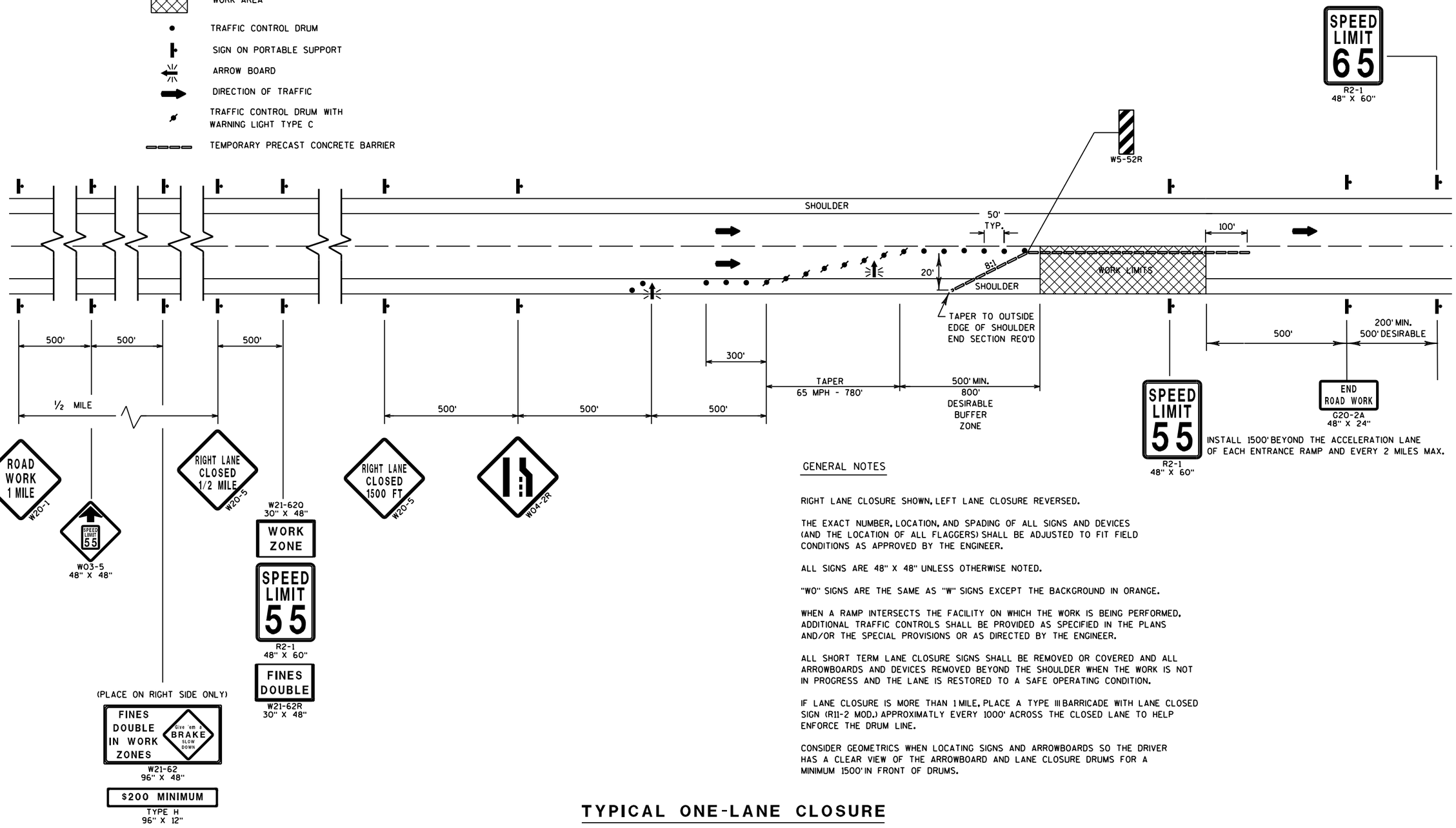
07/30/2013
(Date)
(Signature)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL OVERVIEW	SHEET E

FILE NAME : G:\Collins\10015\dgn\025000_tc.dgn
PLOT DATE : 7/30/2013
PLOT BY : KL Engineering
PLOT NAME :
PLOT SCALE :
WISDOT/CADDS SHEET 42

LEGEND

- WORK AREA
- TRAFFIC CONTROL DRUM
- SIGN ON PORTABLE SUPPORT
- ARROW BOARD
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL DRUM WITH WARNING LIGHT TYPE C
- TEMPORARY PRECAST CONCRETE BARRIER



GENERAL NOTES

RIGHT LANE CLOSURE SHOWN, LEFT LANE CLOSURE REVERSED.

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

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

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

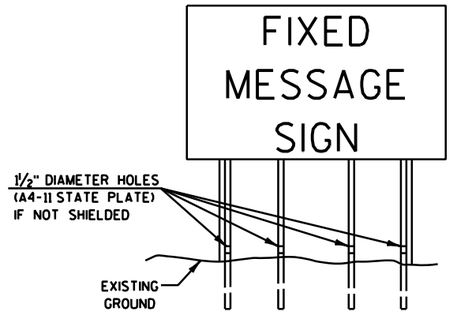
IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE WITH LANE CLOSED SIGN (R11-2 MOD.) APPROXIMATLY EVERY 1000' ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROWBOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS.

TYPICAL ONE-LANE CLOSURE

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL DETAIL - LANE CLOSURE	SHEET 54	E

2



FRONT VIEW

NOTES

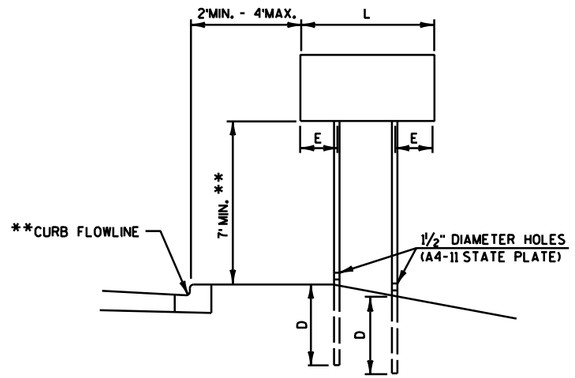
1. SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.

2. SEE TABLES BELOW FOR REQUIRED NUMBER OF POSTS.

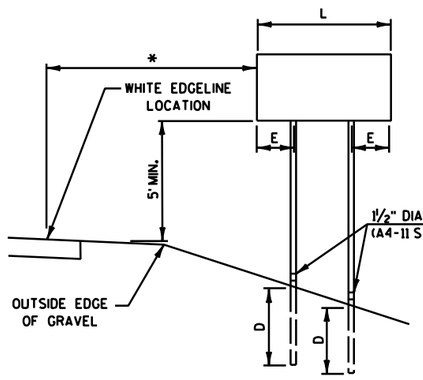
* 6' FROM EDGE OF A PAVED SHOULDER OR 12' FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2' FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY THE PROJECT ENGINEER.

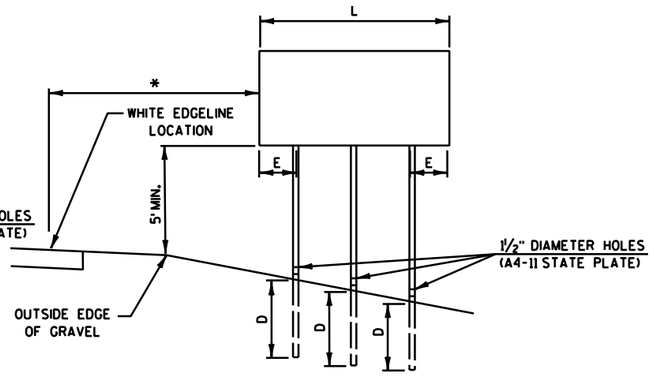
** THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

3. 4X6 WOOD POSTS SHALL HAVE TWO HOLES PER STATE PLATE A4-11



URBAN AREA





RURAL AREA

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

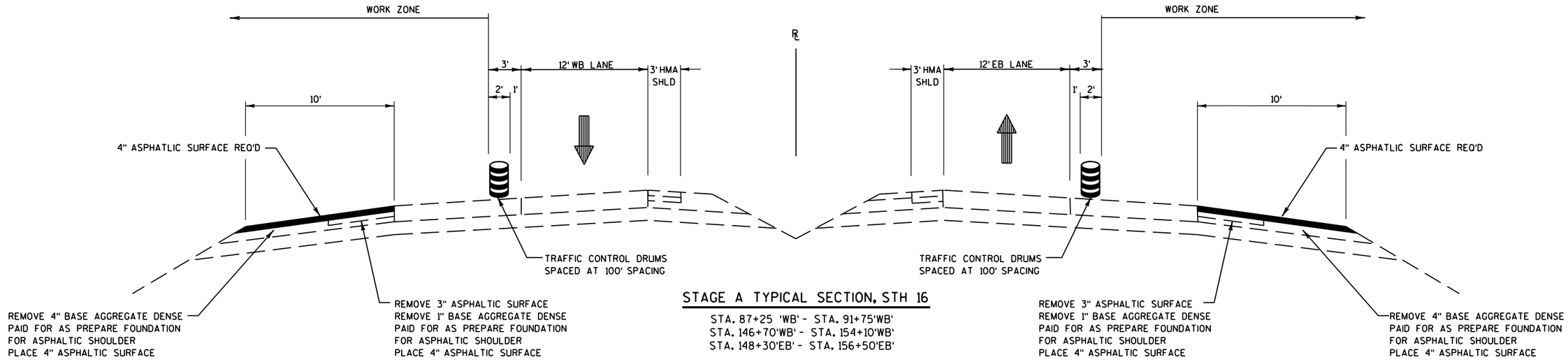
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
GREATER THAN 120" LESS THAN 168"	12"

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

POST EMBEDMENT DEPTH

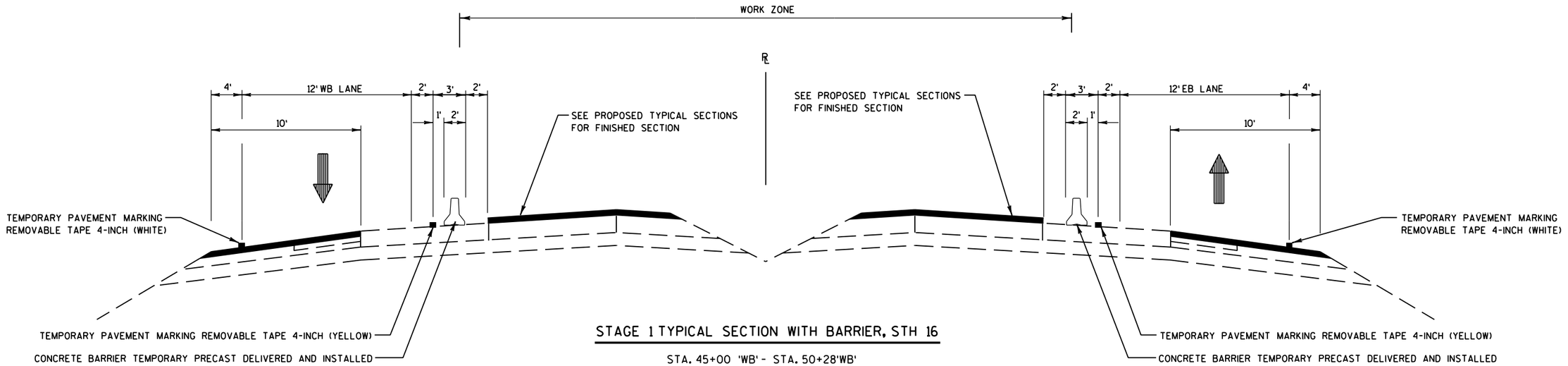
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN.)
20 OR LESS	4'
GREATER THAN 20	5'

POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS



STAGE A TYPICAL SECTION, STH 16

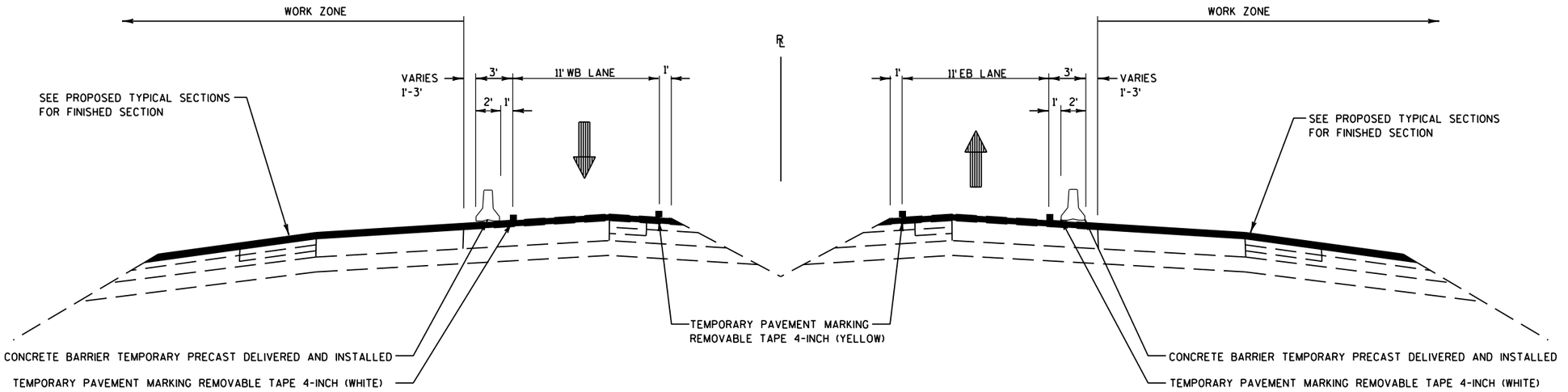
STA. 87+25 'WB' - STA. 91+75'WB'
STA. 146+70'WB' - STA. 154+10'WB'
STA. 148+30'EB' - STA. 156+50'EB'



STAGE 1 TYPICAL SECTION WITH BARRIER, STH 16

STA. 45+00 'WB' - STA. 50+28'WB'
STA. 43+65'EB' - STA. 49+00'EB'
STA. 90+16'WB' - STA. 96+00'WB'
STA. 89+70'EB' - STA. 95+42'EB'
STA. 148+36'EB' - STA. 154+24'EB'
STA. 149+00'WB' - STA. 155+05'WB'
STA. 803+87'EB' - STA. 811+67'EB'

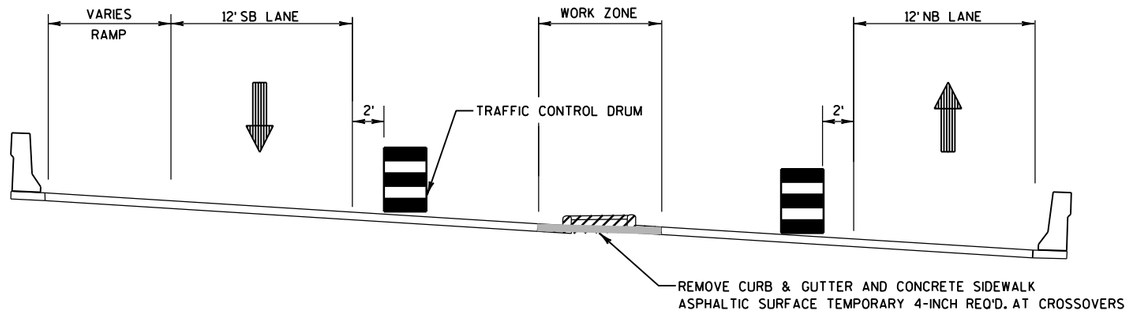
2



STAGE 2 TYPICAL SECTION WITH BARRIER, STH 16

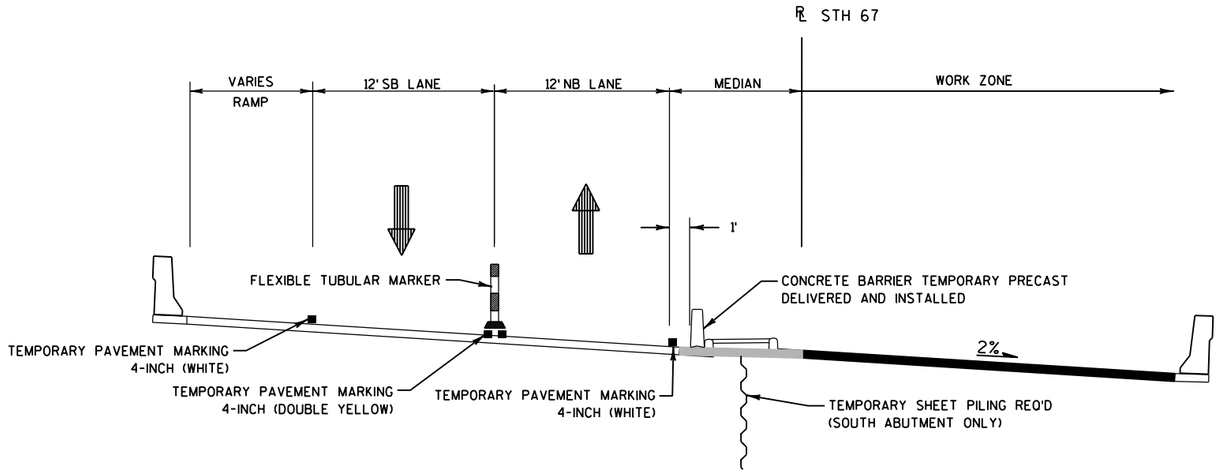
STA. 44+05'EB' - STA. 45+59'EB'
STA. 43+97'WB' - STA. 48+58'WB'
STA. 89+24'EB' - STA. 95+05'EB'
STA. 90+97'WB' - STA. 95+75'WB'
STA. 149+97'WB' - STA. 155+02'WB'
STA. 148+23'EB' - STA. 154+11'EB'
STA. 803+87'EB' - STA. 811+67'EB'

2



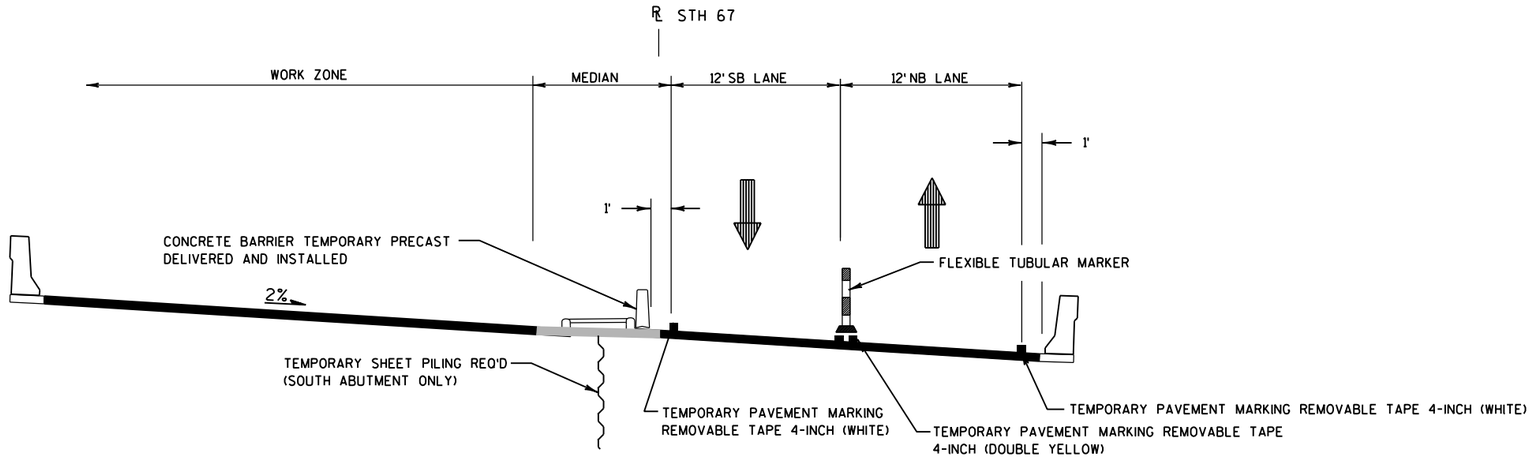
STAGE A TYPICAL SECTION, STH 67

B-67-0153 (LOOKING NORTH)



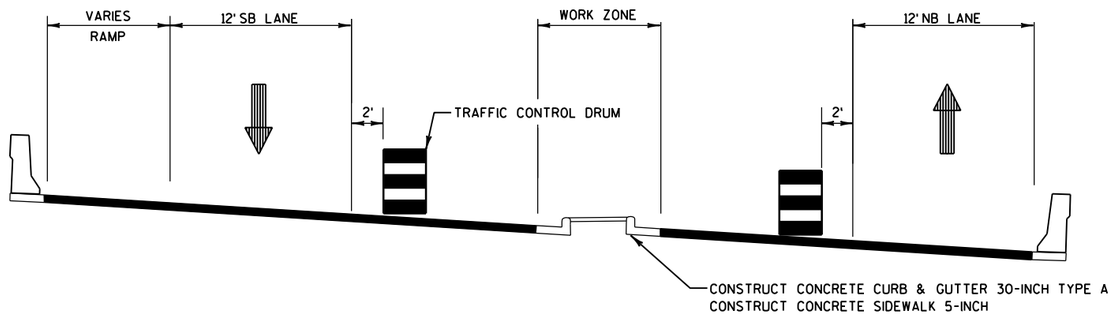
STAGE 1 TYPICAL SECTION WITH BARRIER, STH 67

B-67-0153 (LOOKING NORTH)



STAGE 2 TYPICAL SECTION WITH BARRIER, STH 67

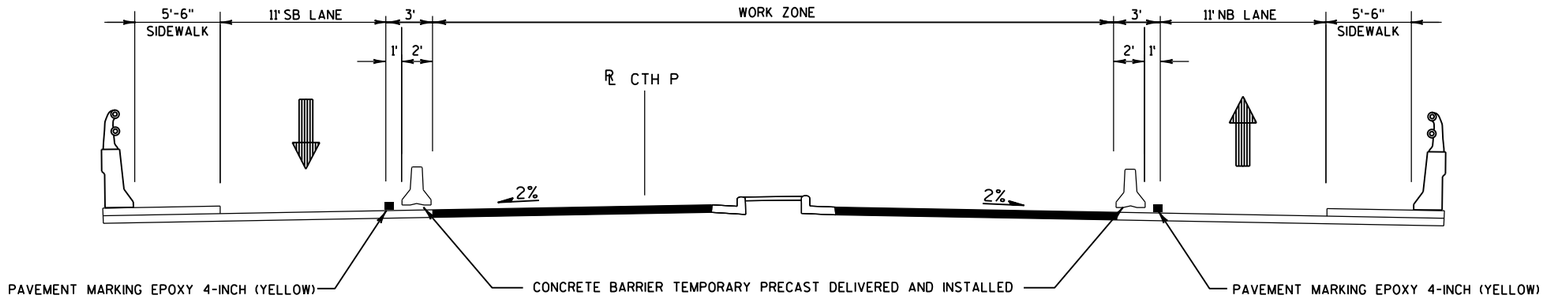
B-67-0153 (LOOKING NORTH)



STAGE 3 TYPICAL SECTION, STH 67

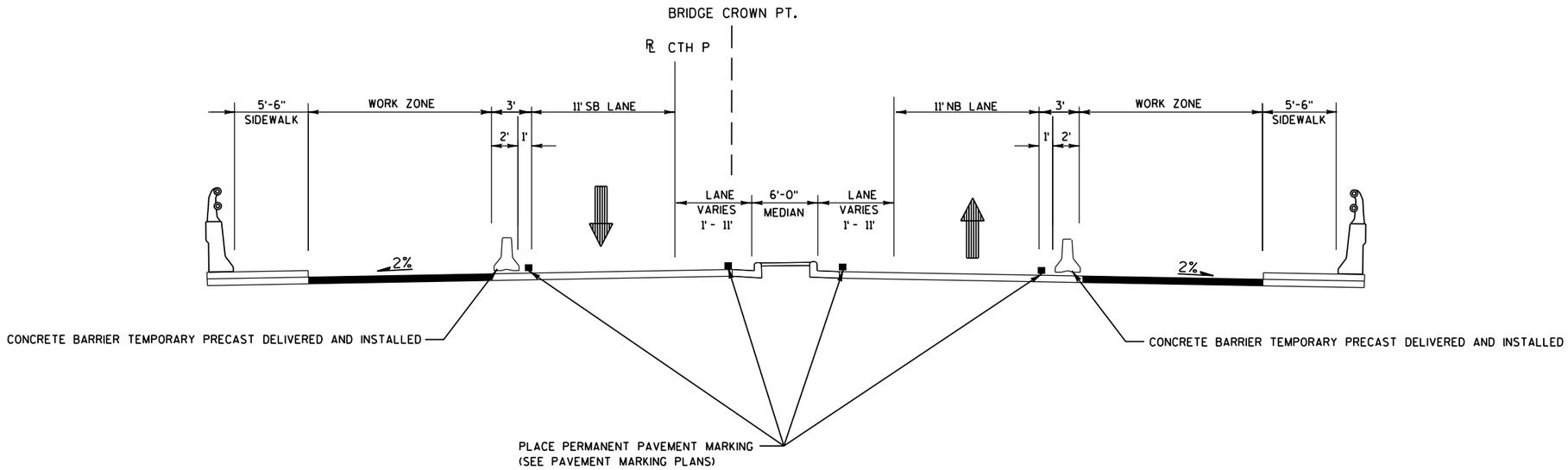
B-67-0153 (LOOKING NORTH)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL: TYPICAL SECTIONS - STAGING B-67-0153	SHEET 59	E



STAGE 1 TYPICAL SECTION WITH BARRIER, CTH P (BROWN STREET)

B-67-0156 (LOOKING NORTH)



STAGE 2 TYPICAL SECTION WITH BARRIER, CTH P (BROWN STREET)

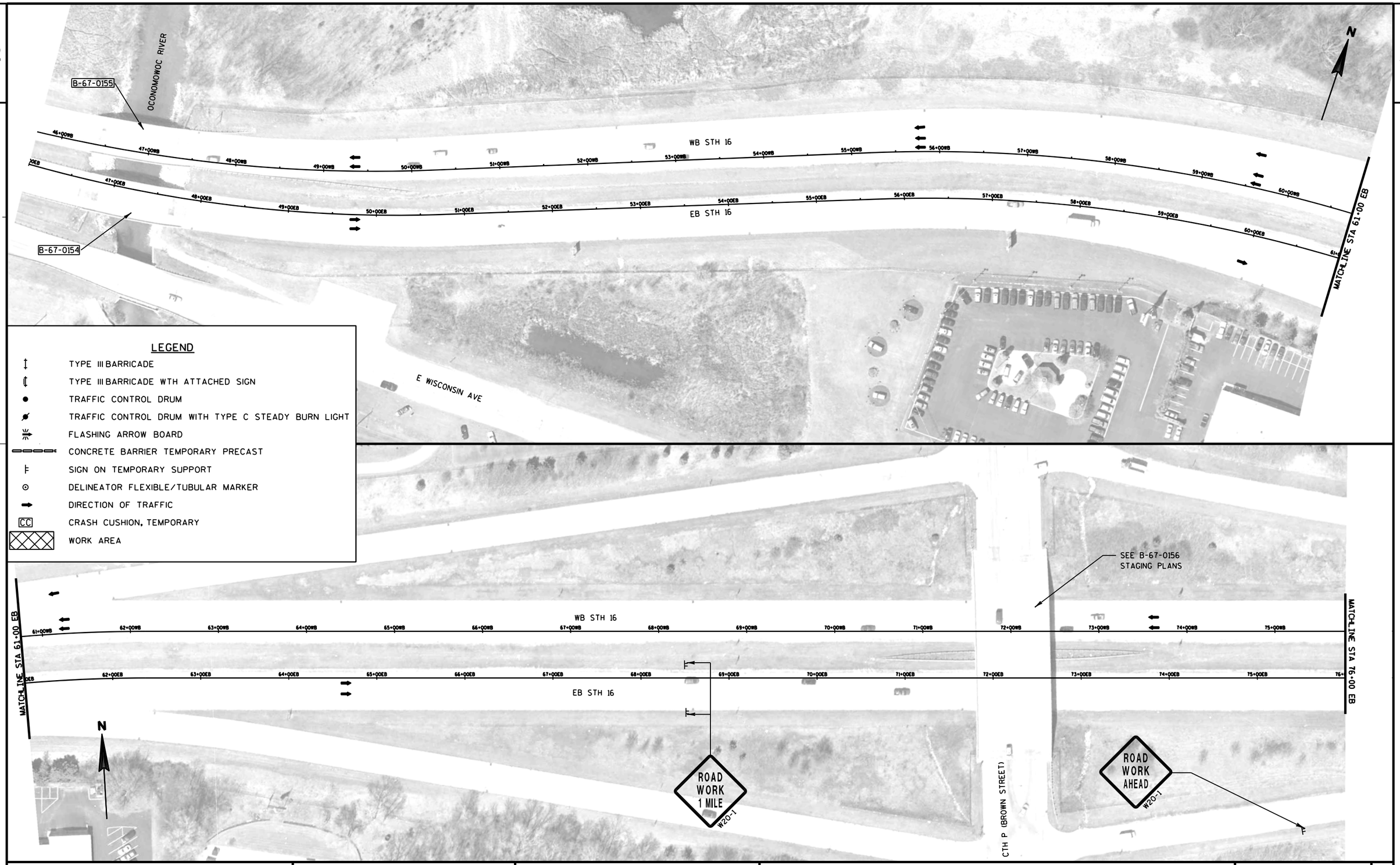
B-67-0156 (LOOKING NORTH)

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL: TYPICAL SECTIONS - STAGING B-67-0156	SHEET 60	E

FILE NAME : G:\Collins\10015\Sheets\025000_typical sections.dgn PLOT DATE : 7/15/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\025093 S1.dgn PLOT DATE : 4/19/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2

END ROAD WORK
G20-2A
48" X 24"

E WISCONSIN AVE

MATCHLINE STA 76+00 EB

WB STH 16

EB STH 16

25' TYP

100' TYP

MATCHLINE STA 91+00 EB

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

E WISCONSIN AVE

B-67-0159

WB STH 16

50' TYP

MATCHLINE STA 91+00 EB

OCONOMOWOC RIVER

100' TYP

EB STH 16

MATCHLINE STA 106+00 EB

B-67-0158

RIGHT LANE CLOSED 1/2 MILE
W20-5

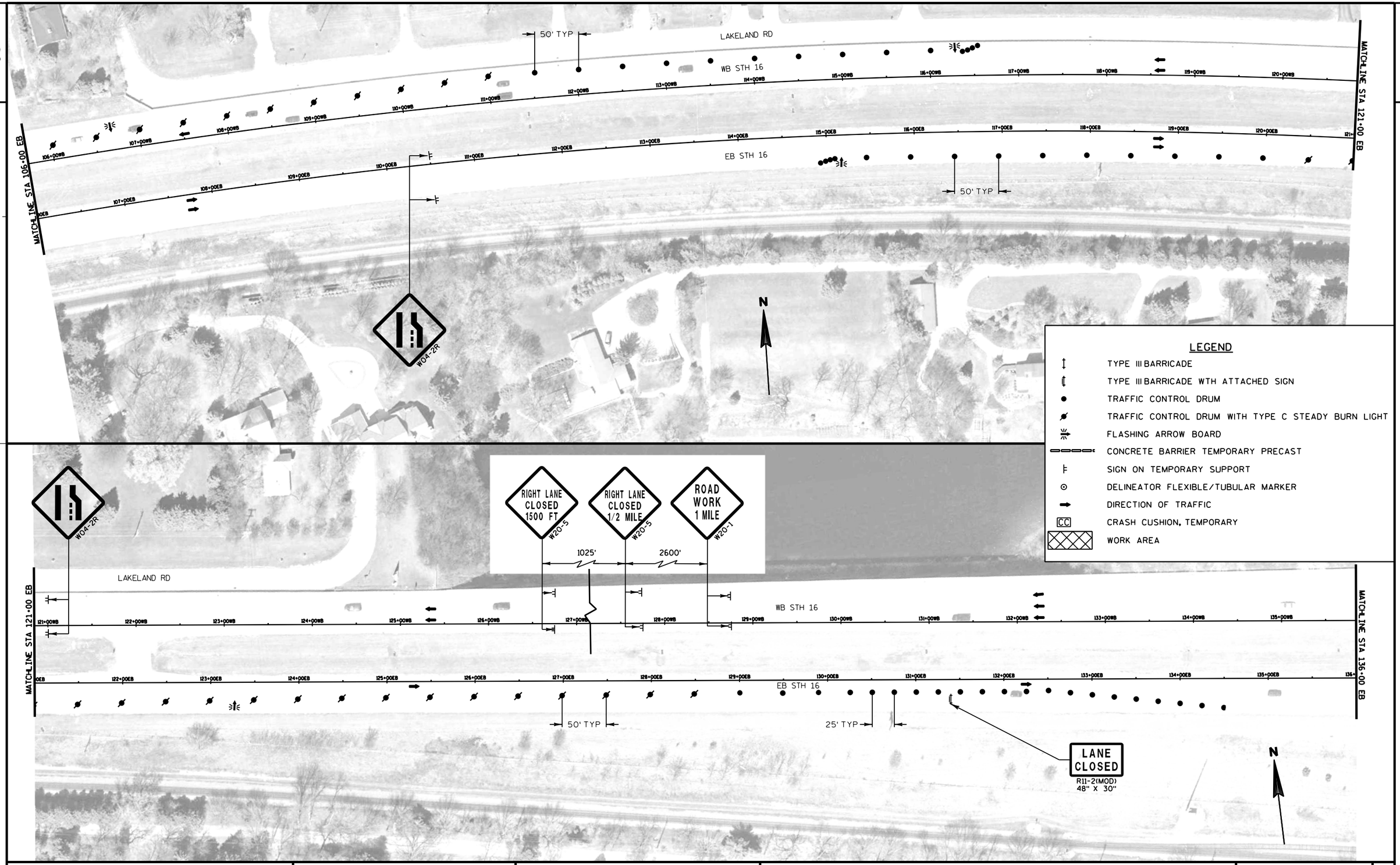
RIGHT LANE CLOSED 1500 FT
W20-5

N

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A	SHEET E

FILE NAME : G:\Collins\10015\Sheets\025094 S1.dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

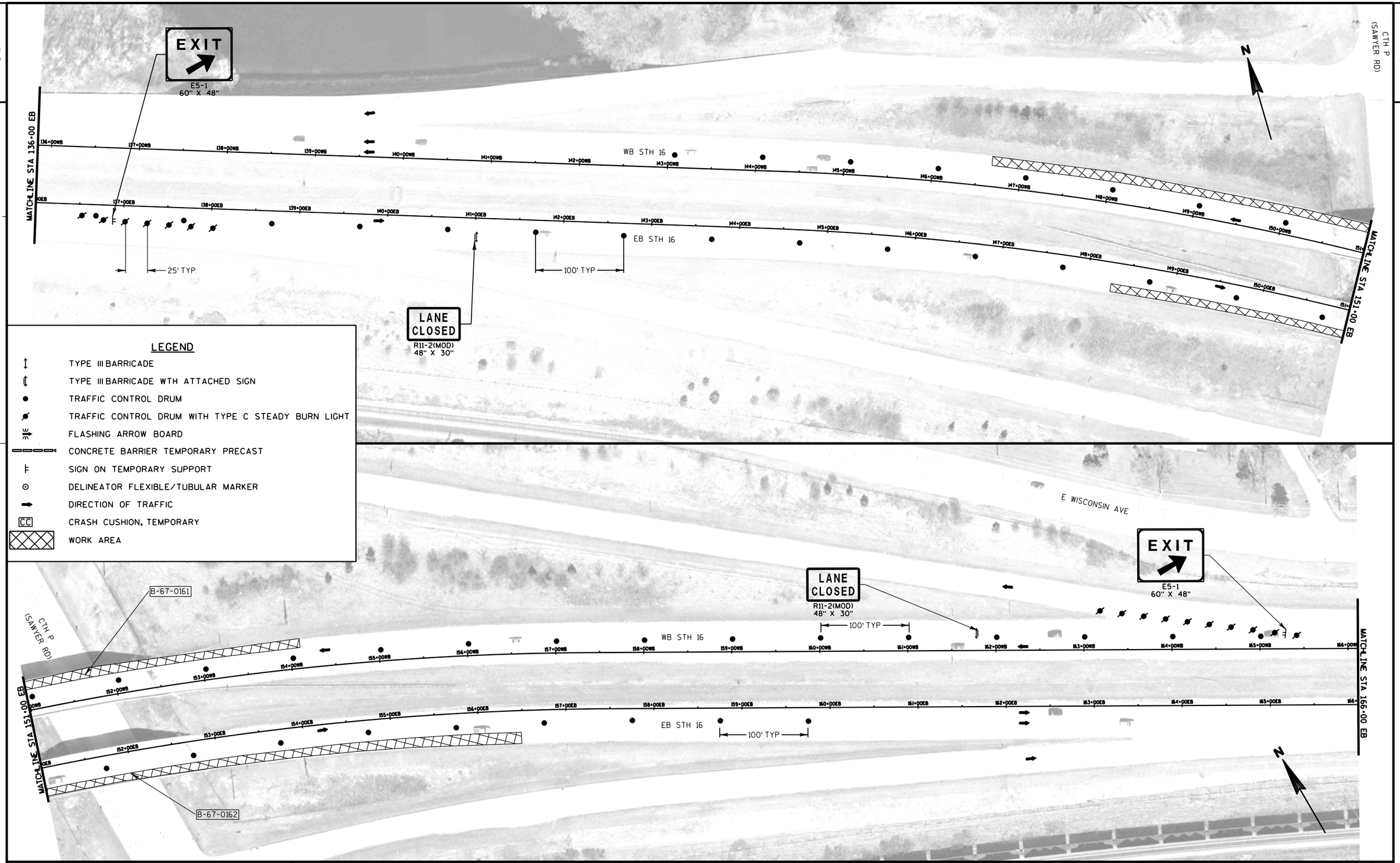


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\025095 S1.dgn PLOT DATE : 4/19/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 42



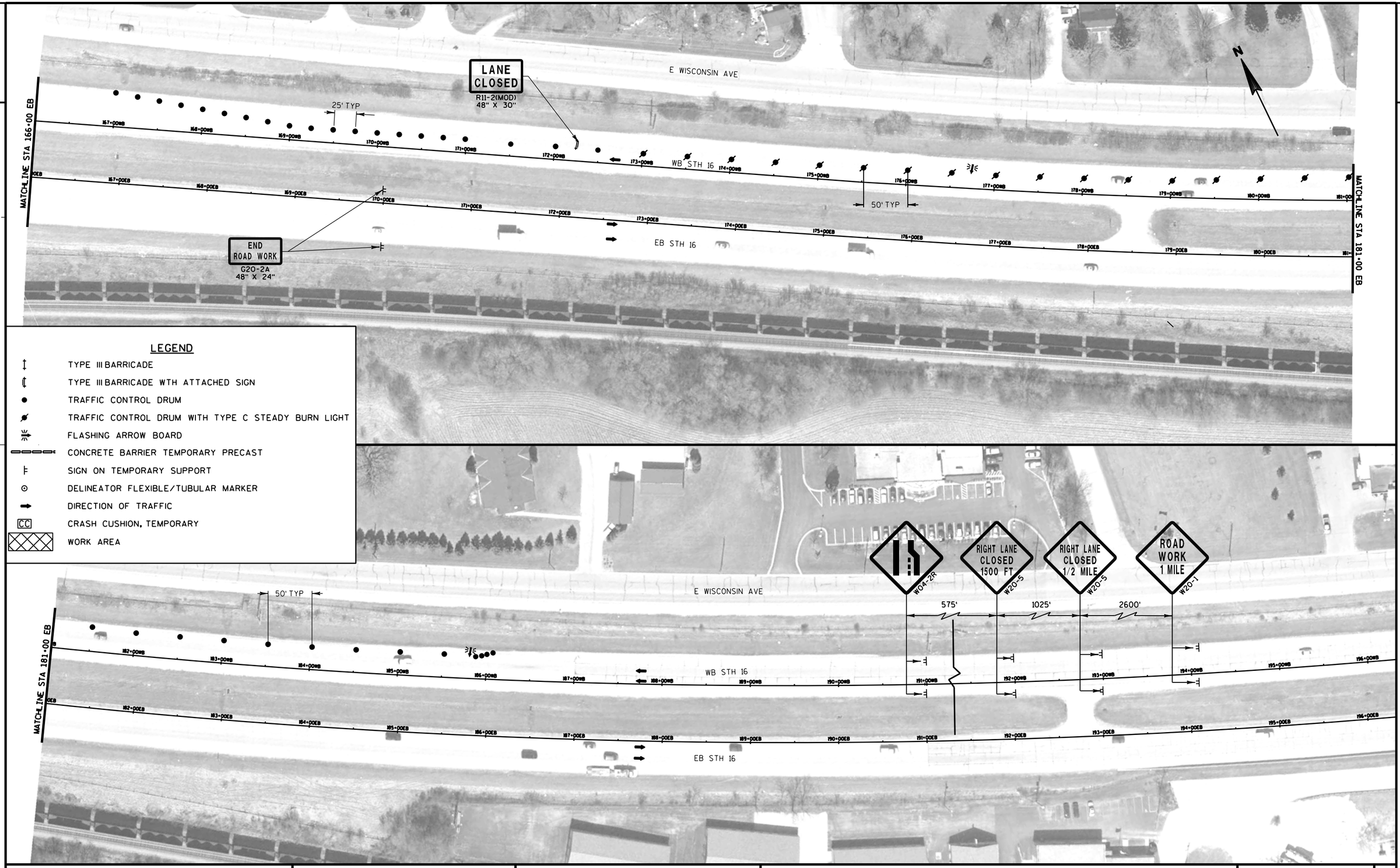
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A	SHEET E

FILE NAME : G:\Collins\10015\Sheets\025096 S1.dgn PLOT DATE : 4/19/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2



PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\025097 S1.dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

2

ROAD WORK 1 MILE
W20-1

FINES DOUBLE IN WORK ZONES
GIVE 'EM A BRAKE SLOW DOWN
W21-62
96" X 48"

$200 MINIMUM
W21-62P
96" X 12"

LEFT LANE CLOSED 1/2 MILE
W20-5

LEFT LANE CLOSED 1500 FT
W20-5

1000'
1640'
1140'

W04-2L

WB STH 16
EB STH 16

STH 67

SEE B-67-D153
STAGING PLANS

E WISCONSIN AVE

PLANK RD

MATCH LINE STA 31+00 EB

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

END ROAD WORK
G20-2A
48" X 24"

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 44+40WB - 50+28WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 42+00WB - 50+29WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 42+00WB - 50+29WB

12' TYP

CRASH CUSHION TEMPORARY
STA 43+15EB

50' TYP

MATCH LINE STA 46+00 EB

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 43+15EB - 49+50EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 43+15EB - 52+00EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 43+15EB - 52+00EB

W5-52L
18" X 54"

LANE CLOSED
R11-2(MOD)
48" X 30"

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026001 S2.dgn
PLOT DATE : 7/16/2013
PLOT BY : KL Engineering
PLOT NAME :
PLOT SCALE :
WISDOT/CADDS SHEET 42

2

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 42+00WB - 50+29WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 42+00WB - 50+29WB

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 44+40WB - 50+28WB

W5-52L
18" X 54"

OCONOMOWOC RIVER

B-67-0155

MATCH LINE STA 46+00 EB

50' TYP

100' TYP

WB STH 16

LANE
CLOSED
R11-2(MOD)
48" X 30"

N

CRASH CUSHION TEMPORARY
STA 50+33WB

EB STH 16

MATCHLINE STA 61+00 EB

B-67-0154

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 43+15EB - 49+50EB

12' TYP

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 43+15EB - 52+00EB

100' TYP

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 43+15EB - 52+00EB

E WISCONSIN AVE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

LANE
CLOSED
R11-2(MOD)
48" X 30"

SEE B-67-0156
STAGING PLANS

100' TYP

WB STH 16

COVER EXISTING
SPEED LIMIT SIGN

MATCH LINE STA 61+00 EB

MATCHLINE STA 76+00 EB

EB STH 16

100' TYP

SPEED
LIMIT
55
R2-1
48" X 60"
COVER EXISTING SIGN

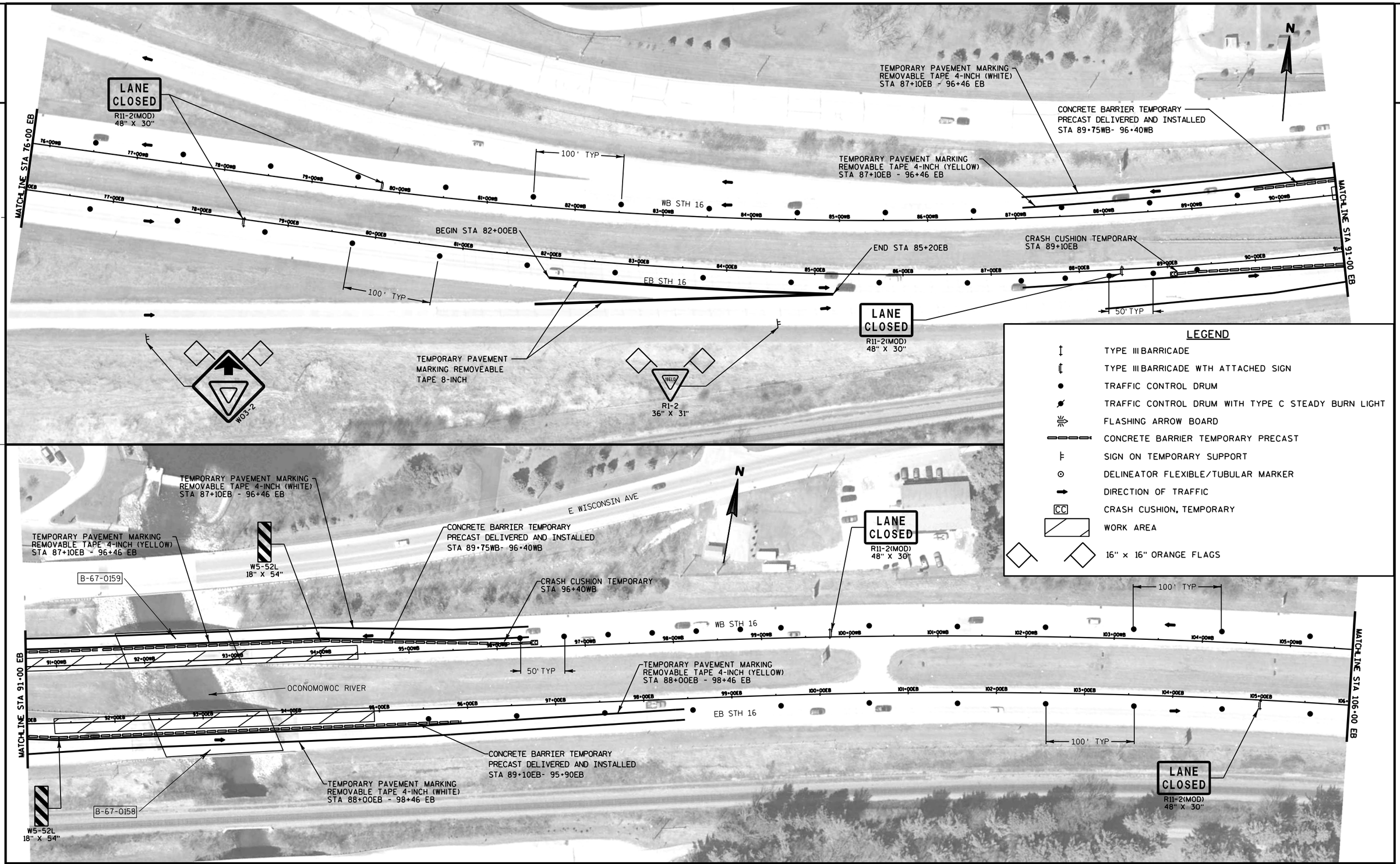
ROAD
WORK
AHEAD
W20-1

CTH P (BROWN STREET)

N

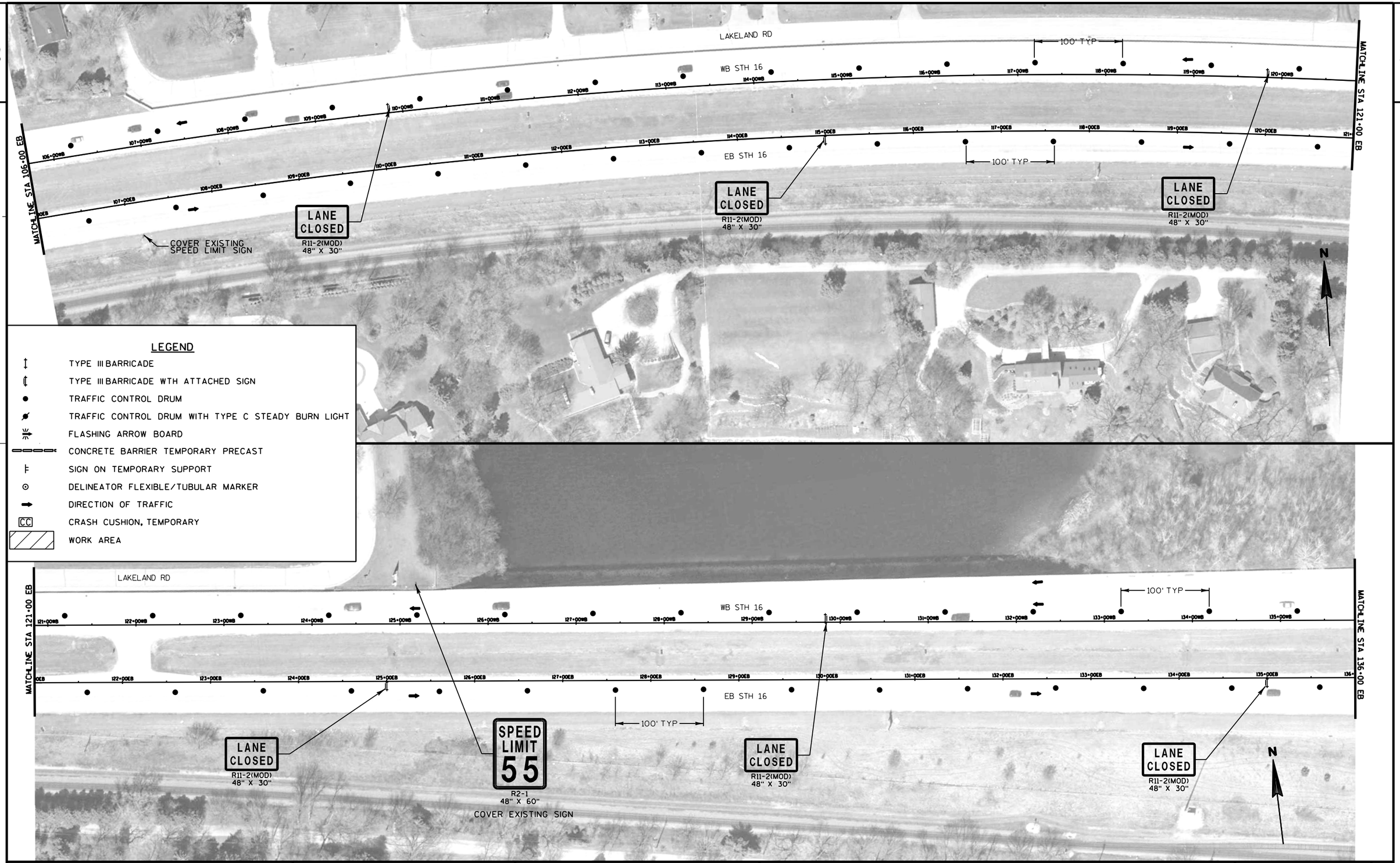
PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026002 S2.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :



PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026003 S2.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026004 S2.dgn PLOT DATE : 7/12/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

MATCHLINE STA 136+00 EB

100' TYP

LANE CLOSED
R11-2(MOD)
48" X 30"

WB STH 16

EB STH 16

100' TYP

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (YELLOW)
STA 146+00WB - 155+00WB

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (WHITE)
STA 146+00WB - 155+00WB

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 148+50WB - 155+65WB

12' TYP

CRASH CUSHION TEMPORARY
STA 147+75EB

50' (TYP.)

LANE CLOSED
R11-2(MOD)
48" X 30"

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (YELLOW)
STA 147+75EB - 157+50EB

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (WHITE)
STA 147+75EB - 157+50EB

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 147+75EB - 154+85EB

12' TYP

W5-52L
18" X 54"

MATCHLINE STA 151+00 EB

CTH P
(SAWYER RD)

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (WHITE)
STA 146+00WB - 155+00WB

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (YELLOW)
STA 146+00WB - 155+00WB

E WISCONSIN AVE

LANE CLOSED
R11-2(MOD)
48" X 30"

50' TYP

B-67-0161

W5-52L
18" X 54"

CTH P
(SAWYER RD)

WB STH 16

MATCHLINE STA 166+00 EB

CRASH CUSHION TEMPORARY
STA 155+65WB

MATCHLINE STA 151+00 EB

EB STH 16

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (YELLOW)
STA 147+75EB - 157+50EB

B-67-0162

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (WHITE)
STA 147+75EB - 157+50EB

END
ROAD WORK
G20-2A
48" X 24"

N

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026005 S2.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

E WISCONSIN AVE

WB STH 16

EB STH 16

MATCHLINE STA 166+00 EB

MATCHLINE STA 181+00 EB

50' (TYP.)

N

W04-2L

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

1140' 500' 1640' 500' 500'

MATCHLINE STA 181+00 EB

W21-62O 30" X 48"
WORK ZONE
SPEED LIMIT 55
R2-1 48" X 60"
FINES DOUBLE
W21-62R 30" X 48"

LEFT LANE CLOSED 1500 FT W20-5

ROAD WORK 1/2 MILE W20-1

FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN
W21-62 96" X 48"
$200 MINIMUM
W21-62P 96" X 12"

ROAD WORK 1 MILE W20-1

SPEED LIMIT 55 W03-5

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026006 S2.dgn PLOT DATE : 4/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

½ MILE
1000'
FINES DOUBLE IN WORK ZONES
GIVE 'EM A BRAKE SLOW DOWN
W21-62
96" X 48"
$200 MINIMUM
W21-62P
96" X 12"
ROAD WORK 1 MILE
W20-1
RIGHT LANE CLOSED 1/2 MILE
W20-5
RIGHT LANE CLOSED 1500 FT
W20-5
W04-2R
WB STH 16
EB STH 16
STH 67
SEE B-67-0153
STAGING PLANS
E WISCONSIN AVE
MATCHLINE STA 31+00 EB
N

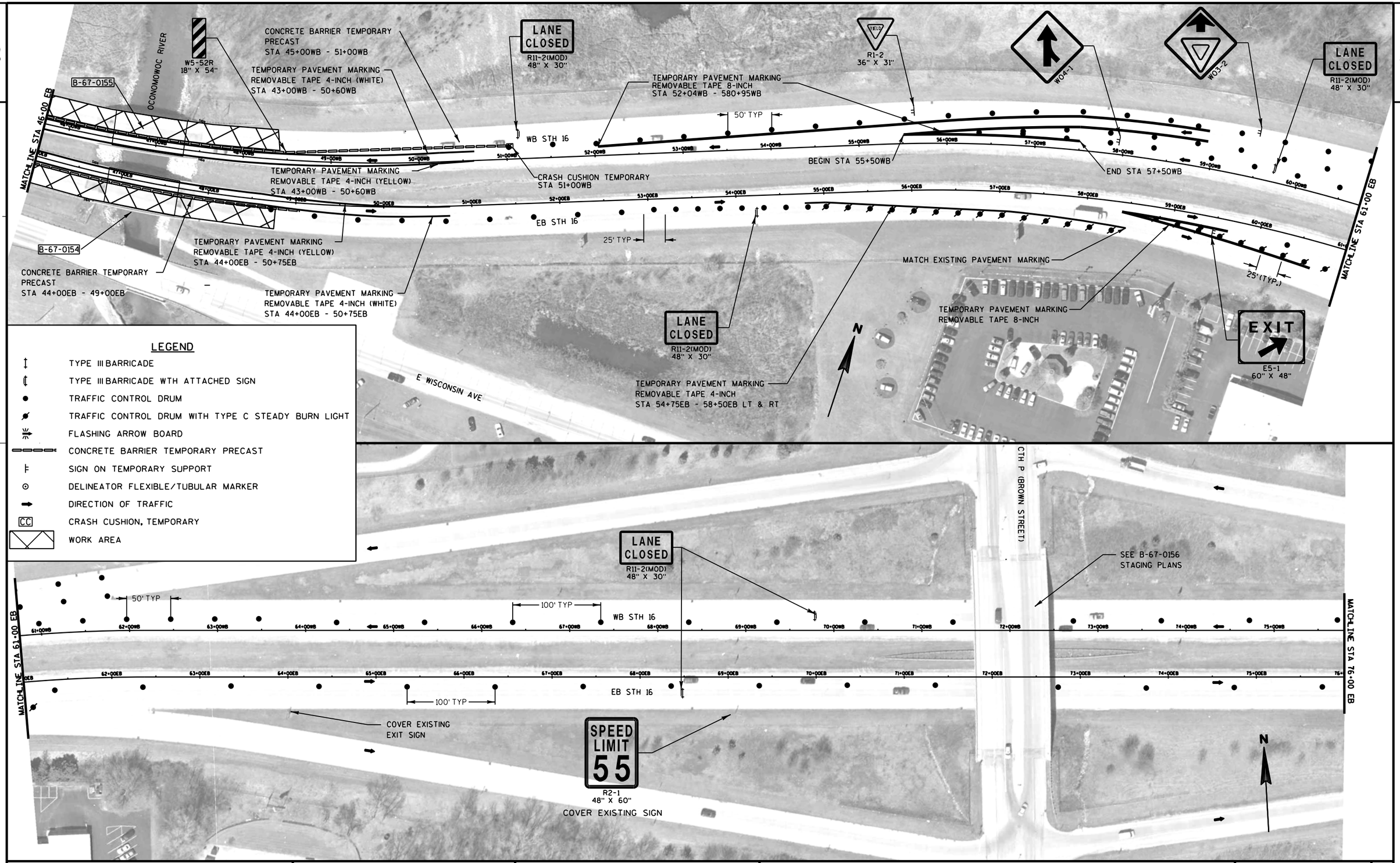
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

MATCH LINE STA 31+00 EB
WB STH 16
EB STH 16
50' TYP
END ROAD WORK
G20-2A
48" X 24"
CONCRETE BARRIER TEMPORARY PRECAST
STA 45+00WB - 51+00WB
TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 43+00WB - 50+60WB
TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 43+00WB - 50+60WB
12' TYP
CRASH CUSHION TEMPORARY
STA 44+00EB
LANE CLOSED
R11-2(MOD)
48" X 30"
CONCRETE BARRIER TEMPORARY PRECAST
STA 44+00EB - 49+00EB
TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 44+00EB - 50+75EB
TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 44+00EB - 50+75EB
W5-52R
18" X 54"
MATCH LINE STA 46+00 EB
E WISCONSIN AVE
N

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026018 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :



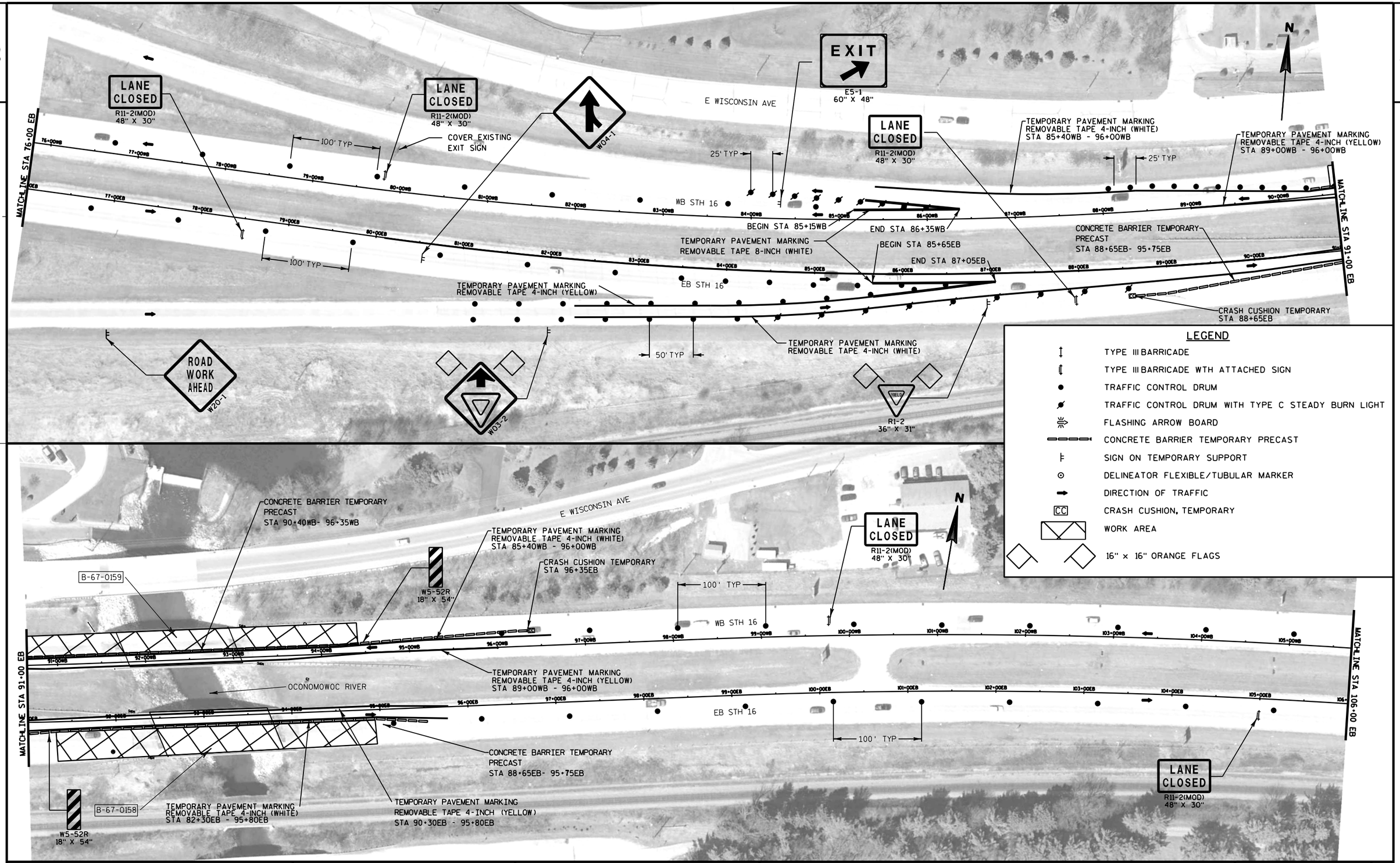
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026019 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2



PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026020 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

2

LAKELAND RD

WB STH 16

EB STH 16

100' TYP

MATCHLINE STA 106+00 EB

MATCHLINE STA 121+00 EB

LANE CLOSED
R11-2(MOD)
48" X 30"

LANE CLOSED
R11-2(MOD)
48" X 30"

LANE CLOSED
R11-2(MOD)
48" X 30"

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA
- 16" x 16" ORANGE FLAGS

W03-2

LAKELAND RD

100' TYP

50' TYP

WB STH 16

EB STH 16

MATCHLINE STA 121+00 EB

MATCHLINE STA 136+00 EB

BEGIN STA 128+80WB

END STA 130+90WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

25' TYP

MATCH EXISITING PAVEMENT MARKING

LANE CLOSED
R11-2(MOD)
48" X 30"

SPEED LIMIT 55
R2-1
48" X 60"
COVER EXISTING SIGN

YIELD
R1-2
36" X 31"

N

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET 75 E

FILE NAME : G:\Collins\10015\Sheets\026021 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2

W04-1

ROAD WORK AHEAD
W20-1

LANE CLOSED
R11-2(MOD)
48" X 30"

50' TYP

100' TYP

WB STH 16

EB STH 16

MATCH LINE STA 136+00 EB

MATCH LINE STA 151+00 EB

MATCH LINE STA 156+00 EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (WHITE)
STA 136+00EB - 137+80EB

EXIT
E5-1
60" X 48"

25' (TYP.)

COVER EXISTING
EXIT SIGN

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 147+00WB - 155+10WB

CONCRETE BARRIER TEMPORARY PRECAST
STA 149+00WB - 155+60WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 147+00WB - 155+10WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 148+10EB - 156+00EB

LANE CLOSED
R11-2(MOD)
48" X 30"

CRASH CUSHION TEMPORARY
STA 147+60EB

CONCRETE BARRIER TEMPORARY PRECAST
STA 147+60EB - 154+10EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 148+10EB - 156+00EB

W5-52R
18" X 54"

CTH P
(SAWYER RD)

N

E WISCONSIN AVE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

B-67-0161

B-67-0162

W5-52R
18" X 54"

CONCRETE BARRIER TEMPORARY PRECAST
STA 149+00WB - 155+60WB

CRASH CUSHION TEMPORARY
STA 155+60WB

LANE CLOSED
R11-2(MOD)
48" X 30"

50' TYP

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 147+00WB - 155+10WB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 147+00WB - 155+10WB

CONCRETE BARRIER TEMPORARY PRECAST
STA 147+60EB - 154+10EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 148+10EB - 156+00EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 148+10EB - 156+00EB

END
ROAD WORK
G20-2A
48" X 24"

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026022 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

E WISCONSIN AVE

WB STH 16

EB STH 16

MATCHLINE STA 166+00 EB

MATCHLINE STA 181+00 EB

W04-2R

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

1140' 500' 1640' 500' 500'

ROAD WORK 1 MILE
W20-1

W21-620
30" X 48"
WORK ZONE
SPEED LIMIT 55
R2-1
48" X 60"
FINES DOUBLE
W21-62R
30" X 48"

RIGHT LANE CLOSED 1500 FT
W20-5

RIGHT LANE CLOSED 1/2 MILE
W20-5

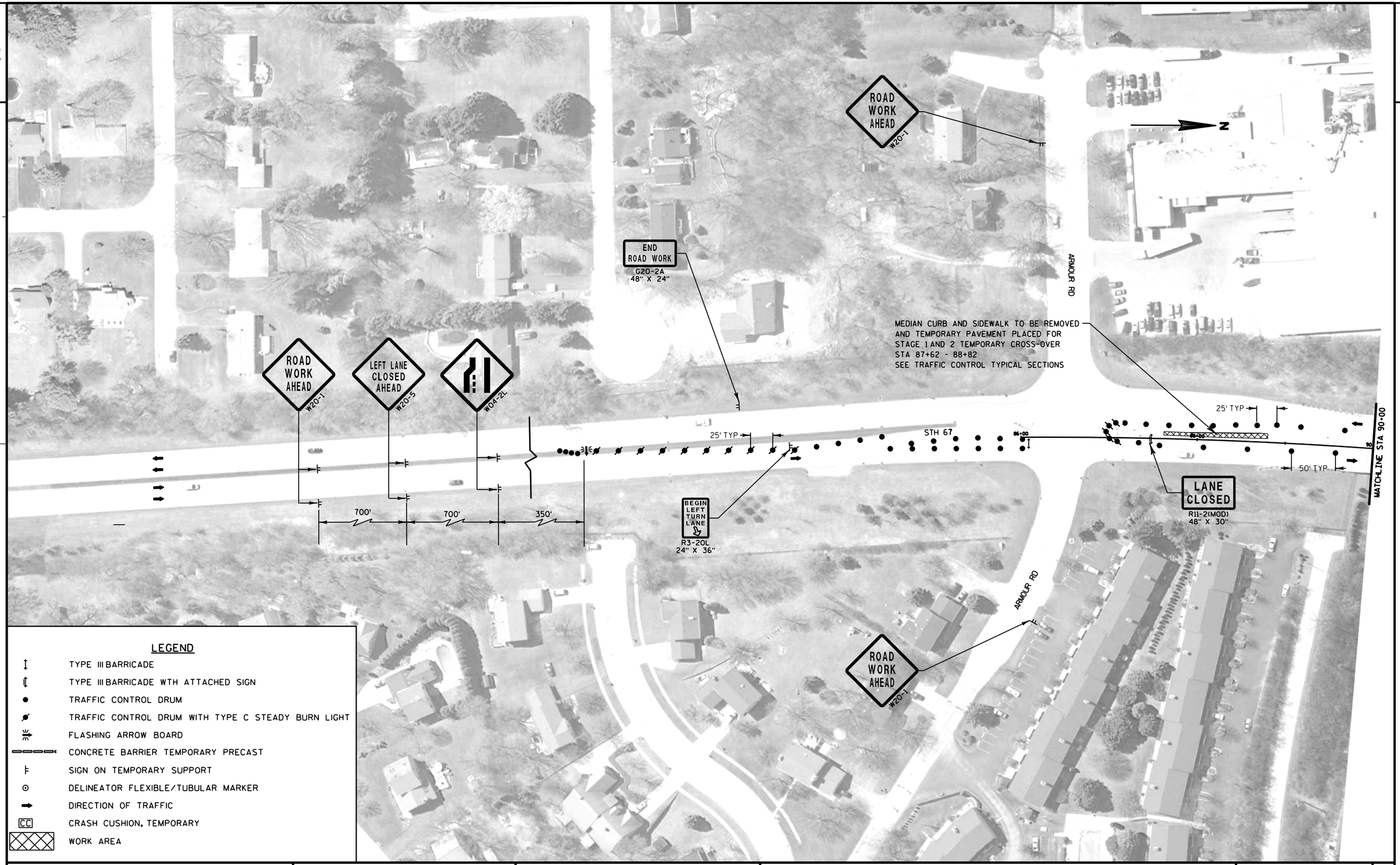
FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN
W21-62
96" X 48"
$200 MINIMUM
W21-62P
96" X 12"

SPEED LIMIT 55
W03-5

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2	SHEET 77 E

FILE NAME : G:\Collins\10015\Sheets\026023 S3.dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

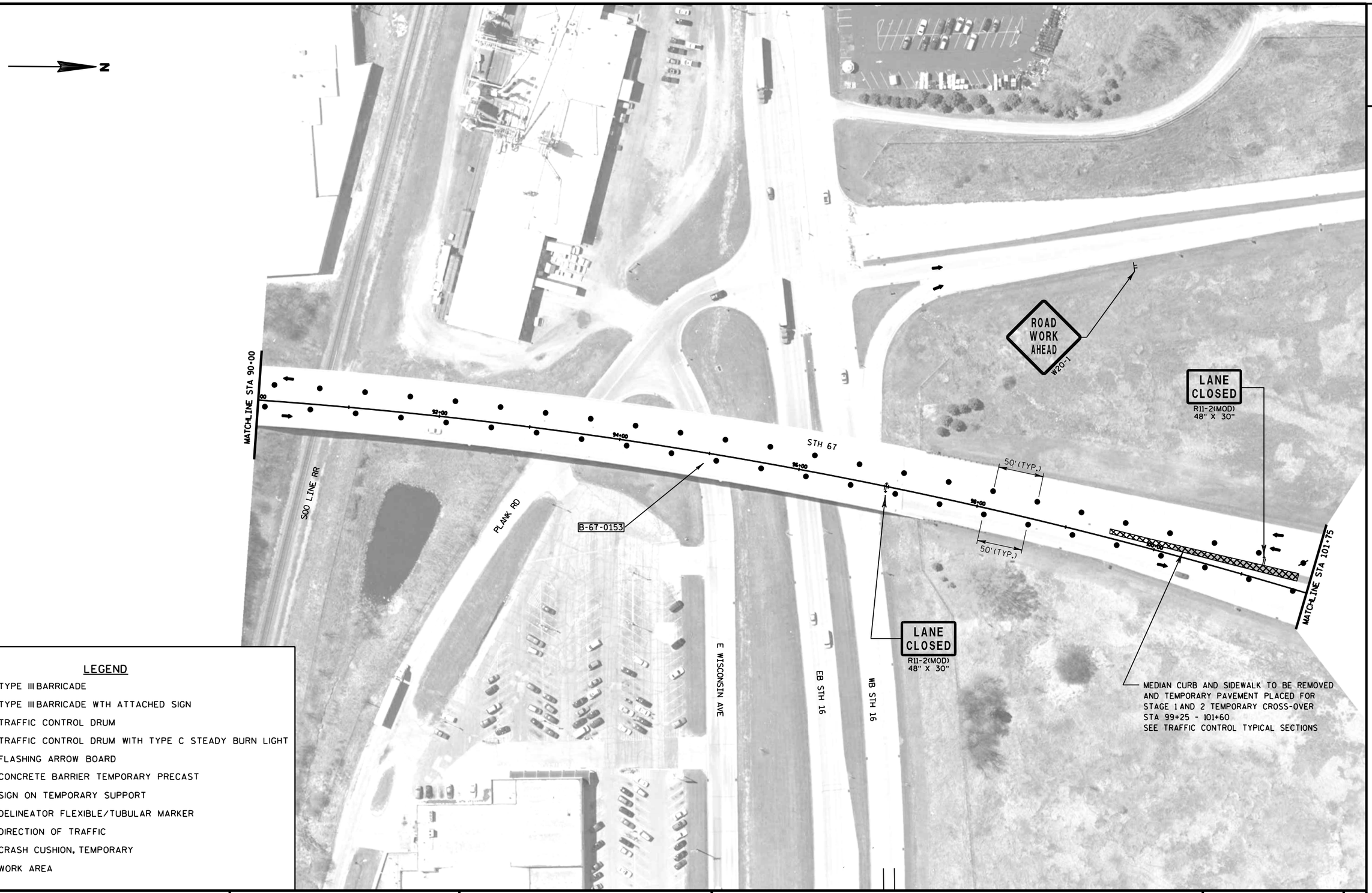


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A (B-67-0153)	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\025098 S1.dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A (B-67-0153)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\025099 S1.dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 42

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE A (B-67-0153)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026000 S1.dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY"

W04-2R

END ROAD WORK
G20-2A
48" X 24"

TEMPORARY PAVEMENT CONSTRUCTED IN STAGE A
STA 87+62 - 88+82

LANE CLOSED
R11-2(MOD)
48" X 30"

ARMOUR RD

N

W06-3

DO NOT PASS
R4-1
24" X 30"

12' TYP

STH 67

86+00

90+00

STA 90-00

MATCHLINE

50' TYP

PAVEMENT MARKING TEMPORARY REMOVABLE TAPE 4-INCH (YELLOW)
STA 87+00 - STA 88+82

BEGIN RIGHT TURN LANE
R3-20R
24" X 36"

W01-4L

PAVEMENT MARKING TEMPORARY REMOVABLE TAPE 4-INCH (WHITE)
STA 87+00 - STA 102+50

TEMPORARY PAVEMENT MARKING 4-INCH (DOUBLE YELLOW)
STA 88+82 - STA 98+33

ARMOUR RD

CONCRETE BARRIER TEMPORARY PRECAST DELIVERED AND INSTALLED
STA 87+60 - STA 100+70

LANE CLOSED
R11-2(MOD)
48" X 30"

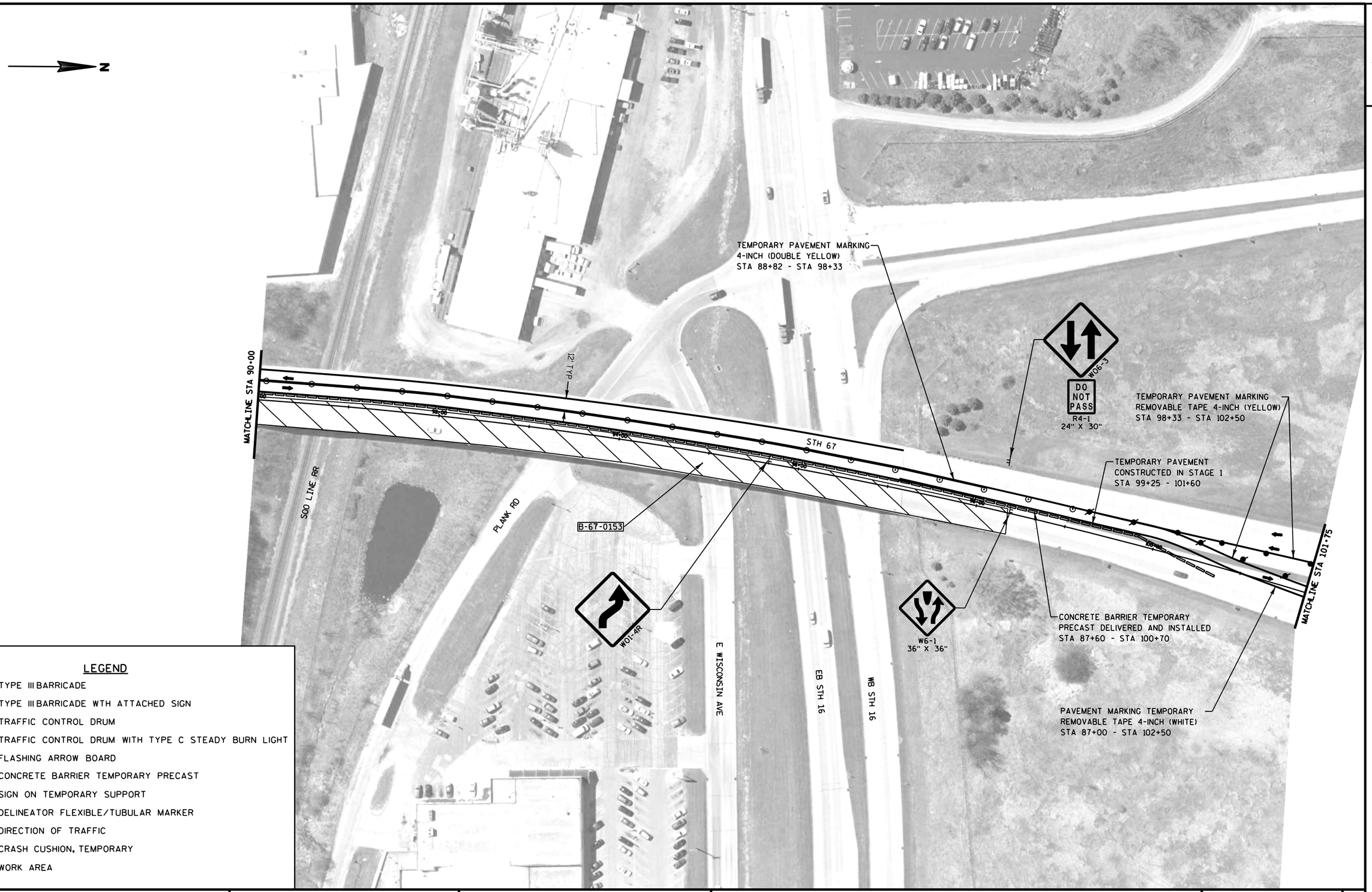
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1 (B-67-0153)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026010 S2.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1 (B-67-0153)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026011 S2.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD
W20-1

YIELD
R1-2
36" X 31"

W03-2

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 98+33 - STA 102+50

W04-2L

SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY"

LEFT LANE CLOSED AHEAD
W20-5

MATCHLINE STA 101+75

END ROAD WORK
G20-2A
48" X 24"

STH 67

STH 67

LANE CLOSED
R11-2(MOD)
48" X 30"

PAVEMENT MARKING TEMPORARY
REMOVABLE TAPE 4-INCH (WHITE)
STA 87+00 - STA 102+50

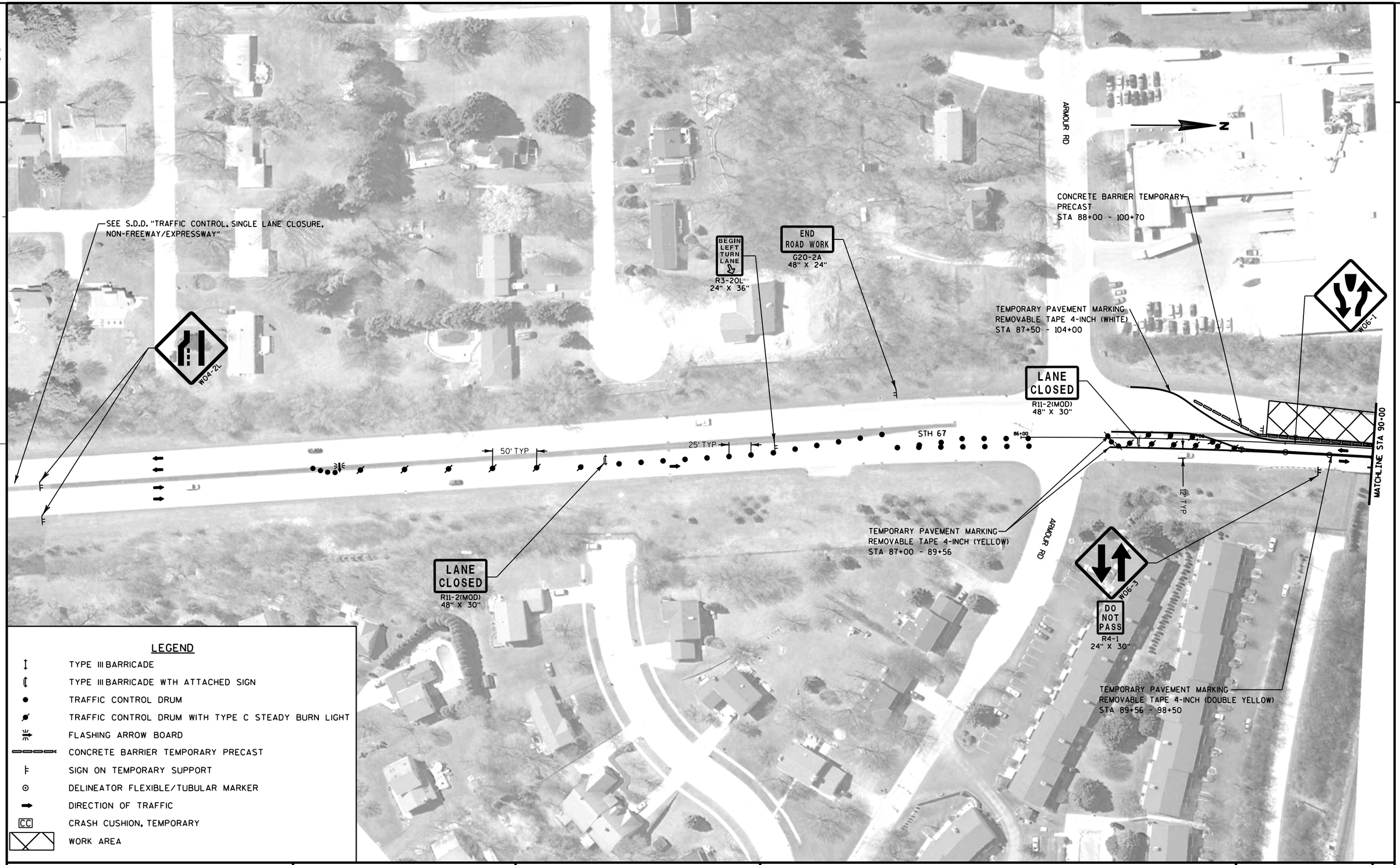
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA
- 16" x 16" ORANGE FLAGS

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1 (B-67-0153)	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026012 S2.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2 (B-67-0153)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026027 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

N

W01-4R

CONCRETE BARRIER TEMPORARY
PRECAST
STA 88+00 - 100+70

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 87+50 - 104+00

W06-3

DO
NOT
PASS
R4-1
24" X 30"

LANE
CLOSED
R11-2(MOD)
48" X 30"

YIELD
R1-2
36" X 31"

W01-4L

MATCHLINE STA 90+00

STH 67

12' TYP

SOO LINE RR

PLANK RD

B-67-0153

E WISCONSIN AVE

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
STA 89+56 - 99+50

W06-1

EB STH 16

WB STH 16

100+00

MATCHLINE STA 101+75

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 99+50 - 104+00

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (WHITE)
STA 101+00 - 102+50

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA
- 16" × 16" ORANGE FLAGS

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2 (B-67-0153)	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026028 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

ROAD WORK AHEAD
W20-1

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 87+50 - 104+00

W03-2

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (WHITE)
STA 101+00 - 102+50

W04-1

MATCHLINE STA 101+75

LANE CLOSED
R11-2(MOD)
48" X 30"

SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY"

W04-2R

STH 67

STH 67

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 99+50 - 104+00

END ROAD WORK
G20-2A
48" X 24"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA
- 16" × 16" ORANGE FLAGS

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2 (B-67-0153)	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026029 S3.dgn PLOT DATE : 7/16/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

N

END ROAD WORK
G20-2A
48" X 24"

E WISCONSIN AVE

ROAD WORK AHEAD
W20-1

PAVEMENT MARKING EPOXY
4-INCH (WHITE) (TYP.)

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 18+34 - 21+44 LT

B-67-0156

11' TYP

17+838.00

19+00

25' TYP

CTH P (BROWN STREET)

ROAD WORK AHEAD
W20-1

LAKE CLUB CIR

W01-6
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

CRASH CUSHION TEMPORARY
STA 18+30 RT

PAVEMENT MARKING EPOXY
4-INCH (YELLOW) (TYP.)

EB STH 16

LEGEND

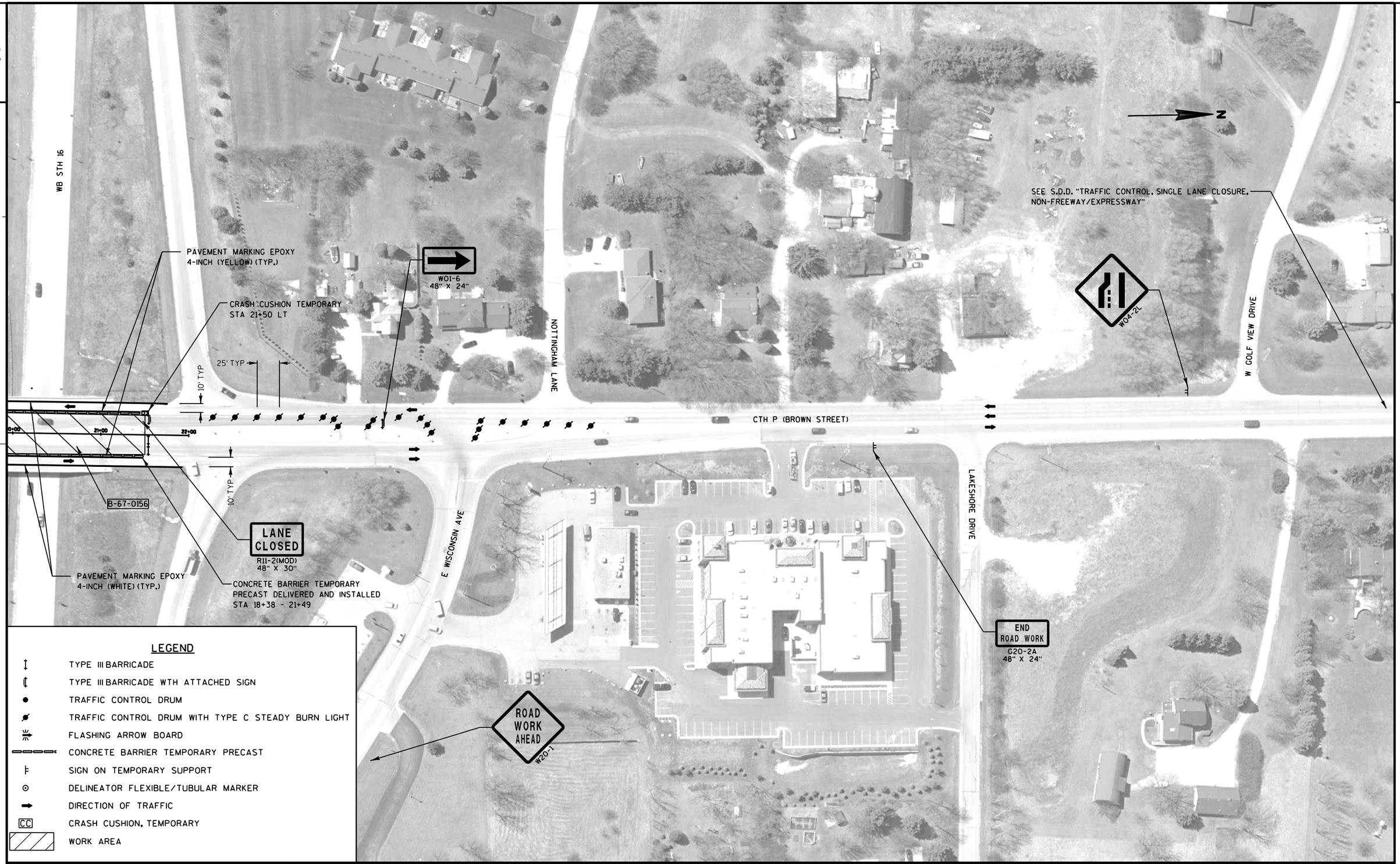
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1 (B-67-0156)	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026013 S2.dgn PLOT DATE : 7/15/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1 (B-67-0156)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026014 S2.dgn PLOT DATE : 7/15/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

N

E WISCONSIN AVE

ROAD WORK AHEAD
W20-1

CONCRETE BARRIER TEMPORARY
PRECAST INSTALLED
STA 18+34 - 21+48

B-67-0156

CRASH CUSHION TEMPORARY
STA 18+30 RT

11' TYP

END ROAD WORK
G20-2A
48" X 24"

CTH P (BROWN STREET)

25' TYP

ROAD WORK AHEAD
W20-1

W01-6
48" X 24"

LANE CLOSED
R11-2(MOD)
48" X 30"

LAKE CLUB CIR

EB STH 16

PLACE PERMANENT PAVEMENT MARKING
SEE PAVEMENT MARKING PLAN

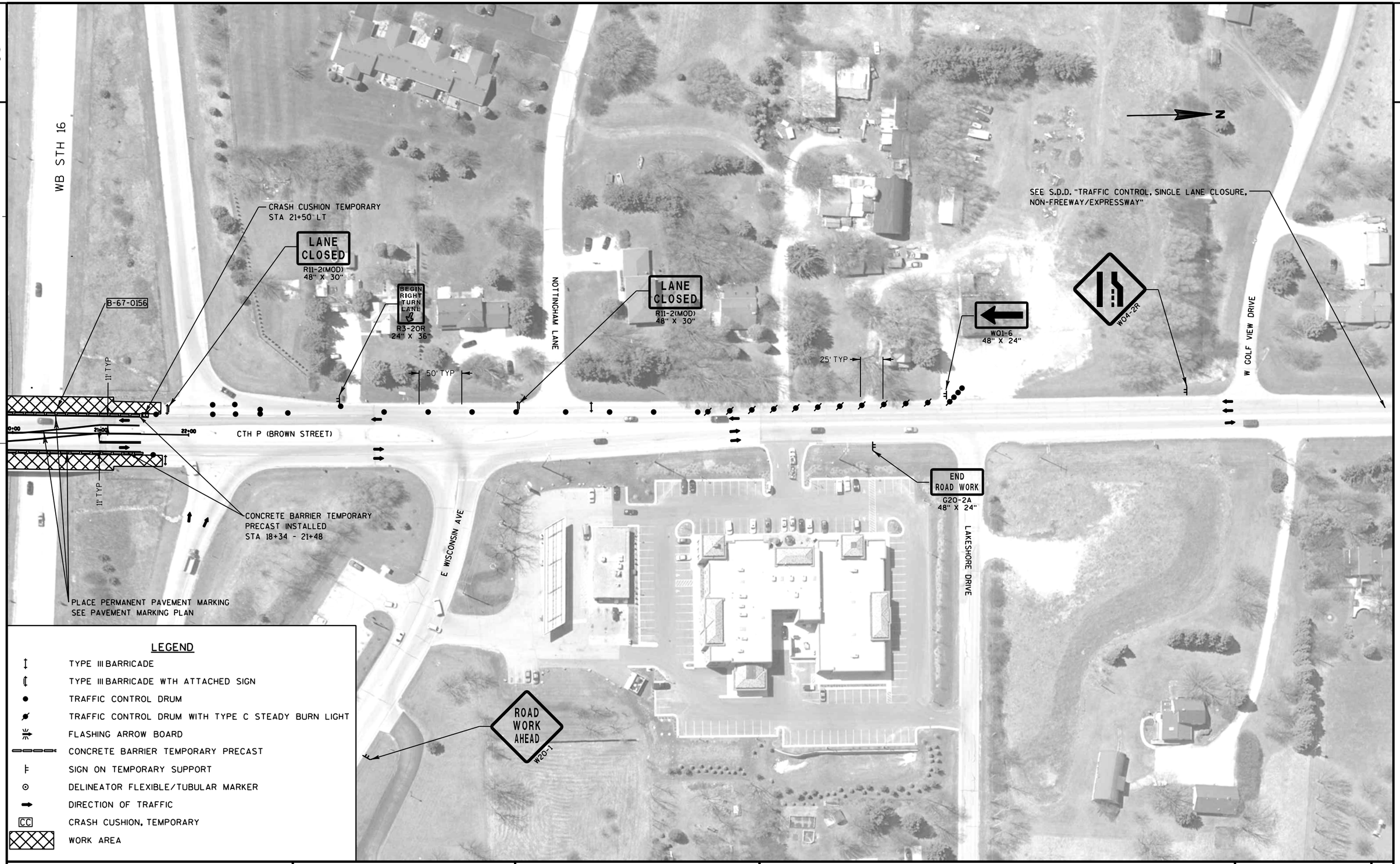
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2 (B-67-0156)	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026030 S3.dgn PLOT DATE : 7/15/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

2

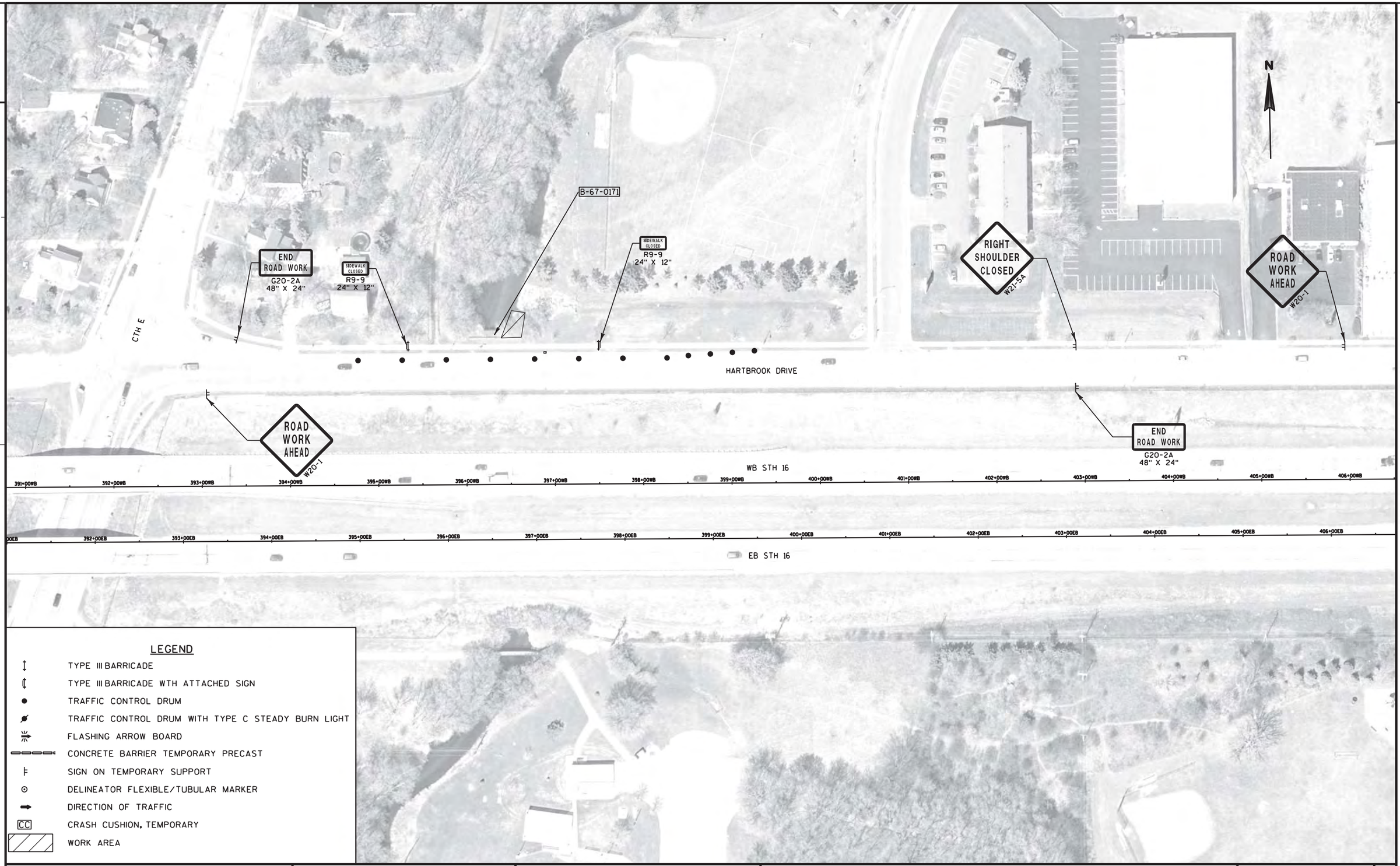


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2 (B-67-0156)	SHEET 90	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC — CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - B-67-0171	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026007 S2.dgn PLOT DATE : 4/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

GENERAL NOTES

CTH KE (B-67-0173) NOT TO BE CLOSED AT THE SAME TIME AS CTH KF (B-67-0174).

SEE DETOUR PLANS FOR ADDITIONAL STAGE SIGNING.

N

CTH JK

EB STH 16

WB STH 16

CTH KE

ROAD CLOSED AHEAD W20-3

ROAD CLOSED 500 FT W20-3

STOP R1-1 36" X 36" ALL WAY R1-3P 24" X 9"

1600'

500'

LANE CLOSED R11-2(MOD) 48" X 30"

SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

115+34 117+00 118+00 119+00 120+00 121+00 122+00 123+00 123+17

25' (TYP.)

BRIDGE OUT R11-2B 48" X 30"

B-67-0173

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH" FOR BRIDGE REMOVAL

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - B-67-0173	SHEET E

FILE NAME : G:\Collins\10015\Sheets\026015 S2.dgn PLOT DATE : 7/30/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

GENERAL NOTES

CTH KE (B-67-0173) NOT TO BE CLOSED AT THE SAME TIME AS CTH KF (B-67-0174).

SEE DETOUR PLANS FOR ADDITIONAL STAGE SIGNING.

N

ROAD CLOSED AHEAD W20-3

ROAD CLOSED 500 FT W20-3

STOP R1-1 36" X 36" ALL WAY R1-3P 24" X 9"

1600' 500'

LANE CLOSED R11-2(MOD) 48" X 30"

EB STH 16

WB STH 16

SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

36+70 37+00 38+00 39+00 40+00 41+00 42+00 42+86

CTH KF

25' (TYP.)

B-67-0174

BRIDGE OUT R11-2B 48" X 30"

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH" FOR BRIDGE REMOVAL

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC CRASH CUSHION, TEMPORARY
- WORK AREA

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - B-67-0174	SHEET	E

FILE NAME : G:\Collins\10015\Sheets\026016 S2.dgn PLOT DATE : 7/30/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

NOTE: COVER THE EXISTING 65 M.P.H. SIGN AT STA 758+75 RT WITH A 55 M.P.H. SIGN (R2-1) AND ADD "WORK ZONE" (W21-620) AND "FINES DOUBLE" (W21-62R) SIGNS. PLACE A "REDUCED SPEED AHEAD" SIGN (W03-5) ½ MILE IN ADVANCE.

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER"

IH 94 WB/STH 16 WB RAMP

STH 16/IH 94 EB RAMP

50' TYP

MATCH LINE STA 801+00 EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 792+00EB- 812+70EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 800+85 - 813+14EB

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CRASH CUSHION, TEMPORARY
- WORK AREA

END ROAD WORK
G20-2A
48" X 24"

MATCH LINE STA 801+00 EB

100' TYP

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 803+87EB - 811+67EB
CRASH CUSHION TEMPORARY

TEMPORARY PAVEMENT MARKING
REMOVEABLE TAPE 4-INCH (YELLOW)

IH 94 WB

IH 94 EB

STH 16/IH 94 EB RAMP

TEMPORARY PAVEMENT MARKING
REMOVEABLE TAPE 4-INCH (WHITE)

W5-52L
18" X 54"

N

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 1 (B-67-0244)	SHEET 94	E

NOTE: COVER THE EXISTING 65 M.P.H. SIGN AT STA 758+75 RT WITH A 55 M.P.H. SIGN (R2-1) AND ADD "WORK ZONE" (W21-620) AND "FINES DOUBLE" (W21-62R) SIGNS. PLACE A "REDUCED SPEED AHEAD" SIGN (W03-5) ½ MILE IN ADVANCE.

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER"

IH 94 WB/STH 16 WB RAMP

STH 16/IH 94 EB RAMP

50' TYP

MATCH LINE STA 801+00 EB

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)
STA 792+00EB - 813+14EB

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC
- CC CRASH CUSHION, TEMPORARY
- WORK AREA

MATCH LINE STA 801+00 EB

100' TYP

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)
STA 802+55EB - 814+14EB

CONCRETE BARRIER TEMPORARY
PRECAST DELIVERED AND INSTALLED
STA 803+87EB - 805+66EB

TEMPORARY PAVEMENT MARKING
REMOVEABLE TAPE 4-INCH (WHITE)

W5-52R
18" X 54"

LANE CLOSED
R11-2(MOD)
48" X 30"

CRASH CUSHION TEMPORARY
STA 803+87EB RT

IH 94 WB

IH 94 EB

CONCRETE BARRIER TEMPORARY
PRECAST INSTALLED
STA 805+66EB - 811+67EB

END ROAD WORK
G20-2A
48" X 24"

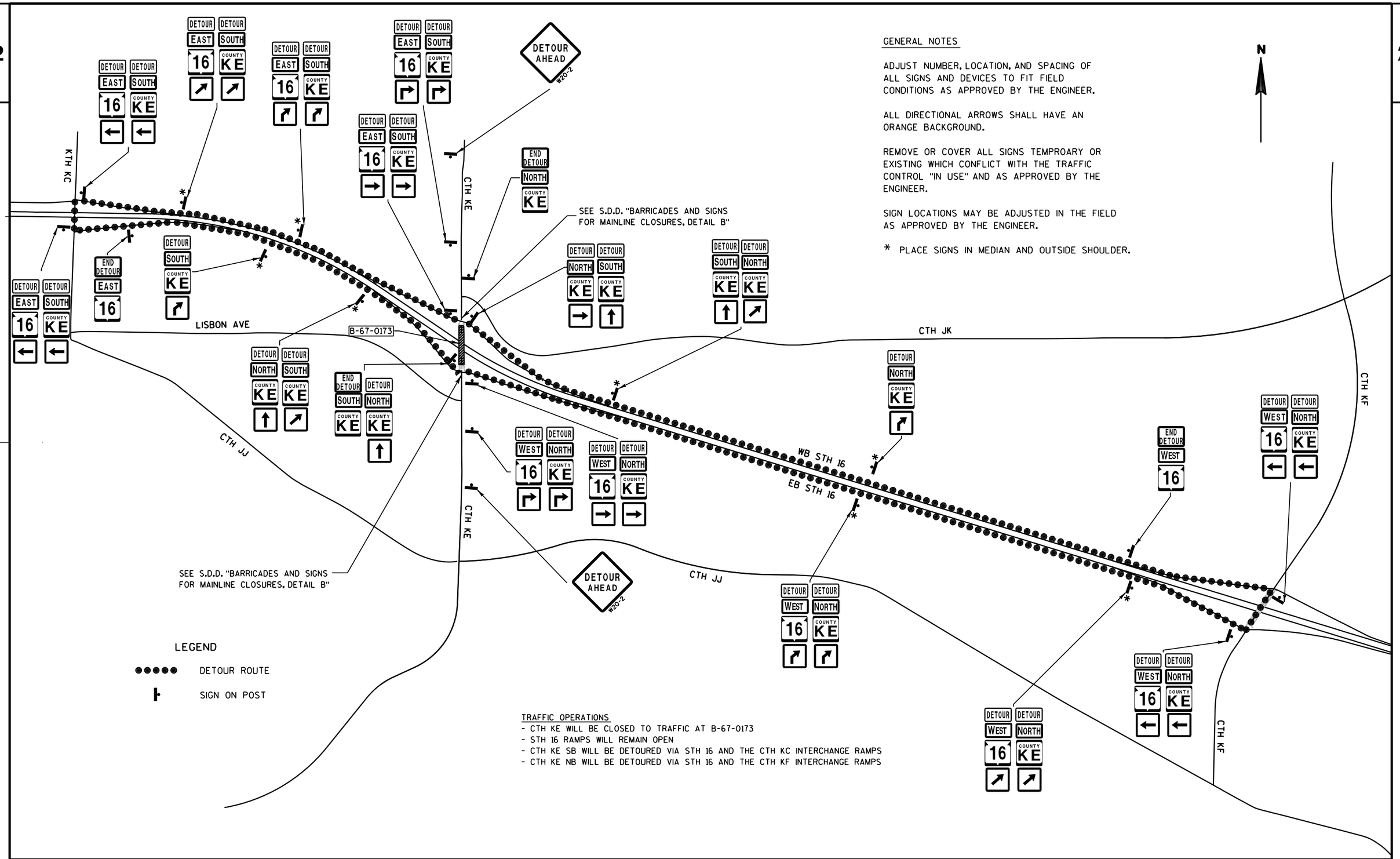
STH 16/IH 94 EB RAMP

B-67-0244

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	TRAFFIC CONTROL - STAGE 2 (B-67-0244)	SHEET 95	E

FILE NAME : G:\Collins\10015\Sheets\026034 S3.dgn PLOT DATE : 7/15/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

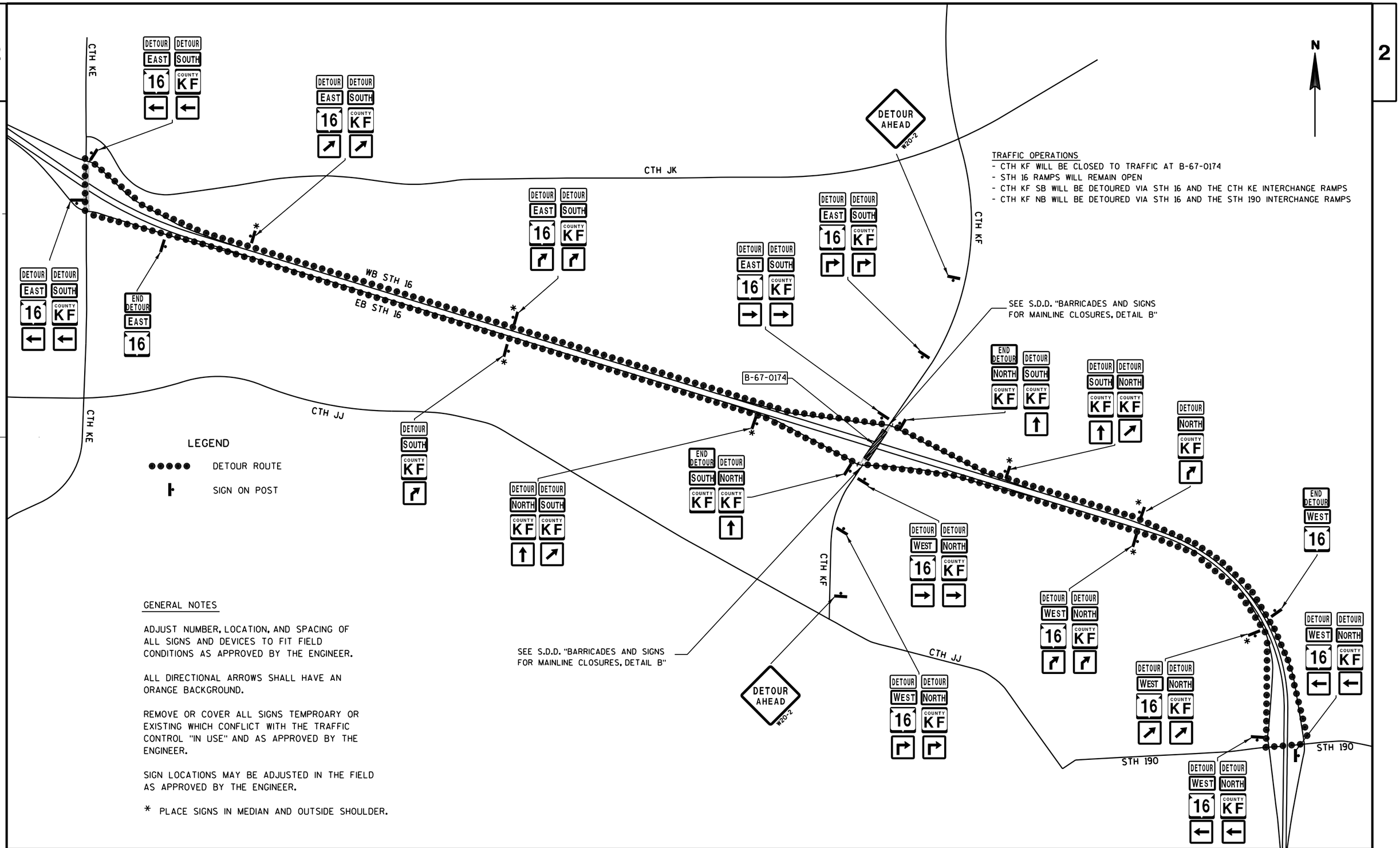
WISDOT/CADDS SHEET 42



PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	DETOUR - CTH KE	SHEET E

FILE NAME : G:\Collins\10015\Sheets\027001_dt (no map).dgn PLOT DATE : 7/9/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42



TRAFFIC OPERATIONS

- CTH KF WILL BE CLOSED TO TRAFFIC AT B-67-0174
- STH 16 RAMPS WILL REMAIN OPEN
- CTH KF SB WILL BE DETOURED VIA STH 16 AND THE CTH KE INTERCHANGE RAMPS
- CTH KF NB WILL BE DETOURED VIA STH 16 AND THE STH 190 INTERCHANGE RAMPS

LEGEND

- DETOUR ROUTE
- SIGN ON POST

GENERAL NOTES

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

ALL DIRECTIONAL ARROWS SHALL HAVE AN ORANGE BACKGROUND.

REMOVE OR COVER ALL SIGNS TEMPROARY OR EXISTING WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" AND AS APPROVED BY THE ENGINEER.

SIGN LOCATIONS MAY BE ADJUSTED IN THE FIELD AS APPROVED BY THE ENGINEER.

* PLACE SIGNS IN MEDIAN AND OUTSIDE SHOULDER.

PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	DETOUR - CTH KF	SHEET E

FILE NAME : G:\Collins\10015\Sheets\027002_dt (no map).dgn PLOT DATE : 7/12/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 42

DATE 15JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1370-14-70 QUANTITY
0010	201.0110	CLEARING	SY	290.000	290.000
0020	201.0210	GRUBBING	SY	290.000	290.000
0030	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 90+00	LS	1.000	1.000
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 02. 118+08.65	LS	1.000	1.000
0050	203.0200	REMOVING OLD STRUCTURE (STATION) 03. 39+77	LS	1.000	1.000
0060	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. B-67-173	LS	1.000	1.000
0070	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 02. B-67-174	LS	1.000	1.000
0080	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-67-173	LS	1.000	1.000
0090	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 02. B-67-174	LS	1.000	1.000
0100	204.0100	REMOVING PAVEMENT	SY	6,392.000	6,392.000
0110	204.0105	REMOVING PAVEMENT BUTT JOINTS	SY	3,003.000	3,003.000
0120	204.0110	REMOVING ASPHALTIC SURFACE	SY	1,810.000	1,810.000
0130	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	2,773.000	2,773.000
0140	204.0150	REMOVING CURB & GUTTER	LF	3,776.000	3,776.000
0150	204.0155	REMOVING CONCRETE SIDEWALK	SY	325.000	325.000
0160	204.0165	REMOVING GUARDRAIL	LF	3,692.000	3,692.000
0170	205.0100	EXCAVATION COMMON	CY	1,620.000	1,620.000
0180	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-67-153	LS	1.000	1.000
0190	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-67-173	LS	1.000	1.000
0200	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 03. B-67-174	LS	1.000	1.000
0210	208.0100	BORROW	CY	10.000	10.000
0220	210.0100	BACKFILL STRUCTURE	CY	839.000	839.000
0230	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	24.000	24.000
0240	213.0100	FINISHING ROADWAY (PROJECT) 01. 1370-14-70	EACH	1.000	1.000
0250	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	385.000	385.000
0260	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	159.000	159.000
0270	305.0500	SHAPING SHOULDERS	STA	8.000	8.000
0280	415.0080	CONCRETE PAVEMENT 8-INCH	SY	4,730.000	4,730.000
0290	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	1,345.000	1,345.000
0300	416.0610	DRILLED TIE BARS	EACH	802.000	802.000
0310	416.0620	DRILLED DOWEL BARS	EACH	313.000	313.000
0320	416.1010	CONCRETE SURFACE DRAINS	CY	10.000	10.000
0330	440.4410.S	INCENTIVE IRI RIDE	DOL	5,280.000	5,280.000
0340	455.0120	ASPHALTIC MATERIAL PG64-28	TON	47.000	47.000
0350	455.0605	TACK COAT	GAL	292.000	292.000
0360	460.1110	HMA PAVEMENT TYPE E-10	TON	756.000	756.000
0370	465.0125	ASPHALTIC SURFACE TEMPORARY	TON	748.000	748.000
0380	502.0100	CONCRETE MASONRY BRIDGES	CY	1,746.000	1,746.000
0390	502.3100	EXPANSION DEVICE (STRUCTURE) 01. B-67-153	LS	1.000	1.000
0400	502.3100	EXPANSION DEVICE (STRUCTURE) 02. B-67-173	LS	1.000	1.000
0410	502.3100	EXPANSION DEVICE (STRUCTURE) 03. B-67-174	LS	1.000	1.000

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DATE 15JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE 1370-14-70

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	1370-14-70 QUANTITY
0420	502.3110.S	EXPANSION DEVICE MODULAR (STRUCTURE) 01. B-67-153	LS	1.000	1.000
0430	502.3200	PROTECTIVE SURFACE TREATMENT	SY	18,728.000	18,728.000
0440	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	32.000	32.000
0450	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	326.000	326.000
0460	502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	126.000	126.000
0470	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	375,390.000	375,390.000
0480	505.0904	BAR COUPLERS NO. 4	EACH	14.000	14.000
0490	505.0905	BAR COUPLERS NO. 5	EACH	24.000	24.000
0500	505.0906	BAR COUPLERS NO. 6	EACH	5.000	5.000
0510	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	30.000	30.000
0520	506.5000	BEARING ASSEMBLIES FIXED (STRUCTURE) 01. B-67-173	EACH	7.000	7.000
0530	506.5000	BEARING ASSEMBLIES FIXED (STRUCTURE) 02. B-67-174	EACH	8.000	8.000
0540	506.7050.S	REMOVING BEARINGS (STRUCTURE) 01. B-67-173	EACH	21.000	21.000
0550	506.7050.S	REMOVING BEARINGS (STRUCTURE) 02. B-67-174	EACH	24.000	24.000
0560	509.0301	PREPARATION DECKS TYPE 1	SY	66.000	66.000
0570	509.0302	PREPARATION DECKS TYPE 2	SY	45.000	45.000
0580	509.0500	CLEANING DECKS	SY	10,407.000	10,407.000
0590	509.1000	JOINT REPAIR	SY	62.000	62.000
0600	509.1200	CURB REPAIR	LF	23.000	23.000
0610	509.1500	CONCRETE SURFACE REPAIR	SF	214.000	214.000
0620	509.2000	FULL-DEPTH DECK REPAIR	SY	18.000	18.000
0630	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	609.000	609.000
0640	509.5100.S	POLYMER OVERLAY	SY	1,501.000	1,501.000
0650	509.9020.S	EPOXY CRACK SEALING	LF	220.000	220.000
0660	512.1000	PILING STEEL SHEET TEMPORARY	SF	600.000	600.000
0670	513.4055	RAILING TUBULAR TYPE H (STRUCTURE) 01. B-67-0174	LS	1.000	1.000
0680	514.0900	ADJUSTING FLOOR DRAINS	EACH	8.000	8.000
0690	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	87.000	87.000
0700	517.0900.S	PREPARATION AND COATING OF TOP FLANGES (STRUCTURE) 01. B-67-173	LS	1.000	1.000
0710	517.0900.S	PREPARATION AND COATING OF TOP FLANGES (STRUCTURE) 02. B-67-174	LS	1.000	1.000
0720	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 01. B-67-153	LS	1.000	1.000
0730	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 02. B-67-173	LS	1.000	1.000
0740	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 03. B-67-174	LS	1.000	1.000
0750	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING (STRUCTURE) 01. B-67-153	LS	1.000	1.000
0760	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 01. B-67-153	LS	1.000	1.000
0770	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 02. B-67-173	LS	1.000	1.000
0780	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 03. B-67-174	LS	1.000	1.000
0790	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	3.000	3.000

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DATE 15JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1370-14-70 QUANTITY
0800	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	910.000	910.000
0810	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	406.000	406.000
0820	601.0413	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G	LF	568.000	568.000
0830	601.0415	CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J	LF	452.000	452.000
0840	601.0574	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	LF	1,757.000	1,757.000
0850	601.0576	CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J	LF	193.000	193.000
0860	601.0600	CONCRETE CURB PEDESTRIAN	LF	20.000	20.000
0870	602.0410	CONCRETE SIDEWALK 5-INCH	SF	6,570.000	6,570.000
0880	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	16.000	16.000
0890	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	9,900.000	9,900.000
0900	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	13,750.000	13,750.000
0910	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGRATE	CY	20.000	20.000
0920	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	4,918.000	4,918.000
0930	606.0200	RIPRAP MEDIUM	CY	62.000	62.000
0940	611.0600	INLET COVERS TYPE A	EACH	1.000	1.000
0950	611.0654	INLET COVERS TYPE V	EACH	6.000	6.000
0960	611.8110	ADJUSTING MANHOLE COVERS	EACH	3.000	3.000
0970	611.8115	ADJUSTING INLET COVERS	EACH	5.000	5.000
0980	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	26.000	26.000
0990	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	5.000	5.000
1000	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	84.000	84.000
1010	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	244.000	244.000
1020	614.0345	STEEL PLATE BEAM GUARD SHORT RADIUS	LF	186.000	186.000
1030	614.0390	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	EACH	4.000	4.000
1040	614.0396	GUARDRAIL MOW STRIP ASPHALT	SY	2,922.000	2,922.000
1050	614.0905	CRASH CUSHIONS TEMPORARY	EACH	20.000	20.000
1060	614.2300	MGS GUARDRAIL 3	LF	2,481.000	2,481.000
1070	614.2500	MGS THRIE BEAM TRANSITION	LF	819.000	819.000
1080	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	21.000	21.000
1090	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	2.000	2.000
1100	619.1000	MOBILIZATION	EACH	1.000	1.000
1110	620.0200	CONCRETE MEDIAN BLUNT NOSE	SF	100.000	100.000
1120	620.0300	CONCRETE MEDIAN SLOPED NOSE	SF	386.000	386.000
1130	624.0100	WATER	MGAL	100.000	100.000
1140	625.0100	TOPSOIL	SY	1,250.000	1,250.000
1150	627.0200	MULCHING	SY	1,250.000	1,250.000
1160	628.1104	EROSION BALES	EACH	60.000	60.000
1170	628.1504	SILT FENCE	LF	7,270.000	7,270.000
1180	628.1520	SILT FENCE MAINTENANCE	LF	1,420.000	1,420.000
1190	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	15.000	15.000
1200	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	5.000	5.000
1210	628.7005	INLET PROTECTION TYPE A	EACH	8.000	8.000
1220	628.7015	INLET PROTECTION TYPE C	EACH	21.000	21.000
1230	628.7504	TEMPORARY DITCH CHECKS	LF	148.000	148.000
1240	629.0210	FERTILIZER TYPE B	CWT	1.000	1.000
1250	630.0130	SEEDING MIXTURE NO. 30	LB	29.000	29.000

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DATE 15JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1370-14-70 QUANTITY
1260	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	22.000	22.000
1270	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	34.000	34.000
1280	637.2210	SIGNS TYPE II REFLECTIVE H	SF	258.000	258.000
1290	637.2230	SIGNS TYPE II REFLECTIVE F	SF	82.000	82.000
1300	638.2602	REMOVING SIGNS TYPE II	EACH	69.000	69.000
1310	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	61.000	61.000
1320	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
1330	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1370-14-70	EACH	1.000	1.000
1340	643.0300	TRAFFIC CONTROL DRUMS	DAY	38,330.000	38,330.000
1350	643.0410	TRAFFIC CONTROL BARRICADES TYPE II	DAY	24.000	24.000
1360	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	3,885.000	3,885.000
1370	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	50.000	50.000
1380	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	50.000	50.000
1390	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	7,770.000	7,770.000
1400	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	11,770.000	11,770.000
1410	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	640.000	640.000
1420	643.0900	TRAFFIC CONTROL SIGNS	DAY	13,730.000	13,730.000
1430	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	5.000	5.000
1440	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	15.000	15.000
1450	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	180.000	180.000
1460	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	350.000	350.000
1470	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1370-14-70	EACH	1.000	1.000
1480	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	25,200.000	25,200.000
1490	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	105.000	105.000
1500	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	17,617.000	17,617.000
1510	646.0600	REMOVING PAVEMENT MARKINGS	LF	11,000.000	11,000.000
1520	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	1,343.000	1,343.000
1530	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	3,015.000	3,015.000
1540	647.0456	PAVEMENT MARKING CURB EPOXY	LF	140.000	140.000
1550	647.0606	PAVEMENT MARKING ISLAND NOSE EPOXY	EACH	6.000	6.000
1560	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	4,000.000	4,000.000
1570	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	40,600.000	40,600.000
1580	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	4,150.000	4,150.000
1590	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	3,399.000	3,399.000
1600	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-67-173	LS	1.000	1.000
1610	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-67-174	LS	1.000	1.000
1620	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	1,402.000	1,402.000
1630	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1370-14-70	LS	1.000	1.000
1640	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	96.000	96.000
1650	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	2,840.000	2,840.000
1660	653.0115	PULL BOXES STEEL 12X36-INCH	EACH	8.000	8.000
1670	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	4.000	4.000
1680	654.0102	CONCRETE BASES TYPE 2	EACH	1.000	1.000

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DATE 15JUL14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1370-14-70 QUANTITY
1690	690.0150	SAWING ASPHALT	LF	2,903.000	2,903.000
1700	690.0250	SAWING CONCRETE	LF	4,068.000	4,068.000
1710	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	3,100.000	3,100.000
1720	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	17,460.000	17,460.000
1730	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	4,000.000	4,000.000
1740	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	5,500.000	5,500.000
1750	SPV.0045	SPECIAL 01. PCMS REMOTE COMMUNICATIONS	DAY	350.000	350.000
1760	SPV.0060	SPECIAL 01. INSTALL POLES TYPE 3	EACH	1.000	1.000
1770	SPV.0060	SPECIAL 02. INSTALLING CONCRETE MAINTENANCE PLATFORM	EACH	1.000	1.000
1780	SPV.0060	SPECIAL 03. INSTALL POLE MOUNTED CABINET	EACH	1.000	1.000
1790	SPV.0060	SPECIAL 04. INSTALLING SOLAR POWER UNIT 120 WATT	EACH	1.000	1.000
1800	SPV.0060	SPECIAL 05. INSTALL CELLULAR ANTENNA & ANTENNA CABLE	EACH	1.000	1.000
1810	SPV.0060	SPECIAL 06. INSTALL WAVETRONIX CLICK 200 MODULE	EACH	1.000	1.000
1820	SPV.0060	SPECIAL 07. INSTALL WAVETRONIX HD 125 & CABLE	EACH	1.000	1.000
1830	SPV.0060	SPECIAL 08. CLEANING AND PAINTING BEARINGS	EACH	18.000	18.000
1840	SPV.0060	SPECIAL 09. DIAPHRAGM RELOCATION	EACH	8.000	8.000
1850	SPV.0060	SPECIAL 10. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2	EACH	11.000	11.000
1860	SPV.0060	SPECIAL 11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	EACH	11.000	11.000
1870	SPV.0060	SPECIAL 12. ADDITIONAL INTERMEDIATE STIFFENERS	EACH	105.000	105.000
1880	SPV.0090	SPECIAL 01. CONCRETE CURB & GUTTER 32-INCH SPECIAL	LF	400.000	400.000
1890	SPV.0105	SPECIAL 01. TEMPORARY COFFERDAM WITH WATER DIVERSION	LS	1.000	1.000

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CLEARING AND GRUBBING

LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY
PROJECT LIMITS	290	290
TOTAL	290	290

REMOVING CURB AND GUTTER & SIDEWALK

STRUCTURE	LOCATION	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY
B-67-153	88+11 RT - 89+32 RT	121	---
B-67-153	88+60 LT - 89+32LT	72	---
B-67-153	88+82 - 89+92 MED	220	56
B-67-153	97+83 RT - 98+66 RT	83	---
B-67-153	97+16 - 98+33 MED	230	37
B-67-153	97+83 LT - 98+92 LT	109	---
B-67-153	STH 67 TEMP. CROSSOVERS	450	130
B-67-154	43+96EB RT - 46+23EB RT	227	---
B-67-154	43+57EB LT - 46+23EB LT	266	---
B-67-155	44+03WB RT - 45+88WB RT	185	---
B-67-155	47+93WB RT - 48+83WB RT	90	---
B-67-155	47+93WB LT - 50+09WB LT	216	---
B-67-156	18+34 LT - 18+86 LT	52	---
B-67-156	18+08 RT - 18+86 RT	78	---
B-67-156	18+34 - 18+86 MED	104	27
B-67-156	21+00 - 21+50 LT	50	---
B-67-156	21+00 - 21+50 RT	50	---
B-67-156	21+00 - 21+50 MED	100	26
B-67-159	93+69WB LT - 98+95WB LT	526	---
B-67-173	116+54 - 117+33 MED	160	---
B-67-173	116+54 - 1118+06 MED	---	77
B-67-173	117+54 RT - 117+61 RT	6	---
B-67-173	118+00 LT - 118+10 LT	10	---
B-67-173	121+43 - 122+56 MED	---	58
B-67-173	122+17 - 122+56 MED	80	---
B-67-174	38+05 LT - 38+13 LT	8	---
B-67-174	38+27 RT - 38+35 RT	8	---
B-67-174	37+13 - 37+77 MED	130	---
B-67-174	37+13 - 38+44 MED	---	67
B-67-174	41+10 - 42+52 MED	---	70
B-67-174	41+80 - 42+52 MED	145	---
	TOTALS	3776	325

REMOVING PAVEMENT

STRUCTURE	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY
B-67-153	88+82 - 89+32	---	305	---
B-67-153	89+32 - B-67-153	420	---	---
B-67-153	B-67-153 - 97+83	500	---	---
B-67-153	97+83 - 98+33	---	327	
B-67-154	45+73EB - 46+23EB	---	226	---
B-67-154	46+23EB - B-67-154	285	---	---
B-67-154	B-67-154 - 48+27EB	255	---	---
B-67-154	48+27EB - 48+77EB	---	135	70
B-67-155	45+38WB - 45+88WB	---	230	---
B-67-155	45+88WB - B-67-155	280	---	---
B-67-155	B-67-155 - 47+93WB	278	---	---
B-67-155	47+93WB - 48+45WB	---	136	72
B-67-156	18+34 - 18+86	---	---	337
B-67-156	21+00 - 21+50	---	---	322
B-67-158	91+30EB - 91+80EB	---	212	---
B-67-158	91+80EB - B-67-158	361	---	---
B-67-158	B-67-158 - 94+47EB	329	---	---
B-67-158	94+47EB - 94+97EB	---	180	---
B-67-159	90+60WB - 91+10WB	---	144	---
B-67-159	91+10WB - B-67-159	276	---	---
B-67-159	B-67-159 - 93+69WB	292	---	---
B-67-159	96+69WB - 94+19WB	---	145	---
B-67-161	149+50WB - 150+00WB	---	145	---
B-67-161	150+00WB - B-67-161	270	---	---
B-67-161	B-67-161 - 153+04WB	274	---	---
B-67-161	153+04WB - 153+54WB	---	145	---
B-67-162	149+89EB - 150+39EB	---	145	---
B-67-162	150+39EB - B-67-162	273	---	---
B-67-162	B-67-162 - 153+50EB	272	---	---
B-67-162	153+50EB - 153+80EB	---	145	---
B-67-173	116+54 - 117+33	---		490
B-67-173	117+33 - B-67-173	520	---	---
B-67-173	B-67-173 - 122+17	512	---	---
B-67-173	122+17 - 122+70	---	---	334
B-67-174	37+13 - 37+77	---	---	428
B-67-174	37+77 - B-67-174	505	---	---
B-67-174	B-67-174 - 41+80	490	---	---
B-67-174	41+80 - 42+52	---	---	475
B-67-244	806EB+49 - B-67-244	---	173	105
B-67-244	B-67-244 - 811EB+00	---	210	140
	TOTAL	6,392	3,003	2,773

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

3

COMMON EXCAVATION & BORROW

STRUCTURE	LOCATION	205.0100 COMMON EXCAVATION CY	208.0100 BORROW CY
B-67-153	89+32 - B-67-153	93	---
B-67-153	B-67-153 - 97+83	111	---
B-67-154	46+23EB - B-67-154	63	---
B-67-154	B-67-154 - 48+27EB	57	---
B-67-155	45+88WB - B-67-155	62	---
B-67-155	B-67-155 - 47+93WB	62	---
B-67-158	91+80EB - B-67-158	80	---
B-67-158	B-67-158 - 94+47EB	73	---
B-67-159	91+10WB - B-67-159	61	---
B-67-159	B-67-159 - 93+69WB	65	---
B-67-161	STA 149+50WB-150+48WB	---	10
B-67-161	150+00WB - B-67-161	60	---
B-67-161	B-67-161 - 153+04WB	61	---
B-67-162	150+39EB - B-67-162	61	---
B-67-162	B-67-162 - 153+50EB	60	---
B-67-173	117+33 - B-67-173	116	---
B-67-173	B-67-173 - 122+17	114	---
B-67-174	37+77 - B-67-174	112	---
B-67-174	B-67-174 - 41+80	109	---
	UNDISTRIBUTED	200	---
	TOTAL	1,620	10

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

LOCATION	211.0400 STA
B-67-158	4
B-67-159	5
B-67-161	7
B-67-162	8
TOTAL	24

BASE COURSE ITEMS

STRUCTURE	LOCATION	BASE AGGREGATE DENSE 305.0110 3/4-INCH TON	BASE AGGREGATE DENSE 305.0120 1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA
B-67-153	STH 67 TEMP. CROSSOVERS	60	---	---
B-67-158	89+53EB - 94+43EB RT	54	---	---
B-67-158	88+20EB - 92+38EB LT	31	---	---
B-67-158	94+02EB - 94+97EB LT	5	---	---
B-67-159	90+60WB - 91+66WB RT	5	---	---
B-67-159	93+28WB - 97+07WB RT	28	---	---
B-67-161	149+50WB - 150+58WB RT	12	---	---
B-67-161	149+50WB - 150+40WB LT	3	---	---
B-67-162	152+85EB - 153+80EB RT	2	---	---
B-67-162	152+74EB - 153+80EB LT	6	---	---
B-67-173	116+54 - 117+60 RT	4	---	1
B-67-173	116+54 - 118+10 LT	15	---	2
B-67-173	121+41 - 122+70 RT	12	---	1
B-67-173	121+91 - 122+70 LT	12	20	1
B-67-174	37+13 - 38+35 RT	9	---	1
B-67-174	37+13 - 38+13 LT	7	---	1
B-67-174	41+46 - 42+52 RT	12	---	1
B-67-174	41+25 - 42+52 LT	19	39	---
B-67-244	804+00EB - 806+70EB RT	10	---	---
B-67-244	806+00EB - 807+14EB LT	4	---	---
	UNDISTRIBUTED	75	100	---
	TOTAL	385	159	8

REMOVING ASPHALTIC SURFACE

STRUCTURE	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY
B-67-0153	STH 67 (TEMP CROSSOVER)	180
B-67-0158	EB STH 16	280
B-67-0159	WB STH 16	300
B-67-0161	WB STH 16	500
B-67-0162	EB STH 16	550
	TOTAL	1,810

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

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REMOVING GUARDRAIL

STRUCTURE	LOCATION	204.0165 LF
B-67-153	SOUTHEAST	100
B-67-153	SOUTHWEST	70
B-67-153	NORTHEAST	70
B-67-153	NORTHWEST	95
B-67-154	NORTH	204
B-67-154	SOUTH	172
B-67-155	NORTH	74
B-67-156	SOUTHEAST	76
B-67-156	NORTHWEST	65
B-67-158	NORTH	350
B-67-158	SOUTH	74
B-67-159	NORTH	490
B-67-159	SOUTH	200
B-67-161	NORTH	68
B-67-161	SOUTH	335
B-67-162	NORTH	350
B-67-162	SOUTH	75
B-67-173	WEST	110
B-67-173	EAST	165
B-67-174	SOUTH	115
B-67-174	NORTH	112
B-67-244	EAST	89
B-67-244	WEST	233
	TOTAL	3,692

CONCRETE PAVEMENT APPROACH SLAB

STRUCTURE	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
B-67-153	NB SOUTH APPROACH	51
B-67-153	SB SOUTH APPROACH	47
B-67-153	NB NORTH APPROACH	53
B-67-153	SB NORTH APPROACH	97
B-67-154	WEST APPROACH	45
B-67-154	EAST APPROACH	43
B-67-155	WEST APPROACH	44
B-67-155	EAST APPROACH	42
B-67-158	WEST APPROACH	91
B-67-158	EAST APPROACH	82
B-67-159	WEST APPROACH	59
B-67-159	EAST APPROACH	59
B-67-161	WEST APPROACH	58
B-67-161	EAST APPROACH	59
B-67-162	WEST APPROACH	59
B-67-162	EAST APPROACH	59
B-67-173	NB SOUTH APPROACH	26
B-67-173	SB SOUTH APPROACH	88
B-67-173	NB NORTH APPROACH	90
B-67-173	SB NORTH APPROACH	24
B-67-174	NB SOUTH APPROACH	38
B-67-174	SB SOUTH APPROACH	47
B-67-174	NB NORTH APPROACH	46
B-67-174	SB NORTH APPROACH	38
	TOTAL	1,345

CONCRETE PAVEMENT

STRUCTURE	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY
B-67-153	STA 89+32 - STA 89+77	262
B-67-153	STA 97+38 - STA 97+83	295
B-67-154	46+23EB - B-67-154	234
B-67-154	B-67-154 - 48+27EB	211
B-67-155	45+88WB - B-67-155	232
B-67-155	B-67-155 - 47+93WB	212
B-67-158	91+80EB - B-67-158	270
B-67-158	B-67-158 - 94+47EB	247
B-67-159	91+10WB - B-67-159	217
B-67-159	B-67-159 - 93+69WB	217
B-67-161	150+00WB - B-67-161	212
B-67-161	B-67-161 - 153+04WB	215
B-67-162	150+39EB - B-67-162	214
B-67-162	B-67-162 - 153+30EB	213
B-67-173	117+33 - B-67-173	364
B-67-173	B-67-173 - 122+17	361
B-67-174	37+77 - B-67-174	387
B-67-174	B-67-174 - 41+80	367
	TOTAL	4,730

CONCRETE SURFACE DRAINS

LOCATION	416.1010 CY
B-67-155 SE	2
B-67-158 NW	2
B-67-159 NW	2
B-67-159 NE	2
B-67-161 SE	2
TOTAL	10

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

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DRILLED TIE BARS AND DOWELS

STRUCTURE	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH
B-67-153	88+11 RT - 89+32 RT	40	---
B-67-153	88+60LT - 89+32 LT	24	---
B-67-153	88+82 - 89+32 MED	30	---
B-67-153	89+32 LT	---	17
B-67-153	89+32 RT	---	20
B-67-153	97+83 LT	---	26
B-67-153	97+83 LT - 99+51 LT	55	---
B-67-153	97+83 RT - 99+23 RT	45	---
B-67-153	97+83 RT	---	20
B-67-153	97+83 98+33 MED	30	---
B-67-153	STH 67 TEMP. CROSSOVERS	363	---
B-67-154	43+70EB LT - 46+23 EB LT	85	---
B-67-154	44+11EB RT - 46+23EB RT	70	---
B-67-154	46+23EB	---	23
B-67-154	48+27EB	---	16
B-67-155	44+04WB RT - 45+88WB RT	60	---
B-67-155	45+88WB	---	23
B-67-155	47+93WB	---	16
B-67-158	91+80EB	---	20
B-67-158	94+47EB	---	20
B-67-159	91+10WB	---	20
B-67-159	93+69WB	---	20
B-67-161	150+00WB	---	18
B-67-161	153+04WB	---	18
B-67-162	150+39EB	---	18
B-67-162	153+30EB	---	18
	TOTAL	802	313

HMA PAVEMENT ITEMS

STRUCTURE	LOCATION	455.0120 ASPHALTIC MATERIAL PG64-28 TON	455.0605 TACK COAT GAL	460.1110 HMA PAVEMENT TYPE E10 TON	465.0125 ASPHALTIC SURFACE TEMPORARY TON
B-67-153	88+82 - 89+32	2	8	34	---
B-67-153	97+83 - 98+33	2	8	36	---
B-67-153	TEMP. CROSSOVERS	---	10	---	80
B-67-154	45+73EB - 46+23EB	2	6	25	---
B-67-154	48+27EB - 48+77EB	2	5	23	---
B-67-155	45+38WB - 45+88WB	2	6	25	---
B-67-155	47+93WB - 48+43WB	2	5	23	---
B-67-156	18+34 - 18+86	2	8	37	---
B-67-156	21+00 - 21+50	2	8	36	---
B-67-158	SHOULDER WIDENING	---	20	---	105
B-67-158	91+30EB - 91+80EB	2	6	29	---
B-67-158	94+47EB - 94+97EB	2	6	25	---
B-67-159	SHOULDER WIDENING		20		110
B-67-159	90+60WB - 91+10WB	2	5	23	---
B-67-159	93+69WB - 94+19WB	2	5	22	---
B-67-161	SHOULDER WIDENING	---	30	---	185
B-67-161	149+50WB - 150+00WB	2	5	22	---
B-67-161	153+04WB - 153+54WB	2	5	22	---
B-67-162	SHOULDER WIDENING	---	30	---	200
B-67-162	149+89EB - 150+39EB	2	5	22	---
B-67-162	153+30EB - 153+80EB	2	5	22	---
B-67-173	116+54 - 117+33	3	12	54	---
B-67-173	122+17 - 122+70	2	8	37	---
B-67-174	37+13 - 37+77	3	11	47	---
B-67-174	41+80 - 42+52	3	12	53	---
B-67-244	806+49EB - 807+34EB	2	7	30	---
B-67-244	810+26EB - 811+40EB	2	9	40	---
	UNDISTRIBUTED	---	27	69	68
	TOTAL	47	292	756	748

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NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

CURB AND GUTTER

STRUCTURE	LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G LF	601.0415 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J LF	601.0574 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G LF	601.0576 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J LF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.01 CONCRETE CURB & GUTTER 32-INCH SPECIAL LF
B-67-153	88+11 RT - 88+54 RT	---	---	---	---	43*	---	---	---
B-67-153	88+54 RT - 89+28 RT	---	---	---	---	74	---	---	---
B-67-153	89+28 RT - 89+68 RT	---	---	---	---	---	---	---	40
B-67-153	88+60 LT - 89+03 LT	---	---	---	---	43*	---	---	---
B-67-153	89+03 LT - 89+39 LT	---	---	---	---	36	---	---	---
B-67-153	88+82 LT - 89+86 MED	208	---	---	---		---	---	---
B-67-153	89+39 LT - 89+79 LT	---	---	---	---	---	---	---	40
B-67-153	97+47 RT - 97+87 RT	---	---	---	---	---	---	---	40
B-67-153	97+23 LT - 98+33 MED	220	---	---	---	---	---	---	---
B-67-153	97+87 RT - 98+23 RT	---	---	---	---	36	---	---	---
B-67-153	98+23 RT - 98+66 RT	---	---	---	---	43*	---	---	---
B-67-153	97+35 LT - 97+75 LT	---	---	---	---	---	---	---	40
B-67-153	97+75 LT - 98+49 LT	---	---	---	---	74	---	---	---
B-67-153	98+49 LT - 98+92 LT	---	---	---	---	43*	---	---	---
B-67-153	STH 67 TEMP. CROSSOVERS	450	---	---	---	---	---	---	---
B-67-154	43+96EB RT - 45+09EB RT	---	---	---	---	113*	---	---	---
B-67-154	45+09EB RT - 46+30EB RT	---	---	---	---	121	---	---	---
B-67-154	46+30EB RT - 46+70EB RT	---	---	---	---	---	---	---	40
B-67-154	43+57EB LT - 44+70EB LT	---	---	---	---	113*	---	---	---
B-67-154	44+70EB LT - 46+32EB LT	---	---	---	---	162	---	---	---
B-67-154	46+32EB LT - 46+72EB LT	---	---	---	---	---	---	---	40
B-67-155	44+03WB RT - 45+93WB RT	---	---	---	---	190	---	---	---
B-67-155	45+93WB RT - 46+33WB RT	---	---	---	---	---	---	---	40
B-67-155	47+48WB RT - 47+88WB RT	---	---	---	---	---	---	---	40
B-67-155	47+88WB RT - 47+93WB RT	---	---	---	---	5	---	---	---
B-67-155	47+93WB RT - 48+83WB RT	---	---	---	---	---	90	---	---
B-67-155	47+43WB LT - 47+83WB LT	---	---	---	---	---	---	---	40
B-67-155	47+83WB LT - 47+93WB LT	---	---	---	---	10	---	---	---
B-67-155	47+93WB LT - 48+96WB LT	---	---	---	---	---	103	---	---
B-67-155	48+96WB LT - 50+09WB LT	---	---	---	---	113*	---	---	---
B-67-156	18+34 LT-18+86 LT	---	52	---	---	---	---	---	---
B-67-156	18+41 - 18+86 MED	---	90	---	---	---	---	---	---
B-67-156	18+08 RT - 18+86 RT	---	78	---	---	---	---	---	---
B-67-156	21+00 LT - 21+50 LT	---	50	---	---	---	---	---	---
B-67-156	21+00 RT - 21+50 RT	---	50	---	---	---	---	---	---
B-67-156	21+00 - 21+43 MED	---	86	---	---	---	---	---	---
	SUBTOTAL	878	406	0	0	1219	193	0	360

*NOTE: INSTALLED AS 30-INCH DRIVEWAY ENTRANCE CURB AND GUTTER

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

CURB AND GUTTER CONT.

