MAD

APRIL 2020

PROJECT ID: 1161-00-66

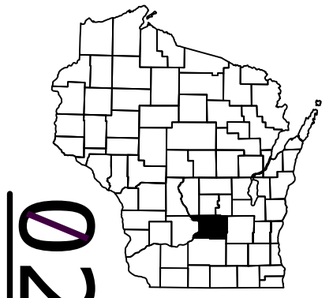
WITH: N/A

COUNTY: COLUMBIA

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 = 276



02

N

DESIGN DESIGNATION

A.A.D.T.	(2020)	=	9700 NB
A.A.D.T.	(2040)	=	11700 NB
D.H.V.		=	1104
D.D.		=	60/40
T.		=	18.4%
DESIGN SPEED		=	70 MPH
ESALS		=	17,000,000

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 (300'EB')
- 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - PACKWAUKEE

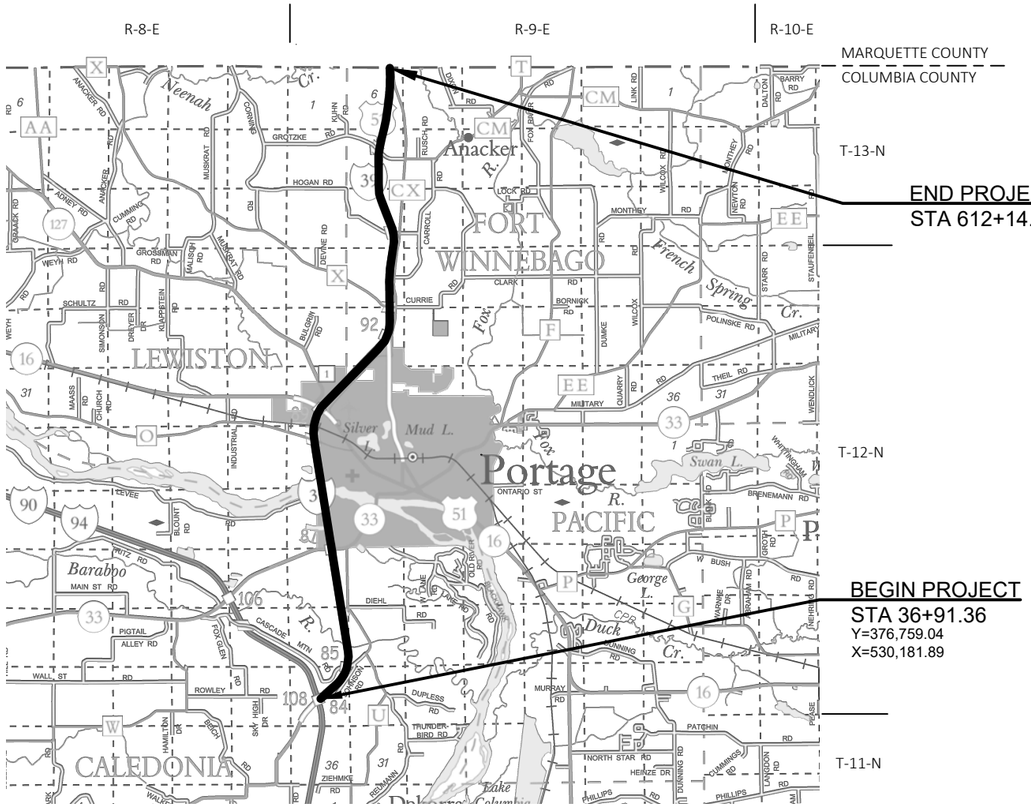
STH 78 TO MARQUETTE COUNTY LINE, NB

IH 39

COLUMBIA COUNTY

STATE PROJECT NUMBER
1161-00-66

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1161-00-66	WISC 2020125	1



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 10.895 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, COLUMBIA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. ELEVATION SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012.)

ORIGINAL PLANS PREPARED BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Portage, WI 53901
608-566-1370

WISCONSIN PROFESSIONAL ENGINEER
TERESA A. SCHOPP
E-35843
JOHNSON CREEK
WISCONSIN

DATE: 10/18/19 (DATE) Teresa Schopp (SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	DAAR ENGINEERING INC.
Designer	DAAR ENGINEERING INC.
Designer	WISDOT
Project Manager	LALITHA BALACHANDRAN, P.E.
Regional Examiner	SW REGION
Regional Supervisor	WILLIAM STROBEL, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10/21/2019 Lalitha, B. (Signature)

E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\010101-TI.DWG PLOT DATE : 10/18/2019 10:49 AM PLOT BY : GREG BUBOLZ PLOT NAME :

STANDARD ABBREVIATIONS

AC	ACRE
ADJ	ADJUST
AH	AHEAD
ASPH	ASPHALT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
AMC	ADJUSTING MANHOLE COVER
ASMC	ADJUSTING SANITARY MANHOLE COVER
AWV	ADJUSTING WATER VALVE
BK	BACK
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
CB	CATCH BASIN
C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
CIR	CIRCULAR
CL	CLASS
CONC	CONCRETE
CONST	CONSTRUCTION
CABC	CRUSHED AGGREGATE BASE SOURSE
CE	COMMERCIAL ENTRANCE
CFS	CUBIC FEET PER SECOND
CY	CUBIC YARD
C&G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
DWY	DRIVEWAY
E	EAST
X	EAST GROUND COORDINATE
EB	EASTBOUND
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BEYOND SUBGRADE
EX	EXISTING
FPS	FEET PER SECOND
FERT	FERTILIZE
FL	FLOWLINE
FT	FOOT
HES	HIGH EARLY STRENGTH
HP	HIGH POINT
HMA	HOT MIX ASPHALT
CWT	HUNDREDWEIGHT
HYD	HYDRANT
INL	INLET
IC	INLET COVERS TYPE H
IS	INLTES 2X3 AND INLET COVERS TYPE H
ID	INSIDE DIAMETER
I	INTERSECTION ANGLE
INV	INVERT
IP	IRON PIPE OR PIN
LT	LEFT
LP	LOW POINT
LS	LUMP SUM
MH	MANHOLE
MAX	MAXIMUM
MGAL	MEGAGALLON
MPH	MILES PER HOUR
MIN	MINIMUM
MON	MONUMENT
NC	NORMAL CROWN
N	NORTH
NTS	NOT TO SCALE
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
NO	NUMBER
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PCC	PORTLAND CEMENT CONCRETE
LB	POUND
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PE	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PL	PROPERTY LINE
R	RADIUS
R	RANGE
R/L	REFERENCE LINE
REINF	REINFORCING OR REINFORCEMENT
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
SEC	SECTION
SHLDR	SHOULDER
S	SOUTH
SB	SOUTHBOUND
SCH	SCHEDULE
SQ	SQUARE
SF	SQUARE FEET
SW	SIDEWALK
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
ST	STREET
STR	STRUCTURE OR STRUCTURAL
SE	SUPERELEVATION
T	TANGENT
TEMP	TEMPORARY
TI	TEMPORARY INTEREST
TLE	TEMPORARY LIMITED EASEMENT
T	TOWN
T%	TRUCKS (PERCENT OF)
TYP	TYPICAL
VAR	VARIABLE
VERT	VERTICAL
V	DESIGN SPEED
VOL	VOLUME
WM	WATERMAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
YD	YARD

GENERAL NOTES

CURVE DATA BASED ON THE ARC DEFINITION.

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE, OR HMA IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUALTHICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

PERSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE A LANDMARK MAY EXIST.

REMOVAL OF ANY SURVEY MARKER REQUIRES APPROVAL OF THE ENGINEER.

STATIONING OF CONCRETE PAVEMENT REPAIR & REPLACEMENT LOCATIONS IN PLAN ARE APPROXIMATE. VERIFY LOCATIONS WITH ENGINEER.

PLAN REMOVAL AREAS ARE APPORXIMATE. EXACT LIMITS SHALL BE DETERMINED IN THE FIELD.

SAWING CONCRETE WILL BE MEASURED AND PAID FOR ONLY ONCE WHEN REPAIRS ARE ADJACENT ALONG THE C/L OF THE NB LANES (IN BOTH OUTSIDE AND MEDIAN LANES).

OVERSAWING INTO PAVEMENT THAT IS TO REMAIN TO FACILITATE REMOVAL OF REPAIR AREAS SHALL BE SEALED WITH AN APPROVED EPOXY. THE OVERSAWING AND EPOXY ARE INCIDENTAL TO BID ITEMS 416.1710, 416.1715, 416.1720, & 416.1725.

IN CONCRETE PAVEMENT REPLACEMENT SECTIONS, THE NEW JOINTS SHOULD MATCH ADJACENT CONCRETE JOINT. THE NEW TINING SHOULD MATCH THE ADJACENT PAVEMENT PATTERN.

THE ENGINEER WILL DETERMINE THE EXACT LOCATION OF EROSION CONTROL ITEMS. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. THE CONTRACTOR WILL REMOVE EROSION CONTROL ITEMS AT THE DIRECTION OF THE ENGINEER.

DO NOT DRIVE EQUIPMENT OR STORE EQUIPMENT OR MATERIAL IN WETLANDS, WATERWAYS OR ENVIRONMENTALLY SENSITIVE AREAS ADJACENT TO THE PROJECT.

HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN

EXISTING ALIGNMENT FROM AS-BUILT INFORMATION

PIPE UNDERDRAIN TEES, ELBOWS, AND CAPS ARE INCIDENTAL TO THE PIPE UNDERDRAIN WRAPPED 6-INCH BID ITEM

THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL, AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND EMATTED AS DIRECTED BY THE ENGINEER.

THE EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL SHEETS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

NUMBER, LOCATION, AND SPACING OF SIGNS AND DEVICES, AS SHOWN IN THE PLANS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

EXISTING RIGHT OF WAY LINES SHOWN IN THE PLANS AND CROSS SECTIONS ARE APPROXIMATE.

APPLY TACK COAT BETWEEN LAYERS OF ASPHALT PAVEMENT AND TO MILLED SURFACES. THE APPLICATION RATE IS 0.05 GAL/SY BETWEEN LAYERS OF NEW HMA PAVEMENT AND 0.07 GAL/SY PLACED ON EXISTING ASPHALT, MILLED SURFACES AND CONCRETE PAVEMENT OR AS DIRECTED BY THE ENGINEER.

ORDER OF DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVING GRADES
EROSION CONTROL
STORM SEWER
TRAFFIC CONTROL
ALIGNMENT DIAGRAM

2

UTILITY CONTACTS

ADAMS-COLUMBIA ELECTRIC COOPERATIVE - ELECTRICITY
SHAWN PIETRZAK
401 E LAKE ST
FRIENDSHIP, WI 53934
(800) 831-8629 Ext 323
spietrzak@acecwi.com

ALLIANT ENERGY - ELECTRICITY
MATT JOHNSON
2777 COLUMBIA DRIVE
PORTAGE, WI 53901
(608) 751-7674
matthewjohnson@AlliantEnergy.com

ALLIANT ENERGY - GAS/PETROLEUM
MATT JOHNSON
2777 COLUMBIA DRIVE
PORTAGE, WI 53901
(608) 751-7674
matthewjohnson@AlliantEnergy.com

ATC MANAGEMENT, INC. - ELECTRICITY-TRANSMISSION
DOUG VOSBERG
5303 FEN OAK DRIVE
MADISON, WI 53718
(608)-877-3692
dvosberg@atcllc.com

AT&T LEGACY-COMMUNICATION LINE
WILLIAM KOENIG
110 N MAIN ST
CULVER, INDIANA 46511
(608) 628-0575
wekoenig@att.net

CHARTER COMMUNICATIONS- COMMUNICATION LINE
EDWIN DAVY
2701 DANIELS ST
MADISON, WI 53718
(608) 301-7713
Edwin.Davy@charter.com

CITY OF PORTAGE UTILITIES - SEWER
AARON JAHNCKE
115 WEST PLEASANT ST.
PORTAGE, WI 53901
(608) 742-2176
Aaron.jahncke@portagewi.gov

CITY OF PORTAGE UTILITIES - WATER
AARON JAHNCKE
115 WEST PLEASANT ST.
PORTAGE, WI 53901
(608) 742-2176
Aaron.jahncke@portagewi.gov

FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
JERRY MOORE
2222 WEST WISCONSIN ST
PORTAGE, WI 53901
(608) 346-0353
jerald.r.moore@ftr.com

NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM
Lenny Klass
8101 BIRCHWOOD CT., SUITE F
JOHNSTON, IA 50131
(402) 530-2806 Mobile: (608) 778-8514
leonard.klass@nngco.com

PORTAGE MUNICIPAL AIRPORT - AIRPORT FACILITY
AARON JAHNCKE
115 WEST PLEASANT ST.
PORTAGE, WI 53901
(608) 742-2176
Aaron.jahncke@portagewi.gov

RODGERS TELECOM - COMMUNICATION LINE
DAVID ARNDT
4804 N 40TH ST.
SHEBOYGAN, WI 53083
920-918-0160
darndt@gabes.com

TDS METROCOM LLC - COMMUNICATION LINE
BRANDON SUCHLA
327 PALISADE ST.
MERIMAC, WI 53561
(608) 370-1608
Brandon.Suchla@TDStelecom.com

WISCONSIN DEPARTMENT OF TRANSPORTATION-COMMUNICATION LINE
JOHN MITTLESTADT
433 W. ST. PAUL AVE., SUITE. 300
MILWAUKEE, WI 53203-3007
(608) 205-7859
john.mittelstadt@dot.wi.gov

WISDOT CONTACTS

WISDOT PROJECT MANAGER
LALITHA BALACHANDRAN
2101 WRIGHT ST.
MADISON WI 53704-2559
(608) 243-3382
Lalitha.Balachandran@dot.wi.gov

WDNR CONTACT

ERIC HEGGELUND
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 228-7927
eric.heggelund@wisconsin.gov

COLUMBIA COUNTY CONTACT

CHRIS HARDY, PE
HIGHWAY COMMISSIONER
338 WEST OLD HWY. 16
WYOCENA, WI 53969
(608) 429-3750

OTHER CONTACTS

DAAR ENGINEERING, INC
TERI SCHOPP
151 E COOK STREET
PORTAGE, WI 53901
(920) 342-2176
teri.schopp@daarcorp.com

2

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

2

N

BEGIN PROJECT
STA 36+91.36
Y = 376759.04
X = 530181.89

APPROACH REPLACEMENT

RAMP REPAIRS REQ'ED.

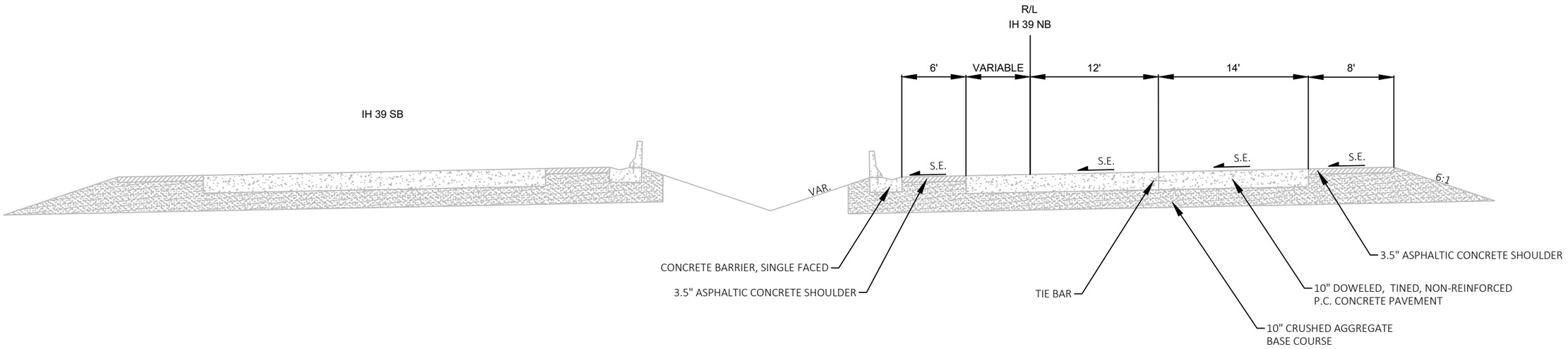
BARRIER WALL, GUARDRAIL, AND CULVERT REPLACEMENT

STH 78
IH 90/94
CASCADE MOUNTAIN RD
LEVEE RD
WISCONSIN RIVER
CTH O
STH 16
STH 127
CTH U
WISCONSIN RIVER
IH 39
STH 33
USH 51
CTH X
HOGAN RD
GROTSKE RD
GROUSE DR
CTH O
BARABOO RIVER
CANADIAN PACIFIC RAILROAD

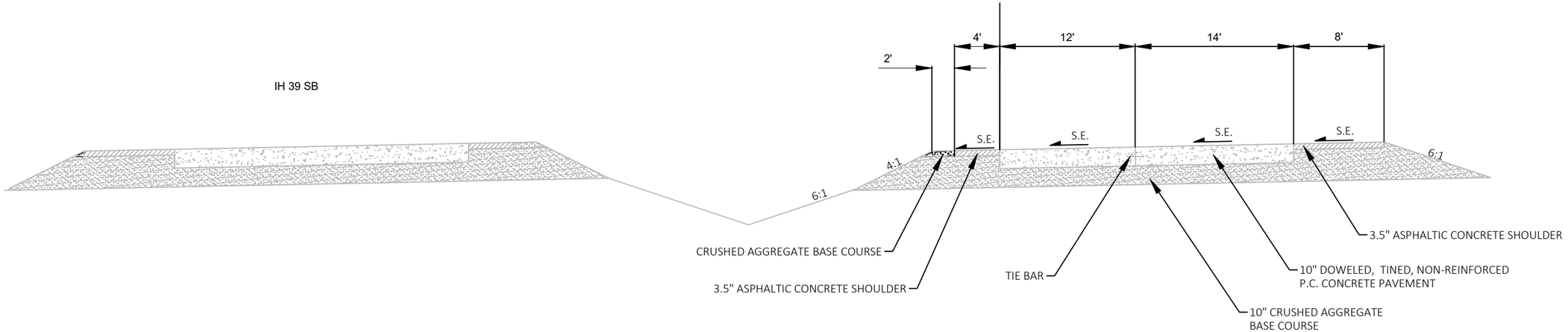
END PROJECT
STA 612+14.60
Y = 430,833.54
X = 535,166.33

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\020201-PO.DWG
LAYOUT NAME - 01
PLOT DATE : 9/25/2019 9:52 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:1 MI
WISDOT/CADDS SHEET 42



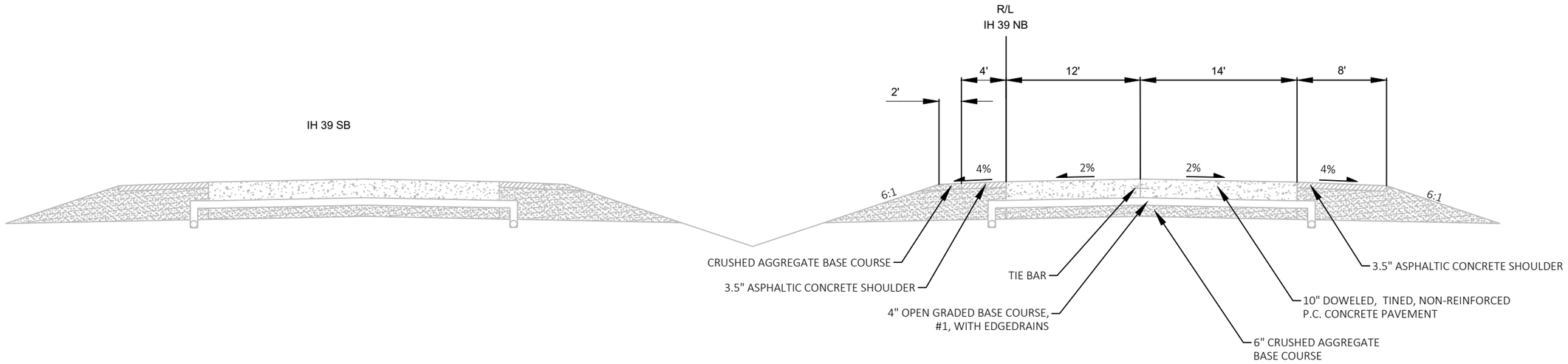
TYPICAL EXISTING SECTION - IH 39
STA 36+91.36 TO 67+90



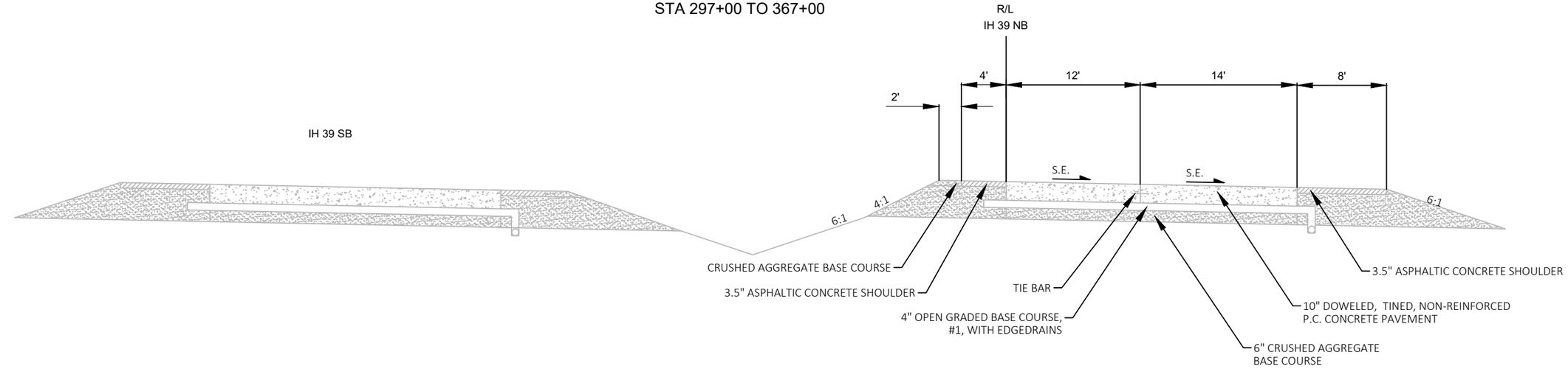
TYPICAL EXISTING SECTION - IH 39
STA 67+90 TO 74+00

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EXISTING TYPICAL SECTIONS	SHEET 5	E

2

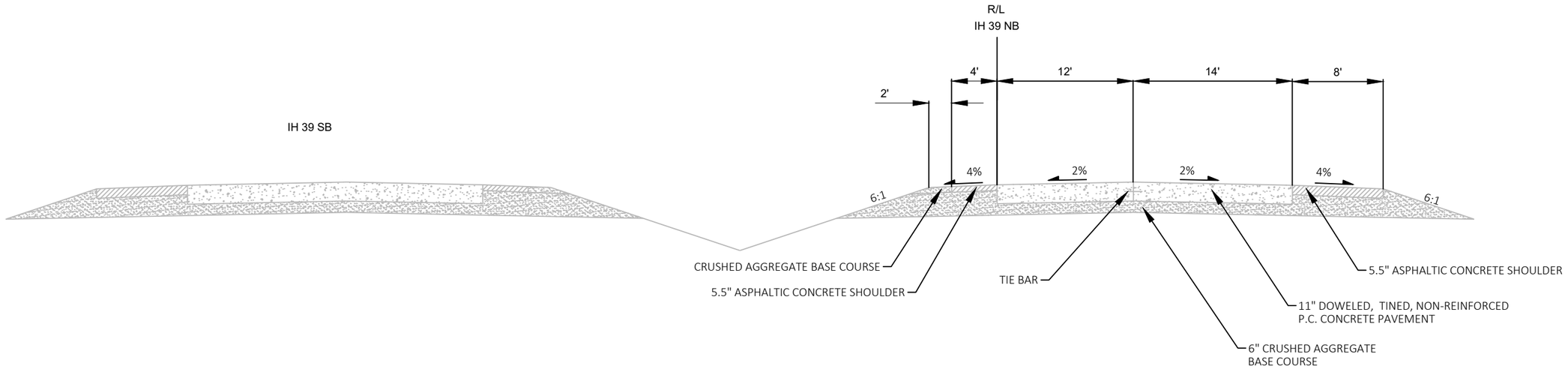


TYPICAL EXISTING SECTION - IH 39
STA 74+00 TO 74+60
STA 75+33 TO 206+54
STA 207+53 TO 210+65
STA 221+85 TO 254+00
STA 297+00 TO 367+00

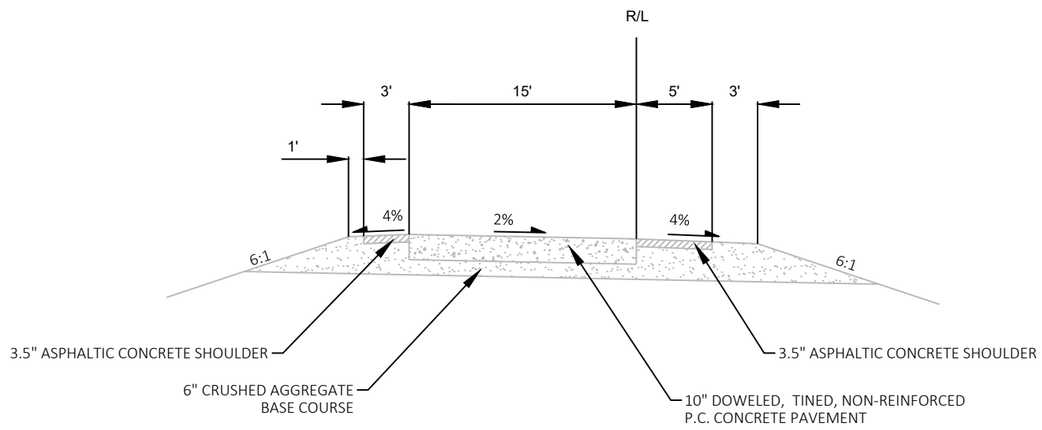


TYPICAL EXISTING SECTION - IH 39
STA 254+00 TO 272+30
STA 273+85 TO 289+46
STA 291+44 TO 297+00
STA 367+00 to 373+00

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EXISTING TYPICAL SECTIONS	SHEET 6	E

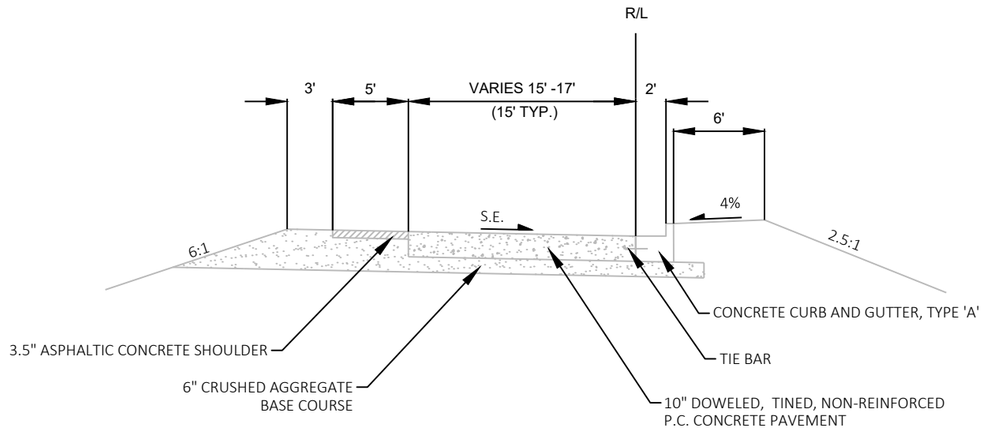


TYPICAL EXISTING SECTION - IH 39
STA 373+00 TO 377+24
STA 378+90 TO 470+40
STA 471+48 TO 612+14.60



TYPICAL EXISTING SECTION - USH 51 RAMP
STA 368+00'R2' TO 372+30'R2'
STA 380+00'R2' TO 390+00'R2'
STA 366+77'R3' TO 378+00'R3'
STA 384+65'R3' TO 386+75'R3'
STA 368+00'R4' TO 374+65'R4'

2

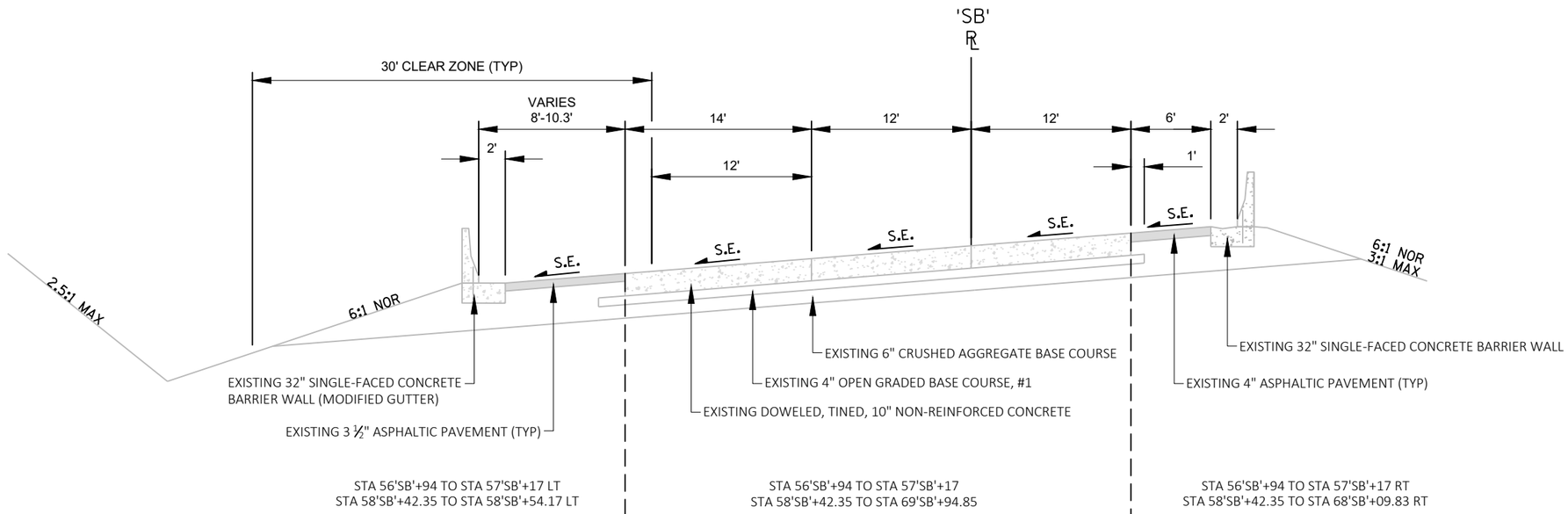


TYPICAL EXISTING SECTION - USH 51 RAMP WITH CURB AND GUTTER
STA 372+30'R2' TO 378+00'R2'
STA 380+00'R3' TO 384+65'R3'

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EXISTING TYPICAL SECTIONS	SHEET 8	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 04
PLOT DATE : 9/25/2019 10:21 AM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:10 FT

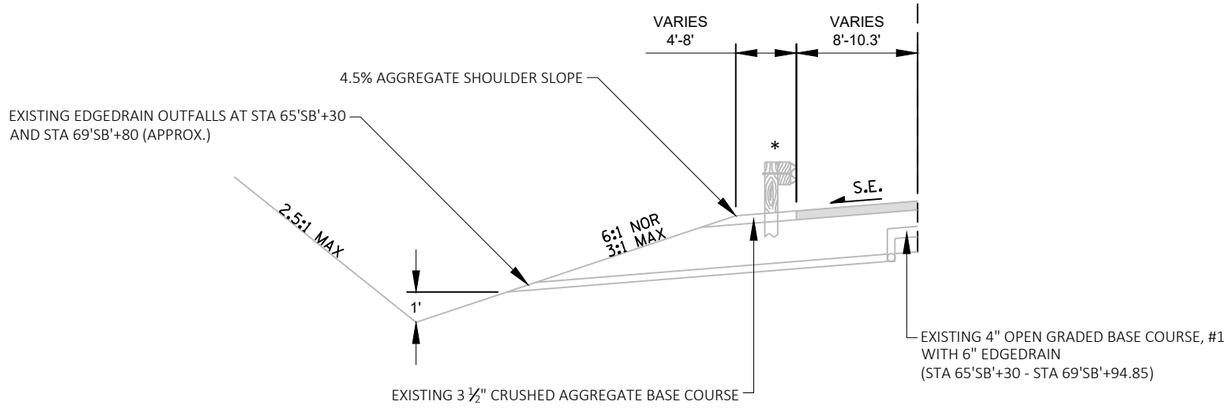
2



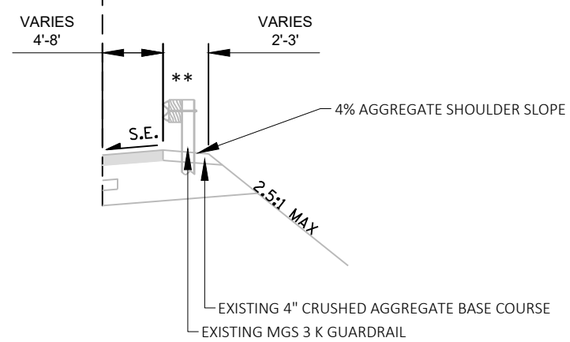
STA 56'SB'+94 TO STA 57'SB'+17 LT
STA 58'SB'+42.35 TO STA 58'SB'+54.17 LT

STA 56'SB'+94 TO STA 57'SB'+17
STA 58'SB'+42.35 TO STA 69'SB'+94.85

STA 56'SB'+94 TO STA 57'SB'+17 RT
STA 58'SB'+42.35 TO STA 68'SB'+09.83 RT



STA 58'SB'+54.17 TO STA 69'SB'+94.85 LT



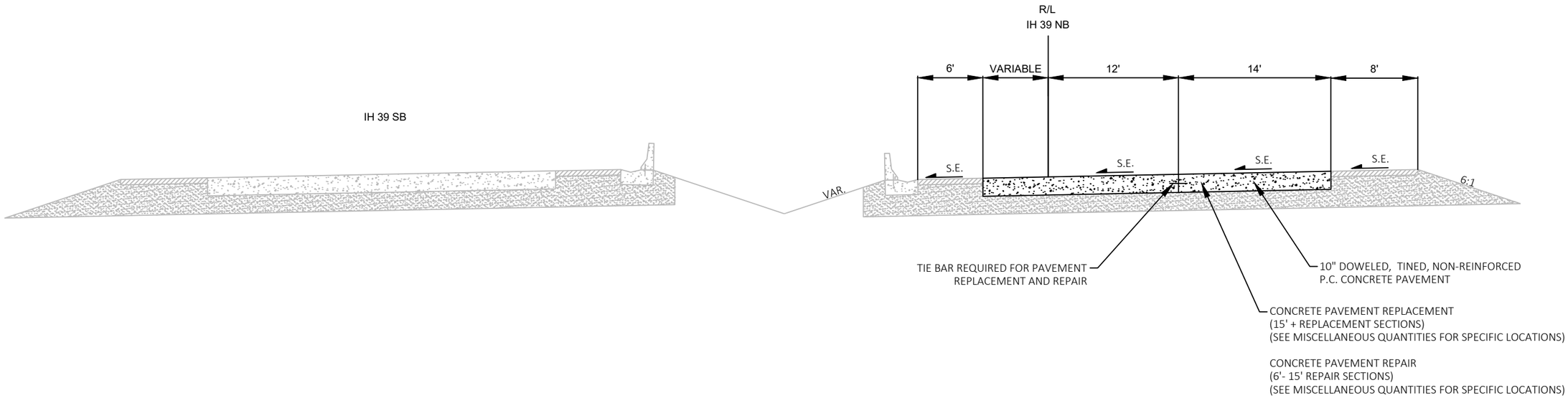
STA 68'SB'+09.83 TO STA 69'SB'+94.85 RT

EXISTING TYPICAL SECTION IH 39 SB

STA 56'SB'+94 TO STA 57'SB'+17
STA 58'SB'+42.35 TO STA 69'SB'+94.85

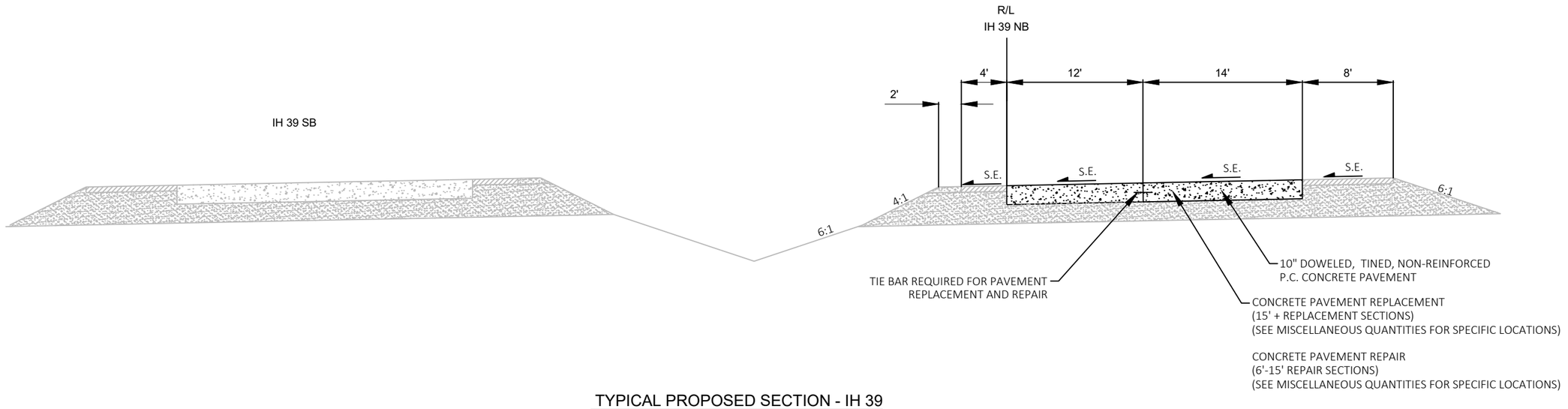
*NOTE: EXISTING MGS 3 GUARDRAIL LOCATIONS:
STA 58'SB'+51.83 - STA 59'SB'+47.49
STA 63'SB'+97.20 - STA 67'SB'+96.83

**NOTE: EXISTING MGS 3 K GUARDRAIL LOCATIONS:
STA 68'SB'+08.10 - STA 69'SB'+94.85



*TIE BARS PAID PER 416.1710 AND 416.1720

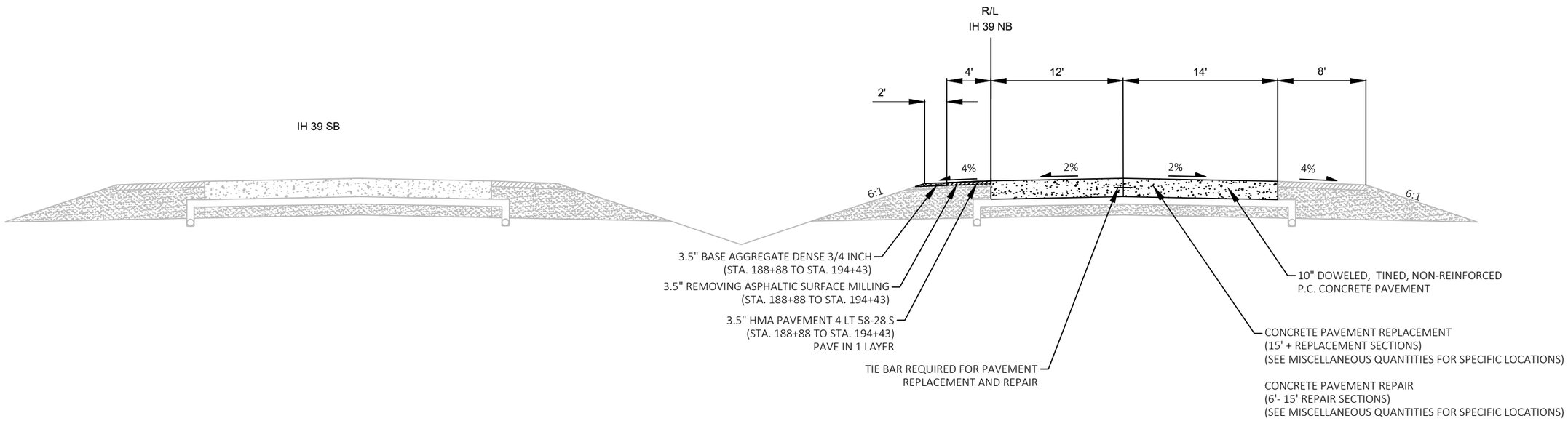
TYPICAL PROPOSED SECTION - IH 39
STA 36+91.36 TO 67+90



TYPICAL PROPOSED SECTION - IH 39
STA 67+90 TO 74+00

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PROPOSED TYPICAL SECTIONS	SHEET 10	E

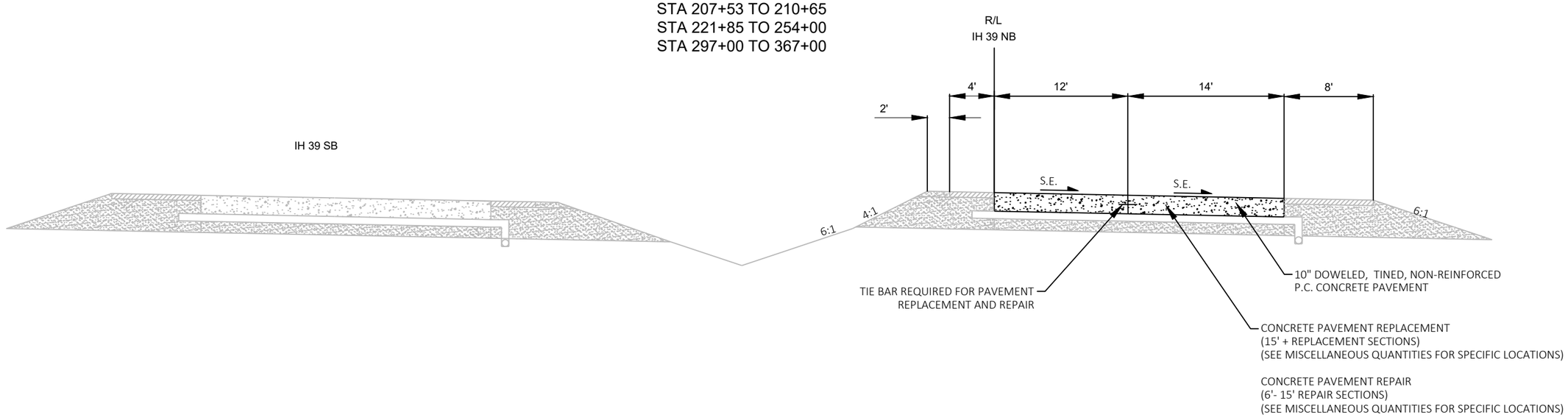
2



*TIE BARS PAID PER 416.1710 AND 416.1720

TYPICAL PROPOSED SECTION - IH 39

STA 74+00 TO 74+60
STA 75+33 TO 206+54
STA 207+53 TO 210+65
STA 221+85 TO 254+00
STA 297+00 TO 367+00

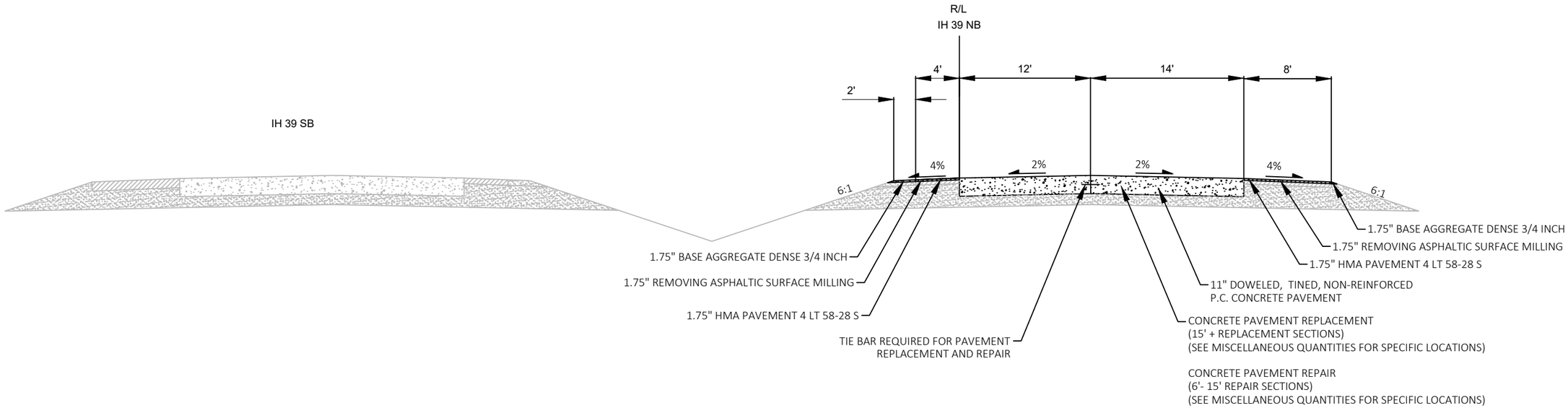


TYPICAL PROPOSED SECTION - IH 39

STA 254+00 TO 272+30
STA 273+85 TO 289+46
STA 291+44 TO 297+00
STA 367+00 to 373+00

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PROPOSED TYPICAL SECTIONS	SHEET 11	E

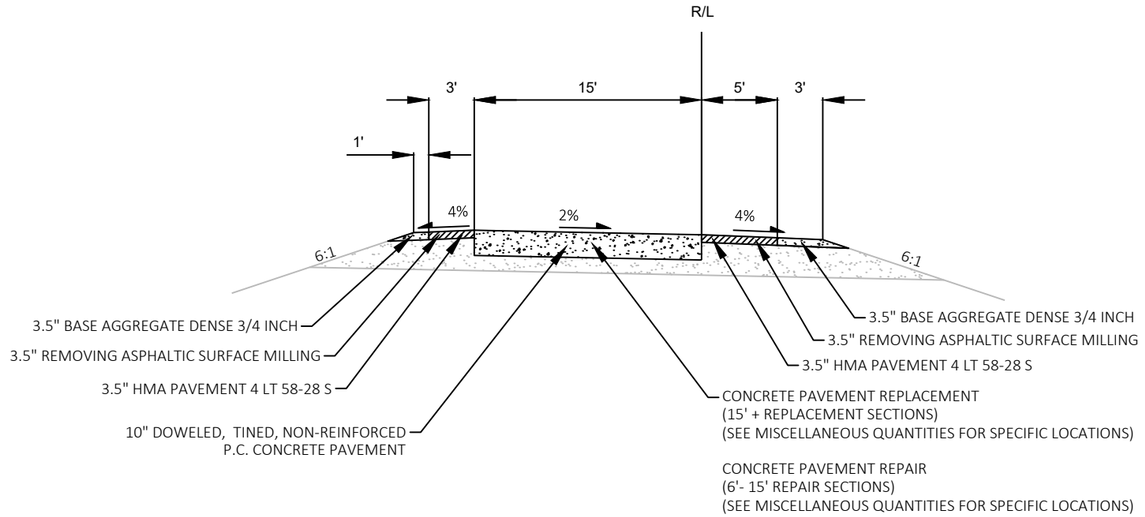
2



*TIE BARS PAID PER 416.1710 AND 416.1720

TYPICAL PROPOSED SECTION - IH 39

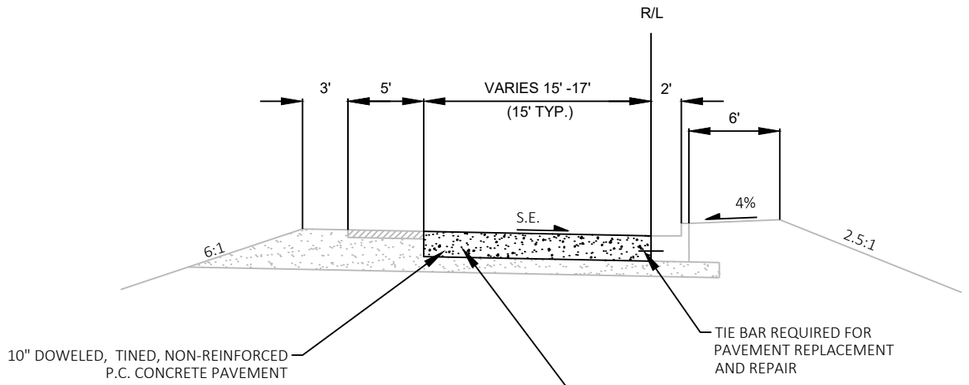
STA 373+00 TO 377+24
STA 378+90 TO 470+40
STA 471+48 TO 612+14.60



TYPICAL PROPOSED SECTION - USH 51 RAMP

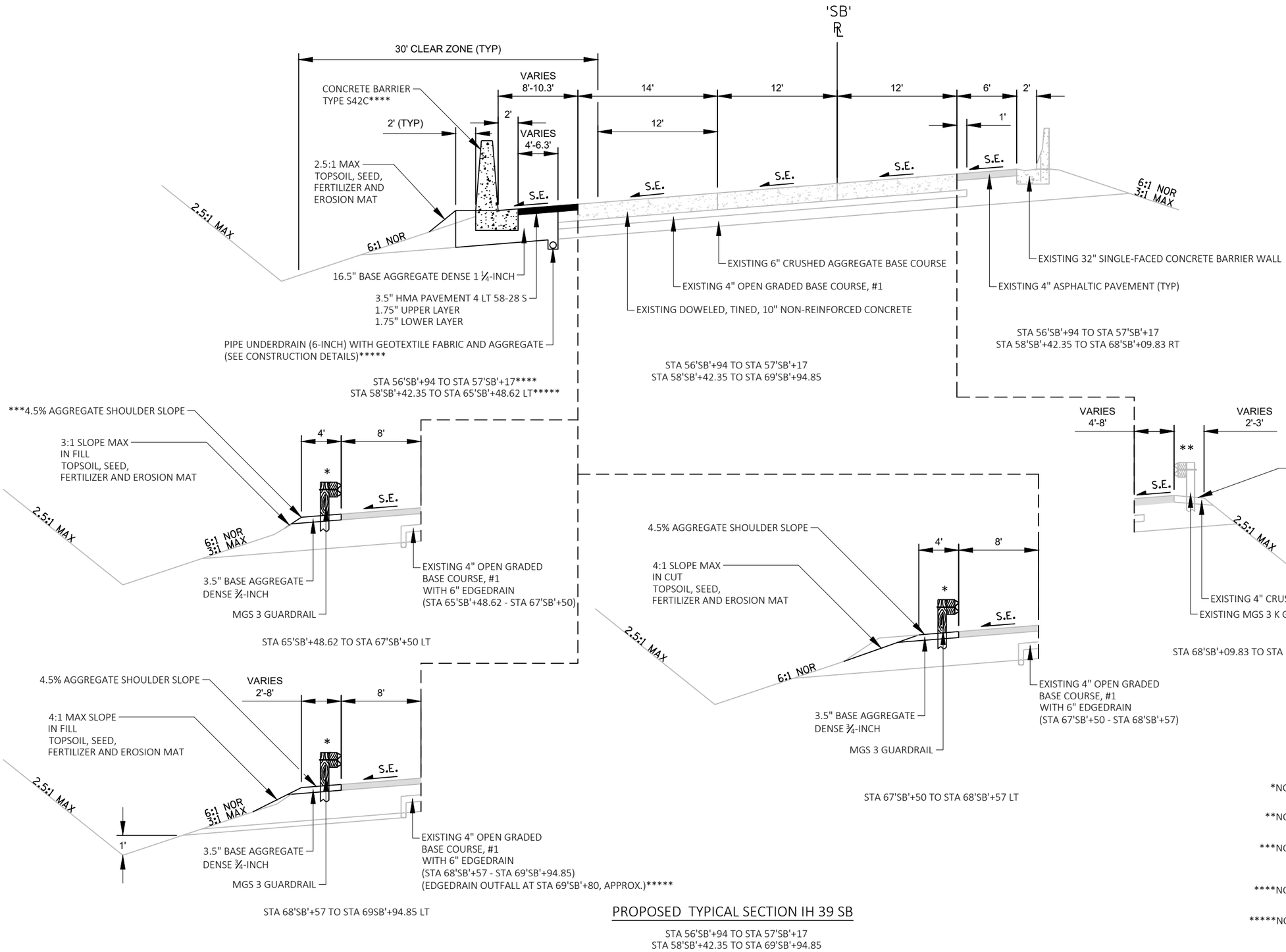
STA 368+00'R2' TO 372+30'R2'
STA 380+00'R2' TO 390+00'R2'
STA 366+77'R3' TO 378+00'R3'
STA 384+65'R3' TO 386+75'R3'
STA 368+00'R4' TO 375+00'R4'

2



*TIE BARS PAID PER 416.1710 AND 416.1720

TYPICAL PROPOSED SECTION - USH 51 RAMP WITH CURB AND GUTTER
STA 372+30'R2' TO 378+00'R2'
STA 380+00'R3' TO 384+65'R3'



PROPOSED TYPICAL SECTION IH 39 SB

STA 56'SB'+94 TO STA 57'SB'+17
STA 58'SB'+42.35 TO STA 69'SB'+94.85

*NOTE: MGS 3 GUARDRAIL LOCATIONS:
STA 65'SB'+46.09 - STA 69'SB'+04.85

**NOTE: EXISTING MGS 3 K GUARDRAIL LOCATIONS:
STA 68'SB'+08.10 - STA 69'SB'+94.85

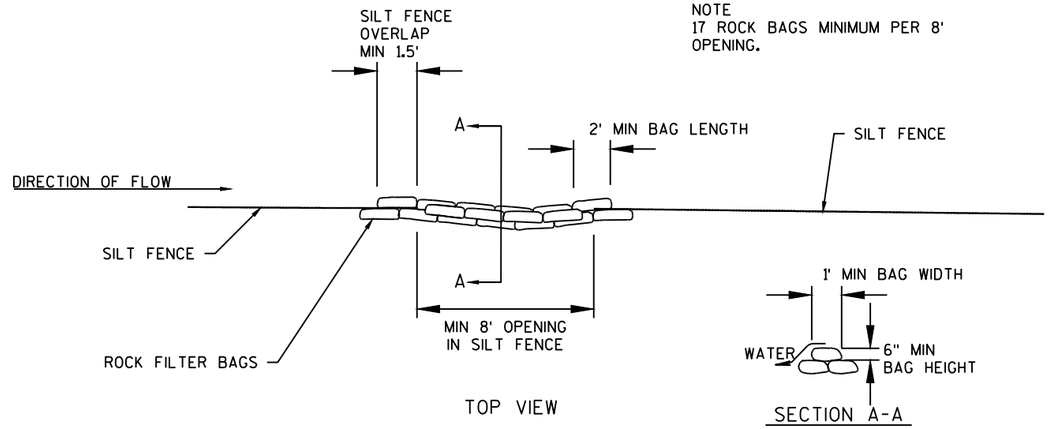
***NOTE: MATCH EXISTING AGGREGATE SHOULDER SLOPE BETWEEN STA 65'SB'+73 TO STA 67'SB'+45.69. NO FILL REQUIRED.

****NOTE: CONCRETE BARRIER SINGLE-FACED 32-INCH FROM STA 56'SB'+94 TO STA 57'SB'+17

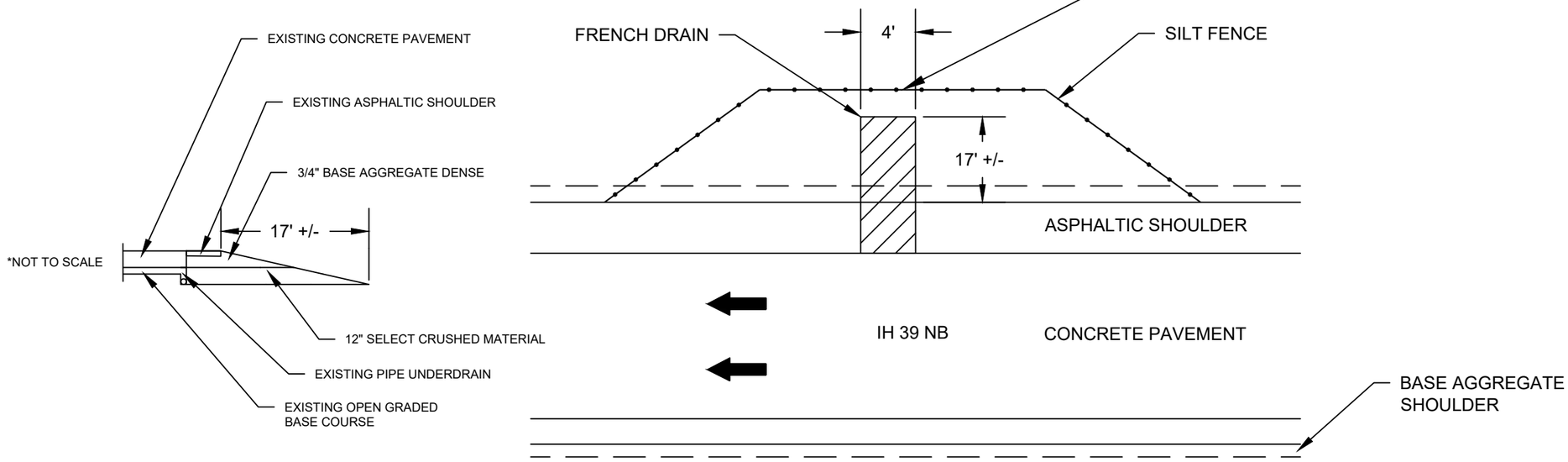
*****NOTE: EXISTING EDGEDRAIN AND OUTFALLS BETWEEN STA 65'SB'+30 LT AND STA 69'SB'+80 LT ARE TO REMAIN IN PLACE.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PROPOSED TYPICAL SECTIONS	SHEET 14	E

2



ROCK BAGS USED FOR SILT FENCE RELIEF



FRENCH DRAIN DETAIL

STA. 96+37.44
STA. 188+76.80
STA. 252+27.40
STA. 339+25.98

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - FRENCH DRAIN	SHEET 15	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\021001-CD.DWG
LAYOUT NAME - 01
PLOT DATE : 10/17/2019 12:52 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

NOTES:

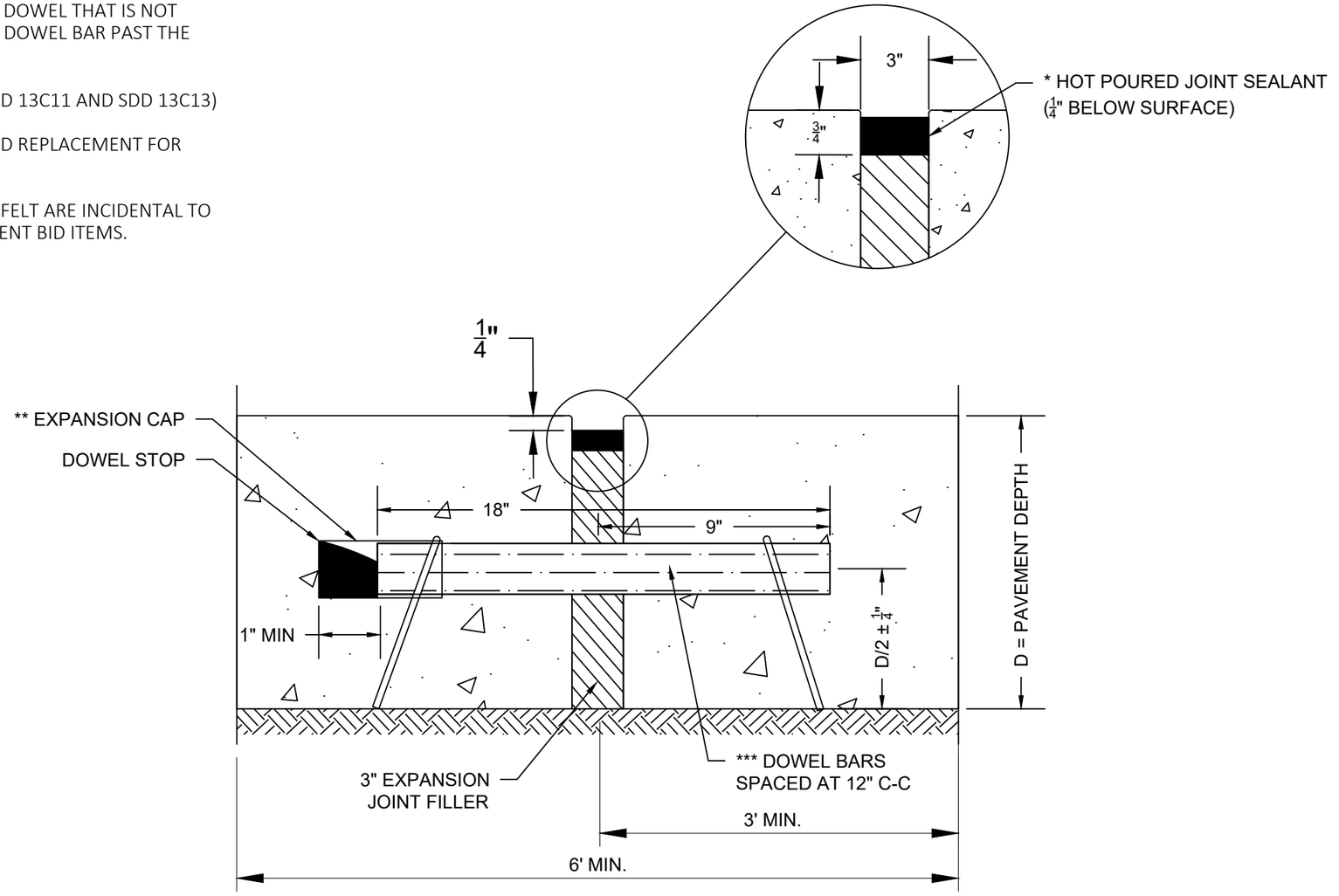
* USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690

** 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.

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

SEE SDD 13C9 CONRETE PAVEMENT REPAIR AND REPLACEMENT FOR ADDITIONAL DETAILS.

JOINT SEALANT, DOWELS, DOWEL STOPS, AND FELT ARE INCIDENTAL TO CONCRETE PAVEMENT REPAIR AND REPLACEMENT BID ITEMS.

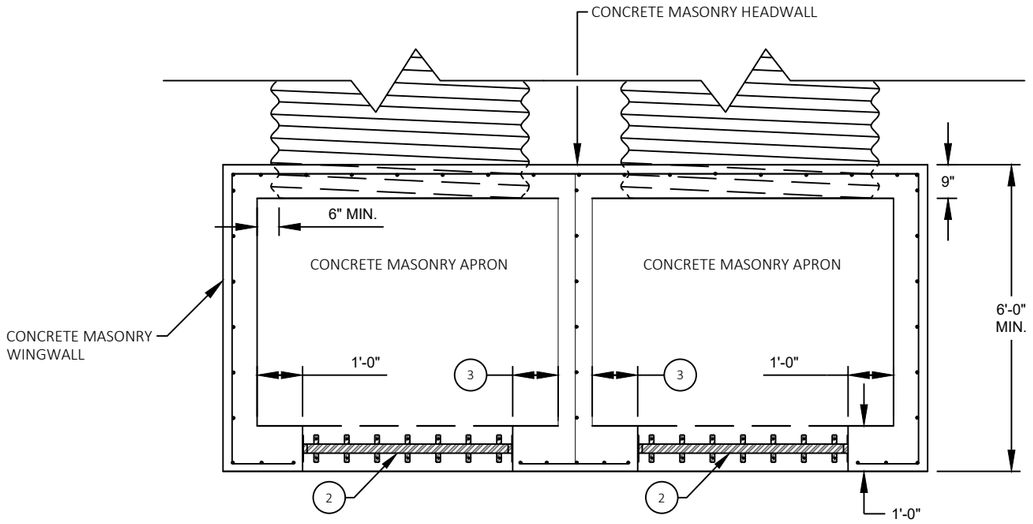


PATCH NUMBERS

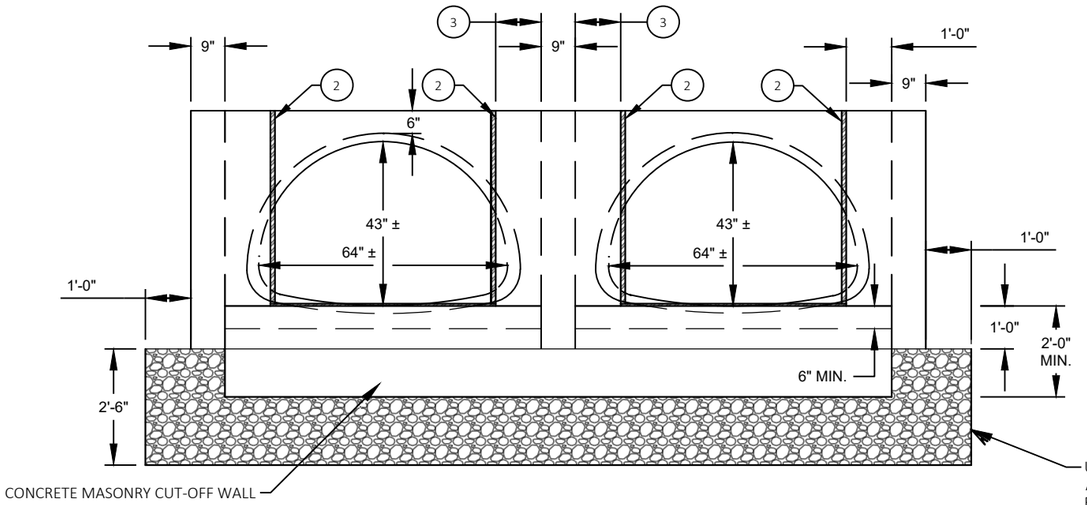
10, 10A, 12, 12A, 67, 67A, 69, 69A, 89, 89A, 90, 90A, 92, 92A, 128, 128A, 130, 130A, 140, 140A, 143, 143A, 146, 146A

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - 3-INCH FELT JOINT	SHEET 16	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\021001-CD.DWG
LAYOUT NAME - 02
PLOT DATE : 10/17/2019 12:52 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



PLAN VIEW



END ELEVATION VIEW

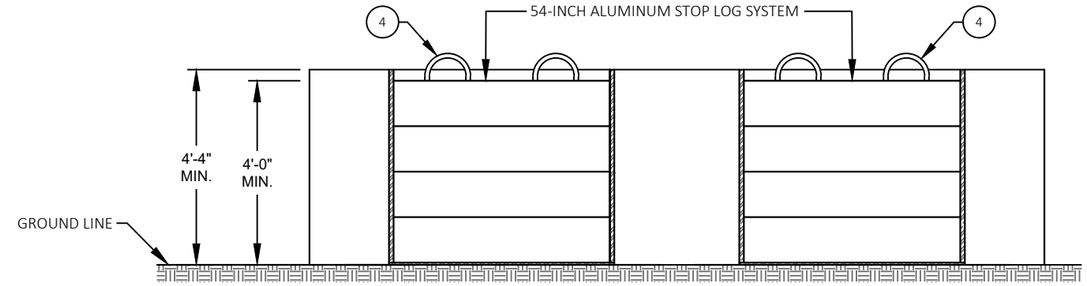
GENERAL NOTES

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.

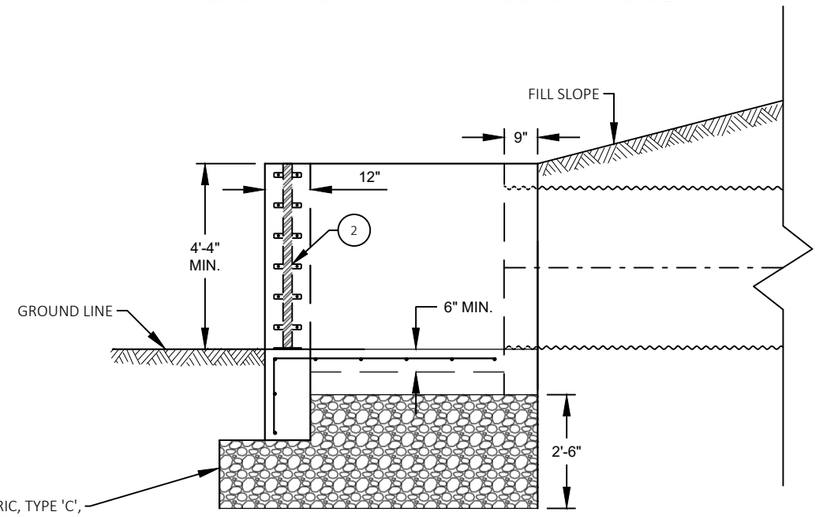
ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

DRAWINGS SHALL NOT BE SCALED.

1. MINIMUM REINFORCEMENT SHALL BE NO. 6 BARS SPACED 12" C-C IN BOTH DIRECTIONS.
2. ALUMINUM STOP LOG SURFACE MOUNTED FRAME (STOP LOGS SHOWN NOT IN PLACE FOR CLARITY).
3. ADJUST DIMENSION TO FIT 54 INCH ALUMINUM STOP LOG FRAME.
4. FURNISH MANUFACTURER SUPPLIED LIFTING HANDLE OR LUGS ON EACH STOP LOG.
5. CONTRACTOR MAY ELECT TO SUBSTITUTE #1 OR #2 CONCRETE COARSE AGGREGATE, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER, IN LIEU OF THE BREAKER RUN, TO BE UTILIZED AS A CONSTRUCTION PLATFORM FOR THE HEADWALL. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL.
6. ALL CONCRETE MASONRY AND REINFORCEMENT TO BE PAID AS "CONCRETE MASONRY ENDWALLS."
7. PROVIDE A NAME PLATE FOR THE STRUCTURE. SEE STANDARD DETAIL DRAWINGS FOR MORE INFORMATION.



FINISHED END VIEW WITH STOP LOGS IN PLACE



UNDERCUT 2'-6", PLACE GEOTEXTILE FABRIC, TYPE 'C', ANS BACKFILL WITH 'BREAK RUN' (5). EXTEND 1'-0" BEYOND THE FOOTPRINT OF THE HEADWALL.

SIDE ELEVATION

CONCRETE MASONRY HEADWALL WITH ALUMINUM STOP LOGS (STRUCTURE M-11-11)

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CULVERT HEADWALL WITH STOP LOGS (STRUCTURE M-11-11)	SHEET 17	E

GENERAL NOTES

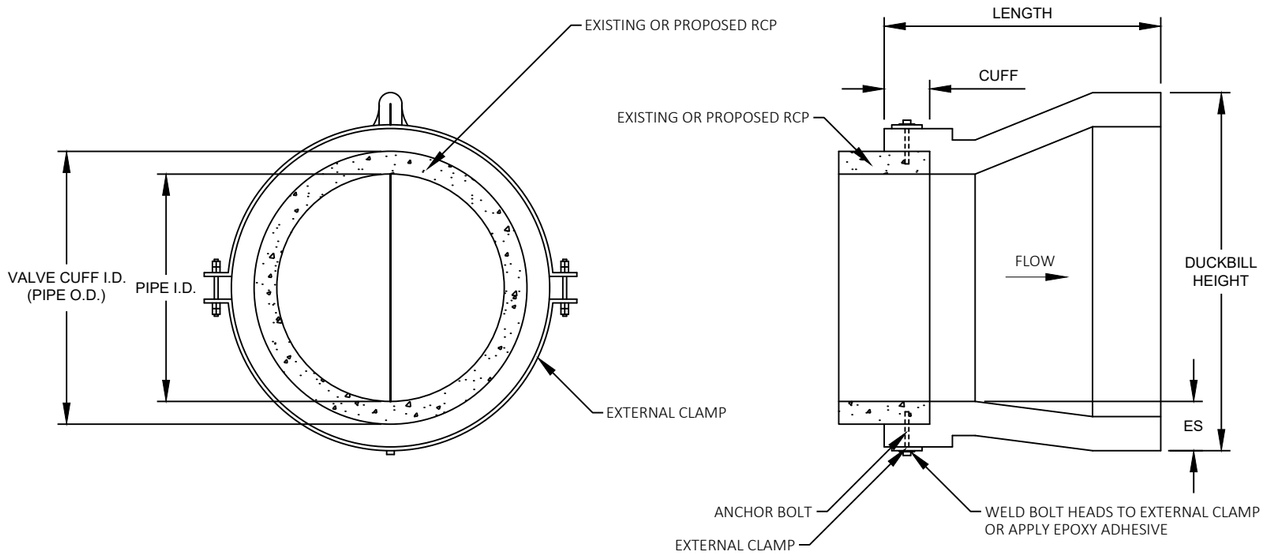
DELIVER, HANDLE AND INSTALL DUCKBILL CHECK VALVES PER MANUFACTURER'S REQUIREMENTS AND AS SHOWN IN THE SPECIAL PROVISIONS.

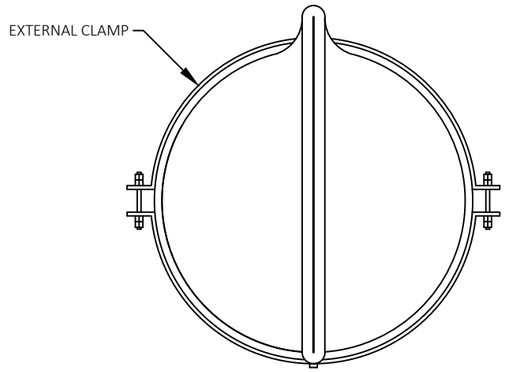
LISTED WEIGHTS ARE APPROXIMATE PER MANUFACTURER.

THE DUCKBILL CHECK VALVE MATERIAL SHALL BE EITHER NEOPRENE, AN ANSI/NSF-61 CERTIFIED PRODUCT ELASTOMER OR AN EPDM ELASTOMER PER MANUFACTURER'S REQUIREMENTS.

EXTERNAL CLAMPS AND RETAINING RINGS SHALL BE 304 OR 316 GRADE STAINLESS STEEL PER MANUFACTURER'S REQUIREMENTS.

THE CONSTRUCTION DETAIL DRAWING IS NOT TO SCALE.





DUCKBILL CHECK VALVE DIMENSIONS					
PIPE SIZE I.D. (IN.)	PIPE SIZE O.D. (IN.)	LENGTH (IN.)	DUCKBILL HEIGHT (IN.)	ECCENTRIC SLOPE	WEIGHT (LBS)
18	23	33.6	33.1	2.0	130
24	30	43.3	42.9	2.0	215
60	72	73.0	94.5	4.0	1715

SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE DETAIL

2

GENERAL NOTES

CONSTRUCT CONCRETE PER STANDARD SPEC 602.

THE CONCRETE PAD SHALL BE PAID UNDER THE CONCRETE SIDEWALK 4-INCH BID ITEM.

PROVIDE A 6 FOOT WIDE BY 6 FOOT LONG CONCRETE PAD AT 18" DUCKBILL CHECK VALVE LOCATIONS.

PROVIDE A 8 FOOT WIDE BY 8 FOOT LONG CONCRETE PAD AT 24" DUCKBILL CHECK VALVE LOCATIONS.

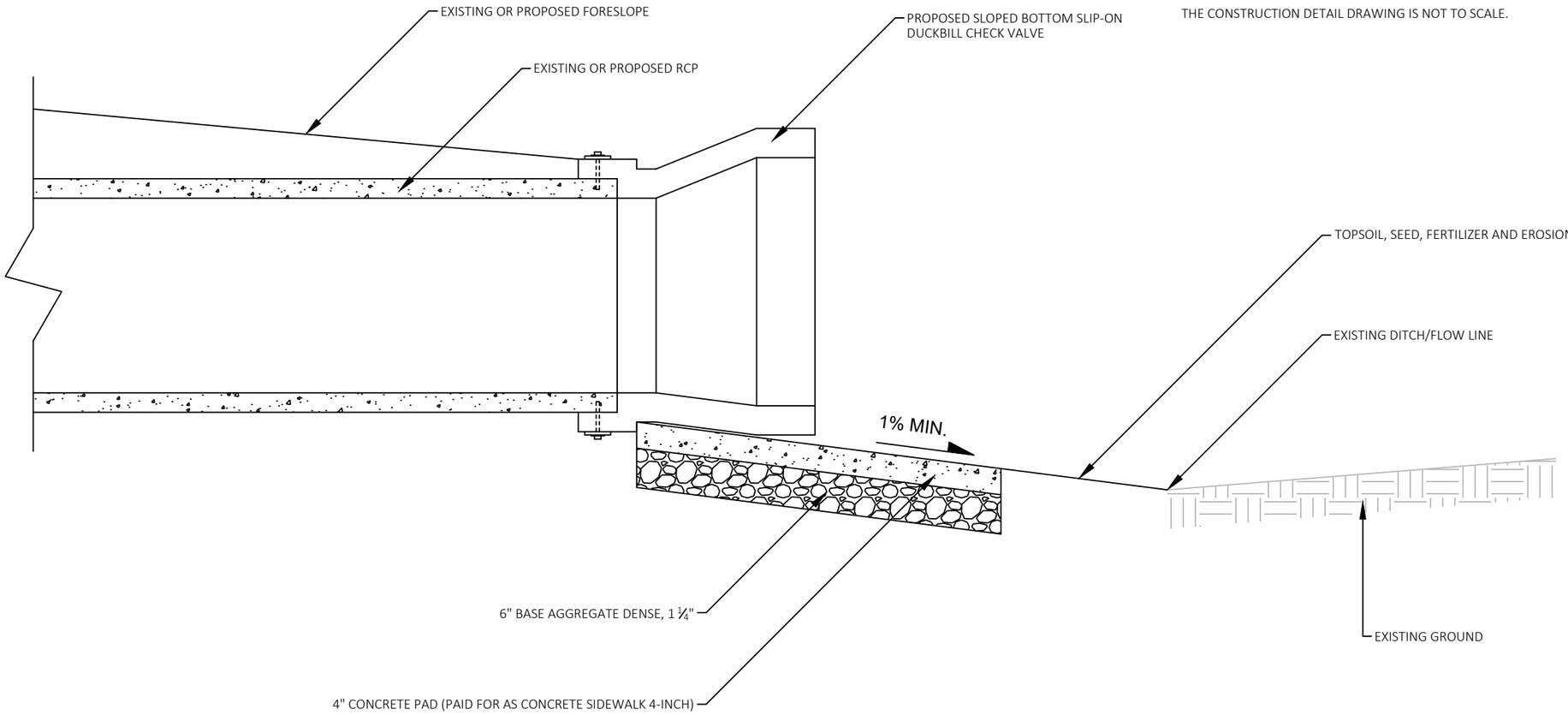
PROVIDE A 12 FOOT WIDE BY 12 FOOT LONG CONCRETE PAD AT 60" DUCKBILL CHECK VALVE LOCATIONS.

PROVIDE A MINIMUM OF ONE TRANSVERSE EXPANSION JOINT AND ONE LONGITUDINAL EXPANSION JOINT AT CONCRETE PAD LOCATIONS.

PROVIDE A ROUGH FINISH TO THE CONCRETE SURFACE.

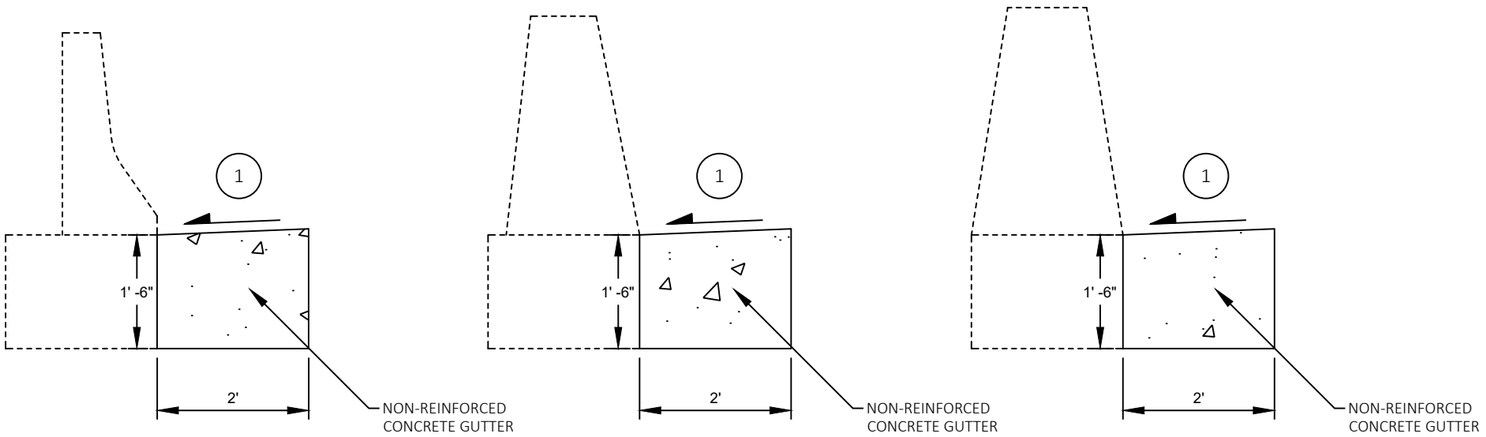
THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE FIELD ENGINEER FOR ADJUSTMENTS TO CONCRETE PADS TO FIT FIELD CONDITIONS.

THE CONSTRUCTION DETAIL DRAWING IS NOT TO SCALE.



CONCRETE PAD AT SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE DETAIL

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CONCRETE PAD AT CHECK VALVE	SHEET 19	E



SECTION A-A* SECTION B-B* SECTION C-C*

* SEE 32-INCH SINGLE-FACED NJ SHAPE TO 36-INCH SINGLE SLOPE CONCRETE BARRIER STANDARD DETAIL DRAWINGS FOR LOCATIONS AND DIMENSIONS AT SECTIONS A-A, B-B AND C-C.

32-INCH SINGLE-FACED NJ SHAPE TO 36-INCH SINGLE SLOPE CONCRETE BARRIER GUTTER DETAIL

GENERAL NOTES

CONSTRUCT CONCRETE GUTTER PER STANDARD SPECIFICATION 501 AND 603.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.

ANCHOR DOWELS SHALL NOT BE PLACED BETWEEN THE CONCRETE BARRIER TRANSITION FOOTING AND GUTTER.

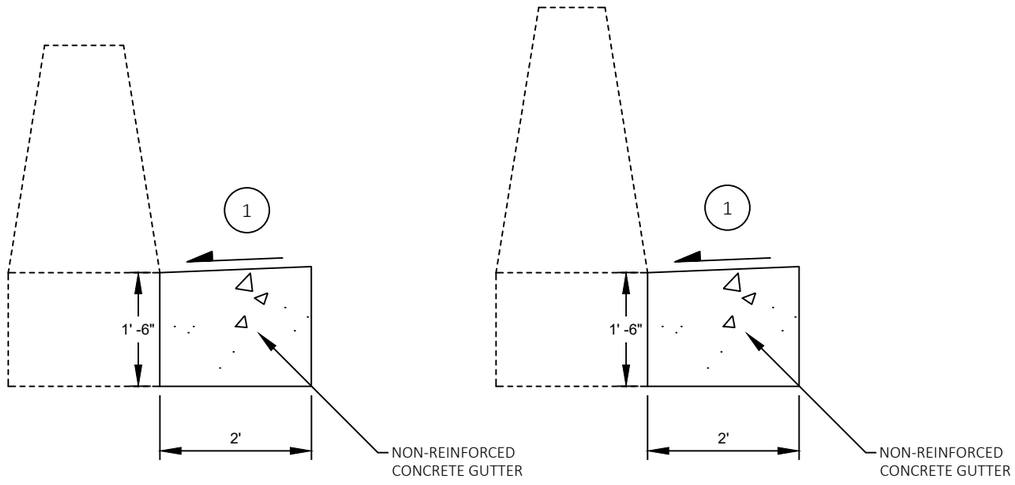
PLACE EXPANSION JOINTS IN THE CONCRETE GUTTER AT THE SAME LOCATIONS AS THE CONCRETE BARRIER TRANSITION EXPANSION JOINTS.

THE CONCRETE GUTTER SHALL BE PAID UNDER THE CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 AND CONCRETE BARRIER TRANSITION TYPE S36 TO S42 BID ITEMS.

REFER TO THE CONCRETE BARRIER TRANSITION STANDARD DETAIL DRAWINGS FOR ADDITIONAL DETAILS ON CONCRETE BARRIER TRANSITION DIMENSIONS, LENGTHS AND STEEL REINFORCEMENT.

1 CONCRETE GUTTER SLOPE TO MATCH THE PROPOSED ROADWAY CROSS SLOPE. SEE CROSS SECTIONS AND PAVING GRADES SHEETS FOR ADDITIONAL DETAILS.

THE CONSTRUCTION DETAIL DRAWING IS NOT TO SCALE.



SECTION A-A** SECTION B-B**

* SEE 36-INCH TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION STANDARD DETAIL DRAWINGS FOR LOCATIONS AND DIMENSIONS AT SECTIONS A-A AND B-B.

36-INCH TO 42-INCH SINGLE SLOPE CONCRETE BARRIER GUTTER DETAIL

2

GENERAL NOTES

PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY AS SHOWN IN THE PLANS. PIPE UNDERDRAIN SHALL BE LAID PERPENDICULAR TO THE GRADE OF THE ROADWAY FOR TIE-IN CONNECTIONS TO STORM SEWER STRUCTURES AS SHOWN IN THE PLANS.

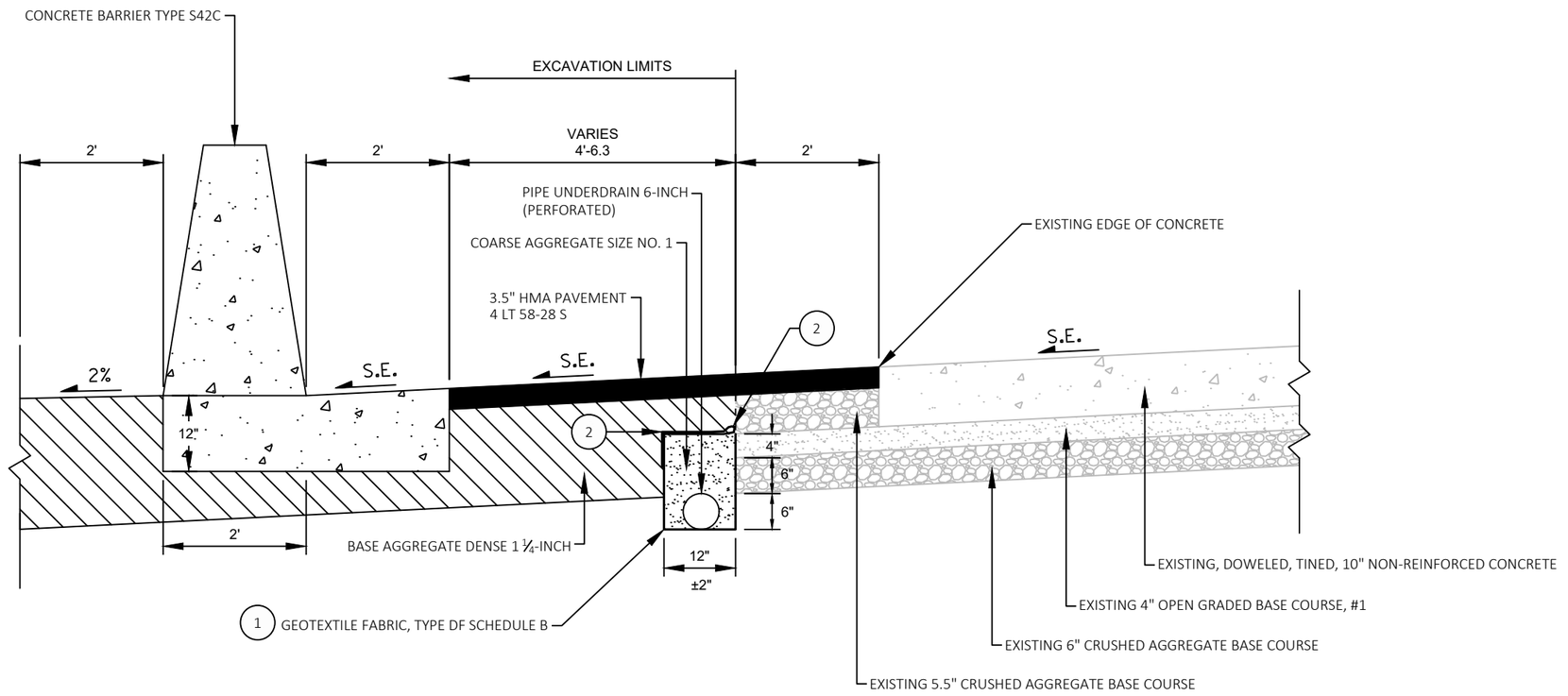
PROVIDE PIPE UNDERDRAIN 6-INCH, TEES, ELBOWS, CAPS , GEOTEXTILE FABRIC TYPE DF SCHEDULE B AND COARSE AGGREGATE SIZE NO. 1 IN ACCORDANCE WITH THE PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE BID ITEM IN THE SPECIAL PROVISIONS.

PIPE UNDERDRAIN TIE-IN CONNECTIONS TO STORM SEWER INLETS ARE INCIDENTAL TO THE STORM SEWER INLET BID ITEMS.

(1) TOTAL FABRIC WIDTH IS 6-3".

(2) FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

THE CONSTRUCTION DETAIL DRAWING IS NOT TO SCALE.



PIPE UNDERDRAIN DETAIL

2

N

CASCADE MOUNTAIN ROAD

EXISTING R/W

STA 57'SB'+06.13, 50.9' LT
REMOVING SMALL CULVERTS
EXISTING 24" RCCP
22.8' LONG

REMOVING GUARDRAIL
STA 58'SB'+51.83 - STA 59'SB'+47.49

STA 59'SB'+58.61, 52.6' LT
REMOVING SMALL CULVERTS
EXISTING 24" RCCP
24,6' LONG

EXISTING R/W

STA 56'SB'+94, 32' LT
MATCH INTO EXISTING
CONCRETE BARRIER WALL

SIGN

STA 58'SB'+42.35, 34.1' LT
MATCH INTO EXISTING
CONCRETE BARRIER WALL JOINT

SLOPE INTERCEPT (TYP)

STA 60'SB'+06.79
30' LT

W

SB'

STA 58'SB'+42.35
32.1' LT

IH 39 SB

60'SB'

B-11-51

30'

NL W W INL INL W INL IN

STA 57'SB'+17, 32' LT
MATCH INTO EXISTING
CONCRETE BARRIER WALL

IH 39 NB

SIGN W

IH 39 NB OFF RAMP

SIGN

PC: 31'J'+80.42

LEGEND

XXXX XXXX . SAWING ASPHALT/CONCRETE

REMOVING ASPHALTIC SURFACE

REMOVING CONCRETE BARRIER

REMOVING ASPHALTIC SURFACE
(PAID AS COMMON EXCAVATION)

REMOVING ASPHALTIC SURFACE
(INCIDENTAL TO REMOVING OLD STRUCTURE OR
REMOVING SMALL CULVERTS BID ITEM)

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - REMOVAL PLAN	SHEET 22	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021002-CD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/9/2019 2:01 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

N

FOOTBRIDGE

EXISTING EDGEDRAIN OUTFALL
STA 65'SB'+30, LT (APPROX.)
(TO REMAIN)

EXISTING EDGEDRAIN OUTFALL
STA 69'SB+80, LT (APPROX.)
(TO REMAIN)

EXISTING BOX CULVERT C-11-24
STA 64'SB'+83.82, 49.8' LT (C/L OF TOP OF BOX)
(TO REMAIN)

EXISTING SIGN STRUCTURE S-11-13
STA 66'SB'+72.86, 42.5' LT (CENTER OF FOOTING)
(TO REMAIN)

**REMOVING GUARDRAIL
STA 63'SB'+97.20 - STA 67'SB'+96.83

SLOPE INTERCEPT (TYP)

STA 65'SB'+48.62
30' LT

EXISTING R/W

SIGN

PT: 70'SB'+48.77

70'SB'

65'SB'

IH 39 SB

W
W

INL

INL

EXISTING PIPE UNDERDRAIN
STA 65'SB'+30 - STA 69'SB'+80
(TO REMAIN)

IH 39 NB

IH 39 NB ON RAMP

**NOTE: REMOVE GUARDRAIL FROM STA 63'SB'+97.20 TO STA 65'SB'+59.92 DURING STAGE 5 CONSTRUCTION.
REMOVE GUARDRAIL FROM STA 65'SB'+59.92 TO STA 67'SB'+96.83 DURING STAGE 5A CONSTRUCTION.

LEGEND

- XXXX XXXX . SAWING ASPHALT/CONCRETE
- REMOVING ASPHALTIC SURFACE
- REMOVING CONCRETE BARRIER
- REMOVING ASPHALTIC SURFACE (PAID AS COMMON EXCAVATION)
- REMOVING ASPHALTIC SURFACE (INCIDENTAL TO REMOVING OLD STRUCTURE OR REMOVING SMALL CULVERTS BID ITEM)

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - REMOVAL PLAN	SHEET 23	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021002-CD.DWG
LAYOUT NAME - 02
PLOT DATE : 10/9/2019 2:02 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

EXISTING R/W

SIGN

IH 39 SB ON/OFF RAMP

REMOVING CMCP APRPON ENDWALL
STA 5'G'+16.10, 53.2' LT
(EXISTING TWIN 43" X 64" ARCH CMCP PIPES TO REMAIN)

EXISTING R/W

SLOPE INTERCEPT

PT: 4'G'+71.59

5'G'

SLOPE INTERCEPT

25'J'

CASCADE MOUNTAIN ROAD

PT: 26'J'+64.19

IH 39 SB ON RAMP

IH 39 SB OFF RAMP

PCC: 2'G'+68.84

PCC: 1'G'+68.84

2

LEGEND

XXXX XXXX . SAWING ASPHALT/CONCRETE

REMOVING ASPHALTIC SURFACE

REMOVING CONCRETE BARRIER

REMOVING ASPHALTIC SURFACE
(PAID AS COMMON EXCAVATION)

REMOVING ASPHALTIC SURFACE
(INCIDENTAL TO REMOVING OLD STRUCTURE OR
REMOVING SMALL CULVERTS BID ITEM)

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - REMOVAL PLAN	SHEET 24	E

2

2

N

EXISTING R/W

SLOPE INTERCEPT

REMOVING GUARDRAIL
STA 23'J'+76.67 - STA 24'J'+25.35

CASCADE MOUNTAIN ROAD

20'J'

25'J'

PC: 18'J'+45.57

SIGN

SIGN

SIGN

EXISTING R/W

IH 39 SB ON/OFF RAMP

LEGEND

XXXX XXXX . SAWING ASPHALT/CONCRETE

REMOVING ASPHALTIC SURFACE

REMOVING CONCRETE BARRIER

REMOVING ASPHALTIC SURFACE
(PAID AS COMMON EXCAVATION)

REMOVING ASPHALTIC SURFACE
(INCIDENTAL TO REMOVING OLD STRUCTURE OR
REMOVING SMALL CULVERTS BID ITEM)

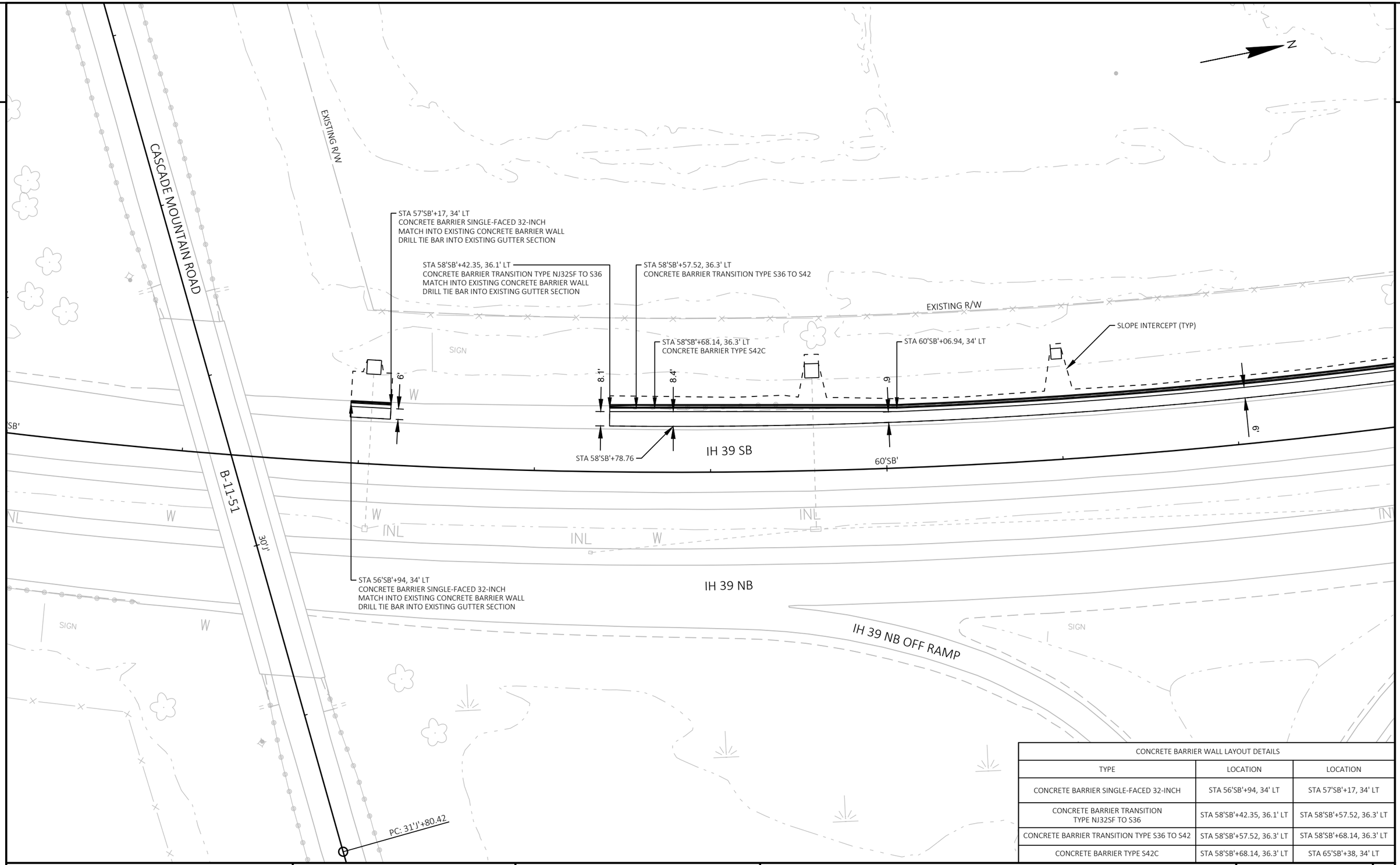
PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - REMOVAL PLAN	SHEET 25	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021002-CD.DWG
LAYOUT NAME - 04

PLOT DATE : 10/9/2019 2:03 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

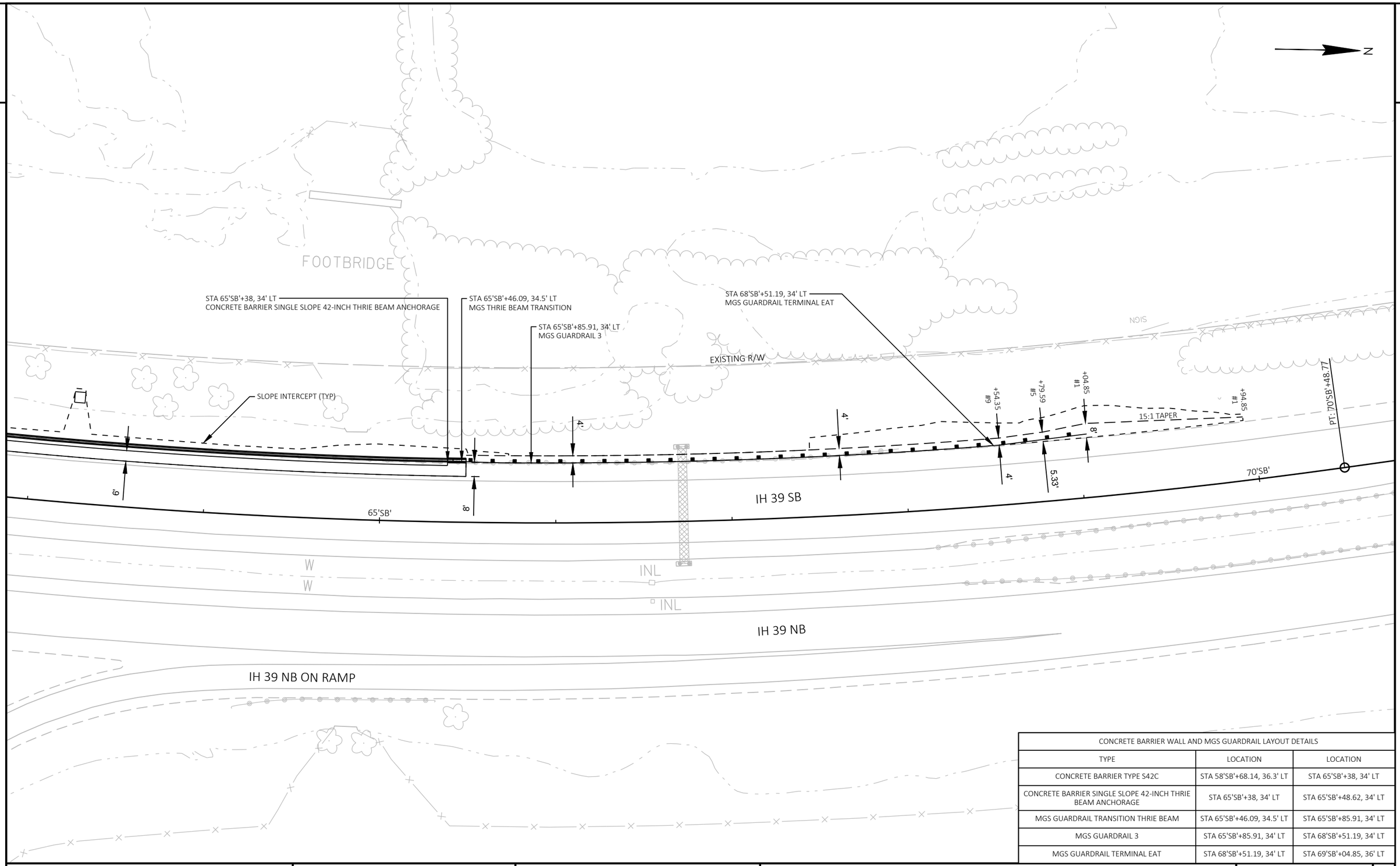
2



CONCRETE BARRIER WALL LAYOUT DETAILS		
TYPE	LOCATION	LOCATION
CONCRETE BARRIER SINGLE-FACED 32-INCH	STA 56'SB'+94, 34' LT	STA 57'SB'+17, 34' LT
CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36	STA 58'SB'+42.35, 36.1' LT	STA 58'SB'+57.52, 36.3' LT
CONCRETE BARRIER TRANSITION TYPE S36 TO S42	STA 58'SB'+57.52, 36.3' LT	STA 58'SB'+68.14, 36.3' LT
CONCRETE BARRIER TYPE S42C	STA 58'SB'+68.14, 36.3' LT	STA 65'SB'+38, 34' LT

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CONCRETE BARRIER WALL AND GUARDRAIL LAYOUT	SHEET 26	E

2

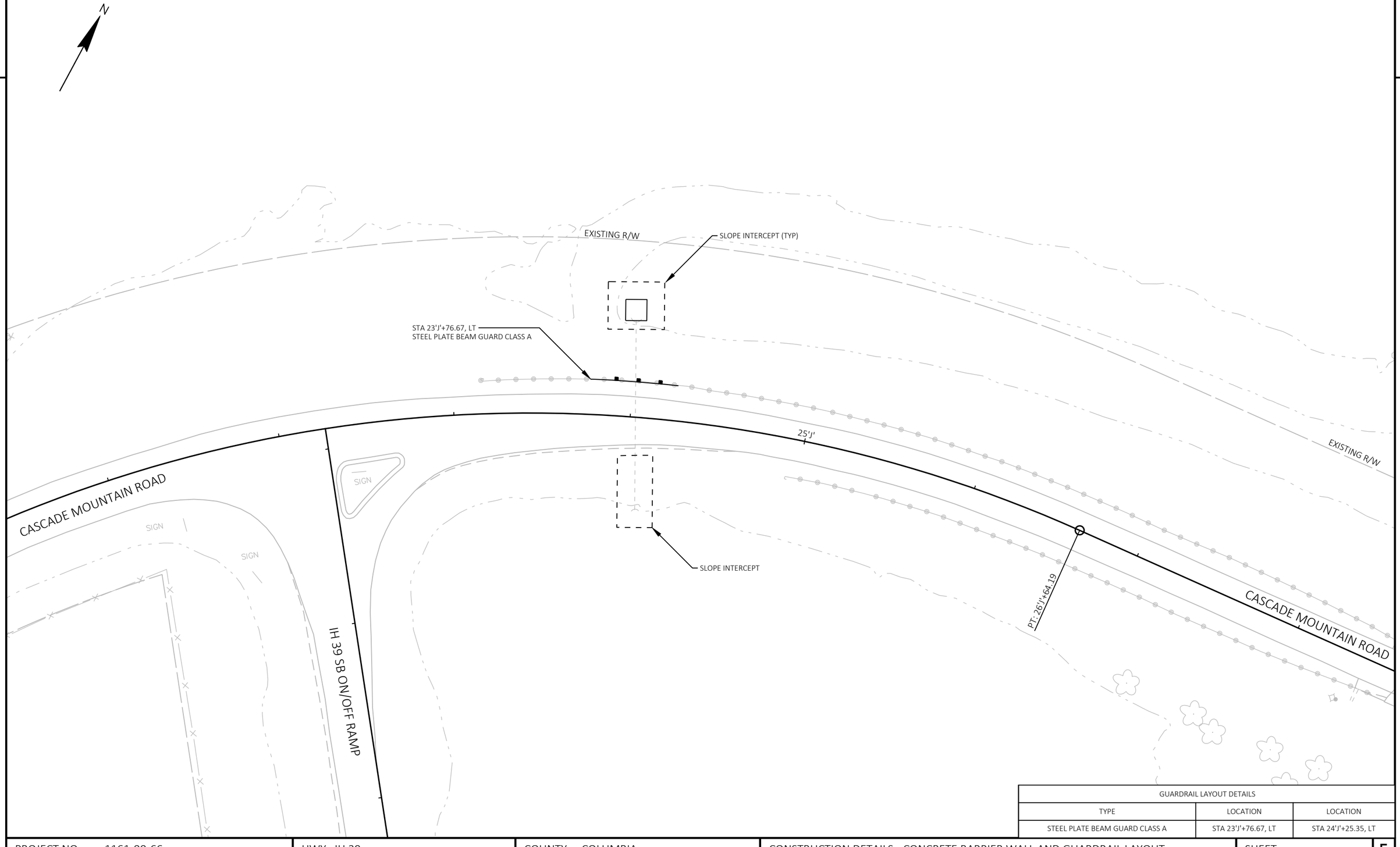


CONCRETE BARRIER WALL AND MGS GUARDRAIL LAYOUT DETAILS		
TYPE	LOCATION	LOCATION
CONCRETE BARRIER TYPE S42C	STA 58'SB'+68.14, 36.3' LT	STA 65'SB'+38, 34' LT
CONCRETE BARRIER SINGLE SLOPE 42-INCH THRIE BEAM ANCHORAGE	STA 65'SB'+38, 34' LT	STA 65'SB'+48.62, 34' LT
MGS GUARDRAIL TRANSITION THRIE BEAM	STA 65'SB'+46.09, 34.5' LT	STA 65'SB'+85.91, 34' LT
MGS GUARDRAIL 3	STA 65'SB'+85.91, 34' LT	STA 68'SB'+51.19, 34' LT
MGS GUARDRAIL TERMINAL EAT	STA 68'SB'+51.19, 34' LT	STA 69'SB'+04.85, 36' LT

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CONCRETE BARRIER WALL AND GUARDRAIL LAYOUT	SHEET 27	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021003-CD.DWG
LAYOUT NAME - 02
PLOT DATE : 10/9/2019 2:07 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2



GUARDRAIL LAYOUT DETAILS		
TYPE	LOCATION	LOCATION
STEEL PLATE BEAM GUARD CLASS A	STA 23'J'+76.67, LT	STA 24'J'+25.35, LT

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CONCRETE BARRIER WALL AND GUARDRAIL LAYOUT	SHEET 28	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021003-CD.DWG
LAYOUT NAME - 03
PLOT DATE : 10/9/2019 2:07 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

2

N

CASCADE MOUNTAIN ROAD

EXISTING R/W

*MOVING SIGNS TYPE II

EXIT
20
MPH

EXISTING R/W

SLOPE INTERCEPT (TYP)

SIGN

W

SB'

IH 39 SB

60'SB'

B-11-51

30'

W

INL

W

INL

INL

W

INL

IH 39 NB

SIGN

W

IH 39 NB OFF RAMP

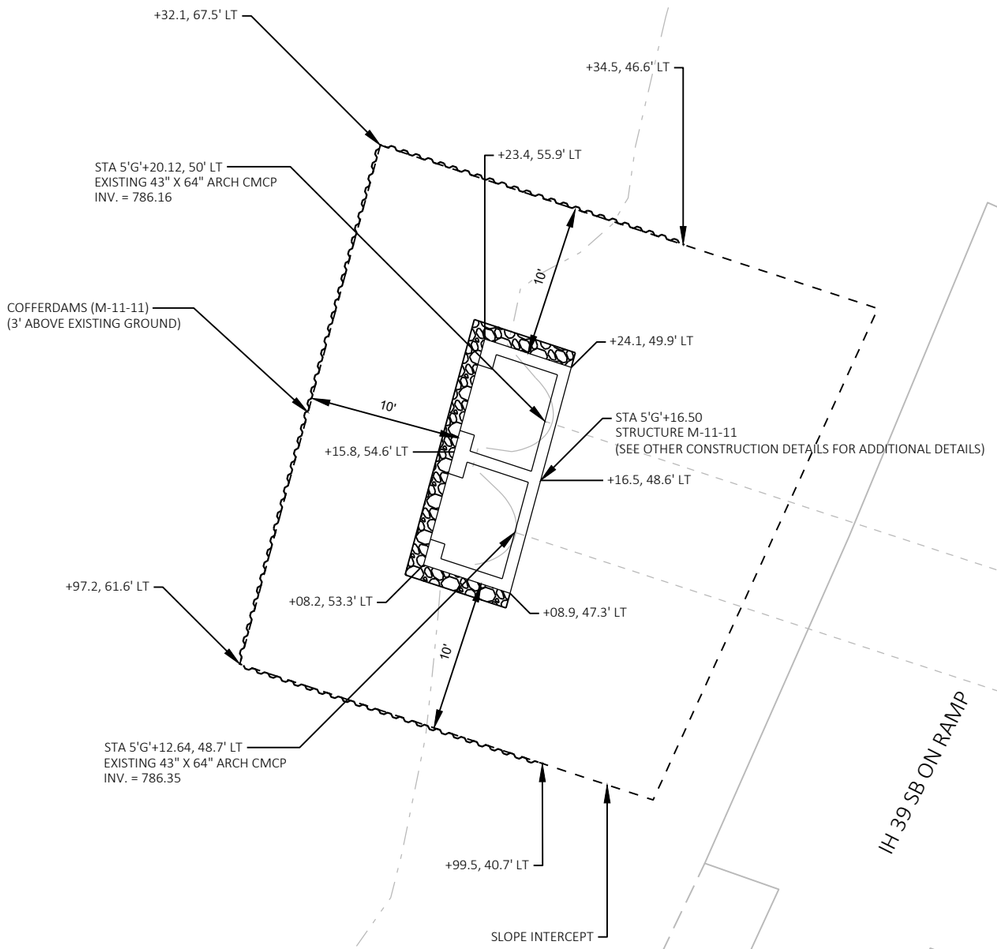
SIGN

PC: 31'J'+80.42

*NOTE: VERIFY THE LOCATION OF THE EXISTING TYPE II SIGN PRIOR TO CONSTRUCTION OPERATIONS. MOVE SIGN TO THE ORIGINAL LOCATION AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - MOVING SIGNS	SHEET 29	E

2



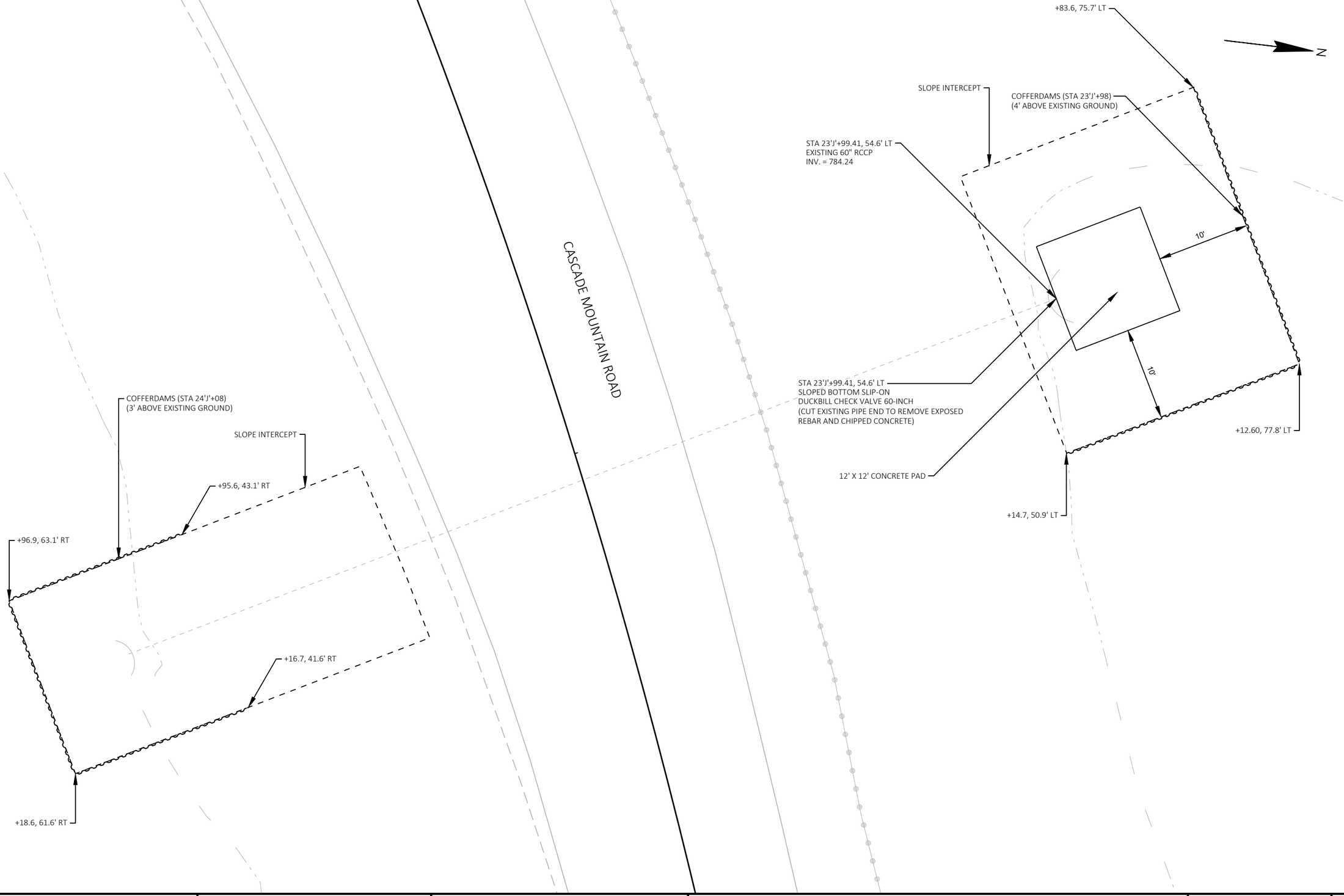


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CULVERT HEADWALL	SHEET 30	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021005-CD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/10/2019 5:47 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:10 FT

2



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - EXISTING 60-INCH CULVERT PIPE	SHEET 31	E

2

RODGERS COMMUNICATION CANADA, INC.
UNDERGROUND FIBEROPTIC

ATC OVERHEAD ELECTRIC
138 KV

CANADIAN PACIFIC RAILROAD

ALLIANT ENERGY
UG ELECTRIC

RODGERS COMMUNICATIONS CANADA, INC.
UNDERGROUND FIBEROPTIC

REMOVE CONCRETE APPROACH SLAB
CONCRETE PAVEMENT APPROACH SLAB
CONCRETE PAVEMENT REPLACEMENT

REMOVE CONCRETE APPROACH SLAB
CONCRETE PAVEMENT APPROACH SLAB
CONCRETE PAVEMENT REPLACEMENT

IH 39 SB

B-11-59

275'SB'

IH 39 SB

IH 39 NB

B-11-58

275

IH 39 NB

REMOVE CONCRETE APPROACH SLAB
CONCRETE PAVEMENT APPROACH SLAB
CONCRETE PAVEMENT REPLACEMENT

REMOVE CONCRETE APPROACH SLAB
CONCRETE PAVEMENT APPROACH SLAB
CONCRETE PAVEMENT REPLACEMENT

CANADIAN PACIFIC RAILROAD

CITY OF PORTAGE WATER

LEGEND

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE PAVEMENT REPLACEMENT

2

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CONSTRUCTION DETAILS - CONCRETE APPROACH SLABS	SHEET 32	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021005-CD.DWG
LAYOUT NAME - 01

PLOT DATE : 8/15/2019 4:32 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

N

EXISTING R/W

SIGN

STA 57'SB'+06.09 - LOW POINT
(FIELD VERIFY EXISTING ELEVATIONS PRIOR TO CONSTRUCTION ACTIVITIES)

790.03 790.00 789.93 789.95
790.06 790.04 789.99 790.01
790.15 790.16 790.18 790.20

STA 58'SB'+74.58 - LOW POINT

SLOPE INTERCEPT (TYP)

790.24 790.24 790.22 790.27 790.38 790.48 790.58
790.32 790.32 790.31 790.36 790.47 790.57 790.66
790.67 790.66 790.70 790.77 790.83 790.91 790.94

IH 39 SB

57'SB'

58'SB'

59'SB'

W

INL

INL

INL

W

IH 39 NB

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PAVING GRADES	SHEET 33	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 01

PLOT DATE : 10/9/2019 2:21 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

EXISTING R/W

STA 60'SB'+06.94 - BARRIER WALL TAPER POINT

SLOPE INTERCEPT (TYP)

790.66 790.68 790.72 790.80 790.85 790.91 790.96 791.01 791.07 791.13 791.19 791.26 791.32 791.41

790.74 790.76 790.81 790.88 790.94 790.99 791.04 791.11 791.17 791.23 791.30 791.36 791.43 791.49

791.00 791.01 791.04 791.12 791.18 791.23 791.31 791.39 791.46 791.54 791.60 791.66 791.71 791.75

60'SB' 61'SB' 62'SB' 63'SB'

IH 39 SB

IH 39 NB

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PAVING GRADES	SHEET 34	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 02

PLOT DATE : 10/9/2019 2:22 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

EXISTING R/W

SLOPE INTERCEPT (TYP)

STA 65'SB'+38 - END CONCRETE GUTTER

791.48 791.54 791.59 791.64 791.68 791.71 791.76 791.81 791.86 791.89 791.91

791.56 791.62 791.68 791.73 791.78 791.82 791.87 791.92 791.97 792.00

791.80 791.85 791.93 792.01 792.08 792.14 792.19 792.24 792.29 792.31 792.34

IH 39 SB

64'SB' 65'SB' 66'SB'

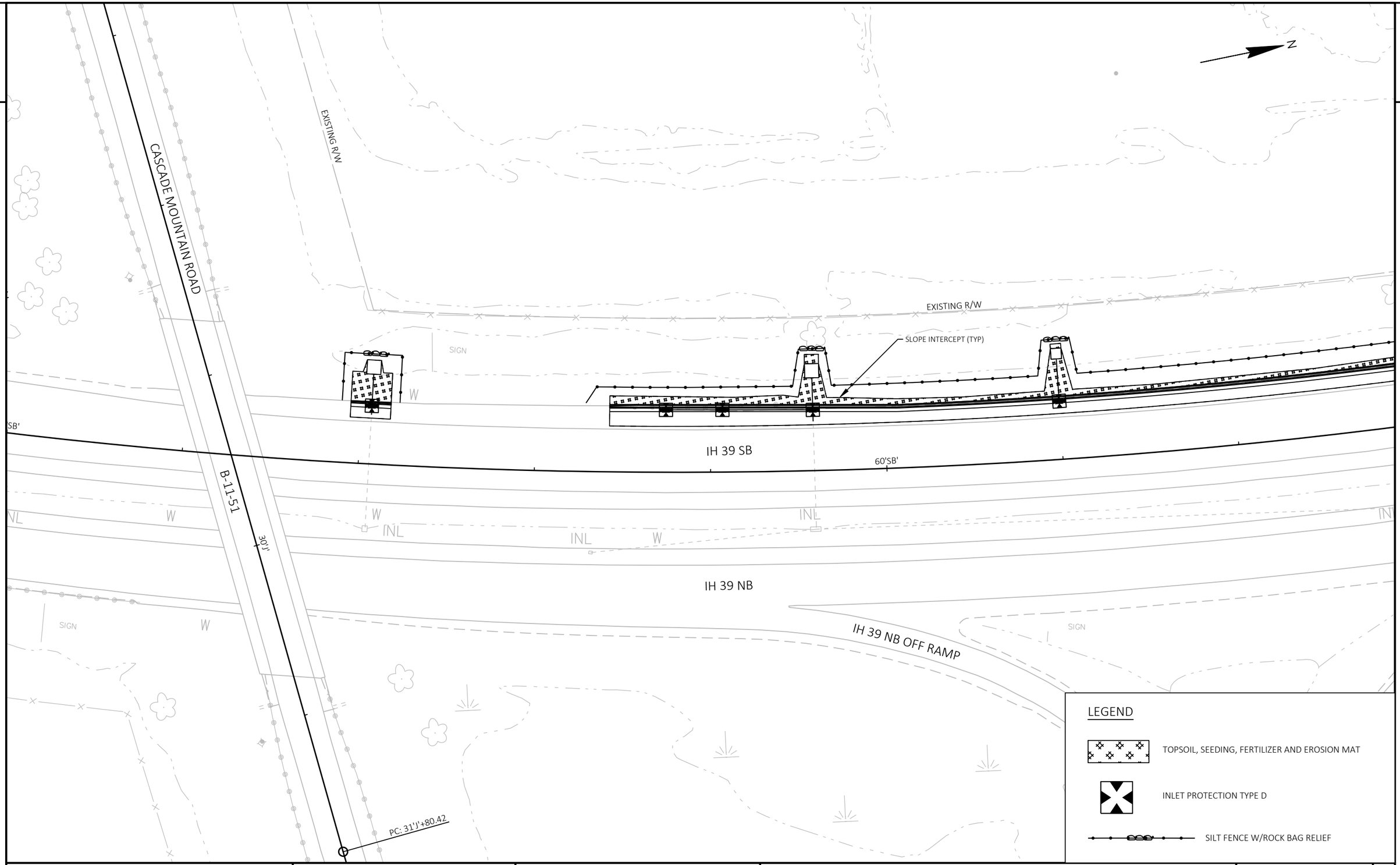
W

W

IH 39 NB

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PAVING GRADES	SHEET 35	E

2



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL PLAN	SHEET 36	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/9/2019 2:25 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

2

N

FOOTBRIDGE

SIGN

EXISTING R/W

SLOPE INTERCEPT (TYP)

PT: 70'SB' +48.77

70'SB'

65'SB'

IH 39 SB

W

W

INL

INL

IH 39 NB

IH 39 NB ON RAMP

LEGEND

TOPSOIL, SEEDING, FERTILIZER AND EMAT

INLET PROTECTION TYPE D

SILT FENCE W/ROCK BAG RELIEF

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL PLAN	SHEET 37	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/9/2019 2:26 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42

2

SLOPE INTERCEPT

EXISTING R/W

PT: 4'G'+71.59

5'G'

CASCADE MOUNTAIN ROAD

PT

IH 39 SB ON RAMP

IH 39 SB OFF RAMP

PCC: 2'G'+68.84

PCC: 1'G'+68.84

PC: 0'G'+18.84

N

SIGN

55'

IH 39 SB

50'SB'

W

INL

W

INL

LEGEND

TOPSOIL, SEEDING, FERTILIZER AND EMAT

INLET PROTECTION TYPE D

SILT FENCE W/ROCK BAG RELIEF

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL PLAN	SHEET 38	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 03

PLOT DATE : 10/9/2019 2:27 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:50 FT

2

2

N

EXISTING R/W

SLOPE INTERCEPT

CASCADE MOUNTAIN ROAD

SIGN

SIGN

SIGN

IH 39 SB ON/OFF RAMP

25'J'

CASCADE MOUNTAIN ROAD

PT: 26'J'+64.19

SLOPE INTERCEPT

CASCADE MOUNTA

LEGEND

TOPSOIL, SEEDING, FERTILIZER AND EMAT

INLET PROTECTION TYPE D

SILT FENCE W/ROCK BAG RELIEF

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL PLAN	SHEET 39	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 04

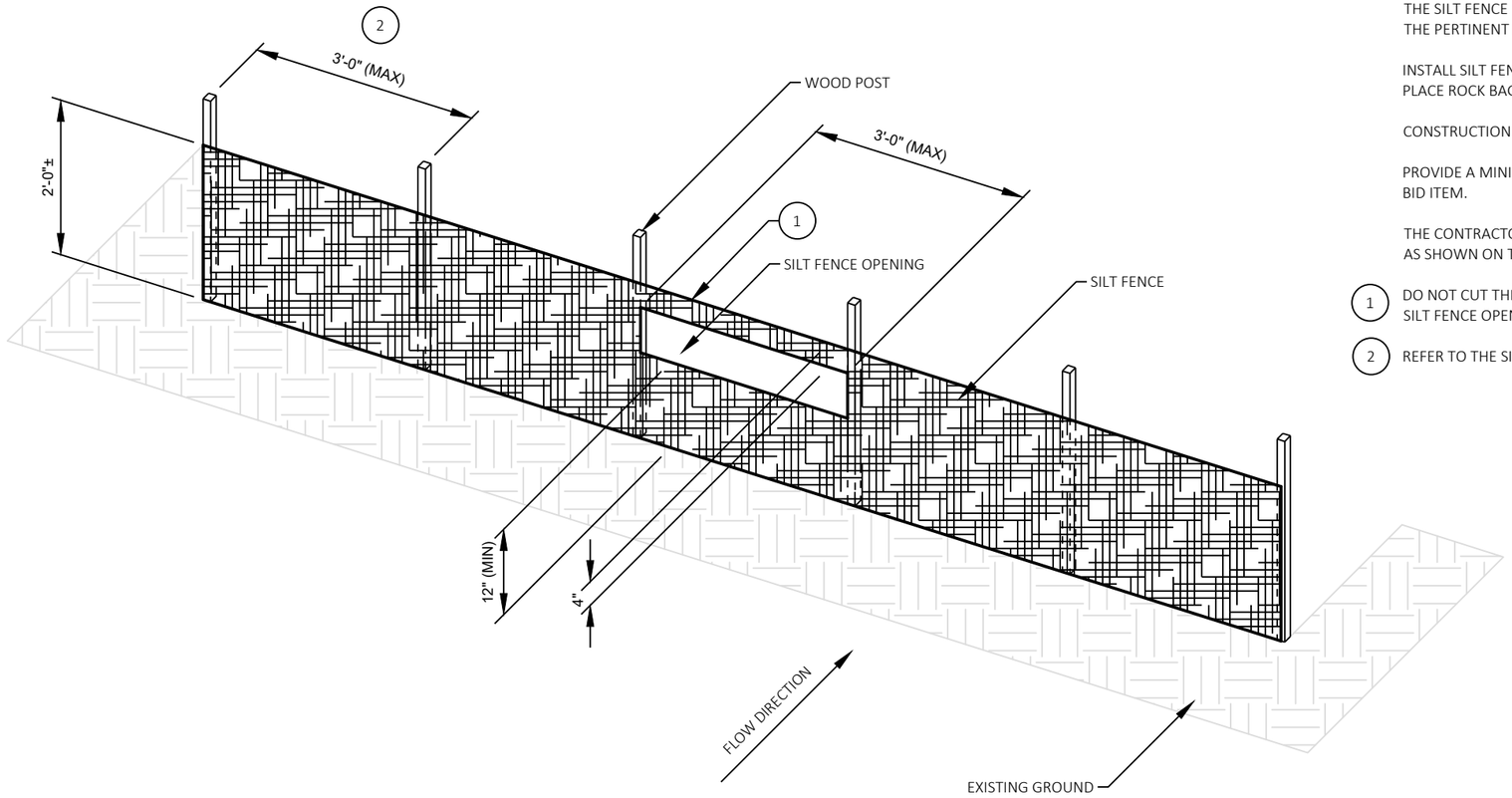
PLOT DATE : 10/9/2019 2:27 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 42



GENERAL NOTES

THE SILT FENCE RELIEF DETAIL IS A SUPPLEMENTAL DETAIL TO THE SILT FENCE STANDARD DETAILS AND SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

INSTALL SILT FENCE PRIOR TO CONSTRUCTING THE SILT FENCE OPENING. PRIOR TO CONSTRUCTING THE SILT FENCE OPENING, PLACE ROCK BAGS AT THE SILT FENCE OPENING AS SHOWN IN THIS DETAIL.

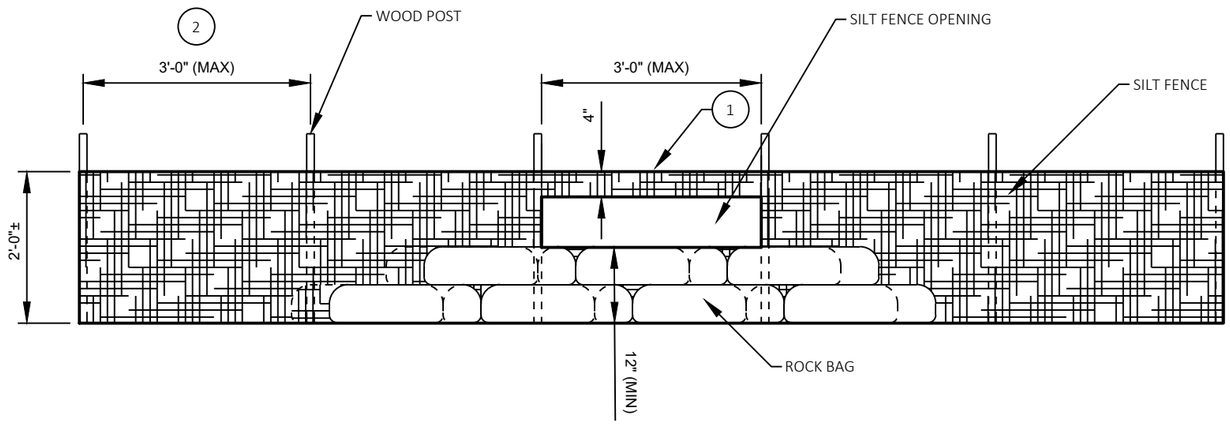
CONSTRUCTION OF THE SILT FENCE OPENING SHALL BE INCIDENTAL TO THE COST OF THE SILT FENCE BID ITEM.

PROVIDE A MINIMUM OF 22 ROCK BAGS MINIMUM PER 3 FOOT OPENING. ROCK BAGS SHALL BE PAID UNDER THE ROCK BAGS BID ITEM.

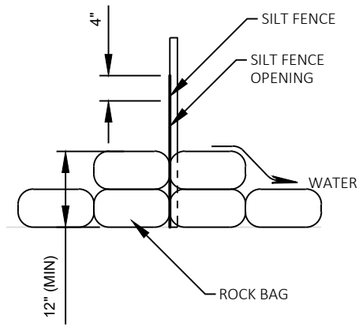
THE CONTRACTOR SHALL ADJUST THE SILT FENCE RELIEF OPENINGS WITHIN THE SILT FENCE AS NECESSARY TO PROVIDE RELIEF: AS SHOWN ON THE PLANS, TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE FIELD ENGINEER.

(1) DO NOT CUT THE SUPPORT CORD OR TENSION TAPE WHEN CONSTRUCTING THE SILT FENCE OPENING. KEEP THE TOP OF THE SILT FENCE OPENING 1"± BELOW THE 3" FOLD AT THE SUPPORT CORD OR TENSION TAPE.

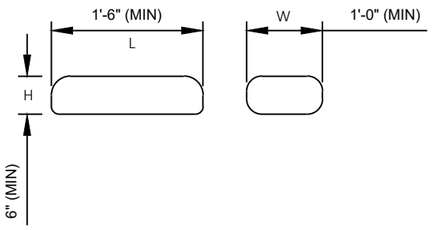
(2) REFER TO THE SILT FENCE STANDARD DETAILS FOR ALLOWABLE ADJUSTMENTS TO POST SPACING.



