WKE

FEB 2016

PROJECT ID: 1090-33-71

WITH:

COUNTY: WALWORTH

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 = 210

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

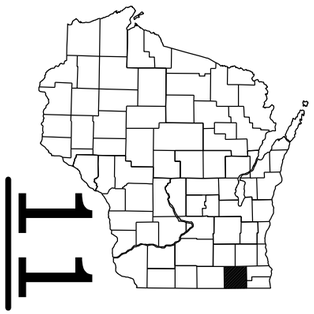
ROCK FREEWAY

SB ELM RIDGE RD BRIDGE B-64-123

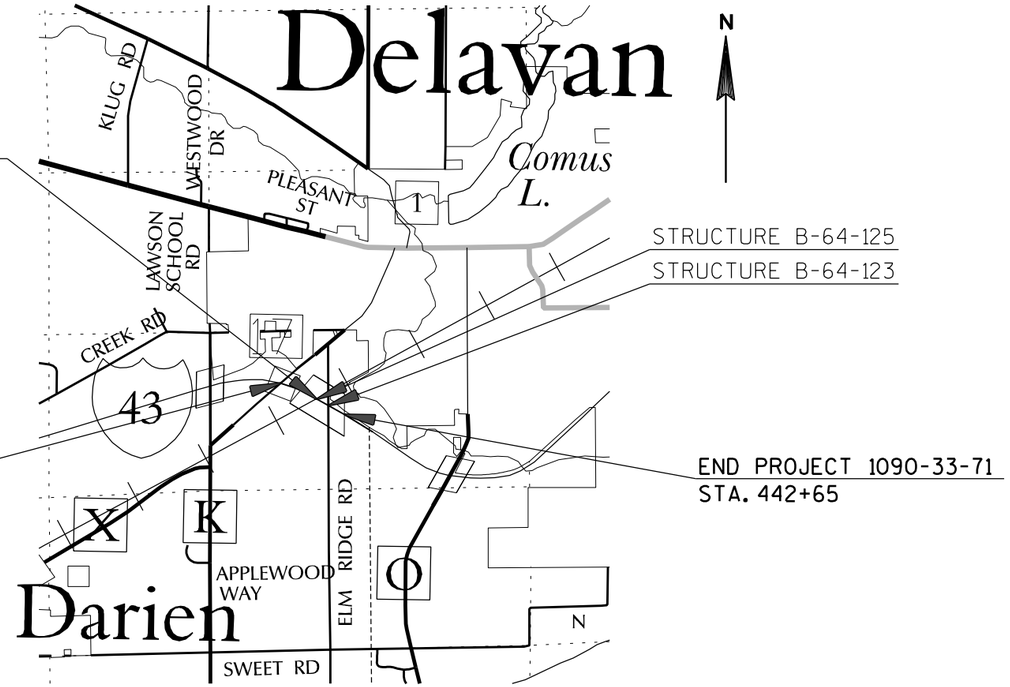
IH 43

WALWORTH COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1090-33-71	WISC 2016019	1



STATE PROJECT NUMBER
1090-33-71



BEGIN PROJECT 1090-33-71
STA. 436+76
Y = 346,181.32
X = 729,823.96

DESIGN DESIGNATION

A.A.D.T. (2015)	=	19,700
A.A.D.T. (2035)	=	23,400
D.H.V. (2035)	=	1,615
D.D.	=	58/42
T.	=	18.6%
DESIGN SPEED	=	70 MPH
ESALS	=	12,000,000

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

LAYOUT
SCALE 0 ½ MI.

TOTAL NET LENGTH OF CENTERLINE = 0.112 MI.

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

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE 1988 NAD 83(2007) VERTICAL DATUM.

ORIGINAL PLANS PREPARED BY
DAAR ENGINEERING, INC.
www.daarcorp.com
Milwaukee, WI 53202
414-225-9817

WISCONSIN
ANDREW J. SMIEJA
E-31137
WAUKESHA, WI
PROFESSIONAL ENGINEER

7/31/15 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	DAAR ENGINEERING
Designer	DAAR ENGINEERING
Project Manager	JULIE JENKS, P.E.
Regional Examiner	
Regional Supervisor	JANET CANNON, P.E.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 11/9/15 (Signature)

E

GENERAL NOTES

UNLESS NOTED ON THE PLAN, ALL STATIONS AND OFFSETS ARE REFERENCED FROM RL IH 43.

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

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

DIMENSIONS GIVEN FOR EXISTING FEATURES SHALL BE CONSIDERED AS APPROXIMATE AND SHOULD BE MEASURED IN FIELD FOR MATCHING PURPOSE.

EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DEEMS THE MEASURE NO LONGER NECESSARY.

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

INLET PROTECTION REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

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

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE AND EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS WILL BE LEFT EXPOSED FOR MORE THAN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED WITHIN (3) CALENDAR DAYS OF INITIAL DISTURBANCE.

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

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. NO WORK MAY BEGIN UNTIL PROPER TRAFFIC CONTROL DEVICES ARE PLACED AND APPROVED BY THE ENGINEER.

WHEN TEMPORARY PAVEMENT MARKING REMOVABLE TAPE IS REQUIRED, IT SHALL BE CUT THROUGH ITS FULL WIDTH AND THICKNESS AT 25-FOOT INTERVALS TO CONTROL RAVELING.

A SAWED JOINT IS REQUIRED WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.

PLACE A LAYER OF TACK COAT BETWEEN ALL HMA PAVEMENT LAYERS.

ALL HMA PAVEMENT LOCATIONS SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

HMA LAYERS

LOCATION	TOTAL PAVEMENT THICKNESS	LAYERS HMA PAVEMENT E-10	NOMINAL SIZE GRADATION	ASPHALTIC MATERIAL
IH 43 - SB MAINLINE (SOUTH OF BRIDGES)	4"-9" (5" TYPICAL)	0-4" WEDGING	19.0 mm	PG64-28P
		3" LOWER	19.0 mm	PG64-28P
		2" UPPER	12.5 mm	PG64-28P
IH 43 - SB MAINLINE (NORTH OF BRIDGES)	5"-7" (5" TYPICAL)	0-2" WEDGING	19.0 mm	PG64-28P
		3" LOWER	19.0 mm	PG64-28P
		2" UPPER	12.5 mm	PG64-28P
IH 43 - SB SHOULDERS	5"	5" UPPER	19.0 mm	PG64-28P

ORDER OF DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS (EXISTING AND FINISHED)
CONSTRUCTION DETAILS
PAVING DETAILS
EROSION CONTROL/ STORM SEWER PLAN
PERMANENT SIGNING
PAVEMENT MARKING PLAN
STAGING PLAN
ALIGNMENT PLAN

UTILITY CONTACTS

ALLIANT ENERGY CORPORATION
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4902 N BILTMORE LANE, SUITE 1000
PO BOX 77007
MADISON, WI 53718
PHONE (608) 458-4871
FAX (563) 557-2288
EMAIL jasonhogan@alliantenergy.com

ATC MANAGEMENT, INC.
MR. ALEX METZ
5303 FEN OAK DRIVE
MADISON, WI 53718
PHONE (608) 877-7105
EMAIL ametz@atcllc.com

AT&T WISCONSIN
MS. CAROL ANASON
316 W WASHINGTON AVE
MADISON, WI 53703
PHONE (608) 252-2385
EMAIL ca2624@att.com

WALWORTH COUNTY METROPOLITAN SEWERAGE DISTRICT
MR. BRAD HUZA
975 W WALWORTH AVE
DELAVAN, WI 53115
PHONE (262) 728-4140
EMAIL bhuza@walcomet.com

WE ENERGIES – GAS OPERATIONS
PROJECT MANAGER
MR. LATROY BRUMFIELD
333 WEST EVERETT STREET – A299
MILWAUKEE, WI 53203
PHONE (414) 221-5617
FAX (414) 221-2336
EMAIL latroy.brumfield@we-energies.com

WE ENERGIES - GAS OPERATIONS
CONSTRUCTION PROJECT MANAGER
MR. SCOTT HOLSTEIN
700 S. KANE STREET
BURLINGTON, WI 53105
PHONE (262) 763-1084
EMAIL scott.holstein@we-energies.com

WISDOT COUNTING STATION
MS. JANE OLDENBURG
3633 PIERSTORFF STREET
MADISON, WI 53704
PHONE (608) 245-2679
EMAIL jane.oldenburg@dot.wi.gov

OTHER CONTACTS

WISDOT SE REGION
PROJECT MANAGER
MS. JULIE JENKS, PE
141 NW BARSTOW ST
WAUKESHA, WI 53187
OFFICE (262) 548-6462
julie.jenks@dot.wi.gov

DAAR ENGINEERING, INC
MR. ANDY SMIEJA, PE
325 EAST CHICAGO STREET, SUITE 500
MILWAUKEE, WI 53202
OFFICE (414) 225-9817
FAX (414) 225-9826
andy.smieja@daarcorp.com

WDNR CONTACT

WISCONSIN DNR
MR. CRAIG WEBSTER
141 NW BARSTOW STREET, ROOM 180
WAUKESHA, WI 53188
OFFICE (262) 574-2141
craig.webster@wisconsin.gov

RAILROAD CONTACT

WISCONSIN & SOUTHERN RAILROAD, LLC
ROADMASTER
MR. ROGER SCHAALMA
1890 E. JOHNSON STREET
MADISON, WI 53704
PHONE (608) 620-2044
rschaalma@watcocompanies.com

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

2

TOWN OF DARIEN

BEGIN CONSTRUCTION
STA. 432+53

STRUCTURE B-64-127
(MISC. REPAIRS)

STRUCTURE B-64-125
(MISC. REPAIRS)

℄ IH 43

BEGIN PROJECT 1090-33-71
STA. 436+76
Y=346,181.32
X=729,823.96

STRUCTURE B-64-123
(BRIDGE DECK
REPLACEMENT)

IH 43 SB

IH 43 NB

415 420 425 430 435 440

EXISTING STRUCTURE
B-64-126 (NO WORK)

BELOIT STREET /
CTH X

WISCONSIN & SOUTHERN RAILROAD

EXISTING STRUCTURE
B-64-124 (NO WORK)

EXISTING STRUCTURE
B-64-122 (NO WORK)

ELM RIDGE ROAD

MATCHLINE STA. 442+00

TOWN OF DARIEN

END PROJECT 1090-33-71
STA. 442+65

CITY OF DELAVAN

MATCHLINE STA. 442+00

445 450 455 460 465

IH 43 SB

IH 43 NB

END CONSTRUCTION
STA. 456+25

SWAN CREEK

N

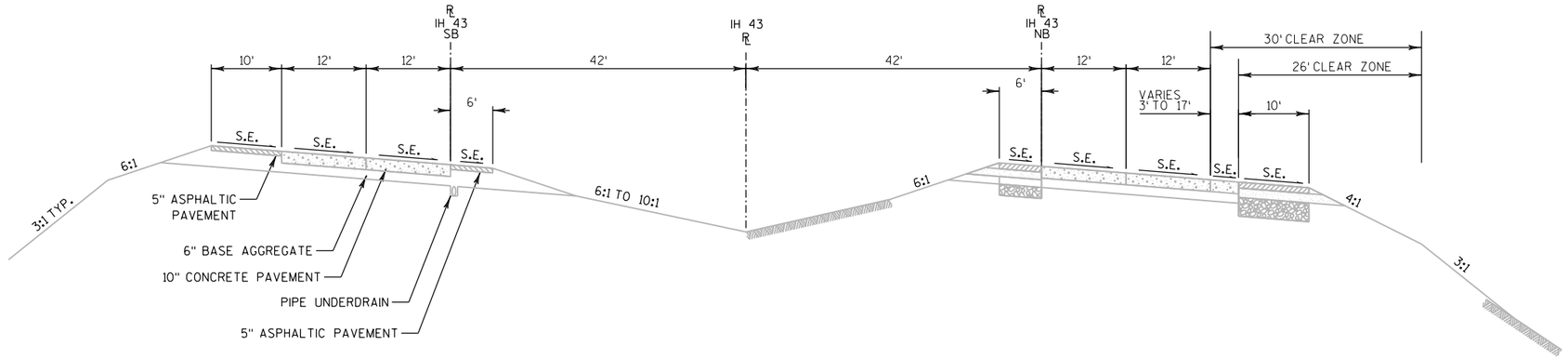
ELM RIDGE ROAD

TOWN OF DARIEN

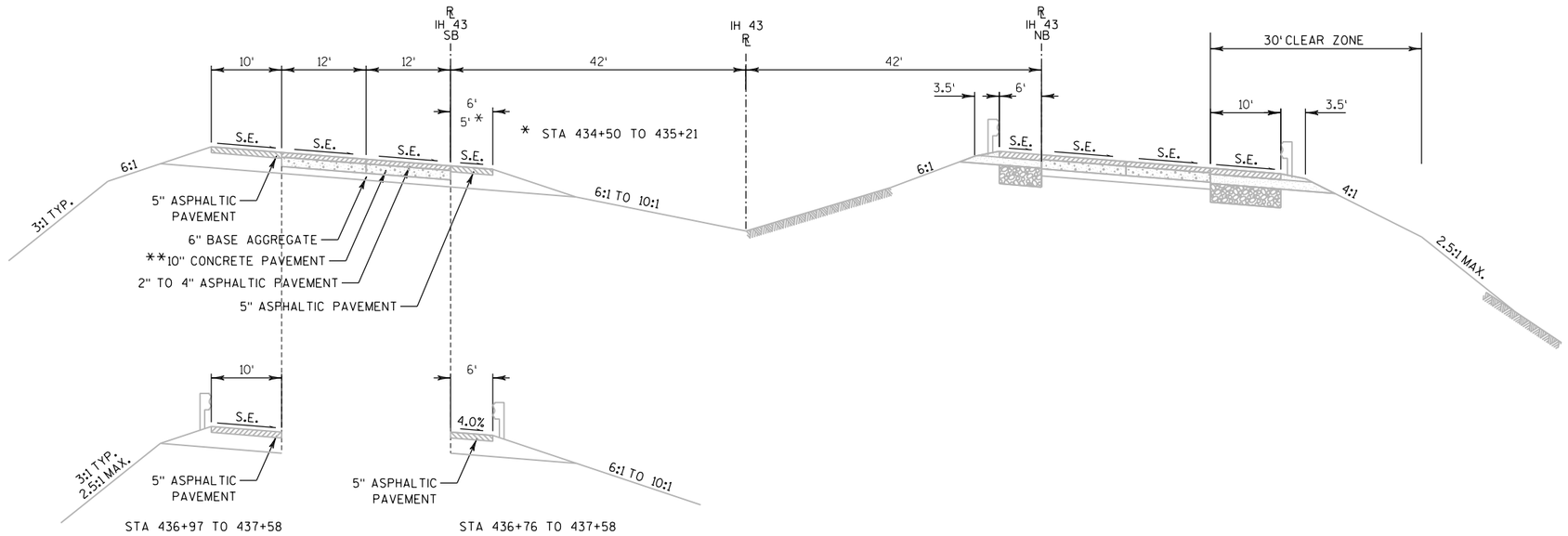
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\020201_po.dgn PLOT DATE : 7/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 200.0000 ' / in.

WISDOT/CADDS SHEET 42



TYPICAL EXISTING SUPERELEVATED SECTION
SOUTHBOUND IH-43
STA 432+53 TO 434+22



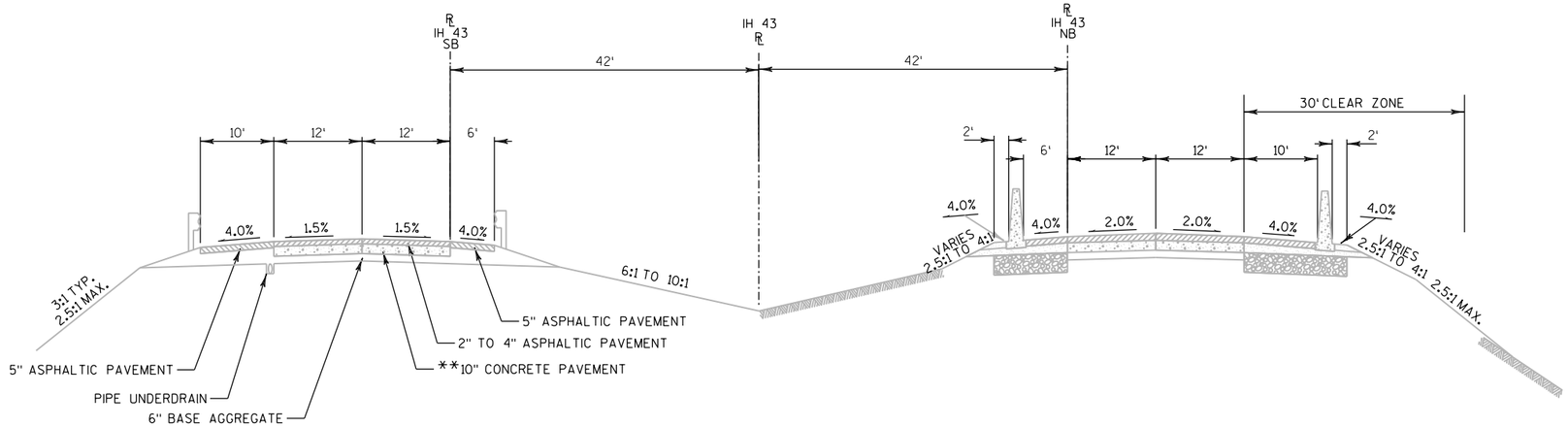
TYPICAL EXISTING SUPERELEVATED SECTION
SOUTHBOUND IH-43
STA 434+22 TO 437+58

NOTE:
** 8" CONCRETE PAVEMENT
STA 436+38 TO 440+13

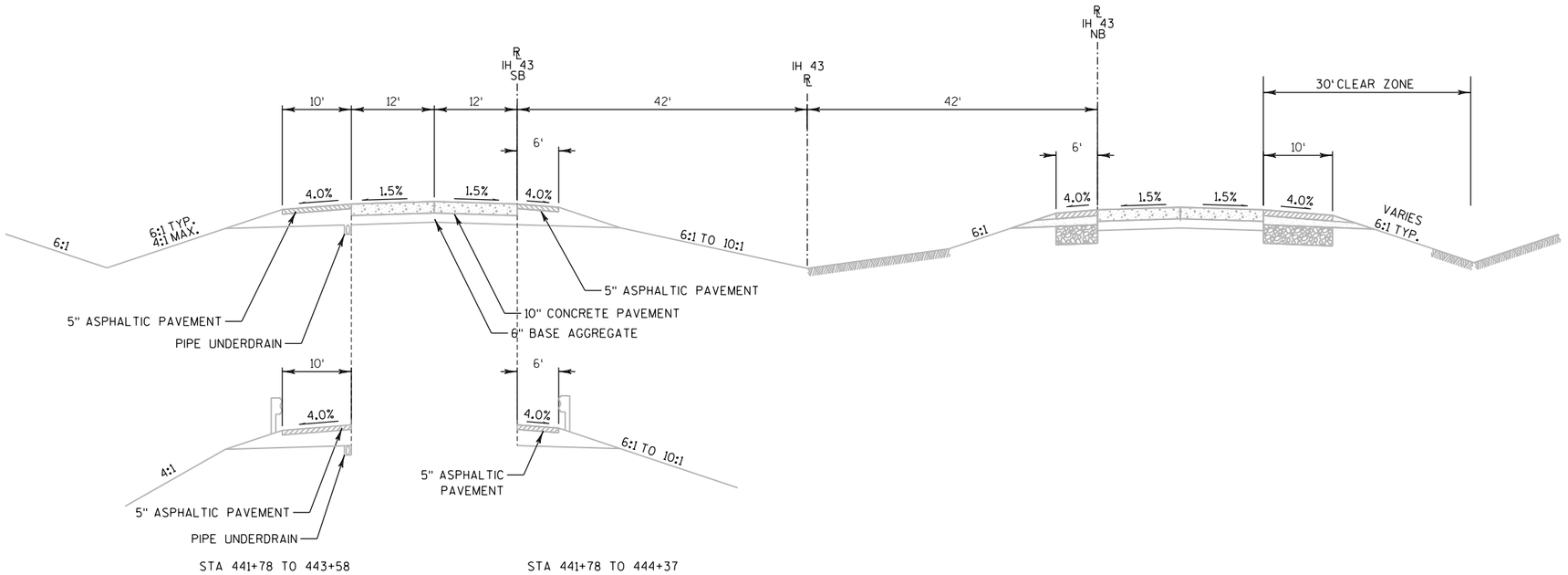
PROJECT NO: 1090-33-71	HWY: IH 43	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 4	E

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WISDOT/CADDS SHEET 42



TYPICAL EXISTING SECTION
SOUTHBOUND IH-43
STA 437+58 TO 441+78



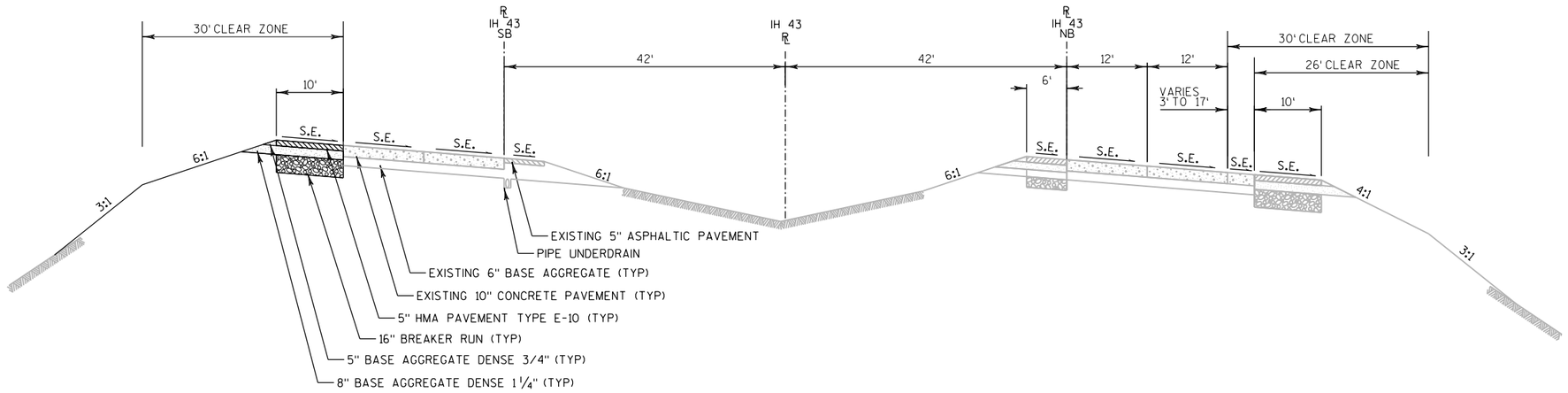
STA 441+78 TO 443+58

STA 441+78 TO 444+37

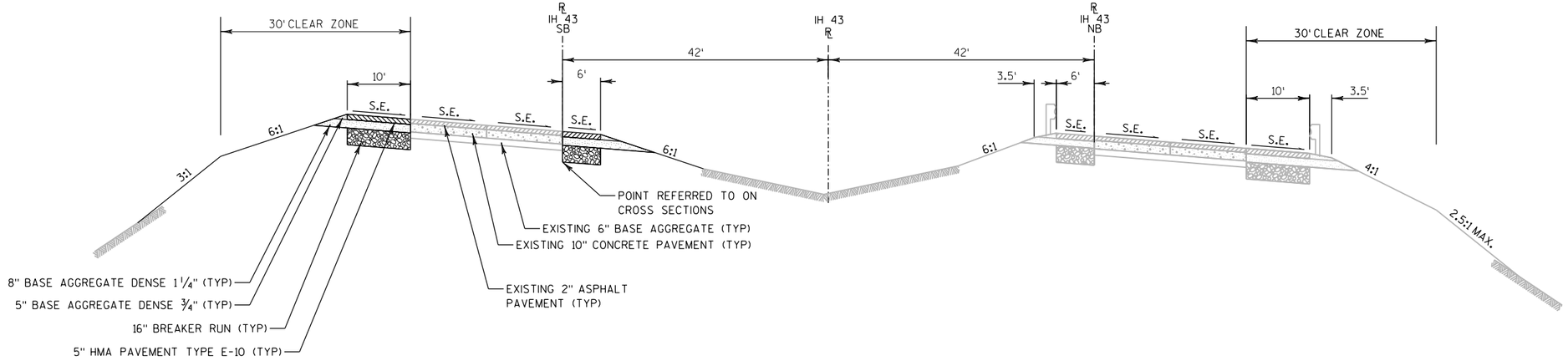
TYPICAL EXISTING SECTION
SOUTHBOUND IH-43
STA 441+78 TO 456+25

NOTE:
** 8" CONCRETE PAVEMENT
STA 436+38 TO 440+13

PROJECT NO: 1090-33-71	HWY: IH 43	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 5	E

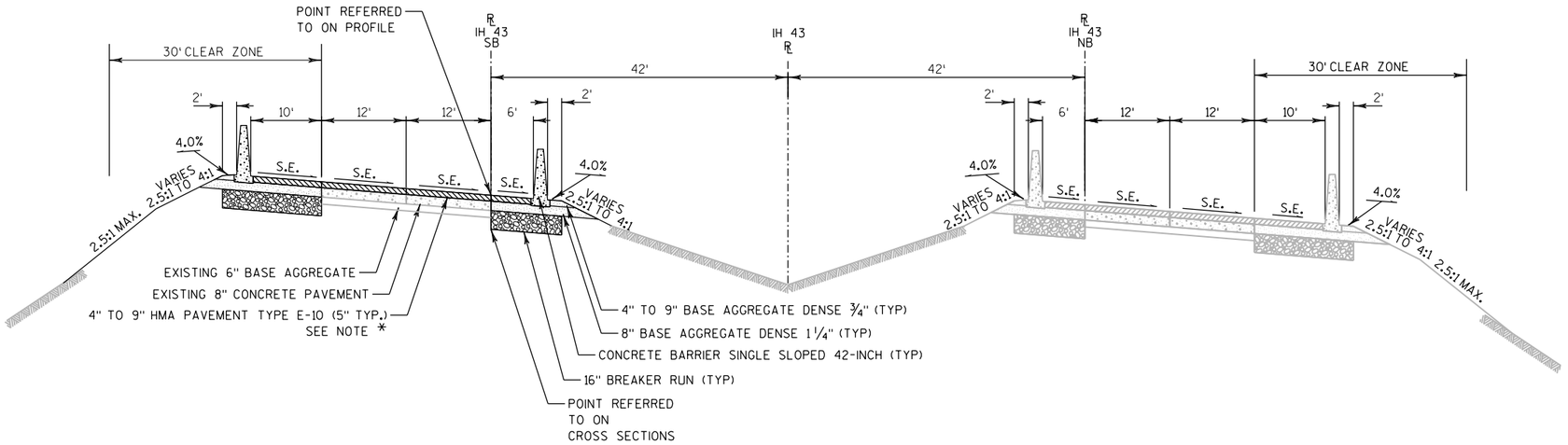


TYPICAL FINISHED SUPERELEVATED SECTION IH-43 SB
SHOULDER REPLACEMENT
STA 432+53 TO 434+22

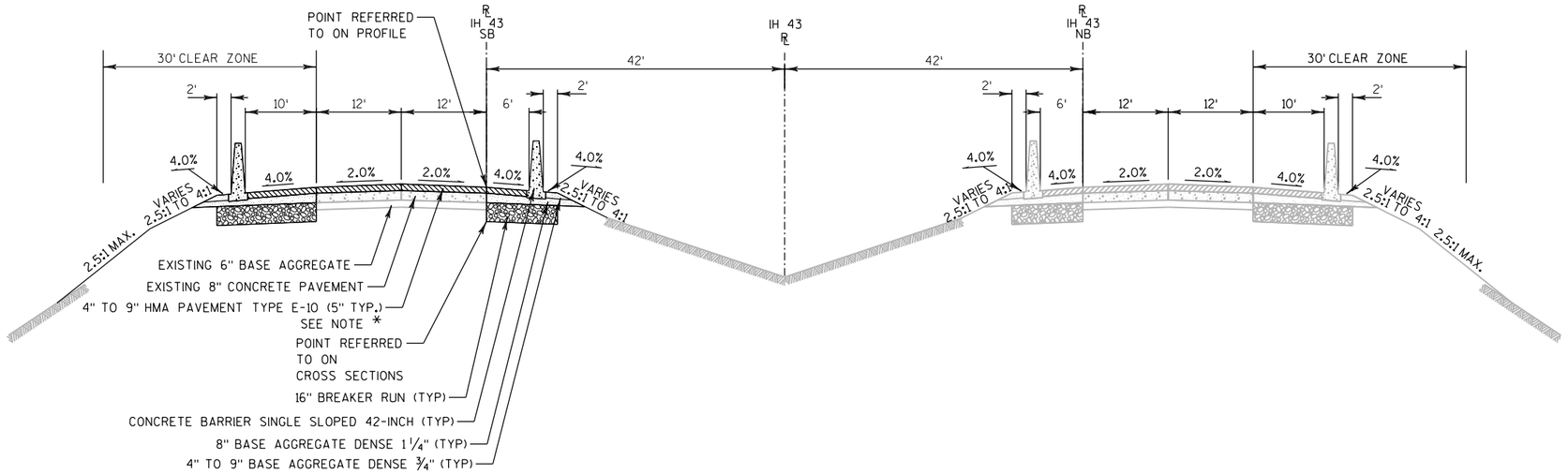


TYPICAL FINISHED SUPERELEVATED SECTION IH-43 SB
SHOULDER REPLACEMENT
STA 434+22 TO 435+37

PROJECT NO: 1090-33-71	HWY: IH 43	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 6	E



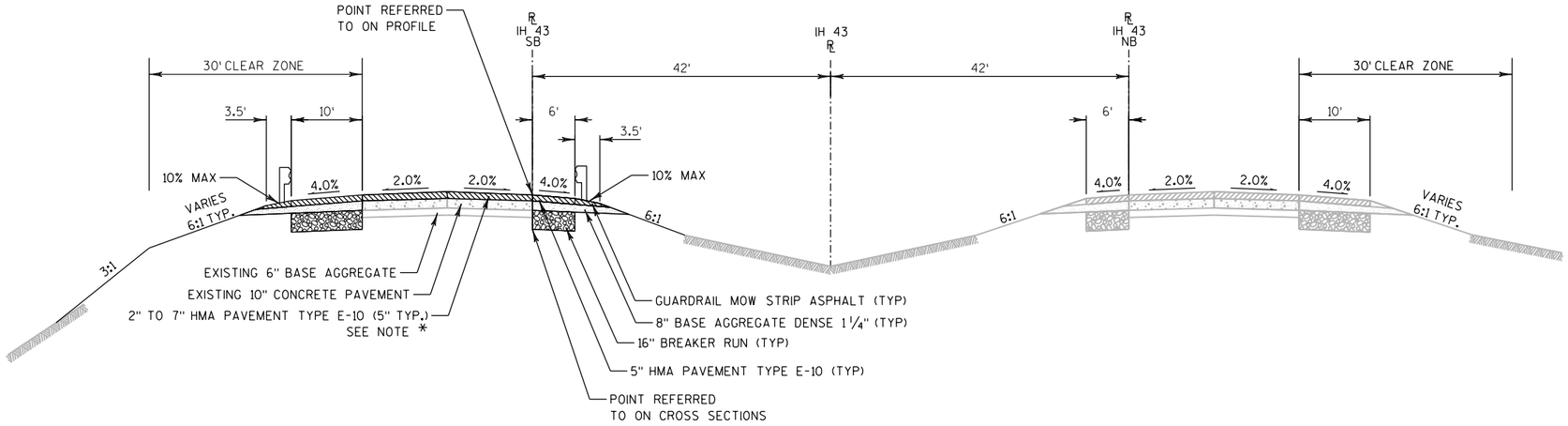
TYPICAL FINISHED SUPERELEVATED SECTION IH-43 SB
OVERLAY AND SHOULDER REPLACEMENT
STA 436+76 TO 437+58



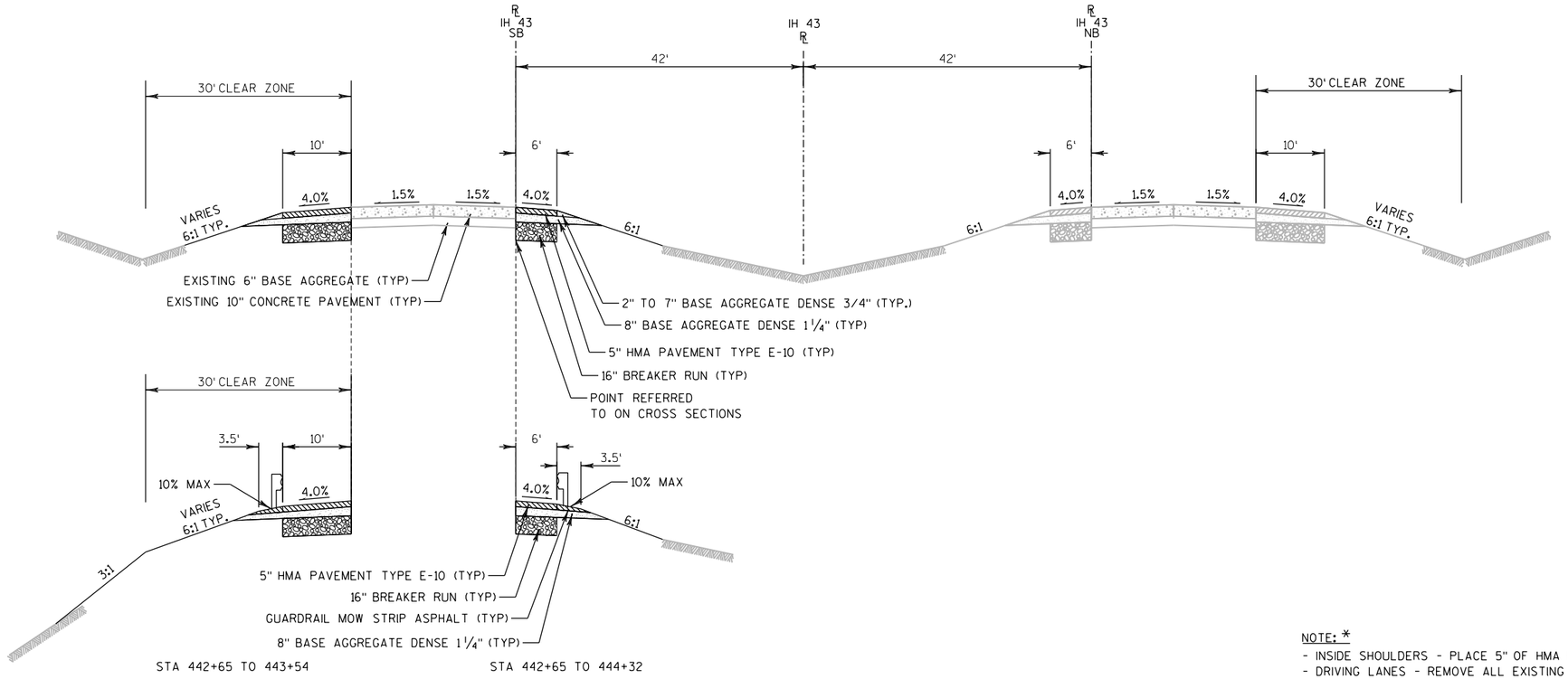
TYPICAL FINISHED SECTION IH-43 SB
OVERLAY AND SHOULDER REPLACEMENT
STA 437+58 TO 439+35

NOTE: *
- INSIDE SHOULDERS - PLACE 5" OF HMA PAVEMENT TYPE E-10 DURING STAGE 2 WORK.
- DRIVING LANES - REMOVE ALL EXISTING ASPHALTIC PAVEMENT AND PLACE 4" TO 9" OF HMA PAVEMENT TYPE E-10 (5" TYPICAL). PLACE 9" AT ELM RIDGE ROAD FOR PROFILE INCREASE AND 4" AT RAILROAD STRUCTURE TO MATCH EXISTING DECK ELEVATION. HMA PLACED DURING STAGES 2 AND 3.
- OUTSIDE SHOULDERS - PLACE 5" OF HMA PAVEMENT TYPE E-10 DURING STAGE 1 TO MATCH EXISTING OUTSIDE EDGE OF ROADWAY ELEVATION. PLACE AN ADDITIONAL 0 TO 4" OF HMA PAVEMENT TYPE E-10 DURING STAGE 3 WORK. PLACE 4" AT ELM RIDGE ROAD FOR PROFILE INCREASE AND 0" AT RAILROAD STRUCTURE TO MATCH EXISTING DECK ELEVATION.

PROJECT NO: 1090-33-71	HWY: IH 43	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 7	E



TYPICAL FINISHED SECTION IH-43 SB
OVERLAY AND SHOULDER REPLACEMENT
STA 440+55 TO 442+65

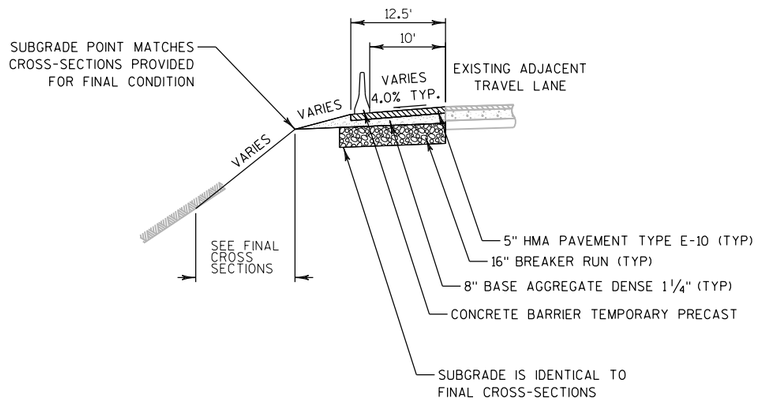


TYPICAL FINISHED SECTION IH-43 SB
SHOULDER REPLACEMENT

STA 442+65 TO 456+25 OUTSIDE SHOULDER
STA 442+65 TO 452+80 MEDIAN SHOULDER

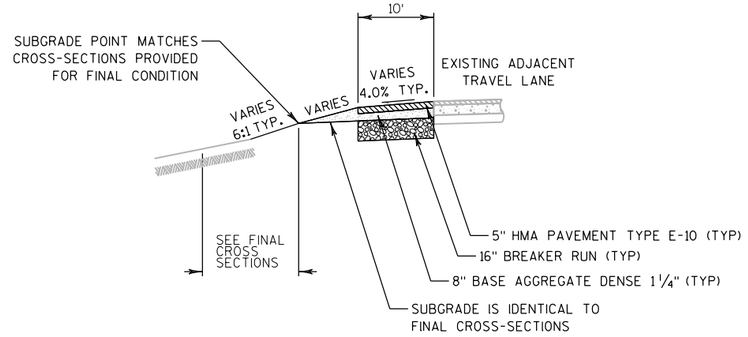
NOTE: *
- INSIDE SHOULDERS - PLACE 5" OF HMA PAVEMENT TYPE E-10 DURING STAGE 2 WORK.
- DRIVING LANES - REMOVE ALL EXISTING ASPHALTIC PAVEMENT AND PLACE 2" TO 7" OF HMA PAVEMENT TYPE E-10 (5" TYPICAL). PLACE 9" AT ELM RIDGE ROAD FOR PROFILE INCREASE AND 4" AT RAILROAD STRUCTURE TO MATCH EXISTING DECK ELEVATION. HMA PLACED DURING STAGES 2 AND 3.
- OUTSIDE SHOULDERS - PLACE 5" OF HMA PAVEMENT TYPE E-10 DURING STAGE 1 TO MATCH EXISTING OUTSIDE EDGE OF ROADWAY ELEVATION. PLACE AN ADDITIONAL 0 TO 4" OF HMA PAVEMENT TYPE E-10 DURING STAGE 3 WORK. PLACE 4" AT ELM RIDGE ROAD FOR PROFILE INCREASE AND 0" AT RAILROAD STRUCTURE TO MATCH EXISTING DECK ELEVATION.

PROJECT NO: 1090-33-71	HWY: IH 43	COUNTY: WALWORTH	TYPICAL SECTIONS	SHEET 8	E



SHOULDER INTERIM SECTION IH-43

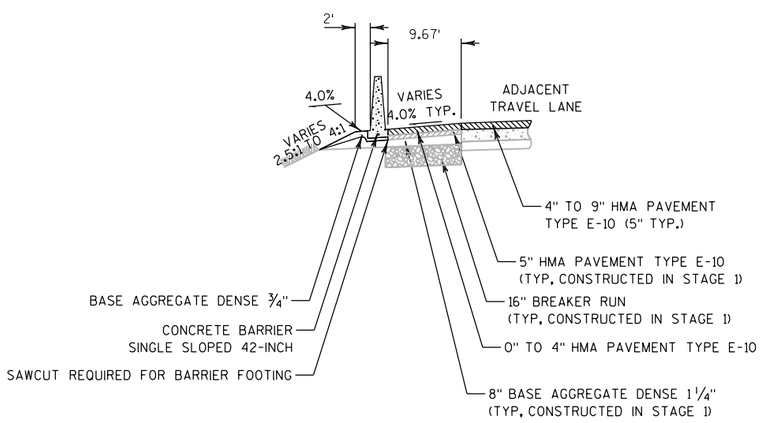
STA 436+76 TO 439+09 SB



SHOULDER INTERIM SECTION IH-43

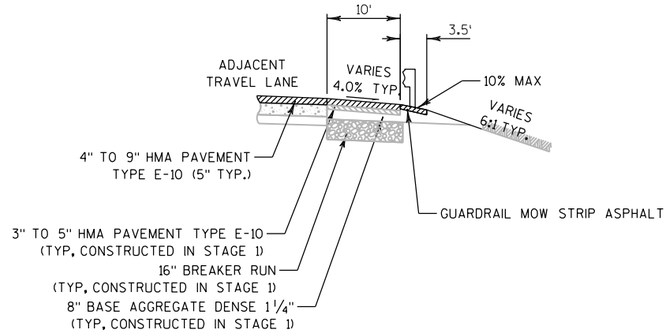
STA 440+55 TO 440+93 SB

STAGE 1 INTERIM SHOULDER DETAIL



SHOULDER FINAL SECTION IH-43

STA 436+76 TO 439+09 SB

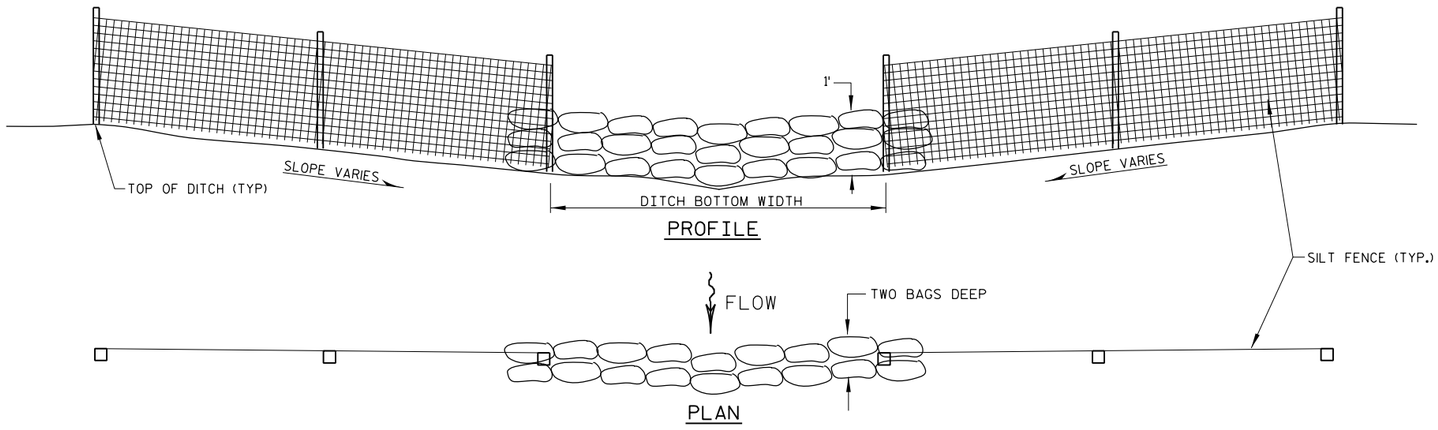


SHOULDER FINAL SECTION IH-43 SB

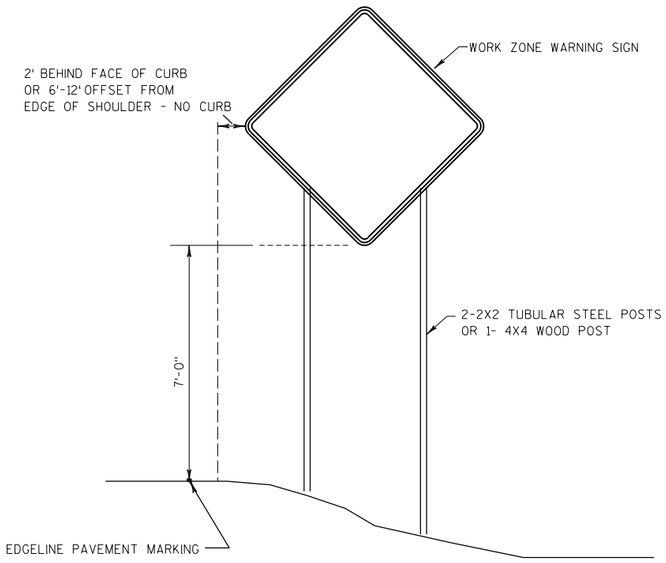
STA 440+55 TO 440+93 SB

STAGE 3 FINAL SHOULDER DETAIL

2

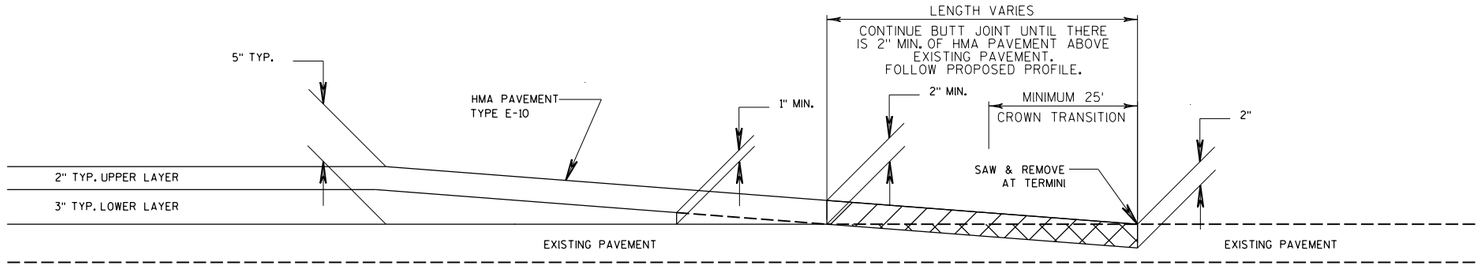


ROCK BAGS - SILT FENCE RELIEF



TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE



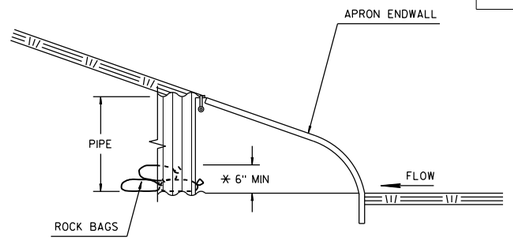
EXISTING PAVEMENT REMOVED.
PAID FOR AS REMOVING PAVEMENT BUTT JOINTS ON MAINLINE, AND PAID FOR AS REMOVING ASPHALTIC SURFACE BUTT JOINS ON SHOULDERS. ON MAINLINE, TRANSITION CROWN FROM 2.0% IN PROPOSED PAVEMENT TO 1.5% EXISTING CROSS-SLOPE FOR A MINIMUM OF 25 FEET AT THE END OF BUTT JOINT.

HMA PAVEMENT TYPE E-10
UPPER LAYER

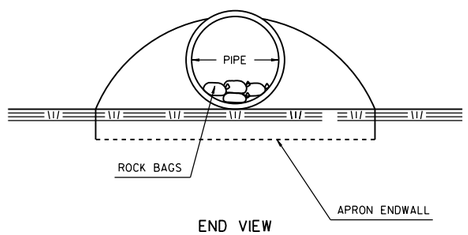
REMOVING BUTT JOINT DETAIL

IH 43 SB - STA. 442+15 TO STA. 442+65	50' LONG	LANE 1	STAGE 2
IH 43 SB - STA. 437+07 TO STA. 437+60	53' LONG	OUTSIDE SHOULDER	STAGE 3
IH 43 SB - STA. 442+15 TO STA. 442+65	50' LONG	LANE 2 & OUTSIDE SHOULDER	STAGE 3

ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
18"	2
24"	3
30"	5
48"	10
54"	10
60"	13
72"	16

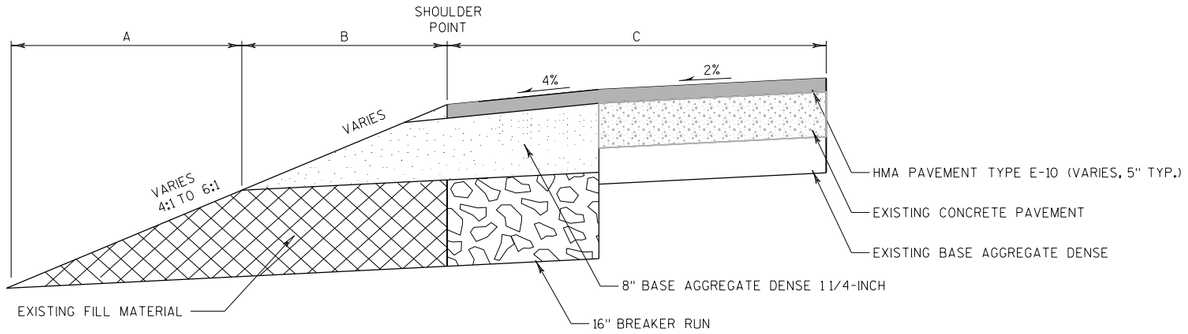


SIDE VIEW

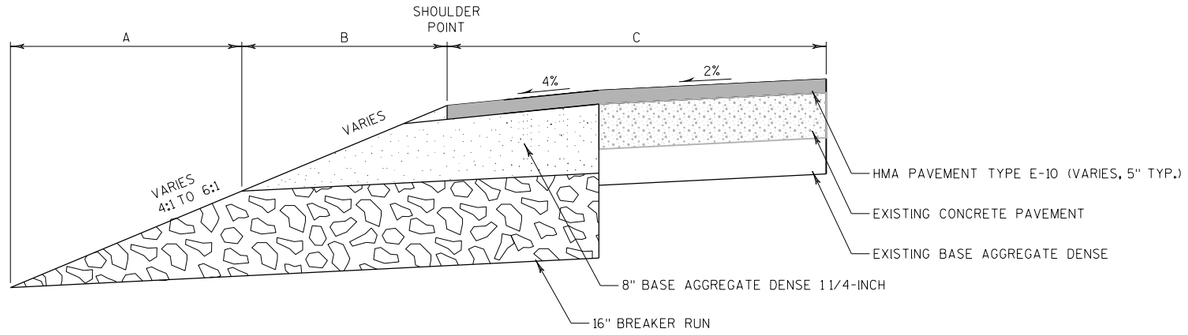


END VIEW

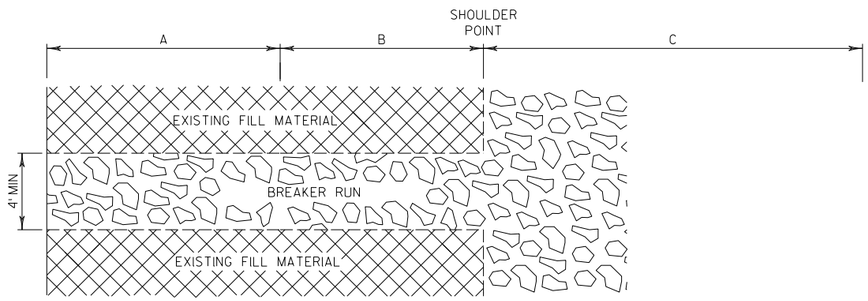
CULVERT PIPE CHECKS



TYPICAL HALF SECTION WITHOUT RELIEF TRENCH



TYPICAL HALF SECTION WITH RELIEF TRENCH



RELIEF TRENCH PLAN VIEW

RELIEF TRENCH LOCATIONS

RELIEF TRENCH LOCATIONS EVERY 250' ALONG
IH 43 SHOULDER RECONSTRUCTION

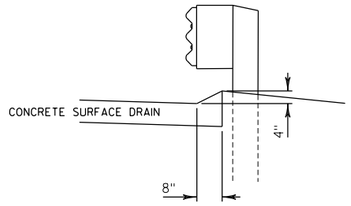
IH 43 SB
OUTSIDE SHOULDER
438+75
442+40
444+90
447+40
449+90
452+78
454+50
456+23

INSIDE SHOULDER
435+06
439+10
442+40
444+90
447+40
449+90
452+78

RELIEF TRENCH

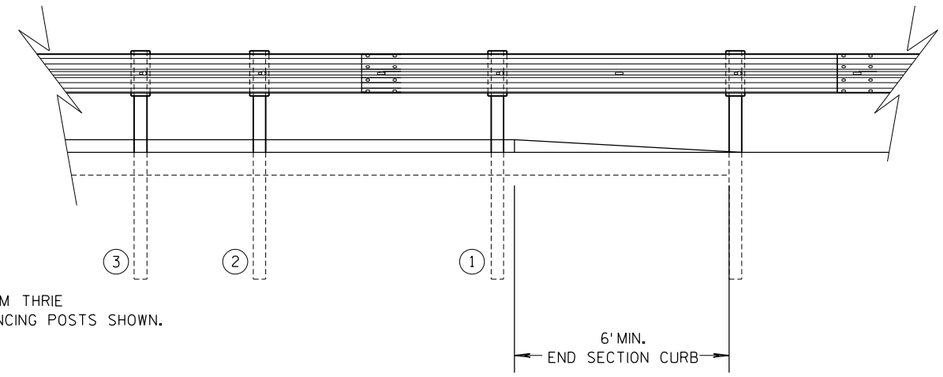
NOTE: EXCAVATION FOR RELIEF TRENCHES TO BE PAID UNDER THE ITEM EXCAVATION COMMON

2



SLOPED CURB SECTION DETAIL
FOR CONCRETE SURFACE DRAINS
WITH MGS THRIE BEAM TRANSITION

STA 440+65 TO 441+11 SB OUTSIDE
STA 440+94 TO 441+41 SB INSIDE



SEE SDD 'MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)' FOR REFERENCING POSTS SHOWN.

CURB HEAD TERMINATION FOR CONCRETE SURFACE DRAINS

CROWN CORRECTION TABLE - IH 43 SB					
STATION	LT SHLD	LT LANE	RT LANE	RT SHLD	COMMENTS
437+00	-2.49%	-2.49%	-2.49%	-4.0%	SE RUNOFF
437+20	-1.17%	-2.0%	-2.0%	-4.0%	REVERSE CROWN
437+60	1.43%	0.0%	-2.0%	-4.0%	BEGIN TANGENT RUNOUT
438+00	4.0%	2.0%	-2.0%	-4.0%	BEGIN NORMAL CROWN

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.	NORTHING	EASTING
8086	421+49.92	DOT BRASS CAP SET IN TOP OF K-WALL WEST END OF SOUTHERLY K-WALL, NB I43 OVER CTH X	957.01	346689.27	728412.90
7821	425+68.30	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB I43 OVER CTH X	960.89	346762.21	728865.64
16784	434+53.44	DOT BRASS CAP SET IN TOP OF K-WALL WEST END OF SOUTHERLY K-WALL, NB I43 OVER RR TRACKS	952.48	346236.79	729596.84
16781	437+03.85	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB I43 OVER RR TRACKS	949.39	346230.29	729890.12
7246	440+60.86	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB I43 OVER ELM RIDGE RD	940.99	346032.31	730187.20

STRUCTURE B-64-127
(CONCRETE SURFACE REPAIR
ON INSIDE AND OUTSIDE PARAPETS

BEGIN CONSTRUCTION
STA. 432+53

MATCHLINE STA. 432+00

EXISTING R/W

WISCONSIN & SOUTHERN RAILROAD

WETLAND BOUNDARY

ELM RIDGE ROAD

STRUCTURE B-64-125
(SEE STRUCTURE PLANS)

432+53
-65.5' LT

434+46
-41.5' LT

SEE BUTT JOINT DETAIL

REMOVE EXISTING
BEAMGUARD

SEE DETAIL BELOW
CONCRETE BARRIER
TRANSITION

16781

7246

STRUCTURE B-64-123
(SEE STRUCTURE
PLANS)

440+69
-76.0' LT

REMOVE AND REPLACE FENCE
CHAIN LINK 6-FT

INSTALL SLOPED CURB SEE
CONSTRUCTION DETAIL

REMOVE EXISTING
BEAM GUARD

SEE BUTT JOINT DETAIL.
TRANSITION CROWN FROM 2.0% TO
1.5% LAST 25 FEET MINIMUM.

442+65
-66.0' LT

443+04
-76.0' LT

443+54
-78.0' LT

443+83
-76.0' LT

444+33
-34.0' LT

440+93
-36.0' LT

IH 43 SB

℄ IH 43

IH 43 NB

16784

MILL EXISTING ASPHALT SURFACE DOWN
TO CONCRETE APPROACH SLAB. PLACE
2" OF HMA PAVMENT TYPE E-10.

EXISTING STRUCTURE
B-64-124 (NO WORK)

BEGIN PROJECT
STA. STA. 436+76
Y=346,181.32
X=729,823.96

REMOVE WOVEN WIRE
FENCE AND REPLACE
WITH CHAIN LINK 6-FT

EXISTING STRUCTURE
B-64-122 (NO WORK)

END PROJECT
STA. 442+65

WETLAND BOUNDARY

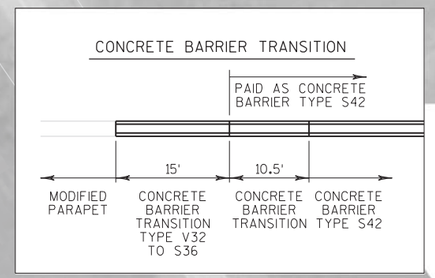
EXISTING R/W

MATCHLINE STA. 448+00

LEGEND

- (AP01) HMA PAVEMENT TYPE E-10
- (AG01) BASE AGGREGATE DENSE 3/4-INCH
- (PV01) CONCRETE PAVEMENT APPROACH SLAB
- (BG01) MGS THRIE BEAM TRANSITION
- (BG02) MGS GUARDRAIL 3
- (BG03) MGS GUARDRAIL TERMINAL EAT
- (CB04) CONCRETE BARRIER SINGLE-FACED 42"
- (SW01) SAWING ASPHALT
- (SW02) SAWING CONCRETE

CONCRETE BARRIER TRANSITION



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	PLAN DETAILS	SHEET 14	E

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.	NORTHING	EASTING
8086	421+49.92	DOT BRASS CAP SET IN TOP OF K-WALL WEST END OF SOUTHERLY K-WALL, NB 143 OVER CTH X	957.01	346689.27	728412.90
7821	425+68.30	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB 143 OVER CTH X	960.89	346762.21	728865.64
16784	434+53.44	DOT BRASS CAP SET IN TOP OF K-WALL WEST END OF SOUTHERLY K-WALL, NB 143 OVER RR TRACKS	952.48	346236.79	729596.84
16781	437+03.85	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB 143 OVER RR TRACKS	949.39	346230.29	729890.12
7246	440+60.86	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB 143 OVER ELM RIDGE RD	940.99	346032.31	730187.20



LEGEND

- APO1 HMA PAVEMENT TYPE E-10
- AGO1 BASE AGGREGATE DENSE 3/4-INCH
- PVO1 CONCRETE PAVEMENT APPROACH SLAB
- BGO1 MGS THRIE BEAM TRANSITION
- BGO2 MGS GUARDRAIL 3
- BGO3 MGS GUARDRAIL TERMINAL EAT
- CBO4 CONCRETE BARRIER SINGLE-FACED 42"
- SWO1 SAWING ASPHALT
- SWO2 SAWING CONCRETE

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	PLAN DETAILS	SHEET 15	E

2

LEGEND

- EROSION MAT CLASS I, TYPE B
- SILT FENCE
- RIP RAP LIGHT
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- ROCK BAGS - SILT FENCE RELIEF
- SURFACE WATER FLOW
- CULVERT PIPE CHECK
- (1) STRUCTURE NUMBER

N

MATCHLINE STA. 430+50

MATCHLINE STA. 445+50

WETLAND BOUNDARY

WISCONSIN SOUTHERN RAILROAD

ELM RIDGE ROAD

EXISTING R/W

PIPE UNDERDRAIN UNPERFORATED 4-INCH AND AEW FOR UNDERDRAIN

STRUCTURE B-64-125

INLET 2X2-FT INLET COVER TYPE V

PIPE UNDERDRAIN UNPERFORATED 12-INCH AND AEW FOR CULVERT PIPE STEEL 12-INCH

PIPE UNDERDRAIN UNPERFORATED 12-INCH AND AEW FOR CULVERT PIPE STEEL 12-INCH

REMOVE EXISTING INLETS INSTALL INLET 2X2-FT * INLET COVER TYPE V

REMOVE EXISTING INLET INSTALL INLET 2X2-FT INLET COVER TYPE V

INLET 2X2-FT INLET COVER TYPE V

STRUCTURE B-64-123

IH 43 SB

IH 43 NB

EXISTING STRUCTURE B-64-122 (NO WORK)

EXISTING STRUCTURE B-64-124 (NO WORK)

R/L IH 43

PIPE UNDERDRAIN UNPERFORATED 12-INCH AND AEW FOR CULVERT PIPE STEEL 12-INCH

PIPE UNDERDRAIN UNPERFORATED 12-INCH AND AEW FOR CULVERT PIPE STEEL 12-INCH

WETLAND BOUNDARY

NOTE:
* INSTALL SLOPE-FACED CURB ON CONCRETE SURFACE DRAINS INSTEAD OF VERTICAL-FACE CURB.

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	EROSION CONTROL/STORM SEWER PLAN	SHEET 16	E

2

2

LEGEND

EROSION MAT CLASS I, TYPE B

SILT FENCE

RIP RAP LIGHT

INLET PROTECTION

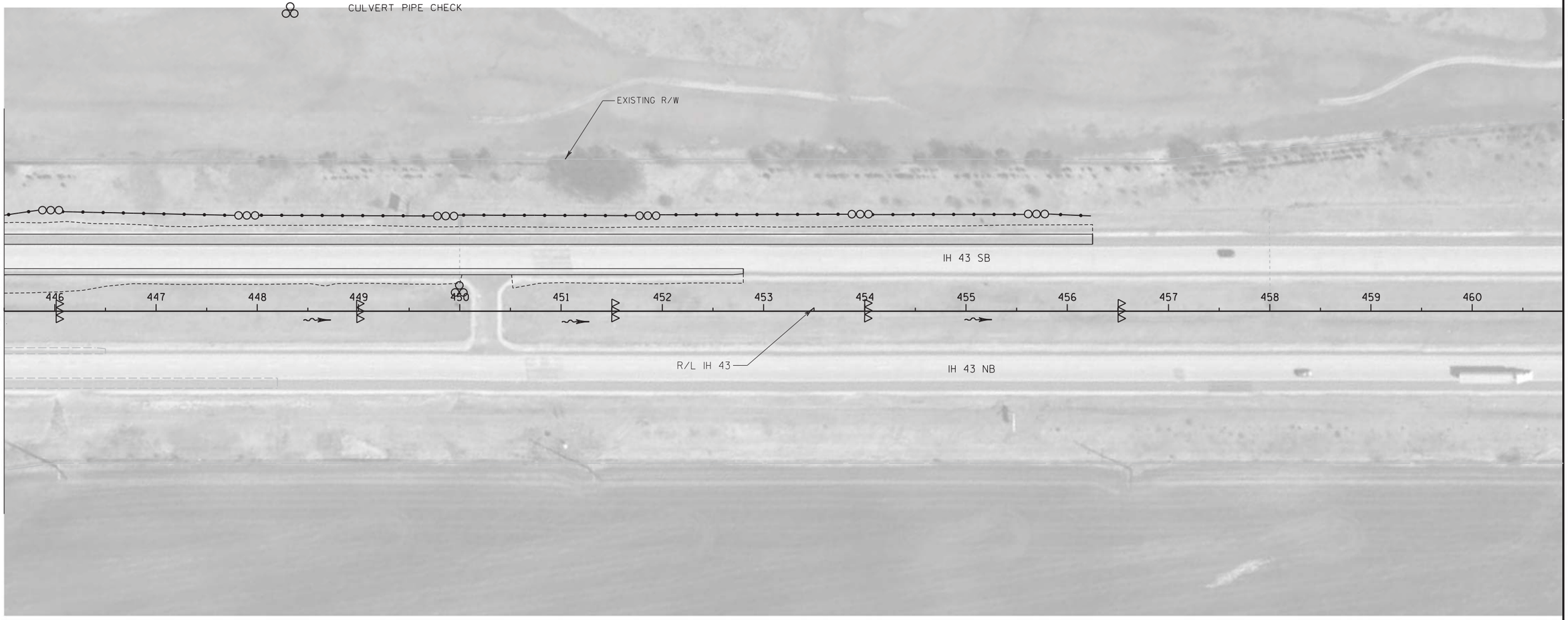
TEMPORARY DITCH CHECK

ROCK BAGS - SILT FENCE RELIEF

SURFACE WATER FLOW

CULVERT PIPE CHECK

N



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	EROSION CONTROL/STORM SEWER PLAN	SHEET 17	E

2

LEGEND

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

N

EXIT 17
REMOVE

EXIT 17
1
E5-1A(5)

REMOVE
2
W5-52L(3)

BELOIT STREET/CTH X

WRONG WAY
R5-1A
ESTR

REMOVE
3
W5-52R(3)

EXIT 25 M.P.H.
W13-2
ESTR

IH-43 SB

IH-43 NB

417 418 419 420 421 422 423 424 425 426 427 428 429 430 431

NORTH
MB3-1
INTERSTATE 43
M1-1
J4-1
ESTR

EXIT 17
COUNTY X
Delavan
Darien
ESTR

MILE 18
4
D10-2(5)

MILE 18
REMOVE

NOTE:
EXISTING WEIGHT LIMIT SIGNS AT BRIDGES AND IN ADVANCE OF BRIDGES TO BE REMOVED BY SIGN SHOP.

CONTACT DENNIS NEWTON AT (414) 266-1165

SHEET 1 OF 4

PROJECT NO: 1090-33-71	HWY: IH-43 SB	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET 18	E

2

LEGEND

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

N

5 W5-52L(3) MOVE TO SAME LOCATION

6 W5-52R(3) MOVE TO SAME LOCATION

7 W5-52R(3) MOVE TO SAME LOCATION

8 W5-52L(3) MOVE TO SAME LOCATION

9 Elm Ridge Rd M1-94 MOVE TO SAME LOCATION

WISCONSIN & SOUTHERN RAILROAD

ELM RIDGE ROAD

IH-43 SB

IH-43 NB

435+92.38 PT

MATCHLINE STA 7+50

MATCHLINE STA 11+50

ELM RIDGE ROAD

SHEET 2 OF 4

PROJECT NO: 1090-33-71	HWY: IH-43 SB	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET 19	E

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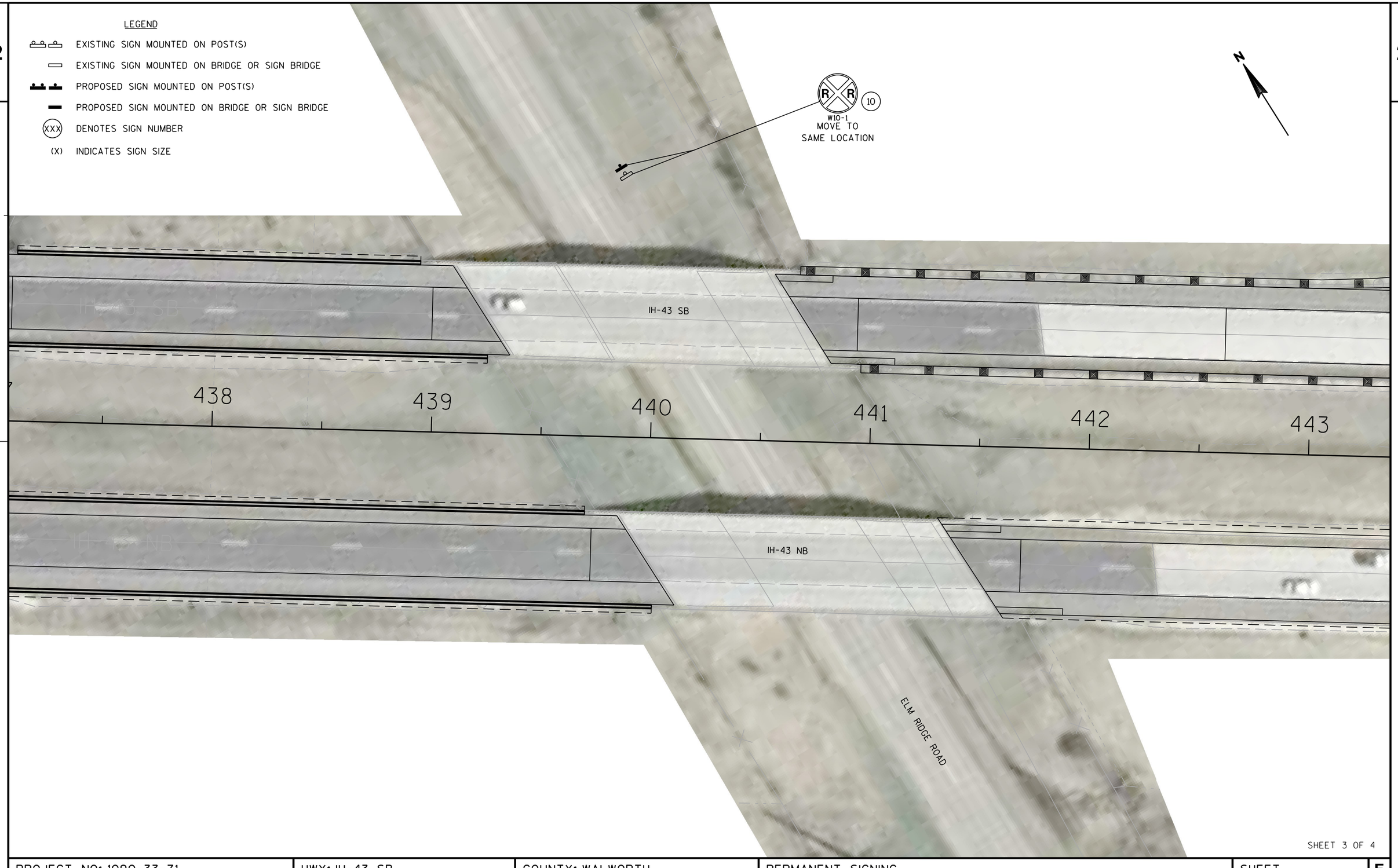
WISDOT/CADDS SHEET 42

2

2

LEGEND

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



SHEET 3 OF 4

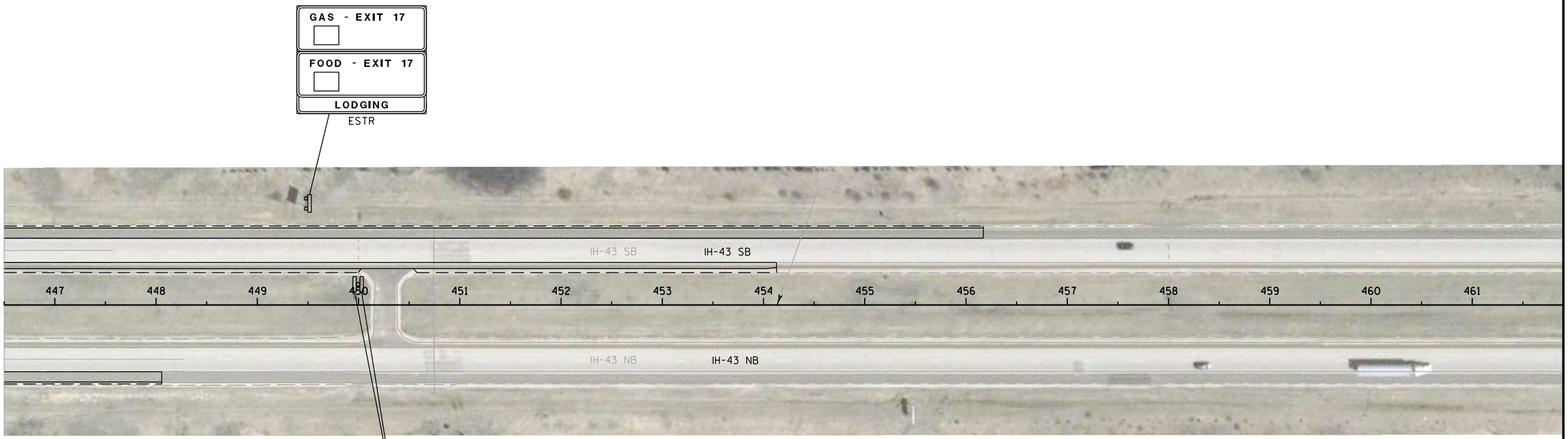
PROJECT NO: 1090-33-71	HWY: IH-43 SB	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET 20	E

2

LEGEND

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

N

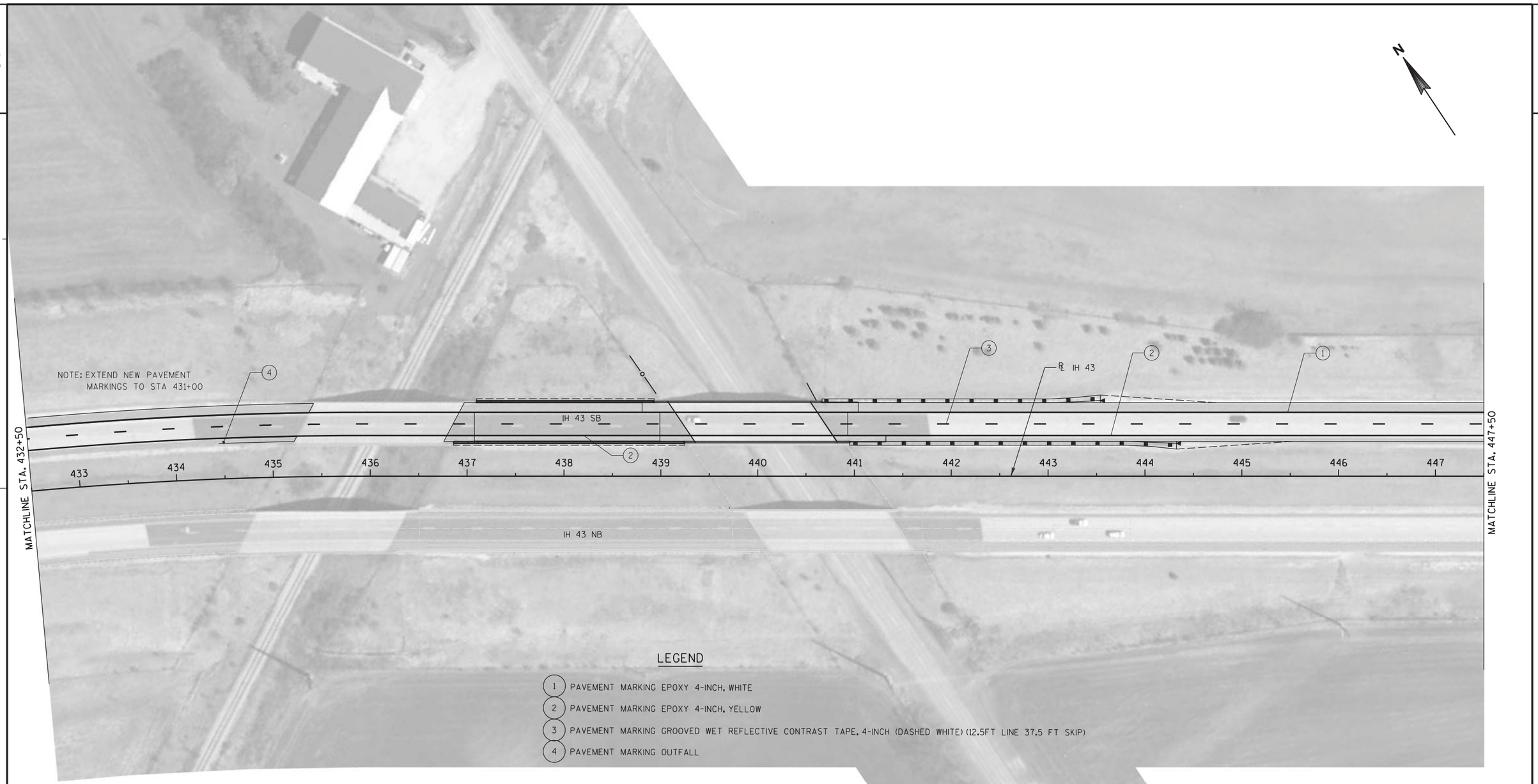


2

SHEET 4 OF 4

PROJECT NO: 1090-33-71	HWY: IH-43 SB	COUNTY: WALWORTH	PERMANENT SIGNING	SHEET 21	E

2

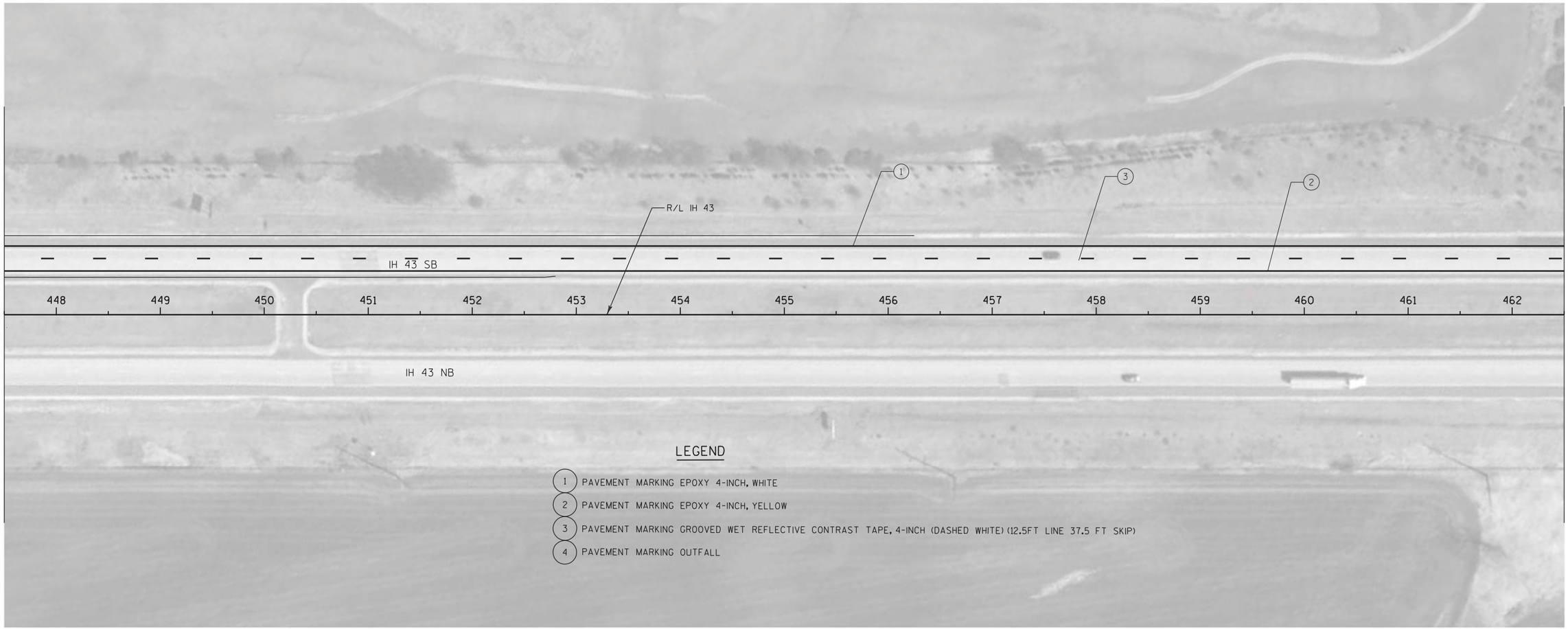


LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH, WHITE
2. PAVEMENT MARKING EPOXY 4-INCH, YELLOW
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (DASHED WHITE) (12.5FT LINE 37.5 FT SKIP)
4. PAVEMENT MARKING OUTFALL

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	PAVEMENT MARKING	SHEET 22	E

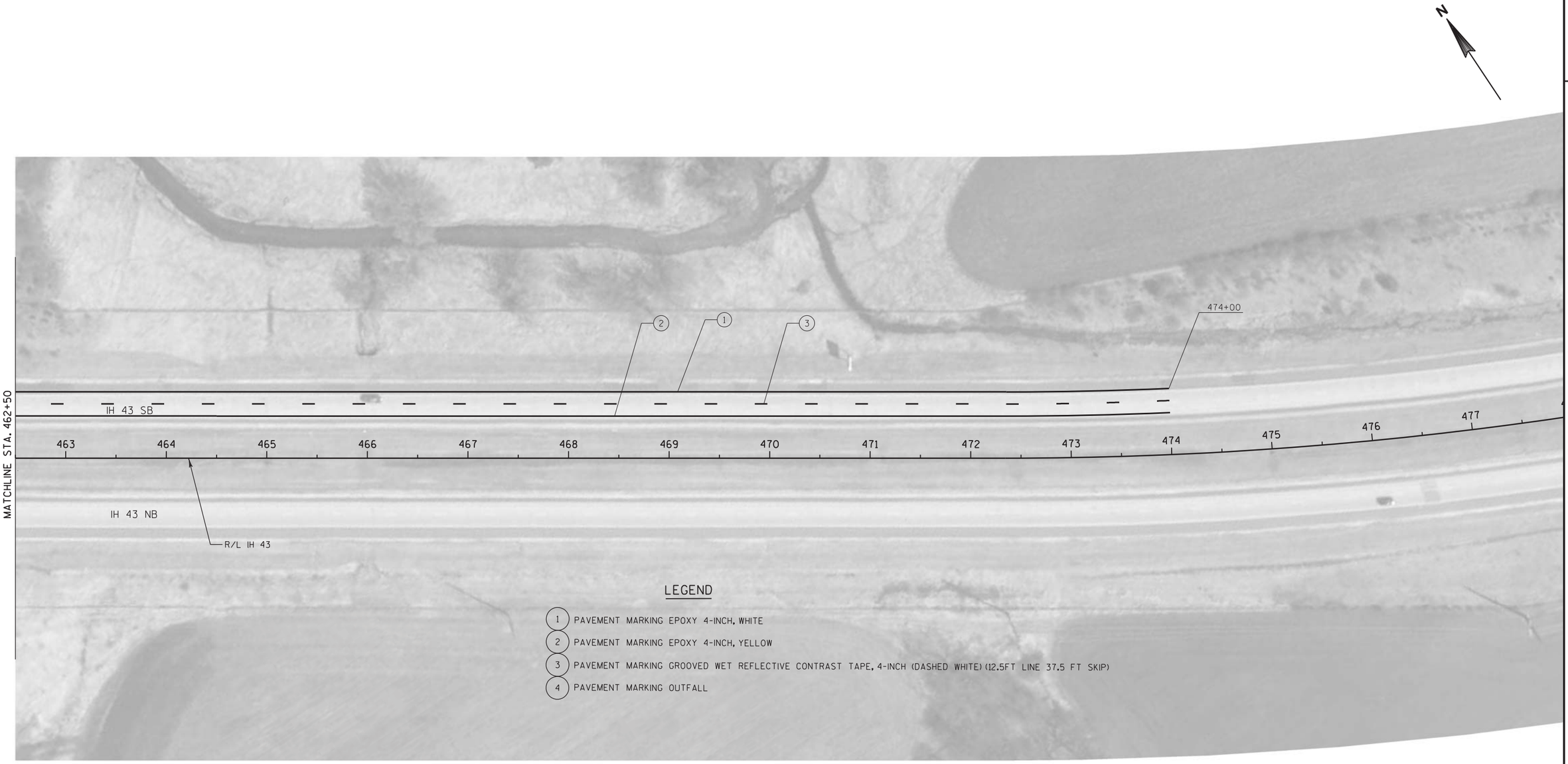
2



LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH, WHITE
2. PAVEMENT MARKING EPOXY 4-INCH, YELLOW
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (DASHED WHITE) (12.5FT LINE 37.5 FT SKIP)
4. PAVEMENT MARKING OUTFALL

2



LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH, WHITE
2. PAVEMENT MARKING EPOXY 4-INCH, YELLOW
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE, 4-INCH (DASHED WHITE) (12.5FT LINE 37.5 FT SKIP)
4. PAVEMENT MARKING OUTFALL

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	PAVEMENT MARKING	SHEET 24	E

STAGE 1

WORK:
*RECONSTRUCT OUTSIDE SHOULDER ON SOUTHBOUND IH 43 AS SHOWN.

TRAFFIC CONTROL:
*USE SINGLE LANE CLOSURE.
*PLACE FIXED MESSAGE SIGNS ON IH 43 AT LEAST 10 CALENDAR DAYS PRIOR TO STAGE 1 TO ALERT TRAFFIC OF UPCOMING CONSTRUCTION.
*MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
*REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
*SEE STANDARD DETAIL DRAWING - 'TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION' FOR ADDITIONAL DETAILS.

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

SPEED LIMIT 70
R2-1
48" X 60"
TO BE PLACED AT APPROX. STA 415+00

STRUCTURE B-64-127
(MISC. REPAIRS)

BELOIT STREET / CTH X

IH 43 SB

℄ IH 43

430+84

100'

25'

TW

419 420 421 422 423 424 425 424+38 426 427 428 429 430 431 432

MATCHLINE STA. 418+50

MATCHLINE STA. 433+00

EXISTING STRUCTURE
B-64-126 (NO WORK)

LEGEND

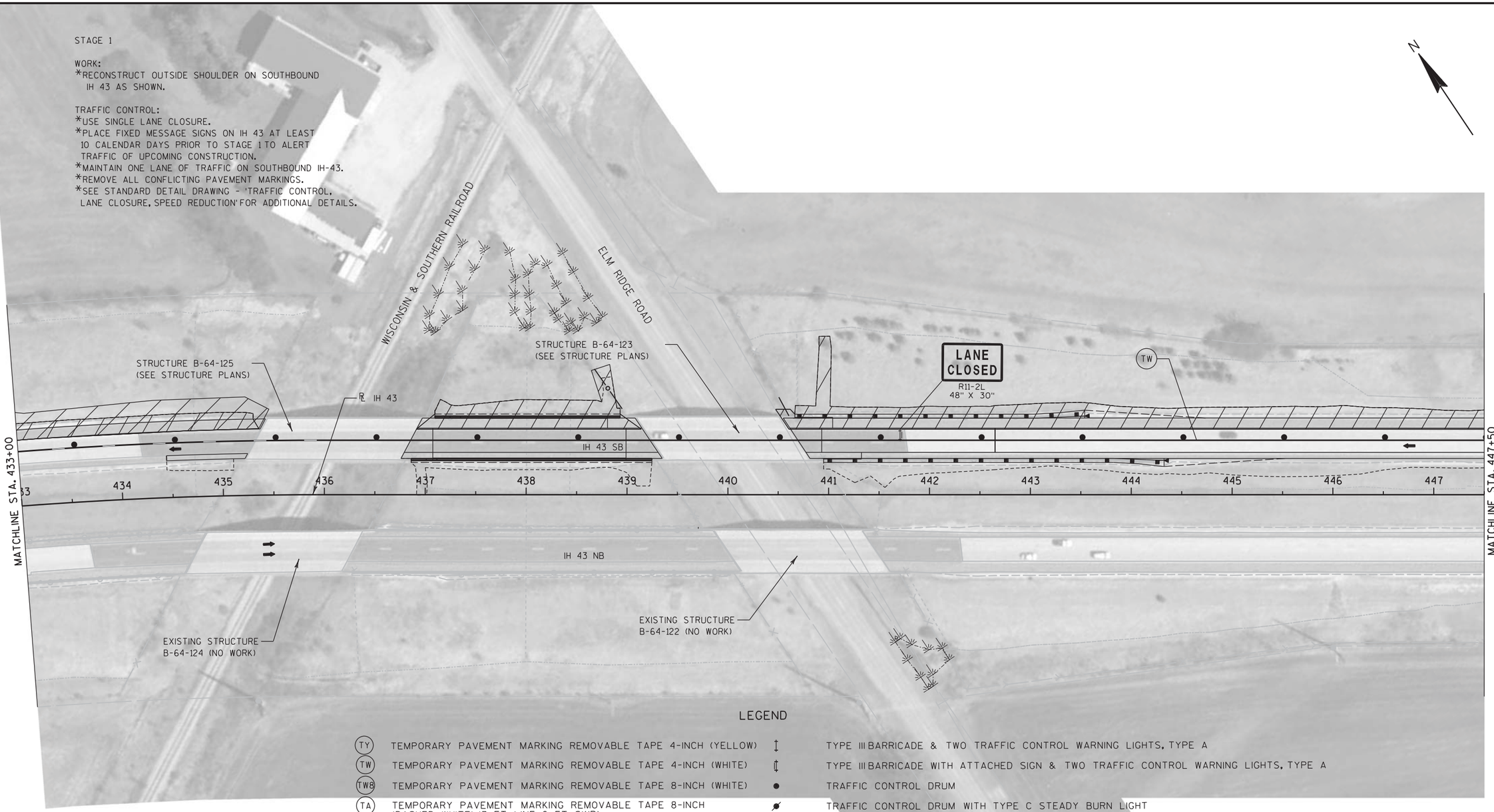
TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)	●	TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING
		▷ ▷	TEMPORARY RAISED PAVEMENT MARKERS (25 FT SPACING)

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 1	SHEET 25	E

STAGE 1

WORK:
*RECONSTRUCT OUTSIDE SHOULDER ON SOUTHBOUND IH 43 AS SHOWN.

TRAFFIC CONTROL:
*USE SINGLE LANE CLOSURE.
*PLACE FIXED MESSAGE SIGNS ON IH 43 AT LEAST 10 CALENDAR DAYS PRIOR TO STAGE 1 TO ALERT TRAFFIC OF UPCOMING CONSTRUCTION.
*MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
*REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
*SEE STANDARD DETAIL DRAWING - 'TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION' FOR ADDITIONAL DETAILS.



LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

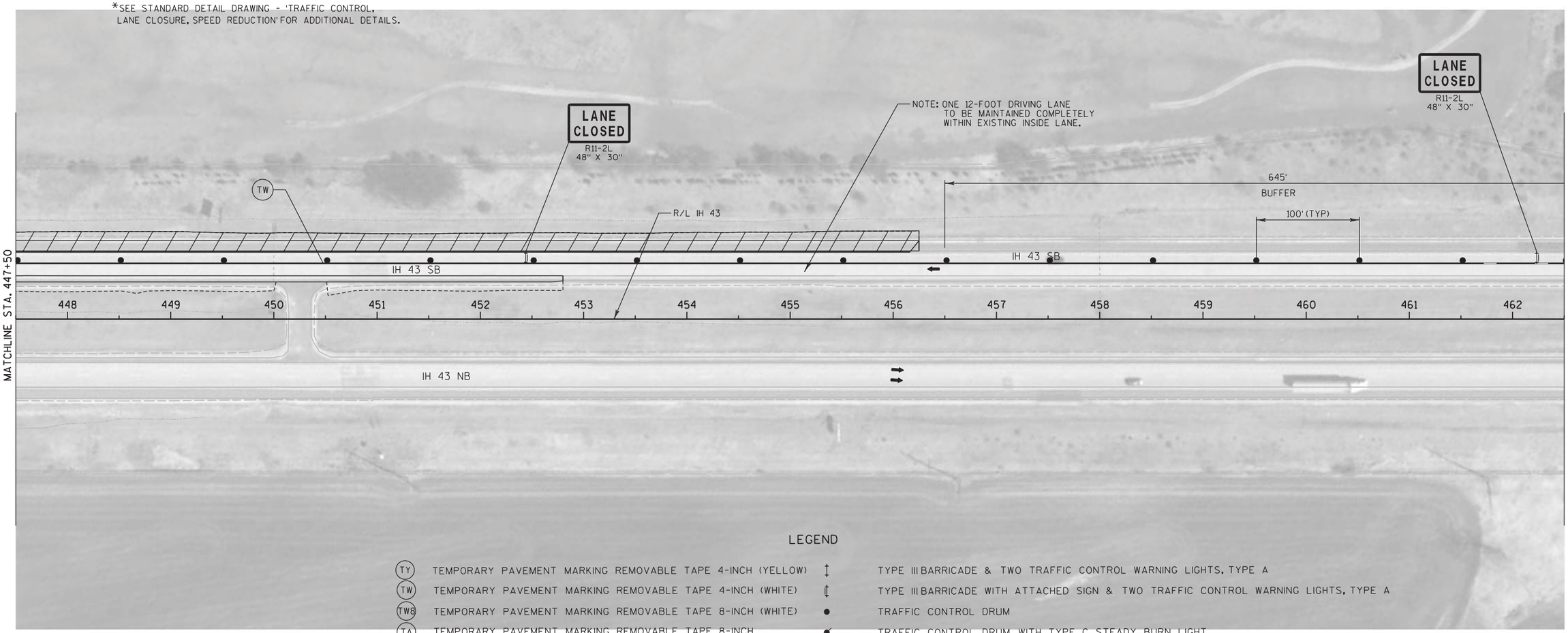
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 1	SHEET	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\025002_tc.dgn PLOT DATE : 7/28/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 100.0000 ' / in.
WISDOT/CADDS SHEET 42

STAGE 1

WORK:
*RECONSTRUCT OUTSIDE SHOULDER ON SOUTHBOUND
IH 43 AS SHOWN.

TRAFFIC CONTROL:
*USE SINGLE LANE CLOSURE.
*PLACE FIXED MESSAGE SIGNS ON IH 43 AT LEAST
10 CALENDAR DAYS PRIOR TO STAGE 1 TO ALERT
TRAFFIC OF UPCOMING CONSTRUCTION.
*MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
*REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
*SEE STANDARD DETAIL DRAWING - 'TRAFFIC CONTROL,
LANE CLOSURE, SPEED REDUCTION' FOR ADDITIONAL DETAILS.



LEGEND

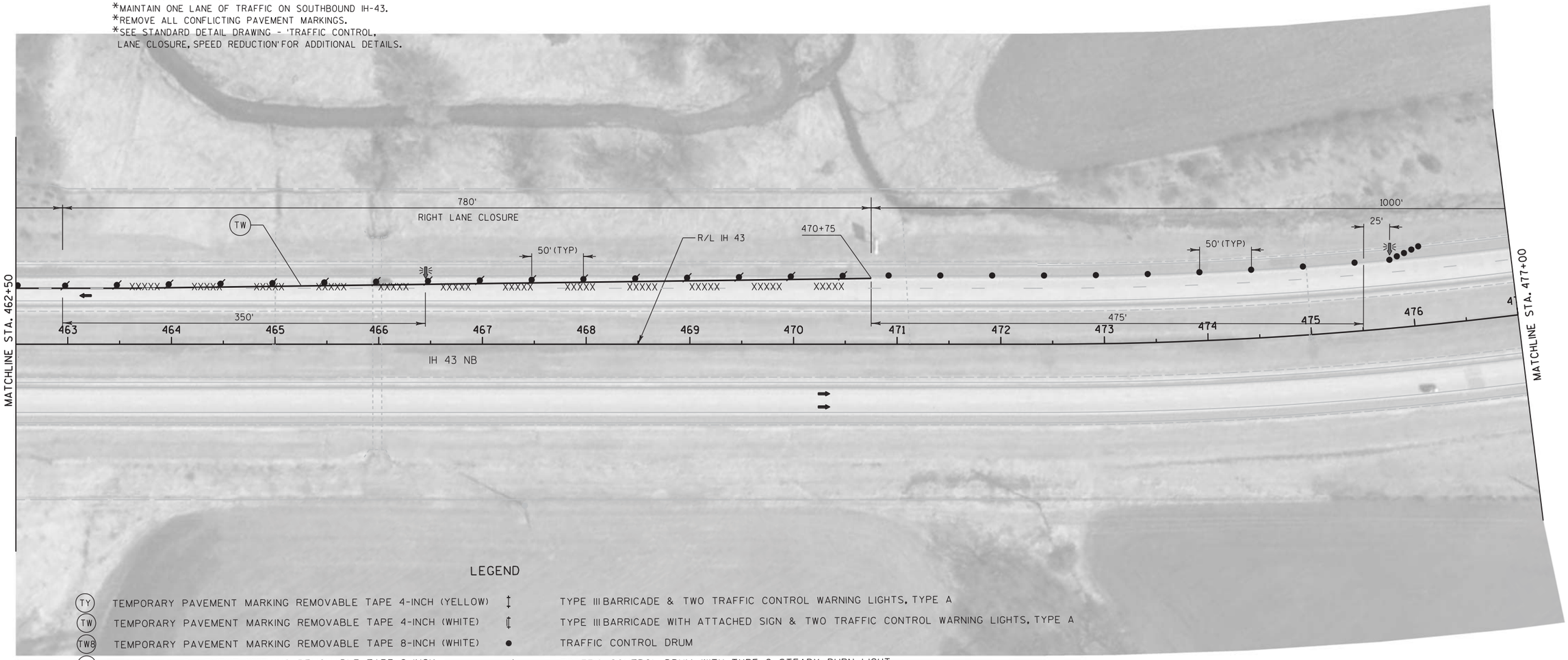
TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 1	SHEET 27	E

STAGE 1

WORK:
*RECONSTRUCT OUTSIDE SHOULDER ON SOUTHBOUND IH 43 AS SHOWN.

TRAFFIC CONTROL:
*USE SINGLE LANE CLOSURE.
*PLACE FIXED MESSAGE SIGNS ON IH 43 AT LEAST 10 CALENDAR DAYS PRIOR TO STAGE 1 TO ALERT TRAFFIC OF UPCOMING CONSTRUCTION.
*MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
*REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
*SEE STANDARD DETAIL DRAWING - 'TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION' FOR ADDITIONAL DETAILS.

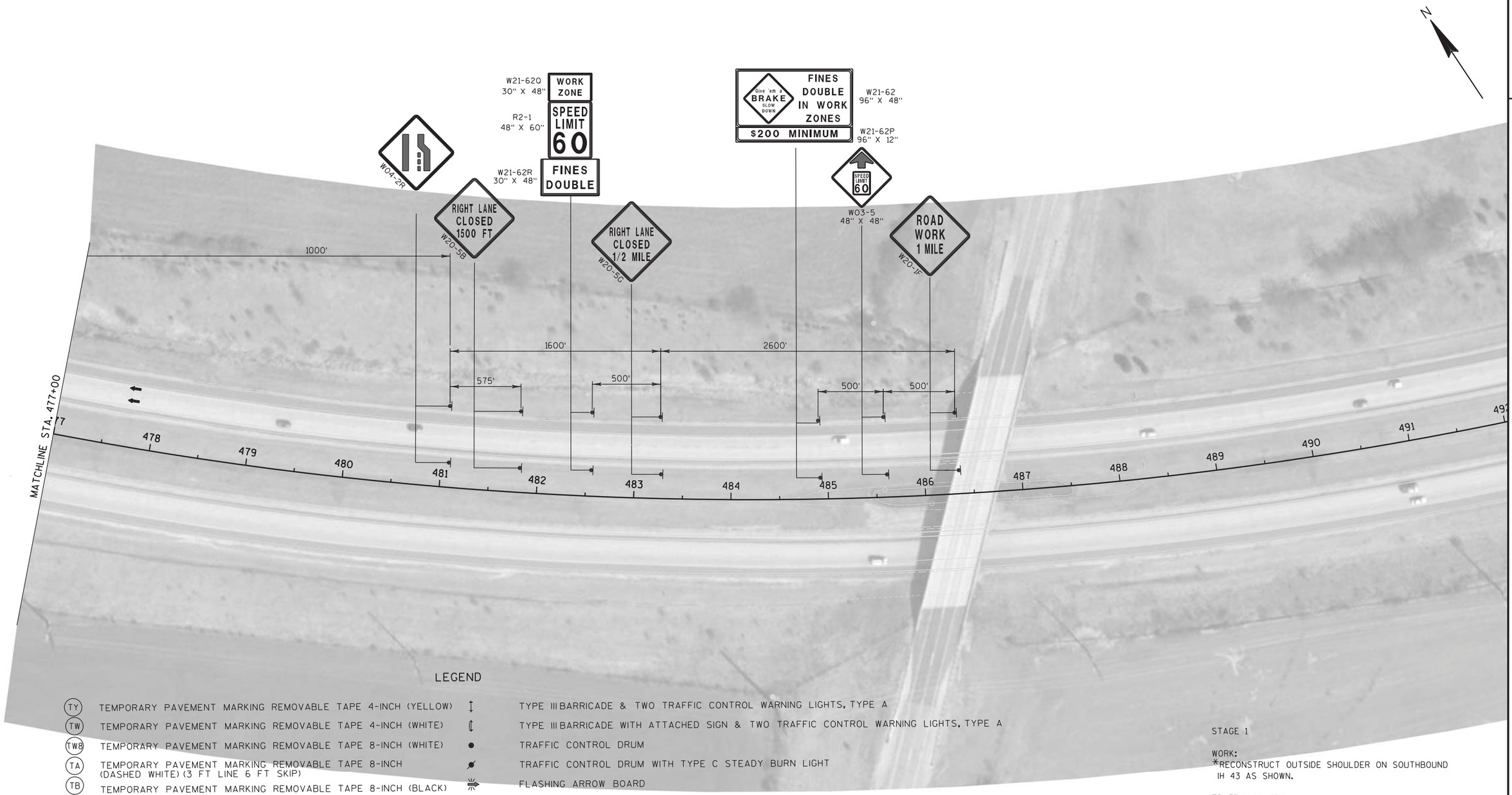


LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 1	SHEET 28	E

2



LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

STAGE 1

WORK:
*RECONSTRUCT OUTSIDE SHOULDER ON SOUTHBOUND IH 43 AS SHOWN.

TRAFFIC CONTROL:
*USE SINGLE LANE CLOSURE.
*PLACE FIXED MESSAGE SIGNS ON IH 43 AT LEAST 10 CALENDAR DAYS PRIOR TO STAGE 1 TO ALERT TRAFFIC OF UPCOMING CONSTRUCTION.
*MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
*REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
*SEE STANDARD DETAIL DRAWING - 'TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION' FOR ADDITIONAL DETAILS.

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 1	SHEET 29	E

STAGE 2

WORK:
* CONSTRUCT INSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT INSIDE 1/2 OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 INSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO OUTSIDE LANE AND NEWLY CONSTRUCTED OUTSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.

N

USE SINGLE LANE CLOSURE FOR CTH X SB WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
PLACE ROAD WORK AHEAD SIGNS ON APPLICABLE RAMPS WHEN CTH X LANE CLOSURES IN PLACE.

BARRELS ONLY REQUIRED PRIOR TO STATION 433+00 WHILE CONTRACTOR IS WORKING ON PARAPET CONCRETE SURFACE REPAIRS ON B-64-127

BELOIT STREET / CTH X

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

SB OFF RAMP AT CTH X

TO BE PLACED AT APPROX. STA 415+00

SPEED LIMIT 70
R2-1
48" X 60"

STRUCTURE B-64-127 (MISC. REPAIRS)

50' (TYP)

℄ IH 43

IH 43 SB

419 420 421 422 423 424 425 426 427 428 429 430 431 432

MATCHLINE STA. 418+50

MATCHLINE STA. 433+00

EXISTING STRUCTURE B-64-126 (NO WORK)

LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)	●	TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING
		▷ ▷	TEMPORARY RAISED PAVEMENT MARKERS (25 FOOT SPACING)

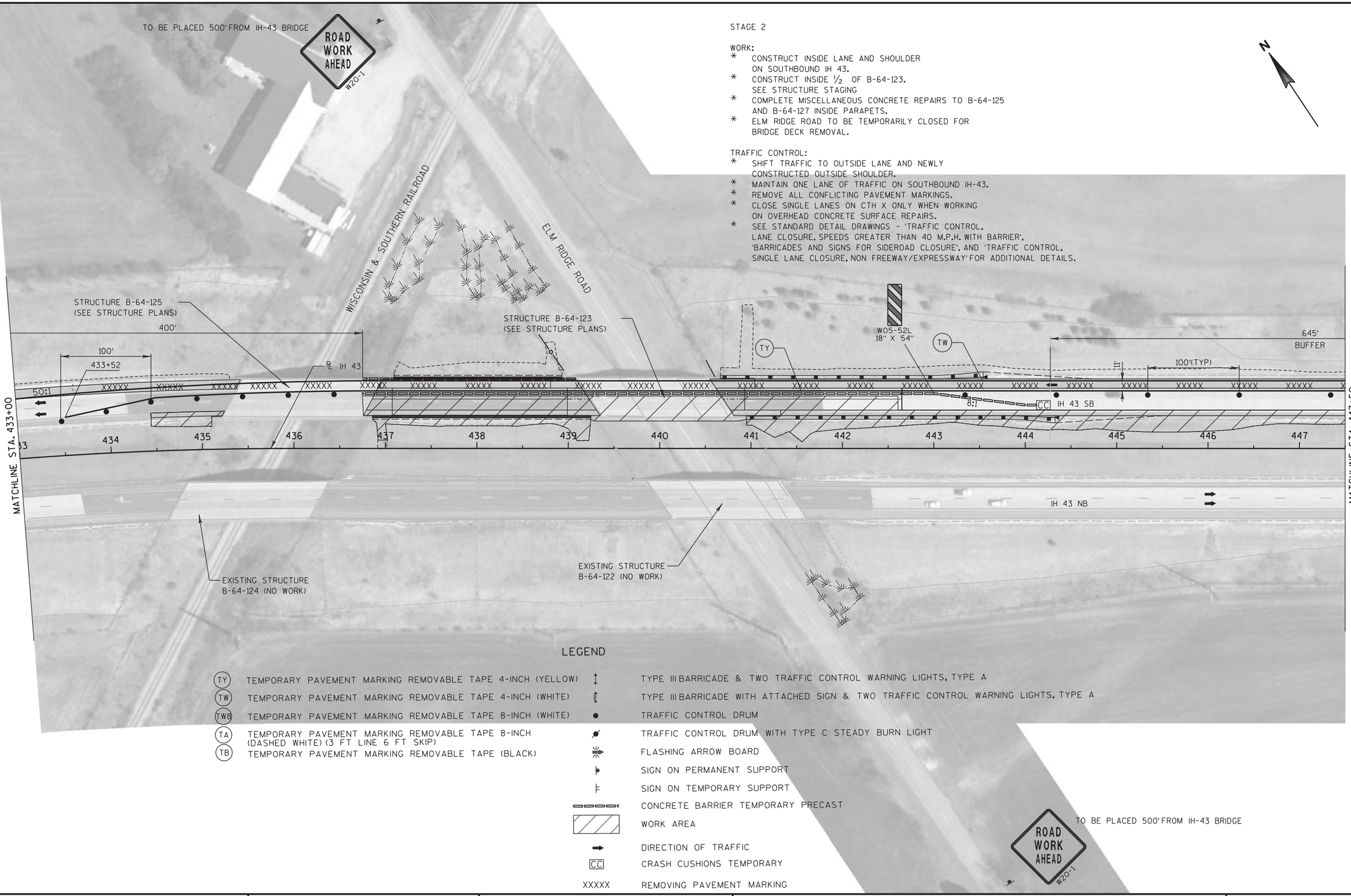
USE SINGLE LANE CLOSURE FOR CTH X NB WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
PLACE ROAD WORK AHEAD SIGNS ON APPLICABLE RAMPS WHEN CTH X LANE CLOSURES IN PLACE.

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 2	SHEET 30	E

STAGE 2

WORK:
* CONSTRUCT INSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT INSIDE 1/2 OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 INSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO OUTSIDE LANE AND NEWLY CONSTRUCTED OUTSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.



LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

TO BE PLACED 500' FROM IH-43 BRIDGE

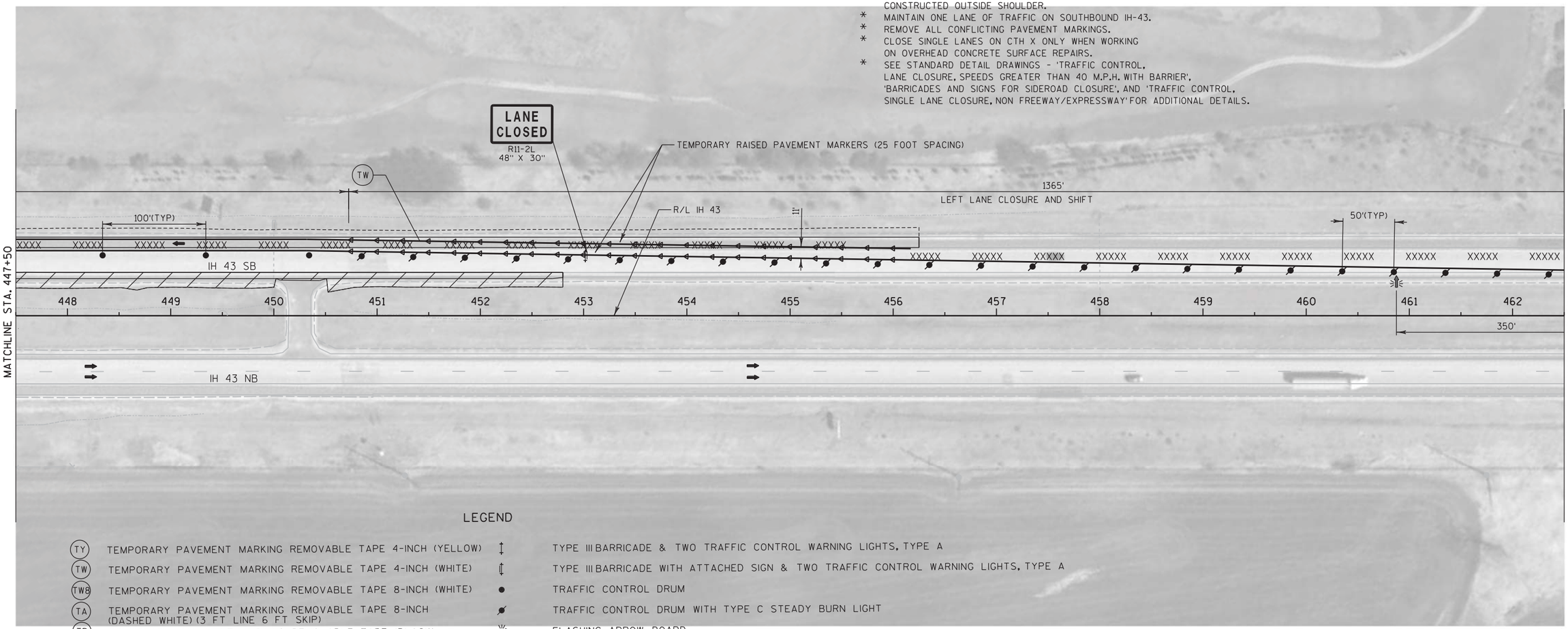
ROAD WORK AHEAD W20-1

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 2	SHEET 31	E

STAGE 2

WORK:
* CONSTRUCT INSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT INSIDE 1/2 OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 INSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO OUTSIDE LANE AND NEWLY CONSTRUCTED OUTSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.