STRUCTURE	LOCATION	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G LF	601.0415 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE J LF	601.0574 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G LF	601.0576 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J LF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.01 CONCRETE CURB & GUTTER 32-INCH SPECIAL LF
B-67-159	93+17WB LT - 93+57 WB LT	---	---	---	---	---	---	---	40
B-67-159	93+57WB LT - 93+69 WB LT	---	---	---	---	12	---	---	---
B-67-159	93+69WB LT - 97+82 WB LT	---	---	---	---	413	---	---	---
B-67-159	97+82WB LT - 98+95WB LT	---	---	---	---	113*	---	---	---
B-67-173	116+61 - 117+33 MED	---	---	---	144	---	---	---	---
B-67-173	117+33 - 118+06 MED	---	---	146	---	---	---	---	---
B-67-173	117+54 RT - 117+61 RT	6	---	---	---	---	---	---	---
B-67-173	118+00 LT - 118+10 LT	10	---	---	---	---	---	---	---
B-67-173	121+43 - 122+17 MED	---	---	148	---	---	---	---	---
B-67-173	122+17 - 122+49 MED	---	---	---	64	---	---	---	---
B-67-174	37+20 - 37+77 MED	---	---	---	114	---	---	---	---
B-67-174	37+77 - 38+44 MED	---	---	134	---	---	---	---	---
B-67-174	38+05 LT - 38+13 LT	8	---	---	---	---	---	---	---
B-67-174	38+44 - 38+54 RT	---	---	---	---	---	---	10	---
B-67-174	38+27 RT - 38+35 RT	8	---	---	---	---	---	---	---
B-67-174	41+10 - 41+80 MED	---	---	140	---	---	---	---	---
B-67-174	41+80 - 42+45 MED	---	---	---	130	---	---	---	---
B-67-174	41+23 RT - 41+33 RT	---	---	---	---	---	---	10	---
	SUBTOTAL	32	0	568	452	538	0	20	40
	PROJECT TOTAL	910	406	568	452	1757	193	20	400

*NOTE: INSTALLED AS 30-INCH DRIVEWAY ENTRANCE CURB AND GUTTER

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

SIDEWALK AND MEDIAN

STRUCTURE	LOCATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	620.0200 CONCRETE MEDIAN BLUNT NOSE SF	620.0300 CONCRETE MEDIAN SLOPED NOSE TYPE 1 SF
B-67-153	88+82 LT - 89+86 MED	500	---	---	---
B-67-153	97+23 LT - 98+33 MED	340	---	---	---
B-67-153	89+86 - 89+93 MED	---	---	48	---
B-67-153	97+16 97+23 MED	---	---	52	---
B-67-153	STH 67 TEMP. CROSSOVERS	2700	---	---	---
B-67-156	18+34 MED - 18+41 MED	---	---	---	75
B-67-156	18+41- 18+86 MED	240	---	---	---
B-67-156	21+00 - 21+43 MED	230	---	---	---
B-67-156	21+43 MED - 21+50 MED	---	---	---	75
B-67-173	117+54 - 117+61 MED	---	---	---	55
B-67-173	117+61 - 118+06 MED	690	---	---	---
B-67-173	121+43 - 122+49 MED	520	---	---	---
B-67-173	122+49 - 122+56 MED	---	---	---	63
B-67-174	37+13 - 37+20 MED	---	---	---	63
B-67-174	37+20 - 38+44 MED	600	---	---	---
B-67-174	38+44 - 38+54 RT	60	---	---	---
B-67-174	38+46 RT	---	8	---	---
B-67-174	41+10 - 42+45 MED	630	---	---	---
B-67-174	41+23 RT - 41+33 RT	60	---	---	---
B-67-174	41+32 RT	---	8	---	---
B-67-174	42+45 - 42+52 MED	---	---	---	55
	TOTAL	6570	16	100	386

RIPRAP ITEMS

STRUCTURE	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
B-67-155	47+55WB RT	RT SURF DRAIN	2	3
B-67-158	92+20EB LT	LT SURF DRAIN	3	6
B-67-158	93+85EB LT	LT SLOPE	9	17
B-67-159	91+50WB LT	LT SURF DRAIN	12	24
B-67-159	93+15WB LT	LT SURF DRAIN	9	17
B-67-161	150+55WB RT	RT SLOPE	6	12
B-67-161	152+65WB RT	RT SURF DRAIN	3	6
B-67-162	150+95EB RT	RT SLOPE	6	12
		UNDISTRIBUTED	12	8
	TOTAL		62	105

CONSTRUCTION STAKING

STRUCTURE	LOCATION	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT LS	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
B-67-153	88+11 RT - 89+32 RT	---	121	---	---
B-67-153	88+60 LT - 89+32 LT	---	72	---	---
B-67-153	89+32 RT - 89+94 RT	---	---	62	---
B-67-153	89+32 LT - 89+94 LT	---	---	62	---
B-67-153	97+15 LT - 97+83 LT	---	---	68	---
B-67-153	97+20 RT - 97+83 RT	---	---	63	---
B-67-153	97+83 RT - 98+66 RT	---	83	---	---
B-67-153	97+83 LT - 98+92 LT	---	109	---	---
B-67-153	STH 67 TEMP. CROSSOVERS	---	450	---	---
B-67-154	43+57EB LT - 46+23EB LT	---	266	---	---
B-67-154	43+96EB RT - 46+23EB RT	---	227	---	---
B-67-154	46+23EB - 46+85EB	---	---	62	---
B-67-154	47+66EB - 48+27EB	---	---	61	---
B-67-155	44+03WB RT - 45+88WB RT	---	185	---	---
B-67-155	45+88WB - 46+50WB	---	---	62	---
B-67-155	47+32WB - 47+93WB	---	---	61	---
B-67-155	47+93WB RT - 48+83WB RT	---	90	---	---
B-67-155	47+93WB LT - 50+09WB LT	---	216	---	---
B-67-156	18+34 - 21+50	---	406	---	---
B-67-158	91+80EB - 92+47EB	---	---	67	---
B-67-158	93+80EB - 94+47EB	---	---	67	---
B-67-159	91+10WB - 91+75WB	---	---	65	---
B-67-159	93+03WB - 93+69WB	---	---	66	---
B-67-159	93+69WB LT - 98+95WB LT	---	526	---	---
B-67-161	150+00WB - 150+65WB	---	65	---	---
B-67-161	152+39WB - 153+04WB	---	65	---	---
B-67-162	150+39EB - 151+03EB	---	64	---	---
B-67-162	152+64EB - 153+30EB	---	66	---	---
B-67-173	.01 B-67-173	1	---	---	---
B-67-173	116+54-117+33	---	144	---	---
B-67-173	117+33 RT - 117+94 RT	---	---	61	---
B-67-173	117+33 LT - 118+23 LT	---	---	90	---
B-67-173	121+31 RT - 122+17 RT	---	---	86	---
B-67-173	121+56 LT - 122+17 LT	---	---	61	---
B-67-173	122+17 - 122+70	---	---	64	---
B-67-174	.02 B-67-174	1	---	---	---
B-67-174	37+13 - 37+77	---	114	---	---
B-67-174	37+77 RT - 38+52 RT	---	---	75	---
B-67-174	37+77 LT - 38+42 LT	---	---	65	---
B-67-174	41+06 LT - 41+80 LT	---	---	74	---
B-67-174	41+20 RT - 41+80 RT	---	---	60	---
B-67-174	41+80 - 42+52	---	130	---	---
	TOTAL	2	3399	1402	1

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

TRAFFIC CONTROL

STRUCTURE	LOCATION	# OF DAYS	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0500 FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	SPV.0045.01 TRAFFIC CONTROL SIGNS PCMS REMOTE COMMUNICATIONS DAY	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY
	PROJECT	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	180	260	260	--
B-67-0153	STH 67 STAGE A	5	--	--	--	570	--	15	--	--	30	130	10	120	--	--	--	--	--	--
	STH 67 STAGE 1	60	1310	1310	--	2700	--	180	24	24	360	1800	120	1860	--	--	--	--	--	--
	STH 67 STAGE 2	60	1270	1270	--	6600	--	240	20	20	480	2760	120	2160	--	--	--	--	--	--
B-67-0154	STH 16 EB STAGE 1	27	635	635	1	1566	--	81	--	--	162	432	54	378	--	--	--	--	--	--
	STH 16 EB STAGE 2	27	250	500	1	2457	--	81	--	--	162	702	54	405	--	1	--	--	--	--
B-67-0155	STH 16 WB STAGE 1	27	580	580	1	972	--	54	--	--	108	0	0	162	--	--	--	--	--	--
	STH 16 WB STAGE 2	27	250	600	1	1782	--	81	--	--	162	0	0	270	--	--	--	--	--	--
B-67-0158	STH 16 EB STAGE 1	27	680	680	1	1512	--	162	--	--	324	0	0	270	--	2	--	--	--	--
	STH 16 EB STAGE 2	27	220	710	1	2673	--	135	--	--	270	243	0	270	--	--	--	--	--	--
B-67-0159	STH 16 WB STAGE A	5	--	--	--	285	--	0	--	--	0	85	10	50	--	--	--	--	--	--
	STH 16 WB STAGE 1	27	665	665	1	1539	--	135	--	--	270	0	0	189	--	--	--	--	--	--
	STH 16 WB STAGE 2	27	150	595	1	2349	--	108	--	--	216	432	0	243	--	1	--	--	--	--
B-67-0161	STH 16 WB STAGE A	5	--	--	--	420	--	10	--	--	20	135	10	55	--	--	--	--	--	--
	STH 16 WB STAGE 1	27	715	715	1	1269	--	54	--	--	108	432	54	621	--	--	--	--	--	--
	STH 16 WB STAGE 2	27	200	660	1	1512	--	54	--	--	108	405	54	675	--	--	--	--	--	--
B-67-0162	STH 16 EB STAGE A	5	--	--	--	155	--	5	--	--	10	35	0	15	--	--	--	--	--	--
	STH 16 EB STAGE 1	27	710	710	1	432	--	27	--	--	54	0	0	108	--	--	--	--	--	--
	STH 16 EB STAGE 2	27	200	650	1	810	--	27	--	--	54	486	0	135	--	1	--	--	--	--
B-67-0156	CTH P STAGE 1	27	620	620	2	675	--	378	--	--	756	540	0	378	--	--	--	--	--	--
	CTH P STAGE 2	27	10	630	2	1458	--	162	--	--	324	459	0	486	--	--	--	--	--	--
B-67-0171	HARTBROOK DR	12	--	--	--	144	24	0	--	--	24	0	0	84	--	--	--	--	--	--
B-67-0173	CTH KE DETOUR	60	--	--	--	1320	--	840	--	--	1680	540	0	1680	--	--	--	--	--	12120
B-67-0174	CTH KF DETOUR	60	--	--	--	1320	--	840	--	--	1680	660	0	1680	--	--	--	--	--	11880
B-67-0244	STH 16 EB STAGE 1	27	780	780	1	972	--	0	--	--	0	459	54	432	--	--	--	--	--	--
	STH 16 EB STAGE 2	27	200	780	1	972	--	27	--	--	54	486	54	351	--	--	--	--	--	--
	UNDISTRIBUTED		455	660	2	1866	--	189	6	6	354	549	46	653	5	10	--	90	90	1200
PROJECT TOTAL			9,900	13,750	20	38,330	24	3,885	50	50	7,770	11,770	640	13,730	5	15	180	350	350	25,200

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

DRAINAGE STRUCTURES ITEMS

STRUCTURE	* LOCATION	611.0600 INLET COVERS TYPE A EACH	611.0654 INLET COVERS TYPE V EACH	611.8110 ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH
B-67-153	89+58 RT	---	1	---	---
B-67-154	45+20EB LT	---	1	---	---
B-67-155	47+54WB LT	---	1	---	---
B-67-155	49+84WB LT	---	1	---	---
B-67-156	18+15 RT	---	---	---	1
B-67-156	18+45 RT	---	---	1	---
B-67-156	21+35 LT	---	---	1	---
B-67-156	21+50 LT	---	---	1	---
B-67-159	93+82WB LT	---	1	---	---
B-67-159	96+83WB LT	---	1	---	---
B-67-162	152+85 RT	---	---	---	1
B-67-173	117+60 RT	---	---	---	1
B-67-173	118+10 LT	---	---	---	1
B-67-174	38+05 LT	1	---	---	---
B-67-174	38+30 RT	---	---	---	1
	TOTALS	1	6	3	5

* FIELD VERIFY LOCATIONS

TEMPORARY PAVEMENT MARKING

STRUCTURE	LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF	649.0100 TEMPORARY PAVEMENT MARKING 4-INCH LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH LF	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH LF
B-67-0153	STH 67 STAGE 1	500	3800	1380	--
	STH 67 STAGE 2	500	--	6080	325
B-67-0154	STH 16 EB STAGE 1	800	--	1720	--
	STH 16 EB STAGE 2	800	--	1530	350
B-67-0155	STH 16 WB STAGE 1	800	--	1650	--
	STH 16 WB STAGE 2	800	--	1720	1250
B-67-0156	CTH P (BROWN STREET) STAGE 2	--	--	1240	--
B-67-0158	STH 16 EB STAGE 1	800	--	2140	665
	STH 16 EB STAGE 2	800	--	3220	280
B-67-0159	STH 16 WB STAGE 1	800	--	1850	--
	STH 16 WB STAGE 2	800	--	1700	230
B-67-0161	STH 16 WB STAGE 1	800	--	1880	--
	STH 16 WB STAGE 2	800	--	2020	425
B-67-0162	STH 16 EB STAGE 1	800	--	1900	--
	STH 16 EB STAGE 2	800	--	2080	405
B-67-0244	STH 16/IH 94 EB RAMP STAGE 1	--	--	3330	--
	STH 16/IH 94 EB RAMP STAGE 2	--	--	3170	--
	UNDISTRIBUTED	400	200	1990	220
	TOTAL	11,000	4,000	40,600	4,150

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

BEAM GUARD & GUARDRAIL ITEMS

STRUCTURE	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	614.0396 GUARDRAIL MOW STRIP ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
B-67-153	88+41 RT - 88+94 RT	---	---	---	---	---	---	---	---	1	---
B-67-153	88+94 RT - 89+32 RT	---	---	---	---	---	---	37.5	---	---	---
B-67-153	89+32 RT - 89+71 RT	1	---	---	---	---	54	---	39	---	---
B-67-153	88+90 LT - 89+43 LT	---	---	---	---	---	---	---	---	1	---
B-67-153	89+43 LT - 89+82 LT	---	---	---	---	---	---	---	39	---	---
B-67-153	88+90 LT - 89+82 LT	1	---	---	---	---	41	---	---	---	---
B-67-153	97+44 RT - 97+83 RT	---	---	---	---	---	---	---	39	---	---
B-67-153	97+83 RT - 98+36 RT	---	---	---	---	---	---	---	---	1	---
B-67-153	97+44 RT - 98+36 RT	1	---	---	---	---	41	---	---	---	---
B-67-153	97+32 LT - 97+71 LT	---	---	---	---	---	---	---	39	---	---
B-67-153	97+71 LT 98+09 LT	---	---	---	---	---	---	37.5	---	---	---
B-67-153	98+09 LT - 98+62 LT	---	---	---	---	---	---	---	---	1	---
B-67-153	97+32 LT - 98+62 LT	1	---	---	---	---	62	---	---	---	---
B-67-154	44+96EB RT - 45+52EB RT	---	---	---	---	---	---	---	---	1	---
B-67-154	45+52EB RT - 46+35EB RT	---	---	---	---	---	---	87.5	---	---	---
B-67-154	46+35EB RT - 46+74EB RT	1	---	---	---	---	66	---	39	---	---
B-67-154	44+97EB RT - 46+68EB RT	---	---	---	---	---	---	---	---	---	---
B-67-154	44+57EB LT - 45+13EB LT	---	---	---	---	---	---	---	---	1	---
B-67-154	45+13EB LT - 46+36EB LT	---	---	---	---	---	---	125	---	---	---
B-67-154	46+36EB LT - 46+75EB LT	---	---	---	---	---	---	---	39	---	---
B-67-154	44+57EB LT - 46+75EB LT	1	---	---	---	---	85	---	---	---	---
B-67-155	44+08WB RT - 45+96WB RT	---	---	---	---	---	---	188	---	---	1
B-67-155	45+96WB RT - 46+35WB RT	---	---	---	---	---	---	---	39	---	---
B-67-155	44+08WB RT - 46+33WB RT	1	---	---	---	---	86	---	---	---	---
B-67-155	47+45WB RT - 47+84WB RT	---	---	---	---	---	---	---	39	---	---
B-67-155	47+84WB RT - 49+53WB RT	---	---	---	---	---	---	169	---	---	---
B-67-155	49+53WB RT - 50+09WB RT	---	---	---	---	---	---	---	---	1	---
B-67-155	47+55WB RT - 50+09WB RT	1	---	---	---	---	147	---	---	---	---
B-67-155	47+39WB LT - 47+80WB LT	---	---	---	---	---	---	---	39	---	---
B-67-155	47+80WB LT - 48+53WB LT	---	---	---	---	---	---	75	---	---	---
B-67-155	48+53WB LT - 49+09WB LT	---	---	---	---	---	---	---	---	1	---
B-67-155	47+42WB LT - 49+09 WB LT	1	---	---	---	---	54	---	---	---	---
	SUBTOTAL	9	0	0	0	0	636	719.5	351	8	1

*CONTINUED ON NEXT SHEET

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

BEAM GUARD & GUARDRAIL ITEMS CONT.

STRUCTURE	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	614.0396 GUARDRAIL MOW STRIP ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
B-67-156	17+97, 84' RT - 17+96, 71' RT	---	---	---	---	1	---	---	---	---	---
B-67-156	17+96, 71' RT - 18+23 RT (16'R)	---	---	---	39.5	---	---	---	---	---	---
B-67-156	18+23 RT - 18+54 RT	---	---	44	---	---	---	---	---	---	---
B-67-156	18+54 RT - 18+74 RT	---	21	---	---	---	---	---	---	---	---
B-67-156	17+97 RT - 18+22 RT	1	---	---	---	---	99	---	---	---	---
B-67-156	21+11 LT - 21+32 LT	---	21	---	---	---	---	---	---	---	---
B-67-156	21+32 LT - 21+63 LT	---	---	37.5	---	---	---	---	---	---	---
B-67-156	21+69 LT - 21+91, 67' LT (24'R)	---	---	---	51	---	---	---	---	---	---
B-67-156	21+91, 80' LT - 21+88, 93' LT	---	---	---	---	1	---	---	---	---	---
B-67-156	21+11 LT - 21+88 LT	1	---	---	---	---	93	---	---	---	---
B-67-158	89+72EB RT - 92+04EB RT	1	---	---	---	---	167	---	---	1	---
B-67-158	90+28EB RT - 92+04 EB RT	---	---	---	---	---	---	176	---	---	---
B-67-158	92+04EB RT - 92+43EB RT	---	---	---	---	---	---	---	39	---	---
B-67-158	88+76EB LT - 89+32 EB LT	---	---	---	---	---	---	---	---	1	---
B-67-158	89+32EB LT - 91+89EB LT	---	---	---	---	---	---	262.5	---	---	---
B-67-158	91+89EB LT - 92+28EB LT	---	---	---	---	---	---	---	39	---	---
B-67-158	88+76EB LT - 92+28EB LT	1	---	---	---	---	220	---	---	---	---
B-67-159	93+24WB RT - 93+63WB RT	---	---	---	---	---	---	---	39	---	---
B-67-159	93+63WB RT - 95+85WB RT	---	---	---	---	---	---	222	---	---	---
B-67-159	95+85WB RT - 96+38WB RT	---	---	---	---	---	---	---	---	1	---
B-67-159	93+24WB RT - 96+38WB RT	1	---	---	---	---	200	---	---	---	---
B-67-159	93+05WB LT - 93+45WB LT	---	---	---	---	---	---	---	39	---	---
B-67-159	93+45WB LT - 97+42WB LT	---	---	---	---	---	---	397	---	---	---
B-67-159	97+42WB LT - 97+95WB LT	---	---	---	---	---	---	---	---	1	---
B-67-159	93+24WB LT - 97+95WB LT	1	---	---	---	---	185	---	---	---	---
B-67-161	152+54WB RT - 152+93WB RT	---	---	---	---	---	---	---	39	---	---
B-67-161	152+93WB RT - 155+16WB RT	---	---	---	---	---	---	225	---	---	---
B-67-161	155+16WB RT - 155+69WB RT	---	---	---	---	---	---	---	---	1	---
B-67-161	152+64WB RT - 155+69WB RT	1	---	---	---	---	213	---	---	---	---
B-67-161	152+42WB LT - 152+82WB LT	---	---	---	---	---	---	---	39	---	---
B-67-161	152+82WB LT - 153+32WB LT	---	---	---	---	---	---	---	---	1	---
B-67-161	152+47WB LT - 153+32WB LT	1	---	---	---	---	58	---	---	---	---
B-67-162	150+12EB RT - 150+64EB RT	---	---	---	---	---	---	---	---	1	---
B-67-162	150+64EB RT - 151+03EB RT	---	---	---	---	---	---	---	39	---	---
B-67-162	150+12EB RT - 150+97EB RT	1	---	---	---	---	45	---	---	---	---
B-67-162	147+34EB LT - 147+87EB LT	---	---	---	---	---	---	---	---	1	---
B-67-162	147+87EB LT - 150+46EB LT	---	---	---	---	---	---	259	---	---	---
B-67-162	150+46EB LT - 150+85EB LT	---	---	---	---	---	---	---	39	---	---
B-67-162	147+34EB LT - 150+80EB LT	1	---	---	---	---	235	---	---	---	---
	SUBTOTAL	10	42	81.5	90.5	2	1515	1541.5	312	8	0

*CONTINUED ON NEXT SHEET

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

BEAM GUARD & GUARDRAIL ITEMS CONT.

STRUCTURE	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	614.0396 GUARDRAIL MOW STRIP ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
B-67-173	116+15, 82' RT - 116+19, 70' RT	---	---	---	---	1	---	---	---	---	---
B-67-173	116+19, 70' RT - 116+57 RT (32'R)	---	---	---	50	---	---	---	---	---	---
B-67-173	116+57 RT - 117+44 RT	---	---	87.5	---	---	---	---	---	---	---
B-67-173	117+44 RT - 117+65 RT	---	21	---	---	---	---	---	---	---	---
B-67-173	116+15 RT - 117+60 RT	1	---	---	---	---	80	---	---	---	---
B-67-173	121+86 LT - 122+07 LT	---	21	---	---	---	---	---	---	---	---
B-67-173	122+07 LT - 122+45 LT	---	---	50	---	---	---	---	---	---	---
B-67-173	122+45 LT - 122+94, 63' LT (32'R)	---	---	---	45	---	---	---	---	---	---
B-67-173	122+94, 63' LT - 123+06, 85' LT	---	---	25	---	---	---	---	---	---	---
B-67-173	123+06, 85' LT - 123+12, 95' LT	---	---	---	---	1	---	---	---	---	---
B-67-173	121+91 LT - 123+12 LT	1	---	---	---	---	89	---	---	---	---
B-67-173	123+68 LT	---	---	---	---	---	---	---	---	---	1
B-67-173	123+68 LT - 123+85LT	---	---	---	---	---	---	18	---	---	---
B-67-173	123+85 LT - 124+35 LT	---	---	---	---	---	---	---	---	1	---
B-67-173	123+68 LT - 124+35 LT	1	---	---	---	---	41	---	---	---	---
B-67-174	37+32 RT - 37+85 RT	---	---	---	---	---	---	---	---	1	---
B-67-174	37+85 RT - 37+98 RT	---	---	---	---	---	---	13	---	---	---
B-67-174	37+98 RT - 38+37 RT	---	---	---	---	---	---	---	39	---	---
B-67-174	37+32RT - 38+25 RT	1	---	---	---	---	52	---	---	---	---
B-67-174	41+22 LT - 41+61 LT	---	---	---	---	---	---	---	39	---	---
B-67-174	41+61 LT - 41+86 LT	---	---	---	---	---	---	28	---	---	---
B-67-174	41+86 LT - 42+39 LT	---	---	---	---	---	---	---	---	1	---
B-67-174	41+24 LT - 42+39 LT	1	---	---	---	---	53	---	---	---	---
B-67-244	804+21EB RT - 804+75EB RT	---	---	---	---	---	---	---	---	1	---
B-67-244	804+75EB RT- 806+32EB RT	---	---	---	---	---	---	161	---	---	---
B-67-244	806+32EB RT - 806+71EB RT	---	---	---	---	---	---	---	39	---	---
B-67-244	804+24EB RT - 806+71EB RT	1	---	---	---	---	46	---	---	---	---
B-67-244	806+20EB LT - 806+76EB LT	---	---	---	---	---	---	---	---	1	---
B-67-244	806+76EB LT - 807B+16EB LT	---	---	---	---	---	---	---	39	---	---
B-67-244	806+20EB LT - 807+16EB LT	1	---	---	---	---	410	---	---	---	---
	SUBTOTAL	7	42	162.5	95	2	771	220	156	5	1
	PROJECT TOTAL	26	84	244	186	4	2,922	2,481	819	21	2

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

3

BARRIER SYSTEM SHAPING GRADING FINISHING

STRUCTURE	LOCATION	EXCAVATION COMMON* CY	BORROW* CY
B-67-153	89+41 RT - 89+71 RT	---	15
B-67-153	89+43 LT - 89+82 LT	---	10
B-67-153	97+32 LT - 98+62 LT	---	15
B-67-153	97+44 RT - 98+36 RT	---	15
B-67-154	44+57EB LT - 46+75 EB LT	---	25
B-67-154	44+97EB RT - 46+73EB RT	--	10
B-67-155	44+08WB RT - 46+35WB RT	--	15
B-67-155	47+40WB LT - 49+11WB LT	--	5
B-67-155	47+45 WB RT - 50+12 WB RT	--	15
B-67-156	17+96 RT - 18+74 RT	---	25
B-67-156	21+11 LT - 21+91 LT	---	25
B-67-158	88+76 EB LT - 92+28 EB LT	---	20
B-67-158	89+69EB RT - 92+73 EB RT	---	15
B-67-159	93+05WB LT - 97+95 WB LT	---	5
B-67-159	93+24 WB RT - 96+38 WB RT	---	15
B-67-161	152+42 WB LT - 153+32 WB LT	---	20
B-67-161	152+54 WB RT - 155+69 WB RT	---	20
B-67-162	147+34 EB LT - 150+85 EB LT	---	15
B-67-162	150+12 EB RT - 151+03 EB RT	---	10
B-67-173	116+15 RT - 117+65 RT	---	5
B-67-173	121+86 LT - 123+12 LT	---	15
B-67-173	123+68 LT - 124+35 LT	---	5
B-67-174	37+32 RT - 38+37 RT	---	5
B-67-174	41+22 LT - 42+39 LT	---	10
B-67-244	804+21 EB RT - 806+71EB RT	---	15
B-67-244	806+20 EB LT - 807+16 EB LT	---	5
	TOTAL	0	355

*ITEMS & QUANTITIES LISTED ARE FOR BID INFORMATION ONLY.

LOCATION	624.0100 WATER MGAL
UNDISTRIBUTED	100
TOTAL	100

EROSION CONTROL ITEMS

STRUCTURE	LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECK LF
B-67-153	88+00 - 99+50	---	610	110	---	---	---	3	---
B-67-154/155	43+50 - 50+75	---	500	75	---	---	2	7	36
B-67-156	17+87 - 22+00	---	260	50	---	---	2	4	---
B-67-158/159	88+00 - 98+00	---	2,000	400	---	---	2	2	48
B-67-161/162	145+50 - 157+00	40	1,500	300	---	---	1	1	24
B-67-173	116+00 - 125+00	---	525	100	---	---	---	2	---
B-67-174	37+00 - 42+50	---	265	55	---	---	1	2	---
B-67-244	804+00 - 807+25	---	430	90	---	---	---	---	---
	UNDISTRIBUTED	20	1,180	240	15	5	---	---	40
	TOTALS	60	7,270	1,420	15	5	8	21	148

RESTORATION ITEMS

STRUCTURE	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB
B-67-153	88+00 - 99+50	120	120	0.20	2
B-67-154/155	44+50 - 50+75	165	165	---	3
B-67-156	17+87 - 22+00	115	115	0.10	2
B-67-158/159	88+00 - 98+00	185	185	---	4
B-67-161/162	145+50 - 157+00	450	450	0.30	8
B-67-173	116+00 - 125+00	25	25	0.10	1
B-67-174	37+00 - 42+50	35	35	0.10	1
B-67-244	804+00EB - 811+40EB	40	40	0.10	1
	UNDISTRIBUTED	115	115	0.10	7
	TOTALS	1,250	1,250	1	29

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

STRUCTURE	STATION	OFFSET	SIGNS SIGN CODE	SIGNS SIGN MESSAGE	SIGNS SIGN SIZE W X H (IN) X (IN)	634.0614 POSTS WOOD 4X6-INCH X14-FT EACH	634.0618 POSTS WOOD 4X6-INCH X18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
B-67-153	89+16	LT	---	---	---	---	---	---	---	1	1	---
B-67-153	89+16	LT	R5-1A	WRONG WAY	36 X 24	---	1	6.00	---	---	---	---
B-67-153	89+70	RT	---	---	---	---	---	---	---	1	1	---
B-67-153	89+70	RT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-153	89+72	LT	---	---	---	---	---	---	---	1	1	---
B-67-153	89+72	LT	R2-1	SPEED LIMIT 35	24 X 30	---	1	5.00	---	---	---	---
B-67-153	89+90	LT	---	---	---	---	---	---	---	1	1	---
B-67-153	89+90	LT	R2-1	SPEED LIMIT 35	24 30	---	1	5.00	---	---	---	---
B-67-153	97+42	LT	---	---	---	---	---	---	---	1	1	---
B-67-153	97+42	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-153	97+55	RT	---	---	---	---	---	---	---	2	1	---
B-67-153	97+55	RT	W1-1R	---	36 X 36	---	1	---	9.00	---	---	---
B-67-153	97+55	RT	W13-1	---	24 X 24	---	---	---	4.00	---	---	MOUNT ON SAME POST AS W1-1R
B-67-154	46+40EB	RT	---	---	---	---	---	---	---	1	2	---
B-67-154	46+40EB	RT	I3-1	Oconomowoc River	72 X 36	---	2	18.00	---	---	---	---
B-67-154	46+64EB	LT	---	---	---	---	---	---	---	1	1	---
B-67-154	46+64EB	LT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-154	46+66EB	RT	---	---	---	---	---	---	---	1	1	---
B-67-154	46+66EB	RT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-155	47+46WB	LT	---	---	---	---	---	---	---	1	1	---
B-67-155	47+46WB	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-155	47+50WB	RT	---	---	---	---	---	---	---	1	1	---
B-67-155	47+50WB	RT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-155	47+70WB	LT	---	---	---	---	---	---	---	1	2	---
B-67-155	47+70WB	LT	I3-1	Oconomowoc River	72 X 36	---	2	18.00	---	---	---	---
B-67-156	18+02	RT	---	---	---	---	---	---	---	1	1	---
B-67-156	18+02	RT	R6-2L	ONE WAY	24 X 30	---	1	5.00	---	---	---	---
B-67-156	18+40	RT	---	---	---	---	---	---	---	1	1	---
B-67-156	18+40	RT	R4-7	---	24 X 30	---	1	5.00	---	---	---	---
B-67-156	18+67	LT	---	---	---	---	---	---	---	1	1	---
B-67-156	18+67	LT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-2	EAST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	ARROW	21 x 21	---	---	---	---	---	---	---
B-67-156	18+70	RT	---	---	---	---	---	---	---	1	1	---
B-67-156	18+70	RT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-156	21+14	LT	---	---	---	---	---	---	---	1	1	---
B-67-156	21+14	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-156	21+16	RT	---	---	---	---	---	---	---	1	1	---
B-67-156	21+16	RT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-4	WEST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	ARROW	21 x 21	---	---	---	---	---	---	---

CONTINUED ON NEXT SHEET

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

SIGNS

STRUCTURE	STATION	OFFSET	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X H (IN) X (IN)	634.0614 POSTS WOOD 4X6-INCH X14-FT EACH	634.0618 POSTS WOOD 4X6-INCH X18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
B-67-156	21+45	LT	---	---	---	---	---	---	---	1	1	---
B-67-156	21+45	LT	J3-1	WEST	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-4	STH 16	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6		24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	---	21 x 21	---	---	---	---	---	---	---
B-67-156	21+72	LT	---	---	---	---	---	---	---	1	1	---
B-67-156	21+72	LT	R6-2L	ONE WAY	24 X 30	---	1	5.00	---	---	---	---
B-67-158	92+10EB	RT	---	---	---	---	---	---	---	1	2	---
B-67-158	92+10EB	RT	I3-1	Oconomowoc River	72 X 36	---	2	18.00	---	---	---	---
B-67-158	92+21EB	LT	---	---	---	---	---	---	---	1	1	---
B-67-158	92+21EB	LT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-158	92+38EB	RT	---	---	---	---	---	---	---	1	1	---
B-67-158	92+38EB	RT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-159	93+07WB	LT	---	---	---	---	---	---	---	1	1	---
B-67-159	93+07WB	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-159	93+25WB	RT	---	---	---	---	---	---	---	1	1	---
B-67-159	93+25WB	RT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-159	93+25WB	LT	---	---	---	---	---	---	---	1	2	---
B-67-159	93+25WB	LT	I3-1	Oconomowoc River	72 X 36	---	2	18.00	---	---	---	---
B-67-161	152+48WB	LT	---	---	---	---	---	---	---	1	1	---
B-67-161	152+48WB	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-161	152+60WB	RT	---	---	---	---	---	---	---	1	1	---
B-67-161	152+60WB	RT	W5-52L	---	12 X 36	1	---		3.00	---	---	4' MOUNTING HEIGHT
B-67-162	150+78EB	LT	---	---	---	---	---	---	---	1	1	---
B-67-162	150+78EB	LT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	---
B-67-162	151+00EB	RT	---	---	---	---	---	---	---	1	1	---
B-67-162	151+00EB	RT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	---
B-67-173	CTH KE/CTH JJ	---	---	---	---	---	---	---	---	1	2	---
B-67-173	CTH KE/LISBON AVE	---	---	---	---	---	---	---	---	1	1	---
B-67-173	ADV. OF STH 16 EB EXIT RAMP	---	---	---	---	---	---	---	---	3	1	---
B-67-173	STH 16 EB EXIT RAMP	---	---	---	---	---	---	---	---	2	1	---
B-67-173	116+63	RT	---	---	---	---	---	---	---	3	1	---
B-67-173	116+63	RT	R4-7	---	24 X 30	---	1	5.00	---	---	---	---
B-67-173	116+63	RT	J3-1	---	24 X 57	---	---	9.50	---	---	---	MOUNT ON SAME POST AS R4-7
---	---	---	M3-2	EAST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	ARROW	21 x 21	---	---	---	---	---	---	---
B-67-173	116+88	RT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-4	WEST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M5-1L	ADV LT ARROW	21 x 21	---	---	---	---	---	---	---
B-67-173	117+44	RT	---	---	---	---	---	---	---	2	2	---
B-67-173	117+44	RT	D1-1	Oconomowoc	72 X 15	---	2	7.50	---	---	---	---

CONTINUED ON NEXT SHEET

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

				SIGNS		634.0614	634.0618	637.2210	637.2230	638.2602	638.3000	
STRUCTURE	STATION	OFFSET	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X H (IN) X (IN)	POSTS WOOD 4X6-INCH X14-FT EACH	POSTS WOOD 4X6-INCH X18-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
B-67-173	117+52	RT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-173	121+95	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
B-67-173	122+03	LT	---	---	---	---	---	---	---	2	2	---
B-67-173	122+03	LT	D1-1	Milwaukee	72 X 15	---	2	7.50	---	---	---	---
B-67-173	122+45	LT	J3-1	---	24 X 57	---	1	9.50	---	1	1	---
---	---	---	M3-2	EAST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M5-1L	ADV LT ARROW	21 x 21	---	---	---	---	---	---	---
B-67-173	122+45	LT	---	---	---	---	---	---	---	3	1	---
B-67-173	122+45	LT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-4	WEST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	ARROW	21 x 21	---	---	---	---	---	---	---
B-67-173	122+45	LT	R4-7	---	24 X 30	---	---	5.00	---	---	---	MOUNT ON SAME POST AS J3-1
B-67-173	122+45	LT	W5-52L	---	24 X 36	---	---	---	3.00	---	---	MOUNT ON SAME POST AS J3-1
B-67-173	ADV. OF STH 16 WB EXIT RAMP	---	---	---	---	---	---	---	---	3	1	---
B-67-173	STH 16 WB EXIT RAMP	---	---	---	---	---	---	---	---	2	1	---
B-67-173	CTH KE/CTH JK	---	---	---	---	---	---	---	---	1	1	---
B-67-173	CTH KE/LISBON RD	---	---	---	---	---	---	---	---	1	2	---
B-67-174	37+23	RT	---	---	---	---	---	---	---	2	1	---
B-67-174	37+23	RT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-2	EAST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	ARROW	21 x 21	---	---	---	---	---	---	---
B-67-174	37+23	RT	R4-7	---	---	---	---	5.00	---	---	---	MOUNT ON SAME POST AS J3-1
B-67-174	37+40	RT	J3-1	WEST	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-4	STH 16	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	ADV LT ARROW	24 x 24	---	---	---	---	---	---	---
---	---	---	M5-1L	---	21 x 21	---	---	---	---	---	---	---
B-67-174	37+78	RT	---	---	---	---	---	---	---	3	2	---
B-67-174	37+78	RT	D1-1	Oconomowoc	72 X 15	---	2	7.50	---	---	---	---
B-67-174	38+35	RT	---	---	---	---	---	---	---	1	1	---
B-67-174	38+35	RT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	---
B-67-174	41+30	LT	---	---	---	---	---	---	---	1	1	---
B-67-174	41+30	LT	W5-52R	---	12 X 36	1	---	---	3.00	---	---	---
B-67-174	41+60	LT	---	---	---	---	---	---	---	2	2	---
B-67-174	41+60	LT	D1-1	Milwaukee	72 X 15	---	2	7.50	---	---	---	---
B-67-174	42+05	LT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-2	EAST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M5-1L	ADV LT ARROW	21 x 21	---	---	---	---	---	---	---

CONTINUED ON NEXT SHEET

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

				SIGNS		634.0614	634.0618	637.2210	637.2230	638.2602	638.3000	
STRUCTURE	STATION	OFFSET	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X H (IN) X (IN)	POSTS WOOD 4X6-INCH X14-FT EACH	POSTS WOOD 4X6-INCH X18-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
B-67-174	42+40	LT	---	---	---	---	---	---	---	2	1	---
B-67-174	42+40	LT	J3-1	---	24 X 57	---	1	9.50	---	---	---	---
---	---	---	M3-4	WEST	24 X 12	---	---	---	---	---	---	---
---	---	---	M1-6	STH 16	24 x 24	---	---	---	---	---	---	---
---	---	---	M6-1	ARROW	21 x 21	---	---	---	---	---	---	---
B-67-174	42+40	LT	R4-7	---	24 X 30	---	---	5.00	---	---	---	MOUNT ON SAME POST AS J3-1
B-67-244	806+50EB	RT	---	---	---	---	---	---	---	---	---	---
B-67-244	806+50EB	RT	W5-52R	---	12 X 36	1	---	---	3.00	1	1	4' MOUNTING HEIGHT
B-67-244	807+10EB	LT	---	---	---	---	---	---	---	1	1	---
B-67-244	807+10EB	LT	W5-52L	---	12 X 36	1	---	---	3.00	---	---	4' MOUNTING HEIGHT
TOTALS						22	34	258	82	69	61	

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NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

PAVEMENT MARKING

LOCATION	EPOXY 4-INCH 646.0106 (WHITE) LF	EPOXY 4-INCH 646.0106 (YELLOW) LF	GROOVED WET REFL. CONT. TAPE, 4-INCH 646.0841.S (WHITE) LF	GROOVED WET REFL. CONT. TAPE, 8-INCH 646.0843.S (WHITE) LF	PAVEMENT MARKING CURB EXPOXY 647.0456 LF	ISLAND NOSE EPOXY 647.0606 EA
B-67-153						
87+62 - 88+82	---	240	---	---	---	---
88+82 - 98+33 RT	951	951	238	---	---	---
88+82 - 98+33 LT	951	951	238	---	---	---
99+25 - 101+60	---	470	---	---	---	---
TEMP. S CROSSOVER	---	240	---	---	---	---
TEMP. N CROSSOVER	---	470	---	---	---	---
B-67-154/155						
45+36 - 48+45 WB	304	309	77	---	---	---
45+75 - 48+77 EB	308	303	77	---	---	---
B-67-156						
18+34 - 21+50 STG. 1	690	690				
18+34 - 21+50 LT	315	320	88	165	---	---
18+34 - 21+50 RT	315	320	88	50	---	---
18+40-18+45RT	---	---	---	---	10	---
18+34 RT	---	---	---	---	---	1
24+40-24+45 RT	---	---	---	---	10	---
21+50 RT	---	---	---	---	---	1
B-67-158						
91+30 - 94+97 EB	367	367	88	1,870	---	---
B-67-159						
90+60 - 94+19 WB	359	359	88	---	---	---
B-67-161						
149+50 - 153+54 WB	405	403	113	---	---	---
B-67-162						
149+89 - 153+80 EB	390	392	113	---	---	---
B-67-173						
116+54 - 122+70 RT	616	570	---	244	---	---
116+54 - 122+70 LT	616	574	---	258	---	---
116+54 RT	---	---	---	---	---	1
116+56-116+70 RT	---	---	---	---	36	---
122+34-122+52 LT	---	---	---	---	36	---
122+56 LT	---	---	---	---	---	1
B-67-174						
37+13 - 42+52 RT	539	518	---	202	---	---
37+13 - 42+52 LT	539	523	---	226	---	---
37+13 RT	---	---	---	---	---	1
37+17 - 37+36 RT	---	---	---	---	24	---
42+28 - 42+47 LT	---	---	---	---	24	---
42+52 LT	---	---	---	---	---	1
B-67-244						
806+49 - 811+40 EB	496	486	138	---	---	---
SUBTOTALS	8,161	9,456	1,343	3,015	140	6
TOTALS	17,617		1,343	3,015	140	6

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

3

PAVEMENT MARKING SYMBOLS

Structure	LOCATION	PAVEMENT MARKING SPV.0060.10 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 2 (WHITE) EACH	PAVEMENT MARKING SPV.0060.11 GROOVED PREFORMED THERMOPLASTIC WORDS (WHITE) EACH
B-67-156	18+60 LT	1	1
B-67-156	19+40 LT	1	1
B-67-156	21+34 RT	1	1
B-67-173	116+75 LT	1	1
B-67-173	118+00 LT	1	1
B-67-173	121+00 RT	1	1
B-67-173	122+30 RT	1	1
B-67-174	37+50 LT	1	1
B-67-174	38+30 LT	1	1
B-67-174	41+20 RT	1	1
B-67-174	42+30 RT	1	1
	TOTALS	11	11

PULL BOX

Structure	LOCATION	653.0115 PULL BOX STEEL 12" x 36" EACH
B-67-173	117+50 RT	1
B-67-173	118+00 LT	1
B-67-173	121+50 RT	1
B-67-173	122+00 LT	1
B-67-174	38+03 LT	1
B-67-174	38+25 RT	1
B-67-174	41+34 LT	1
B-67-174	41+56 RT	1
	TOTALS	8

SAWING

STRUCTURE	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
B-67-153	88+82	---	69
B-67-153	88+11 - 89+32 RT	---	178
B-67-153	88+60 - 89+35 LT	---	132
B-67-153	88+82 - 89+32 MED	---	100
B-67-153	89+32	---	53
B-67-153	97+83	---	59
B-67-153	97+83 - 98+66 RT	---	83
B-67-153	97+83 - 98+92 LT	---	109
B-67-153	97+83 - 98+33 MED	---	100
B-67-153	98+33	---	68
B-67-153	STH 67 TEMP. CROSSOVERS	---	1,120
B-67-154	43+70EB - 46+23EB LT	---	253
B-67-154	44+11EB - 46+23EB RT	---	212
B-67-154	45+73EB	---	37
B-67-154	46+23EB	---	37
B-67-154	46+23EB - B-67-154	---	62
B-67-154	B-67-154 - 448+27EB	---	62
B-67-154	47+80EB LT - 48+27EB LT	47	---
B-67-154	47+84EB RT 48+27EB RT	43	---
B-67-154	48+27EB	12	24
B-67-154	48+77EB	12	24
B-67-155	44+04WB - 45+88WB RT	---	184
B-67-155	45+38WB	---	38
B-67-155	45+88WB	---	40
B-67-155	45+88WB - B-67-155	62	---
B-67-155	B-67-155-47+93WB	61	---
B-67-155	47+93WB	12	24
B-67-155	47+93WB - 49+99WB LT	206	---
B-67-155	47+93WB - 48+84WB RT	91	---
B-67-155	48+45WB	12	24
B-67-156	18+34	71	---
B-67-156	18+34 - 18+86 LT	51	---
B-67-156	18+08 - 18+86 RT	80	---
B-67-156	18+34 - 18+86 MED	102	---
B-67-156	21+00 - 21+50 LT	50	---
B-67-156	21+00 - 21+50 RT	50	---
B-67-156	21+00 - 21+50 MED	100	---
B-67-156	21+50	71	---
B-67-158	91+30EB	8	39
B-67-158	91+80EB	8	38
B-67-158	91+80EB - B-67-158	---	61
B-67-158	94+47EB	8	33
B-67-158	B-67-158-94+47EB	---	67
B-67-158	94+97EB	8	33
B-67-159	90+60WB	9	26
B-67-159	91+10WB	9	26
B-67-159	91+10WB - B-67-159	---	66
B-67-159	B-67-159-93+69WB	---	66
B-67-159	93+69WB	11	26
B-67-159	93+69WB LT - 98+95WB LT	526	---

SAWING CONT.

STRUCTURE	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
B-67-161	149+50WB	9	26
B-67-161	150+00WB	9	26
B-67-161	150+00WB - B-67-161	---	65
B-67-161	B-67-161 - 153+04WB	---	65
B-67-161	153+04WB	9	26
B-67-161	153+54WB	9	26
B-67-162	149+89EB	9	26
B-67-162	150+39EB	9	26
B-67-162	150+39EB - B-67-152	---	65
B-67-162	B-67-152- 153+30EB	---	66
B-67-162	153+30EB	9	26
B-67-162	153+80EB	9	26
B-67-173	116+54	66	---
B-67-173	117+33	55	---
B-67-173	116+54 - 117+33 MED	160	---
B-67-173	122+17	56	---
B-67-173	122+70	65	---
B-67-173	122+17 - 122+70 MED	84	---
B-67-174	37+13	72	---
B-67-174	37+77	61	---
B-67-174	37+13 - 37+77 MED	128	---
B-67-174	41+80	59	---
B-67-174	42+52	70	---
B-67-174	41+80 - 42+52 MED	144	---
B-67-244	806+49EB	40	---
B-67-244	811+40EB	40	---
	TOTAL	2,903	4,068

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

ATR - WAVETRONIX DETECTOR

LOCATION	STATION	654.0102 CONCRETE BASE TYPE 2 EACH	SPV.0060.01 INSTALLING TYPE 3 POLE EACH	SPV.0060.02 INSTALLING CONCRETE MAINTENANCE PLATFORM 48" X 36"X 4" EACH	SPV.0060.03 INSTALLING POLE MOUNTED CABINET 24"X51" EACH	SPV.0060.04 INSTALLING SOLAR POWER UNIT 120 WATT EACH	SPV.0060.05 INSTALLING CELLULAR ANTENNA & ANTENNA CABLE EACH	SPV.0060.06 INSTALLING WAVETRONIX CLICK 200 MODULE EACH	SPV.0060.07 INSTALLING WAVETRONIX HD 125 & CABLE EACH
ATR-67-6137	39+00 +/-	1	1	1	1	1	1	1	1
TOTALS		1	1	1	1	1	1	1	1

STATE FURNISHED MATERIAL

ATR - WAVETRONIX DETECTOR

LOCATION	STATION	POLE TYPE 3 EACH	SOLAR PANELS & RACK EACH	WAVETRONIX HD 125 UNIT EACH	WAVETRONIX HD 125 CABLE LF	WAVETRONIX CLICK 200 MODULE EACH	CELLULAR MODEM EACH	MOUNTED CABINET 24"X51" EACH	CELLULAR ANTENNA EACH	CELLULAR ANTENNA CABLE LF
ATR-67-6137	39+00 +/-	1	1	1	40	1	1	1	1	33

NOTE: ALL ITEMS ON THIS SHEET ARE PAID UNDER CATEGORY 0010.

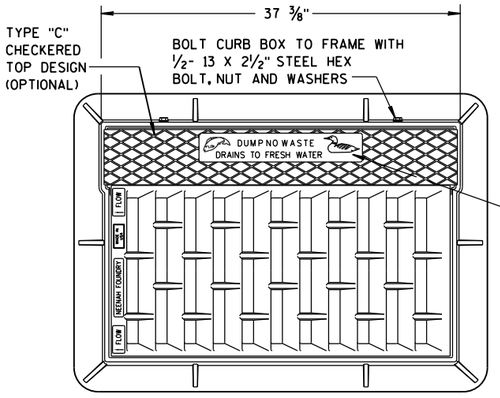
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09E01-12B	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 3 (HEAVY DUTY)
11B02-02	CONCRETE MEDIAN NOSE
12A03-10	NAME PLATE (STRUCTURES)
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B28-02	GUARDRAIL MOW STRIP
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES

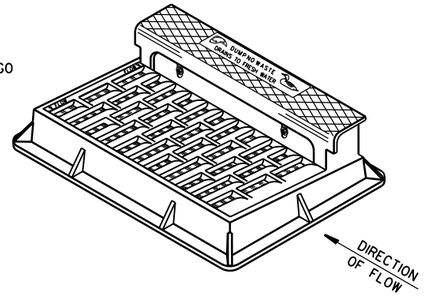
6

Standard Detail Drawing List

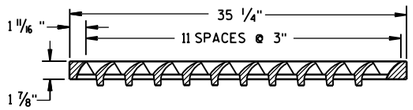
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-02	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE

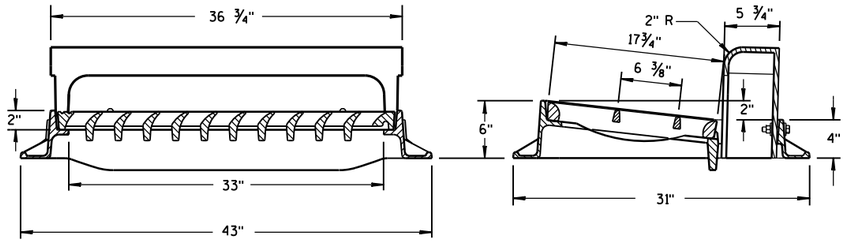


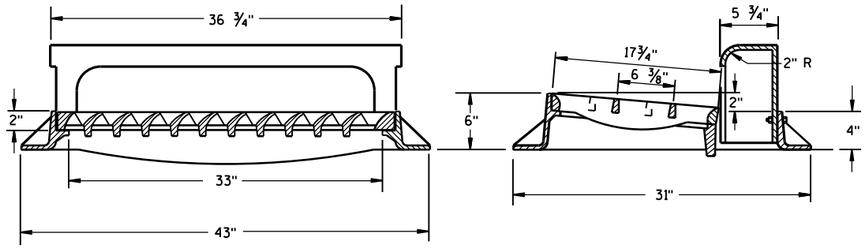
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

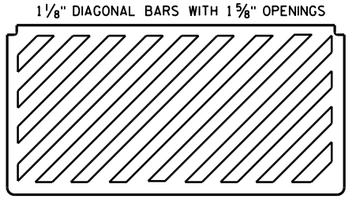






TYPE "H"

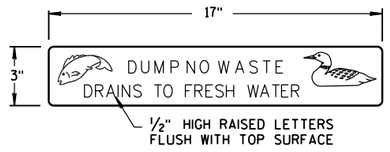
NOTE: EITHER CASTING IS ACCEPTABLE



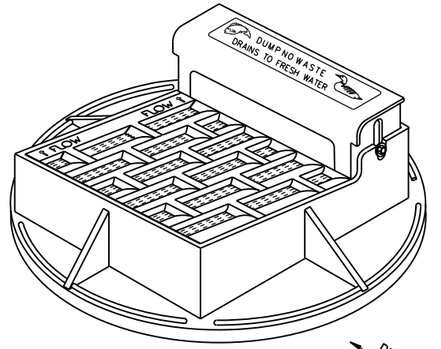
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

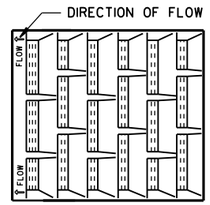
NOTE:
GRATE IS REVERSIBLE.

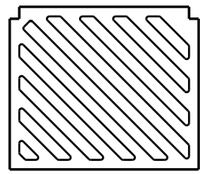
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

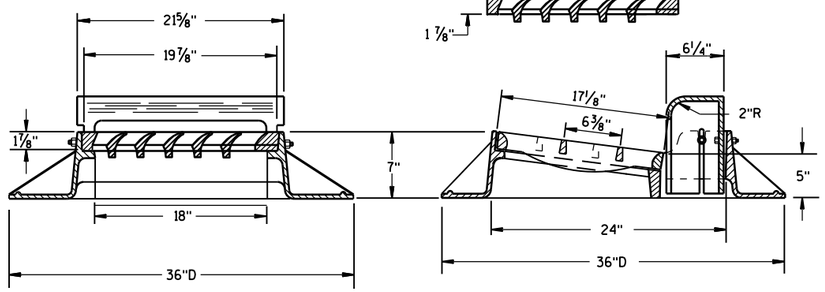




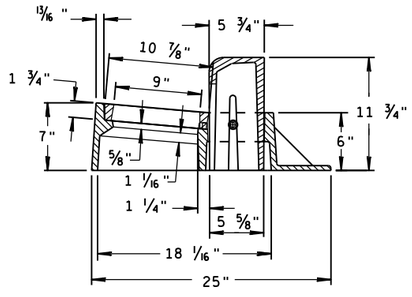
SPECIAL GRATE FOR TYPE "A" COVER

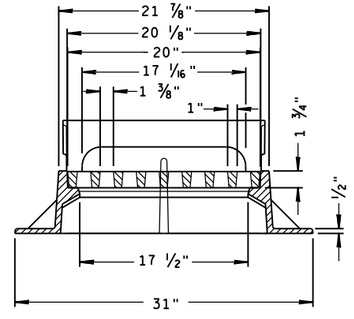
(MEASURES 19 3/4" X 17" X 1 7/8")

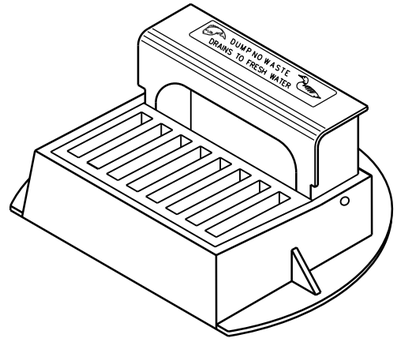
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"







TYPE "Z"

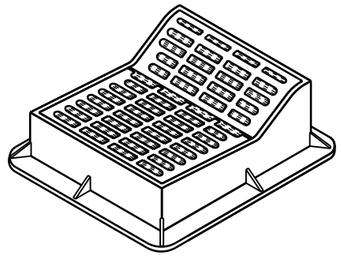
INLET COVERS
TYPE A, H, A-S, H-S & Z

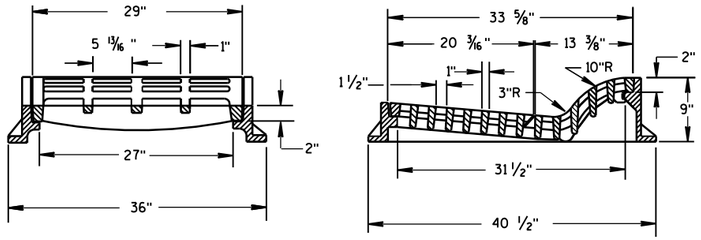
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

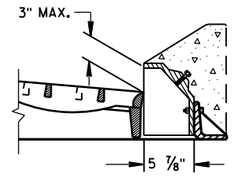
S.D.D. 8 A 5-19a





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

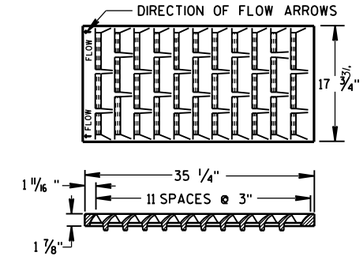
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

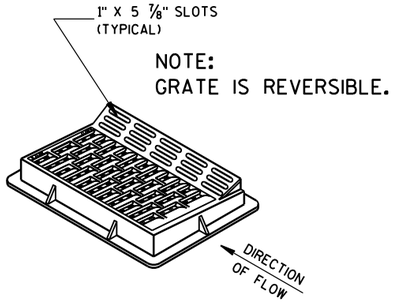
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

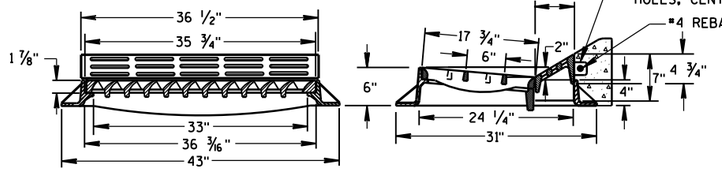
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



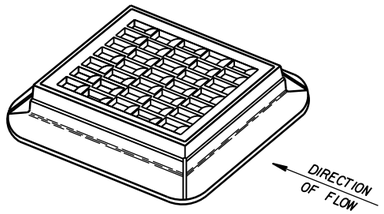


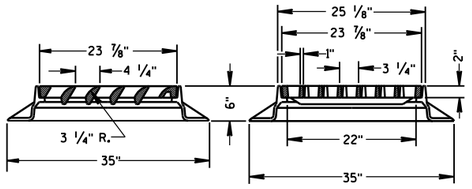


TYPE "HM"

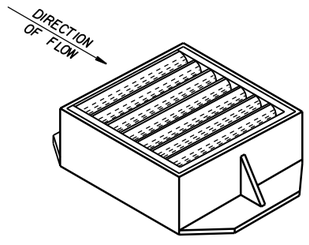
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

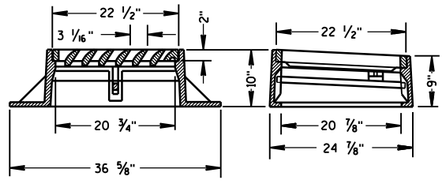
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



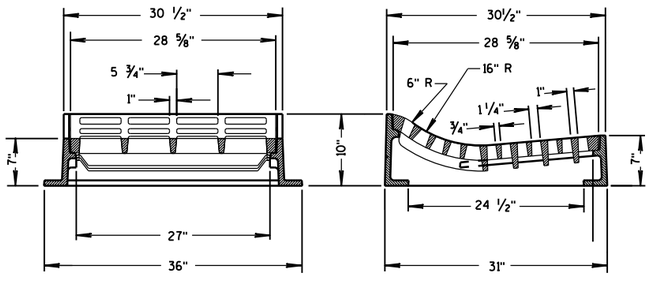


TYPE "S"



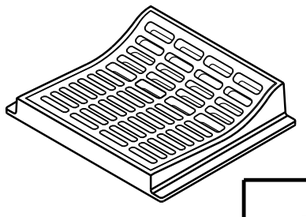


TYPE "V"



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

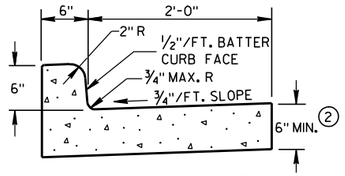
APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

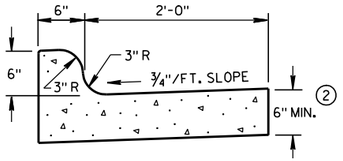
FHWA

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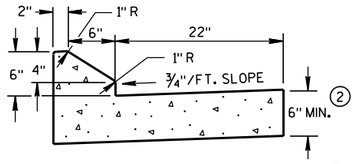
S.D.D. 8 A 5-19c



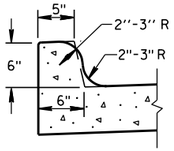
TYPES A & D (1)



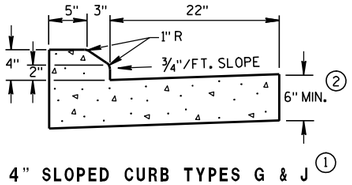
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

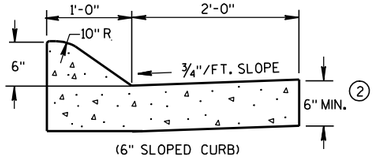


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

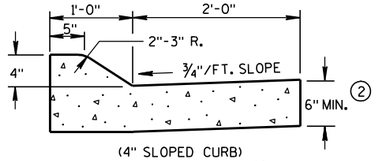


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

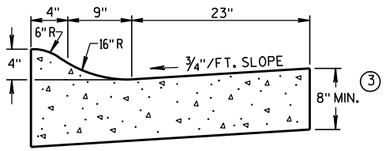


(6" SLOPED CURB)



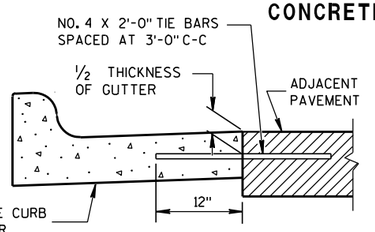
(4" SLOPED CURB)

TYPES A & D (1)

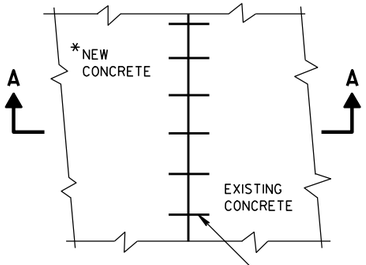


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

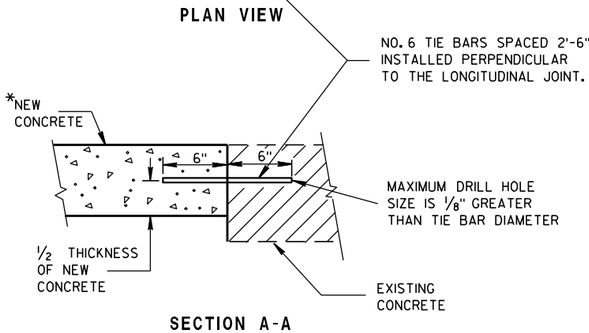


TYPICAL TIE BAR LOCATION (1)



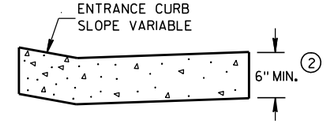
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



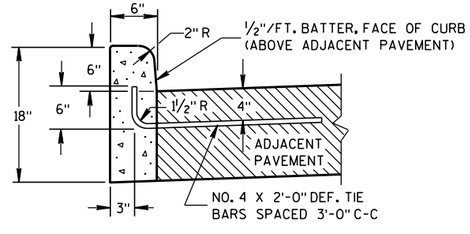
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



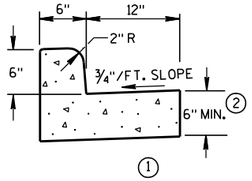
DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)



(1)

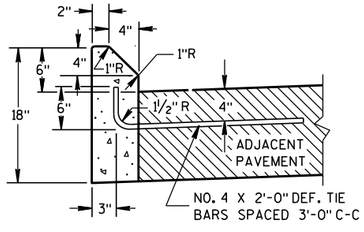
TYPES A & D



(1)

TYPES A & D

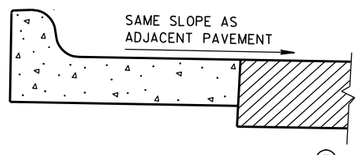
CONCRETE CURB & GUTTER 18"



(1)

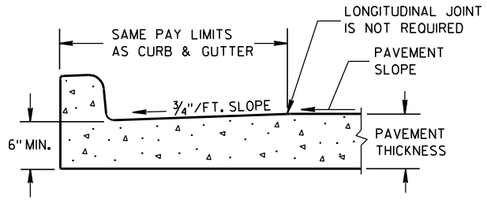
TYPES G & J

CONCRETE CURB

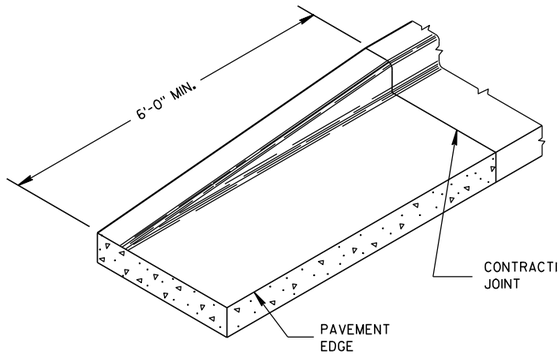


REVERSE SLOPE GUTTER (5)

(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

GENERAL NOTES

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

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

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

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

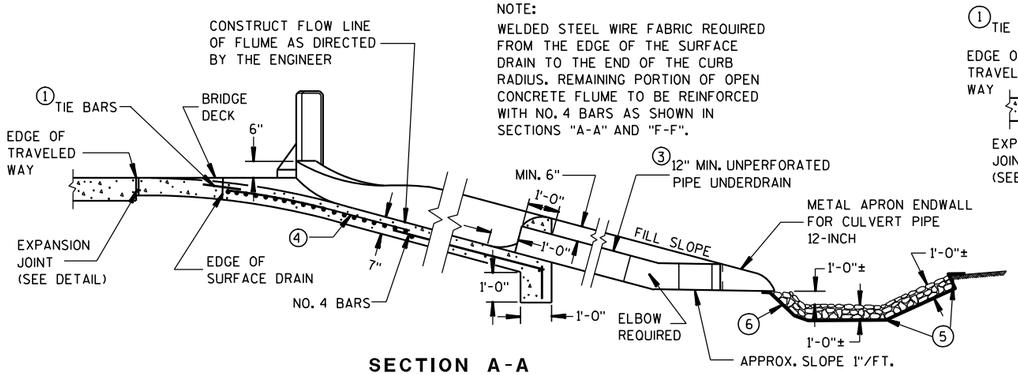
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

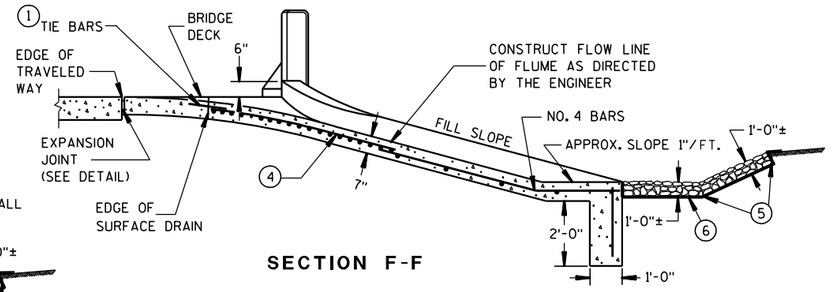
APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 D 1-17



SECTION A-A



SECTION F-F

GENERAL NOTES

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

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

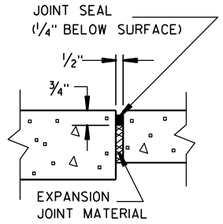
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

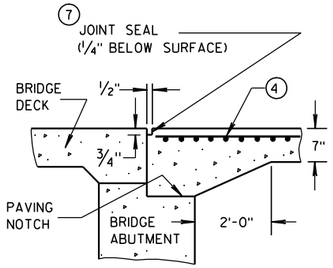
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

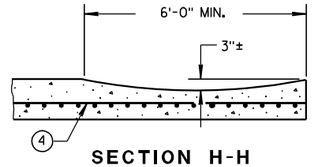
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



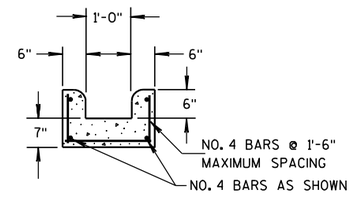
EXPANSION JOINT DETAIL



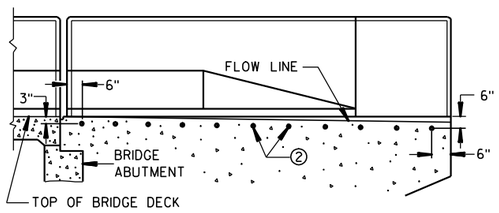
SECTION D-D



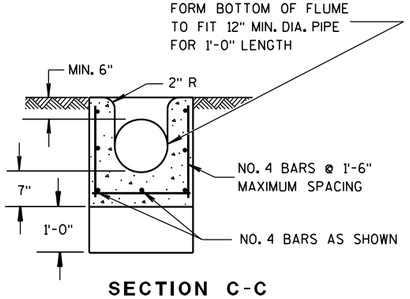
SECTION H-H



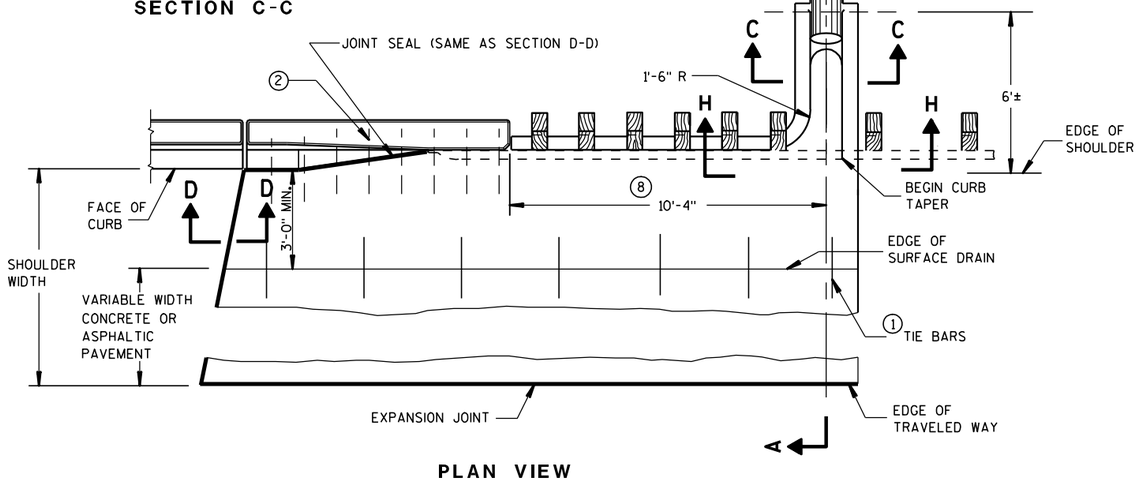
SECTION E-E



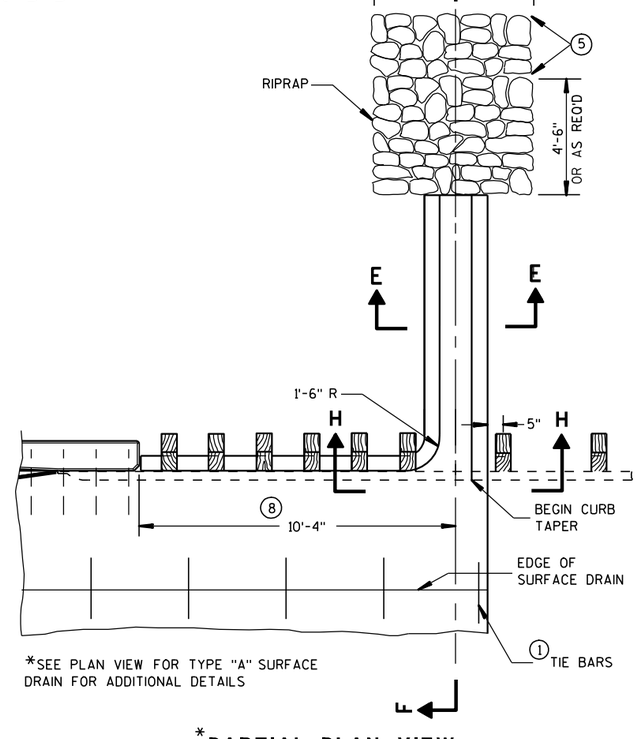
LOCATION OF TIE BARS IN WINGWALL



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

***PARTIAL PLAN VIEW**
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

128

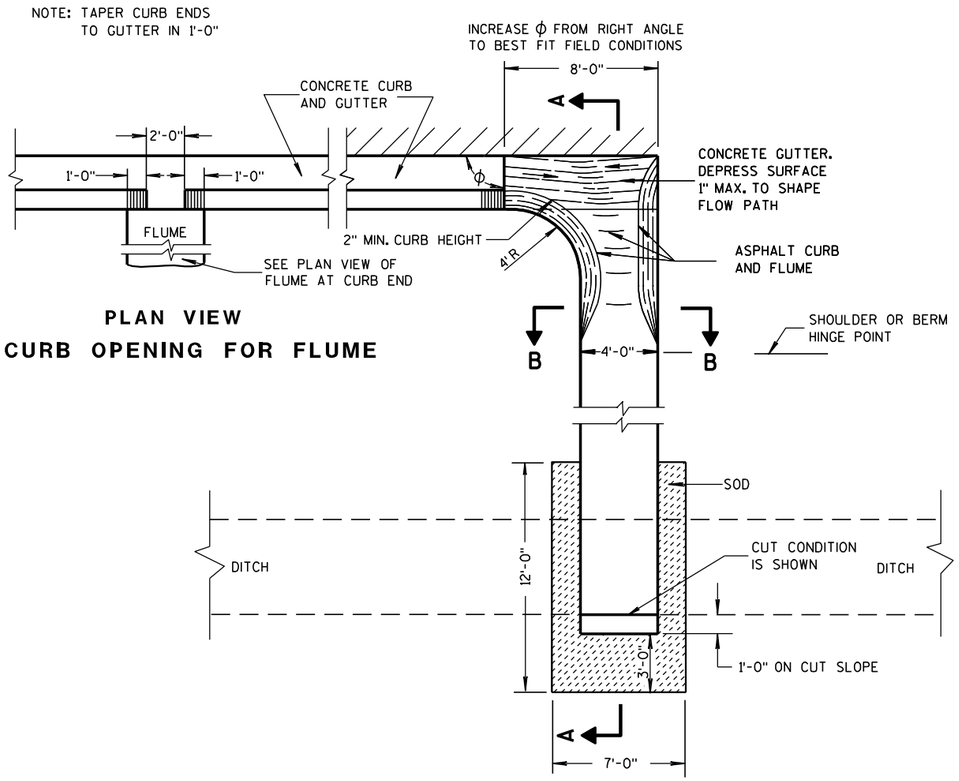
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S.D.D. 8 D 2-6

6

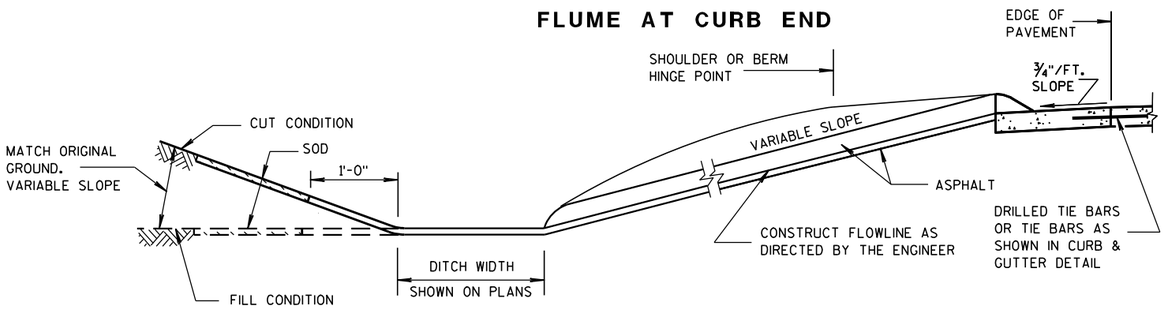
S.D.D. 8 D 2-6

ASPHALTIC FLUME

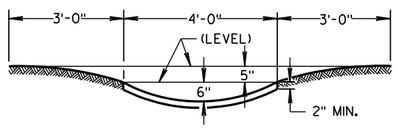


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

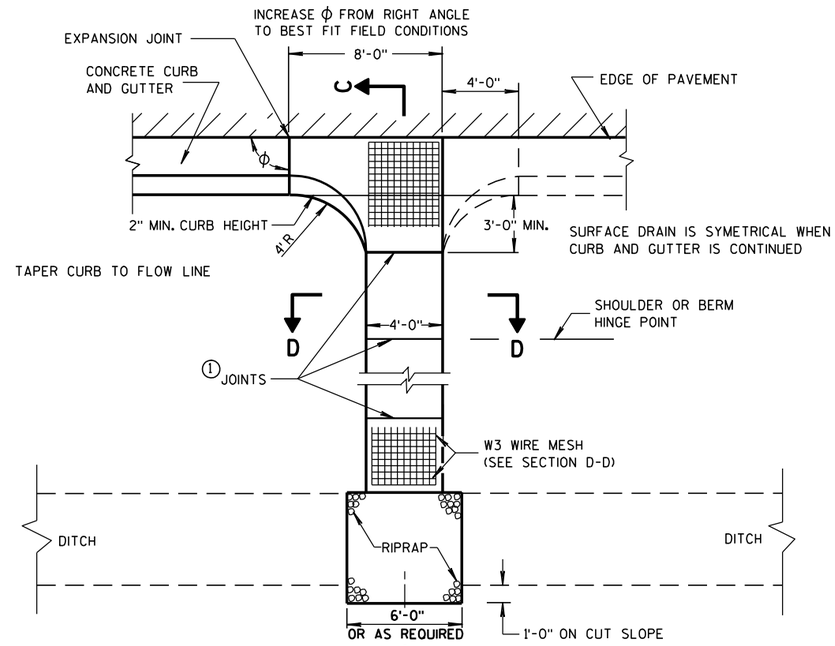
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

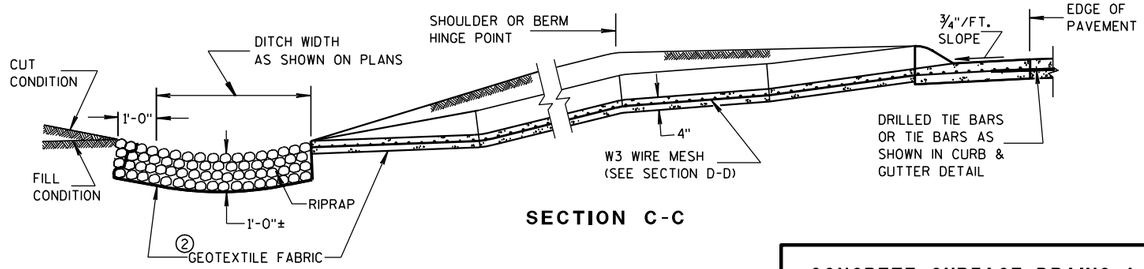
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

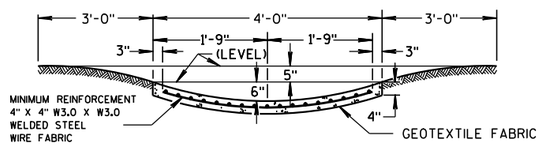
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

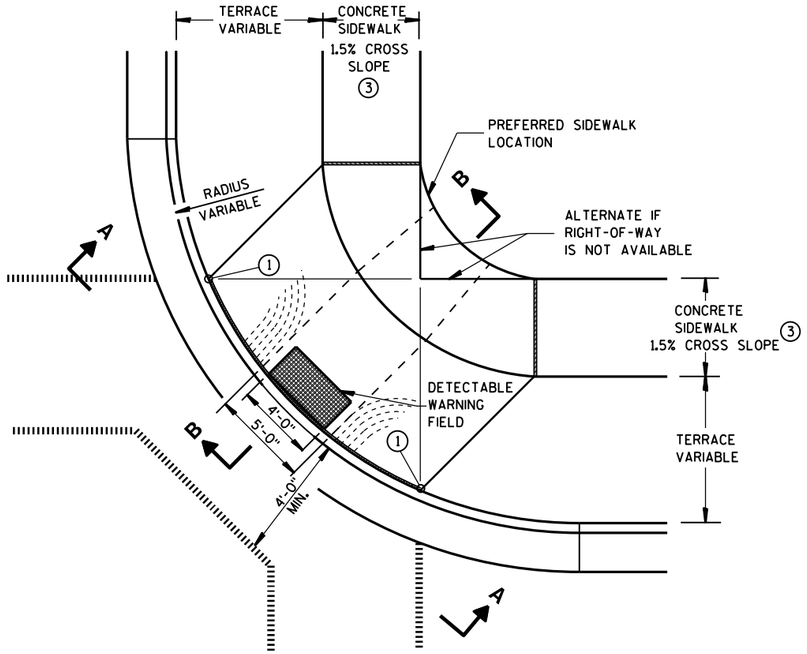
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
129
MENT
FHWA

6

S.D.D. 8 D 4-5

6

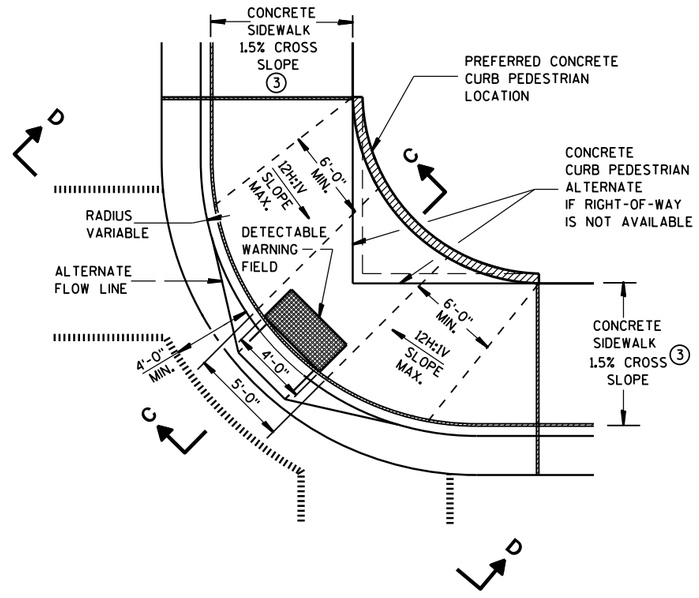
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

GENERAL NOTES

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

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

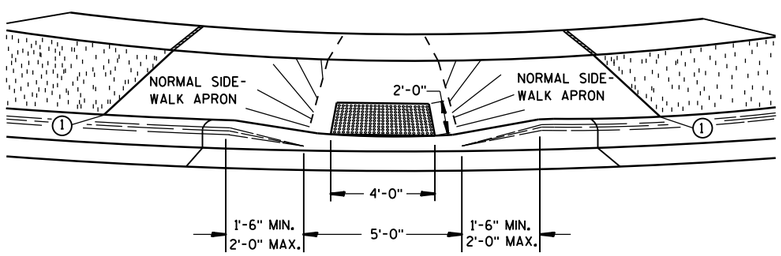
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

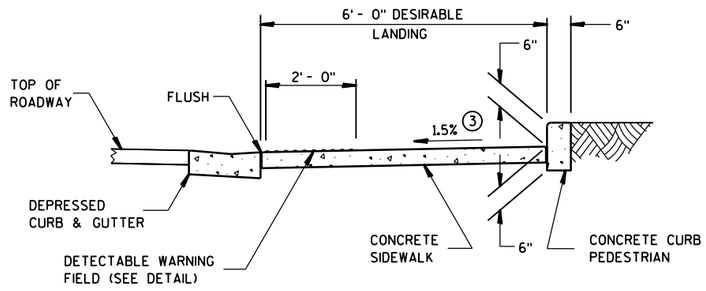
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

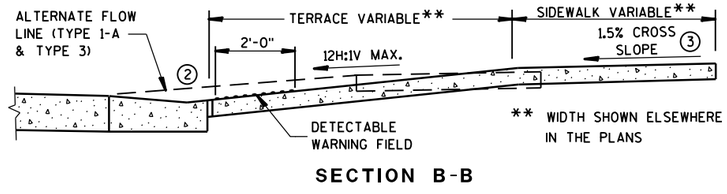
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



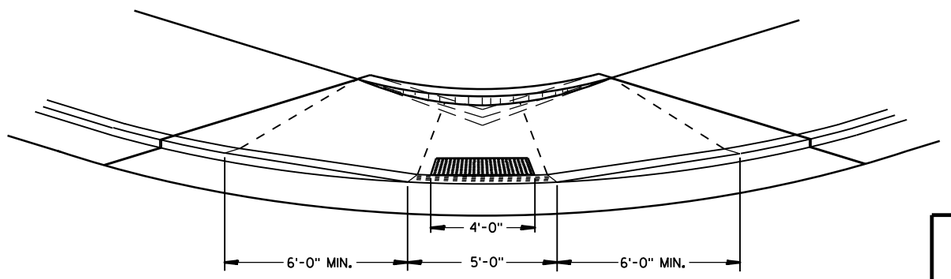
VIEW A-A



SECTION C-C



SECTION B-B



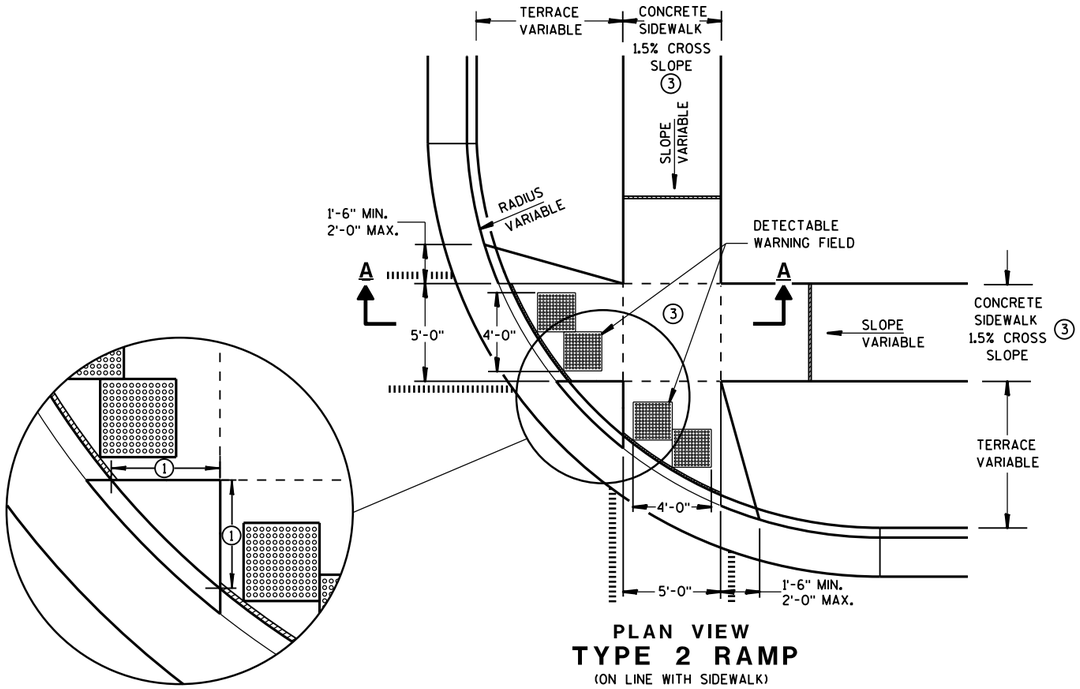
VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

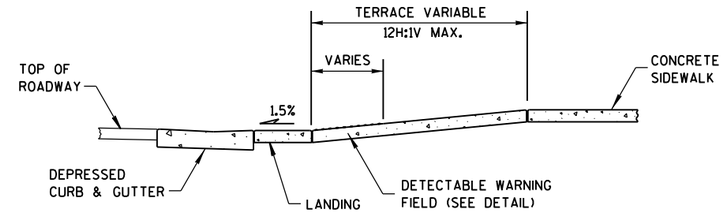
S.D.D. 8 D 5-15a



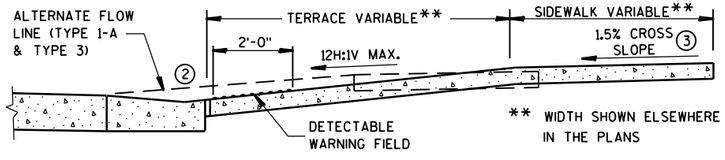
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

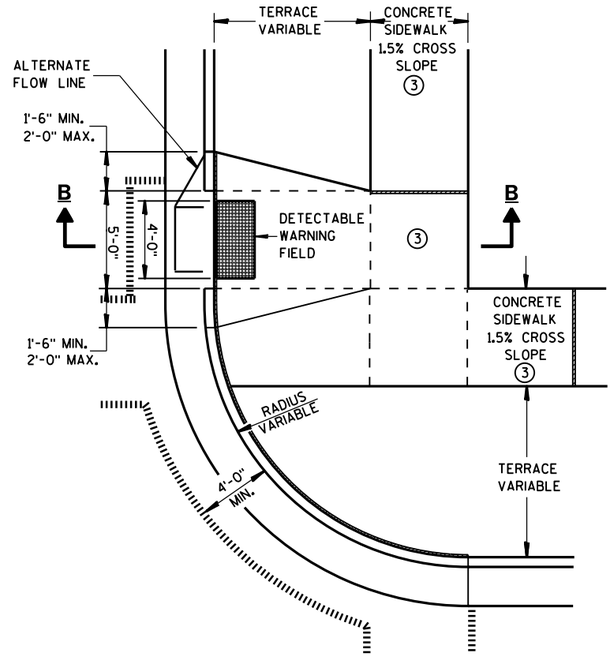
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

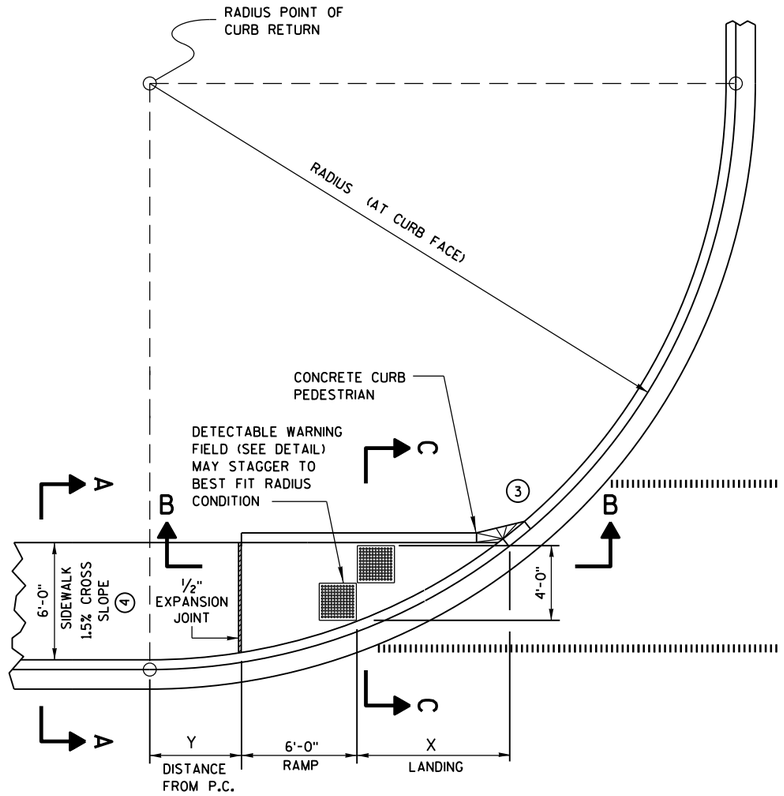
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

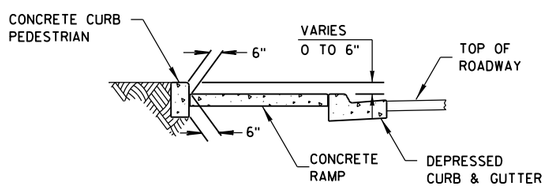
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

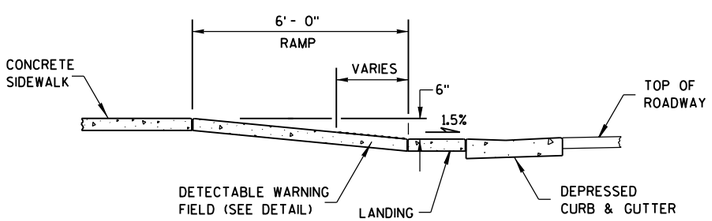
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



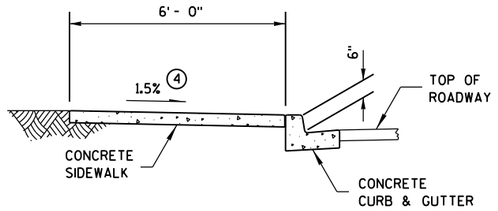
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

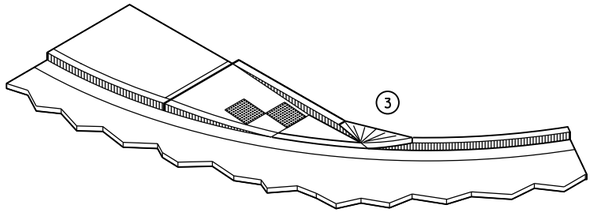
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

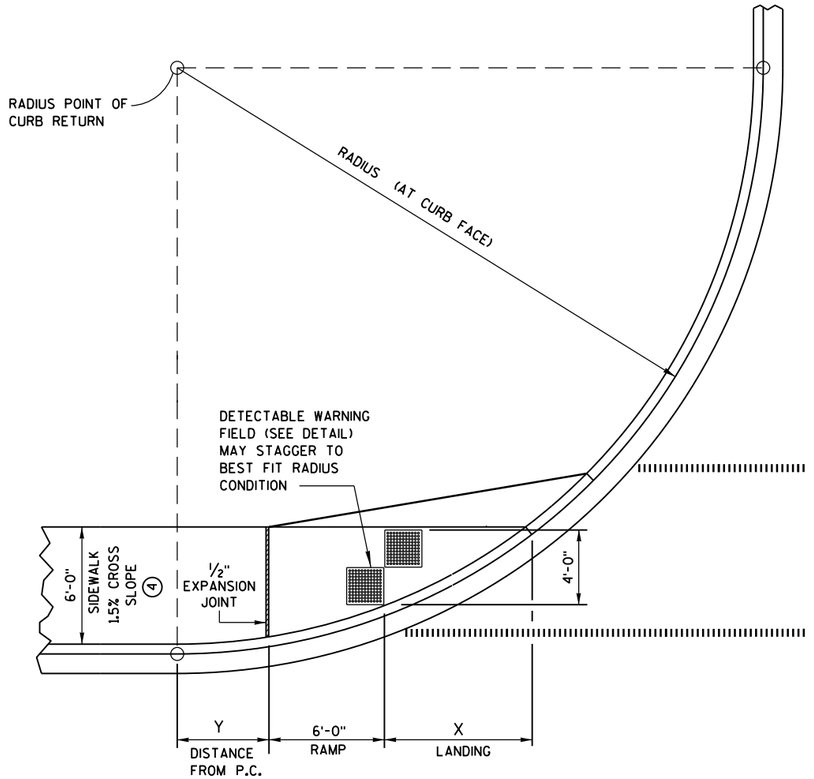
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

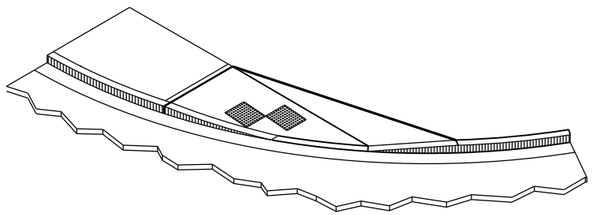
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

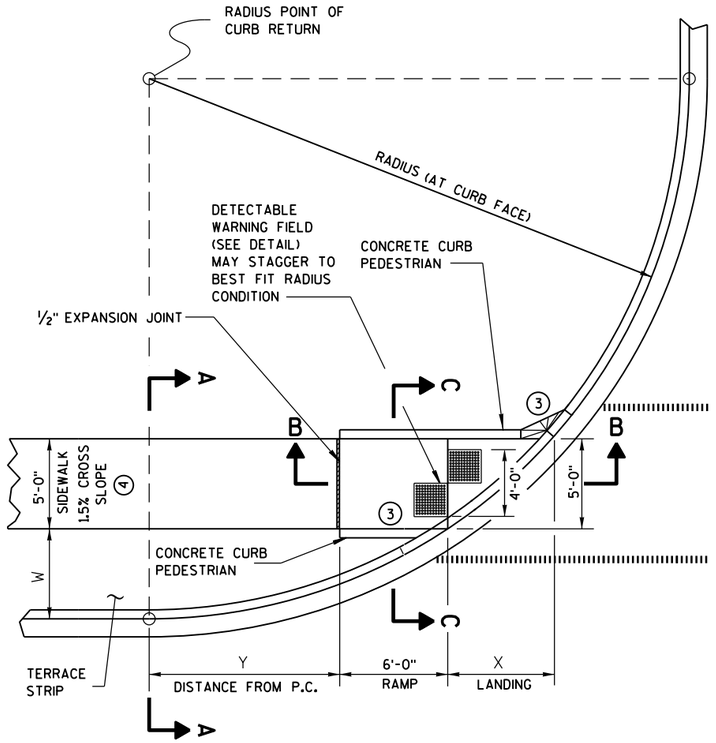
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15c



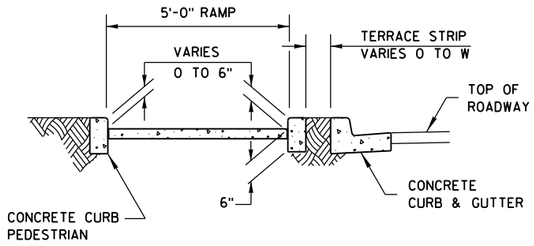
CURB RAMP TYPE 4B
PLAN VIEW

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B

GENERAL NOTES

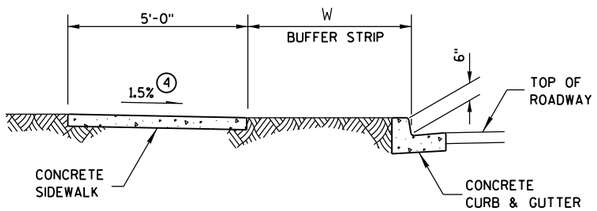
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

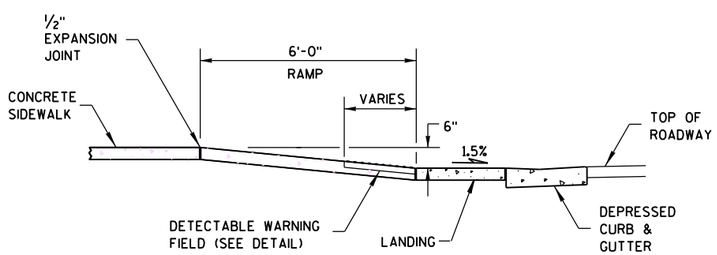
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

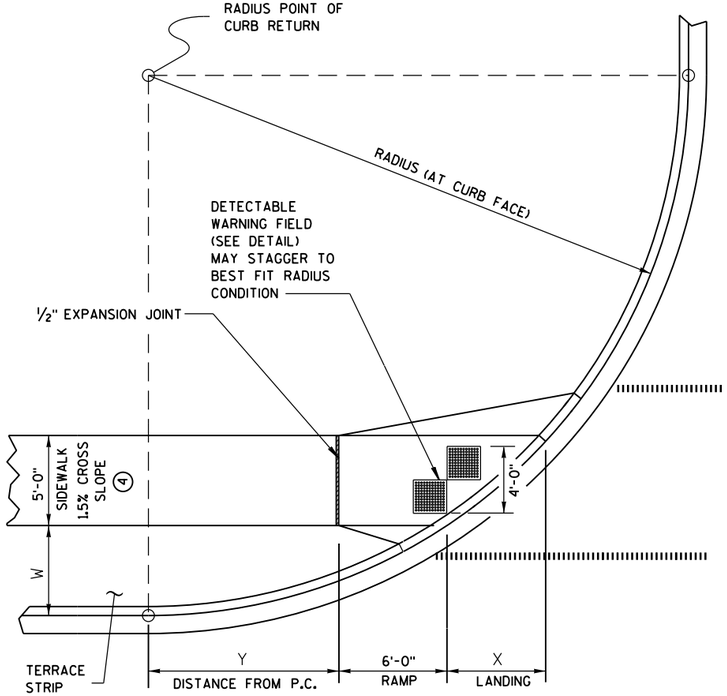
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



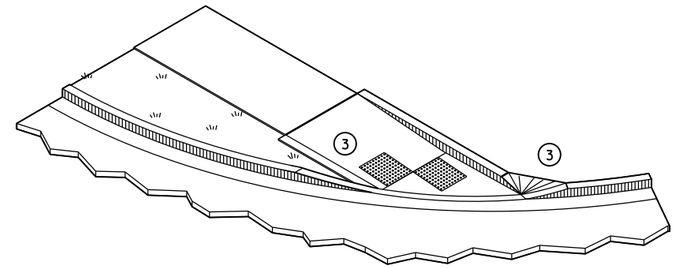
SECTION A-A FOR TYPE 4B



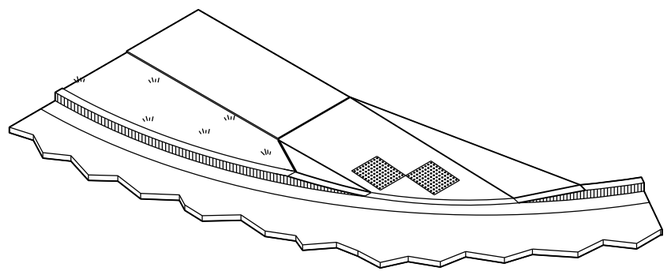
SECTION B-B FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



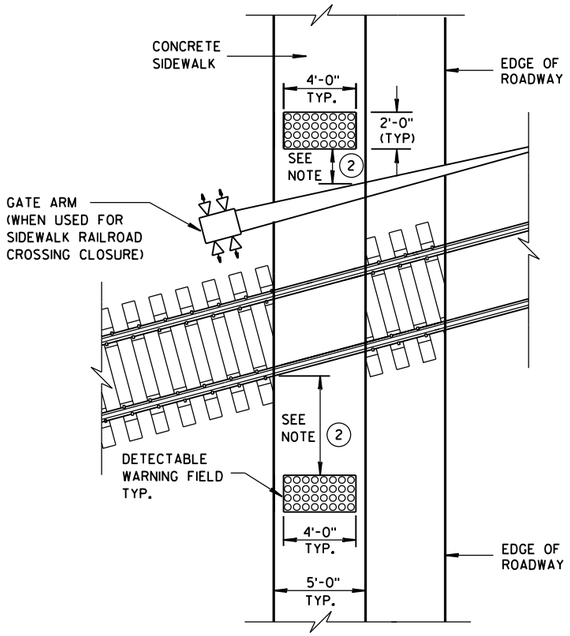
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

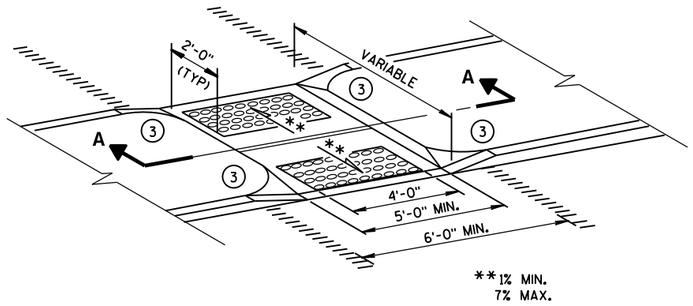
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

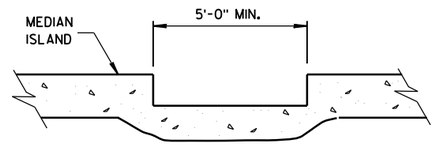
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

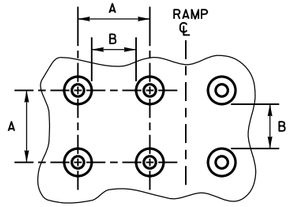
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



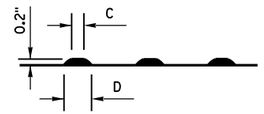
SECTION A-A



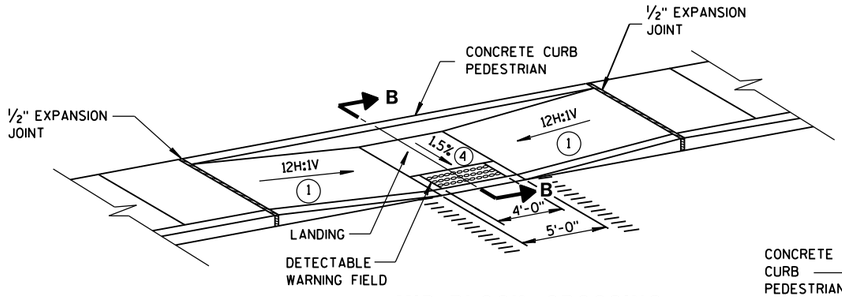
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

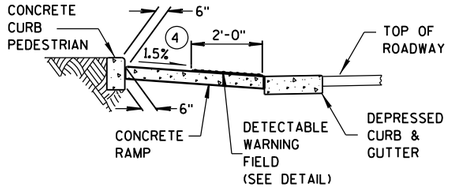
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

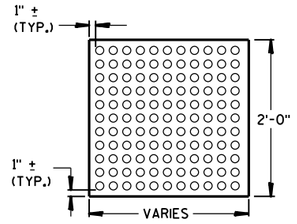


MID-BLOCK CROSSING
TYPE 7A



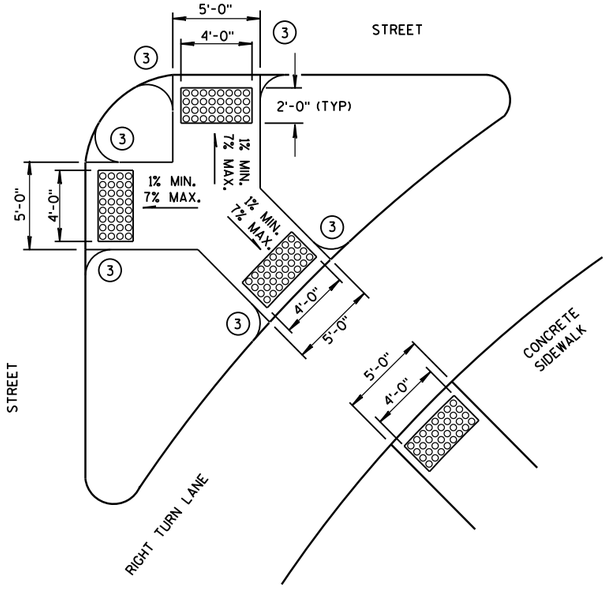
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

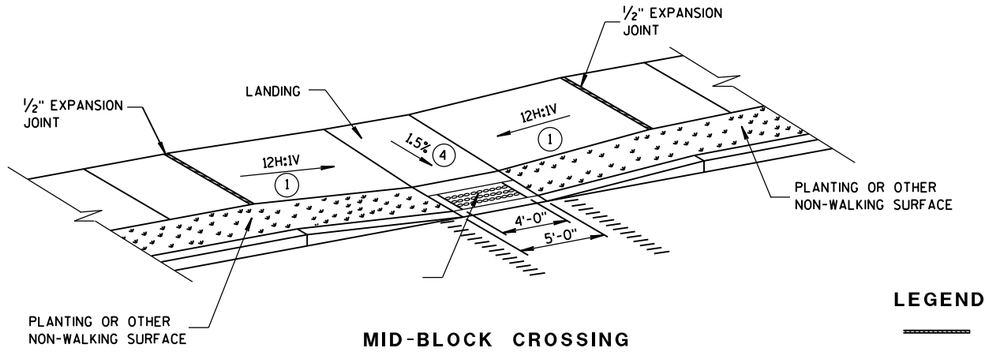


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

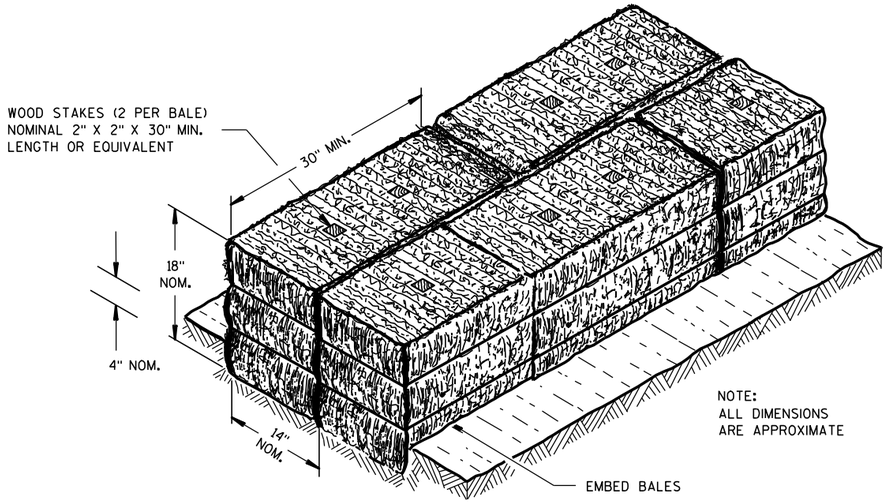
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

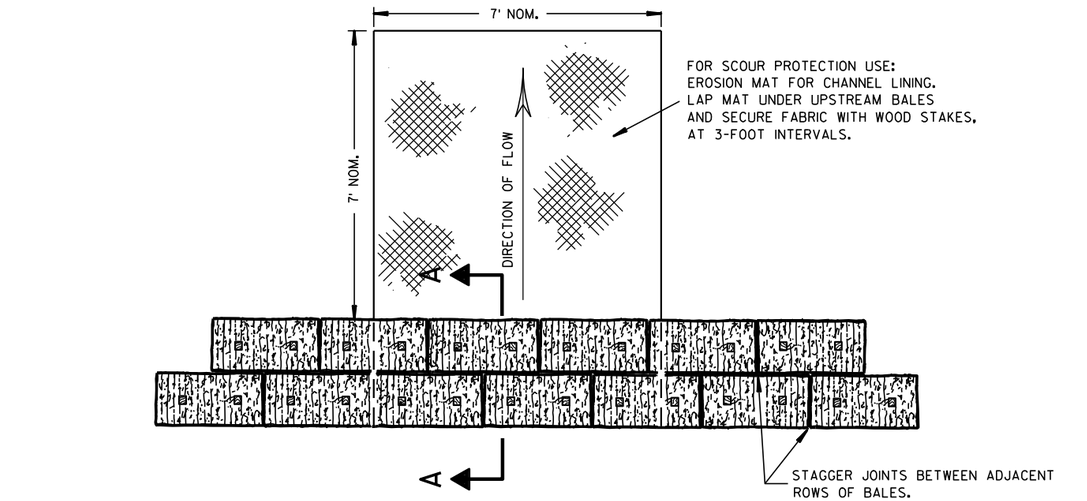
APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

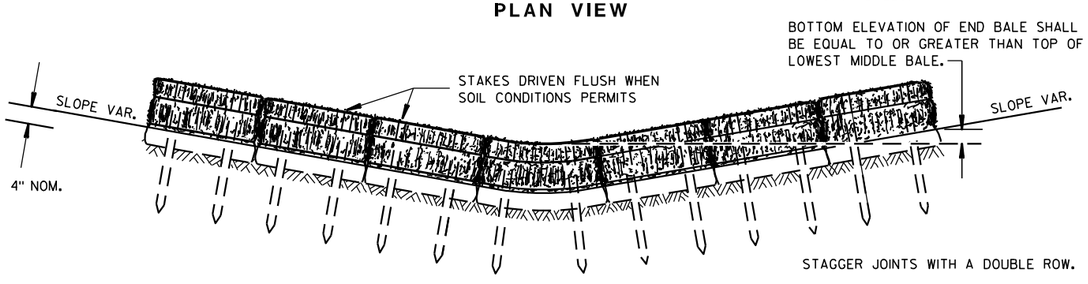
S.D.D. 8 D 5-15e



SECTION A-A



PLAN VIEW



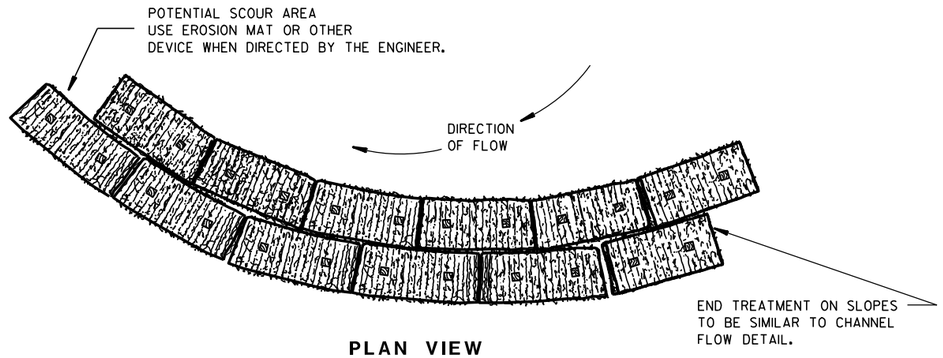
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

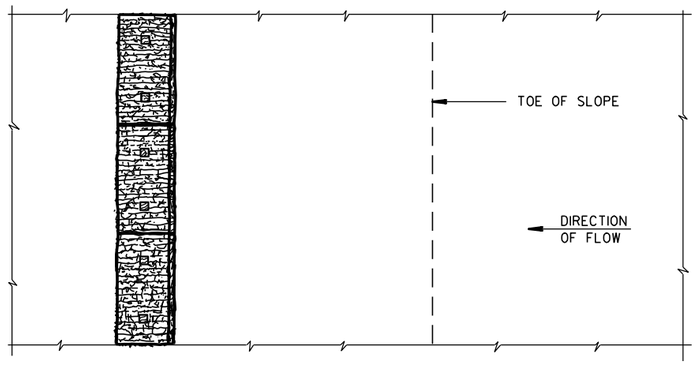
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

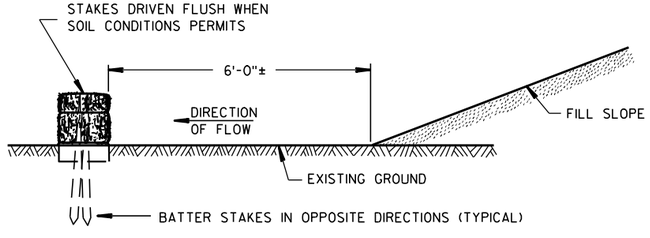


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

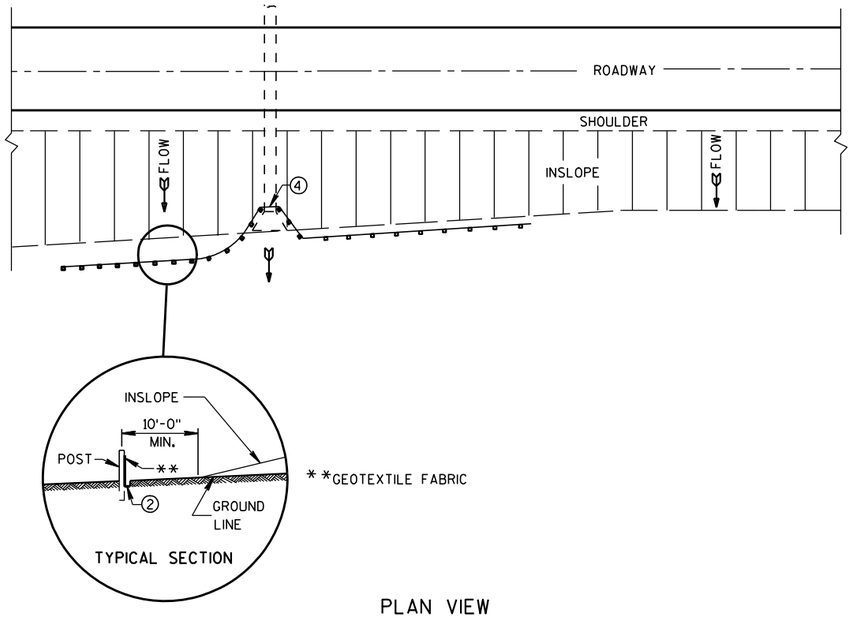
FHWA

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S.D.D. 8 E 8-3

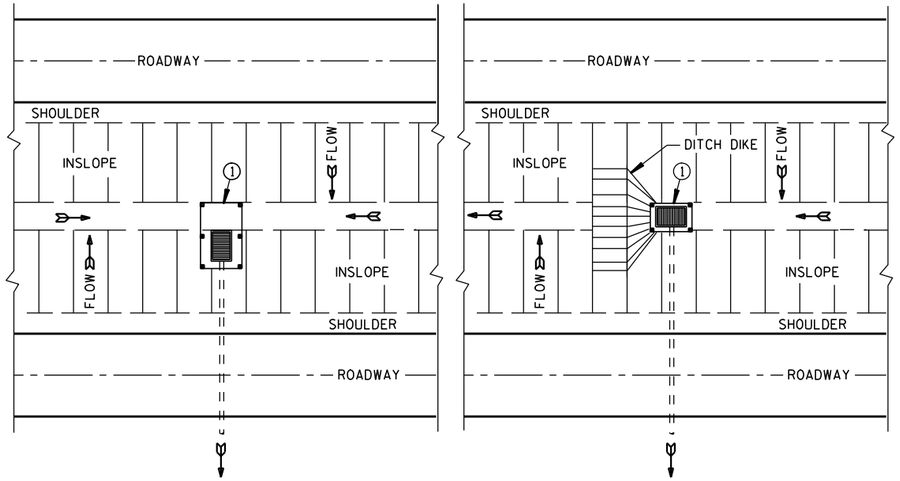
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

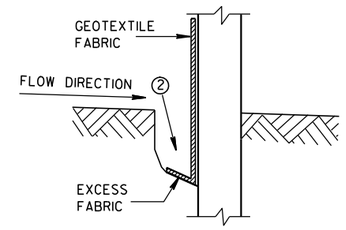
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

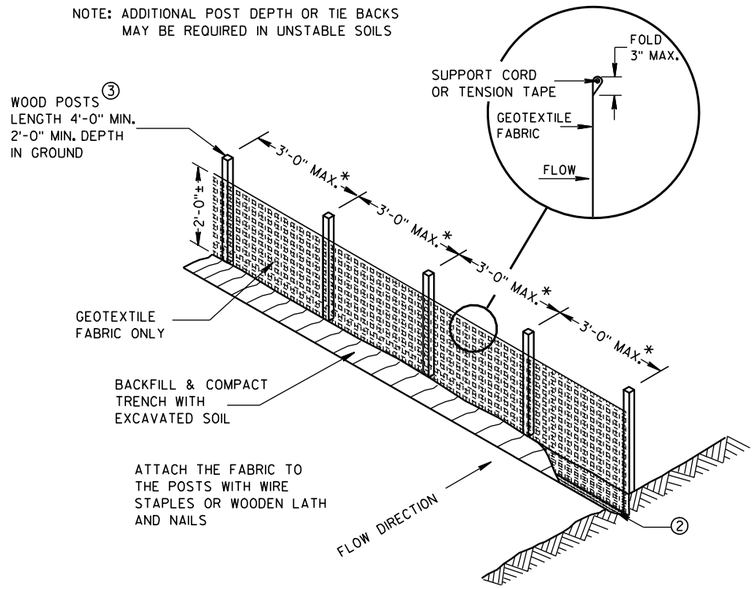
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

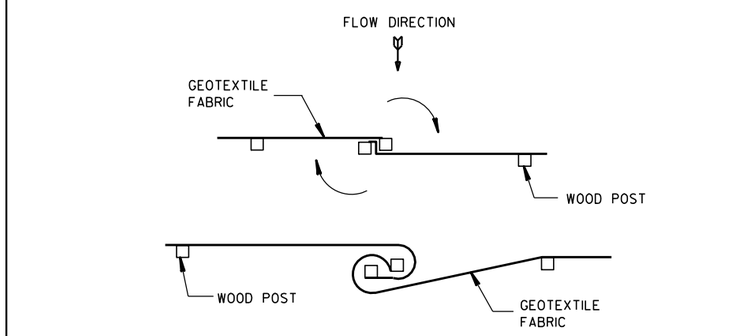
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



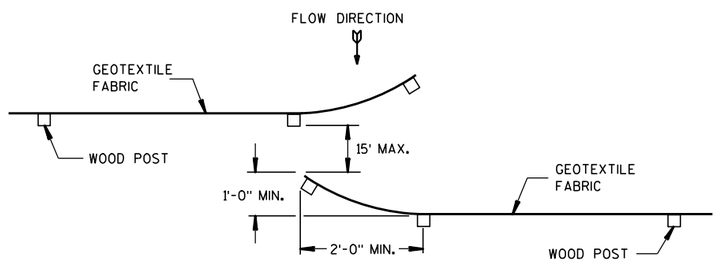
TRENCH DETAIL



SILT FENCE

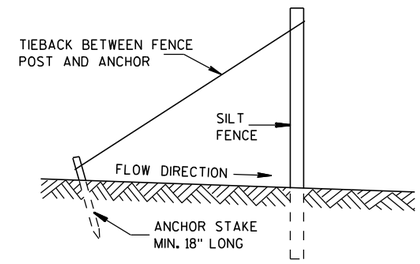


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

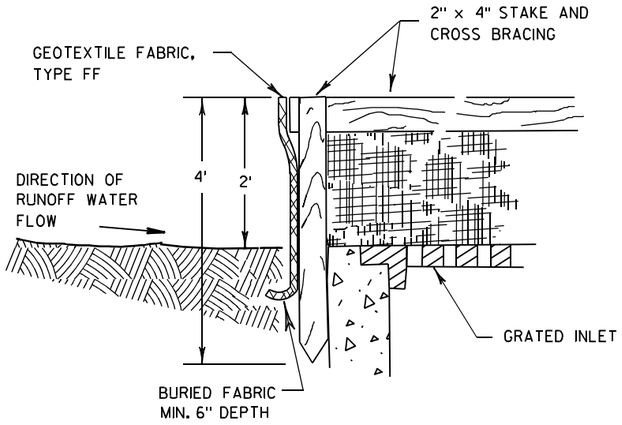
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

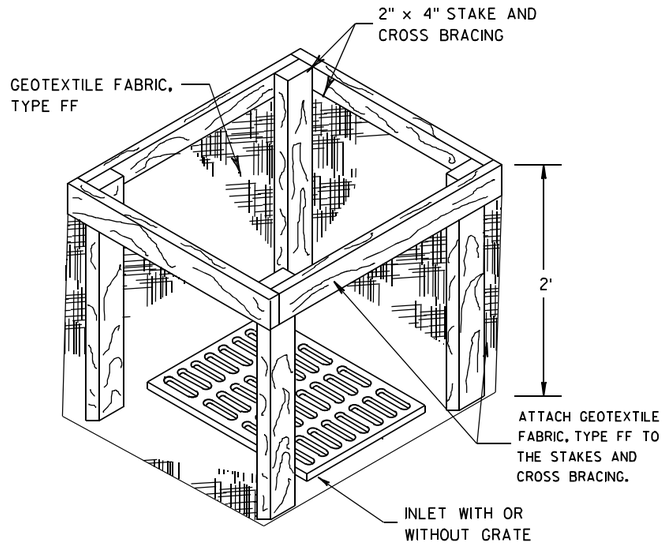
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S.D.D. 8 E 9-6

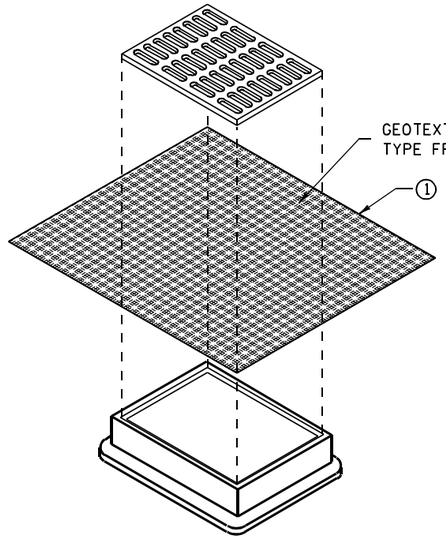
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S.D.D. 8 E 9-6



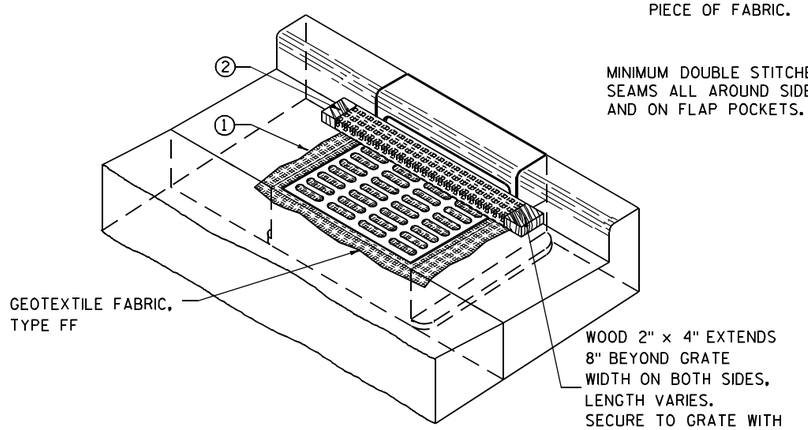


INLET PROTECTION, TYPE A

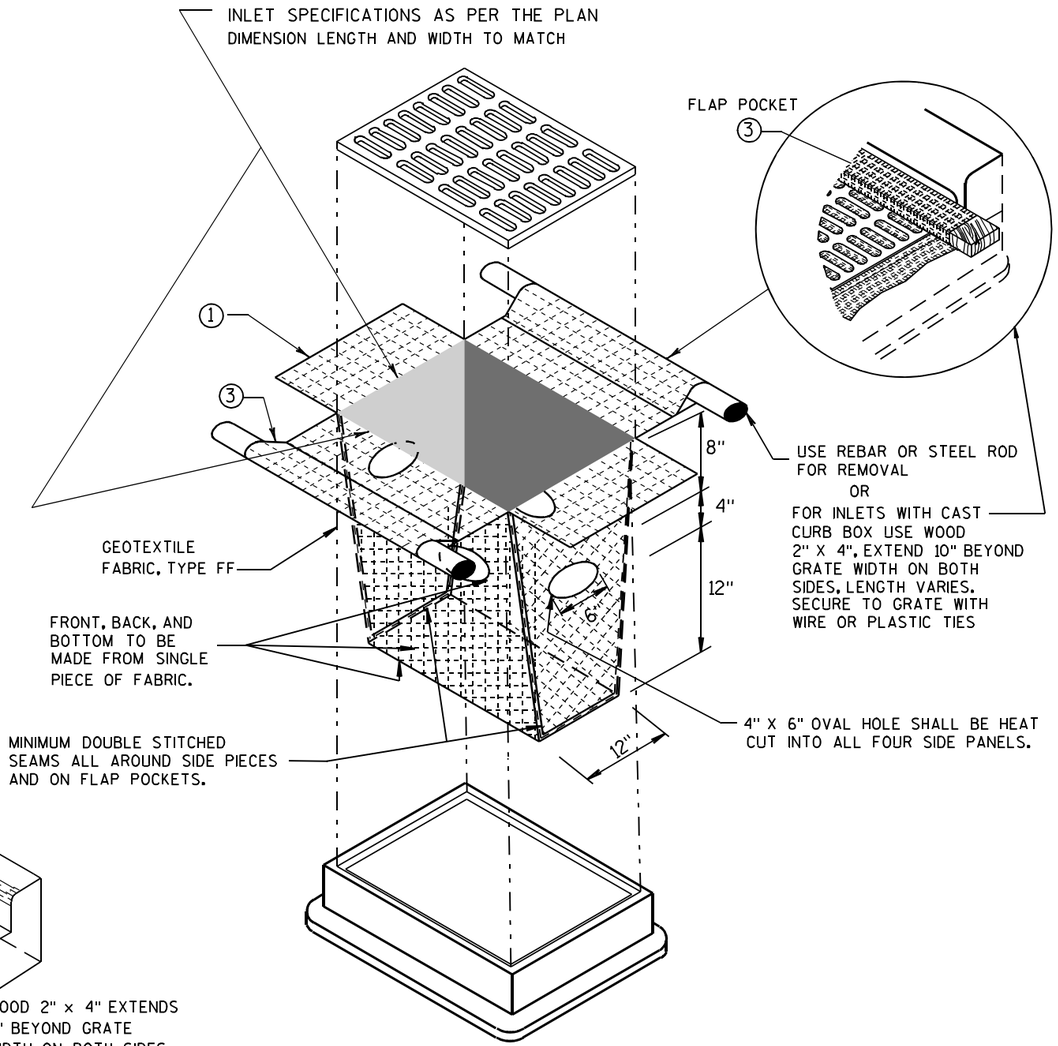


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

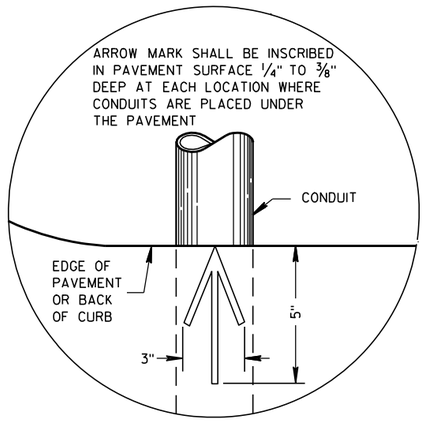
APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

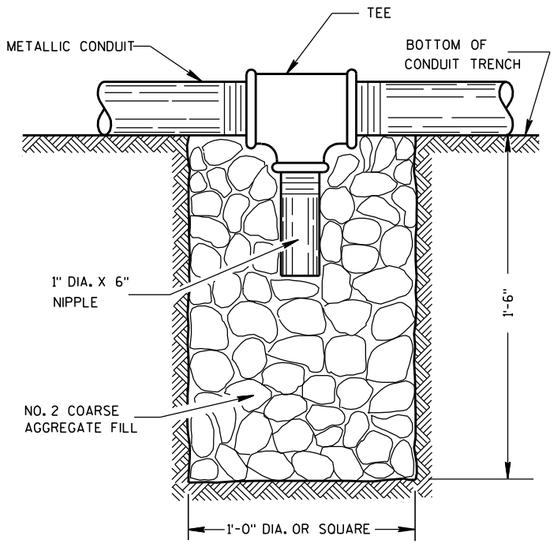
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S.D.D. 8 E 10-2



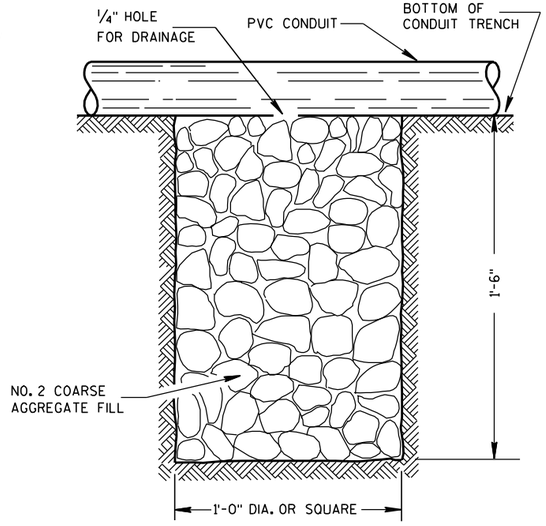
PLAN VIEW

ARROW MARK



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

DRAIN SUMP FOR METALLIC CONDUIT



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

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

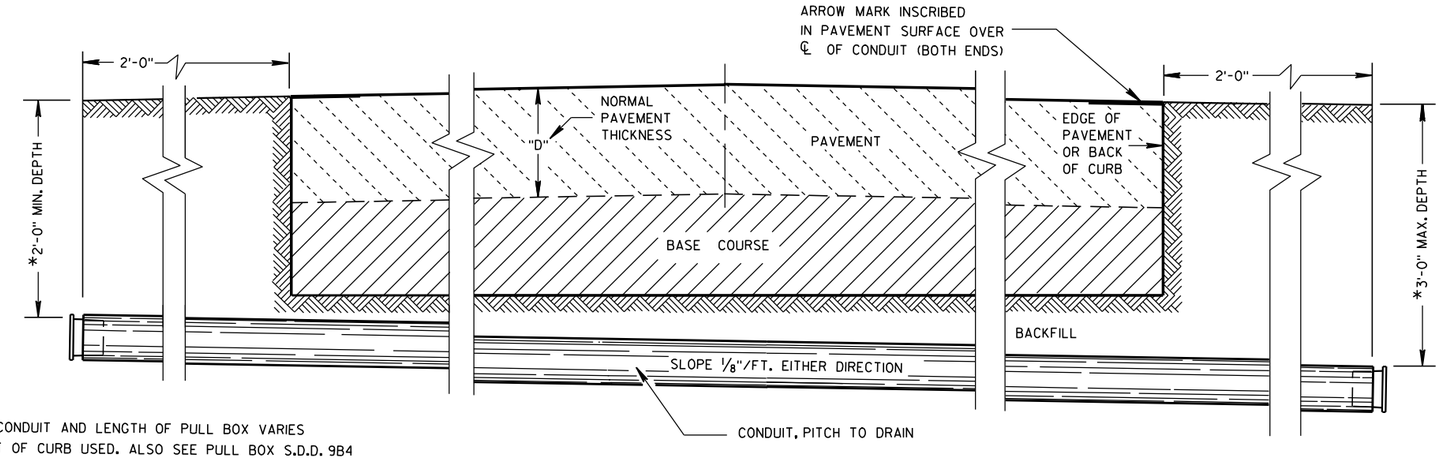
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI

FHWA

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S.D.D. 9 B 2-7

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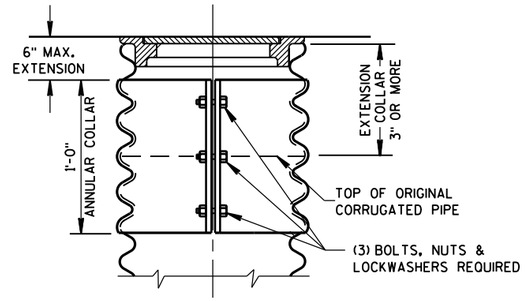
S.D.D. 9 B 2-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

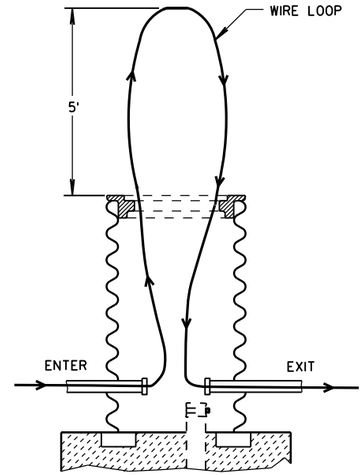
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2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

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

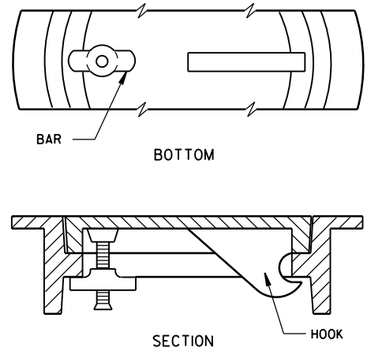
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

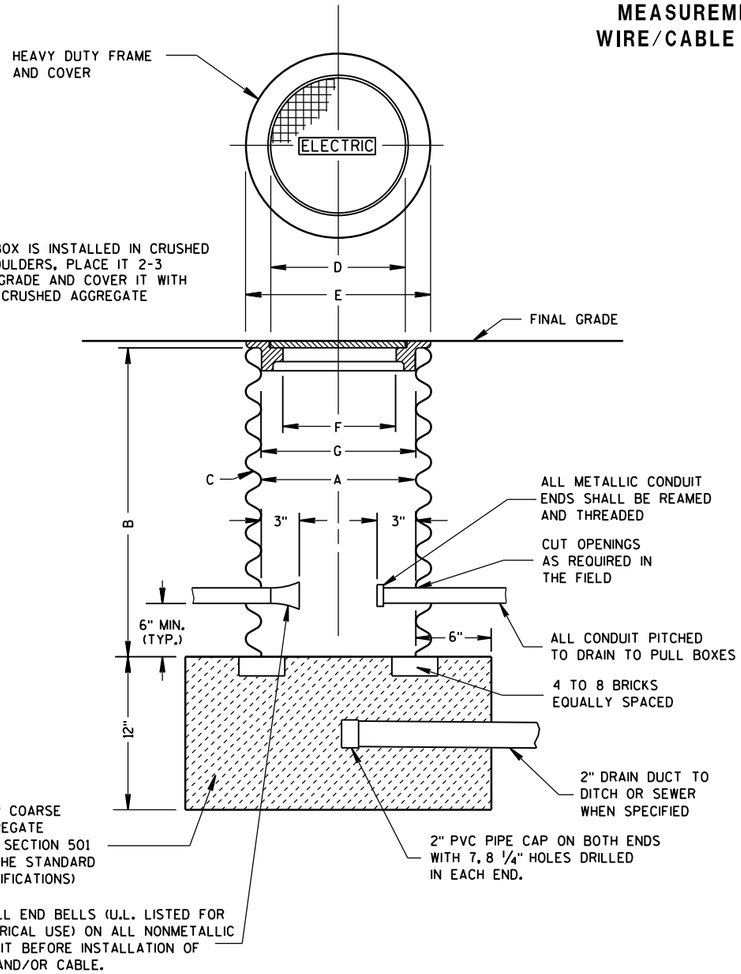


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



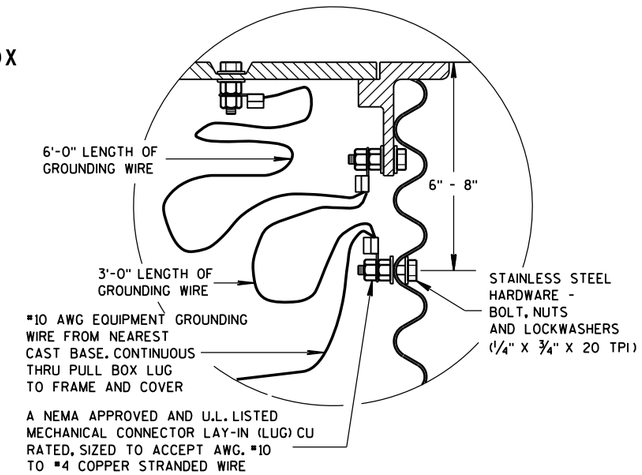
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

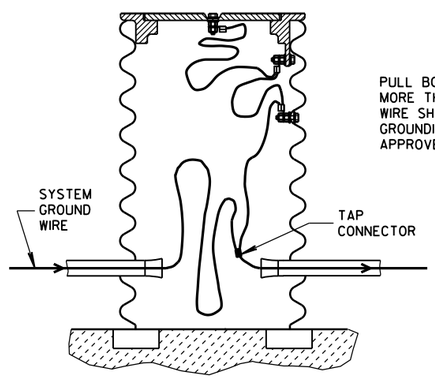


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

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

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

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

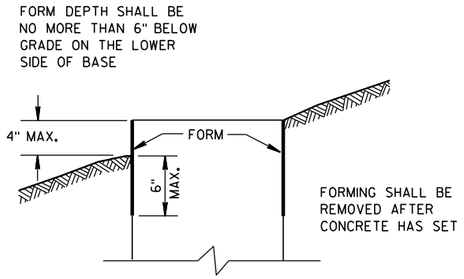
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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

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

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S.D.D. 9 B 4-10



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

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

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

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

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

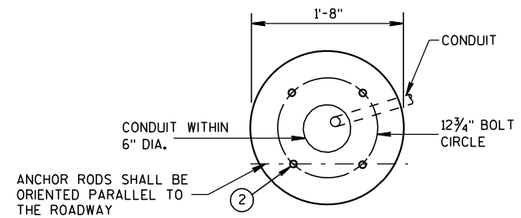
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

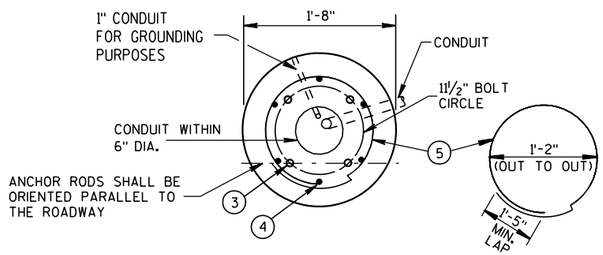
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

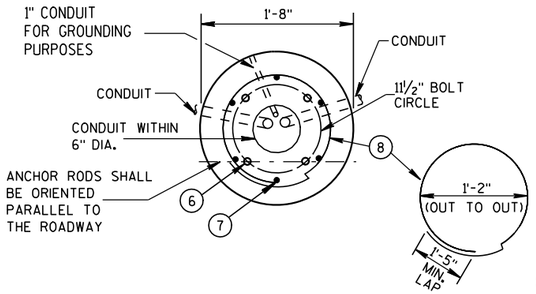
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

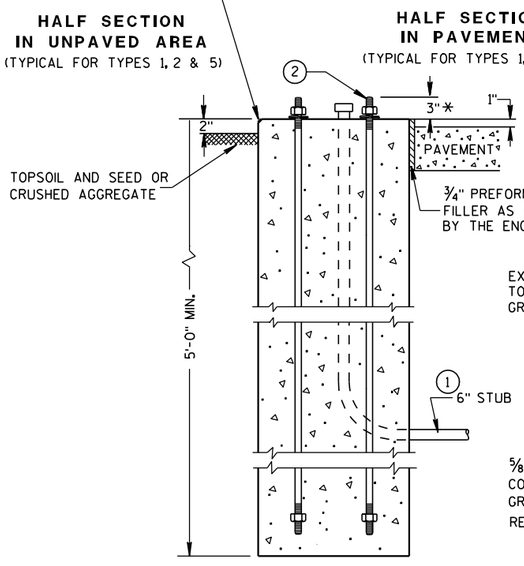






FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

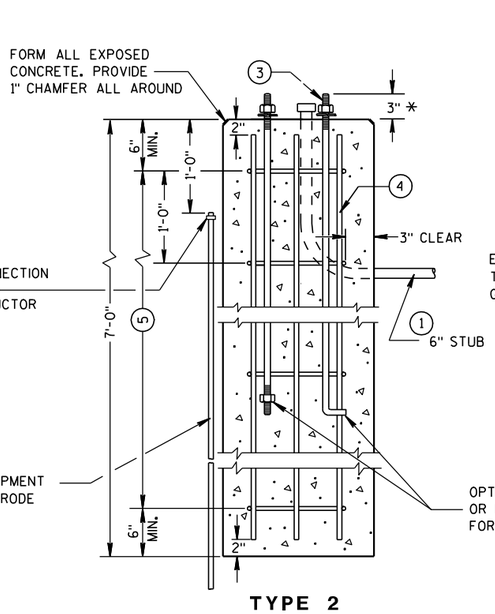
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)



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

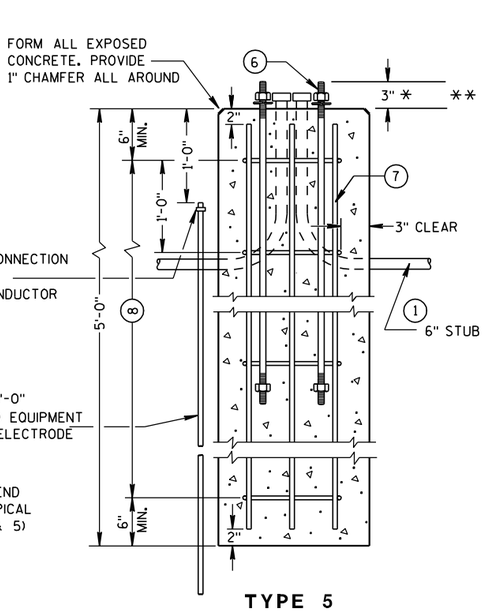
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

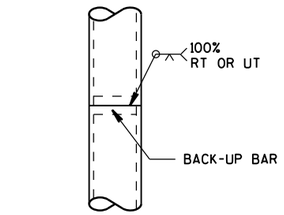
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

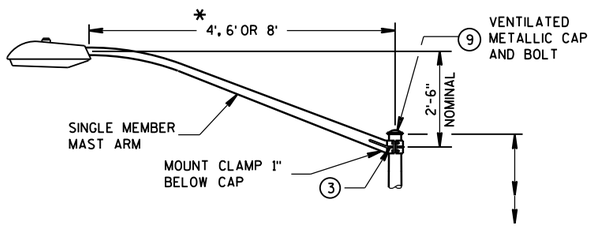
APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
140
HWYS
FHWA

FOR MANUFACTURERS USE ONLY

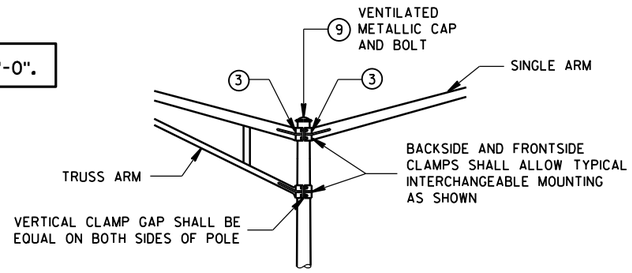
WELD TO BE 100% R.T. OR U.T. TESTED AS PER THE REQUIREMENTS OF AWS D 1.5-88. RECORDS OF COMPLIANCE OF SUCH TESTING SHALL BE FURNISHED TO THE OFFICE OF DESIGN/BRIDGE FOR VERIFICATION AND APPROVAL.