SECTION VIEW

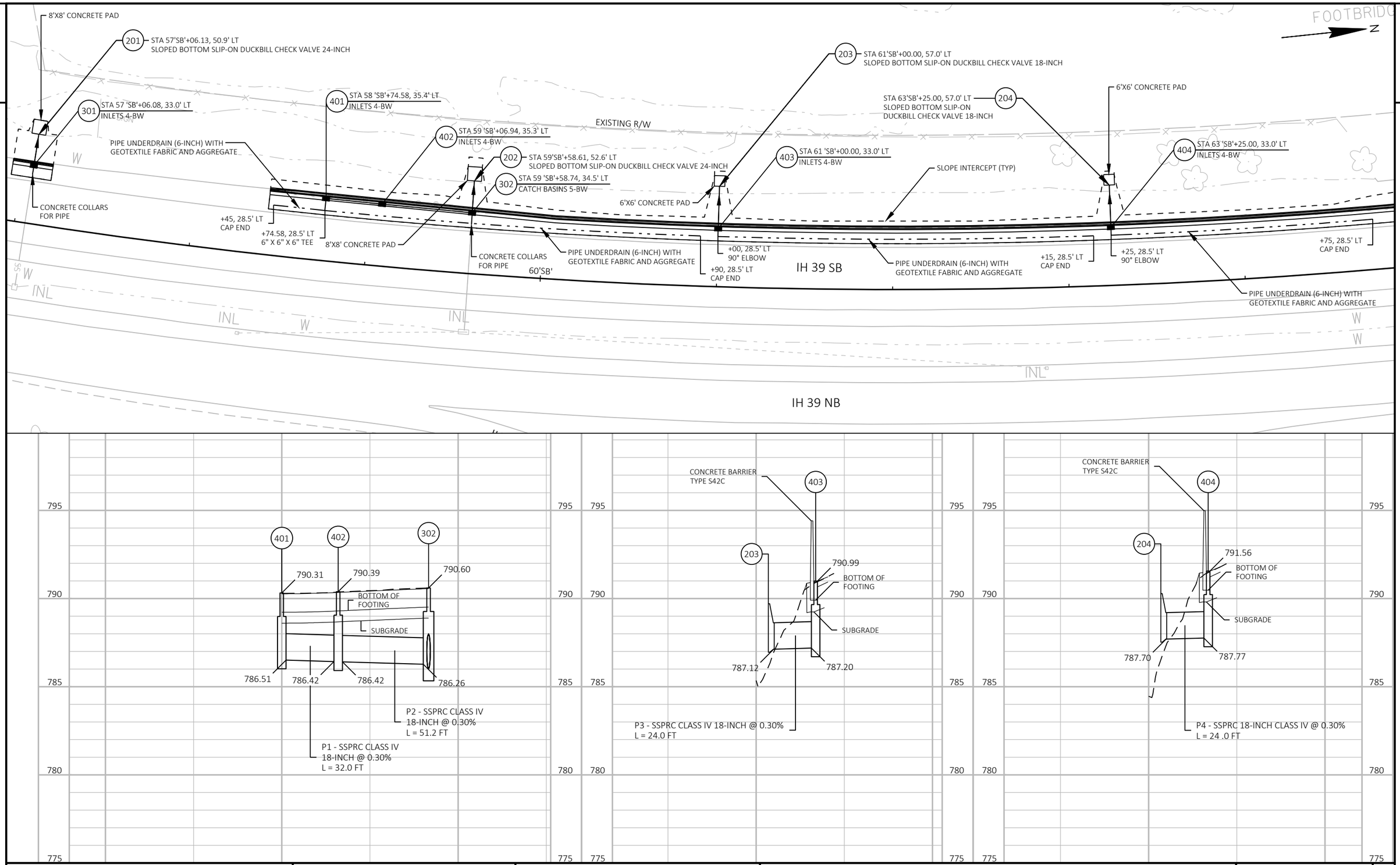


ROCK BAG DETAIL



SILT FENCE RELIEF DETAIL

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	EROSION CONTROL DETAILS	SHEET 40	E



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	STORM SEWER	SHEET 41	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\022501-SS.DWG
LAYOUT NAME - 01
PLOT DATE : 10/9/2019 2:30 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 41

8'X8' CONCRETE PAD

201 STA 57'SB'+06.13, 50.9' LT
SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE 24-INCH

301 STA 57 'SB'+06.08, 33.0' LT
INLETS 4-BW

401 STA 58 'SB'+74.58, 35.4' LT
INLETS 4-BW

402 STA 59 'SB'+06.94, 35.3' LT
INLETS 4-BW

202 STA 59'SB'+58.61, 52.6' LT
SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE 24-INCH

302 STA 59 'SB'+58.74, 34.5' LT
CATCH BASINS 5-BW

203 STA 61'SB'+00.00, 57.0' LT
SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE 18-INCH

403 STA 61 'SB'+00.00, 33.0' LT
INLETS 4-BW

204 STA 63'SB'+25.00, 57.0' LT
SLOPED BOTTOM SLIP-ON
DUCKBILL CHECK VALVE 18-INCH

404 STA 63 'SB'+25.00, 33.0' LT
INLETS 4-BW

6'X6' CONCRETE PAD

EXISTING R/W

PIPE UNDERDRAIN (6-INCH) WITH
GEOTEXTILE FABRIC AND AGGREGATE

CONCRETE COLLARS
FOR PIPE

+45, 28.5' LT
CAP END

+74.58, 28.5' LT
6" X 6" X 6" TEE

8'X8' CONCRETE PAD

CONCRETE COLLARS
FOR PIPE

60'SB'

PIPE UNDERDRAIN (6-INCH) WITH
GEOTEXTILE FABRIC AND AGGREGATE

+90, 28.5' LT
CAP END

+00, 28.5' LT
90° ELBOW

IH 39 SB

6'X6' CONCRETE PAD

SLOPE INTERCEPT (TYP)

PIPE UNDERDRAIN (6-INCH) WITH
GEOTEXTILE FABRIC AND AGGREGATE

+15, 28.5' LT
CAP END

+25, 28.5' LT
90° ELBOW

+75, 28.5' LT
CAP END

PIPE UNDERDRAIN (6-INCH) WITH
GEOTEXTILE FABRIC AND AGGREGATE

IH 39 NB

CONCRETE BARRIER
SINGLE-FACED 32-INCH

301

P6 - SSPRC CLASS IV 24-INCH @ 1.34%
L = 17.9 FEET

201

789.99
BOTTOM OF
FOOTING

SUBGRADE

EXISTING 24" RCCP
P5 - SSPRC CLASS IV 24-INCH @ 1.34%
L = 5.1 FEET
CONCRETE COLLAR REQ'D

785.69 785.93 786.00 785.93

CONCRETE BARRIER
TYPE S42C

302

P8 - SSPRC CLASS IV 24-INCH @ 1.44%
L = 18.2 FT

202

790.60
BOTTOM OF
FOOTING

SUBGRADE

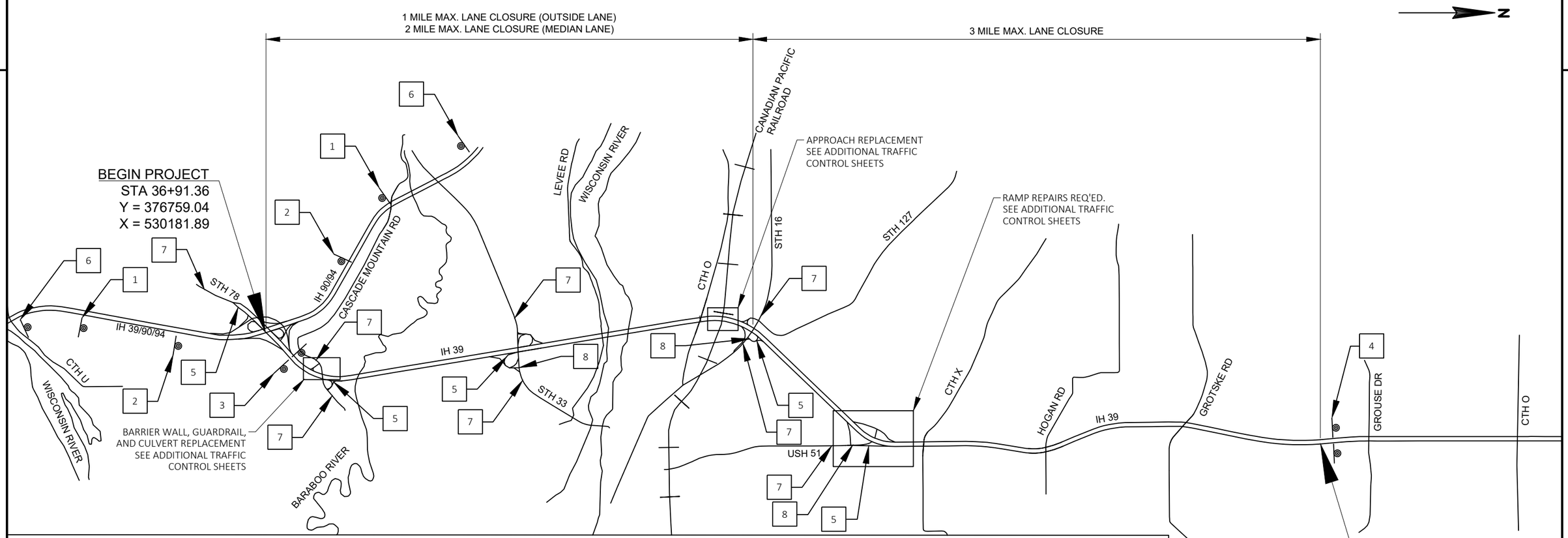
EXISTING 24" RCCP
P7 - SSPRC CLASS IV 24-INCH @ 1.44%
L = 6.5 FEET
CONCRETE COLLAR REQ'D

785.74 786.00 786.10 786.00

NO SUMP REQUIRED

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	STORM SEWER	SHEET 42	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\022502-SS.DWG
LAYOUT NAME - 01
PLOT DATE : 10/9/2019 2:36 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 41



LEGEND

[#] TC SIGN NUMBER

POST MOUNTED SIGN

GENERAL NOTES:

INDIVIDUAL LANE CLOSURE LIMITS ARE LIMITED 1 MILE(OUTSIDE LANE) AND 2 MILES (MEDIAN LANE) IN LENGTH SOUTH OF STH 16 AND 3 MILES IN LENGTH NORTH OF STH 16.

3 MILES OF NO RESTRICTIONS ARE REQUIRED BETWEEN ANY CONSECUTIVE LANE CLOSURES.

DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON FIELD CONDITIONS AND THE CONTRACTOR'S METHODS OF OPERATION.

MAP SHOWN IS NOT TO SCALE.

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" FOR ADDITIONAL DETAILS.

SEE SDD "TRAFFIC CONTROL , RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL DETAILS.

SEE SDD "TRAFFIC CONTROL , EXIT RAMP CLOSURE" FOR ADDITIONAL DETAILS.

SEE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H." FOR ADDITIONAL DETAILS.

SEE SDD "ADVANCED WIDTH RESTRICTION SIGNING" FOR ADDITIONAL DETAILS.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS OTHERWISE STATED

1 — NORTH INTERSTATE 39 (M3-1 36"X18", M1-1 36"X36") / ROAD WORK 2 MILES (W20-1E)

2 — NORTH INTERSTATE 39 (M3-1 36"X18", M1-1 36"X36") / ROAD WORK 1 MILE (W20-1F)

3 — ROAD WORK AHEAD (W20-1A) / ROAD WORK NEXT 11 MILES (G20-2A 48"X24")

4 — END ROAD WORK (G20-2A 48"X24")

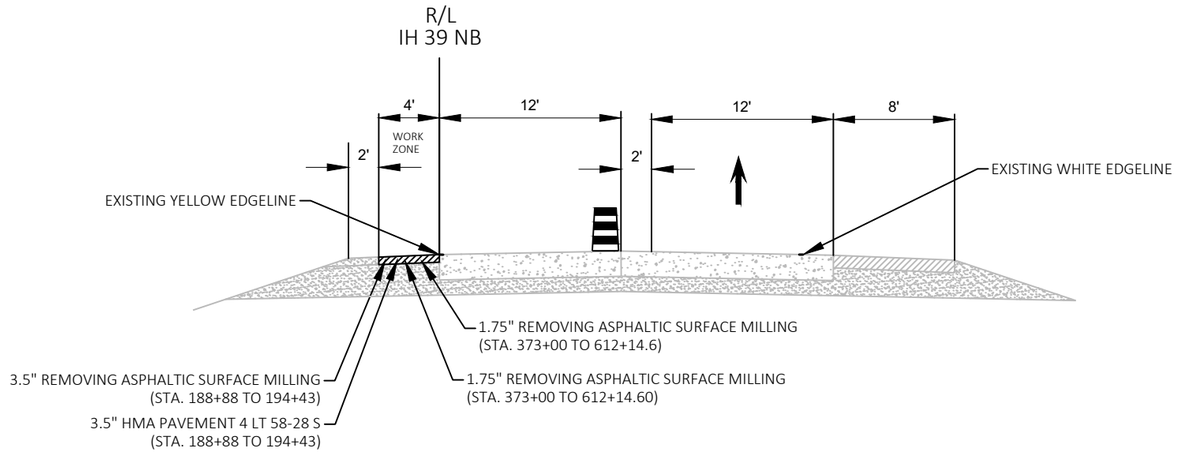
5 — ROAD WORK AHEAD (W20-1A)

6 — NORTH INTERSTATE 39 (M3-1 36"X18", M1-1 36"X36") / MAX. 12' WIDTH (W12-52 48"X48") / 3 MILES AHEAD (WO57-52 48"X36")

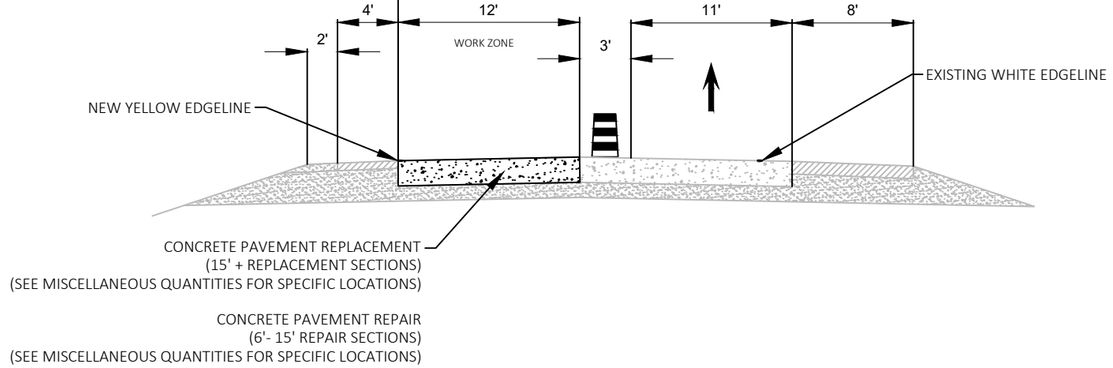
7 — NORTH INTERSTATE 39 (M3-1 36"X18", M1-1 36"X36") / MAX. 12' WIDTH (W12-52 48"X48")

8 — MAX. 12' WIDTH (W12-52 48"X48")

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL OVERVIEW - NB IH 39	SHEET 43	E



MEDIAN SHOULDER WORK
STA 188+88 TO 612+14.60



MEDIAN LANE CONCRETE WORK
STA 36+91.36 TO 612+14.60

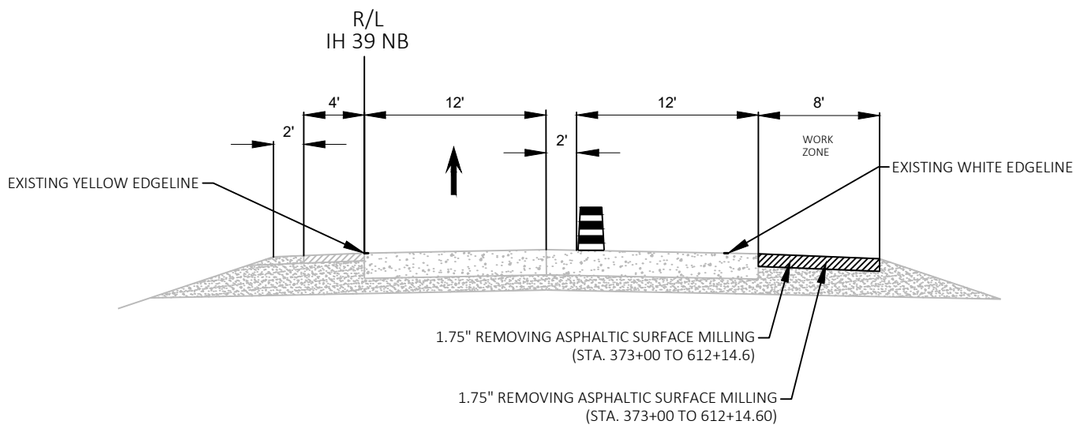
NOTES

1. MOVE DRUM ONTO NEW PAVEMENT DURING 3 DAY CURING PERIOD

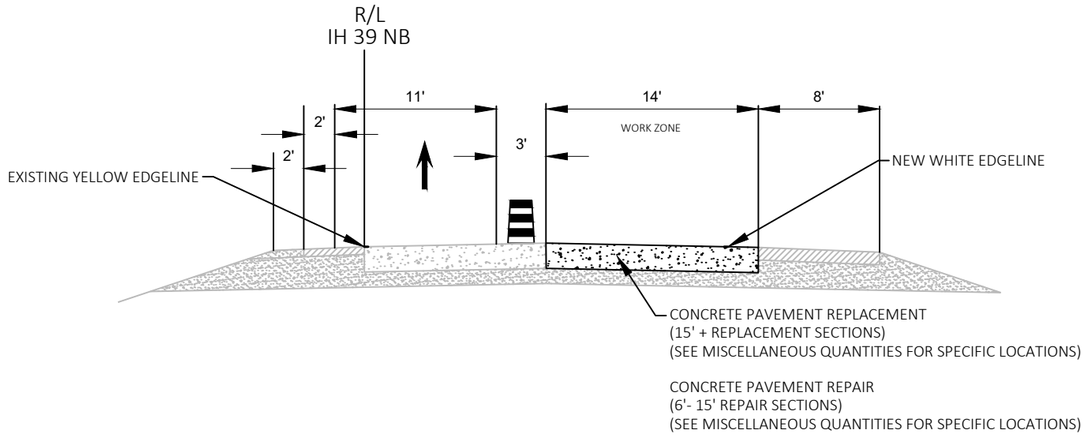
2. DO NOT REMOVE EXISTING EDGELINE MARKINGS

STAGE 1 CONSTRUCTION
STA 36+91.36 TO 612+14.60

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	STAGE 1 TRAFFIC CONTROL TYPICAL SECTIONS	SHEET 44	E



OUTSIDE SHOULDER WORK
STA 373+00 TO 612+14.60



OUTSIDE LANE CONCRETE WORK
STA 36+91.36 TO 612+14.60

NOTES

1. MOVE DRUM ONTO NEW PAVEMENT DURING 3 DAY CURING PERIOD

2. DO NOT REMOVE EXISTING EDGELINE MARKINGS

STAGE 2 CONSTRUCTION
STA 36+91.36 TO 612+14.60

2

2

STH 78

N

IH 90/94 EB

IH 90/94 WB

END
ROAD WORK
G20-2A
48"X24"

IH 39 NB

MB

3300'

PCMS
FRAME 1: NB IH 39
FRAME 2: RIGHT LANE ONLY

MB

1200'

PCMS
FRAME 1: NB IH 39
FRAME 2: RIGHT LANE ONLY

MB

600'

PCMS
FRAME 1: NB IH 39
FRAME 2: RIGHT LANE ONLY

200'

25'

LANE
CLOSED
R11-2L
48"X30"

50'

SPEED
LIMIT
55
W03-5

POST TEMPORARY
REGULATORY SPEED LIMIT
REDUCTION 55 MPH SIGNS
DURING CONTINUOUS
WORKER ACTIVITY

TEMPORARY PAVEMENT MARKING, CHANNELIZING,
8-INCH REMOVABLE TAPE, WHITE

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

2. SEE SDD 15D15-C TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE FOR ADDITIONAL DETAILS.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 1	SHEET 46	E

2

IH 90 / 94 NB

STH 78

NORTH INTERSTATE 39 M3-1 24"X12" 24"X24"

ROAD WORK AHEAD W20-1A

NORTH INTERSTATE 39 M3-1 24"X12" 24"X24"

ROAD WORK 1000 FT W20-1C

NORTH INTERSTATE 39 M3-1 24"X12" 24"X24"

ROAD WORK 500 FT W20-1D

500'

500'

300'

200'

50'

50'

SPEED LIMIT 55 W03-5

POST TEMPORARY REGULATORY SPEED LIMIT REDUCTION 55 MPH SIGNS DURING CONTINUOUS WORKER ACTIVITY

LANE CLOSED R11-2L 48"X30"

SPEED LIMIT 55 R2-1 48"X60"

POST TEMPORARY REGULATORY SPEED LIMIT REDUCTION 55 MPH SIGNS DURING CONTINUOUS WORKER ACTIVITY

W03-2

LANE CLOSED R11-2L 48"X30"

W04-1L

YIELD R1-2 48"X42"

IH 39 SB

IH 39 NB

40'

N

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

2. SEE SDD 15D15-C TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE FOR ADDITIONAL DETAILS.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 1	SHEET 47	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025003A-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/24/2019 8:59 AM PLOT BY : GREG BUBOLZ PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

CASCADE MOUNTAIN RD
TO IH 39 SB

IH 39 SB TO
CASCADE MOUNTAIN RD

WORK AREA

IH 39 NB TO
CASCADE MOUNTAIN RD

CASCADE MOUNTAIN RD
TO IH 39 NB

YIELD
R1-2
48"X42"

TAPER 600'

LANE
CLOSED
R11-2L
48"X30"

100'

END
ROAD WORK
G20-2A
48"X24"

SEE SEPARATE LANE CLOSURE
DETAIL FOR TRAFFIC CONTROL
ITEMS AND LAYOUT

CASCADE MOUNTAIN RD

JOHNSON RD

IH 39 SB

IH 39 NB

40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

2. SEE SDD 15D15-C TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE FOR ADDITIONAL DETAILS.

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 1	SHEET 48	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025003A-TC.DWG
LAYOUT NAME - 03

PLOT DATE : 10/24/2019 8:59 AM PLOT BY : GREG BUBOLZ PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

LANE CLOSED
R11-2L
48"X30"

CANADIAN PACIFIC RAILROAD

B-11-59

SUPPLEMENT TRAFFIC CONTROL DRUMS WITH 42-INCH CONES ADJACENT TO WORK AREA DURING CONSTRUCTION.

268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302

25'

B-11-58

100'

N

END ROAD WORK
G20-2A
48"X24"

IH 39 SB

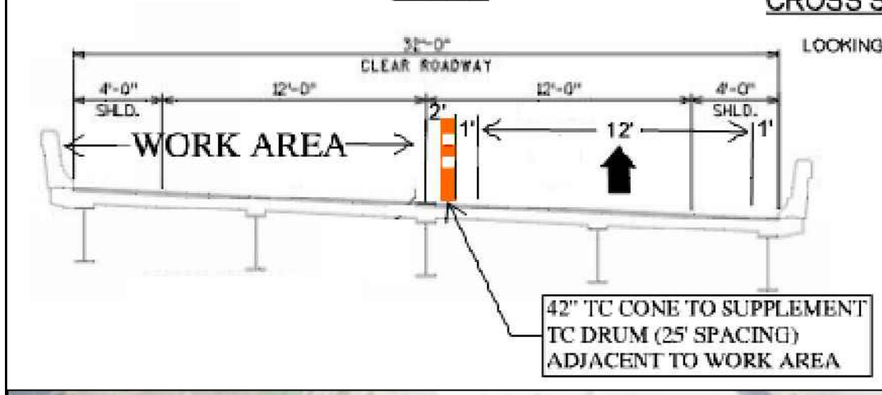
IH 39 NB

STH 16

B-11-58

CROSS SECTION

LOOKING NORTH



NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB — PCMS

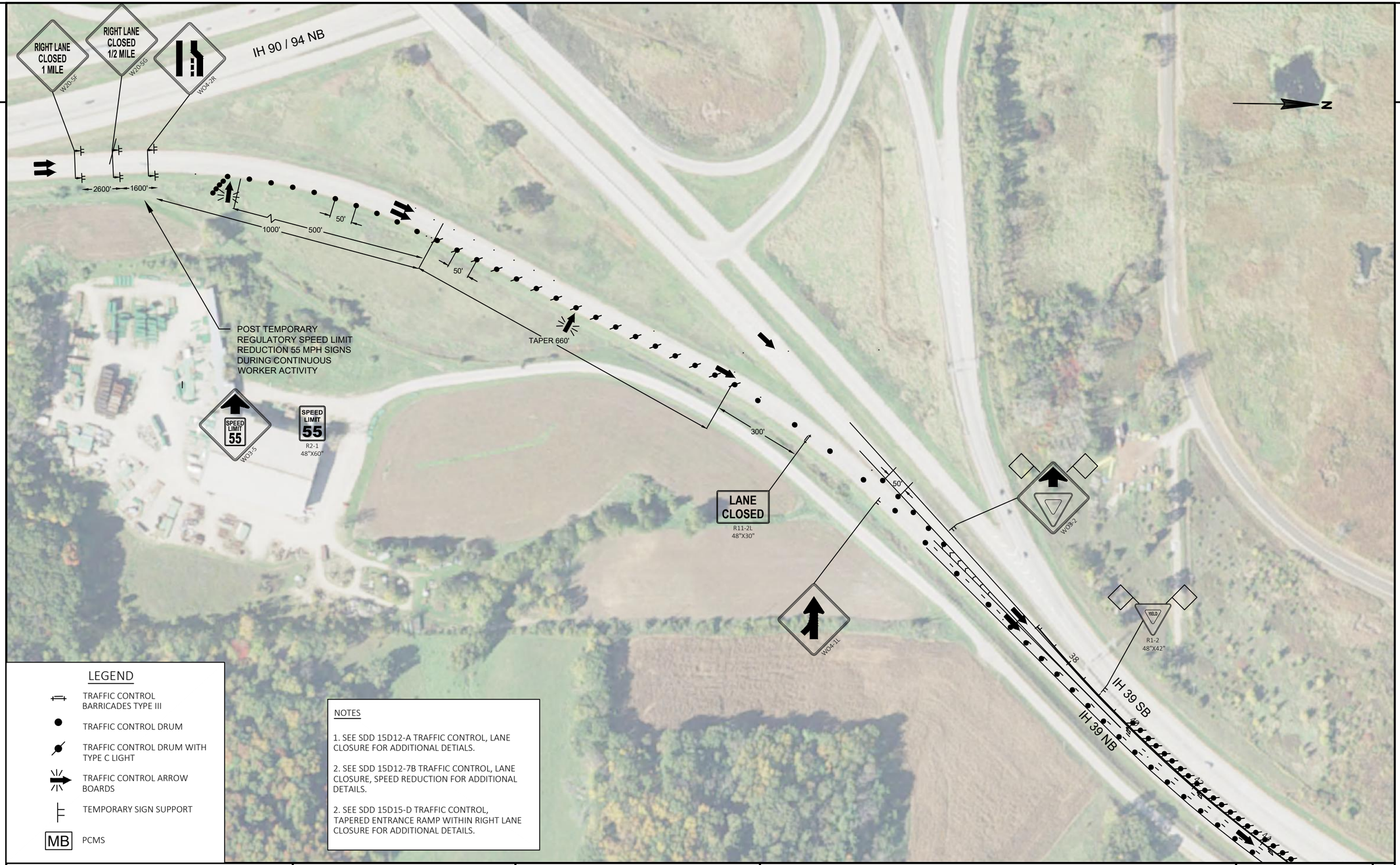
PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 1 B-11-58 APPROACHES	SHEET 49	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025008-TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/30/2019 9:16 AM PLOT BY : GREG BUBOLZ PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 2	SHEET 50	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025003B-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 10/16/2019 1:31 PM
PLOT BY : GREG BUBOLZ
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

2

CASCADE MOUNTAIN RD
TO IH 39 SB

IH 39 SB TO
CASCADE MOUNTAIN RD

LANE
CLOSED
R11-2L
48"X30"

WORK AREA

SEE SEPARATE LANE CLOSURE
DETAIL FOR TRAFFIC CONTROL
ITEMS AND LAYOUT

CASCADE MOUNTAIN RD

JOHNSON RD

IH 39 SB

IH 39 NB

IH 39 NB TO
CASCADE MOUNTAIN RD

CASCADE MOUNTAIN RD
TO IH 39 SB

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

2. SEE SDD 15D12-7B TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION FOR ADDITIONAL DETAILS.

2. SEE SDD 15D15-D TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE FOR ADDITIONAL DETAILS.

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 2	SHEET 51	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025003B-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/16/2019 1:30 PM PLOT BY : GREG BUBOLZ PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

2

CANADIAN PACIFIC RAILROAD

B-11-59

B-11-58

SUPPLEMENT TRAFFIC CONTROL DRUMS WITH 42-INCH CONES ADJACENT TO WORK AREA DURING CONSTRUCTION.

268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302

25'

100'

LANE CLOSED
R11-2L
48"X30"

END ROAD WORK
G20-2A
48"X24"

IH 39 SB

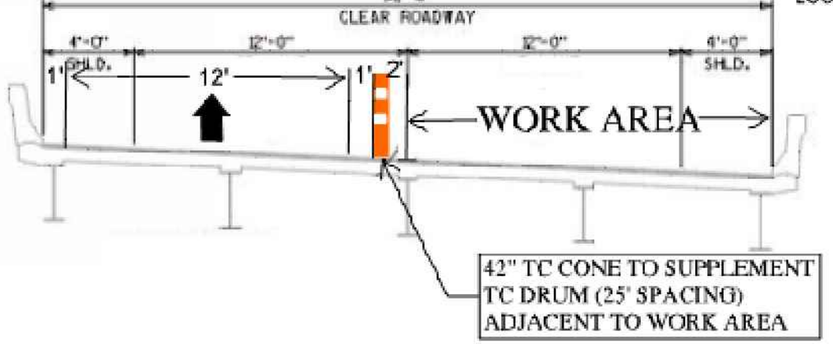
IH 39 NB

STH 16

N

B-11-58 CROSS SECTION

LOOKING NORTH



LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 2 B-11-58 APPROACHES	SHEET 52	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025007-TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/30/2019 8:29 AM PLOT BY : GREG BUBOLZ PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

N

CTH CX

IH 39 NB TO USH 51

R/L R4

USH 51

ROAD WORK AHEAD W20-1A

RIGHT LANE CLOSED AHEAD W20-5A

W4-2R

700' 700' 350' 50' TAPER 660' BUFFER 335' 100'

LANE CLOSED R11-2L 48"X30"

WORK ZONE

TAPER 100' TYP.

12' LANE WIDTH

R/L R2

R/L R3

USH 51 TO IH 39 SB

IH 39 SB

IH 39 NB

MCMAHON RD

IH 39 SB TO USH 51

R/L R2

USH 51 TO IH 39 NB

CTH CX

362+00 364+00 366+00 368+00 370+00 372+00 374+00 376+00 378+00 380+00 382+00 384+00 386+00 388+00

366'R3' 368'R3' 370'R3' 372'R3' 374'R3' 376'R3' 378'R3' 380'R2' 382'R2' 384'R2' 386'R2'

368'R4' 370'R4' 372'R4' 374'R4'

378'R2' 380'R3' 376'R2' 382'R3' 374'R2' 384'R3' 372'R2' 386'R3' 370'R2' 388'R3' 368'R2' 390'R3'

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS
- WORK ZONE

NOTES

1. MAINTAIN ACCESS TO ALL RAMPS

CONSTRUCT CONCRETE PAVEMENT REPAIR ON OUTSIDE LANE OF USH 51 TO IH 39 NB RAMP.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 3a - USH 51 NB	SHEET 53	E

2

N

CTH CX

WORK ZONE

MCMAHON RD

USH 51 TO IH 39 SB

R/L R3

IH 39 SB TO USH 51

IH 39 NB TO USH 51

R/L R4

R/L R2

IH 39 SB

IH 39 NB

RAMP CLOSED
R11-2R
48"X30"

ROAD CLOSED
R11-2
48"X30"

MB PLACE PCMS AT I MILE BEFORE IH 39 SB TO USH 51 RAMP

FRAME 1	FRAME 2
EXIT 92 ON RAMP CLOSED	NO RE-ENTRY TO S I39

SOUTH INTERSTATE 39

RAMP CLOSED AHEAD
W20-53A

LEFT LANE CLOSED AHEAD
W20-55A

RAMP CLOSED 1000 FT
W20-53C

W4-2L

W1-6
48"X24"

USH 51

350'

50'

50'

TAPER 660'

BUFFER 335'

700'

700'

MB

FRAME 1	FRAME 2
S I-39 RAMP CLOSED	USE WIS 16 RAMP

MB PLACE PCMS IN NORTHEAST QUADRANT OF EASTRIDGE RD AND USH 51 INTERSECTION

RAMP CLOSED
R11-2R
48"X30"

RAMP CLOSED
R11-2R
48"X30"

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

PLACE PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER

USH 51 TO IH 39 NB

CTH CX

LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS
- WORK ZONE

NOTES

1. CLOSE USH 51 NB TO IH 39 SB RAMP
2. MAINTAIN ACCESS IH 39 SB TO USH 51 RAMP
3. MAINTAIN ACCESS IH 39 NB TO USH 51 RAMP
4. MAINTAIN ACCESS USH 51 TO IH 39 NB RAMP

CONSTRUCT CONCRETE PAVEMENT REPAIRS AND REPLACEMENTS ON 'R3'.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 3b - USH 51 TO IH 39 SB	SHEET 54	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025004-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/17/2019 1:09 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

2

N

USH 51 TO IH 39 SB

R/L R3

MCMAHON RD

RAMP CLOSED
R11-2R
48"X30"

IH 39 SB TO USH 51

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

PLACE PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER

MB

PLACE PCMS AT 660 FT BEFORE IH SB 39 TO USH 51 RAMP CLOSURE

FRAME 1	FRAME 2
US 51 RAMP CLOSED	USE EXIT 89B

ROAD CLOSED
R11-2
48"X30"

R/L R2

IH 39 SB

IH 39 NB

RAMP CLOSED
R11-2R
48"X30"

ROAD CLOSED
R11-2
48"X30"

R/L R2

R/L R3

USH 51 TO IH 39 NB

CTH CX

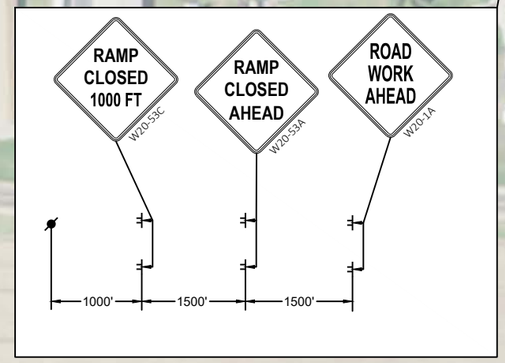
370'R3' 372'R3' 374'R3' 376'R3' 378'R3' 380'R2' 382'R2' 384'R2' 386'R2' 388'R2' 390'R2' 392'R2' 394'R2' 396'R2' 398'R2' 400'R2' 402'R2'

370+00 372+00 374+00 376+00 378+00 380+00 382+00 384+00 386+00 388+00 390+00 392+00 394+00 396+00 398+00 400+00 402+00

372'R4' 374'R4'

368'R2' 370'R2' 372'R2' 386'R3' 388'R3' 390'R3'

25'



LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS
- WORK ZONE

NOTES

1. CLOSE IH 39 SB TO USH 51 RAMP
2. MAINTAIN ACCESS USH 51 TO IH 39 SB RAMP
3. MAINTAIN ACCESS IH 39 NB TO USH 51 RAMP
4. MAINTAIN ACCESS USH 51 TO IH 39 NB RAMP

CONSTRUCT CONCRETE PAVEMENT REPAIRS AND REPLACEMENTS ON 'R2'.

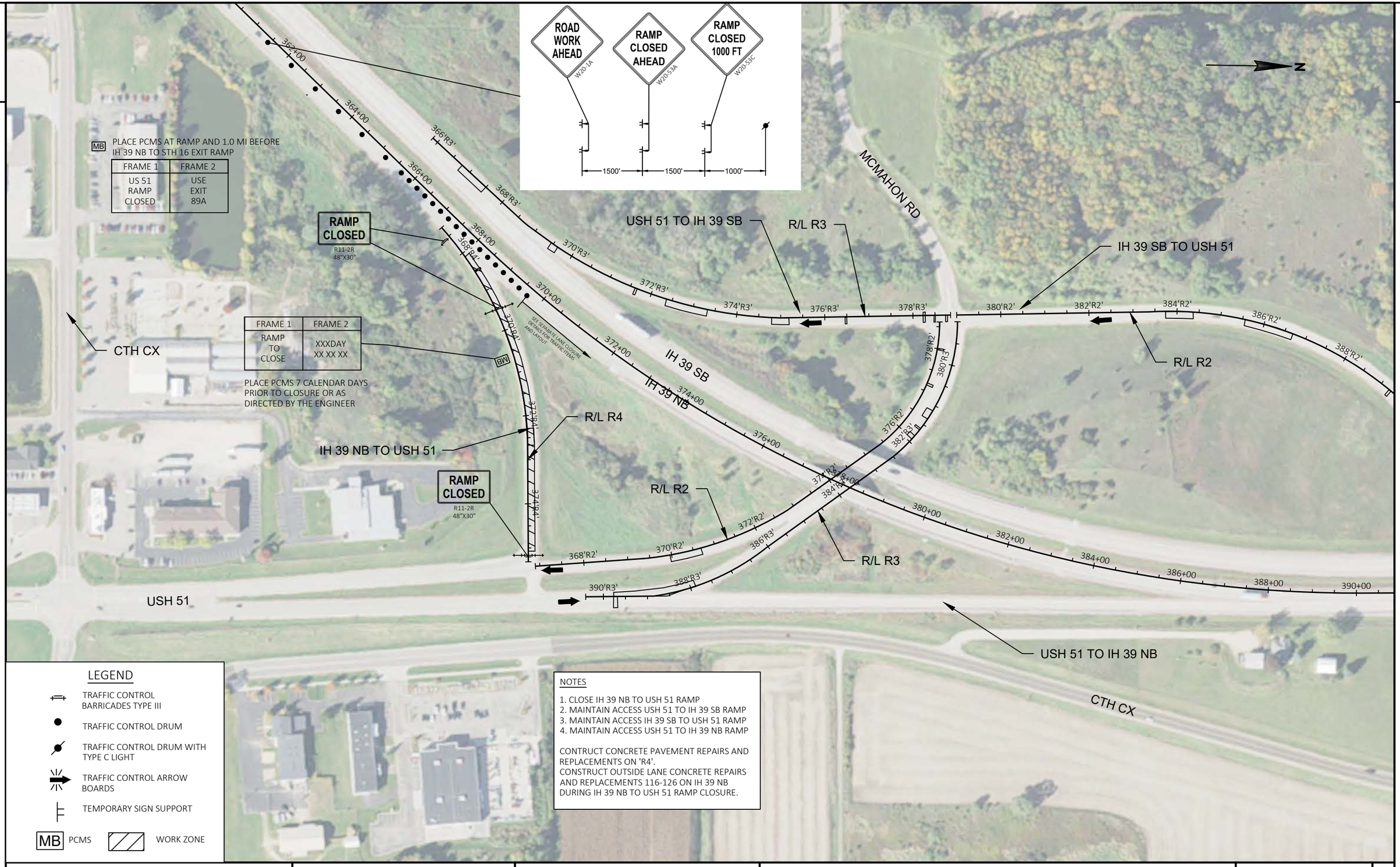
PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 3c - IH 39 SB TO USH 51	SHEET 55	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025004-TC.DWG
LAYOUT NAME - 03

PLOT DATE : 10/17/2019 1:09 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2



LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS
- WORK ZONE

NOTES

1. CLOSE IH 39 NB TO USH 51 RAMP
2. MAINTAIN ACCESS USH 51 TO IH 39 SB RAMP
3. MAINTAIN ACCESS IH 39 SB TO USH 51 RAMP
4. MAINTAIN ACCESS USH 51 TO IH 39 NB RAMP

CONTRUCT CONCRETE PAVEMENT REPAIRS AND REPLACEMENTS ON 'R4'.
CONSTRUCT OUTSIDE LANE CONCRETE REPAIRS AND REPLACEMENTS 116-126 ON IH 39 NB DURING IH 39 NB TO USH 51 RAMP CLOSURE.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 3d - IH 39 NB TO USH 51	SHEET 56	E

2

2

CANADIAN PACIFIC RAILROAD

B-11-59

B-11-58

100'

25'

268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302

50'

USH 16 TO SB IH 39 ON RAMP CLOSED DURING B-11-59 APPROACH WORK.
SEE USH 16 DETOUR FOR ADDITIONAL DETAILS.

LANE CLOSED
R11-2L
48"X30"

RAMP CLOSED
R11-2R
48"X30"

END ROAD WORK
G20-2A
48"X24"

RAMP CLOSED
R11-2R
48"X30"

AERIAL DOES NOT SHOW RECENTLY CONSTRUCTED ROUNDABOUT

N

STH 16

STH 91

STH 127

IH 39 SB

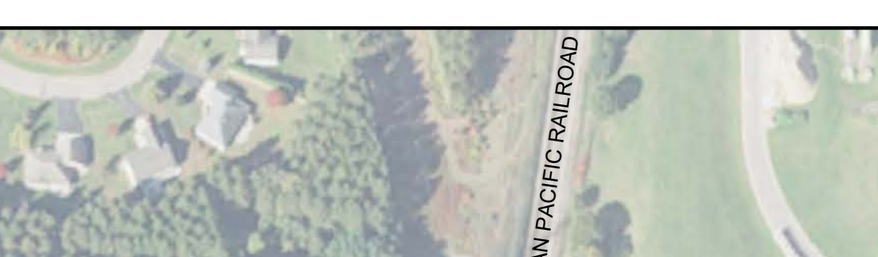
IH 39 NB

LANE CLOSED
R11-2L
48"X30"

SEE SEPARATE LANE CLOSURE DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT. ROAD WORK AHEAD SIGN REQUIRED ON USH 51 SB ON RAMP.

B-11-59

CROSS SECTION
LOOKING NORTH



LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB PCMS

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.

2. DO NOT CLOSE THE USH 16 TO SB IH 39 ON RAMP AND USH 51 RAMPS AT THE SAME TIME.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 4 B-11-59 APPROACHES	SHEET 57	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025005-TC.DWG
LAYOUT NAME - 01

PLOT DATE : 2/3/2020 12:22 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

2

CANADIAN PACIFIC RAILROAD

SUPPLEMENT TRAFFIC CONTROL DRUMS WITH 42-INCH CONES ADJACENT TO WORK AREA DURING CONSTRUCTION.

USH 16 TO SB IH 39 ON RAMP CLOSED DURING B-11-59 APPROACH WORK.
SEE USH 16 DETOUR FOR ADDITIONAL DETAILS.

N

LANE CLOSED
R11-2L
48"X30"

RAMP CLOSED
R11-2R
48"X30"

RAMP CLOSED
R11-2R
48"X30"

END ROAD WORK
G20-2A
48"X24"

AERIAL DOES NOT SHOW RECENTLY CONSTRUCTED ROUNDABOUT

EXIT
E5-1
48"X48"

LANE CLOSED
R11-2L
48"X30"

B-11-59

B-11-58

100'

25'

50'

200'

350'

268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302

TEMPORARY PAVEMENT MARKING, CHANNELIZING, 8-INCH REMOVABLE TAPE, WHITE

IH 39 SB

IH 39 NB

STH 16

TEMPORARY PAVEMENT MARKING, 4-INCH REMOVABLE TAPE, WHITE

SEE SEPARATE LANE CLOSURE DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT. ROAD WORK AHEAD SIGN REQUIRED ON USH 51 SB ON.

MAX. 13' WIDTH
W12-52
48"X48"

1 MILES AHEAD
W057-52
48"X36"

PLACE W12-52 SIGN ASSEMBLY 1 MILE BEFORE SIGN R12-70B.

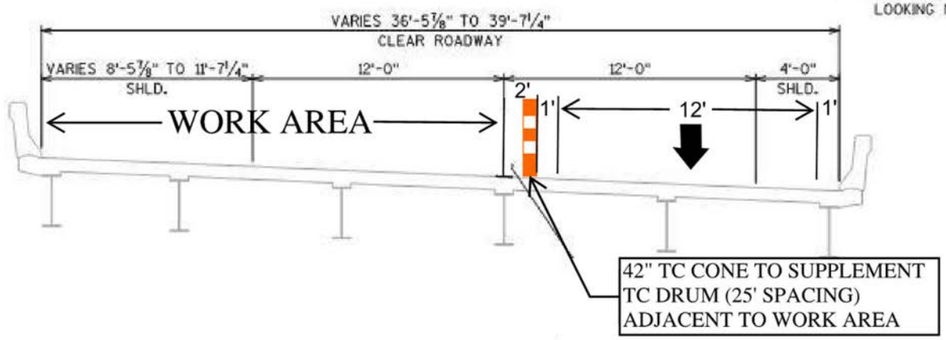
WIDE LOADS EXCEEDING 13 FT
R12-70B
114"X42"

LANE CLOSED
R11-2L
48"X30"

B-11-59

CROSS SECTION

LOOKING NORTH



LEGEND

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC CONTROL ARROW BOARDS
- TEMPORARY SIGN SUPPORT
- MB — PCMS

NOTES

1. SEE SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE FOR ADDITIONAL DETIALS.
2. SEE SDD 15D15-E TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE FOR ADDITIONAL DETAILS.
3. SEE SDD 15C02-F ADVANCED WIDTH RESTRICTION SIGNING FOR ADDITIONAL DETAILS.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL STAGE 4 B-11-59 APPROACHES	SHEET 58	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025006-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 2/3/2020 1:52 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

SEE SDD "DETOUR SIGNING FOR MAINLINE CLOSURES"

PLACE PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

STH 16 SB ON-RAMP

B-11-0058
B-11-0059

MB

ROUNDABOUT NOT SHOWN ON ARIAL

IH 39

ADD TYPE III BARRICADES AT MAINTENANCE CROSSOVER

ADD TYPE III BARRICADES AT MAINTENANCE CROSSOVER

STH 16

CANADIAN PACIFIC RR

USH 51

IH 39

LEGEND

SB ON-RAMP CLOSURE

STH 16 DETOUR ROUTE (IH 39 - USH 51)

EXISTING SIGN

PROPOSED SIGN

MB PCMS

M1-51	36"X36" *24"X24"		MB5-1L/ MB5-1R	21"X15"
M1-6	36"X36" *24"x24"		MB5-2L/ MB5-2R	21"X15"
MB3-3	36"X18" *24"X12"		MB6-1	30"X21" *21"X15"
MB4-5	36"X18" *24"X12"		MB6-2	30"X21" *21"X15"
M4-8	30"X15" *24"X12"		W20-2A	*36"X36"
M4-8A	30"X15" *24"X12"			

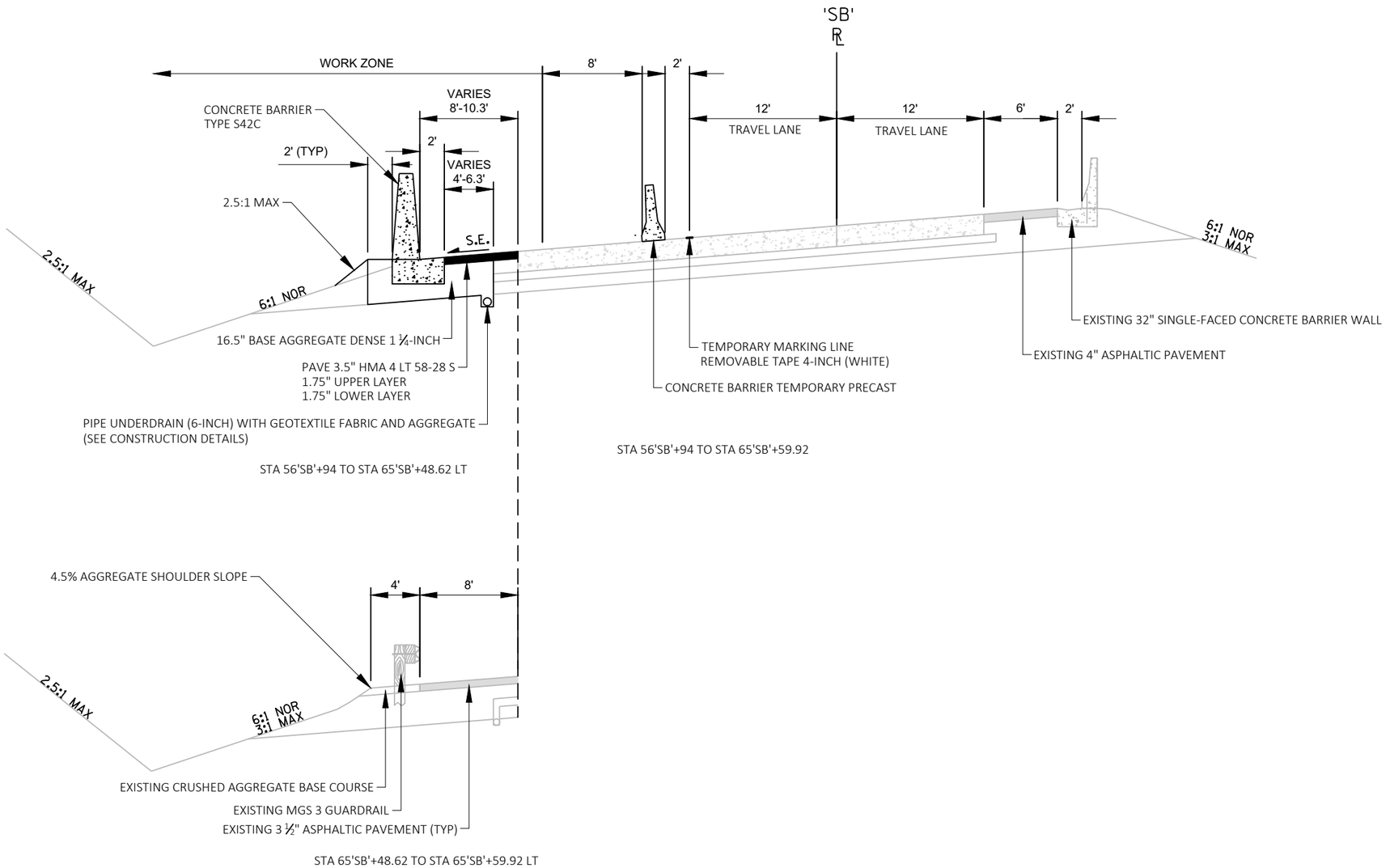
PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	STH 16 ON RAMP DETOUR STAGE 4	SHEET 59 E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\025009-TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/17/2019 1:42 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN: 300 FT

WISDOT/CADDS SHEET 42

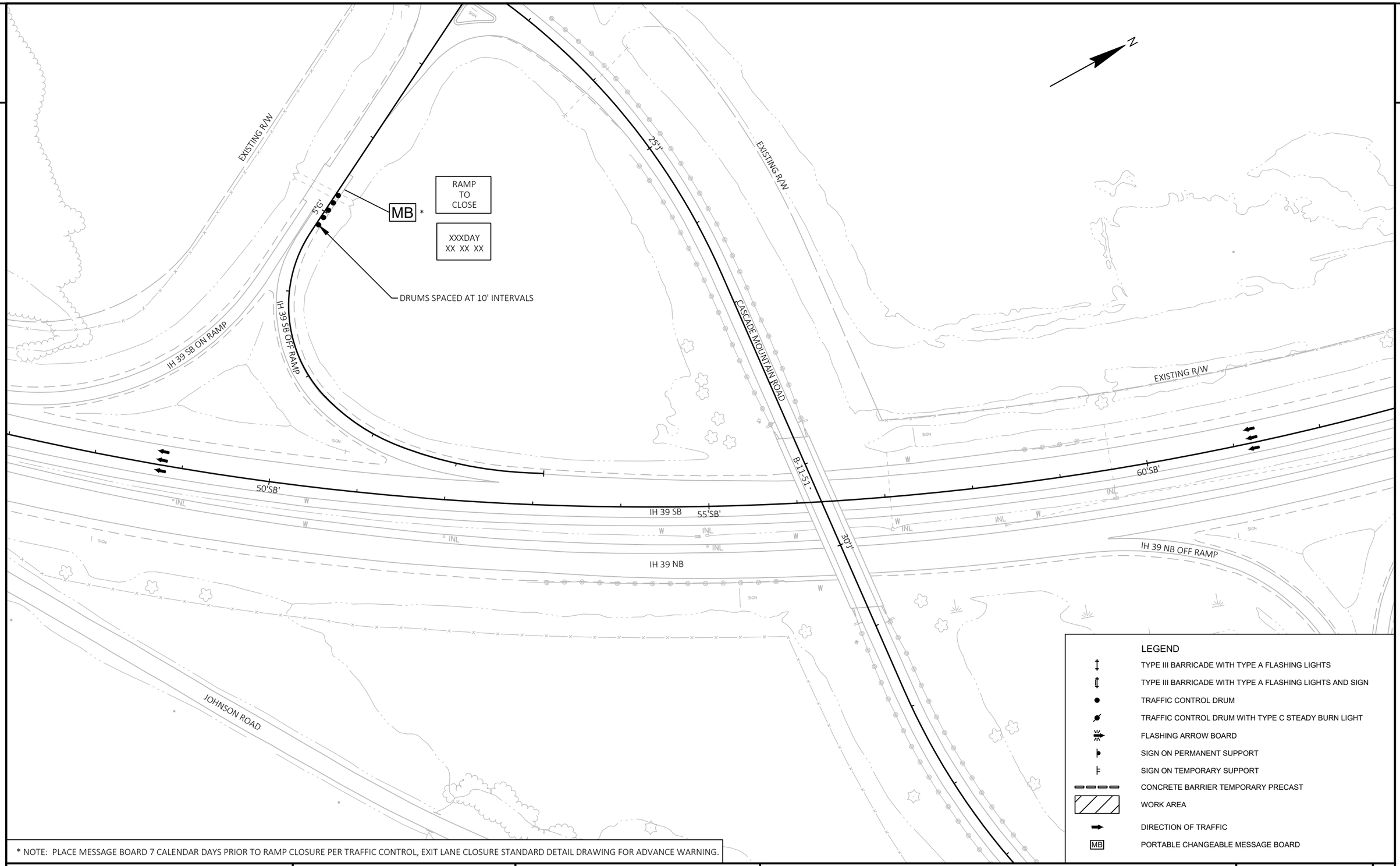
2



TRAFFIC CONTROL - STAGE 5 TYPICAL SECTION - IH 39 SB LANE SHIFT MULTI-LANE

STA 56'SB'+94 TO STA 65'SB'+59.92

2



* NOTE: PLACE MESSAGE BOARD 7 CALENDAR DAYS PRIOR TO RAMP CLOSURE PER TRAFFIC CONTROL, EXIT LANE CLOSURE STANDARD DETAIL DRAWING FOR ADVANCE WARNING.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - ADVANCE WARNING	SHEET 61	E

2

2

N

ROAD WORK BEGINS

XXXDAY XX XX XX

MB *

DRUMS SPACED AT 10' INTERVALS

EXISTING R/W

FOOTBRIDGE

65'SB'

IH 39 SB

70'SB'

75'SB'

IH 39 NB ON RAMP

IH 39 NB

BARABOO RIVER

SIGN

LEGEND

- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- 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
- MB PORTABLE CHANGEABLE MESSAGE BOARD

* NOTE: PLACE MESSAGE BOARD 7 CALENDAR DAYS PRIOR TO BEGINNING OF CONSTRUCTION FOR ADVANCE WARNING.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - ADVANCE WARNING	SHEET 62	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025004-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/9/2019 2:41 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

EXISTING R/W

IH 39 SB ON RAMP

IH 39 SB OFF RAMP

5'G

25'1'

EXISTING R/W

CASCADE MOUNTAIN ROAD

TRUCKS ENTERING AND LEAVING ROADWAY
W108-6 (MOD)

EXIT 85
Cascade Mtn Rd
CLOSED
G20-60
108"X24"

TRAFFIC CONTROL COVERING SIGNS TYPE II

RAMP CLOSED
R11-2R
48"X30"

TRAFFIC CONTROL COVERING SIGNS TYPE I

EXISTING R/W

B-11-53

50'SB'

IH 39 SB

55'SB'

60'SB'

+27, 24' LT

25' (TYP)

IH 39 NB

30'1'

IH 39 NB OFF RAMP

TEMPORARY MARKING LINE
REMOVABLE CONTRAST TAPE 4-INCH, WHITE

END ROAD WORK
G20-2A
48"X24"

RAMP CLOSED
R11-2R
48"X30"

+51.8
BEGIN CONCRETE BARRIER TEMPORARY PRECAST

JOHNSON ROAD

LEGEND

- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- 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
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - IH 39 SB LANE SHIFT MULTI-LANE WITH RAMP CLOSURE	SHEET 63	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025005-TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/9/2019 2:46 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

TRUCKS ENTERING AND LEAVING ROADWAY
WO8-6 (MOD)

LANE CLOSED
R11-2L
48"X30"

STAY IN LANE
R4-9
48"X60"

STA 66'SB'+56.55
TEMPORARY CRASH CUSHION
END CONCRETE BARRIER TEMPORARY PRECAST

WO5-52R
18"X54"

FOOTBRIDGE

TEMPORARY MARKING LINE
REMOVABLE MASK OUT TAPE 6-INCH

EXISTING R/W

+77.50, AT R/L

50' (TYP)

425'

300'

200'

65'SB'

+52.50, 24' LT

IH 39 SB

+06.43
BEGIN 8:1 TAPER FOR CONCRETE BARRIER TEMPORARY PRECAST

250'

70'SB'

75'SB'

+27.50, 12' LT

+52.50, 12' LT

IH 39 NB ON RAMP

IH 39 NB

+27.50, AT R/L

TEMPORARY MARKING LINE
REMOVABLE CONTRAST TAPE 4-INCH, WHITE

TEMPORARY MARKING LINE
REMOVABLE CONTRAST TAPE 4-INCH, WHITE

TEMPORARY MARKING LINE
REMOVABLE CONTRAST TAPE 4-INCH, WHITE

WO1-6
60"X30"

BARABOO RIVER

LEGEND

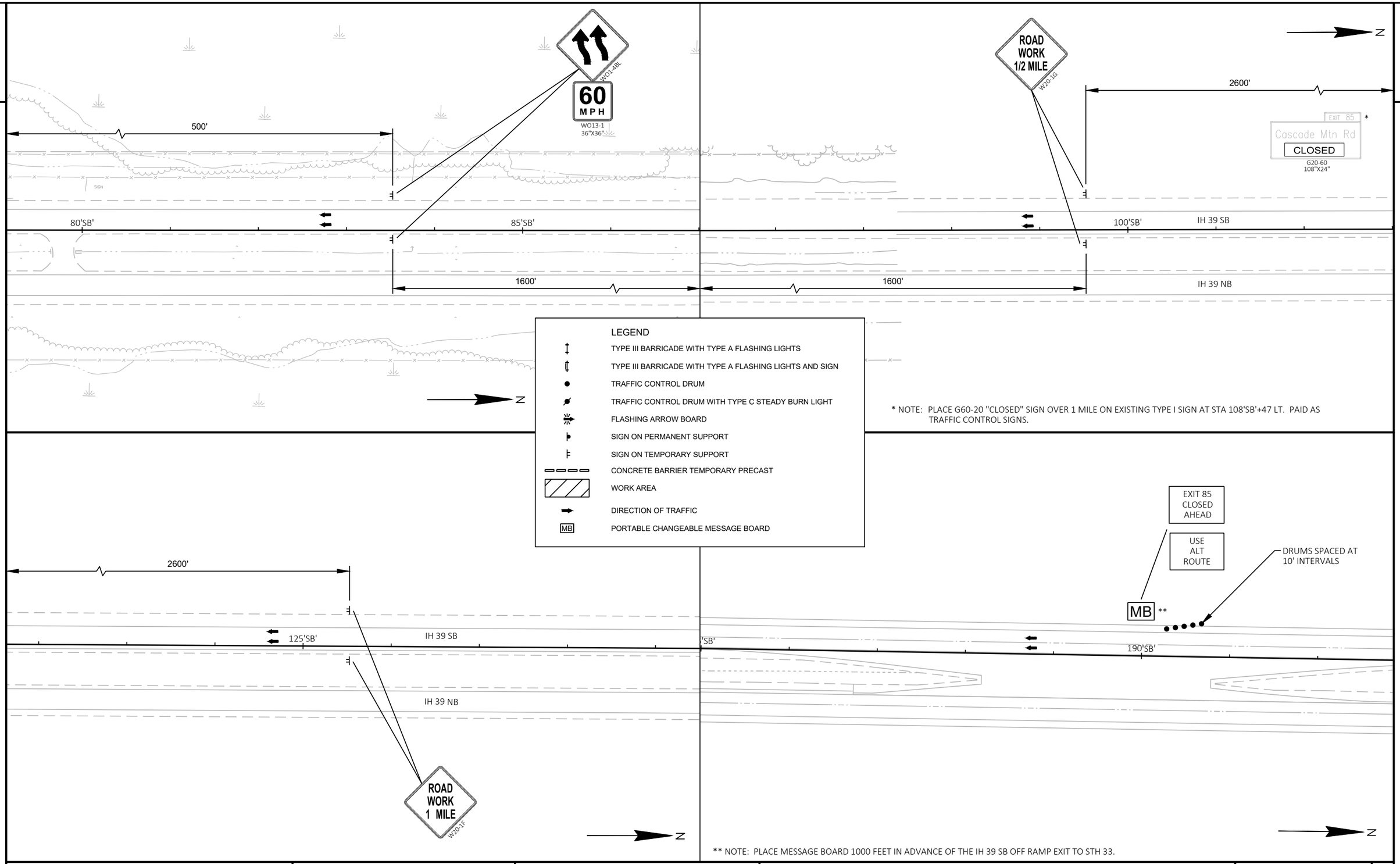
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - IH 39 SB LANE SHIFT MULTI-LANE WITH RAMP CLOSURE	SHEET 64	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025005-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/9/2019 2:46 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42



* NOTE: PLACE G60-20 "CLOSED" SIGN OVER 1 MILE ON EXISTING TYPE I SIGN AT STA 108'SB'+47 LT. PAID AS TRAFFIC CONTROL SIGNS.

** NOTE: PLACE MESSAGE BOARD 1000 FEET IN ADVANCE OF THE IH 39 SB OFF RAMP EXIT TO STH 33.

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - IH 39 SB LANE SHIFT MULTI-LANE WITH RAMP CLOSURE	SHEET 65	E

2

2

N

ROAD CLOSED
R11-2
48"X30"

EXISTING R/W

25'

CASCADE MOUNTAIN ROAD

30'

B-11-51

55'

58'

IH 39 SB

IH 39 NB

20'

EXISTING R/W

EXISTING R/W

57'

IH 39 SB OFF RAMP

IH 39 SB ON RAMP

85'

50'

ROAD CLOSED AHEAD
W20-3A

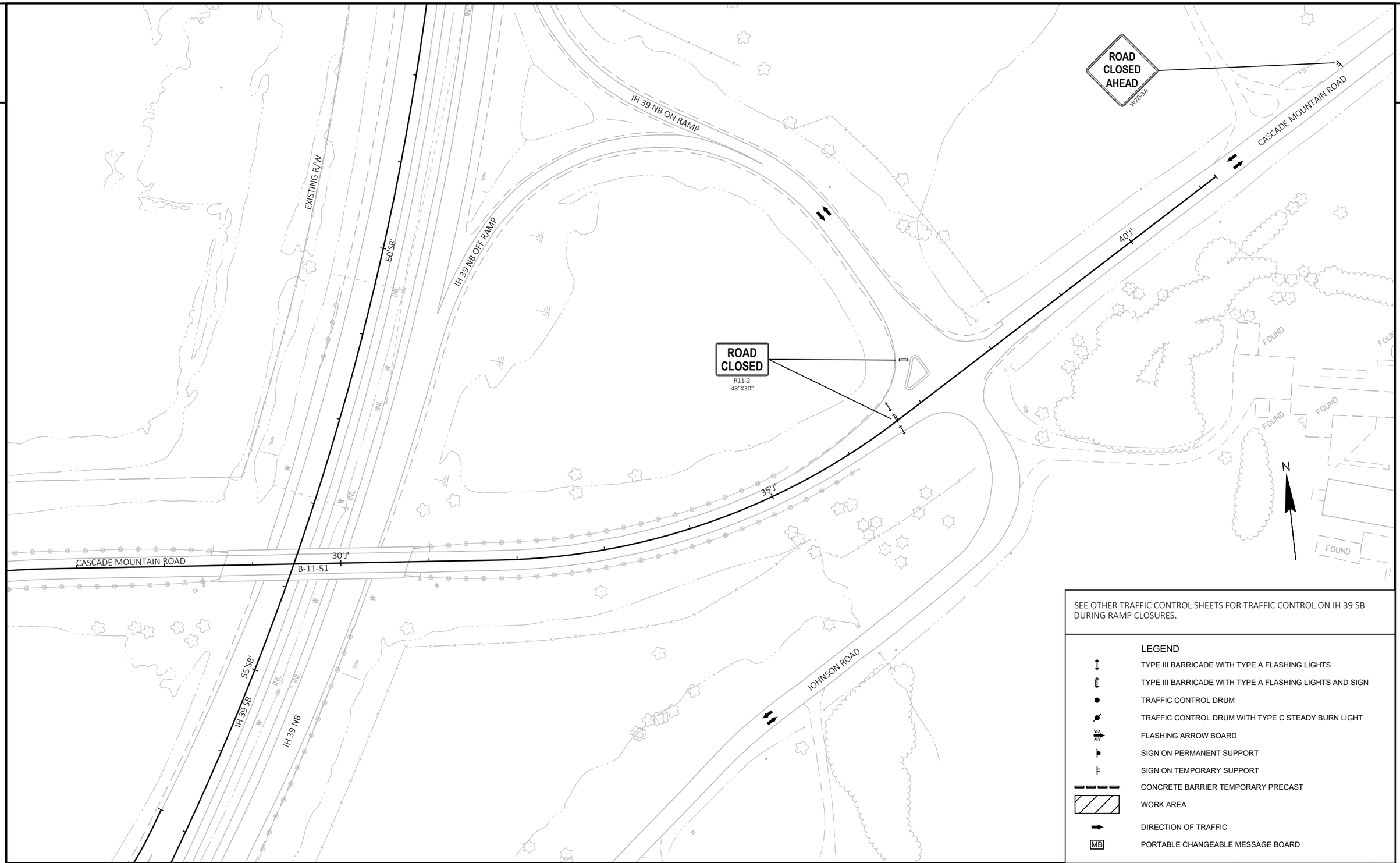
JOHNSON ROAD

SEE OTHER TRAFFIC CONTROL SHEETS FOR TRAFFIC CONTROL ON IH 39 SB DURING RAMP CLOSURES.

LEGEND

- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- 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
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - CASCADE MOUNTAIN ROAD CLOSURE	SHEET 66	E

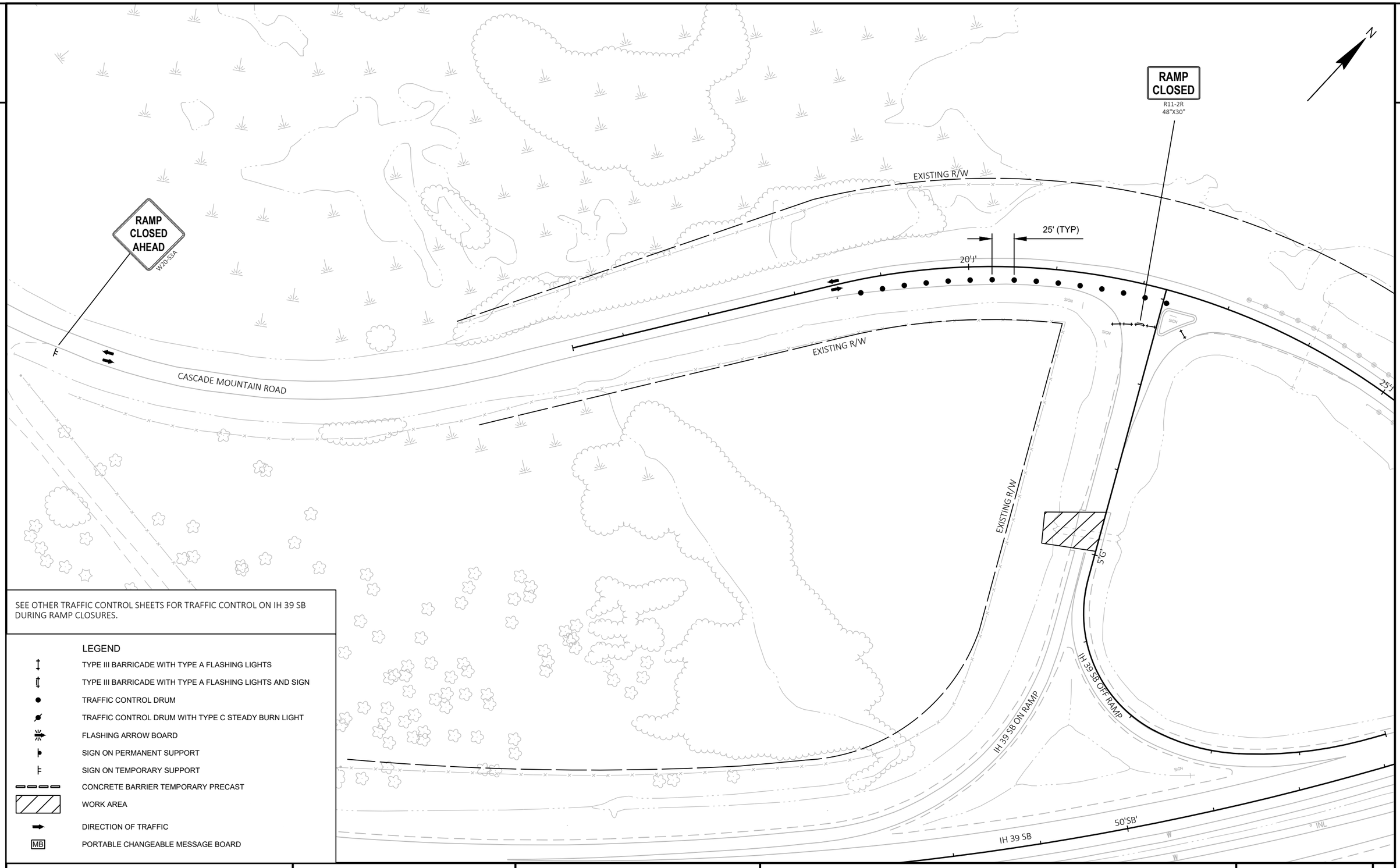


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - CASCADE MOUNTAIN ROAD CLOSURE	SHEET 67	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025006-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 10/9/2019 2:52 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



SEE OTHER TRAFFIC CONTROL SHEETS FOR TRAFFIC CONTROL ON IH 39 SB DURING RAMP CLOSURES.

LEGEND

- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- 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
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - IH 39 SB ON RAMP CLOSURE	SHEET 68	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025007-TC.DWG
LAYOUT NAME - 01

PLOT DATE : 10/9/2019 2:54 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

IH 39 NB ON RAMP

EXISTING R/W

60'SB'

IH 39 NB OFF RAMP

CASCADE MOUNTAIN ROAD

40'J'

N

RAMP CLOSED AHEAD

W20-53A

35'J'

30'J'

CASCADE MOUNTAIN ROAD

B-11-51

25'J'

55'SB'

IH 39 SB

IH 39 NB

JOHNSON ROAD

SEE OTHER TRAFFIC CONTROL SHEETS FOR TRAFFIC CONTROL ON IH 39 SB DURING RAMP CLOSURES.

LEGEND

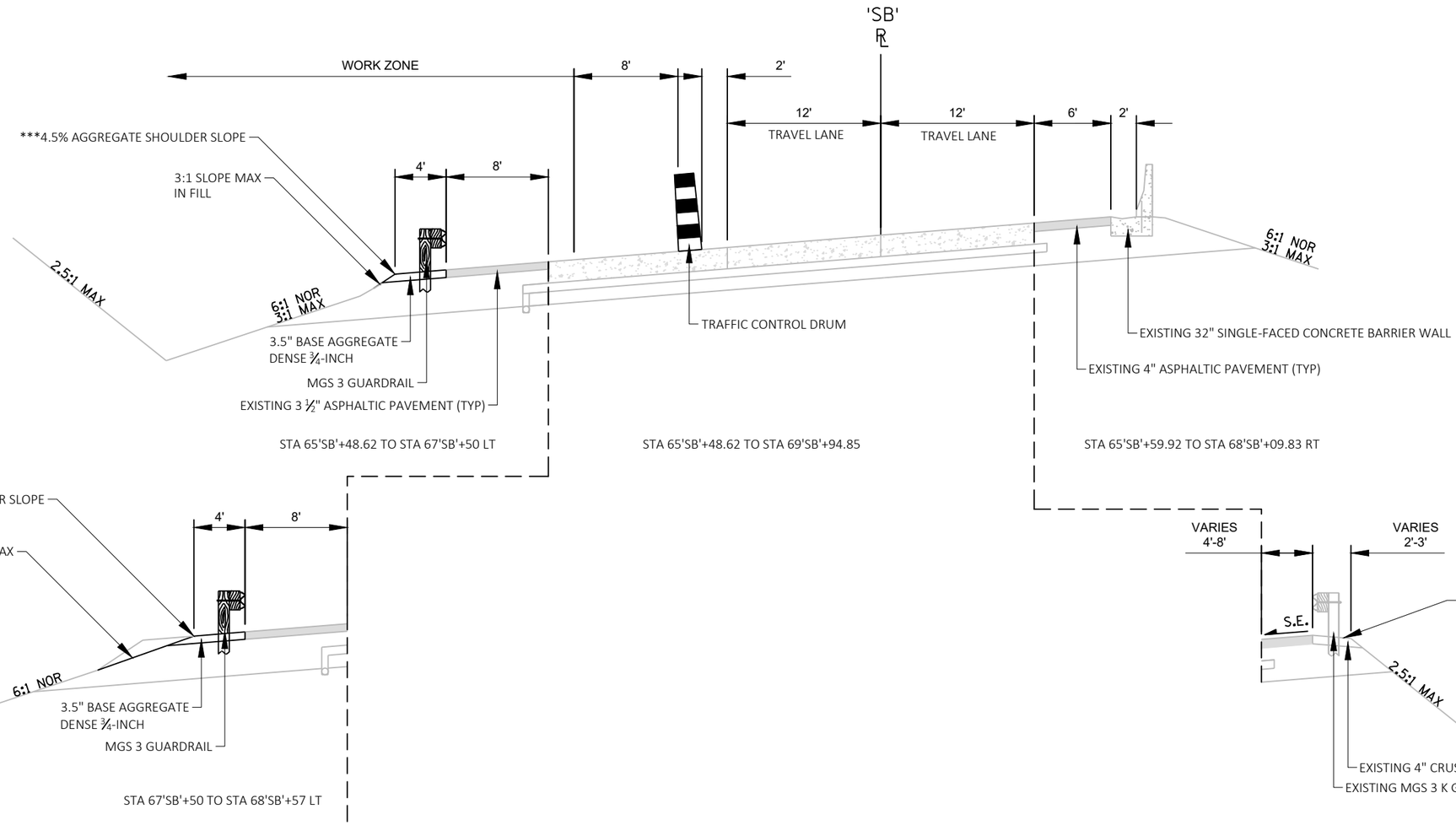
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

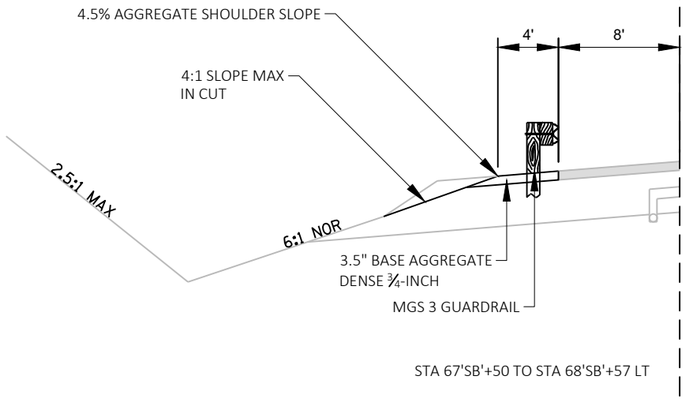
PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5 - IH 39 SB ON RAMP CLOSURE	SHEET 69	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025007-TC.DWG
LAYOUT NAME - 02

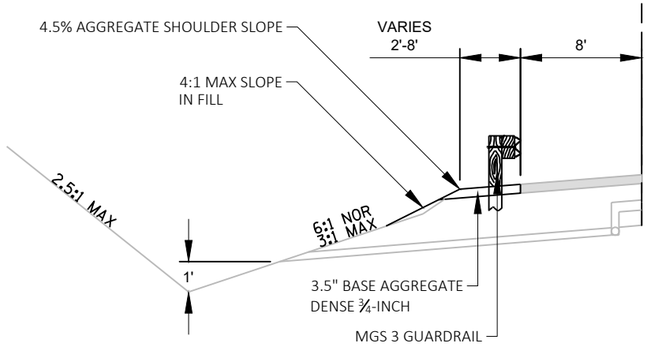
PLOT DATE : 10/9/2019 2:55 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

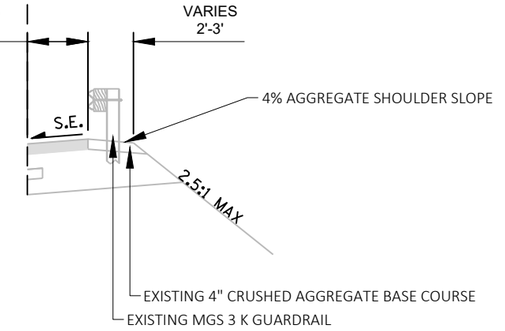




STA 67'SB'+50 TO STA 68'SB'+57 LT



STA 68'SB'+57 TO STA 69SB'+94.85 LT



STA 68'SB'+09.83 TO STA 69'SB'+94.85 RT

TRAFFIC CONTROL - STAGE 5A TYPICAL SECTION - IH 39 SB SINGLE LANE CLOSURE

STA 65'SB'+48.62 TO STA 69'SB'+94.85

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5A TYPICAL SECTION	SHEET 70	E

2

N

END ROAD WORK
G20-2A
48"X24"

LANE CLOSED
R11-2L
48"X30"

FOOTBRIDGE

EXISTING R/W

400'

65'SB'

IH 39 SB

70'SB'

75'SB'

100' (TYP)

500'

800'

IH 39 NB ON RAMP

IH 39 NB

SIGN

INL

W

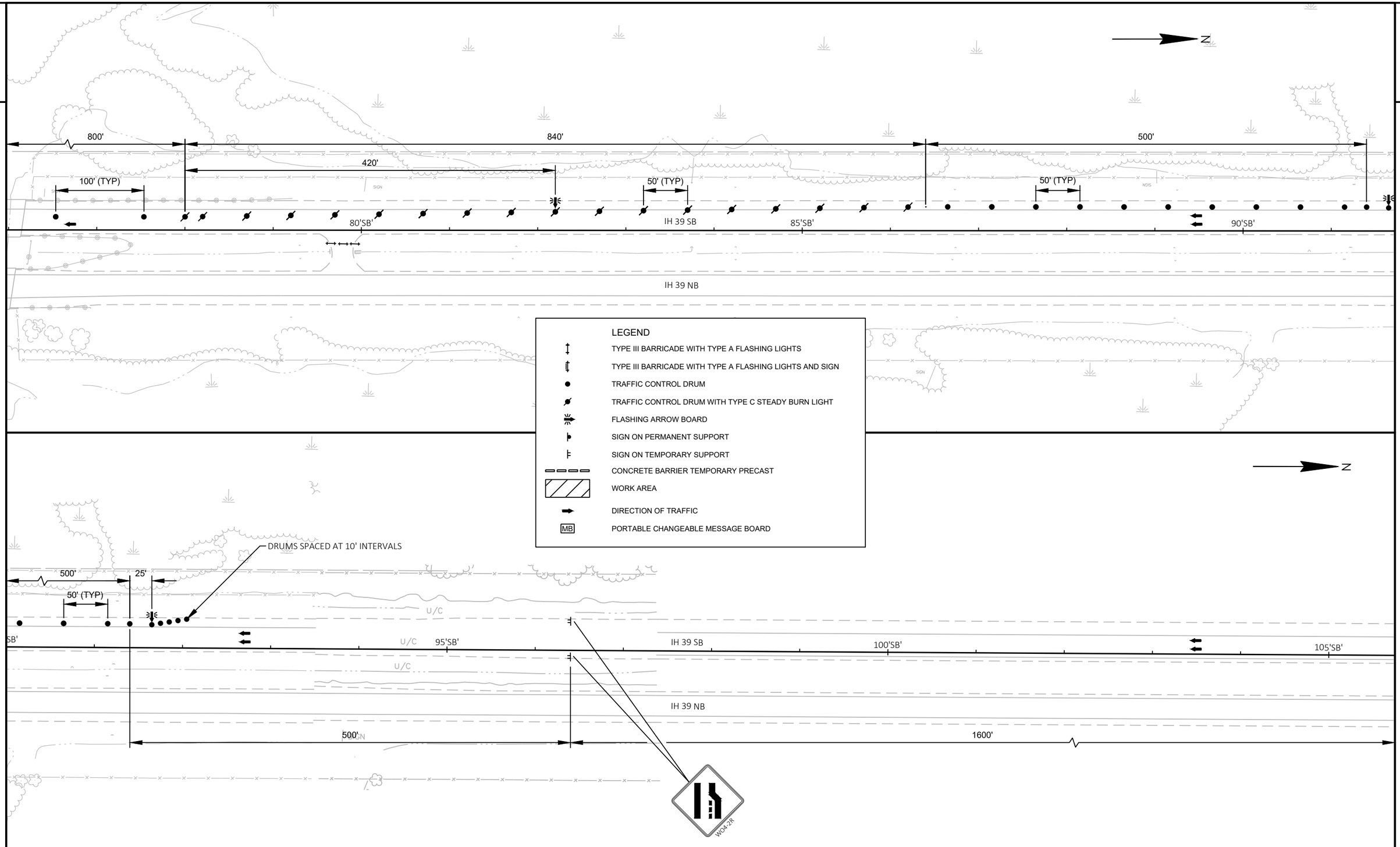
LEGEND

- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- 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
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5A - IH 39 SB SINGLE LANE CLOSURE	SHEET 71	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025009-TC.DWG
LAYOUT NAME - 01
PLOT DATE : 10/9/2019 2:59 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

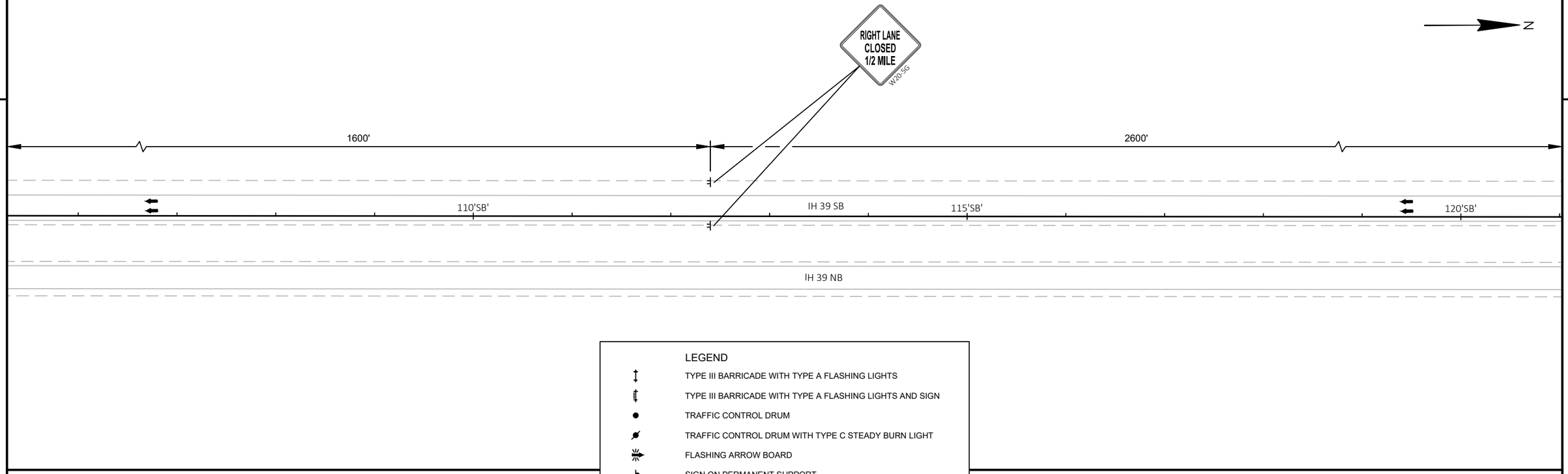
2



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5A - IH 39 SB SINGLE LANE CLOSURE	SHEET 72	E

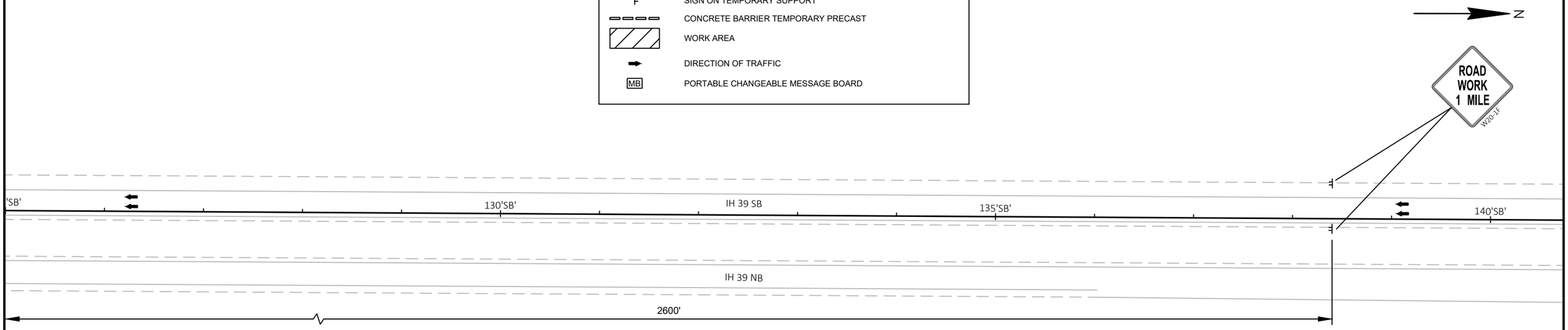
FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025009-TC.DWG
LAYOUT NAME - 02
PLOT DATE : 10/9/2019 3:00 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2



LEGEND

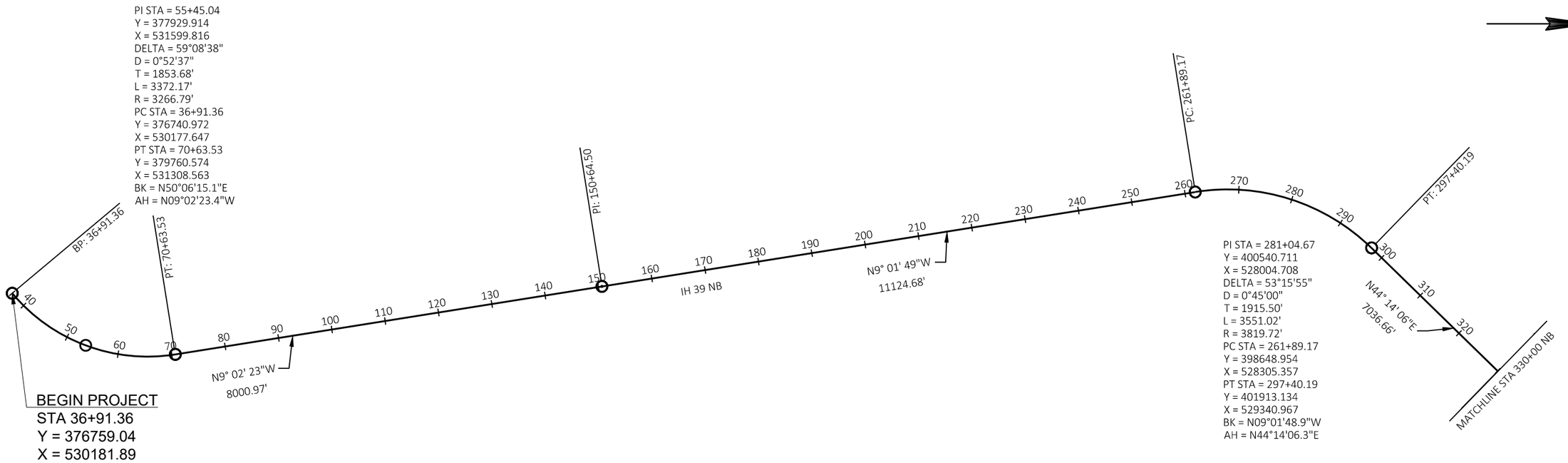
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS
- TYPE III BARRICADE WITH TYPE A FLASHING LIGHTS AND SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

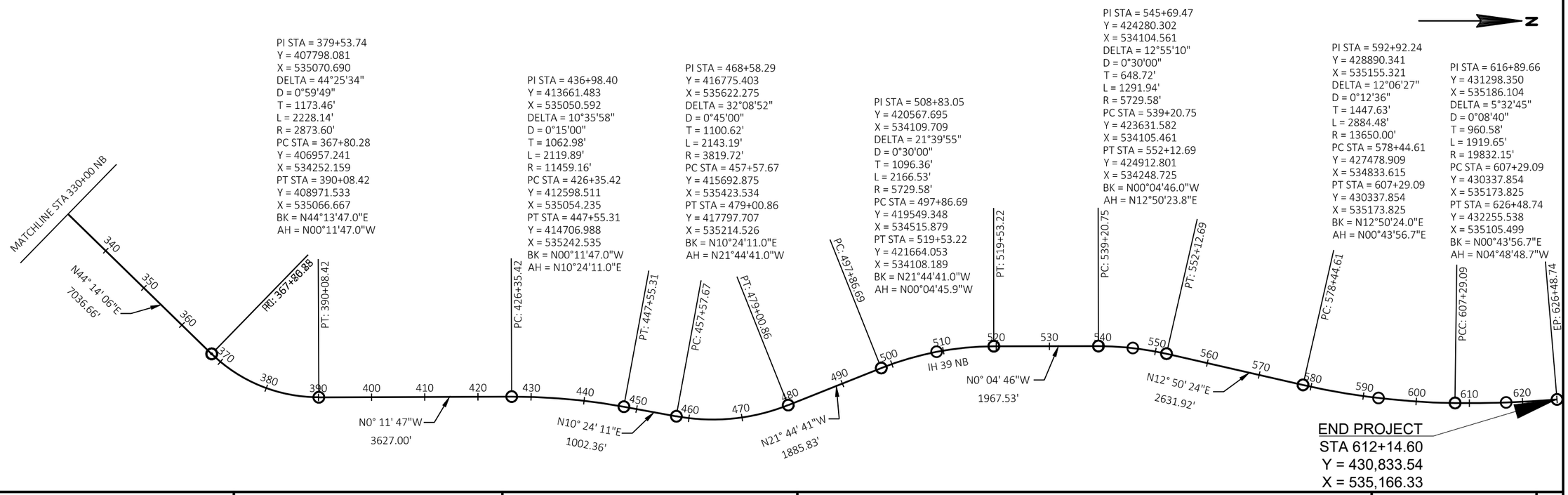


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	TRAFFIC CONTROL - STAGE 5A - IH 39 SB SINGLE LANE CLOSURE	SHEET 73	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\025009-TC.DWG
LAYOUT NAME - 03

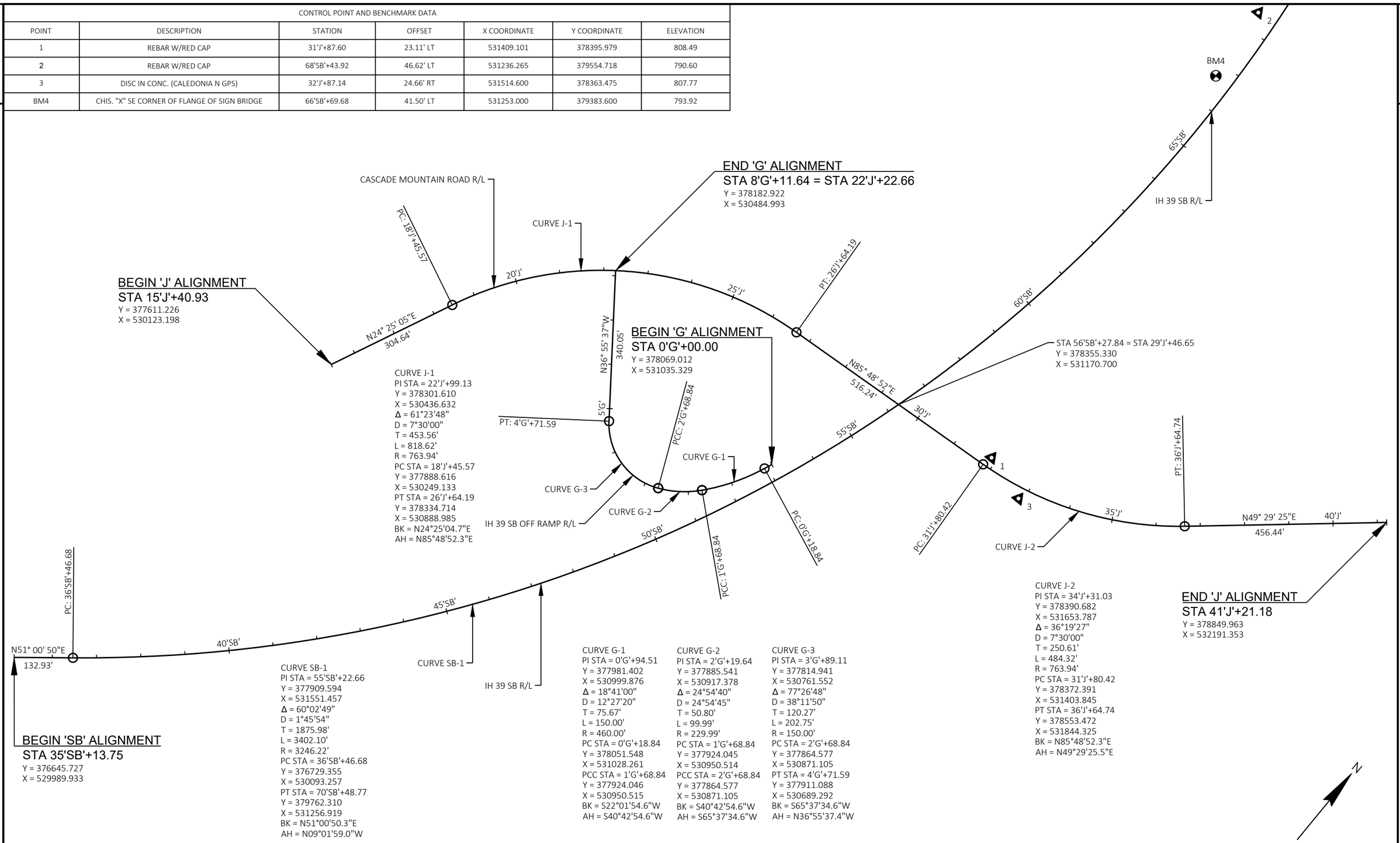
PLOT DATE : 10/9/2019 3:02 PM PLOT BY : RINZEL, JAMES M PLOT NAME : PLOT SCALE : 1 IN:100 FT





PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	ALIGNMENT DIAGRAM - IH 39 NB	SHEET 74	E

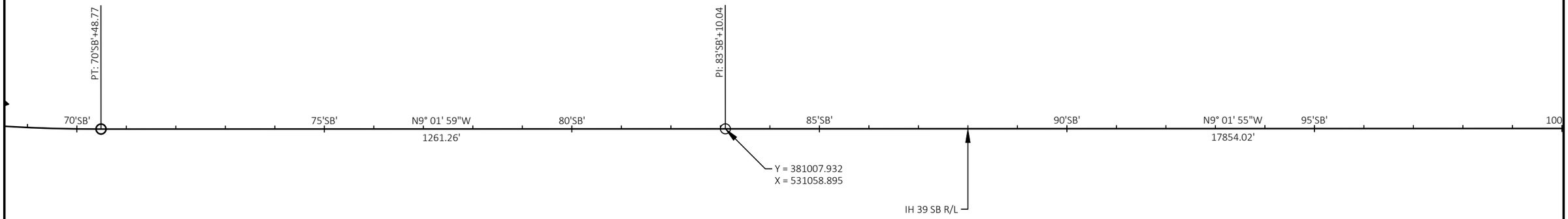
CONTROL POINT AND BENCHMARK DATA						
POINT	DESCRIPTION	STATION	OFFSET	X COORDINATE	Y COORDINATE	ELEVATION
1	REBAR W/RED CAP	31'J'+87.60	23.11' LT	531409.101	378395.979	808.49
2	REBAR W/RED CAP	68'SB'+43.92	46.62' LT	531236.265	379554.718	790.60
3	DISC IN CONC. (CALEDONIA N GPS)	32'J'+87.14	24.66' RT	531514.600	378363.475	807.77
BM4	CHIS. "X" SE CORNER OF FLANGE OF SIGN BRIDGE	66'SB'+69.68	41.50' LT	531253.000	379383.600	793.92

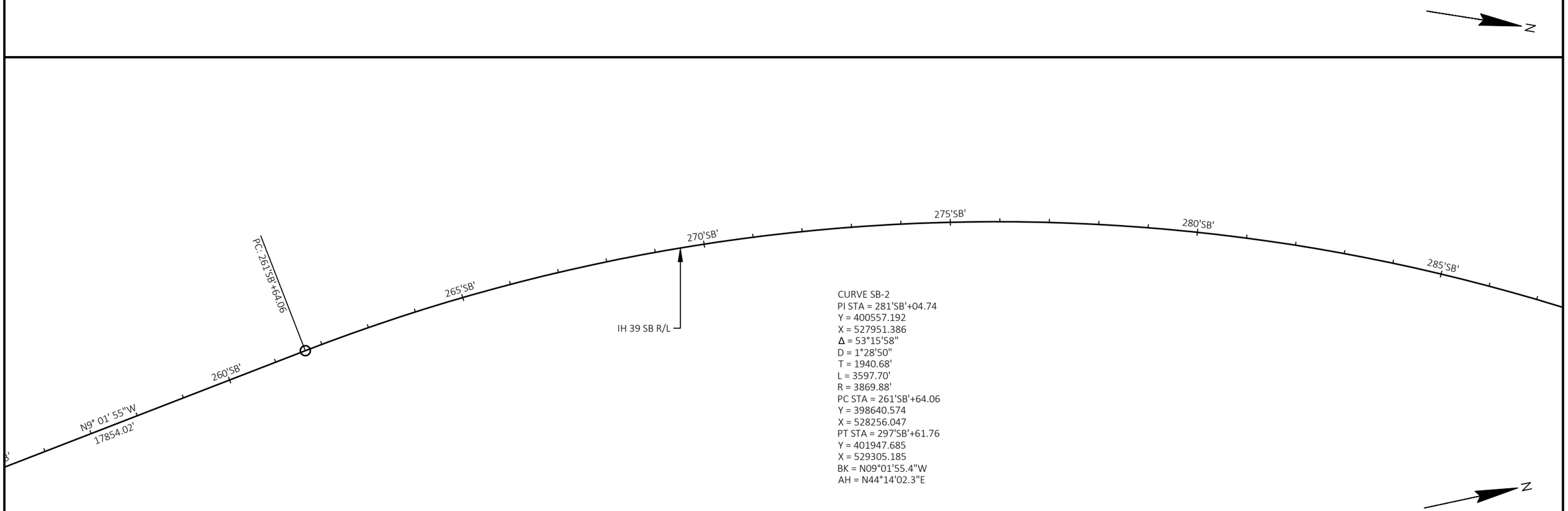


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	ALIGNMENT DIAGRAM	SHEET 75	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 02
PLOT DATE : 10/9/2019 3:06 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

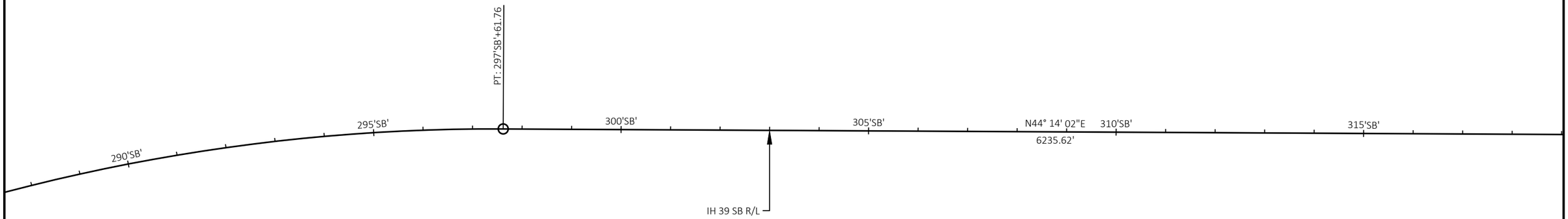


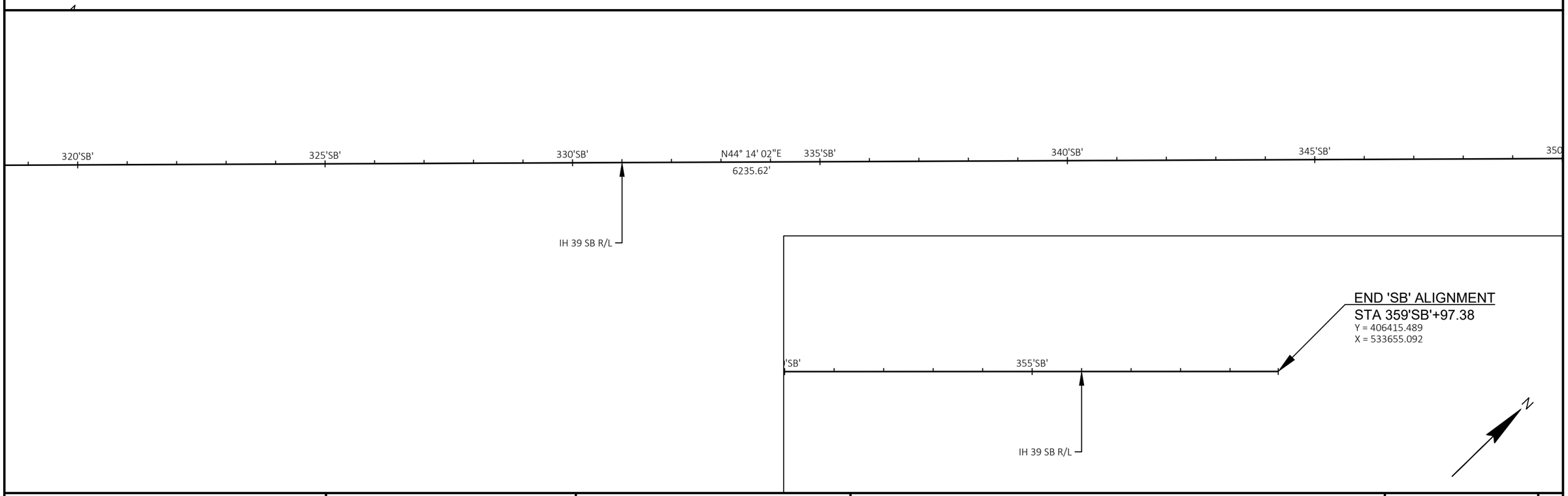


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	ALIGNMENT DIAGRAM	SHEET 76	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 03
PLOT DATE : 10/9/2019 3:06 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

2





PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	ALIGNMENT DIAGRAM	SHEET 77	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\027201-AD.DWG
LAYOUT NAME - 04
PLOT DATE : 10/9/2019 3:06 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

1161-00-66

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0004	204.0100	Removing Pavement	SY	175.000	175.000
0006	204.0110	Removing Asphaltic Surface	SY	162.000	162.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	34,410.000	34,410.000
0010	204.0157	Removing Concrete Barrier	LF	35.000	35.000
0012	204.0165	Removing Guardrail	LF	610.000	610.000
0014	204.0170	Removing Fence	LF	2,020.000	2,020.000
0016	204.0180	Removing Delineators and Markers	EACH	140.000	140.000
0018	204.9060.S	Removing (item description) 01. Pipe Arch Steel Apron Endwall	EACH	1.000	1.000
0020	205.0100	Excavation Common	CY	480.000	480.000
0022	206.2000	Excavation for Structures Culverts (structure) 01. M-11-11	LS	1.000	1.000
0024	206.5000	Cofferdams (structure) 01. M-11-11	LS	1.000	1.000
0026	206.5000	Cofferdams (structure) 02. 23'J'+98	LS	1.000	1.000
0028	206.5000	Cofferdams (structure) 03. 24'J'+08	LS	1.000	1.000
0030	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	9.000	9.000
0032	213.0100	Finishing Roadway (project) 01. 1161-00-66	EACH	1.000	1.000
0034	305.0110	Base Aggregate Dense 3/4-Inch	TON	2,322.000	2,322.000
0036	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	648.000	648.000
0038	305.0500	Shaping Shoulders	STA	54.000	54.000
0040	311.0110	Breaker Run	TON	20.000	20.000
0042	415.0410	Concrete Pavement Approach Slab	SY	175.000	175.000
0044	415.6000.S	Rout and Seal	LF	53,201.000	53,201.000
0046	416.0610	Drilled Tie Bars	EACH	1,967.000	1,967.000
0048	416.0620	Drilled Dowel Bars	EACH	4,468.000	4,468.000
0050	416.0754.S	Concrete Pavement Partial Depth Repair Surface Repair	SF	816.000	816.000
0052	416.1710	Concrete Pavement Repair	SY	1,633.000	1,633.000
0054	416.1715	Concrete Pavement Repair SHES	SY	80.000	80.000
0056	416.1720	Concrete Pavement Replacement	SY	6,082.000	6,082.000
0058	416.1725	Concrete Pavement Replacement SHES	SY	100.000	100.000
0060	455.0605	Tack Coat	GAL	2,439.000	2,439.000
0062	460.2000	Incentive Density HMA Pavement	DOL	3,070.000	3,070.000
0064	460.5224	HMA Pavement 4 LT 58-28 S	TON	4,786.000	4,786.000
0066	465.0400	Asphaltic Shoulder Rumble Strips	LF	53,932.000	53,932.000
0068	504.0900	Concrete Masonry Endwalls	CY	9.000	9.000
0070	516.0500	Rubberized Membrane Waterproofing	SY	44.000	44.000
0072	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0074	602.0405	Concrete Sidewalk 4-Inch	SF	344.000	344.000

1161-00-66

Line	Item	Item Description	Unit	Total	Qty
0076	603.0105	Concrete Barrier Single-Faced 32-Inch	LF	23.000	23.000
0078	603.1442	Concrete Barrier Type S42C	LF	673.000	673.000
0080	603.3113	Concrete Barrier Transition Type NJ32SF to S36	EACH	1.000	1.000
0082	603.3535	Concrete Barrier Transition Type S36 to S42	EACH	1.000	1.000
0084	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,000.000	1,000.000
0086	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,000.000	1,000.000
0088	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	131.200	131.200
0090	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	47.700	47.700
0092	611.0610	Inlet Covers Type BW	EACH	6.000	6.000
0094	611.1005	Catch Basins 5-FT Diameter	EACH	1.000	1.000
0096	611.3004	Inlets 4-FT Diameter	EACH	5.000	5.000
0098	614.0305	Steel Plate Beam Guard Class A	LF	50.000	50.000
0100	614.0905	Crash Cushions Temporary	EACH	1.000	1.000
0102	614.2300	MGS Guardrail 3	LF	263.000	263.000
0104	614.2500	MGS Thrie Beam Transition	LF	39.000	39.000
0106	614.2610	MGS Guardrail Terminal EAT	EACH	1.000	1.000
0108	616.0100	Fence Woven Wire (height) 01. 4 FT.	LF	2,020.000	2,020.000
0110	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1161-00-66	EACH	1.000	1.000
0112	619.1000	Mobilization	EACH	1.000	1.000
0114	624.0100	Water	MGAL	30.000	30.000
0116	625.0100	Topsoil	SY	100.000	100.000
0118	625.0500	Salvaged Topsoil	SY	1,028.000	1,028.000
0120	628.1504	Silt Fence	LF	1,779.000	1,779.000
0122	628.1520	Silt Fence Maintenance	LF	1,779.000	1,779.000
0124	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0126	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0128	628.2002	Erosion Mat Class I Type A	SY	1,028.000	1,028.000
0130	628.7020	Inlet Protection Type D	EACH	6.000	6.000
0132	628.7570	Rock Bags	EACH	333.000	333.000
0134	629.0210	Fertilizer Type B	CWT	1.000	1.000
0136	630.0120	Seeding Mixture No. 20	LB	29.000	29.000
0138	630.0200	Seeding Temporary	LB	29.000	29.000
0140	630.0500	Seed Water	MGAL	26.000	26.000
0142	633.0100	Delineator Posts Steel	EACH	117.000	117.000
0144	633.0500	Delineator Reflectors	EACH	117.000	117.000
0146	633.1000	Delineators Barrier Wall	EACH	6.000	6.000
0148	633.5200	Markers Culvert End	EACH	6.000	6.000

1161-00-66

Line	Item	Item Description	Unit	Total	Qty
0150	638.2102	Moving Signs Type II	EACH	1.000	1.000
0152	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0154	642.5001	Field Office Type B	EACH	1.000	1.000
0156	643.0300	Traffic Control Drums	DAY	15,155.000	15,155.000
0158	643.0420	Traffic Control Barricades Type III	DAY	1,455.000	1,455.000
0160	643.0705	Traffic Control Warning Lights Type A	DAY	2,740.000	2,740.000
0162	643.0715	Traffic Control Warning Lights Type C	DAY	3,267.000	3,267.000
0164	643.0800	Traffic Control Arrow Boards	DAY	138.000	138.000
0166	643.0900	Traffic Control Signs	DAY	3,913.000	3,913.000
0168	643.0910	Traffic Control Covering Signs Type I	EACH	1.000	1.000
0170	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0172	643.1050	Traffic Control Signs PCMS	DAY	245.000	245.000
0174	643.1055.S	Truck or Trailer Mounted Attenuator	DAY	20.000	20.000
0176	643.1070	Traffic Control Cones 42-Inch	DAY	48.000	48.000
0178	643.5000	Traffic Control	EACH	1.000	1.000
0180	645.0105	Geotextile Type C	SY	14.000	14.000
0182	646.1020	Marking Line Epoxy 4-Inch	LF	5,720.000	5,720.000
0184	646.5520	Marking Outfall Epoxy	EACH	116.000	116.000
0186	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	3,590.000	3,590.000
0188	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	800.000	800.000
0190	649.0960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	100.000	100.000
0192	650.4000	Construction Staking Storm Sewer	EACH	6.000	6.000
0194	650.4500	Construction Staking Subgrade	LF	729.000	729.000
0196	650.5000	Construction Staking Base	LF	729.000	729.000
0198	650.6500	Construction Staking Structure Layout (structure) 01. M-11-11	LS	1.000	1.000
0200	650.7500	Construction Staking Concrete Barrier	LF	722.000	722.000
0202	650.8000	Construction Staking Resurfacing Reference	LF	57,523.000	57,523.000
0204	650.9910	Construction Staking Supplemental Control (project) 01. 1161-00-66	LS	1.000	1.000
0206	650.9920	Construction Staking Slope Stakes	LF	978.000	978.000
0208	690.0150	Sawing Asphalt	LF	187.000	187.000
0210	690.0250	Sawing Concrete	LF	13,384.000	13,384.000
0212	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0214	715.0603	Incentive Strength Concrete Barrier	DOL	1,446.000	1,446.000
0216	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,000.000	1,000.000
0218	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	750.000	750.000
0220	SPV.0060	Special 01. Removing Raised Pavement Markers and Filing Voids	EACH	300.000	300.000
0222	SPV.0060	Special 02. Concrete Barrier Wall Surface Repair	EACH	13.000	13.000

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Line	Item	Item Description	Unit	Total	Qty
0224	SPV.0060	Special 03. Sloped Bottom Slip-On Duckbill Check Valve 18-inch	EACH	2.000	2.000
0226	SPV.0060	Special 04. Sloped Bottom Slip-On Duckbill Check Valve 24-inch	EACH	2.000	2.000
0228	SPV.0060	Special 05. Sloped Bottom Slip-On Duckbill Check Valve 60-inch	EACH	1.000	1.000
0230	SPV.0060	Special 06. Aluminum Stop Log System 54-inch	EACH	2.000	2.000
0232	SPV.0090	Special 01. Repair/Replace Concrete Barrier	LF	14.000	14.000
0234	SPV.0090	Special 02. Pipe Underdrain (6-inch) with Geotextile Fabric and Aggregate	LF	616.000	616.000

3

PIPE REMOVALS

	LOCATION	LT/RT	STA	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.9060.S.01 REMOVING PIPE ARCH STEEL APRON ENDWALL EACH	COMMENTS
MAINLINE	IH 39 SB	LT	57'SB'+06	1	---	EX. 24" RCCP
	IH 39 SB	LT	59'SB'+59	1	---	EX. 24" RCCP
	SUBTOTAL			2	0	
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	LT/RT	5'G'+16	---	1	TWIN 43" X 64" ARCH CMCP ENDWALL
	SUBTOTAL			0	1	
		TOTAL		**2**	**1**	

ASPHALTIC PAVEMENT REMOVALS

	LOCATION	LT/RT	STA	TO	STA	204.0110 REMOVING ASPHALTIC SURFACE SY
MAINLINE	IH 39 SB	LT	56'SB'+94	-	57'SB'+17	6
	IH 39 SB	LT	58'SB'+42	-	65'SB'+49	156
	TOTAL					**162**

3

BARRIER/GUARDRAIL REMOVALS

	LOCATION	LT/RT	STA	TO	STA	204.0157 REMOVING CONCRETE BARRIER LF	204.0165 REMOVING GUARDRAIL LF
MAINLINE	IH 39 SB	LT	56'SB'+94	-	57'SB'+17	23	---
	IH 39 SB	LT	58'SB'+42	-	58'SB'+54	12	435
	SUBTOTAL					**35**	**435**
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	LT	23'J'+77	-	24'J'+25	---	175
	SUBTOTAL					**0**	**175**
		TOTAL				**35**	**610**

ASPHALTIC SURFACE MILLING

	LOCATION	LT/RT	STA	TO	STA	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	COMMENTS
MAINLINE	IH 39 NB	LT	188+88	-	194+43	250	MEDIAN SHOULDER
	IH 39 NB	LT	373+00	-	612+15	10,700	MEDIAN SHOULDER
	SUBTOTAL					**10,950**	
	IH 39 NB	RT	373+00	-	612+15	21,300	OUTSIDE SHOULDER
	SUBTOTAL					**21,300**	
RAMPS	IH 39 SB OFF USH 51	LT	380'R2'+00	-	390'R2'+00	340	INSIDE SHOULDER
	IH 39 SB OFF USH 51	RT	380'R2'+00	-	390'R2'+00	560	OUTSIDE SHOULDER
	IH 39 SB ON USH 51	LT	371'R3'+00	-	378'R3'+00	240	INSIDE SHOULDER
	IH 39 SB ON USH 51	RT	371'R3'+00	-	378'R3'+00	390	OUTSIDE SHOULDER
	IH 39 NB OFF USH 51	LT	368'R4'+00	-	375'R4'+00	240	INSIDE SHOULDER
	IH 39 NB OFF USH 51	RT	368'R4'+00	-	375'R4'+00	390	OUTSIDE SHOULDER
	SUBTOTAL					**2,160**	
			TOTAL			**34,410**	

3

DIVISION	FROM-TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	205.0500 MARSH EXCAVATION (6)	206.2000 EXC. FOR STRUCTURES (6A)	205.0200 ROCK EXCAVATION (7)	REDUCED MARSH IN FILL (8)	REDUCED EXC. FOR STRUCTURES IN FILL (8A)	REDUCED EBS IN FILL (9)	EXPANDED MARSH BACKFILL (10)	EXPANDED EXC. FOR STRUCTURES BACKFILL (10A)	EXPANDED EBS BACKFILL (11)	EXPANDED ROCK (12)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT:
			CUT (2)	EBS EXCAVATION (3)						FACTOR 0.00	FACTOR 0.00	FACTOR 0.80	FACTOR 1.50	FACTOR 1.50	FACTOR 1.30	FACTOR 1.10		FACTOR 1.25				
DIVISION 1																						
IH 39 SB	56'SB'+94 - 69'SB'+96	OUTSIDE SHOULDER	476	0	64	411	0	0	0	0	0	0	0	0	0	0	13	16	395	395	0	
DIVISION 1 SUBTOTAL			476	0	64	411	0	0	0	0	0	0	0	0	0	0	13	16	395	395	0	
DIVISION 2																						
IH 39 SB ON-OFF RAMPS	5'G'+07.86 - 5'G'+24.28	ON RAMP OUTSIDE SHOULDER	4	0	0	4	0	17	0	0	0	0	0	25	0	0	2	3	1	1	0	
DIVISION 2 SUBTOTAL			4	0	0	4	0	17	0	0	0	0	0	25	0	0	2	3	1	1	0	
GRAND TOTAL			480	0	64	416	0	17	0	0	0	0	0	25	0	0	16	20	396	396	0	
TOTAL COMMON EXC			480																			

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(6) MARSH EXCAVATION - TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL. ITEM NUMBER 205.0500

(6A) EXCAVATION FOR STRUCTURES - TO BE BACKFILLED WITH BREAKER RUN MATERIAL. NOTE: ITEM NUMBER 206.2000.

(7) ROCK EXCAVATION ITEM NUMBER 205.0200

(8) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = X.1X

(8A) REDUCED EXCAVATION FOR STRUCTURES IN FILL - EXCAVATED MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = X.1X

(9) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = X.2X

(10) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH BREAKER RUN MATERIAL. MARSH BACKFILL FACTOR = X.3X ITEM NUMBER 311.0115

(10A) EXPANDED EXCAVATION FOR STRUCTURES BACKFILL - THIS IS TO BE FILLED WITH BREAKER RUN MATERIAL. ITEM NUMBER 311.0110. NOTE: SEE CONSTRUCTION DETAILS FOR SUITABLE BACKFILL ALTERNATIVES.