LEGEND

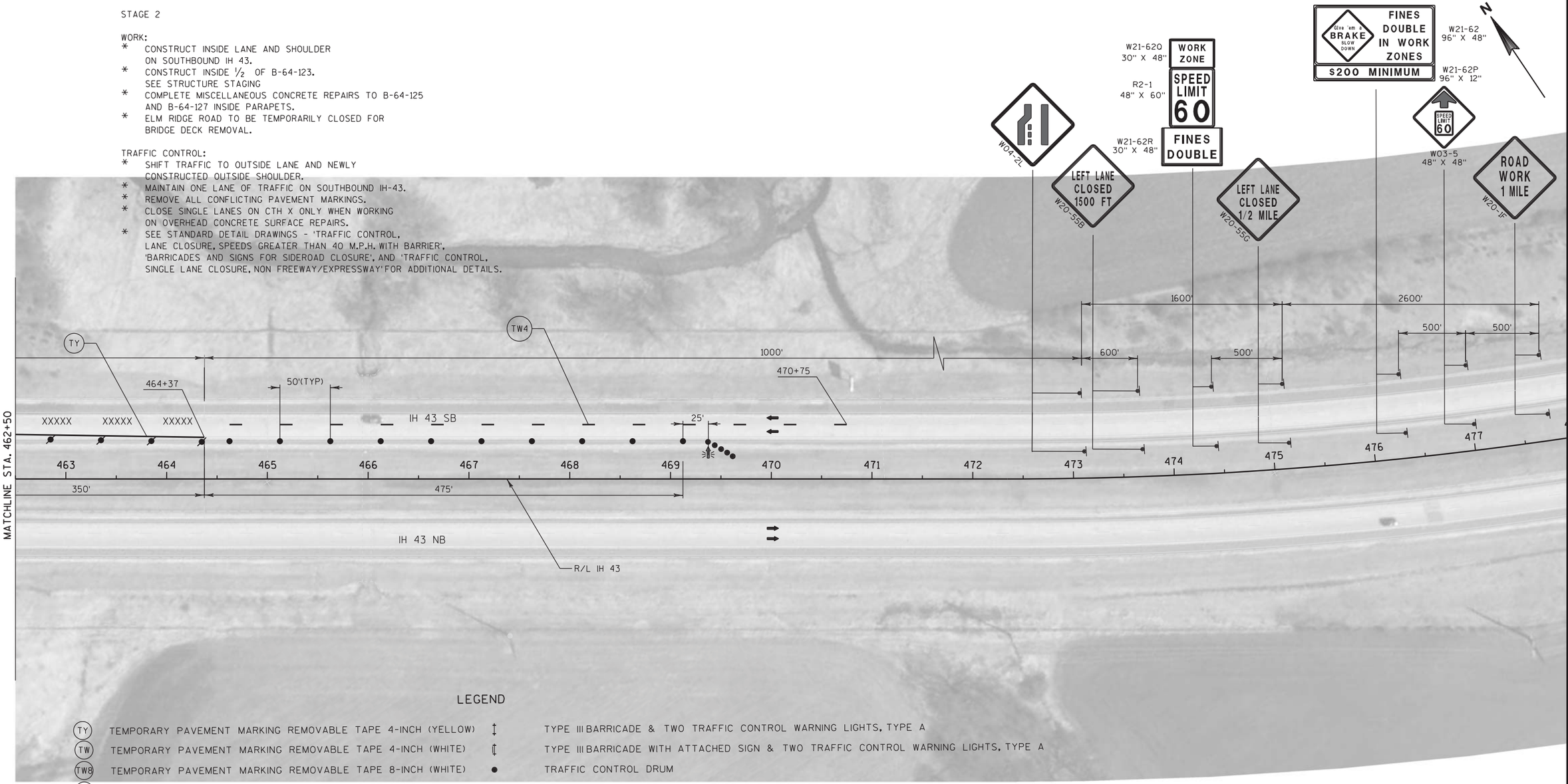
(TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)	TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
(TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)	TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
(TW8) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)	TRAFFIC CONTROL DRUM
(TA) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
(TB) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (BLACK)	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	CONCRETE BARRIER TEMPORARY PRECAST
	WORK AREA
	DIRECTION OF TRAFFIC
CC	CRASH CUSHIONS TEMPORARY
XXXXX	REMOVING PAVEMENT MARKING
	TEMPORARY RAISED PAVEMENT MARKERS (25 FOOT SPACING)

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 2	SHEET 32	E

STAGE 2

WORK:
* CONSTRUCT INSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT INSIDE $\frac{1}{2}$ OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 INSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO OUTSIDE LANE AND NEWLY CONSTRUCTED OUTSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.



LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (BLACK)		FLASHING ARROW BOARD
TW4	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASED WHITE) (12.5 FT LINE 37.5 FT SKIP)		SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 2	SHEET 33	E

LEGEND

- (TY) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)
- (TW) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)
- (TW8) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)
- (TA) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)
- (TB) TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (BLACK)
- TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
- TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- CC CRASH CUSHIONS TEMPORARY
- XXXXX REMOVING PAVEMENT MARKING
- TEMPORARY RAISED PAVEMENT MARKERS (25 FOOT SPACING)

N

BELOIT STREET / CTH X

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

TO BE PLACED AT APPROX. STA 415+00
SPEED LIMIT 70
R2-1
48" X 60"

USE SINGLE LANE CLOSURE FOR CTH X SB WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS. PLACE ROAD WORK AHEAD SIGNS ON APPLICABLE RAMPS WHEN CTH X LANE CLOSURES IN PLACE.

BARRELS ONLY REQUIRED PRIOR TO STATION 433+00 WHILE CONTRACTOR IS WORKING ON PARAPET CONCRETE SURFACE REPAIRS ON B-64-127

STRUCTURE B-64-127 (MISC. REPAIRS)

SB OFF RAMP AT CTH X

IH 43 SB

℄ IH 43

50' (TYP)

419 420 421 422 423 424 425 426 427 428 429 430 431 432

MATCHLINE STA. 418+50

MATCHLINE STA. 433+00

IH 43 NB

EXISTING STRUCTURE B-64-126 (NO WORK)

USE SINGLE LANE CLOSURE FOR CTH X NB WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS. PLACE ROAD WORK AHEAD SIGNS ON APPLICABLE RAMPS WHEN CTH X LANE CLOSURES IN PLACE.

STAGE 3

WORK:
* CONSTRUCT OUTSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT OUTSIDE ½ OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 OUTSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO NEWLY CONSTRUCTED INSIDE LANE AND INSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 3	SHEET 34	E

STAGE 3

WORK:
* CONSTRUCT OUTSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT OUTSIDE ½ OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 OUTSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO NEWLY CONSTRUCTED INSIDE LANE AND INSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.

TO BE PLACED 500' FROM IH-43 BRIDGE

ROAD WORK AHEAD W20-1

WISCONSIN & SOUTHERN RAILROAD

ELM RIDGE ROAD

STRUCTURE B-64-125 (SEE STRUCTURE PLANS)

434+50

435+75

100'

25'

50:1

200'

STRUCTURE B-64-123 (SEE STRUCTURE PLANS)

W05-52R 18" X 54"

645' BUFFER

100'

8:1

CC

IH 43 SB

11'

434 435 436 437 438 439 440 441 442 443 444 445 446 447

℄ IH 43

IH 43 NB

TW TY TY

MATCHLINE STA. 433+00

MATCHLINE STA. 447+50

EXISTING STRUCTURE B-64-124 (NO WORK)

EXISTING STRUCTURE B-64-122 (NO WORK)

LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE (BLACK)		FLASHING ARROW BOARD
			SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

TO BE PLACED 500' FROM IH-43 BRIDGE

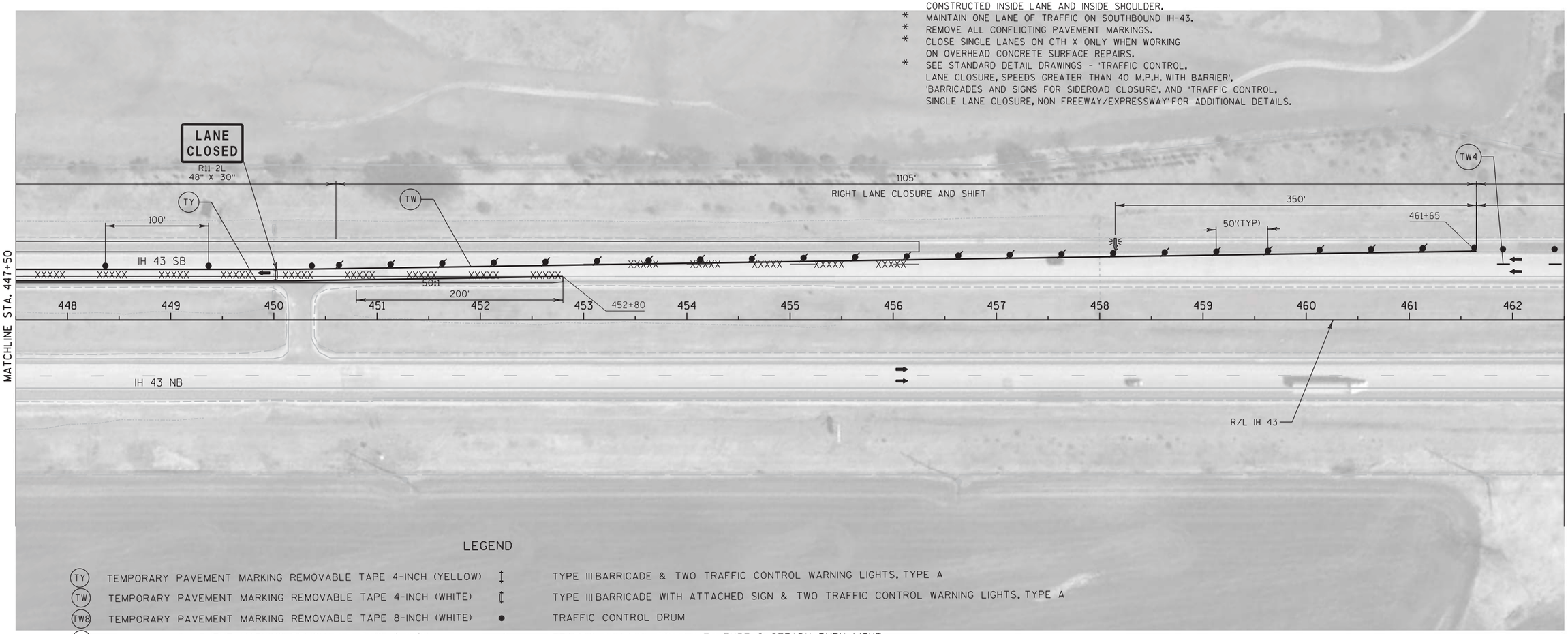
ROAD WORK AHEAD W20-1

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 3	SHEET 35	E

STAGE 3

WORK:
* CONSTRUCT OUTSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT OUTSIDE ½ OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 OUTSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO NEWLY CONSTRUCTED INSIDE LANE AND INSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.



LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)	‡	TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)	‡	TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)	●	TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE (BLACK)		FLASHING ARROW BOARD
TW4	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)		SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

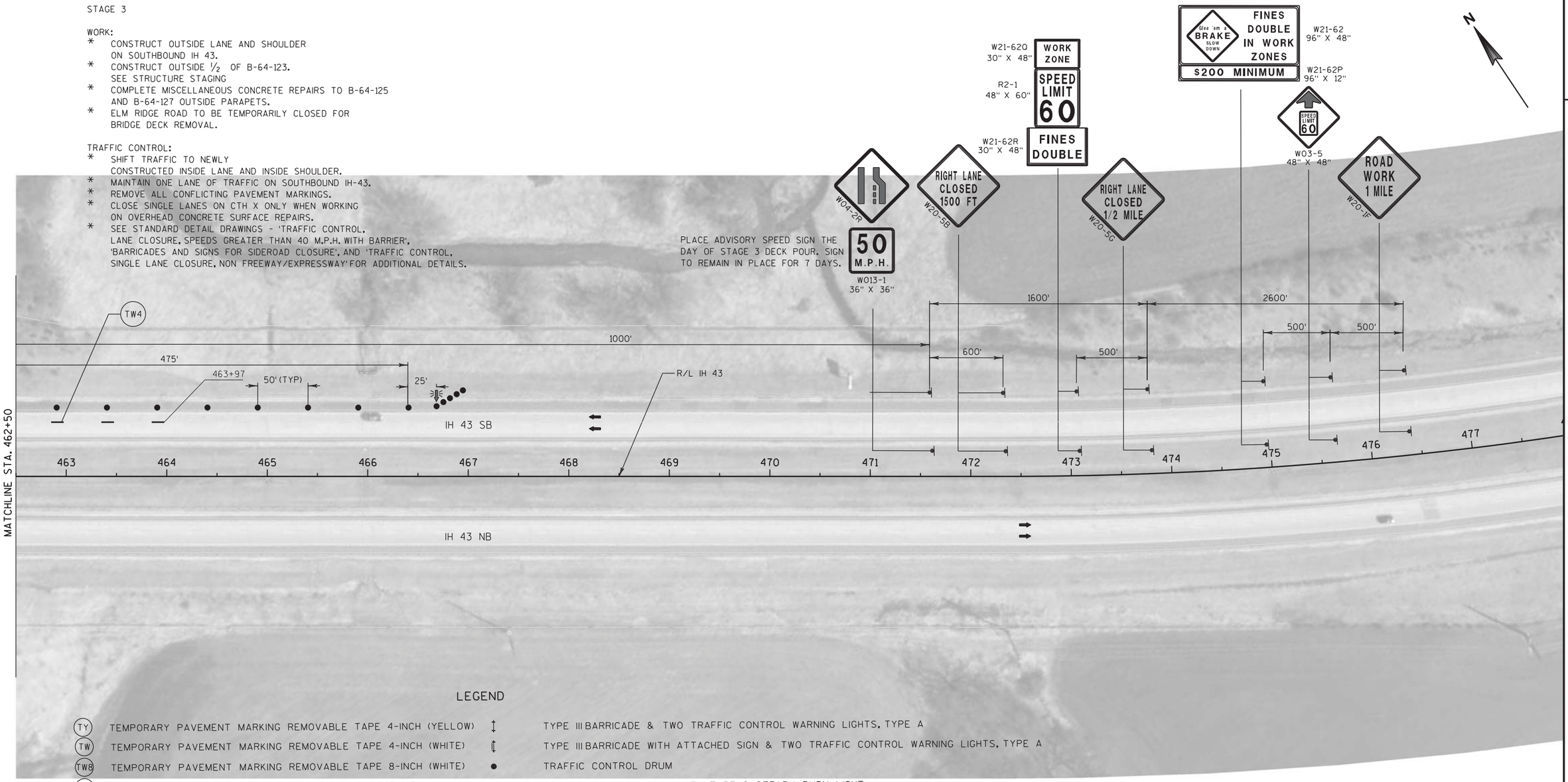
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 3	SHEET 36	E

STAGE 3

WORK:
* CONSTRUCT OUTSIDE LANE AND SHOULDER ON SOUTHBOUND IH 43.
* CONSTRUCT OUTSIDE ½ OF B-64-123. SEE STRUCTURE STAGING
* COMPLETE MISCELLANEOUS CONCRETE REPAIRS TO B-64-125 AND B-64-127 OUTSIDE PARAPETS.
* ELM RIDGE ROAD TO BE TEMPORARILY CLOSED FOR BRIDGE DECK REMOVAL.

TRAFFIC CONTROL:
* SHIFT TRAFFIC TO NEWLY CONSTRUCTED INSIDE LANE AND INSIDE SHOULDER.
* MAINTAIN ONE LANE OF TRAFFIC ON SOUTHBOUND IH-43.
* REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
* CLOSE SINGLE LANES ON CTH X ONLY WHEN WORKING ON OVERHEAD CONCRETE SURFACE REPAIRS.
* SEE STANDARD DETAIL DRAWINGS - 'TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER', 'BARRICADES AND SIGNS FOR SIDEROAD CLOSURE', AND 'TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY' FOR ADDITIONAL DETAILS.

PLACE ADVISORY SPEED SIGN THE DAY OF STAGE 3 DECK POUR. SIGN TO REMAIN IN PLACE FOR 7 DAYS.



LEGEND

TY	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)		TYPE III BARRICADE & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)		TYPE III BARRICADE WITH ATTACHED SIGN & TWO TRAFFIC CONTROL WARNING LIGHTS, TYPE A
TW8	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (WHITE)		TRAFFIC CONTROL DRUM
TA	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (DASHED WHITE) (3 FT LINE 6 FT SKIP)		TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
TB	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (BLACK)		FLASHING ARROW BOARD
TW4	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)		SIGN ON PERMANENT SUPPORT
			SIGN ON TEMPORARY SUPPORT
			CONCRETE BARRIER TEMPORARY PRECAST
			WORK AREA
			DIRECTION OF TRAFFIC
		CC	CRASH CUSHIONS TEMPORARY
		XXXXX	REMOVING PAVEMENT MARKING

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL - STAGE 3	SHEET 37	E

2

RICHMOND

Elkhorn

Delavan

Darien

WALWORTH

ELM RIDGE RD.

89 14 11 43 50

M C X P O K F

A B D E

LEGEND

A — INTERSTATE 43 ROADWORK
LANE CLOSURES
BEGINS XX - XX

B — INTERSTATE 43 SOUTH
MAX 14 FT WIDTH
AT ELM RIDGE RD

D — WIDE LOADS EXCEEDING 14 FT
R12-70B
114" X 42"

E — MAX. 14' WIDTH
W12-52
48" X 48"
XX MILES AHEAD
W057-52
36" X 24"

F — ELM RIDGE RD MAY BE CLOSED FOR BRIDGE WORK
DATE - DATE

POST MOUNTED SIGN

DOUBLE POST MOUNTED SIGN

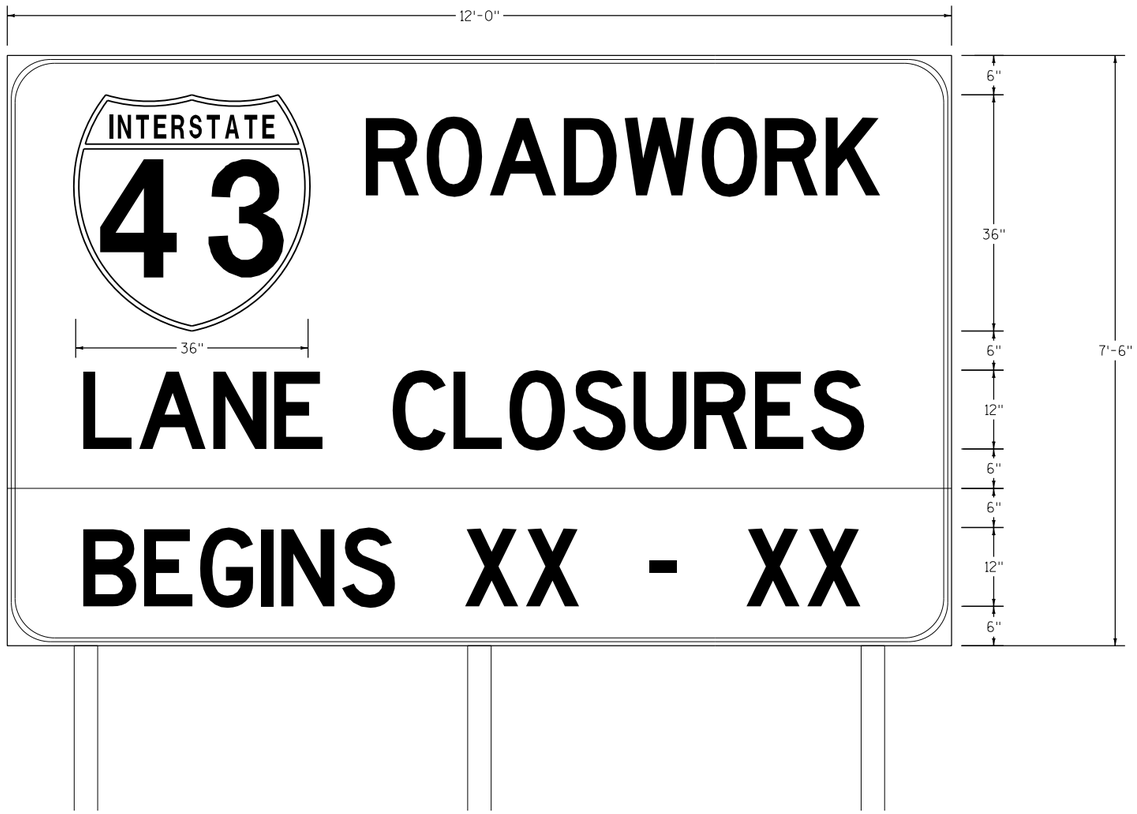
TRIPLE POST MOUNTED SIGN

ADVANCE FIXED MESSAGE WARNING SIGNAGE

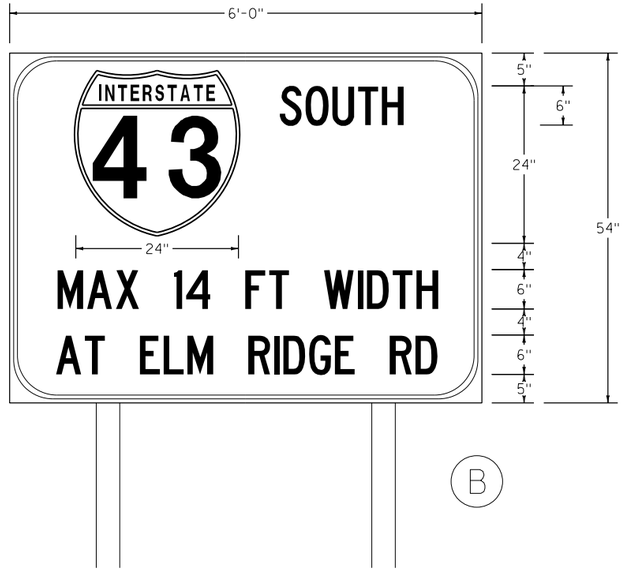
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	TRAFFIC CONTROL DETAIL	SHEET 38	E

2

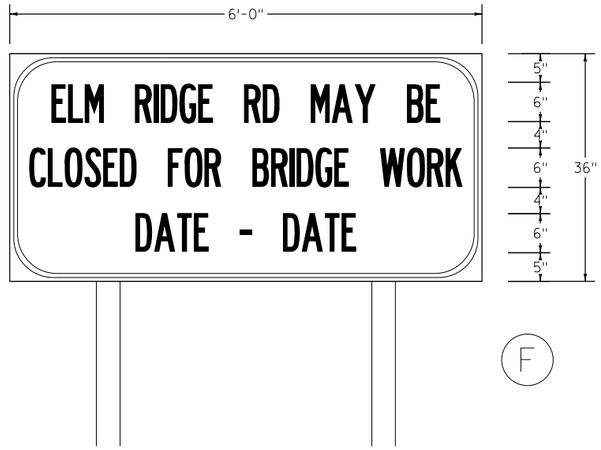
A



B



F



GENERAL NOTES:

1. SIGN A TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.
2. SIGN B TO BE IN PLACE AT BEGINNING OF STAGE 2 CONSTRUCTION.
3. SIGN F TO BE IN PLACE DURING STAGES 2 AND 3, 10 DAYS PRIOR TO BRIDGE DECK REMOVAL. SIGN SHALL BE COVERED AFTER DECK REMOVAL IS COMPLETE IN EACH STAGE (INCIDENTAL TO WORKZONE TRAFFIC CONTROL).

FIXED MESSAGE SIGNS (DETAILS SHEETS)

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 TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS."

5. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637.
6. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   12" CAPS SHALL BE SERIES "D" (SIGN A)
   6" CAPS SHALL BE SERIES "C" (SIGN B)
   6" CAPS SHALL BE SERIES "B" (SIGN F)

7. ALL SIGNS SHALL HAVE BORDER & RADIUS OF BORDERS 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. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD.

9. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

10. SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 643 & 637.

11. SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION, UNLESS OTHERWISE NOTED.

(X) = SIGN NUMBER

FOR PLAN SHEETS

LEGEND: FIXED MESSAGE SIGNS

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

NOTES: FIXED MESSAGE SIGNS

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.

2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.

3. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.

4. COVER SIGNING WHEN NOT IN USE. INCIDENTAL TO WORK ZONE TRAFFIC CONTROL SIGNING.

2

2

CONTROL POINT TABLE

NO.	STATION	DESCRIPTION	NORTHING	EASTING
20000	444+00.90, 5.26' RIGHT OF REF. LINE	BERNTSEN FENO MONUMENT	345774.57	730424.00
20001	442+00.02, 25.82' LEFT OF REF LINE	BERNTSEN FENO MONUMENT	345911.93	730274.17
20002	439+02.40, 20.45' RIGHT OF REF. LINE	BERNTSEN FENO MONUMENT	346038.64	730000.92
20003	437+47.99, 7.64' LEFT OF REF. LINE	BERNTSEN FENO MONUMENT	346147.71	729888.08

N

R/L IH 43

IH 43 SB

IH 43 NB

CURVE 1

405 410 415 420 425 430

N 72°46'13.92" E

P.C.

MATCHLINE STA. 432+00

CURVE 1

PI = 420+15.70
X= 728240.79
Y = 347237.80
DELTA = 50° 56' 43.67"
D = 1° 30' 00.00"
T = 1819.68'
L = 3396.36'
R = 3819.72'
PC = 401+96.01
PT = 435+92.38
DA = N 72° 46' 13.92" E
DB = S 56° 17' 02.40" E

HMOD-DARIEN E
STA 415+39.61
X=727794.93
Y=346197.61

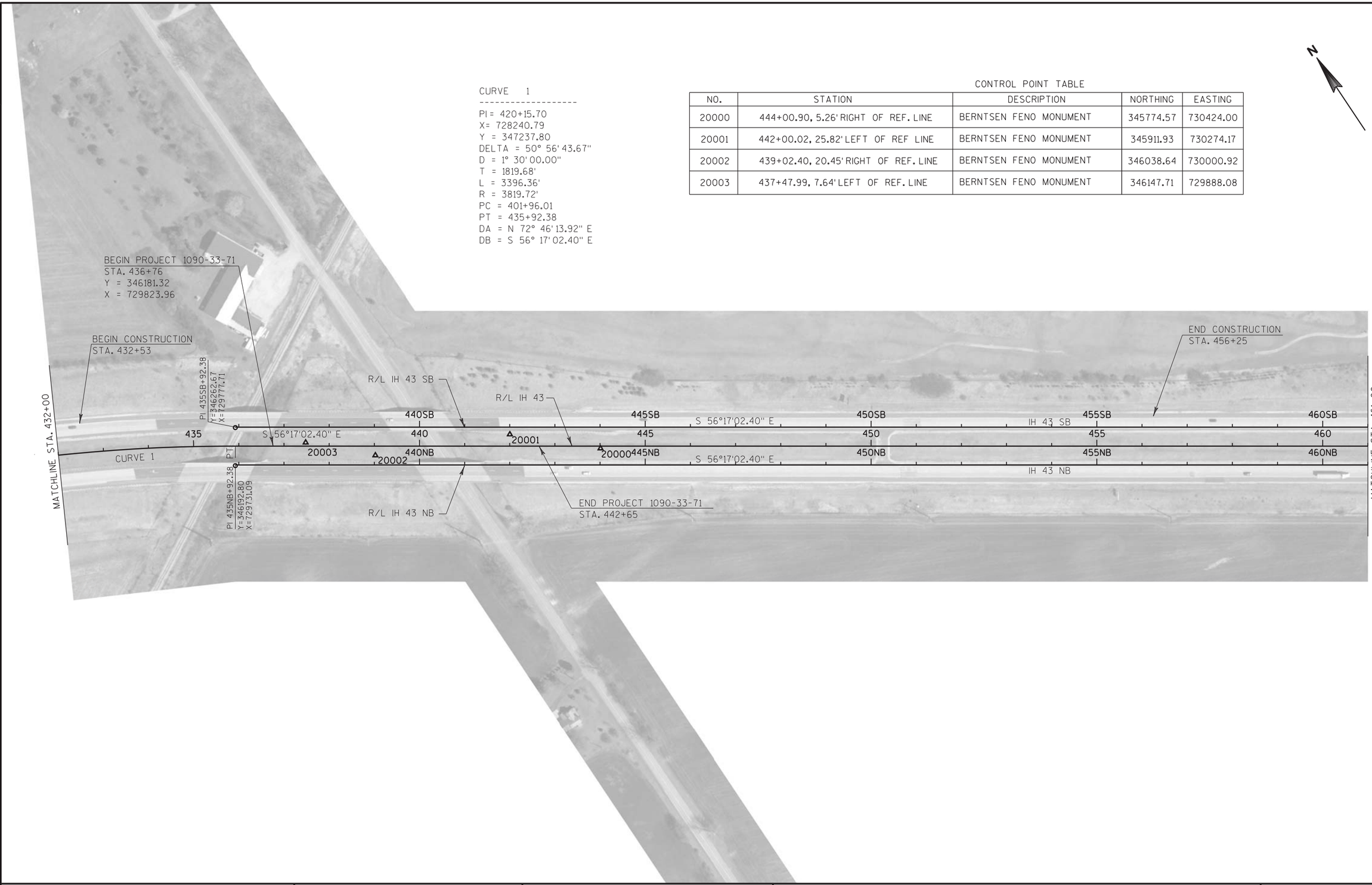
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	ALIGNMENT PLAN	SHEET 41	E

CURVE 1

PI = 420+15.70
X= 728240.79
Y = 347237.80
DELTA = 50° 56' 43.67"
D = 1° 30' 00.00"
T = 1819.68'
L = 3396.36'
R = 3819.72'
PC = 401+96.01
PT = 435+92.38
DA = N 72° 46' 13.92" E
DB = S 56° 17' 02.40" E

CONTROL POINT TABLE

NO.	STATION	DESCRIPTION	NORTHING	EASTING
20000	444+00.90, 5.26' RIGHT OF REF. LINE	BERNTSEN FENO MONUMENT	345774.57	730424.00
20001	442+00.02, 25.82' LEFT OF REF LINE	BERNTSEN FENO MONUMENT	345911.93	730274.17
20002	439+02.40, 20.45' RIGHT OF REF. LINE	BERNTSEN FENO MONUMENT	346038.64	730000.92
20003	437+47.99, 7.64' LEFT OF REF. LINE	BERNTSEN FENO MONUMENT	346147.71	729888.08



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	ALIGNMENT PLAN	SHEET 42	E

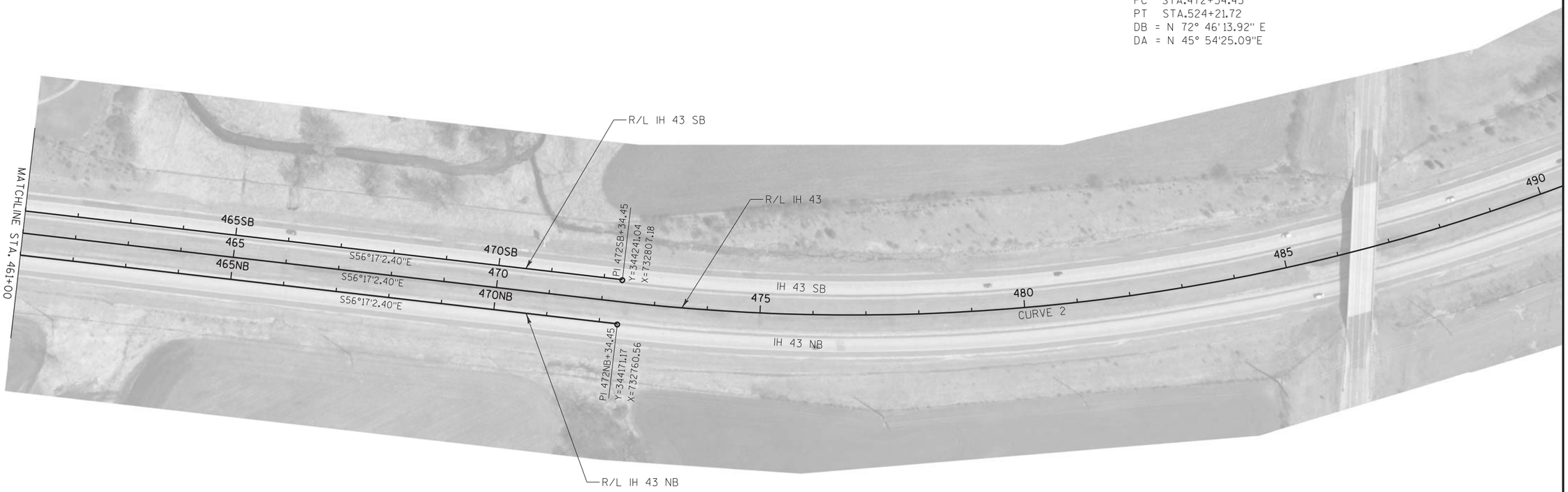
CONTROL POINT TABLE

NO.	STATION	DESCRIPTION	NORTHING	EASTING
20000	444+00.90, 5.26' RIGHT OF REF. LINE	BERNTSEN FENO MONUMENT	345774.57	730424.00
20001	442+00.02, 25.82' LEFT OF REF LINE	BERNTSEN FENO MONUMENT	345911.93	730274.17
20002	439+02.40, 20.45' RIGHT OF REF. LINE	BERNTSEN FENO MONUMENT	346038.64	730000.92
20003	437+47.99, 7.64' LEFT OF REF. LINE	BERNTSEN FENO MONUMENT	346147.71	729888.08

N

CURVE 2

PI STA.503+17.07
Y : 342495.01
X : 735347.99
DELTA = 77°48'32.50"
D = 1°30'00.00"
T = 3082.62'
L = 5187.27
R = 3819.72
PC STA.472+34.45
PT STA.524+21.72
DB = N 72° 46' 13.92" E
DA = N 45° 54'25.09"E



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	ALIGNMENT PLAN	SHEET 43	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\027203_ad.dgn PLOT DATE : 7/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 200.0000 ' / in.

DATE 02DEC15 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	1090-33-71 QUANTITY
0010	203.0200	Removing Old Structure (station) 01. 440'S'+04.18	LS	1.000	1.000
0020	203.0200	Removing Old Structure (station) 02. 436'S'+00	LS	1.000	1.000
0030	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-64-123	LS	1.000	1.000
0040	203.0225.S	Debris Containment (structure) 01. B-64-123	LS	1.000	1.000
0050	204.0100	Removing Pavement	SY	290.000	290.000
0060	204.0105	Removing Pavement Butt Joints	SY	140.000	140.000
0070	204.0110	Removing Asphaltic Surface	SY	25.000	25.000
0080	204.0115	Removing Asphaltic Surface Butt Joints	SY	125.000	125.000
0090	204.0125	Removing Asphaltic Surface Milling	TON	335.000	335.000
0100	204.0165	Removing Guardrail	LF	1,090.000	1,090.000
0110	204.0170	Removing Fence	LF	239.000	239.000
0120	204.0220	Removing Inlets	EACH	3.000	3.000
0130	204.0245	Removing Storm Sewer (size) 01. 12-INCH	LF	120.000	120.000
0140	205.0100	Excavation Common	CY	3,639.000	3,639.000
0150	206.1000	Excavation for Structures Bridges (structure) 01. B-64-123	LS	1.000	1.000
0160	210.0100	Backfill Structure	CY	160.000	160.000
0170	213.0100	Finishing Roadway (project) 01. 1090-33-71	EACH	1.000	1.000
0180	305.0110	Base Aggregate Dense 3/4-Inch	TON	910.000	910.000
0190	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,720.000	2,720.000
0200	311.0110	Breaker Run	TON	3,190.000	3,190.000
0210	415.0410	Concrete Pavement Approach Slab	SY	140.000	140.000
0220	416.1010	Concrete Surface Drains	CY	38.000	38.000
0230	455.0140	Asphaltic Material PG64-28P	TON	82.000	82.000
0240	455.0605	Tack Coat	GAL	210.000	210.000
0250	460.1110	HMA Pavement Type E-10	TON	1,500.000	1,500.000
0260	460.2000	Incentive Density HMA Pavement	DOL	970.000	970.000
0270	465.0400	Asphaltic Shoulder Rumble Strips	LF	3,555.000	3,555.000
0280	502.0100	Concrete Masonry Bridges	CY	341.000	341.000
0290	502.3100	Expansion Device (structure) 01. B-64-123	LS	1.000	1.000
0300	502.3200	Protective Surface Treatment	SY	648.000	648.000
0310	502.3210	Pigmented Surface Sealer	SY	178.000	178.000
0320	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	220.000	220.000
0330	502.6105	Masonry Anchors Type S 5/8-Inch	EACH	64.000	64.000
0340	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	73,785.000	73,785.000
0350	505.0906	Bar Couplers No. 6	EACH	10.000	10.000
0360	505.0908	Bar Couplers No. 8	EACH	6.000	6.000
0370	506.4000	Steel Diaphragms (structure) 01. B-64-123	EACH	9.000	9.000
0380	509.1500	Concrete Surface Repair	SF	325.000	325.000
0390	511.1200	Temporary Shoring (structure) 01. B-64-123	SF	150.000	150.000
0400	516.0500	Rubberized Membrane Waterproofing	SY	30.000	30.000
0410	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	5.000	5.000
0420	603.1142	Concrete Barrier Type S42	LF	395.000	395.000
0430	603.3613	Concrete Barrier Transition Type V32 to S36	EACH	2.000	2.000

3

DATE 02DEC15 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	1090-33-71 QUANTITY
0440	603.8000	Concrete Barrier Temporary Precast Delivered	LF	963.000	963.000
0450	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,713.000	1,713.000
0460	604.9010.S	Slope Paving Repair Crushed Aggregate	CY	20.000	20.000
0470	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	495.000	495.000
0480	606.0100	Riprap Light	CY	33.000	33.000
0490	611.0654	Inlet Covers Type V	EACH	5.000	5.000
0500	611.3220	Inlets 2x2-FT	EACH	5.000	5.000
0510	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0520	611.8120.S	Cover Plates Temporary	EACH	1.000	1.000
0530	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	17.000	17.000
0540	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	173.000	173.000
0550	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0560	612.0804	Apron Endwalls for Underdrain Reinforced Concrete 4-Inch	EACH	1.000	1.000
0570	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	2.000	2.000
0580	614.0250	Steel Thrie Beam Structure Approach Temporary	LF	21.000	21.000
0590	614.0360	Steel Plate Beam Guard Temporary	LF	225.000	225.000
0600	614.0380	Steel Plate Beam Guard Energy Absorbing Terminal Temporary	EACH	1.000	1.000
0610	614.0396	Guardrail Mow Strip Asphalt	SY	295.000	295.000
0620	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0630	614.2300	MGS Guardrail 3	LF	450.000	450.000
0640	614.2500	MGS Thrie Beam Transition	LF	80.000	80.000
0650	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0660	616.0206	Fence Chain Link 6-FT	LF	228.000	228.000
0670	616.0329	Gates Chain Link (width) 01. 4-FT	EACH	2.000	2.000
0680	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1090-33-71	EACH	1.000	1.000
0690	619.1000	Mobilization	EACH	1.000	1.000
0700	624.0100	Water	MGAL	100.000	100.000
0710	625.0100	Topsoil	SY	430.000	430.000
0720	628.1504	Silt Fence	LF	2,070.000	2,070.000
0730	628.1520	Silt Fence Maintenance	LF	1,795.000	1,795.000
0740	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0750	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0760	628.2004	Erosion Mat Class I Type B	SY	440.000	440.000
0770	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0780	628.7020	Inlet Protection Type D	EACH	8.000	8.000
0790	628.7504	Temporary Ditch Checks	LF	202.000	202.000
0800	628.7555	Culvert Pipe Checks	EACH	2.000	2.000
0810	628.7570	Rock Bags	EACH	400.000	400.000
0820	629.0210	Fertilizer Type B	CWT	0.280	0.280
0830	630.0130	Seeding Mixture No. 30	LB	8.000	8.000
0840	630.0200	Seeding Temporary	LB	8.000	8.000
0850	633.0100	Delineator Posts Steel	EACH	5.000	5.000
0860	633.0500	Delineator Reflectors	EACH	7.000	7.000
0870	633.1000	Delineator Brackets	EACH	2.000	2.000
0880	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	12.000	12.000
0890	637.2210	Signs Type II Reflective H	SF	33.000	33.000
0900	637.2230	Signs Type II Reflective F	SF	13.500	13.500

3

DATE 02DEC15 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	1090-33-71 QUANTITY
0910	638.2102	Moving Signs Type II	EACH	6.000	6.000
0920	638.2602	Removing Signs Type II	EACH	4.000	4.000
0930	638.3000	Removing Small Sign Supports	EACH	12.000	12.000
0940	642.5001	Field Office Type B	EACH	1.000	1.000
0950	643.0100	Traffic Control (project) 01. 1090-33-71	EACH	1.000	1.000
0960	643.0300	Traffic Control Drums	DAY	8,240.000	8,240.000
0970	643.0420	Traffic Control Barricades Type III	DAY	392.000	392.000
0980	643.0705	Traffic Control Warning Lights Type A	DAY	332.000	332.000
0990	643.0715	Traffic Control Warning Lights Type C	DAY	2,976.000	2,976.000
1000	643.0800	Traffic Control Arrow Boards	DAY	276.000	276.000
1010	643.0900	Traffic Control Signs	DAY	3,660.000	3,660.000
1020	643.1000	Traffic Control Signs Fixed Message	SF	180.000	180.000
1030	645.0130	Geotextile Fabric Type R	SY	185.000	185.000
1040	646.0106	Pavement Marking Epoxy 4-Inch	LF	8,600.000	8,600.000
1050	646.0600	Removing Pavement Markings	LF	4,419.000	4,419.000
1060	646.0805.S	Pavement Marking Outfall	EACH	1.000	1.000
1070	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	1,075.000	1,075.000
1080	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	14,089.000	14,089.000
1090	649.2100	Temporary Raised Pavement Markers	EACH	50.000	50.000
1100	650.4000	Construction Staking Storm Sewer	EACH	5.000	5.000
1110	650.4500	Construction Staking Subgrade	LF	2,400.000	2,400.000
1120	650.5000	Construction Staking Base	LF	2,400.000	2,400.000
1130	650.6500	Construction Staking Structure Layout (structure) 01. B-64-123	LS	1.000	1.000
1140	650.7500	Construction Staking Concrete Barrier	LF	425.000	425.000
1150	650.8000	Construction Staking Resurfacing Reference	LF	590.000	590.000
1160	650.9910	Construction Staking Supplemental Control (project) 01. 1090-33-71	LS	1.000	1.000
1170	650.9920	Construction Staking Slope Stakes	LF	2,400.000	2,400.000
1180	690.0150	Sawing Asphalt	LF	705.000	705.000
1190	690.0250	Sawing Concrete	LF	245.000	245.000
1200	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1210	715.0502	Incentive Strength Concrete Structures	DOL	2,046.000	2,046.000
1220	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	600.000	600.000
1230	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	700.000	700.000
1240	SPV.0165	Special 01. FIBER WRAP REINFORCING	SF	235.000	235.000

3

REMOVING PAVEMENT SUMMARY

STAGE	ROADWAY	STATION	TO STATION	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0125 REMOVING ASPHALTIC SURFACE MILLING TONS
CATEGORY CODE 0010									
1	IH 43 SB	438+81	439+15	OUTSIDE SHOULDER	35	--	--	--	--
	IH 43 SB	436+97	437+07	OUTSIDE SHOULDER	15	--	--	--	--
	IH 43 SB	440+62	440+93	OUTSIDE SHOULDER	40	--	--	--	--
2	IH 43 SB	436+79	437+07	INSIDE SHOULDER	20	--	--	--	--
	IH 43 SB	436+85	441+80	LANE 1	--	--	--	--	170
	IH 43 SB	438+99	439+31	LANE 1 & INSIDE SHOULDER	60	--	--	--	--
	IH 43 SB	440+69	440+93	LANE 1 & INSIDE SHOULDER	50	--	--	--	--
	IH 43 SB	442+15	442+65	LANE 1	--	70	--	--	--
3	IH 43 SB	436+85	441+80	LANE 2	--	--	--	--	165
	IH 43 SB	436+76	439+09	OUTSIDE SHOULDER	--	--	25	--	--
	IH 43 SB	437+07	437+60	OUTSIDE SHOULDER	--	--	--	65	--
	IH 43 SB	438+99	439+23	LANE 2	30	--	--	--	--
	IH 43 SB	440+62	440+93	LANE 2	40	--	--	--	--
	IH 43 SB	442+15	442+65	LANE 2	--	70	--	--	--
	IH 43 SB	442+15	442+65	OUTSIDE SHOULDER	--	--	--	60	--
				TOTALS	**290**	**140**	**25**	**125**	**335**

REMOVING GUARDRAIL

STAGE	ROADWAY	STATION	TO STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
CATEGORY CODE 0010					
1	IH 43 SB	436+65	439+75	OUTSIDE SHOULDER	310
	IH 43 SB	440+62	443+47	OUTSIDE SHOULDER	285
2	IH 43 SB	437+71	439+30	INSIDE SHOULDER	160
	IH 43 SB	440+91	444+26	INSIDE SHOULDER	335
				TOTAL	**1,090**

REMOVING FENCE

STAGE	ROADWAY	STATION	LOCATION	204.0170 REMOVING FENCE LF	COMMENTS
CATEGORY 0010					
1	IH 43 SB	438+88	LT	50	NW QUADRANT OF STRUCTURE B-64-123
1	IH 43 SB	440+55	LT	25	NE QUADRANT OF STRUCTURE B-64-123
2	IH 43 SB	439+52	MEDIAN	82	BETWEEN WEST ABUTMENTS OF STRUCTURES B-64-122 AND B-64-123
2	IH 43 SB	441+16	MEDIAN	82	BETWEEN EAST ABUTMENTS OF STRUCTURES B-64-122 AND B-64-123
			TOTAL	**239**	

STORM SEWER REMOVAL ITEMS

STAGE	ROADWAY	STATION		204.0220 REMOVING INLETS EACH	204.0245 REMOVING STORM SEWER 12-INCH LF
CATEGORY 0010					
1	IH 43 SB	440+69	72.8' LT	1	70
2	IH 43 SB	436+87	36.9' LT	1	25
	IH 43 SB	440+93	36.6' LT	1	25
			TOTAL	**3**	**120**

3

IH 43 AT ELM RIDGE ROAD EARTHWORK SUMMARY

Division Category 0010	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/ Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (6)	Expanded EBS Backfill (7)	Unexpanded Fill	Expanded Fill (8)	Mass Ordinate +/- (9)	Waste	Borrow
			Cut (2)	EBS Excavation (3)			Factor 0.80	Factor 1.25		Factor 1.25			(item #208.0100)
STAGE 1	STA 432+53 to 456+25	IH 43 SB	2,151	108	303	1,847	86	135	24	30	1,817	1,817	0
Division 1 Subtotal			2,151	108	303	1,847	86	135	24	30	1,817	1,817	0
STAGE 2	STA 434+45 to 452+80	IH 43 SB	1,314	66	170	1,144	53	83	6	7	1,137	1,137	0
Division 2 Subtotal			1,314	66	170	1,144	53	83	6	7	1,137	1,137	0
Grand Total			3,465	174	473	2,992	139	218	30	38	2,954	2,954	0
		Total Common Exc	3,639										

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) Undistributed EBS Excavation is undistributed and to be backfilled with Breaker Run (Item #311.0110); EBS considered to be waste and is 5% of the total Common Excavation.
4) Salvaged/Unusable Pavement Material (Asphalt pavement not to be used in fill).
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
7) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.25. Item number 208.1100
8) Expanded Fill. Factor = 1.25

Expanded Fill = (Unexpanded Fill) * Fill Factor

9) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

FINSHING ROADWAY

ROADWAY	213.0100 FINISHING ROADWAY EACH
CATEGORY 0010	
IH 43	1
TOTAL	**1**

CONCRETE PAVEMENT ITEMS

STAGE	ROADWAY	STATION	TO STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT DOL
CATEGORY 0010						
2	IH 43 SB	438+99	439+31	LANE 1	42	--
	IH 43 SB	440+69	440+93	LANE 1	28	--
3	IH 43 SB	438+99	439+23	LANE 2	28	--
	IH 43 SB	440+62	440+93	LANE 2	42	--
	UNDISTRIBUTED				--	500
				TOTALS	**140**	**500**

3

BASE AGGREGATE ITEMS

STAGE	STATION	TO STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	311.0110 BREAKER RUN TON	624.0100 WATER MGAL
CATEGORY 0010							
1	432+53	435+42	SB OUTSIDE SHOULDER	60	200	250	10
	436+97	439+09	SB OUTSIDE SHOULDER	40	120	270	10
	440+55	456+25	SB OUTSIDE SHOULDER	360	1,200	1,400	30
2	434+45	435+21	SB INSIDE SHOULDER	25	40	50	10
	436+76	439+31	SB INSIDE SHOULDER	55	160	230	10
	440+82	452+80	SB INSIDE SHOULDER	280	750	700	20
	UNDISTRIBUTED 10% RD QTY			90	250	--	10
	EBS FILL FROM EARTHWORK			--	--	290	--
			TOTALS	**910**	**2,720**	**3,190**	**100**

3

3

ASPHALT ITEMS

STAGE	STATION	TO STATION	LOCATION	455.0140 ASPHALTIC MATERIAL PG64-28P TON	455.0605 TACK COAT GAL	460.1110 HMA PAVEMENT TYPE E-10 TON	460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL
CATEGORY 0010							
1	432+53	435+42	SB OUTSIDE SHOULDER	5	--	90	58
	436+97	439+09	SB OUTSIDE SHOULDER	4	--	80	52
	440+55	456+25	SB OUTSIDE SHOULDER	26	--	480	310
2	434+46	435+21	SB INSIDE SHOULDER	1	--	15	10
	436+76	439+31	SB INSIDE SHOULDER	2	--	40	26
	441+33	452+80	SB INSIDE SHOULDER	12	--	215	140
	437+07	438+99	SB LANE 1	5	45	100	64
	440+93	442+65	SB LANE 1	5	41	90	58
3	437+07	438+99	SB LANE 2	5	45	100	64
	440+93	442+65	SB LANE 2	5	41	90	58
	437+07	438+81	SB OUTSIDE SHOULDER	2	10	35	23
	441+04	442+65	SB OUTSIDE SHOULDER	2	9	30	20
	UNDISTRIBUTED 10% RD QTY			8	19	135	87
			TOTALS	**82**	**210**	**1,500**	**970**

RUMBLE STRIPS

STAGE	STATION	TO STATION	LOCATION	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF
CATEGORY 0010				
3	434+46	435+21	SB INSIDE SHOULDER	75
	436+76	439+31	SB INSIDE SHOULDER	255
	441+33	452+80	SB INSIDE SHOULDER	1,150
4	432+53	435+42	SB OUTSIDE SHOULDER	290
	436+97	439+09	SB OUTSIDE SHOULDER	215
	440+55	456+25	SB OUTSIDE SHOULDER	1,570
			TOTALS	**3,555**

3

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STAGE	ROADWAY	STRUCTURE NUMB.	INLET STA	INLET OFFSET FT	OUTFALL STA	OUTFALL OFFSET FT		STAGE 1 FLANGE ELEV	FINAL FLANGE ELEV	INVERT ELEV	STR DEPTH FT	**416.1010** CONCRETE SURFACE DRAINS CY	**521.1012** APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	**606.0100** RIPRAP LIGHT CY	**611.0654** INLET COVERS TYPE V EACH	**611.3220** INLETS 2X2-FT EACH	**611.8115** ADJUSTING INLET COVERS EACH	**611.8120.S** COVER PLATES TEMPORARY EACH	**612.0212** PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	**645.0130** GEOTEXTILE FABRIC TYPE R SY
CATEGORY 0010																				
1/3	IH 43 SB	2	438+86	75	438+82	105	LT	N/A	942.20	938.70	2.25	8	1	6	1	1	1	1	29	34
	IH 43 SB	4	440+97.3	75	440+97.3	145	LT	937.40	937.65	934.15	2.25	11 **	1	6	1	1	1	--	69	34
2	IH 43 SB	1	437+04	37	437+04	12	LT	N/A	945.78	942.78	1.75	5	1	6	1	1	--	--	25	34
	IH 43 SB	3	439+16	37	439+16	10	LT	N/A	942.05	939.05	1.75	6	1	7	1	1	--	--	27	40
	IH 43 SB	5	441+26.5	37	441+34	15.5'	LT	N/A	937.15	934.15	1.75	8 **	1	8	1	1	--	--	23	43
											TOTALS	**38**	**5**	**33**	**5**	**5**	**2**	**1**	**173**	**185**

| | | | | | | | | | | | **TOTALS** | **38** | **5** | **33** | **5** | **5** | **2** | **1** | **173** | **185** |

NOTES:
1) STRUCTURE DEPTH = RIM ELEVATION - INSIDE PIPE INVERT - CASTING HEIGHT - ADJUSTMENT RING HEIGHT
2) SEE STANDARD DETAIL "CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES" FOR ADDITIONAL DETAILS
3) INSTALL SLOPE-FACED CURB ON CONCRETE SURFACE DRAINS INSTEAD OF VERTICAL-FACE CURB
4) STATION AND OFFSETS ARE TO THE CENTER OF STRUCTURE OR TO THE APRON END OF ENDWALLS
5) PIPE LENGTHS ARE MEASURED TO THE CENTER OF STRUCTURES OR TO THE APRON END OF ENDWALLS
6) RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE FOR INLET GRATES
7) CASTING HEIGHT EQUALS 0.83 FEET FOR TYPE V COVERS
8) ADJUSTMENT RING HEIGHT EQUALS 0.42 FEET
** SEE CONSTRUCTION DETAILS FOR ADDITIONAL REQUIREMENTS AT THIS LOCATION. ADDITIONAL REQUIREMENTS ARE INCIDENTAL TO BID ITEM.

3

CONCRETE BARRIER ITEMS

STAGE	ROADWAY	STATION	TO	STATION	LOCATION	**603.1142** CONCRETE BARRIER TYPE S42 LF	**603.3613** CONCRETE BARRIER TRANSITION TYPE V32 TO S36 EACH
CATEGORY 0010							
2	IH 43 SB	436+86		439+25	INSIDE	225	1
3	IH 43 SB	437+09		438+93	OUTSIDE	170	1
					TOTALS	**395**	**2**

PIPE UNDERDRAIN ITEMS

STAGE	ROADWAY	STATION	OFFSET	LOCATION	**612.0204** PIPE UNDERDRAIN UNPERFORATED 4-INCH LF	**612.0804** APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 4-INCH EACH
CATEGORY 0010						
2	IH 43 SB	434+50	30' LT	INSIDE SHOULDER	17	1
				TOTALS	**17**	**1**

NOTE: PIPE UNDERDRAIN UNPERFORATED 4-INCH NEEDS TO TIE INTO EXISTING PIPE UNDERDRAIN 4-INCH

3

BEAMGUARD SUMMARY

ROADWAY STAGE	ROADWAY	STATION	TO	STATION	LOCATION	**614.0250** STEEL THRIE BEAM STRUCTURE APPROACH TEMPORARY LF	**614.0360** STEEL PLATE BEAM GUARD TEMPORARY LF	**614.0380** STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL TEMPORARY 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 EA
STAGE	CATEGORY 0010											
1/3	IH 43 SB	440+64		443+56	OUTSIDE SHOULDER	21	225	1	135	250	40 **	1
2	IH 43 SB	440+96		444+36	INSIDE SHOULDER	--	--	--	160	200	40 **	1
					TOTALS	**21**	**225**	**1**	**295**	**450**	**80**	**2**

** SEE CONSTRUCTION DETAILS FOR ADDITIONAL REQUIREMENTS AT THIS LOCATION. ADDITIONAL REQUIREMENTS ARE INCIDENTAL TO BID ITEM.

3

FENCE ITEMS

STAGE	ROADWAY	STATION	LOCATION	616.0206 FENCE CHAIN LINK 6-FT LF	616.0329 GATES CHAIN LINK 4-FT EACH	COMMENTS
CATEGORY 0010						
1	IH 43 SB	438+88	LT	48	---	NW QUADRANT OF STRUCTURE B-64-123
1	IH 43 SB	440+55	LT	24	---	NE QUADRANT OF STRUCTURE B-64-123
2	IH 43 SB	439+52	MEDIAN	78	1	BETWEEN WEST ABUTMENTS OF STRUCTURES B-64-122 AND B-64-123 INSTALL GATE FOR MEDIAN ACCESS
2	IH 43 SB	441+16	MEDIAN	78	1	BETWEEN EAST ABUTMENTS OF STRUCTURES B-64-122 AND B-64-123 INSTALL GATE FOR MEDIAN ACCESS
			TOTALS	**228**	**2**	

EROSION CONTROL ITEMS

STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS 1 TYPE B SY	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECK LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH
CATEGORY 0010									
424+25 TO 435+50	LT/RT	275	--	--	1	--	18	--	81
436+00 TO 440+00	LT/RT	165	165	230	1	--	36	1	54
440+50 TO 456+50	LT/RT	1,440	1,440	170	--	--	108	1	216
436+97	LT	--	--	--	--	1	--	--	--
438+86	LT	--	--	--	--	1	--	--	--
439+16	LT	--	--	--	--	1	--	--	--
440+96	LT	--	--	--	--	1	--	--	--
441+25	LT	--	--	--	--	1	--	--	--
UNDISTRIBUTED		190	190	40	1	3	40	--	49
	TOTALS	**2,070**	**1,795**	**440**	**3**	**8**	**202**	**2**	**400**

MAINTENANCE AND REPAIR OF HAUL ROADS

ROADWAY	618.0100 EACH
CATEGORY 0010	
IH 43	1
TOTAL	**1**

MOBILIZATION

ROADWAY	619.1000 EACH
CATEGORY 0010	
IH 43	1
TOTAL	**1**

MOBILIZATION EROSION CONTROL

ROADWAY	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
CATEGORY 0010		
IH 43	3	6
TOTALS	3	6

RESTORATION ITEMS

ROADWAY	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB
CATEGORY 0010				
IH 43	390	0.25	7	7
10 % UNDISTRIBUTED	40	0.03	1	1
TOTALS	**430**	**0.28**	**8**	**8**

DELINEATOR ITEMS

ROADWAY	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATORS REFLECTORS EACH	633.1000 DELINEATOR BRACKETS EACH
CATEGORY 0010			
IH 43 SB	5	7	2
TOTALS	**5**	**7**	**2**

FIELD OFFICE

ROADWAY	642.5001 FIELD OFFICE TYPE B EACH
CATEGORY 0010	
IH 43	1
TOTAL	**1**

SAWCUTTING SUMMARY

STAGE	BEGIN STATION	BEGIN OFFSET	END STATION	END OFFSET	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
CATEGORY 0010						
1	432+53	65.5' LT	432+53	75.5' LT	10	--
	434+19	65.5' LT	435+37	65.5' LT	121	--
	436+92	66.0' LT	437+07	66.0' LT	--	16
	437+07	66.0' LT	438+81	66.0' LT	175	--
	438+81	66.0' LT	439+15	66.0' LT	--	35
	440+62	66.0' LT	440+93	66.0' LT	--	33
	440+93	66.0' LT	441+75	66.0' LT	83	--
	456+25	66.0' LT	456+25	76.0' LT	10	--
					--	--
2	434+45	41.5' LT	434+45	36.5' LT	5	--
	434+45	41.5' LT	435+25	41.5' LT	81	--
	436+79	42.0' LT	437+07	42.0' LT	--	29
	438+99	42.0' LT	438+99	54.0' LT	--	12
	438+99	54.0' LT	439+23	54.0' LT	--	24
	440+69	54.0' LT	440+93	54.0' LT	--	24
	440+93	42.0' LT	440+93	54.0' LT	--	12
	442+65	42.0' LT	442+65	54.0' LT	--	12
	452+80	42.0' LT	452+80	37.0' LT	5	--
					--	--
3	437+07	54.0' LT	437+07	66.0' LT	--	12
	437+07	66.0' LT	437+07	76.0' LT	10	--
	437+09	75.7' LT	438+81	75.7' LT	175	--
	438+81	66.0' LT	438+81	75.7' LT	10	--
	438+99	54.0' LT	438+99	66.0' LT	--	12
	440+93	54.0' LT	440+93	66.0' LT	--	12
	441+04	66.0' LT	441+04	76.0' LT	10	--
	442+65	54.0' LT	442+65	66.0' LT	--	12
	442+65	66.0' LT	442+65	76.0' LT	10	--
				TOTALS	**705**	**245**

3

TRAFFIC CONTROL ITEMS

ROADWAY	STAGE DURATION 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 EACH	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900* TRAFFIC CONTROL SIGNS EACH	643.0900* TRAFFIC CONTROL SIGNS DAYS	646.0600 REMOVING PAVEMENT MARKINGS LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH YELLOW LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH WHITE LF	649.2100 TEMPORARY RAISED PAVEMENT MARKERS EACH
CATEGORY 0010																					
STAGE 1	22																				
IH 43 SB		213	213	--	70	1,540	4	88	2	44	16	352	2	44	24	528	179	--	4,000	--
STAGE 1 SUBTOTAL		213	213	--		1,540		88		44		352		44		528	179	--	4,000	--
STAGE 2	52																				
IH 43 SB		750	750	1	58	3,016	2	104	2	104	28	1,456	2	104	23	1,196	2,408	3,051	2,586	50
ELM RIDGE ROAD	3	--	--	--	--	--	10	30	8	24	--	--	--	--	6	18	--	--	--	--
CTH X	8	--	--	--	53	424	1	8	--	--	--	--	1	8	13	104	--	--	--	--
STAGE 2 SUBTOTAL		750	750	1		3,440		142		128		1,456		112		1,318	2,408	3,051	2,586	50
STAGE 3	52																				
IH 43 SB		--	750	1	50	2,600	2	104	2	104	22	1,144	2	104	23	1,196	1,832	1,832	2,620	--
ELM RIDGE ROAD	3	--	--	--	--	--	10	30	8	24	--	--	--	--	6	18	--	--	--	--
CTH X	8	--	--	--	53	424	1	8	--	--	--	--	1	8	13	104	--	--	--	--
STAGE 3 SUBTOTAL		--	750	1		3,024		142		128		1,144		112		1,318	1,832	1,832	2,620	--
STAGE 4	4																				
IH 43 SB		--	--	--	59	236	5	20	8	32	6	24	2	8	20	80	--	--	--	--
STAGE 4 SUBTOTAL		--	--	--		236		20		32		24		8		80	--	--	--	--
SUBTOTALS																		4,883	9,206	
TOTALS		**963**	**1,713**	**2**		**8,240**		**392**		**332**		**2,976**		**276**		**3,244**	**4,419**	**14,089**		**50**

TRAFFIC CONTROL ITEMS-FIXED MESSAGE

ROADWAY	STAGE DURATION DAYS	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.0900* TRAFFIC CONTROL SIGNS EACH	643.0900* TRAFFIC CONTROL SIGNS DAYS
CATEGORY 0010				
STAGE 1	22			
IH 43 SB		90	--	--
STAGE 1 SUBTOTAL		90		--
STAGE 2	52			
IH 43 SB		--	4	208
STH 50		54	--	--
ELM RIDGE ROAD		36	--	--
STAGE 2 SUBTOTAL		90		208
STAGE 3	52			
IH 43 SB		--	4	208
ELM RIDGE ROAD		--	--	--
STAGE 3 SUBTOTAL		--		208
TOTALS		**180**		**416**

*ADDITIONAL QUANITIES ELSEWHERE

PAVEMENT MARKING

STAGE	ROADWAY	STATION	TO	STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF	646.0805.S PAVEMENT MARKING OUTFALL EACH	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH WHITE LF
CATEGORY 0010									
3	IH 43 SB	431+00		474+00	OUTSIDE EDGE	4,300	--	--	--
4	IH 43 SB	431+00		474+00	CENTERLINE	--	--	--	1,075
	IH 43 SB	431+00		474+00	INSIDE EDGE	--	4,300	--	--
	IH 43 SB	434+50		--	INSIDE SHOULDER	--	--	1	--
					SUBTOTALS	4,300	4,300		
					TOTALS	**8,600**		**1**	**1,075**

3

CONSTRUCTION STAKING

STAGE	ROADWAY	STATION	TO	STATION	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER LF	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
CATEGORY 0010												
1	IH 43 SB	432+53		456+25	OUTSIDE SHOULDER	2	--	--	--	--	--	--
2	IH 43 SB	434+46		452+80	LANE 1 & INSIDE SHOULDER	3	--	--	240	--	--	--
3	IH 43 SB	436+76		442+65	LANE 2 & OUTSIDE SHOULDER	--	--	--	185	--	--	--
	PROJECT					--	2,400	2,400	--	590	1	2,400
					TOTALS	**5**	**2,400**	**2,400**	**425**	**590**	**1**	**2,400**

CONSTRUCTION STAKING STRUCTURE

ROADWAY	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT B-64-123 LS
CATEGORY 0020	
IH 43 SB	1
TOTAL	**1**

CONCRETE SURFACE REPAIR

STAGE	STRUCTURE	LOCATION	509.1500* CONCRETE SURFACE REPAIR SF	
CATEGORY 0040				
2	B-64-127	RIGHT	155	PARAPET REPAIRS ONLY
3	B-64-127	LEFT	35	PARAPET REPAIRS ONLY
		TOTAL	**190**	

* ADDITIONAL QUANTITIES ELSEWHERE

TYPE II PERMANENT SIGNING-

1090-33-71 IH43

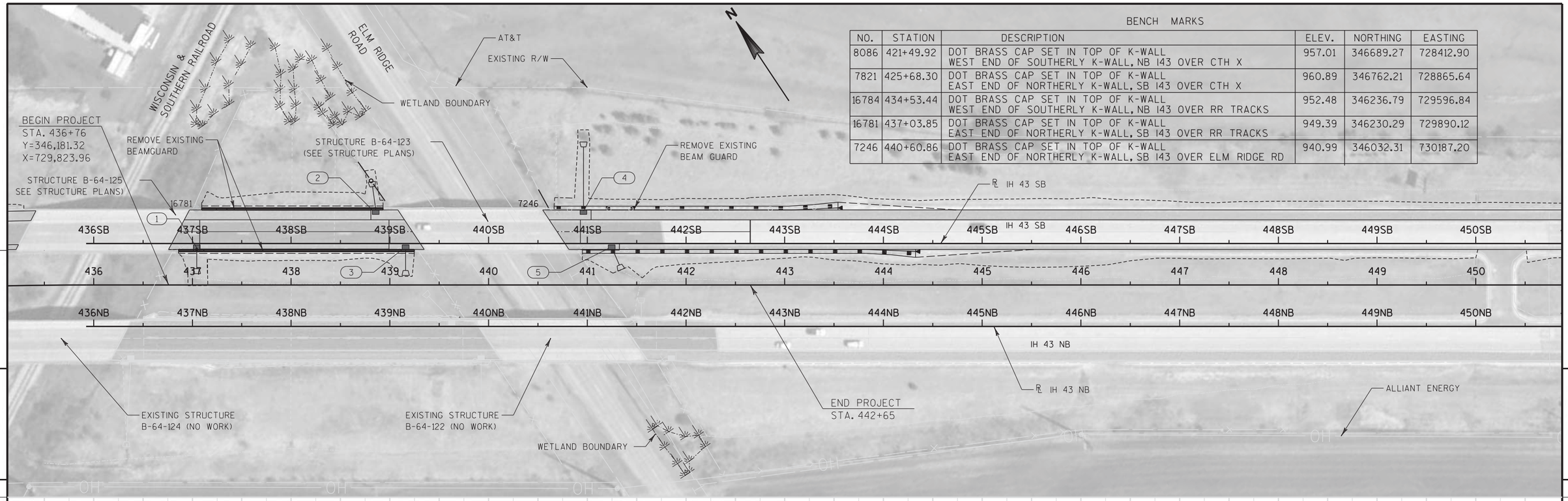
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	SIGN SIZE H [IN.]	**637.2210** SIGNS TYPE II REFLC H [SF]	**637.2230** SIGNS TYPE II REFLC F [SF]	**638.2102** MOVE SIGNS TYPE II [EA]	**638.2602** REM SIGNS TYPE II (EA)	**638.3000** REM SMALL SIGN SUP (EA)	**634.0618** WOOD POSTS 4"X 6"x18' [EA]	REMARKS
1	E5-1A(5)	EXIT 17 --->	72	X	60	30		---	1	2	2	
2	W5-52L(3)	---	18	X	54		6.75	---	1	1	1	INSTALL IN SAME LOCATION
3	W5-52R(3)	---	18	X	54		6.75	---	1	1	1	INSTALL IN SAME LOCATION
4	D10-2(5)	MILE 18	12	X	36	3		---	1	1	1	INSTALL IN SAME LOCATION
5	W5-52R(3)	---	---	X	---	---	---	1	---	1	1	MOVE TO SAME LOCATION
6	W5-52R(3)	---	---	X	---	---	---	1	---	1	1	MOVE TO SAME LOCATION
7	W5-52L(3)	---	---	X	---	---	---	1	---	1	1	MOVE TO SAME LOCATION
8	W5-52R(3)	---	---	X	---	---	---	1	---	1	1	MOVE TO SAME LOCATION
9	M1-94	ELM RIDGE RD	---	X	---	---	---	1	---	2	2	MOVE TO SAME LOCATION
10	W10-1	---	---	X	---	---	---	1	---	1	1	MOVE TO SAME LOCATION
		TOTALS =				33	13.5	6	4	12	12	

PROJECT NO:1090-33-71	HWY:IH 43 SB	COUNTY: WALWORTH	MISC PERMANENT TYPE II, SIGNING	SHEET:	**E**

N:\SPO\Operations\Traffic_Ops\Signing\Miscellaneous Quantities\10903370

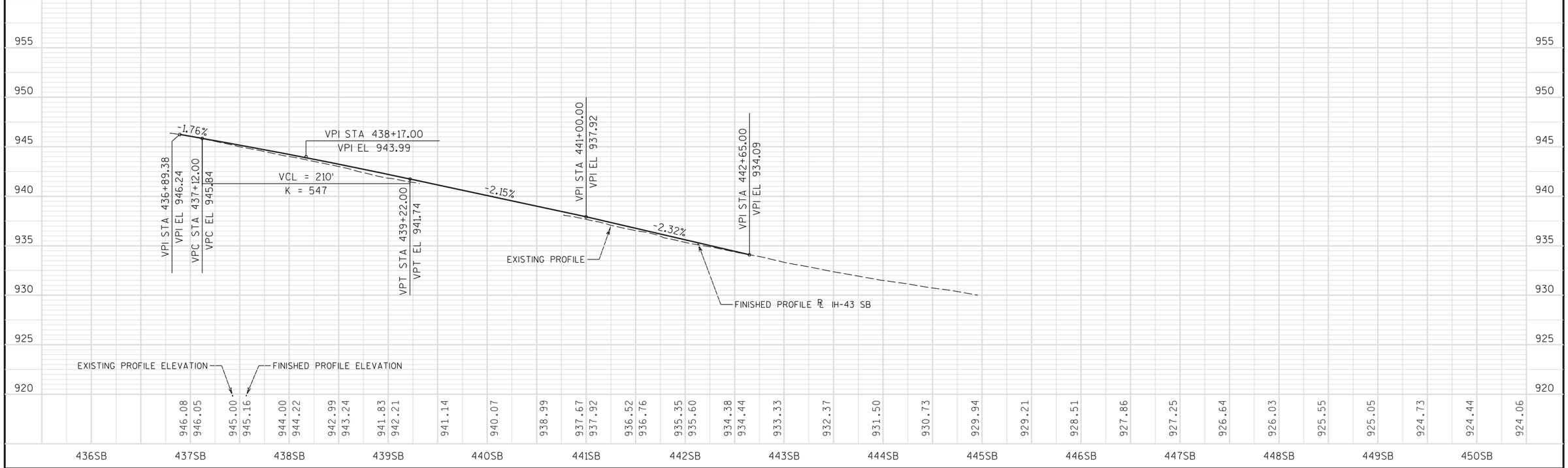
PLOT DATE : _10/1/2014_____ PLOT BY : _Brady Seston__ PLOT NAME : B. Seston__ PLOT SCALE : 1:1

PLOT SCALE : 1:1



BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.	NORTHING	EASTING
8086	421+49.92	DOT BRASS CAP SET IN TOP OF K-WALL WEST END OF SOUTHERLY K-WALL, NB I43 OVER CTH X	957.01	346689.27	728412.90
7821	425+68.30	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB I43 OVER CTH X	960.89	346762.21	728865.64
16784	434+53.44	DOT BRASS CAP SET IN TOP OF K-WALL WEST END OF SOUTHERLY K-WALL, NB I43 OVER RR TRACKS	952.48	346236.79	729596.84
16781	437+03.85	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB I43 OVER RR TRACKS	949.39	346230.29	729890.12
7246	440+60.86	DOT BRASS CAP SET IN TOP OF K-WALL EAST END OF NORTHERLY K-WALL, SB I43 OVER ELM RIDGE RD	940.99	346032.31	730187.20



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	PLAN & PROFILE - IH-43	SHEET 59	E

Standard Detail Drawing List

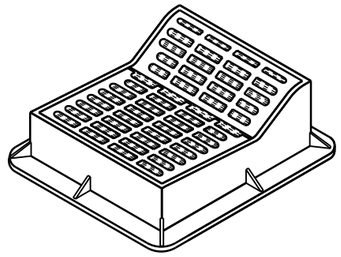
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D15-04A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
12A03-10	NAME PLATE (STRUCTURES)
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B28-03	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
14B32-03A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-03E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B40-01A	32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B40-01B	32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B40-01C	32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B40-01D	32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B40-01E	42-INCH VERTICAL SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B40-01F	42-INCH VERTICAL SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B40-01G	51-INCH VERTICAL SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A06-02	DELINEATOR LAYOUT
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

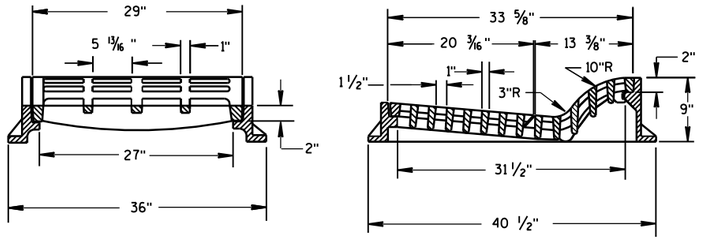
6

Standard Detail Drawing List

15D12-05B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

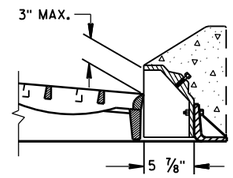
6





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

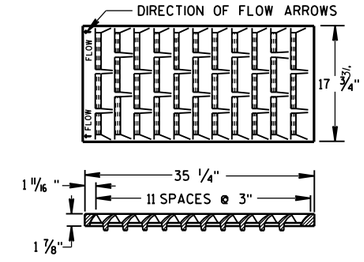
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

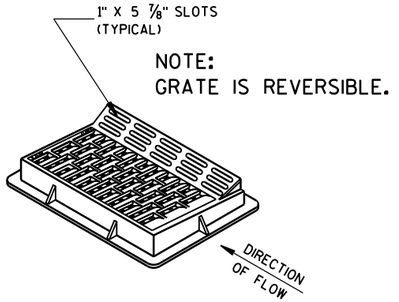
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

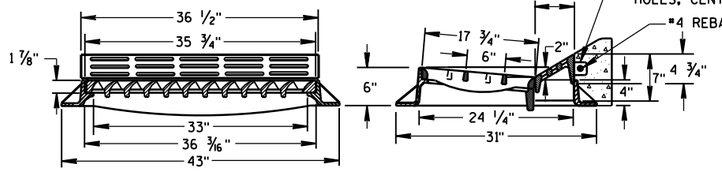
GENERAL NOTES

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.



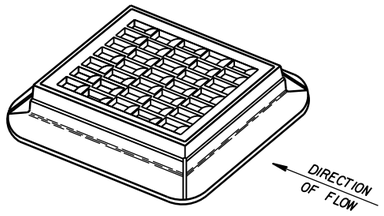


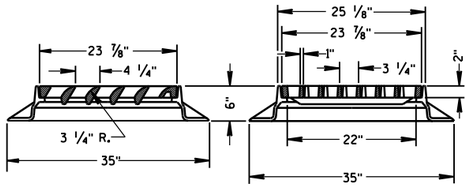


TYPE "HM"

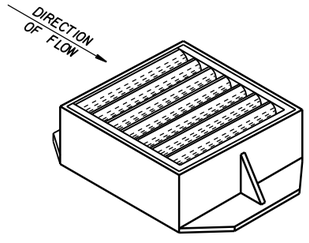
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

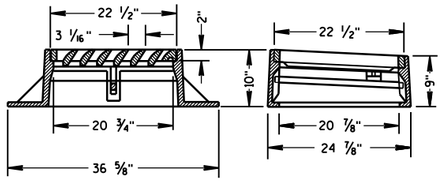
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



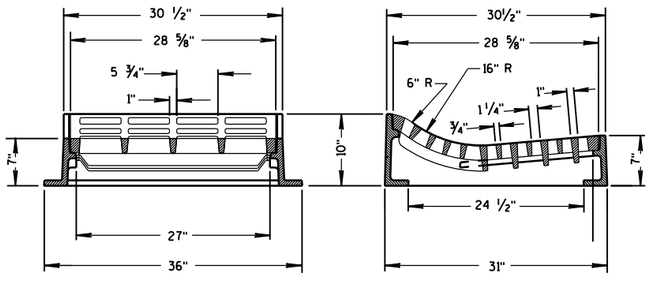


TYPE "S"



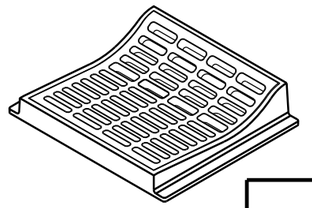


TYPE "V"



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

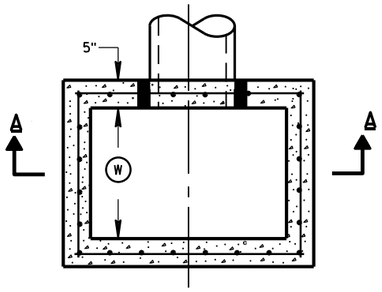
FHWA

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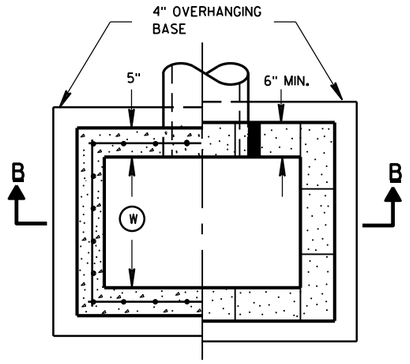
S.D.D. 8 A 5-19c

6

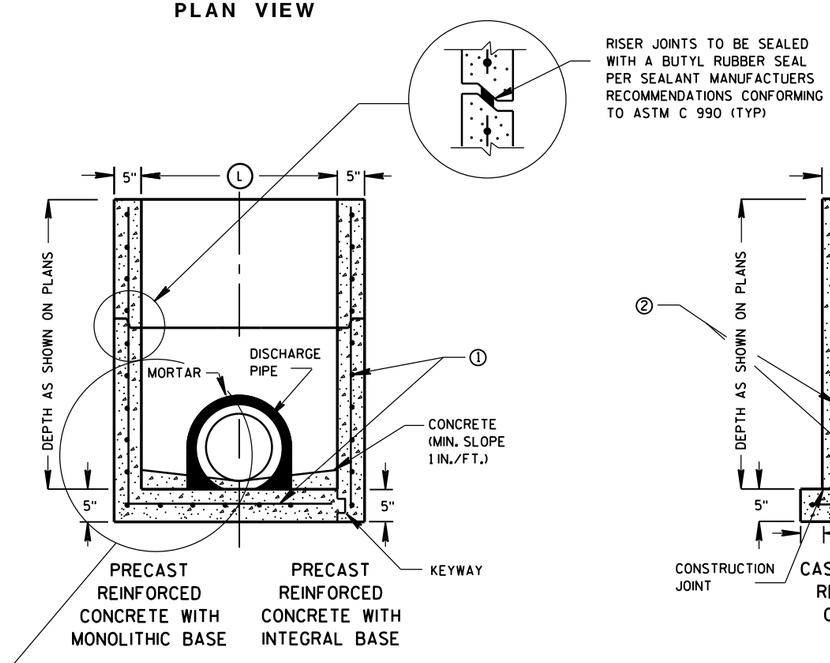
S.D.D. 8 A 5-19c



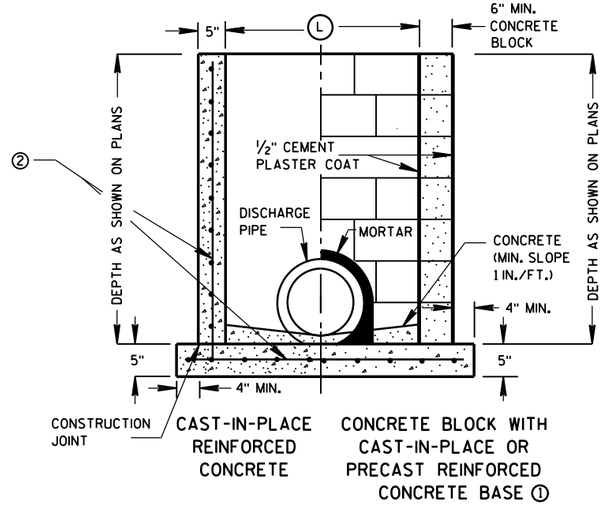
PLAN VIEW



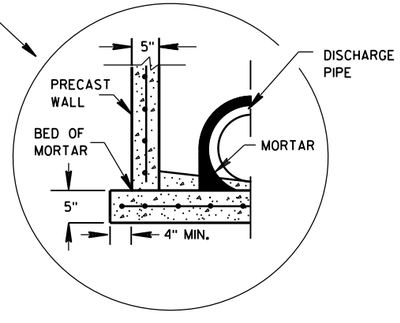
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

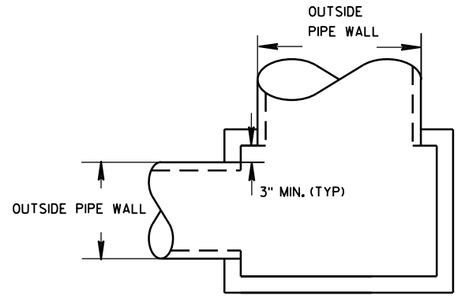
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

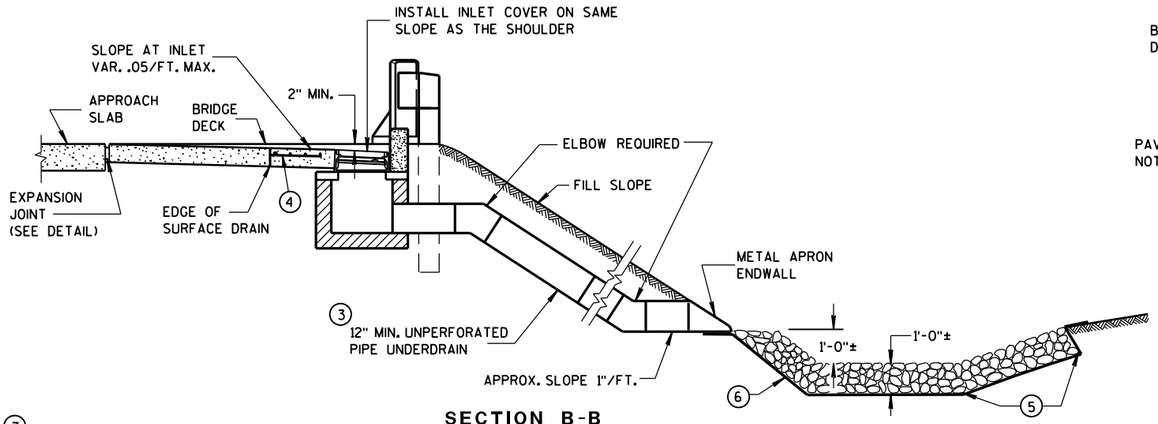
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

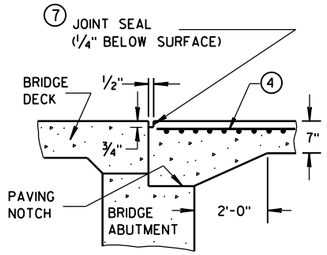
APPROVED
6/5/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE ENGINEER
FHWA

6

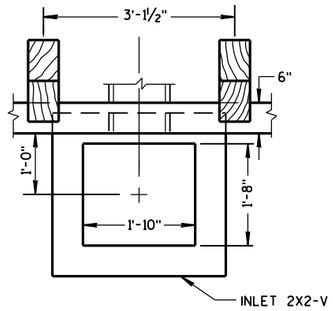
S.D.D. 8 C 7-1



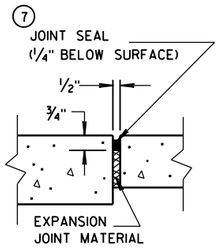
SECTION B-B



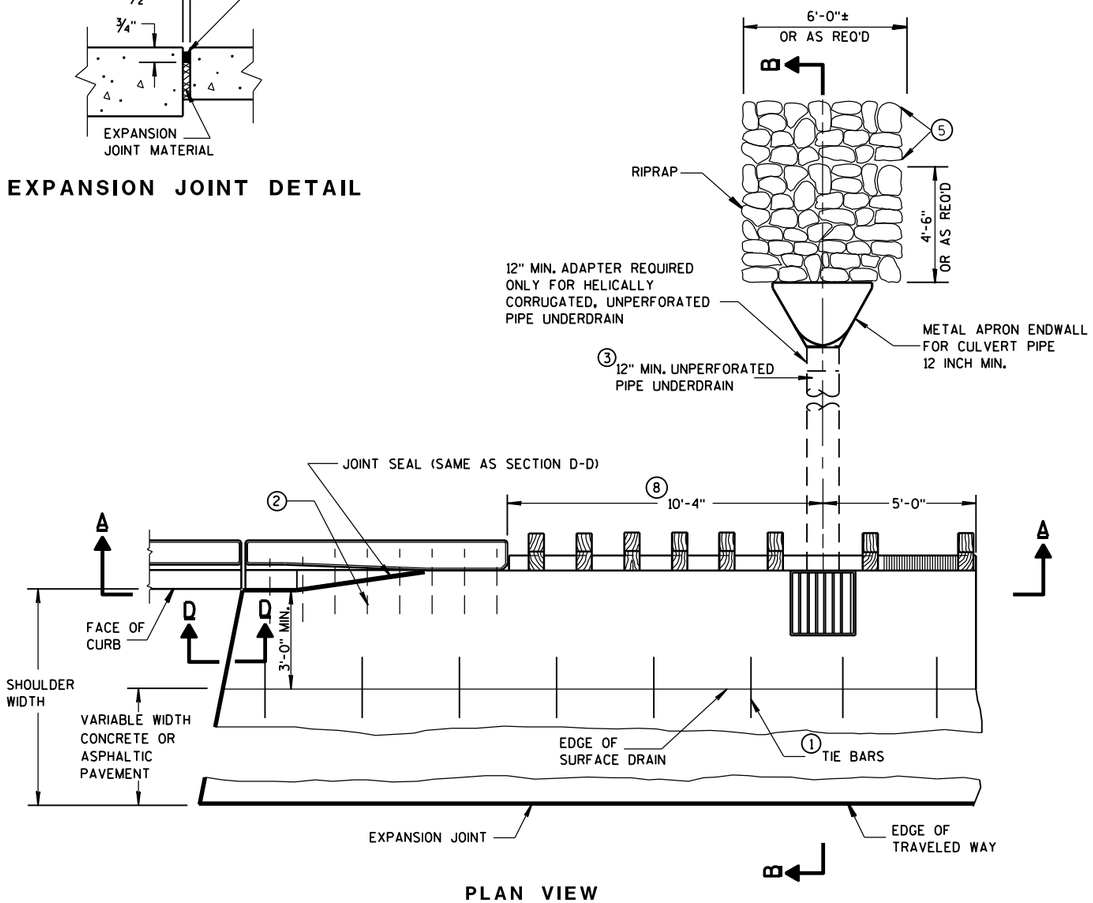
SECTION D-D



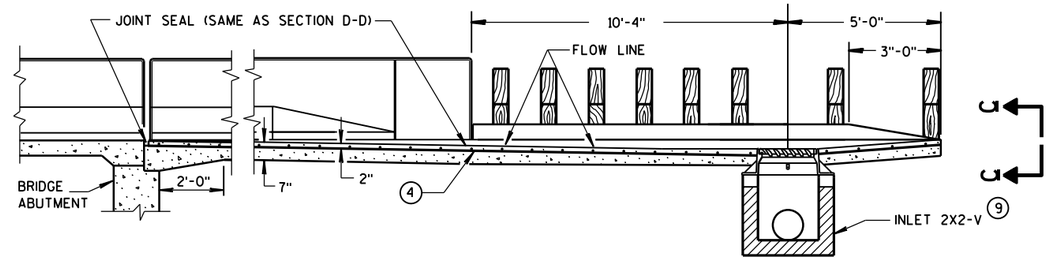
PLAN VIEW



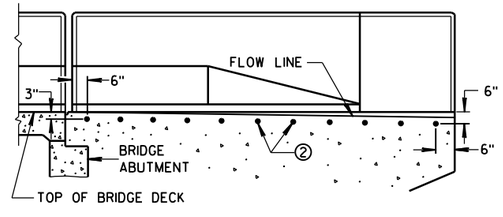
EXPANSION JOINT DETAIL



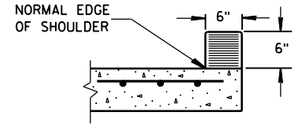
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

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) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 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".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 D 3-6

6

S.D.D. 8 D 3-6

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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

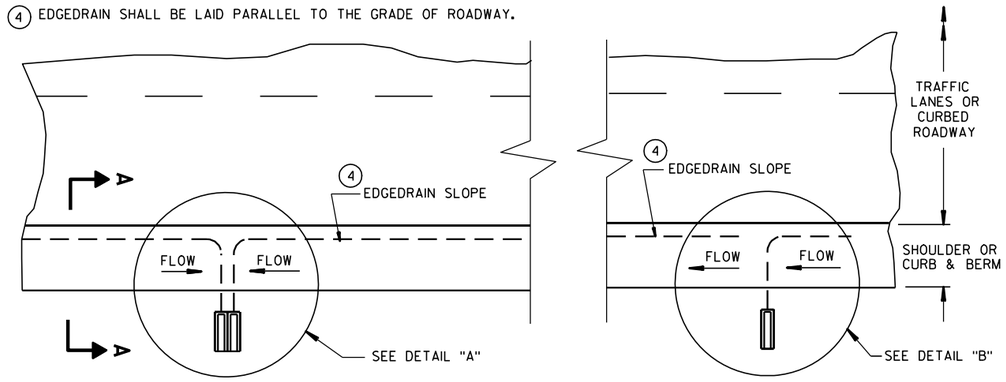
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

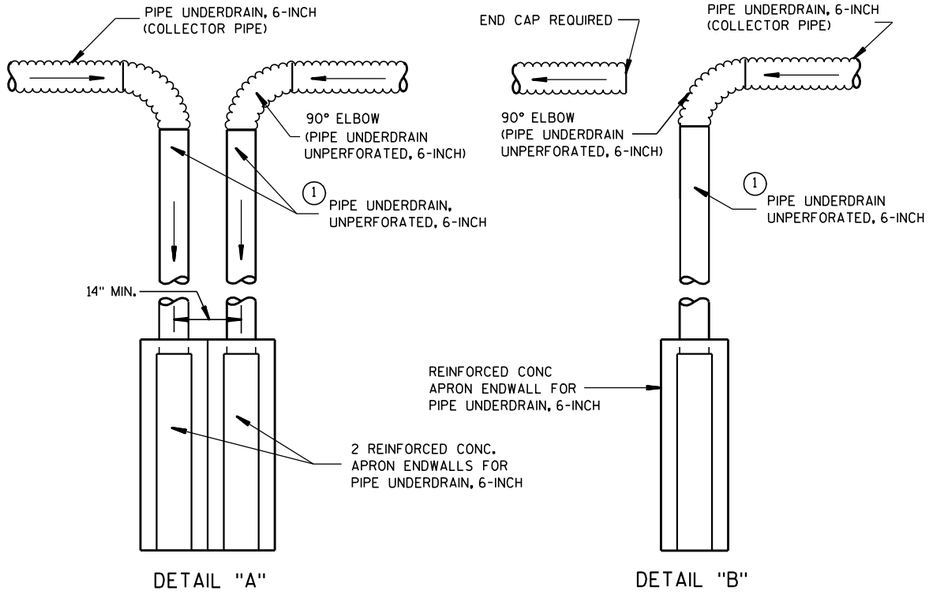
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

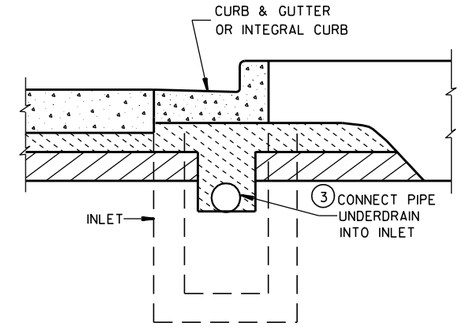
(EDGEDRAIN OUTLETS TO ROADSIDE) (2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

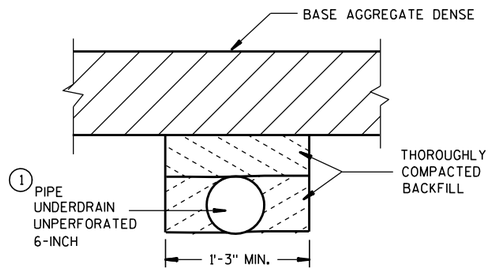
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



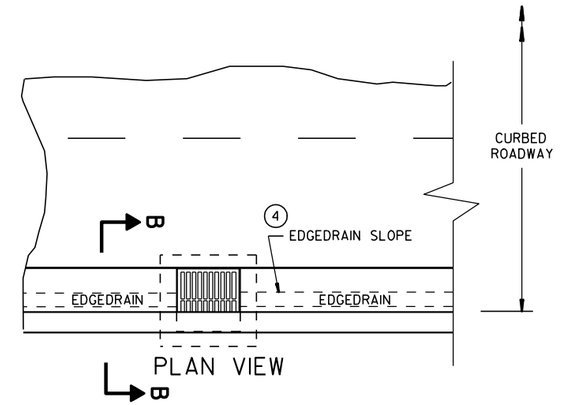
SECTION B-B

URBAN CROSS SECTION



SECTION C-C

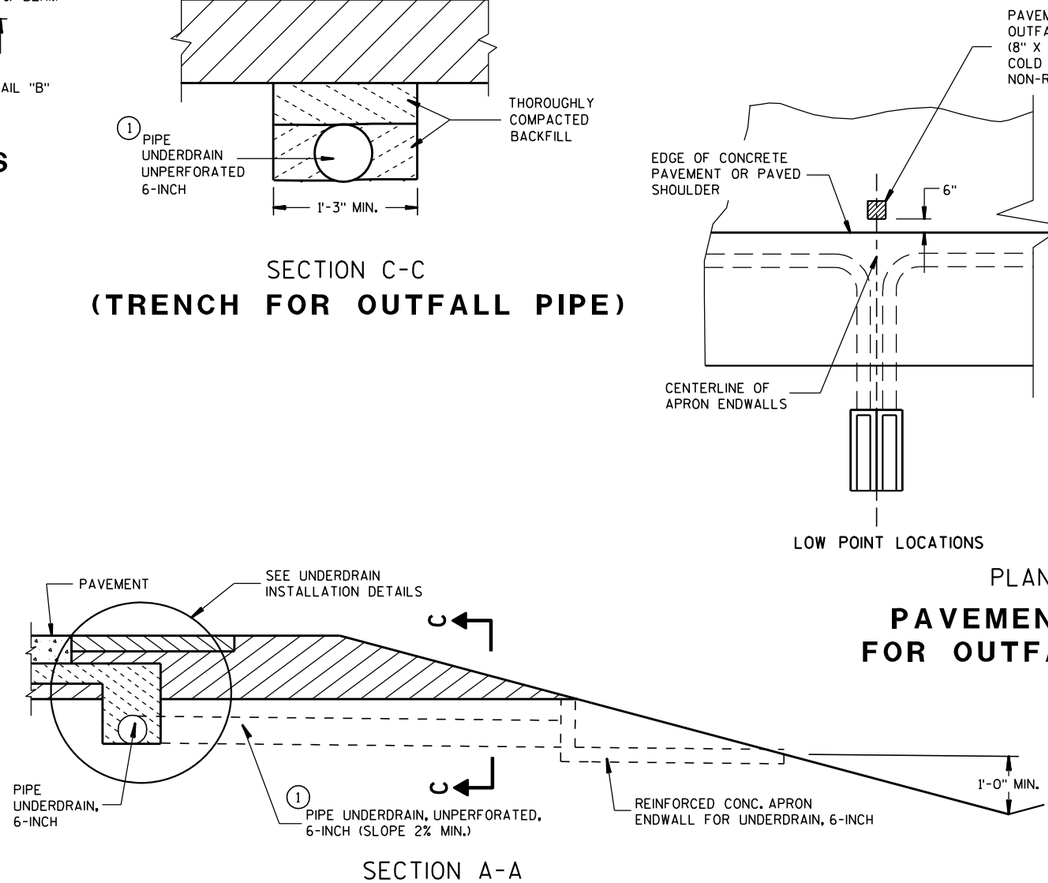
(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

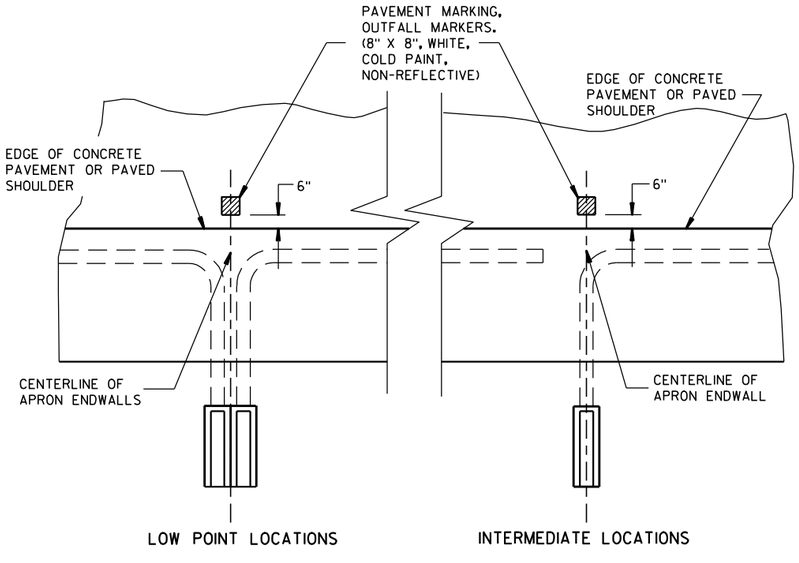
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



SECTION A-A

RURAL CROSS SECTION



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS

EDGEDRAIN OUTLET AND OUTFALL MARKERS

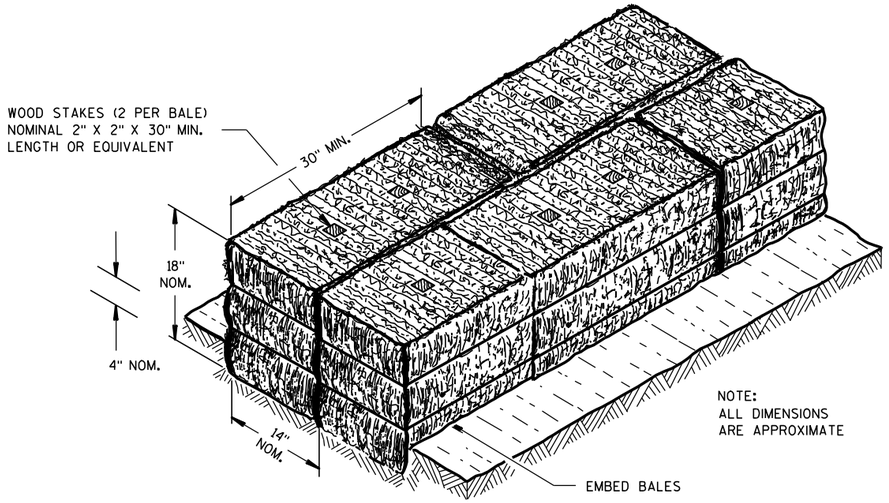
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

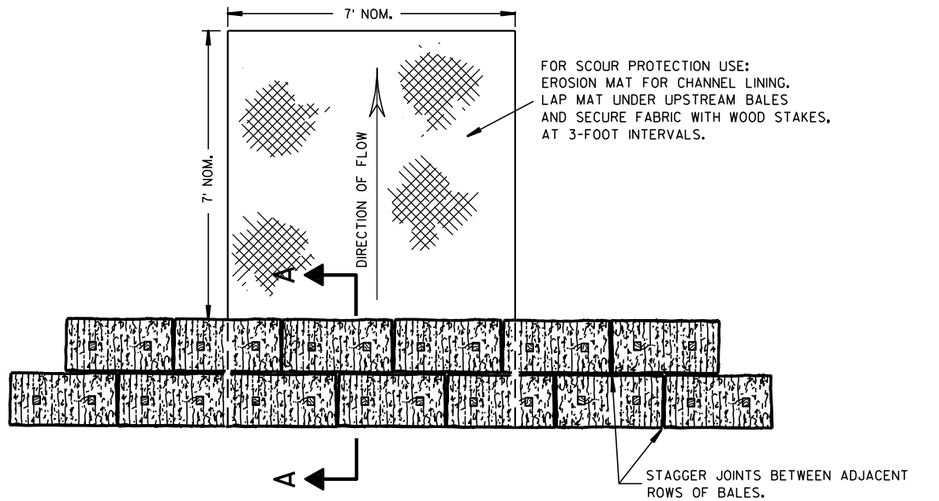
S.D.D. 8 D 15-4a

6

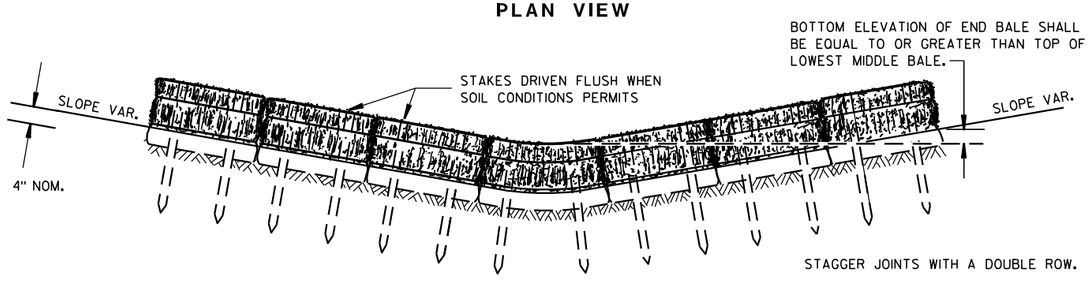
S.D.D. 8 D 15-4a



SECTION A-A



PLAN VIEW



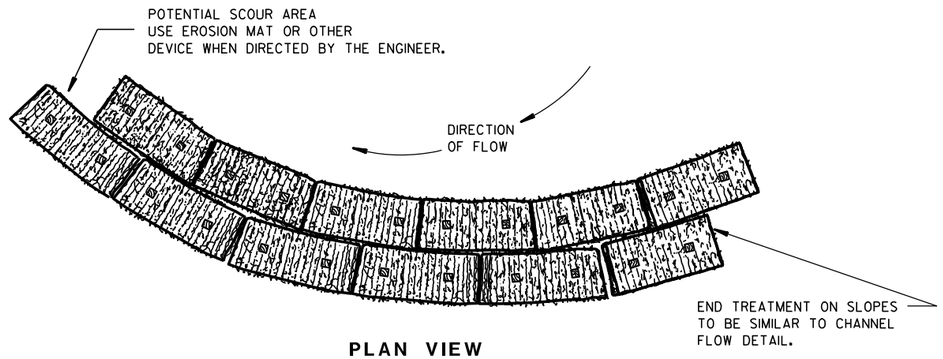
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

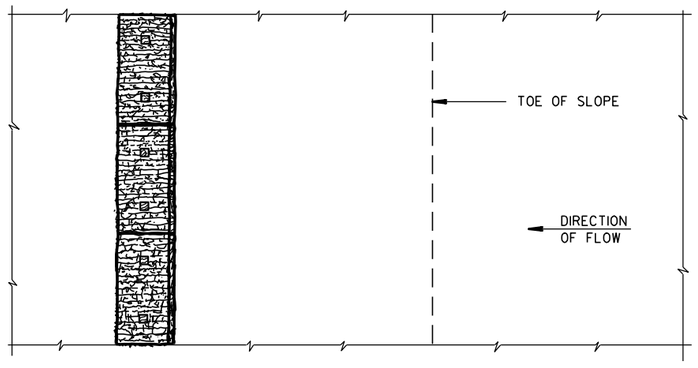
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

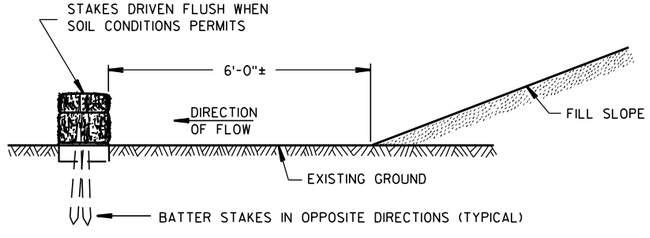


PLAN VIEW

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

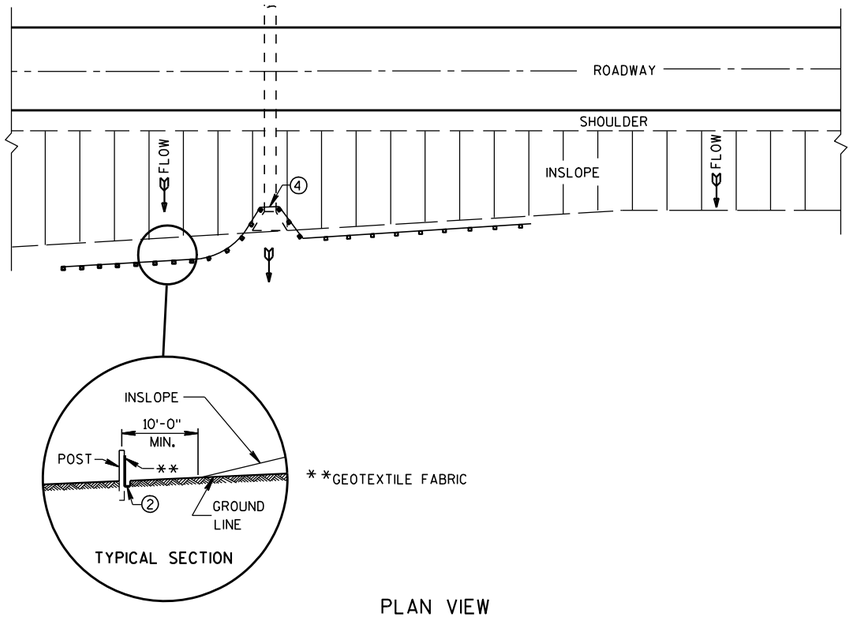
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

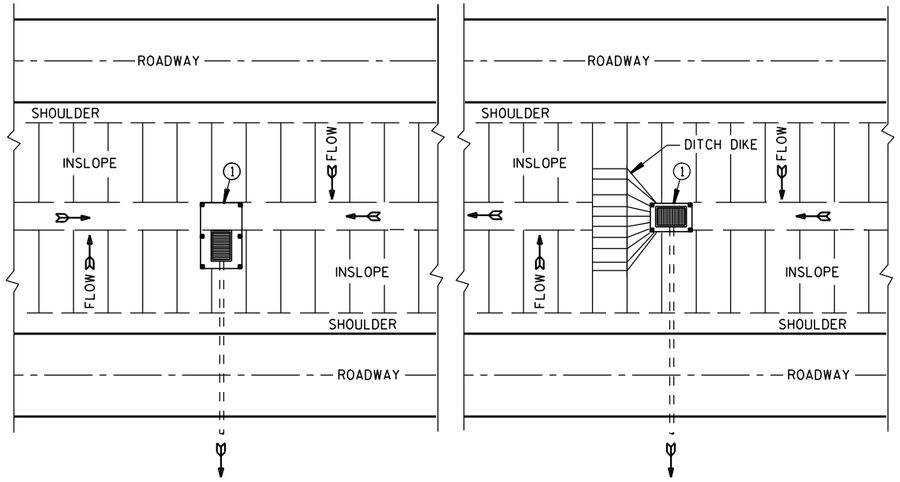
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S.D.D. 8 E 8-3



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.