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





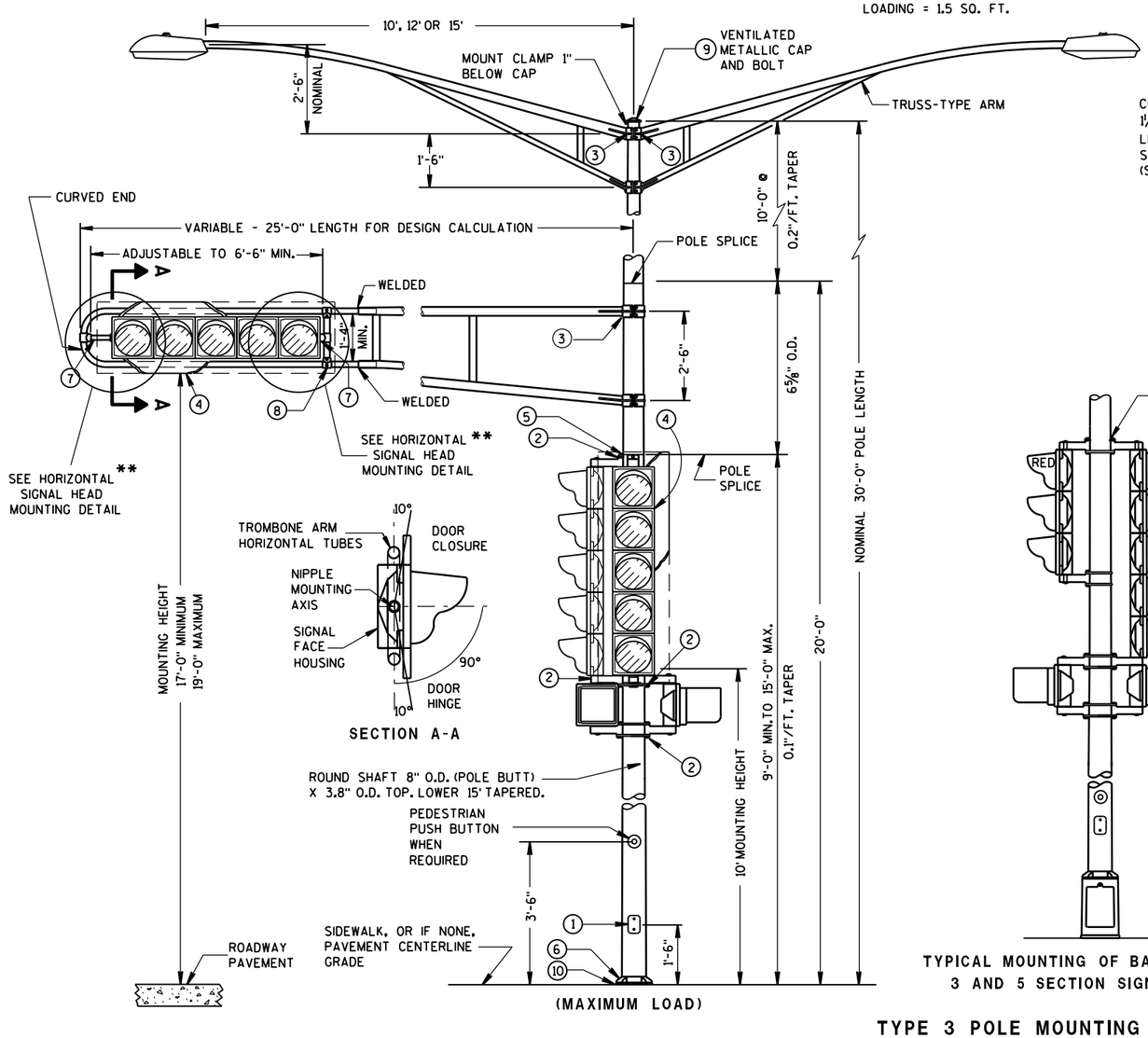
POLE SPLICE DETAIL

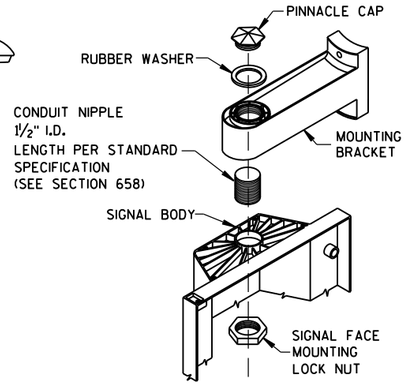


INTERCHANGEABLE MOUNTING DETAIL

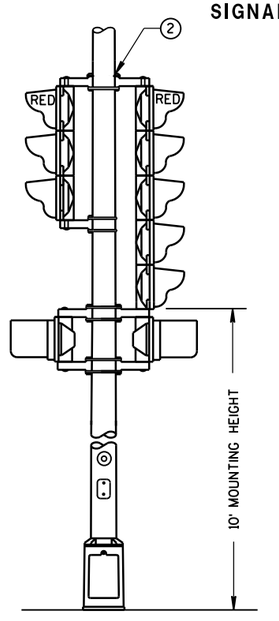
LUMINAIRE

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

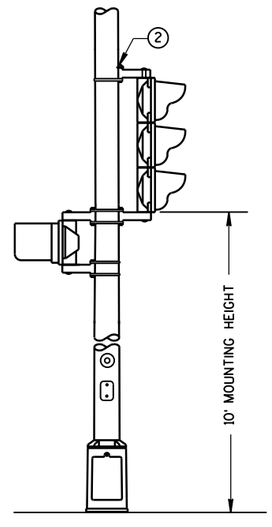




SIGNAL FACE MOUNTING DETAIL
(BANDED)



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



TYPICAL MOUNTING OF 3 SECTION
SIGNAL FACE

GENERAL NOTES

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

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

POLES SHALL BE GALVANIZED STEEL.

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

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

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

(1) 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658)

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) TYPE 3 POLE CONFIGURATIONS SHALL BE MOUNTED DIRECTLY TO THEIR CONCRETE BASES.

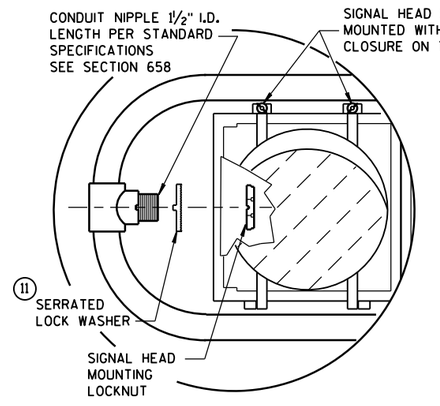
(7) MOUNTING BRACKET NIPPLES FOR THE SIGNAL FACE(S) SHALL BE 2 INCHES IN LENGTH AND 1½ INCHES IN DIAMETER. (SEE STANDARD SPECIFICATION - SECTION 658)

(8) VERTICAL STRUT (ADJUSTABLE). ONE (1) SET SCREW (1/4 " X ¾" -20 TPI, STAINLESS STEEL, HEX HEAD) INTO EACH ARM MEMBER IF STRUT IS THE SLIDING TYPE.

(9) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(10) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.

(11) USE SERRATED LOCK WASHERS WITH NOTCHES BETWEEN END TEE AND SIGNAL HEAD.



HORIZONTAL SIGNAL HEAD MOUNTING DETAIL **

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

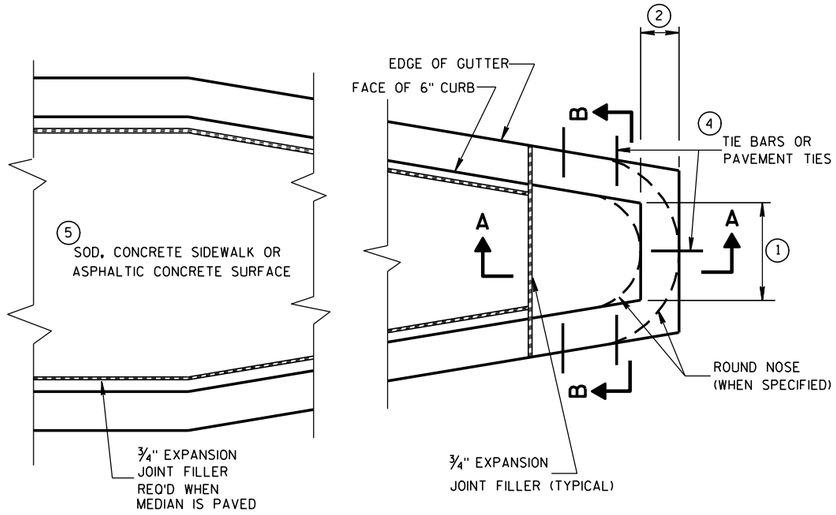
TYPE 3 POLE MOUNTING CONFIGURATION

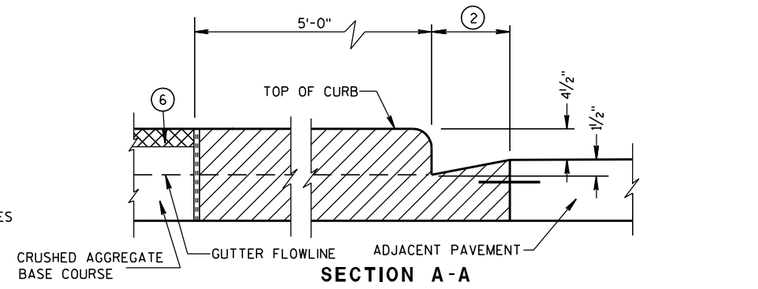
POLE MOUNTINGS FOR
TRAFFIC SIGNALS AND
LIGHTING UNITS, TYPE 3
(HEAVY DUTY)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 9 E 1-12b





CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

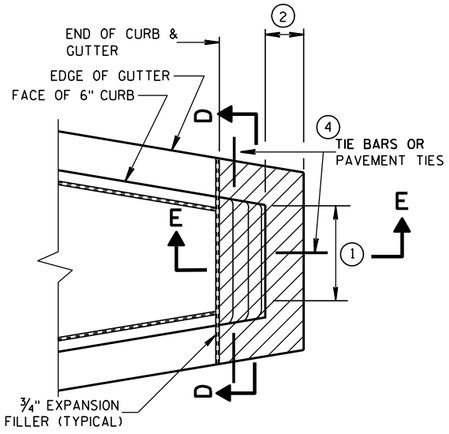
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

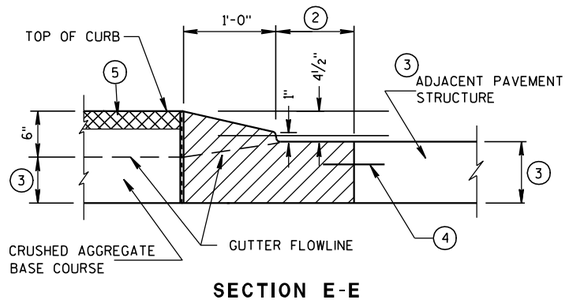
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

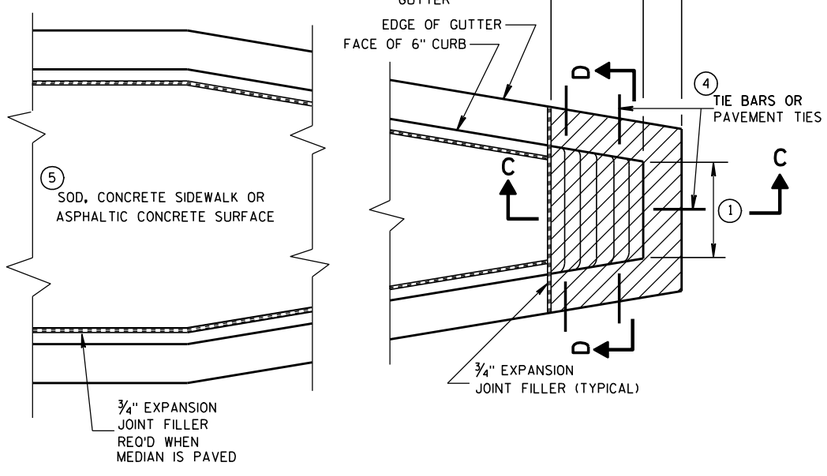
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

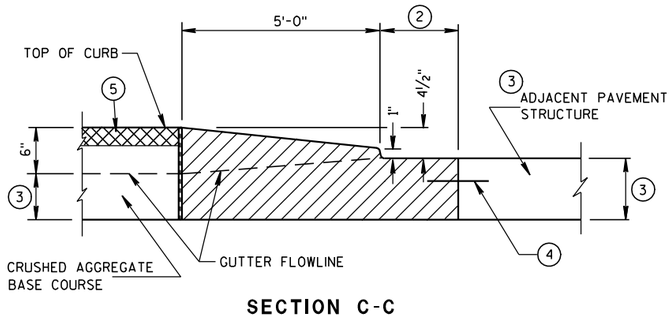




SECTION E-E

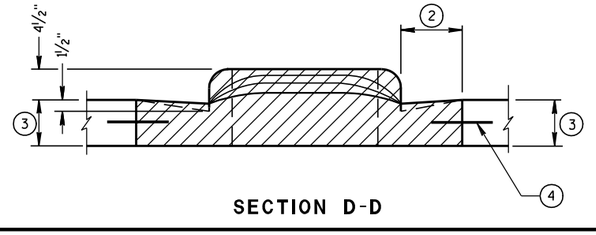
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

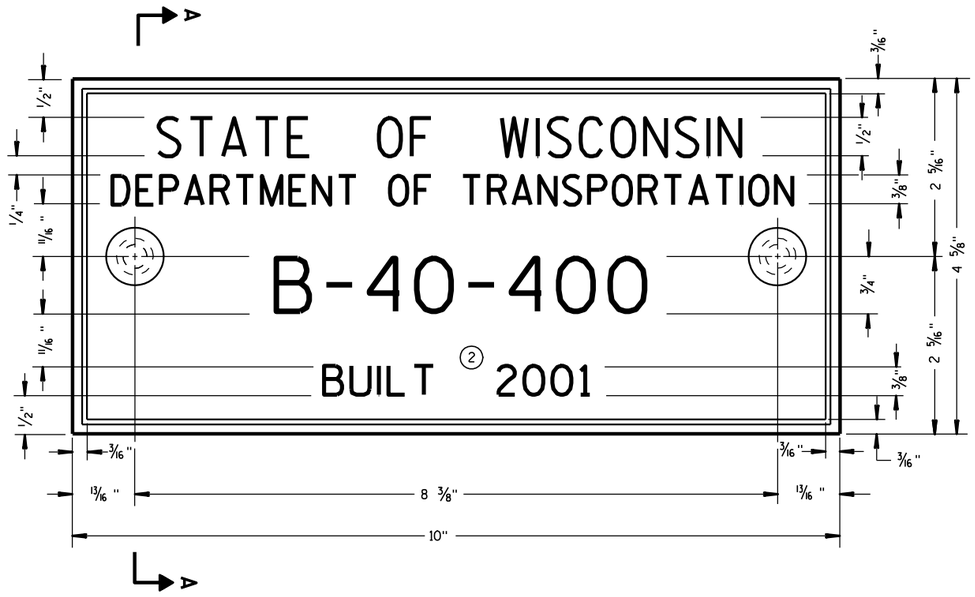
CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER 142
	NT

6

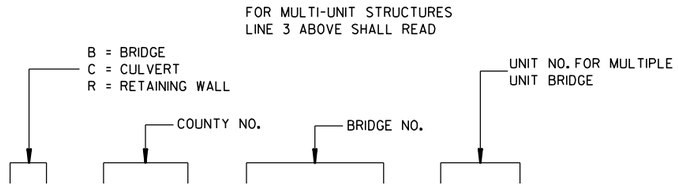
S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



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



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

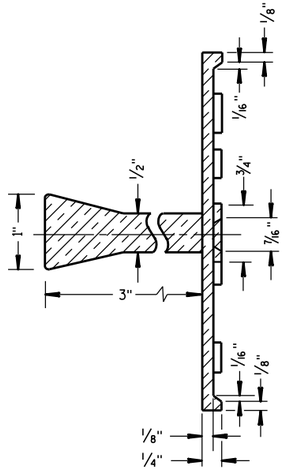
GENERAL NOTES

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

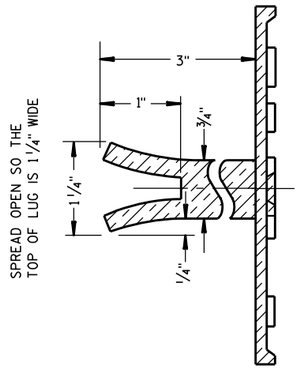
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

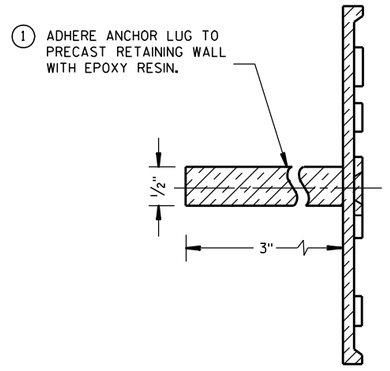
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

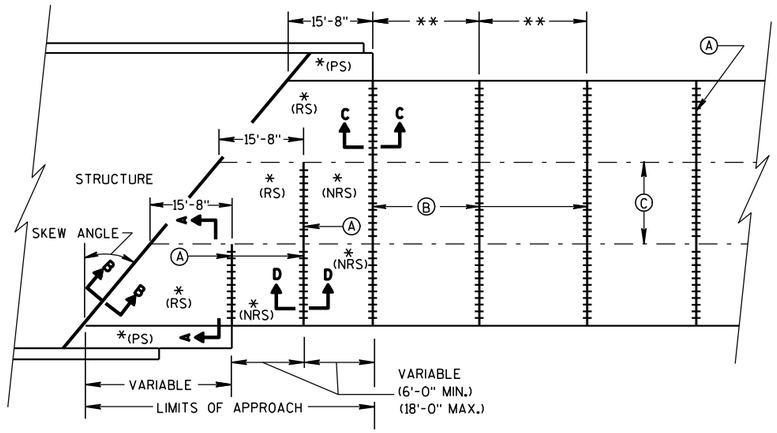
APPROVED

3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

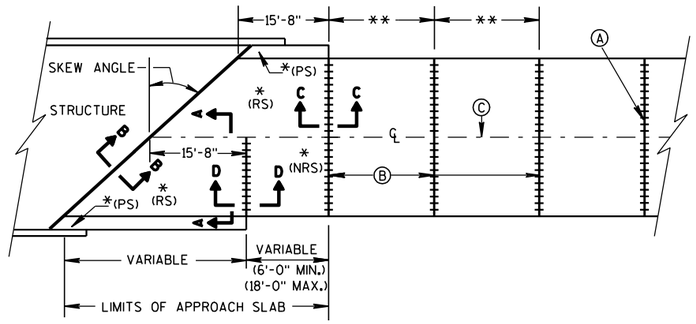
FHWA

6

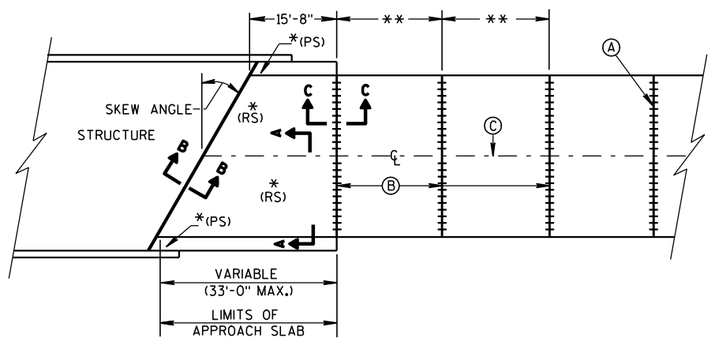
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



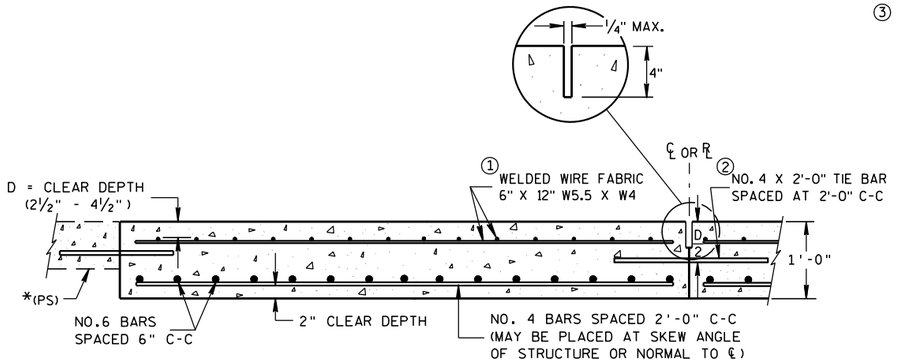
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

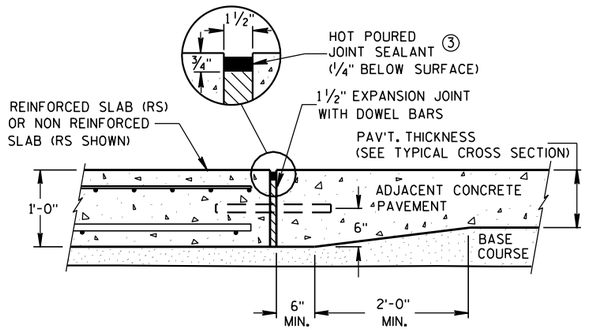
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

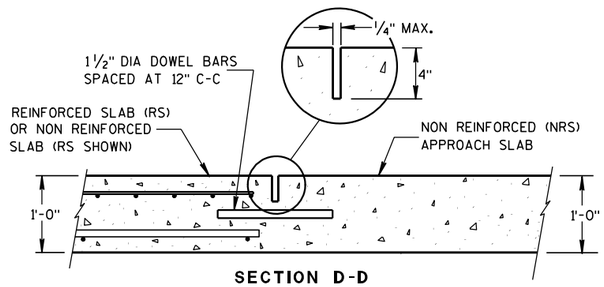
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

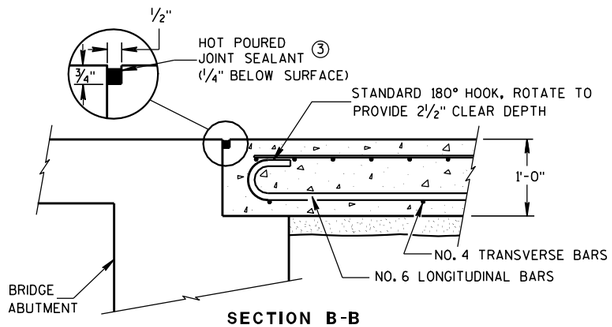
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

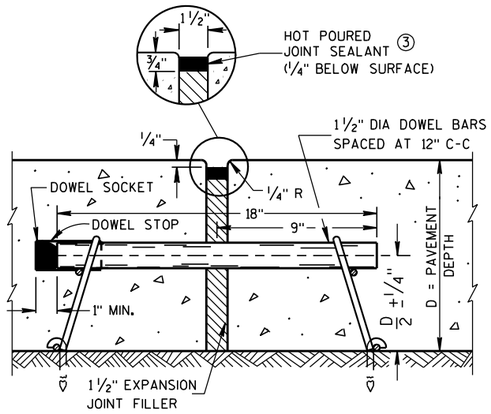
(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



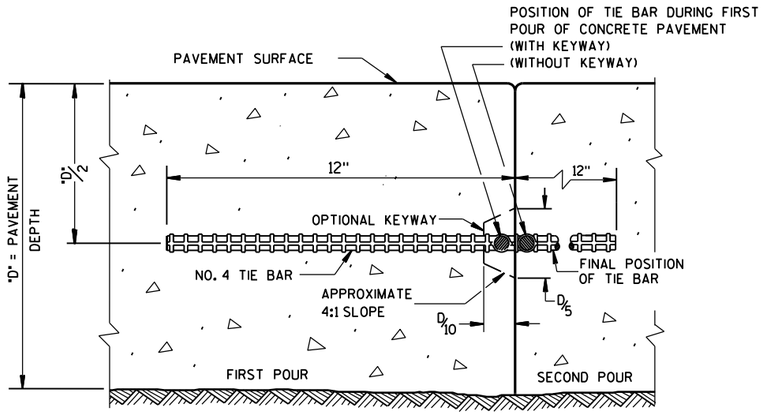
EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

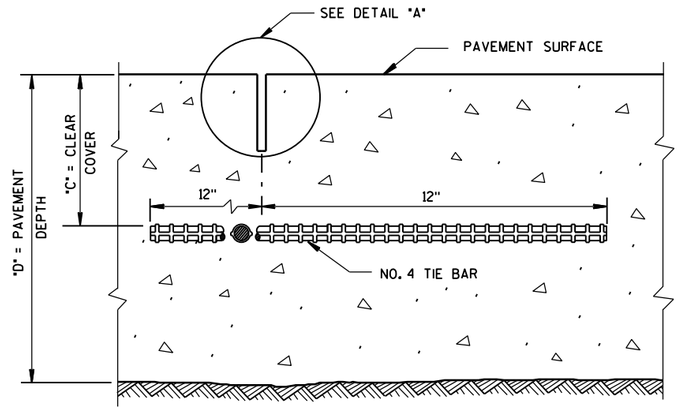
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE ... NEER
FHWA

6
S.D.D. 13 B 2-6



CONSTRUCTION JOINT



SAWED JOINT

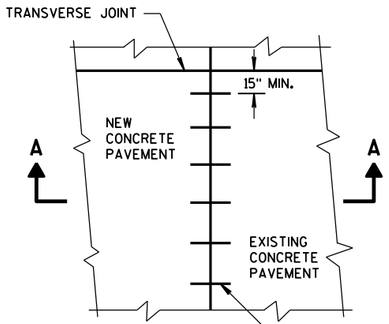
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

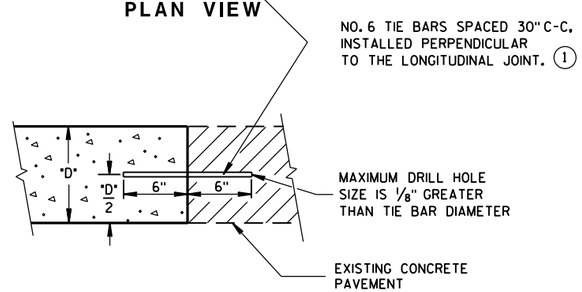
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

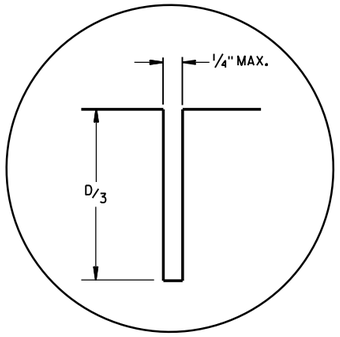


PLAN VIEW



SECTION A-A

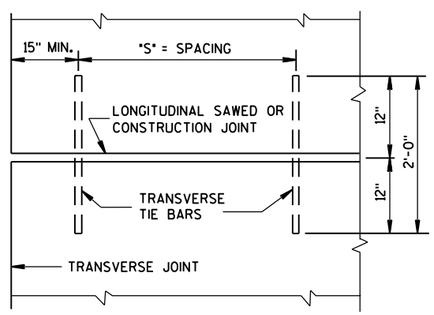
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

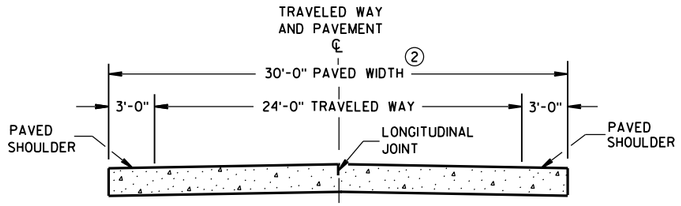
5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ...NEER

FHWA

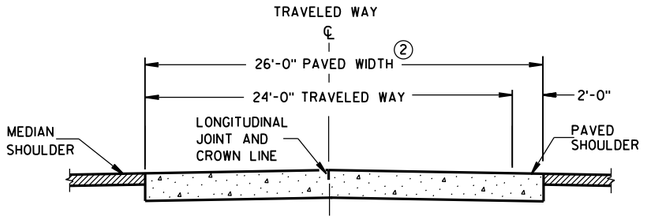
6

S.D.D. 13 C 1-16
S.D.D. 13 C 1-16

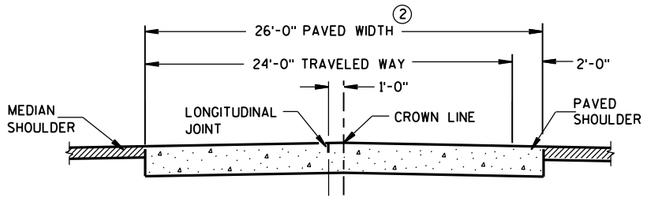


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

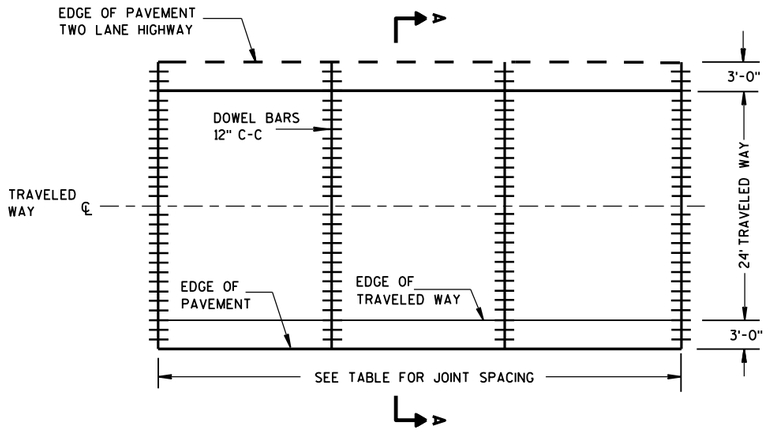
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

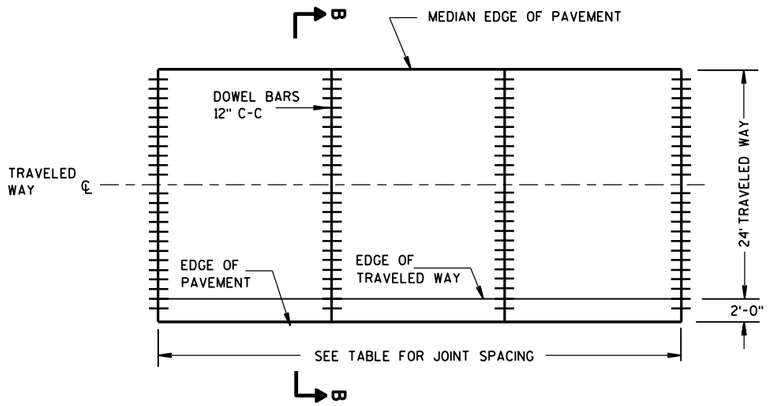
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



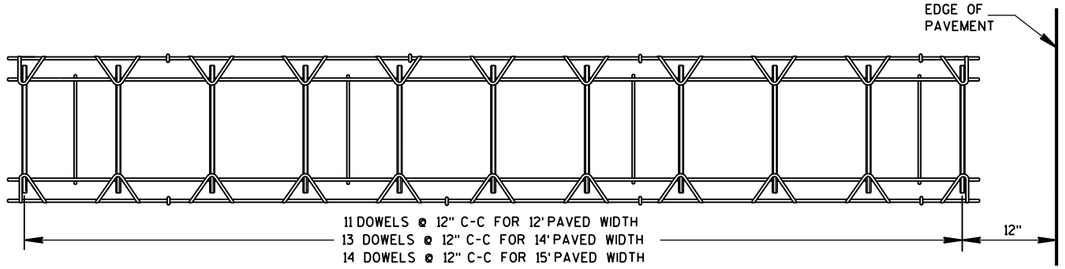
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

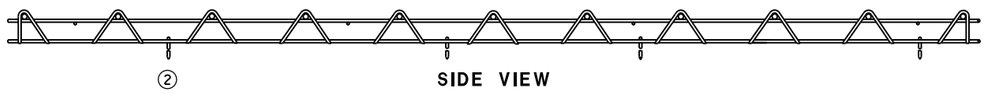
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 13 C 11-11a



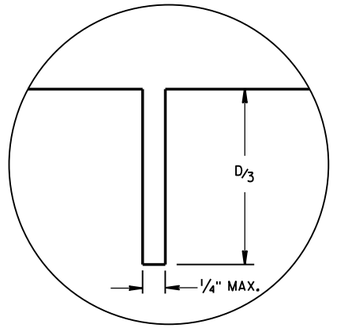
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

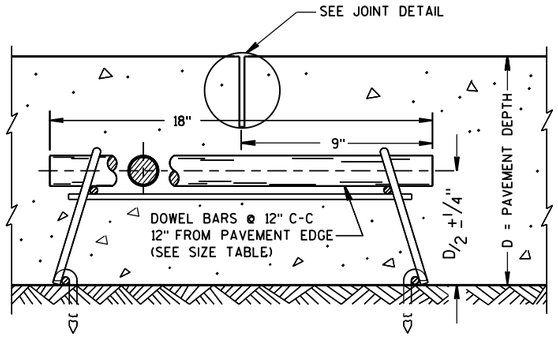
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

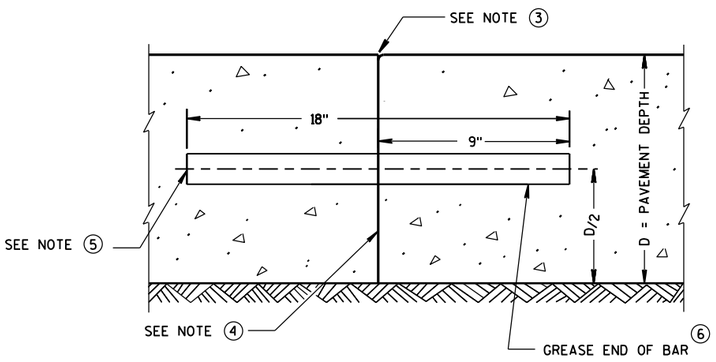
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

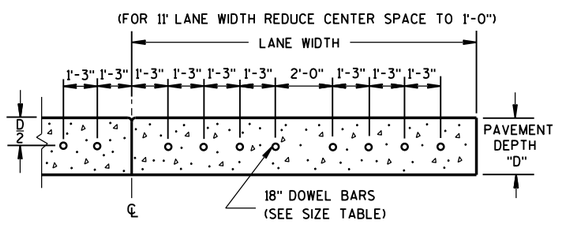
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

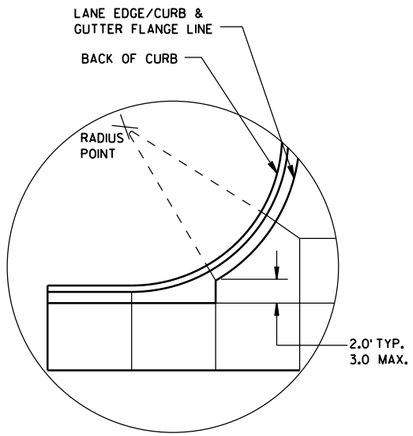
APPROVED
5/3/2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE ENGINEER
FHWA

6

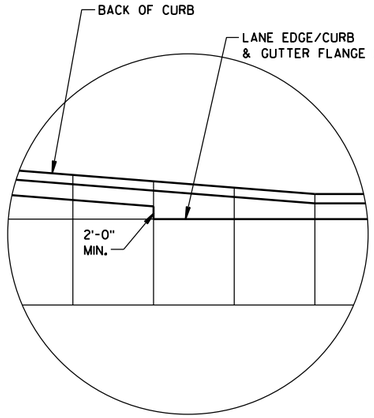
S.D.D. 13 C 11-11b

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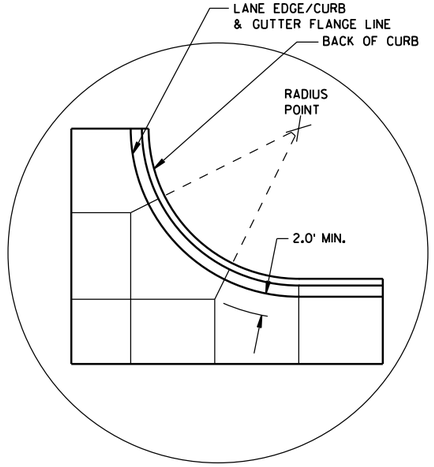
S.D.D. 13 C 11-11b



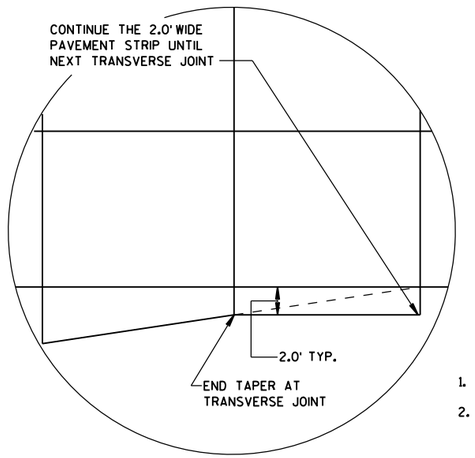
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

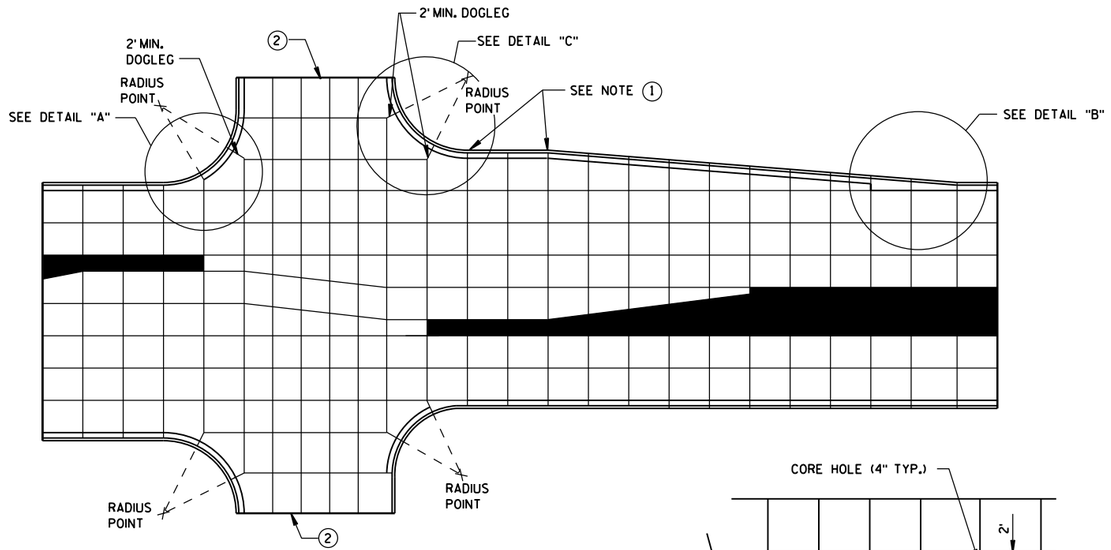
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

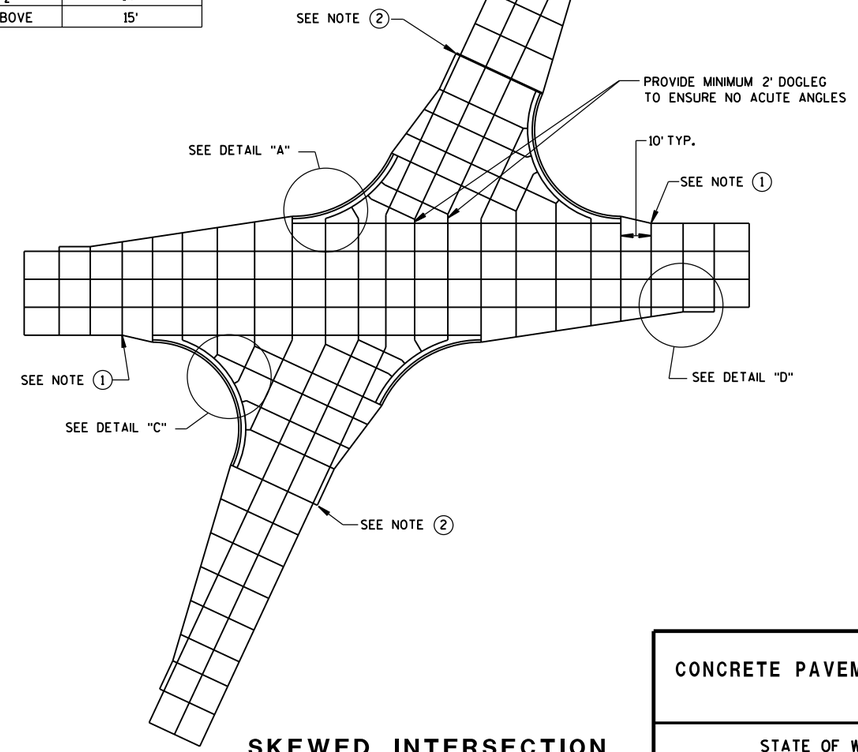
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



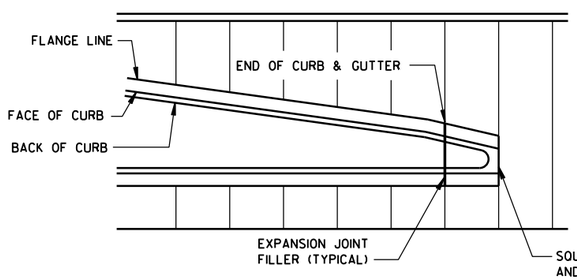
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

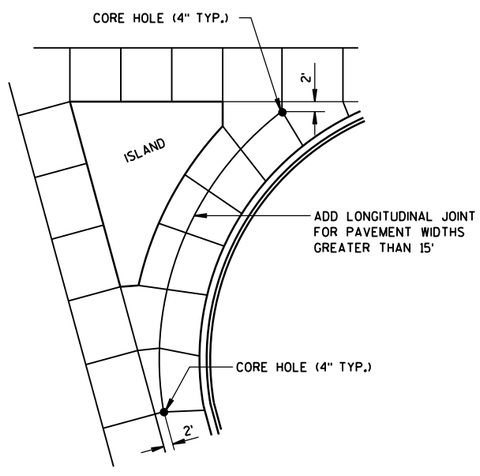
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

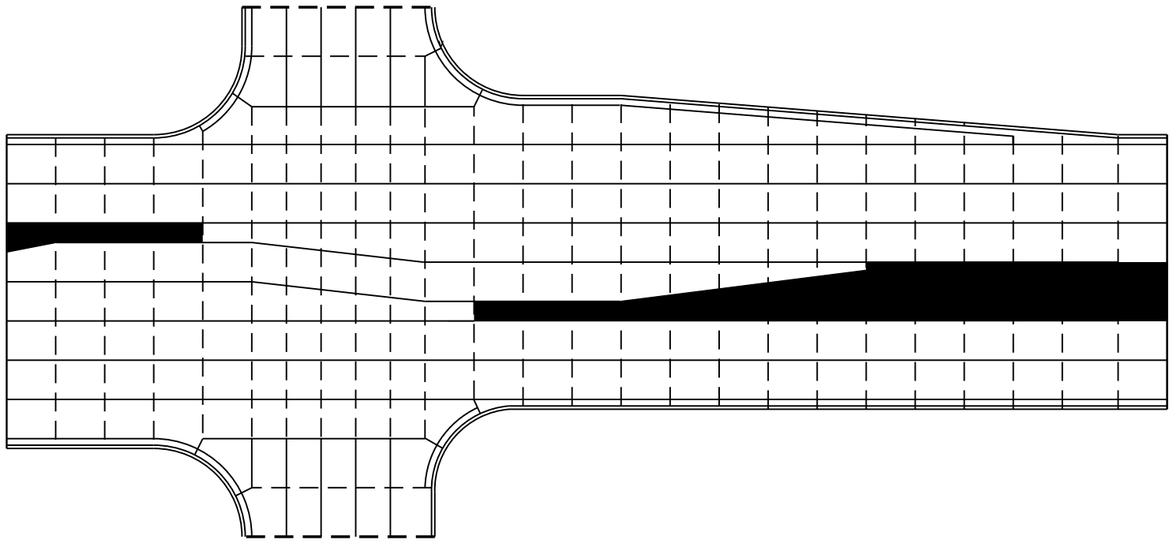
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S.D.D. 13 C 18-2a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

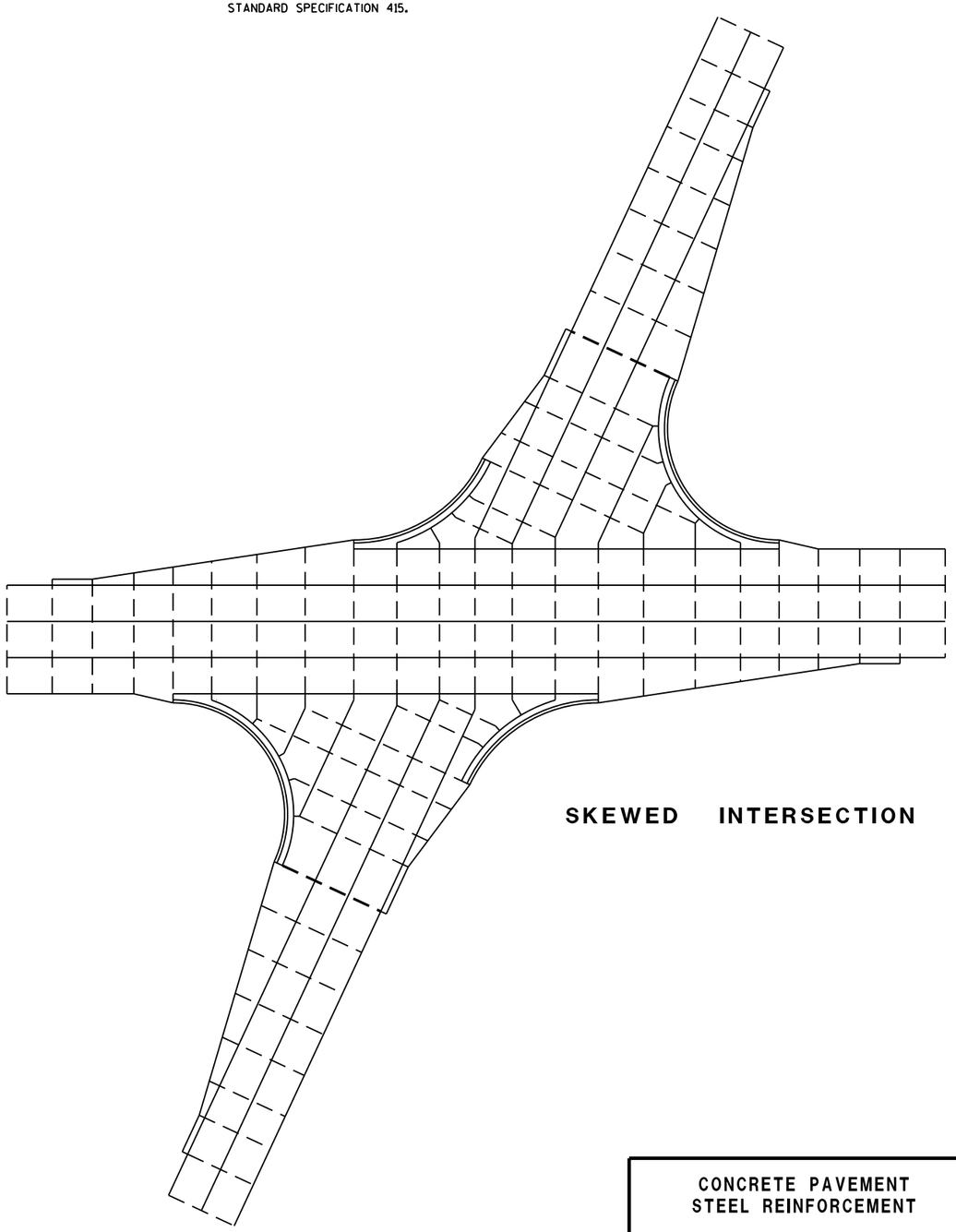
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

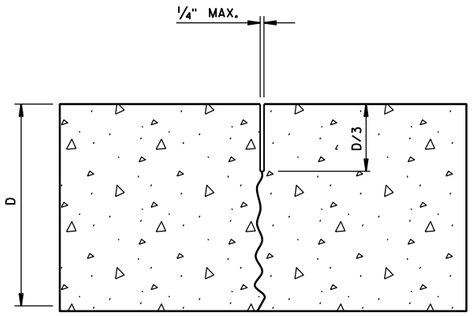
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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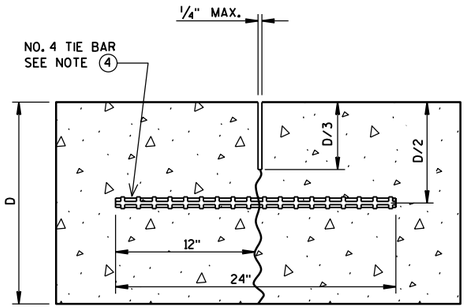
S.D.D. 13 C 18-2b

6

S.D.D. 13 C 18-2b



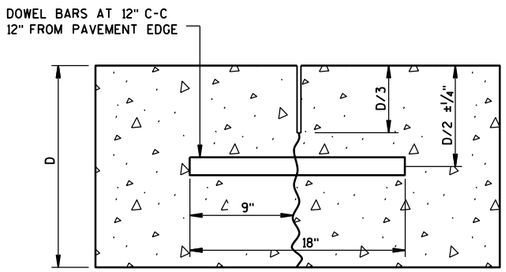
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

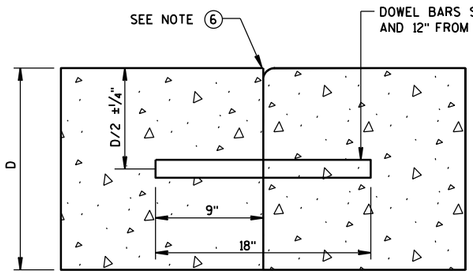
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



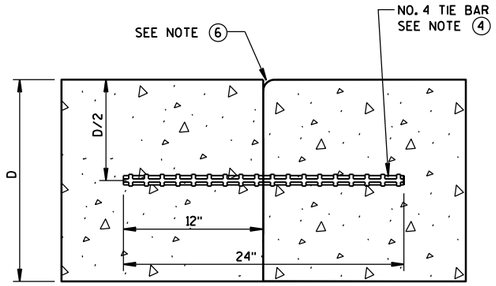
DOWELED-TRANSVERSE

CONTRACTION JOINTS

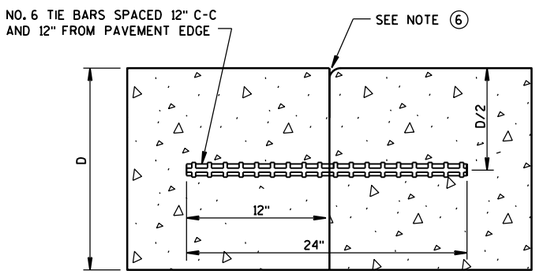
SEE NOTE (2)



DOWELED TRANSVERSE

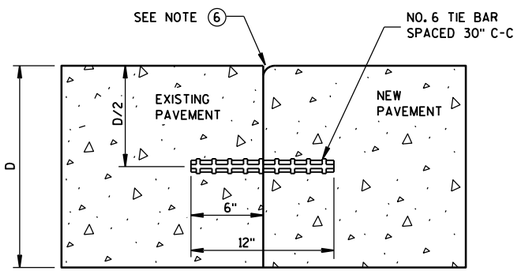


TIED LONGITUDINAL



TIED TRANSVERSE

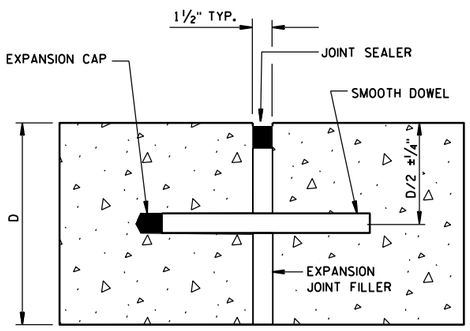
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

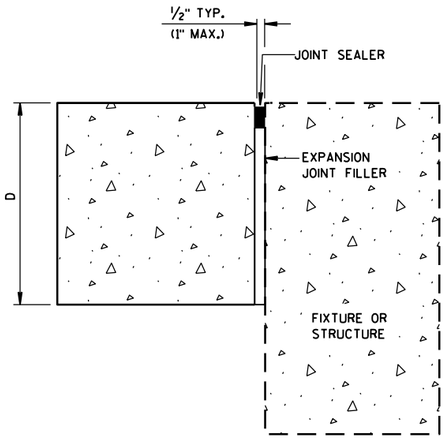
CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

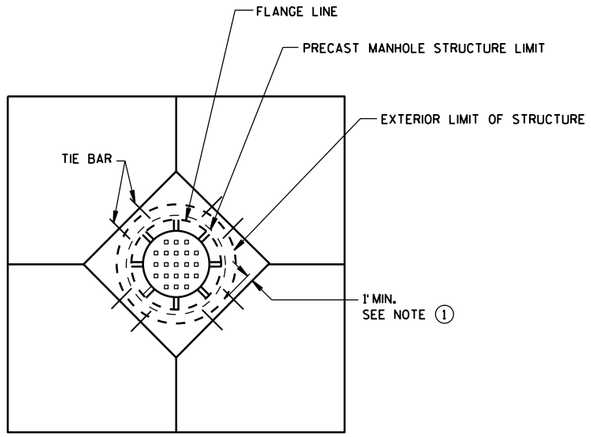
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

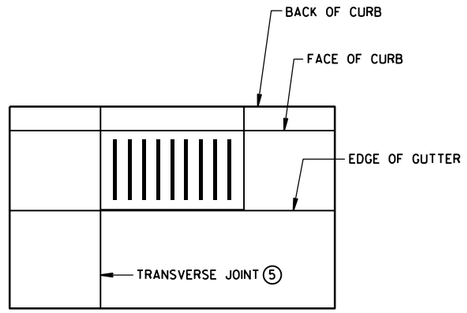
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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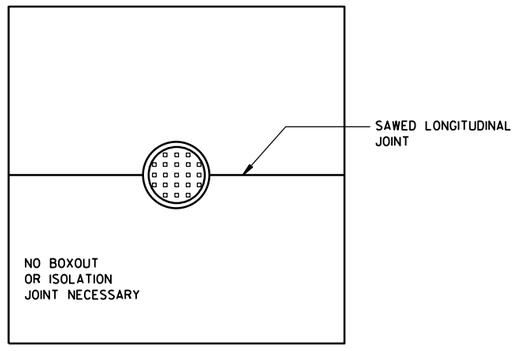
S.D.D. 13 C 18-2c



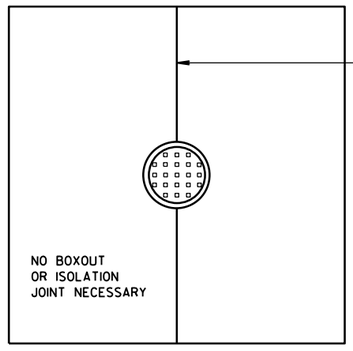
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



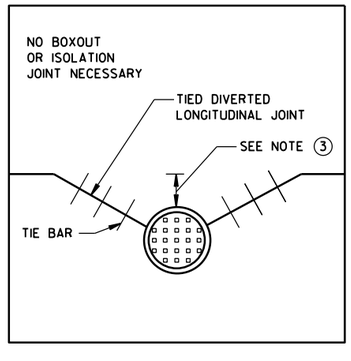
INLET WITH TRANSVERSE JOINT



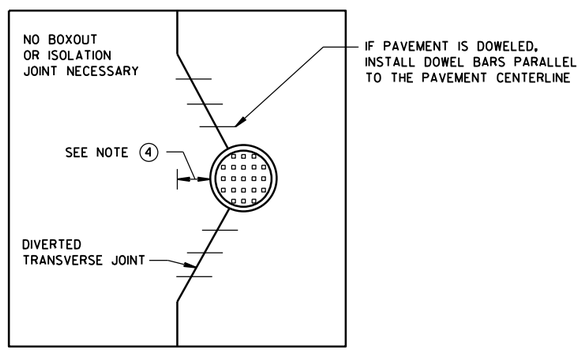
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

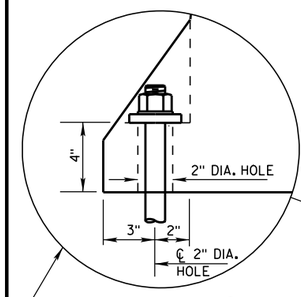
/S/ Deb Bischoff
PAVEMENT POLICY & DE

NEER

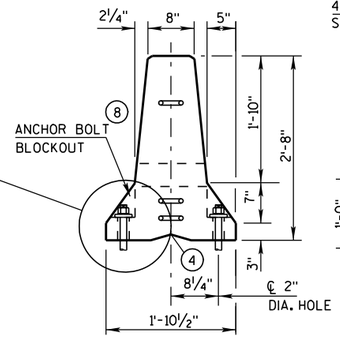
FHWA

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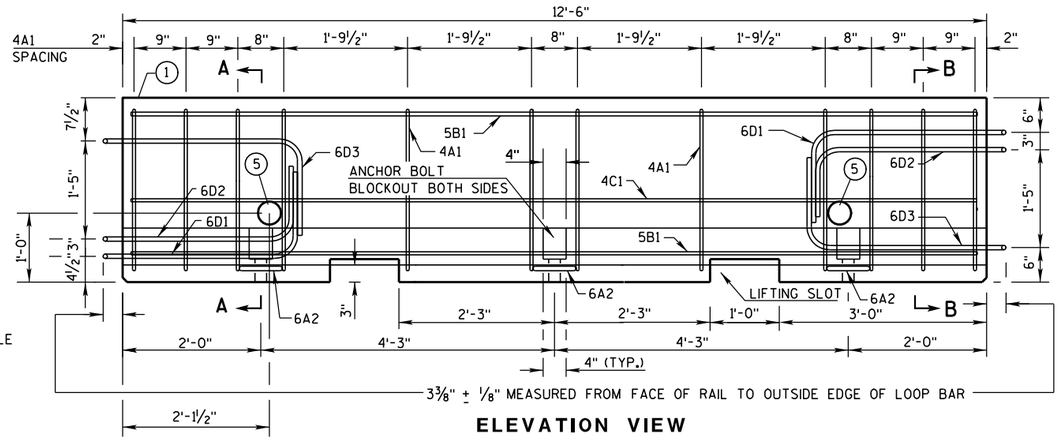
S.D.D. 13 C 18-2d



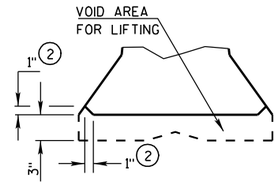
ANCHOR ON TRAFFIC SIDE (8) ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



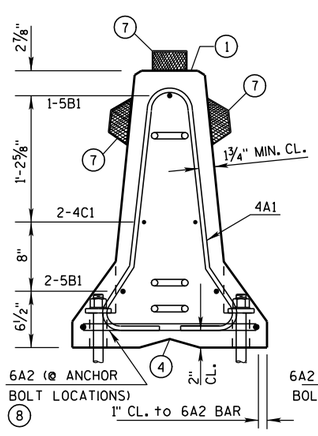
END VIEW



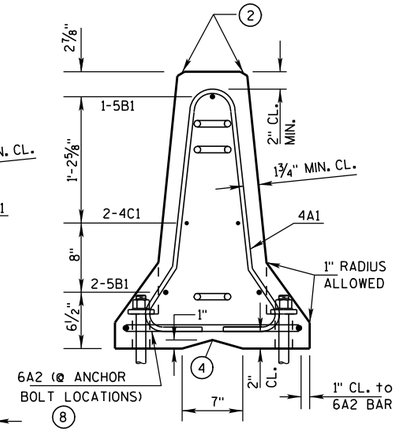
ELEVATION VIEW



DETAIL "B"
LIFTING SLOT DETAIL



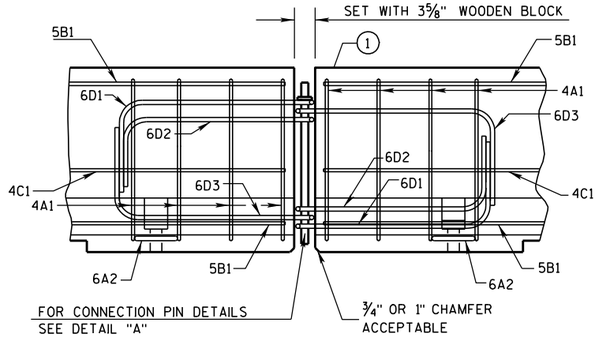
SECTION A-A
(STIRRUP PLACEMENT)



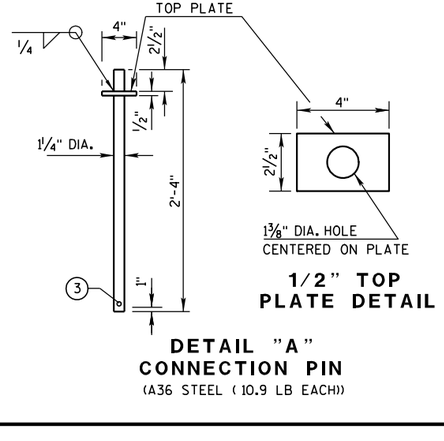
SECTION B-B
(STIRRUP PLACEMENT)

PLAN VIEW

DETAILS OF BARRIER SECTION

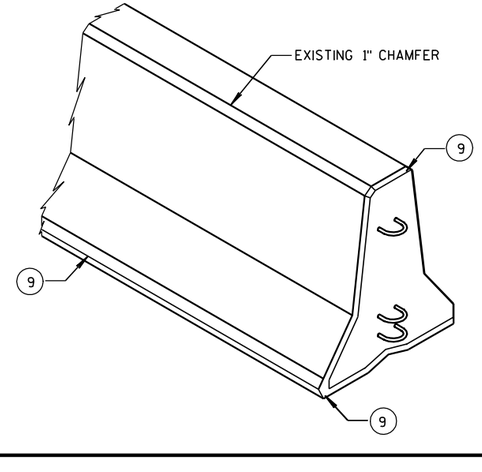


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WICBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

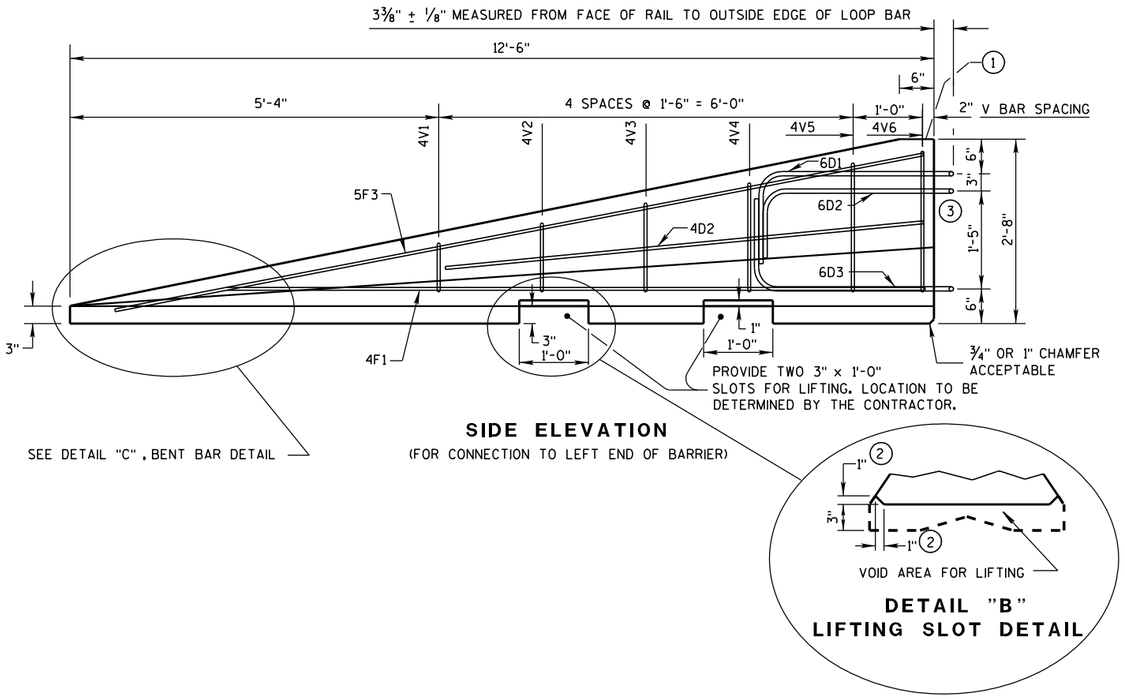
(9) 1" CHAMFER OPTIONAL.

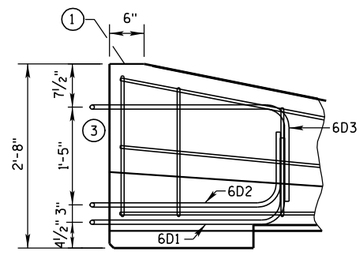
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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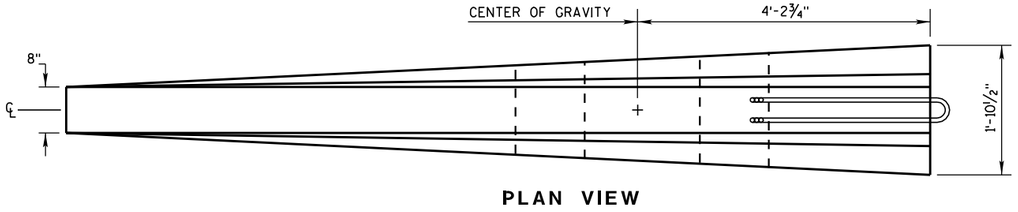
S.D.D. 14 B 7-13a

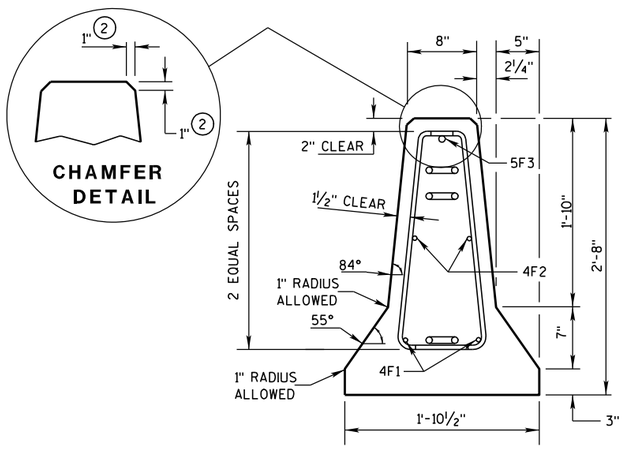


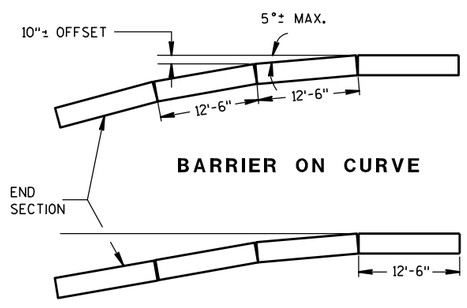


GENERAL NOTES

1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.







POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

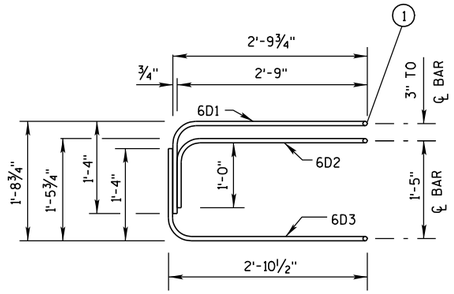
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S.D.D. 14 B 7-13b

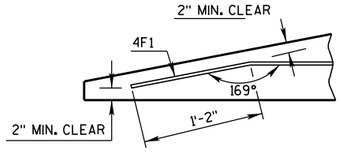
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

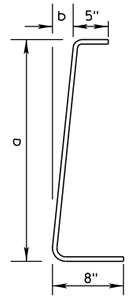
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

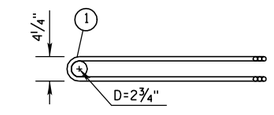
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

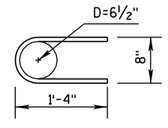
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

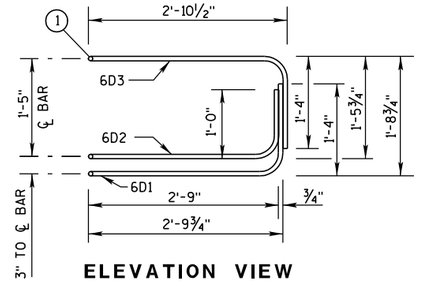
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



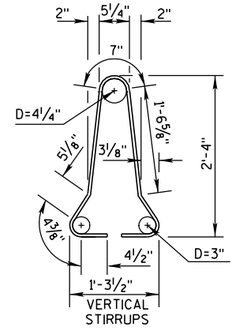
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



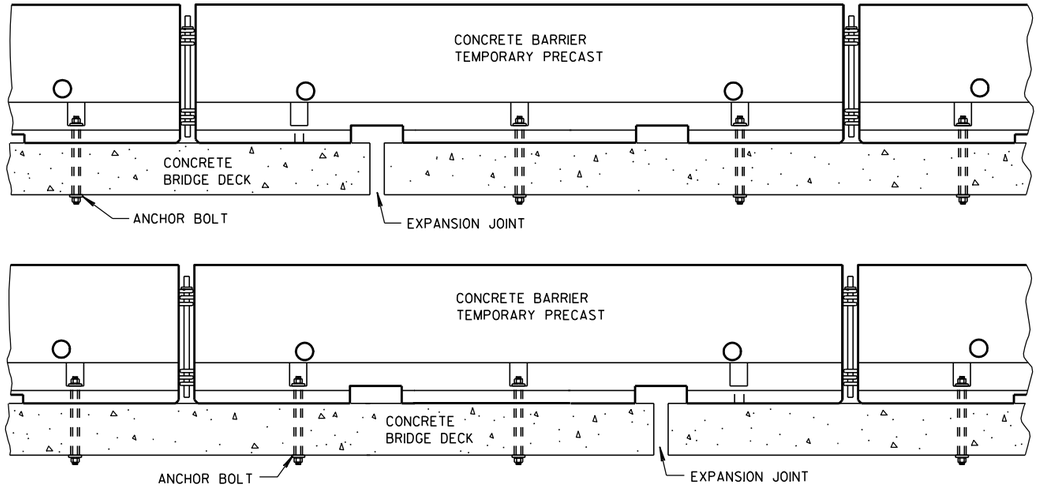
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

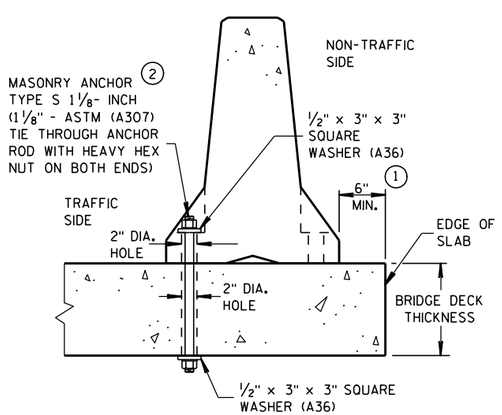
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 7-13c



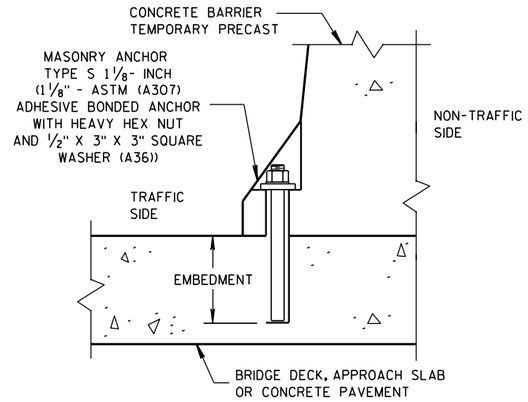
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

2

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

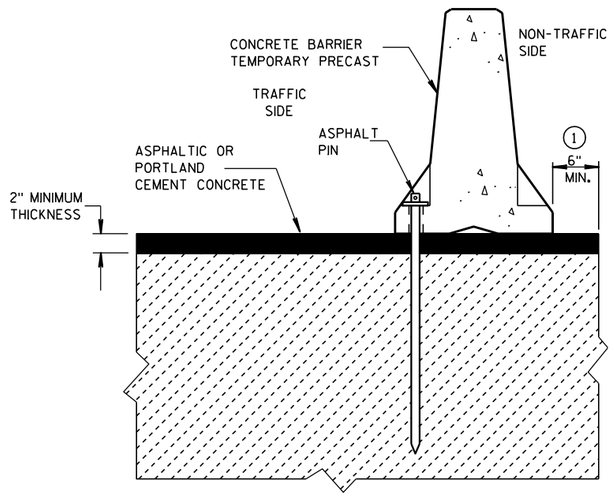
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

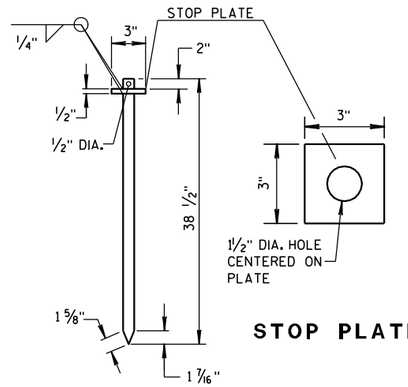
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

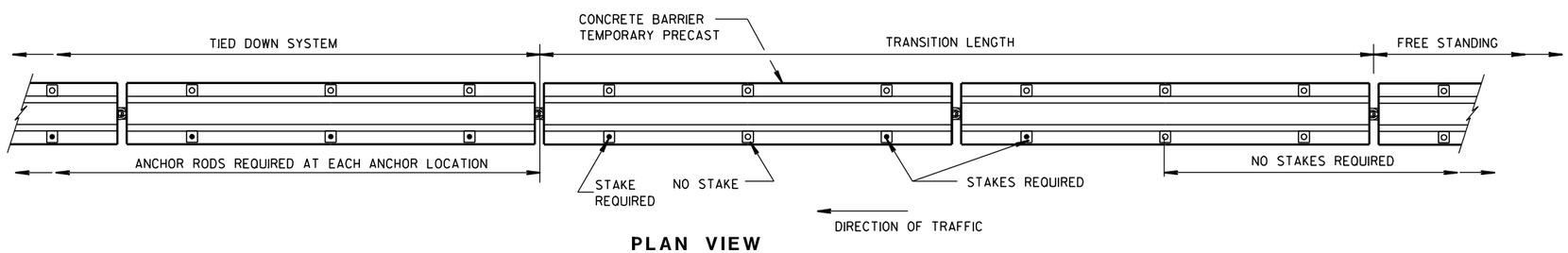
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



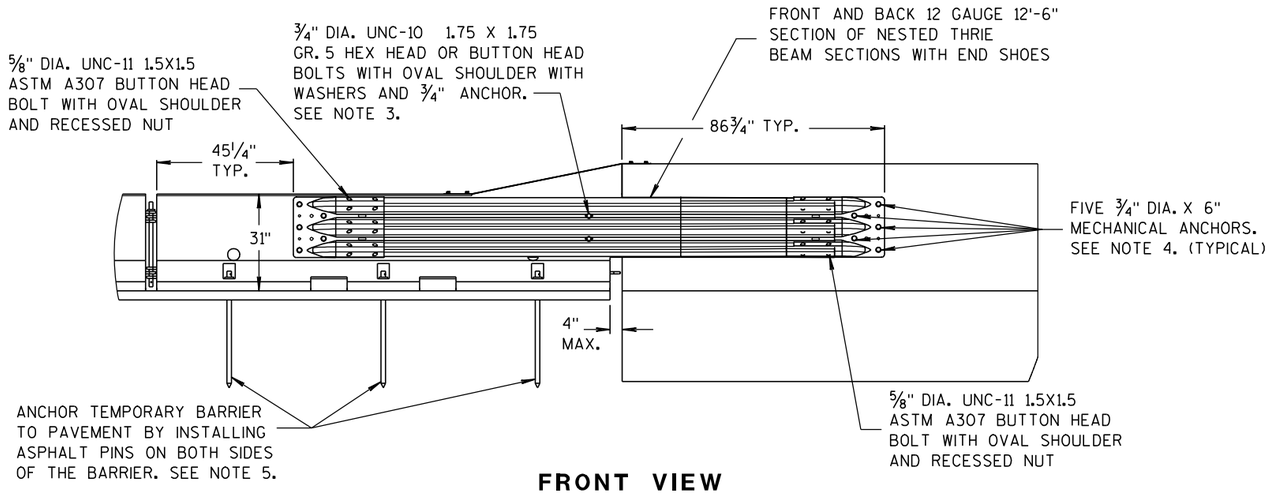
PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

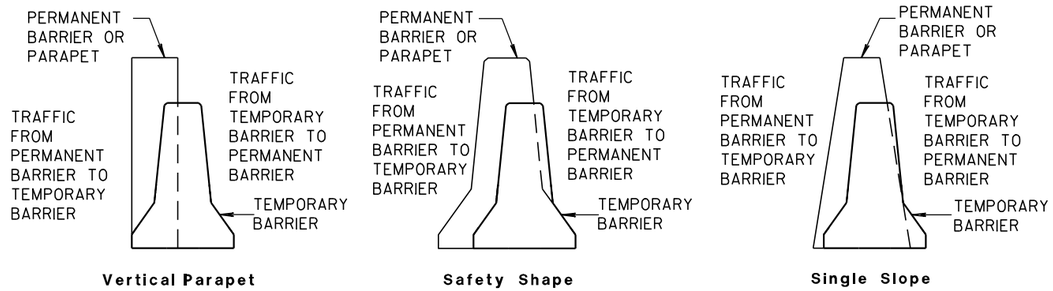
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

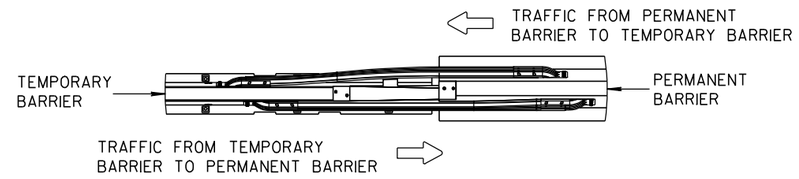


FRONT VIEW

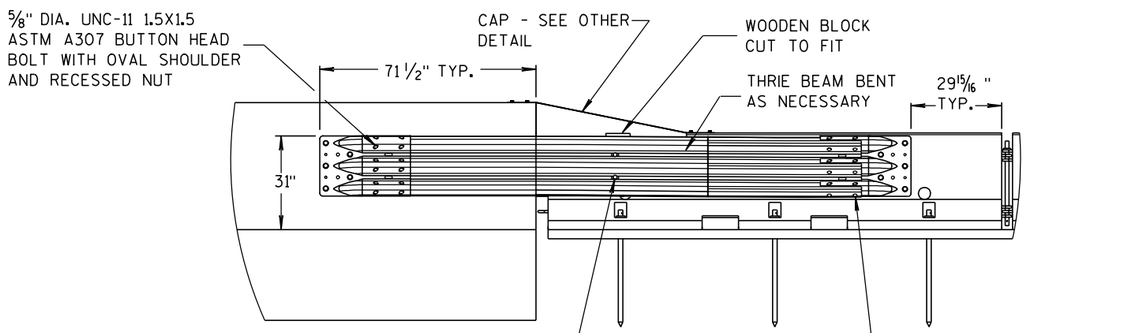
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15¼" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

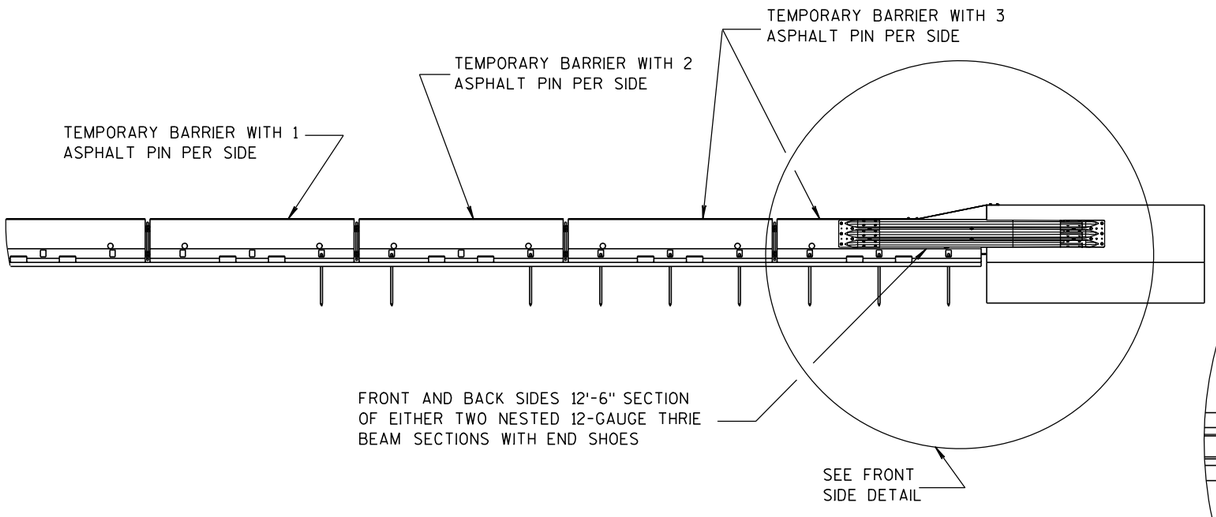




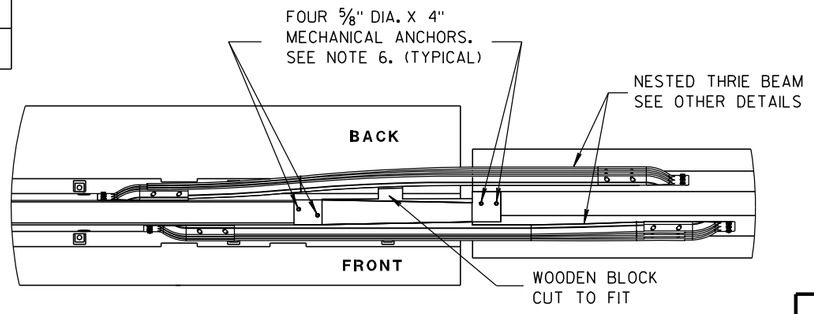
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



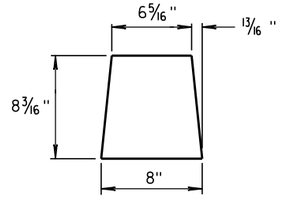
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

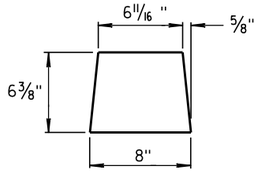
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

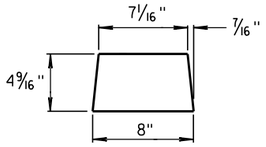
6
S.D.D. 14 B 7-13e



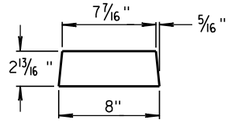
GUSSET 1



GUSSET 2

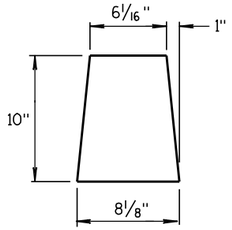


GUSSET 3

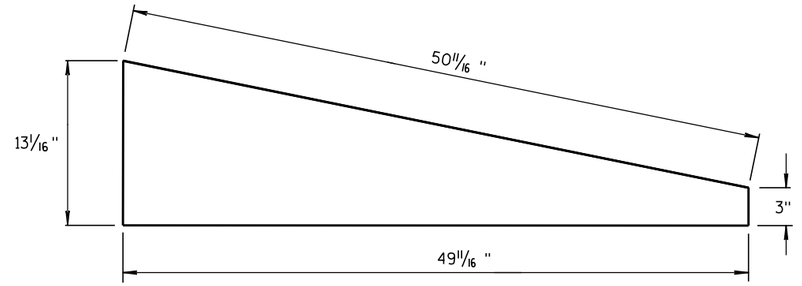


GUSSET 4

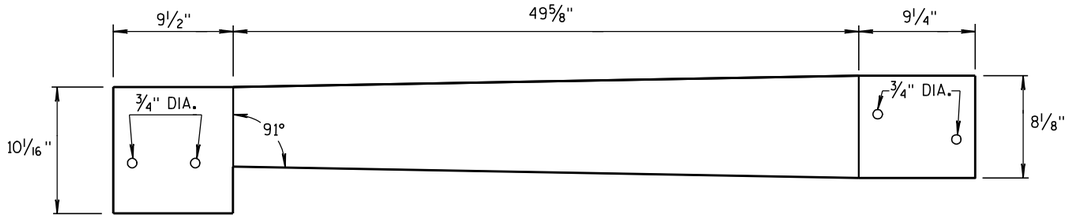
GUSSETS

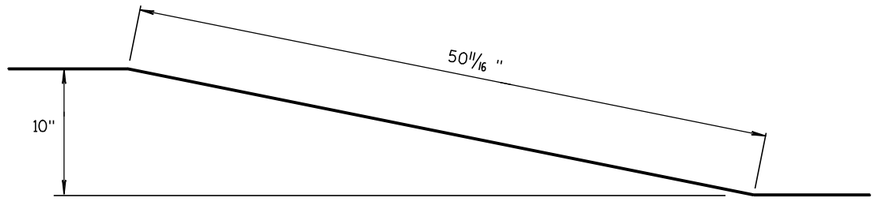


END PLATE

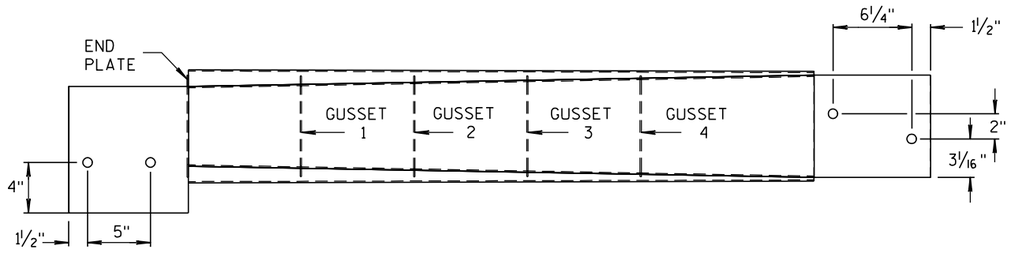


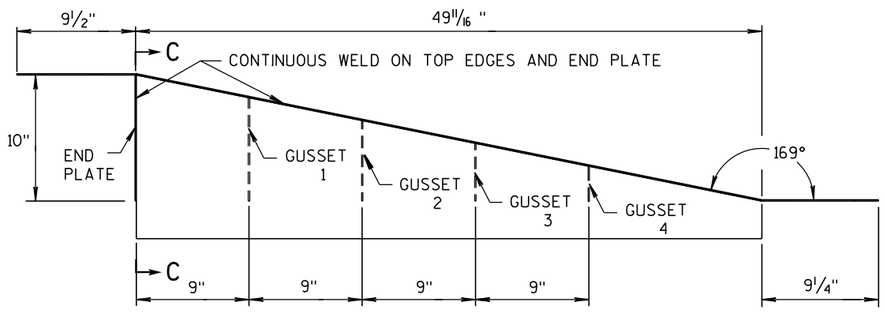
SIDE PLATE

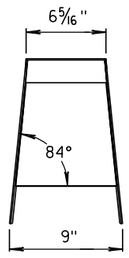




TOP PLATE







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

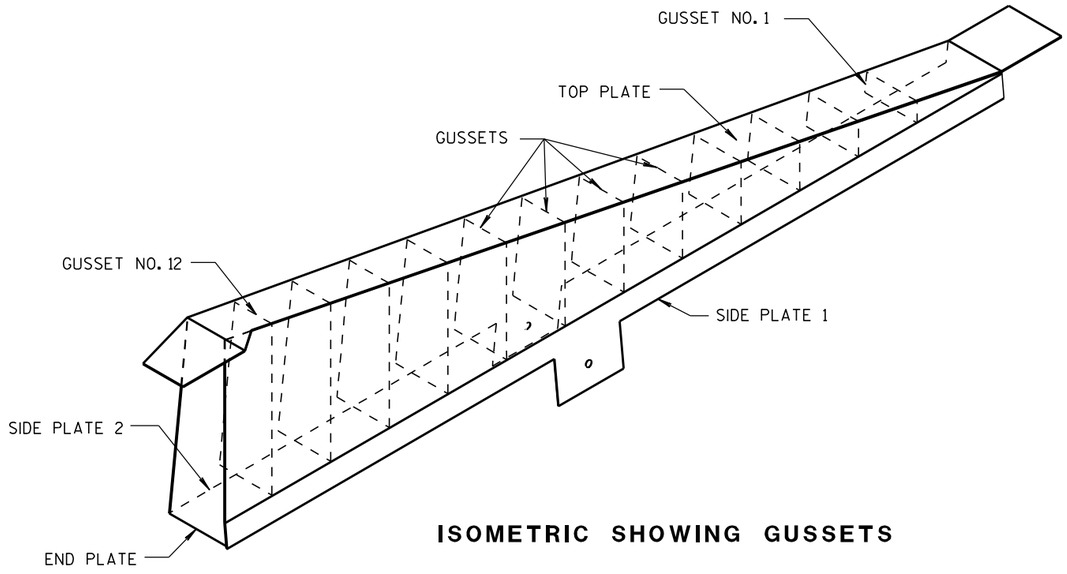
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

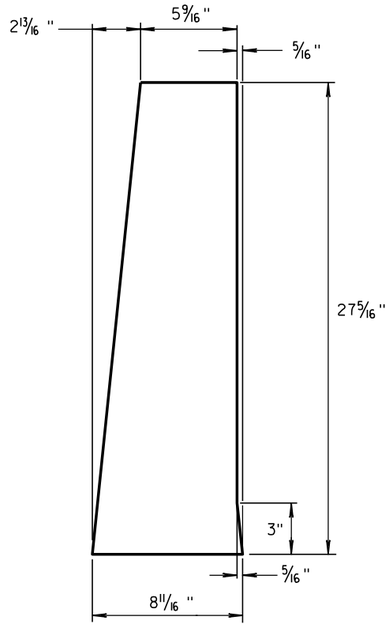
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

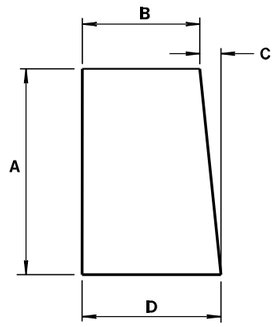


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



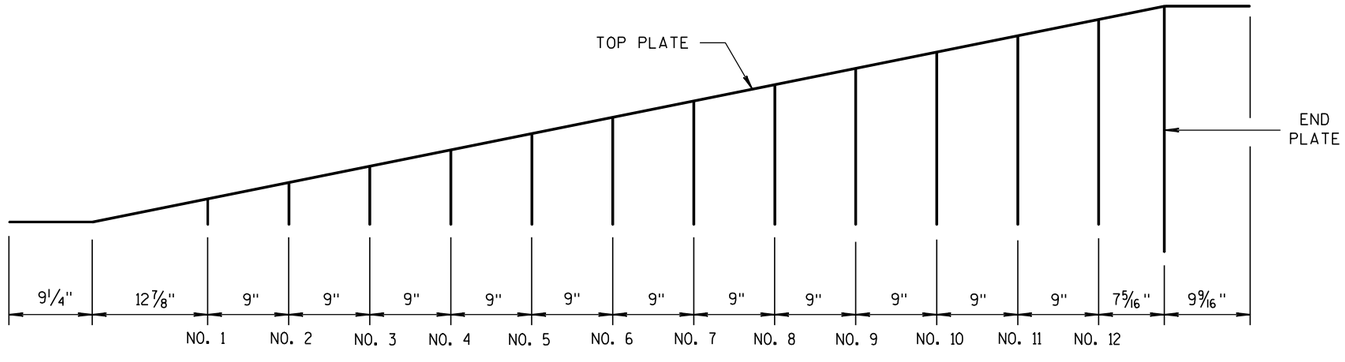
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

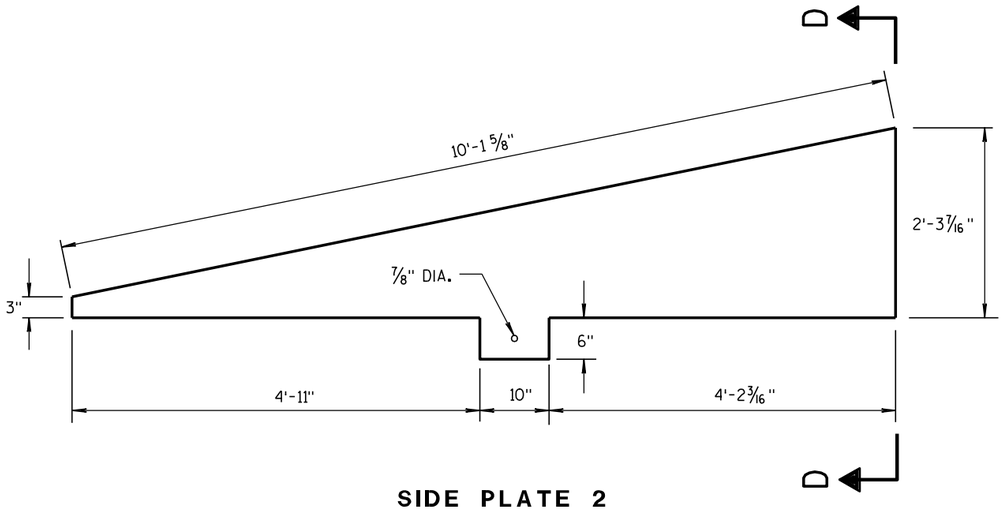
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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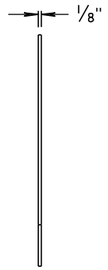
S.D.D. 14 B 7-13g

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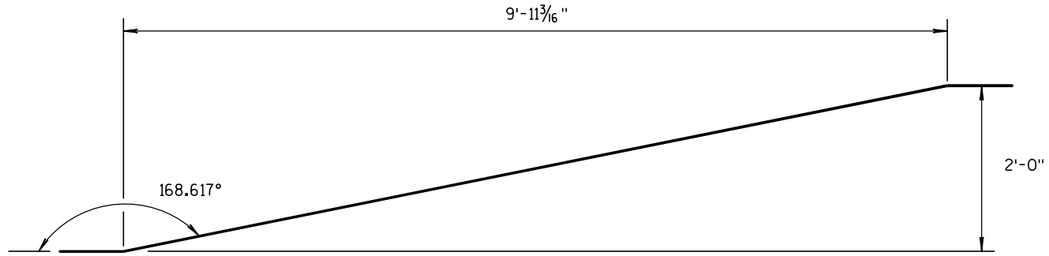
S.D.D. 14 B 7-13g



SIDE PLATE 2

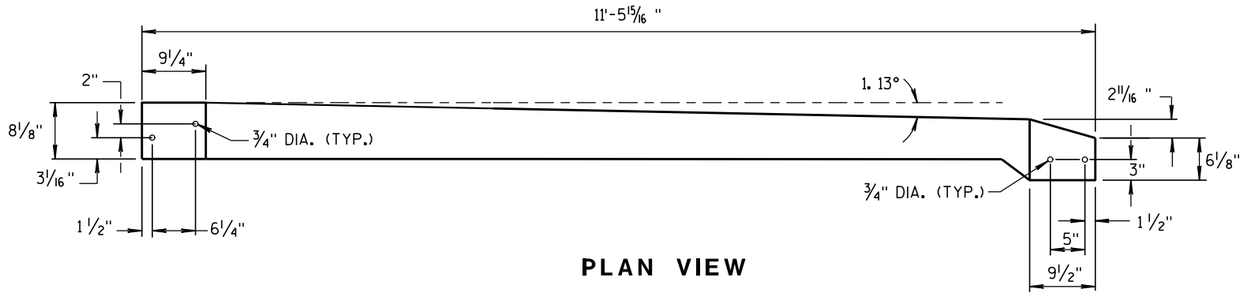


END VIEW



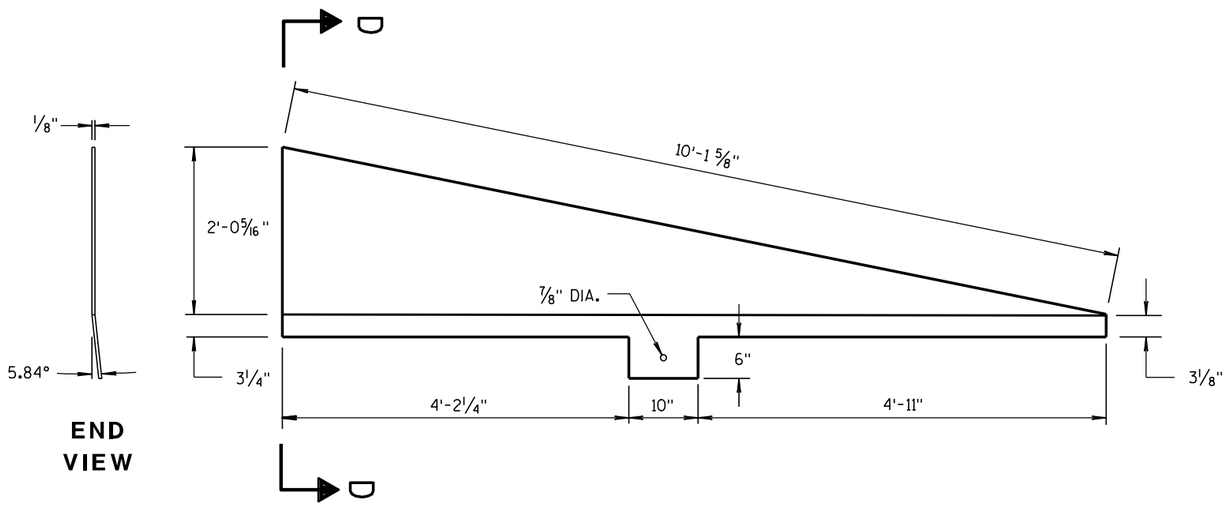
SIDE VIEW

TOP PLATE



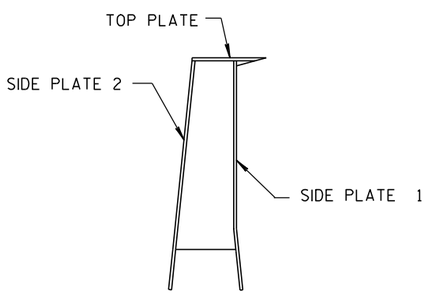
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

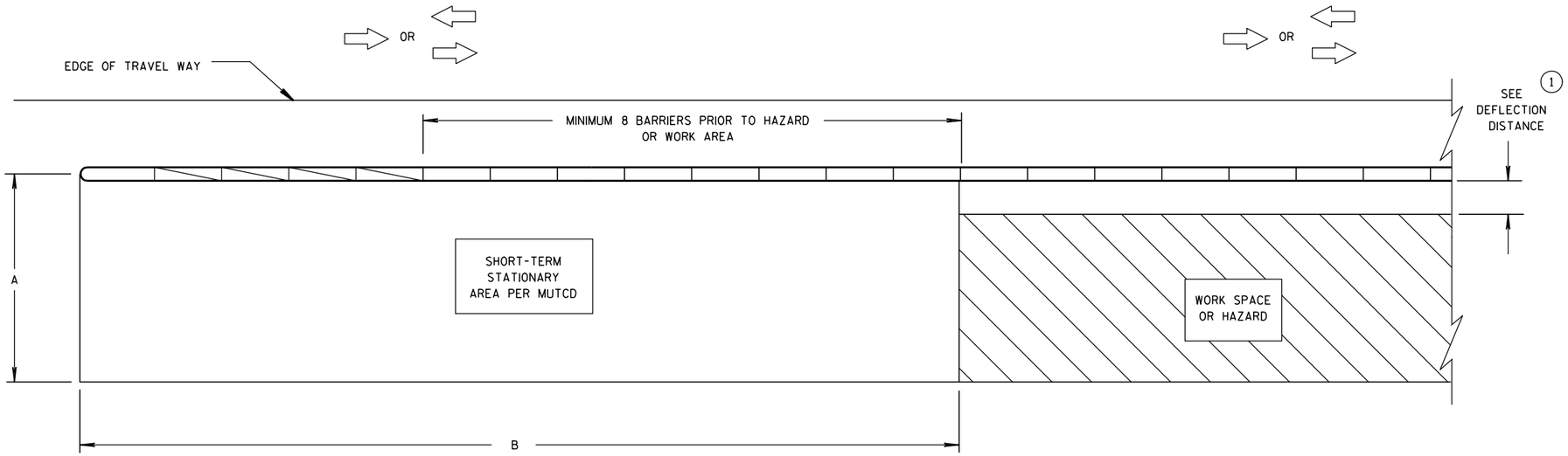
APPROVED
8/31/2012 — DATE
/S/ Jerry H. ---- — ROADWAY STANDARDS ENGINEER
ENT
FHWA

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S.D.D. 14 B 7-13h

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S.D.D. 14 B 7-13h



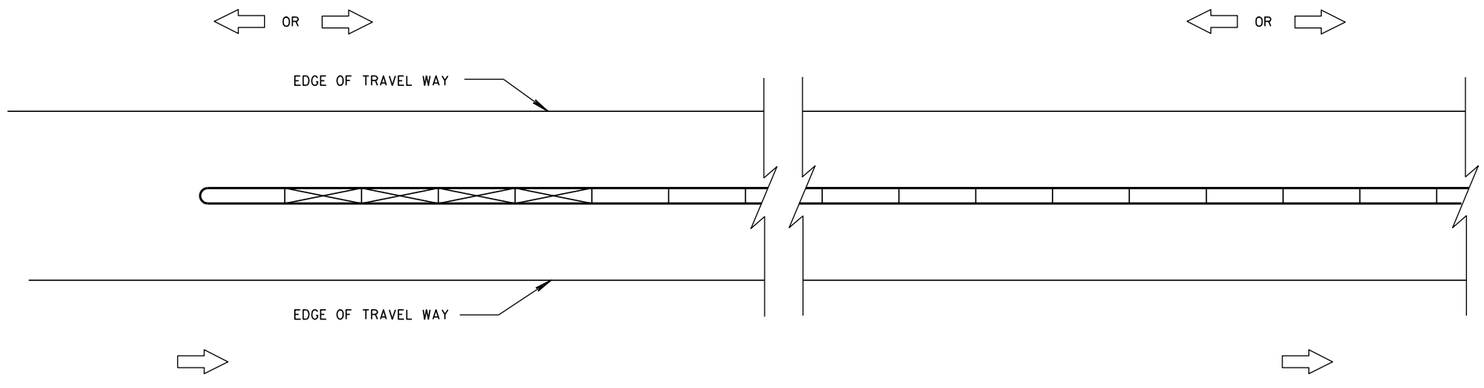
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

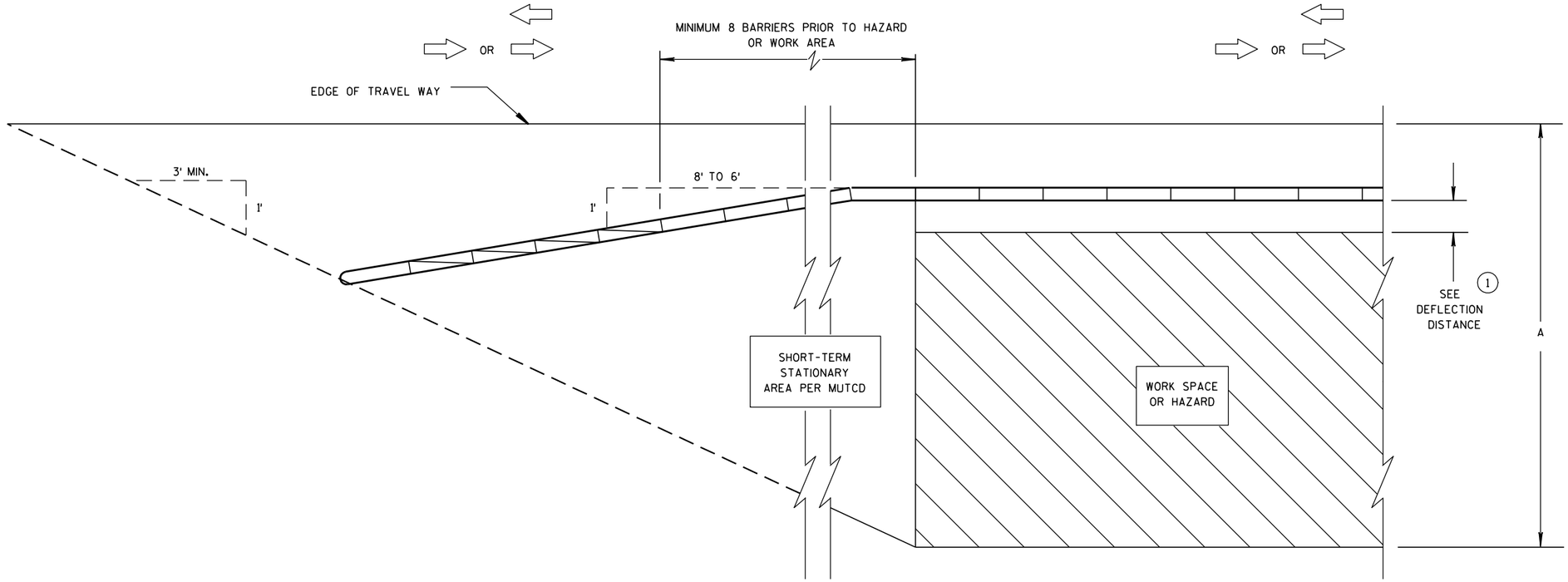
(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

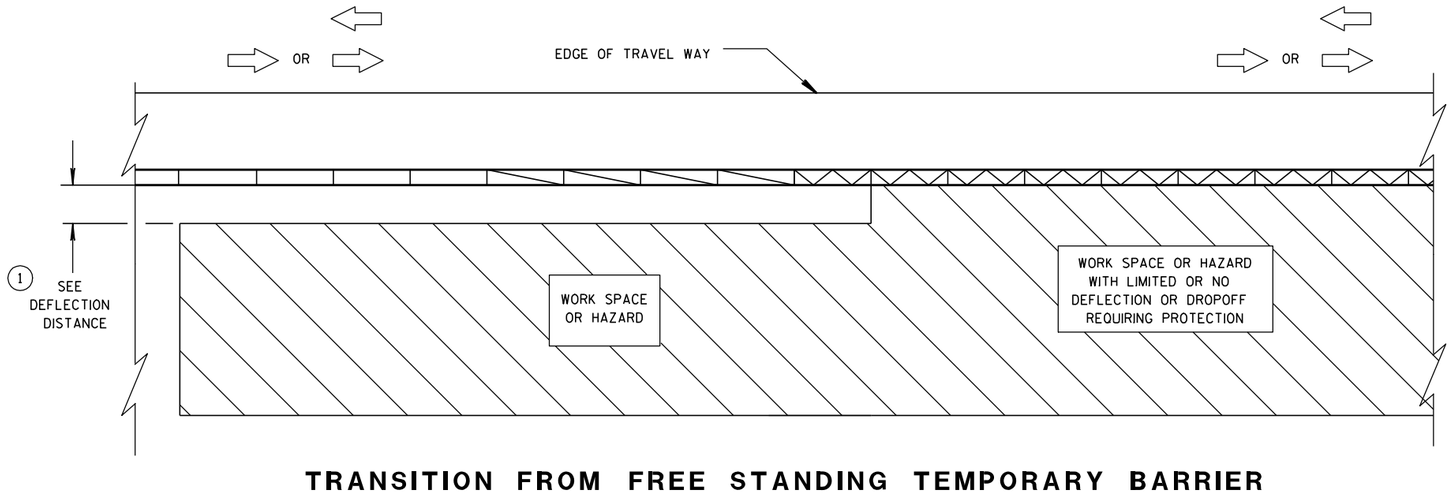
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 8-1a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

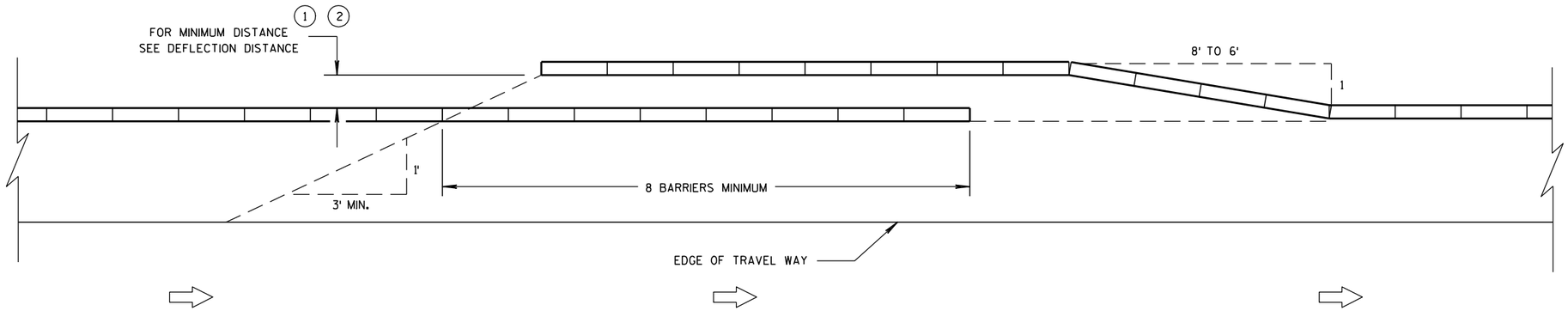
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

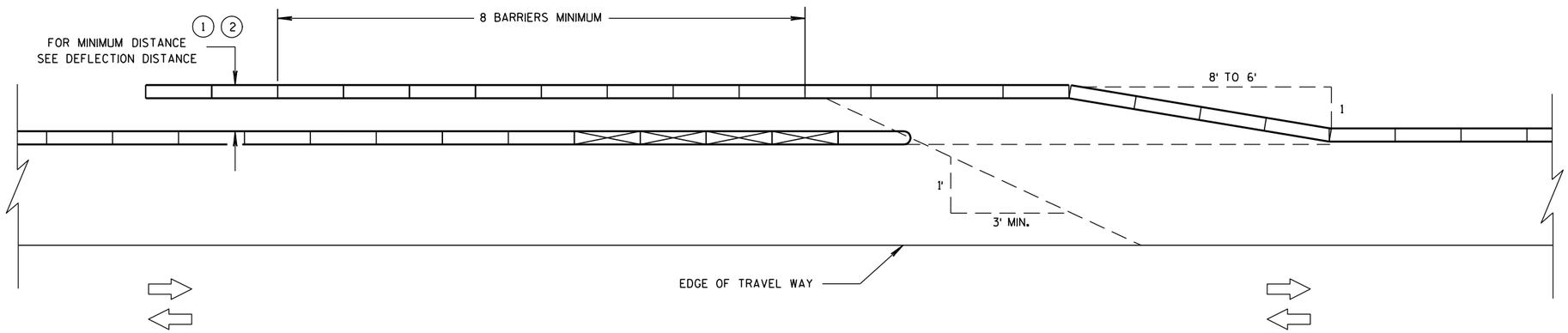
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

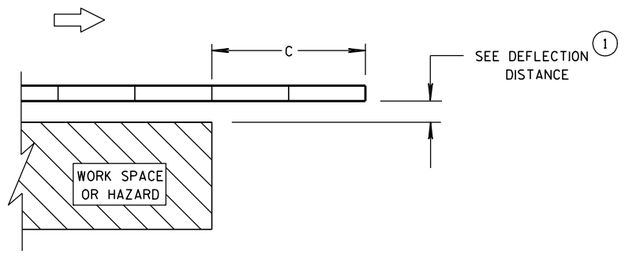
S.D.D. 14 B 8-1b



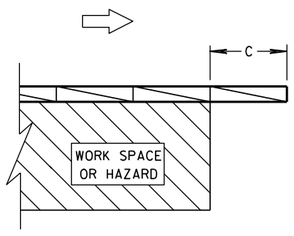
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

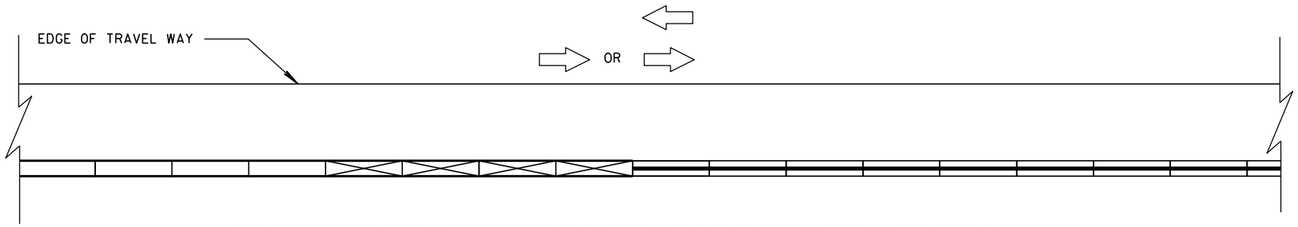
LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

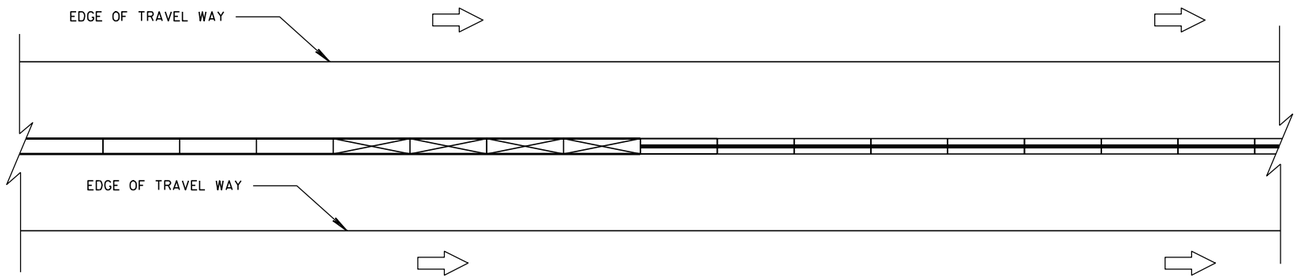
CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 8-1c



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

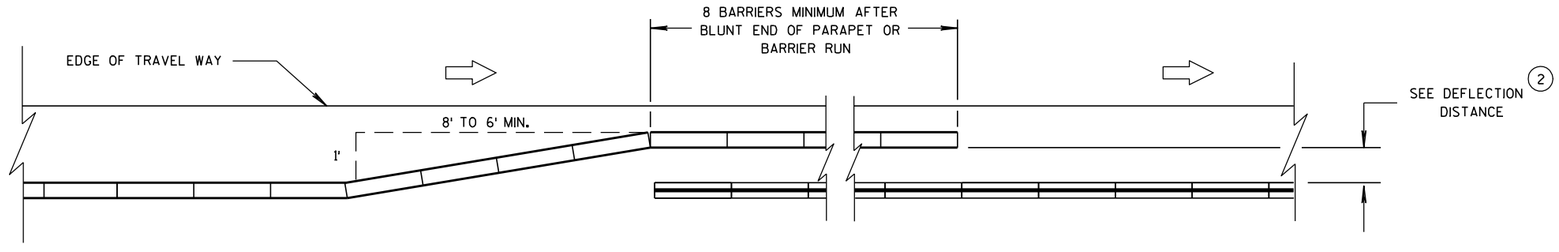
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

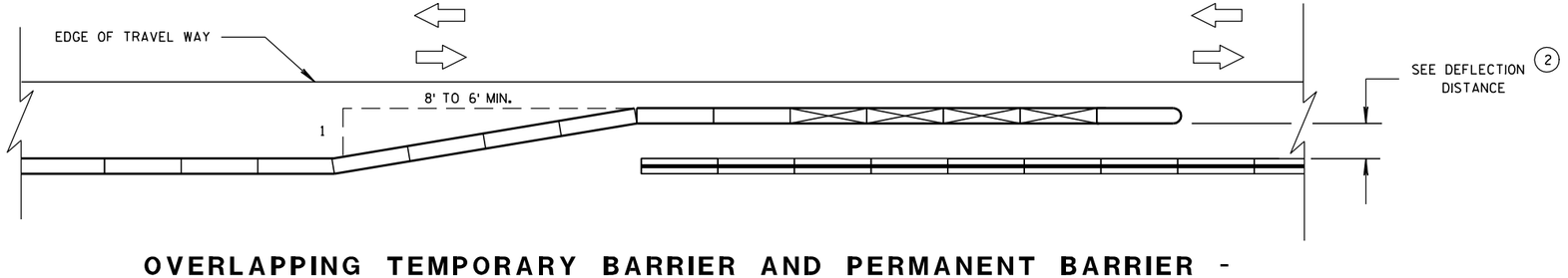
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 14 B 8-1d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

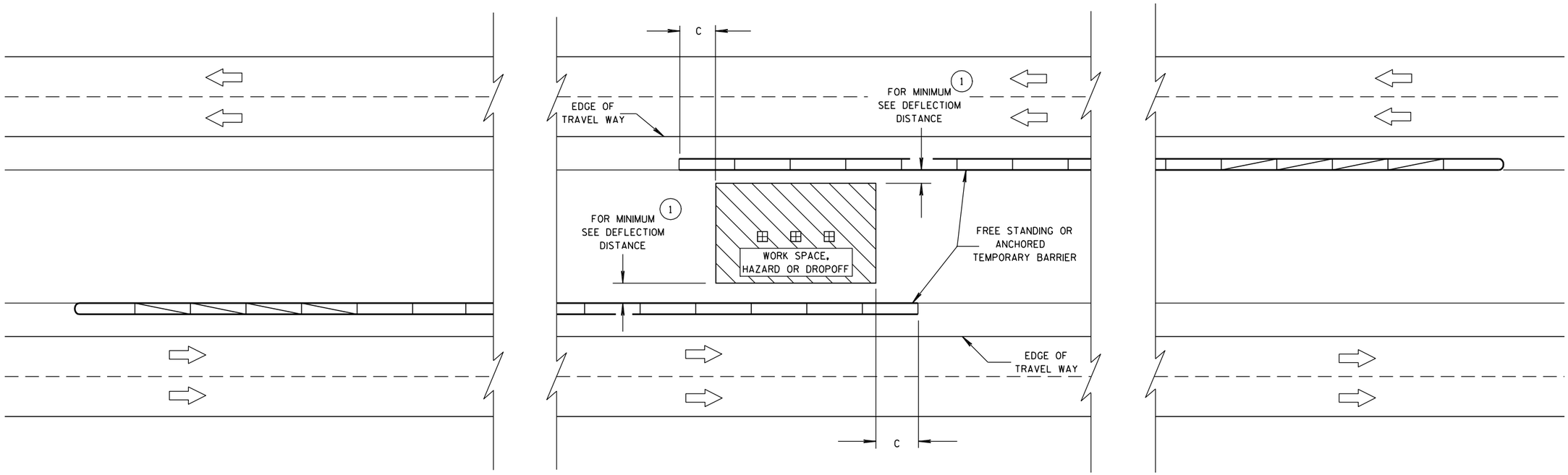
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

FHWA

6

S.D.D. 14 B 8-1e

GENERAL NOTES

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

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

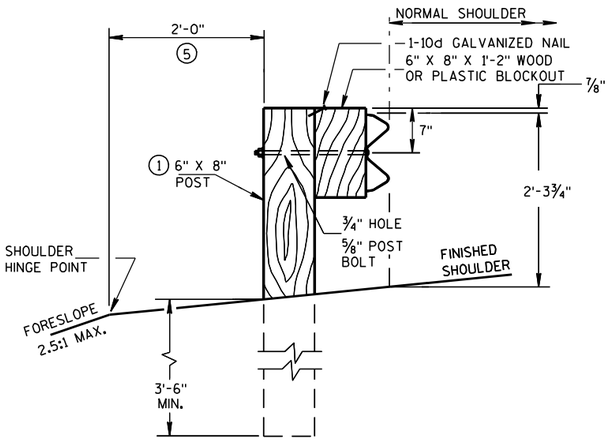
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

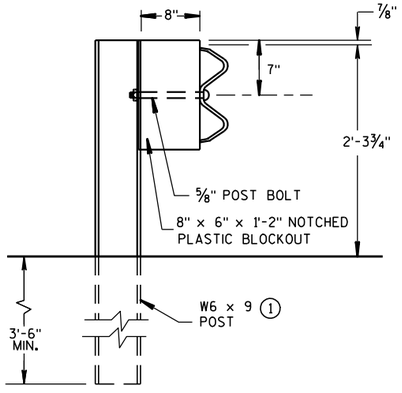
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

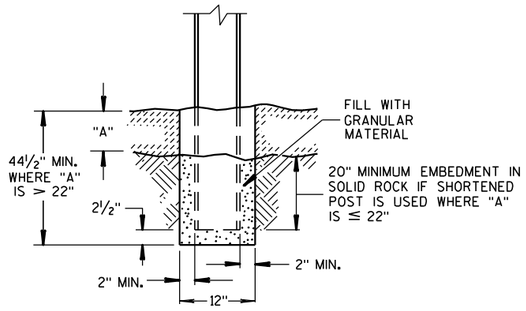
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



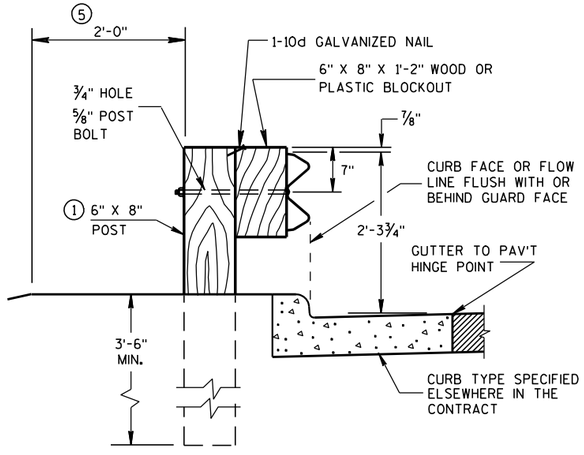
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



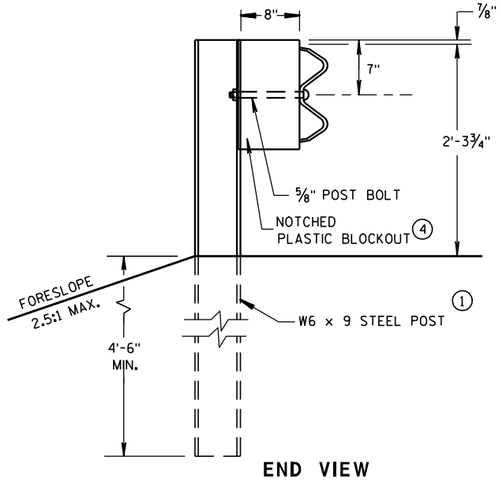
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



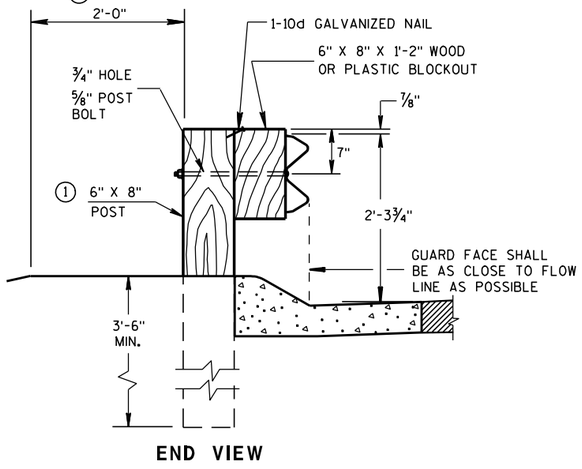
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



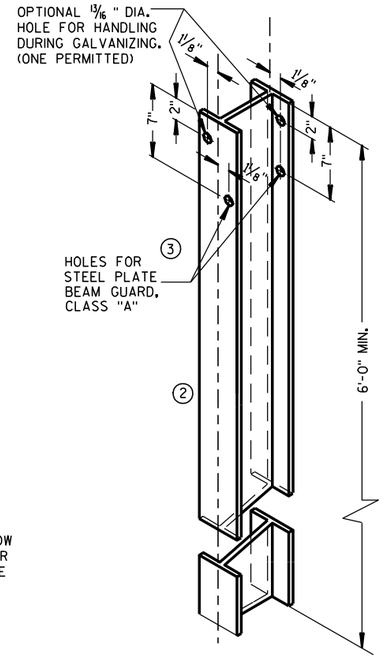
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

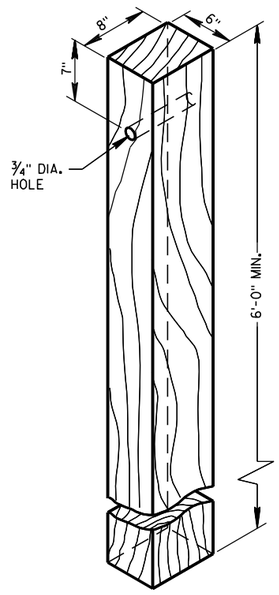


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

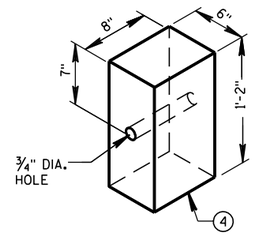


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

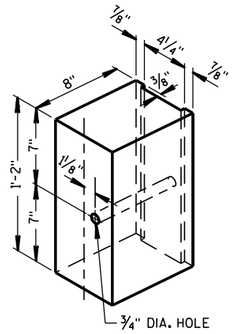
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



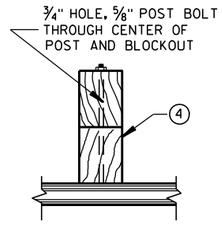
WOOD POST
(6"X8") NOMINAL



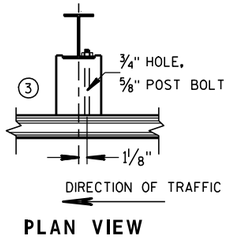
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



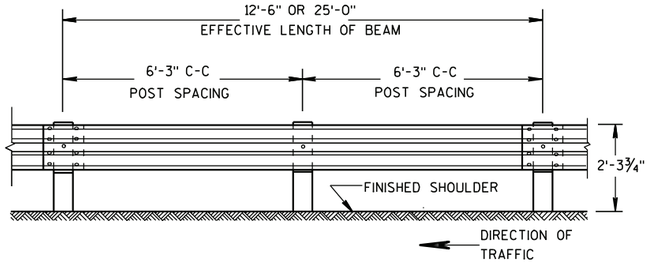
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

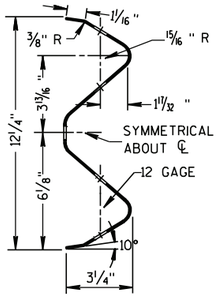
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

6
S.D.D. 14 B 15-7a

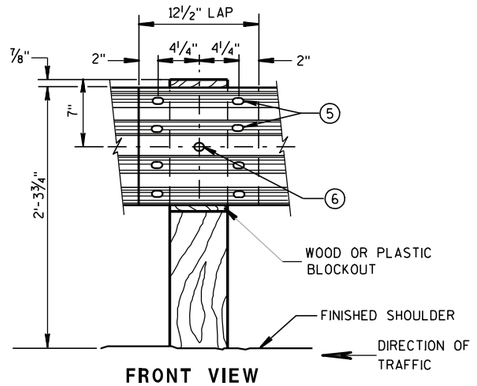


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

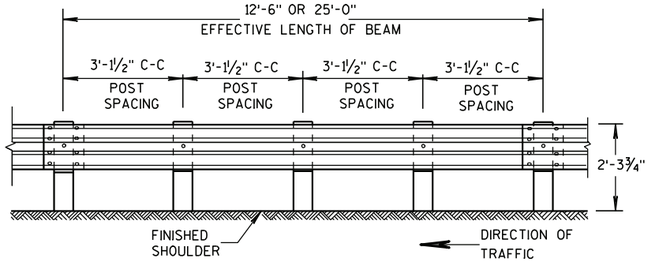


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

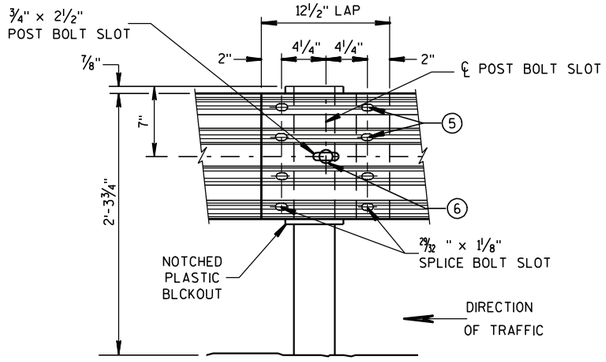
GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

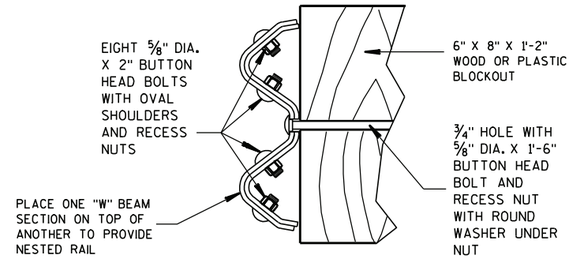
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

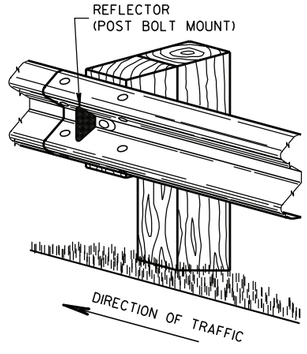


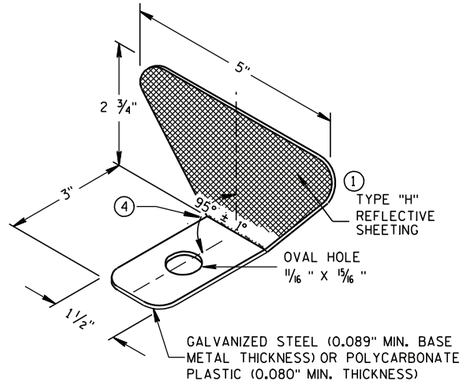
NESTED W BEAM (NW)

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

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	



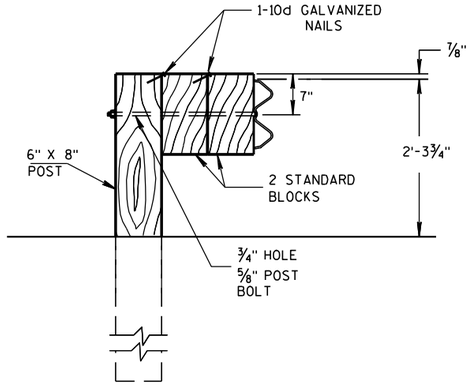


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

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

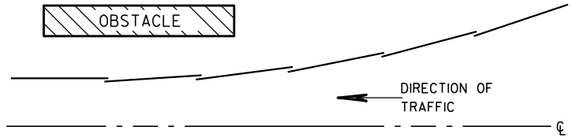
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-7b

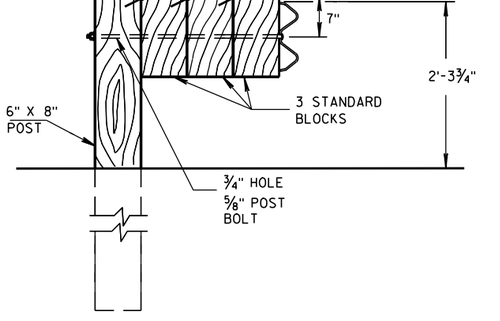


DETAIL FOR DOUBLE BLOCKS

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

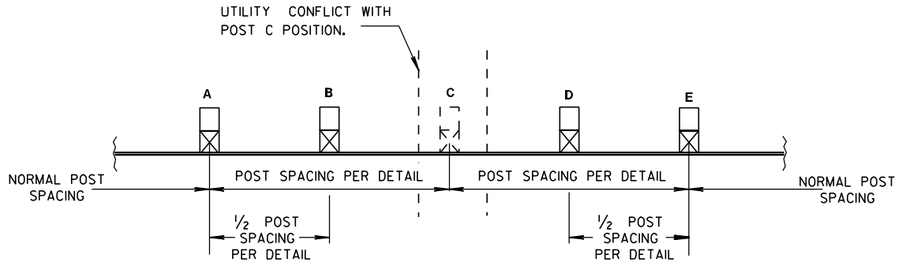


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

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



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

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

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

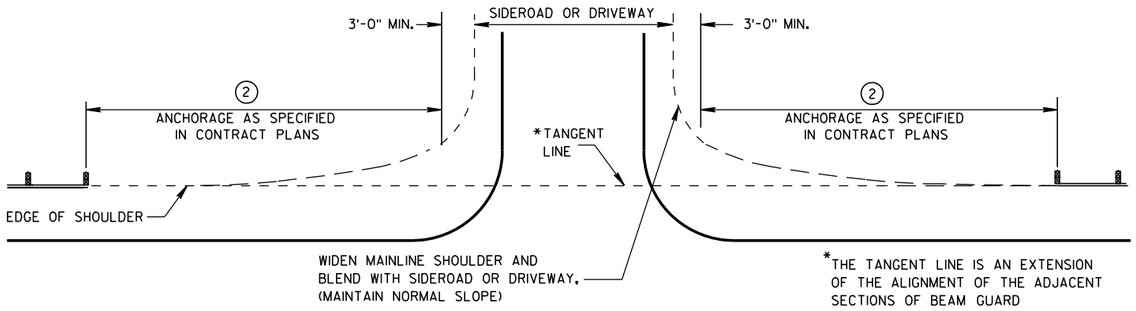
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

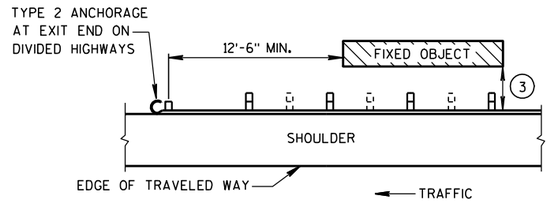
5/23/11	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

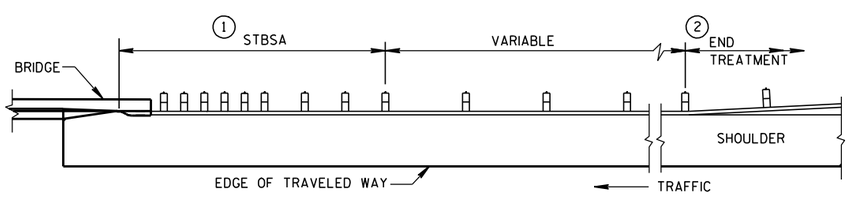
6
S.D.D. 14 B 15-7c



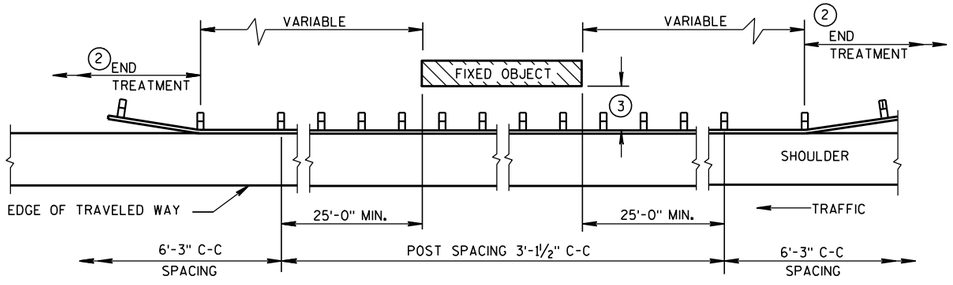
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

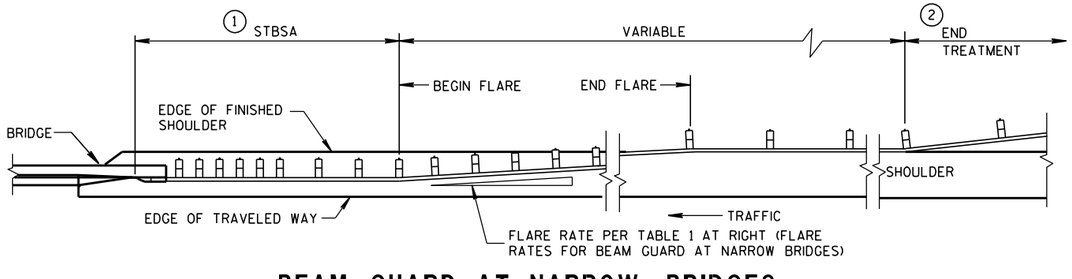


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

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



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

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

GENERAL NOTES

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

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

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

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

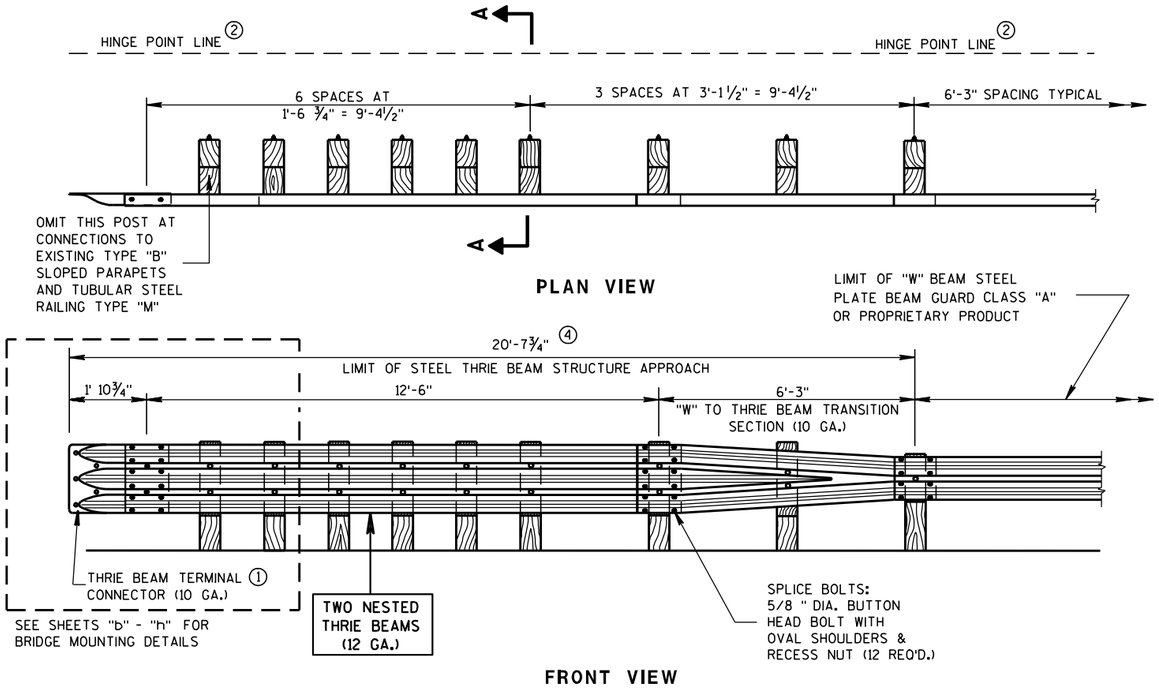
MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 18-6a



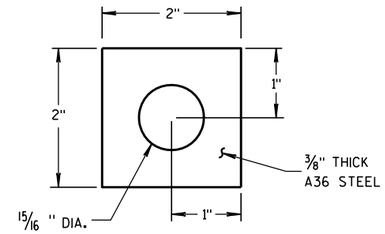


PLATE WASHER DETAIL

GENERAL NOTES

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

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

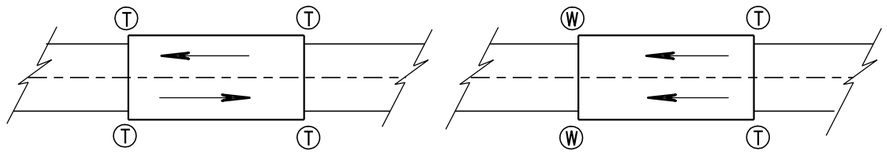
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



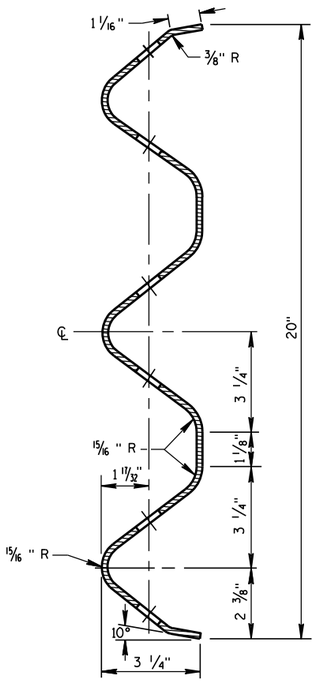
TWO WAY TRAFFIC

ONE WAY TRAFFIC

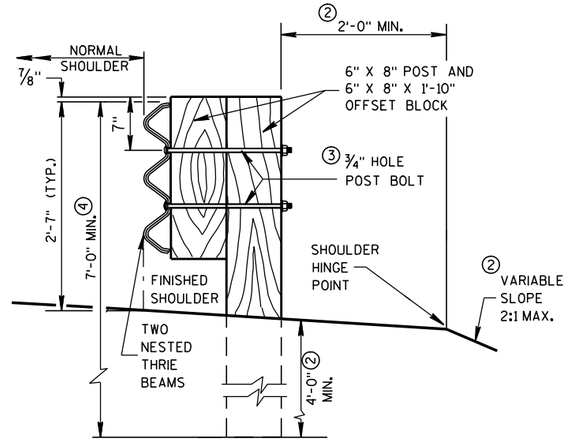
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

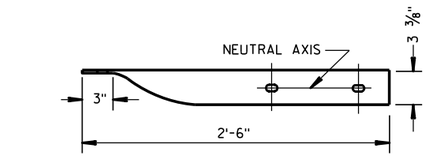
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

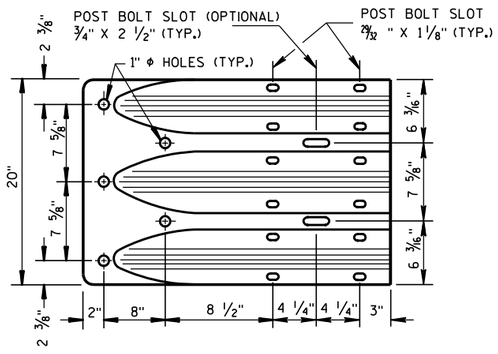


SECTION THRU THRIE BEAM RAIL ELEMENT

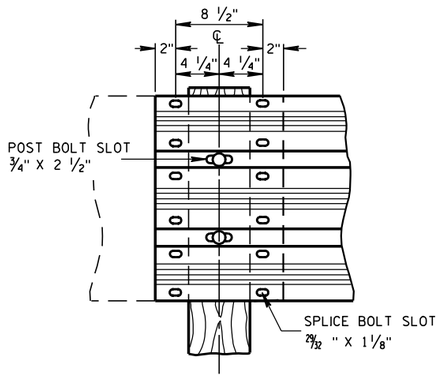


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



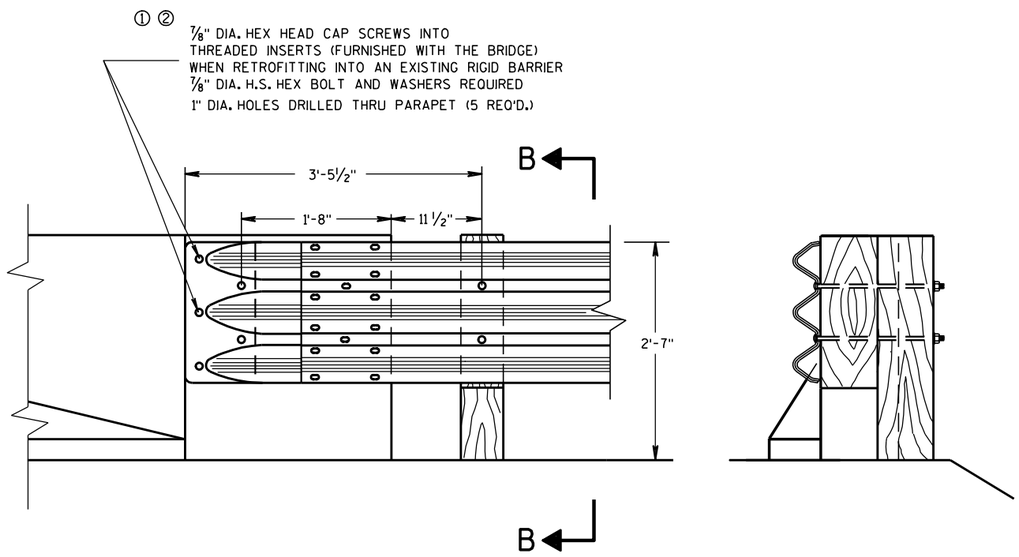
THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

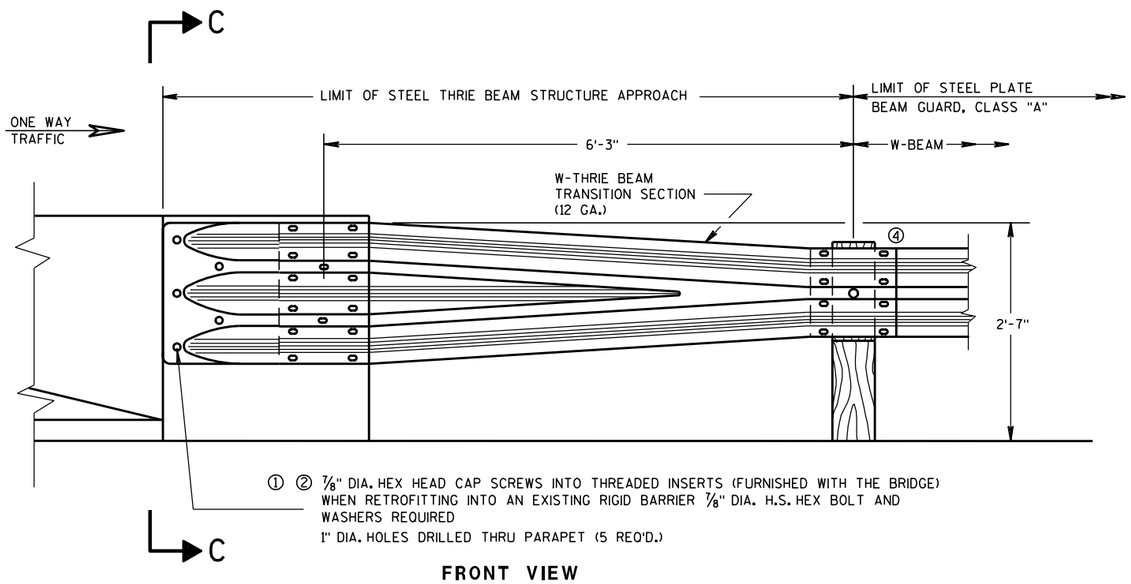
FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