(11) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = X.4X ITEM NUMBER 208.1100

(12) EXPANDED ROCK FACTOR = X.5X

(13) EXPANDED FILL FACTOR = X.6X

DEPENDING ON SELECTIONS: **EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) * FILL FACTOR**

OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED EBS) * FILL FACTOR

OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH) * FILL FACTOR

OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * FILL FACTOR

(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

3

AGGREGATE ITEMS

						305.0110	305.0120	311.0110	624.0100	
	LOCATION	LT/RT	STA	TO	STA	BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	BREAKER RUN TON	WATER MGAL	COMMENTS
MAINLINE	IH 39 NB	LT	188+88	-	194+43	50	---	---	1	MEDIAN SHOULDER
	IH 39 NB	LT	373+00	-	612+15	670	---	---	7	MEDIAN SHOULDER
	SUBTOTAL					**720**	**0**	**0**	**8**	
	IH 39 NB	RT	373+00	-	612+15	670	---	---	7	OUTSIDE SHOULDER
	SUBTOTAL					**670**	**0**	**0**	**7**	
	IH 39 SB	LT	56'SB'+94	-	57'SB'+17	---	23	---	0.1	
	IH 39 SB	LT	58'SB'+42	-	65'SB'+49	---	619	---	2.5	
	IH 39 SB	LT	65'SB'+49	-	69'SB'+95	42	---	---	0.2	
	SUBTOTAL					**42**	**642**	**0**	**2.8**	
IH 39 USH 51 RAMPS	IH 39 SB OFF USH 51	LT	380'R2'+00	-	390'R2'+00	130	---	---	2	INSIDE SHOULDER
	IH 39 SB OFF USH 51	RT	380'R2'+00	-	390'R2'+00	200	---	---	2	OUTSIDE SHOULDER
	IH 39 SB ON USH 51	LT	371'R3'+00	-	378'R3'+00	140	---	---	2	INSIDE SHOULDER
	IH 39 SB ON USH 51	RT	371'R3'+00	-	378'R3'+00	140	---	---	2	OUTSIDE SHOULDER
	IH 39 NB OFF USH 51	LT	368'R4'+00	-	375'R4'+00	140	---	---	2	INSIDE SHOULDER
	IH 39 NB OFF USH 51	RT	368'R4'+00	-	375'R4'+00	140	---	---	2	OUTSIDE SHOULDER
	SUBTOTAL					**890**	**0**	**0**	**12**	
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	LT/RT	5'G'+07	-	5'G'+25	---	---	20	0.1	SEE CONSTRUCTION DETAILS FOR HEADWALL
	SUBTOTAL					**0**	**0**	**20**	**0.1**	
CASCADE MTN RD	CASCADE MOUNTAIN ROAI	LT/RT		23'J'+99		**---**	6	---	0.1	CONCRETE PAD
	SUBTOTAL					**0**	**6**	**0**	**0.1**	
	TOTAL					**2,322**	**648**	**20**	**30.0**	

3

ASPHALT ITEMS

	LOCATION	LT/RT	STA	TO	STA	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	305.0500 SHAPING SHOULDERS STA	415.6000.S ROUT AND SEAL LF	455.0605* TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	COMMENTS
MAINLINE	IH 39 NB	LT	188+88	-	194+43	---	6	555	20	50	555	MEDIAN SHOULDER
	IH 39 NB	LT	373+00	-	612+15	---	---	23,915	750	2,100	23,915	MEDIAN SHOULDER
	SUBTOTAL					**0**	**6**	**24,470**	**770**	**2,150**	**24,470**	
	IH 39 NB	RT	96+29	-	96+35	---	---	4	1	1	6	WEEP AREA 1
	IH 39 NB	RT	188+74	-	188+80	---	---	4	1	1	6	WEEP AREA 2
	IH 39 NB	RT	252+24	-	252+30	---	---	4	1	1	6	WEEP AREA 3
	IH 39 NB	RT	339+19	-	339+25	---	---	4	1	1	6	WEEP AREA 4
	IH 39 NB	RT	373+00	-	612+15	---	---	23,915	1,500	2,090	23,915	OUTSIDE SHOULDER
	SUBTOTAL					**0**	**0**	**23,931**	**1,504**	**2,094**	**23,939**	
MAINLINE	IH 39 SB	LT	56'SB'+94	-	57'SB'+17	2	--	--	--	3	23	
	IH 39 SB	LT	58'SB'+42	-	65'SB'49	7	--	--	--	99	700	
	SUBTOTAL					**9**	**0**	**0**	**0**	**102**	**723**	
RAMPS	IH 39 SB OFF USH 51	LT	380'R2'+00	-	390'R2'+00	---	10	1000	25	70	1,000	INSIDE SHOULDER
	IH 39 SB OFF USH 51	RT	380'R2'+00	-	390'R2'+00	---	10	1000	40	110	1,000	OUTSIDE SHOULDER
	IH 39 SB ON USH 51	LT	371'R3'+00	-	378'R3'+00	---	7	700	20	50	700	INSIDE SHOULDER
	IH 39 SB ON USH 51	RT	371'R3'+00	-	378'R3'+00	---	7	700	30	80	700	OUTSIDE SHOULDER
	IH 39 NB OFF USH 51	LT	368'R4'+00	-	375'R4'+00	---	7	700	20	50	700	INSIDE SHOULDER
	IH 39 NB OFF USH 51	RT	368'R4'+00	-	375'R4'+00	---	7	700	30	80	700	OUTSIDE SHOULDER
	SUBTOTAL					**0**	**48**	**4800**	**165**	**440**	**4,800**	
	TOTAL					**9**	**54**	**53,201**	**2,439**	**4,786**	**53,932**	

CONCRETE PAVEMENT REPLACEMENTS AND REPAIRS (1 OF 4)

	Patch #	LOCATION	BEGIN STATION		END STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	690.0250 SAWING CONCRETE LF	
MAINLINE	1	IH 39 NB	49+89	-	49+96	MEDIAN	-	18	10.0	-	26	
	10	IH 39 NB	67+51	-	67+55	MEDIAN	-	18	8.0	-	26	Expansion Joint
	12	IH 39 NB	77+77	-	77+81	MEDIAN	-	18	8.0	-	26	Expansion Joint
	43	IH 39 NB	153+32	-	153+50	MEDIAN	-	18	-	24.1	52	
	48	IH 39 NB	164+25	-	164+29	MEDIAN	-	16	8.0	-	30	
	49	IH 39 NB	165+33	-	165+37	MEDIAN	-	16	8.0	-	30	
	50	IH 39 NB	166+30	-	166+34	MEDIAN	-	16	8.0	-	30	
	62	IH 39 NB	189+52	-	189+60	MEDIAN	-	18	10.3	-	26	
	66	IH 39 NB	198+07	-	198+23	MEDIAN	12	16	-	22.2	48	
	67	IH 39 NB	201+63	-	201+67	MEDIAN	-	18	8.0	-	26	Expansion Joint
	69	IH 39 NB	224+19	-	224+23	MEDIAN	-	18	8.0	-	26	Expansion Joint
	74	IH 39 NB	232+55	-	232+61	MEDIAN	-	16	8.4	-	30	
	79	IH 39 NB	247+58	-	247+64	MEDIAN	-	16	9.1	-	31	
	83	IH 39 NB	256+10	-	256+16	MEDIAN	-	16	8.0	-	30	
	87	IH 39 NB	260+41	-	260+50	MEDIAN	-	18	11.0	-	26	
	89	IH 39 NB	264+99	-	265+05	MEDIAN	-	18	8.0	-	26	Expansion Joint
	90	IH 39 NB	282+14	-	282+19	MEDIAN	-	18	8.0	-	29	Expansion Joint
	92	IH 39 NB	295+24	-	295+29	MEDIAN	-	18	8.0	-	26	Expansion Joint
	99	IH 39 NB	322+07	-	322+10	MEDIAN	-	16	8.0	-	30	
	114	IH 39 NB	357+76	-	357+85	MEDIAN	-	16	12.5	-	33	
	122	IH 39 NB	364+71	-	365+07	MEDIAN	11	18	-	48.2	91	
	128	IH 39 NB	372+07	-	372+11	MEDIAN	-	18	8.0	-	26	Expansion Joint
	129	IH 39 NB	372+47	-	372+61	MEDIAN	-	18	18.1	-	26	
	130	IH 39 NB	383+09	-	383+13	MEDIAN	-	18	8.0	-	27	Expansion Joint
	131	IH 39 NB	387+11	-	387+30	MEDIAN	-	18	-	25.4	52	
	133	IH 39 NB	393+88	-	393+99	MEDIAN	-	24	18.6	-	35	
	135	IH 39 NB	410+32	-	410+50	MEDIAN	-	18	-	24.5	52	
	137	IH 39 NB	432+16	-	432+22	MEDIAN	-	18	8.6	-	26	
	138	IH 39 NB	443+61	-	443+81	MEDIAN	-	18	-	27.4	52	
	139	IH 39 NB	458+30	-	458+38	MEDIAN	-	18	10.3	-	26	
	140	IH 39 NB	466+54	-	466+58	MEDIAN	-	18	8.0	-	26	Expansion Joint
	142	IH 39 NB	469+01	-	469+09	MEDIAN	-	16	10.1	-	32	
	143	IH 39 NB	472+45	-	472+48	MEDIAN	-	18	8.0	-	26	Expansion Joint
	144	IH 39 NB	507+36	-	507+52	MEDIAN	-	18	-	21.3	52	
	145	IH 39 NB	548+40	-	548+47	MEDIAN	-	18	9.1	-	26	
	146	IH 39 NB	605+00	-	605+04	MEDIAN	-	18	8.0	-	26	Expansion Joint
	MEDIAN SUBTOTAL						**23**	**634**	**272**	**193**	**1208**	
MAINLINE	1A	IH 39 NB	49+89	-	49+96	OUTSIDE	-	18	11.7	-	26	
	2	IH 39 NB	50+63	-	50+85	OUTSIDE	14	20	-	33.7	56	
	3	IH 39 NB	56+02	-	56+07	OUTSIDE	-	20	9.3	-	34	
	4	IH 39 NB	57+46	-	57+52	OUTSIDE	-	20	9.3	-	34	
	5	IH 39 NB	60+00	-	60+18	OUTSIDE	12	20	-	28.0	56	
	6	IH 39 NB	63+40	-	63+45	OUTSIDE	-	20	9.3	-	34	
	7	IH 39 NB	63+75	-	63+80	OUTSIDE	-	20	9.3	-	34	
	8	IH 39 NB	64+88	-	64+99	OUTSIDE	-	20	18.0	-	40	
	9	IH 39 NB	66+11	-	66+16	OUTSIDE	-	20	9.3	-	34	
	10A	IH 39 NB	67+51	-	67+55	OUTSIDE	-	18	9.4	-	26	Expansion Joint
	11	IH 39 NB	67+96	-	68+03	OUTSIDE	-	20	10.6	-	35	
	12A	IH 39 NB	77+77	-	77+81	OUTSIDE	-	20	9.3	-	34	Expansion Joint
	13	IH 39 NB	84+21	-	84+58	OUTSIDE	24	20	-	56.1	98	
	14	IH 39 NB	87+47	-	87+64	OUTSIDE	12	20	-	27.8	56	
	15	IH 39 NB	88+70	-	88+76	OUTSIDE	-	20	9.3	-	34	

CONCRETE PAVEMENT REPLACEMENTS AND REPAIRS (CONT. 2 OF 4))

	Patch #	LOCATION	BEGIN STATION		END STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	690.0250 SAWING CONCRETE LF	
MAINLINE	16	IH 39 NB	91+26	-	92+33	OUTSIDE	72	20	-	167.7	238	
	17	IH 39 NB	93+95	-	94+31	OUTSIDE	24	20	-	55.8	98	
	18	IH 39 NB	95+21	-	95+25	OUTSIDE	-	20	9.3	-	34	
	19	IH 39 NB	95+57	-	95+93	OUTSIDE	24	20	-	56.2	98	
	20	IH 39 NB	98+12	-	98+18	OUTSIDE	-	20	10.1	-	35	
	21	IH 39 NB	106+59	-	106+95	OUTSIDE	24	20	-	55.6	98	
	22	IH 39 NB	116+52	-	116+88	OUTSIDE	24	20	-	55.8	98	
	23	IH 39 NB	117+60	-	118+15	OUTSIDE	37	20	-	84.3	126	
	24	IH 39 NB	118+87	-	118+91	OUTSIDE	-	20	9.3	-	34	
	25	IH 39 NB	121+94	-	121+98	OUTSIDE	-	20	9.3	-	34	
	26	IH 39 NB	122+84	-	122+87	OUTSIDE	-	20	9.3	-	34	
	27	IH 39 NB	123+20	-	123+55	OUTSIDE	24	20	-	55.8	98	
	28	IH 39 NB	126+44	-	126+48	OUTSIDE	-	20	9.3	-	34	
	29	IH 39 NB	128+18	-	128+55	OUTSIDE	25	20	-	57.2	98	
	30	IH 39 NB	130+36	-	130+79	OUTSIDE	29	20	-	67.4	112	
	31	IH 39 NB	132+35	-	132+40	OUTSIDE	-	20	9.3	-	34	
	32	IH 39 NB	133+08	-	133+13	OUTSIDE	-	20	9.3	-	34	
	33	IH 39 NB	133+99	-	134+01	OUTSIDE	-	20	9.3	-	34	
	34	IH 39 NB	134+88	-	135+60	OUTSIDE	49	20	-	112.3	168	
	35	IH 39 NB	135+97	-	136+33	OUTSIDE	29	20	-	56.1	98	
	36	IH 39 NB	139+03	-	139+05	OUTSIDE	-	20	9.3	-	34	
	37	IH 39 NB	139+75	-	139+80	OUTSIDE	-	20	9.3	-	34	
	38	IH 39 NB	141+75	-	141+78	OUTSIDE	-	20	9.3	-	34	
	39	IH 39 NB	147+20	-	147+23	OUTSIDE	-	20	9.3	-	34	
	40	IH 39 NB	147+43	-	147+57	OUTSIDE	-	20	20.8	-	41	
	41	IH 39 NB	152+31	-	152+35	OUTSIDE	-	20	9.3	-	34	
	42	IH 39 NB	152+66	-	152+69	OUTSIDE	-	20	9.3	-	34	
	43A	IH 39 NB	153+32	-	153+50	OUTSIDE	-	18	-	28.3	52	
	44	IH 39 NB	153+50	-	153+65	OUTSIDE	11	20	-	23.7	56	
	45	IH 39 NB	155+77	-	155+80	OUTSIDE	-	20	9.3	-	34	
	46	IH 39 NB	158+16	-	158+19	OUTSIDE	-	20	9.3	-	34	
	47	IH 39 NB	158+39	-	158+70	OUTSIDE	21	20	-	47.3	84	
	51	IH 39 NB	168+15	-	168+23	OUTSIDE	-	20	12.3	-	36	
	52	IH 39 NB	170+11	-	170+63	OUTSIDE	35	20	-	80.0	126	
	53	IH 39 NB	171+14	-	171+54	OUTSIDE	26	20	-	60.9	98	
	54	IH 39 NB	171+87	-	171+91	OUTSIDE	-	20	9.3	-	34	
	55	IH 39 NB	172+59	-	172+96	OUTSIDE	25	20	-	57.1	98	
	56	IH 39 NB	177+45	-	177+50	OUTSIDE	-	20	9.3	-	34	
	57	IH 39 NB	183+39	-	183+77	OUTSIDE	26	20	-	59.5	98	
	58	IH 39 NB	185+77	-	185+80	OUTSIDE	24	20	9.3	-	64	
	59	IH 39 NB	187+03	-	187+38	OUTSIDE	24	20	-	55.5	98	
	60	IH 39 NB	188+48	-	188+84	OUTSIDE	24	20	-	56.6	98	
	61	IH 39 NB	189+22	-	189+52	OUTSIDE	20	20	-	46.7	84	
	62A	IH 39 NB	189+52	-	189+60	OUTSIDE	-	18	12.1	-	26	
	63	IH 39 NB	189+60	-	189+75	OUTSIDE	-	20	23.3	-	34	
	64	IH 39 NB	194+14	-	194+18	OUTSIDE	-	20	9.3	-	34	
	65	IH 39 NB	197+59	-	198+48	OUTSIDE	60	20	-	139.4	196	
	67A	IH 39 NB	201+63	-	201+67	OUTSIDE	-	20	9.3	-	34	Expansion Joint
	68	IH 39 NB	201+81	-	201+85	OUTSIDE	-	20	9.3	-	34	
	69A	IH 39 NB	224+19	-	224+23	OUTSIDE	-	18	9.4	-	26	Expansion Joint

CONCRETE PAVEMENT REPLACEMENTS AND REPAIRS (CONT. 3 OF 4)

	Patch #	LOCATION	BEGIN STATION		END STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	690.0250 SAWING CONCRETE LF	
MAINLINE	70	IH 39 NB	228+61	-	228+97	OUTSIDE	24	20	-	55.5	98	
	71	IH 39 NB	229+51	-	229+86	OUTSIDE	24	20	-	55.4	98	
	72	IH 39 NB	230+22	-	230+58	OUTSIDE	24	20	-	55.6	98	
	73	IH 39 NB	232+38	-	232+74	OUTSIDE	24	20	-	55.4	98	
	75	IH 39 NB	234+22	-	235+31	OUTSIDE	114	20	-	170.0	364	
	76	IH 39 NB	236+42	-	238+39	OUTSIDE	132	20	-	306.7	420	
	77	IH 39 NB	246+69	-	246+75	OUTSIDE	-	20	9.3	-	37	
	78	IH 39 NB	247+44	-	248+17	OUTSIDE	49	20	-	113.2	168	
	80	IH 39 NB	248+64	-	249+31	OUTSIDE	45	20	-	103.6	154	
	81	IH 39 NB	249+70	-	250+39	OUTSIDE	46	20	-	107.3	154	
	82	IH 39 NB	252+19	-	252+25	OUTSIDE	-	20	10.0	-	34	
	84	IH 39 NB	256+16	-	256+87	OUTSIDE	48	20	-	111.3	168	
	85	IH 39 NB	258+27	-	258+32	OUTSIDE	-	20	9.3	-	34	
	86	IH 39 NB	258+51	-	258+56	OUTSIDE	-	20	9.3	-	34	
	87A	IH 39 NB	260+41	-	260+50	OUTSIDE	-	18	12.9	-	26	
	88	IH 39 NB	263+61	-	263+99	OUTSIDE	25	20	-	58.3	98	
	89A	IH 39 NB	264+99	-	265+26	OUTSIDE	18	20	-	42.0	70	Expansion Joint
	90A	IH 39 NB	282+14	-	282+19	OUTSIDE	-	18	9.3	-	29	Expansion Joint
	91	IH 39 NB	294+98	-	295+02	OUTSIDE	-	18	9.3	-	26	
	92A	IH 39 NB	295+24	-	295+29	OUTSIDE	-	20	9.3	-	34	Expansion Joint
	93	IH 39 NB	299+83	-	299+86	OUTSIDE	-	20	9.3	-	34	
	94	IH 39 NB	300+56	-	300+92	OUTSIDE	22	20	-	55.2	98	
	95	IH 39 NB	301+28	-	301+46	OUTSIDE	11	20	-	27.5	56	
	96	IH 39 NB	310+55	-	311+13	OUTSIDE	35	20	-	87.3	68	
	97	IH 39 NB	316+17	-	316+53	OUTSIDE	22	20	-	56.2	84	
	98	IH 39 NB	317+45	-	317+81	OUTSIDE	22	20	-	56.0	84	
	100	IH 39 NB	322+41	-	322+45	OUTSIDE	-	20	9.3	-	34	
	101	IH 39 NB	324+61	-	324+64	OUTSIDE	-	20	9.3	-	34	
	102	IH 39 NB	327+48	-	327+51	OUTSIDE	-	20	9.3	-	34	
	103	IH 39 NB	327+94	-	328+12	OUTSIDE	12	20	-	27.4	56	
	104	IH 39 NB	338+73	-	339+30	OUTSIDE	35	20	-	89.1	140	
	105	IH 39 NB	347+73	-	347+79	OUTSIDE	-	20	9.3	-	34	
	106	IH 39 NB	348+63	-	348+69	OUTSIDE	-	20	9.5	-	56	
	107	IH 39 NB	349+56	-	349+74	OUTSIDE	11	20	-	28.3	34	
	108	IH 39 NB	350+72	-	351+00	OUTSIDE	17	20	-	43.0	70	
	109	IH 39 NB	351+70	-	351+75	OUTSIDE	-	20	9.3	-	34	
	110	IH 39 NB	352+25	-	352+28	OUTSIDE	-	20	9.3	-	34	
	111	IH 39 NB	352+60	-	352+64	OUTSIDE	-	20	9.3	-	34	
	112	IH 39 NB	354+56	-	354+64	OUTSIDE	-	20	12.4	-	36	
	113	IH 39 NB	356+05	-	357+09	OUTSIDE	63	20	-	161.8	224	
	115	IH 39 NB	357+76	-	358+50	OUTSIDE	45	20	-	116.8	168	
	116	IH 39 NB	359+27	-	359+32	OUTSIDE	-	20	9.3	-	34	
	117	IH 39 NB	360+02	-	360+38	OUTSIDE	-	20	56.0	-	64	
	118	IH 39 NB	362+20	-	362+23	OUTSIDE	-	20	9.3	-	34	
	119	IH 39 NB	362+38	-	362+41	OUTSIDE	-	20	9.3	-	34	
	120	IH 39 NB	362+91	-	362+95	OUTSIDE	-	20	9.3	-	34	
	121	IH 39 NB	363+98	-	364+01	OUTSIDE	-	20	9.3	-	34	
	122A	IH 39 NB	364+71	-	365+07	OUTSIDE	11	18	-	56.6	91	
	123	IH 39 NB	365+76	-	365+83	OUTSIDE	-	20	10.4	-	35	
	124	IH 39 NB	366+67	-	366+72	OUTSIDE	-	20	9.3	-	34	

CONCRETE PAVEMENT REPLACEMENTS AND REPAIRS (CONT. 4 OF 4)

	Patch #	LOCATION	BEGIN STATION		END STATION	LOCATION	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	690.0250 SAWING CONCRETE LF	
MAINLINE	125	IH 39 NB	366+85	-	366+90	OUTSIDE	-	20	9.3	-	34	
	126	IH 39 NB	367+09	-	367+23	OUTSIDE	-	20	21.3	-	42	
	127	IH 39 NB	370+41	-	370+44	OUTSIDE	-	20	9.3	-	34	
	128A	IH 39 NB	372+07	-	372+11	OUTSIDE	-	20	9.3	-	52	Expansion Joint
	129A	IH 39 NB	372+47	-	372+61	OUTSIDE	-	18	21.3	-	26	
	130A	IH 39 NB	383+09	-	383+13	OUTSIDE	-	18	9.4	-	27	Expansion Joint
	131A	IH 39 NB	387+11	-	387+30	OUTSIDE	-	18	-	29.8	52	
	132	IH 39 NB	387+58	-	388+10	OUTSIDE	32	20	-	83.8	126	
	133A	IH 39 NB	393+88	-	393+99	OUTSIDE	-	24	21.9	-	35	
	134	IH 39 NB	408+54	-	408+59	OUTSIDE	-	20	9.3	-	34	
	135A	IH 39 NB	410+32	-	410+50	OUTSIDE	-	18	-	28.8	52	
	136	IH 39 NB	416+69	-	416+75	OUTSIDE	-	20	9.9	-	34	
	137A	IH 39 NB	432+16	-	432+22	OUTSIDE	-	18	10.1	-	26	
	138A	IH 39 NB	443+61	-	443+81	OUTSIDE	-	18	-	32.2	52	
	139A	IH 39 NB	458+30	-	458+38	OUTSIDE	-	18	12.1	-	26	
	140A	IH 39 NB	466+54	-	466+58	OUTSIDE	-	18	9.4	-	26	Expansion Joint
	141	IH 39 NB	468+95	-	469+09	OUTSIDE	-	20	21.6	-	34	
	143A	IH 39 NB	472+45	-	472+48	OUTSIDE	-	18	9.4	-	26	Expansion Joint
	144A	IH 39 NB	507+36	-	507+52	OUTSIDE	-	18	-	25.0	52	
	145A	IH 39 NB	548+40	-	548+47	OUTSIDE	-	18	10.7	-	26	
	146A	IH 39 NB	605+00	-	605+04	OUTSIDE	-	18	9.4	-	26	Expansion Joint
	OUTSIDE SUBTOTAL						**1630**	**2682**	**910**	**3864**	**8949**	
	MAINLINE TOTAL						**1653**	**3316**	**1182**	**4057**	**10157**	
RAMPS												
	147	IH 39 SB OFF USH 51	389+22	-	389+28	RAMP 'R2'	-	22	10.0	-	30	
	148	IH 39 SB OFF USH 51	385+56	-	386+69	RAMP 'R2'	-	22	-	183.3	80	
	149	IH 39 SB OFF USH 51	383+74	-	384+37	RAMP 'R2'	-	22	-	105.0	150	
	150	IH 39 SB OFF USH 51	377+98	-	378+01	RAMP 'R2'	3	22	10.0	-	30	
	151	IH 39 SB OFF USH 51	377+14	-	377+19	RAMP 'R2'	4	22	10.0	-	30	
	152	IH 39 SB OFF USH 51	369+96	-	370+68	RAMP 'R2'	-	22	-	120.0	165	
	153	IH 39 NB ON USH 51	389+68	-	389+77	RAMP 'R3'	-	36	28.9	-	52	
	154	IH 39 SB ON USH 51	387+88	-	389+77	RAMP 'R3'	-	22	-	305.0	405	
	155	IH 39 SB ON USH 51	381+82	-	381+92	RAMP 'R3'	7	22	16.7	-	30	
	156	IH 39 SB ON USH 51	381+61	-	381+65	RAMP 'R3'	3	22	10.0	-	30	
	157	IH 39 SB ON USH 51	381+12	-	381+34	RAMP 'R3'	14	22	-	35.0	60	
	158	IH 39 SB ON USH 51	378+74	-	378+79	RAMP 'R3'	-	36	15.3	-	46	
	159	IH 39 SB ON USH 51	378+48	-	378+51	RAMP 'R3'	-	22	10.0	-	30	
	160	IH 39 SB ON USH 51	378+23	-	378+28	RAMP 'R3'	-	22	10.0	-	30	
	161	IH 39 SB ON USH 51	376+46	-	376+50	RAMP 'R3'	-	22	10.0	-	30	
	162	IH 39 SB ON USH 51	374+80	-	375+18	RAMP 'R3'	-	22	-	65.0	90	
	163	IH 39 SB ON USH 51	372+37	-	373+33	RAMP 'R3'	-	22	-	160.0	225	
	164	IH 39 SB ON USH 51	371+61	-	371+66	RAMP 'R3'	-	22	10.0	-	30	
	165	IH 39 SB ON USH 51	369+45	-	369+62	RAMP 'R3'	-	22	-	121.7	180	
	166	IH 39 SB ON USH 51	366+77	-	367+49	RAMP 'R3'	-	22	-	30.0	60	
	167	IH 39 NB OFF USH 51	368+48	-	368+51	RAMP 'R4'	-	22	10.0	-	30	
	168	IH 39 NB OFF USH 51	372+29	-	372+67	RAMP 'R4'	-	22	-	30.0	105	
	RAMP TOTAL						**31**	**512**	**151**	**1155**	**1918**	
	UNDISTRIBUTED						280	640	300	870	1300	
	PROJECT TOTAL						**1964**	**4468**	**1633**	**6082**	**13375**	

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CONCRETE PAVEMENT APPROACH SLAB

	LOCATION	BEGIN STATION		END STATION	LOCATION	204.0100 REMOVING PAVEMENT SY	415.0090 CONCRETE PAVEMENT APPROACH SLAB SY	COMMENTS
MAINLINE	IH 39 NB	272+53	-	272+68	MEDIAN	20	20	B-11-59
	IH 39 NB	274+24	-	274+39	MEDIAN	20	20	B-11-59
	IH 39 NB	272+53	-	272+68	OUTSIDE	23	23	B-11-59
	IH 39 NB	274+24	-	274+39	OUTSIDE	26	26	B-11-59
	IH 39 SB	272+72	-	272+87	MEDIAN	20	20	B-11-58
	IH 39 SB	274+43	-	274+58	MEDIAN	20	20	B-11-58
	IH 39 SB	272+72	-	272+87	OUTSIDE	23	23	B-11-58
	IH 39 SB	274+43	-	274+58	OUTSIDE	23	23	B-11-58
		TOTAL				**175**	**175**	

CONCRETE PAVEMENT REPLACEMENTS AND REPAIRS (SHES)

	LOCATION	LT/RT	STA	TO	STA	416.1715 CONCRETE PAVEMENT REPAIR SHES SY	416.1725 CONCRETE PAVEMENT REPLACEMENT SHES SY	COMMENTS
IH 39 NB	UNDISTRIBUTED	RT	36+91	-	612+15	80	100	
		TOTAL				**80**	**100**	

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CULVERT PIPE ITEMS

				206.2000	206.5000.01	206.5000.02	206.5000.03	504.0900	633.5200*	645.0105	SPV.0060.05	SPV.0060.06	
				EXCAVATION FOR STRUCTURES CULVERTS (M-11-11)	COFFERDAMS (M-11-11)	COFFERDAMS (STA 23'J'+98)	COFFERDAMS (STA 24'J'+08)	CONCRETE MASONRY ENDWALLS	MARKERS CULVERT END	GEOTEXTILE TYPE C	SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE 60-INCH	ALUMINUM STOP LOG SYSTEM 54-INCH	
	LOCATION	STA	OFFSET	LS	LS	LS	LS	CY	EACH	SY	EACH	EACH	COMMENTS
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	5'G'+16.50	48.6' LT	1	1	---	---	9	1	14	---	2	SEE CONSTRUCTION DETAILS FOR HEADWALL
	SUBTOTAL			**1**	**1**	**0**	**0**	**9**	**1**	**14**	**0**	**2**	
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	23'J'+99.41	54.6' LT	---	---	1	---	----	1	---	1	---	
	CASCADE MOUNTAIN ROAD	24'J'+08	62.4' RT	---	---	---	1	---	---	---	---	---	
	SUBTOTAL			**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**0**	
			TOTAL	**1**	**1**	**1**	**1**	**9**	**2**	**14**	**1**	**2**	

***ADDITIONAL QUANTITIES ELSWHERE IN THE PLAN**

STORM SEWER ITEMS

					520.8000	608.0418	608.0424	611.0610	611.1005	611.3004	633.5200*	SPV.0060.03	SPV.0060.04	SPV.0090.02	**	**	
					CONCRETE COLLARS FOR PIPE	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH	INLET COVERS TYPE BW	CATCH BASINS 5-FT DIAMETER	INLETS 4-FT DIAMETER	MARKERS CULVERT END	SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE 18-INCH	SLOPED BOTTOM SLIP-ON DUCKBILL CHECK VALVE 24-INCH	PIPE UNDERDRAIN (6-INCH) WITH GEOTEXTILE FABRIC AND AGGREGATE	COARSE AGGREGATE SIZE NO. 1	GEOTEXTILE FABRIC TYPE DF SCHEDULE B	
	LOCATION	STA	OFFSET	STA	OFFSET	EACH	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	LF	TON	SY	COMMENTS
MAINLINE	IH 39 SB	57'SB'+06.07	27.9' LT	57'SB'+06.08	33' LT	1	---	5.1	---	---	---	---	---	---	---	---	---	PIPE P5
	IH 39 SB	57'SB'+06.08	33' LT	---	---	---	---	---	1	---	1	---	---	---	---	---	---	STRUCTURE 301
	IH 39 SB	57'SB'+06.08	33' LT	57'SB'+06.13	50.9' LT	---	---	17.9	---	---	---	---	1	---	---	---	---	PIPE P6 & STRUCTURE 201
	IH 39 SB	58'SB'+74.58	35.4' LT	---	---	---	---	---	1	---	1	---	---	---	---	---	---	STRUCTURE 401
	IH 39 SB	58'SB'+74.58	35.4' LT	59'SB'+06.94	35.3' LT	---	32	---	---	---	---	---	---	---	---	---	---	PIPE P1
	IH 39 SB	59'SB'+06.94	35.3' LT	---	---	---	---	---	1	---	1	---	---	---	---	---	---	STRUCTURE 402
	IH 39 SB	59'SB'+06.94	35.3' LT	59'SB'+58.74	34.5' LT	---	51.2	---	---	---	---	---	---	---	---	---	---	PIPE P2
	IH 39 SB	59'SB'+58.61	52.6' LT	59'SB'+58.74	34.5' LT	---	---	18.2	---	---	---	---	1	---	---	---	---	PIPE P8 & STRUCTURE 202
	IH 39 SB	59'SB'+58.74	34.5' LT	---	---	---	---	---	1	1	---	---	---	---	---	---	---	STRUCTURE 302, NO SUMP REQ'D
	IH 39 SB	59'SB'+58.74	34.5' LT	59'SB'+58.78	27.9' LT	1	---	6.5	---	---	---	---	---	---	---	---	---	PIPE P7
	IH 39 SB	61'SB'+00	33' LT	---	---	---	---	---	1	---	1	---	---	---	---	---	---	STRUCTURE 403
	IH 39 SB	61'SB'+00	33' LT	61'SB'+00	57' LT	---	24	---	---	---	---	1	1	---	---	---	---	PIPE P3 & STRUCTURE 203
	IH 39 SB	63'SB'+25	33' LT	---	---	---	---	---	1	---	1	---	---	---	---	---	---	STRUCTURE 404
	IH 39 SB	63'SB'+25	33' LT	63'SB'+25	57' LT	---	24	---	---	---	---	1	1	---	---	---	---	PIPE P4 & STRUCTURE 204
	IH 39 SB	58'SB'+45	28.75' LT	64'SB'+75	28.5' LT	---	---	---	---	---	---	---	---	---	616	61	432	---
					TOTAL	**2**	**131.2**	**47.7**	**6**	**1**	**5**	**4**	**2**	**2**	**616**	**61**	**432**	

***ADDITIONAL QUANTITIES ELSWHERE IN THE PLAN**
****FOR INFORMATION ONLY**

STORM SEWER / CULVERT PIPE

		LOCATION		SIZE	LENGTH			GRADE	INVERT ELEVATION			CHECK VALVE	CHECK VALVE	CHECK VALVE	STOP LOG SYSTEM	CONCRETE COLLARS
	LOCATION	TO	FROM	IN	FT	TYPE	PIPE NAME	%	INLET	DISCHARGE	COMMENTS	18-INCH	24-INCH	60-INCH	54-INCH	FOR PIPE
MAINLINE	IH 39 SB	301	EXIST	24	5.1	CL IV	P5	1.34	786.00	785.93	---	---	---	---	---	1
	IH 39 SB	201	301	24	17.9	CL IV	P6	1.34	785.93	785.69	INSTALL CHECK VALVE AT PIPE DISCHARGE	---	1	---	---	---
	IH 39 SB	402	401	18	32	CL IV	P1	0.30	786.51	786.42	---	---	---	---	---	---
	IH 39 SB	302	402	18	51.2	CL IV	P2	0.30	786.42	786.26	---	---	---	---	---	---
	IH 39 SB	302	EXIST	24	6.5	CL IV	P7	1.44	786.10	786.00	---	---	---	---	---	1
	IH 39 SB	202	302	24	18.2	CL IV	P8	1.44	786.00	785.74	INSTALL CHECK VALVE AT PIPE DISCHARGE	---	1	---	---	---
	IH 39 SB	203	403	18	24	CL IV	P3	0.30	787.20	787.12	INSTALL CHECK VALVE AT PIPE DISCHARGE	1	---	---	---	---
	IH 39 SB	204	404	18	24	CL IV	P4	0.30	787.77	787.70	INSTALL CHECK VALVE AT PIPE DISCHARGE	1	---	---	---	---
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	5'G'+16.50		---	---	---	---	---	---	---	INSTALL STOP LOG GATES AT HEADWALL	---	---	---	2	---
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	23'G'+99.41		---	---	---	---	---	---	---	INSTALL CHECK VALVE AT PIPE DISCHARGE	---	---	1	---	---

STORM SEWER / CULVERT PIPE GENERAL NOTES

1) PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR CENTER OF STRUCTURE TO PIPE END.

DRAINAGE STRUCTURES

			STRUCTURE TYPE			COVER	RIM	PIPE INVERT	TOP OF STRUCTURE BASE	**DEPTH		
	LOCATION	STRUCTURE NO.	INLET / PIPE CHECK VALVE	STA	OFFSET	TYPE	ELEVATION	ELEVATION	ELEVATION	FT	COMMENTS	INLET PROTECTION
MAINLINE	IH 39 SB	301	INLETS 4-FT DIAMETER	57'SB'+06.08	33' LT	BW	789.99	785.93	785.68	3.15		D
	IH 39 SB	201	CHECK VALVE 24-INCH	57'SB'+06.13	50.9' LT	---	---	785.69	---	---	INVERT ELEVATION IS THE CONNECTING PIPE DISCHARGE ELEVATION	---
	IH 39 SB	401	INLETS 4-FT DIAMETER	58'SB'+74.58	35.4' LT	BW	790.31	786.51	786.30	2.85	---	D
	IH 39 SB	402	INLETS 4-FT DIAMETER	59'SB'+06.94	35.3' LT	BW	790.39	786.42	786.21	3.02	---	D
	IH 39 SB	202	CHECK VALVE 24-INCH	59'SB'+58.61	52.6' LT	---	---	785.74	---	---	INVERT ELEVATION IS THE CONNECTING PIPE DISCHARGE ELEVATION	---
	IH 39 SB	302	CATCH BASINS 5-FT DIAMETER	59'SB'+58.74	34.5' LT	BW	790.60	786.00	785.75	3.69	NO SUMP REQUIRED	D
	IH 39 SB	403	INLETS 4-FT DIAMETER	61'SB'+00	33' LT	BW	790.99	787.20	786.99	2.84	---	D
	IH 39 SB	203	CHECK VALVE 18-INCH	61'SB'+00	57' LT	---	---	787.12	---	---	INVERT ELEVATION IS THE CONNECTING PIPE DISCHARGE ELEVATION	---
	IH 39 SB	404	INLETS 4-FT DIAMETER	63'SB'+25	33' LT	BW	791.56	787.77	787.56	2.84	---	D
	IH 39 SB	204	CHECK VALVE 18-INCH	63'SB+25	57' LT	---	---	787.70	---	---	INVERT ELEVATION IS THE CONNECTING PIPE DISCHARGE ELEVATION	---

DRAINAGE STRUCTURE GENERAL NOTES

1) STATIONS AND OFFSETS TO INLET STRUCTURES ARE TO THE CENTER OF THE STRUCTURE.
2) STATIONS AND OFFSETS TO PIPE CHECK VALVES ARE TO THE DISCHARGE END OF PROPOSED PIPE.
3) RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE OF PROPOSED GUTTER FOR INLET STRUCTURES UNLESS OTHERWISE NOTED.
4) CONSTRUCT INLETS AND CATCH BASINS WITH 2-FT X 2.5-FT OPENINGS FOR INLET COVERS TYPE BW.
5) PIPE UNDERDRAIN TIE-IN CONNECTIONS TO STORM SEWER INLETS ARE INCIDENTAL TO THE STORM SEWER INLETS.

ADDITIONAL NOTES:

**STRUCTURE DEPTH:

INLETS = RIM ELEVATION - TOP OF STRUCTURE BASE - CASTING HEIGHT (0.83 FT) - ADJUSTING RINGS (0.33 FT)

CASTING HEIGHT = 0.83 FT FOR INLET COVERS TYPE BW
ADJUSTING RINGS = 0.33 FT FOR INLET COVERS TYPE BW

CONCRETE SURFACE REPAIR

	Patch #	LOCATION	STATION	LOCATION	416.0754.S CONCRETE PAVEMENT PARTIAL DEPTH REPAIR SURFACE REPAIR SF
MAINLINE	9	IH 39 NB	167+92	MEDIAN	16
	19	IH 39 NB	193+60	MEDIAN	16
	20	IH 39 NB	197+23	MEDIAN	16
	21	IH 39 NB	233+83	MEDIAN	16
	22	IH 39 NB	234+58	MEDIAN	16
	23	IH 39 NB	236+62	MEDIAN	16
	24	IH 39 NB	238+03	MEDIAN	16
	25	IH 39 NB	238+56	MEDIAN	16
	26	IH 39 NB	240+72	MEDIAN	16
	27	IH 39 NB	242+56	MEDIAN	16
	29	IH 39 NB	248+17	MEDIAN	16
	30	IH 39 NB	250+21	MEDIAN	16
	31	IH 39 NB	250+76	MEDIAN	16
	33	IH 39 NB	251+49	MEDIAN	16
	MEDIAN SUBTOTAL				**224**
MAINLINE	1	IH 39 NB	55+16	OUTSIDE	16
	2	IH 39 NB	65+77	OUTSIDE	16
	3	IH 39 NB	100+10	OUTSIDE	16
	4	IH 39 NB	100+64	OUTSIDE	16
	5	IH 39 NB	122+65	OUTSIDE	16
	6	IH 39 NB	125+71	OUTSIDE	16
	7	IH 39 NB	137+05	OUTSIDE	16
	8	IH 39 NB	137+59	OUTSIDE	16
	10	IH 39 NB	176+01	OUTSIDE	16
	11	IH 39 NB	176+54	OUTSIDE	16
	12	IH 39 NB	178+71	OUTSIDE	16
	13	IH 39 NB	178+72	OUTSIDE	16
	14	IH 39 NB	179+59	OUTSIDE	16
	15	IH 39 NB	179+80	OUTSIDE	16
	16	IH 39 NB	181+05	OUTSIDE	16
	17	IH 39 NB	190+46	OUTSIDE	16
	18	IH 39 NB	193+59	OUTSIDE	16
	28	IH 39 NB	242+74	OUTSIDE	16
	32	IH 39 NB	251+12	OUTSIDE	16
	34	IH 39 NB	252+74	OUTSIDE	16
	35	IH 39 NB	262+52	OUTSIDE	16
	36	IH 39 NB	274+53	OUTSIDE	16
	37	IH 39 NB	291+76	OUTSIDE	16
	38	IH 39 NB	295+49	OUTSIDE	16
	39	IH 39 NB	308+38	OUTSIDE	16
	40	IH 39 NB	313+61	OUTSIDE	16
	41	IH 39 NB	319+63	OUTSIDE	16
	42	IH 39 NB	339+64	OUTSIDE	16
	43	IH 39 NB	342+21	OUTSIDE	16
	44	IH 39 NB	345+25	OUTSIDE	16
	45	IH 39 NB	366+51	OUTSIDE	16
	46	IH 39 NB	368+63	OUTSIDE	16
	47	IH 39 NB	376+36	OUTSIDE	16
	48	IH 39 NB	411+22	OUTSIDE	16
	49	IH 39 NB	438+21	OUTSIDE	16
	50	IH 39 NB	471+75	OUTSIDE	16
	51	IH 39 NB	598+21	OUTSIDE	16
	OUTSIDE SUBTOTAL				**592**
	TOTAL				**816**

ROW FENCE

	LOCATION	LT/RT	STATION	TO	STATION	204.0170 REMOVING FENCE LF	616.0100 FENCE WOVEN WIRE (4-FT) LF
MAINLINE	IH 39 SB	LT	31+62	-	31+92	30	30
	IH 39 SB	LT	32+36	-	32+66	30	30
	IH 39 SB	LT	32+78	-	32+93	15	15
	IH 39 SB	LT	33+47	-	33+62	15	15
	IH 39 SB	LT	34+37	-	34+67	30	30
	IH 39 SB	LT	34+84	-	35+14	30	30
	IH 39 SB	LT	36+32	-	36+47	15	15
	IH 39 SB	LT	37+38	-	37+68	30	30
	IH 39 SB	LT	38+22	-	38+82	60	60
	IH 39 NB	RT	84+21	-	84+36	15	15
	IH 39 NB	RT	84+48	-	84+63	15	15
	IH 39 NB	RT	87+38	-	88+58	120	120
	IH 39 NB	RT	89+02	-	89+17	15	15
	IH 39 NB	RT	94+51	-	94+66	15	15
	IH 39 NB	RT	123+34	-	123+79	45	45
	IH 39 NB	RT	139+33	-	139+48	15	15
	IH 39 NB	RT	177+46	-	177+61	15	15
	IH 39 NB	RT	187+59	-	187+89	30	30
	IH 39 NB	RT	190+29	-	190+44	15	15
	IH 39 NB	RT	191+44	-	191+89	45	45
	IH 39 NB	RT	194+25	-	196+95	270	270
	IH 39 NB	RT	203+64	-	203+94	30	30
	IH 39 NB	RT	223+66	-	224+16	50	50
	IH 39 NB	RT	228+04	-	228+19	15	15
	IH 39 NB	RT	243+98	-	244+13	15	15
	IH 39 NB	RT	251+32	-	251+47	15	15
	IH 39 NB	RT	254+28	-	254+43	15	15
	IH 39 NB	RT	306+60	-	307+50	90	90
	IH 39 NB	RT	320+70	-	321+60	90	90
	IH 39 NB	RT	325+03	-	325+93	90	90
	IH 39 NB	RT	352+49	-	353+24	75	75
	IH 39 NB	RT	353+24	-	353+99	75	75
	IH 39 NB	RT	355+76	-	356+06	30	30
	IH 39 NB	RT	366+90	-	367+20	30	30
	IH 39 NB	RT	388+08	-	390+08	200	200
	IH 39 NB	RT	405+71	-	405+86	15	15
	IH 39 NB	RT	436+76	-	437+36	60	60
	IH 39 NB	RT	444+04	-	444+64	60	60
	IH 39 NB	RT	491+77	-	492+07	30	30
	IH 39 NB	RT	494+68	-	494+98	30	30
	IH 39 NB	RT	503+81	-	504+11	30	30
	IH 39 NB	RT	532+43	-	533+03	60	60
	IH 39 NB	RT	563+53	-	563+68	15	15
	IH 39 NB	RT	584+02	-	584+17	15	15
	IH 39 NB	RT	594+47	-	594+62	15	15
	TOTAL					**2020**	**2020**

CONCRETE ITEMS

	LOCATION	LT/RT	STA	TO	STA	602.0405 CONCRETE SIDEWALK 4-INCH SF	COMMENTS
MAINLINE	IH 39 SB	LT	56'SB'+94	-	65'SB'+49	200	CONCRETE PADS
	SUBTOTAL					**200**	
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	LT		23'J'+99		144	CONCRETE PAD
	SUBTOTAL					**144**	
	TOTAL					**344**	

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BARRIER WALL

	LOCATION		STATION	TO	STATION	SPV.0060.02 CONCRETE BARRIER WALL SURFACE REPAIR EACH	SPV.0090.01 REPAIR/ REPLACE CONCRETE BARRIER LF
MAINLINE	IH 39 NB	MEDIAN	39+56		39+62	-	6
	IH 39 NB	MEDIAN	39+71		39+79	-	8
	IH 39 NB	MEDIAN	41+63		-	1	-
	IH 39 NB	MEDIAN	42+05		-	1	-
	IH 39 NB	MEDIAN	42+55		-	1	-
	IH 39 NB	MEDIAN	44+02		-	1	-
	IH 39 NB	MEDIAN	45+67		-	1	-
	IH 39 NB	MEDIAN	46+04		-	1	-
	IH 39 NB	MEDIAN	46+57		-	1	-
	IH 39 NB	MEDIAN	47+14		-	1	-
	IH 39 NB	MEDIAN	47+50		-	1	-
	IH 39 NB	MEDIAN	53+60		-	1	-
	IH 39 NB	MEDIAN	58+93		-	1	-
	IH 39 NB	MEDIAN	59+66		-	1	-
	IH 39 NB	MEDIAN	65+77		-	1	-
	SUBTOTAL					**13**	**14**

GUARDRAIL ITEMS

	LOCATION	LT/RT	STA	TO	STA	614.0305 STEEL PLATE BEAM GUARD CLASS A LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
MAINLINE	IH 39 SB	LT	58'SB'+52	-	59'SB'+47	---	---	---	---
	IH 39 SB	LT	65'SB'+46	-	69'SB'+05	---	263	39	1
	IH 39 SB	LT	63'SB'+97	-	67'SB'+97	---	---	---	---
	SUBTOTAL					**0**	**263**	**39**	**1**
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	LT	23'J'+77	-	24'J'+25	50	---	---	---
	SUBTOTAL					**50**	**0**	**0**	**0**
		TOTAL				**50**	**263**	**39**	**1**

CRASH CUSHION ITEMS

	LOCATION	OFFSET	614.0905 CRASH CUSHIONS TEMPORARY EACH	BACK WIDTH (FT)	OBJECT MARKING PATTERN	CRASH TEST LEVEL	TRAFFIC DIRECTION	TRAFFIC LOCATION	CRASH CUSHION SHIELDS
MAINLINE	STA 66'SB'+56.55	19' LT	1	4	OM-3R (W05-58R)	TL-3	UNIDIRECTIONAL	L	SINGLE TEMPORARY BARRIER
		TOTAL	**1**						

CONCRETE BARRIER ITEMS

LOCATION	LT/RT	STATION	TO	STATION	416.0610* DRILLED TIE BARS EACH	516.0500 RUBBERIZED MEMBRANE WATERPROOFING SY	603.0105 CONCRETE BARRIER SINGLE-FACED 32-INCH LF	603.1442 CONCRETE BARIER TYPE S42C LF	603.3113 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH	633.1000 DELINEATORS BARRIER WALL EACH	COMMENTS
MAINLINE IH 39 SB	LT	59'SB'+94	-	57'SB'+17	2	---	23	---	---	---	---	
IH 39 SB	LT	58'SB'+42	-	65'SB'+49	1	44	---	673	1	1	6	
TOTAL					**3**	**44**	**23**	**673**	**1**	**1**	**6**	

***ADDITIONAL QUANTITIES ELSWHERE IN THE PLAN**

****INSTALL MEMBRANE FROM BOTTOM OF FOOTING TO 6" FROM THE TOP OF BARRIER WALL. SEE STANDARD DETAIL DRAWINGS FOR DETAILS.**

RESTORATION ITEMS

	LOCATION	LT/RT	STA	TO	STA	625.0100 TOPSOIL SY	625.0500 SALVAGED TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2002 EROSION MAT CLASS I TYPE A SY	628.7020 INLET PROTECTION TYPE D EACH	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	COMMENTS
MAINLINE	IH 39 NB	RT	96'NB'+30	-	96'NB'+34	---	---	25	25	---	---	---	---	17	---	---	---	---	
	IH 39 NB	RT	188'NB'+75	-	188'NB'+79	---	---	25	25	---	---	---	---	17	---	---	---	---	
	IH 39 NB	RT	252'NB'+25	-	252'NB'+29	---	---	25	25	---	---	---	---	17	---	---	---	---	
	IH 39 NB	RT	339'NB'+20	-	339'NB'+24	---	---	25	25	---	---	---	---	17	---	---	---	---	
	IH 39 SB	LT	56'SB'+89	-	57'SB'+22	---	43	87	87	---	---	43	1	22	0.1	1	1	1	
	IH 39 SB	LT	58'SB'+29	-	65'SB'+85	---	368	858	858	---	---	368	5	110	0.3	10	10	9	
	IH 39 SB	LT	67'SB'+33	-	70'SB'+04	---	180	277	277	---	---	180	---	44	0.2	5	5	5	
	SUBTOTAL					**0**	**591**	**1,322**	**1,322**	**0**	**0**	**591**	**6**	**244**	**0.6**	**16**	**16**	**15**	
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	LT/RT	4'G'+96	-	5'G'+50	--	115	101	101	---	---	115	---	22	0.1	3	3	3	
	SUBTOTAL					**0**	**115**	**101**	**101**	**0**	**0**	**115**	**0**	**22**	**0.1**	**3**	**3**	**3**	
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	LT/RT	23'J'+84	-	24'J'+15	---	116	---	---	---	---	116	---	---	0.1	4	4	3	
	SUBTOTAL					**0**	**116**	**0**	**0**	**0**	**0**	**116**	**0**	**0**	**0.1**	**4**	**4**	**3**	
	UNDISTRIBUTED					100	206	356	356	4	2	206	---	67	0.2	6	6	5	
	TOTAL					**100**	**1,028**	**1,779**	**1,779**	**4**	**2**	**1,028**	**6**	**333**	**1.0**	**29**	**29**	**26**	

CONSTRUCTION STAKING ITEMS

	LOCATION	LT/RT	STA	TO	STA	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (M-11-11) LS	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER LF	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1161-00-66) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	COMMENTS
MAINLINE	IH 39 NB	LT/RT	36+91	-	612+14	---	---	---	---	---	57,523	---	---	
	IH 39 SB	LT	56'SB'+94	-	57'SB'+17	1	23	23	---	23	---	---	23	
	IH 39 SB	LT	58'SB'+42	-	65'SB'+49	5	706	706	---	699	---	---	706	
	IH 39 SB	LT	67'SB'+46	-	69'SB'+95	---	---	---	---	---	---	---	249	
	SUBTOTAL					**6**	**729**	**729**	**0**	**722**	**57,523**	**0**	**978**	
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	LT/RT	5'G'+01	-	5'G'+45	---	---	---	1	---	---	---	---	M-11-11
	SUBTOTAL					**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	
	UNDISTRIBUTED					---	---	---	---	---	---	1	---	
	SUBTOTAL					**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	
	TOTAL					**6**	**729**	**729**	**1**	**722**	**57,523**	**1**	**978**	

TRAFFIC CONTROL

	LOCATION		DURATION DAYS	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.0920 TRAFFIC CONTORL COVERING SIGNS TYPE II EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1055.S TRUCK OR TRAILER-MOUNTED ATTENUATOR DAY	643.1070 TRAFFIC CONTROL CONES 42-INCH DAY	643.5000 TRAFFIC CONTROL EACH	COMMENTS
MAINLINE	IH 39 NB	MEDIAN 36+91-291+50	10	-	-	1400	100	200	180	20	180	-	-	20	5	16	-	MAINLINE LANE CLOSURE
	IH 39 NB	OUTSIDE 36+91-291+50	20	-	-	1720	120	240	360	40	280	-	-	55	5	16	-	MAINLINE LANE CLOSURE
	IH 39 NB	MEDIAN 291+50-612+14	10	-	-	1920	140	280	180	20	220	-	-	20	5	-	-	MAINLINE LANE CLOSURE
	IH 39 NB	OUTSIDE 291+50-612+14	10	-	-	1920	140	280	180	20	140	-	-	20	5	-	-	MAINLINE LANE CLOSURE
	IH 39 SB	MEDIAN	5	-	-	450	20	40	140	10	615	-	-	12	-	-	-	B-11-59 APPROACHES
	IH 39 SB	OUTSIDE	5	-	-	765	25	50	210	10	635	-	-	12	-	16	-	B-11-59 APPROACHES
	PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
	SUBTOTAL			**0**	**0**	**8175**	**545**	**1090**	**1250**	**120**	**2070**	**0**	**0**	**139**	**20**	**48**	**1**	
MAINLINE	IH 39 SB	STAGE 5 ADVANCE NOTICE	7	-	-	70	-	-	-	-	-			7	-	-	-	
	IH 39 SB	STAGE 5	35	1,000	1,000	1925	210	420	735	-	805	1	2	35	-	-	-	ONE CYCLE
	IH 39 SB	STAGE 5A	5	-	-	250	25	50	90	10	50	-	-	-	-	-	-	
	SUBTOTAL			**1,000**	**1,000**	**2245**	**235**	**470**	**825**	**10**	**855**	**1**	**2**	**42**	**0**	**0**	**0**	
RAMPS	IH 39 NB OFF Cascade Mountain Rd		5	-	-	135	10	20	90	-	20	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB ON Cascade Mountain Rd		5	-	-	500	20	40	105	-	55	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB OFF STH 33		5	-	-	135	10	20	90	-	20	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB ON STH 33		5	-	-	500	20	40	105	-	55	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB OFF USH 16		5	-	-	135	10	20	90	-	20	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB ON USH 16		5	-	-	500	20	40	105	-	55	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB OFF USH 51		5	-	-	135	10	20	90	-	20	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 NB ON USH 51		5	-	-	500	20	40	105	-	55	-	-	-	-	-	-	RAMP WITHIN LANE CLOSURE
	IH 39 SB OFF USH 51		4	-	-	152	84	104	-	-	44	-	-	15	-	-	-	RAMP CLOSURE
	IH 39 SB ON USH 51		4	-	-	192	72	80	56	4	84	-	-	23	-	-	-	RAMP CLOSURE
	IH 39 NB OFF USH 51		4	-	-	96	44	56	-	-	36	-	-	19	-	-	-	RAMP CLOSURE
	IH 39 NB ON USH 51		4	-	-	120	4	8	56	4	28	-	-	7	-	-	-	RAMP CLOSURE
	SUBTOTAL			**0**	**0**	**3100**	**324**	**488**	**892**	**8**	**492**	**0**	**0**	**64**	**0**	**0**	**0**	
IH 39 SB RAMPS	IH 39 SB ON/OFF RAMPS	STAGE 5	17	-	-	255	85	170	-	-	51	-	-	-	-	-	-	
				0	**0**	**255**	**85**	**170**	**0**	**0**	**51**	**0**	**0**	**0**	**0**	**0**	**0**	
CASCADE MTN RD	CASCADE MOUNTAIN ROAD	STAGE 5	17	-	-	-	136	272	-	-	85	-	-	-	-	-	-	
	SUBTOTAL			**0**	**0**	**0**	**136**	**272**	**0**	**0**	**85**	**0**	**0**	**0**	**0**	**0**	**0**	
		UNDISTRIBUTED	42	-	-	1380	130	250	300	-	360	-	-	-	-	-	-	
		TOTAL		**1,000**	**1,000**	**15155**	**1455**	**2740**	**3267**	**138**	**3913**	**1**	**2**	**245**	**20**	**48**	**1**	

MOVING SIGN ITEMS

	LOCATION	LT/RT	STA	SIGN CODE	W x H	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	COMMENTS
MAINLINE	IH 39 SB	LT/RT	60'SB'+37	W13-2A	48" X 90"	1	2	VERIFY EXISTING LOCATION PRIOR TO CONSTRUCTION
				TOTAL		**1**	**2**	

PAVEMENT MARKING ITEMS

					646.1020 MARKING LINE EPOXY 4-INCH			646.5520	649.0150	649.0250	649.0960	SPV.0060.01	
	LOCATION	LT/RT	STATION	TO STATION	YELLOW LF	WHITE LF	WHITE (12.5' LINE, 37.5' GAP) LF	MARKING OUTFALL EPOXY EACH	TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE) LF	TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE) LF	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH LF	REMOVING RAISED PAVEMENT MARKERS AND FILLING VOIDS EACH	COMMENTS
MAINLINE	IH 39 NB	LT/RT	36+91	- 612+15	300	3000	800	116	-	-	-	300	
	IH 39 SB	LT	49'SB'+27	- 76'SB'+53	-	-	-	-	3,390	-	-	-	
	IH 39 SB	LT	69'SB'+27	- 73'SB'+53	-	-	-	-	-	-	100	-	8 - 12.5' SKIPS
	SUBTOTAL				**300**	**3000**	**800**	**116**	**3390**	**0**	**100**	**300**	
RAMPS	IH 39/90/94 TO IH 39 NB		IH 90/94-IH 39 EXIT		-	-	-	-	-	400	-	-	
	IH 39 NB OFF STH 16		289+00	- 291+00	-	-	-	-	-	400	-	-	
	IH 39 NB OFF STH 16		294+50	- 296+50	-	-	-	-	200	-	-	-	
	IH 39 SB OFF USH 51		367'R2'+00	- 396'R2'+00	270	270	-	-	-	-	-	-	
	IH 39 SB ON USH 51		366'R3'+00	- 390'R3'+00	480	480	-	-	-	-	-	-	
	IH 39 NB OFF USH 51		367'R4'+00	- 375'R4'+00	50	50	-	-	-	-	-	-	
	IH 39 NB ON USH 51		390'R3'+00	- 391'R3'+00	10	10	-	-	-	-	-	-	
	SUBTOTAL				**810**	**810**	**0**	**0**	**200**	**800**	**0**	**0**	

TOTAL				**1110**	**3810**	**800**	**116**	**3590**	**800**	**100**	**300**
					5720						

DELINEATORS

					204.0180 REMOVING DELINEATORS AND MARKERS	633.0100 DELINEATOR POSTS STEEL	633.0500 DELINEATOR REFLECTORS
	ROADWAY	STATION	TO	STATION	EACH	EACH	EACH
MAINLINE	IH 39 NB	36+91	-	612+15	117	117	117
	IH 39 SB	59'SB'+00	-	70'SB'+00	3	-	-
	UNDISTRIBUTED				20	-	-
	TOTAL				**140**	**117**	**117**

3

SAWING ASPHALT

	LOCATION	STA	690.0150 SAWING ASPHALT LF	690.0250* SAWING CONCRETE LF
MAINLINE	IH 39 NB	96+29	8	-
	IH 39 NB	96+35	8	-
	IH 39 NB	188+74	8	-
	IH 39 NB	188+80	8	-
	IH 39 NB	188+88	12	-
	IH 39 NB	194+43	12	-
	IH 39 NB	252+24	8	-
	IH 39 NB	252+30	8	-
	IH 39 NB	339+19	8	-
	IH 39 NB	339+25	8	-
	IH 39 NB	373+00	12	-
	IH 39 NB	612+15	12	-
	IH 39 SB	56'SB'+94	6	3
	IH 39 SB	57'SB'+17	6	3
	IH 39 SB	58'SB'+42	8	3
	IH 39 SB	65'SB'+49	7	-
	SUBTOTAL		**139**	**9**
RAMPS	IH 39 SB OFF USH 51	380'R2'+00	8	-
	IH 39 SB OFF USH 51	390'R2'+00	8	-
	IH 39 SB ON USH 51	371'R3'+00	8	-
	IH 39 SB ON USH 51	378'R3'+00	8	-
	IH 39 NB OFF USH 51	368'R4'+00	8	-
	IH 39 NB OFF USH 51	375'R4'+00	8	-
	SUBTOTAL		**48**	**0**
		TOTAL	**187**	**9**

***ADDITIONAL QUANTITIES ELSWHERE IN THE PLAN**

BEGIN PROJECT 1161-00-66
STA 36+91.36
Y=376,759.04
X=530,181.89

BARRIER WALL, GUARDRAIL, AND CULVERT REPLACEMENTS.
SEE ADDITIONAL SHEETS FOR DETAILS.

CASCADE MOUNTAIN RD
TO IH 39 SB

IH 39 SB TO
CASCADE MOUNTAIN RD

SURVEY MONUMENT

SPV.0090.01 REPAIR/REPLACE
CONCRETE BARRIER, NB

CONCRETE BARRIER WALL
SURFACE REPAIR, NB

R/L IH 39 NB

IH 39 SB

IH 39 NB

JOHNSON RD

ROW FENCE REPAIR

CONCRETE PAVEMENT
REPAIR OR REPLACEMENT

MATCHLINE STA 51+50

MATCHLINE STA 51+50

B-11-51

CASCADE MOUNTAIN RD

CONCRETE PAVEMENT
PARTIAL DEPTH REPAIR

CONCRETE PAVEMENT
REPAIR OR REPLACEMENT

IH 39 NB TO
CASCADE MOUNTAIN RD

CASCADE MOUNTAIN RD
TO IH 39 NB

MATCHLINE STA 66+00

36+91, 37+00, 38+00, 39+00, 40+00, 41+00, 42+00, 43+00, 44+00, 45+00, 46+00, 47+00, 48+00, 49+00, 50+00, 51+00, 52+00, 53+00, 54+00, 55+00, 56+00, 57+00, 58+00, 59+00, 60+00, 61+00, 62+00, 63+00, 64+00, 65+00, 66

CB1, CB2, CB3, CB4, CB5, CB6, CB7, CB8, CB9, CB10, CB11, CB12, CB13

SR1, SR2

1, 2, 3, 4, 5, 6, 7, 8

LEGEND

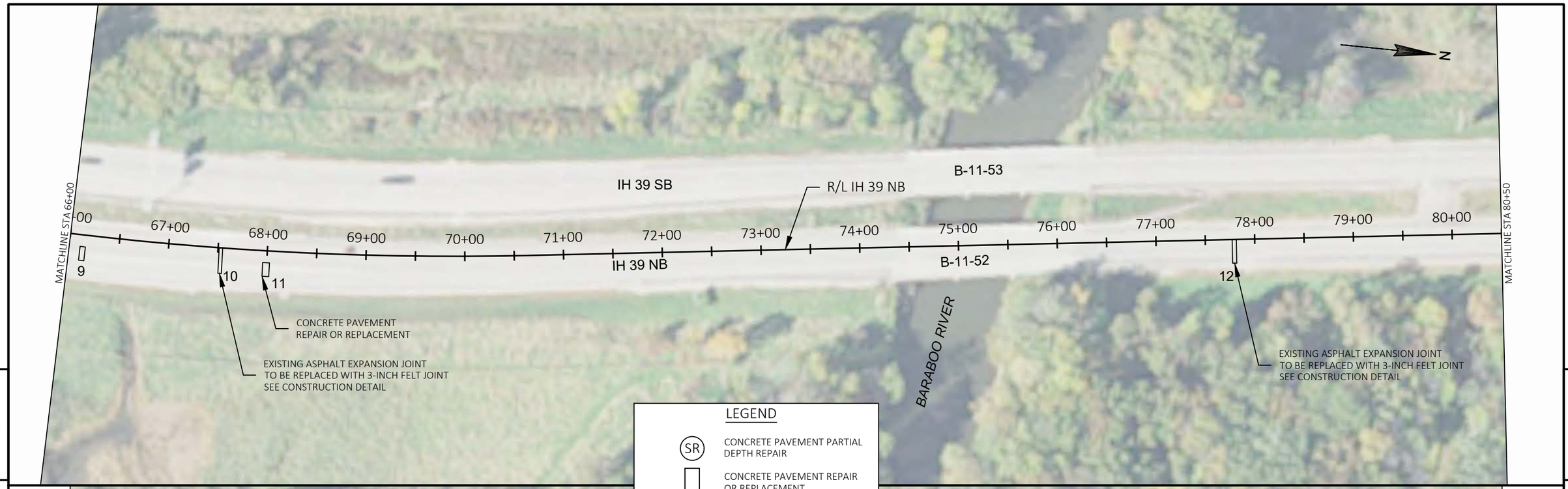
- SR — CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
- CONCRETE PAVEMENT REPAIR OR REPLACEMENT
- FENCE WOVEN WIRE (4 FT)
- CONCRETE BARRIER WALL SURFACE REPAIR
- REPAIR/REPLACE CONCRETE BARRIER

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 99	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 1

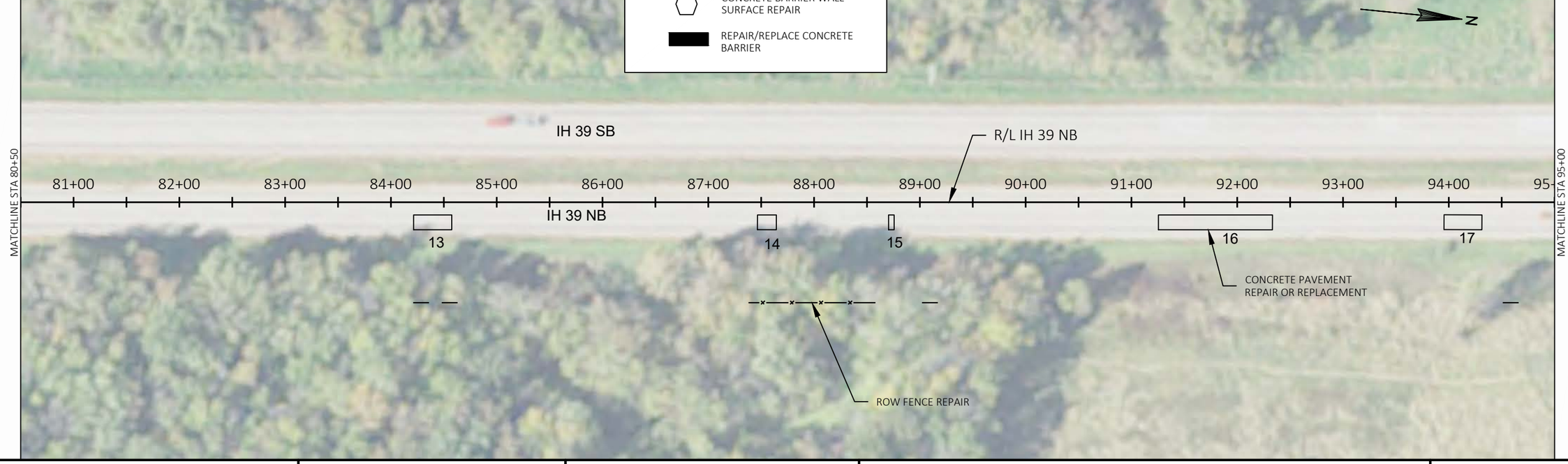
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WISDOT/CADDS SHEET 44



LEGEND

- (SR) CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
- CONCRETE PAVEMENT REPAIR OR REPLACEMENT
- FENCE WOVEN WIRE (4 FT)
- CONCRETE BARRIER WALL SURFACE REPAIR
- REPAIR/REPLACE CONCRETE BARRIER

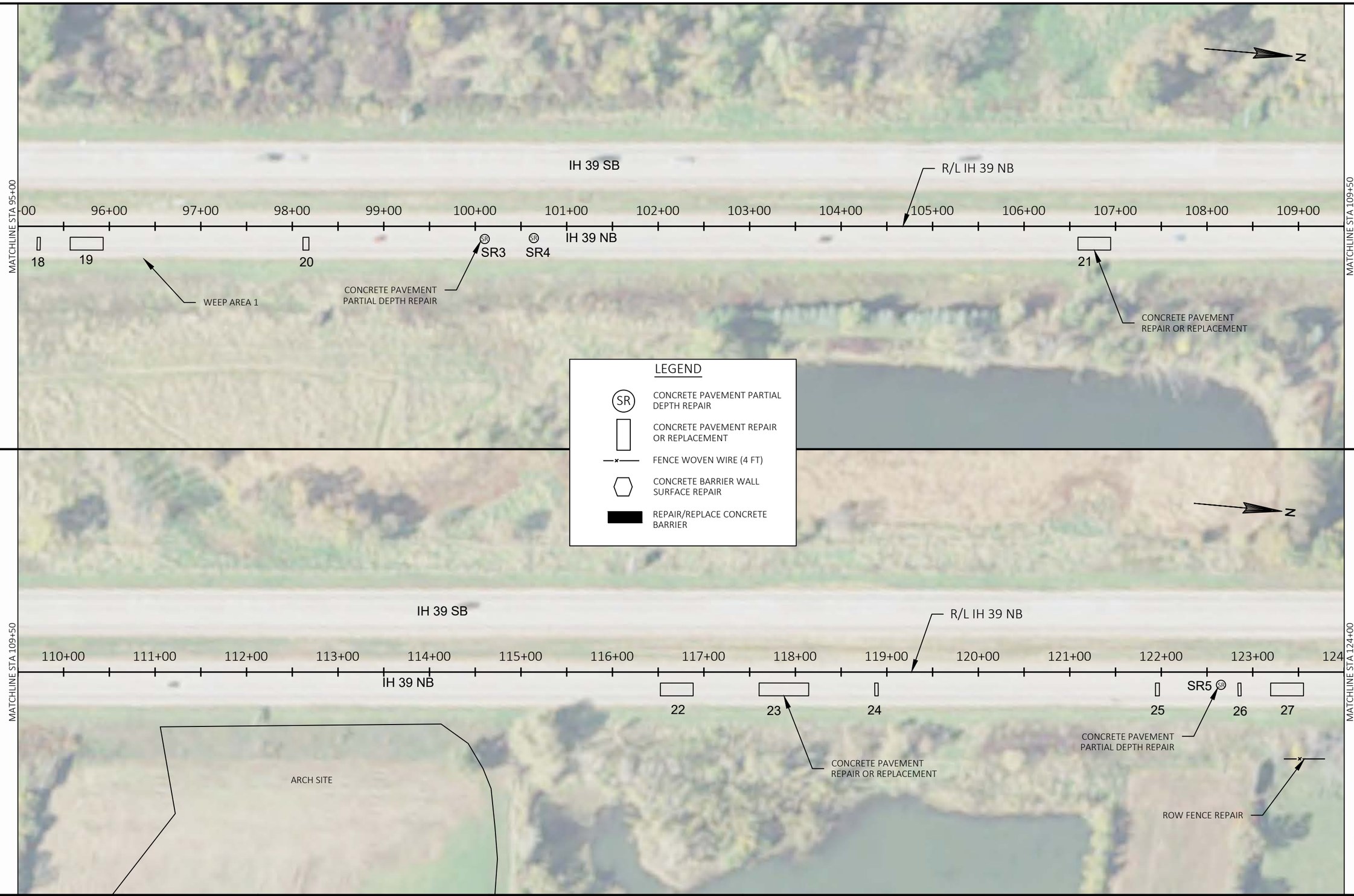


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 100 E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 2

PLOT DATE : 10/22/2019 1:46 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT

WISDOT/CADDS SHEET 44



5

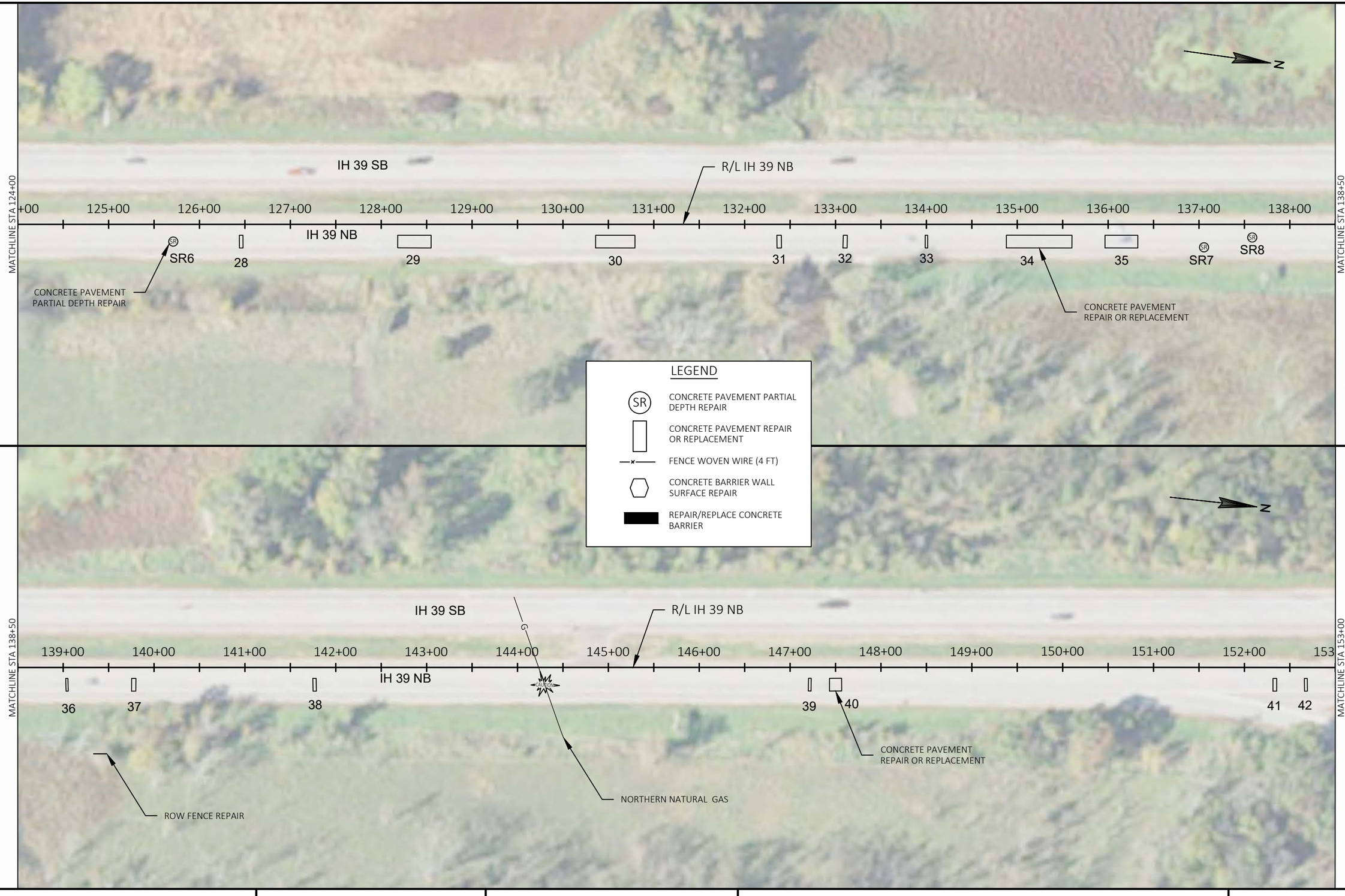
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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 101	E

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WISDOT/CADDS SHEET 44

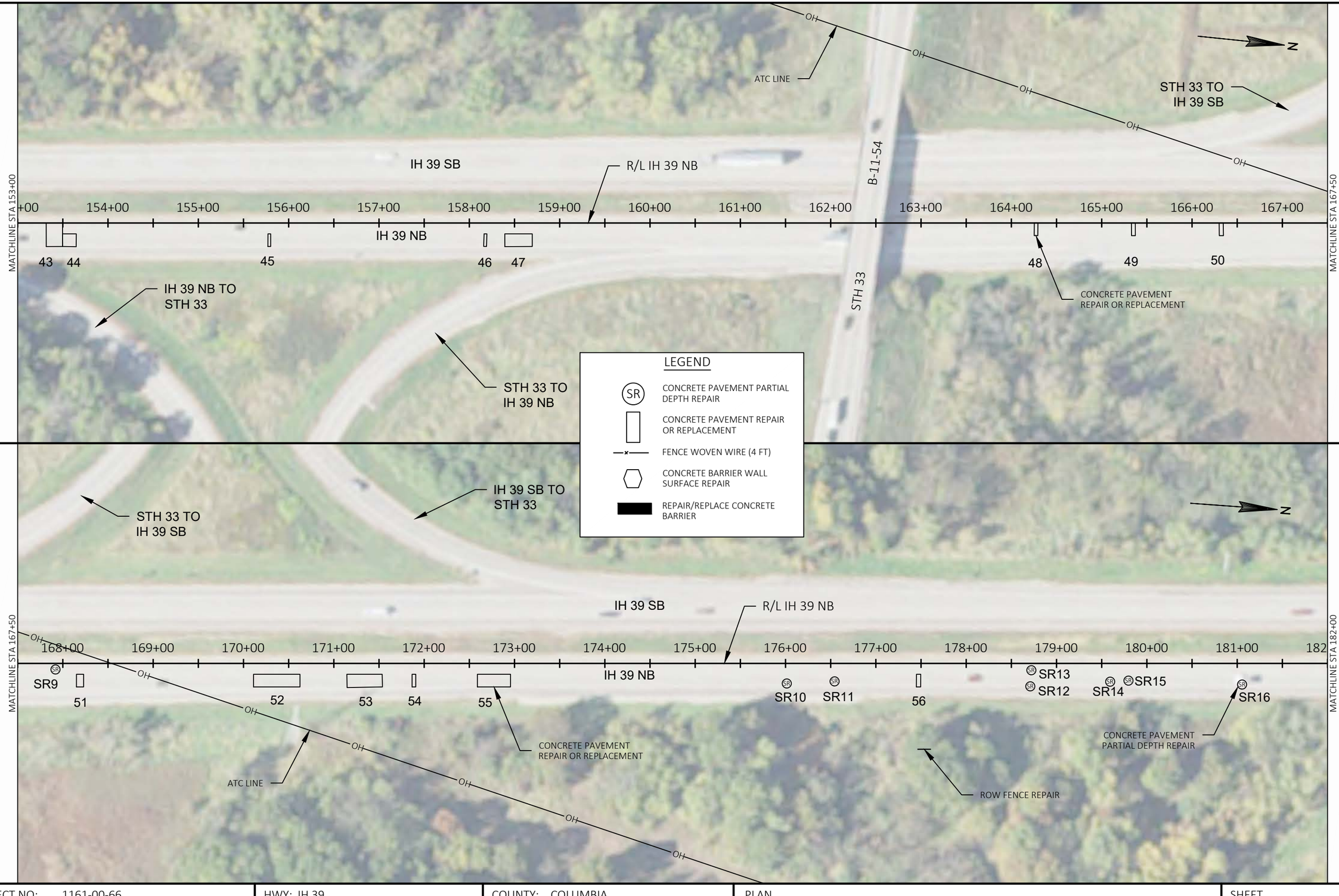


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WISDOT/CADDS SHEET 44



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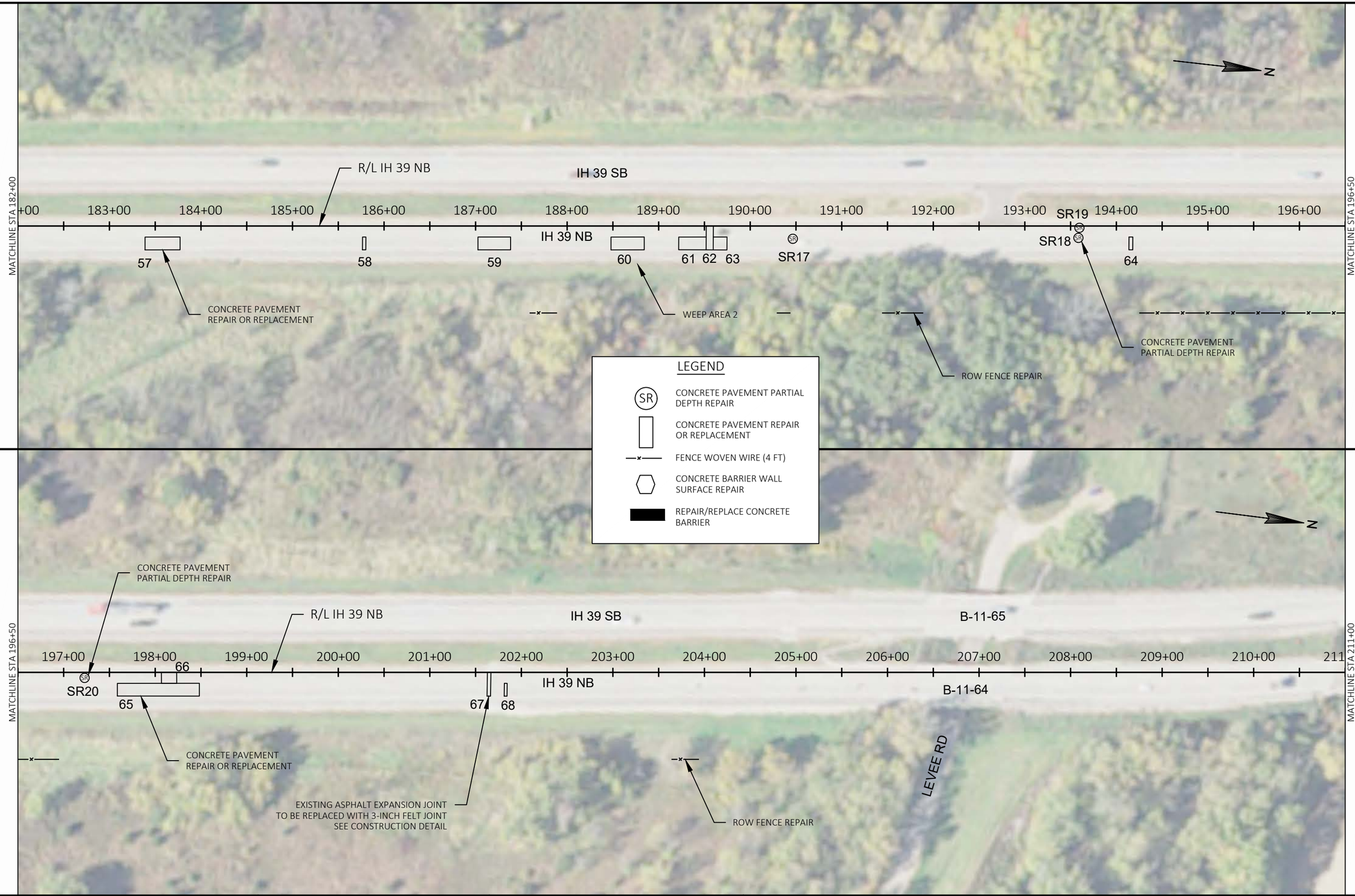
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WISDOT/CADDS SHEET 44



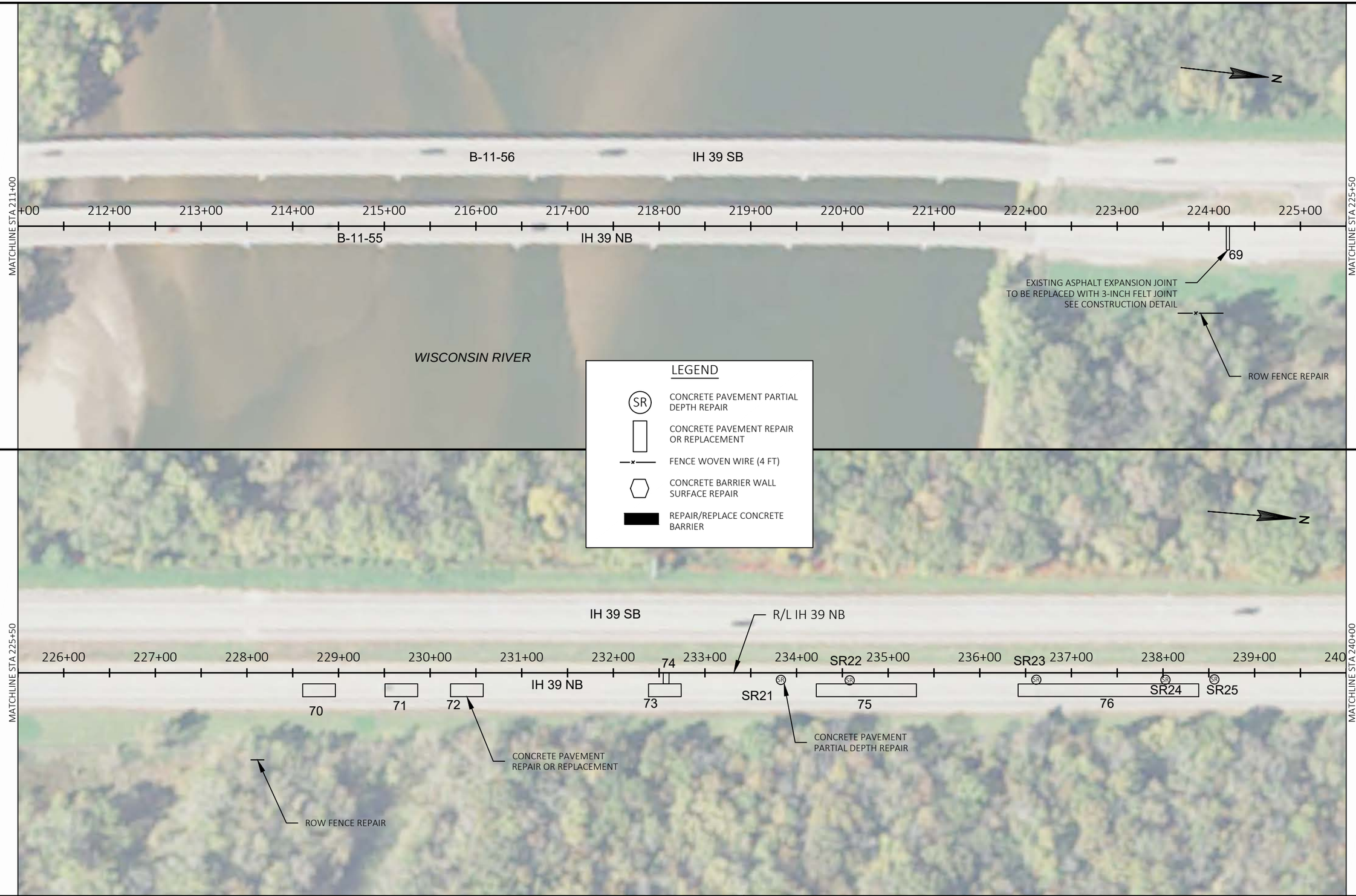
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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET	E

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PLOT DATE : 10/22/2019 1:47 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT



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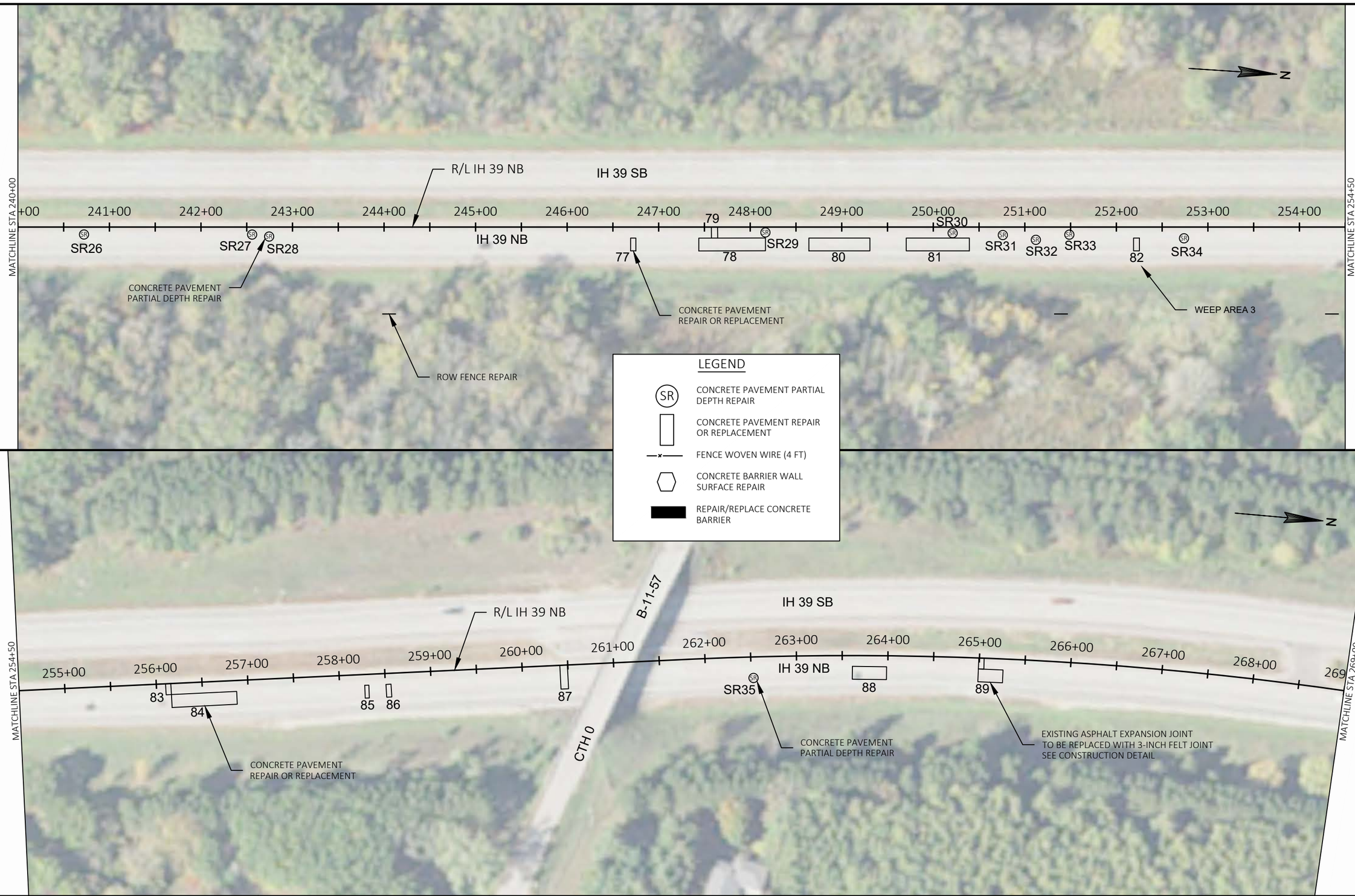
PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET E

105

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LAYOUT NAME - 7

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WISDOT/CADDS SHEET 44



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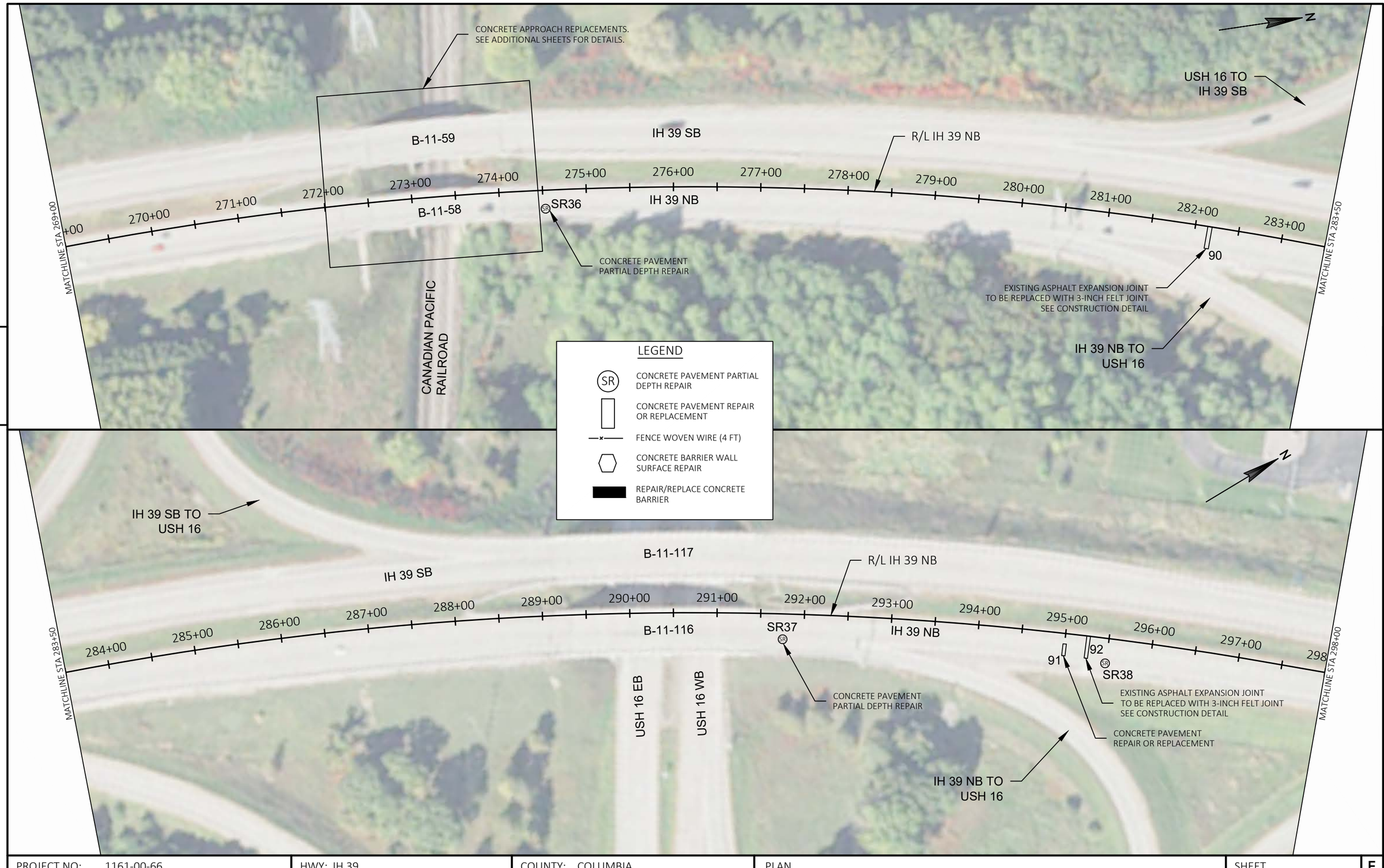
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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 106	E

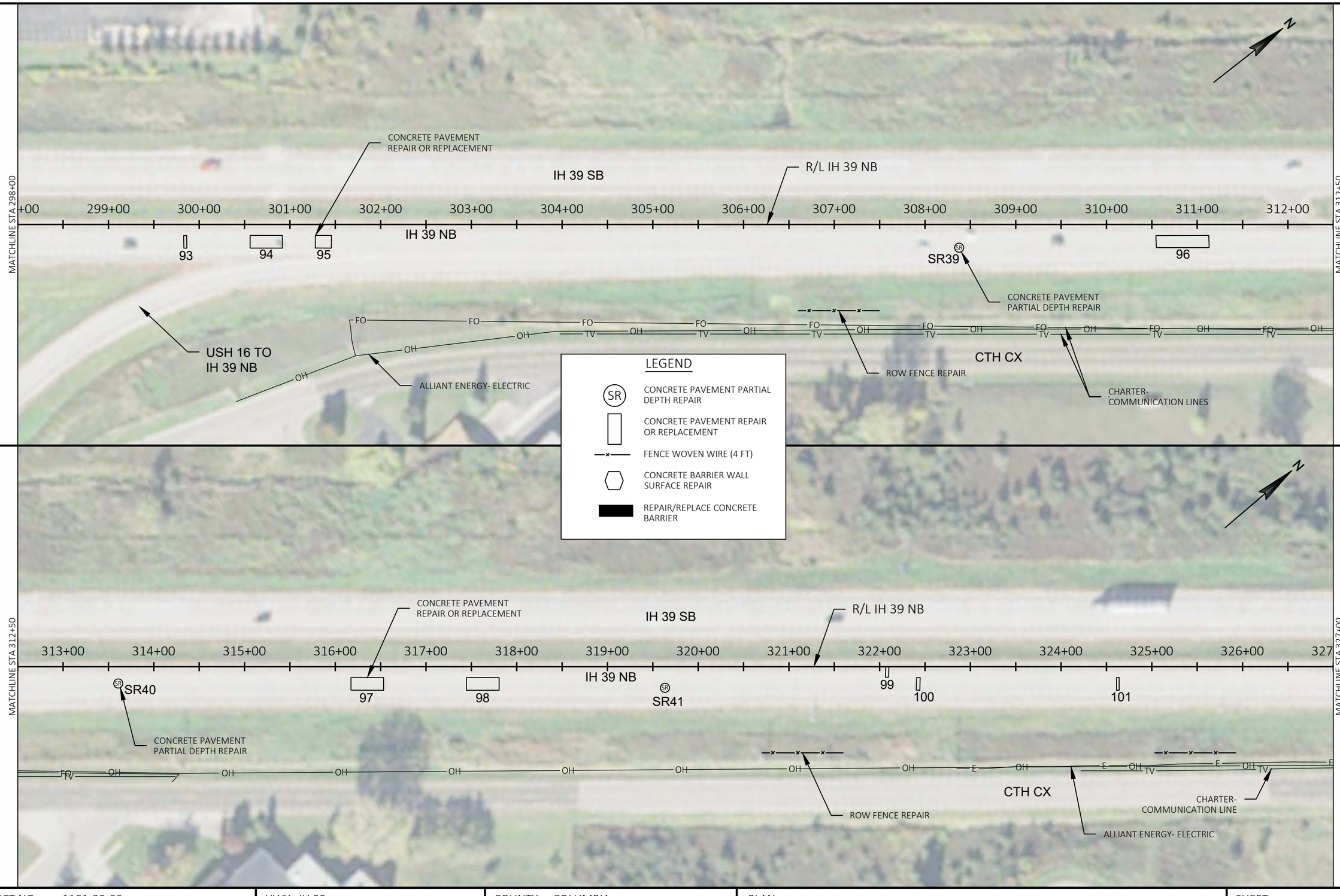
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LAYOUT NAME - 8

PLOT DATE : 10/22/2019 1:47 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT

WISDOT/CADDS SHEET 44



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 107	E



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 108	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 10

PLOT DATE : 10/22/2019 1:48 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT

WISDOT/CADDS SHEET 44



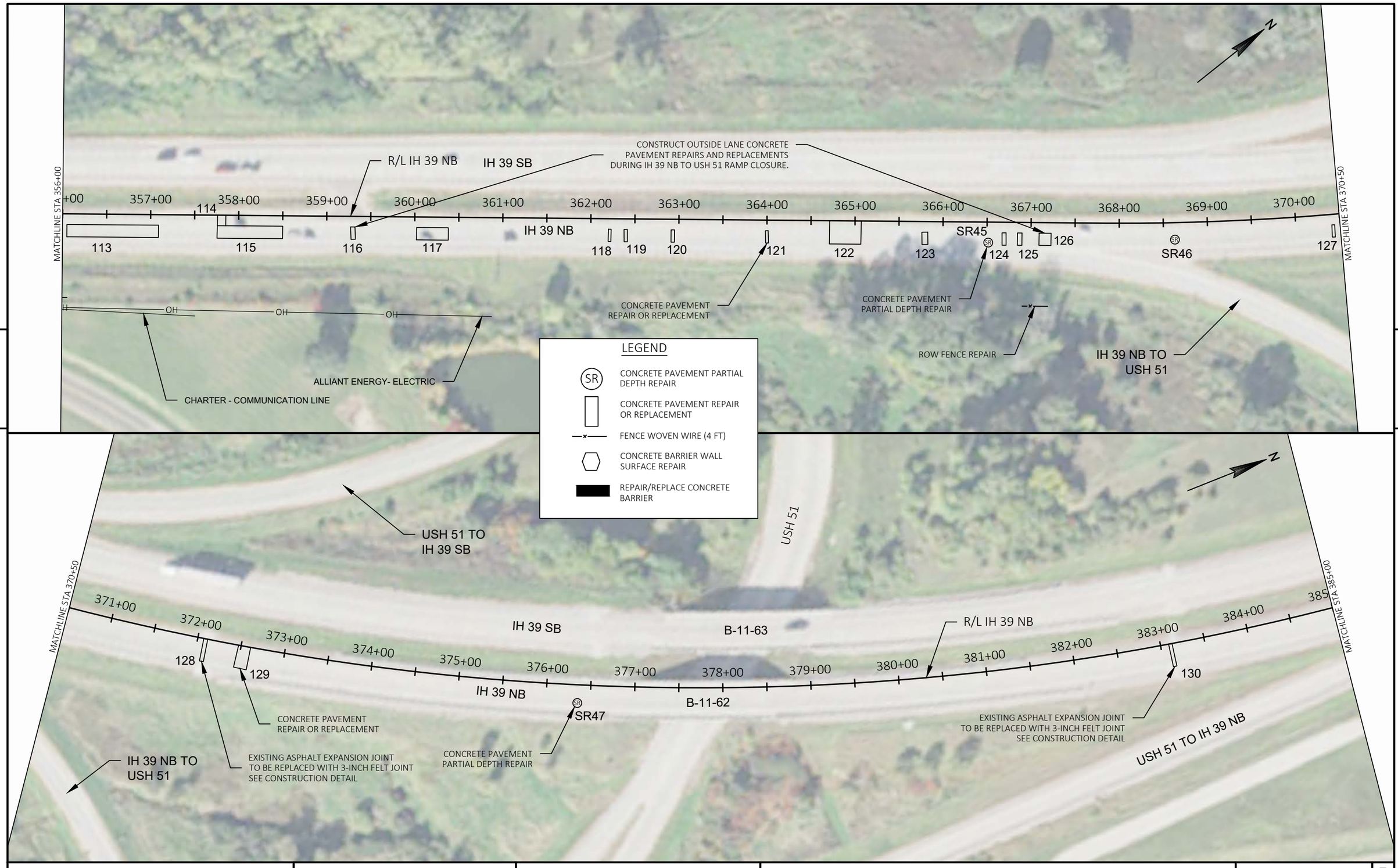
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LAYOUT NAME - 11

PLOT DATE : 10/22/2019 1:48 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT

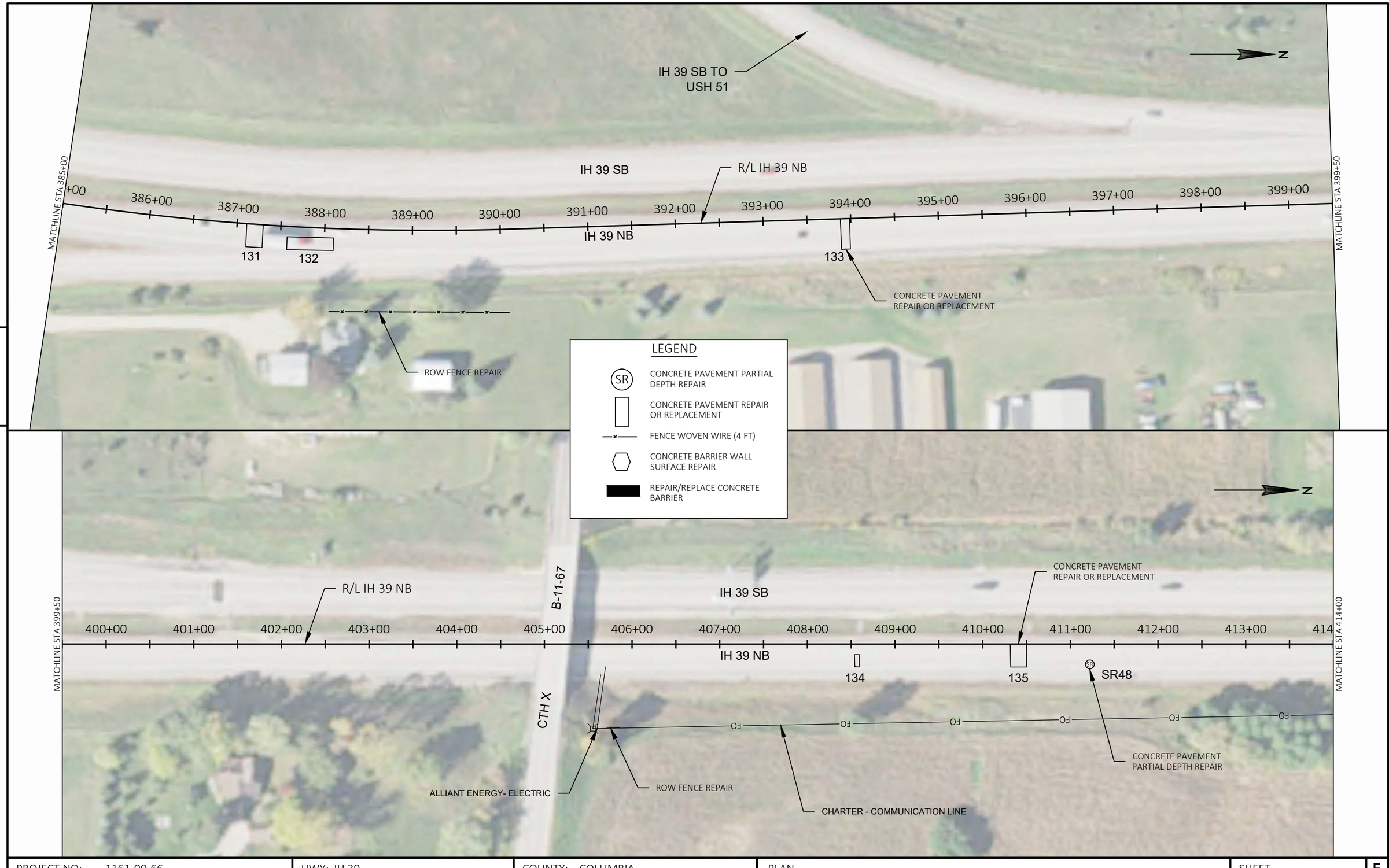


PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 110	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 12

PLOT DATE : 10/22/2019 1:48 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT

WISDOT/CADDS SHEET 44



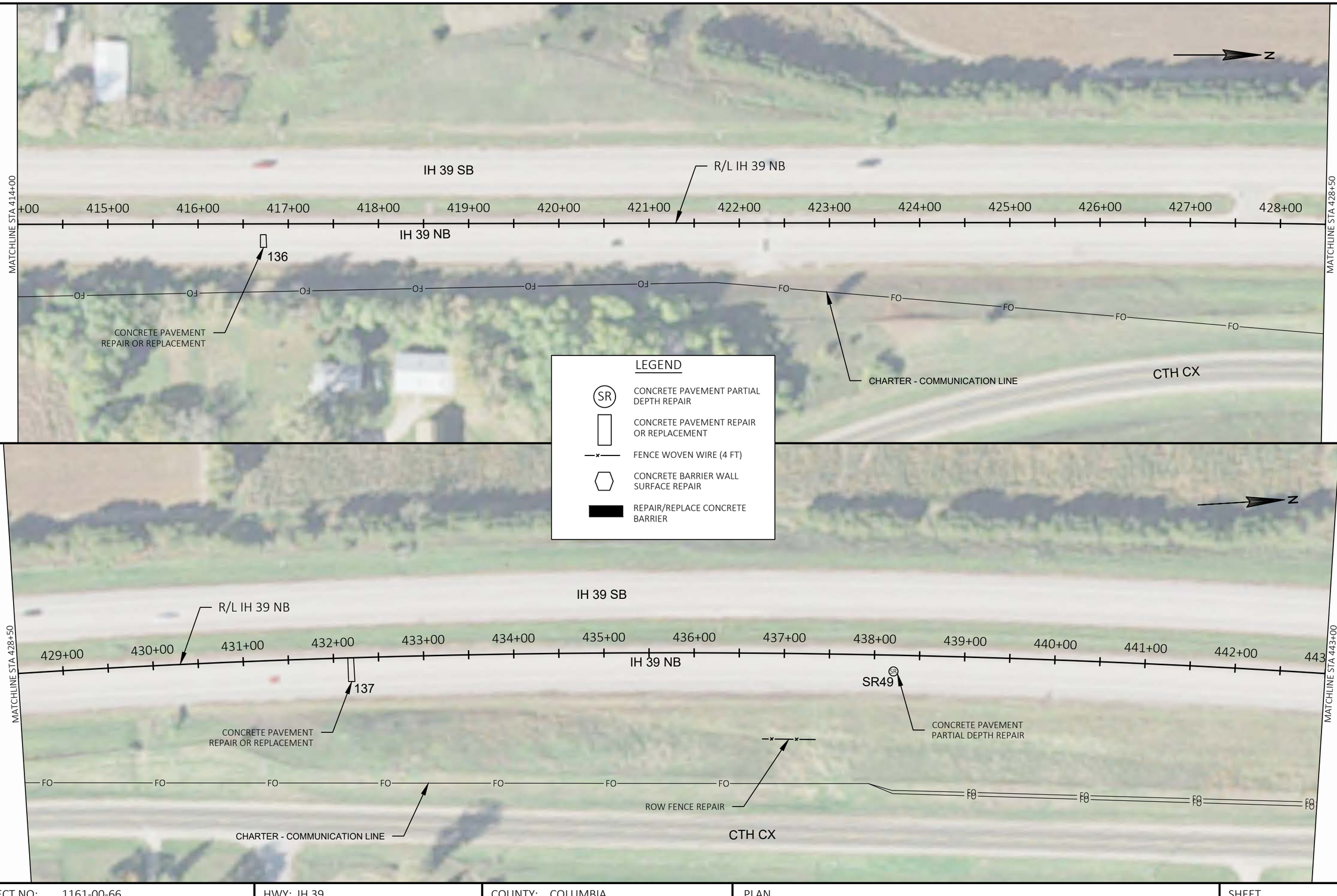
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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 13

PLOT DATE : 10/22/2019 1:48 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT



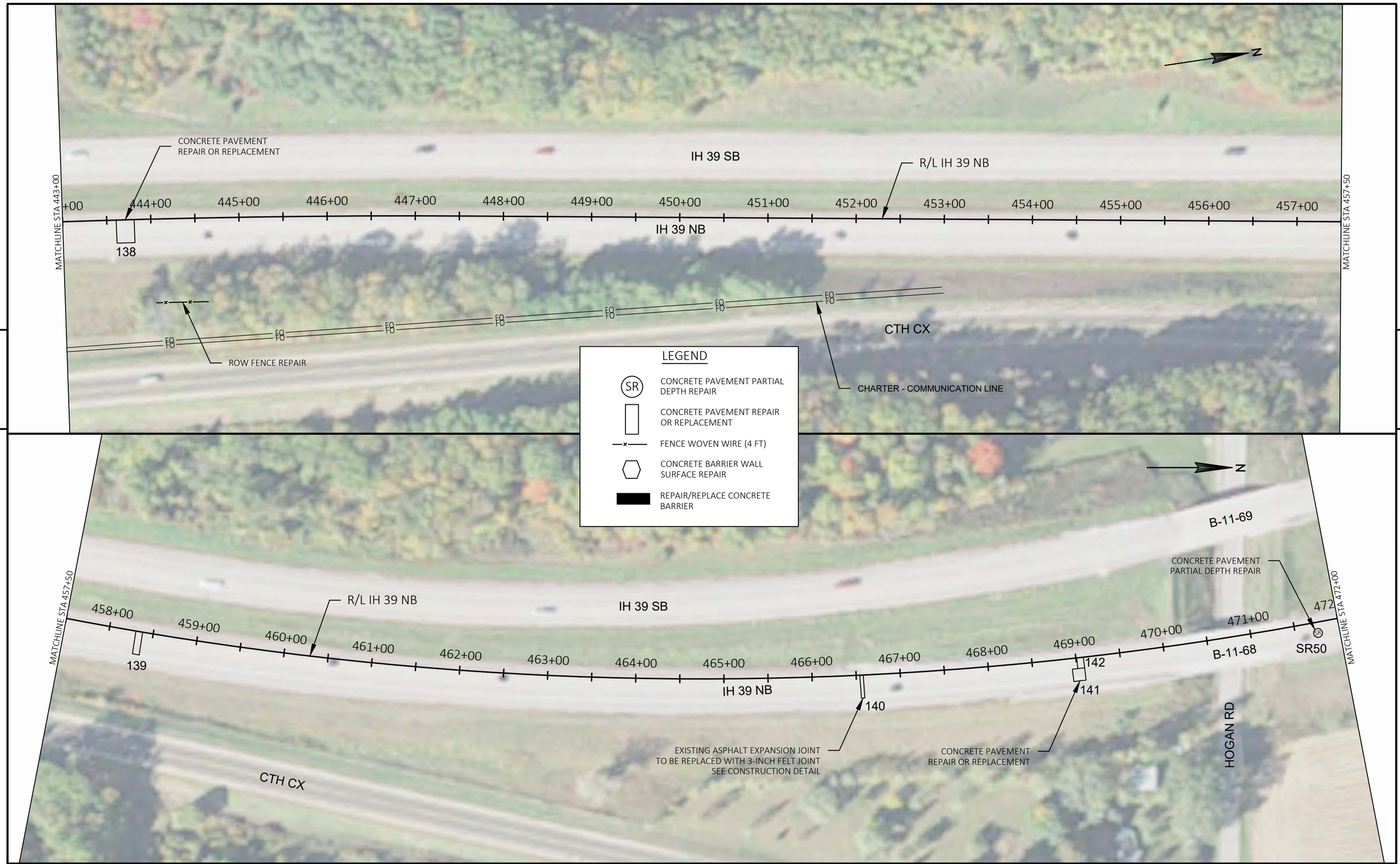
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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 112	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 14

PLOT DATE : 10/22/2019 1:49 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT



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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 15

PLOT DATE : 10/22/2019 1:49 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT

IH 39 SB

N

MATCHLINE STA 472+00

+00 473+00 474+00 475+00 476+00 477+00 478+00 479+00 480+00 481+00 482+00 483+00 484+00 485+00 486+00

R/L IH 39 NB

IH 39 NB

MATCHLINE STA 486+50

143

EXISTING ASPHALT EXPANSION JOINT
TO BE REPLACED WITH 3-INCH FELT JOINT
SEE CONSTRUCTION DETAIL

5

5

LEGEND

- (SR) CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
- CONCRETE PAVEMENT REPAIR OR REPLACEMENT
- FENCE WOVEN WIRE (4 FT)
- CONCRETE BARRIER WALL SURFACE REPAIR
- REPAIR/REPLACE CONCRETE BARRIER

IH 39 SB

N

MATCHLINE STA 486+50

487+00 488+00 489+00 490+00 491+00 492+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501

R/L IH 39 NB

IH 39 NB

MATCHLINE STA 501+00

ROW FENCE REPAIR

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 114 E



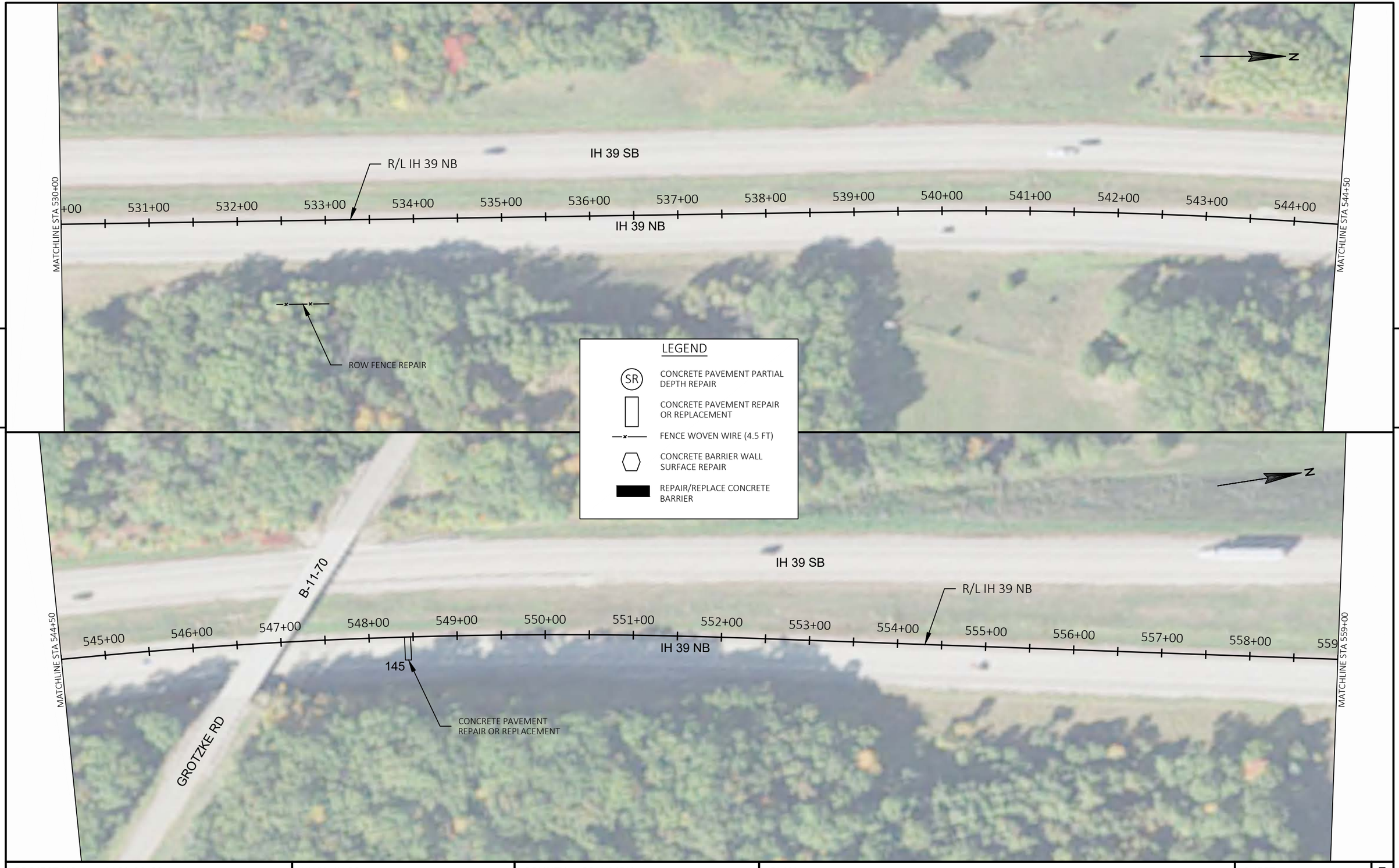
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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050201-PN.DWG
LAYOUT NAME - 17

PLOT DATE : 10/22/2019 1:49 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT



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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET	E

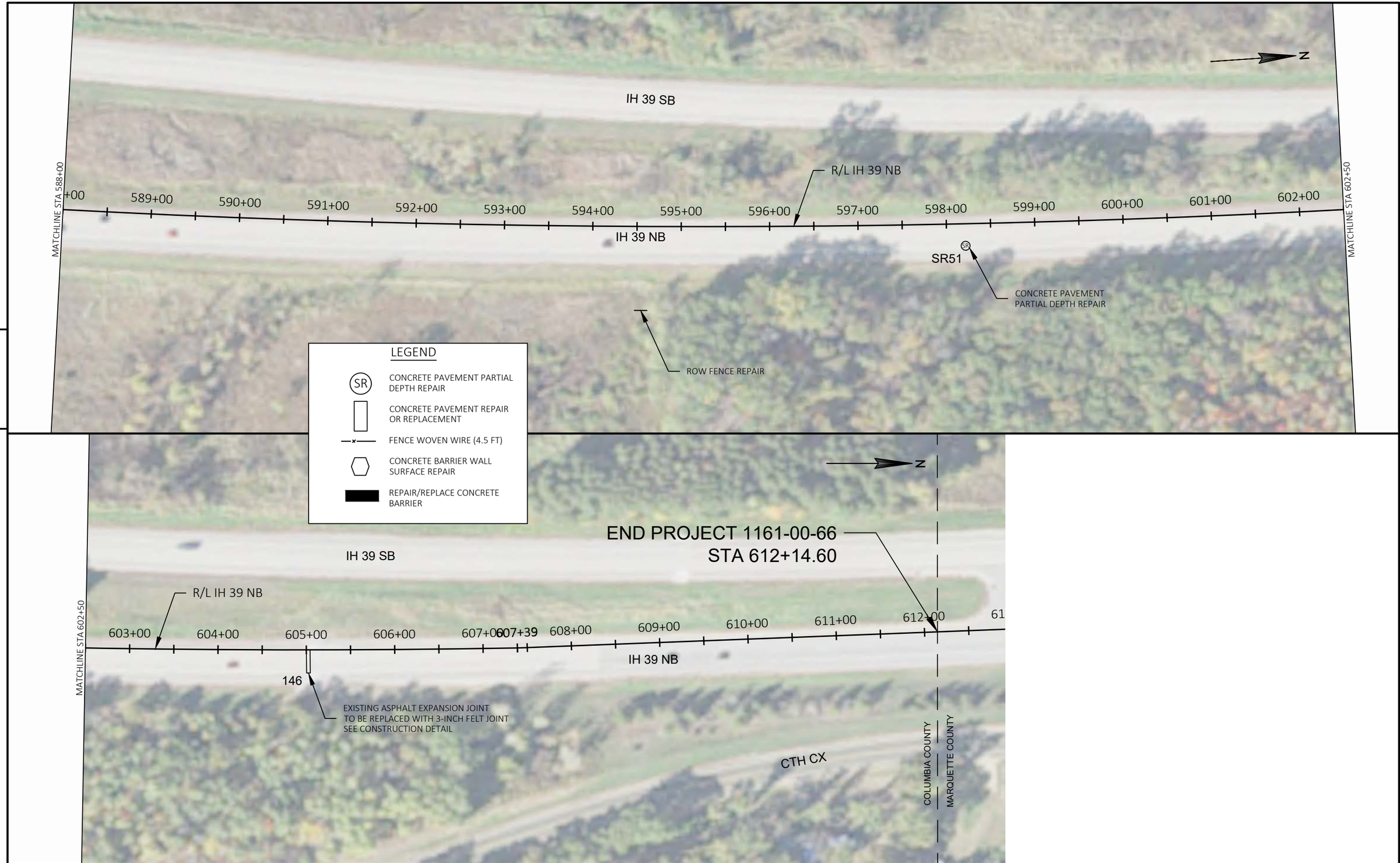
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LAYOUT NAME - 18
PLOT DATE : 10/22/2019 1:49 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1IN:100FT
WISDOT/CADDS SHEET 44



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PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 117	E



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN	SHEET 118 E

5

5

N

BEGIN CONSTRUCTION

366'R3'

368'R3'

370'R3'

372'R3'

374'R3'

376'R3'

378'R3'

USH 51 TO IH 39 SB

R/L R3

MCMAHON RD

380'R2'

382'R2'

384'R2'

386'R2'

388'R2'

390'R2'

392'R2'

394'R2'

396'

IH 39 SB TO USH 51

R/L R2

END CONSTRUCTION

BEGIN CONSTRUCTION

368'R4'

370'R4'

372'R4'

374'R4'

IH 39 NB TO USH 51

R/L R1

IH 39 SB

IH 39 NB

378'R2'

380'R3'

376'R2'

382'R3'

374'R2'

384'R3'

BEGIN CONSTRUCTION

R/L R2

368'R2'

370'R2'

372'R2'

386'R3'

388'R3'

390'R3'

R/L R3

USH 51

END CONSTRUCTION

END CONSTRUCTION

USH 51 TO IH 39 NB

HWY CX

LEGEND

- SR — CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
- CONCRETE PAVEMENT REPAIR OR REPLACEMENT
- FENCE WOVEN WIRE (4.5 FT)
- CONCRETE BARRIER WALL SURFACE REPAIR
- REPAIR/REPLACE CONCRETE BARRIER

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN - USH 51 RAMPS	SHEET 119	E

FILE NAME : O:\DESIGN\SW\1161-00-36,66 IH 39, COLUMBIA COUNTY\C3D\11610036\SHEETSPLAN\050202-PN.DWG
LAYOUT NAME - 01

PLOT DATE : 4/22/2019 2:23 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

MATCH EXISTING 32" SINGLE-FACED CONCRETE BARRIER WALL
BEGIN CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36
STA 58'SB'+42.35, 36.1' LT

END CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36
BEGIN CONCRETE BARRIER TRANSITION TYPE S36 TO S42
STA 58'SB'+57.52, 36.3' LT

END CONCRETE BARRIER TRANSITION TYPE S36 TO S42
BEGIN CONCRETE BARRIER TYPE S42C
STA 58'SB'+68.14, 36.3' LT

SLOPE INTERCEPT

3.5" HMA PAVEMENT
4 LT 58-28 S

SLOPE INTERCEPT (TYP)

EXISTING R/W

CONCRETE BARRIER TYPE S42C

3.5" HMA PAVEMENT
4 LT 58-28 S

N

SIGN

W

SB'

57'SB'

58'SB'

59'SB'

60'SB'

61'SB'

62'SB'

63'SB'

IH 39 SB

B-11-51

INL

W

INL

W

INL

INL

MATCH LINE 63'SB'+50

BEGIN 32-INCH CONCRETE
BARRIER WALL CONSTRUCTION
STA 56'SB'+94, 26' LT
MATCH EXISTING
SAW CUT REQ'D

END 32-INCH CONCRETE
BARRIER WALL CONSTRUCTION
STA 57'SB'+17, 26' LT
MATCH EXISTING
SAW CUT REQ'D

BEGIN 42-INCH CONCRETE
BARRIER WALL CONSTRUCTION
STA 58'SB'+42.35, 26' LT
MATCH EXISTING
SAW CUT REQ'D

IH 39 NB

IH 39 NB OFF RAMP

SIGN

5

5

800

790

785

'SB' R/L EXISTING PROFILE

BARRIER WALL GUTTER FLANGE LINE PROPOSED PROFILE

STA 57'SB+06
EXISTING 24" RCCP

STA 59'SB+59
EXISTING 24" RCCP

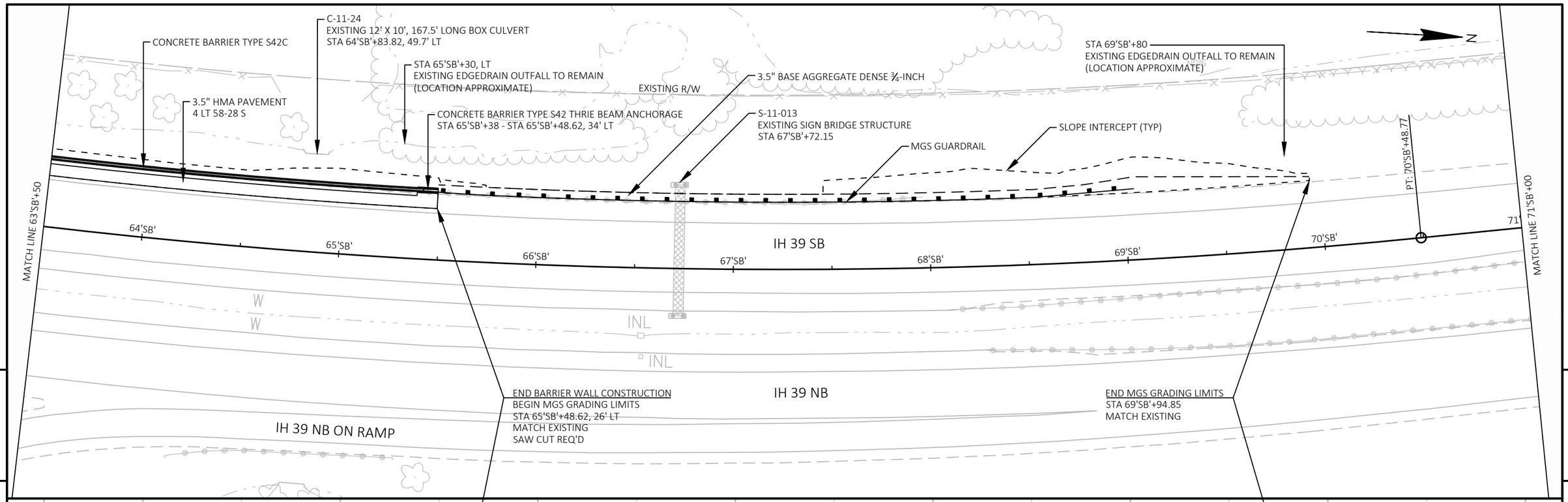
BARRIER WALL GUTTER FLANGE LINE PROPOSED PROFILE

EXISTING PROFILE ELEVATIONS AT 'SB' R/L

791.34 791.35 791.39 791.67 791.65 791.63 791.64 791.72 791.88 791.98 792.01 792.00 792.05 792.08 792.08 792.15 792.26 792.25 792.53 792.81 792.55 792.58 792.56 792.59 792.70 792.78 792.90 792.87 792.83 792.79 792.78

56'SB' 57'SB' 58'SB' 59'SB' 60'SB' 61'SB' 62'SB' 63'SB' 63'SB'

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN AND PROFILE: IH 39 SB	SHEET 120 E



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	PLAN AND PROFILE: IH 39 SB	SHEET 121	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 02
PLOT DATE : 10/9/2019 3:16 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

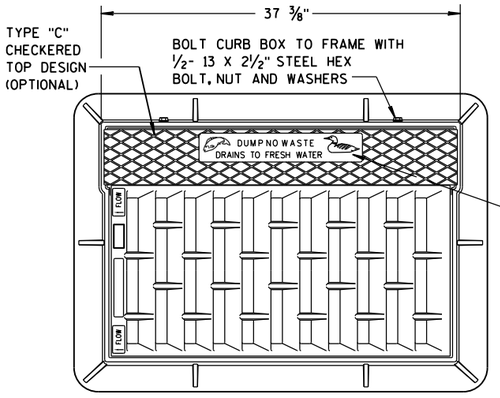
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
12A03-10	NAME PLATE (STRUCTURES)
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C08-02	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
13C09-15A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-15B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-15C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-12A	RURAL DOWELED CONCRETE PAVEMENT
13C11-12B	RURAL DOWELED CONCRETE PAVEMENT
13C13-09	URBAN DOWELED CONCRETE PAVEMENT
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	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
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B22-06A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-06B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B32-06A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-06E	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B33-01A	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01B	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01C	CONCRETE BARRIER SINGLE SLOPE 32" THRIE BEAM ANCHOR
14B33-01D	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01E	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01F	CONCRETE BARRIER SINGLE SLOPE 36" THRIE BEAM ANCHOR
14B33-01G	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B33-01H	CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR
14B35-01A	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B35-01B	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SSCB TRANSITION
14B35-01C	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B35-01D	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B35-01E	42-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B35-01F	42-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B39-01A	32-INCH SSCB TO 36-INCH SSCB HEIGHT TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION

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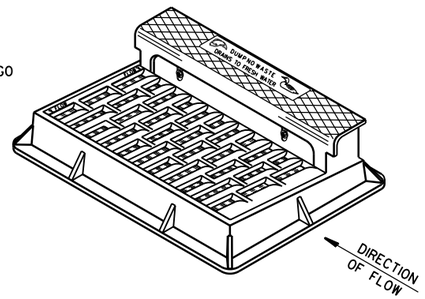
Standard Detail Drawing List

14B39-01E	42-INCH SSCB TO 56-INCH SSCB HEIGHT TRANSITION
14B41-03A	SINGLE SLOPE ROADSIDE RETAINING WALL
14B41-03B	SINGLE SLOPE ROADSIDE RETAINING WALL
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A04-05A	FLEXIBLE DELINEATOR POST
15A04-05B	DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A04-05C	DELINEATOR POST WITH REFLECTIVE SHEETING
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-07D	ON RAMP LANE CLOSURE
15C02-07E	OFF RAMP LANE CLOSURE
15C02-07F	ADVANCED WIDTH RESTRICTION SIGNING
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D12-07A	TRAFFIC CONTROL, LANE CLOSURE
15D12-07B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D12-07C	DYNAMIC LATE MERGE SYSTEM
15D15-05A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-05E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D40-01	TRAFFIC CONTROL, LANE SHIFT, MULTILANE DIVIDED OR ONE WAY ROAD
15D41-01	TRAFFIC CONTROL, MULTIPLE LANE SHIFT, MULTILANE DIVIDED ROAD
15D43-01	TRAFFIC CONTROL, SHORT DURATION MOBILE OPERATIONS

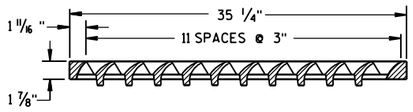
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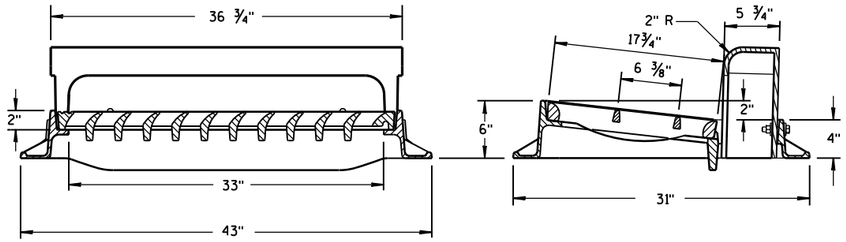


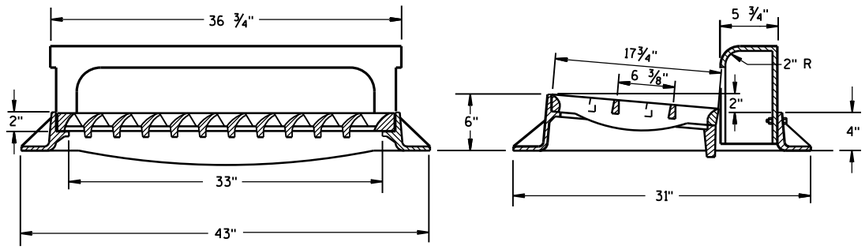
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

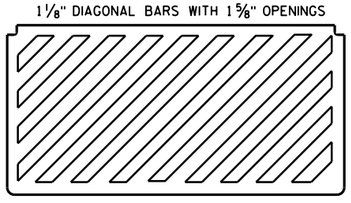






TYPE "H"

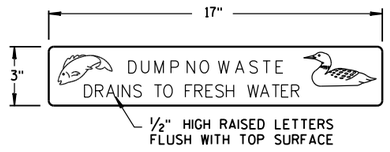
NOTE: EITHER CASTING IS ACCEPTABLE



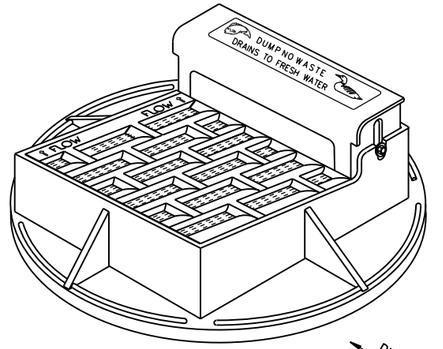
SPECIAL GRATE FOR TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

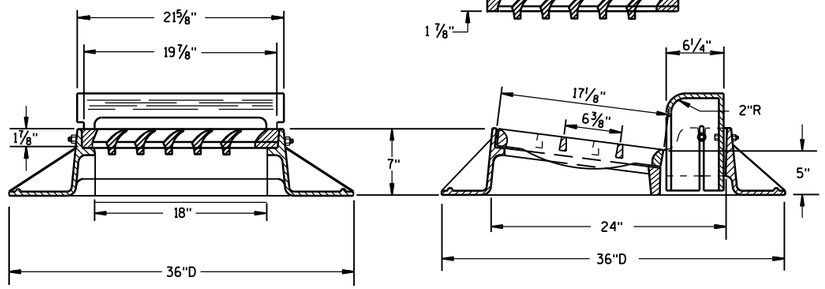


LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



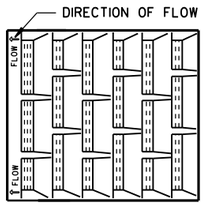
TYPE "A"

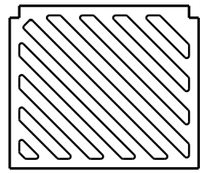
GENERAL NOTES

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.

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

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

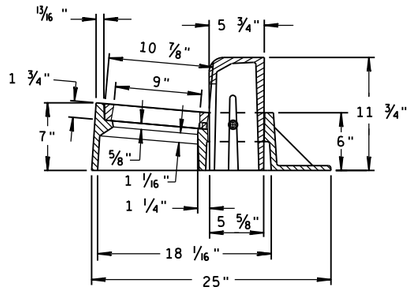


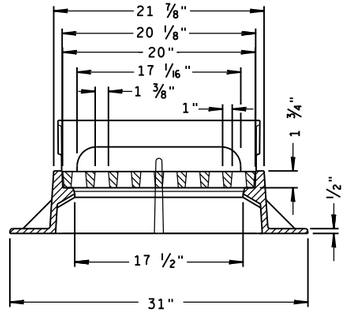


SPECIAL GRATE FOR TYPE "A" COVER

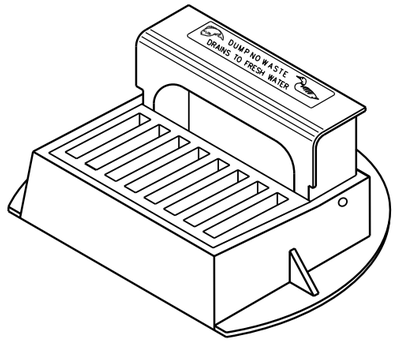
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"

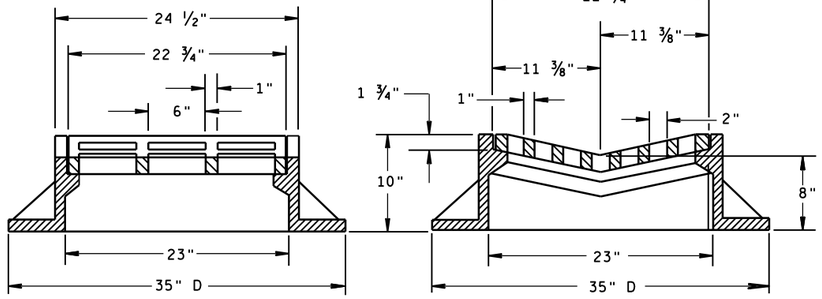


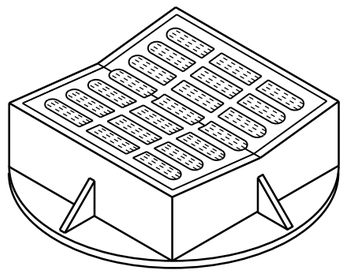
INLET COVERS TYPE A, H, A-S, H-S & Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

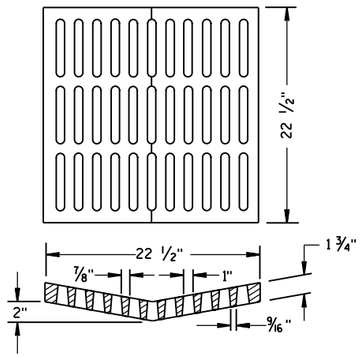
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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



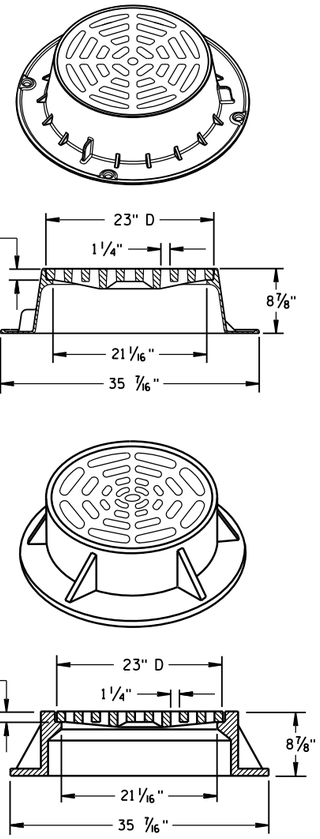


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

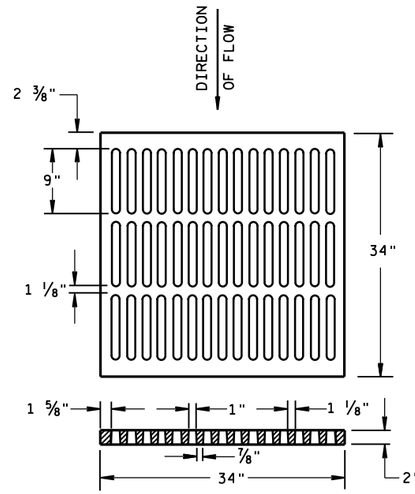
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

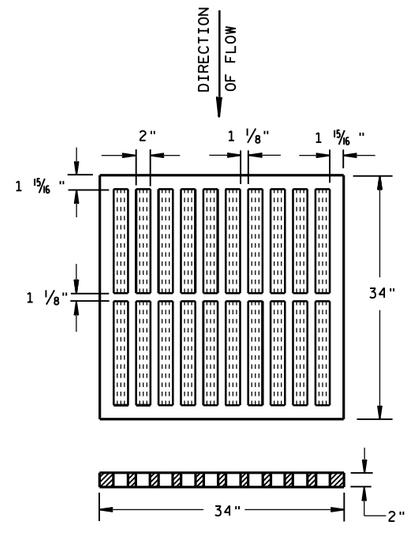
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



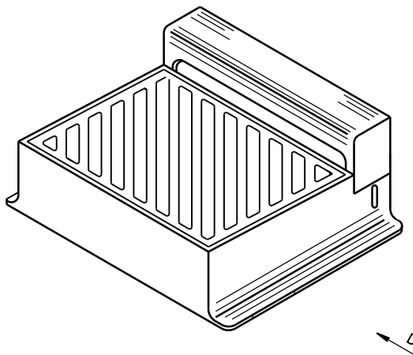
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

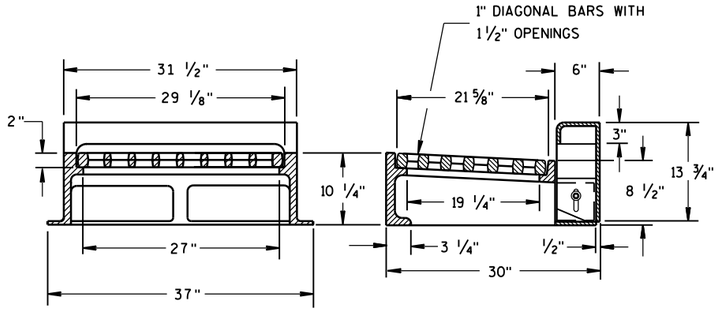


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

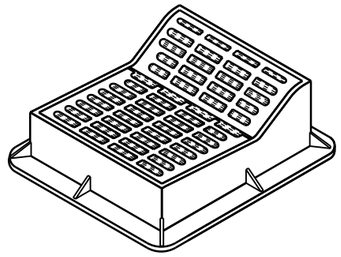
INLET COVERS
TYPE B, B-A, C,
MS, MS-A, & WM

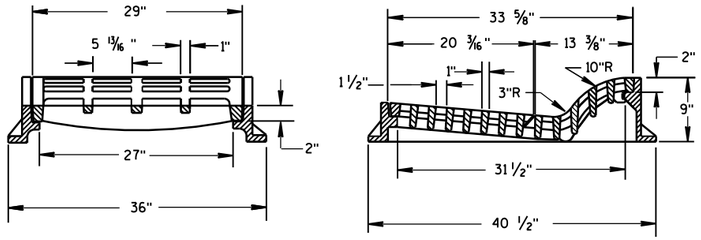
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

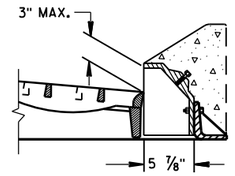
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

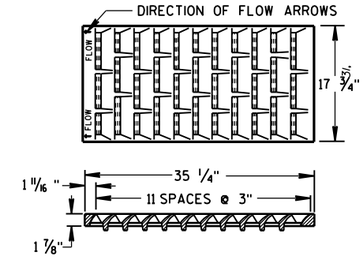
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

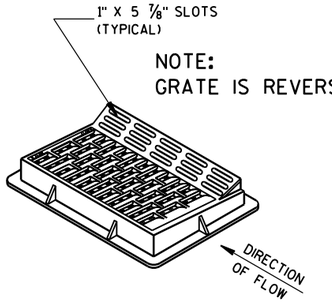
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

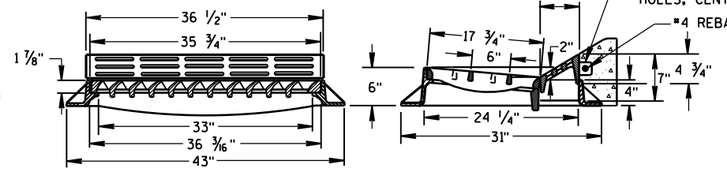
GENERAL NOTES

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.



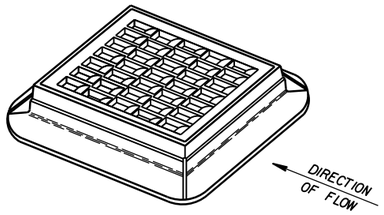


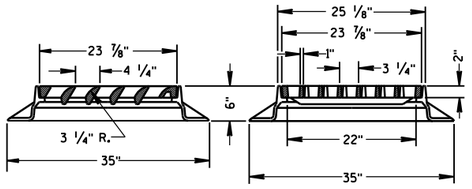


TYPE "HM"

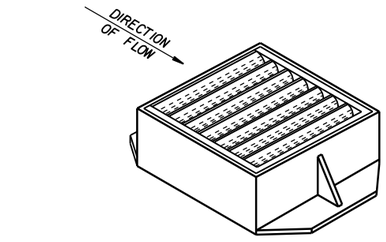
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

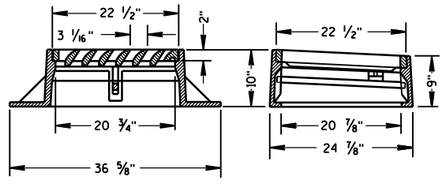
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



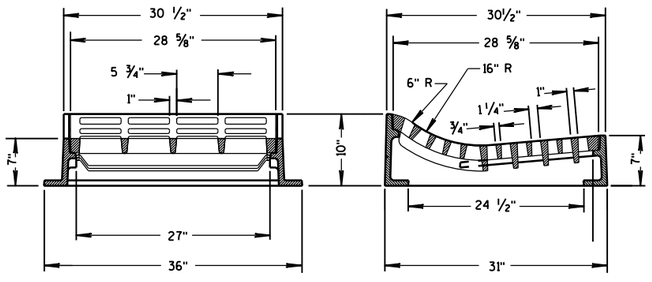


TYPE "S"



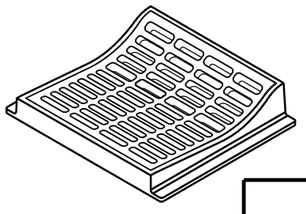


TYPE "V"



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

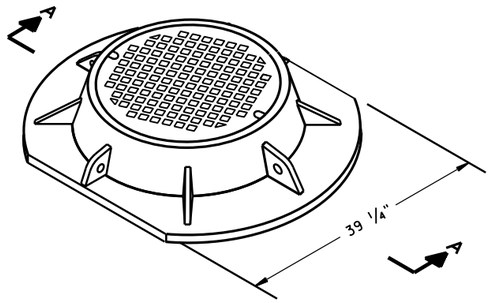
APPROVED
11/27/2013
DATE

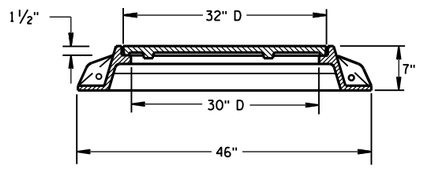
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

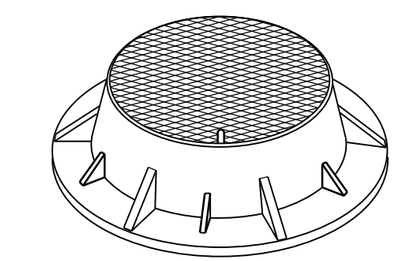
6

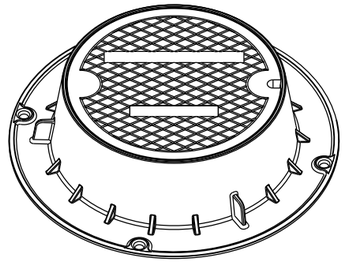
S.D.D. 8 A 5-19c

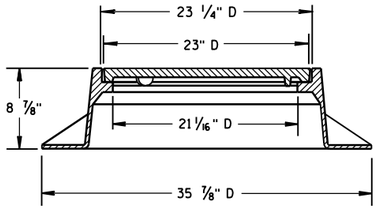


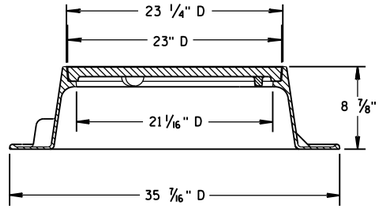


SECTION A-A
TYPE "K"









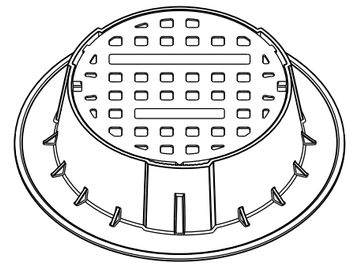
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

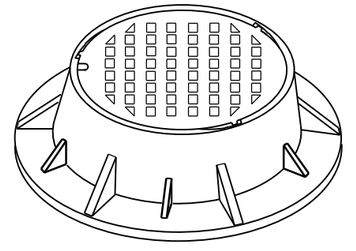
GENERAL NOTES

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.