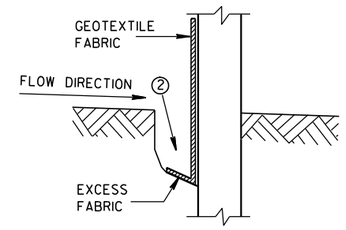
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

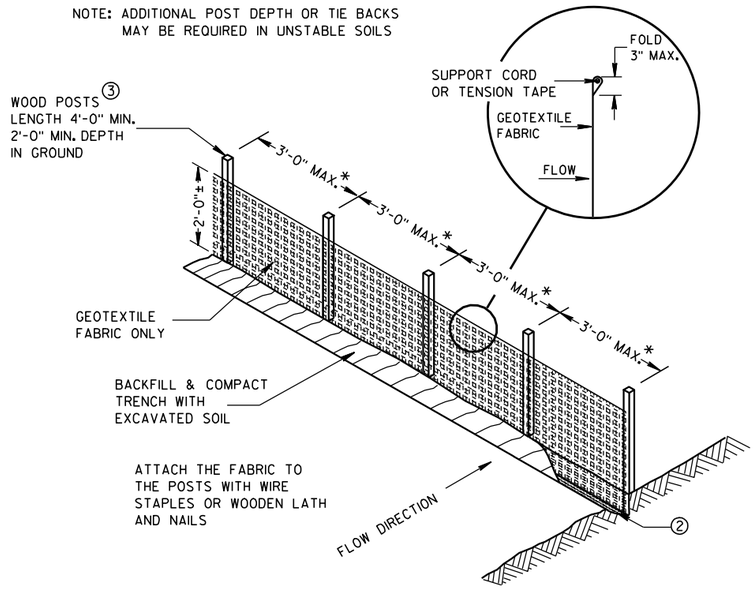
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

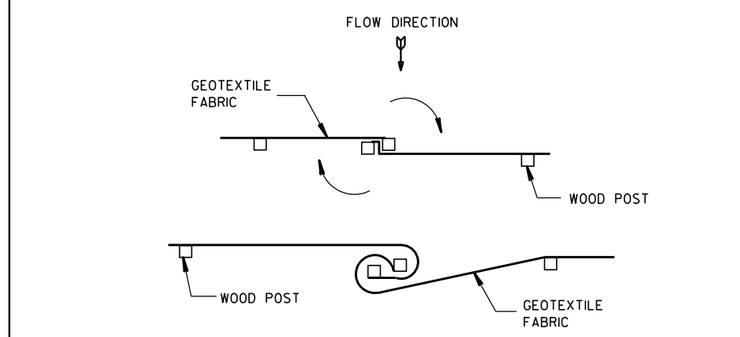


TRENCH DETAIL

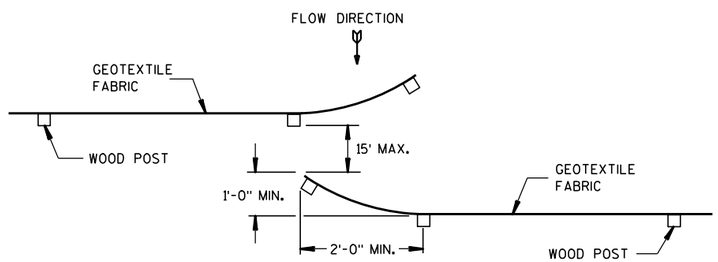


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

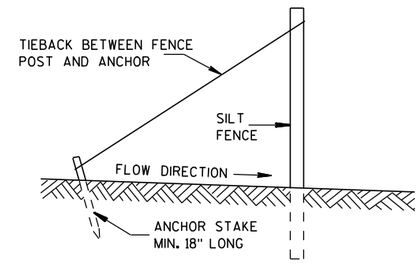


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

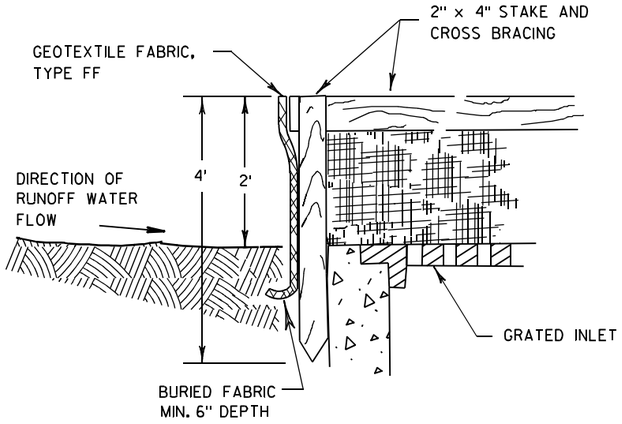
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

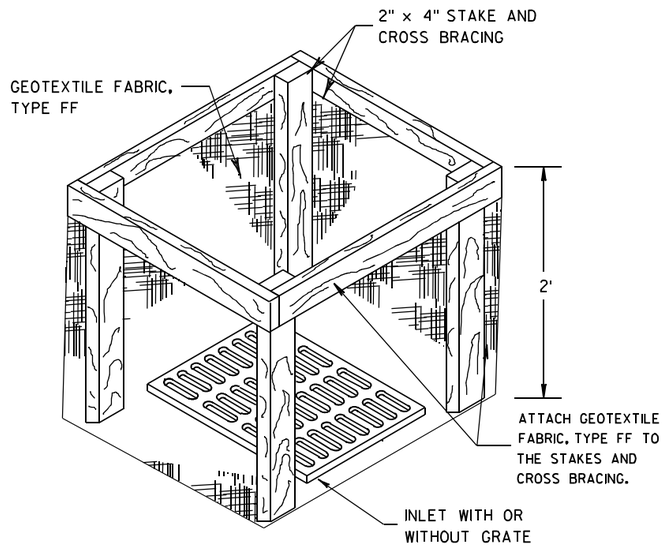
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S.D.D. 8 E 9-6

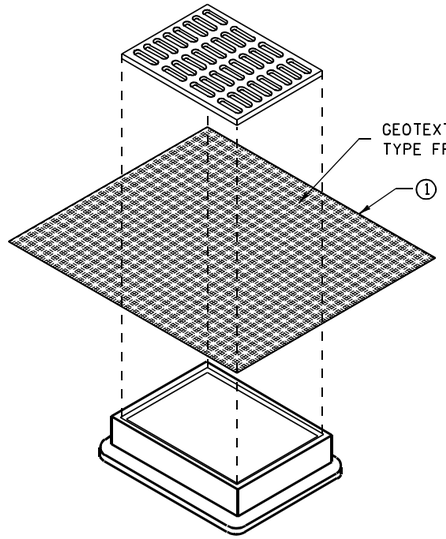
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S.D.D. 8 E 9-6



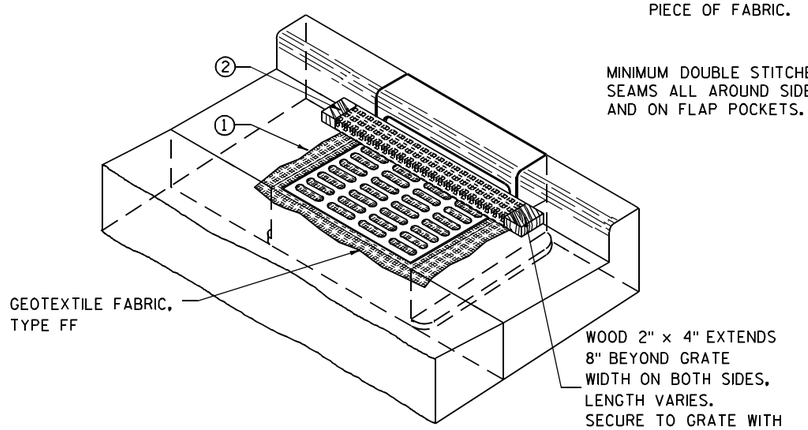


INLET PROTECTION, TYPE A

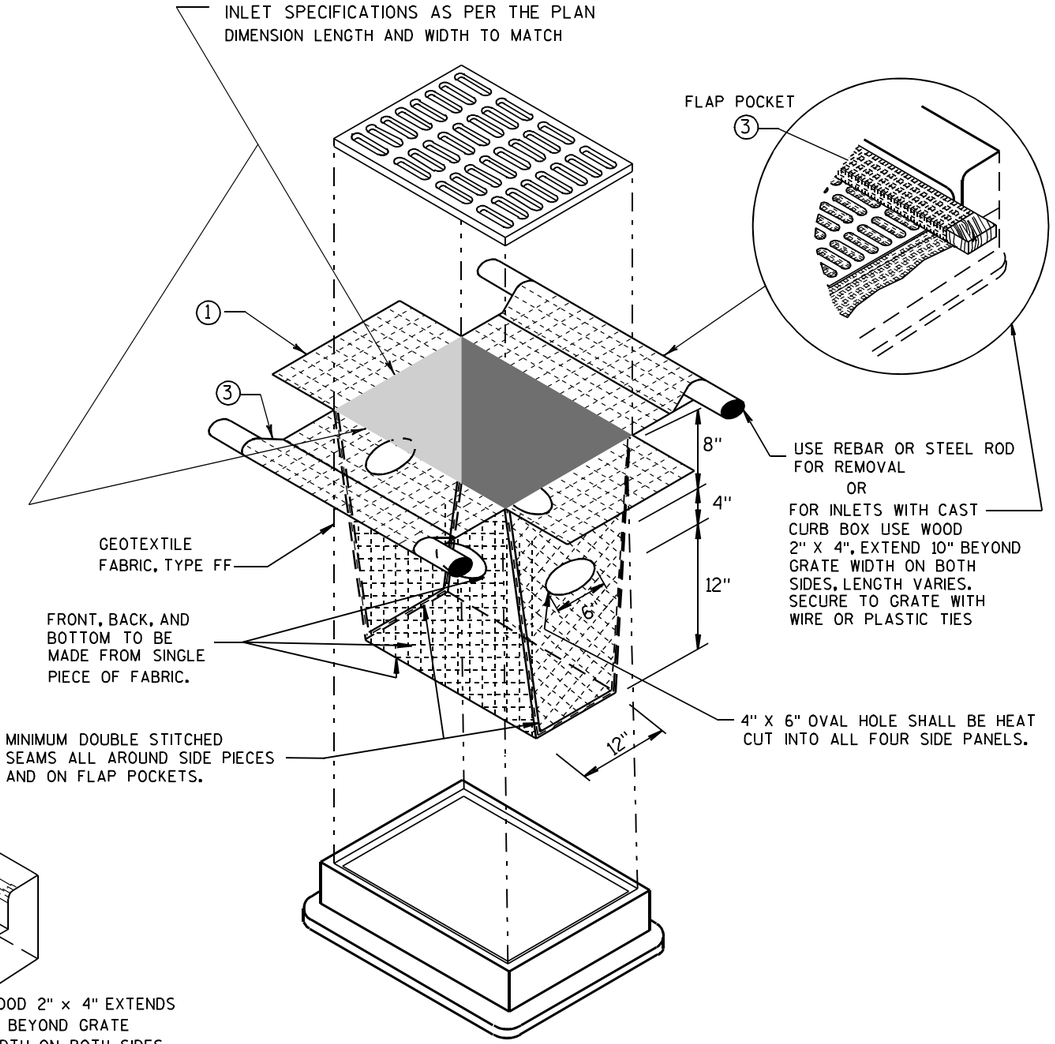


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2

METAL APRON ENDWALLS

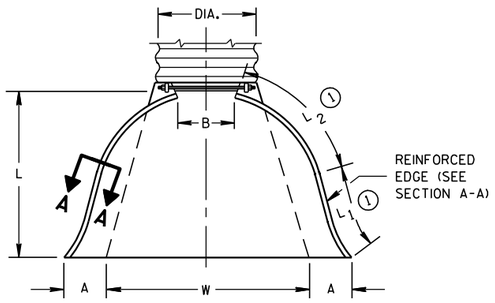
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

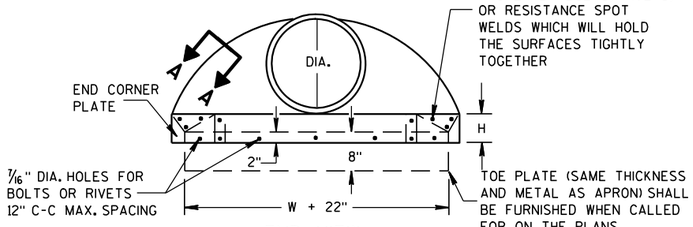
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

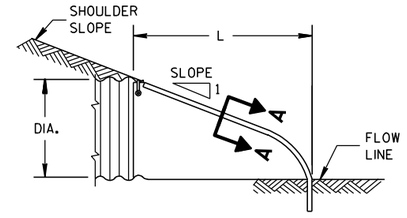
* MINIMUM
** MAXIMUM



PLAN VIEW

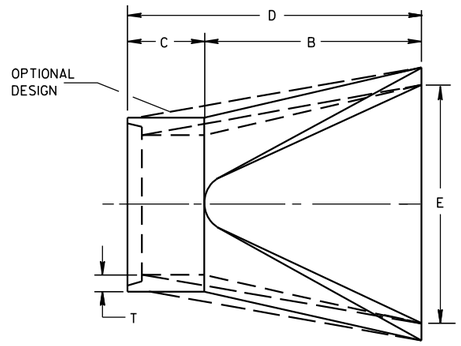


END VIEW

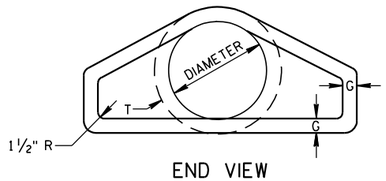


SIDE ELEVATION

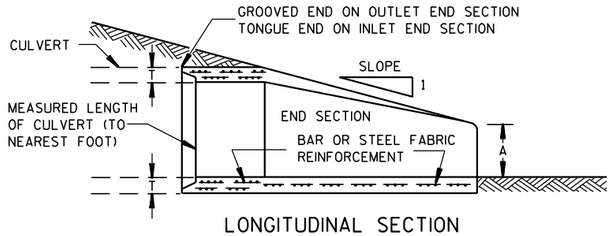
METAL ENDWALLS



PLAN

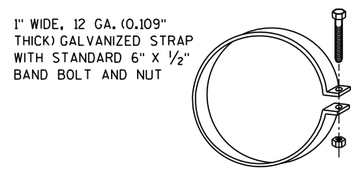


END VIEW



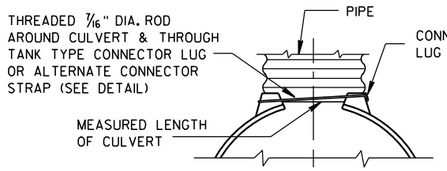
LONGITUDINAL SECTION

CONCRETE ENDWALLS

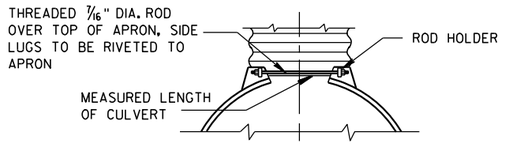


ALTERNATE FOR TYPE 1 CONNECTION

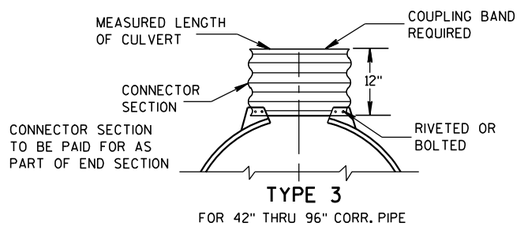
END SECTION CONNECTOR STRAP



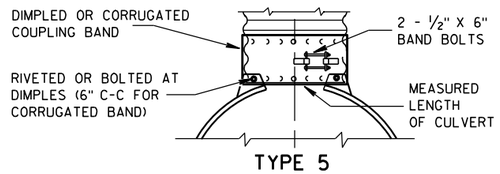
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

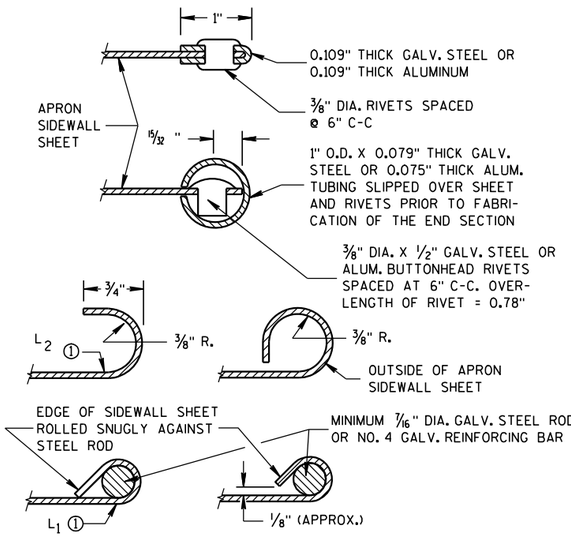
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

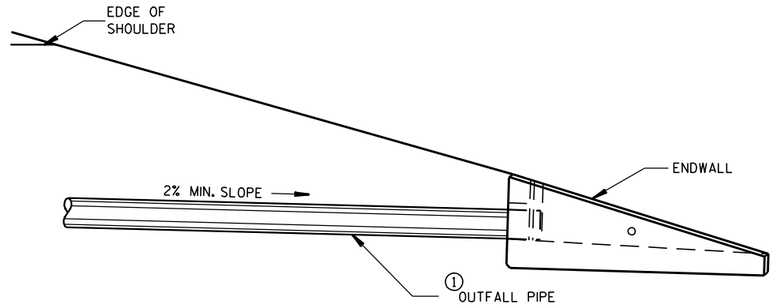
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION 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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

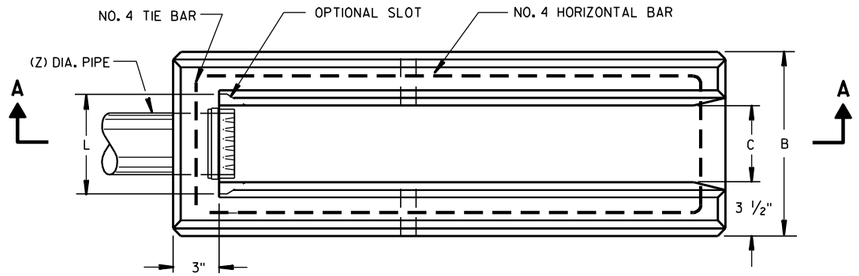
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

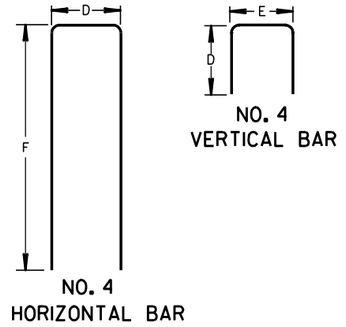
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

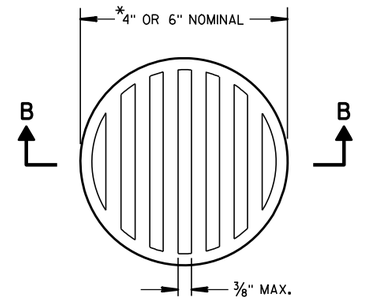
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



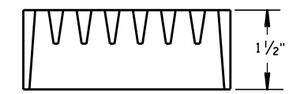
PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS



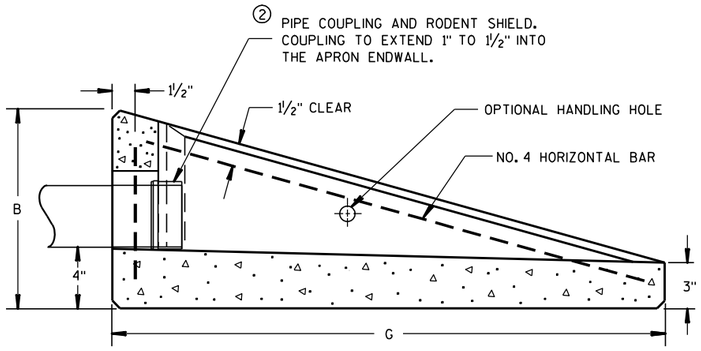
NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.



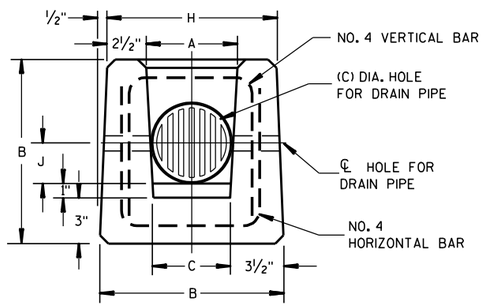
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

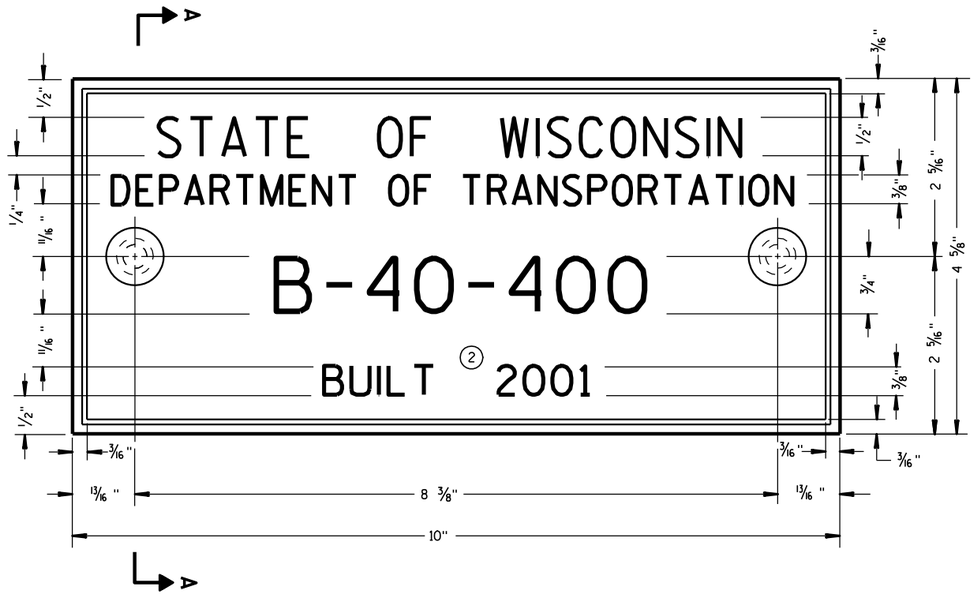
CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 F 6-4



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

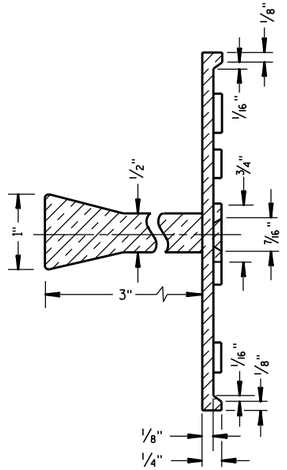
GENERAL NOTES

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.

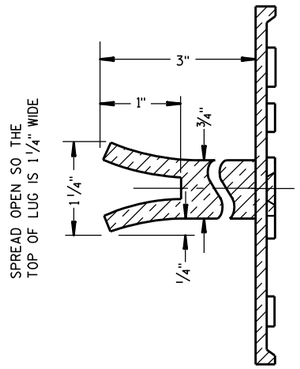
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

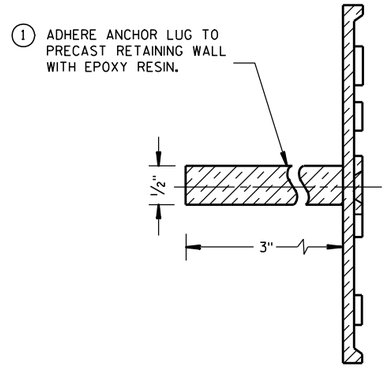
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

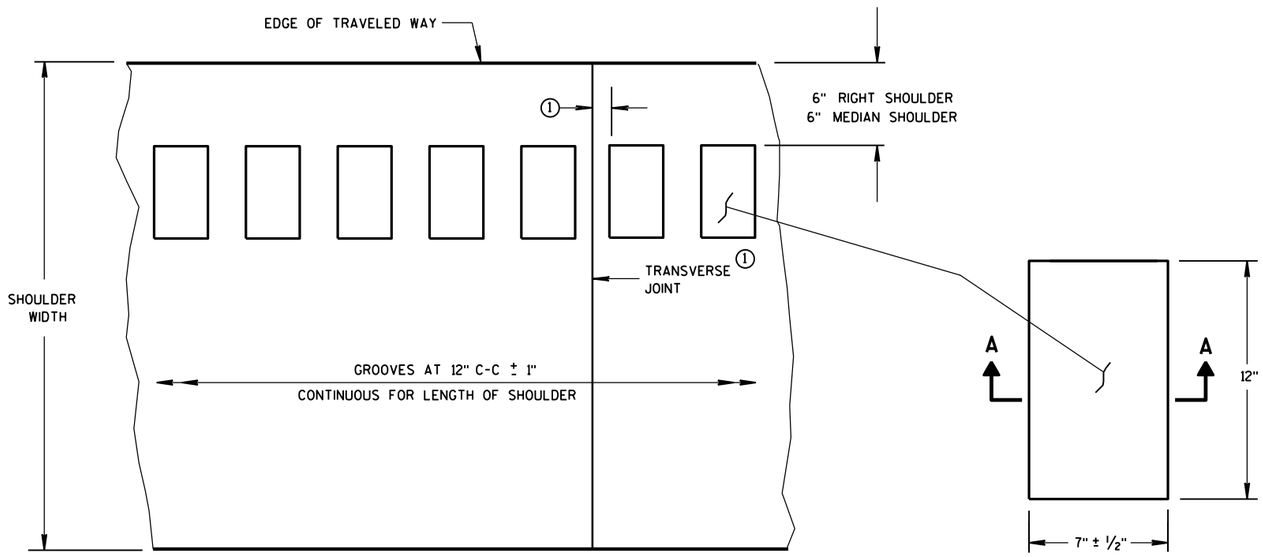
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

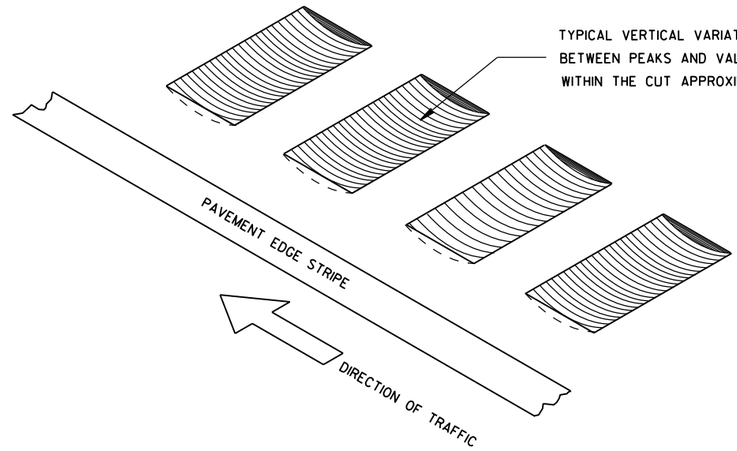
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

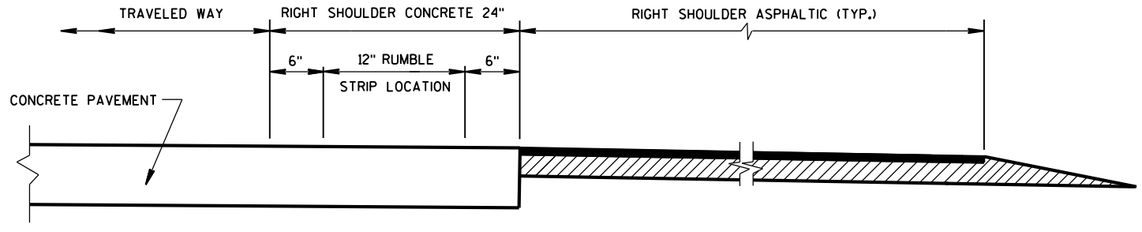
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

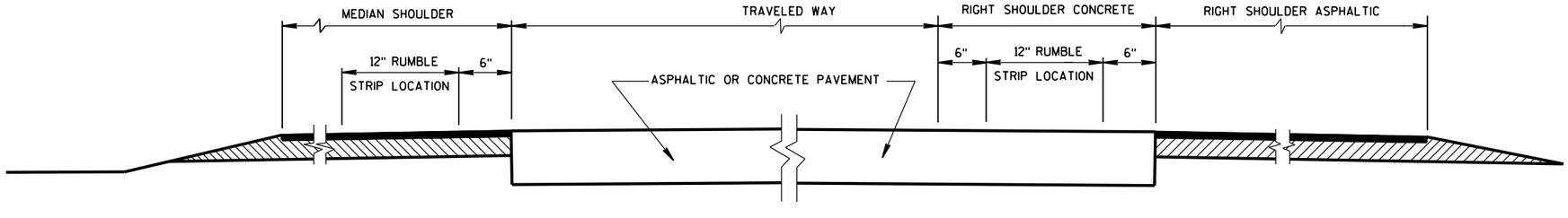
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



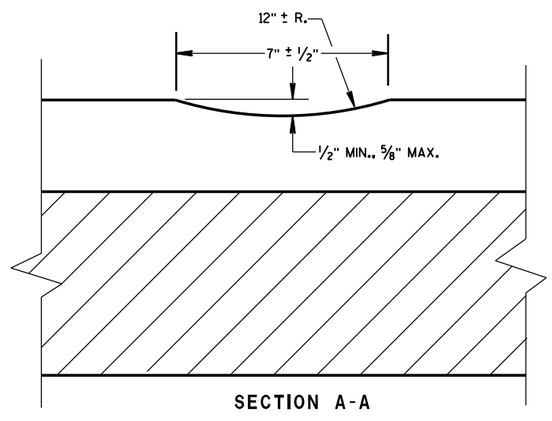
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

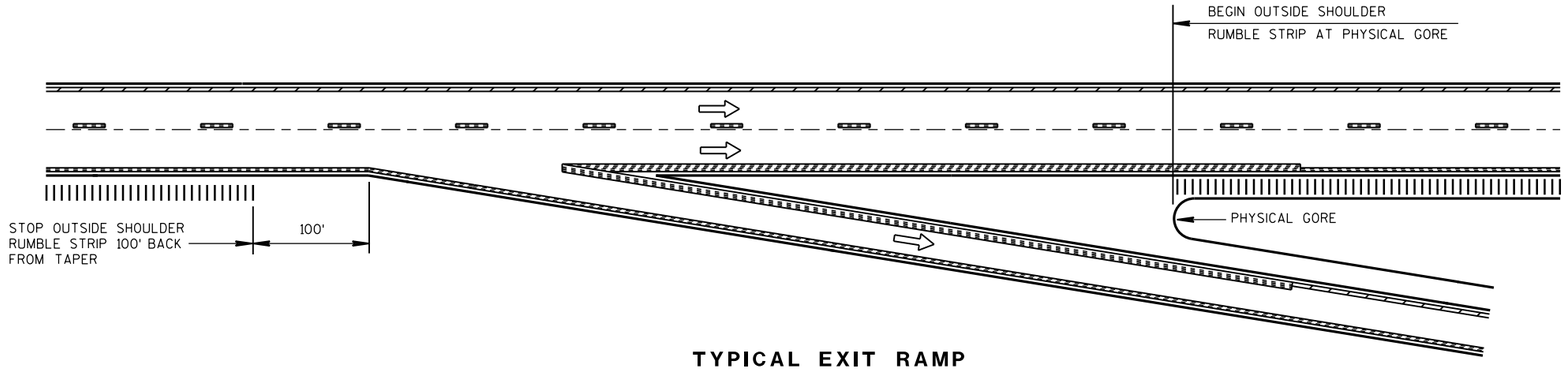
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



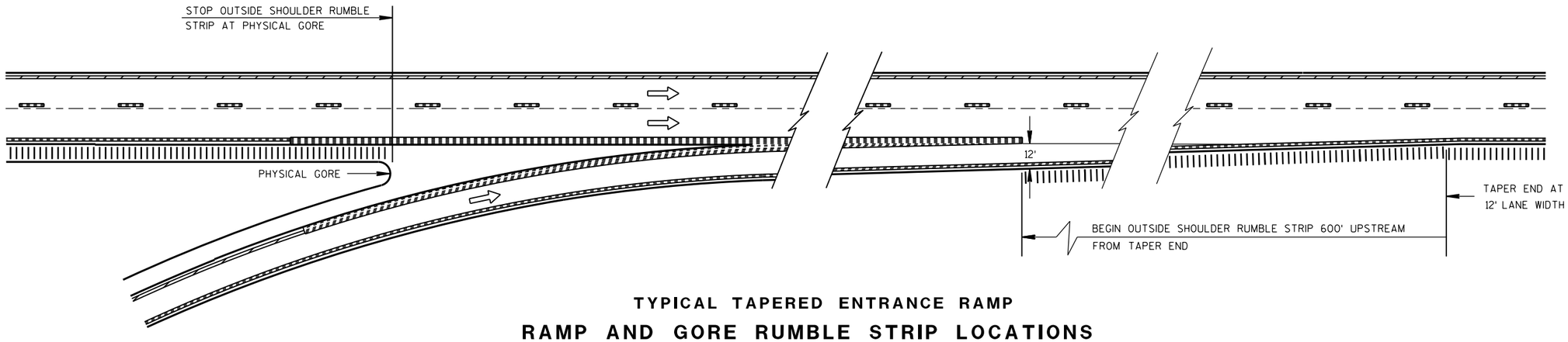
TYPICAL EXIT RAMP

NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

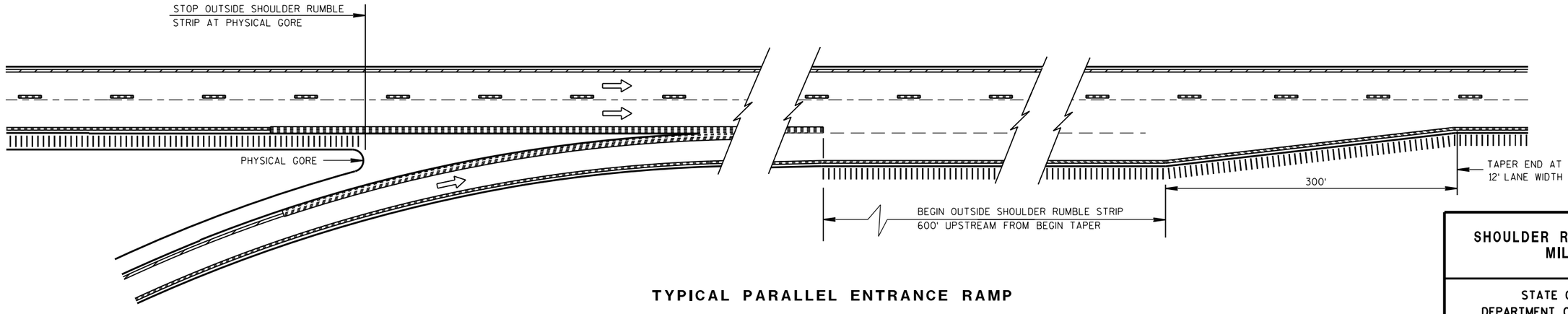
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

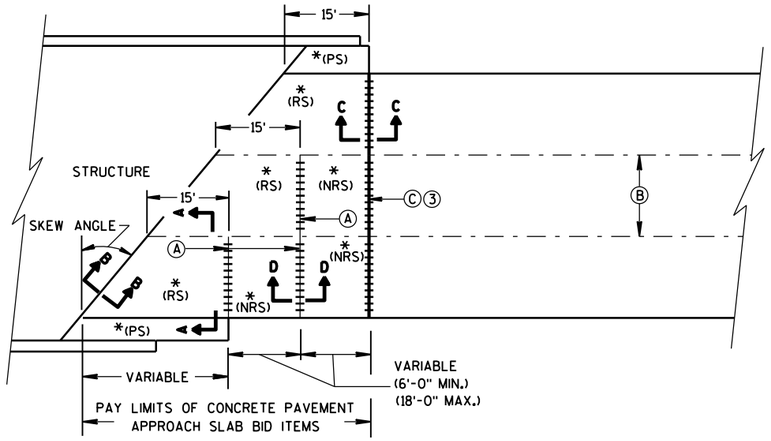
FHWA

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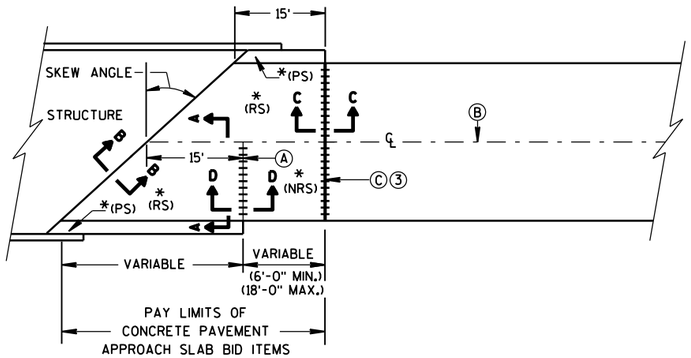
S.D.D. 13 A 5-5b

6

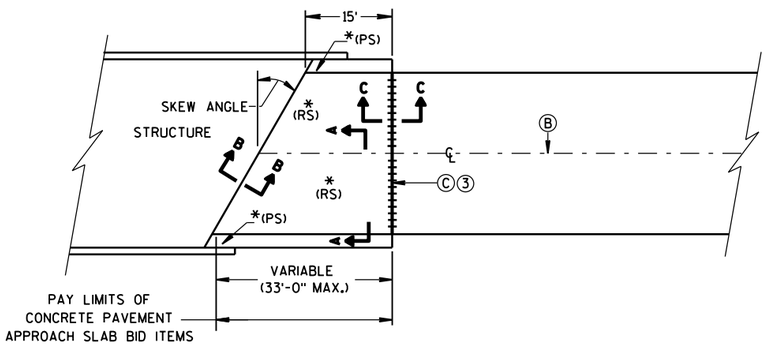
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

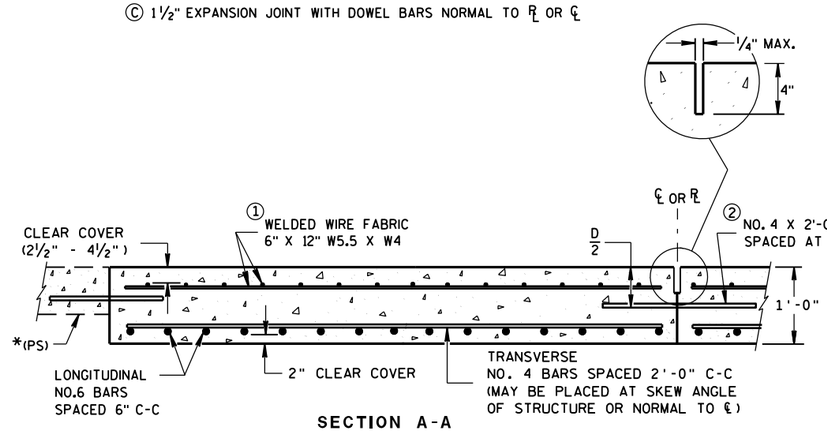
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

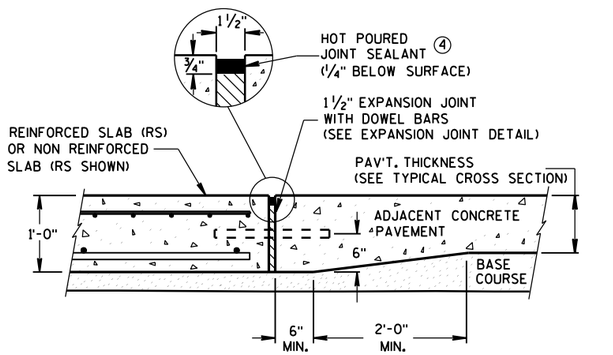
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

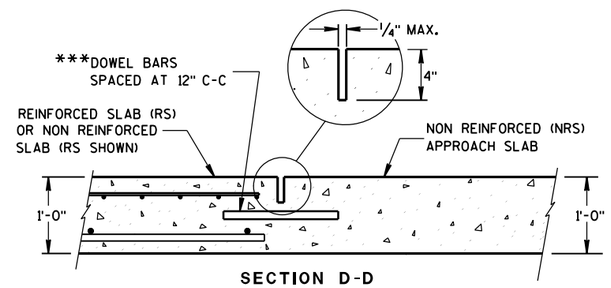
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

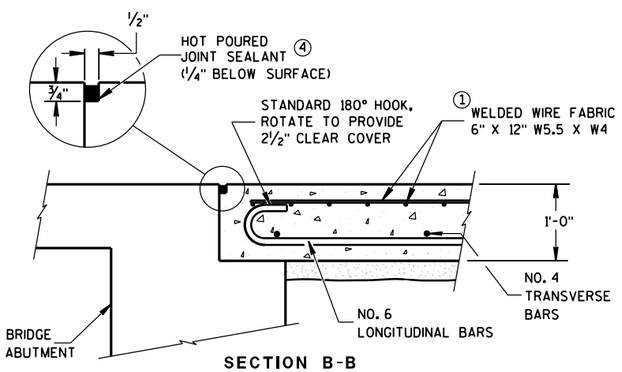
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

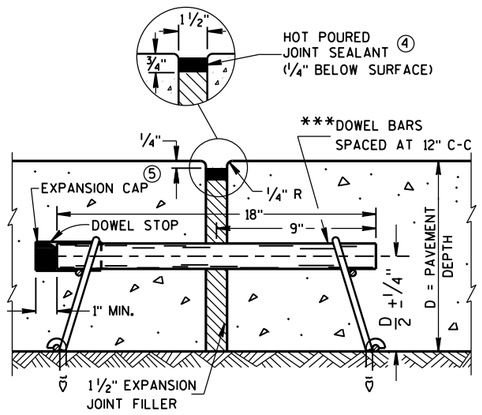
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

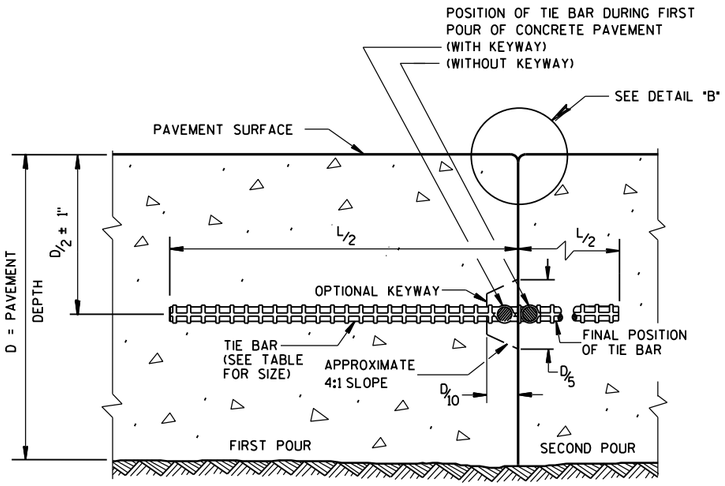
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPE
FHWA

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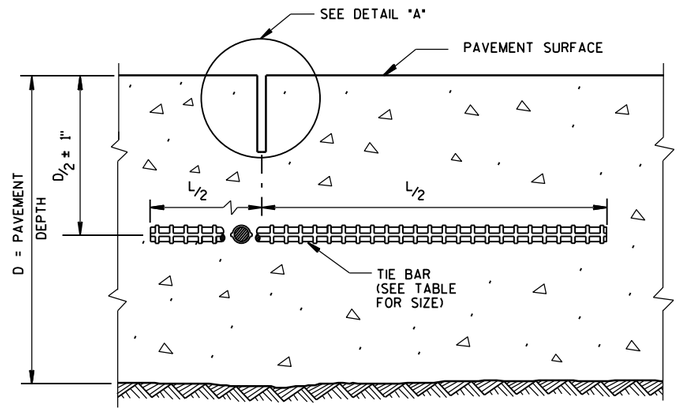
S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

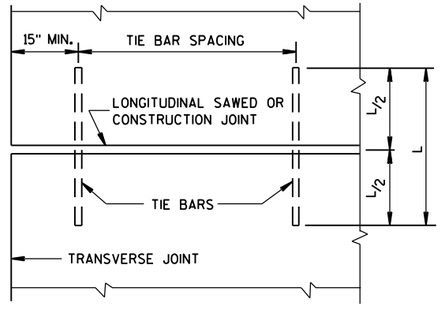
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

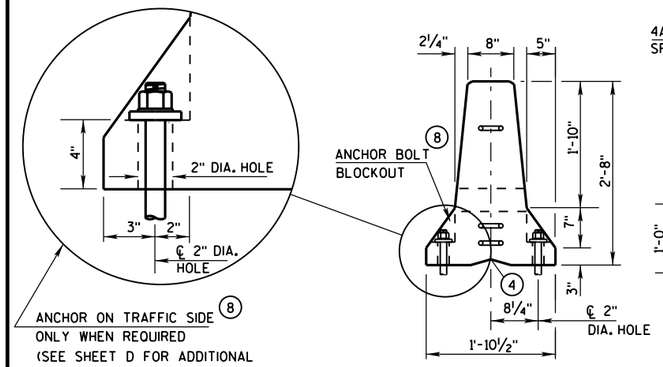
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

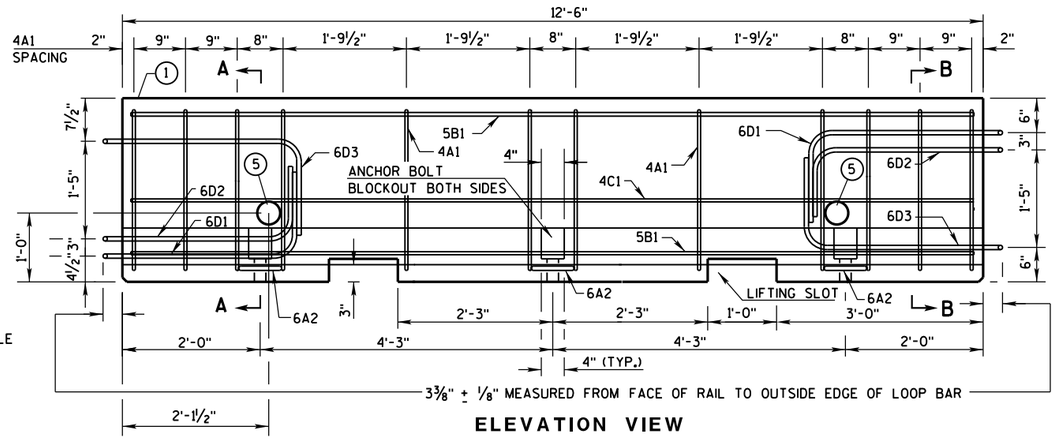
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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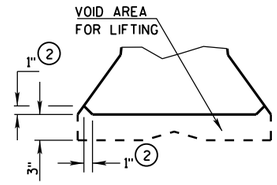
S.D.D. 13 C 1-18



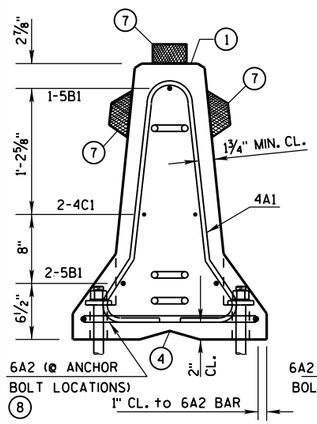
END VIEW



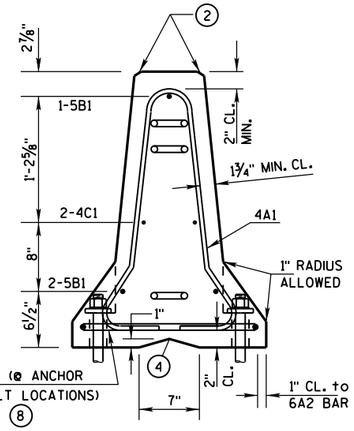
ELEVATION VIEW



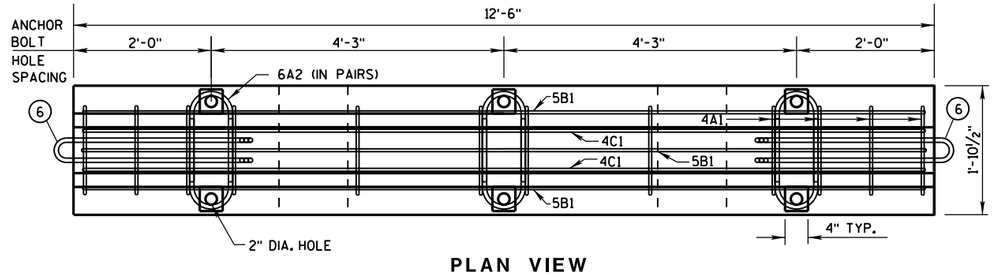
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

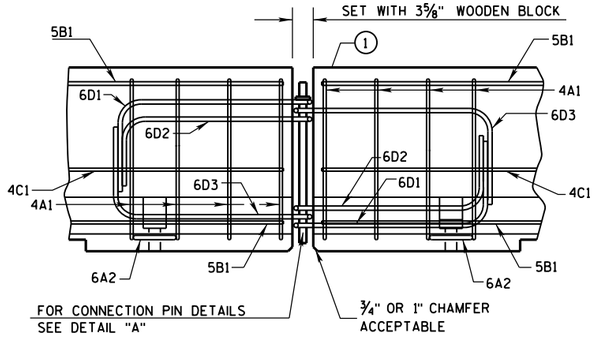


SECTION B-B
(STIRRUP PLACEMENT)

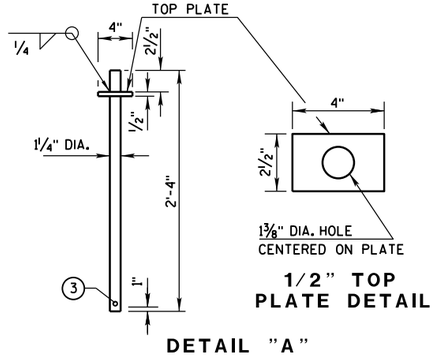


PLAN VIEW

DETAILS OF BARRIER SECTION

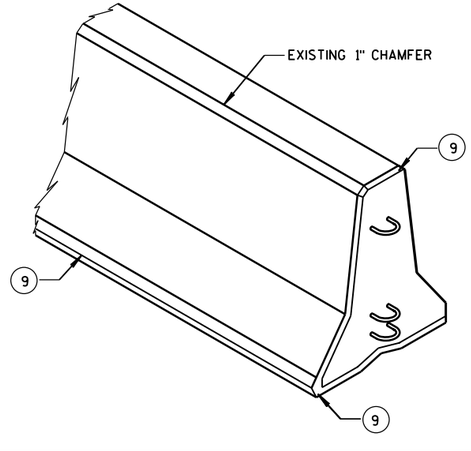


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

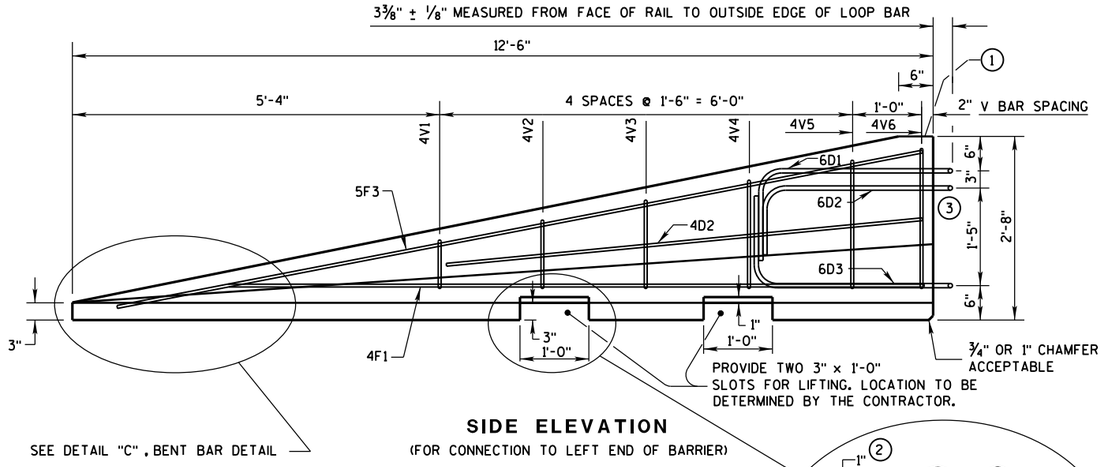
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

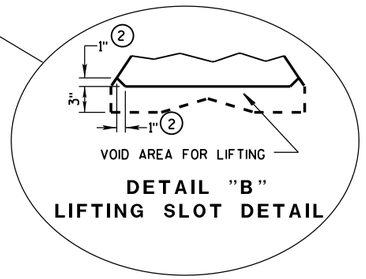
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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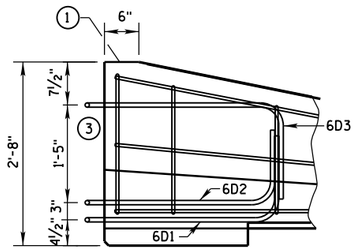
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



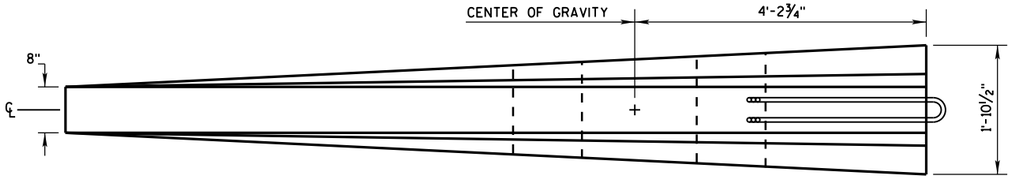
DETAIL "B"
LIFTING SLOT DETAIL



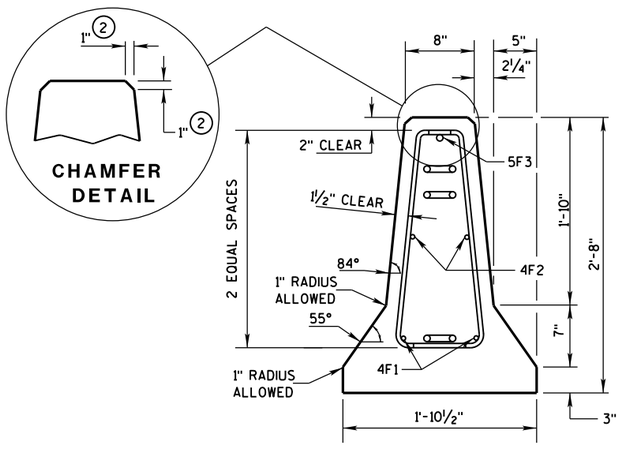
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

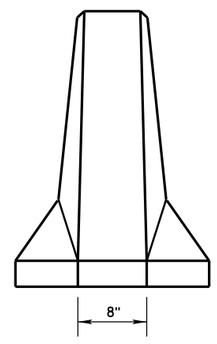
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



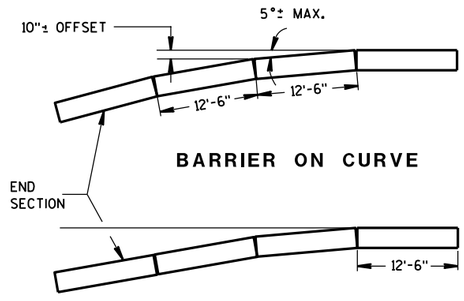
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

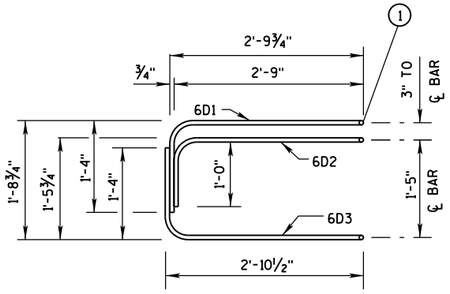
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S.D.D. 14 B 7-14b

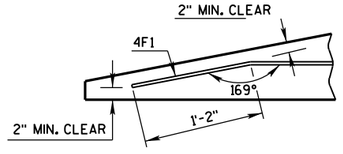
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

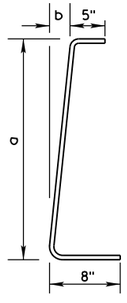
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

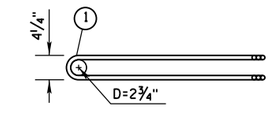
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION BILL OF MATERIALS

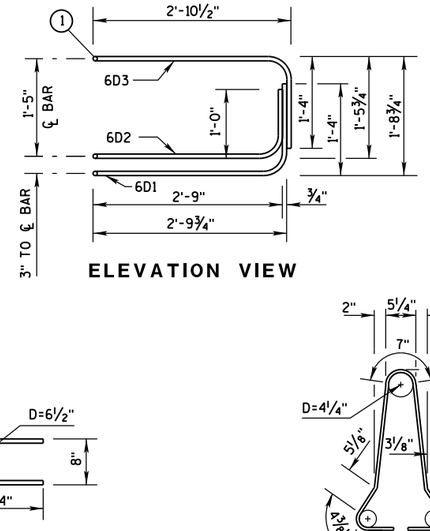
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

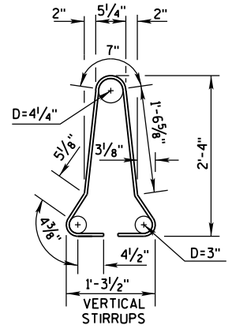


PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW



4A1

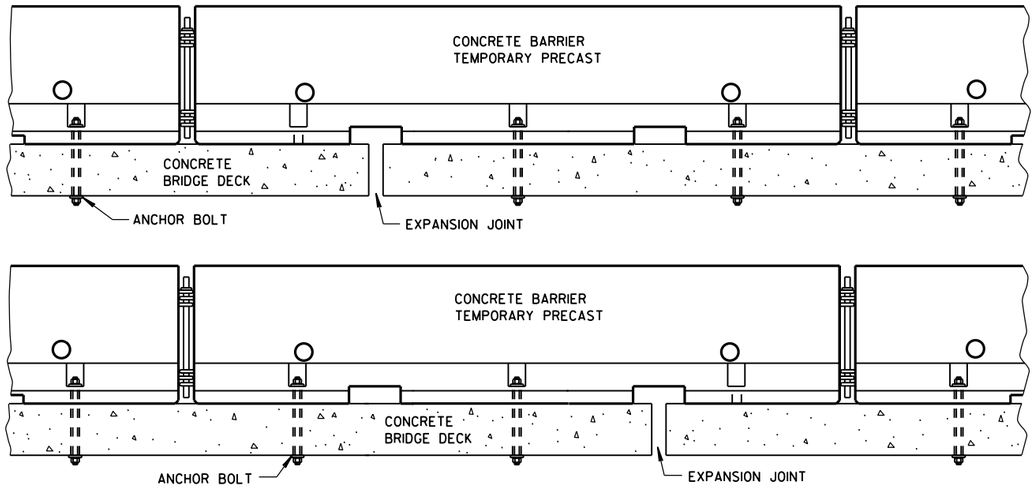
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

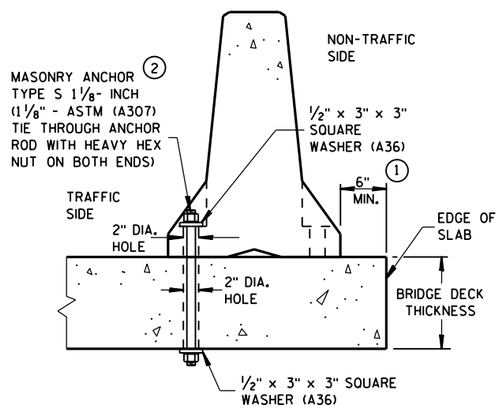
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S.D.D. 14 B 7-14c



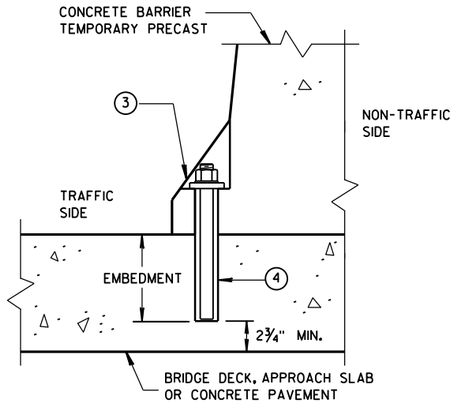
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

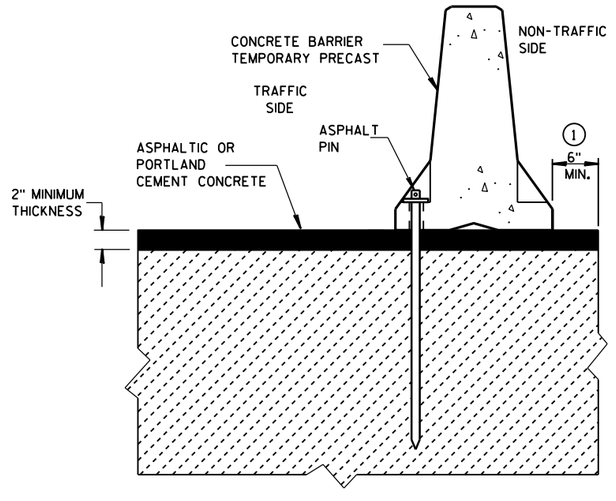
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

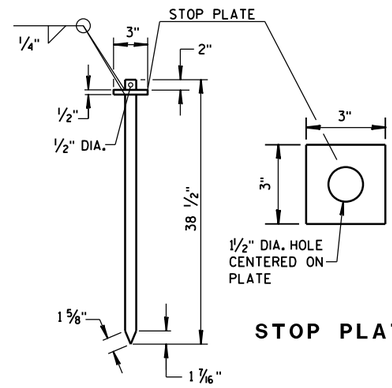
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



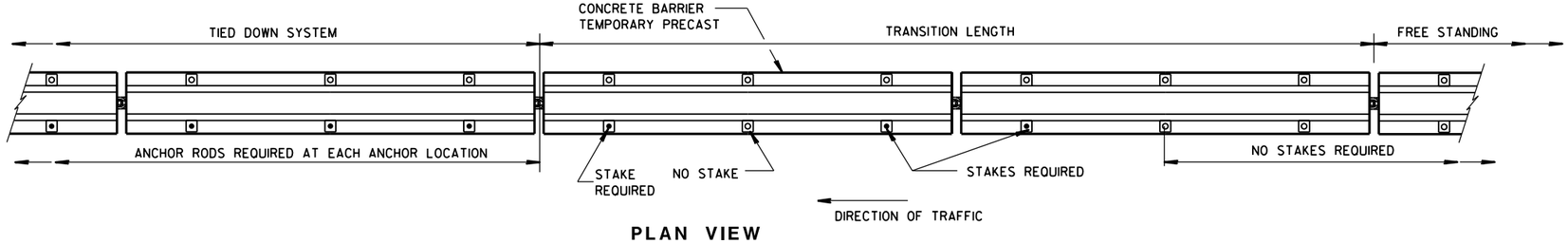


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

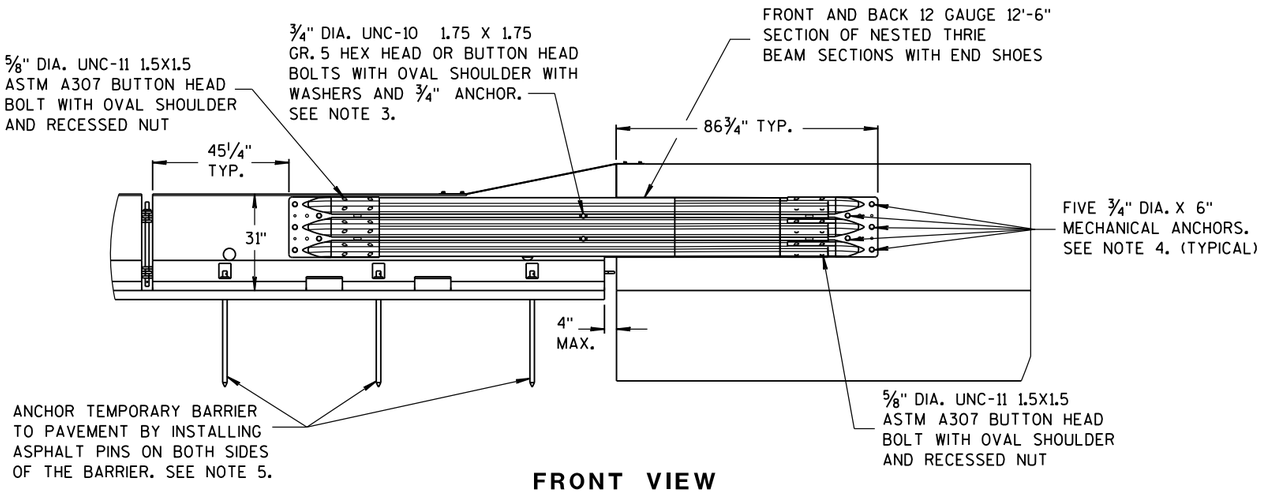
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

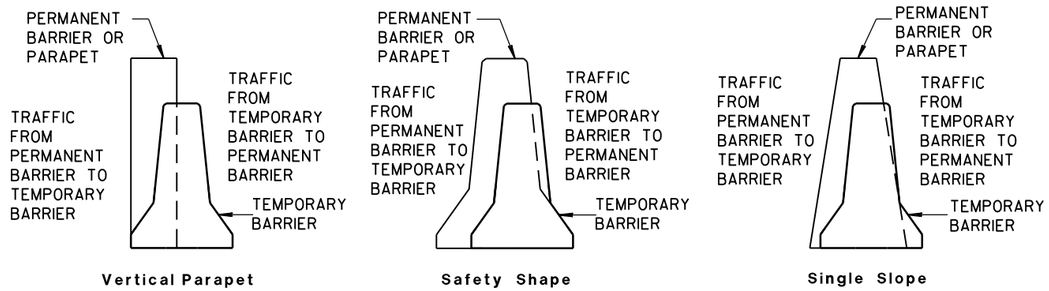
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 7-14d



FRONT VIEW



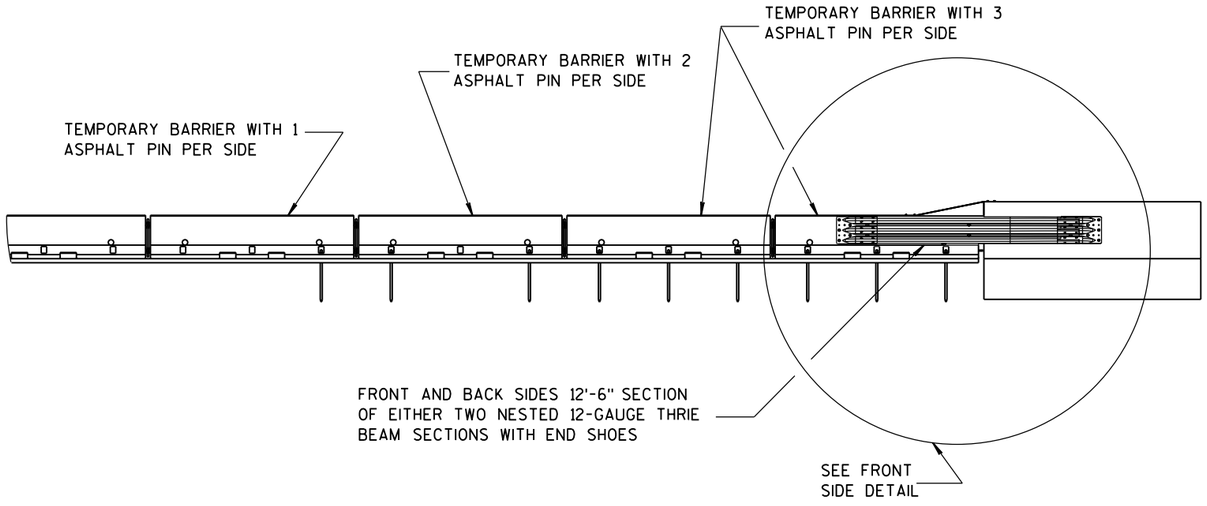
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

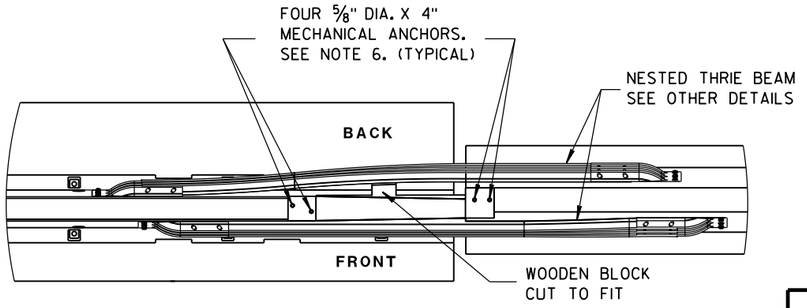
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW



FRONT VIEW



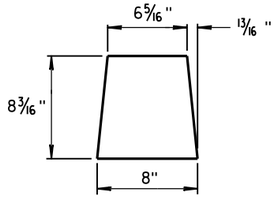
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

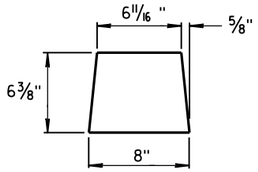
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

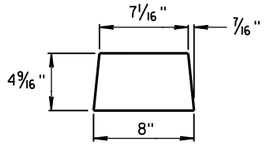
6
S.D.D. 14 B 7-14e



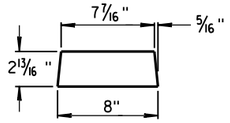
GUSSET 1



GUSSET 2

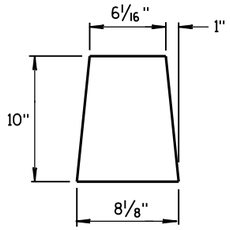


GUSSET 3

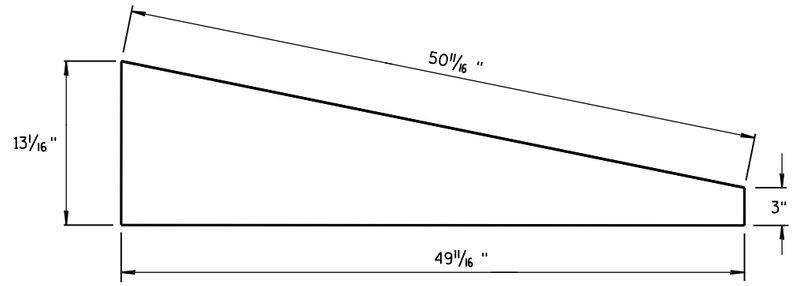


GUSSET 4

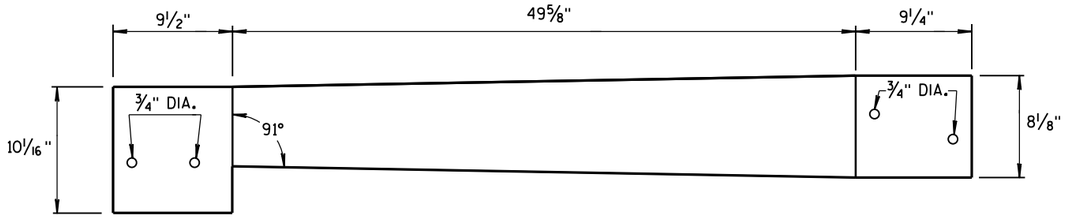
GUSSETS

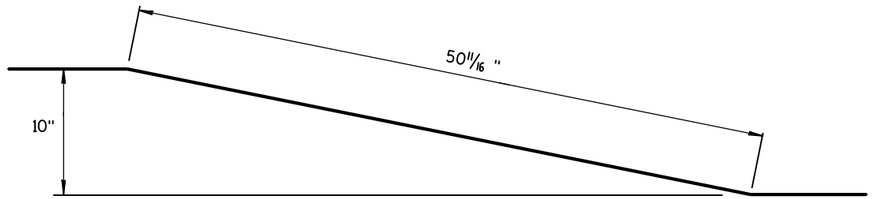


END PLATE



SIDE PLATE

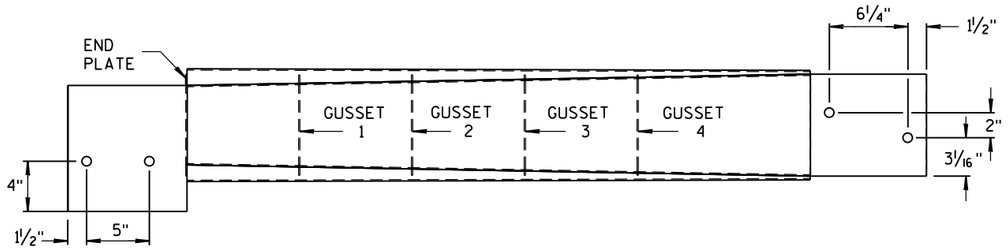


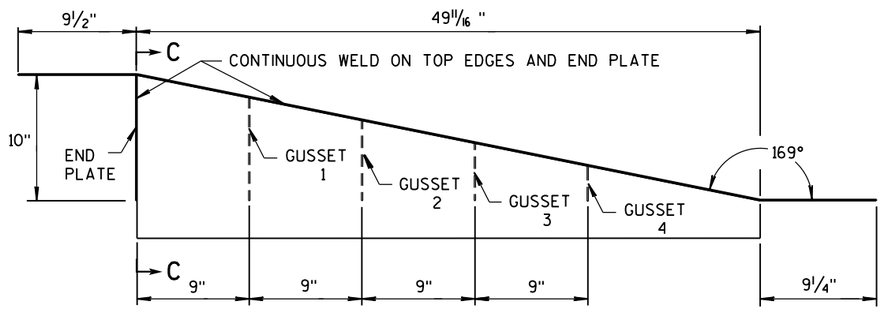


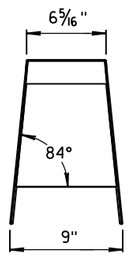
TOP PLATE

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.







SECTION C-C

NOTES

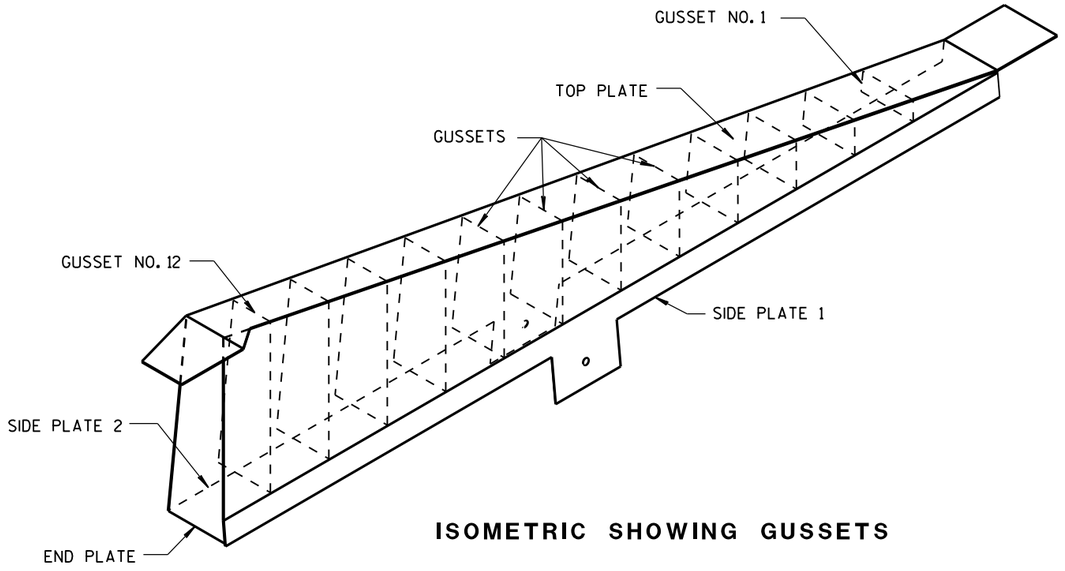
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

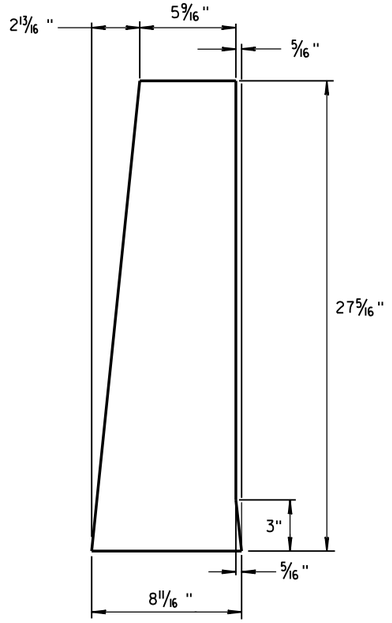
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 7-14f

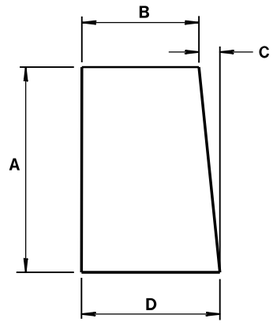


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



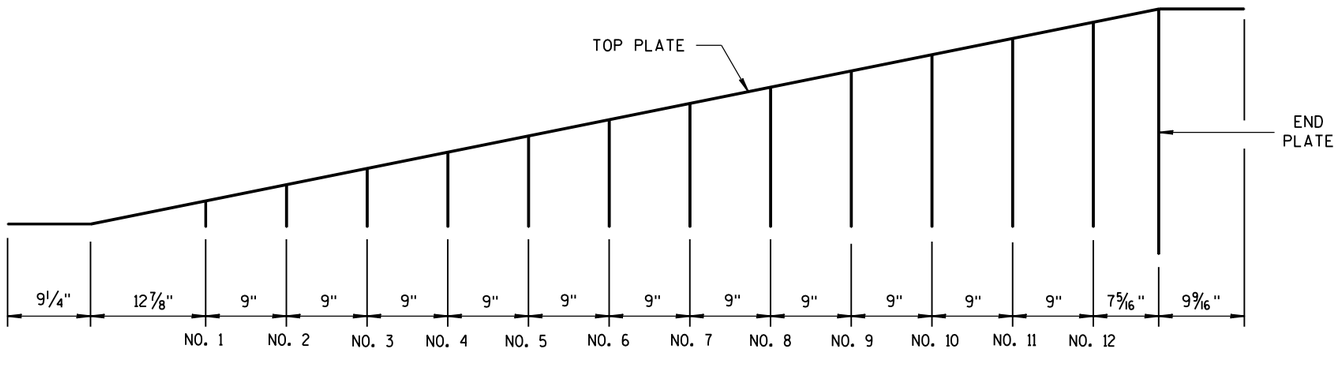
GUSSETS 1 - 12

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

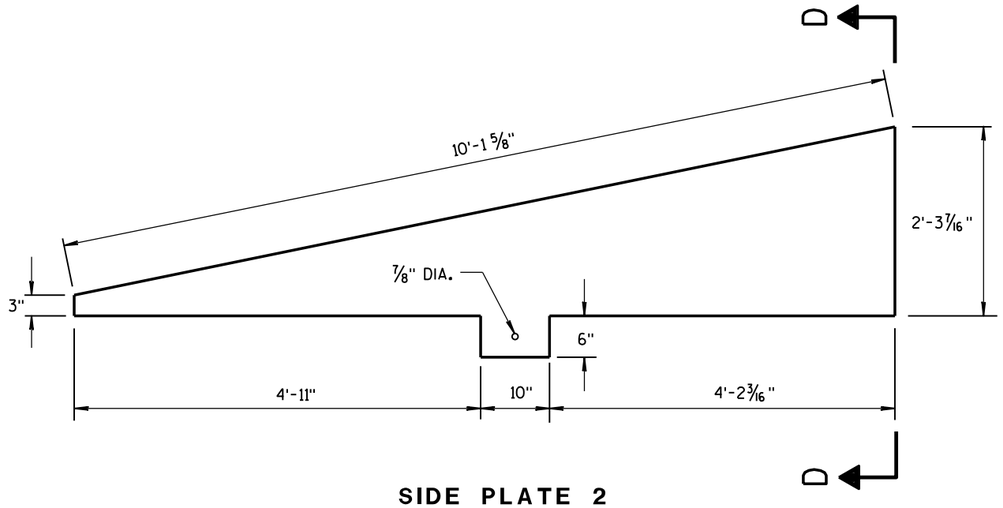
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

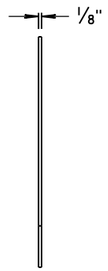
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

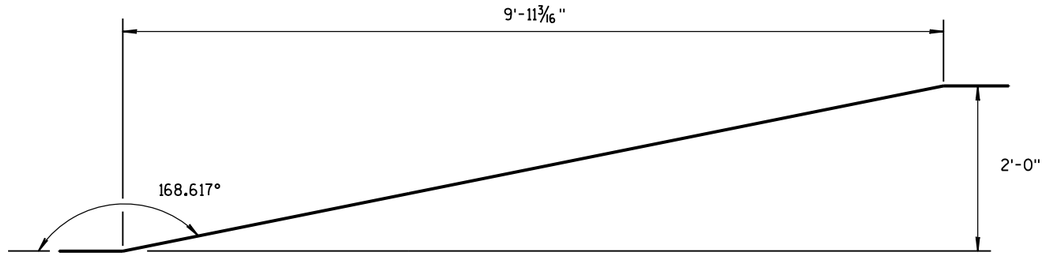
S.D.D. 14 B 7-14g



SIDE PLATE 2

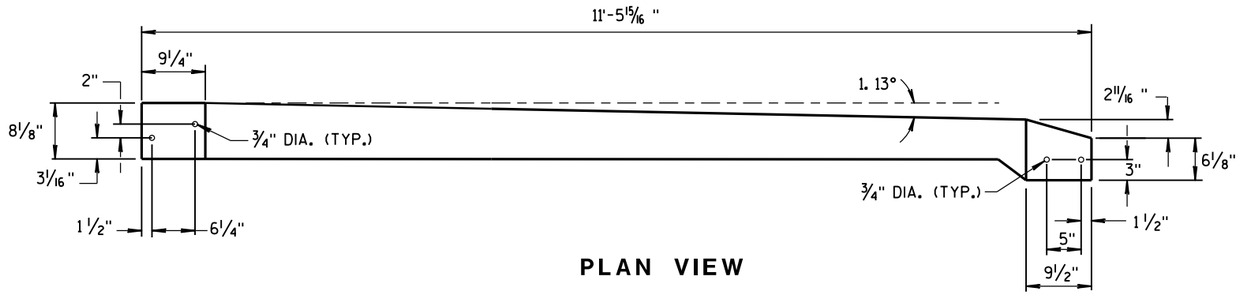


END VIEW



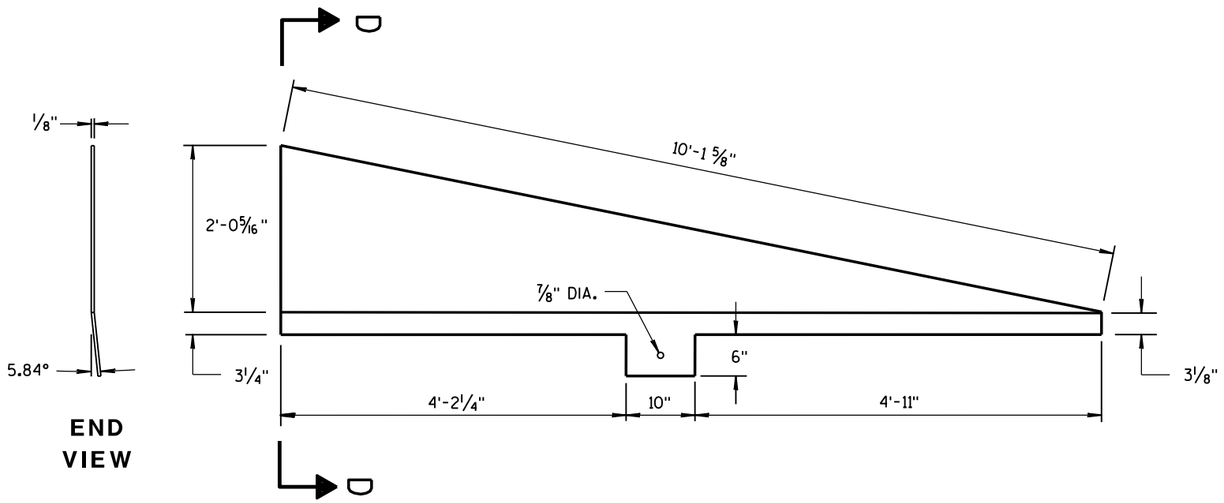
SIDE VIEW

TOP PLATE



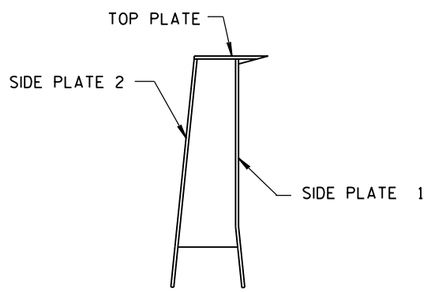
PLAN VIEW

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

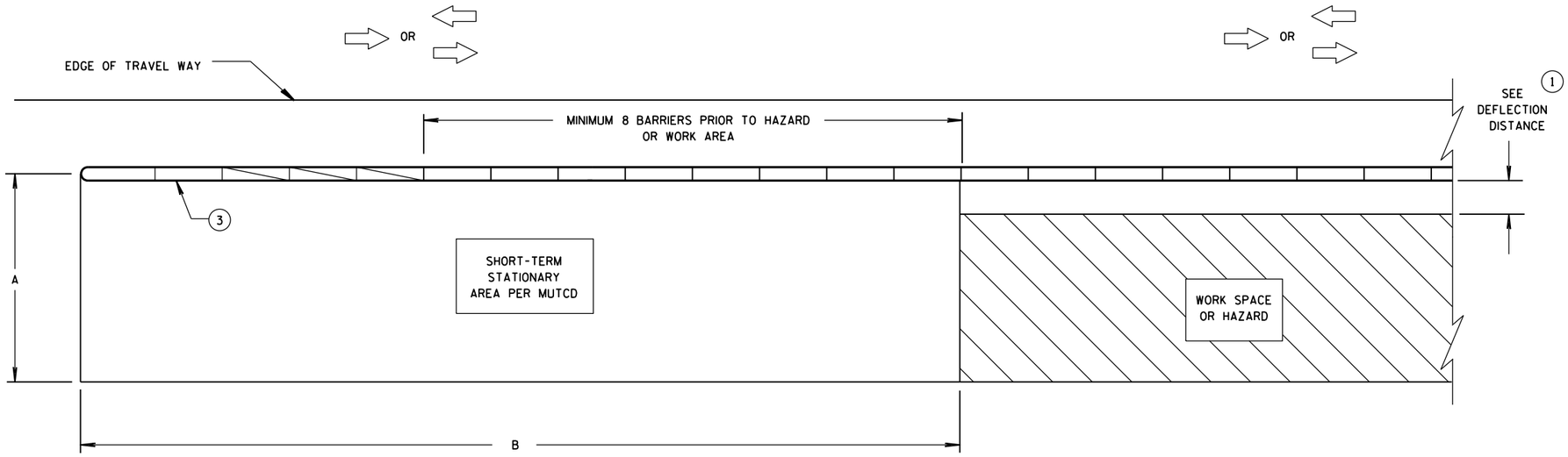
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoaa — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 7-14h

6

S.D.D. 14 B 7-14h



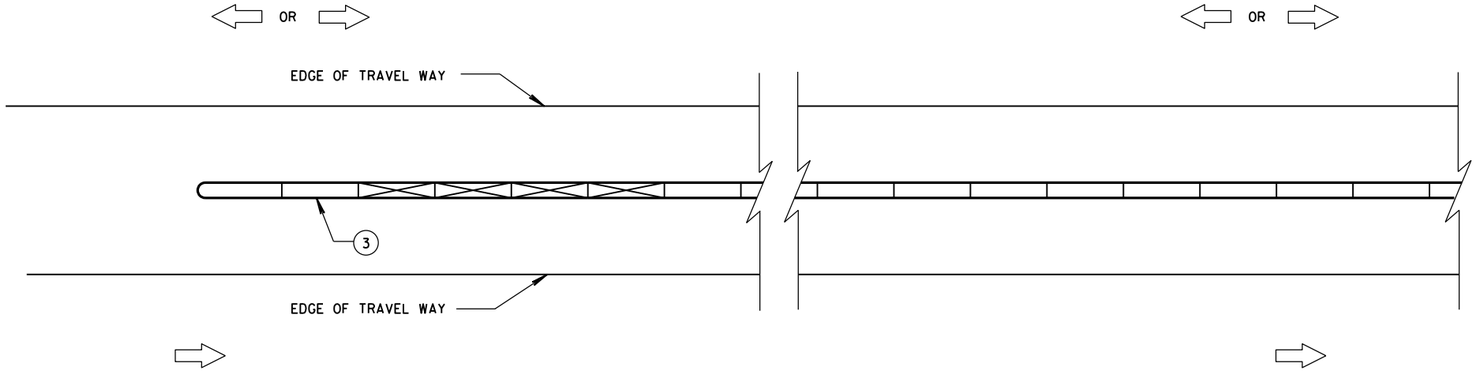
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

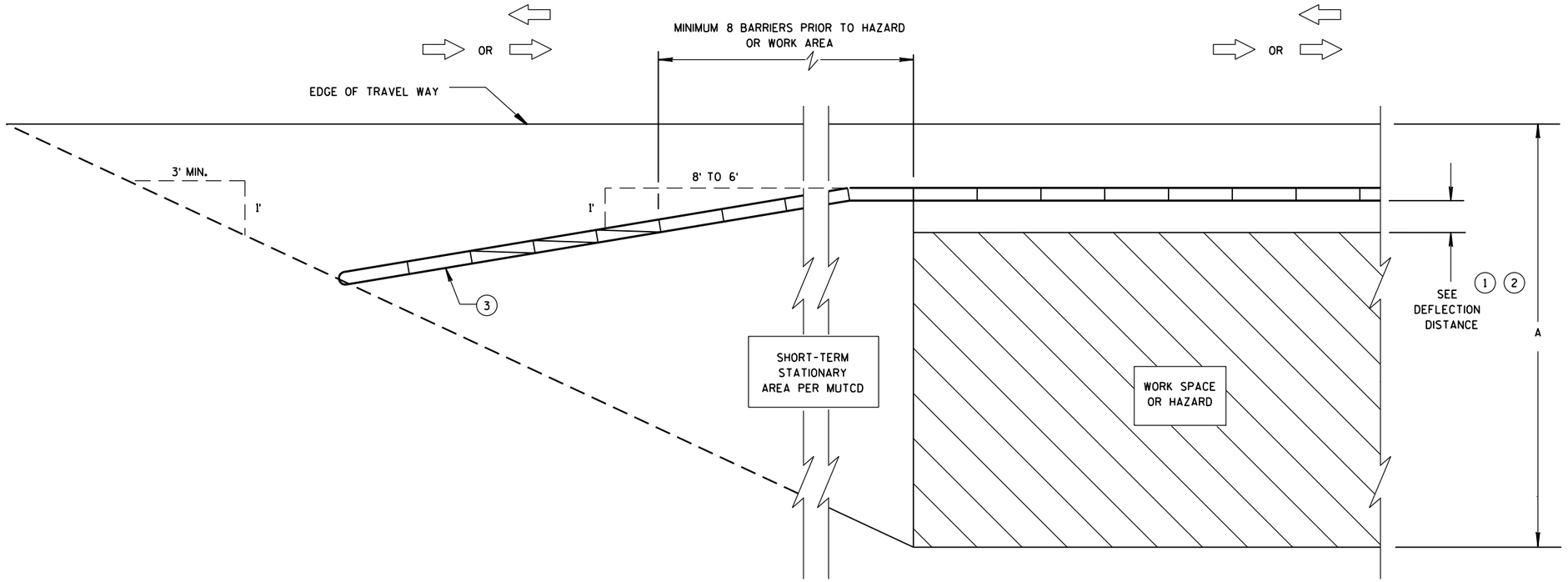
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

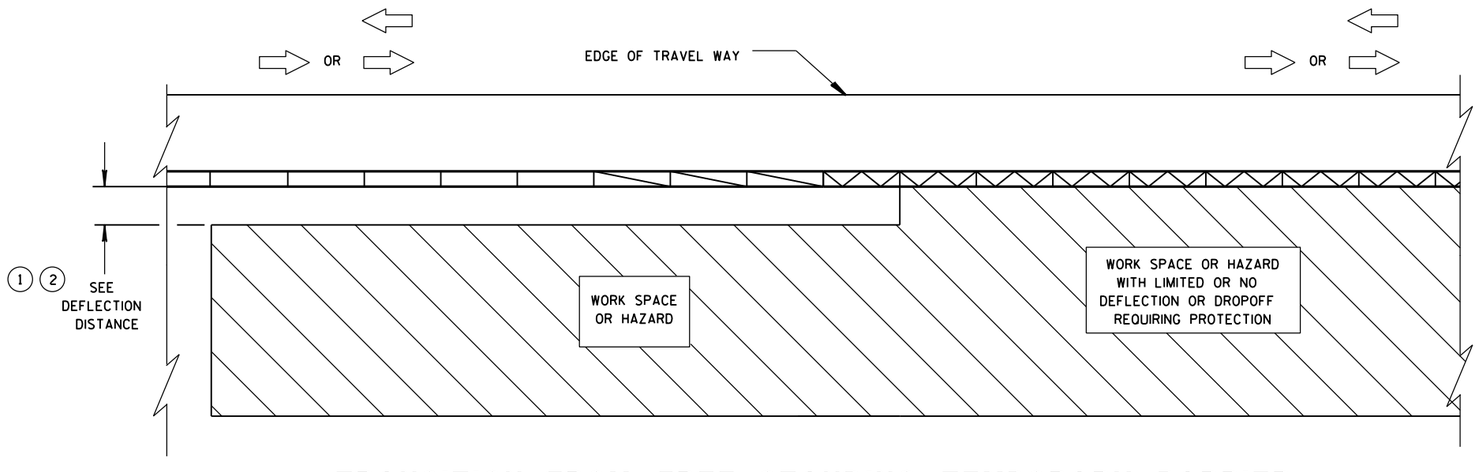
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 8-2a



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

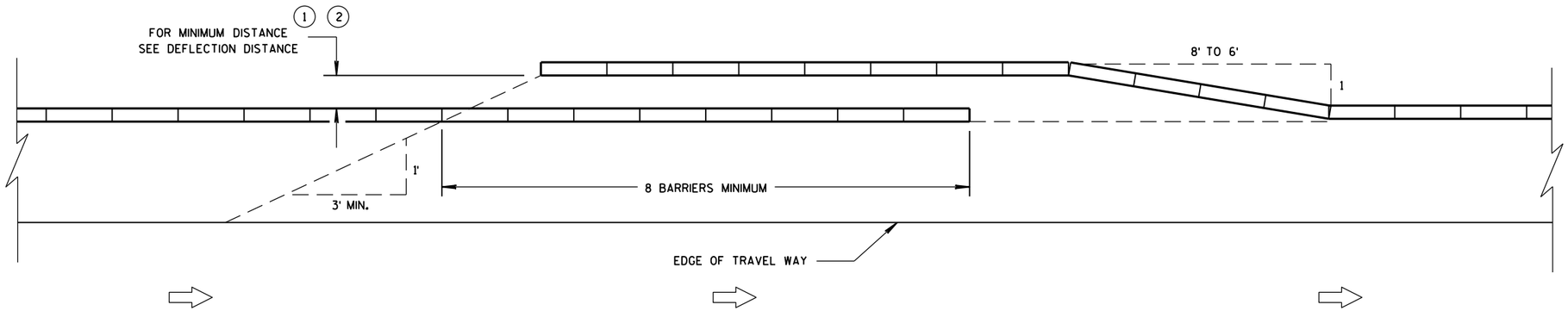
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

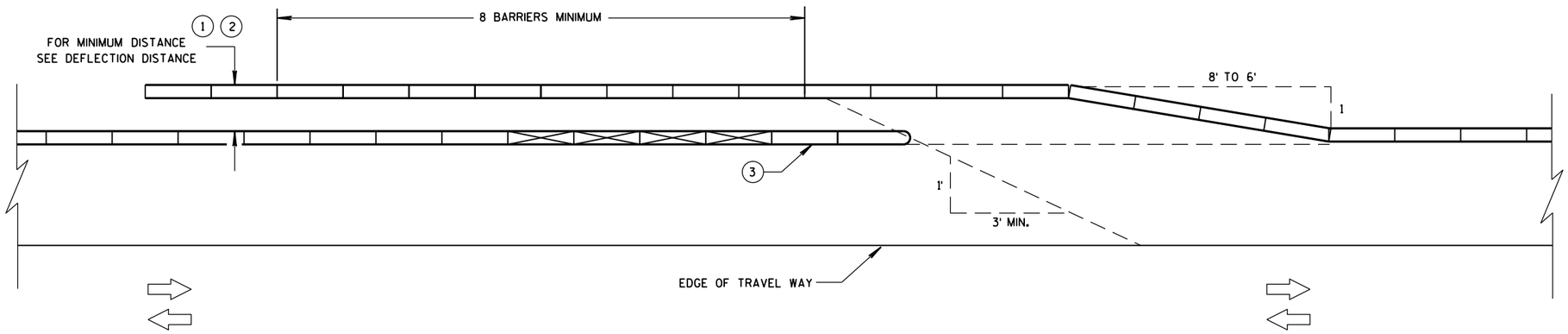
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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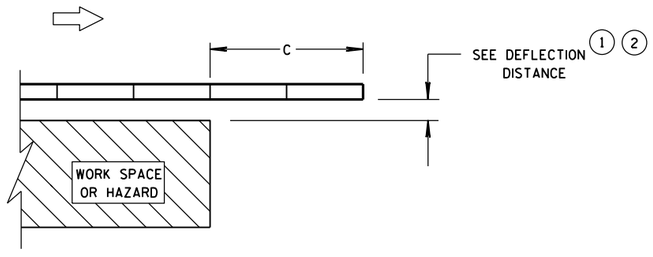
S.D.D. 14 B 8-2b



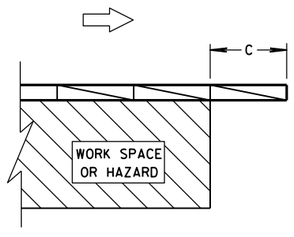
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

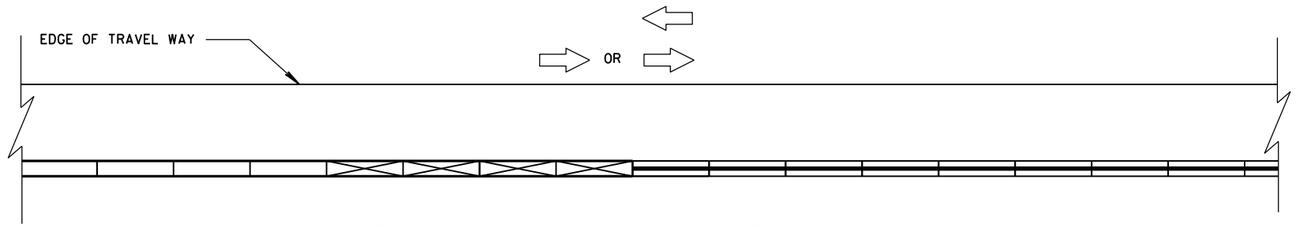
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

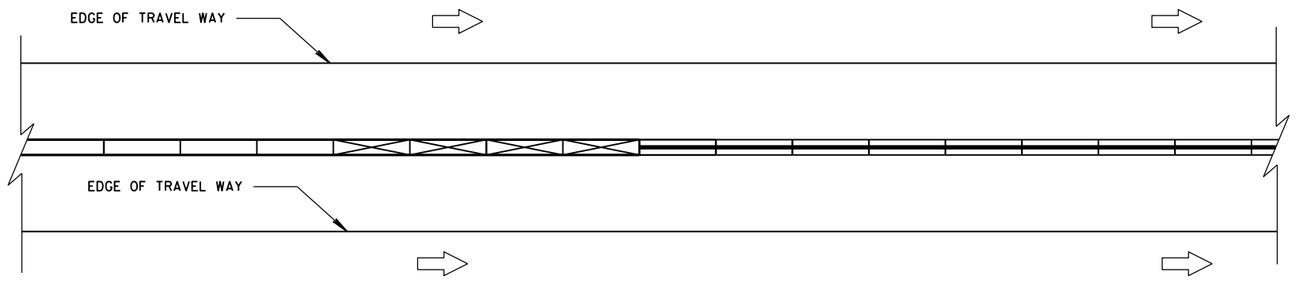
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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S.D.D. 14 B 8-2c



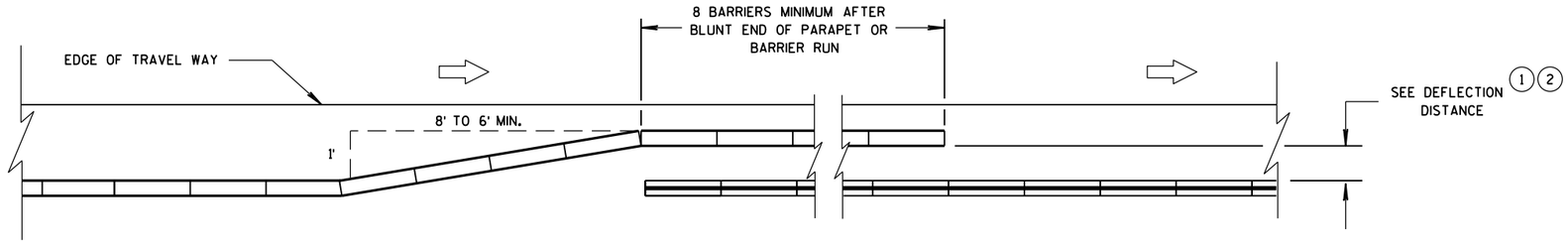
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



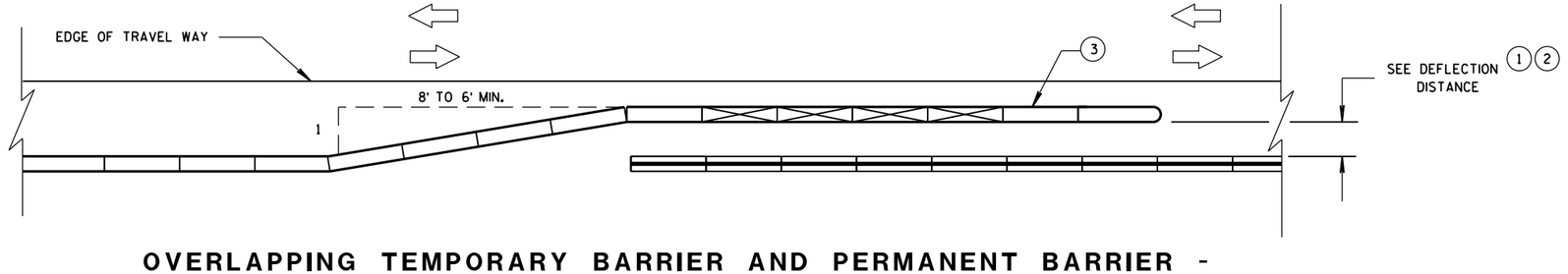
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

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 TRANSPOI

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S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

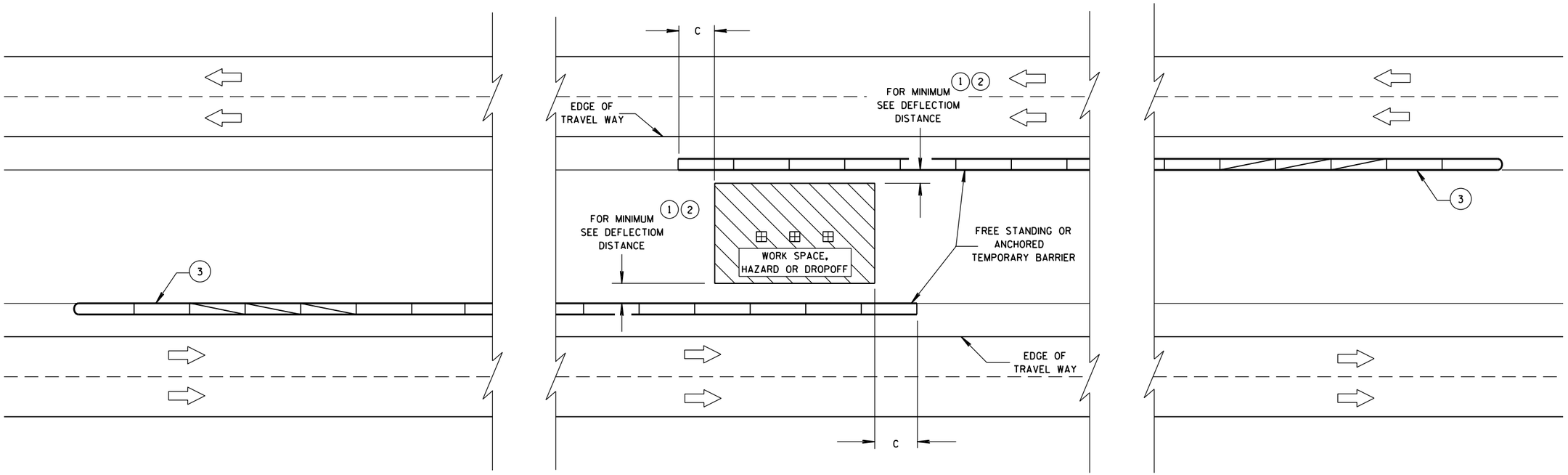
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA

6

S.D.D. 14 B 8-2e

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.

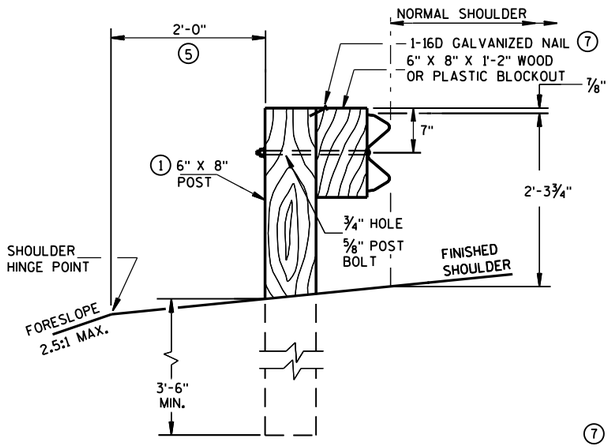
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(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.