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

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

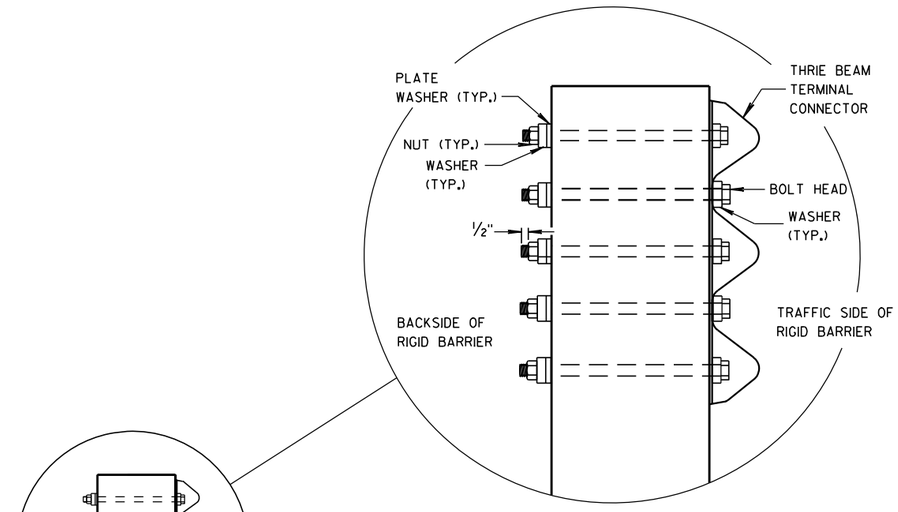
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

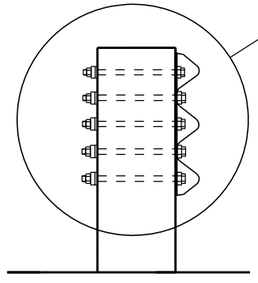
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

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





SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 20-11b

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S.D.D. 14 B 20-11b

GENERAL NOTES

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

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

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

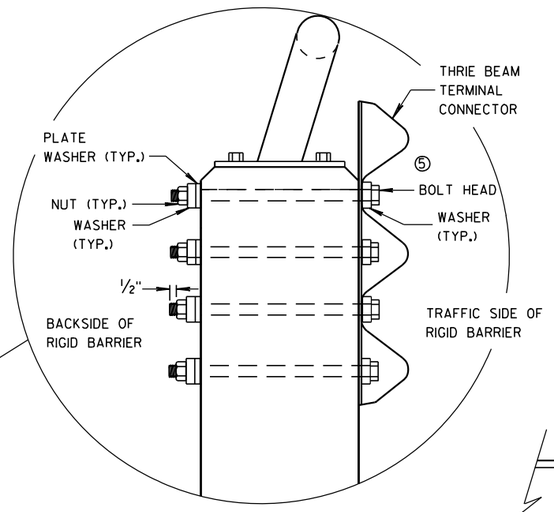
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

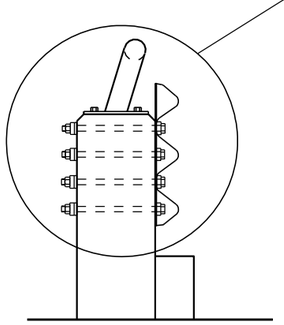
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

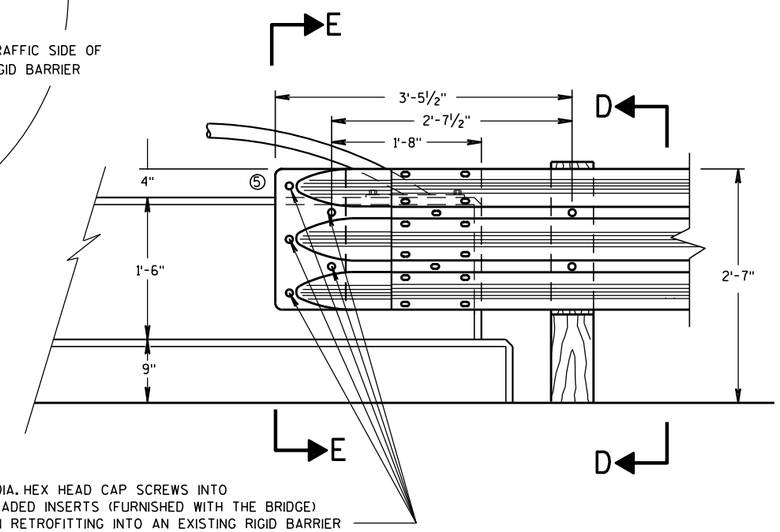
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

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





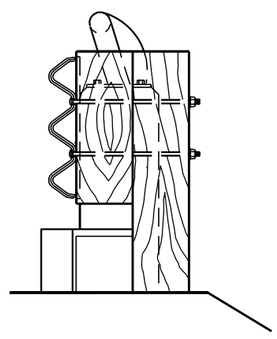
SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

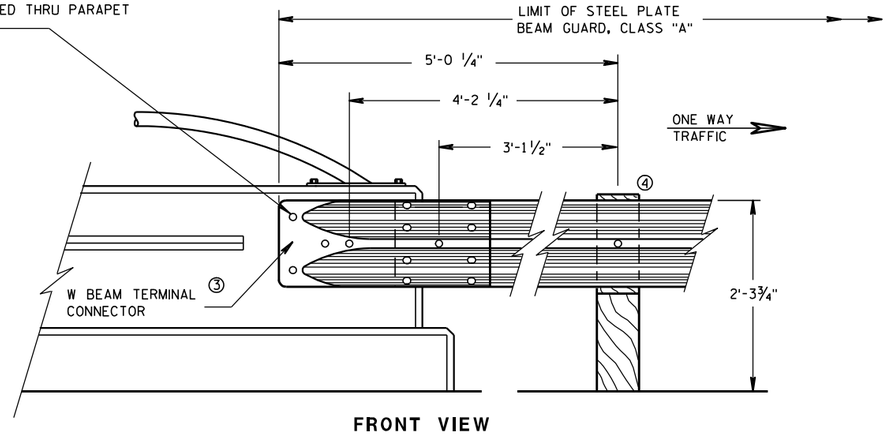


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zaa
ROADWAY STANDARDS DEVELOPMENT ENGINEER

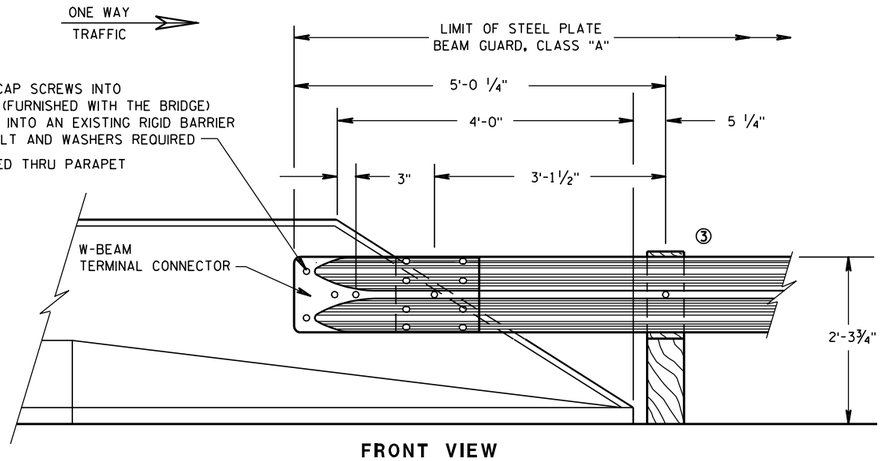
FHWA

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S.D.D. 14 B 20-11c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

GENERAL NOTES

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

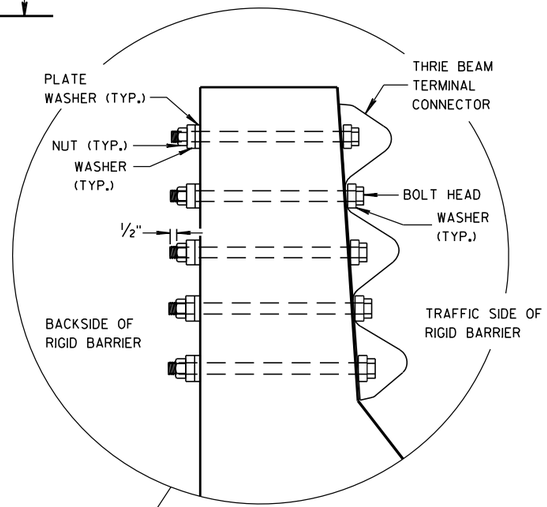
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

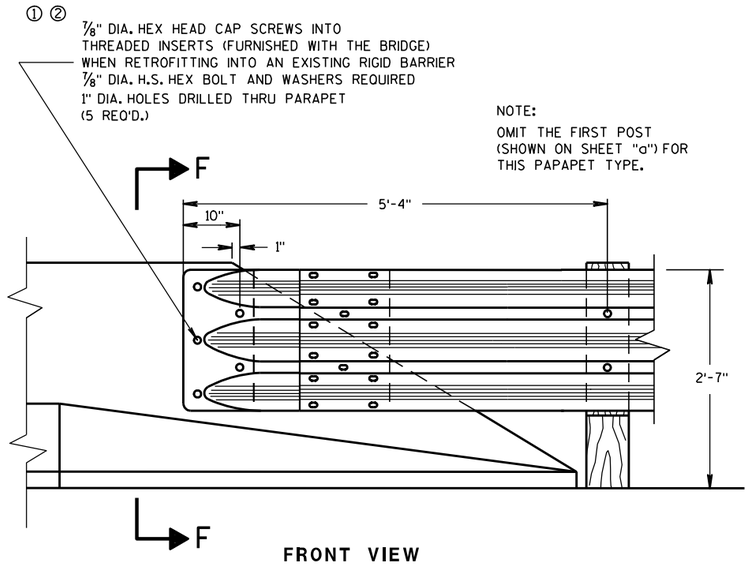
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR.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

③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

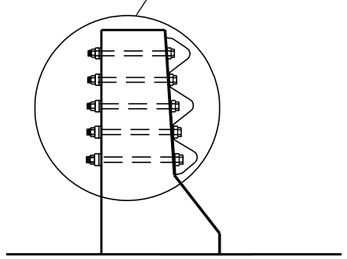
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



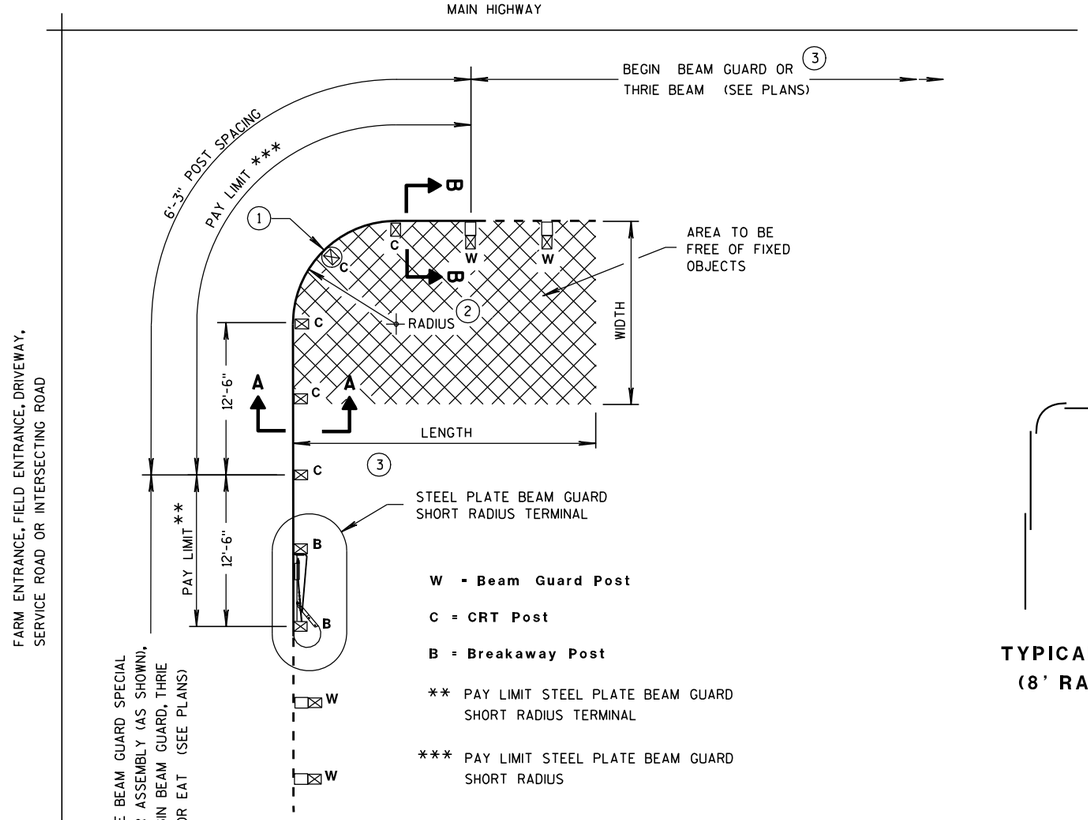
SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

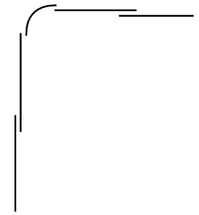
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

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S.D.D. 14 B 20-11d



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

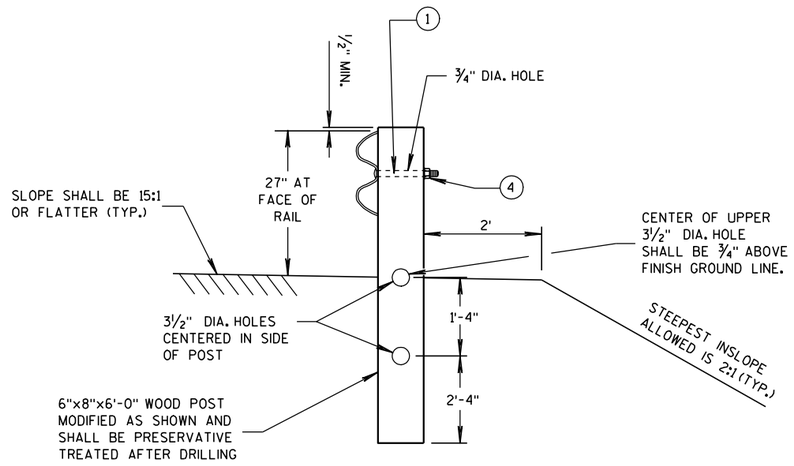
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

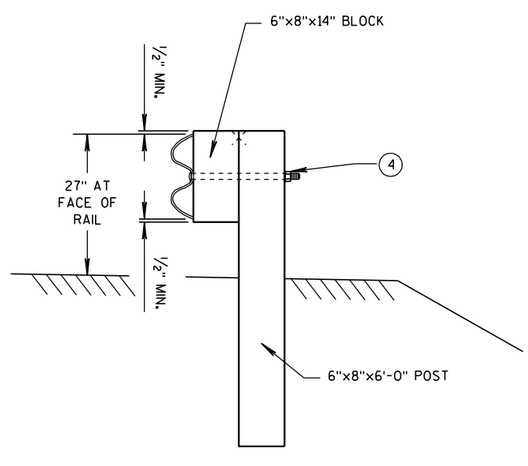
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)

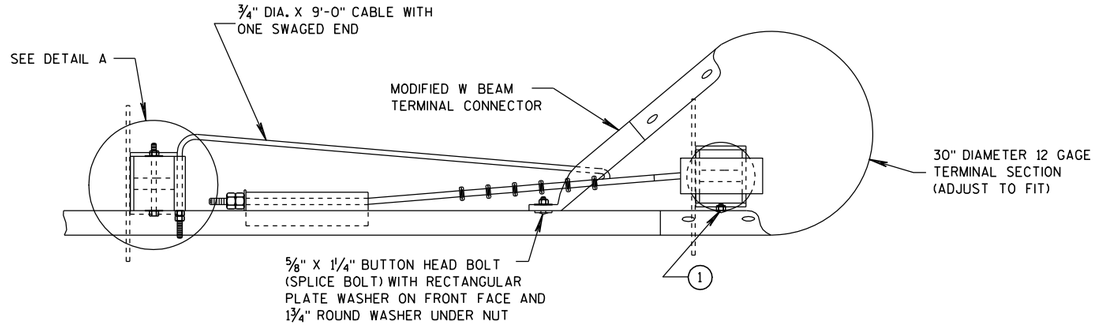


SECTION B-B
(BEAM GUARD POST)

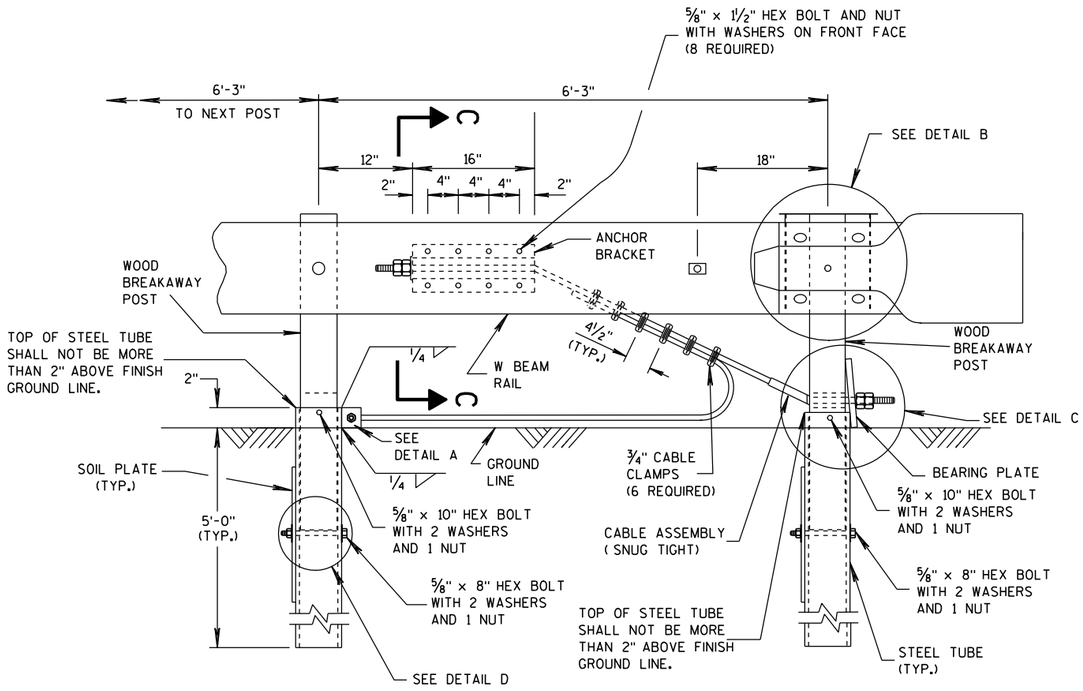
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	

6
S.D.D. 14 B 27-1a



PLAN VIEW



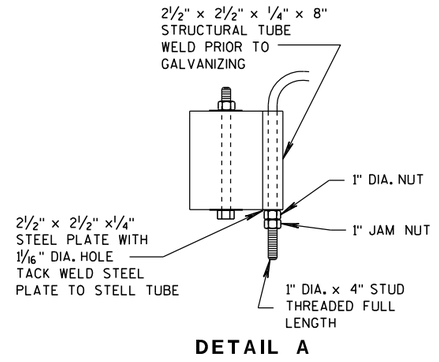
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

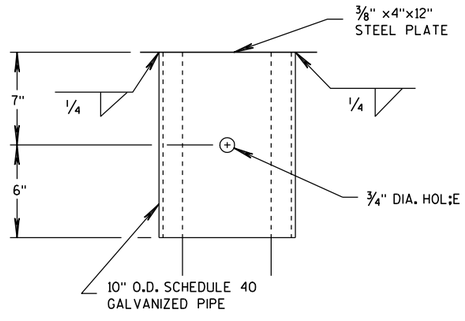
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

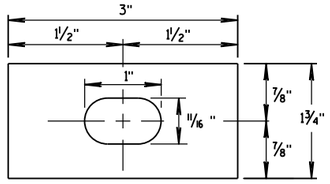
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

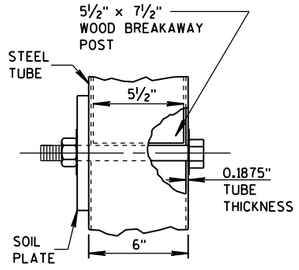
S.D.D. 14 B 27-1b

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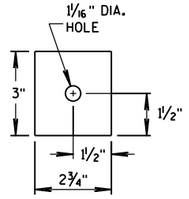
S.D.D. 14 B 27-1b



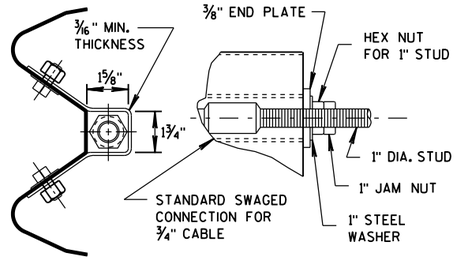
RECTANGULAR PLATE WASHER



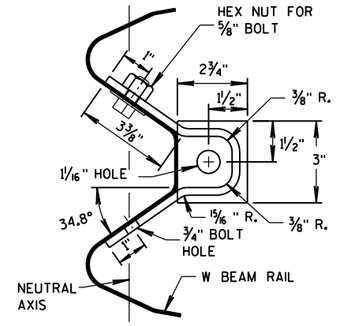
DETAIL D



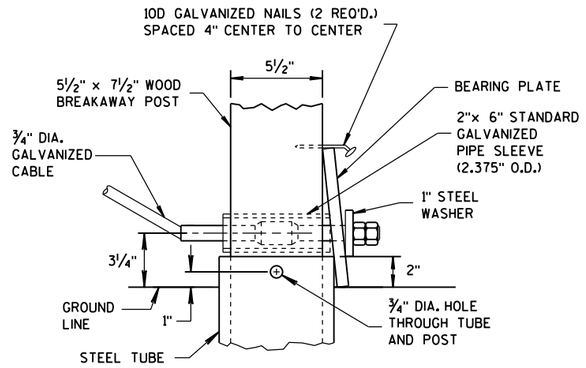
END PLATE



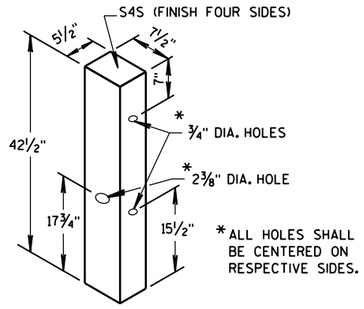
SECTION C-C
(END PLATE REMOVED)



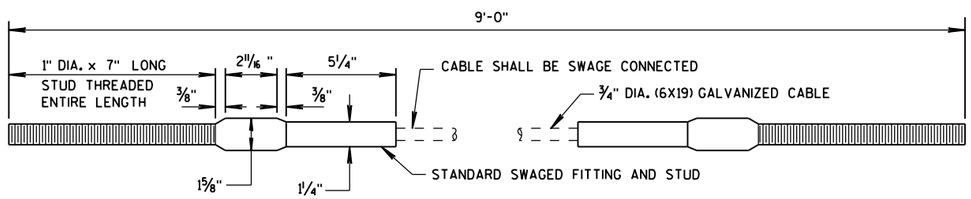
ANCHOR BRACKET



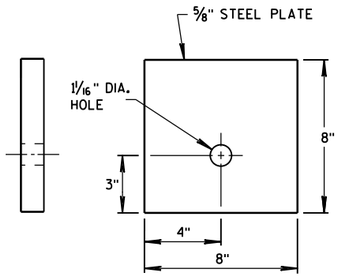
DETAIL C



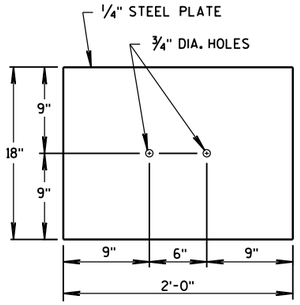
WOOD BREAKAWAY POST



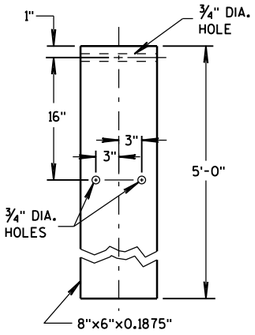
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

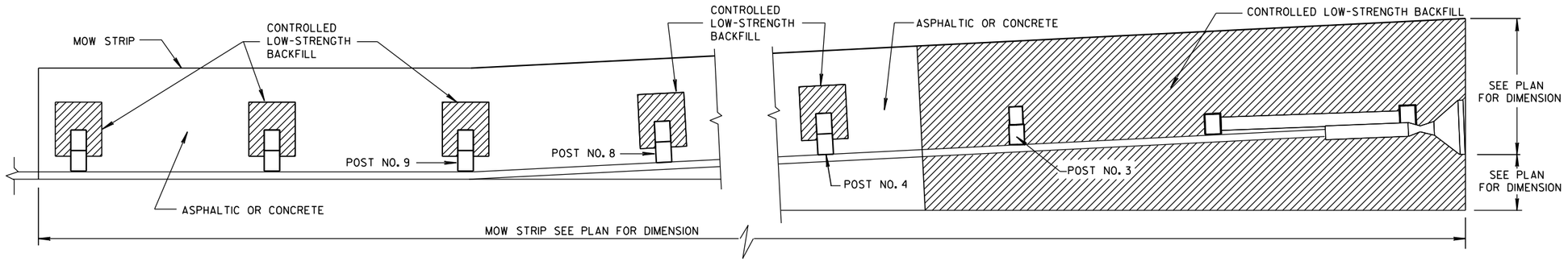
APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 27-1c

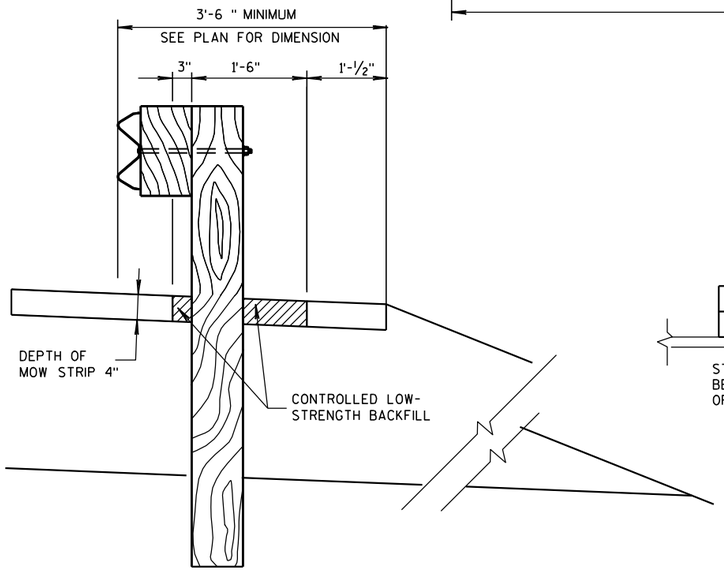
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S.D.D. 14 B 27-1c

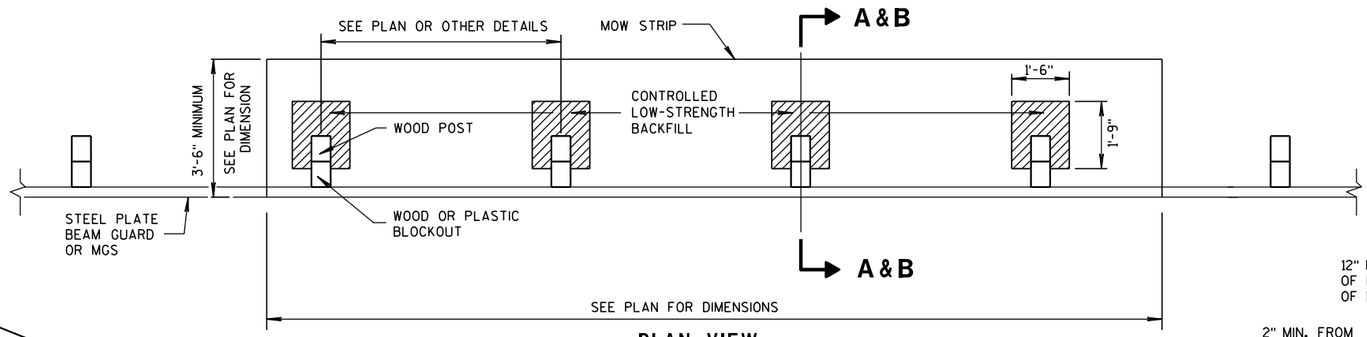


PLAN VIEW

MOW STRIP FOR STEEL PLATE BEAM GUARD ENERGY ABORBING TERMINAL

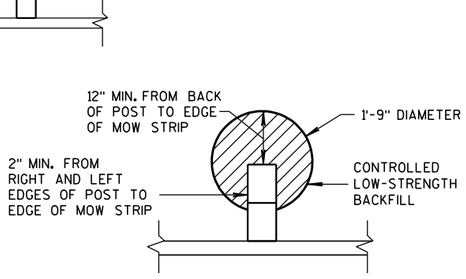


SECTION A-A

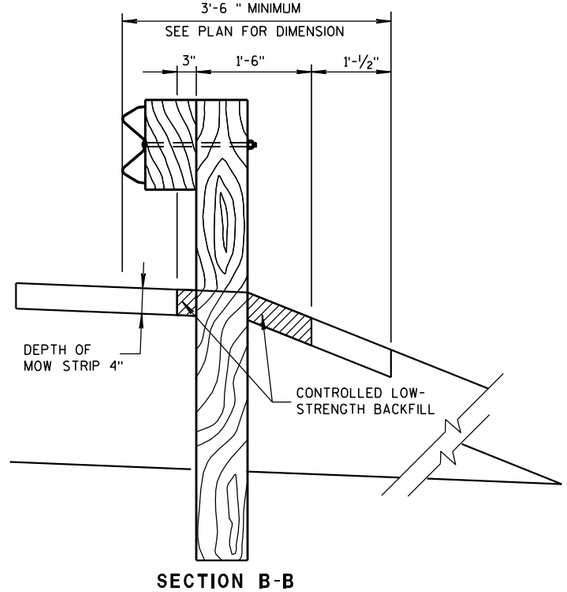


PLAN VIEW

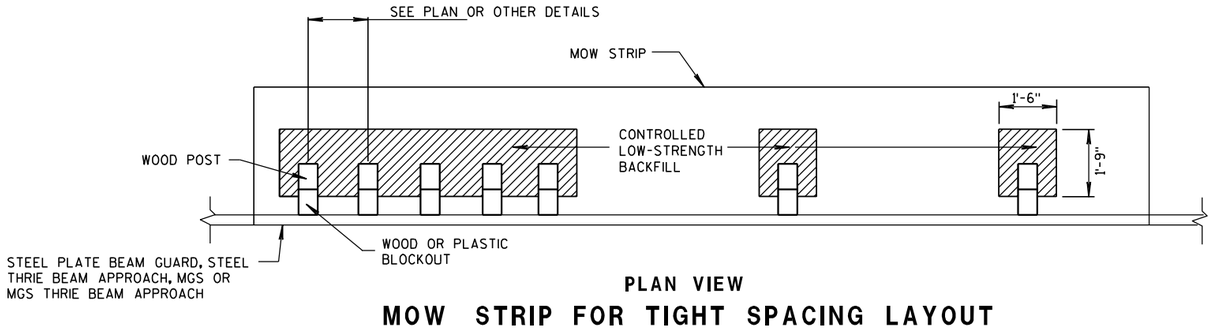
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



ALTERNATIVE HMA MOW STRIP DESIGN

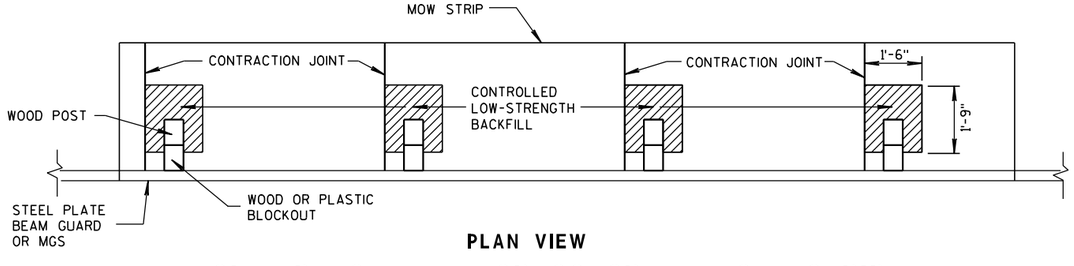


SECTION B-B



PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/27/12
DATE

/S/ Jerry H. Zaas
ROADWAY STANDARDS 1176 ENGINEER

FHWA

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S.D.D. 14 B 28-2

GENERAL NOTES

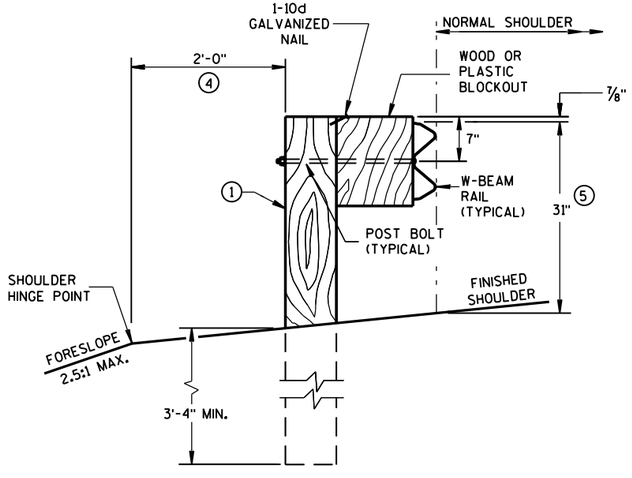
1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

2. USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

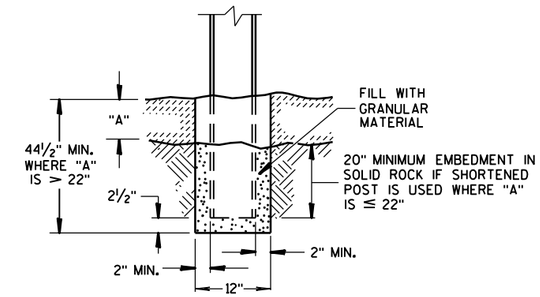
4. WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".



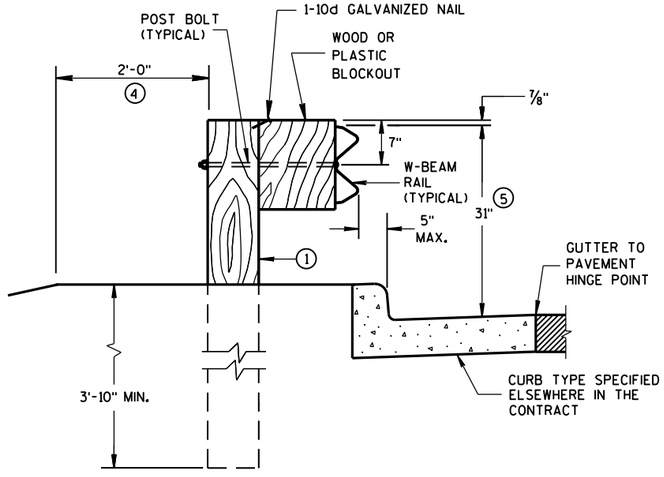
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



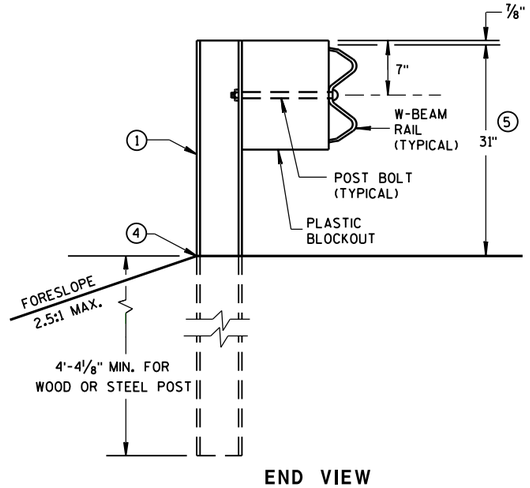
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



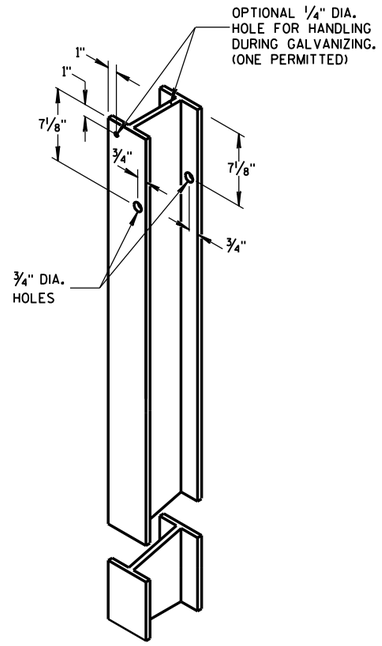
END VIEW

LOCATED ALONG A CURBED ROADWAY

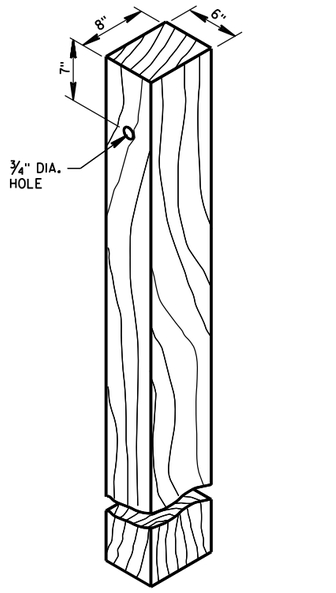


END VIEW

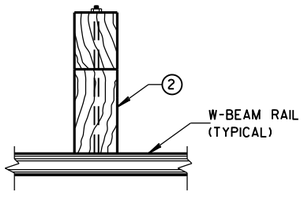
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



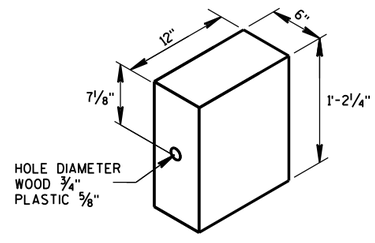
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



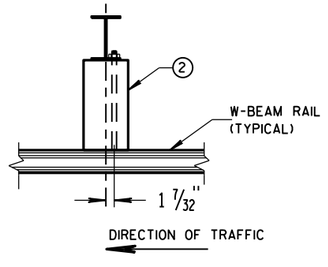
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

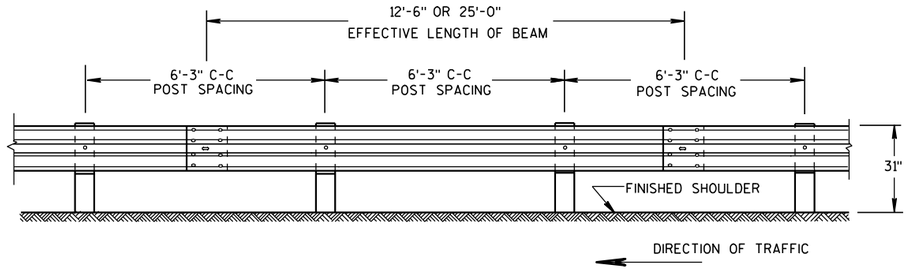


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

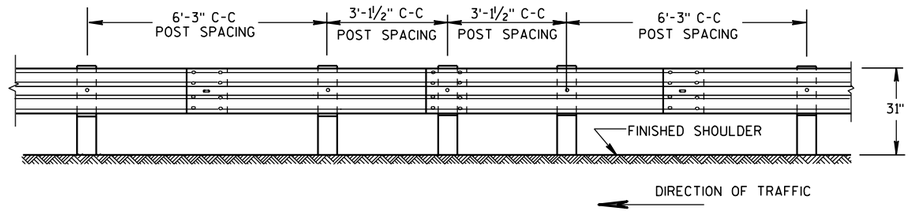
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 42-2a



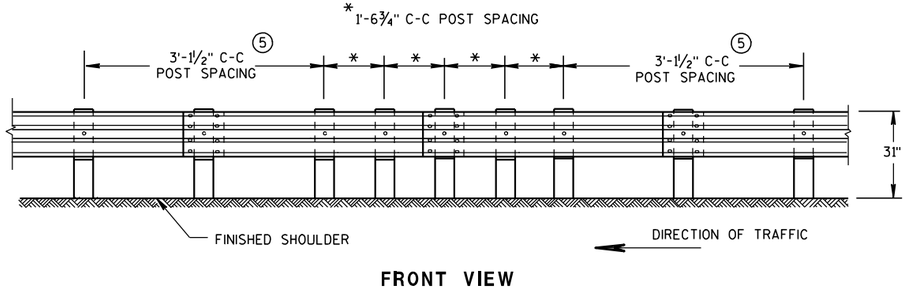
FRONT VIEW

POST SPACING STANDARD INSTALLATION



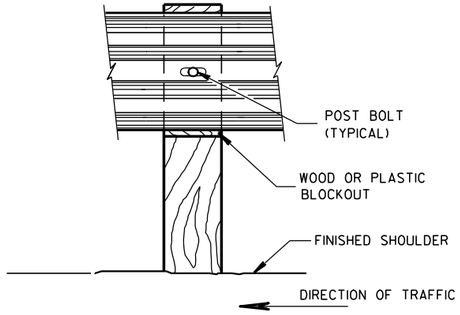
FRONT VIEW

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

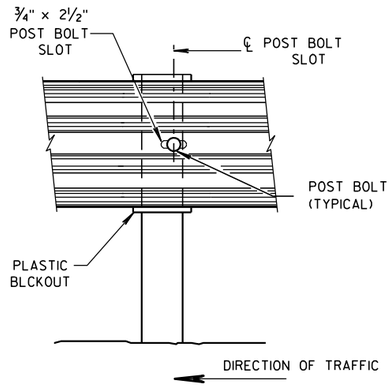


FRONT VIEW

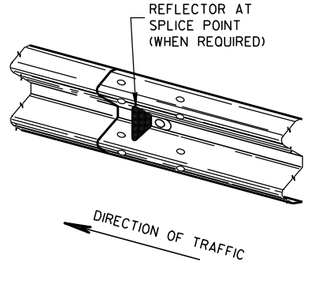
QUARTER POST SPACING (QS)

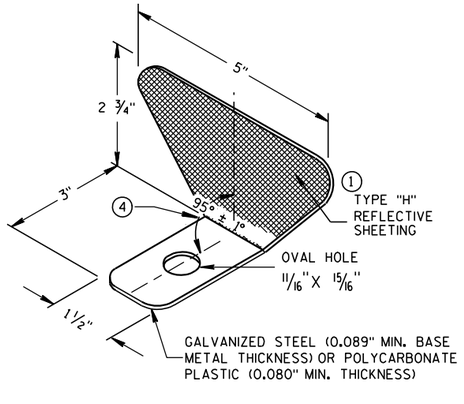


FRONT VIEW AT WOOD POST

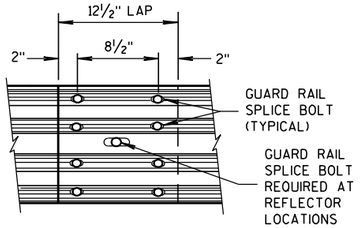


FRONT VIEW AT STEEL POST



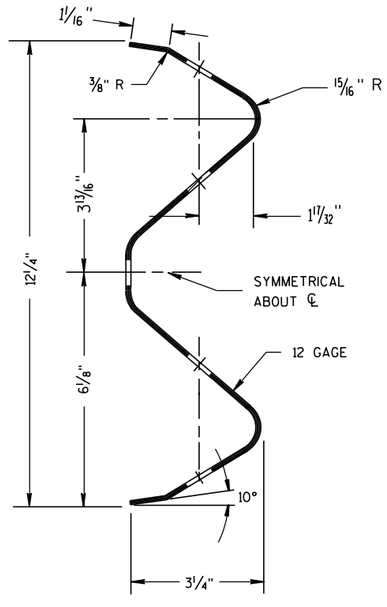


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①



FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL

GENERAL NOTES

① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.

② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

④ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ②

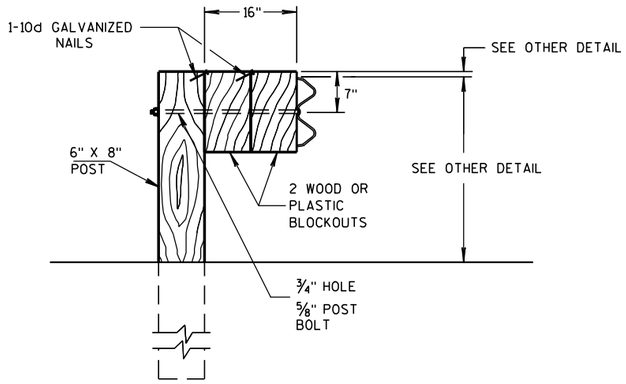
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ③ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 ④ 2	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

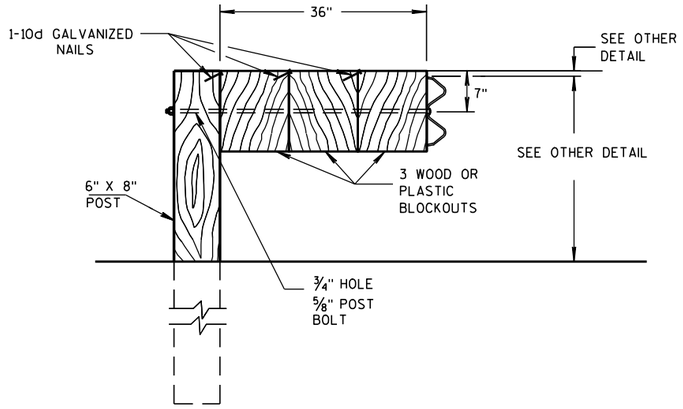
S.D.D. 14 B 42-2b

S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

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

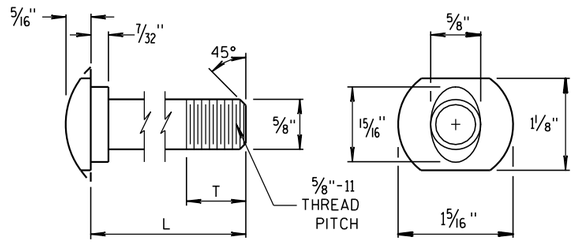


DETAIL FOR 36" BLOCKOUT DEPTH

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

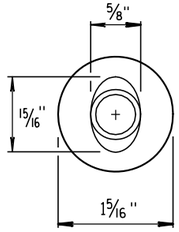
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

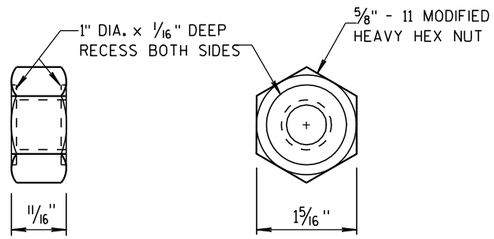


POST BOLT TABLE

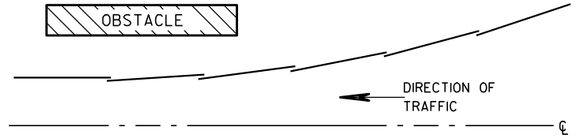
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

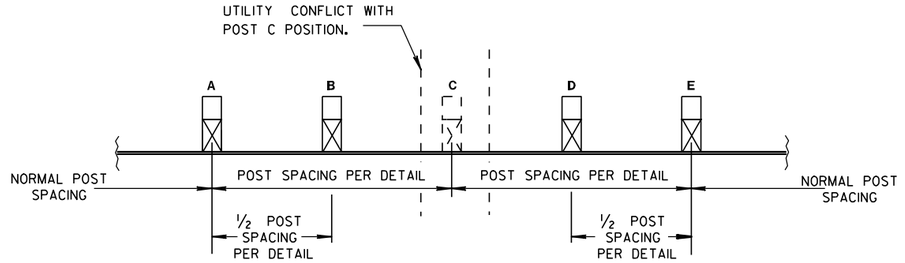


POST BOLT AND RECESS NUT

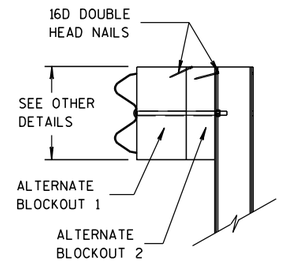


PLAN VIEW

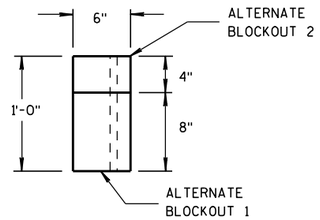
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011 DATE — /S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 42-2c

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S.D.D. 14 B 42-2c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL),AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

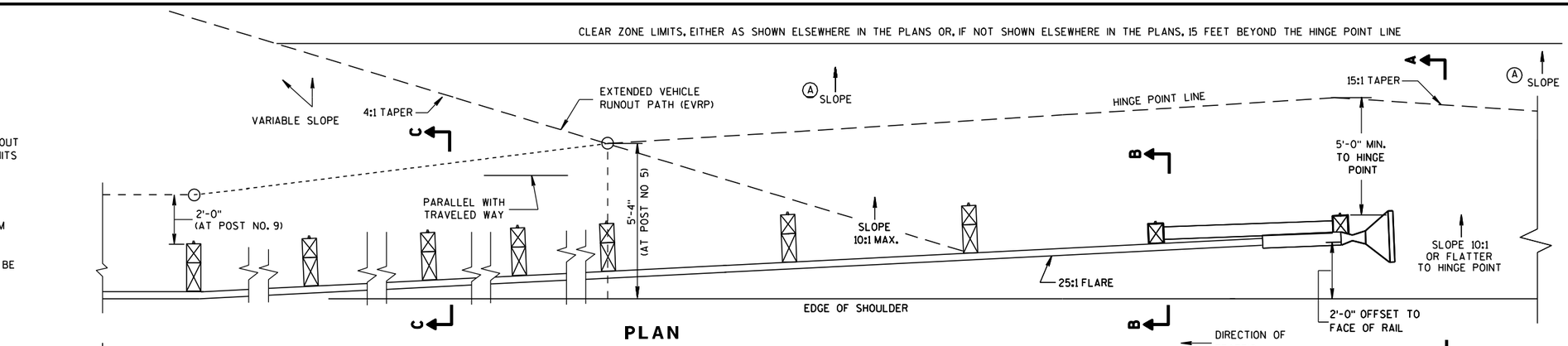
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

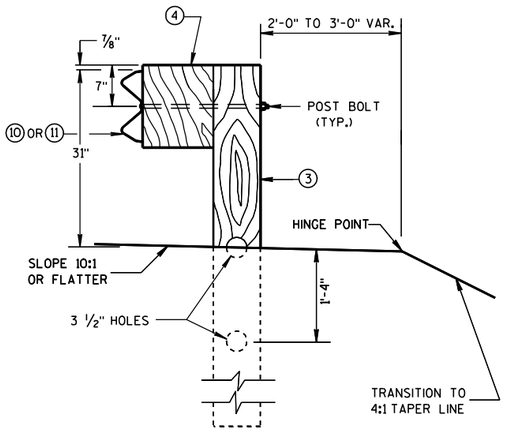
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

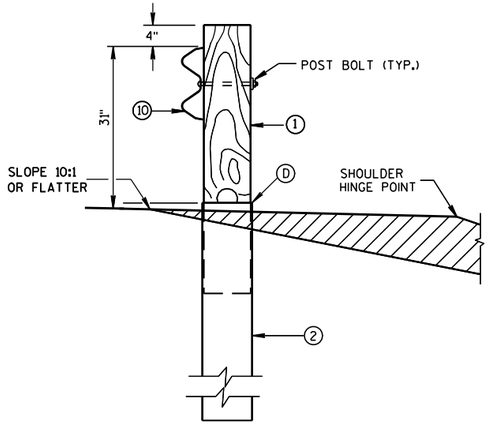
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

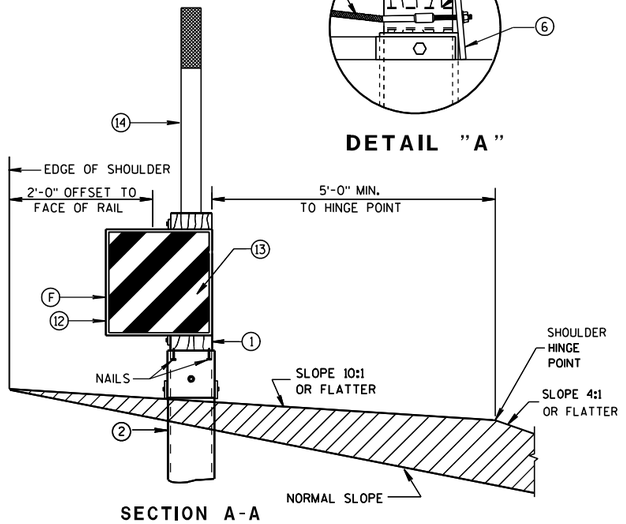




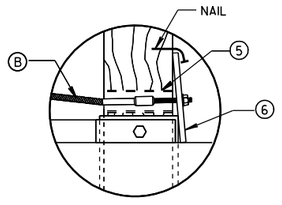
SECTION C-C
TYPICAL AT POST NOS. 3-9



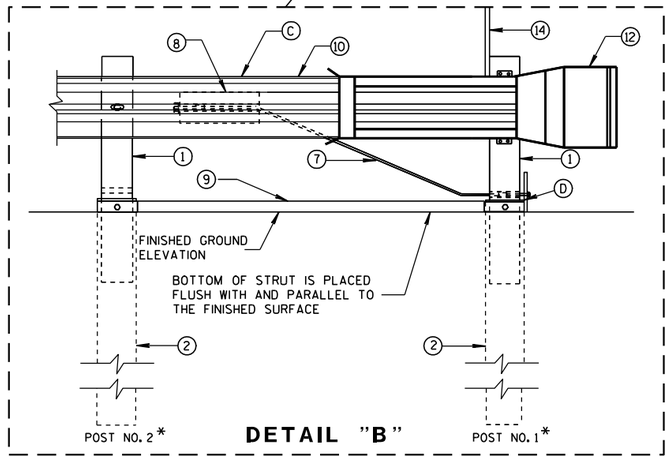
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



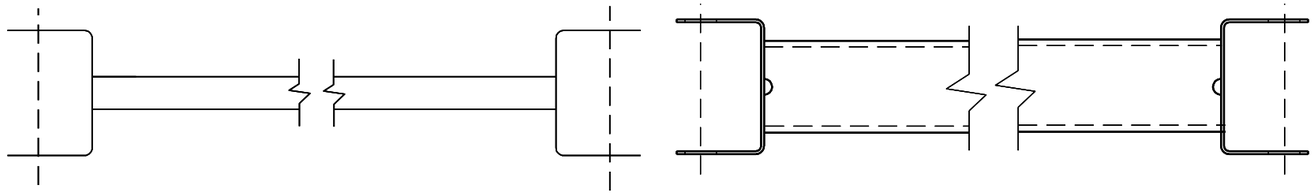
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 14 B 44-1a

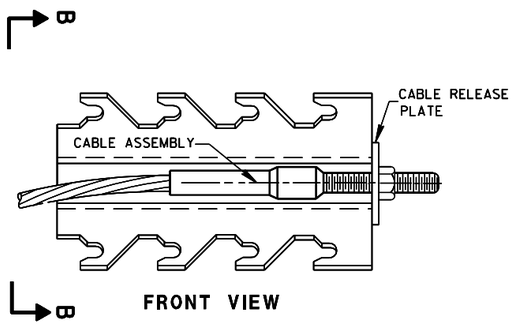
6



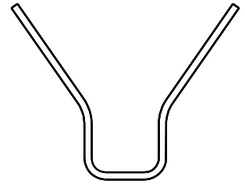
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

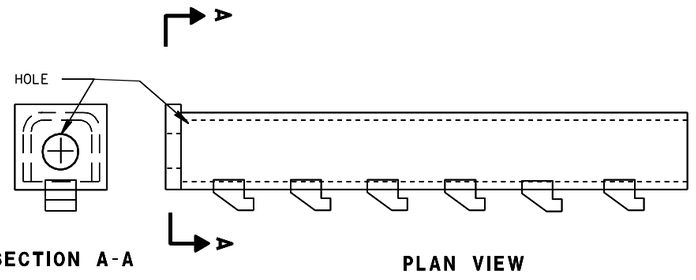
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR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



FRONT VIEW



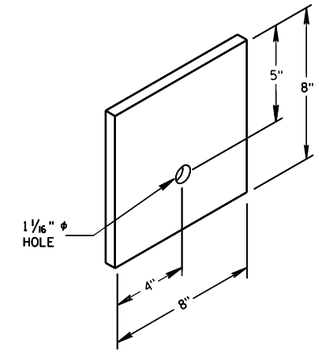
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



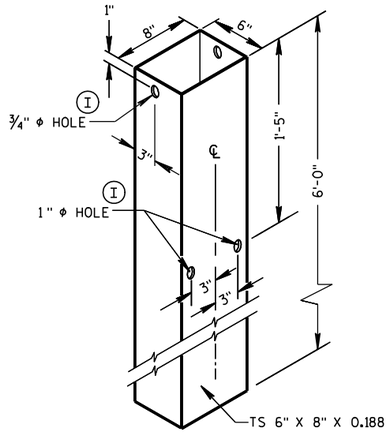
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

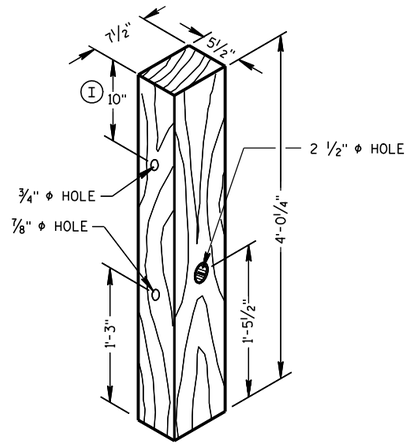
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

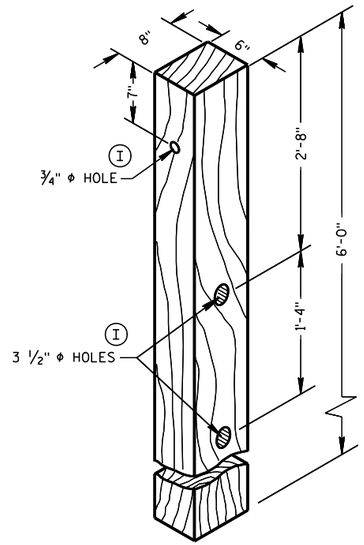


FOUNDATION TUBE (2)



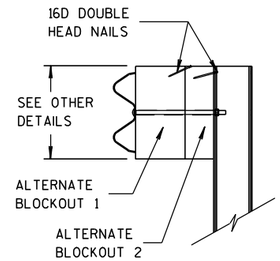
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

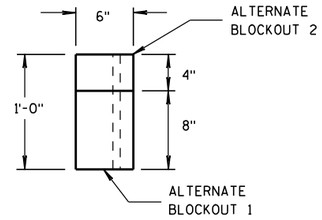


POSTS NUMBER 3-9

WOOD CRT POST (3)

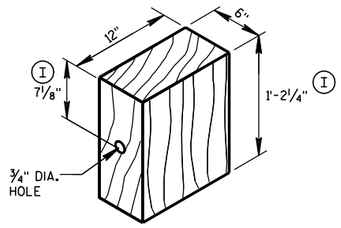


SIDE VIEW



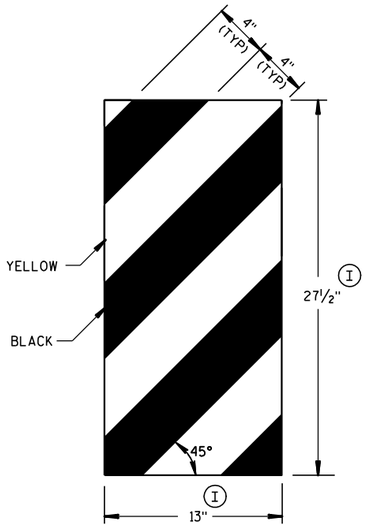
TOP VIEW

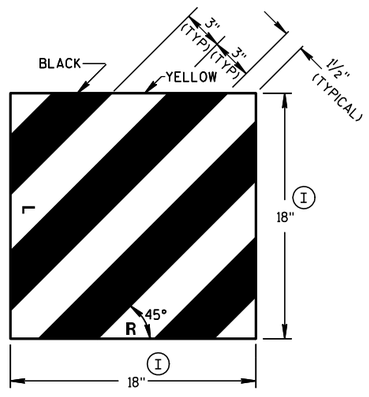
ALTERNATE WOOD BLOCKOUT DETAIL



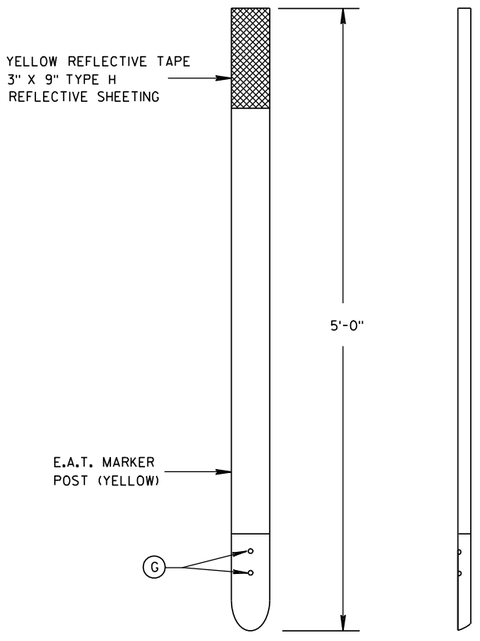
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





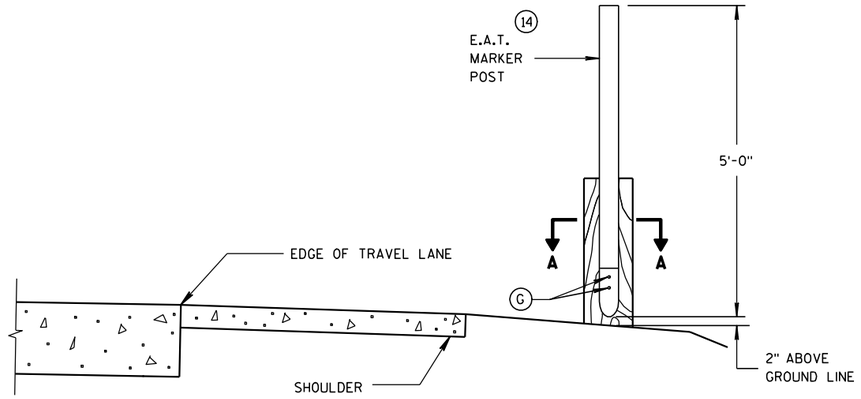
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

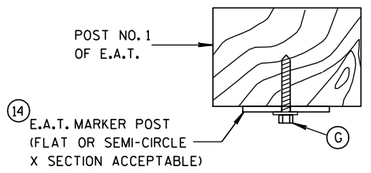
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

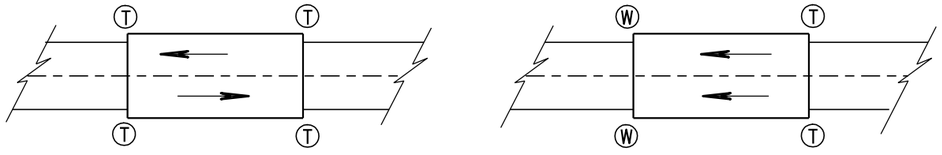
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

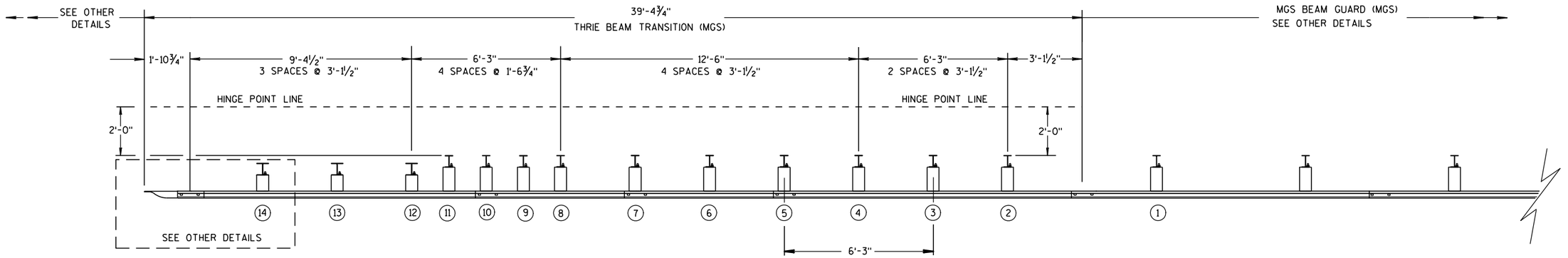
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

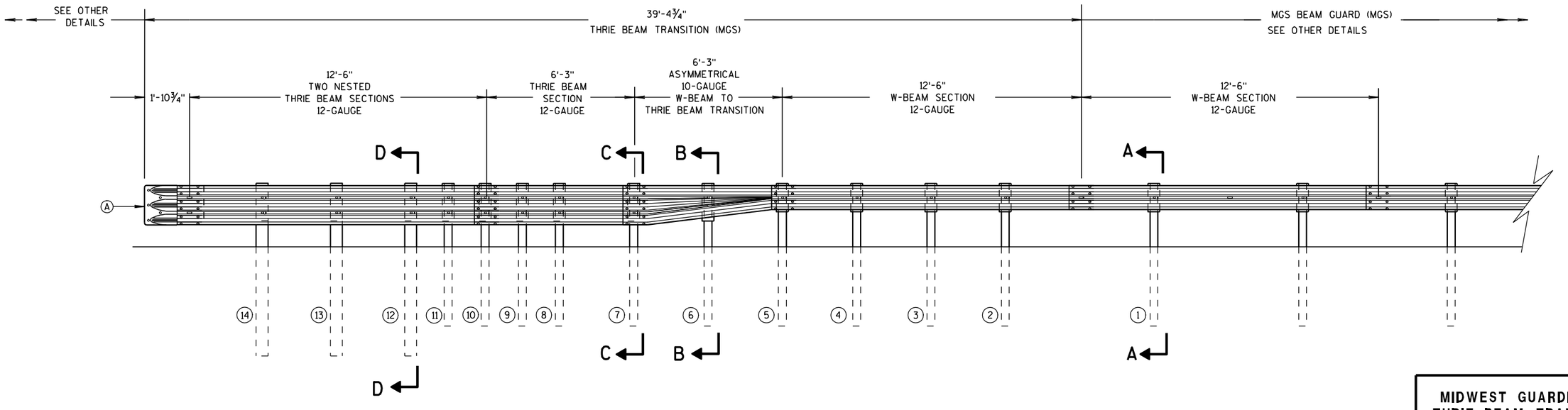
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

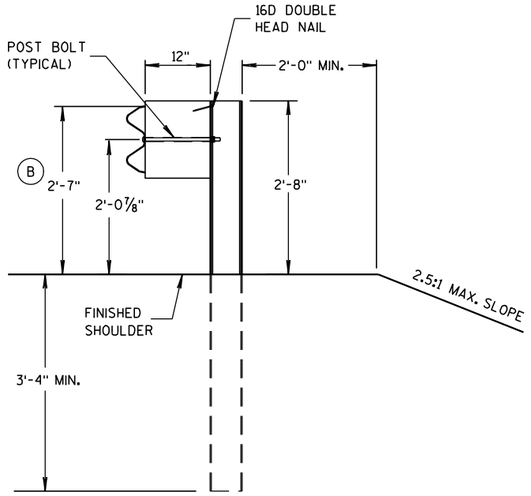
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

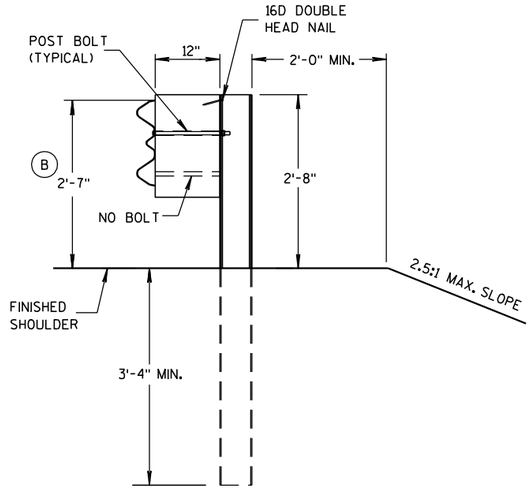
GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



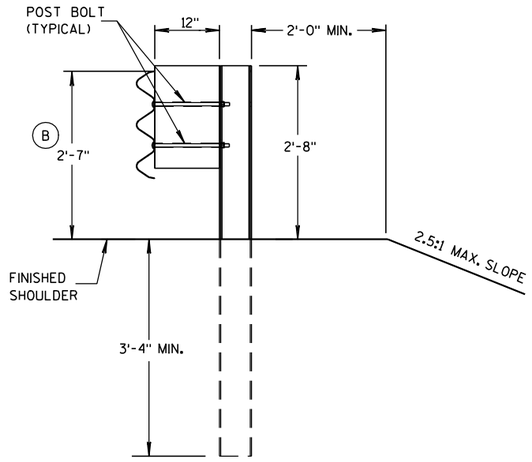
SECTION A-A

POSTS 1-5



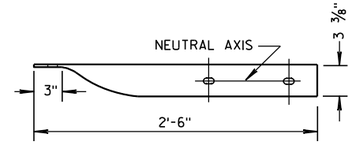
SECTION B-B

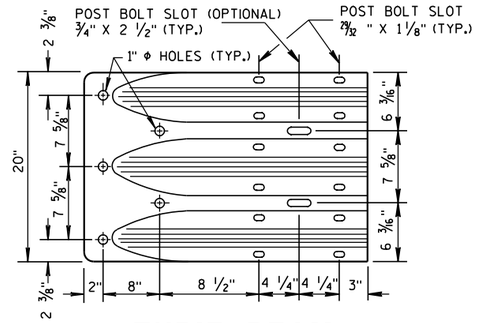
POST 6



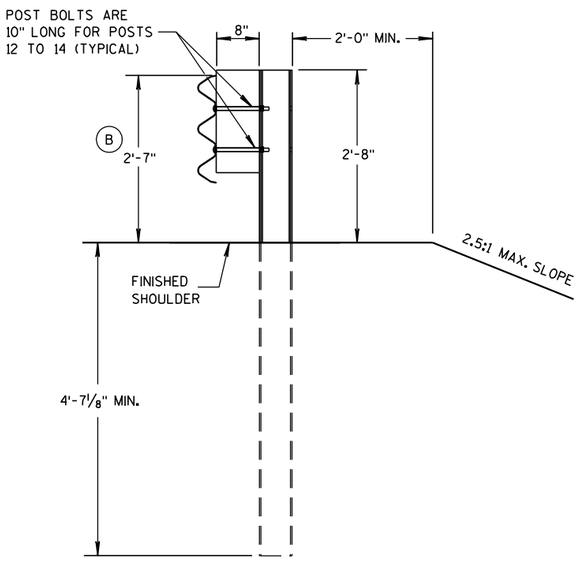
SECTION C-C

POSTS 7-11





THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14

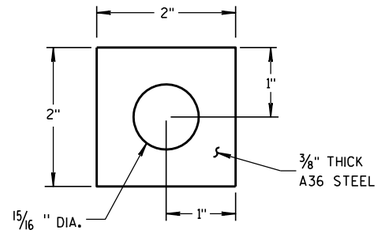
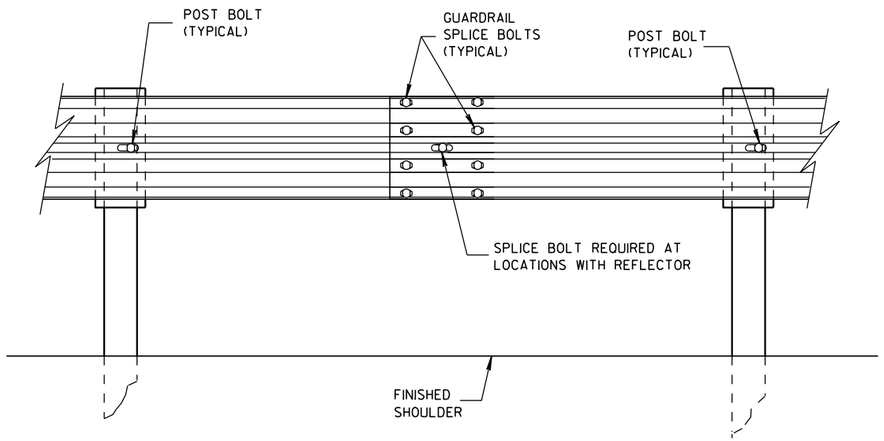
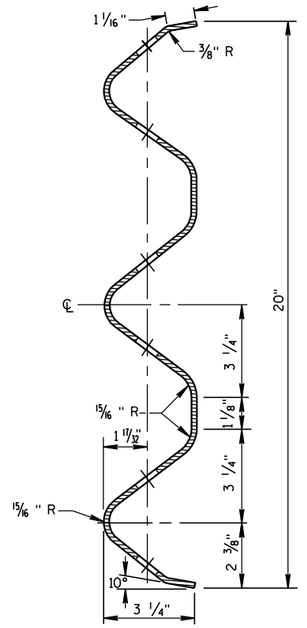


PLATE WASHER DETAIL



SPLICE DETAIL



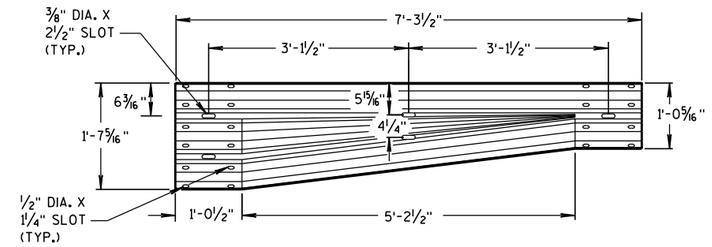
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

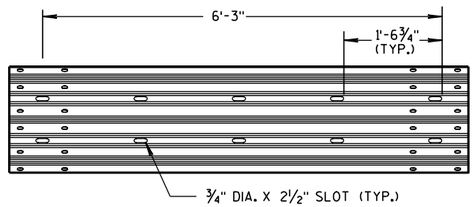
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

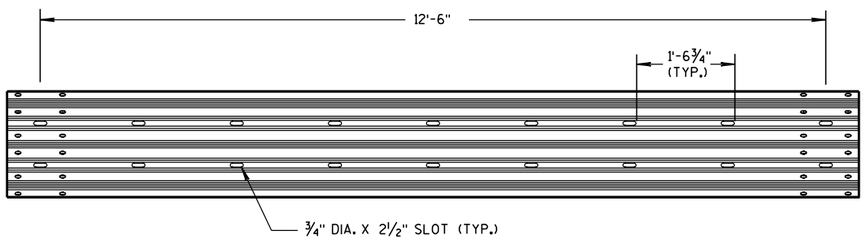
S.D.D. 14 B 45-3b



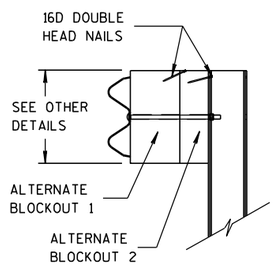
W-BEAM TO THRIE BEAM TRANSITION SECTION



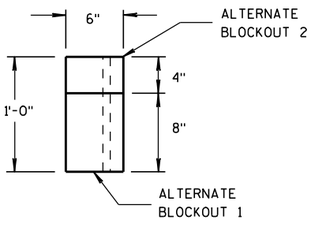
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

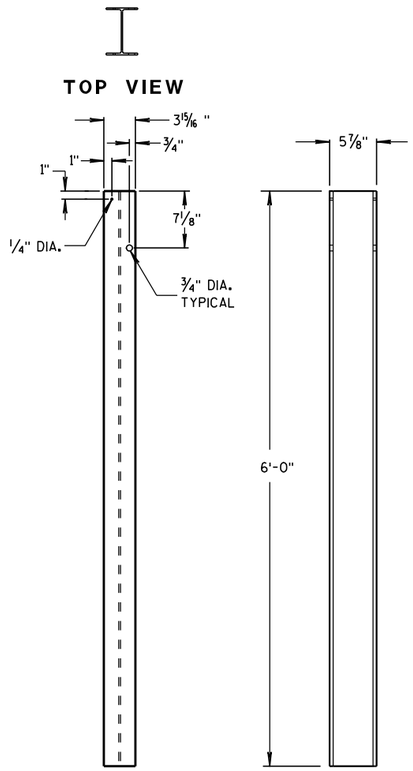


SIDE VIEW

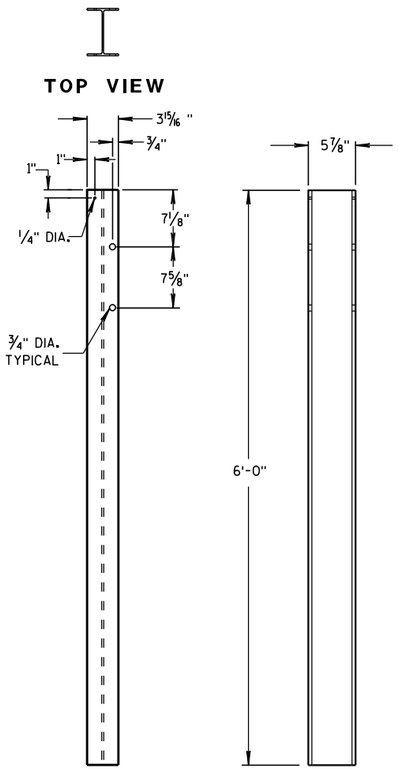


TOP VIEW

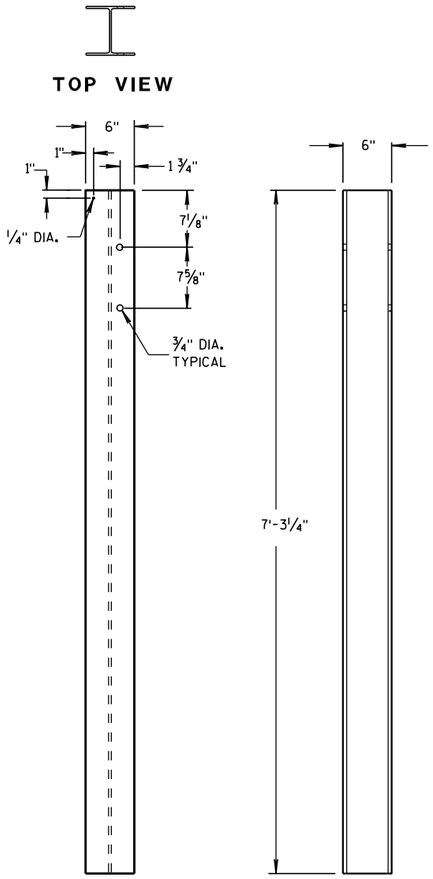
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

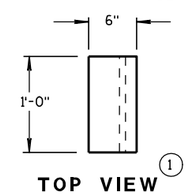


STEEL POSTS 6-11

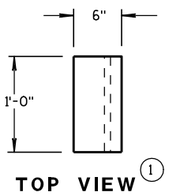


STEEL POSTS 12-14

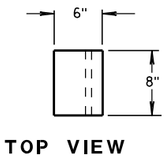
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



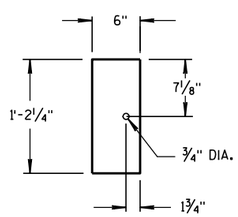
TOP VIEW (1)



TOP VIEW (1)

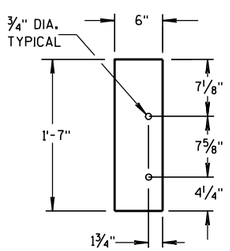


TOP VIEW



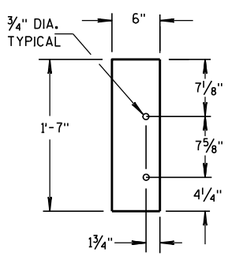
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

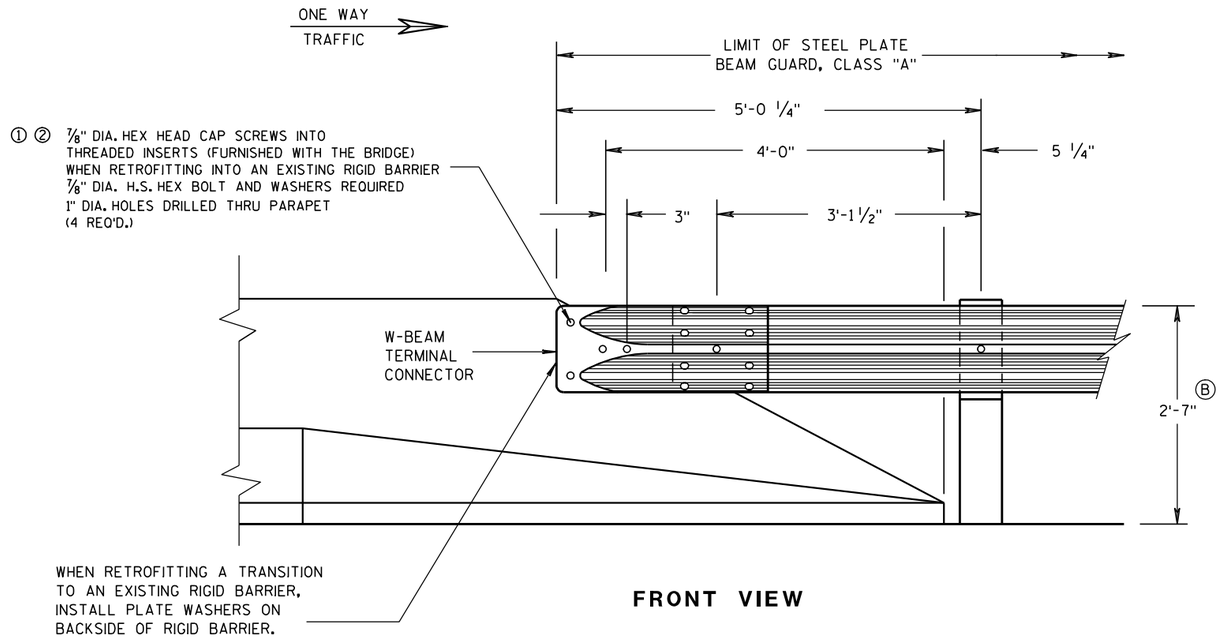
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

6

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

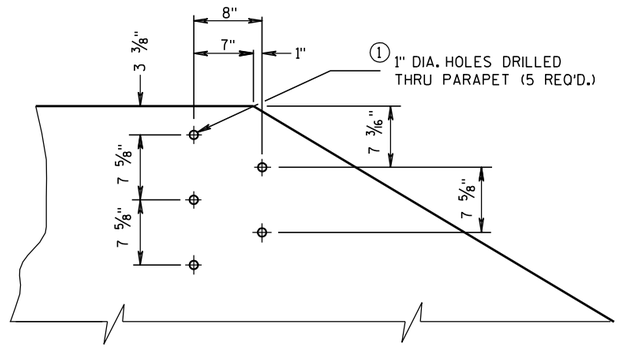
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

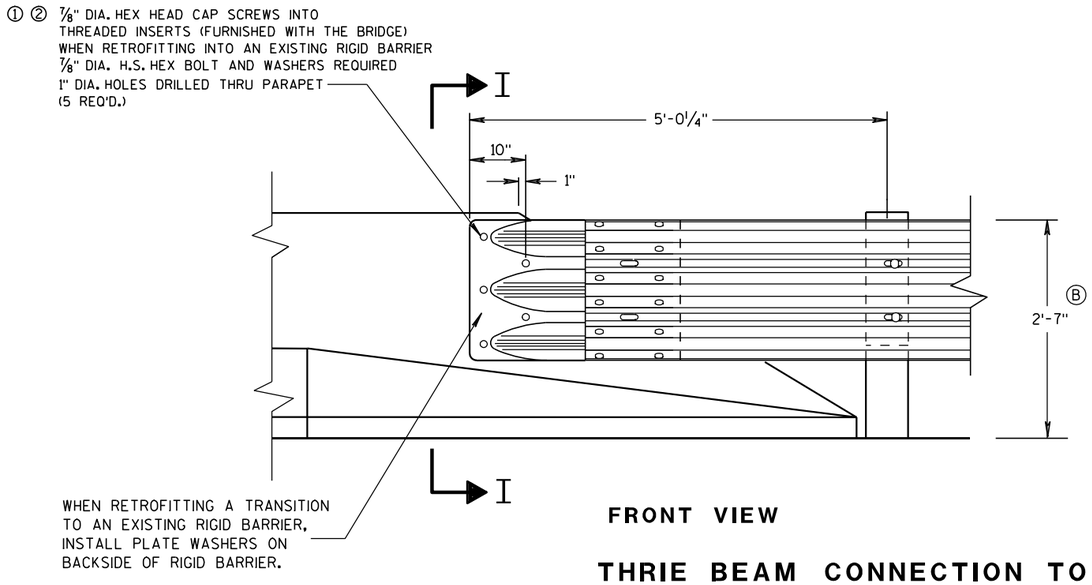
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

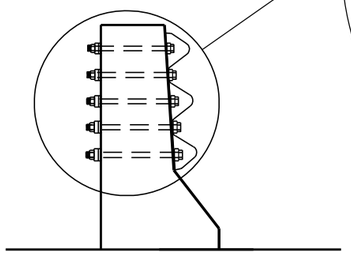
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



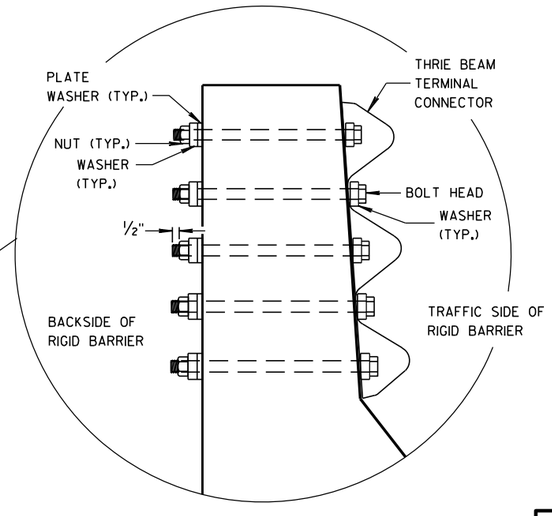
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

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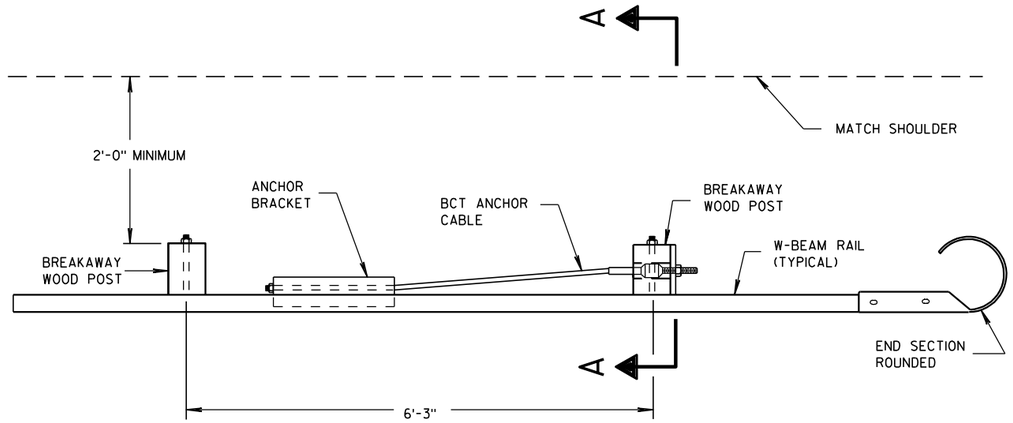
FHWA

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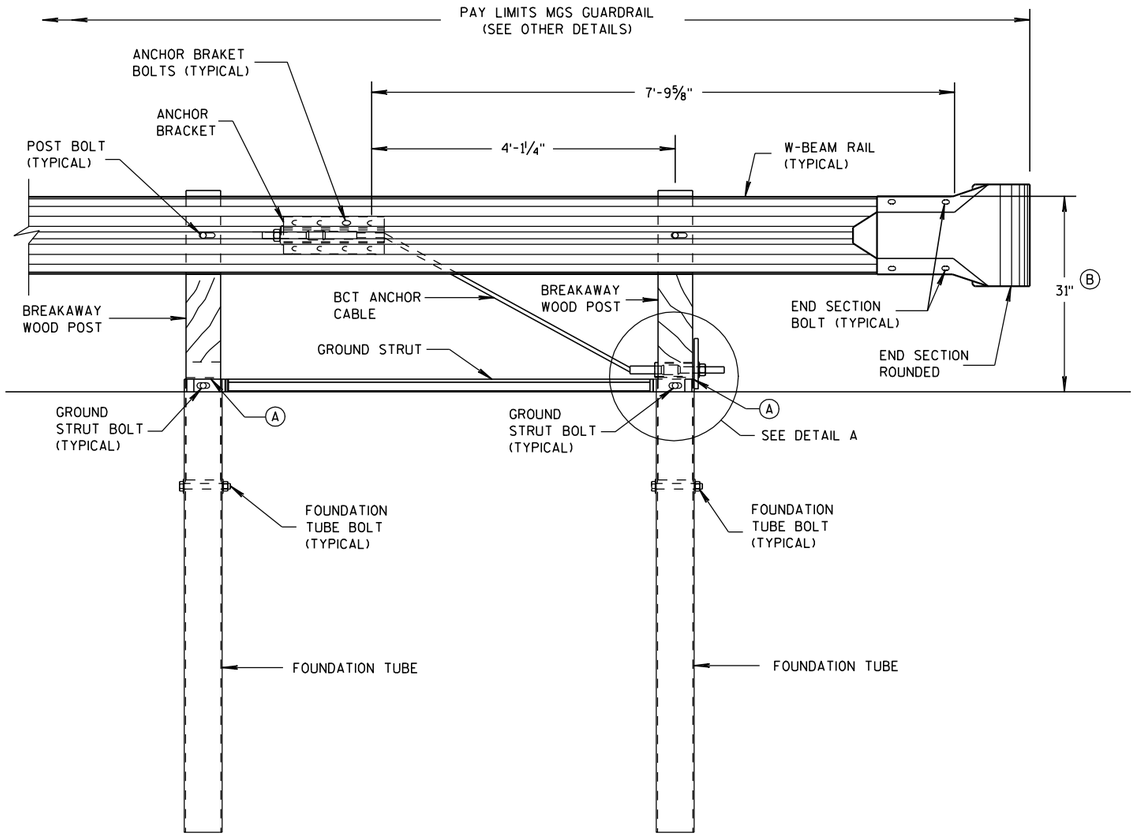
S.D.D. 14 B 45-3f

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

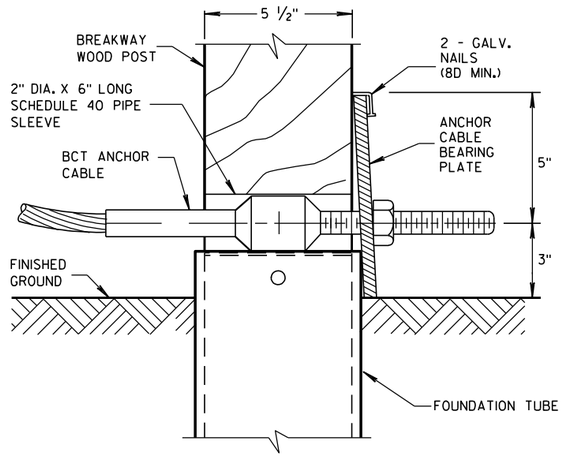


PLAN VIEW



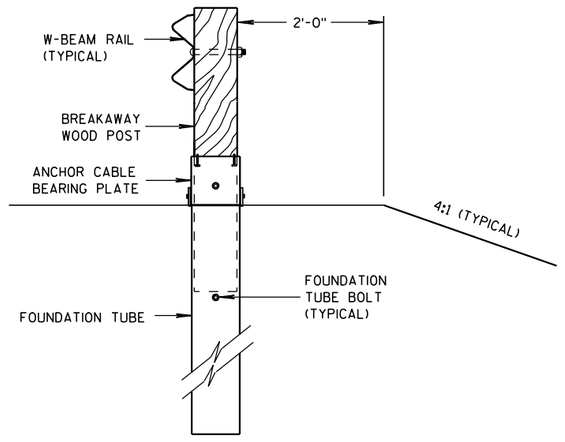
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

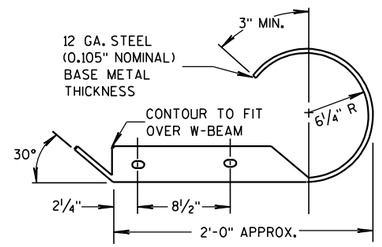
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

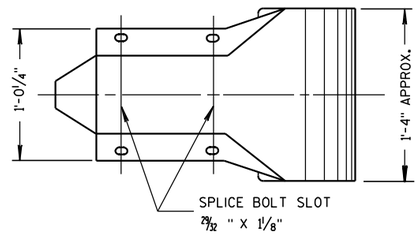
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

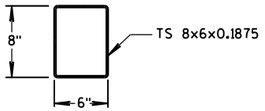
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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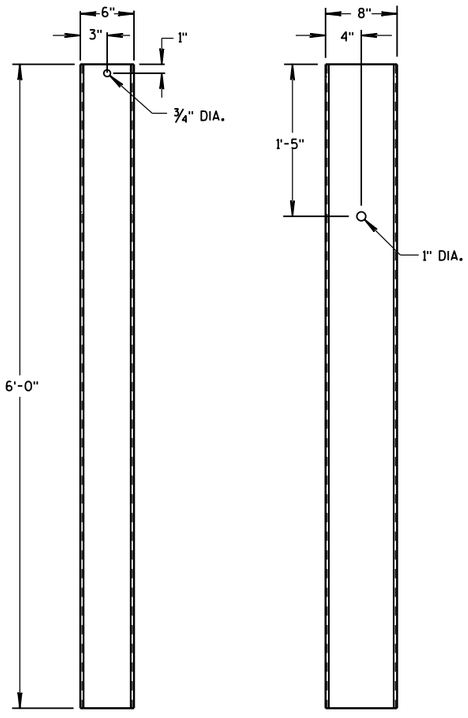
S.D.D. 14 B 47-1a

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S.D.D. 14 B 47-1a

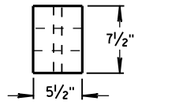


PLAN VIEW

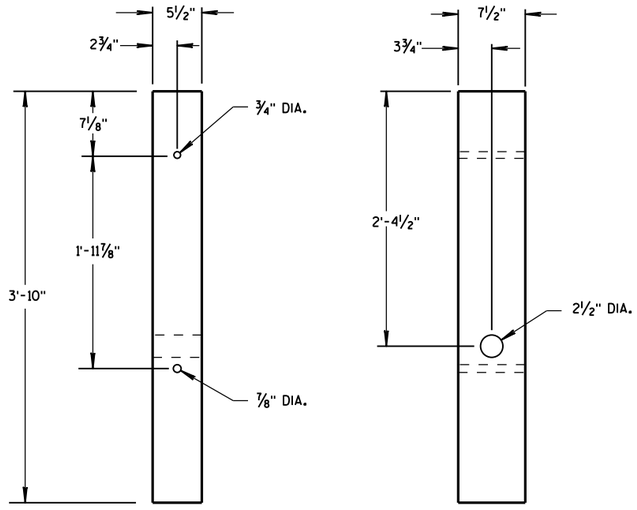


FRONT VIEW SIDE VIEW

FOUNDATION TUBE



PLAN VIEW



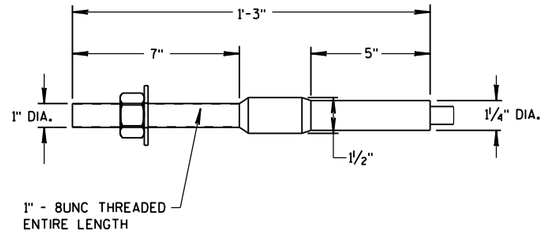
FRONT VIEW SIDE VIEW

BREAKAWAY WOOD POST

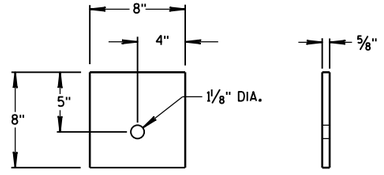
GENERAL NOTES

BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.

BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

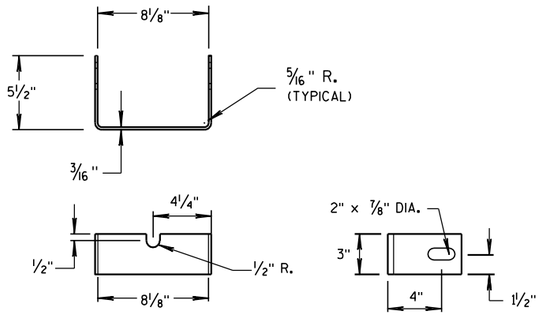
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

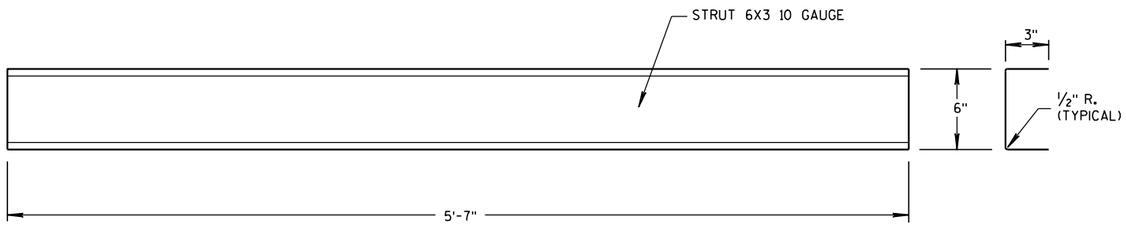
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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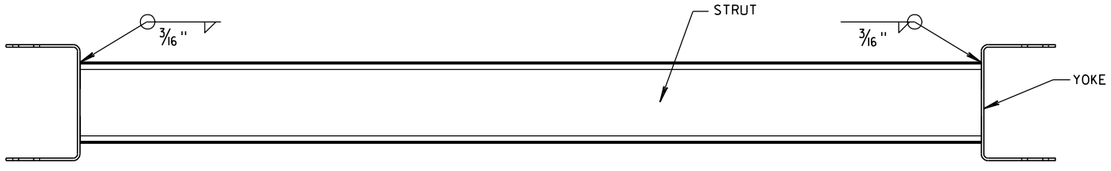
S.D.D. 14 B 47-1b



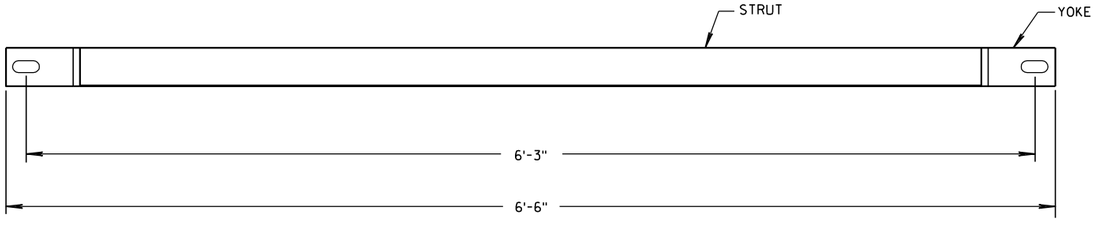
YOKE DETAIL



STRUT DETAIL

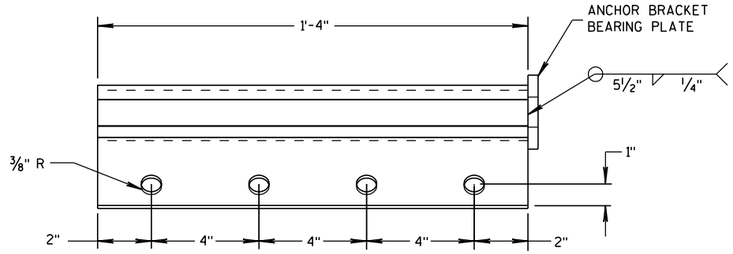


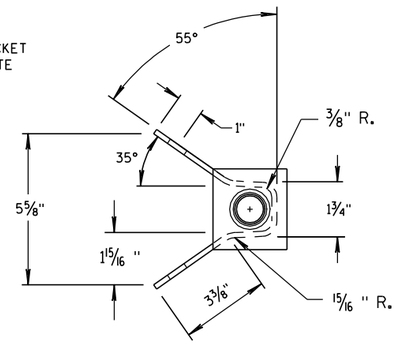
PLAN VIEW



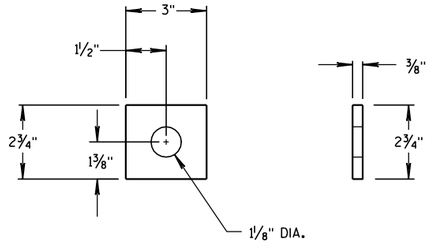
FRONT VIEW

GROUND STRUT DETAIL





ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2011
DATE

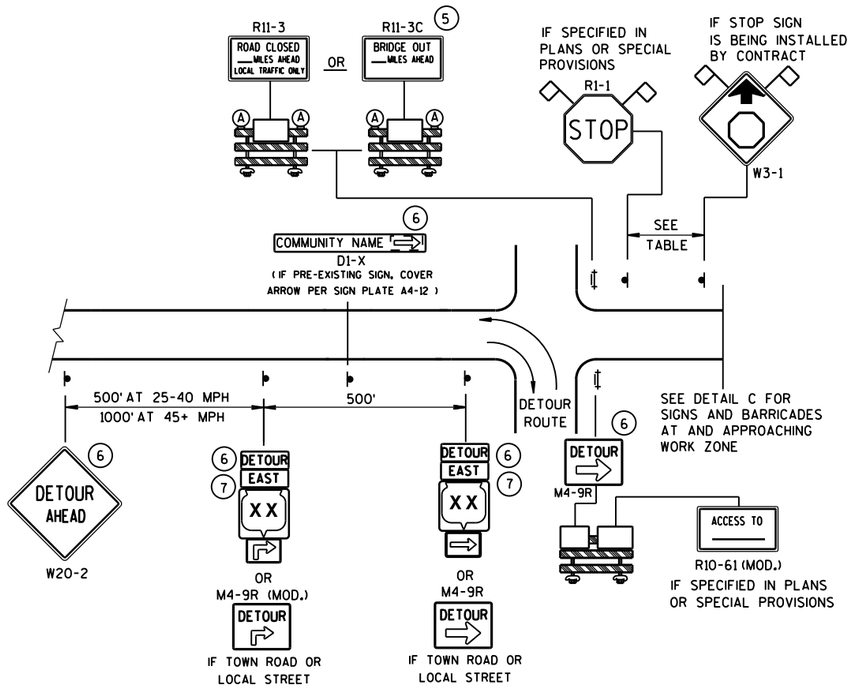
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

[illegible]

FHWA

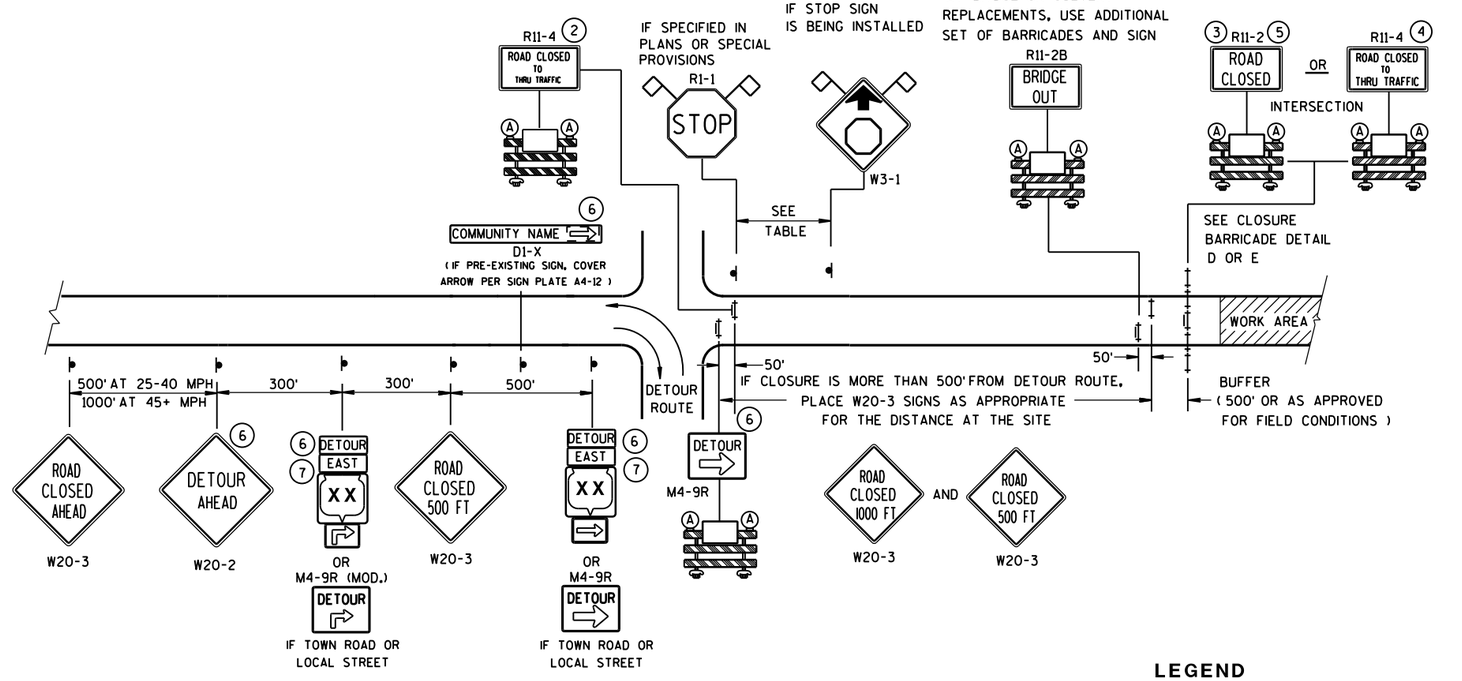
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S.D.D. 14 B 47-1c



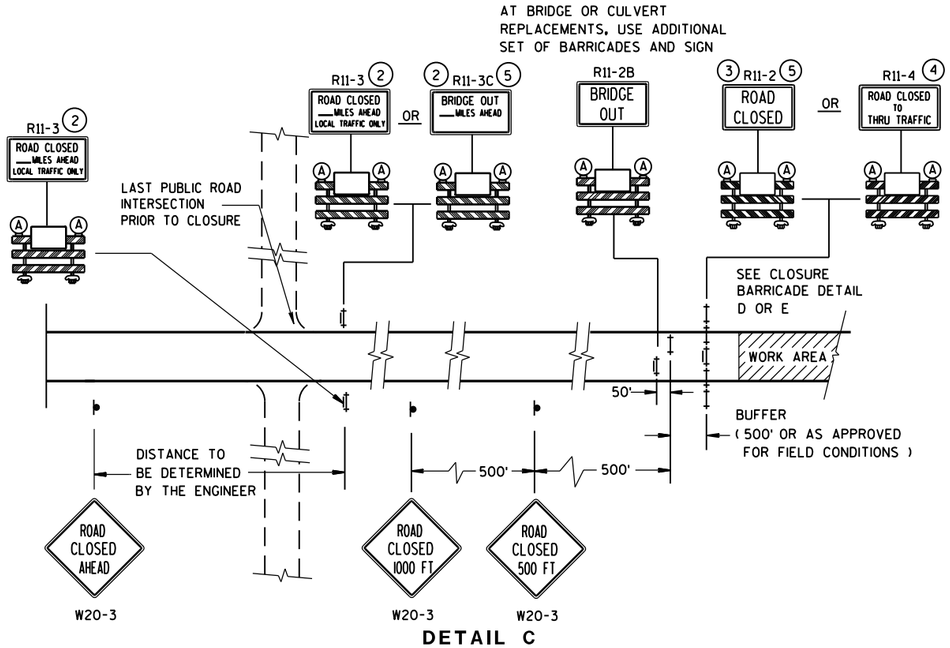
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

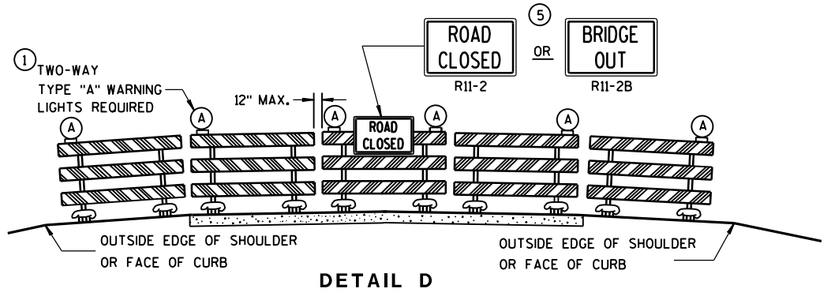
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

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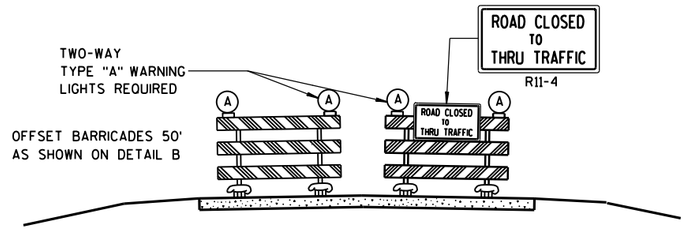
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 2-5b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

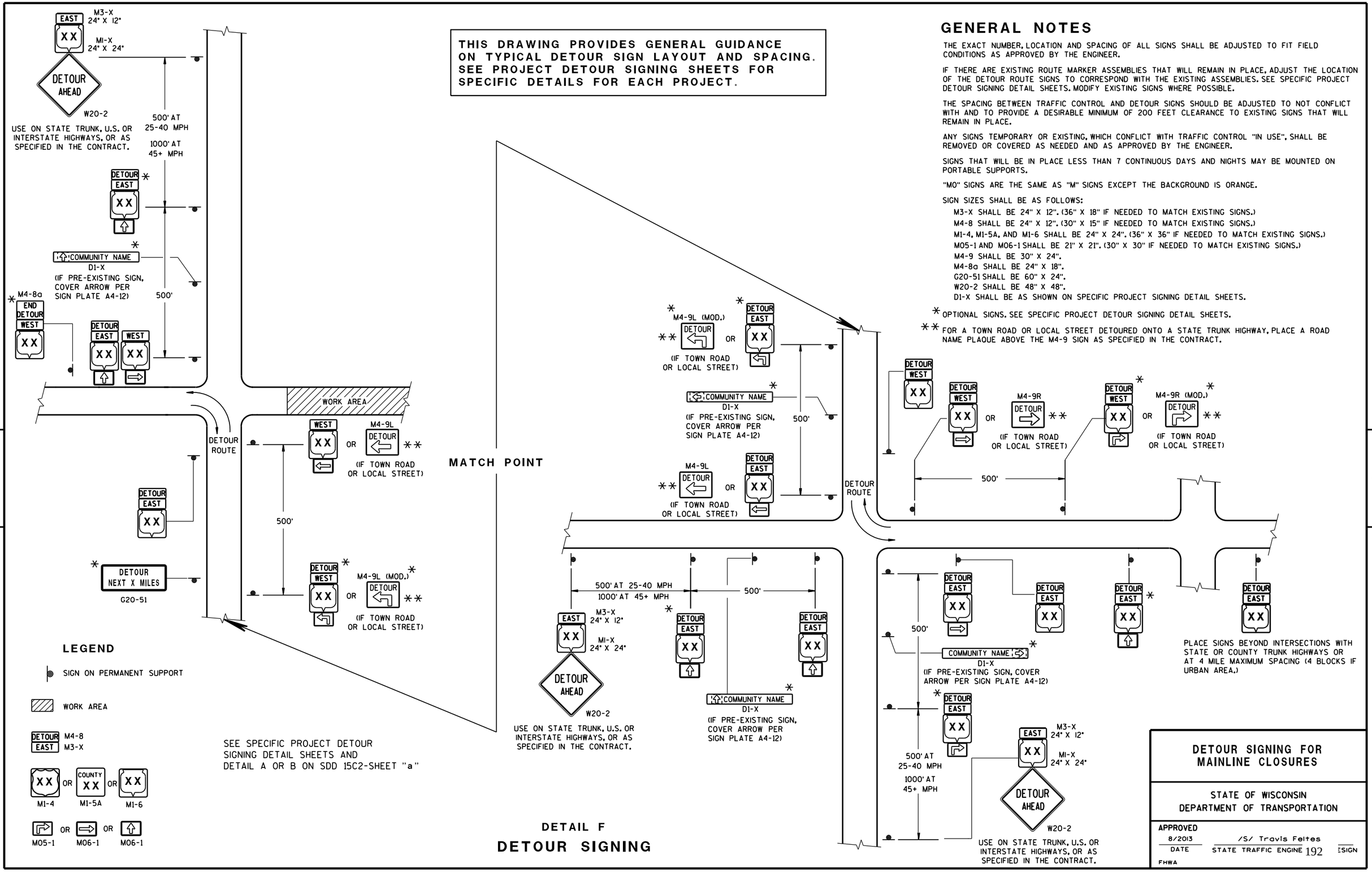
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETAIL F

DETOUR SIGNING

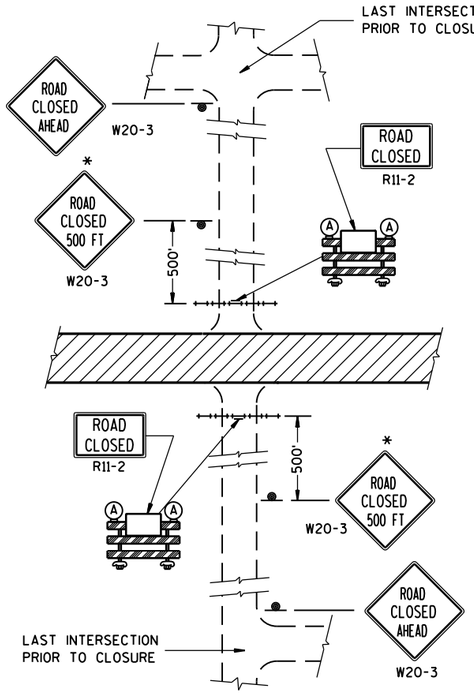
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

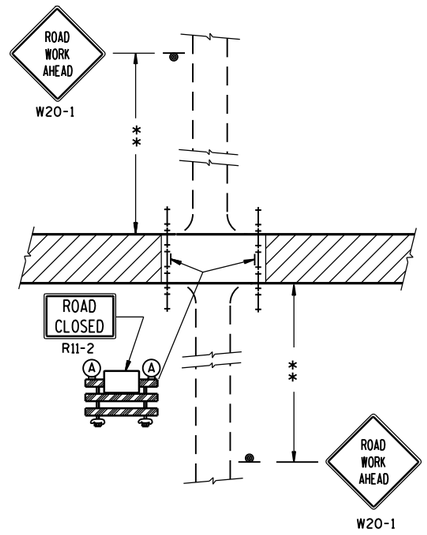
FHWA

6 S.D.D. 15 C 2-5c



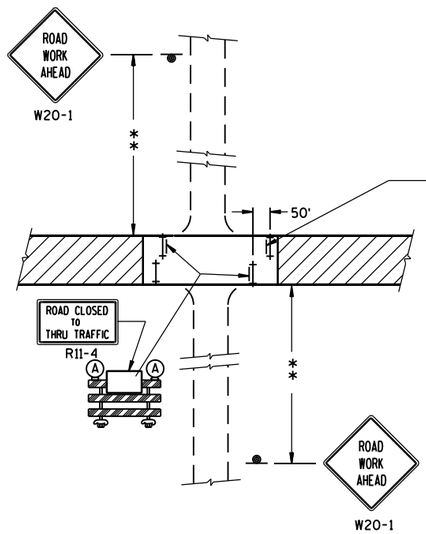
DETAIL 1

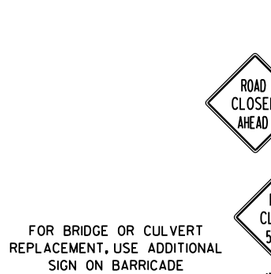
(NO ACCESS TO PROJECT)



DETAIL 2

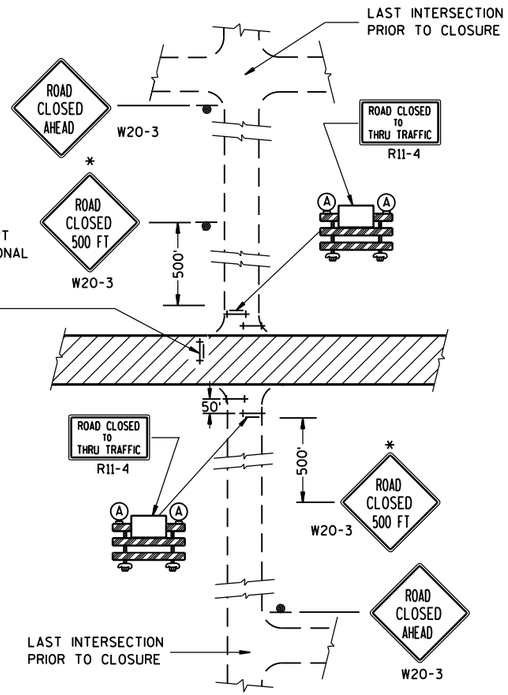
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 3-2

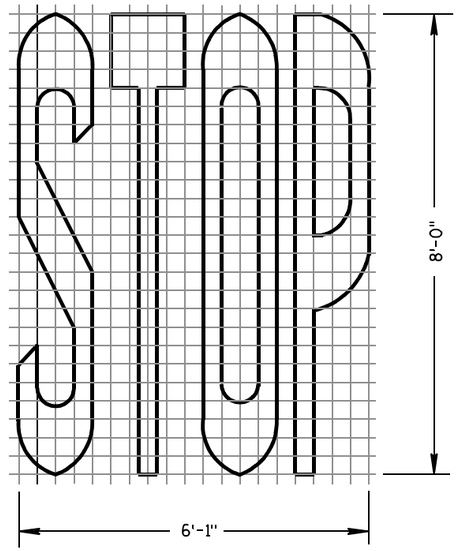
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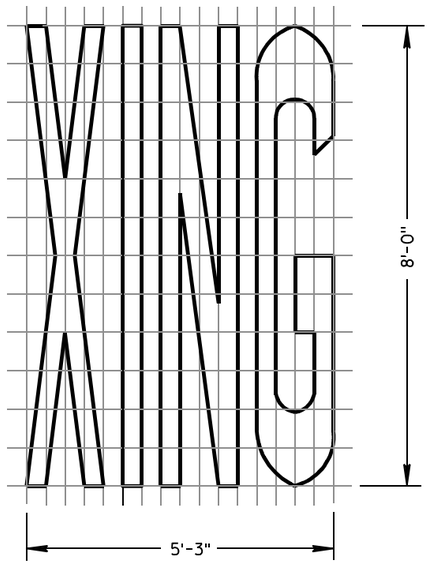
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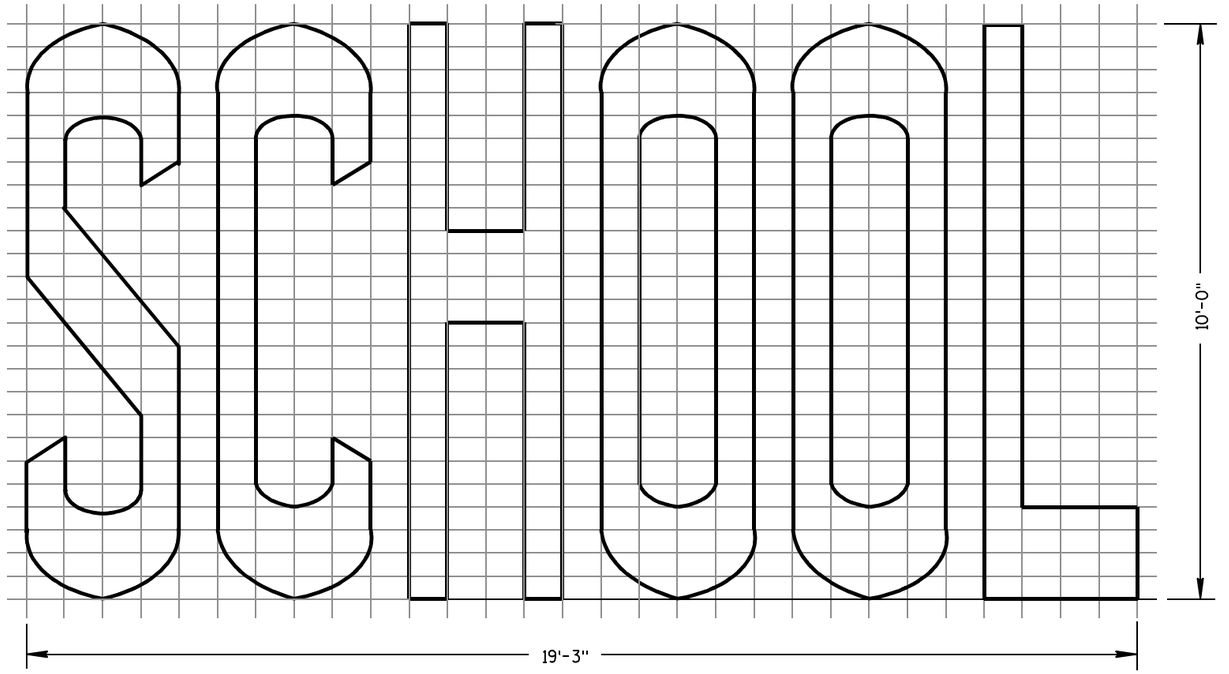
GENERAL NOTES

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

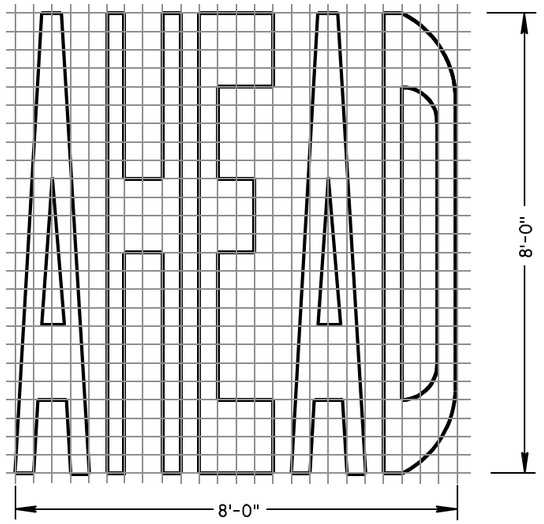
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

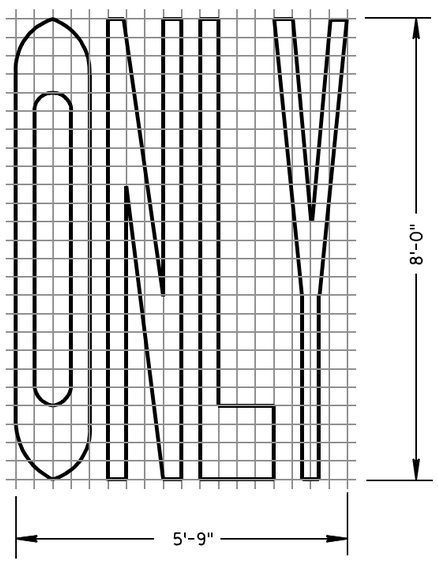


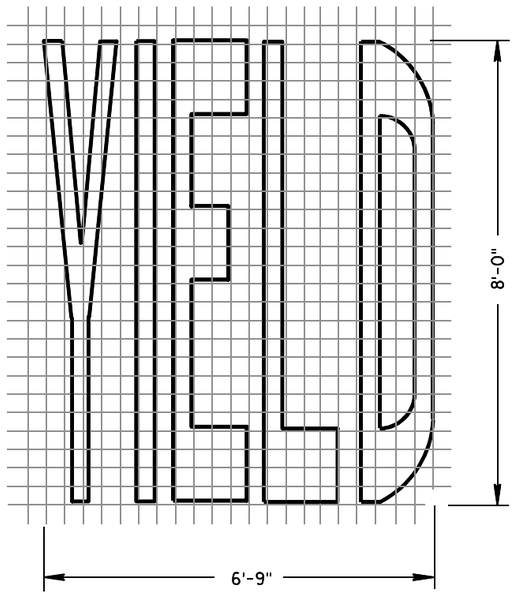


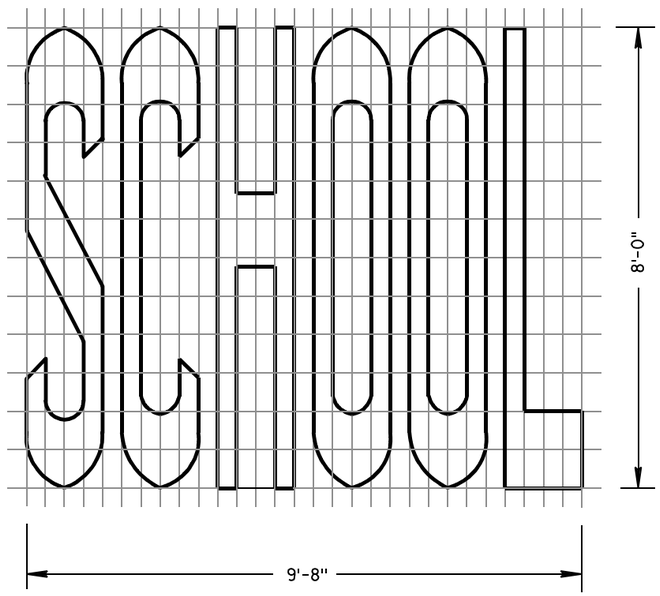


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

FHWA

IGN

6

S.D.D. 15 C 7-12b

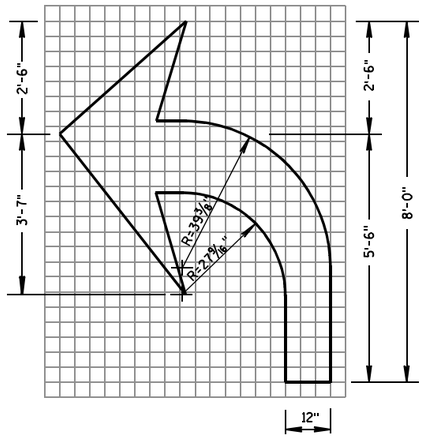
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S.D.D. 15 C 7-12b

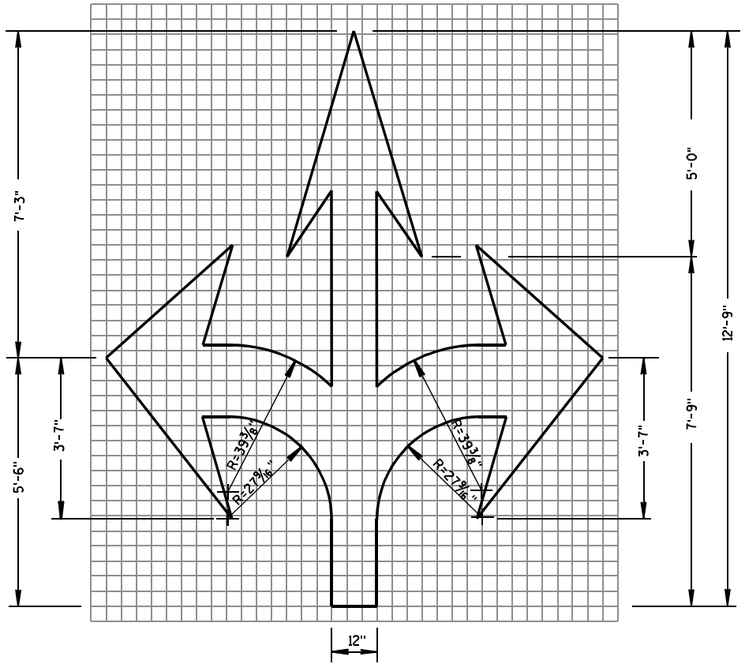
GENERAL NOTES

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

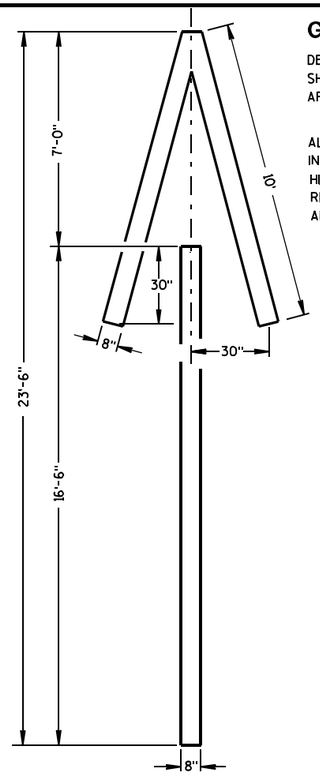
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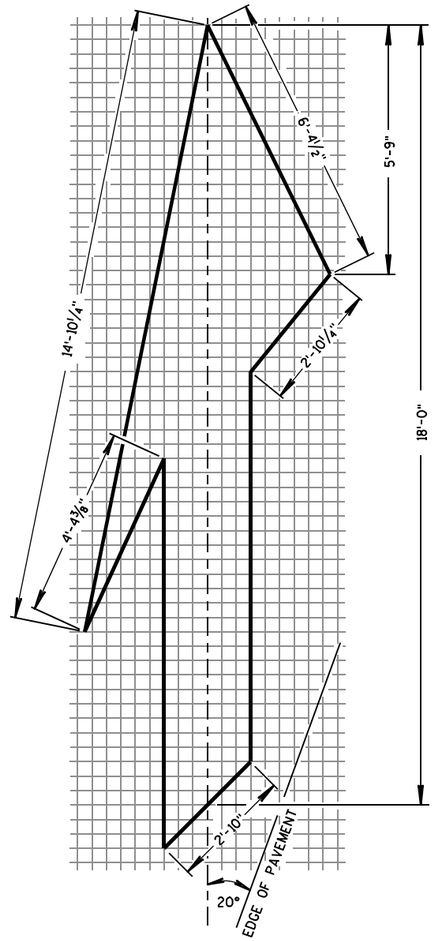
TYPE 2



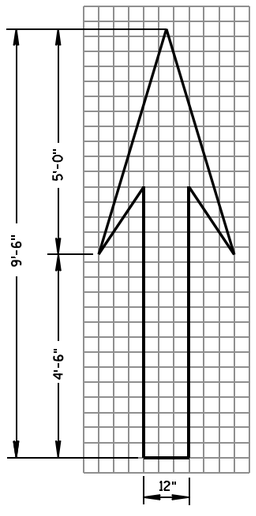
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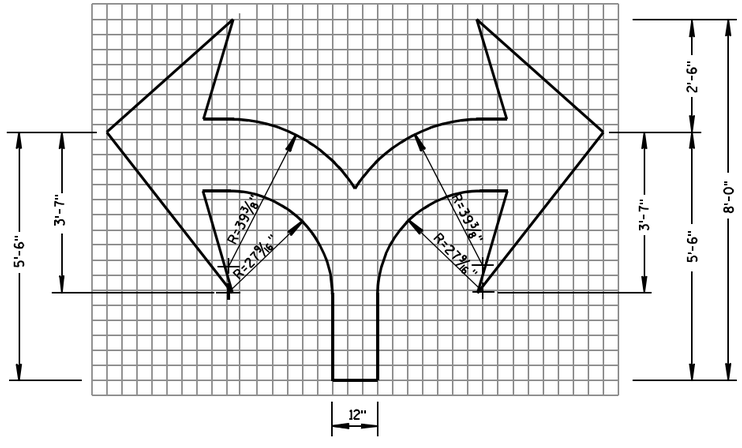
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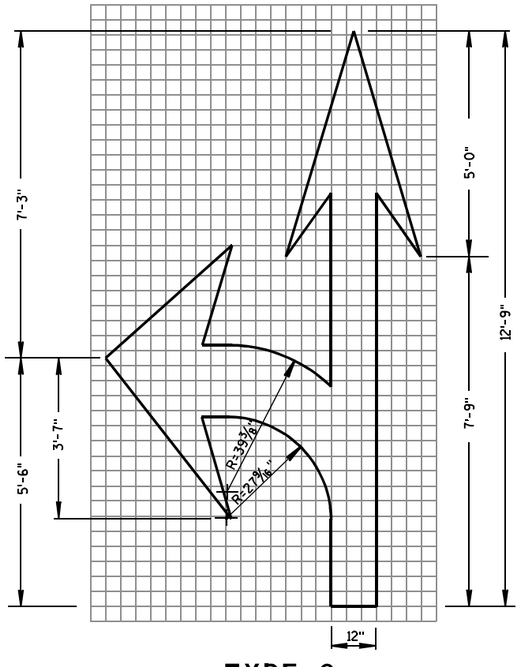
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

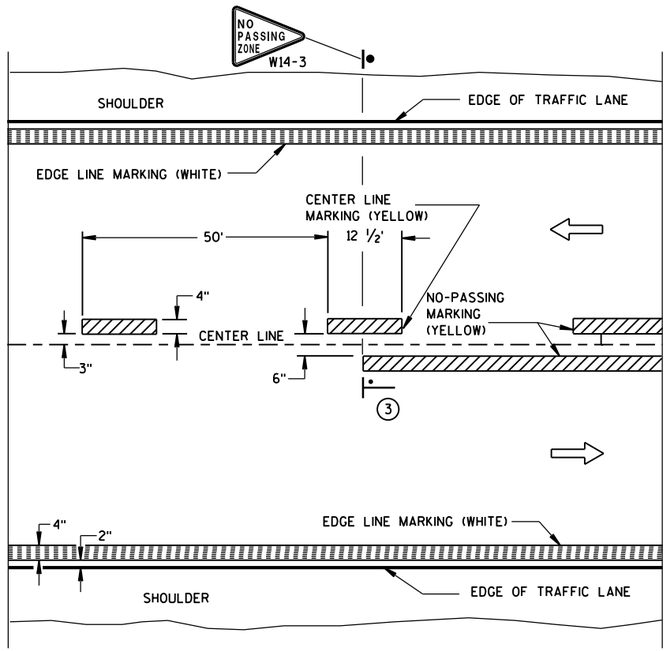
7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

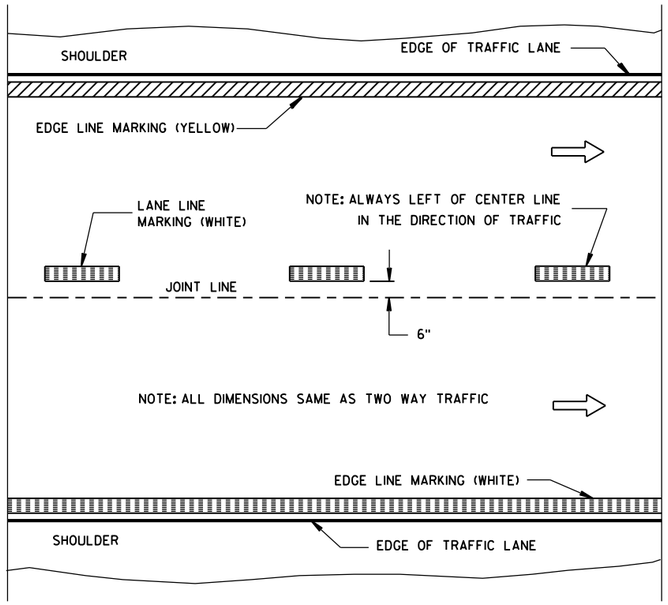
FHWA

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S.D.D. 15 C 7-12c

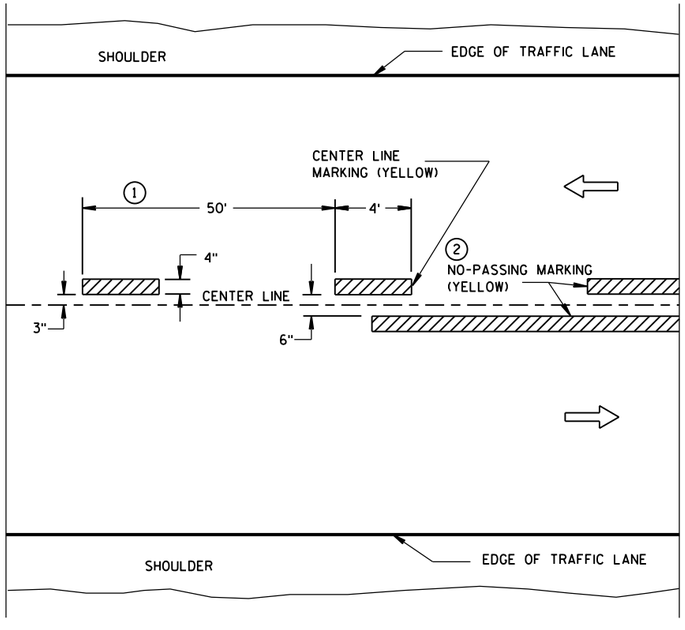


TWO WAY TRAFFIC

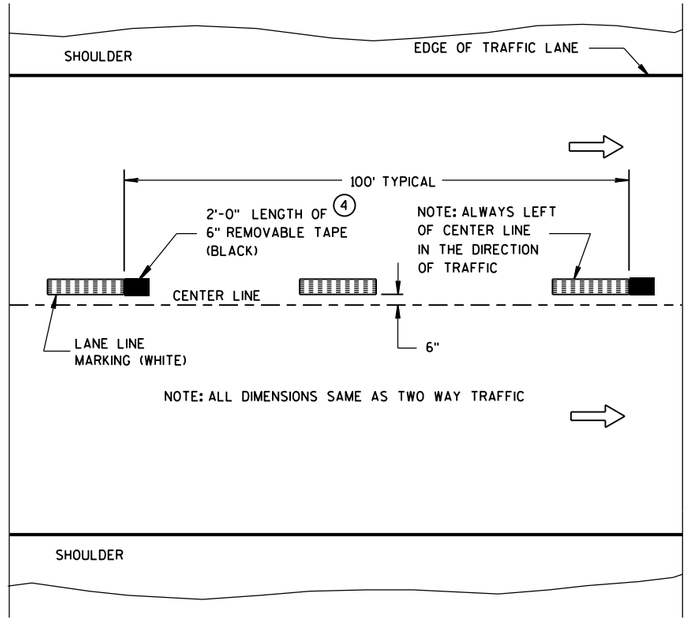


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

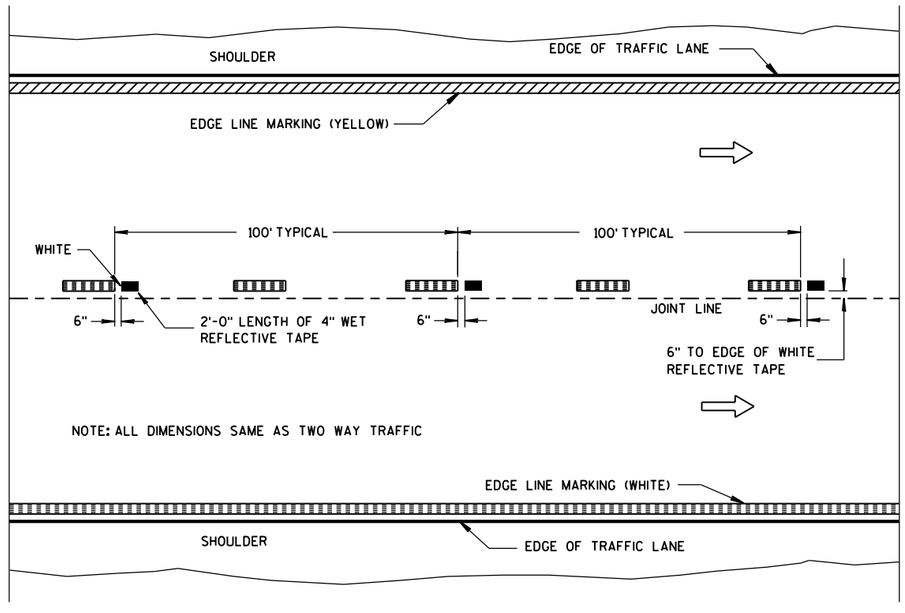
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013 DATE

/S/ Travis Feltes STATE TRAFFIC E

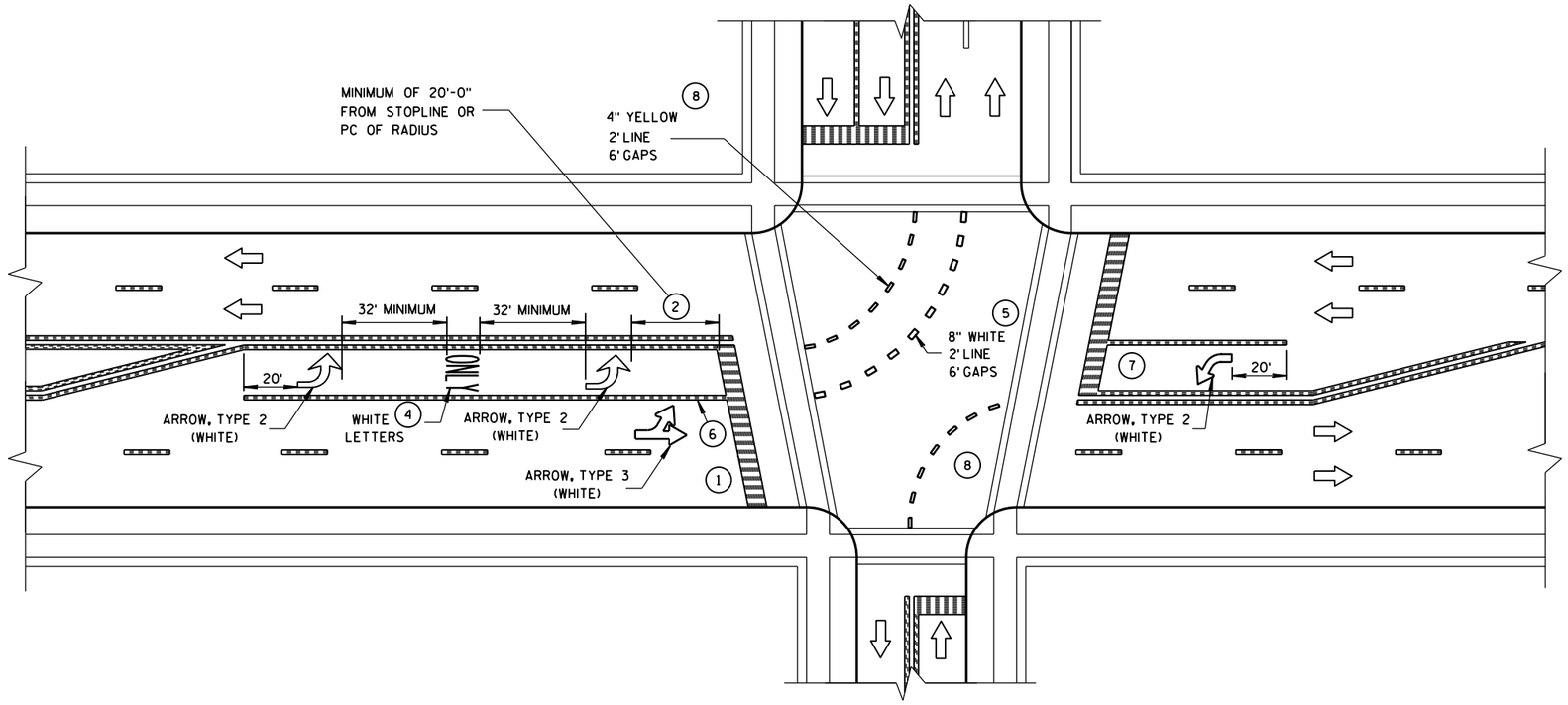
FHWA

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S.D.D. 15 C 8-16a

6

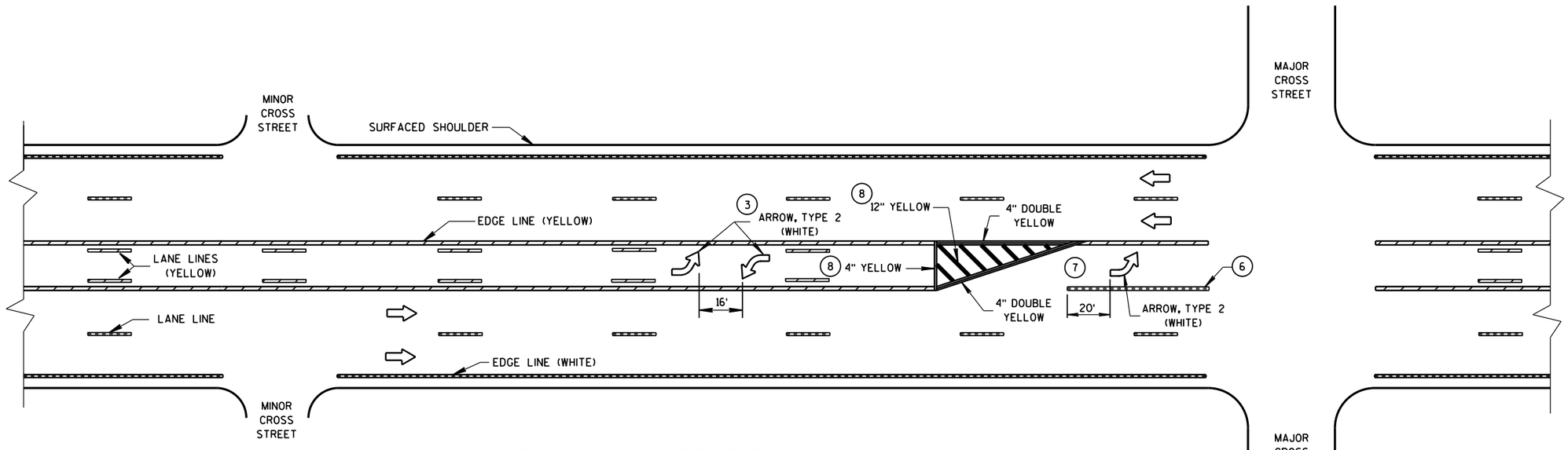
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



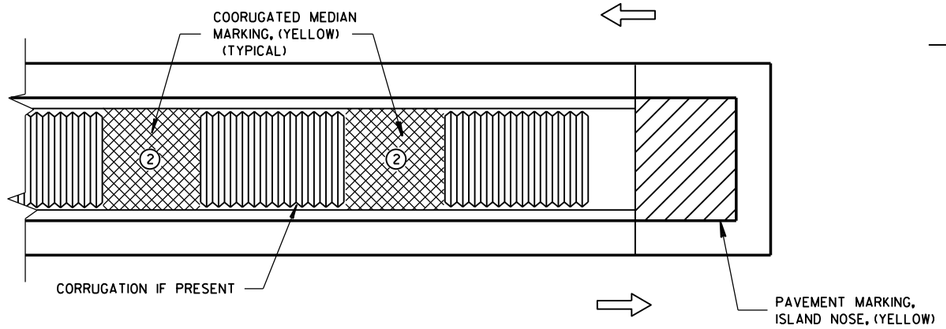
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

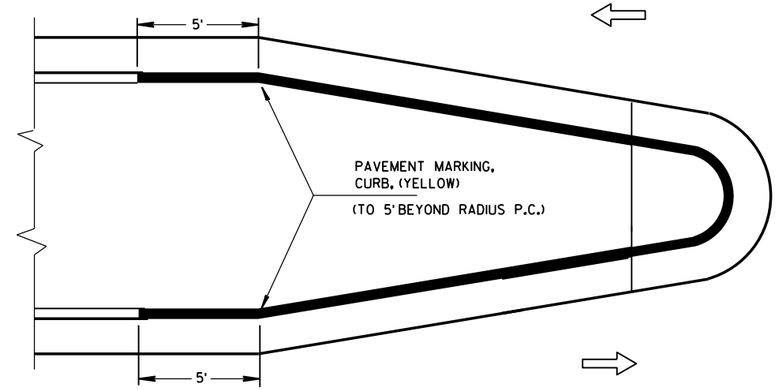
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

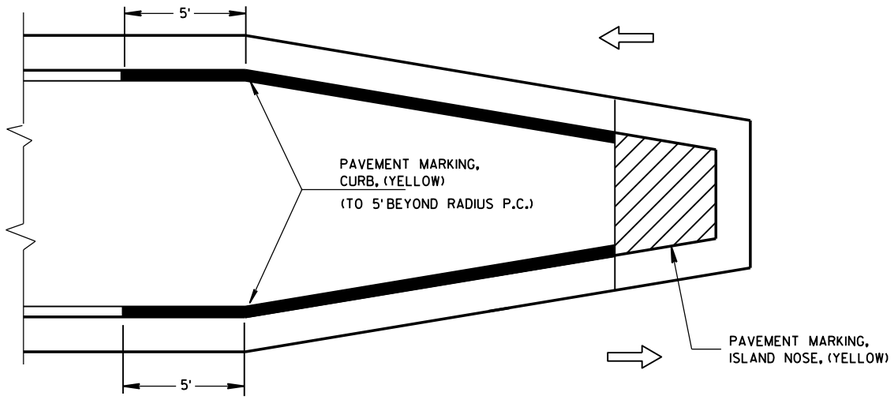
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

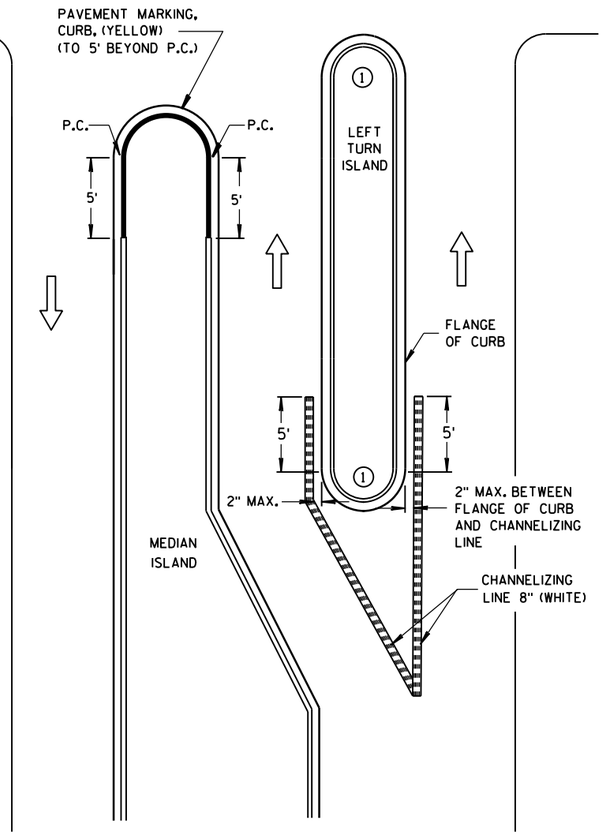


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

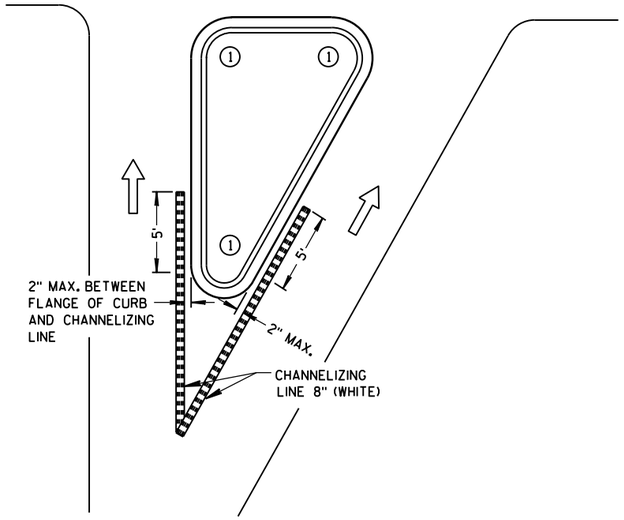


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

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

PAVEMENT MARKING
(ISLANDS)

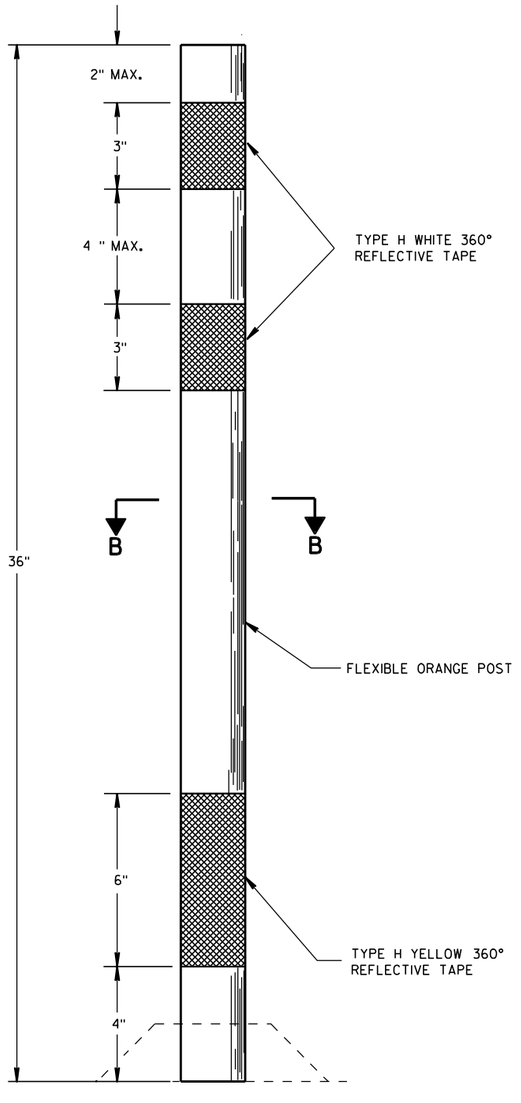
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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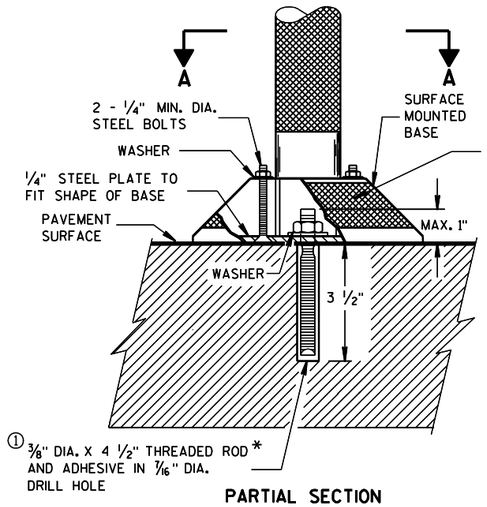
S.D.D. 15 C 8-16f

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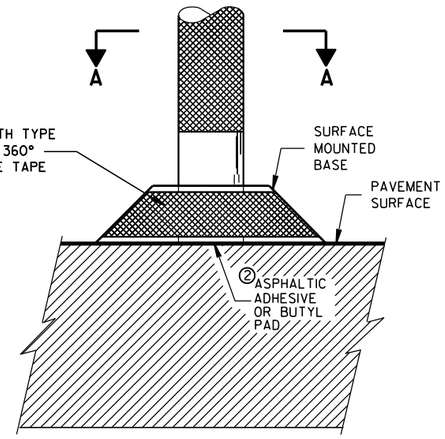
S.D.D. 15 C 8-16f



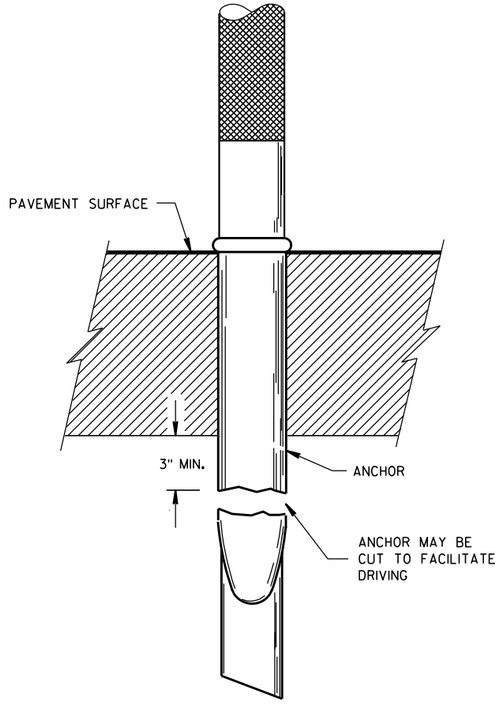
FLEXIBLE TUBULAR MARKER POST



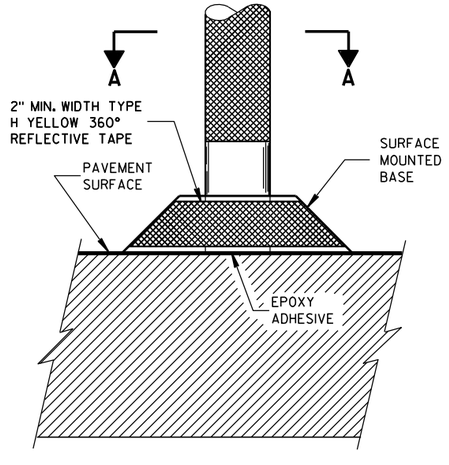
PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT



POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED



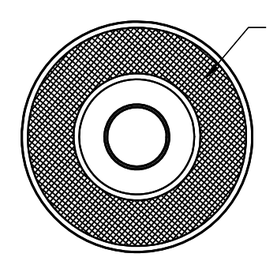
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

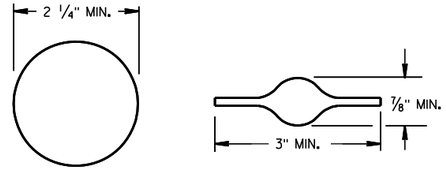
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



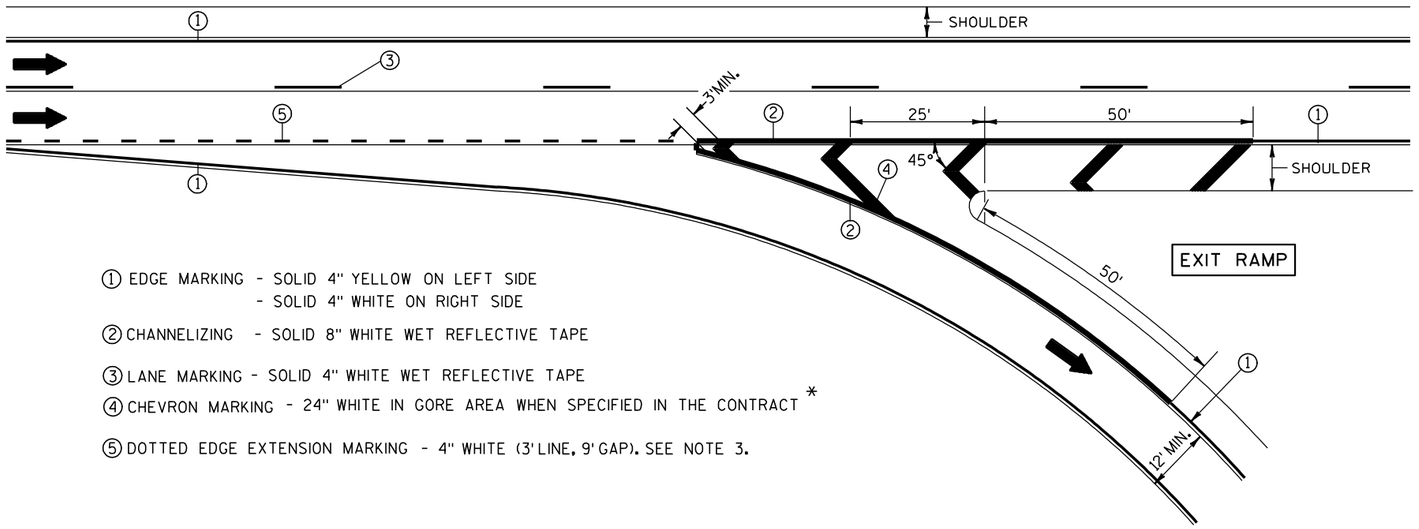
SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 2/17/94 DATE /S/ Chester J. [illegible] DIRECTOR, OFFICE O
FHWA

6

S.D.D. 15 C 11-5



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

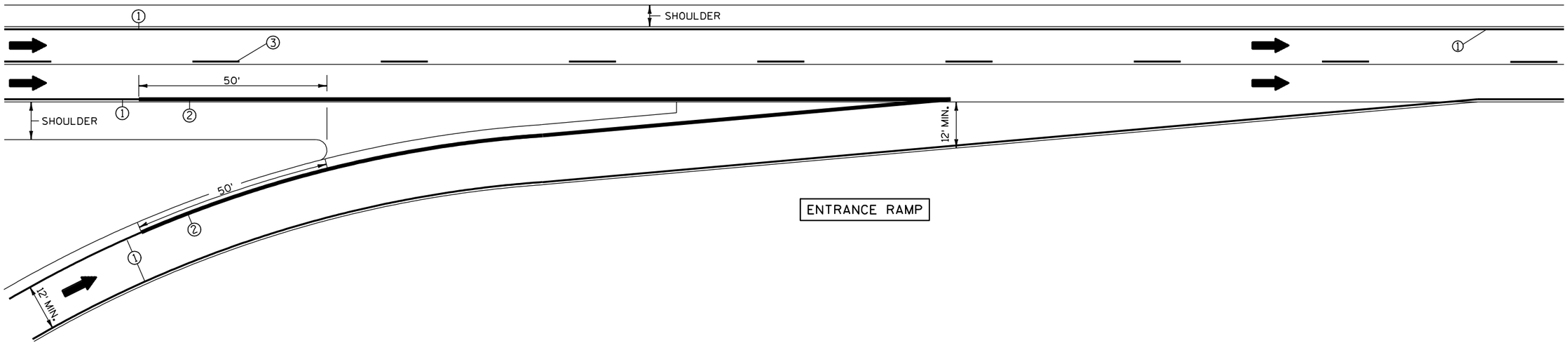
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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S.D.D. 15 C 31-1a

S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



W057-52
36"x24"

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



R2-1
48"x60"
(BLACK AND WHITE)

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.