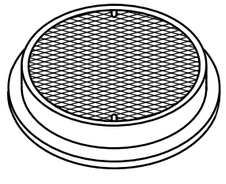
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

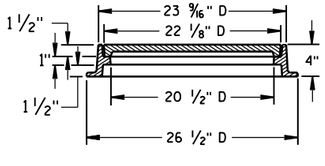
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



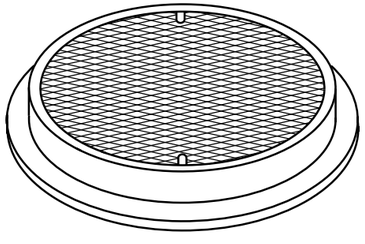


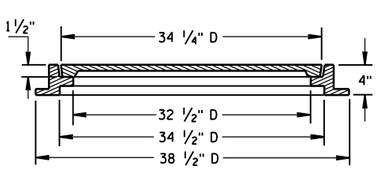
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



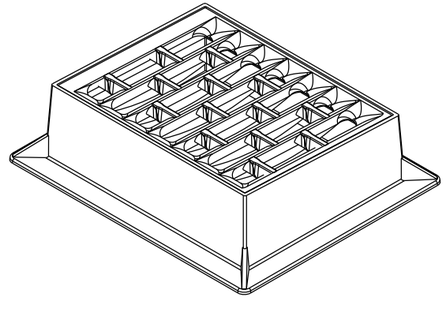


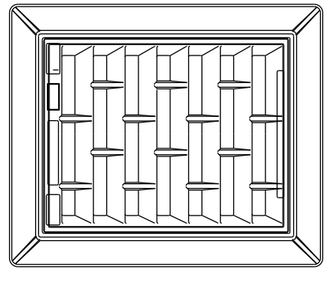
TYPE "L"

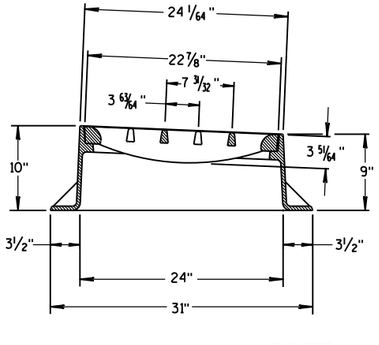


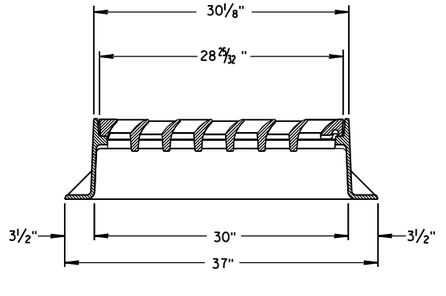


TYPE "M"









INLET COVER TYPE "BW"

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

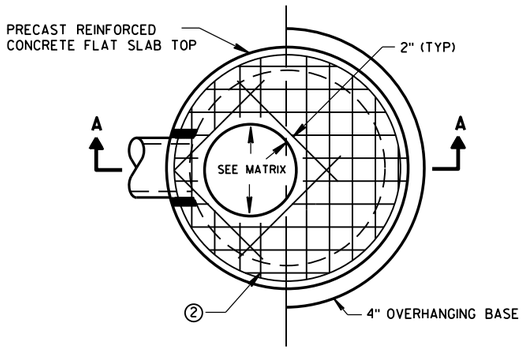
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

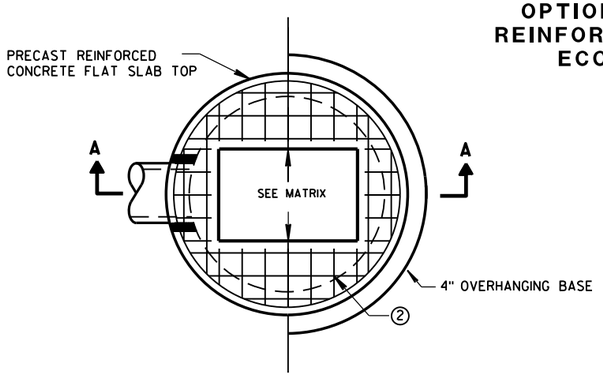
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

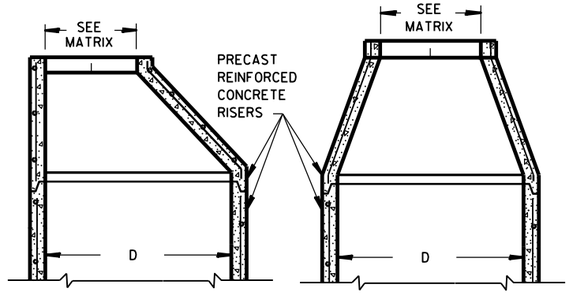
S.D.D. 8 A 5-19d



PLAN VIEW CIRCULAR OPENING

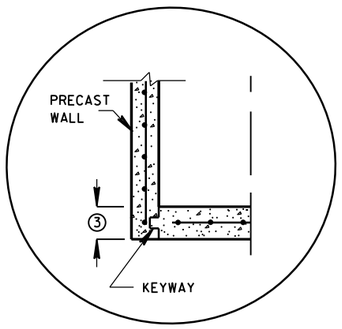


PLAN VIEW RECTANGULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

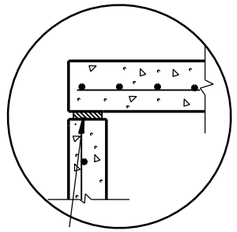
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



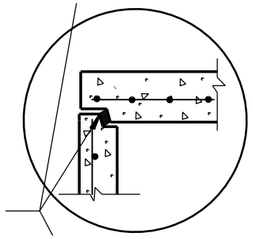
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

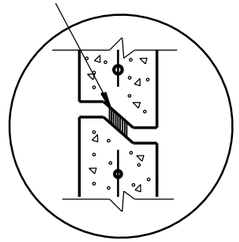


TOP WITH PLAIN END JOINT



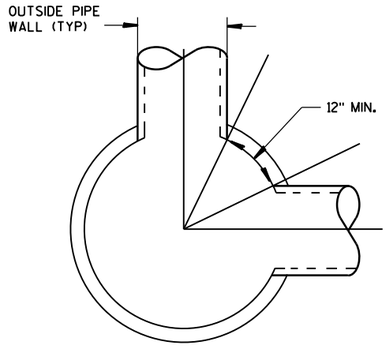
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT

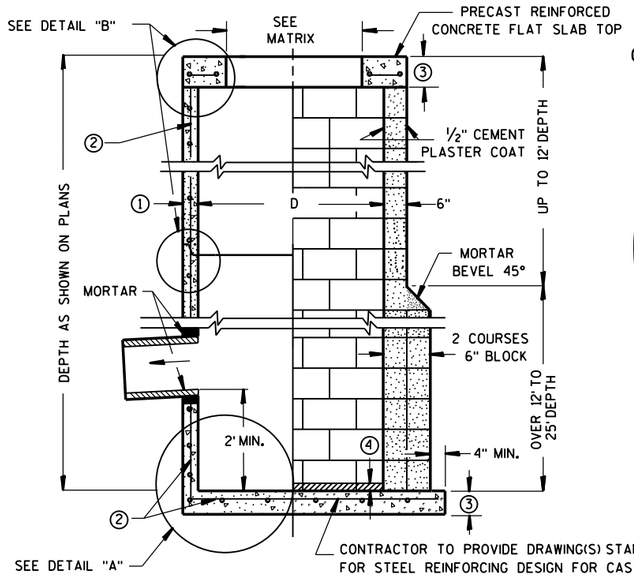


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



DETAIL "C"



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

SECTION A-A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

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 CATCH BASIN 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 DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE 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 FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL 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.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT)											
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

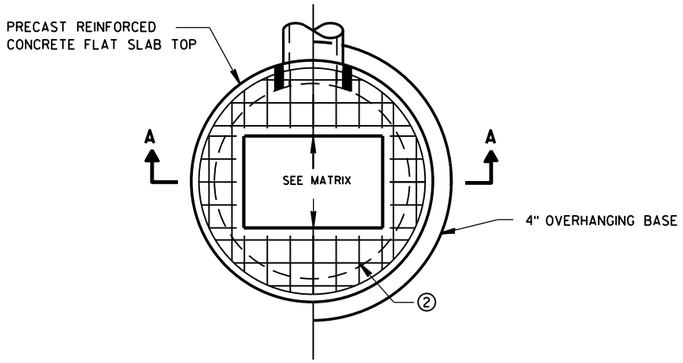
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

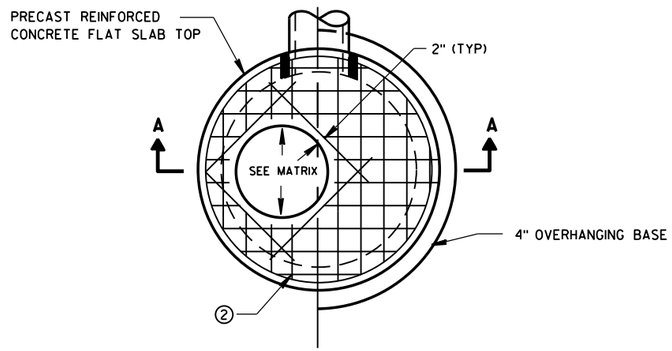
APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

S.D.D. 8 A 8-2

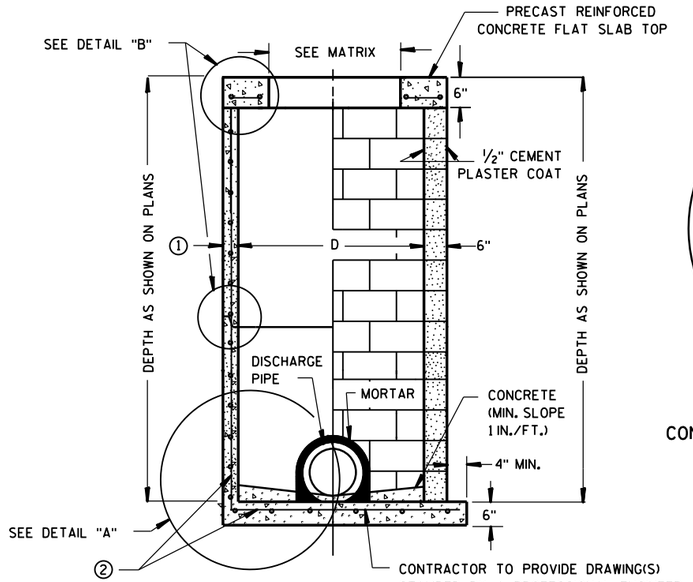
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PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

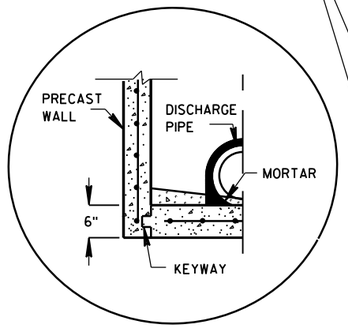


SECTION A-A

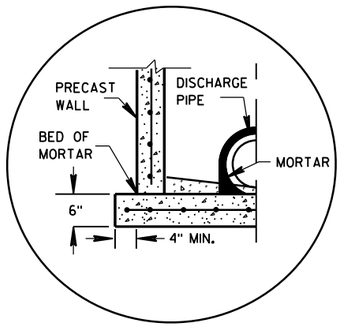
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

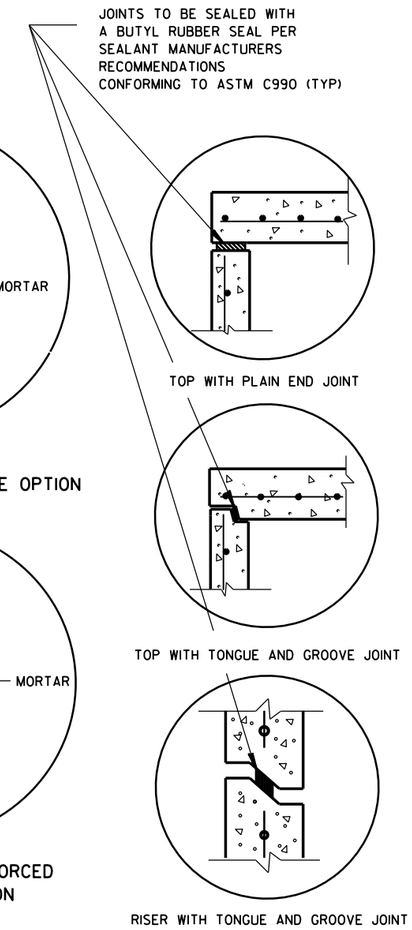


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

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.

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ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE 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 FOUNDATION 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.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

4" OVERHANGING BASES ARE REQUIRED FOR ALL 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.

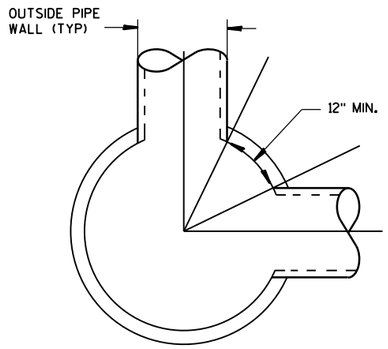
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS | UNIT SUPERVI ENT
FHWA

INLETS 3-FT AND 4-FT DIAMETER

6

S.D.D. 8 C 6-2

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:

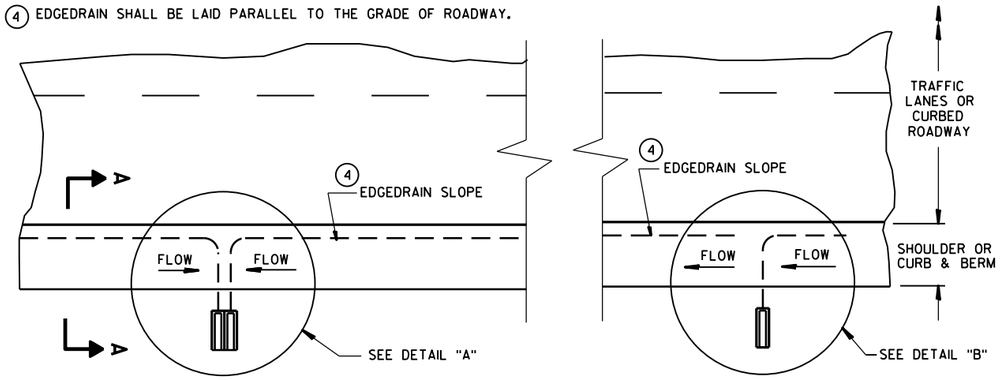
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

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.

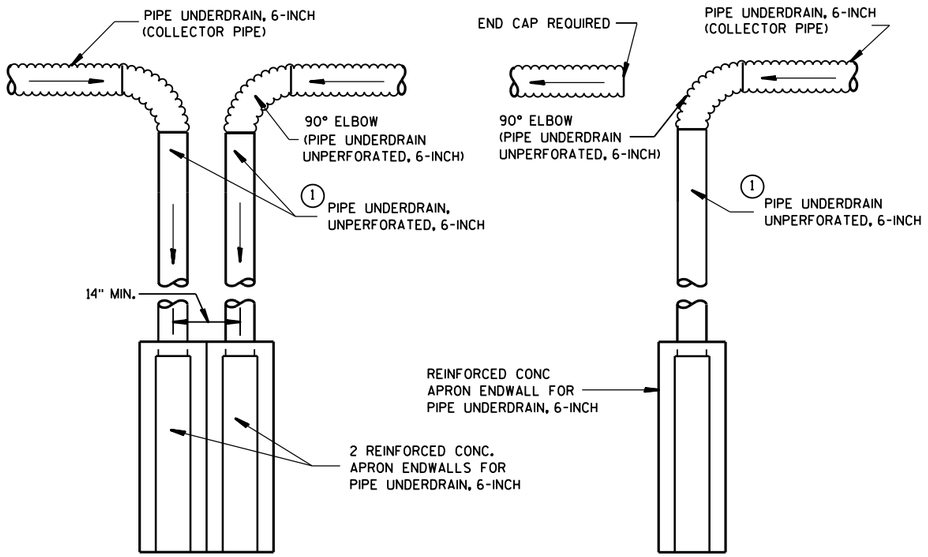
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



PLAN VIEW

ROADWAY WITH SHOULDERS OR CURBS

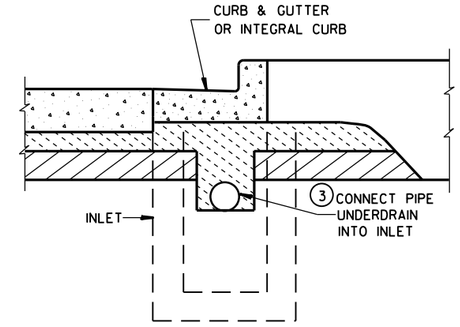
(EDGEDRAIN OUTLETS TO ROADSIDE)(2)



DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

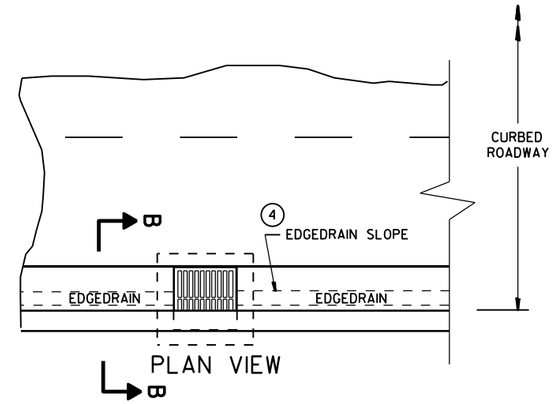
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

TYPICAL DRAIN OUT DETAILS



SECTION B-B

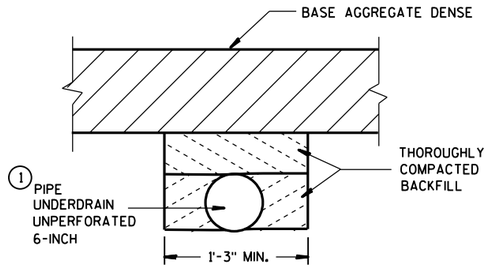
URBAN CROSS SECTION



PLAN VIEW

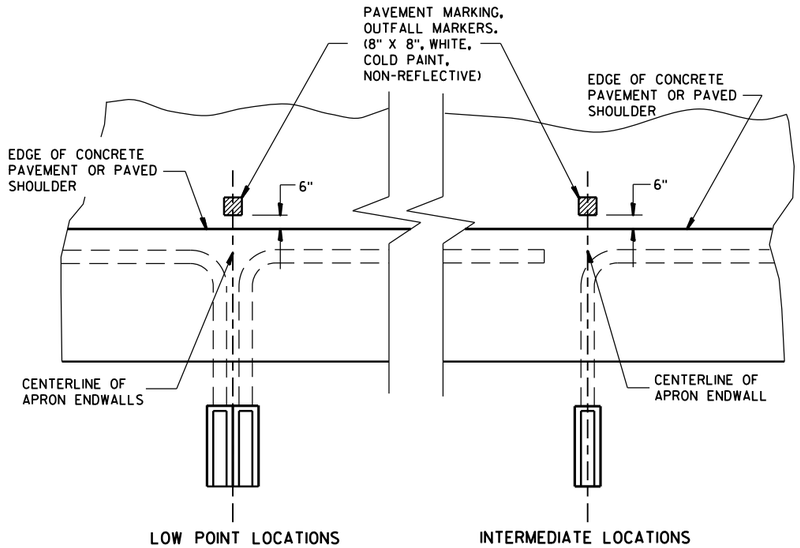
ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



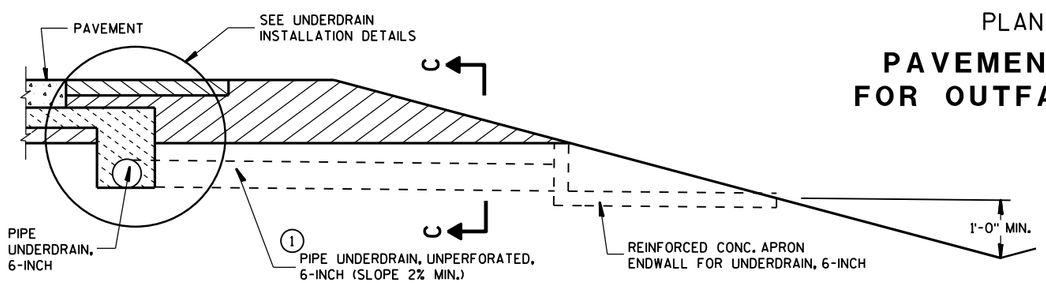
SECTION C-C

(TRENCH FOR OUTFALL PIPE)



PLAN VIEW

PAVEMENT MARKING FOR OUTFALL MARKERS



SECTION A-A

RURAL CROSS SECTION

EDGEDRAIN OUTLET AND OUTFALL MARKERS

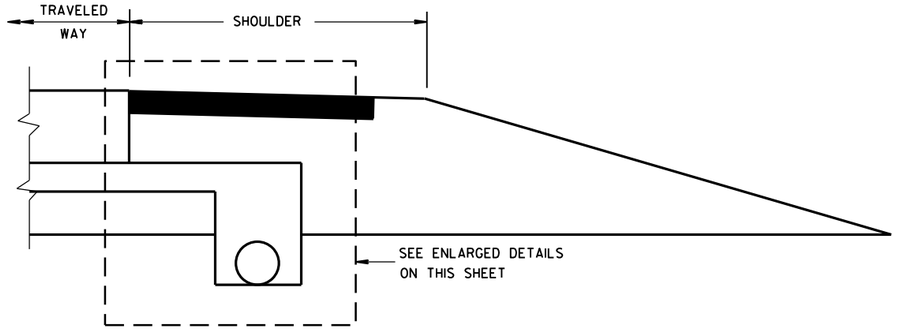
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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

6

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



RURAL CROSS SECTION

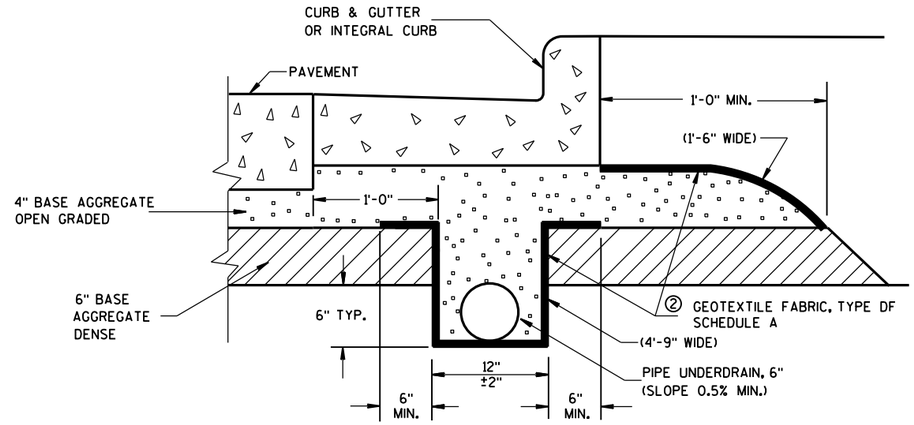
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

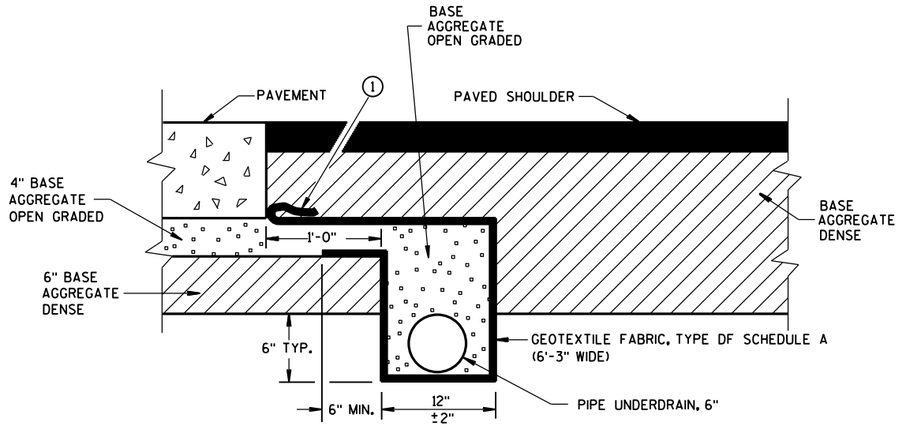
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

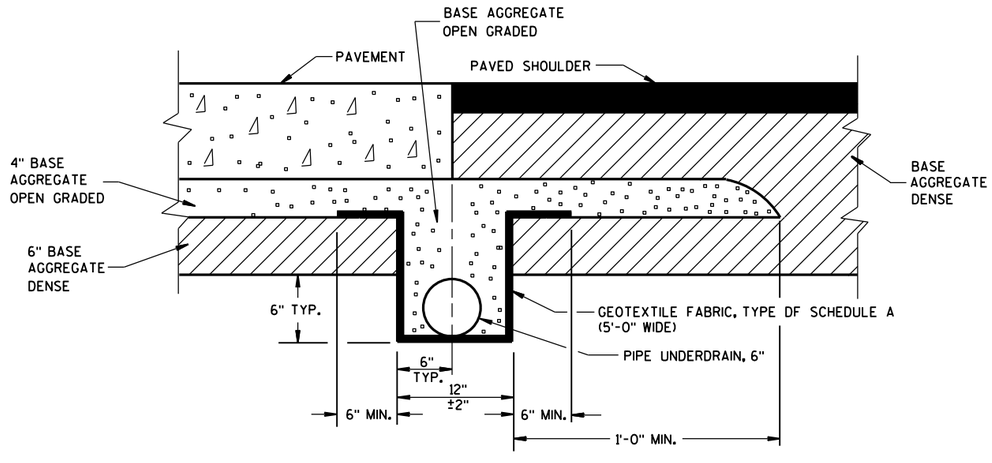
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATE

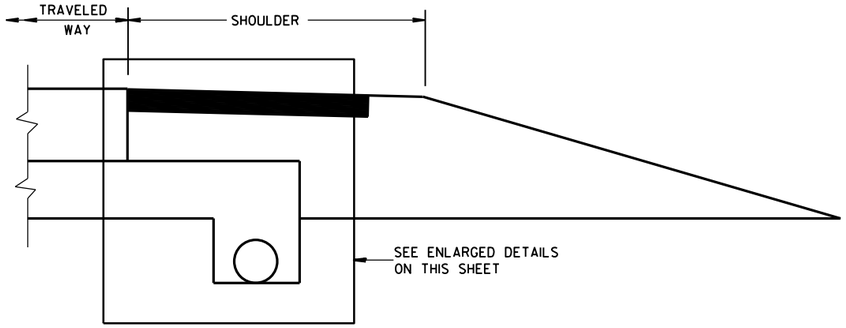
EDGEDRAIN IN RURAL ROADWAY

EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

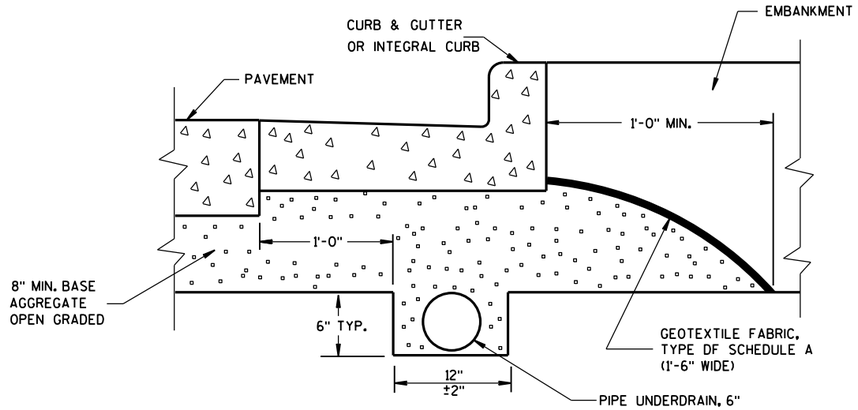


RURAL CROSS SECTION

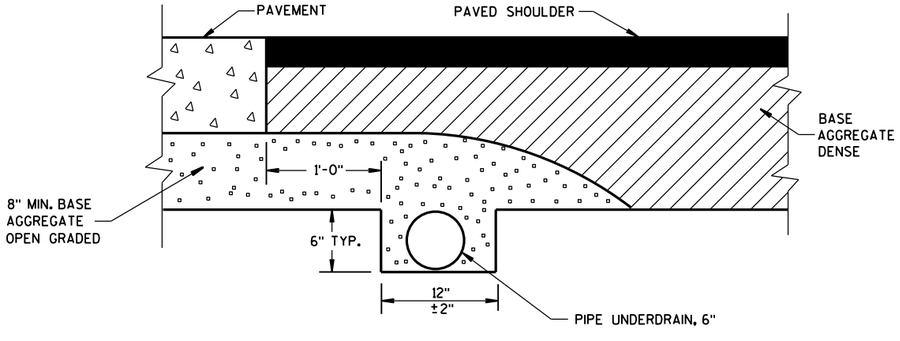
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

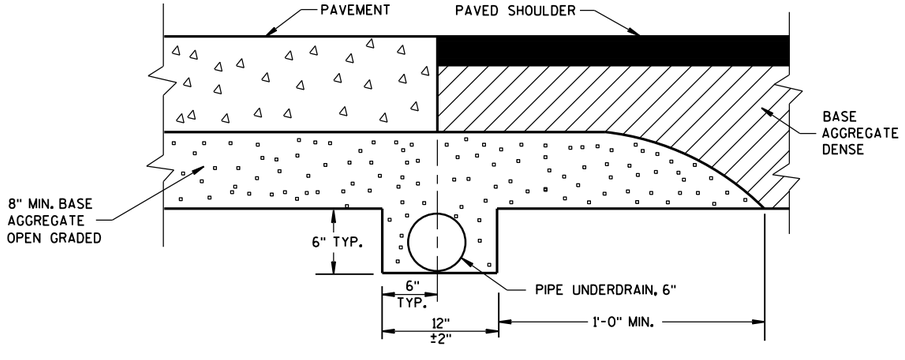
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

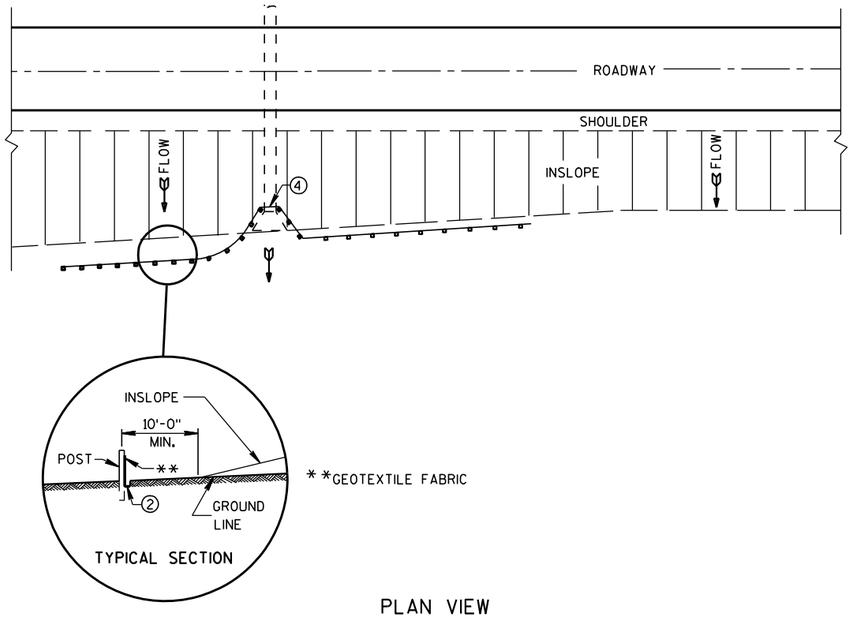
EDGEDRAIN AND BASE AGGREGATE OPEN GRADED

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

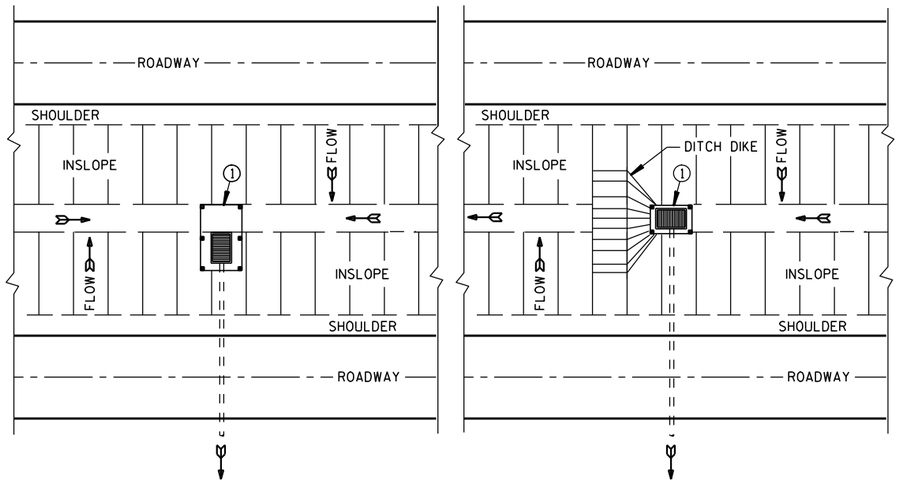
6

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



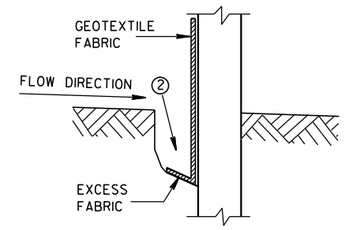
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

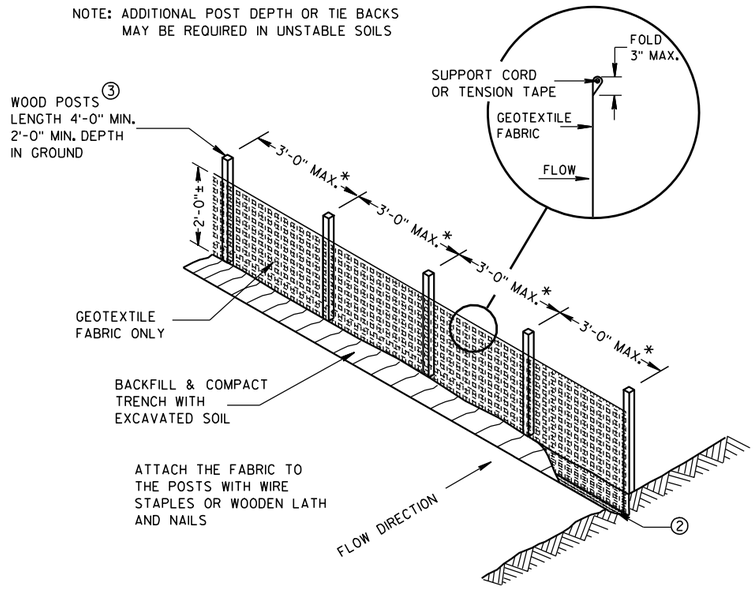
GENERAL NOTES

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

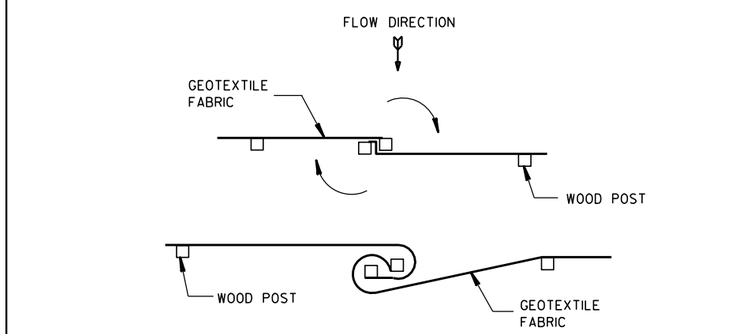
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



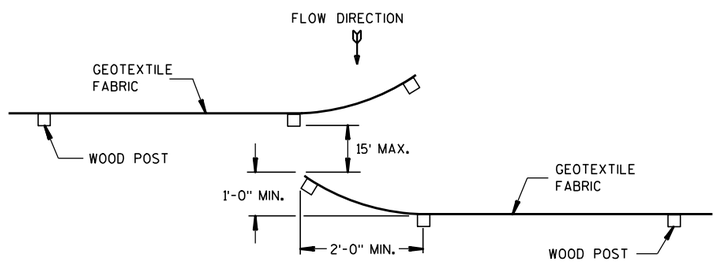
TRENCH DETAIL



SILT FENCE

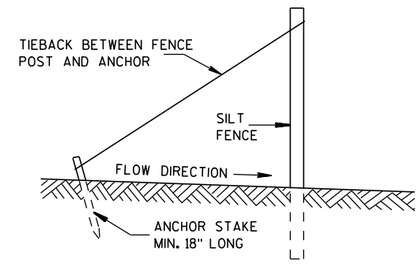


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

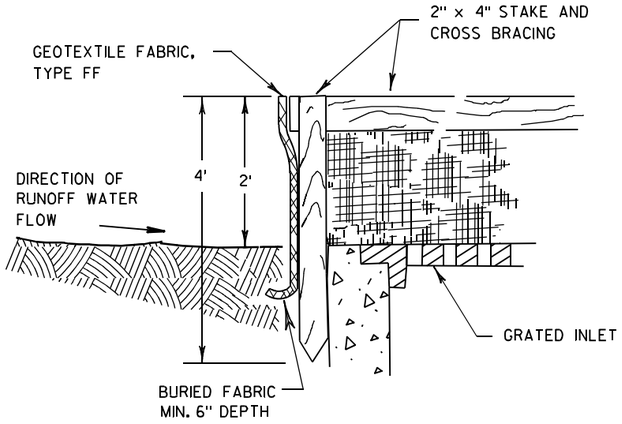
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

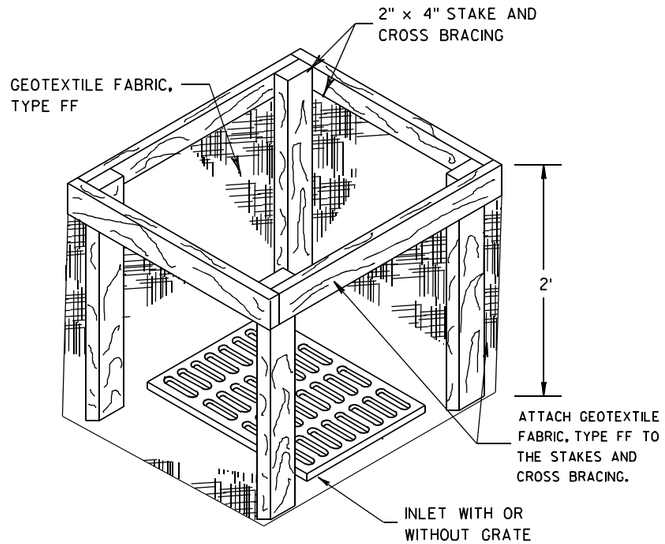
6

S.D.D. 8 E 9-6

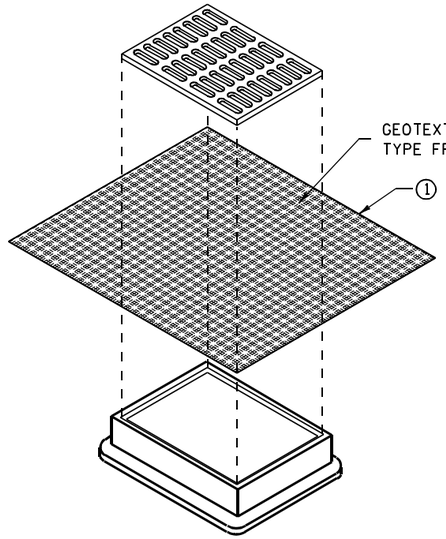
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S.D.D. 8 E 9-6



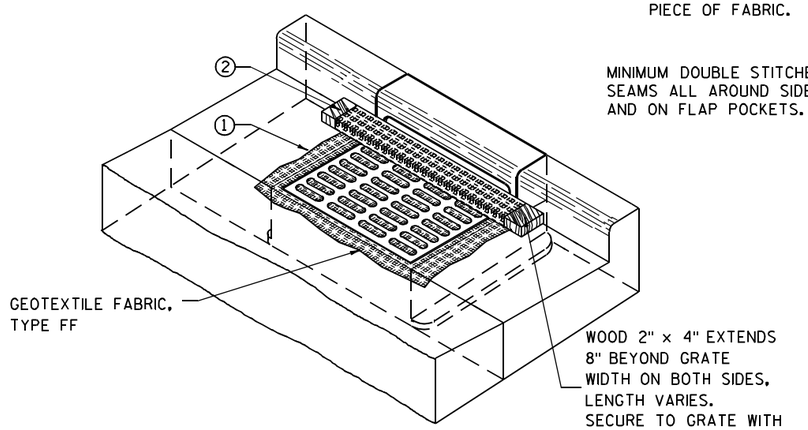


INLET PROTECTION, TYPE A

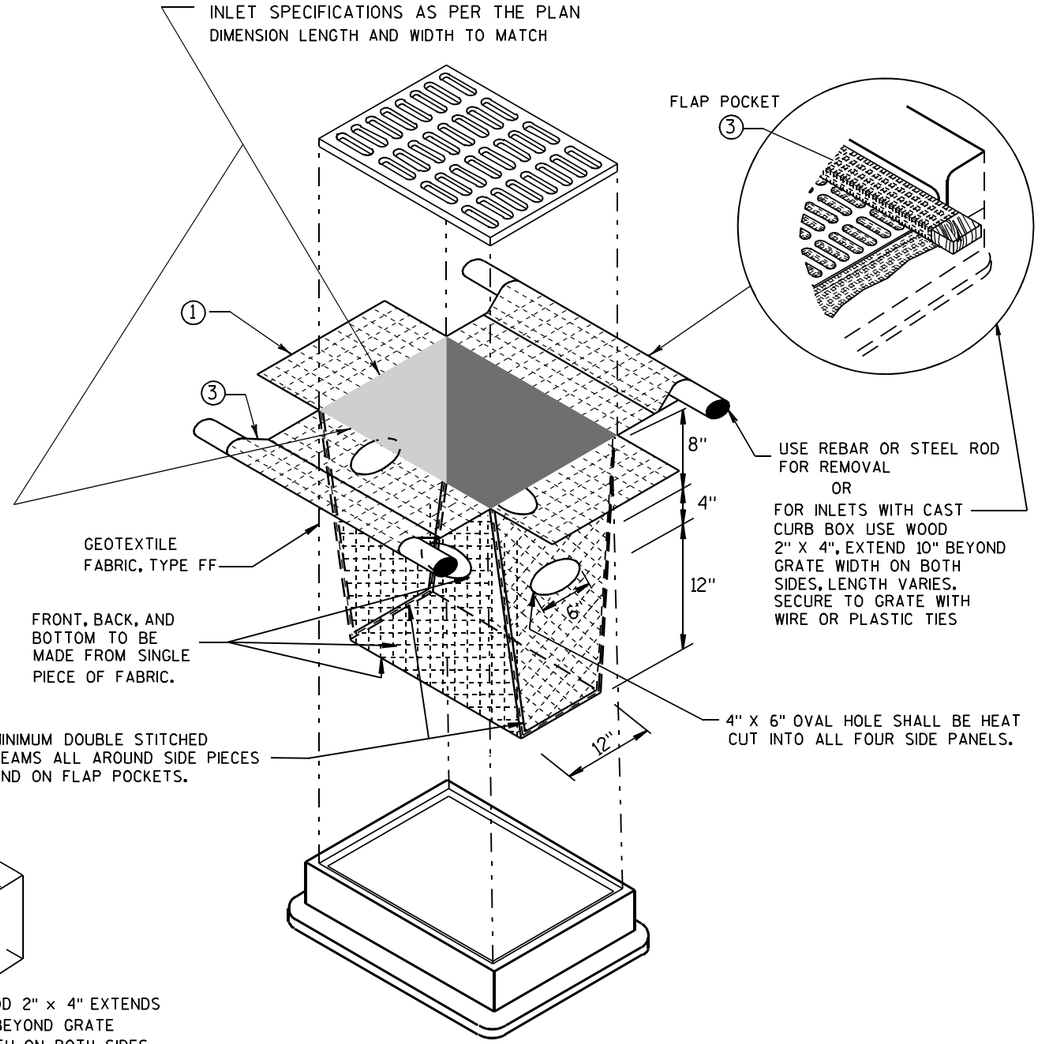


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

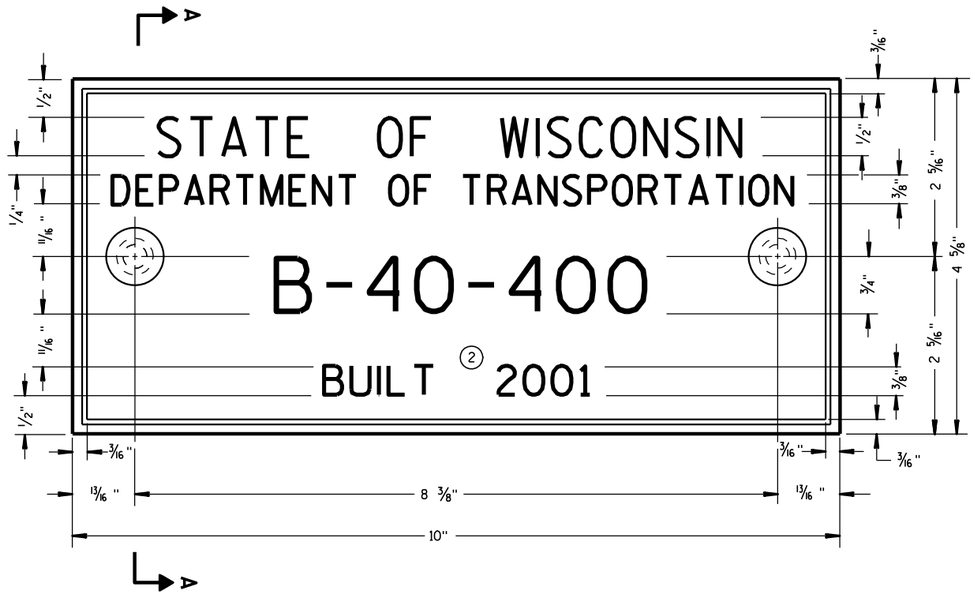
APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

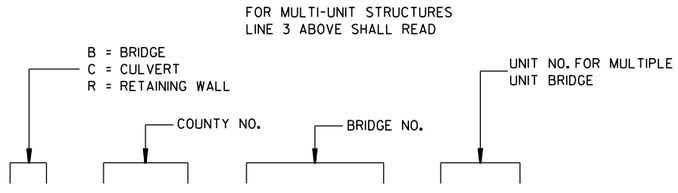
FHWA

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



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

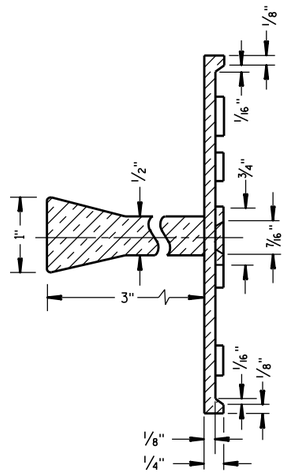
GENERAL NOTES

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

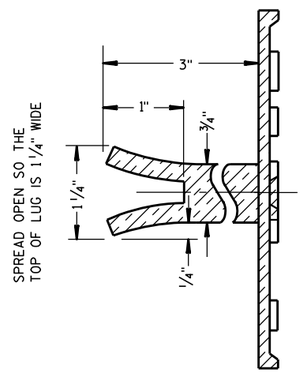
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

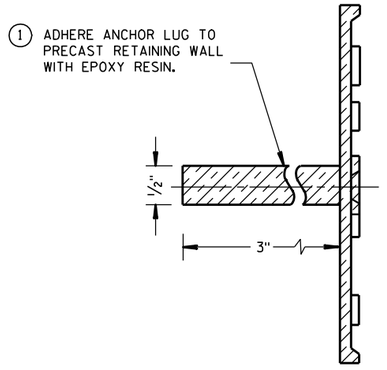
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

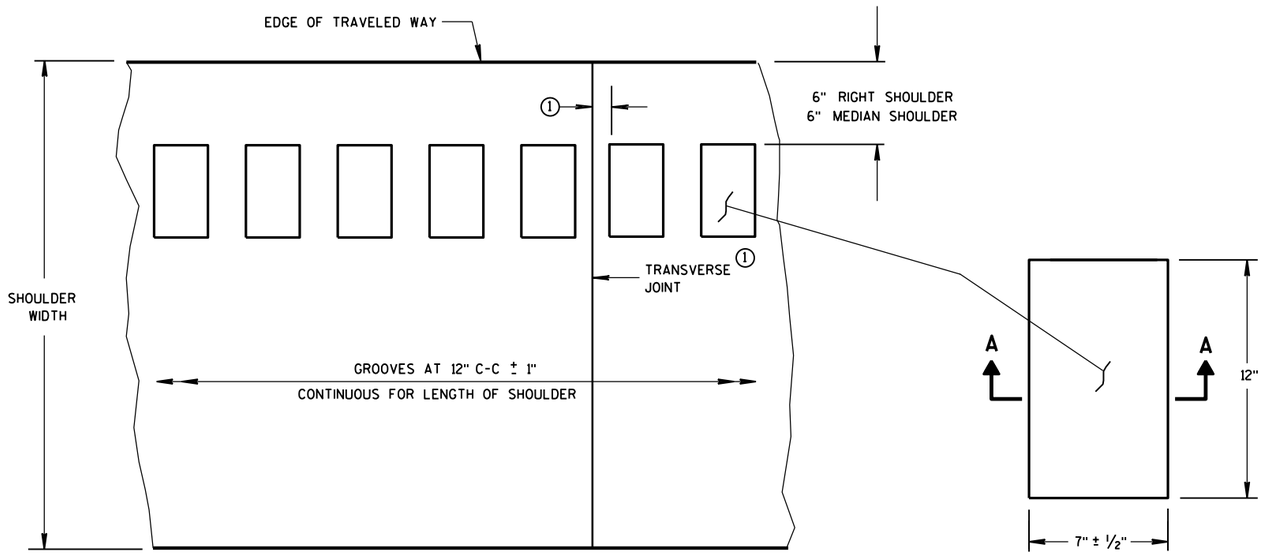
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

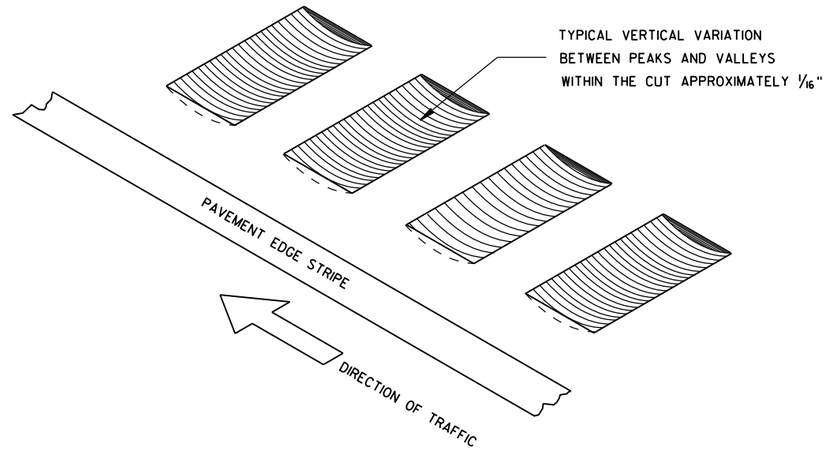
GENERAL NOTES

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

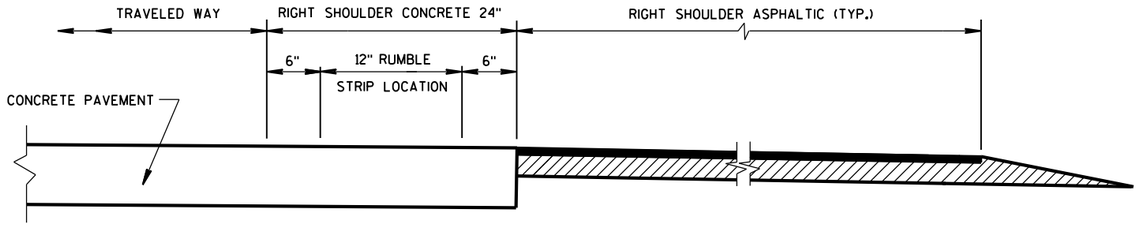
RUMBLE STRIPS ON EXPRESSWAYS

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.

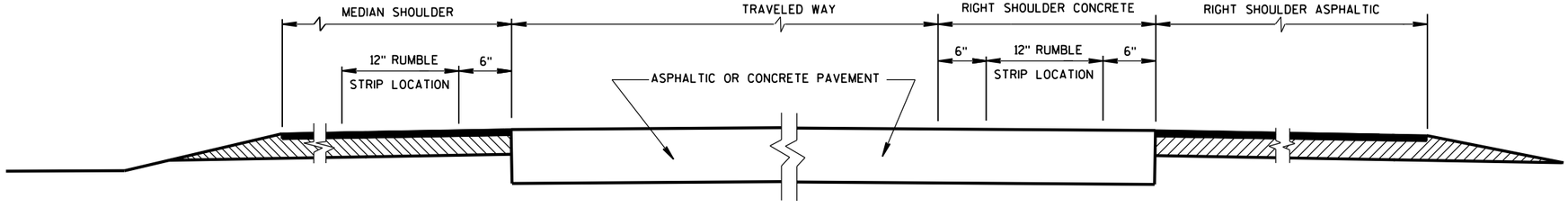
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



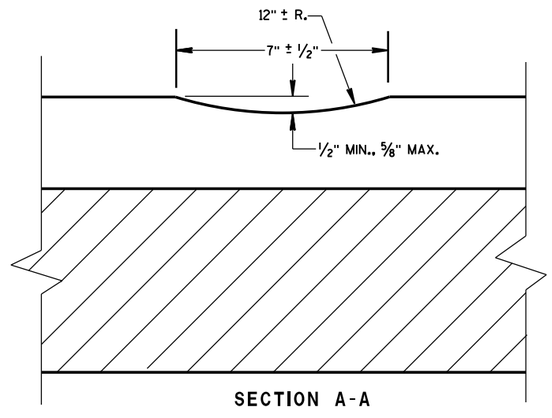
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

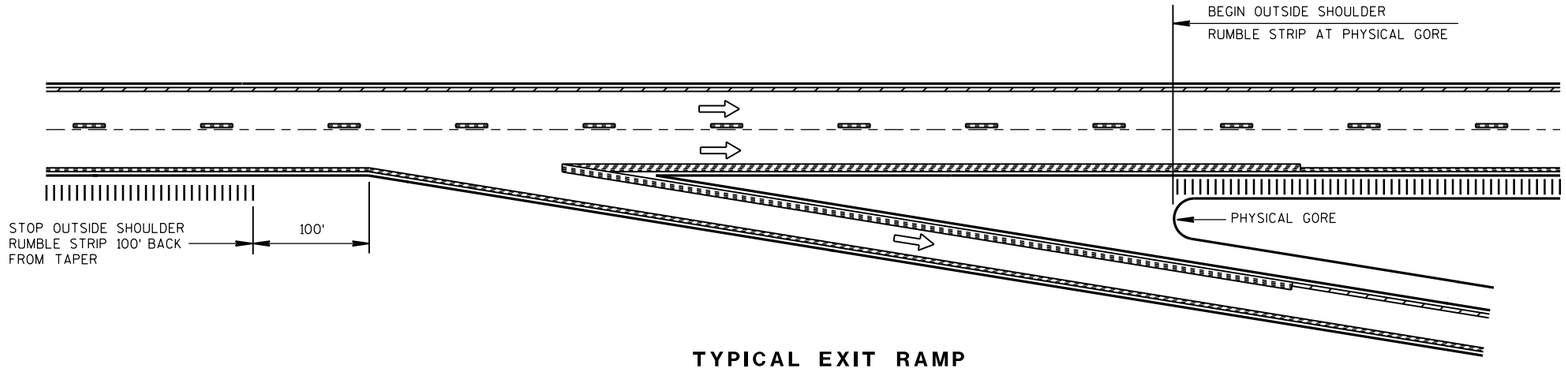
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

6

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



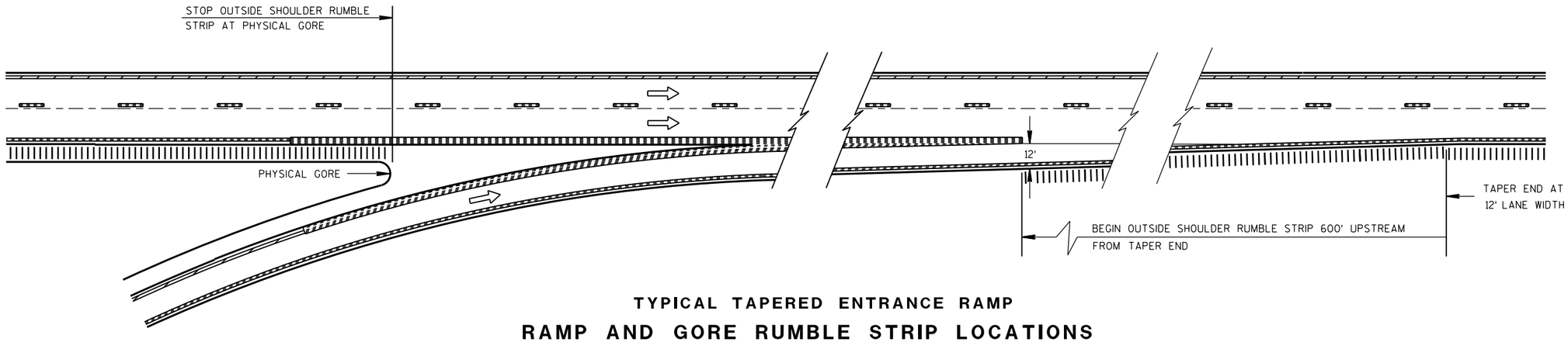
TYPICAL EXIT RAMP

NOTES:

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

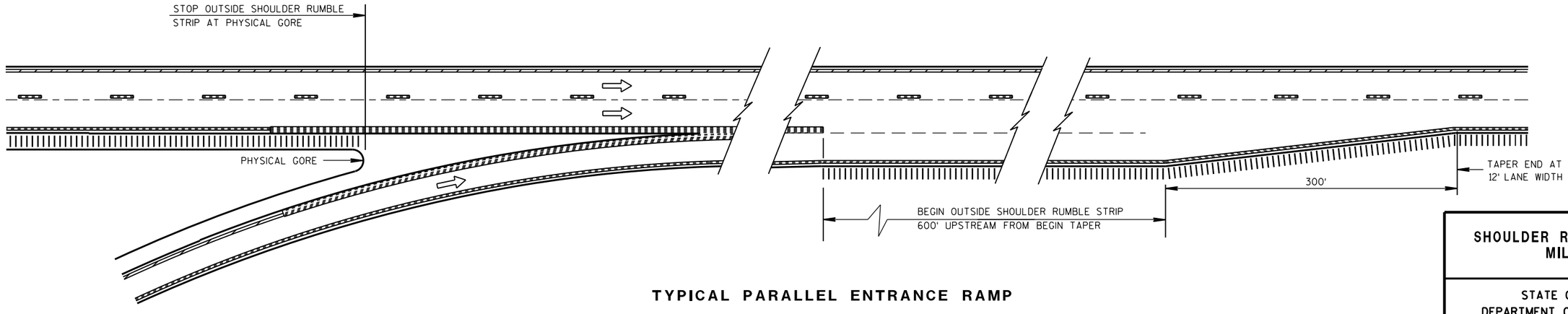
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

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

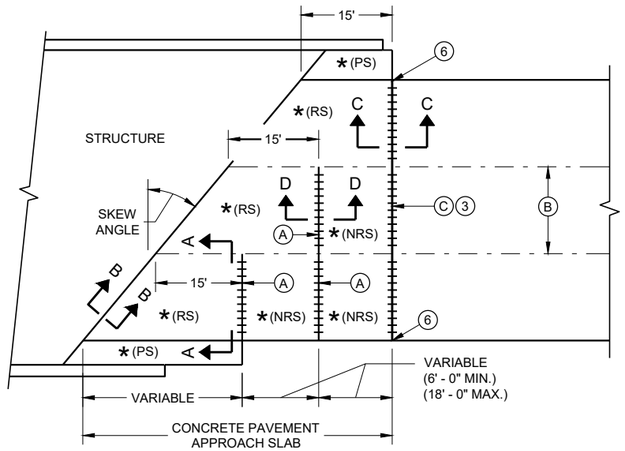
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

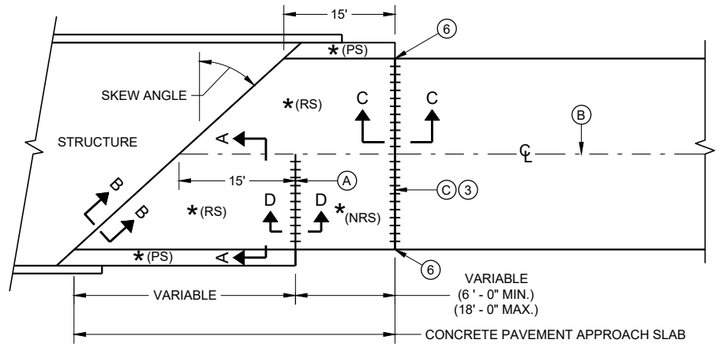
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

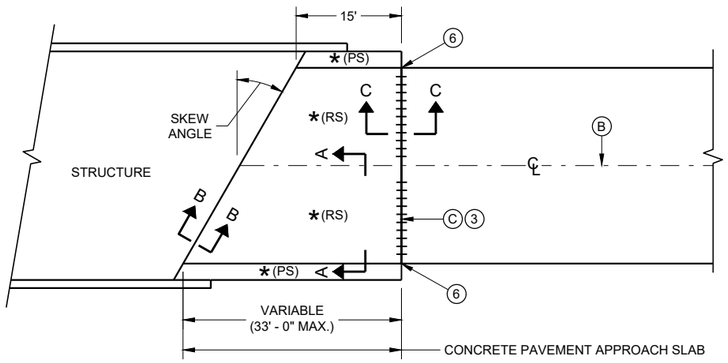
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

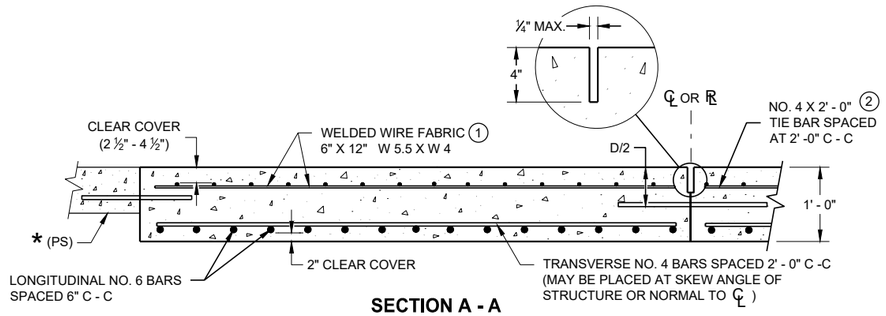
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

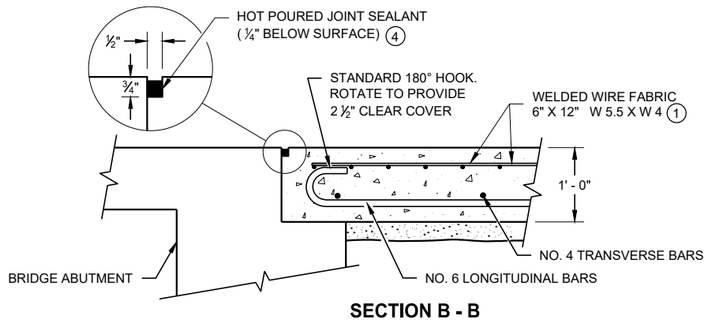
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

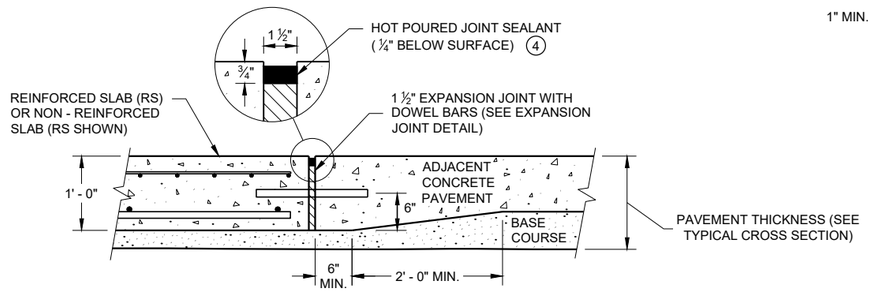
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

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 THE 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.

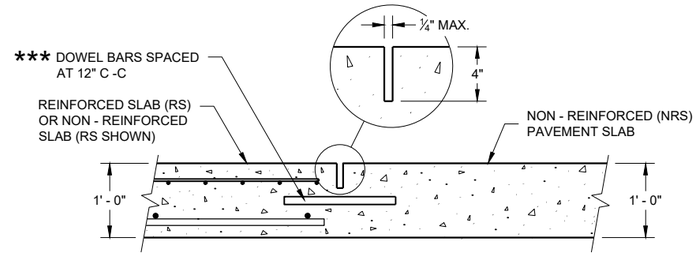
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

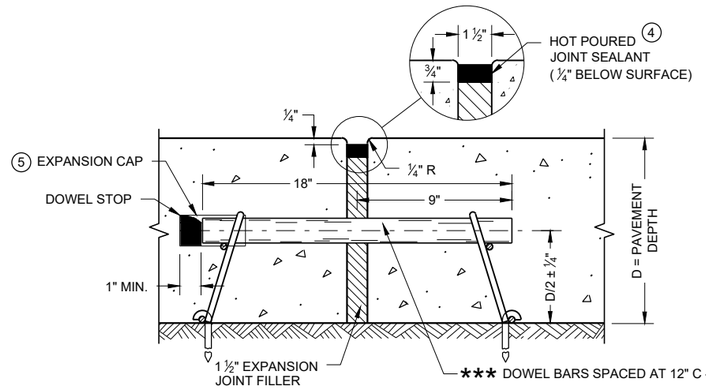
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

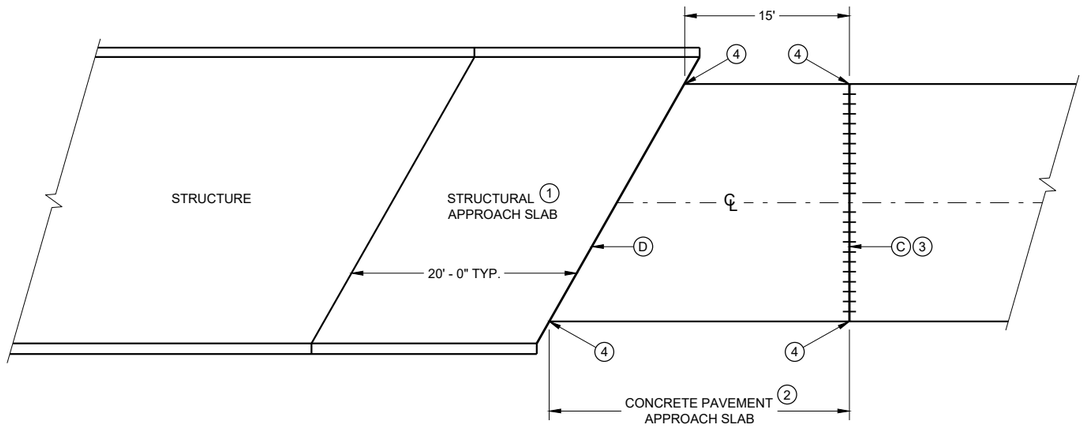
APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISO

FHWA

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SDD 13B02 - 09a



BRIDGE APPROACHES

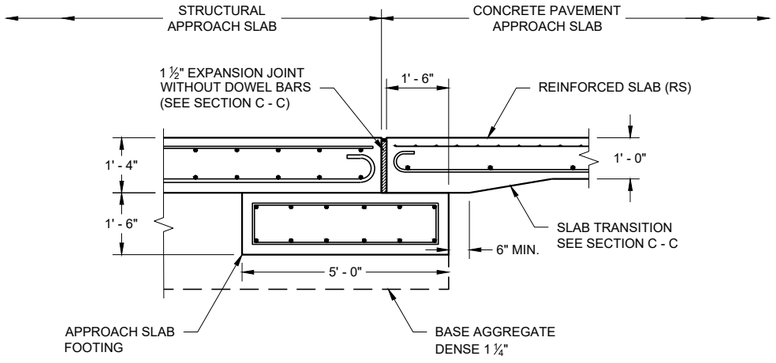
GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

1. SEE BRIDGE PLAN.
2. CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
3. DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
4. EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

C. 1 ½" EXPANSIONT JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

D. 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

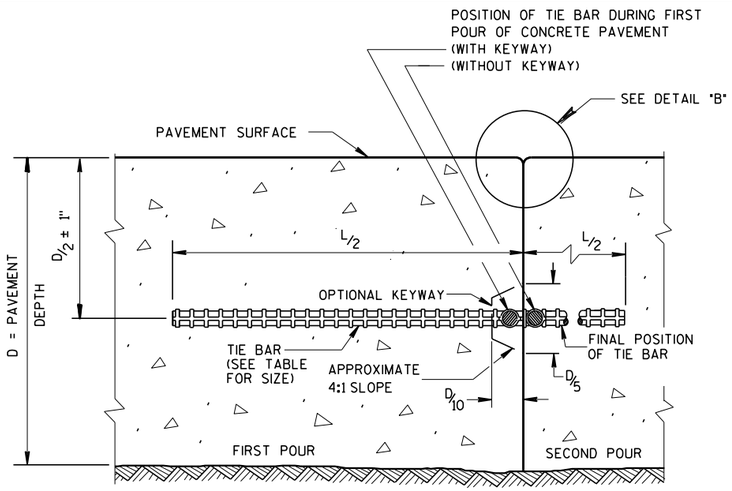
APPROVED
November 2018
DATE
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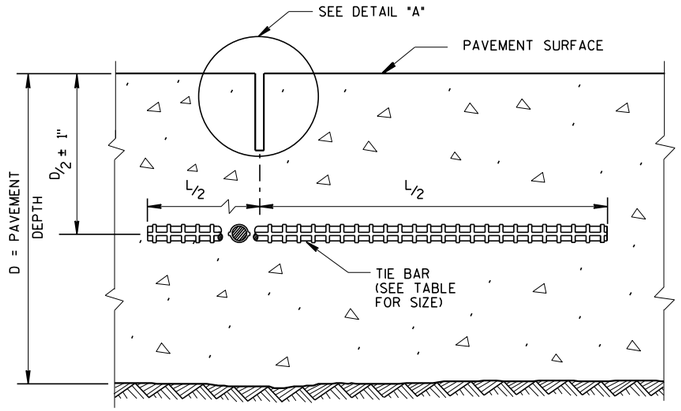
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SDD 13B02 - 09b

SDD 13B02 - 09b



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

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

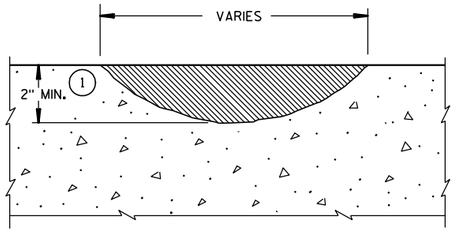
APPROVED
March 2018
DATE
/S/ Peter Kemp PE
PAVEMENT SUPE
FHWA

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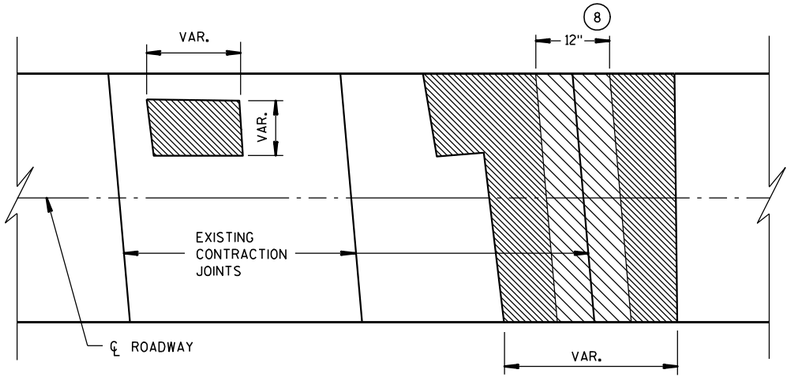
S.D.D. 13 C 1-19

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S.D.D. 13 C 1-19

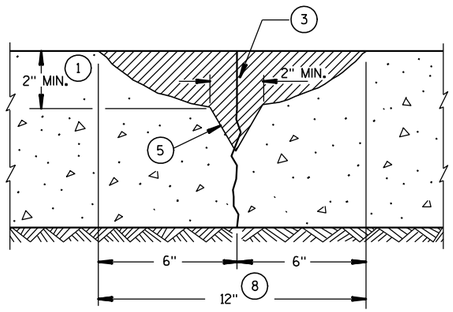


PROFILE VIEW

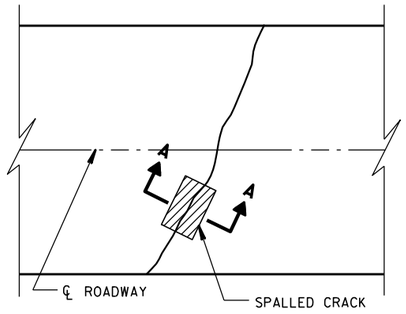


PLAN VIEW

SURFACE REPAIR



SECTION A-A

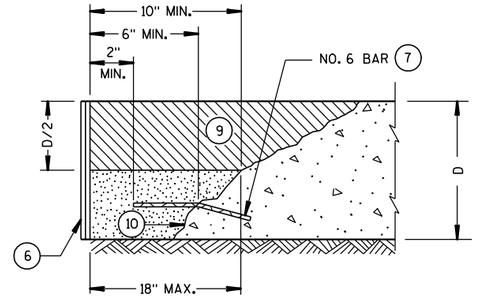


PLAN VIEW

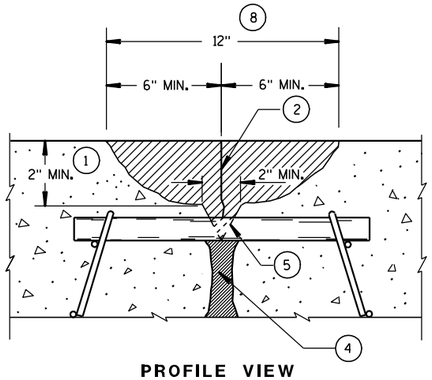
CRACK REPAIR

GENERAL NOTES

1. REMOVE ALL CONCRETE, TO LIMITS SHOWN, TO A MAXIMUM OF ½ THE PAVEMENT DEPTH OR TOP OF DOWELS.
2. IF REPAIR IS DEEPER THAN ANTICIPATED SAWCUT, COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
3. COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
4. CLEAN, DRY SAND WHEN NECESSARY.
5. REMOVE UNSOUND MATERIAL BY CHIPPING AT 1:1 SLOPE.
6. ¼" MINIMUM PREFORMED JOINT FILLER IF ADJACENT TO CONCRETE. EDGING REQUIRED. FULLY FORMED EDGE IF ADJACENT TO SHOULDER.
7. PAVEMENT TIES AS SHOWN. ALL EMBEDMENTS 6" MINIMUM AND INSTALLED WITH GROUT.
8. OVER 12" (NOMINAL WIDTH) WILL BE PAID AS SURFACE REPAIR.
9. PAID AS JOINT OR CRACK REPAIR.
10. FULL-DEPTH ADJUSTMENT SHALL BE CHIPPED TO BOTTOM OF PCC PAVEMENT AT 1:1 SLOPE.
11. BEYOND 18" WILL BE PAID AS SURFACE REPAIR.

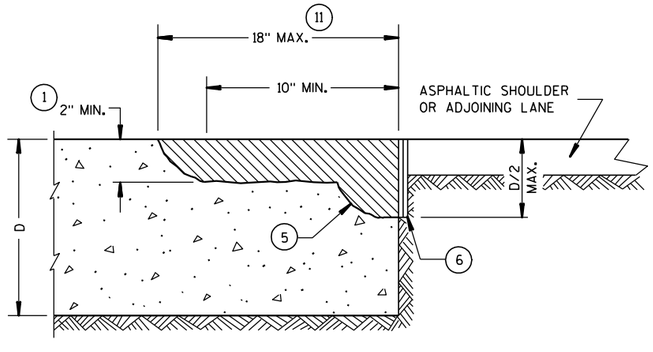


PROFILE VIEW

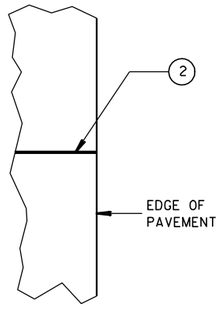


PROFILE VIEW

JOINT REPAIR

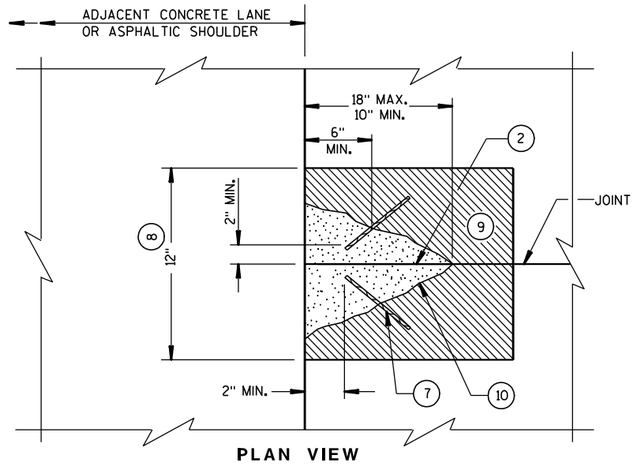


PROFILE VIEW



PLAN VIEW

EDGE REPAIR



PLAN VIEW

FULL DEPTH REPAIR ADJUSTMENT

CONCRETE PAVEMENT PARTIAL DEPTH REPAIR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/21/03 DATE
/S/ Bill Ducker PAVEMENT ENGR

FHWA

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S.D.D. 13 C 8-2

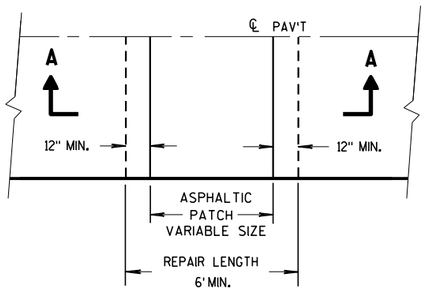
GENERAL NOTES

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

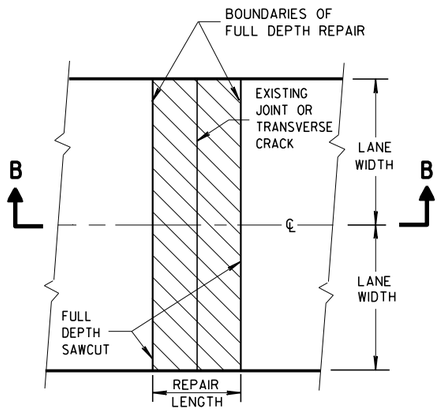
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

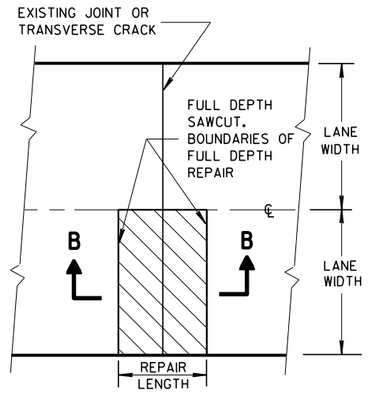
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

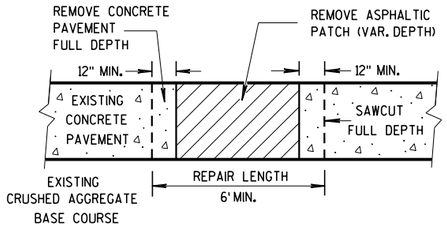


PLAN VIEW
(DOUBLE LANE REPAIR)



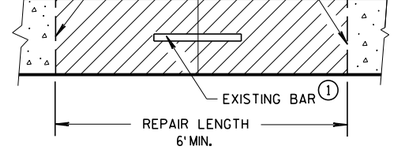
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

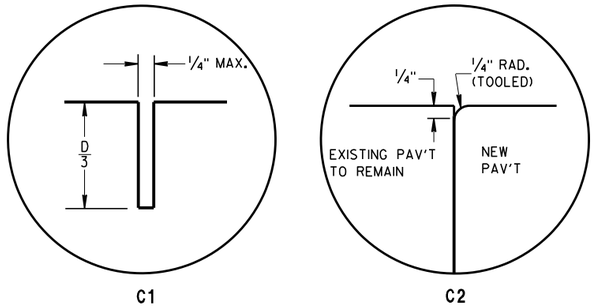
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 9-15a

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S.D.D. 13 C 9-15a



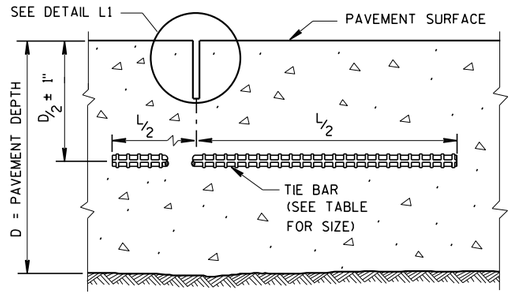
TRANSVERSE JOINTS

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.



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

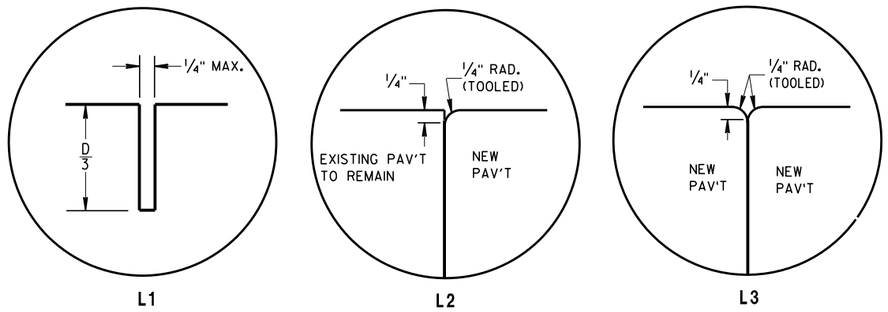
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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

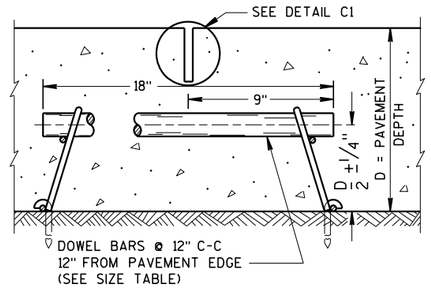
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

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

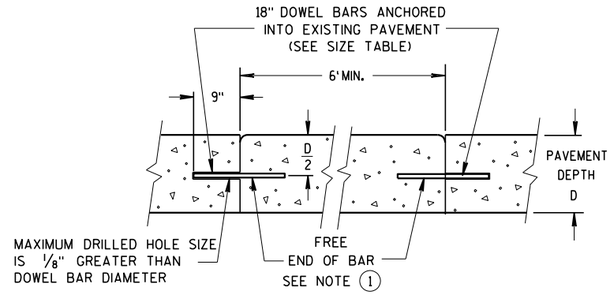


LONGITUDINAL JOINTS

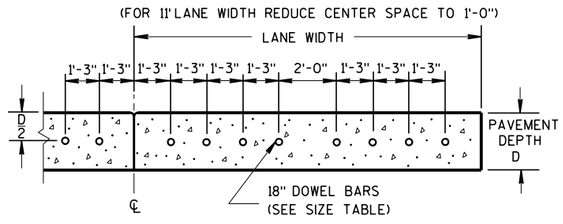


SECTION F-F

CONTRACTION JOINT



SECTION D-D

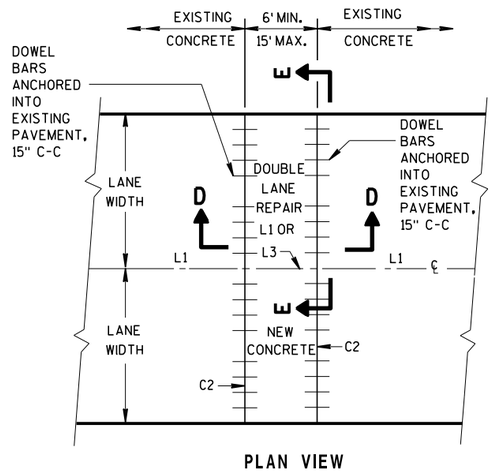


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

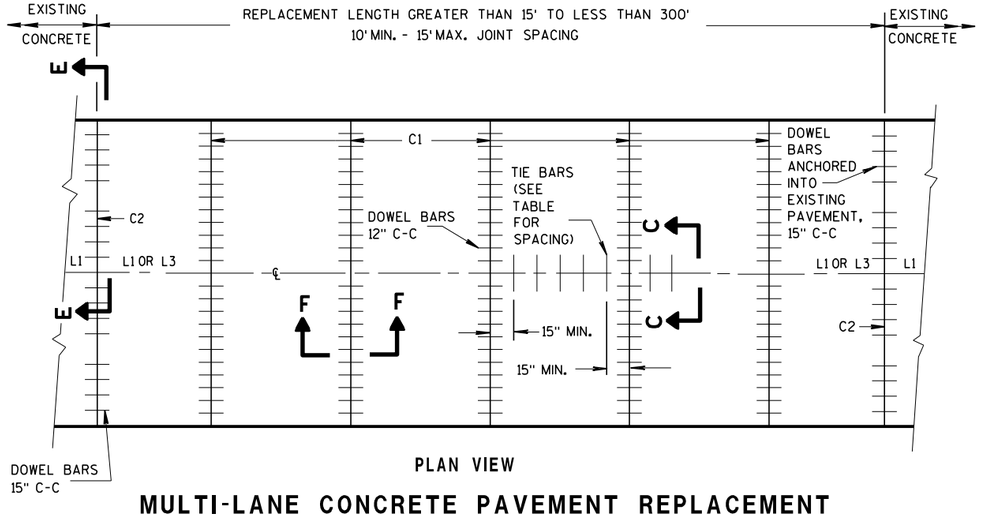
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	NONE	12'
7", 7 1/2"	1"	1"	14'
8", 8 1/2"	1 1/4"	1 1/4"	15'
9", 9 1/2"	1 1/4"	1 1/4"	15'
10" & ABOVE	1 1/2"	1 1/4"	15'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



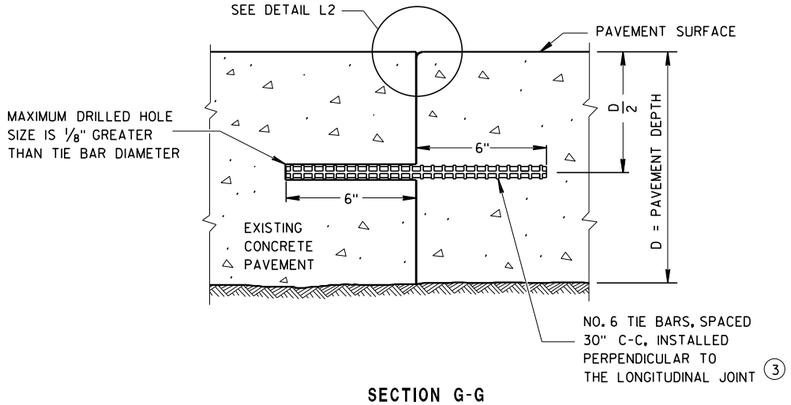
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 9-15b



SECTION G-G

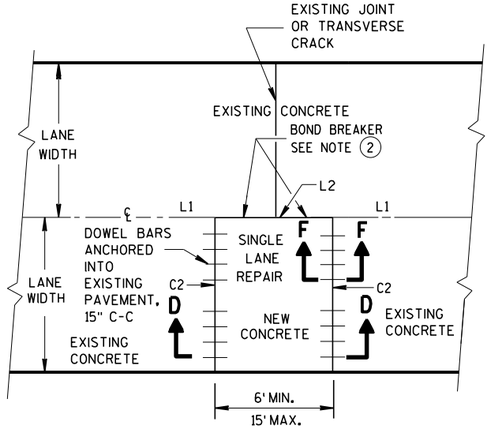
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

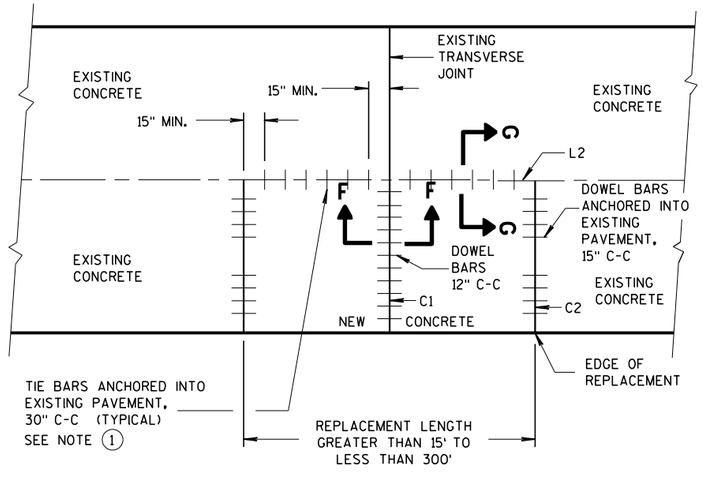
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

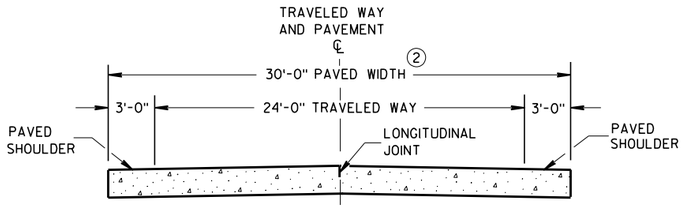
APPROVED

March 2018 — DATE

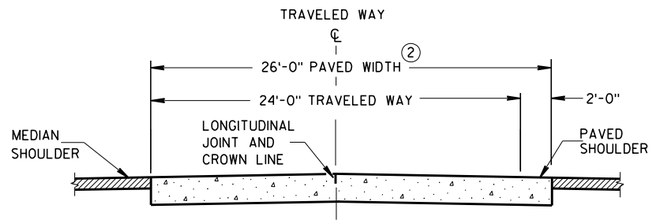
/S/ Peter Ken... — PAVEMENT SUPE...

FHWA

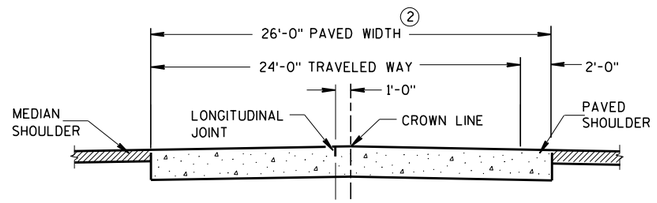
S.D.D. 13 C 9-15c



SECTION A-A
TWO-LANE TWO-WAY HIGHWAY ①



SECTION B-B



ALTERNATIVE SECTION B-B
①
DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

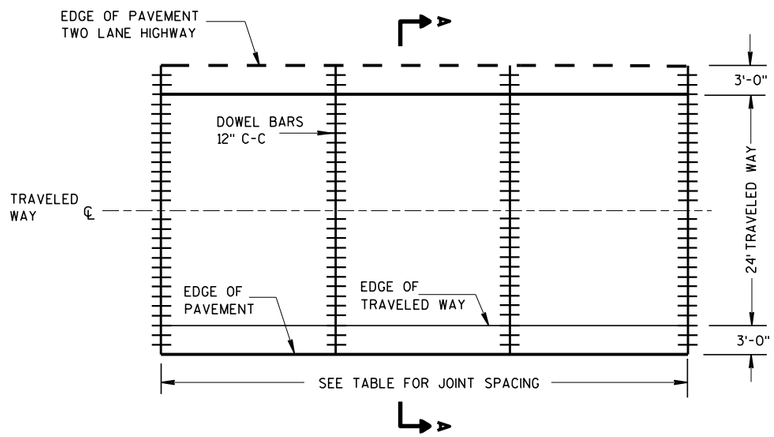
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

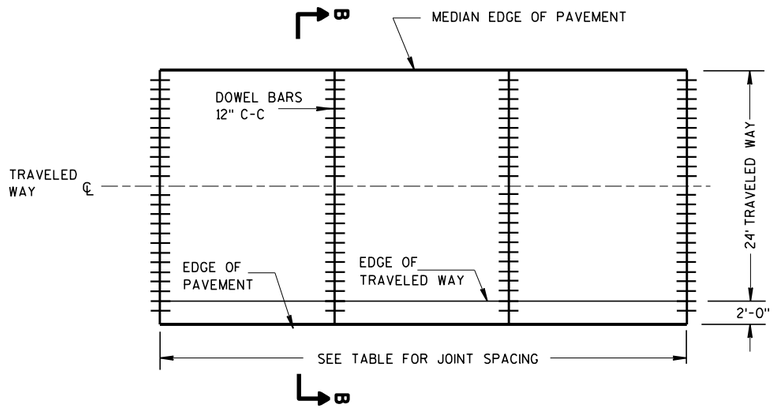
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



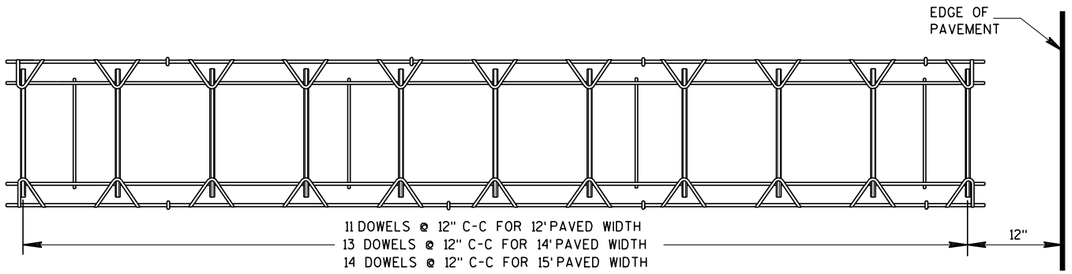
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

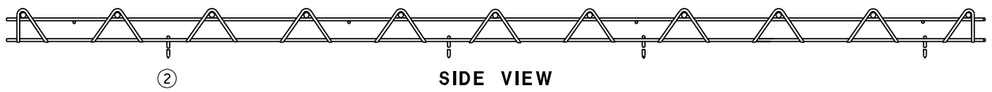
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 13 C 11-12a



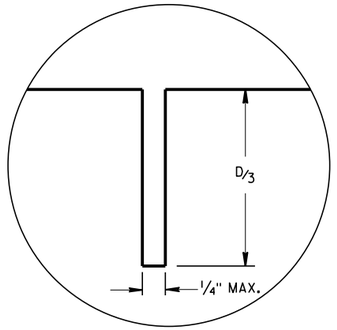
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

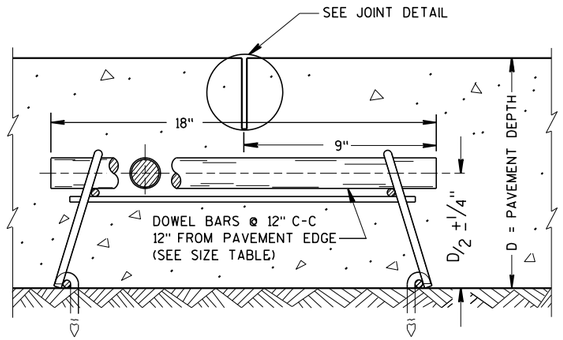
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

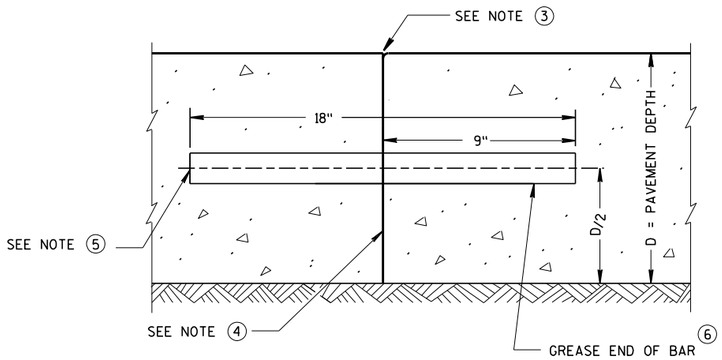
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

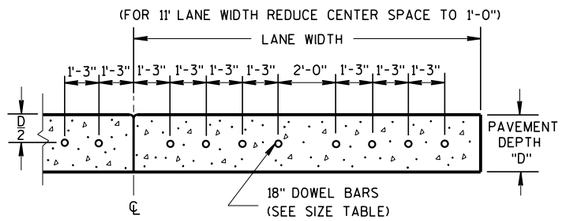
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

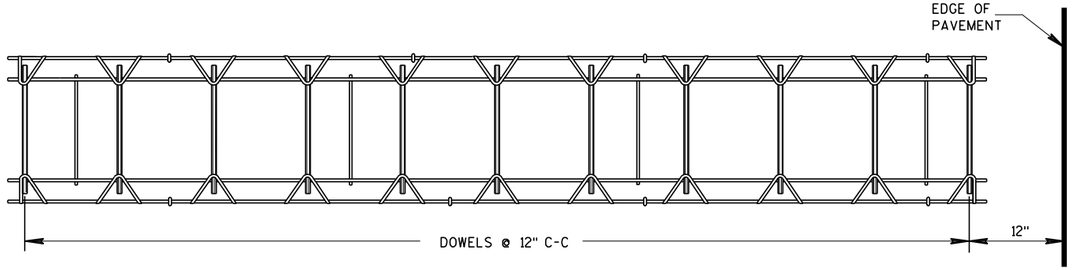
RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUP
FHWA

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S.D.D. 13 C 11-12b

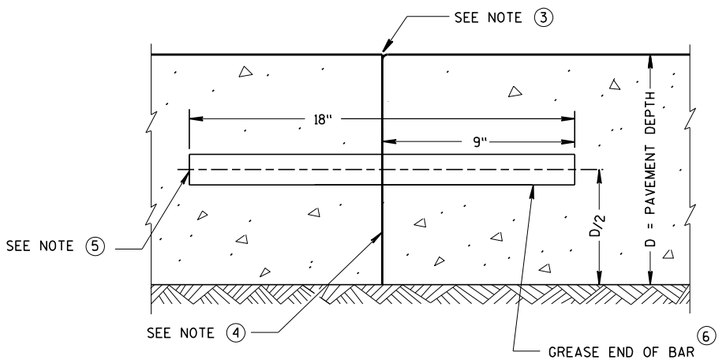


PLAN VIEW

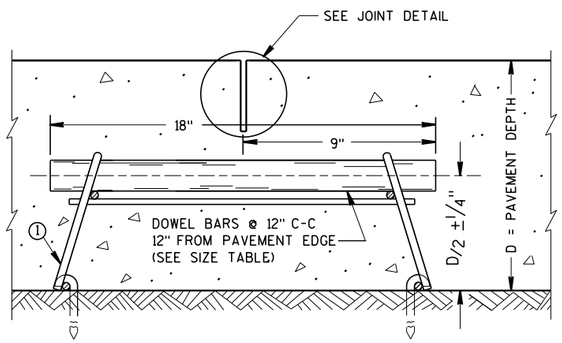


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



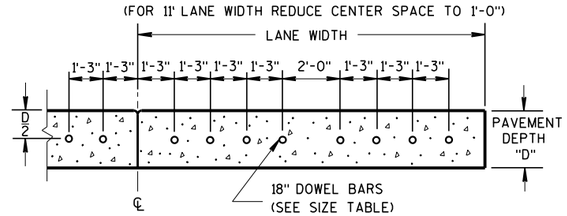
TRANSVERSE CONSTRUCTION JOINT



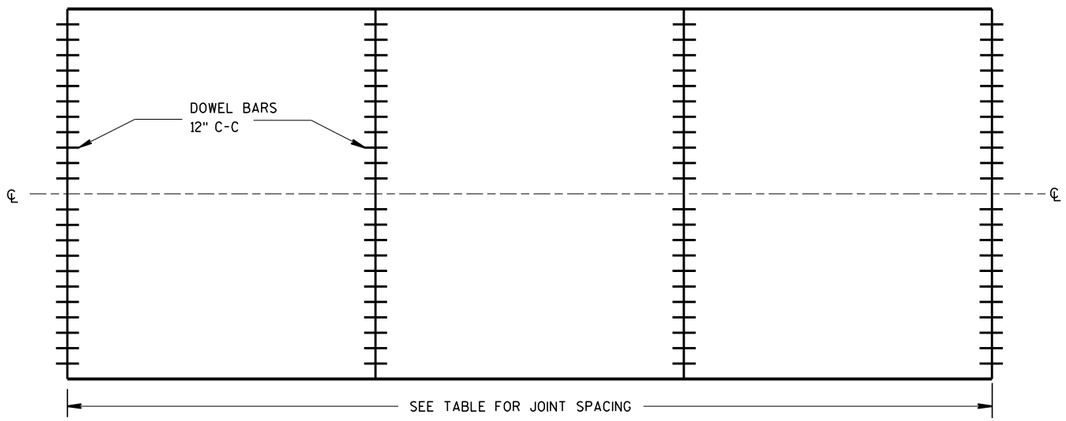
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
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8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

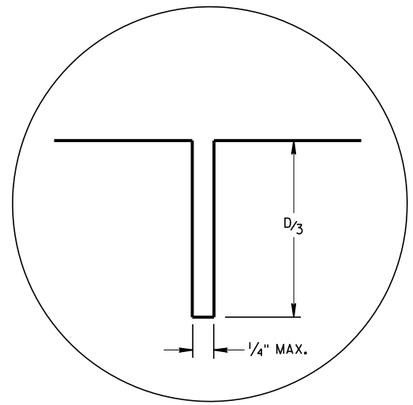
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

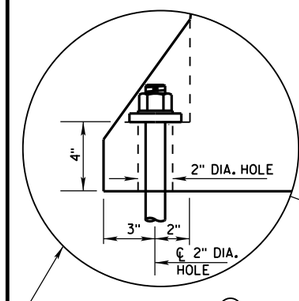
APPROVED
March 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUP

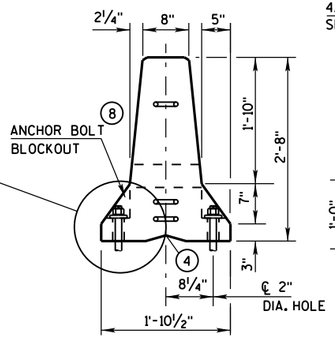
FHWA

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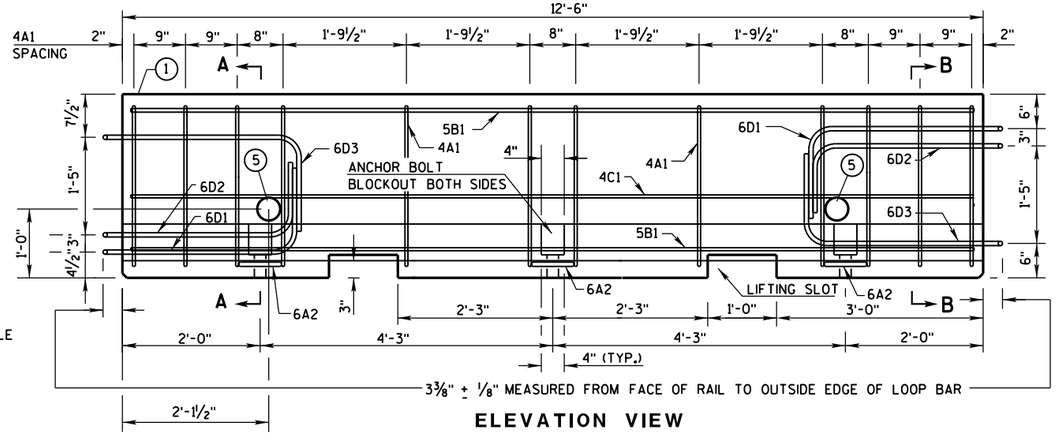
S.D.D. 13 C 13-9



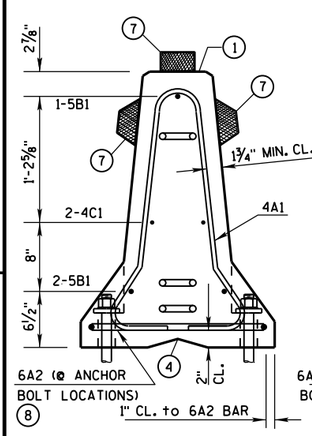
ANCHOR ON TRAFFIC SIDE (8) ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL)



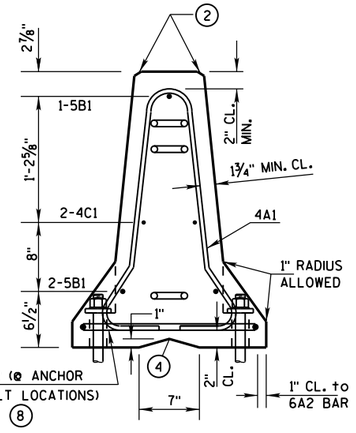
END VIEW



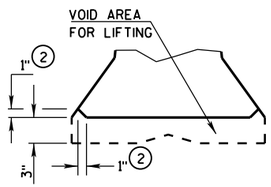
ELEVATION VIEW



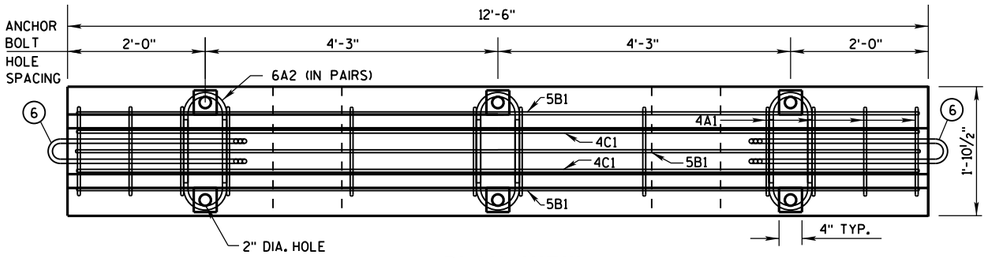
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

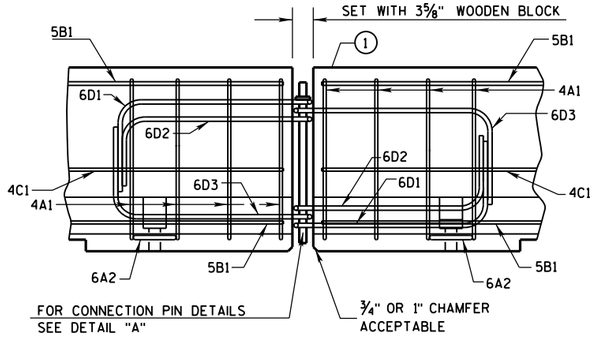


DETAIL "B"
LIFTING SLOT DETAIL

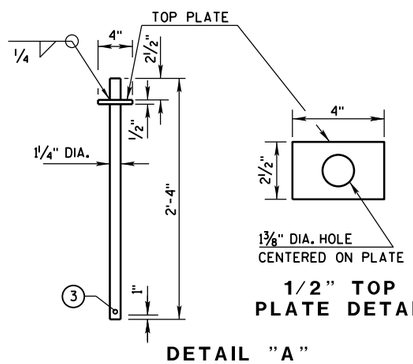


PLAN VIEW

DETAILS OF BARRIER SECTION

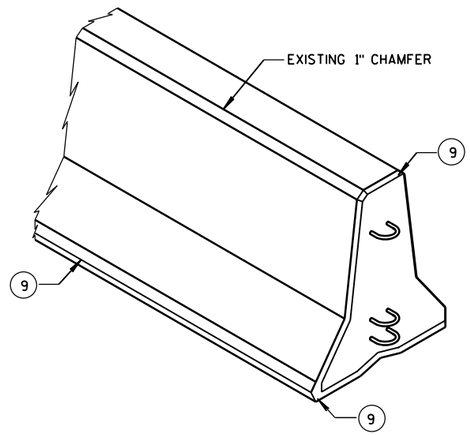


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

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 HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

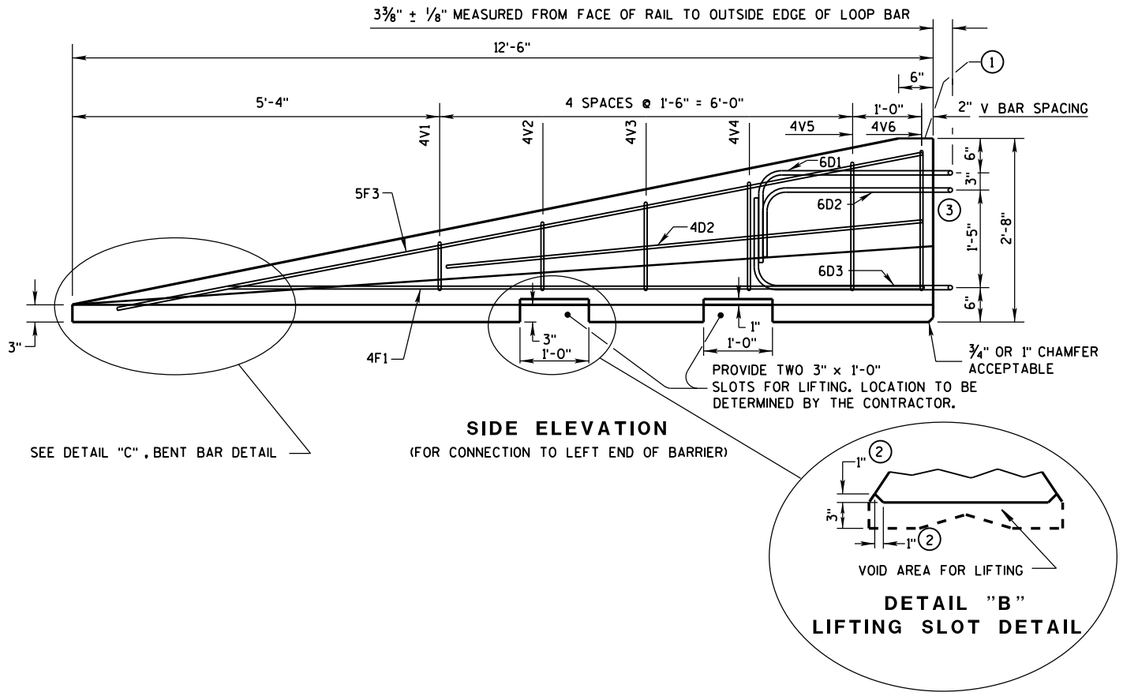
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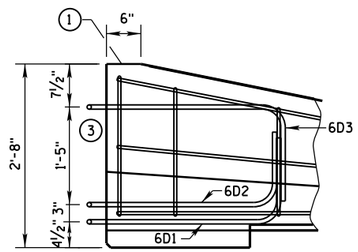
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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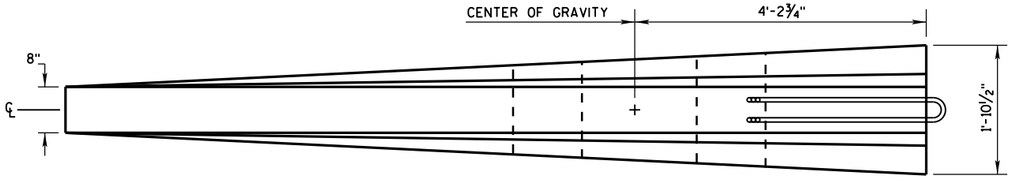
S.D.D. 14 B 7-15a

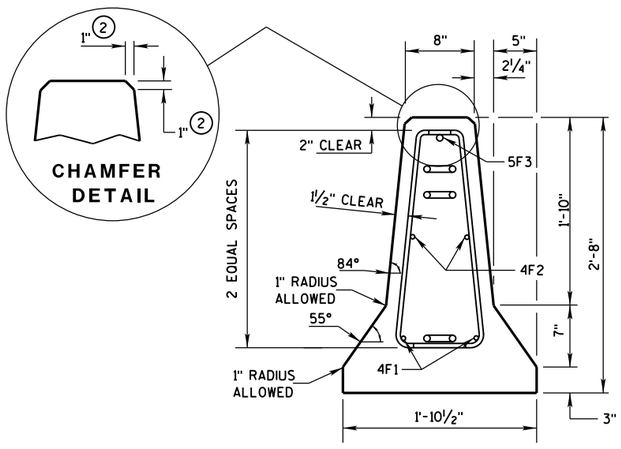


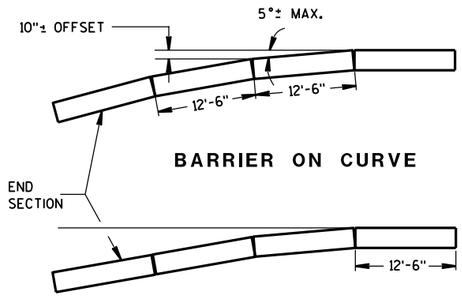


GENERAL NOTES

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







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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

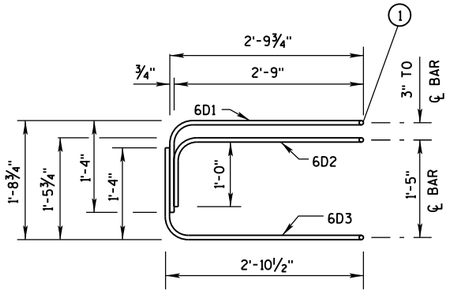
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 7-15b

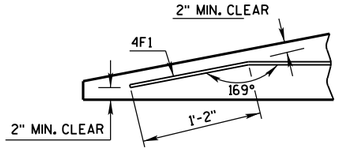
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

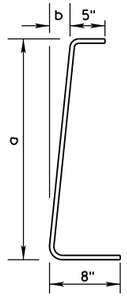
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

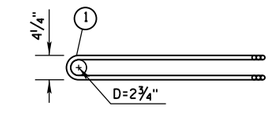
GENERAL NOTES

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

BARRIER SECTION BILL OF MATERIALS

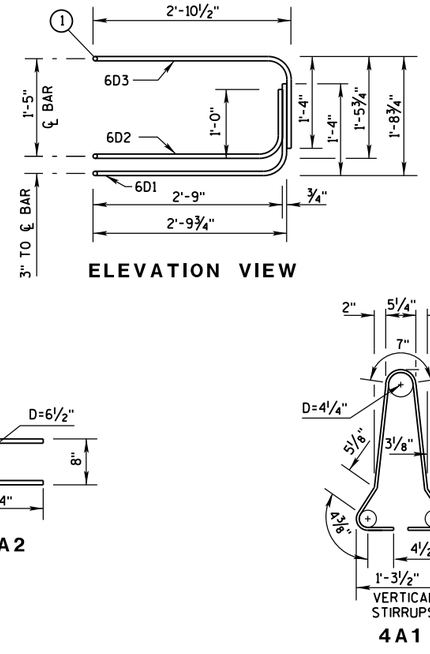
(PER 12'-6" BARRIER SECTION)

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"

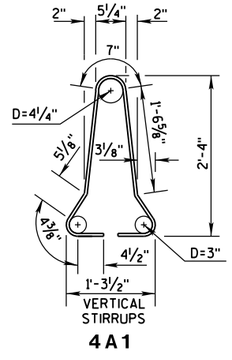


PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)

6A2



ELEVATION VIEW



4A1

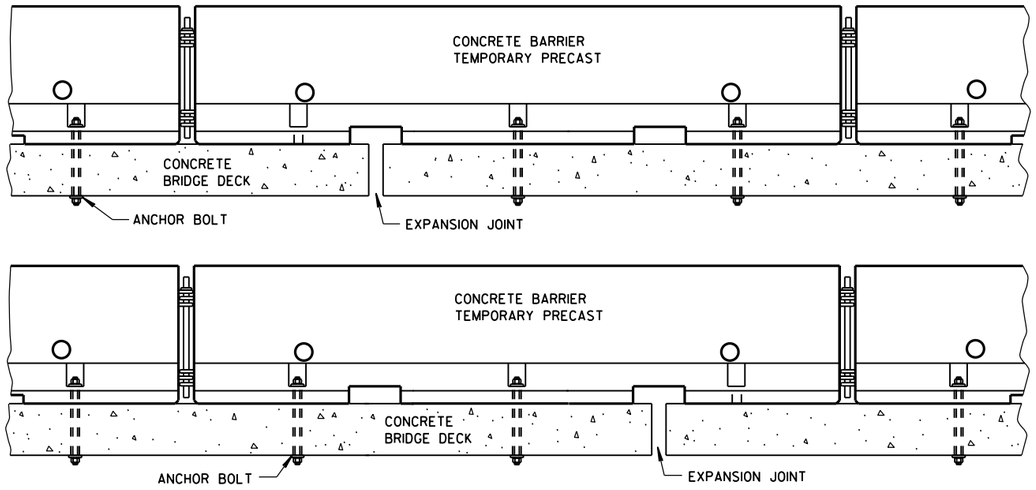
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 7-15c



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.)

GENERAL NOTES

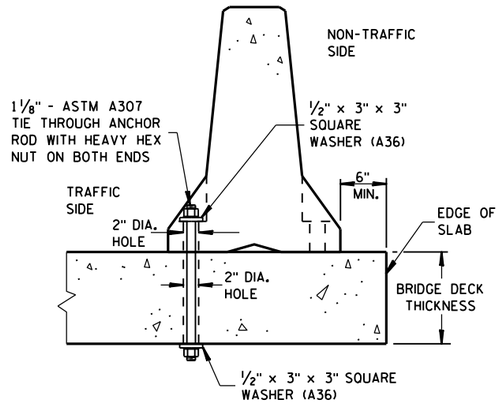
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

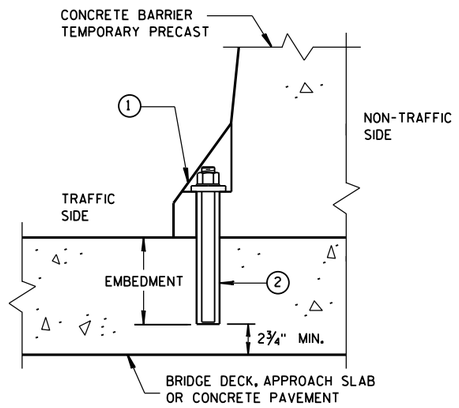
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



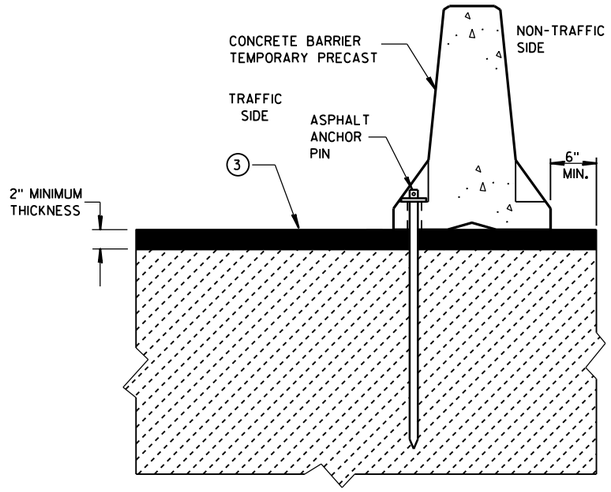
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

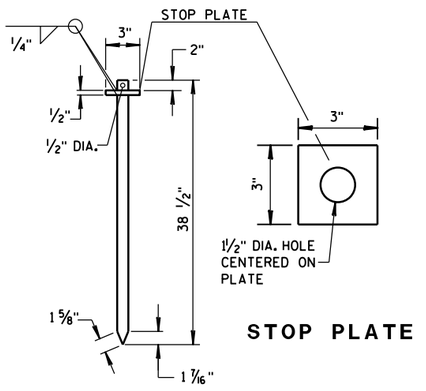


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



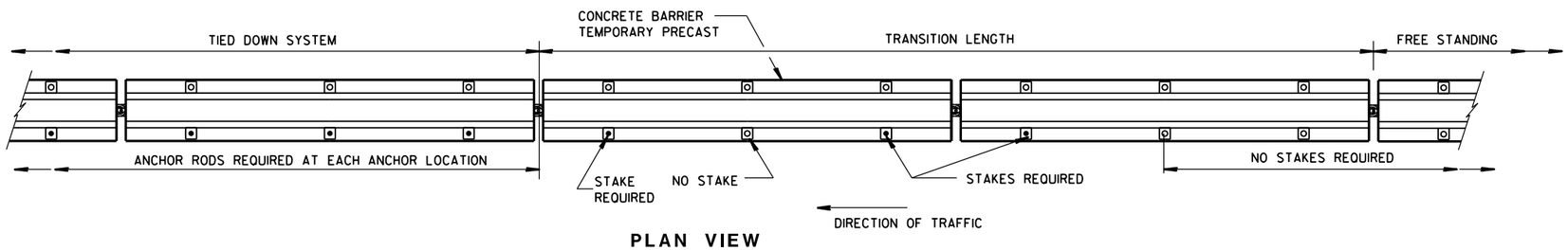
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

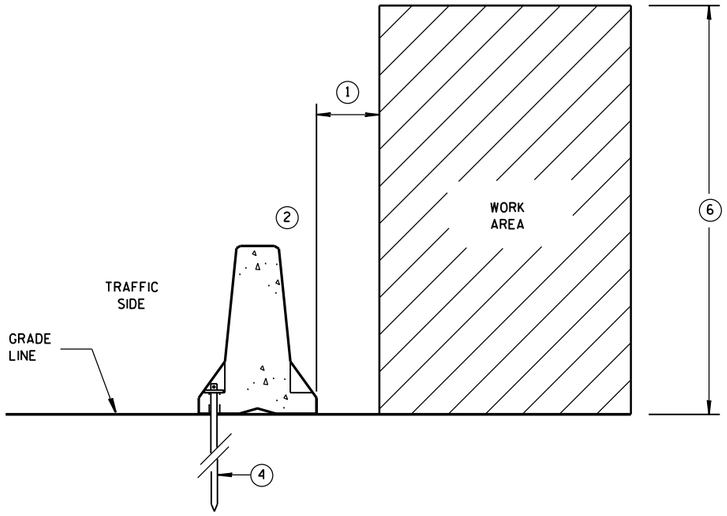
FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

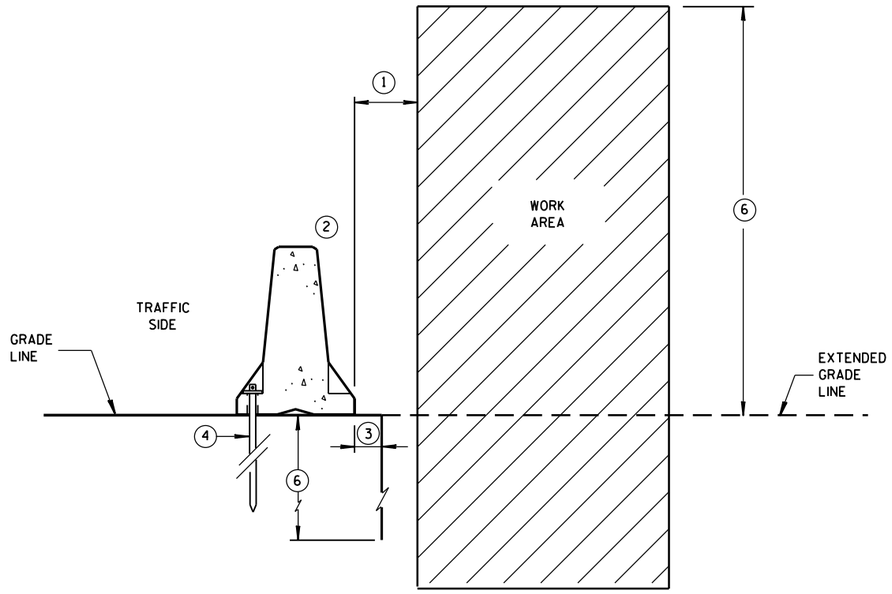
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

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DEPARTMENT OF TRANSPOI

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ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

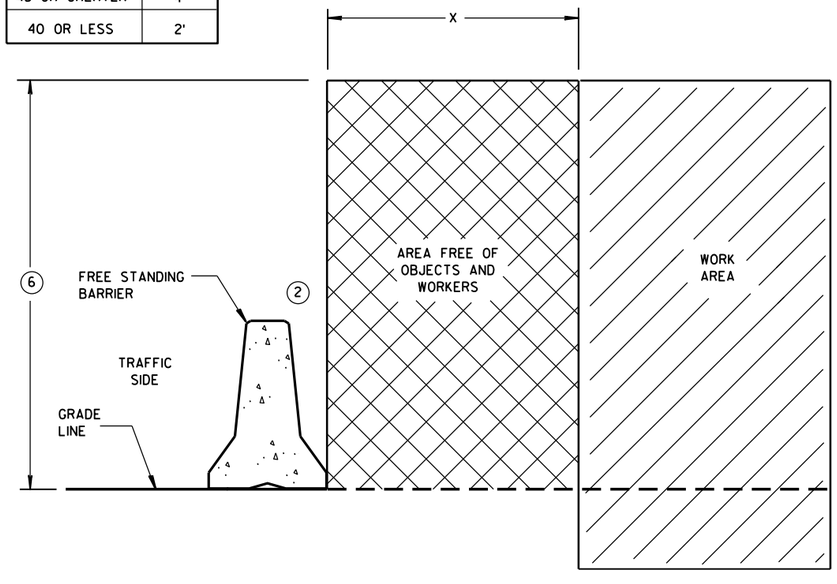


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

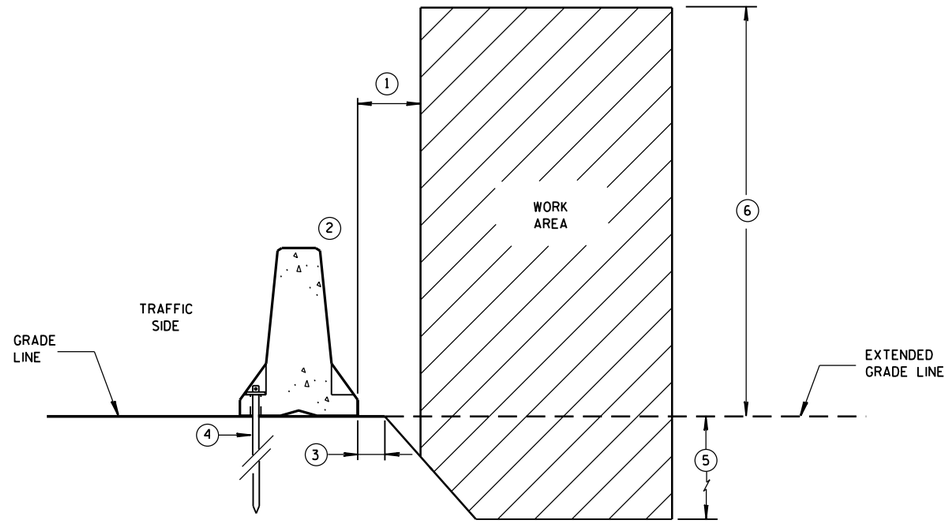
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



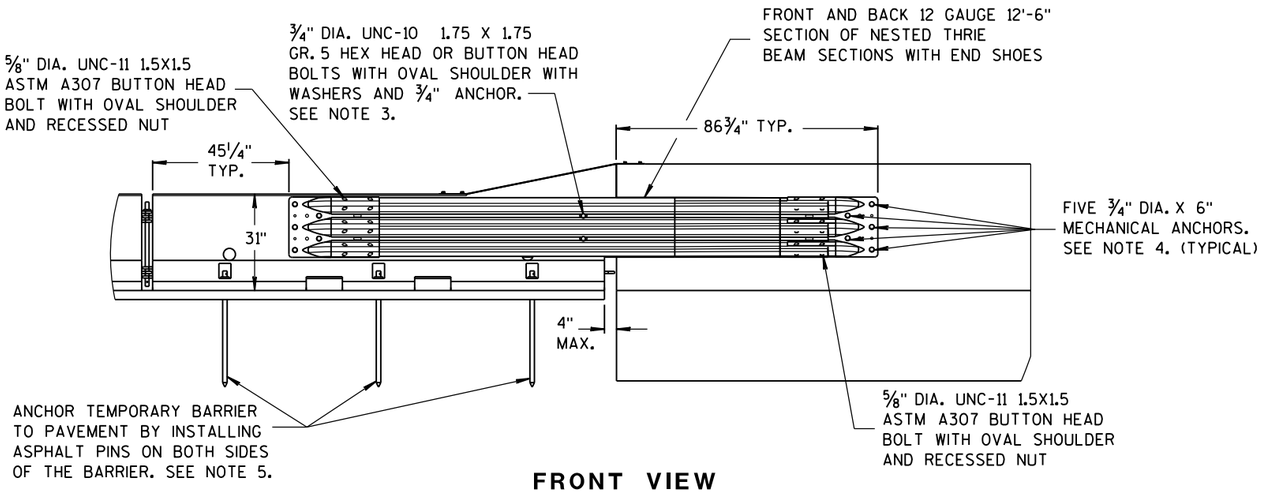
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

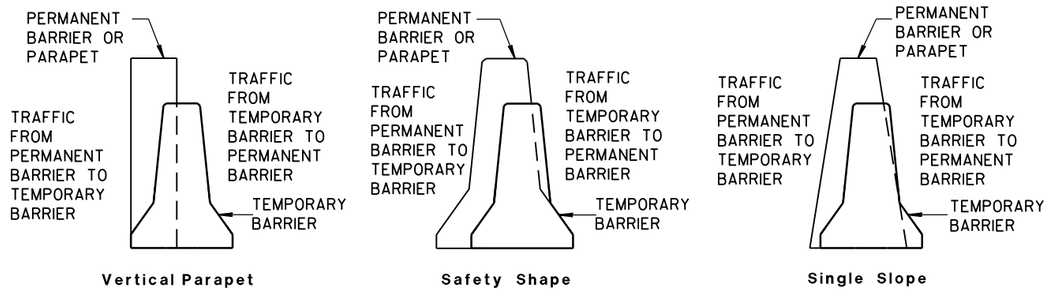
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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FRONT VIEW

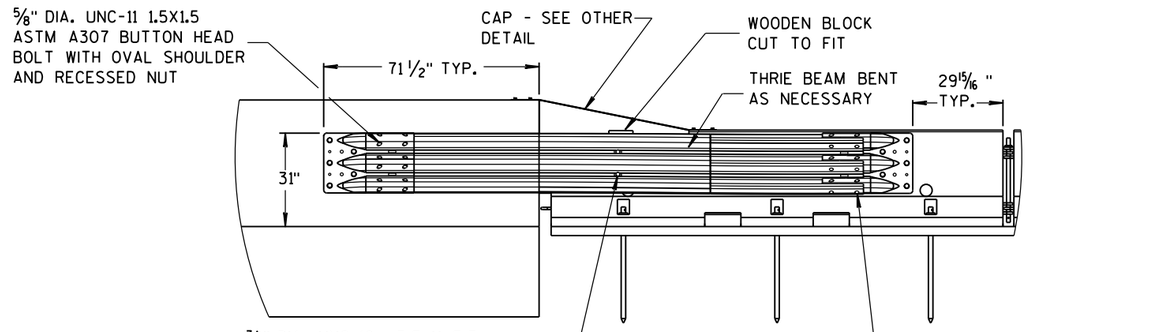


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

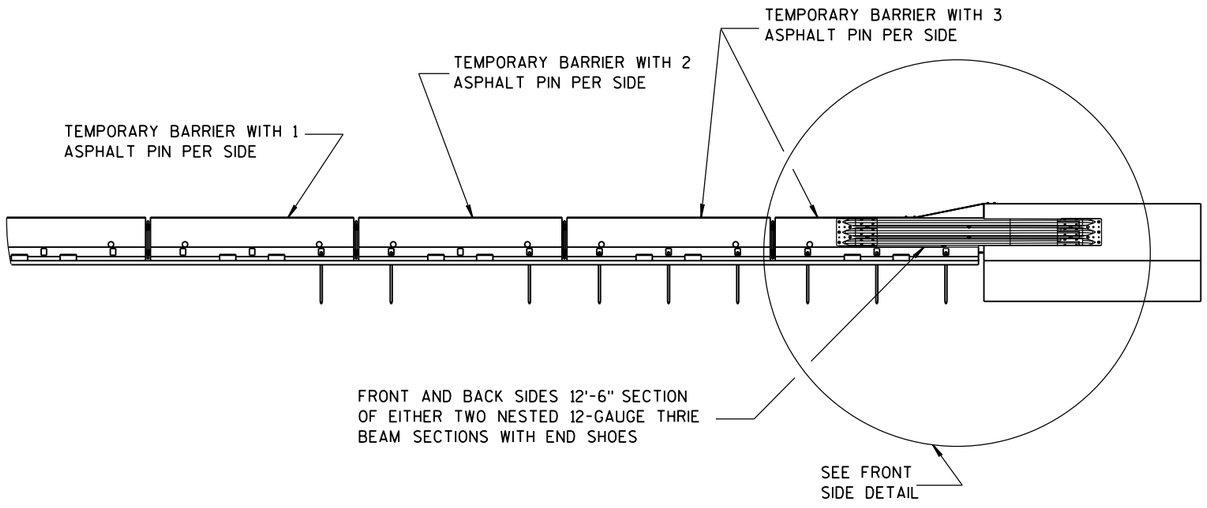
NOTES

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

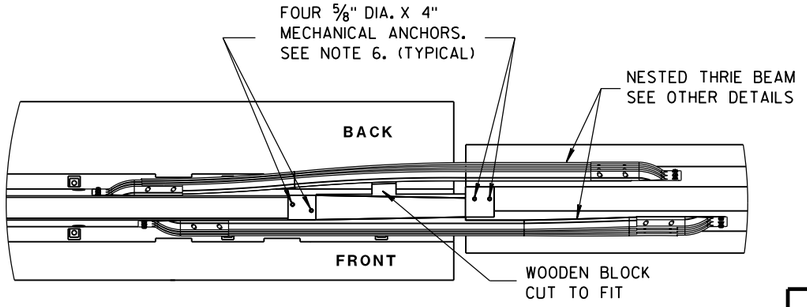
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 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

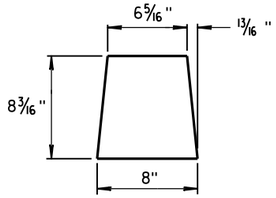
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

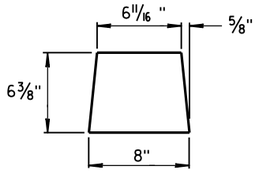
STATE OF WISCONSIN
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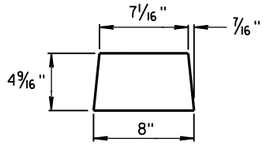
S.D.D. 14 B 7-15f



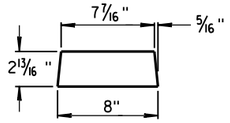
GUSSET 1



GUSSET 2

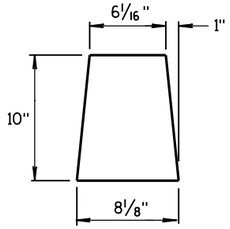


GUSSET 3

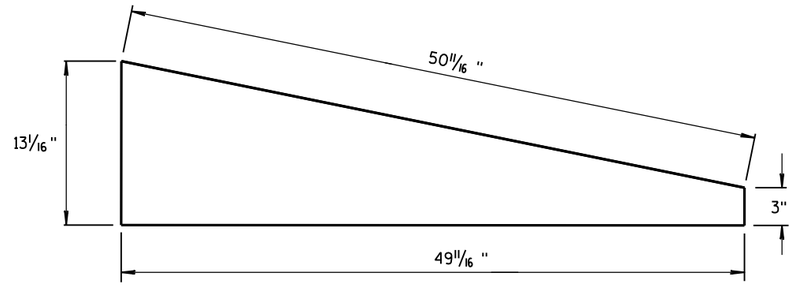


GUSSET 4

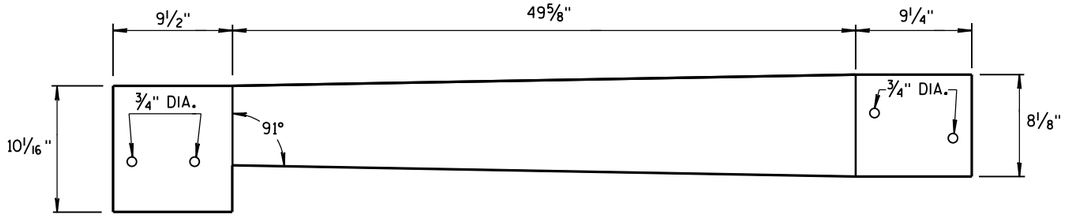
GUSSETS

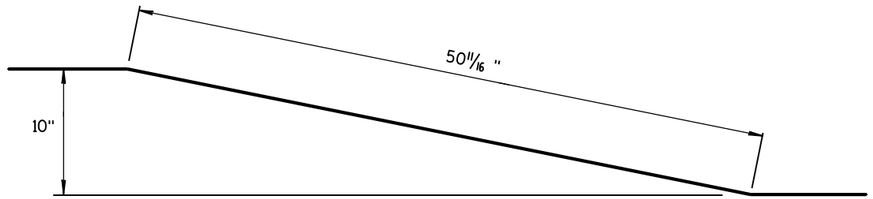


END PLATE



SIDE PLATE

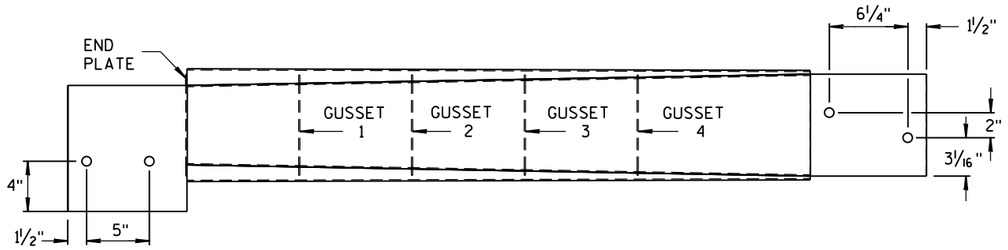


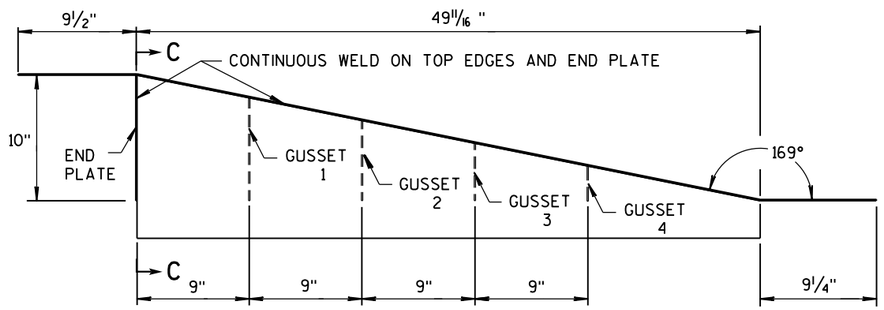


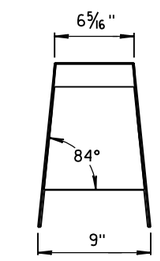
TOP PLATE

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.