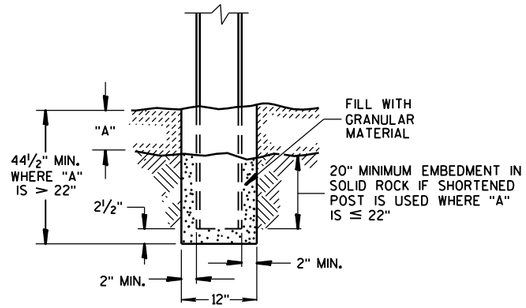
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

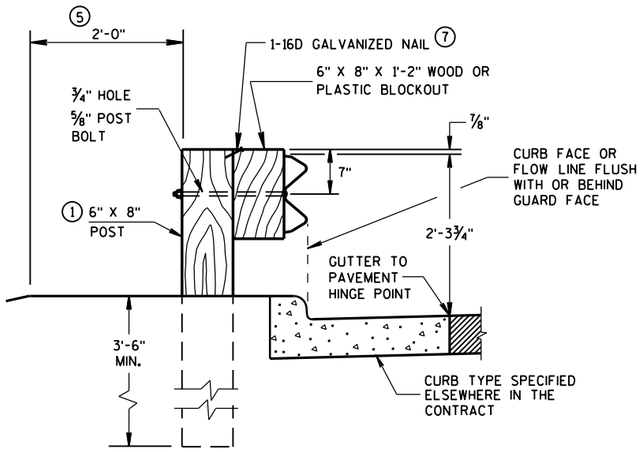
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



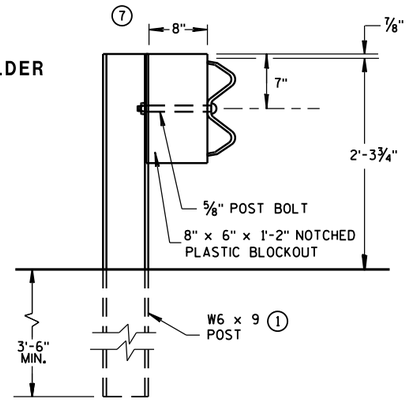
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



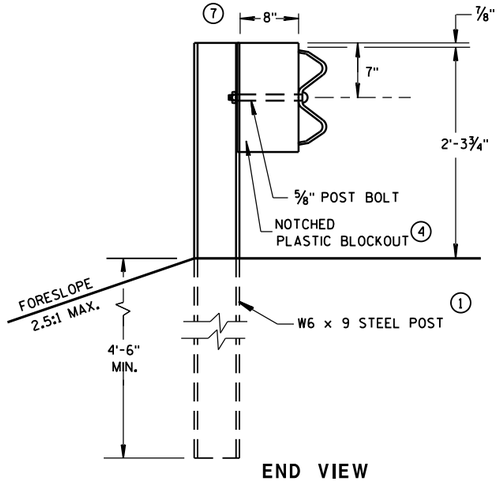
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



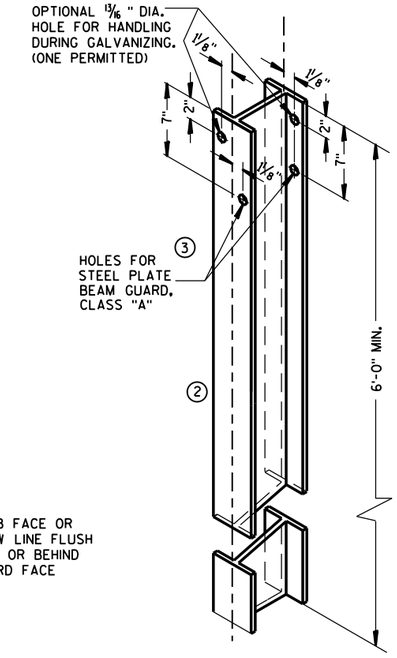
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION

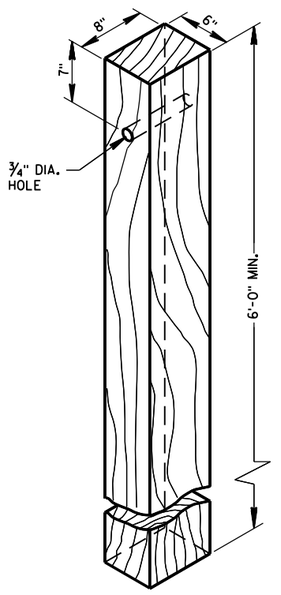


END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

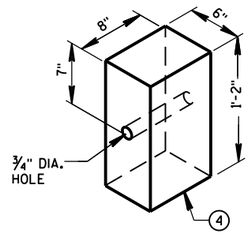


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

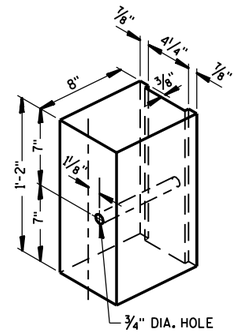
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



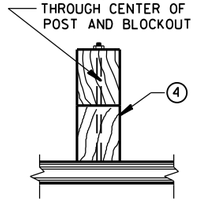
WOOD POST
(6"X8") NOMINAL



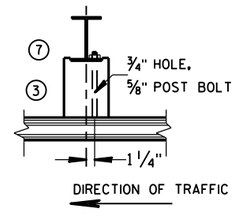
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



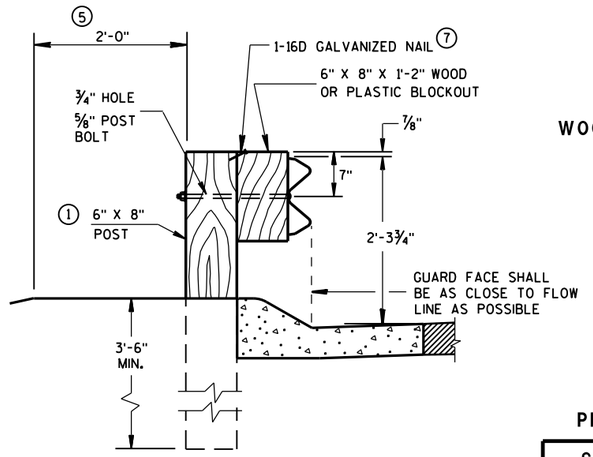
TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

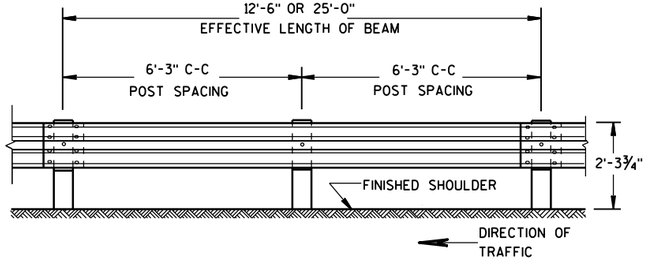


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

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

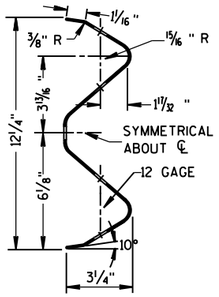
STATE OF WISCONSIN
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TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

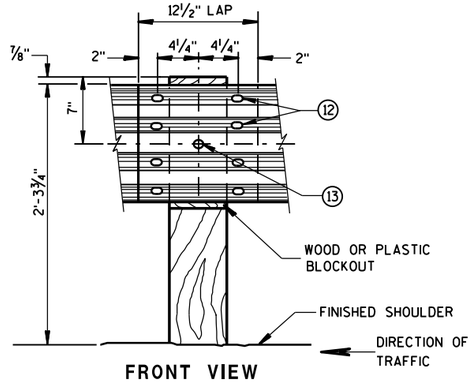


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

(8) PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

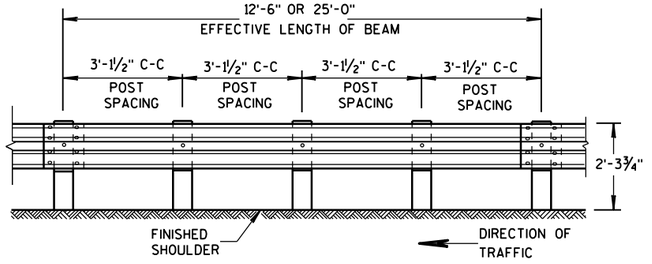
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

(10) REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

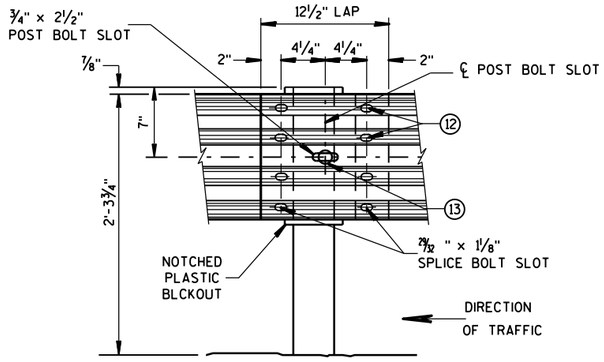
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

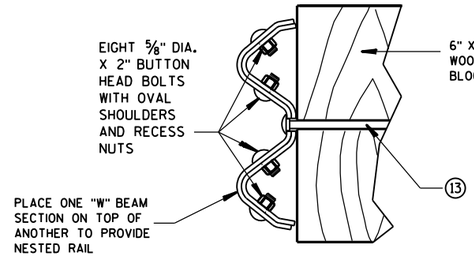
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

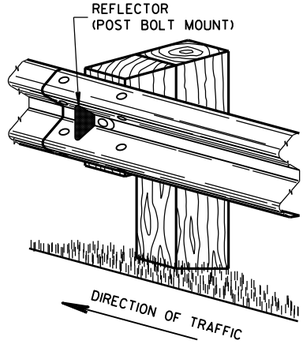


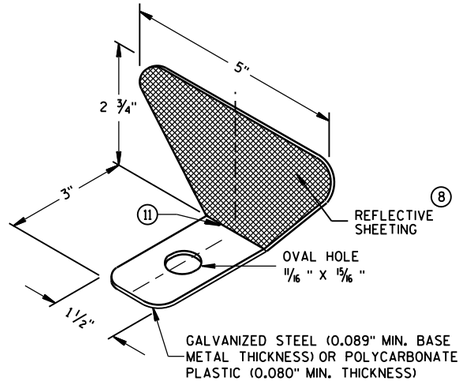
NESTED W BEAM (NW)

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

REFLECTOR SPACING (9)

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





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

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

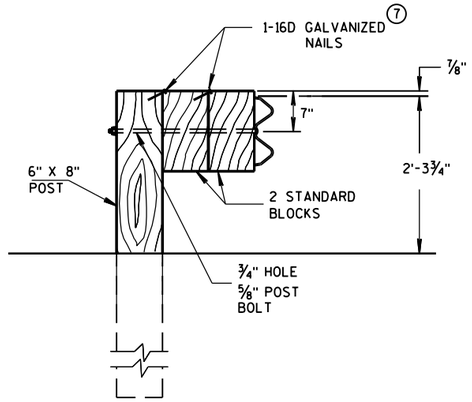
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 90

6

S.D.D. 14 B 15-8b

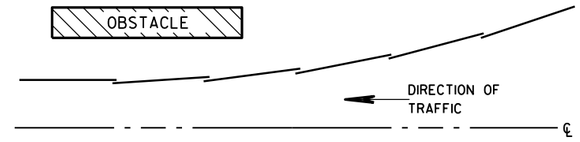
6

S.D.D. 14 B 15-8b

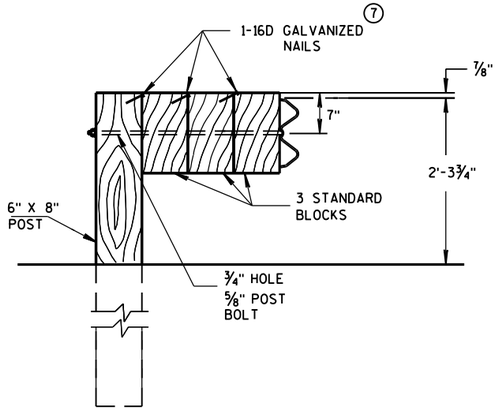


DETAIL FOR DOUBLE BLOCKS

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

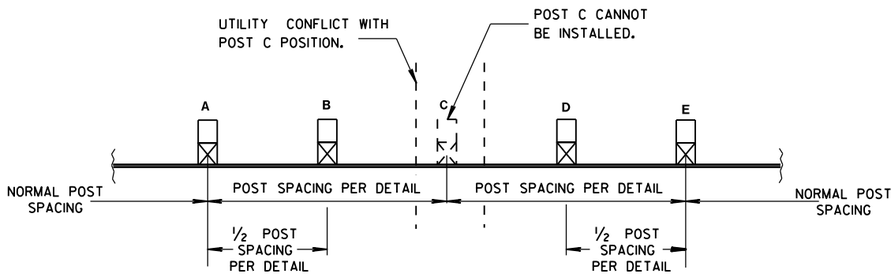


PLAN VIEW
BEAM LAPPING DETAIL



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

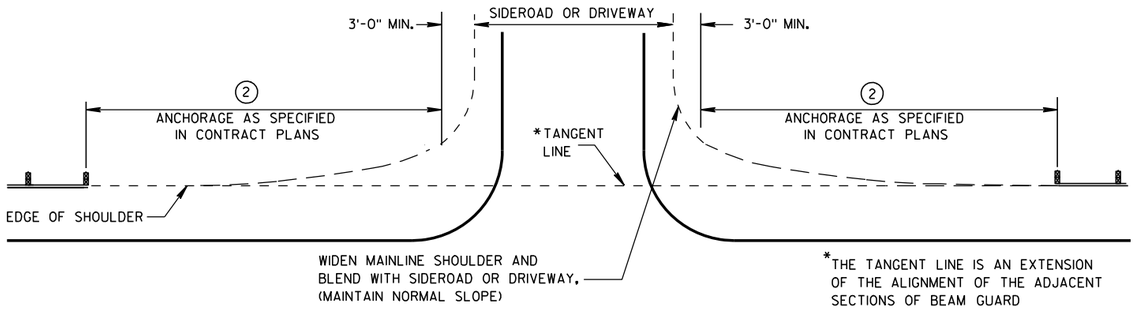
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

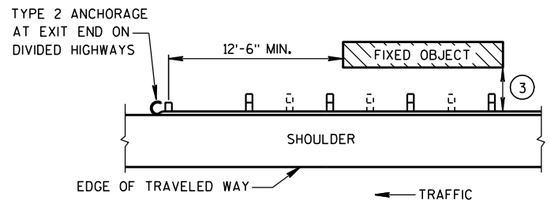
June 2014	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER	FHWA

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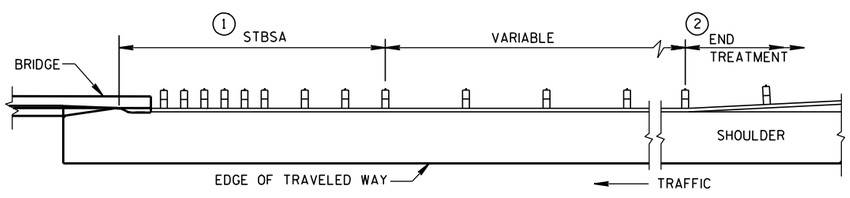
S.D.D. 14 B 15-8c



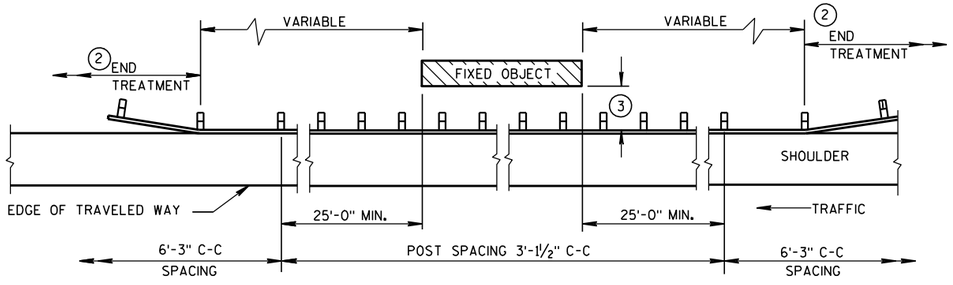
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

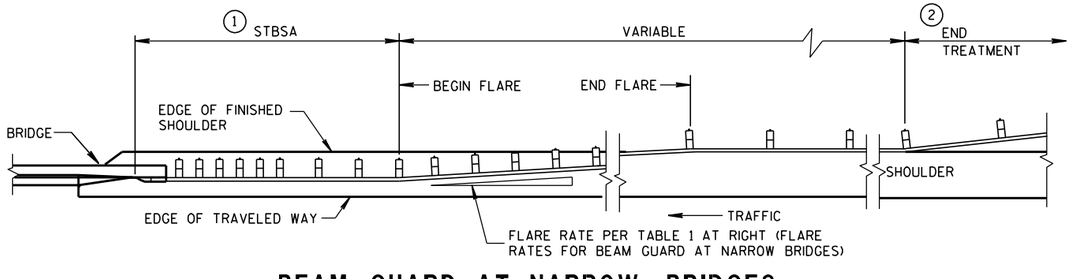


BEAM GUARD AT FULL WIDTH BRIDGES



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)

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"

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

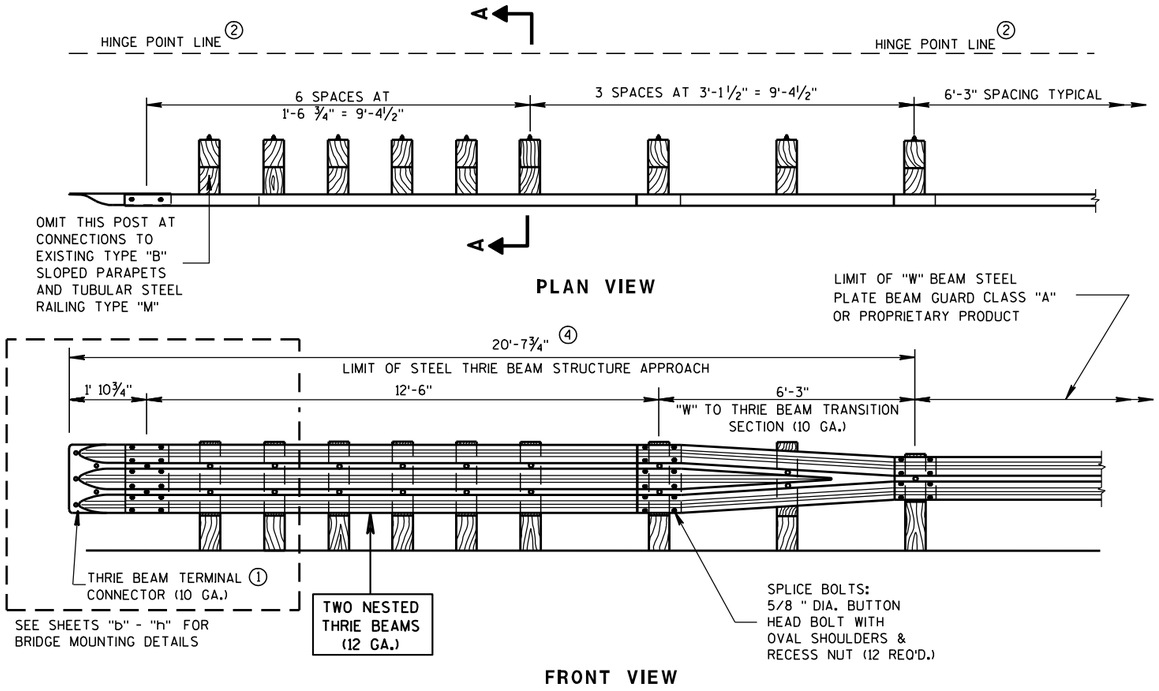
APPROVED
8-21-07 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 18-6a



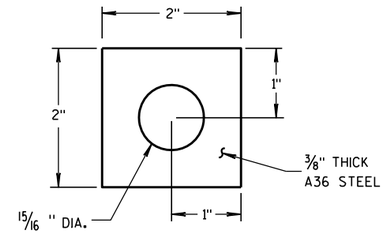


PLATE WASHER DETAIL

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.

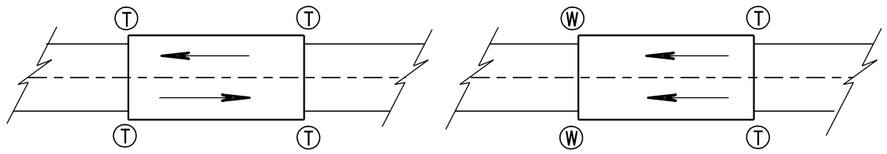
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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.



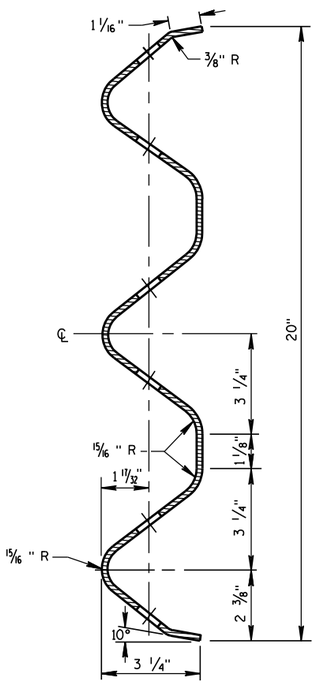
TWO WAY TRAFFIC

ONE WAY TRAFFIC

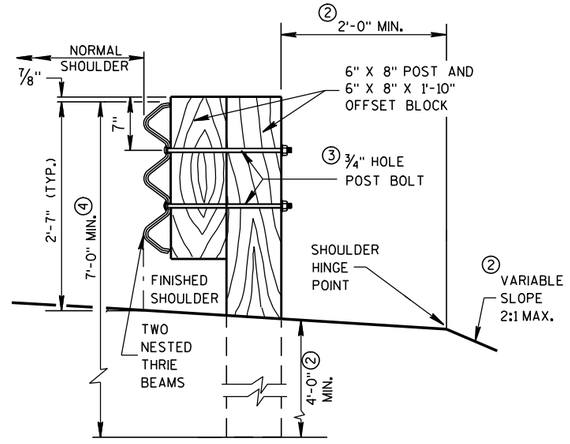
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

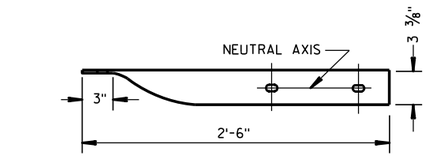
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

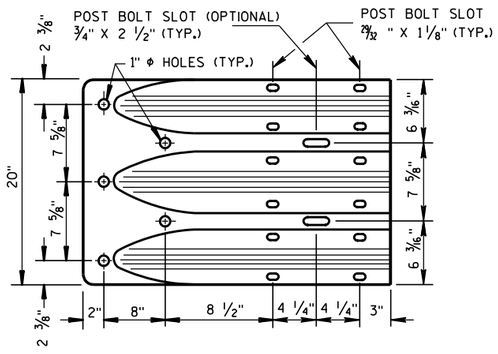


SECTION THRU THRIE BEAM RAIL ELEMENT

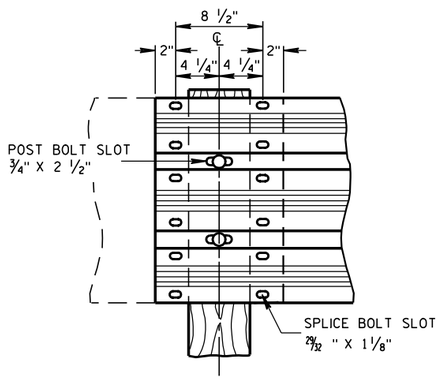


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

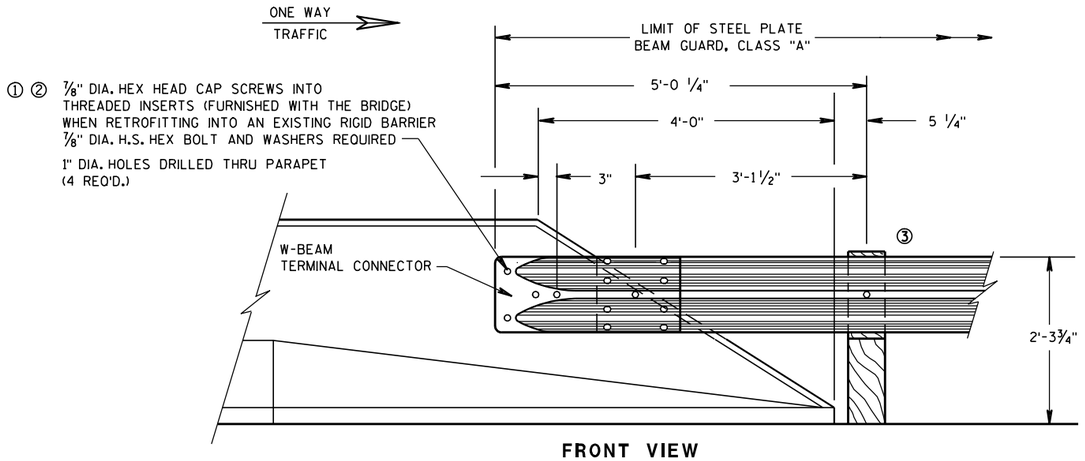
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
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FHWA

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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.

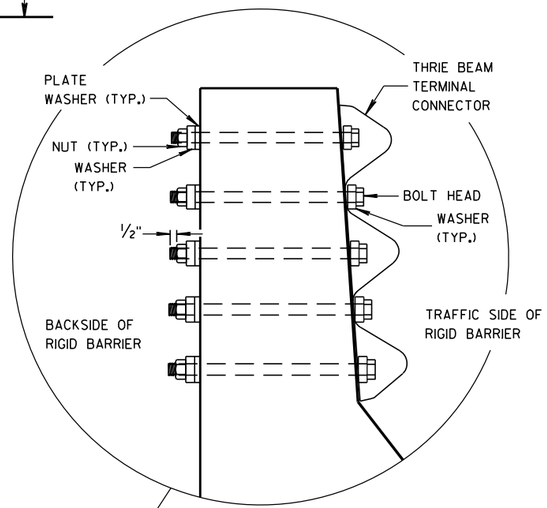
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

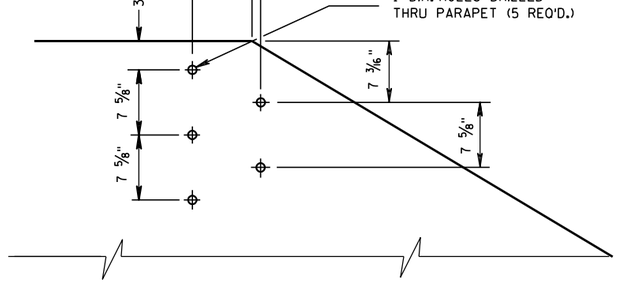
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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.

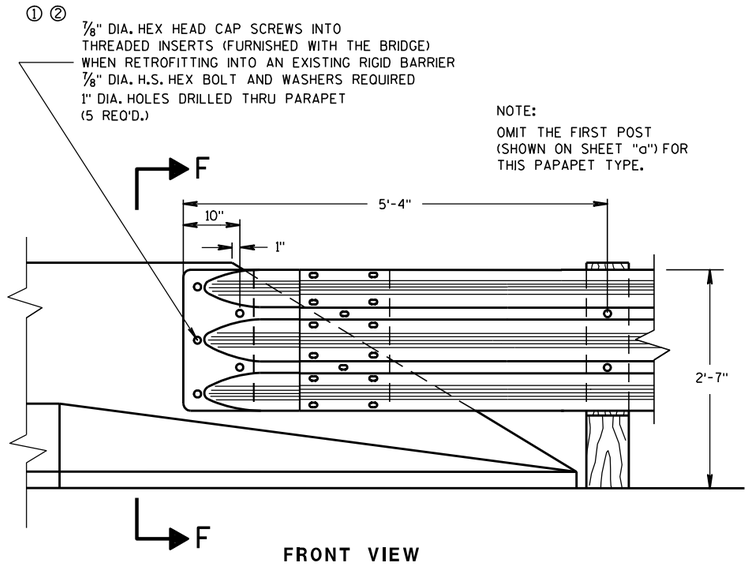
③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

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.

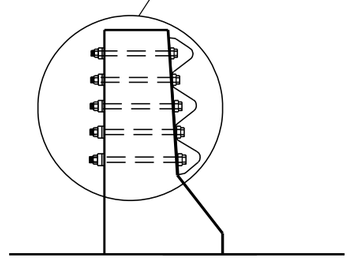




DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



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
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
(1)	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
(2)	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
(3)	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
(4)	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
(5)	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
(6)	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
(7)	1	BEARING PLATE
(8)	1	BCT CABLE ASSEMBLY
(9)	1	CABLE ANCHOR BOX
(10)	1	STRUT & YOKE
(11)	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
(12)	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
(13)	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
(14)	1	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(15)	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ø X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

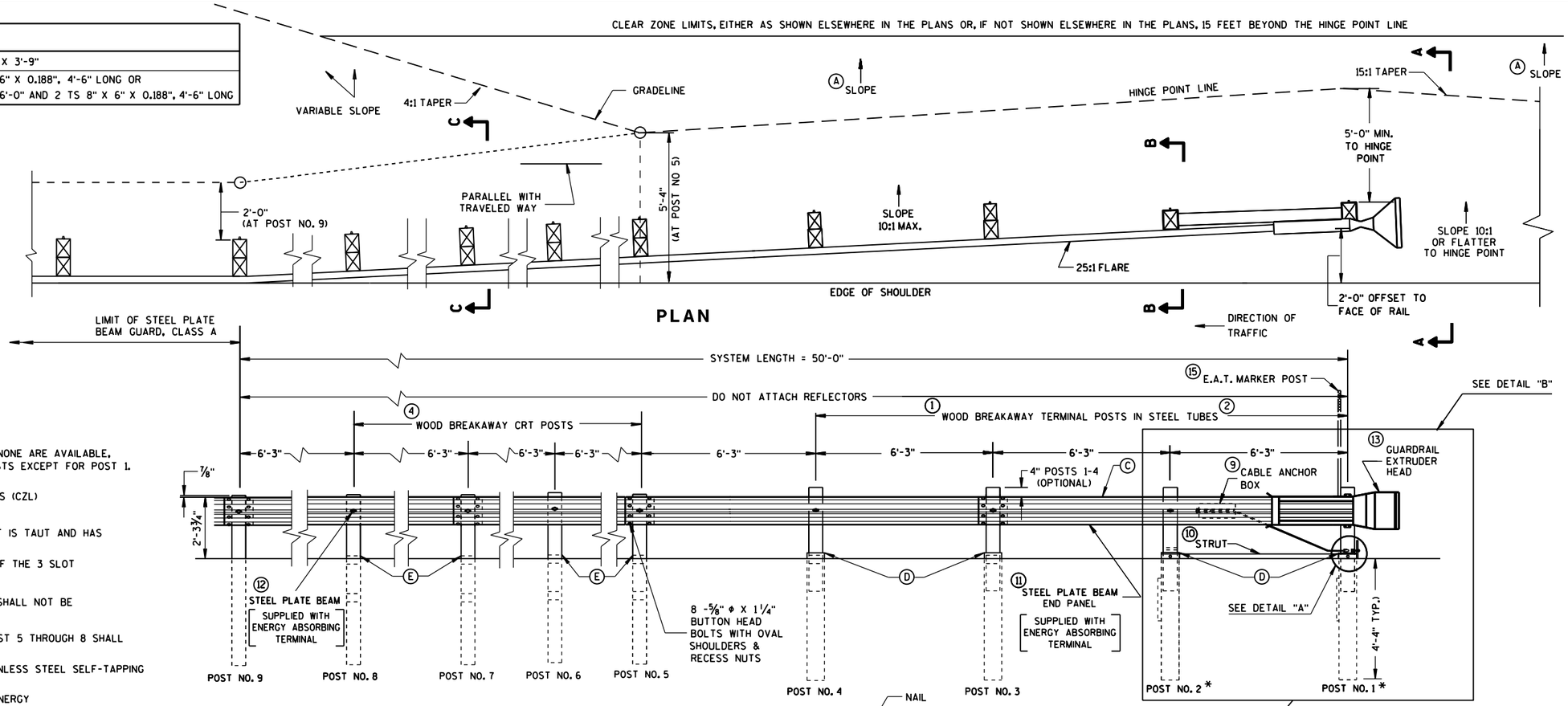
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

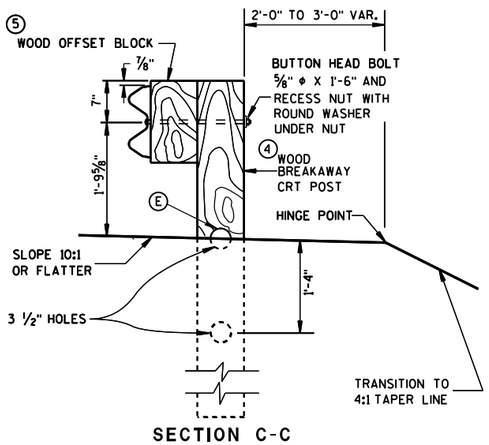
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

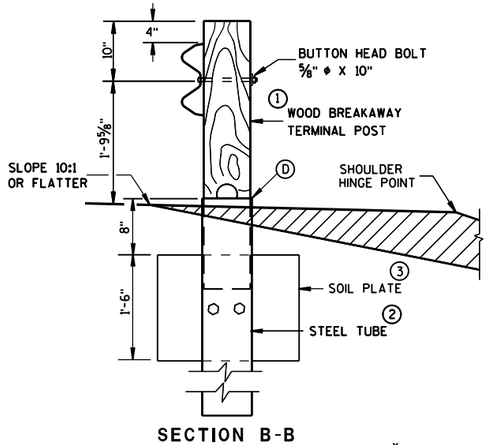
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

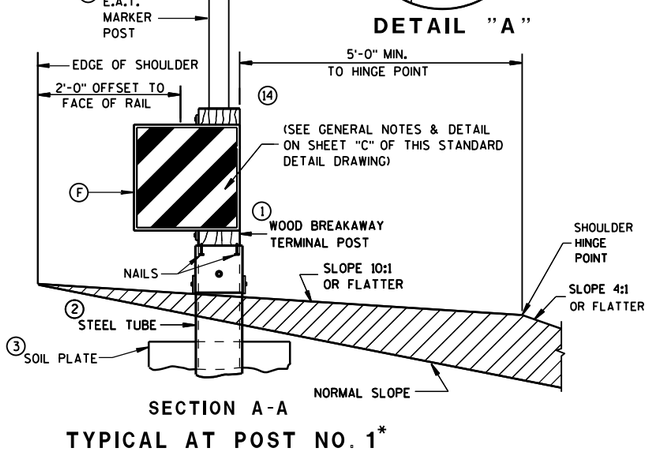




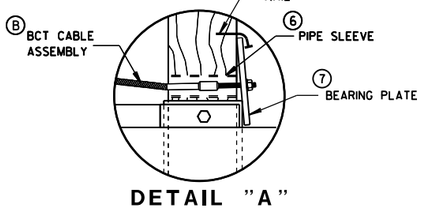
SECTION C-C
TYPICAL AT POST NOS. 6, 8



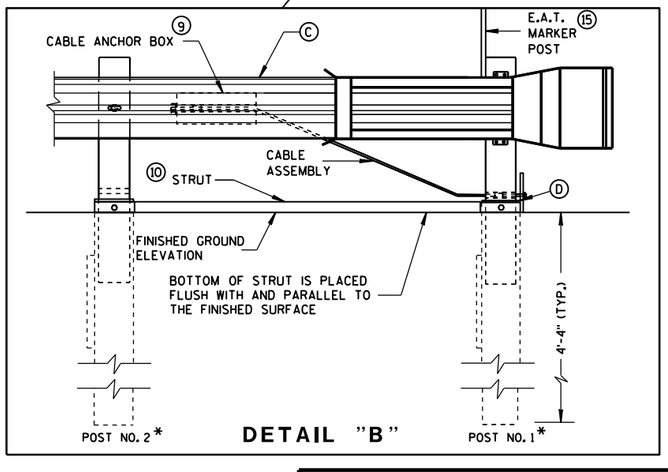
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



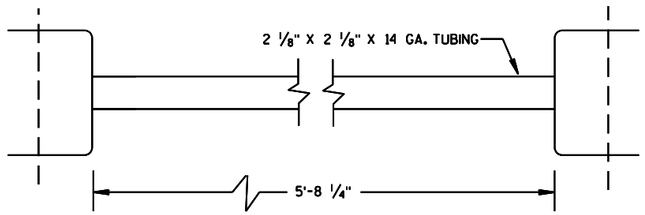
DETAIL "B"

STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

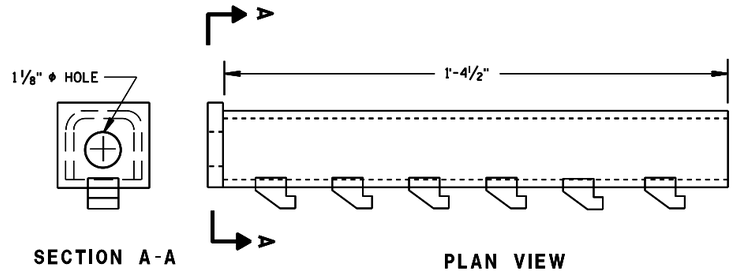
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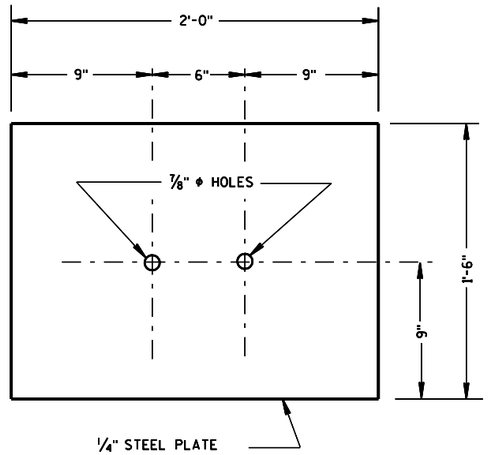
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S.D.D. 14 B 24-8a



⑩ STRUT DETAIL (SKT-350)

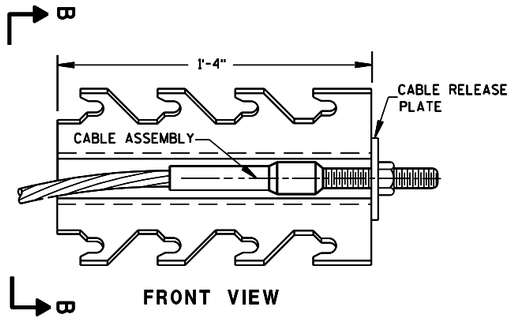


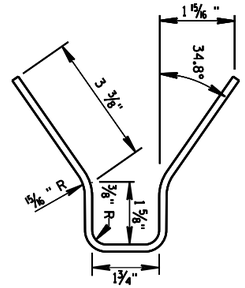
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

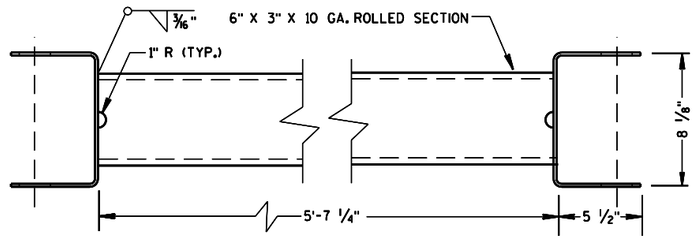
(SKT-350, ET-2000/ET-2000 PLUS)





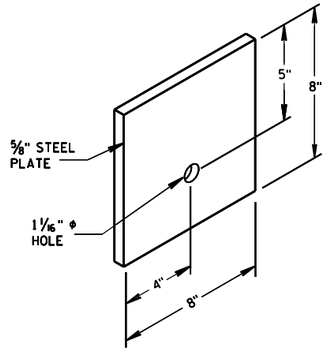
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



⑦ STEEL BEARING PLATE

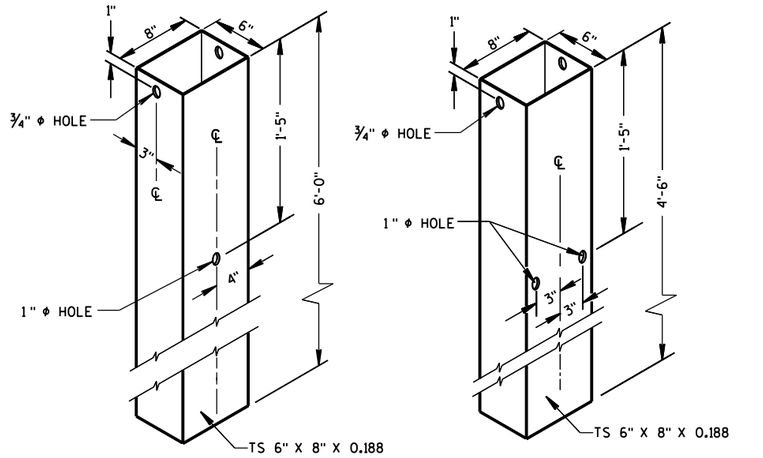
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

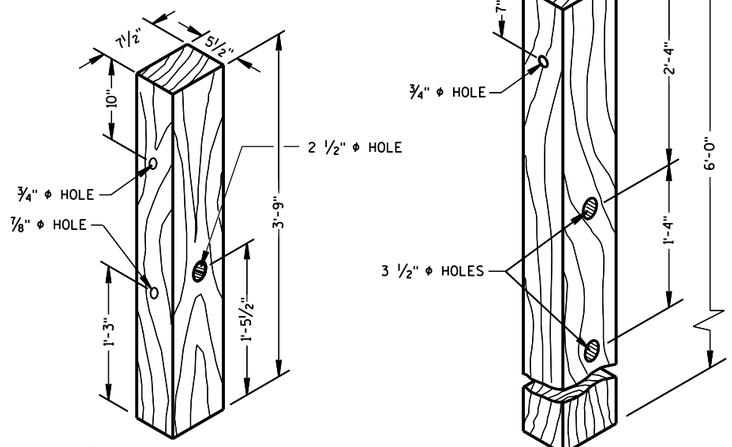
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S.D.D. 14 B 24-8b



② 72" STEEL TUBE
(POSTS NO. 1-4

② 54" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST
(POSTS NO. 1-4

④ CRT POST
(POSTS NO'S 5-8

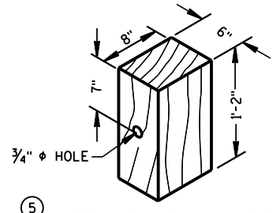
WOOD BREAKAWAY POSTS

GENERAL NOTES

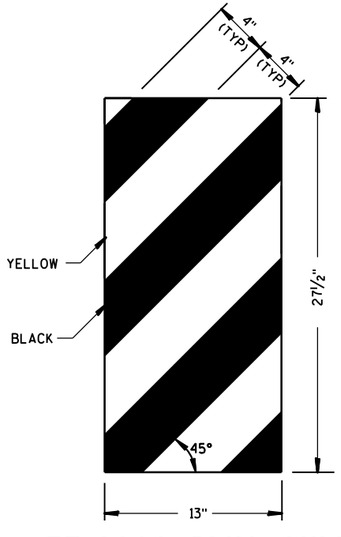
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

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

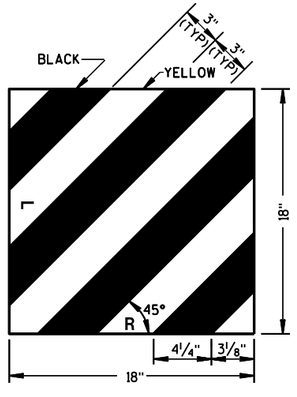
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



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

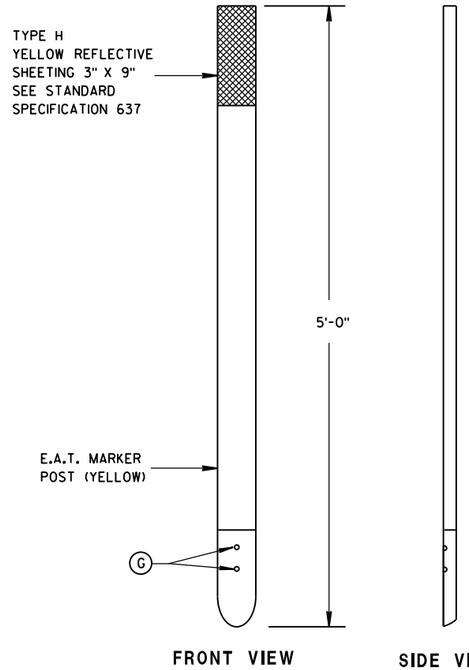


ET-2000 PLUS ONLY



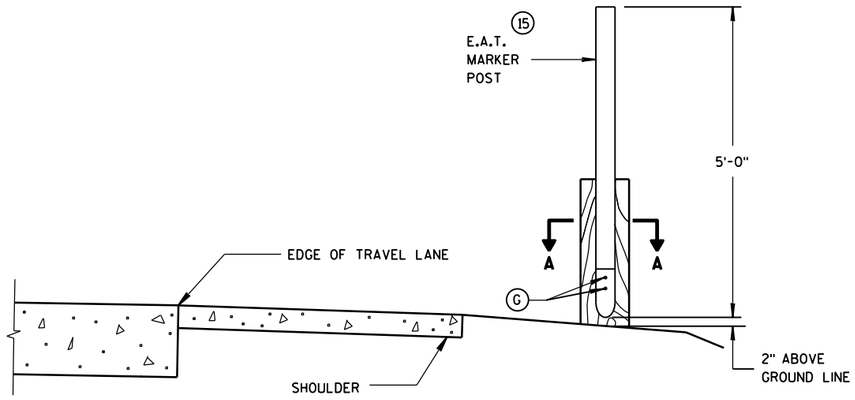
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

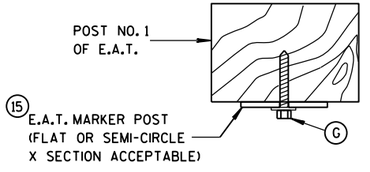


FRONT VIEW SIDE VIEW

⑮ E.A.T. MARKER POST



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



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

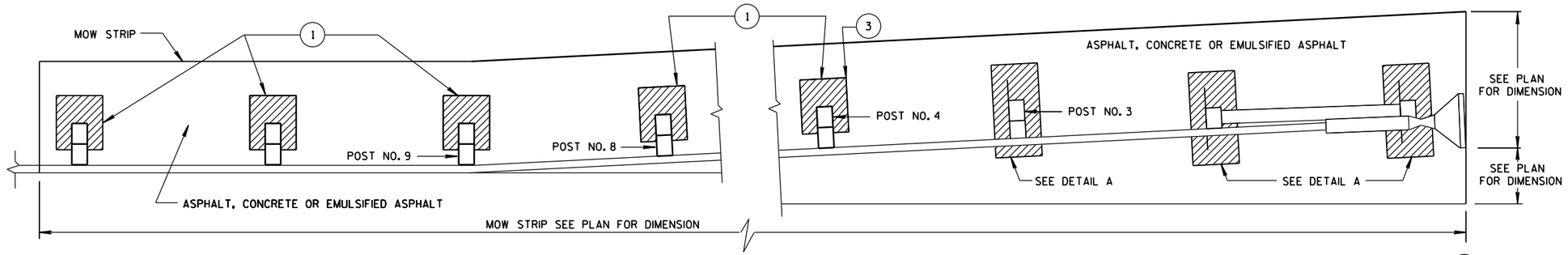
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 24-8c

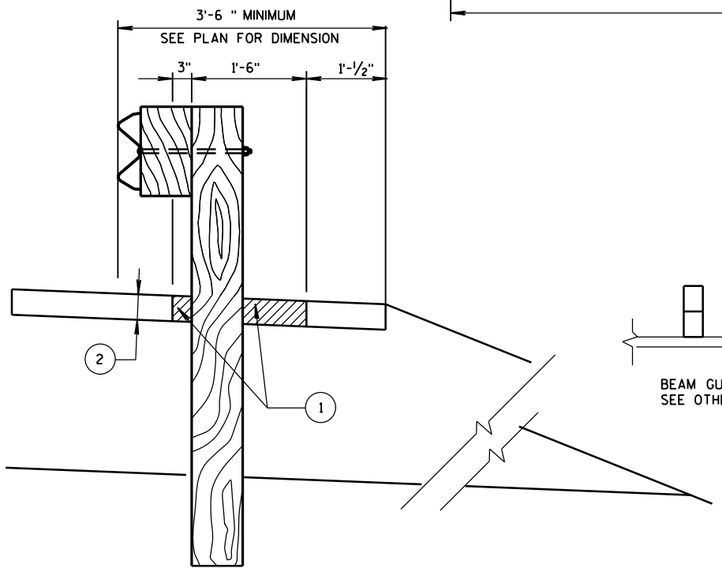
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S.D.D. 14 B 24-8c

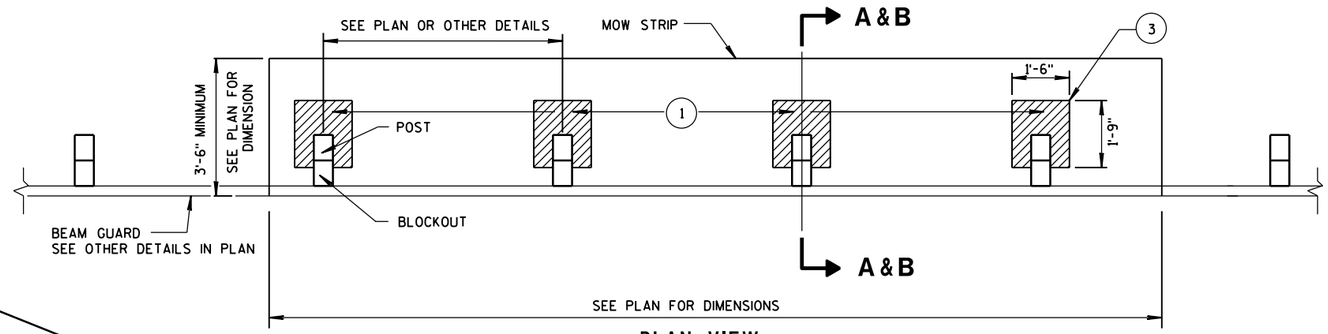


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

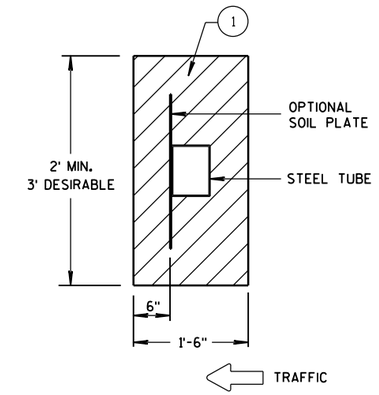


SECTION A-A

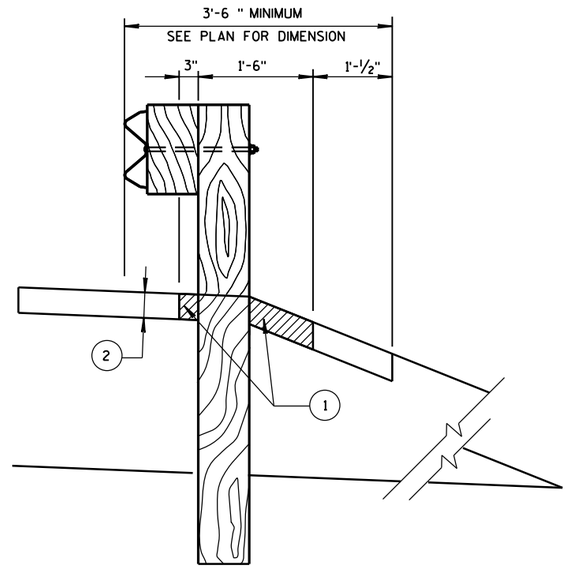


PLAN VIEW

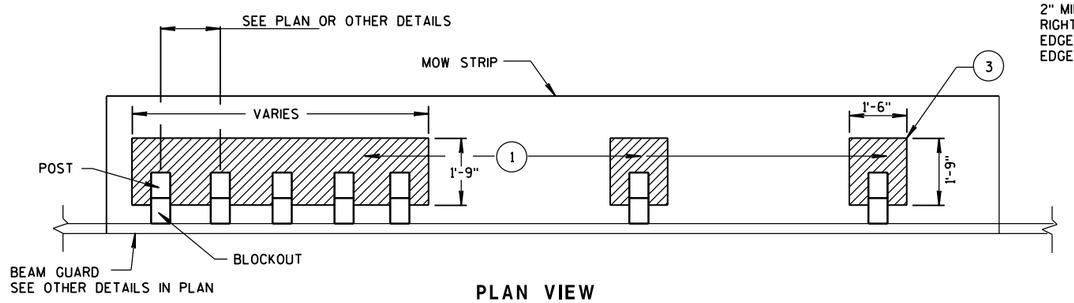
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



DETAIL A

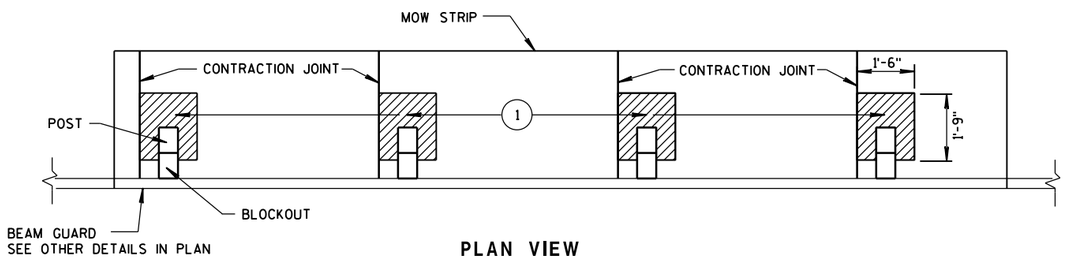


SECTION B-B



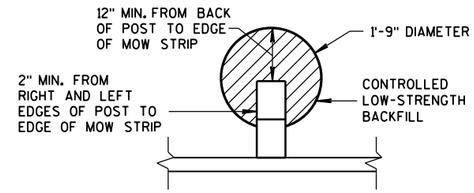
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

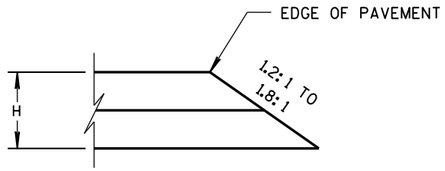
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S.D.D. 14 B 28-3

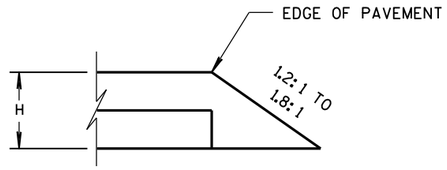
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S.D.D. 14 B 28-3



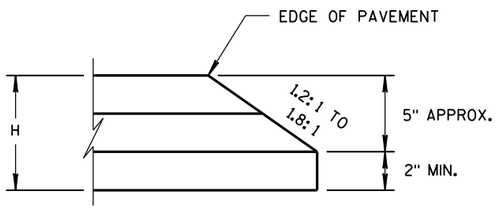
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



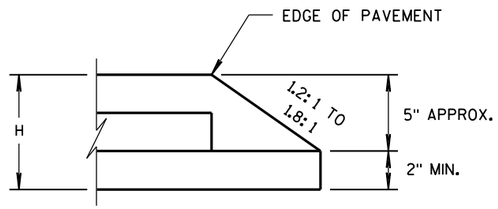
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

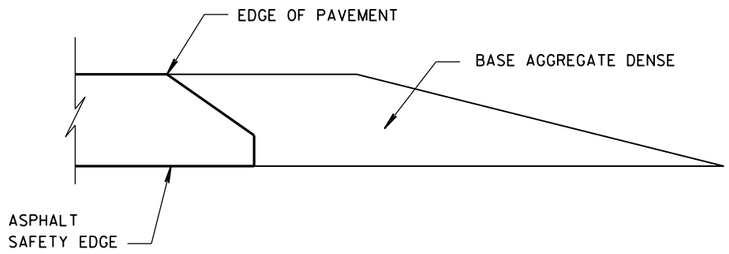
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

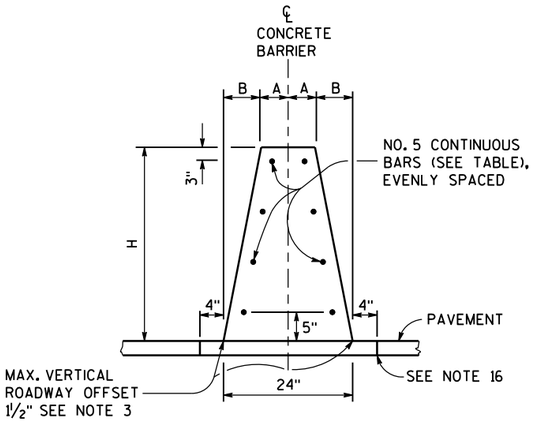
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

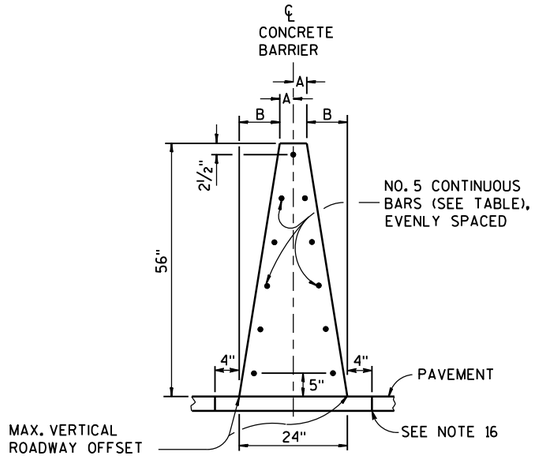
11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

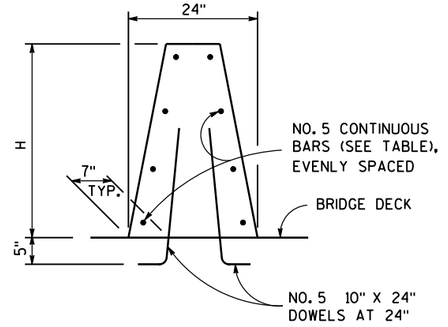
FHWA



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



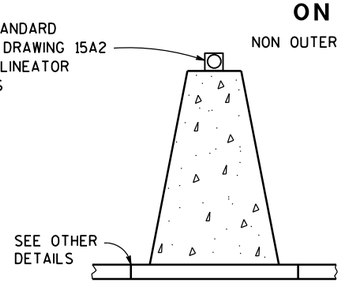
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



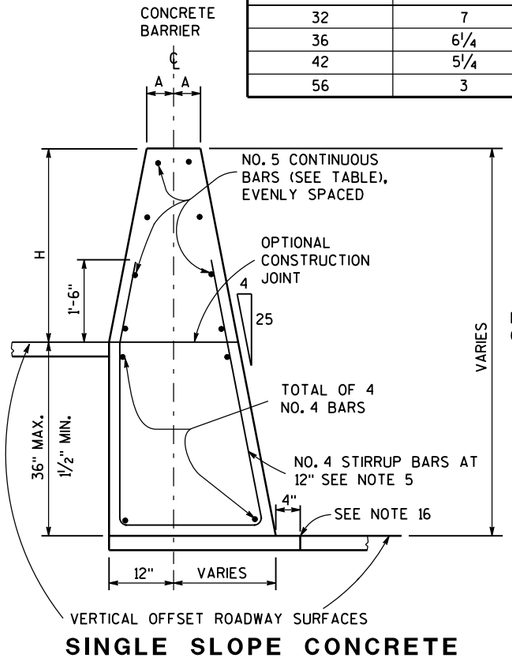
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

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

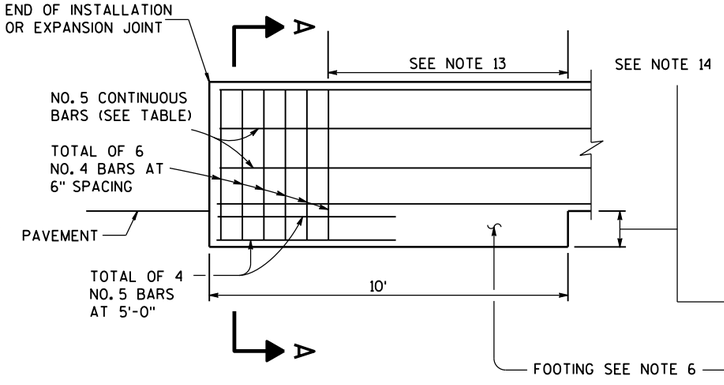
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

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



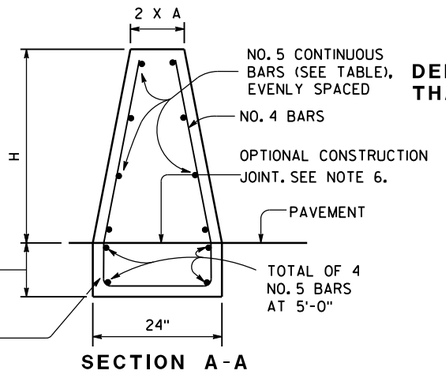
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT

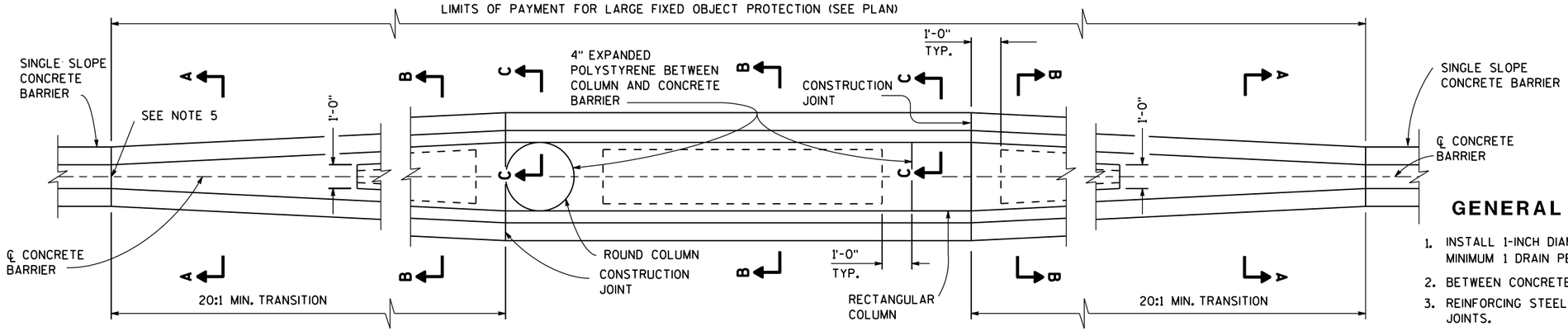


SECTION A-A

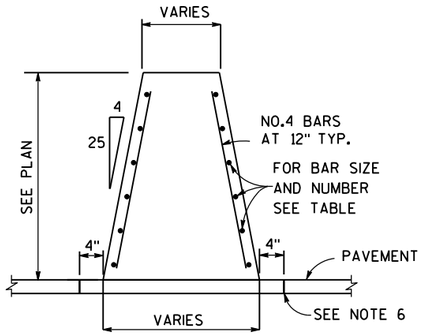
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

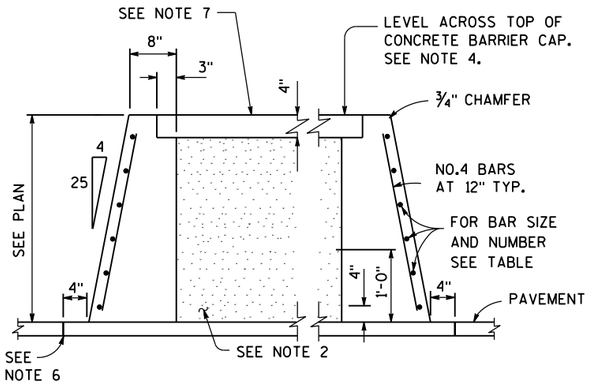
6
S.D.D. 14 B 32-3a



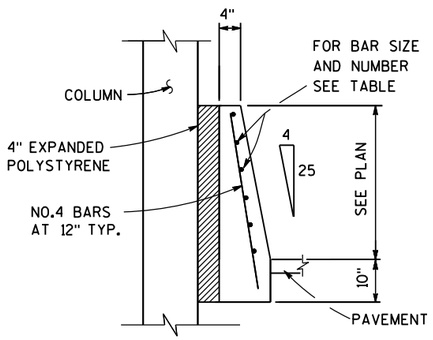
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



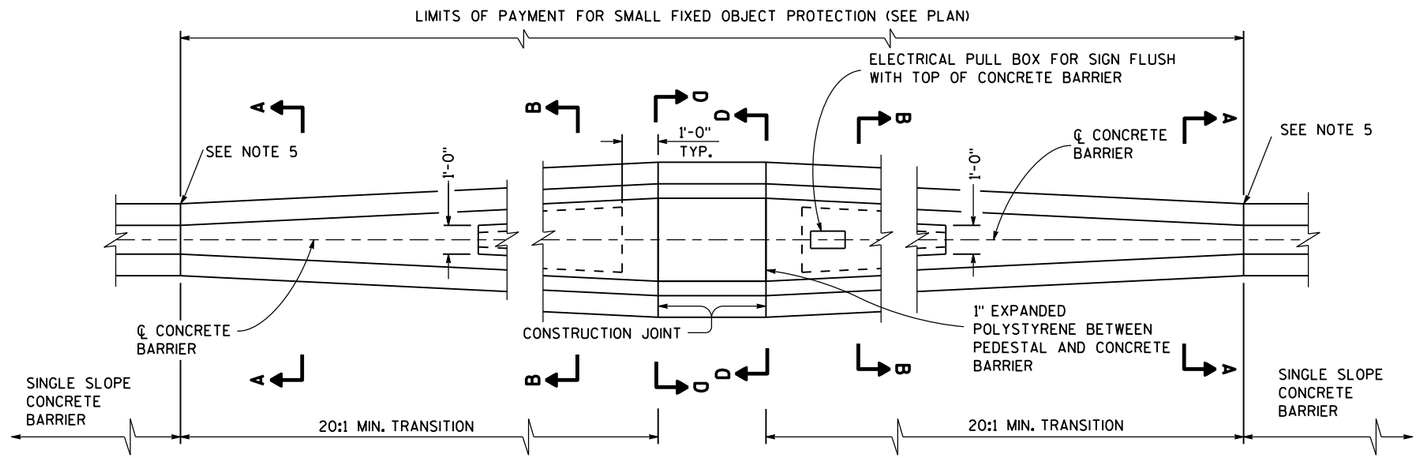
SECTION A-A



SECTION B-B



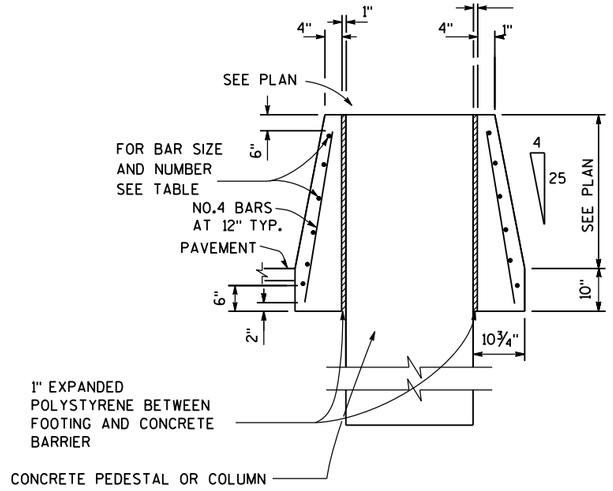
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

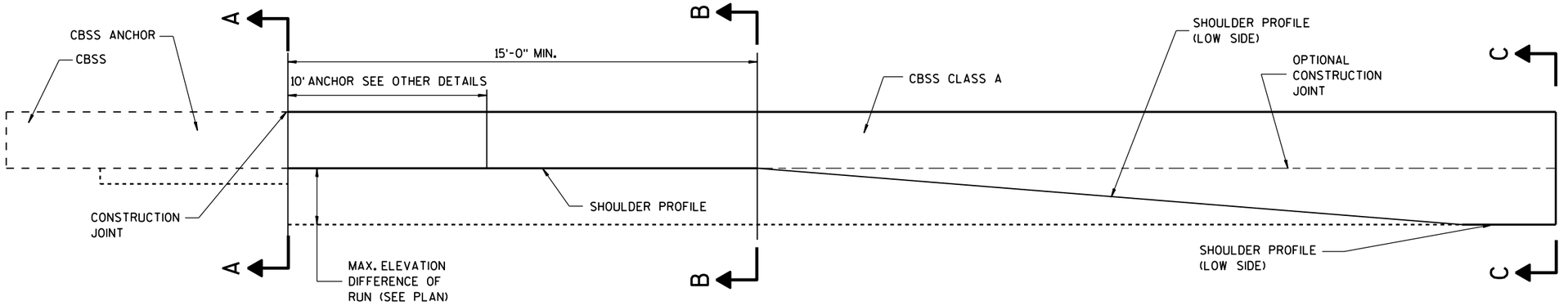
BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

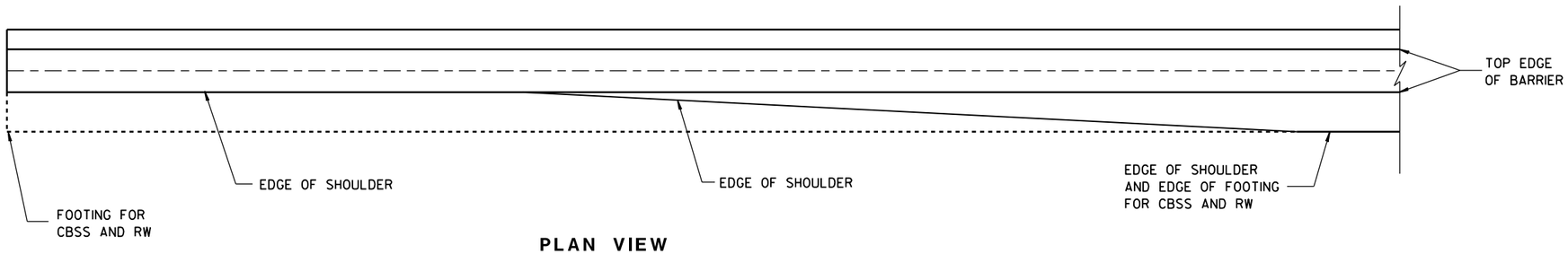
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

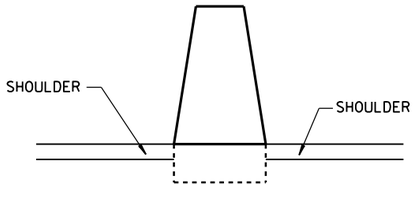
S.D.D. 14 B 32-3b



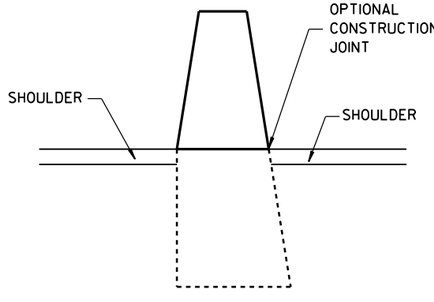
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



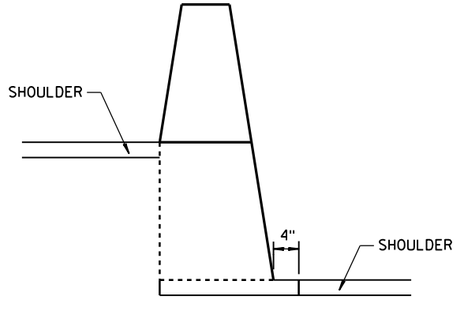
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



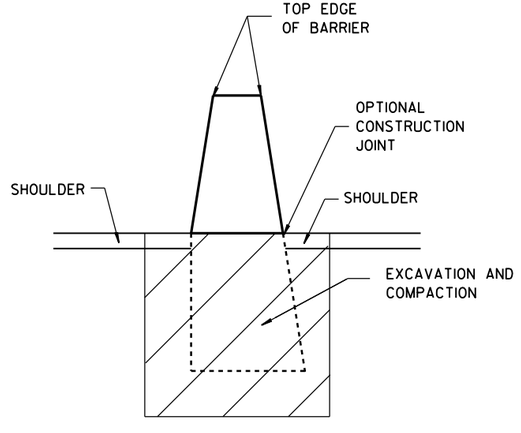
SECTION A-A



SECTION B-B



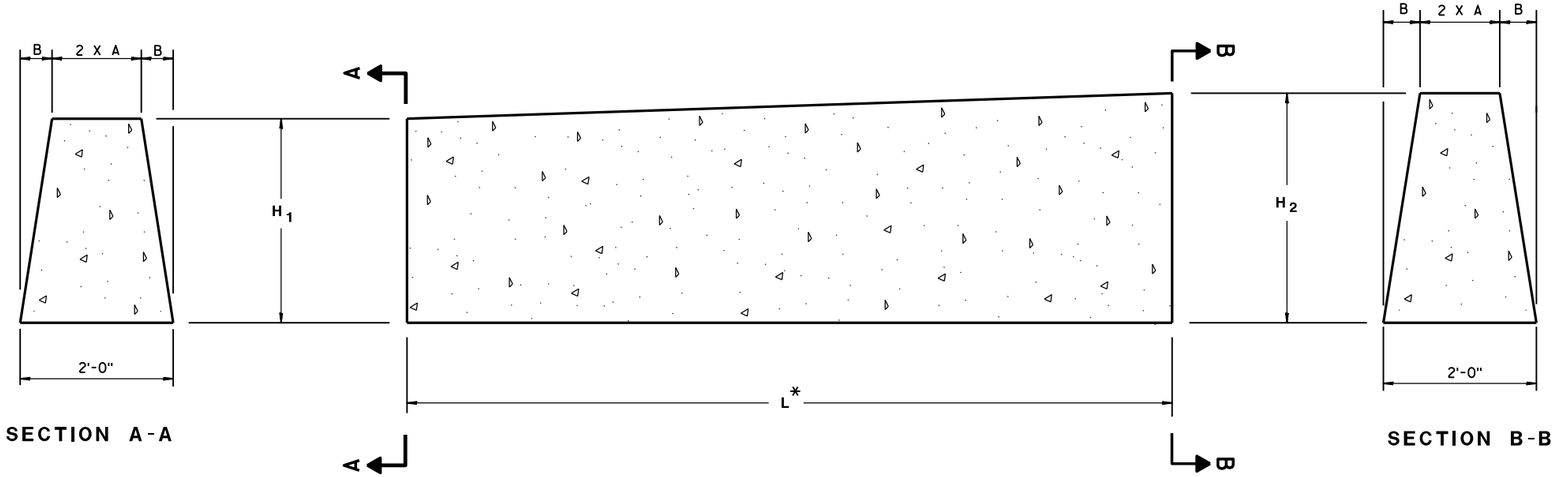
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 32-3c



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

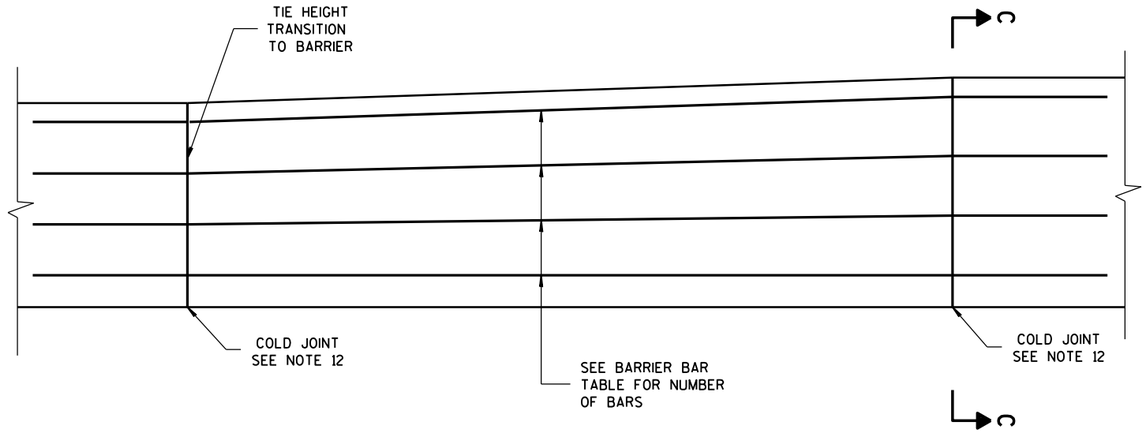
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

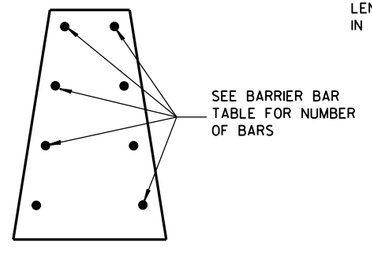
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

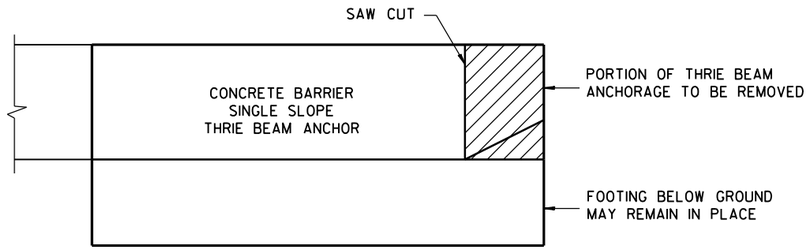
FHWA

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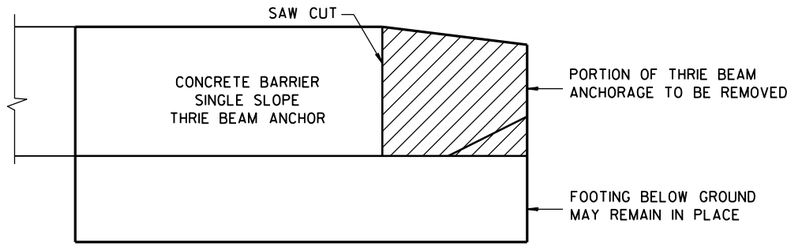
S.D.D. 14 B 32-3d

6

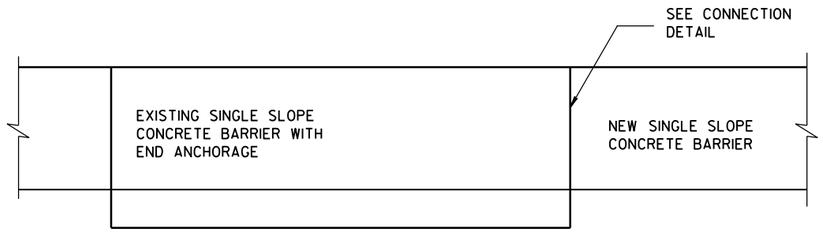
S.D.D. 14 B 32-3d



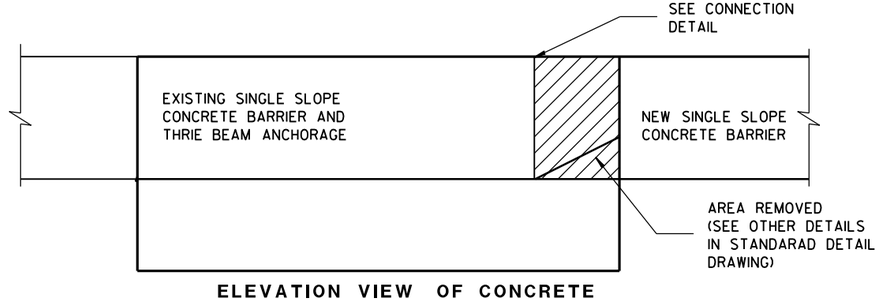
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



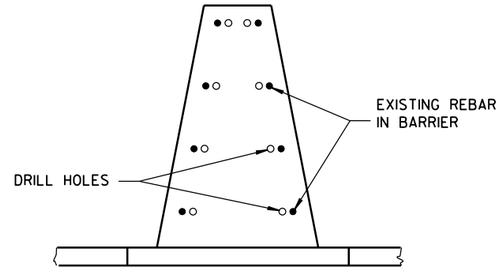
REMOVAL AREA OF CONCRETE THRIE BEAM
ANCHORAGE WITH HEIGHT GREATER THAN 32"



ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR END ANCHORAGE



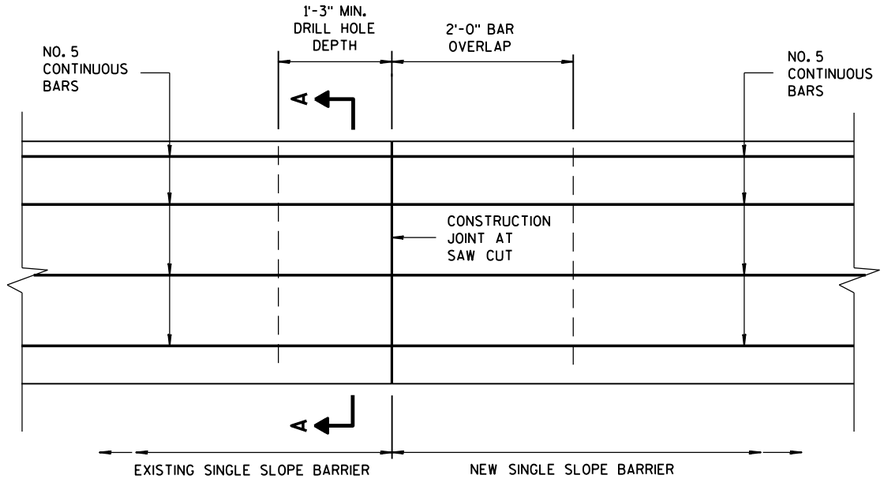
ELEVATION VIEW OF CONCRETE
BARRIER EXTENSION NEAR THRIE BEAM TERMINAL



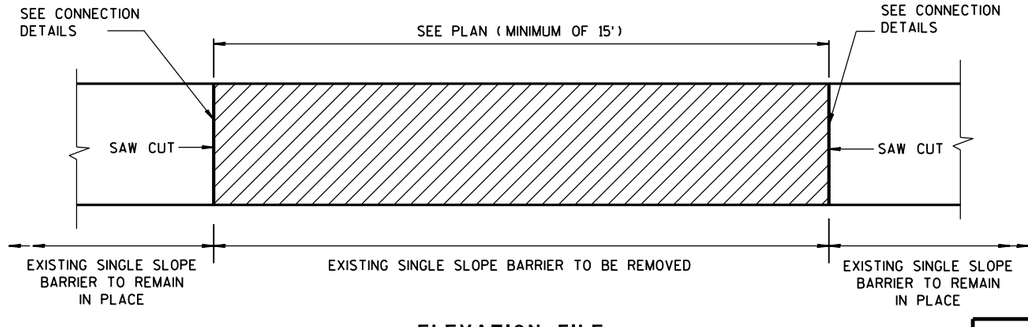
SECTION A-A

GENERAL NOTES

1. THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).
2. MINIMUM DEPTH OF DRILL HOLES IS 1'-3".
3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE.
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.
5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIER.
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



CONNECTION OF EXISTING SINGLE SLOPE CONCRETE BARRIER TO
NEW SINGLE SLOPE CONCRETE BARRIER



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

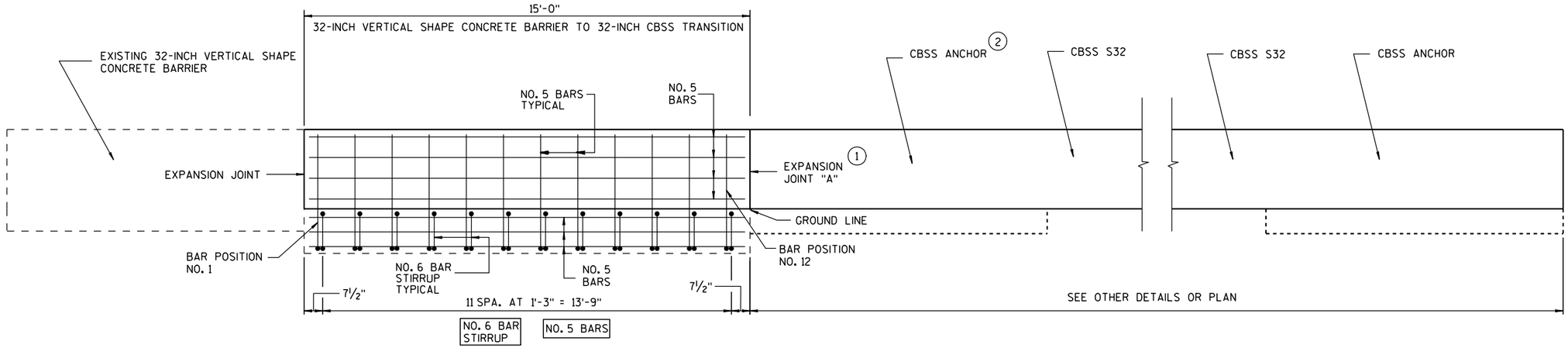
RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

6

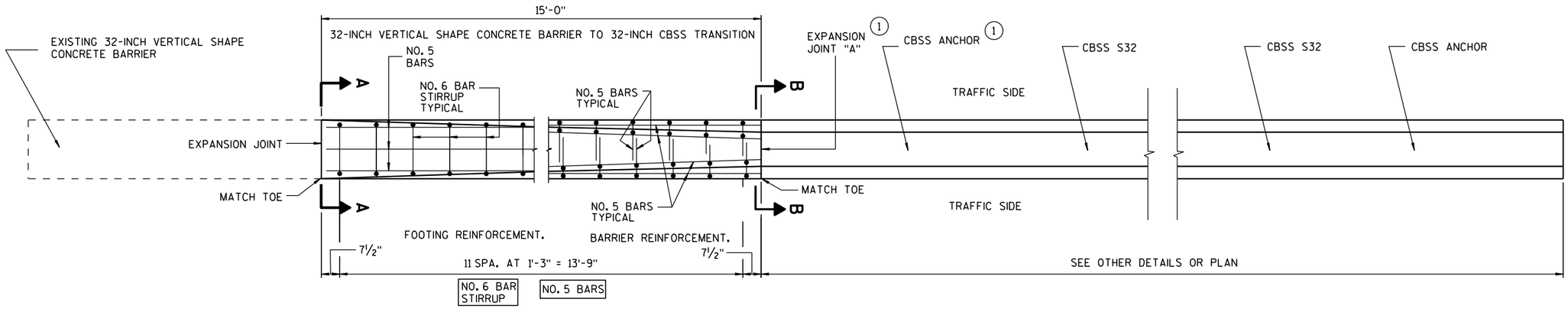
S.D.D. 14 B 32-3e

6

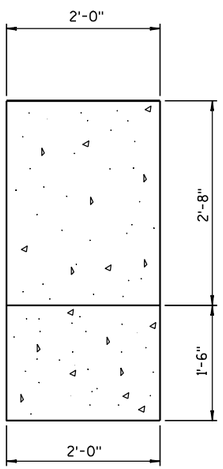
S.D.D. 14 B 32-3e



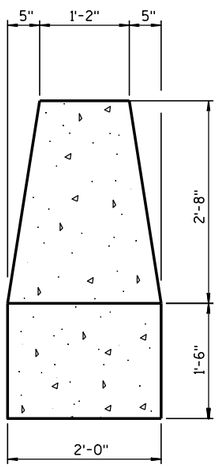
ELEVATION VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

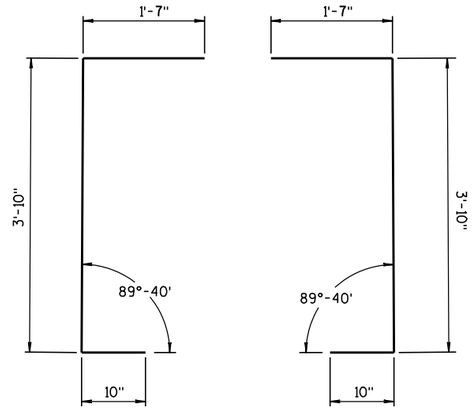
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

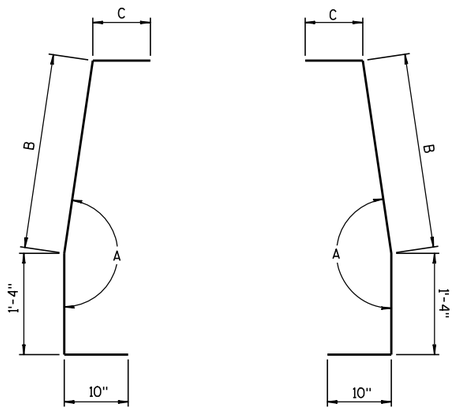
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



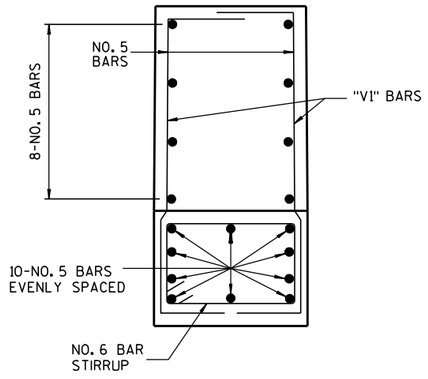
BAR NO. V1
BENDING DETAIL

BAR CHART
BAR POSITIONS V2 - V12

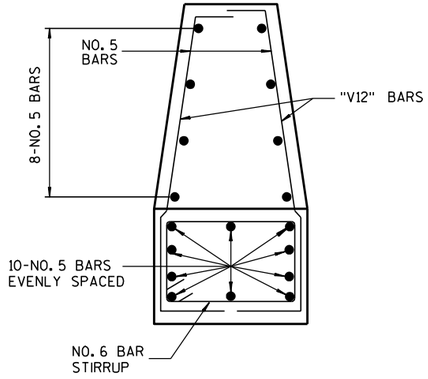
BAR	A	B	C
V2	178°-50'	2'-6"	1'-7"
V3	178°-15'	2'-6"	1'-7"
V4	177°-20'	2'-6"	1'-4"
V5	176°-40'	2'-6"	1'-4"
V6	176°	2'-6"	1'-2"
V7	175°-05'	2'-6"	1'-0"
V8	174°-25'	2'-6"	1'-0"
V9	173°-30'	2'-6"	11"
V10	172°-50'	2'-6"	11"
V11	172°-15'	2'-6½"	10"
V12	171°-35'	2'-6½"	9"



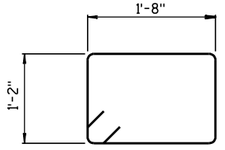
BAR NO. V2 - NO. V12
BENDING DETAIL



BAR DETAIL
BAR POSITION NO. 1



BAR DETAIL
BAR POSITION NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

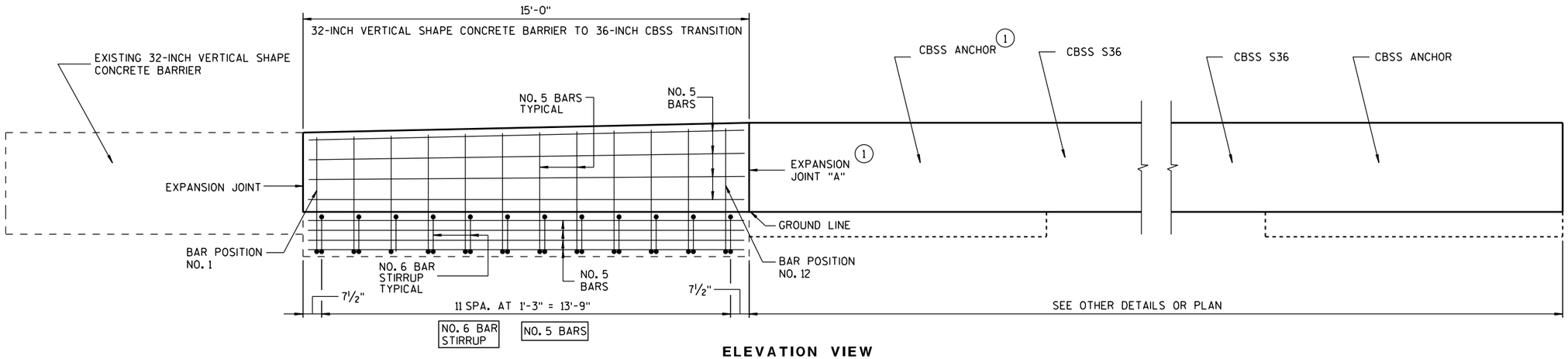
FHWA

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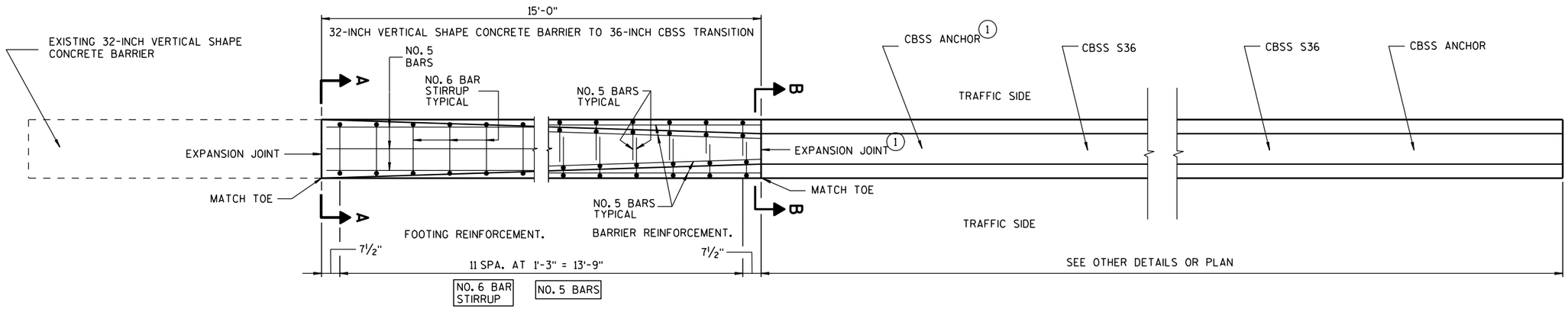
S.D.D. 14 B 40-1b

6

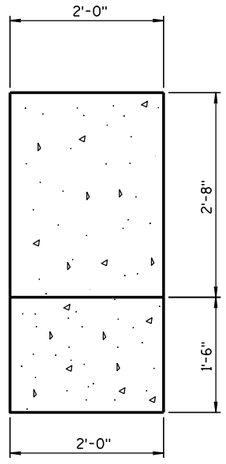
S.D.D. 14 B 40-1b



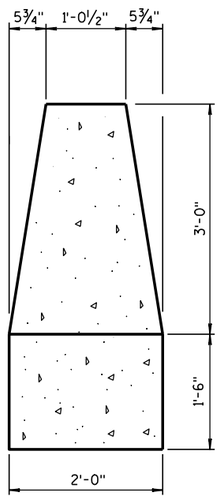
ELEVATION VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

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32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

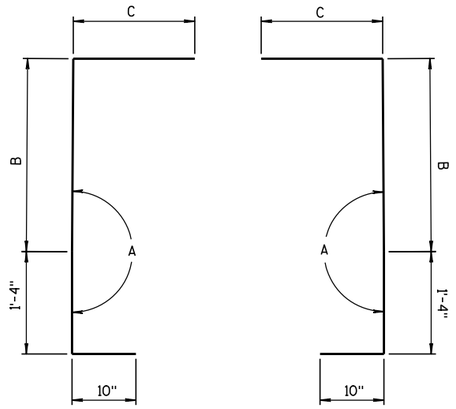
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

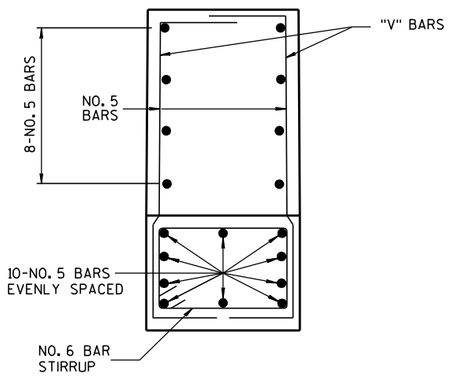
S.D.D. 14 B 40-1c

BAR CHART
BAR POSITIONS V1 - V12

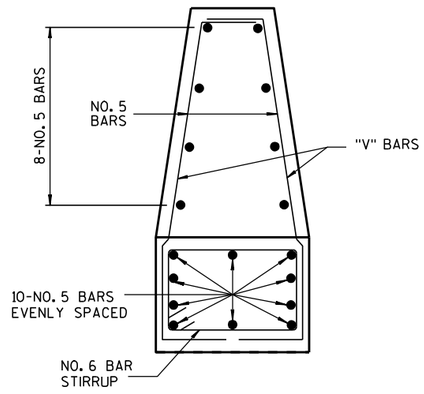
BAR	A	B	C
V1	179°-35'	2'-6 1/4"	1'-7"
V2	179°-10'	2'-6 1/2"	1'-7"
V3	178°-05'	2'-6 3/4"	1'-5"
V4	177°	2'-7 1/4"	1'-4"
V5	176°-35'	2'-7 3/4"	1'-4"
V6	175°-35'	2'-8"	1'-2"
V7	174°-45'	2'-8 1/2"	1'-1"
V8	174°-05'	2'-8 3/4"	1'-0"
V9	173°-15'	2'-9 1/4"	11"
V10	172°-45'	2'-9 3/4"	11"
V11	172°	2'-10"	10"
V12	171°-15'	2'-10 1/2"	9"



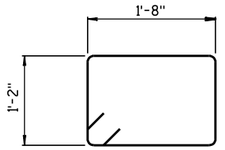
BAR BENDING DETAIL



BAR DETAIL
BAR POSITION NO. 1



BAR DETAIL
BAR POSITION NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH VERTICAL SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

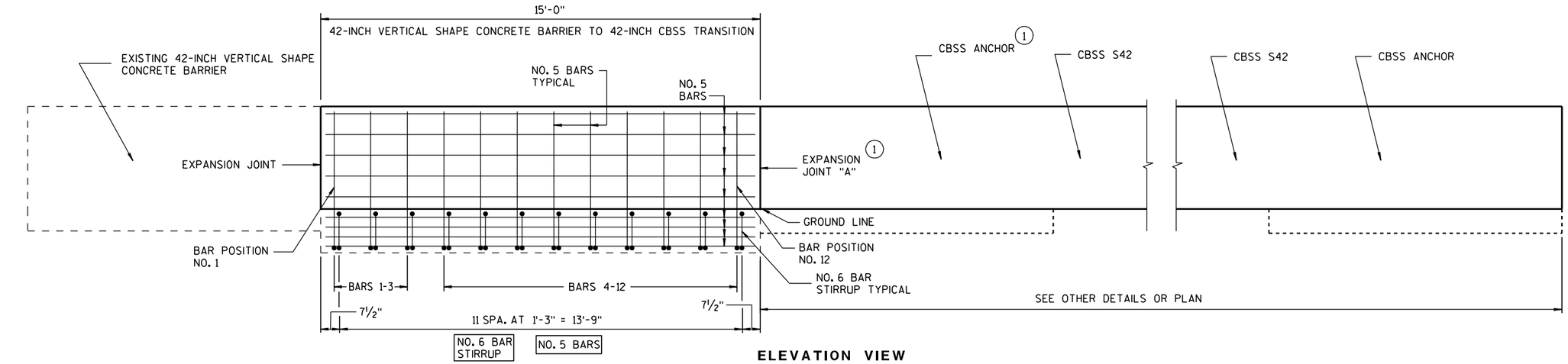
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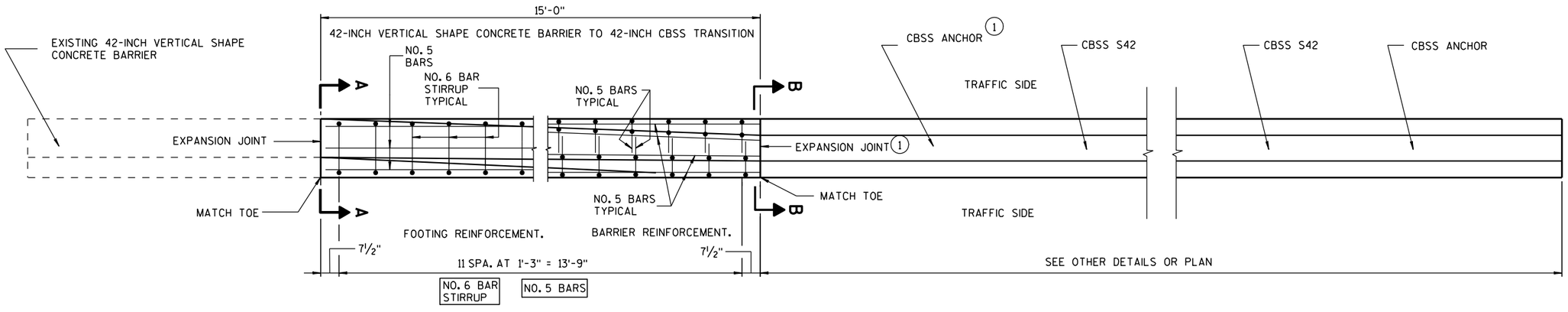
S.D.D. 14 B 40-1d

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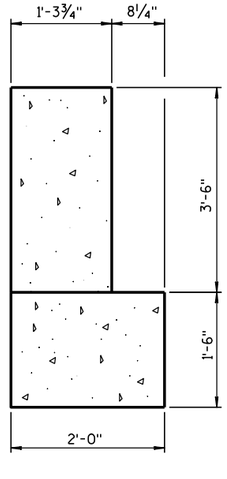
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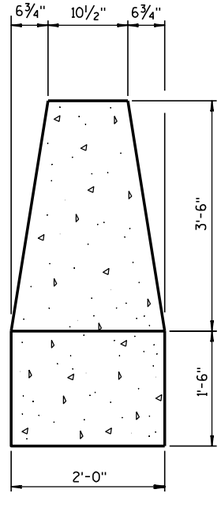
ELEVATION VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

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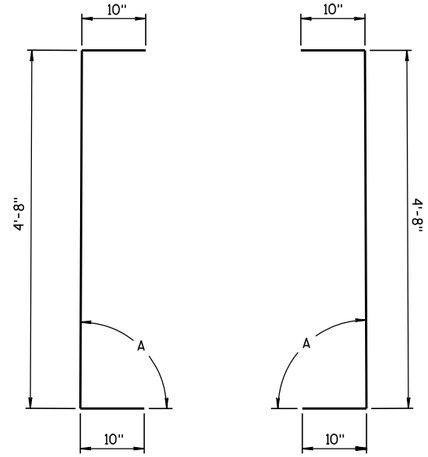
42-INCH VERTICAL SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 40-1e

BAR CHART
BAR POSITIONS V1 - V3

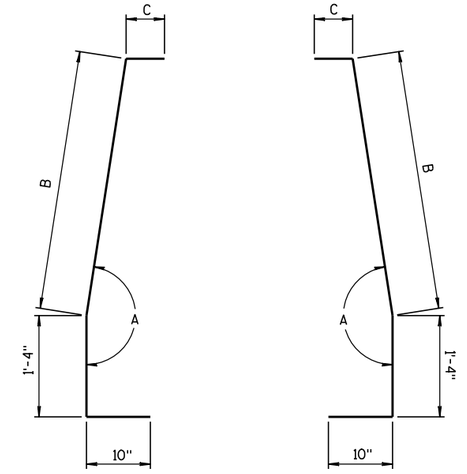
BAR	A
V1	89°-45'
V2	89°-10'
V3	88°-40'



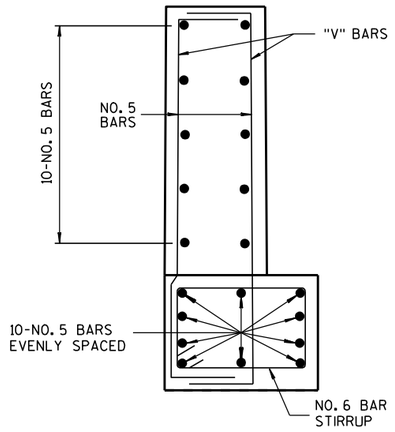
BARS BENDING DETAIL FOR V1 - V3

BAR CHART
BAR POSITIONS V4 - V12

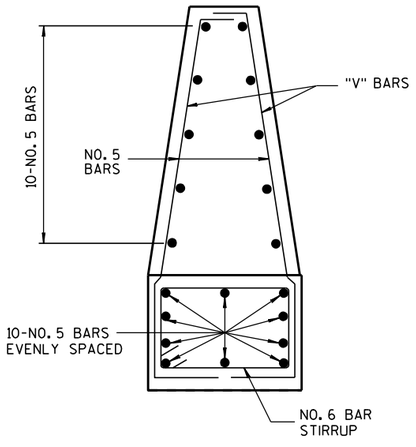
BAR	A	B	C
V4	177°-15'	3'-4"	10"
V5	176°-35'	3'-4"	10"
V6	175°-55'	3'-4½"	8"
V7	175°-05'	3'-4½"	8"
V8	174°-25'	3'-4½"	8"
V9	173°-35'	3'-4½"	8"
V10	172°-05'	3'-4½"	8"
V11	172°-40'	3'-4½"	6"
V12	172°-05'	3'-4½"	6"



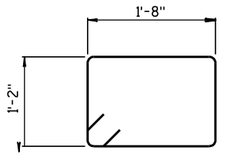
BARS BENDING DETAIL FOR V4 - V12



BAR DETAIL
BAR POSITION V1-V3



BAR DETAIL
BAR POSITION V4-V12



STIRRUP BAR
BENDING DETAIL

42-INCH VERTICAL SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

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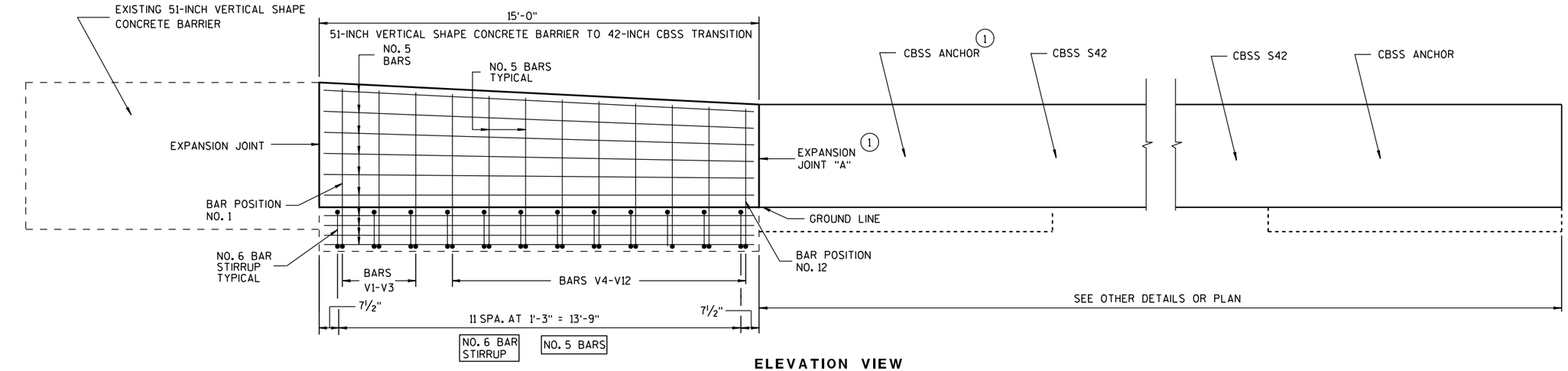
FHWA

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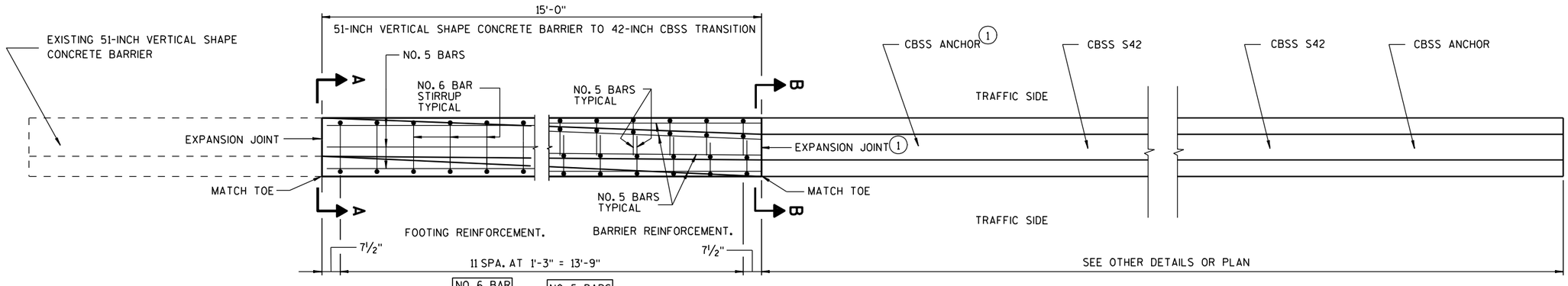
S.D.D. 14 B 40-1f

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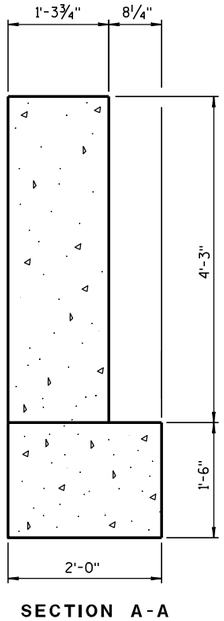
S.D.D. 14 B 40-1f



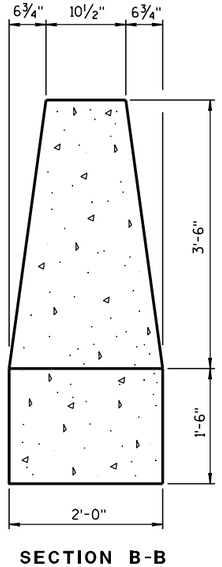
ELEVATION VIEW



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

51-INCH VERTICAL SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 40-1g

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.