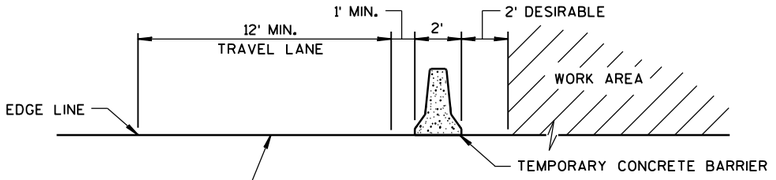
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

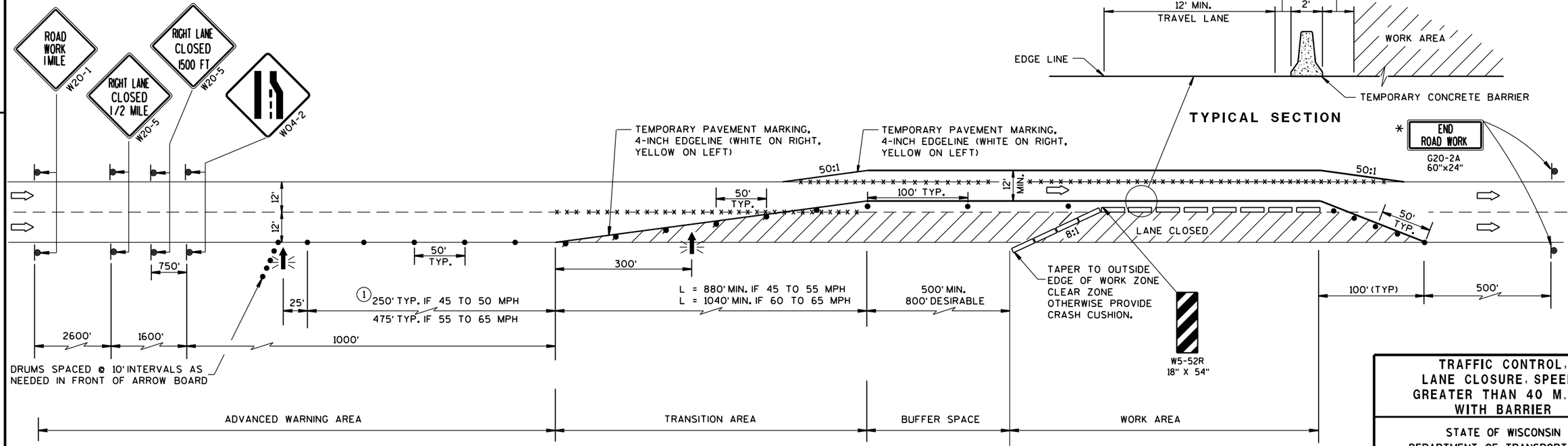
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

6

S.D.D. 15 D 3-2

6

S.D.D. 15 D 3-2

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

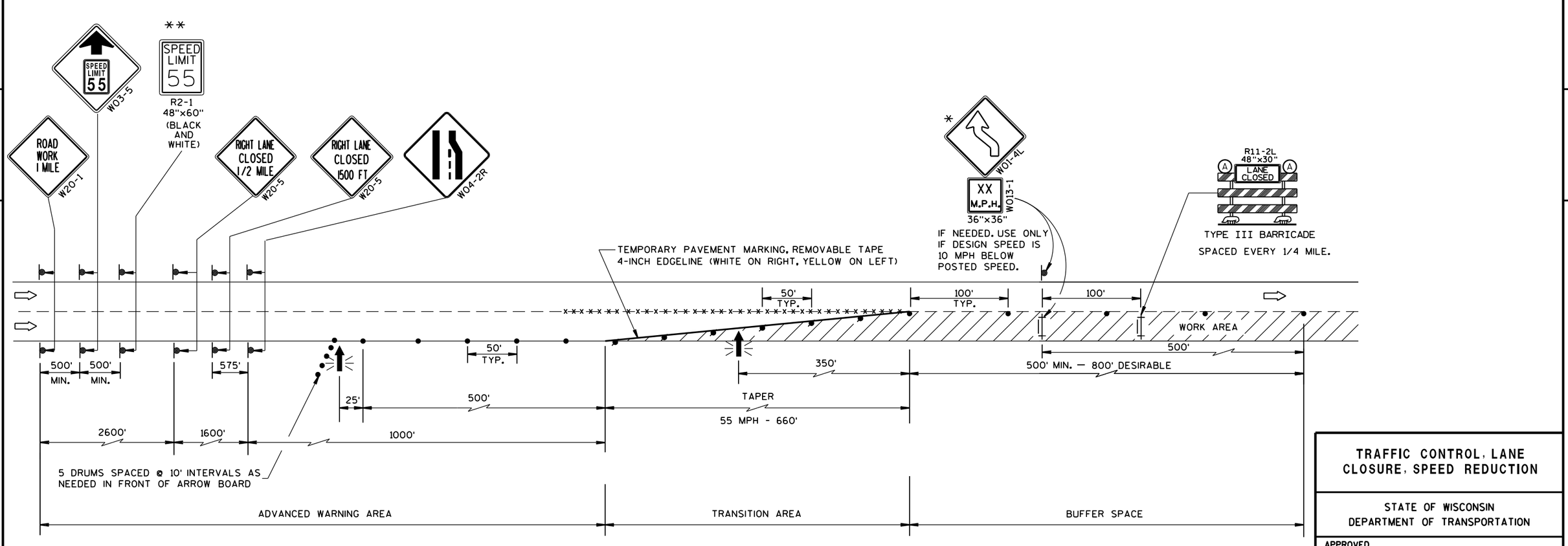
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** 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 A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



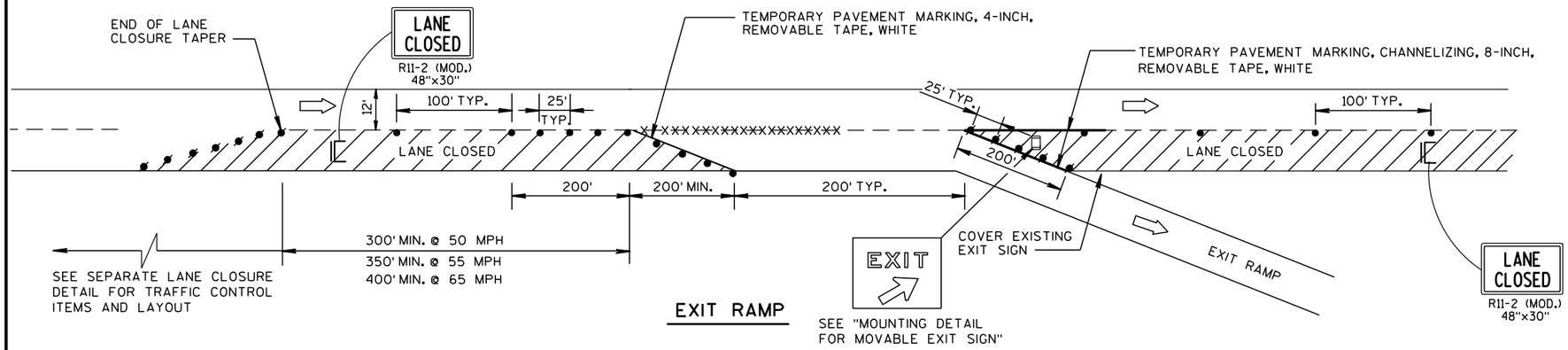
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

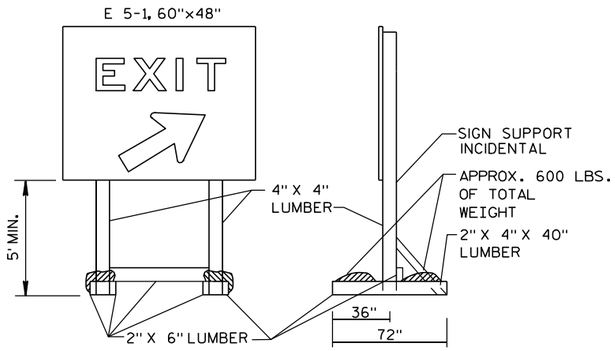
APPROVED
3-2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 D 12-4

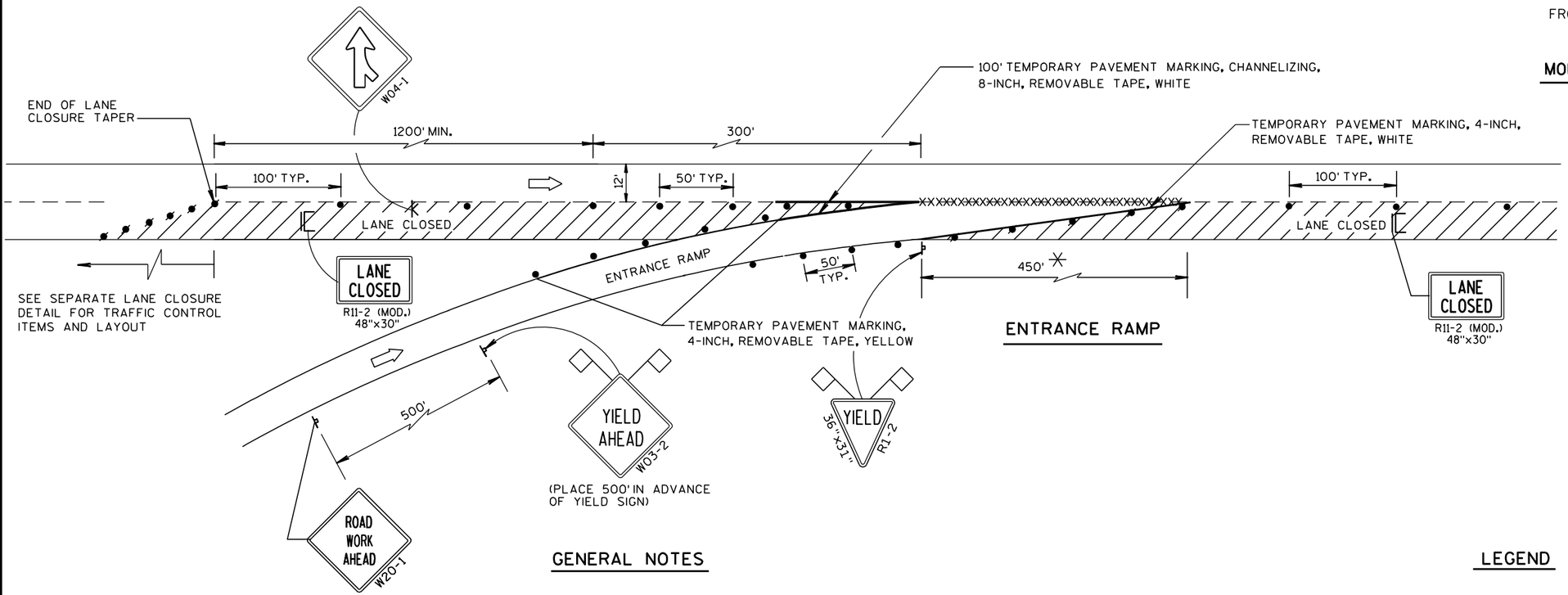


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



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 R11-2 (MOD.) "LANE CLOSED" SIGNS.

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

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

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

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

✳ LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

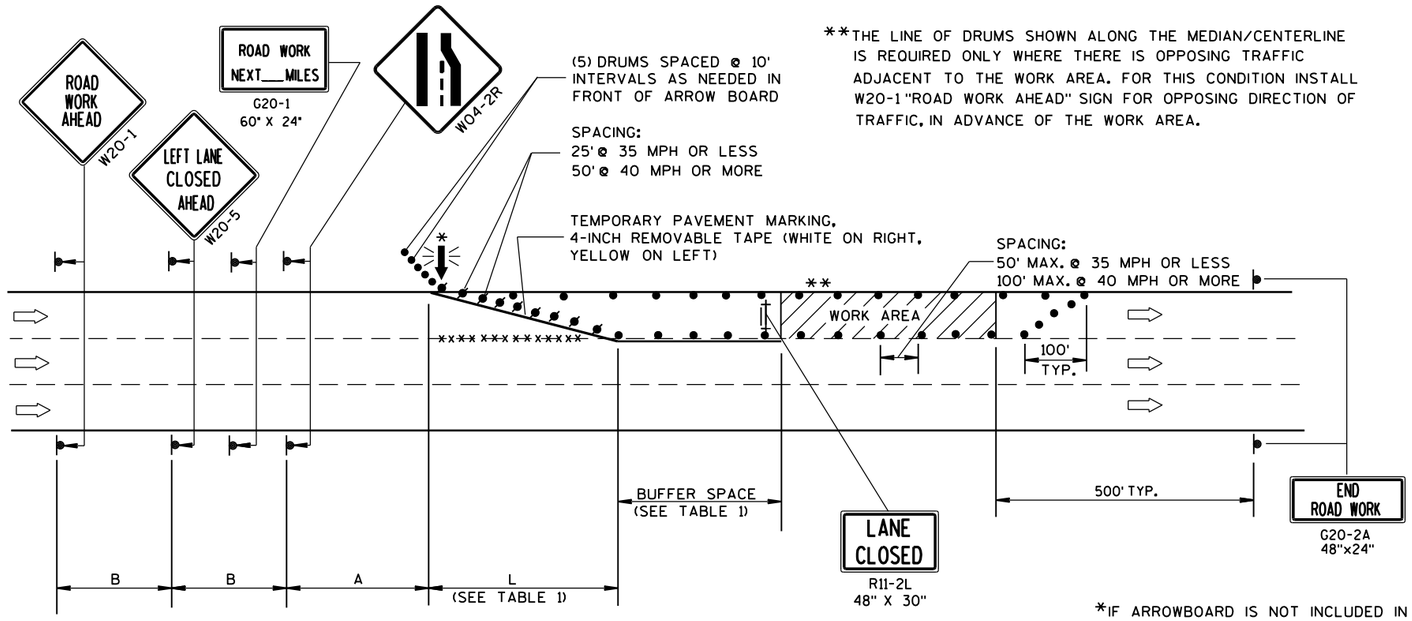
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKING ENGINEER
FHWA

6
S.D.D. 15 D 15-1



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

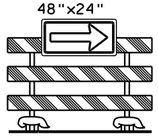


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 D 20-2

6

S.D.D. 15 D 20-2

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

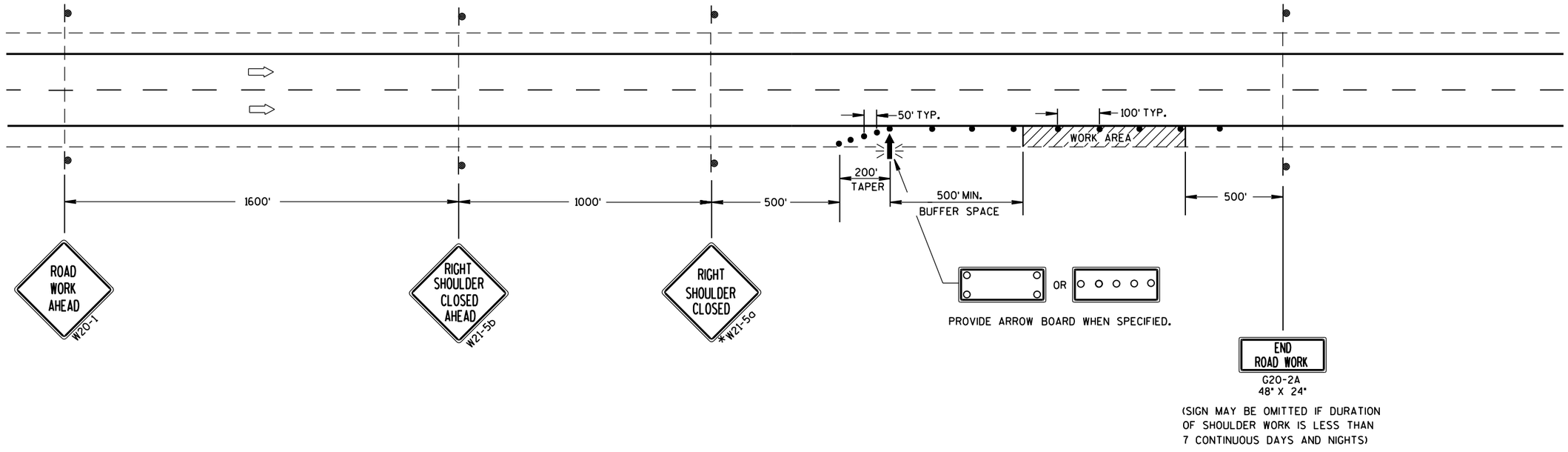
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2

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.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS 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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

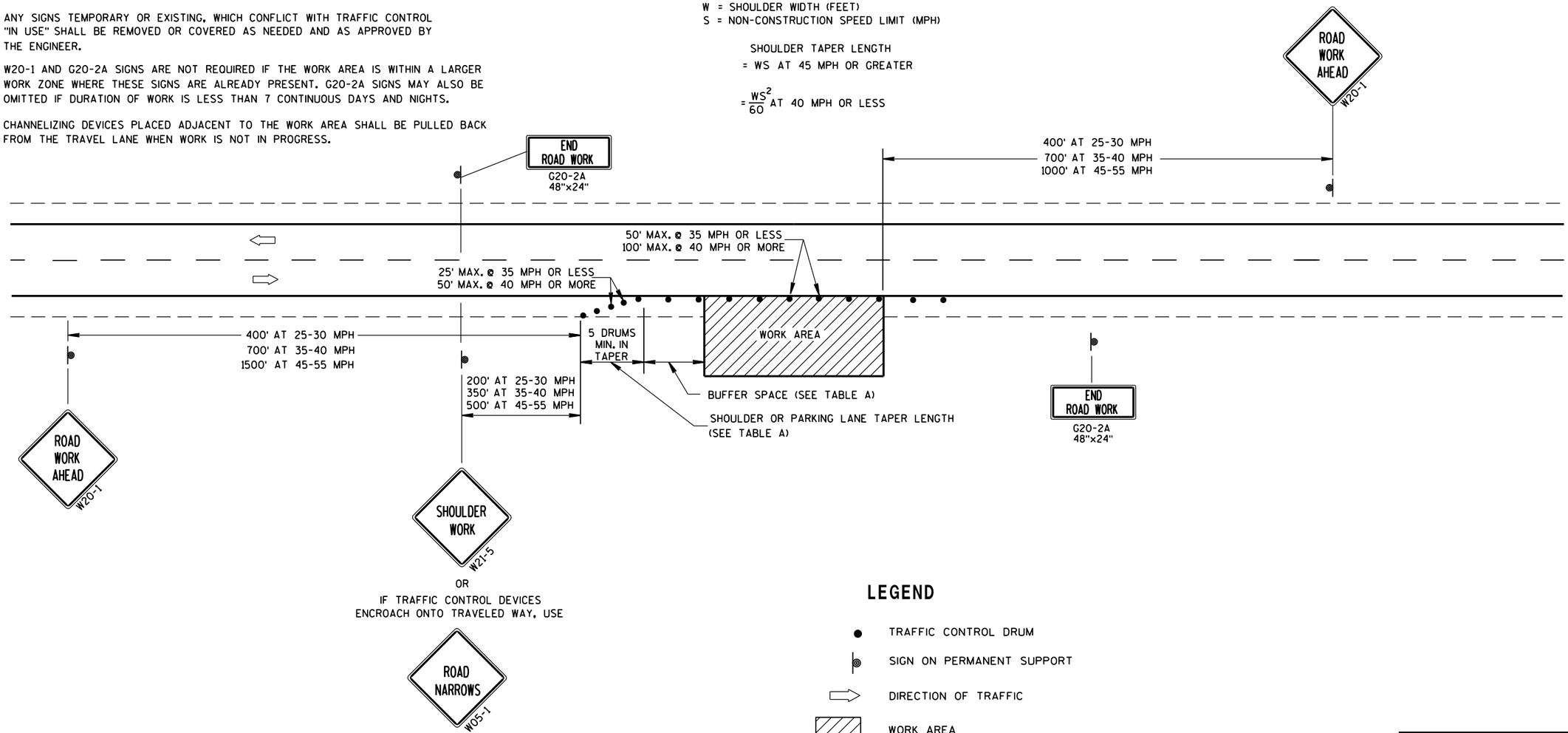
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

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

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

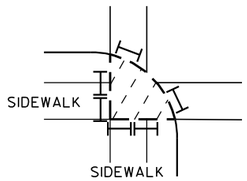
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

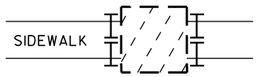
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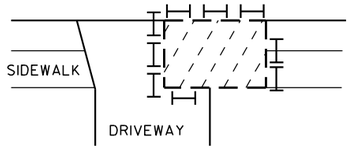
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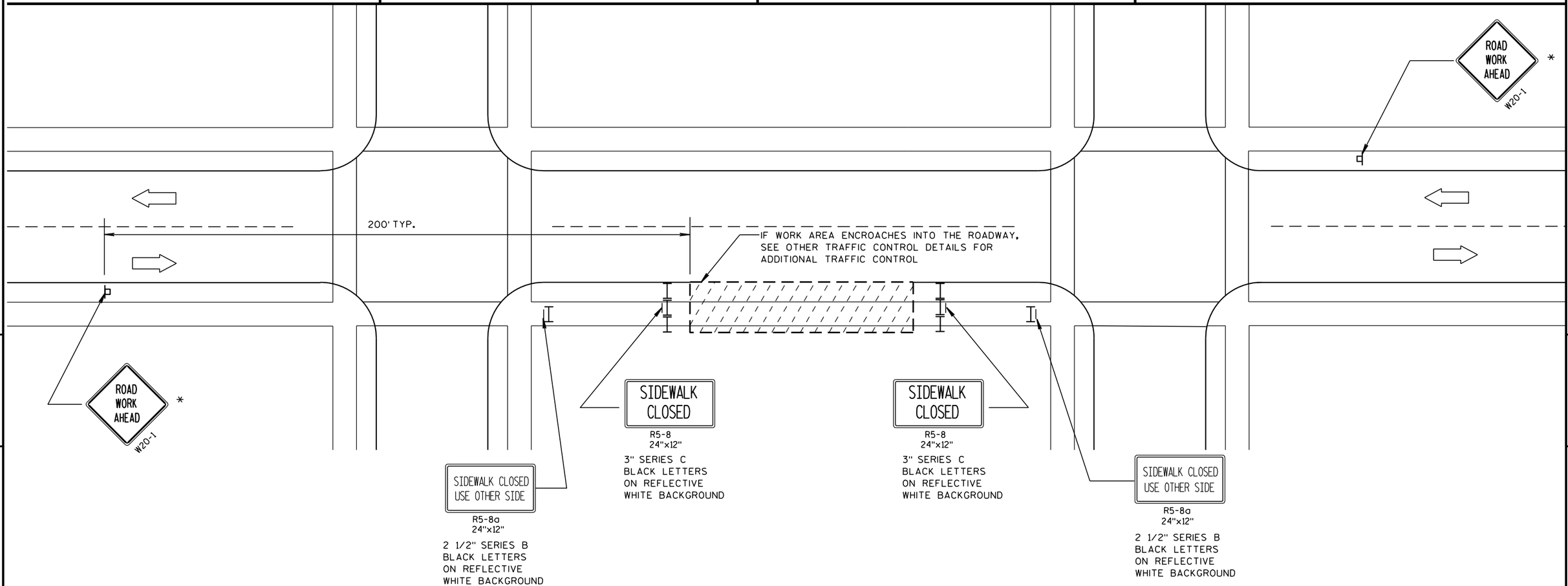
S.D.D. 15 D 28-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

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

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

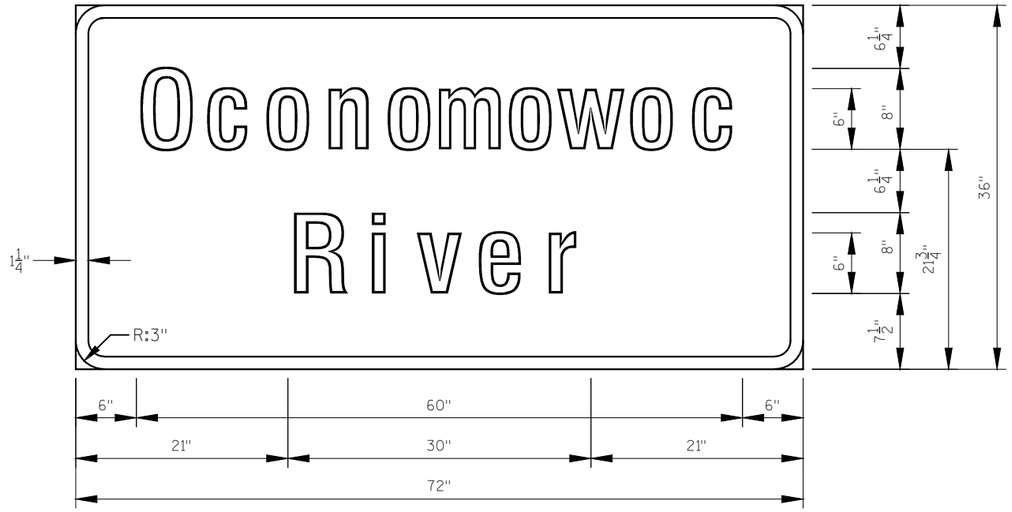
5/23/2000 DATE

/S/ Chester J. [illegible] CHIEF SIGNS AND MARK[illegible] NEER

FHWA

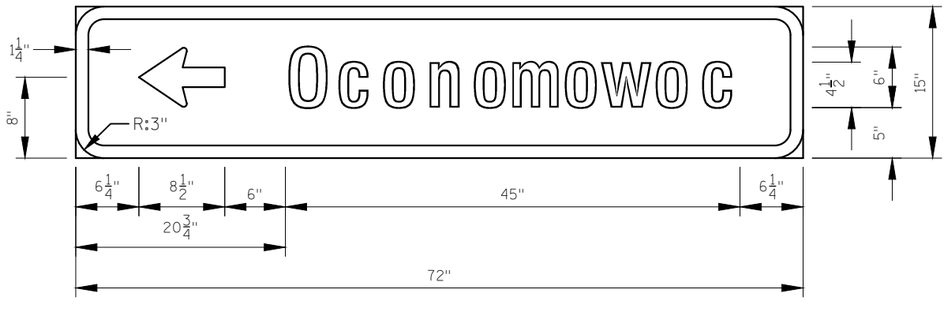
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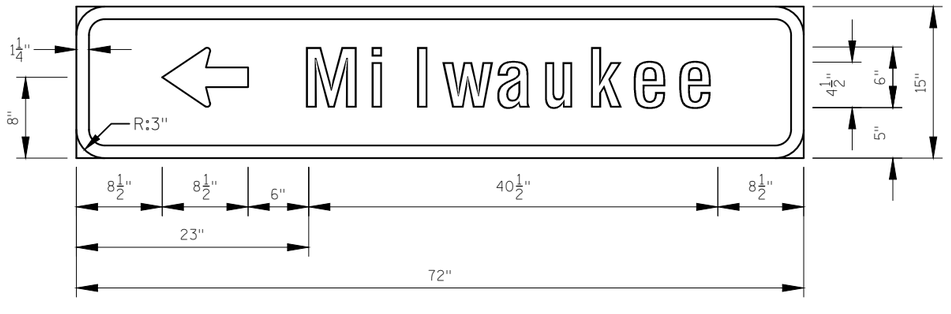
S.D.D. 15 D 30-1



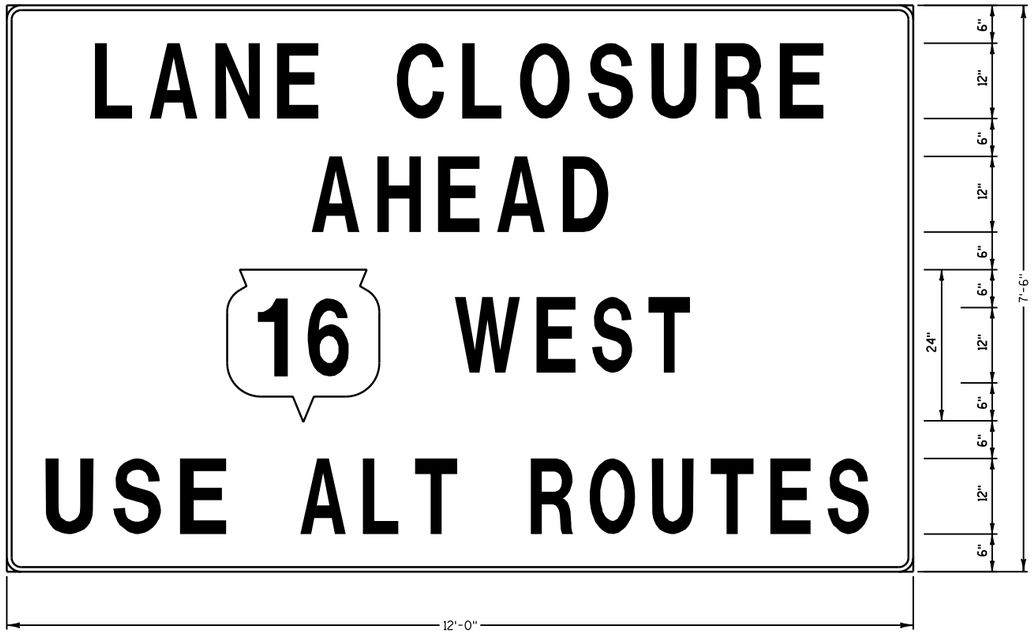
NOTES:

1. All signs are Type II - Type H Reflective.
2. Color:
   Background - Green
   Message - White - Type H reflective
3. Message series for 3¾" L C is Series c and Series E for 4½" LC and 6" increments.
4. Overall length of these signs is in 6" L.C.
5. Arrows as per standard plate A1-2.
6. Tilt arrow is always 45°.
7. Each line of copy including the arrow is centered on the board.



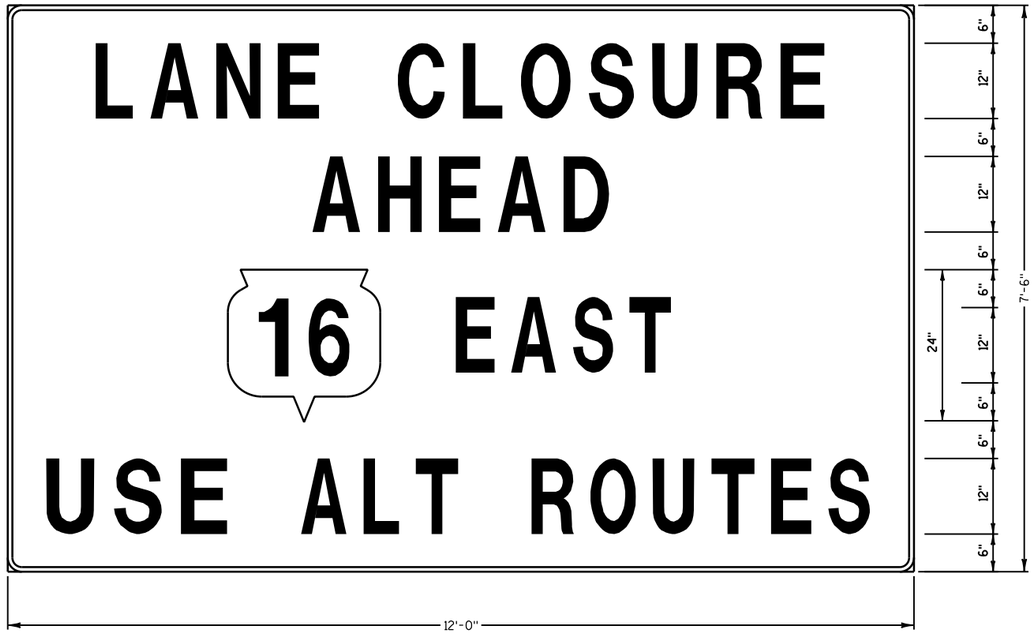


A= 90 SQ. FT.



3 - 4" X 6" WOOD POSTS

A= 90 SQ. FT.



3 - 4" X 6" WOOD POSTS

GENERAL NOTES:

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST EDITION.
2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
3. ALL SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4"x6"). THE NUMBER OF POSTS REQUIRED FOR EACH LAYOUT IS SHOWN.
4. SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."
5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND PER SPEC 643 & 637.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D"
   6" CAPS SHALL BE SERIES "C"
7. ALL SIGNS SHALL HAVE BORDER & RADIUS OF BORDER AS FOLLOWS:

SIGN AREA	WIDTH OF BORDER
GREATER THAN 150 SQ FT	3"
60-150 SQ FT	2"
LESS THAN 60 SQ FT	1"

RADIUS SMALLEST OUTSIDE DIMENSION	CORNER RADIUS
> 8 FT	12"
≥ 6 FT	9"
≥ 4 FT	6"
LESS THAN 4 FT	3"

8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
9. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.
10. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.
11. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

7

7

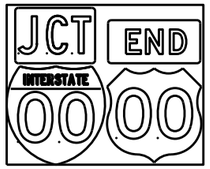
PROJECT NO: 1370-14-70	HWY: STH 16	COUNTY: WAUKESHA	FIXED MESSAGE SIGN DETAILS	SHEET	E

FILE NAME : G:\Crispel-Snyder\Collins\10015\dgn\025007_tc_stage 1.DGN PLOT DATE : 7/23/2014 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 42

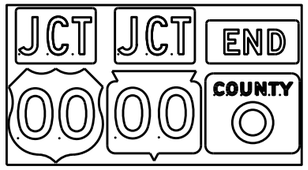
TYPICAL ASSEMBLIES



J1-1



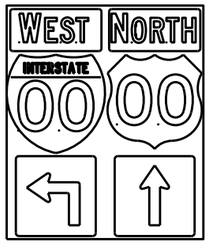
J1-2



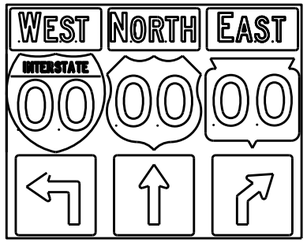
J1-3



J2-1



J2-2

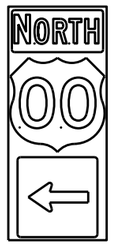


J2-3

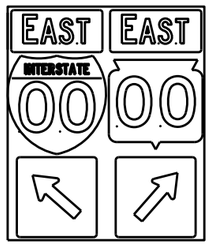


JV

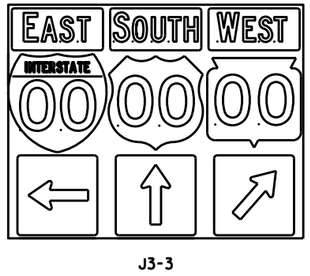
(Typical Vertical J-Assembly
See Note 10 and 11)



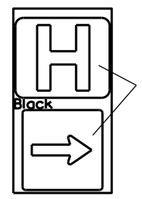
J3-1



J3-2



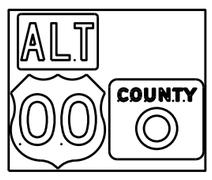
J3-3



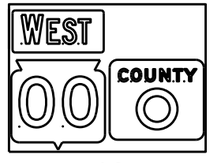
JH-1



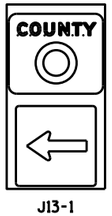
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

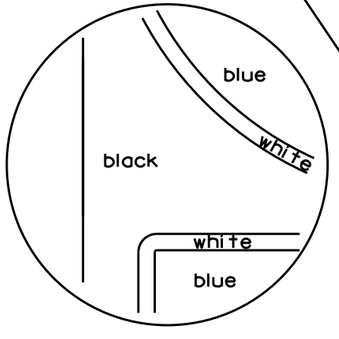


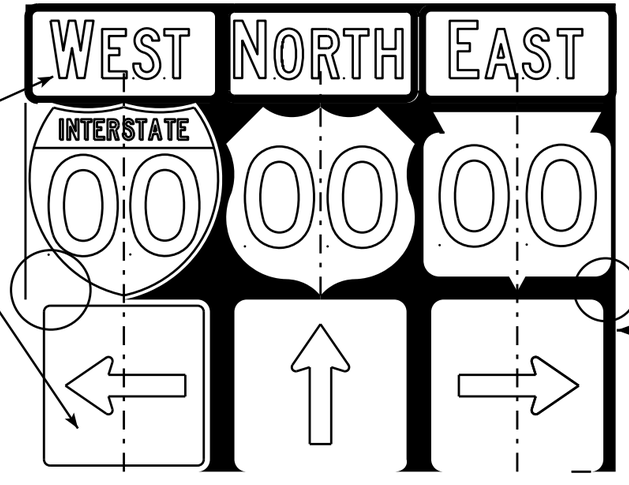
J23-1

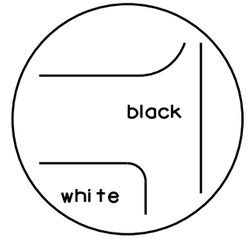


J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

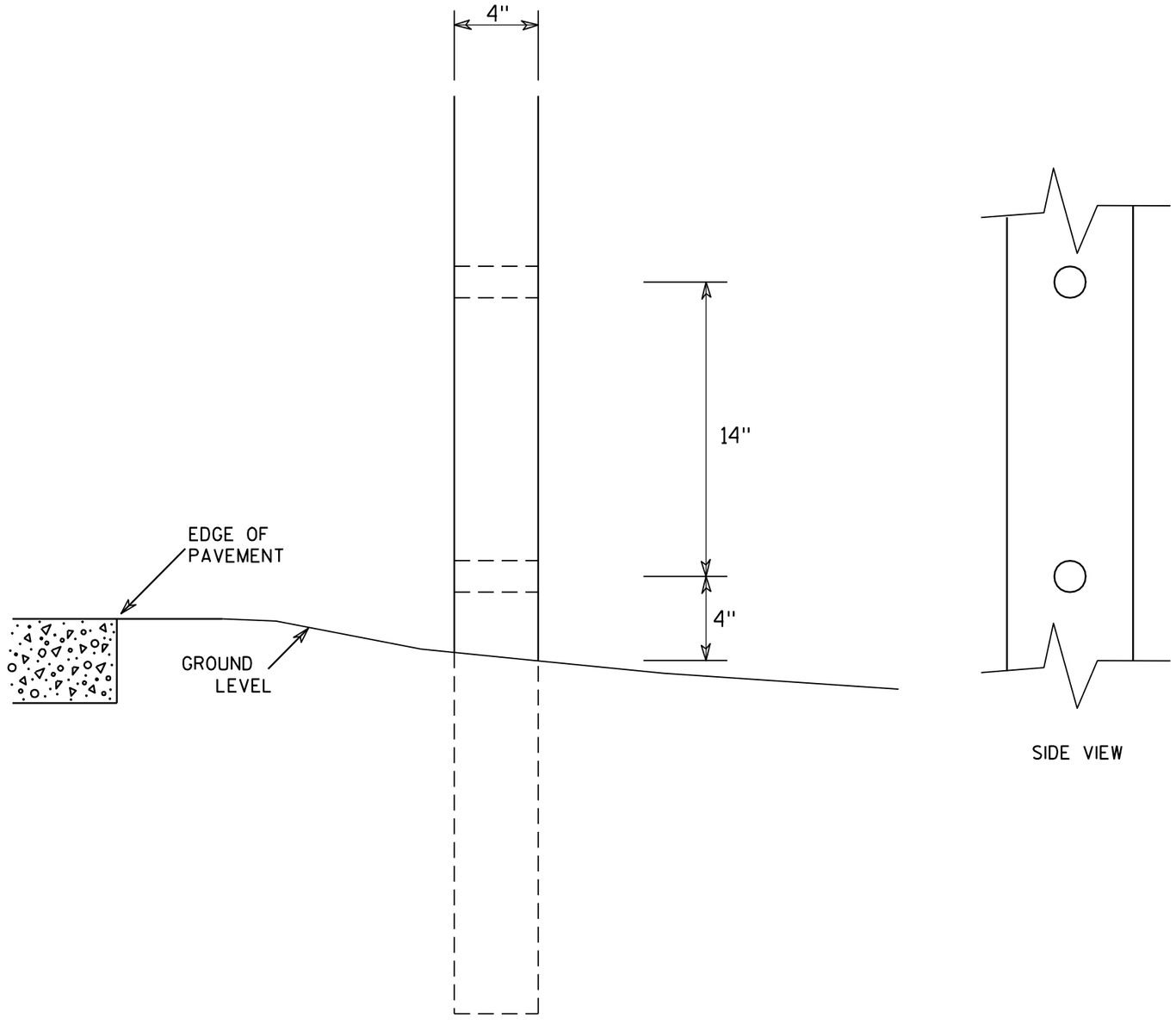
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

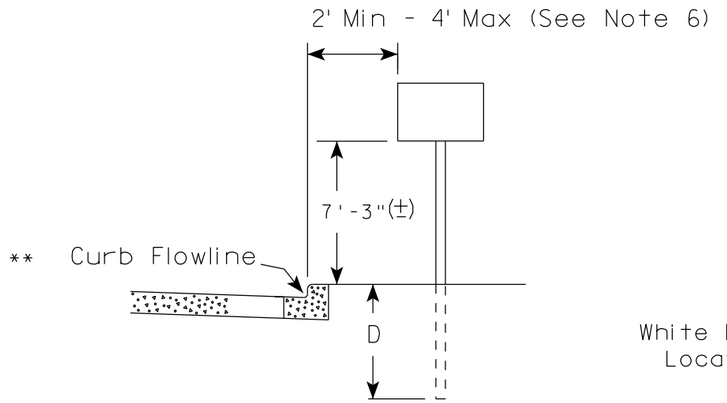
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

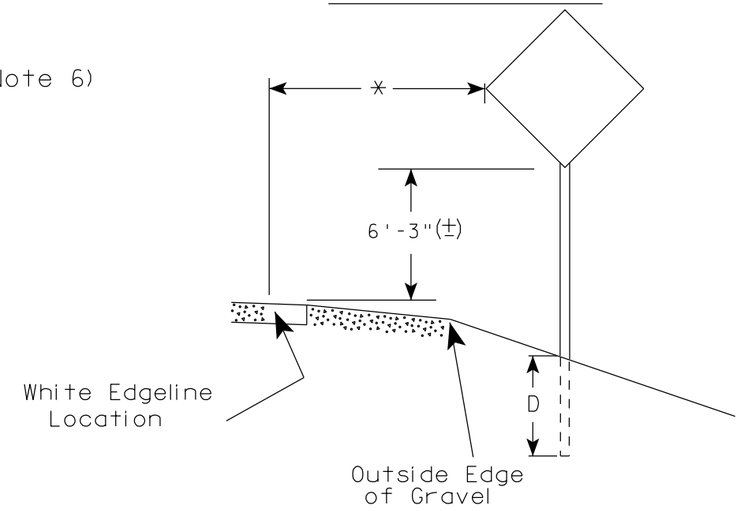
DATE 3/27/97 PLATE NO. A4-11.2

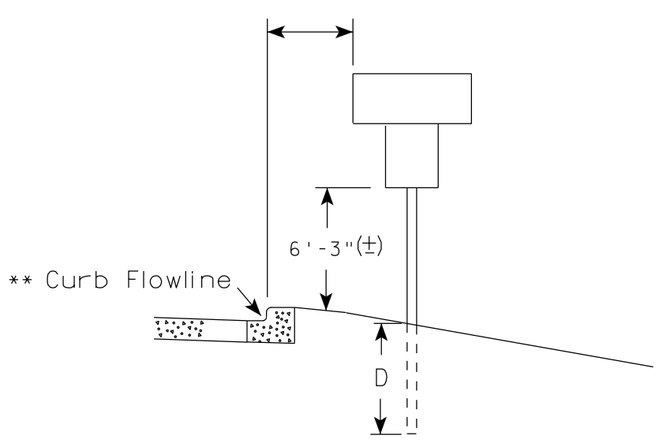
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 211	E

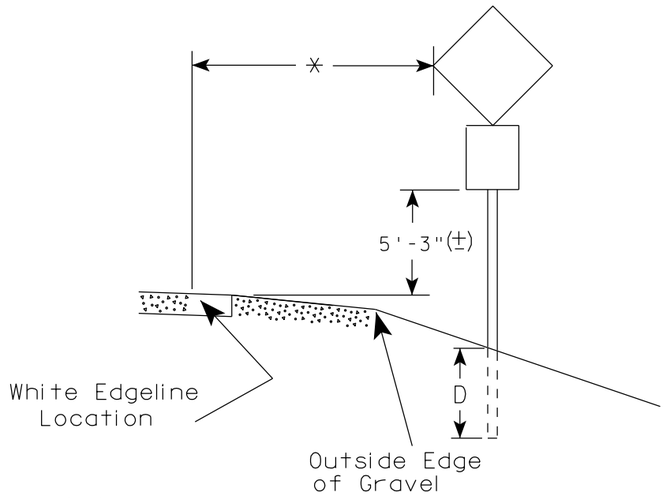
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

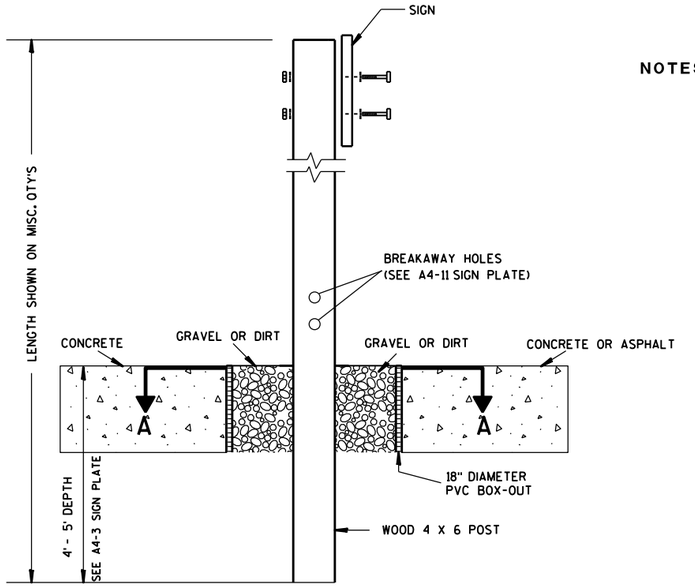
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

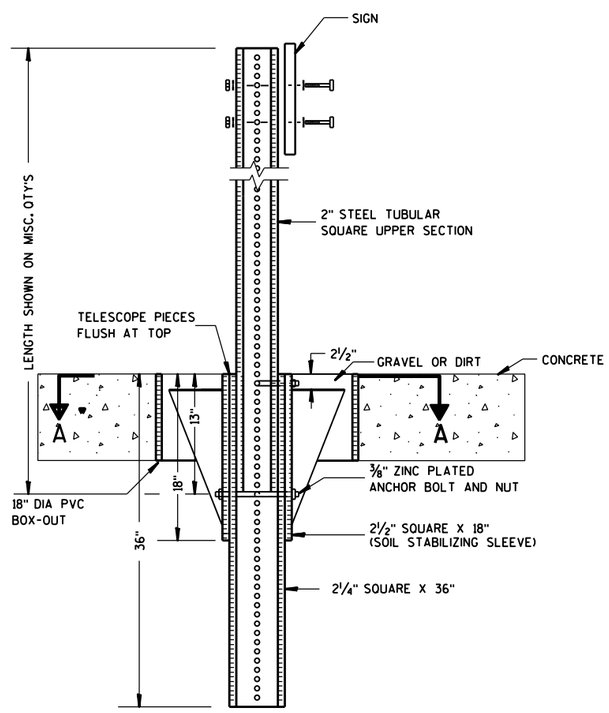
7



ELEVATION VIEW

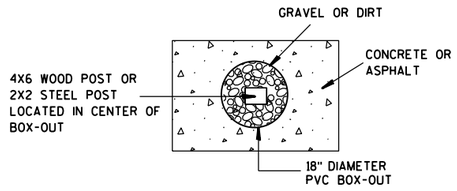
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

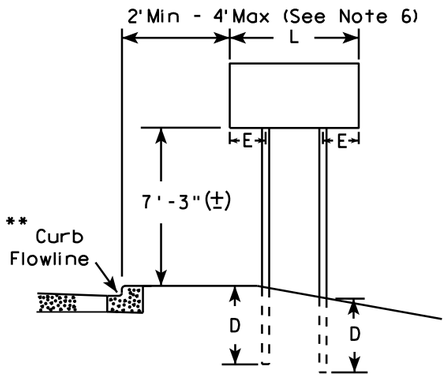
APPROVED Matthew R Rauch
for State Traffic Engineer

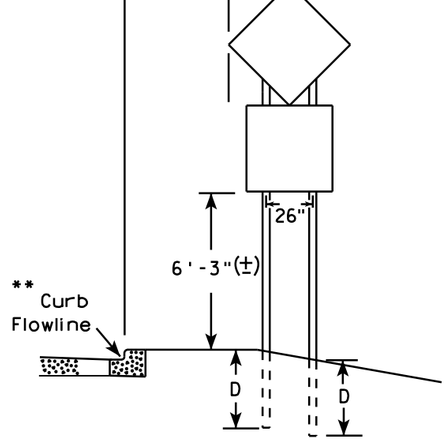
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

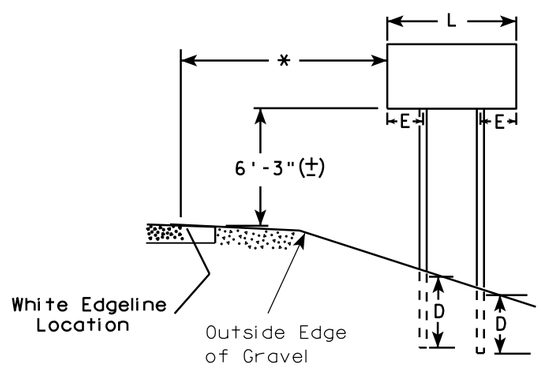
URBAN AREA

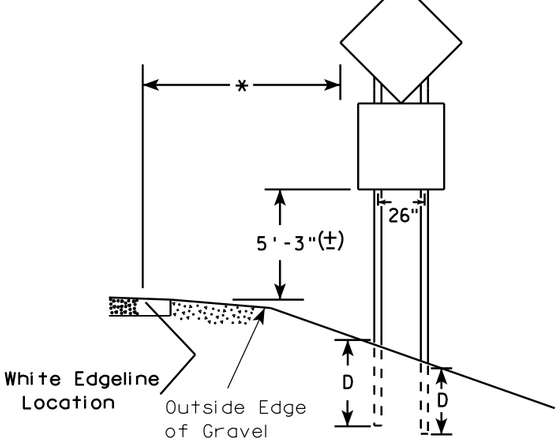




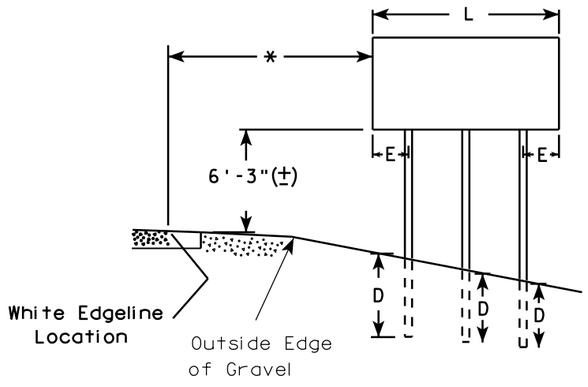
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

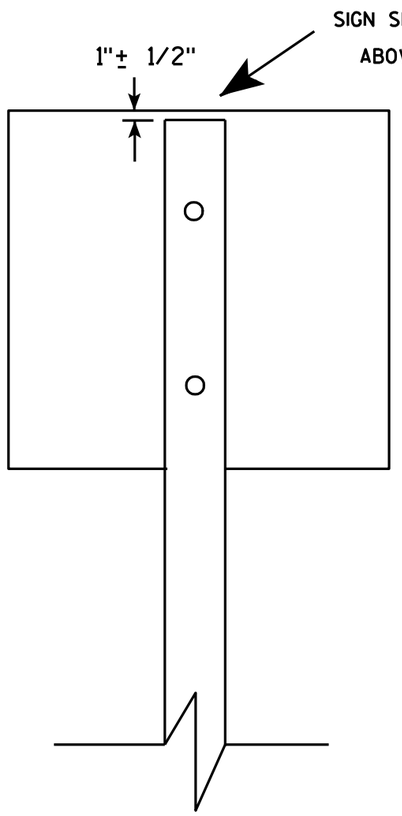
DATE 4/29/14 PLATE NO. A4-4 13
214

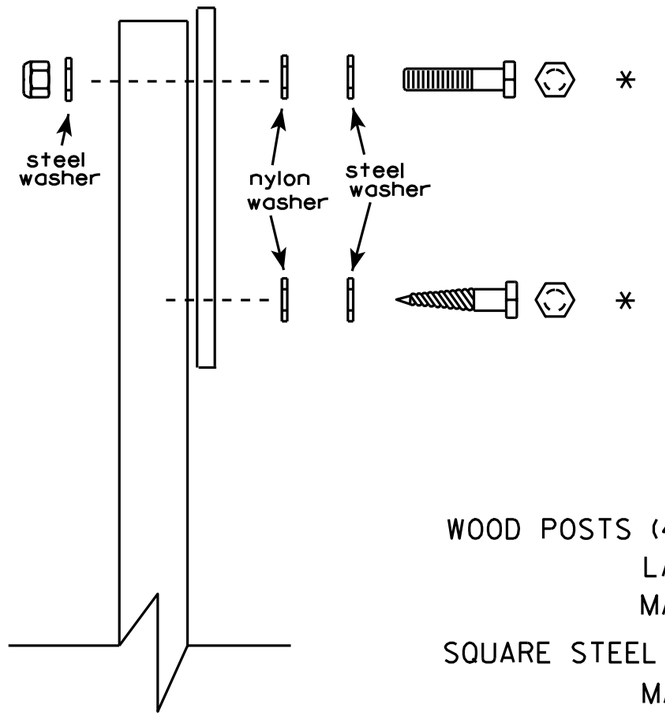
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-APR-2014 13:10 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42

7 7





Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

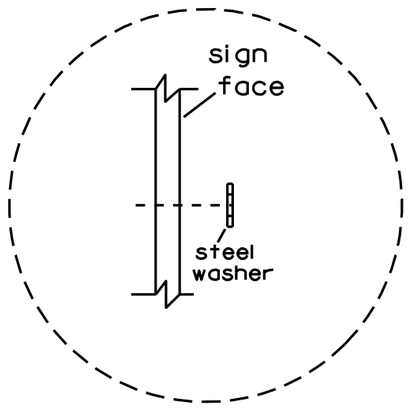
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

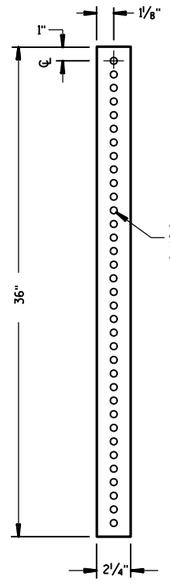
7

PROJECT NO:

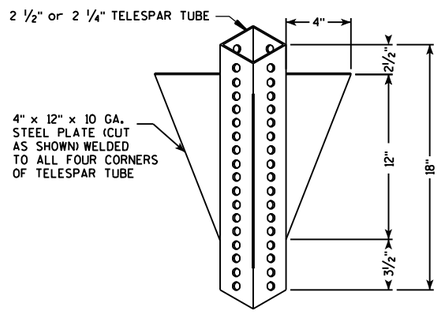
SHEET NO: 215 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

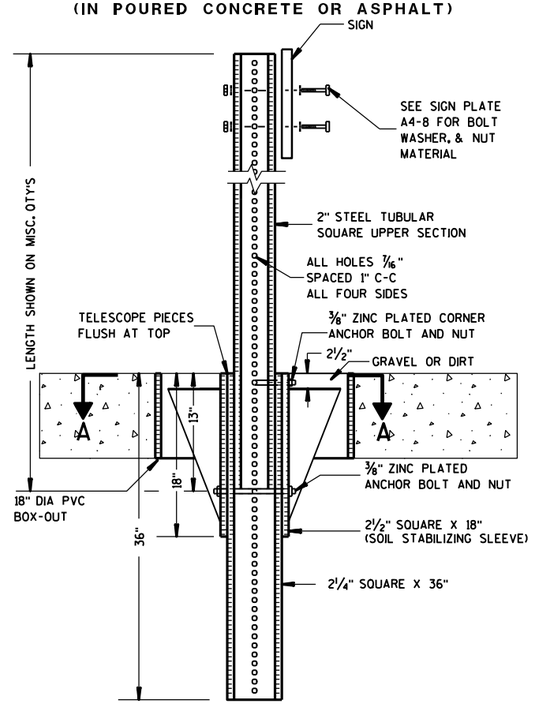
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



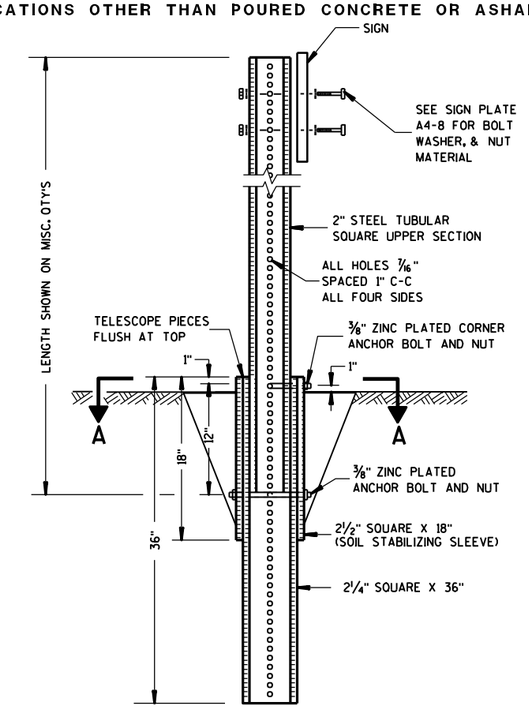
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

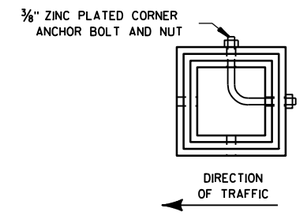


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

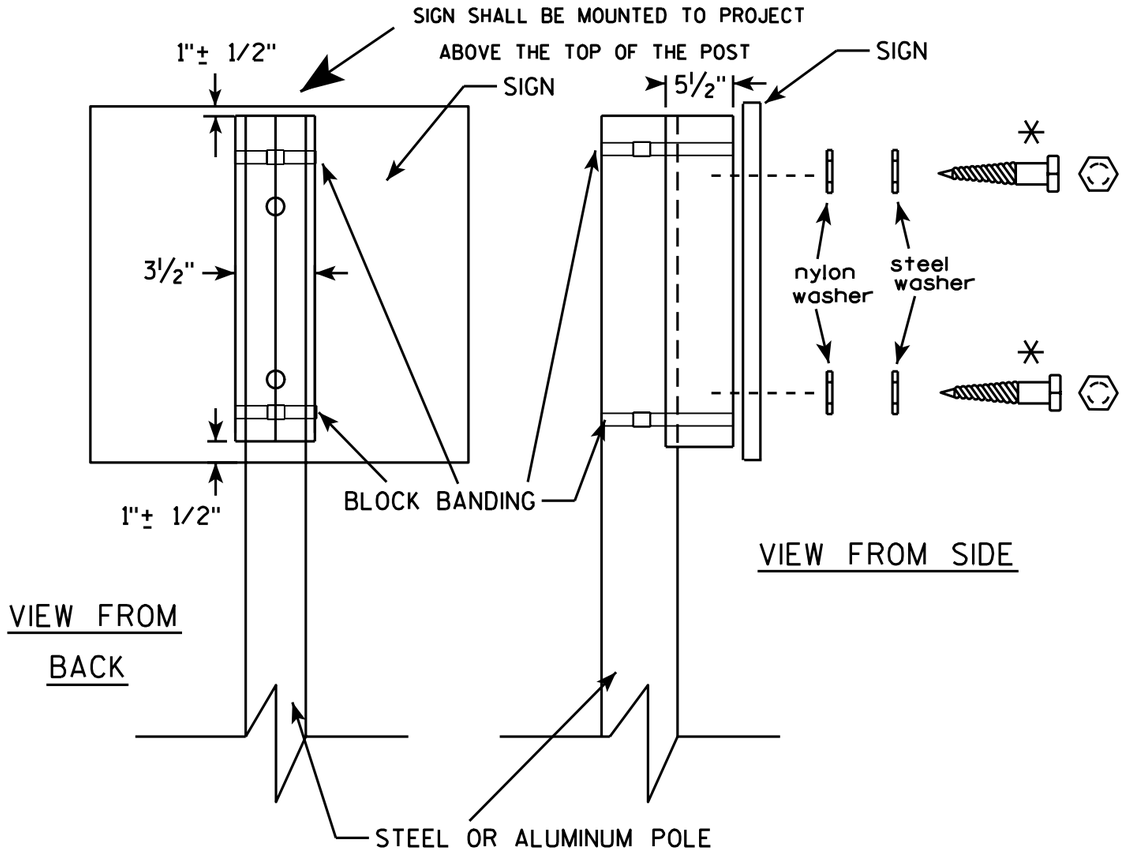
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

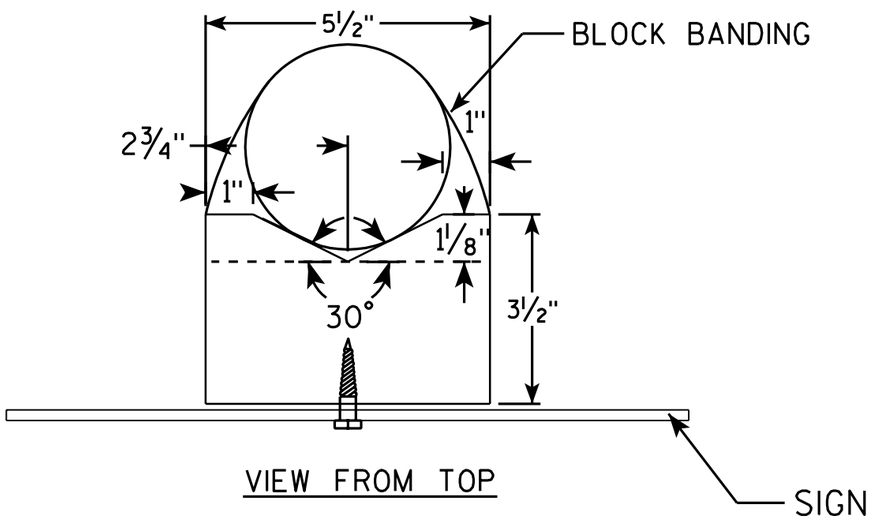
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 216	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

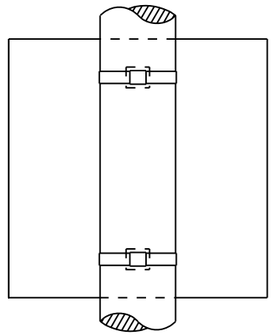
DATE 7/12/07 PLATE NO. A5-10.1

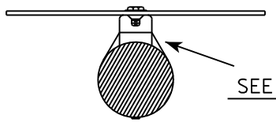
PROJECT NO:

SHEET NO: 217 E

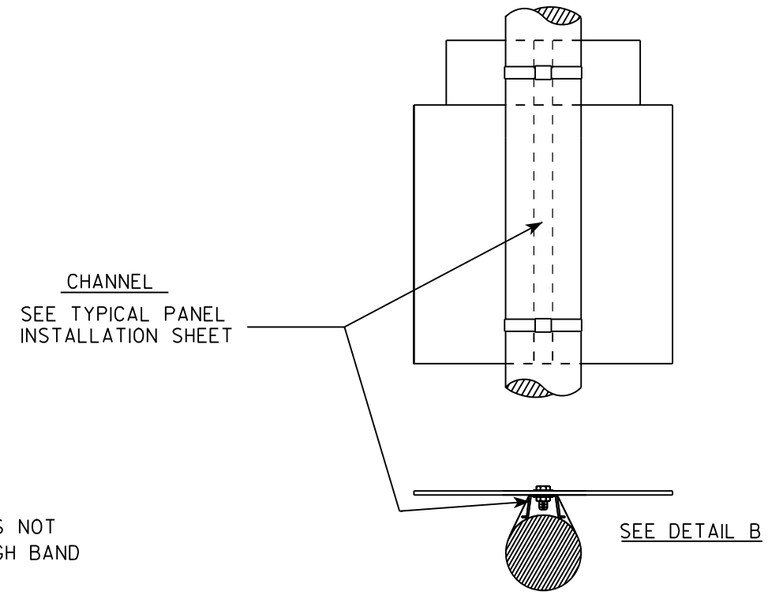
BANDING

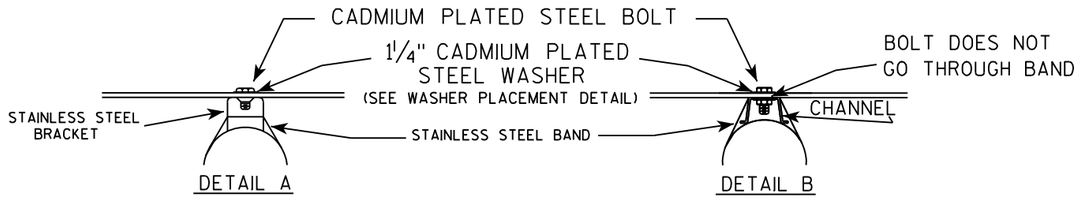
SINGLE SIGN



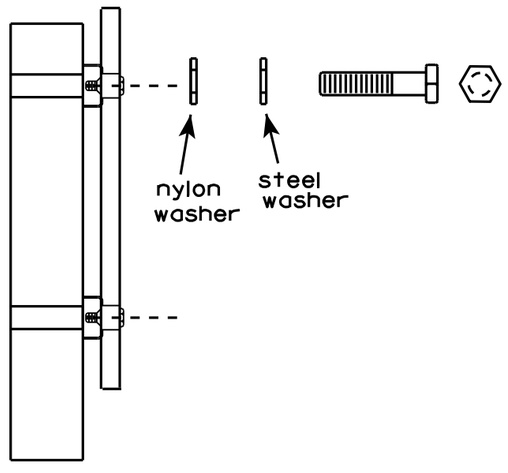


"J" ASSEMBLY





WASHER PLACEMENT



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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

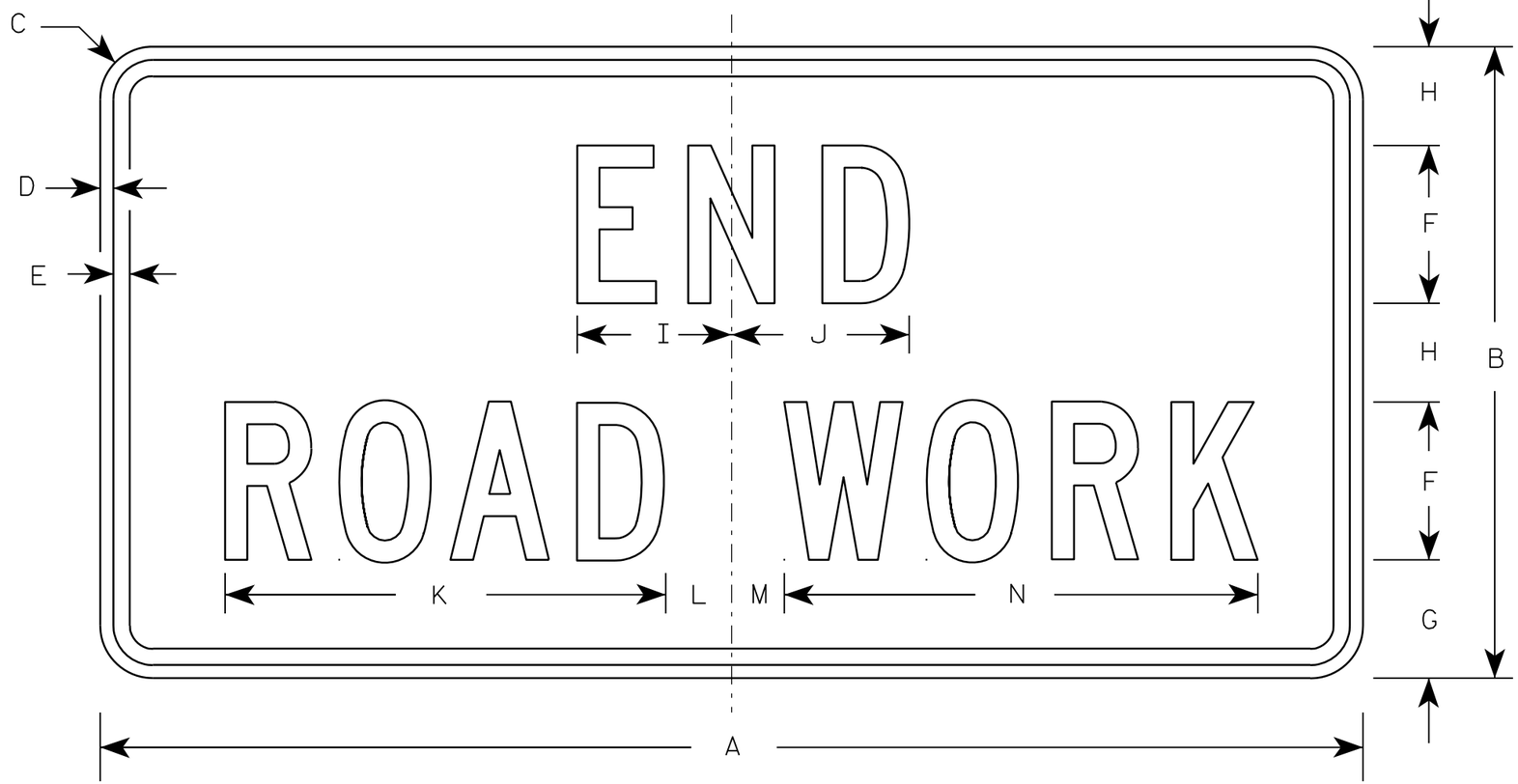
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 218	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

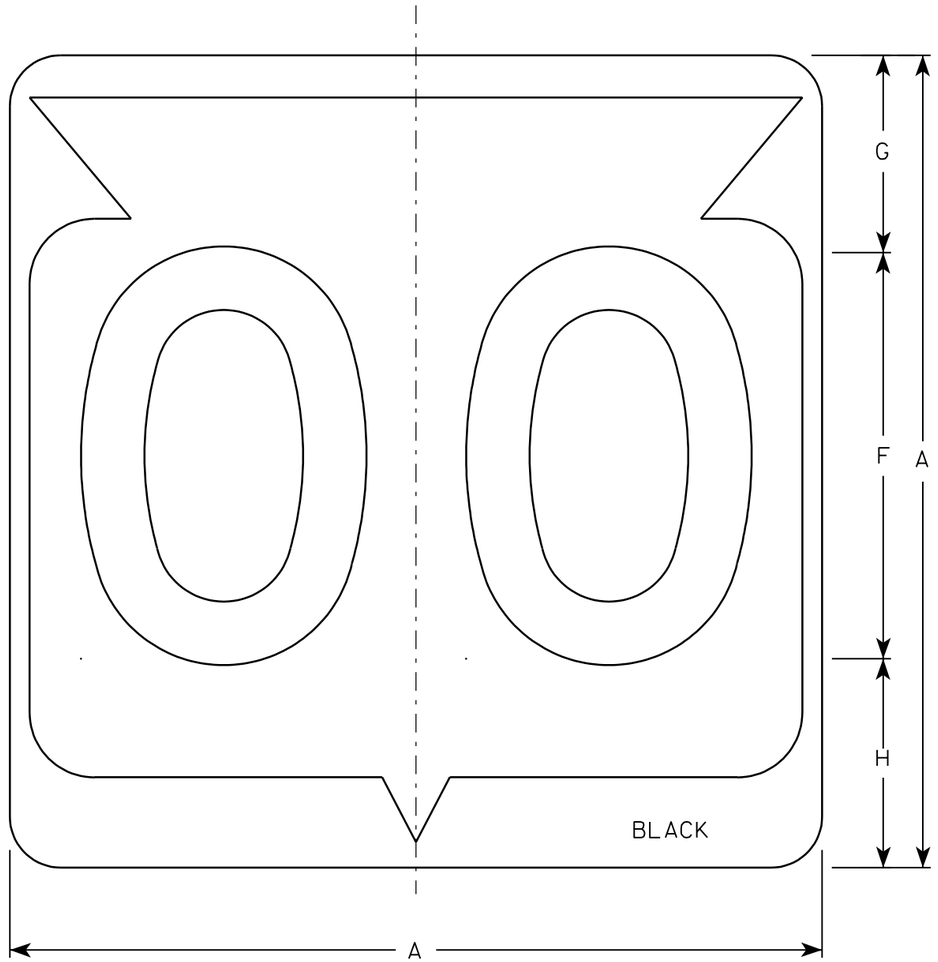
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

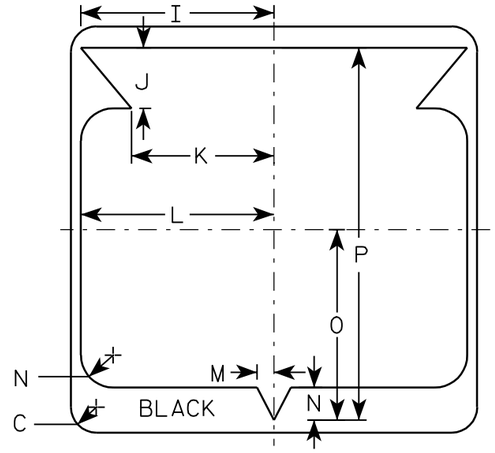
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 219	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

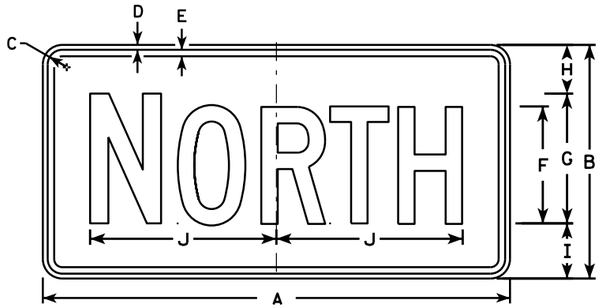
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

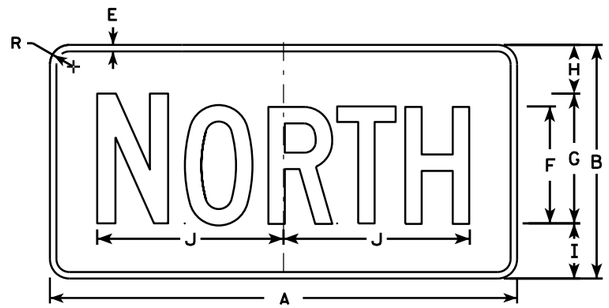
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 220	E



M3-1
MK3-1



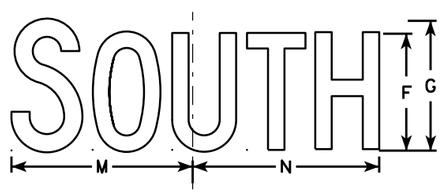
MB3-1
MG3-1
MM3-1
MN3-1



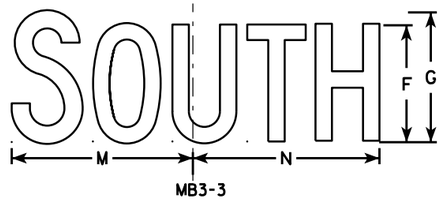
M3-2
MK3-2



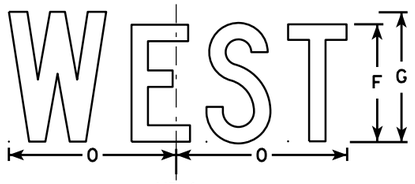
MB3-2
MG3-2
MM3-2
MN3-2



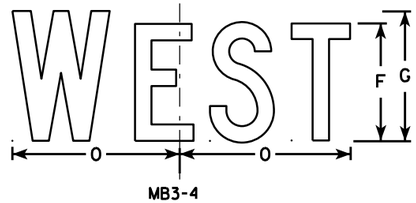
M3-3
MK3-3



MB3-3
MG3-3
MM3-3
MN3-3



M3-4
MK3-4



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MG3-1 thru MG3-4 Background - Green
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

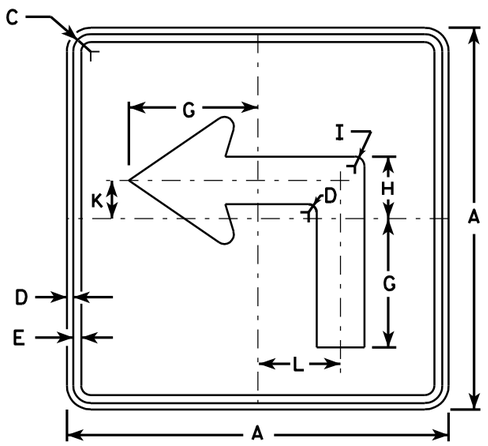
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

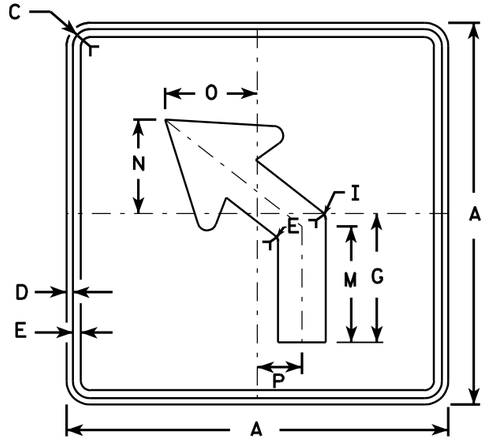
DATE 6/19/14 PLATE NO M3-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

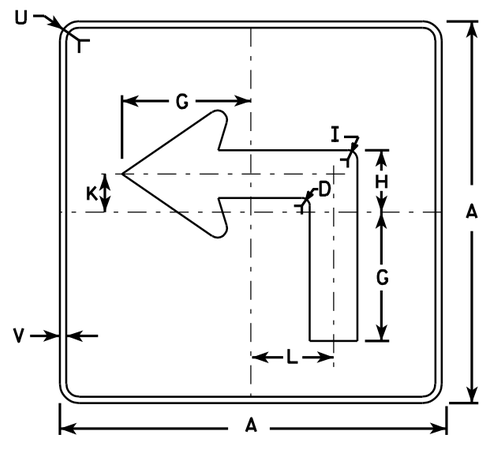
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 19-JUN-2014 16:50 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000 WISDOT/CADDS SHEET 42



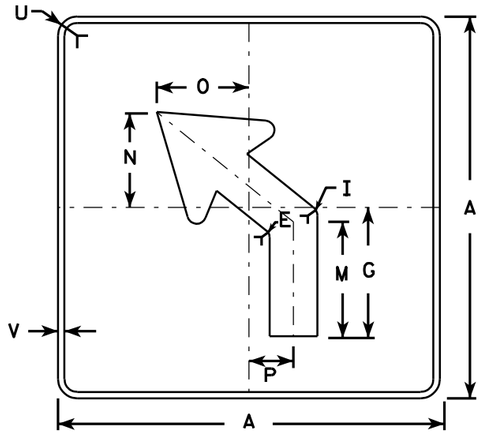
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



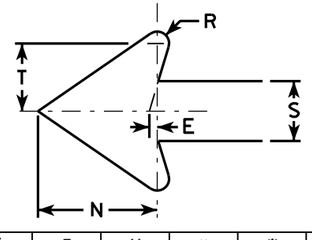
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

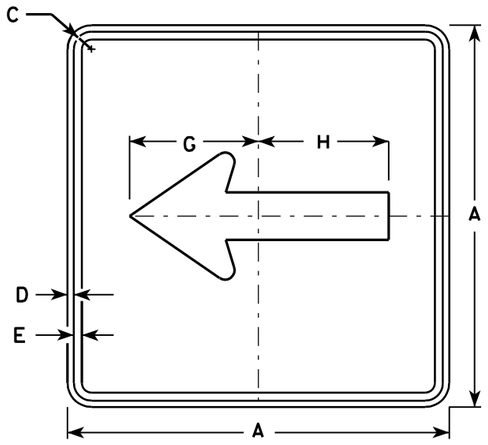
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

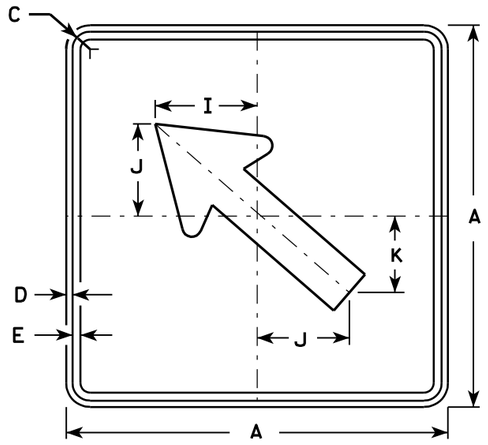
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 222 | E

7

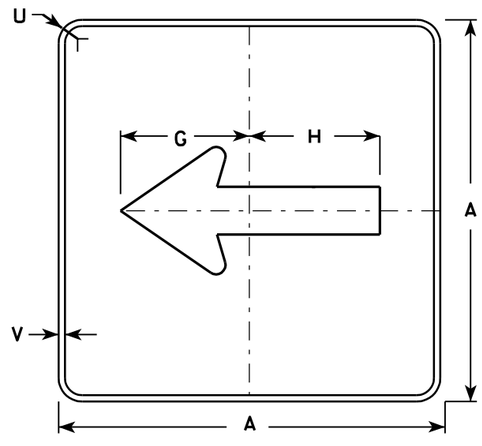
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 29-JUL-2013 13:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.908552:1.000000
WISDOT/CADDS SHEET 42



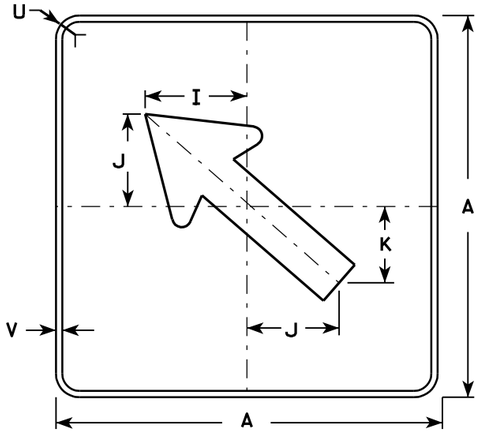
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White - Type H Reflective
   Message - Black

   MB6-1 and MB6-2 Background - Blue
   Message - White - Type H Reflective

   MG6-1 and MG6-2 Background - Green
   Message - White - Type H Reflective

   MK6-1 and MK6-2 Background - Green
   Message - White - Type H Reflective

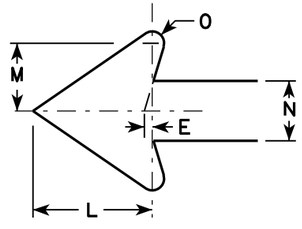
   MM6-1 and MM6-2 Background - White - Type H Reflective
   Message - Green

   MN6-1 and MN6-2 Background - Brown
   Message - White - Type H Reflective

   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black

   MP6-1 and MP6-2 Background - White - Type H Reflective
   Message - Blue

   MR6-1 and MR6-2 Background - Brown
   Message - Yellow - Type H Reflective



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

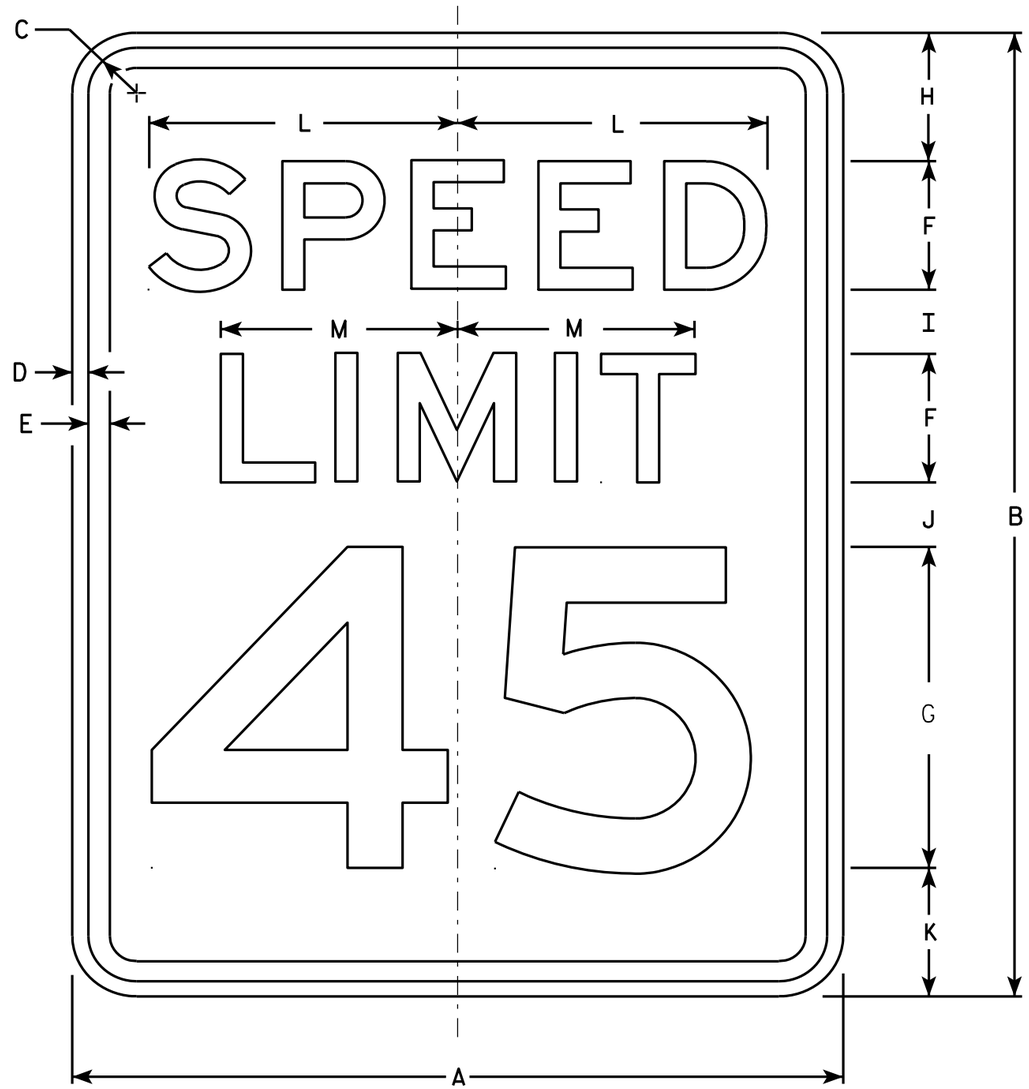
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 223	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

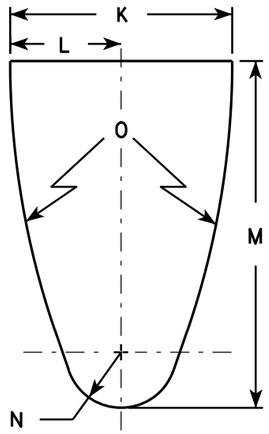
STANDARD SIGN
R2-1

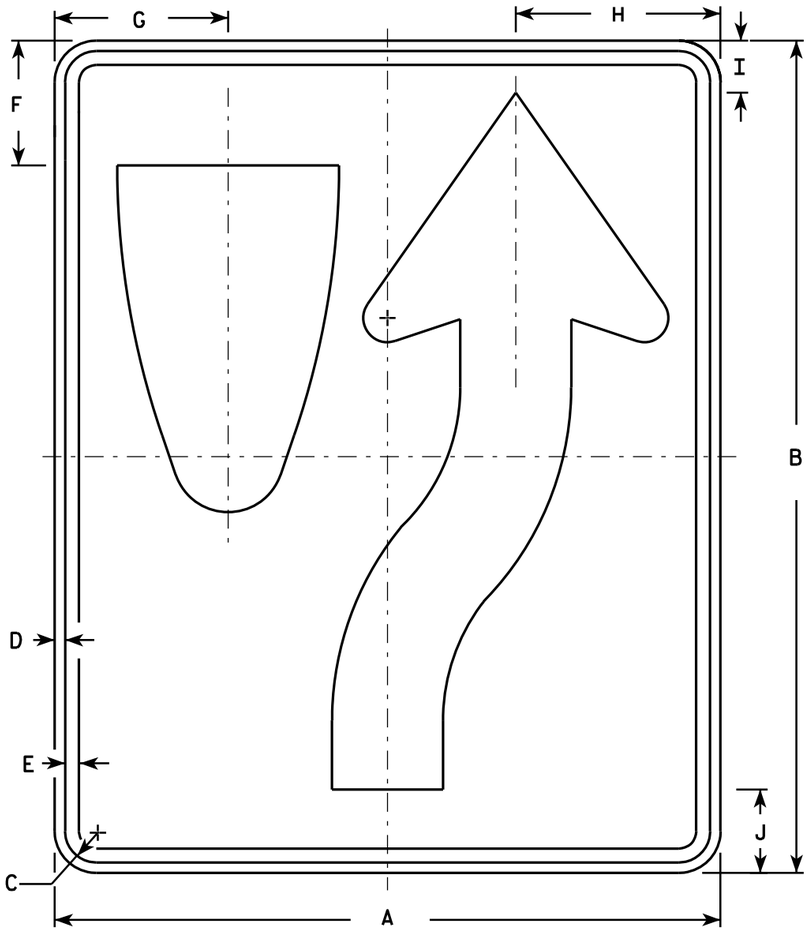
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 224	E

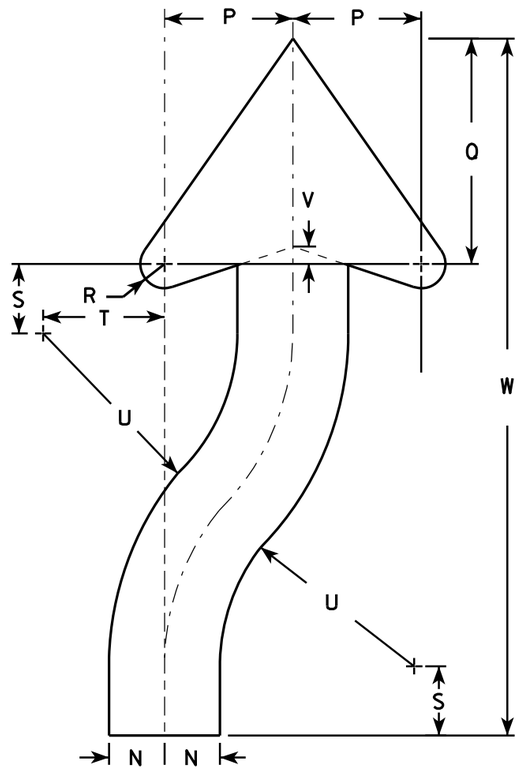




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

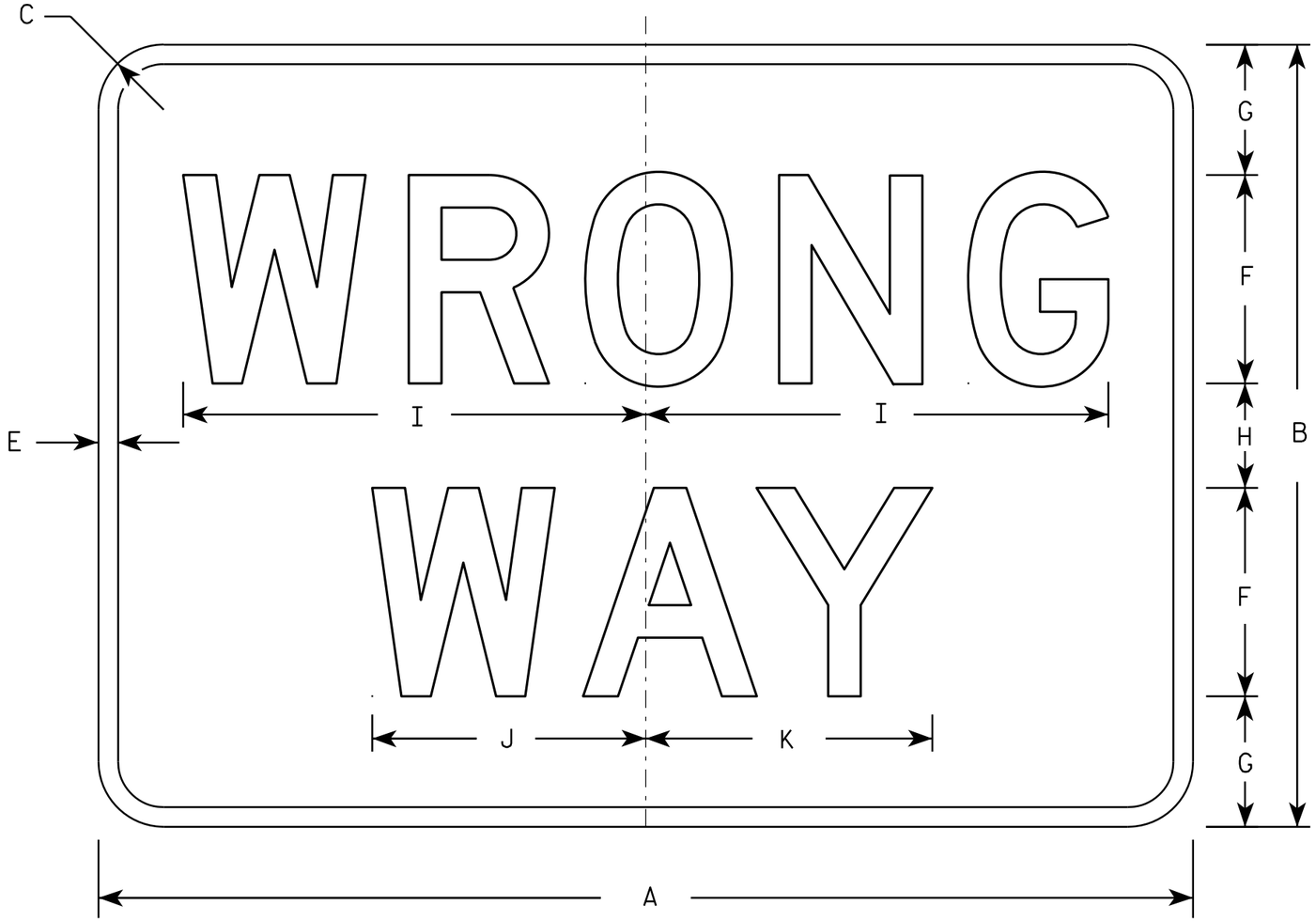
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 225	E



R5-1A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

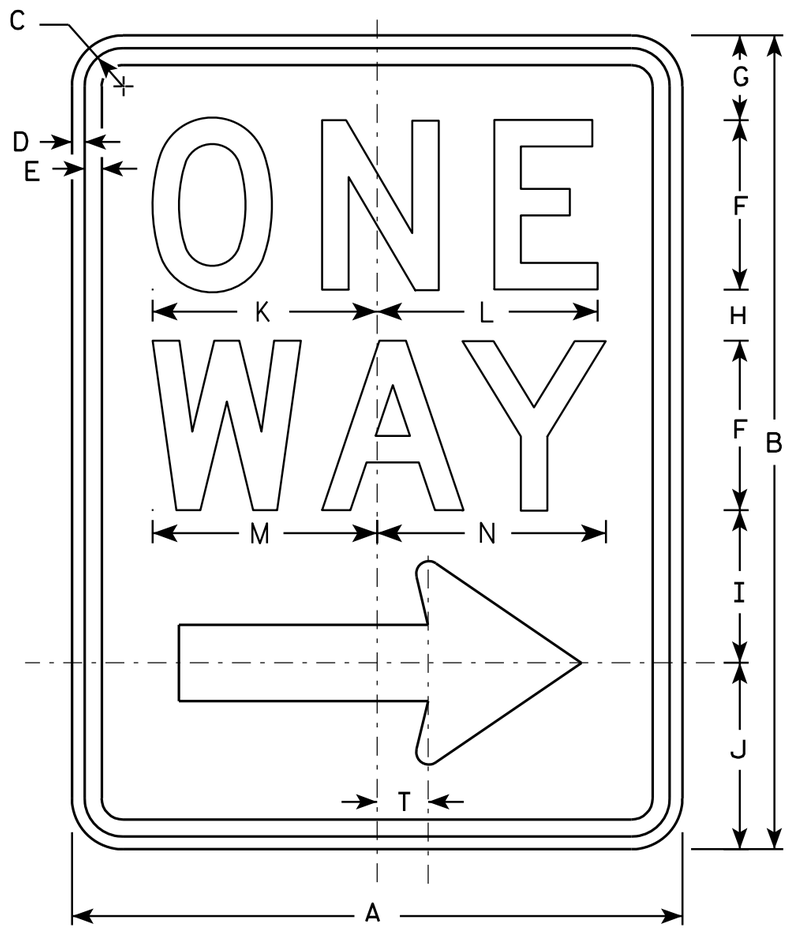
STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

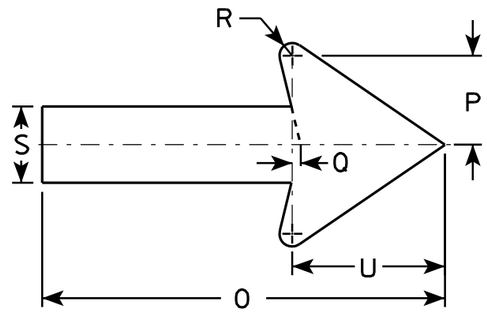
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 226 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

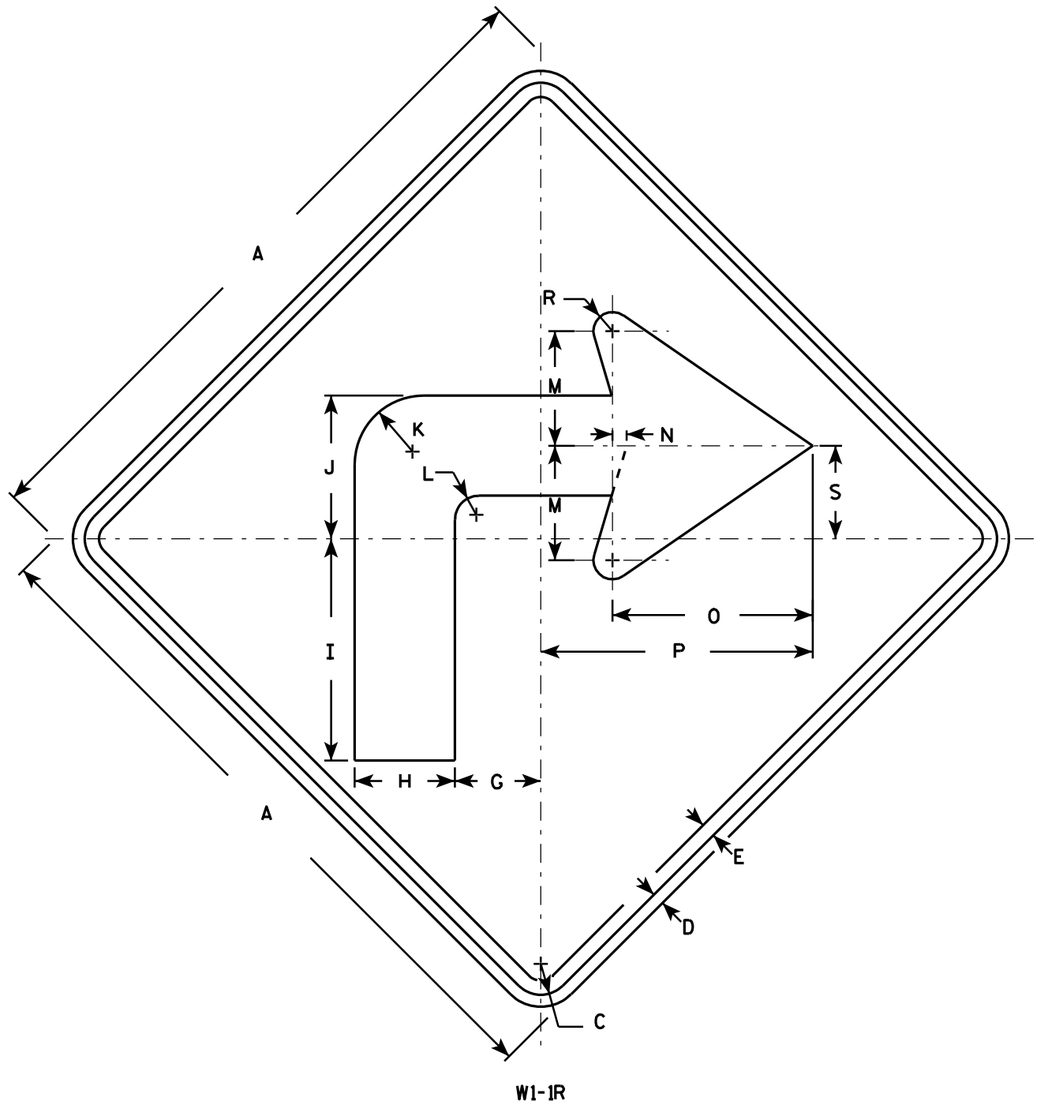
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 227	E



W1-1R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-1L is the same as W1-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		1 5/8	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		2 1/4	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

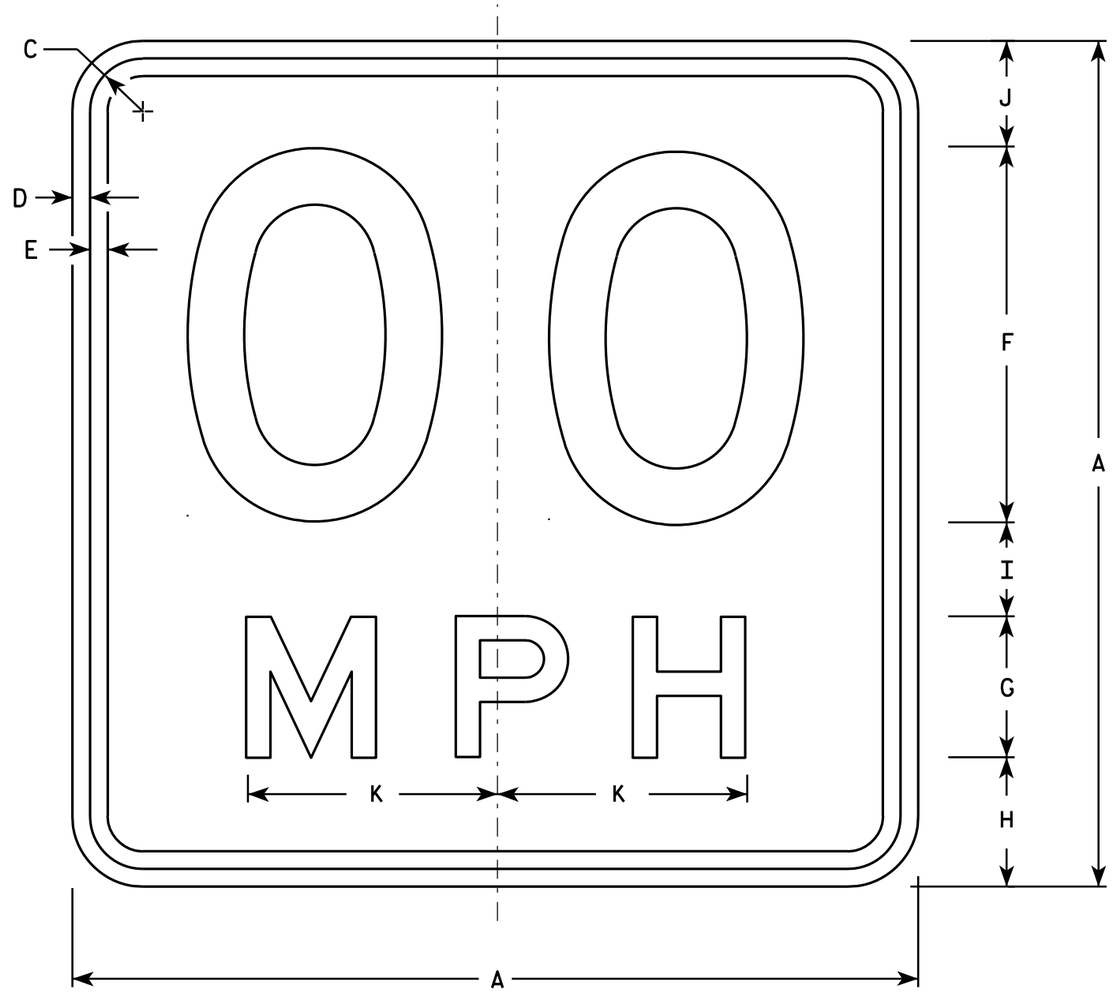
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-1.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 228 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W11.DGN PLOT DATE : 15-MAY-2012 13:47 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 7.939035:1.000000
WISDOT/CADDS SHEET 42



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
	1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

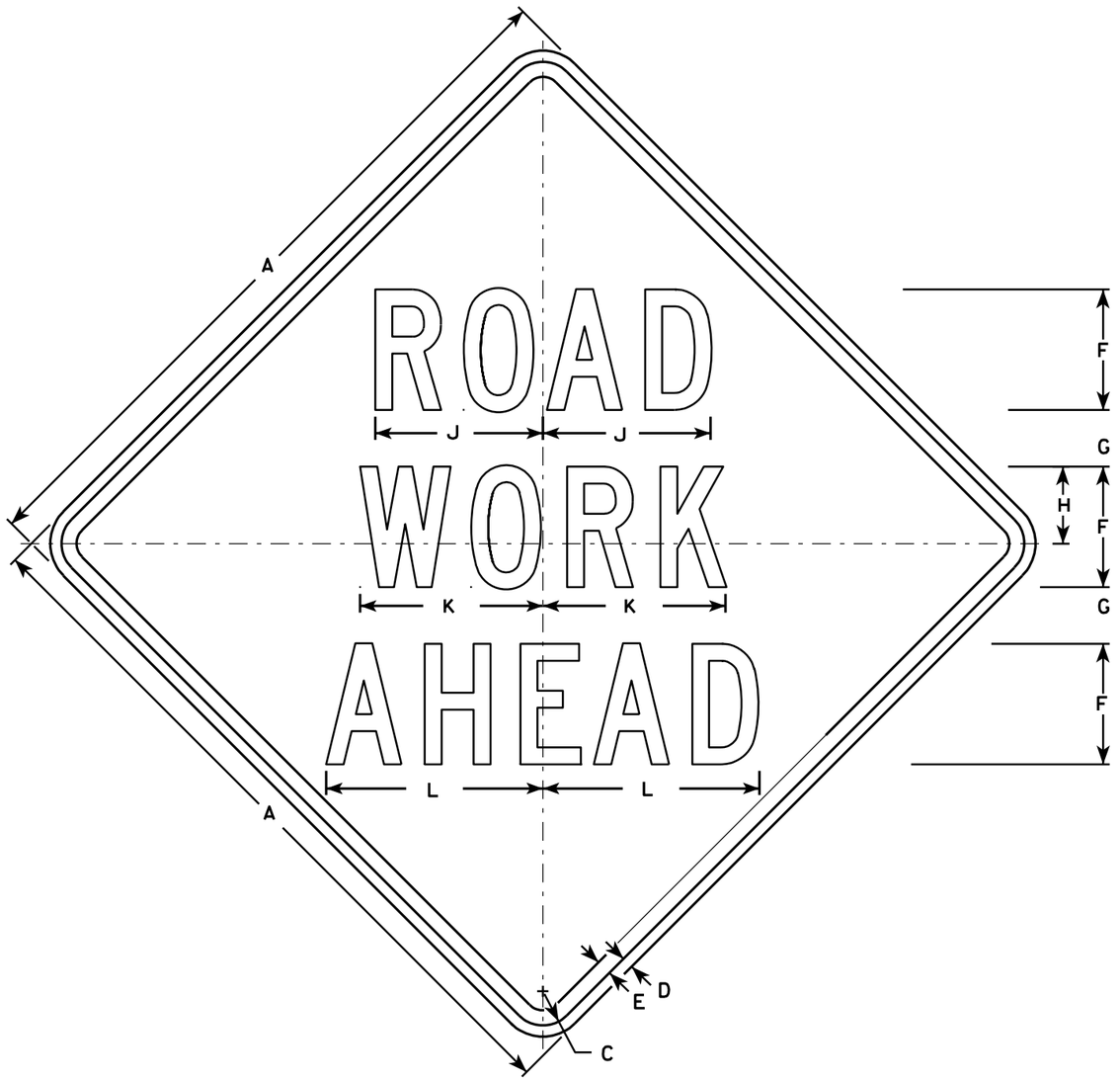
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

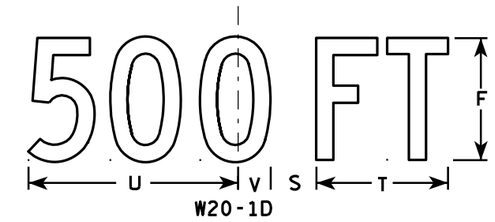
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

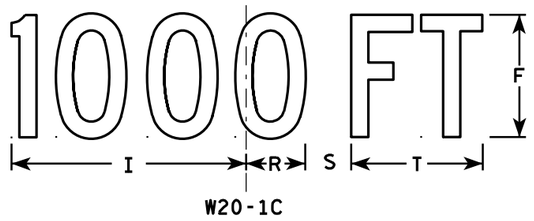
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 229 | E



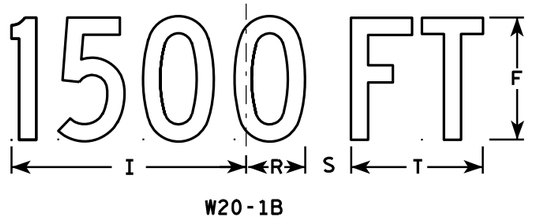
W20-1A



W20-1D



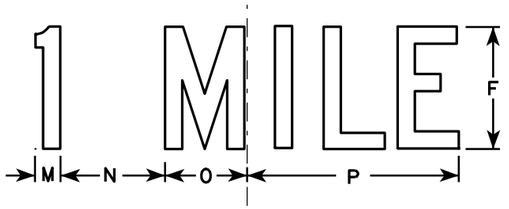
W20-1C



W20-1B



W20-1G



W20-1F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	1 7/8	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8		3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

SHEET NO: 230 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

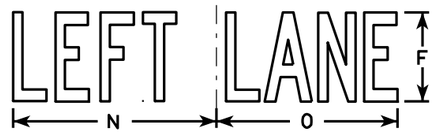
WISDOT/CADDS SHEET 42

7

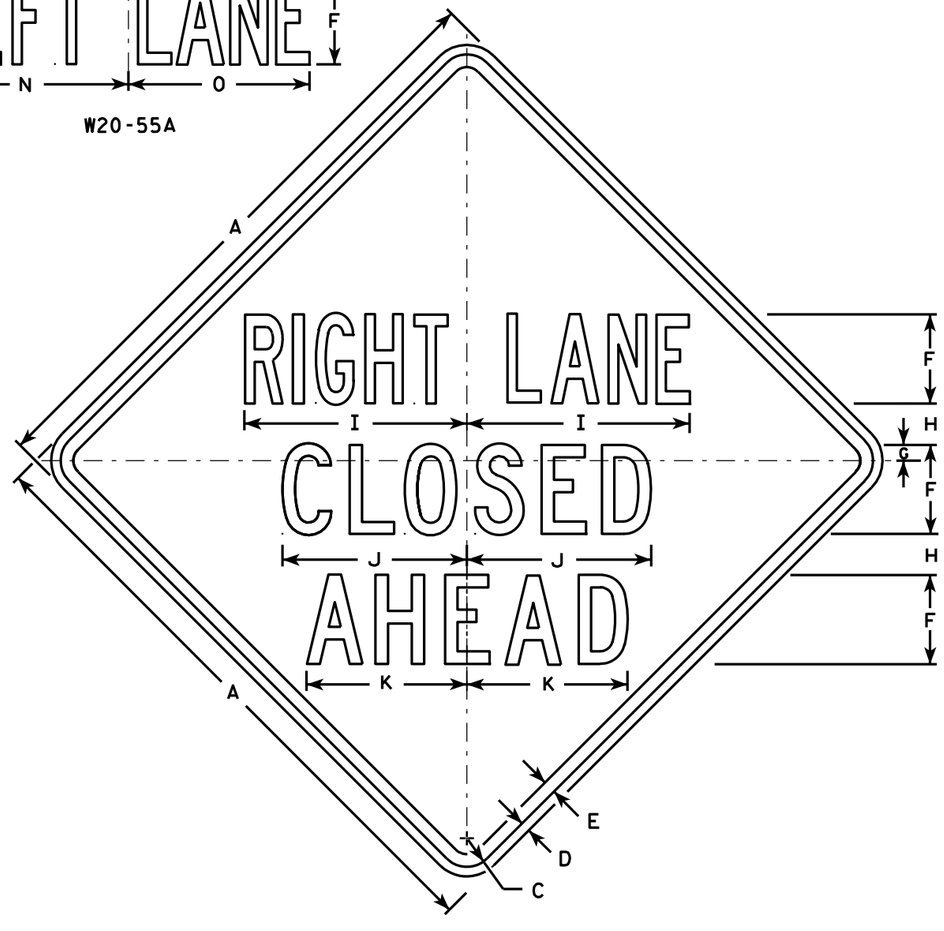
7



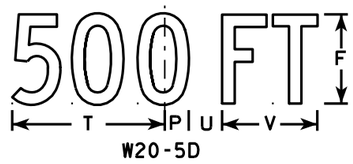
W20-56A



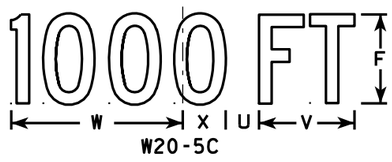
W20-55A



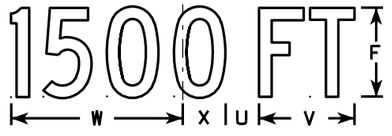
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

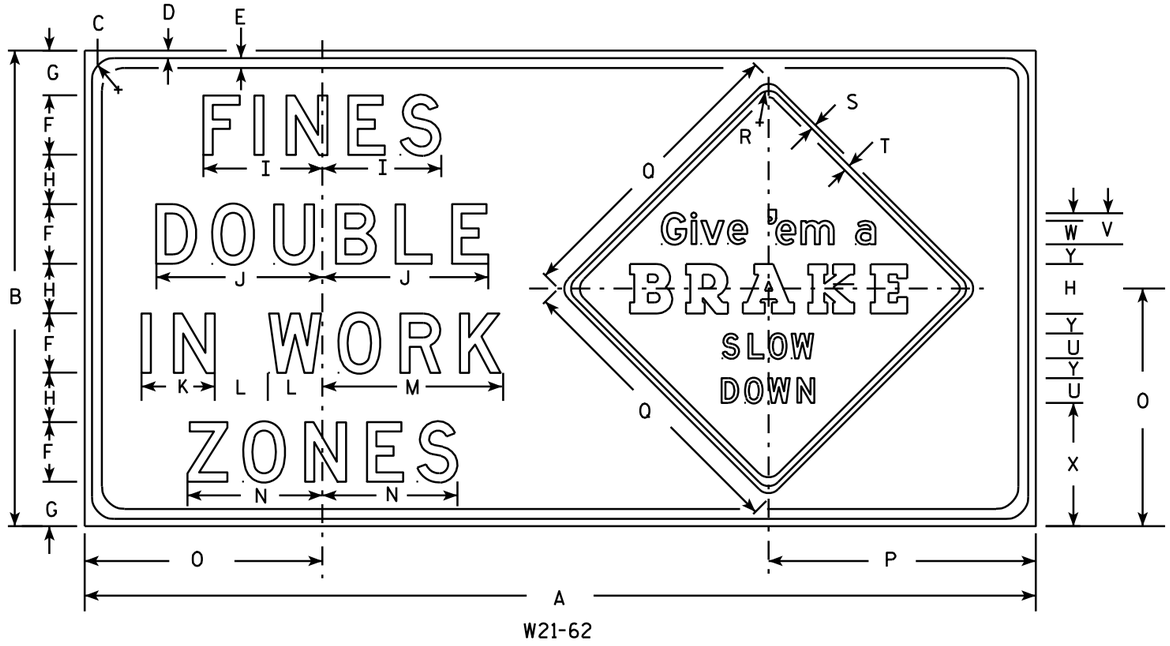
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 231 | E

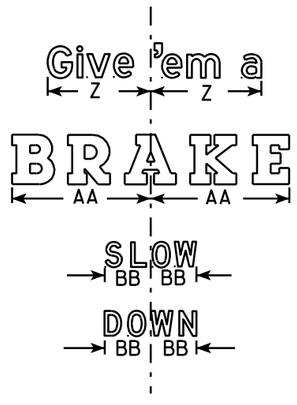
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W21-62

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.