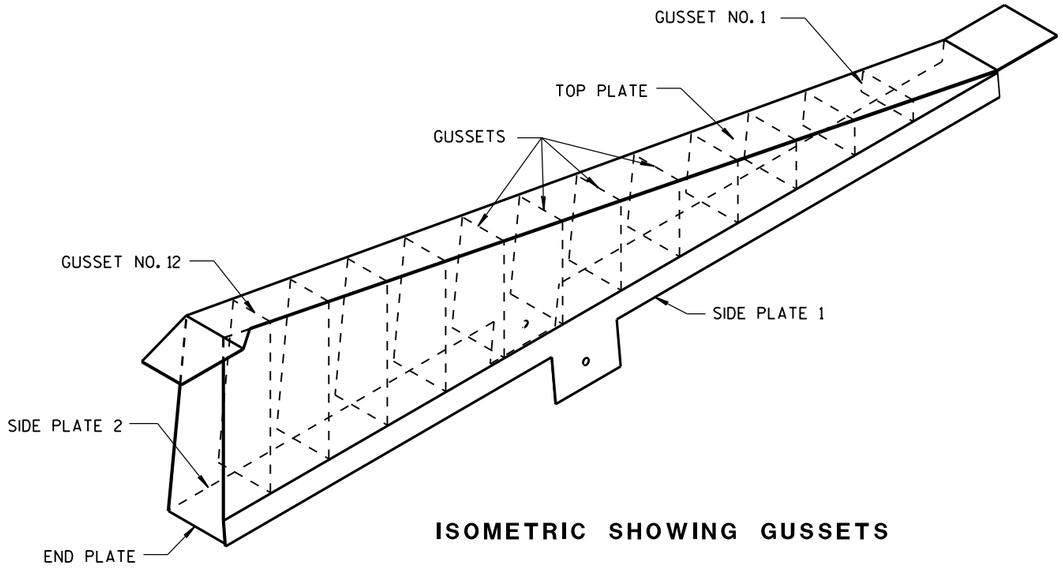
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

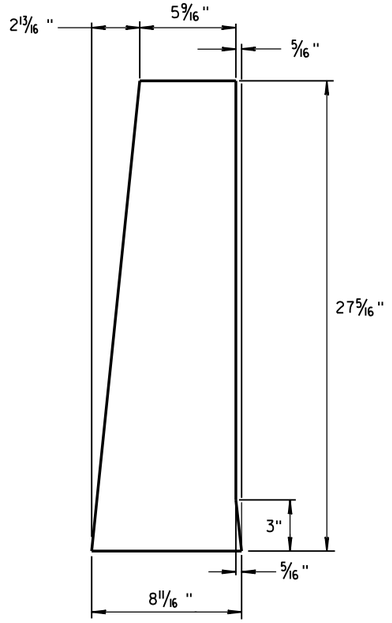
STATE OF WISCONSIN
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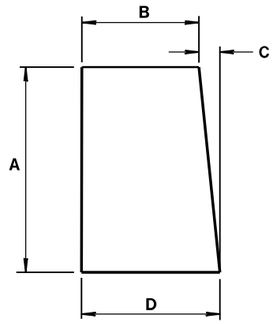


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



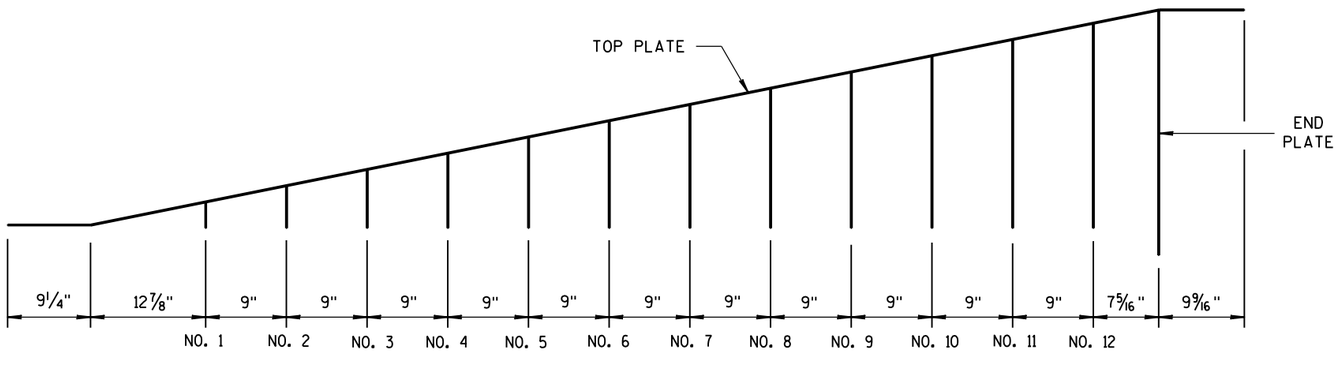
GUSSETS 1 - 12

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"

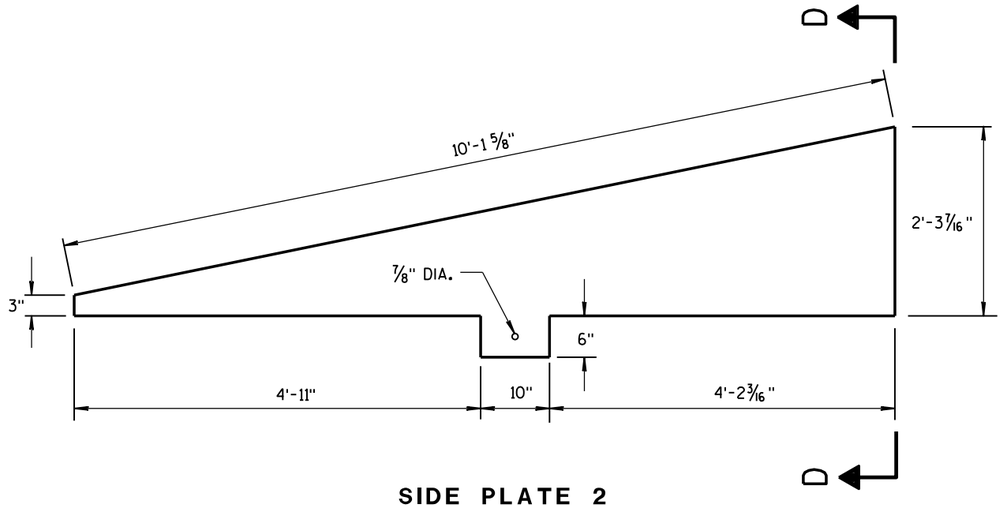
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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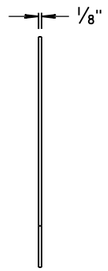
S.D.D. 14 B 7-15h

6

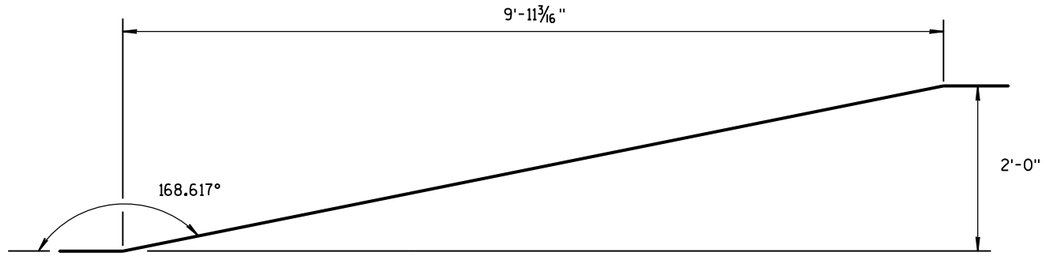
S.D.D. 14 B 7-15h



SIDE PLATE 2

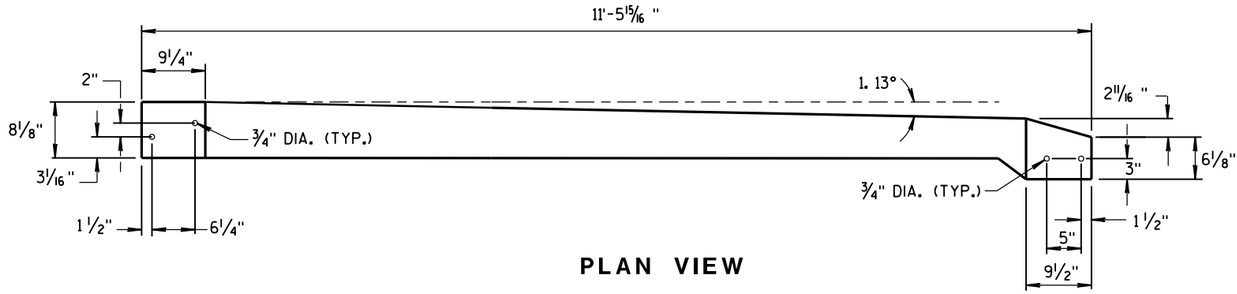


END VIEW



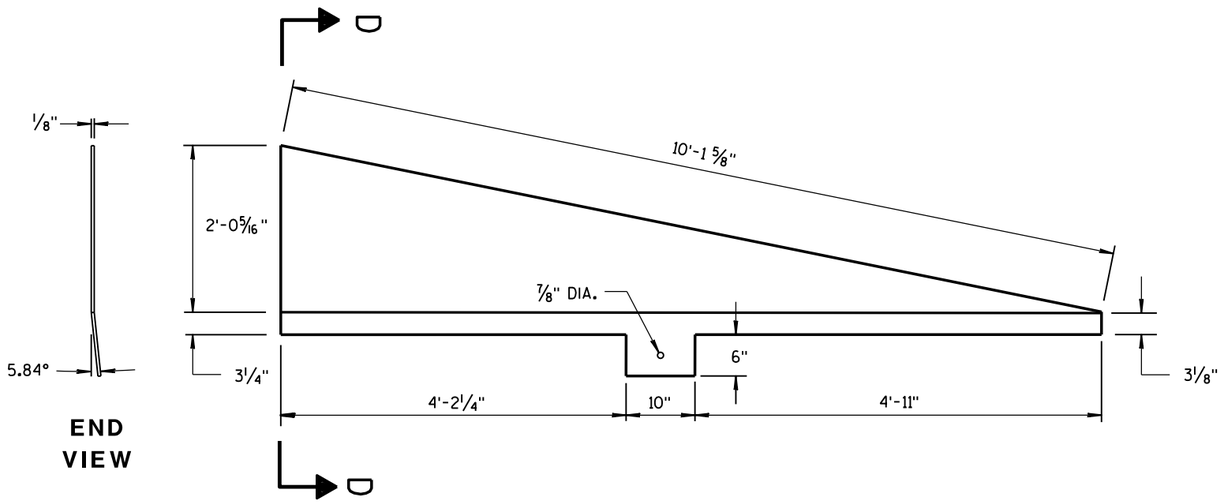
SIDE VIEW

TOP PLATE



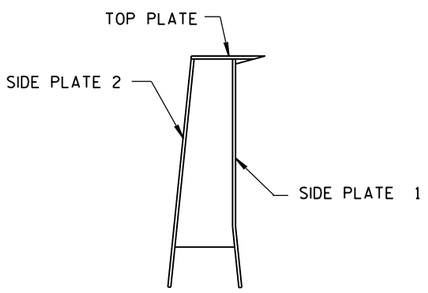
PLAN VIEW

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

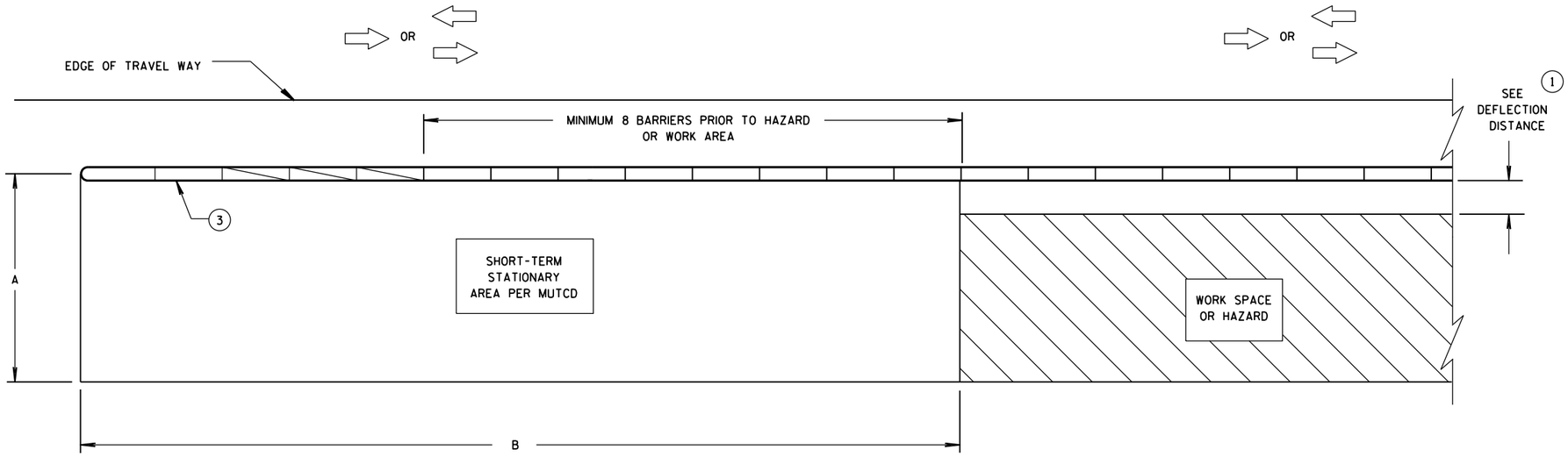
APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV
FHWA

6

S.D.D. 14 B 7-15i

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S.D.D. 14 B 7-15i



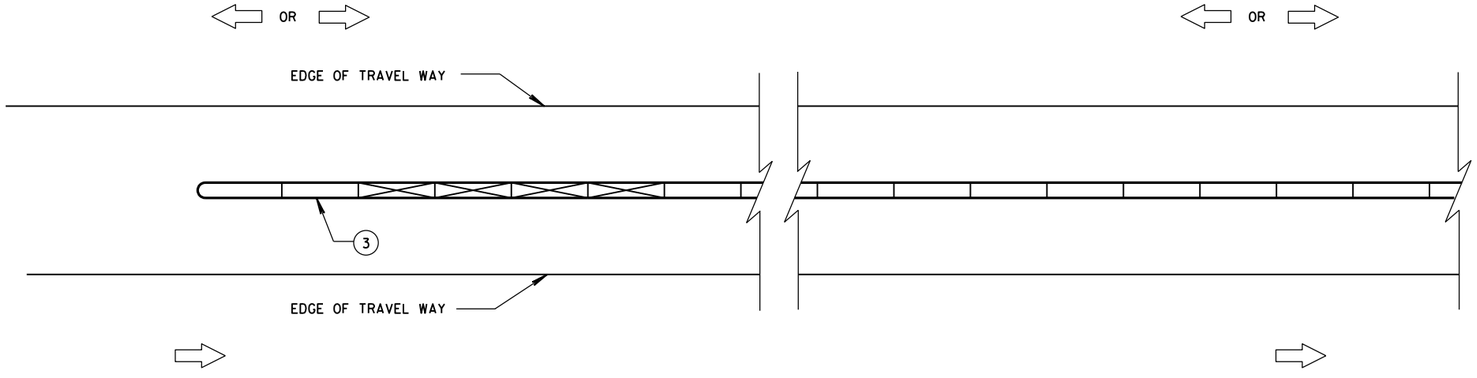
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

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.

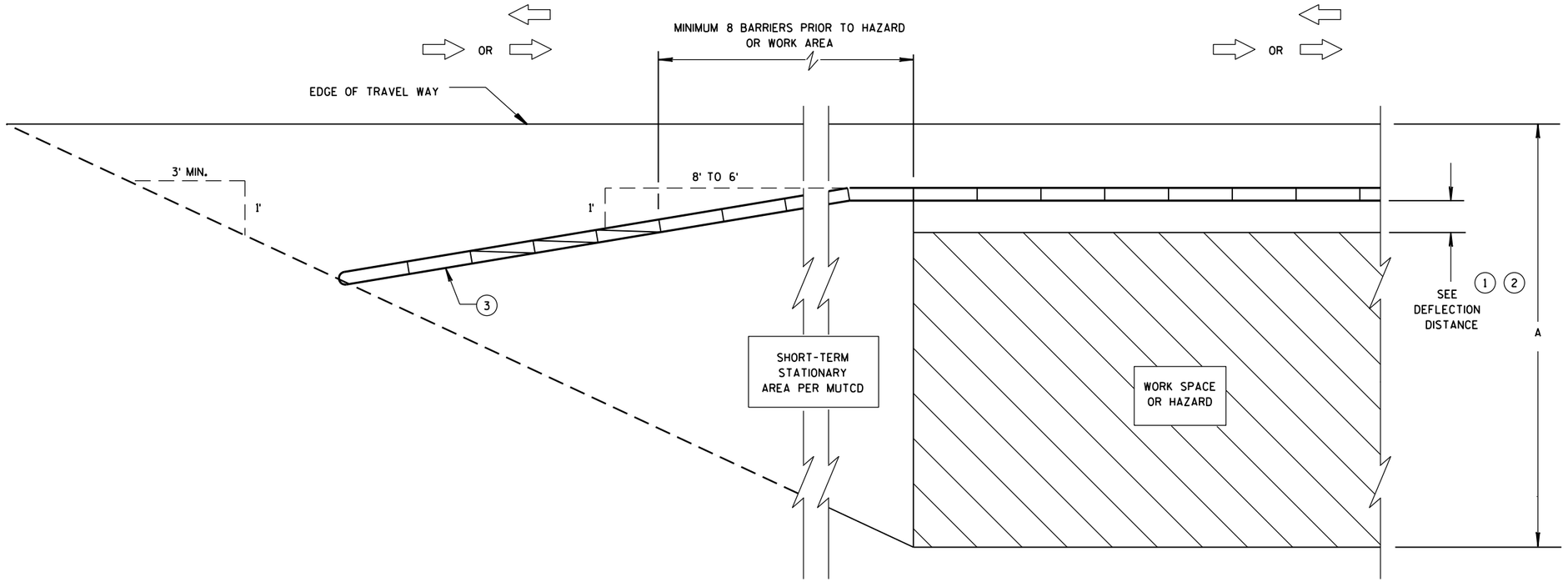
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

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

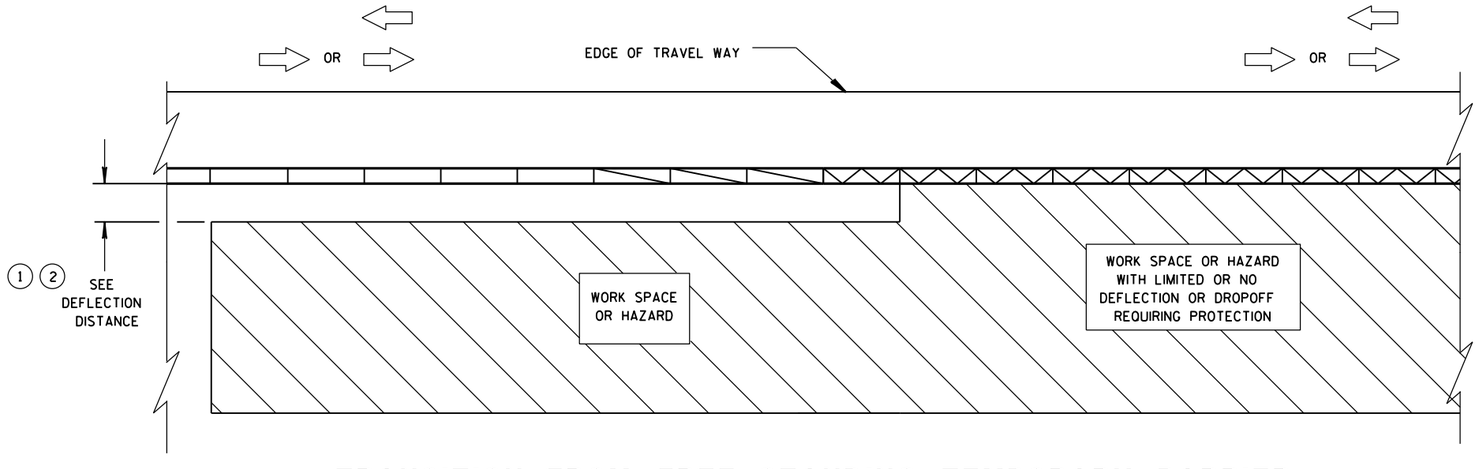
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

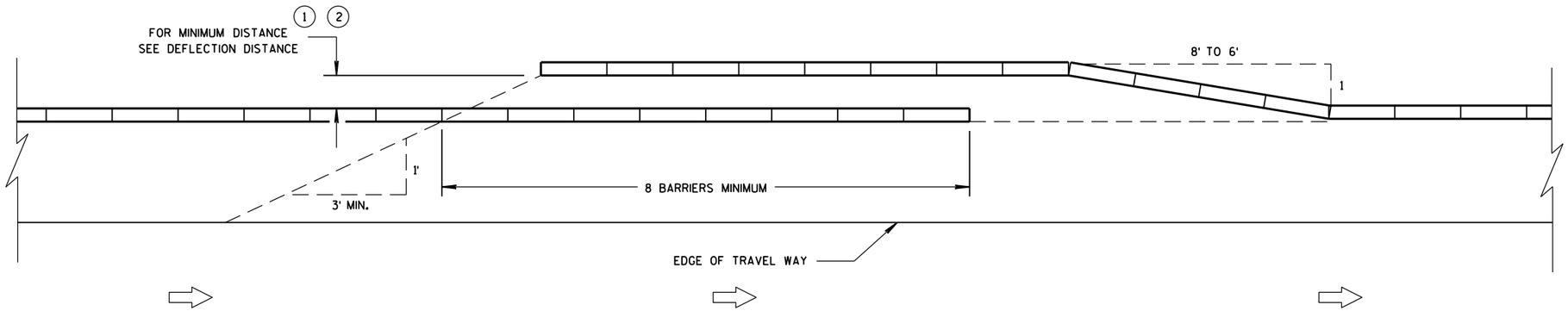
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

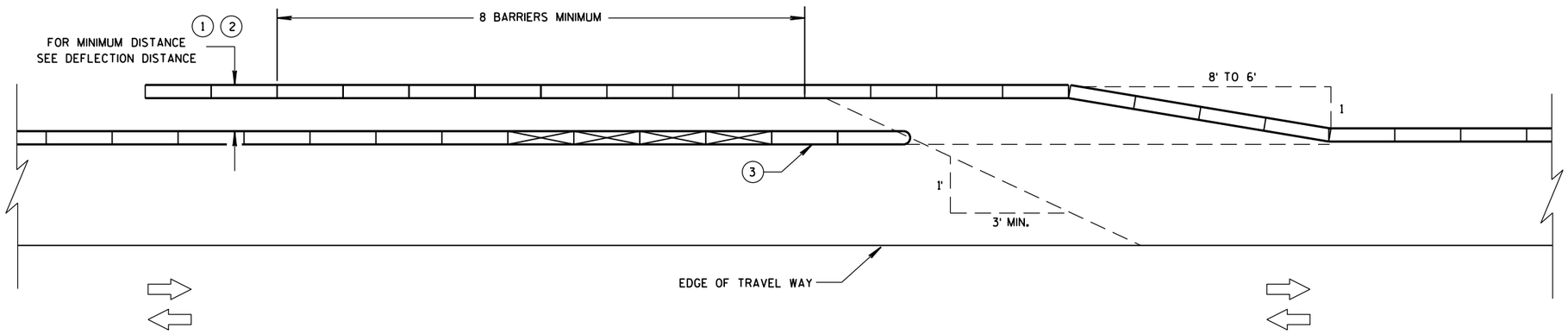
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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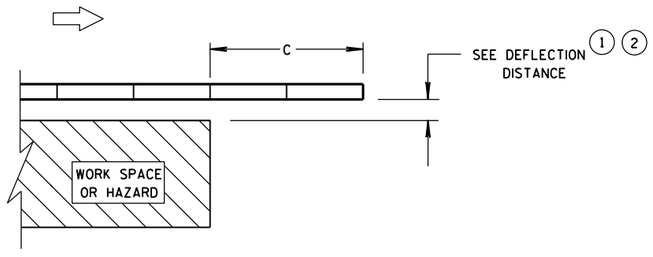
S.D.D. 14 B 8-2b



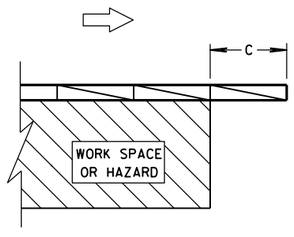
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

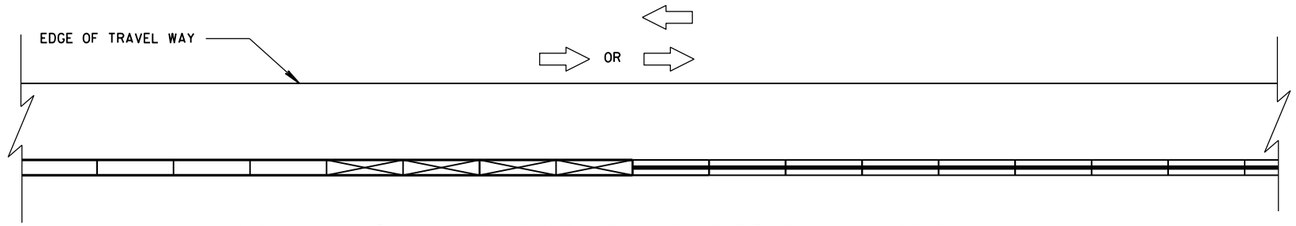
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

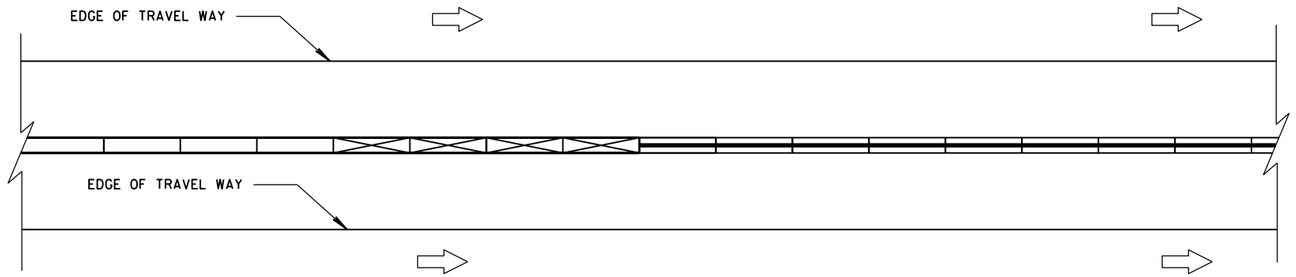
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



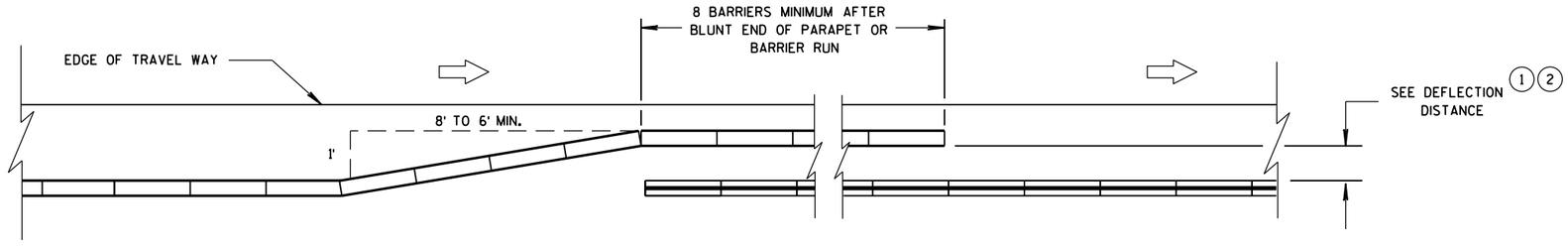
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



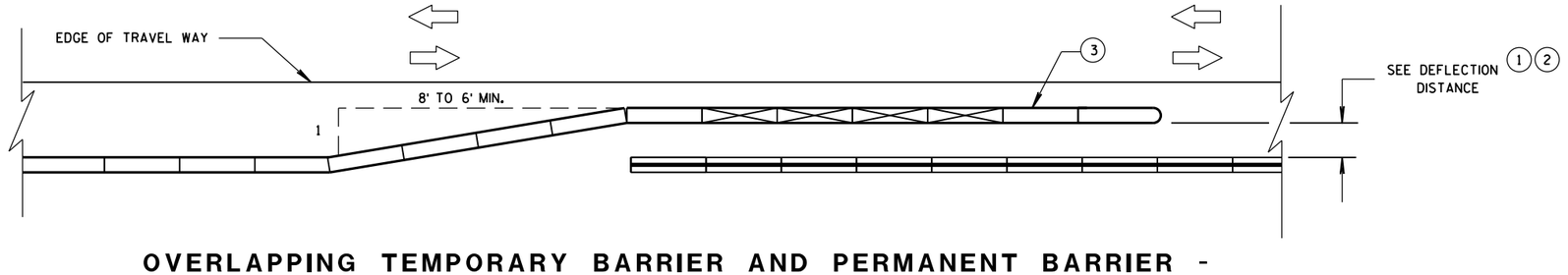
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

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

6

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

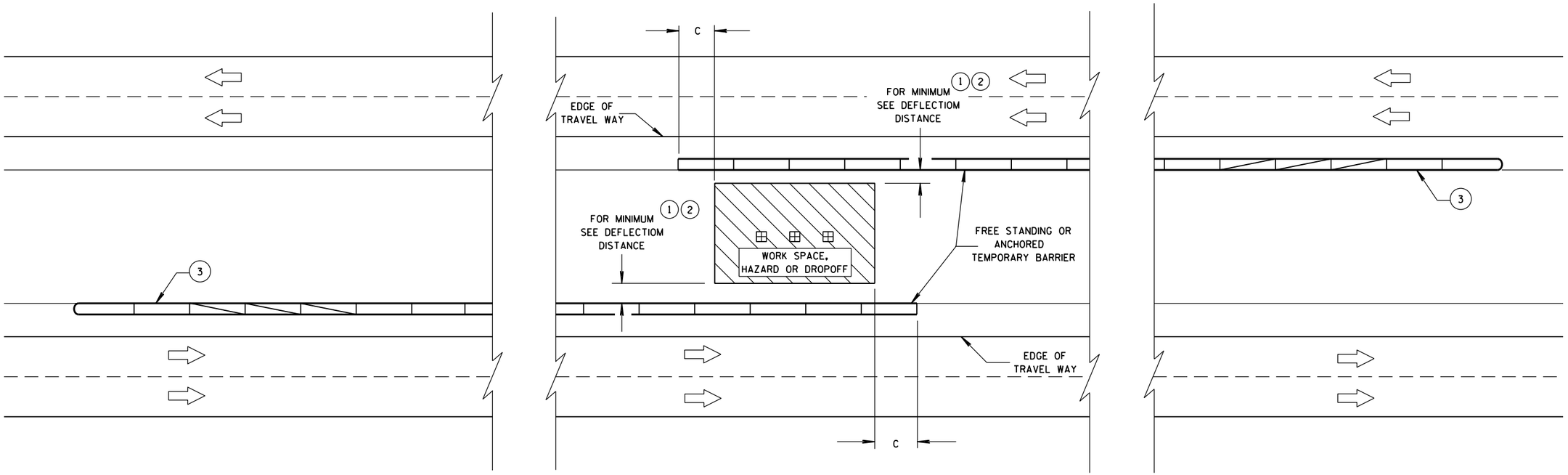
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

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

(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.

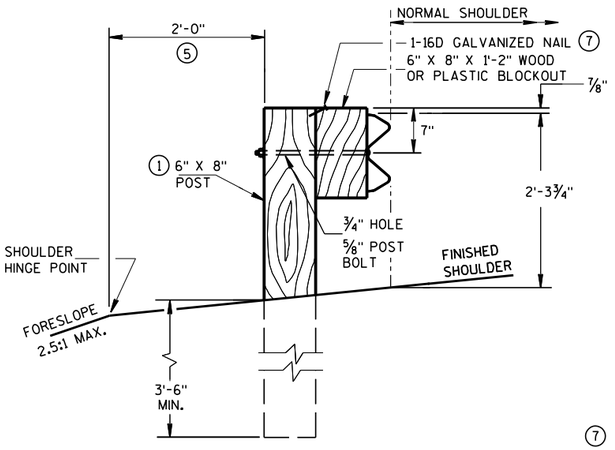
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(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.

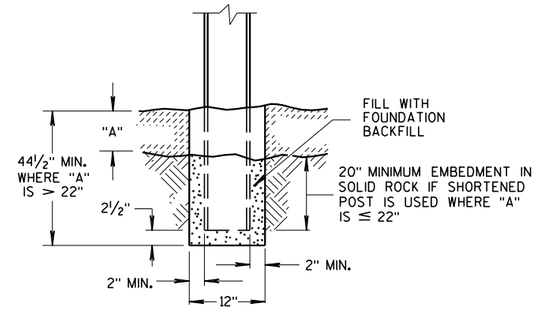
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

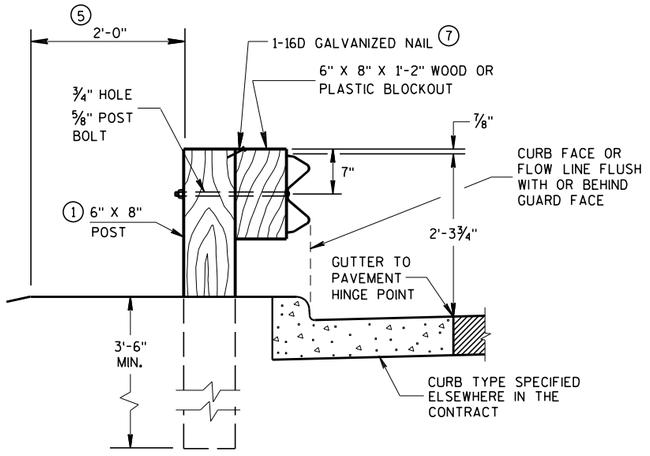
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



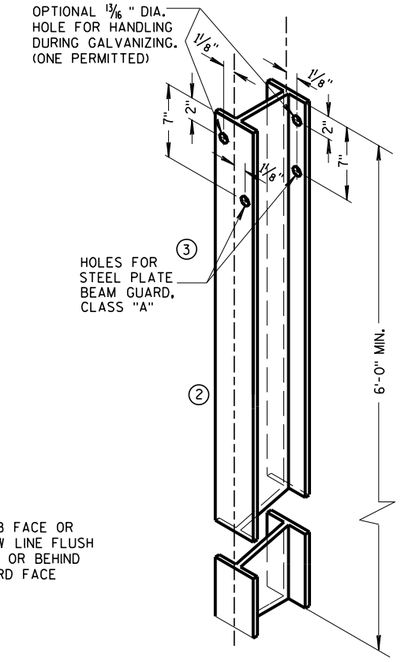
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



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

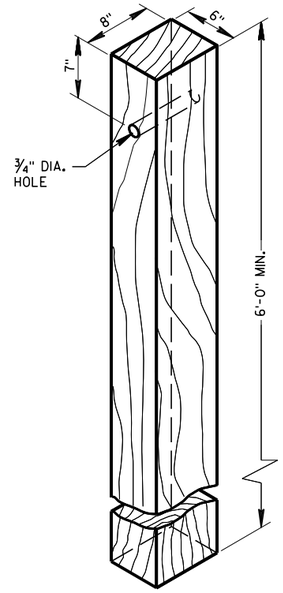


END VIEW
LOCATED ALONG A CURBED ROADWAY

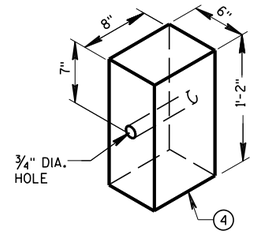


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

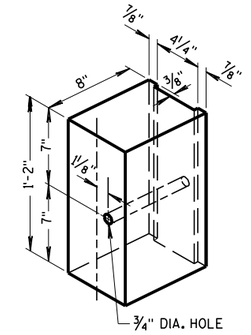
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



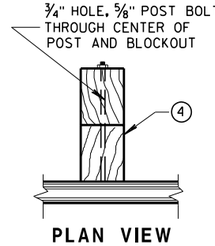
WOOD POST
(6"X8") NOMINAL



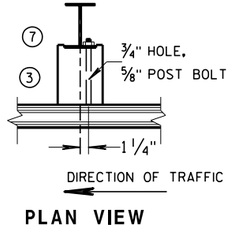
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



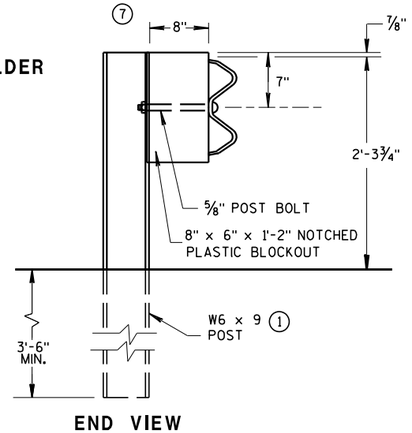
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



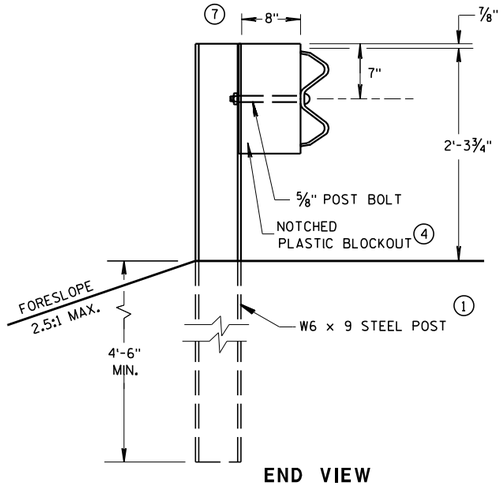
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



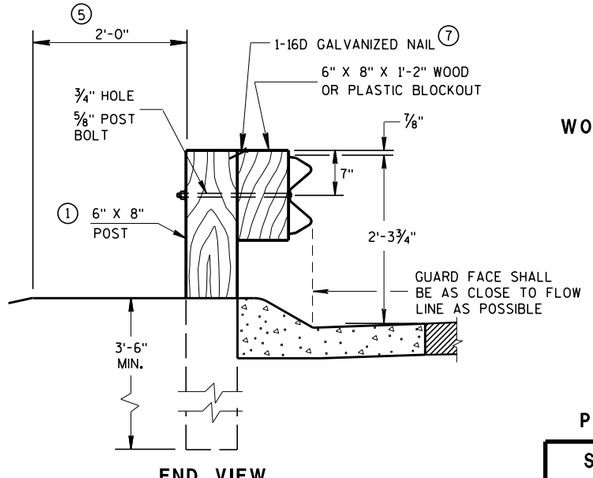
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



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



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

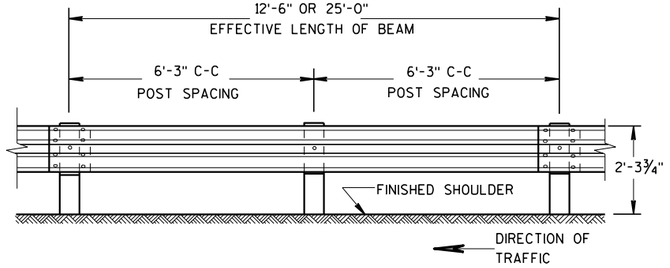
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

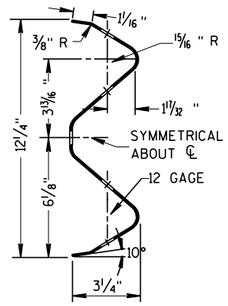
S.D.D. 14 B 15-11a

S.D.D. 14 B 15-11a

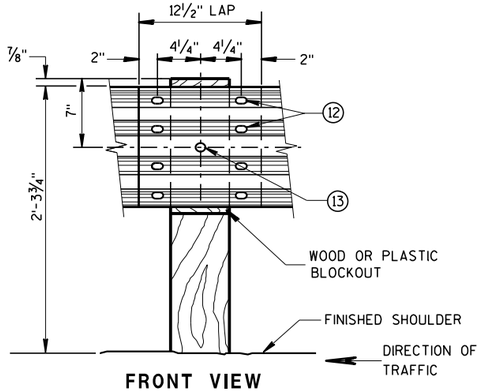


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

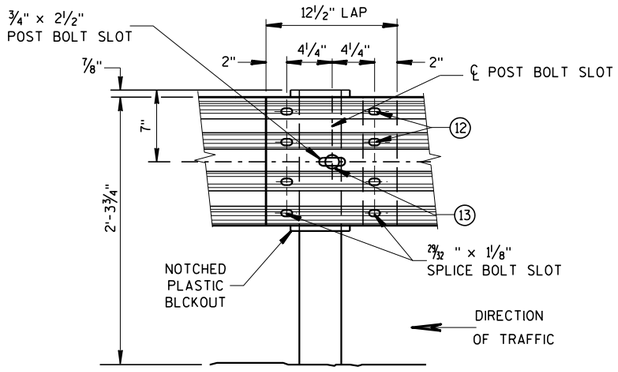
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

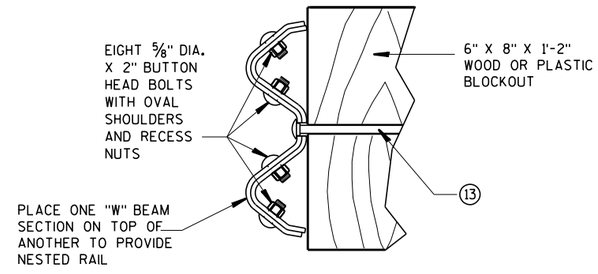
FRONT VIEW

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



FRONT VIEW

BEAM SPLICE AT STEEL POST

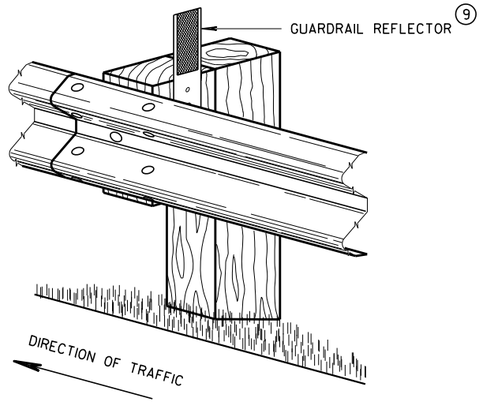


NESTED W BEAM (NW)

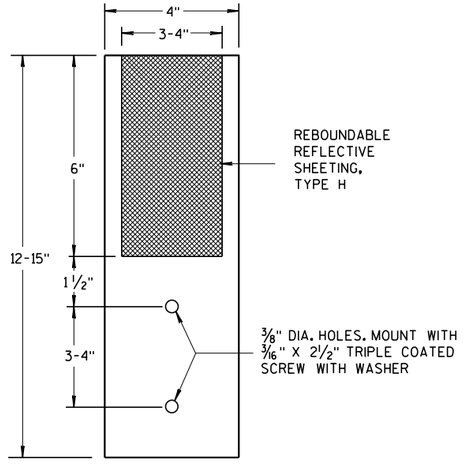
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

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

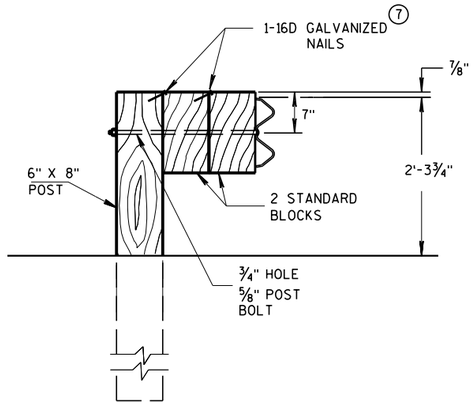
STATE OF WISCO 163
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

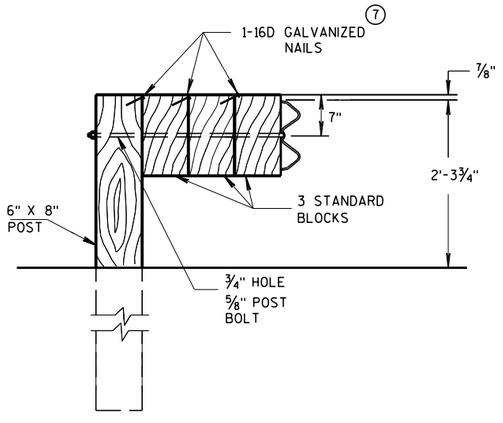
6

S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

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

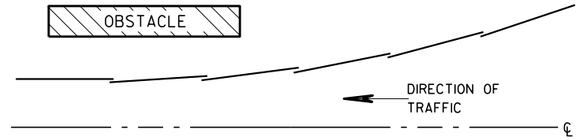


DETAIL FOR TRIPLE BLOCKS

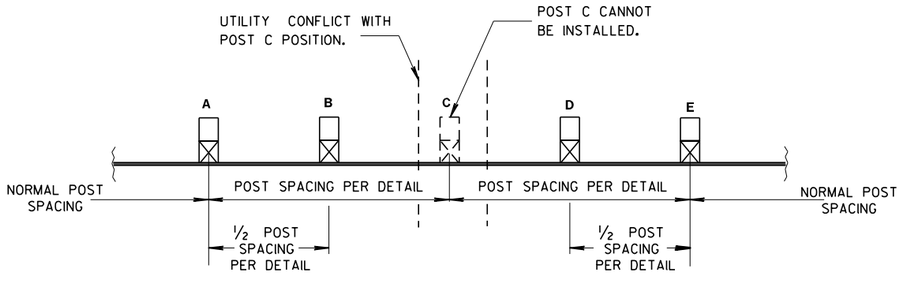
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

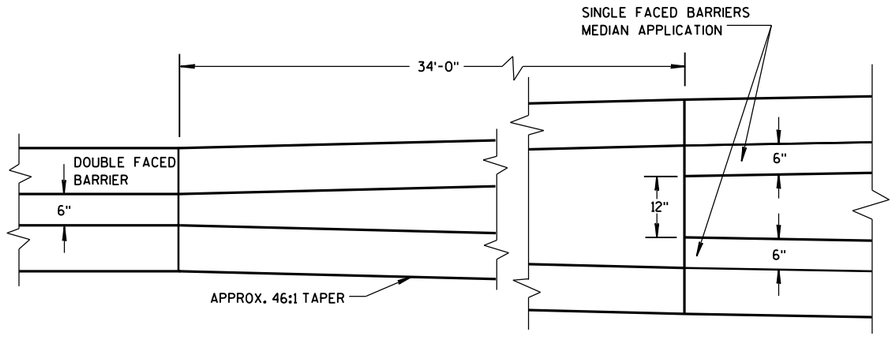
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

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S.D.D. 14 B 15-11c



PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

(1) BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.

(2) OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.

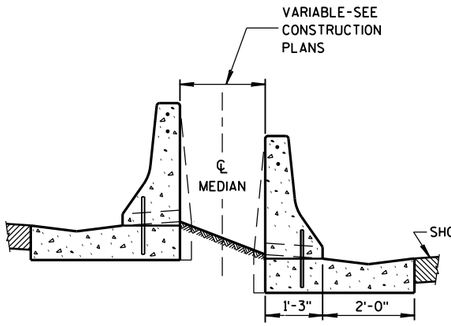
(3) 3/4-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

(4) NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.

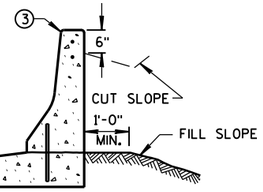
(5) EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.

(6) SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.

HIGH SIDE
CONCRETE BARRIER DETAIL

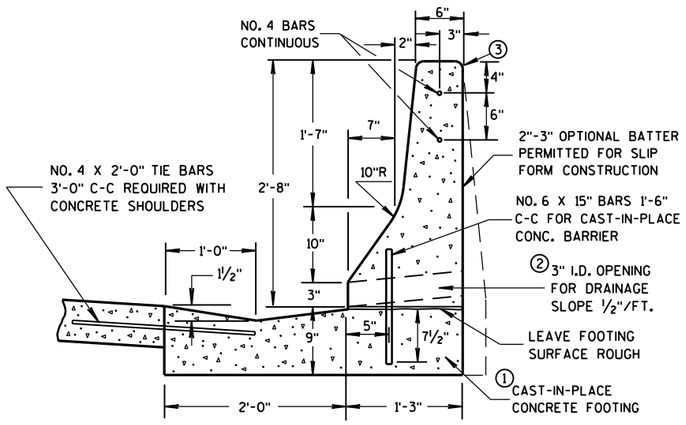


MEDIAN

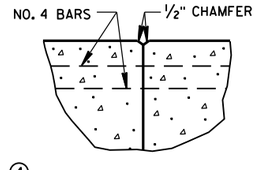


SHOULDER

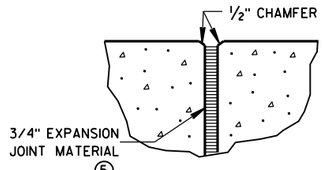
TYPICAL APPLICATIONS



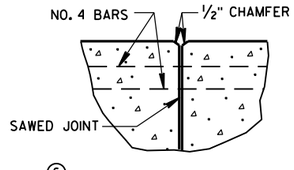
SECTION VIEW



4 CONSTRUCTION JOINT



5 EXPANSION JOINT



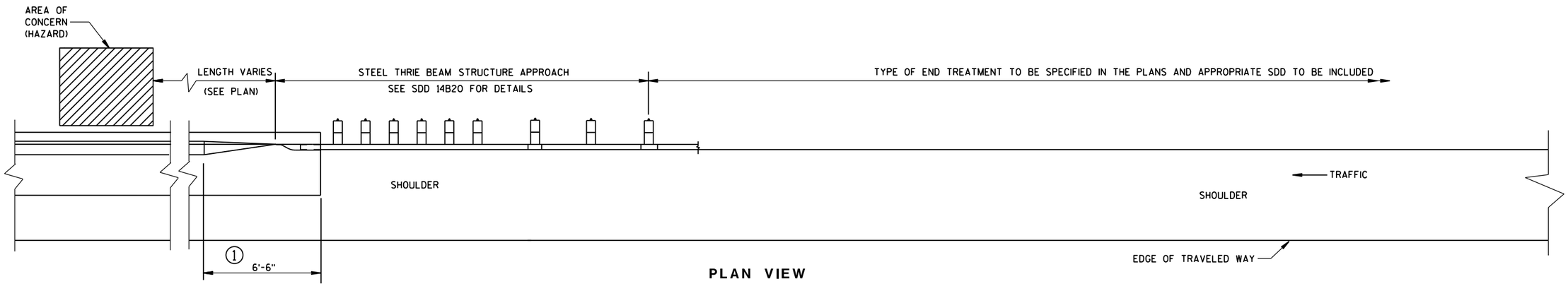
6 CONTRACTION JOINT

JOINT DETAILS

CONCRETE BARRIER,
SINGLE-FACED
(WITH ANCHORAGE)

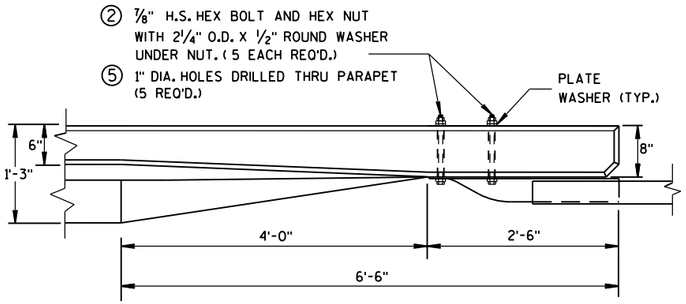
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 22-6a



PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL



PLAN VIEW

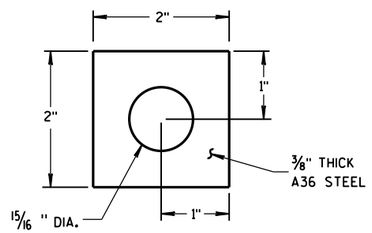
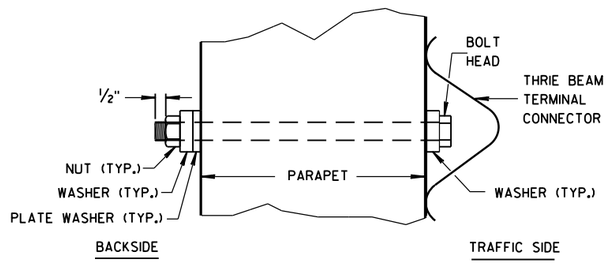


PLATE WASHER DETAIL

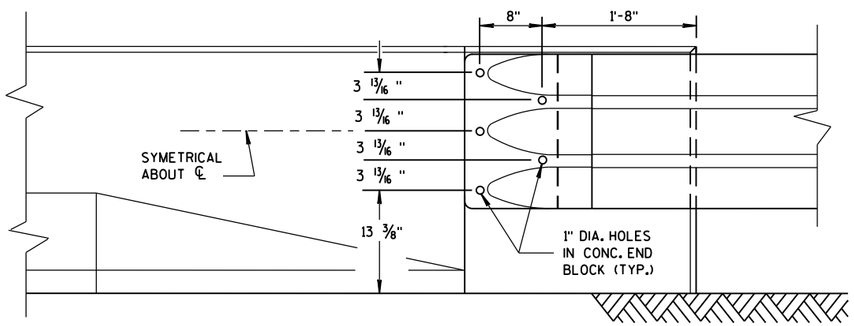


THRIE BEAM BOLT DETAIL

GENERAL NOTES

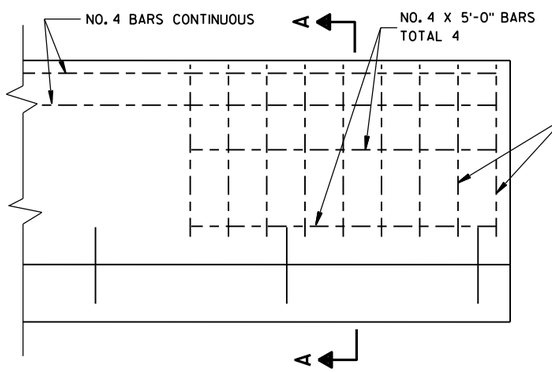
1. A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
2. BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE 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. REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
4. PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.
5. INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

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.

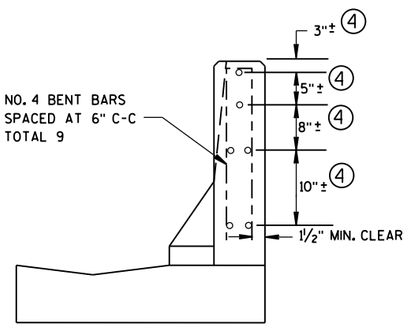


FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM

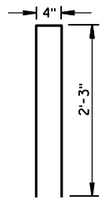


FRONT VIEW



SECTION A-A

3 REINFORCEMENT AT BARRIER END



BENT BAR DETAIL

CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 14 B 22-6b

6

S.D.D. 14 B 22-6b

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

(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.

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

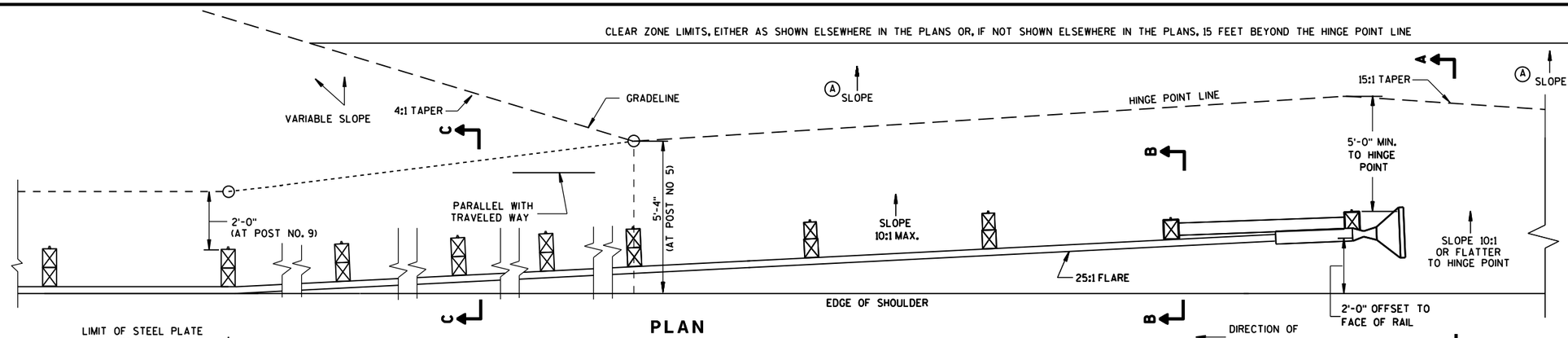
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

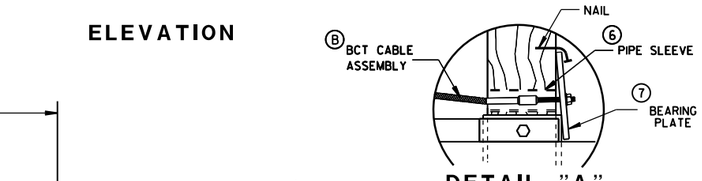
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

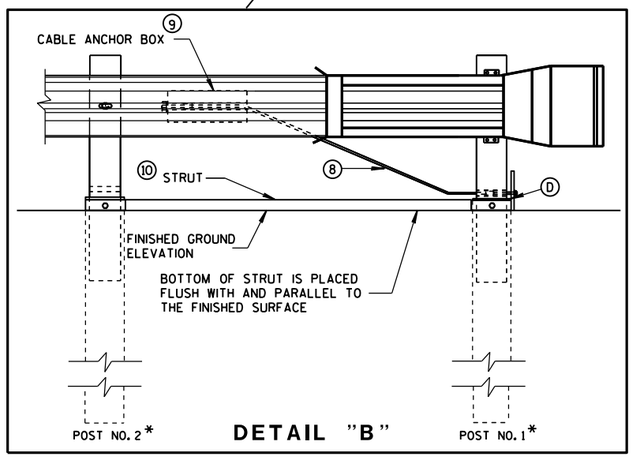
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

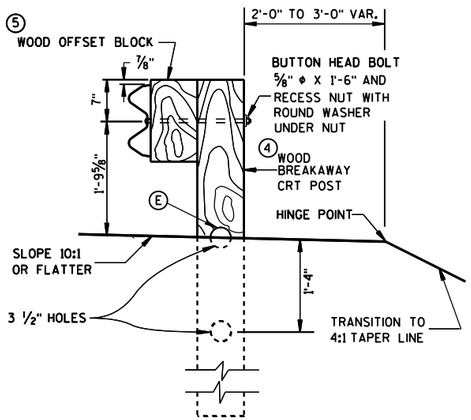
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

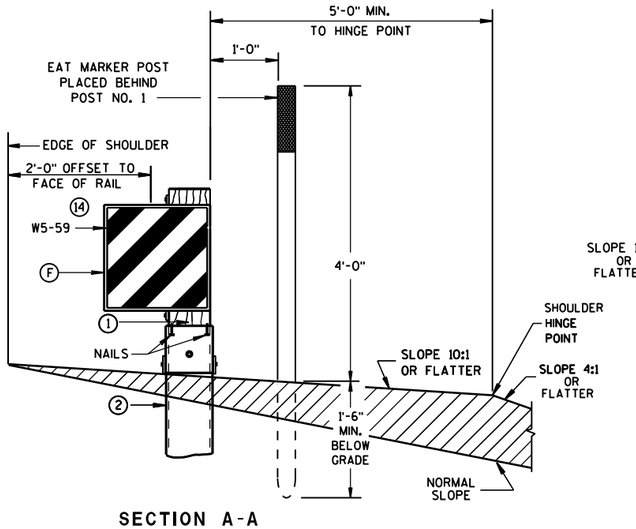
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

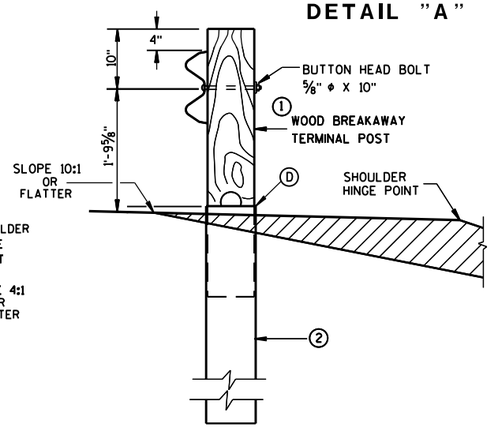










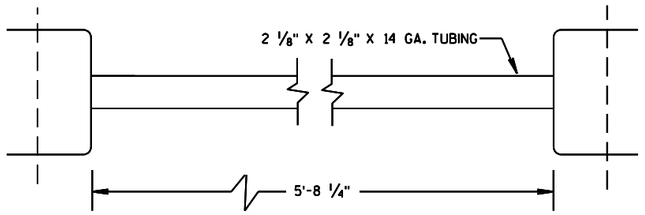


STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

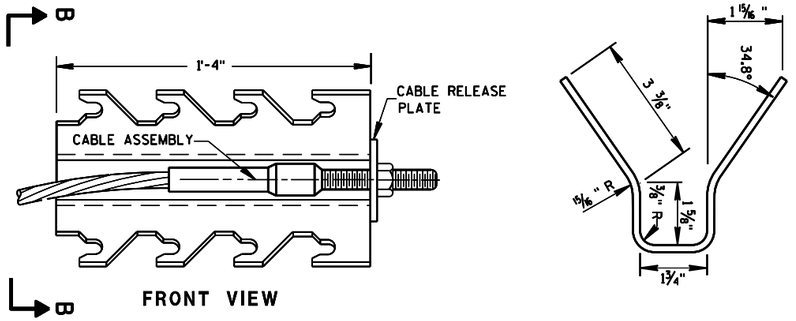
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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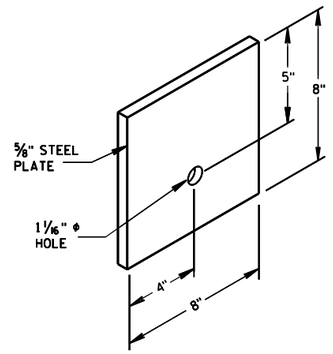
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

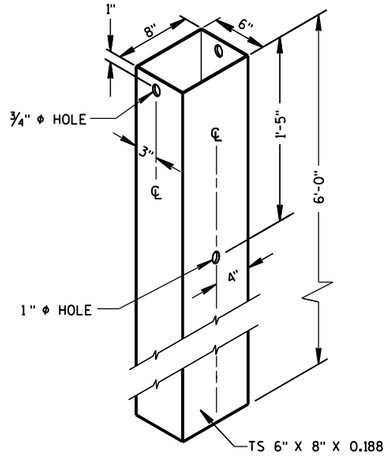
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S.D.D. 14 B 24-9b

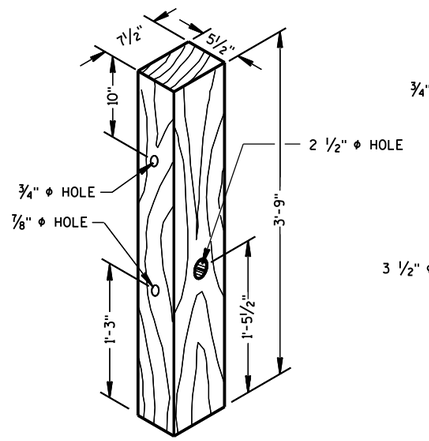
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

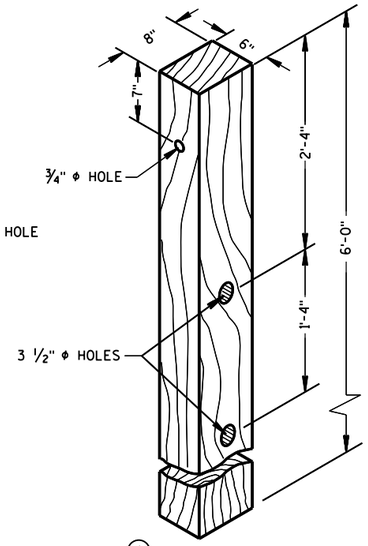
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST

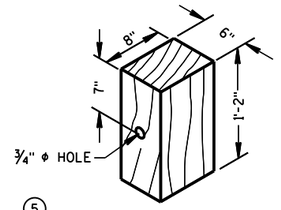


④ CRT POST
(POSTS NO'S 5-8)

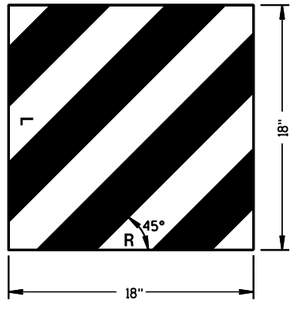
WOOD BREAKAWAY POSTS

GENERAL NOTES

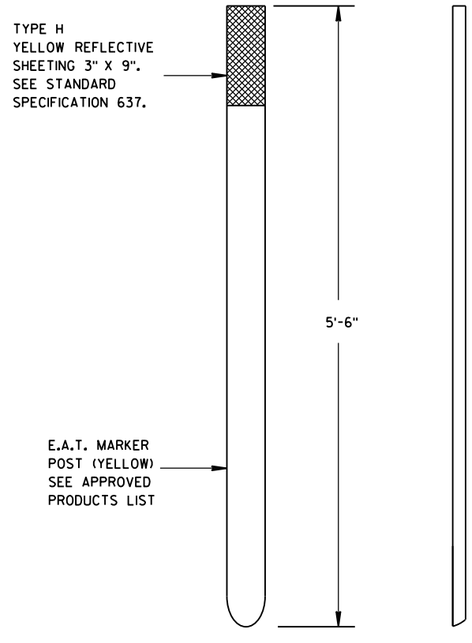
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH,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



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



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERV...

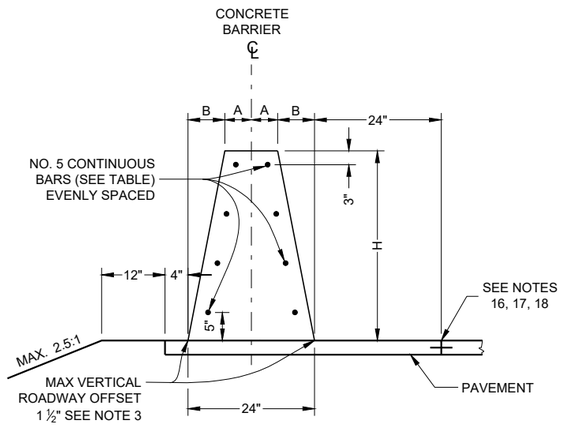
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S.D.D. 14 B 24-9c

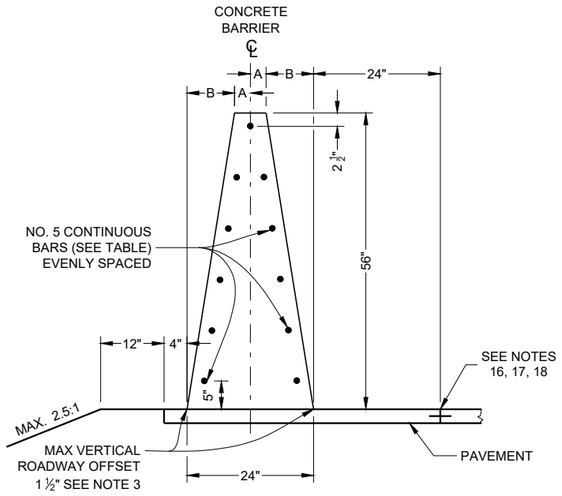
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S.D.D. 14 B 24-9c



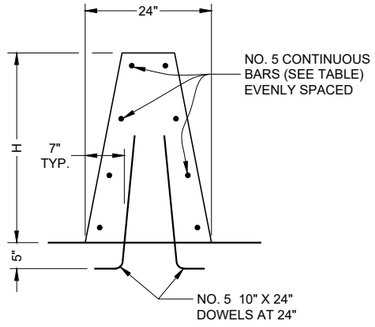
32 - INCH, 36 - INCH OR 42 - INCH SINGLE SLOPE CONCRETE BARRIER

(TYPE S32, TYPE S36, TYPE S42)



56 - INCH SINGLE SLOPE CONCRETE BARRIER

(TYPE S56)

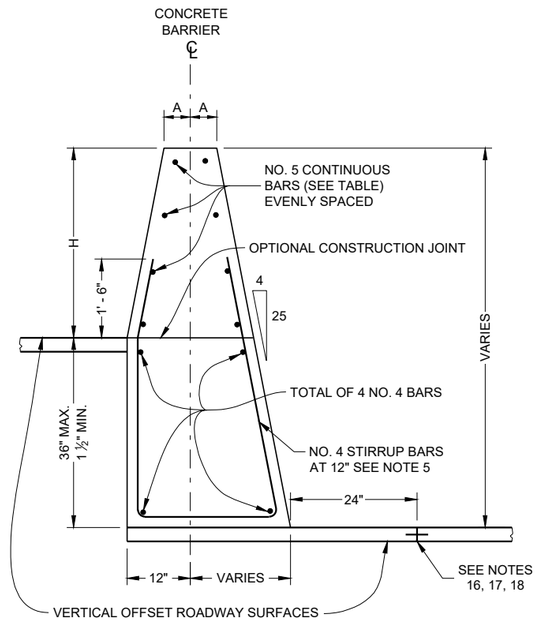


SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

(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 OF ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAT 1", 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 TYPE S56 MONLITHIC FOOTING OR DOWELED FOOTING 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 IS 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. 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.
17. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10'.
18. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.
19. PROVIDE A 1" DEEP, ," WIDE CONTRACTION JOINT IN BARRIER FOOTING AND BARRIER. JOINT IS TO MATCH ADJACENT CONCRETE JOINTS. IF ADJACENT TO ASPHALT CONTRACTION JOINT IS REQUIRED EVERY 15'.

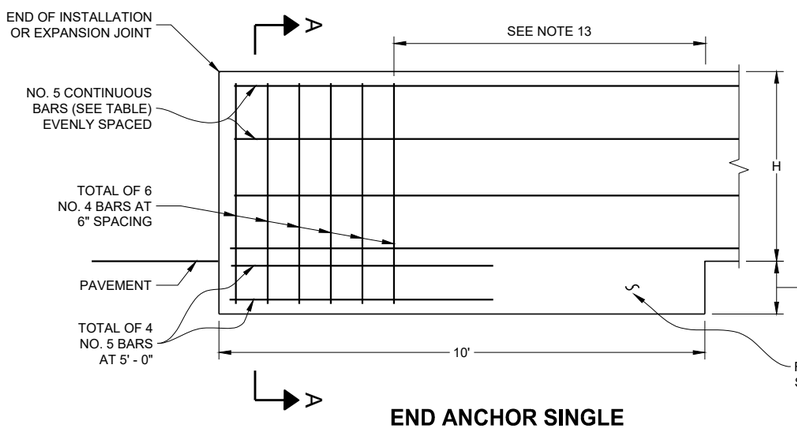


SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL

(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

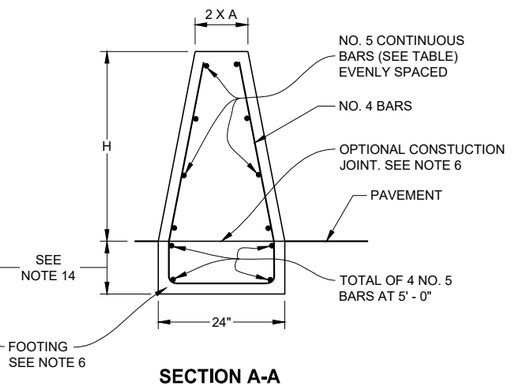
(BETWEEN ADJACENT ROADWAYS)

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6 ¼	5 ¾	8
42	5 ¼	6 ¾	10
56	3	9	11

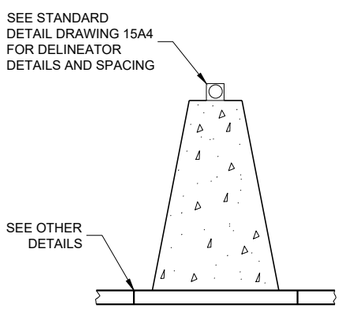


END ANCHOR SINGLE SLOPE CONCRETE BARRIER

(AT CONSTRUCTION JOINT)



SECTION A-A



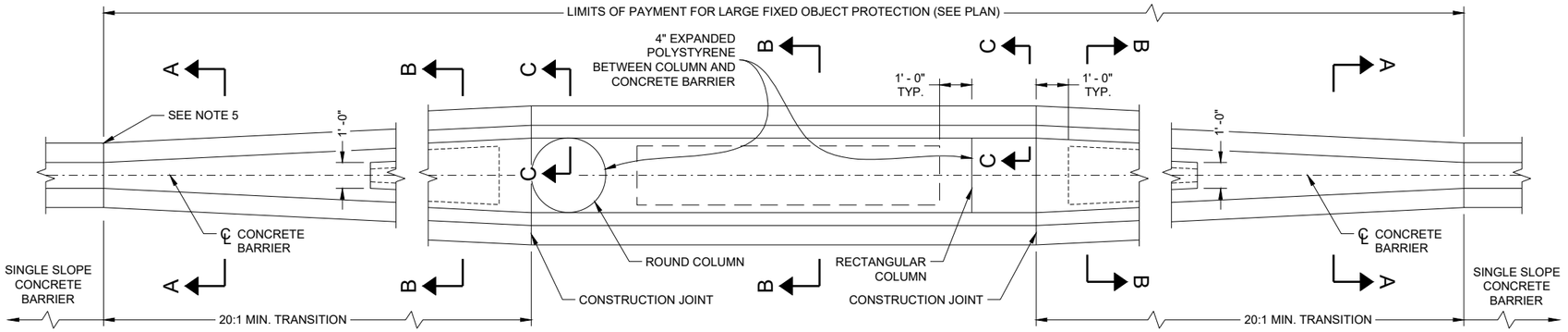
DELINEATION

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

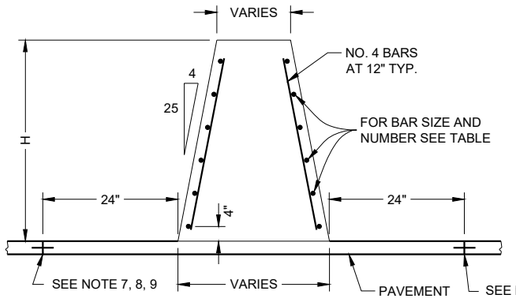
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SDD 14B32 - 06a

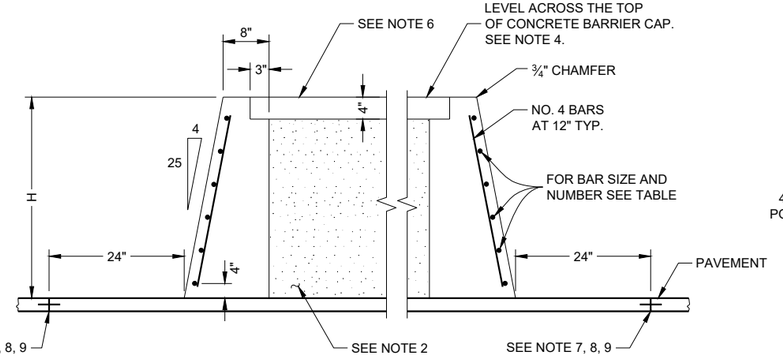


BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	6

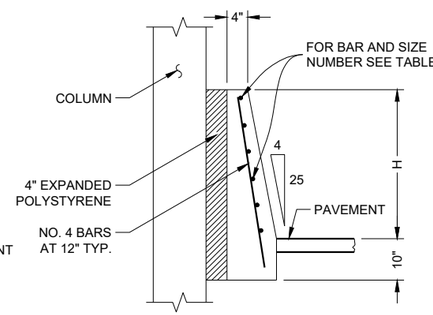
LARGE FIXED OBJECTS PROTECTION
(TYPE S32, TYPE S36, TYPE S42, TYPE S56)



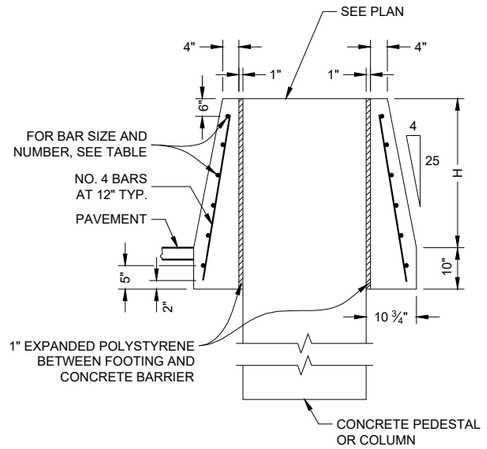
SECTION A - A



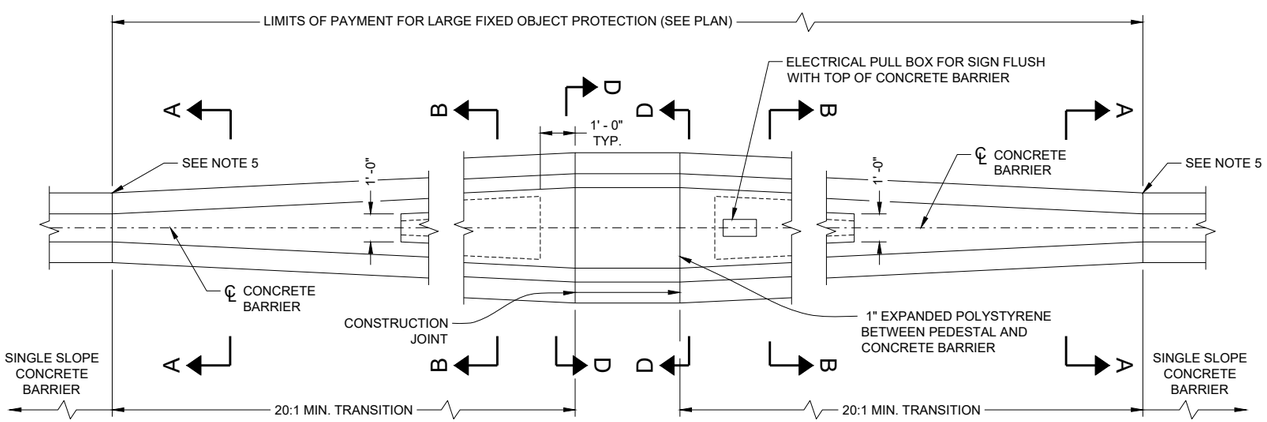
SECTION B - B



SECTION C - C



SECTION D - D



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

GENERAL NOTES

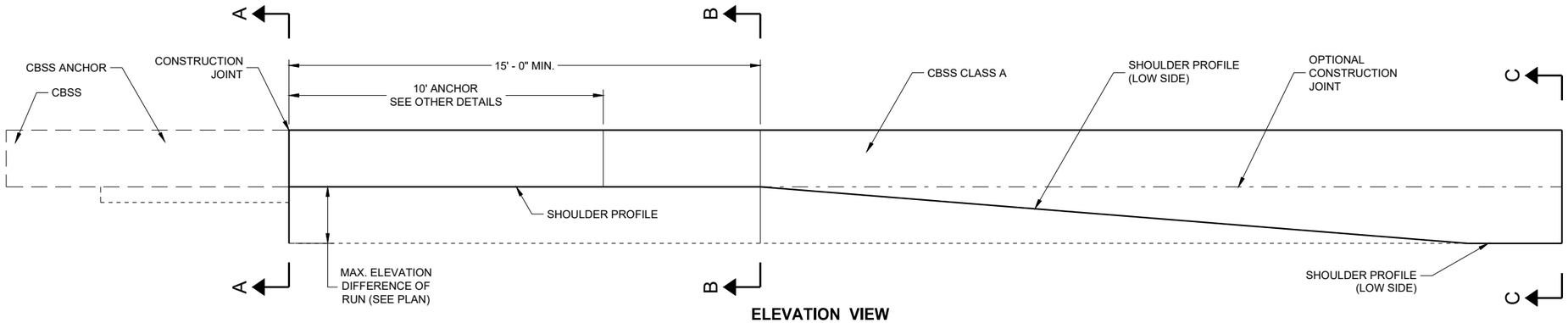
1. INSTALL 1 INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B -B. MINIMUM ONE DRAIN CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET 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. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.
7. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED ITH 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.
8. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
9. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.

CONCRETE BARRIER SINGLE SLOPE (CBSS)

SDD 14B32 - 06b
6

GENERAL NOTES

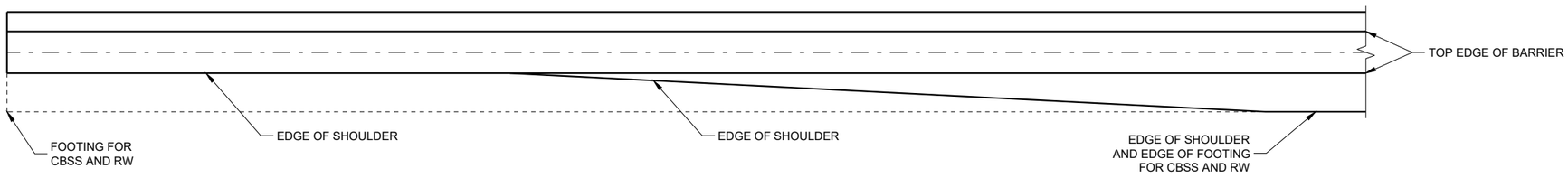
1. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. SEE SDD 13C18 FOR JOINT DEPTH AND WIDTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
2. CONSTRUCTION JOINTS MAY BE ELIMINATED WHEN CONCRETE SHOULDER IS LESS THAN 10',
3. SEE SDD 13C1 FOR DETAILS TYING BARRIER FOOTING TO ADJACENT CONCRETE.



ELEVATION VIEW

TRANSITION TO CBSS CLASS A

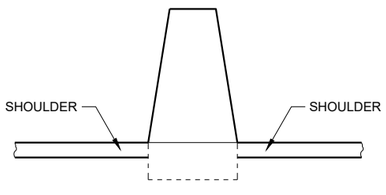
(TYPE S32A, TYPE S36A TYPE S42A TYPE S56A)



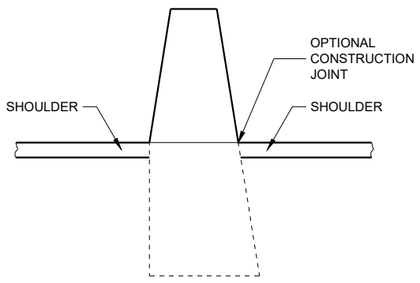
PLAN VIEW

TRANSITION TO CBSS CLASS A

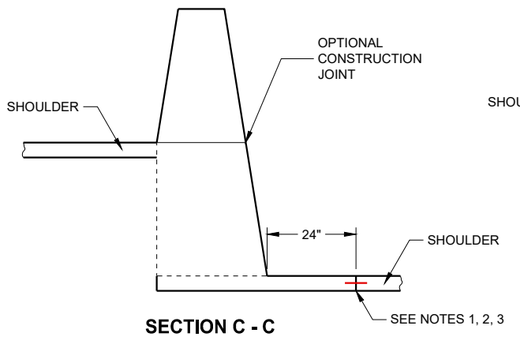
(TYPE S32A, TYPE S36A TYPE S42A TYPE S56A)



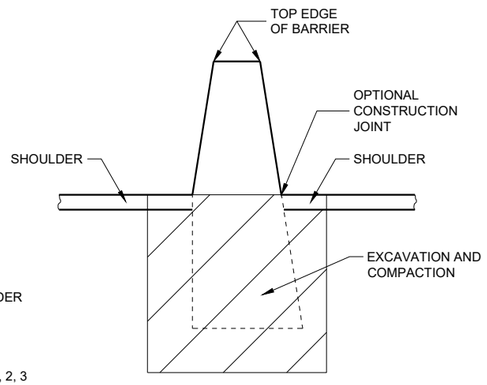
SECTION A - A



SECTION B - B



SECTION C - C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

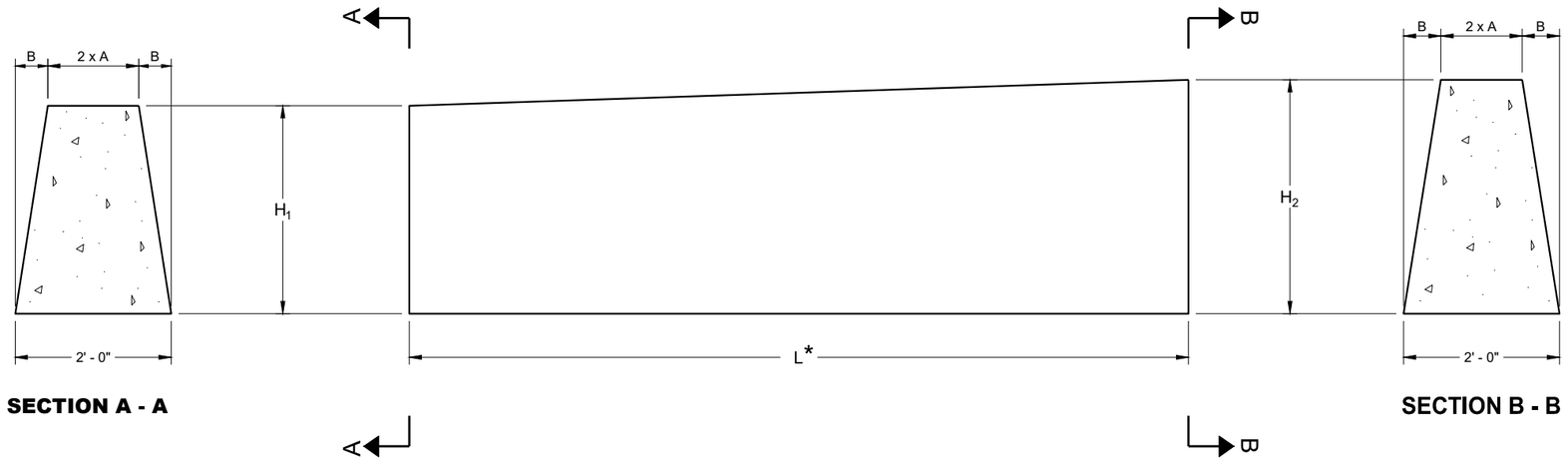
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B32 - 06c

6

SDD 14B32 - 06c



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 ¼	5 ¾
42	5 ¼	6 ¾
56	3	9

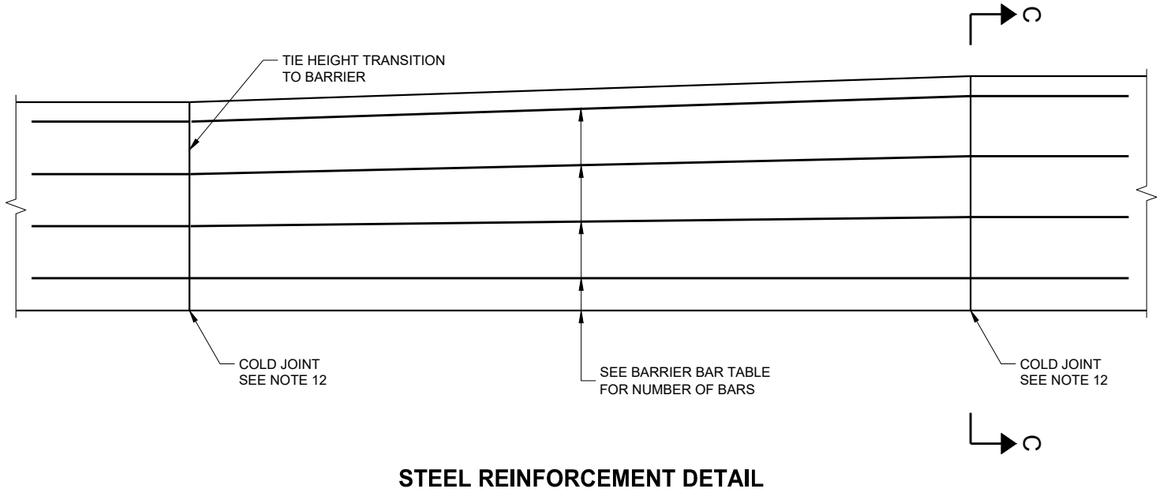
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

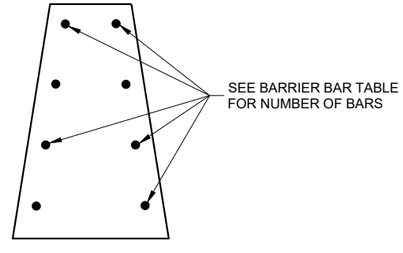
BARRIER BARS

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
November 2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

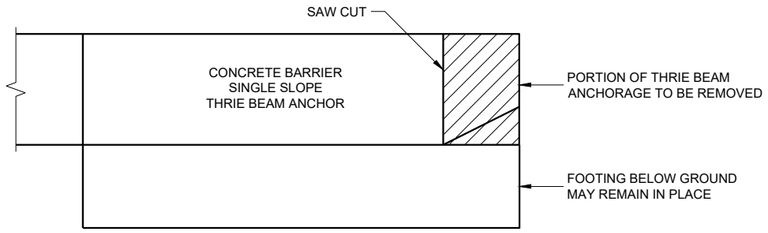
FHWA

6

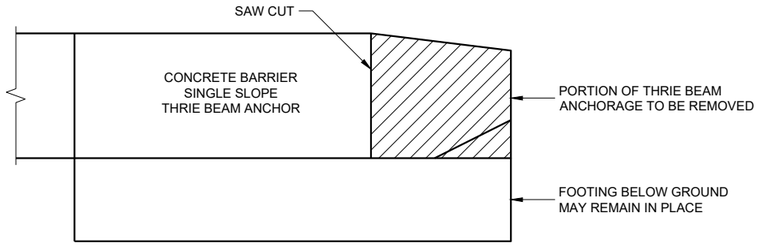
SDD 14B32 - 06d

6

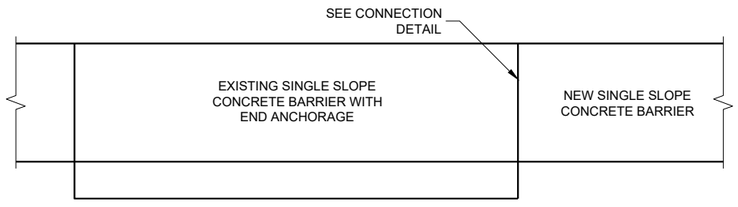
SDD 14B32 - 06d



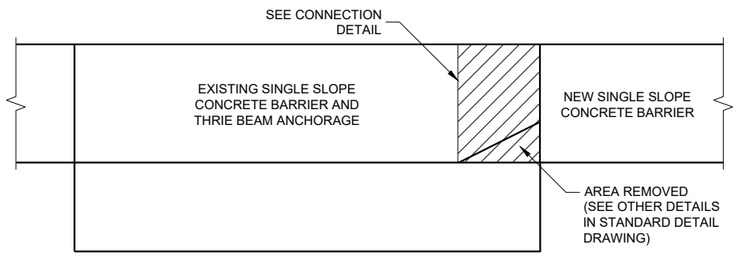
REMOVAL AREA OF
32" CONCRETE THRIE BEAM ANCHORAGE



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

GENERAL NOTES

1 THE NUMBER OF DRILL HOLES IS EQUAL TO THE NUMBER OF REBAR IN BARRIER (SEE OTHER DETAILS).

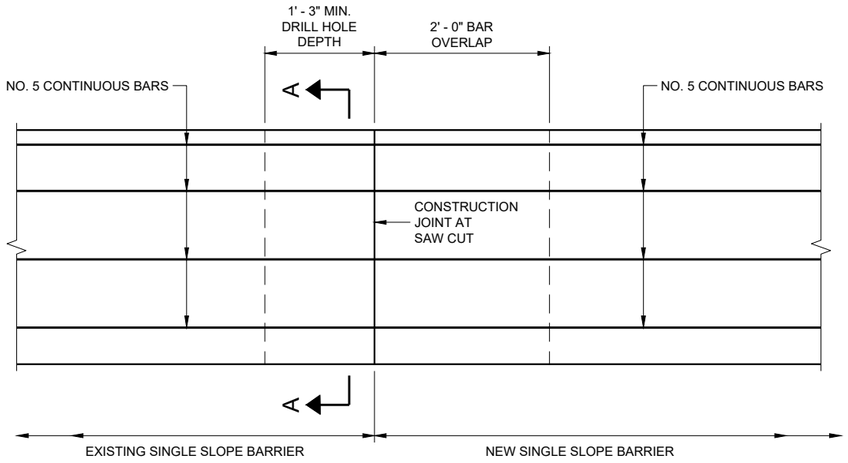
2. MINIMUM DEPTH OF DRILL HOLES IS 1' - 3".

3. DRILL HOLES TO BE A MINIMUM OF 4 INCHES FROM THE EDGE OF CONCRETE

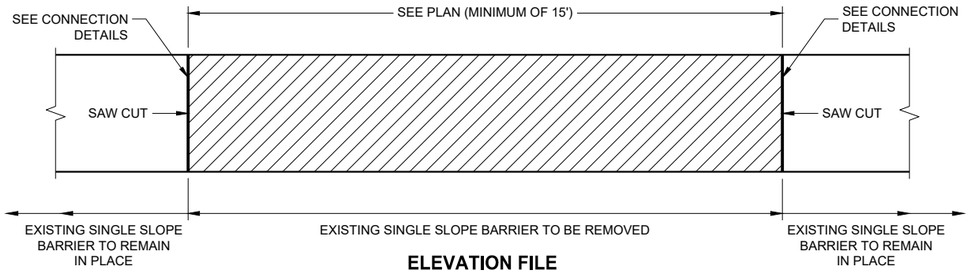
4. INSTALL EPOXY COATED NO. 5 BARS IN DRILL HOLES.

5. END ANCHORAGE MAY OR MAY NOT BE PRESENT ON EXISTING BARRIERS.

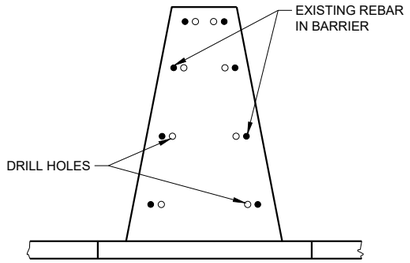
6. REMOVE THRIE BEAM ANCHORAGE AS SHOWN.



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



ELEVATION FILE
BARRIER REMOVAL AND REPLACEMENT



SECTION A-A

RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER

CONCRETE BARRIER
SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

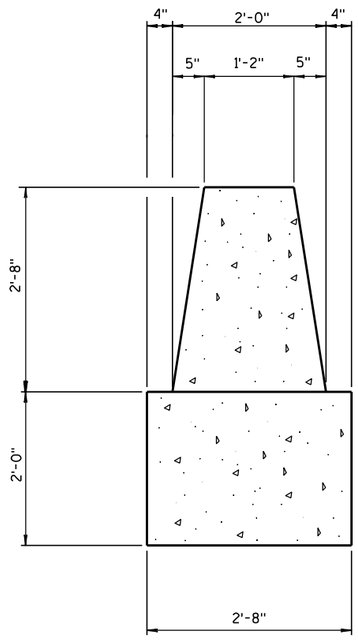
APPROVED
November 2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR
FHWA

6

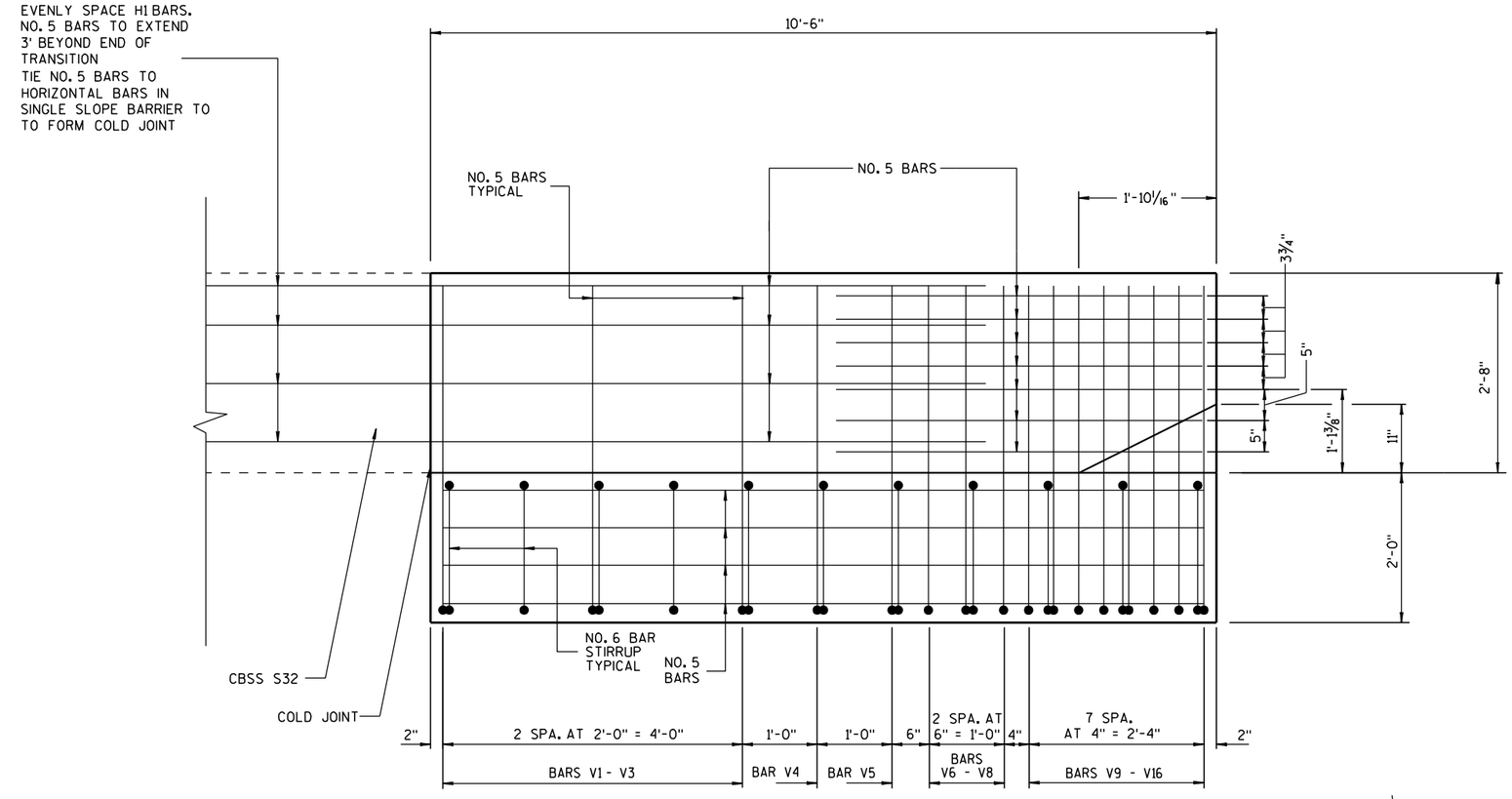
SDD 14B32 - 06e

6

SDD 14B32 - 06e

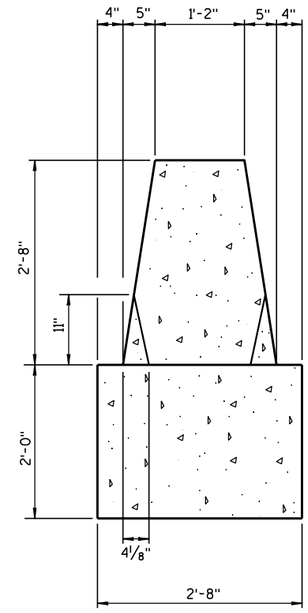


SECTION A-A

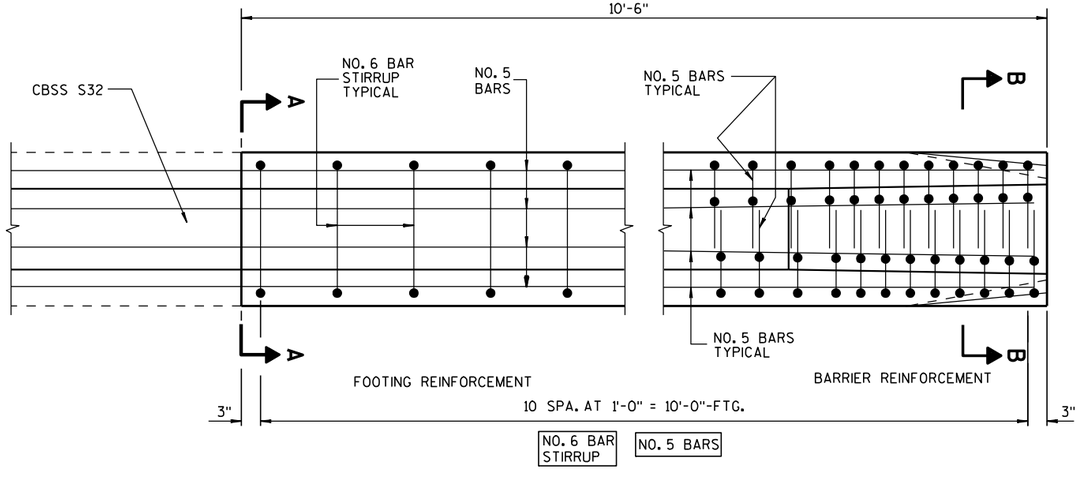


SEE SECTIONS (1) THRU (16)

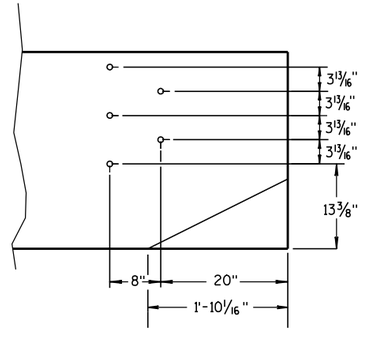
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

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 SECTION 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

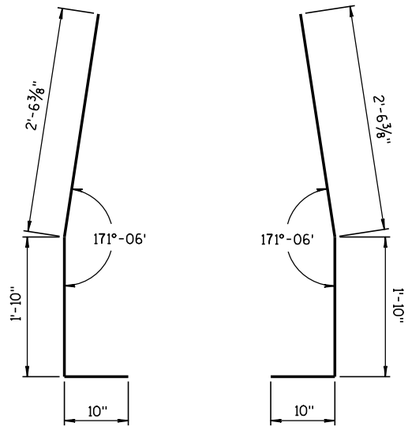
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

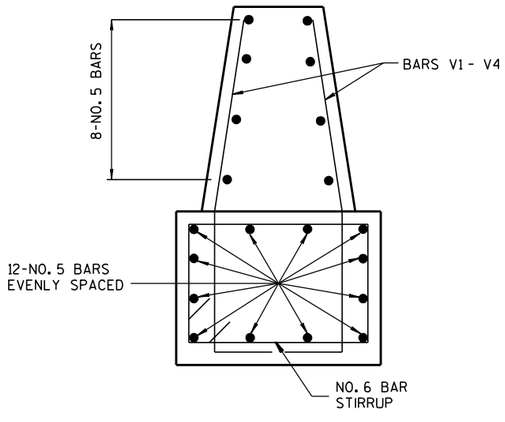
CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

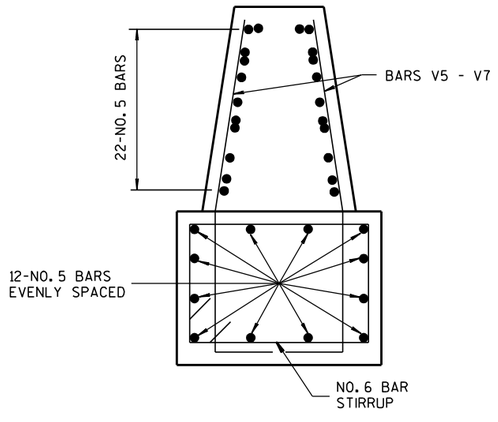
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S.D.D. 14 B 33-1a



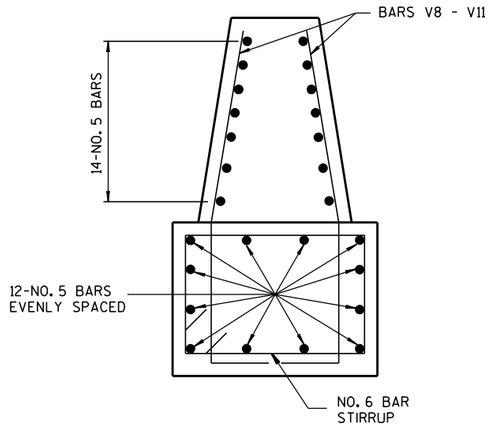
BAR BENDING DETAIL
FOR BARS V1 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

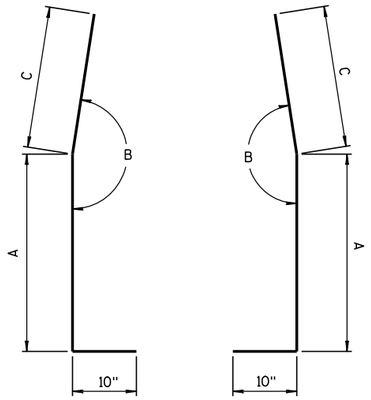
CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1b

BAR CHART
SECTIONS V12 - V13

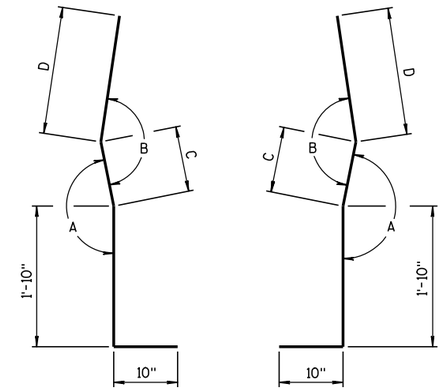
BAR	A	B	C
V12	2'-2"	171°-15'	2'-1 3/4"
V13	2'-7"	171°-05'	1'-9 3/8"



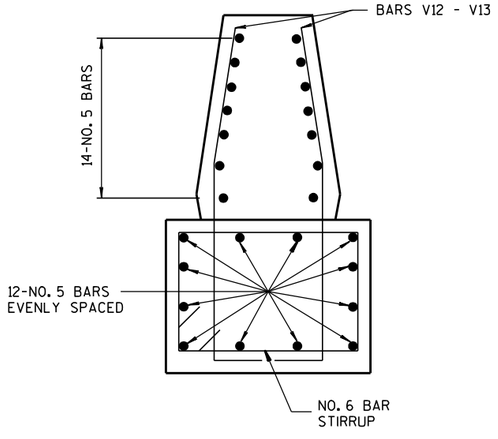
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

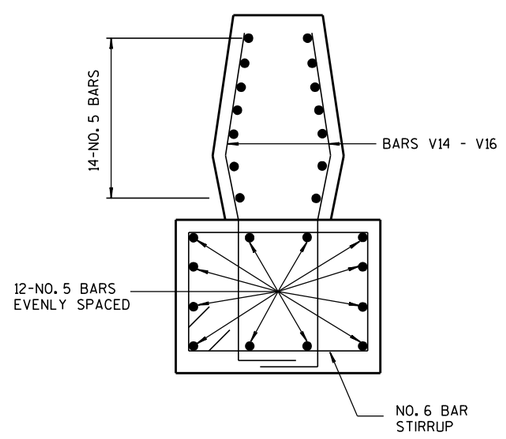
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



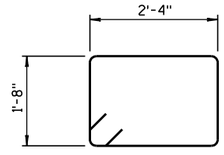
BAR BENDING DETAIL
FOR BARS V14 - V16



BAR DETAIL
SECTIONS 12 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 32"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zoss
ROADWAY STANDARDS ENGINEER

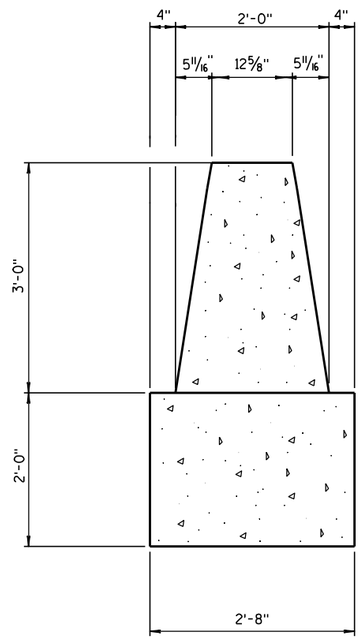
FHWA

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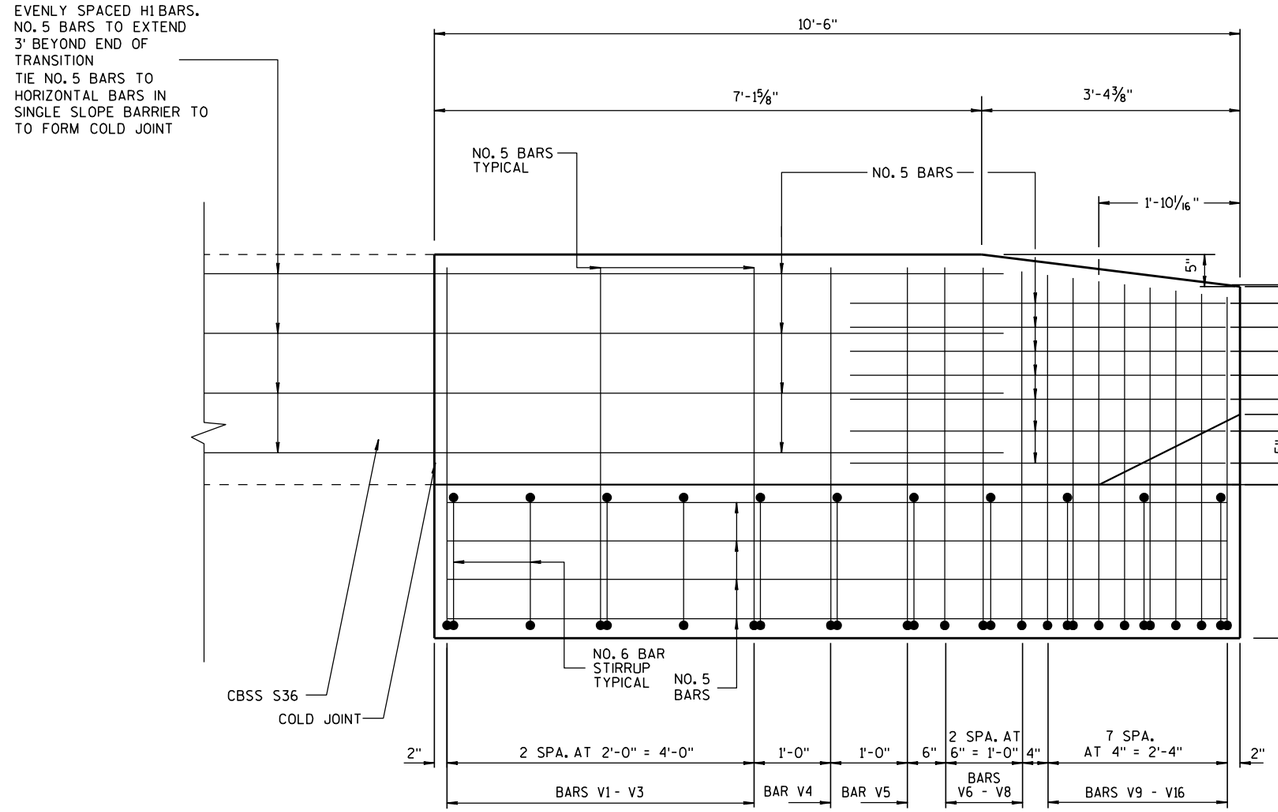
S.D.D. 14 B 33-1c

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S.D.D. 14 B 33-1c

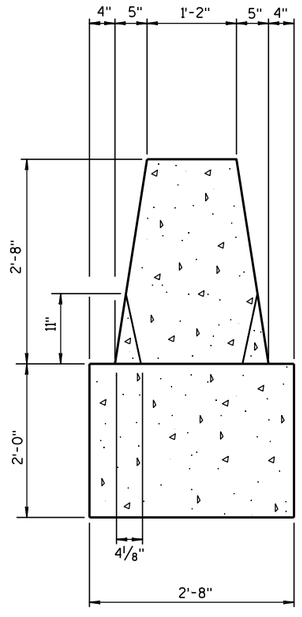


SECTION A-A

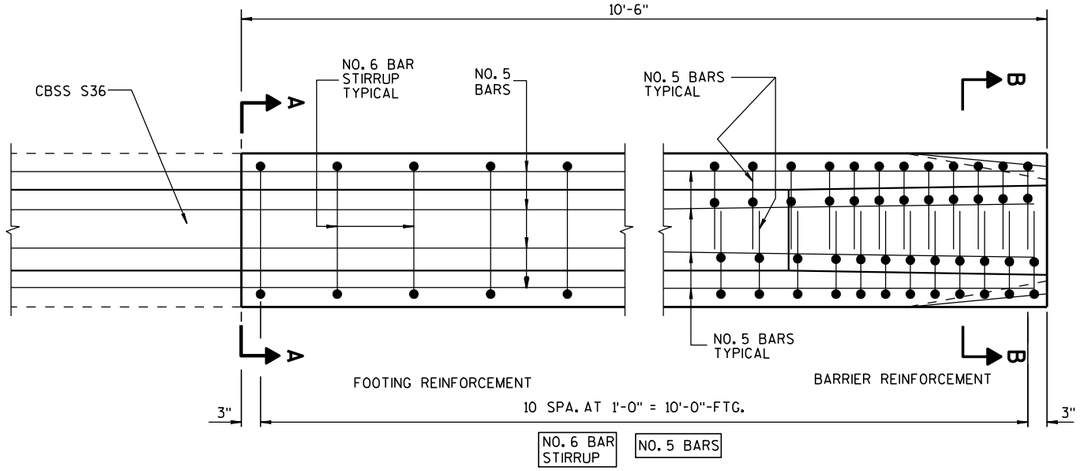


SEE SECTIONS (1) THRU (16)

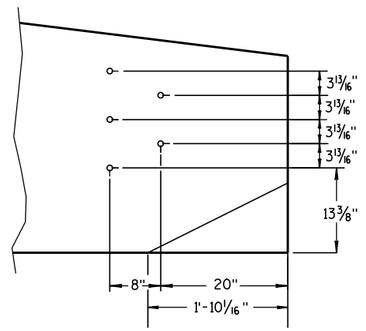
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

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 SECTION 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

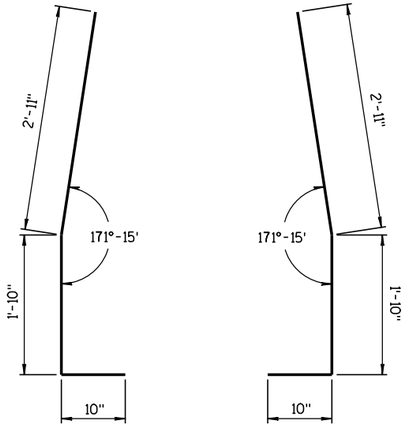
2" CLEAR COVER TYPICAL.

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

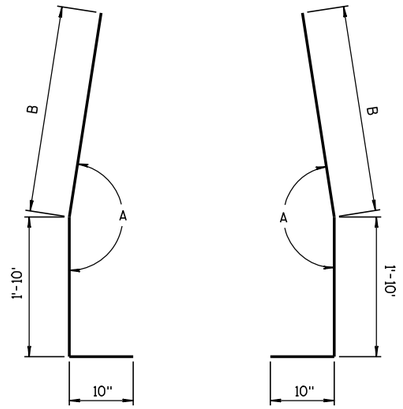
S.D.D. 14 B 33-1d



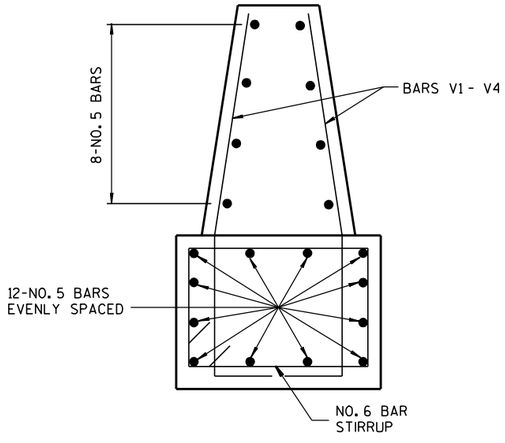
BAR BENDING DETAIL
FOR BARS V1 - V6

BAR CHART
SECTIONS V7 - V11

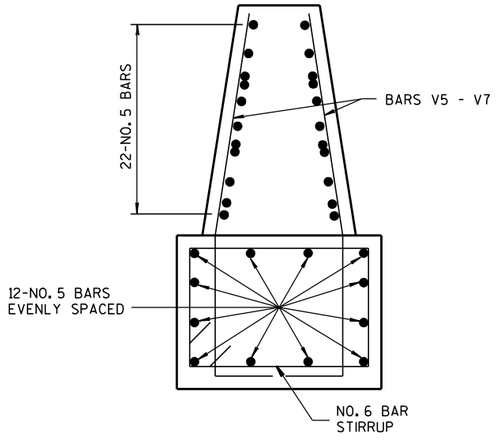
BAR	A	B
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



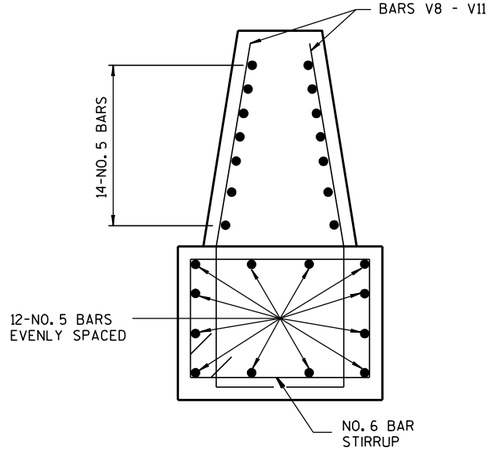
BAR BENDING DETAIL
FOR BARS V7 - V11



BAR DETAIL
SECTIONS 1 - 4



BAR DETAIL
SECTIONS 5 - 7



BAR DETAIL
SECTIONS 8 - 11

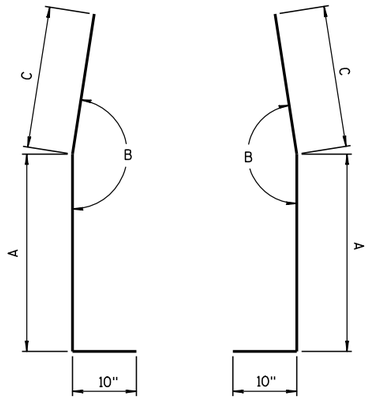
CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 33-1e

BAR CHART
SECTIONS V12 - V13

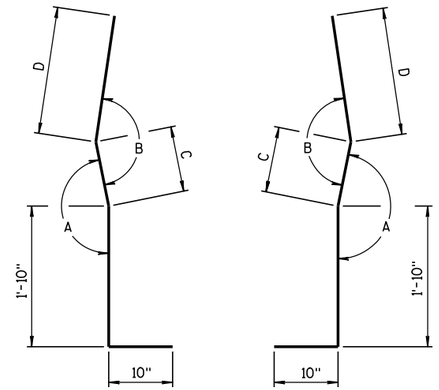
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



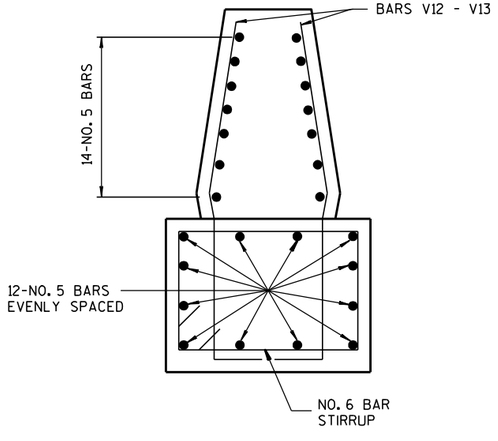
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

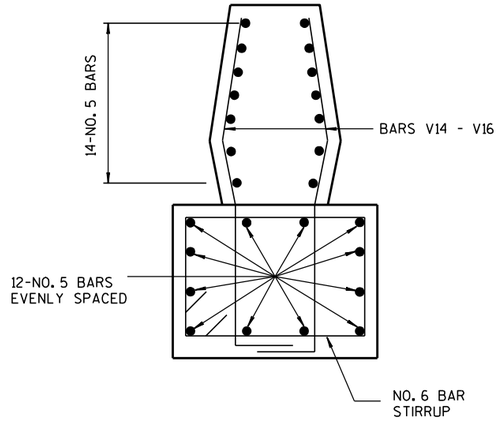
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



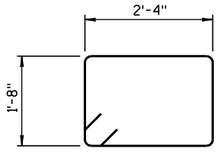
BAR BENDING DETAIL
FOR BARS V14 - V16



BAR DETAIL
SECTIONS 12 - 13



BAR DETAIL
SECTIONS 14 - 16



STIRRUP BAR
BENDING DETAIL

CONCRETE BARRIER
SINGLE SLOPE 36"
THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

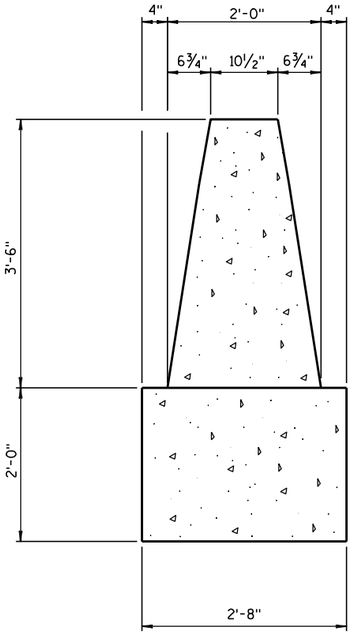
6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

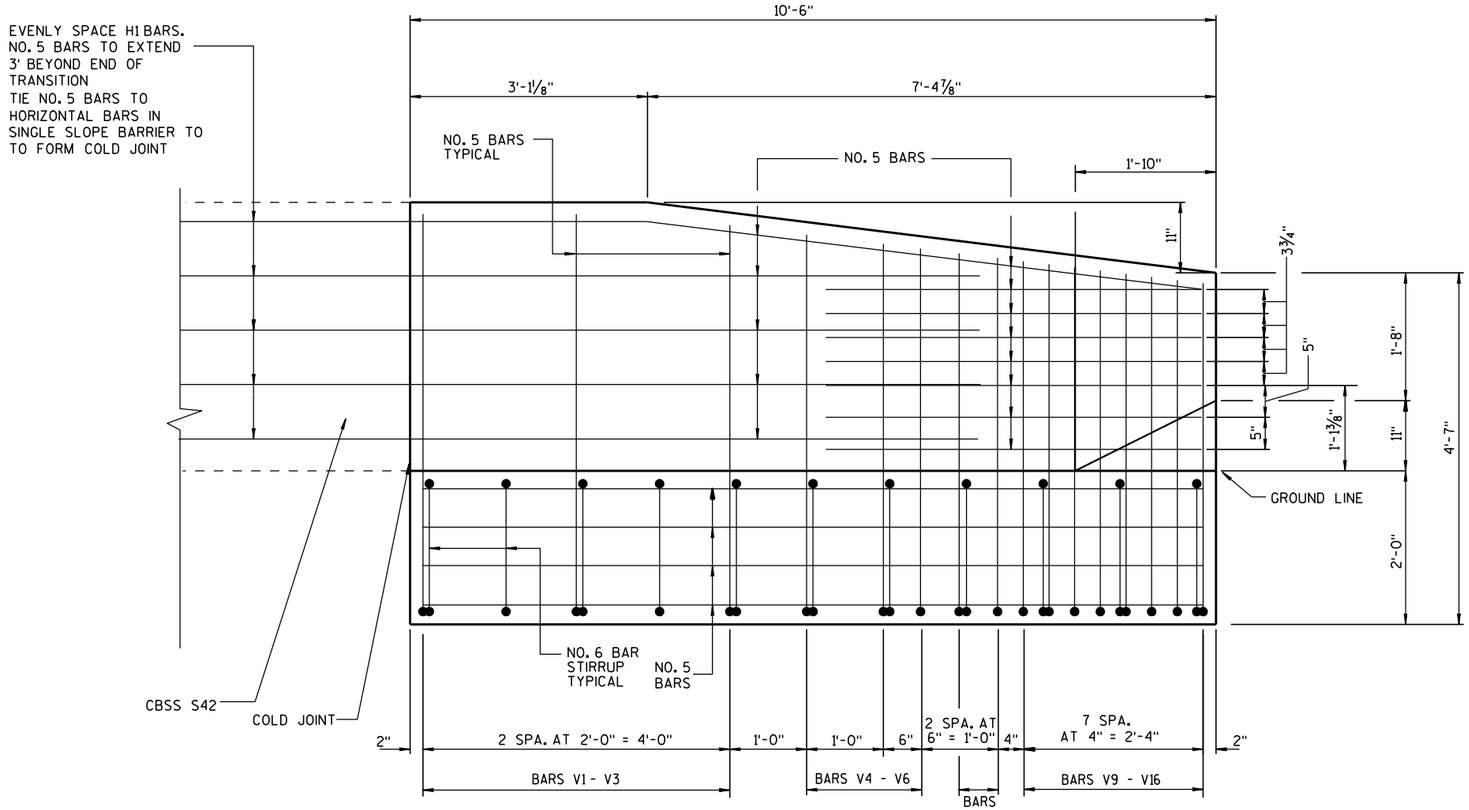
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S.D.D. 14 B 33-1f

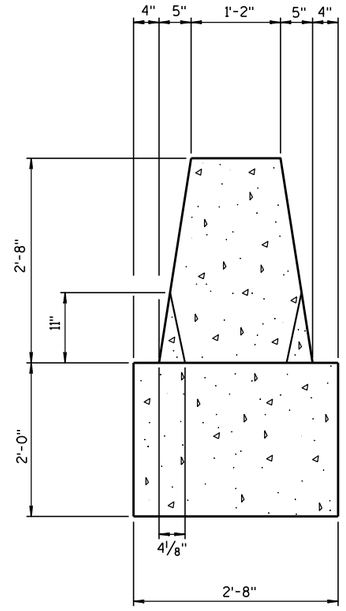


SECTION A-A

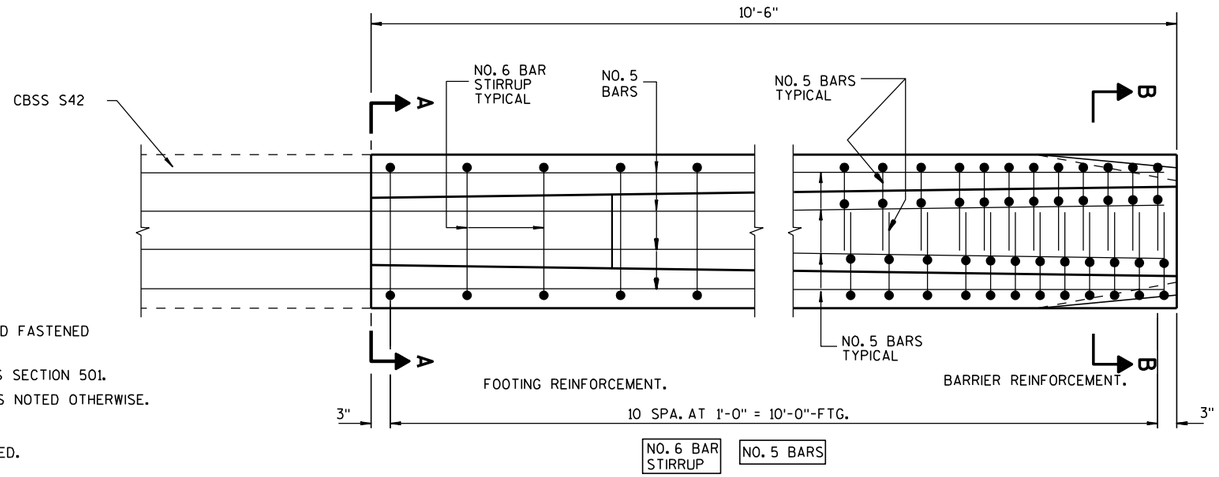


SEE SECTIONS ① THRU ⑯

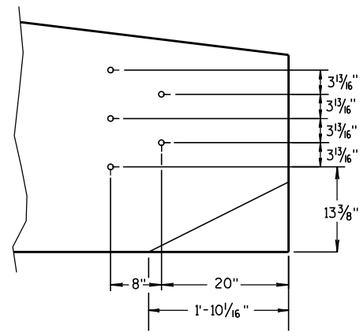
ELEVATION VIEW



SECTION B-B



PLAN VIEW



PVC PIPE LOCATIONS

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 SECTION 501.