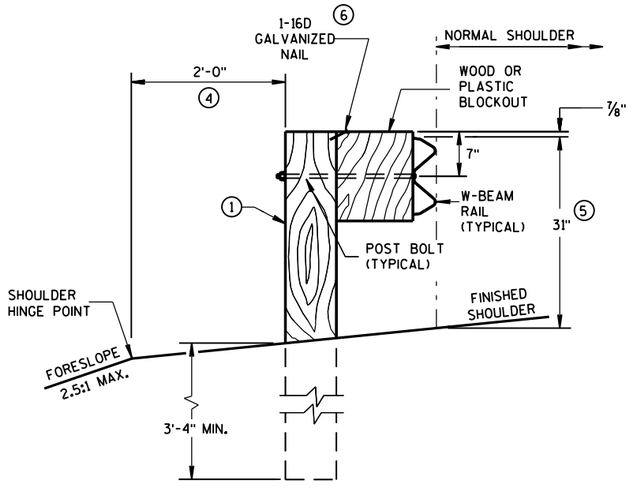
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

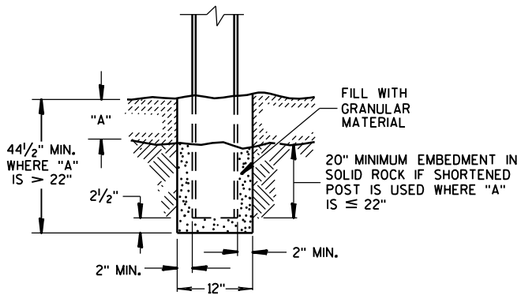
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



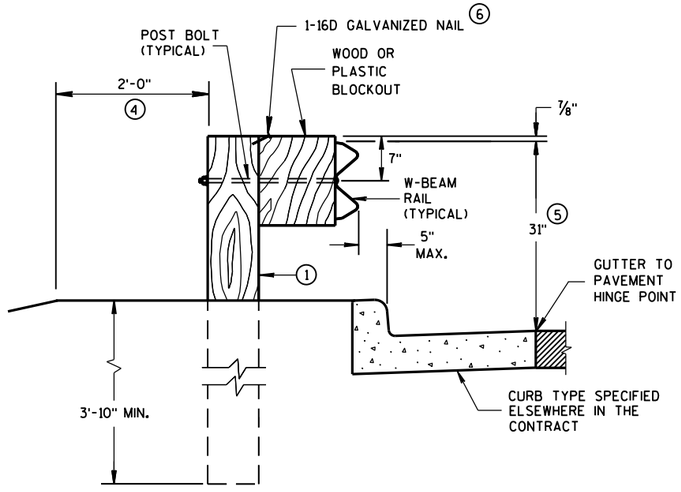
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



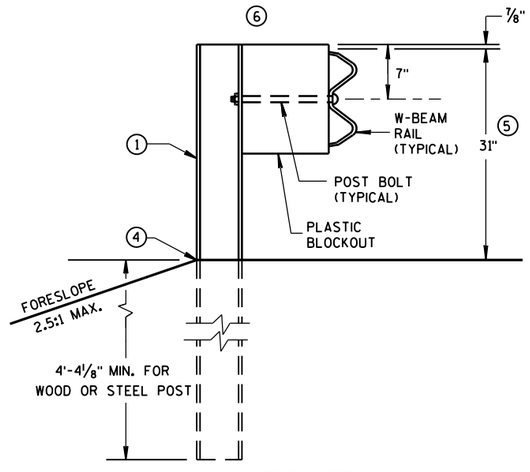
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



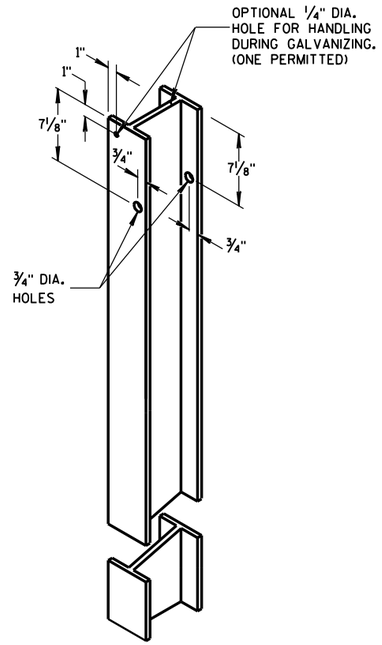
END VIEW

LOCATED ALONG A CURBED ROADWAY

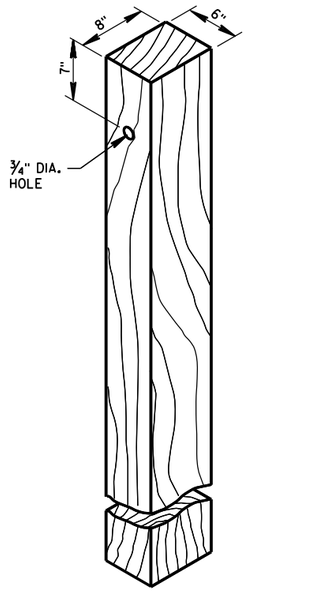


END VIEW

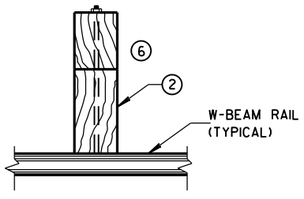
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



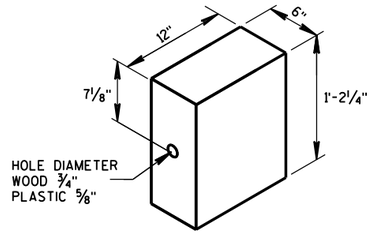
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



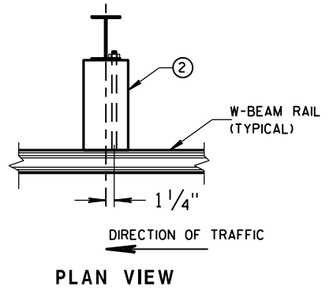
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

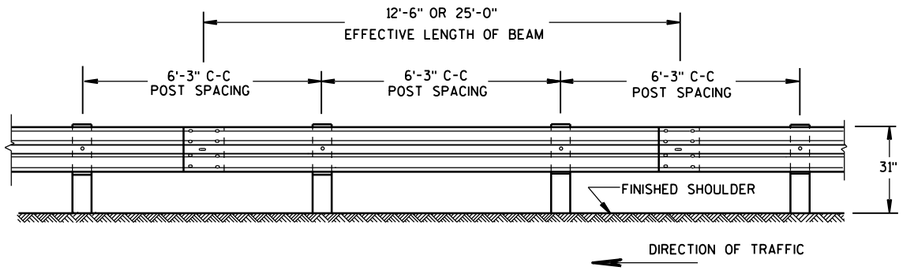


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

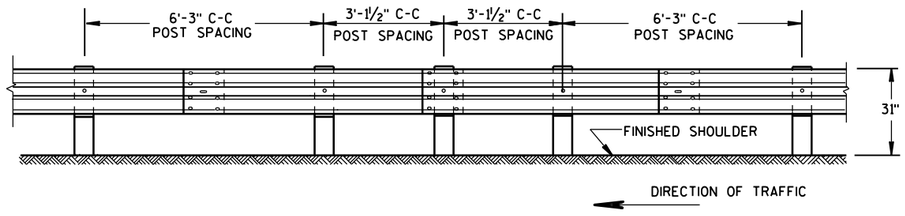
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 42-3a



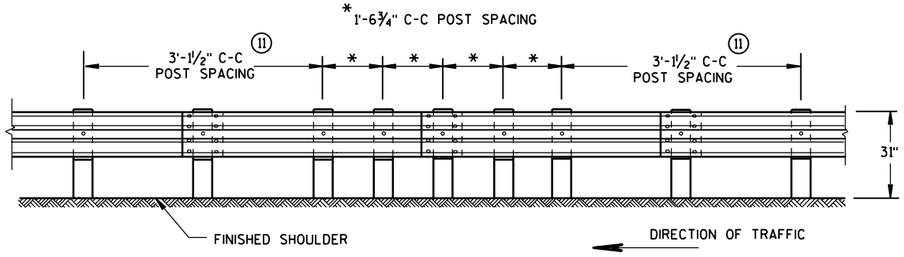
FRONT VIEW

POST SPACING STANDARD INSTALLATION



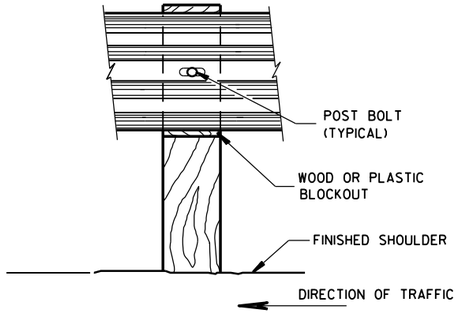
FRONT VIEW

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

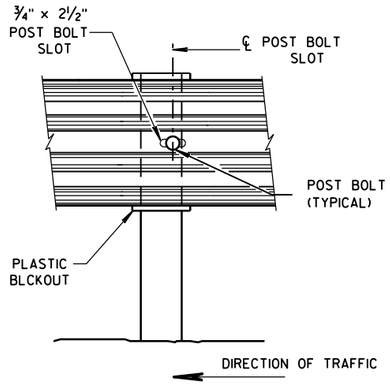


FRONT VIEW

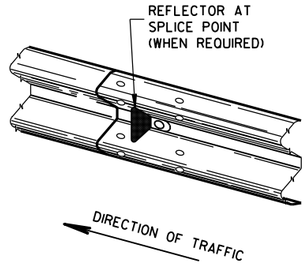
QUARTER POST SPACING (QS)

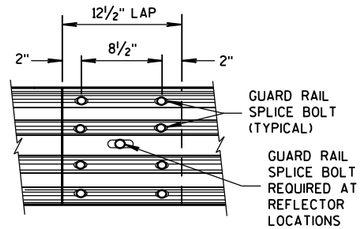


FRONT VIEW AT WOOD POST



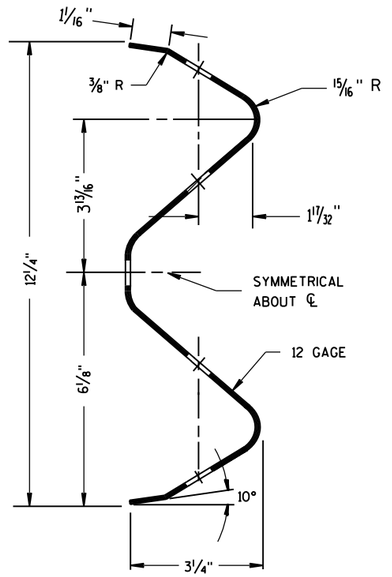
FRONT VIEW AT STEEL POST



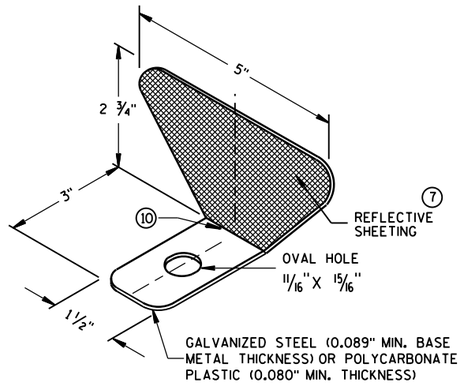


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A 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 ⑧

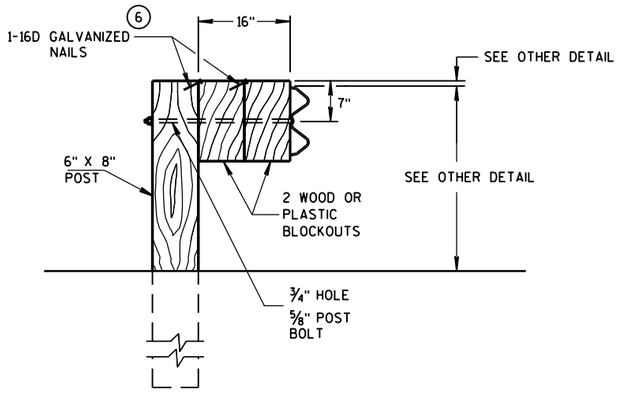
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

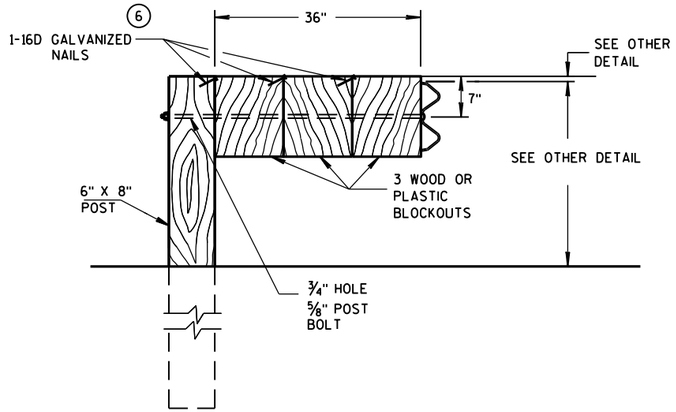
6

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



DETAIL FOR 16" BLOCKOUT DEPTH

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

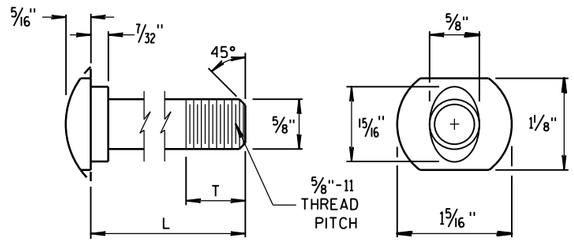


DETAIL FOR 36" BLOCKOUT DEPTH

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

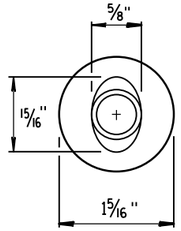
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

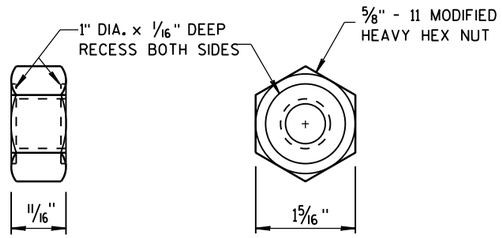


POST BOLT TABLE

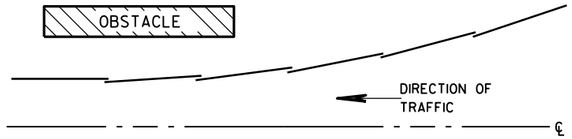
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

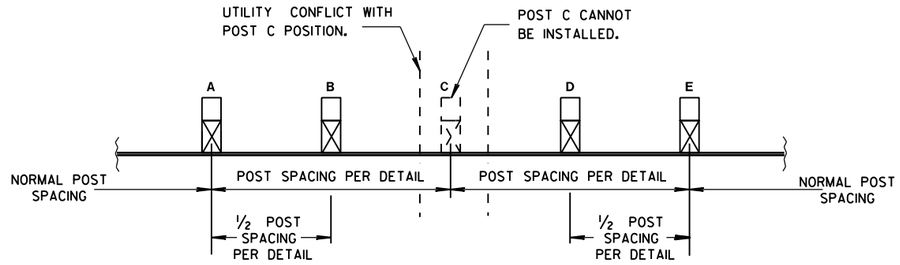


POST BOLT AND RECESS NUT

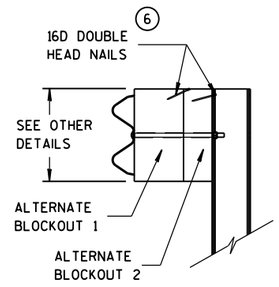


PLAN VIEW

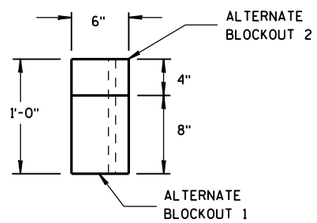
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 14 B 42-3c

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

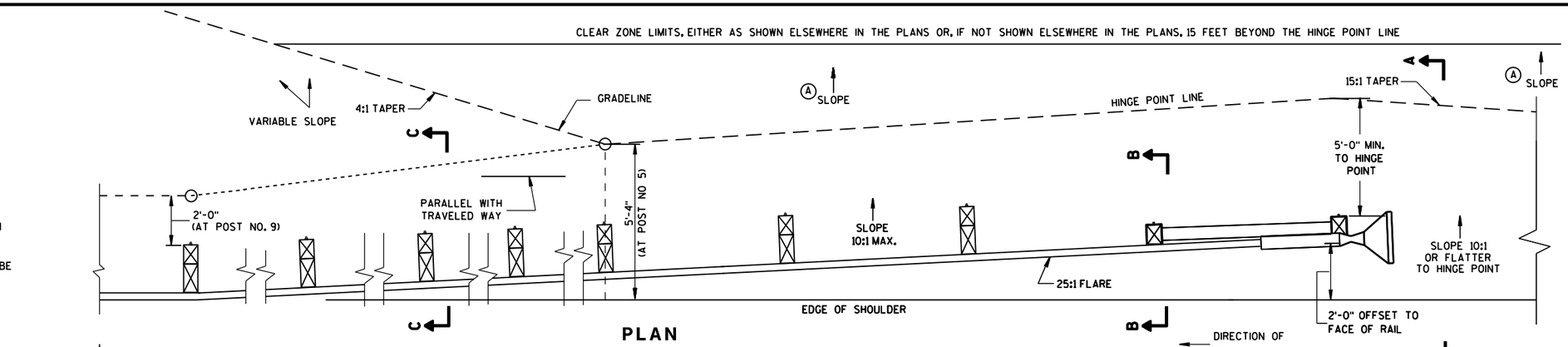
SEE SDD 14B42 FOR MORE INFORMATION.

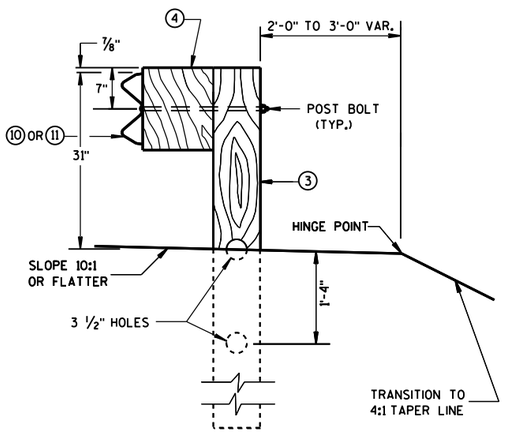
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

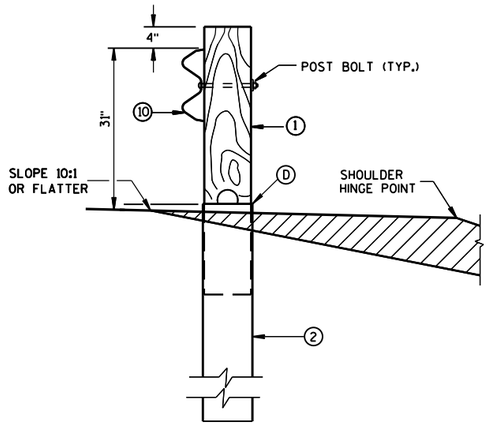
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

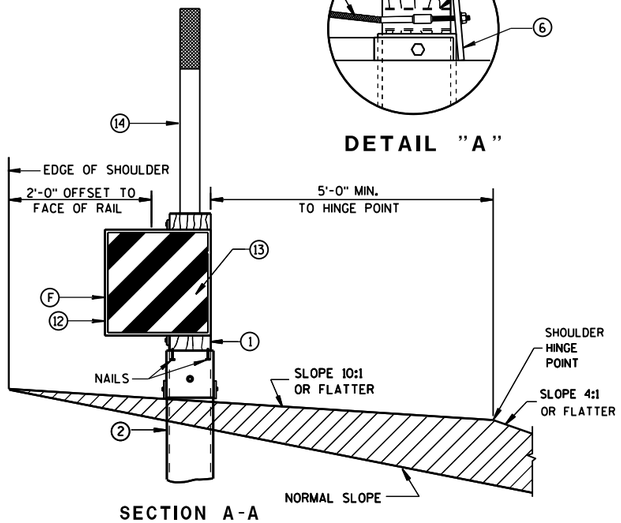




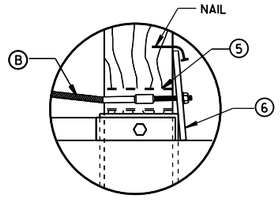
SECTION C-C
TYPICAL AT POST NOS. 3-9



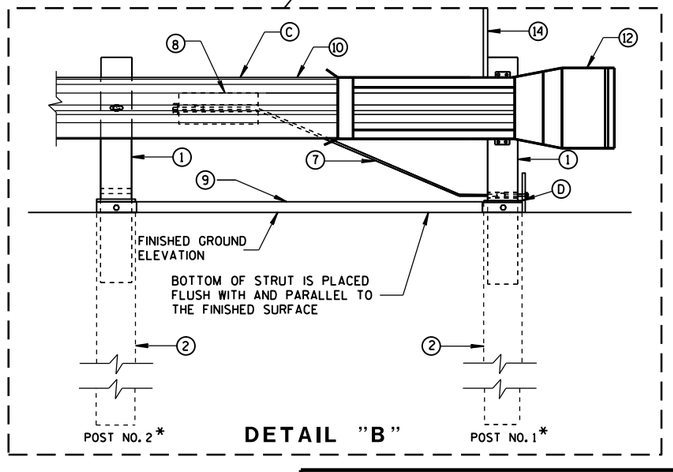
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



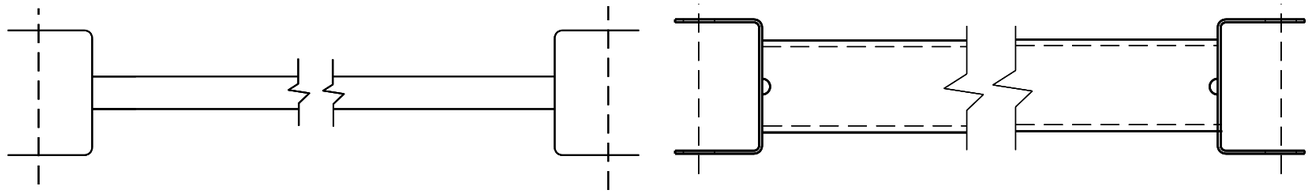
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

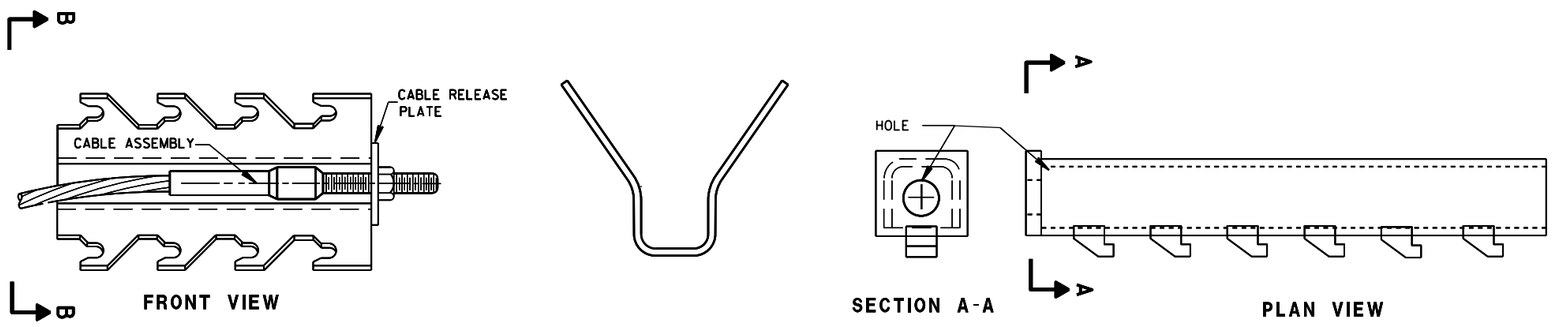
S.D.D. 14 B 44-2a



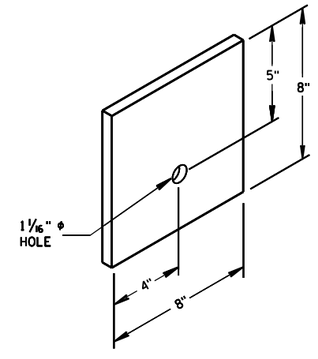
GENERIC GROUND STRUT (9) (H)

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 F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX (8) (H)

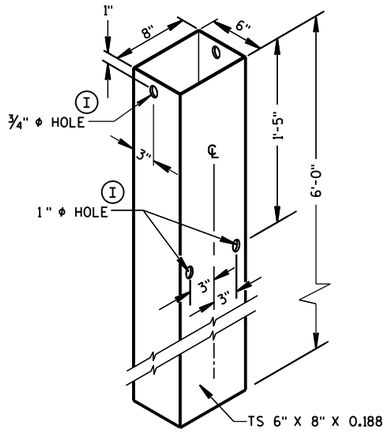


BEARING PLATE (6)

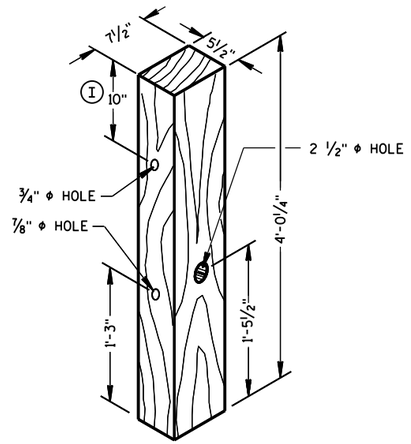
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 44-2b

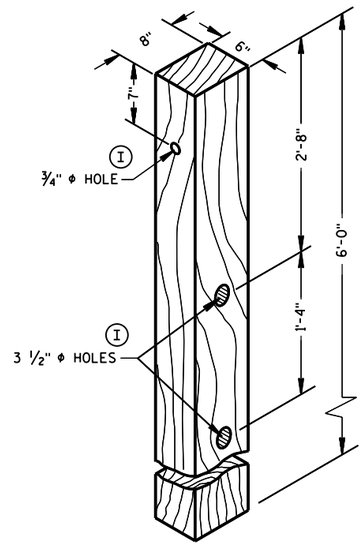


FOUNDATION TUBE (2)



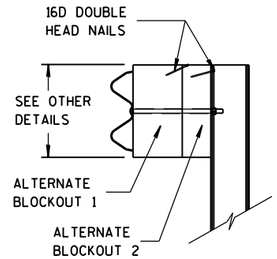
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

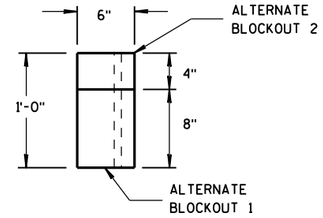


POSTS NUMBER 3-9

WOOD CRT POST (3)

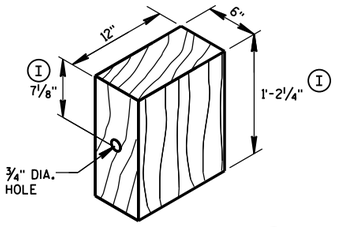


SIDE VIEW



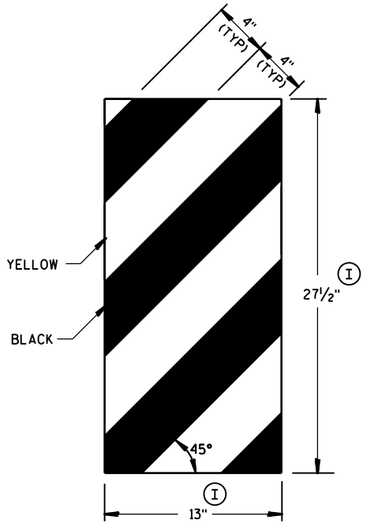
TOP VIEW

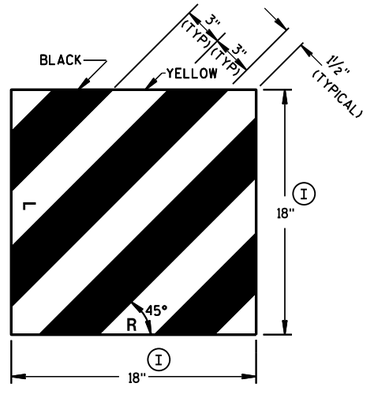
ALTERNATE WOOD BLOCKOUT DETAIL



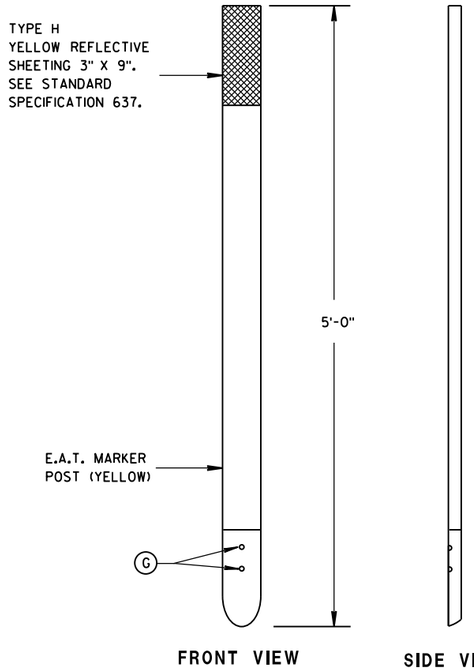
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





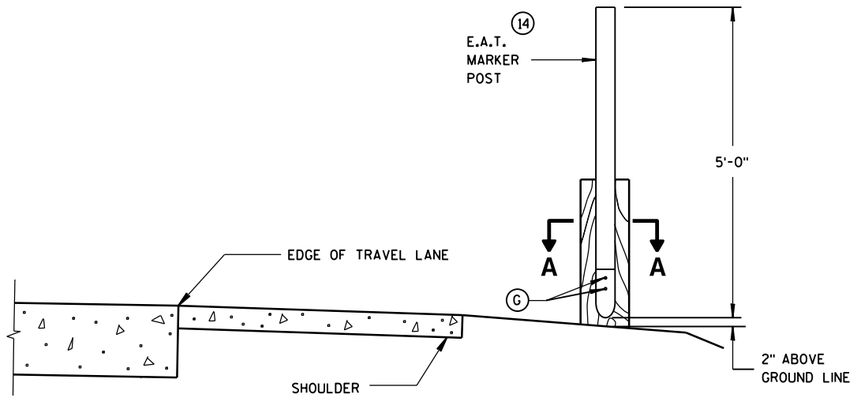
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

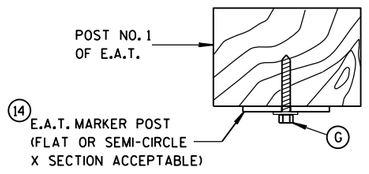
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

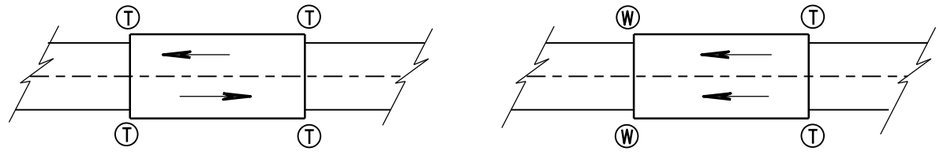
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 14 B 44-2c



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

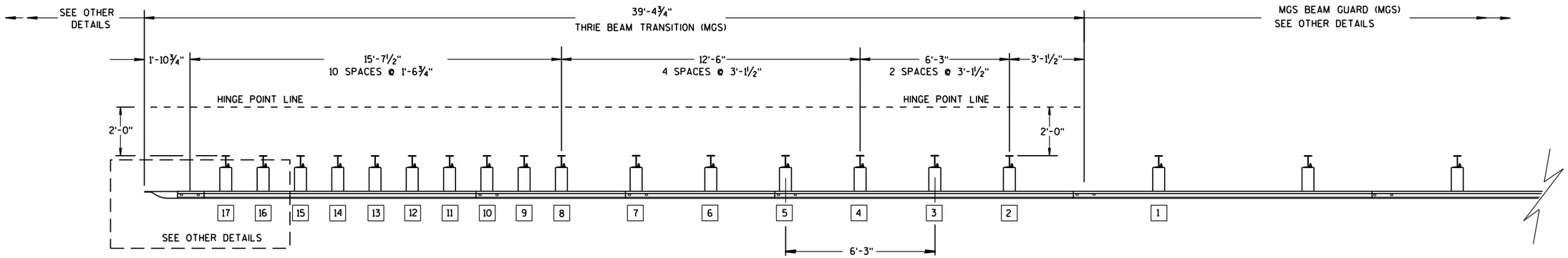
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

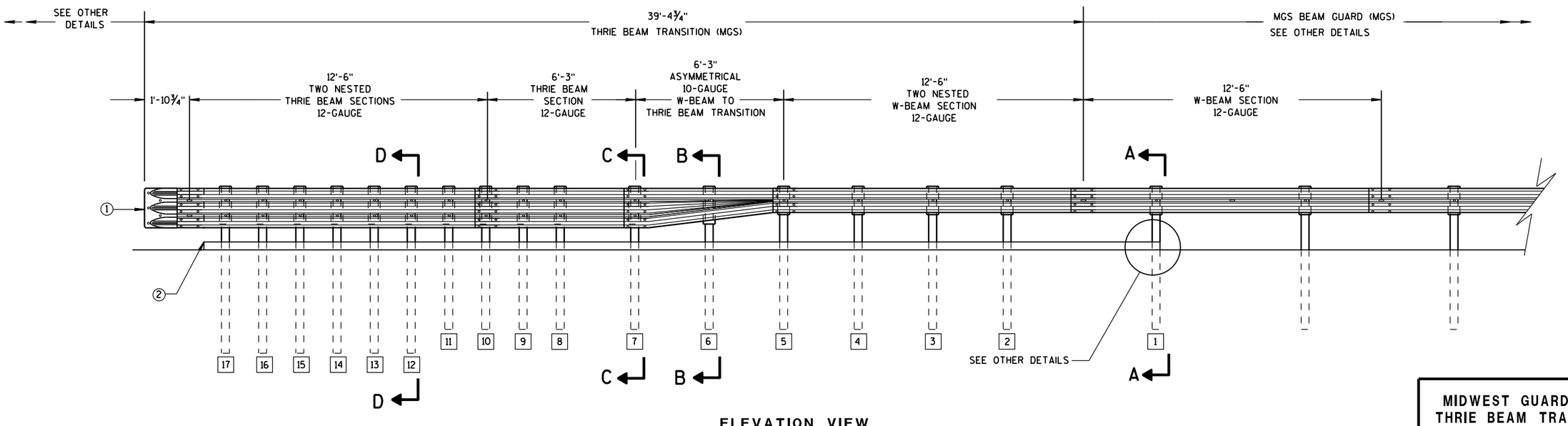
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4a

6

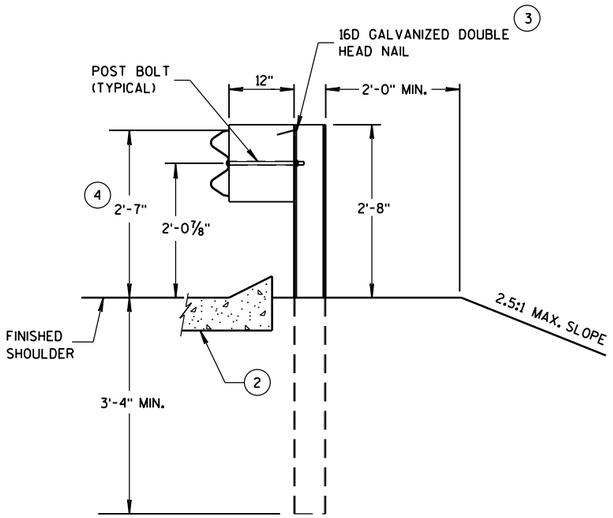
S.D.D. 14 B 45-4a

GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

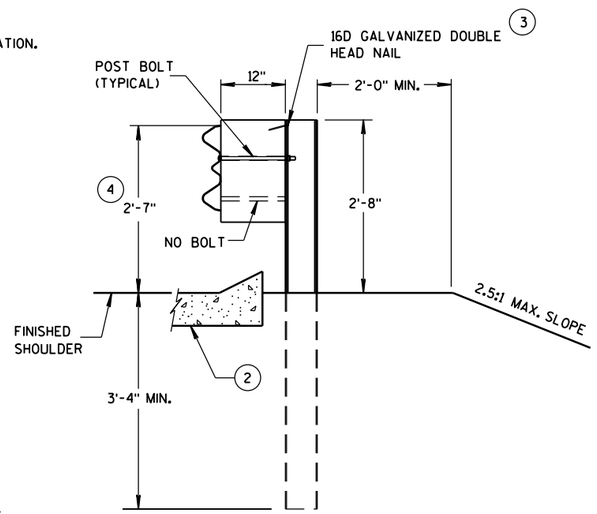
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



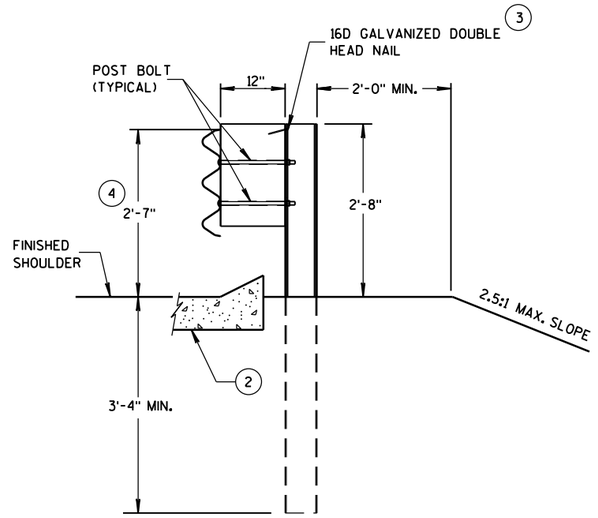
SECTION A-A

POSTS 1-5



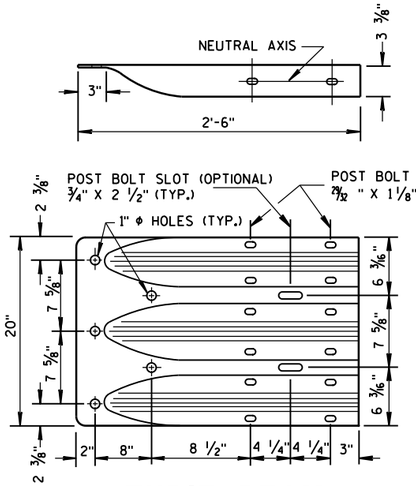
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

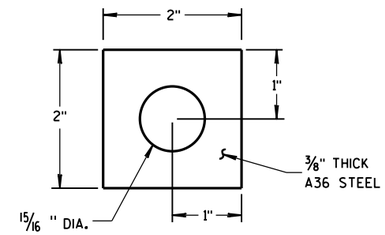
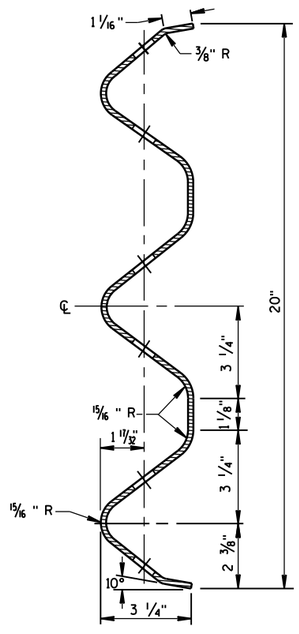
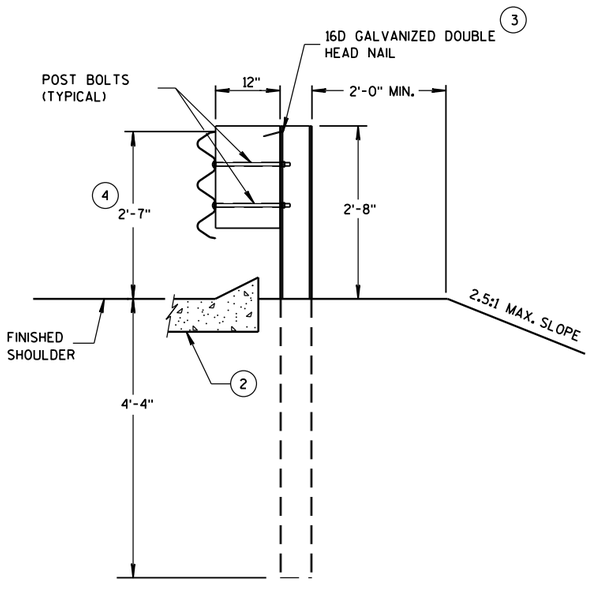


PLATE WASHER DETAIL

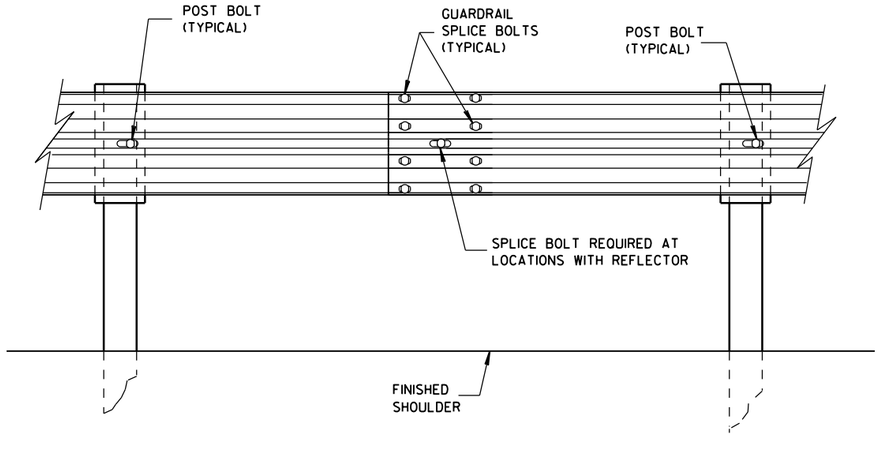


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



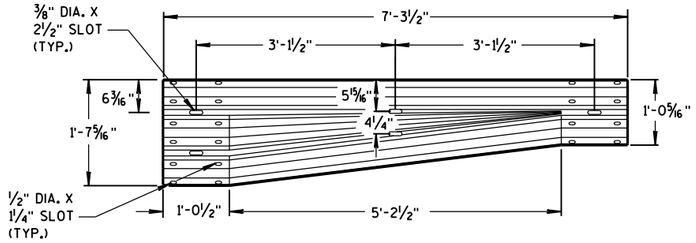
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

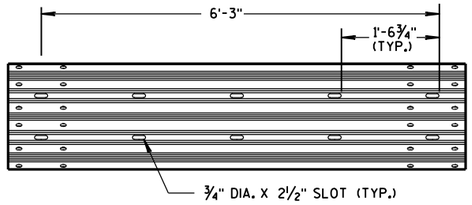
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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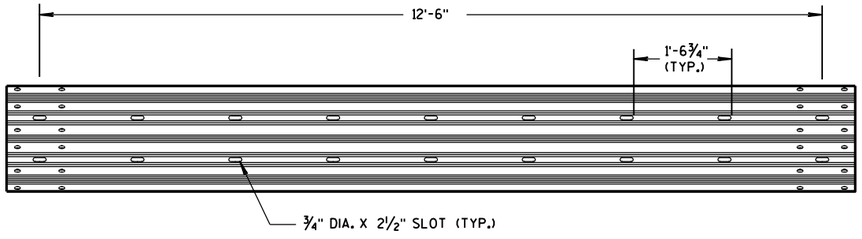
S.D.D. 14 B 45-4b



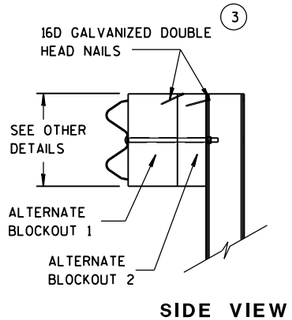
W-BEAM TO THRIE BEAM TRANSITION SECTION



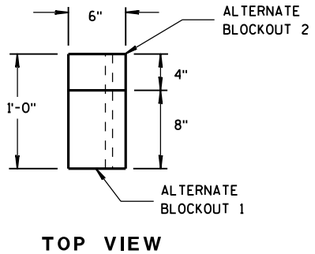
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

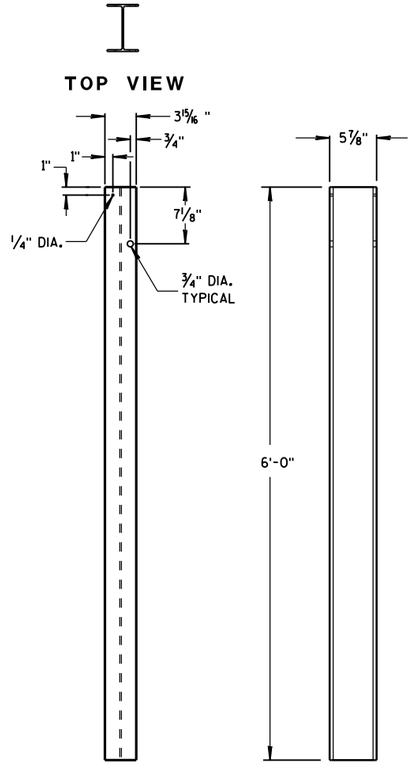


SIDE VIEW

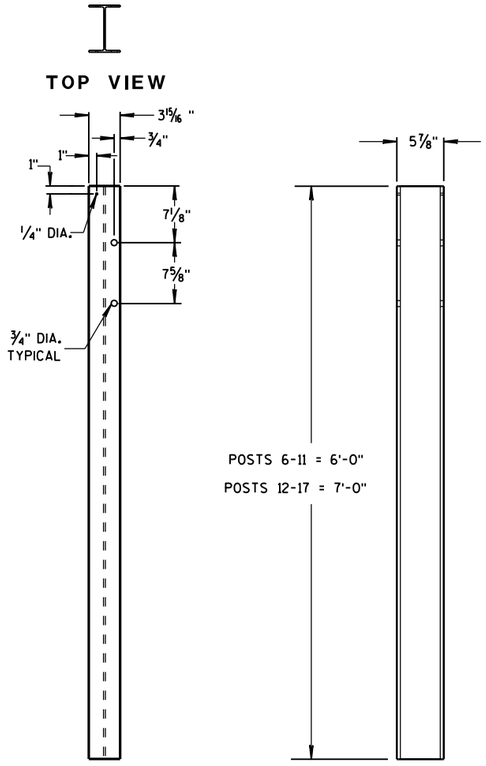


TOP VIEW

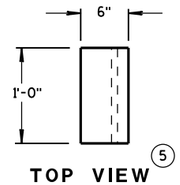
ALTERNATE WOOD BLOCKOUT DETAIL



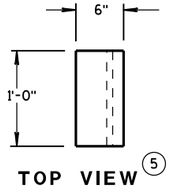
STEEL POSTS 1-5



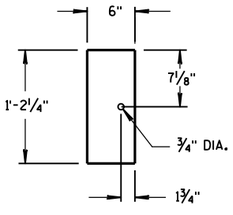
STEEL POSTS 6-17



TOP VIEW (5)

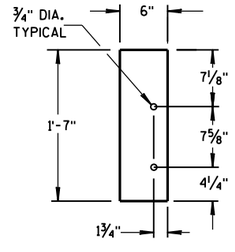


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

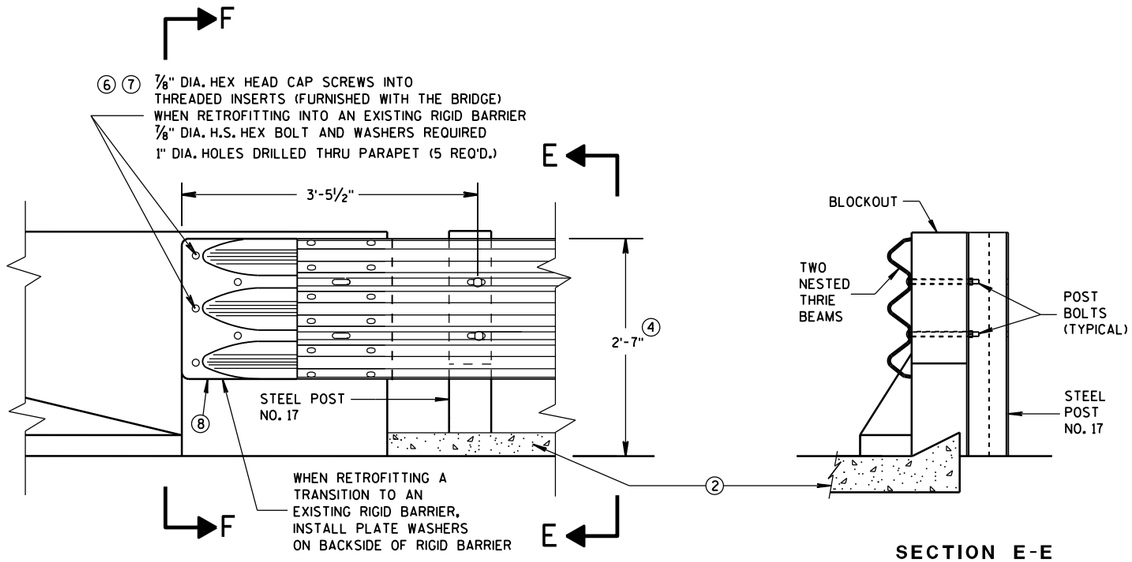
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

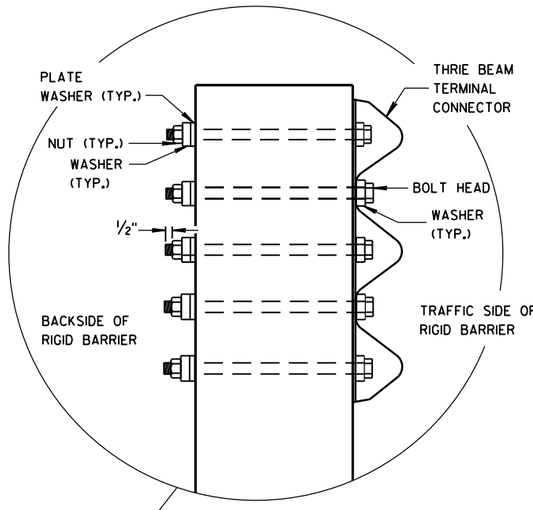
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

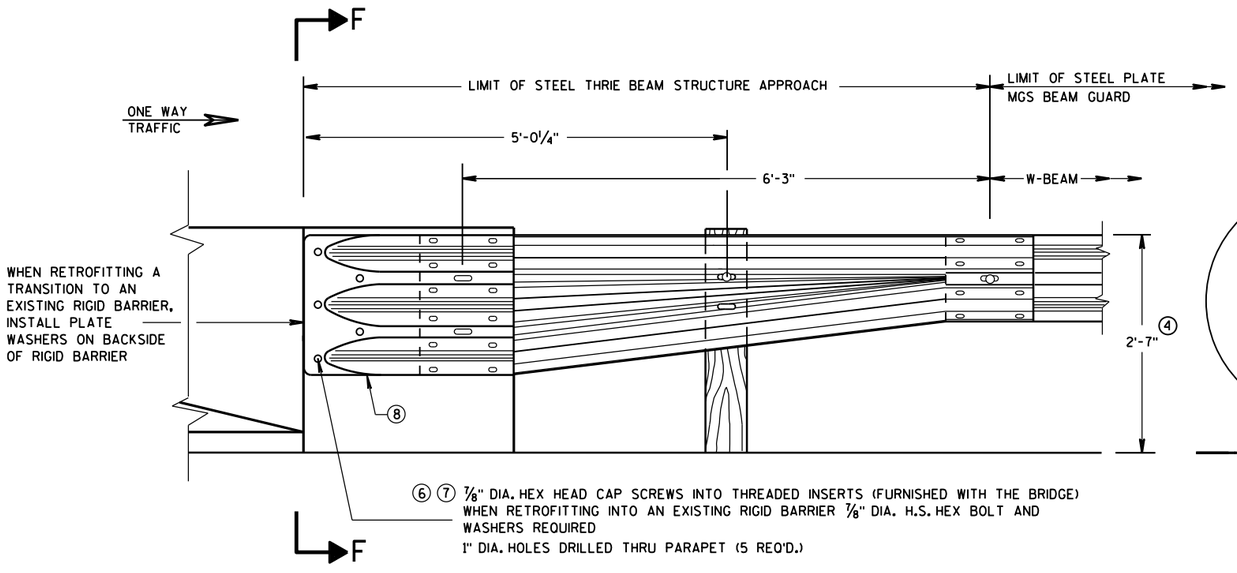
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

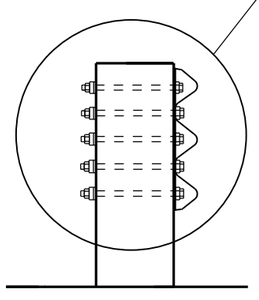
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

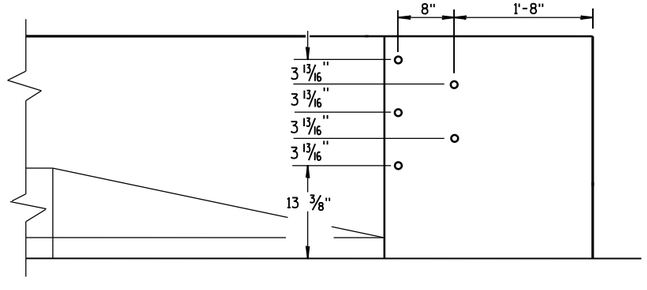




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

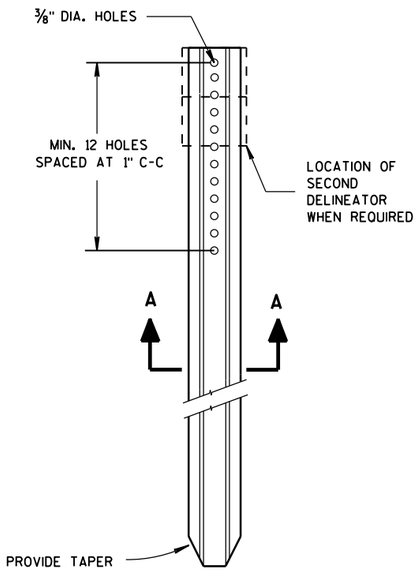
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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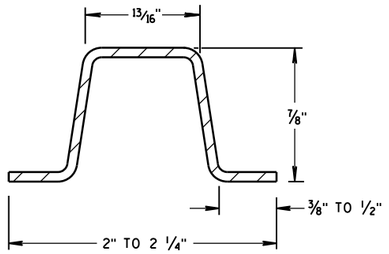
S.D.D. 14 B 45-4d

6

S.D.D. 14 B 45-4d

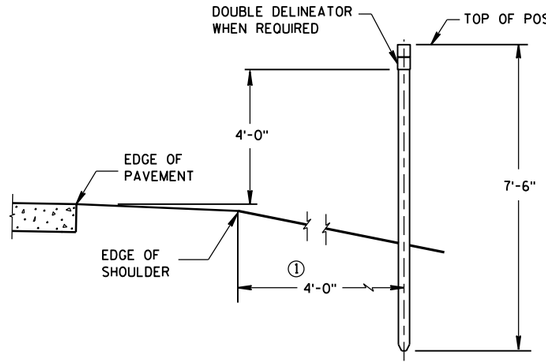


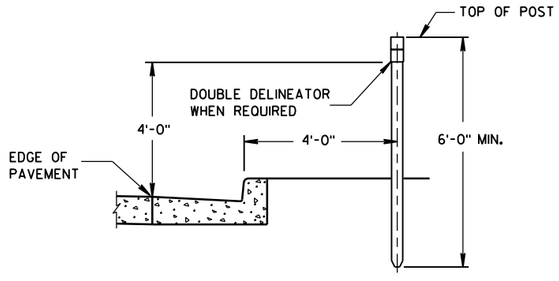
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



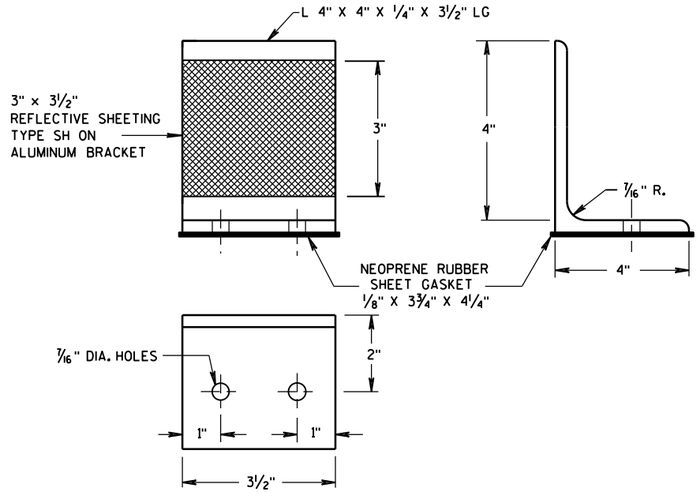


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

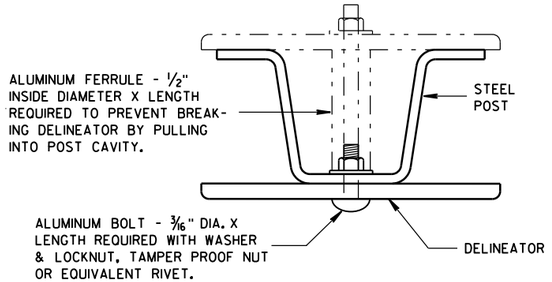
GENERAL NOTES

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

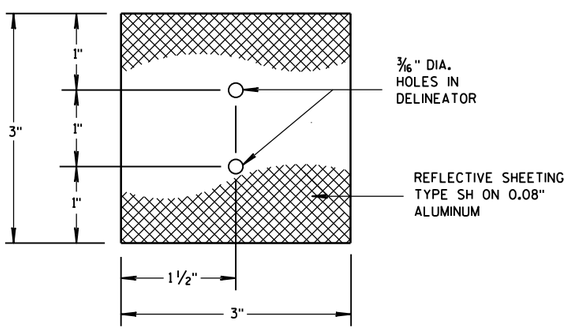
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



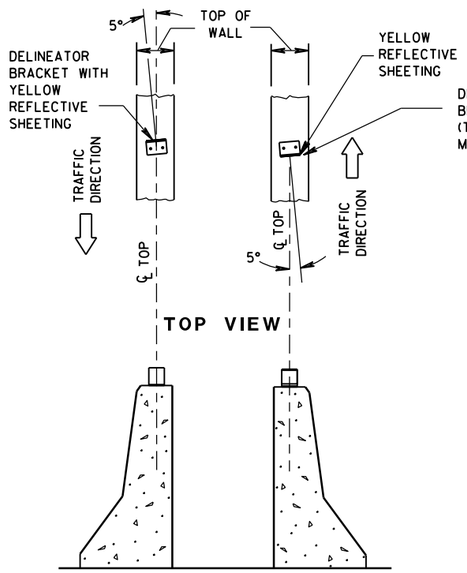
DELINEATOR BRACKET



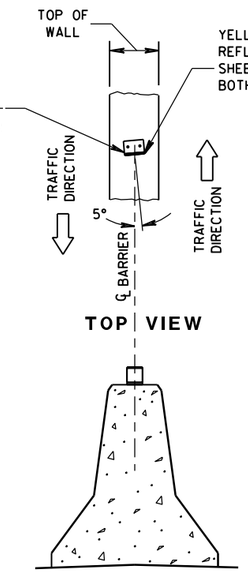
MOUNTING DETAIL FOR DELINEATOR



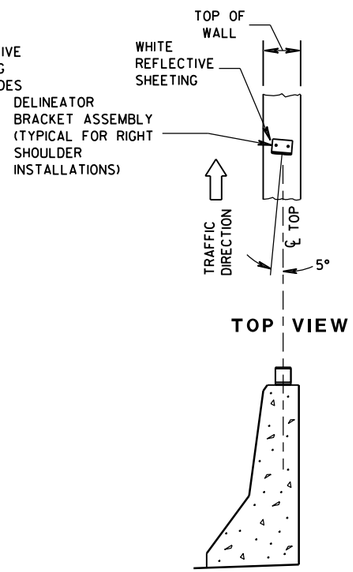
3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN

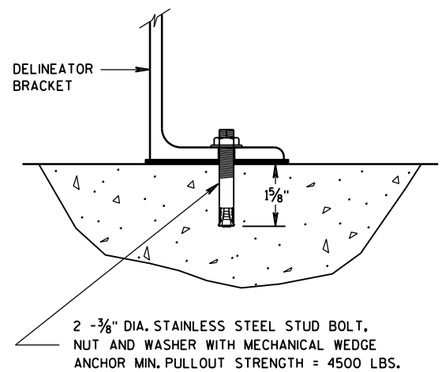


MEDIAN BARRIER



BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

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

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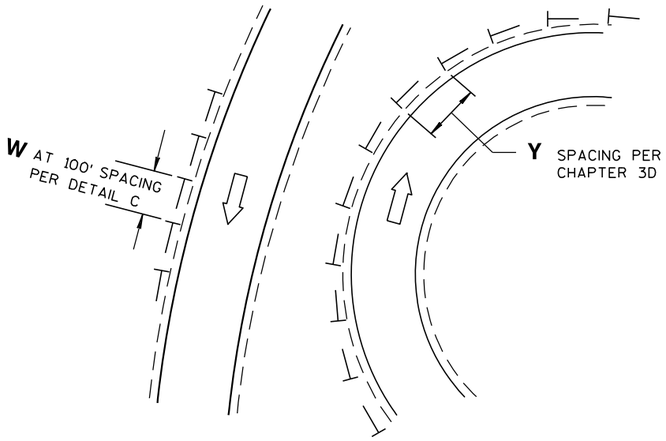
S.D.D. 15 A 2-8

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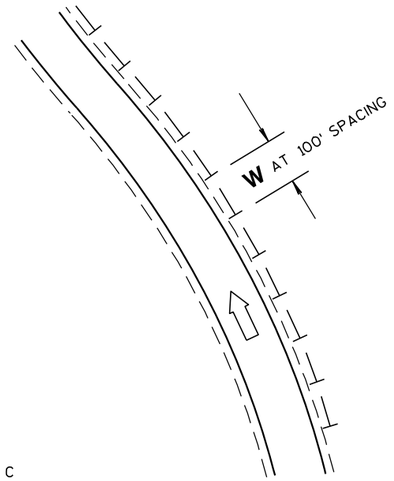
S.D.D. 15 A 2-8

GENERAL NOTES

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



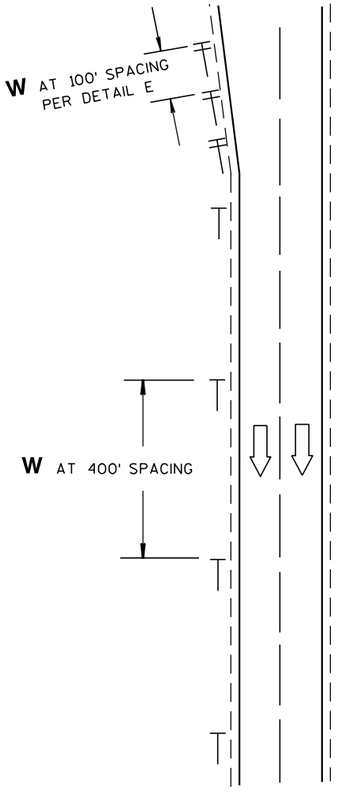
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



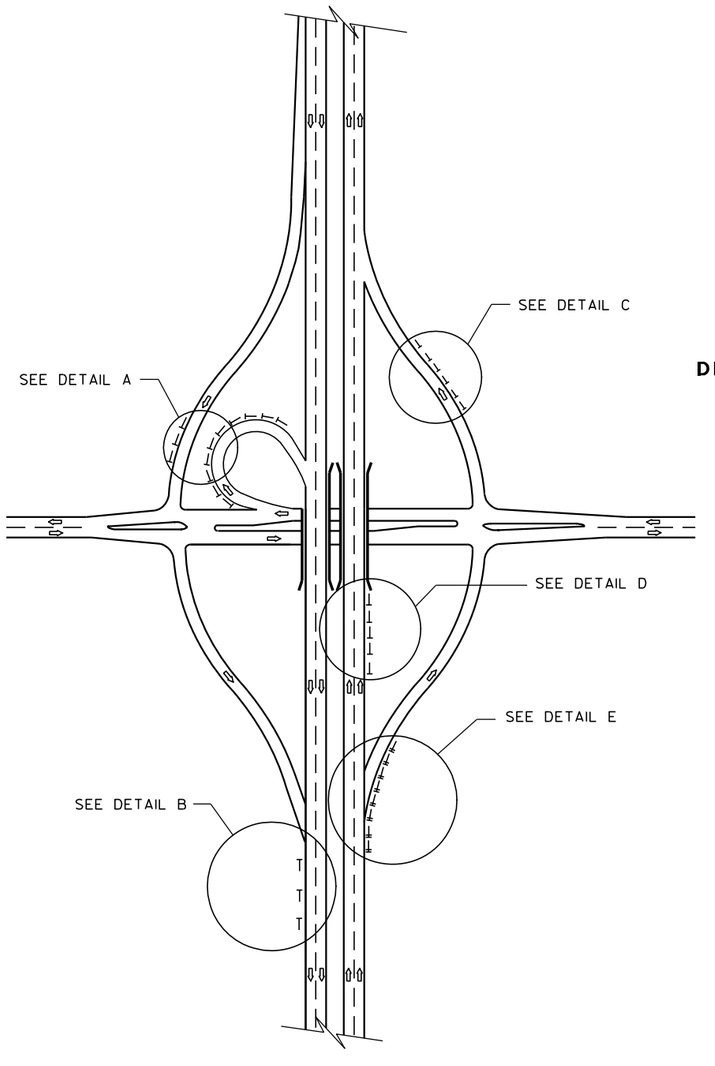
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

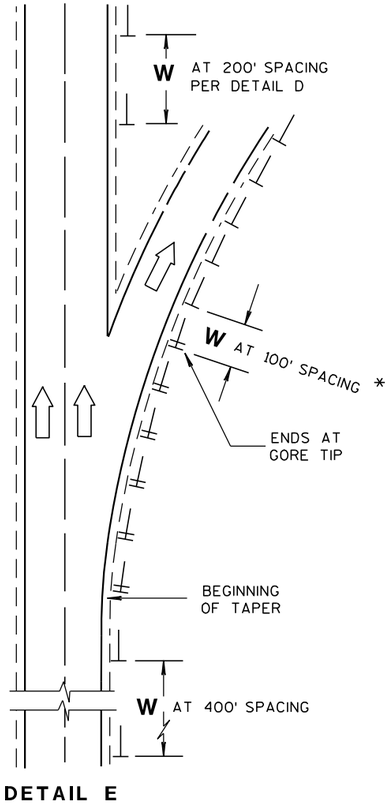
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



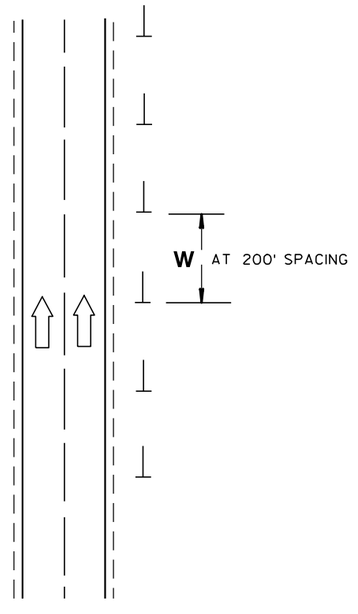
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



DELINEATOR LAYOUT



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



DETAIL D
DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

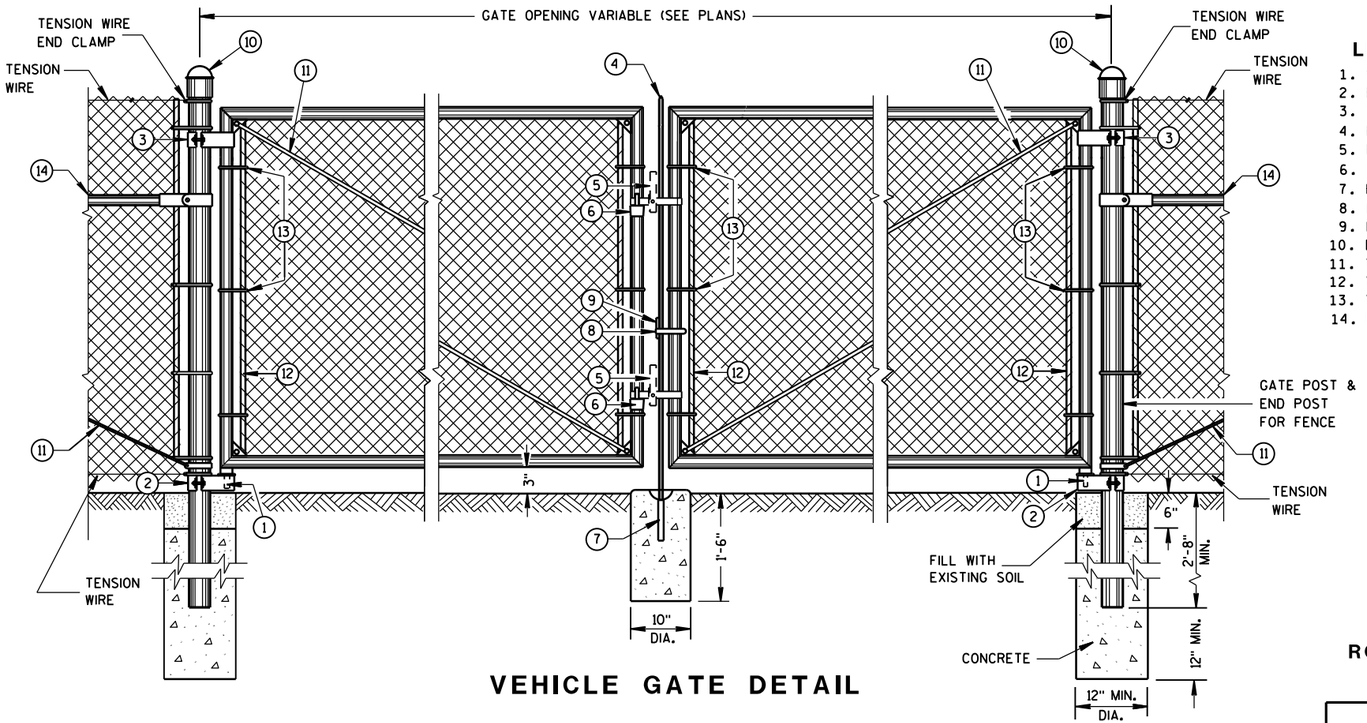
APPROVED
2/5/09 DATE
/S/ Thomas N. Nothdurft
STATE TRAFFIC ENGINEER
FHWA

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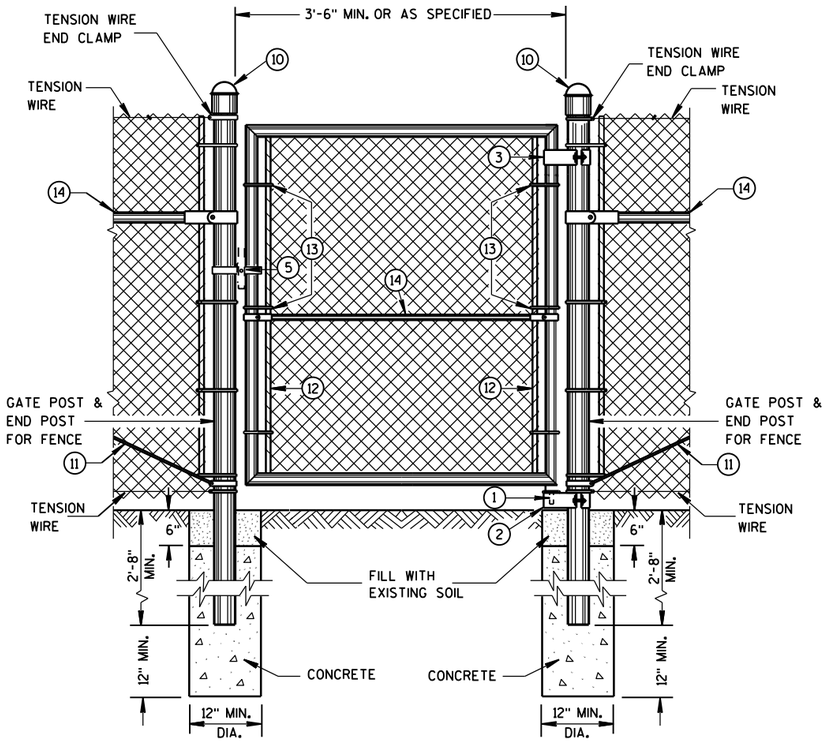
S.D.D. 15 A 6-2

6

S.D.D. 15 A 6-2



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

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

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

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

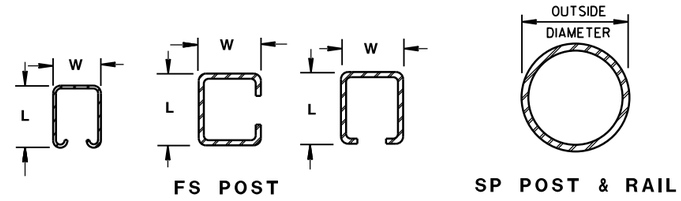
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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

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

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

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



FS POST — SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

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

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

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

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

REQUIRED FENCE POST SIZES

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

REQUIRED POST SIZE FOR GATES

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

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

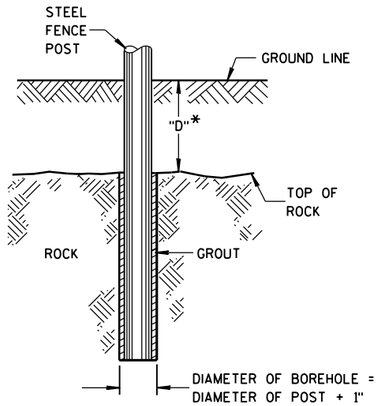
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

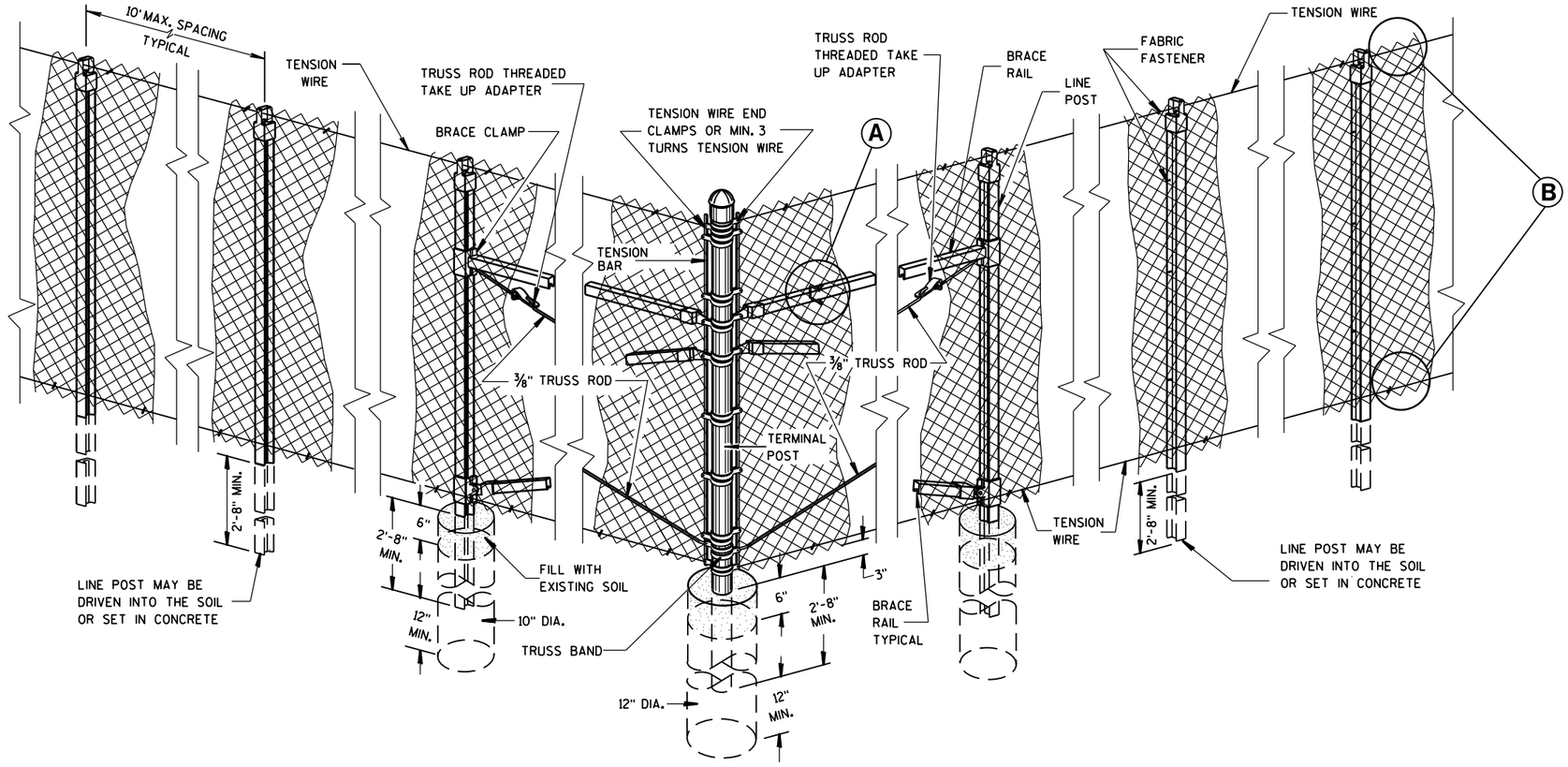
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S.D.D. 15 B 3-15a

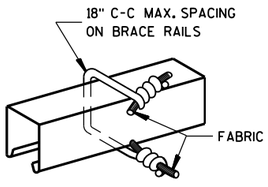


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



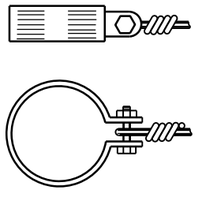
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



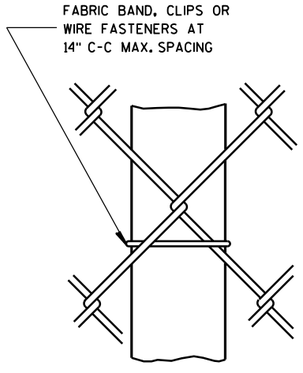
BRACE RAIL

FABRIC FASTENER

Ⓐ



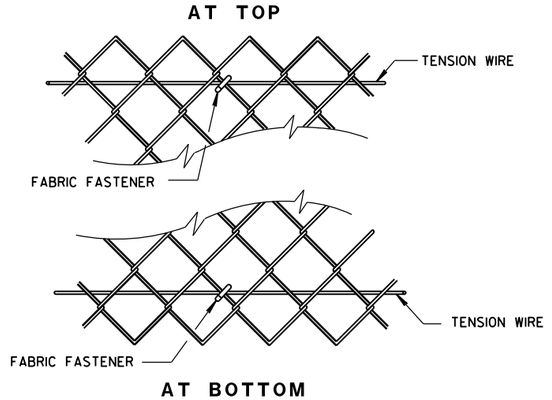
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

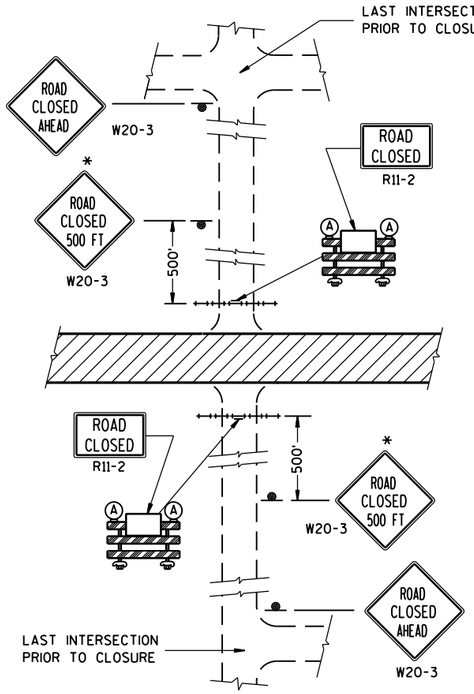
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 15 B 3-15b

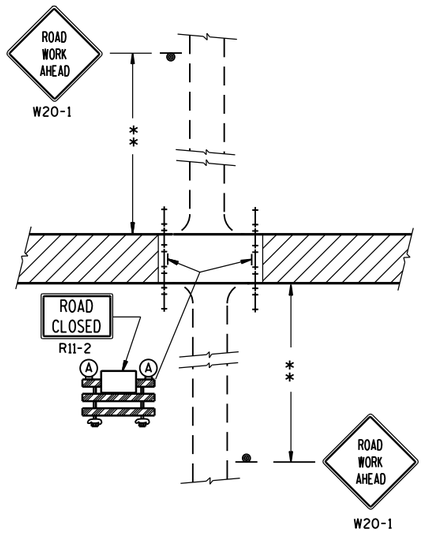
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S.D.D. 15 B 3-15b



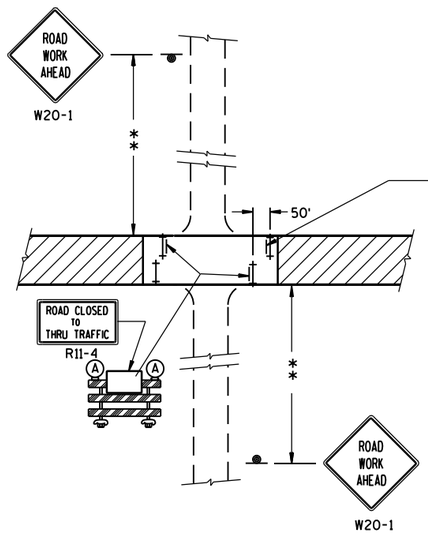
DETAIL 1

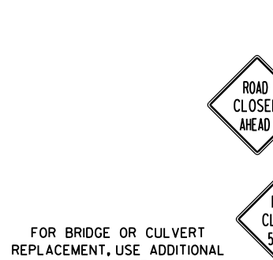
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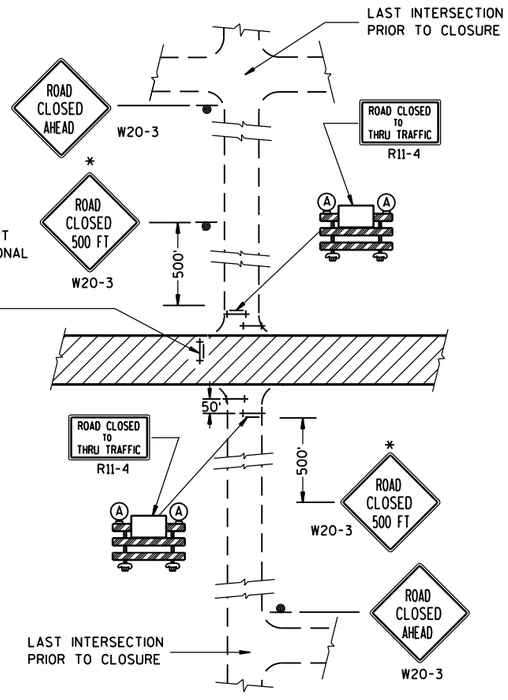
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





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

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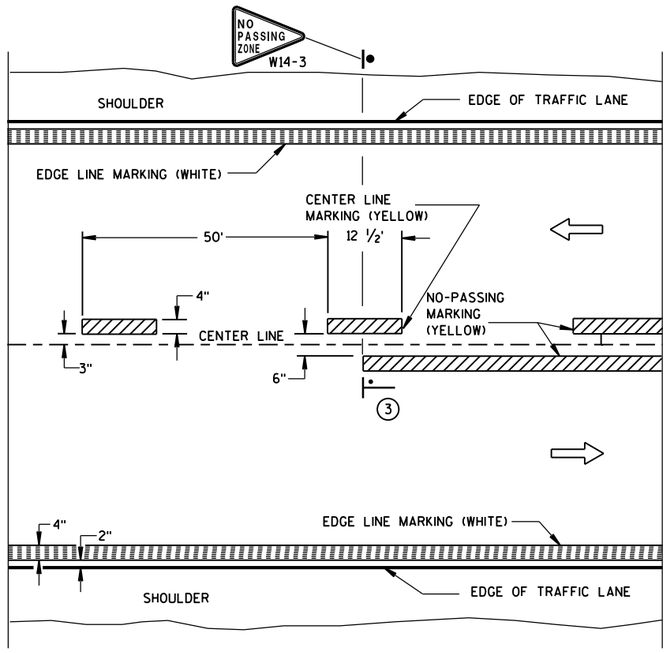
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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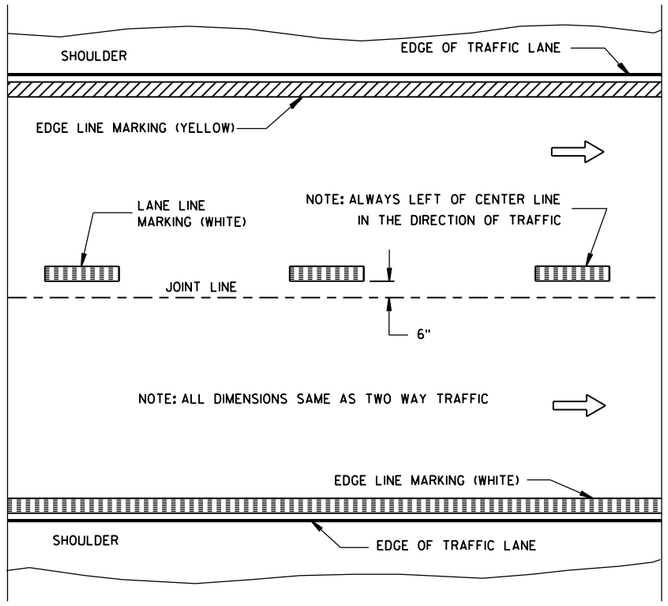
S.D.D. 15 C 3-2

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S.D.D. 15 C 3-2

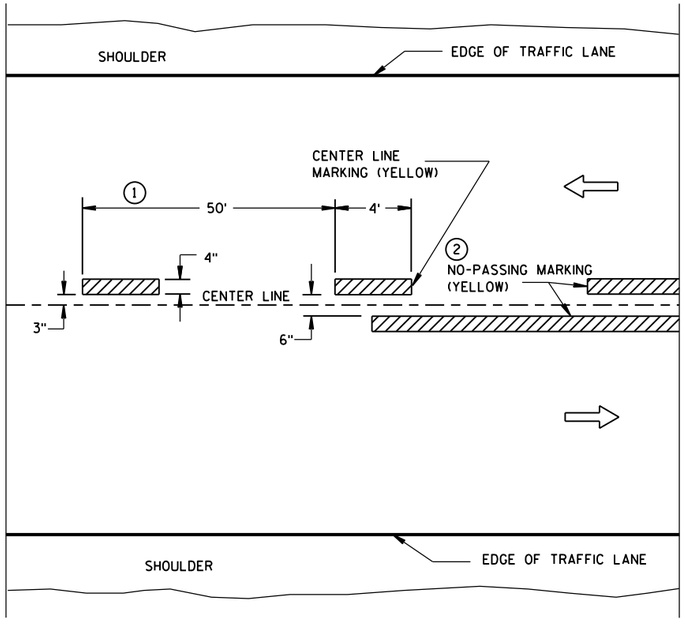


TWO WAY TRAFFIC

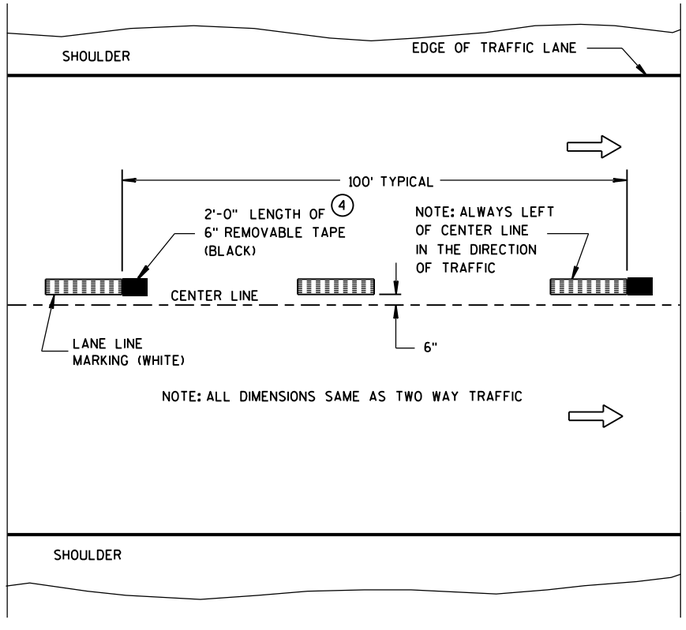


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

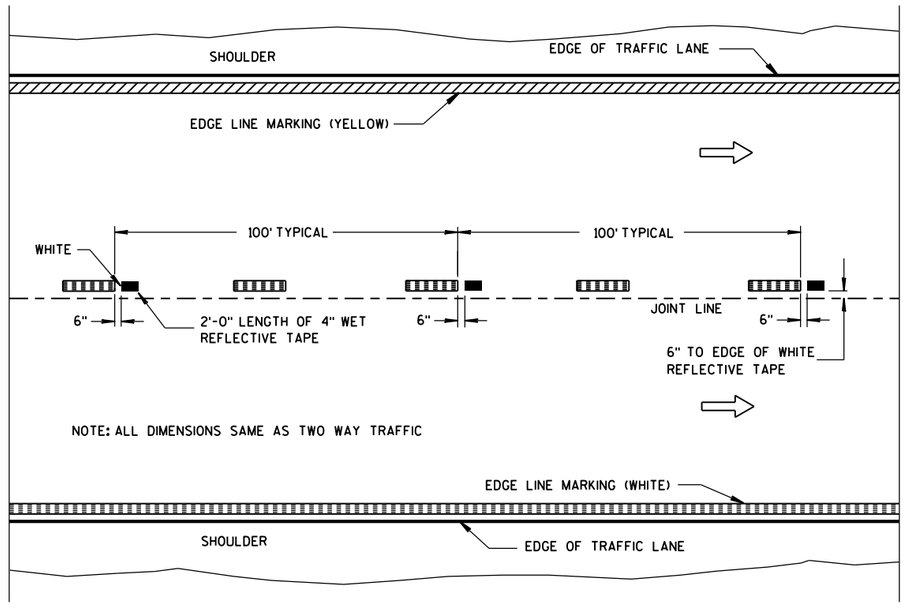
GENERAL NOTES

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

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a

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.

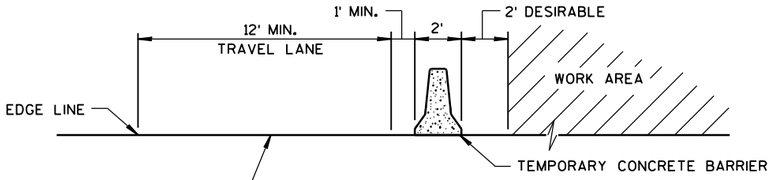
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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.

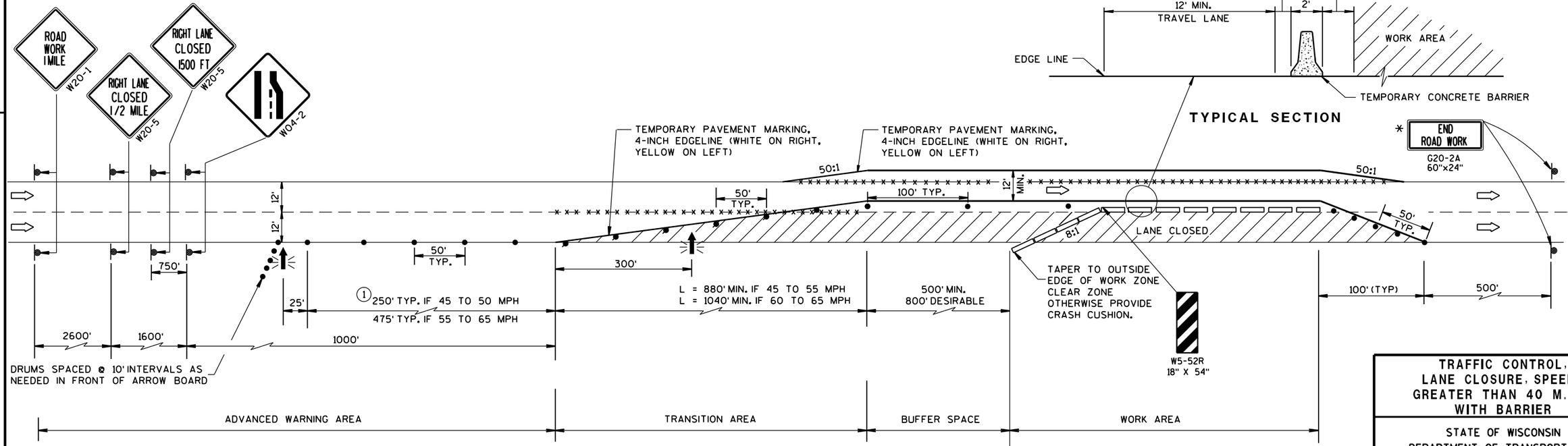
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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.

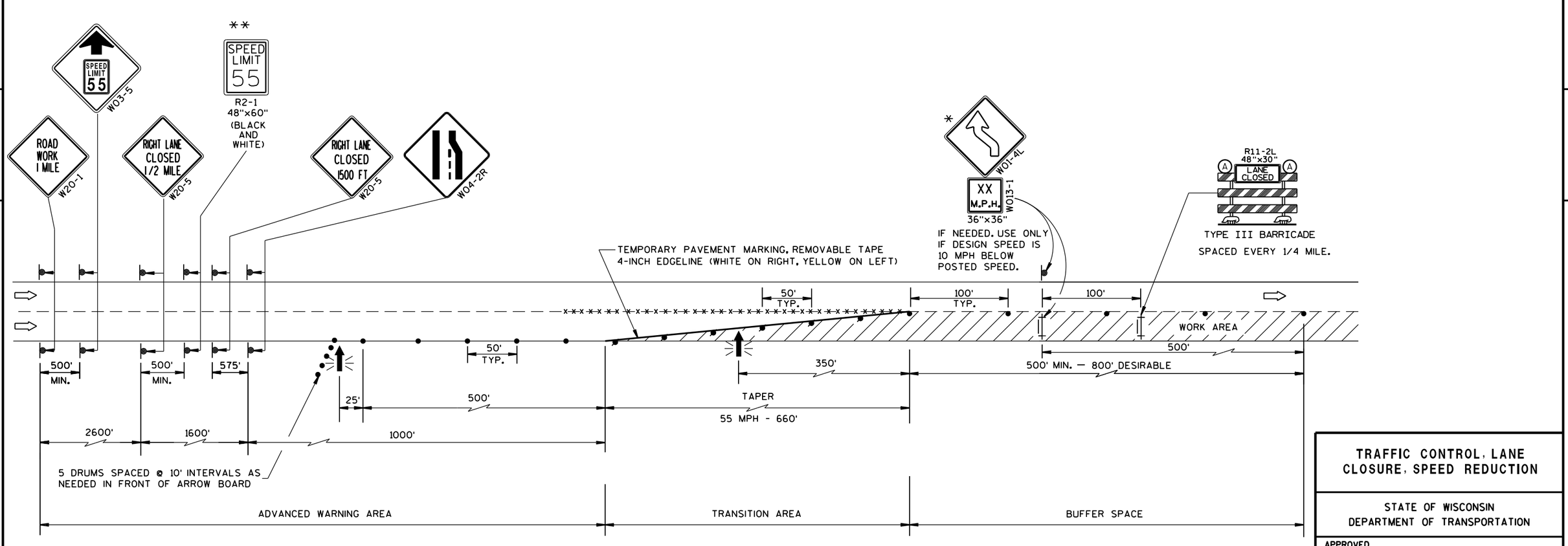
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 (WO1-4L) 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.



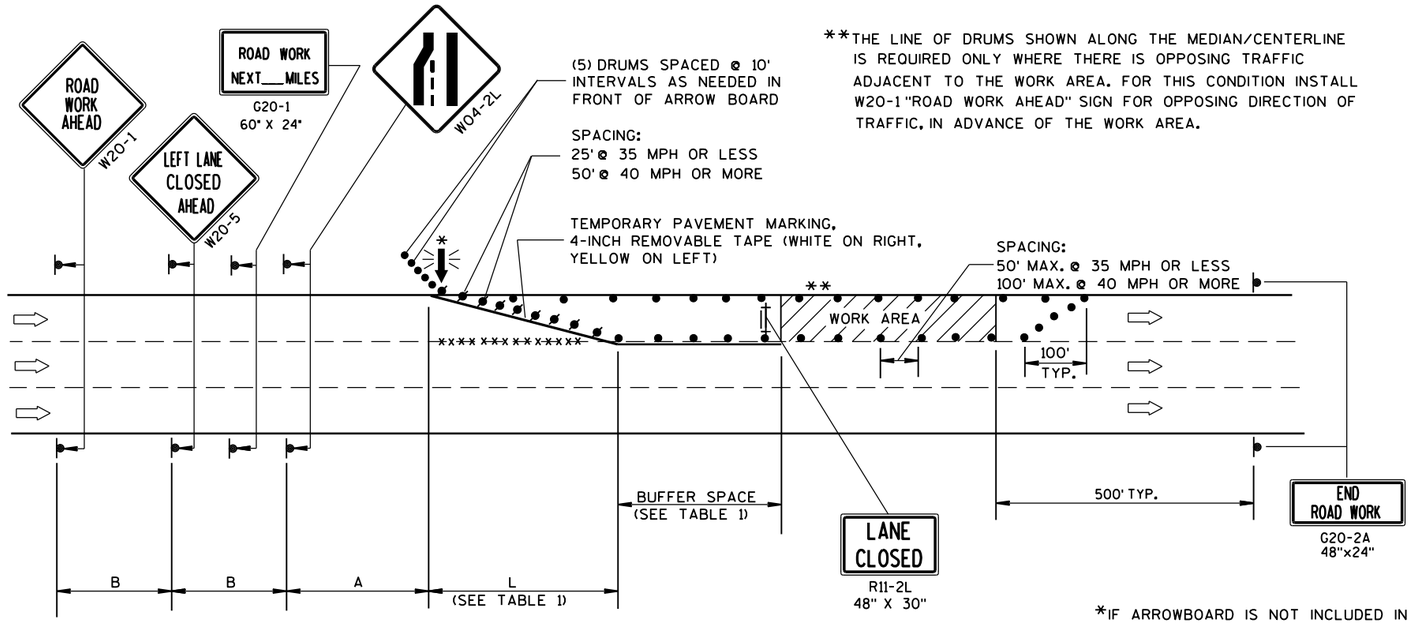
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 D 12-5b

S.D.D. 15 D 12-5b



**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"

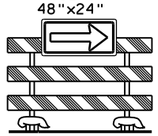


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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.

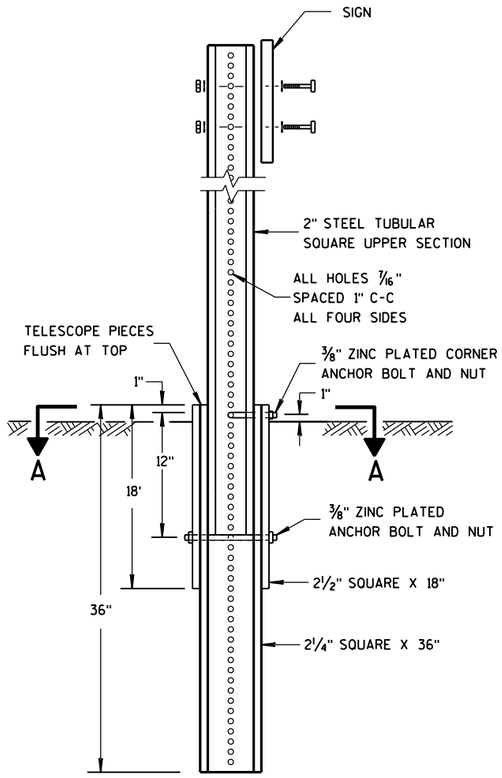
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

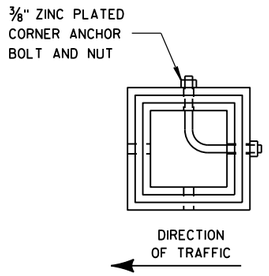
APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

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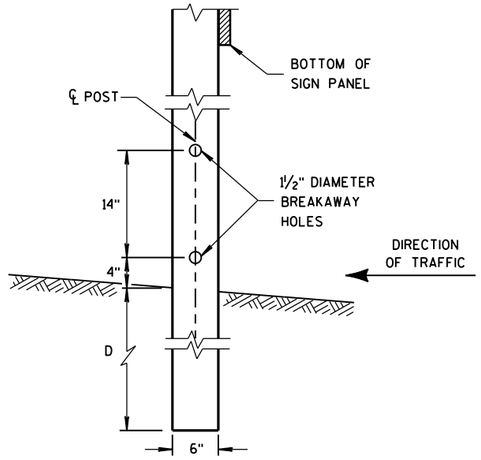
S.D.D. 15 D 20-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



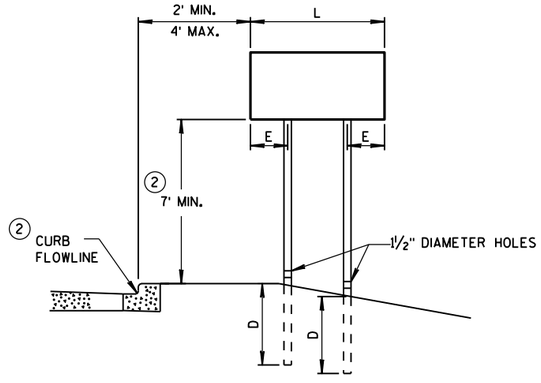
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

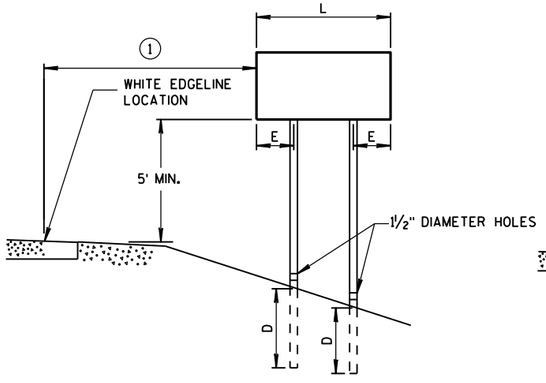
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

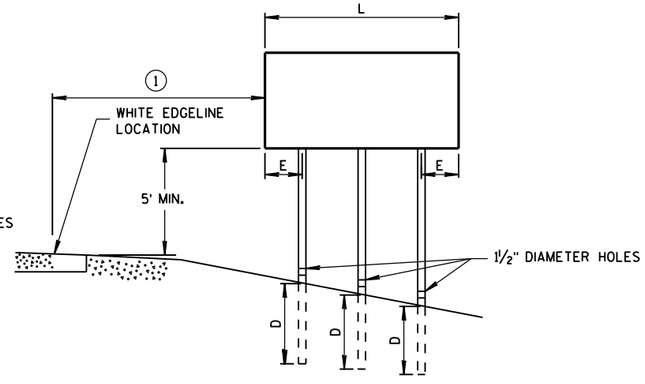
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

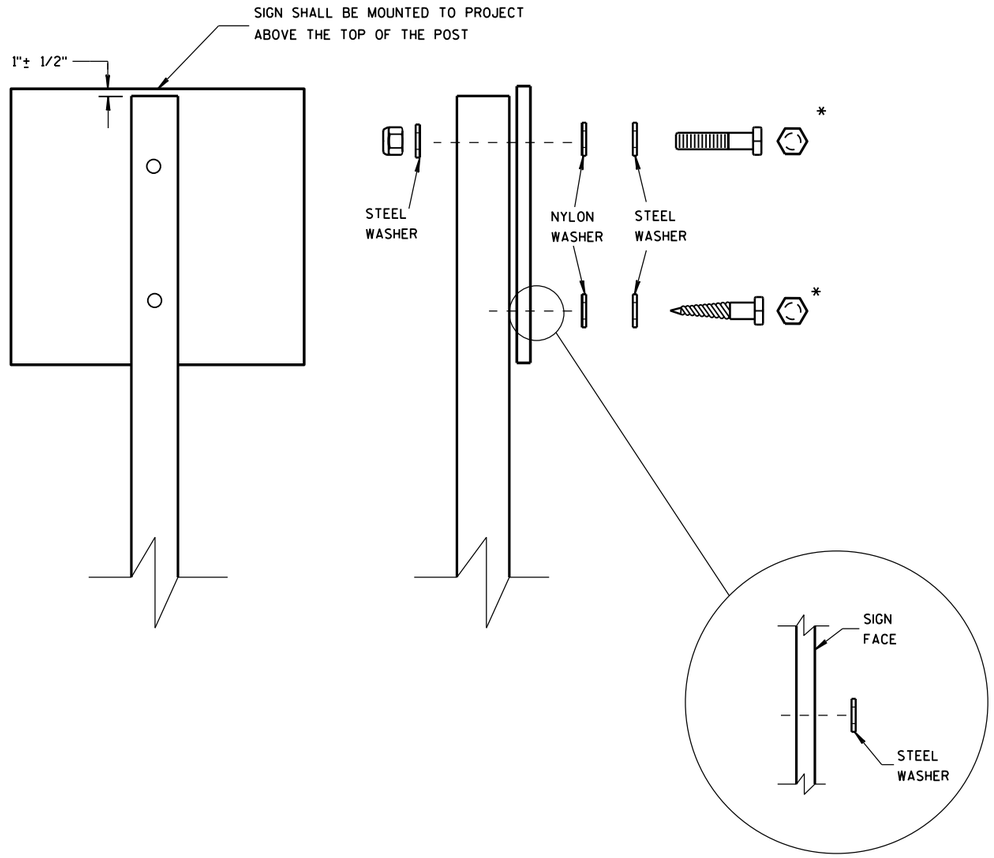
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-1a



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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

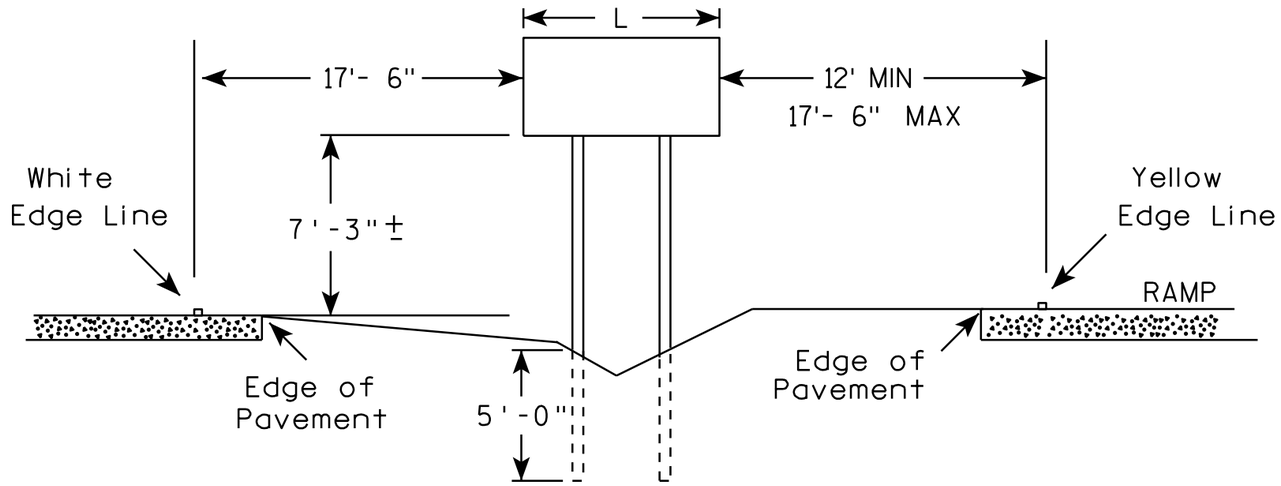
APPROVED

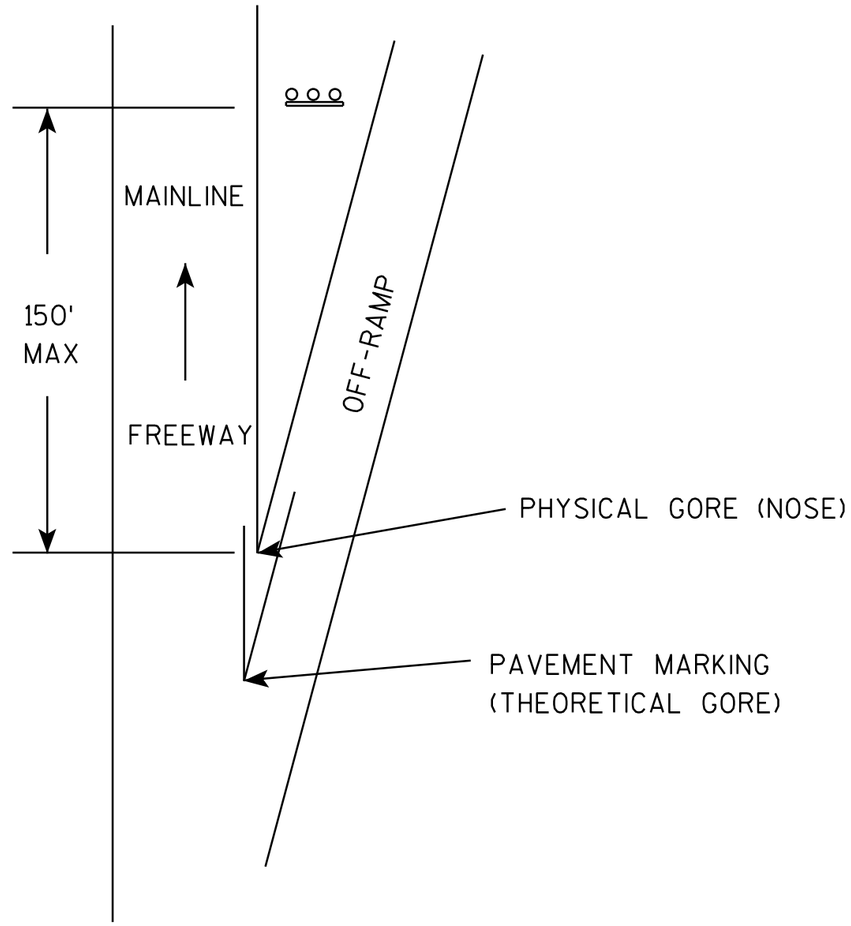
Feb. 2015 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

SIGN





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

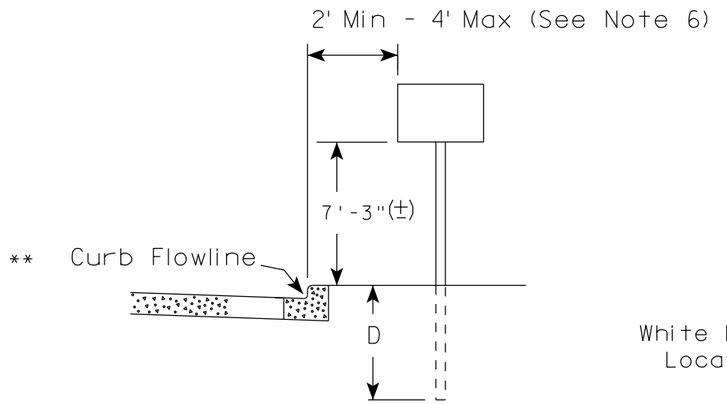
DATE 2/06/14 PLA... A4-2.3

PROJECT NO: | SHEET NO: E

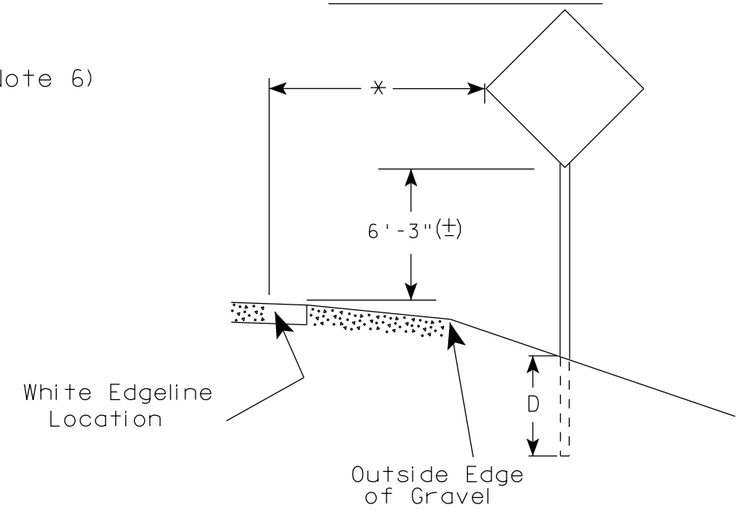
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A42.DGN PLOT DATE : 06-FEB-2014 12:36 PLOT BY : mscsja

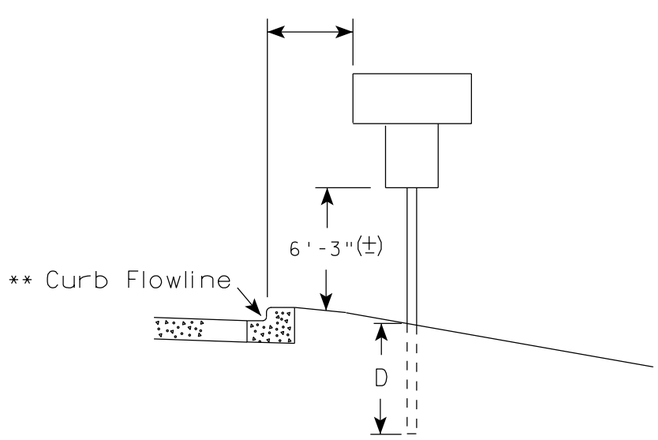
WISDOT/CADDS SHEET 42

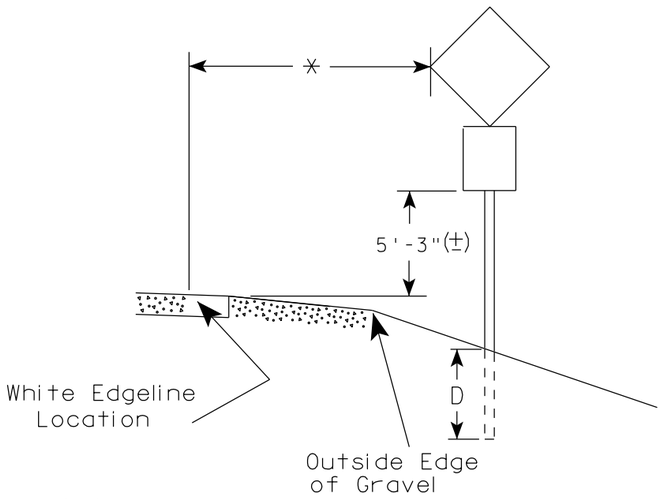
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

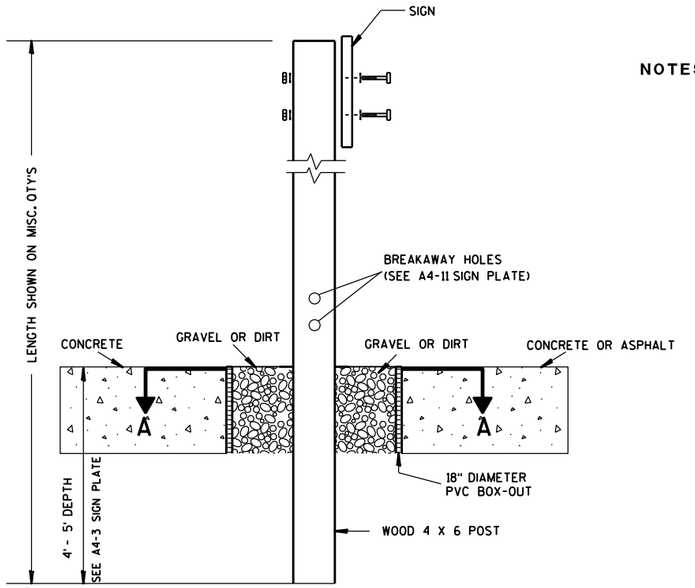
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

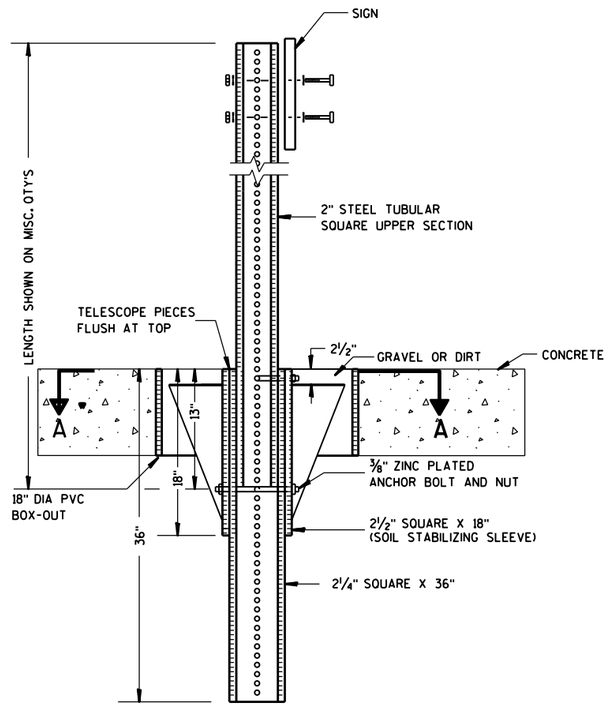
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

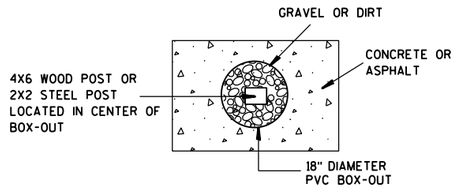
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

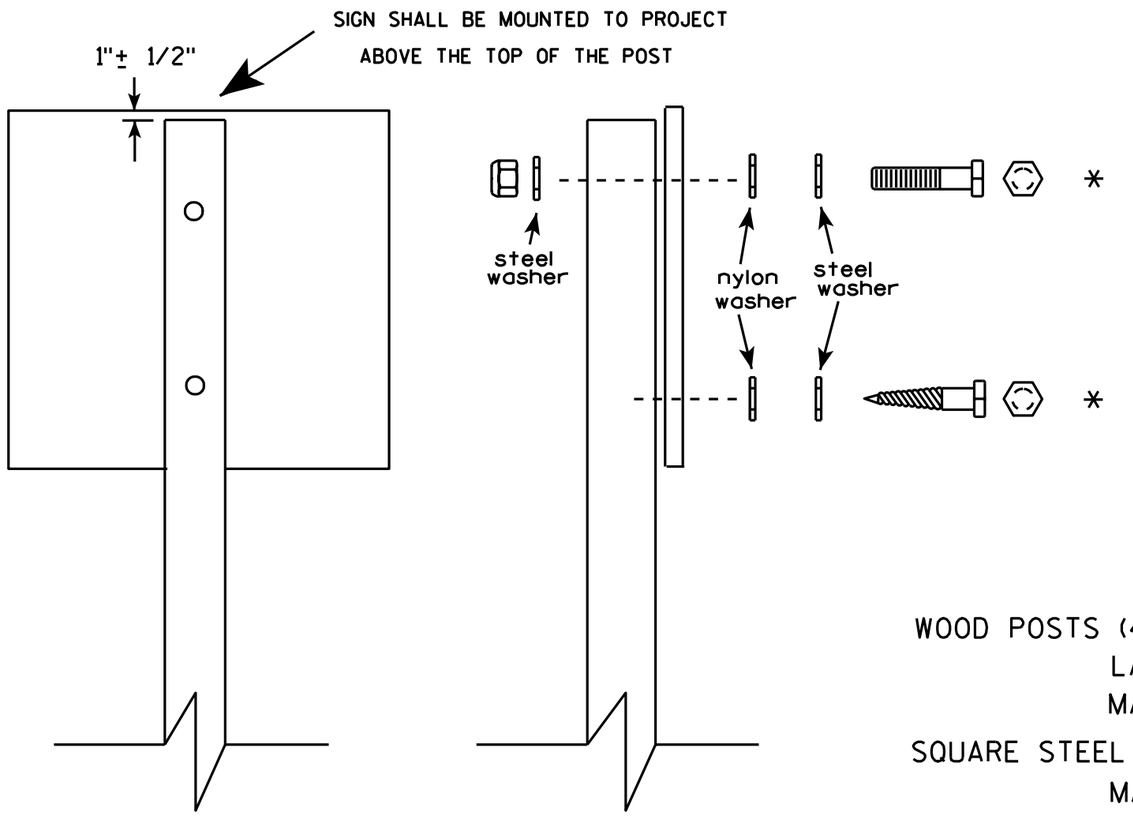
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



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

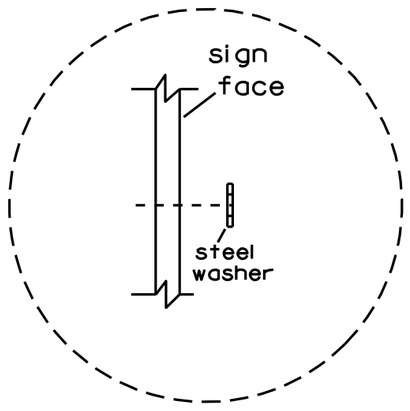
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

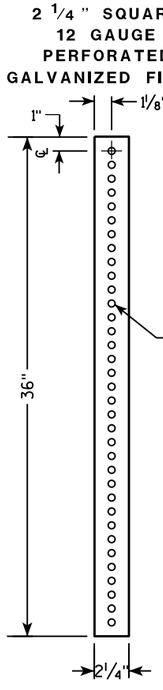
7

PROJECT NO:

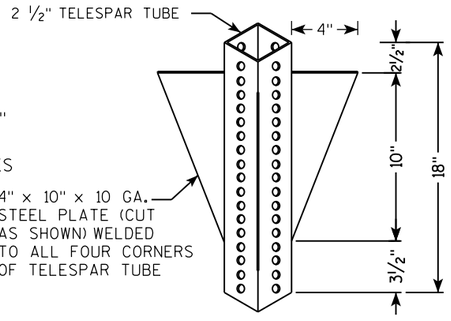
SHEET NO: 136 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

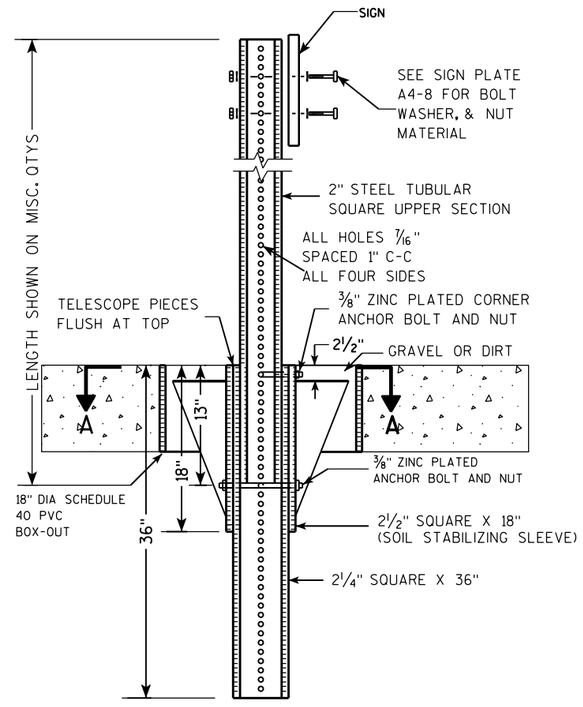
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



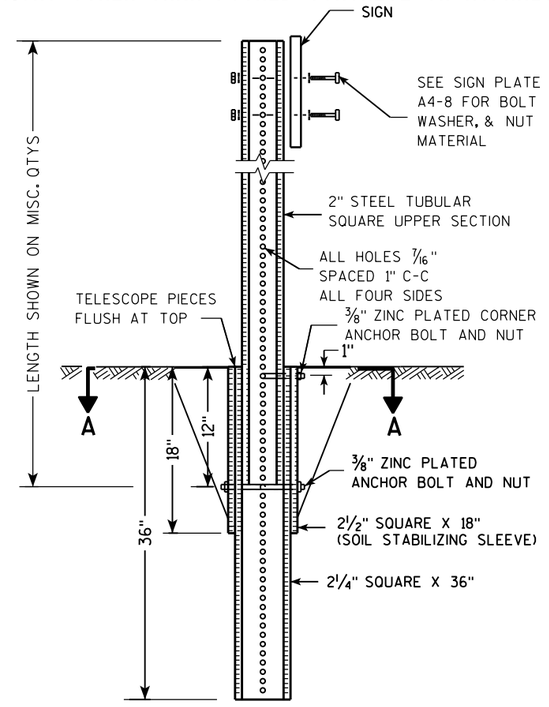
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

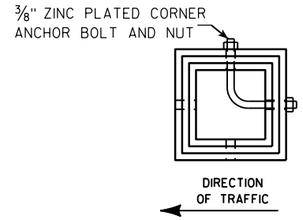


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

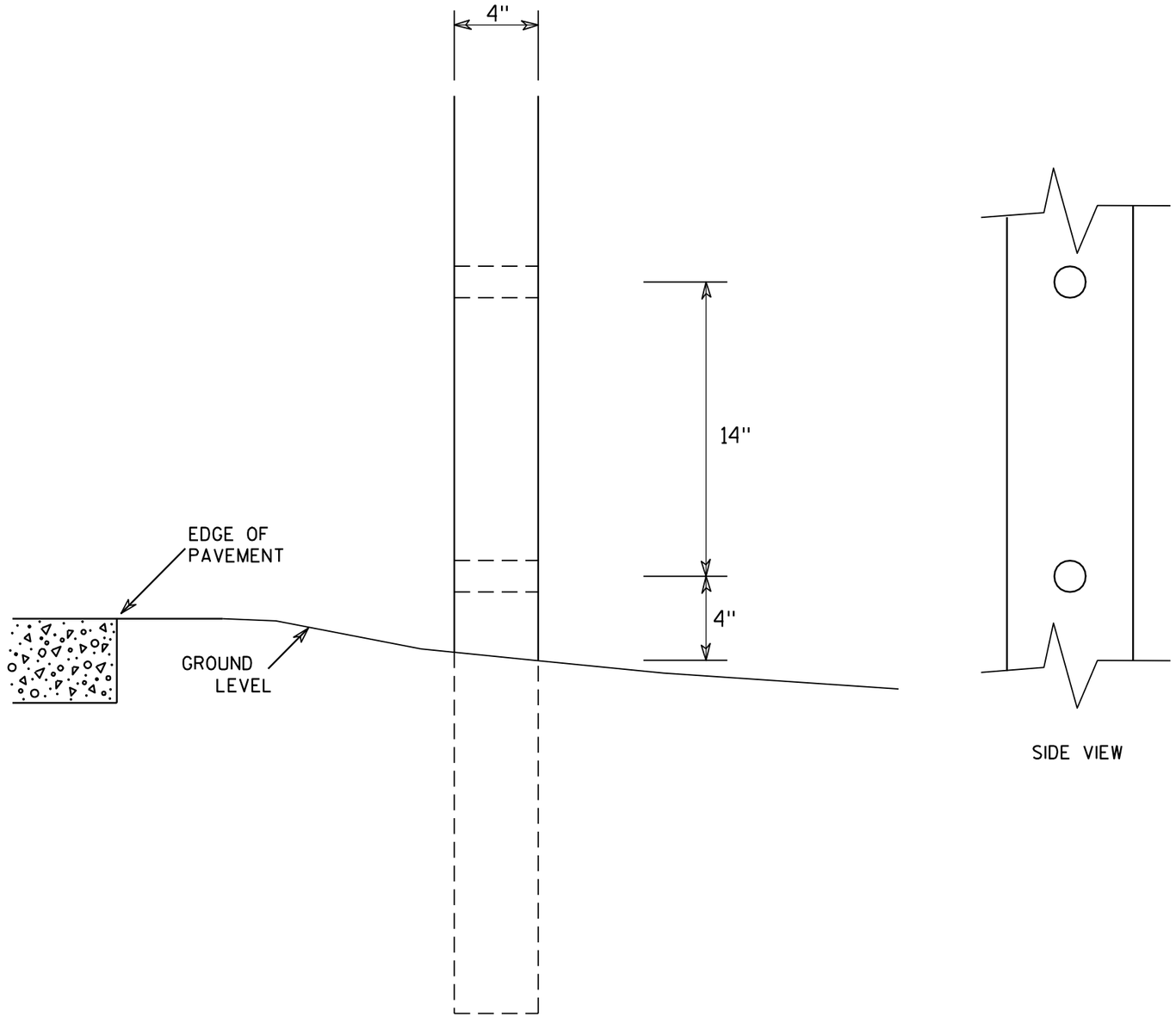
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

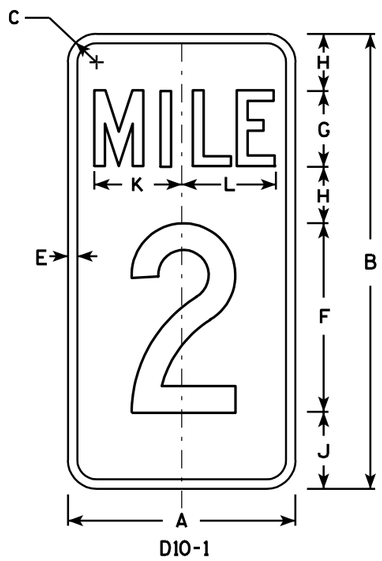
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

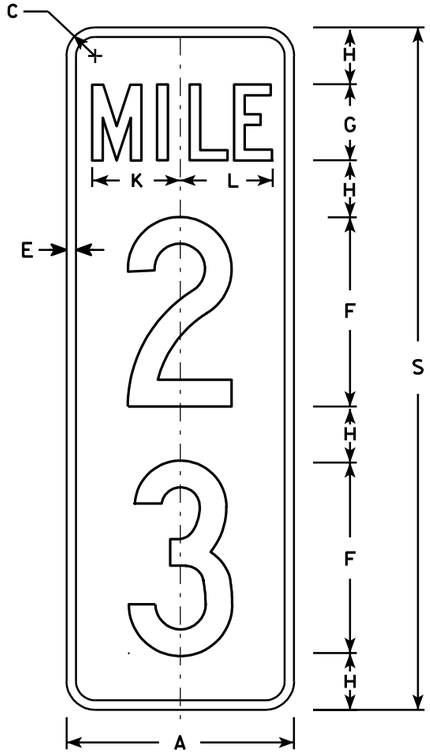
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

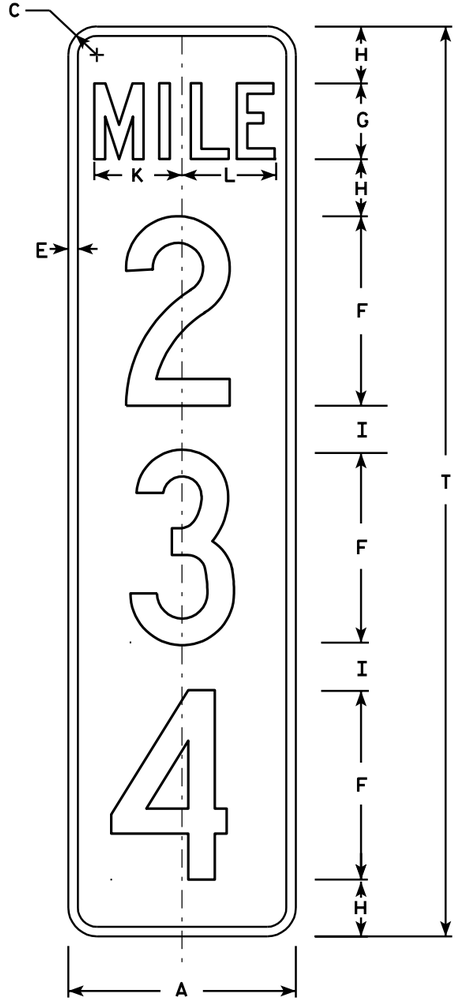
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 138	E



D10-1



D10-2



D10-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. Optically adjust numerals about the centerline of the sign to achieve proper balance.