W21-62P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	Area sq. ft.
1																															
2S																															
2M																															
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0
4																															
5																															

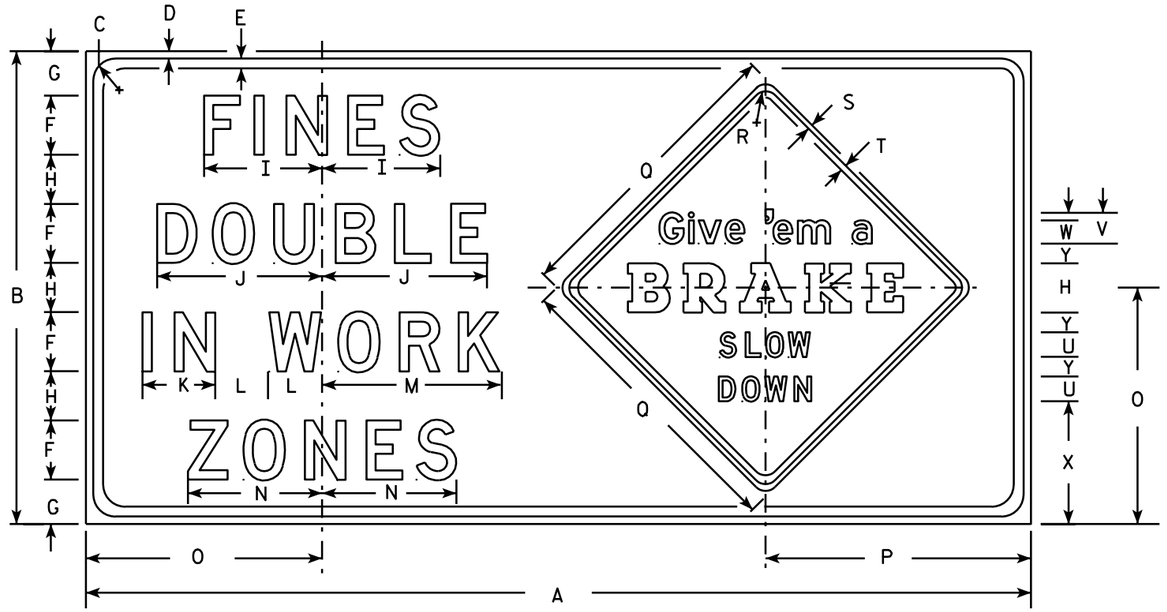
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

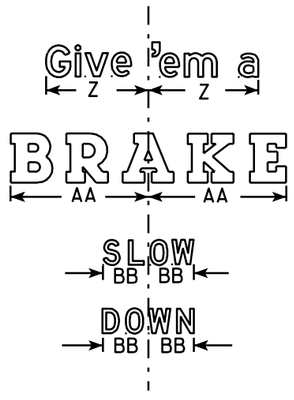
APPROVED Matthew R Rauch
for State Traffic Engineer

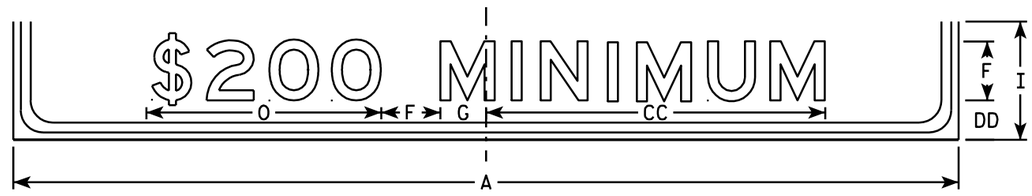
DATE 3/21/11 PLATE NO. W21-62.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 232	E



W21-62





W21-62P

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	2400 mm X 1200 mm
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	Area sq. ft.	Area m2
1																																
2																																
3	96	48	2 1/4	3/4	1	6	4 1/2	5	12	16 3/4	7 3/8	5 1/2	18 1/4	13 5/8	24	27	30	1 3/8	1/2	5/8	2 1/2	3 1/8	2 3/8	12 1/2	2	10 3/4	14	4 5/8	34 1/2	4	32.0	2.88
4																																
5																																

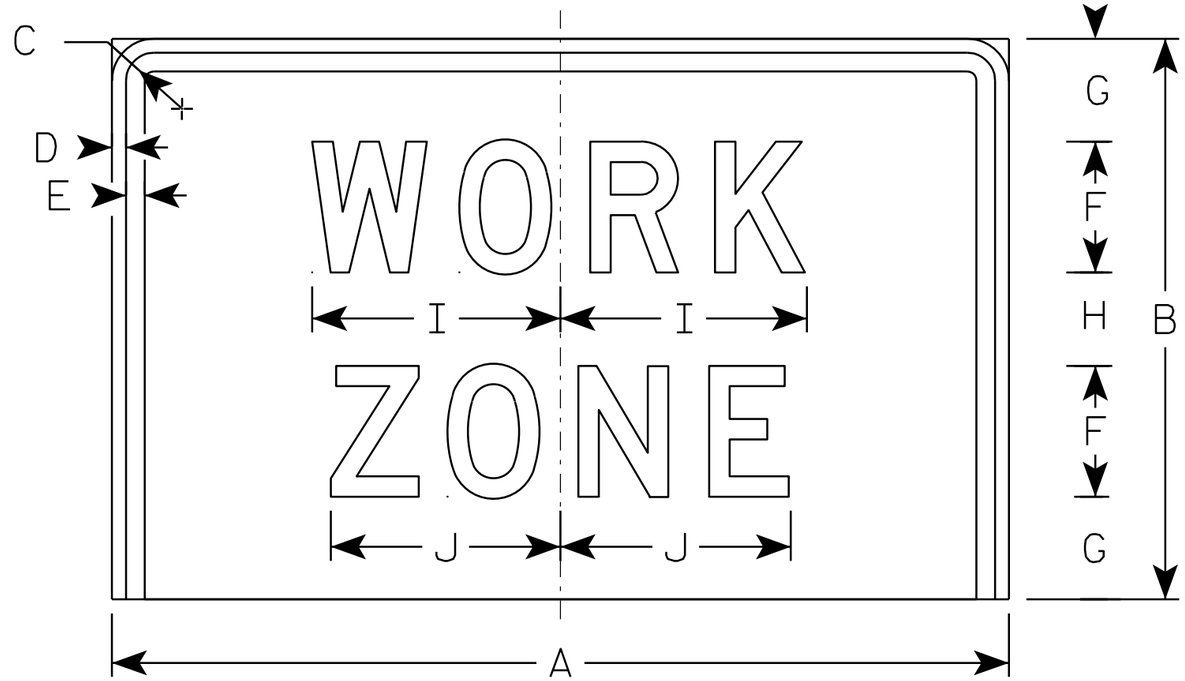
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/16/07 PLATE NO. W21-62.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 233	E



W21-620

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
3																											
4																											
5																											

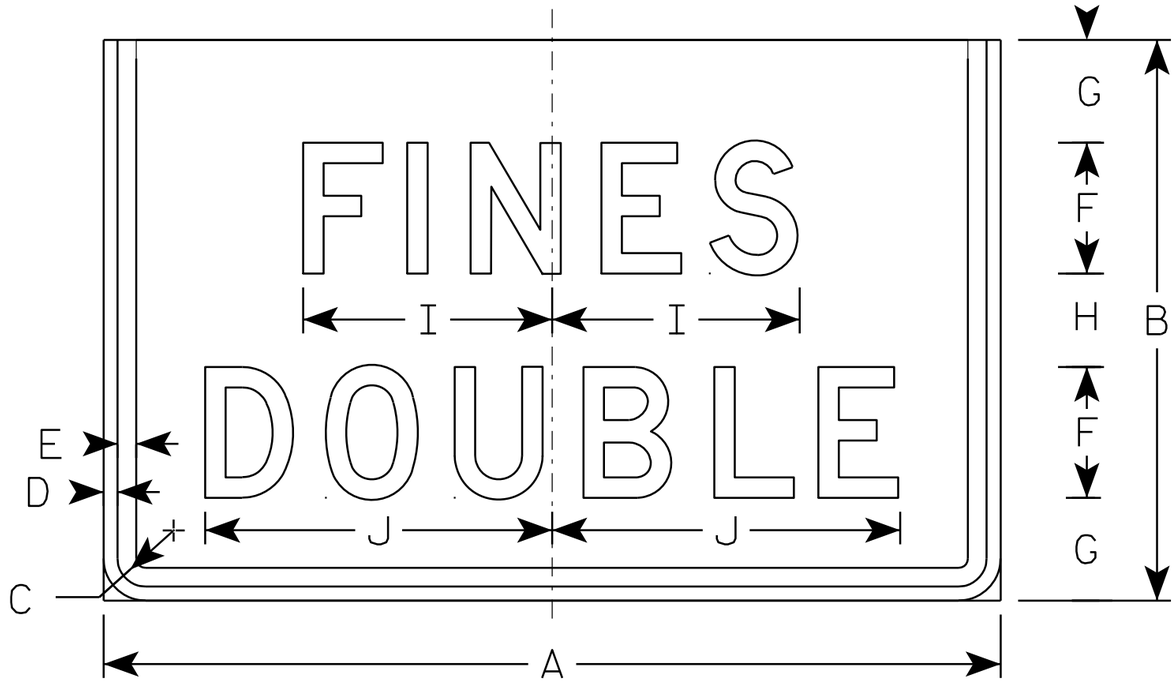
STANDARD SIGN
W21-620

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-620.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 234	E



W21-62R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	18 5/8																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	18 5/8																	10.0
3																											
4																											
5																											

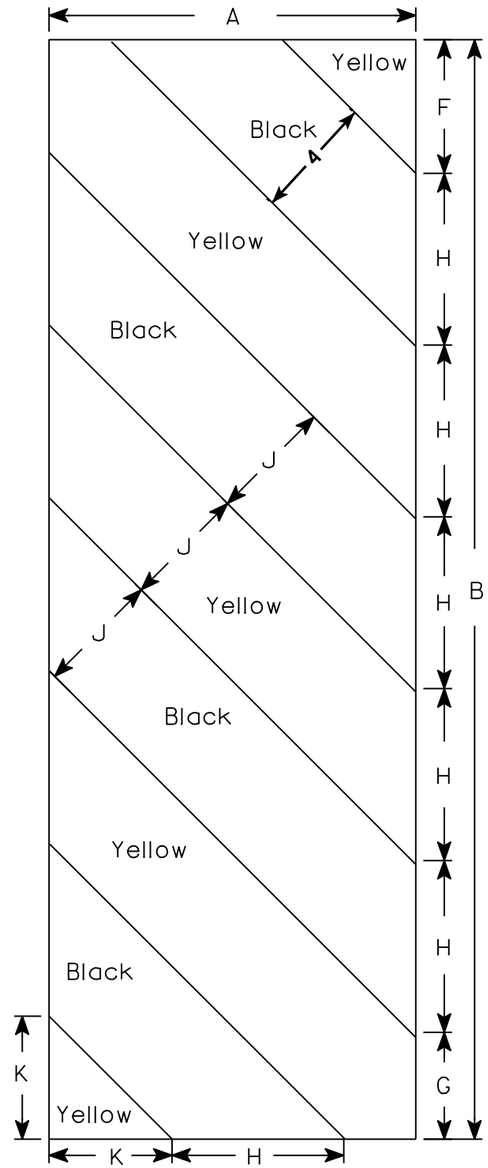
STANDARD SIGN
W21-62R

WISCONSIN DEPT OF TRANSPORTATION

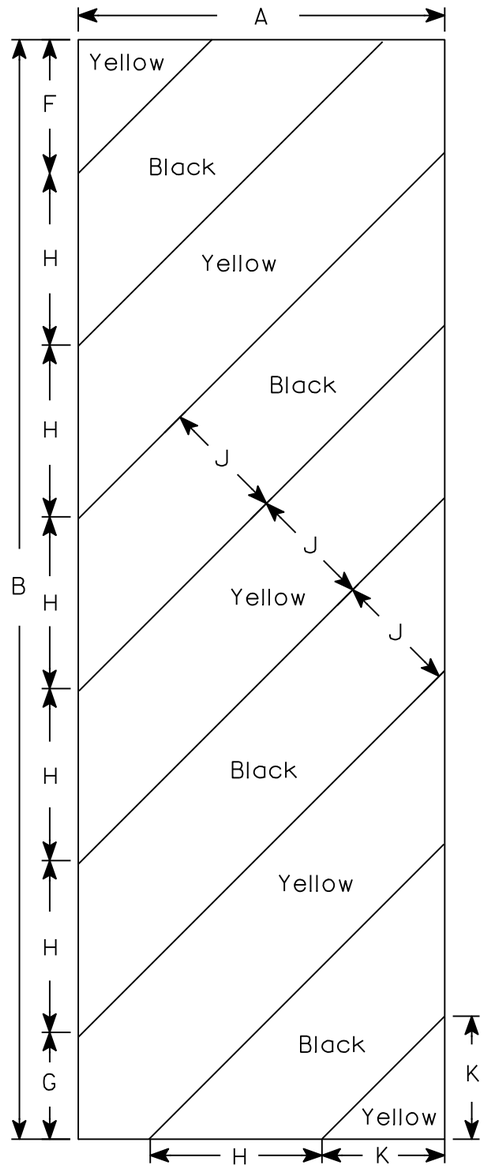
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62R.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 235 | E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

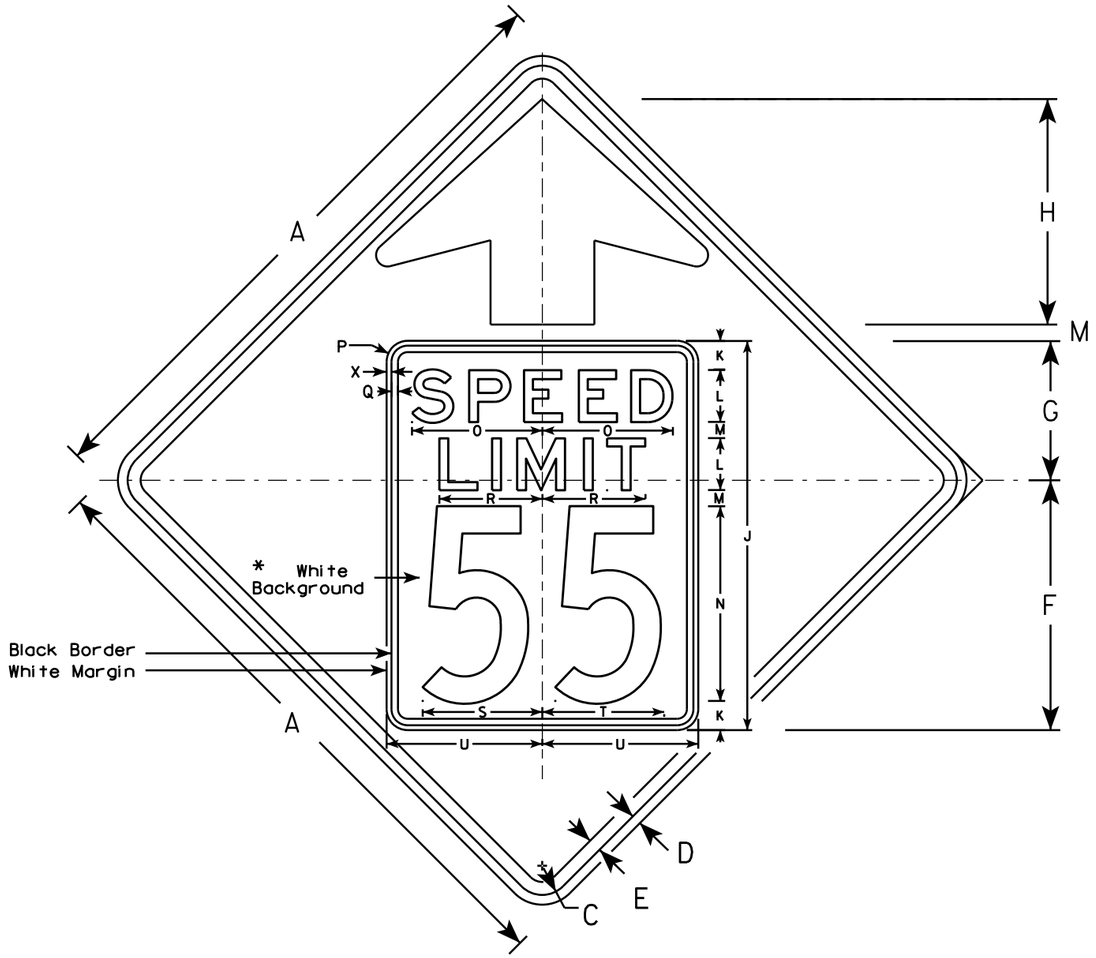
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 236	E

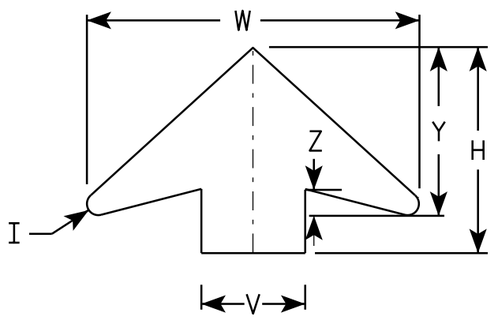


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

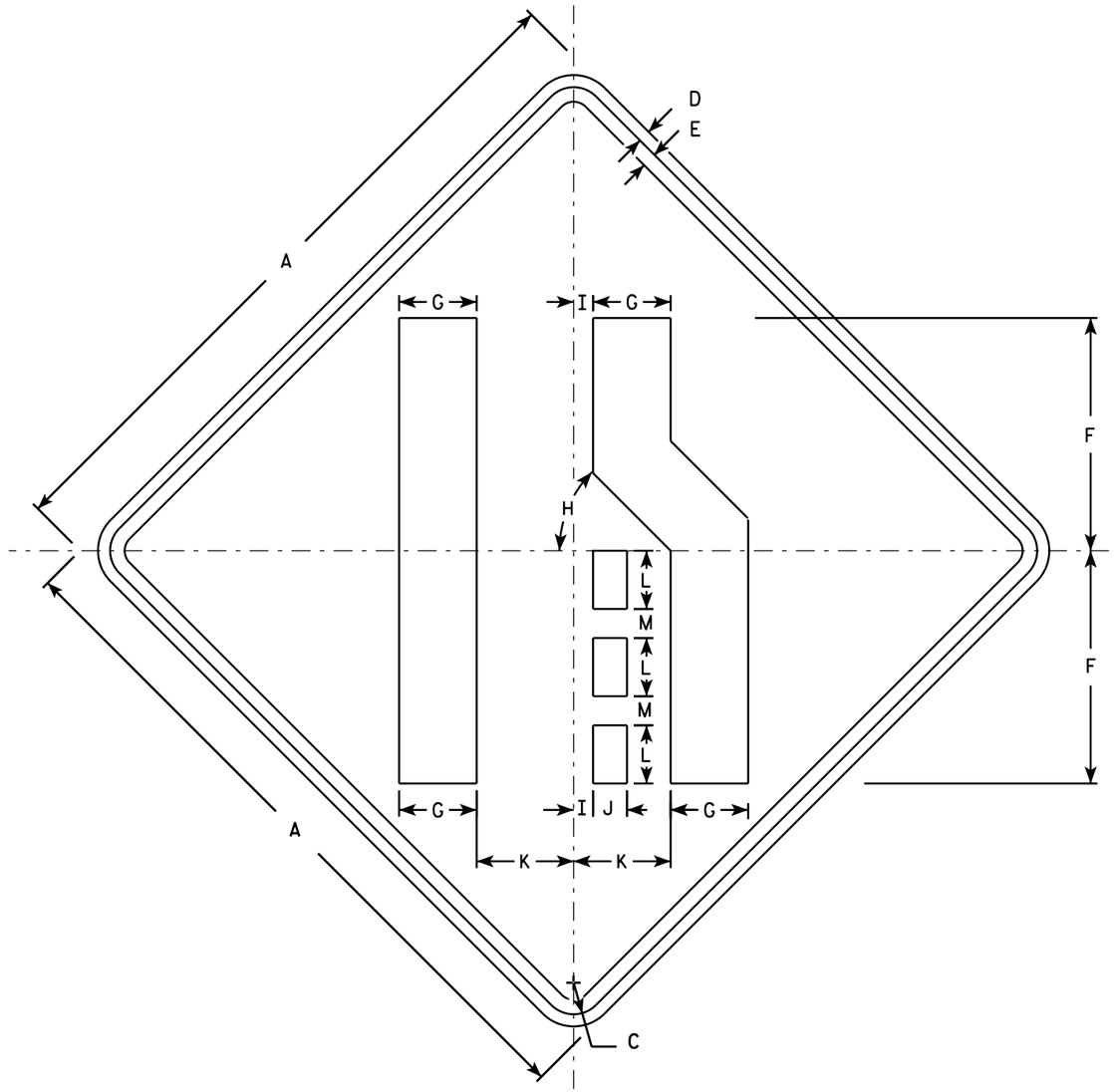
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-5.1

PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

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

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

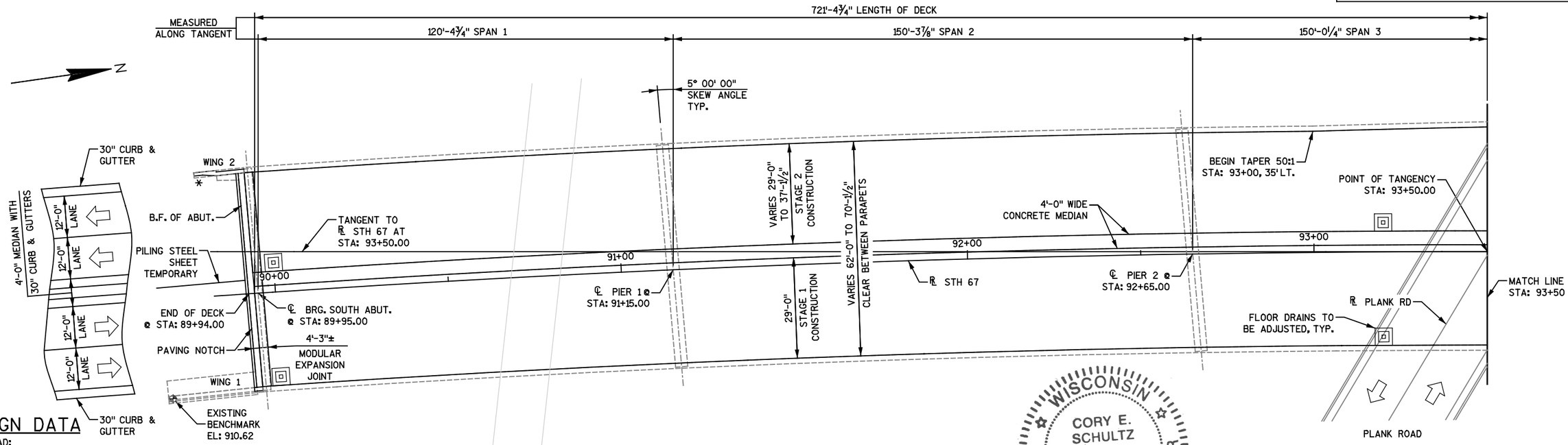
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 238 W04-2.1

PROJECT NO:

SHEET NO: E

STATE PROJECT NUMBER
1370-14-70



DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-32
OPERATIONAL RATING	HS-54
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

PLAN B-67-153



ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
203.0200.01	REMOVING OLD STRUCTURE STATION 90+00	LS	1
206.1000.01	EXCAVATION FOR STRUCTURE BRIDGES B-67-153	LS	1
210.0100	BACKFILL STRUCTURE	CY	70
502.0100	CONCRETE MASONRY BRIDGES	CY	29
502.3100.01	EXPANSION DEVICE B-67-153	LS	1
502.3110.S	EXPANSION DEVICE MODULAR B-67-153	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	6443
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	8
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	185
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	126
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	6890
505.0904	BAR COUPLERS NO. 4	EACH	14
505.0905	BAR COUPLERS NO. 5	EACH	24
505.0906	BAR COUPLERS NO. 6	EACH	5
509.0301	PREPARATION DECKS TYPE 1	SY	26
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	5148
509.1000	JOINT REPAIR	SY	62
509.1200	CURB REPAIR	LF	12
509.1500	CONCRETE SURFACE REPAIR	SF	6 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	309
509.9020.S	EPOXY CRACK SEALING	LF	215
512.1000	PILING STEEL SHEET TEMPORARY	SF	600
514.0900	ADJUSTING FLOOR DRAINS	EACH	8
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12
517.1800.S.01	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-67-153	LS	1
517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING B-67-153	LS	1
517.4500.S.01	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-67-153	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	20 ◧
604.9015.S	RE-SEAL CRUSHED AGGREGATE SLOPE PAVING	SY	459
614.0150	ANCHOR ASSEMBLIES STL PLATE BEAM GUARD	EACH	1
SPV.0060.08	CLEANING AND PAINTING BEARINGS	EACH	18
SPV.0060.09	DIAPHRAGM RELOCATION	EACH	8

◥ NORTH ABUTMENT ONLY
◧ SOUTH ABUTMENT ONLY

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

AT "CURB REPAIR EXPOSE EXISTING REINFORCEMENT A MINIMUM OF 1½" CLEAR.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL DEPTH DECK REPAIR AND JOINT REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CLEANING AND PAINTING STRUCTURAL STEEL WITHIN THE SAFETY LIMITS OF THE RAILROAD REQUIRES SPECIAL COORDINATION WITH EACH RAILROAD OWNER. SEE SPECIAL PROVISIONS. STRUCTURAL STEEL WITHIN THESE LIMITS TO BE PAID UNDER THE BID ITEM "STRUCTURE OVERCOATING, CLEANING, AND PRIMING B-67-153".

* LOCATION OF ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONCRETE OVERLAY
3. CONSTRUCTION STAGING
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. BILL OF REINFORCEMENT
7. MODULAR EXPANSION JOINT DETAILS
8. MODULAR COVER PLATE DETAILS
9. STRIP SEAL JOINT DETAILS
10. STRIP SEAL COVER PLATE DETAILS
11. SLOPED FACE PARAPET "B"
12. DECK INSPECTION SPAN 1 & 2
13. DECK INSPECTION SPAN 3 - 5

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
CORY SCHULTZ (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVB 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-67-153

STH 67 OVER STH 16

COUNTY	TOWN/~~CITY~~/~~VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	CES	SJM

CONCRETE OVERLAY

SHEET 1 OF 13

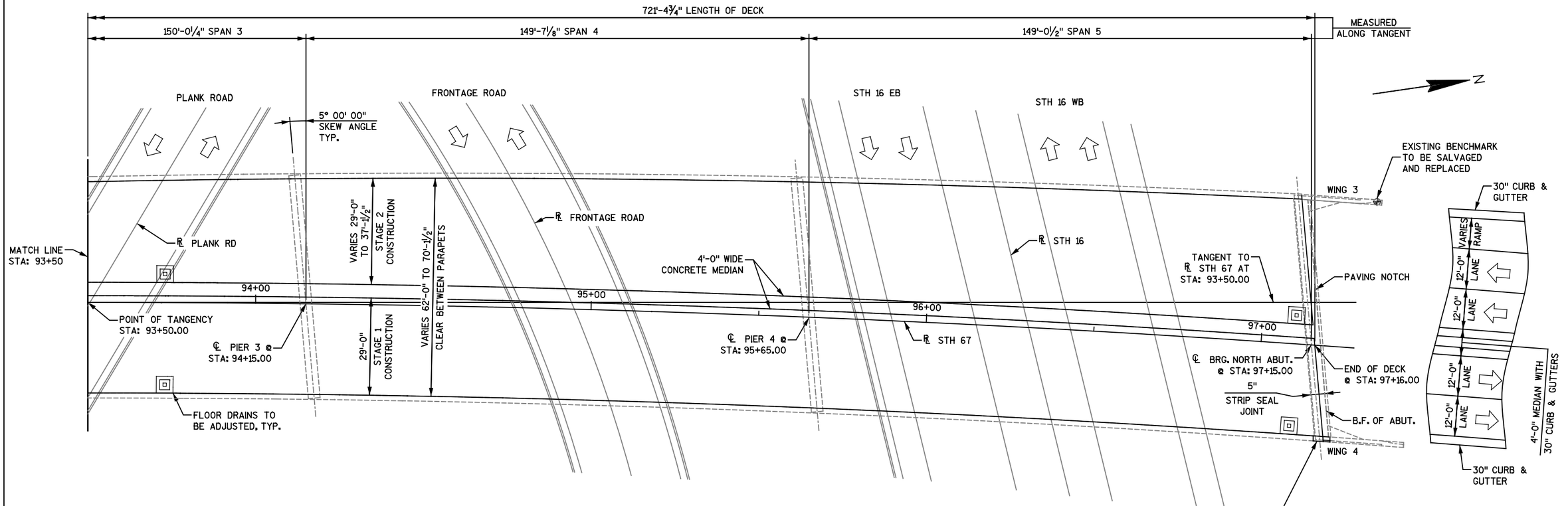
239

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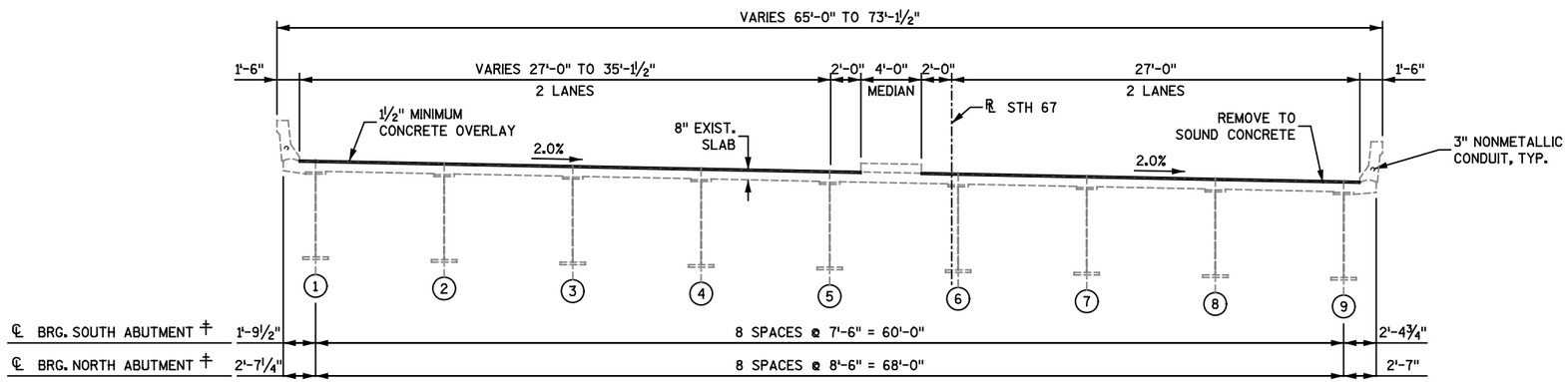
STATE PROJECT NUMBER

1370-14-70



PLAN B-67-153

TO REPAIR SPALL IN EXISTING PARAPET, THE CONTRACTOR SHALL REMOVE AND REPLACE EAST PARAPET A MIN. OF 2'-0" NORTH OF JOINT AND 3'-0" SOUTH OF JOINT. ALL MATERIALS AND WORK ASSOCIATED WITH THE PARAPET REPAIR WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-67-153".



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

† DIMENSIONS ARE ALONG THE CENTERLINE OF BEARING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

CONCRETE OVERLAY

SHEET 2 OF 13

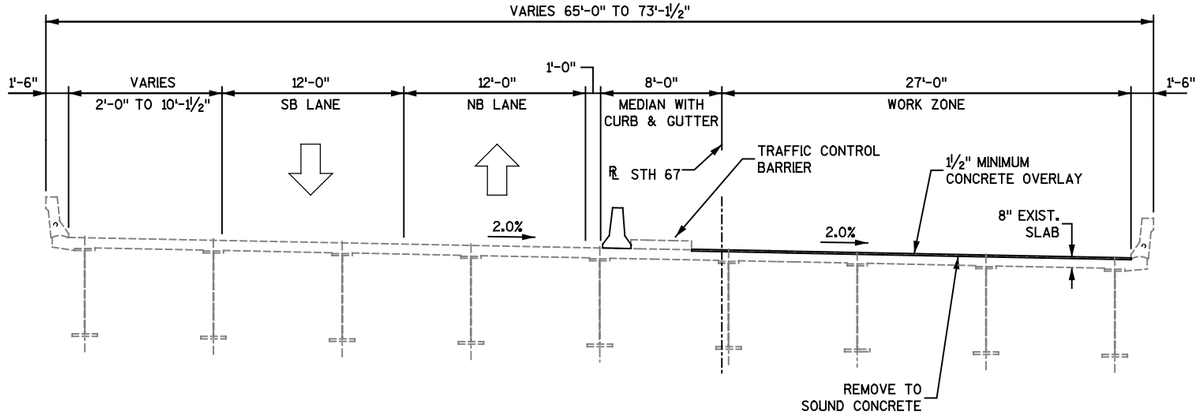
240

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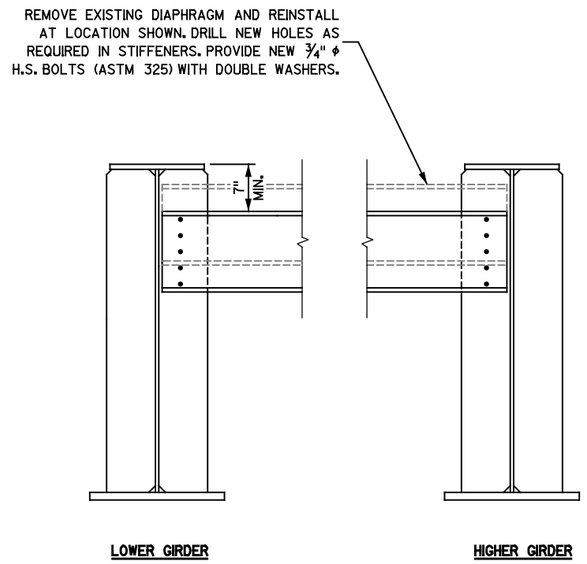
STATE PROJECT NUMBER

1370-14-70

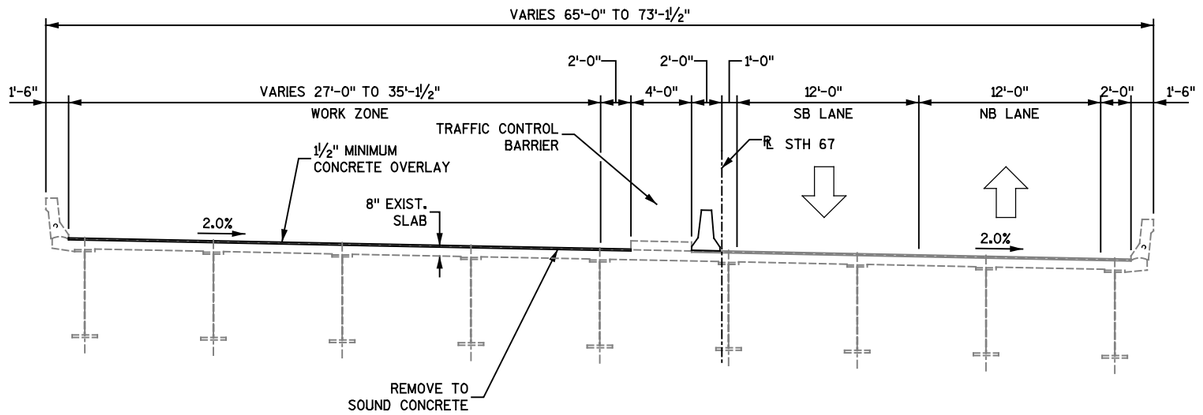


STAGE 1- CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



SOUTH ABUTMENT DIAPHRAGM RELOCATION



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

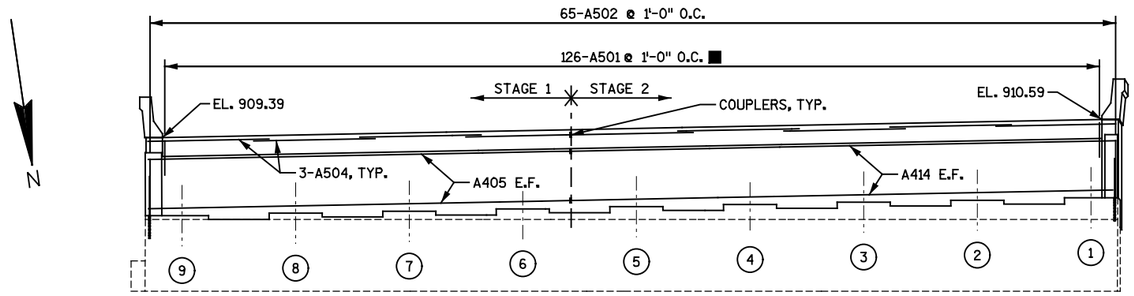
STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

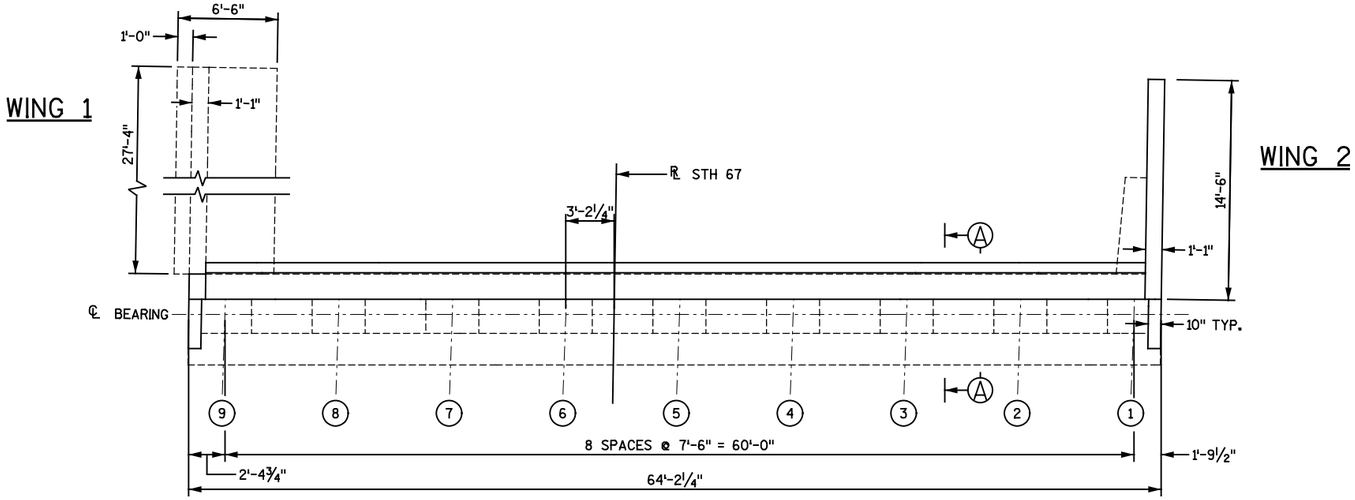
CONSTRUCTION STAGING

SHEET 3 OF 13

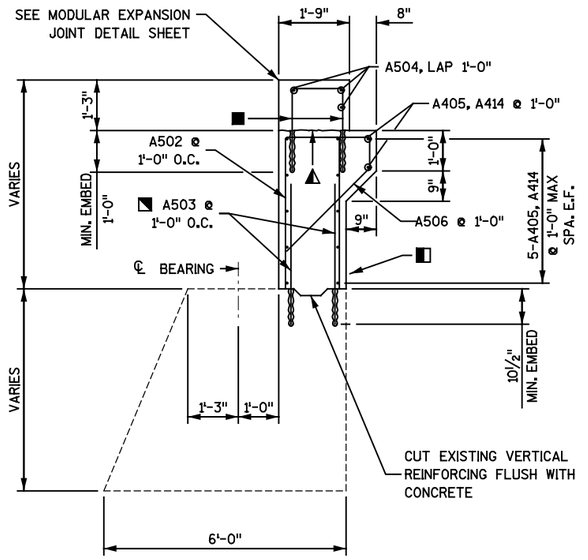
STATE PROJECT NUMBER
1370-14-70



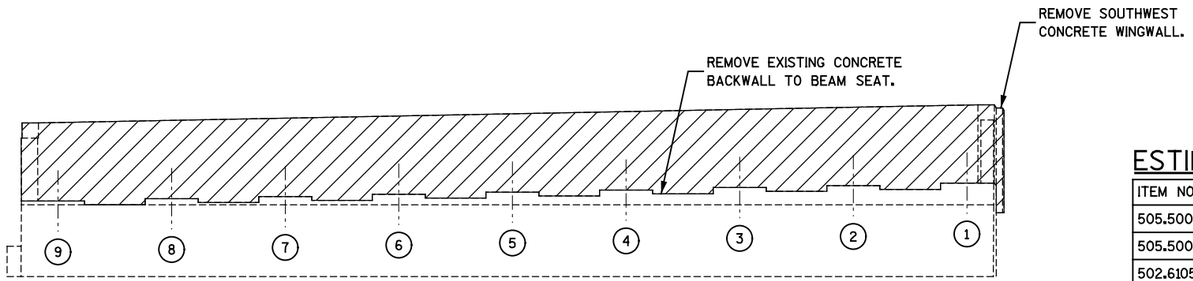
ELEVATION



PLAN



SECTION A-A



CONCRETE REMOVAL DETAIL

LEGEND

- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.
- ◹ CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 10½" MIN..
- ■ 2-L-SHAPED A501 BARS @ 1'-0" O.C. ANCHOR INTO PLACE W/EPOXY RESIN AFTER MODULAR JOINT IS IN POSITION. FOLLOW STD. SPEC. FOR MASONRY ANCHOR TYPE S WITH A MIN. PULLOUT CAPACITY OF 20 KIPS AND EMBEDMENT OF 1'-0"
- ◭ CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH.

ESTIMATED QUANTITIES S. ABUT.

ITEM NO.	ITEM DISCRIPTION	UNIT	TOTAL
505.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	8
505.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	148
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	126
505.0904	BAR COUPLERS NO. 4	EACH	14
505.0905	BAR COUPLERS NO. 5	EACH	12
505.0906	BAR COUPLERS NO. 6	EACH	5
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11

NOTE: FOR TOTAL QUANTITIES SEE SHEET 1

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

SOUTH ABUTMENT

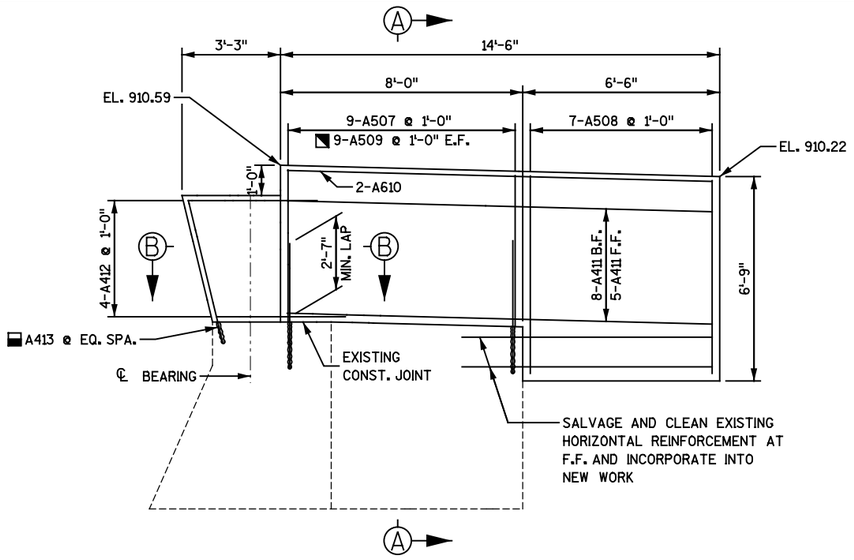
SHEET 4 OF 13

8

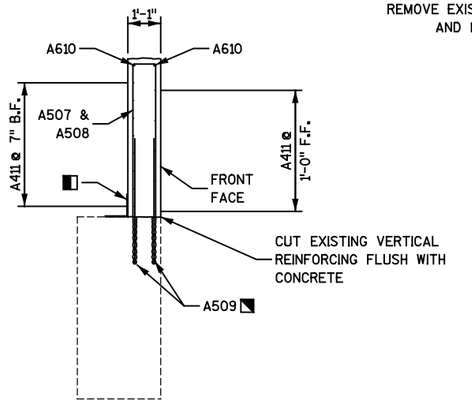
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STATE PROJECT NUMBER

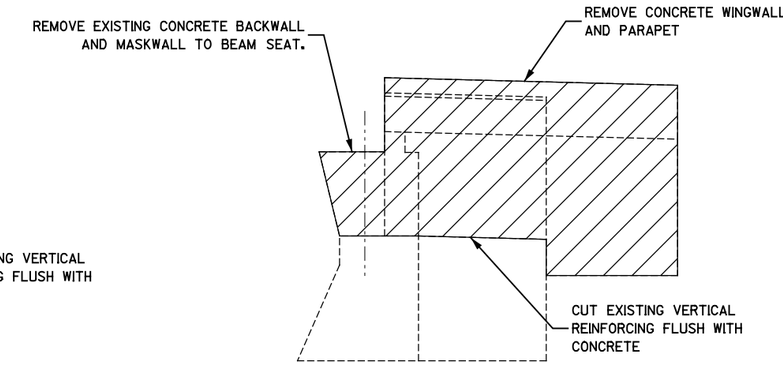
1370-14-70



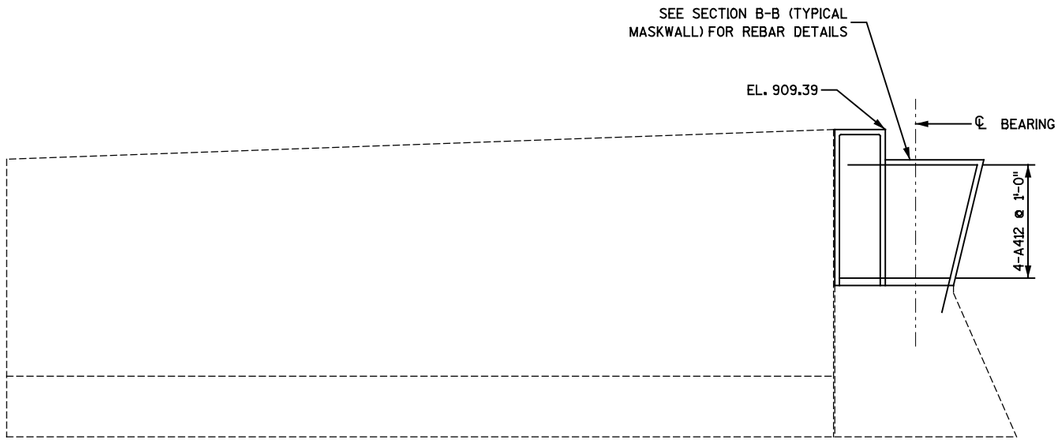
WING 2 ELEVATION



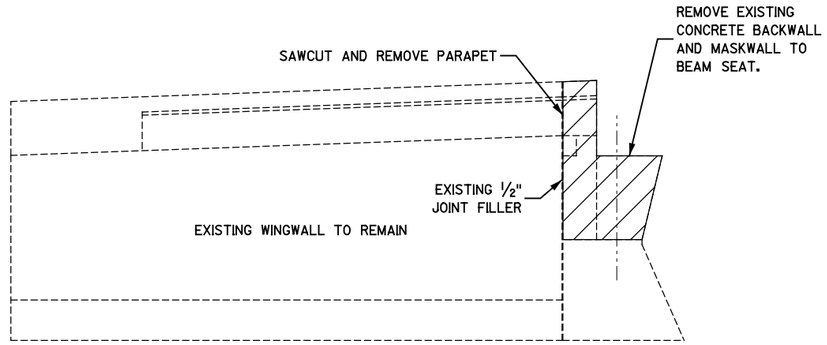
SECTION A-A



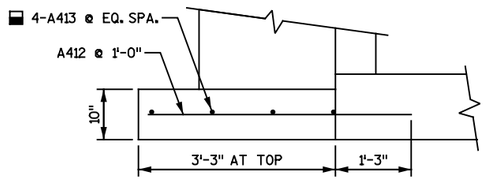
WING 2 REMOVAL



WING 1 ELEVATION



WING 1 REMOVAL



SECTION B-B
(TYPICAL MASKWALL)

LEGEND

- CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 10½" MIN.
- CONCRETE MASONRY ANCHOR, TYPE L. NO. 4 BAR, EMBED 7½" MIN.
- 18" RUBBERIZED MEMBRANE WATERPROOFING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

SOUTH ABUTMENT DETAILS

SHEET 5 OF 13

243

8

8

STATE PROJECT NUMBER

1370-14-70

SOUTH ABUTMENT BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	BAR COUPLERS	LOCATION
A501	X	126	3'-1"	▲			PAVING NOTCH MAS. ANCH.
A502	X	65	8'-7"	▲			BACKWALL VERT.
A503	X	130	4'-1"				BACKWALL DOWELS
A504	X	27	8'-0"			3	PAVING NOTCH HORZ.
A405	X	12	28'-3"			12	BACKWALL HORZ. STG 1
A506	X	63	6'-3"	▲			BACKWALL VERT.
A507	X	9	10'-6"	▲			WING 2 VERT.
A508	X	7	13'-4"	▲			WING 2 VERT.
A509	X	18	3'-6"				WING 2 DOWEL BARS
A610	X	2	14'-2"				WING 2 HORZ.
A411	X	13	14'-2"				WING 2 HORZ.
A412	X	8	3'-10"		Δ		WING 1 & 2 MASKWALL HORIZ.
A413	X	8	4'-8"				WING 1 & 2 MASKWALL VERT.
A414	X	12	35'-9"				BACKWALL HORZ. STG 2

Δ LENGTH SHOWN FOR BAR SERIES IS AN AVERAGE LENGTH AND SHOULD BE USED ONLY FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

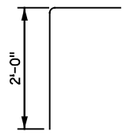
EXP. JOINT BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR COUPLERS	LOCATION
S401	X	152	6'-0"	▲		S. ABUT DECK STIRRUPS
S602	X	35	6'-0"			S. ABUT BOTTOM DIAPH.
S403	X	14	6'-0"			S. ABUT TOP DIAPH.
S504	X	18	28'-1"		18	S. & N. ABUT TRANS. DECK STG 1
S605	X	40	6'-10"			N. ABUT BOTTOM DIAPH.
S406	X	16	6'-10"			N. ABUT TOP DIAPH.
S507	X	18	23'-11"			N. ABUT TRANS. DECK STG 2
S608	X	5	2'-5"		5	S. ABUT BOTTOM DIAPH G5-G6 STG 1
S609	X	5	3'-6"			S. ABUT BOTTOM DIAPH. G5-G6 STG 2
S410	X	2	2'-5"		2	S. ABUT TOP DIAPH. G5-G6 STG 1
S411	X	2	3'-6"			S. ABUT TOP DIAPH G5-G6 STG 2
S512	X	9	35'-9"			S. ABUT TRANS. DECK STG 2
S513	X	30	8'-4"		3	N. ABUT PAVING NOTCH HORIZ.
S414	X	20	8'-4"			N. ABUT DECK HOLD DOWN
S415	X	74	3'-2"	▲		N. ABUT PAVING BLOCK STIRRUPS
S516	X	37	3'-1"	▲		N. ABUT PAVING BLOCK ANCHORS

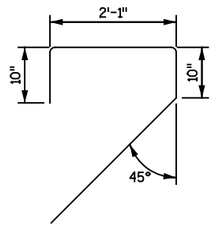
BAR SERIES TABLE

BAR MARK	LENGTH 1	LENGTH 2	NO. OF SERIES	NO. BARS PER SERIES
A412	4'-4"	3'-4"	2	4

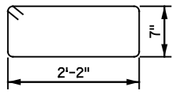
BUNDLE AND TAG EACH SERIES SEPARATELY



A501



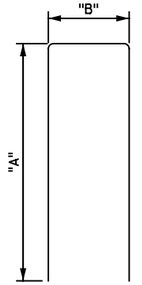
A506



S401

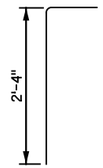


S415

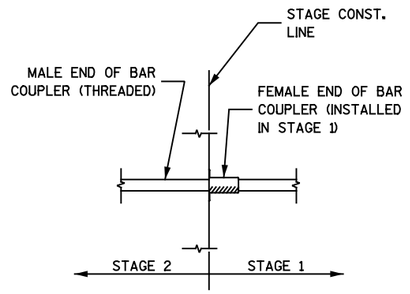


A502, A507, A508

BAR MARK	DIM. 'A'	DIM. 'B'
A502	3'-9"	1'-4"
A507	5'-0"	9"
A508	6'-5"	9"



S516



BAR COUPLER ASSEMBLY

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

WHERE fy = YIELD STRENGTH OF SPLICED BARS.

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STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

BILL OF REINFORCEMENT

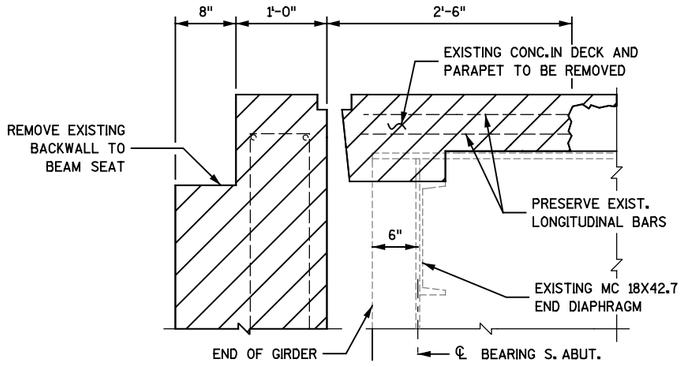
SHEET 6 OF 13

8

8

STATE PROJECT NUMBER

1370-14-70



MODULAR JOINT REPAIR-REMOVAL

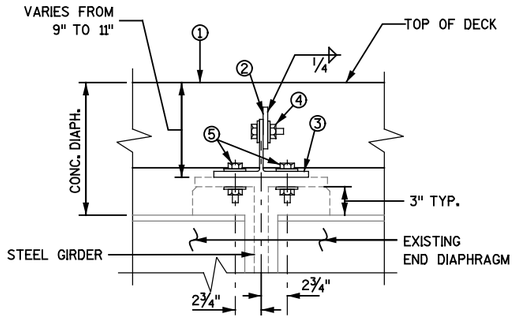
AT S. ABUTMENT

TEMP. TABLE

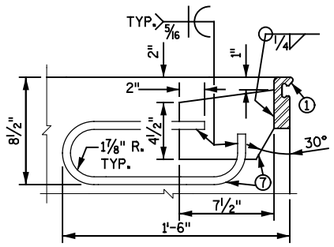
TEMP. TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. 0.33 IN. OF MOVEMENT PER 10° F AT S. ABUTMENT.
2. MEDIAN TEMP. OF 45° F
3. TEMP. RANGE IN TABLE FROM (-5°F) TO (+95°F) FOR STEEL GIRDERS.

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

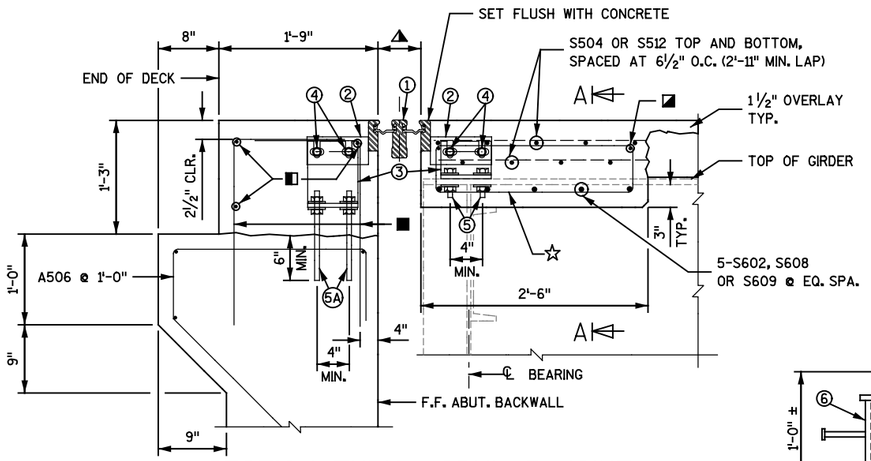


SECTION A-A



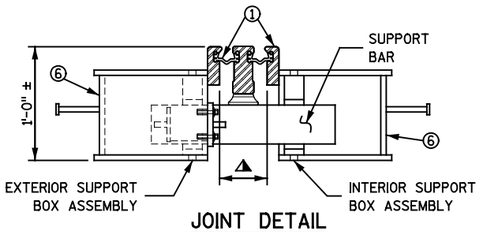
ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN PAVING BLOCK ℄ ABUT. AND IN DECK ℄ CONC. DIAPH.



SECTION THRU MODULAR JOINT

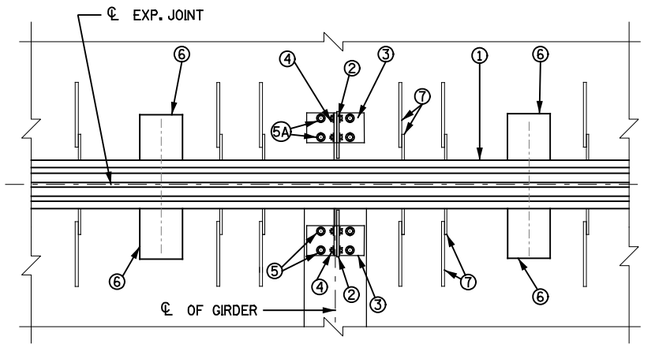
NORMAL TO ℄ S. ABUT.



JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

- ◧ 3-A504, 1'-0" MIN. LAP. CUT IN FIELD TO CLEAR JOINT SUPPORT SYSTEM AS REQUIRED.
- ◪ 2-S403, S410, OR S411 AT TOP OF STIRRUPS
- ⚠ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMP. ON THE DAY OF PLACEMENT PER TEMP. TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.
- ■ 2-L-SHAPED A501 BARS ℄ 1'-0" O.C. ANCHOR INTO PLACE W/EPOXY RESIN AFTER MODULAR JOINT IS IN POSITION. FOLLOW STD. SPEC. FOR MASONRY ANCHOR TYPE S WITH A MIN. PULLOUT CAPACITY OF 20 KIPS AND EMBEDMENT OF 1'-0"
- ☆ S401 STIRRUPS ℄ 9" O.C., TYP. BETWEEN TOP FLANGE OF GIRDERS.



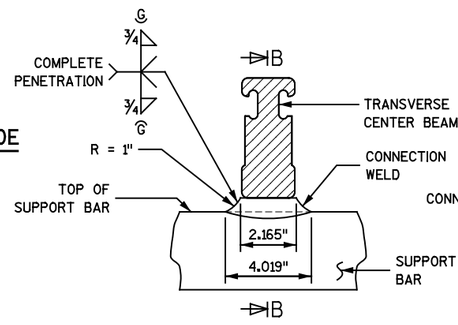
ABUT. SIDE

DECK SIDE

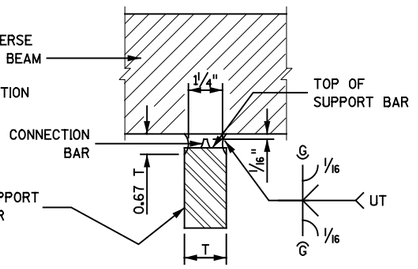
PART PLAN

NOTE:
MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OFSTRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.



MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION



SECTION B-B

MODULAR JOINT NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSTIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).

THE EXPANSION JOIINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE, FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BALST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

COST OF FURNISHING & PLACING OF THE EXPANSION JOINT COMPLETE WITH PARAPET PLATES & SIDEWALK PLATES SHALL BE PAID FOR UNDER THE PRICE BID FOR "EXPANSION DEVICE MODULAR B-67-153".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

CONCRETE DIAPHRAGM TO EXTEND BETWEEN OUTSIDE EDGES OF DECK.

REMOVE AND REPLACE PARAPET AS REQUIRED TO ACCCOMMODATE JOINT CONSTRUCTION. PRESERVE AND INCORPORATE EXISTING PARAPET REINFORCEMENT.

LEGEND

① MODULAR EXPANSION JOINT DEVICE, 2 CELLS.

② 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.

③ WT 6 x 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.

④ 3/4" ϕ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)

⑤ 3/4" ϕ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)

⑤A 3/4" ϕ THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES. (GALV.)

⑥ SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM 1/2" PLATES.

⑦ 3/8" BULKHEAD PLATE. WELD TO NO.1, NO.8 AND NO.14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMODATE FOR BY PROVIDING OPENING IN NO.7.

⑧ INSIDE PLATE. FABRICATE FROM 3/8" PLATE.

⑨ OUTSIDE PLATE. FABRICATE FROM 5/8" PLATE.

⑩ 7/8" SQUARE BAR. WELD TO NO.8 AS SHOWN.

⑪ 3/4" ϕ X 4" LONG STUDS. WELD TO NO.8, NO.7 & NO.14 AS SHOWN.

⑫ 3/4" ϕ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PL. SURFACE.

⑬ 1/2" PLATE WITH 5/8" ϕ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.

⑭ INSIDE PLATE. FABRICATE FROM 5/8" PLATE.

⑮ ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

MODULAR EXPANSION JOINT DETAILS

SHEET 7 OF 13

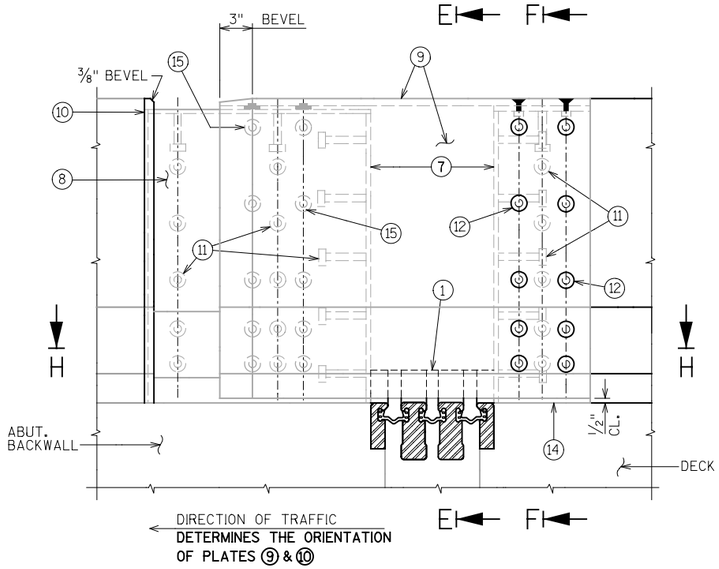
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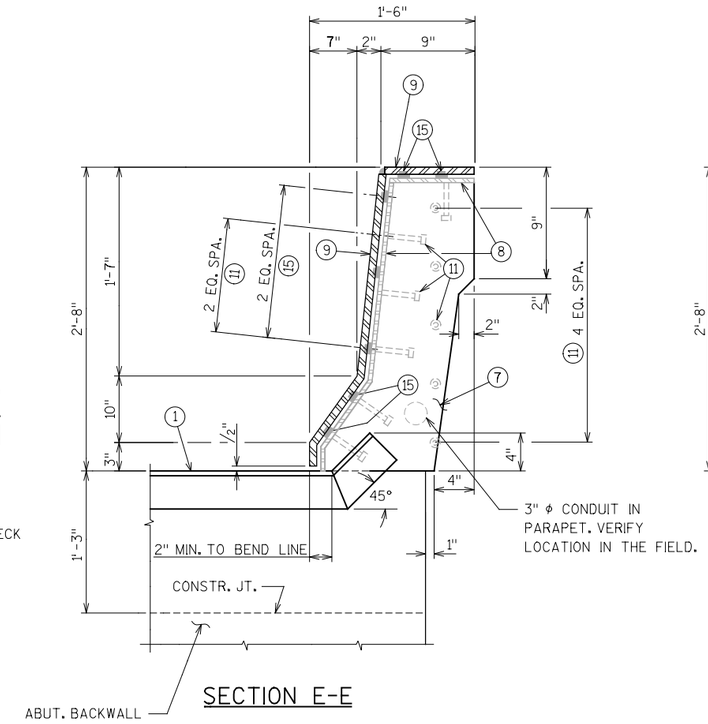
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STATE PROJECT NUMBER

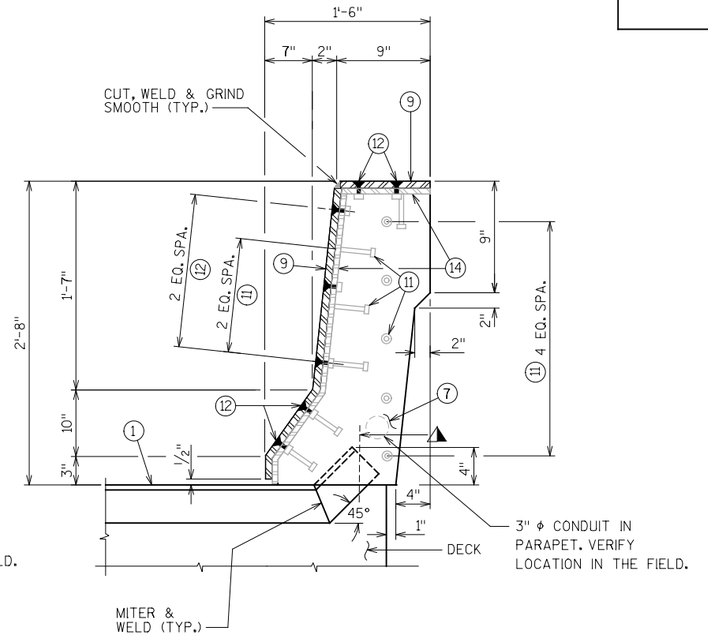
1370-14-70



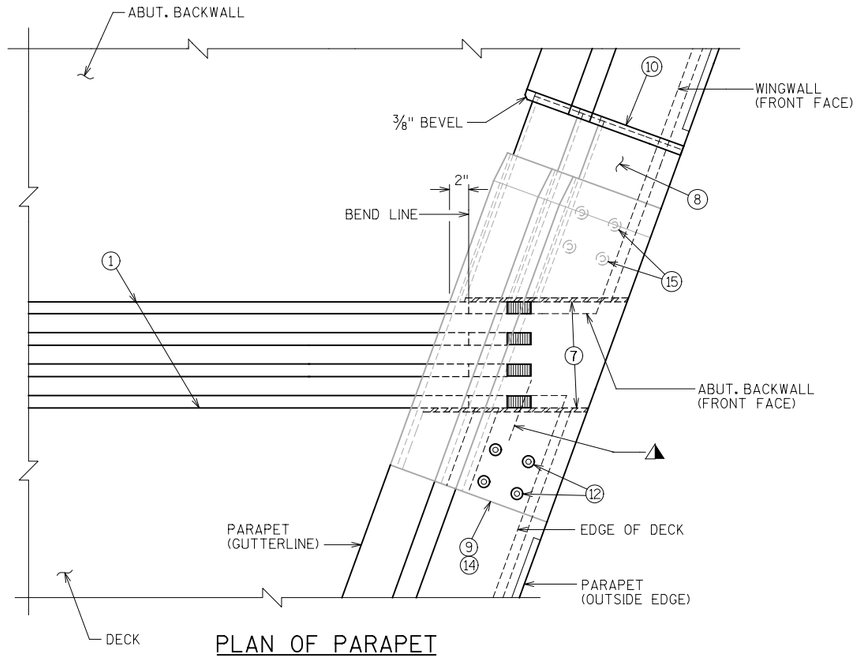
ELEVATION OF PARAPET



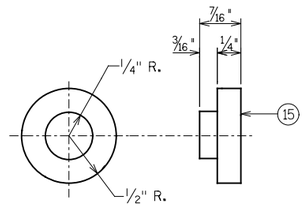
SECTION E-E



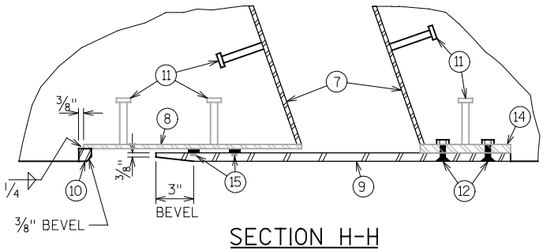
SECTION F-F



PLAN OF PARAPET



ADIPRENE BUTTON DETAIL



SECTION H-H

⚠ MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

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STRUCTURE B-67-153

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MODULAR COVER PLATE DETAILS

SHEET 8 OF 13

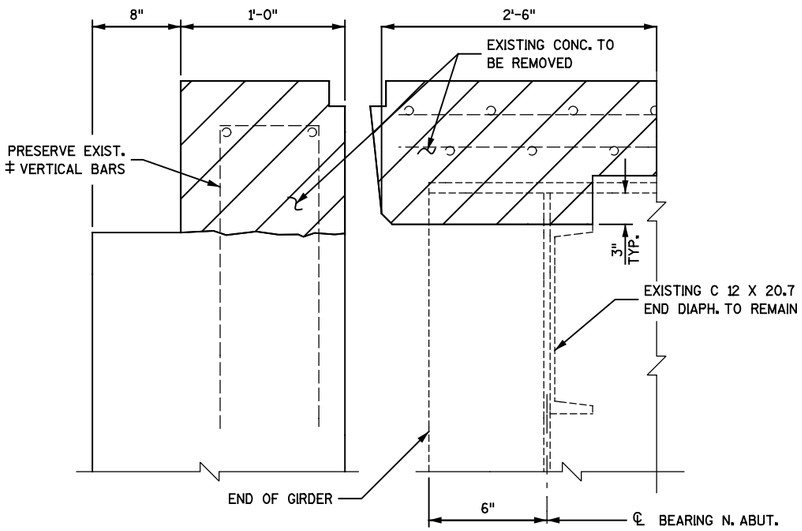
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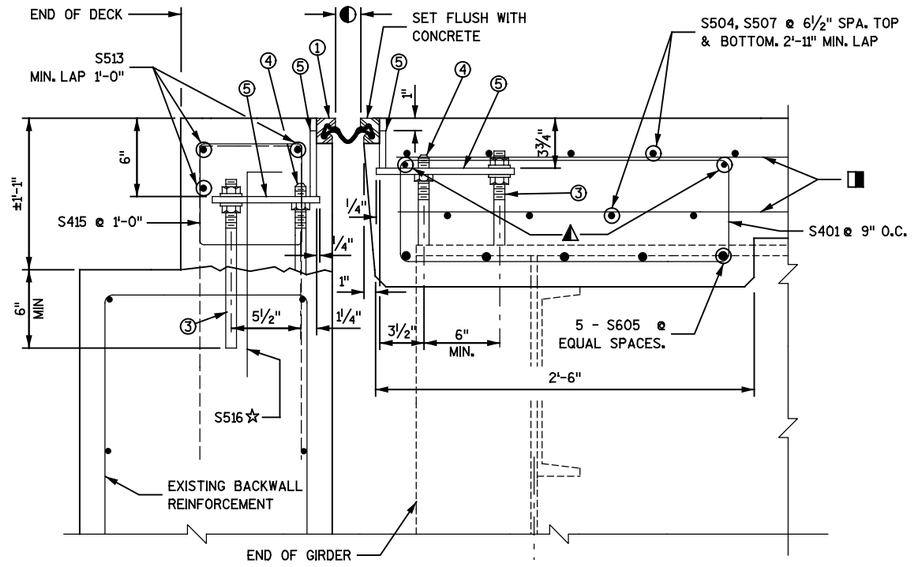
STATE PROJECT NUMBER

1370-14-70



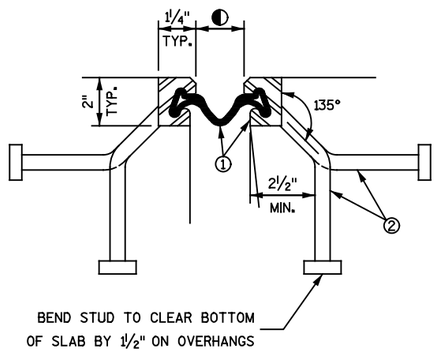
JOINT REPAIR-REMOVAL

AT N. ABUTMENT



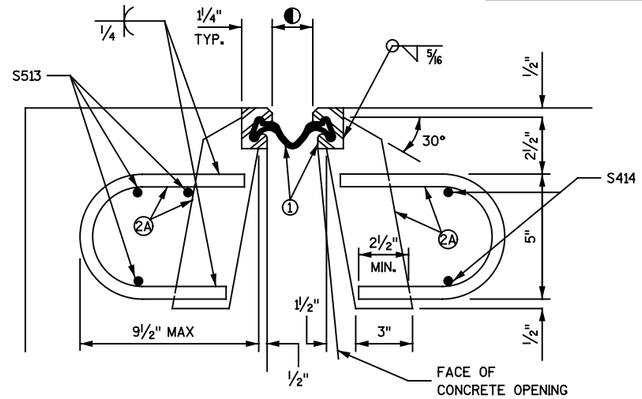
SECTION THRU JOINT

AT N. ABUTMENT



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



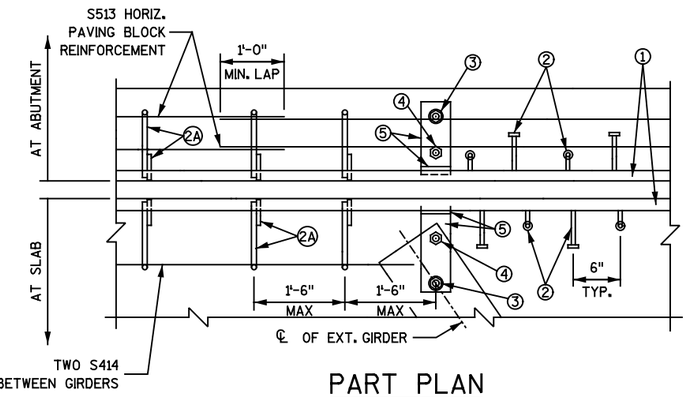
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

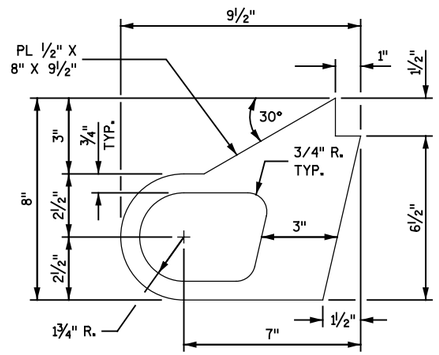
TEMPERATURE TABLE

TEMP, °F	JOINT OPENING NORTH ABUTMENT
85	1⅜"
75	1½"
65	1¾"
55	2"
45	2¼"
35	2½"
25	2¾"
15	3"
5	3⅛"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

LEGEND

◐ ① NEOPRENE STRIP SEAL (5 - INCH) & STEEL EXTRUSIONS. SEE TEMPERATURE TABLE FOR JOINT OPENING.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

▲ S406, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ PRESERVE AND INCORPORATE EXISTING LONGITUDINAL DECK STEEL.

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

EXPANSION JOINT NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION

SANDBLAST PLATES, SUPPORTS, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST
CLEANING THE PLATES, SUPPORTS, & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-67-153".

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFROM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

REMOVE AND REPLACE PARAPET AS REQUIRED TO ACCOMODATE JOINT CONSTRUCTION. PRESERVE AND INCORPORATE EXISTING PARAPET REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

STRIP SEAL JOINT DETAILS

SHEET 9 OF 13

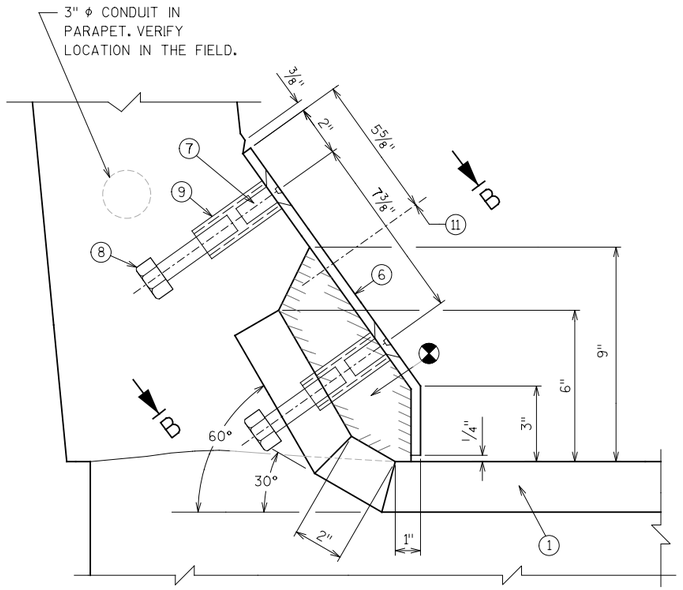
247

8

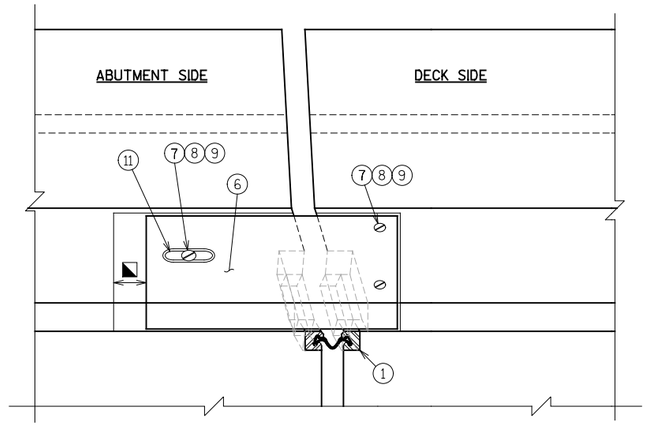
8

STATE PROJECT NUMBER

1370-14-70



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

LEGEND

① NEOPRENE STRIP SEAL (5 - INCH) & STEEL EXTRUSIONS. SEE TEMPERATURE TABLE ON SHEET 9 FOR JOINT OPENING.

② STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

⑥ GALVANIZED PLATE 3/8" X 10 1/2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.

⑦ 3/4" ϕ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

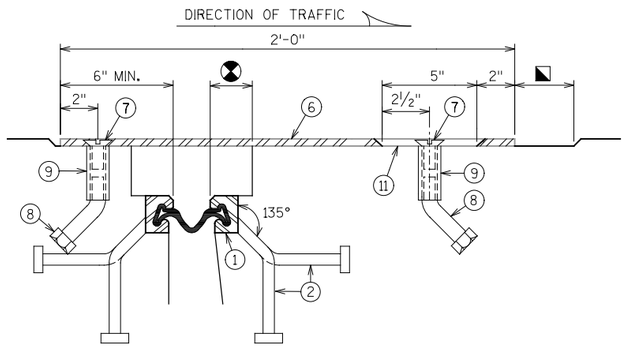
⑧ 3/4" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ 3/4" ϕ X 2 1/4" GALVANIZED THREADED COUPLING.

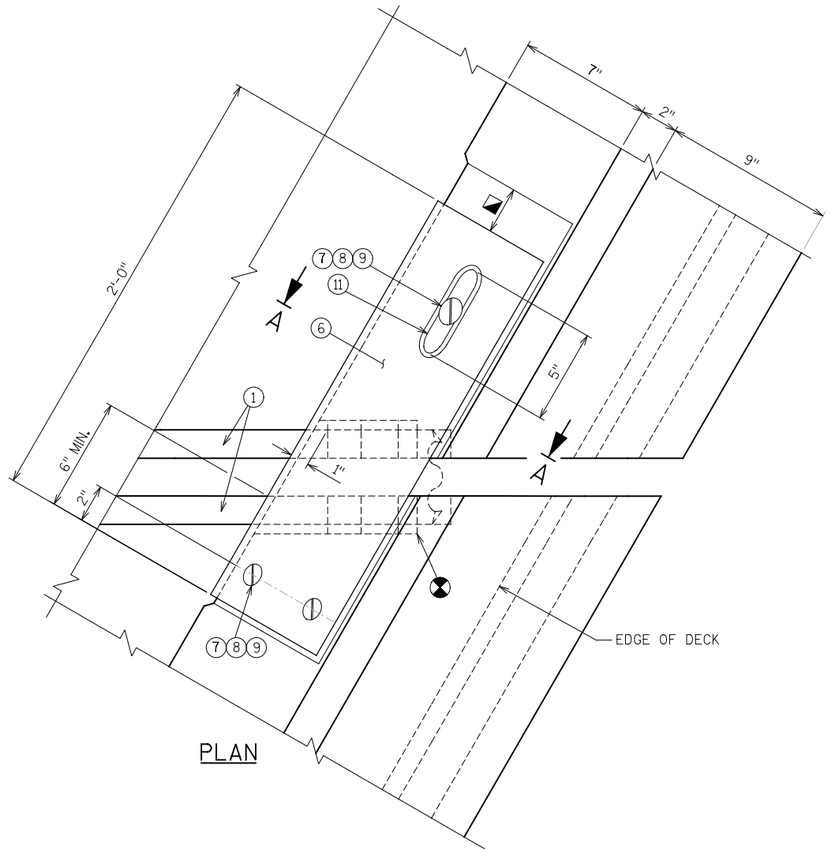
⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".



SECTION B-B



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

STRIP SEAL COVER PLATE DETAILS

SHEET 10 OF 13

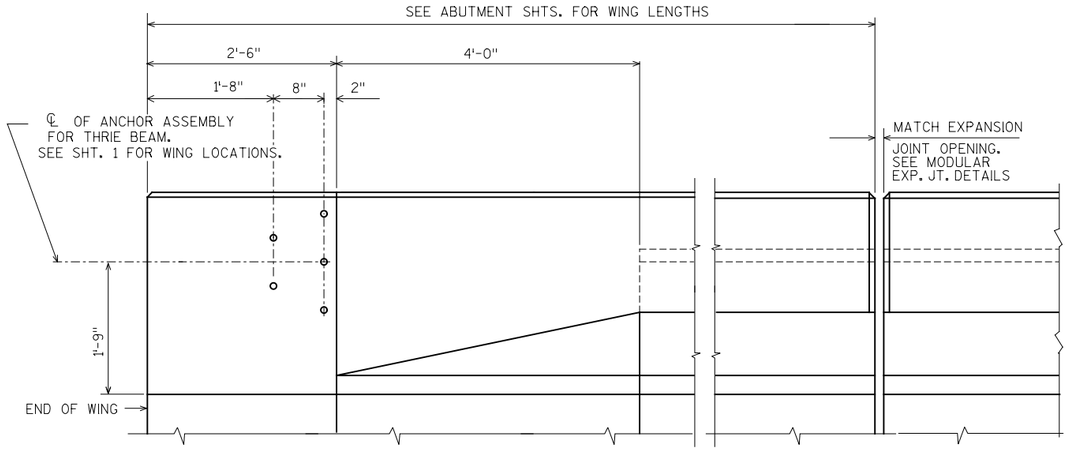
248

8

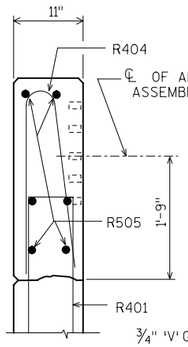
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STATE PROJECT NUMBER

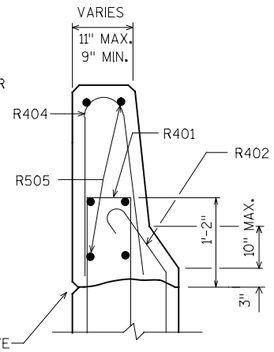
1370-14-70



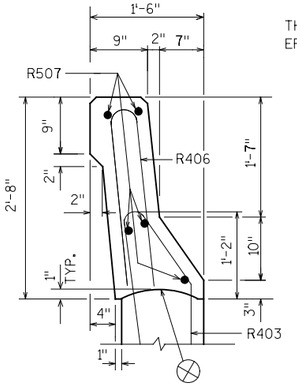
INSIDE ELEVATION



SECTION A



SECTION B



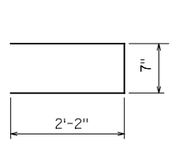
SECTION C

BILL OF BARS

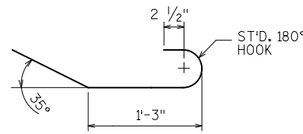
FOR ABUTMENT PARAPETS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EPOXY COAT ALL PARAPET REINF.

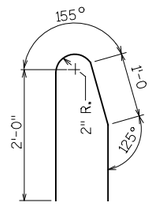
BAR MARK	NO. REQ'D. S. ABUT.		LENGTH	BENT	LOCATION
R401	15		4'-9"	X	WINGS STIRRUPS
R402	4		3'-1"	X	PARAPET WINGS
R403	11		4'-9"	X	WINGS STIRRUPS
R404	15		4'-9"	X	PARAPET WINGS
R505	6		6'-2"		PARAPET HORIZ.
R406	11		4'-10"	X	PARAPET WINGS
R507	5		11'-3"		PARAPET HORIZ.



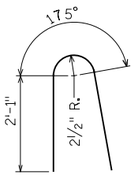
R401



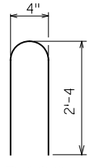
R402



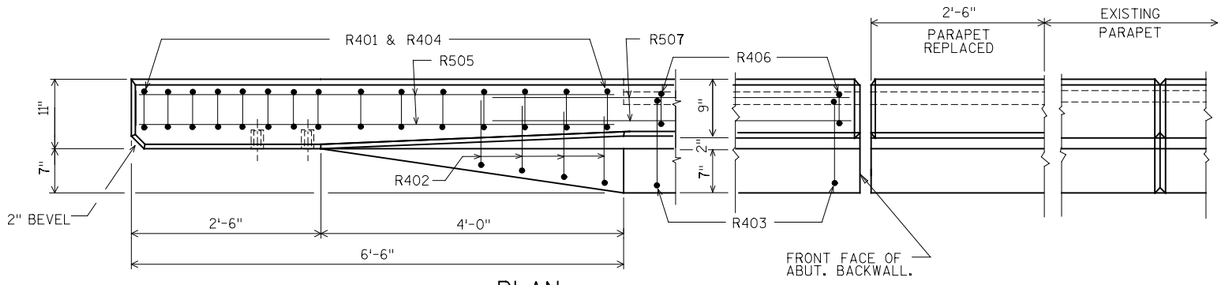
R403



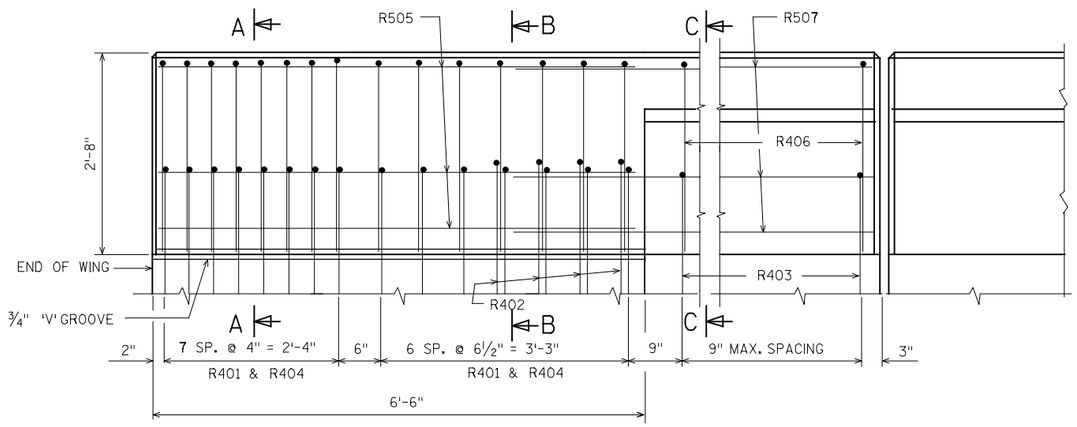
R404



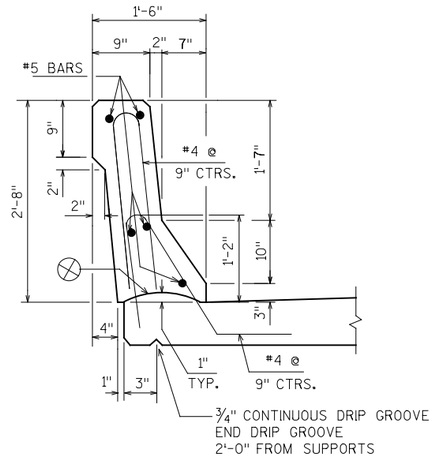
R406



PLAN

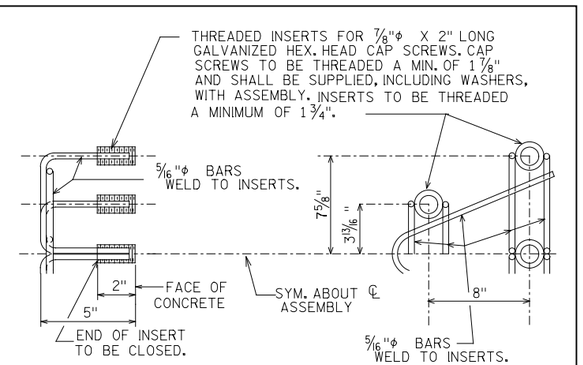


OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

(FOR INFORMATION ONLY)



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

SLOPED FACE PARAPET "B"

SHEET 11 OF 13

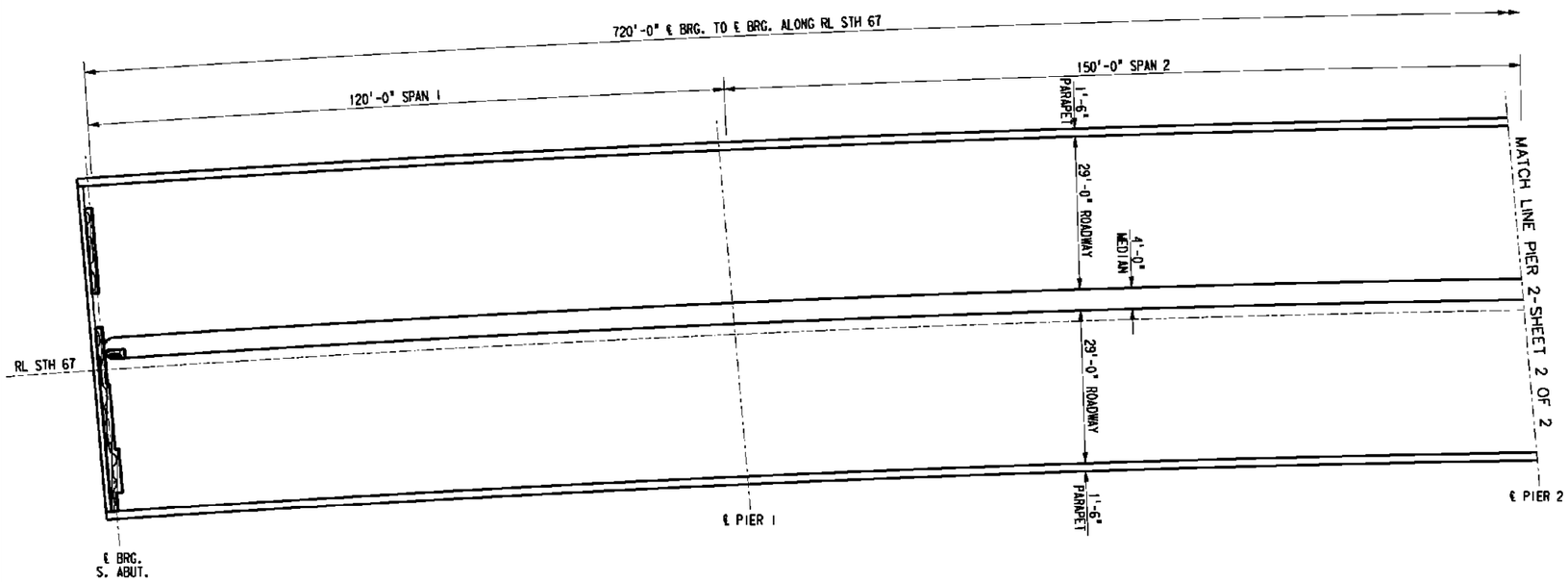
249

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

STRUCTURE NO. B-67-153

REHABILITATION AREA SUMMARY		ROADWAY		MEDIAN	
ITEM	UNIT	QUANT.	%	QUANT.	%
TOTAL AREA	yd^2	5052.2		319.3	
SHADE/DEBRIS	yd^2	0		0	
PREPARATION, DECKS, TYPE 1	yd^2	23.7	0.5	1.1	0.3
PREPARATION, DECKS, TYPE 2	yd^2	0	0	0	0
FULL DEPTH DECK REPAIR	yd^2	0	0	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

AECOM

PROPOSED REHABILITATION AREAS FOR S.T.H. 67 OVER STH 16 STRUCTURE NO. B-67-153

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13

PROJECT NO 60301443

FILENAME B-67-153-REHABLDGN

SHEET NO 1 OF 2

DRAWING NO

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

DECK INSPECTION SPAN 1 & 2

SHEET 12 OF 13

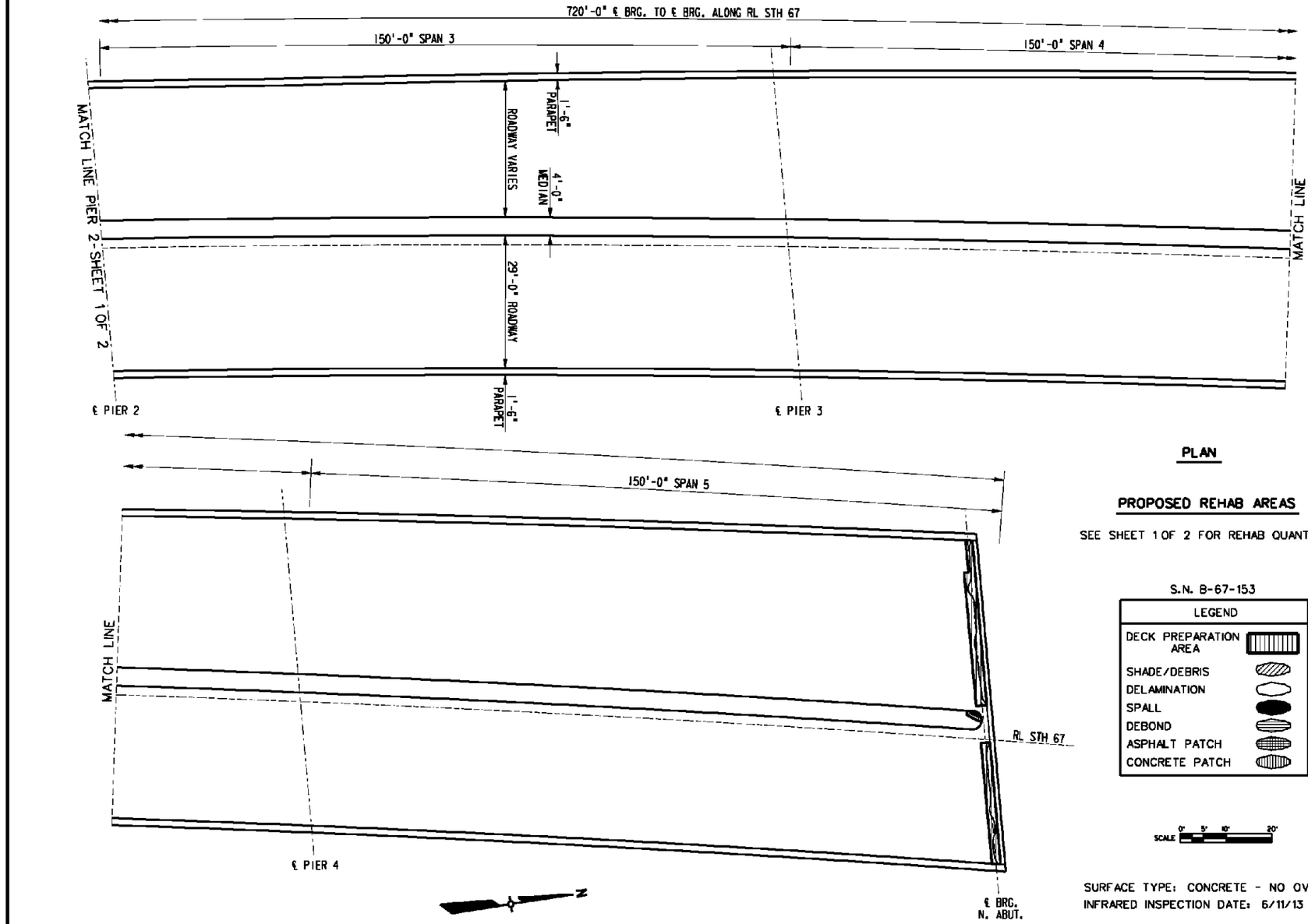
250

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

SEE SHEET 1 OF 2 FOR REHAB QUANTITIES

S.N. B-67-153

LEGEND	
DECK PREPARATION AREA	
SHADE/DEBRIS	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO.	DATE	REVISIONS	DRN	CHK

DATA COL TC/DS
ANALYSIS TC
CADD DS
CHECKED DU

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AECOM

PROPOSED REHABILITATION AREAS FOR S.T.H. 67 OVER STH 16
STRUCTURE NO. B-67-153

PREPARED FOR
WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHEAST REGION

DATE 8/21/13
PROJECT NO 60301443
FILENAME B-67-153-REHAB2.DGN
SHEET NO 2 OF 2
DRAWING NO

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

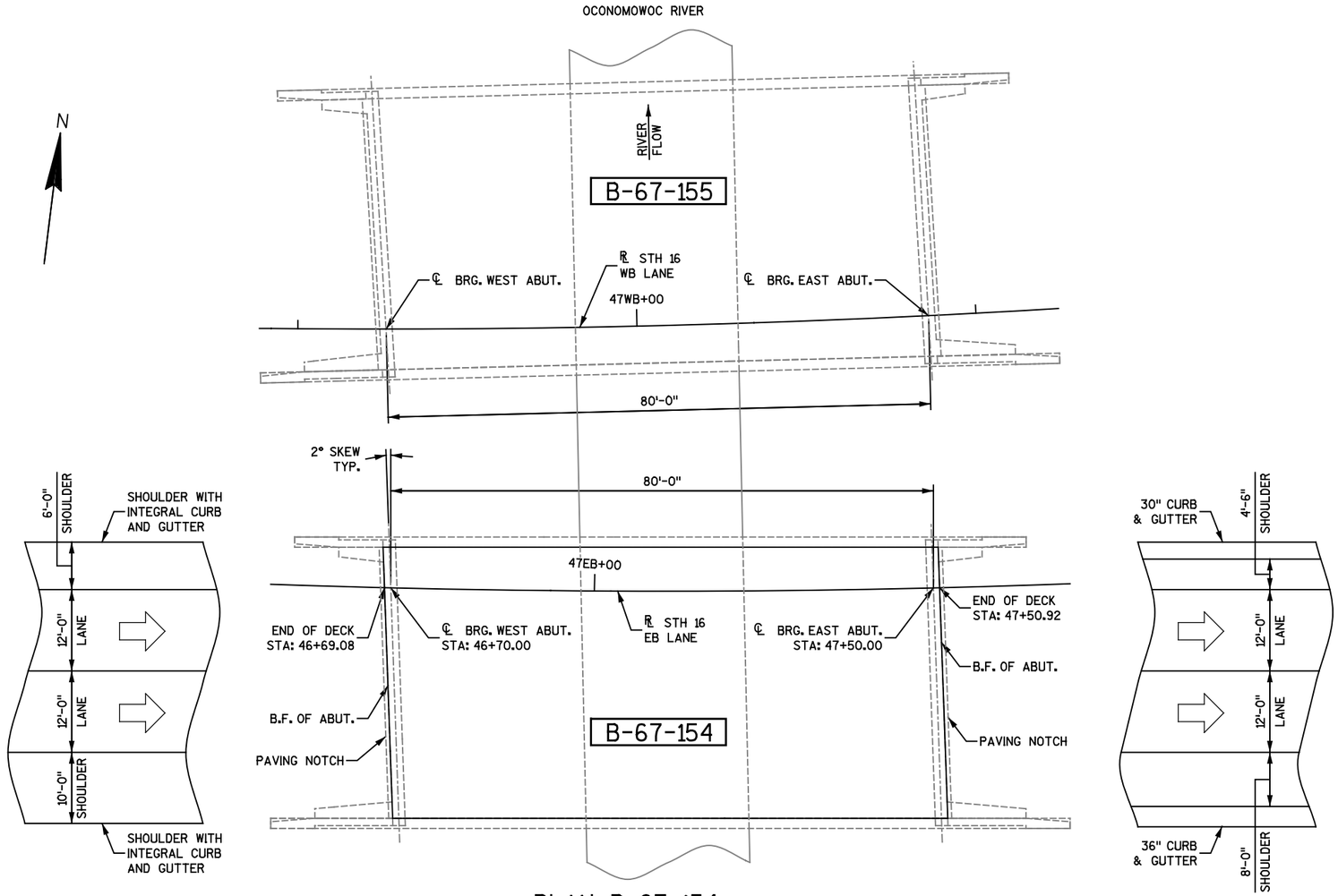
STRUCTURE B-67-153

DRAWN BY CES | PLANS CK'D. SJM

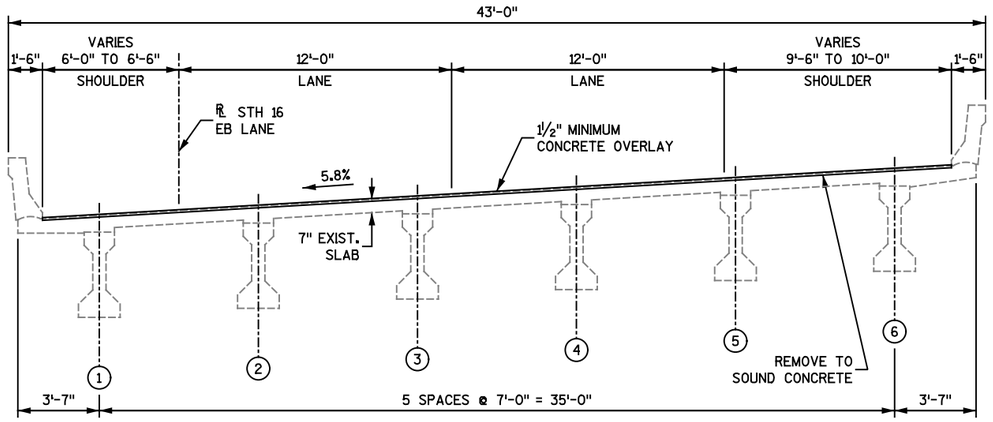
DECK INSPECTION
SPAN 3 - 5

SHEET 13 OF 13

STATE PROJECT NUMBER
1370-14-70



PLAN B-67-154



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-27
OPERATIONAL RATING	HS-50
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	455
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	364
509.1500	CONCRETE SURFACE REPAIR	SF	2 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	22

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
E. ABUT.	2 SF

WISCONSIN STEVEN J. MILLER E-36937 MILWAUKEE WI PROFESSIONAL ENGINEER
6/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-154

STH 16 EB OVER THE OCONOMOWOC RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC. AASHTO STD. SPEC. 2003

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

CONCRETE OVERLAY

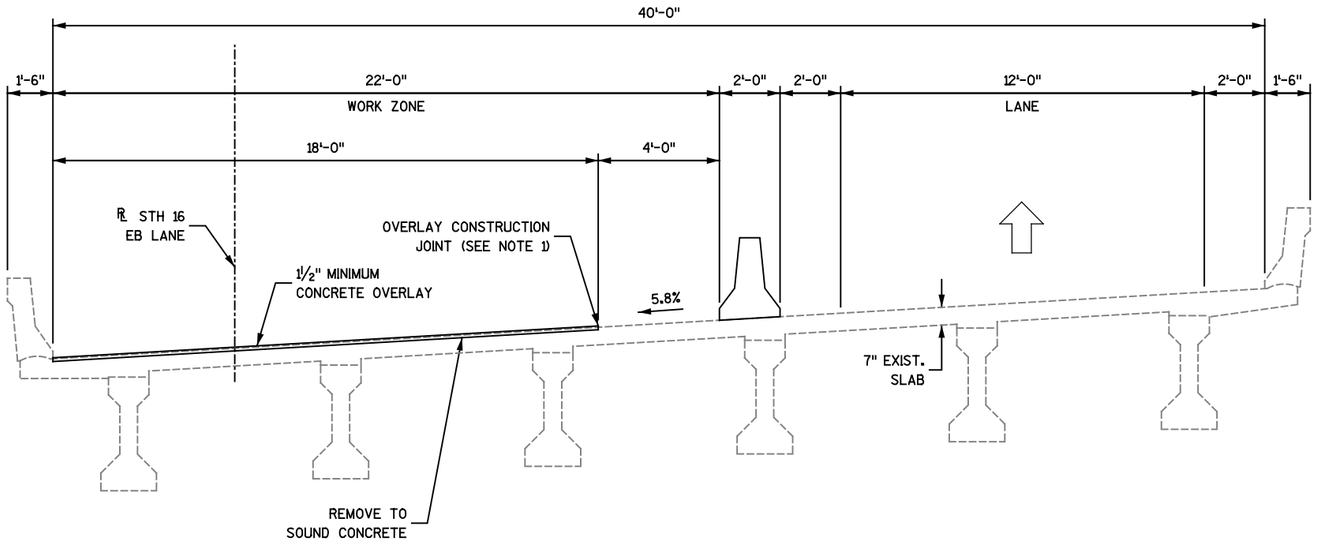
SHEET 1 OF 3

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8

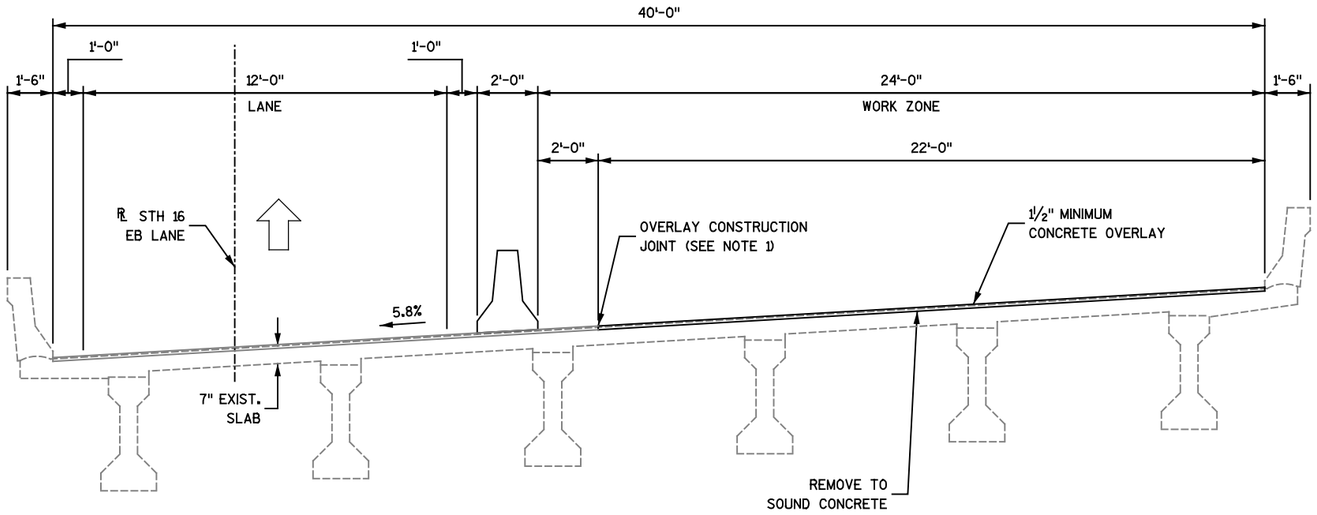
8

STATE PROJECT NUMBER
1370-14-70



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-154

DRAWN BY	CES	PLANS CK'D.	SJM

CONSTRUCTION STAGING

SHEET 2 OF 3

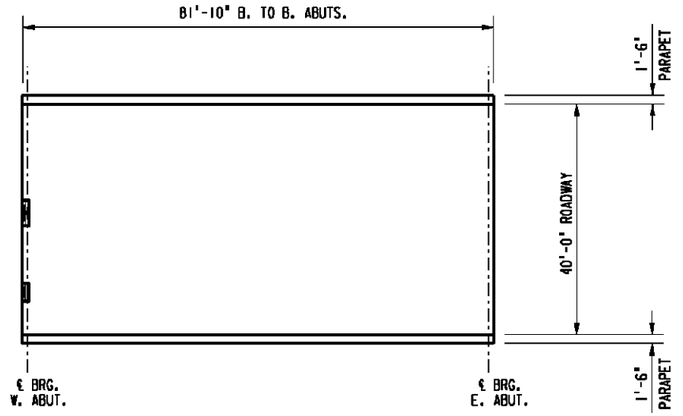
253

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

SCALE 0' 5' 10' 20'

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-154	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	391.0	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	1.0	0.3
PREPARATION, DECKS, TYPE 2	yd^2	0.1	<0.1
FULL DEPTH DECK REPAIR	yd^2	0.5	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

DATA COL. TC/DS
ANALYSIS TC
CADD DS
CHECKED DU

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NO. | REVISIONS | DRN | CHK | DATE

AECOM

PROPOSED REHABILITATION AREAS FOR STH 16 (EB) OVER OCONOMOWOC RIVER STRUCTURE NO. B-67-154

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13

PROJECT NO 60301443

FILENAME B-67-154-REHAB.DGN

SHEET NO 1 OF 1

DRAWING NO

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

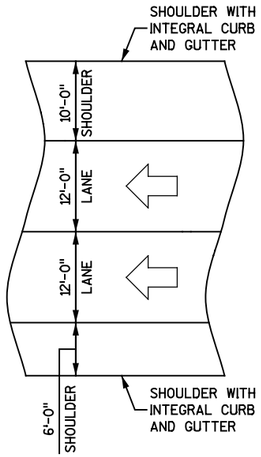
STRUCTURE B-67-154

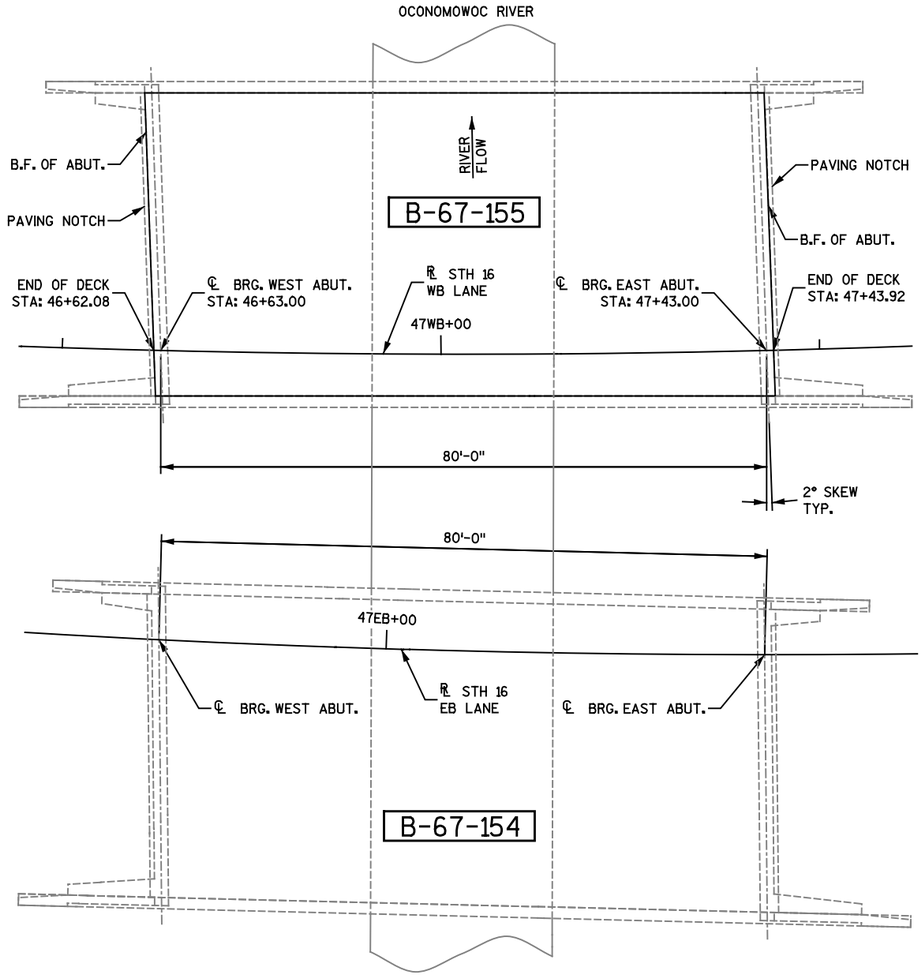
DRAWN BY CES | PLANS CK'D. SJM

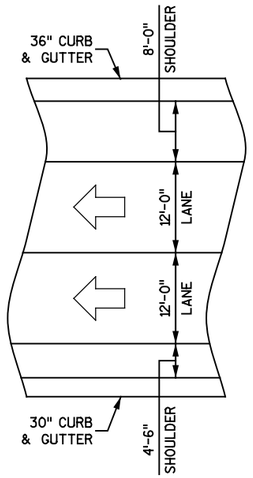
SHEET 3 OF 3

DECK INSPECTION 254

STATE PROJECT NUMBER
1370-14-70

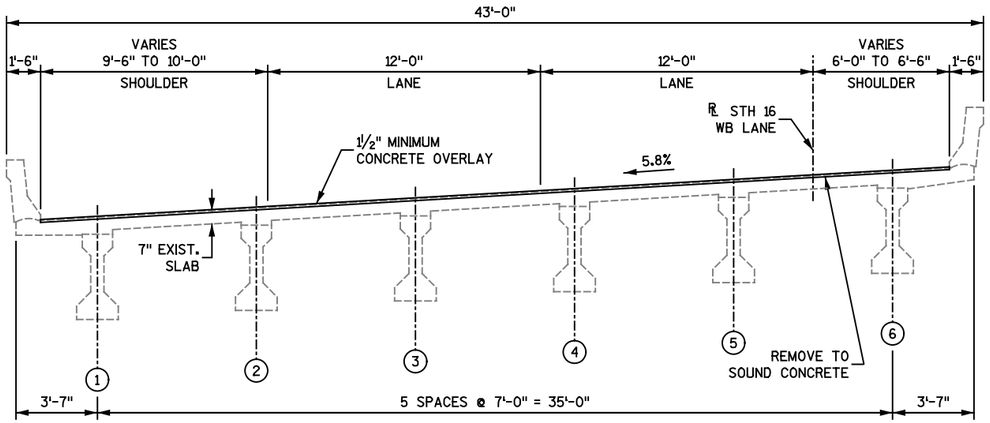






N

PLAN B-67-155



CROSS SECTION THRU ROADWAY
(LOOKING EAST)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-27
OPERATIONAL RATING	HS-50
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	456
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	364
509.1500	CONCRETE SURFACE REPAIR	SF	2 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	22

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
W. ABUT.	2 SF

WISCONSIN STEVEN J. MILLER E-36937 MILWAUKEE WI PROFESSIONAL ENGINEER
6/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVB — 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-155

STH 16 WB OVER THE OCONOMOWOC RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC. AASHTO STD. SPEC. 2003

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

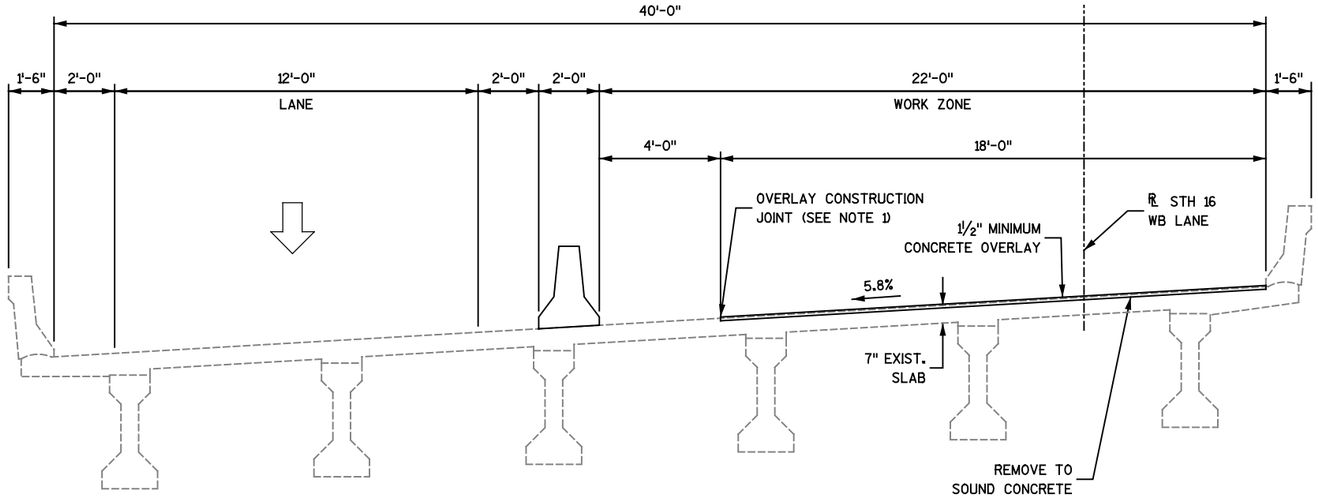
CONCRETE OVERLAY

SHEET 1 OF 3

255

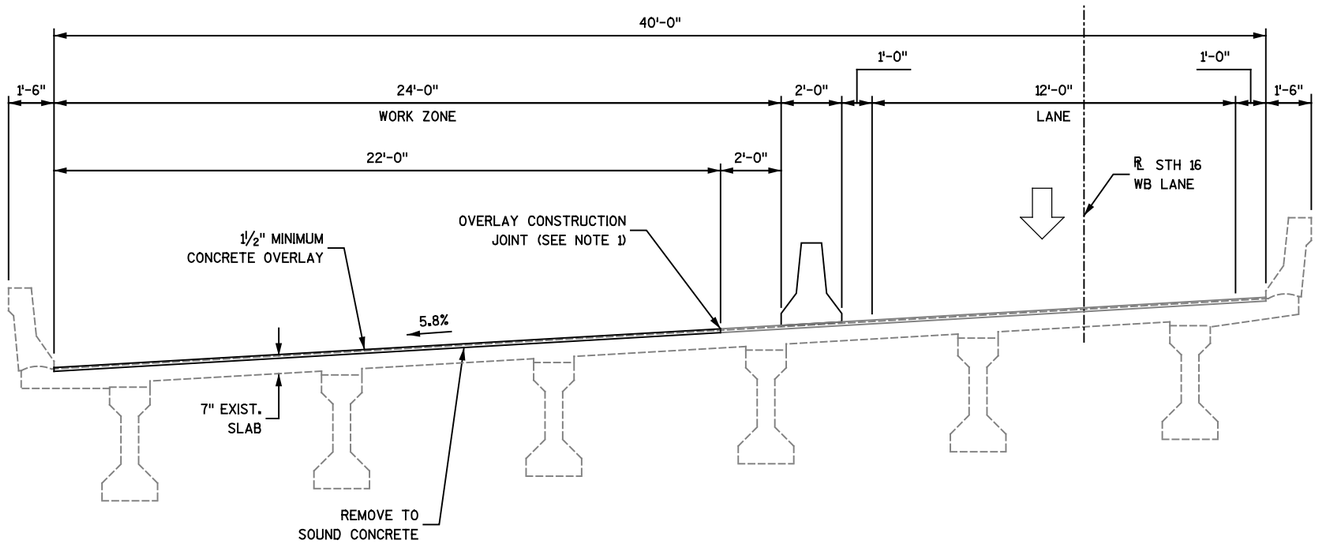
8

8



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-155

DRAWN BY CES | PLANS CK'D. SJM

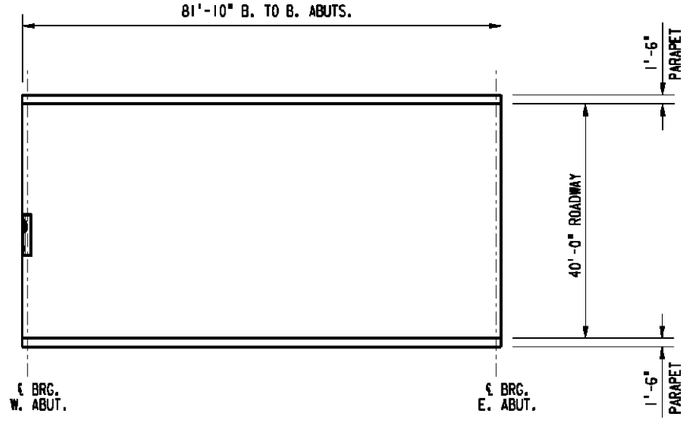
CONSTRUCTION STAGING

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-155	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	391.0	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	1.2	0.3
PREPARATION, DECKS, TYPE 2	yd^2	0.1	<0.1
FULL DEPTH DECK REPAIR	yd^2	0.5	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO	REVISIONS	DRN	CHK	DATE

DATA COL TC/DS
ANALYSIS TC
CARD DS
CHECKED DU

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AECOM

PROPOSED REHABILITATION AREAS FOR STH 16 (WB) OVER OCONOMOWOC RIVER STRUCTURE NO. B-67-155

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 8/21/13
PROJECT NO 60301443
FILENAME B-67-155-REHAB.DGN
SHEET NO 1 OF 1
DRAWING NO

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-155

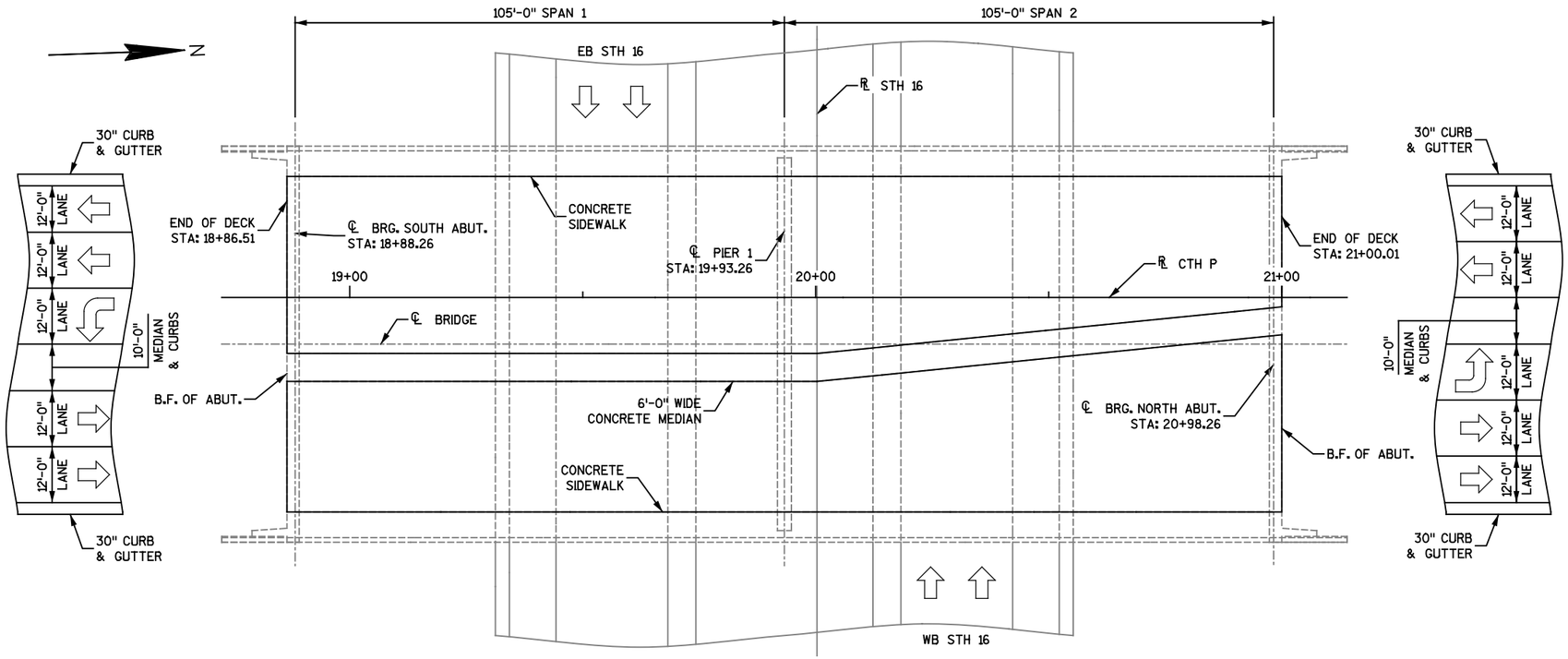
DRAWN BY CES | PLANS CK'D. SJM

SHEET 3 OF 3

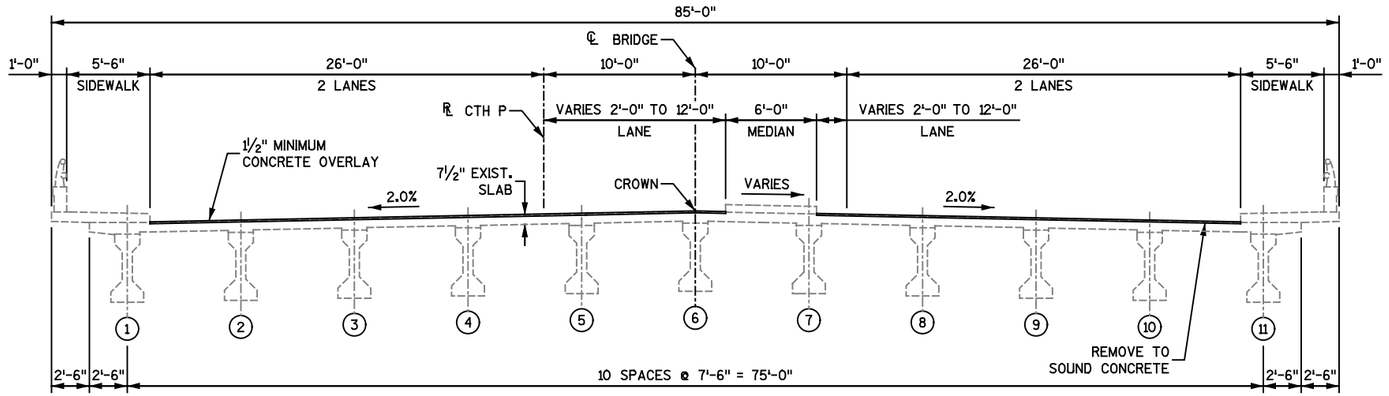
DECK INSPECTION 257

STATE PROJECT NUMBER

1370-14-70



PLAN B-67-156



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-28
OPERATIONAL RATING	HS-48
MAXIMUM STANDARD PERMIT VEHICLE LOAD	240 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2159
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	1566
509.1200	CURB REPAIR	LF	11
509.1500	CONCRETE SURFACE REPAIR	SF	17
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	90
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	910

■ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
S. ABUT.	8.0 SF
N. ABUT.	0.5 SF
PIER	8.5 SF

WISCONSIN STEVEN J. MILLER E-36937 MILWAUKEE WI PROFESSIONAL ENGINEER

6/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-156

CTH P (BROWN ST.) OVER STH 16

COUNTY	TOWN/~~CITY~~/~~VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC.
AASHTO STD. SPEC. 2003

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

CONCRETE OVERLAY

SHEET 1 OF 3

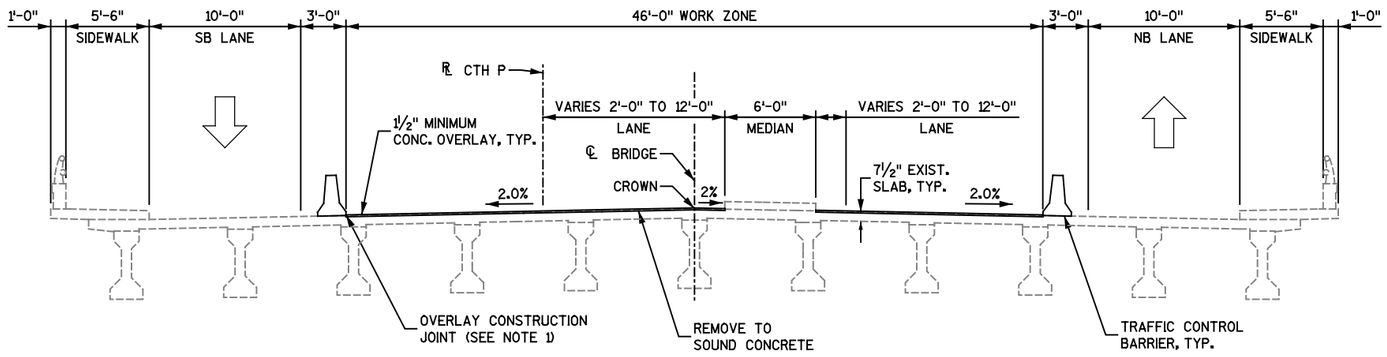
258

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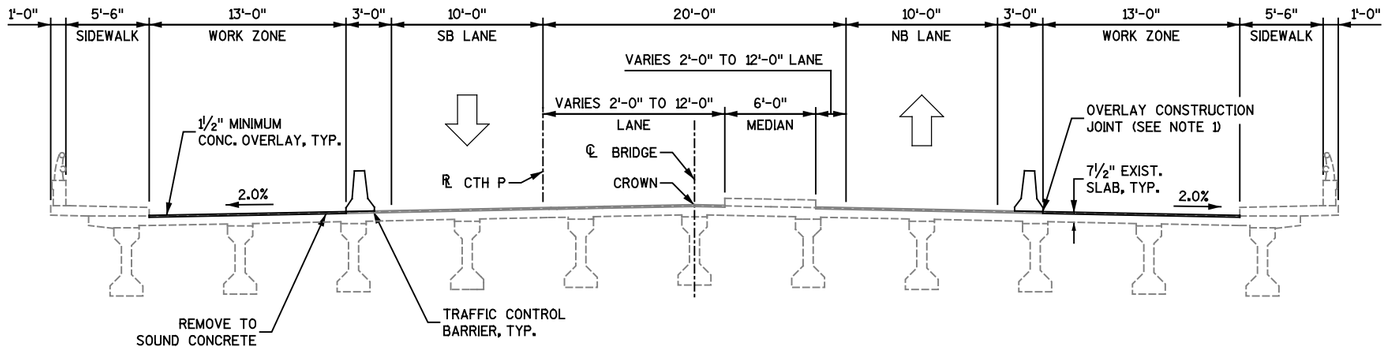
STATE PROJECT NUMBER

1370-14-70



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

AT "CURB REPAIR EXPOSE EXISTING REINFORCEMENT A MINIMUM OF 1½" CLEAR.

NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-156

DRAWN BY CES | PLANS CK'D. SJM

CONSTRUCTION STAGING

SHEET 2 OF 3

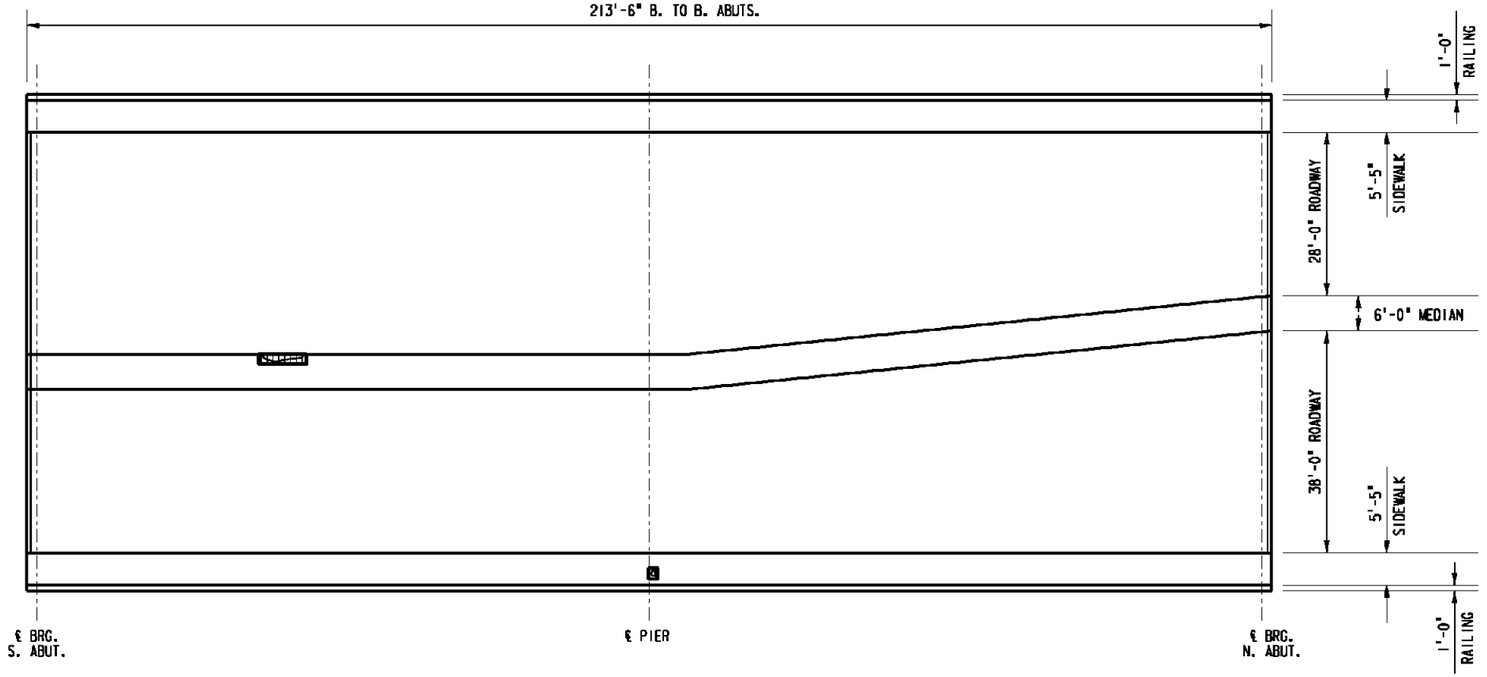
259

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

S. N. B-67-156

REHABILITATION AREA SUMMARY		ROADWAY		SIDEWALK		MEDIAN	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%
TOTAL AREA	yd^2	1613.1		257.0		141.4	
SHADE/DEBRIS	yd^2	0		0		0	
PREPARATION, DECKS, TYPE 1	yd^2	0	0	0.3	0.1	1.6	1.1
PREPARATION, DECKS, TYPE 2	yd^2	0	0	<0.1	<0.1	0.2	0.1
FULL DEPTH DECK REPAIR	yd^2	0	0	0	0	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

DATA COL. TC/DS
ANALYSIS TC
CADD DS
CHECKED DU
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NO. | REVISIONS | DRN | CHK | DATE

AECOM

PROPOSED REHABILITATION AREAS FOR GIFFORD ROAD OVER S.T.H. 16
STRUCTURE NO. B-67-156
PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13
PROJECT NO 60301443
FILENAME B-67-156-REHAB.DGN
SHEET NO 1 OF 1
DRAWING NO

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

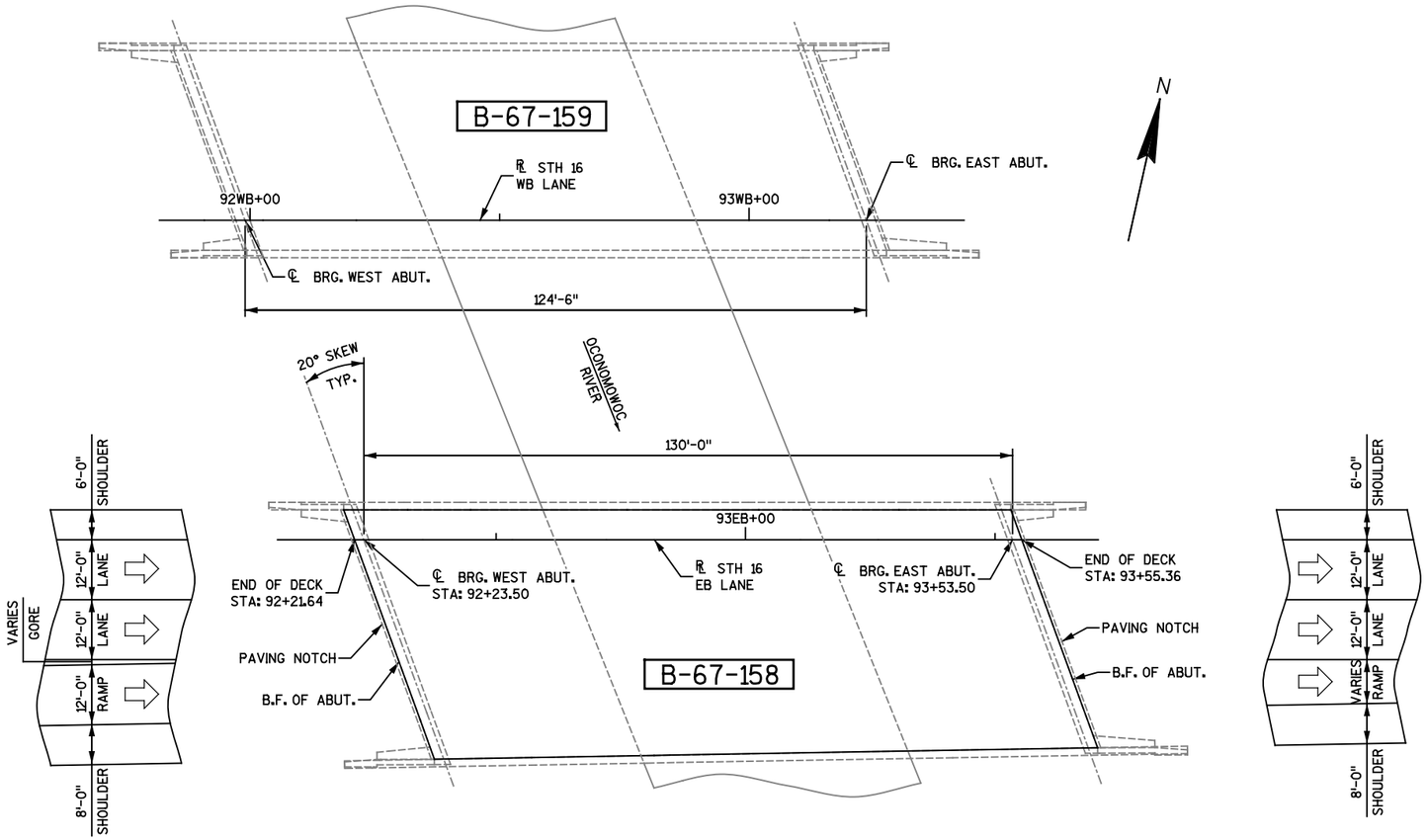
STRUCTURE B-67-156

DRAWN BY CES | PLANS CK'D. SJM

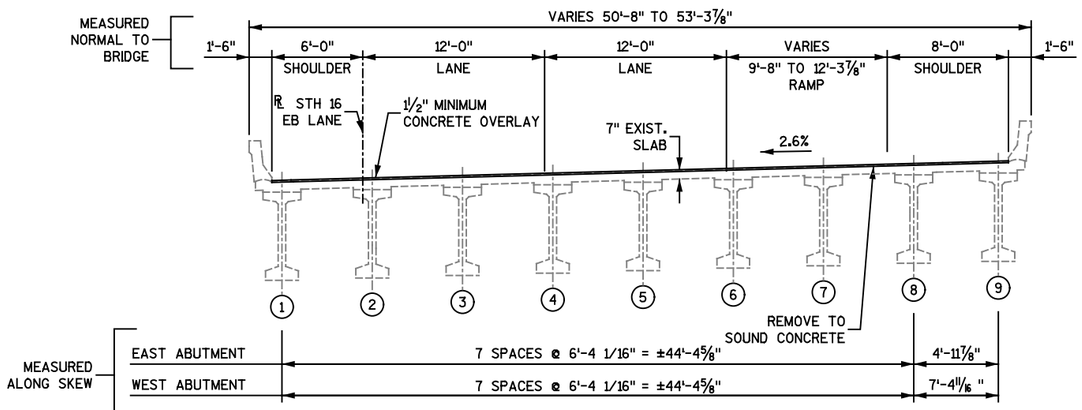
SHEET 3 OF 3

DECK INSPECTION 260

STATE PROJECT NUMBER
1370-14-70



PLAN B-67-158



CROSS SECTION THRU ROADWAY
(LOOKING EAST)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-30
OPERATIONAL RATING	HS-59
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	907
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	773
509.1500	CONCRETE SURFACE REPAIR	SF	11 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	45

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
E. ABUT.	7 SF
W. ABUT.	4 SF

WISCONSIN
STEVEN J. MILLER
E-36937
MILWAUKEE
WI
PROFESSIONAL ENGINEER

Steven J. Miller
6/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-158

STH 16 EB OVER THE OCONOMOWOC RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC. AASHTO STD. SPEC. 2003

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

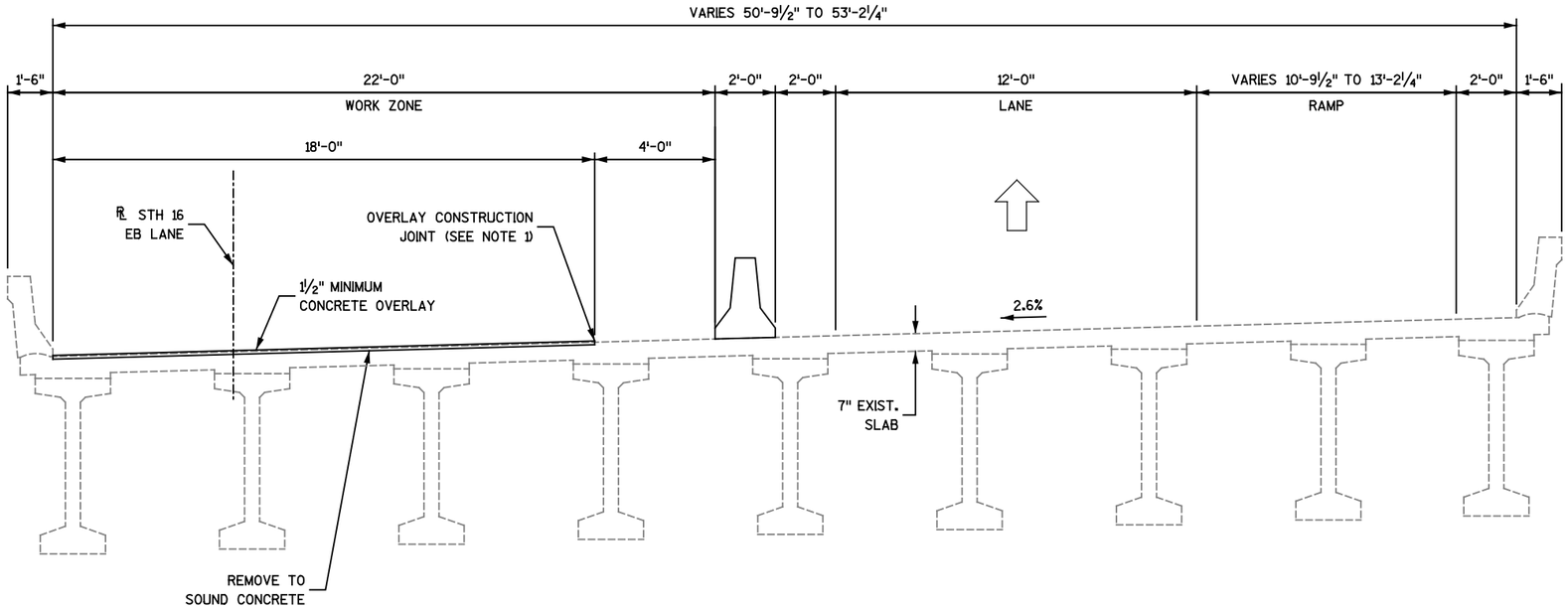
CONCRETE OVERLAY

SHEET 1 OF 3
261

8

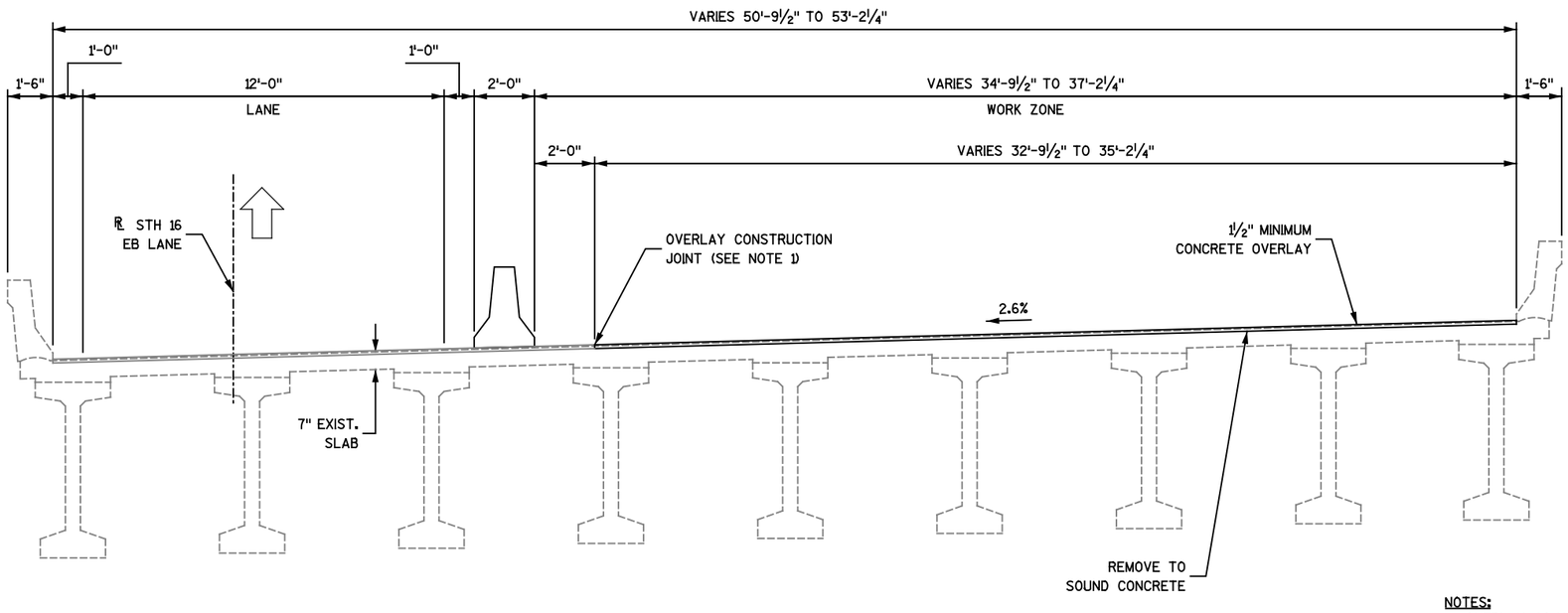
8

STATE PROJECT NUMBER
1370-14-70



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

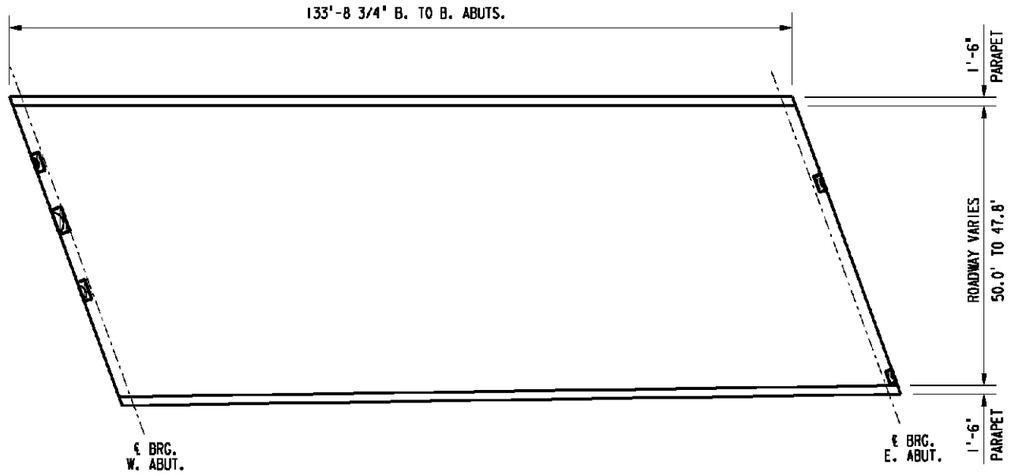
STRUCTURE B-67-158

DRAWN BY CES | PLANS CK'D. SJM

CONSTRUCTION STAGING

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-158	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	771.0	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	2.6	0.3
PREPARATION, DECKS, TYPE 2	yd^2	0.3	<0.1
FULL DEPTH DECK REPAIR	yd^2	0.5	<0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO	REVISIONS	DRN	CHK	DATE

DATA COL TC/DS
ANAL YSIS TC
CADD DS
CHECKED DU

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AECOM

PROPOSED REHABILITATION AREAS FOR STH 96 (EB) OVER OCONOMOWOC RIVER STRUCTURE NO. B-67-158

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13

PROJECT NO 60301443

FILENAME B-67-158-REHAB.DGN

SHEET NO 1 OF 1

DRAWING NO

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

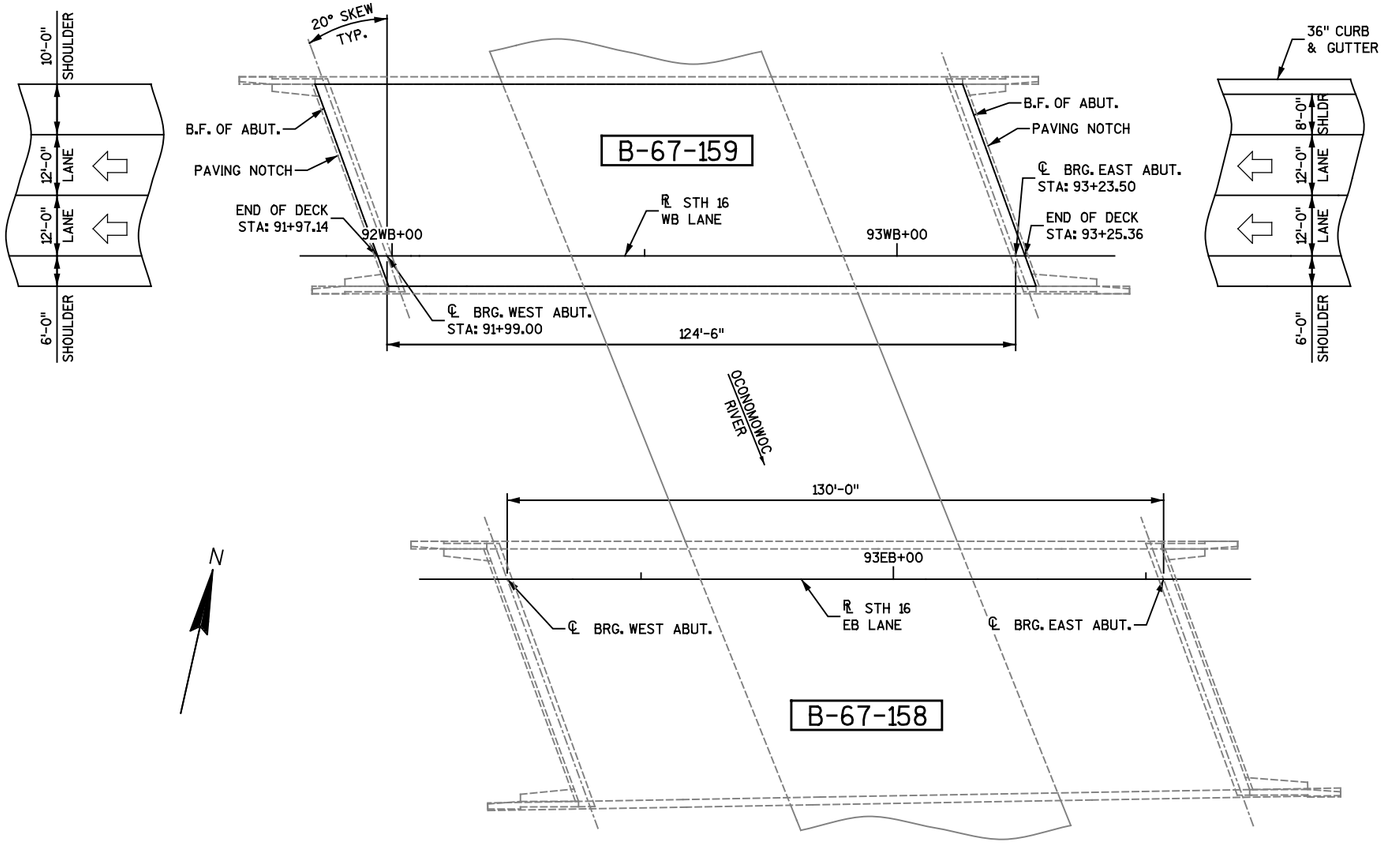
STRUCTURE B-67-158

DRAWN BY CES | PLANS CK'D. SJM

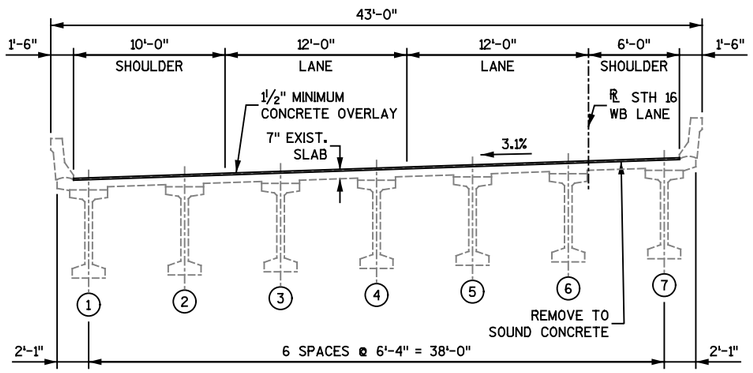
SHEET 3 OF 3

DECK INSPECTION

STATE PROJECT NUMBER
1370-14-70



PLAN B-67-159



CROSS SECTION THRU ROADWAY
(LOOKING EAST)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-24
OPERATIONAL RATING	HS-56
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	736
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	607
509.1500	CONCRETE SURFACE REPAIR	SF	9 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	34

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
E. ABUT.	5 SF
W. ABUT.	4 SF

WISCONSIN
STEVEN J. MILLER
E-36937
MILWAUKEE
WI
PROFESSIONAL ENGINEER
Steven J. Miller
6/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVR 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-159

STH 16 WB OVER THE OCONOMOWOC RIVER

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC. AASHTO STD. SPEC. 2003

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	CES	SJM

CONCRETE OVERLAY

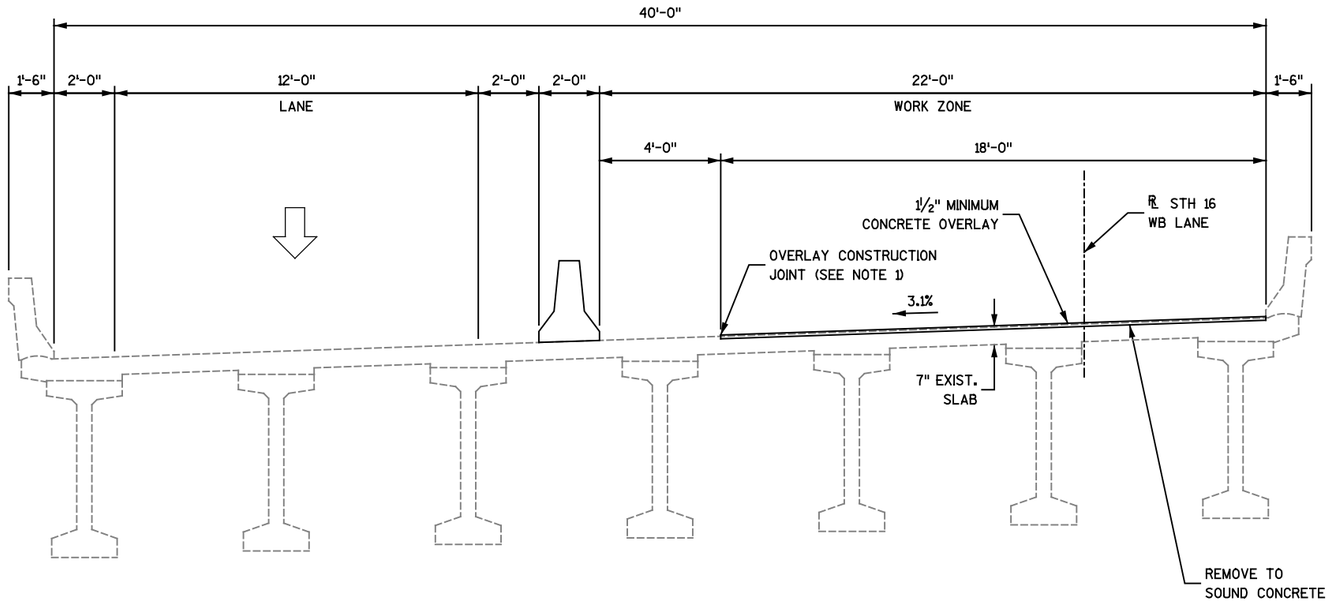
SHEET 1 OF 3

264

8

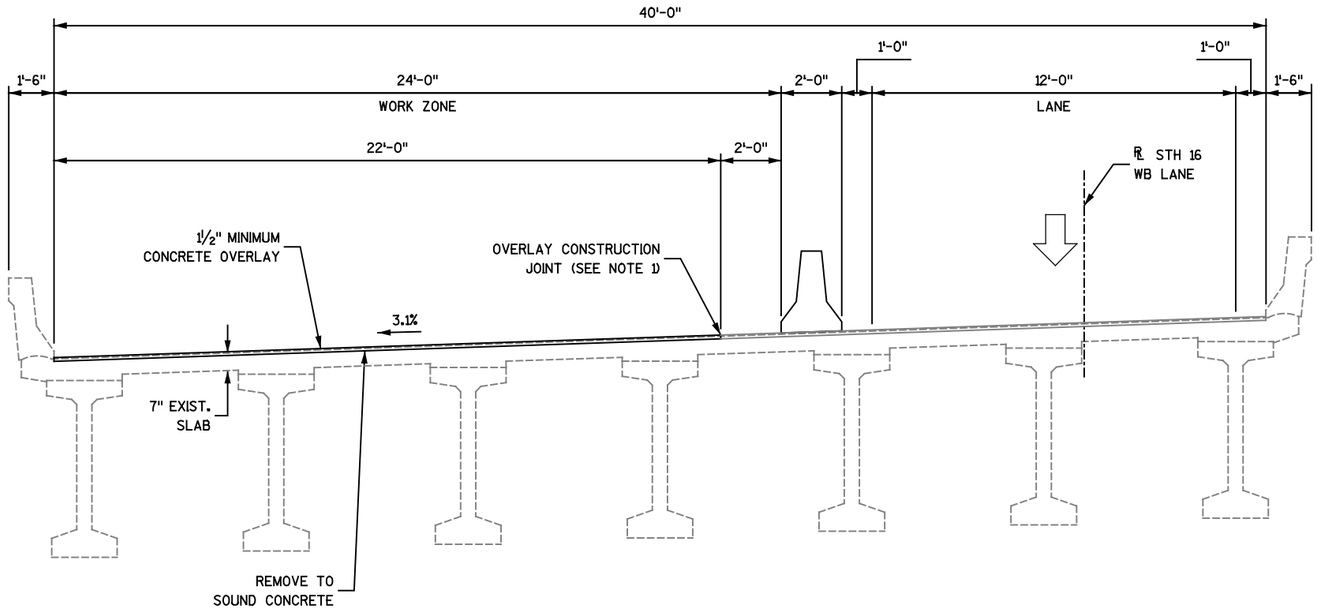
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STATE PROJECT NUMBER
1370-14-70