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

THRIE BEAM ANCHOR INCIDENTAL TO CONCRETE BARRIER ITEM.

INSTALL SCHEDULE 40 PVC PIPE 1" DIAMETER AT LOCATIONS INDICATED.

EXTEND PVC PIPE COMPLETELY THROUGH BARRIER.

CUT ENDS OF PVC PIPE FLUSH WITH FINISHED FACE of BARRIER.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

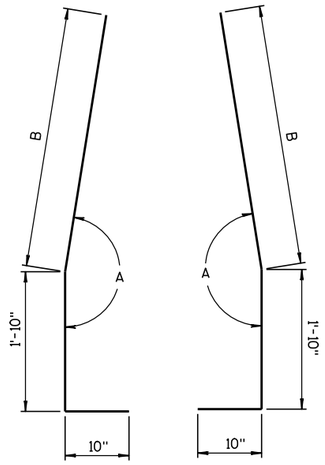
CONCRETE BARRIER SINGLE SLOPE 42" THRIE BEAM ANCHOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 33-1g

BAR CHART
SECTIONS V1 - V11

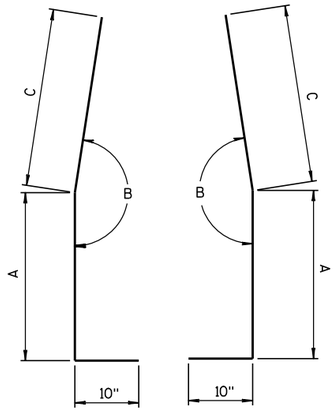
BAR	A	B
V1	170°-50'	3'-4½"
V2	171°-20'	3'-4½"
V3	171°-30'	3'-2½"
V4	171°-25'	3'-1½"
V5	171°-15'	3'-0"
V6	171°-15'	2'-11"
V7	171°-20'	2'-10½"
V8	171°-10'	2'-9½"
V9	171°-10'	2'-9"
V10	171°-05'	2'-8½"
V11	171°-10'	2'-8"



BAR BENDING DETAIL
FOR BARS V1 - V11

BAR CHART
SECTIONS V12 - V13

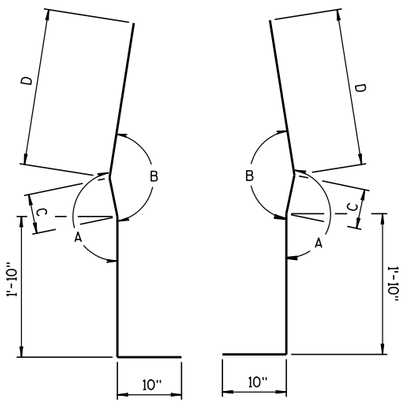
BAR	A	B	C
V12	2'-2"	171°-15'	2'-3½"
V13	2'-7"	171°-05'	1'-10"



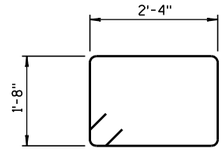
BAR BENDING DETAIL
FOR BARS V12 - V13

BAR CHART
SECTIONS V14 - V16

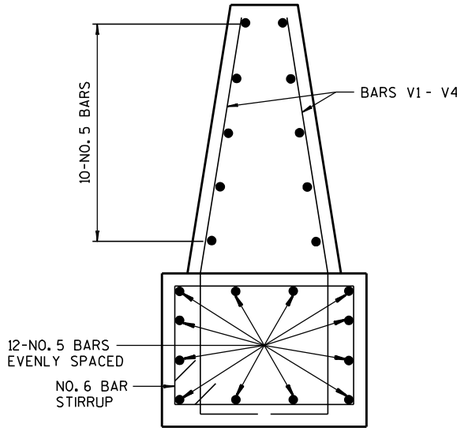
BAR	A	B	C	D
V14	168°-15'	159°-15'	6"	2'-0"
V15	169°-20'	161°-00'	8"	1'-10"
V16	168°-40'	160°-10'	10"	1'-8"



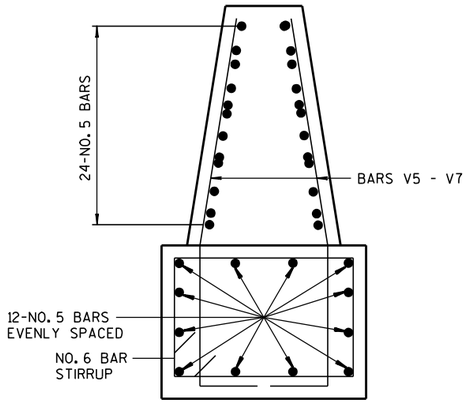
BAR BENDING DETAIL
FOR BARS V14 - V16



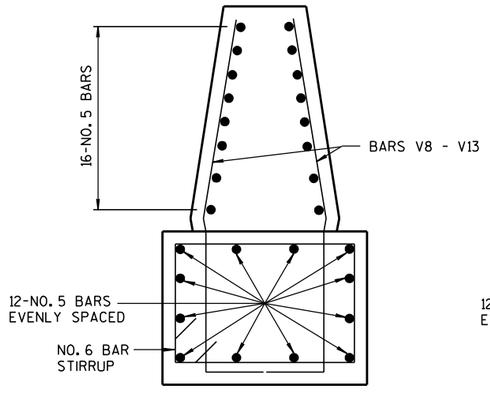
STIRRUP BAR
BENDING DETAIL



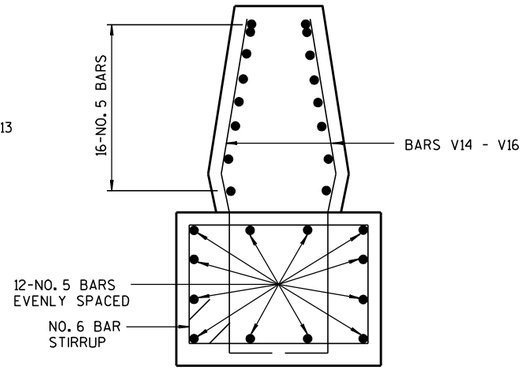
BAR DETAIL
SECTIONS V1 - V4



BAR DETAIL
SECTIONS V5 - V7



BAR DETAIL
SECTIONS V8 - V13



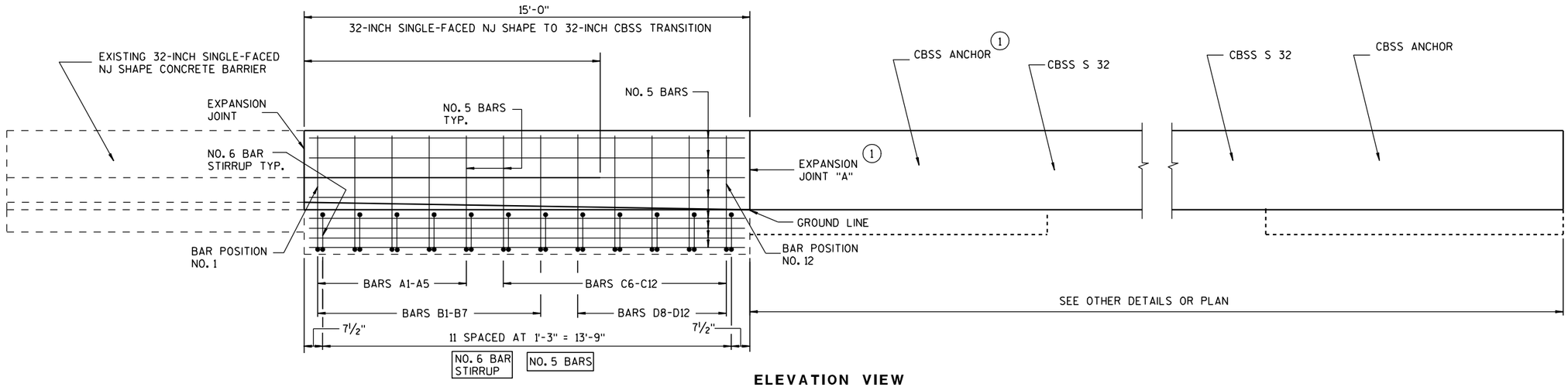
BAR DETAIL
SECTIONS V14 - V16

CONCRETE BARRIER
SINGLE SLOPE 42"
THRIE BEAM ANCHOR

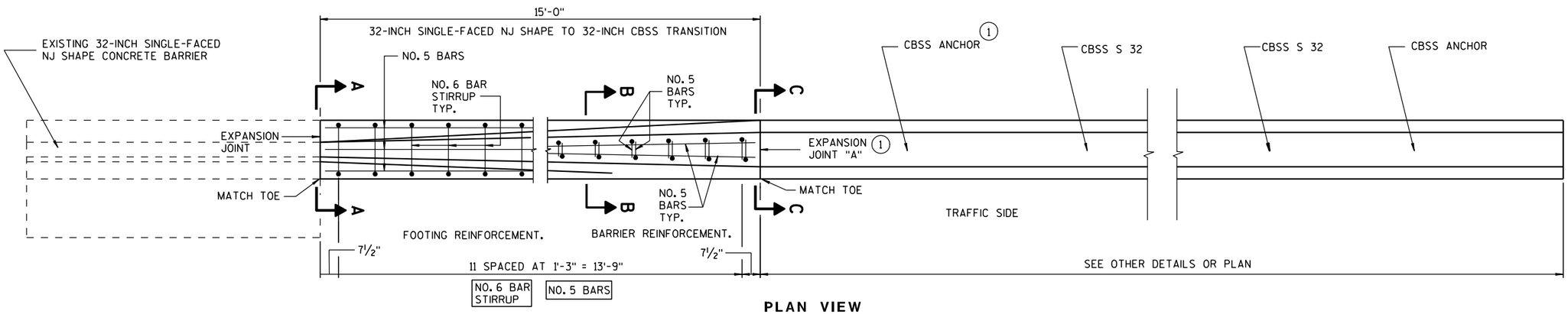
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. Z--- ROADWAY STANDARDS ENGINEER
FHWA

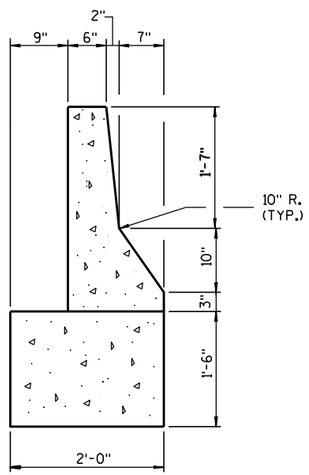
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S.D.D. 14 B 33-1h



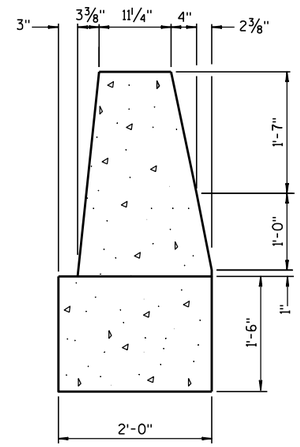
ELEVATION VIEW



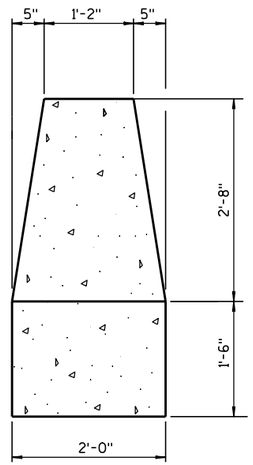
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

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.

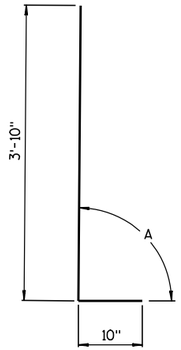
32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 32-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 35-1a

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

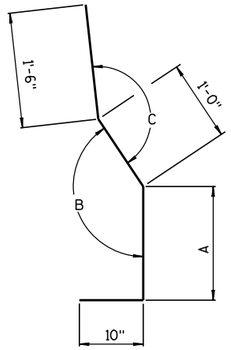
BAR	A
A1	90°
A2	89°-15'
A3	88°-50'
A4	88°-15'
A5	87°-50'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 7

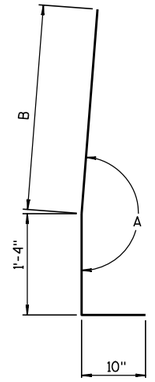
BAR	A	B	C
B1	1'-6"	146°-20'	152°-40'
B2	1'-6"	149°-25'	156°-35'
B3	1'-6"	152°-35'	160°-30'
B4	1'-5½"	155°-20'	163°-55'
B5	1'-5½"	158°-30'	167°-50'
B6	1'-5"	161°-45'	171°-50'
B7	1'-5"	164°-20'	175°-10'



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

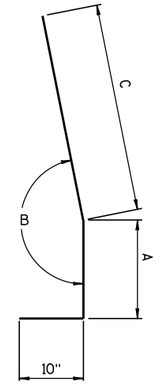
BAR	A	B
C6	176°	2'-6"
C7	175°-05'	2'-6"
C8	174°-25'	2'-6"
C9	173°-45'	2'-6¼"
C10	172°-50'	2'-6¼"
C11	172°-10'	2'-6½"
C12	171°-30'	2'-6½"



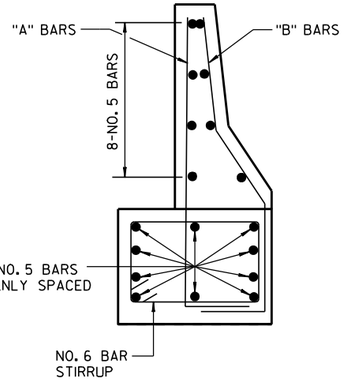
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 8 - NO. 12

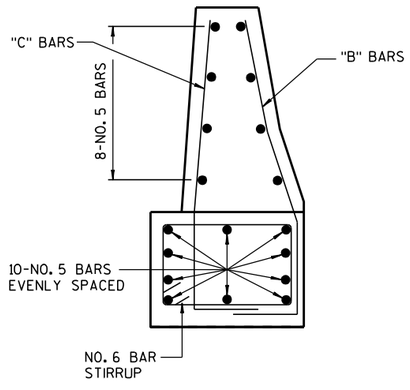
BAR	A	B	C
D8	1'-5"	168°-05'	2'-6"
D9	1'-5"	168°-50'	2'-6"
D10	1'-5"	169°-25'	2'-6"
D11	1'-4"	170°-10'	2'-6½"
D12	1'-4"	170°-50'	2'-6½"



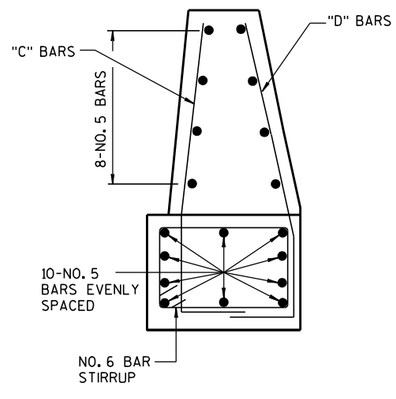
"D" BAR
BENDING DETAIL



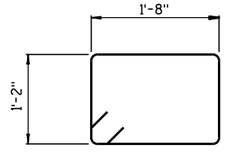
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ 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. [illegible]
ROADWAY STANDARDS ENGINEER

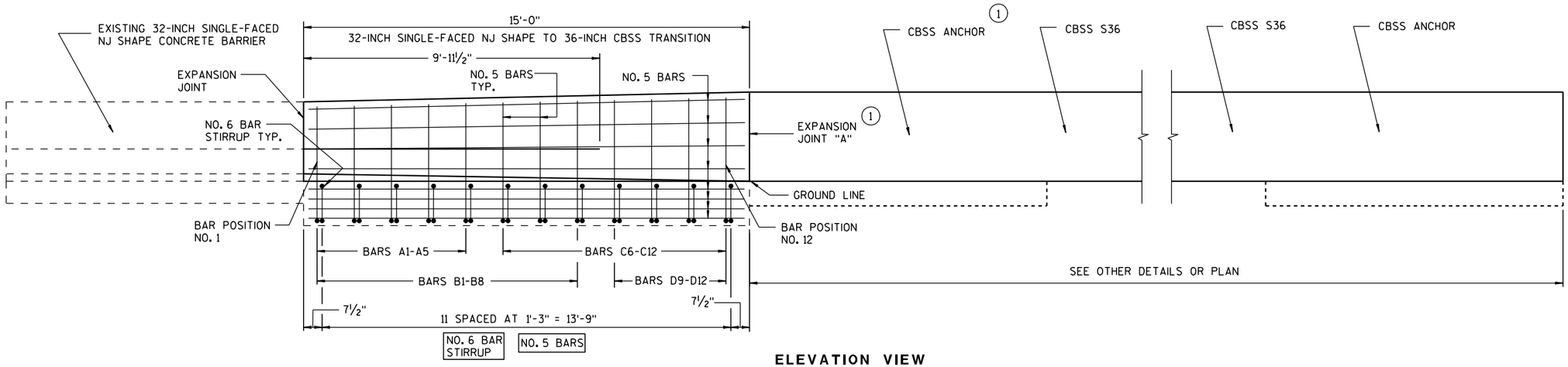
FHWA

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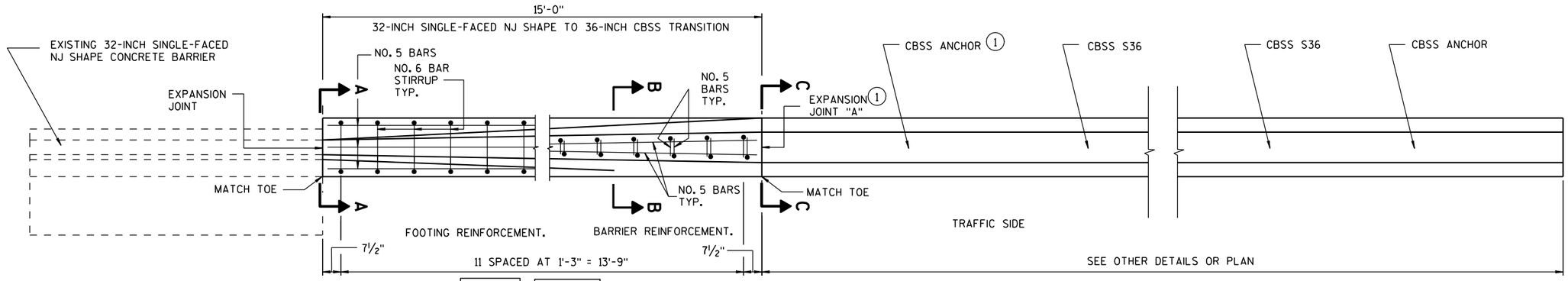
S.D.D. 14 B 35-1b

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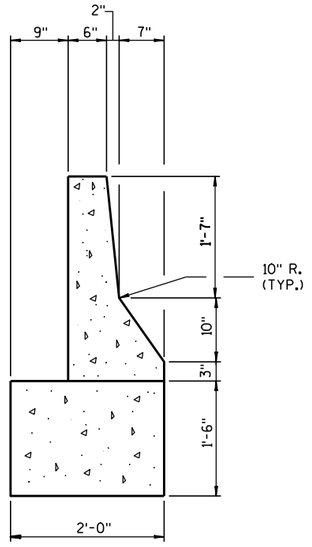
S.D.D. 14 B 35-1b



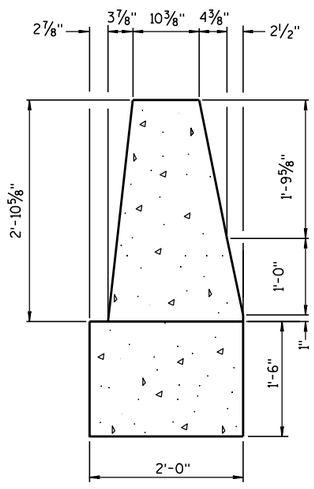
ELEVATION VIEW



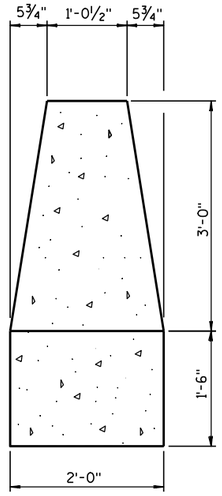
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

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 SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

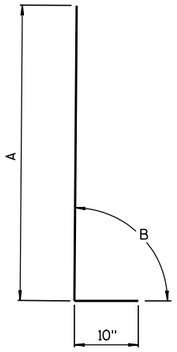
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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S.D.D. 14 B 35-1c

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

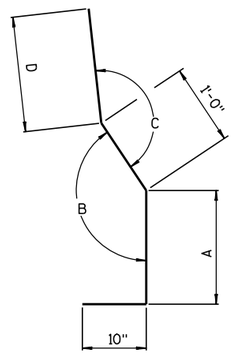
BAR	A	B
A1	3'-10"	89°-35'
A2	3'-10"	88°-40'
A3	3'-11"	87°-50'
A4	3'-11"	87°-10'
A5	3'-11½"	86°-15'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

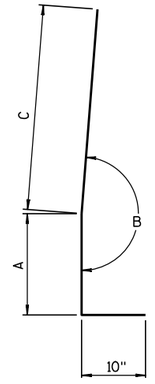
BAR	A	B	C	D
B1	1'-6"	146°-20'	152°-40'	1'-6"
B2	1'-6"	149°-25'	156°-45'	1'-6"
B3	1'-6"	152°-40'	160°-55'	1'-6½"
B4	1'-6"	155°-40'	164°-30'	1'-7"
B5	1'-5½"	158°-30'	167°-55'	1-'7"
B6	1'-5"	161°-45'	172°	1'-7½
B7	1'-5"	164°-25'	175°-05'	1'-8"
B8	1'-5"	167°-30'	179°	1'-8"



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

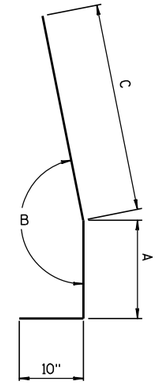
BAR	A	B	C
C6	1'-4"	175°-35'	2'-8"
C7	1'-4"	174°-45'	2'-8"
C8	1'-4"	174°	2'-8½"
C9	1'-4"	173°-15'	2'-9"
C10	1'-4"	172°-45'	2'-9½"
C11	1'-3½"	172°	2'-9½"
C12	1'-3½"	171°-15'	2'-10"



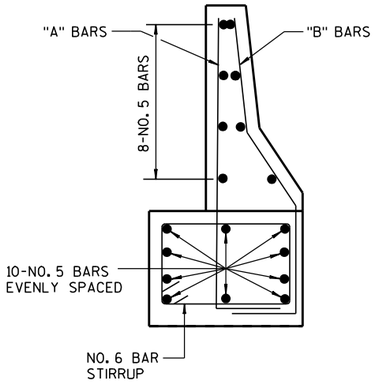
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

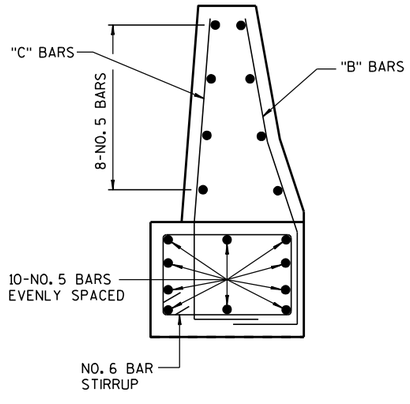
BAR	A	B	C
D9	1'-5"	168°-45'	2'-8½"
D10	1'-4½"	169°-30'	2'-9"
D11	1'-4"	170°-15'	2'-9½"
D12	1'-4"	170°-40'	2'-10"



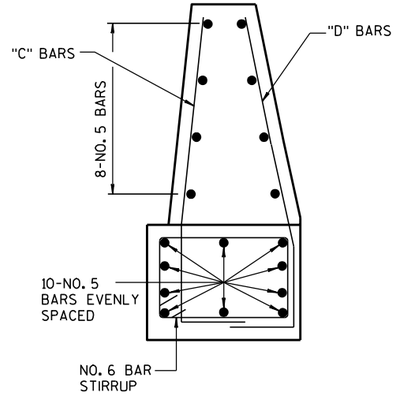
"D" BAR
BENDING DETAIL



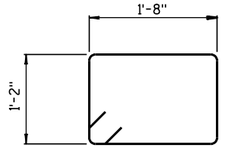
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ SHAPE
CONCRETE BARRIER TO 36-INCH SINGLE
SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

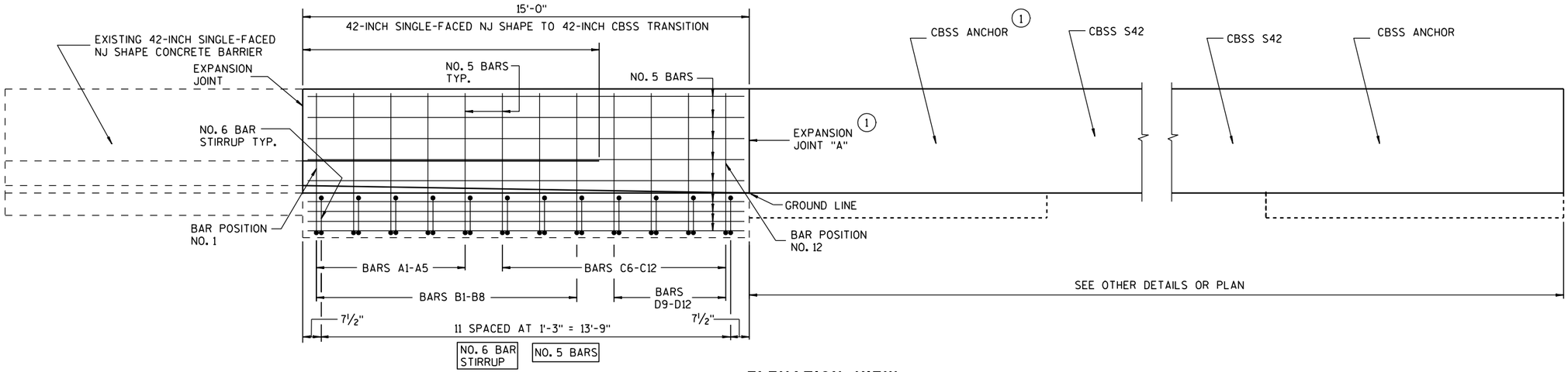
APPROVED
6-3-2010
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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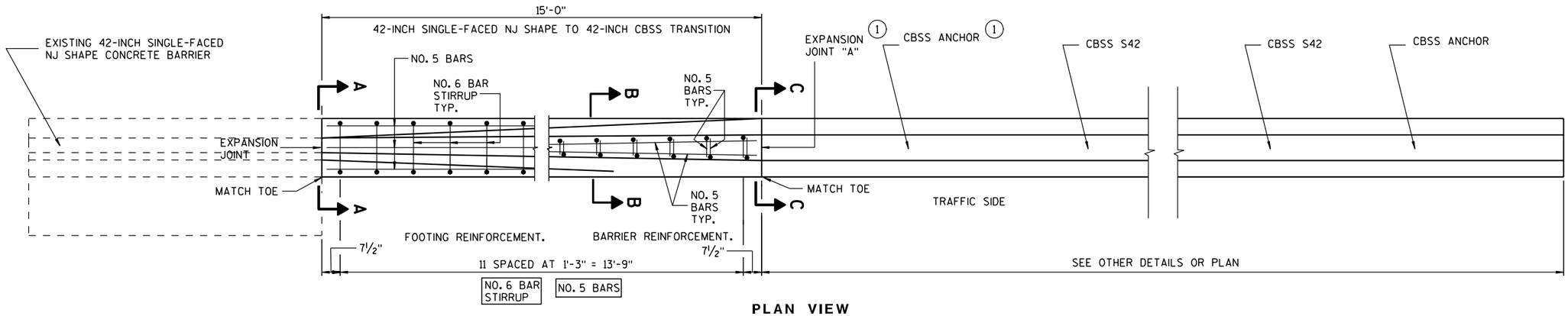
S.D.D. 14 B 35-1d

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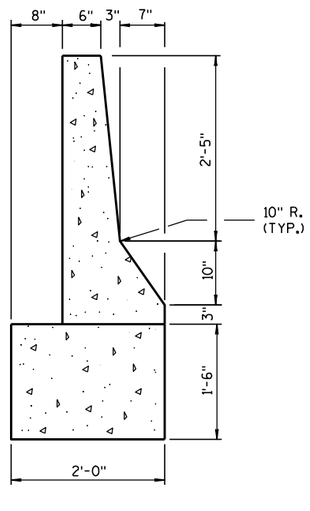
S.D.D. 14 B 35-1d



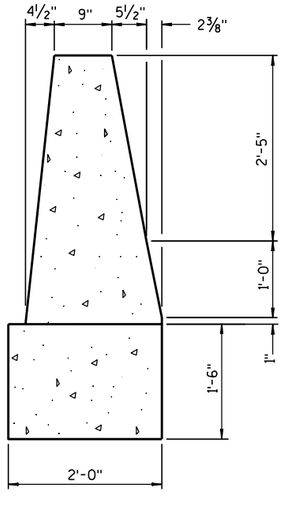
ELEVATION VIEW



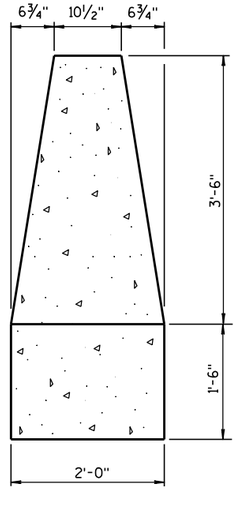
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

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.

42-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

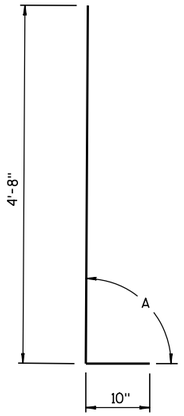
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 35-1e

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

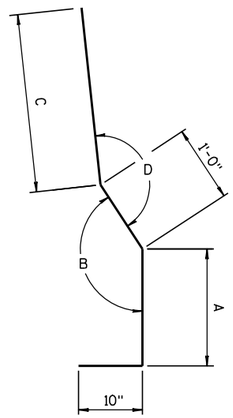
BAR	A
A1	89°-40'
A2	89°-05'
A3	88°-30'
A4	88°-05'
A5	87°-35'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

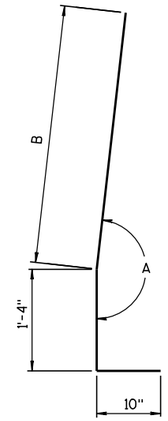
BAR	A	B	C	D
B1	1'-6"	146°-50'	2'-3 7/8"	152°-55'
B2	1'-6"	150°-30'	2'-3 1/2"	157°-20'
B3	1'-6"	152°-40'	2'-3 1/2"	160°
B4	1'-6"	155°-20'	2'-3 1/2"	163°-10'
B5	1'-5 1/2"	158°-30'	2'-3 1/2"	167°-05'
B6	1'-5 1/4"	161°-10'	2'-4"	170°-30'
B7	1'-5"	164°-55'	2'-4"	174°-45'
B8	1'-5"	167°-30'	2'-3 1/2"	176°-50'



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

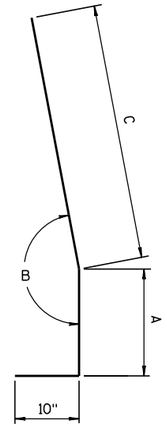
BAR	A	B
C6	175°-45'	3'-4 1/4"
C7	174°-55'	3'-4 1/4"
C8	175°-05'	3'-4 1/4"
C9	173°-35'	3'-4 1/4"
C10	172°-40'	3'-4 1/2"
C11	171°-50'	3'-4 1/2"
C12	171°-15'	3'-4 1/2"



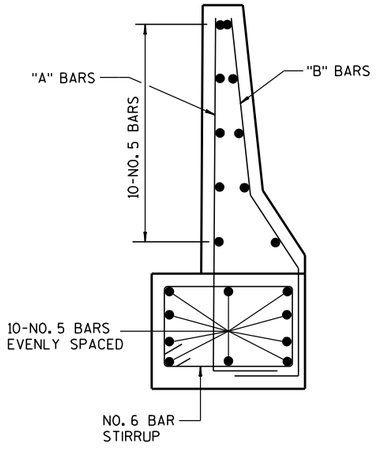
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

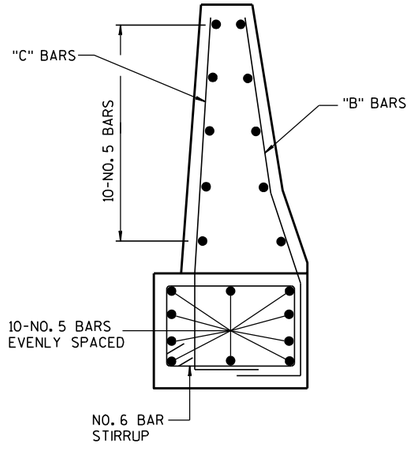
BAR	A	B	C
D9	1'-4 1/2"	169°-20'	3'-4"
D10	1'-4 1/2"	169°-55'	3'-4"
D11	1'-4 1/2"	170°-15'	3'-4 1/4"
D12	1'-4"	170°-30'	3'-4 1/2"



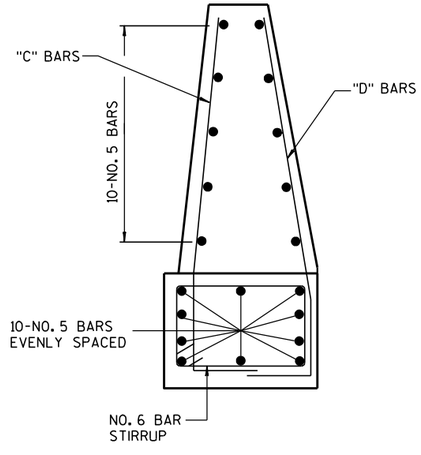
"D" BAR
BENDING DETAIL



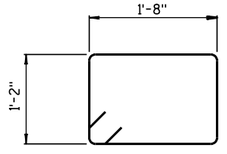
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

42-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

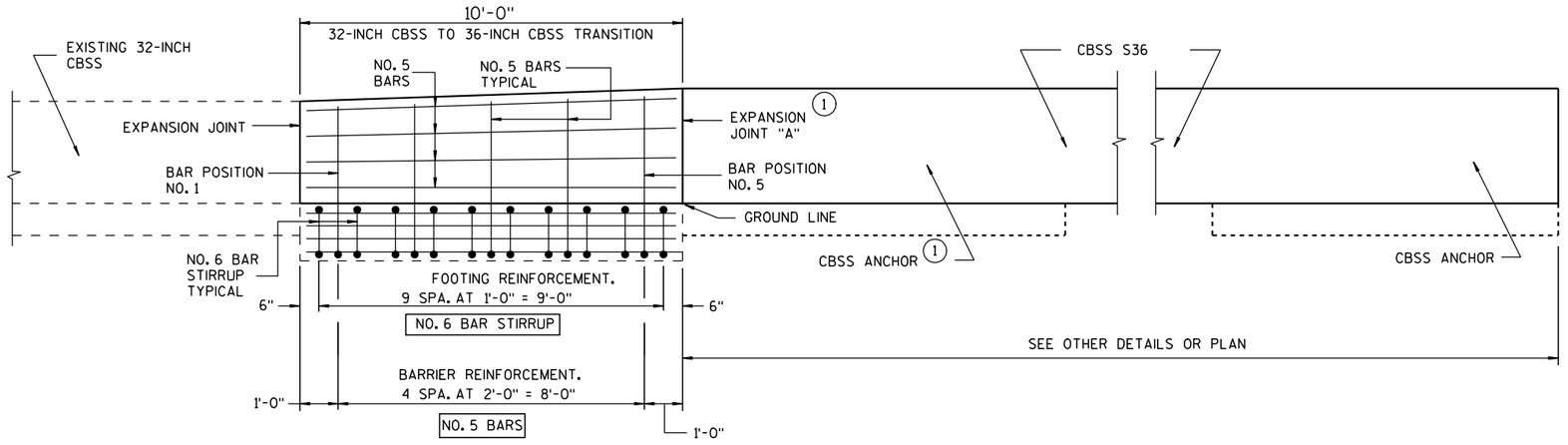
6-3-2010
DATE

/S/ Jerry H. Zoss
ROADWAY STANDARDS DEVELOPMENT ENGINEER

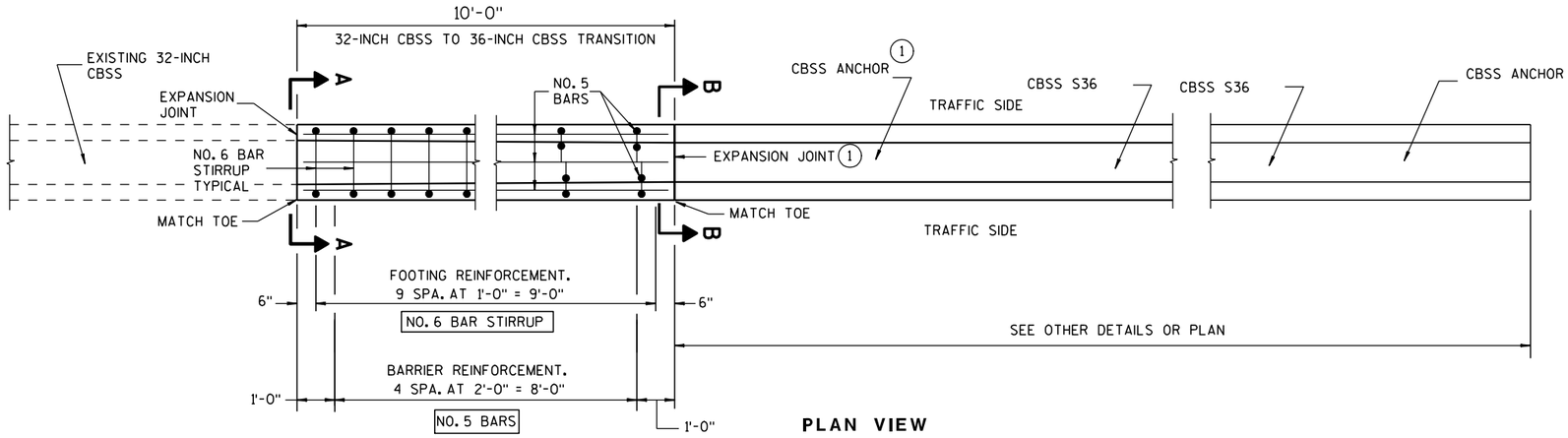
FHWA

S.D.D. 14 B 35-1f

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ELEVATION VIEW



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

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

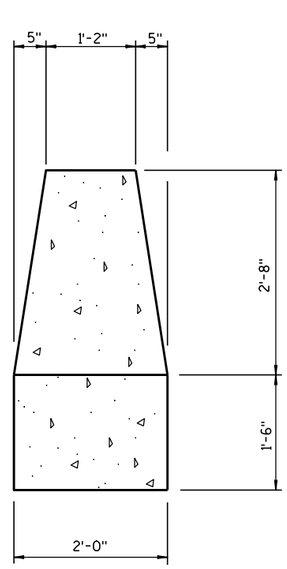
4000 PSICONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE 3/4" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

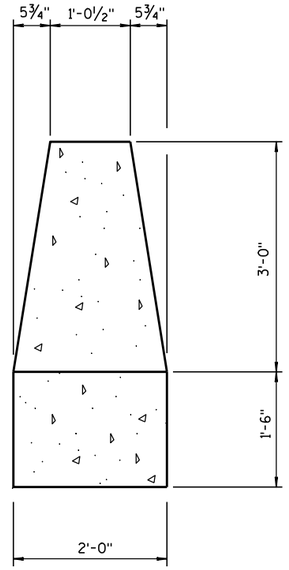
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

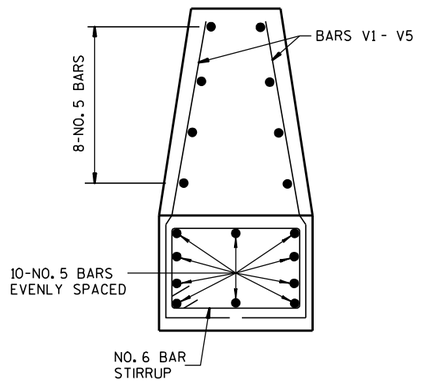
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



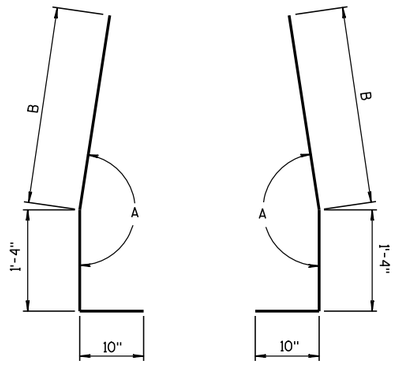
SECTION A-A



SECTION B-B



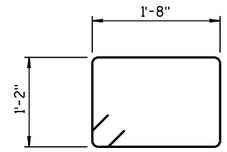
BAR DETAIL
BAR POSITION NO. 1 - NO. 5



BAR BENDING DETAIL
FOR BARS V1 - V5

BAR CHART
SECTIONS V1 - V5

BAR	A	B
V1	171°-10'	2'-6½"
V2	171°-05'	2'-8"
V3	170°-55'	2'-9"
V4	170°-40'	2'-9½"
V5	171°	2'-10"



STIRRUP BAR
BENDING DETAIL

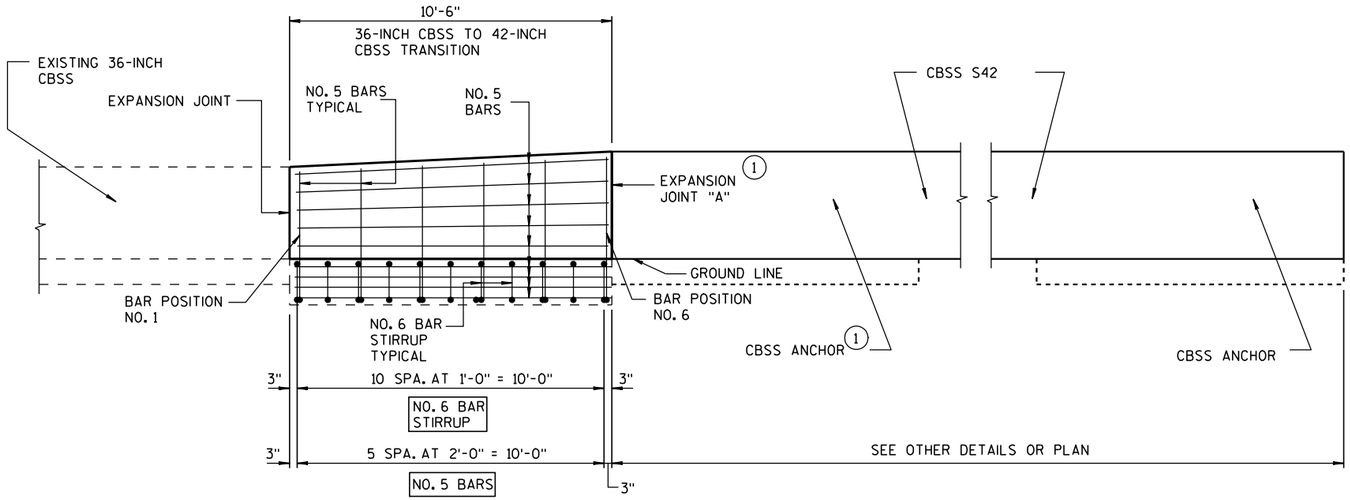
32-INCH SINGLE SLOPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

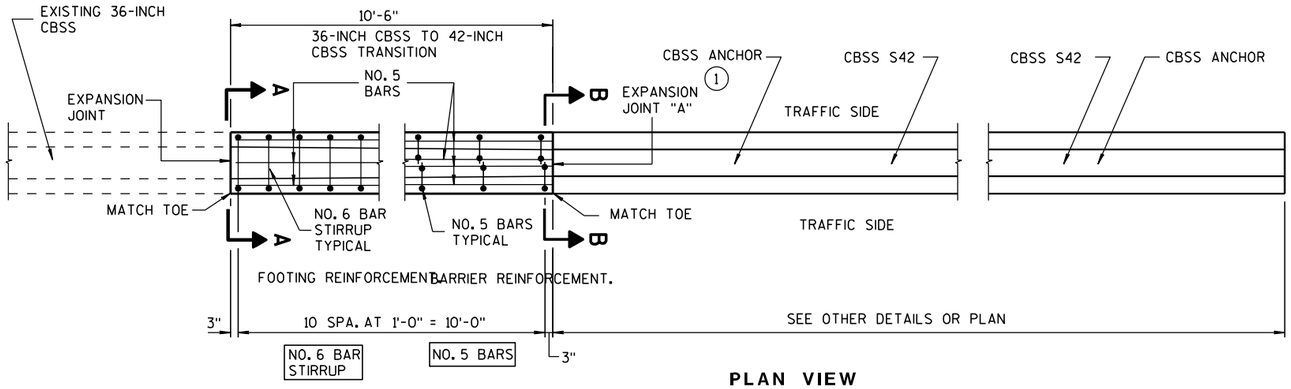
APPROVED
6-3-2010
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS I ENGINEER
FHWA

S.D.D. 14 B 39-1a

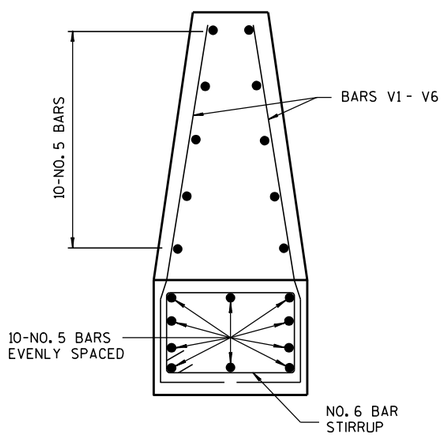
S.D.D. 14 B 39-1a



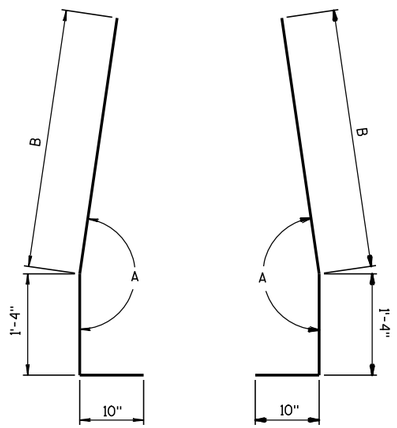
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

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

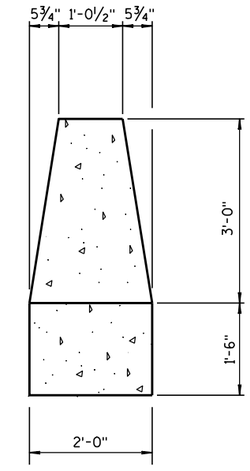
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

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

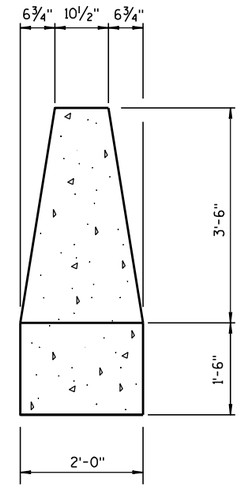
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

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.



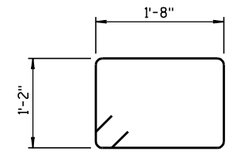
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



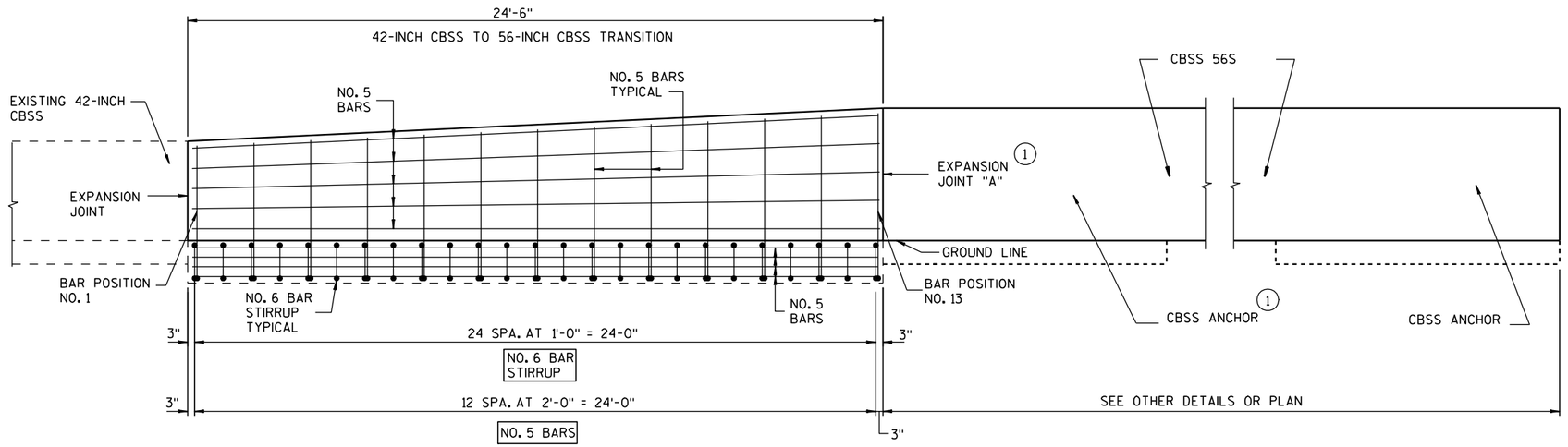
STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

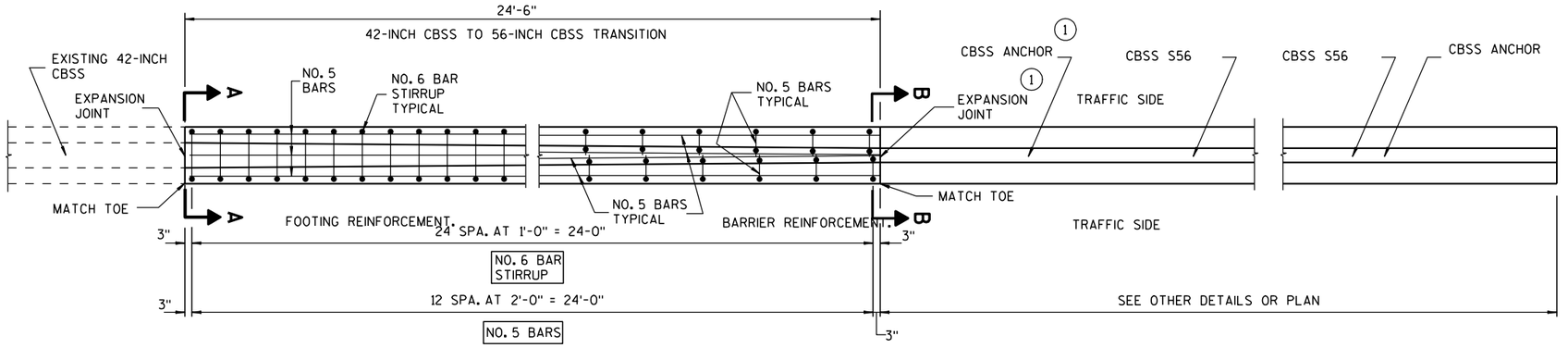
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zoo
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

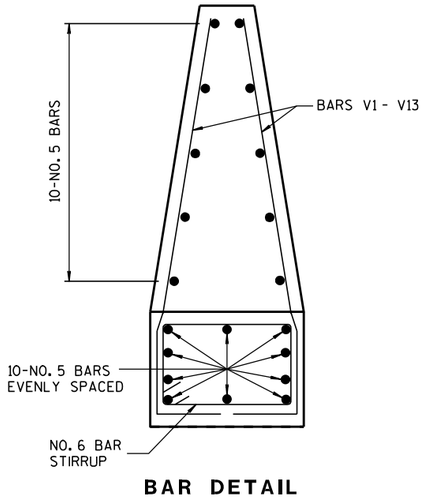
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S.D.D. 14 B 39-1c



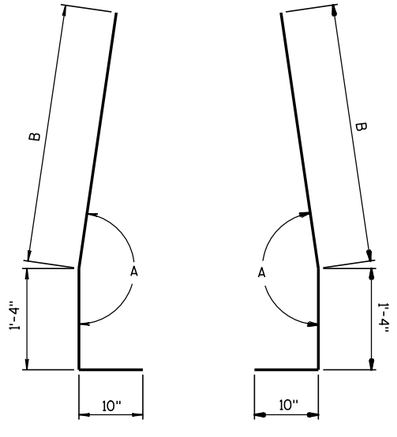
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 13



BAR BENDING DETAIL
FOR BARS V1 - V13

BAR CHART SECTIONS V1 - V13

BAR	A	B
V1	170°-50'	3'-4½"
V2	170°-50'	3'-6"
V3	170°-55'	3'-7"
V4	171°	3'-8"
V5	170°-55'	3'-9½"
V6	170°-50'	3'-10½"
V7	170°-50'	3'-11½"

BAR	A	B
V8	170°-55'	4'-0½"
V9	170°-50'	4'-2"
V10	170°-50'	4'-3"
V11	170°-50'	4'-4½"
V12	170°-55'	4'-5½"
V13	170°-50'	4'-6½"

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

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

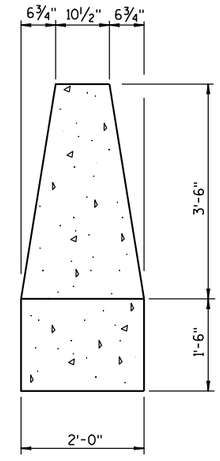
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

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

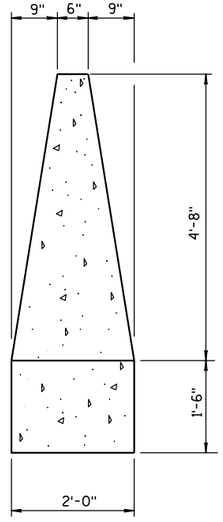
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

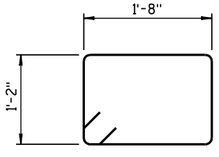
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



SECTION A-A



SECTION B-B



STIRRUP BAR
BENDING DETAIL

42-INCH SINGLE SLOPE CONCRETE BARRIER TO 56-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

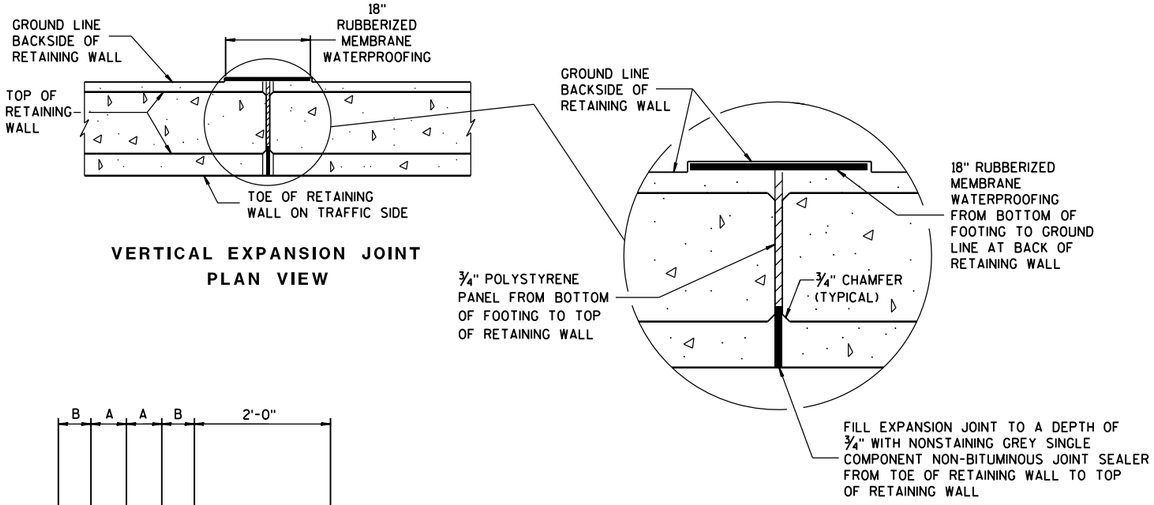
APPROVED
6-3-2010 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 39-1e

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S.D.D. 14 B 39-1e



VERTICAL EXPANSION JOINT
PLAN VIEW



DELINEATION

GENERAL NOTES

PROVIDE EXPANSION JOINTS WHERE THERE ARE EXISTING EXPANSION JOINTS OR AT THE END OF EACH POUR.

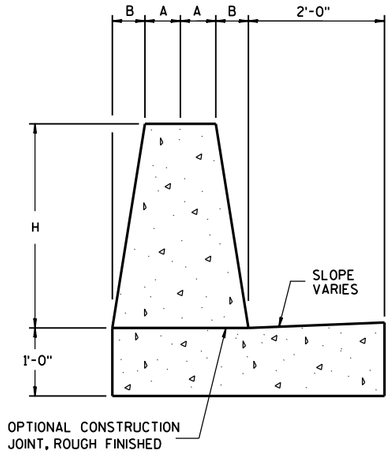
NO HORIZONTAL STEEL CROSSES EXPANSION JOINTS.

CONSTRUCT PER STANDARD SPECIFICATION 603. SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASETENED TOGETHER UNLESS NOTED OTHERWISES.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

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

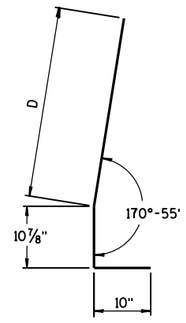
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR.



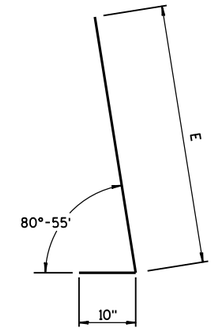
ROADSIDE RETAINING WALL

BARRIER WALL DIMENSIONS

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



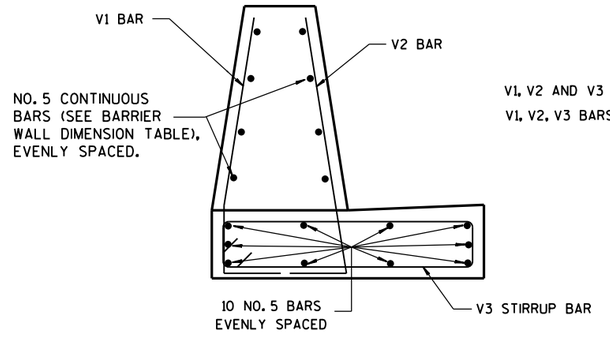
V1 BAR
BENDING DETAIL



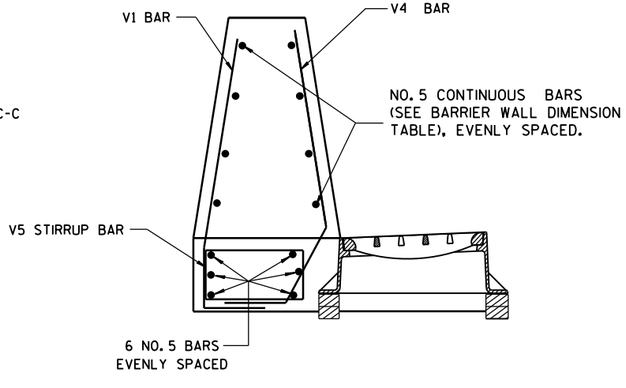
V2 BAR
BENDING DETAIL

BAR CHART
ROADSIDE RETAINING WALL

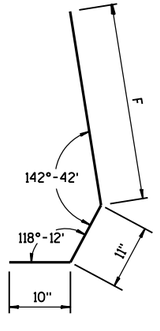
BARRIER HEIGHT	V1 BAR D	V2 BAR E	V4 BAR F
32"	2'-5½"	3'-4½"	2'-6½"
36"	2'-9½"	3'-9¾"	2'-10¾"
42"	3'-3½"	4'-2½"	3'-4¾"
56"	4'-5¾"	5'-4¾"	4'-6¾"



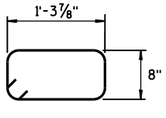
ROADSIDE RETAINING WALL
NORMAL BAR PLACEMENT



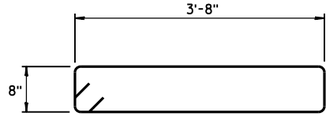
ROADSIDE RETAINING WALL
BAR PLACEMENT NEAR
INLET



V4 BAR
BENDING DETAIL



V5 STIRRUP BAR
BENDING DETAIL



V3 STIRRUP BAR
BENDING DETAIL

SINGLE SLOPE
ROADSIDE RETAINING WALL

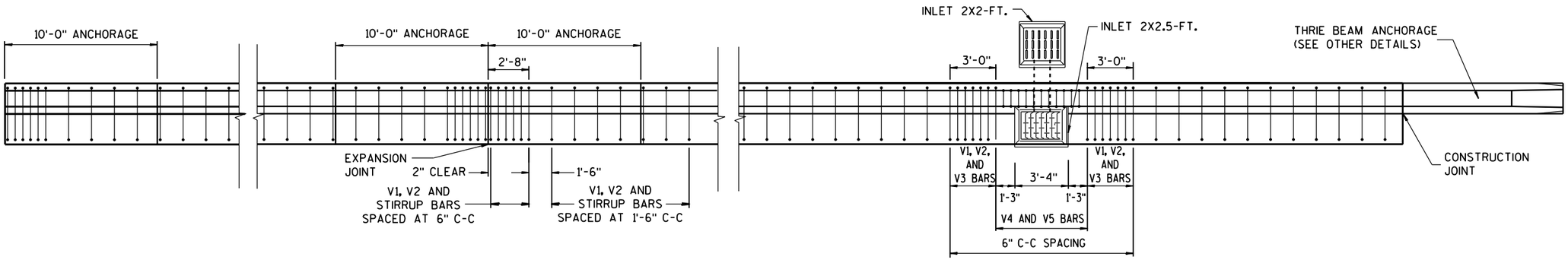
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 41-3a

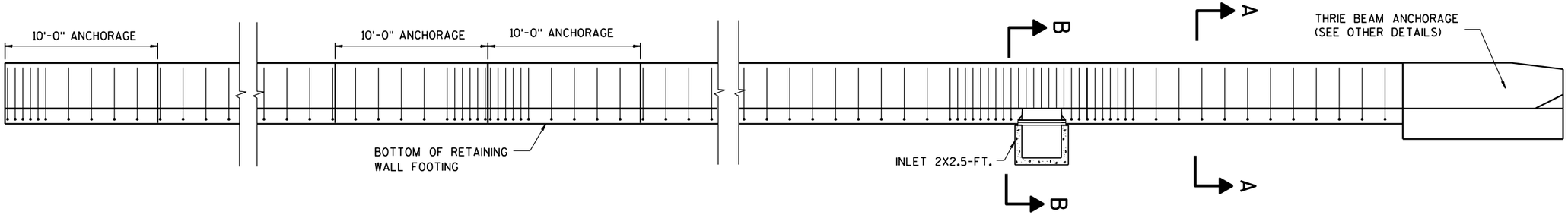
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S.D.D. 14 B 41-3a



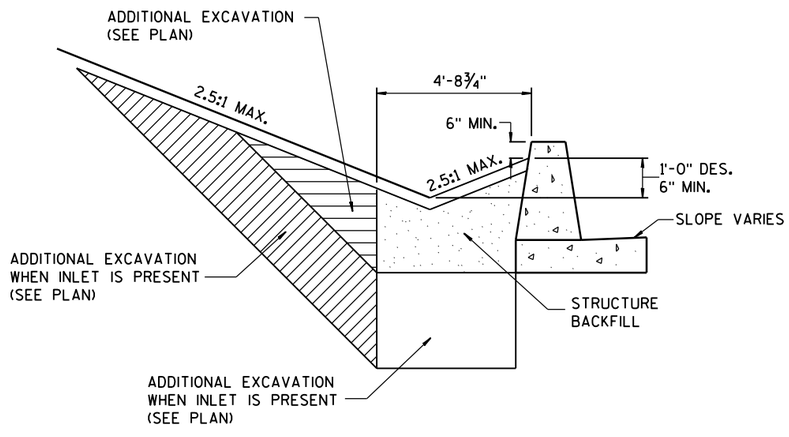
PLAN VIEW

NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.

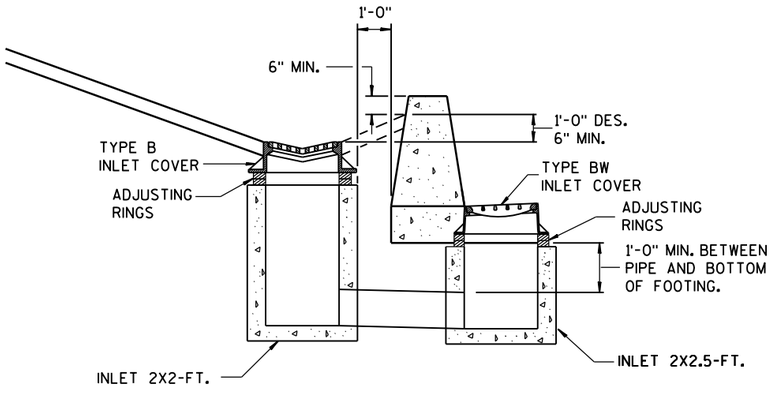


ELEVATION VIEW

NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.

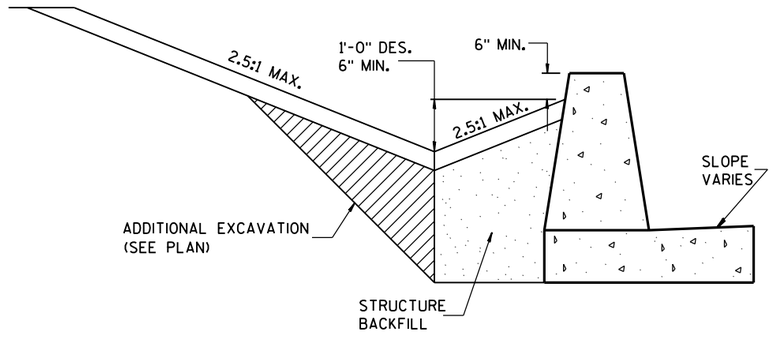


SECTION A-A



SECTION B-B

MINIMUM DESIGN OF EARTH WORK FOR INLET



MINIMUM DESIGN OF EARTH WORK

SINGLE SLOPE ROADSIDE RETAINING WALL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV...
ENT
FHWA

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S.D.D. 14 B 41-3b

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S.D.D. 14 B 41-3b

(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.

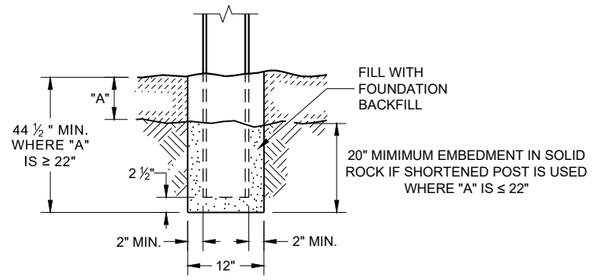
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL 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).

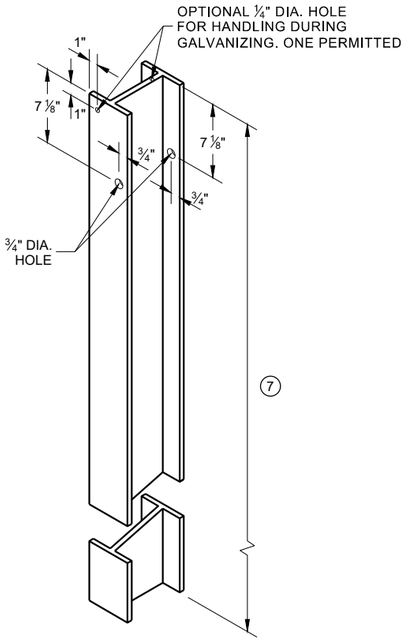
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

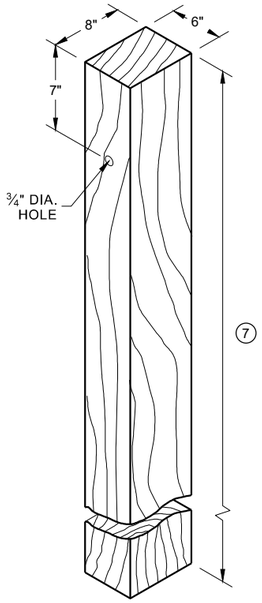
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



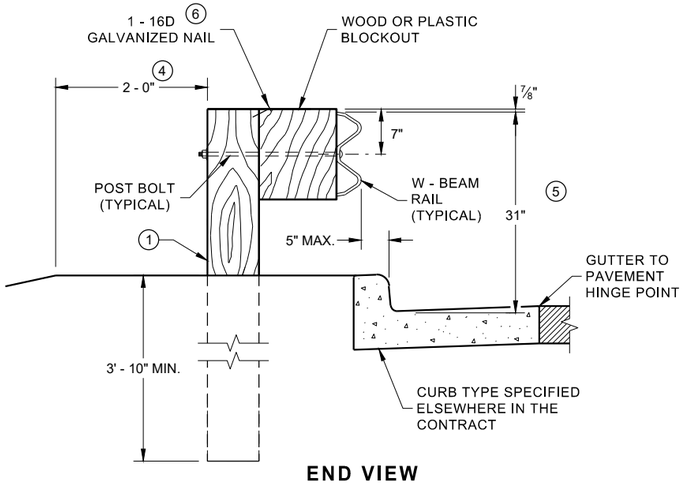
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



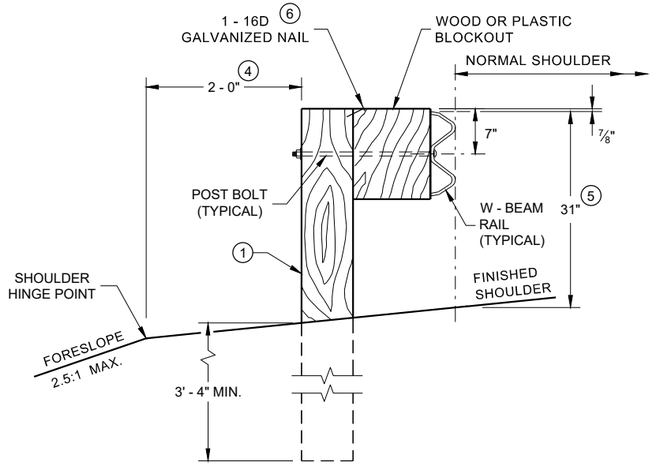
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



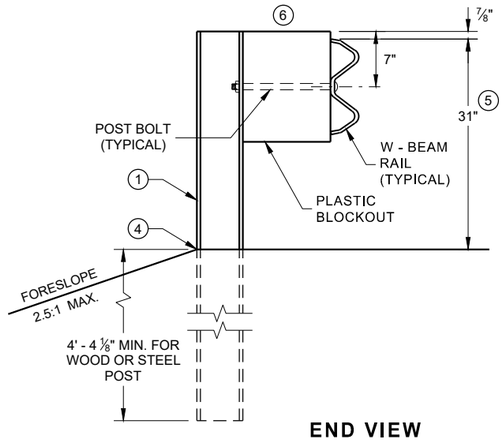
WOOD POST (6" X 8") NOMINAL (1)



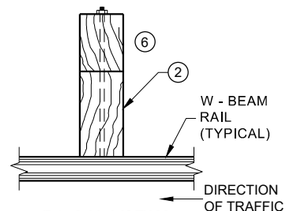
END VIEW
LOCATED ALONG A CURBED ROADWAY



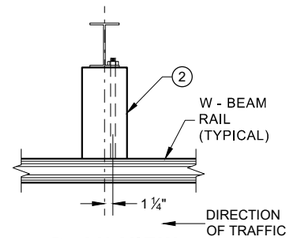
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



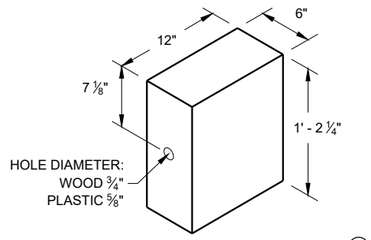
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



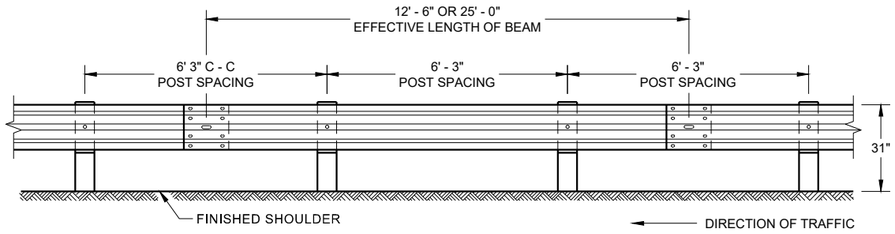
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

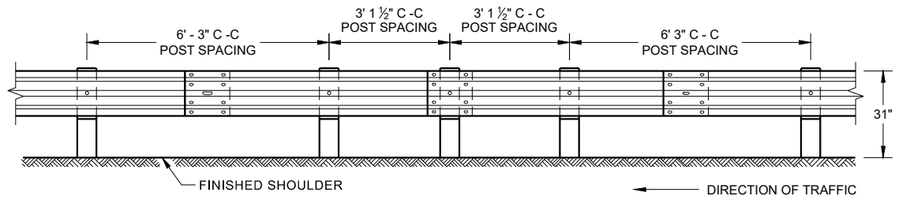
STATE OF WISCONSIN
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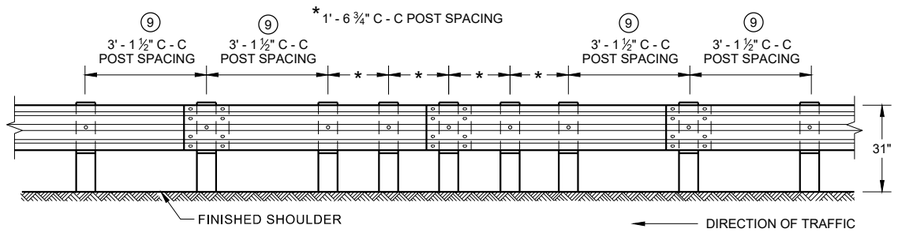
SDD 14B42 - 06a



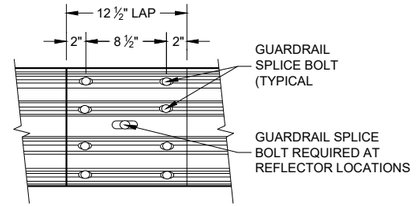
FRONT VIEW
POST SPACING STANDARD INSTALLATION



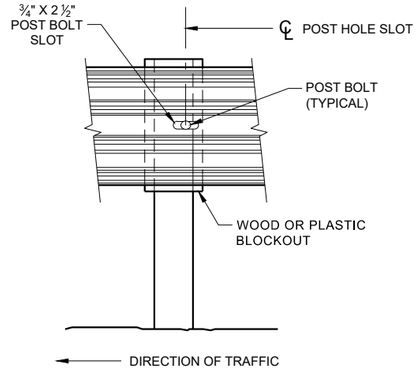
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



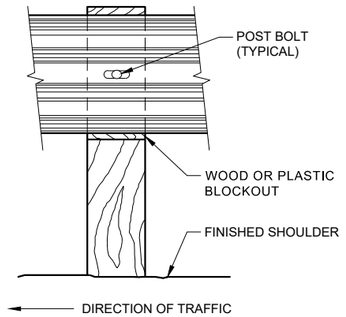
FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST

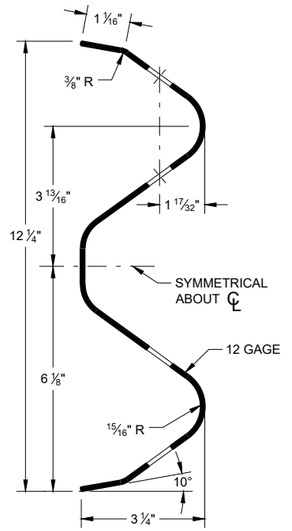
GENERAL NOTES

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.

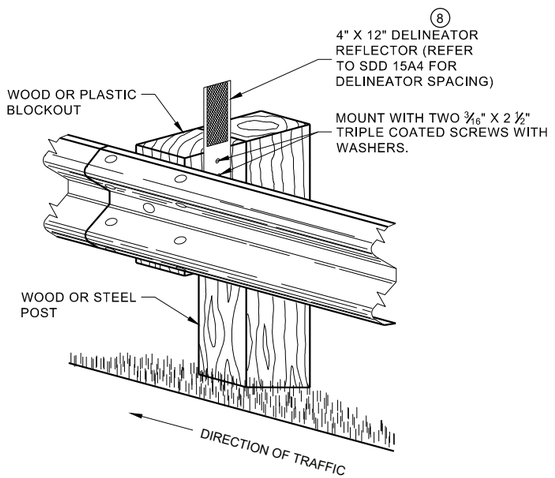
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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.



SECTION THRU W-BEAM RAIL

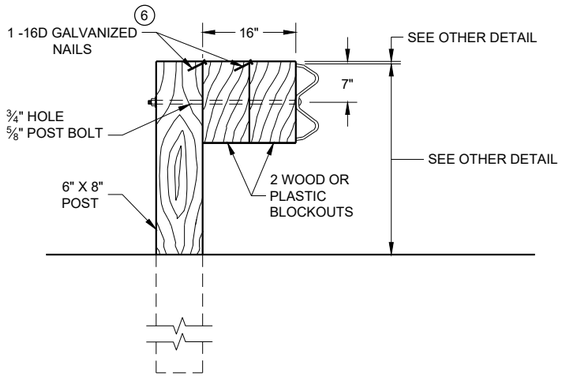


ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 06b

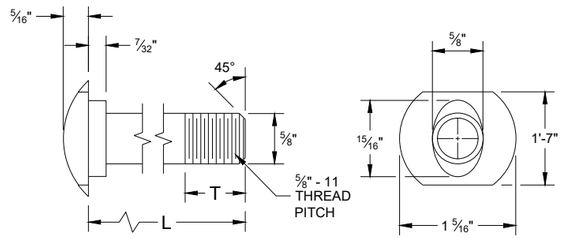


DETAIL FOR 16" BLOCKOUT DEPTH

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.

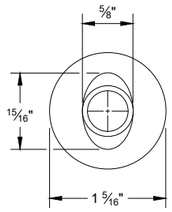
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

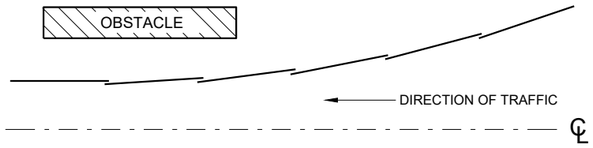


POST BOLT TABLE

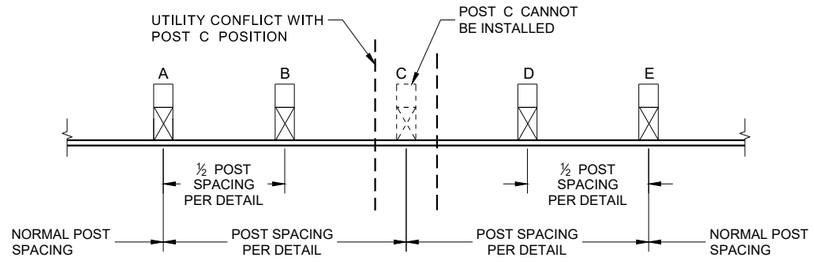
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



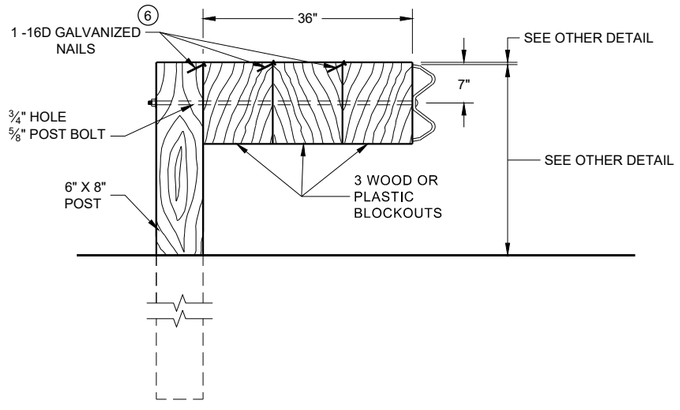
ALTERNATE BOLT HEAD



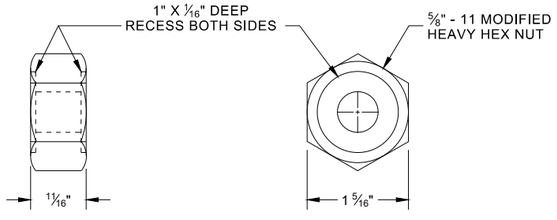
PLAN VIEW
BEAM LAPPING DETAIL



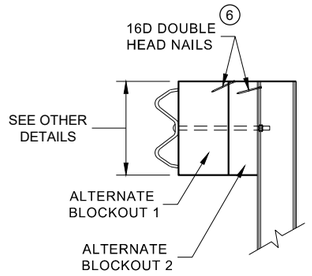
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



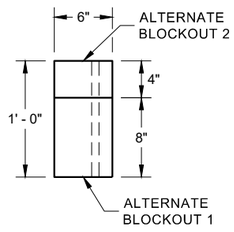
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

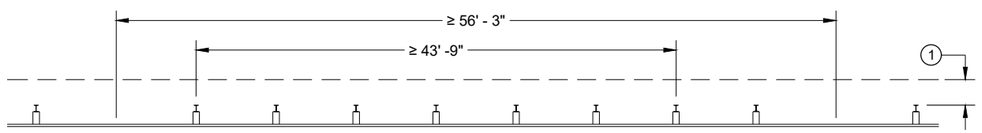
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD 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.

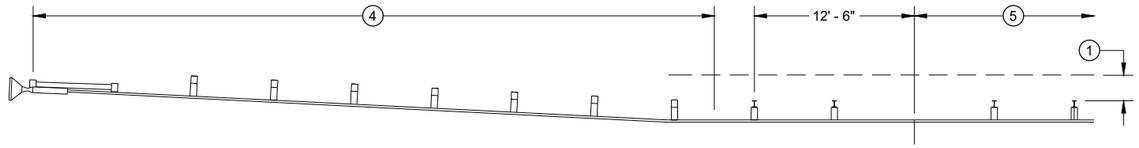
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

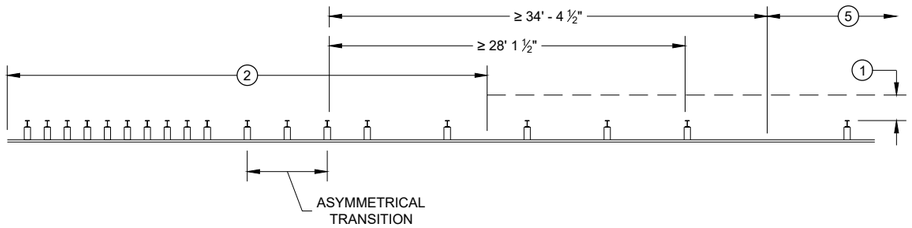
SDD 14B42 - 06c



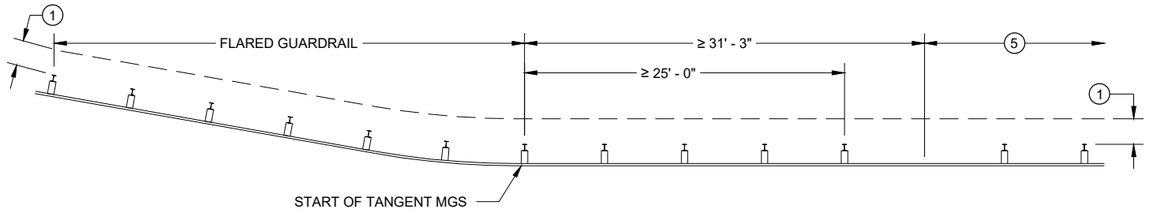
MISSING POST IN NORMAL BEAM GUARD RUN



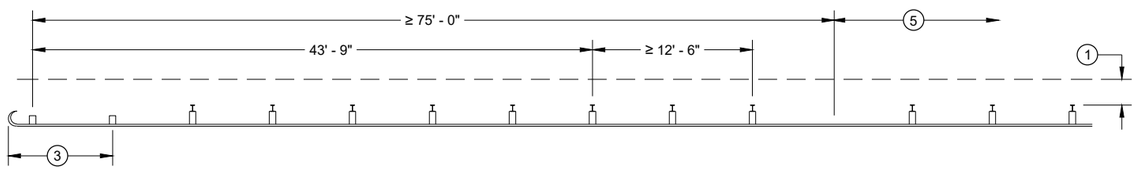
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



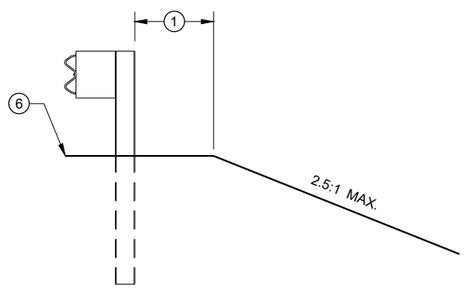
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR
FHWA

SDD 14B42 - 06d

SDD 14B42 - 06d

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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

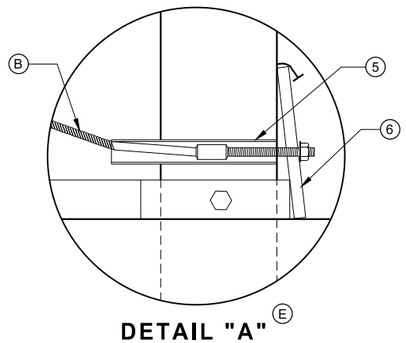
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

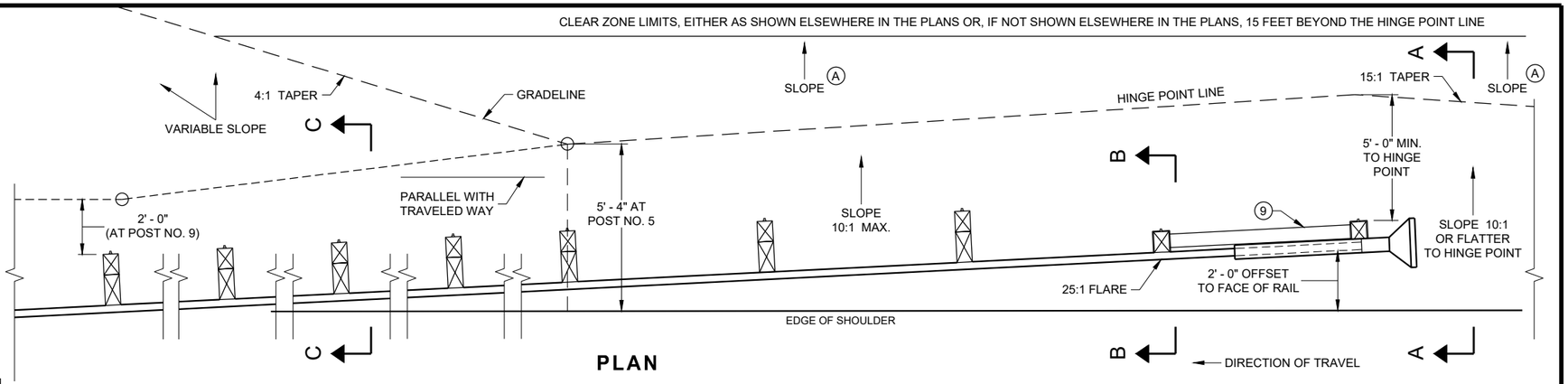
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

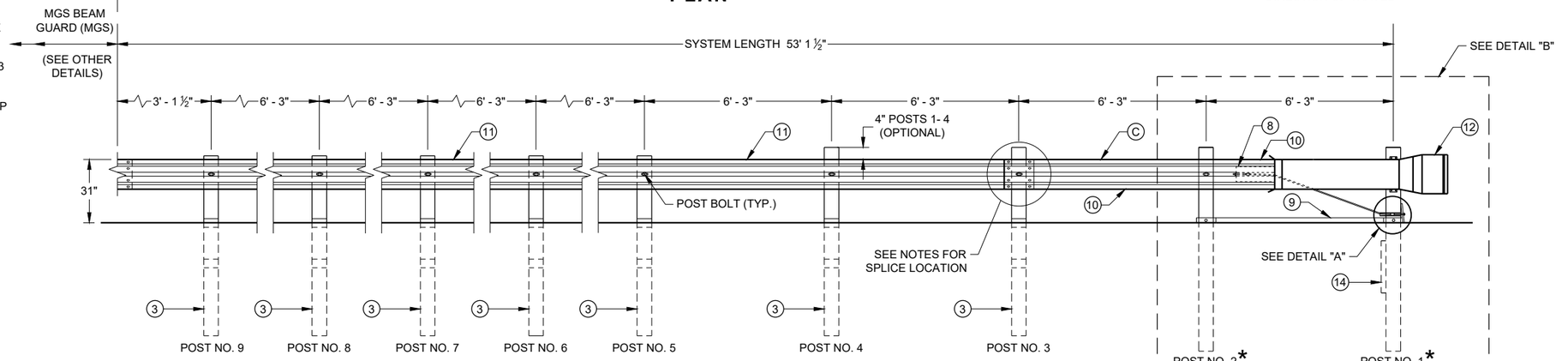
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



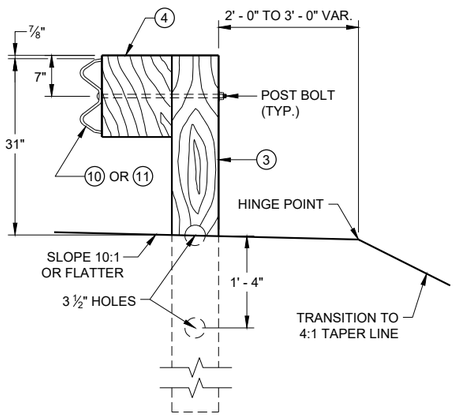
DETAIL "A" (E)



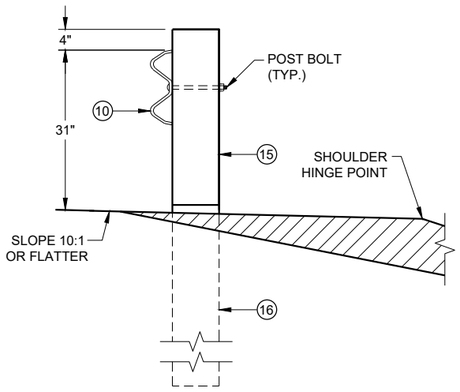
PLAN



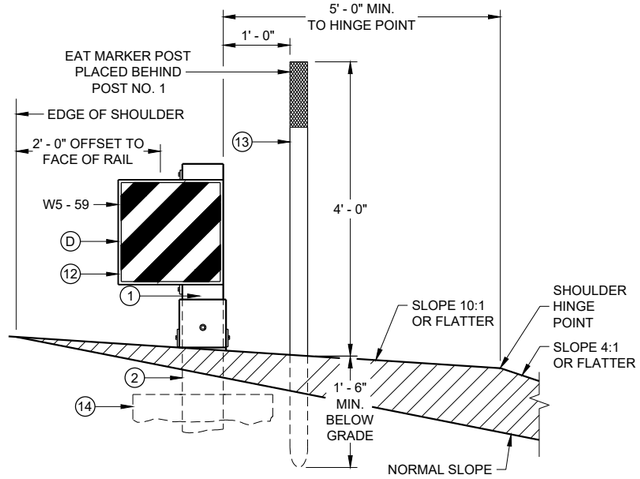
ELEVATION



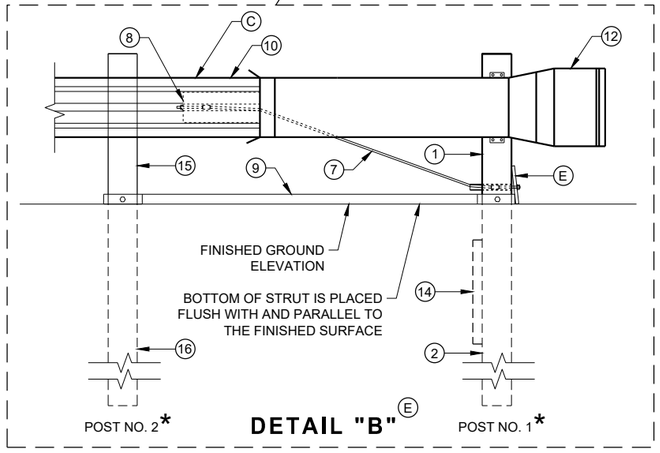
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



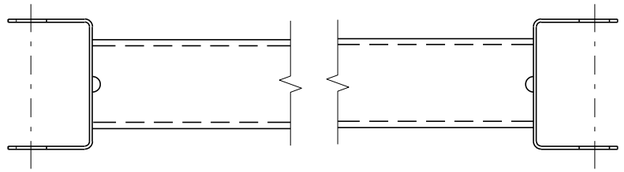
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

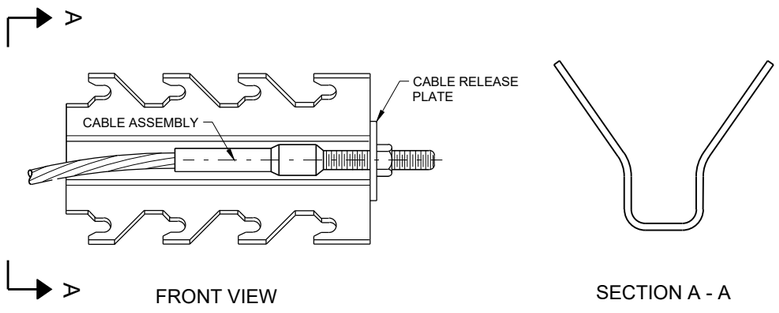
SDD 14B44 - 04a



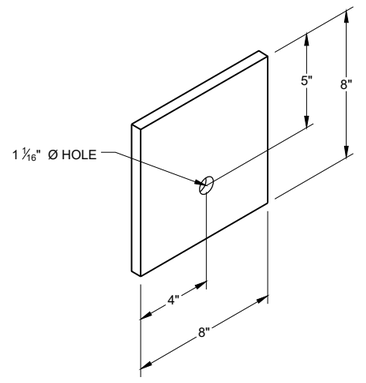
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
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	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



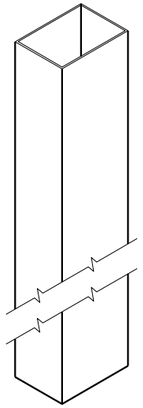
BEARING PLATE ⑥ Ⓔ

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

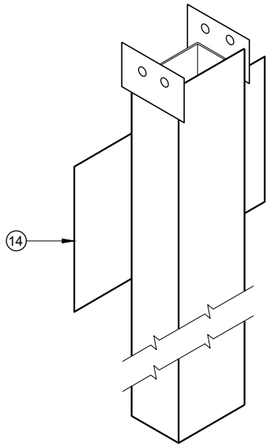
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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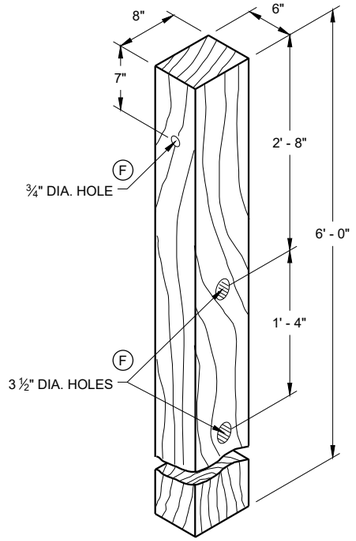
SDD 14B44 - 04b



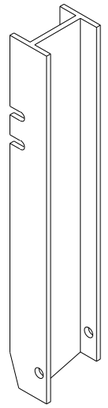
UPPER POST NO. 1 (1) (E)



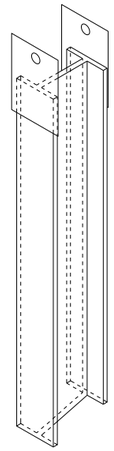
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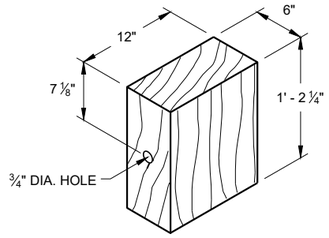
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



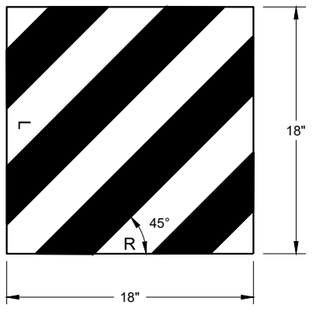
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

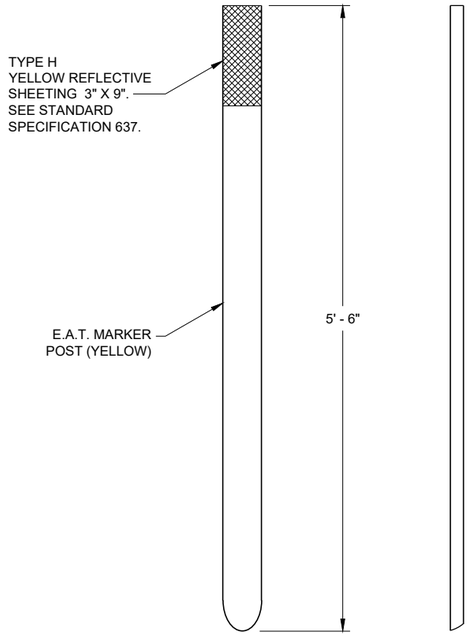


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



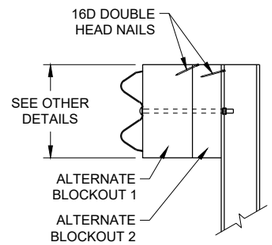
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

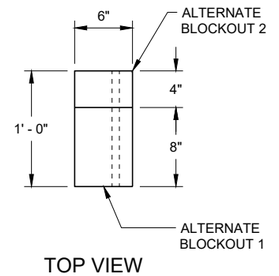


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

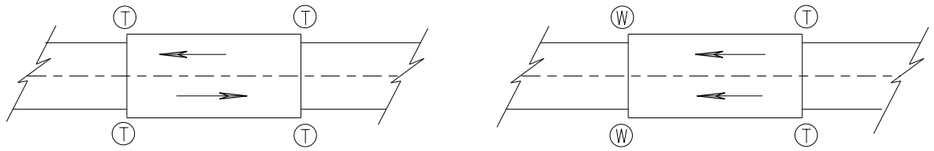
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



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

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.

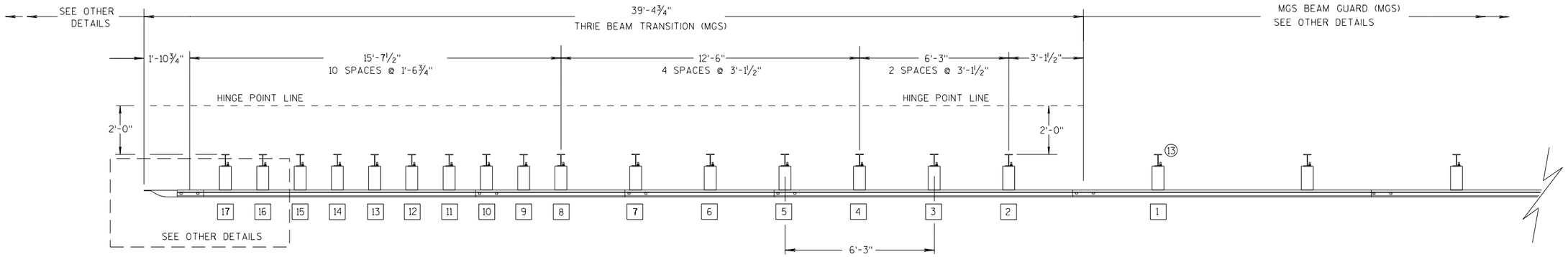
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

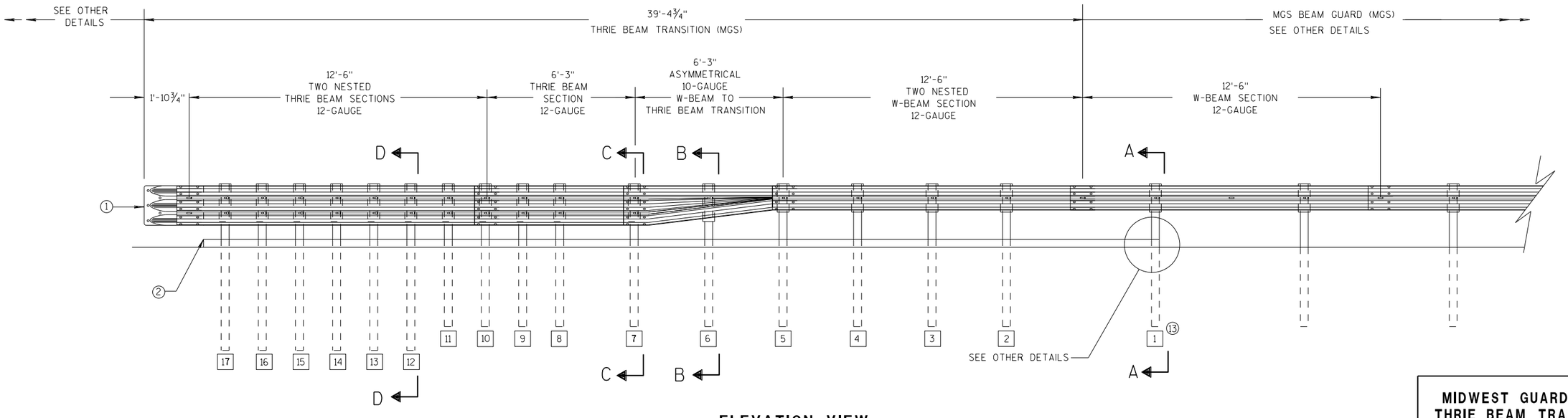
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 201

6

S.D.D. 14 B 45-5a

6

S.D.D. 14 B 45-5a

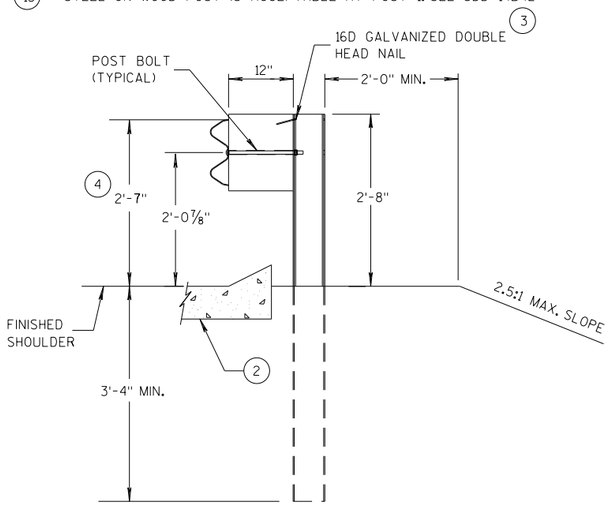
GENERAL NOTES

(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.

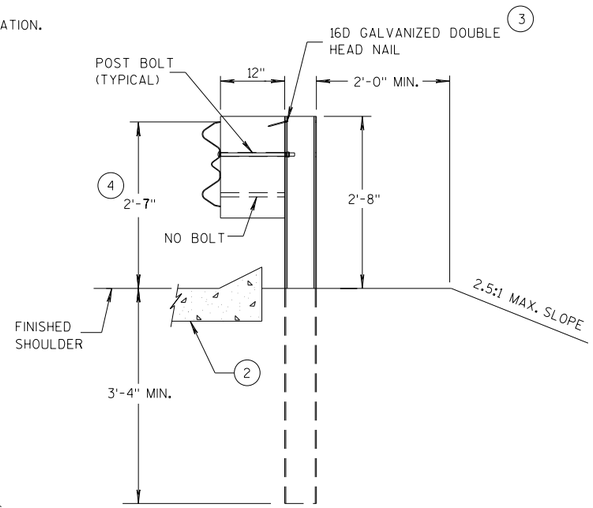
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



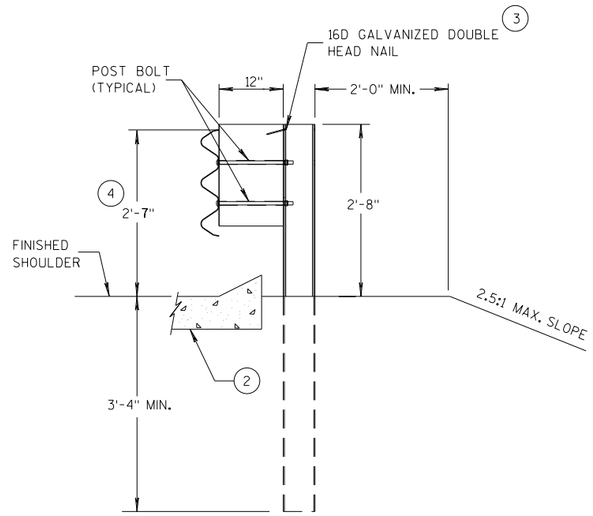
SECTION A-A (13)

POSTS 1-5



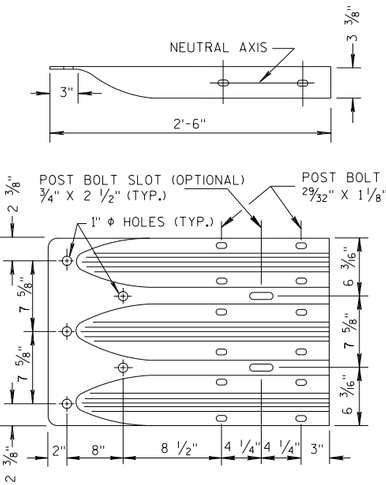
SECTION B-B

POST 6

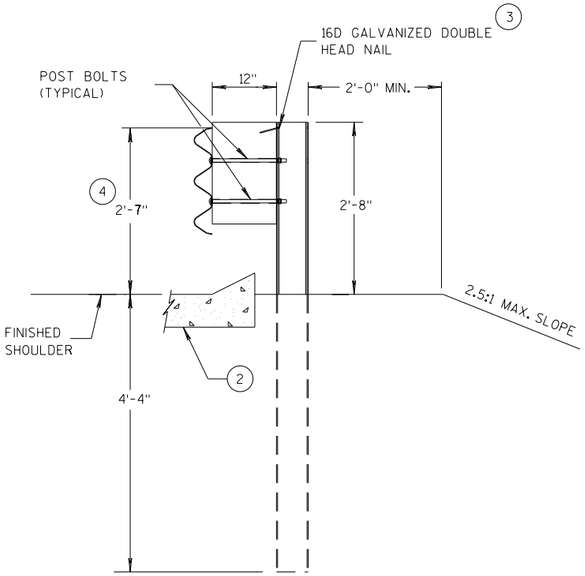


SECTION C-C

POSTS 7-11

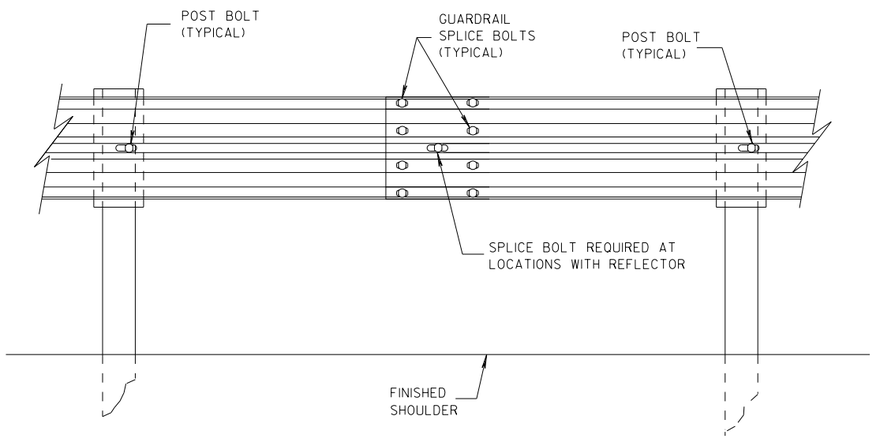


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

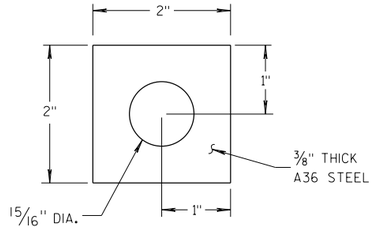
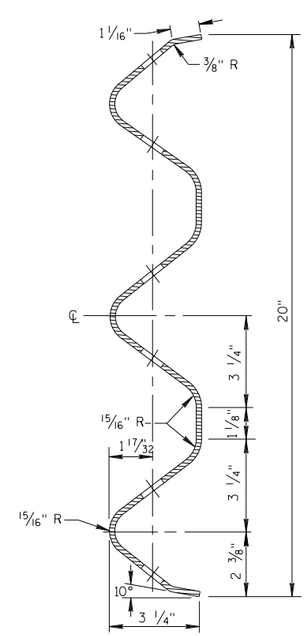


PLATE WASHER DETAIL



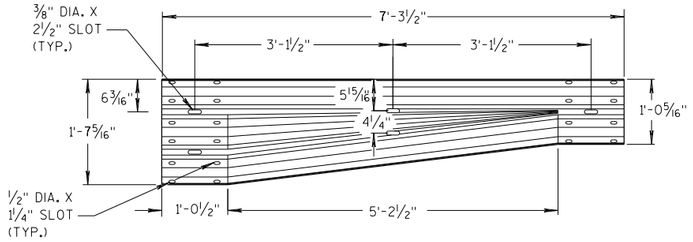
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

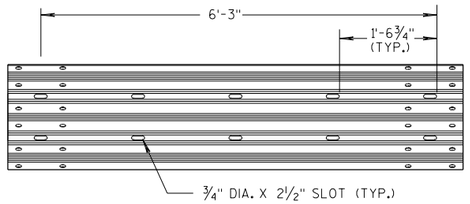
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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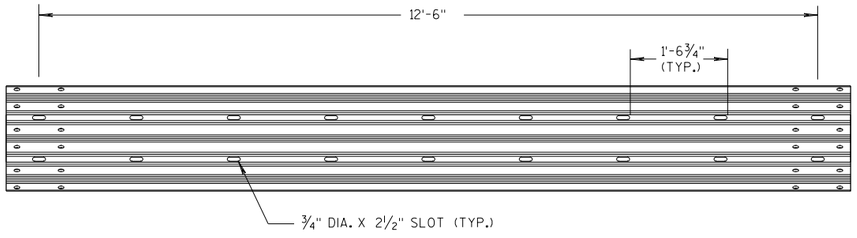
S.D.D. 14 B 45-5b



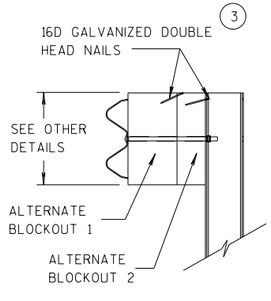
W-BEAM TO THRIE BEAM TRANSITION SECTION



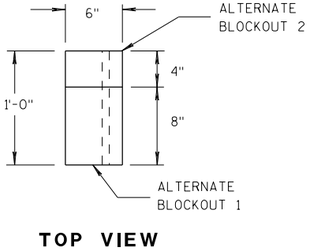
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

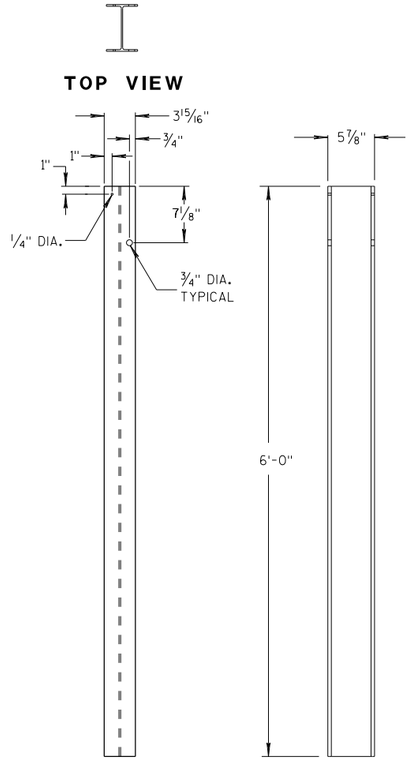


SIDE VIEW



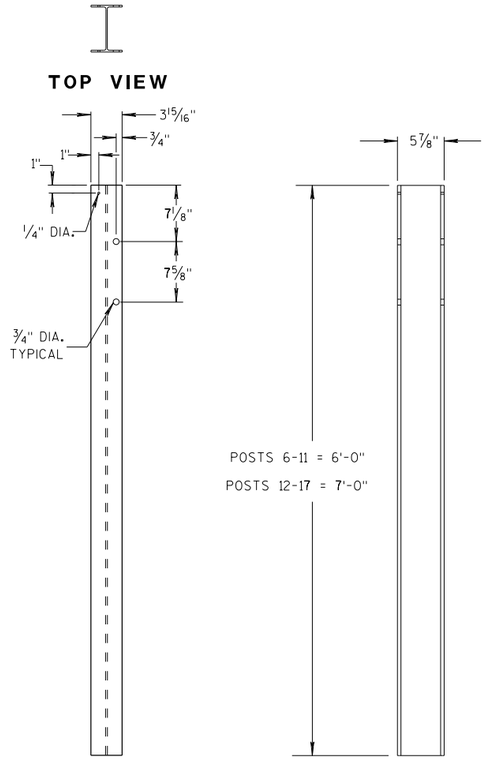
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



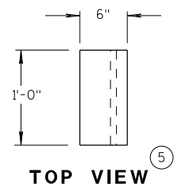
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

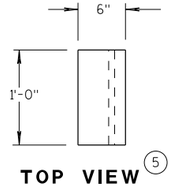


FRONT VIEW SIDE VIEW

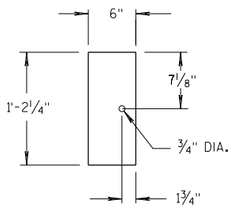
STEEL POSTS 6-17



TOP VIEW (5)

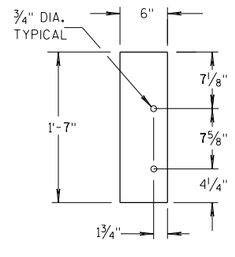


TOP VIEW (5)



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.

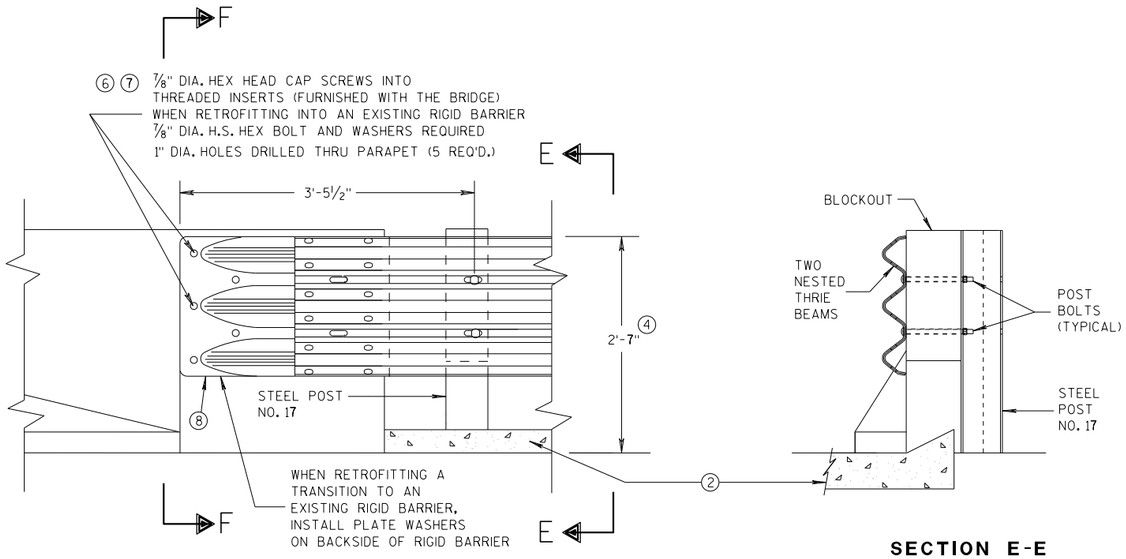
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 45-5c



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.

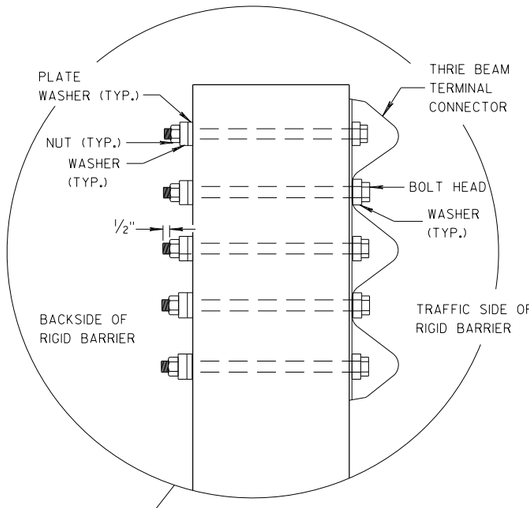
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

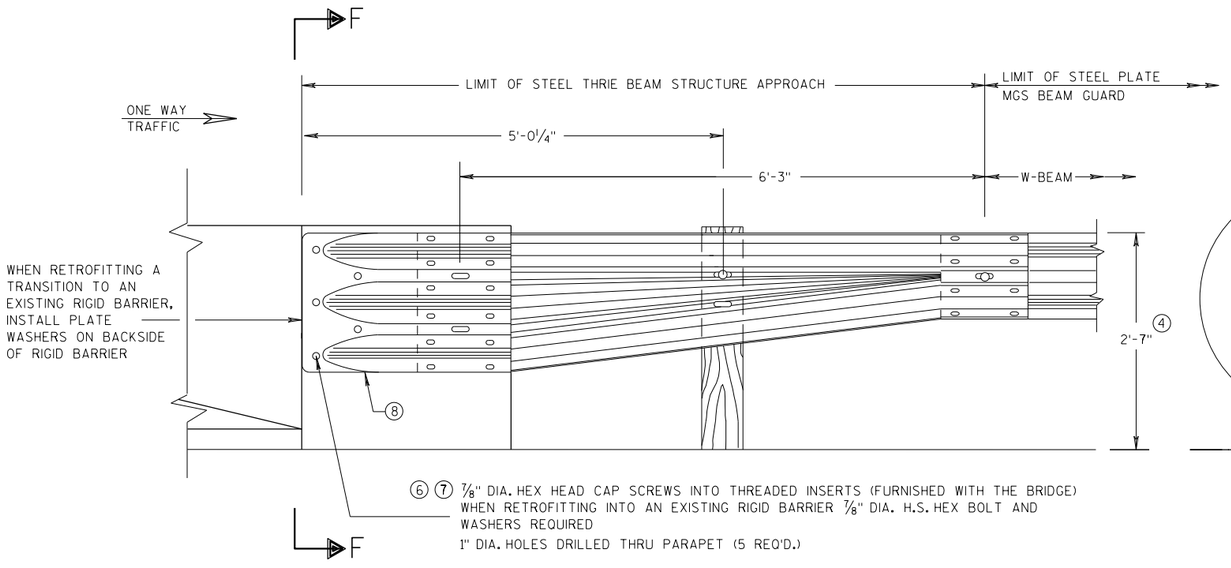
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

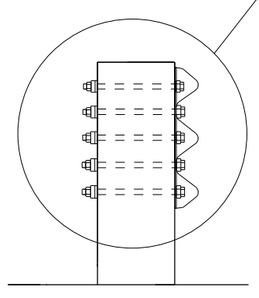
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

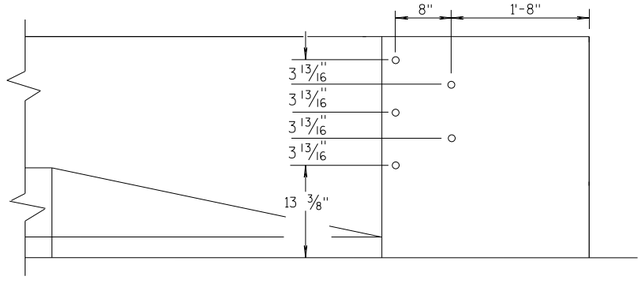




FRONT VIEW



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
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]NT
FHWA

6

S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d

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.

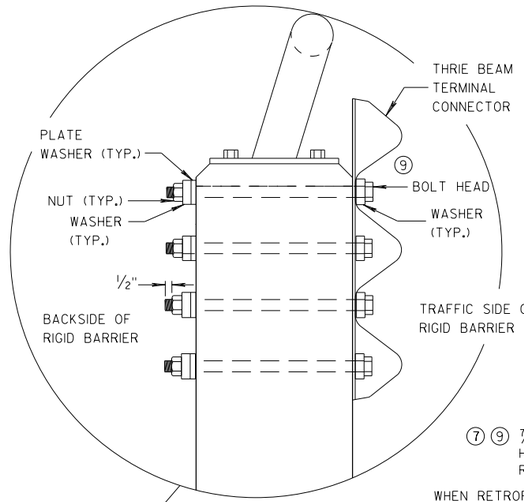
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

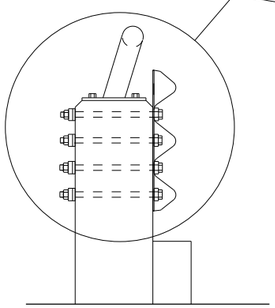
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

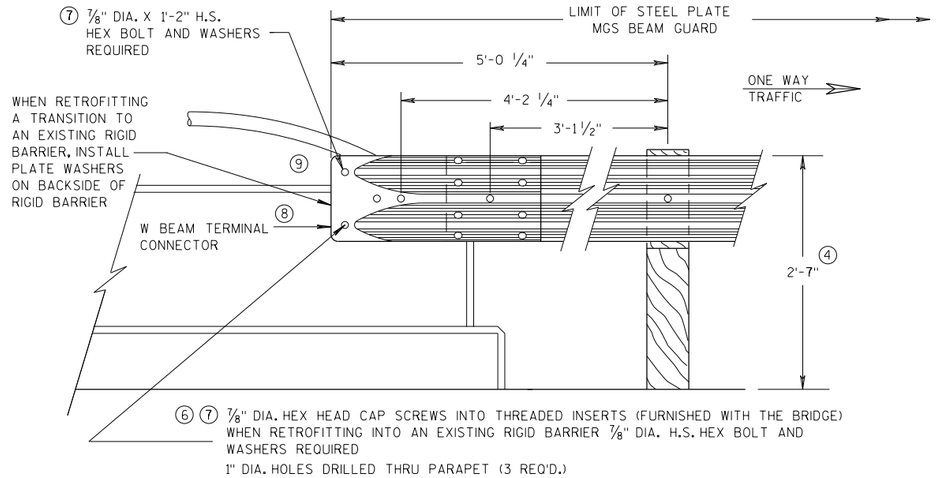
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.