Metric equivalent for this sign is:

PHY. SIZE	
12 X 24	300 mm X 600 mm
12 X 36	300 mm X 900 mm
12 X 48	300 mm X 1200 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
1																										
2																										
3																										
4	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						
5	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						

D10-1	D10-2	D10-3
Area sq. ft.	Area sq. ft.	Area sq. ft.
2.0	3.0	4.0
Area m2	Area m2	Area m2
.19	.28	.38

STANDARD SIGN
D10-1 , D10-2 & D10-3

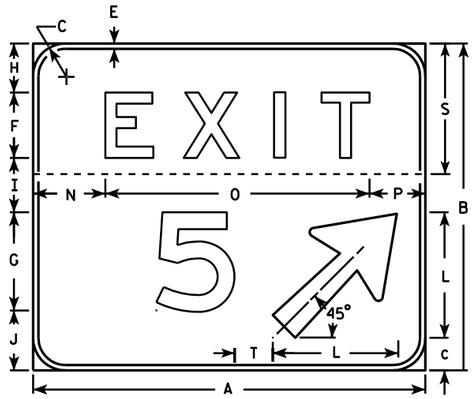
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for Director, Office of Traffic

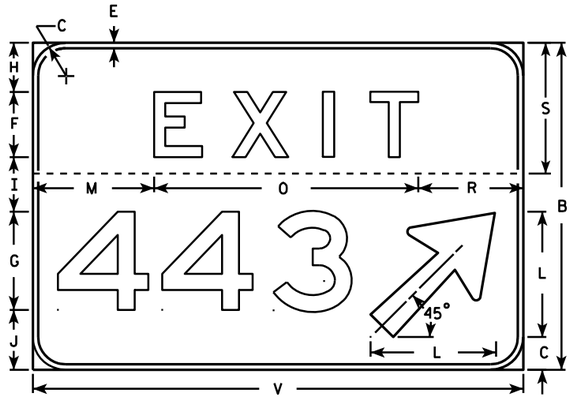
DATE 1/16/02 PLATE NO. D10-3.2

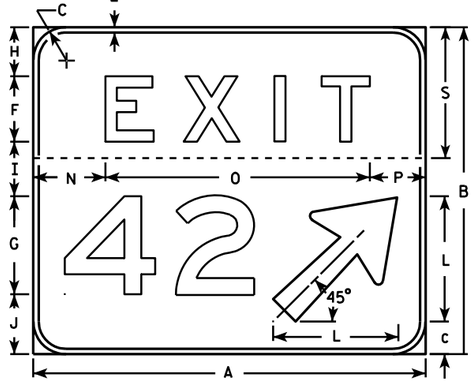
PROJECT NO:

SHEET NO: 139 E

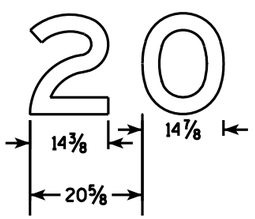


NOTE: T diminision shall be measured from the back of the number to the front of the arrow





EXAMPLE FOR USING SPACING CHART



NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces as shown on each detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.

SPACING CHART FOR 18" NUMERALS

NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8			
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14			
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8			
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4			
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8			
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8			
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8			
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4			
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8			
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4			
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4

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
2																										
3																										
4																										
5	72	60	6		1	12	18	9	10	11	8 7/8	23	22 1/4	13 1/4	48 1/2	10 1/4		19 1/4	24	7		90		96	7 1/2	

1-2 Digit Bid Area	3 Digit Bid Area
Sq. Ft.	
30	37.5

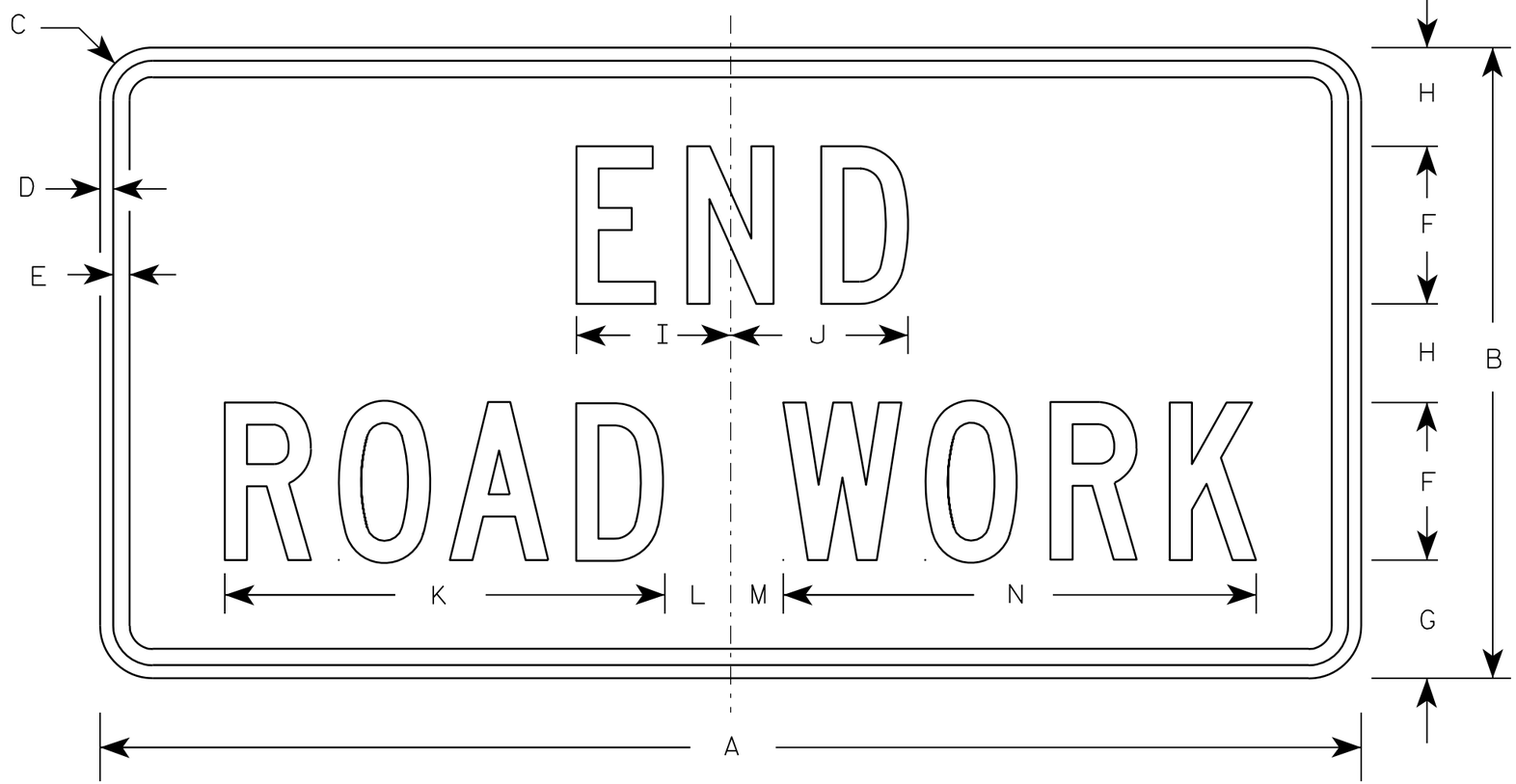
STANDARD SIGN
E5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/11/10 PLATE NO. E5-1A.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 140 | 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

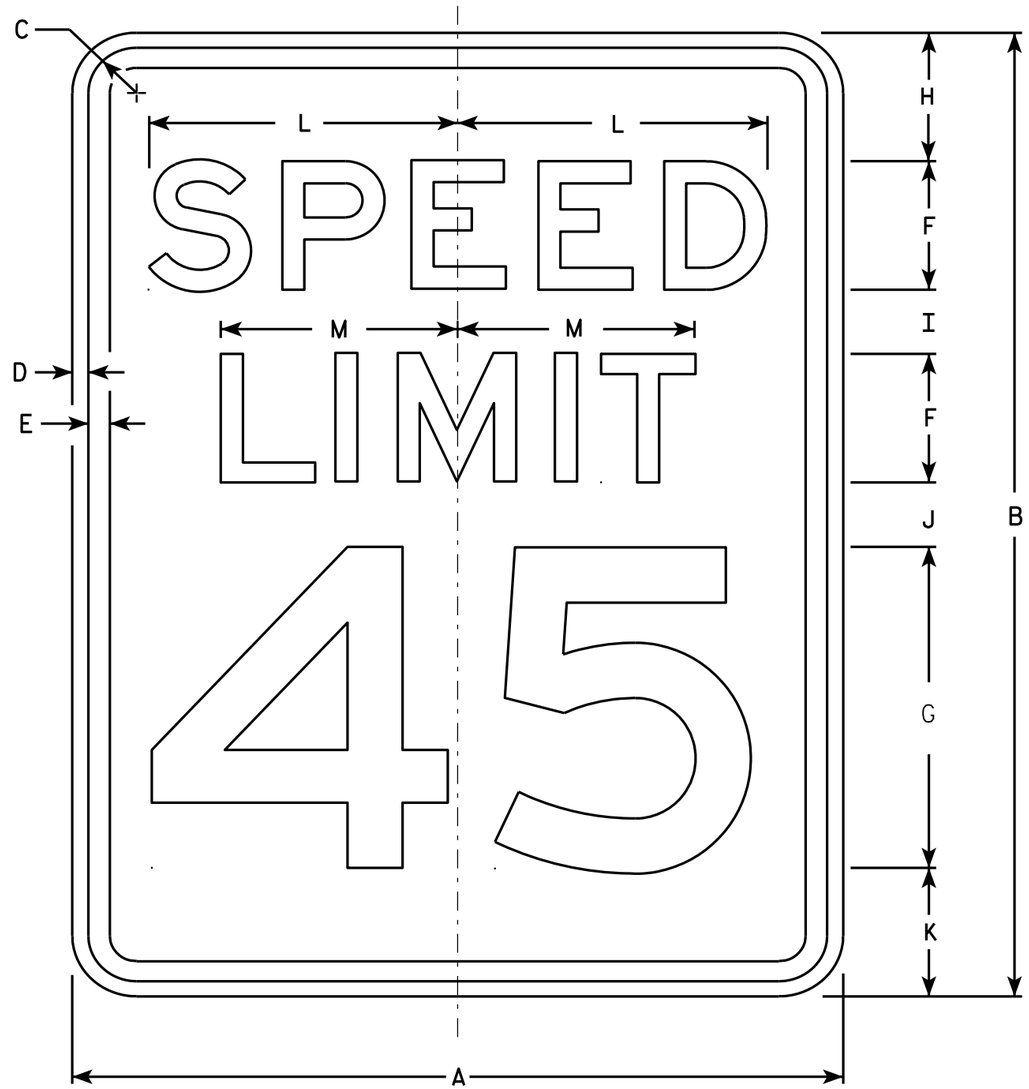
STANDARD SIGN
G20-2A

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: 141	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

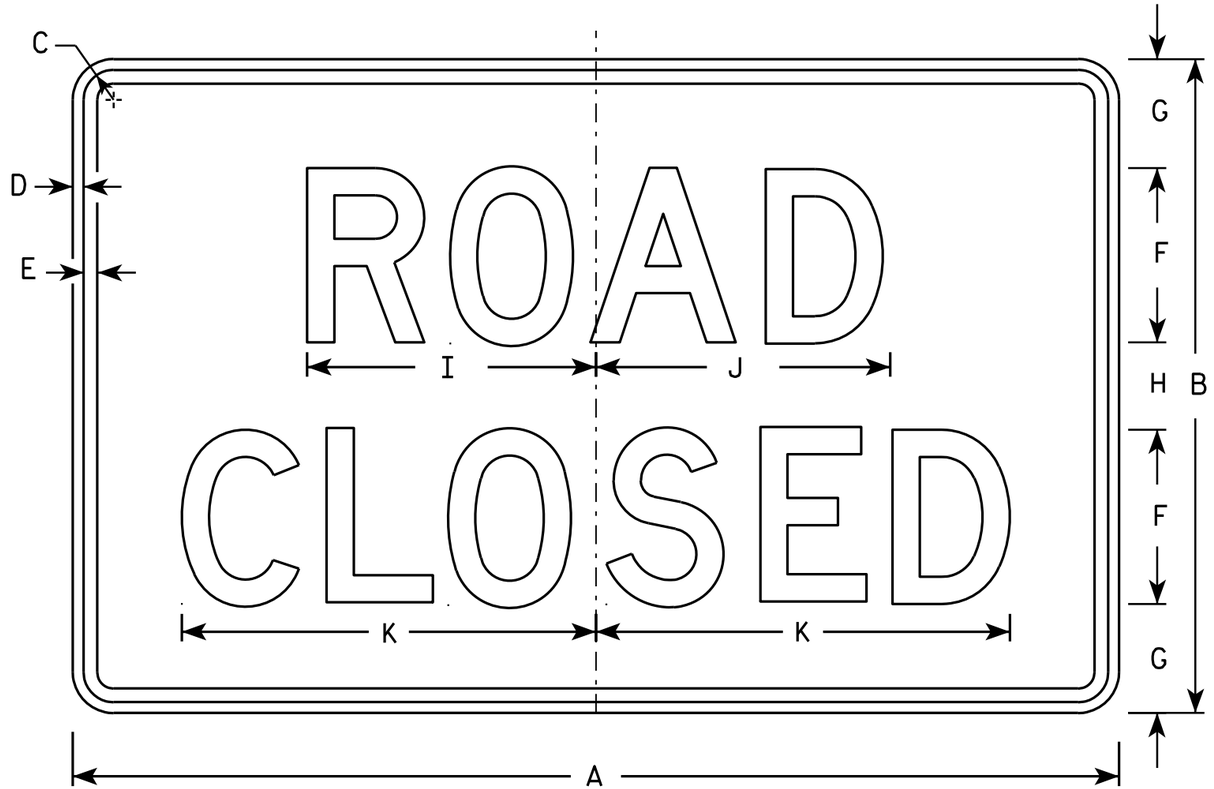
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

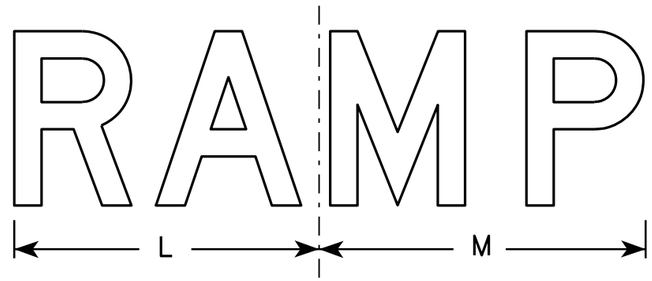
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E



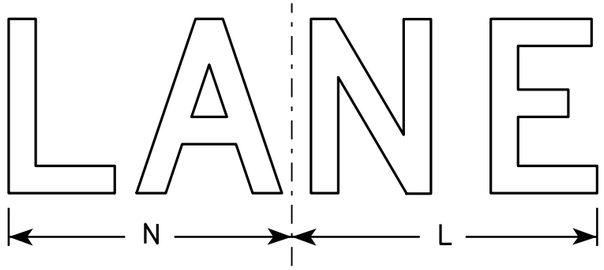
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

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

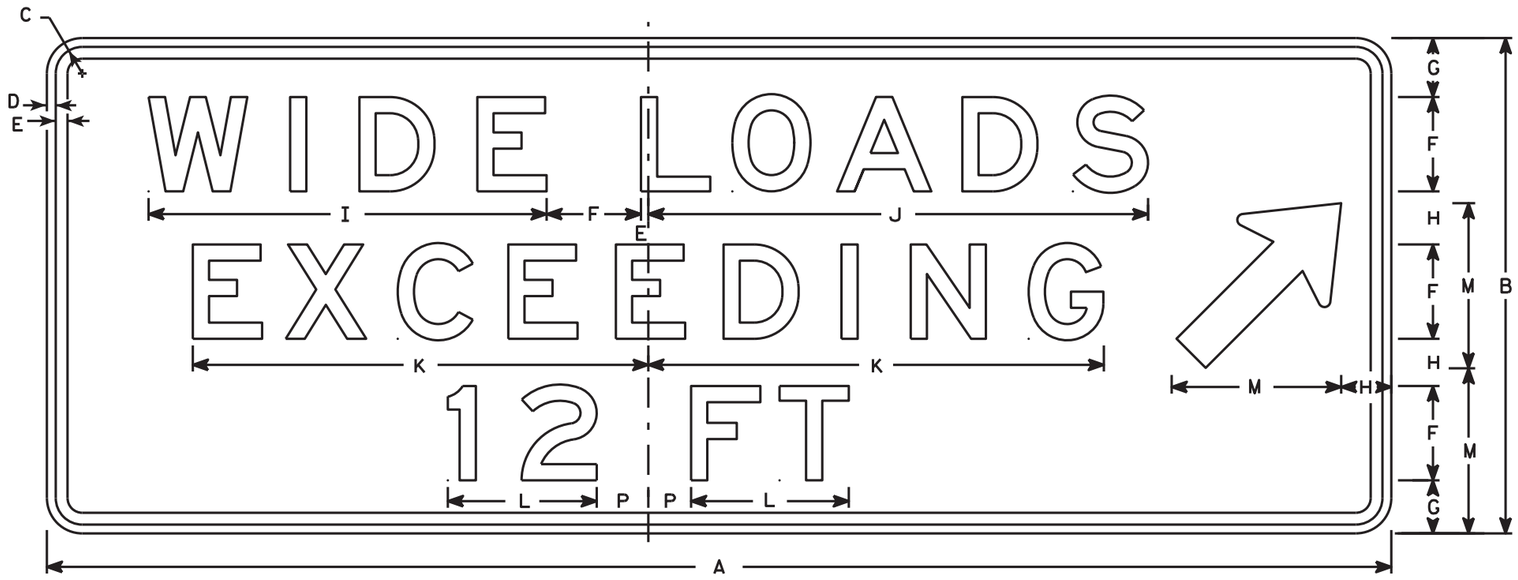
STANDARD SIGN
R11-2

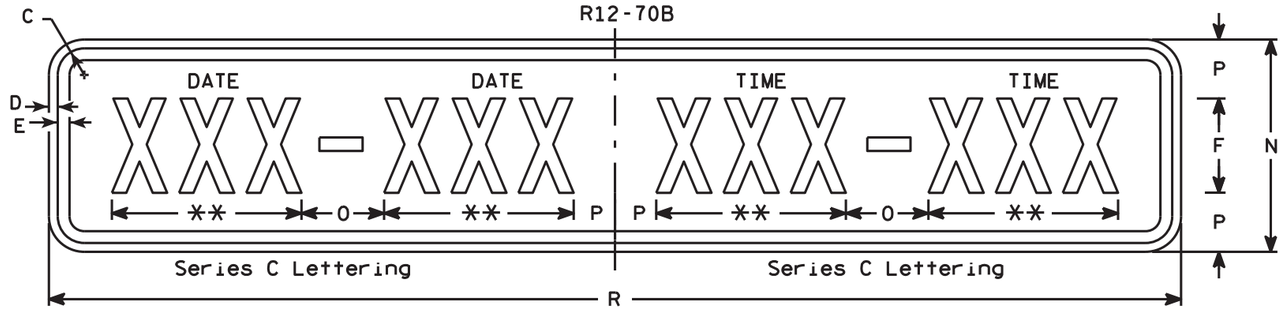
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 143 | E





R12-70C

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	R12-70 Area sq. ft.	R12-70C Area sq. ft.
1																												
2S	90	36	2 1/4	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
2M	90	36	2 1/4	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
3																												
4	114	42	2 1/4	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0
5	114	42	2 1/4	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0

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 except as noted
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.

** Substitute appropriate message, optically center message

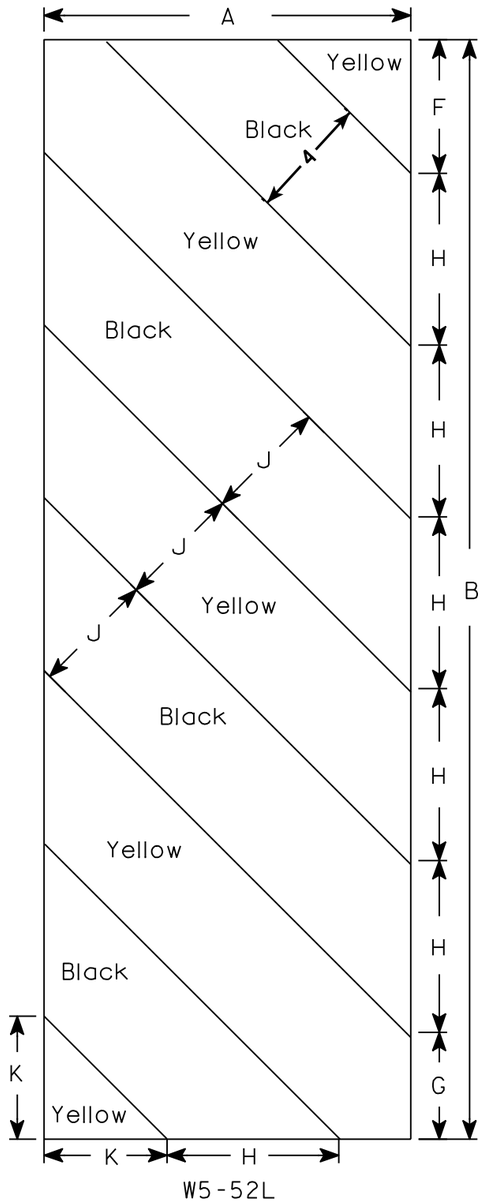
TYPICAL SIGN
R12-70B

WISCONSIN DEPT OF TRANSPORTATION

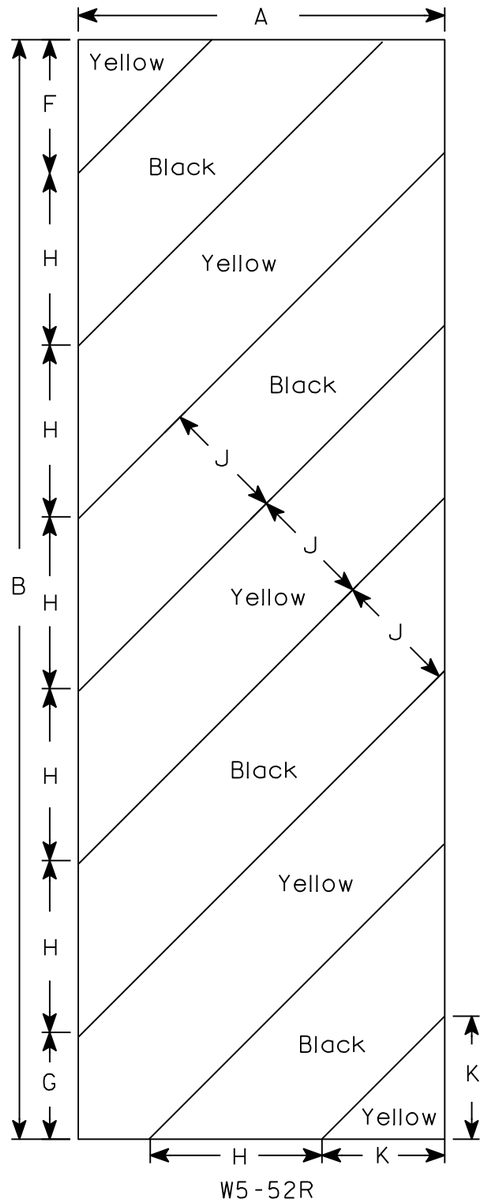
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/15 PLATE NO. R12-70B.3

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	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

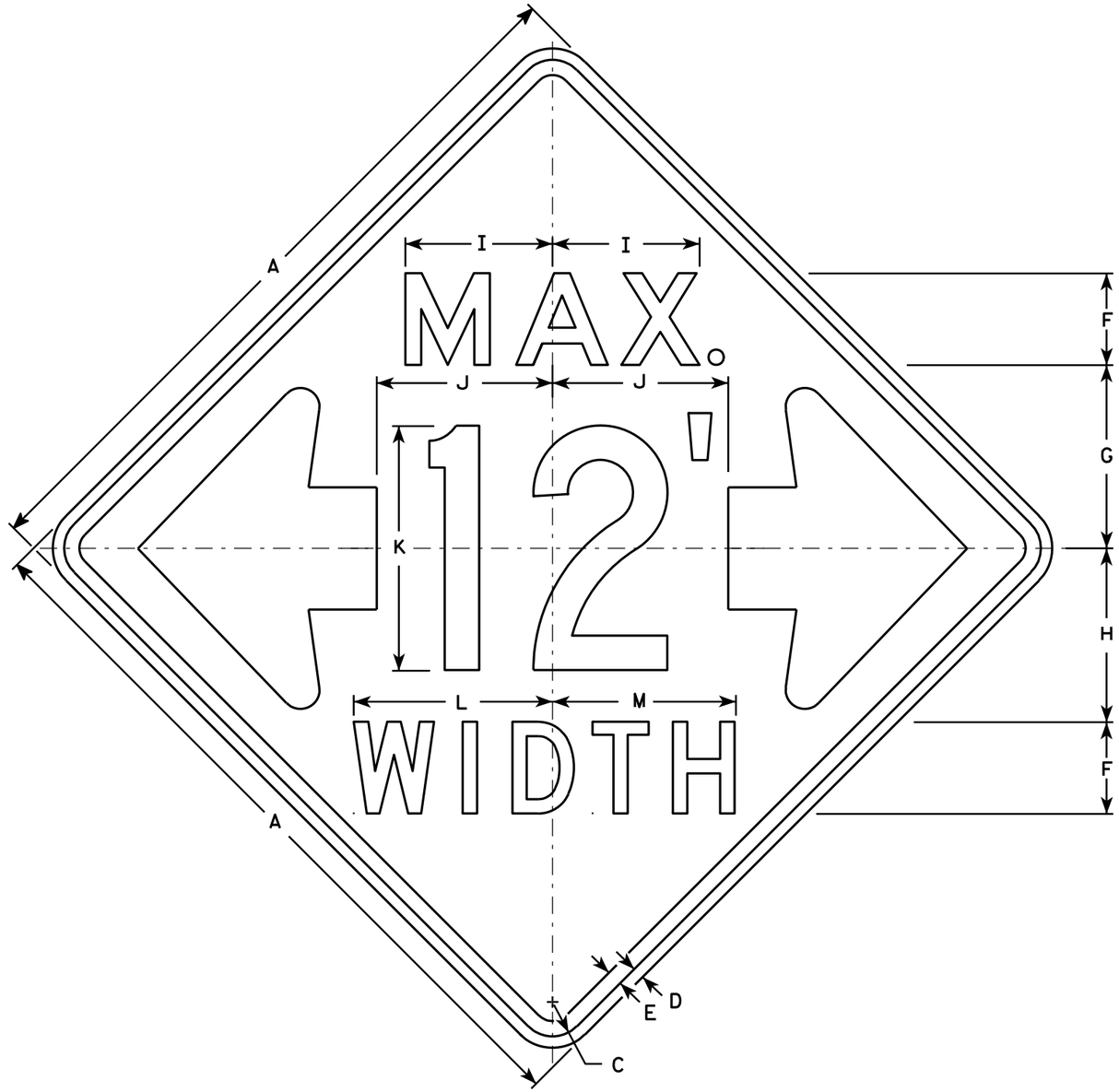
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

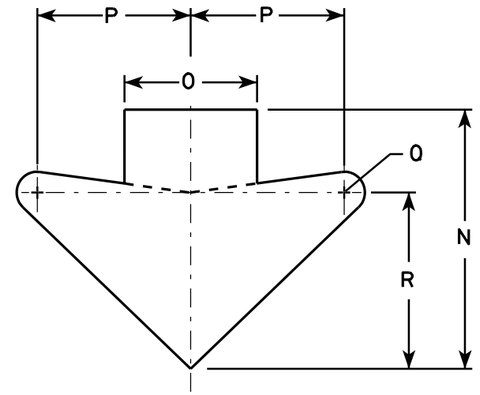
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 145 | E



W12-52

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. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

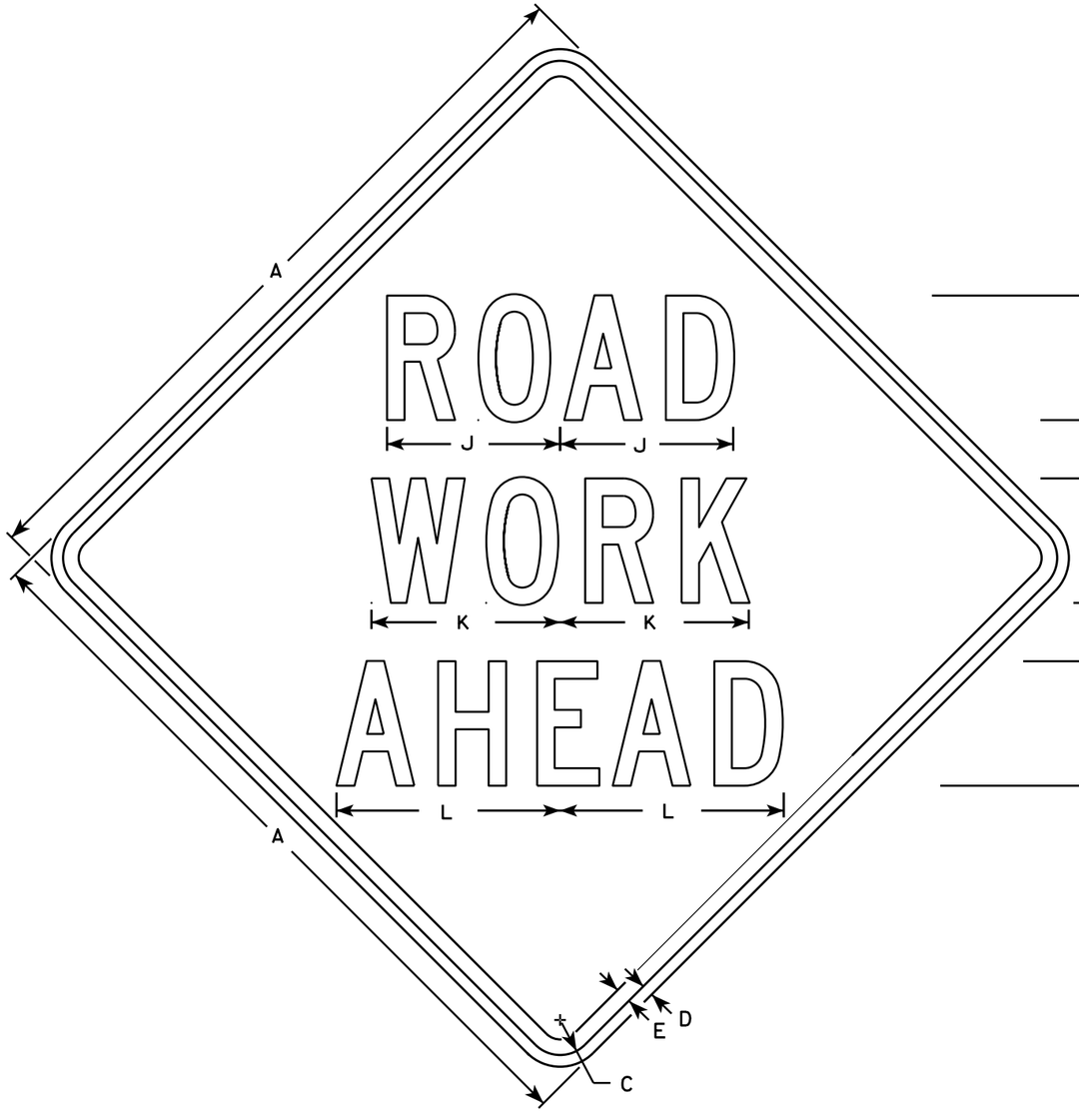
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

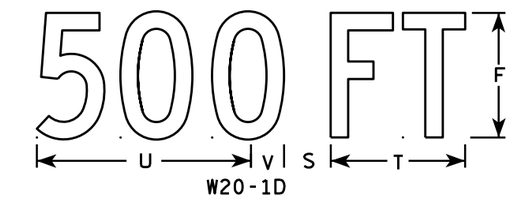
DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 146 | E

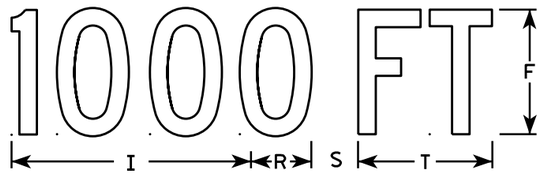
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



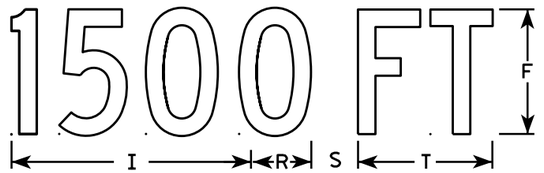
W20-1A



W20-1D



W20-1C



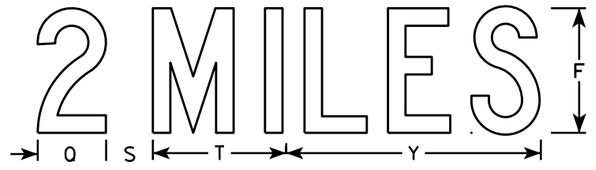
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

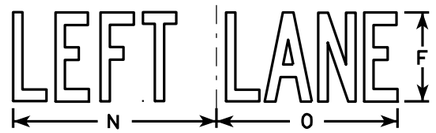
SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W201.dgn PLOT DATE : 27-MAY-2015 15:58 PLOT BY : mscsja

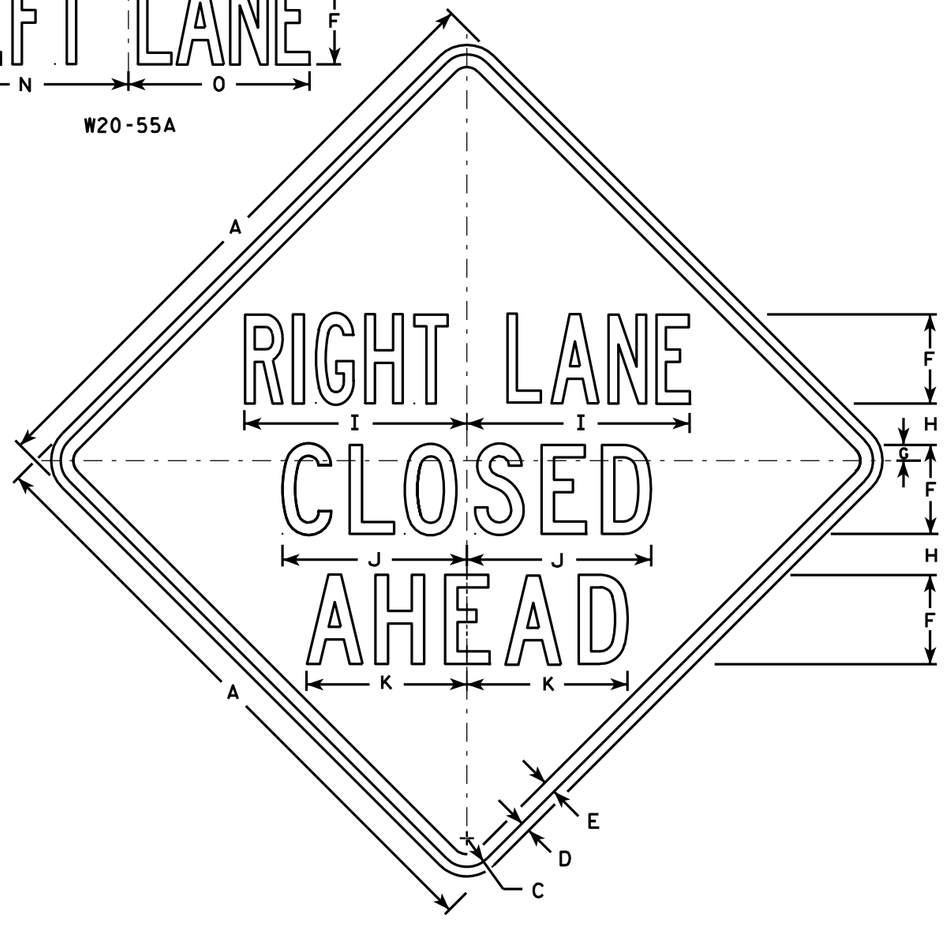
WISDOT/CADDS SHEET 42



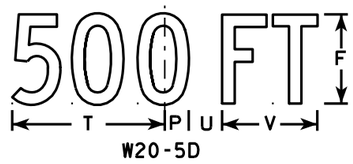
W20-56A



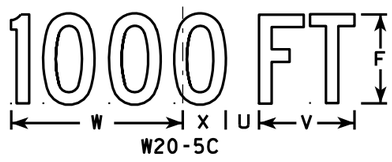
W20-55A



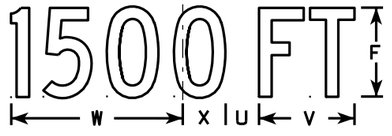
W20-5A



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

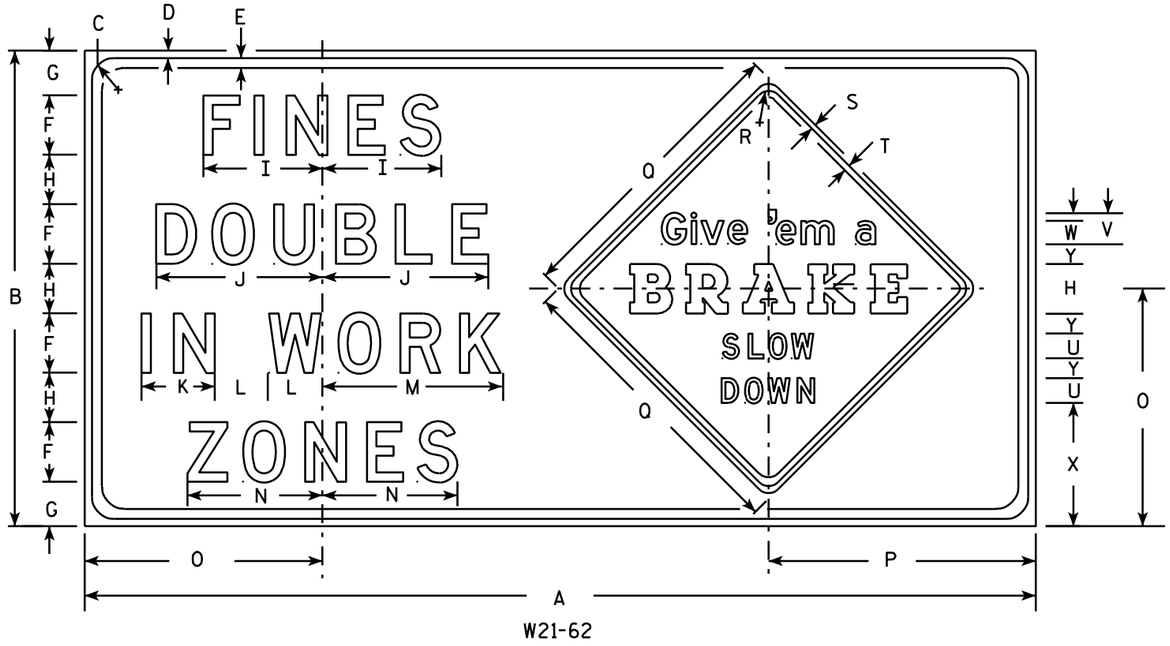
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 148 | E

7

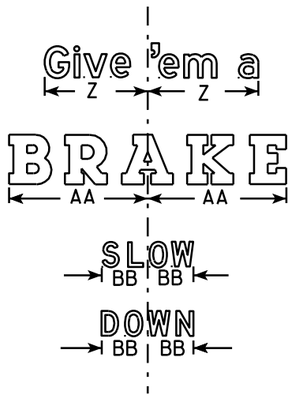
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42

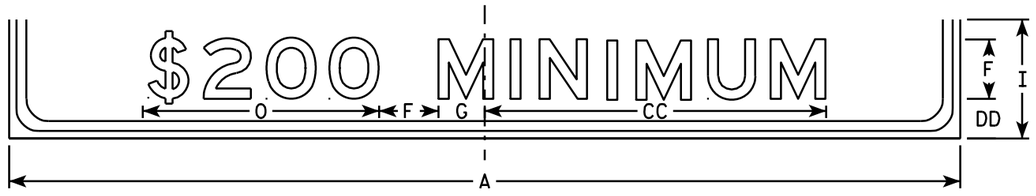


W21-62

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																															

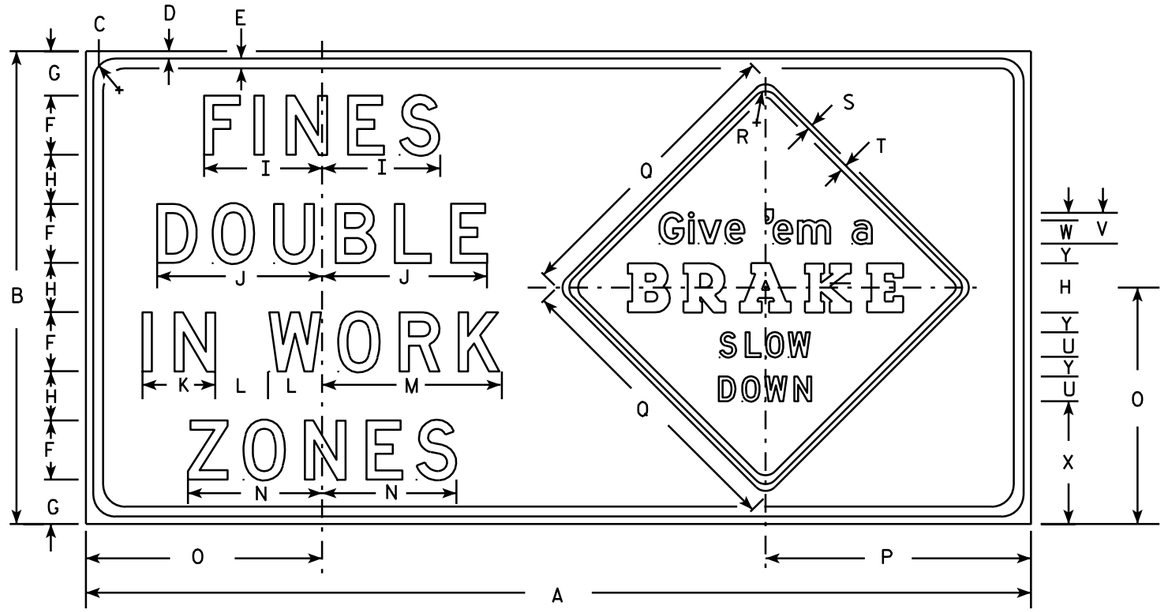
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62.5

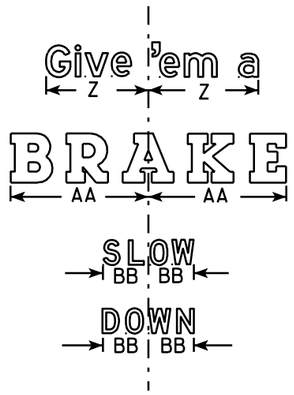
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 149	E

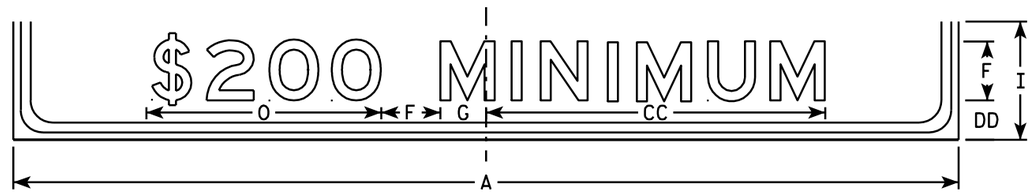


W21-62

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

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	Q	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

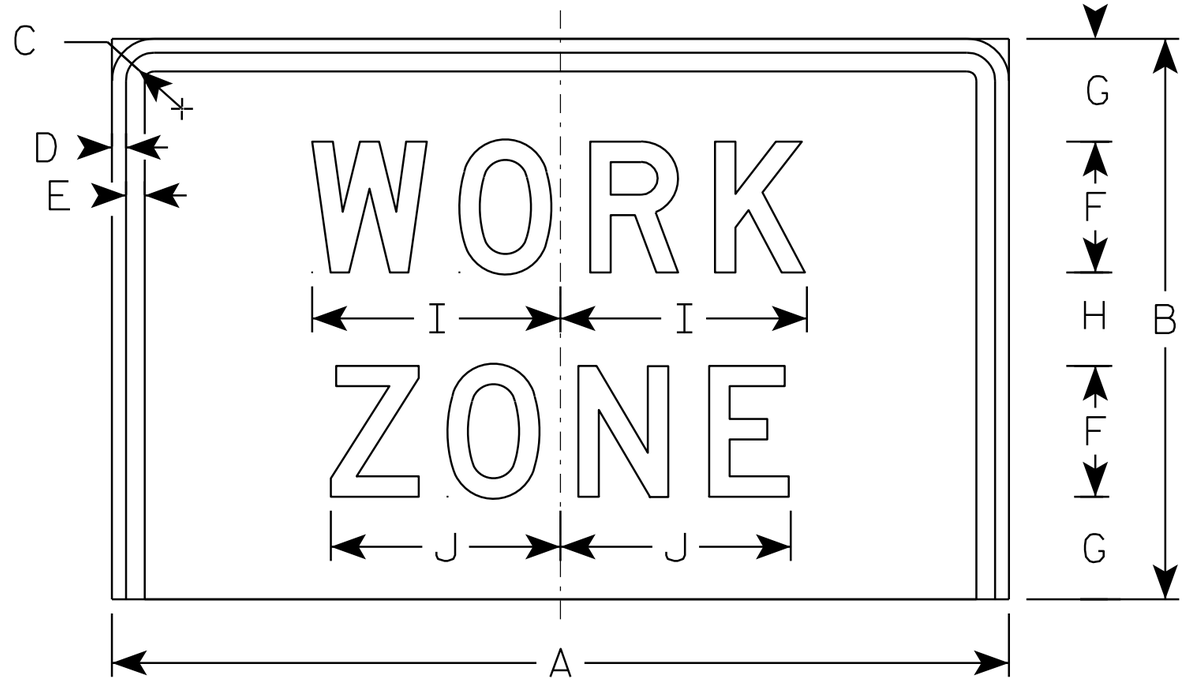
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/16/07 PLATE NO. W21-62.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 150 E

7

7



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																											

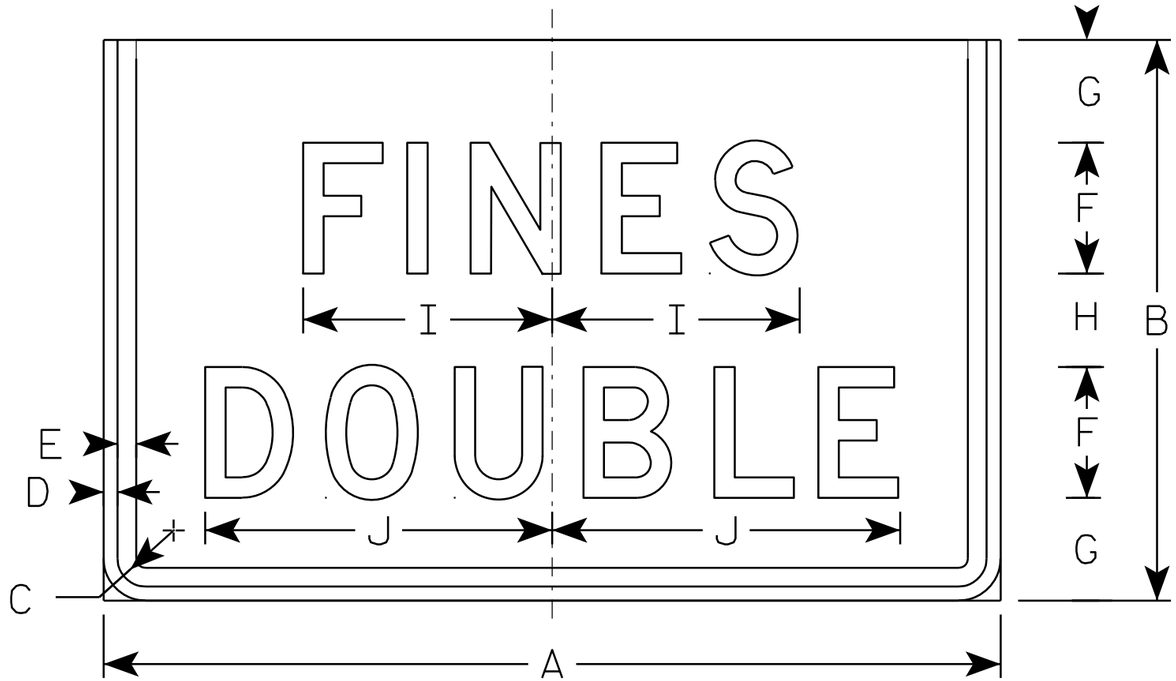
STANDARD SIGN
W21-620

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: 151	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

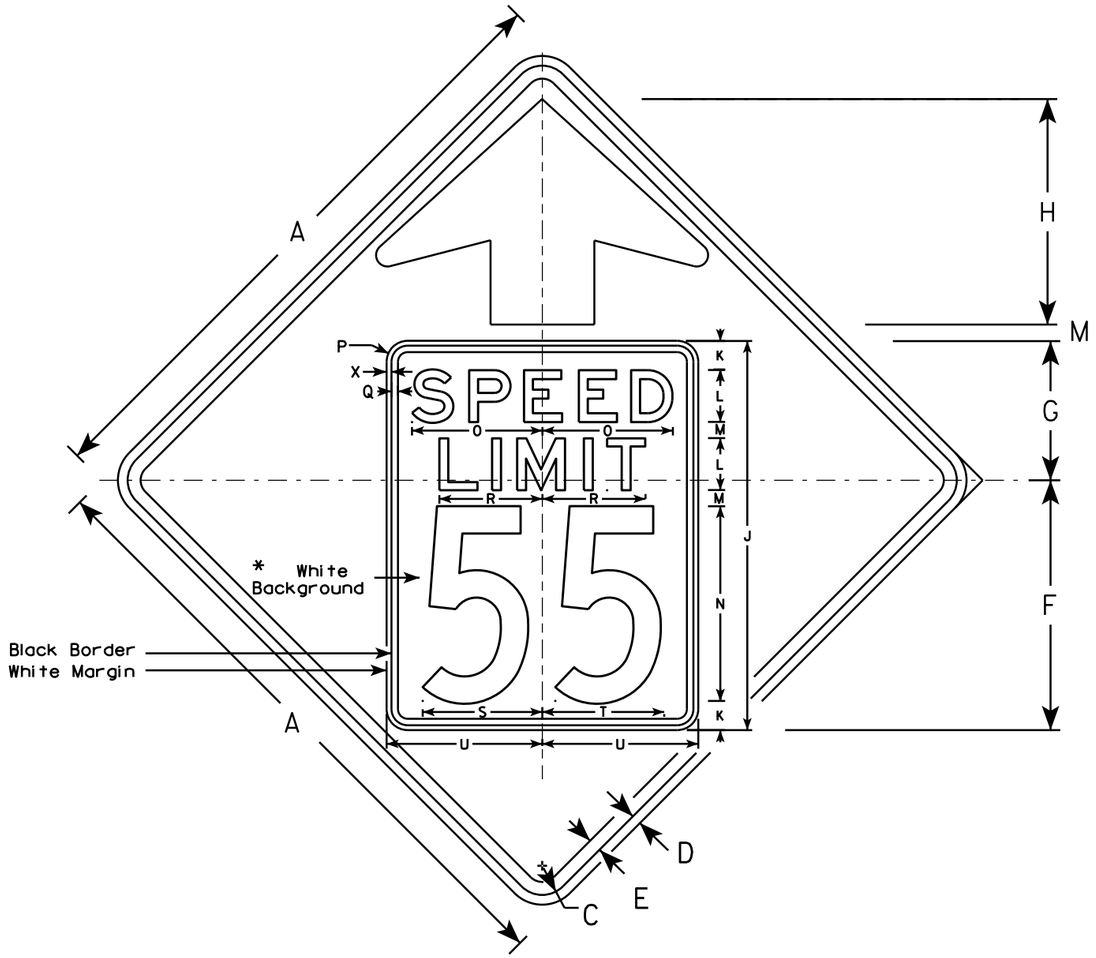
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62R.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 152 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W2162R.DGN PLOT DATE : 21-MAR-2011 10:51 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.108332:1.000000
WISDOT/CADDS SHEET 42

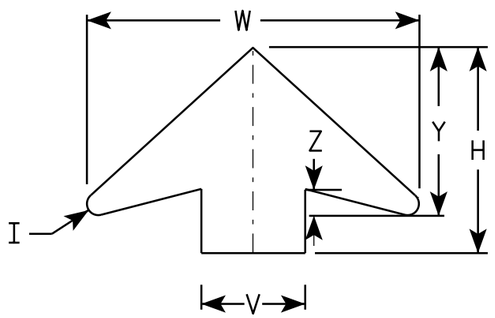


W03-5

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

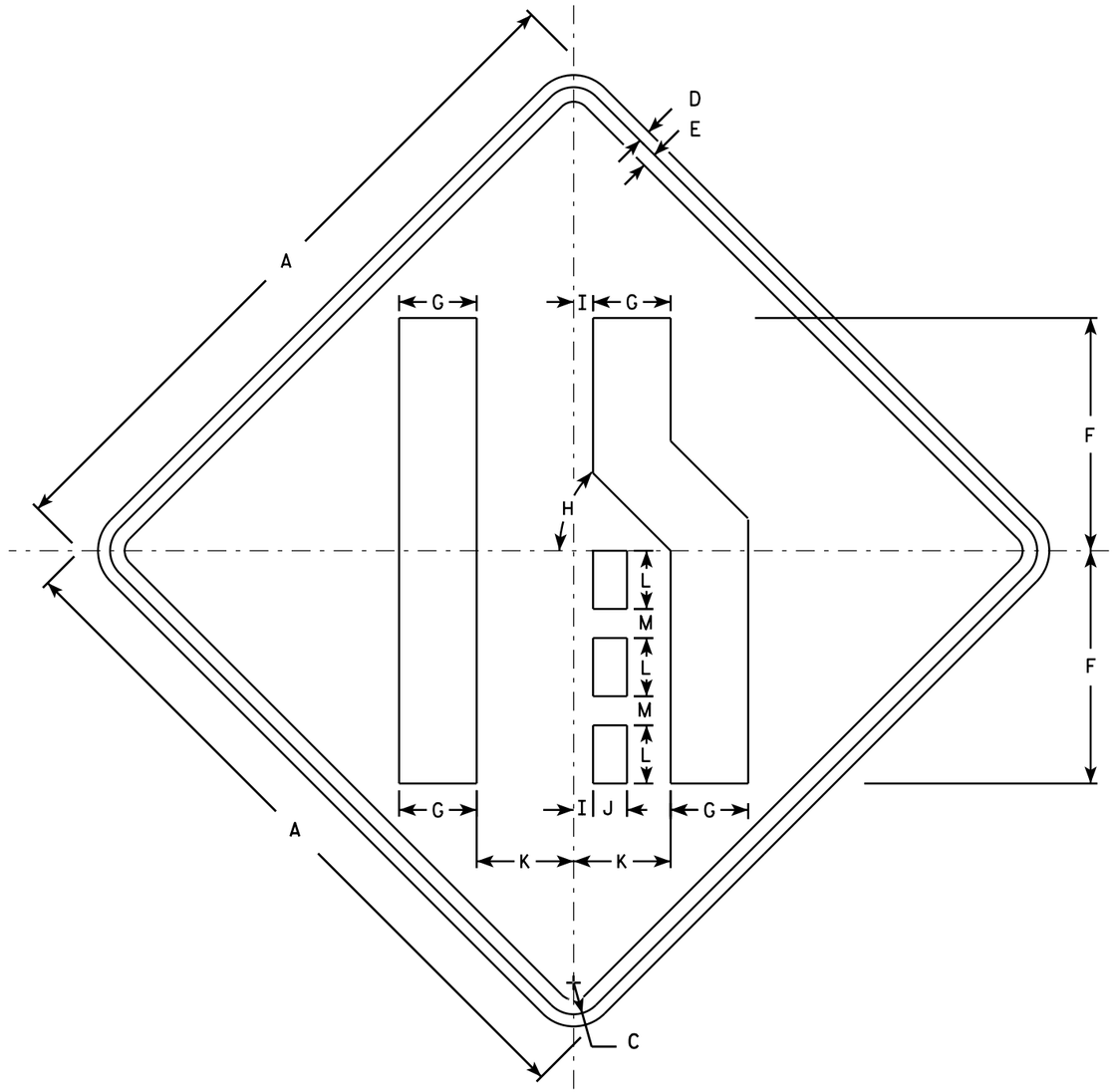
APPROVED Matthew R Rauch
for State Traffic Engineer

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

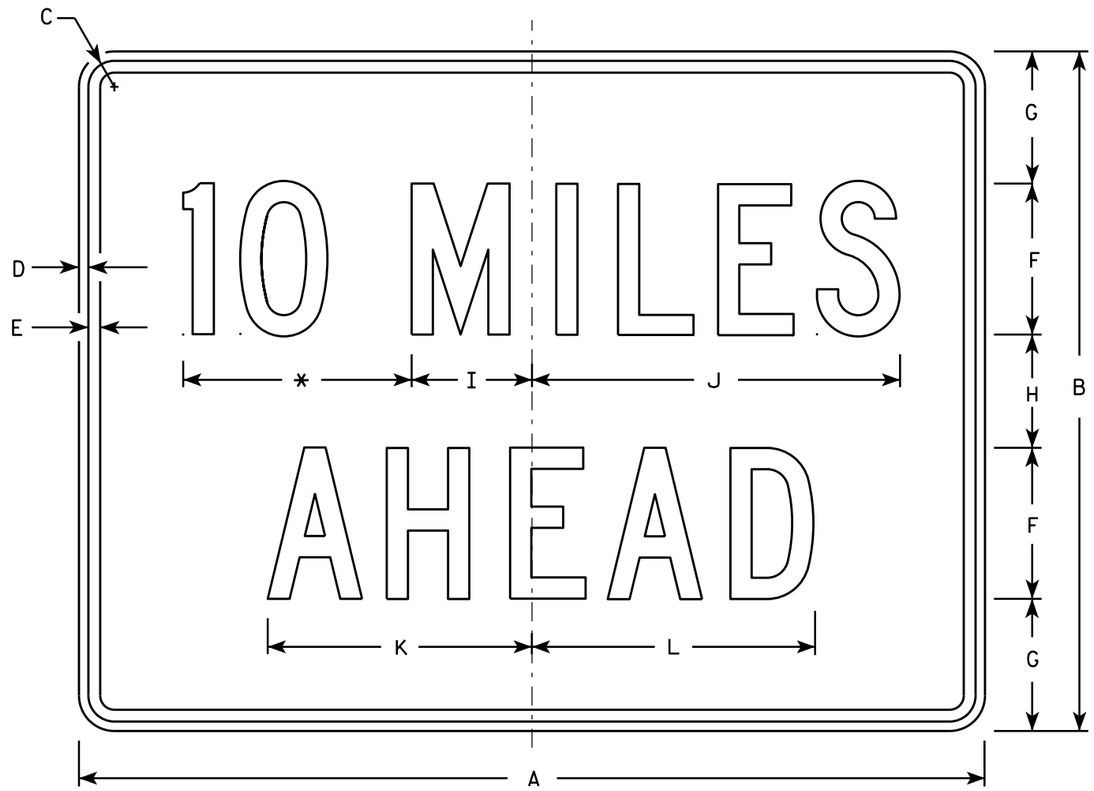
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

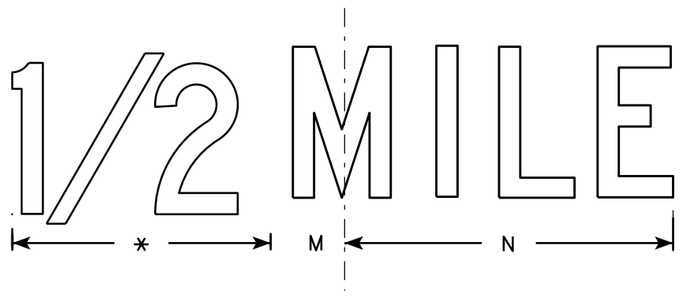
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 154 W04-2.1

PROJECT NO: | SHEET NO: E



W057-52



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.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

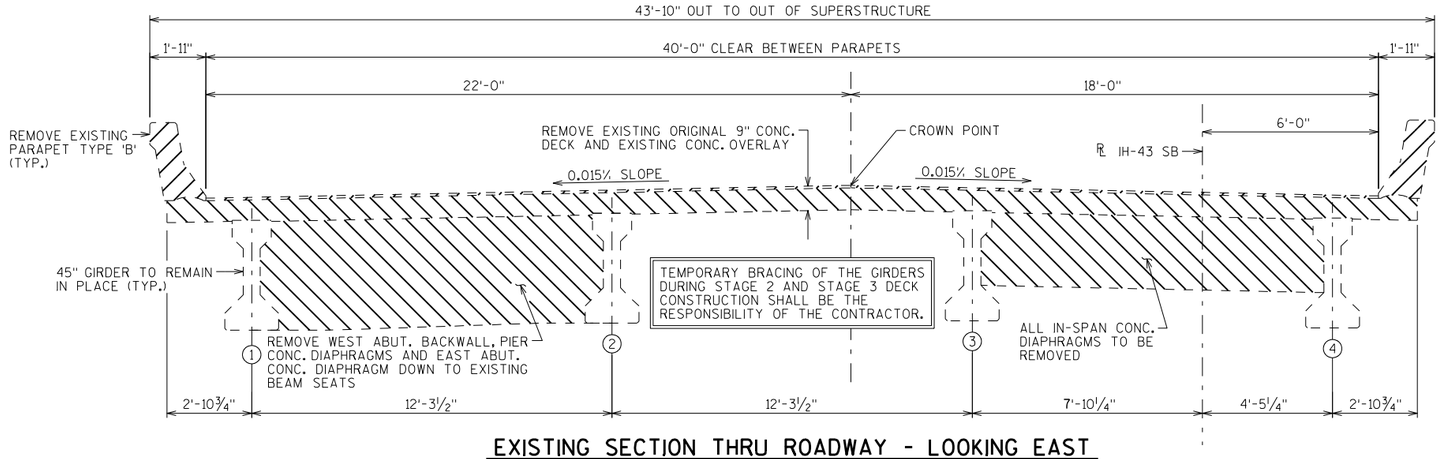
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

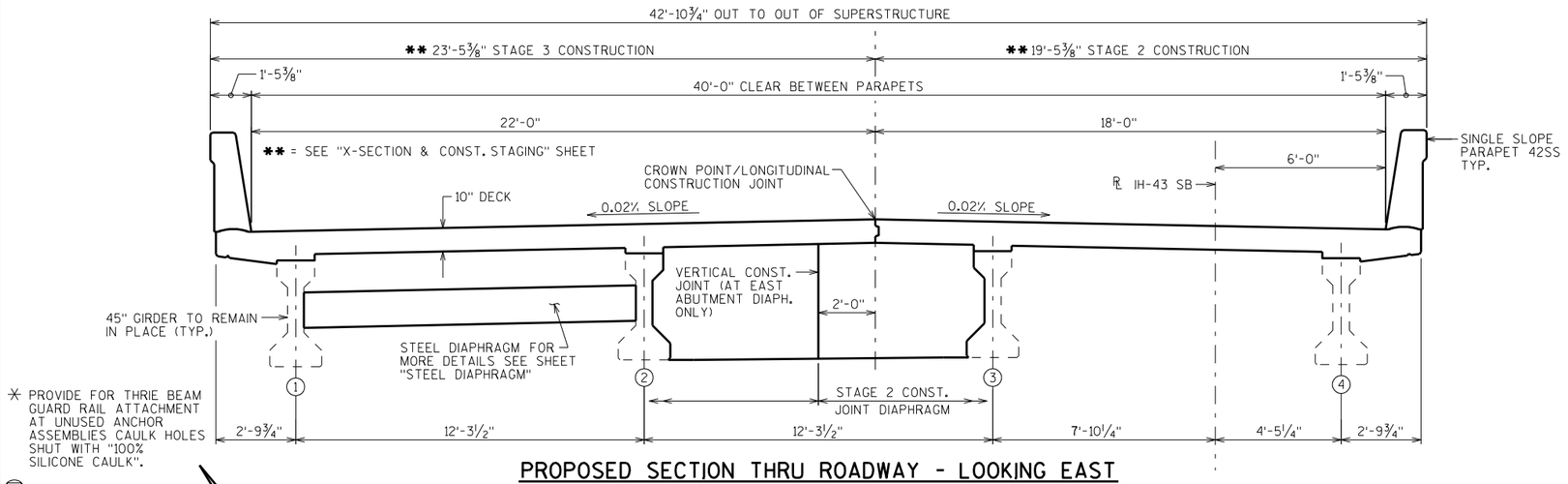
DATE 11/20/13 PLATE W057-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W05752.DGN PLOT DATE : 28-FEB-2014 11:42 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.026599:1.000000 WISDOT/CADDS SHEET 42

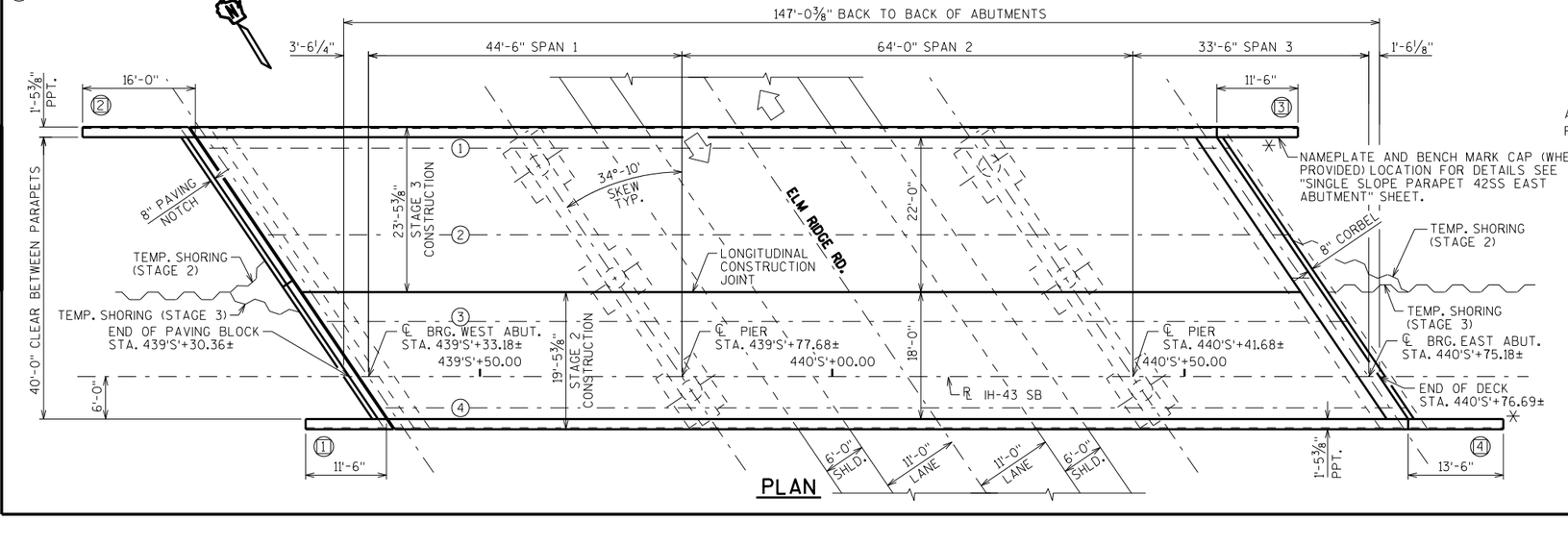


EXISTING SECTION THRU ROADWAY - LOOKING EAST



PROPOSED SECTION THRU ROADWAY - LOOKING EAST

INDICATES WING NUMBER



PLAN

DESIGN DATA

STATE PROJECT NUMBER

1090-33-71

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-20
OPERATIONAL RATING; HS-33
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY SLAB — f'c = 4,000 P.S.I. ALL OTHER — 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 THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT/SUPERSTRUCTURE CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

ADD CRUSHED AGGREGATE SLOPE PAVING TO EXISTING SLOPE PAVING TO REPAIR SLOPE PAVING AREAS THAT HAVE SETTLED OR WASHED AWAY. ADD CRUSHED AGGREGATE SLOPE PAVING TO ORIGINAL TOP OF BERM ELEVATIONS AS SHOWN ON THE ABUTMENT SHEETS. THIS SHALL BE PAID FOR UNDER THE BID ITEM "SLOPE PAVING REPAIR CRUSHED AGGREGATE".

ONCE SLOPE PAVING HAS BEEN REPAIRED TO THE SATISFACTION/APPROVAL OF THE ENGINEER, THEN SEAL/RESEAL BOTH THE NEW AND EXISTING CRUSHED AGGREGATE SLOPE PAVING UNDER THE BID ITEM "RESEAL CRUSHED AGRREGATE SLOPE PAVING".

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACES OF WEST ABUTMENT BELOW EXPANSION DEVICE.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS. ACTUAL DIMENSIONS MAY VARY. THE CONTRACTOR SHOULD PLAN TO ACCOMODATE A DECK OVERHANG THAT IS 6" GREATER THAN THE PLAN DIMENSIONS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1975.

A FIBER-REINFORCED POLYMER (FRP) STRENGTHENING SYSTEM SHALL BE DESIGNED AND APPLIED TO PORTIONS OF THE EXISTING GIRDERS AS SHOWN ON SHEET "FIBER WRAP REINF. DETAILS" AND IN ACCORDANCE WITH THE "FIBER WRAP REINFORCING" SPECIAL PROVISION.

GIRDERS 2&3 WILL NEED TO BE LIFTED AT THE EAST ABUTMENT TO FACILITATE THE APPLICATION OF THE FIBER REINFORCED POLYMER (FRP) STRENGTHENING SYSTEM. SEE "FIBER WRAP REINF. DETAILS" SHEET FOR REQUIRED LOCATIONS OF THE (FRP) STRENGTHENING SYSTEM. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

DO NOT CONNECT STEEL DIAPHRAGMS BETWEEN GIRDERS 2&3 UNTIL AFTER THE STAGE 3 DECK IS POURED.

THE CAULK LOCATED IN THE PARAPET EXPANSION JOINT TESTED POSITIVE FOR ASBESTOS GREATER THAN 1%. THIS MATERIAL SHALL BE REMOVED AND PAID FOR UNDER THE BID ITEM "ABATEMENT OF ASBESTOS CONTAINING MATERIALS B-64-123".

REMOVE ANY/ALL LOOSE CONCRETE AT THE SUBSTRUCTURES UNDER THE BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSH CLEANED TO BARE STEEL PRIOR TO THE CONC. SURFACE REPAIRS BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

TRAFFIC VOLUME

IH-43 SB	ELM RIDGE ROAD
A.D.T.=11,700 (2035)	A.D.T.= <1,500 (2035)
R.D.S.=70 M.P.H.	R.D.S.=55 M.P.H.

LIST OF DRAWINGS

1. NEW DECK
2. QUANTITIES & PROFILE GRADE LINE
3. X-SECTION & CONST. STAGING
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. STEEL DIAPHRAGM
9. FIBER WRAP REINF. DETAILS
10. SUPERSTRUCTURE CROSS SECTION
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE DETAILS
13. EXPANSION DEVICE
14. COVER PLATE DETAILS
15. SINGLE SLOPE PARAPET 42SS WEST ABUTMENT
16. SINGLE SLOPE PARAPET 42SS EAST ABUTMENT

STRUCTURE DESIGN CONTACTS:
NICK RICE (608) 266-5092
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher — CHIEF STRUCTURES DESIGN ENGINEER — 7/28/15 DATE

STRUCTURE B-64-123

IH-43 SB OVER ELM RIDGE ROAD

COUNTY	TOWN/~~CITY~~/VILLAGE
WALWORTH	DARIEN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
NAR	EMK	DDS	NAR

NEW DECK

SHEET 1 OF 16

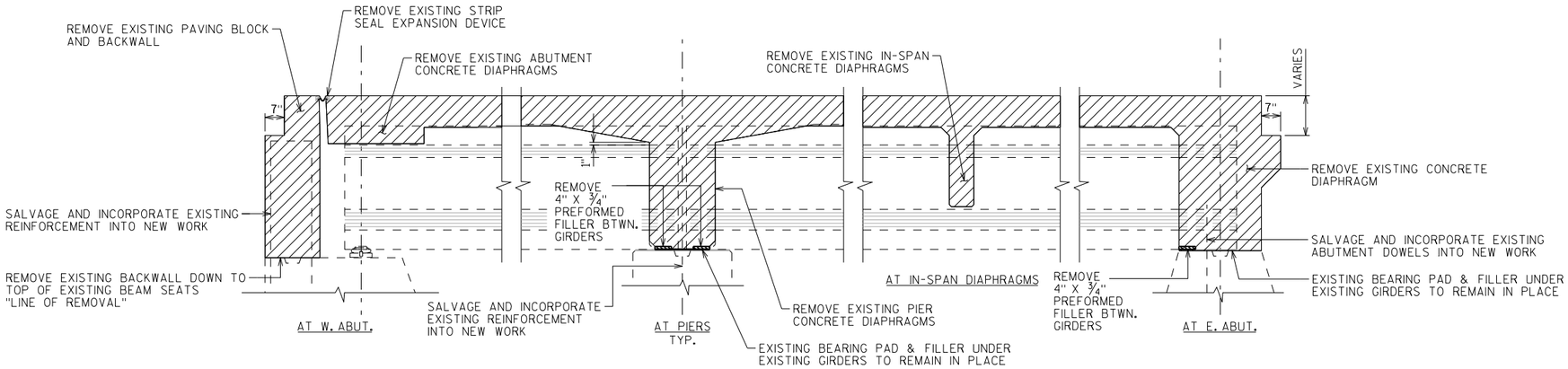
156

I.D. 1090-33-00B

DATE: MARCH 2015

SCALE = 10

STATE PROJECT NUMBER
1090-33-71



PART LONGITUDINAL SECTION

SHOWING DECK REMOVAL LIMITS

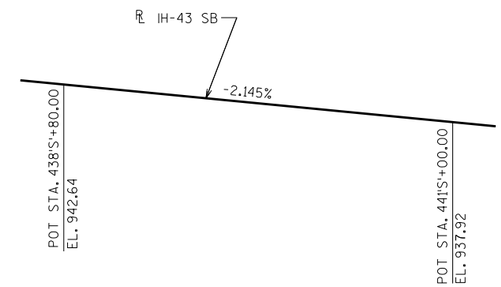
= REMOVAL LIMITS

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	PIER 1	PIER 2	TOTALS
	203.0200	REMOVING OLD STRUCTURE STA. 440'S'+04.18	LS	———	———	———	———	———	1
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-64-123	LS	———	———	———	———	———	1
	203.0225.S	DEBRIS CONTAINMENT B-64-123	LS	———	———	———	———	———	1
	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-64-123	LS	———	———	———	———	———	1
	210.0100	BACKFILL STRUCTURE	CY	———	85	75	———	———	160
	502.0100	CONCRETE MASONRY BRIDGES	CY	299	28	11	———	———	338
	502.3100	EXPANSION DEVICE B-64-123	LS	———	———	———	———	———	1
**	502.3200	PROTECTIVE SURFACE TREATMENT	SY	648	———	———	———	———	648
***	502.3210	PIGMENTED SURFACE SEALER	SY	143	14	13	———	———	170
	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	———	160	60	———	———	220
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	68140	3555	1740	———	———	73435
	505.0906	BAR COUPLERS NO. 6	EACH	10	———	———	———	———	10
	505.0908	BAR COUPLERS NO. 8	EACH	6	———	———	———	———	6
	506.4000	STEEL DIAPHRAGMS B-64-123	EACH	9	———	———	———	———	9
	509.1500	CONCRETE SURFACE REPAIR	SF	———	———	———	———	———	5
	511.1200	TEMPORARY SHORING B-64-123	SF	———	75	75	———	———	150
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	———	15	15	———	———	30
	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	———	10	10	———	———	20
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	———	270	225	———	———	495
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	———	100	100	———	———	200
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	———	———	2	———	———	2
	SPV.0165	FIBER WRAP REINFORCING	SF	235	———	———	———	———	235
		NON-BID ITEMS							
		BRIDGE SEAT PROTECTION	LS	———	———	———	———	———	1
		FILLER	SIZE	———	———	———	———	———	½" & ¾"

** PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE.

*** PIGMENTED SURFACE SEALER TO BE APPLIED TO THE ENTIRE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.



PROFILE GRADE LINE IH-43 SB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY NAR/DDS | PLANS CK'D. NAR

QUANTITIES & PROFILE GRADE LINE

SHEET 2

157

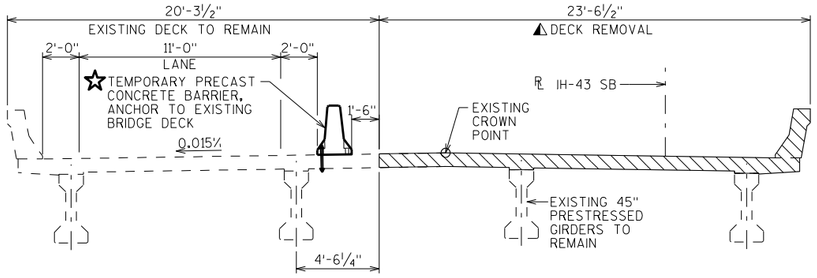
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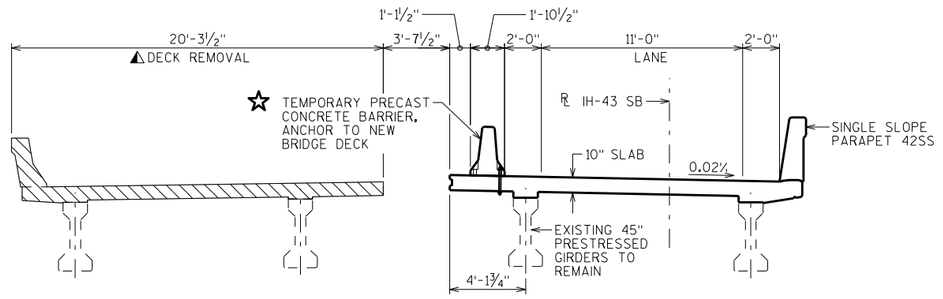
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STATE PROJECT NUMBER

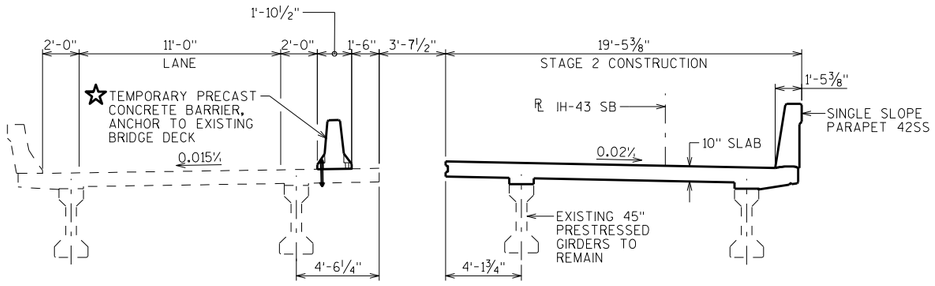
1090-33-71



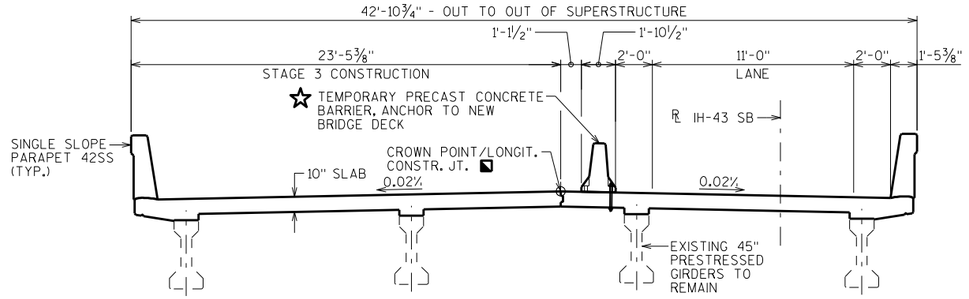
STAGE 2 DECK REMOVAL
(LOOKING EAST)



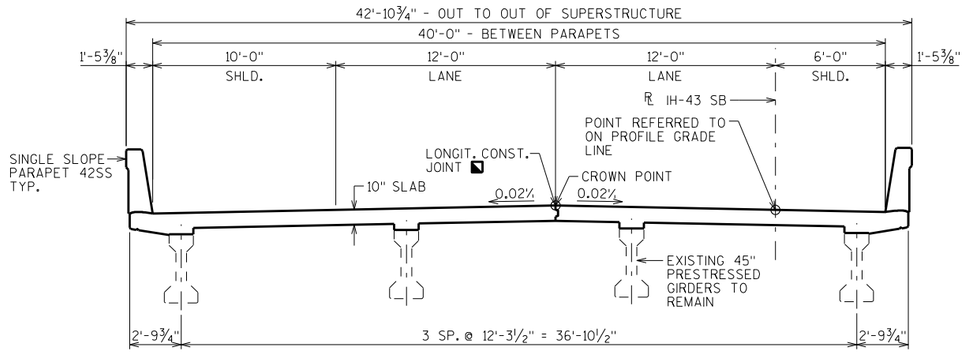
STAGE 3 DECK REMOVAL
(LOOKING EAST)



STAGE 2 CONSTRUCTION
(LOOKING EAST)



STAGE 3 CONSTRUCTION
(LOOKING EAST)



FINAL CROSS-SECTION THRU STRUCTURE
(LOOKING EAST)

☆ SEE ROADWAY PLANS FOR DETAILS.

◪ ROUTE OUT ¼" X ¾" DEEP AT JOINT. FILL IN WITH POURABLE EPOXY CRACK SEALER (INCIDENTAL TO "CONCRETE MASONRY BRIDGES").

⚠ USE EXTREME CARE DURING DECK REMOVAL TO AVOID CUTTING THE TOP FLANGE OF EXISTING GIRDERS. ANY DAMAGE TO THE EXISTING STRUCTURE IS TO BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY NAR/DDS | PLANS CK'D. NAR

X-SECTION & CONST. STAGING

SHEET 3

158

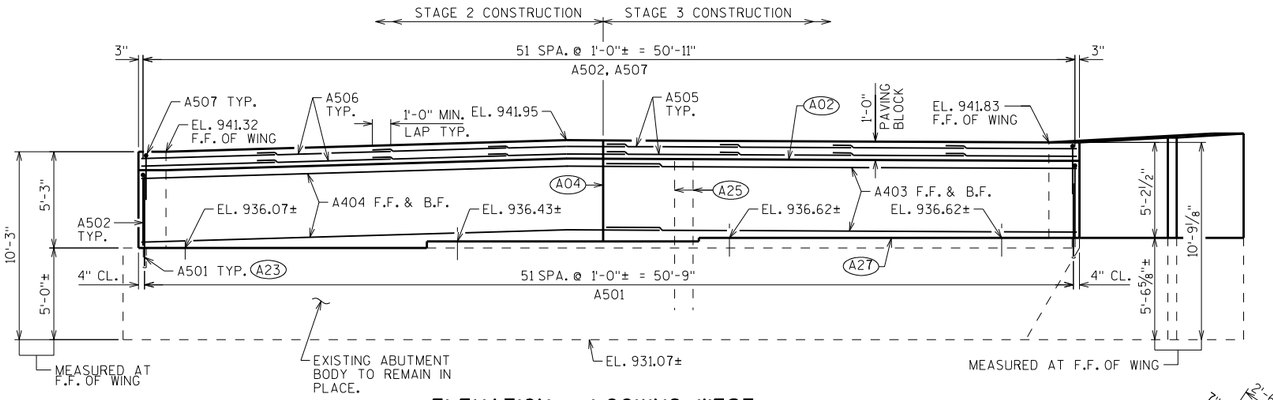
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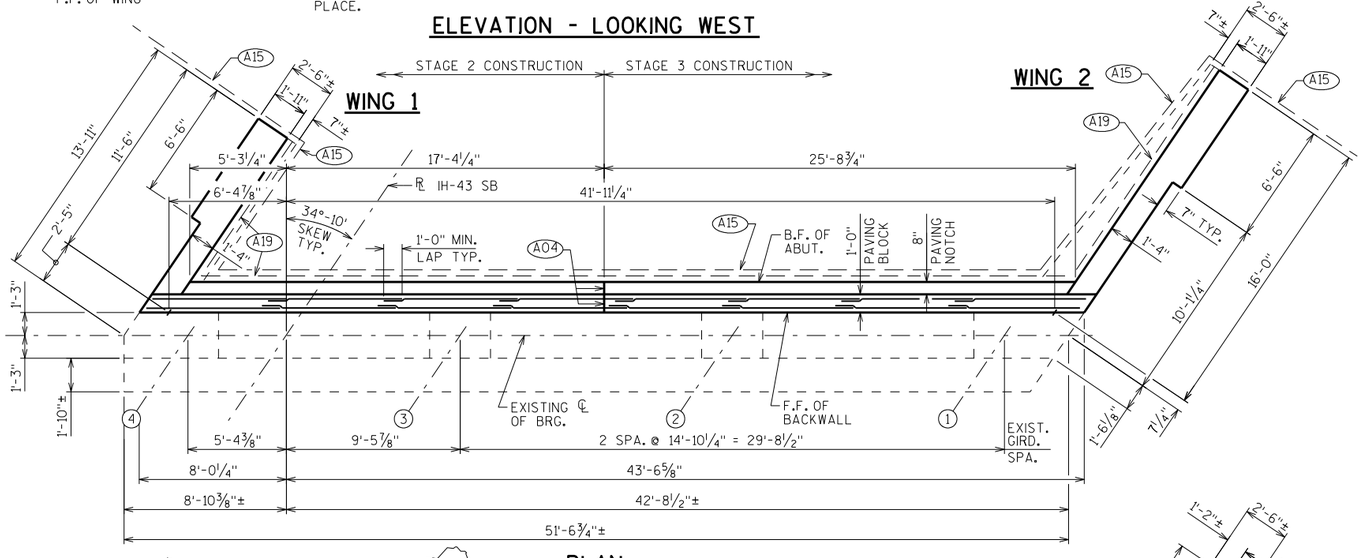
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STATE PROJECT NUMBER

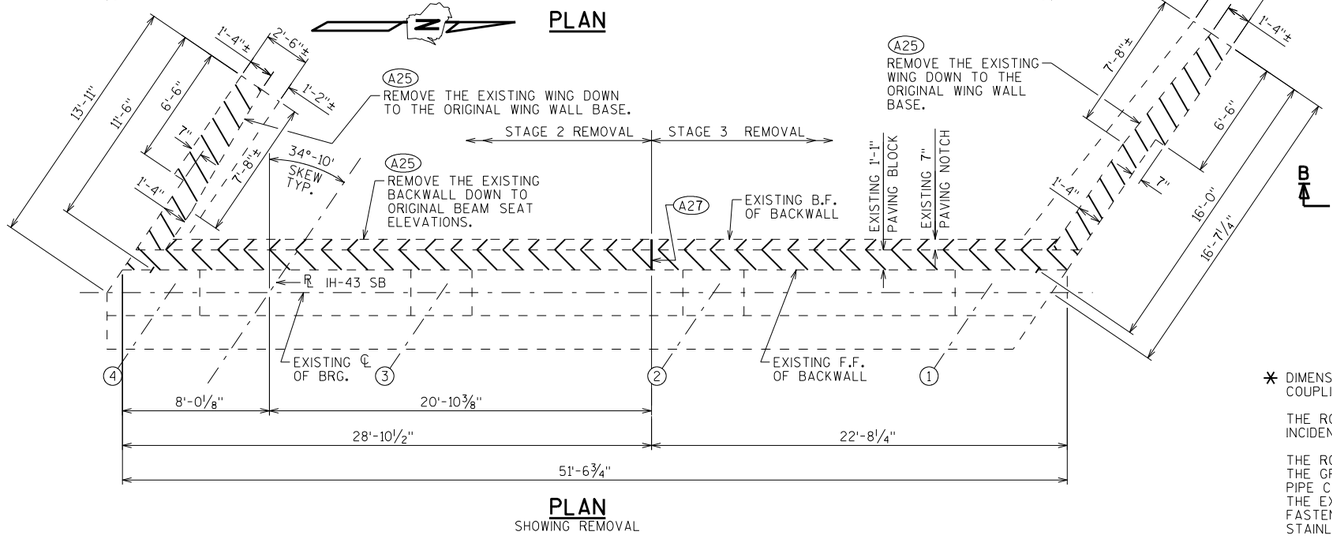
1090-33-71



ELEVATION - LOOKING WEST



PLAN



PLAN
SHOWING REMOVAL

(A02) CONSTRUCTION JOINT: POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

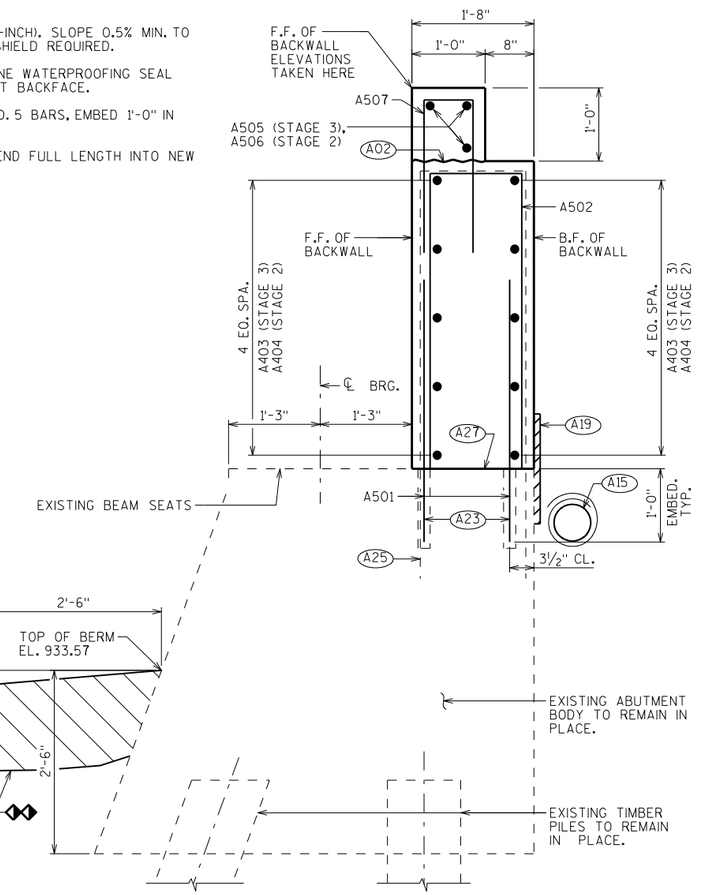
(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 1'-0" IN CONCRETE.

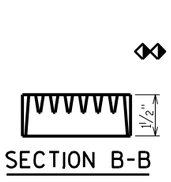
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A27) LINE OF REMOVAL.

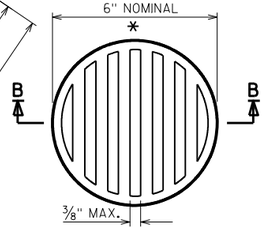


SECTION THRU BODY

◆◆ EXISTING SLOPE PAVING HAS SETTLED OR WASHED AWAY IN SEVERAL SPOTS. THESE AREAS SHALL BE DETERMINED BY THE ENGINEER.



SECTION B-B



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY DDS | PLANS CK'D. NAR

WEST ABUTMENT

SHEET 4

159

SCALE = 4

8

8

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

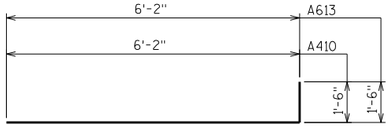
(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

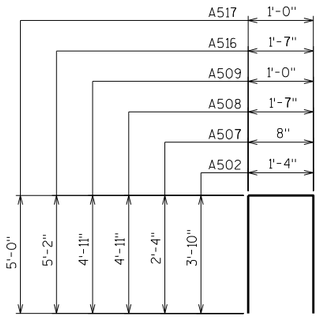
(A23) MASONRY ANCHORS TYPE L NO. BARS, EMBED 1'-0" CONCRETE.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A27) LINE OF REMOVAL



A410, A613

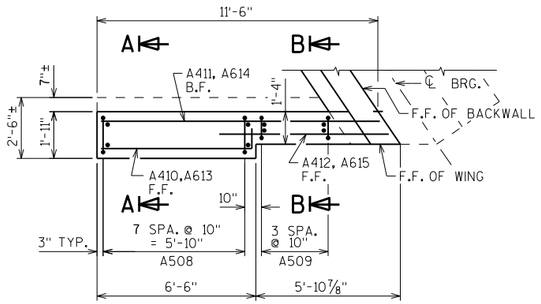


A502, A507, A508, A509, A516, A517

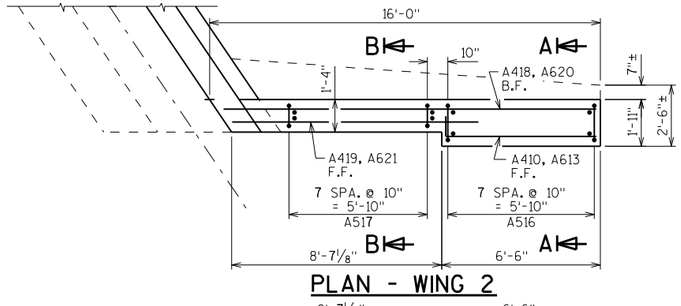
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

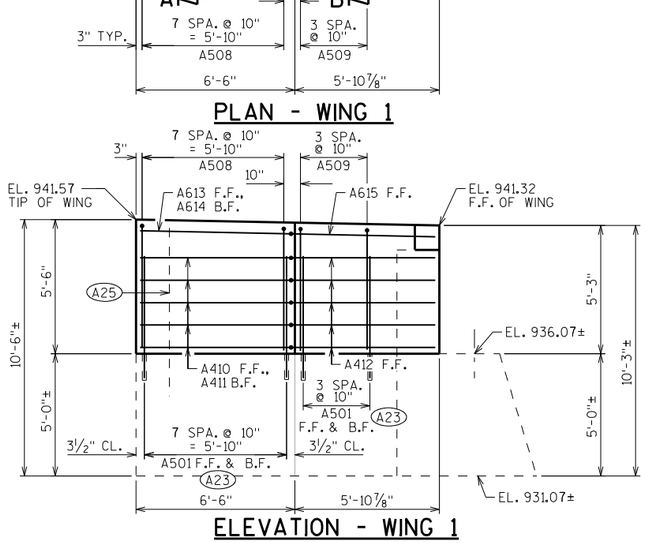
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	160	5'-0"			BODY/BACKWALL - VERT. - F.F. & B.F.
A502	X	52	8'-9"	X		BACKWALL - VERT.
A403	X	10	25'-9"			BACKWALL - HORIZ. - F.F. & B.F. STAGE 3
A404	X	10	28'-1"			BACKWALL - HORIZ. - F.F. & B.F. STAGE 2
A505	X	12	7'-2"			PAVING BLOCK - HORIZ. - STAGE 3
A506	X	12	7'-4"			PAVING BLOCK - HORIZ. - STAGE 2
A507	X	52	5'-1"	X		PAVING BLOCK - VERT.
A508	X	8	11'-2"	X		WING 1 - VERT.
A509	X	4	10'-7"	X		WING 1 - VERT.
A410	X	10	7'-7"	X		WINGS 1&2 - HORIZ. - F.F.
A411	X	5	11'-5"			WING 1 - HORIZ. - B.F.
A412	X	5	6'-11"			WING 1 - HORIZ. - F.F.
A613	X	2	7'-7"	X		WINGS 1&2 - HORIZ. - TOP - F.F.
A614	X	1	11'-5"			WING 1 - HORIZ. - TOP - B.F.
A615	X	1	7'-7"			WING 1 - HORIZ. - TOP - F.F.
A516	X	8	11'-8"	X		WING 2 - VERT.
A517	X	8	10'-9"	X		WING 2 - VERT.
A418	X	5	15'-3"			WING 2 - HORIZ. - B.F.
A419	X	5	10'-1"			WING 2 - HORIZ. - F.F.
A620	X	1	15'-3"			WING 2 - HORIZ. - TOP - B.F.
A621	X	1	10'-8"			WING 2 - HORIZ. - TOP - F.F.