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-159

DRAWN BY	CES	PLANS CK'D.	SJM

CONSTRUCTION STAGING

SHEET 2 OF 3

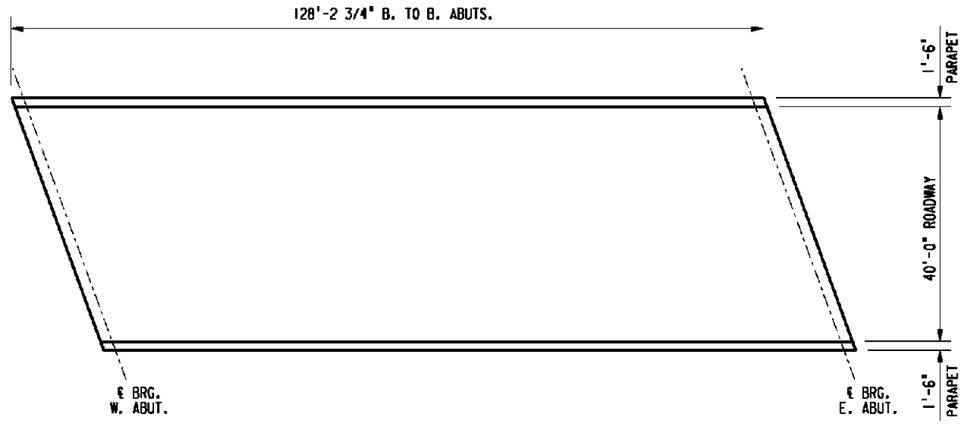
265

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-159	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	612.7	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	0	0
PREPARATION, DECKS, TYPE 2	yd^2	0	0
FULL DEPTH DECK REPAIR	yd^2	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO	DATE	REVISIONS	DRN	CHK

DATA COL TC/DS
ANALYSIS TC
CADD DS
CHECKED DU
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AECOM

PROPOSED REHABILITATION AREAS FOR STH 16 (WB) OVER OCONOMOWOC RIVER STRUCTURE NO. B-67-159

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13
PROJECT NO 60301443
FILENAME B-67-159-REHAB.DGN
SHEET NO 1 OF 1
DRAWING NO

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

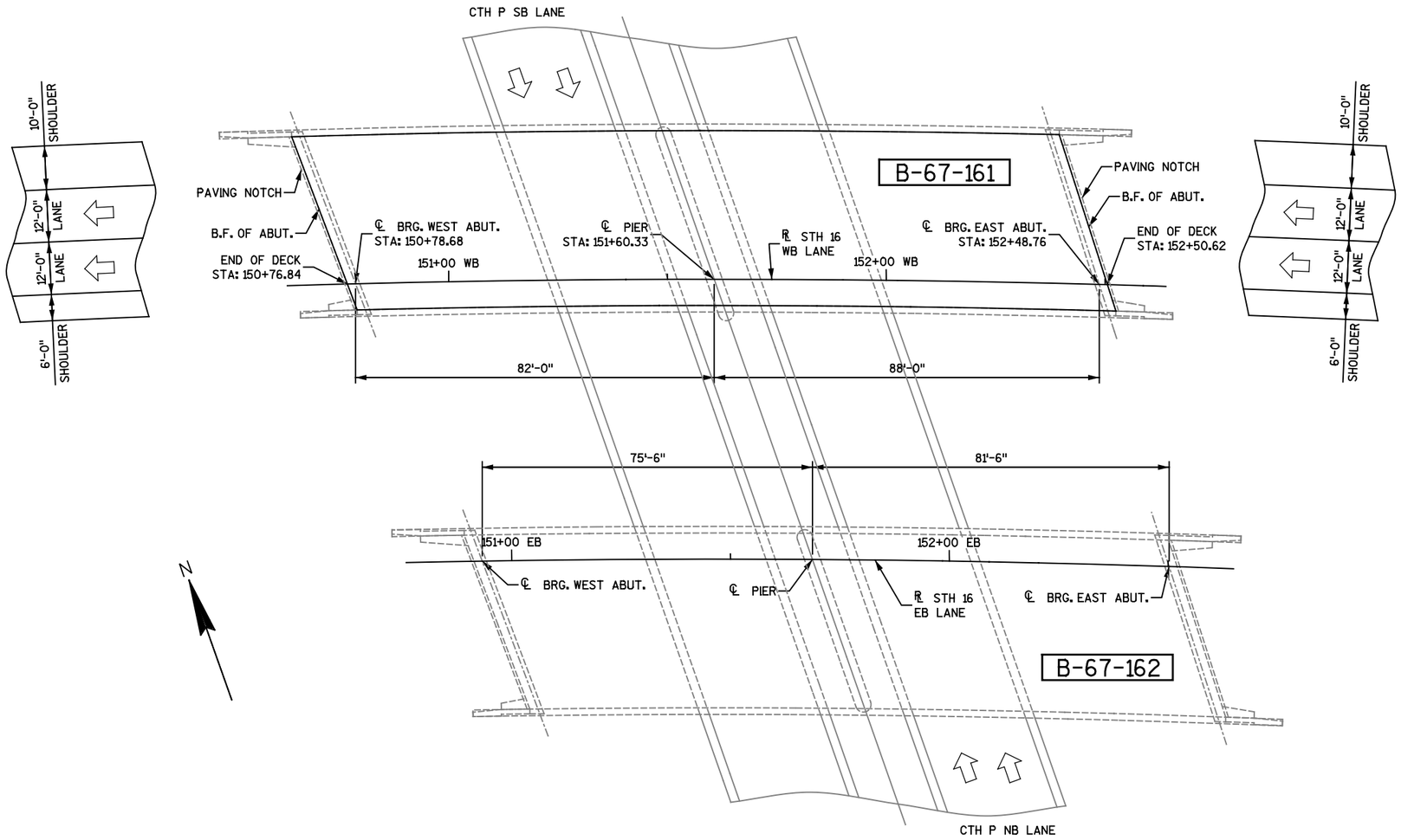
STRUCTURE B-67-159

DRAWN BY CES | PLANS CK'D. SJM

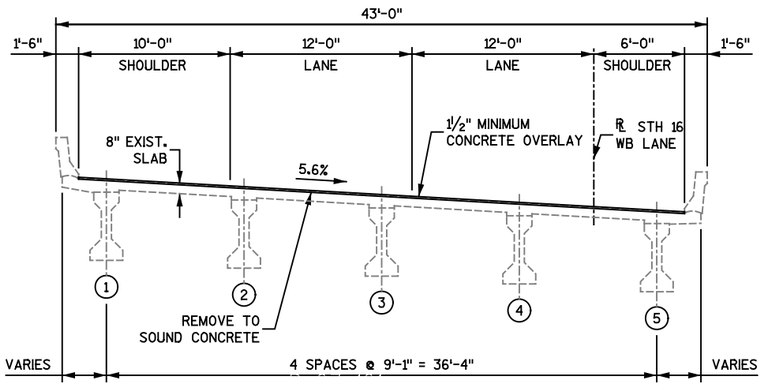
SHEET 3 OF 3

DECK INSPECTION

STATE PROJECT NUMBER
1370-14-70



PLAN B-67-161



CROSS SECTION THRU ROADWAY
(LOOKING EAST)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-22
OPERATIONAL RATING	HS-45
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	985
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	822
509.1500	CONCRETE SURFACE REPAIR	SF	11 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	45
604.9015.S	RE-SEAL CRUSHED AGGREGATE SLOPE PAVING	SY	534

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
E. ABUT.	3 SF
PIER	8 SF

WISCONSIN
STEVEN J. MILLER
E-36937
MILWAUKEE
WI
PROFESSIONAL ENGINEER
Steven J. Miller
6/28/13

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVS 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-161

STH 16 WB OVER CTH P

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC.
AASHTO STD. SPEC. 2003

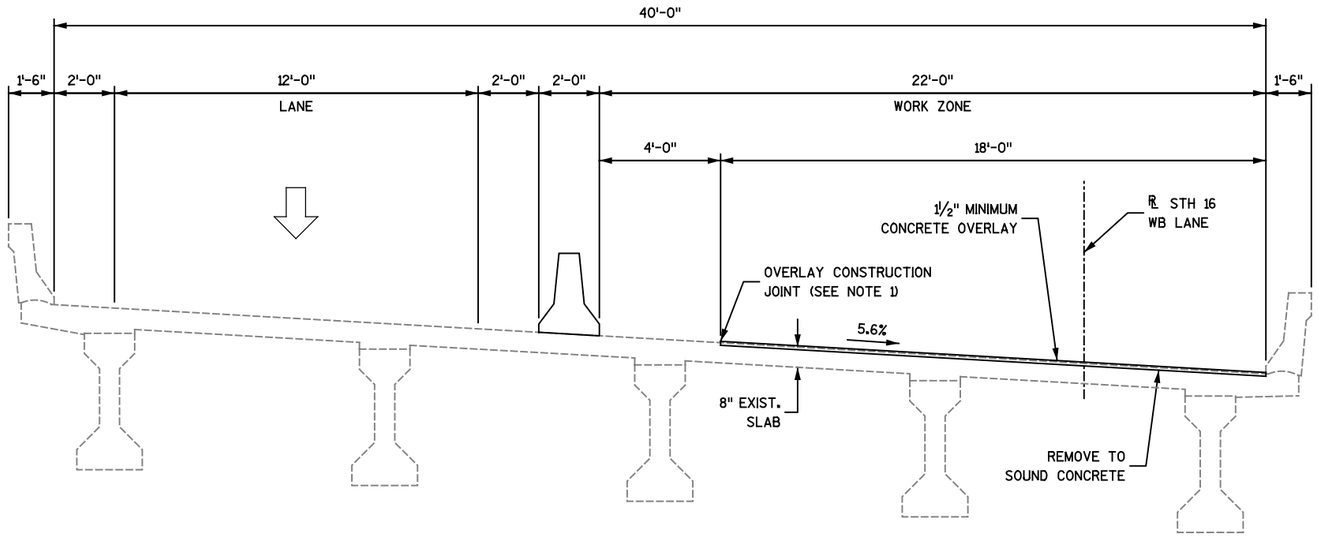
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
CES	SJM	CES	SJM

CONCRETE OVERLAY

SHEET 1 OF 3
267

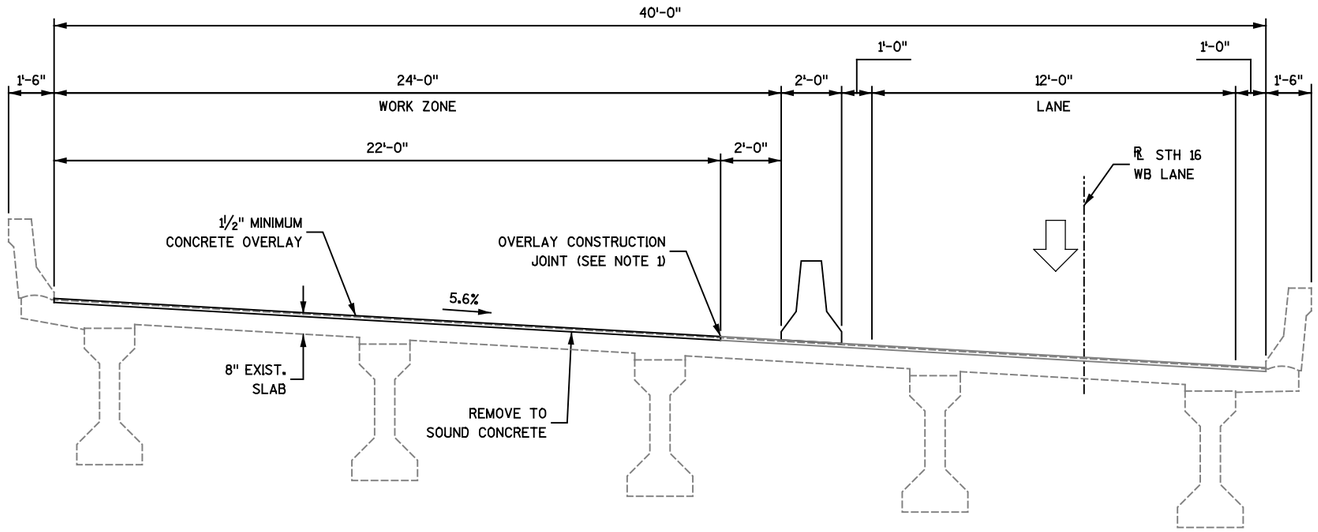
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8



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

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TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

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NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-161

DRAWN BY CES | PLANS CK'D. SJM

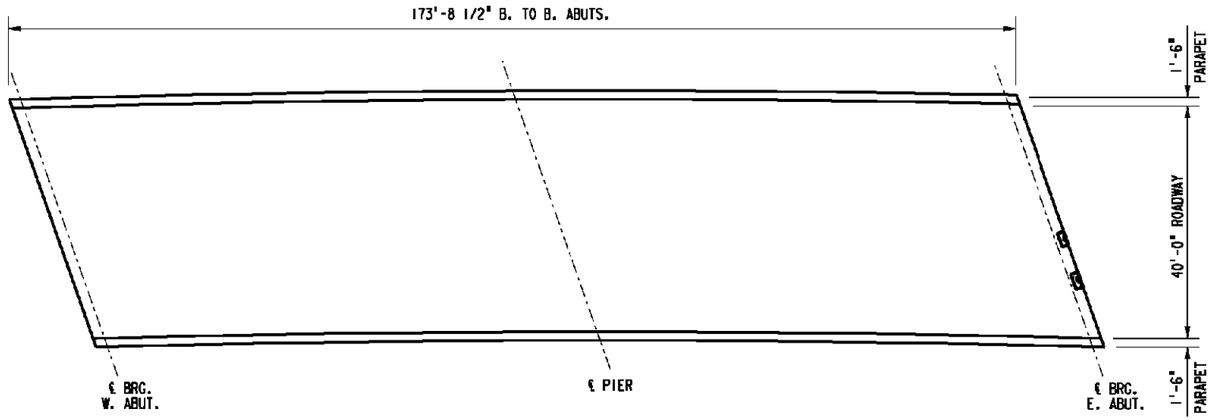
CONSTRUCTION STAGING

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS



REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-161	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	829.9	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	0.7	<0.1
PREPARATION, DECKS, TYPE 2	yd^2	<0.1	<0.1
FULL DEPTH DECK REPAIR	yd^2	0.5	<0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO	DATE	REVISIONS	DRN	CHK	DATE

DATA COL TC/DS
ANALYSIS TC
CADD DS
CHECKED DJJ

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AECOM

PROPOSED REHABILITATION AREAS FOR STH 16 (WB) OVER CTH P STRUCTURE NO. B-67-161

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13

PROJECT NO 60301443

FILENAME B-67-161-REHAB.DGN

SHEET NO 1 OF 1

DRAWING NO

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

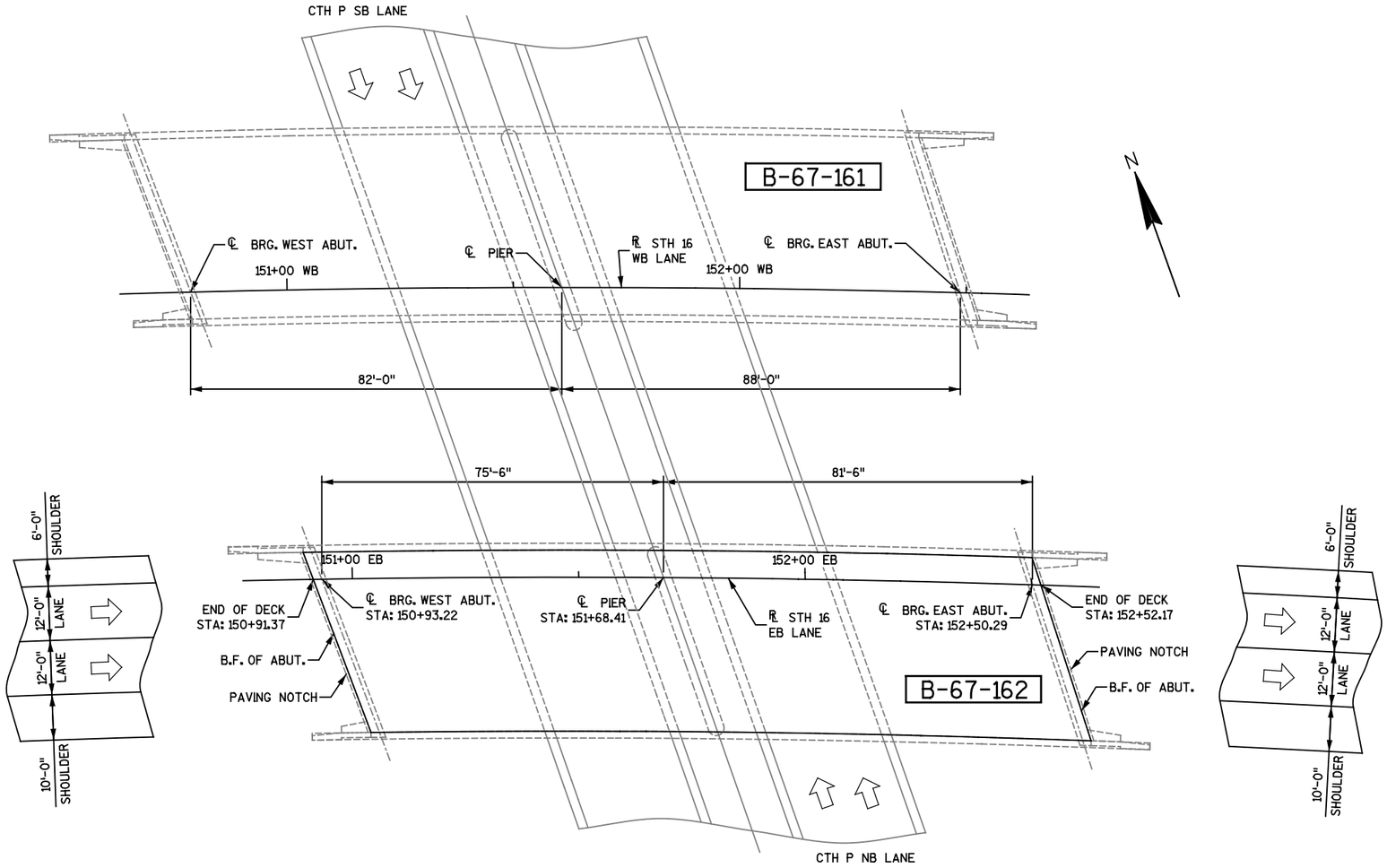
STRUCTURE B-67-161

DRAWN BY CES | PLANS CK'D. SJM

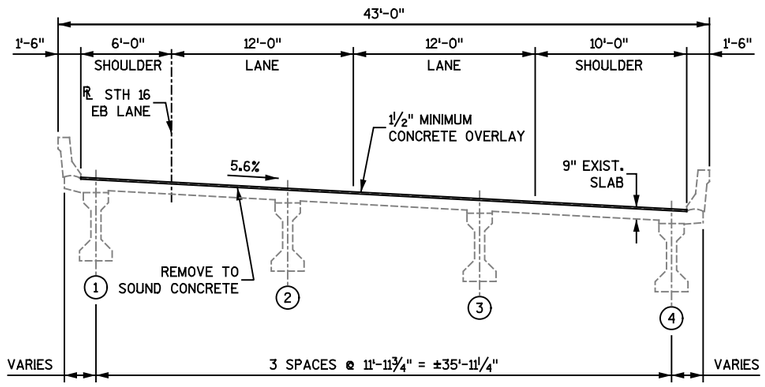
SHEET 3 OF 3

DECK INSPECTION 269

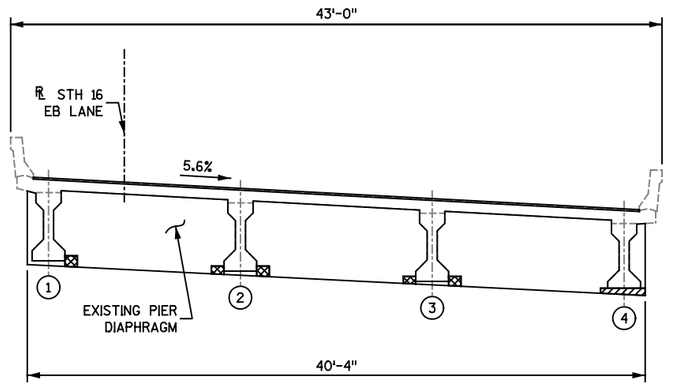
STATE PROJECT NUMBER
1370-14-70



PLAN B-67-162



CROSS SECTION THRU ROADWAY
(LOOKING EAST)



PIER DIAPHRAGM REPAIRS
(LOOKING EAST)

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-20
OPERATIONAL RATING	HS-34
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

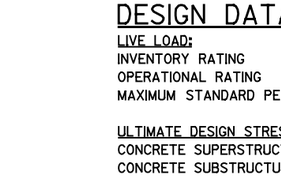
SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	916
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	763
509.1500	CONCRETE SURFACE REPAIR	SF	3 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	42
509.9020.S	EPOXY CRACK SEALING	LF	5
604.9015.S	RE-SEAL CRUSHED AGGREGATE SLOPE PAVING	SY	534

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
E. ABUT.	1.0 SF
W. ABUT.	1.5 SF
PIER	0.5 SF



* HATCH AREAS APPLY TO BOTH SIDES OF PIER DIAPHRAGM.

REMOVE LOOSE CONCRETE UNDER GIRDER AND FIELD VERIFY THAT THERE IS A STEEL BEARING. IF NO STEEL BEARING IS PRESENT, CONTACT ENGINEER. IF STEEL BEARING IS PRESENT AND IN GOOD CONDITION, FILL THE AREA WHERE THE CONCRETE WAS REMOVED WITH GROUT. PLACE A COMPRESSIBLE FILLER BETWEEN THE BOTTOM OF THE GIRDER AND THE GROUT. PAID FOR AS CONCRETE SURFACE REPAIR.

FILL CRACKS PER "EPOXY INJECTION CRACK REPAIR" PROVISIONS.

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVR — 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-162

STH 16 EB OVER CTH P

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	OCONOMOWOC

DESIGN SPEC. AASHTO STD. SPEC. 2003

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

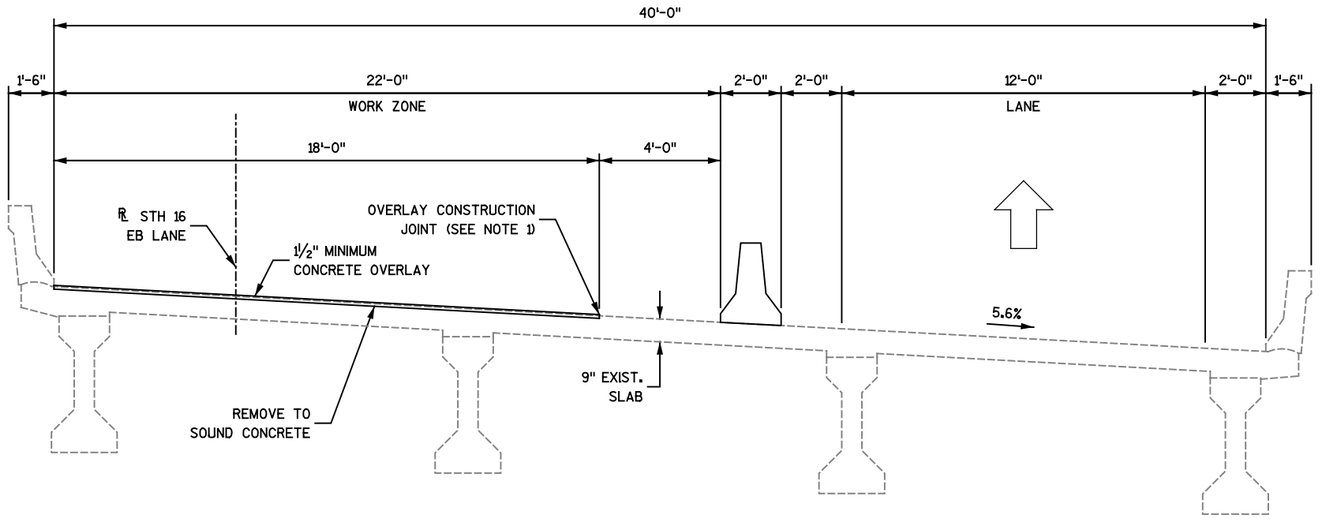
CONCRETE OVERLAY

SHEET 1 OF 3

270

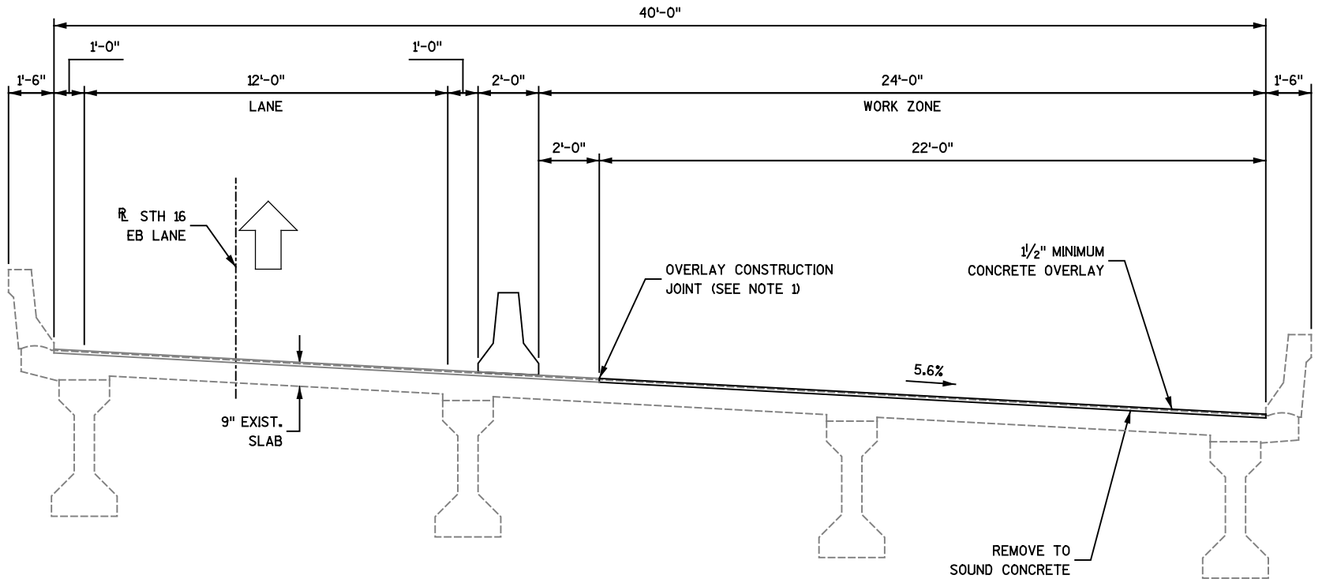
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8



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING EAST)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½ INCHES PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 INCHES (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PREPARATION DECKS TYPE 1 AND PREPARATION DECKS TYPE 2, TO BE LOCATED AS DIRECTED BY THE PROJECT ENGINEER.

THE BID ITEM "CONCRETE MASONRY OVERLAY DECK" INCLUDES CONCRETE FOR THE PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM, "CONCRETE MASONRY OVERLAY DECKS".

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CRACKS IN OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NOTES:

1. OVERLAY CONSTRUCTION JOINT SHALL BE SEALED WITH A NON-BITUMINOUS CRACK SEALER IN ACCORDANCE WITH THE PERTINENT REQUIREMENTS OF SECTION 502 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-162

DRAWN BY CES | PLANS CK'D. SJM

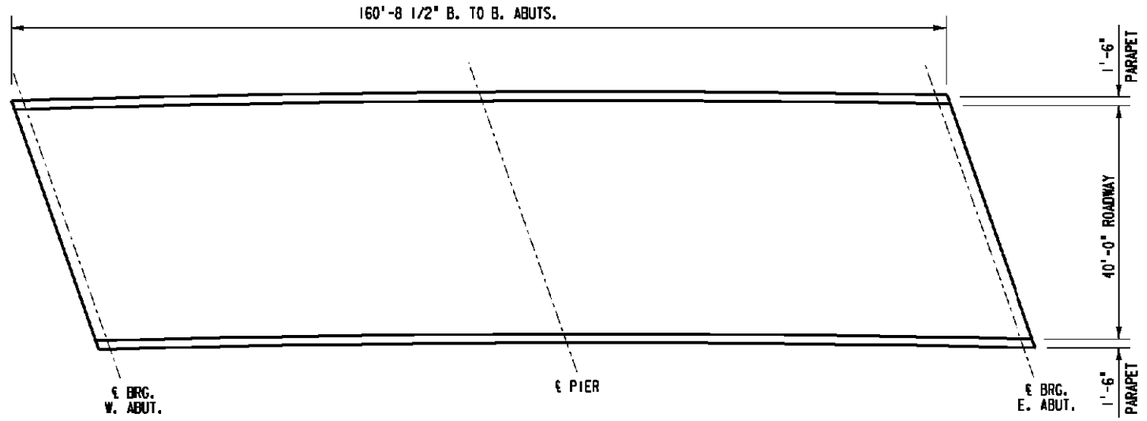
CONSTRUCTION STAGING

8

8

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

N

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-162	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	767.8	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	0	0
PREPARATION, DECKS, TYPE 2	yd^2	0	0
FULL DEPTH DECK REPAIR	yd^2	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO	DATE	REVISIONS	DRN	CHK	DATE

DATA COL TC/DS
ANALYSIS TC
CADD DS
CHECKED DU
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AECOM

PROPOSED REHABILITATION AREAS FOR STH 16 (EB) OVER CTH P
STRUCTURE NO. B-67-162

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13
PROJECT NO 60301443
FILENAME B-67-162-REHAB.DGN
SHEET NO 1 OF 1
DRAWING NO

NO.	DATE	REVISION	BY

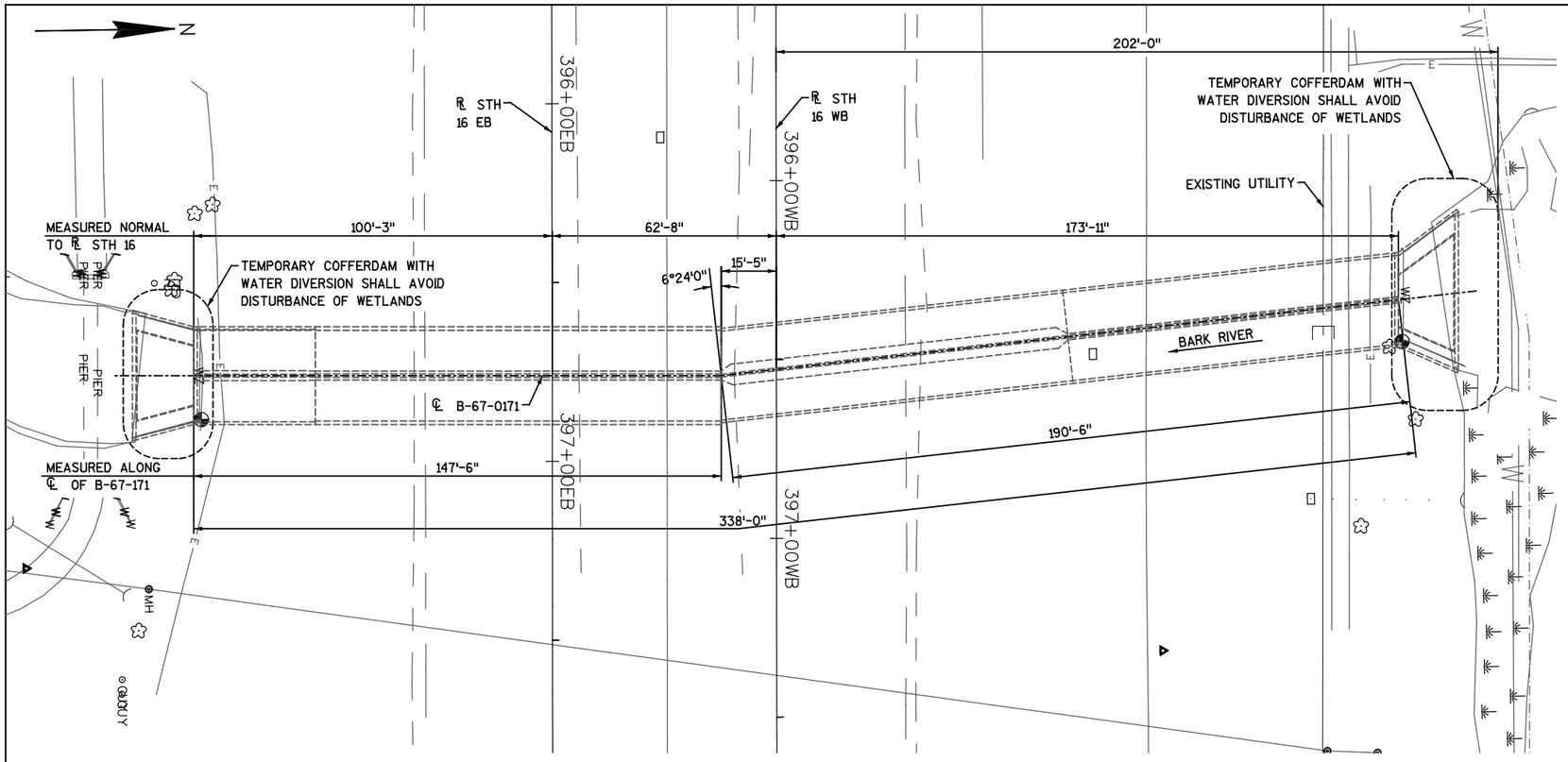
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-162

DRAWN BY CES | PLANS CK'D. SJM

SHEET 3 OF 3

DECK INSPECTION 272



PLAN VIEW B-67-171

LIST OF DRAWINGS

1. SURFACE REPAIR

STATE PROJECT NUMBER

1370-14-70

DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE SUBSTRUCTURE — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

CONTRACTOR SHALL CONSTRUCT COFFERDAM DIVERSION TO MAINTAIN WATER FLOW THROUGH AT LEAST ONE CELL OF CULVERT AT ALL TIMES DURING CONSTRUCTION.

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	48 ◥
SPV.0105.01	TEMPORARY COFFERDAM WITH WATER DIVERSION	LS	1

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
E. BARREL	36 SF
W. BARREL	12 SF

WISCONSIN PROFESSIONAL ENGINEER
CORY E. SCHULTZ
E-42460
MILWAUKEE
WI
5/1/14

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
CORY SCHULTZ (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher — CHIEF STRUCTURES DESIGN ENGINEER — DATE 6/30/14

STRUCTURE B-67-171

STH 16 OVER BARK RIVER

COUNTY: WAUKESHA — ~~TOWN/CITY~~/VILLAGE: HARTLAND

DESIGN SPEC.: REHABILITATION N/A

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

SURFACE REPAIR

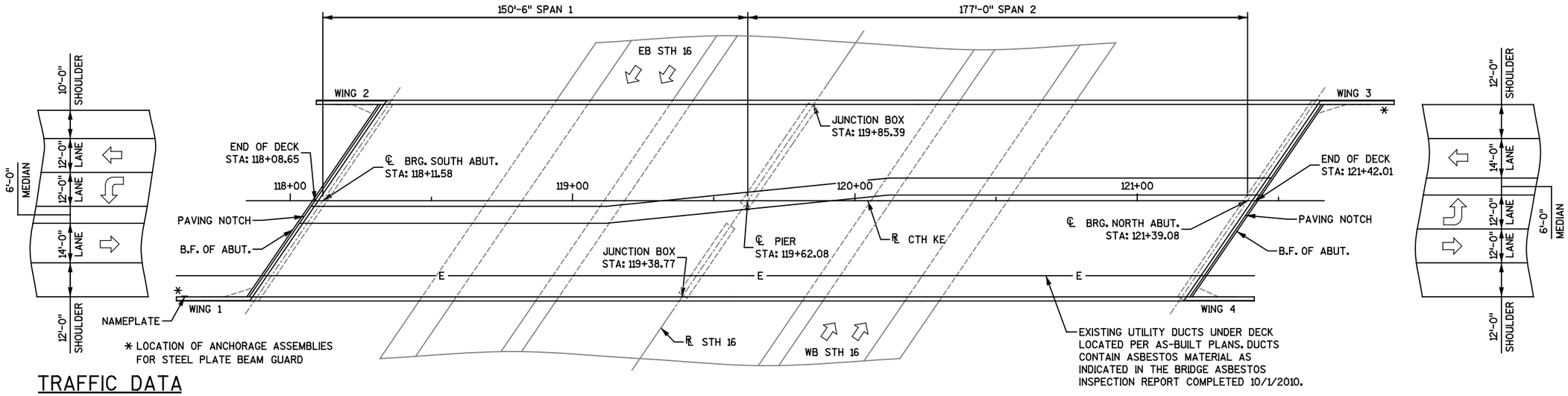
SHEET 1 OF 1

273

8

8

STATE PROJECT NUMBER
1370-14-70



TRAFFIC DATA

ADT	6,900 (2009)
DESIGN SPEED	55 MPH

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-15
OPERATIONAL RATING	HS-26
MAXIMUM STANDARD PERMIT VEHICLE LOAD	120 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE MINIMUM CONCRETE HAUNCH SHALL BE 1¼" FOR DESIGN CALCULATIONS AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 1¾" WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING ABUTMENTS AND PIER TO REMAIN IN PLACE AS SHOWN AND INCORPORATED INTO NEW CONSTRUCTION.

CLEAN, STRAIGHTEN, AND INCORPORATE EXISTING BAR STEEL REINFORCEMENT INTO NEW WORK, WHERE APPLICABLE.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURE ENGINEER FOR REVIEW.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

THE EXISTING STRUCTURE (B-67-173) IS A TWO-SPAN PARABOLIC HAUNCHED STEEL PLATE GIRDER BRIDGE WITH AN OVERALL LENGTH OF 327.5 FEET AND AN OVERALL WIDTH OF 70.90 FEET. THE GIRDERS ARE TO BE RAISED. THE ABUTMENTS MODIFIED, AND THE DECK AND PARAPETS REPLACED.

PLAN B-67-173

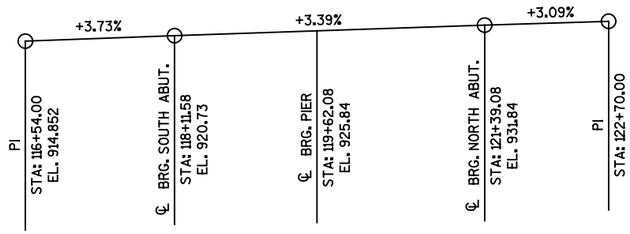
LIST OF DRAWINGS

1. DECK REPLACEMENT
2. CROSS SECTIONS
3. SOUTH ABUTMENT
4. SOUTH ABUTMENT DETAILS
5. NORTH ABUTMENT
6. NORTH ABUTMENT DETAILS
7. SUPERSTRUCTURE
8. SUPERSTRUCTURE DETAILS
9. STIFFENER DETAILS
10. DECK ELEVATIONS & SUPERSTRUCTURE DEFLECTIONS
11. ELASTOMERIC EXPANSION BEARING DETAILS
12. FIXED BEARING DETAILS
13. EXPANSION JOINT DETAILS
14. STRIP SEAL COVER PLATES
15. STRIP SEAL COVER PLATES FOR MEDIAN
16. SINGLE SLOPE PARAPET 32SS
17. SINGLE SLOPE PARAPET 32SS ELECTRICAL

WISCONSIN
CORY E. SCHULTZ
E-42460
MILWAUKEE
WI
PROFESSIONAL ENGINEER
4/22/14

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER.	SOUTH ABUT.	PIER	NORTH ABUT.	TOTAL
203.0200.02	REMOVING OLD STRUCTURE STATION 118+08.65	LS	1	-	-	-	1
203.0210.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-173	LS	1	-	-	-	1
203.0225.S.01	DEBRIS CONTAINMENT B-67-173	LS	1	-	-	-	1
206.1000.02	EXCAVATION FOR STRUCTURES BRIDGES B-67-173	LS	1	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	-	213.5	-	213.5	427
502.0100	CONCRETE MASONRY BRIDGES	CY	819	54	-	55	928
502.3100.02	EXPANSION DEVICE B-67-173	LS	1	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2876	-	-	-	2876
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	-	8	-	8	16
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	-	37	-	37	74
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	187160	4380	-	4470	196010
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	-	7	-	7	14
506.5000.01	BEARING ASSEMBLIES FIXED B-67-173	EACH	-	-	7	-	7
506.7050.S.01	REMOVING BEARINGS B-67-173	EACH	-	7	7	7	21
509.1500	CONCRETE SURFACE REPAIR	SF		28	-	37	65
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	19.5	-	19.5	39
517.0900.S.01	PREPARATION AND COATING OF TOP FLANGES B-67-173	LS	1	-	-	-	1
517.1800.S.02	STRUCTURE REPAINTING RECYCLED ABRASIVE B-67-173	LS	1	-	-	-	1
517.4500.S.02	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-67-173	LS	1	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	1
604.9015.S	RE-SEAL CRUSHED AGGREGATE SLOPE PAVING	SY	-	550	-	550	1100
614.0150	ANCHOR ASSEMBLIES STEEL PLATE BEAM GUARD	EACH	-	1	-	1	2
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	48	-	-	-	48
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	1560	-	-	-	1560
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	2	-	-	-	2
SPV.0060.12	ADDITIONAL INTERMEDIATE STIFFENERS	EACH	105	-	-	-	105



PROFILE GRADE LINE CTH "KE"

BENCH MARK: WIS DIV OF HWYS DISK ON WING 1, EL. 920.87

NOTE: PROFLE TO BE USED FOR ESTABLISHING BRIDGE DECK ELEVATIONS ONLY

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVR 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-173

CTH KE OVER STH 16

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	MERTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

DECK REPLACEMENT

SHEET 1 OF 17

274

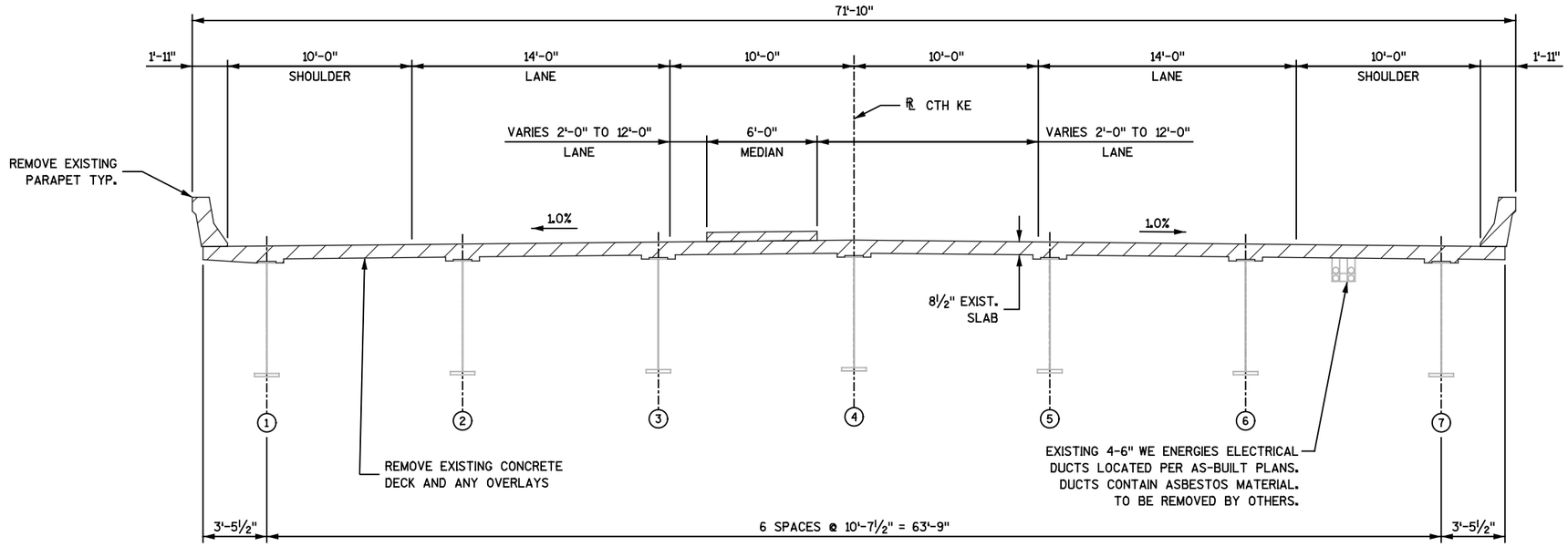
BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
CORY SCHULTZ (414) 282-6905

FILE NAME :08_01 Deck Replacement.dgn
PLOT DATE :4/22/2014 PLOT BY : Chris HEYBI DRV :Pdf_bw_HS.plt PEN :CEL.TextSub.tbl

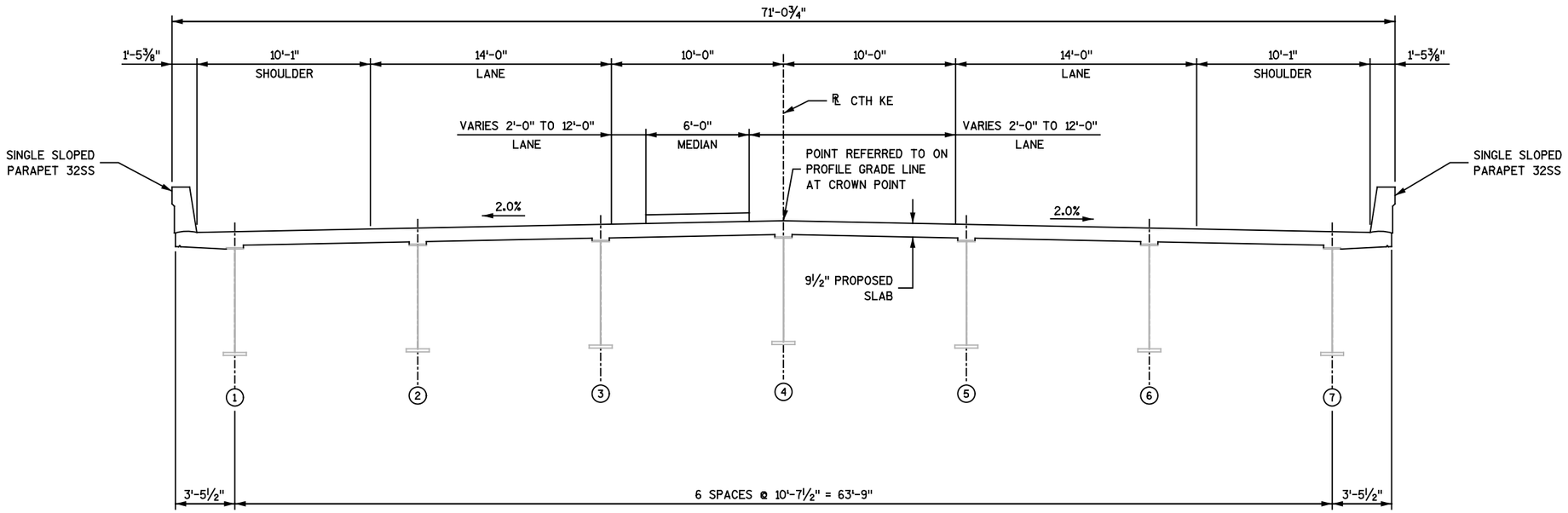
STATE PROJECT NUMBER

1370-14-70



CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



CROSS SECTION THRU PROPOSED ROADWAY

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

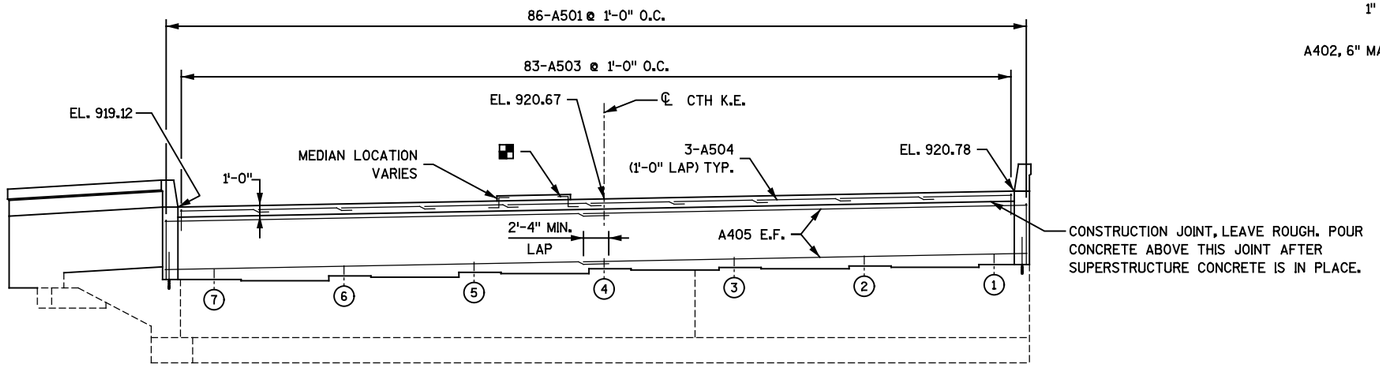
DRAWN BY	CES	PLANS CK'D.	SJM

CROSS SECTIONS 275

SHEET 2 OF 17

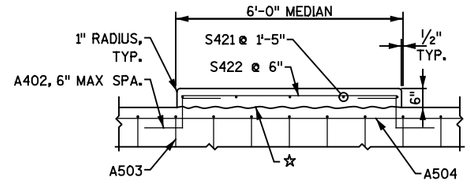
STATE PROJECT NUMBER

1370-14-70



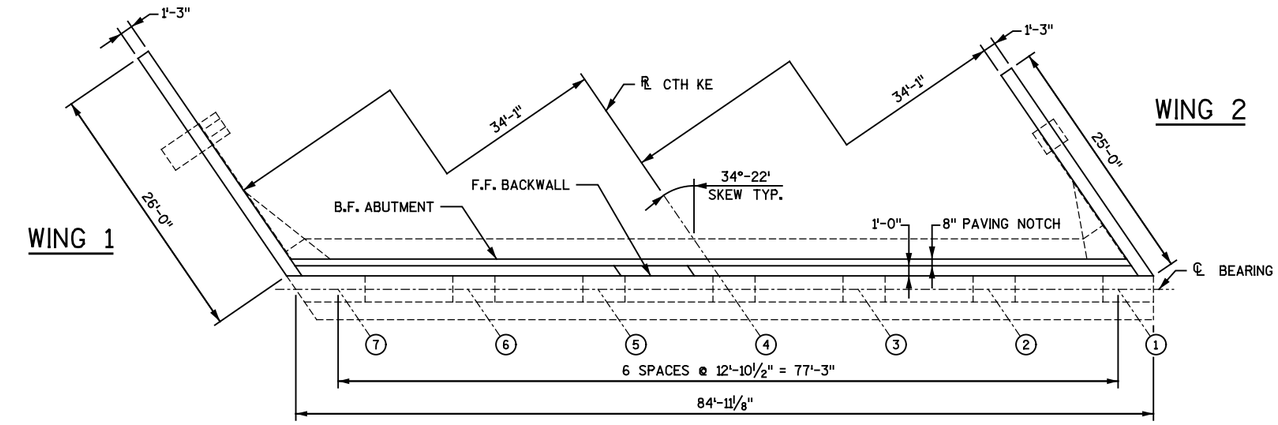
ELEVATION

(LOOKING SOUTH)

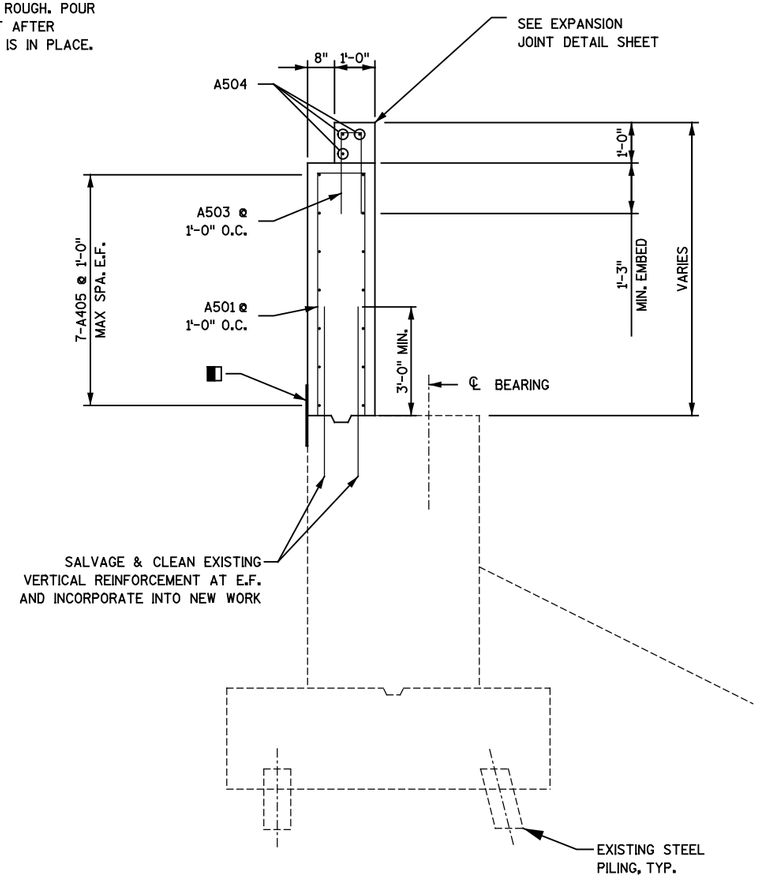


MEDIAN DETAIL

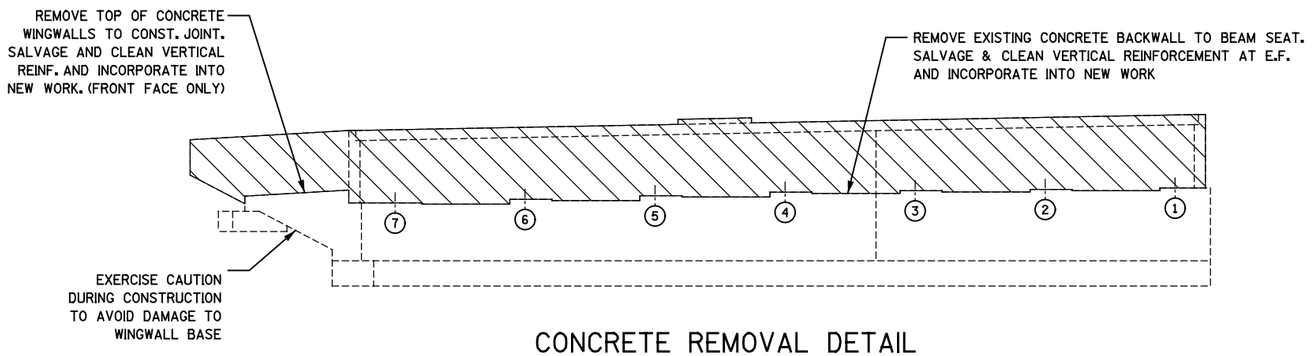
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PLAN



SECTION THRU BODY



CONCRETE REMOVAL DETAIL

LEGEND

- ◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.
- ◾ INSTALL S433 BARS TO ANCHOR MEDIAN TO PAVING BLOCK. SEE SHEET 8 FOR DETAILS.
- ☆ ROUGH FLOAT SURFACE OR SAME FINISH AS EXPOSED DECK. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THIS AREA. CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY CES | PLANS CK'D. SJM

SHEET 3 OF 17

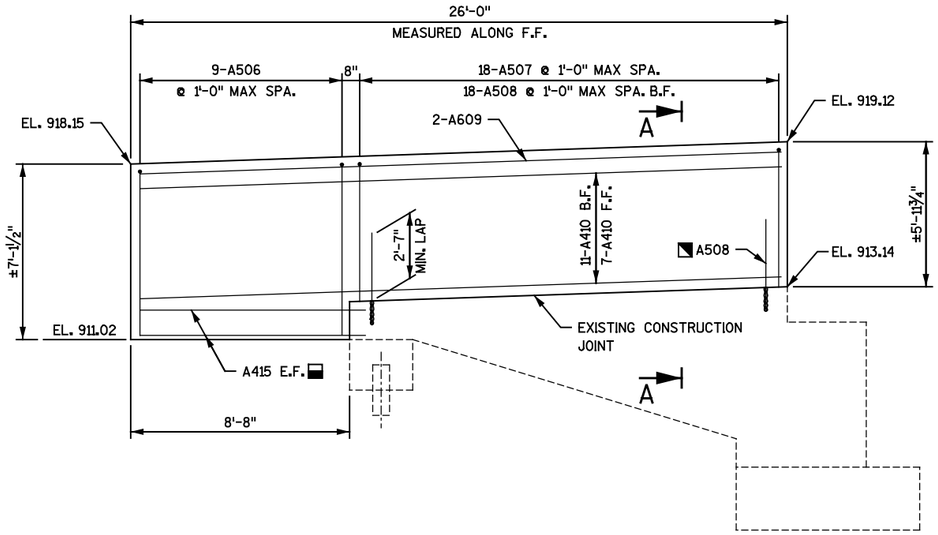
SOUTH ABUTMENT 276

8

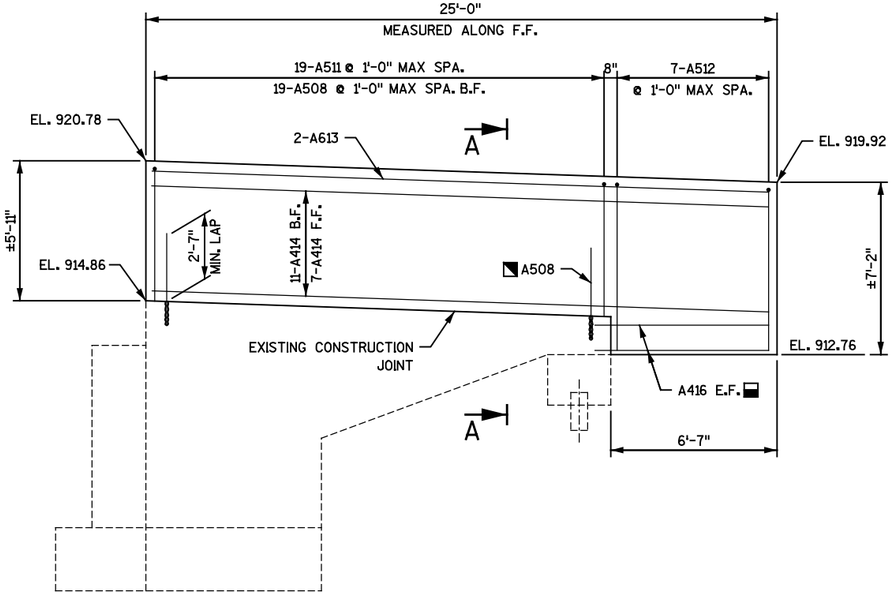
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STATE PROJECT NUMBER

1370-14-70



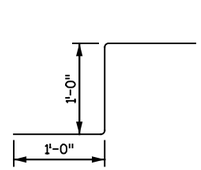
ELEVATION-WING 1



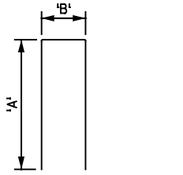
ELEVATION-WING 2

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	86	13'-5"	▲		BACKWALL VERT. REINF.
A402	X	4	2'-10"	▲		MEDIAN ANCHOR
A503	X	83	4'-7"	▲		PAVING NOTCH VERT. REINF.
A504	X	33	8'-5"			PAVING NOTCH HORZ. REINF.
A405	X	42	29'-9"			BACKWALL HORZ. REINF.
A506	X	9	14'-2"	▲		WING WALL 1 VERT. REINF.
A507	X	18	12'-2"	▲		WING WALL 1 VERT. REINF.
A508	X	37	3'-6"			WING WALL DOWEL BARS
A609	X	2	25'-8"			WING WALL 1 HORZ. REINF.
A410	X	18	25'-8"			WING WALL 1 HORZ. REINF.
A511	X	19	12'-2"	▲		WING WALL 2 VERT. REINF.
A512	X	7	14'-4"	▲		WING WALL 2 VERT. REINF.
A613	X	2	24'-8"			WING WALL 2 HORZ. REINF.
A414	X	18	24'-8"			WING WALL 2 HORZ. REINF.
A415	X	4	9'-2"			WING WALL 1 HORIZ. REINF.
A416	X	4	7'-1"			WING WALL 2 HORIZ. REINF.



A402



A501, A503, A506, A507, A511, A512

BAR MARK	DIM. 'A'	DIM. 'B'
A501	6'-2"	1'-4"
A503	2'-1"	8"
A506	6'-9"	11"
A507	5'-9"	11"
A511	5'-9"	11"
A512	6'-10"	11"

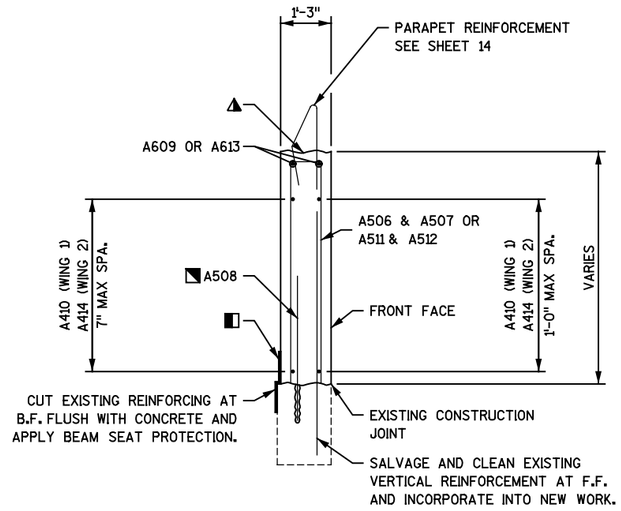
LEGEND

▲ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◥ CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 10½" MIN.

◾ CONCRETE MASONRY ANCHOR, TYPE L. NO. 4 BAR, EMBED 7½" MIN.

◧ 18" RUBBERIZED MEMBRANE WATERPROOFING.



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY CES | PLANS CK'D. SJM

SOUTH ABUTMENT DETAILS

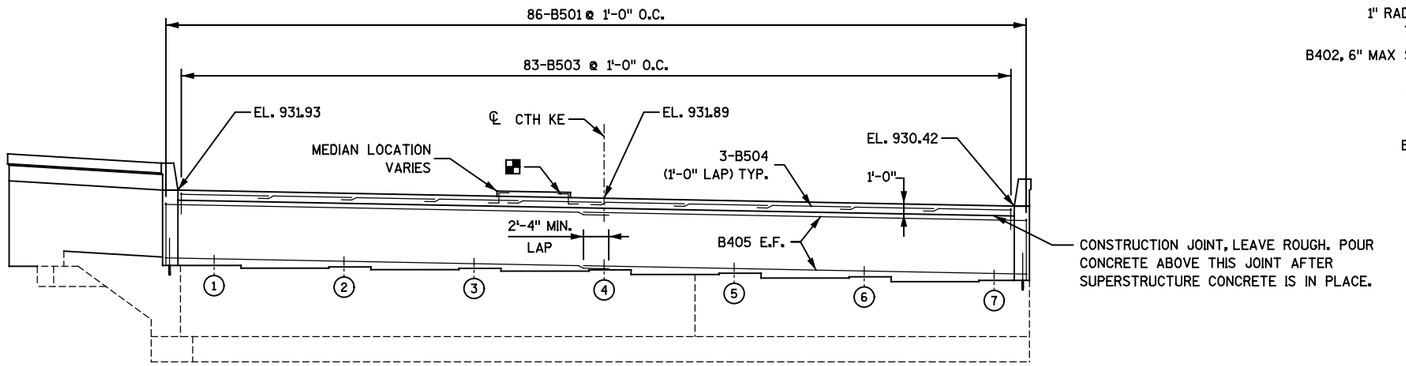
SHEET 4 OF 17

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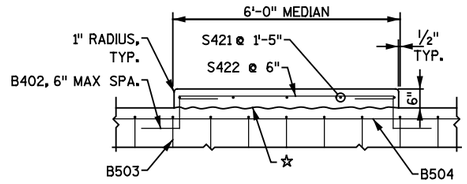
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8

STATE PROJECT NUMBER
1370-14-70

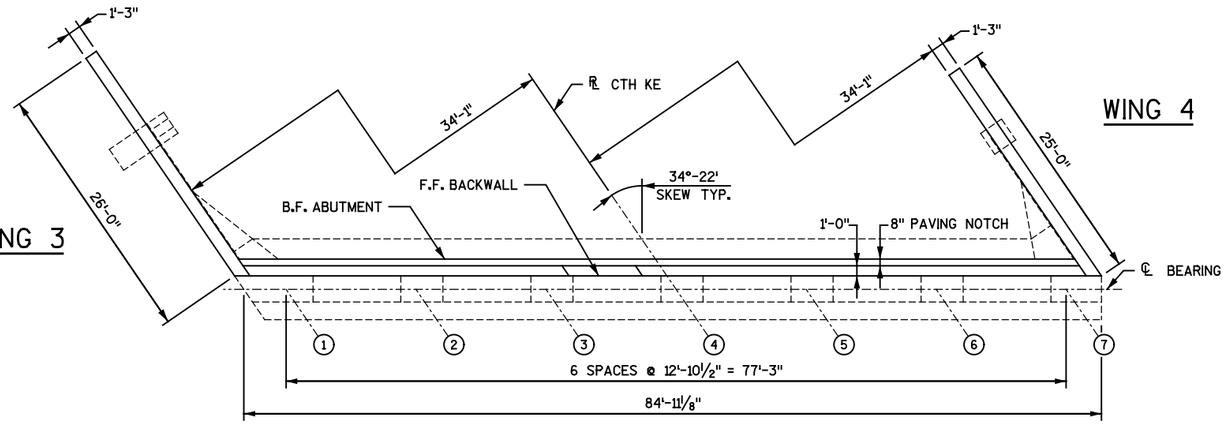


ELEVATION
(LOOKING NORTH)

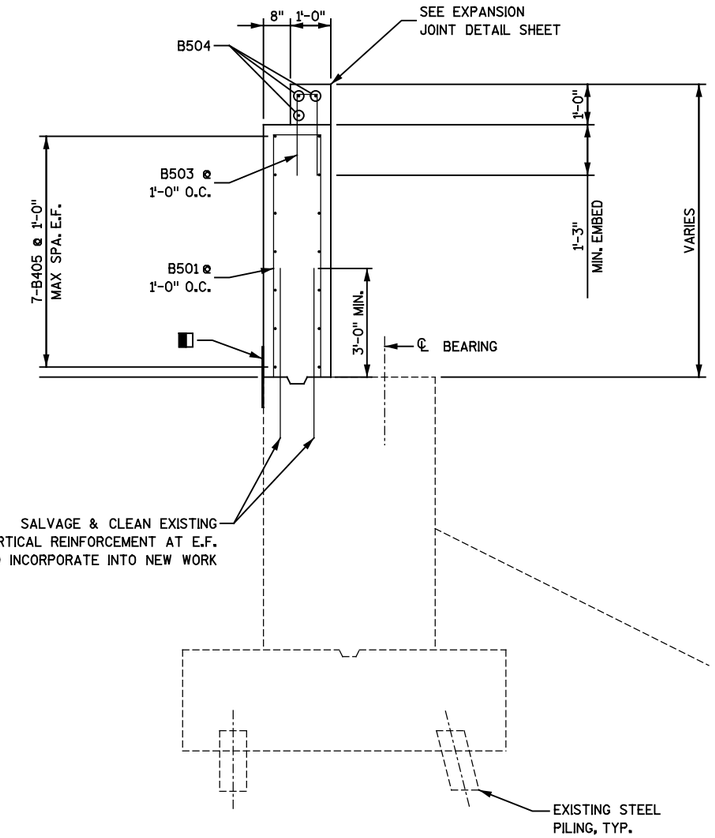


MEDIAN DETAIL

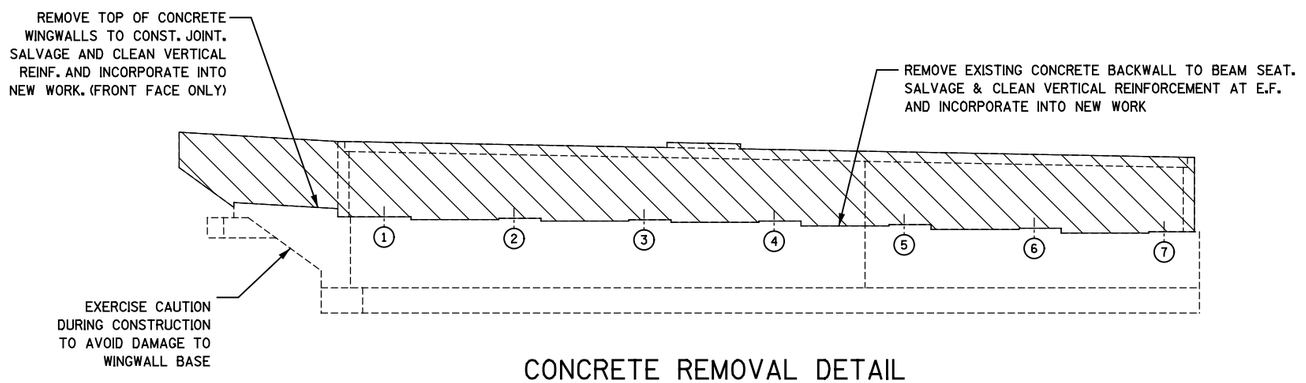
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PLAN



SECTION THRU BODY



CONCRETE REMOVAL DETAIL

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.
- INSTALL S433 BARS TO ANCHOR MEDIAN TO PAVING BLOCK. SEE SHEET 8 FOR DETAILS.
- ☆ ROUGH FLOAT SURFACE OR SAME FINISH AS EXPOSED DECK. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THIS AREA. CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY CES | PLANS CK'D. SJM

SHEET 5 OF 17

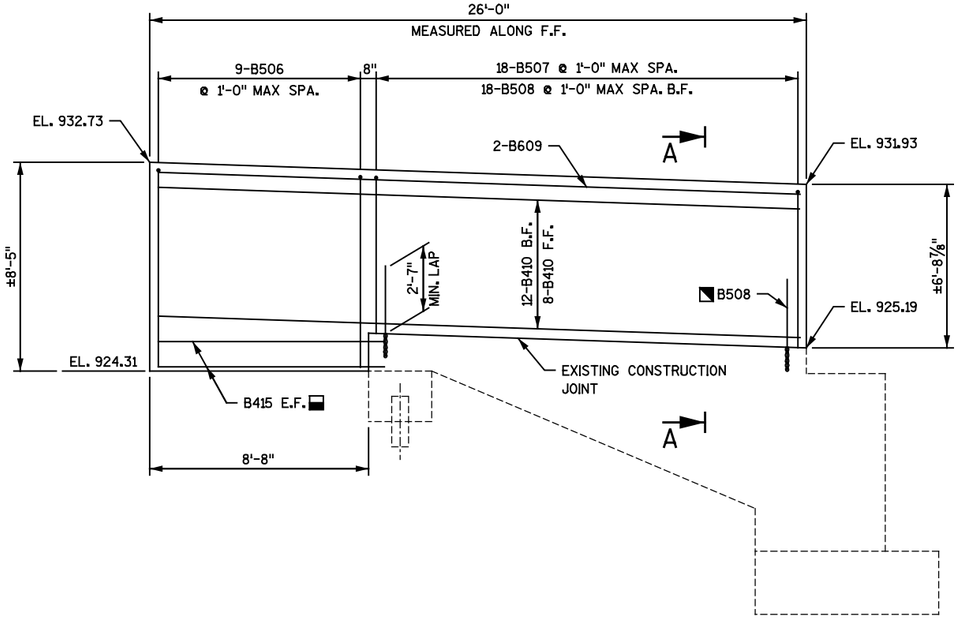
NORTH ABUTMENT 278

8

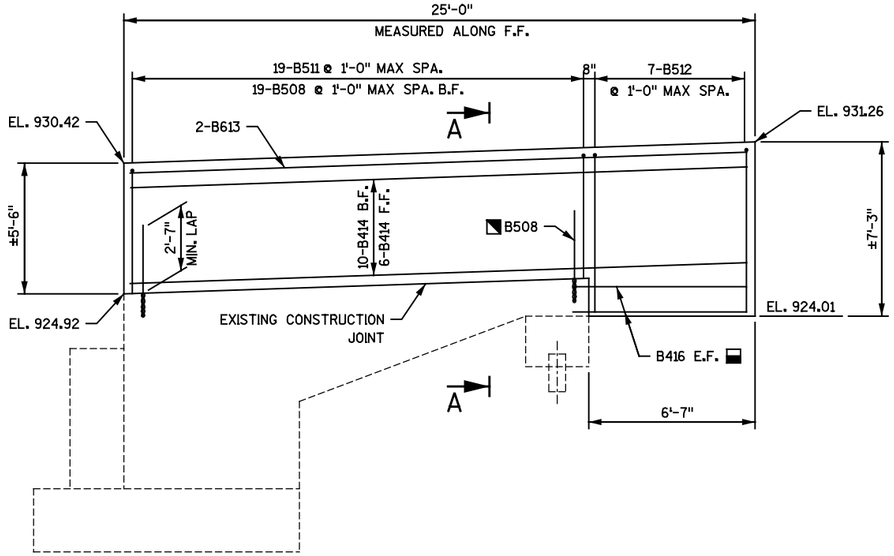
8

STATE PROJECT NUMBER

1370-14-70



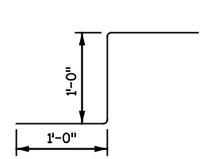
ELEVATION-WING 3



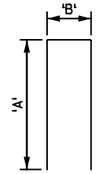
ELEVATION-WING 4

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	86	14'-1"	▲		BACKWALL VERT. REINF.
B402	X	4	2'-10"	▲		MEDIAN ANCHOR
B503	X	83	4'-7"	▲		PAVING NOTCH VERT. REINF.
B504	X	33	8'-5"			PAVING NOTCH HORZ. REINF.
B405	X	42	29'-9"			BACKWALL HORZ. REINF.
B506	X	9	16'-4"	▲		WING WALL 3 VERT. REINF.
B507	X	18	13'-8"	▲		WING WALL 3 VERT. REINF.
B508	X	37	3'-6"			WING WALL DOWEL BARS
B609	X	2	25'-8"			WING WALL 3 HORZ. REINF.
B410	X	20	25'-8"			WING WALL 3 HORZ. REINF.
B511	X	19	11'-4"	▲		WING WALL 4 VERT. REINF.
B512	X	7	14'-0"	▲		WING WALL 4 VERT. REINF.
B613	X	2	24'-8"			WING WALL 4 HORZ. REINF.
B414	X	16	24'-8"			WING WALL 4 HORZ. REINF.
B415	X	4	9'-2"			WING WALL 3 HORZ. REINF.
B416	X	4	7'-1"			WING WALL 4 HORZ. REINF.



B402



B501, B503, B506, B507, B511, B512

BAR MARK	DIM. 'A'	DIM. 'B'
B501	6'-6"	1'-4"
B503	2'-1"	8"
B506	7'-10"	11"
B507	6'-6"	11"
B511	5'-4"	11"
B512	6'-8"	11"

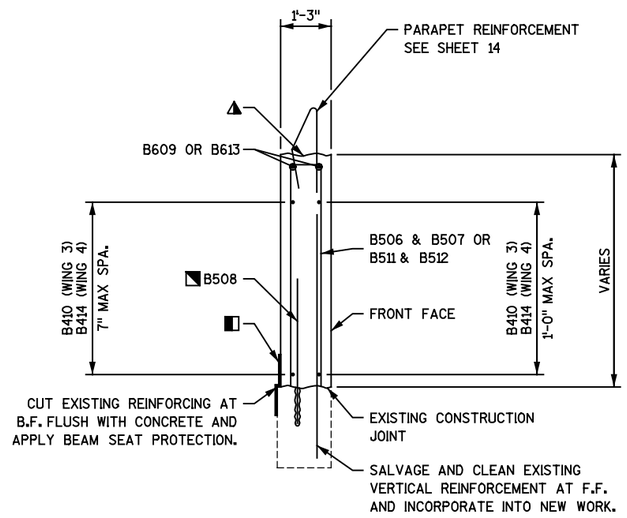
LEGEND

▲ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

◪ CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 10½" MIN.

◪ CONCRETE MASONRY ANCHOR, TYPE L. NO. 4 BAR, EMBED 7½" MIN.

◧ 18" RUBBERIZED MEMBRANE WATERPROOFING.



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

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NORTH ABUTMENT DETAILS

SHEET 6 OF 17

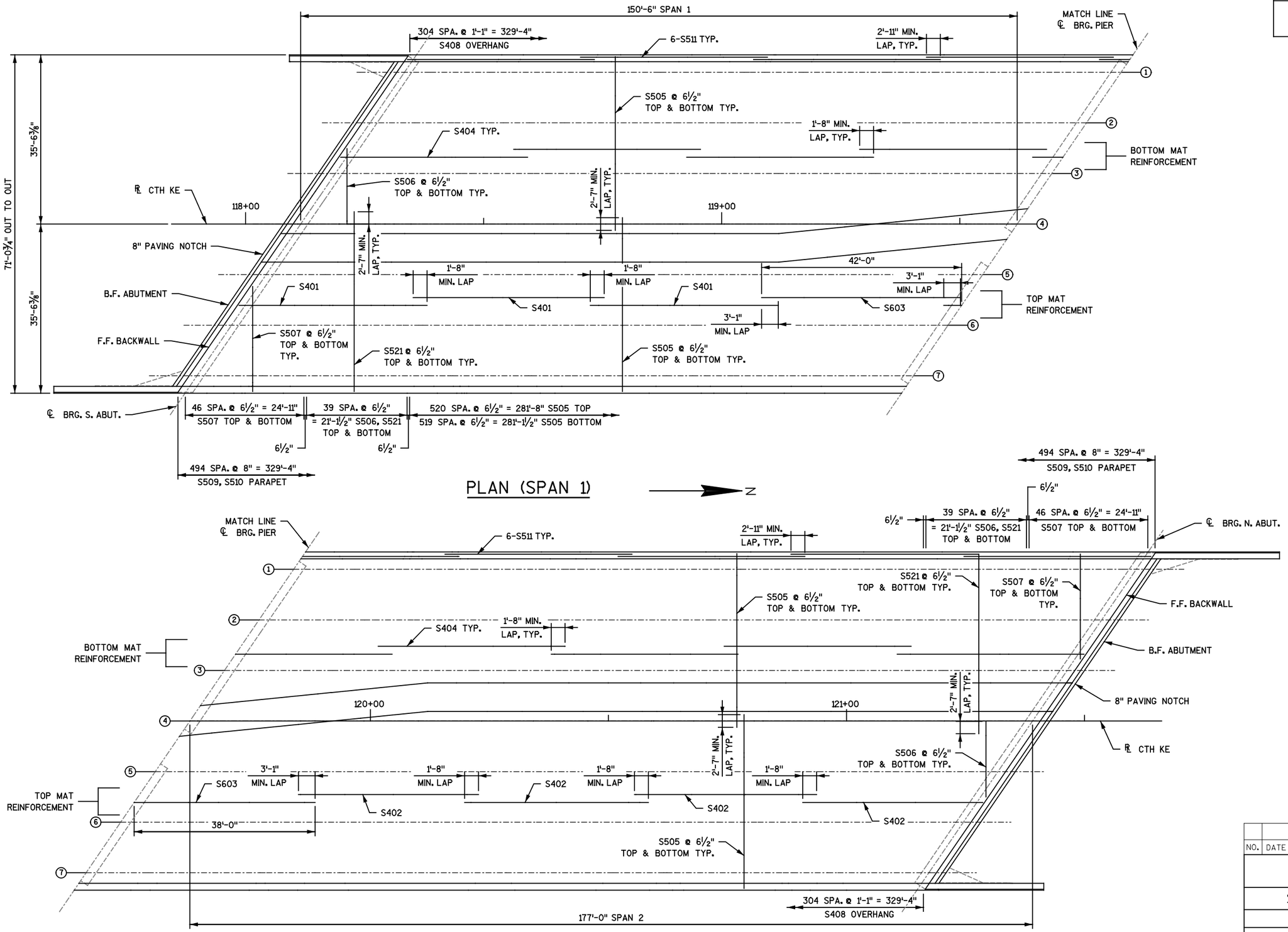
279

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STATE PROJECT NUMBER

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PLAN (SPAN 1)

N

PLAN (SPAN 2)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY	CES	PLANS CK'D.	SJM

SHEET 7 OF 17

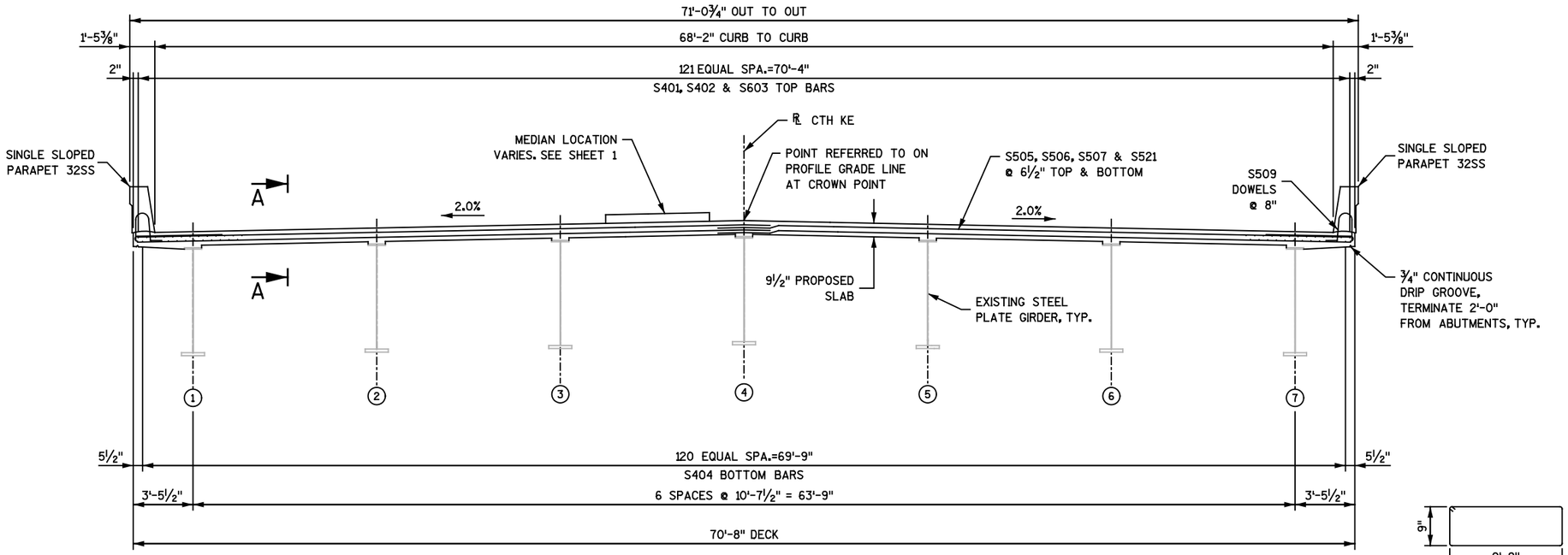
SUPERSTRUCTURE 280

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STATE PROJECT NUMBER

1370-14-70

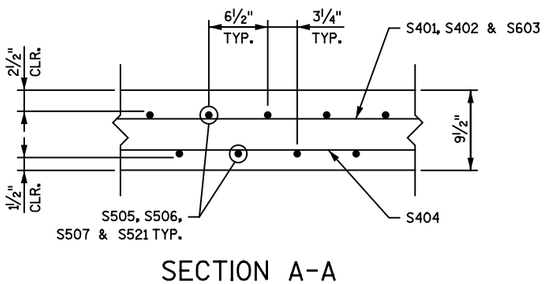


TYPICAL SECTION THRU DECK

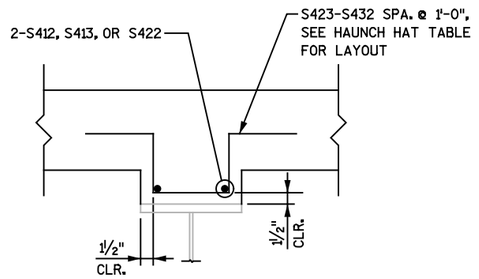
(LOOKING NORTH)

S423 - S432

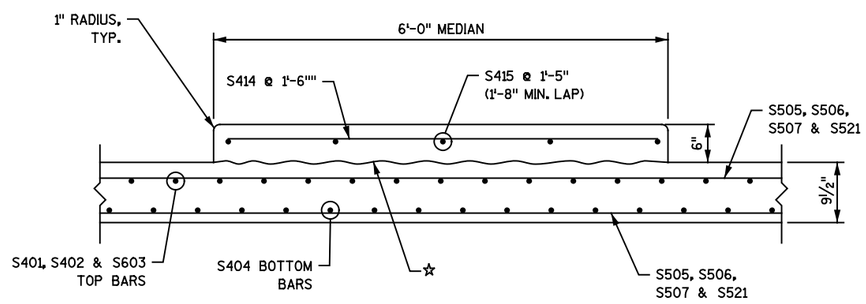
BAR MARK	DIM. 'A'	DIM. 'B'
S423	4"	9"
S424	5"	9"
S425	6"	9"
S426	7"	9"
S427	8"	9"
S428	4"	13"
S429	5"	13"
S430	6"	13"
S431	7"	13"
S432	8"	13"



SECTION A-A



SECTION B



MEDIAN DETAIL

☆ ROUGH FLOAT SURFACE OR SAME FINISH AS EXPOSED DECK. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THIS AREA. CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	366	38'-8"			LONGIT. TOP
S402	X	488	37'-1"			LONGIT. TOP
S603	X	244	41'-7"			LONGIT. TOP
S404	X	1089	38'-1"			LONGIT. BOTTOM
S505	X	2082	36'-6"			TRANS. TOP & BOTTOM
S506	X	160	18'-10"		△	TRANS. TOP & BOTTOM
S507	X	188	19'-7"		△	TRANS. TOP & BOTTOM
S408	X	610	4'-10"	▲		TRANS. OVERHANG
S509	X	990	4'-9"	▲		PARAPET DOWELS
S510	X	990	5'-0"	▲		PARAPET VERT.
S511	X	108	39'-3"			PARAPET HORIZ.
S412	X	36	33'-0"			LONG. HAUNCH
S413	X	82	33'-8"			LONG. HAUNCH
S414	X	221	5'-8"			TRANS. MEDIAN
S415	X	80	22'-10"			LONG. MEDIAN
S416	X	10	6'-0"	▲		LONG. MEDIAN LAP
S417	X	24	9'-3"			TRANS. DECK @ EXP. JOINT
S418	X	156	6'-4"	▲		S & N ABUT. DIAPH. STIRRUPS
S619	X	60	9'-3"			S & N ABUT. DIAPH. BOTT. HORIZ.
S420	X	24	9'-3"			S & N ABUT. DIAPH TOP HORIZ.
S521	X	160	37'-9"			TRANS. TOP & BOTTOM
S422	X	28	21'-8"			LONG. HAUNCH
S423	X	136	2'-5"	▲		HAUNCH HAT
S424	X	177	2'-7"	▲		HAUNCH HAT
S425	X	95	2'-9"	▲		HAUNCH HAT
S426	X	272	2'-11"	▲		HAUNCH HAT
S427	X	136	3'-1"	▲		HAUNCH HAT
S428	X	276	2'-9"	▲		HAUNCH HAT
S429	X	114	2'-11"	▲		HAUNCH HAT
S430	X	390	3'-1"	▲		HAUNCH HAT
S431	X	276	3'-3"	▲		HAUNCH HAT
S432	X	195	3'-5"	▲		HAUNCH HAT

HAUNCH HAT TABLE

GIRDER NO.	BAR MARK			
	0-94 (FT)	94-150.5 (FT)	150.5-287.5 (FT)	287.5-327.5 (FT)
1	S423	-	S428	-
2	S425	S429	S430	S424
3	S426	S430	S431	S426
4	S427	S432	S432	S427
5	S426	S430	S431	S426
6	S424	S429	S430	S424
7	-	-	S428	S423

BAR SERIES TABLE

BAR MARK	LENGTH 1	LENGTH 2	NO. OF SERIES	NO. BARS PER SERIES
S506	3'-4"	34'-3"	4	40
S507	1'-4"	37'-9"	4	47

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY: CES | PLANS CK'D.: SJM

SUPERSTRUCTURE DETAILS

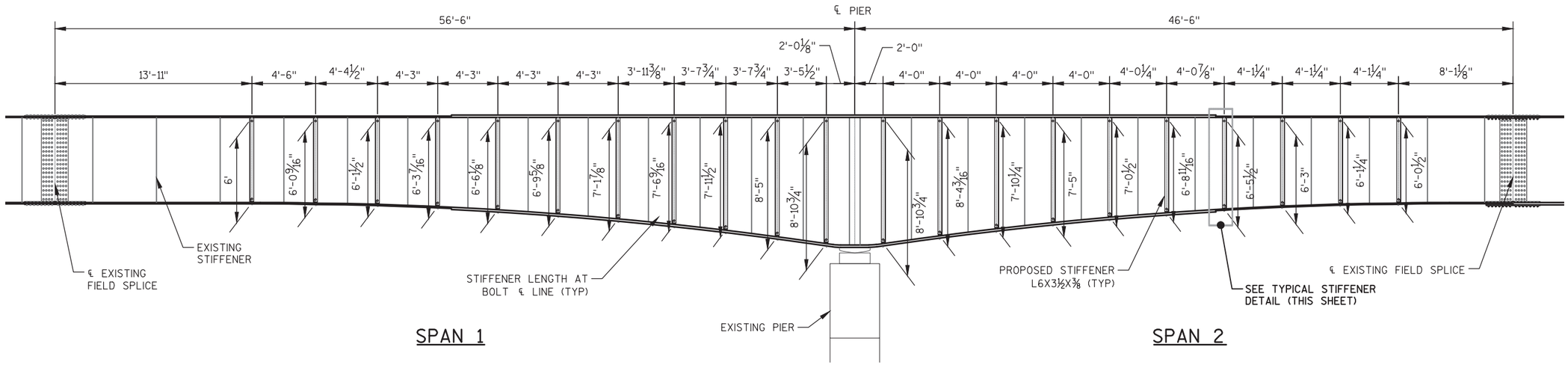
SHEET 8 OF 17

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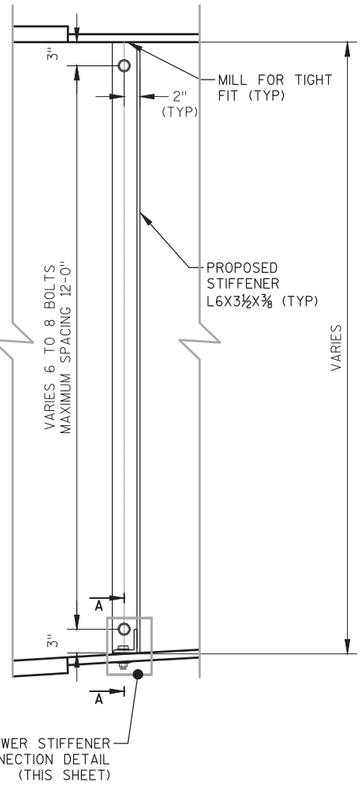
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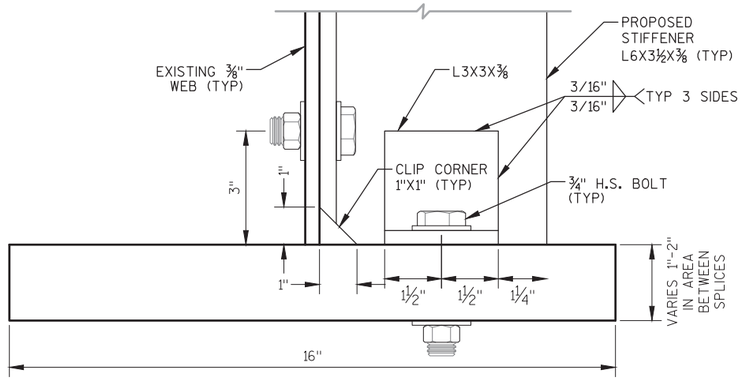
STATE PROJECT NUMBER
1370-14-70



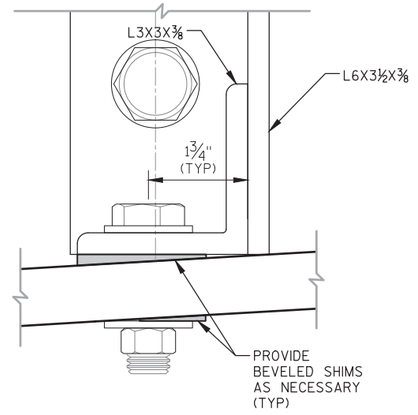
GIRDERS 2-6 ELEVATION



TYPICAL STIFFENER DETAIL



STIFFENER SECTION A-A



LOWER STIFFENER CONNECTION DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY	CES	PLANS CK'D.	RJW

STIFFENER DETAILS

SHEET 9 OF 16

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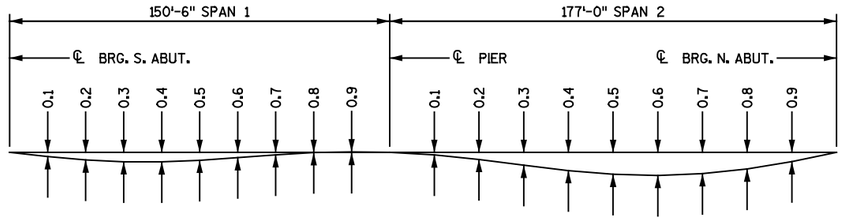
1370-14-70

TOP OF DECK ELEVATIONS

POINT / GIRDER	℄ BRG. SOUTH ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. NORTH ABUT.
W. EDGE	920.84	921.35	921.86	922.37	922.88	923.39	923.90	924.41	924.92	925.43	925.94	926.54	927.14	927.74	928.34	928.94	929.54	930.14	930.74	931.33	931.88
1	920.83	921.34	921.85	922.36	922.87	923.38	923.89	924.40	924.91	925.42	925.93	926.53	927.13	927.73	928.33	928.93	929.53	930.13	930.73	931.33	931.88
2	920.80	921.31	921.82	922.33	922.84	923.35	923.86	924.37	924.88	925.39	925.90	926.50	927.10	927.70	928.30	928.90	929.50	930.10	930.70	931.30	931.86
3	920.76	921.27	921.78	922.29	922.80	923.31	923.82	924.34	924.85	925.36	925.87	926.47	927.07	927.60	928.27	928.87	929.47	930.07	930.67	931.27	931.85
4	920.73	921.24	921.75	922.26	922.77	923.28	923.79	924.30	924.81	925.32	925.83	926.43	927.03	927.63	928.23	928.83	929.43	930.03	930.63	931.23	931.83
5	920.24	920.78	921.29	921.80	922.31	922.82	923.33	923.84	924.35	924.86	925.37	925.97	926.57	927.17	927.77	928.37	928.97	929.57	930.17	930.77	931.37
6	919.76	920.32	920.83	921.34	921.85	922.36	922.87	923.38	923.89	924.40	924.91	925.51	926.11	926.71	927.31	927.91	928.51	929.11	929.71	930.31	930.91
7	919.28	919.84	920.37	920.88	921.39	921.90	922.41	922.92	923.44	923.95	924.46	925.06	925.66	926.26	926.86	927.46	928.06	928.66	929.26	929.86	930.46
E. EDGE	919.12	919.68	920.22	920.73	921.24	921.76	922.27	922.78	923.29	923.80	924.31	924.91	925.51	926.11	926.71	927.31	927.91	928.51	929.11	929.71	930.31

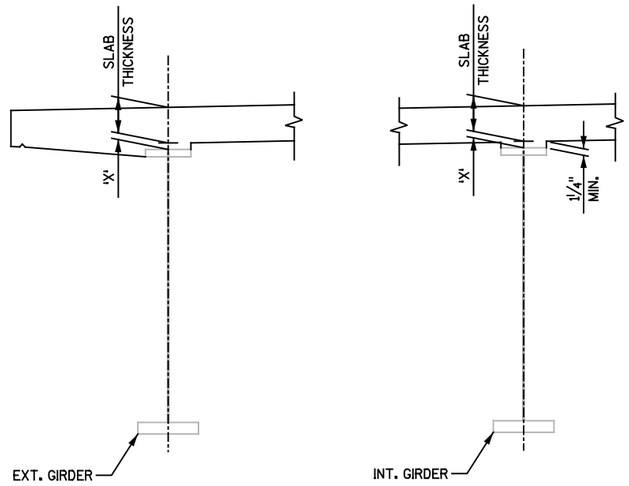
DEAD LOAD DEFLECTIONS

	CONCRETE DEAD LOAD DEFLECTIONS (FEET)										
	℄ BRG. S. ABUT.	SPAN 1									℄ PIER
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
Girders 1,7	0.000	0.067	0.119	0.148	0.149	0.125	0.083	0.037	0.003	-0.010	0.000
Girder 2-6	0.000	0.083	0.149	0.184	0.186	0.156	0.104	0.047	0.004	-0.012	0.000
		SPAN 2									℄ BRG. N. ABUT.
	℄ PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
Girders 1, 7	0.000	0.040	0.110	0.202	0.288	0.346	0.365	0.337	0.263	0.147	0.000
Girder 2-6	0.000	0.050	0.138	0.253	0.360	0.433	0.456	0.421	0.328	0.183	0.000



DEFLECTION DIAGRAM

SEE TABLE FOR DEAD LOAD DEFLECTIONS AT TENTH POINTS



HAUNCH DETAIL

NOTES

TO DETERMINE 'X':
ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATE, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT ℄ OF BRGS. AND AT TENTH POINTS OF EACH SPAN, THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF STEEL ELEVATION
\+ DEFLECTION (CONCRETE ONLY)
\- SLAB THICKNESS

= CONCRETE HAUNCH HEIGHT 'X'

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

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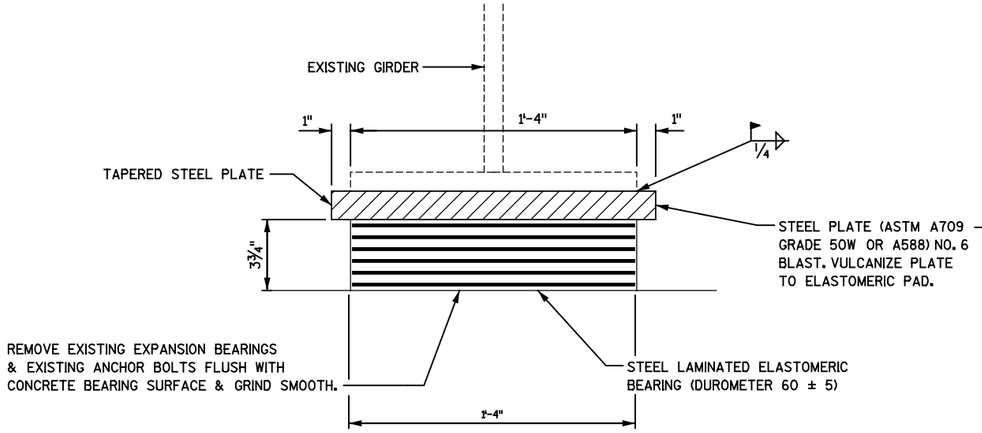
DECK ELEVATIONS & SUPERSTRUCTURE DEFLECTIONS

SHEET 10 OF 17

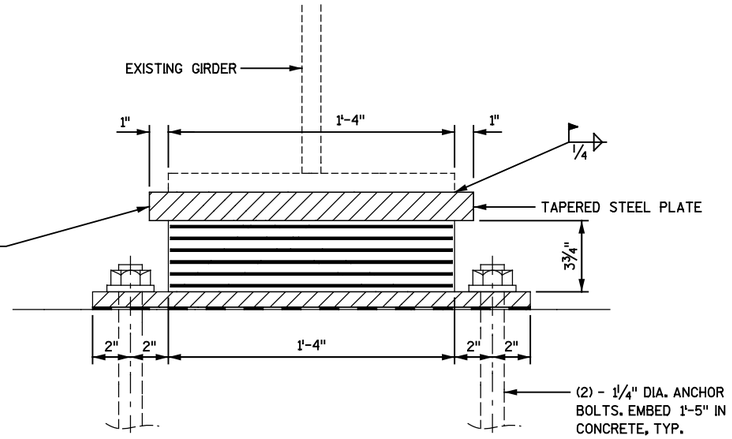
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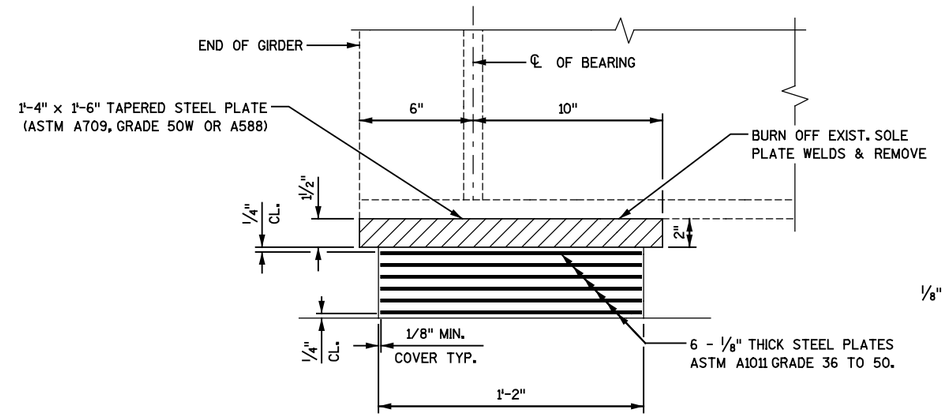
1370-14-70



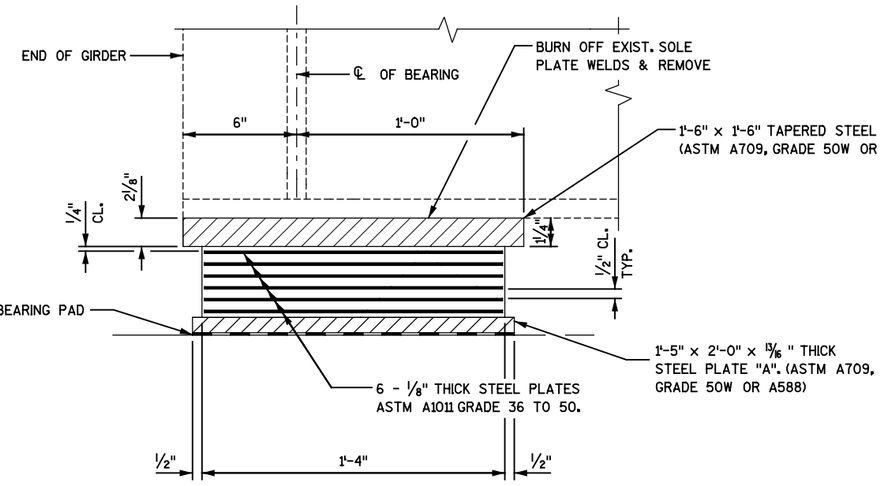
S. ABUTMENT FRONT ELEVATION



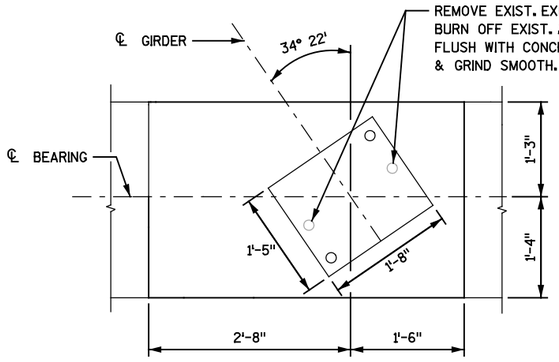
N. ABUTMENT FRONT ELEVATION



S. ABUTMENT
SECTION THRU ELASTASTOMERIC BEARING



N. ABUTMENT
SECTION THRU ELASTASTOMERIC BEARING



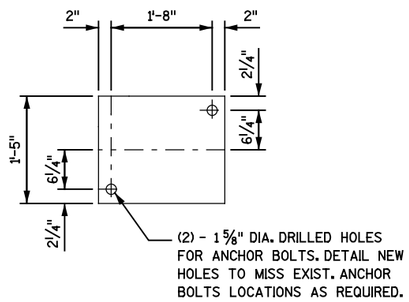


PLATE "A" DETAILS

BEARING NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS PLATE "A" THICKNESS + 2 1/4".

PROVIDE 1/8" THICK BEARING PAD SAME SIZE AS MASONRY PLATE "A" FOR EACH BEARING.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "A" SHALL HAVE A DIAMETER 3/8" LARGER THAN ANCHOR BOLT.

ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOTLS, NUTS, AND WASHERS SHALL BE GALVANIZED AS REQUIRED BY ASTM DESIGNATION A153, CLASS "C".

PLATE "A" SHALL BE GALVANIZED.

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STRUCTURE B-67-173

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ELASTOMERIC EXPANSION BEARING DETAILS

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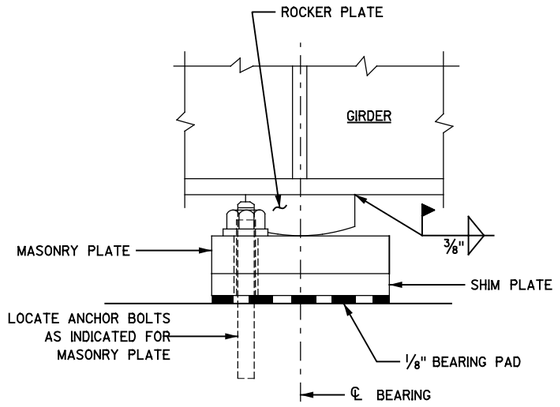
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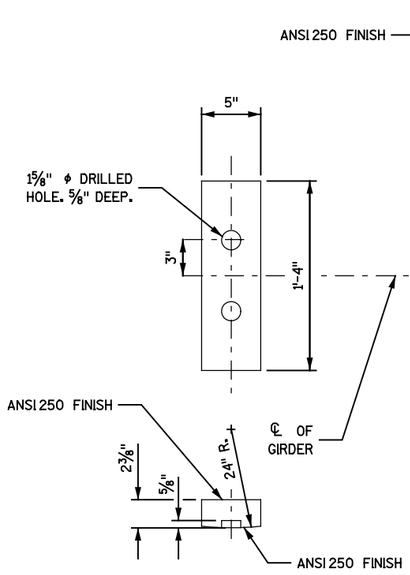
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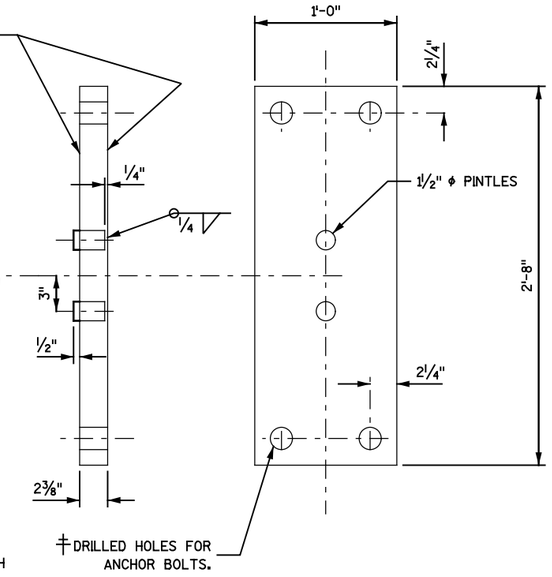
1370-14-70



FIXED BEARING ASSEMBLY



ROCKER PLATE



MASONRY PLATE

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

IN LIEU OF USING SHIM PLATES, FABRICATOR MAY INCREASE THICKNESS OF MASONRY PLATE BY THE SHIM PLATE THICKNESS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

USE (2) 1½" ϕ, 1'-10" LONG ANCHOR BOLTS PER BEARING PAD ASSEMBLY.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE THICKNESS + SHIM PLATE THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING PINTLES, ANCHOR BOLTS, NUTS AND WAHSERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL MATERIALS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES FIXED B-67-173", EACH.

CHAMFER TOP OF PINTLES ⅛". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE FOR A DRIVING FIT.

PROVIDE ⅛" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE FOR EACH BEARING.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

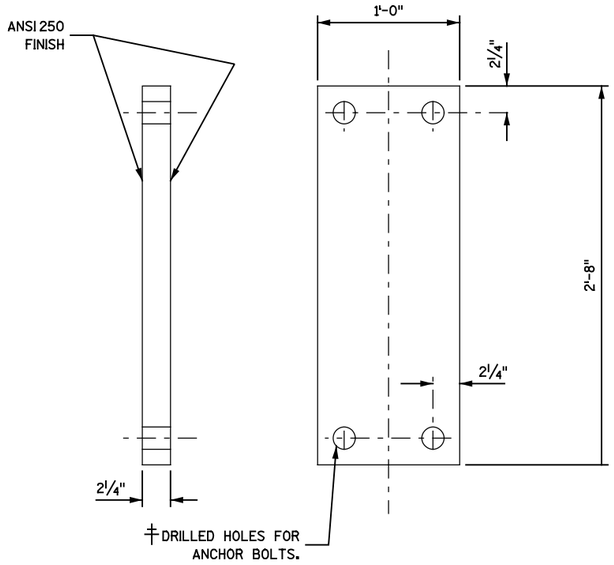
ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

ROCKER PLATE SHALL BE SHOP PAINTED WITH A WELDABLE PRIMER.

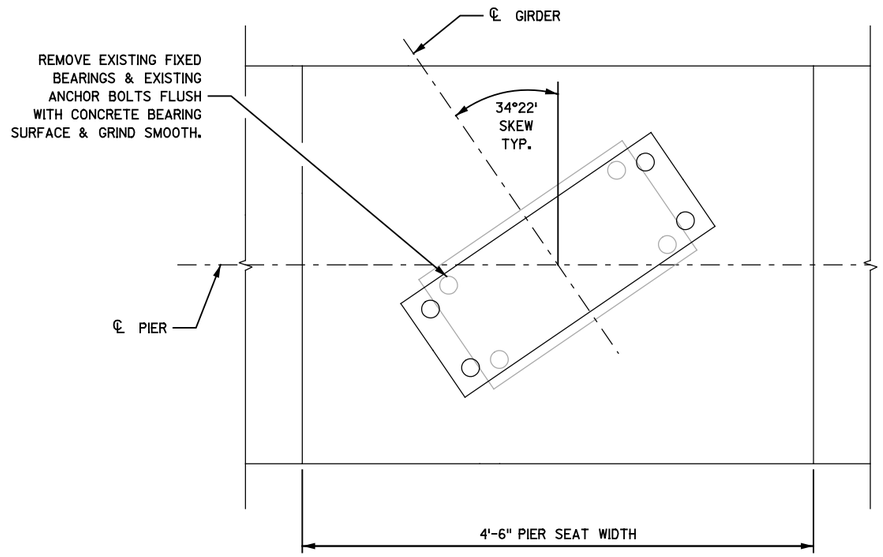
MASONRY PLATE SHALL BE GALVANIZED.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE AND SHIM PLATE HAVE A DIAMETER OF ⅜" LARGER THAN ANCHOR BOLT.



SHIM PLATE



BEARING AT SKEWED PIER

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STRUCTURE B-67-173

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FIXED BEARING DETAILS

SHEET 12 OF 17

285

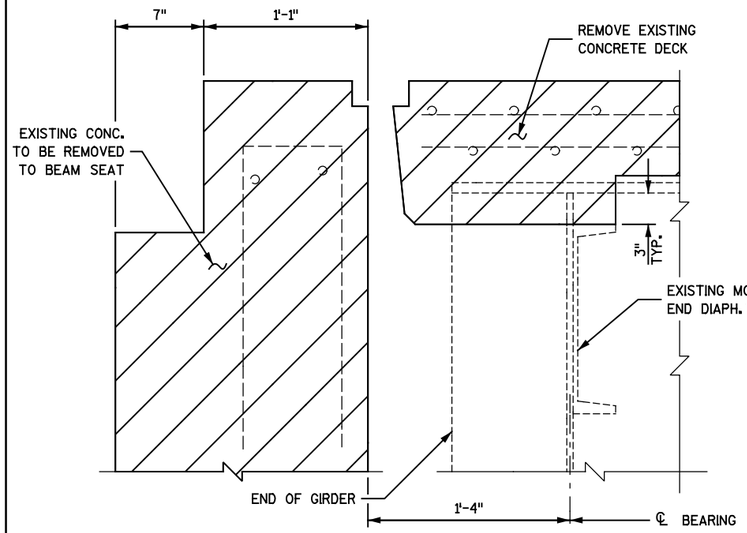
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FILE NAME :108.12 Fixed Bearing Details.dgn
PLOT DATE :4/22/2014 4:36:54 PM PLOT BY : Chris HEVEL DRV :Pdf_bw_HS.pltr PEN :CELTextSub.tbl

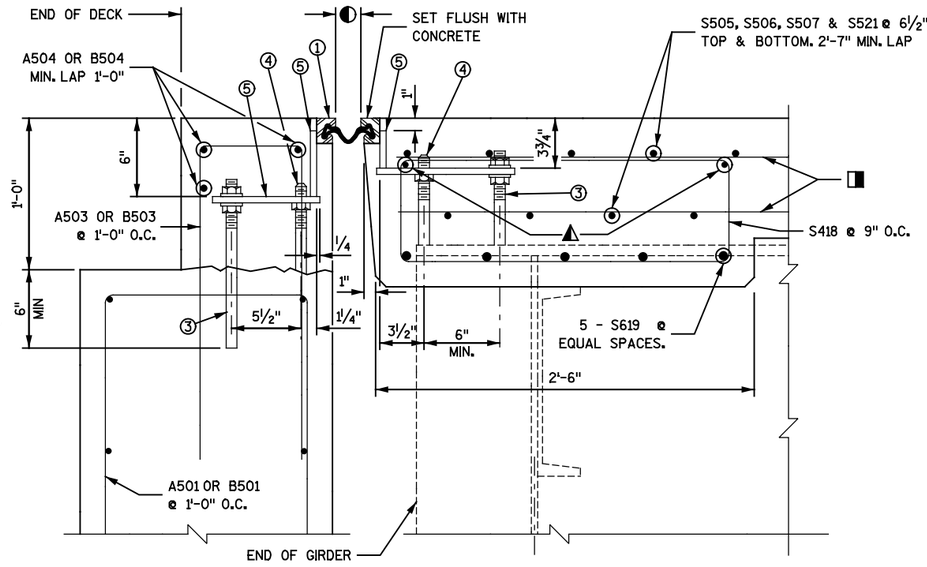
STATE PROJECT NUMBER

1370-14-70



JOINT REPAIR-REMOVAL

AT ABUTMENTS



SECTION THRU JOINT

AT ABUTMENTS

LEGEND

◐ ① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENINGS GIVEN NORMAL TO JOINT.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

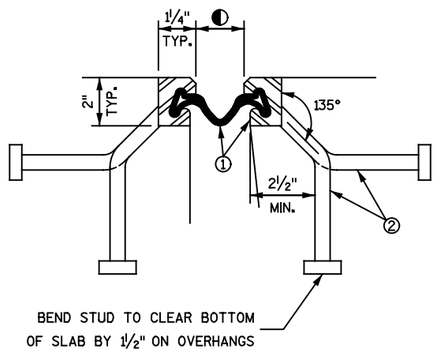
③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

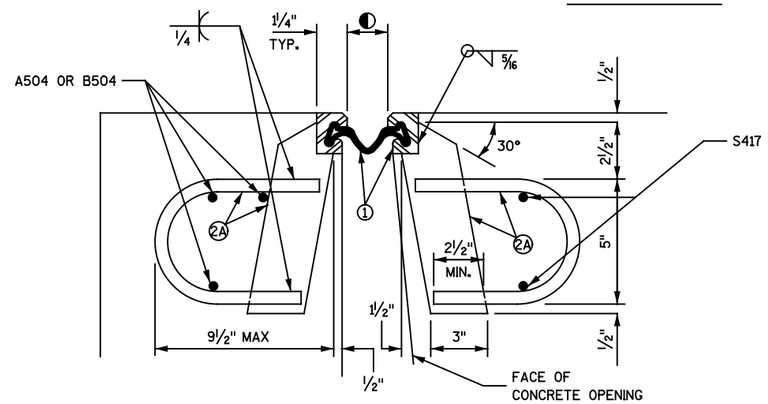
▲ S420, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ S401 OR S402 LONG. TOP DECK STEEL. S404 LONG. BOTTOM DECK STEEL. SPACE AT 7" O.C.



SECTION THRU JOINT

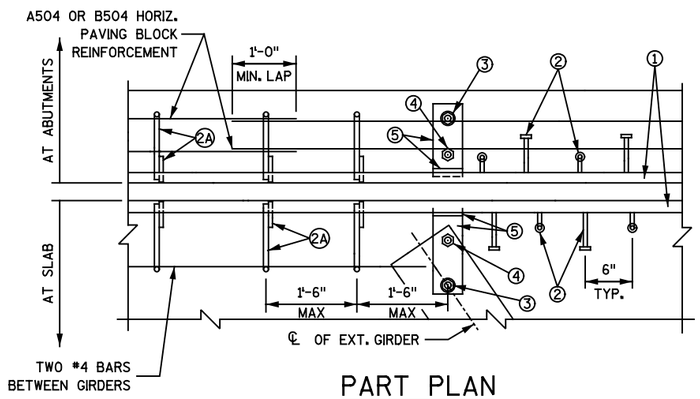
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



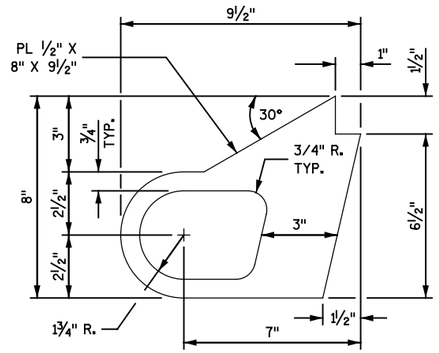
AT ABUTMENTS AT SLAB

SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

EXPANSION JOINT NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-67-173".

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFROM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY	CES	PLANS CK'D.	SJM

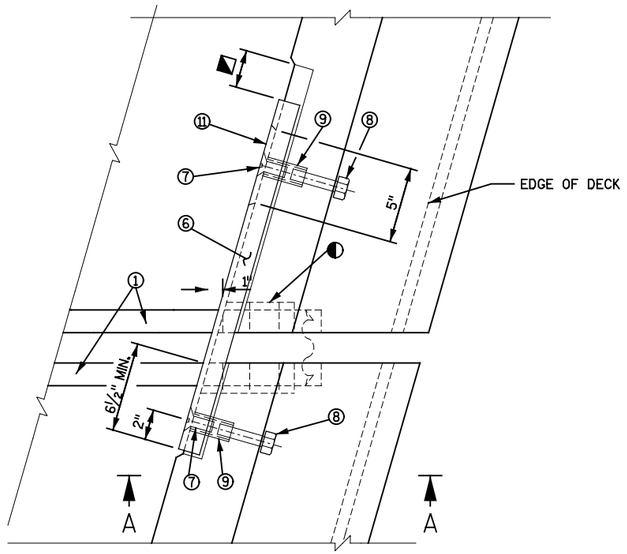
EXPANSION JOINT DETAILS

SHEET 13 OF 17

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STATE PROJECT NUMBER

1370-14-70



PLAN AT PARAPET

SINGLE SLOPE PARAPET

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENINGS GIVEN NORMAL TO JOINT.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

⑥ GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

⑦ ¾" ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

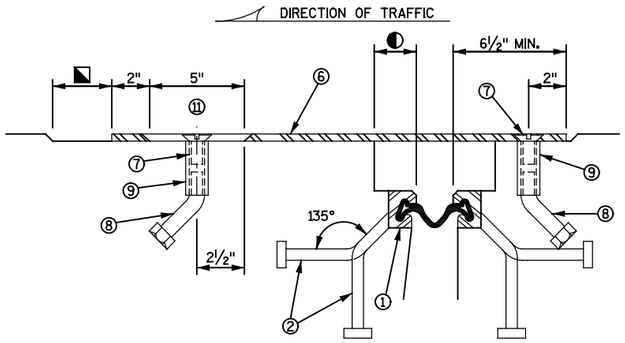
⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

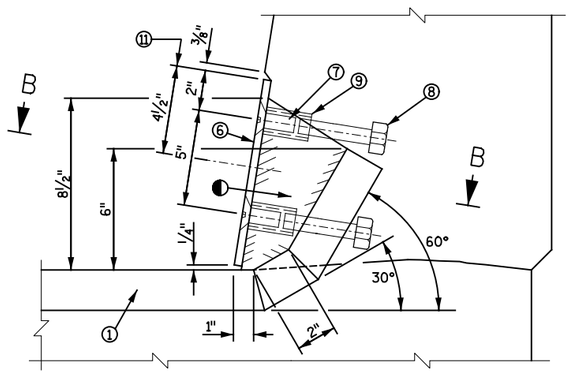
SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF ALL MATERIAL AND HARDWARE INCLUDED IN THE EXPANSION JOINT ASSEMBLIES AT THE PARAPET WILL BE INCLUDED IN THE BID ITEM "INSTALL EXPANSION DEVICE B-67-173".

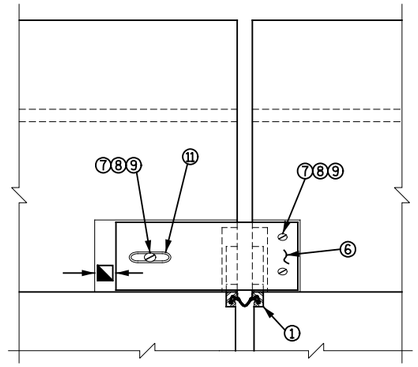


SECTION B-B



SECTION A-A

SINGLE SLOPE PARAPET



VIEW OF PARAPET PLATES FROM ROADWAY

SINGLE SLOPE PARAPET

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY CES | PLANS CK'D. SJM

STRIP SEAL COVER PLATES

SHEET 14 OF 17

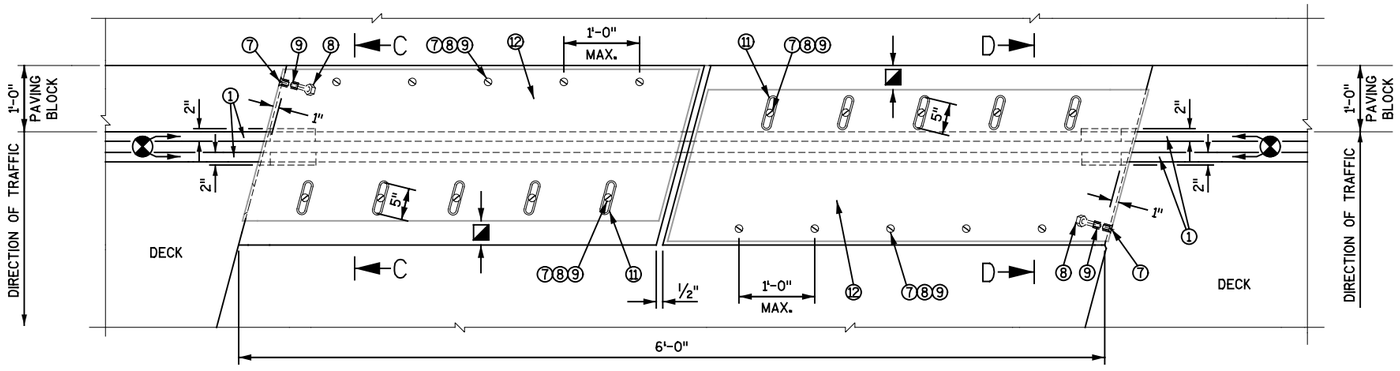
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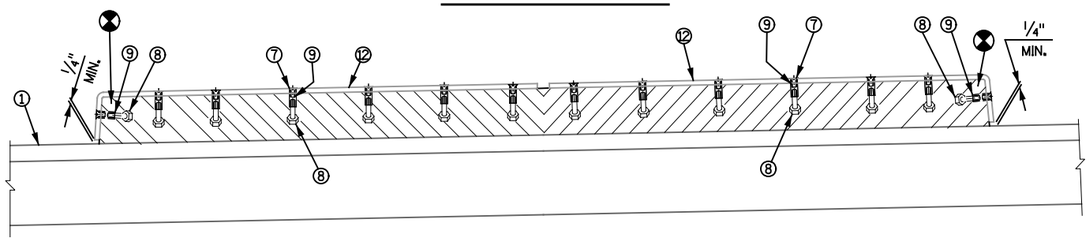
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FILE NAME :\08_14 Strip Seal Details - At Parapets.dgn
PLOT DATE :4/22/2014 4:28:36 PM PLOT BY : Chris HEVELI DRV :Pdf_bw_HS.pltr PEN :CELTextSub.tbl

STATE PROJECT NUMBER
1370-14-70



PLAN AT MEDIAN



SECTION AT MEDIAN

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

⑦ 3/4" ϕ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ 3/4" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

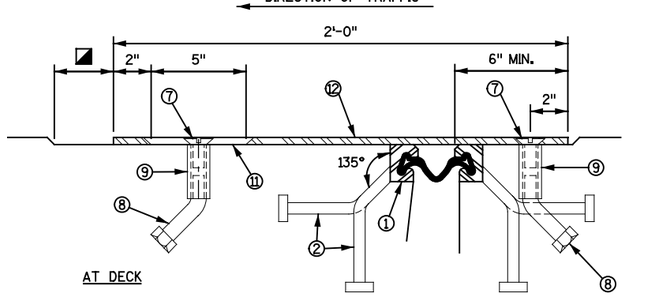
⑨ 3/4" ϕ X 2 1/4" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

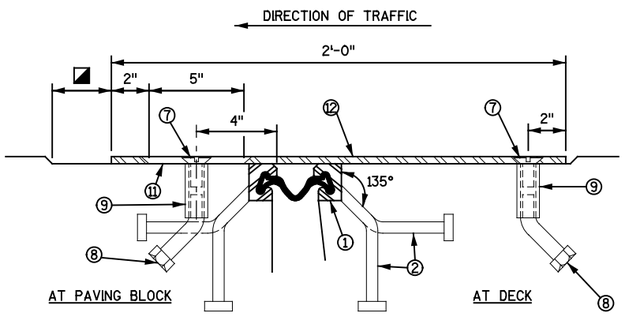
⑫ MEDIAN COVER PLATE 3/8" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF MEDIAN WITH HOLES FOR ⑦. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

⊠ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

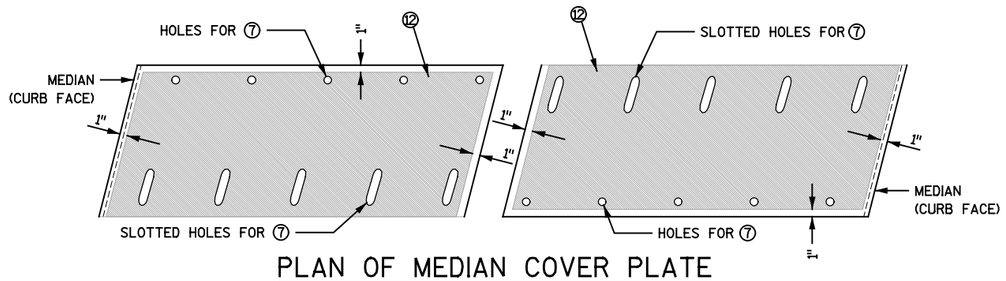
◪ JOINT OPENING ALONG SKEW PLUS 1/2".



SECTION C-C
AT MEDIAN AND WING 1



SECTION D-D
AT MEDIAN AND WING 4



PLAN OF MEDIAN COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W.S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

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STRIP SEAL COVER PLATES FOR MEDIAN

SHEET 15 OF 17
288

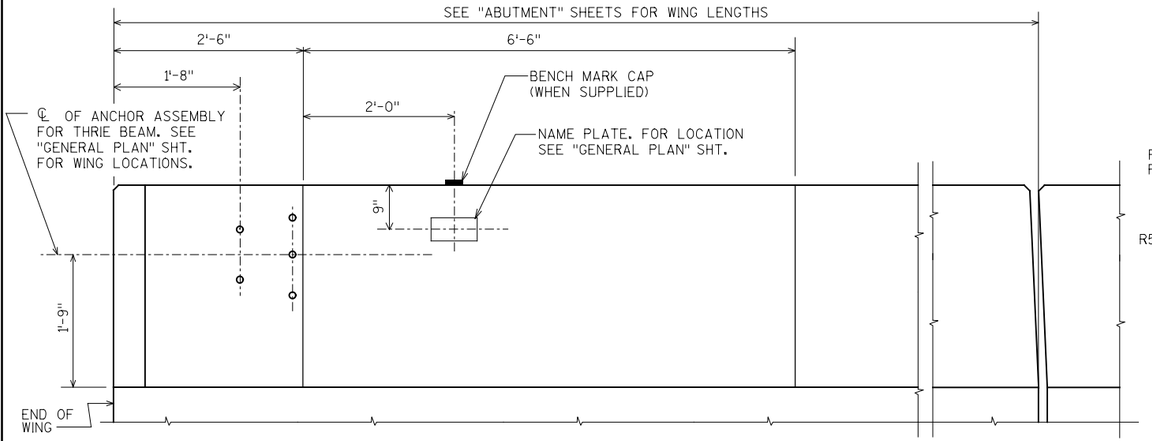
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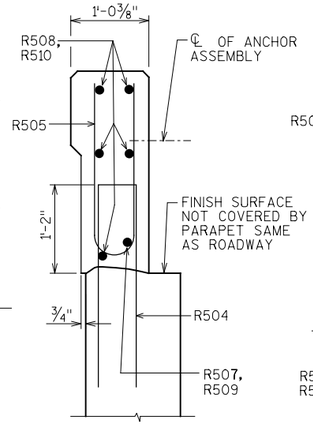
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PLOT DATE :4/22/2014 4:36:57 PM PLOT BY : Chris HEVELI DRV :Pdf_bw_HS.pit PEN :CELTextSub.tbl

STATE PROJECT NUMBER

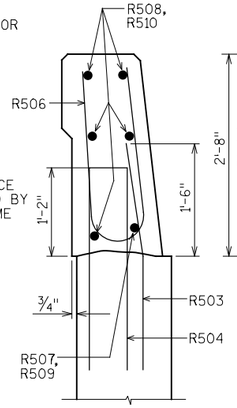
1370-14-70



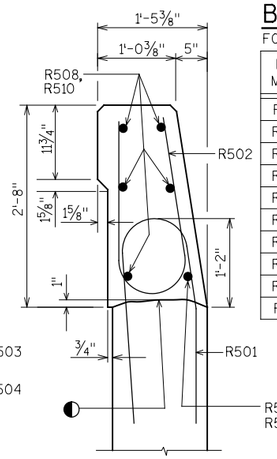
INSIDE ELEVATION



SECTION A



SECTION B



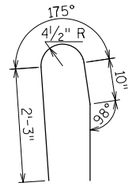
SECTION C

BILL OF BARS

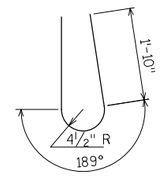
FOR ABUTMENT PARAPETS

BAR MARK	S. ABUT.	N. ABUT.	LENGTH	BENT	COAT	LOCATION
R501	51	51	5'-10"	X	X	PARAPET VERT.
R502	51	51	5'-0"	X	X	PARAPET VERT.
R503	24	24	3'-0"	X	X	PARAPET VERT.
R504	34	34	5'-7"	X	X	PARAPET VERT.
R505	22	22	4'-9"	X	X	PARAPET VERT.
R506	12	12	4'-10"	X	X	PARAPET VERT.
R507	1	1	25'-7"	X	X	PARAPET HORIZ.
R508	5	5	25'-7"		X	PARAPET HORIZ.
R509	1	1	24'-7"	X	X	PARAPET HORIZ.
R510	5	5	24'-7"		X	PARAPET HORIZ.

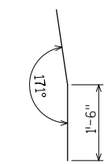
USE R507, R508 BARS FOR W1 & W3, AND R509. R510 BARS FOR W2 & W4.



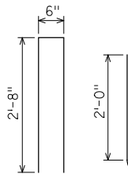
R501



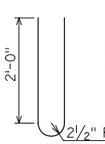
R502



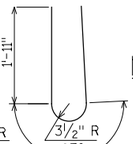
R503



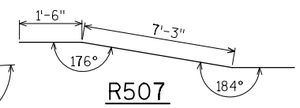
R504



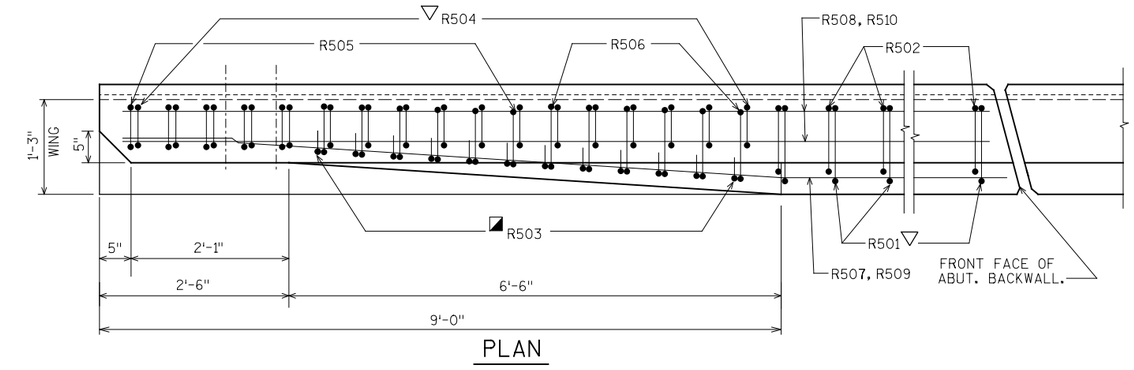
R505



R506

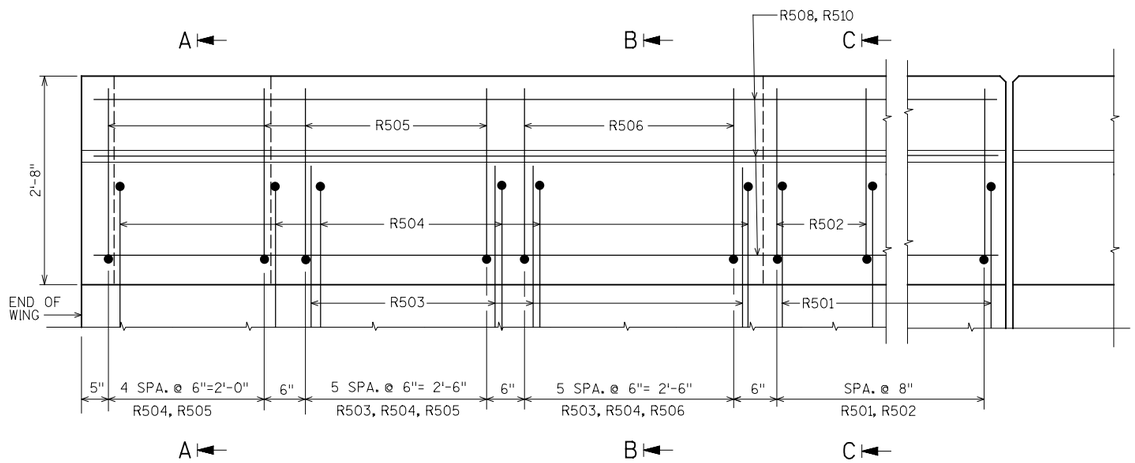


R507
R509

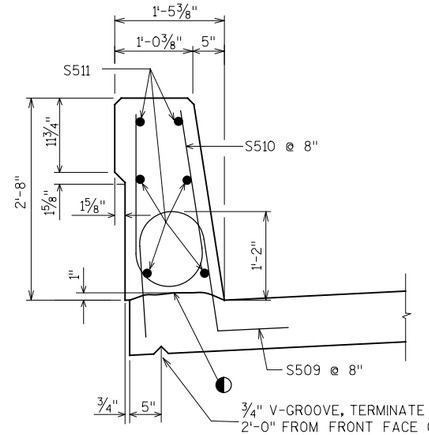


PLAN

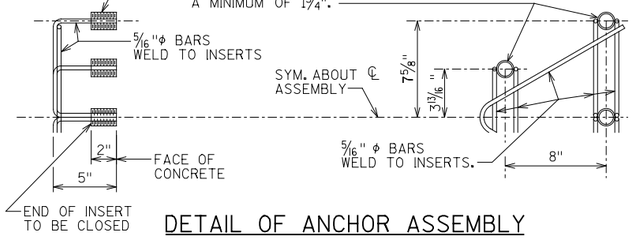
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY	CES	PLANS CK'D.	SJM

SINGLE SLOPE PARAPET 32SS

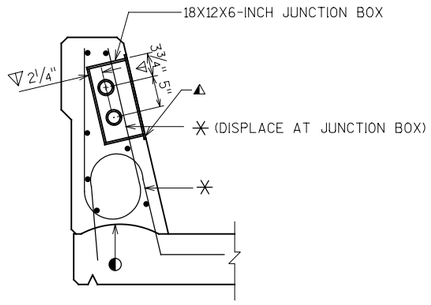
SHEET 16 OF 17

289

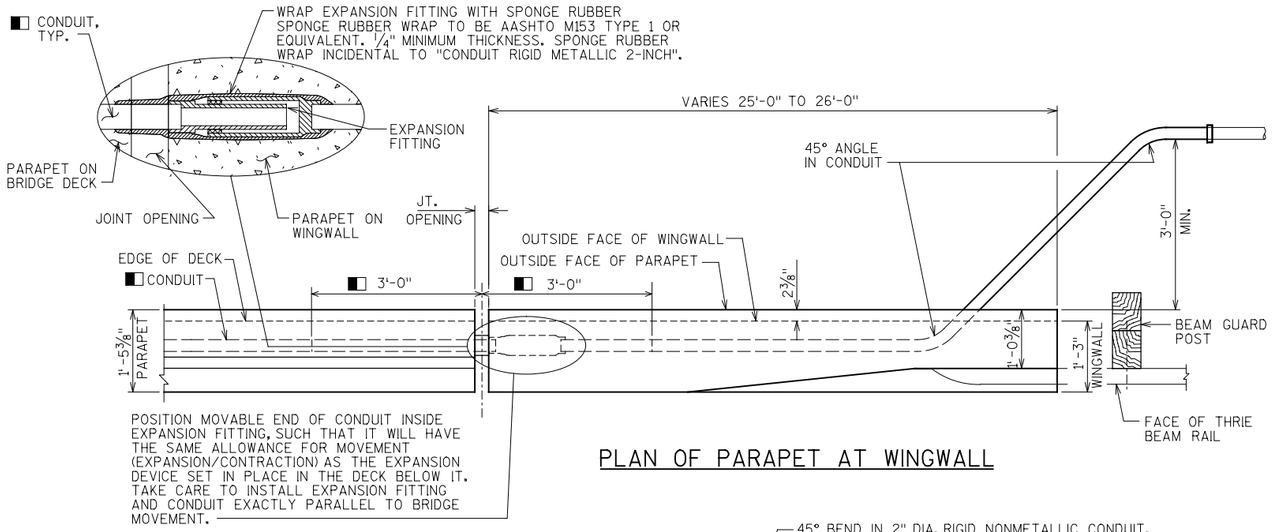
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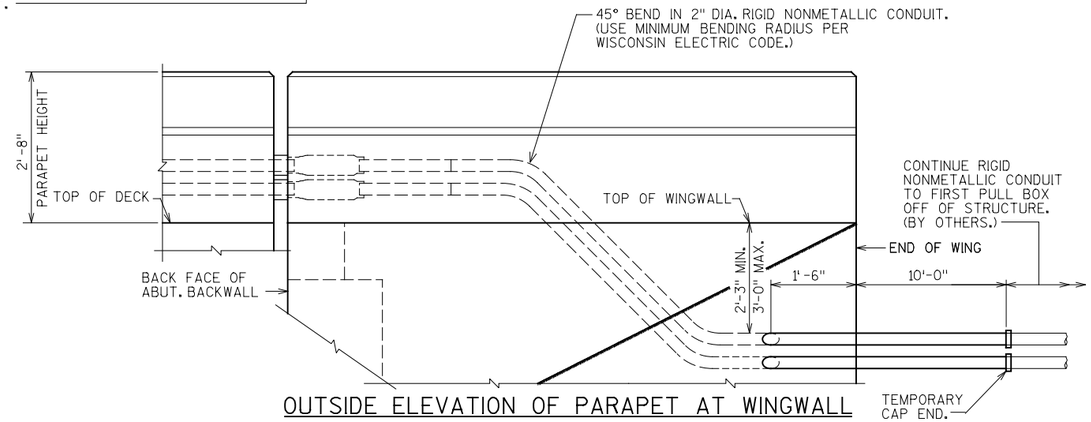
STATE PROJECT NUMBER
1370-14-70



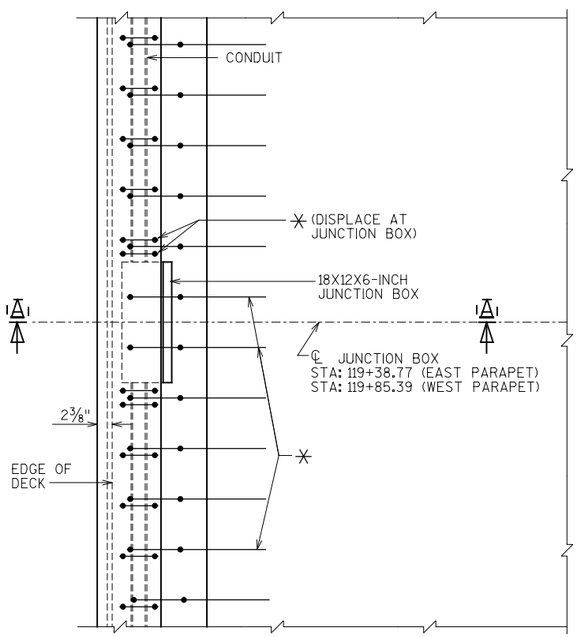
SECTION A-A



PLAN OF PARAPET AT WINGWALL



OUTSIDE ELEVATION OF PARAPET AT WINGWALL



PLAN AT LIGHT STANDARD

- ■ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND WING SIDES OF THE JOINT OPENING.
- ◐ CONST. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ✳ SEE SINGLE SLOPE PARAPET SHEET FOR ADDITIONAL BAR STEEL DETAILS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-173

DRAWN BY	CES	PLANS CK'D.	SJM

SINGLE SLOPE PARAPET 32SS ELECTRICAL

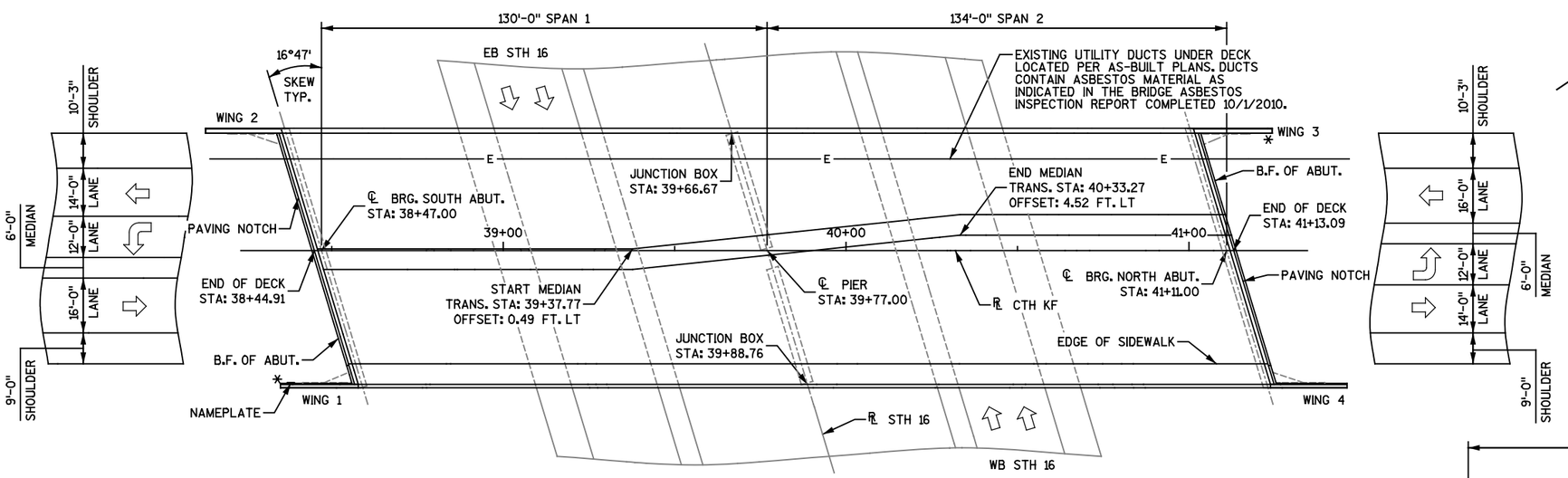
SHEET 17 OF 17
290

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FILE NAME :\08_ITSS32ELEC.DGN
PLOT DATE :4/22/2014 4:36:39 PM PLOT BY : Chris HEVEL DRV :Pdf_bw_HS.pit PEN :CELTextSub.tbl

STATE PROJECT NUMBER
1370-14-70



* LOCATION OF ANCHORAGE ASSEMBLIES FOR STEEL PLATE BEAM GUARD

PLAN B-67-174

TRAFFIC DATA

ADT (2009)	10,200
DESIGN SPEED	40 MPH

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-15
OPERATIONAL RATING	HS-24
MAXIMUM STANDARD PERMIT VEHICLE LOAD	130 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE MINIMUM CONCRETE HAUNCH SHALL BE 1¼" FOR DESIGN CALCULATIONS AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE DEPTH OF 1¾" WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING ABUTMENTS AND PIER TO REMAIN IN PLACE AS SHOWN AND INCORPORATED INTO NEW CONSTRUCTION.

CLEAN, STRAIGHTEN, AND INCORPORATE EXISTING BAR STEEL REINFORCEMENT INTO NEW WORK, WHERE APPLICABLE.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURE ENGINEER FOR REVIEW.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

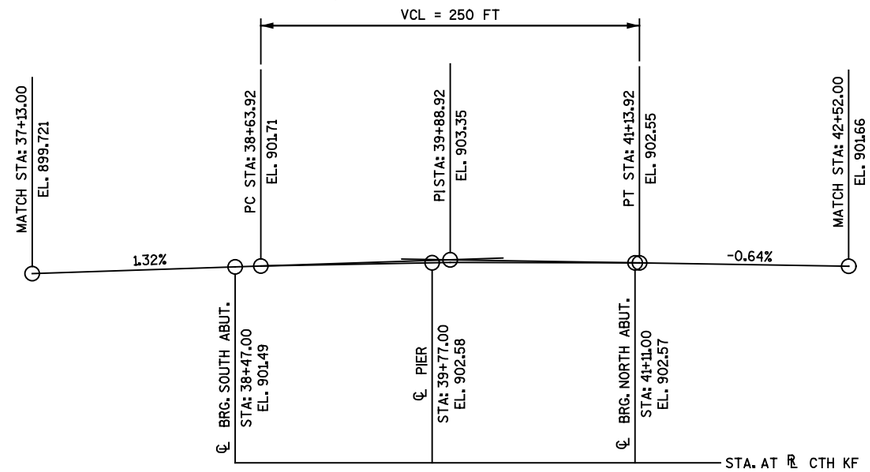
THE EXISTING STRUCTURE (B-67-174) IS A TWO-SPAN PARABOLIC HAUNCHED STEEL PLATE GIRDER BRIDGE WITH AN OVERALL LENGTH OF 264.0 FEET AND AN OVERALL WIDTH OF 75.60 FEET. THE GIRDERS ARE TO BE RAISED. THE ABUTMENTS MODIFIED, AND THE DECK AND PARAPETS REPLACED.

LIST OF DRAWINGS

1. DECK REPLACEMENT
2. CROSS SECTIONS
3. SOUTH ABUTMENT
4. SOUTH ABUTMENT DETAILS
5. NORTH ABUTMENT
6. NORTH ABUTMENT DETAILS
7. SUPERSTRUCTURE
8. SUPERSTRUCTURE DETAILS
9. DECK ELEVATIONS & SUPERSTRUCTURE DEFLECTIONS
10. BEARING REPLACEMENT DETAILS
11. EXPANSION JOINT DETAILS
12. STRIP SEAL COVER PLATES FOR SS PARAPET
13. STRIP SEAL COVER PLATES FOR SIDEWALK
14. SINGLE SLOPE PARAPET 32SS
15. VERTICAL FACE PARAPET "A"
16. TUBULAR RAILING TYPE H (ALUM.)
17. SINGLE SLOPE PARAPET 32SS ELECTRICAL
18. VERTICAL FACE PARAPET "A" ELECTRICAL

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER.	SOUTH ABUT.	PIER	NORTH ABUT.	TOTAL
203.0200.03	REMOVING OLD STRUCTURE STATION 39+77	LS	1	-	-	-	1
203.0210.S.02	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-174	LS	1	-	-	-	1
203.0225.S.02	DEBRIS CONTAINMENT B-67-174	LS	1	-	-	-	1
206.1000.03	EXCAVATION FOR STRUCTURES BRIDGES B-67-174	LS	1	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	-	162	-	180	342
502.0100	CONCRETE MASONRY BRIDGES	CY	697	45	-	46	788
502.3100.03	EXPANSION DEVICE B-67-174	LS	1	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2483	-	-	-	2483
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	-	4	-	4	8
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	-	33	-	34	67
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	163810	4280	-	4400	172490
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	-	8	-	8	16
506.5000.02	BEARING ASSEMBLIES FIXED B-67-174	EACH	-	-	8	-	8
506.7050.S.02	REMOVING BEARINGS B-67-174	EACH	-	8	8	8	24
509.1500	CONCRETE SURFACE REPAIR	SF	-	17	-	22	39
513.4055	RAILING TUBULAR TYPE H B-67-174	LS	1	-	-	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	18	-	18	36
517.0900.S.02	PREPARATION AND COATING OF TOP FLANGES B-67-174	LS	1	-	-	-	1
517.1800.S.03	STRUCTURE REPAINTING RECYCLED ABRASIVE B-67-174	LS	1	-	-	-	1
517.4500.S.03	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-67-174	LS	1	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	1
604.9015.S	RE-SEAL CRUSHED AGGREGATE SLOPE PAVING	SY	-	501.5	-	501.5	1003
614.0150	ANCHOR ASSEMBLIES STEEL PLATE BEAM GUARD	EACH	2	-	-	-	2
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	48	-	-	-	48
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	1280	-	-	-	1280
653.0222	JUNCTION BOXES 18x12x6-INCH	EACH	2	-	-	-	2



PROFILE GRADE LINE CTH "KF"

EXISTING BENCH MARK: CHISELED SQUARE ON TOP OF WING 1 PARAPET, EL. 902.77

NOTE: PROFLE TO BE USED FOR ESTABLISHING BRIDGE DECK ELEVATIONS ONLY

WISCONSIN
CORY E. SCHULTZ
E-42460
MILWAUKEE
WI
PROFESSIONAL ENGINEER
4/22/14

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
CORY SCHULTZ (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-174

CTH KF OVER STH 16

COUNTY	TOWN/~~CITY/VILLAGE~~
WAUKESHA	PEWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

DECK REPLACEMENT

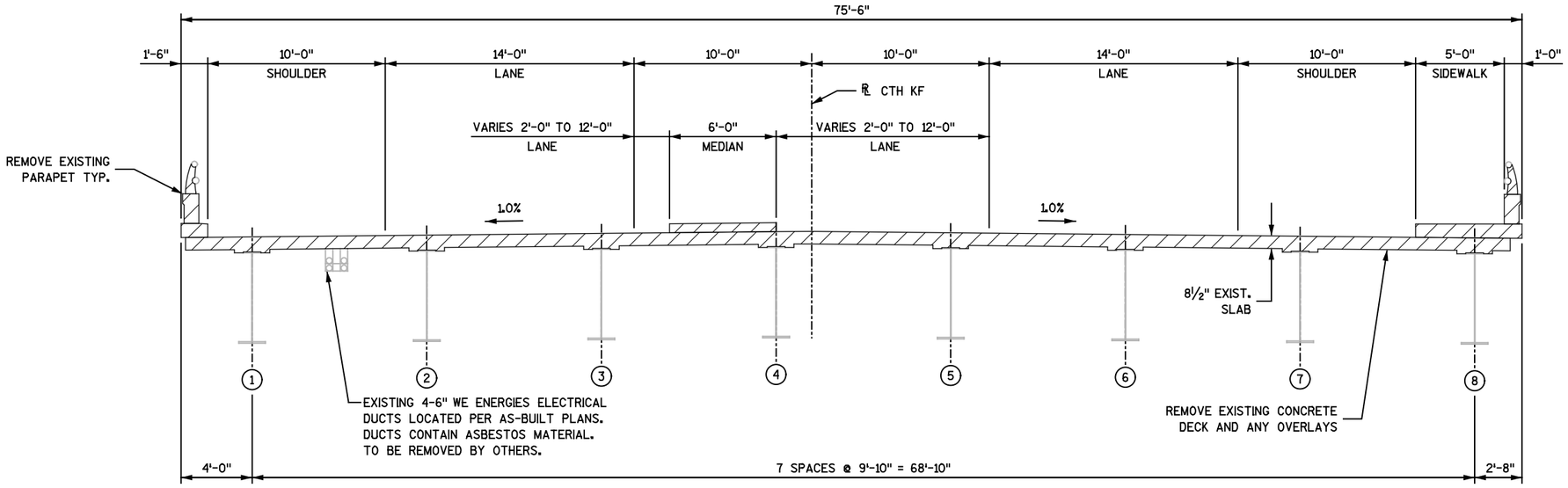
SHEET 1 OF 18
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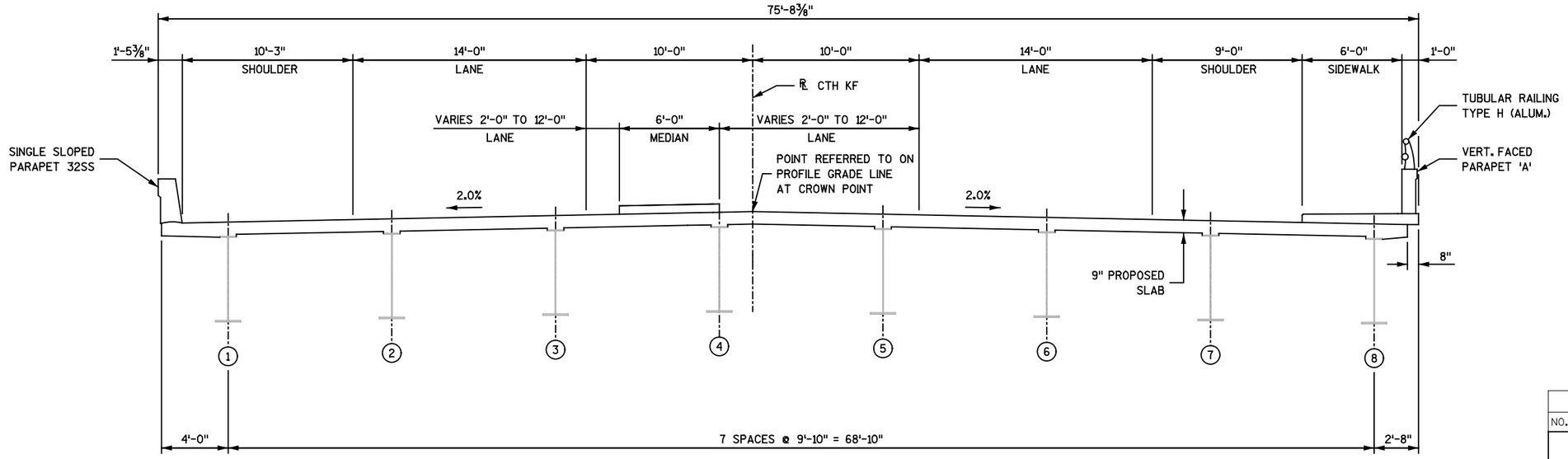
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PLOT DATE :4/22/2014 PLOT BY : Chris HEYBU DRV :Pdf_bw_HS.plt PEN :CEL.TextSub.tbl

STATE PROJECT NUMBER
1370-14-70



CROSS SECTION THRU EXISTING ROADWAY

(LOOKING NORTH)



CROSS SECTION THRU PROPOSED ROADWAY

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

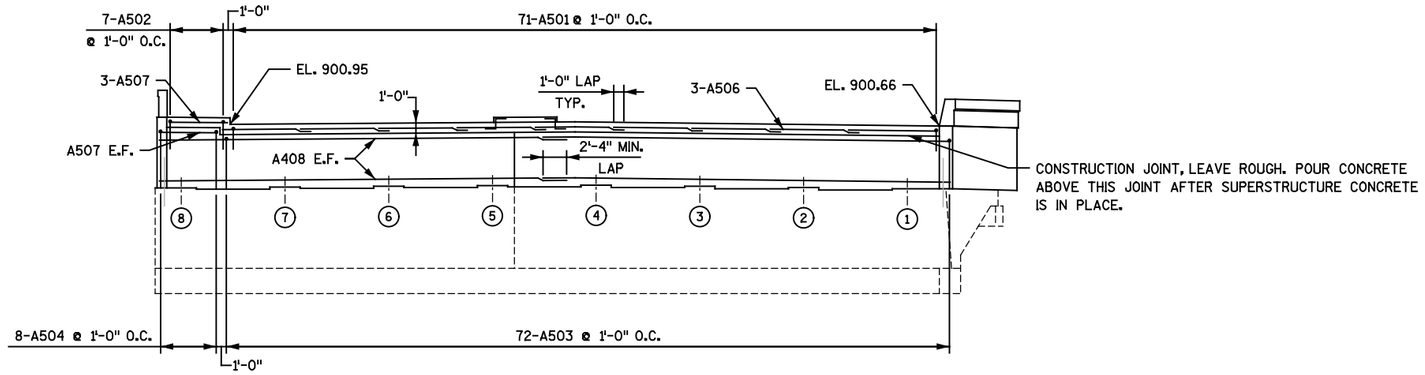
CROSS SECTIONS 292

SHEET 2 OF 18

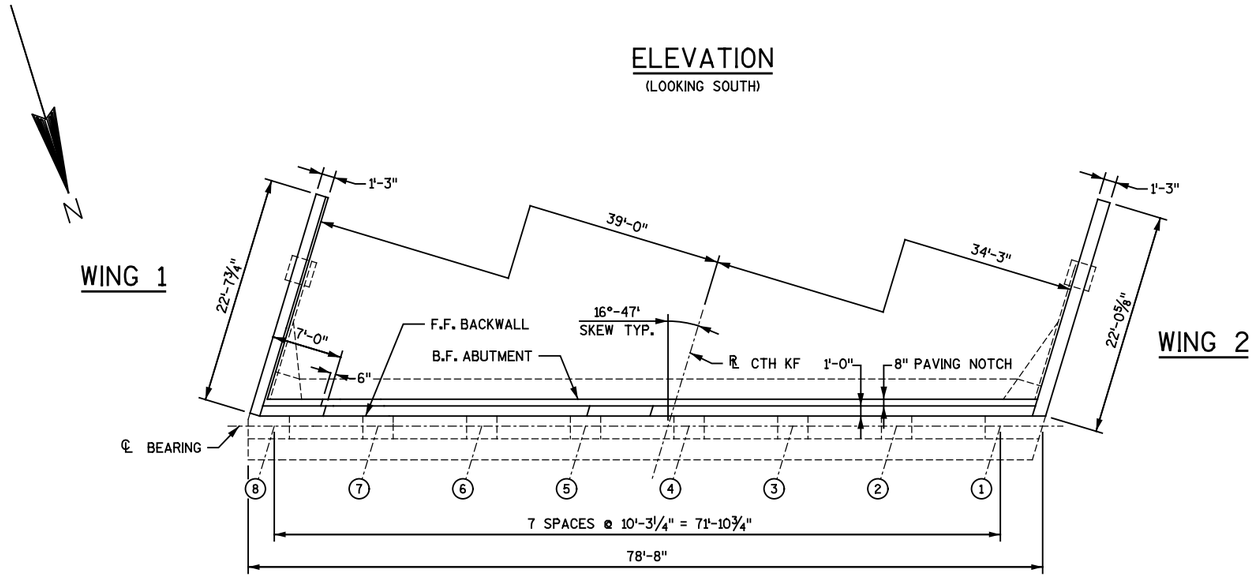
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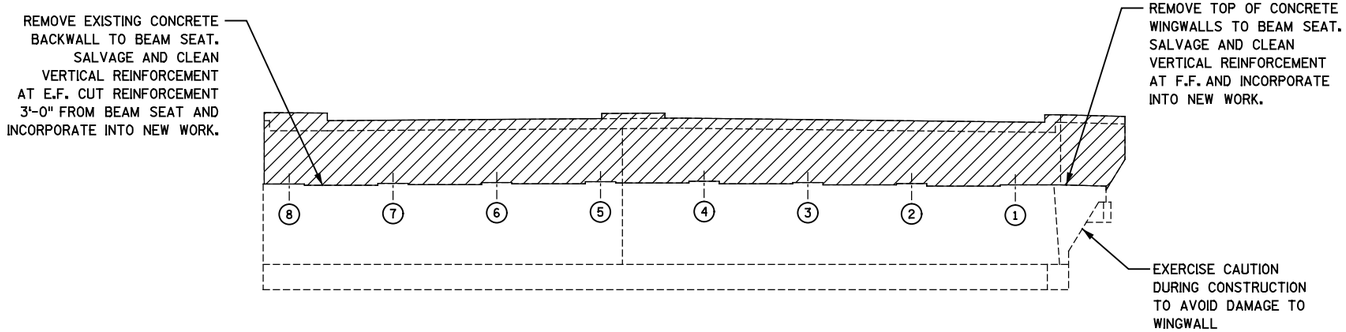
1370-14-70



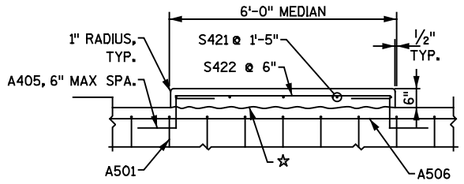
ELEVATION
(LOOKING SOUTH)



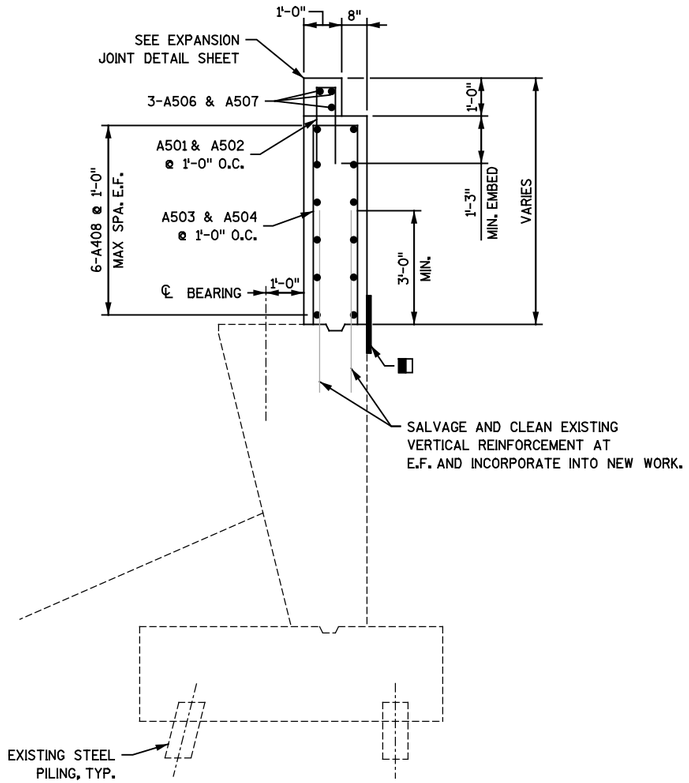
PLAN



CONCRETE REMOVAL DETAIL



MEDIAN DETAIL



SECTION THRU BODY

LEGEND

◧ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.

☆ ROUGH FLOAT SURFACE OR SAME FINISH AS EXPOSED DECK. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THIS AREA. CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

SHEET 3 OF 18

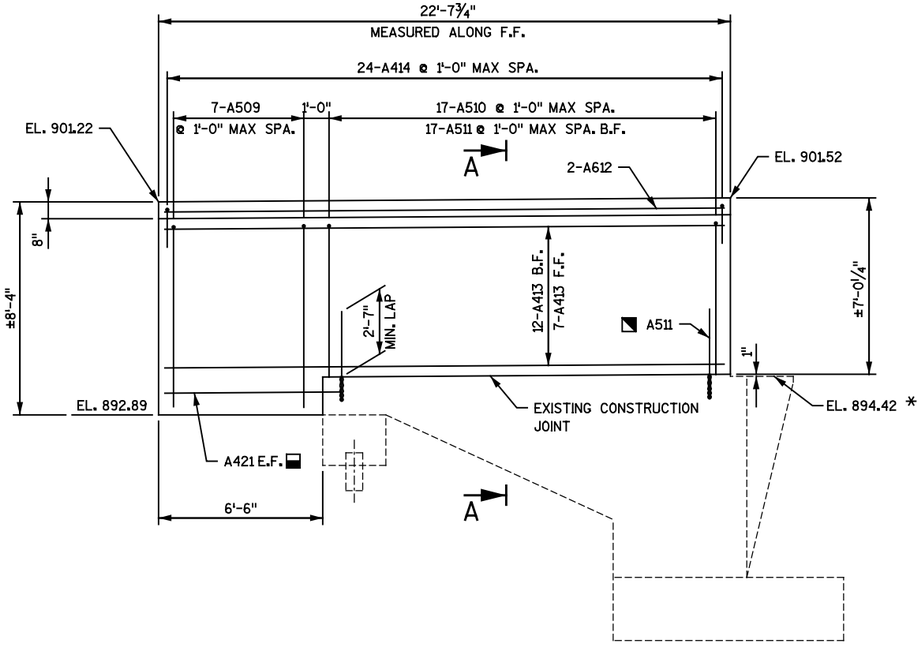
SOUTH ABUTMENT 293

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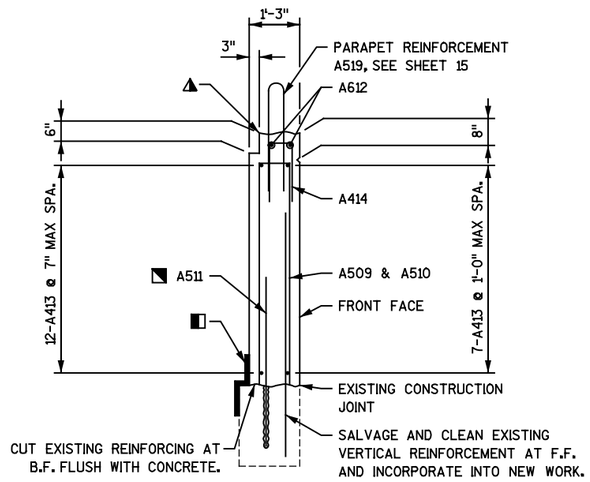
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STATE PROJECT NUMBER

1370-14-70



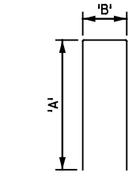
ELEVATION-WING 1



SECTION A-A

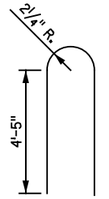
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	71	4'-7"	▲		PAVING NOTCH VERT. REINF.
A502	X	7	5'-7"	▲		PAVING NOTCH VERT. REINF. AT SWLK.
A503	X	72	12'-9"	▲		BACKWALL VERT. REINF.
A504	X	8	13'-9"	▲		BACKWALL VERT. REINF. AT SWLK.
A405	X	4	2'-10"	▲		MEDIAN ANCHOR
A506	X	30	7'-11"			PAVING NOTCH HORZ. REINF.
A507	X	5	5'-8"			PAVING NOTCH HORZ. REINF.
A408	X	24	40'-4"			BACKWALL HORZ. REINF.
A509	X	7	15'-4"	▲		WING WALL 1 VERT. REINF.
A510	X	17	13'-0"	▲		WING WALL 1 VERT. REINF.
A511	X	33	3'-6"			WING WALL DOWEL BARS
A612	X	2	22'-3"			WING WALL 1 HORZ. REINF.
A413	X	19	22'-3"			WING WALL 1 HORZ. REINF.
A414	X	24	5'-1"	▲		WING WALL 1 SIDEWALK TIE
A515	X	16	12'-10"	▲		WING WALL 2 VERT. REINF.
A516	X	7	15'-4"	▲		WING WALL 2 VERT. REINF.
A617	X	2	21'-8"			WING WALL 2 HORZ. REINF.
A418	X	16	21'-8"			WING WALL 2 HORZ. REINF.
A519	X	27	9'-5"	▲		WING 1 PARAPET VERT.
A420	X	6	22'-3"			WING 1 PARAPET HORIZ.
A421	X	4	7'-0"			WING 1 & 2 HORIZ.

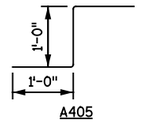


A501, A502, A503, A504
A509, A510, A414, A515, A516

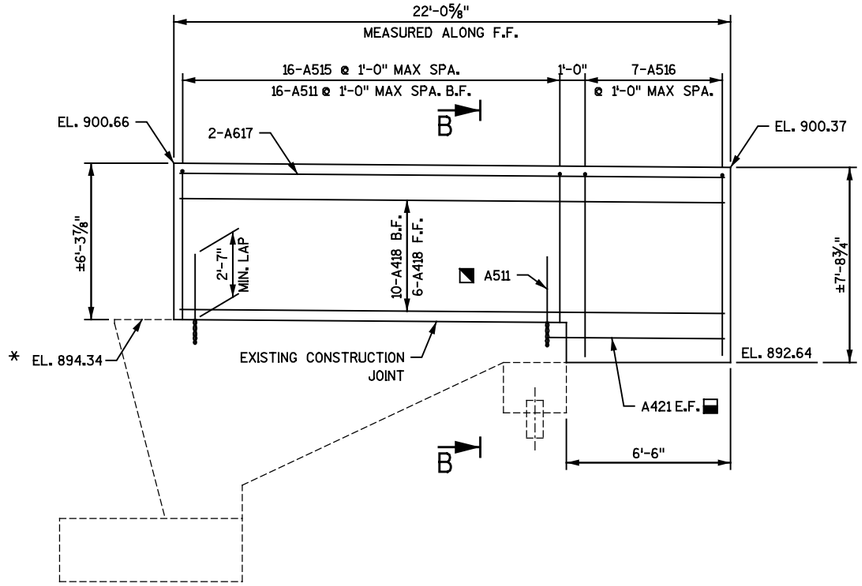
BAR MARK	DIM. 'A'	DIM. 'B'
A501	2'-1"	8"
A502	2'-7"	8"
A503	5'-10"	1'-4"
A504	6'-4"	1'-4"
A509	7'-4"	11"
A510	6'-2"	11"
A414	2'-4"	8"
A515	6'-1"	11"
A516	7'-4"	11"



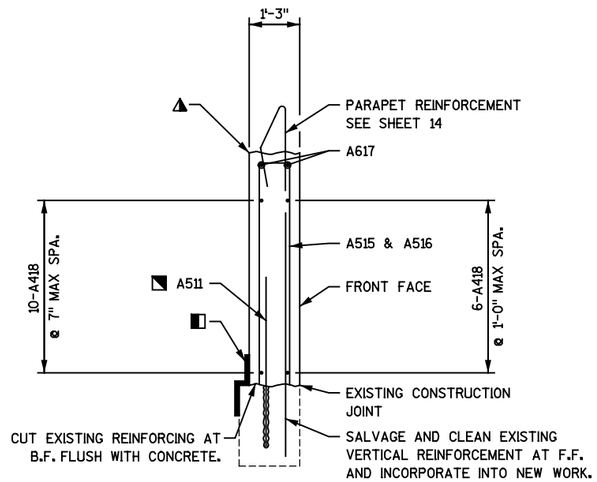
A519



A405



ELEVATION-WING 2



SECTION B-B

LEGEND

▲ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 10½" MIN.

CONCRETE MASONRY ANCHOR, TYPE L. NO. 4 BAR, EMBED 7½" MIN.

18" RUBBERIZED MEMBRANE WATERPROOFING.

* ELEVATIONS ARE BASED ON SURVEY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

SOUTH ABUTMENT DETAILS

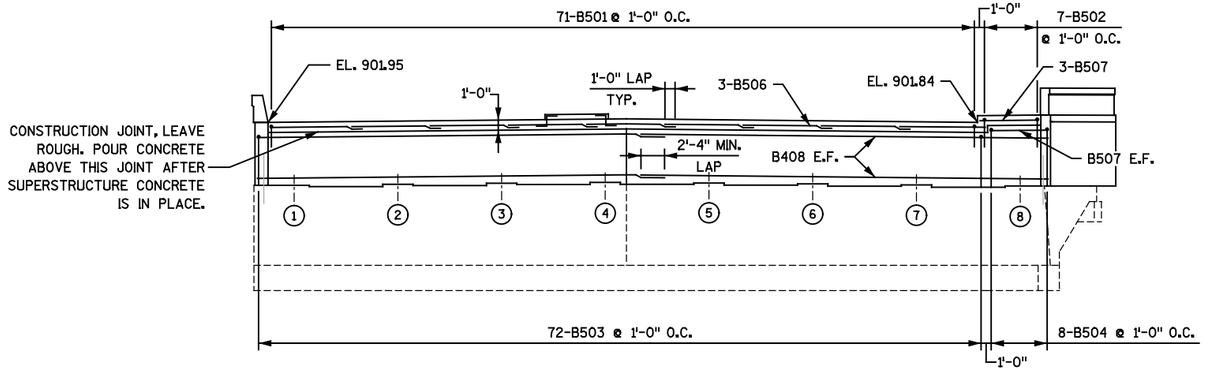
SHEET 4 OF 18
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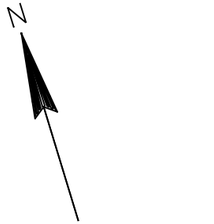
STATE PROJECT NUMBER

1370-14-70

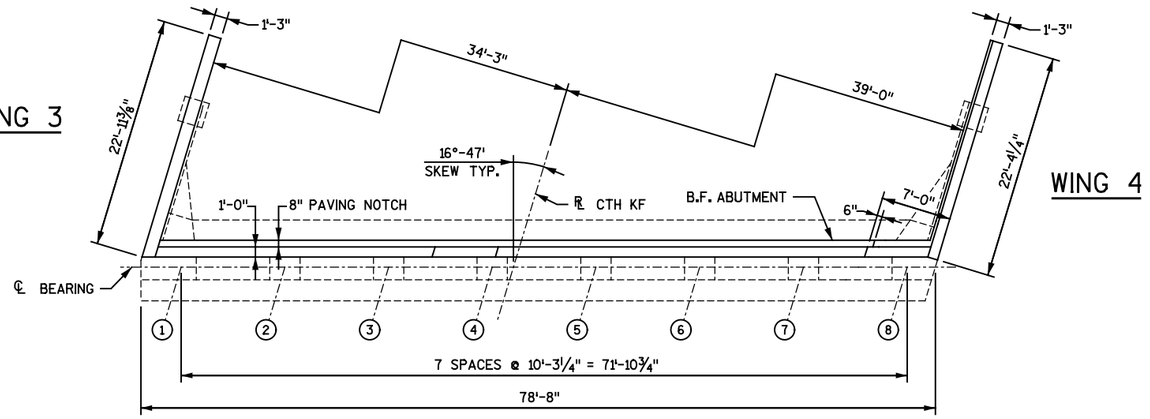


ELEVATION

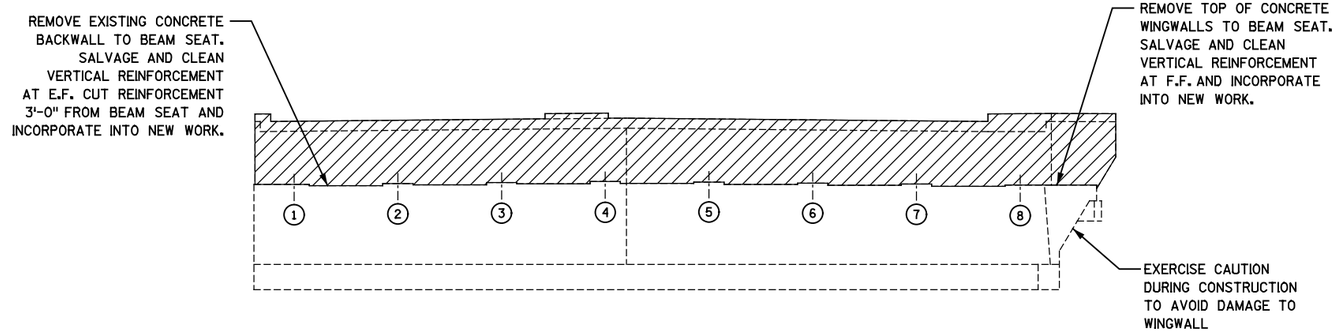
(LOOKING NORTH)



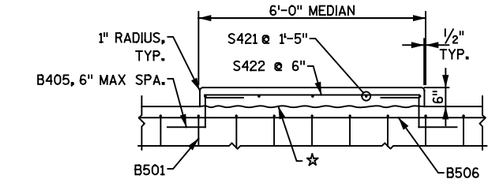
WING 3



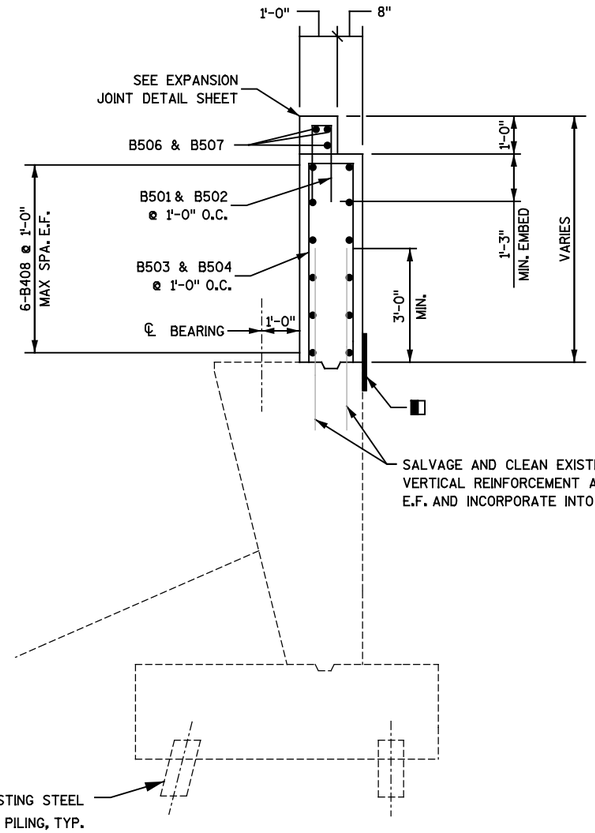
PLAN



CONCRETE REMOVAL DETAIL



MEDIAN DETAIL



SECTION THRU BODY

LEGEND

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.

☆ ROUGH FLOAT SURFACE OR SAME FINISH AS EXPOSED DECK. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THIS AREA. CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

SHEET 5 OF 18

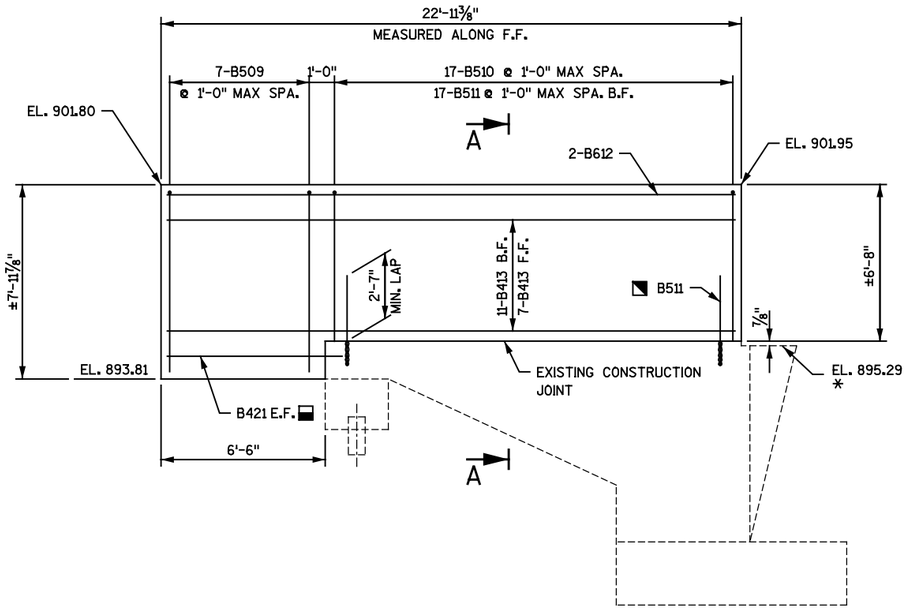
NORTH ABUTMENT 295

8

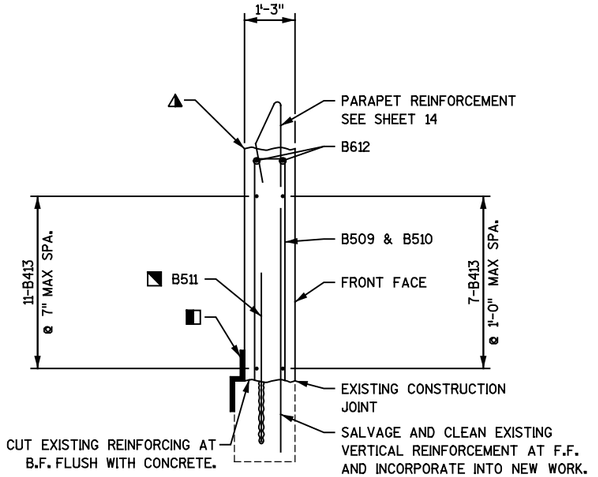
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STATE PROJECT NUMBER

1370-14-70



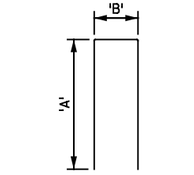
ELEVATION-WING 3



SECTION A-A

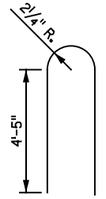
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	X	71	4'-7"	▲		PAVING NOTCH VERT. REINF.
B502	X	7	5'-7"	▲		PAVING NOTCH VERT. REINF. AT SWLK.
B503	X	72	13'-7"	▲		BACKWALL VERT. REINF.
B504	X	8	14'-7"	▲		BACKWALL VERT. REINF. AT SWLK.
B405	X	4	2'-10"	▲		MEDIAN ANCHOR
B506	X	30	7'-11"			PAVING NOTCH HORZ. REINF.
B507	X	5	5'-8"			PAVING NOTCH HORZ. REINF. AT SWLK.
B408	X	24	40'-4"			BACKWALL HORZ. REINF.
B509	X	7	15'-10"	▲		WING WALL 3 VERT. REINF.
B510	X	17	13'-6"	▲		WING WALL 3 VERT. REINF.
B511	X	34	3'-6"			WING WALL DOWEL BARS
B612	X	2	22'-7"			WING WALL 3 HORZ. REINF.
B413	X	18	22'-7"			WING WALL 3 HORZ. REINF.
B414	X	23	5'-1"	▲		WING 4 SIDEWALK TIE
B515	X	17	13'-2"	▲		WING WALL 4 VERT. REINF.
B516	X	7	15'-4"	▲		WING WALL 4 VERT. REINF.
B617	X	2	22'-0"			WING WALL 4 HORZ. REINF.
B418	X	19	22'-0"			WING WALL 4 HORZ. REINF.
B519	X	26	9'-5"	▲		WING 4 PARAPET VERT.
B420	X	6	22'-0"			WING 4 PARAPET HORIZ.
B421	X	4	7'-0"			WING 3 & 4 HORIZ.

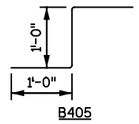


B501, B502, B503, B504
B509, B510, B414, B515, B516

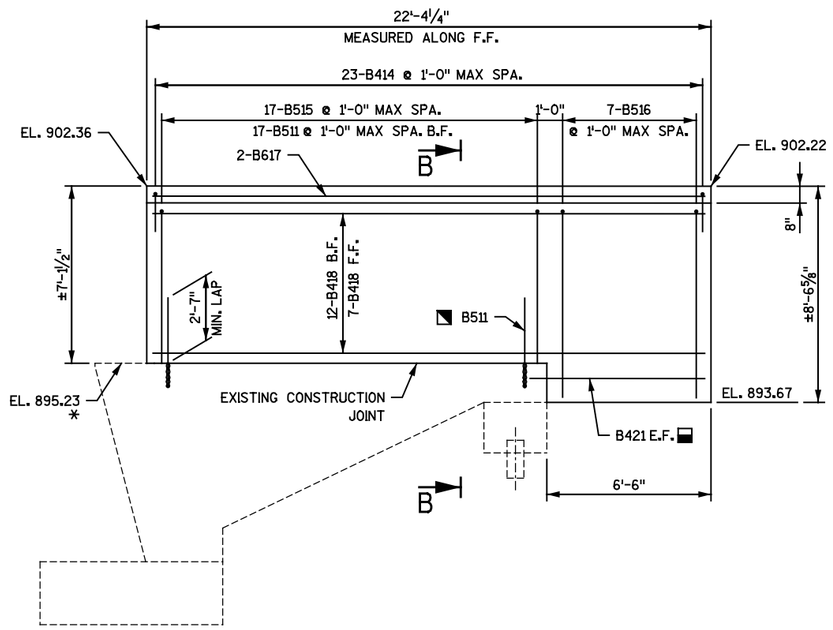
BAR MARK	DIM. 'A'	DIM. 'B'
B501	2'-1"	8"
B502	2'-7"	8"
B503	6'-3"	1'-4"
B504	6'-9"	1'-4"
B509	7'-7"	11"
B510	6'-5"	11"
B414	2'-4"	8"
B515	6'-3"	11"
B516	7'-4"	11"



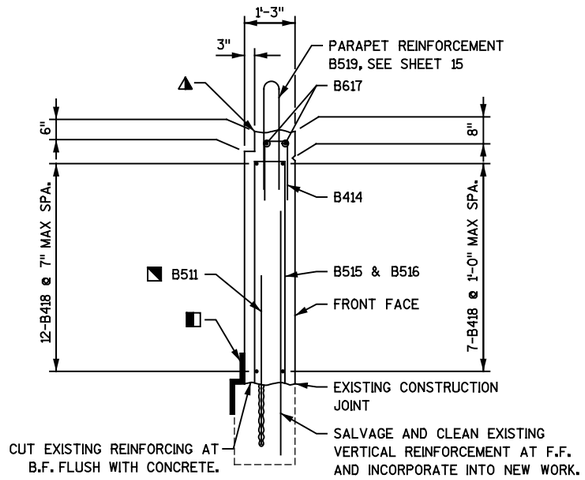
B519



B405



ELEVATION-WING 4



SECTION B-B

LEGEND

▲ CONSTRUCTION JOINT. STRIKE OFF AS SHOWN AND LEAVE ROUGH.

CONCRETE MASONRY ANCHOR, TYPE L. NO. 5 BAR, EMBED 10½" MIN.

CONCRETE MASONRY ANCHOR, TYPE L. NO. 4 BAR, EMBED 7½" MIN.

18" RUBBERIZED MEMBRANE WATERPROOFING.

* ELEVATIONS ARE BASED ON SURVEY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

NORTH ABUTMENT DETAILS

SHEET 6 OF 18

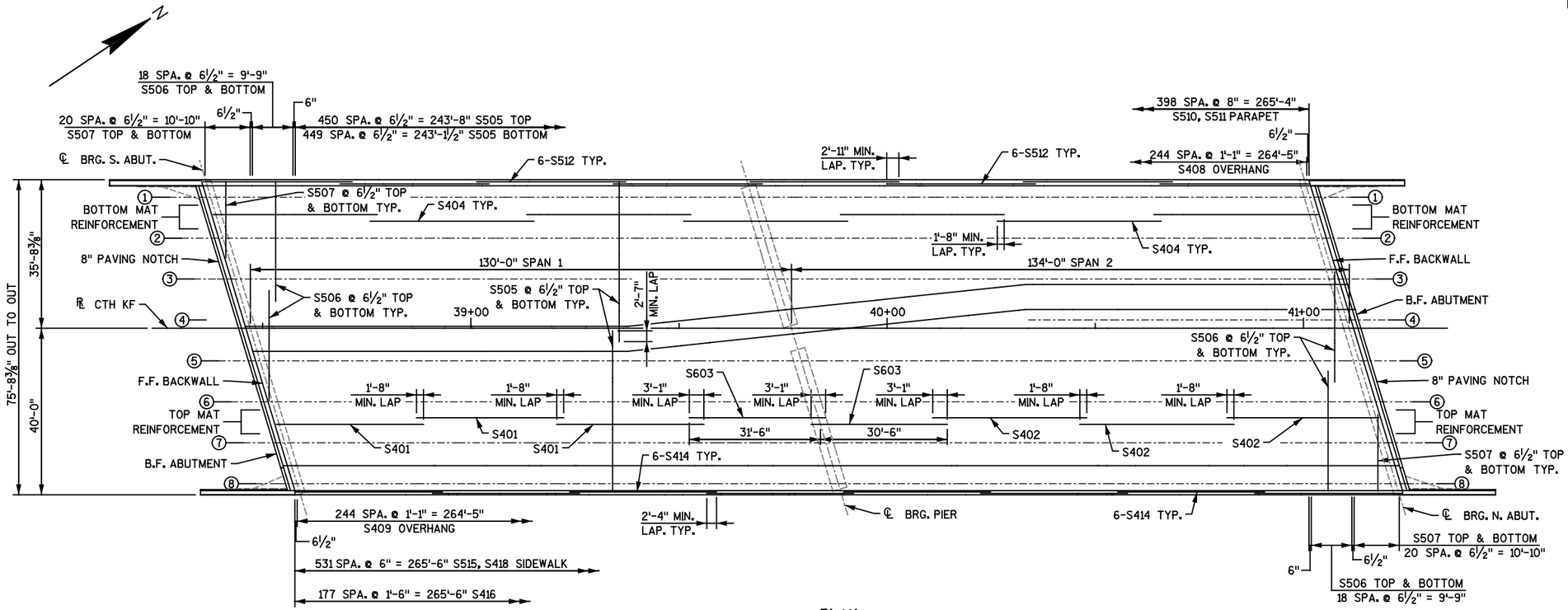
296

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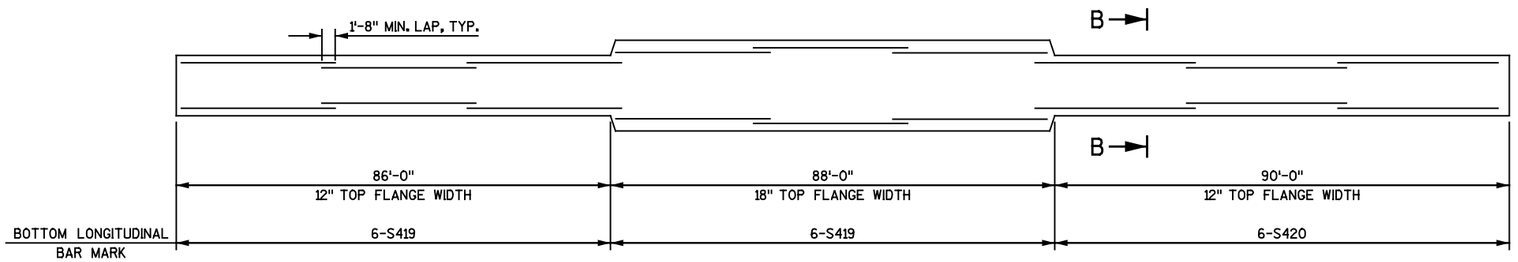
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STATE PROJECT NUMBER

1370-14-70



PLAN



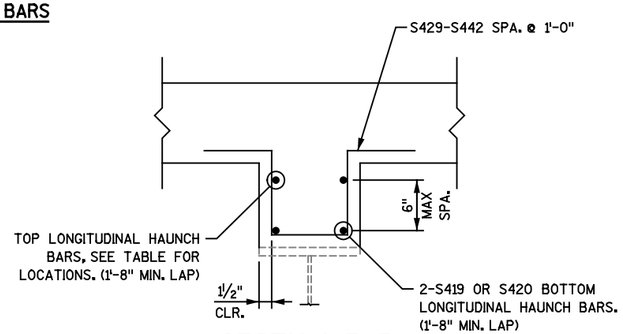
PLAN- BOTTOM LONGITUDINAL HAUNCH BARS

(ONE GIRDER SHOWN)

TOP LONGITUDINAL HAUNCH BARS

GIRDER NO.	TOP LONGITUDINAL BAR MARK									
	0-13 (FT)	13-26 (FT)	26-39 (FT)	39-52 (FT)	52-65 (FT)	65-210.4 (FT)	210.4-223.8 (FT)	223.8-237.2 (FT)	237.2-250.6 (FT)	250.6-264 (FT)
1	-	-	-	-	-	22-S428	2-S428	2-S428	2-S428	-
2	-	-	-	2-S428	2-S428	22-S428	2-S428	2-S428	2-S428	2-S428
3	-	-	2-S428	2-S428	2-S428	22-S428	2-S428	2-S428	2-S428	2-S428
4	-	2-S428	2-S428	2-S428	2-S428	22-S428	2-S428	2-S428	2-S428	2-S428
5	-	-	2-S428	2-S428	2-S428	22-S428	2-S428	2-S428	2-S428	2-S428
6	-	-	-	2-S428	2-S428	22-S428	2-S428	2-S428	2-S428	2-S428
7	-	-	-	-	2-S428	22-S428	2-S428	2-S428	-	-
8	-	-	-	-	-	22-S428	-	-	-	-

(DIMENSIONS GIVEN ALONG GIRDER, SOUTH TO NORTH)



SECTION B-B

NOTE:
FOR SIDEWALK AND PARAPET DETAILS OF REINFORCEMENT SEE SHEETS 14 AND 15.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY	CES	PLANS CK'D.	SJM

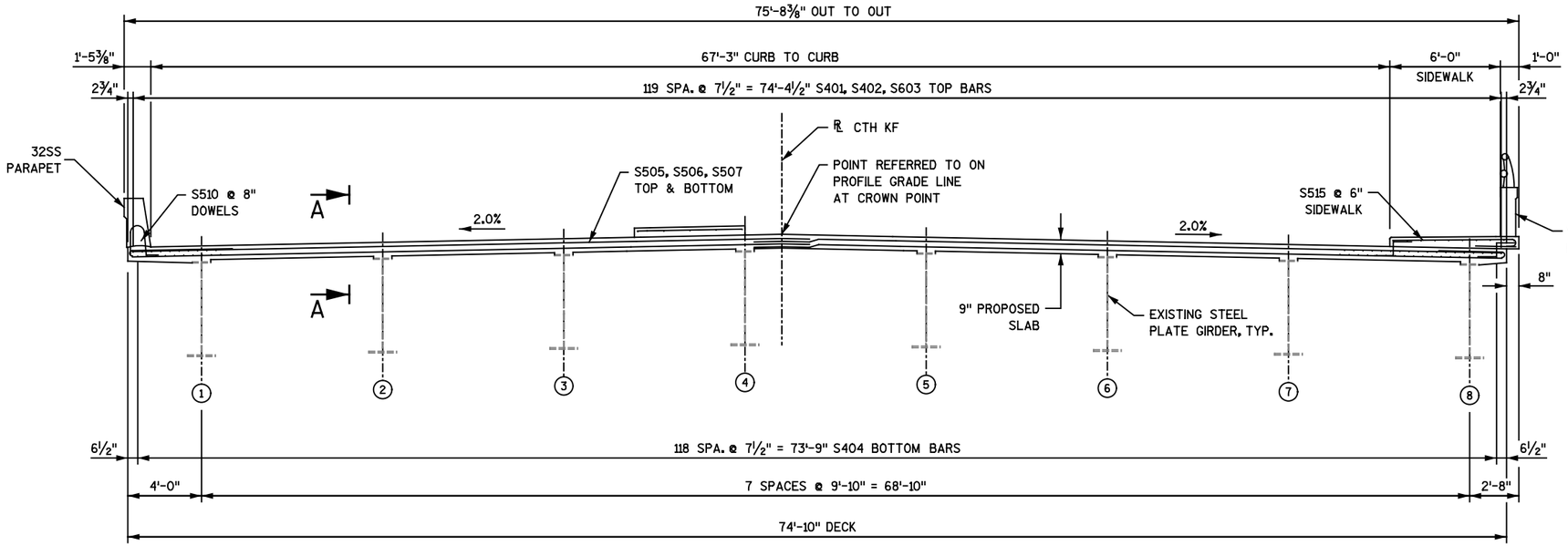
SHEET 7 OF 18

SUPERSTRUCTURE 297

8

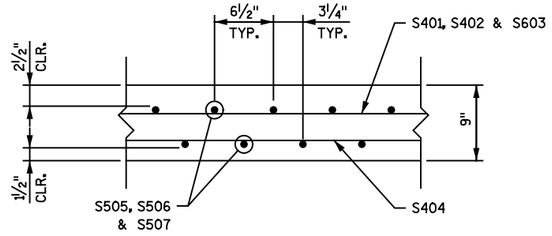
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STATE PROJECT NUMBER
1370-14-70

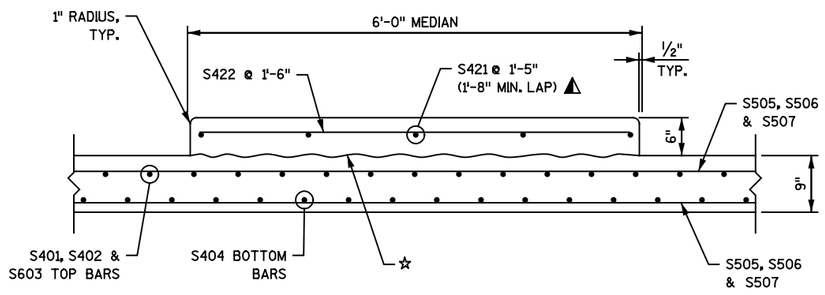


TYPICAL SECTION THRU DECK

(LOOKING NORTH)
NOTE: MEDIAN NOT SHOWN. FOR MEDIAN LOCATION AND ORIENTATION SEE SHEETS 1 AND 2.



SECTION A-A



MEDIAN DETAIL

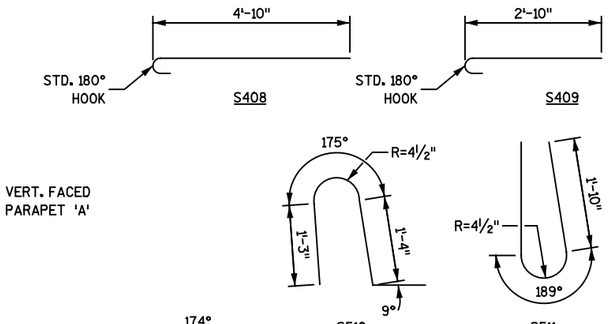
☆ ROUGH FLOAT SURFACE OR SAME FINISH AS EXPOSED DECK. DO NOT APPLY PROTECTIVE SURFACE TREATMENT TO THIS AREA. CLEAN ALL LOOSE MATERIAL ON THE DECK AT THE MEDIAN LOCATION PRIOR TO MEDIAN PLACEMENT USING HIGH PRESSURE WATER OR AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO MEDIAN PLACEMENT. NEAT CEMENT IS REQUIRED AS PER 509.3.9.2 OF THE STANDARD SPECIFICATIONS UNLESS THE MEDIAN IS POURED WITHIN 45 DAYS OF COMPLETING THE DECK POUR.

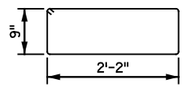
⚠ USE S423 BARS TO LAP S421 BARS AT MEDIAN TRANSITION LOCATIONS. LAP A MINIMUM OF 1'-8" ON EACH END.

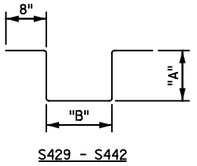
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	360	35'-3"			LONGIT. TOP
S402	X	360	36'-11"			LONGIT. TOP
S603	X	240	32'-7"			LONGIT. TOP
S404	X	833	39'-4"			LONGIT. BOTTOM
S505	X	1802	38'-7"			TRANS. TOP & BOTTOM
S506	X	152	29'-2"		△	TRANS. TOP & BOTTOM
S507	X	84	19'-8"		△	TRANS. TOP & BOTTOM
S408	X	245	5'-4"	▲		WEST TRANS. OVERHANG
S409	X	245	3'-4"	▲		EAST TRANS. OVERHANG
S510	X	399	4'-7"	▲		WEST PARAPET DOWELS
S511	X	399	5'-0"	▲		WEST PARAPET VERT.
S512	X	48	35'-9"			WEST PARAPET HORIZ.
S513	X	267	6'-8"	▲		EAST PARAPET DOWELS *
S414	X	48	35'-3"			EAST PARAPET HORIZ.
S515	X	532	7'-2"	▲		SIDEWALK TRANS. TOP *
S416	X	178	2'-2"			SIDEWALK TRANS. BOTTOM
S417	X	96	34'-8"			SIDEWALK LONG.
S418	X	1064	2'-7"	▲		SIDEWALK DOWELS *
S419	X	96	30'-4"			HAUNCH BOTTOM LONG.
S420	X	48	31'-8"			HAUNCH BOTTOM LONG.
S421	X	135	11'-8"			MEDIAN LONG.
S422	X	178	5'-8"			MEDIAN TRANS.
S423	X	10	6'-0"	▲		MEDIAN LONG. LAPS
S424	X	28	8'-6"			DECK EXPANSION HORIZ.
S425	X	144	6'-4"	▲		S & N ABUT. DIAPH. STIRRUPS
S626	X	60	8'-6"			S & N ABUT. DIAPH. BOTT. HORIZ.
S427	X	24	8'-6"			S & N ABUT. DIAPH. TOP HORIZ.
S428	X	256	15'-1"			HAUNCH TOP LONG.
S429	X	40	2'-7"	▲		HAUNCH HAT
S430	X	121	2'-9"	▲		HAUNCH HAT
S431	X	40	2'-11"	▲		HAUNCH HAT
S432	X	169	3'-1"	▲		HAUNCH HAT
S433	X	309	3'-3"	▲		HAUNCH HAT
S434	X	191	3'-5"	▲		HAUNCH HAT
S435	X	229	3'-7"	▲		HAUNCH HAT
S436	X	239	3'-9"	▲		HAUNCH HAT
S437	X	102	4'-1"	▲		HAUNCH HAT
S438	X	135	3'-11"	▲		HAUNCH HAT
S439	X	180	4'-1"	▲		HAUNCH HAT
S440	X	180	4'-3"	▲		HAUNCH HAT
S441	X	135	4'-5"	▲		HAUNCH HAT
S442	X	90	4'-7"	▲		HAUNCH HAT

* SEE SHEET 15 FOR REBAR DETAILS







S429 - S442

BAR MARK	DIM. 'A'	DIM. 'B'
S429	5"	9"
S430	6"	9"
S431	7"	9"
S432	8"	9"
S433	9"	9"
S434	10"	9"
S435	11"	9"
S436	12"	9"
S437	14"	9"
S438	10"	15"
S439	11"	15"
S440	12"	15"
S441	13"	15"
S442	14"	15"

HAUNCH HAT LOCATION TABLE

GIRDER NO.	BAR MARK					
	0-39 (FT)	39-86 (FT)	86-130 (FT)	130-174 (FT)	174-223.8 (FT)	223.8-264 (FT)
1	S429	S432	S438	S439	S434	S433
2	S430	S433	S439	S440	S435	S434
3	S432	S435	S440	S441	S436	S435
4	S433	S436	S442	S442	S437	S436
5	S433	S436	S441	S441	S437	S435
6	S432	S435	S440	S440	S436	S433
7	S431	S434	S439	S439	S434	S432
8	S430	S433	S438	S438	S433	S430

(DIMENSIONS GIVEN ALONG GIRDER, SOUTH TO NORTH)

BAR SERIES TABLE

BAR MARK	LENGTH 1	LENGTH 2	NO. OF SERIES	NO. BARS PER SERIES
S506	21'-1"	37'-3"	8	19
S507	1'-9"	37'-8"	4	21

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

SUPERSTRUCTURE DETAILS

SHEET 8 OF 18
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8

8

STATE PROJECT NUMBER

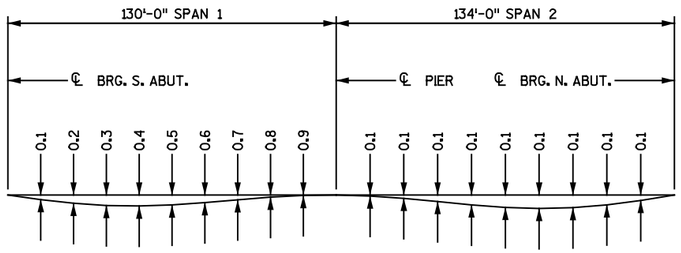
1370-14-70

TOP OF DECK ELEVATIONS

POINT / GIRDER	℄ BRG. SOUTH ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. NORTH ABUT.
W. EDGE	900.64	900.81	900.98	901.15	901.30	901.44	901.57	901.68	901.78	901.87	901.94	902.00	902.05	902.09	902.11	902.11	902.10	902.08	902.04	901.99	901.93
1	900.73	900.91	901.08	901.24	901.39	901.53	901.66	901.77	901.87	901.95	902.03	902.09	902.13	902.17	902.19	902.19	902.18	902.16	902.12	902.07	902.00
2	900.97	901.14	901.31	901.47	901.62	901.76	901.88	901.99	902.09	902.17	902.24	902.30	902.34	902.37	902.39	902.39	902.37	902.35	902.31	902.25	902.18
3	901.21	901.38	901.54	901.70	901.85	901.98	902.10	902.21	902.30	902.38	902.45	902.50	902.54	902.57	902.58	902.58	902.57	902.54	902.49	902.44	902.36
4	901.44	901.61	901.78	901.94	902.08	902.21	902.32	902.43	902.52	902.60	902.66	902.71	902.75	902.77	902.78	902.78	902.76	902.72	902.68	902.62	902.54
5	901.36	901.54	901.70	901.85	901.99	902.12	902.23	902.33	902.42	902.49	902.55	902.60	902.64	902.66	902.66	902.66	902.63	902.60	902.55	902.49	902.41
6	901.21	901.38	901.54	901.69	901.83	901.95	902.06	902.16	902.24	902.31	902.37	902.42	902.45	902.46	902.47	902.46	902.43	902.39	902.34	902.27	902.18
7	901.05	901.22	901.38	901.52	901.66	901.78	901.89	901.98	902.06	902.13	902.18	902.23	902.26	902.27	902.27	902.26	902.23	902.19	902.13	902.06	901.97
8	900.89	901.06	901.22	901.36	901.49	901.61	901.71	901.80	901.88	901.95	902.00	902.04	902.06	902.07	902.07	902.05	902.02	901.98	901.92	901.84	901.75
E. EDGE	900.85	901.01	901.17	901.32	901.45	901.56	901.67	901.76	901.83	901.90	901.95	901.99	902.01	902.02	902.02	902.00	901.97	901.92	901.86	901.79	901.69

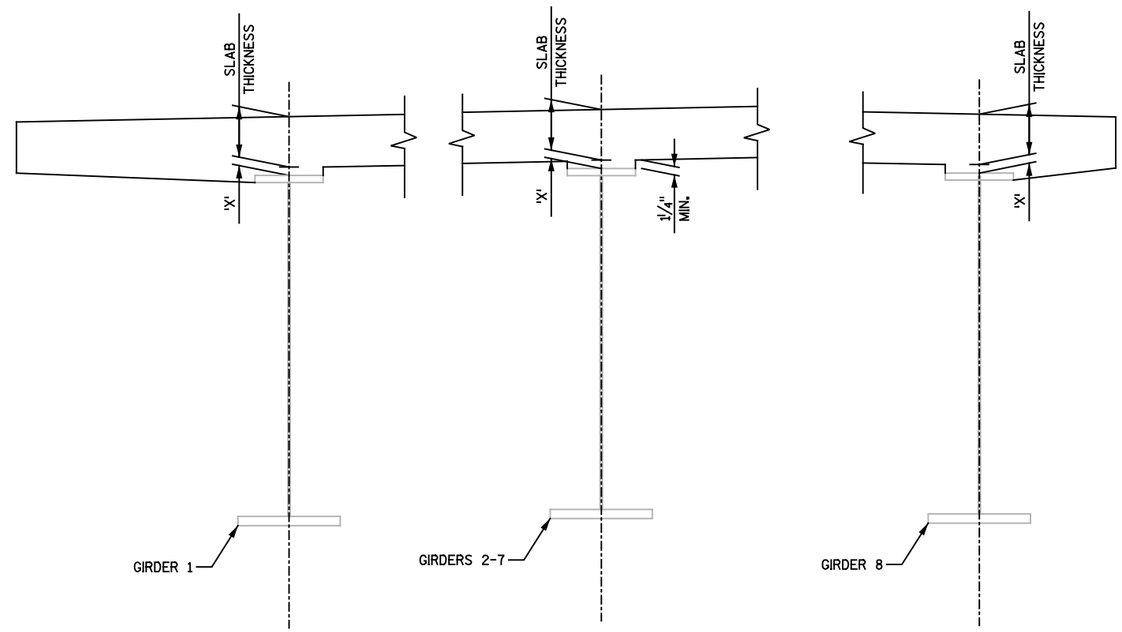
DEAD LOAD DEFLECTIONS

	CONCRETE DEAD LOAD DEFLECTIONS (FEET)										
	℄ BRG. S. ABUT.	SPAN 1									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ PIER
Girder 1	0.000	0.079	0.144	0.183	0.192	0.173	0.132	0.082	0.037	0.007	0.000
Girder 2-7	0.000	0.090	0.162	0.207	0.217	0.196	0.150	0.093	0.042	0.008	0.000
Girder 8	0.000	0.062	0.113	0.144	0.151	0.136	0.104	0.065	0.029	0.006	0.000
	℄ PIER	SPAN 2									℄ BRG. N. ABUT.
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
Girder 1	0.000	0.017	0.057	0.113	0.171	0.216	0.234	0.220	0.171	0.094	0.000
Girder 2-7	0.000	0.019	0.065	0.128	0.194	0.244	0.265	0.248	0.193	0.106	0.000
Girder 2-8	0.000	0.013	0.045	0.089	0.135	0.170	0.184	0.173	0.134	0.074	0.000



DEFLECTION DIAGRAM

SEE TABLE FOR DEAD LOAD DEFLECTION AT TENTH POINTS



HAUNCH DETAIL

(SIDEWALK NOT SHOWN)

NOTES

TO DETERMINE 'X':
ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATE, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT ℄ OF BRGS. AND AT TENTH POINTS OF EACH SPAN, THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF STEEL ELEVATION
\+ DEFLECTION (CONCRETE ONLY)
\- SLAB THICKNESS

= CONCRETE HAUNCH HEIGHT 'X'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

DECK ELEVATIONS & DEFLECTION

SHEET 9 OF 18

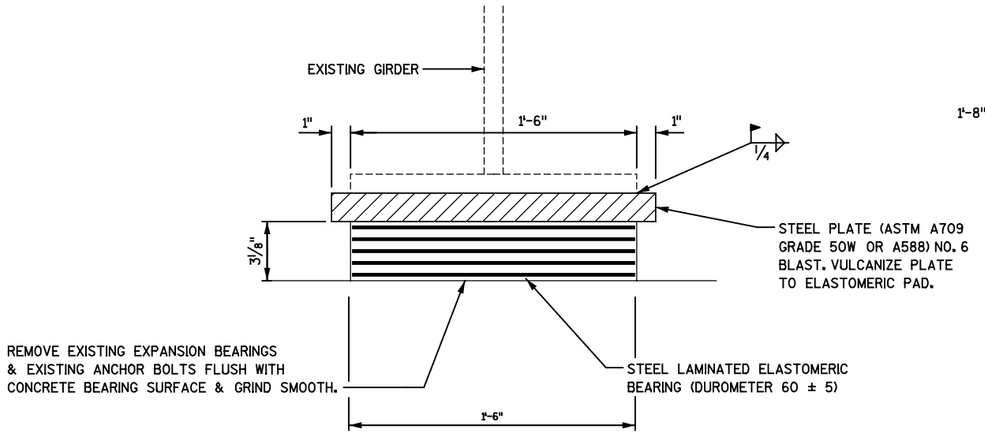
299

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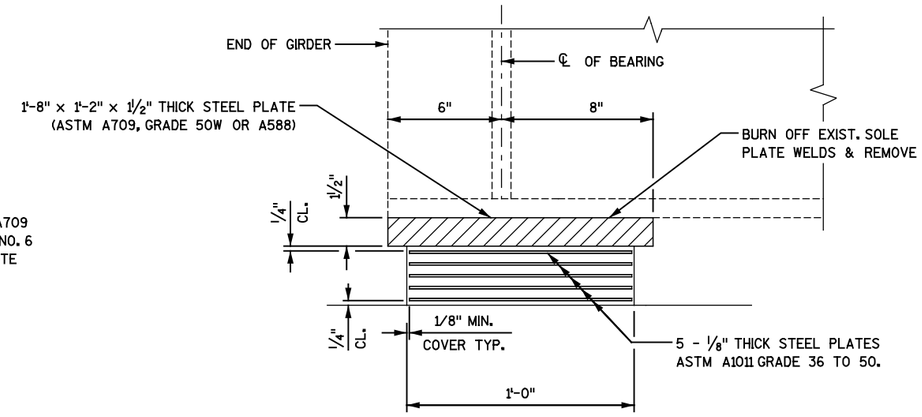
STATE PROJECT NUMBER

1370-14-70

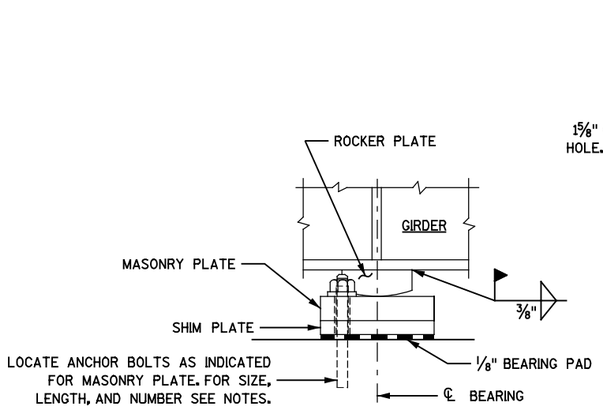


S. & N. ABUTMENT FRONT ELEVATION

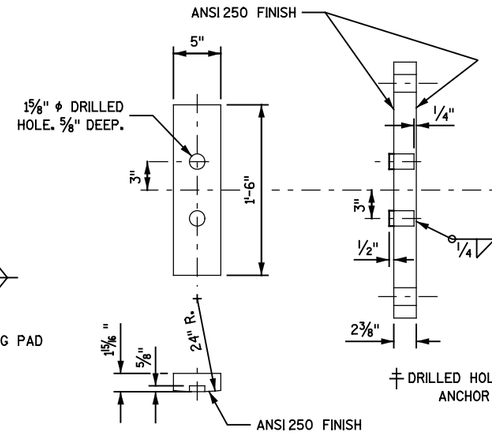
(EXPANSION BEARING)



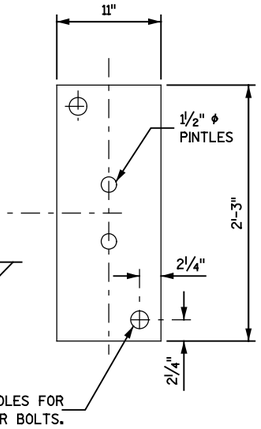
S. & N. ABUTMENT SECTION THRU ELASTASTOMERIC BEARING



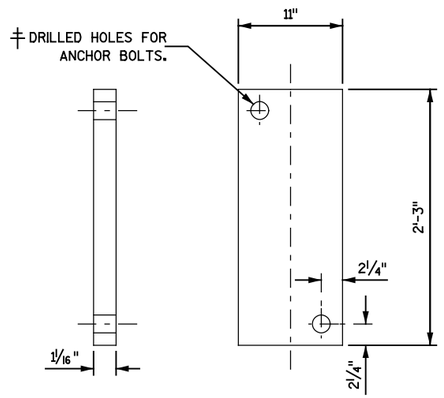
FIXED BEARING ASSEMBLY



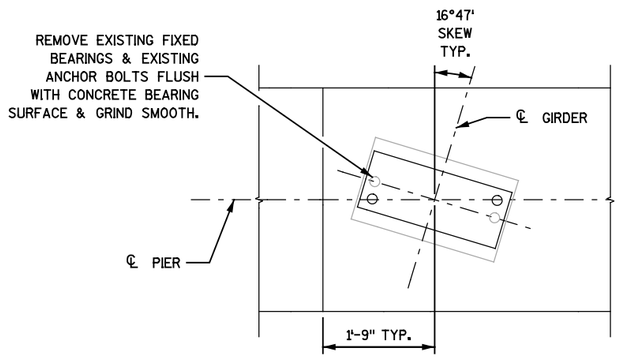
ROCKER PLATE



MASONRY PLATE



SHIM PLATE



FIXED BEARING AT SKEWED PIER

EXPANSION BEARING NOTES

ALL MATERIAL USED FOR EXPANSION BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

FIXED BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

IN LIEU OF USING SHIM PLATES, FABRICATOR MAY INCREASE THICKNESS OF MASONRY PLATE BY THE SHIM PLATE THICKNESS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

USE (2) 1½" ϕ, 1'-10" LONG ANCHOR BOLTS PER BEARING PAD ASSEMBLY.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE THICKNESS + SHIM PLATE THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING PINTLES, ANCHOR BOLTS, NUTS AND WAHSERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL MATERIALS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES FIXED B-67-174", EACH.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE FOR A DRIVING FIT.

PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE FOR EACH BEARING.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

ROCKER PLATE SHALL BE SHOP PAINTED WITH A WELDABLE PRIMER.

MASONRY PLATE SHALL BE GALVANIZED.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE AND SHIM PLATE HAVE A DIAMETER OF 3/8" LARGER THAN ANCHOR BOLT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY	CES	PLANS CK'D.	SJM

BEARING REPLACEMENT DETAILS

SHEET 10 OF 18

300

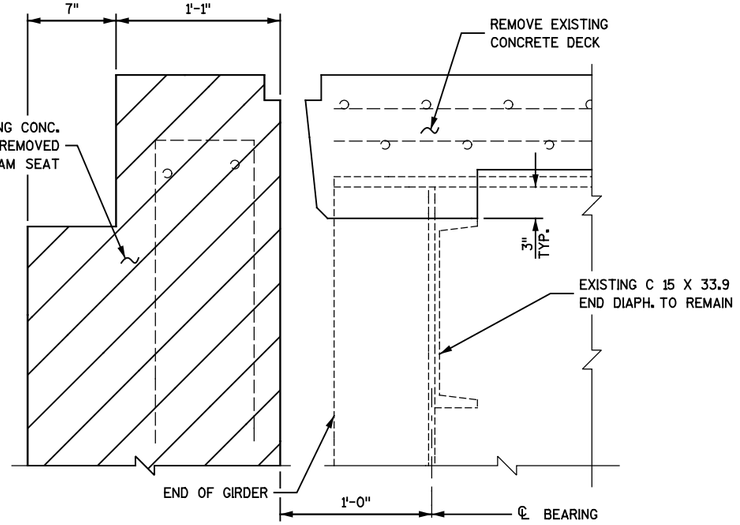
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FILE NAME: 108_10 Expansion Bearing Details.dgn
PLOT DATE: 4/22/2014 4:23:11 PM PLOT BY: Chris HEVEL DRV: PDF.bw_HS.plt PEN: CELTextSub.tbl

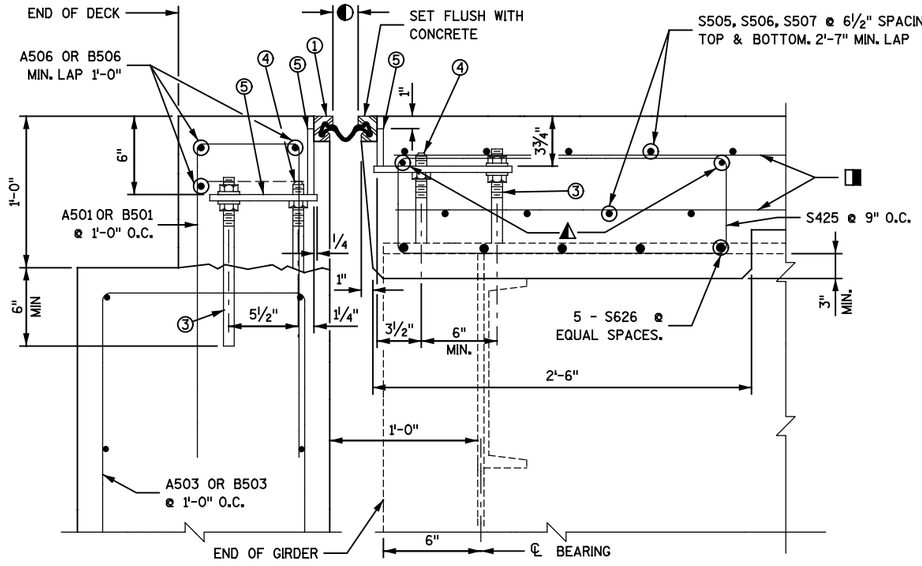
STATE PROJECT NUMBER

1370-14-70



JOINT REPAIR-REMOVAL

AT ABUTMENTS



SECTION THRU JOINT

LEGEND

◐ ① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENINGS GIVEN NORMAL TO JOINT.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

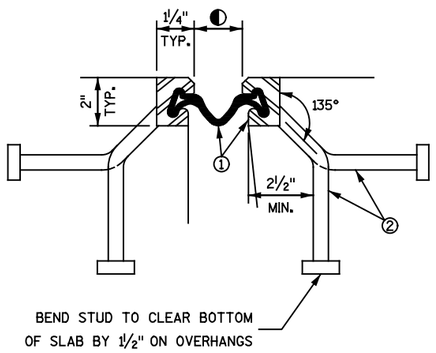
③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

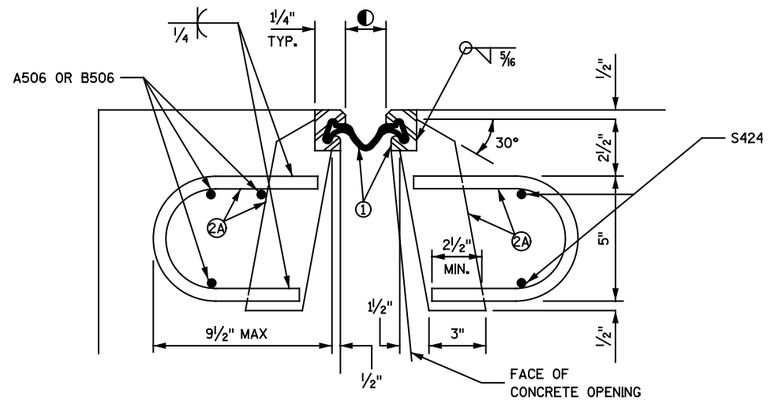
◭ S427, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ S401 OR S402 LONG. TOP DECK STEEL. S404 LONG. BOTTOM DECK STEEL. SPACE AT 7½" O.C.



SECTION THRU JOINT

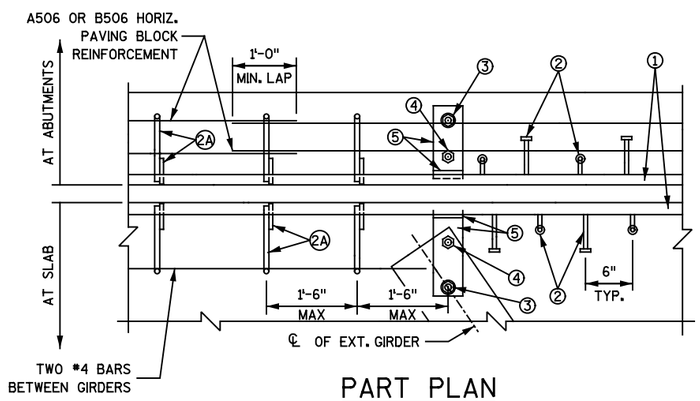
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS AND SIDEWALK



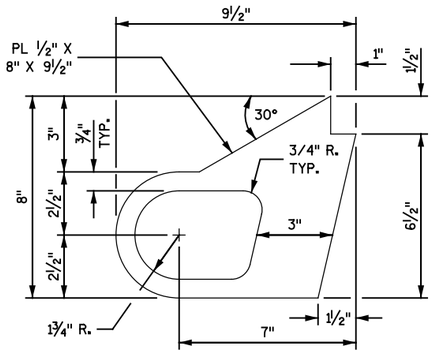
AT ABUTMENTS AT SLAB

SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

EXPANSION JOINT NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-67-174".

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

EXPANSION JOINT DETAILS

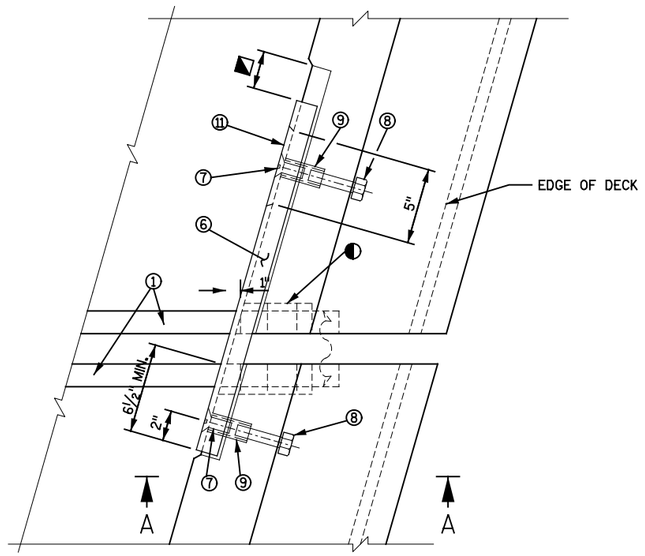
SHEET 11 OF 18

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STATE PROJECT NUMBER
1370-14-70



PLAN AT PARAPET

SINGLE SLOPE PARAPET

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾". JOINT OPENINGS GIVEN NORMAL TO JOINT.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

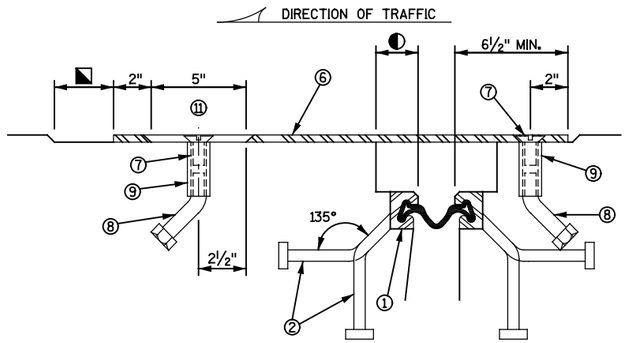
⑥ GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR ⑦ BEND AS SHOWN.

⑦ ¾" ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

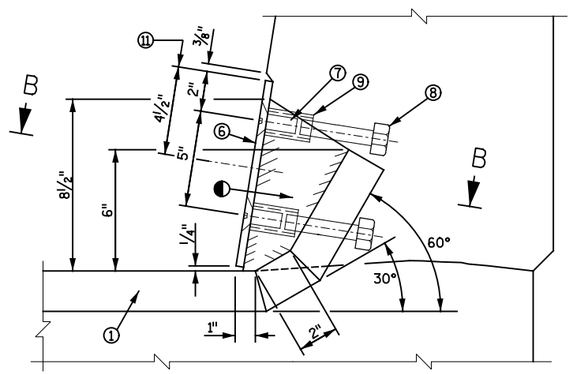
⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

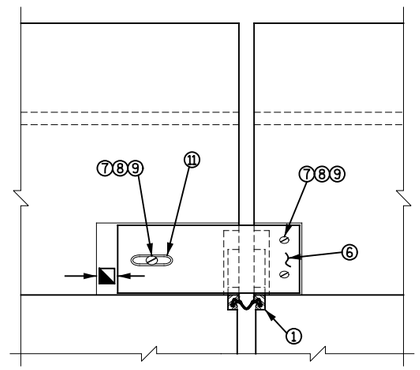


SECTION B-B



SECTION A-A

SINGLE SLOPE PARAPET



VIEW OF PARAPET PLATES FROM ROADWAY

SINGLE SLOPE PARAPET

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

STRIP SEAL COVER PLATES FOR SS PARAPET

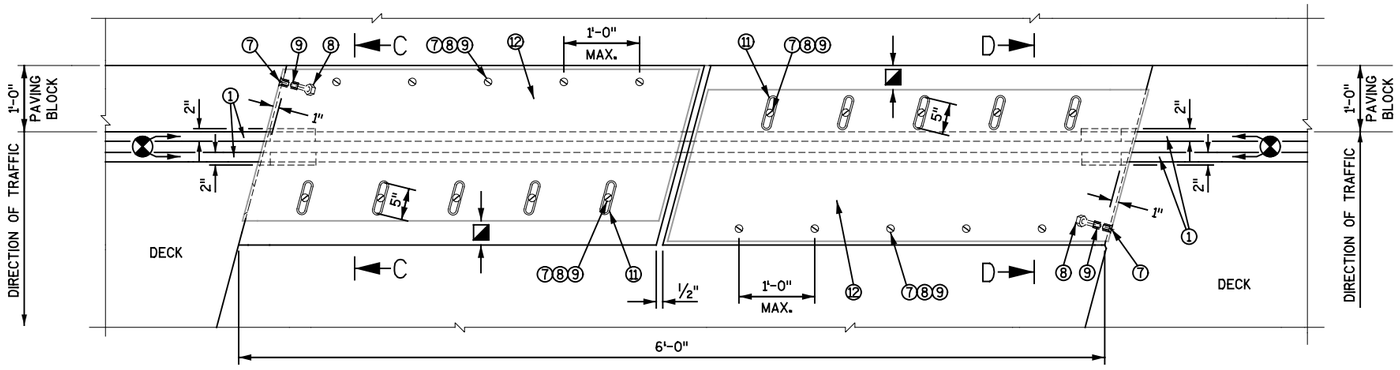
SHEET 12 OF 18

302

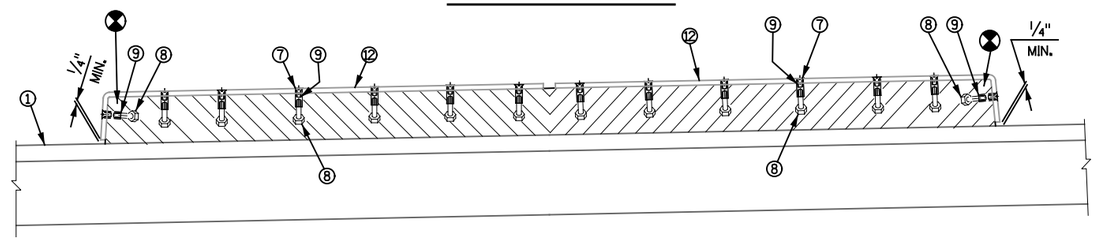
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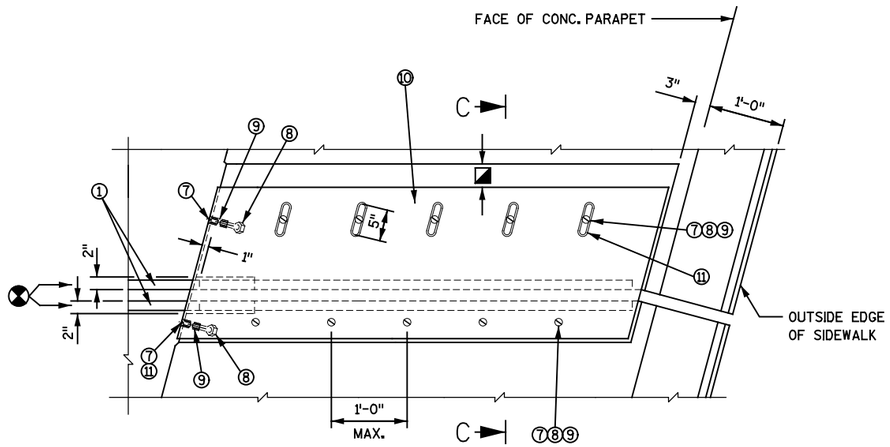
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PLOT DATE :4/22/2014 42854 PM PLOT BY : Chris HEVEL DRV :Pdf_bw_HS.pltr PEN :CEL.TextSub.tbl



PLAN AT MEDIAN

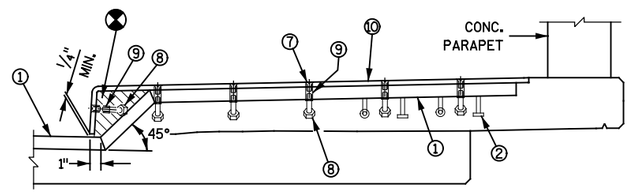


SECTION AT MEDIAN

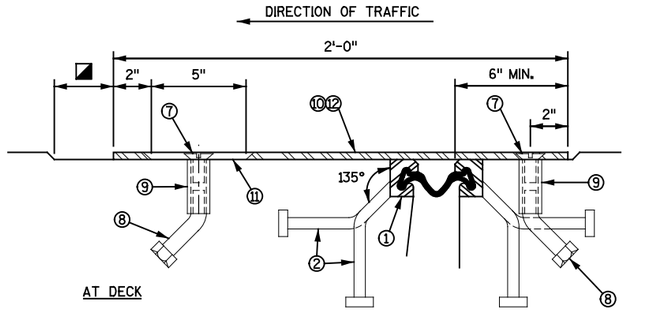


PLAN AT SIDEWALK

WING 1 SHOWN, WING 4 SIMILAR

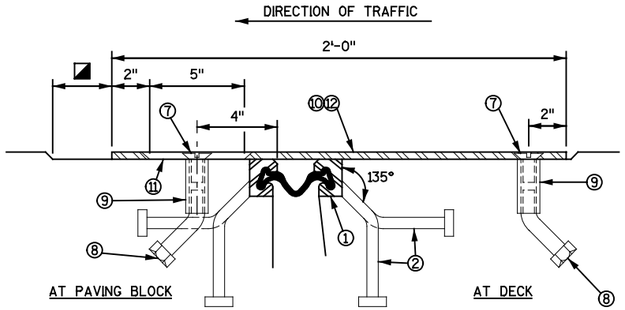


SECTION AT SIDEWALK



SECTION C-C

AT MEDIAN AND WING 1



SECTION D-D

AT MEDIAN AND WING 4

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS 5/8" ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

⑦ 3/4" ϕ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ 3/4" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ 3/4" ϕ X 2 1/4" GALVANIZED THREADED COUPLING.

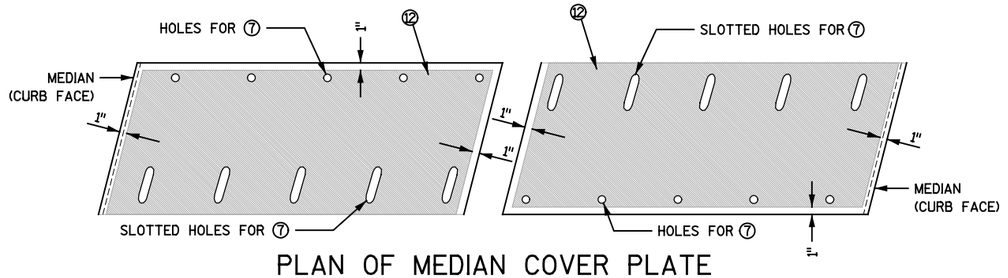
⑩ SIDEWALK COVER PLATE 3/8" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR ⑦. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

⑫ MEDIAN COVER PLATE 3/8" X 2'-0" X LIMITS SHOWN. BEND DOWN FACE OF MEDIAN WITH HOLES FOR ⑦. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

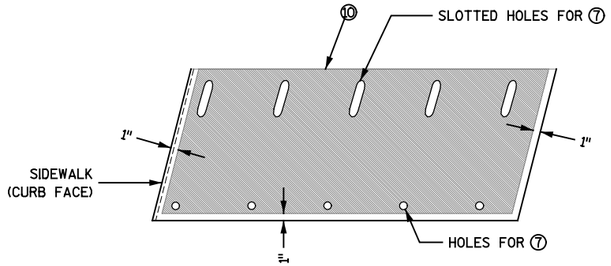
⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING ALONG SKEW PLUS 1/2".



PLAN OF MEDIAN COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE).

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W.S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

STATE PROJECT NUMBER

1370-14-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

STRIP SEAL COVER PLATES FOR SIDEWALK

SHEET 13 OF 18

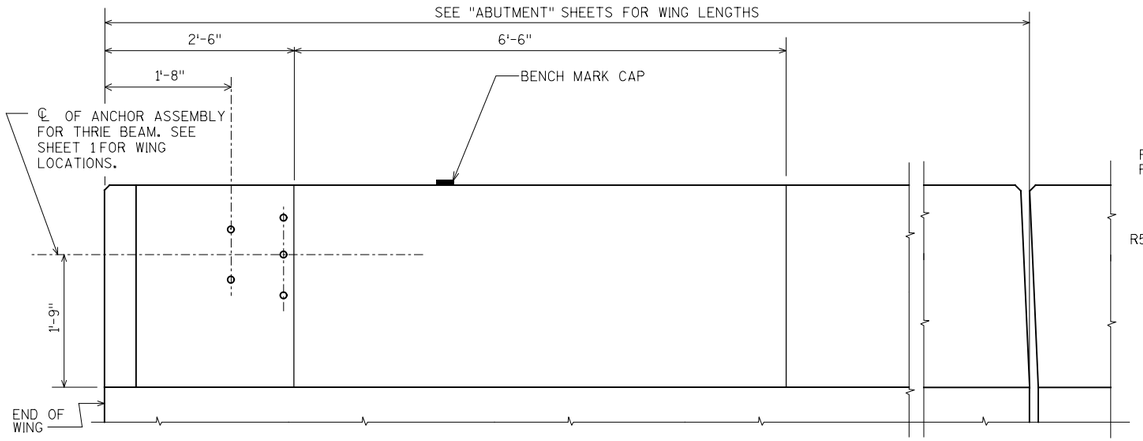
303

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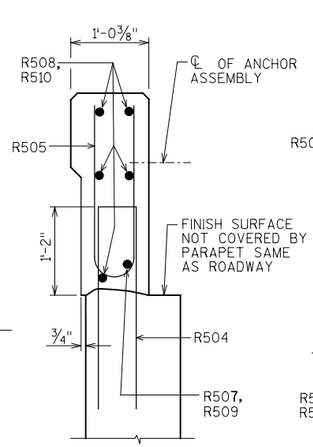
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FILE NAME :108_13 Cover Plates for Sidewalk.dgn
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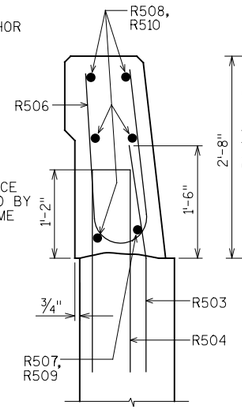
STATE PROJECT NUMBER
1370-14-70



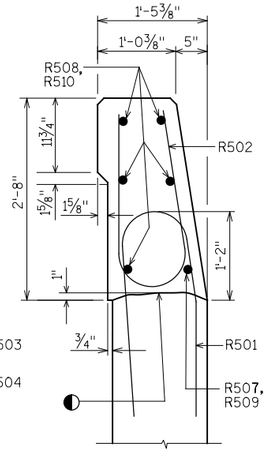
INSIDE ELEVATION



SECTION A



SECTION B

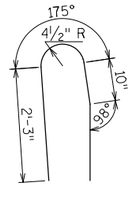


SECTION C

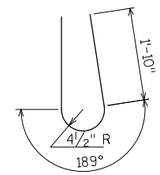
BILL OF BARS

FOR ABUTMENT PARAPETS AT WINGS 2 & 3

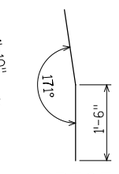
BAR MARK	S. ABUT.	N. ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	20	21	5'-10"	X		PARAPET VERT.
R502	20	21	5'-0"	X		PARAPET VERT.
R503	12	12	3'-0"	X		PARAPET VERT.
R504	17	17	5'-7"	X		PARAPET VERT.
R505	11	11	4'-9"	X		PARAPET VERT.
R506	12	12	4'-10"	X		PARAPET VERT.
R507	-	1	22'-5"	X		PARAPET HORIZ.
R508	-	5	22'-5"			PARAPET HORIZ.
R509	1	-	21'-6"	X		PARAPET HORIZ.
R510	5	-	21'-6"			PARAPET HORIZ.



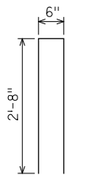
R501



R502



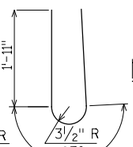
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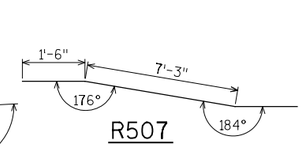
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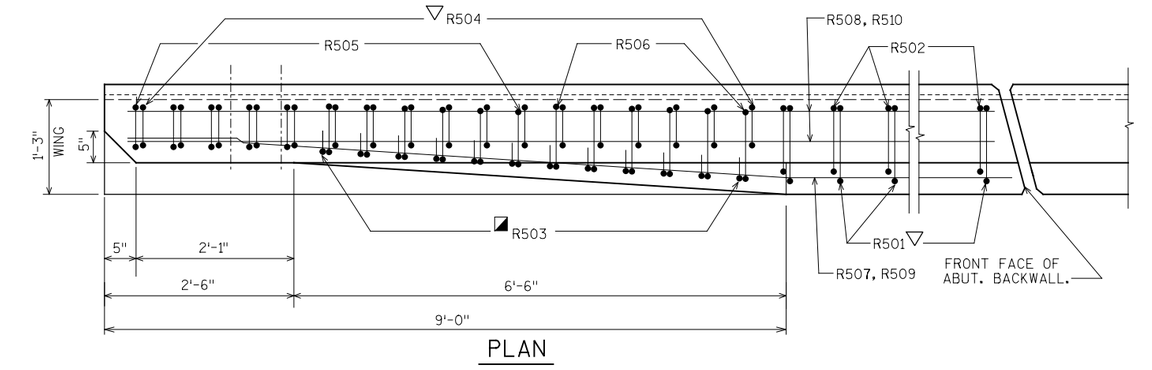
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R506

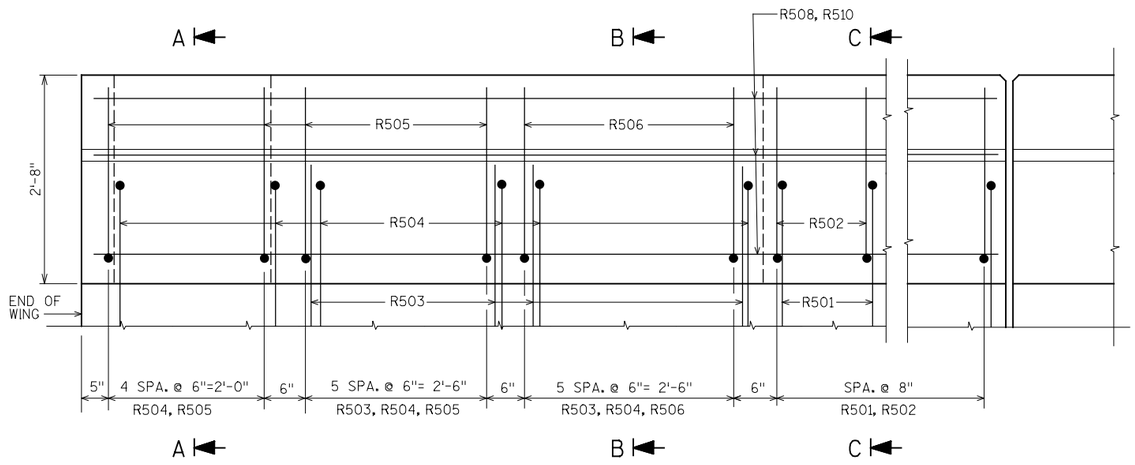


R507
R509

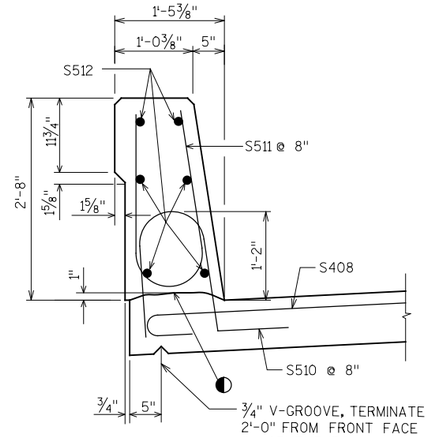


PLAN

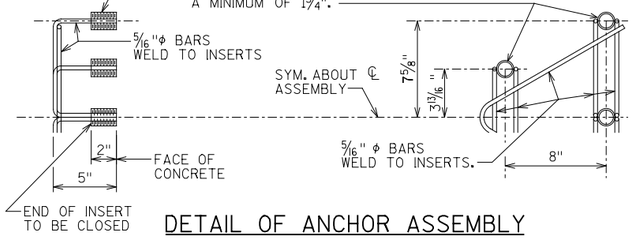
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY	CES	PLANS CK'D.	SJM

SINGLE SLOPE PARAPET 32SS

SHEET 14 OF 18

304

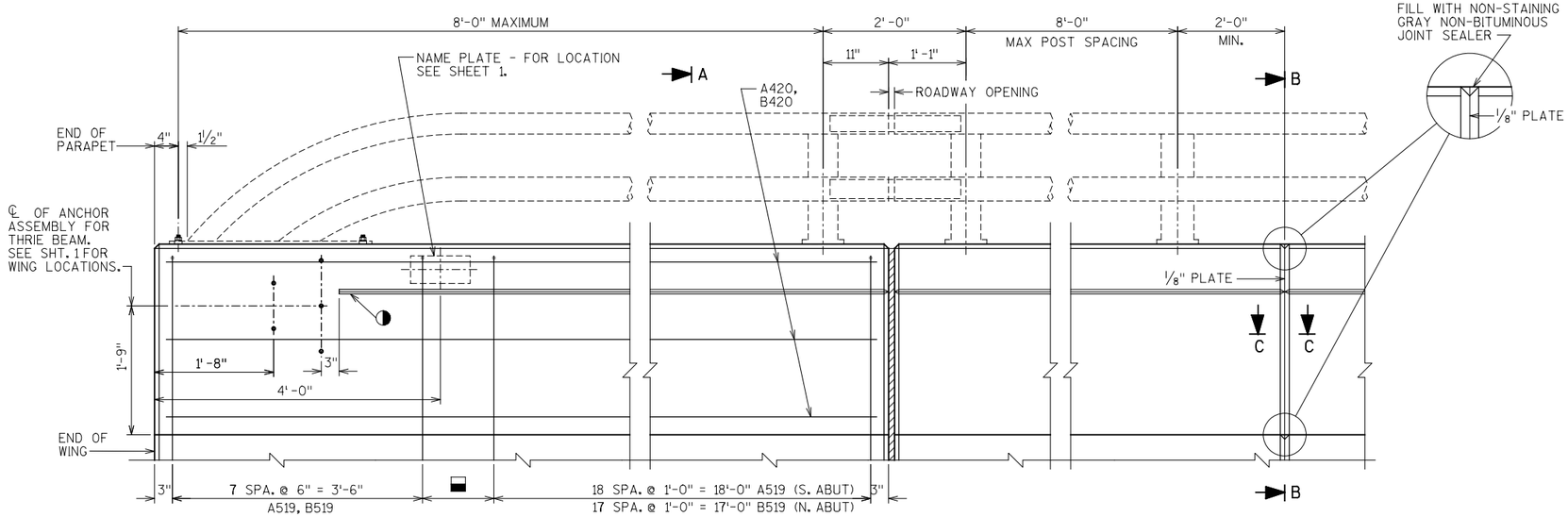
32SSWIN

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1 2 3 4 6 9 14

STATE PROJECT NUMBER

1370-14-70



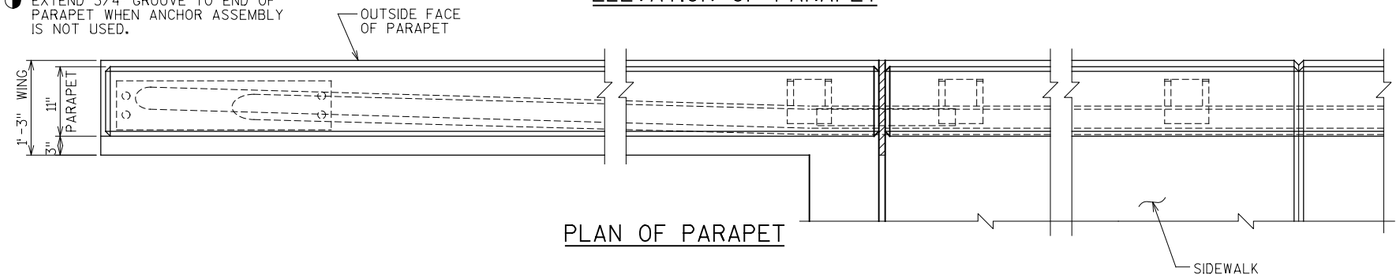
AT ABUTMENTS ▬▶ A

AT DEFLECTION JOINT

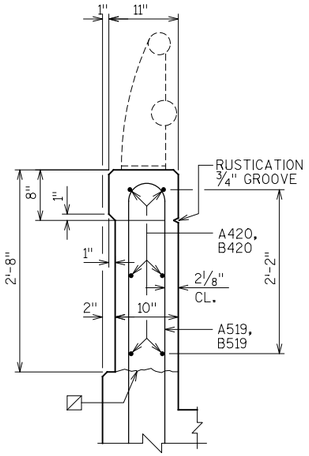
▬ DIMENSION = 7¾" AT SOUTH ABUTMENT AND 1'-4¼" AT NORTH ABUTMENT

◑ EXTEND 3/4" GROOVE TO END OF PARAPET WHEN ANCHOR ASSEMBLY IS NOT USED.

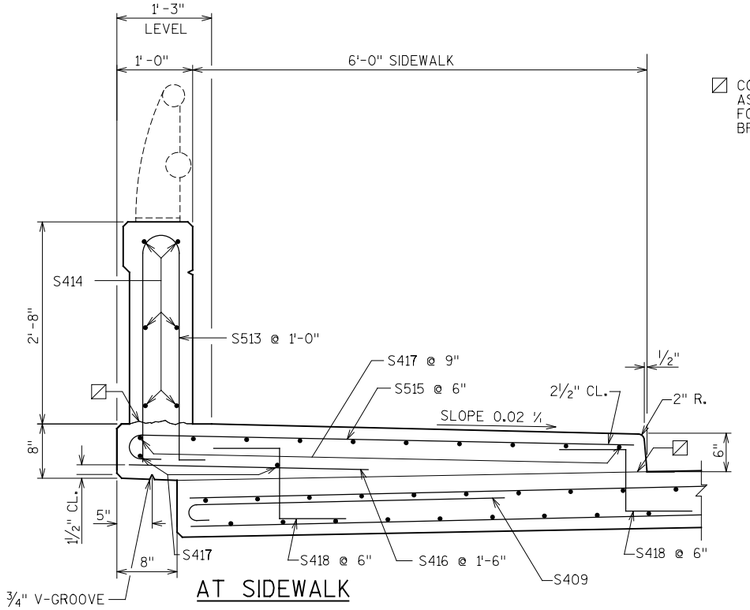
ELEVATION OF PARAPET



PLAN OF PARAPET

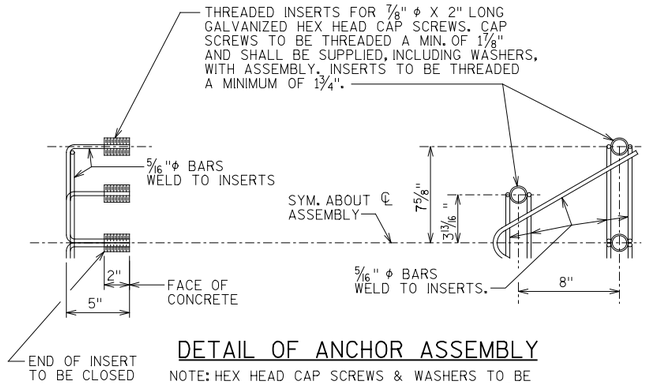


SECTION A-A



AT SIDEWALK

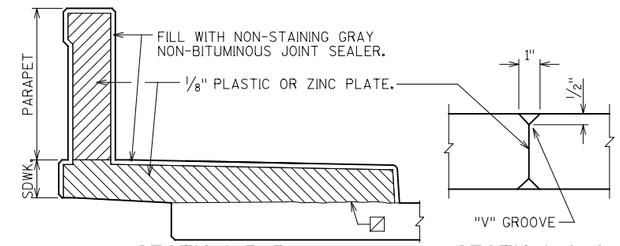
▨ CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

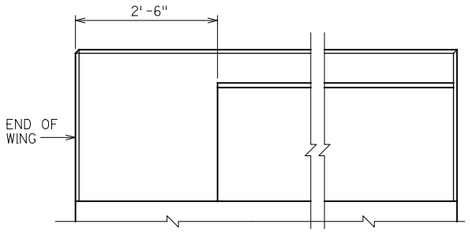


SECTION B-B

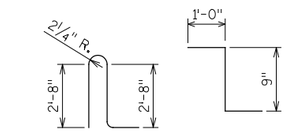
SECTION C-C

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION B-B BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

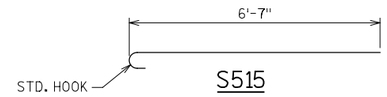


OUTSIDE FACE OF PARAPET



S513

S418



S515

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY: CES | PLANS CK'D.: SJM

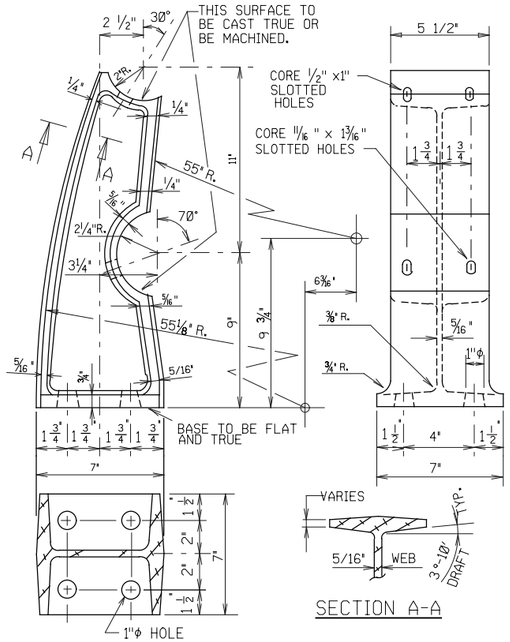
VERTICAL FACE PARAPET "A"

SHEET 15 OF 18

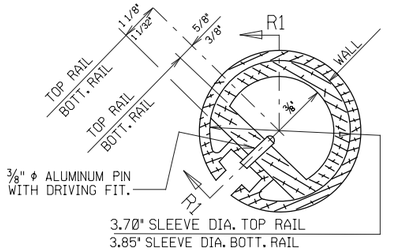
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STATE PROJECT NUMBER

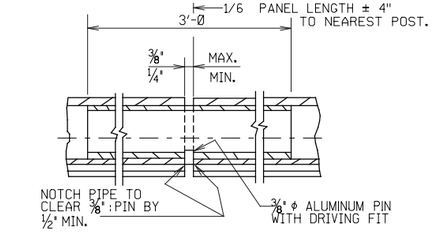
1370-14-70



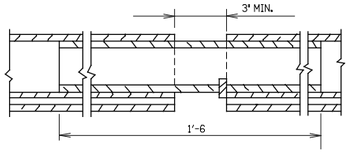
ALUMINUM POST CASTING



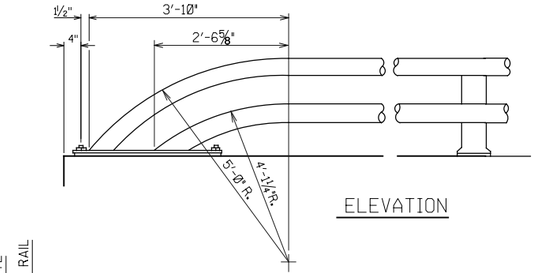
RAIL SPLICE DETAIL



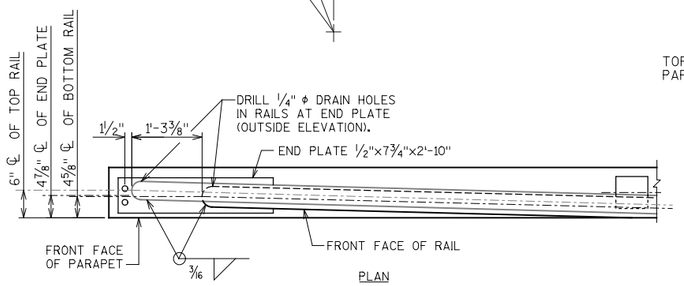
SECTION R1



SLEEVE DETAIL AT ABUTMENT

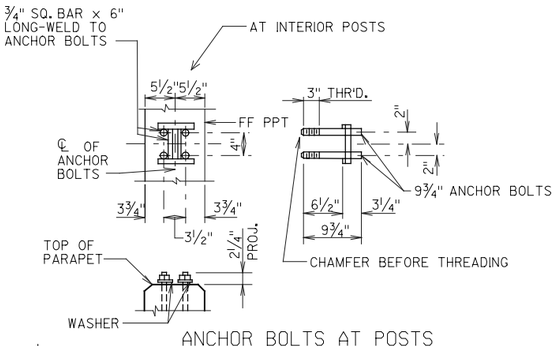


ELEVATION

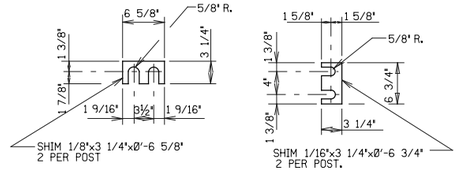


PLAN
VERTICAL FACE PARAPET 'A'

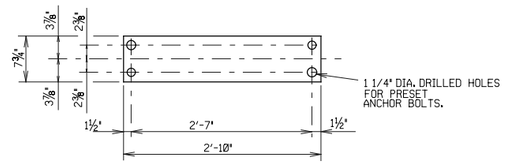
DETAIL OF RAIL BEND AT ABUTMENTS



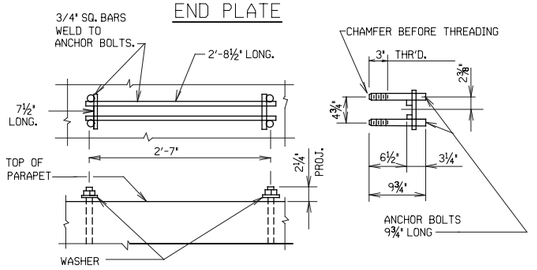
ANCHOR BOLTS AT POSTS



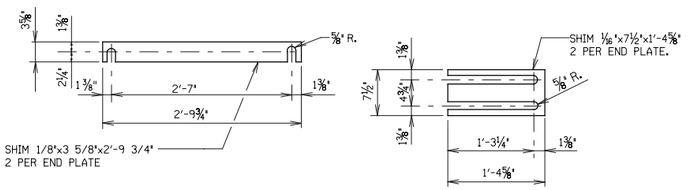
POST SHIM DETAILS



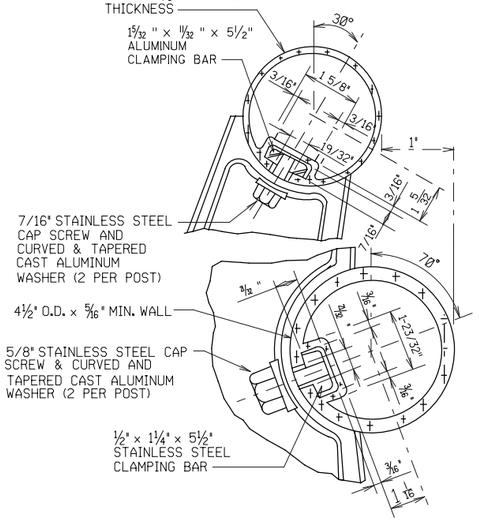
END PLATE



ANCHOR BOLTS AT END PLATE

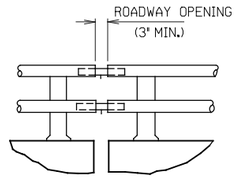


END PLATE SHIM DETAILS



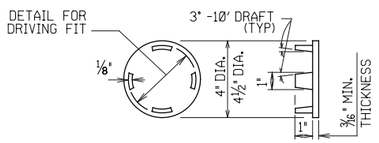
DETAIL OF RAIL ATTACHMENT TO POST

NOTES: MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3% WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".



DETAIL AT RAIL OPENINGS

ALL SLEEVE DETAILS SAME AS "RAIL SPLICE DETAIL" UNLESS SHOWN OTHERWISE



RAIL CLOSURE CAP DETAIL

GENERAL NOTES

BID ITEM SHALL BE "RAILING TUBULAR TYPE H B-67-174" WHICH INCLUDES ALL ITEMS SHOWN.

THE SHANK AND ROOT DIAMETER OF THREAD FOR ANCHOR BOLTS SHALL BE A MIN. OF 5/8".

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.

RAILINGS SHALL BE FABRICATED IN 2 AND 3 PANEL LENGTHS.

RAILING POSTS SHALL BE SET NORMAL TO GRADE LINE.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF THE POST BASE.

SHIMS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D. FOR ALIGNMENT.

FILL ALL EXPOSED OPENINGS BETWEEN SHIMS AND POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

RAILS SHALL BE BUILT STRAIGHT AND SPRUNG INTO PLACE FOR STRUCTURES CURVED UP TO 3°. FOR STRUCTURES CURVED GREATER THAN 3°, RAILS SHALL BE CURVED TO FIT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-67-174

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TUBULAR RAILING TYPE H (ALUM.)

SHEET 16 OF 18

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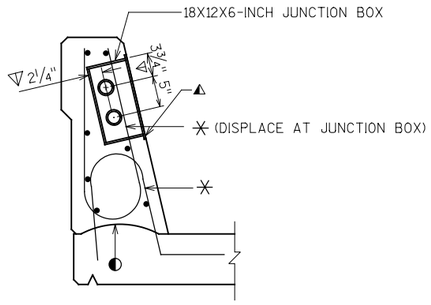
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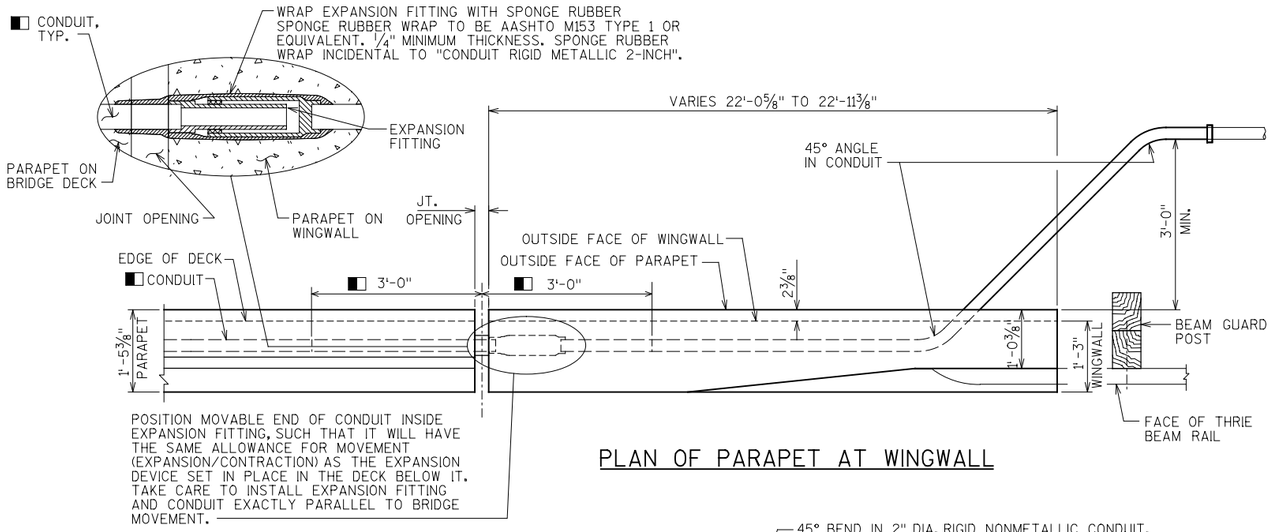
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STATE PROJECT NUMBER

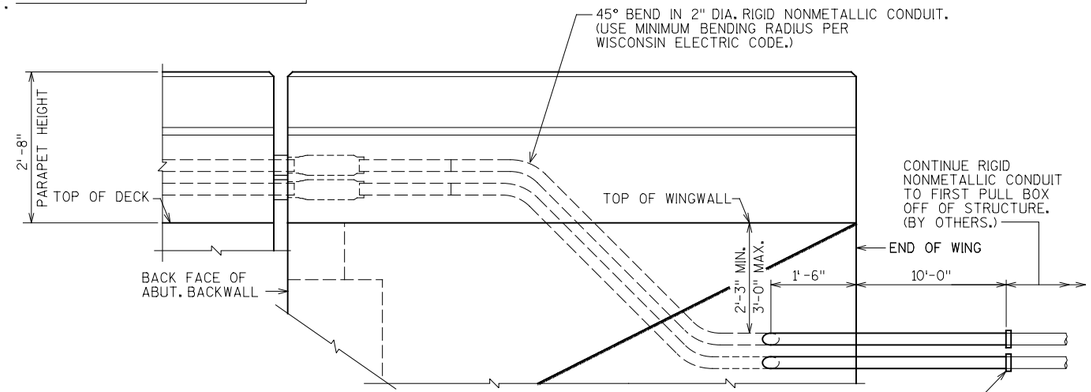
1370-14-70



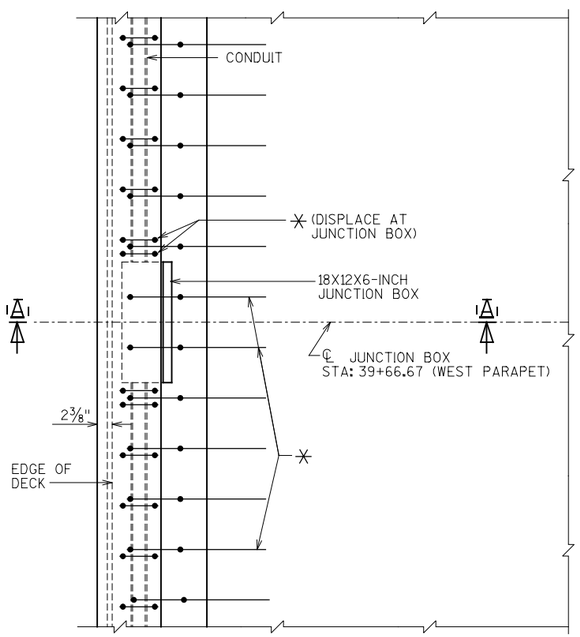
SECTION A-A



PLAN OF PARAPET AT WINGWALL



OUTSIDE ELEVATION OF PARAPET AT WINGWALL



PLAN AT LIGHT STANDARD

■ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND WING SIDES OF THE JOINT OPENING.

◐ CONST. JT. STRIKE OFF AS SHOWN

◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

✳ SEE SINGLE SLOPE PARAPET SHEET FOR ADDITIONAL BAR STEEL DETAILS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

SINGLE SLOPE PARAPET 32SS ELECTRICAL

SHEET 17 OF 18

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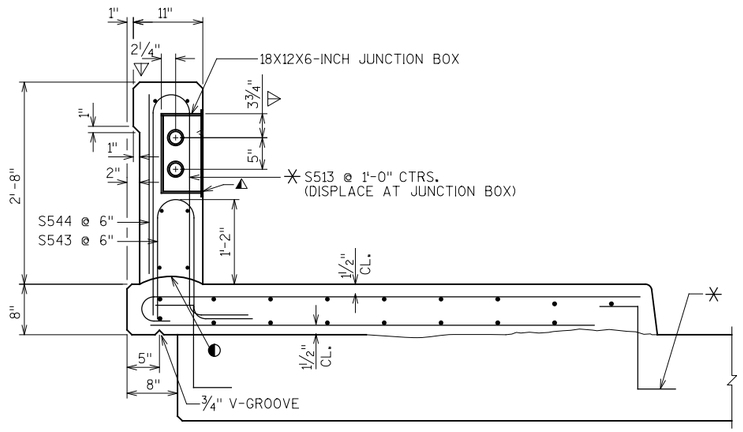
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8

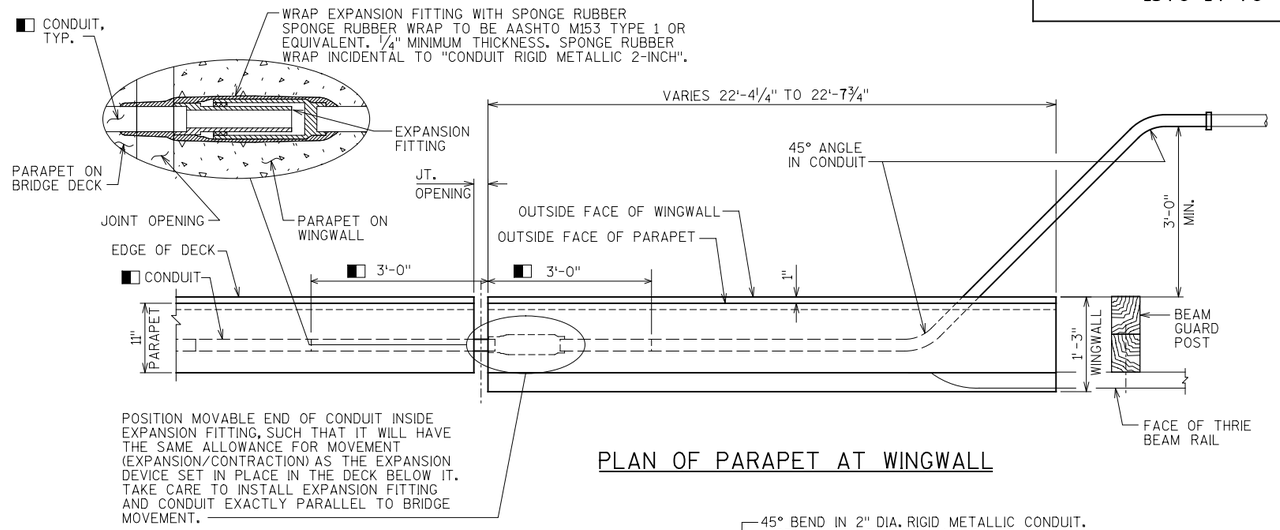
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STATE PROJECT NUMBER

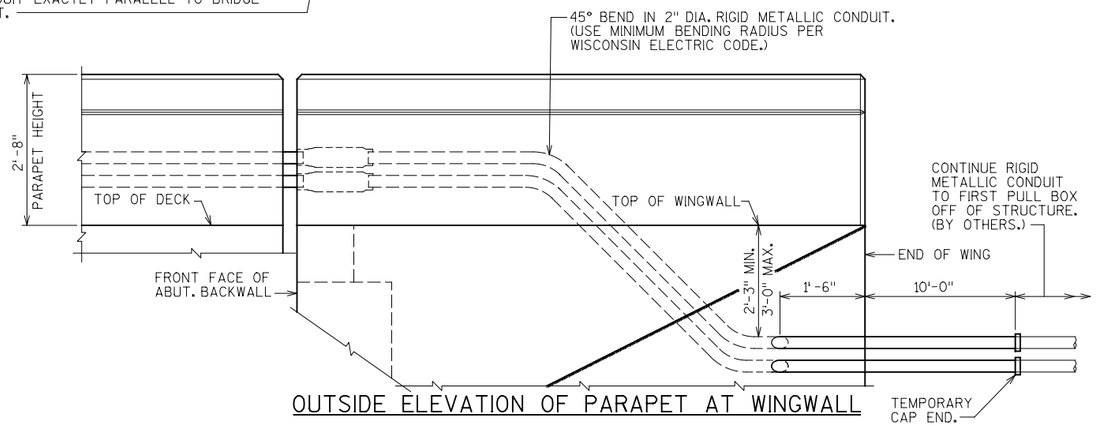
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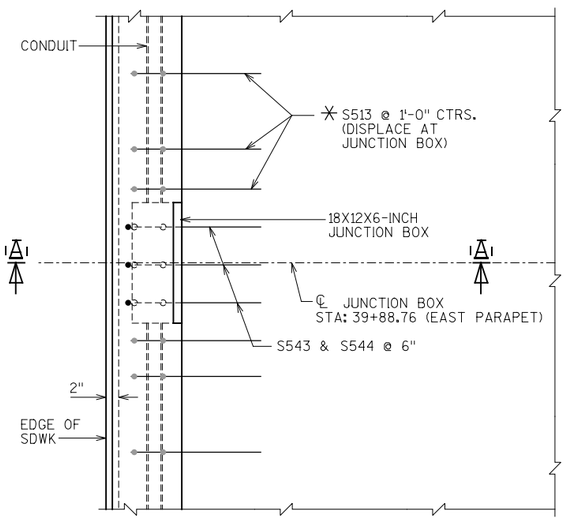
SECTION A-A



PLAN OF PARAPET AT WINGWALL

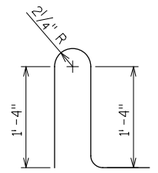


OUTSIDE ELEVATION OF PARAPET AT WINGWALL



PLAN AT JUNCTION BOX

- USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND WING SIDES OF THE JOINT OPENING.
- CONSTR. JT. STRIKE OFF AS SHOWN
- CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- SEE VERTICAL FACE PARAPET "A", SHT. 15 FOR ADDITIONAL BAR STEEL DETAILS.



S543

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S543	X	6	4'-1"	▲	PARAPET VERT @ JUNCTION BOX
S544	X	6	2'-4"		PARAPET VERT. @ JUNCTION BOX

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH".

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-174

DRAWN BY CES | PLANS CK'D. SJM

PARAPET "A" ELECTRICAL WORK

SHEET 18 OF 18

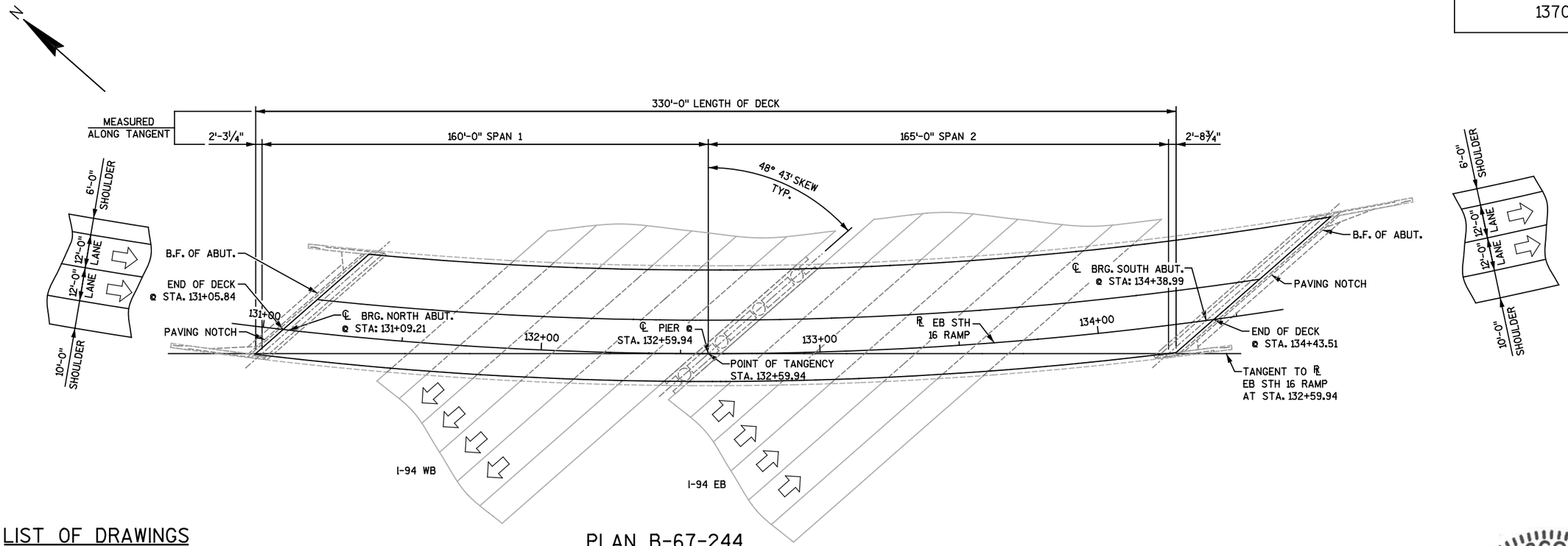
308

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FILE NAME :108.18 VerticalFace Parapet ElectricalDgn
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STATE PROJECT NUMBER
1370-14-70



PLAN B-67-244

LIST OF DRAWINGS

1. POLYMER OVERLAY
2. CONSTRUCTION STAGING
3. DECK INSPECTION

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-28
OPERATIONAL RATING	HS-47
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

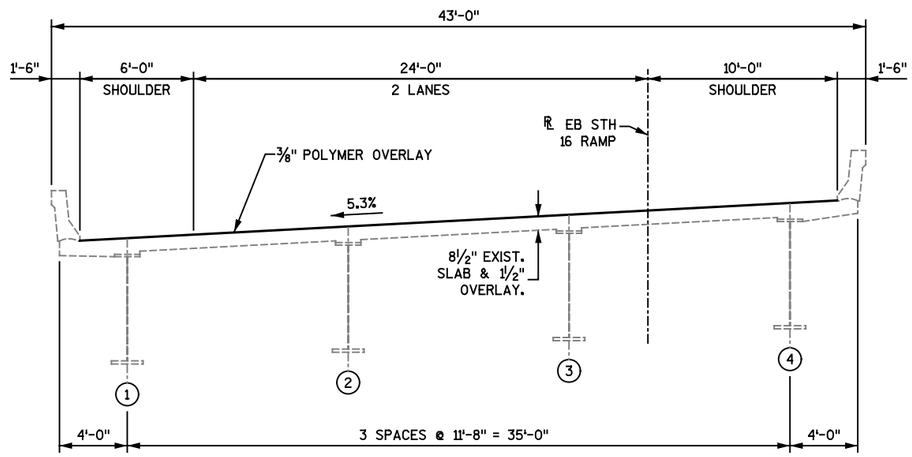
ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
502.0100	CONCRETE MASONRY BRIDGES	CY	1 ▲
502.3200	PROTECTIVE SURFACE TREATMENT	SY	312
509.0301	PREPARATION DECKS TYPE 1	SY	5
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.1500	CONCRETE SURFACE REPAIR	SF	1 ◥
509.2000	FULL DEPTH DECK REPAIR	SY	2
509.5100.S	POLYMER OVERLAY	SY	1501
604.9015.S	RE-SEAL CRUSHED AGGREGATE SLOPE PAVING	SY	378

▲ THE QUANTITY FOR CONCRETE MASONRY BRIDGES IS BASED ON PREPARATION DECKS TYPE 1 AND 2 AND FULL DEPTH DECK REPAIR QUANTITIES.

◥ ESTIMATED QUANTITY FOR CONCRETE SURFACE REPAIR IS BASED ON THE FOLLOWING AREAS. LOCATIONS AND LIMITS TO BE DIRECTED BY THE ENGINEER.

LOCATION	AREA
S. ABUT.	1 SF



CROSS SECTION THRU ROADWAY
(LOOKING SOUTH)

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

WISCONSIN PROFESSIONAL ENGINEER
STEVEN J. MILLER E-36937 MILWAUKEE WI
Steven J. Miller
6/28/13

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVB — 6/30/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-244

EB STH 16 RAMP OVER IH-94

COUNTY	TOWN ~~CITY/VILLAGE~~
WAUKESHA	PEWAUKEE

DESIGN SPEC. AASHTO STD. SPEC. 2003

DESIGNED BY	CES	DESIGN CK'D.	SJM	DRAWN BY	CES	PLANS CK'D.	SJM

POLYMER OVERLAY

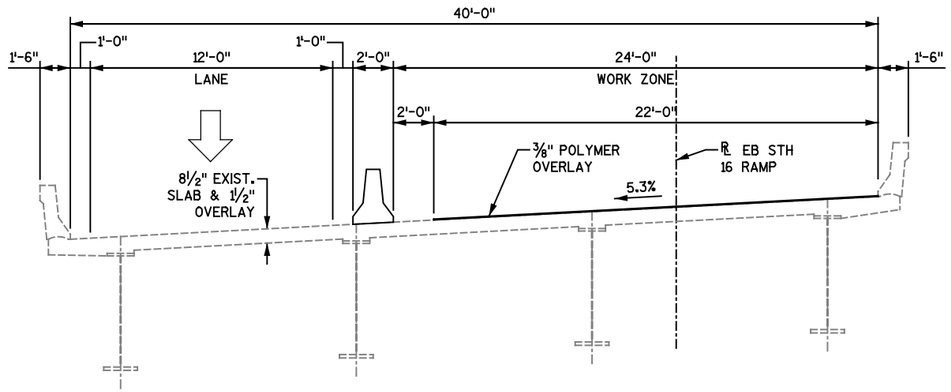
SHEET 1 OF 3

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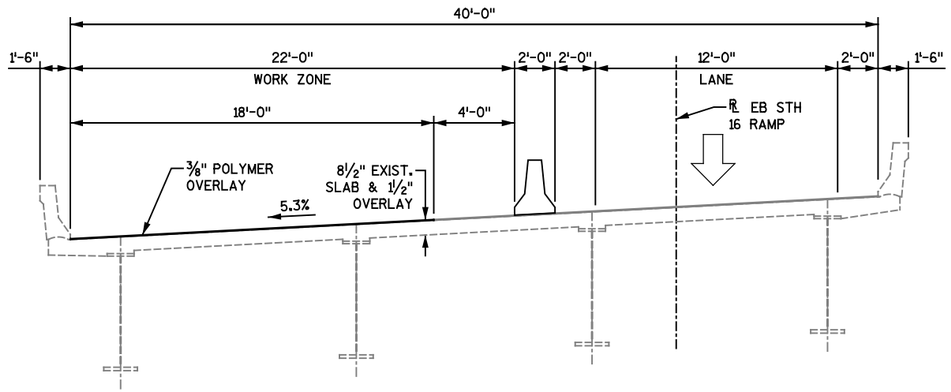
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STATE PROJECT NUMBER
1370-14-70



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING SOUTH)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING SOUTH)

GENERAL NOTES

ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

DRAWINGS SHALL NOT BE SCALED.

ENTIRE DECK SURFACE SHALL BE PREPARED TO RECEIVE A POLYMER OVERLAY BY SHOTBLASTING TO THE DESIRED REQUIREMENTS. REFER TO THE SPECIAL PREVISIONS FOR DETAILS ON THE REQUIREMENTS FOR DECK PREPARATION. SHOTBLASTING DECK PREPARATION IS INCIDENTAL TO THE POLYMER OVERLAY BID ITEM.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-244

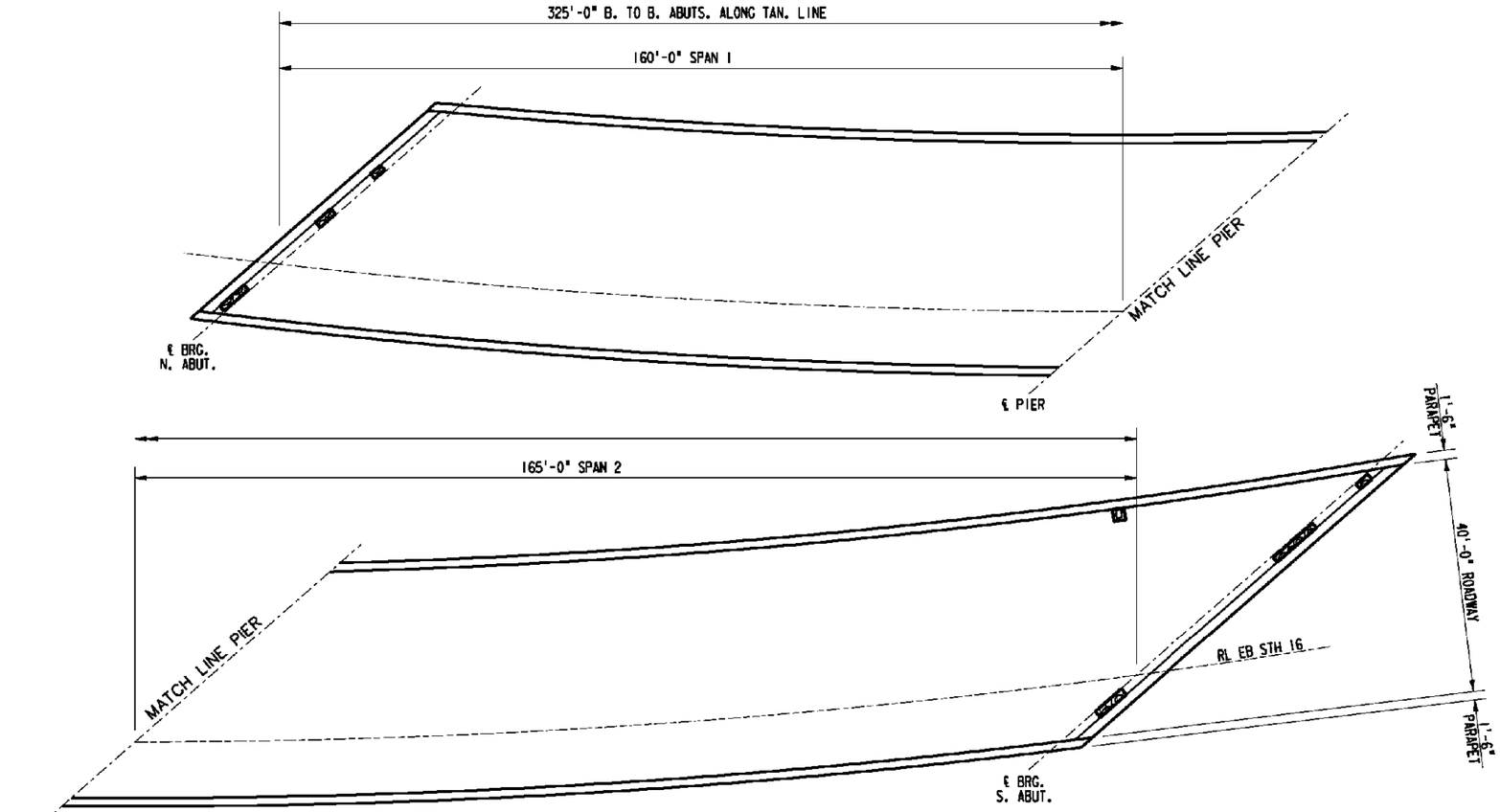
DRAWN BY	CES	PLANS CK'D.	SJM

CONSTRUCTION STAGING

SHEET 2 OF 3

STATE PROJECT NUMBER

1370-14-70



PLAN

PROPOSED REHAB AREAS

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-67-244	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	1613.3	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	4.6	0.3
PREPARATION, DECKS, TYPE 2	yd^2	0.5	<0.1
FULL DEPTH DECK REPAIR	yd^2	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: EPOXY OVERLAY
INFRARED INSPECTION DATE: 6/11/13

NO	DESCRIPTION	DRN	CHK	DATE
	REVISIONS			

DATA COL TC/DS
ANALYSIS TC
CADD DS
CHECKED DJJ

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AECOM

PROPOSED REHABILITATION AREAS FOR S.T.H. 16 (EB) OVER M 94 STRUCTURE NO. B-67-244

PREPARED FOR WISCONSIN DEPARTMENT OF TRANSPORTATION SOUTHEAST REGION

DATE 6/21/13
PROJECT NO 60301443
FILENAME B-67-244-REHAB.DGN
SHEET NO 1 OF 1
DRAWING NO

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-67-244

DRAWN BY CES | PLANS CK'D. SJM

SHEET 3 OF 3

DECK INSPECTION 311

8

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Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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