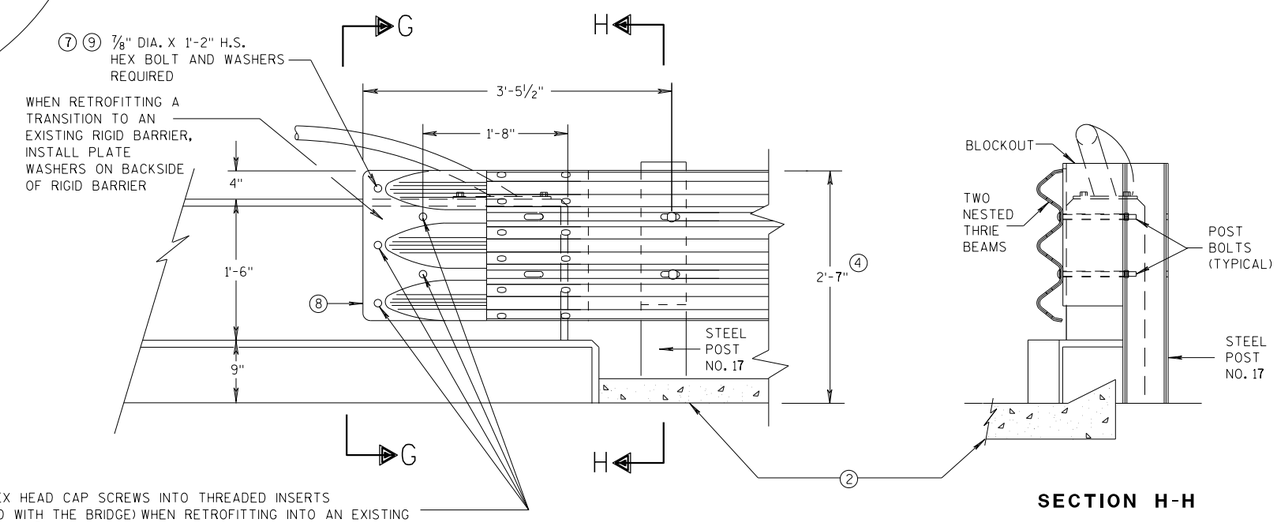
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

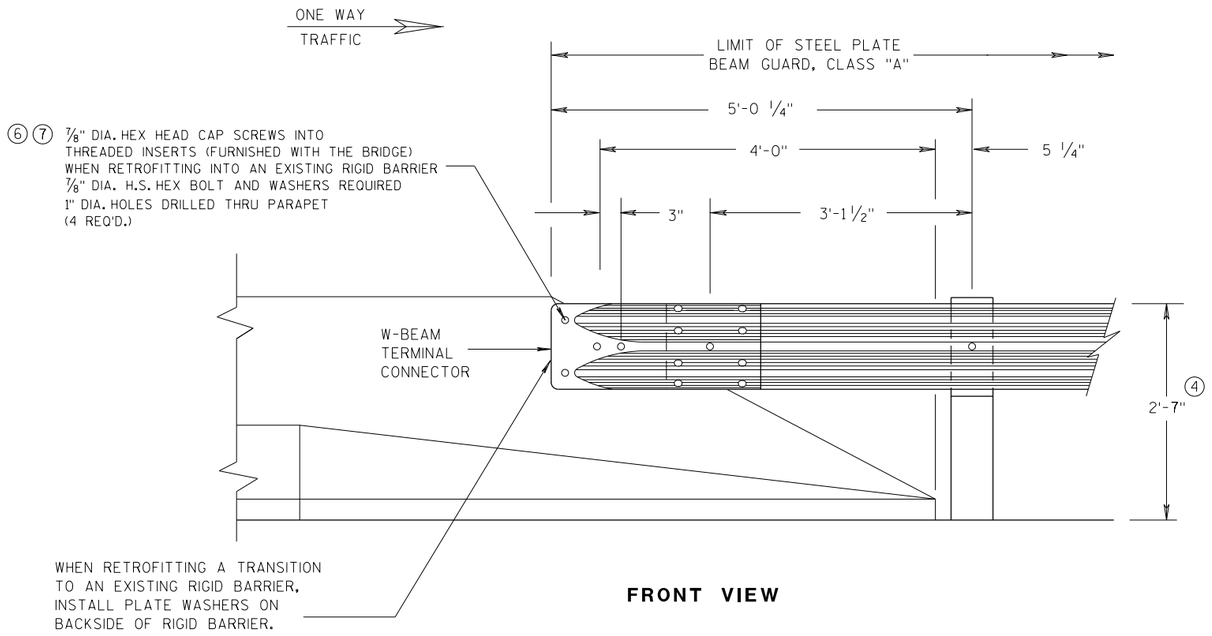
APPROVED
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S.D.D. 14 B 45-5e

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S.D.D. 14 B 45-5e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

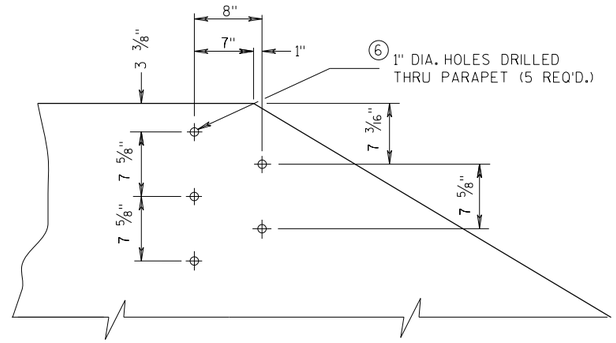
GENERAL NOTES

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

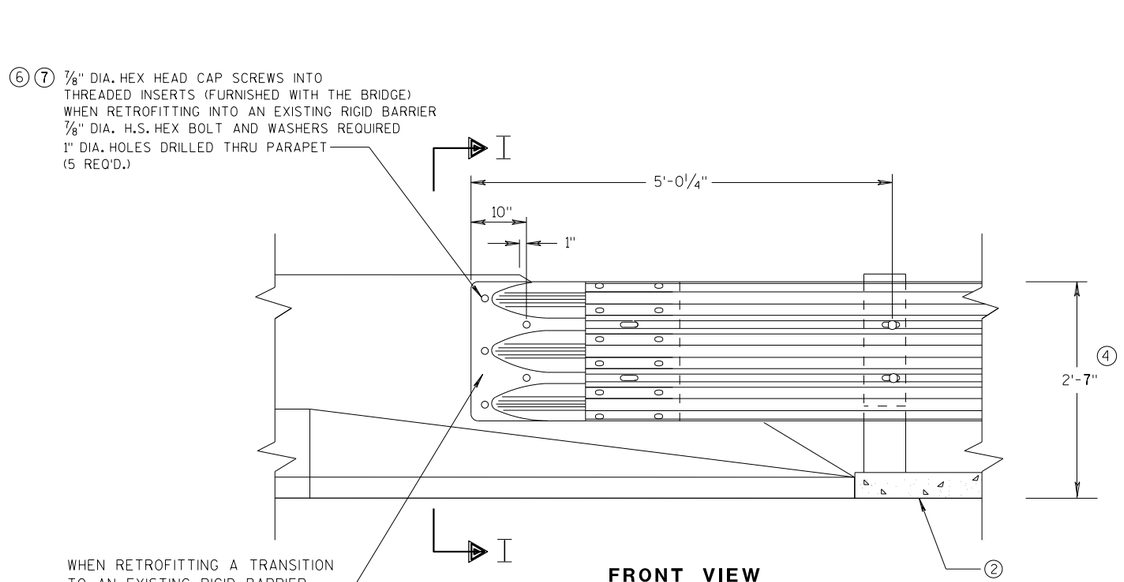
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

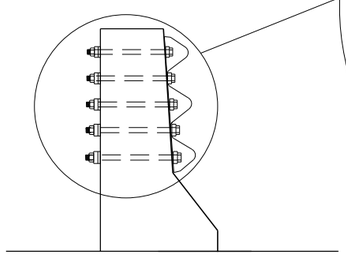
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



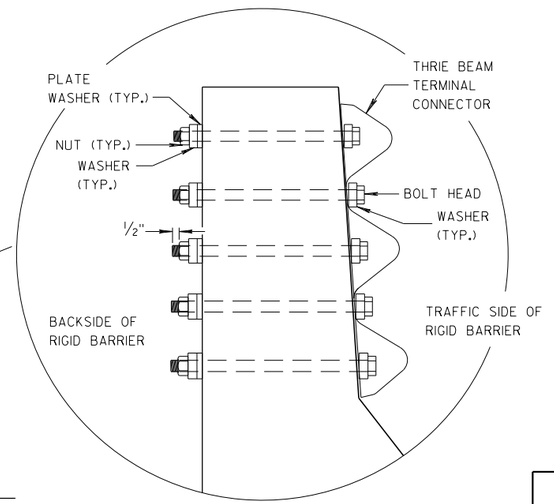
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

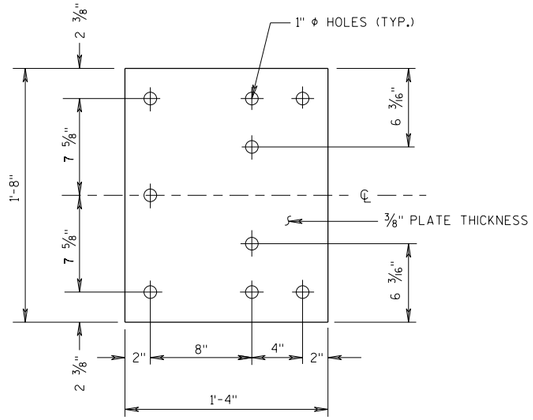
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07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

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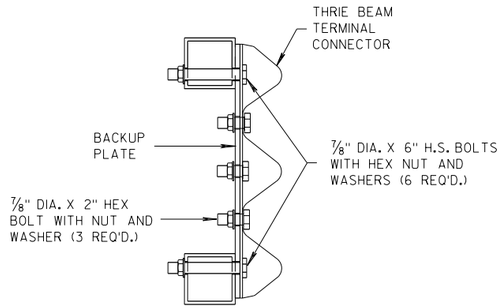
S.D.D. 14 B 45-5f

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S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL

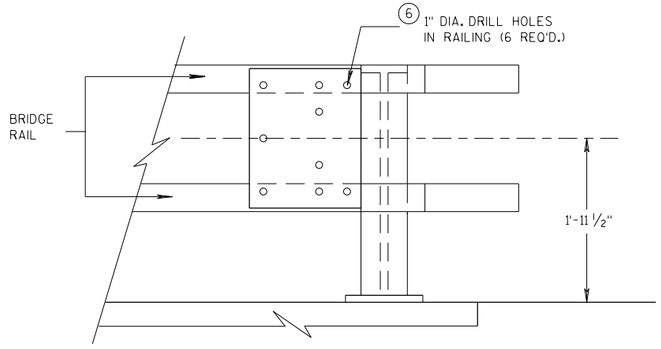


SECTION J-J

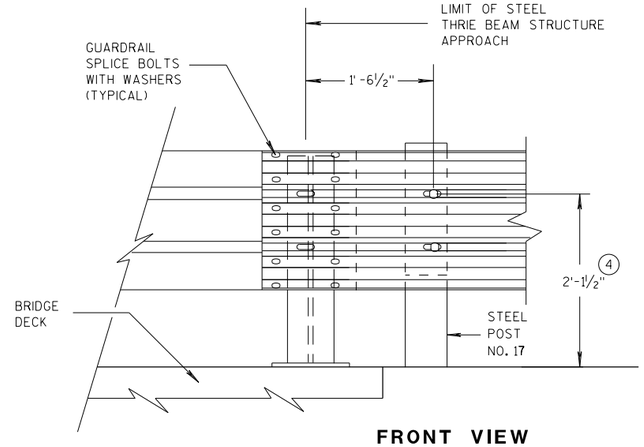
GENERAL NOTES

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

(6) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

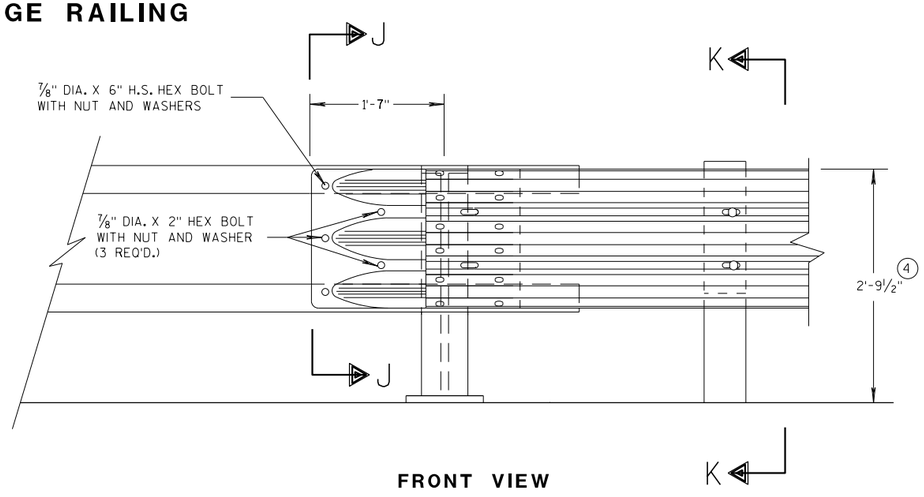


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

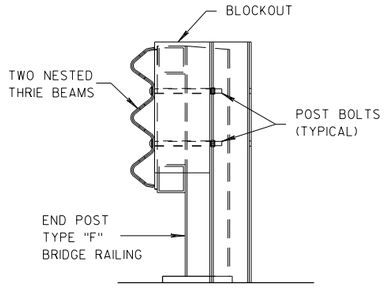


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
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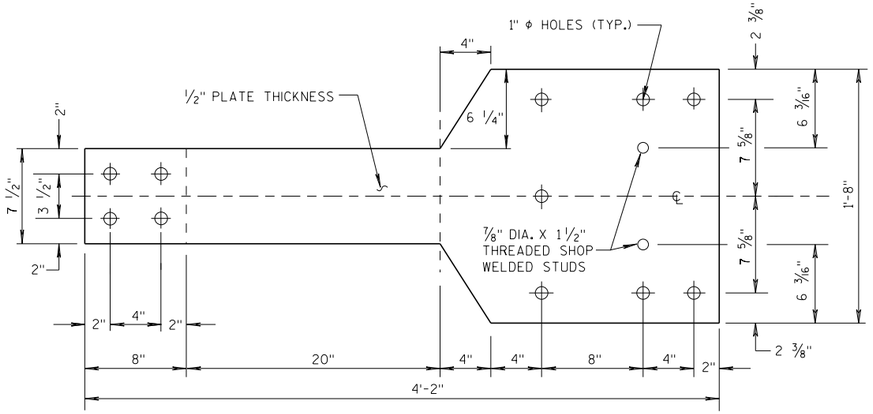
S.D.D. 14 B 45-5g

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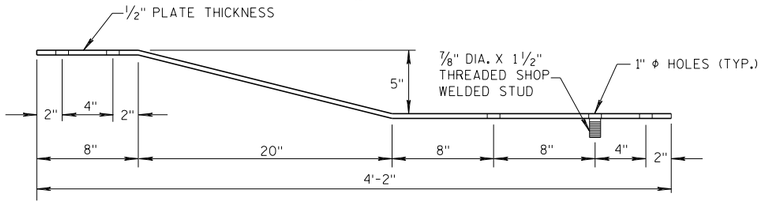
S.D.D. 14 B 45-5g

GENERAL NOTES

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

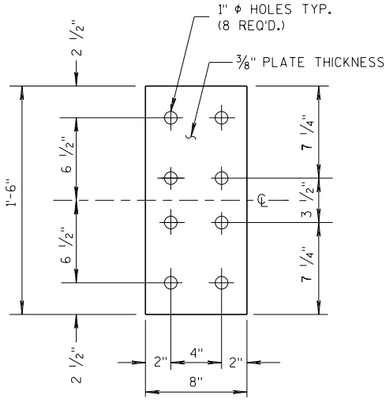


FRONT VIEW

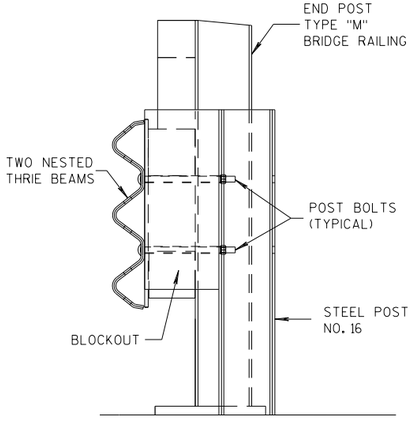


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

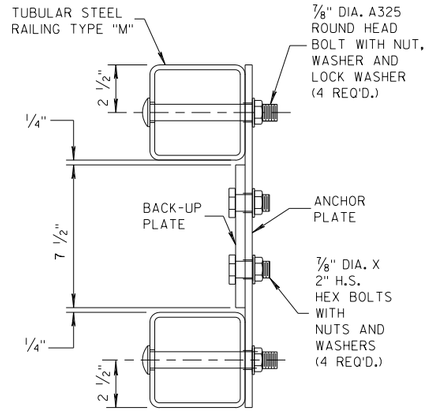


FRONT VIEW

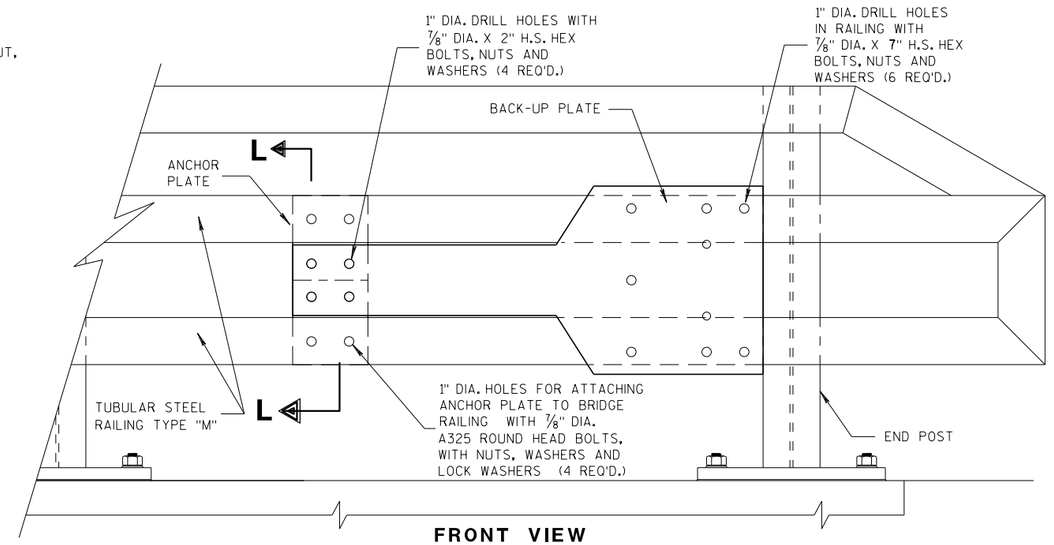


SECTION M-M

ANCHOR PLATE DETAIL, TYPE "M"

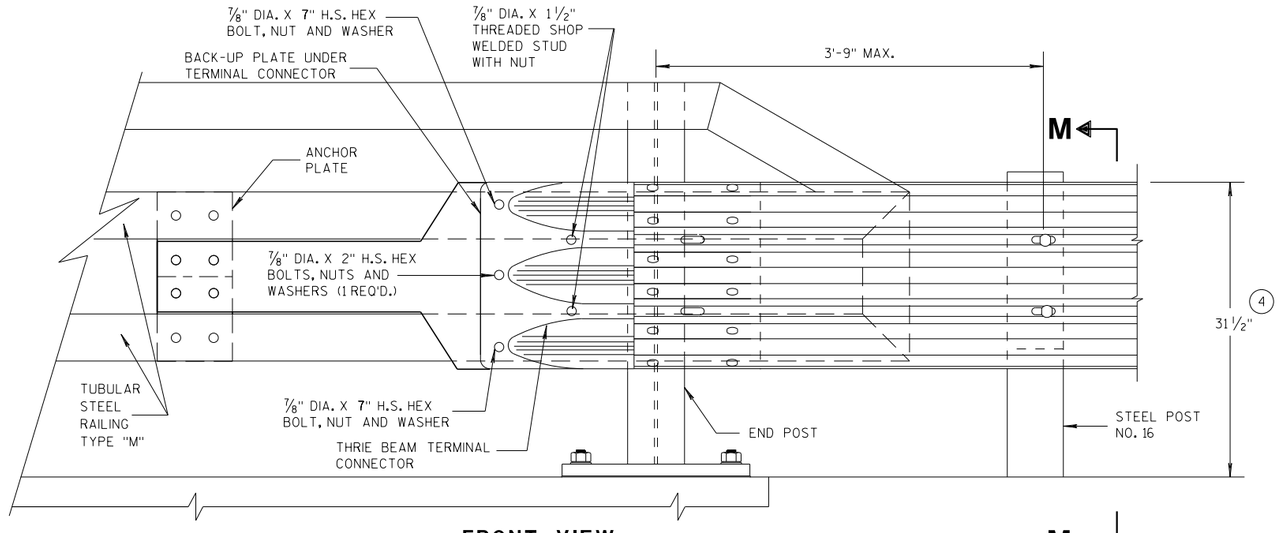


SECTION L-L

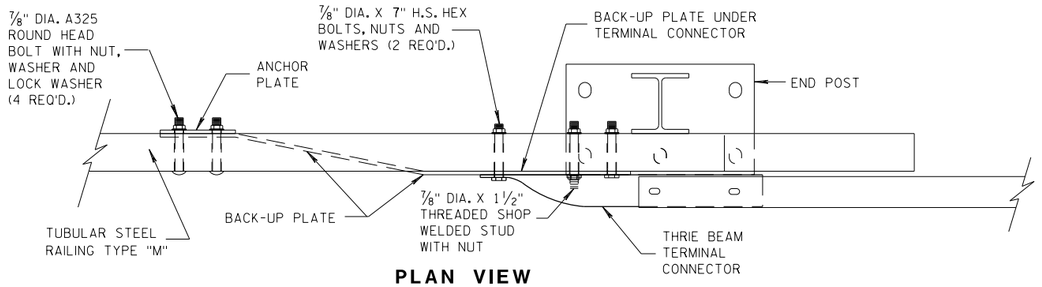


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

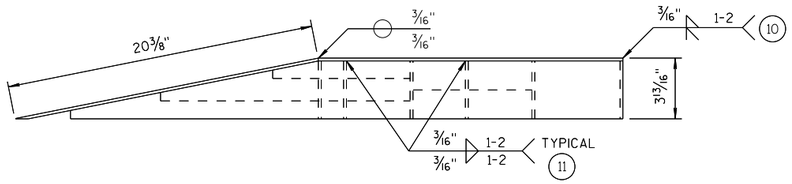
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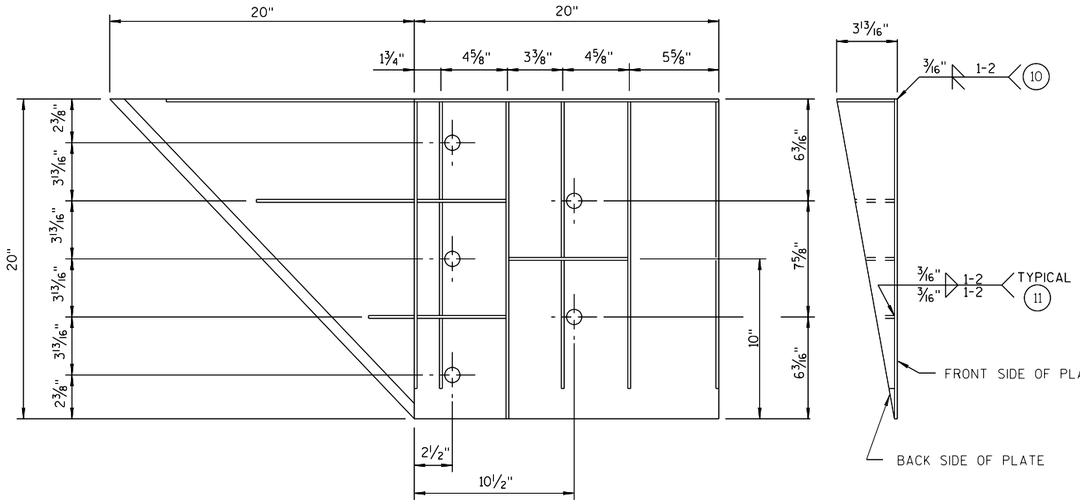
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S.D.D. 14 B 45-5h

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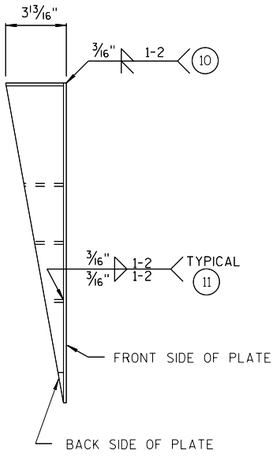
S.D.D. 14 B 45-5h





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)



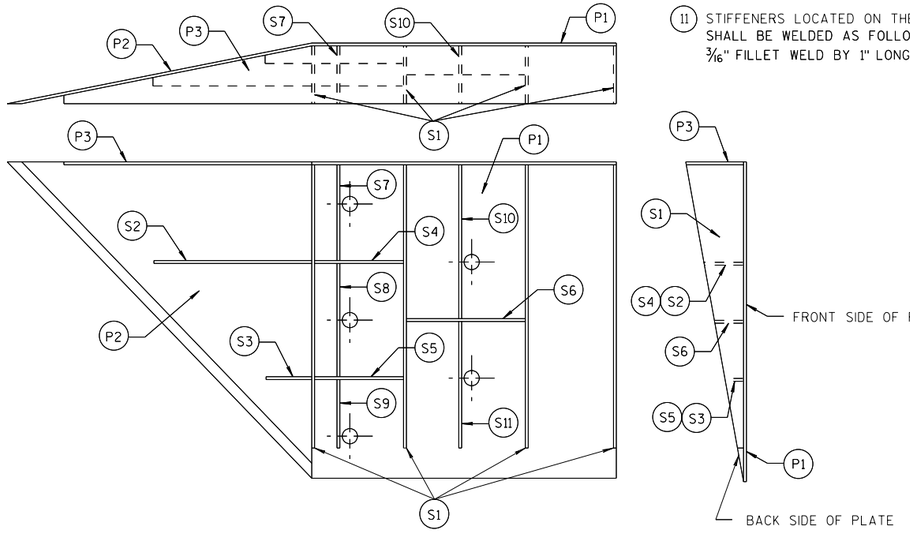


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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DATE
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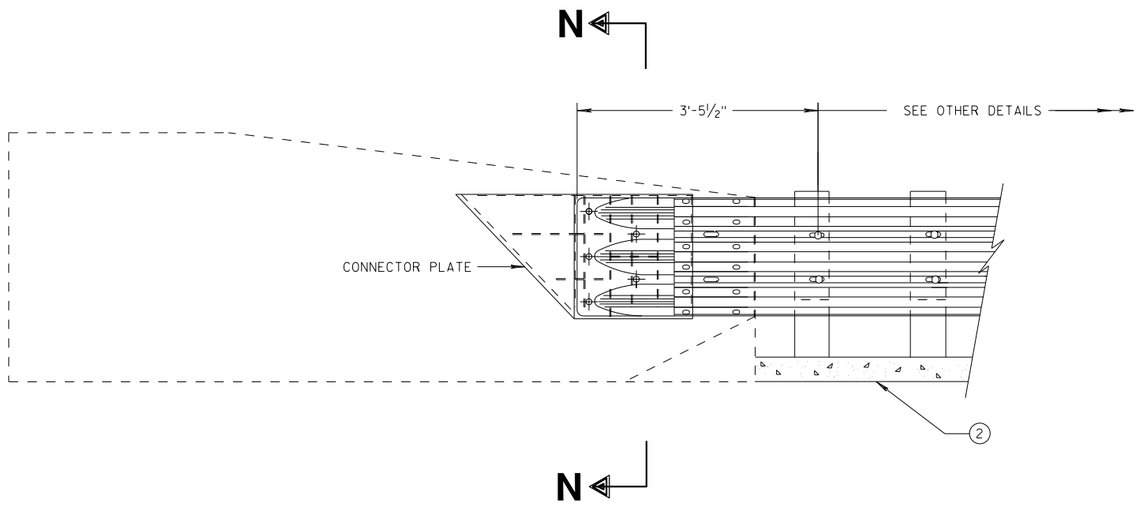
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

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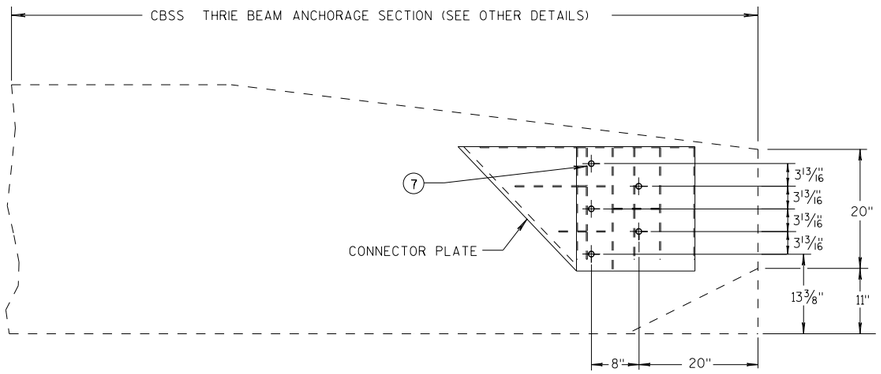
S.D.D. 14 B 45-5i

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S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



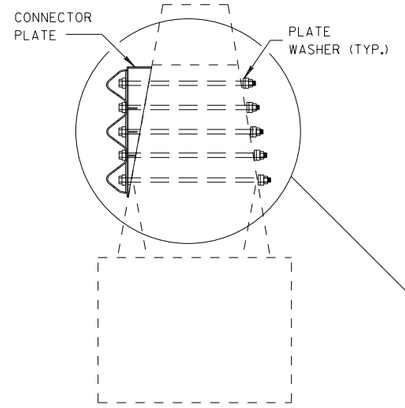
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

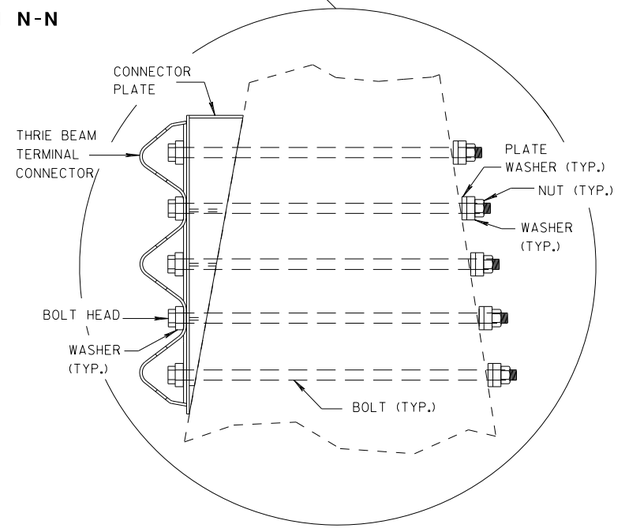
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(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 ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018
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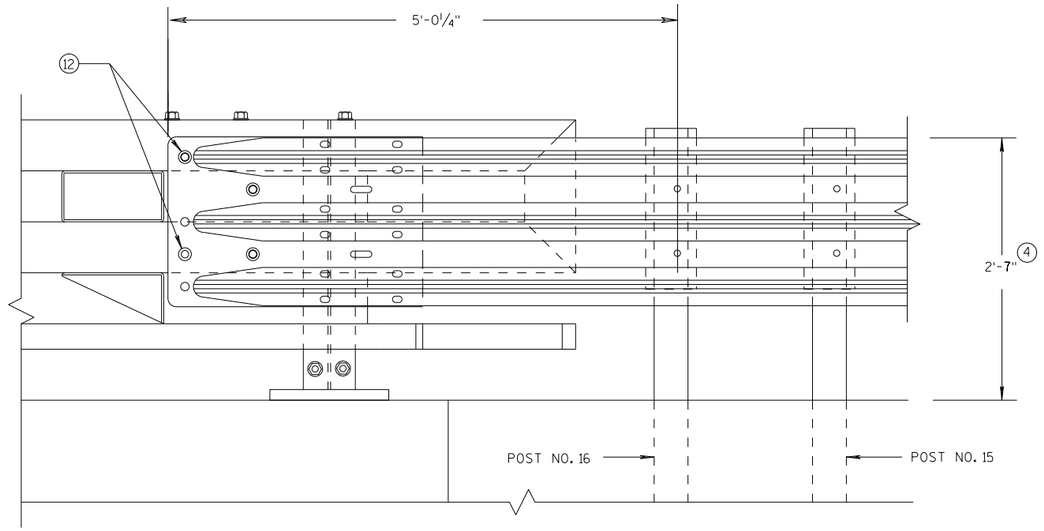
/S/ Rodney Taylor
ROADWAY STANDARDS DI UNIT SUPERVIS NT

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S.D.D. 14 B 45-5j

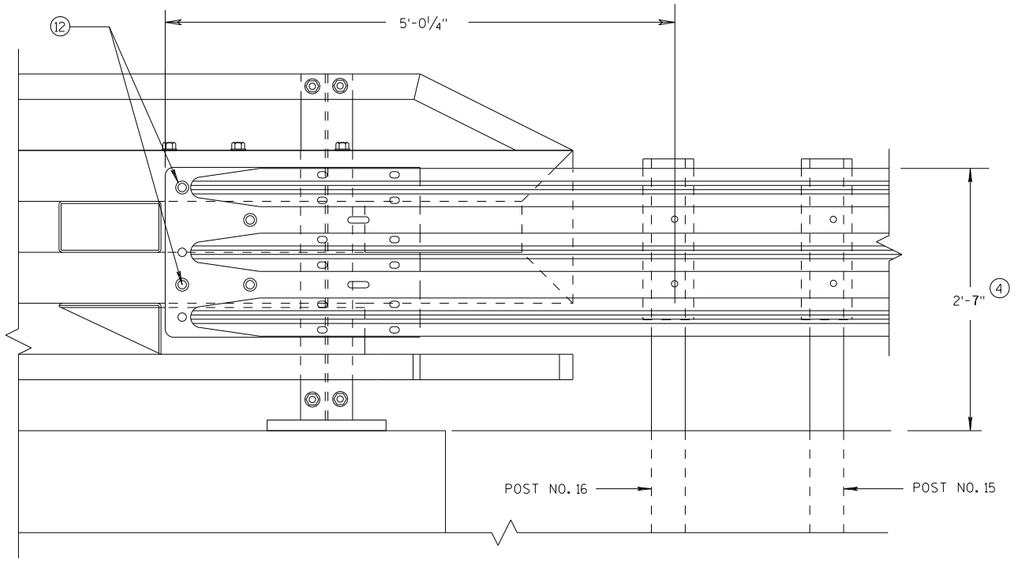
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S.D.D. 14 B 45-5j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS D 211 NT
UNIT SUPERVIS

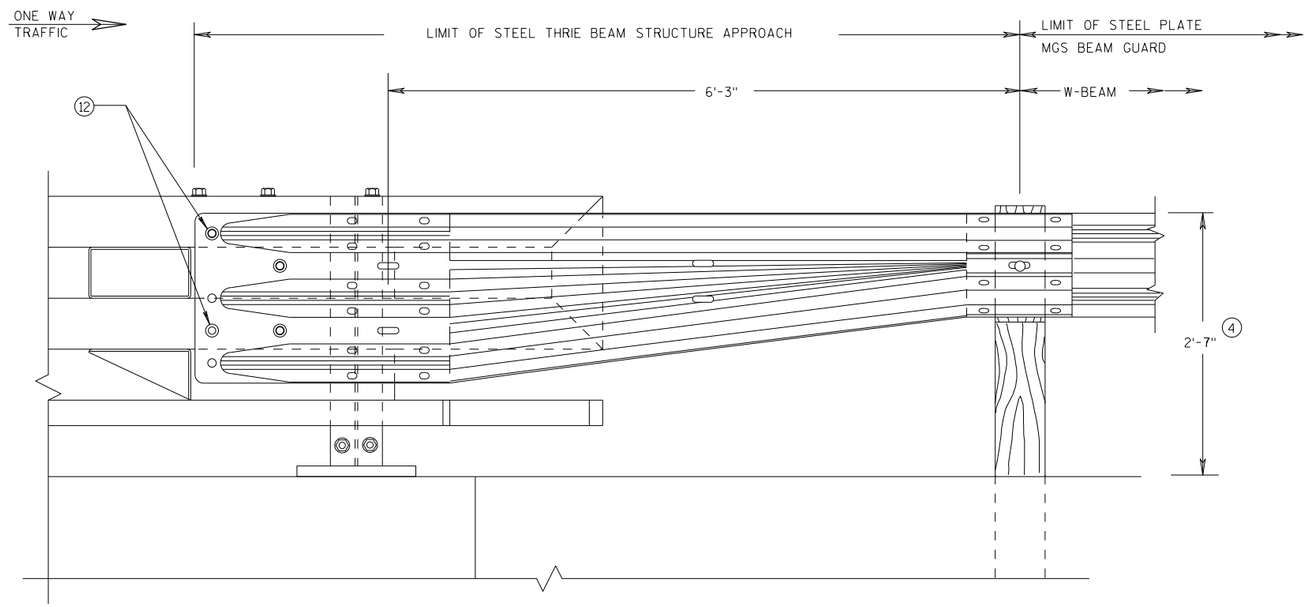
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S.D.D. 14 B 45-5k



FRONT VIEW

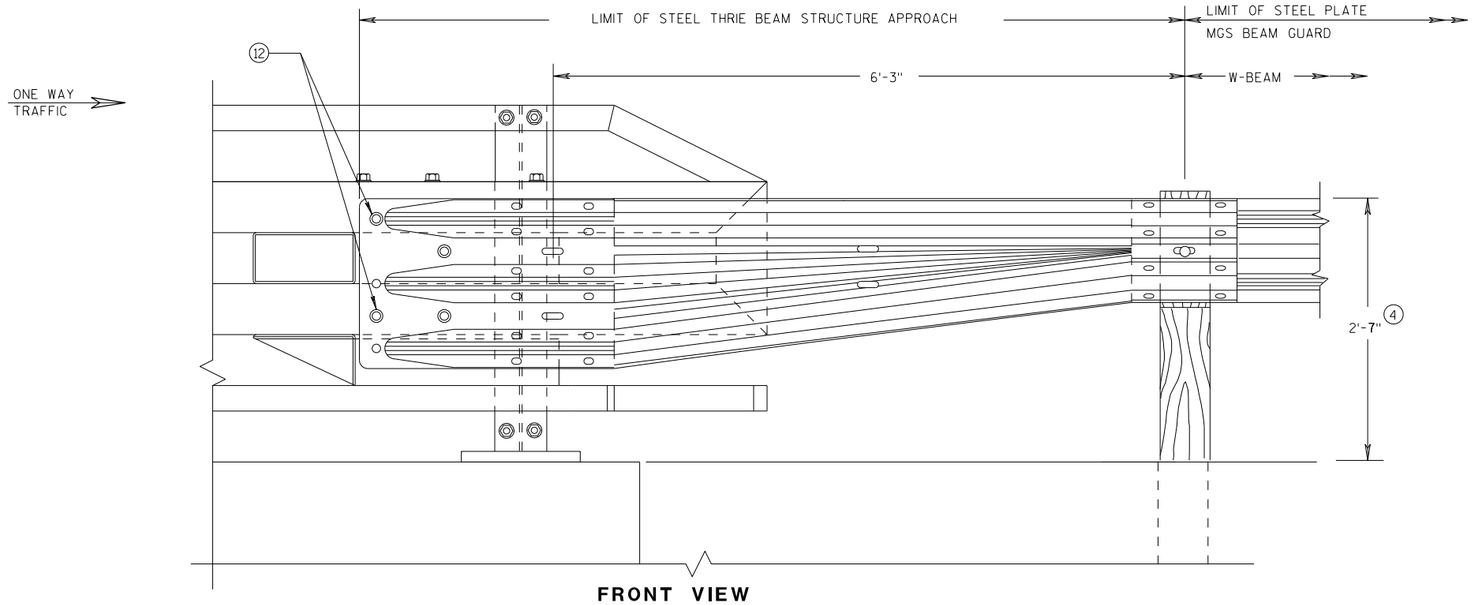
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

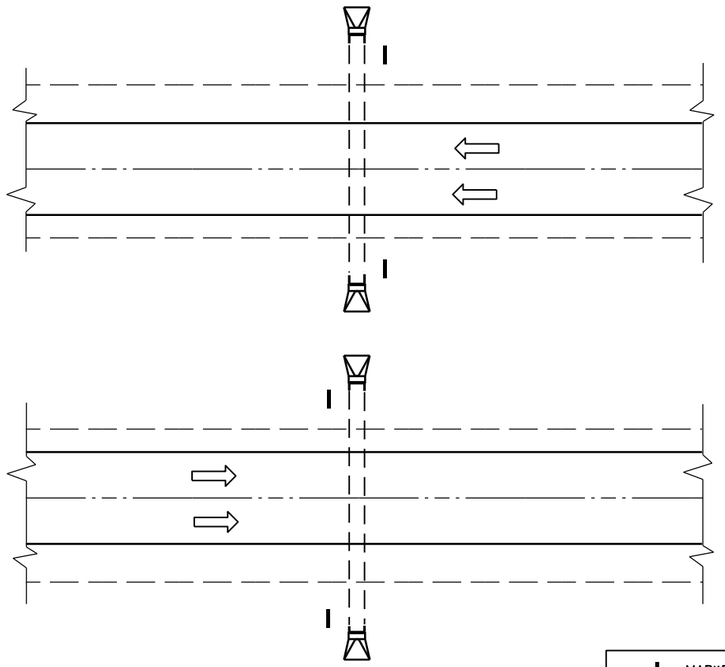
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S.D.D. 14 B 45-5L

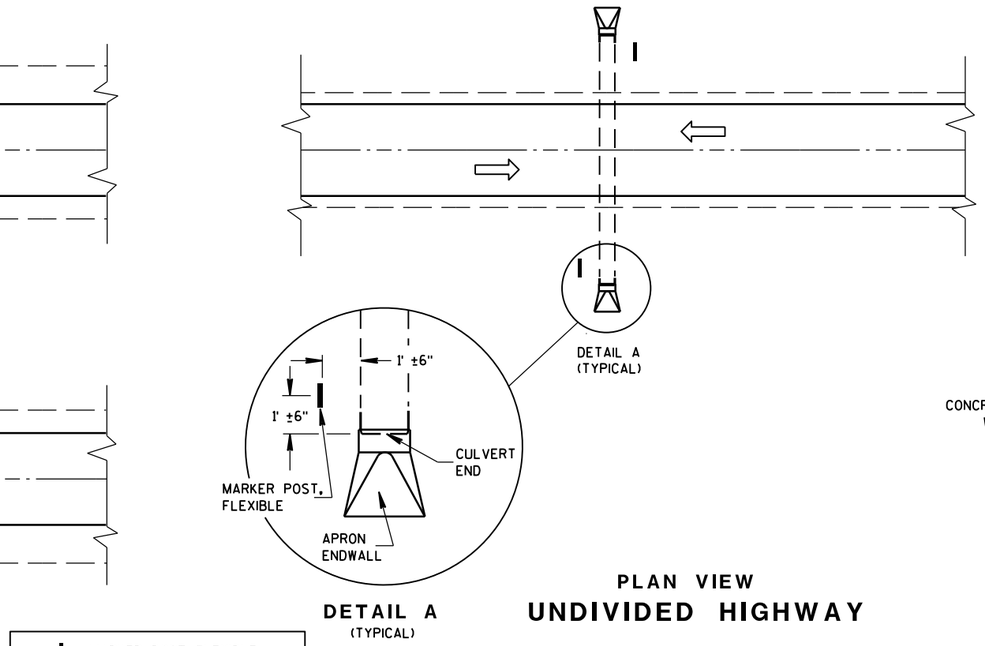
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S.D.D. 14 B 45-5L



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

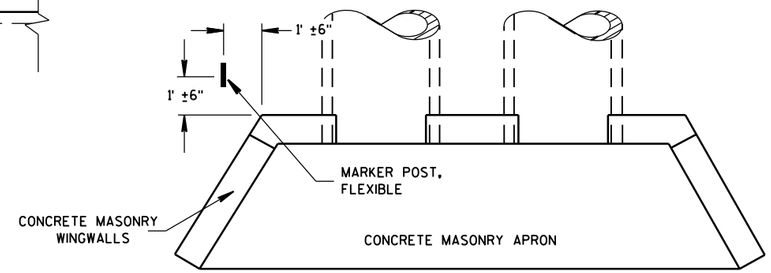
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

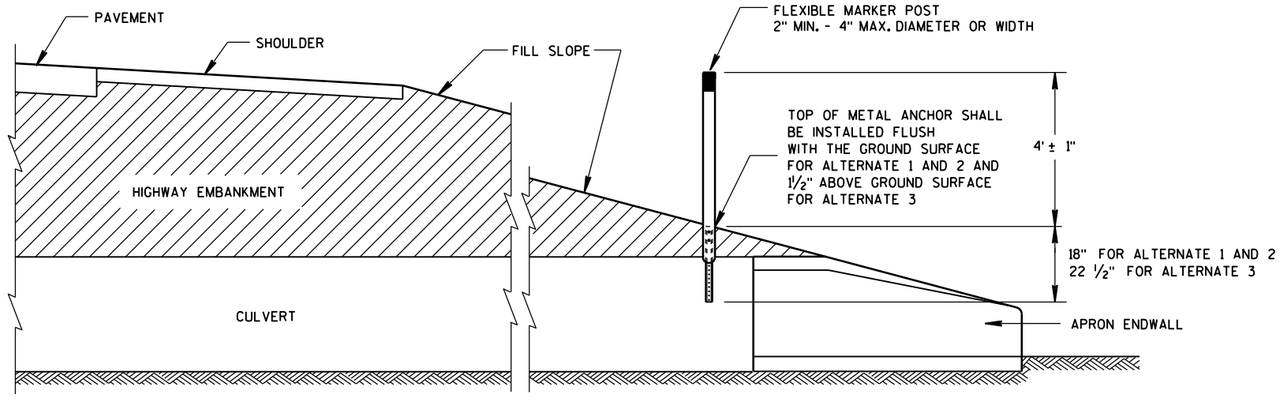
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

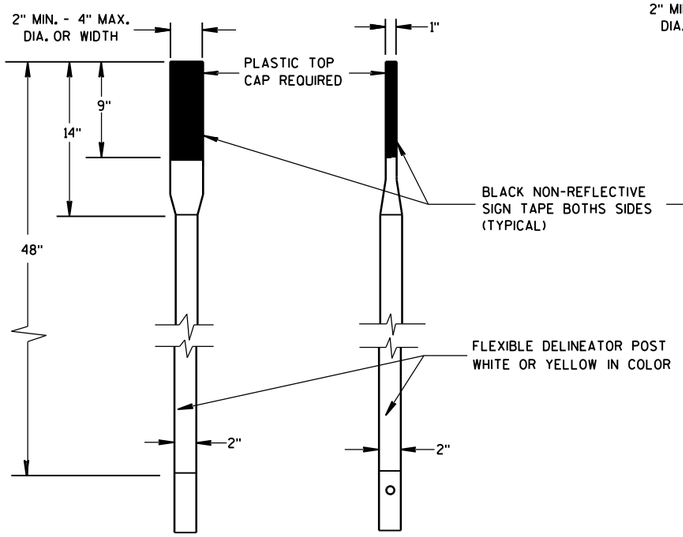
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

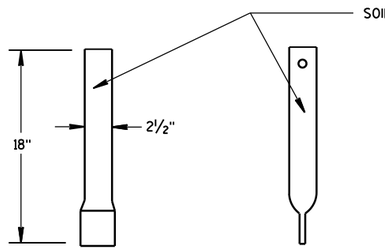
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S.D.D. 15 A 3-2a

6

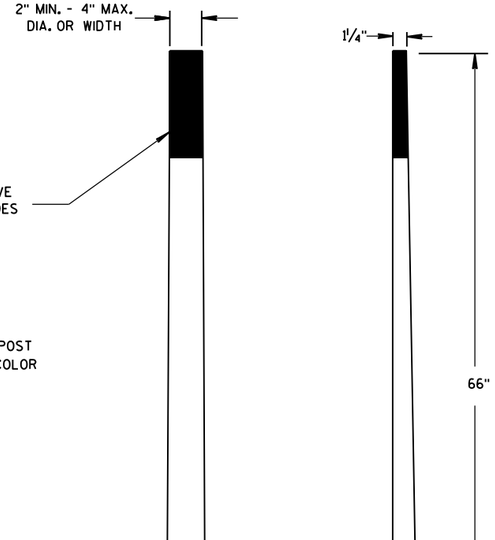
S.D.D. 15 A 3-2a





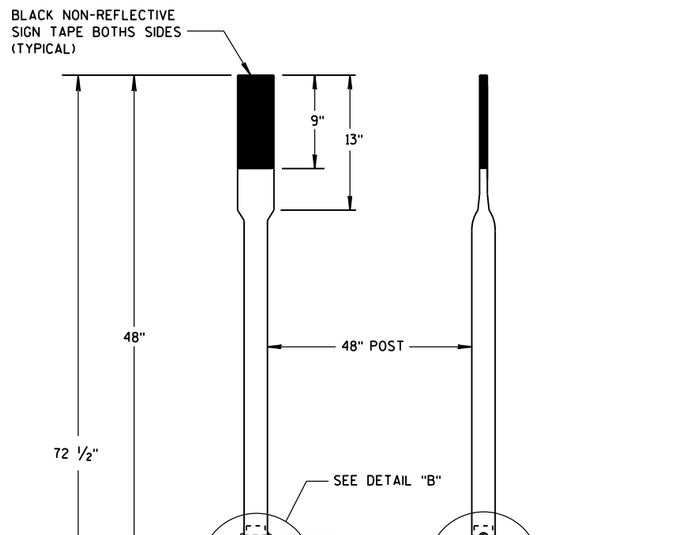
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

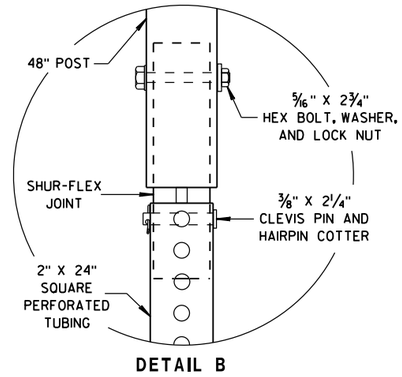
ALTERNATE 2



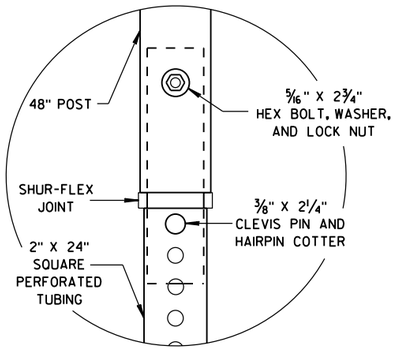
FRONT VIEW SIDE VIEW

ALTERNATE 3

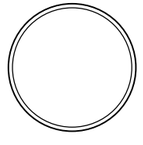
FLEXIBLE MARKER POSTS



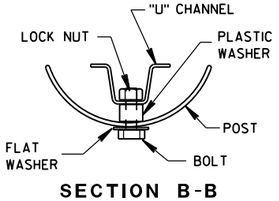
DETAIL B



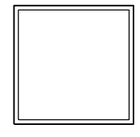
DETAIL C



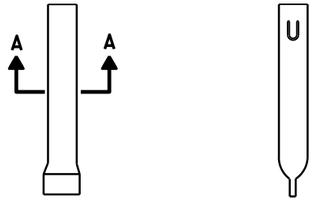
SECTION A-A



SECTION B-B

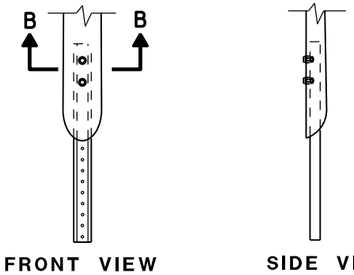


SECTION C-C



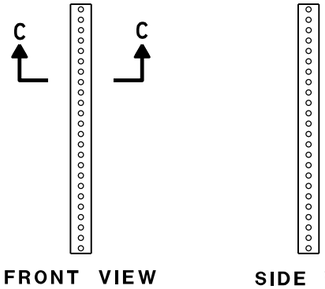
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

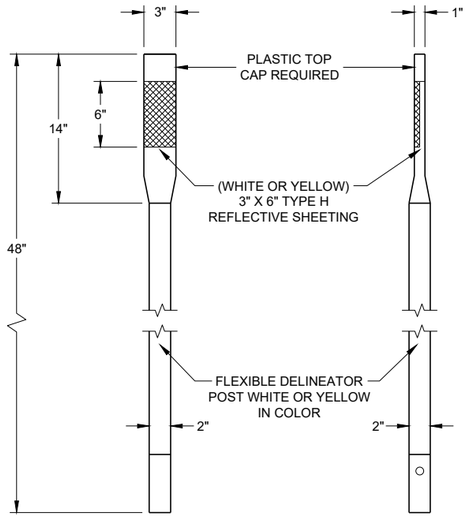
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

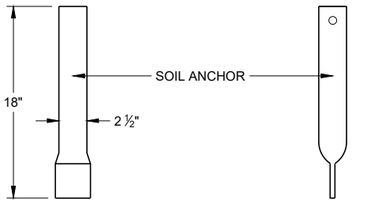
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S.D.D. 15 A 3-2b

6

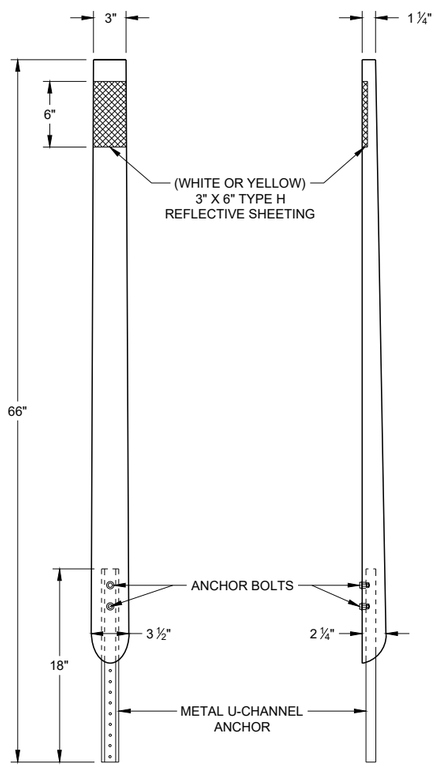
S.D.D. 15 A 3-2b





FRONT VIEW SIDE VIEW

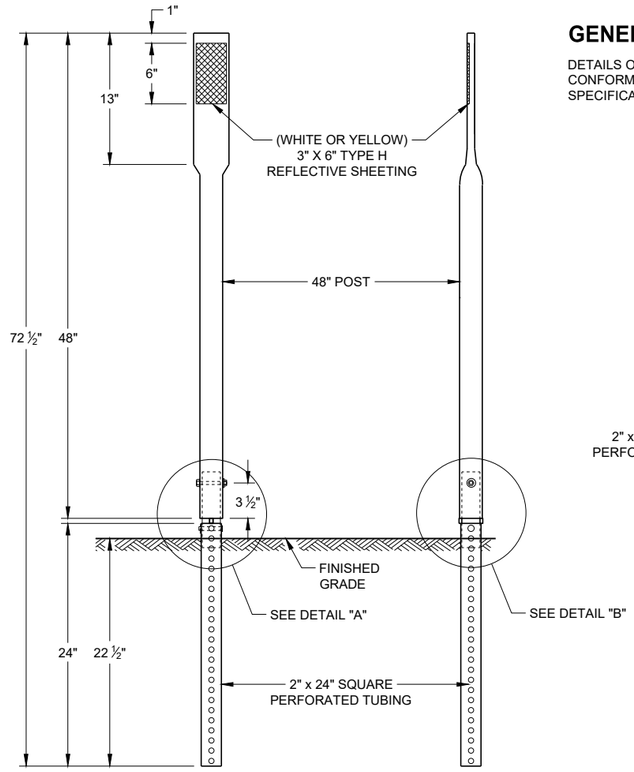
ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE DELINEATOR POSTS

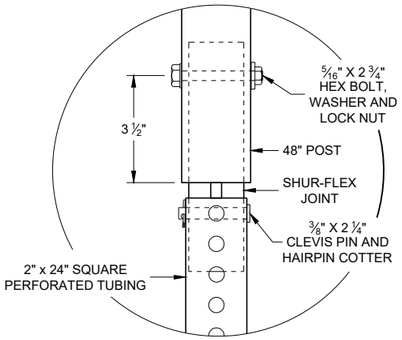


FRONT VIEW SIDE VIEW

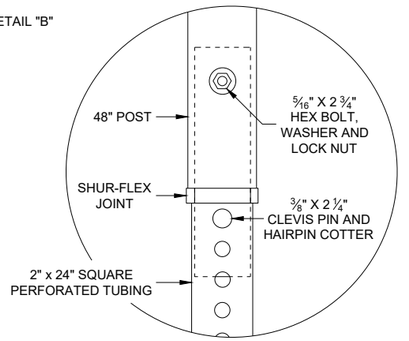
ALTERNATE 3

GENERAL NOTES

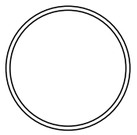
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



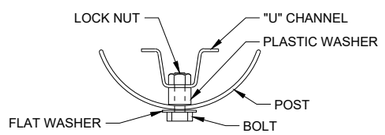
DETAIL A



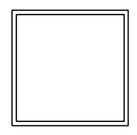
DETAIL B



SECTION A - A



SECTION B - B

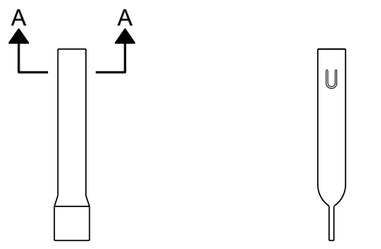


SECTION C - C

REFLECTOR SPACING TABLE

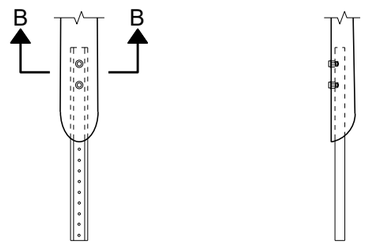
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER



FRONT VIEW SIDE VIEW

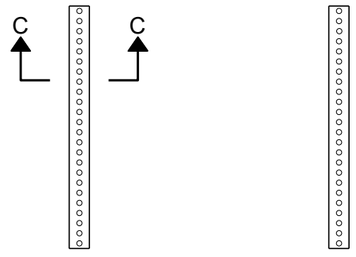
ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE DELINEATOR POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE

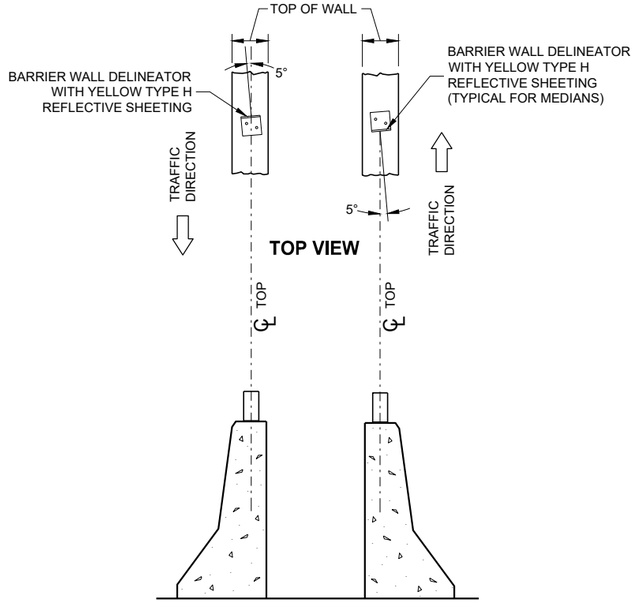
/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

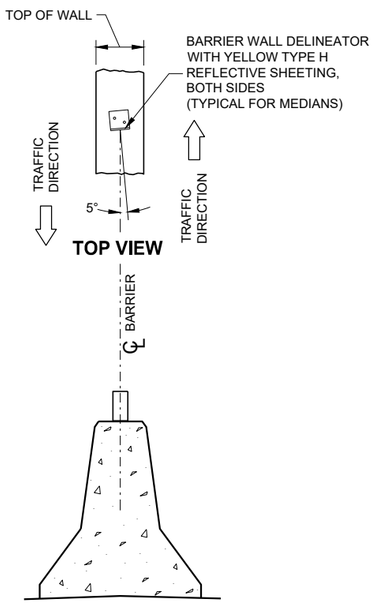
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SDD 15A04 - 05a

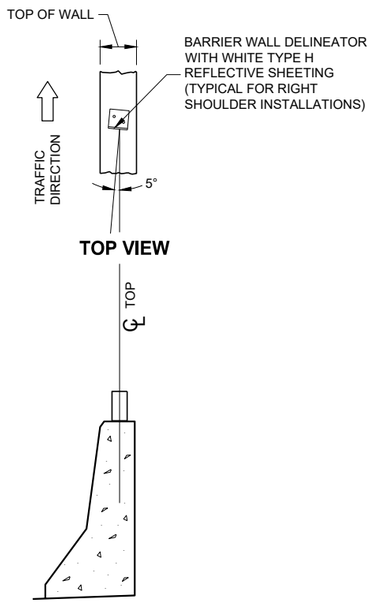
SDD 15A04 - 05a



SIDE VIEW
DOUBLE BARRIERS IN MEDIAN



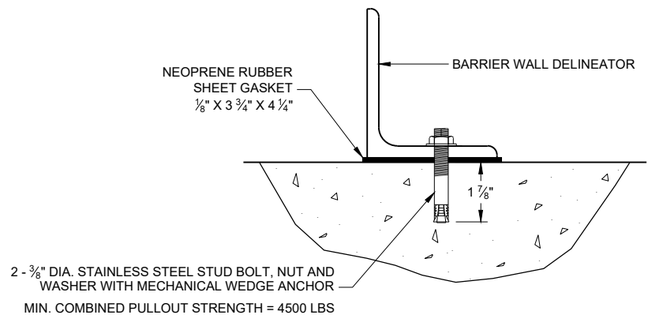
SIDE VIEW
MEDIAN BARRIER



SIDE VIEW
TO RIGHT OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR BARRIER WALL DELINEATOR MOUNTED ON CONCRETE BARRIERS

BARRIER WALL DELINEATOR



BARRIER WALL DELINEATOR MOUNTING DETAIL

REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

BARRIER WALL DELINEATOR WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

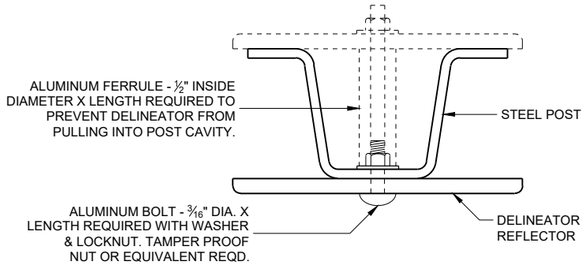
FHWA

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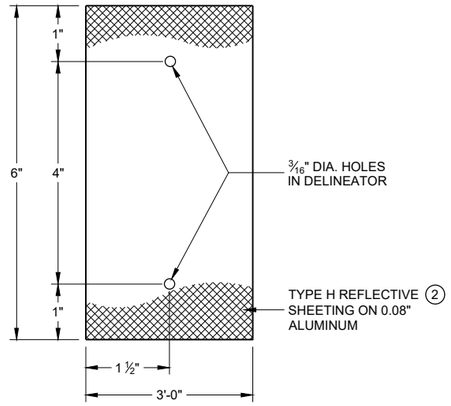
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SDD 15A04 - 05b

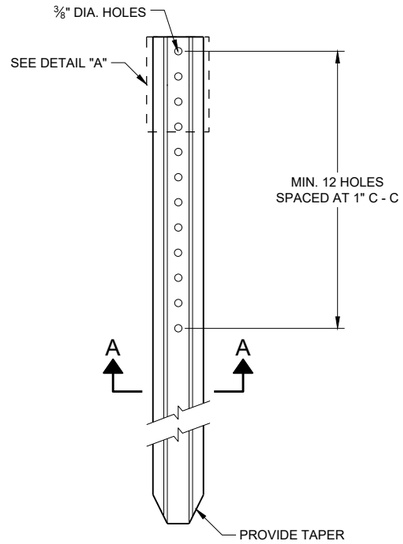
SDD 15A04 - 05b



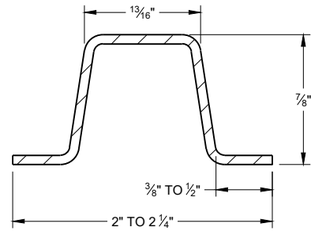
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



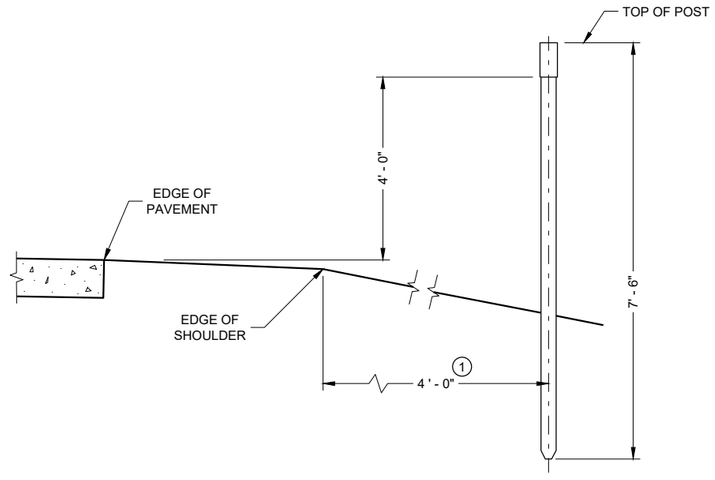
SECTION A - A

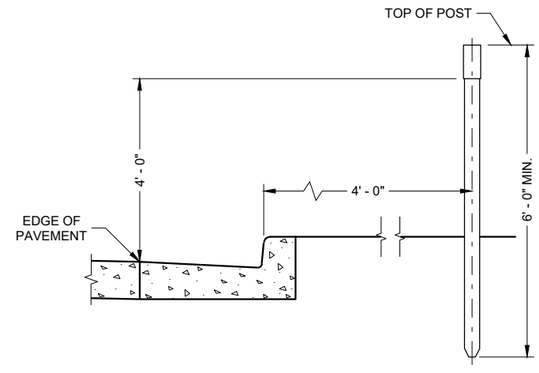
WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

REFLECTOR SPACING TABLE

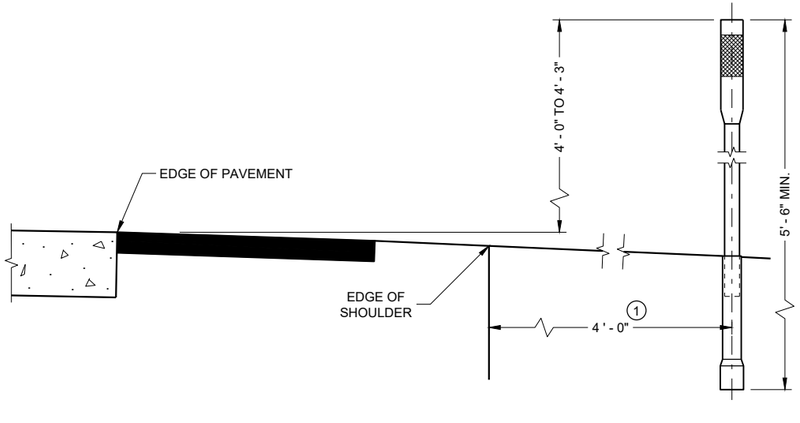
REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

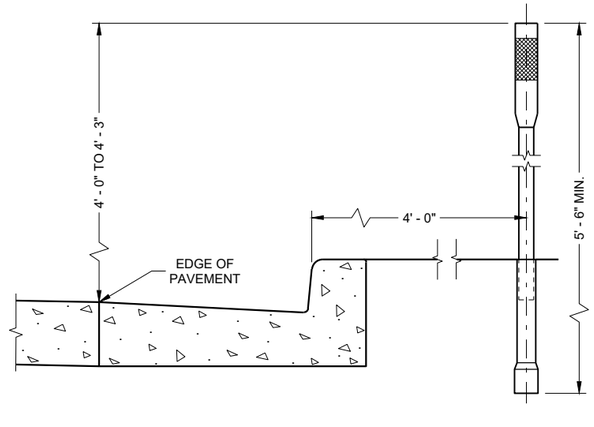
* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER





TYPICAL INSTALLATIONS OF DELINEATOR POSTS





TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF TEH 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.
2. FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

DELINEATOR POST WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

6

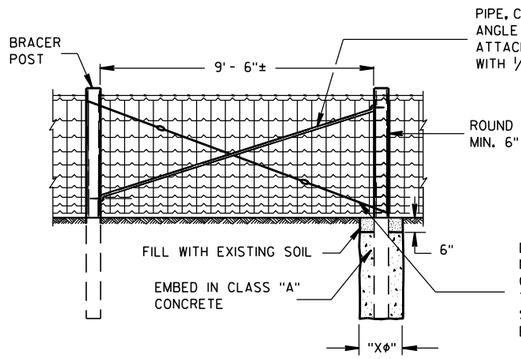
SDD 15A04 - 05c

6

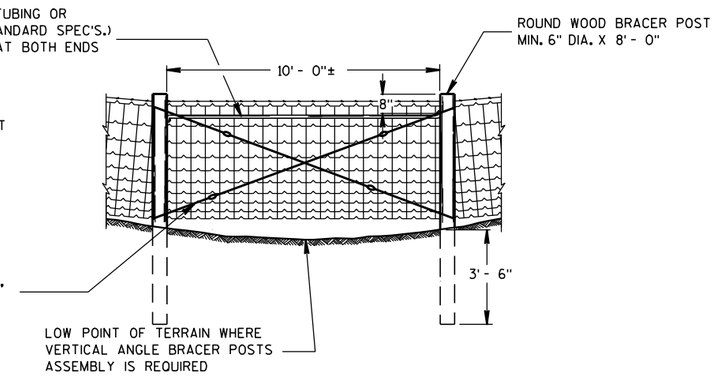
SDD 15A04 - 05c

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

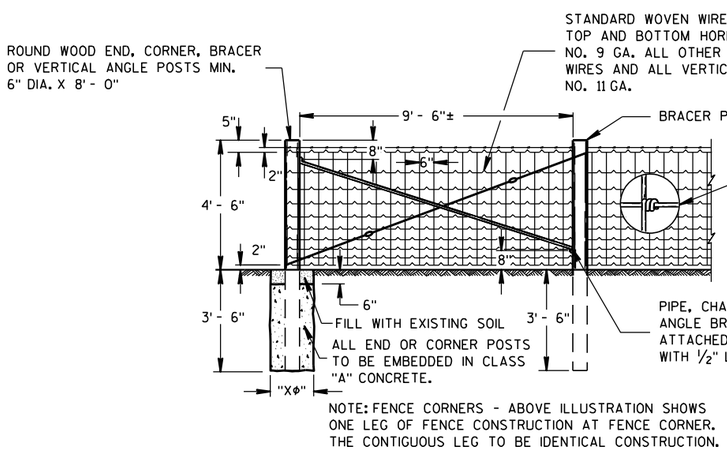
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

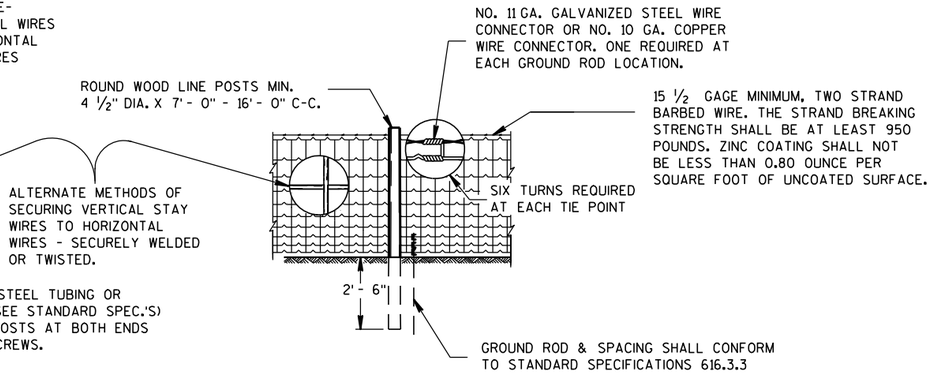
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



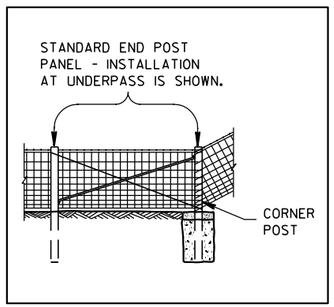
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

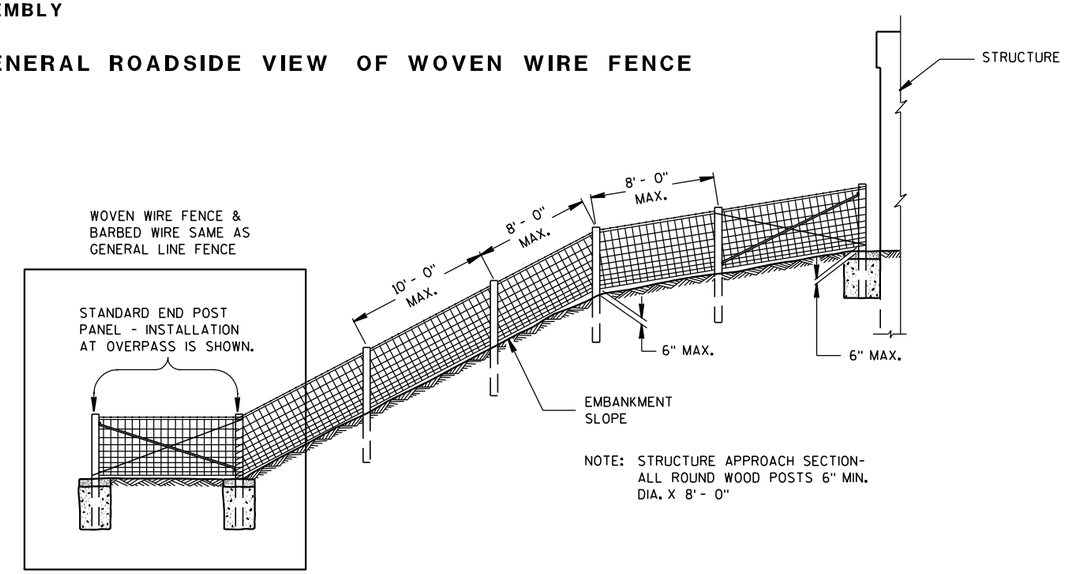


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

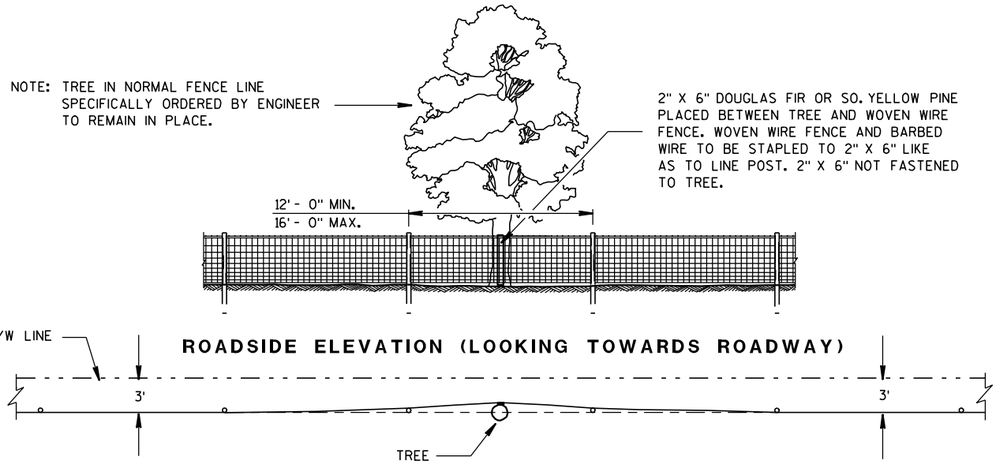
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

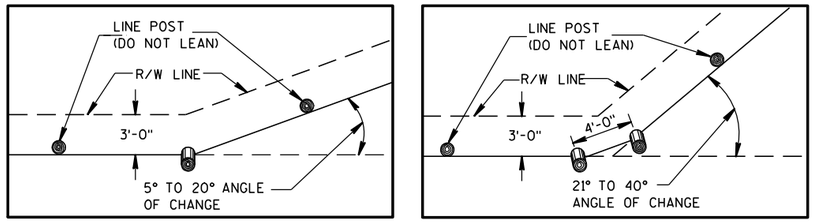
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



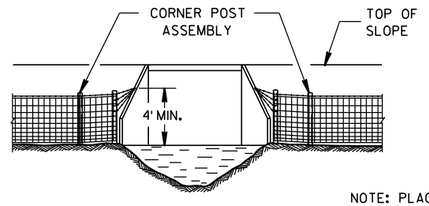
PLAN VIEW SINGLE POST CORNER

PLAN VIEW DOUBLE POST CORNER

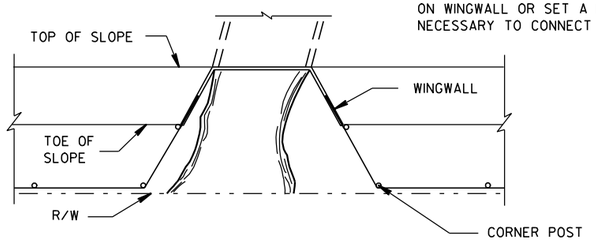
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

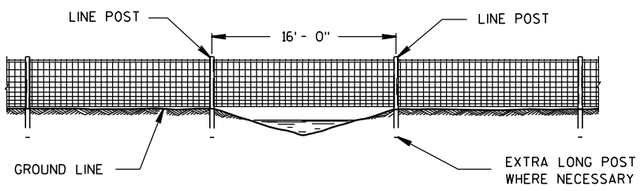
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



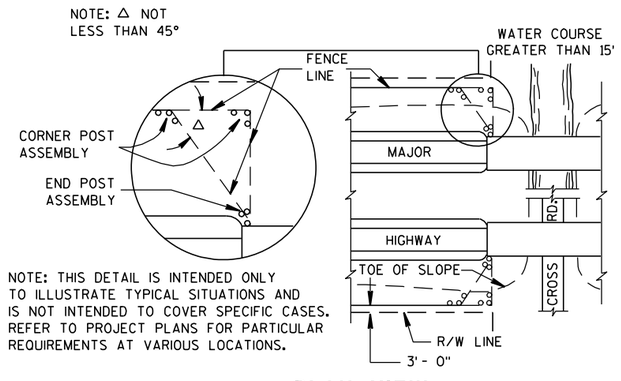
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

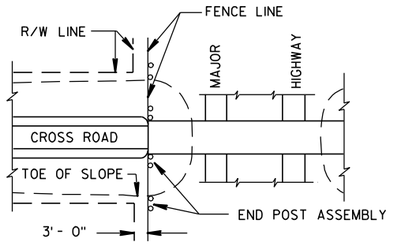


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



PLAN VIEW

MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH

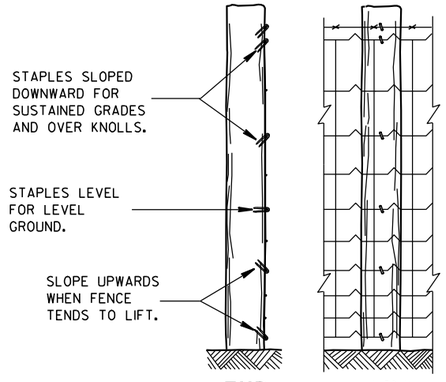


PLAN VIEW

MAJOR HIGHWAY UNDERPASS

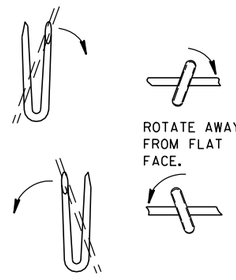
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

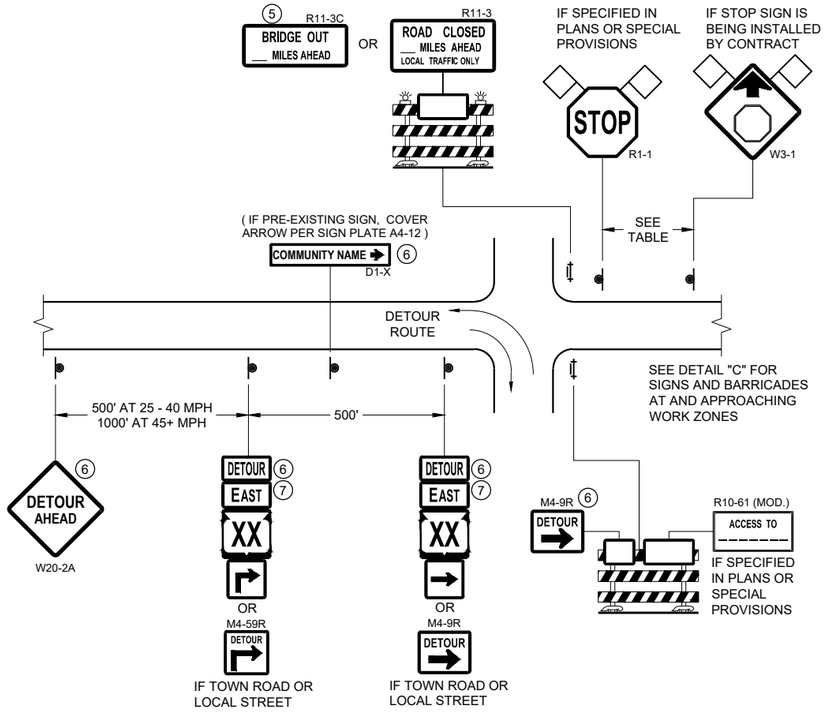
FENCE WOVEN WIRE

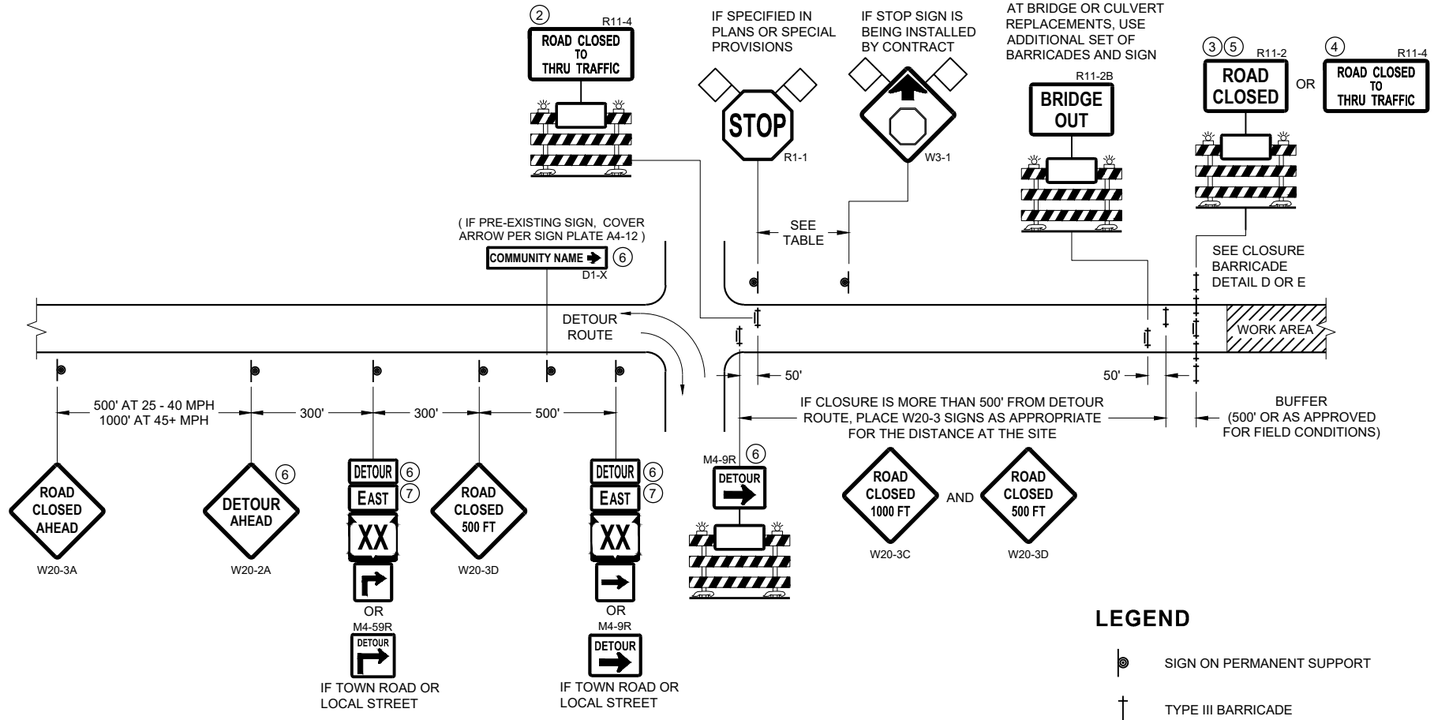
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 DATE
/S/ Jerry H. ---
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 15 B 1-8b





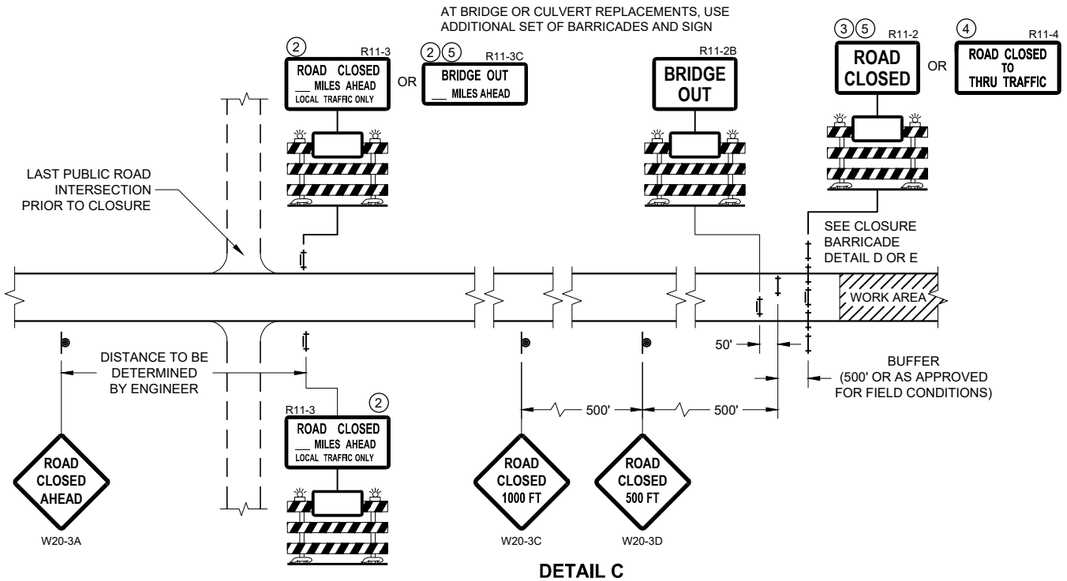
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

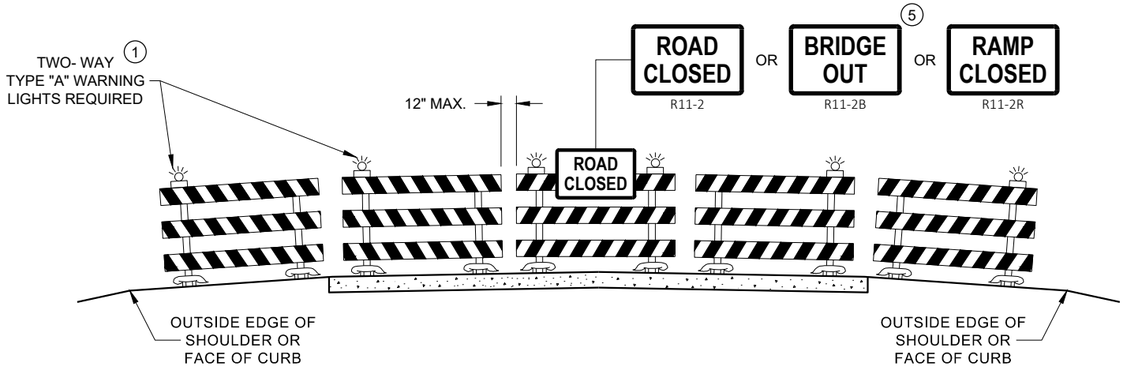
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

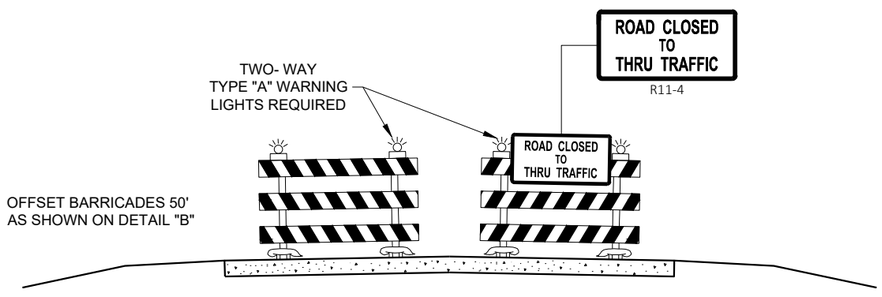
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SDD 15C02 - 07a

SDD 15C02 - 07a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 07b

6

SDD 15C02 - 07b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

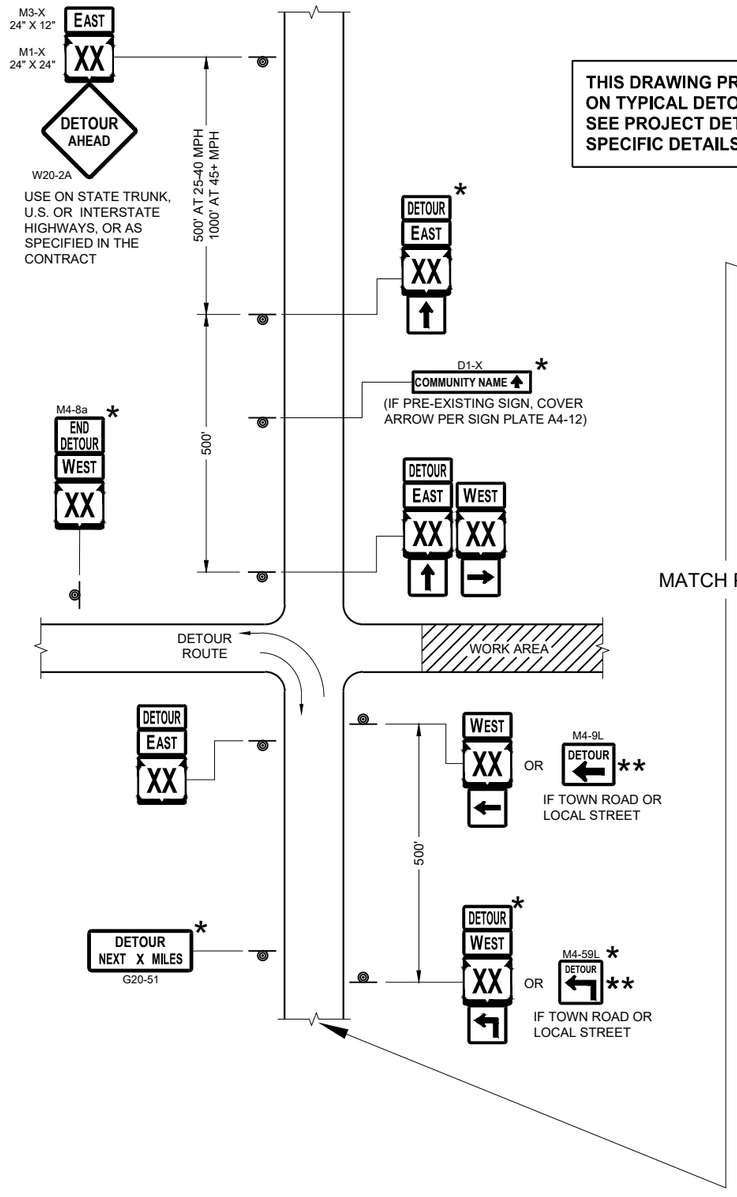
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

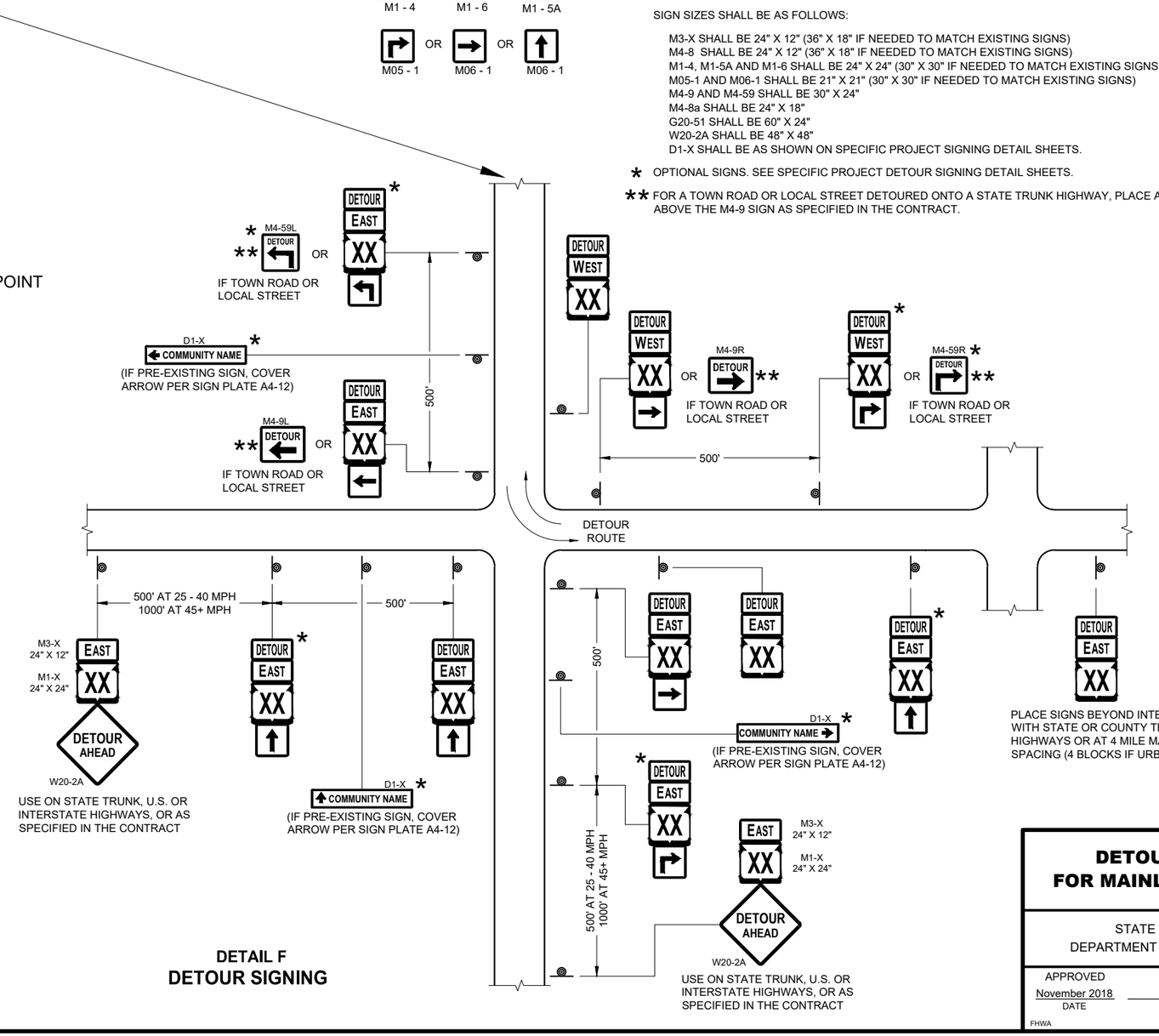
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"



DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
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DATE

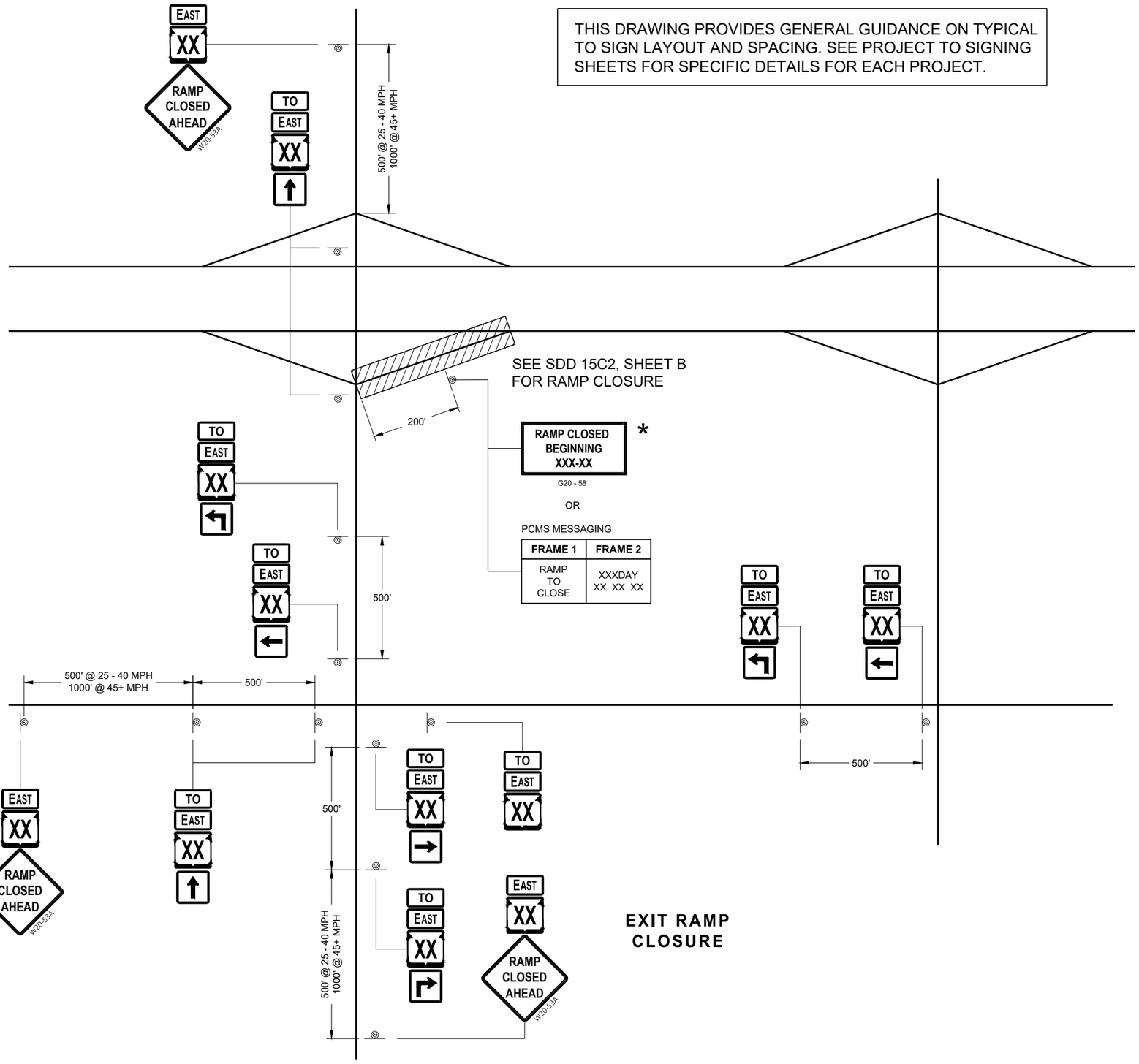
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C02 - 07c

SDD 15C02 - 07c

6



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

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

FOR LAYOU

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

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

ON RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

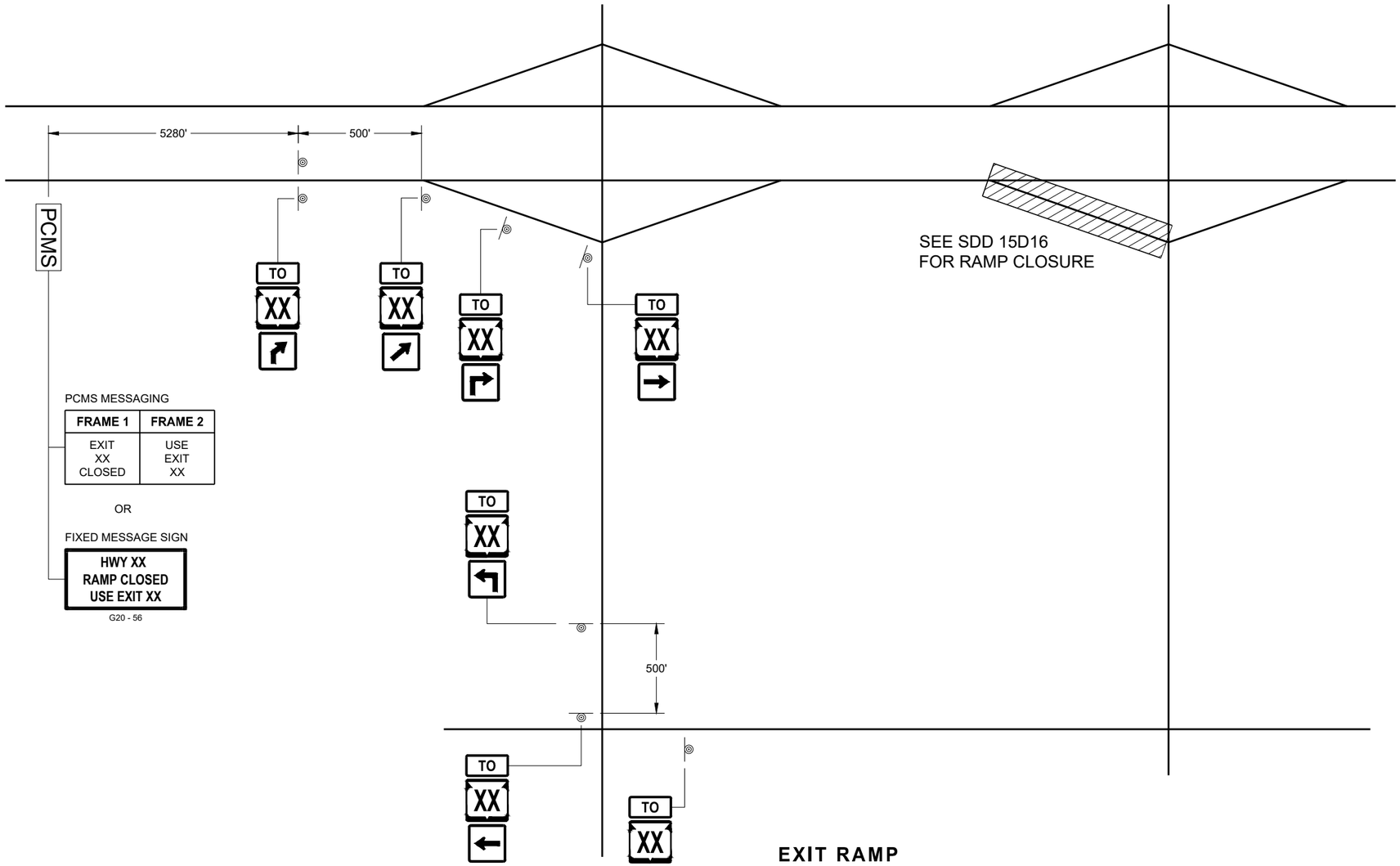
APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

SDD 15C02 - 07d

6

SDD 15C02 - 07d

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



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX
G20 - 56

EXIT RAMP CLOSURE

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOW:

MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

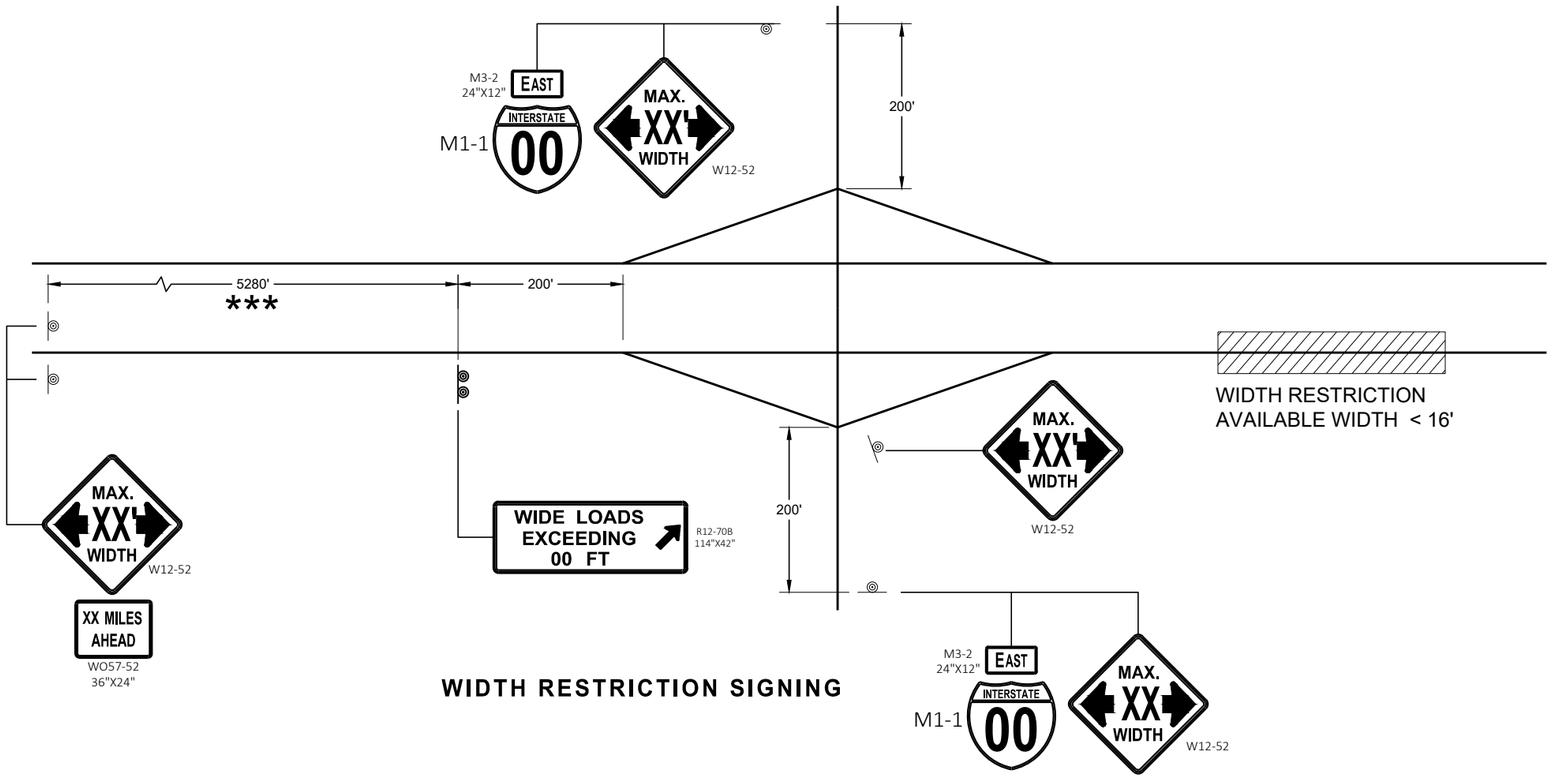
APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15C02 - 07e

SDD 15C02 - 07e



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS 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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

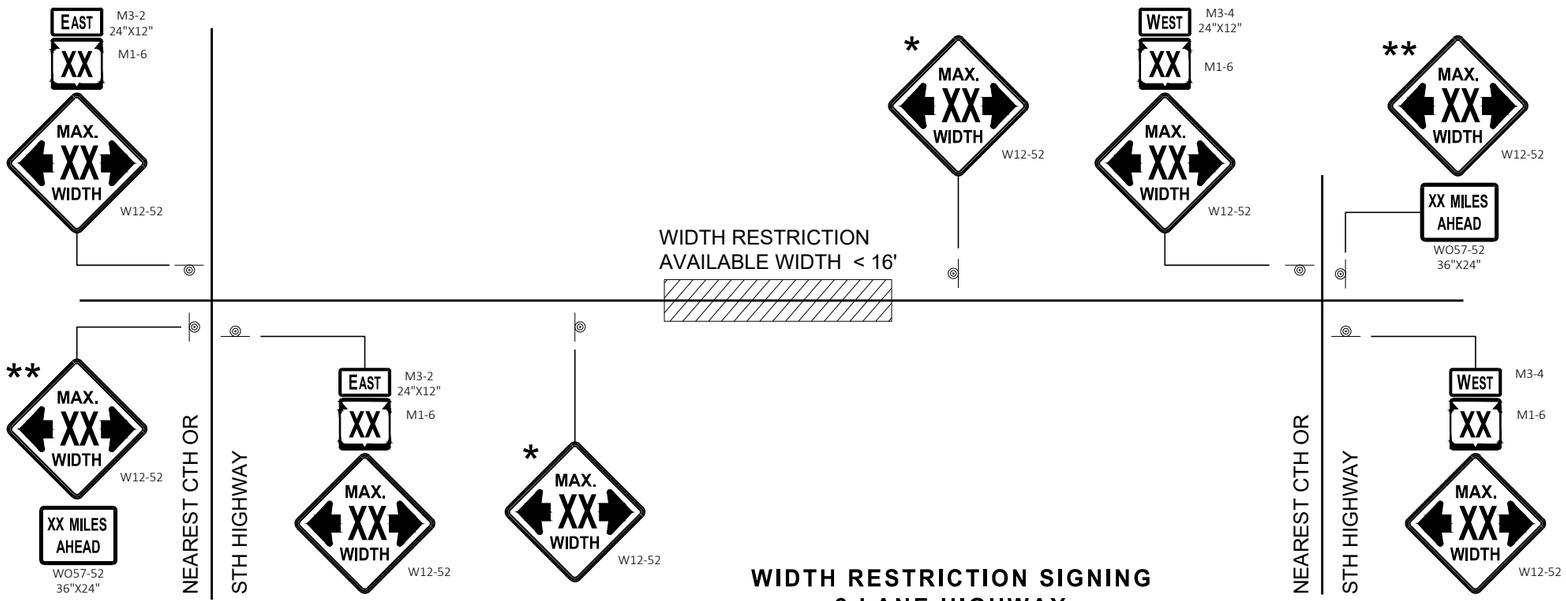
* PLACE 500 FEET BEFORE THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.



WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

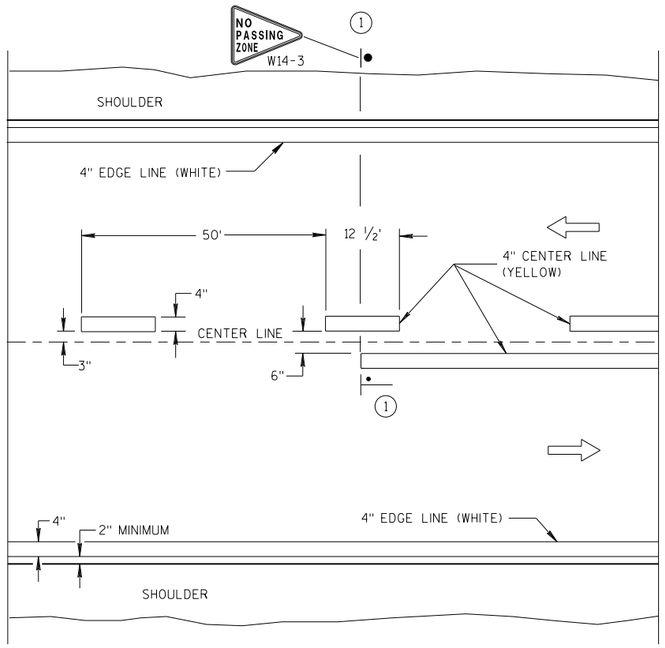
APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

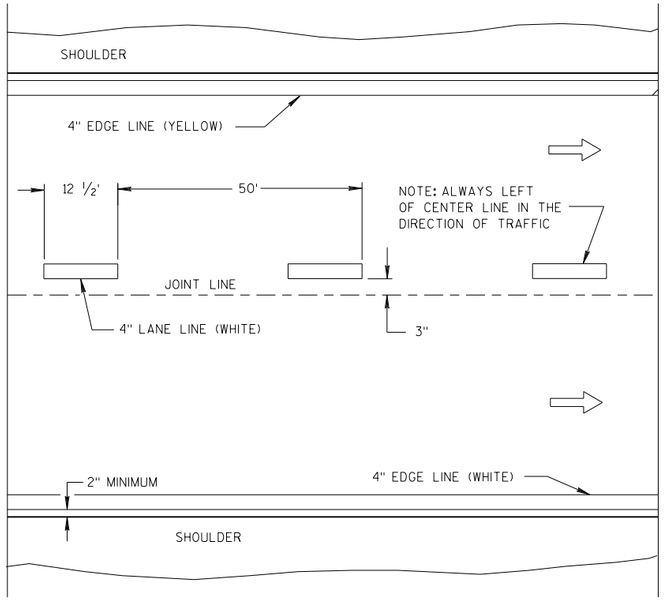
FHWA

6

SDD 15C02 - 07f



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

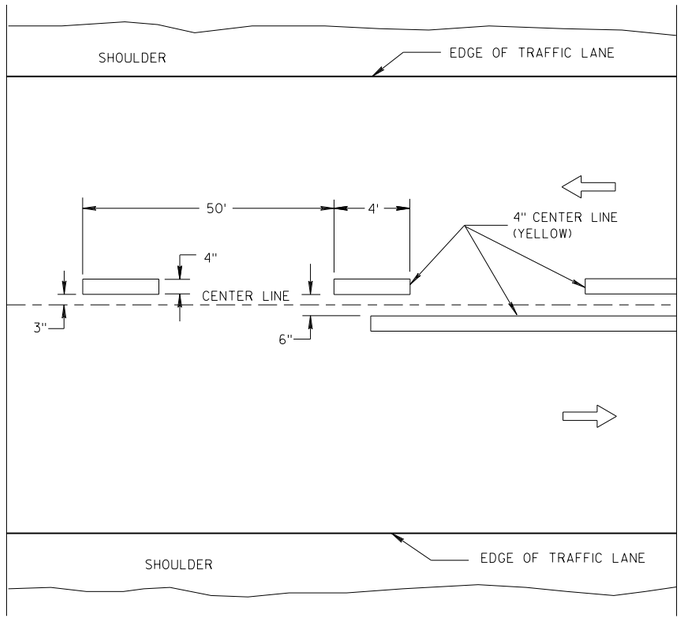
GENERAL NOTES

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

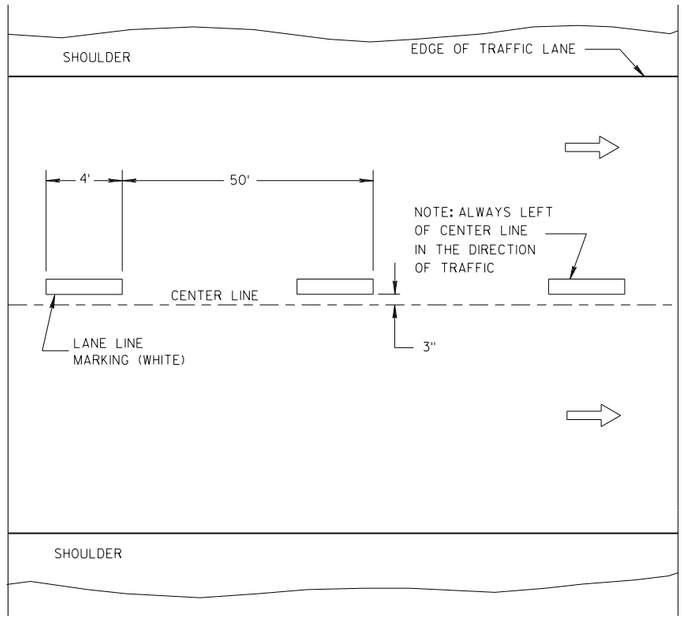
(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LEGEND

"T" MARKING

POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

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

FHWA

6

S.D.D. 15 C 8-19a

6

S.D.D. 15 C 8-19a

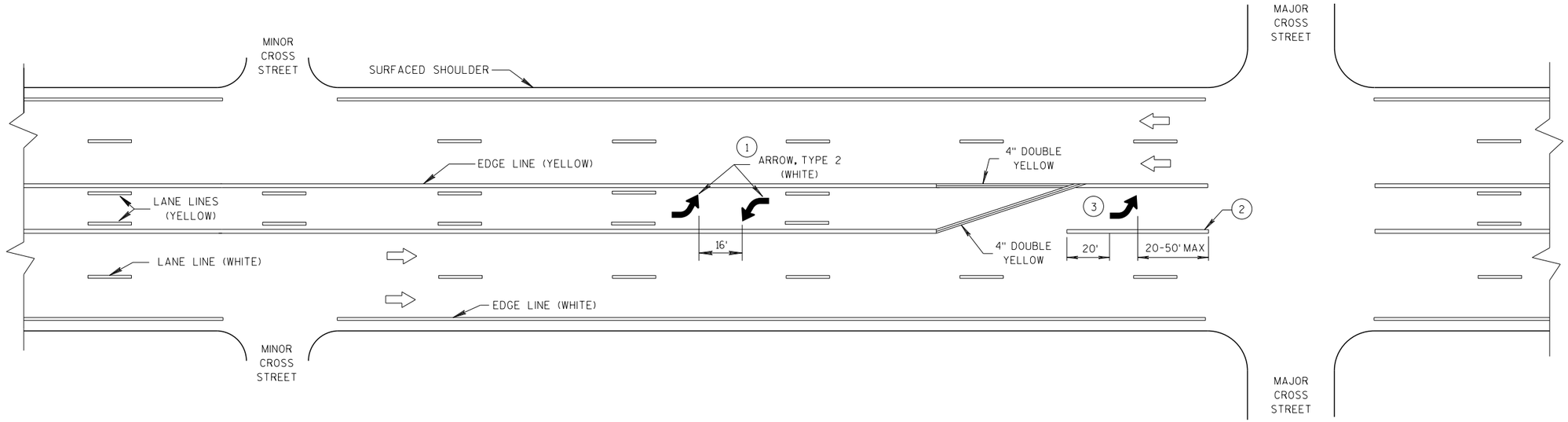
GENERAL NOTES

(1) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(2) 8" WHITE

(3) TURN BAY LENGTH OF LESS THAN 48'DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (TURN LANES)

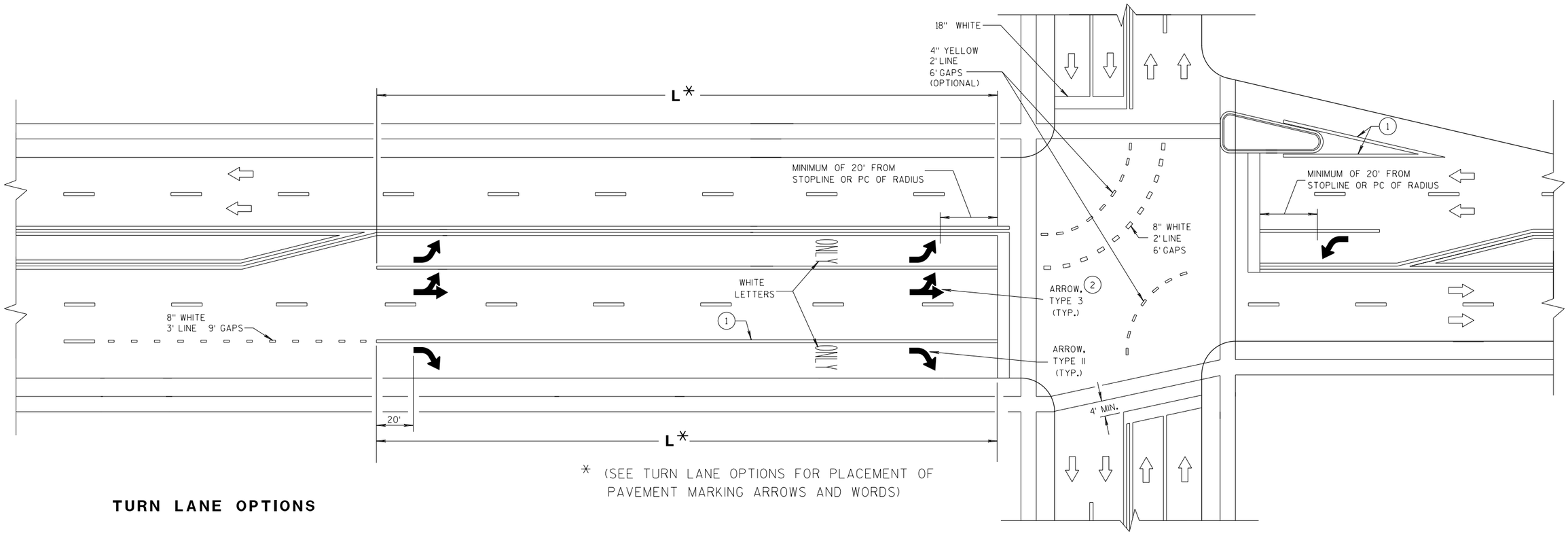
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 8-19b

6

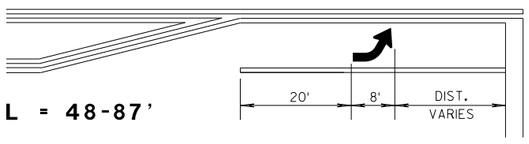
S.D.D. 15 C 8-19b



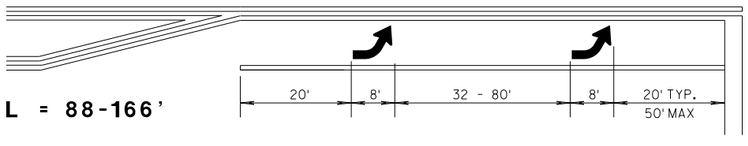
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

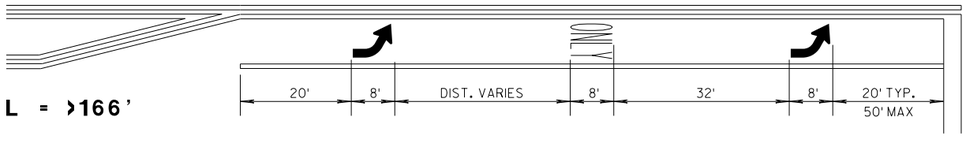
LENGTH OF TURN BAY (**L**) OF 0-47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48-87'



L = 88-166'



L = >166'

GENERAL NOTES

(1) 8" WHITE

(2) QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

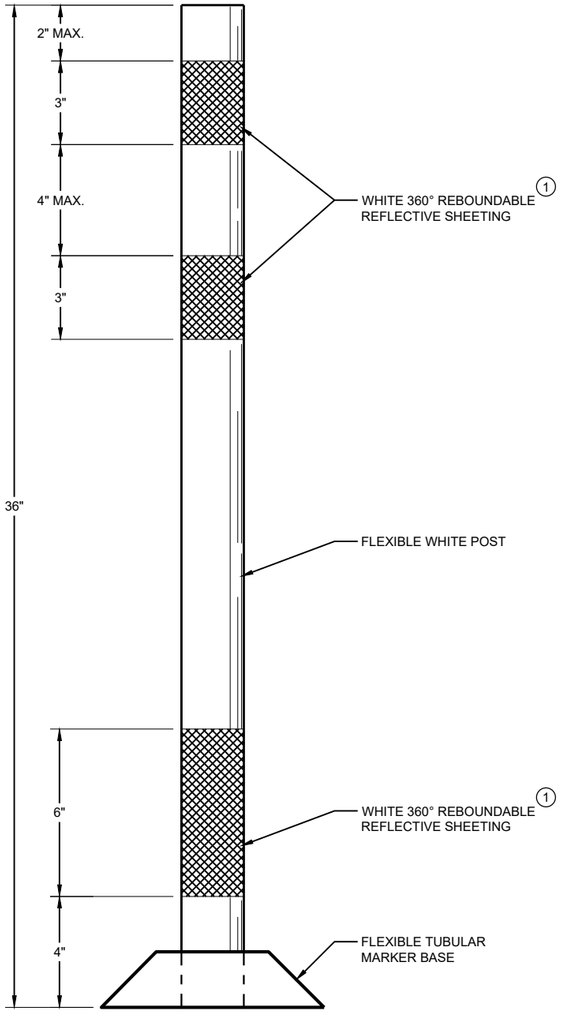
⇨ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

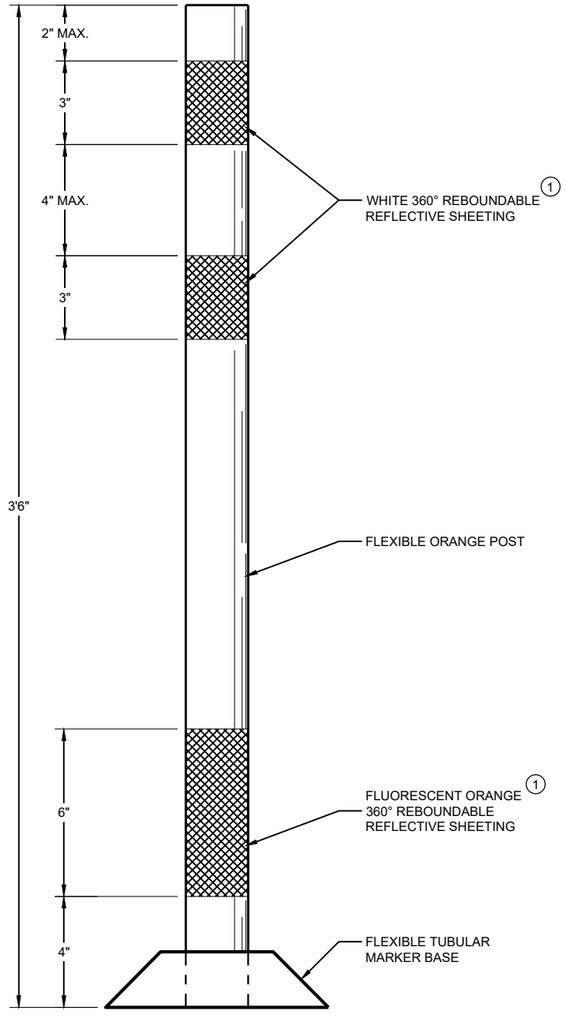
PAVEMENT MARKING (TURN LANES)

6

S.D.D. 15 C 8-19c



FLEXIBLE TUBULAR MARKER POST PERMANENT CROSSOVER



FLEXIBLE TUBULAR MARKER POST WORK ZONE

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.

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

SDD 15C11 - 07a

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

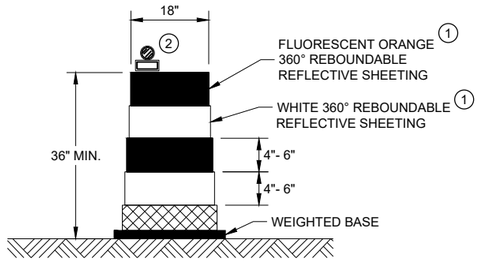
FHWA

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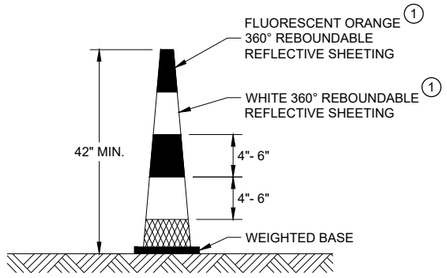
SDD 15C11 - 07a

GENERAL NOTES

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

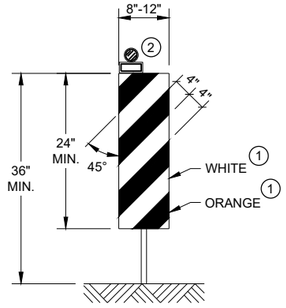


DRUM



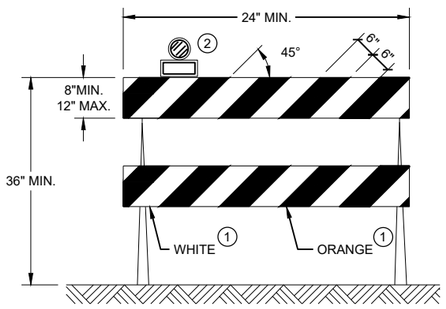
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



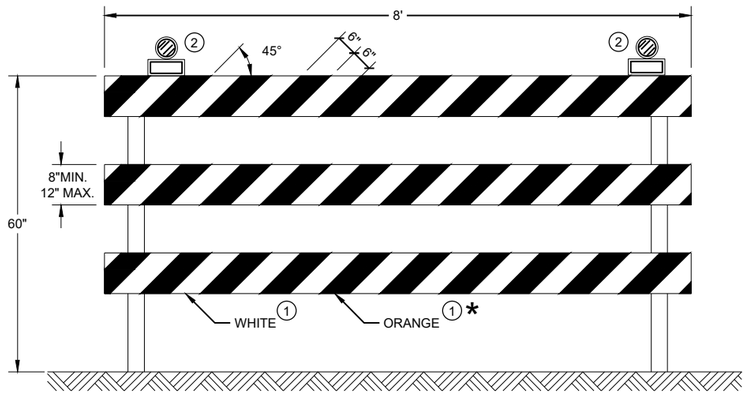
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 07b

6

SDD 15C11 - 07b

GENERAL NOTES

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

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

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

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

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

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

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

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

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

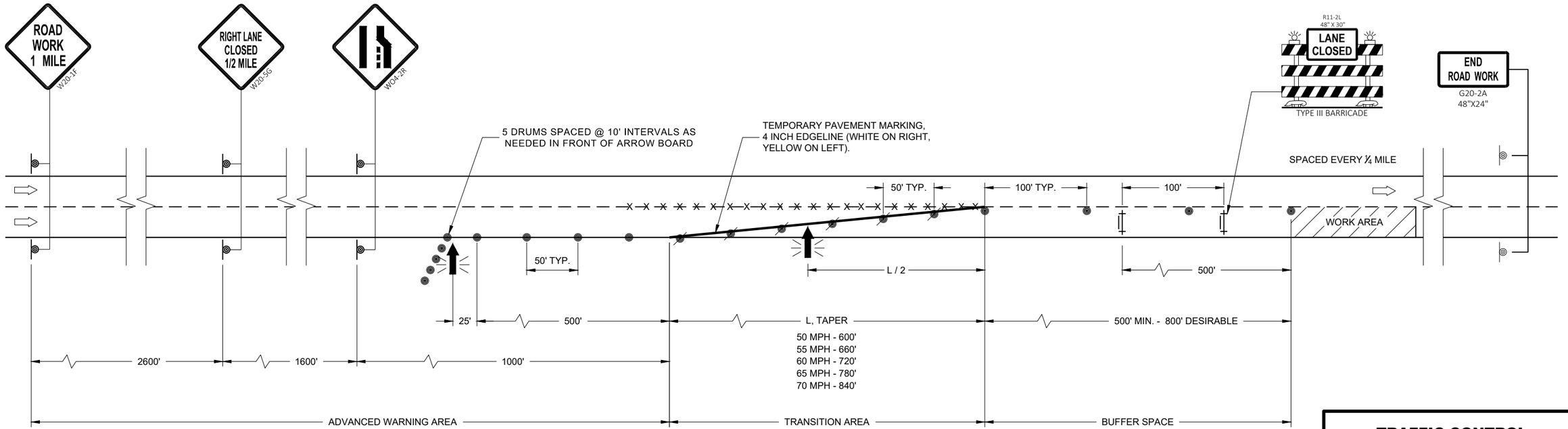
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

LEGEND

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



TRAFFIC CONTROL
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D12 - 07a

6

SDD 15D12 - 07a

GENERAL NOTES

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

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

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

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

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

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

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

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

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

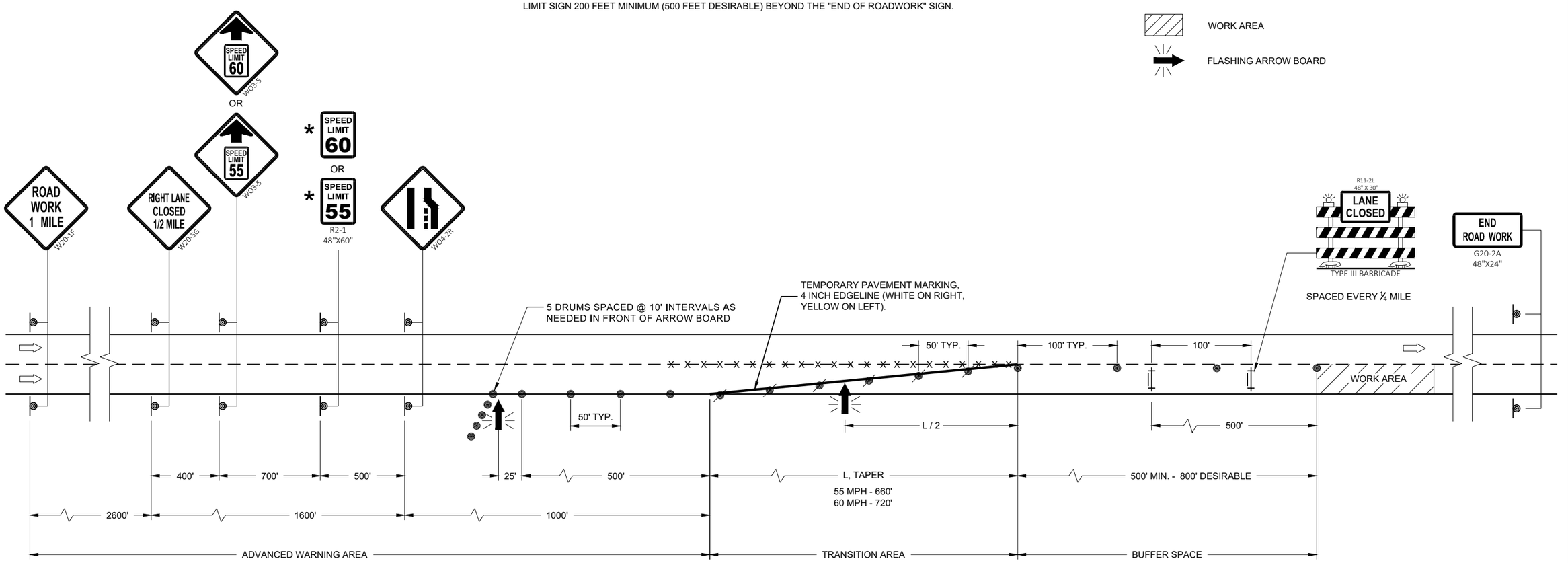
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

* A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

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



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D12 - 07b

6
SDD 15D12 - 07b

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- FBS — FLASHING BEACON SIGNS

STOPPED OR SLOW TRAFFIC WHEN FLASHING
W8-76
60x36

GENERAL NOTES

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

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

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

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

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

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

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

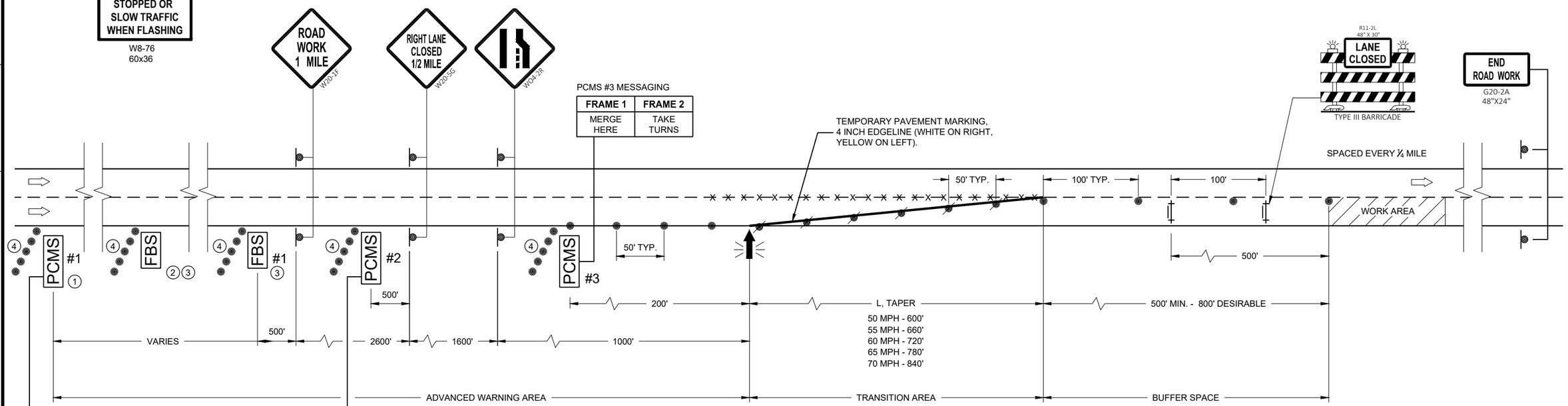
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

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

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

1. PLACE PCMS #1 ONE MILE BEYOND ESTIMATED MAXIMUM QUEUE LENGTH. PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN THE W20 - 1F AND PCMS #1 BEYOND ESTIMATED QUEUE.
2. PLACE FLASHING BEACON SIGNS EVERY ONE MILE BETWEEN PCMS #1 AND FBS #1.
3. FOR THREE LANE CONFIGURATION, PLACE FBS ON BOTH SIDES OF ROADWAY. CHANGE PCMS #1 FRAME 2 MESSAGE TO "USE ALL LANES".
4. 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.