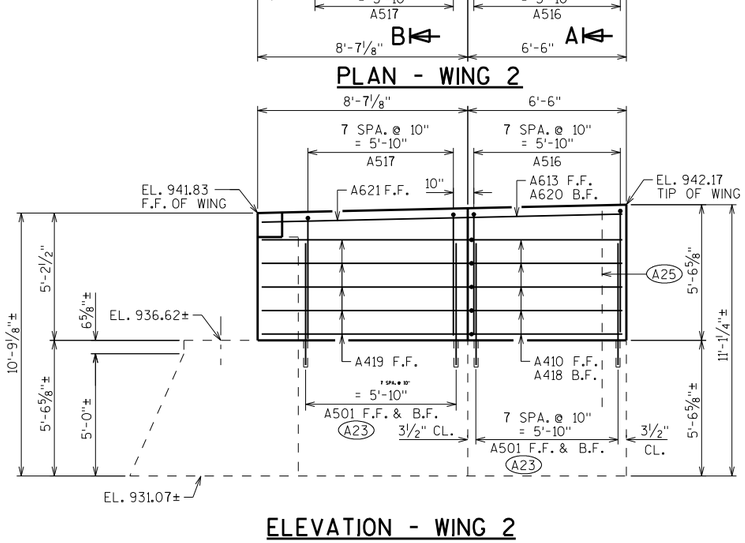
PLAN - WING 1



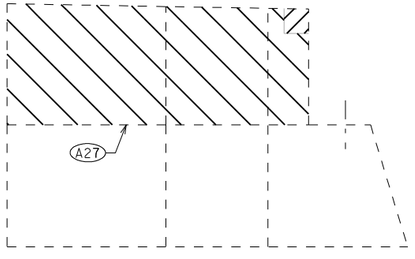
PLAN - WING 2



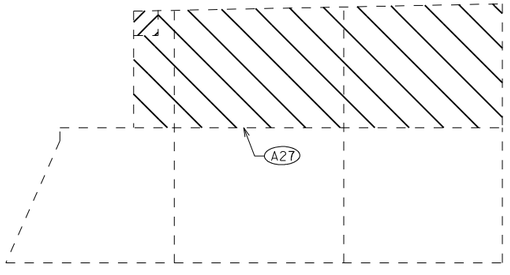
ELEVATION - WING 1



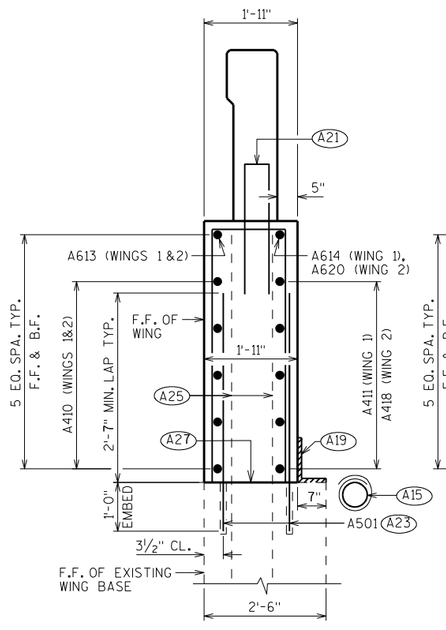
ELEVATION - WING 2



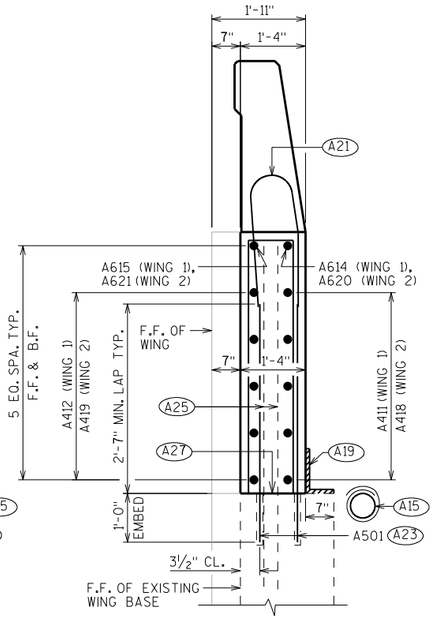
EXISTING ELEVATION - WING 1
SHOWING REMOVAL LIMITS



EXISTING ELEVATION - WING 2
SHOWING REMOVAL LIMITS



SECTION A-A



SECTION B-B

STATE PROJECT NUMBER

1090-33-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY DDS | PLANS CK'D. NAR

WEST ABUTMENT DETAILS

SHEET 5

160

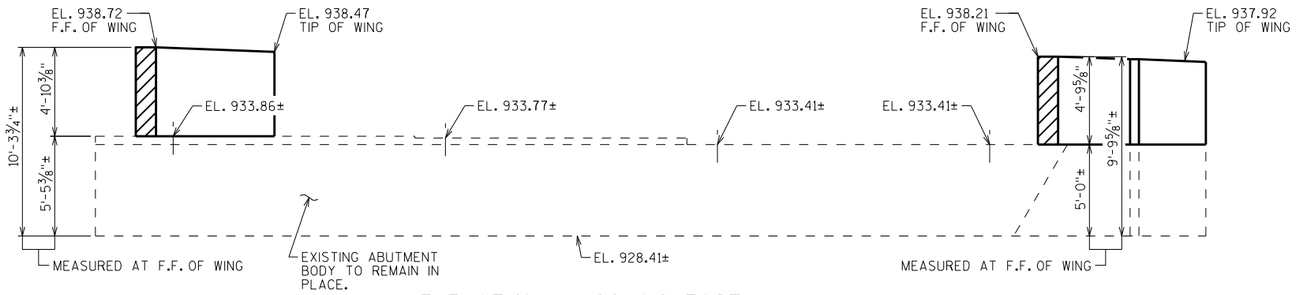
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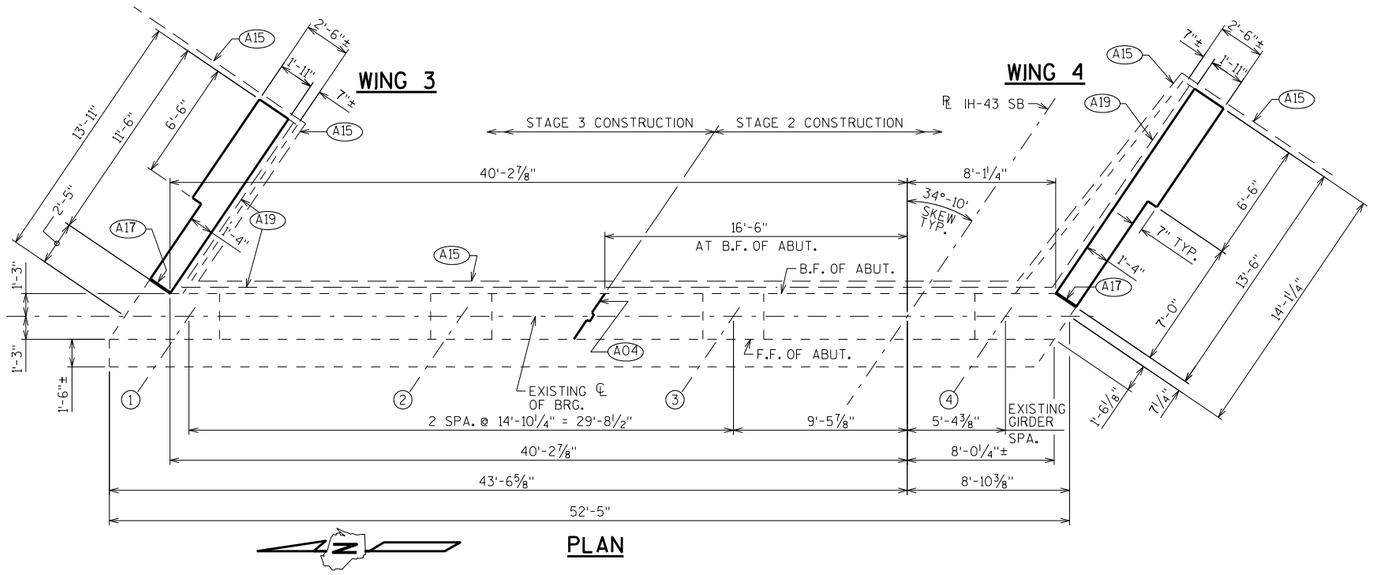
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STATE PROJECT NUMBER

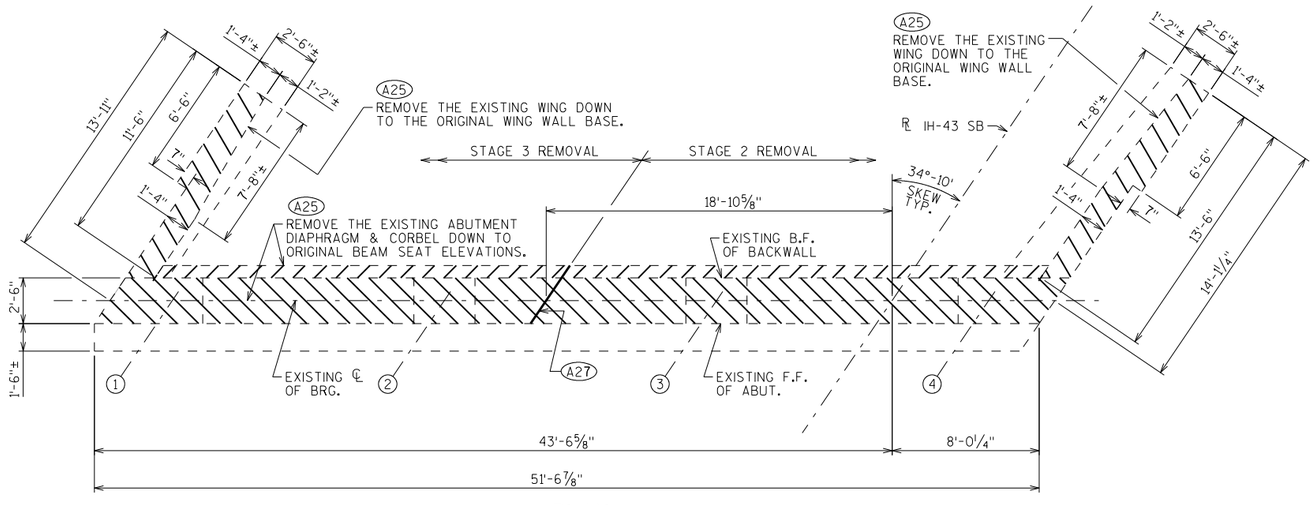
1090-33-71



ELEVATION - LOOKING EAST



PLAN



PLAN
SHOWING REMOVAL

(A04) VERT. CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 X 8. 3/4" "V" GROOVE @ THE FRONT FACE AND 18" R.M.W. @ BACKFACE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

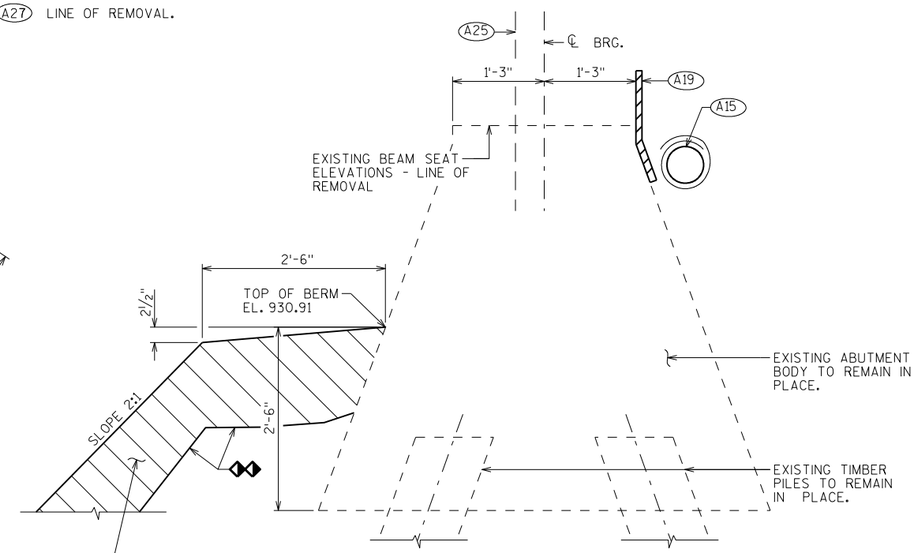
(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A23) MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 1'-0" IN CONCRETE.

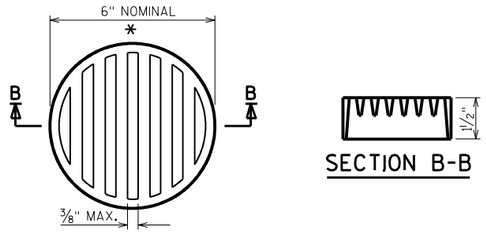
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A27) LINE OF REMOVAL.



SECTION THRU BODY

◆◆ EXISTING SLOPE PAVING HAS SETTLED OR WASHED AWAY IN SEVERAL SPOTS. THESE AREAS SHALL BE DETERMINED BY THE ENGINEER.



SECTION B-B

RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY DDS | PLANS CK'D. NAR

EAST ABUTMENT

SHEET 6

161

SCALE = 4

8

8

STATE PROJECT NUMBER
1090-33-71

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

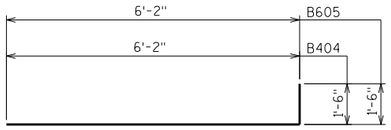
(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

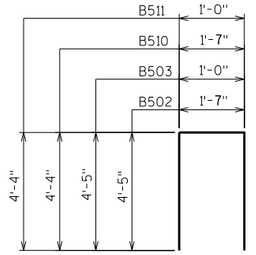
(A23) MASONRY ANCHORS TYPE L NO. BARS, EMBED 1'-0" CONCRETE.

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

(A27) LINE OF REMOVAL



B404, B605

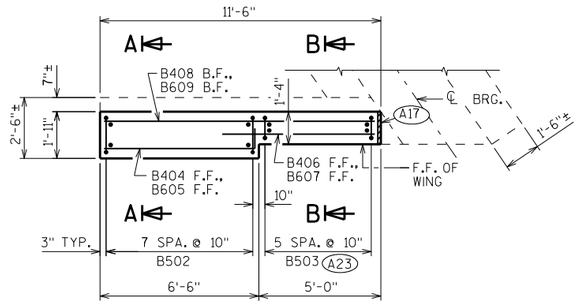


B502, B503, B510, B511

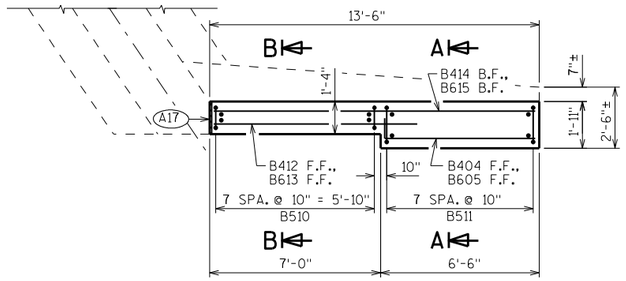
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

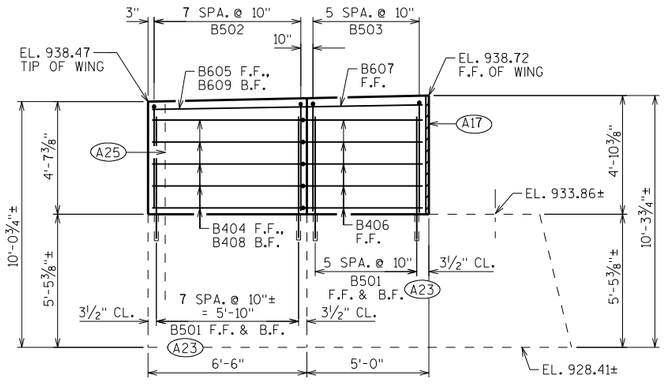
	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
(A23)	B501	X	60	5'-0"			WINGS 3&4 - VERT.
	B502	X	8	10'-2"	X		WING 3 - VERT.
	B503	X	6	9'-7"	X		WING 3 - VERT.
	B404	X	10	7'-7"	X		WING 3 - HORIZ. - F.F.
	B605	X	2	7'-6"	X		WINGS 3&4 - HORIZ. - TOP
	B406	X	5	6'-4"			WING 3 - HORIZ. - F.F.
	B607	X	1	7'-1"			WING 3 - HORIZ. - F.F. - TOP
	B408	X	5	11'-2"			WING 3 - HORIZ. - B.F.
	B609	X	1	11'-2"			WING 3 - HORIZ. - B.F. - TOP
	B510	X	8	10'-0"	X		WING 4 - VERT.
	B511	X	8	9'-5"	X		WING 4 - VERT.
	B412	X	5	8'-4"			WING 4 - HORIZ. - F.F.
	B613	X	1	9'-1"			WING 4 - HORIZ. - F.F. - TOP
	B414	X	5	13'-2"			WING 4 - HORIZ. - B.F.
	B615	X	1	13'-2"			WING 4 - HORIZ. - B.F. - TOP



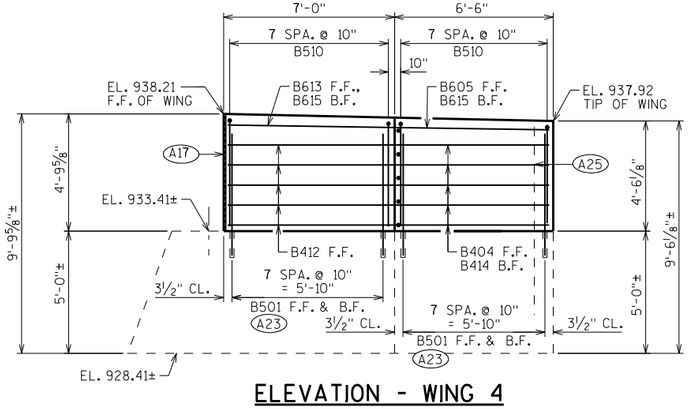
PLAN - WING 3



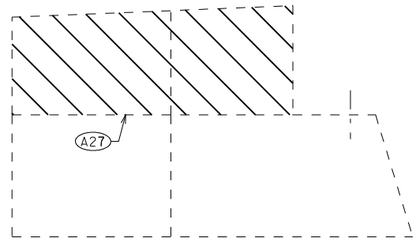
PLAN - WING 4



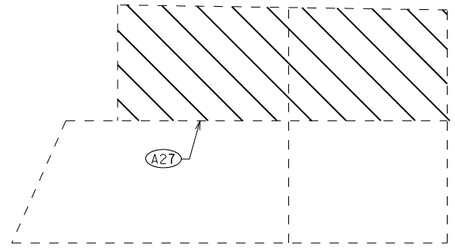
ELEVATION - WING 3



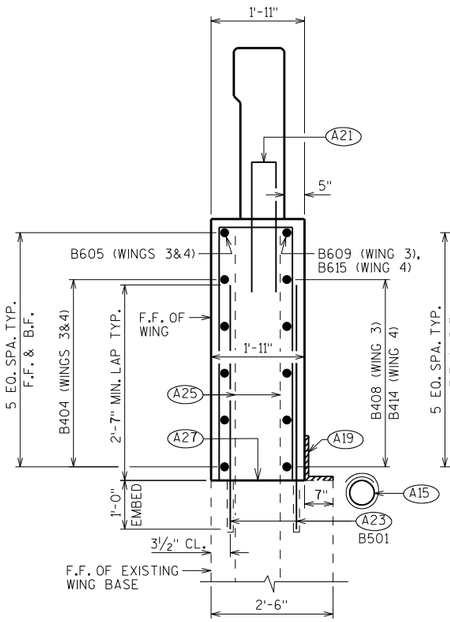
ELEVATION - WING 4



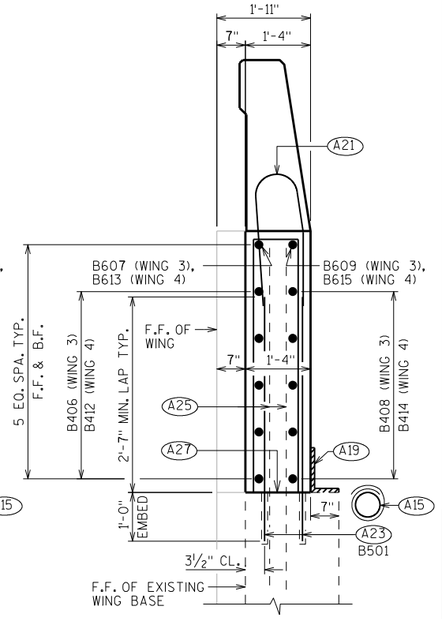
EXISTING ELEVATION - WING 3
SHOWING REMOVAL LIMITS



EXISTING ELEVATION - WING 4
SHOWING REMOVAL LIMITS



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY DDS | PLANS CK'D. NAR

EAST ABUTMENT DETAILS

SHEET 7

162

SCALE = 3

8

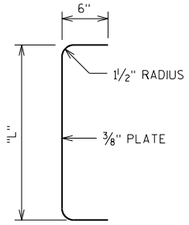
8

STATE PROJECT NUMBER

1090-33-71

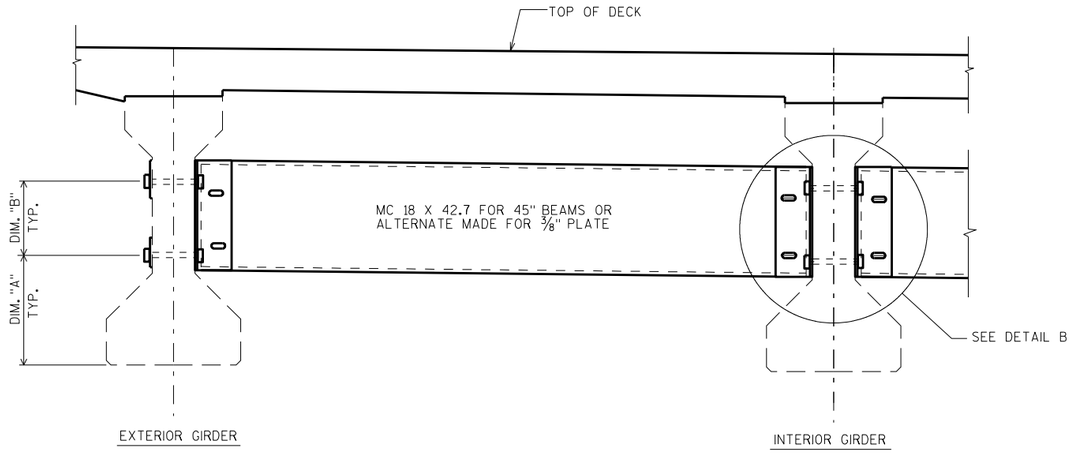
TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
45"	1'-5 3/8"	1'-1 7/8"	1'-5 1/2"	2 1/4"



SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



PART TRANSVERSE SECTION AT DIAPHRAGM

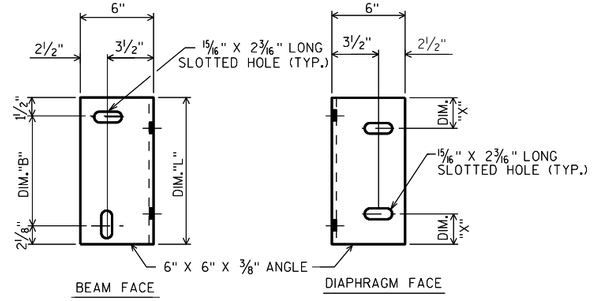
NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-64-123", EACH.

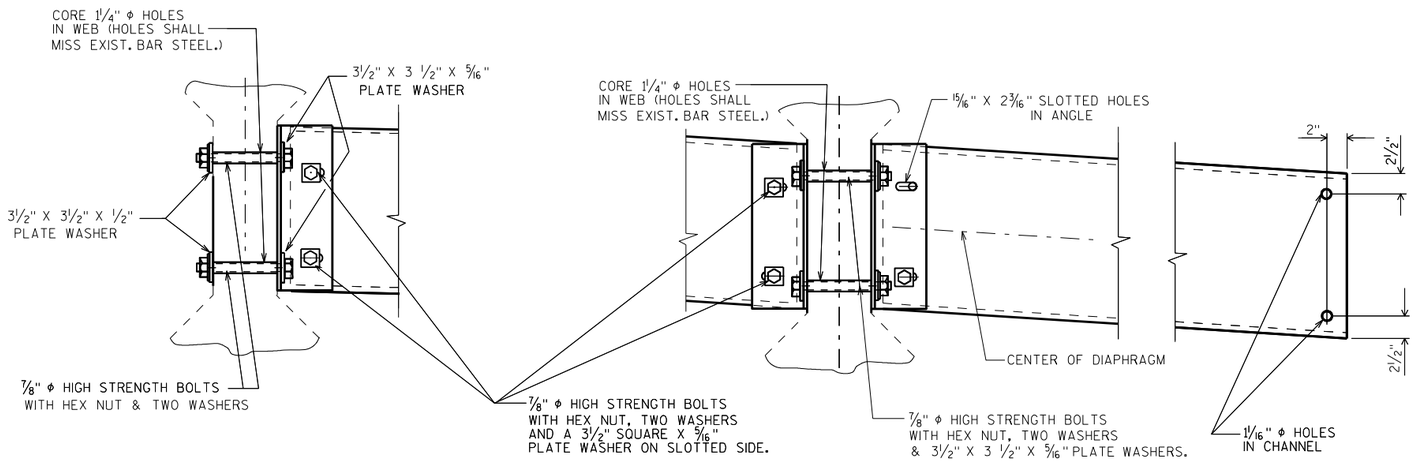
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.



DIAPHRAGM SUPPORT



(FOR EXTERIOR GIRS. & STAGGERED DIAPHRAGMS)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

DETAIL B

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY DDS | PLANS CK'D. NAR

STEEL DIAPHRAGM

SHEET 8

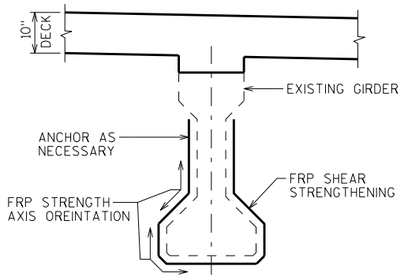
163

SCALE = 1

GSTDIAMT
1-12

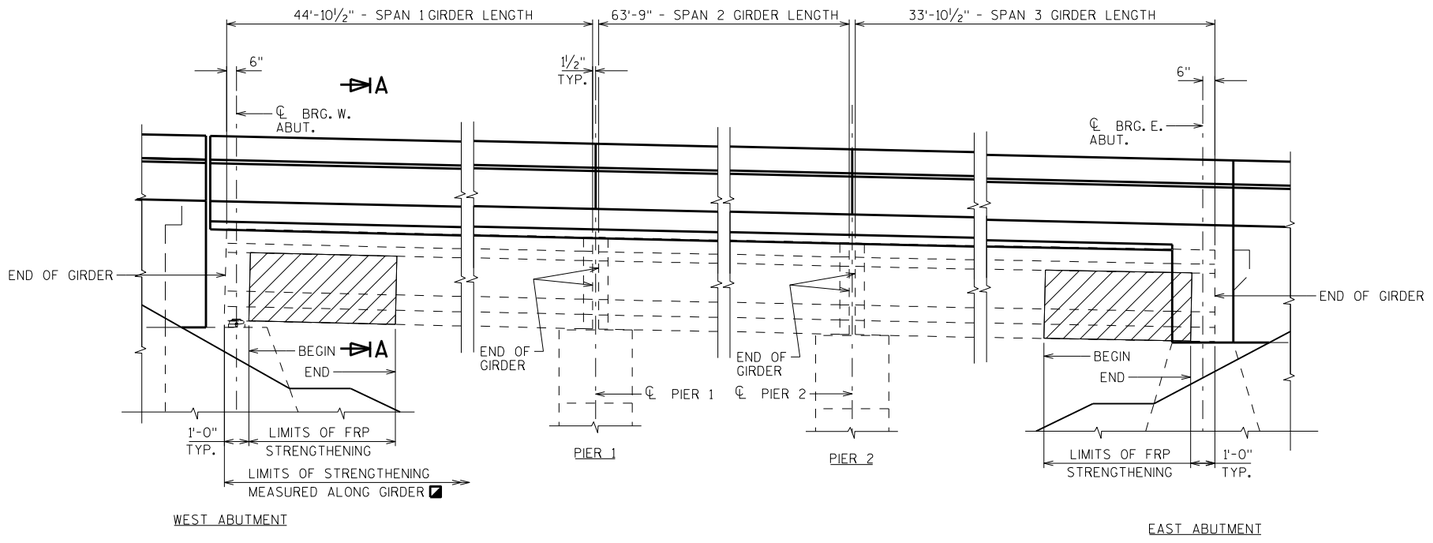
STATE PROJECT NUMBER

1090-33-71



SECTION A-A

SPAN	GIRDER NO.	◪ BEGIN (FT)	◪ END (FT)	EXIST. FACTORED SHEAR CAPACITY (KIPS)	ADD. FACTORED SHEAR CAPACITY REQ'D (KIPS)
1	1 & 4	1.00	5.00	143.6	27.5
1	2 & 3	1.00	8.00	141.4	84.8
3	2 & 3	28.875	32.875	142.1	31.3



PART LONGITUDINAL SECTION

SHOWING FIBER WRAP REINFORCING LIMITS

◪ LIMITS OF STRENGTHENING MEASURED FROM WESTERN-MOST GIRDER END FOR ALL SPANS.

FOR ADDITIONAL FIBER-REINFORCED POLYMER (FRP) NOTES/INSTRUCTIONS SEE GENERAL NOTES ON THE "NEW DECK" SHEET.

(FRP) STRENGTHENING SHALL BE IN ACCORDANCE WITH THE "FIBER WRAP REINFORCING" SPECIAL PROVISION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY NAR | PLANS CK'D. NAR

FIBER WRAP REINF. DETAILS

SHEET 9

164

8

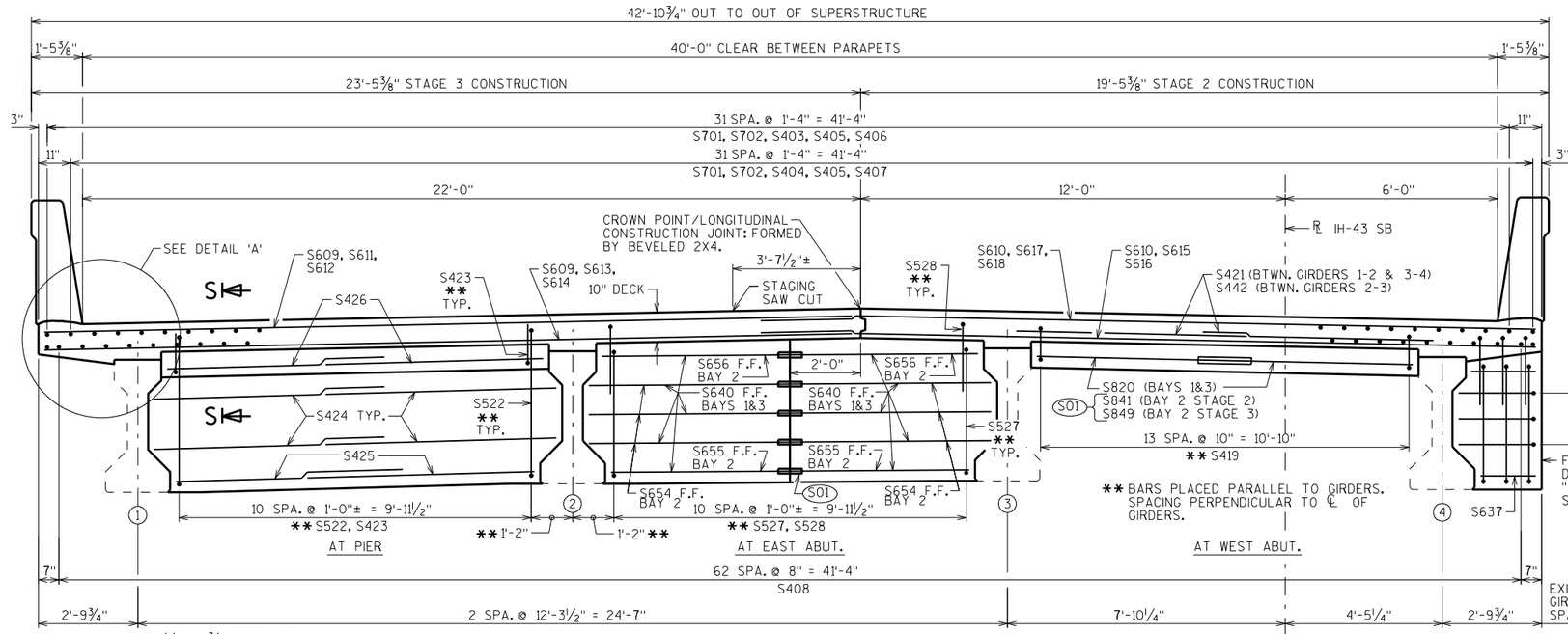
8

SCALE = 3

BAY 1 - BTWN. GIRDERS 1-2
BAY 2 - BTWN. GIRDERS 2-3
BAY 3 - BTWN. GIRDERS 3-4

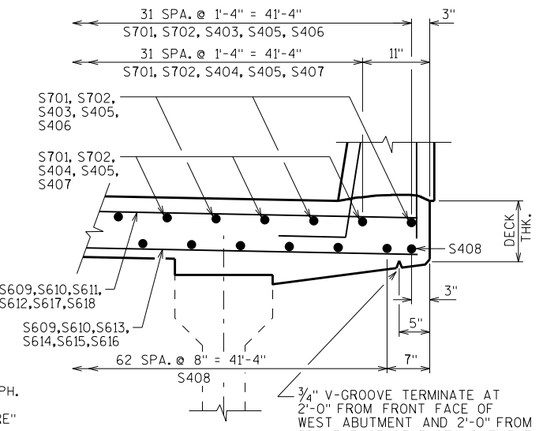
STATE PROJECT NUMBER

1090-33-71



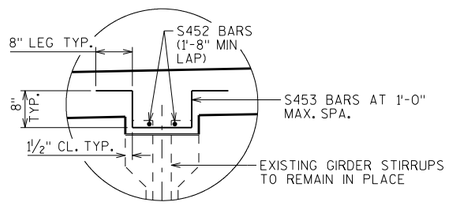
SECTION THRU ROADWAY - LOOKING EAST

(S01) BAR COUPLERS USED. BAR LENGTH COMPUTED TO ℄ OF LONGIT. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

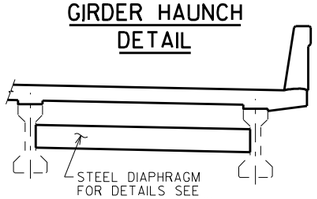


DETAIL 'A'
TYP. (BOTH SIDES)

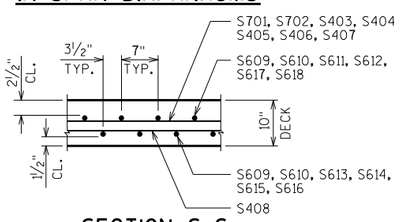
¾" V-GROOVE TERMINATE AT 2'-0" FROM FRONT FACE OF WEST ABUTMENT AND 2'-0" FROM FRONT FACE OF EAST ABUTMENT DIAPHRAGM.



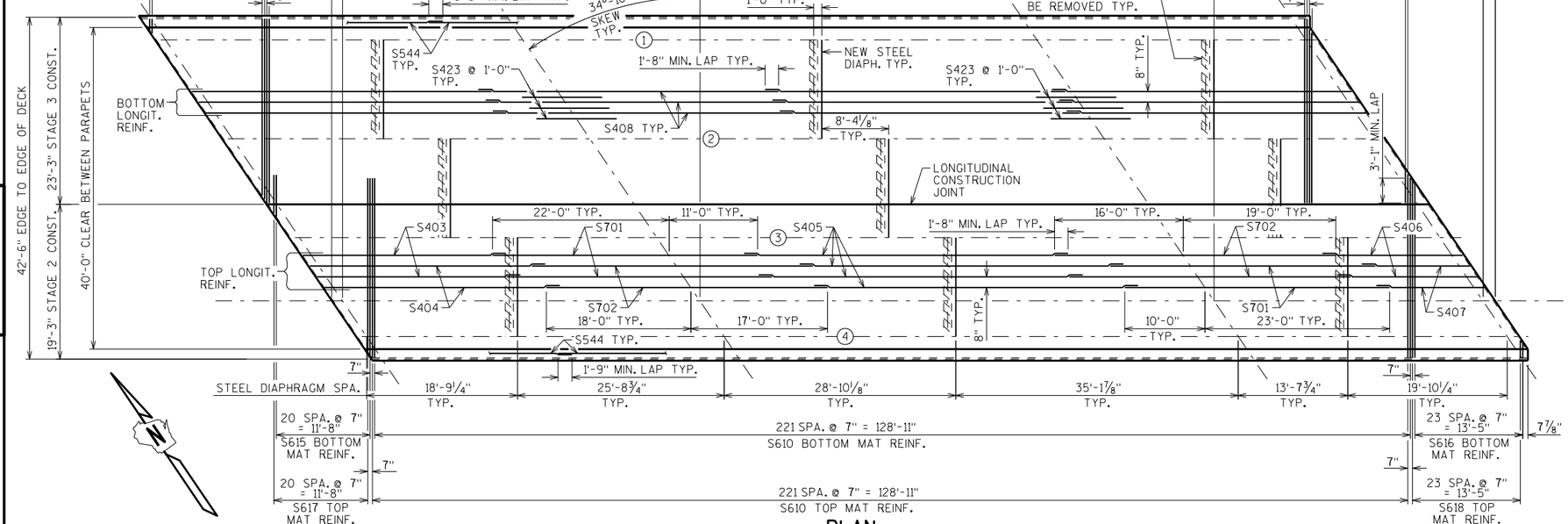
GIRDER HAUNCH DETAIL



IN-SPAN DIAPHRAGMS



SECTION S-S



PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

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SUPERSTRUCTURE CROSS SECTION

SHEET 10

165

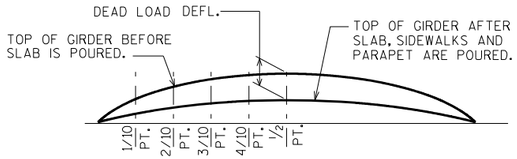
SCALE = 8

8

8

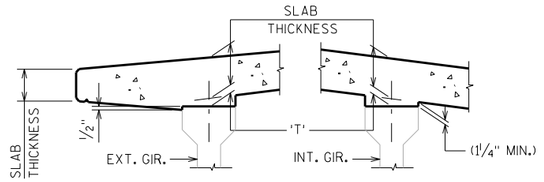
STATE PROJECT NUMBER

1090-33-71



DEAD LOAD DEFLECTION DIAGRAM

DEAD LOAD DEFLECTIONS										
SPAN	GIRDER NO.	DEAD LOAD DEFL. (IN.)								
		1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10
1	1-4	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1
2	1,3&4	0.2	0.5	0.6	0.7	0.8	0.7	0.6	0.5	0.2
2	2	0.3	0.5	0.7	0.8	0.9	0.8	0.7	0.5	0.3
3	1-4	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0



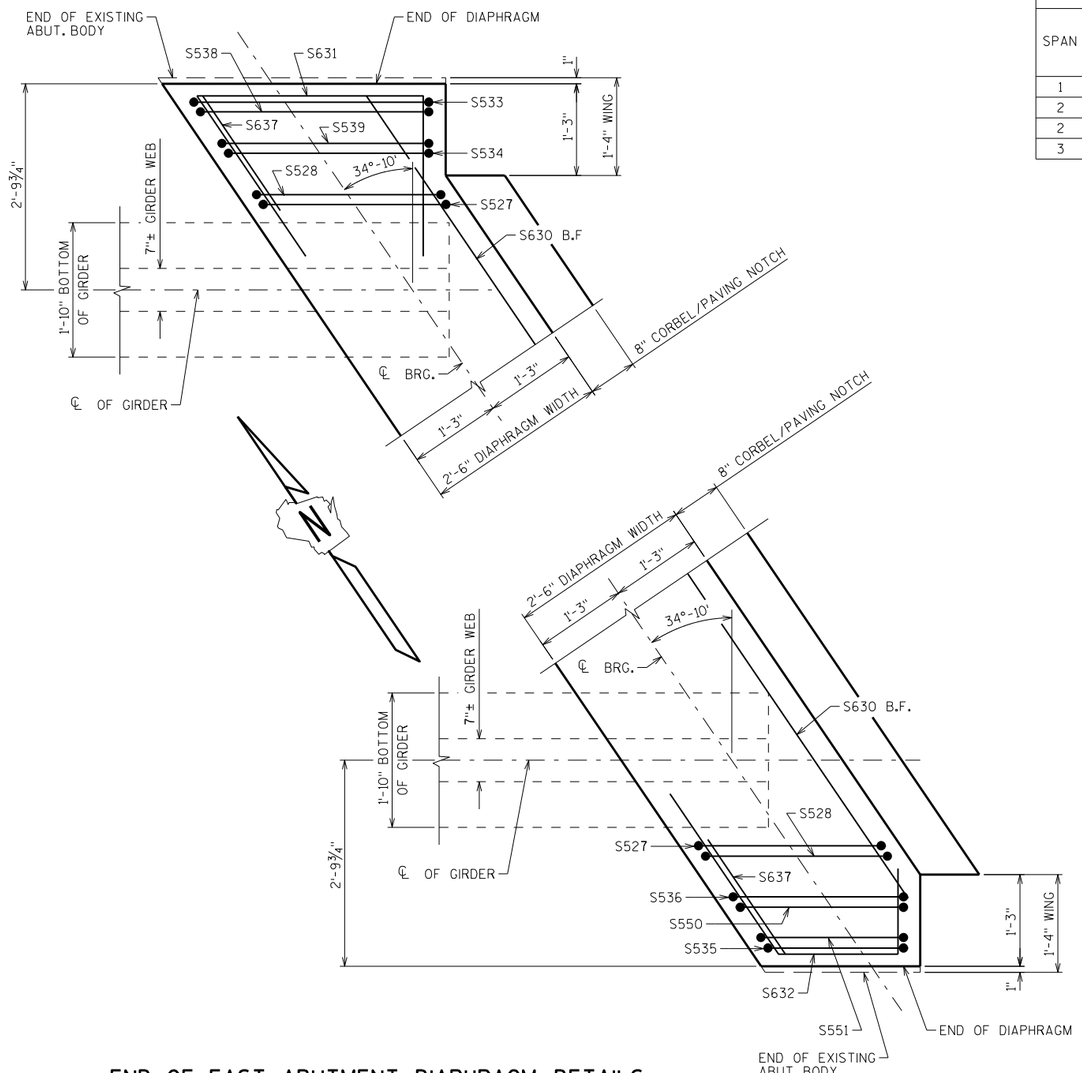
SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½"

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4½" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



END OF EAST ABUTMENT DIAPHRAGM DETAILS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

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SUPERSTRUCTURE

SHEET 11

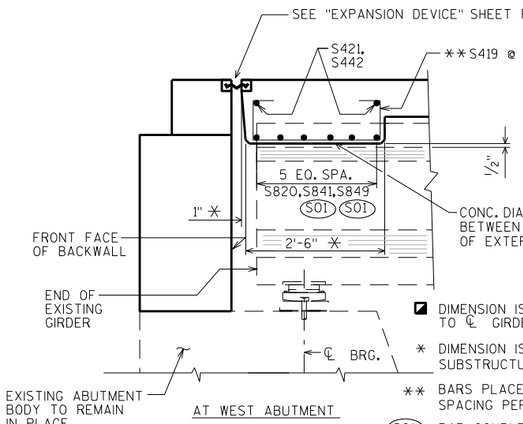
166

SCALE = 8

STATE PROJECT NUMBER

1090-33-71

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

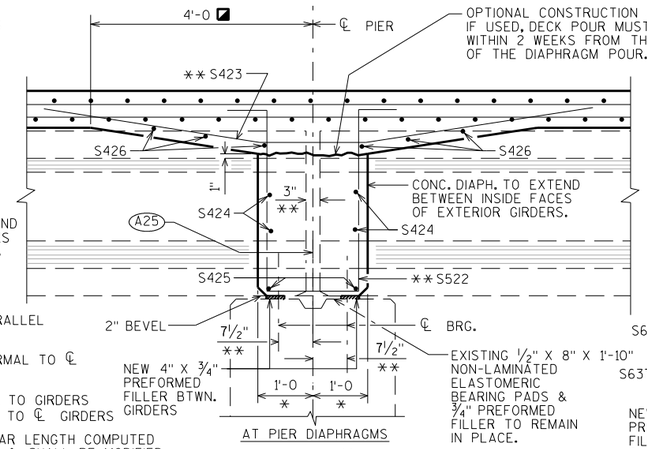


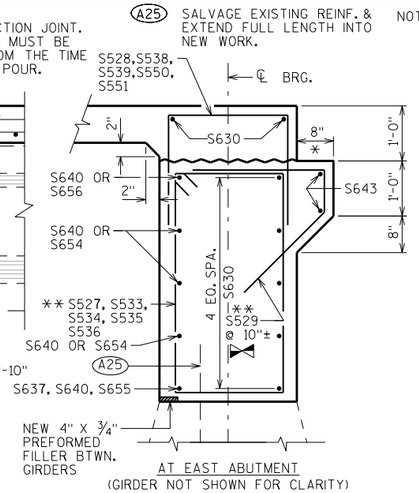
◪ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

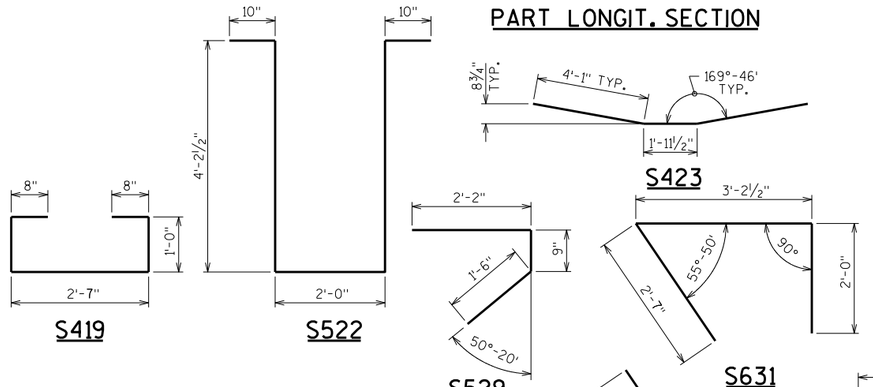
** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

(S01) BAR COUPLERS USED. BAR LENGTH COMPUTED TO CL OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.





PART LONGIT. SECTION

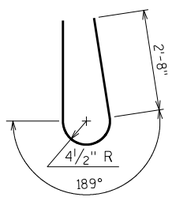


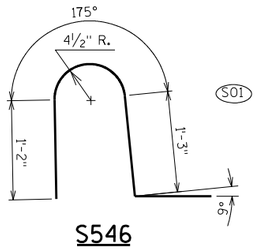
▶◀ ROTATE TO MISS GIRDER TOP FLANGE @ GIRDERS

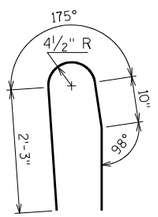
BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S611	1 SERIES OF 25	1'-5" TO 22'-0"
S612	1 SERIES OF 21	4'-0" TO 21'-2"
S613	1 SERIES OF 25	1'-10" TO 22'-5"
S614	1 SERIES OF 22	3'-7" TO 21'-8"
S615	1 SERIES OF 21	4'-9" TO 22'-0"
S616	1 SERIES OF 24	1'-9" TO 21'-6"
S617	1 SERIES OF 21	4'-4" TO 21'-6"
S618	1 SERIES OF 24	2'-2" TO 21'-11"

BUNDLE AND TAG EACH SERIES SEPARATELY.



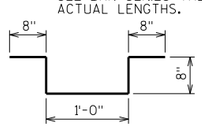




BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S701	X	64	33'-0"			DECK - CONTINUITY STEEL - OVER PIERS
S702	X	64	35'-0"			DECK - CONTINUITY STEEL - OVER PIERS
S403	X	32	25'-4"			DECK - LONGITUDINAL - TOP
S404	X	32	29'-4"			DECK - LONGITUDINAL - TOP
S405	X	64	40'-4"			DECK - LONGITUDINAL - TOP
S406	X	32	17'-6"			DECK - LONGITUDINAL - TOP
S407	X	32	13'-6"			DECK - LONGITUDINAL - TOP
S408	X	260	37'-5"			DECK - LONGITUDINAL - BOTTOM
S609	X	446	22'-11"			DECK - TRANSVERSE - TOP & BOTTOM (STAGE 3)
S610	X	444	23'-4"			DECK - TRANSVERSE - TOP & BOTTOM (STAGE 2)
S611	X	25	11'-9"		◭	DECK - TRANSVERSE - TOP (STAGE 3)
S612	X	21	12'-7"		◭	DECK - TRANSVERSE - TOP (STAGE 3)
S613	X	25	12'-2"		◭	DECK - TRANSVERSE - BOTTOM (STAGE 3)
S614	X	22	12'-8"		◭	DECK - TRANSVERSE - BOTTOM (STAGE 3)
S615	X	21	14'-5"		◭	DECK - TRANSVERSE - BOTTOM (STAGE 2)
S616	X	24	12'-8"		◭	DECK - TRANSVERSE - BOTTOM (STAGE 2)
S617	X	21	13'-11"		◭	DECK - TRANSVERSE - TOP (STAGE 2)
S618	X	24	13'-1"		◭	DECK - TRANSVERSE - TOP (STAGE 2)
S419	X	42	5'-7"	X		WEST ABUT. DIAPH. - VERT. - BETWEEN GIRDERS
S820	X	12	13'-3"			WEST ABUT. DIAPH. -HORIZ.-BTWN. GIRD. 1&2 & 3&4
S421	X	4	14'-3"			WEST ABUT. DIAPH. -HORIZ.-BTWN. GIRD. 1&2 & 3&4
S522	X	66	11'-7"	X		PIER DIAPH. - VERT.
S423	X	66	10'-2"	X		PIER DIAPH. - VERT. - HAUNCH
S424	X	48	7'-9"			PIER DIAPH. - HORIZ. - SIDES
S425	X	24	7'-0"			PIER DIAPH. - HORIZ. - BOTTOM
S426	X	72	8'-0"			PIER DIAPH. - HORIZ. - HAUNCH
S527	X	35	13'-0"	X		EAST ABUT. DIAPH. - VERT.
S528	X	35	6'-3"	X		EAST ABUT. DIAPH. - VERT.
S529	X	50	4'-4"	X		EAST ABUT. DIAPH. - VERT.
S630	X	14	26'-8"			EAST ABUT. DIAPH. - HORIZ. - B.F.
S631	X	3	7'-6"	X		EAST ABUT. DIAPH. - HORIZ. - N. END
S632	X	3	5'-2"	X		EAST ABUT. DIAPH. - HORIZ. - S. END
S533	X	1	14'-6"	X		EAST ABUT. DIAPH. - STIRRUP - N. END
S534	X	1	13'-6"	X		EAST ABUT. DIAPH. - STIRRUP - N. END
S535	X	1	11'-9"	X		EAST ABUT. DIAPH. - STIRRUP - S. END
S536	X	1	12'-9"	X		EAST ABUT. DIAPH. - STIRRUP - S. END
S637	X	2	2'-3"			EAST ABUT. DIAPH. - HORIZ. - F.F. ENDS
S538	X	1	7'-0"	X		EAST ABUT. DIAPH. - VERT. - N. END
S539	X	1	6'-6"	X		EAST ABUT. DIAPH. - VERT. - N. END
S640	X	20	8'-5"			EAST ABUT. DIAPH. - HORIZ. - BETWEEN GIRDERS
S841	X	6	4'-2"			WEST ABUT. DIAPH. - HORIZ. - BTWN. GIRD. STAGE 2
S442	X	4	7-7"			EST ABUT. DIAPH. -HORIZ.- BTWN. GIRD. STAGE 2&3
S643	X	4	25'-9"			CORBEL - HORIZ.
S544	X	64	38'-0"			PARAPET - HORIZ.
S545	X	436	6'-8"	X		PARAPET - VERT.
S546	X	434	4'-5"	X		PARAPET - VERT.
S547	X	2	5'-10"	X		PARAPET - VERT. @ PAVING NOTCH
S448	X	12	8'-0"			EXPANSION DEVICE - HORIZ.
S849	X	6	9'-0"			W. ABUT. DIAPH. - HORIZ. - BTWN. GIRD. - STAGE 3
S550	X	1	6'-2"	X		EAST ABUT. DIAPH. - VERT. - S. END
S551	X	1	5'-10"	X		EAST ABUT. DIAPH. - VERT. - S. END
S452	X	32	37'-7"			GIRDER HAUNCH - HORIZ.
S453	X	576	3'-4"	X		GIRDER HAUNCH - VERT.

◭ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



BILL OF BARS (CONTINUED)

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
(S01)	S654	X	6	6'-11"			EAST ABUT. DIAPH. - HORIZ. - BETWEEN GIRDERS
(S01)	S655	X	2	6'-3"			EAST ABUT. DIAPH. - HORIZ. - BETWEEN GIRDERS
(S01)	S656	X	2	5'-10"			EAST ABUT. DIAPH. - HORIZ. - BETWEEN GIRDERS

TOP OF DECK ELEVATIONS

	W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10
EDGE OF DECK	941.81	941.72	941.62	941.53	941.43	941.34	941.24	941.14	941.05	940.95	940.86	940.72	940.58	940.45	940.31	940.17
GIRDER 1	941.80	941.71	941.61	941.52	941.42	941.33	941.23	941.13	941.04	940.94	940.85	940.71	940.57	940.44	940.30	940.16
GIRDER 2	941.87	941.77	941.68	941.58	941.49	941.39	941.30	941.20	941.11	941.01	940.92	940.78	940.64	940.50	940.37	940.23
CROWN	941.91	941.82	941.72	941.63	941.53	941.44	941.34	941.25	941.15	941.05	940.96	940.82	940.68	940.55	940.41	940.27
GIRDER 3	941.77	941.68	941.58	941.48	941.39	941.29	941.20	941.10	941.01	940.91	940.82	940.68	940.54	940.40	940.27	940.13
REF. LINE	941.50	941.40	941.31	941.21	941.12	941.02	940.93	940.83	940.74	940.64	940.54	940.41	940.27	940.13	940.00	939.86
GIRDER 4	941.35	941.25	941.16	941.06	940.96	940.87	940.77	940.68	940.58	940.49	940.39	940.25	940.12	939.98	939.84	939.71
EDGE OF DECK	941.27	941.18	941.08	940.99	940.89	940.80	940.70	940.61	940.51	940.41	940.32	940.18	940.04	939.91	939.77	939.63

	5/10	6/10	7/10	8/10	9/10	PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	E. ABUT.
EDGE OF DECK	940.17	940.03	939.90	939.76	939.62	939.49	939.41	939.34	939.27	939.20	939.13	939.05	938.98	938.91	938.84	938.77
GIRDER 1	940.16	940.02	939.89	939.75	939.61	939.48	939.40	939.33	939.26	939.19	939.12	939.04	938.97	938.90	938.83	938.76
GIRDER 2	940.23	940.09	939.95	939.82	939.68	939.54	939.47	939.40	939.33	939.25	939.18	939.11	939.04	938.97	938.90	938.82
CROWN	940.27	940.14	940.00	939.86	939.72	939.59	939.51	939.44	939.37	939.30	939.23	939.16	939.08	939.01	938.94	938.87
GIRDER 3	940.13	939.99	939.86	939.72	939.58	939.44	939.37	939.30	939.23	939.16	939.08	939.01	938.94	938.87	938.80	938.72
REF. LINE	939.86	939.72	939.58	939.45	939.31	939.17	939.10	939.03	938.96	938.88	938.81	938.74	938.67	938.60	938.53	938.45
GIRDER 4	939.71	939.57	939.43	939.29	939.16	939.02	938.95	938.87	938.80	938.73	938.66	938.59	938.52	938.44	938.37	938.30
EDGE OF DECK	939.63	939.50	939.36	939.22	939.08	938.95	938.87	938.80	938.73	938.66	938.59	938.52	938.44	938.37	938.30	938.23

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STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

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SUPERSTRUCTURE DETAILS

SHEET 12

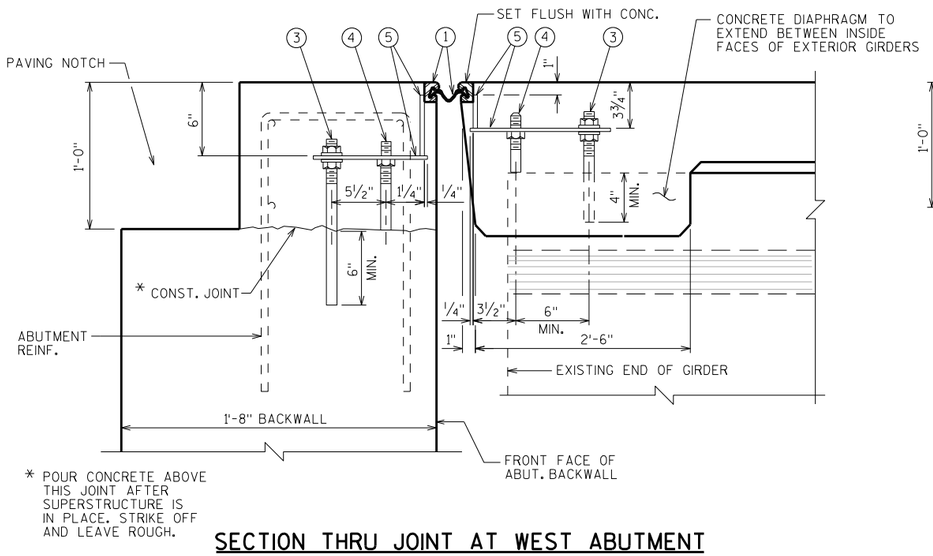
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G45DET
7-11

SCALE = 1.333

STATE PROJECT NUMBER

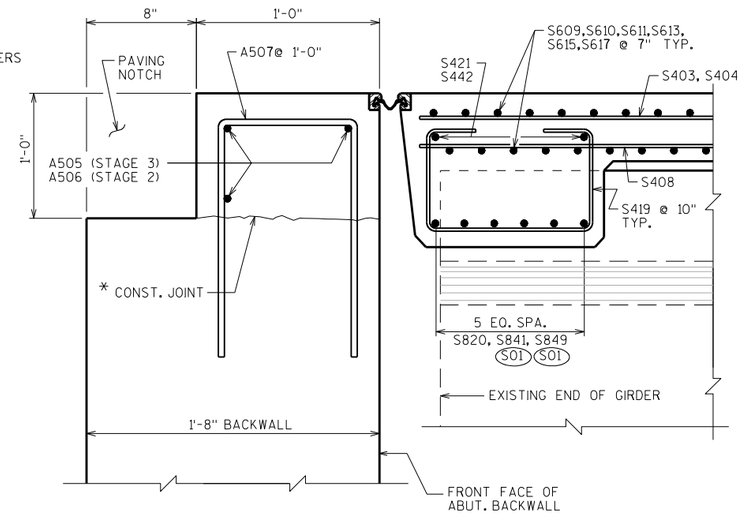
1090-33-71



* POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

SECTION THRU JOINT AT WEST ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT WEST ABUTMENT

SHOWING REINFORCEMENT
NORMAL TO ℄ SUBSTRUCTURE

(S01) BAR COUPLERS USED. BAR LENGTH COMPUTED TO CL OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS RECOMMENDATIONS.

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS $\frac{5}{8}$"Φ X 6$\frac{3}{8}$" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) $\frac{1}{2}$" THICK ANCHOR PLATE WITH $\frac{5}{8}$"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) $\frac{3}{4}$" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) $\frac{3}{4}$"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X $\frac{1}{2}$" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1$\frac{1}{2}$" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.

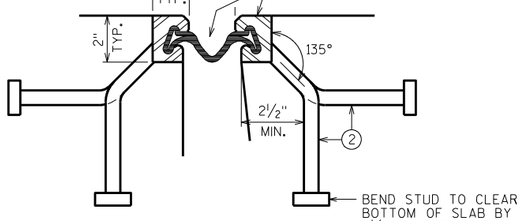
(6) GALVANIZED PLATE $\frac{3}{8}$" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.

(7) $\frac{3}{4}$"Φ X 1$\frac{1}{2}$" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS $\frac{1}{16}$" BELOW PLATE SURFACE.

(8) $\frac{3}{4}$"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

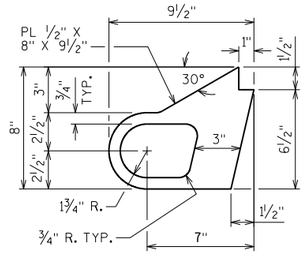
(9) $\frac{3}{4}$"Φ X 2$\frac{1}{4}$" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

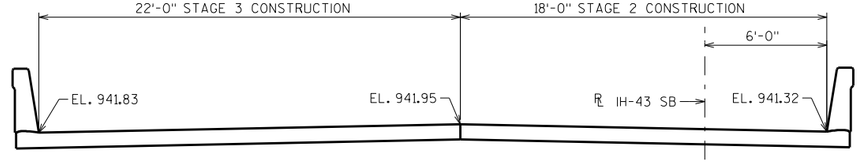


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

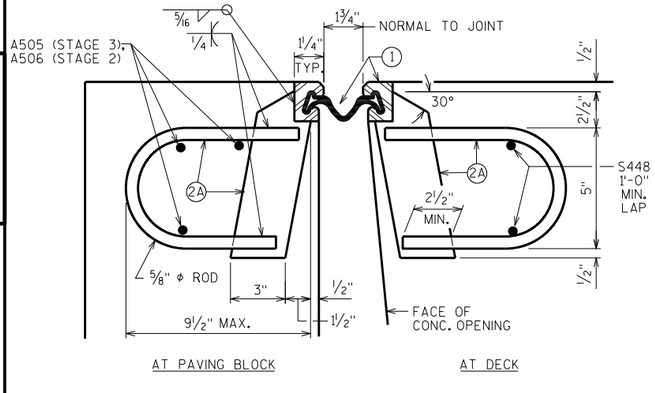


ALTERNATE STRIP SEAL ANCHOR



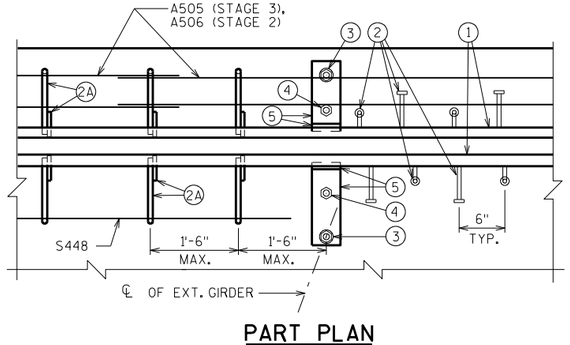
STRIP SEAL LAYOUT

ELEVATIONS AT FRONT FACE OF BACKWALL
(LOOKING EAST)



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. 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 AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-64-123".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

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EXPANSION DEVICE

SHEET 13

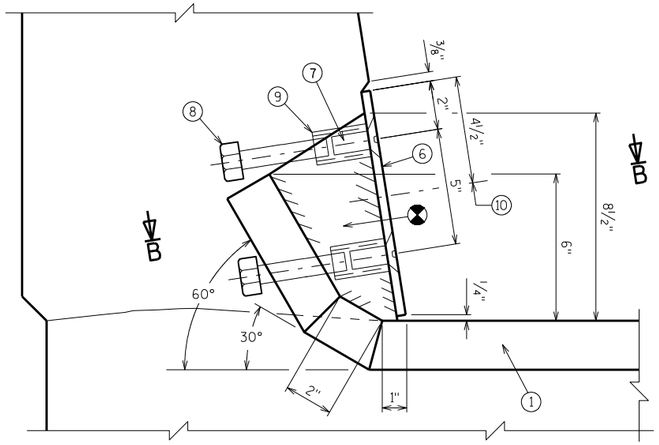
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JTSS_A_SS
1-14

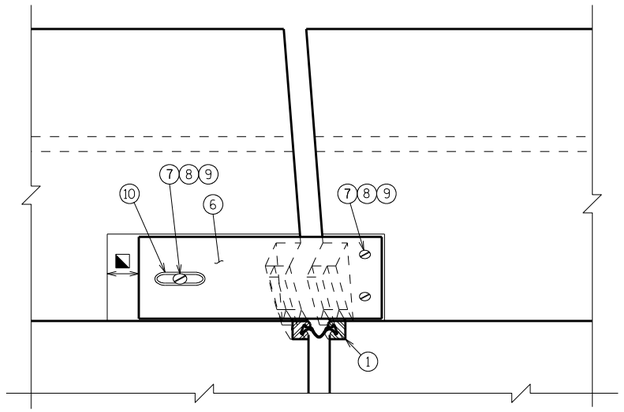
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1090-33-71

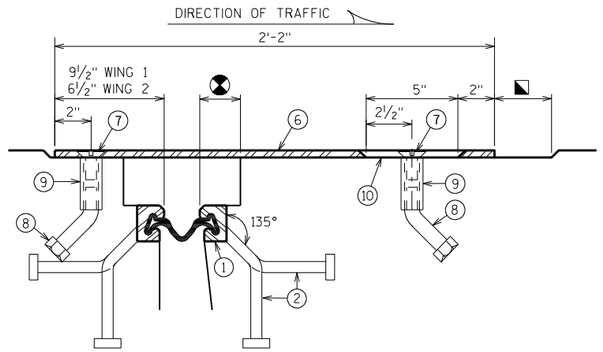


SECTION A-A

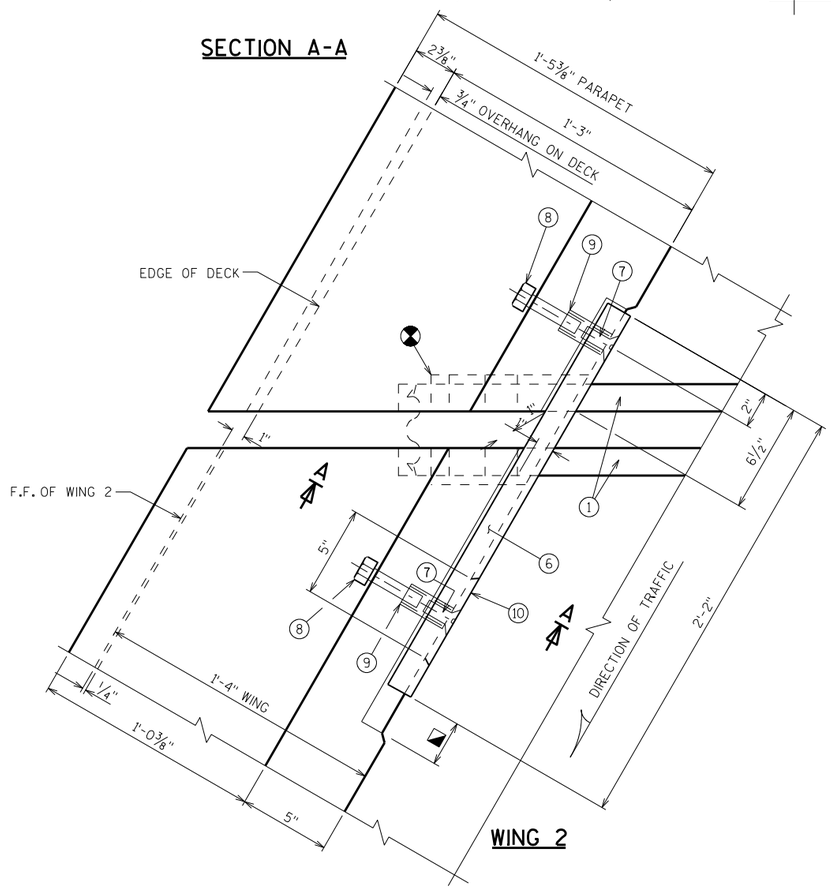


VIEW OF PARAPET PLATE FROM ROADWAY

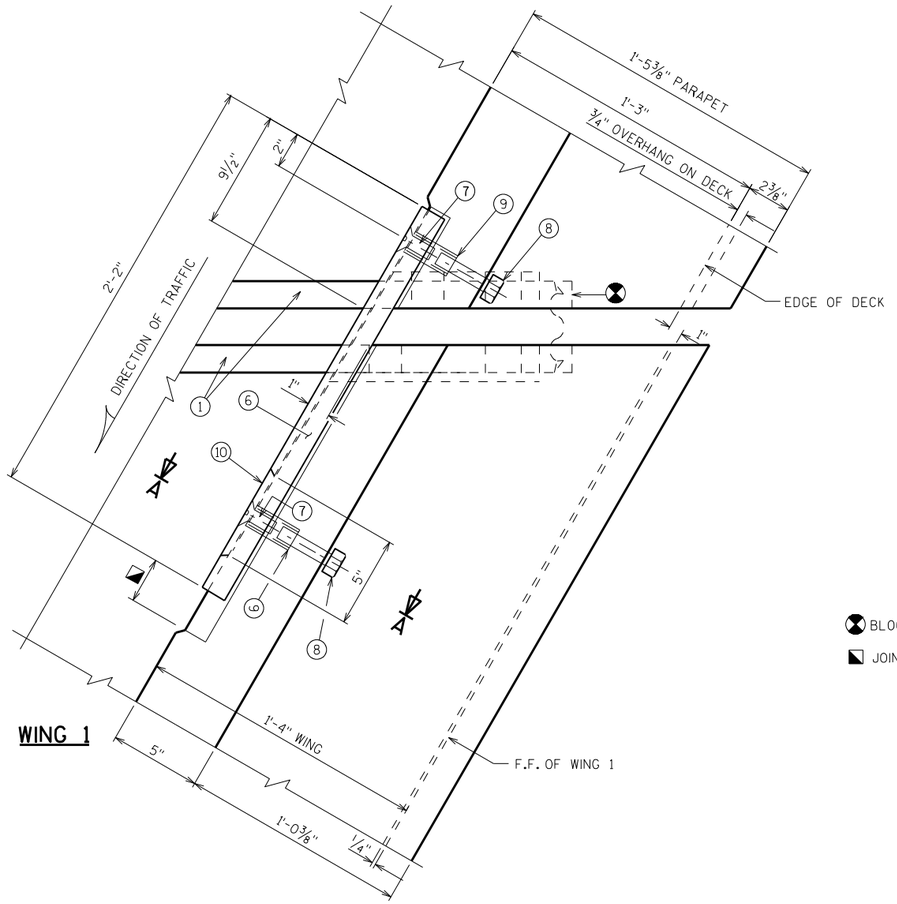
SHOWING JOINT OPENING AT WING 2
WING 2 SIMILAR



SECTION B-B



WING 2



WING 1

PLAN

WEST ABUTMENT

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

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STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

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COVER PLATE DETAILS

SHEET 14

169

JTSS_A_SS
1-14

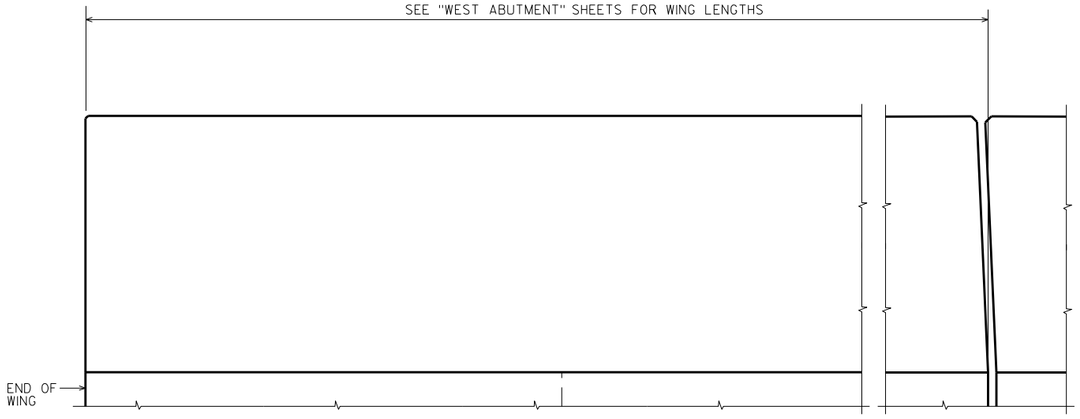
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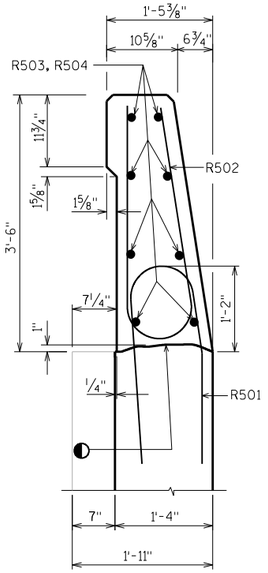
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STATE PROJECT NUMBER

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INSIDE ELEVATION

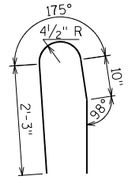


SECTION C

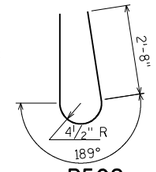
BILL OF BARS

FOR WEST ABUTMENT PARAPETS

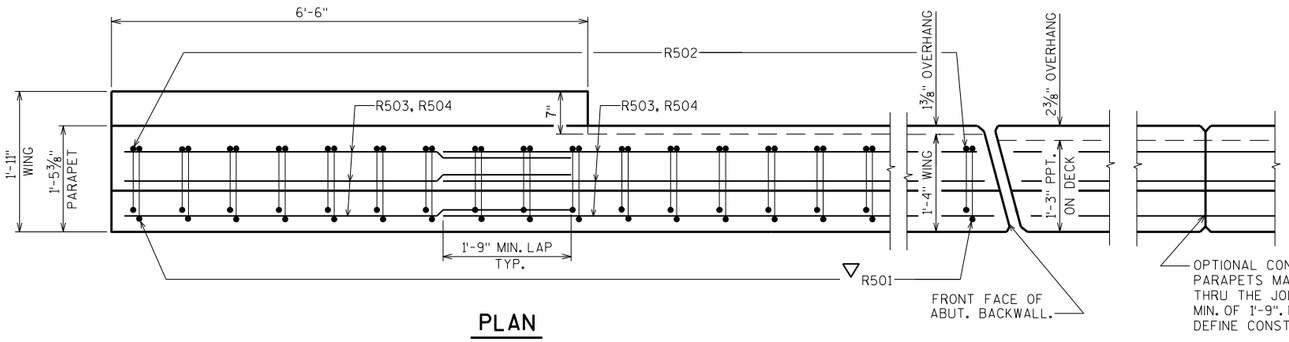
BAR MARK	COAT	WEST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	43	5'-10"	X		PARAPET - VERT
R502	X	43	6'-8"	X		PARAPET - VERT.
R503	X	16	6'-9"			PARAPET - HORIZ. (WING 1)
R504	X	16	8'-9"			PARAPET - HORIZ. (WING 2)



R501

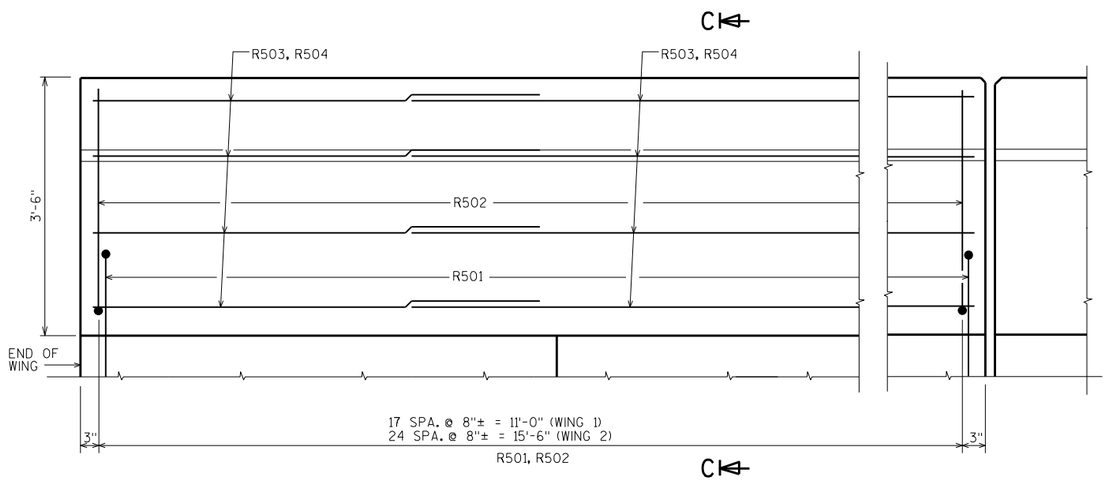


R502

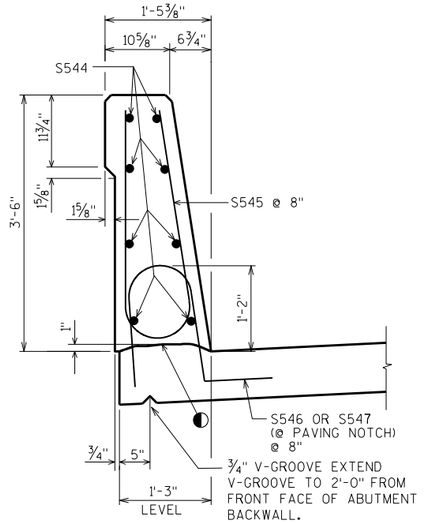


PLAN

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 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

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STRUCTURE B-64-123

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SINGLE SLOPE PARAPET 42SS WEST ABUTMENT

SHEET 15

170

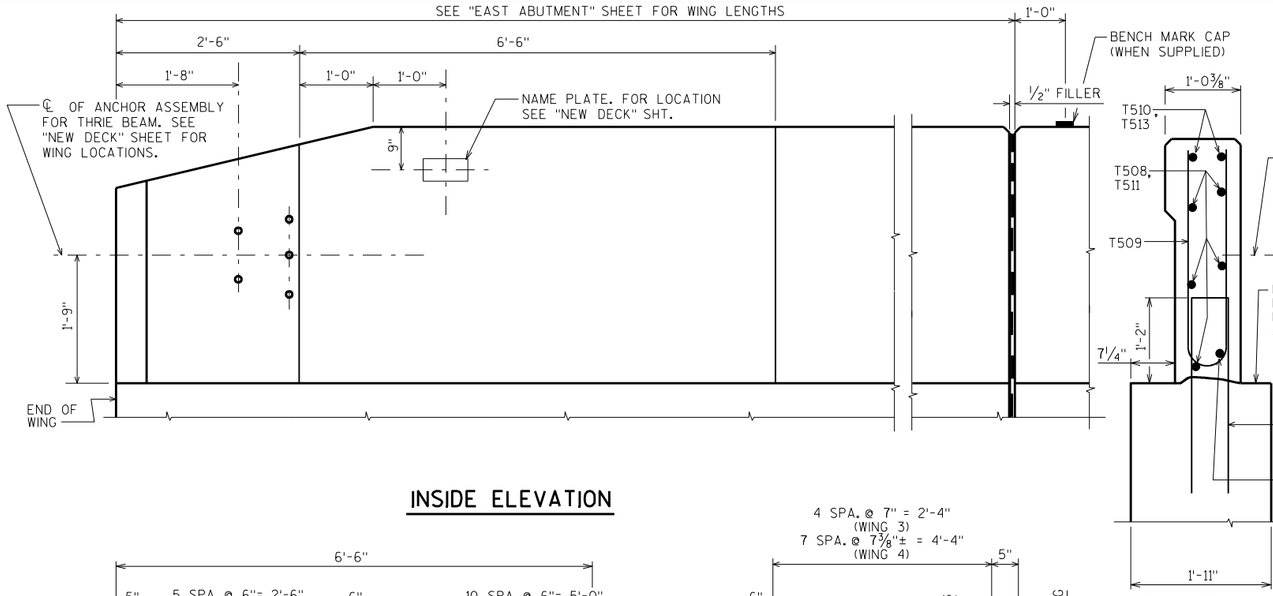
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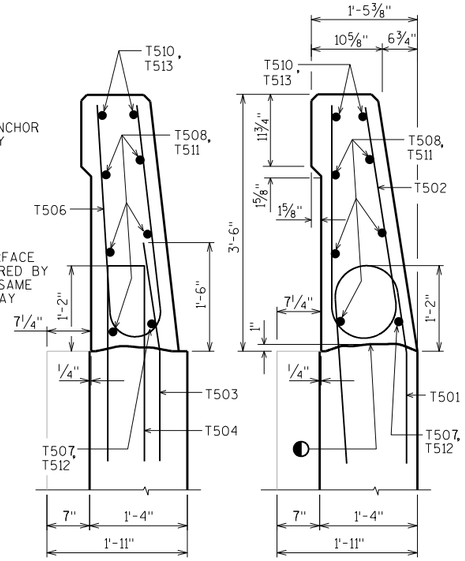
8

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SECTION A



SECTION B

SECTION C

BILL OF BARS

FOR EAST ABUTMENT PARAPETS

BAR MARK	COAT	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	13	5-10	X		PARAPET VERT.
T502	X	13	6-8	X		PARAPET VERT.
T503	X	22	3-0	X		PARAPET VERT.
T504	X	34	5-7	X		PARAPET VERT.
T505	X	10	6-5	X		PARAPET VERT.
T506	X	12	6-6	X		PARAPET VERT.
T507	X	1	11-0	X		PARAPET HORIZ.-WING 3
T508	X	5	11-0			PARAPET HORIZ.-WING 3
T509	X	12	5-5	X	◭	PARAPET VERT.
T510	X	2	11-0	X		PARAPET HORIZ.-WING 3
T511	X	5	13-0			PARAPET HORIZ.-WING 4
T512	X	1	13-0	X		PARAPET HORIZ.-WING 4
T513	X	2	13-0	X		PARAPET HORIZ.-WING 4

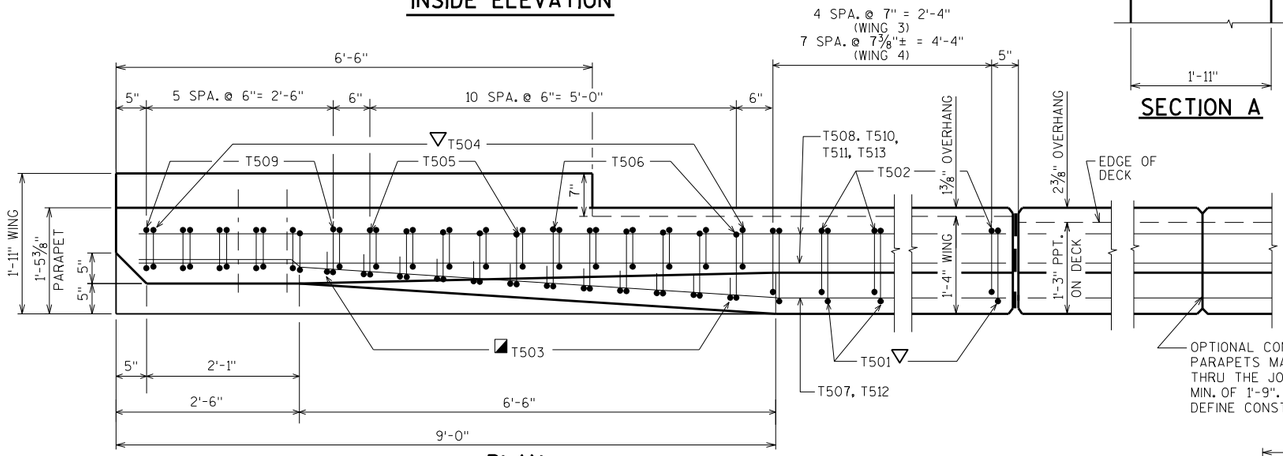
◭ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

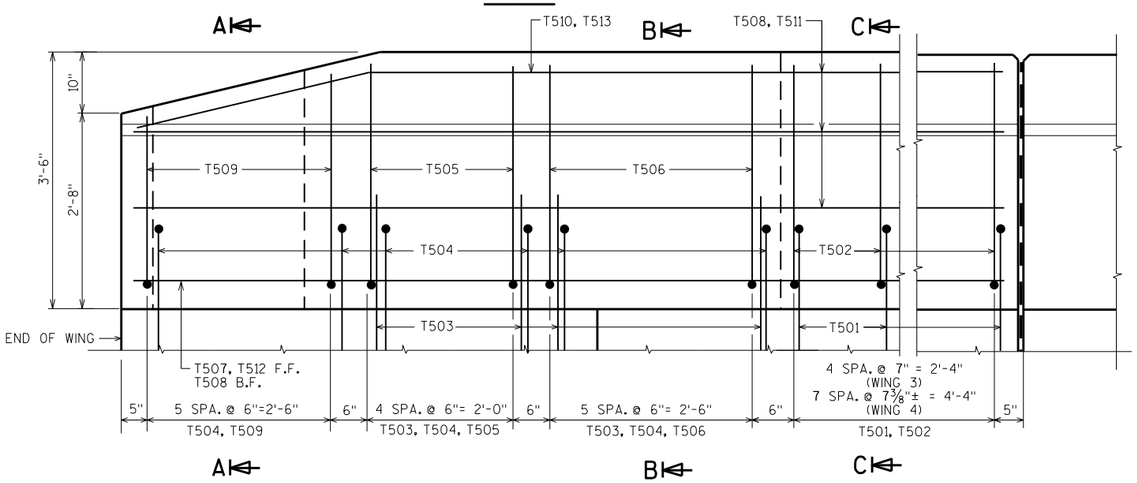
MARK	NO. REQD.	LENGTH
T509	2 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.

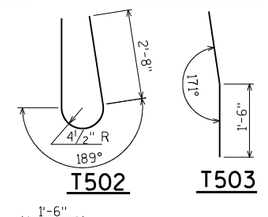
INSIDE ELEVATION



PLAN



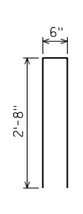
OUTSIDE ELEVATION



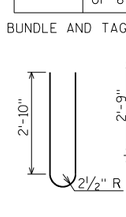
T501

T502

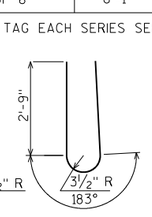
T503



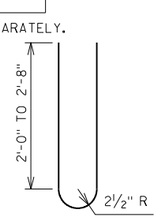
T504



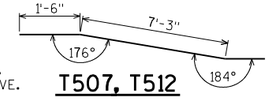
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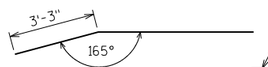
T506



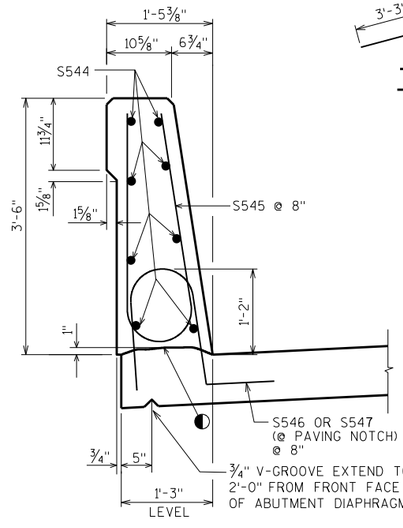
T509



T507, T512

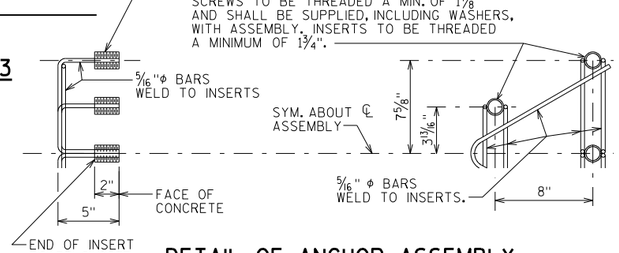


T510, T513



SECTION THRU PARAPET ON BRIDGE

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.



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.

◪ T503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE T503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ T501 AND T504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-123

DRAWN BY DDS | PLANS CK'D. NAR

SINGLE SLOPE PARAPET 42SS EAST ABUTMENT

SHEET 16

171

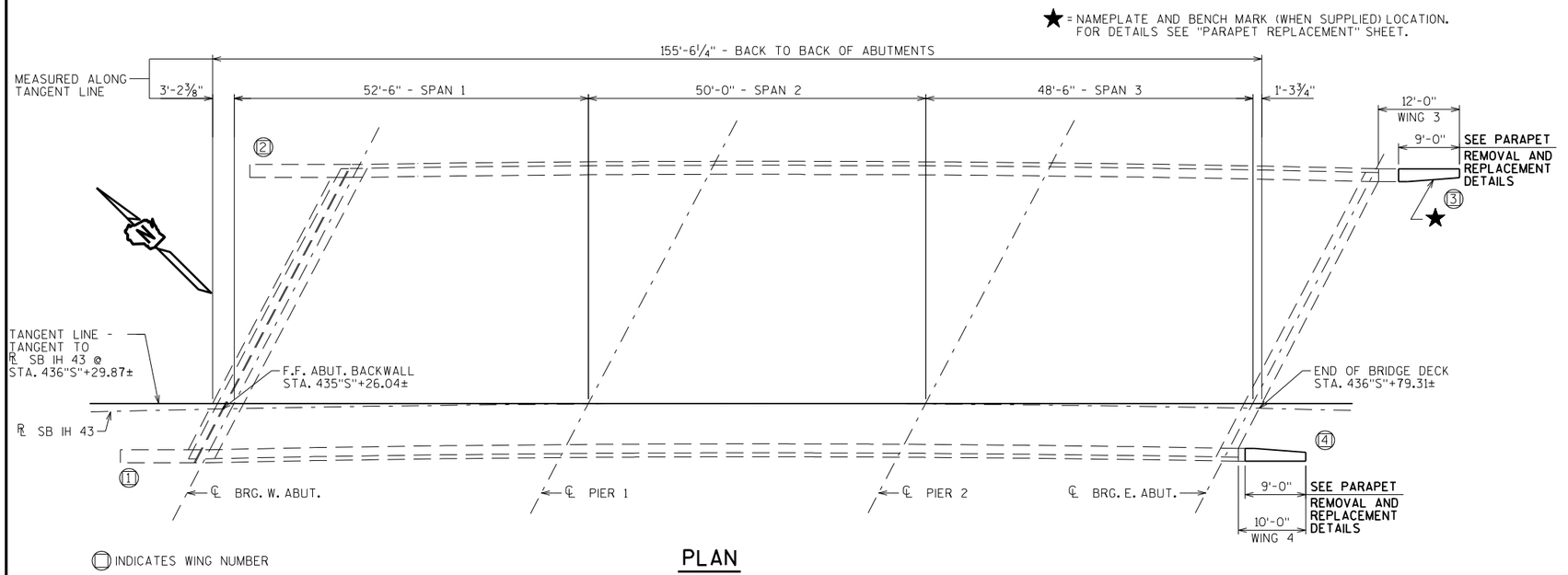
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8

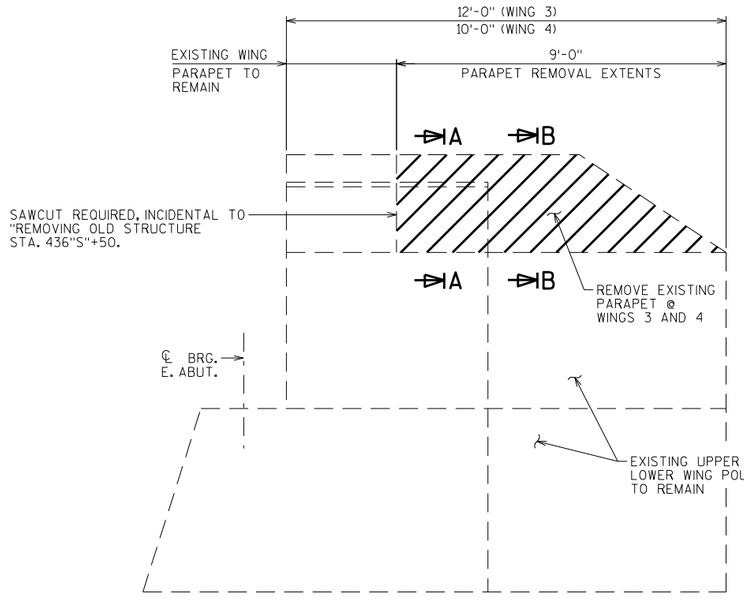
STATE PROJECT NUMBER

1090-33-71



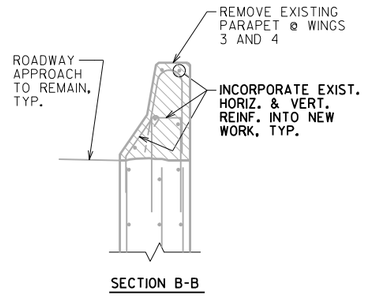
PLAN

EXISTING 3 SPAN 36" PRESTRESSED GIRDER BRIDGE

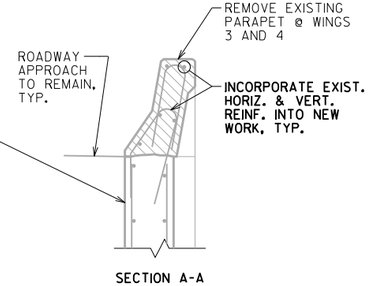


PARAPET REMOVAL DETAILS

WING 4 SHOWN - WING 3 SIMILAR



SECTION B-B



SECTION A-A

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

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.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE NEW PARAPET ON ABUTMENT WINGS 3 & 4.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1975.

REMOVE ANY/ALL LOOSE CONCRETE AT TOP OF PARAPETS UNDER BID ITEM "CONCRETE SURFACE REPAIR". SURFACES SHALL BE BLAST CLEANED AND ANY EXPOSED STEEL SHALL BE BRUSHED CLEANED PRIOR TO THE CONCRETE SURFACE REPAIR BEING COMPLETED. REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER.

DESIGN DATA

MATERIAL PROPERTIES

CONCRETE MASONRY ——— f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 436"S"+00	LS	1
502.0100	CONCRETE MASONRY BRIDGES	CY	3
502.3210	PIGMENTED SURFACE SEALER	SY	8
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	64
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	350
509.1500	CONCRETE SURFACE REPAIR	SF	130
	NON-BID ITEMS		
	FILLER	SIZE	1"

LIST OF DRAWINGS

1. PARAPET REHABILITATION
2. PARAPET REPLACEMENT

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher AMB 11/9/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-64-125

IH 43 SB OVER WSOR

COUNTY	TOWN ~~CITY/VILLAGE~~
WALWORTH	DARIEN

DESIGN SPEC.	
REHABILITATION	N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AMB	EMK	DDS	AMB

PARAPET REHABILITATION

SHEET 1 OF 2

172

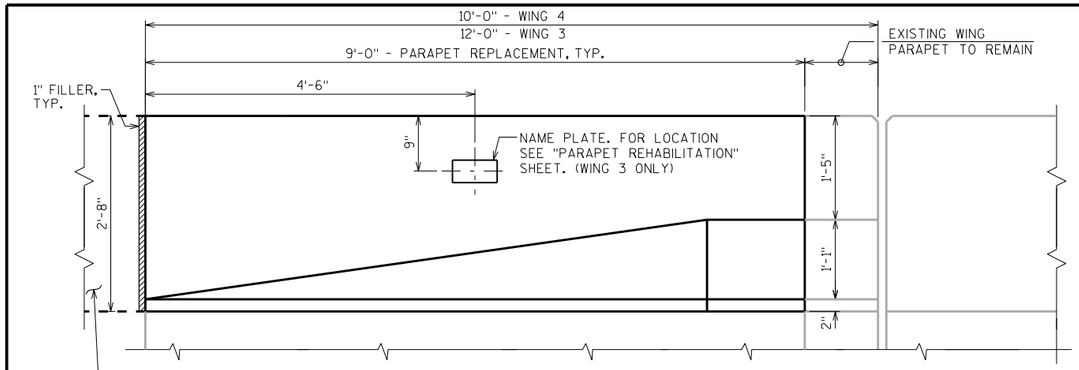
I.D. 1090-33-00D

DATE: JULY 2015

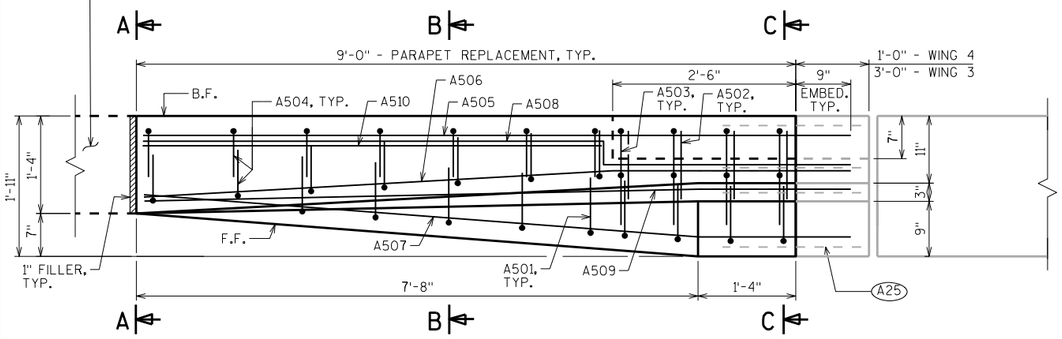
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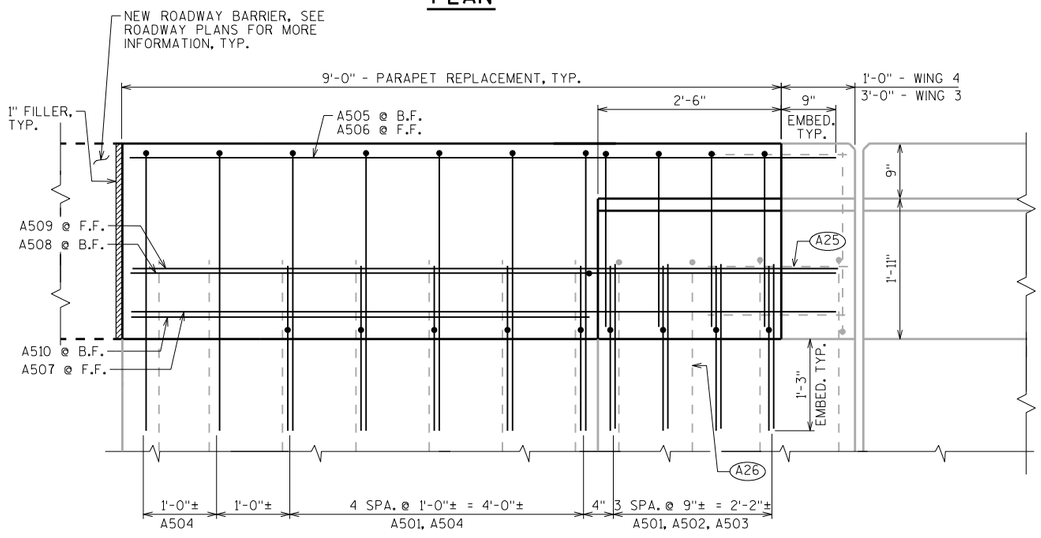
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INSIDE ELEVATION

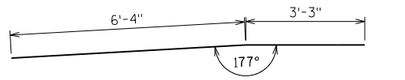


PLAN

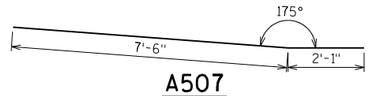


OUTSIDE ELEVATION

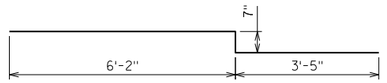
PARAPET REPLACEMENT DETAILS



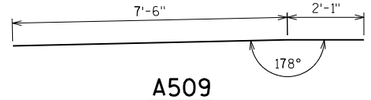
A506



A507



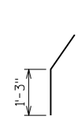
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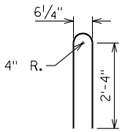
A509

BILL OF BARS

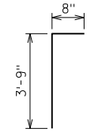
	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
(M02)	A501	X	18	2-5	X		PARAPET VERT. ON WING @ F.F.
(M02)	A502	X	8	2-4			PARAPET VERT. ON WING @ B.F.
	A503	X	8	5-1	X		PARAPET VERT. ON WING
(M02)	A504	X	28	4-4	X		PARAPET VERT. ON WING
(M02)	A505	X	2	9-7			PARAPET HORIZ. ON WING @ B.F
(M02)	A506	X	2	9-7	X		PARAPET HORIZ. ON WING @ F.F
(M02)	A507	X	2	9-7	X		PARAPET HORIZ. ON WING @ F.F
(M02)	A508	X	2	9-11	X		PARAPET HORIZ. ON WING @ B.F
(M02)	A509	X	2	9-7	X		PARAPET HORIZ. ON WING @ F.F.
	A510	X	2	6-2			PARAPET HORIZ. ON WING @ B.F



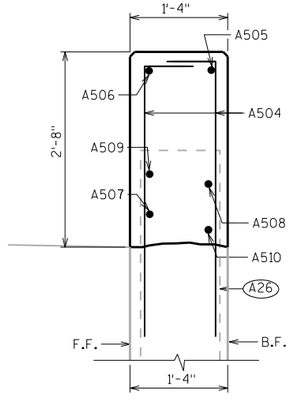
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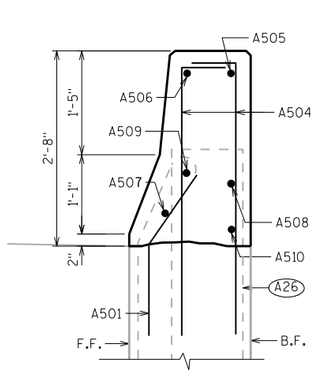
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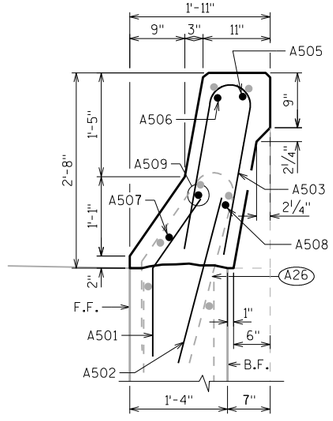
A504



SECTION A-A



SECTION B-B



SECTION C-C

(M02) MASONRY ANCHORS TYPE S 5/8-INCH. EMBED HORIZ. REINF. 9" INTO EXISTING PARAPET, EMBED VERT. REINF. 1'-3" INTO EXISTING UPPER WING.

(A25) SALVAGE EXISTING HORIZ. REINF. & EXTEND 24 BAR DIAMETERS INTO NEW WORK, MIN.

(A26) SALVAGE EXISTING VERT. REINF. & EXTEND FULL LENGTH INTO NEW WORK, TYP.

STATE PROJECT NUMBER

1090-33-71

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-64-125

DRAWN BY DDS | PLANS CK'D. AMB

PARAPET REPLACEMENT

SHEET 2

173

SCALE = 1:0

8

8

IH 43 SB STAGE 1													
			AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		
STATION	Real Station	Distance	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.25	Mass Ordinate
432+53	43,253		28	4	--								
433+00	43,300	47	26	4	--		47	7	--		47	--	40
433+50	43,350	50	26	4	--		48	7	--		95	--	81
434+00	43,400	50	26	4	--		48	7	--		143	--	122
434+45	43,445	45	27	4	--		44	7	--		188	--	159
434+50	43,450	5	28	4	--		5	1	--		193	--	163
435+00	43,500	50	28	4	--		52	7	--		245	--	208
435+22	43,522	22	27	4	--		22	3	--		267	--	227
435+37	43,537	15	23	4	--		14	2	--		281	--	239
				SUBTOTALS			**281**	**42**	**--**	**--**			
436+86	43,686		--	--	--								
437+00	43,700	14	24	4	--		6	1	--		287	--	244
437+09	43,709	9	29	4	12		9	1	2		297	3	249
437+50	43,750	41	32	4	3		46	6	11		342	17	275
438+00	43,800	50	38	4	1		65	7	4		407	21	328
438+50	43,850	50	36	4	1		69	7	2		476	24	387
438+93	43,893	43	33	4	5		58	6	5		534	30	429
439+00	43,900	7	25	4	--		7	1	1		541	30	435
439+25	43,925	25	--	--	--		11	2	--		553	30	445
				SUBTOTALS			**272**	**32**	**24**	**--**			
440+81	44,081		31	4	--								
441+00	44,100	19	30	4	--		21	3	--		574	30	463
441+50	44,150	50	28	4	--		54	7	--		627	30	509
441+61	44,161	11	28	4	--		11	2	--		638	30	519
441+90	44,190	29	28	4	--		30	4	--		669	30	545
442+00	44,200	10	28	4	--		11	2	--		679	30	554
442+50	44,250	50	28	4	--		55	7	--		734	30	598
442+65	44,265	15	31	4	--		16	2	--		750	30	612
				SUBTOTALS			**198**	**27**	**--**	**--**			

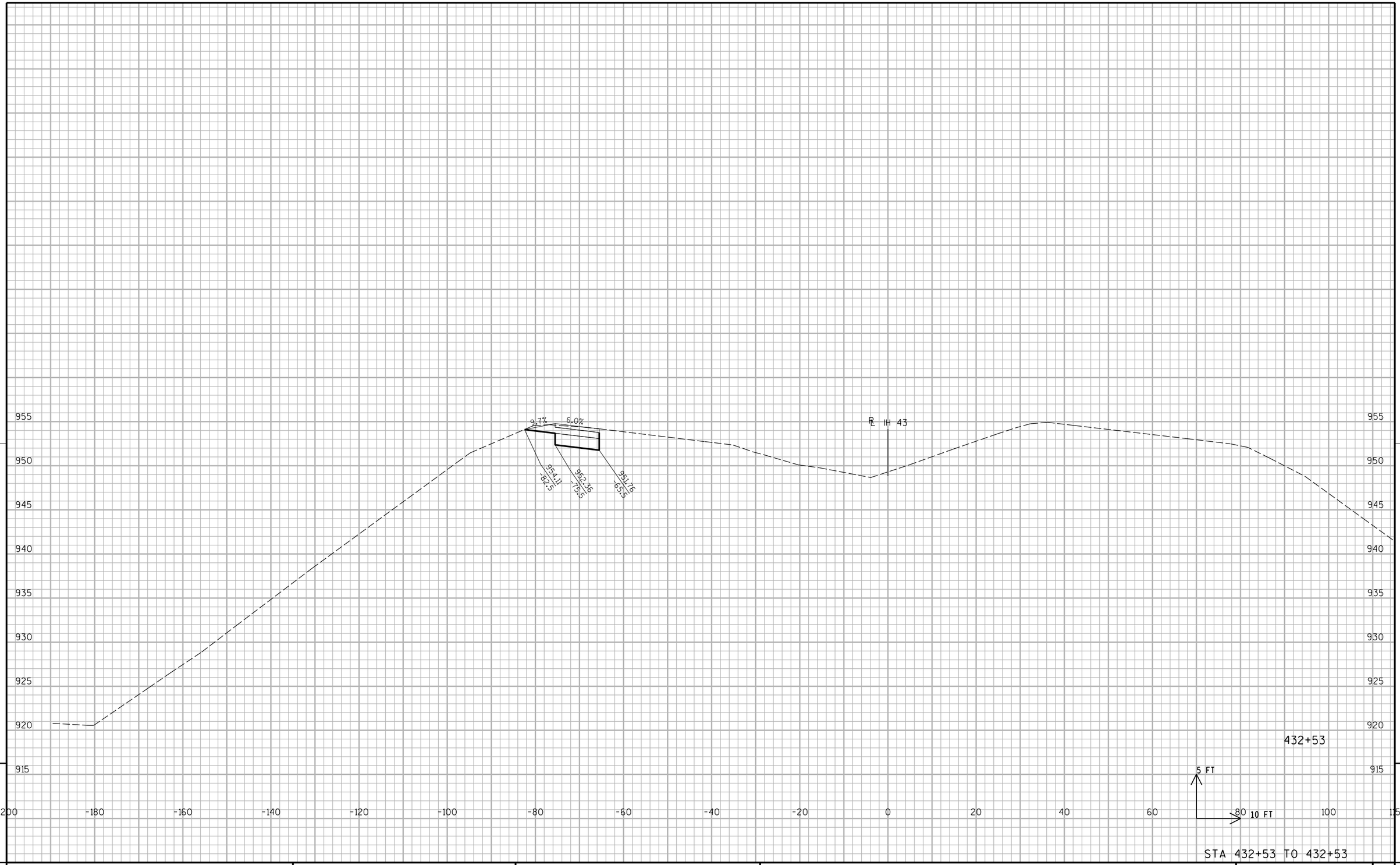
IH 43 SB STAGE 1

STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.25	
443+00	44,300	35	33	4	--		43	5	--		793	30	648
443+04	44,304	4	33	4	--		5	1	--		798	30	653
443+29	44,329	25	35	4	--		31	4	--		829	30	680
443+50	44,350	21	36	4	--		28	3	--		857	30	705
443+54	44,354	4	35	4	--		5	1	--		862	30	710
443+83	44,383	29	30	4	--		34	4	--		897	30	740
443+85	44,385	2	30	4	--		3	0	--		899	30	742
444+00	44,400	15	28	4	--		16	2	--		916	30	756
444+08	44,408	8	28	4	--		8	1	--		923	30	763
444+33	44,433	25	27	4	--		25	4	--		949	30	785
444+50	44,450	18	27	4	--		18	3	--		966	30	799
444+74	44,474	24	28	4	--		24	4	--		991	30	820
445+00	44,500	26	28	4	--		30	4	--		1,021	30	843
445+50	44,550	50	28	4	--		52	7	--		1,073	30	888
445+53	44,553	3	28	4	--		3	0	--		1,075	30	890
446+00	44,600	48	28	4	--		49	7	--		1,124	30	932
446+50	44,650	50	28	4	--		52	7	--		1,176	30	977
447+00	44,700	50	27	4	--		51	7	--		1,227	30	1,020
447+50	44,750	50	26	4	--		52	7	--		1,279	30	1,062
448+00	44,800	50	27	4	--		49	7	--		1,328	30	1,104
448+20	44,820	20	27	4	--		20	3	--		1,348	30	1,121
448+50	44,850	30	27	4	--		30	4	--		1,378	30	1,146
449+00	44,900	50	27	4	--		50	7	--		1,428	30	1,189
449+50	44,950	50	27	4	--		50	7	--		1,478	30	1,231
450+00	45,000	50	26	4	--		52	7	--		1,530	30	1,273
450+25	45,025	25	27	4	--		25	4	--		1,555	30	1,294
450+50	45,050	25	26	4	--		25	4	--		1,579	30	1,315
451+00	45,100	50	26	4	--		48	7	--		1,628	30	1,355
451+50	45,150	50	26	4	--		48	7	--		1,676	30	1,396
452+00	45,200	50	26	4	--		48	7	--		1,724	30	1,437
452+50	45,250	50	26	4	--		48	7	--		1,772	30	1,478
452+80	45,280	30	26	4	--		32	4	--		1,804	30	1,502
453+00	45,300	20	26	4	--		19	3	--		1,823	30	1,518
453+50	45,350	50	26	4	--		48	7	--		1,871	30	1,559
454+00	45,400	50	27	4	--		49	7	--		1,920	30	1,601
454+50	45,450	50	27	4	--		53	7	--		1,973	30	1,643
455+00	45,500	50	26	4	--		49	7	--		2,022	30	1,685
455+50	45,550	50	28	4	--		50	7	--		2,072	30	1,728
456+00	45,600	50	26	4	--		50	7	--		2,122	30	1,770
456+25	45,625	25	29	4	--		28	4	--		2,151	30	1,792
				SUBTOTALS			**1,400**	**201**	**--**	**--**			
				TOTALS			**2,151**	**303**	**24**	**--**			

IH 43 SB STAGE 2

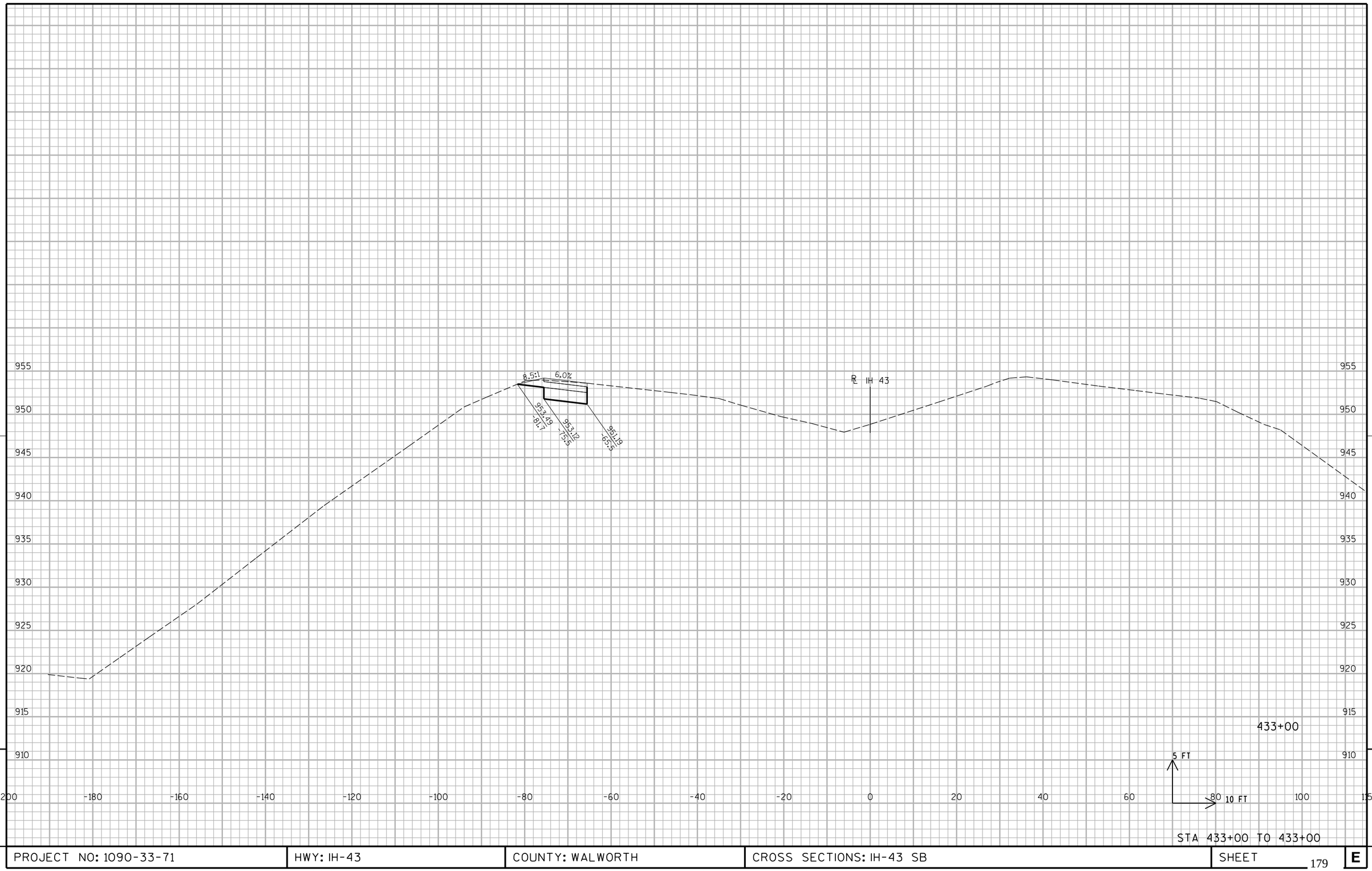
STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.25	
434+45	43,445		21	3	--								
434+50	43,450	5	21	3	--		4	1	--		4	--	3
435+00	43,500	50	28	3	--		45	6	--		49	--	43
435+22	43,522	22	15	3	--		20	2	--		70	--	58
435+37	43,537	15	--	3	--		4	2	--		74	--	61
					SUBTOTALS		**74**	**10**	**--**	**--**			
436+86	43,686		19	3	--								
437+00	43,700	14	31	3	--		13	2	--		87	--	72
437+09	43,709	9	31	3	--		11	1	--		98	--	82
437+50	43,750	41	27	3	--		44	5	--		141	--	121
438+00	43,800	50	27	3	1		50	6	1		191	1	164
438+50	43,850	50	26	3	1		49	6	2		240	3	206
438+93	43,893	43	28	3	--		43	5	1		284	4	243
439+00	43,900	7	28	3	2		7	1	0.3		291	5	249
439+25	43,925	25	34	3	2		31	3	2		322	7	272
					SUBTOTALS		**248**	**27**	**6**	**--**			
440+81	44,081		19	3	--								
441+00	44,100	19	33	3	--		18	2	--		340	7	288
441+50	44,150	50	37	3	--		65	6	--		405	7	347
441+61	44,161	11	33	3	--		14	1	--		419	7	360
441+90	44,190	29	29	3	--		33	3	--		452	7	390
442+00	44,200	10	28	3	--		11	1	--		463	7	400
442+50	44,250	50	27	3	--		54	6	--		517	7	445
442+65	44,265	15	27	3	--		15	2	--		532	7	459
					SUBTOTALS		**210**	**20**	**--**	**--**			

IH 43 SB STAGE 2													
			AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)		
STATION	Real Station	Distance	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut	Salvaged/ Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.25	Mass Ordinate
443+00	44,300	35	19	3	--		25	4	--		556	7	484
443+04	44,304	4	19	3	--		3	0.4	--		559	7	487
443+29	44,329	25	18	3	--		17	3	--		576	7	501
443+50	44,350	21	20	3	--		15	2	--		591	7	514
443+54	44,354	4	20	3	--		3	0.4	--		594	7	516
443+83	44,383	29	22	3	--		22	3	--		616	7	535
443+85	44,385	2	23	3	--		2	0.3	--		618	7	537
444+00	44,400	15	25	3	--		13	2	--		632	7	549
444+08	44,408	8	26	3	--		7	1	--		639	7	555
444+33	44,433	25	29	3	--		25	3	--		664	7	578
444+50	44,450	18	25	3	--		18	2	--		682	7	593
444+74	44,474	24	24	3	--		22	3	--		703	7	612
445+00	44,500	26	24	3	--		26	3	--		729	7	632
445+50	44,550	50	25	3	--		45	6	--		775	7	672
445+53	44,553	3	25	3	--		2	0.3	--		777	7	674
446+00	44,600	48	25	3	--		44	5	--		821	7	713
446+50	44,650	50	21	3	--		43	6	--		864	7	750
447+00	44,700	50	19	3	--		37	6	--		901	7	782
447+50	44,750	50	20	3	--		39	6	--		940	7	812
448+00	44,800	50	21	3	--		38	6	--		978	7	844
448+20	44,820	20	20	3	--		15	2	--		993	7	857
448+50	44,850	30	20	3	--		22	3	--		1,015	7	876
449+00	44,900	50	20	3	--		37	6	--		1,052	7	908
449+50	44,950	50	19	3	--		36	6	--		1,088	7	938
450+00	45,000	50	21	3	--		40	6	--		1,128	7	970
450+25	45,025	25	15	3	--		17	3	--		1,145	7	984
450+50	45,050	25	15	3	--		14	3	--		1,159	7	995
451+00	45,100	50	18	3	--		31	6	--		1,189	7	1,020
451+50	45,150	50	19	3	--		34	6	--		1,224	7	1,049
452+00	45,200	50	18	3	--		34	6	--		1,258	7	1,077
452+50	45,250	50	18	3	--		33	6	--		1,291	7	1,105
452+80	45,280	30	18	3	--		23	3	--		1,314	7	1,122
						SUBTOTALS	783	113	--	--			
						TOTALS	1,314	170	6	--			



STA 432+53 TO 432+53

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 178	E

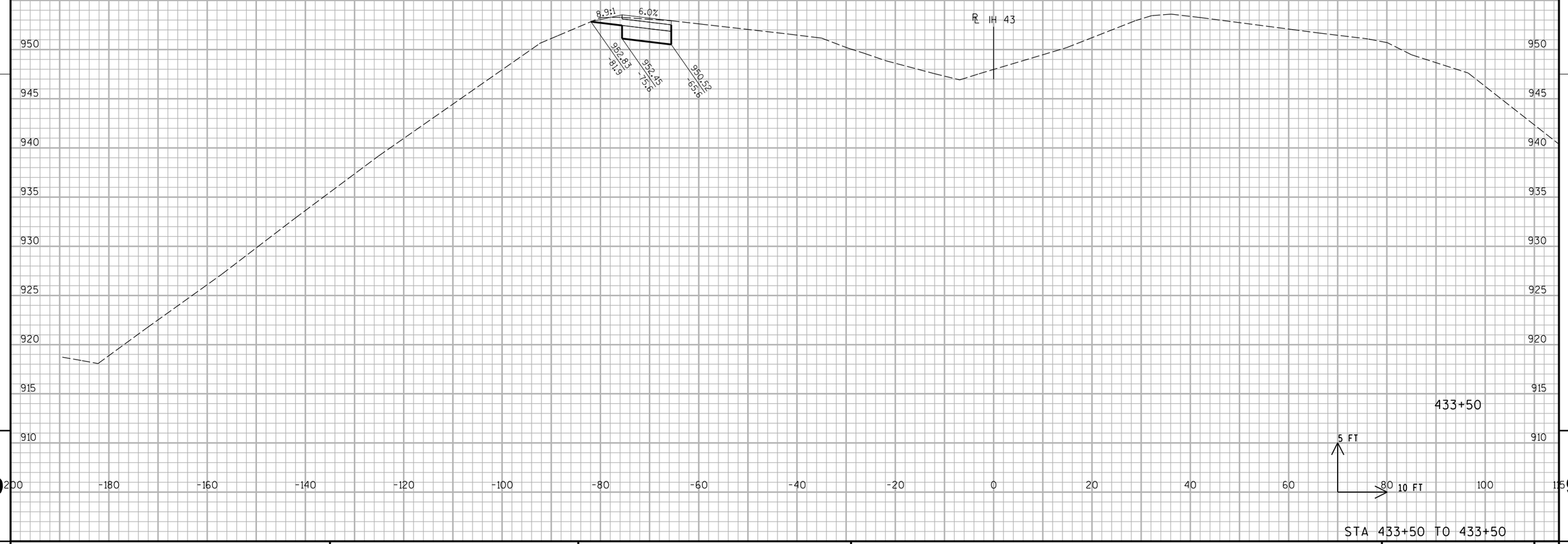


STA 433+00 TO 433+00

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 179	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21

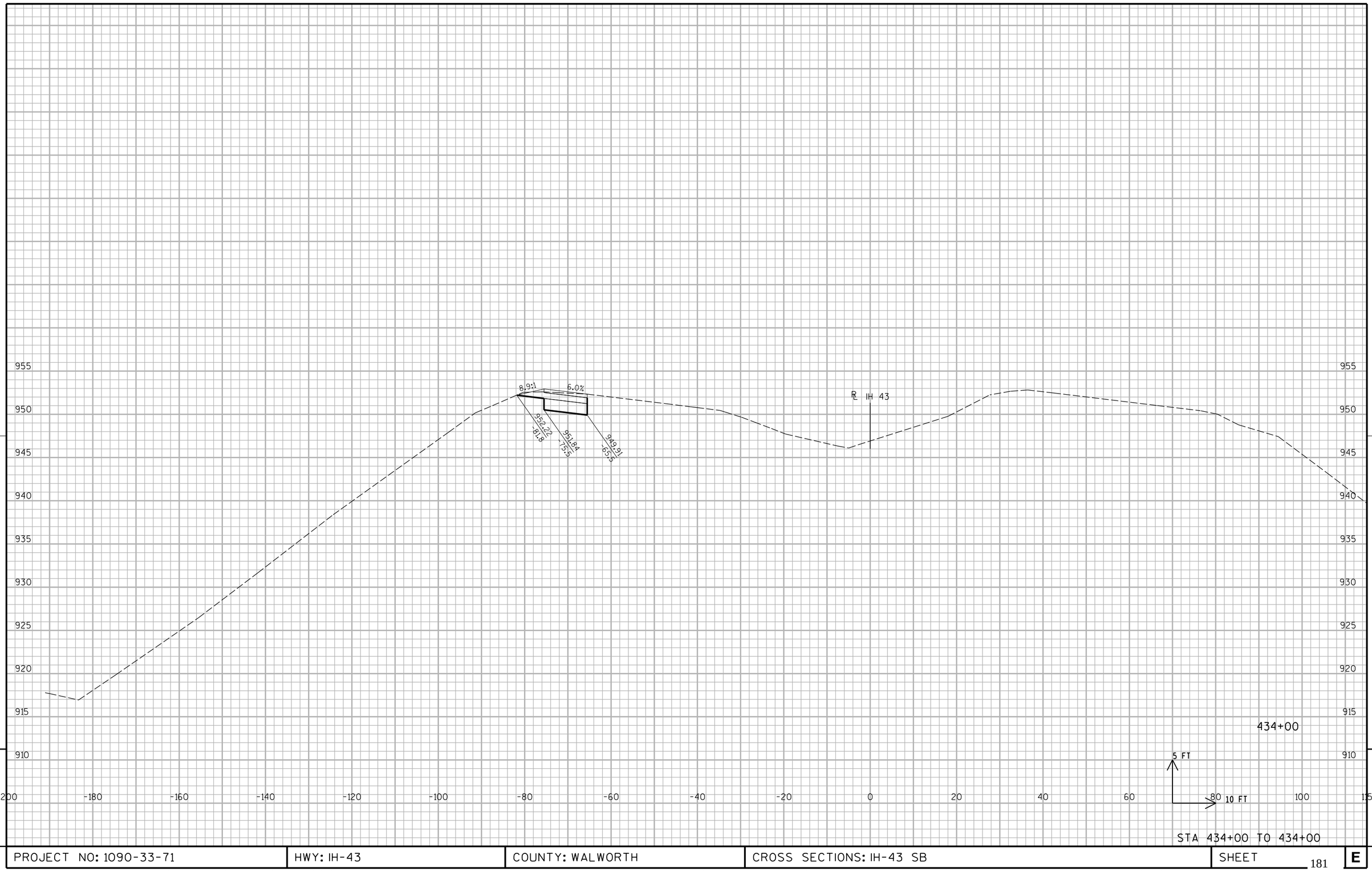


STA 433+50 TO 433+50

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 180	E

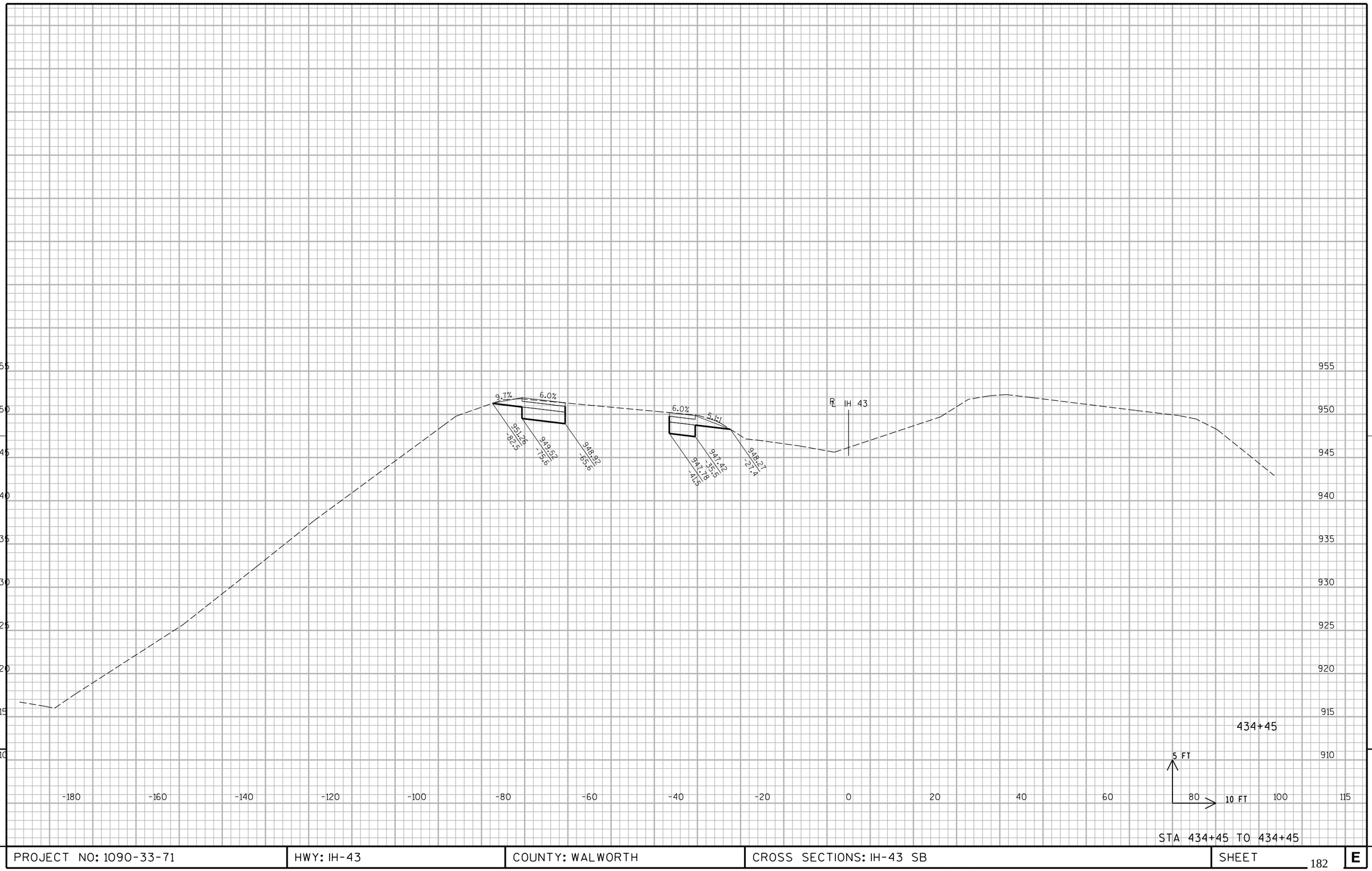
FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21



STA 434+00 TO 434+00

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 181	E

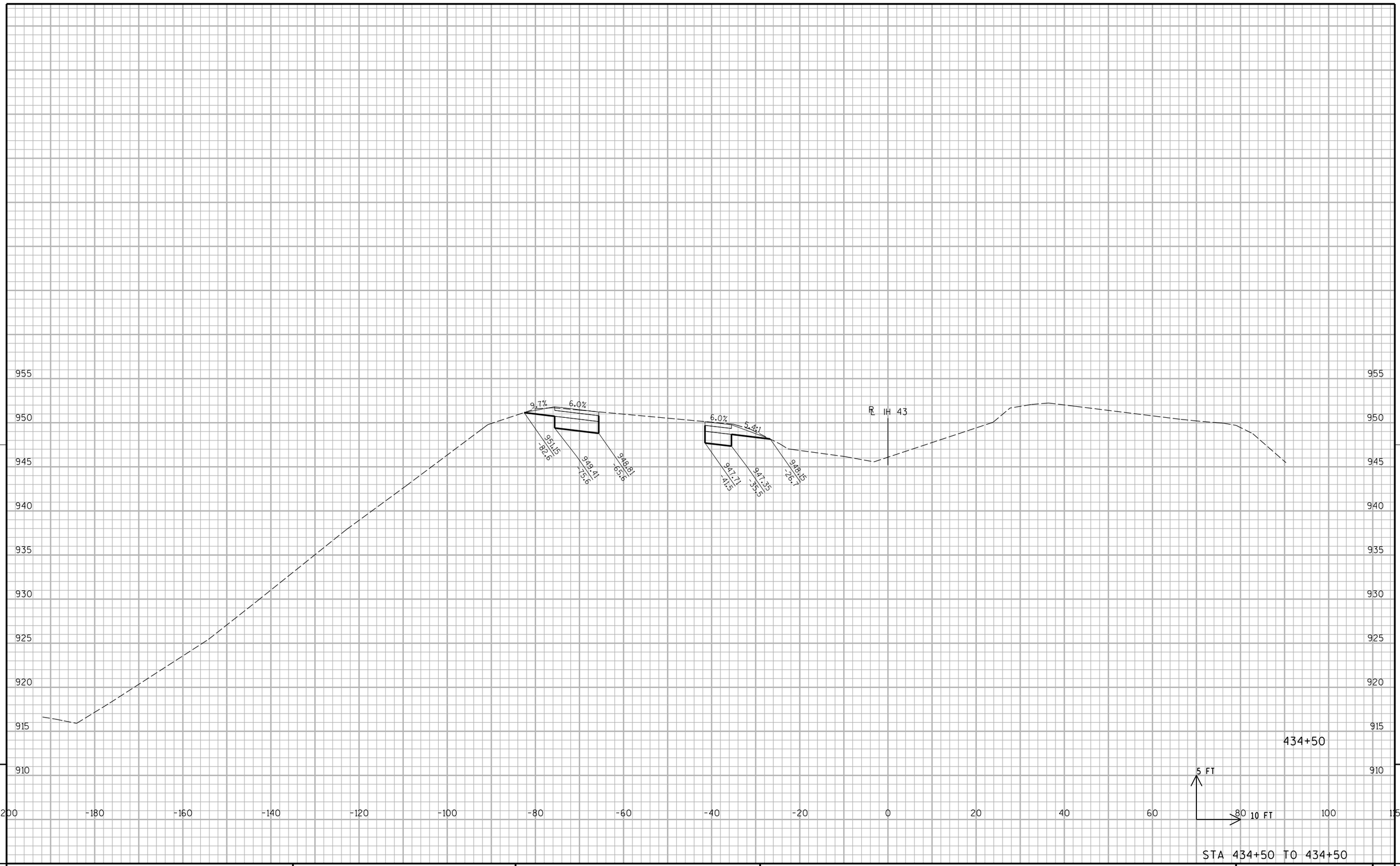


STA 434+45 TO 434+45

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 182	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21

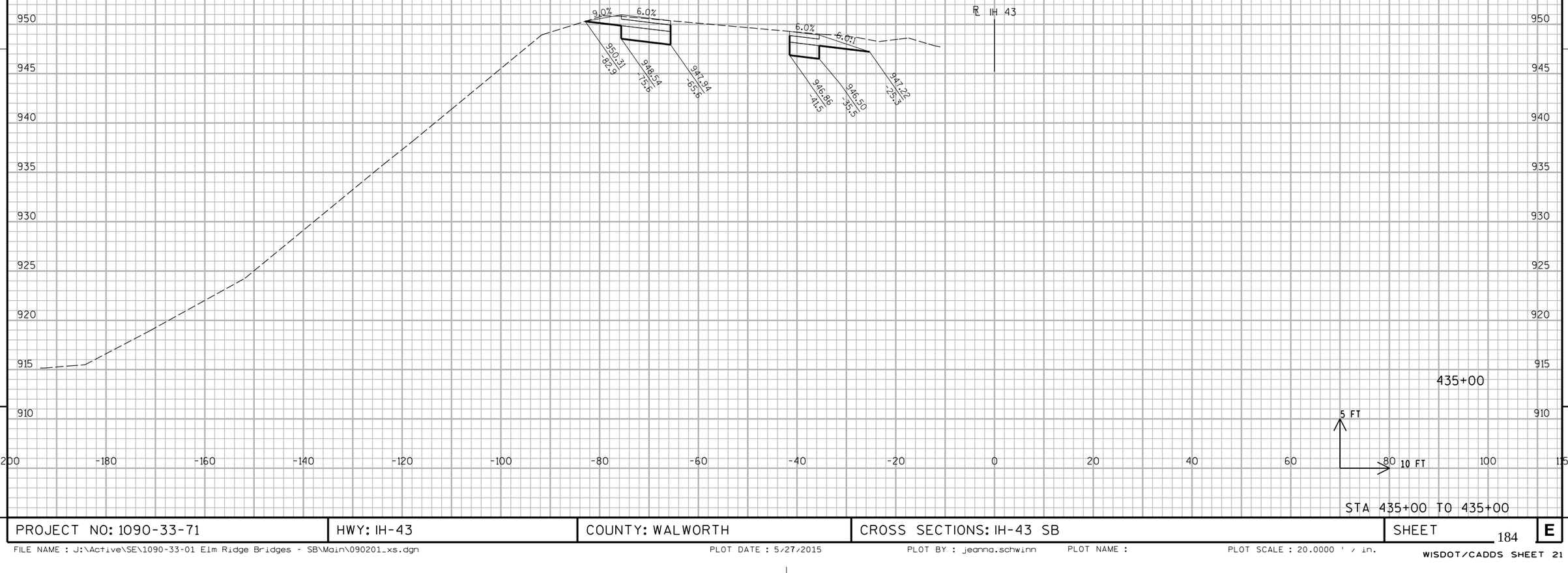


STA 434+50 TO 434+50

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 183	E

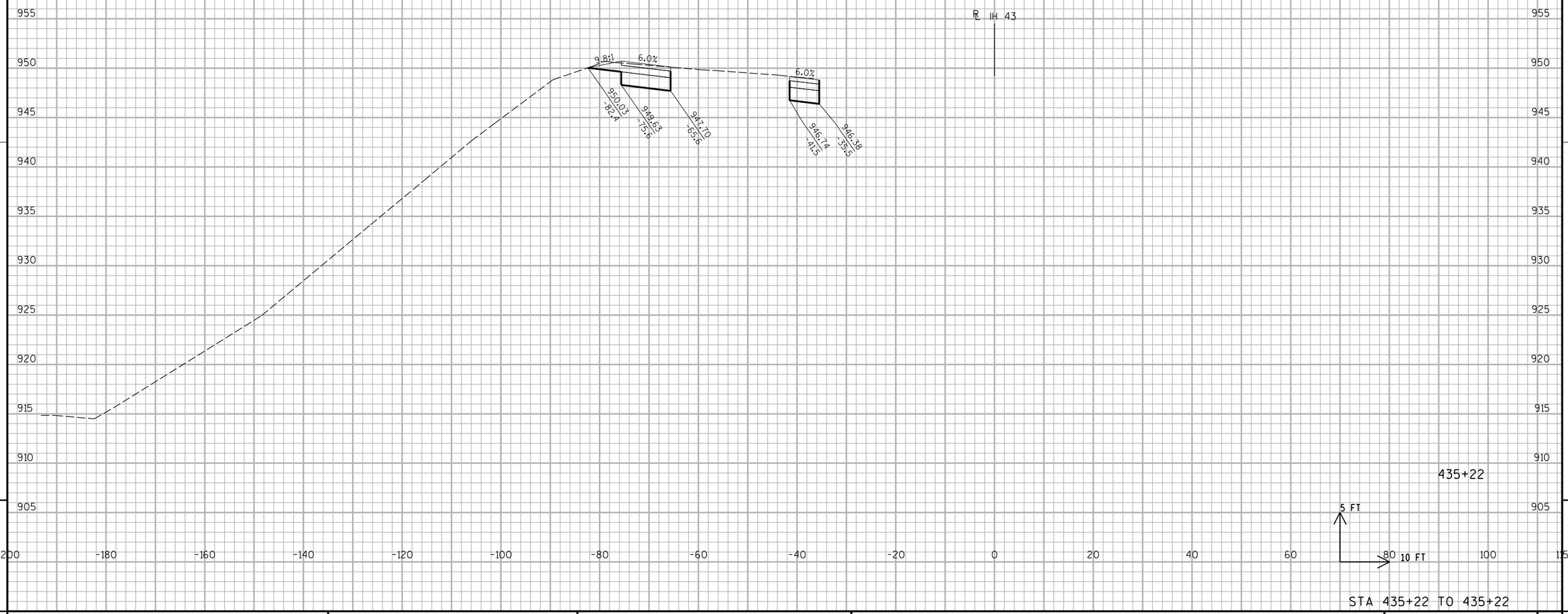
FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21



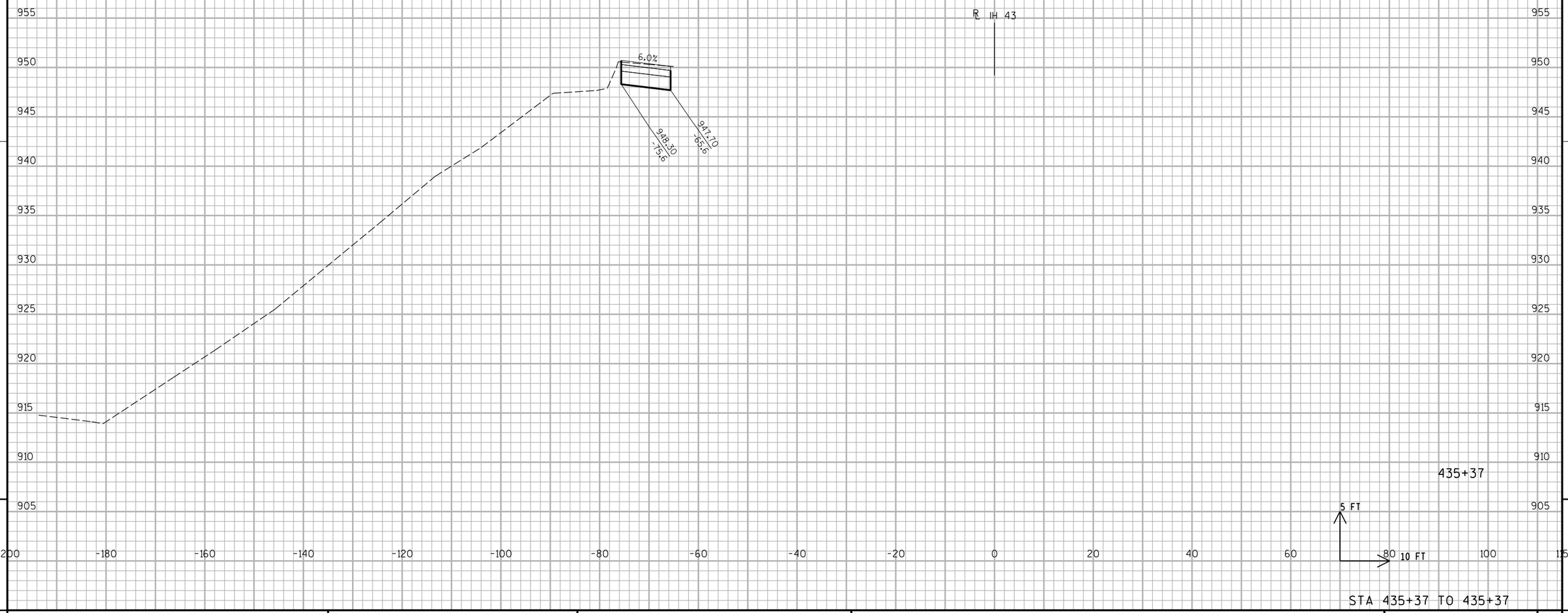
STA 435+00 TO 435+00

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 184	E



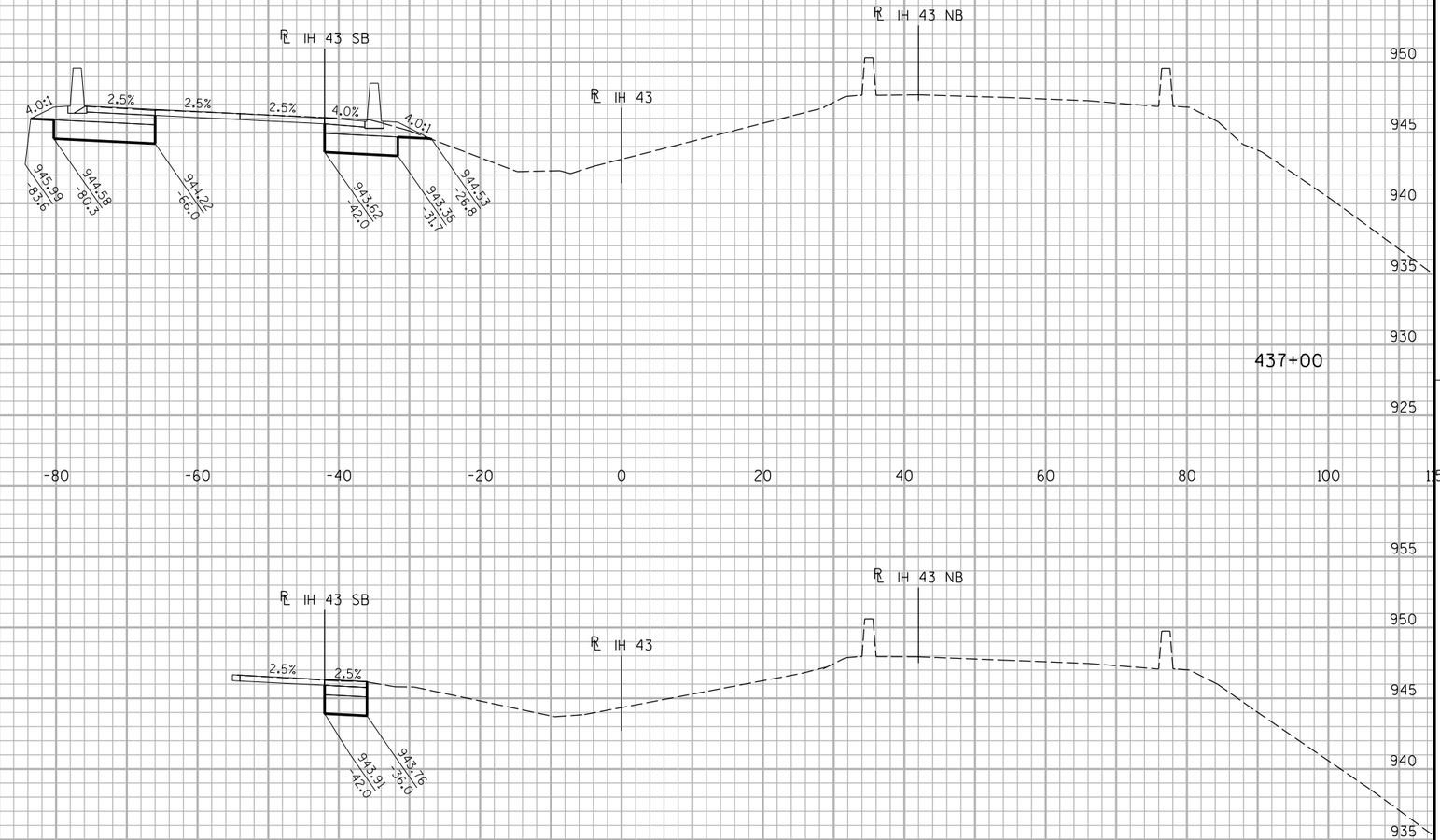
STA 435+22 TO 435+22

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 185	E



STA 435+37 TO 435+37

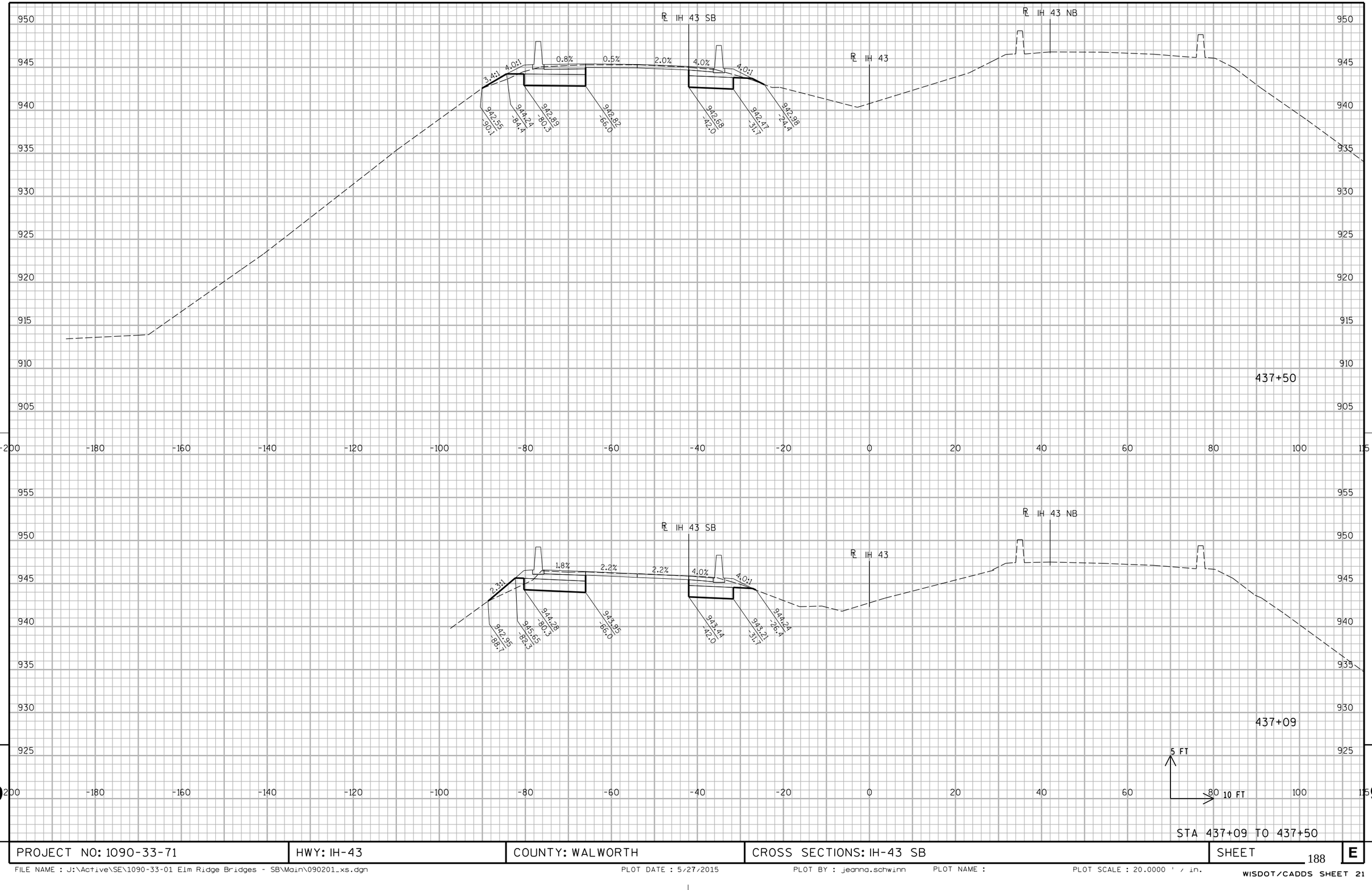
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 186	E



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 187	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

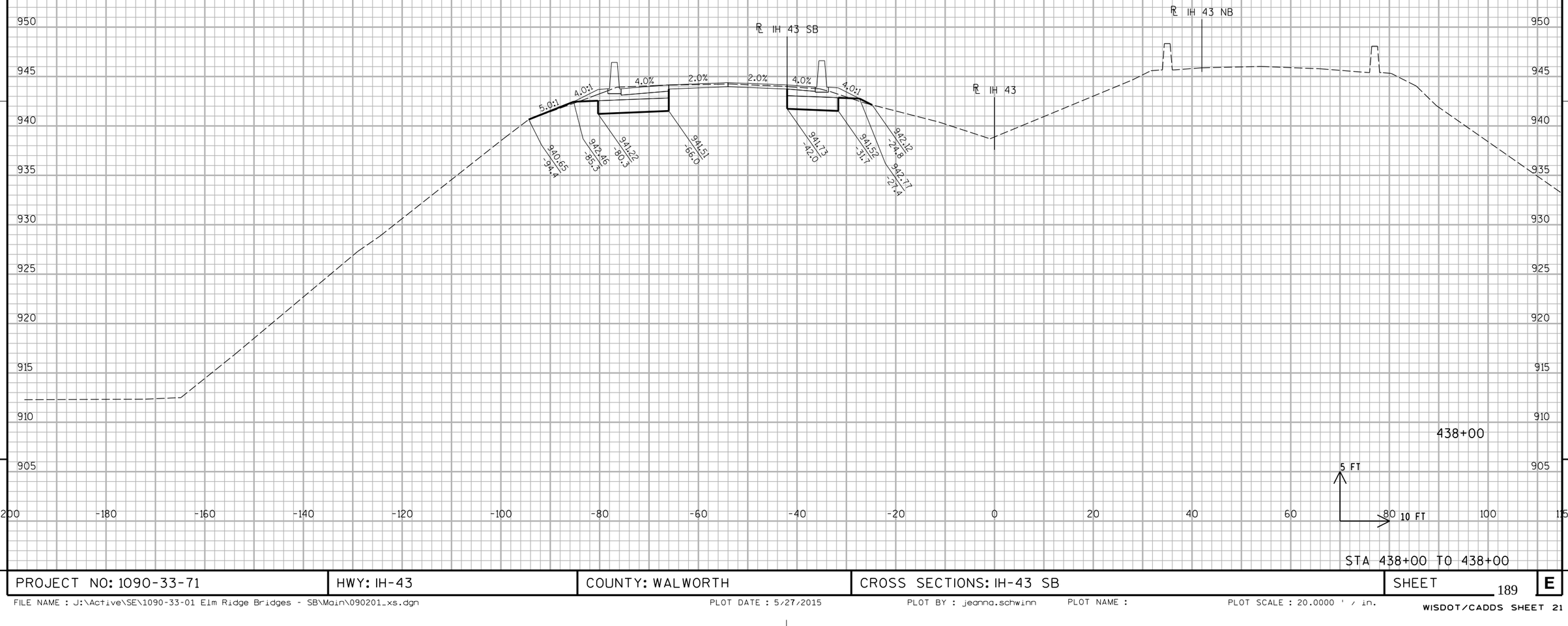
WISDOT/CADDS SHEET 21



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 188	E

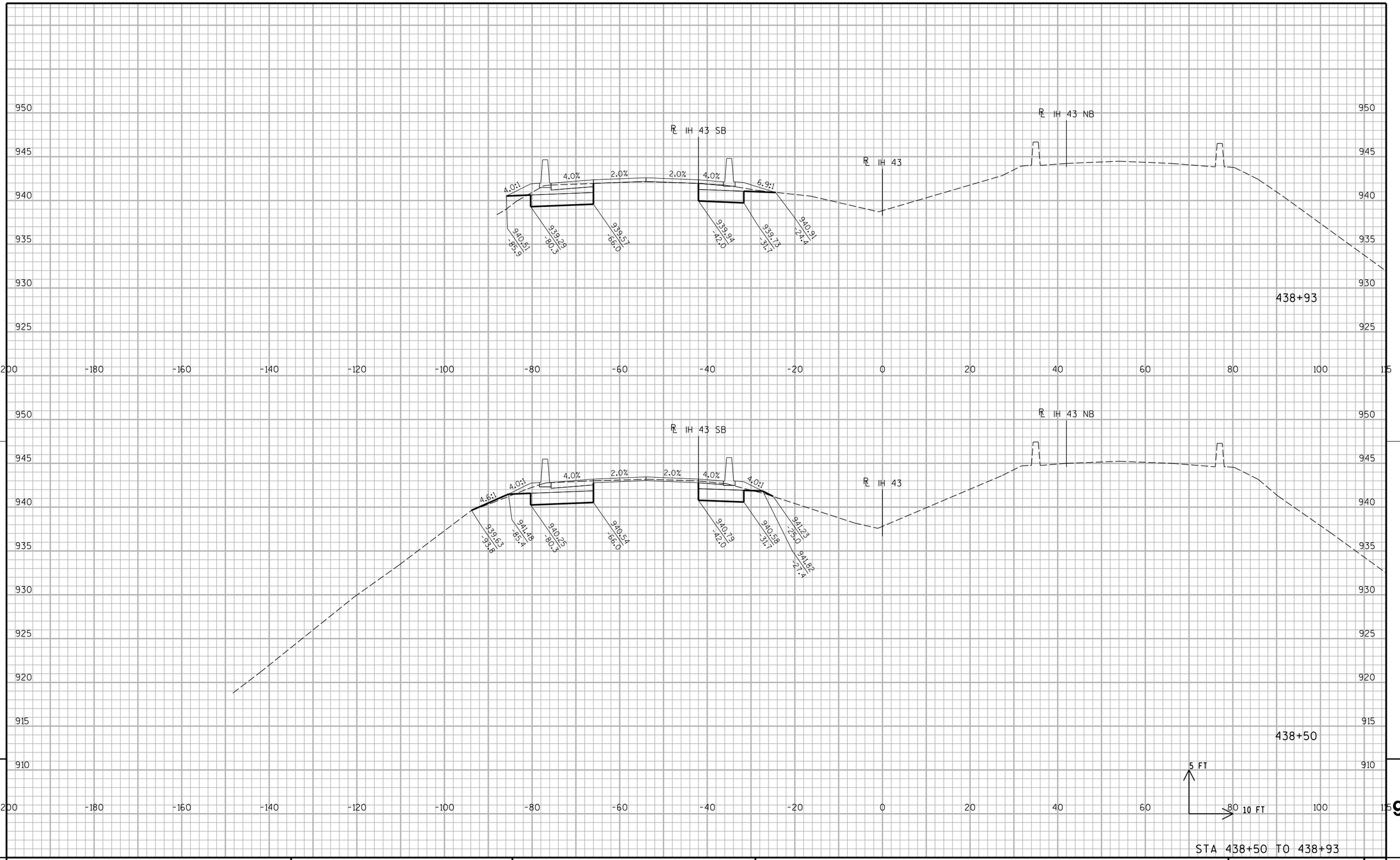
FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21



STA 438+00 TO 438+00

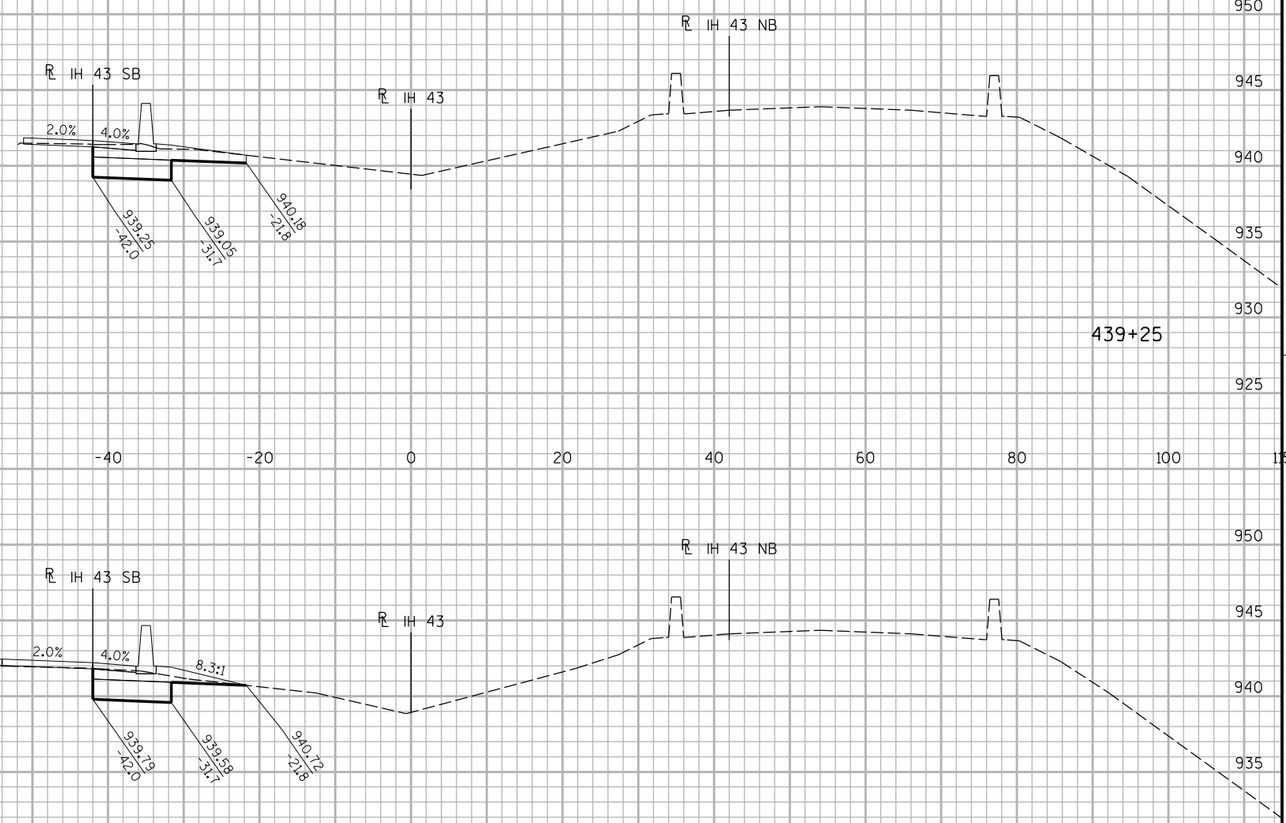
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 189	E



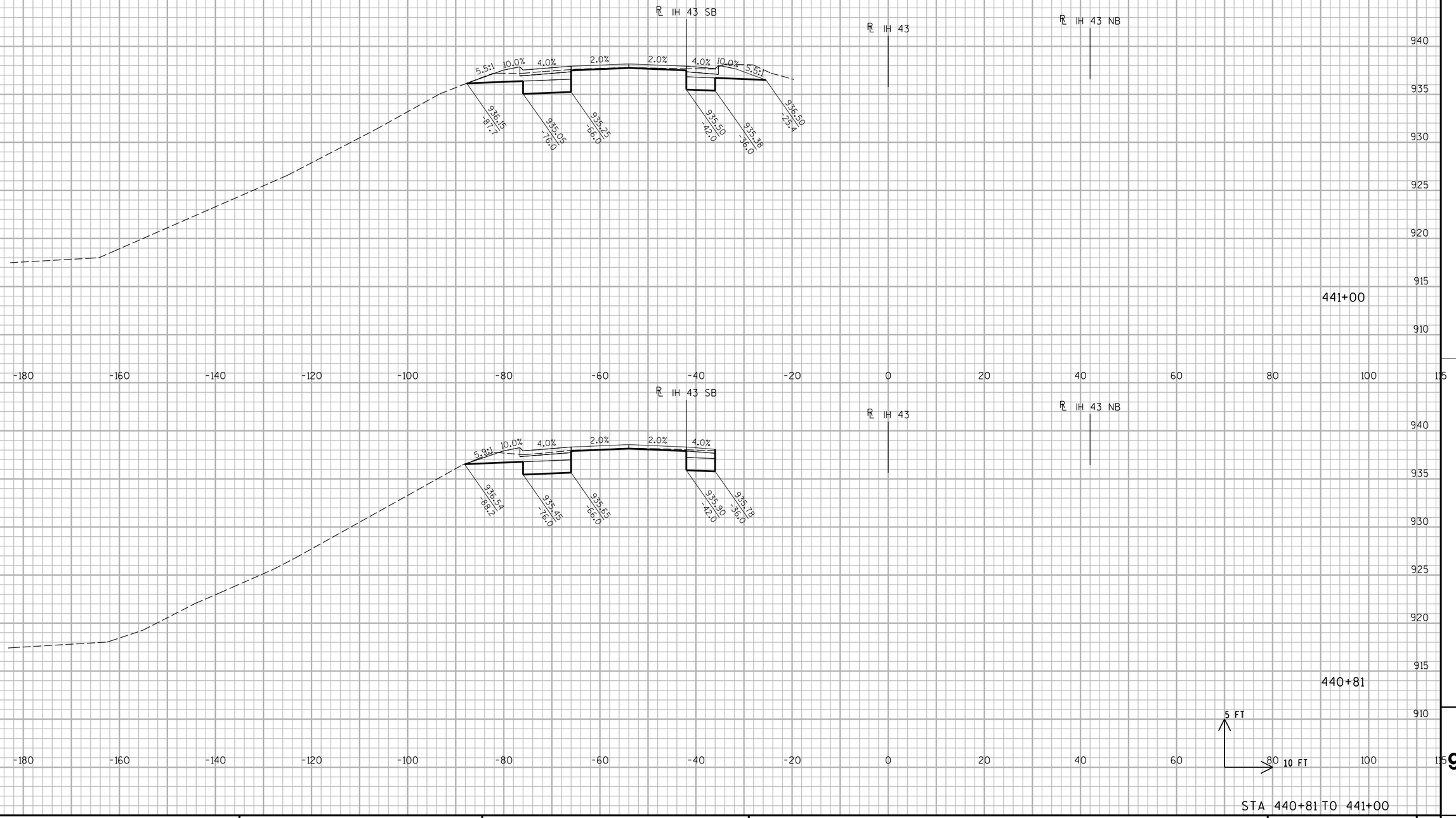
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 190	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

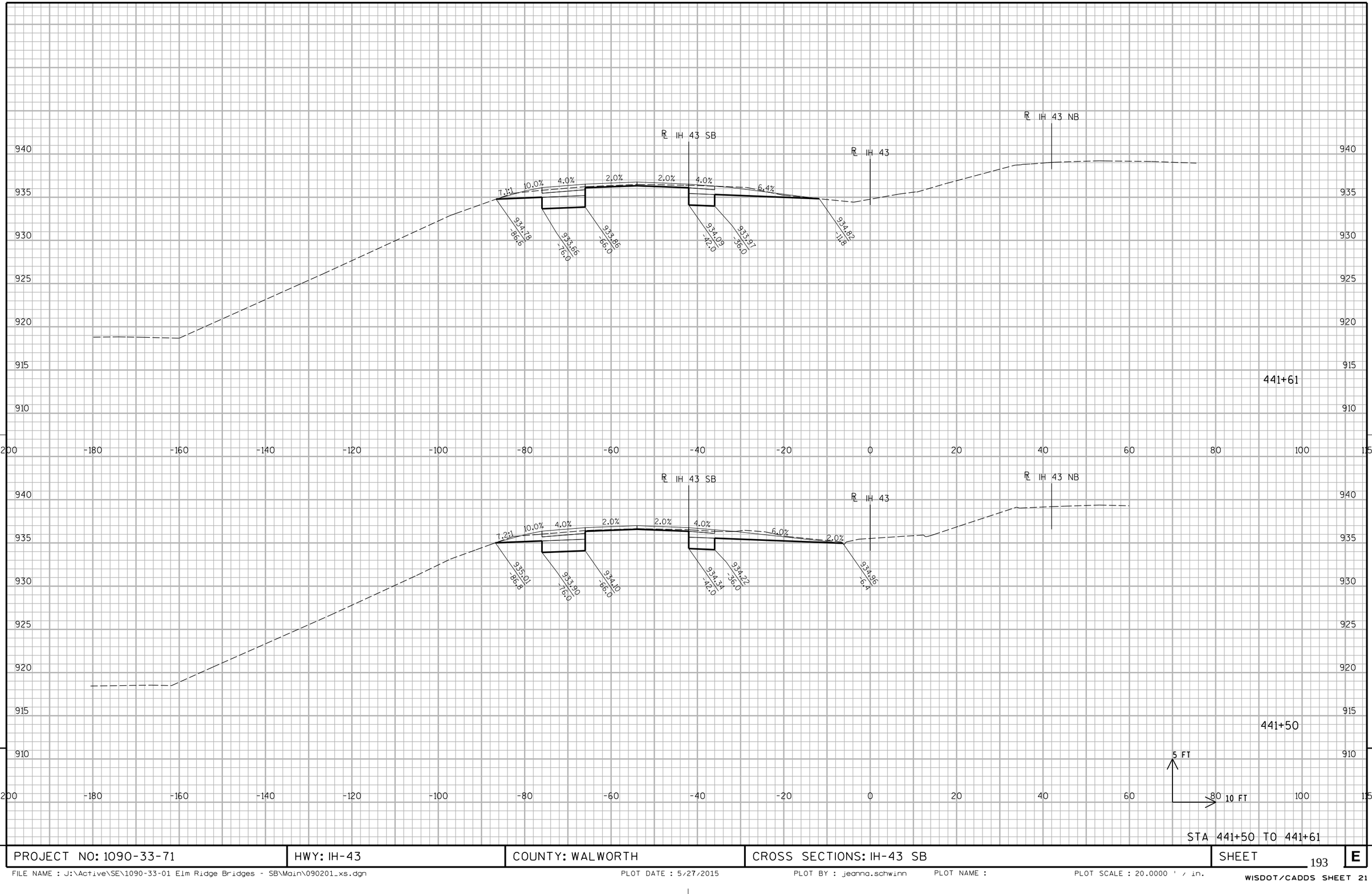
WISDOT/CADDS SHEET 21



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 191	E



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 192	E

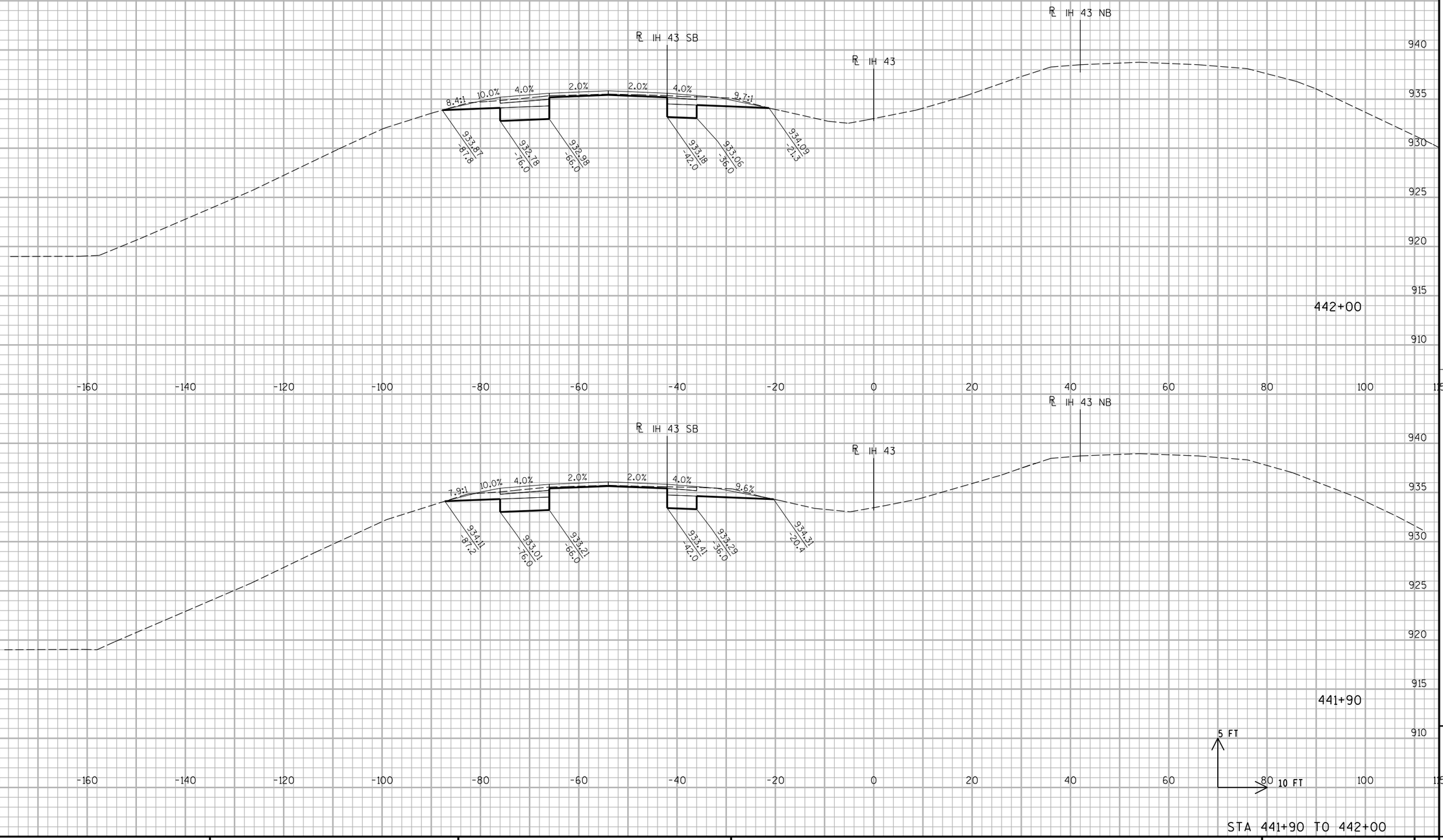


STA 441+50 TO 441+61

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 193	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21

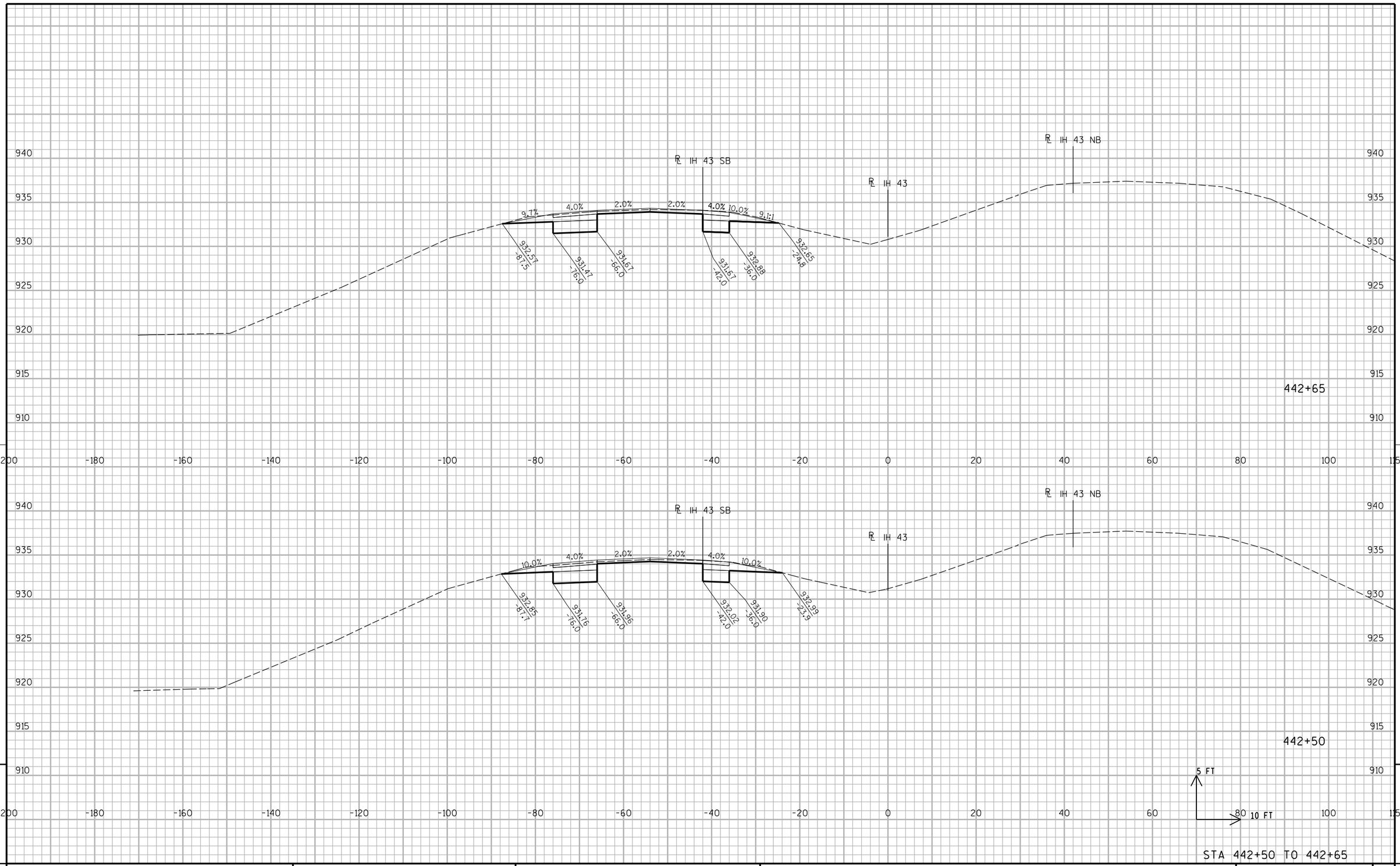


STA 441+90 TO 442+00

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 194	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21

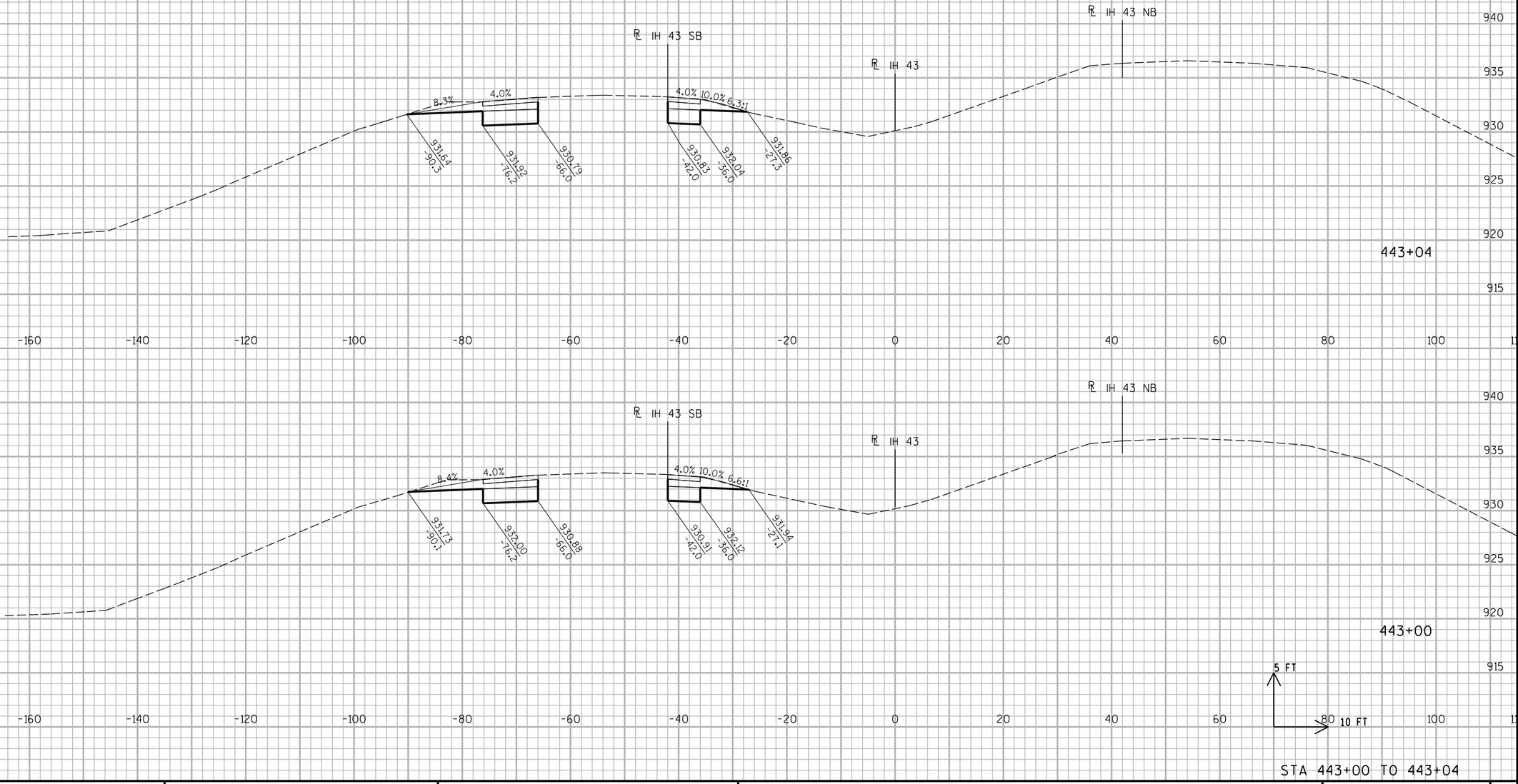


STA 442+50 TO 442+65

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 195	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

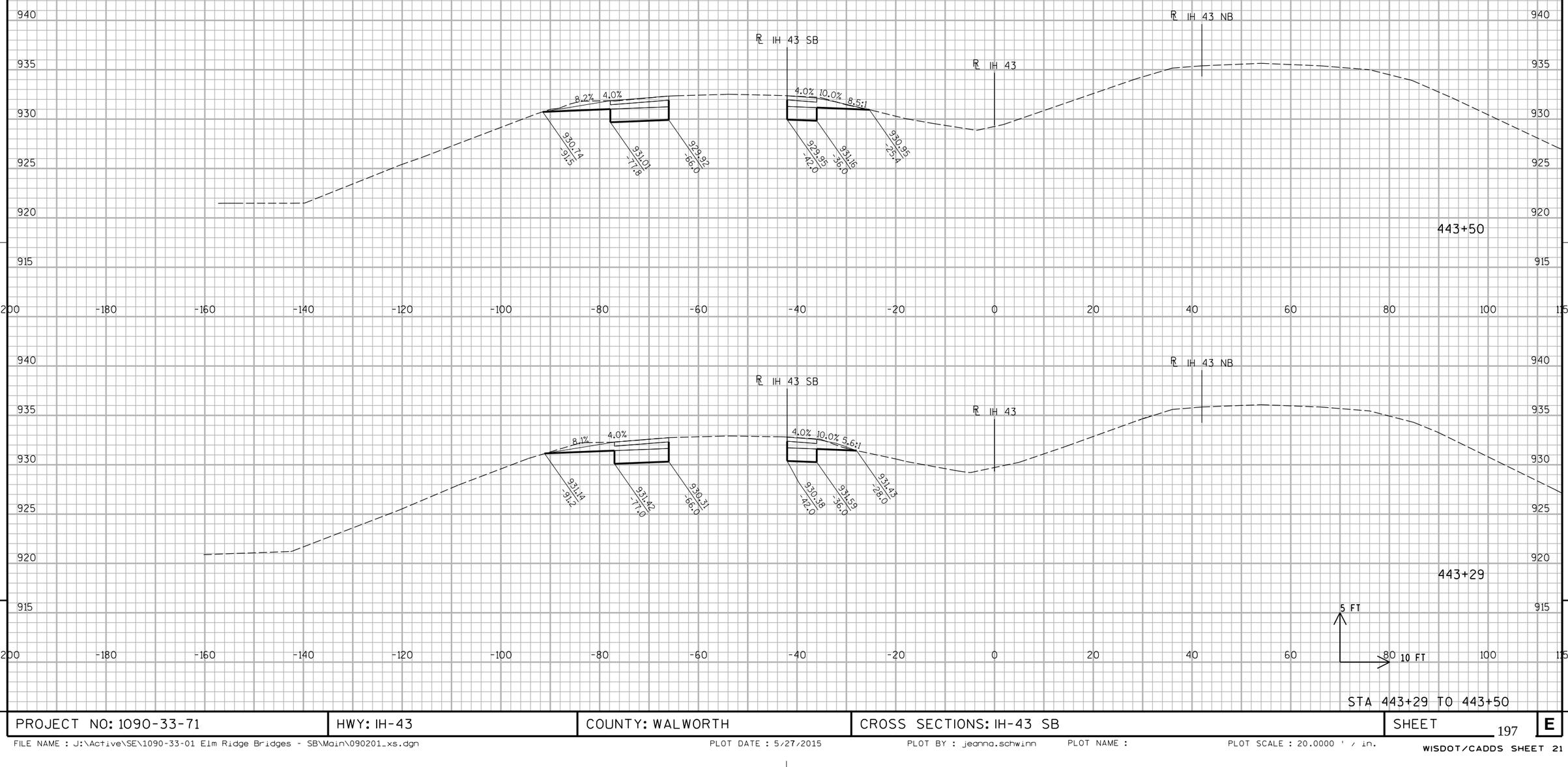
WISDOT/CADDS SHEET 21



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 196	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

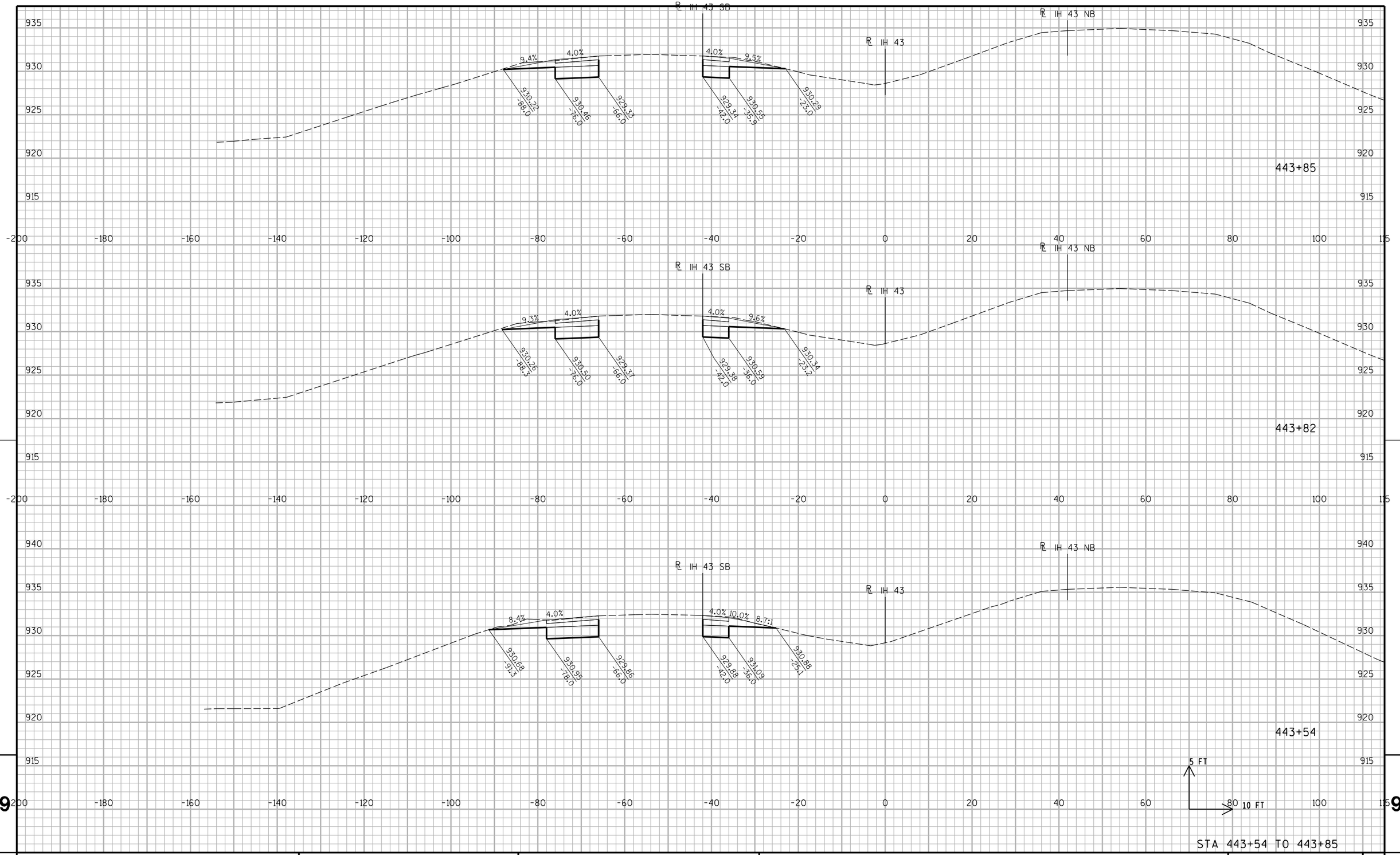
WISDOT/CADDS SHEET 21



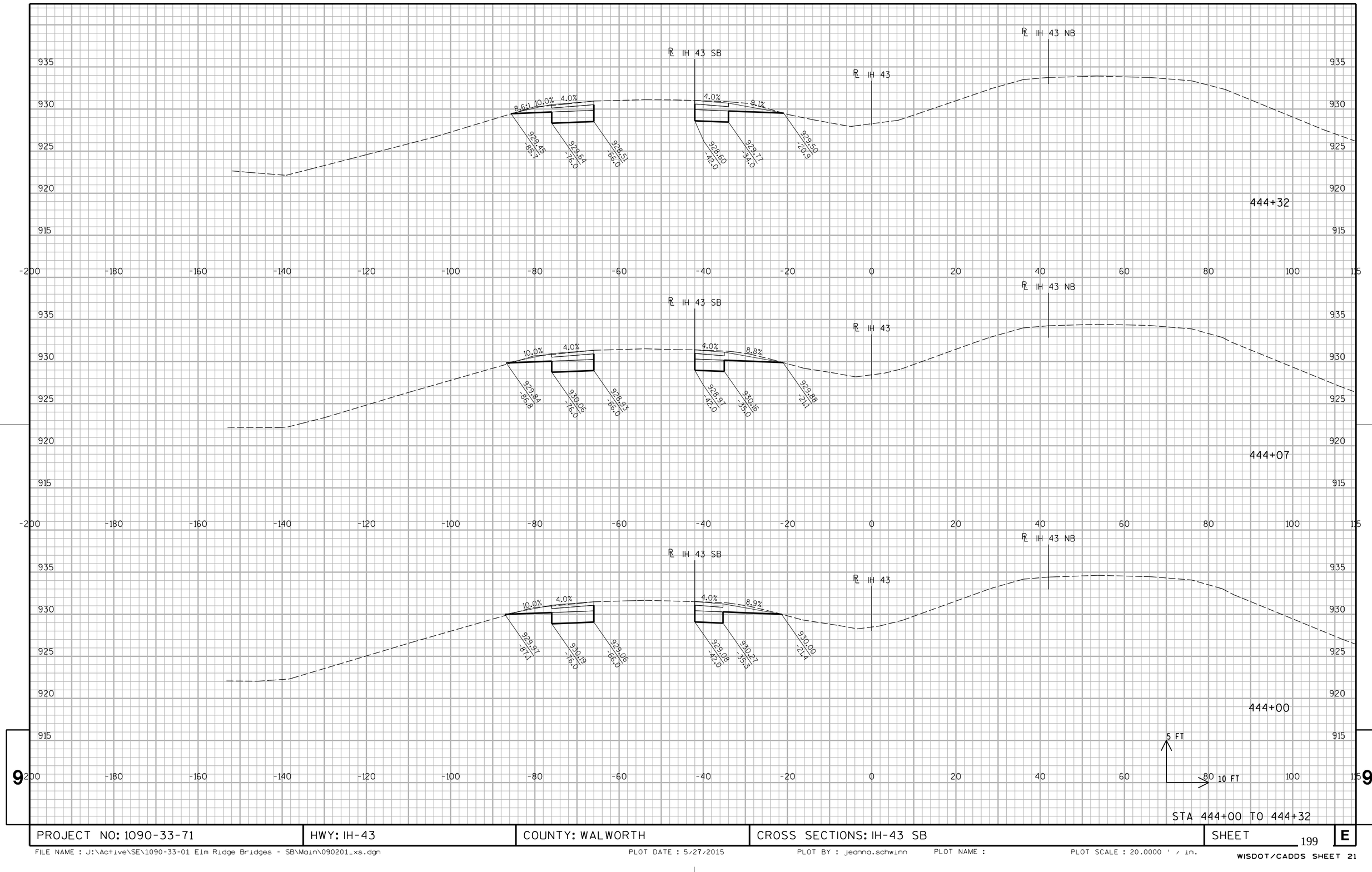
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 197	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

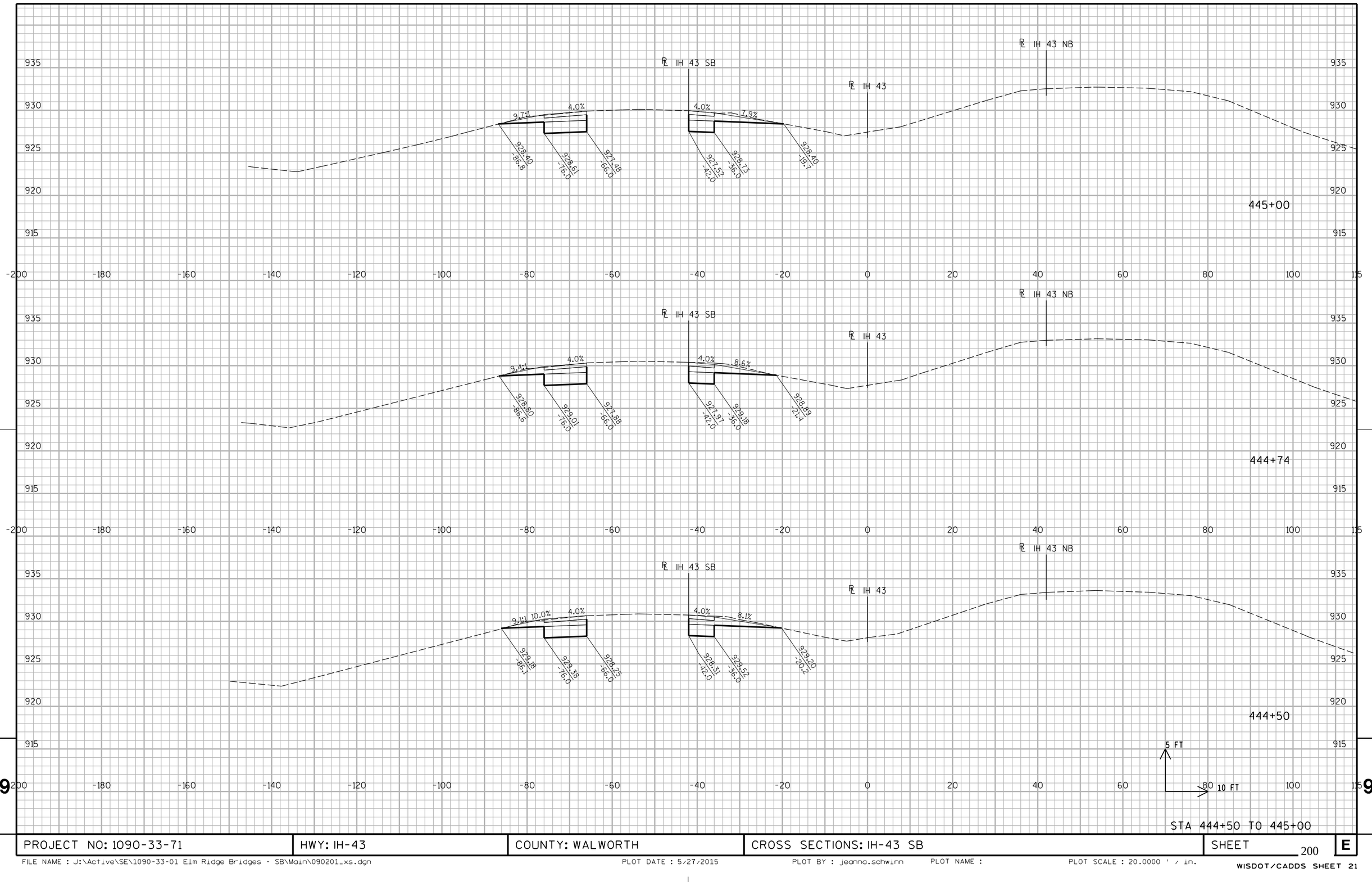
WISDOT/CADDS SHEET 21



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 198	E



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 199	E



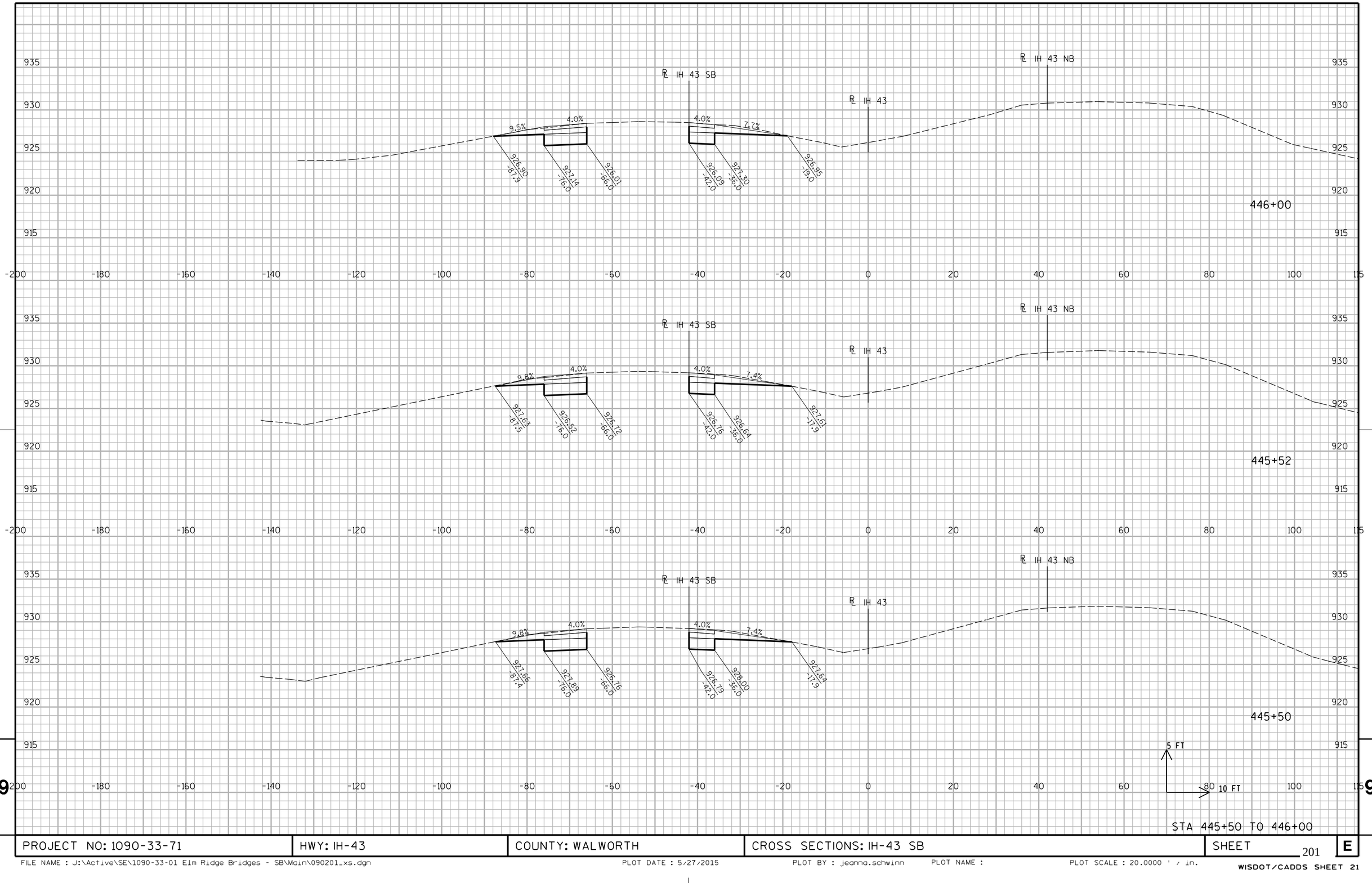
9

STA 444+50 TO 445+00

9

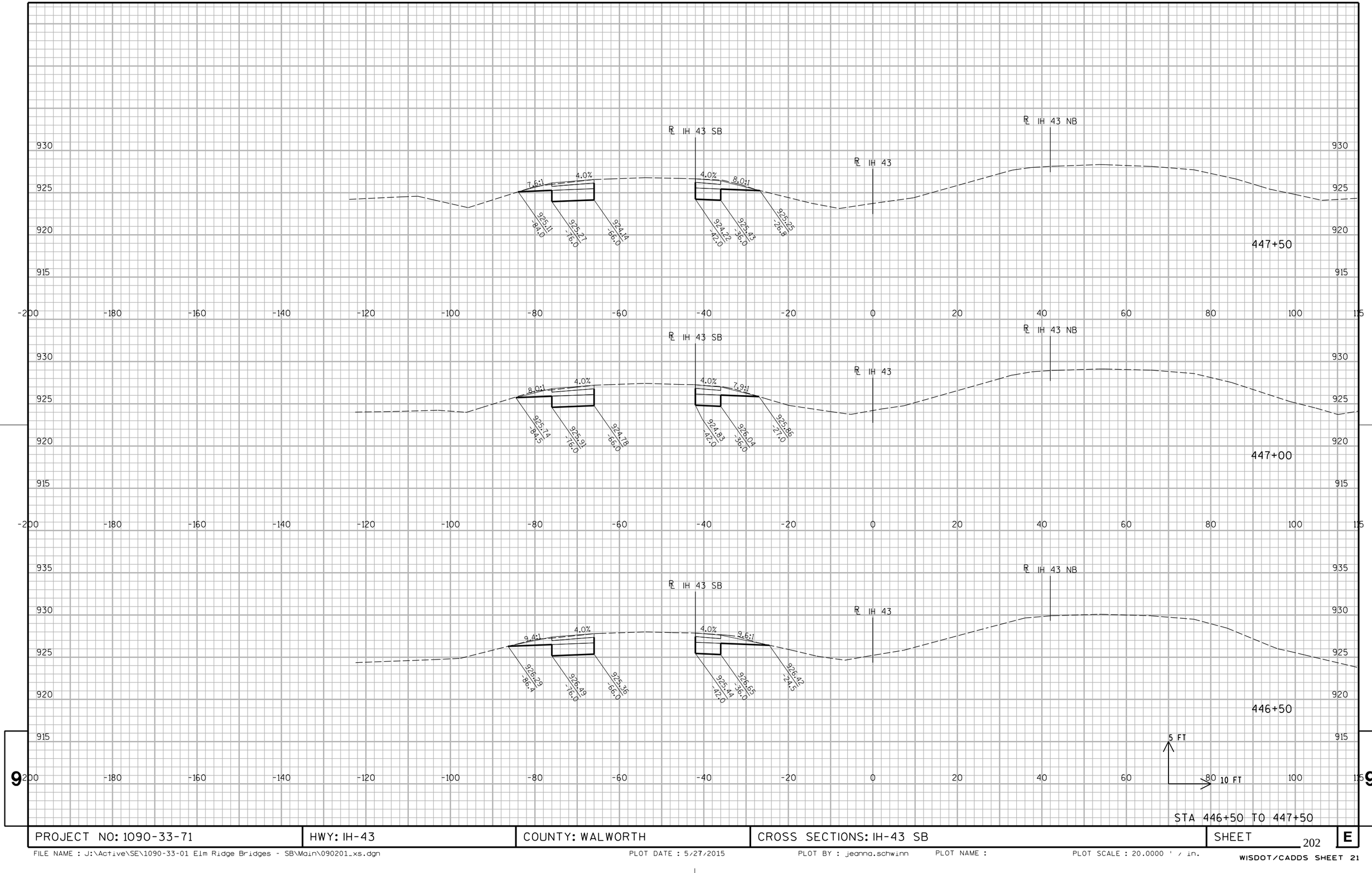
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 200	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.



STA 445+50 TO 446+00

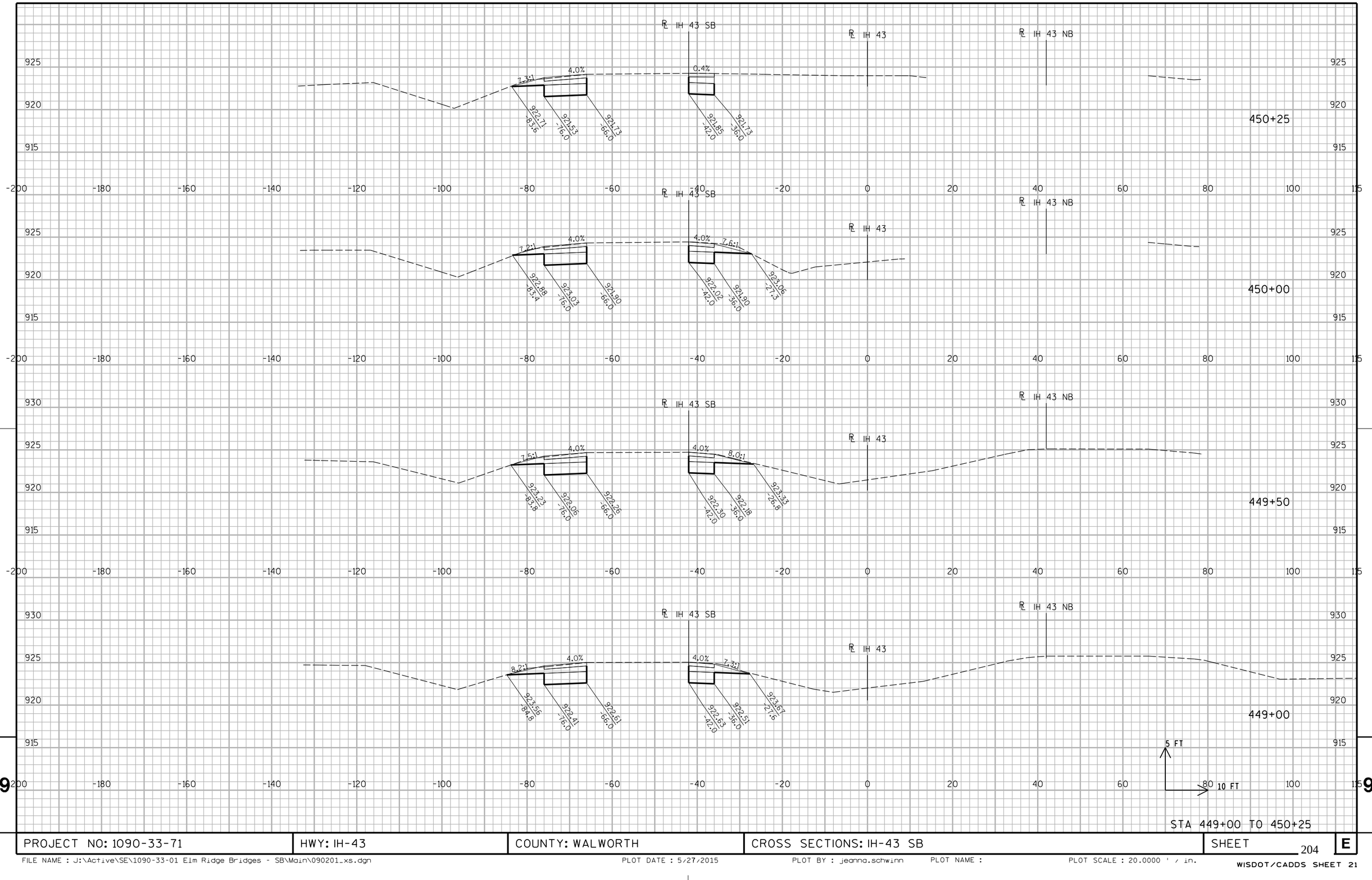
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 201	E



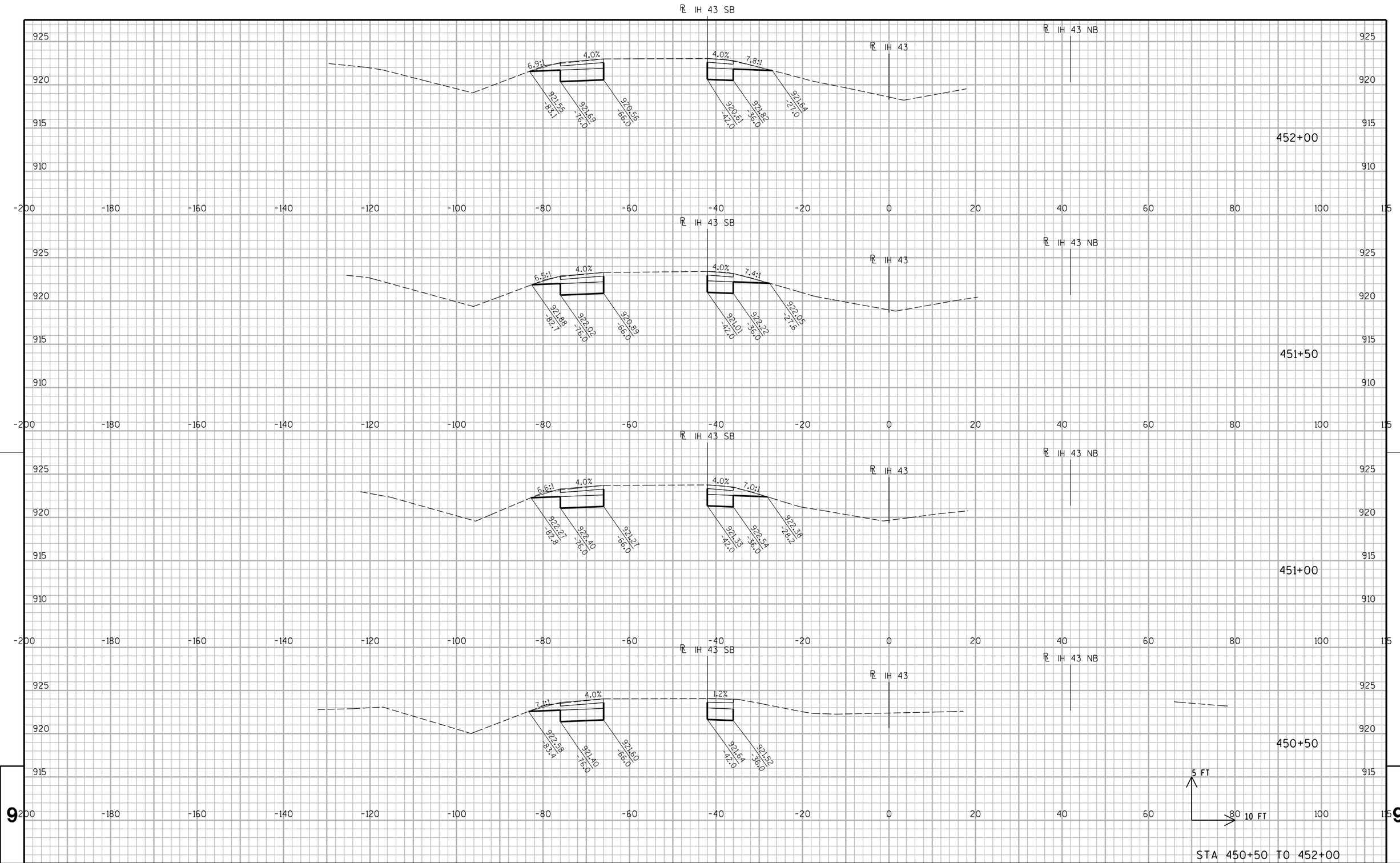
PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 202	E

STA 448+00 TO 448+50

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 203	E

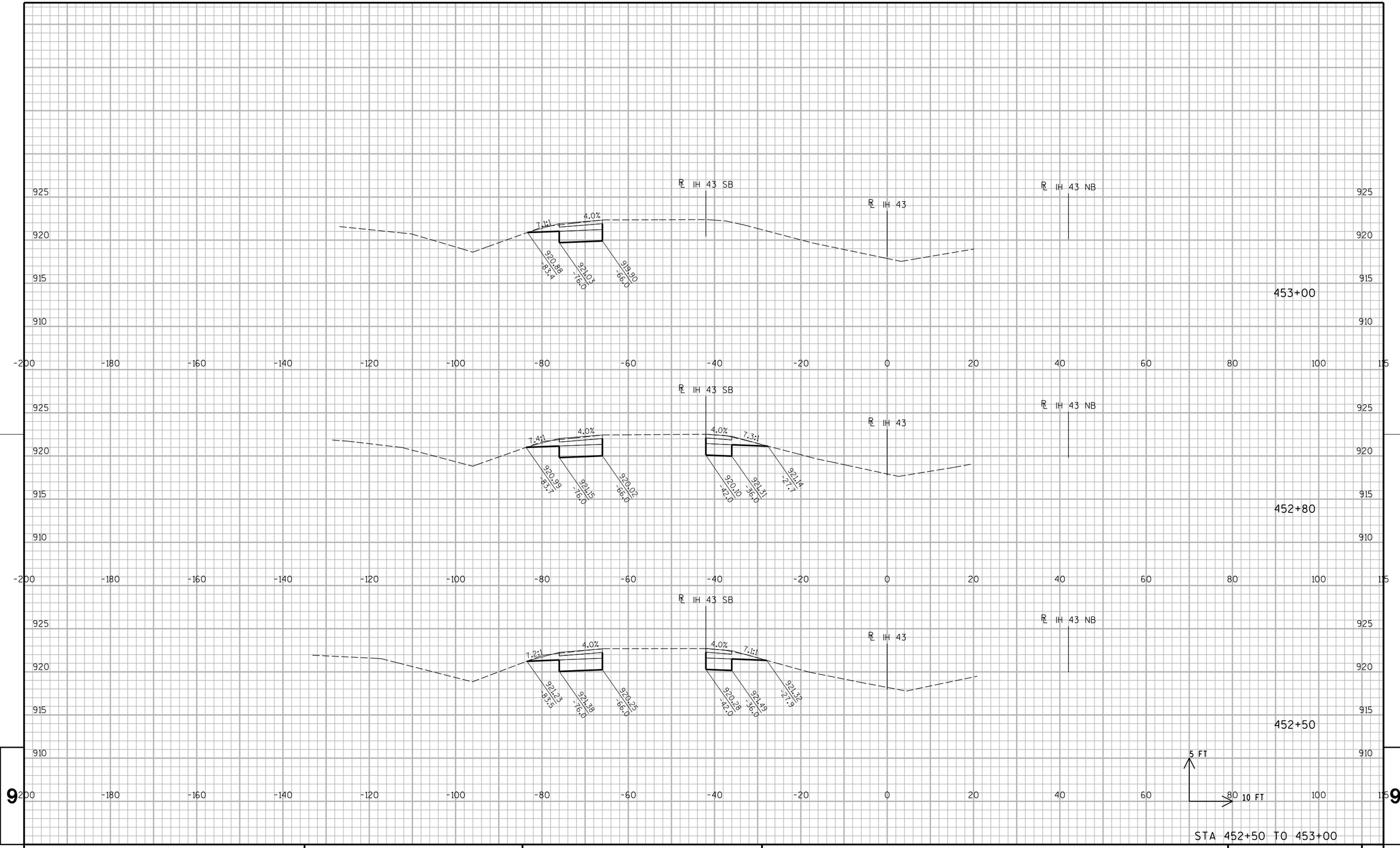


PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 204	E



STA 450+50 TO 452+00

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 205	E

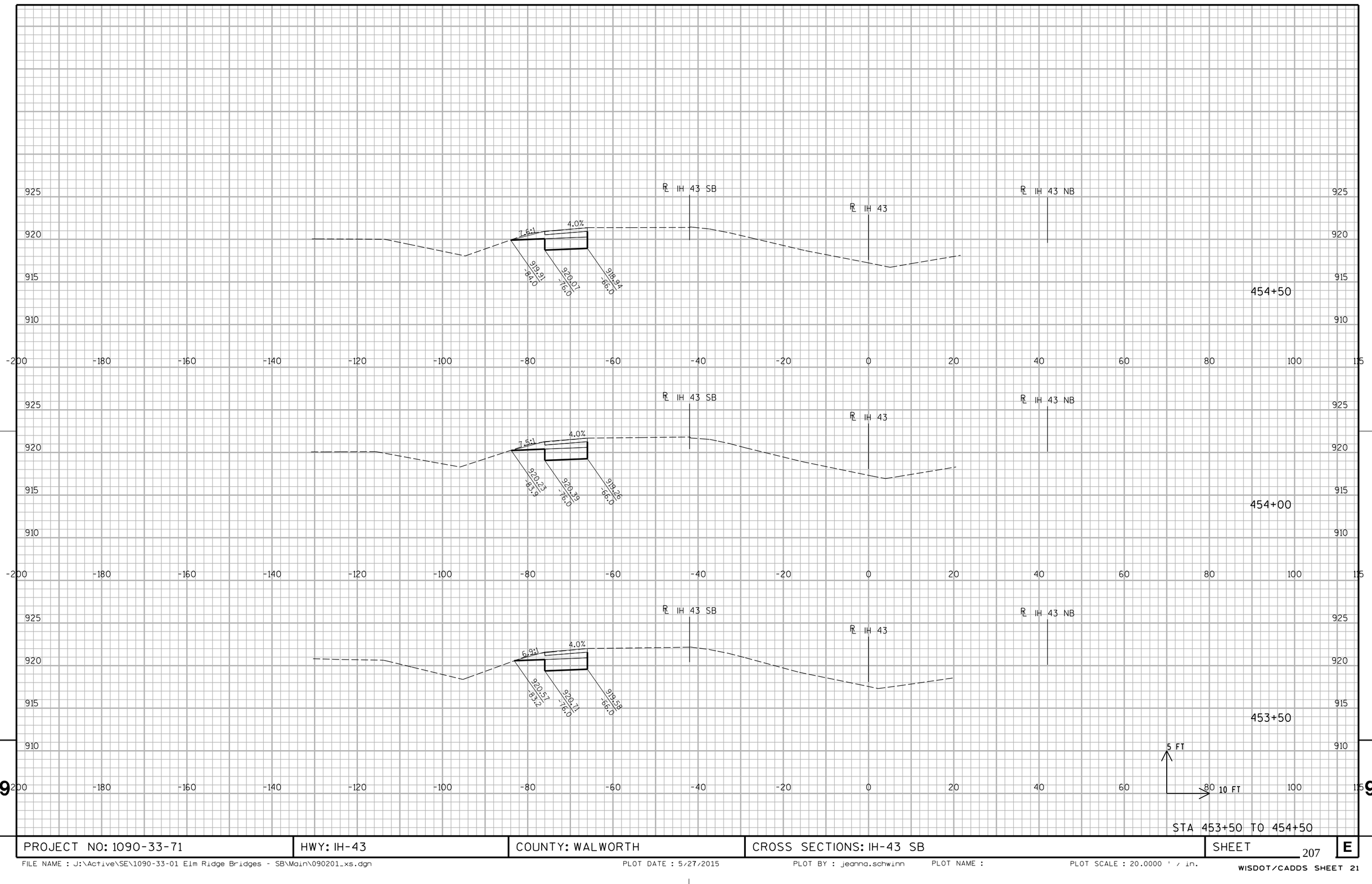


STA 452+50 TO 453+00

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 206	E

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WISDOT/CADDS SHEET 21



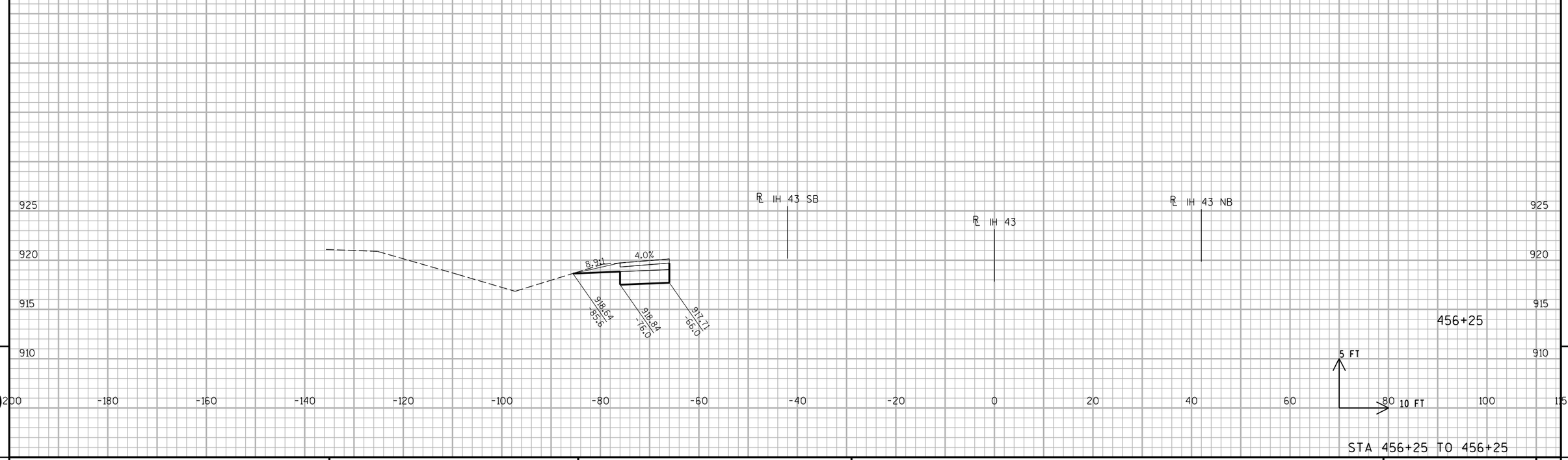
STA 453+50 TO 454+50

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 207	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21

PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 208	E



PROJECT NO: 1090-33-71	HWY: IH-43	COUNTY: WALWORTH	CROSS SECTIONS: IH-43 SB	SHEET 209	E

FILE NAME : J:\Active\SE\1090-33-01 Elm Ridge Bridges - SB\Main\090201_xs.dgn PLOT DATE : 5/27/2015 PLOT BY : jeanna.schwinn PLOT NAME : PLOT SCALE : 20.0000 ' / in.

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

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