DYNAMIC LATE MERGE SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

SDD 15D12 - 07c

SDD 15D12 - 07c

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

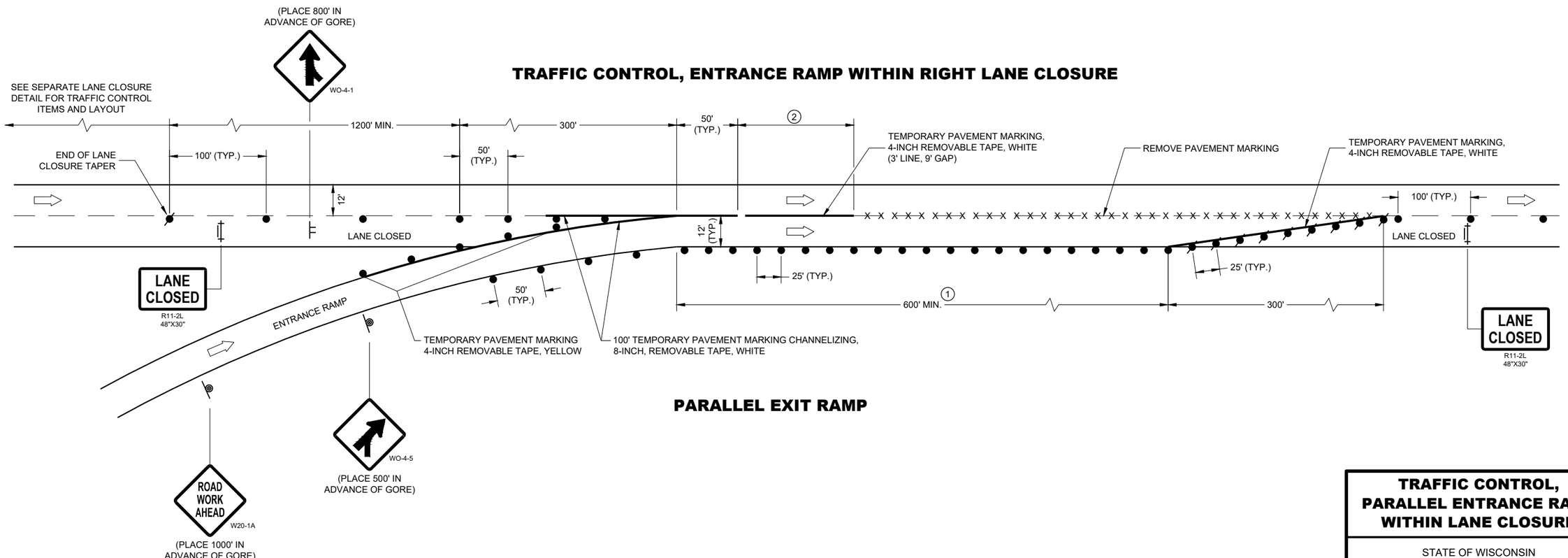
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D15 - 05a

SDD 15D15 - 05a

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

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

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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

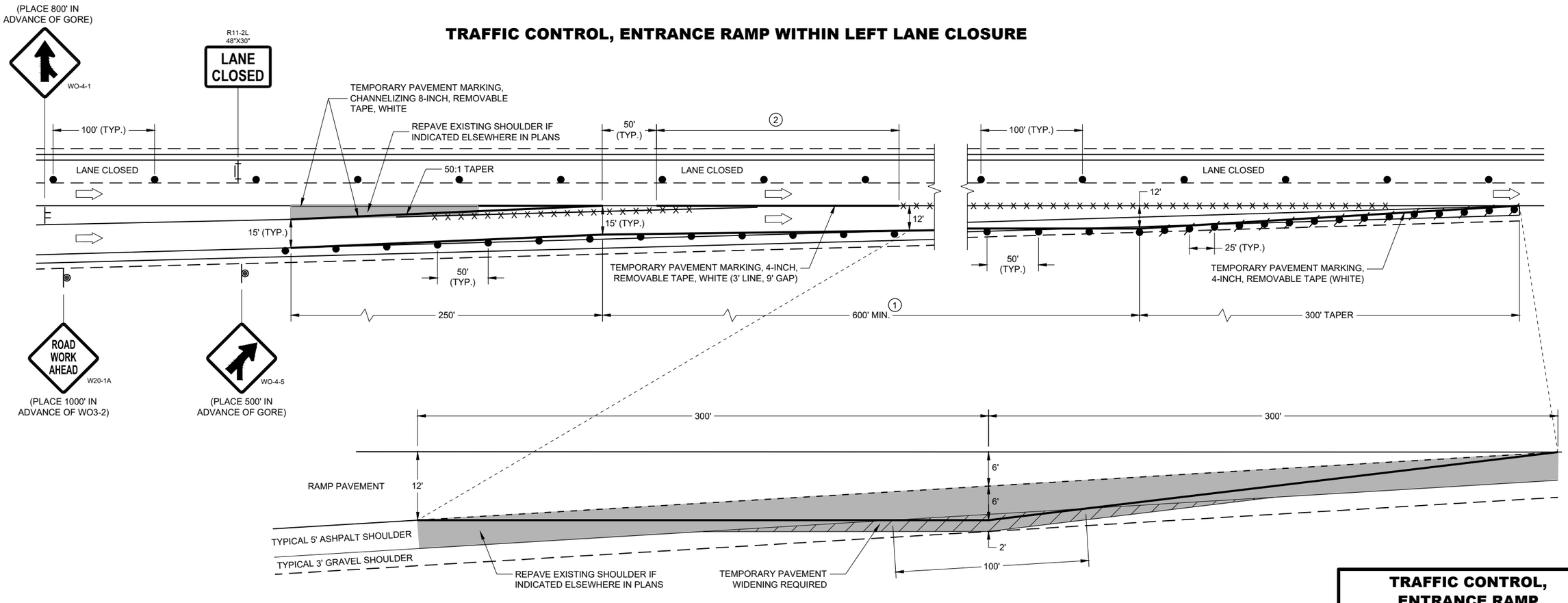
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

(2) END TEMPORARY MARKING AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



TEMPORARY PAVEMENT DETAIL

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

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D15 - 05b

SDD15D15 - 05b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

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

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

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

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

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

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

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

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

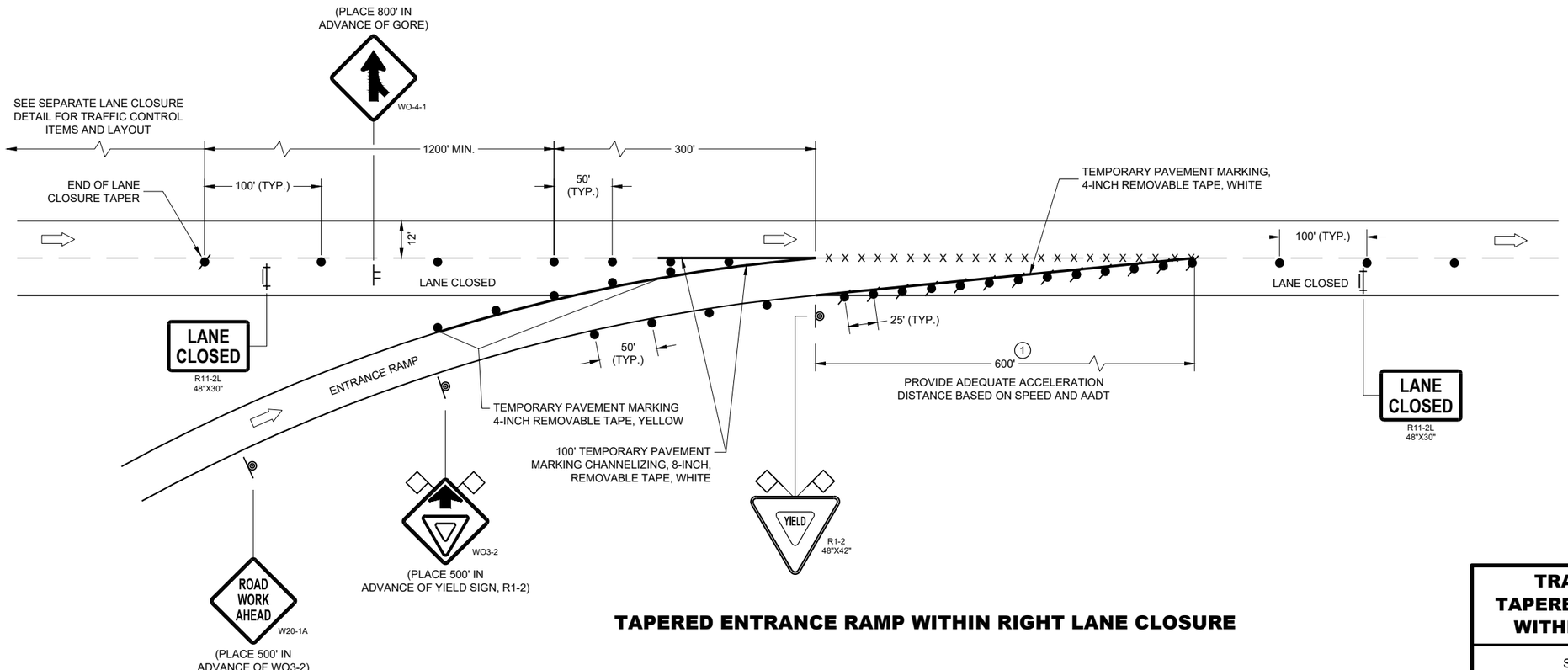
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

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

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

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15D15 - 05c

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LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

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

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

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

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

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

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

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

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

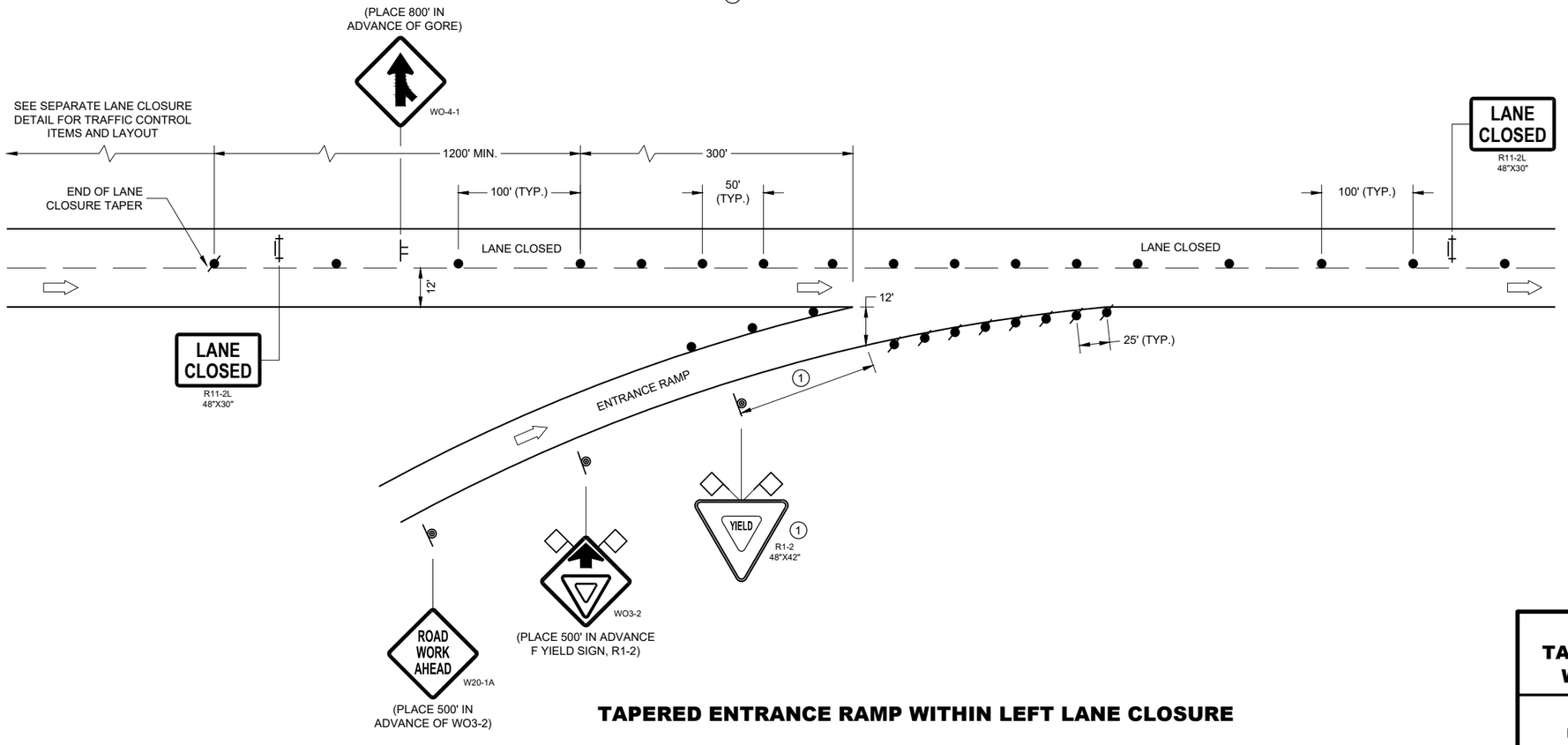
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ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

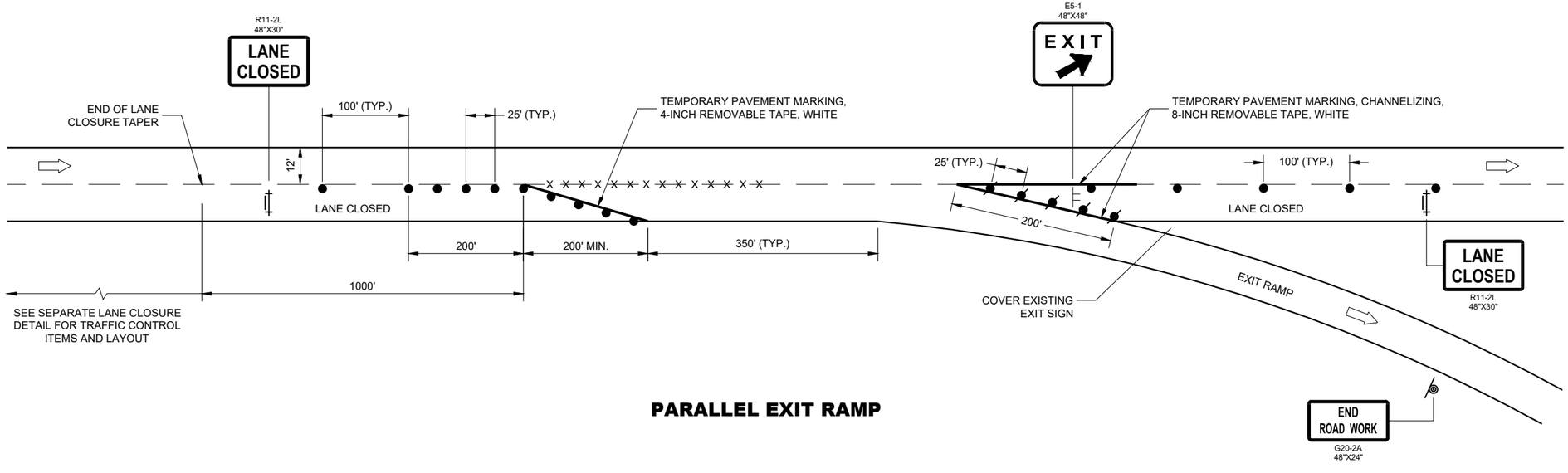
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ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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



PARALLEL EXIT RAMP

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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May 2019 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

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SDD 15D15 - 05e

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SDD 15D15 - 05e

LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

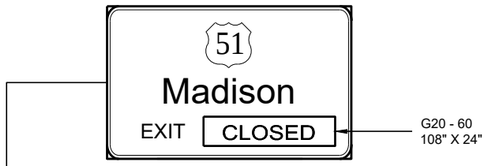
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

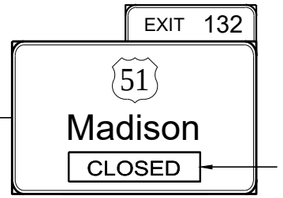
* W20 - 1A AND G20 - 2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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



G20 - 60
108" X 24"

OR



G20 - 60
108" X 24"

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



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

G20 - 61
120 ' X 30"

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

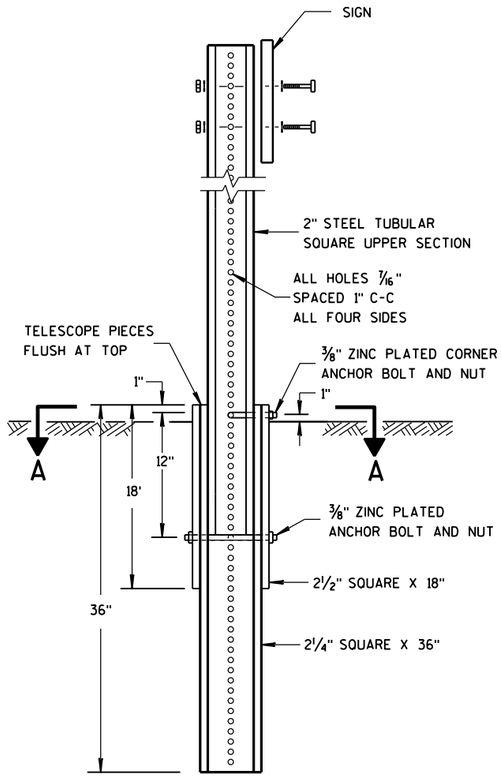
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

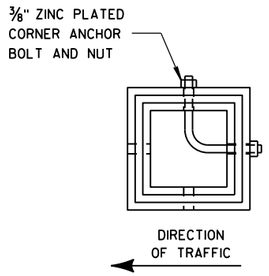
SDD 15D16 - 04

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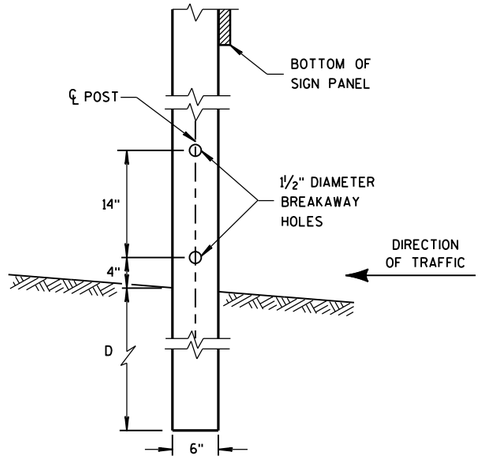
SDD 15D16 - 04



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



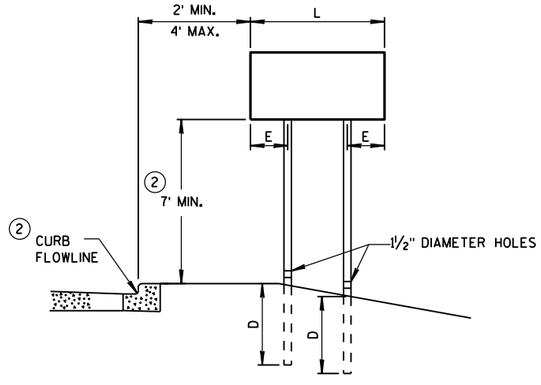
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

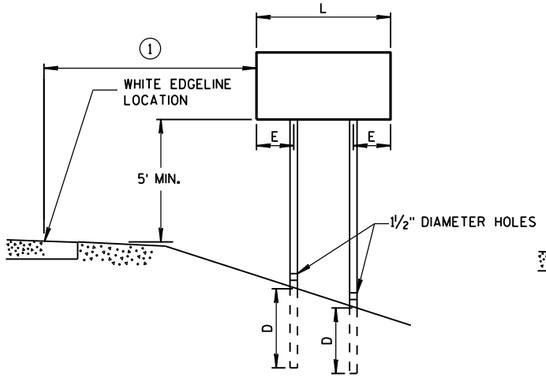
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

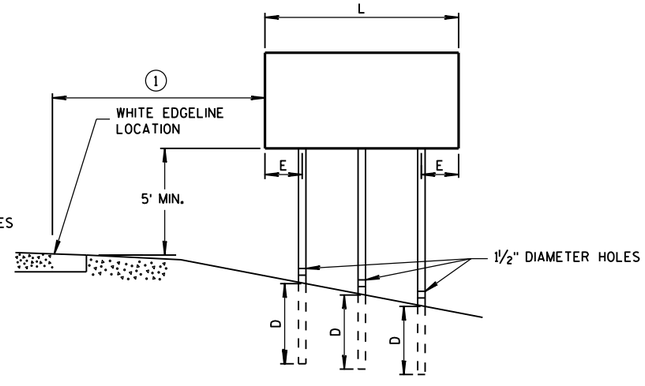
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

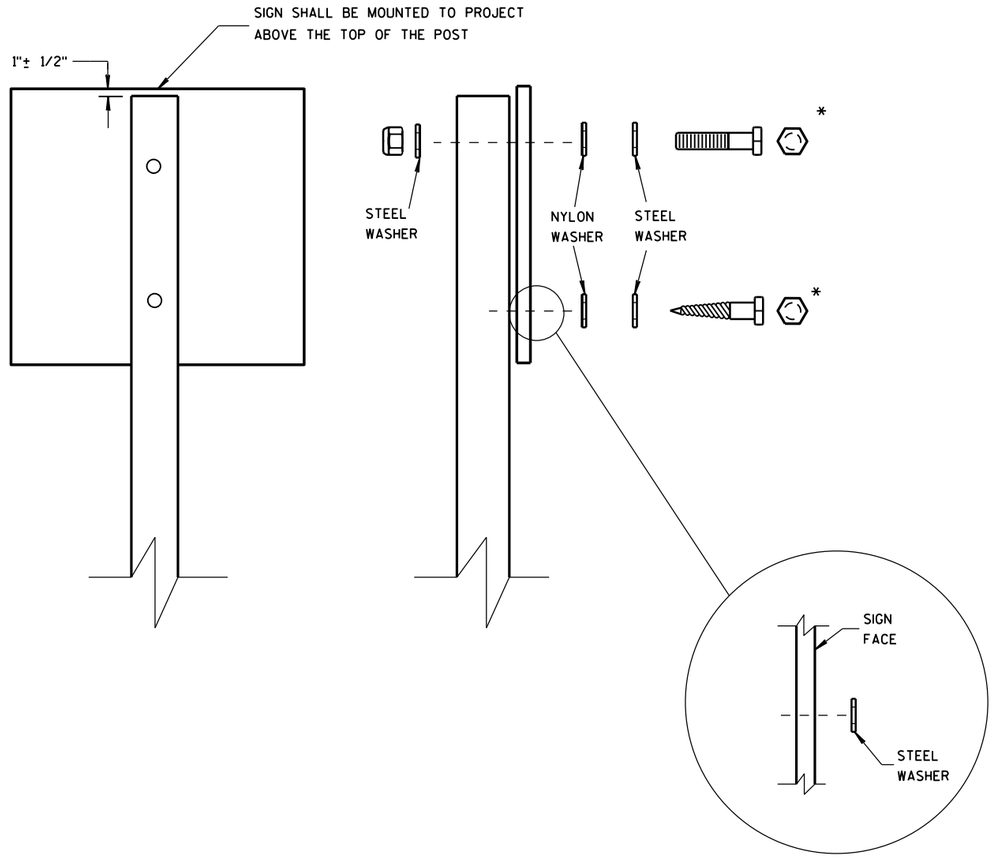
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



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

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

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

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

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

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

LAG SCREWS - 3/8" X 3"

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

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

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

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

LEGEND

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

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 SHIFTING RIGHT LANE - REVERSE FOR SHIFTING 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.

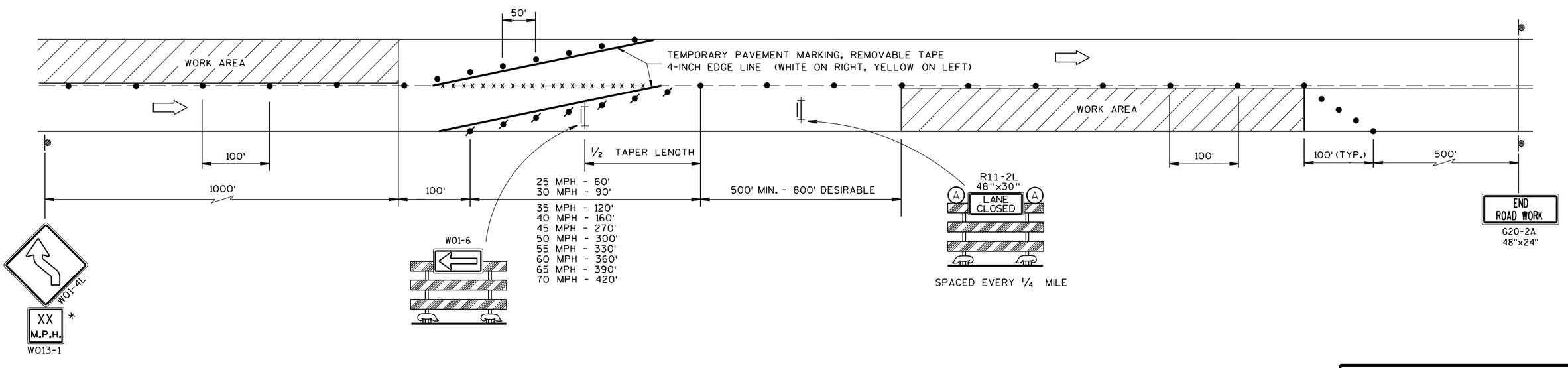
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.



* USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED

LANE SHIFT MULTI-LANE DIVIDED OR ONE WAY ROAD

TRAFFIC CONTROL, LANE SHIFT, MULTI-LANE DIVIDED OR ONE WAY ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE
/S/ Andrew I
WORK ZONE E
FHWA

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S.D.D. 15 D 40-1

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

CONCRETE BARRIER TEMPORARY PRECAST

TYPE "A" WARNING LIGHT (FLASHING)

WORK AREA

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



OR



LOCATED 3000 FEET BEYOND THE "ROAD WORK 1 MILE" (W20-1F) SIGN



R2-1
48"X60"

OR



R2-1
48"X60"

(BLACK AND WHITE) LOCATED 700 FEET BEYOND THE W03-5 SIGN

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

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 LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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.

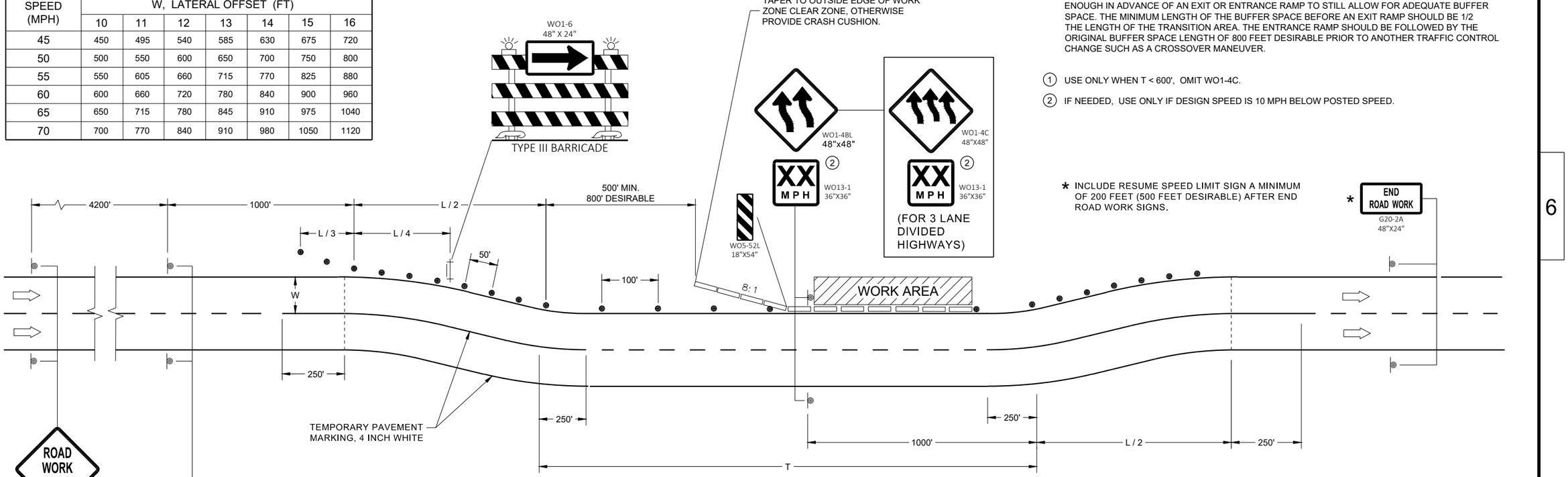
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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 SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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.

(1) USE ONLY WHEN T < 600', OMIT WO1-4C.

(2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.



MULTIPLE LANE SHIFT MULTILANE DIVIDED ROAD

TRAFFIC CONTROL
MULTIPLE LANE SHIFT
MULTILANE DIVIDED ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

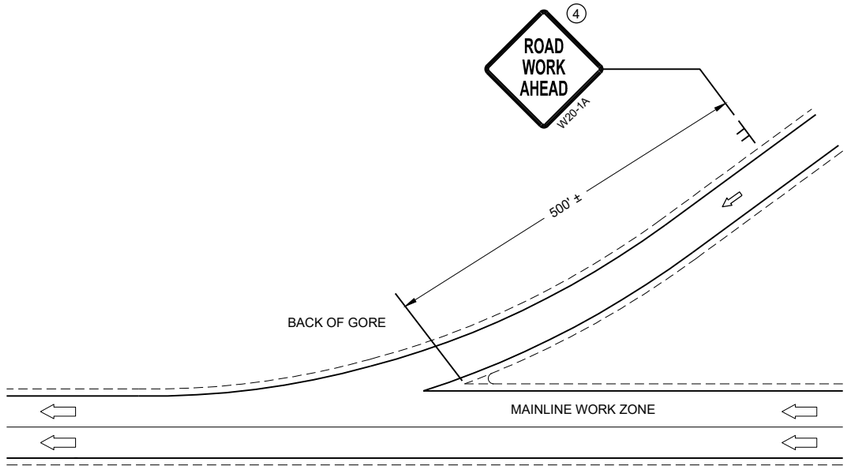
FHWA

SDD 15D41 - 01

SDD 15D41 - 01

LEGEND

- V1 MARKING VEHICLE
- V2 SHADOW VEHICLE
- V3 TRAIL VEHICLE
- ● TRAFFIC CONTROL DRUM
- TRUCK MOUNTED ATTENUATOR (TMA)
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW PANEL (MERGE)
- FLASHING ARROW PANEL (CAUTION)
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- WORK AREA



GENERAL NOTES

SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.

MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

WHEN WORK ACTIVITY BLOCKS THE RIGHT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

(1) DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

(2) DRUMS ARE TO BE USED FOR BRIDGE DECK SEALING AND OTHER PROJECTS THAT REQUIRE DELINEATION.

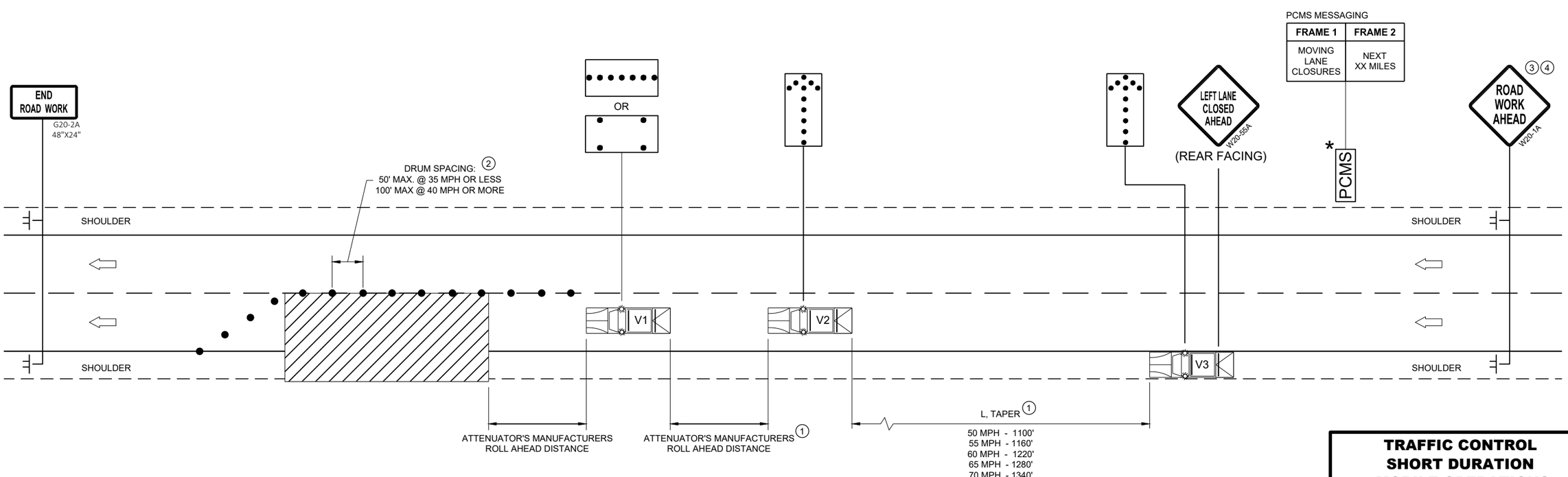
(3) WITHIN 5 MILES, RELOCATE SIGNS AS WORK PROGRESSES AND NECESSARY OR AS DIRECTED BY THE ENGINEER.

(4) SIGN NOT REQUIRED IF MOVING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

* PCMS OPTIONAL

PCMS MESSAGING

FRAME 1	FRAME 2
MOVING LANE CLOSURES	NEXT XX MILES



TRAFFIC CONTROL SHORT DURATION MOBILE OPERATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D43 - 01

6

SDD 15D43 - 01

Division 1 - IH 39 SB

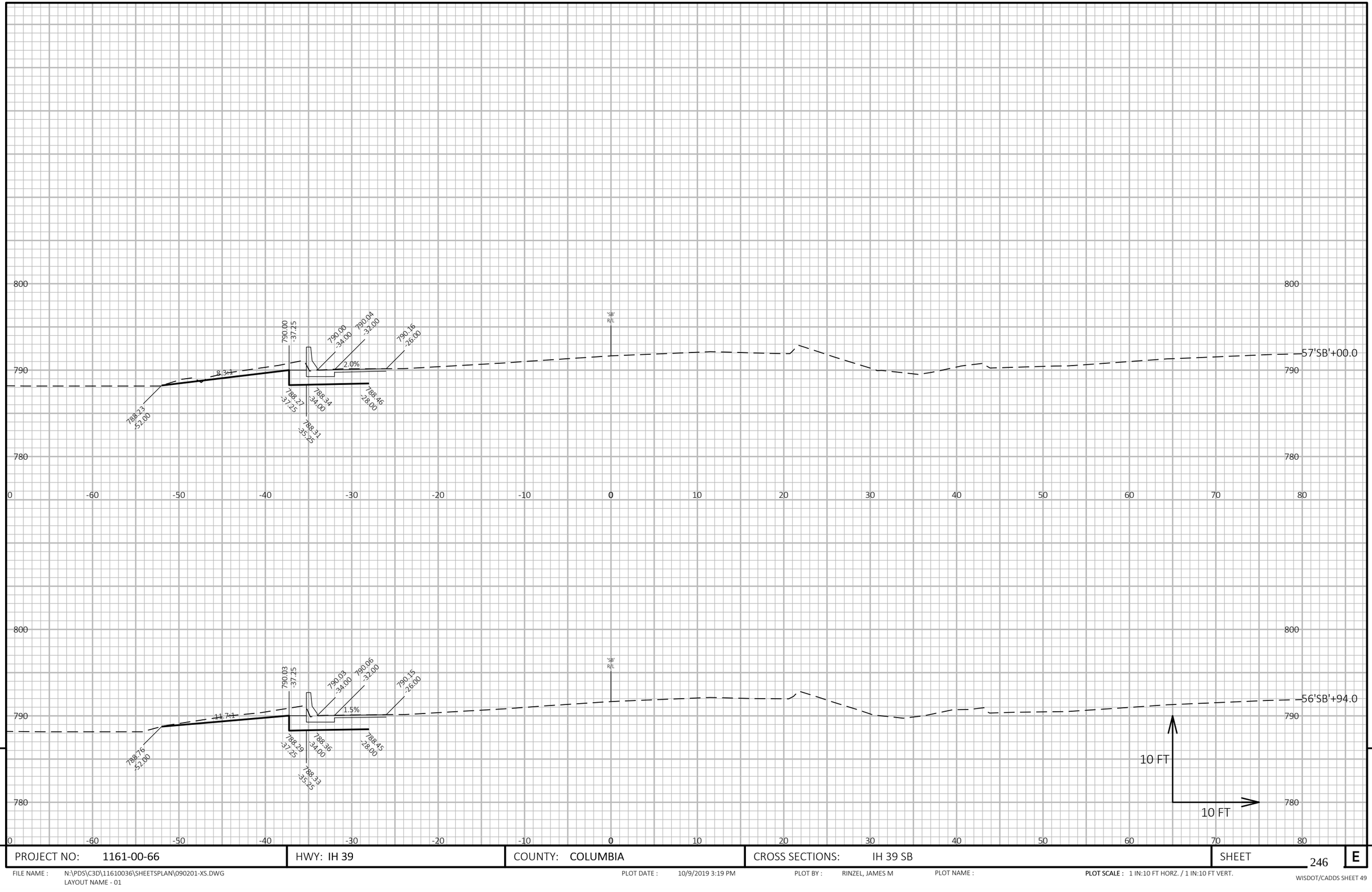
STATION	REAL STATION	DISTANCE	AREA (SF)						INCREMENTAL VOL (CY) (UNADJUSTED)						CUMULATIVE VOL (CY)							
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT 1.00	EXPANDED FILL 1.25	EXPANDED MARSH BACKFILL 1.50	EXPANDED ROCK 1.10	EXPANDED EBS/BACKFILL 1.30	REDUCED MARSH IN FILL 0.00	REDUCED EBS IN FILL 0.80	MASS ORDINATE
56+94	5694.00	0.00	24.75	2.33	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57+00	5700.00	6.00	24.51	2.33	0.07	0.00	0.00	0.00	5	1	0	0	0	0	5	0	0	0	0	0	0	5
57+06.09	5706.09	6.09	29.39	2.33	1.26	0.00	0.00	0.00	6	1	0	0	0	0	12	0	0	0	0	0	0	10
57+17	5717.00	10.91	21.94	2.33	0.00	0.00	0.00	0.00	10	1	0	0	0	0	22	1	0	0	0	0	0	19
58+42.35	5842.35	0.00	19.89	2.95	0.37	0.00	0.00	0.00	0	0	0	0	0	0	22	1	0	0	0	0	0	19
58+50	5850.00	7.65	20.03	3.06	0.29	0.00	0.00	0.00	6	1	0	0	0	0	28	1	0	0	0	0	0	24
58+57.52	5857.52	7.52	19.88	3.06	0.32	0.00	0.00	0.00	6	1	0	0	0	0	33	1	0	0	0	0	0	29
58+68.14	5868.14	10.62	20.30	2.98	0.32	0.00	0.00	0.00	8	1	0	0	0	0	41	1	0	0	0	0	0	35
58+74.58	5874.58	6.44	20.42	2.89	0.22	0.00	0.00	0.00	5	1	0	0	0	0	46	1	0	0	0	0	0	39
59+00	5900.00	25.42	20.41	2.33	0.14	0.00	0.00	0.00	19	2	0	0	0	0	65	1	0	0	0	0	0	56
59+50	5950.00	50.00	19.58	2.33	0.09	0.00	0.00	0.00	37	4	0	0	0	0	102	1	0	0	0	0	0	88
60+00	6000.00	50.00	16.82	2.33	0.04	0.00	0.00	0.00	34	4	0	0	0	0	136	2	0	0	0	0	0	118
60+06.94	6006.94	6.94	16.35	2.33	0.03	0.00	0.00	0.00	4	1	0	0	0	0	140	2	0	0	0	0	0	121
60+50	6050.00	43.06	15.84	2.33	0.07	0.00	0.00	0.00	26	4	0	0	0	0	166	2	0	0	0	0	0	143
61+00	6100.00	50.00	15.78	2.33	0.18	0.00	0.00	0.00	29	4	0	0	0	0	195	2	0	0	0	0	0	168
61+50	6150.00	50.00	16.50	2.33	0.03	0.00	0.00	0.00	30	4	0	0	0	0	225	2	0	0	0	0	0	193
62+00	6200.00	50.00	16.14	2.33	0.10	0.00	0.00	0.00	30	4	0	0	0	0	255	2	0	0	0	0	0	219
62+50	6250.00	50.00	16.50	2.33	0.03	0.00	0.00	0.00	30	4	0	0	0	0	285	3	0	0	0	0	0	245
63+00	6300.00	50.00	16.12	2.33	0.15	0.00	0.00	0.00	30	4	0	0	0	0	316	3	0	0	0	0	0	270
63+50	6350.00	50.00	15.97	2.33	0.22	0.00	0.00	0.00	30	4	0	0	0	0	345	3	0	0	0	0	0	295
64+00	6400.00	50.00	15.89	2.33	0.11	0.00	0.00	0.00	29	4	0	0	0	0	375	4	0	0	0	0	0	320
64+50	6450.00	50.00	16.37	2.33	0.04	0.00	0.00	0.00	30	4	0	0	0	0	405	4	0	0	0	0	0	345
65+00	6500.00	50.00	16.79	2.33	0.20	0.00	0.00	0.00	31	4	0	0	0	0	435	4	0	0	0	0	0	371
65+38	6538.00	38.00	16.41	2.33	0.16	0.00	0.00	0.00	23	3	0	0	0	0	459	4	0	0	0	0	0	391
65+46.09	6546.09	8.09	25.48	2.33	0.41	0.00	0.00	0.00	6	1	0	0	0	0	465	4	0	0	0	0	0	397
65+48.62	6548.62	2.52	25.46	2.33	0.39	0.00	0.00	0.00	2	0	0	0	0	0	467	4	0	0	0	0	0	399
65+50	6550.00	1.38	0.00	0.00	0.00	0.00	0.00	0.00	1	0	0	0	0	0	468	4	0	0	0	0	0	399
65+73	6573.00	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
65+75	6575.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
66+00	6600.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
66+50	6650.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
67+00	6700.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
67+45	6745.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
67+45.69	6745.69	0.69	0.01	0.00	0.07	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
67+50	6750.00	4.31	0.06	0.00	0.01	0.00	0.00	0.00	0	0	0	0	0	0	468	4	0	0	0	0	0	399
67+75	6775.00	25.00	1.80	0.00	0.00	0.00	0.00	0.00	1	0	0	0	0	0	469	5	0	0	0	0	0	400
68+00	6800.00	25.00	3.56	0.00	0.00	0.00	0.00	0.00	2	0	0	0	0	0	471	5	0	0	0	0	0	403
68+10.6	6810.60	10.60	3.55	0.00	0.00	0.00	0.00	0.00	1	0	0	0	0	0	473	5	0	0	0	0	0	404
68+21.47	6821.47	10.87	2.43	0.00	0.09	0.00	0.00	0.00	1	0	0	0	0	0	474	5	0	0	0	0	0	405
68+50	6850.00	28.53	0.36	0.00	0.01	0.00	0.00	0.00	1	0	0	0	0	0	475	5	0	0	0	0	0	407
68+54.35	6854.35	4.35	0.21	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	475	5	0	0	0	0	0	407
68+66.97	6866.97	12.62	0.00	0.00	0.63	0.00	0.00	0.00	0	0	0	0	0	0	476	5	0	0	0	0	0	407
68+79.59	6879.59	12.62	0.00	0.00	1.60	0.00	0.00	0.00	0	0	1	0	0	0	476	5	0	0	0	0	0	406
69+00	6900.00	20.41	0.00	0.00	4.19	0.00	0.00	0.00	0	0	2	0	0	0	476	8	0	0	0	0	0	403
69+04.85	6904.85	4.85	0.00	0.00	5.00	0.00	0.00	0.00	0	0	1	0	0	0	476	9	0	0	0	0	0	402
69+20.39	6920.39	15.54	0.00	0.00	4.28	0.00	0.00	0.00	0	0	3	0	0	0	476	13	0	0	0	0	0	399
69+40	6940.00	19.61	0.00	0.00	1.54	0.00	0.00	0.00	0	0	2	0	0	0	476	15	0	0	0	0	0	396
69+50	6950.00	10.00	0.00	0.00	1.03	0.00	0.00	0.00	0	0	0	0	0	0	476	16	0	0	0	0	0	396
69+60	6960.00	10.00	0.00	0.00	0.59	0.00	0.00	0.00	0	0	0	0	0	0	476	16	0	0	0	0	0	395
69+75	6975.00	15.00	0.00	0.00	0.19	0.00	0.00	0.00	0	0	0	0	0	0	476	16	0	0	0	0	0	395
69+88	6988.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	476	16	0	0	0	0	0	395
69+94.85	6994.85	6.85	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	476	16	0	0	0	0	0	395
69+96	6996.00	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	476	16	0	0	0	0	0	395
									476	64	13	0	0	0								

Division 2 - IH 39 SB On-Off Ramps

STATION	REAL STATION	DISTANCE	AREA (SF)						INCREMENTAL VOL (CY) (UNADJUSTED)						CUMULATIVE VOL (CY)							
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	EXC FOR STRUCT	ROCK EXC	EBS	CUT 1.00	EXPANDED FILL 1.25	EXPANDED EXC FOR STRUCT BACKFILL 1.50	EXPANDED ROCK 1.10	EXPANDED EBS/BACKFILL 1.30	REDUCED EXC FOR STRUCT IN FILL 0.00	REDUCED EBS IN FILL 0.80	MASS ORDINATE
5+07.86	507.86	0.00	9.08	0.00	8.97	28.79	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5+15.78	515.78	7.92	7.12	0.00	0.66	27.71	0.00	0.00	2	0	1	8	0	0	2	2	12	0	0	0	0	1
5+24.28	524.28	8.50	6.33	0.00	5.88	27.61	0.00	0.00	2	0	1	9	0	0	4	3	25	0	0	0	0	1
									4	0	2	17	0	0								

PROJECT NO: 1161-00-66 | HWY: IH 39 | COUNTY: COLUMBIA | EARTHWORK SUMMARY | SHEET NO: 245 | E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ ORG DATE : _____ ORIGINATOR : DIST _ PLOT SCALE : 1:1



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 246	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

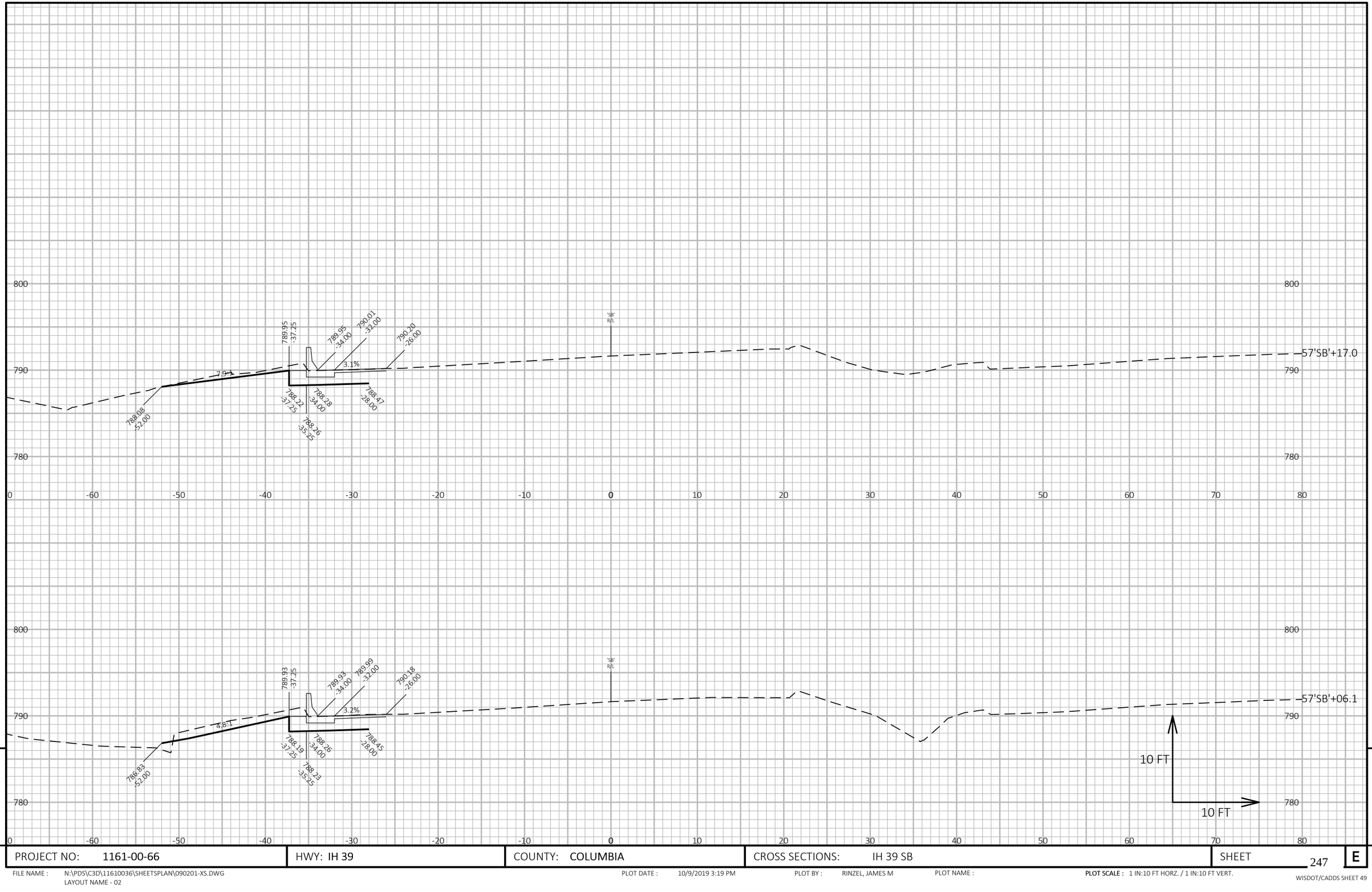
PLOT DATE : 10/9/2019 3:19 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 247	E

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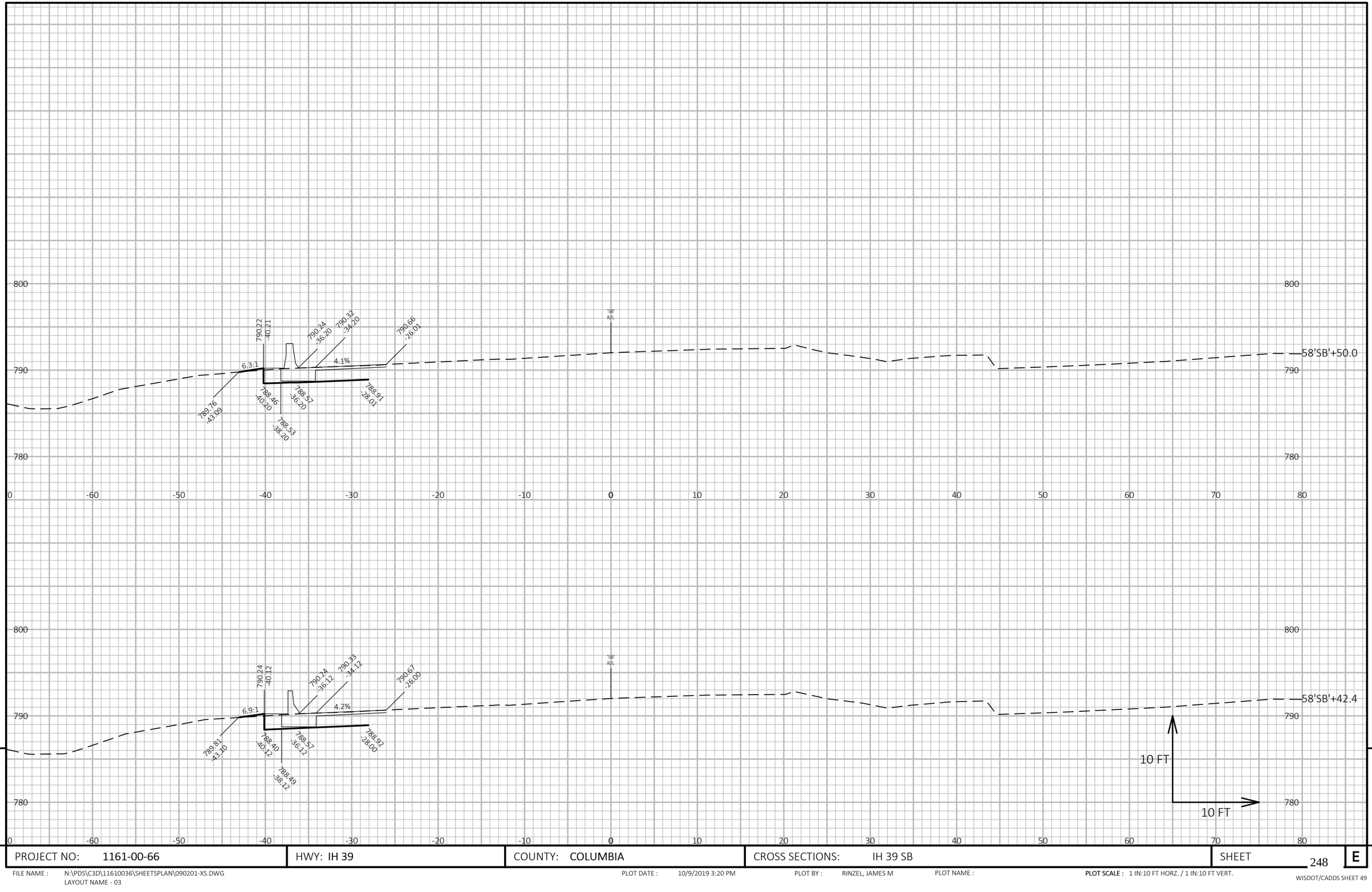
PLOT DATE : 10/9/2019 3:19 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 248	E

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LAYOUT NAME - 03

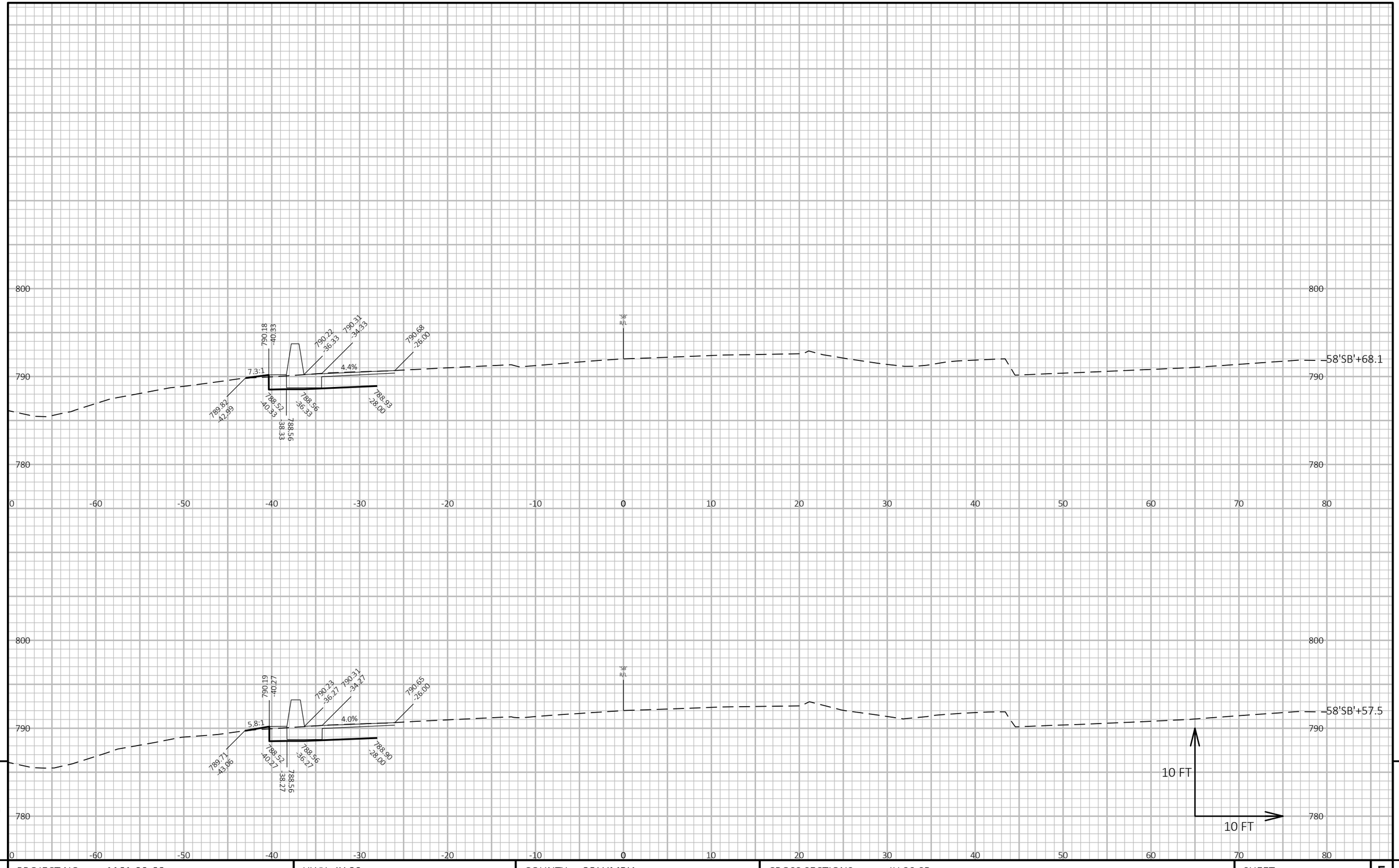
PLOT DATE : 10/9/2019 3:20 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 249	E

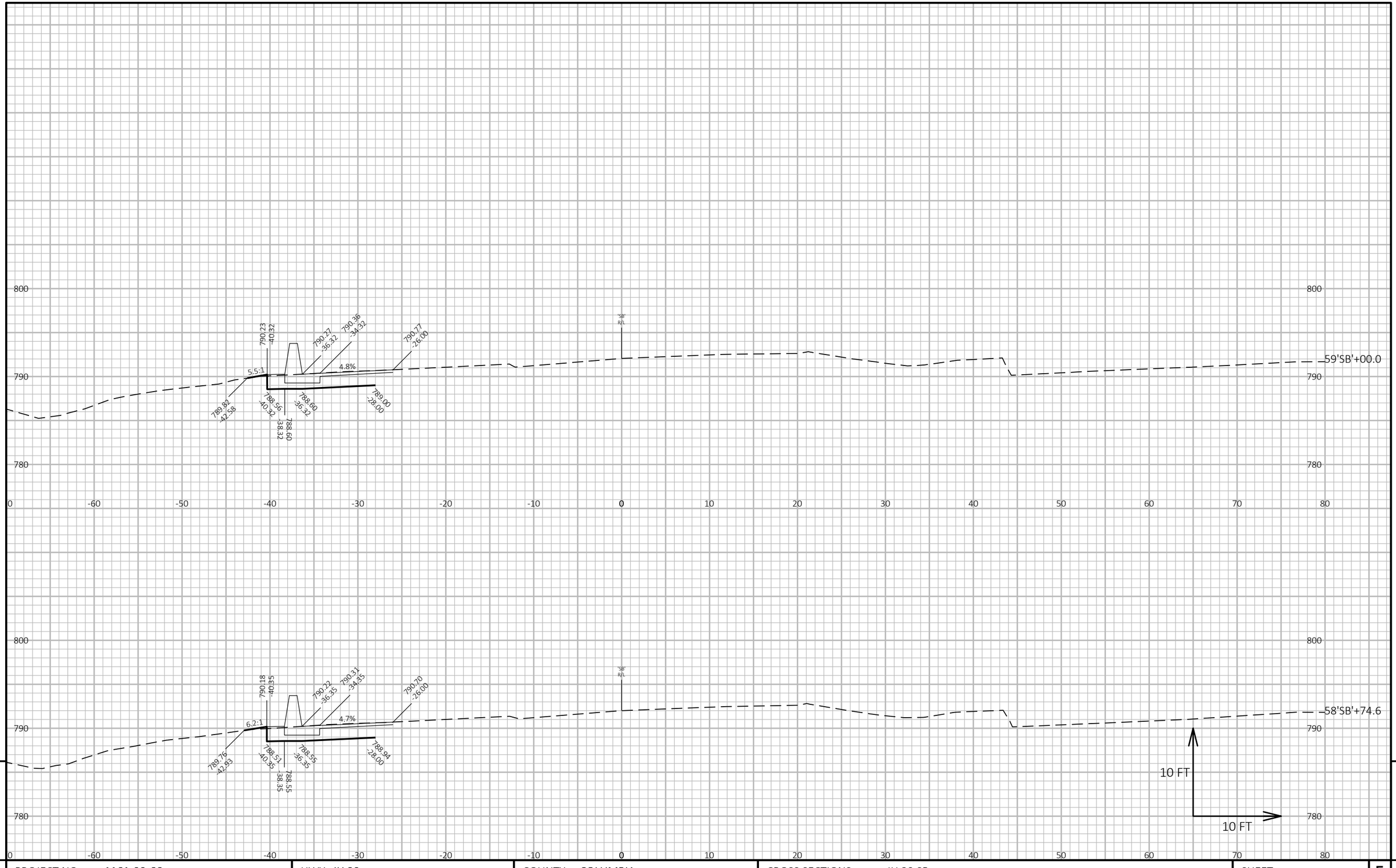
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LAYOUT NAME - 04

PLOT DATE : 10/9/2019 3:21 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 250	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 05

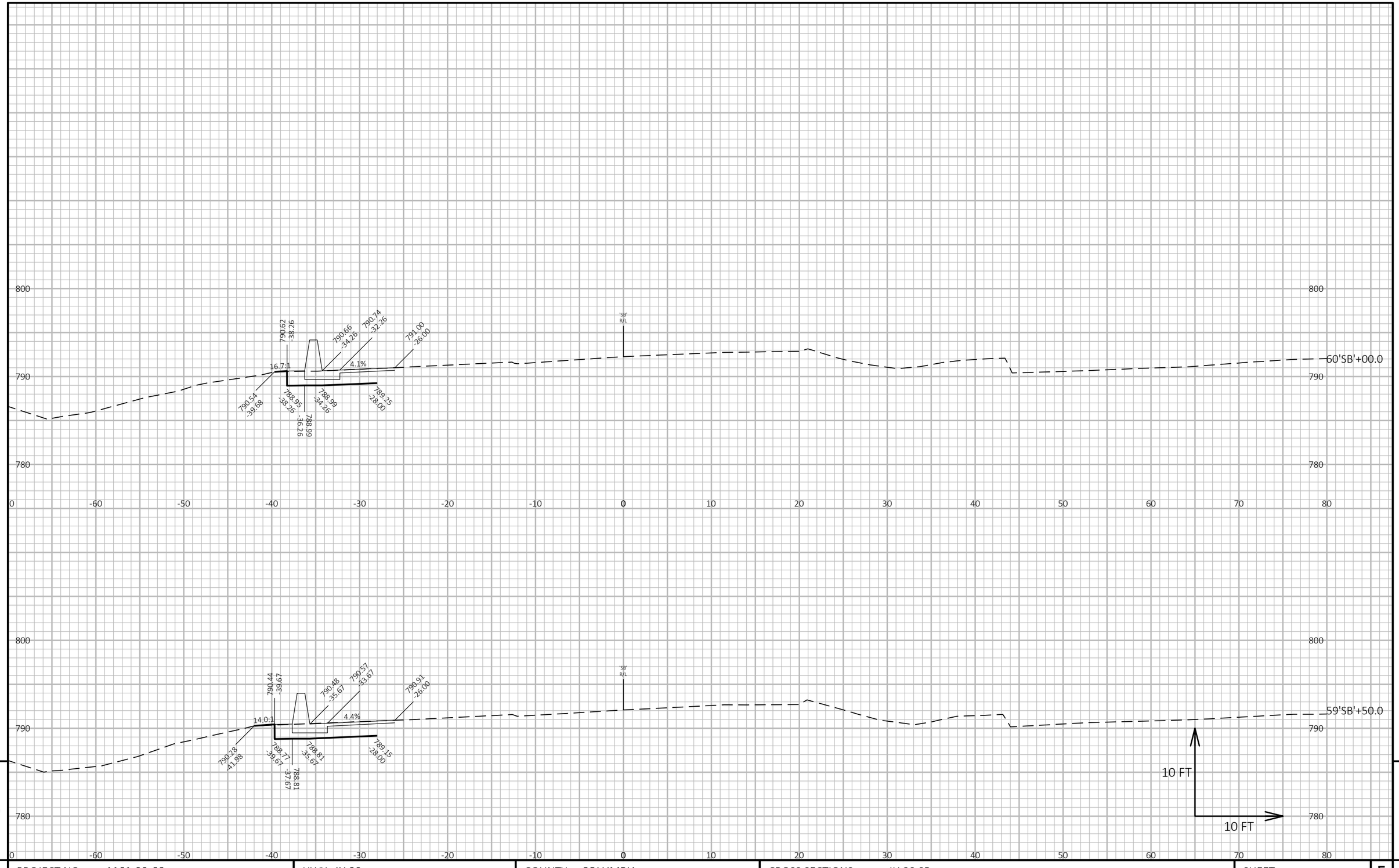
PLOT DATE : 10/9/2019 3:22 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 251	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 06

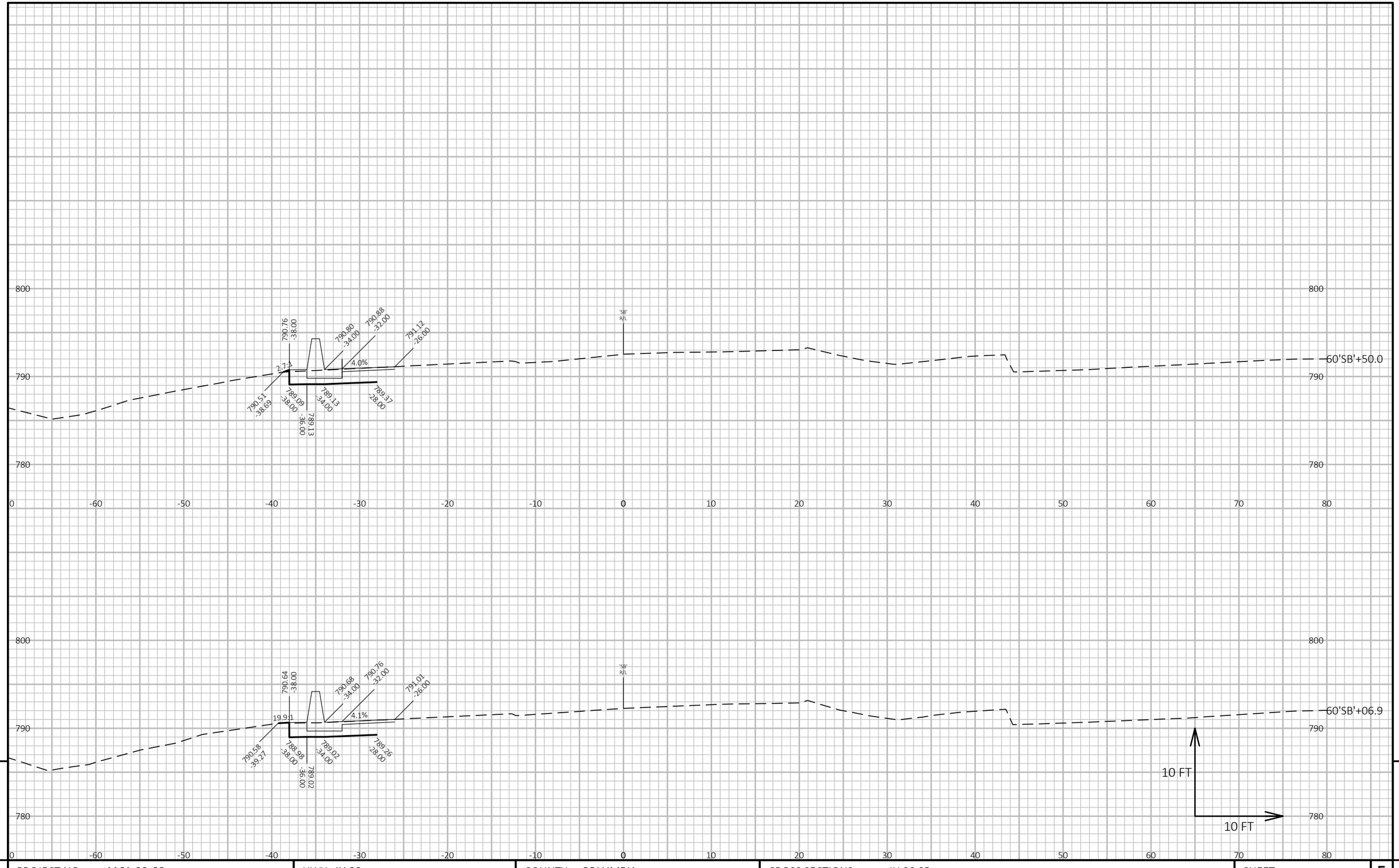
PLOT DATE : 10/9/2019 3:22 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 252	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 07

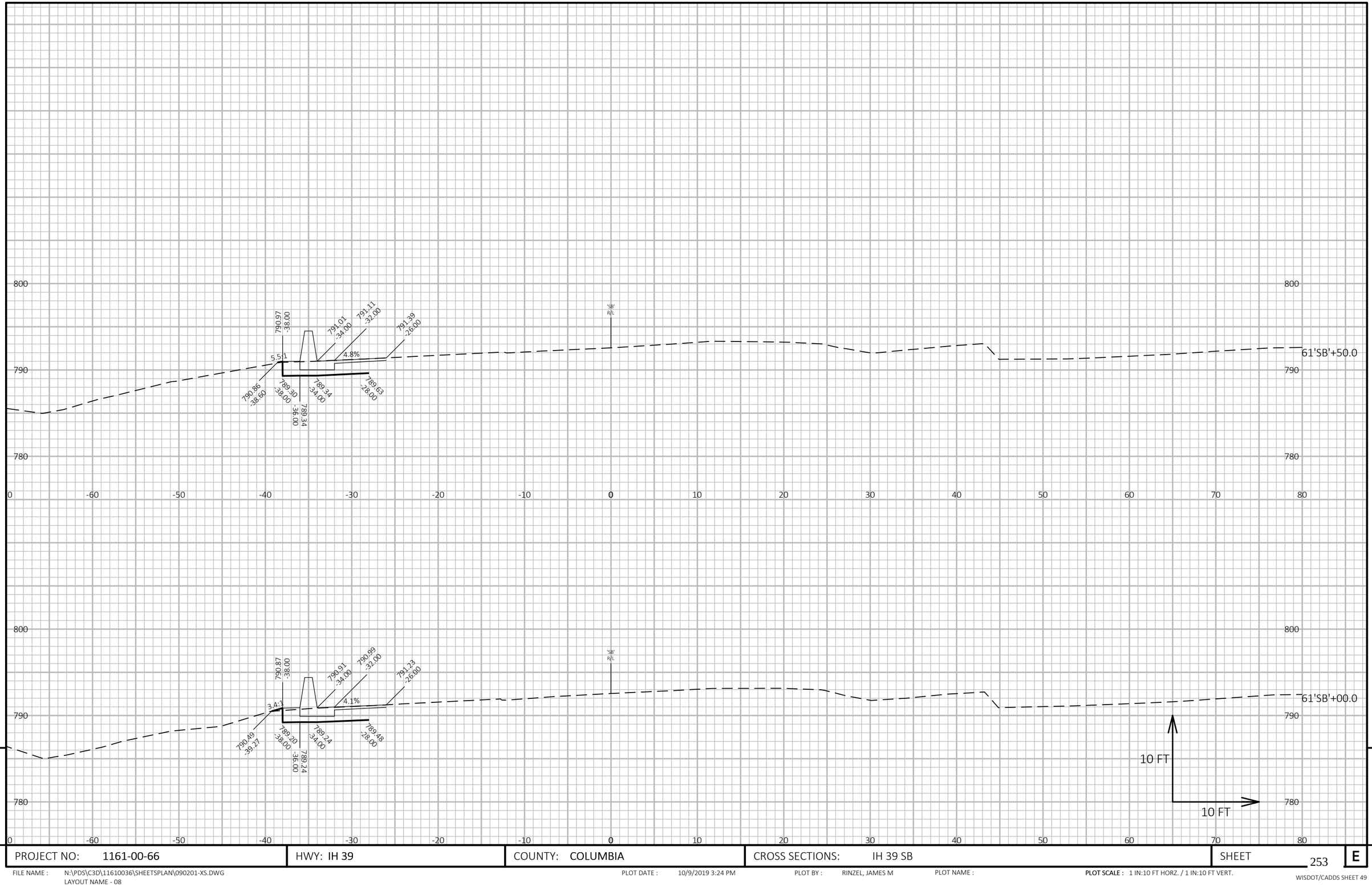
PLOT DATE : 10/9/2019 3:23 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 253	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 08

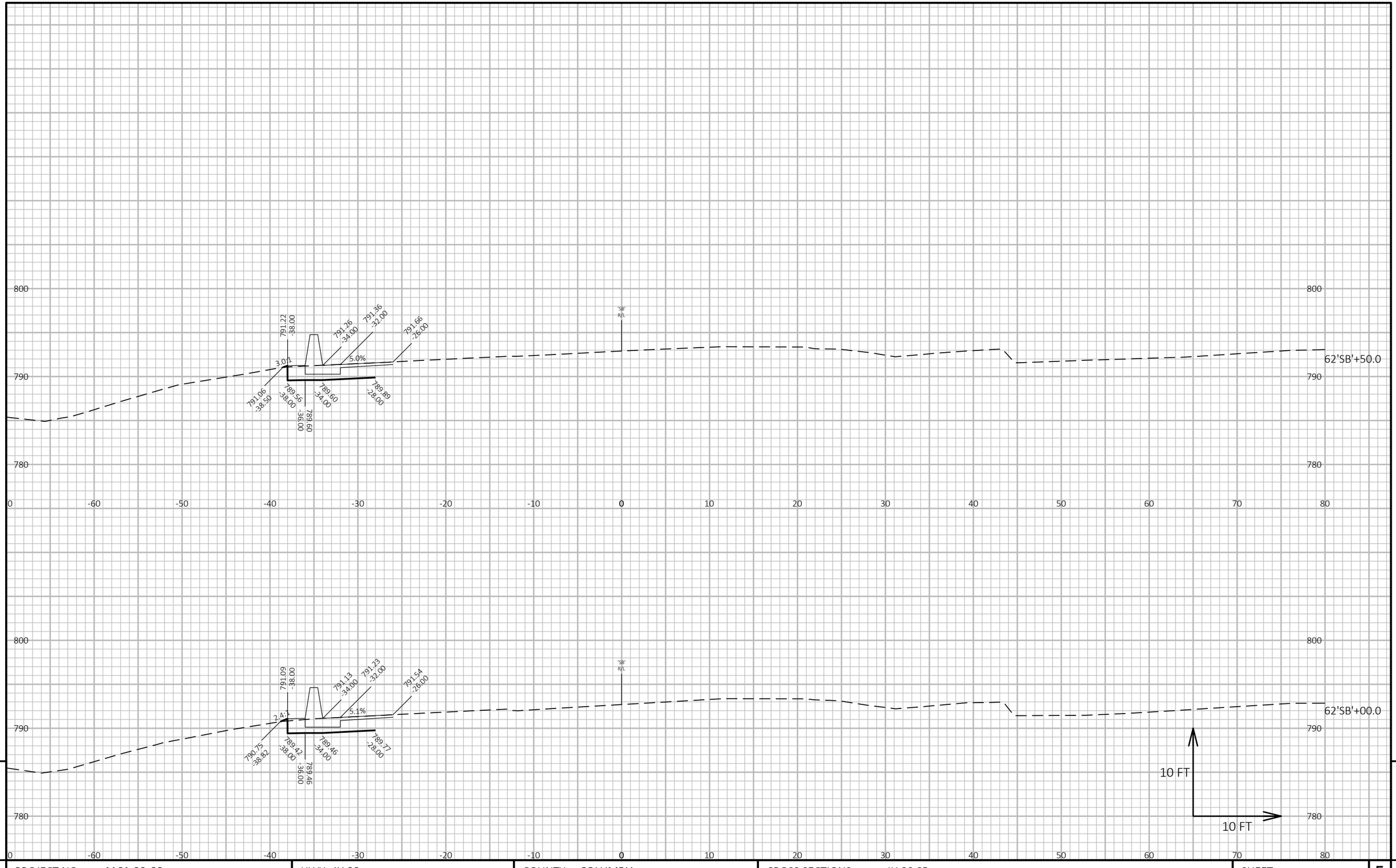
PLOT DATE : 10/9/2019 3:24 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 254	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 09

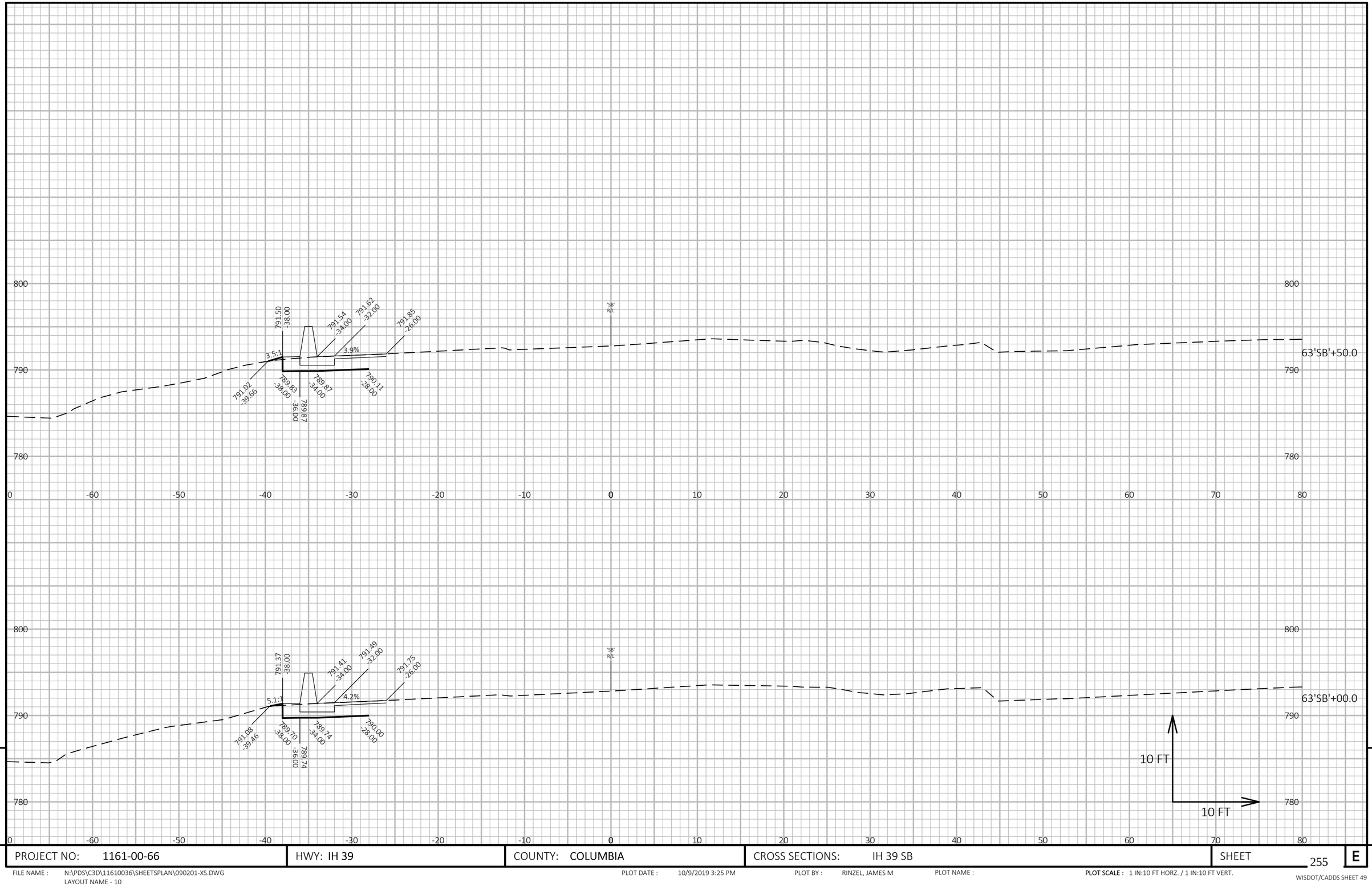
PLOT DATE : 10/9/2019 3:25 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 255	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 10

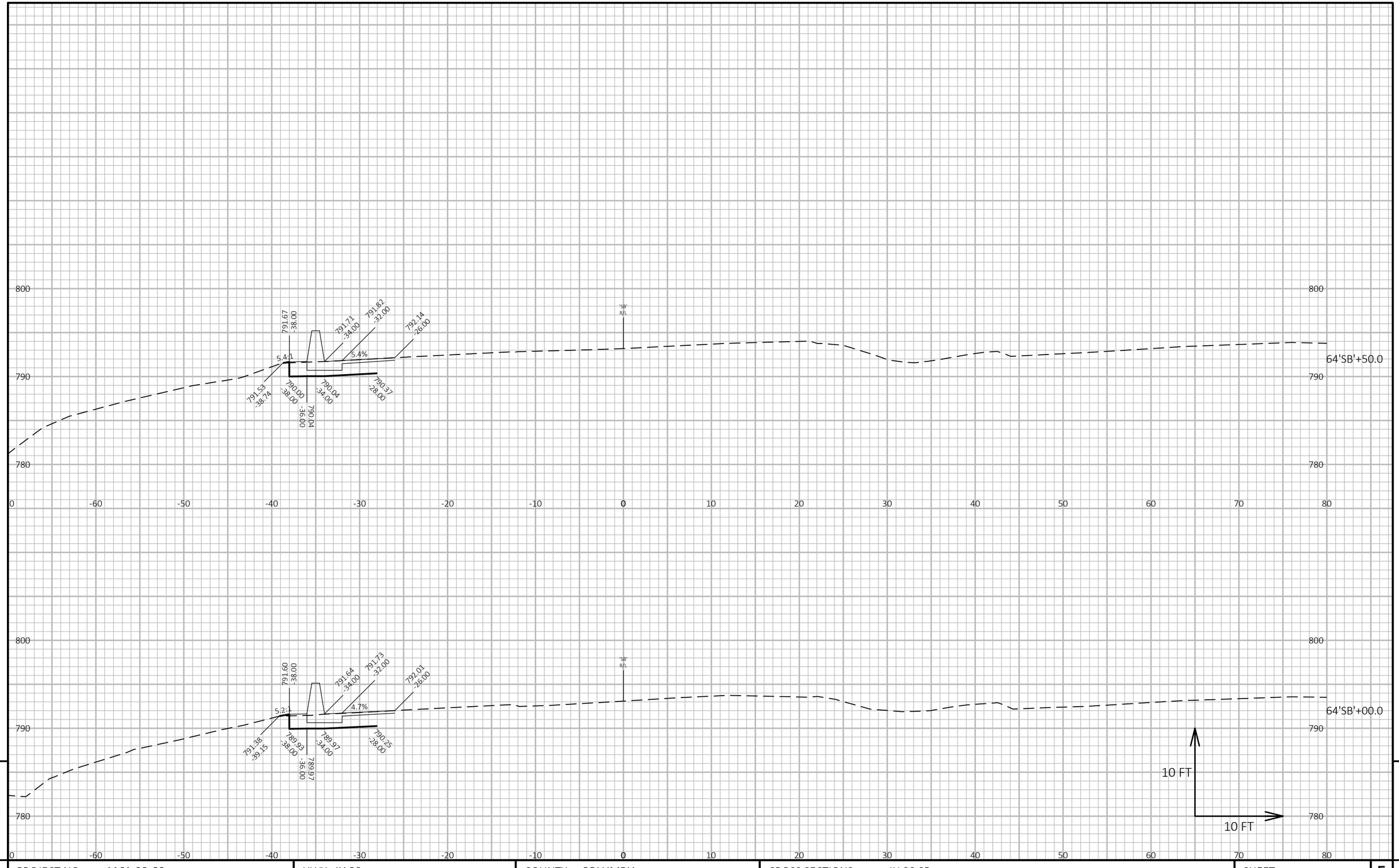
PLOT DATE : 10/9/2019 3:25 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 256	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 11

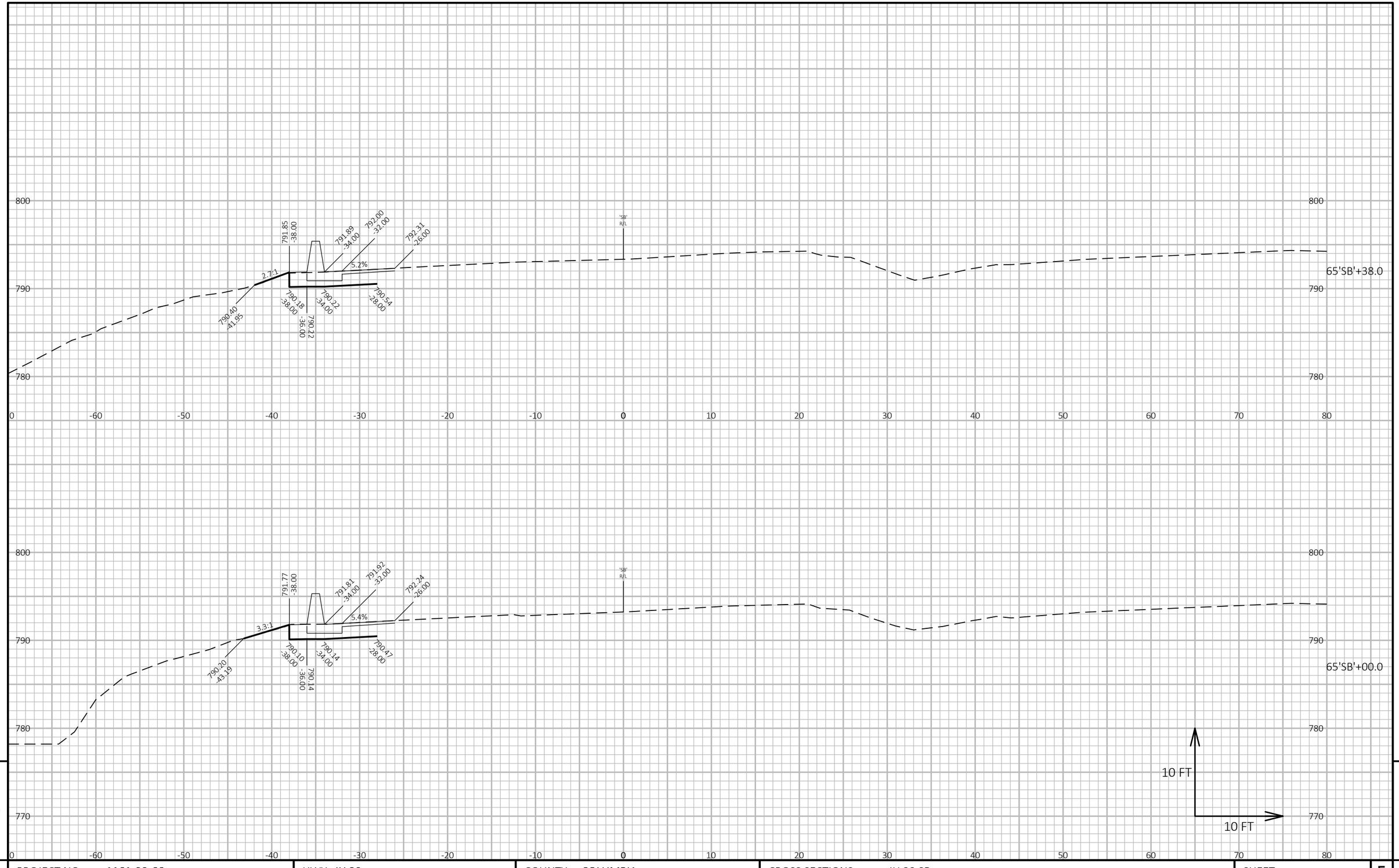
PLOT DATE : 10/9/2019 3:26 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 257	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 12

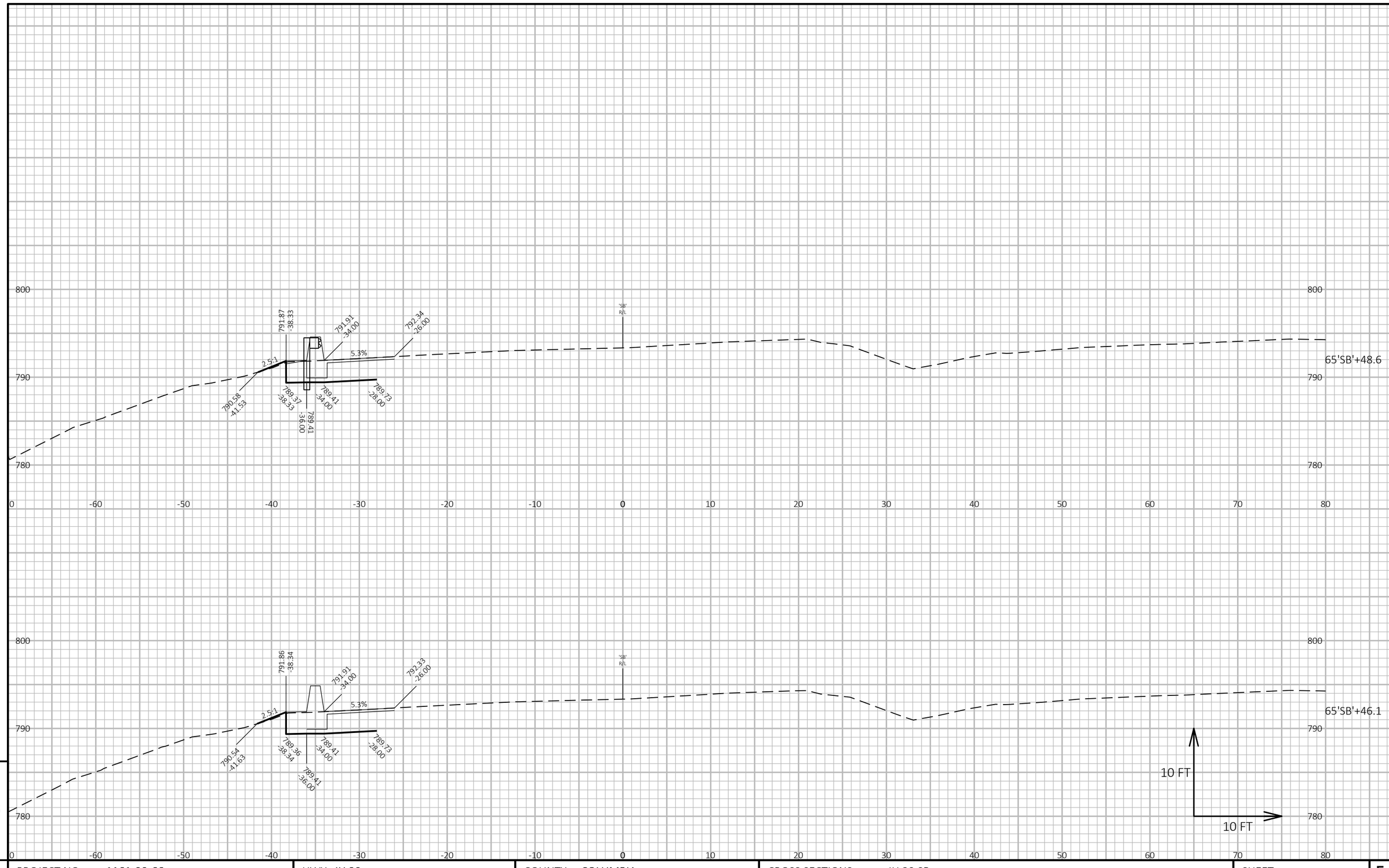
PLOT DATE : 10/9/2019 3:27 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 258	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 13

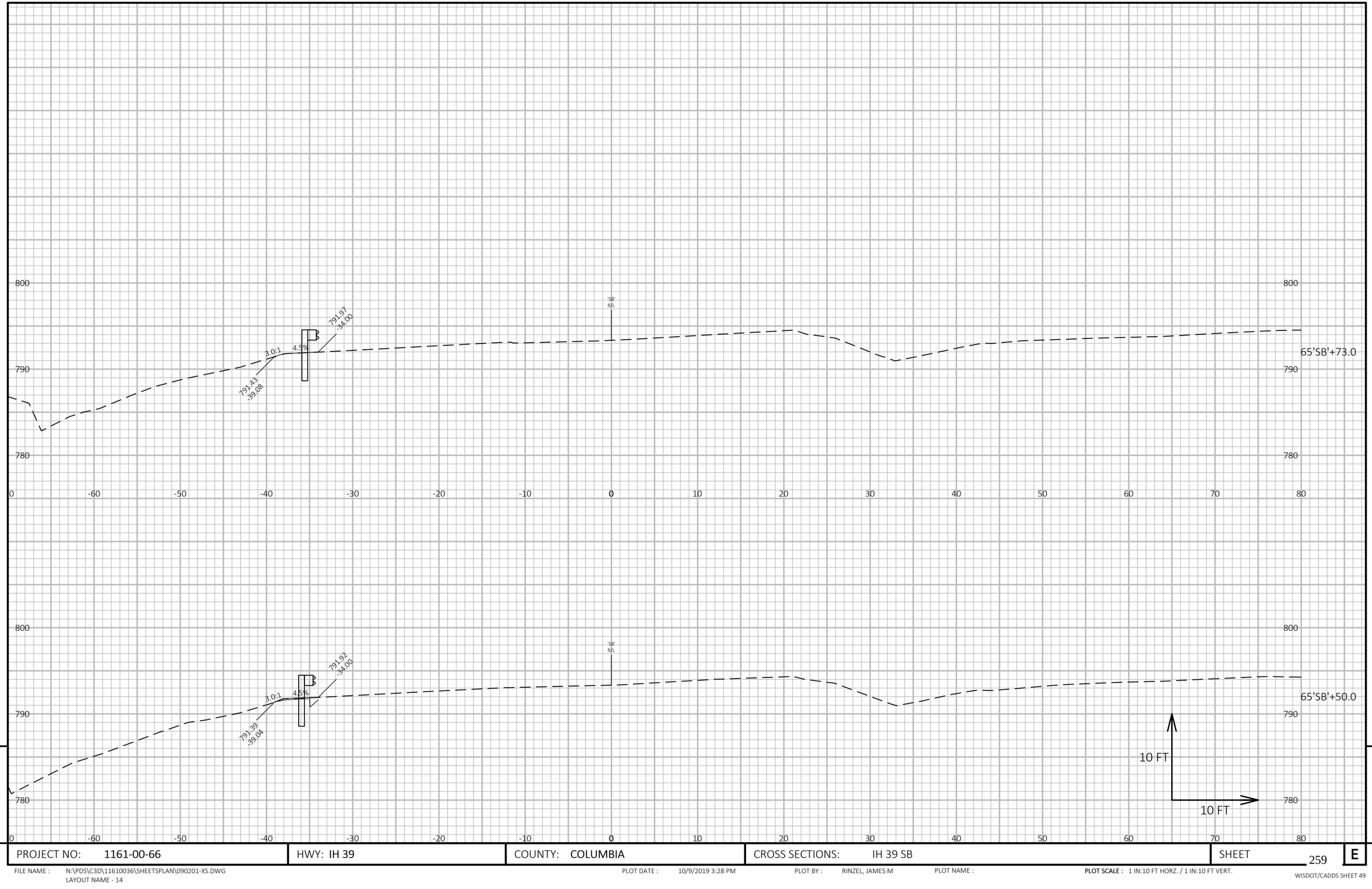
PLOT DATE : 10/9/2019 3:27 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 259	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 14

PLOT DATE : 10/9/2019 3:28 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

800
790
780
0 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80
'SB' R/L
66'SB'+00.0

800
790
780
0 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80
'SB' R/L
65'SB'+75.0
10 FT
10 FT

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 260	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 15

PLOT DATE : 10/9/2019 3:29 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

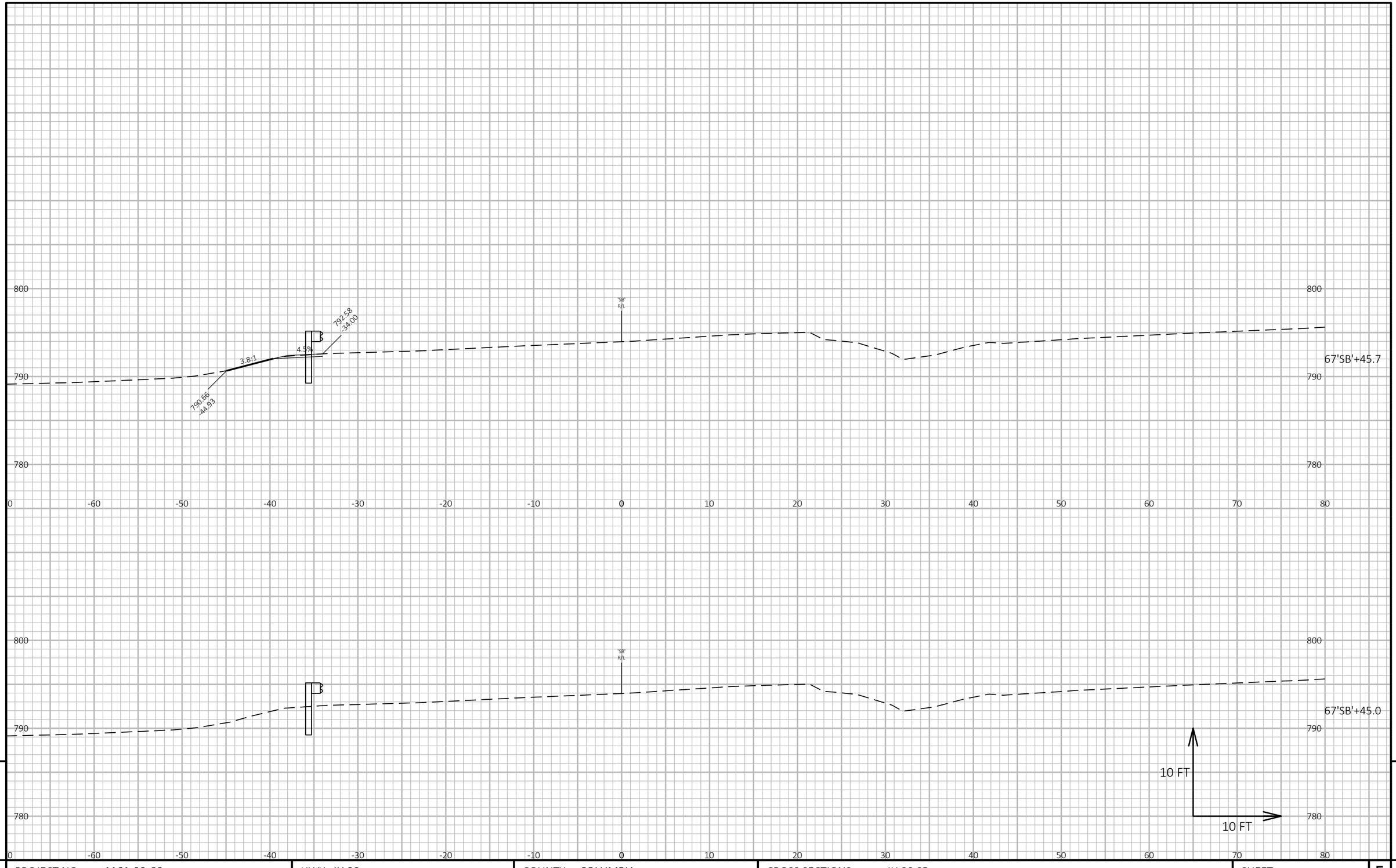
800
790
780
0 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80
'SB' R/L
67'SB'+00.0

800
790
780
0 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80
'SB' R/L
66'SB'+50.0
10 FT
10 FT

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 261	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 16
PLOT DATE : 10/9/2019 3:30 PM
PLOT BY : RINZEL, JAMES M
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 262	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 17

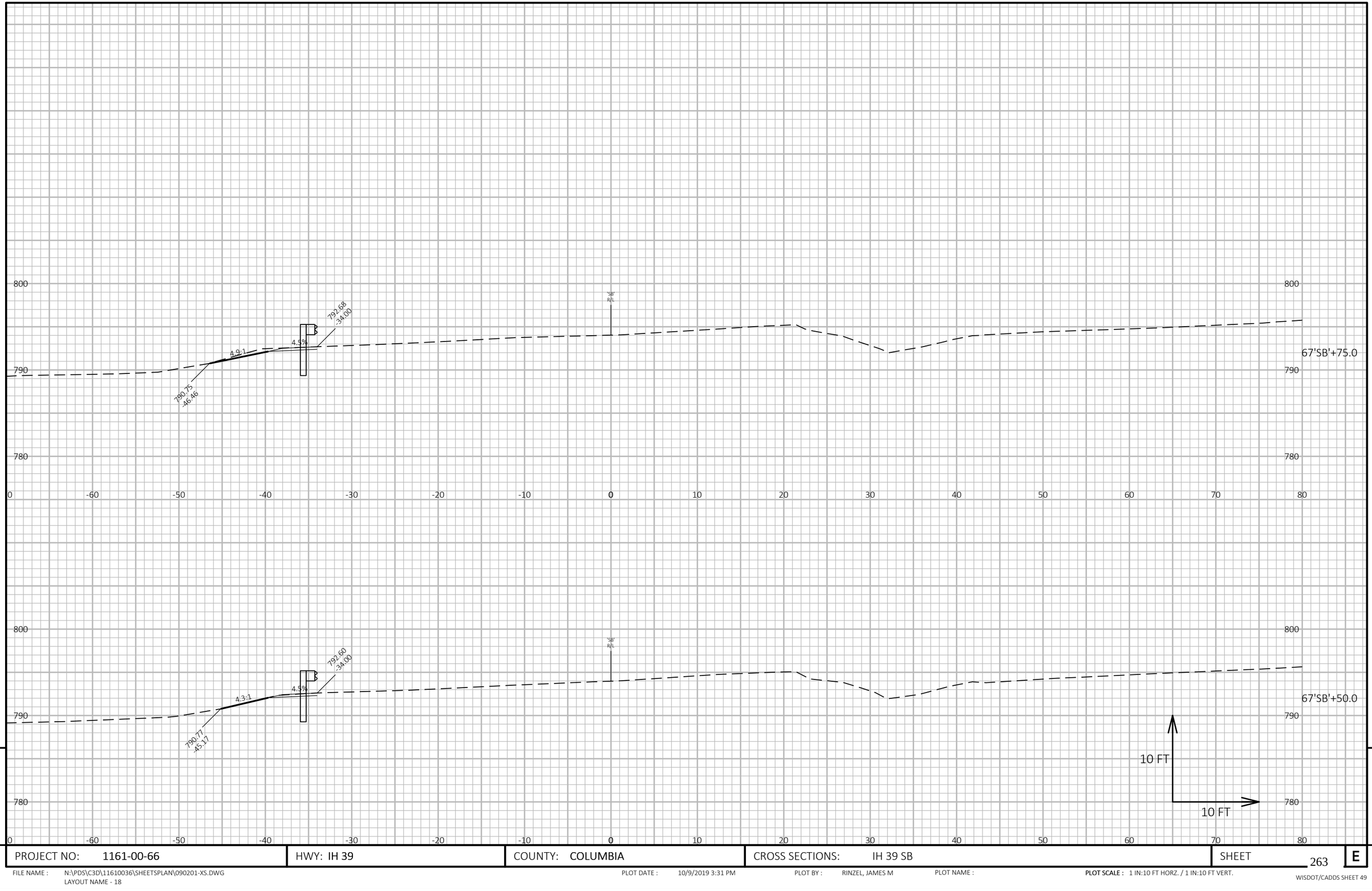
PLOT DATE : 10/9/2019 3:30 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 263	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 18

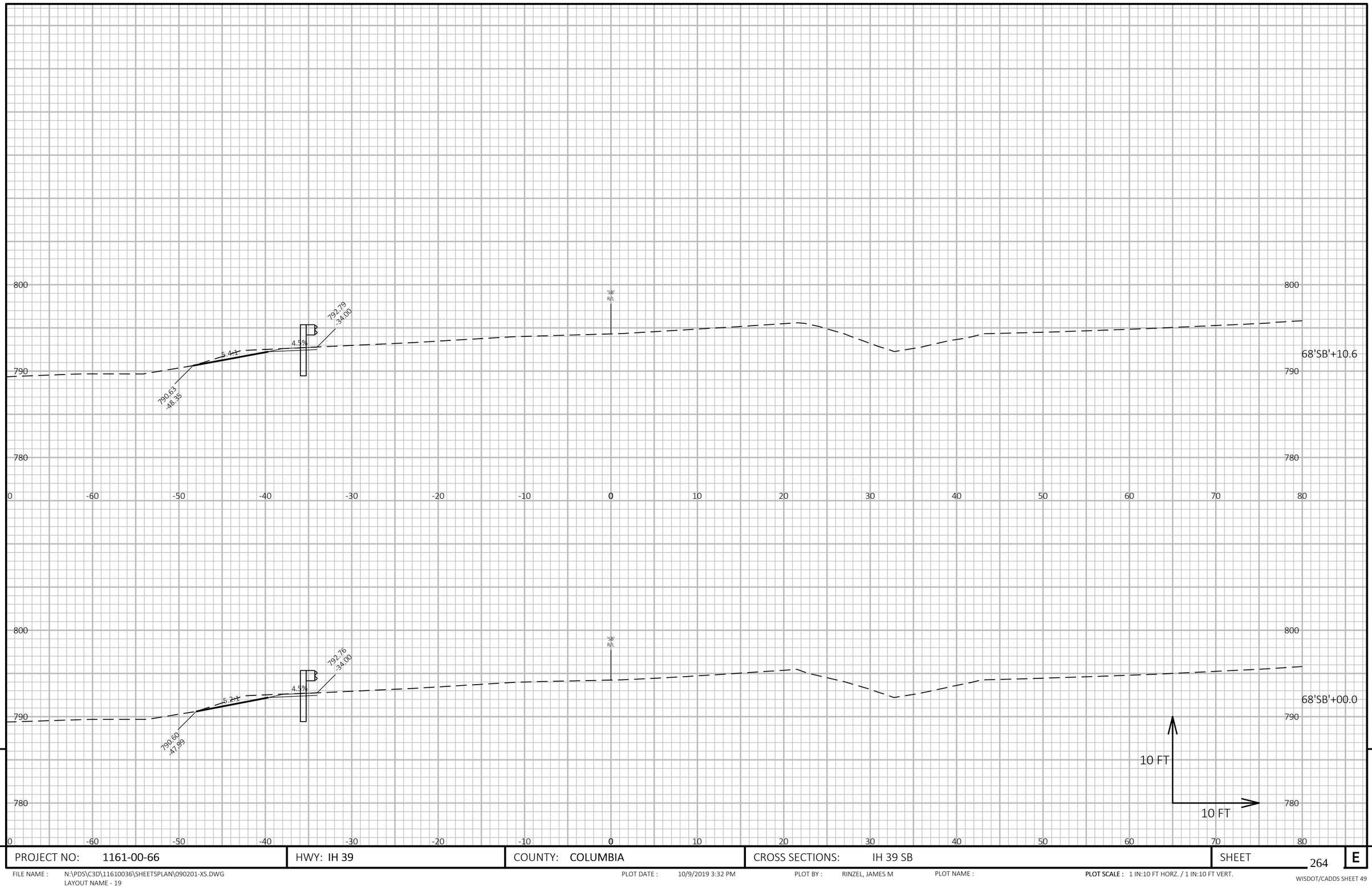
PLOT DATE : 10/9/2019 3:31 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 264	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 19

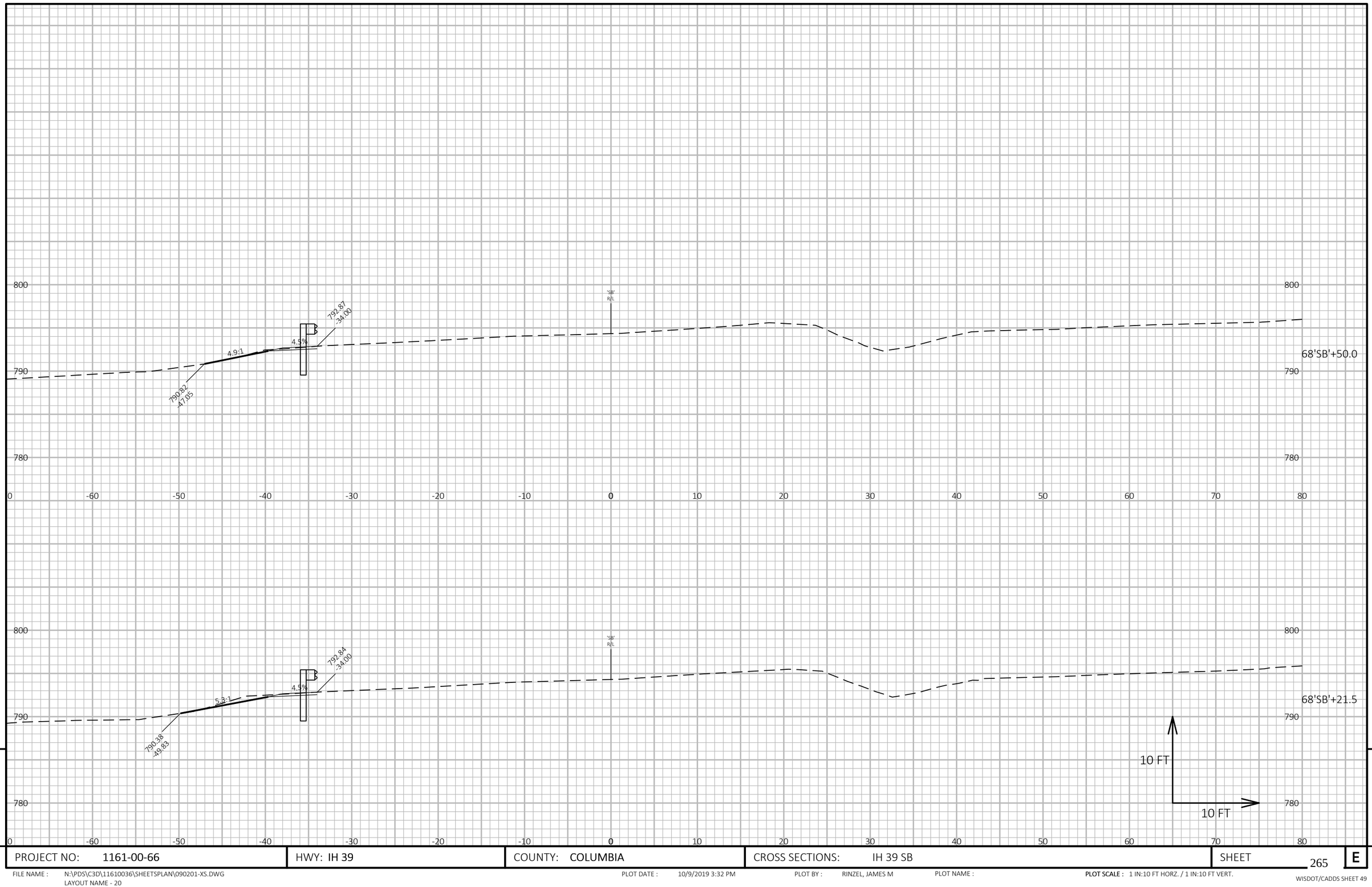
PLOT DATE : 10/9/2019 3:32 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 265	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 20

PLOT DATE : 10/9/2019 3:32 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

800
790
780
0 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80

'SB' R/L

793.07
-34.00

4.5%

4.0:1

791.13
-45.61

68'SB'+67.0

POST #9

792.87
-34.00

4.5%

4.9:1

790.91
-46.60

68'SB'+54.3

10 FT

10 FT

9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 266	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 21

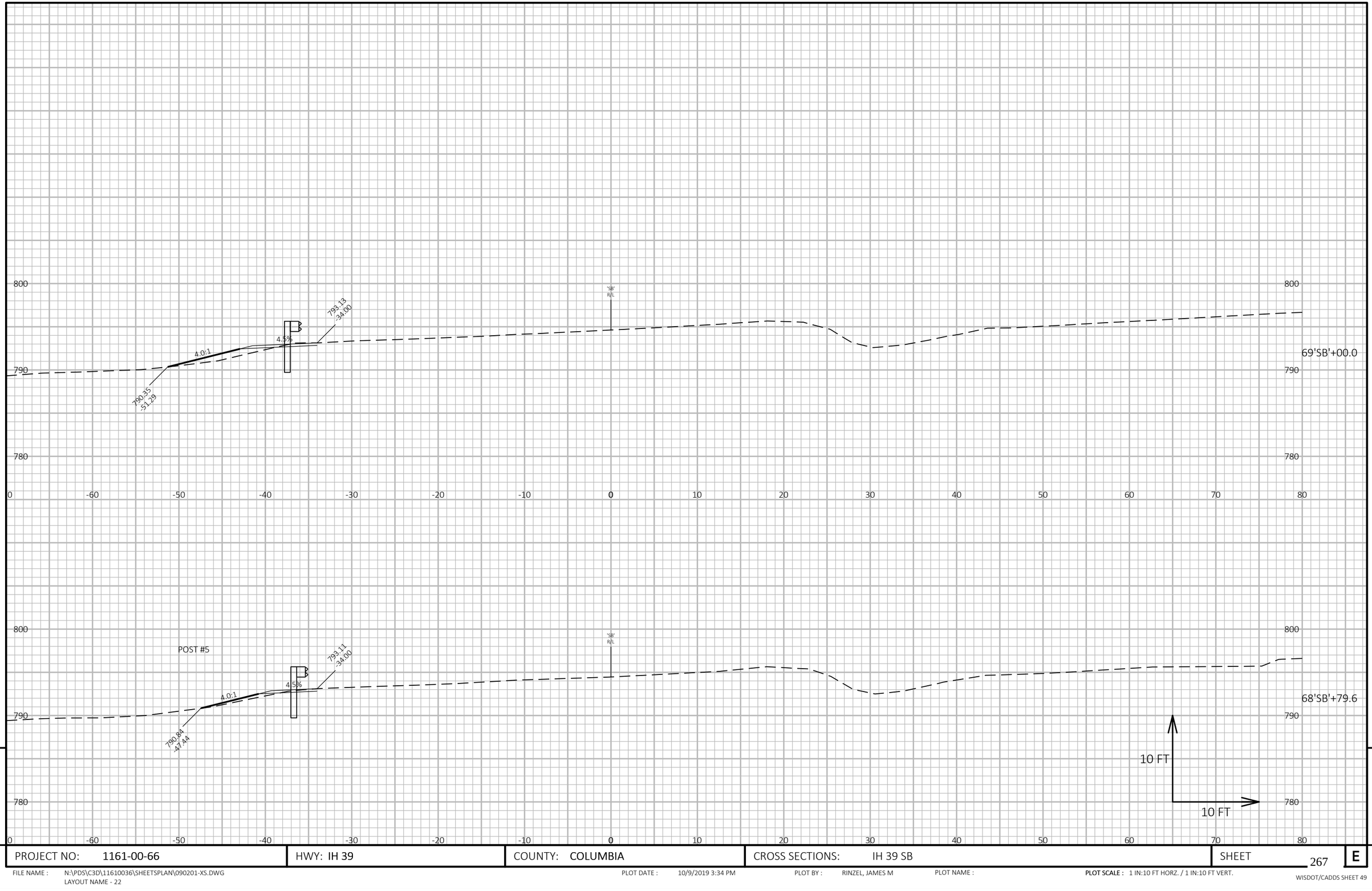
PLOT DATE : 10/9/2019 3:33 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 267	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 22

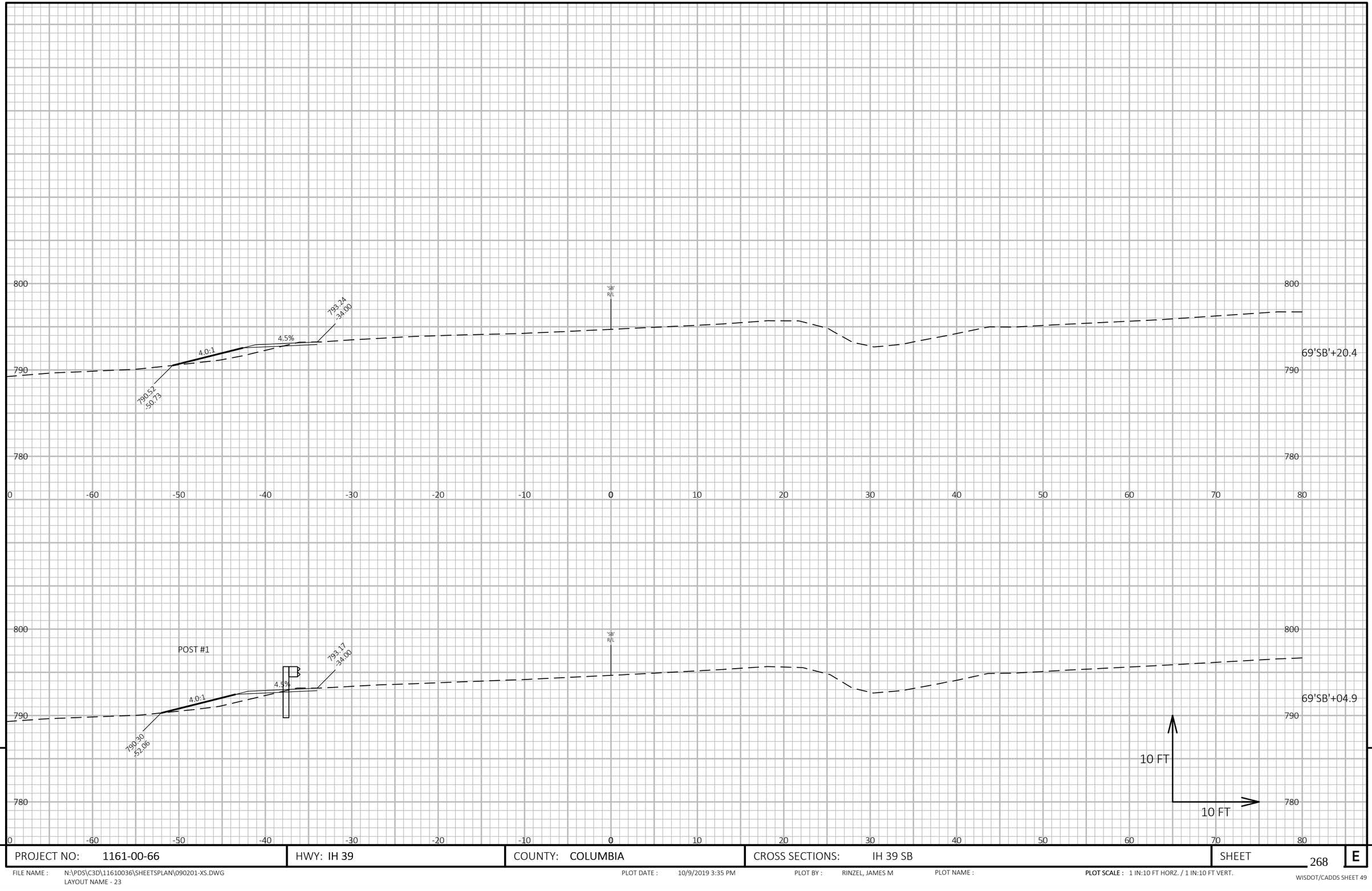
PLOT DATE : 10/9/2019 3:34 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 268	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 23

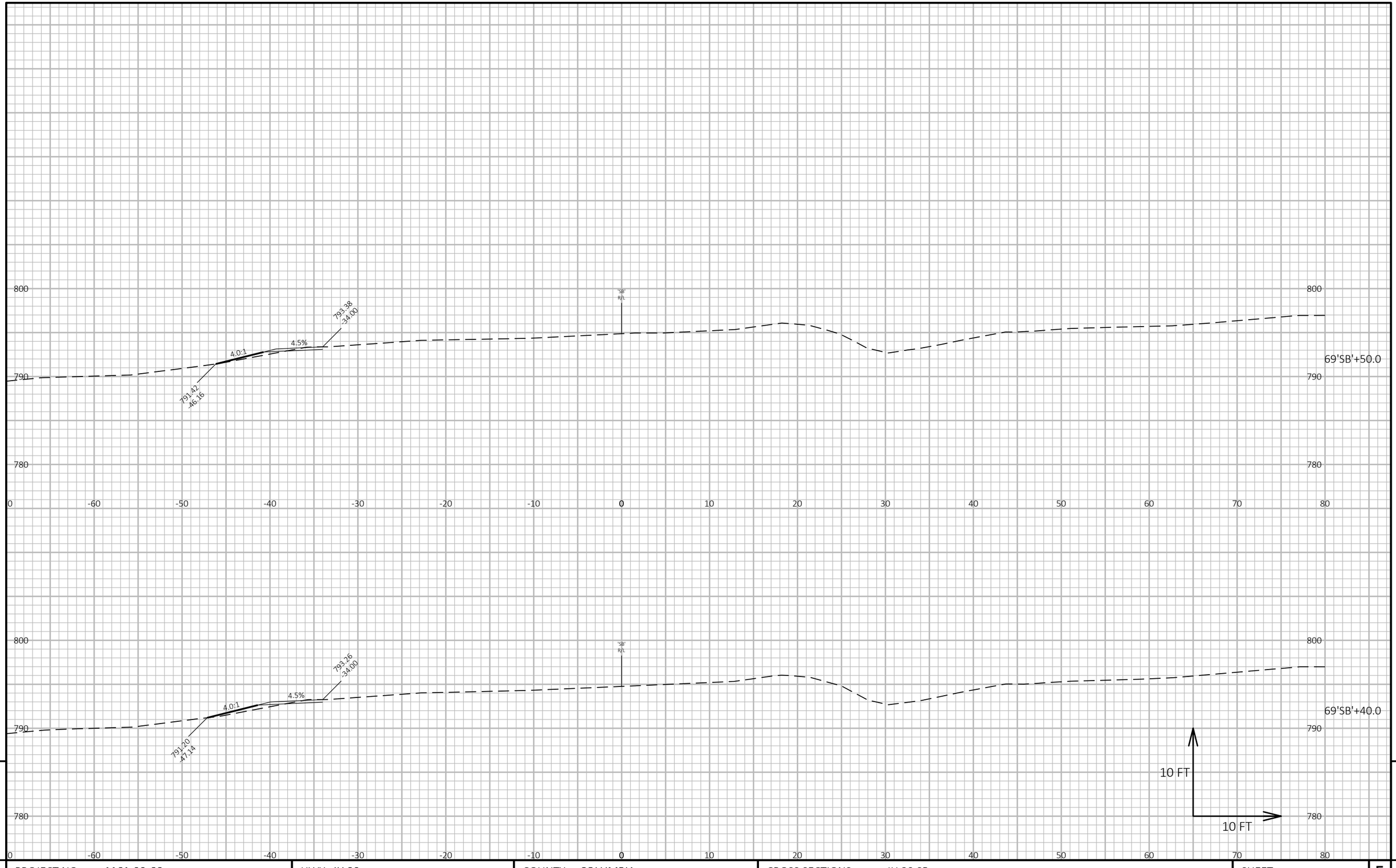
PLOT DATE : 10/9/2019 3:35 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 269	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 24

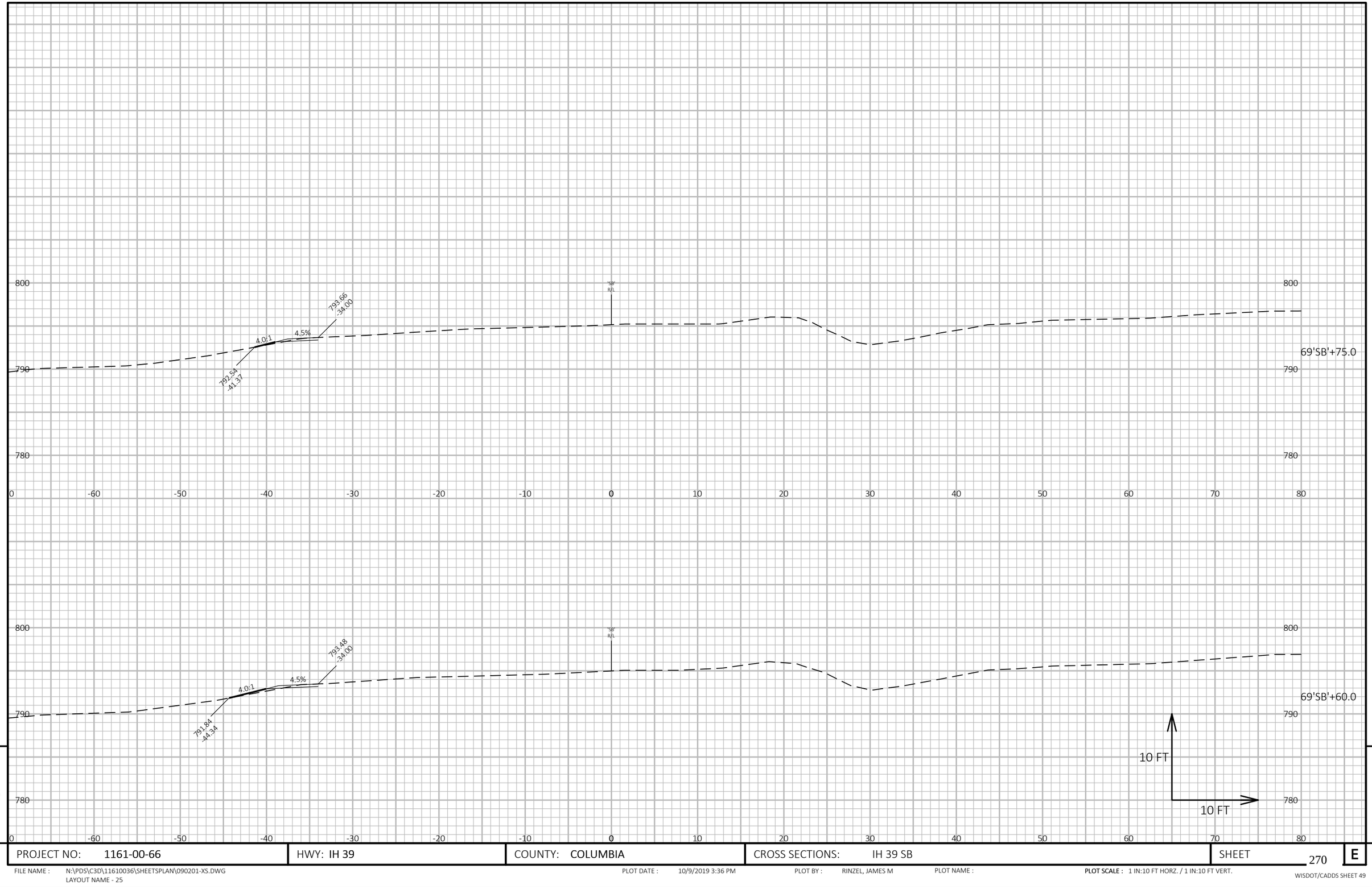
PLOT DATE : 10/9/2019 3:35 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 270	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 25

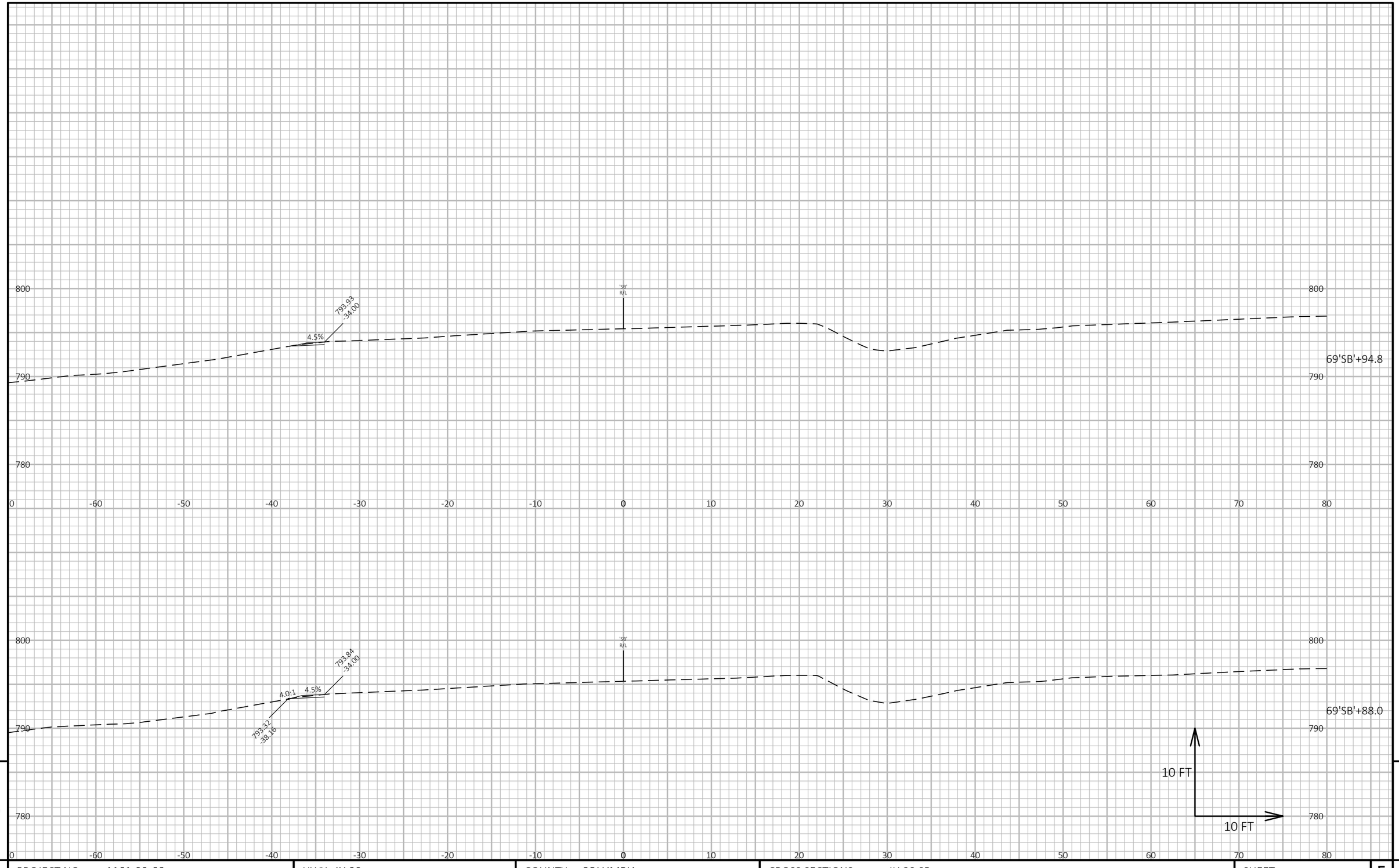
PLOT DATE : 10/9/2019 3:36 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 271	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 26

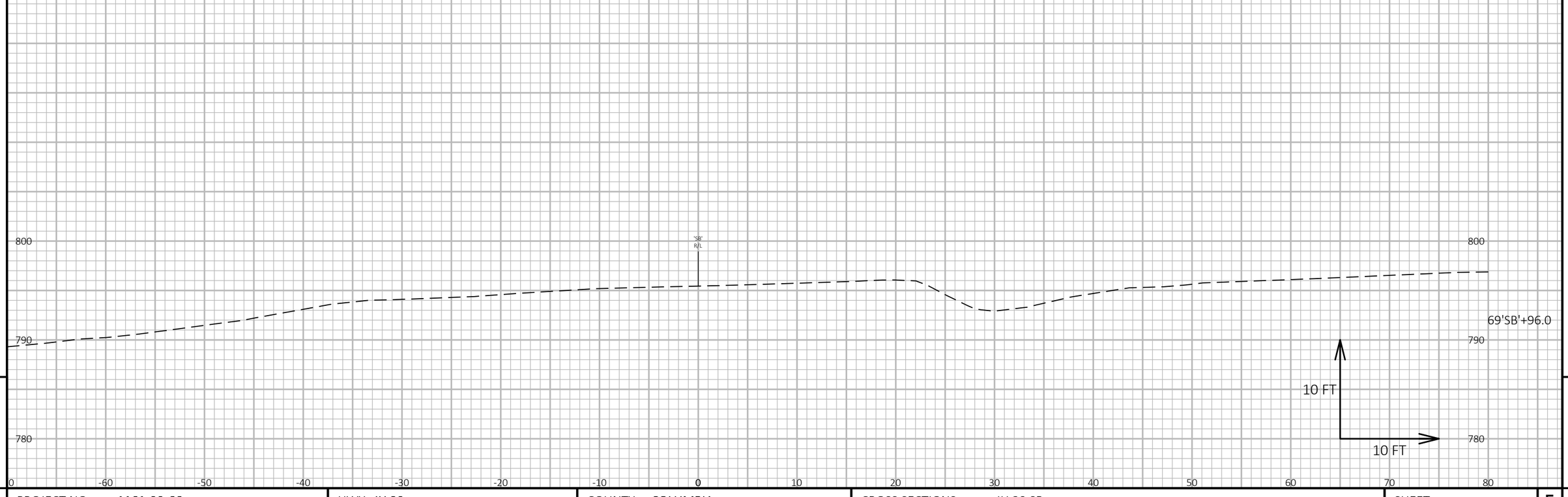
PLOT DATE : 10/9/2019 3:37 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB	SHEET 272	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 27

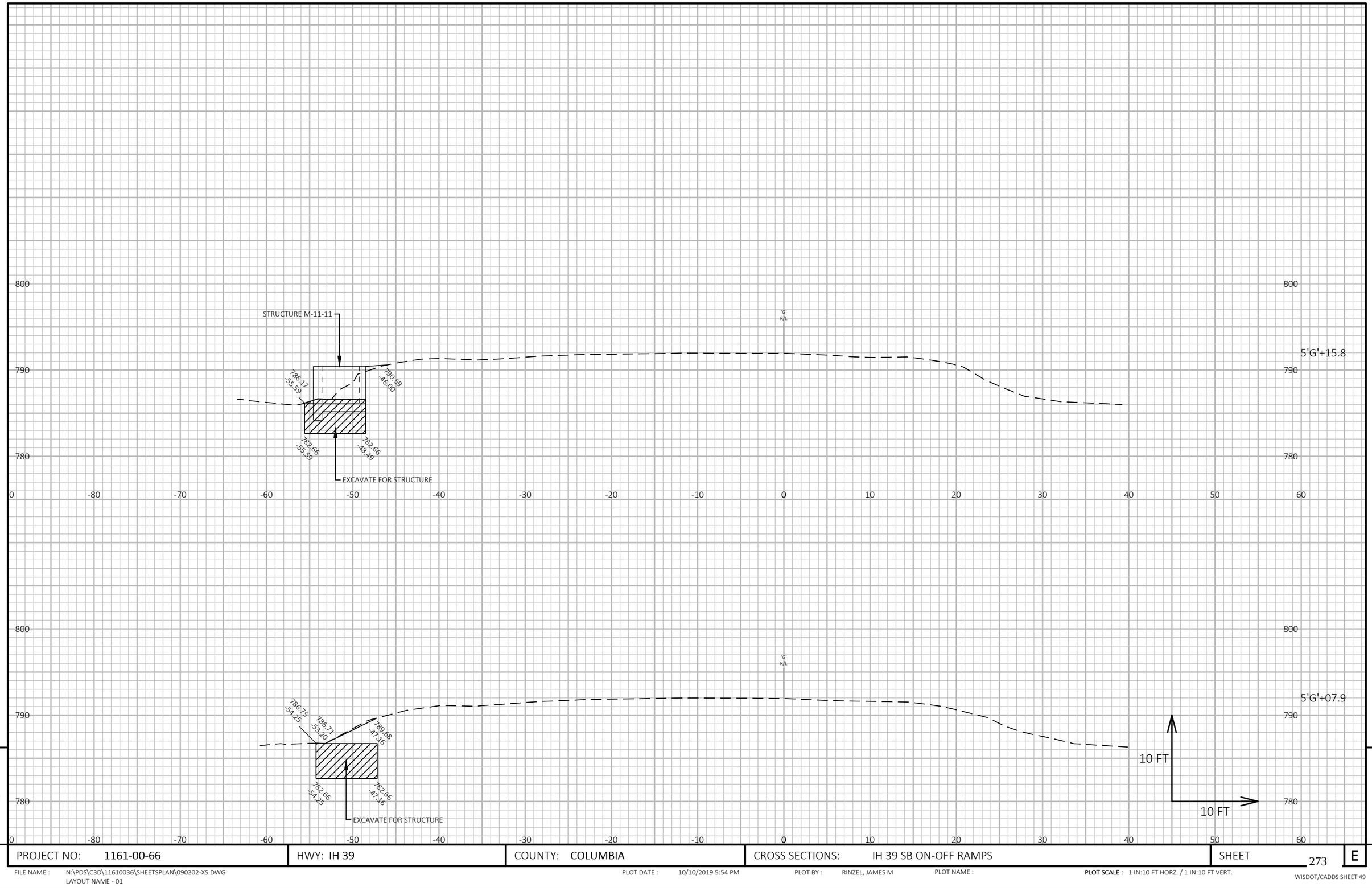
PLOT DATE : 10/9/2019 3:38 PM

PLOT BY : RINZEL, JAMES M

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

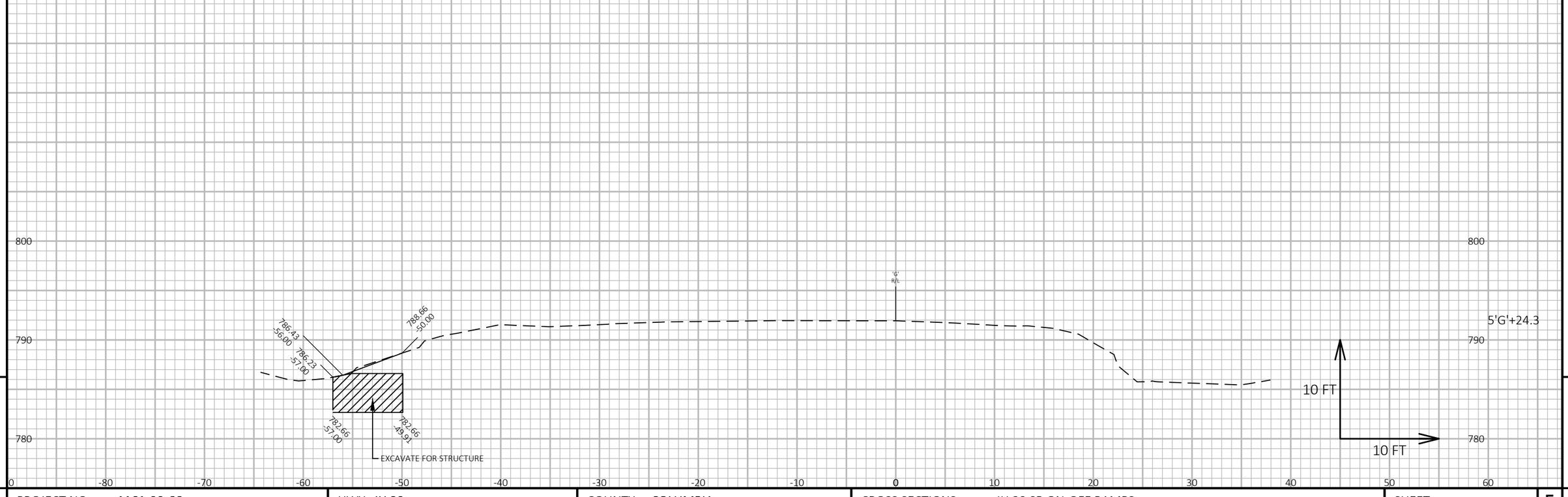
9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB ON-OFF RAMPS	SHEET 273	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 10/10/2019 5:54 PM PLOT BY : RINZEL, JAMES M PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 1161-00-66	HWY: IH 39	COUNTY: COLUMBIA	CROSS SECTIONS: IH 39 SB ON-OFF RAMPS	SHEET 274	E

FILE NAME : N:\PDS\C3D\11610036\SHEETSPLAN\090202-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 10/10/2019 5:54 PM PLOT BY : RINZEL, JAMES M PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov