

MAD JULY 2015

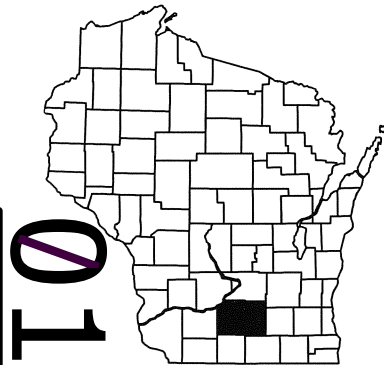
PROJECT ID: 1007-10-75

WITH: N/A

COUNTY: DANE

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 = 184



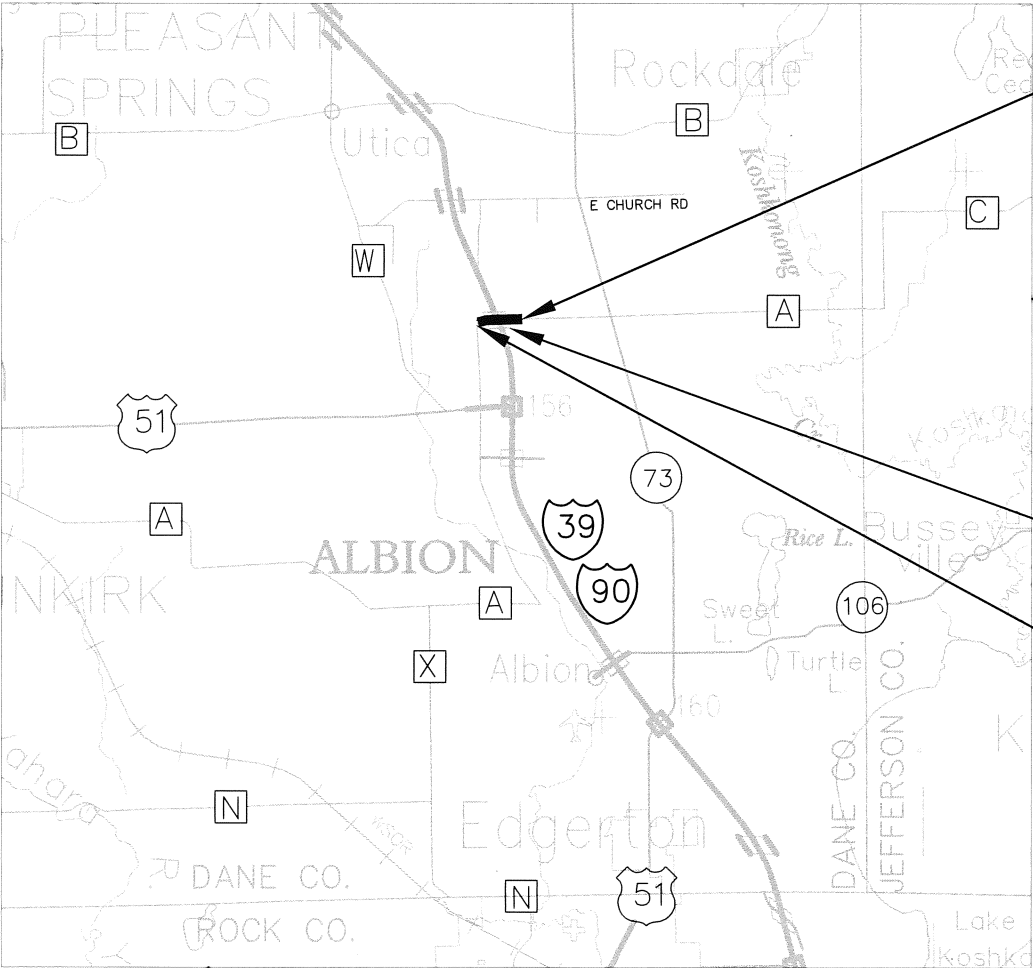
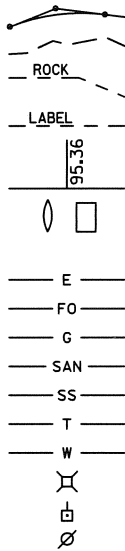
DESIGN DESIGNATION

CTH A	
A.A.D.T. (2015)	= 630
A.A.D.T. (2035)	= 840
D.H.V. (2035)	= 145
D.D.	= 60/40
T.	= 4%
DESIGN SPEED	= 55 MPH
ESALS	= 58,400

CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----



R-11-E | R-12-E

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE
PROJECT 1007-10-75 = 0.0 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY
COORDINATE SYSTEM (WCCS), DANE COUNTY, NAD83 (2007).

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ILLINOIS STATE LINE - MADISON

CTH A BRIDGE B-13-0709

IH 39

DANE COUNTY

STATE PROJECT NUMBER
1007-10-75

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1007-10-75		

ORIGINAL PLANS PREPARED BY

emcs

901 Deming Way, Suite 203
Madison, WI 53717
608.827.8810 Fax 608.833.3198



1/27/15
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	DANE PARTNERS
Designer	EMCS
Project Manager	CRAIG PRINGLE
Regional Examiner	JIM BUSCHKOPF
Regional Supervisor	JOHN STEINER

APPROVED FOR THE DEPARTMENT
DATE: 1/29/15 (Signature)

GENERAL NOTES

-NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

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

-THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

-ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE BACKFILLED WITH GRANULAR BACKFILL WHICH WILL BE INCLUDED IN THE PRICE OF THE ABANDONED OR REMOVED ITEM.

-WHEN THE QUANTITY OF HMA PAVEMENT OR BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON,THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

-PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES,THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLANS WITH THE ENGINEER.

-INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

-CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE. CURB AND GUTTER RADIARE MEASURED TO THE FLANGE.

-TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS.

-BROKEN CONCRETE CONTAINING RE-BAR SHALL NOT BE USED AS RIPRAP.

-CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF SALVAGED TOPSOIL WHERE REQUIRED. SALVAGED TOPSOIL SHALL BE REPLACED TO A 4-INCH TYPICAL DEPTH.

-TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

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

-THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

-ASPHALTIC AND CONCRETE SURFACES SHALL BE SAWCUT AT THE MATCH LINE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

-DISTURBED AREAS WITHIN THE RIGHT OF WAY,EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGE TOPSOILED, FERTILIZED AND SEEDED.

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

-FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS OR WETLANDS.

-STATIONING,DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE AND THE FINAL LOCATIONS OF SIGNS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

-A CONVERSION FACTOR OF 2.10 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.

-A CONVERSION FACTOR OF 2.00 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 1¼-INCH.

-A CONVERSION FACTOR OF 2.20 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3-INCH.

-A CONVERSION FACTOR OF 1.90 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR SELECT CRUSHED MATERIAL.

-A CONVERSION FACTOR OF 112 LBS/IN/SY IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.

-ALL TYPES OF ASPHALTIC PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	NOMINAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
E-0.3	3.50"	1.75" UPPER 1.75" LOWER	12.5 MM 12.5 MM	PG-58-28 PG-58-28
E-30X	2.50"	2.50"	12.5 MM	PG-64-28
E-30X	4.00"	4.00"	19.0 MM	PG-64-28
E-30X	6.50"	2.50" UPPER 4.00" LOWER	12.5 MM 19.0 MM	PG-64-28 PG-58-28

STANDARD ABBREVIATIONS

AECPRC APRON ENDWALL CULVERT PIPE REINFORCED CONCRETE
AECPRCHE APRON ENDWALL CULVERT PIPE REINFORCED CONCRETE

HORIZONTAL ELLIPTICAL
AECPSS APRON ENDWALL CULVERT PIPE SLOPED SECTION
AEW APRON END WALL
AGG AGGREGATE
ASPH ASPHALT
BAD BASE AGGREGATE DENSE
B/C BACK OF CURB
BM BENCH MARK
C&G CURB AND GUTTER
C/L OR CENTER OR CONSTRUCTION LINE
CONC CONCRETE
CP CULVERT PIPE
CPCM CULVERT PIPE CORRUGATED METAL
CPRC CULVERT PIPE REINFORCED CONCRETE
CPRCHE CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSD CONCRETE SURFACE DRAIN
CY CUBIC-YARD
D DEGREE OF CURVE
△ DELTA
DISCH DISCHARGE
EL ELEVATION
ESTR EXISTING SIGN TO REMAIN
FE FIELD ENTRANCE
FMS FIXED MESSAGE SIGN
HMA HOT MIX ASPHALT
INV INVERT
L LENGTH OF CURVE
LHF LEFT HAND FORWARD
LT LEFT
MID MIDDLE OF RADIUS
MIN MINIMUM
M/L MATCHLINE
NB NORTHBOUND
NC NORMAL CROWN
PAVT PAVEMENT
PC POINT-OF CURVE
PCC POINT OF COMPOUND CURVE
PE PRIVATE ENTRANCE
PGL PROFILE GRADE LINE
PI POINT OF INTERSECTION
PLE PERMANENT LIMITED EASEMENT
PT POINT OF TANGENT
R RADIUS OF CURVE
R/L REFERENCE LINE
R/W RIGHT OF WAY
RC REVERSE CROWN
RCAEW APRON ENDWALL FOR CULVERT PIPE REINFORCE CONCRETE
REQ'D REQUIRED
RHF RIGHT HAND FORWARD
RO RUN OFF LENGTH
RT RIGHT
SALV SALVAGED
SB SOUTHBOUND
SDD STANDARD DETAIL DRAWING
SE SUPER ELEVATION
SF SQUARE FOOT
SSPRC STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
STA STATION
SY SQUARE YARD
T TANGENT LENGTH
TLE TEMPORARY LIMITED EASEMENT
TYP TYPICAL
VCL VERTICAL CURVE LENGTH
VPC POINT OF VERTICAL CURVE
VPI POINT OF VERTICAL INTERSECTION
VPT POINT OF VERTICAL TANGENT

UTILITY CONTACTS

COMMUNICATIONS
DAVID MOLDENHAUER
CHARTER COMMUNICATIONS
1348 PLAINFIELD AVENUE
JANESVILLE, WI 53545
PHONE: (608) 373-7538
EMAIL: DAVID.MOLDENHAUER@CHARTER.COM

COMMUNICATIONS
BRIAN VAN OOYN
FRONTIER COMMUNICATIONS OF WI, LLC
451 BROADWAY DRIVE
SUN PRAIRIE, WI 53590
PHONE: (608) 837-2262

COMMUNICATIONS
MARC C. HARRIS
SBA COMMUNICATIONS
900 SOUTH HIGHWAY DRIVE, SUITE 201
FENTON, MO 63026
PHONE: (262) 492-7411
EMAIL: MCHARRIS@SBASITE.COM

ELECTRIC
JASON HOGAN
ALLIANT ENERGY
4902 NORTH BILTMORE LANE, SUITE 1000
MADISON, WI 53718
PHONE: (608) 395-7395
EMAIL: JASONHOGAN@ALLIANTENERGY.COM

GAS/PETROLEUM
JASON HOGAN
ALLIANT ENERGY
4902 NORTH BILTMORE LANE, SUITE 1000
MADISON, WI 53718
PHONE: (608) 395-7395
EMAIL: JASONHOGAN@ALLIANTENERGY.COM

OTHER AGENCIES

WDNR LIAISON
ERIC HEGGELUND
DNR SOUTH CENTRAL REGION HQ
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 275-3301
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

WISDOT DESIGN
CRAIG PRINGLE
111 INTERSTATE BLVD
MADISON, WI 53534
PHONE: (608) 884-7132
EMAIL: CRAIG.PRINGLE@DOT.WI.GOV

WISDOT CONSTRUCTION
JAMIE GRAINGER
111 INTERSTATE BLVD
MADISON, WI 53704
PHONE: (608) 884-1173
EMAIL: JAMIE.GRAINGER@DOT.WI.GOV

CONSULTANT DESIGN
CHRISTOPHER DRY
EMCS INC.
901 DEMING WAY
MADISON, WI 53717
PHONE: (608) 827-8810
EMAIL: CDRY@EMCSINC.COM

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- EROSION CONTROL
- PAVEMENT MARKING & SIGNING
- TRAFFIC CONTROL
- ALIGNMENT DETAILS

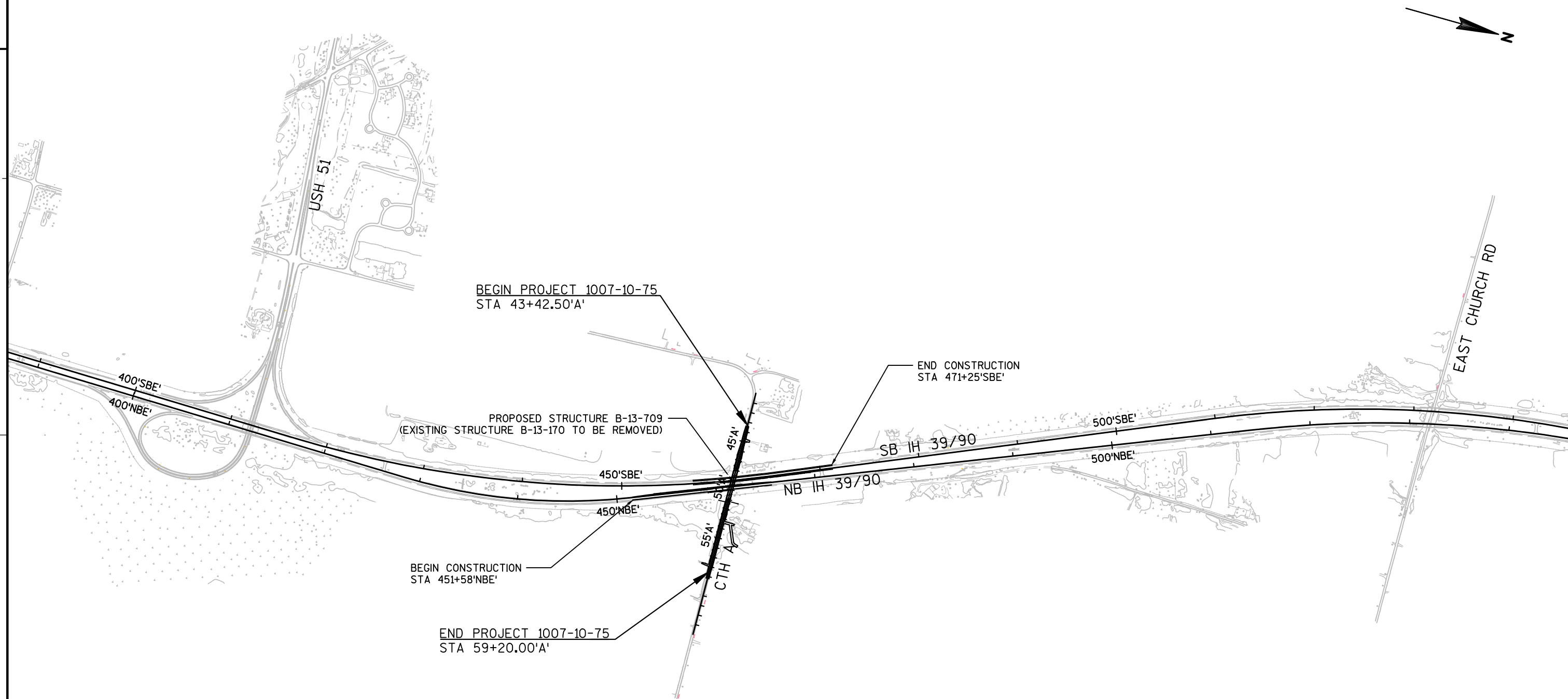
DIGGERSHOTLINE

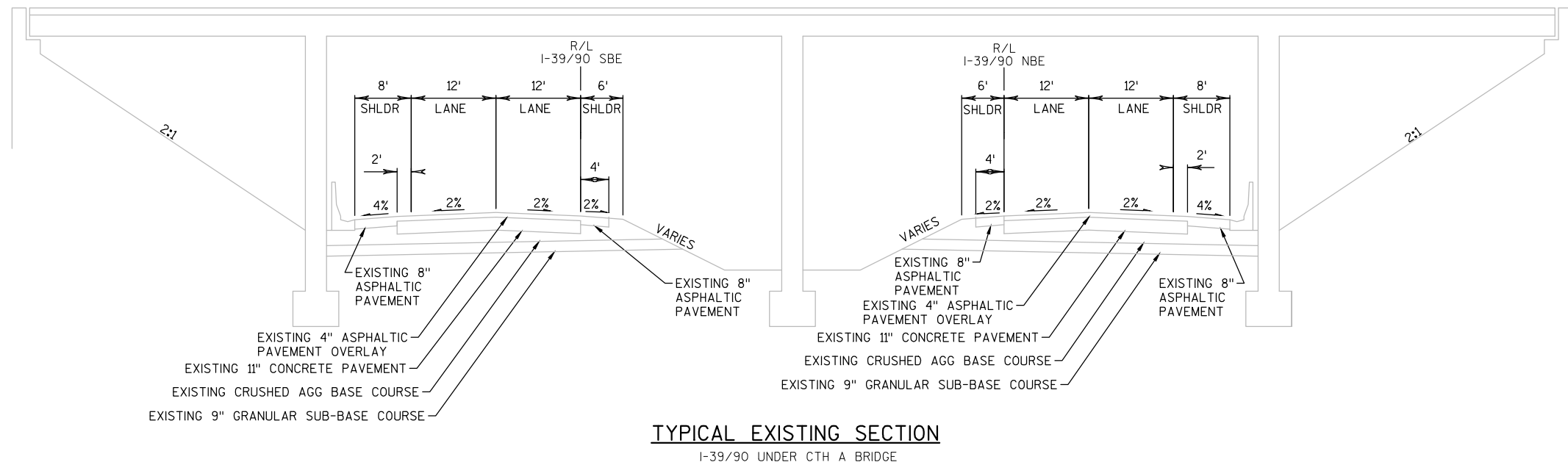
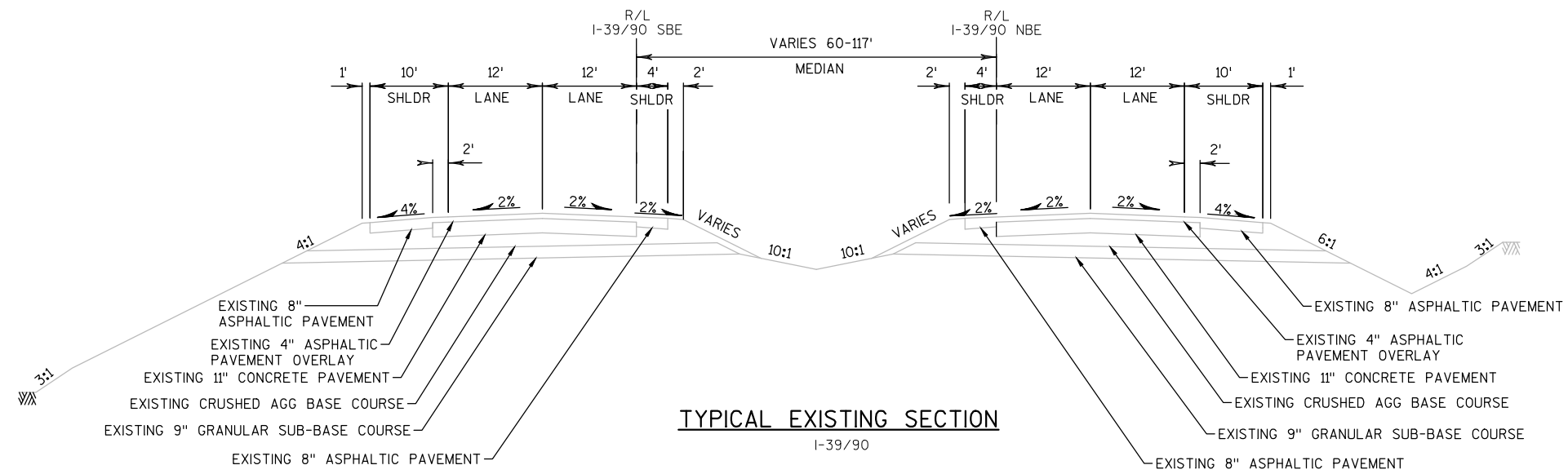
Dial 811 or (800) 242-8511

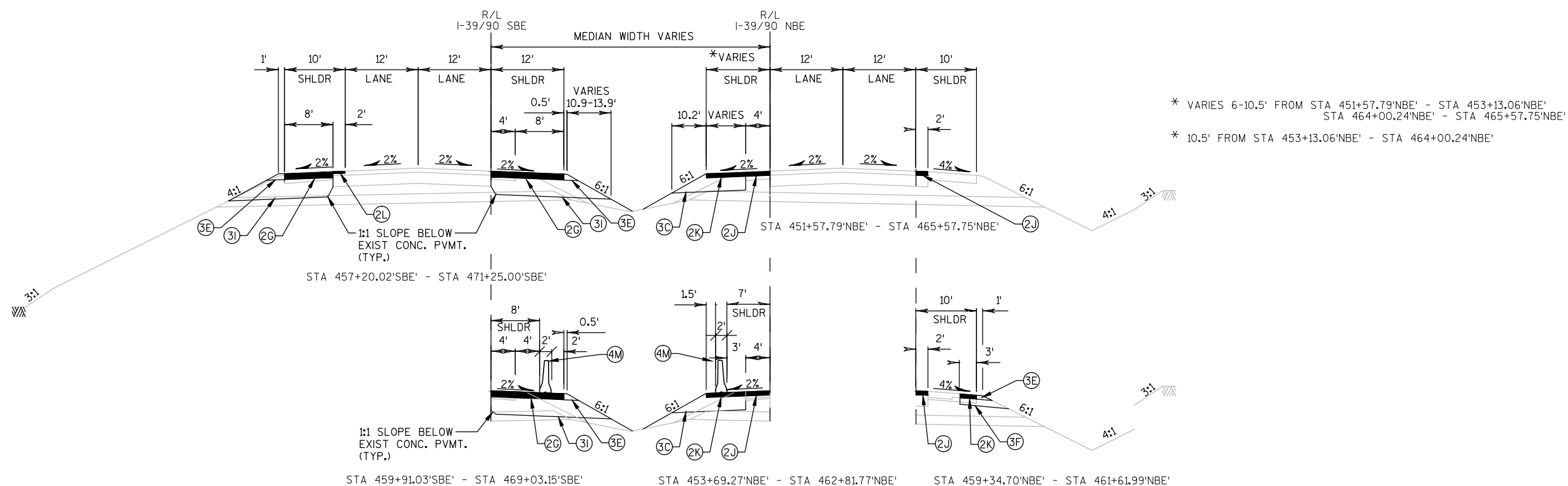
www.DiggersHotline.com

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

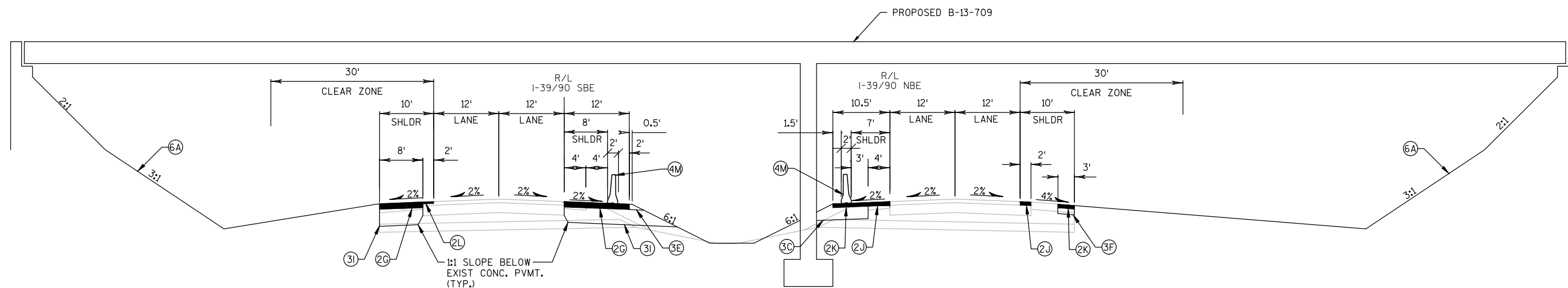






TYPICAL FINISHED SECTION

I-39/90



TYPICAL FINISHED SECTION

I-39/90
UNDER CTH A

LEGEND

- | | | |
|--|---|---|
| (2G) 6 1/2-INCH HMA PAVEMENT, TYPE E-30x | (3C) 14-INCH BASE AGGREGATE DENSE 1 1/4-INCH | (4M) CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE |
| (2J) 4-INCH REMOVING ASPHALTIC SURFACE MILLING 4-INCH HMA PAVEMENT, TYPE E-30x | (3E) BASE AGGREGATE DENSE 3/4-INCH THICKNESS TO MATCH ADJACENT PAVEMENT | (6A) SLOPE PAVING CRUSHED AGGREGATE |
| (2K) 4-INCH HMA PAVEMENT, TYPE E-30x | (3F) 6-INCH BASE AGGREGATE DENSE 1 1/4-INCH | |
| (2L) 2 1/2-INCH REMOVING ASPHALTIC SURFACE MILLING 2 1/2-INCH HMA PAVEMENT, TYPE E-30x | (3I) 18-INCH BASE AGGREGATE DENSE 1 1/4-INCH | |

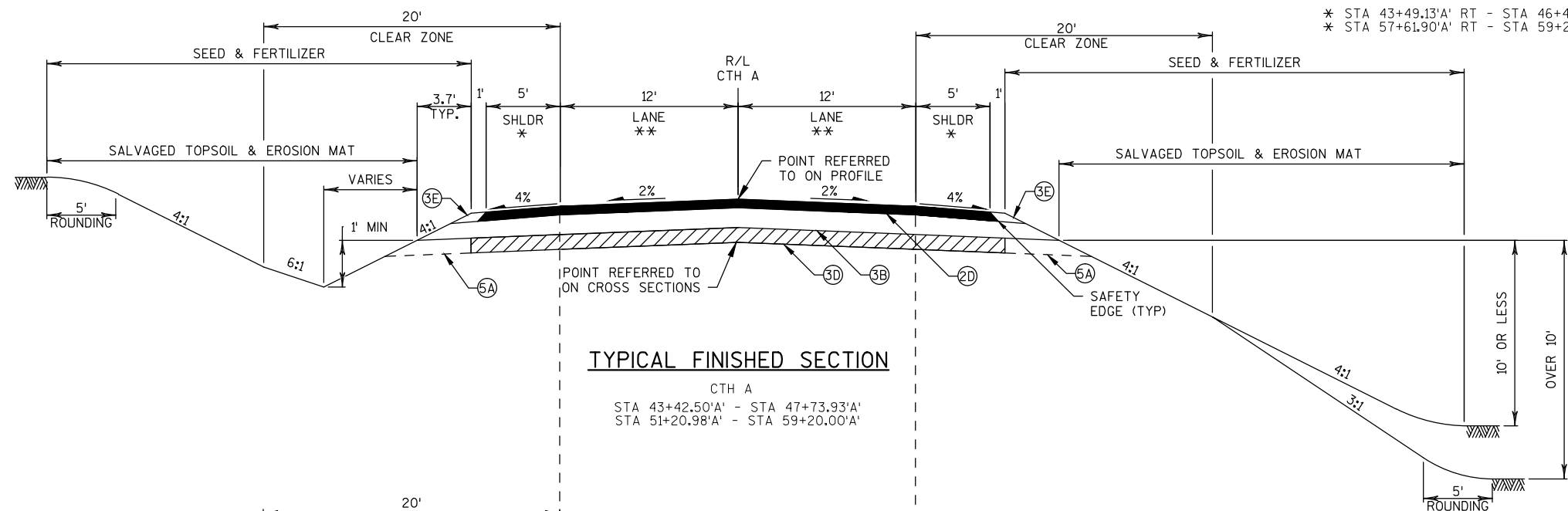
2

CTH A

** STA 43+42.50'A' - STA 44+10.00'A' VARIES 11' - 12'

* STA 43+49.13'A' LT - STA 46+67.08'A' LT VARIES 0' - 6'

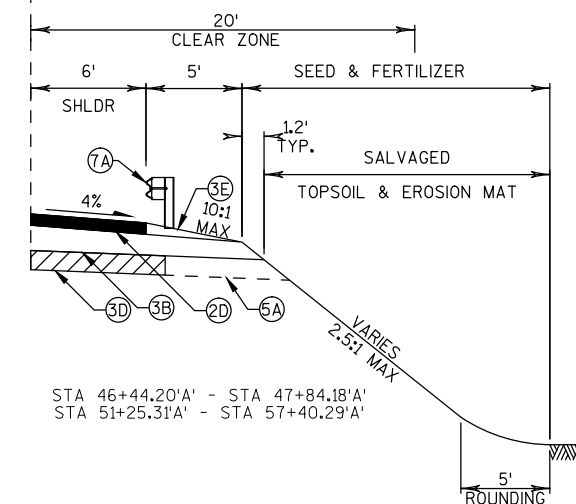
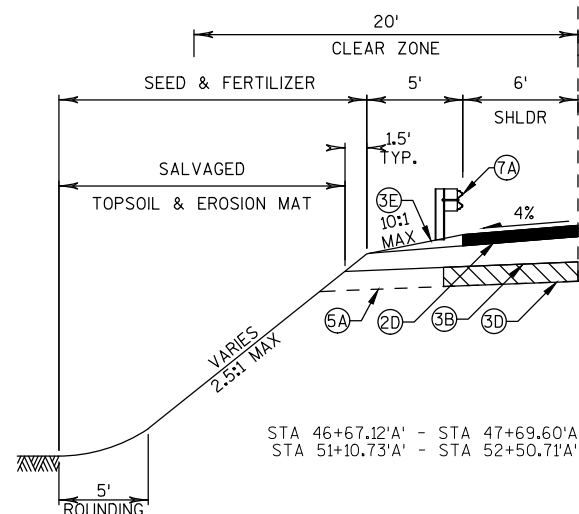
* STA 43+49.13'A' RT - STA 46+44.16'A' RT VARIES 0' - 6'
* STA 57+61.90'A' RT - STA 59+20.00'A' RT VARIES 0' - 6'



TYPICAL FINISHED SECTION

CTH A

STA 43+42.50'A' - STA 47+73.93'A'
STA 51+20.98'A' - STA 59+20.00'A'



LEGEND

- | | |
|----|---|
| 2D | 3 1/2-INCH HMA PAVEMENT, TYPE E-0.3 |
| 3B | 8-INCH BASE AGGREGATE DENSE 1 1/4-INCH |
| 3D | 6-INCH BASE AGGREGATE DENSE, 3-INCH |
| 3E | BASE AGGREGATE DENSE 3/4-INCH THICKNESS - MATCH ADJACENT PAVEMENT |
| 5A | CONSTRUCT RELIEF TRENCHES AT DITCH SAG POINTS OR EVERY 250' (SEE CONSTRUCTION DETAIL) |
| 7A | MGS BEAMGUARD 3 |

PROJECT NO:1007-10-75

HWY: IH 39

COUNTY: DANE

PLAN: TYPICAL SECTIONS

SHEET 7

—

FILE NAME : P:\47XX\4739.39_DP.I39.DAN\ENG\C3D\10071001\10071075\SHEETSPLAN\020301_TS.DWG

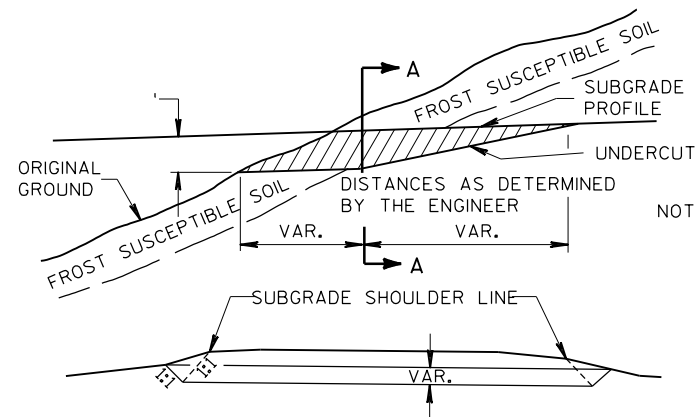
PLOT DATE : 1/23/2015 3:40 PM

PLOT BY : KEVIN DRUNASKY

PLOT NAME : 020102_TS

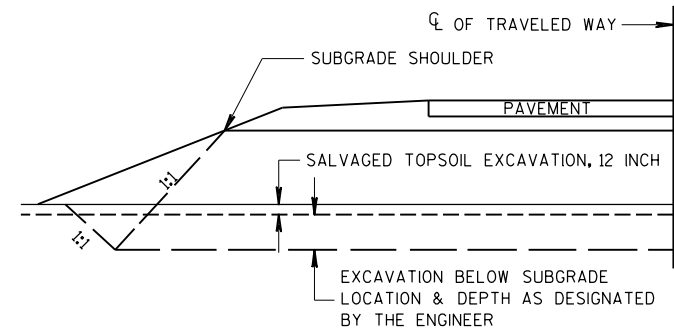
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

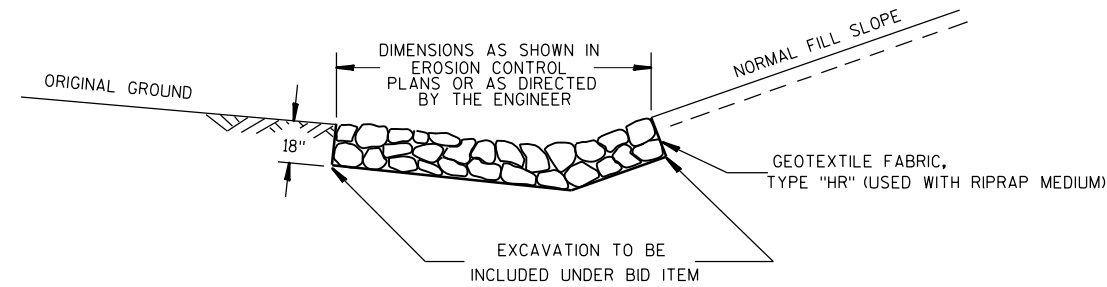


SECTION A-A
CROSS SECTION SHOWING UNDERCUT
DETAIL FOR EXCAVATION BELOW
SUBGRADE AT CUTS

NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER
BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.



DETAIL FOR EXCAVATION BELOW SUBGRADE

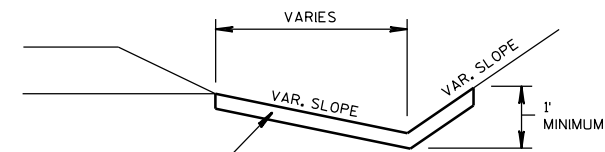


DETAIL FOR RIPRAP MEDIUM IN DITCHES
(SEE EROSION CONTROL PLANS FOR APPROXIMATE LOCATIONS)

RUNOFF COEFFICIENT TABLE - CTH A

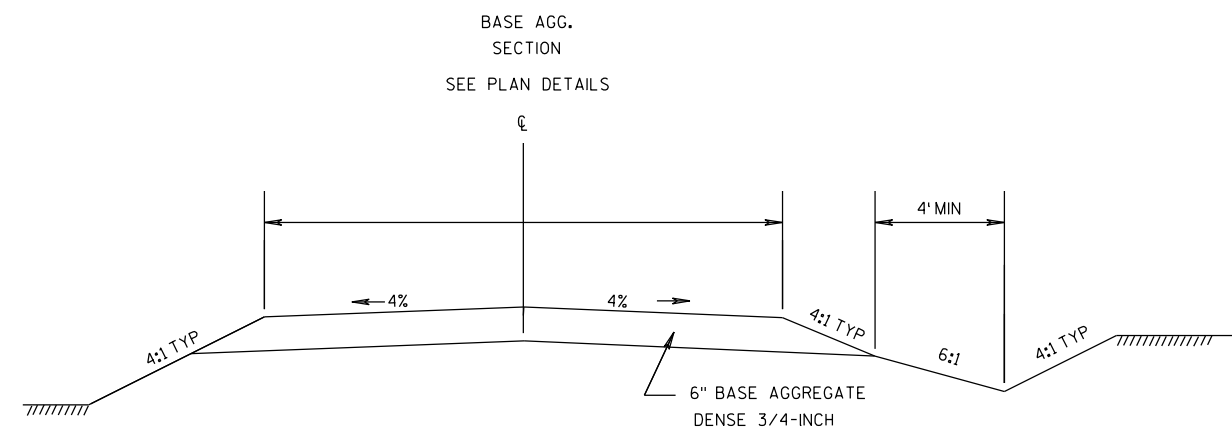
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 23.06 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 9.41 ACRES

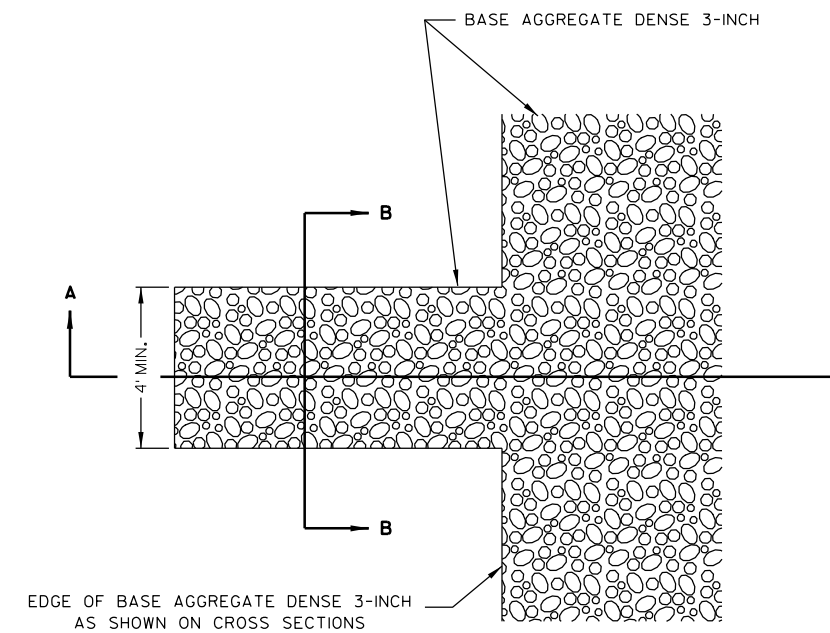
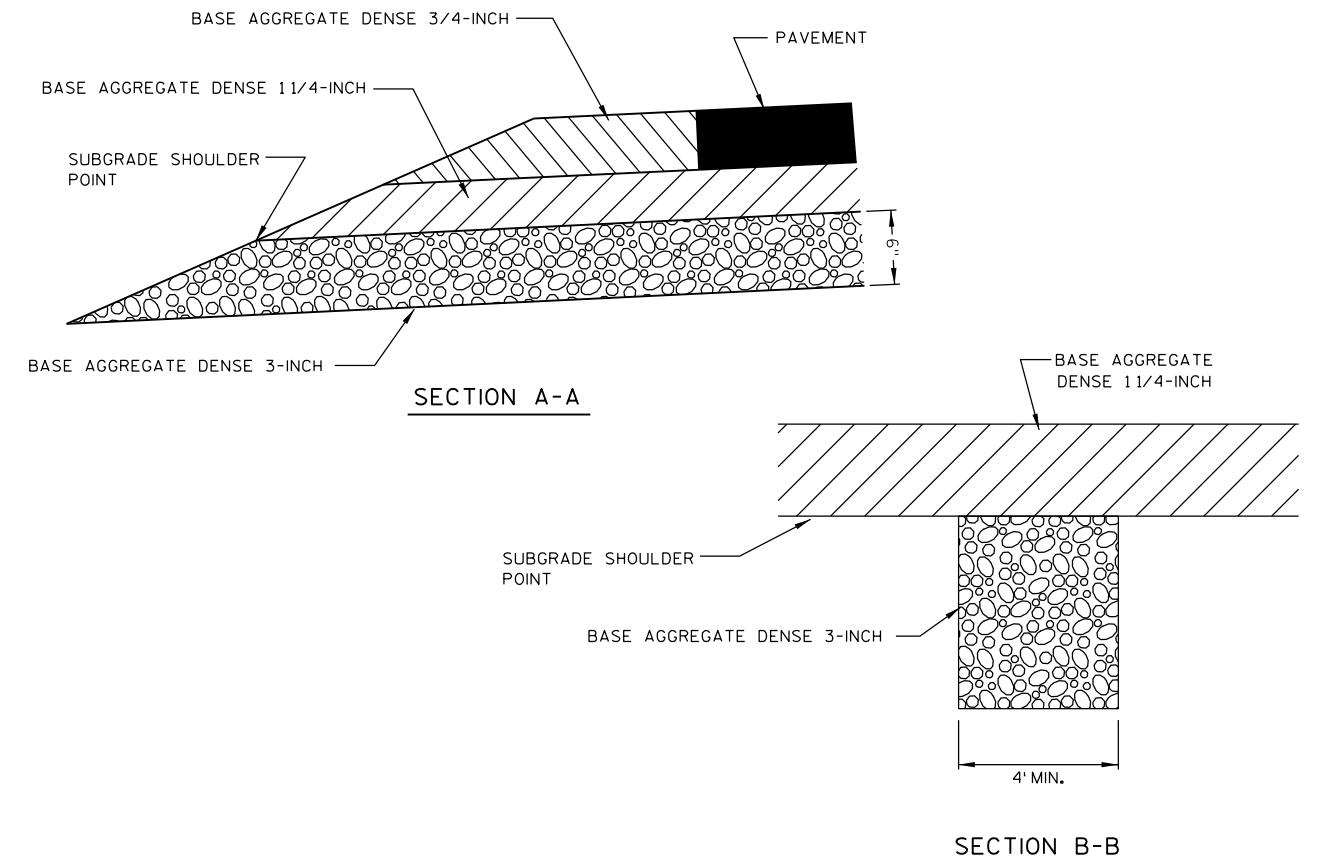


EROSION MAT DETAIL FOR DITCHES
(SEE EROSION CONTROL PLANS FOR APPROXIMATE LOCATIONS)

2



RURAL DRIVEWAY TYPICAL SECTION DETAIL



DETAIL FOR RELIEF TRENCH

CONSTRUCT DRAINS AT LEAST EVERY 250' AND
AT EACH SAG VERTICAL CURVE IN THE PROFILE.

(LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER)

EXCAVATION REQUIRED TO CONSTRUCT RELIEF TRENCH
INCLUDED IN THE ITEM OF BASE AGGREGATE DENSE 3-INCH

PROJECT NO:1007-10-75

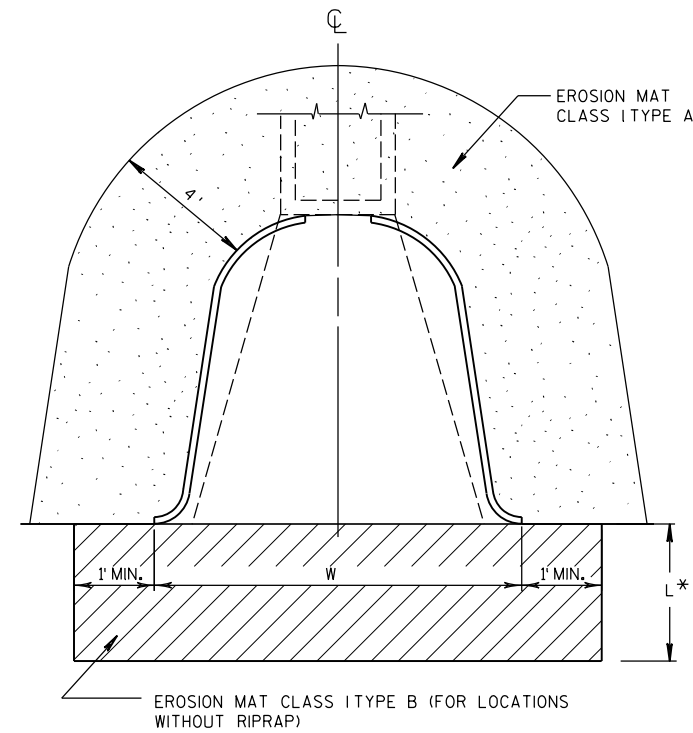
HWY: IH 39

COUNTY: DANE

CONSTRUCTION DETAILS

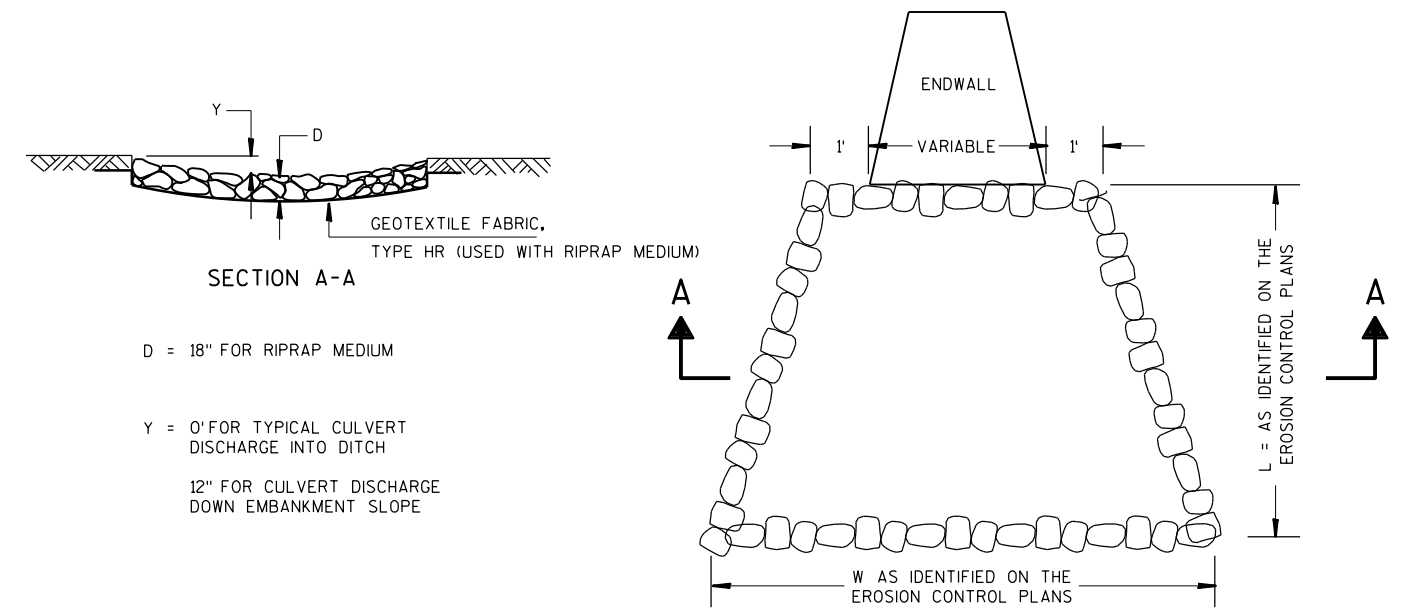
SHEET 9

2



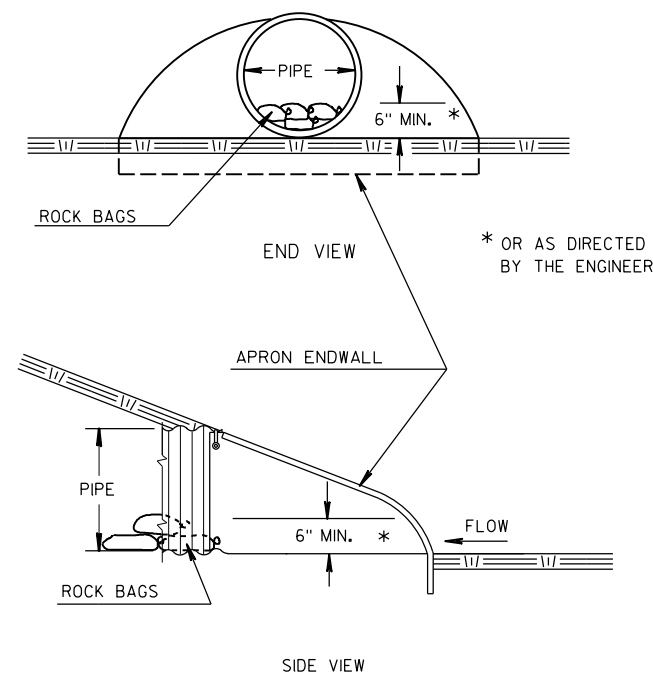
$L = 2W$ (TYP)
INCREASE IF WARRANTED
* TO BE DETERMINED BY
ENGINEER IN THE FIELD

EROSION MAT DETAIL AT APRON ENDWALLS
(SEE EROSION CONTROL PLANS FOR APPROXIMATE LOCATIONS)



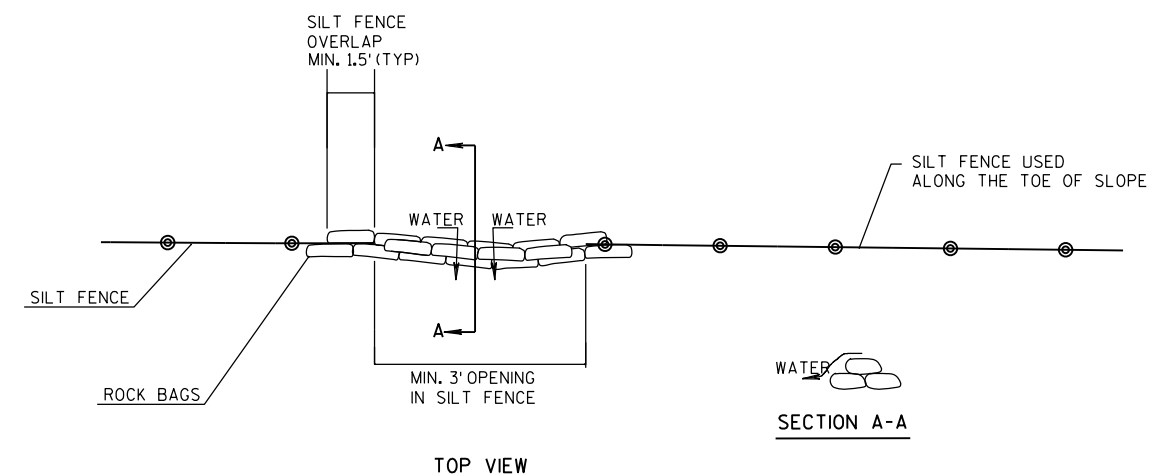
RIPRAP MEDIUM AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

(SEE EROSION CONTROL PLANS FOR APPROXIMATE LOCATIONS)



CULVERT PIPE CHECKS DETAIL

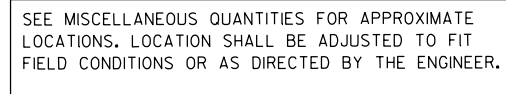
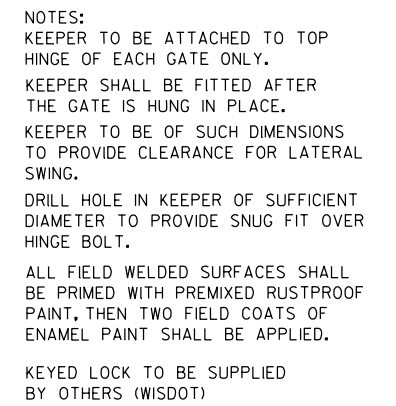
(SEE EROSION CONTROL PLANS FOR APPROXIMATE LOCATIONS)



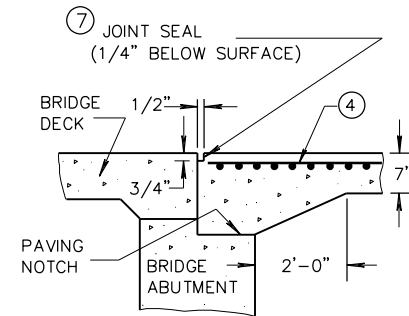
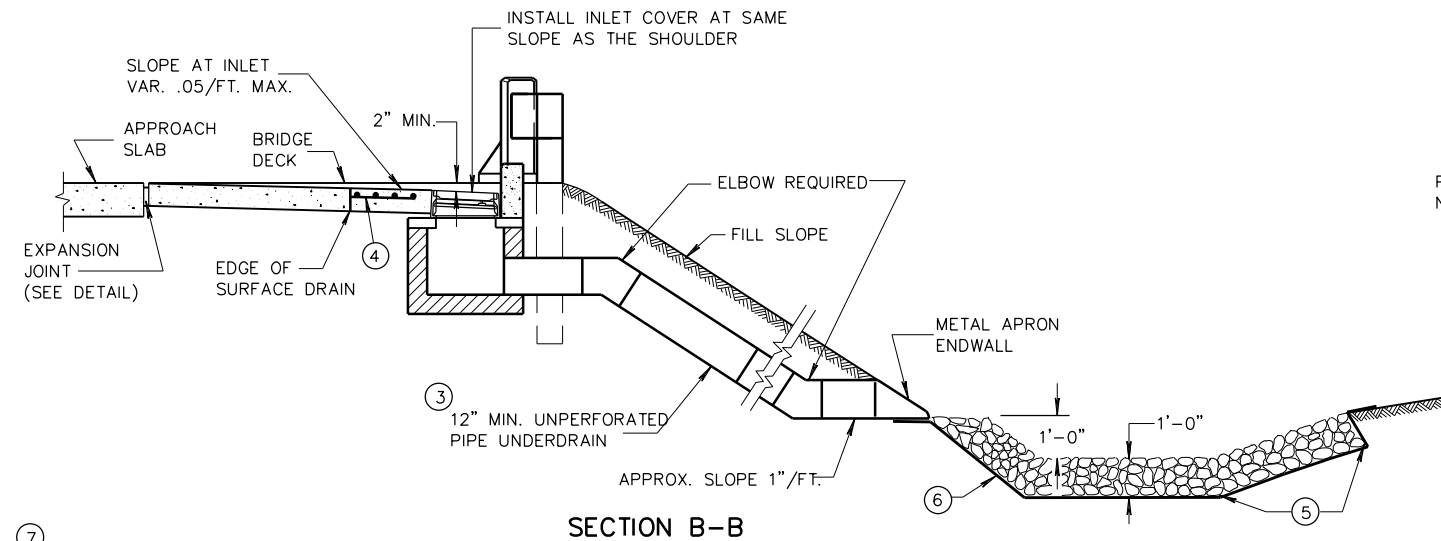
TOP VIEW

SILT FENCE RELIEF DETAIL

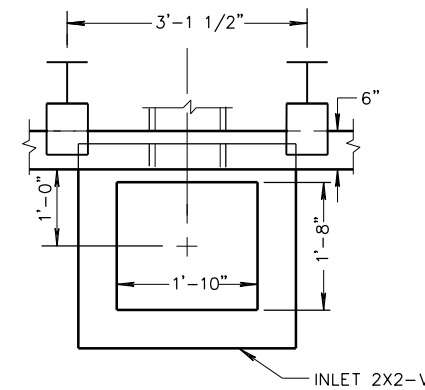
PAID AS ROCK BAGS



DETAIL FOR DROP INLET



SECTION D-D



PLAN VIEW

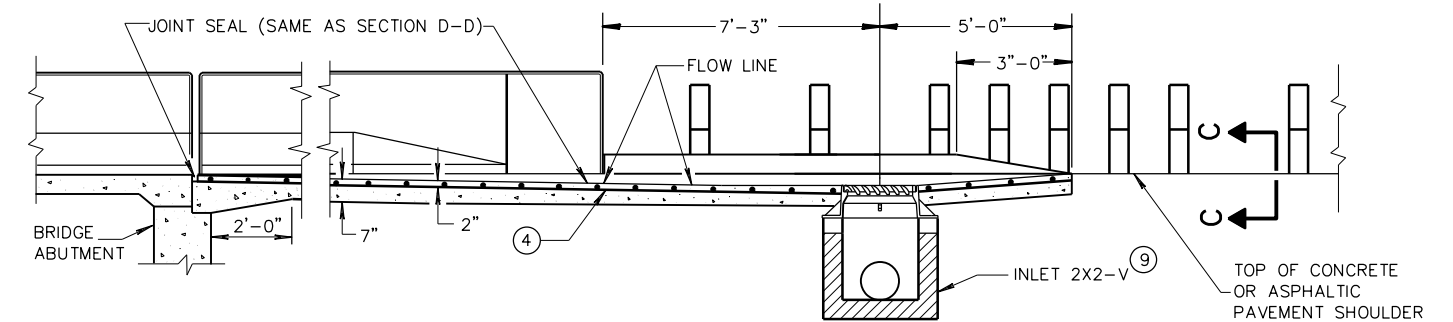
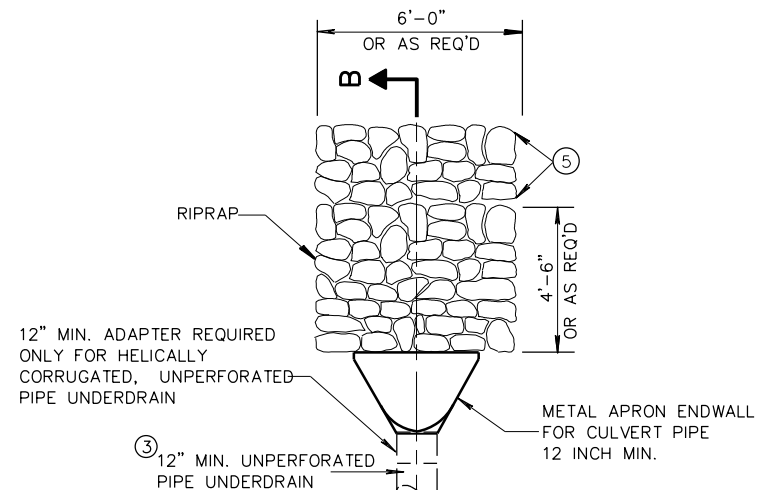
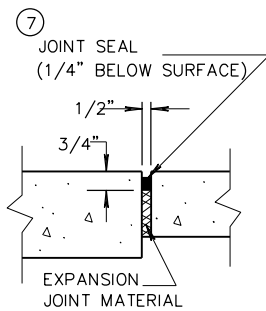
GENERAL NOTES

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.

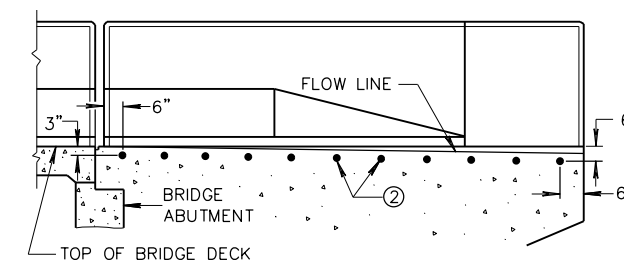
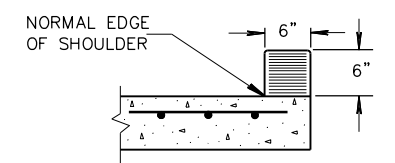
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE 'R' OR TYPE 'HR', DEPENDENT ON RIPRAP TYPE.
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING IS 3'-1 1/2", PRIOR TO THE REDUCED SPACING OF 1'-6 3/4".
- ⑨ SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.
- ⑩ SEE CURRENT STANDARD DETAIL DRAWING 14B45 FOR MGS POST SPACING DETAILS.

EXPANSION JOINT DETAIL

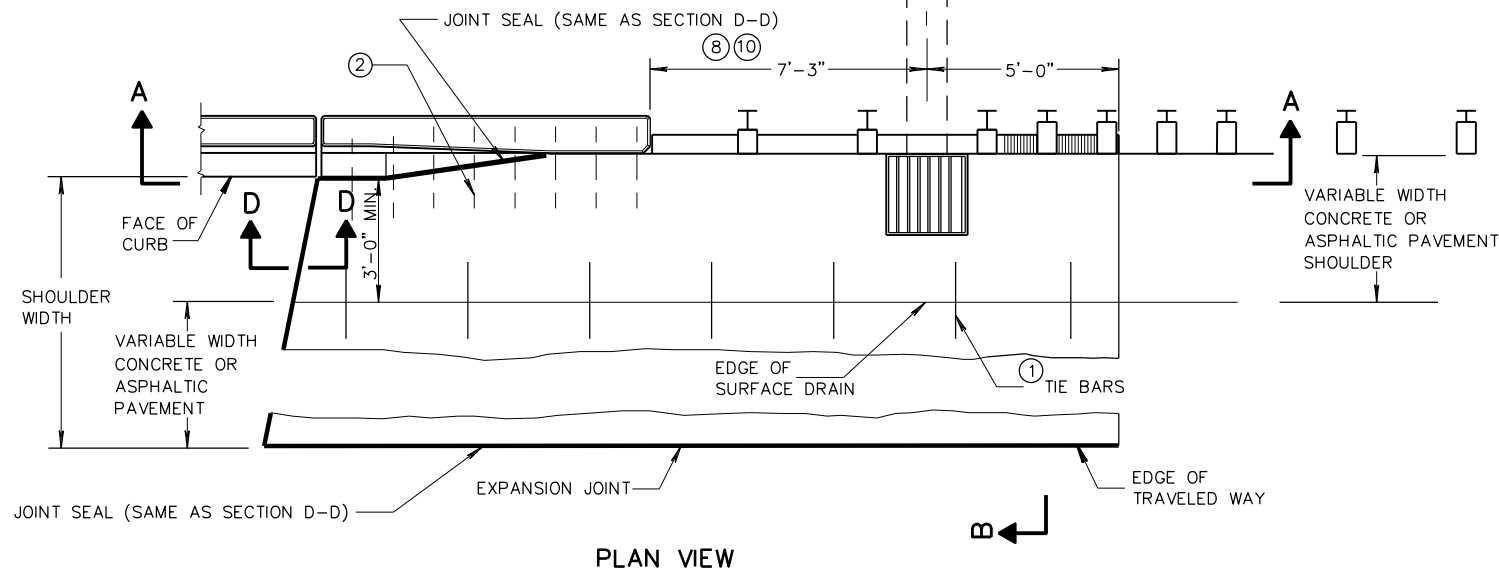


SECTION A-A

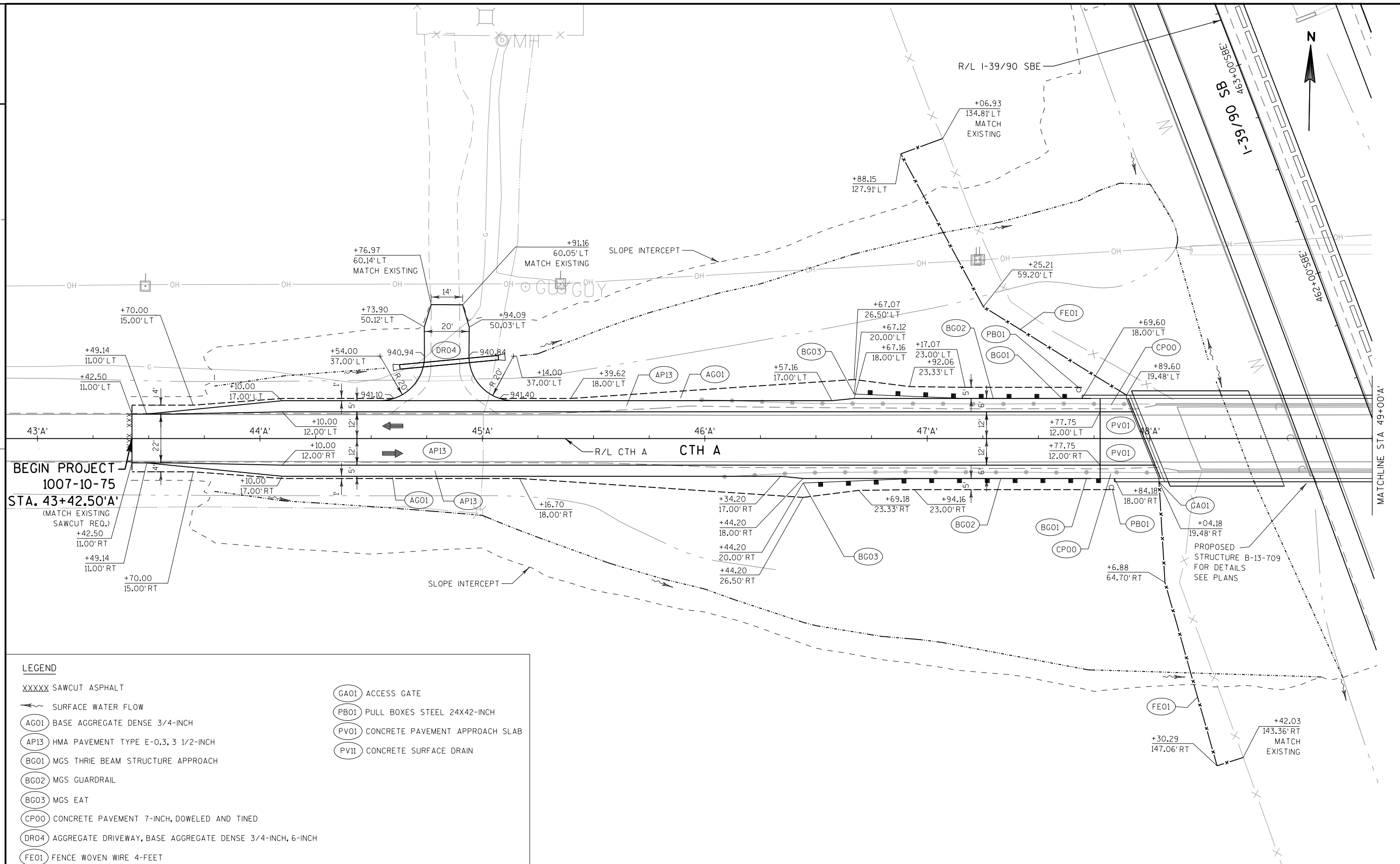
LOCATION OF
TIE BARS IN WINGWALL

SECTION C-C

CONCRETE SURFACE DRAINS
DROP INLET TYPE
AT STRUCTURES



PLAN VIEW



LEGEND

XXXXX SAWCUT ASPHALT

SURFACE WATER FLOW

AG01 BASE AGGREGATE DENSE 3/4-INCH

AP13 HMA PAVEMENT TYPE E-0.3, 3 1/2-INCH

BG01 MGS THRIE BEAM STRUCTURE APPROACH

BG02 MGS GUARDRAIL

BG03 MGS EAT

CP00 CONCRETE PAVEMENT 7-INCH, DOWELED AND TINED

DR04 AGGREGATE DRIVEWAY, BASE AGGREGATE DENSE 3/4-INCH, 6-INCH

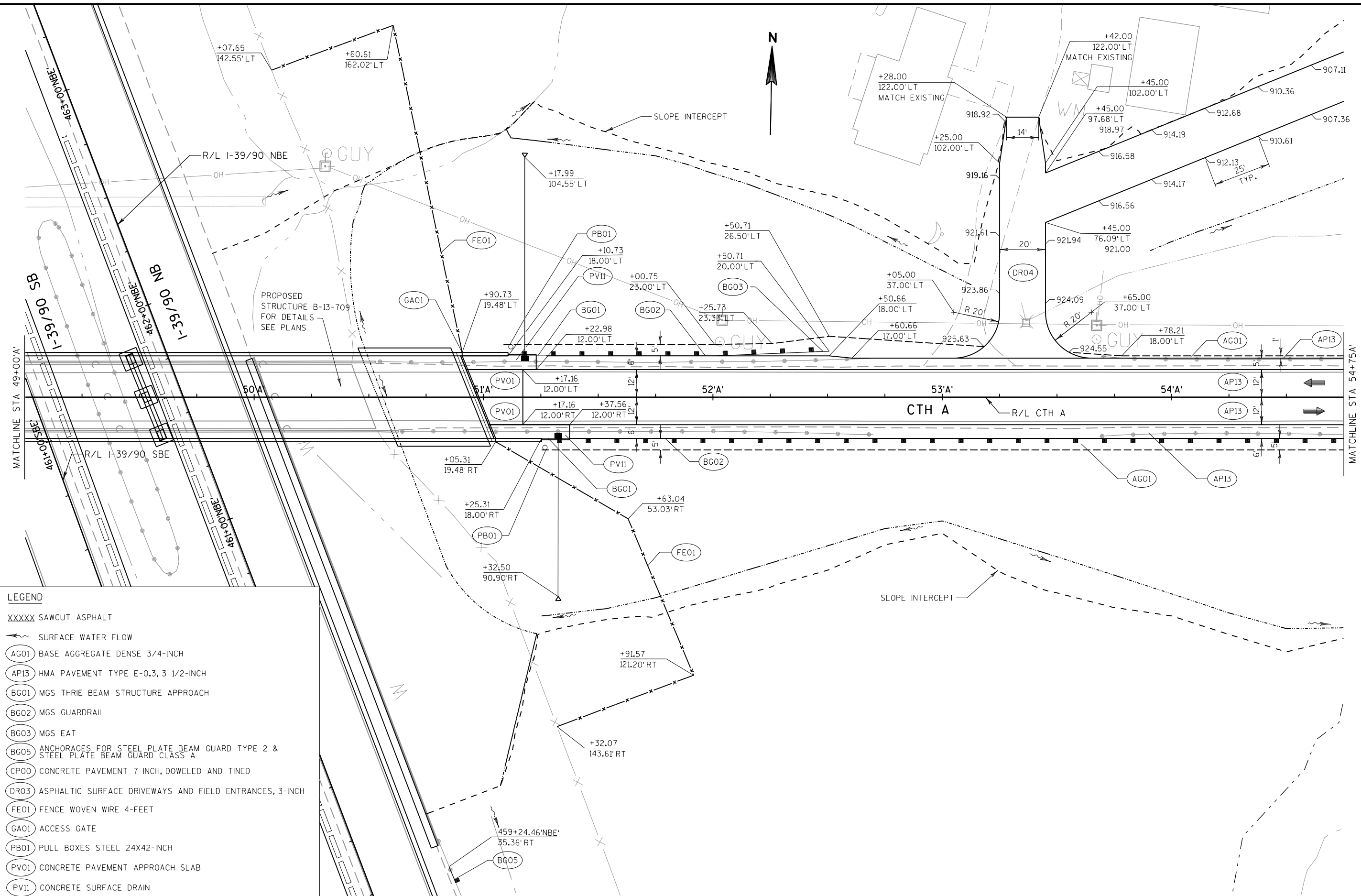
FE01 FENCE WOVEN WIRE 4-FEET

GA01 ACCESS GATE

PB01 PULL BOXES STEEL 24X42-INCH

PV01 CONCRETE PAVEMENT APPROACH SLAB

PV11 CONCRETE SURFACE DRAIN



LEGEND

- XXXXX SAWCUT ASPHALT
- SURFACE WATER FLOW
- AG01 BASE AGGREGATE DENSE 3/4-INCH
- AP13 HMA PAVEMENT TYPE E-0.3, 3 1/2-INCH
- BG01 MGS THRIE BEAM STRUCTURE APPROACH
- BG02 MGS GUARDRAIL
- BG03 MGS EAT
- BG05 ANCHORAGES FOR STEEL PLATE BEAM GUARD TYPE 2 & STEEL PLATE BEAM GUARD CLASS A
- CP00 CONCRETE PAVEMENT 7-INCH, DOWELED AND TINED
- DR03 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES, 3-INCH
- FE01 FENCE WOVEN WIRE 4-FEET
- GA01 ACCESS GATE
- PB01 PULL BOXES STEEL 24X42-INCH
- PV01 CONCRETE PAVEMENT APPROACH SLAB
- PV11 CONCRETE SURFACE DRAIN

PROJECT NO:1007-10-75

HWY:IH 39

COUNTY:DANE

PLAN DETAILS: CTH A

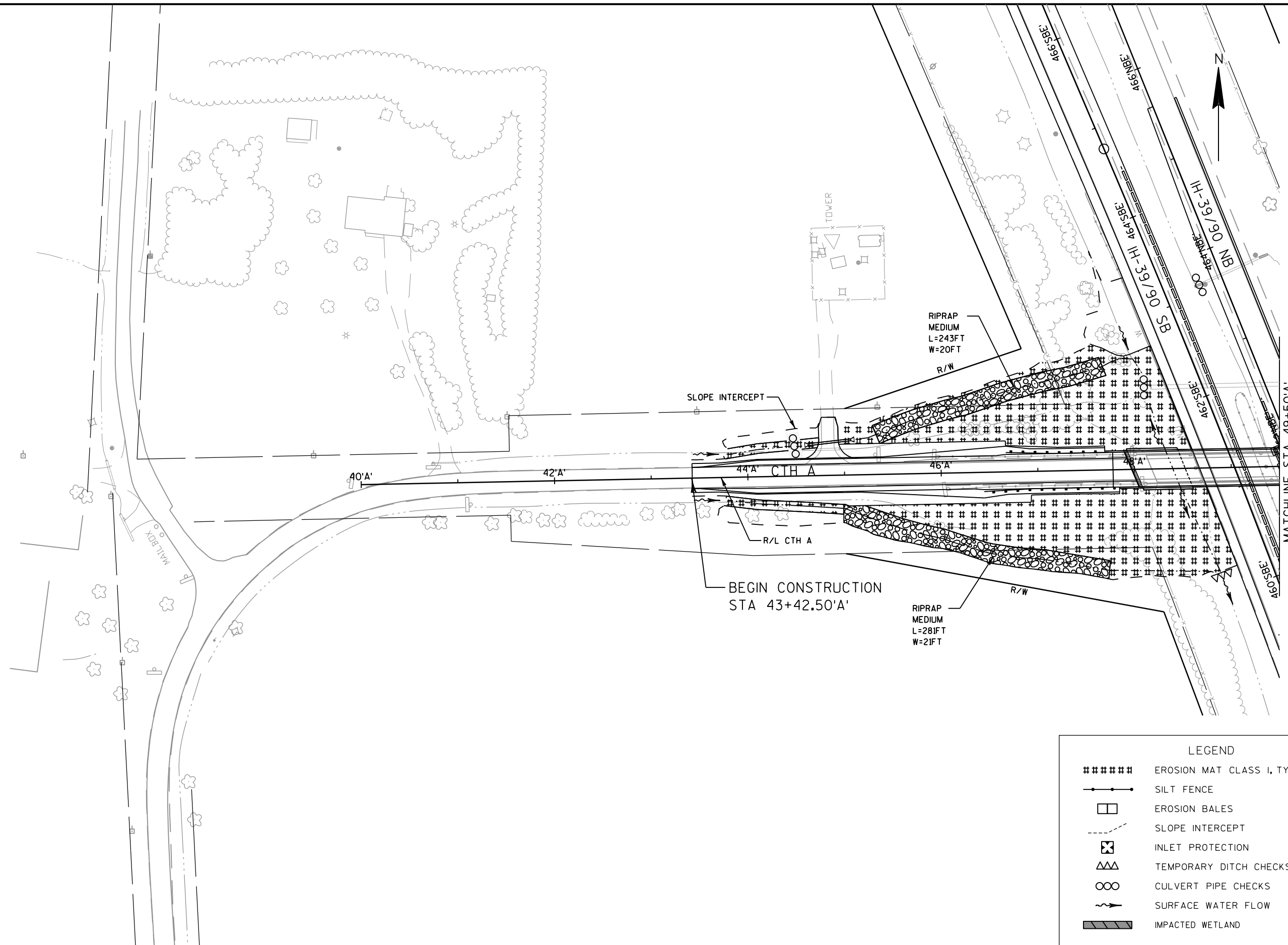
SHEET

14

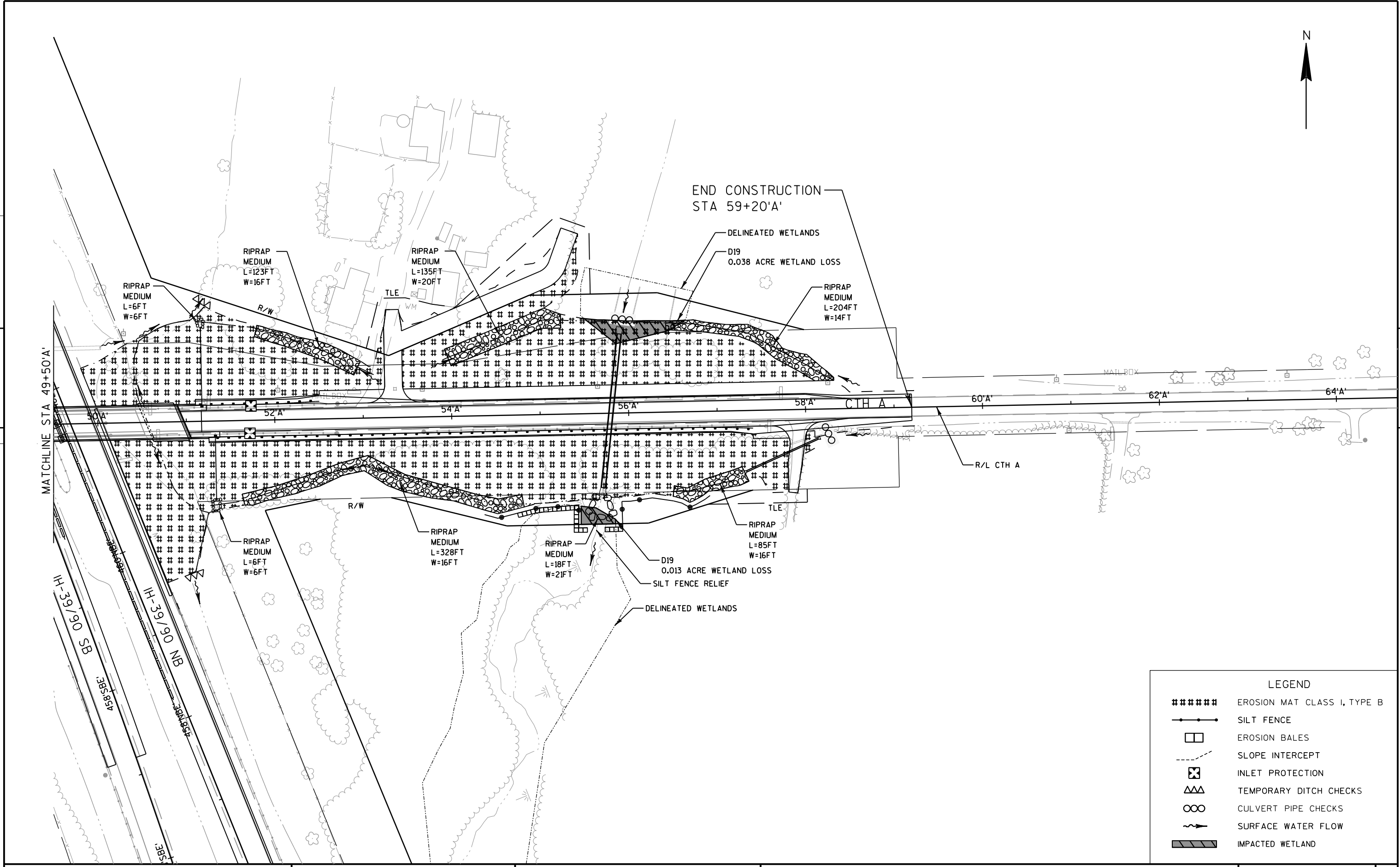
E

2

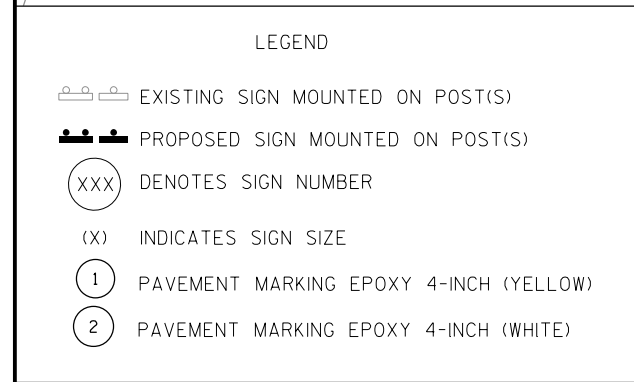


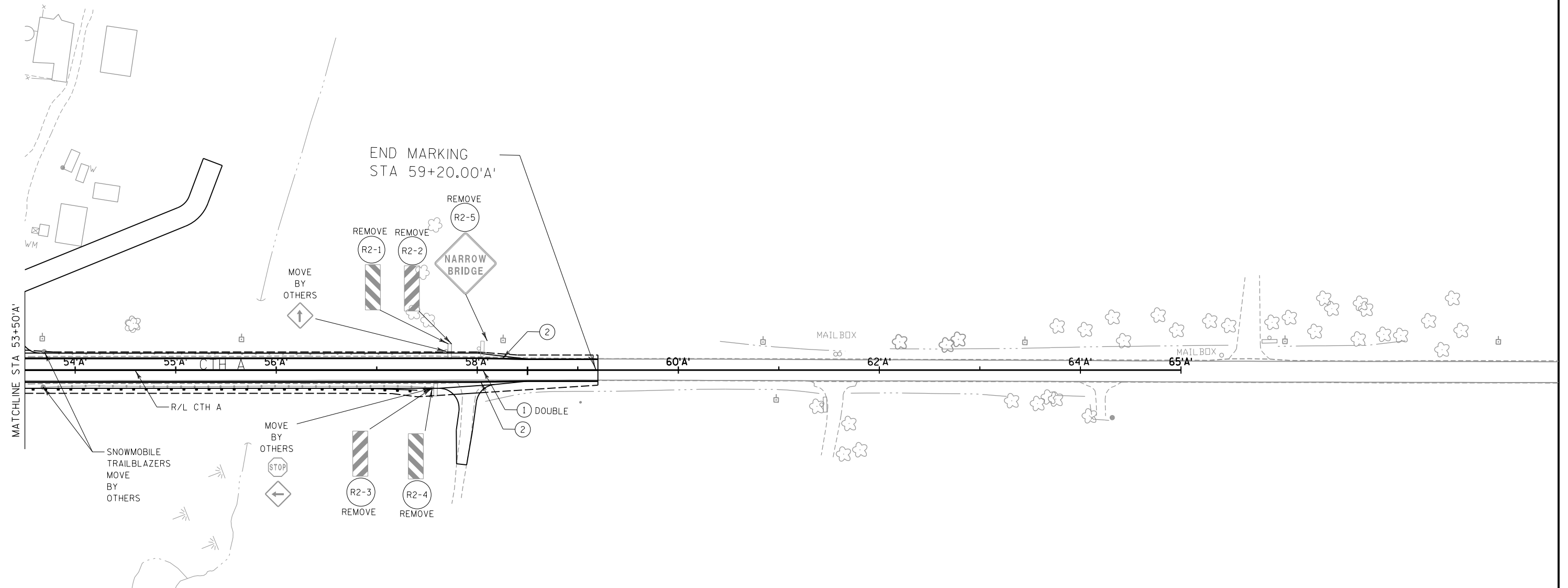


LEGEND	
#####	EROSION MAT CLASS I, TYPE B
—●—●—●—	SILT FENCE
□	EROSION BALES
- - -	SLOPE INTERCEPT
⊗	INLET PROTECTION
△△	TEMPORARY DITCH CHECKS
∞	CULVERT PIPE CHECKS
~	SURFACE WATER FLOW
▨	IMPACTED WETLAND



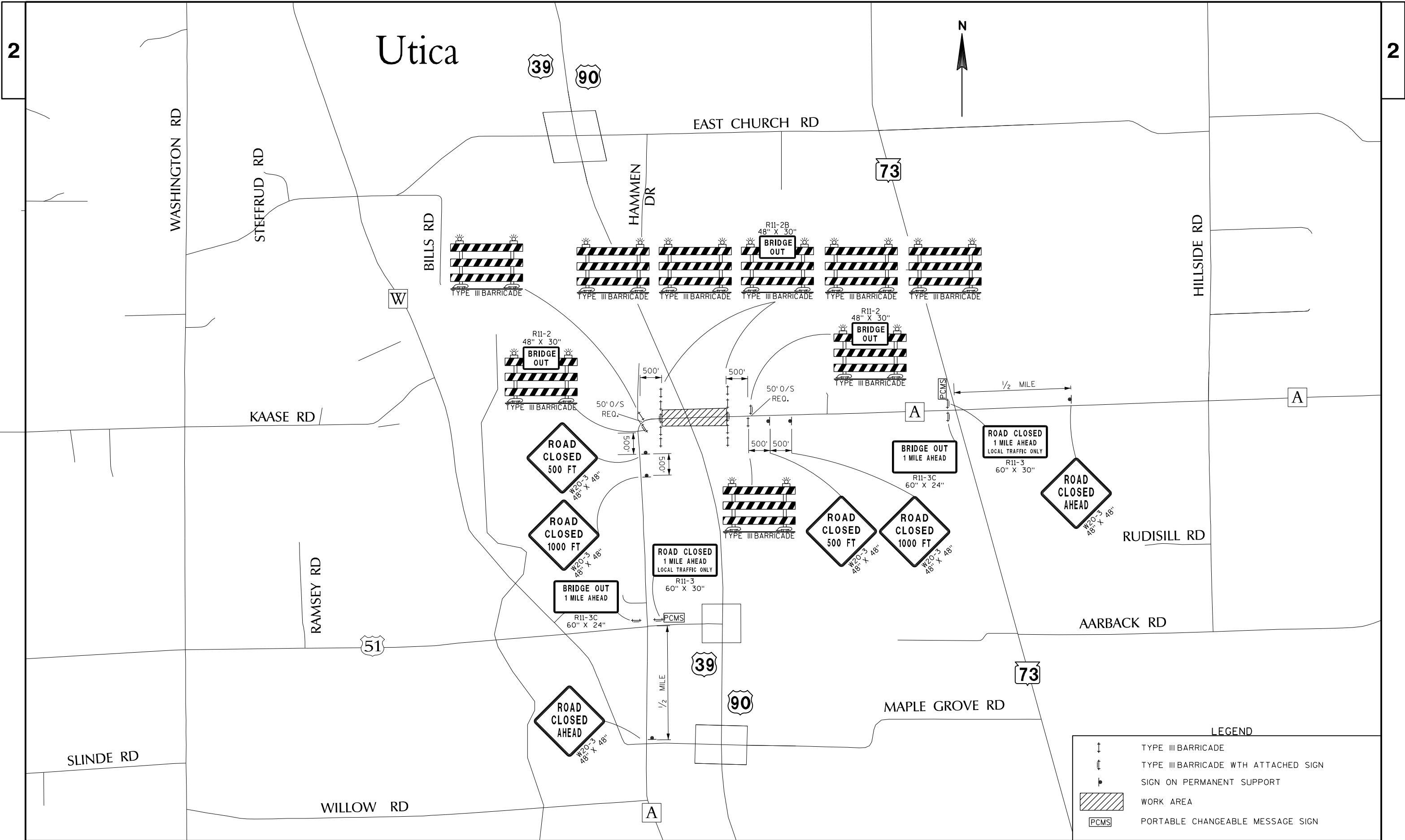
LEGEND	
#####	EROSION MAT CLASS I, TYPE B
—●—●—	SILT FENCE
□	EROSION BALES
- - -	SLOPE INTERCEPT
⊗	INLET PROTECTION
△△	TEMPORARY DITCH CHECKS
∞	CULVERT PIPE CHECKS
~	SURFACE WATER FLOW
▨	IMPACTED WETLAND





LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
- PAVEMENT MARKING EPOXY 4-INCH (WHITE)



PROJECT NO: 1007-10-75

HWY: IH 39

COUNTY: DANE

TRAFFIC CONTROL: CTH A

SHEET

20

E

LEGEND

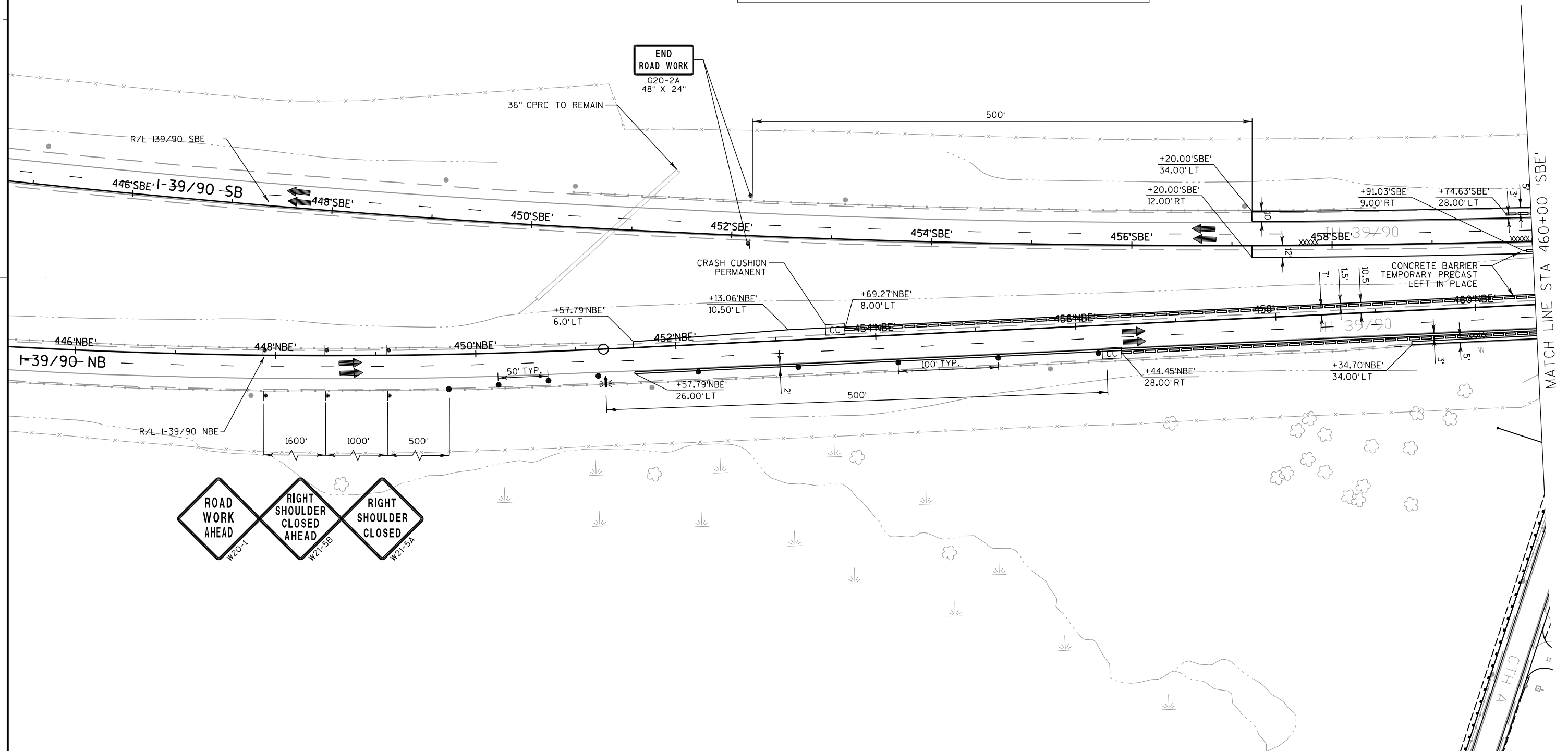
	CONSTRUCTION WORK UNDER TRAFFIC NIGHT TIME ONLY
	DIRECTION OF TRAFFIC
	CONCRETE BARRIER TEMPORARY PRECAST
	CRASH CUSHIONS TEMPORARY
	SIGN ON PERMANENT SUPPORT
	FLASHING ARROW BOARD
	TYPE III BARRICADE
	SAWCUT ASPHALT

MAINTENANCE OF TRAFFIC

- CTH A SHALL BE CLOSED TO THROUGH TRAFFIC
- I-39/90 SHALL BE OPEN TO ALL EXISTING LANES AT ALL TIMES EXCEPT DURING NIGHT TIME ROLLING CLOSURES OR SINGLE LANE CLOSURES AS SPECIFIED IN THE CONTRACT SPECIAL PROVISIONS

NOTES

- REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER
- TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
 - NB & SB PCMS TO BE LOCATED BY WISDOT SW REGION TRAFFIC SECTION
 - DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF THE BARRIER ADJACENT TO TRAFFIC. STATION CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE CENTER OF THE BARRIER.
 - ALWAYS PROVIDE A MINIMUM OF 2' CLEAR FROM EDGE OF TRAVEL LANE TO THE TOE OF THE TEMPORARY PRECAST CONCRETE BARRIER.
 - ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.



LEGEND

	CONSTRUCTION WORK UNDER TRAFFIC NIGHT TIME ONLY
	DIRECTION OF TRAFFIC
	CONCRETE BARRIER TEMPORARY PRECAST
	CRASH CUSHIONS TEMPORARY
	SIGN ON PERMANENT SUPPORT
	FLASHING ARROW BOARD
	TYPE III BARRICADE
	SAWCUT ASPHALT

MAINTENANCE OF TRAFFIC

- CTH A SHALL BE CLOSED TO THROUGH TRAFFIC
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NOTES

REFER TO THE FOLLOWING STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DEVICES, AS WELL AS OTHER STANDARD DETAIL DRAWINGS AS NECESSARY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER

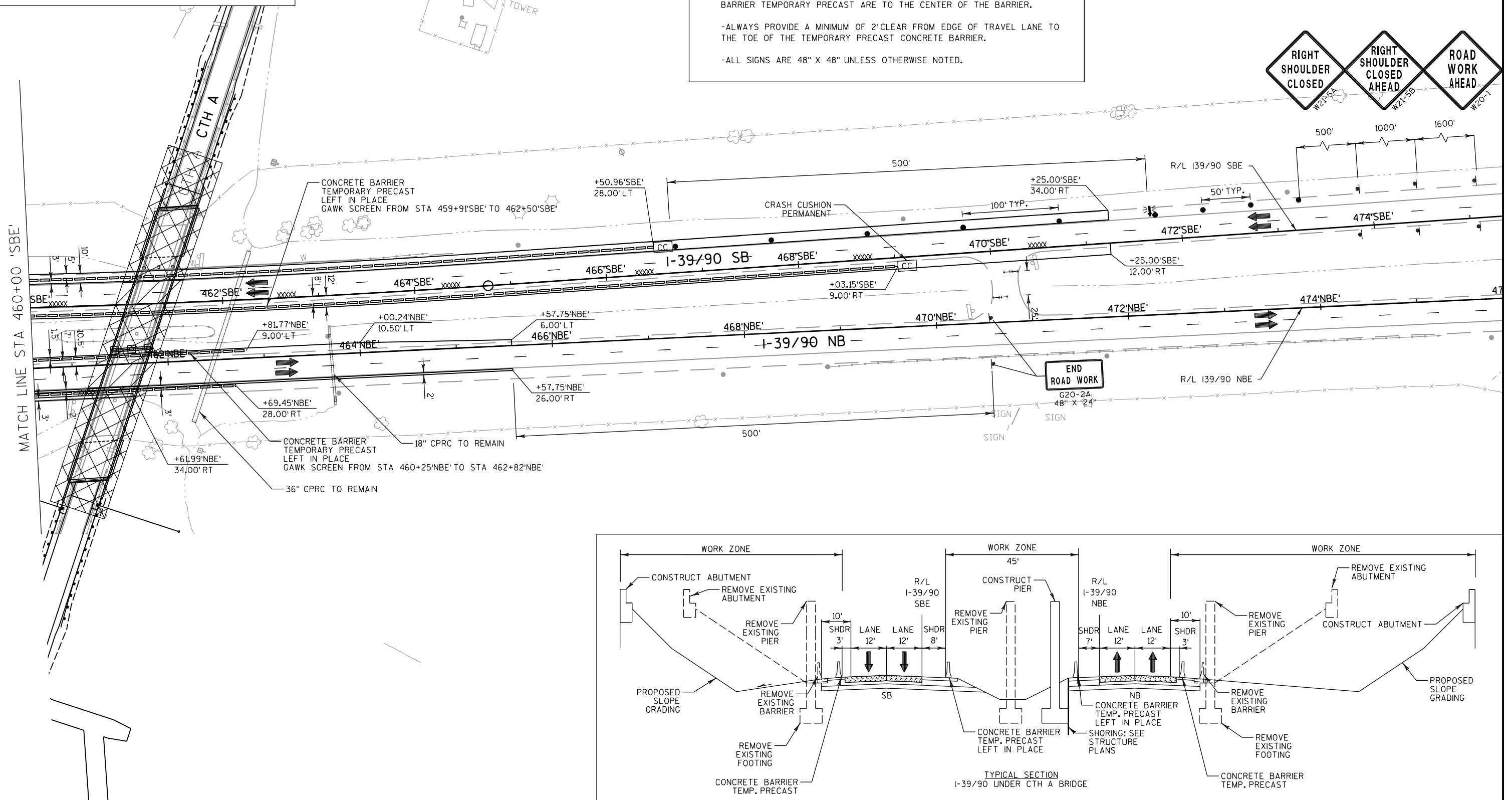
- TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

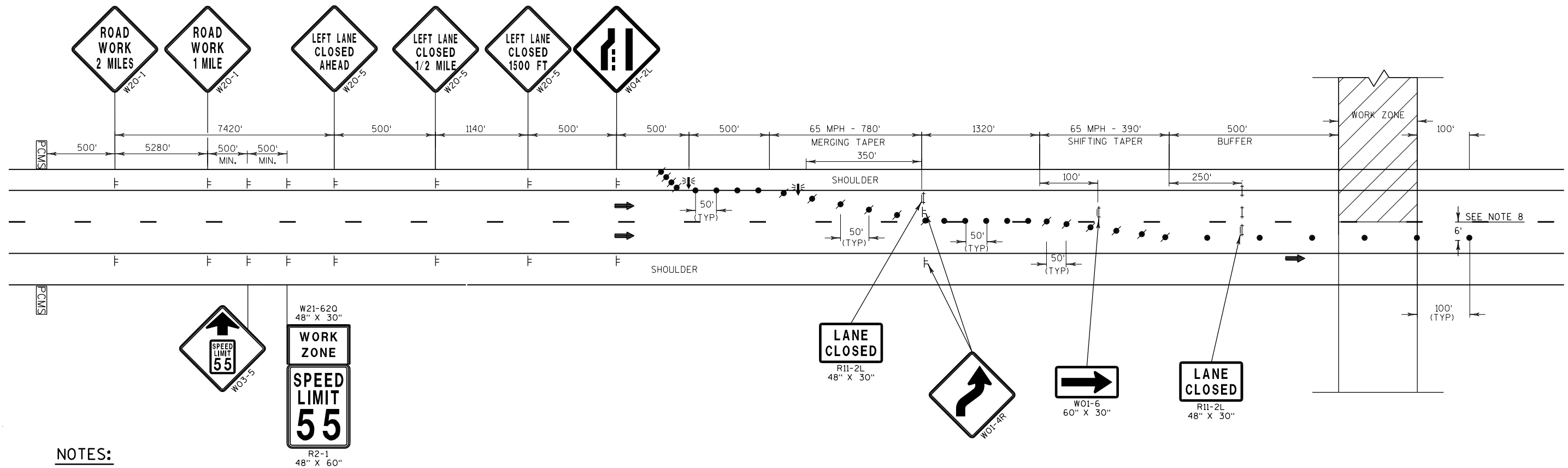
-NB & SB PCMS TO BE LOCATED BY WISDOT SW REGION TRAFFIC SECTION

-DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF THE BARRIER ADJACENT TO TRAFFIC. STATION CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE CENTER OF THE BARRIER.

-ALWAYS PROVIDE A MINIMUM OF 2' CLEAR FROM EDGE OF TRAVEL LANE TO THE TOE OF THE TEMPORARY PRECAST CONCRETE BARRIER.

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





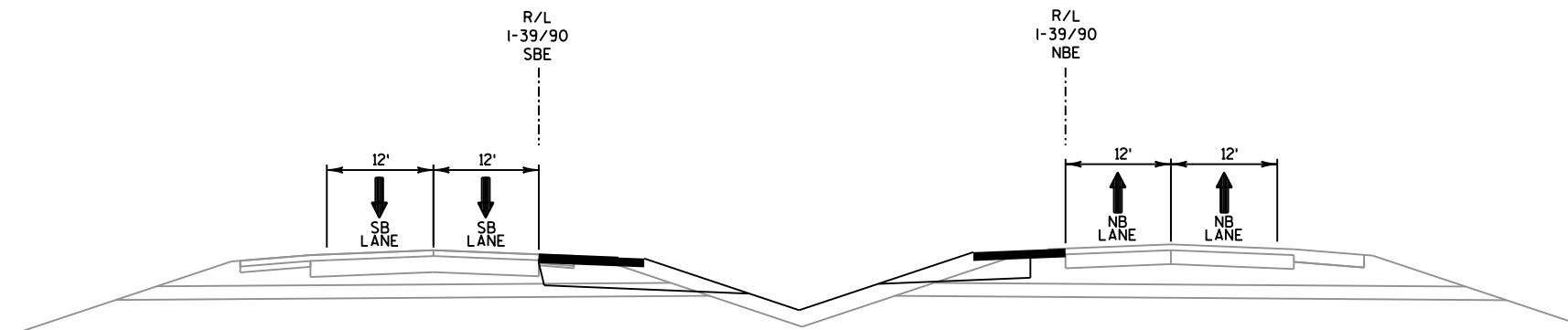
NOTES:

- 1) THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- 2) ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).
- 3) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- 4) "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- 5) ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROWBOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
- 6) UTILIZE NIGHT TIME CLOSURE FOR ALL BRIDGE CONSTRUCTION ACTIVITIES. HOURS FOR NIGHT TIME CLOSURE SHALL ADHERE TO THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
- 7) DETAIL IS TYPICAL FOR NB AND SB DIRECTIONS. LEFT LANE CLOSURE IS SHOWN. REVERSE FOR CLOSING RIGHT LANE.
- 8) 6-FT OFFSET FROM EDGE OF LANE TO WORK ZONE UNDERNEATH STRUCTURE SHALL APPLY FOR ALL OVERHEAD STRUCTURE WORK. THE 6-FT OFFSET IS NOT REQUIRED FOR SHOULDER WORK.

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- ▨ WORK ZONE
- ⌄ SIGN ON TEMPORARY SUPPORT
- ⌄ TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHT TYPE A AND ATTACHED SIGN
- ⌄ TRAFFIC CONTROL BARRICADE TYPE III WITH LIGHT TYPE A
- TRAFFIC CONTROL ARROW BOARD
- ➡ DIRECTION OF TRAFFIC
- PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE

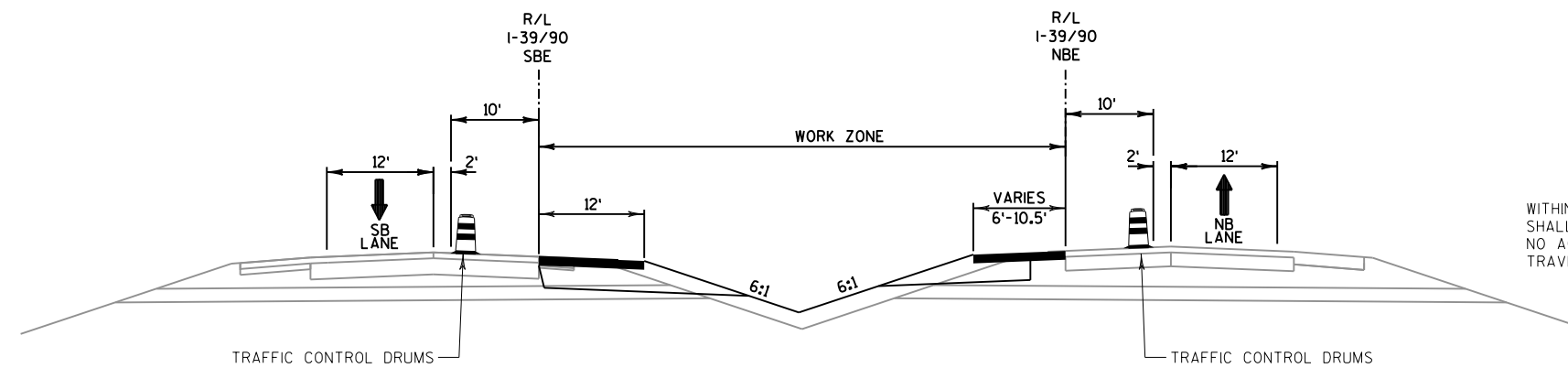
TYPICAL SINGLE LANE NIGHT TIME CLOSURE



PROPOSED CONSTRUCTION TYPICAL SECTION

I-39/90

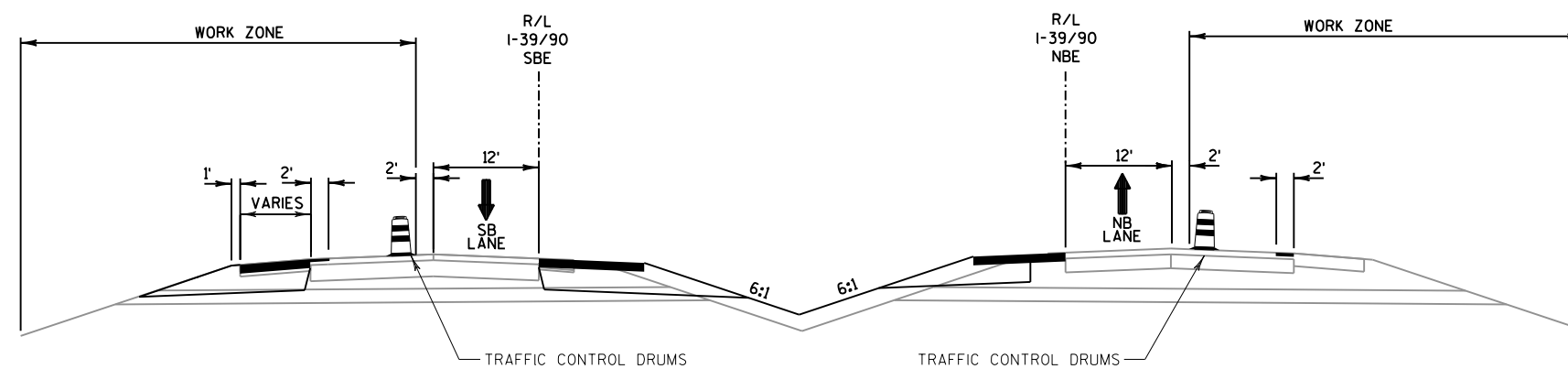
DAYTIME OPERATION



PROPOSED CONSTRUCTION TYPICAL SECTION

I-39/90

NIGHT-TIME OPERATION
MEDIAN WORK
STAGE 1

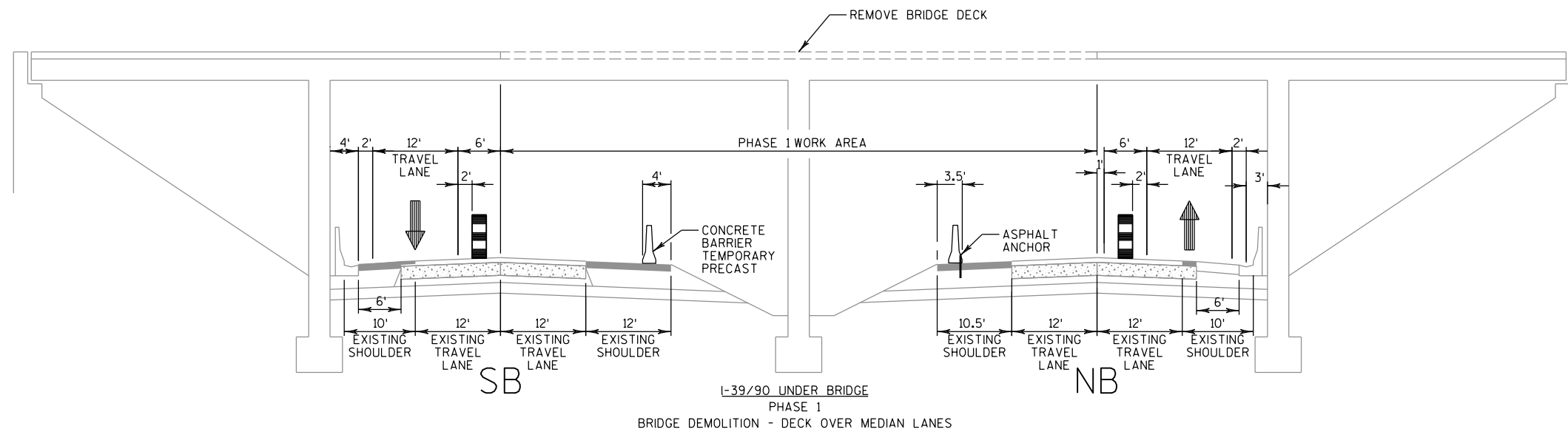
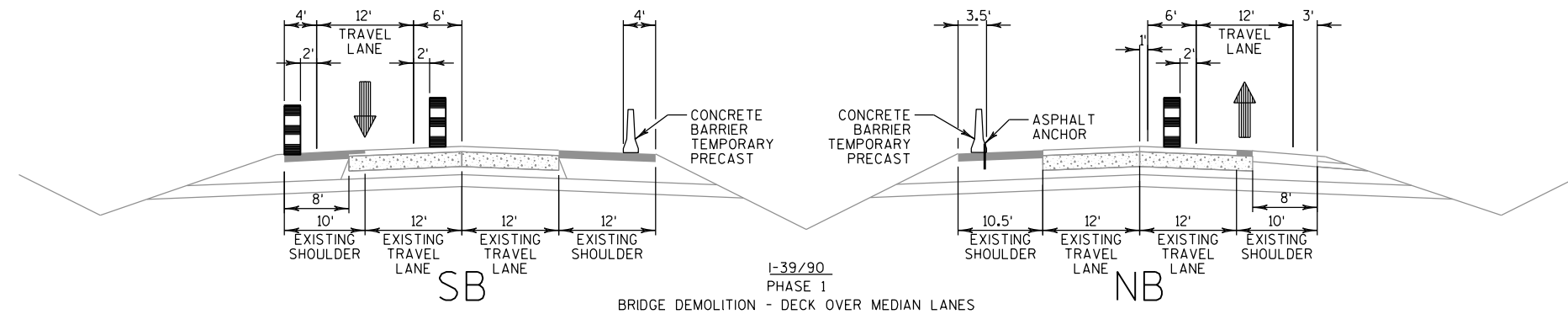


PROPOSED CONSTRUCTION TYPICAL SECTION

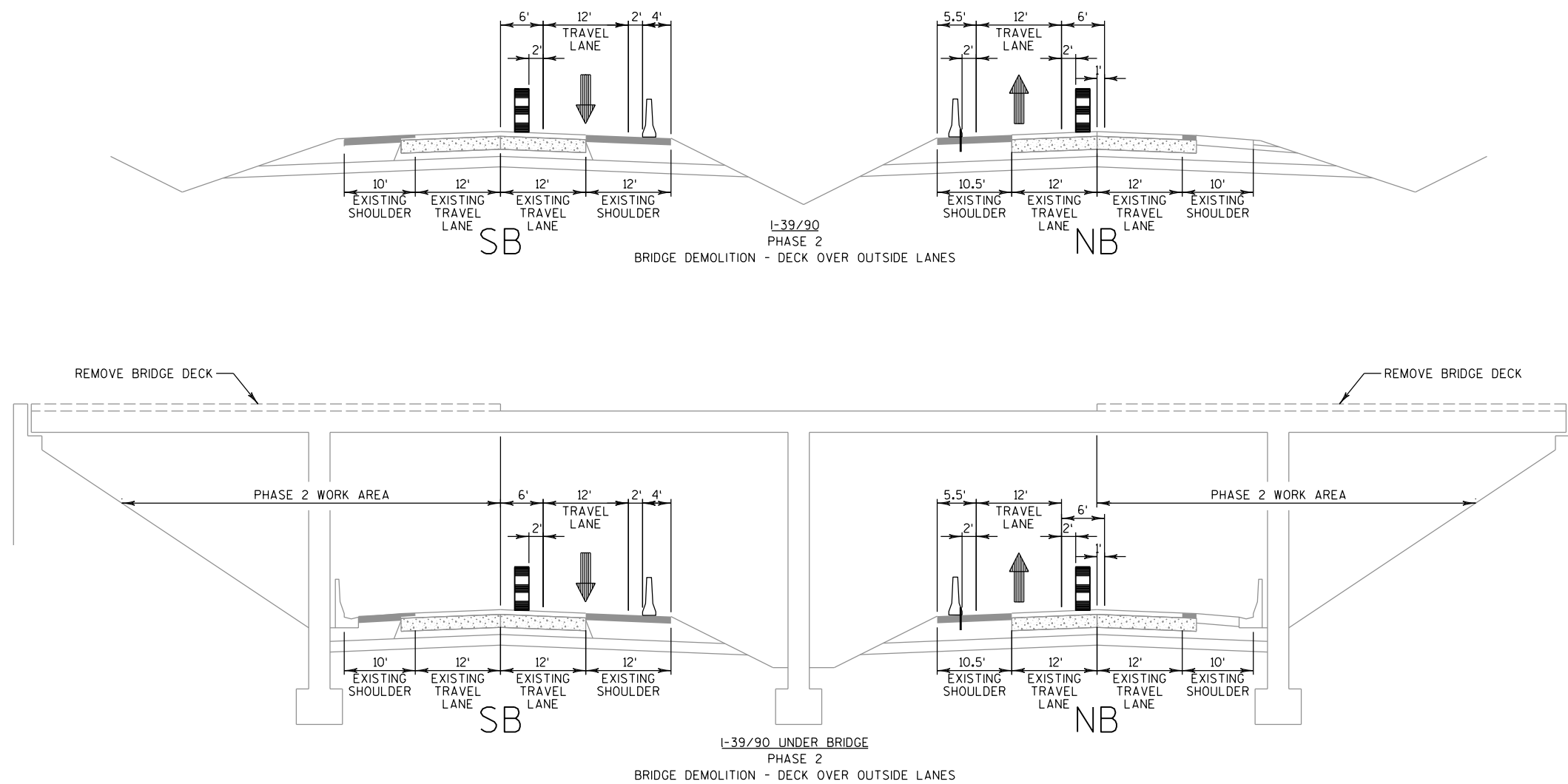
I-39/90

NIGHT-TIME OPERATION
SHOULDER WORK
STAGE 2

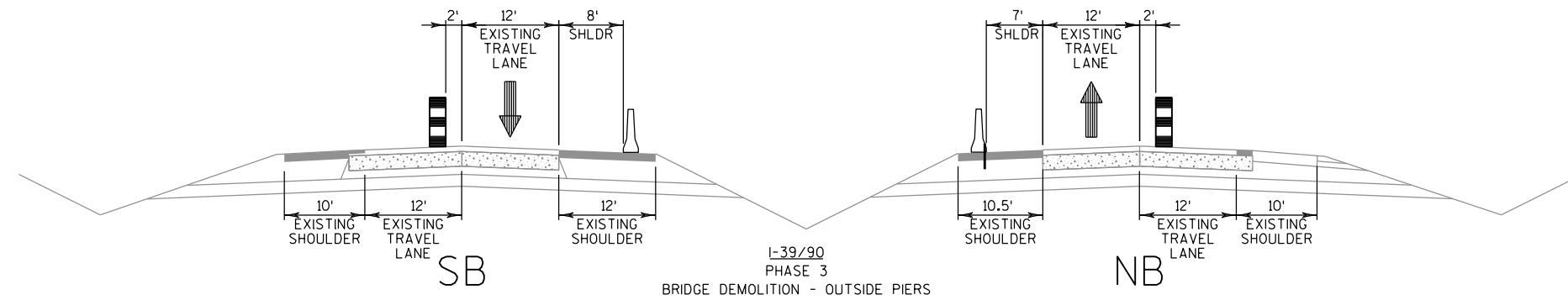
PHASES 1:
 -REQUIRES NIGHT-TIME MEDIAN LANE CLOSURES
 (SEE CONSTRUCTION DETAIL: TYPICAL SINGLE LANE NIGHT TIME CLOSURE)
 -TRAFFIC ON EXISTING CONFIGURATION DURING DAY-TIME



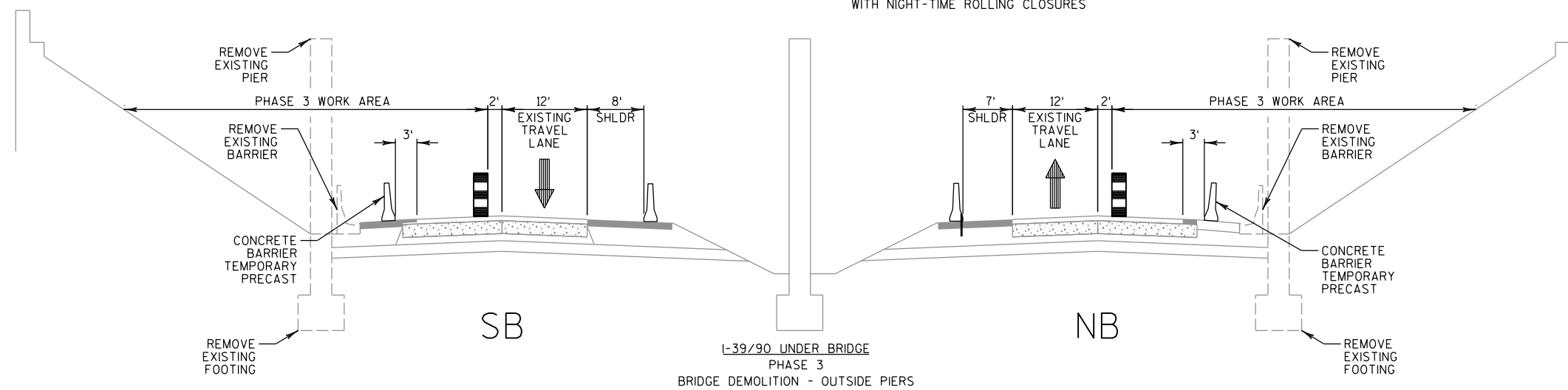
PHASES 2:
 -REQUIRES NIGHT-TIME OUTSIDE LANE CLOSURES
 (SEE CONSTRUCTION DETAIL: TYPICAL SINGLE LANE NIGHT TIME CLOSURE)
 -TRAFFIC ON EXISTING CONFIGURATION DURING DAY-TIME



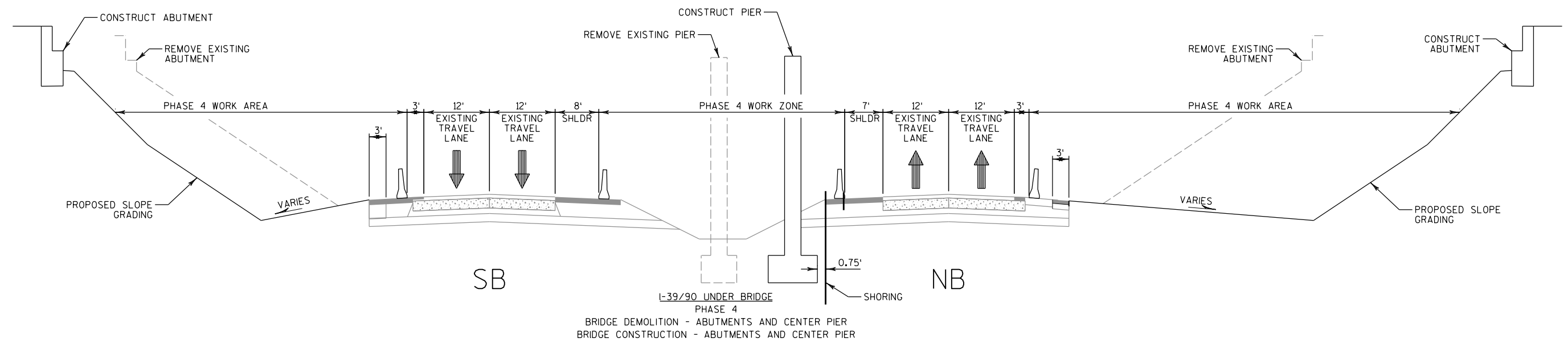
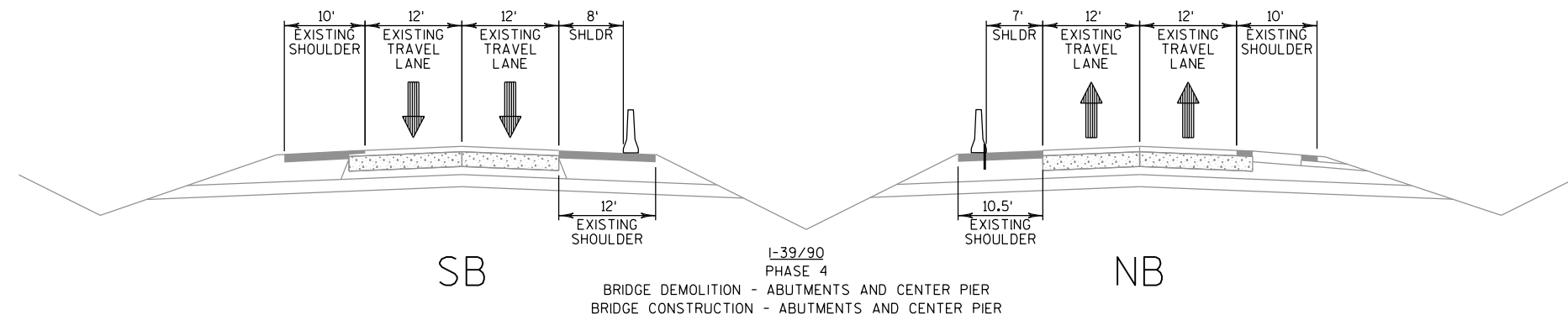
PHASES 3:
 -REQUIRES NIGHT-TIME OUTSIDE LANE CLOSURES
 (SEE CONSTRUCTION DETAIL: TYPICAL SINGLE LANE NIGHT TIME CLOSURE)
 -TRAFFIC ON EXISTING CONFIGURATION DURING DAY-TIME



*EXISTING GIRDERS REMOVED BETWEEN PHASES 2 AND 3
 WITH NIGHT-TIME ROLLING CLOSURES

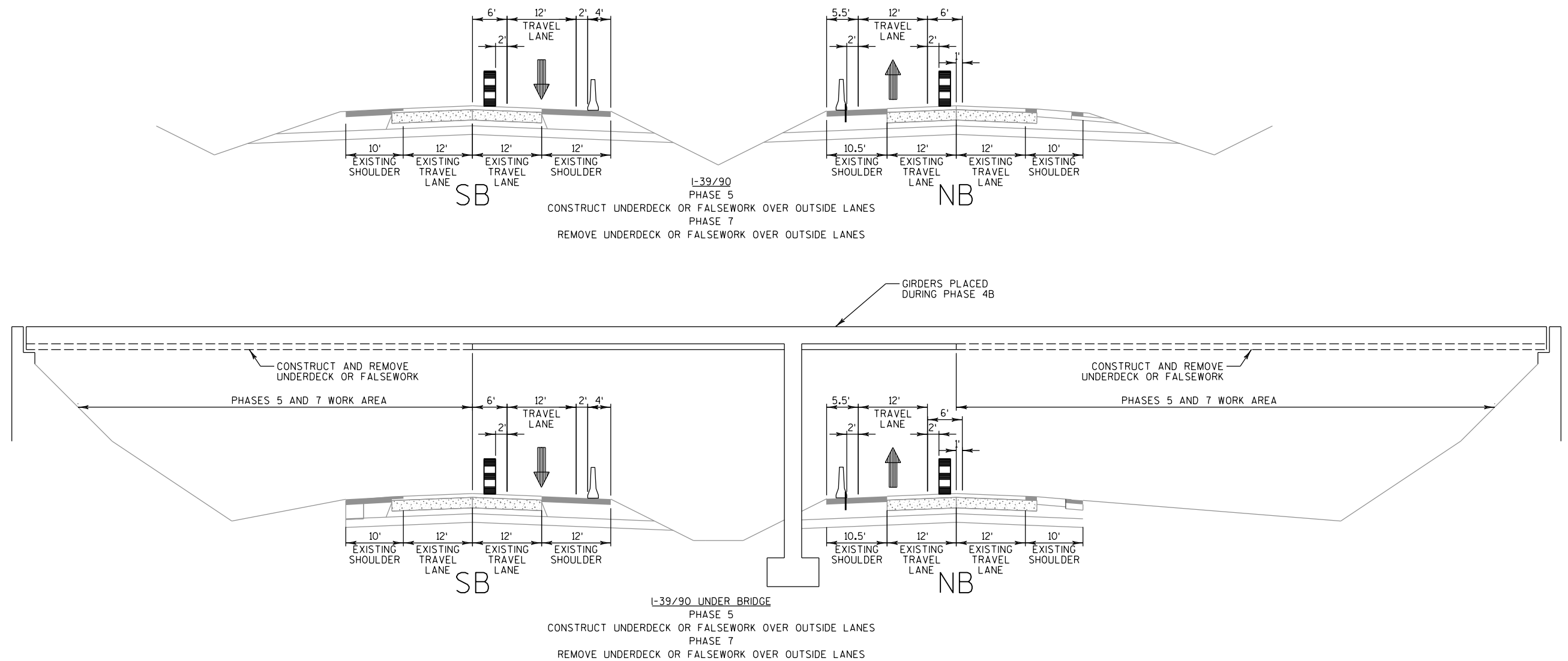


PHASE 4:
-TRAFFIC ON EXISTING CONFIGURATION

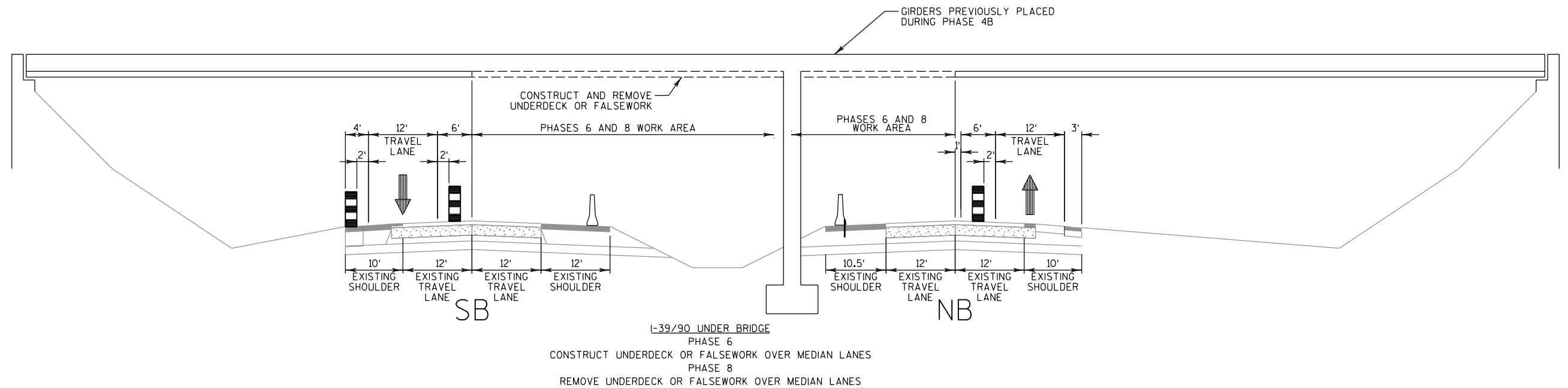
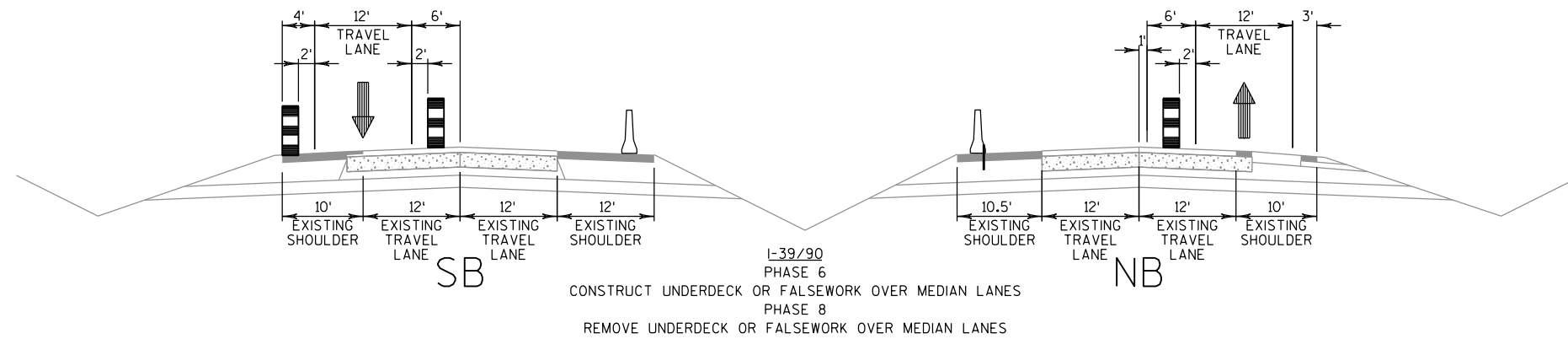


PHASE 4B TO FOLLOW:
GIRDER PLACEMENT
-REQUIRES NIGHT-TIME LANE CLOSURES
(SEE CONSTRUCTION DETAIL: TYPICAL SINGLE LANE NIGHT TIME CLOSURE)
-REQUIRES NIGHT-TIME ROLLING CLOSURES

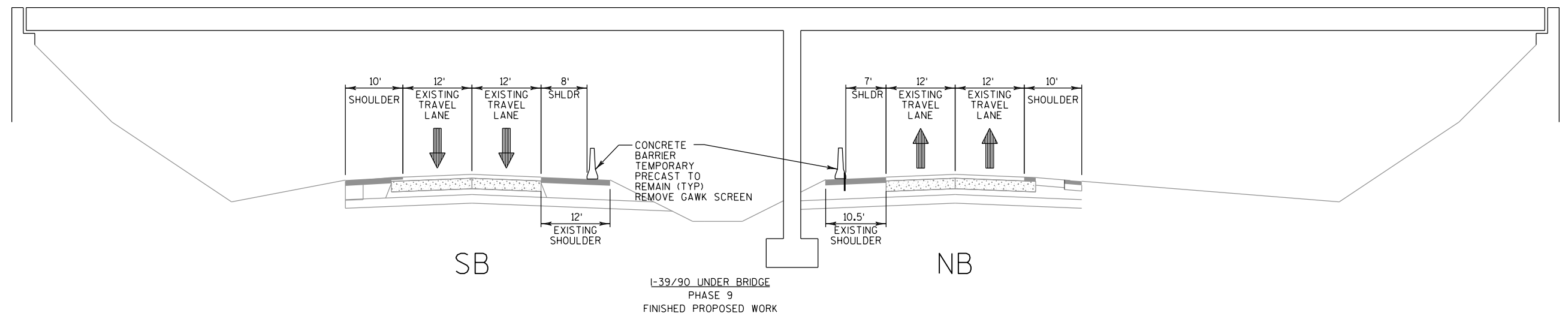
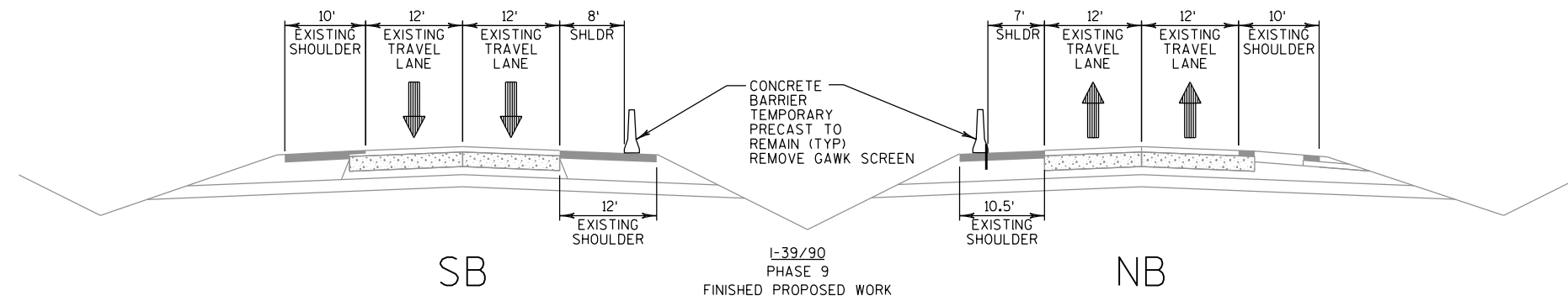
PHASES 5 AND 7:
 -REQUIRES NIGHT-TIME OUTSIDE LANE CLOSURES
 (SEE CONSTRUCTION DETAIL: TYPICAL SINGLE LANE NIGHT TIME CLOSURE)
 -TRAFFIC ON EXISTING CONFIGURATION DURING DAY-TIME

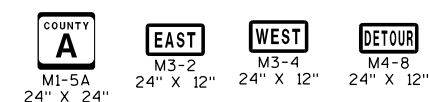
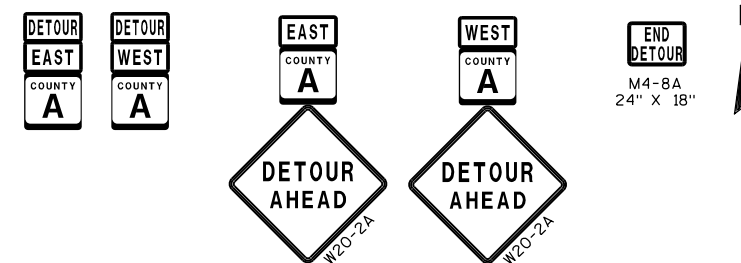


PHASES 6 AND 8:
 -REQUIRES NIGHT-TIME MEDIAN LANE CLOSURES
 (SEE CONSTRUCTION DETAIL: TYPICAL SINGLE LANE NIGHT TIME CLOSURE)
 -TRAFFIC ON EXISTING CONFIGURATION DURING DAY-TIME

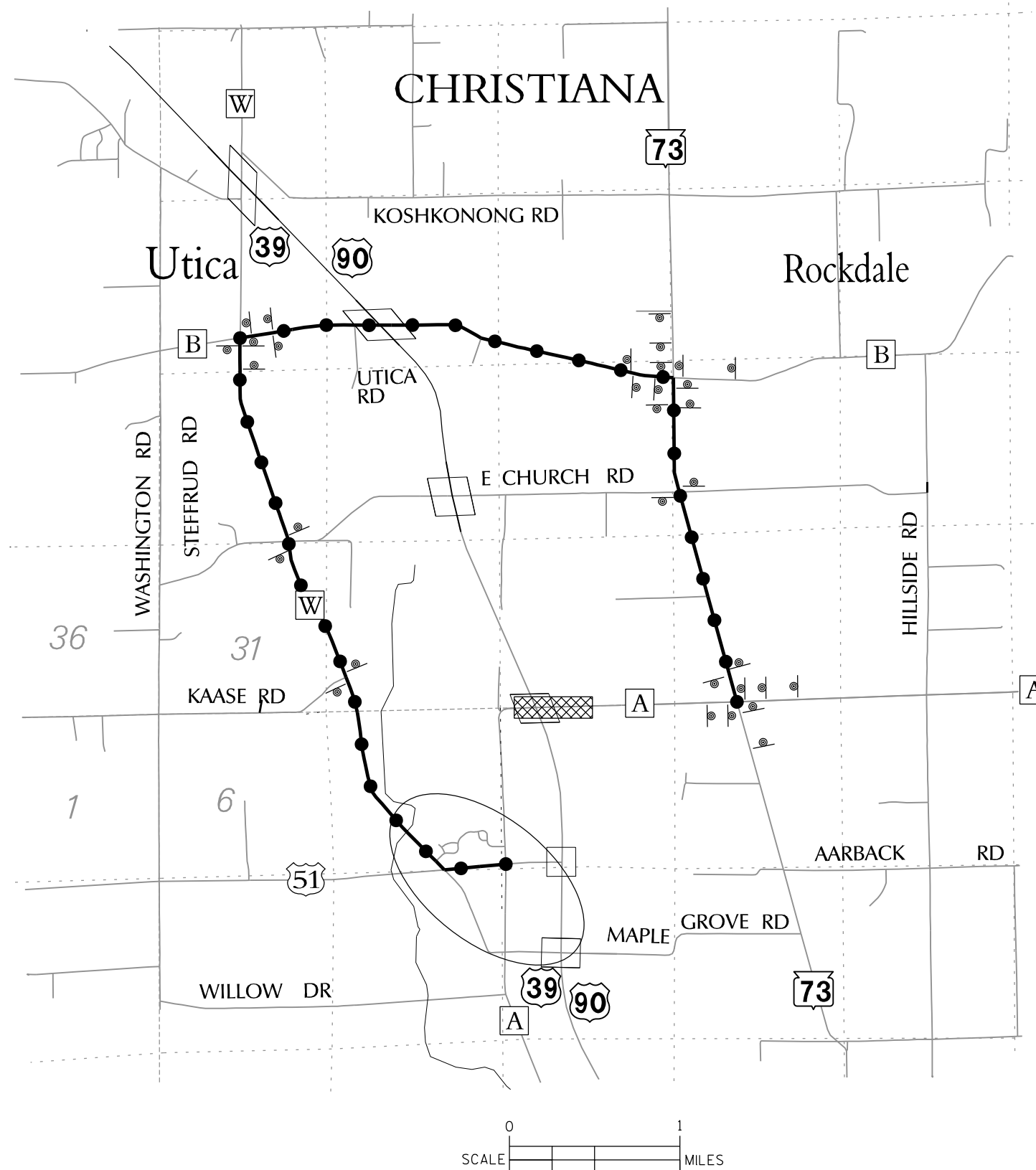
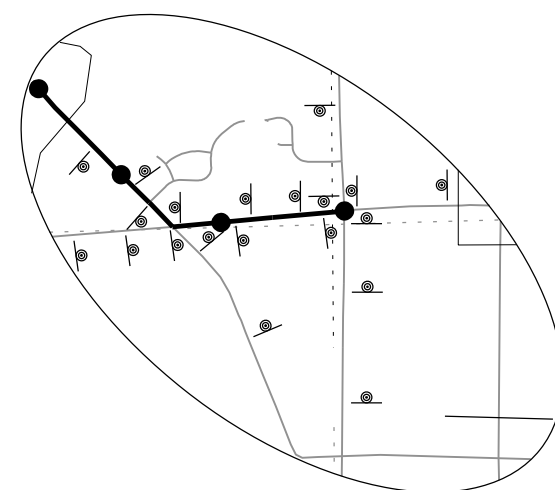


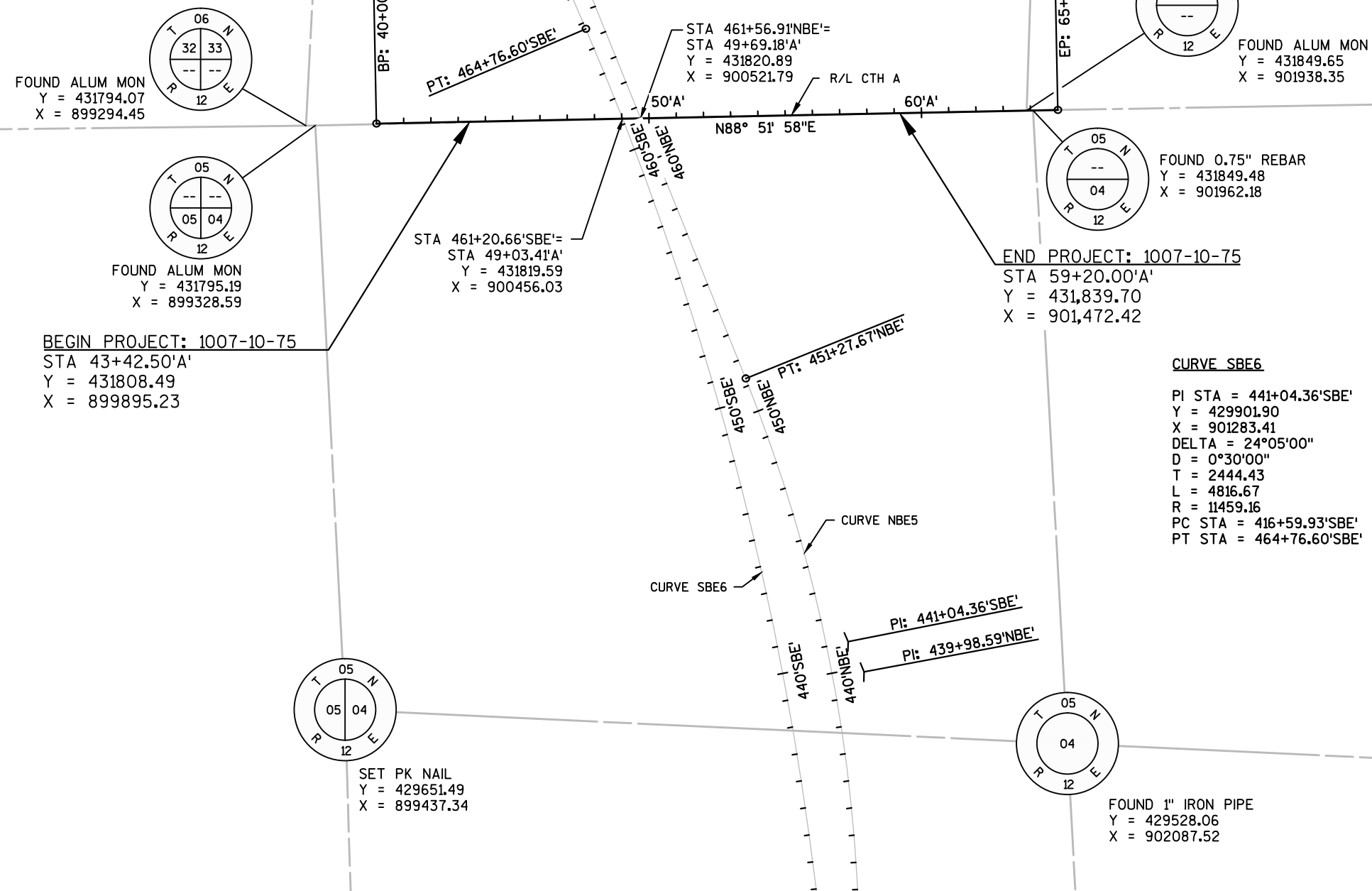
PHASE 9:
 -TRAFFIC ON EXISTING CONFIGURATION
 -TRAFFIC TO REMAIN ON EXISTING LANE CONFIGURATION DURING WINTER SHUTDOWN.
 -USE LANE CLOSURES AS SHOWN IN PHASES 7 AND 8 FOR BRIDGE STAINING.





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





DATE 13MAY15		E S T I M A T E O F Q U A N T I T I E S			
LINE		1007-10-75			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	Clearing	STA	14.000	14.000
0020	201.0205	Grubbing	STA	14.000	14.000
0030	203.0100	Removing Small Pipe Culverts	EACH	6.000	6.000
0040	203.0200	Removing Old Structure (station) 001. Sta 49+70 'A'	LS	1.000	1.000
0050	203.0225.S	Debris Containment (structure) 001. B-13-170	LS	1.000	1.000
0060	204.0120	Removing Asphaltic Surface Milling	SY	1,245.000	1,245.000
0070	204.0157	Removing Concrete Barrier	LF	458.000	458.000
0080	204.0165	Removing Guardrail	LF	2,052.000	2,052.000
0090	204.0170	Removing Fence	LF	590.000	590.000
0100	205.0100	Excavation Common	CY	10,445.000	10,445.000
0110	206.1000	Excavation for Structures Bridges (structure) 001. B-13-0709	LS	1.000	1.000
0120	208.0100	Borrow	CY	17,372.000	17,372.000
0130	210.0100	Backfill Structure	CY	540.000	540.000
0140	213.0100	Finishing Roadway (project) 001. 1007-10-75	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	780.000	780.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	8,011.000	8,011.000
0170	305.0130	Base Aggregate Dense 3-Inch	TON	2,123.000	2,123.000
0180	312.0110	Select Crushed Material	TON	1,235.000	1,235.000
0190	415.0070	Concrete Pavement 7-Inch **P**	SY	30.000	30.000
0200	415.0410	Concrete Pavement Approach Slab **P**	SY	120.000	120.000
0210	416.1010	Concrete Surface Drains	CY	9.000	9.000
0220	440.4410.S	Incentive IRI Ride	DOL	1,143.000	1,143.000
0230	440.5020	Incentive IRI Ride Bridge	DOL	1,250.000	1,250.000
0240	455.0105	Asphaltic Material PG58-28	TON	100.000	100.000
0250	455.0120	Asphaltic Material PG64-28	TON	57.000	57.000
0260	455.0605	Tack Coat	GAL	702.000	702.000
0270	460.1100	HMA Pavement Type E-0.3	TON	911.000	911.000
0280	460.1132	HMA Pavement Type E-30X	TON	1,615.000	1,615.000
0290	460.2000	Incentive Density HMA Pavement	DOL	1,620.000	1,620.000
0300	460.4000	HMA Cold Weather Paving	TON	221.000	221.000
0310	502.0100	Concrete Masonry Bridges	CY	678.000	678.000
0320	502.3200	Protective Surface Treatment	SY	1,203.000	1,203.000
0330	502.3210.S	Pigmented Protective Surface Treatment	SY	286.000	286.000
0340	503.0172	Prestressed Girder Type I 72W-Inch **P**	LF	1,787.000	1,787.000
0350	505.0405	Bar Steel Reinforcement HS Bridges **P**	LB	9,010.000	9,010.000
0360	505.0605	Bar Steel Reinforcement HS Coated Bridges **P**	LB	111,295.000	111,295.000
0370	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	24.000	24.000
0380	506.4000	Steel Diaphragms (structure) 001. B-13-0709 **P**	EACH	20.000	20.000
0390	511.1200	Temporary Shoring (structure) 001. B-13-0709	SF	510.000	510.000
0400	516.0500	Rubberized Membrane Waterproofing	SY	30.000	30.000
0410	517.1010.S	Concrete Staining (structure) 001. B-13-0709	SF	11,660.000	11,660.000
0420	517.1050.S	Architectural Surface Treatment (structure) 001. B-13-0709	SF	2,265.000	2,265.000
0430	520.0348	Culvert Pipe Class IV 48-Inch	LF	183.000	183.000
0440	520.1048	Apron Endwalls for Culvert Pipe 48-Inch	EACH	2.000	2.000
0450	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	89.000	89.000
0460	521.0124	Culvert Pipe Corrugated Steel 24-Inch	LF	44.000	44.000

3

DATE 13MAY15		E S T I M A T E O F Q U A N T I T I E S			
LINE					1007-10-75
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0470	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0480	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	2.000	2.000
0490	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	2.000	2.000
0500	550.0500	Pile Points	EACH	57.000	57.000
0510	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,410.000	1,410.000
0520	550.1120	Piling Steel HP 12-Inch X 53 Lb	LF	1,200.000	1,200.000
0530	603.8000	Concrete Barrier Temporary Precast Delivered	LF	3,125.000	3,125.000
0540	603.8125	Concrete Barrier Temporary Precast Installed	LF	3,125.000	3,125.000
0550	604.0500	Slope Paving Crushed Aggregate	SY	445.000	445.000
0560	606.0200	Riprap Medium	CY	1,780.000	1,780.000
0570	611.0654	Inlet Covers Type V	EACH	2.000	2.000
0580	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0590	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	168.000	168.000
0600	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0610	614.0115	Anchorage for Steel Plate Beam Guard Type 2	EACH	1.000	1.000
0620	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0630	614.0305	Steel Plate Beam Guard Class A	LF	8.000	8.000
0640	614.0800	Crash Cushions Permanent	EACH	2.000	2.000
0650	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0660	614.2300	MGS Guardrail 3	LF	850.000	850.000
0670	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0680	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0690	616.0100	Fence Woven Wire (height) 001. 4-FT ***	LF	723.000	723.000
0700	616.0700.S	Fence Safety	LF	500.000	500.000
0710	619.1000	Mobilization	EACH	1.000	1.000
0720	624.0100	Water	MGAL	400.000	400.000
0730	625.0500	Salvaged Topsoil	SY	20,038.000	20,038.000
0740	627.0200	Mulching	SY	1,915.000	1,915.000
0750	628.1104	Erosion Bales	EACH	150.000	150.000
0760	628.1504	Silt Fence	LF	376.000	376.000
0770	628.1520	Silt Fence Maintenance	LF	1,505.000	1,505.000
0780	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0790	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0800	628.2004	Erosion Mat Class I Type B	SY	20,382.000	20,382.000
0810	628.6510	Soil Stabilizer Type B	ACRE	5.000	5.000
0820	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0830	628.7010	Inlet Protection Type B	EACH	2.000	2.000
0840	628.7504	Temporary Ditch Checks	LF	38.000	38.000
0850	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0860	628.7560	Tracking Pads	EACH	2.000	2.000
0870	628.7570	Rock Bags	EACH	50.000	50.000
0880	629.0205	Fertilizer Type A	CWT	18.000	18.000
0890	630.0110	Seeding Mixture No. 10	LB	177.000	177.000
0900	630.0170	Seeding Mixture No. 70	LB	61.000	61.000
0910	630.0200	Seeding Temporary	LB	65.000	65.000
0920	633.5200	Markers Culvert End	EACH	2.000	2.000
0930	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000

3

3

DATE 13MAY15		E S T I M A T E O F Q U A N T I T I E S			
LINE				1007-10-75	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0940	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	1.000	1.000
0950	637.2230	Signs Type II Reflective F	SF	20.250	20.250
0960	638.2102	Moving Signs Type II	EACH	6.000	6.000
0970	638.2602	Removing Signs Type II	EACH	12.000	12.000
0980	638.3000	Removing Small Sign Supports	EACH	12.000	12.000
0990	638.4000	Moving Small Sign Supports	EACH	8.000	8.000
1000	642.5001	Field Office Type B	EACH	1.000	1.000
1010	643.0100	Traffic Control (project) 001. 1007-10-75	EACH	1.000	1.000
1020	643.0300	Traffic Control Drums	DAY	3,969.000	3,969.000
1030	643.0420	Traffic Control Barricades Type III	DAY	2,205.000	2,205.000
1040	643.0705	Traffic Control Warning Lights Type A	DAY	3,465.000	3,465.000
1050	643.0715	Traffic Control Warning Lights Type C	DAY	531.000	531.000
1060	643.0800	Traffic Control Arrow Boards	DAY	295.000	295.000
1070	643.0900	Traffic Control Signs	DAY	3,495.000	3,495.000
1080	643.0920	Traffic Control Covering Signs Type II	EACH	20.000	20.000
1090	643.1050	Traffic Control Signs PCMS	DAY	300.000	300.000
1100	643.2000	Traffic Control Detour (project) 001. 1007-10-75	EACH	1.000	1.000
1110	643.3000	Traffic Control Detour Signs	DAY	21,996.000	21,996.000
1120	645.0120	Geotextile Fabric Type HR	SY	4,147.000	4,147.000
1130	646.0106	Pavement Marking Epoxy 4-Inch	LF	6,310.000	6,310.000
1140	652.0125	Conduit Rigid Metallic 2-Inch	LF	55.000	55.000
1150	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,508.000	1,508.000
1160	653.0140	Pull Boxes Steel 24x42-Inch	EACH	4.000	4.000
1170	653.0222	Junction Boxes 18x12x6-Inch	EACH	4.000	4.000
1180	690.0150	Sawing Asphalt	LF	1,515.000	1,515.000
1190	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1200	715.0502	Incentive Strength Concrete Structures	DOL	4,068.000	4,068.000
1210	SPV.0060	Special 001. Baseline CPM Progress Schedule	EACH	1.000	1.000
1220	SPV.0060	Special 002. CPM Progress Schedule Updates And Accepted Revisions	EACH	4.000	4.000
1230	SPV.0060	Special 003. Access Gate 6-Ft	EACH	2.000	2.000
1240	SPV.0060	Special 701. Grouted Bar Couplers	EACH	108.000	108.000
1250	SPV.0090	Special 101. Traffic Control GawK Screen Furnished	LF	516.000	516.000
1260	SPV.0090	Special 102. Traffic Control GawK Screen Installed	LF	516.000	516.000
1270	SPV.0090	Special 200. Concrete Barrier Temporary Precast, Left In Place	LF	1,825.000	1,825.000
1280	SPV.0090	Special 701. Precast Pier Columns **P**	LF	66.000	66.000
1290	SPV.0090	Special 702. Precast Pier Caps **P**	LF	40.000	40.000
1300	SPV.0090	Special 703. Fence Chain Link Polymer Coated 6-FT	LF	685.000	685.000
1310	SPV.0105	Special 003. Survey Project 1007-10-75	LS	1.000	1.000
1320	SPV.0165	Special 701. Longitudinal Grooving Bridge Deck **P**	SF	10,790.000	10,790.000

3

CLEARING AND GRUBBING

LOCATION	STATION	201.0105		201.0205	
		CLEARING	STA	GRUBBING	STA
CTH A	44+00 - 49+00	'A'	5		5
	50+00 - 59+00	'A'	9		9
	CATEGORY 1000 SUBTOTALS		14		14
	PROJECT TOTALS		14		14

REMOVING SMALL PIPE CULVERTS

LOCATION	STATION	OFFSET	DESCRIPTION	203.0100 EACH	REMARKS
CTH A	44+84	'A' LT	24" CMCP	1	DRIVEWAY
	55+79	'A'	48" CMCP	1	TRANSVERSE
	55+80	'A' LT	12" PVC	1	DRAIN TILE
	56+02	'A' LT	12" PVC	1	DRAIN TILE
	56+06	'A' LT	12" PVC	1	DRAIN TILE
	57+89	'A' RT	18" CMCP	1	DRIVEWAY
	CATEGORY 1000 SUBTOTAL			6	
	PROJECT TOTAL			6	

REMOVING CONCRETE BARRIER

LOCATION	STATION	OFFSET	204.0157 LF
IH 39 SB	461+15 - 463+46	'SBE' LT	230
IH 39 NB	459+34 - 461+62	'NBE' RT	228
CATEGORY 1000 SUBTOTAL			458
PROJECT TOTAL			458

REMOVING FENCE

			204.0170	
LOCATION	STATION		OFFSET	LF
CTH A	47+07	- 48+14	'A' LT	170
	48+14	- 48+42	'A' RT	134
	50+08	- 50+43	'A' LT	133
	50+54	- 51+32	'A' RT	153
	CATEGORY 1000 SUBTOTAL			590
PROJECT TOTAL			590	

REMOVING GUARDRAIL

LOCATION			STATION		OFFSET	204.0165 LF
CTH A						
			46+08	- 48+12	'A' RT	205
			45+97	- 48+00	'A' LT	203
			50+63	- 52+70	'A' RT	207
			50+54	- 52+69	'A' LT	215
			53+69	- 57+57	'A' RT	389
			53+69	- 57+69	'A' LT	400
IH 39 NB						
			459+17	459+38	'NBE' RT	21
			460+87	- 462+50	'NBE' LT	337
IH 39 SB						
			463+41	- 464+17	'SBE' LT	75
CATEGORY 1000 SUBTOTAL						2,052
PROJECT TOTAL						2,052

BASE AGG ITEMS

LOCATION	STATION	305.0110	305.0120	305.0130
		BASE AGG DENSE 3/4-INCH TON	BASE AGG DENSE 1 1/4-INCH TON	BASE AGG DENSE 3-INCH TON
CTH A	43+42 - 48+04	'A'		
	50+91 - 59+20	'A'	589	2,857
IH 39 NB				
		451+58 - 465+58	'NBE'	6
			1,174	-
IH 39 SB	457+20 - 471+25	'SBE'	186	3,980
	CATEGORY 1000 SUBTOTALS		780	8,011
PROJECT TOTALS			780	8,011

EARTHWORK SUMMARY

DIVISION	LOCATION	STATION	205.0100		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	REDUCED EBS IN FILL (6) FACTOR 0.80	EXPANDED EBS BACKFILL (7) FACTOR 1.3	UNEXPANDED FILL CY	EXPANDED FILL (8) FACTOR 1.25 CY	MASS ORDINATE (9) CY	WASTE CY	208.0100 BORROW CY	312.0110 SELECT CRUSHED MATERIAL TON	REMARKS
			EXCAVATION COMMON (1) CY												
			CUT (2) CY	EBS EXCAVATION (3) CY											
1	CTH A WEST OF BRIDGE	43+42 - 47+70 'A'	1,546	0	102	1,444	0	0	3,760	4,700	-3,256	0	3,256	0	
	CTH A EAST OF BRIDGE	51+25 - 59+20 'A'	1,037	0	184	853	0	0	13,655	17,068	-16,215	0	16,215	0	
	IH 39 NB	451+58 - 465+58 'NBE'	574	0	0	574	0	0	91	114	460	460	-460	0	WASTE USED IN DIVISION 1
	EAST BRIDGE GRADING	459+49 - 462+23 'NBE'	3,230	0	0	3,230	0	0	1,636	2,045	1,185	1,185	-1,185	0	WASTE USED IN DIVISION 1
	IH 39 SB	457+20 - 471+25 'SBE'	1,662	0	126	1,535	0	0	831	1,039	496	496	-496	0	WASTE USED IN DIVISION 1
	WEST BRIDGE GRADING	460+25 - 463+85 'SBE'	1,781	0	0	1,781	0	0	1,044	1,305	476	476	-476	0	WASTE USED IN DIVISION 1
	FIELD ENTRANCES		115	0	0	115	0	0	907	1,134	-1,019	0	1,019	0	
	UNDISTRIBUTED		0	500	0	0	400	650	0	-500	500	0	-500	1,235	
	CATEGORY 1000 SUBTOTALS		9,945	500	411	9,534	400	650	21,924	26,905	-17,372	2,618	17,372	1,235	
	PROJECT TOTALS		9,945	500	411	9,534	400	650	21,924	26,905	-17,372	2,618	17,372	1,235	

- 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 CRUSHED MATERIAL. NOTE: THIS IS A DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL AS DIRECTED BY THE ENGINEER.
- 4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
- 6) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS UNUSABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8
- 7) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = 1.3.
- 8) EXPANDED FILL FACTOR = 1.25
- EXPANDED FILL = (UNEXPANDED FILL - REDUCED EBS)* FILL FACTOR
- 9) THE MASS ORDINATE + OR - QTY CALCULATED. PLUS QUANTITY INDICATED AN EXCESS OF MATERIAL. MINUS INDICATED A SHORTAGE OF MATERIAL.

CONCRETE PAVEMENT						
				415.0070		
				7-INCH		
LOCATION	STATION			SY	REMARKS	
CTH A	47+77	- 47+94	'A'	11	LT SHOULDER	
	47+77	- 48+06	'A'	19	RT SHOULDER	
	CATEGORY 1000 SUBTOTAL			30		
PROJECT TOTAL				30		

CONCRETE PAVEMENT APPROACH SLAB				
				415.0410
LOCATION	STATION			SY
CTH A	47+77	-	47+99	'A' 60
	50+96	-	51+18	'A' 60
	CATEGORY 1000 SUBTOTAL			120
PROJECT SUBTOTAL				120

GUARDRAIL ITEMS										
						614.0115	614.035	614.2300	614.2500	614.2610
						ANCHORAGES FOR	STEEL PLATE		MGS	MGS
						STEEL PLATE BEAM	BEAM GUARD	MGS	THRIR BEAM	GUARDRAIL
						GUARD TYPE 2	CLASS A	GUARDRAIL 3	TRANSITION	TERMINAL EAT
LOCATION	STATION	OFFSET				EACH	LF	LF	LF	EACH
CTH A	46+67	- 47+70	'A'	LT		-	-	63	39.4	1
	46+44	- 47+84	'A'	RT		-	-	101	39.4	1
	51+11	- 52+51	'A'	LT		-	-	101	39.4	1
	51+25	- 57+40	'A'	RT		-	-	585	39.4	1
IH 39 NB										
	459+17	- 459+24	'NBE'	RT		1	8	-	-	-
CATEGORY 1000 SUBTOTALS						1	8	850	158	4
PROJECT TOTALS						1	8	850	158	4

ASPHALTIC PAVEMENT ITEMS																
						455.0105	455.0120	455.0605	460.1100	460.1132	460.4000	204.0120				
			ASPHALT	ASPHALT	LAYER	ASPHALTIC	ASPHALTIC		HMA	HMA	HMA COLD	REMOVING				
			AREA	AREA	THICKNESS	MATERIAL	MATERIAL	TACK	PAVEMENT	PAVEMENT	WEATHER	ASPHALTIC SURFACE				
LOCATION	STATION	OFFSET	SF	SY	INCHES	PG58-28	PG64-28	COAT	TYPE E-0.3	TYPE E-30X	PAVING	MILLING	REMARKS			
						TON	TON	GAL	TON	TON	TON	SY				
CTH A	43+42	- 47+78	'A'	LT & RT		14,659	1,629	3.50	19	-	114	319	-	80	-	TRAVEL LANES AND SHOULDERS
	51+17	- 58+50	'A'	LT & RT		27,167	3,019	3.50	35	-	211	592	-	148	-	TRAVEL LANES AND SHOULDERS
IH 39 NB	451+58	- 465+58	'NBE'	LT		13,996	1,555	4.00	-	21	109	-	348	-	622	MEDIAN WIDENING
	451+58	- 465+58	'NBE'	RT		2,800	311	4.00	-	4	22	-	70	-	311	OUTSIDE SHOULDER
	459+35	- 461+62	'NBE'	RT		682	76	4.00	-	1	5	-	17	-	-	OUTSIDE SHOULDER
IH 39 SB	457+20	- 471+25	'SBE'	RT		16,865	1,874	6.50	27	17	131	-	682	-	-	MEDIAN WIDENING
	457+20	- 471+25	'SBE'	LT		2,806	312	2.50	-	3	22	-	44	-	312	OUTSIDE SHOULDER
	457+20	- 471+25	'SBE'	LT		11,224	1,247	6.50	18	11	87	-	454	-	-	OUTSIDE SHOULDER
CATEGORY 1000 SUBTOTALS						100	57	702	911	1,615	228	1,245				
PROJECT SUBTOTALS						100	57	702	911	1,615	228	1,245				

ACCESS GATE				
		SPV.0060.003		
		6-FOOT		
LOCATION	STATION	OFFSET	EACH	REMARKS
CTH A	48+04	'A' 20' RT	1	BRIDGE ABUTMENT LOCATION
	50+91	'A' 20' LT	1	BRIDGE ABUTMENT LOCATION
	CATEGORY 1000 SUBTOTAL		2	
PROJECT TOTAL			2	

CULVERT ITEMS																
								521.0118	521.0124		520.0348	521.1018	521.1024	520.1048	633.5200	
								CULVERT PIPE	CULVERT PIPE		CULVERT	APRON ENDWALLS	APRON ENDWALLS	APRON	MARKERS	
								CORRUGATED	CORRUGATED	MIN. PIPE	PIPE	FOR CULVERT	FOR CULVERT	ENDWALLS FOR	CULVERT END	
								STEEL	STEEL	THICKNESS	CLASS IV	PIPE STEEL	PIPE STEEL	PIPE		
								18-INCH	24-INCH	STEEL	48-INCH	18-INCH	24-INCH	48-INCH		
LOCATION	STATION	INLET	ELEVATION	STATION	OFFSET	ELEVATION	SLOPE	LF	LF	IN	LF	EACH	EACH	EACH	EACH	REMARKS
CTH A																
	44+62.92 'A'	32.1' LT	937.59	45+07.16 'A'	36.3' LT	936.84	1.69	-	44	0.064	-	-	2	-	-	DRIVEWAY
	55+91.67 'A'	95.0' LT	890.42	55+69.33 'A'	86.9' RT	889.18	0.68	-	-	0.138	183	-	-	2	2	*TRANSVERSE
	58+13.51 'A'	33.3' RT	913.70	57+32.16 'A'	68.7' RT	902.21	12.95	89	-	0.064	-	2	-	-	-	DRIVEWAY
CATEGORY 1000 SUBTOTALS								89	44		183	2	2	2	2	
PROJECT TOTALS								89	44		183	2	2	2	2	

*STATION, OFFSET, PIPE ELEVATIONS AND PIPE LENGTH VALUES ASSUME A CPCS

FENCE WOVEN WIRE 4-FT						
						616.0100
LOCATION	STATION		OFFSET		LF	
CTH A	46+88	- 47+90	'A'	LT	174	
	48+04	- 48+42	'A'	RT	143	
	50+08	- 50+91	'A'	LT	202	
	51+05	- 51+92	'A'	RT	204	
	CATEGORY 1000 SUBTOTALS					723
PROJECT TOTALS					723	

FENCE SAFETY	
LOCATION	616.0700.S
UNDISTRIBUTED	500
CATEGORY 1000	500
PROJECT TOTAL	500

DROP INLET ITEMS									
		416.1010	521.1012	*606.0200	611.3220	611.0654	612.0212	*645.0120	
		CONCRETE	APRON ENDWALLS	RIPRAP	INLETS	INLET	PIPE UNDERDRAIN	GEOTEXTILE	
		SURFACE	FOR CULVERT	MEDIUM	2X2-FT	COVERS	UNPERFORATED	FABRIC	
		DRAINS	PIPE STEEL			TYPE V	12-INCH	TYPE HR	
			12-INCH						
LOCATION	STATION	OFFSET	CY	EACH	CY	EACH	LF	SY	
CTH A									
	51+18	'A' LT	4.4	1	2	1	93	6	
	51+33	'A' RT	4.7	1	2	1	75	6	
UNDISTRIBUTED			-	-	1	-	-	3	
CATEGORY 1000 SUBTOTALS			9	2	5	2	168	15	
PROJECT TOTALS			9	2	5	2	168	15	

*ADDITIONAL QUANTITES LISTED ELSEWHERE IN PLAN

RESTORATION

		625.0500	627.0200	628.6510	629.0205				
		SALVAGED	MULCHING	SOIL STABILIZER	FERTILIZER				
		TOPSOIL		TYPE B	TYPE A				
LOCATION	STATION	OFFSET	SY	SY	ACRE	CWT			
CTH A									
	43+42	- 48+59 'A' LT	2,818	574	-	2			
	43+42	- 49+04 'A' RT	2,772	393	-	2			
	49+82	- 59+20 'A' LT	6,175	813	-	5			
	50+13	- 59+20 'A' RT	5,396	135	-	4			
IH 39 NB									
	451+58	- 465+68 'NBE' LT	596	-	-	2			
IH 39 SB									
	457+20	- 471+75 'SBE' RT	2,281	-	-	3			
UNDISTRIBUTED			5,010	479	5	5			
CATEGORY 1000 SUBTOTALS			20,038	1,915	5	18			
PROJECT TOTALS			20,038	1,915	5	18			

EROSION CONTROL

		*606.0200	628.1104	628.1504	628.1520	628.2004	628.7005	628.7010	628.7504	628.7555	628.7560	628.7570	*645.0120
		RIPRAP	EROSION	SILT	SILT FENCE	EROSION MAT	INLET	INLET	TEMPORARY	CULVERT PIPE	TRACKING	ROCK	GEOTEXTILE
		MEDIUM	BALES	FENCE	MAINTAINANCE	CLASS I	TYPE B	PROTECTION	DITCH CHECKS	CHECKS	PADS	BAGS	FABRIC
								TYPE A					TYPE HR
LOCATION	STATION	OFFSET	CY	EACH	LF	LF	SY	EACH	LF	EACH	EACH	EACH	SY
CTH A													
	43+42	- 48+59 'A' LT	272	-	-	-	2,244	-	-	2	-	-	632
	43+42	- 49+04 'A' RT	324	-	-	-	2,519	-	10	-	-	-	748
	49+82	- 59+20 'A' LT	439	-	-	-	5,774	1	10	1	-	-	1,047
	50+13	- 59+20 'A' RT	386	120	301	1,204	5,769	1	10	1	-	40	878
UNDISTRIBUTED			355	30	75	301	4,076	-	8	1	2	10	826
CATEGORY 1000 SUBTOTALS			1,775	150	376	1,505	20,382	2	38	5	2	50	4,132
PROJECT TOTALS			1,775	150	376	1,505	20,382	2	38	5	2	50	4,132

*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN

SEEDING

		630.0110	630.0170	630.0200
		SEEDING	SEEDING	SEEDING
		MIXTURE NO. 10	MIXTURE NO. 70	TEMPORARY
LOCATION	STATION	OFFSET	LB	LB
CTH A				
	43+42	- 47+25 'A' LT	-	5
	47+25	- 48+59 'A' LT	21	-
	43+42	- 48+00 'A' RT	-	7
	48+00	- 49+04 'A' RT	12	-
	49+82	- 50+75 'A' LT	9	-
	50+75	- 59+20 'A' LT	-	21
	50+13	- 51+25 'A' RT	18	-
	51+25	- 59+20 'A' RT	-	15
IH 39 NB				
	451+58	- 465+68 'NBE' LT	28	-
IH 39 SB				
	457+20	- 471+75 'SBE' RT	54	-
UNDISTRIBUTED			35	65
CATEGORY 1000 SUBTOTALS			177	61
PROJECT TOTALS			177	61

EROSION CONTROL MOBILIZATION

		628.1905	628.1910
		MOBILIZATIONS	EMERGENCY
		EROSION CONTROL	MOBILIZATIONS
			EROSION CONTROL
LOCATION	EACH	EACH	
PROJECT ID 1007-10-75			
	5	2	
CATEGORY 1000 SUBTOTALS		5	2
PROJECT TOTALS		5	2

WATER

		624.0100
		WATER
LOCATION	MGAL	REMARKS
UNDISTRIBUTED		200
UNDISTRIBUTED		200
CATEGORY 1000 SUBTOTAL		400
PROJECT TOTAL		400

3

PULL BOX ITEMS					
			653.0140	652.0225	
			PULL BOXES STEEL	*CONDUIT RIGID NONMETALLIC	
			24 X 42-INCH	SCHEDULE 40 2-INCH	
LOCATION	STATION	OFFSET	EACH	LF	
CTH A	47+68	'A' 22.5' LT	1	12	
	47+83	'A' 22.5' RT	1	12	
	51+12	'A' 22.5' LT	1	12	
	51+27	'A' 22.5' RT	1	12	
	CATEGORY 1000 SUBTOTALS			4	48
PROJECT TOTALS			4	48	
*ADDITIONAL QUANTITES LISTED IN STRUCTURE B-13-709 PLAN					

PERMANENT SIGNING									
		637.2230	634.0616	634.0618					
		SIGNS TYPE II	POSTS WOOD	POSTS WOOD			SIGN MOUNTED		
		RELECTIVE F	4X6-INCH X 16 FT	4X6-INCH X 18 FT			ON SAME		
LOCATION	SIGN #	SIGN CODE	SIZE				POST AS #	REMARKS	
			INCH	x	INCH	SF			
CTH A	1-1	S3-1	36	x	36	9.00	1	-	SCHOOL BUS STOP AHEAD
	1-2	W1-1L	36	x	36	9.00	-	-	LEFT TURN
	1-3	W13-1P	18	x	18	2.25	-	1-2	ADVISORY SPEED PLAQUE
	CATEGORY 1000 SUBTOTALS					20.25	1	1	
	PROJECT TOTALS					20.25	1	1	

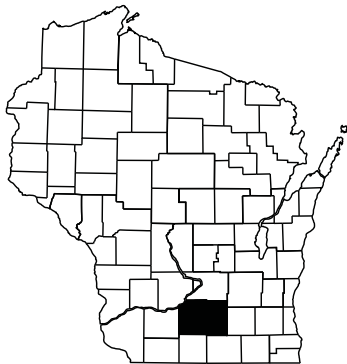
<u>PAVEMENT MARKING</u>						
646.0106						
EPOXY 4-INCH						
WHITE YELLOW						
LOCATION	STATION			LF		
CTH A						
	43+42	-	59+20	'A'	3,155	3,155
	CATEGORY 1000 SUBTOTALS				3,155	3,155
	PROJECT TOTALS				3,155	3,155

SAWING PAVEMENT				
		690.0150		
		SAWING		
		ASPHALT		
LOCATION	STATION	LF	REMARKS	
CTH A	43+42	'A'	22	TRANSVERSE
	59+20	'A'	22	TRANSVERSE
IH 39 NB	451+58	'NBE'	4	TRANSVERSE
	465+58	'NBE'	4	TRANSVERSE
IH 39 SB	457+20 - 471+75	'SBE'	1,463	
	CATEGORY 1000 SUBTOTAL		1,515	
	PROJECT TOTAL		1,515	

TRAFFIC CONTROL GAWK SCREEN							
				SPV.0090.101	SPV.0090.102		
				FURNISHED	INSTALLED		
LOCATION	STATION	OFFSET		LF	LF		
IH 39 NB	460+25 - 462+82	'NBE'	LT	257	257		
	459+91 - 462+50	'SBE'	RT	259	259		
CATEGORY 1000 SUBTOTALS				516	516		
PROJECT TOTALS				516	516		

TRAFFIC CONTROL ITEMS																					
		603.8000	603.8125	SPV.0090.200	614.0800	614.0905	643.0300	643.0420	643.0705	643.0715	643.0800	643.0900	643.0920	643.1050	643.3000						
		CONCRETE BARRIER			CRASH				BARRICADES		WARNING		WARNING		ARROW		COVERING		DETOUR		
		TEMPORARY PRECAST			CUSHIONS				LIGHTS		LIGHTS		LIGHTS		BOARDS		SIGNS		SIGNS		
		DELIVERED	INSTALLED	LEFT IN PLACE	PERMANENT	TEMPORARY	DRUMS		TYPE III		TYPE A		TYPE C				TYPE II		PCMS		
LOCATION	# OF DAYS	LF	LF	LF	EACH	EACH	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS	EACH	NO.	DAYS	NO.	DAYS
CTH A	117	-	-	-	-	-	-	-	18	2,106	28	3,276	-	-	-	-	14	1,638	20	2	234
NB I-39/90	117	1,587.5	1,587.5	912.5	1	1	9	1,053	-	-	-	-	-	-	1	117	6	702	-	2	14
SB I-39/90	117	1,537.5	1,537.5	912.5	1	1	9	1,053	-	-	-	-	-	-	1	117	6	702	-	-	-
I-39/90	4	-	-	-	-	-	54	216	-	-	-	-	-	-	2	8	10	40	-	2	8
I-39/90	4	-	-	-	-	-	54	216	-	-	-	-	-	-	2	8	11	44	-	2	8
I-39/90	9	-	-	-	-	-	79	711	5	45	10	90	29	261	2	18	20	180	-	2	18
I-39/90	9	-	-	-	-	-	80	720	6	54	11	99	30	270	3	27	21	189	-	2	18
CATEGORY 1000 SUBTOTALS		3,125	3,125	1,825	2	2	285	3,969	29	2,205	49	3,465	59	531	11	295	88	3,495	20	12	300
PROJECT TOTALS		3,125	3,125	1,825	2	2	285	3,969	29	2,205	49	3,465	59	531	11	295	88	3,495	20	12	300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET
PROJECT 1007-10-21
ILLINOIS STATE LINE - MADISON
SOUTH DANE COUNTY LINE TO EAST CHURCH ROAD
I-39/90
DANE COUNTY



THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR 1007-10-21.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83 (2007) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES

ALL RIGHT-OF-WAY LINES DEPICTED IN NON ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:

EXISTING HIGHWAY RIGHT-OF-WAY FOR I-39/90 ESTABLISHED FROM PREVIOUS PROJECT: PROJECT I-90-3(29) 140, ASSESSOR'S PLAT OF VILLAGE OF ALBION, CSM 489, CSM 9619, CSM 5733, CSM 6883, CSM 7490, CSM 8753, CSM 7703, CSM 7950, CSM 5363, CSM 5053 AND CSM 9667.

EXISTING HIGHWAY RIGHT-OF-WAY FOR LAKE DRIVE ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140, CSM 7418, AND CSM 9619.

EXISTING HIGHWAY RIGHT-OF-WAY FOR PIERCE ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140, CSM 7703, AND CSM 2552.

EXISTING HIGHWAY RIGHT-OF-WAY FOR GOEDE ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140, CSM 5719, CSM 489, AND CSM 8753.

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 73 ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140, CSM 13090, AND CSM 6546.

EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 51 ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140 AND CSM 9667

EXISTING HIGHWAY RIGHT OF WAY FOR ALBION ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140.

EXISTING HIGHWAY RIGHT OF WAY FOR HAUGAN ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140.

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 106 ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140 AND ASSESSOR'S PLAT OF VILLAGE OF ALBION.

EXISTING HIGHWAY RIGHT-OF-WAY FOR MAPLE GROVE ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140.

EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH A ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140, CSM 866, CSM 7989, CSM 5053, AND CSM 7950.

EXISTING HIGHWAY RIGHT-OF-WAY FOR EAST CHURCH ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140.

EXISTING HIGHWAY RIGHT-OF-WAY FOR UNNAMED ROAD ESTABLISHED FROM SURVEYS OF RECORD.

EXISTING HIGHWAY RIGHT-OF-WAY FOR HAMMEN ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140.

EXISTING ACCESS CONTROL FOR I-39/90 ESTABLISHED FROM PREVIOUS PROJECT I-90-3(29) 140.

FOR THE LATEST ACCESS CONTROL INFORMATION, CONTACT THE PLANNING

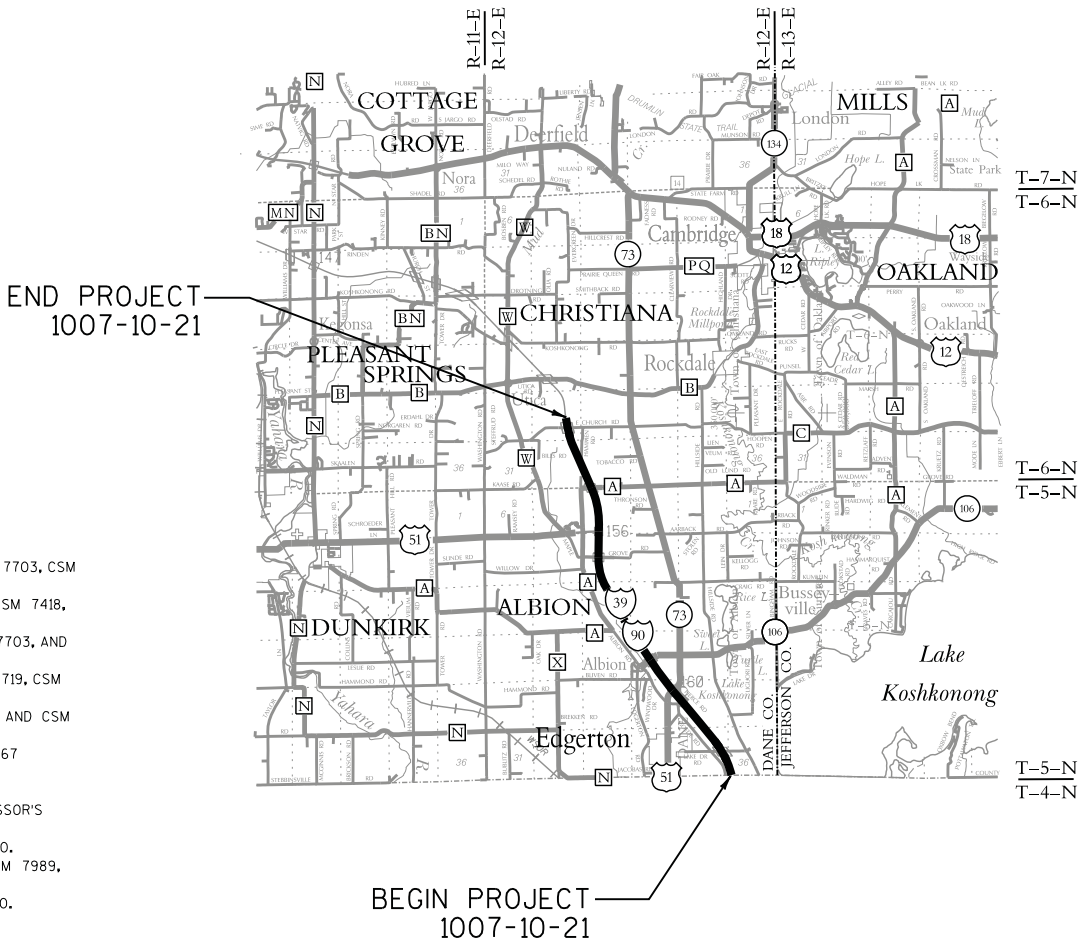
UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A **HIGHWAY EASEMENT** (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.



CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	BUILDING	B
ACCESS RIGHTS	AR	REFERENCE LINE	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	VOL.
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC	LONG CHORD	LCH
MONUMENT	MON.	LONG CHORD BEARING	LCB
PAGE	P.	RADIUS	R
PERMANENT LIMITED EASEMENT	PLE	DEGREE OF CURVE	D
PROPERTY LINE	PL	CENTRAL ANGLE OR DELTA	Δ
RECORDED AS	(100')	LENGTH OF CURVE	L
DIRECTION AHEAD	DA	TANGENT	T
DIRECTION BACK	DB		
POINT OF TANGENCY	POT		

CURVE DATA

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	IF (1" UNLESS NOTED)	PROPOSED R/W LINE	---
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	---
R/W STANDARD	Δ (SET)	PROPERTY LINE	---
SIGN	ISIGN	LOT & TIE LINES	---
SECTION CORNER MONUMENT	●	SLOPE INTERCEPTS	---
SECTION CORNER SYMBOL	⊙	CORPORATE LIMITS	---
FEE (HATCH VARIES)	ZZZ	ACCESS CONTROLLED (BY PREVIOUS ACQUISITION/CONTROL)	---
TEMPORARY LIMITED EASEMENT	L	ACCESS CONTROLLED (BY ACQUISITION)	---
PERMANENT LIMITED EASEMENT	L	ACCESS CONTROLLED (BY STATUTORY AUTHORITY)	---
R/W BOUNDARY POINT	RBW20	SECTION LINE	---
PARCEL NUMBER	103	QUARTER LINE	---
UTILITY PARCEL NUMBER	92	SIXTEENTH LINE	---
SIGN NUMBER (OFF PREMISE)	21-1	EXISTING CENTERLINE	---
BUILDING	⌂	PROPOSED REFERENCE LINE	---
BRIDGE	⌂	PARALLEL OFFSET	---
GEODETIC MONUMENT	⌂		

CONVENTIONAL UTILITY SYMBOLS

WATER	W	NON COMPENSABLE	NON
GAS	G	COMPENSABLE	COMPENSABLE
TELEPHONE	T		
OVERHEAD TRANSMISSION LINES	OH	POWER POLE	⌂
ELECTRIC	E	TELEPHONE POLE	⌂
CABLE TELEVISION	Tv	TELEPHONE PEDESTAL	⌂
FIBER OPTIC	FO	ELECTRIC TOWER	⌂
SANITARY SEWER	SAN		
STORM SEWER	SS		

PROJECT NUMBER 1007-10-21 - 4.01
SHEET 2 OF 2

TRANSPORTATION PROJECT PLAT NO: 1007-10-21 - 4.19

THAT PART OF LOT 10F C.S.M. NO. 5053, PART OF LOT 10F C.S.M. NO. 5363, AND PART OF LOT 2 OF C.S.M. 7950 LOCATED IN THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 4, ALSO PART OF LOT 2 OF C.S.M. 7950 LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 4, ALSO PART OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 AND PART OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 4, ALL IN T 5 N, R 12 E, TOWN OF ALBION, DANE COUNTY, WISCONSIN.

RELOCATION ORDER I-39/90, ILLINOIS STATE LINE - MADISON (SOUTH DANE COUNTY LINE TO EAST CHURCH ROAD)

TO PROPERTY ESTABLISH, LAY OUT, WERE, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30 WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAY OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SHOWN FOR THE ABOVE PROJECT, IN HEREBY ORDERS THAT:
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

EXISTING HIGHWAY RIGHT OF WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY COORDINATES, AND GROUND DISTANCES. GROUND DISTANCES MAY BE USED AS GROUND DISTANCES.

FOR THE LATEST ACCESS CONTROL INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY COORDINATES, AND GROUND DISTANCES. GROUND DISTANCES MAY BE USED AS GROUND DISTANCES.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, OF DOCUMENT NO. 5054949 FOR ADDITIONAL INFORMATION.

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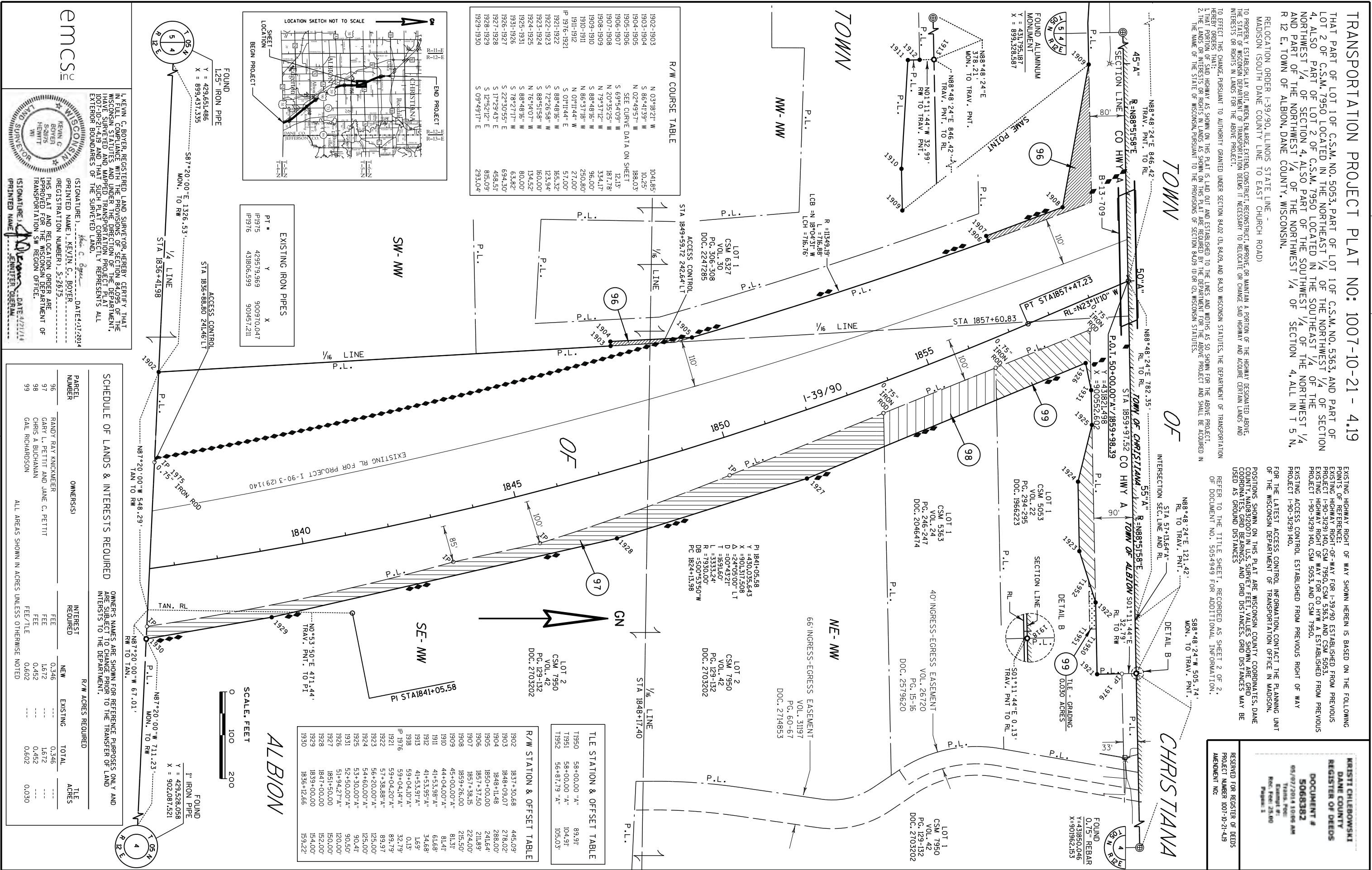
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KRISTI CHLEBOWSKI
DANE COUNTY
REGISTER OF DEEDS
DOCUMENT #
5065382
05/07/2014 10:06 AM
Trans Fee:
Stamp Fee:
Rec. Fee: \$5.00
Page: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1007-10-21-4.19
AMENDMENT NO:



TRANSPORTATION PROJECT PLAT NO: 1007-10-21 - 4.20
AMENDMENT NO:1

AMENDS THE TLE AREA OF PARCEL 103 OF TRANSPORTATION PROJECT PLAT 1007-20-21-4.20
RECORDED AS DOCUMENT NUMBER 5059314,
THAT PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 AND PART OF THE SOUTHEAST
1/4 OF THE SOUTHWEST 1/4 OF SECTION 33, ALL BEING LOCATED IN T 6 N, R 12 E, TOWN OF
CHRISTIANA, DANE COUNTY, WISCONSIN.

RELOCATION ORDER I-39/90, ILLINOIS STATE LINE -
MADISON (SOUTH DANE COUNTY LINE TO EAST CHURCH ROAD)
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.
TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30 WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION
HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAY OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT,
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE
SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE
DEPARTMENT.

PARCEL NUMBER	OWNERS)	INTEREST REQUIRED	R/W ACRES REQUIRED		TLE ACRES
			NEW	EXISTING	
101	WILBERT S. KNICKMEIER, JR.		0.851	---	0.851
103	ROY J. KAUFER		2.325	---	2.325
	ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED				0.307

UTILITY SCHEDULE & INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNERS)	INTEREST REQUIRED
202	WISCONSIN POWER AND LIGHT COMPANY, LLC (ELECTRIC)	RELEASE OF RIGHTS
221	FRONTIER COMMUNICATIONS OF WI LLC	RELEASE OF RIGHTS

(202) WISCONSIN POWER AND LIGHT COMPANY (ELECTRIC)
NO EASEMENT OF RECORD - PARCEL 101,103

(221) FRONTIER COMMUNICATIONS OF WI LLC
VOL. 12193, PG. 50, DOC. 216288 - PARCEL 103
NO EASEMENT OF RECORD - PARCEL 101

EXISTING HIGHWAY RIGHT OF WAY SHOWN HEREIN IS BASED ON THE FOLLOWING
POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR I-39/90 ESTABLISHED FROM PREVIOUS
PROJECT I-90-32/91-140,
EXISTING HIGHWAY RIGHT OF WAY FOR CO HWY A ESTABLISHED FROM PREVIOUS
PROJECT I-90-32/91-140 AND CSM 866.
EXISTING ACCESS CONTROL ESTABLISHED FROM RIGHT OF WAY PROJECT
I-90-32/91-140.
FOR THE LATEST ACCESS CONTROL INFORMATION, CONTACT THE PLANNING UNIT
OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

KRISTI CHLEBOWSKI
DANE COUNTY
REGISTER OF DEEDS
DOCUMENT #
5111025
11/18/2014 10:26 AM
Trans. Fee:
Exam. Fee:
Rec. Fee: \$5.90
Pages: 1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1007-10-21-4.20
AMENDMENT NO:1

R/W COURSE TABLE

	N	01°11'44" W	37.00'
2004-2005	N	88°48'16" E	347.43'
2005-2006	N	71°17'10" E	193.04'
2006-2007	N	23°24'29" W	1284.34'
2007-2008	S	22°02'14" E	1233.61'
2011-2012	S	71°54'01" E	282.32'
2012-2013	N	66°45'24" E	172.70'
2013-2014	N	88°51'58" E	145.00'
2014-2015	S	75°54'31" E	171.00'
2015-2016	S	88°48'16" E	104.00'
2016-2017	S	07°11'44" E	57.00'
2017-2018			

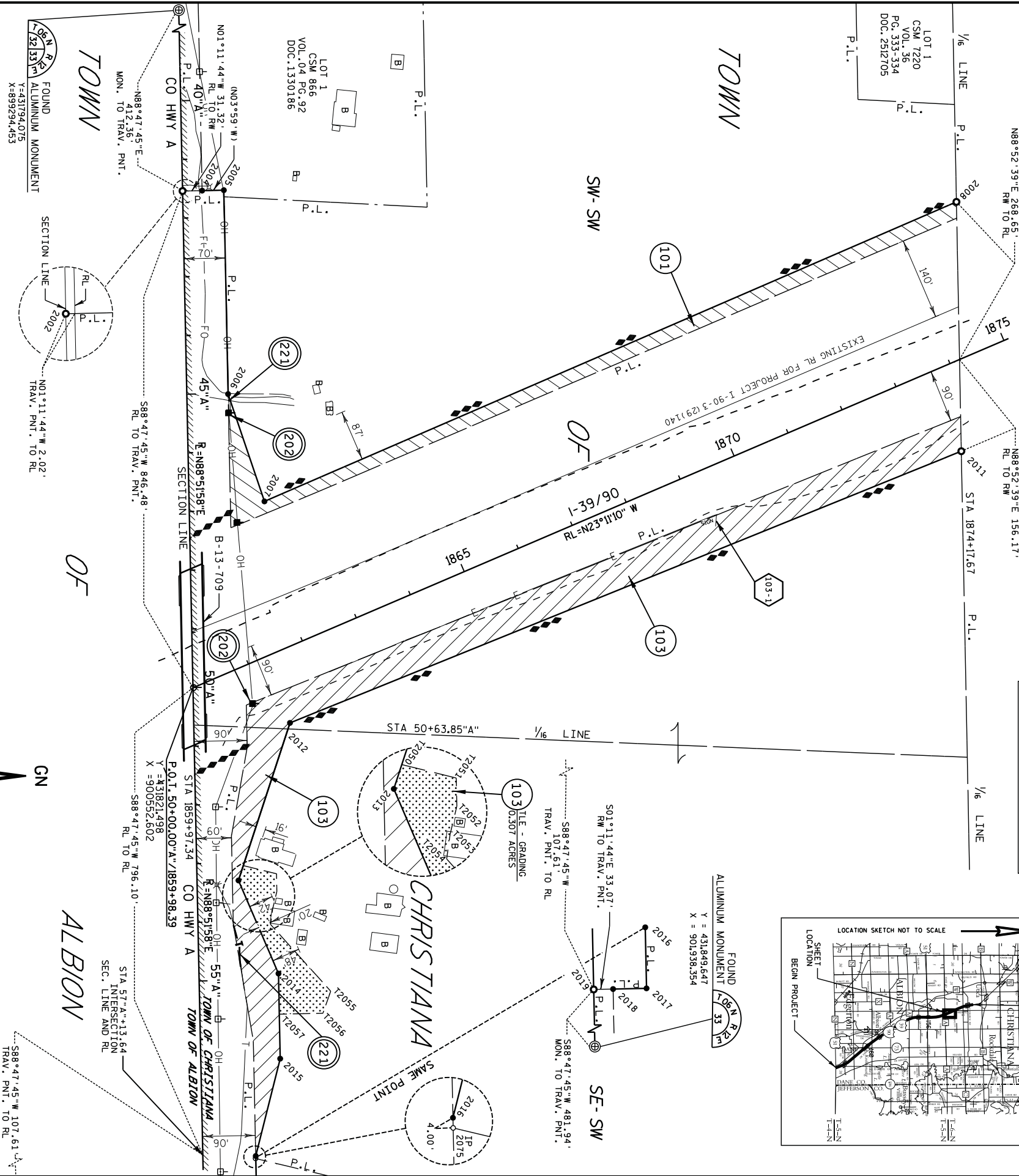
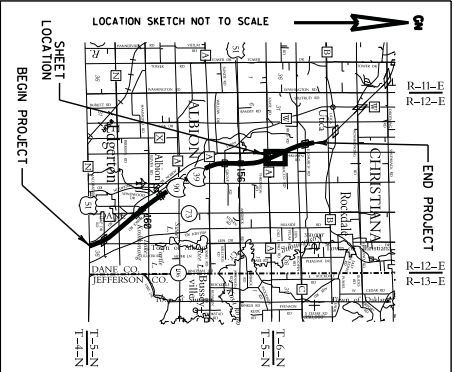
EXISTING IRON PIPES

PT #	Y	X
IP 2075	431922.102	901354.652

R/W STATION & OFFSET TABLE		
2002	41+53.91 "A"	2.02'
2004	41+53.88 "A"	31.32'
2005	41+53.84 "A"	66.32'
2006	45+01.27 "A"	66.69'
2007	1862+34.26	244.00'
2008	1875+18.59	248.98'
2011	1873+59.01	164.74'
2012	1861+25.65	120.00'
2013	53+30.00 "A"	70.00'
2014	54+90.00 "A"	135.00'
2015	56+35.00 "A"	135.00'
2016	58+00.00 "A"	90.09'
2017	59+04.00 "A"	90.21'
2018	59+04.07 "A"	33.21'
2019	59+04.10 "A"	0.13'

TLE STATION & OFFSET TABLE

T2050	53+04.91 "A"	78.75'
T2051	53+20.00 "A"	135.00'
T2052	53+50.00 "A"	135.00'
T2053	53+79.96 "A"	127.22'
T2054	54+05.95 "A"	123.04'
T2055	55+21.74 "A"	223.35'
T2056	55+59.16 "A"	209.23'
T2057	55+59.16 "A"	135.00'



emcs

1. KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT I AM IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1007-10-21-4.20 AMENDMENT NO.1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTENSION BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) *Kevin C. Boyer* DATE: 11/11/2014
(PRINTED NAME) KEVIN C. BOYER
(REGISTRATION NUMBER) S-2575
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION SW REGION OFFICE.
(SIGNATURE) *David P. McElwaine* DATE: 11/11/2014
(PRINTED NAME) DAVID P. McELWAIN

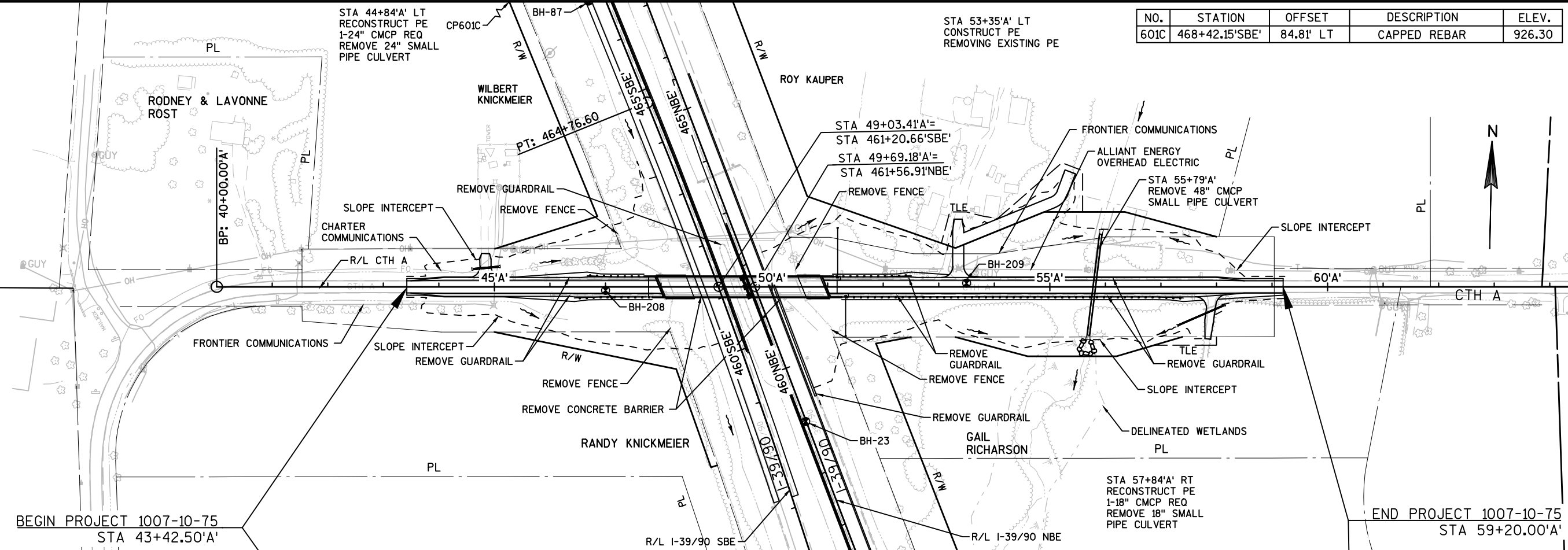
FOUND ALUMINUM MONUMENT
Y=431794.075
X=899294.453

SECTION LINE
2002

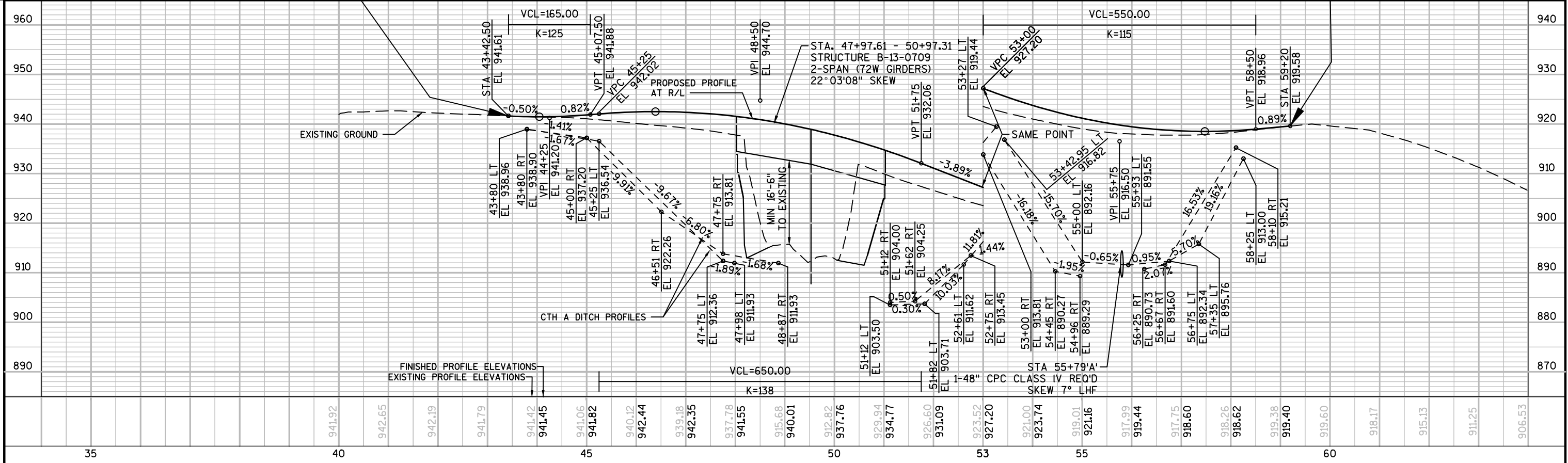
FOUND ALUMINUM MONUMENT
Y=431794.075
X=899294.453



REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2,
OF DOCUMENT NO. 5034949 FOR ADDITIONAL INFORMATION.



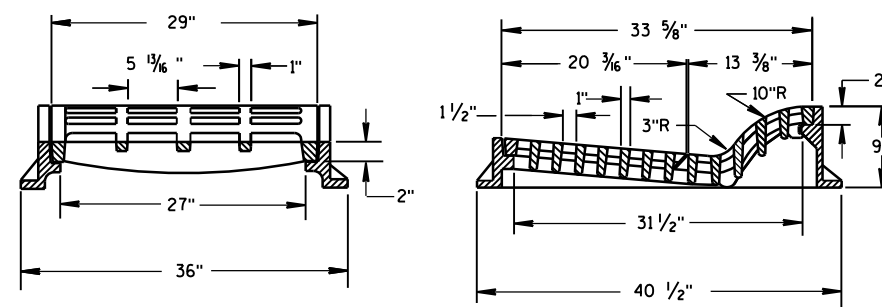
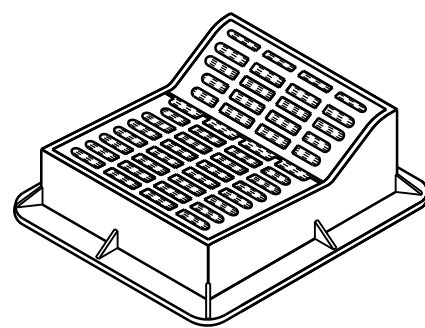
NO.	STATION	OFFSET	DESCRIPTION	ELEV.
601C	468+42.15'SBE'	84.81' LT	CAPPED REBAR	926.30



PROJECT NO:1007-10-75	HWY: IH 39	COUNTY: DANE	PLAN AND PROFILE: CTH A	SHEET 44	E
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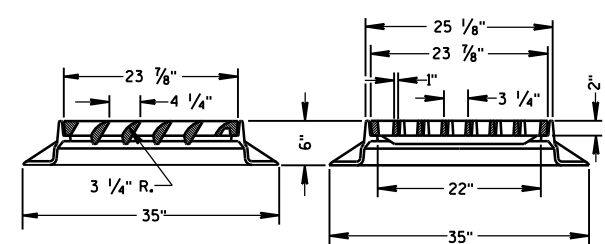
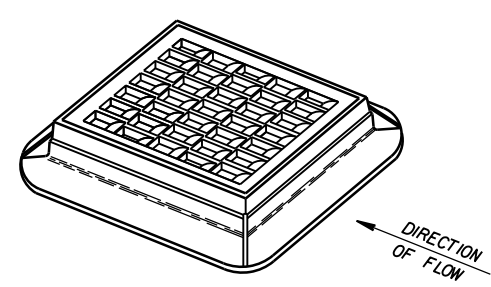
Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B04-11	PULL BOX
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-01A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-01E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B16-04A	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B16-04B	ANCHORAGE FOR STEEL PLATE BEAM GUARD TYPE 2
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

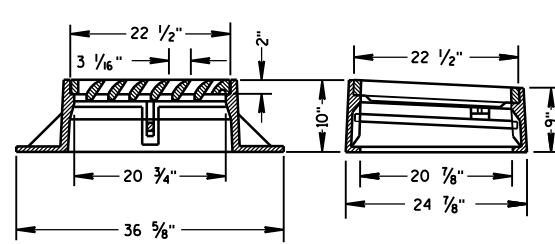
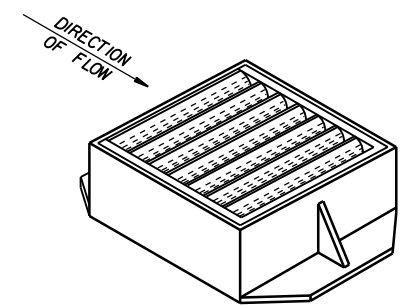


TYPE "F"

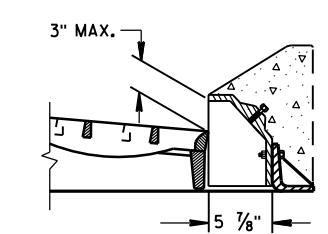
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



TYPE "S"



TYPE "V"



ALTERNATIVE CURB BOX
FOR TYPE "HM" COVER

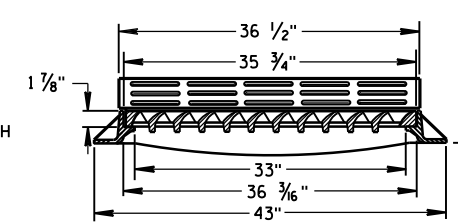
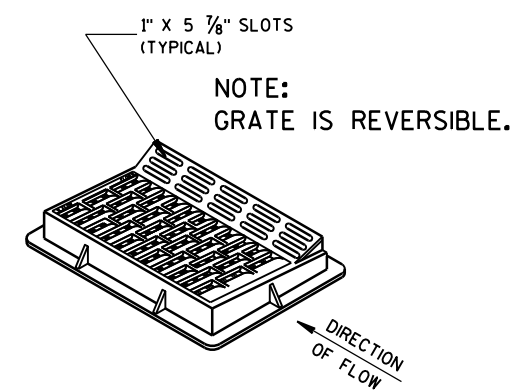
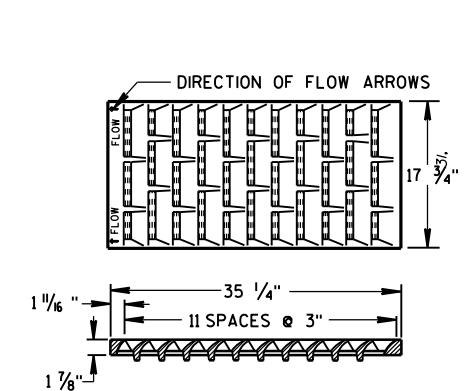
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

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.

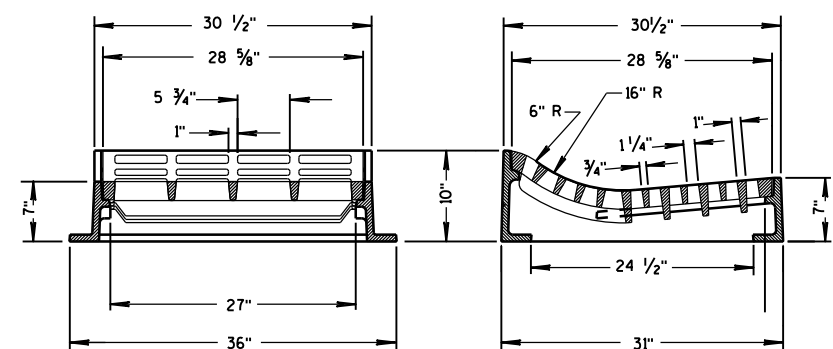
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "HM"

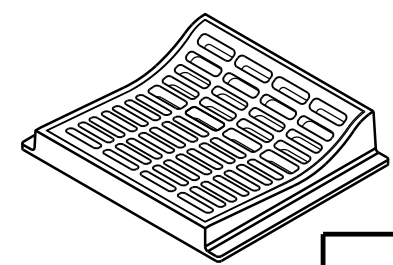
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

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

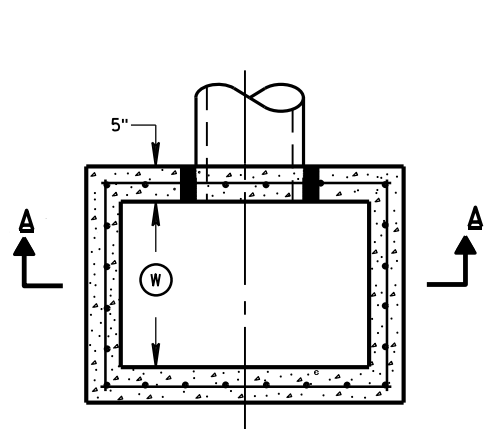


TYPE "T"

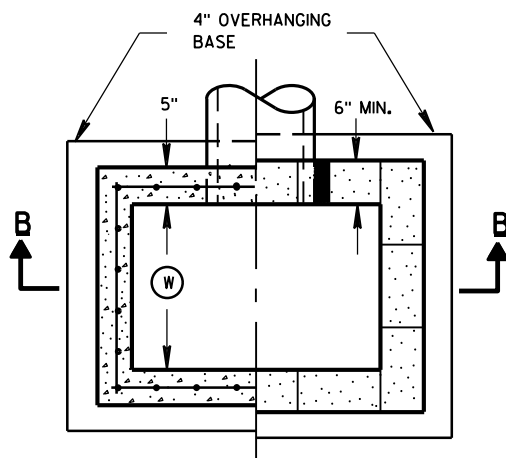
USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



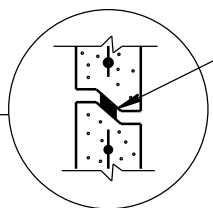
INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/27/2013	DATE	/S/ Jerry H. Zogg	ENGINEER
FHWA	ROADWAY STANDARDS	46	ENT



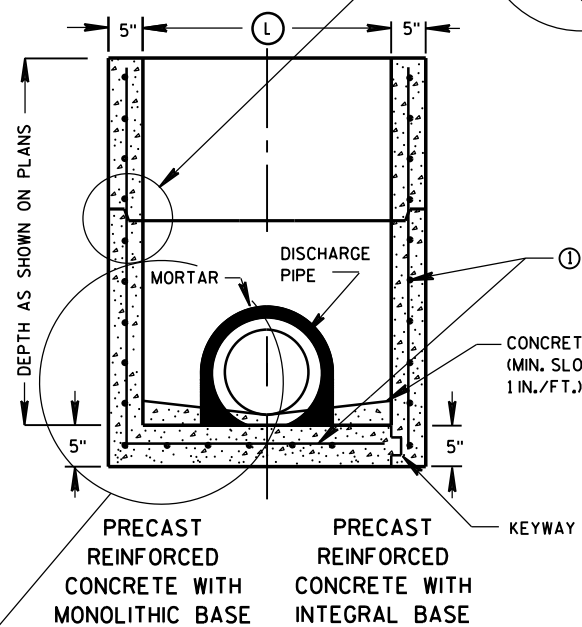
PLAN VIEW



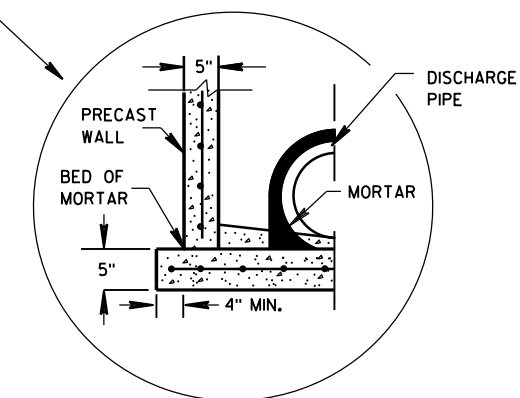
PLAN VIEW



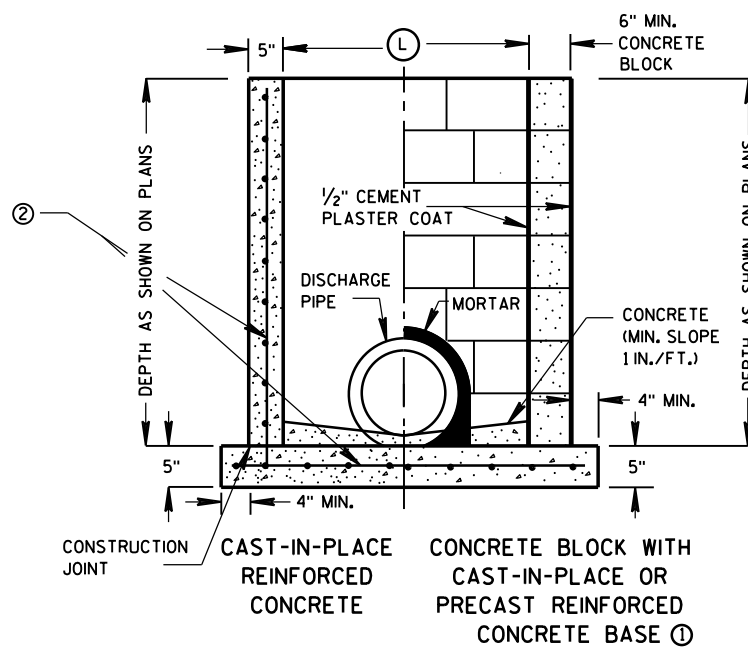
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-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.

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

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

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

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

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

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

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

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

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

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

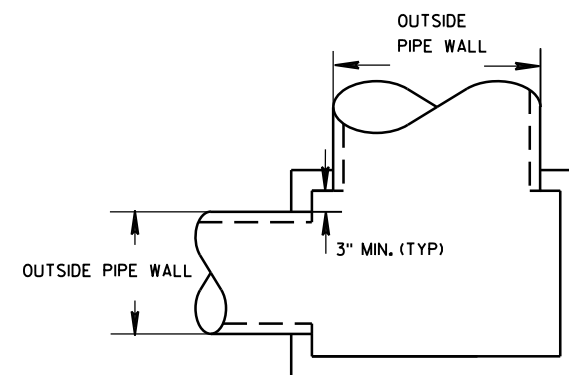
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

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



DETAIL "A"

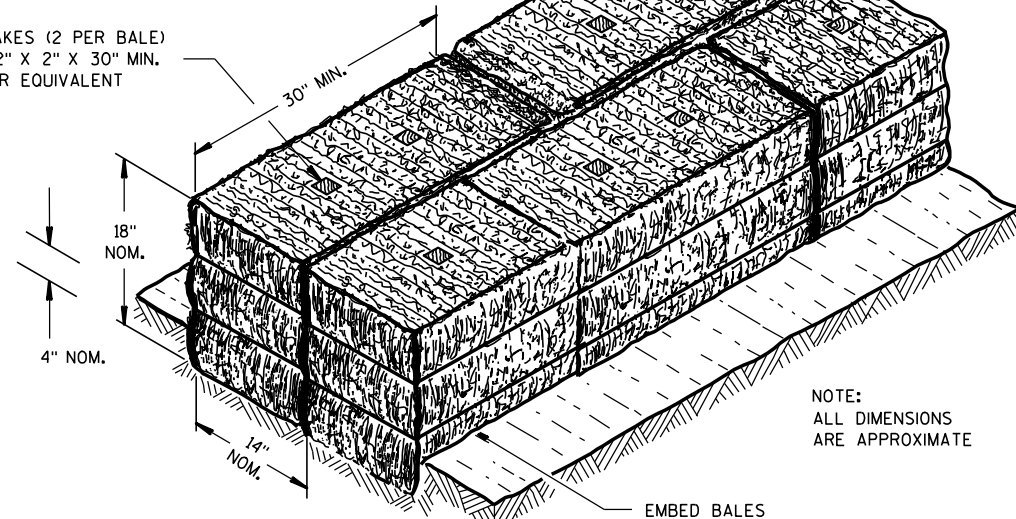
INLETS 2X2-FT, 2X2.5-FT,
2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DE
FHWA ENGINEER 47

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

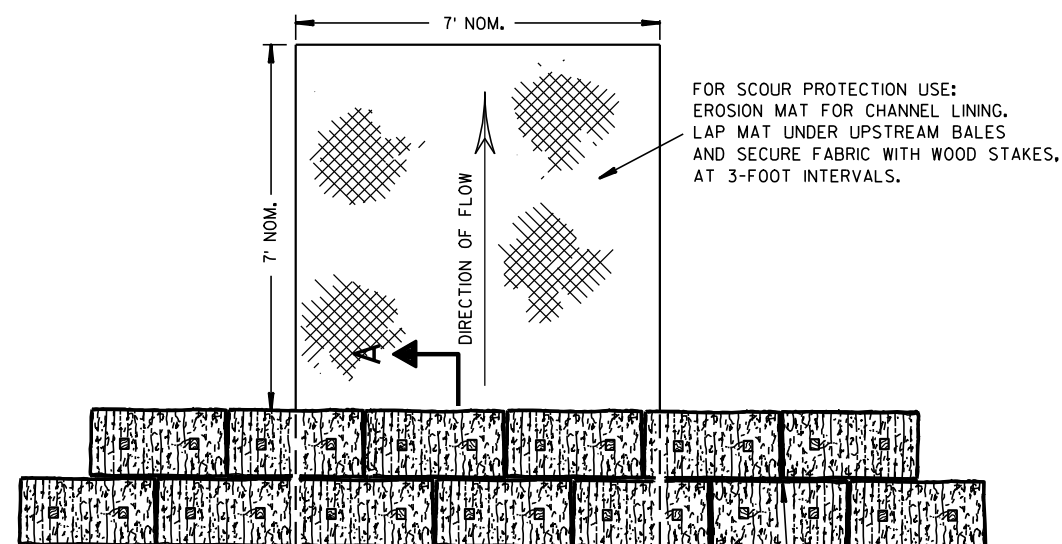
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

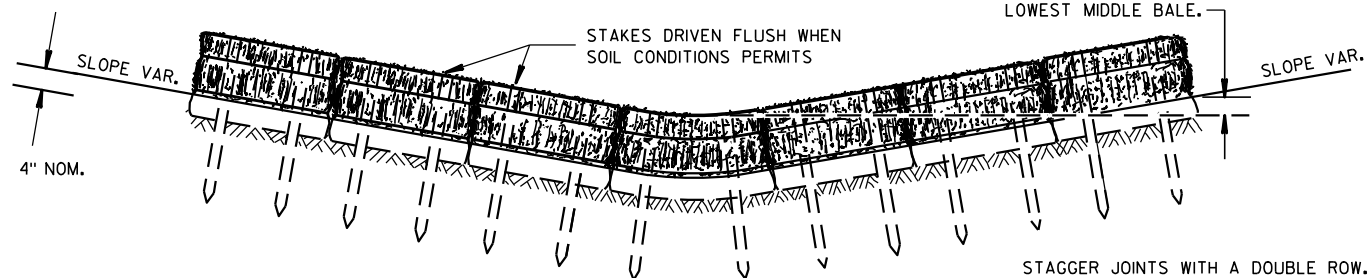
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



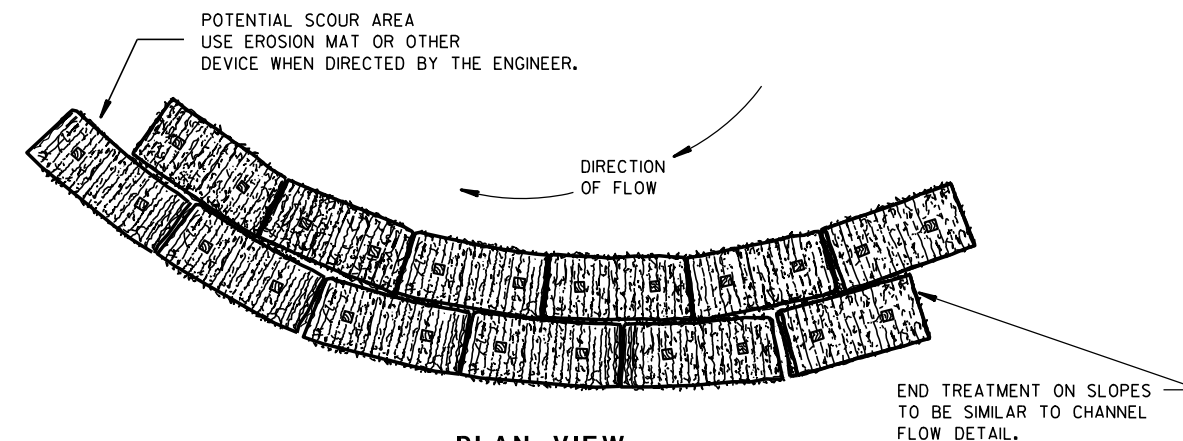
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

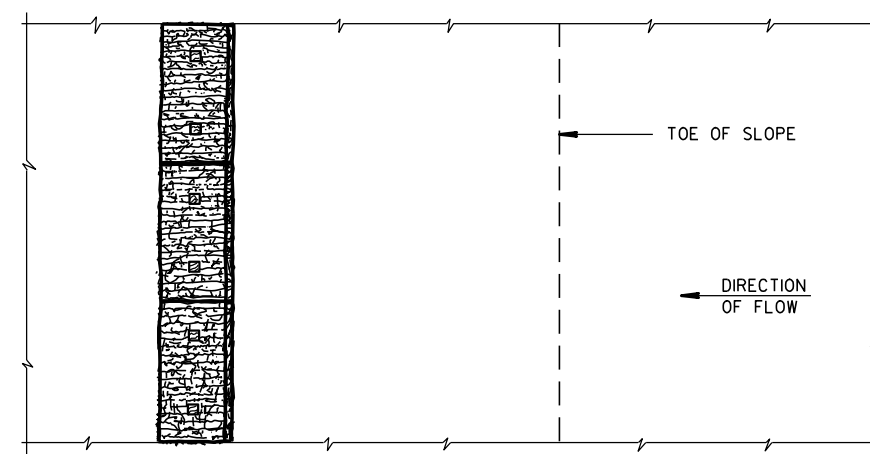
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

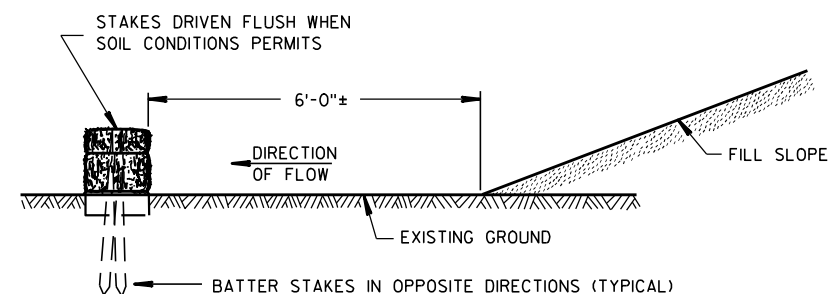


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

/S/ Beth Conn-----
CHIEF ROADWAY DEVELOPER 48 ENGINEER

FHWA

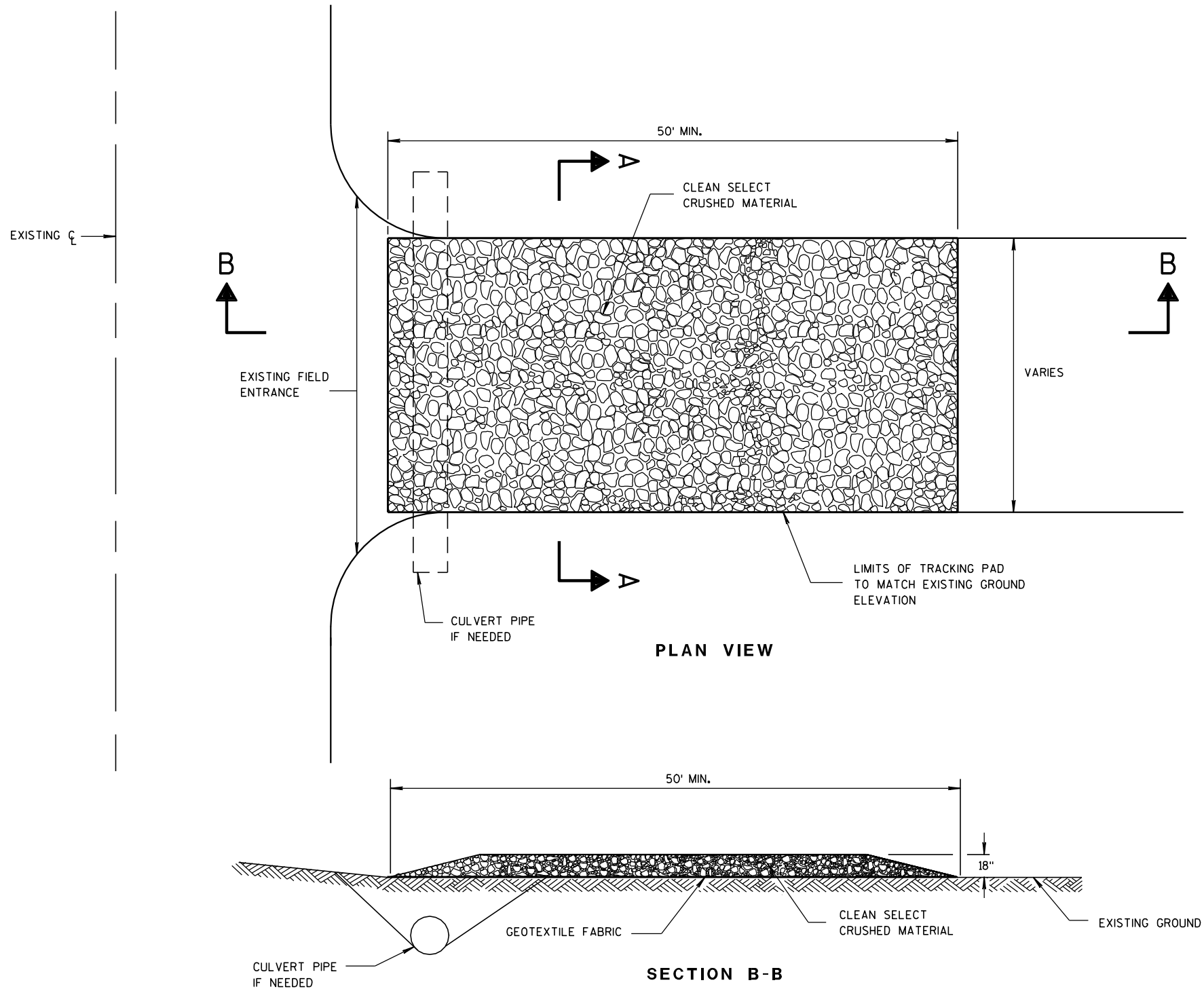


- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED <u>4-29-05</u> <u>DATE</u> <u>/S/ Beth Connolly</u> CHIEF ROADWAY DEVELOP <u>49</u> ENGINEER FHWA

S.D.D. 8 E 10-2



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

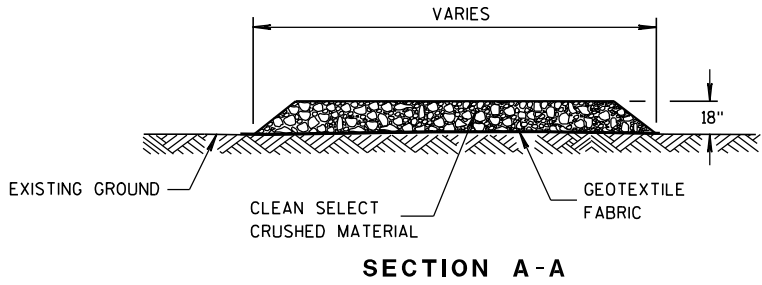
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



TRACKING PAD

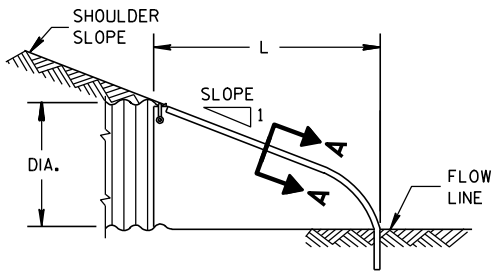
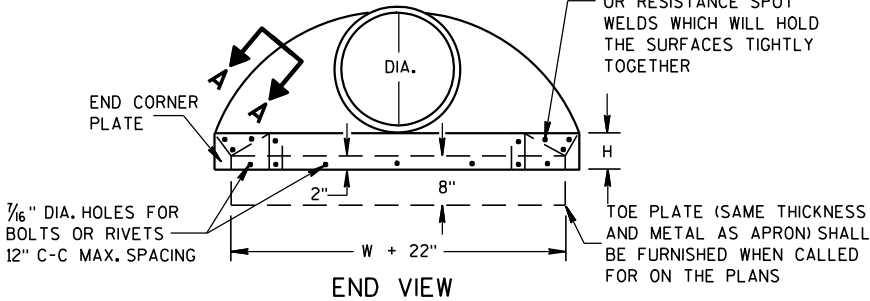
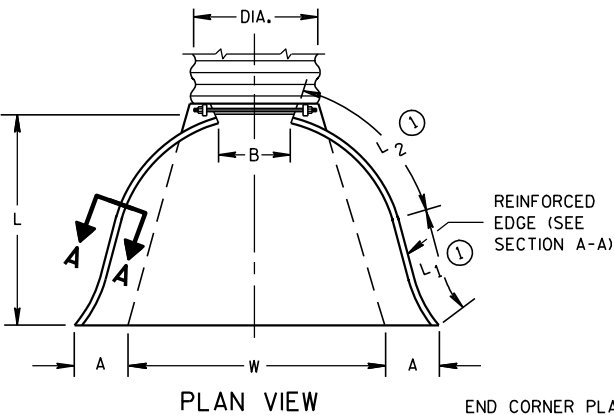
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS 51
ENGINEER
ENT

FHWA

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

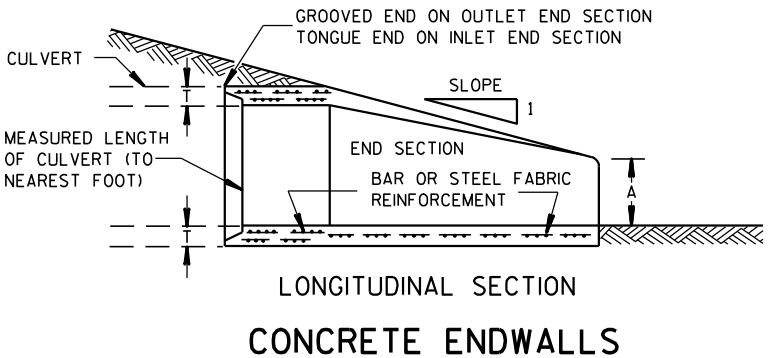
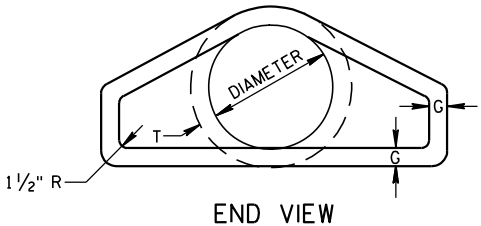
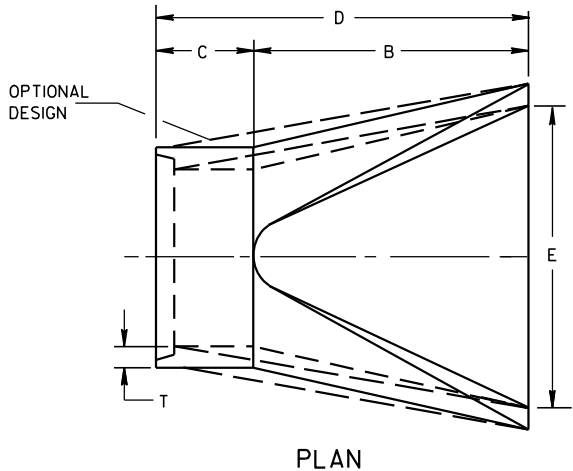
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

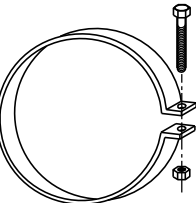
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

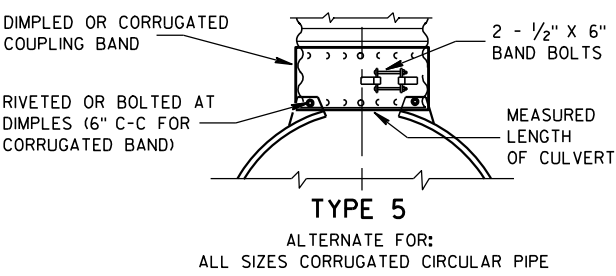
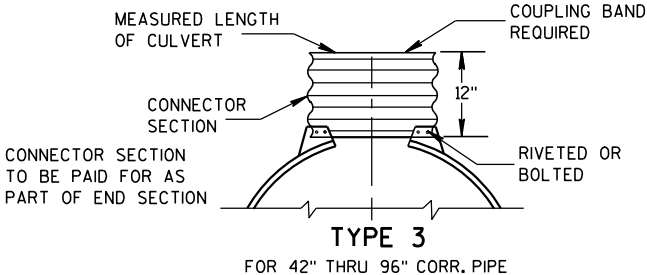
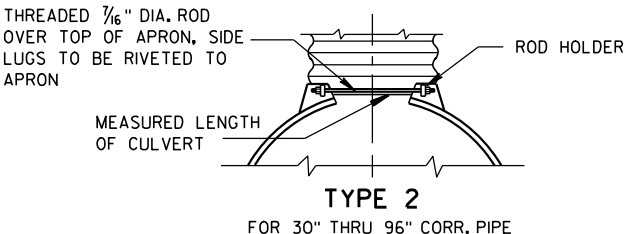
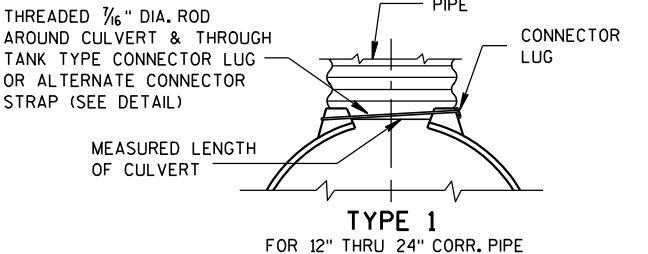


LONGITUDINAL SECTION
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



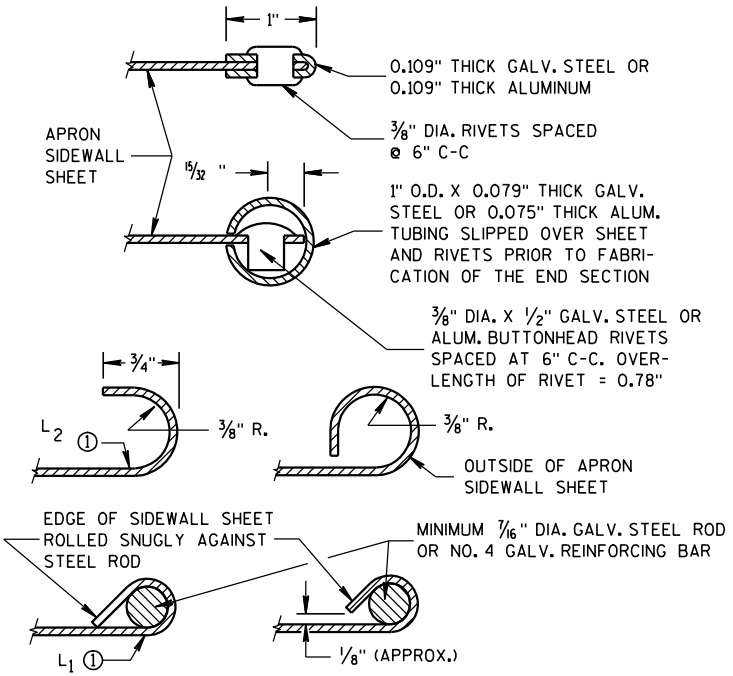
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP	52	NEER
FHWA			

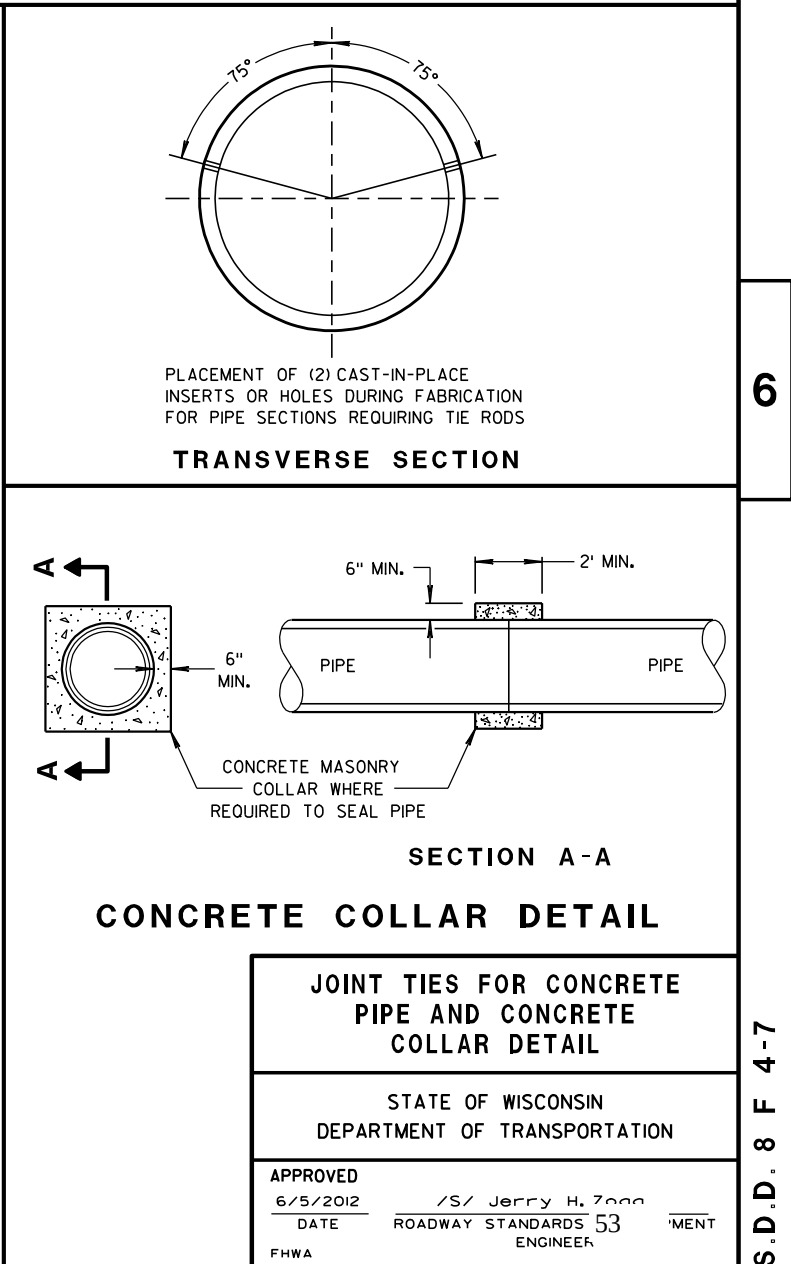
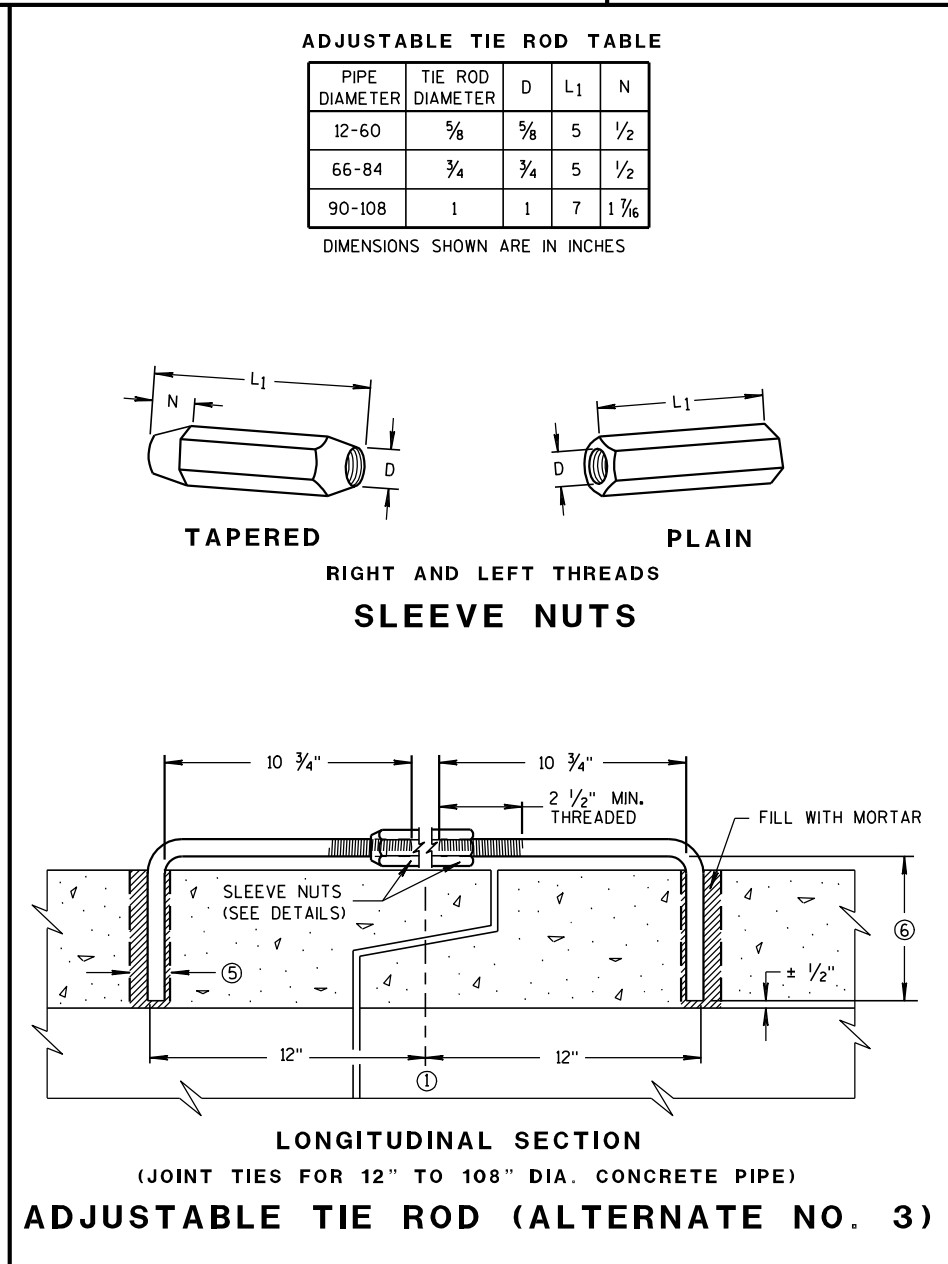
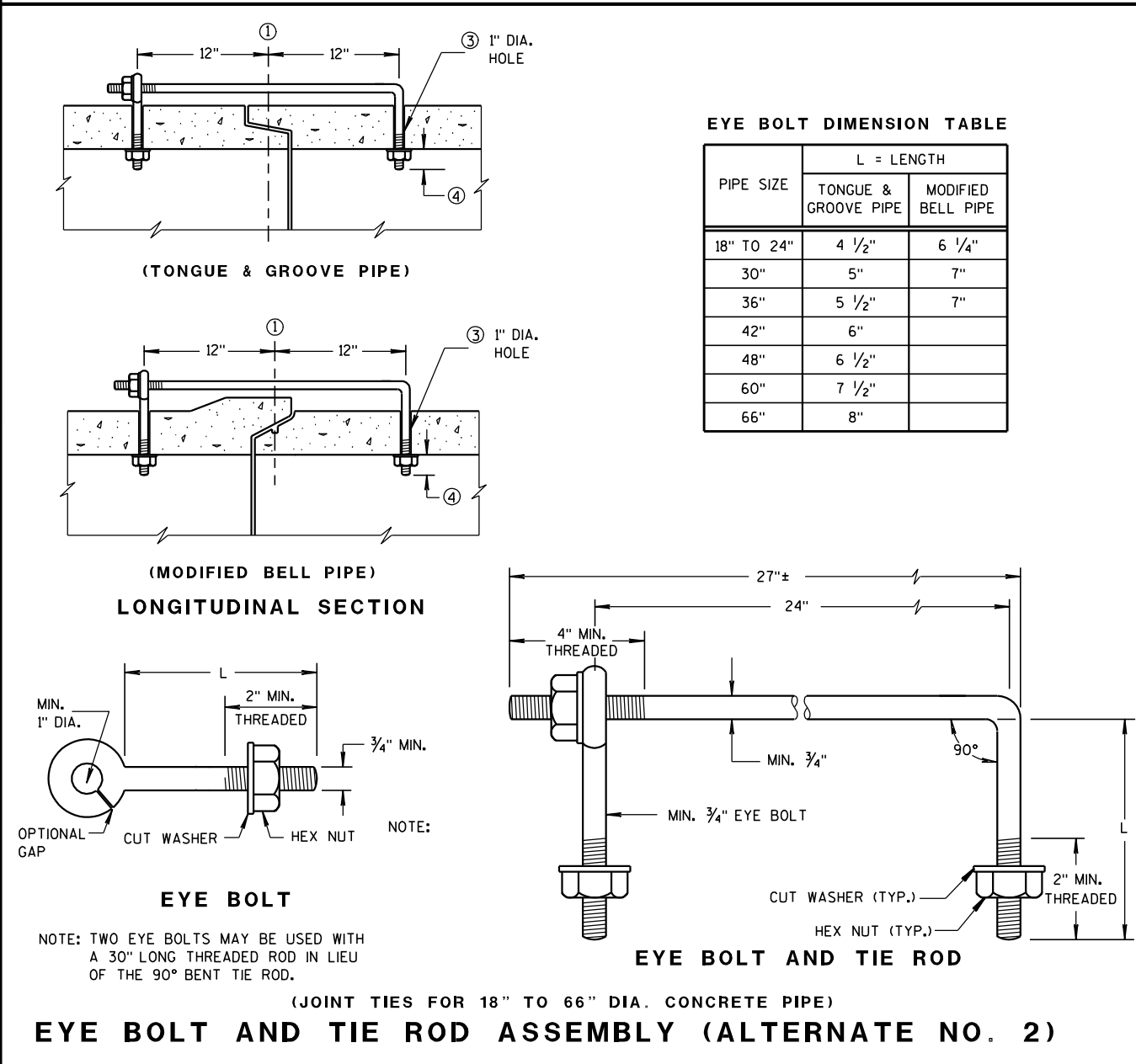
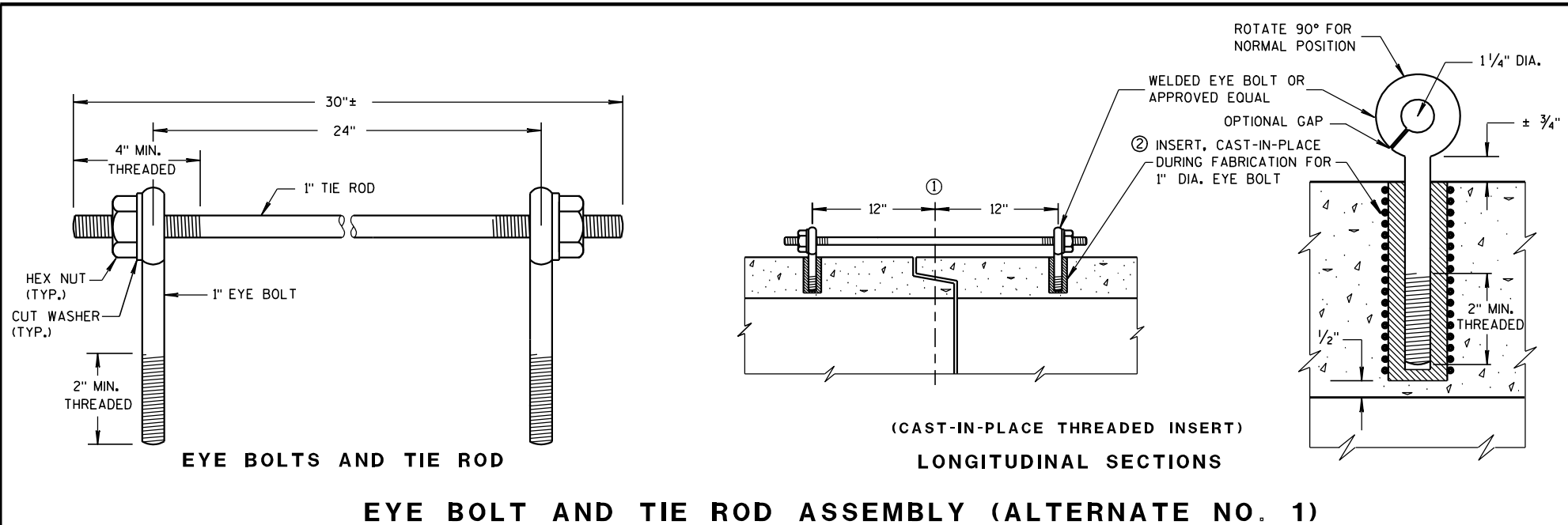


TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

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

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

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

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

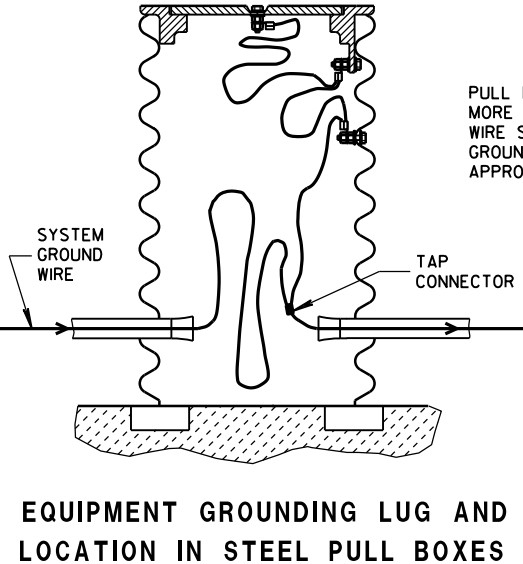
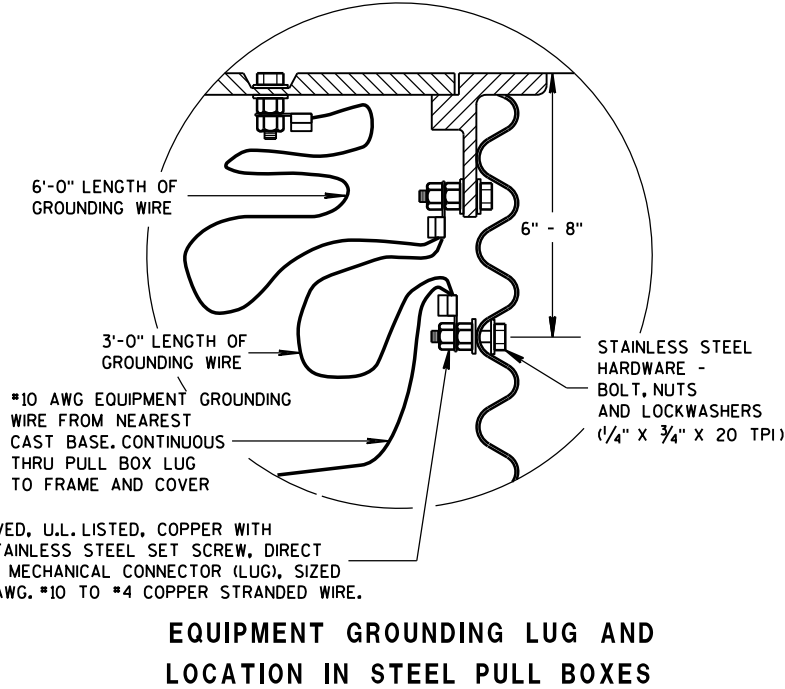
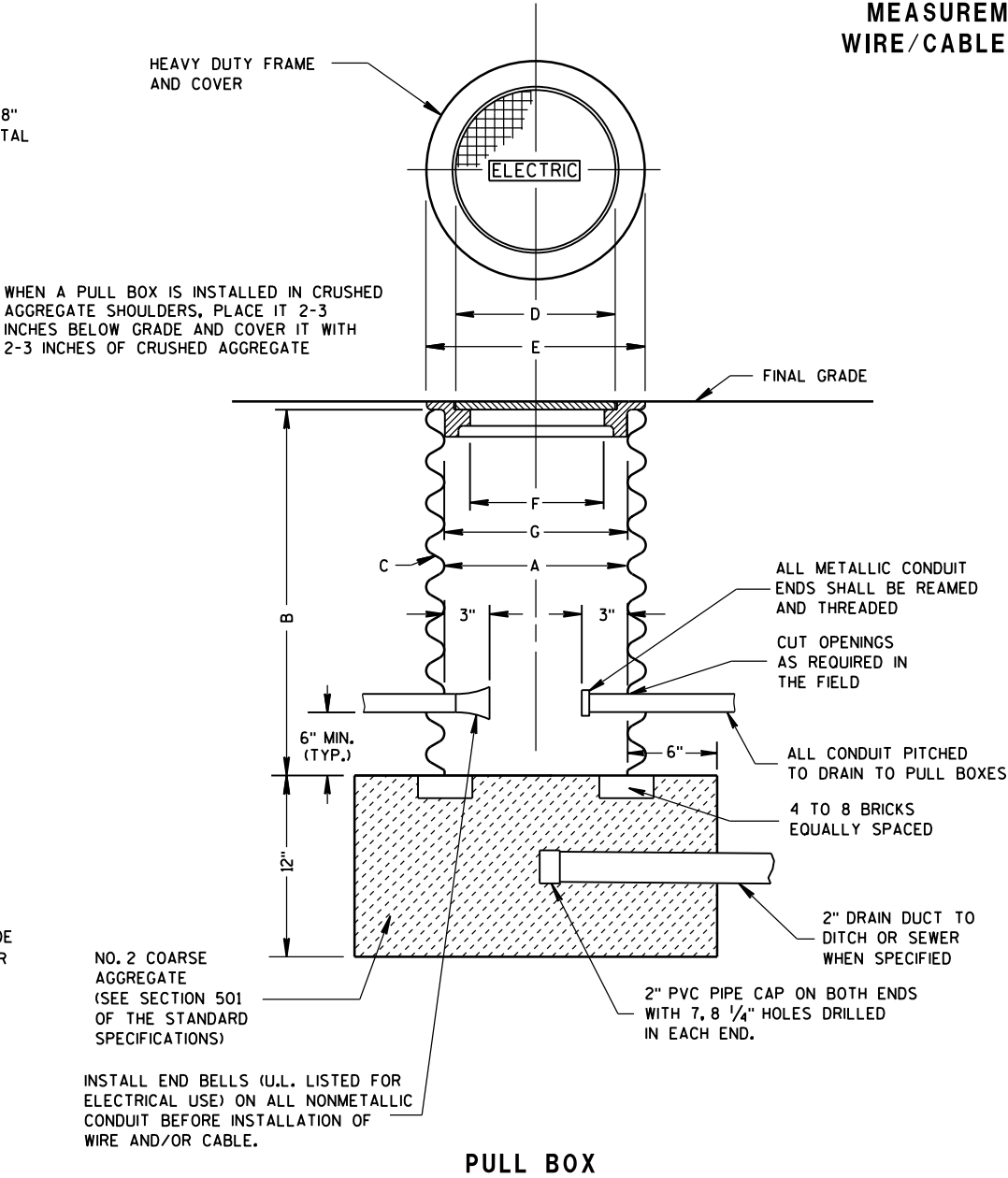
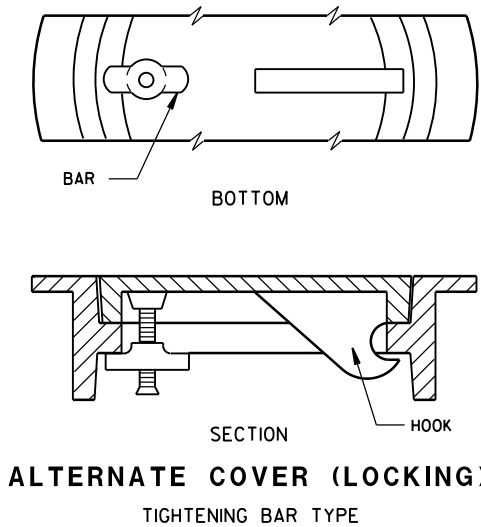
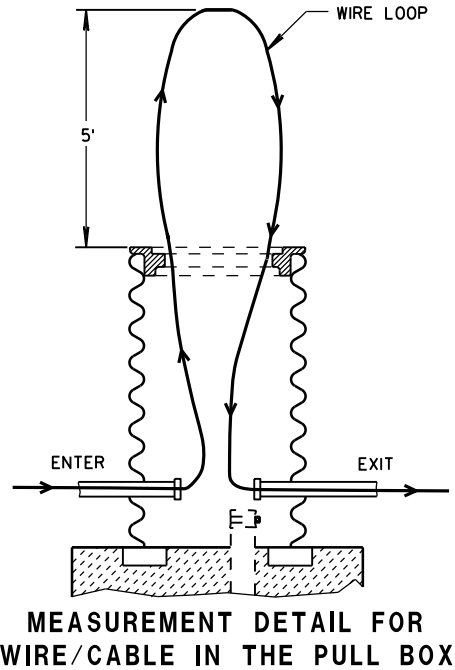
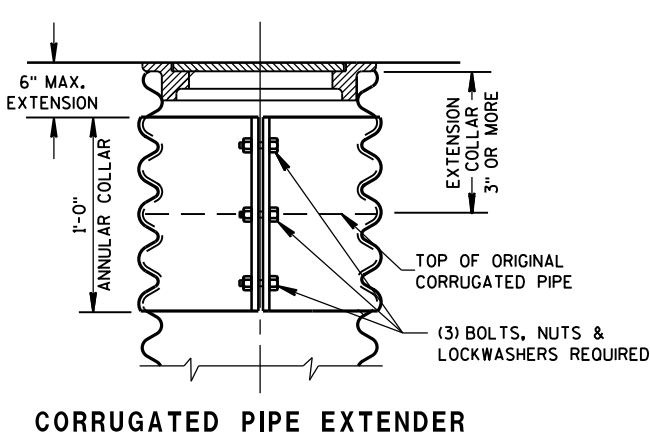
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

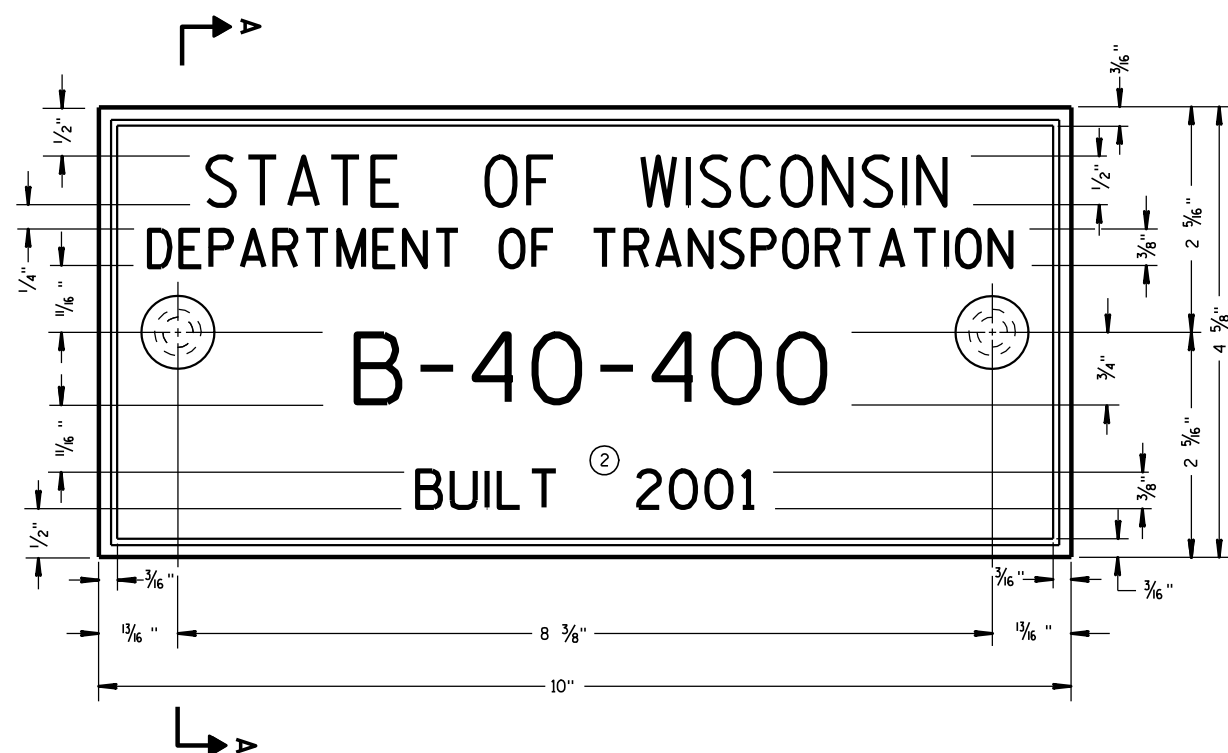
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

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

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

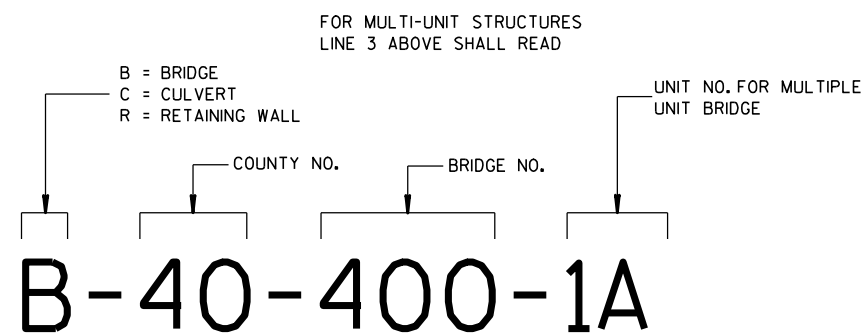


PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 54
FHWA	



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



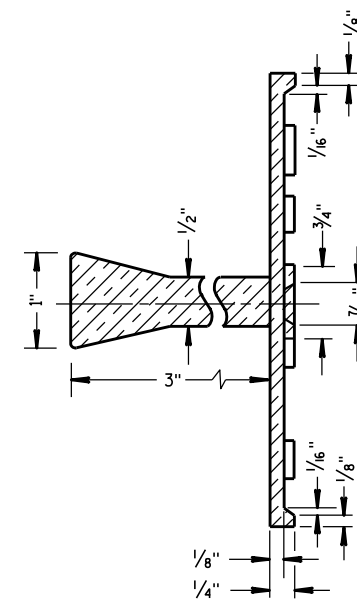
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

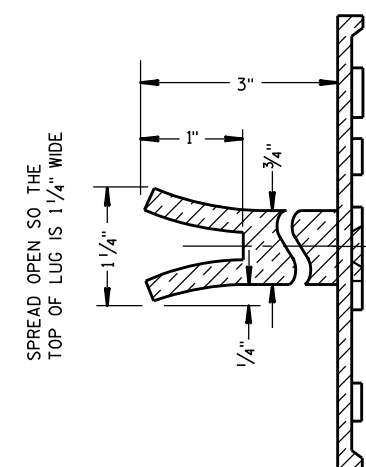
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

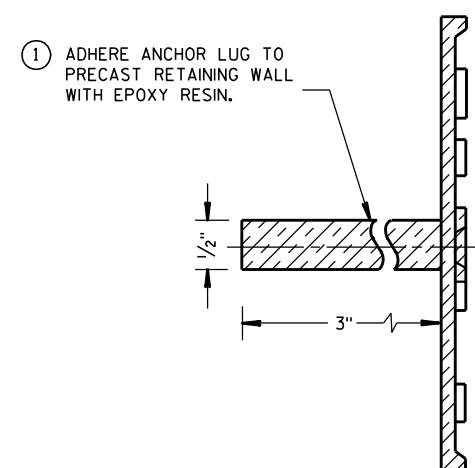
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



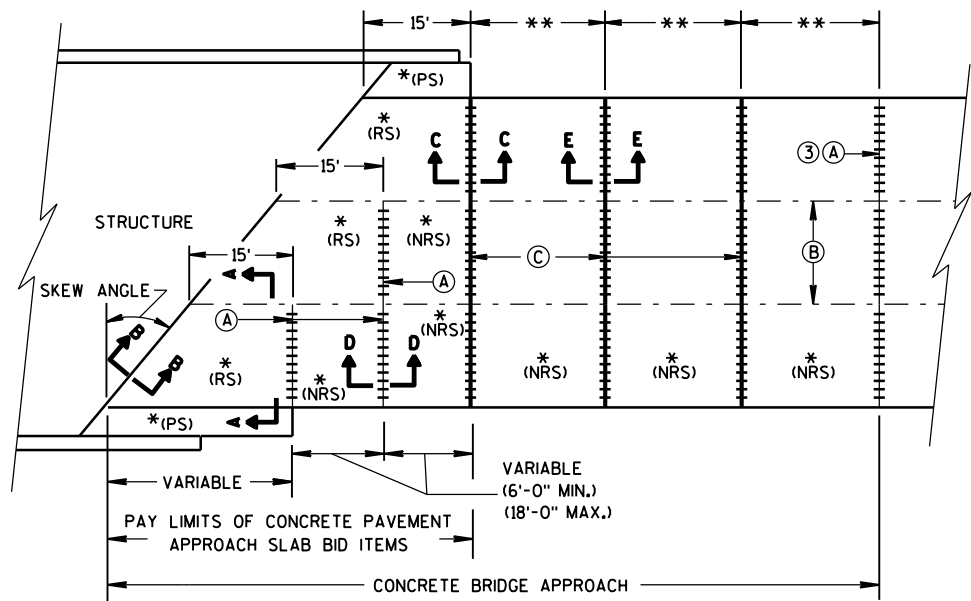
ALTERNATE LUG



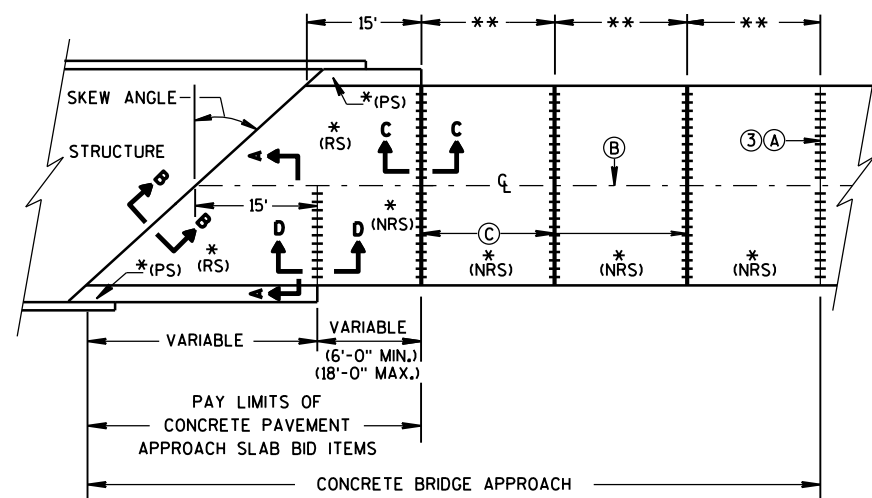
ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

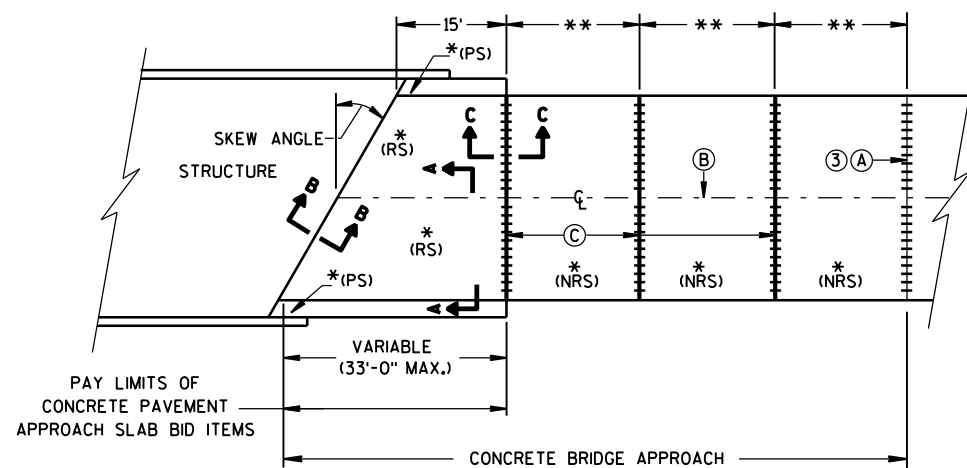
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>3/26/10</u> DATE	<u>/S/ Scot Beck</u> CHIEF STRUCTURAL DEVELOPER



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



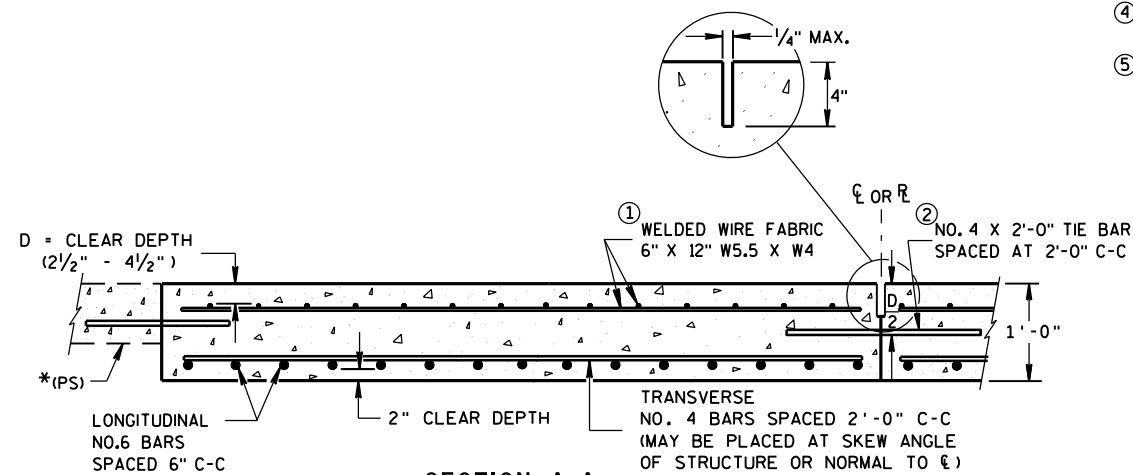
**SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')**



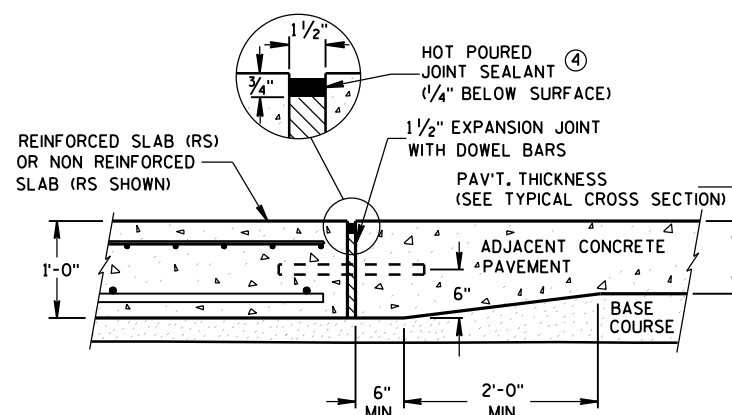
**SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

- *(RS) = REINFORCED CONCRETE SLAB
 *(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 *(NRS) = NON-REINFORCED CONCRETE SLAB
 **STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 ***STANDARD DOWEL BAR DIAMETER
 (SEE SDD 13C11, & SDD 13C13)

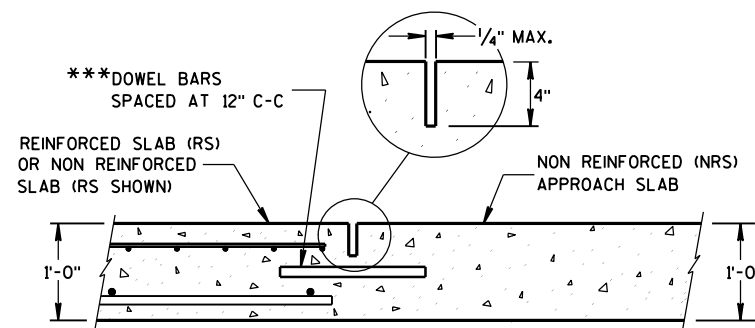
- (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
 (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



**SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**



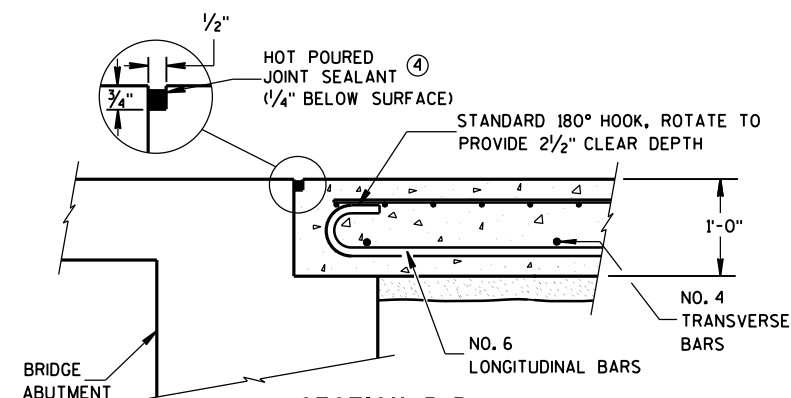
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

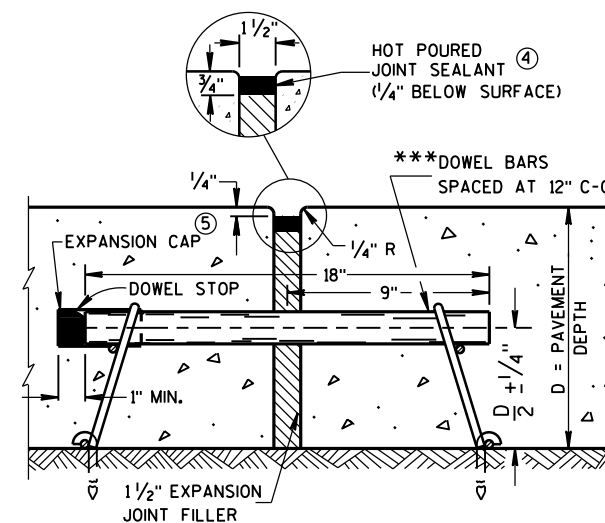
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- 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.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
- 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.



**SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT**



**SECTION E-E
EXPANSION JOINT**

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2014

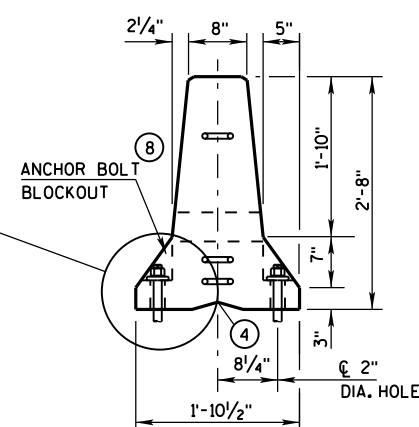
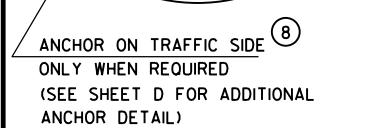
DATE

FHWA

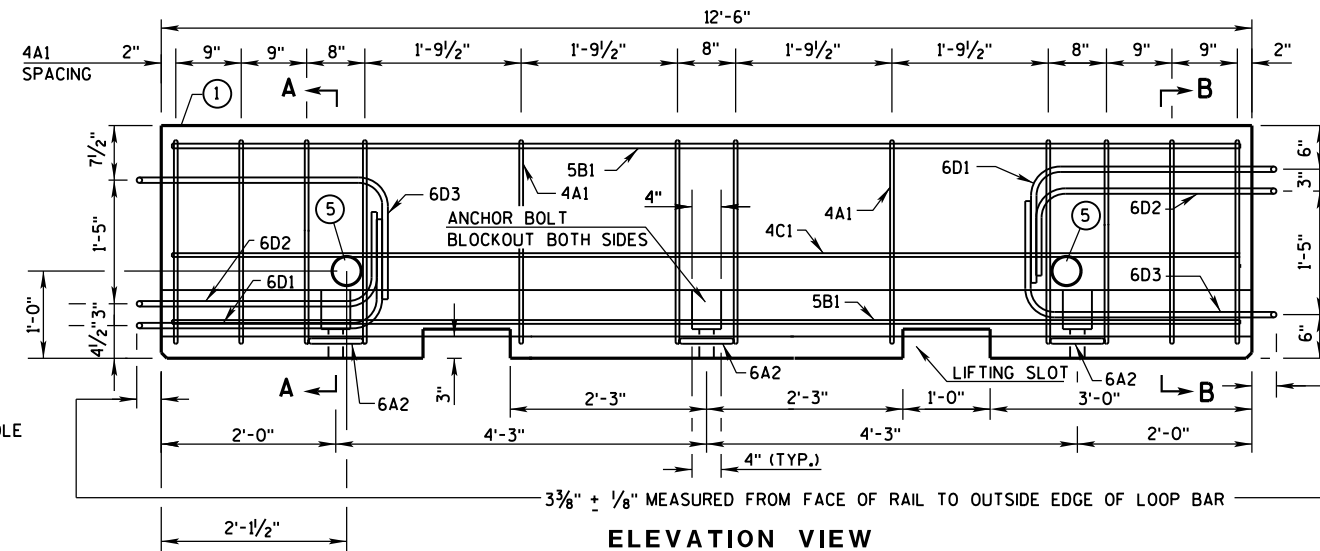
/S/ Deb Bischoff

PAVEMENT POLICY & DE 56

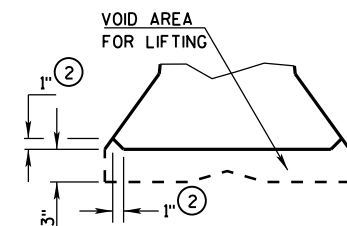
EER



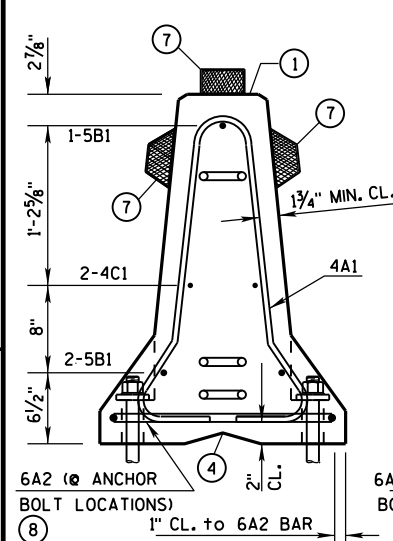
END VIEW



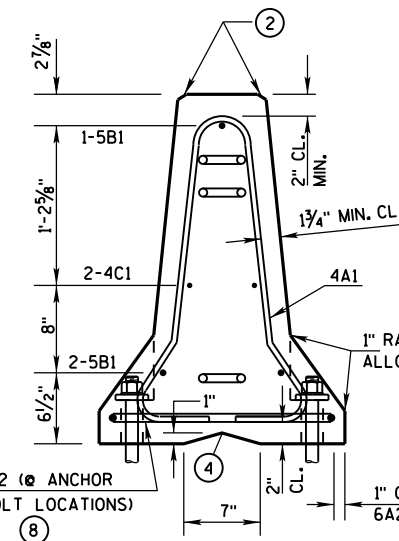
ELEVATION VIEW



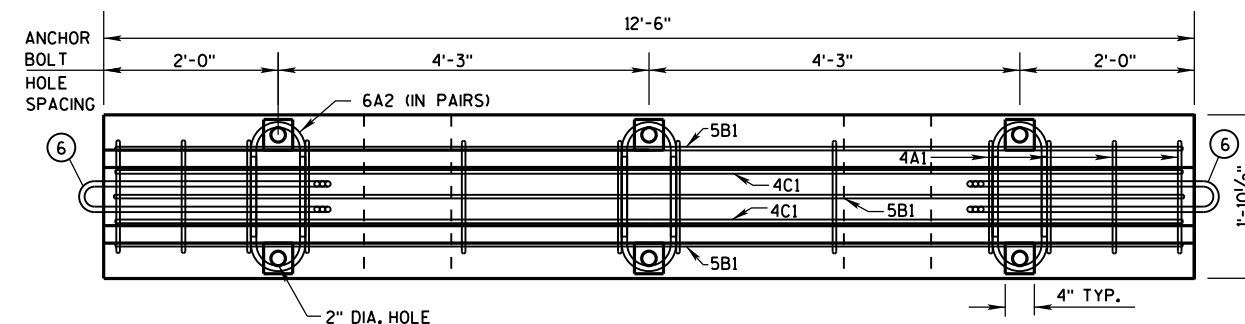
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

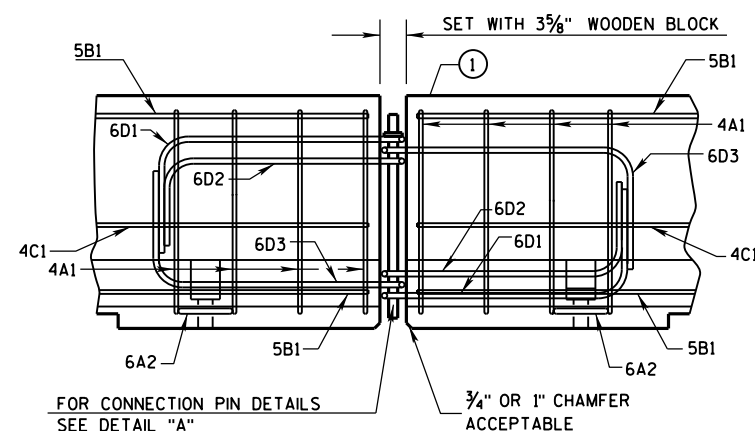


SECTION B-B
(STIRRUP PLACEMENT)

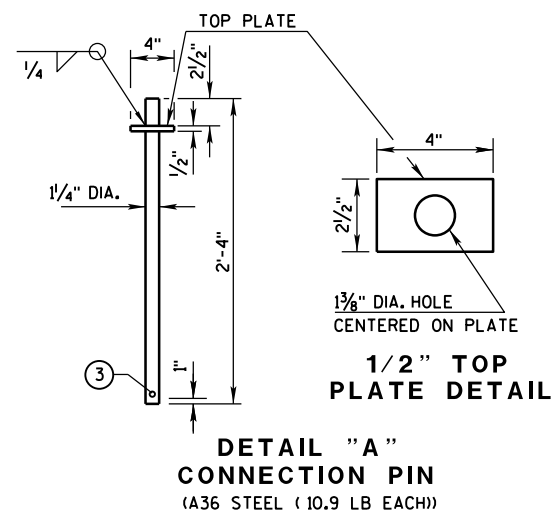


PLAN VIEW

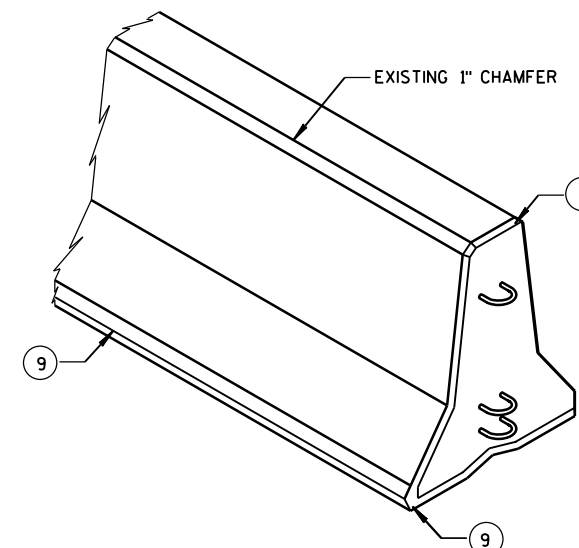
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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



GENERAL NOTES

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

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 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 $\frac{3}{4}$ " 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 $3\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

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

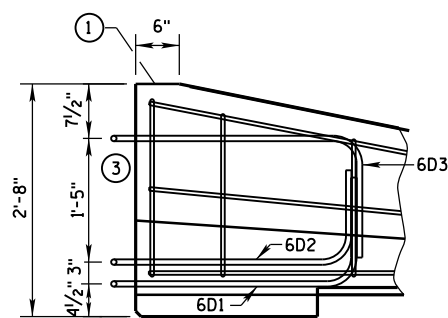
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

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

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

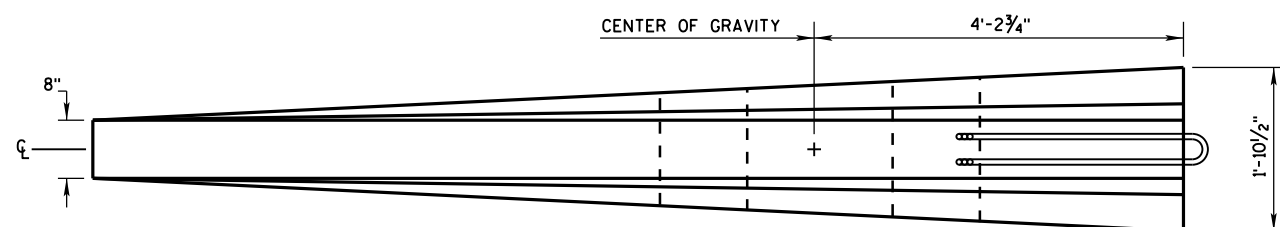
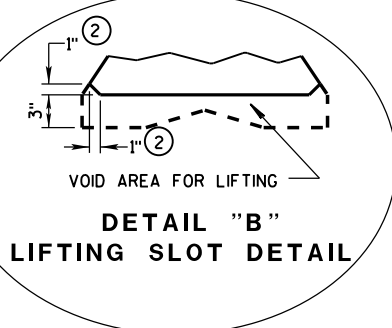
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 57

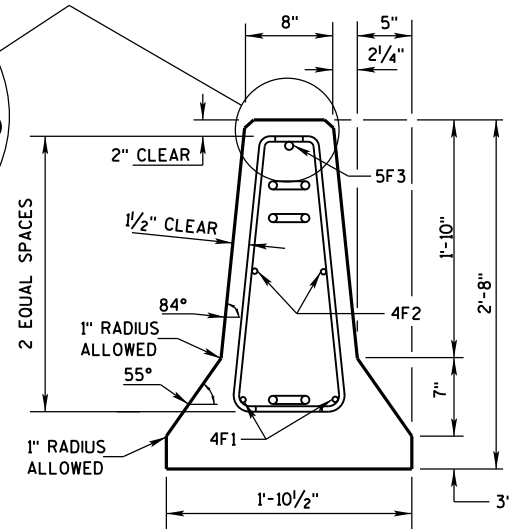


- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

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



**CHAMFER
DETAIL**



A diagram of a composite figure. The base is a rectangle divided into three equal sections by two vertical lines. The top is a trapezoid with a flat top and slanted sides. A dimension line at the bottom indicates the width of the central section is 8 inches.

Diagram illustrating the barrier placement on a curve. The diagram shows a cross-section of a barrier on a curve. Key dimensions and labels include:

- 10"± OFFSET**: Dimension indicating the offset from the centerline to the barrier.
- 5°± MAX.**: Dimension indicating the maximum angle of the barrier relative to the centerline.
- 12'-6"**: Dimension indicating the length of the barrier segments.
- BARRIER ON CURVE**: Title of the diagram.
- END SECTION**: Label indicating the end of the barrier section.

FLARE AT BARRIER END

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

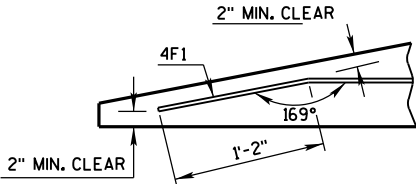
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁵⁸

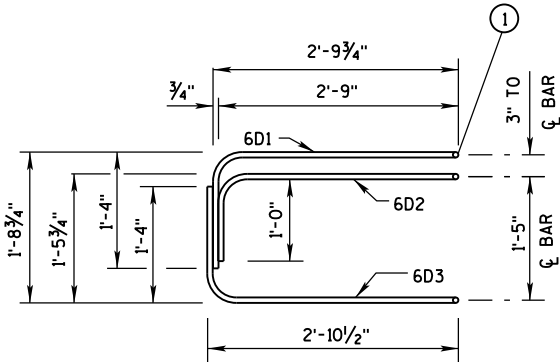
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

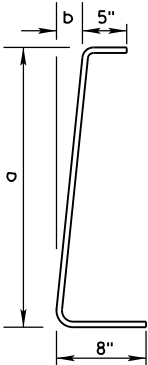
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

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

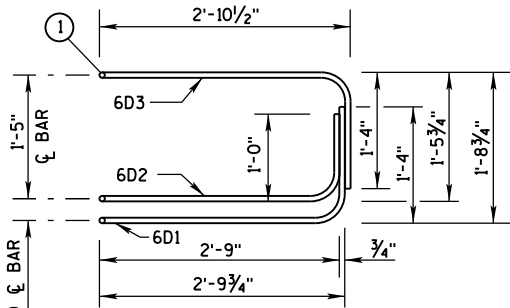
(PER 12'-6" BARRIER SECTION)

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"

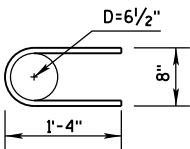


PLAN VIEW
LOOP BAR ASSEMBLY

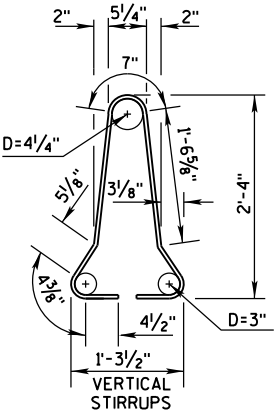
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

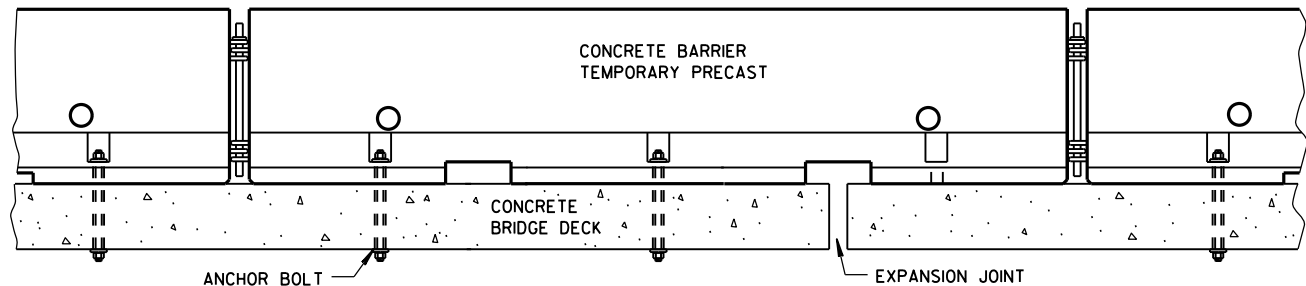
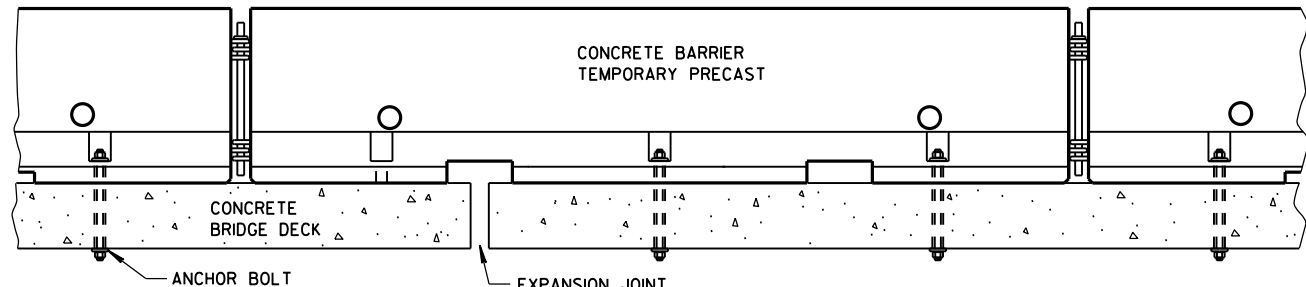


4A1

BARRIER SECTION

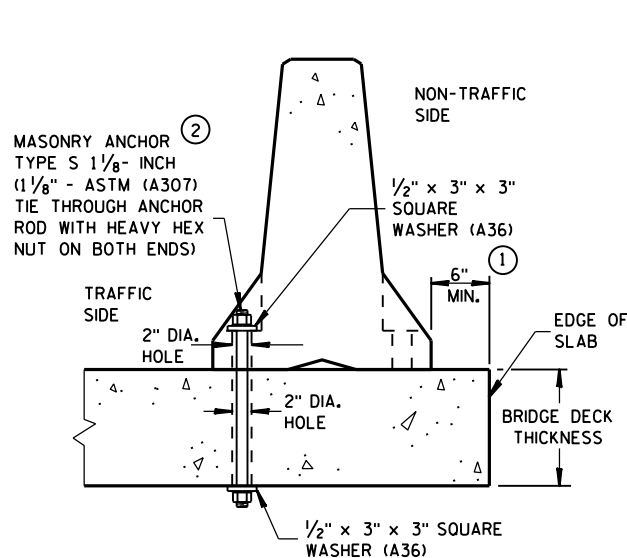
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



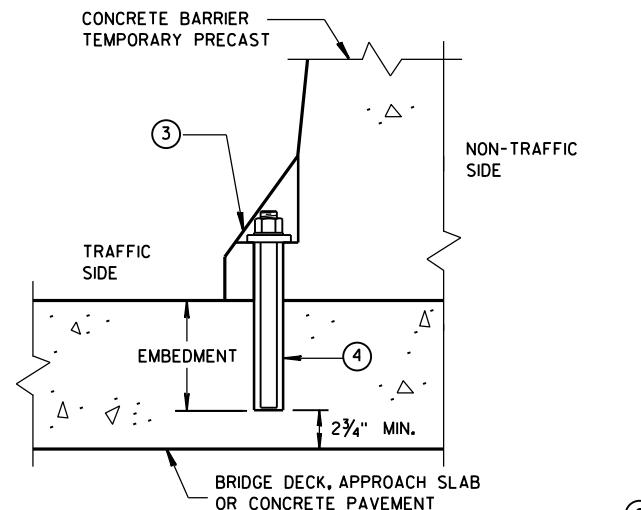
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



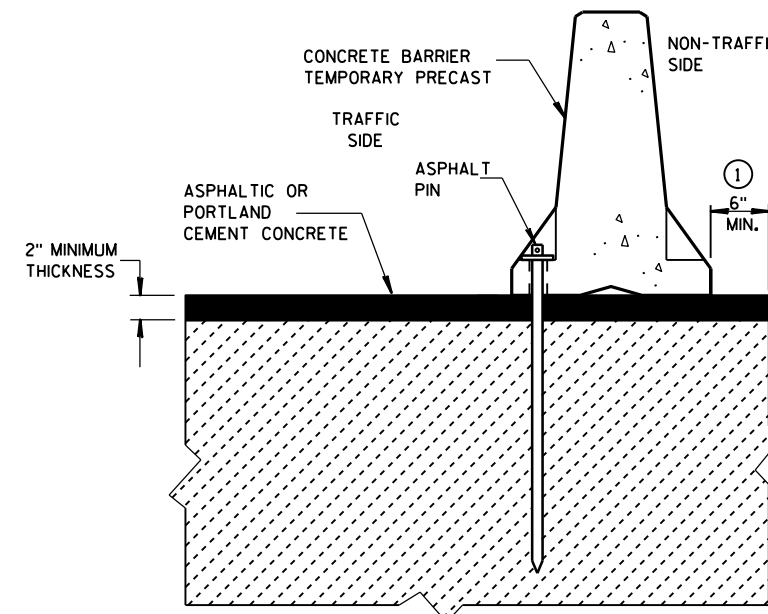
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



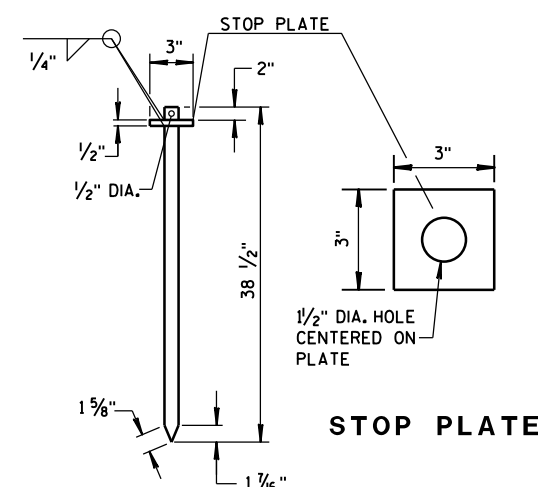
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

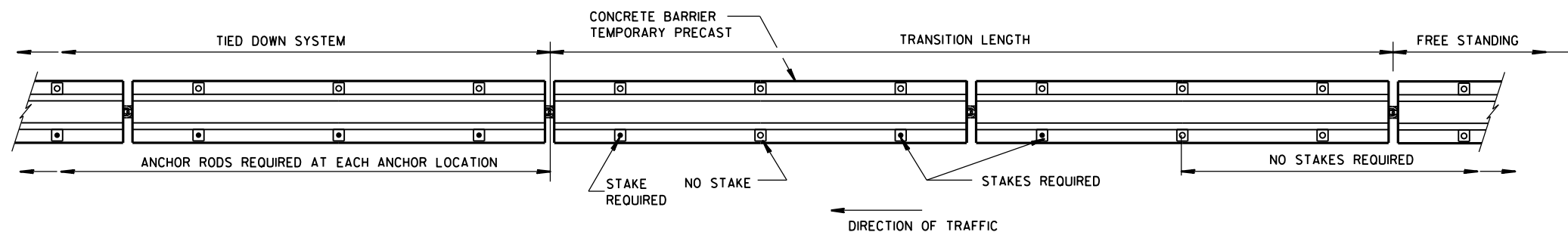


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN
(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

GENERAL NOTES

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

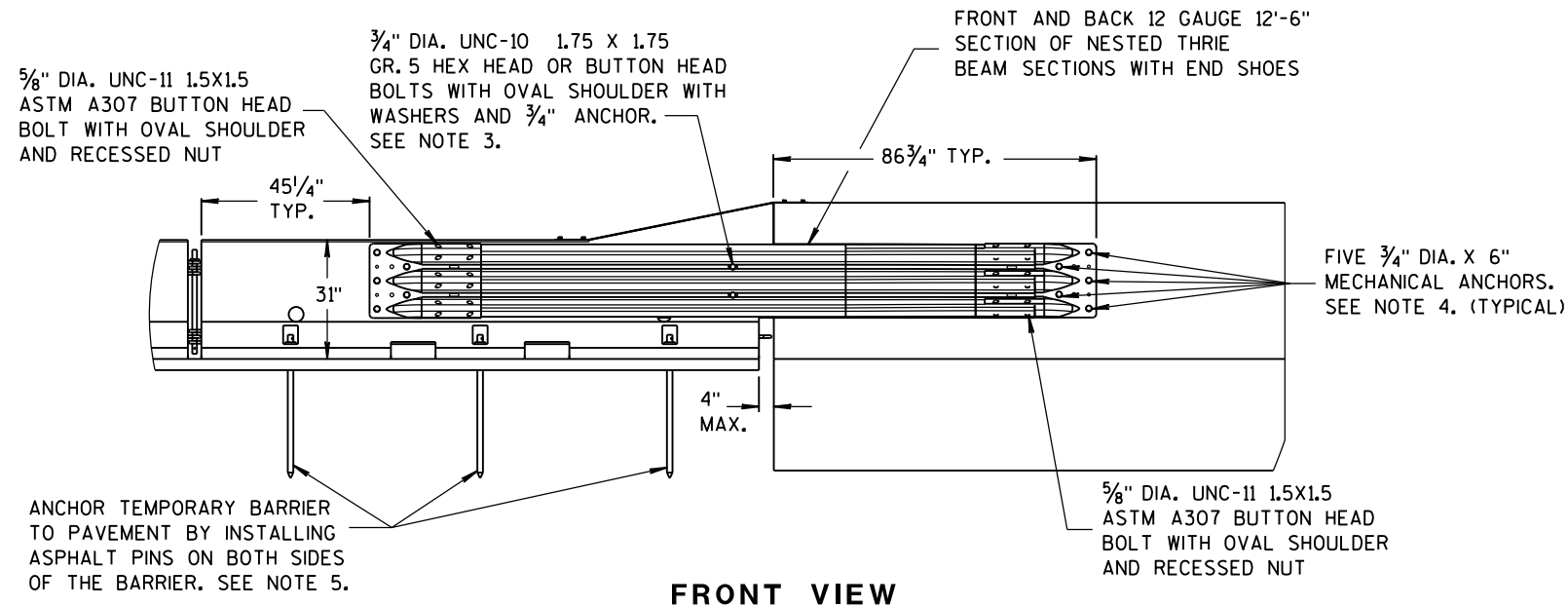
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- ANCHORING IS INCIDENTAL TO CONCRETE BARRIER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

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

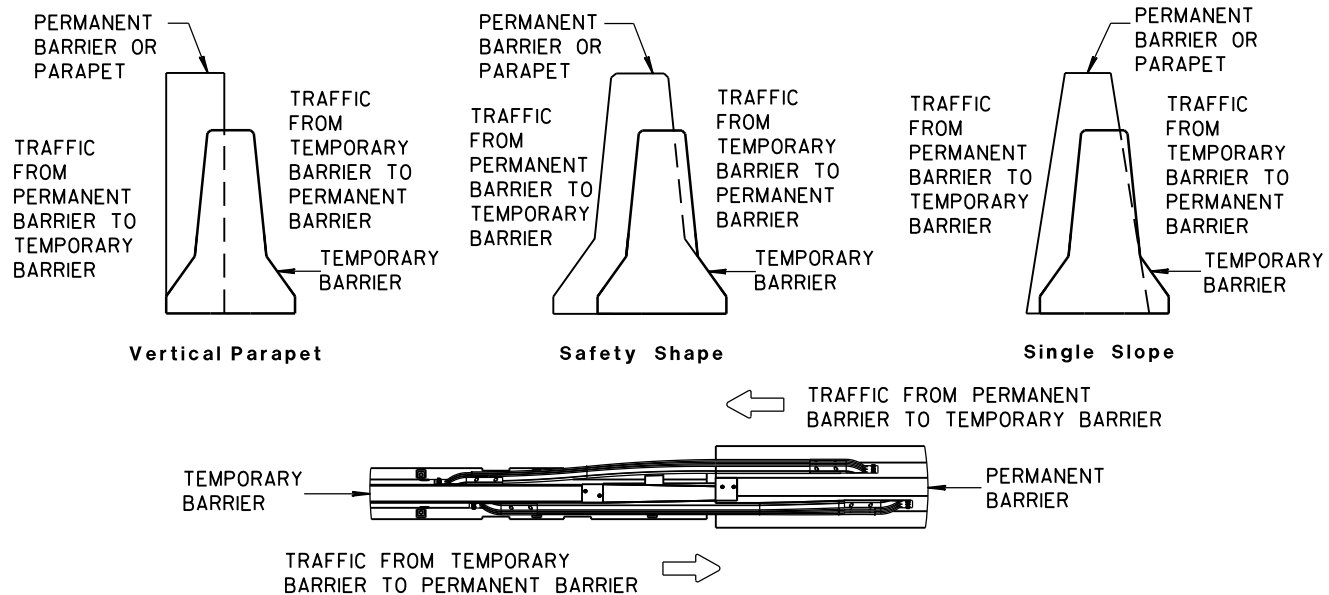
UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- 1/8" DIAMETER A307 THREADED ROD, 1/2" x 3" x 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



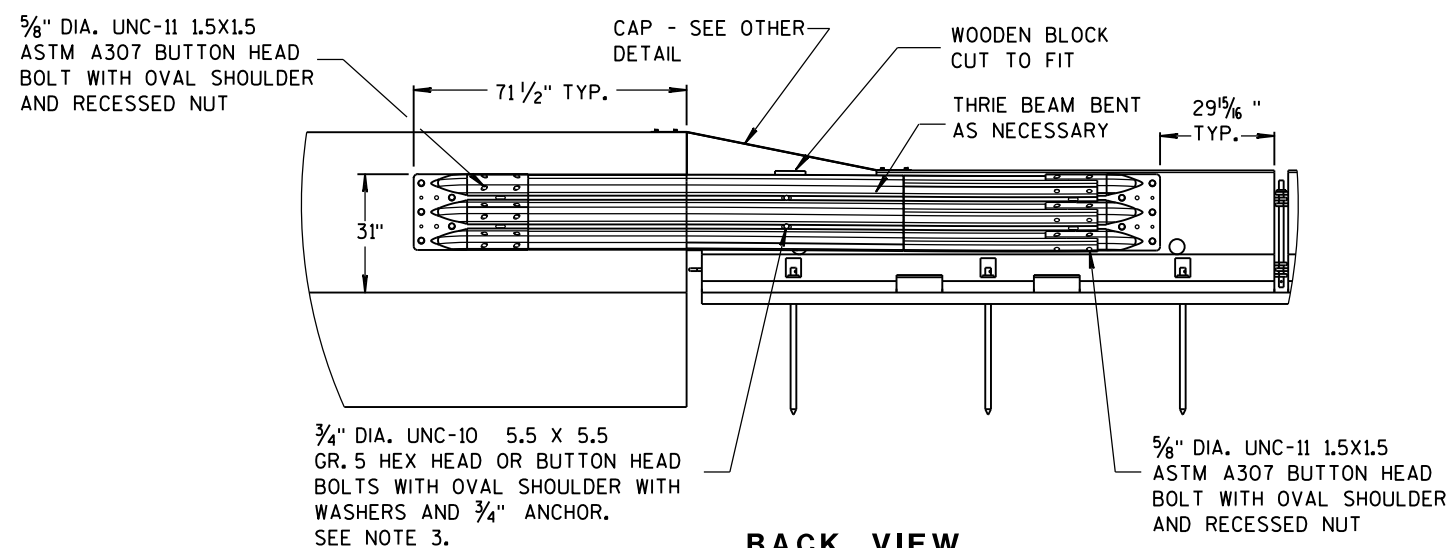
FRONT VIEW



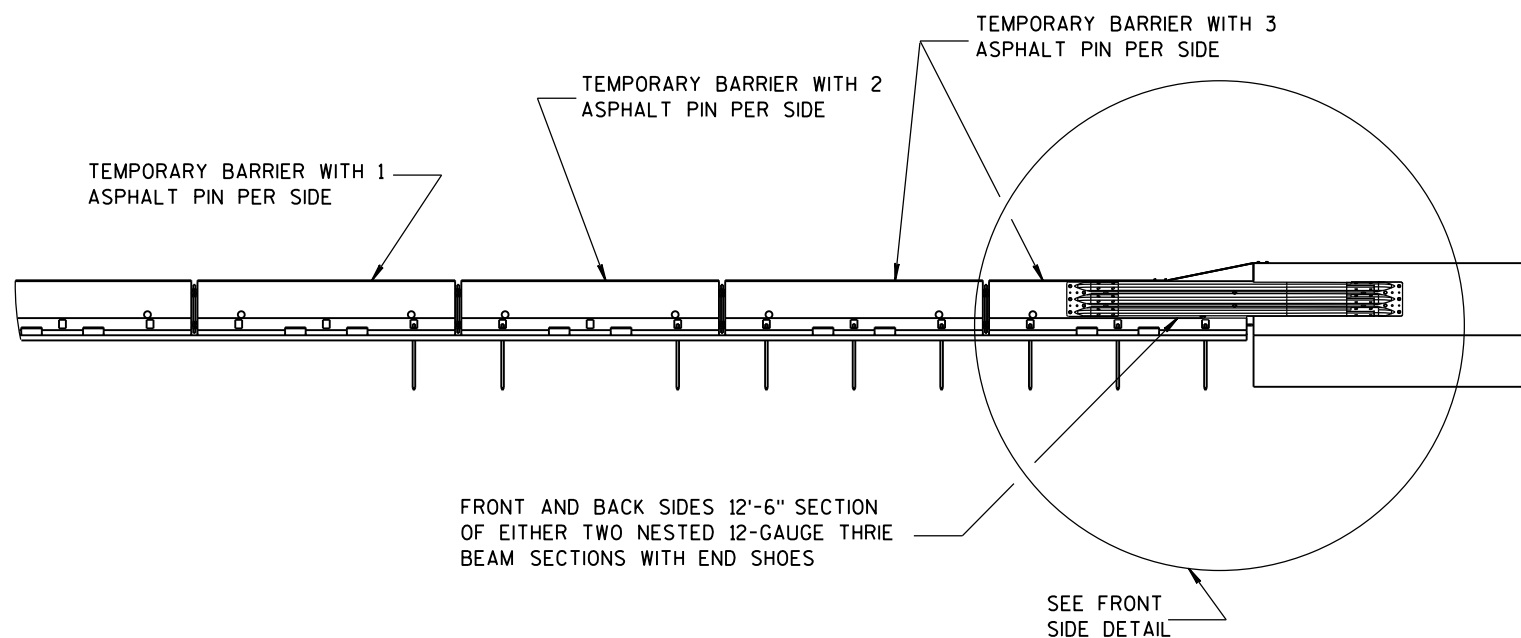
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

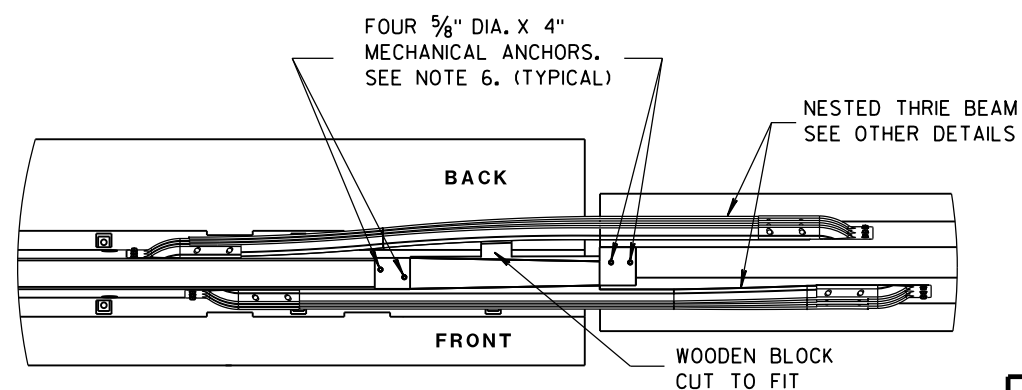
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48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



BACK VIEW



FRONT VIEW

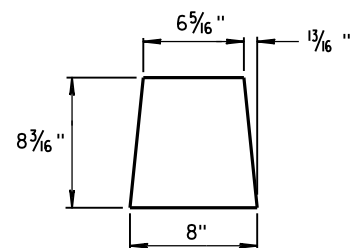


PLAN VIEW

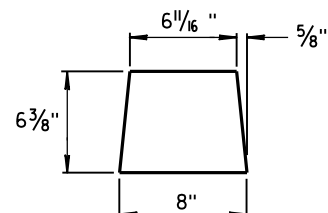
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

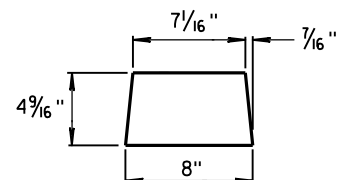
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



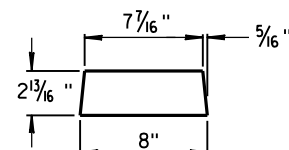
GUSSET 1



GUSSET 2

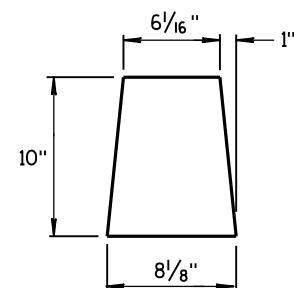


GUSSET 3

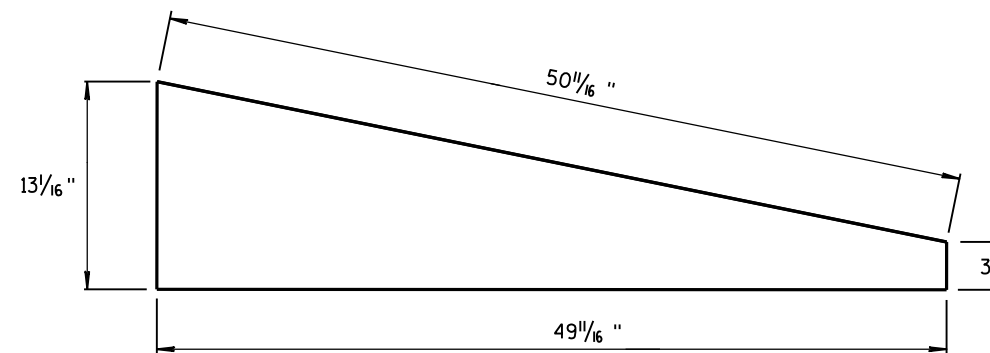


GUSSET 4

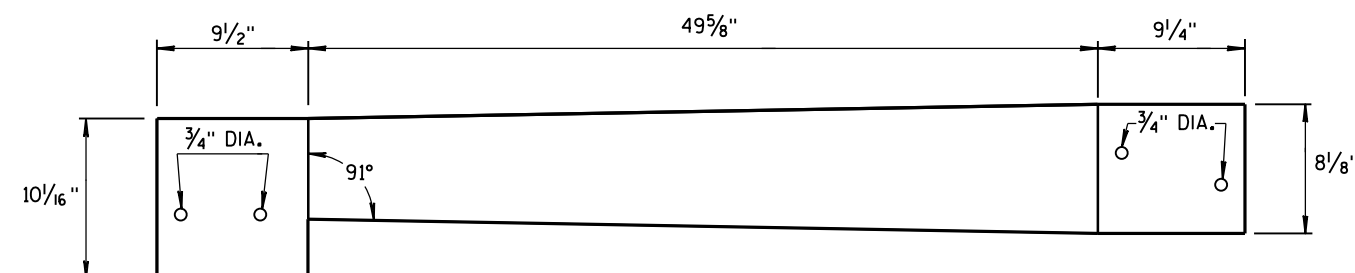
GUSSETS



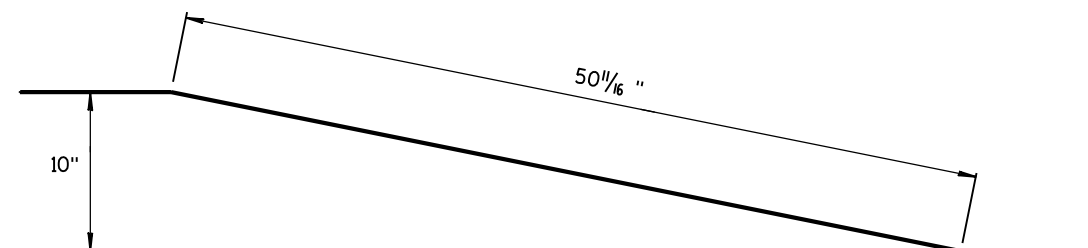
END PLATE



SIDE PLATE

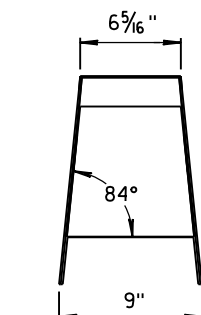
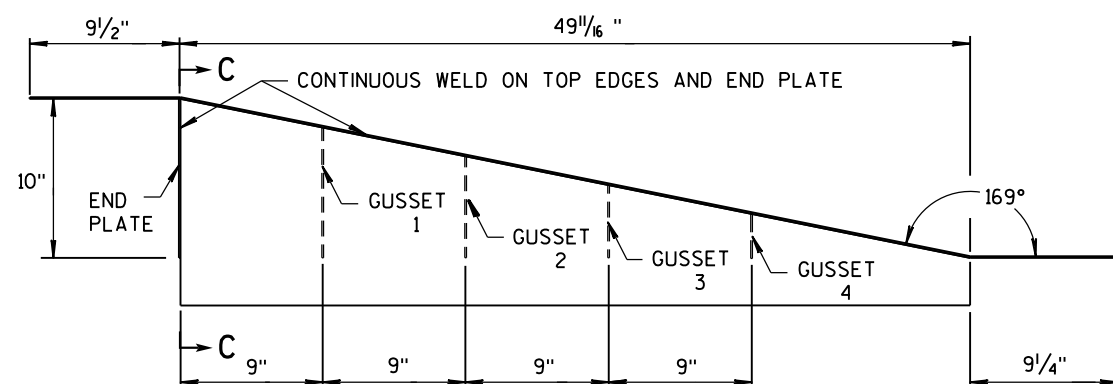
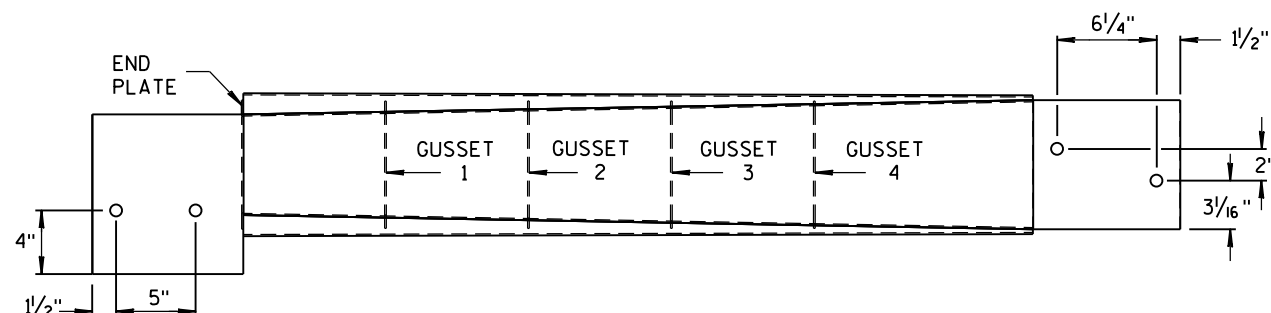


TOP PLATE



**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

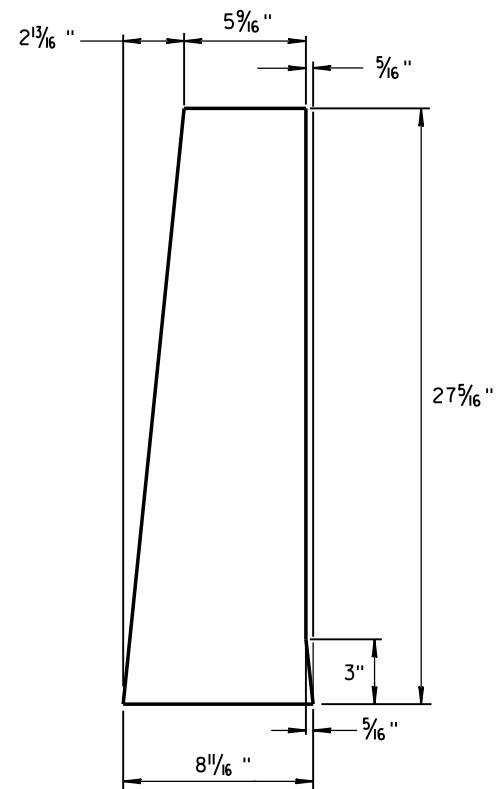
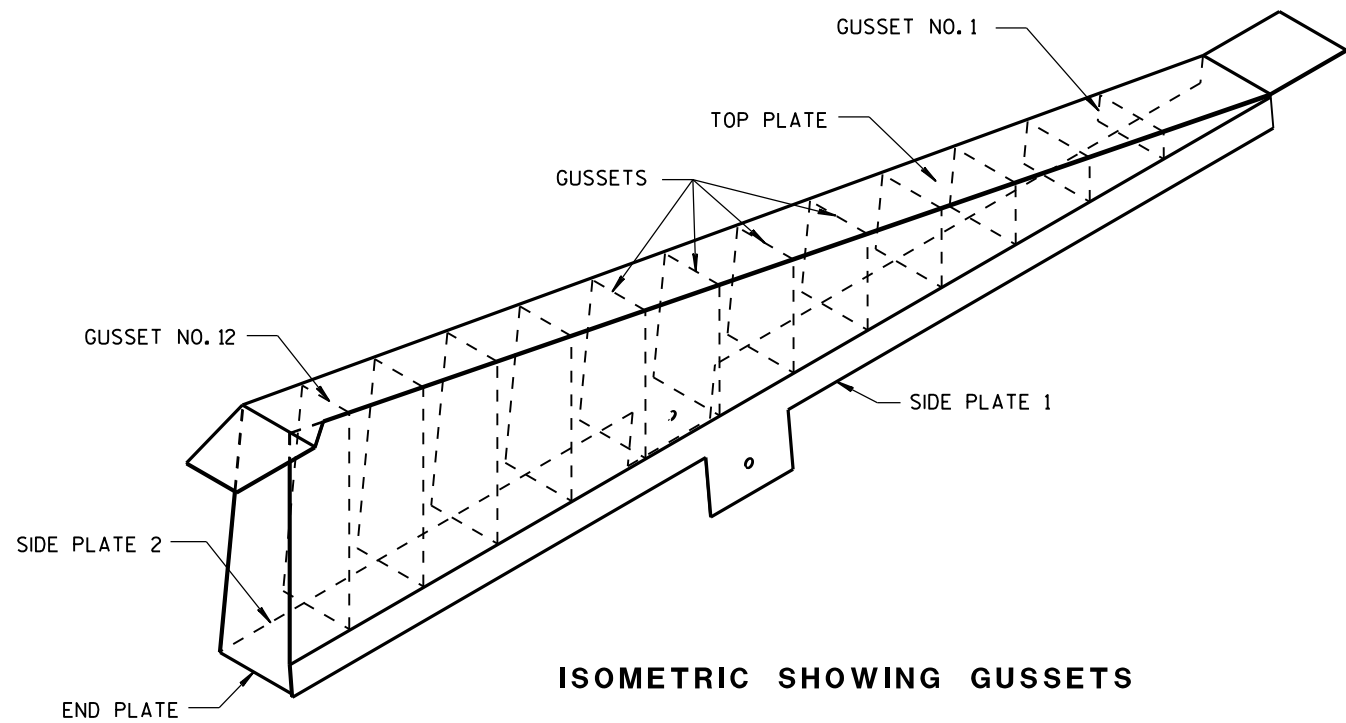
NOTES

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

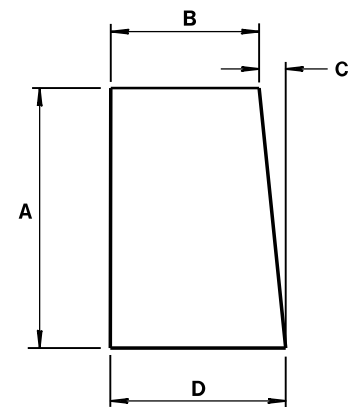
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END PLATE
1/8" STEEL PLATE

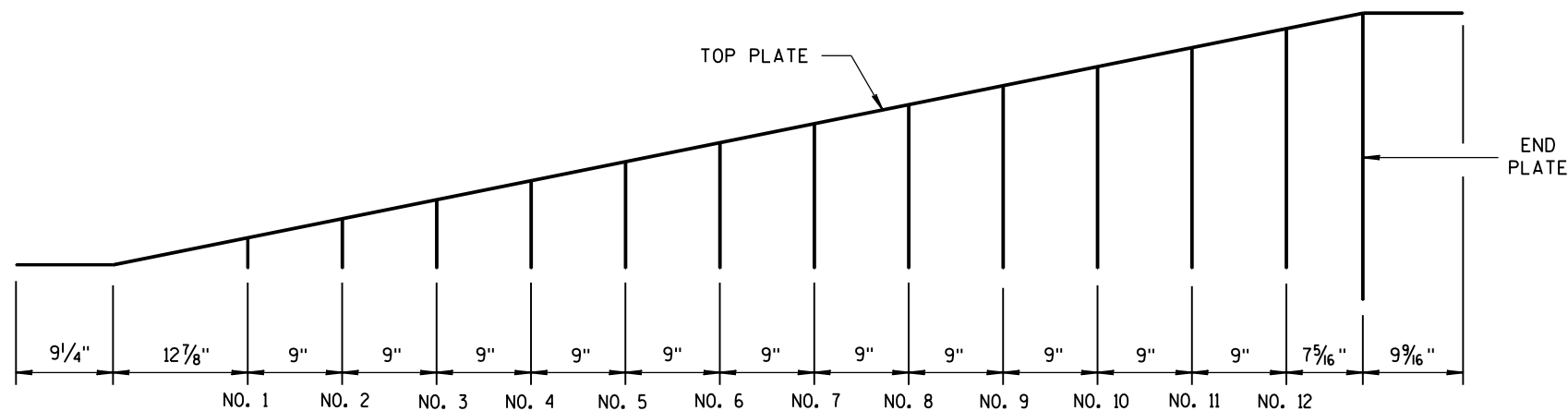


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8 "	1 1/16 "	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 5/16 "	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.

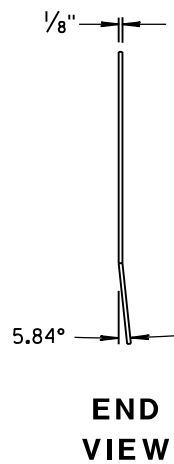
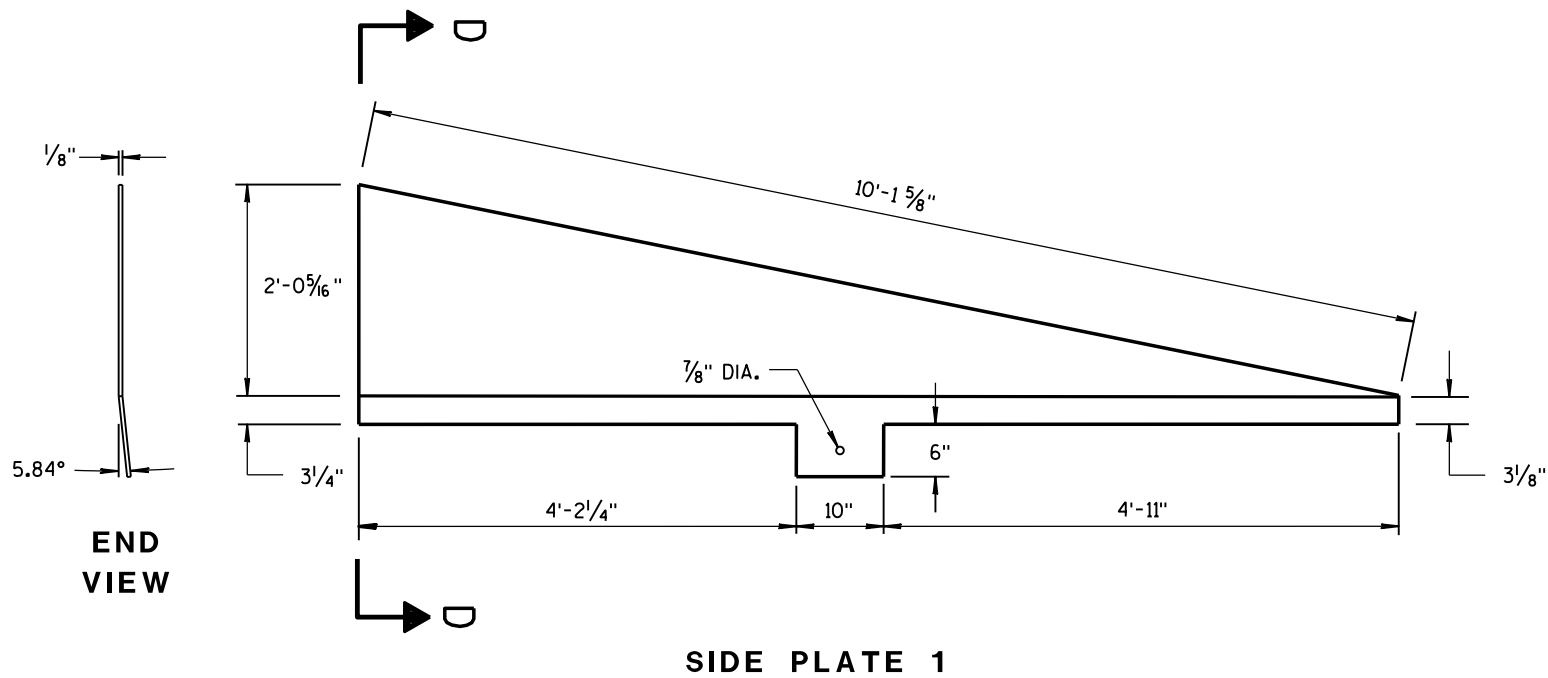
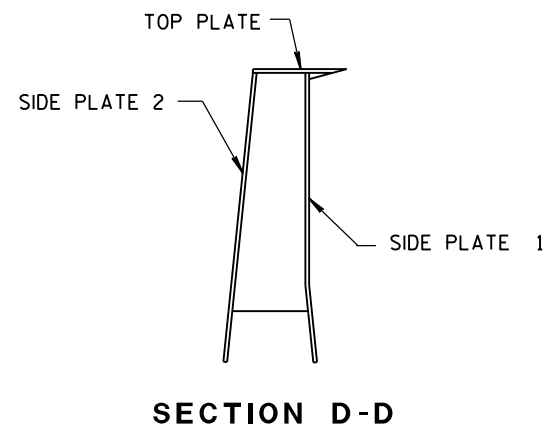
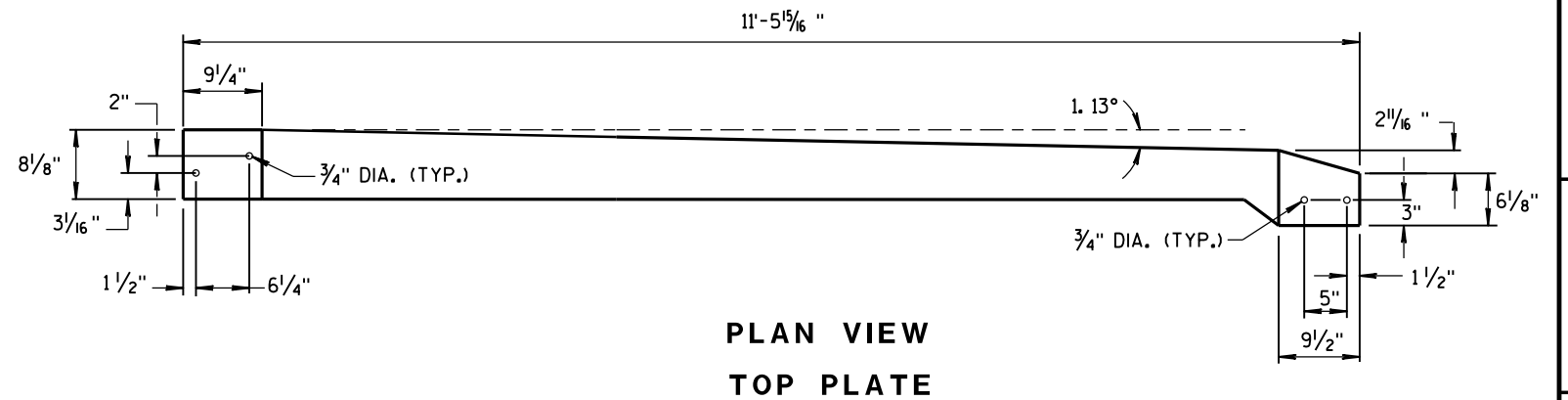
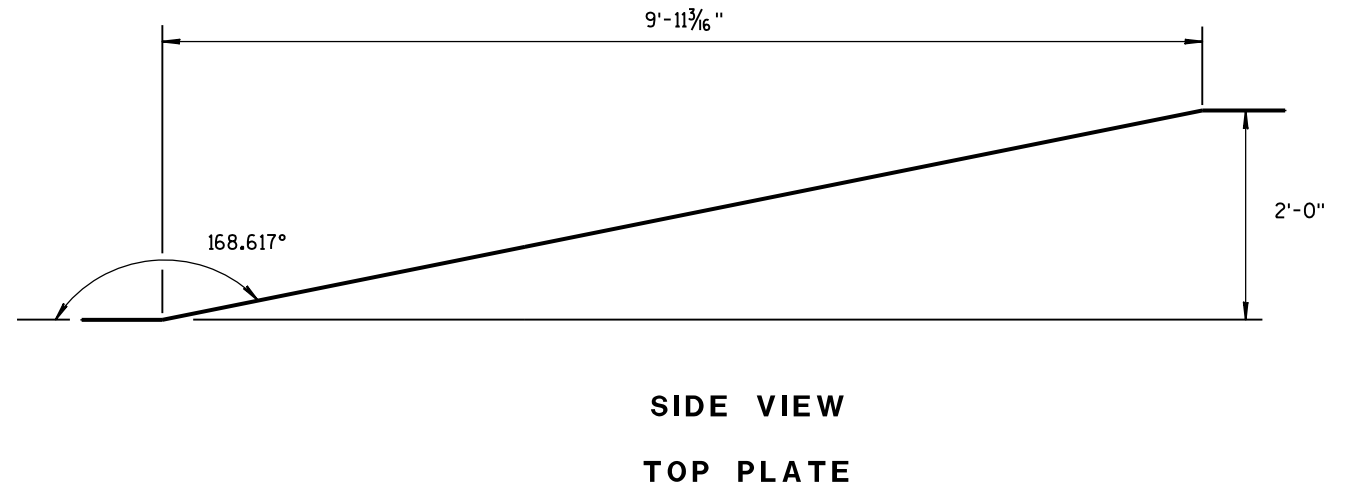
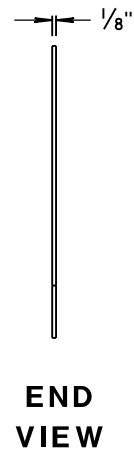
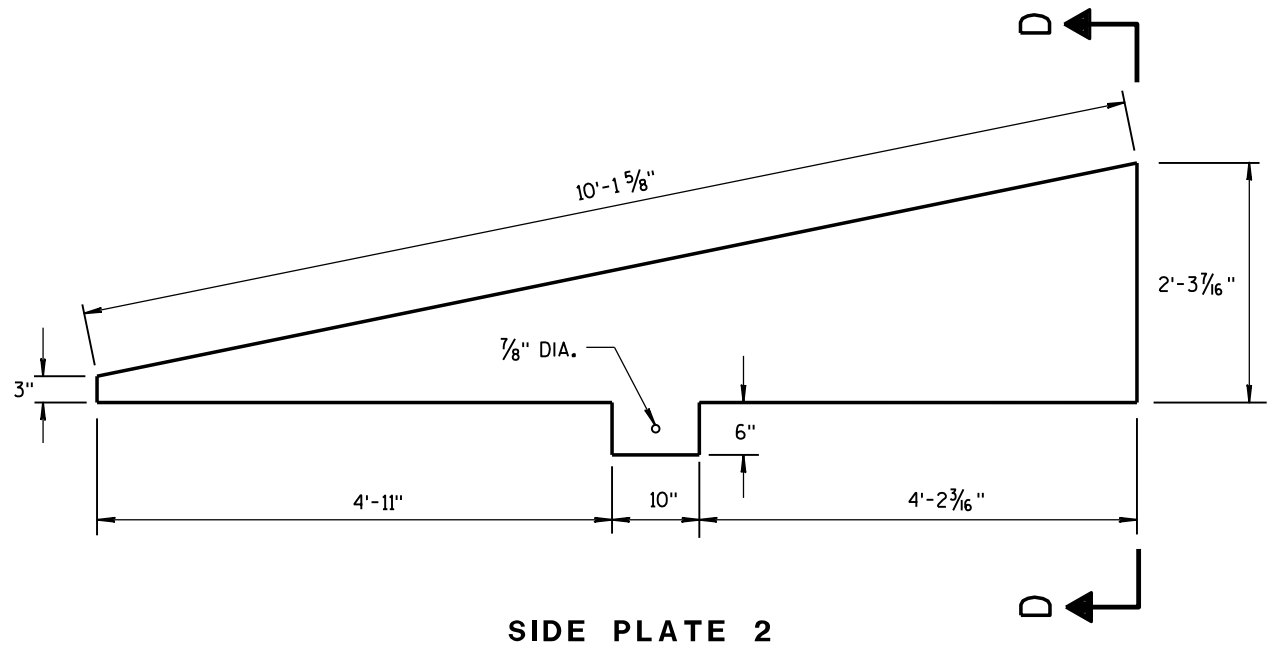


GUSSET LOCATION

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

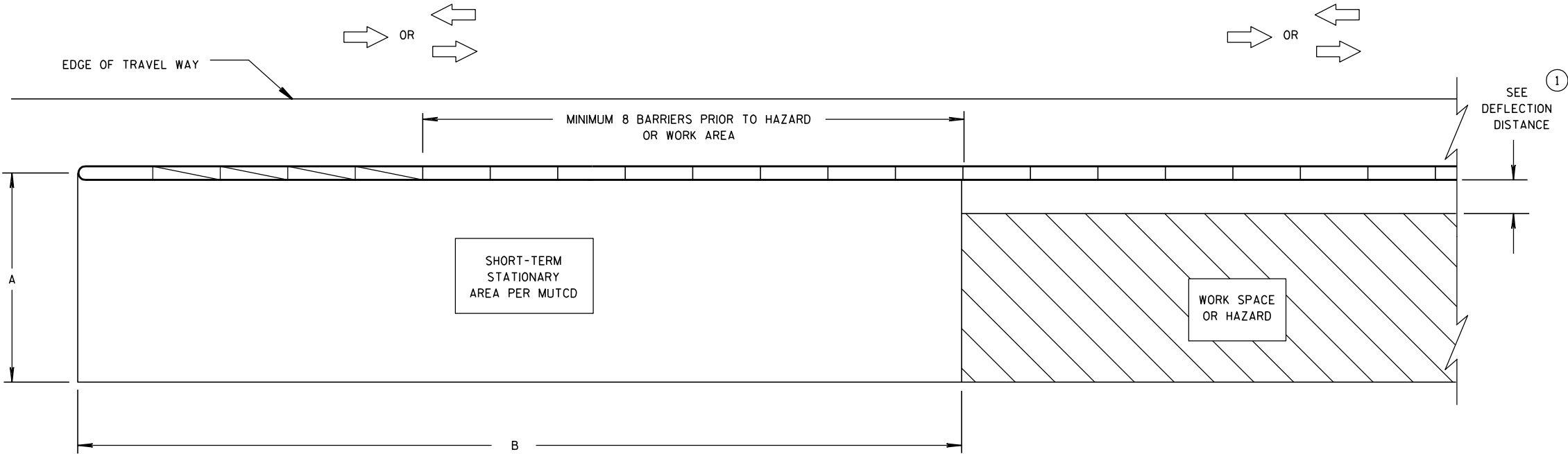
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED June 2014 DATE	/S/ Jerry H. Zoag ROADWAY STANDARD ENGINEER	64 INT
FHWA		



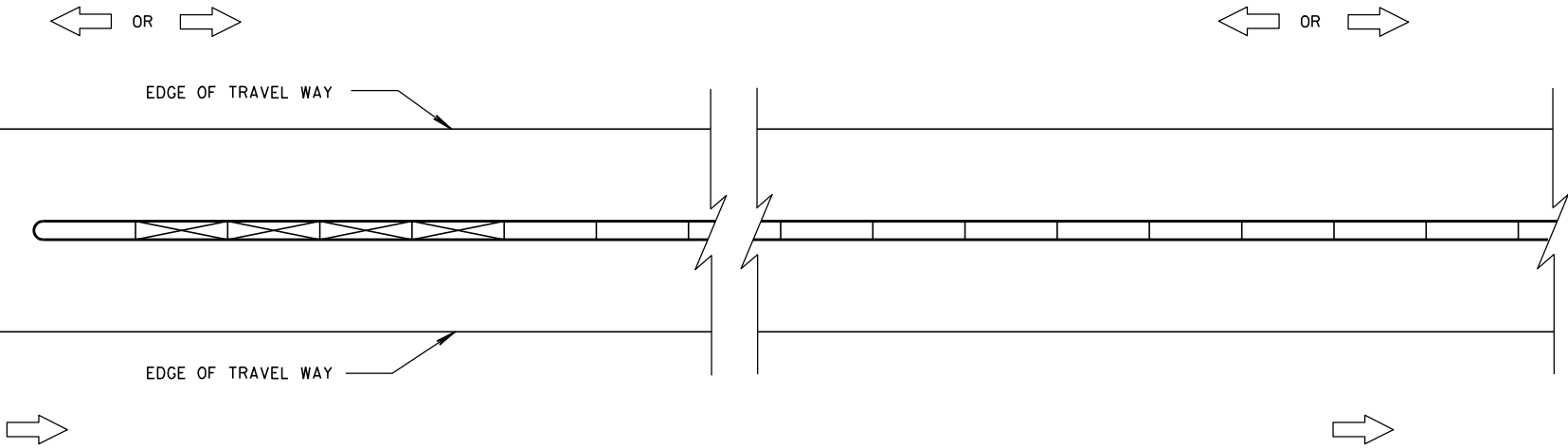
**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER**

DIMENSION A TABLE ②

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

DIMENSION B TABLE ②

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



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

LEGEND

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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

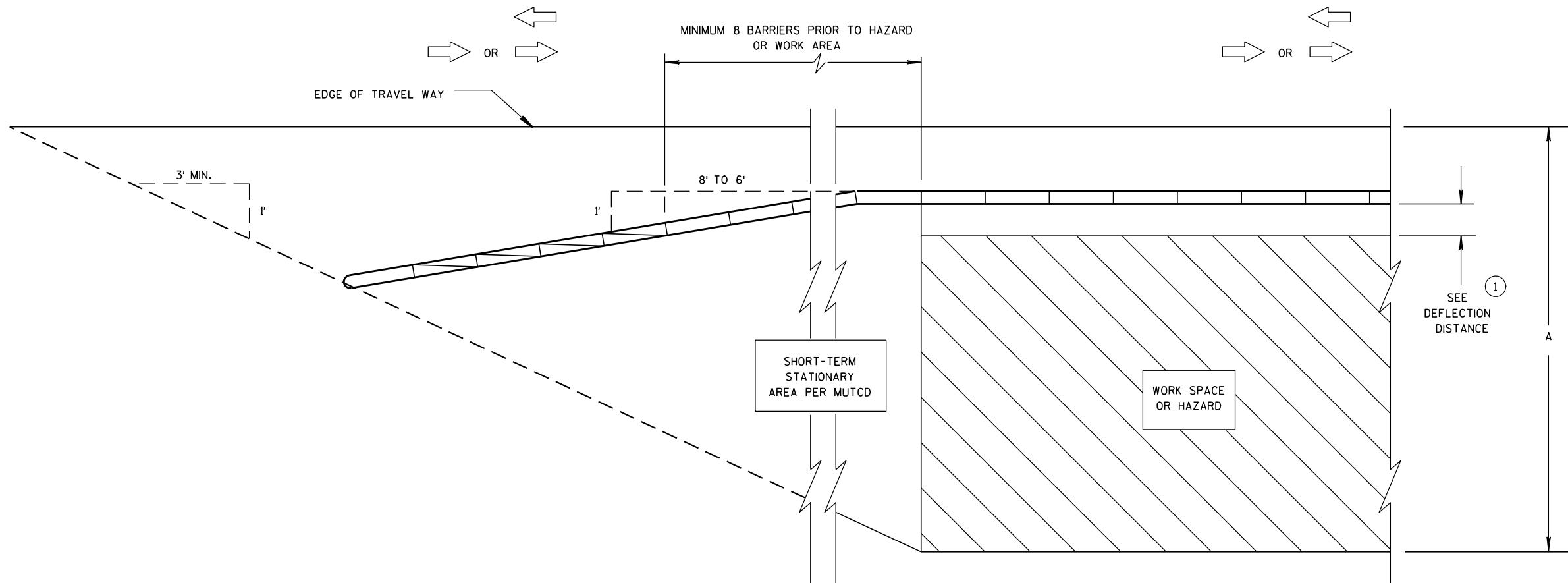
FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

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

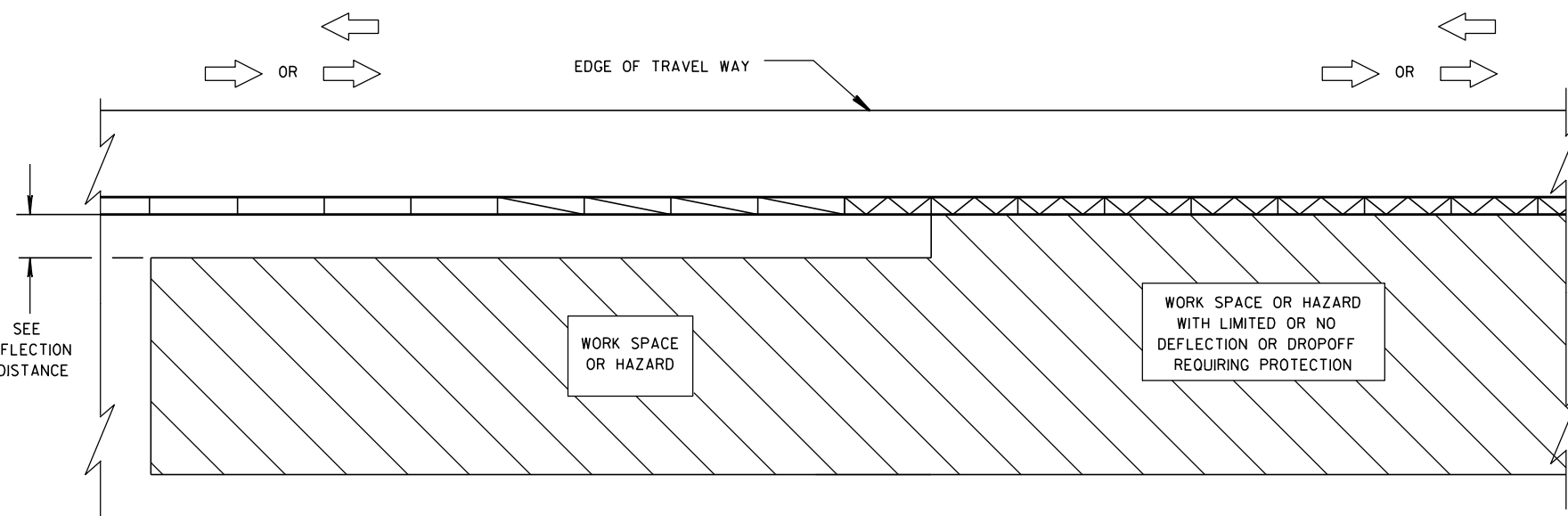
- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER
INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION**



**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

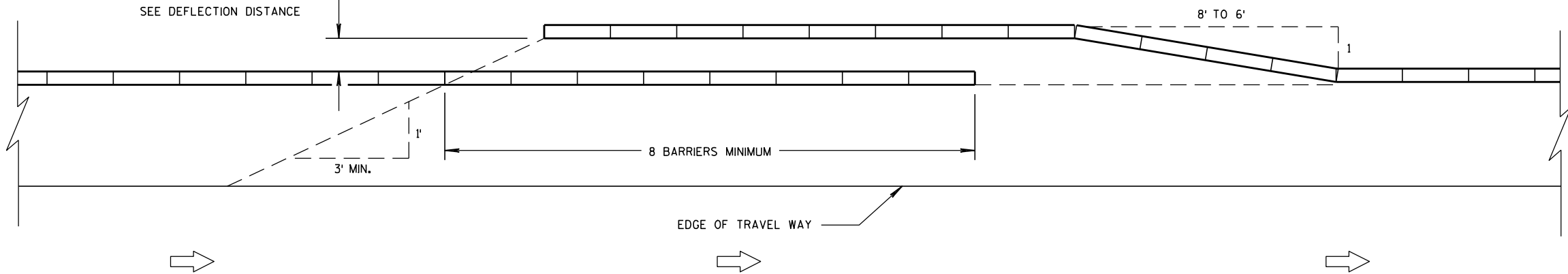
LEGEND

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

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

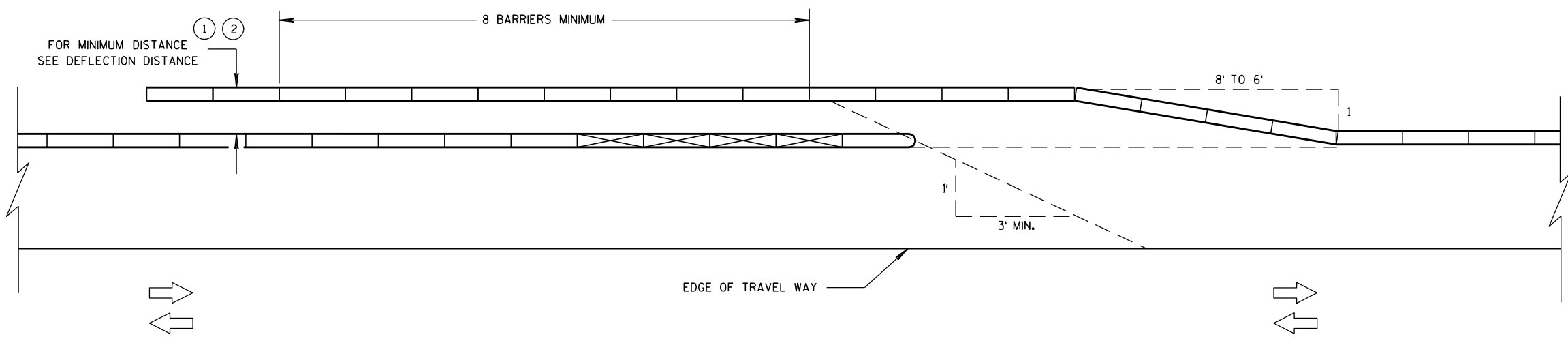
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

FOR MINIMUM DISTANCE
SEE DEFLECTION DISTANCE

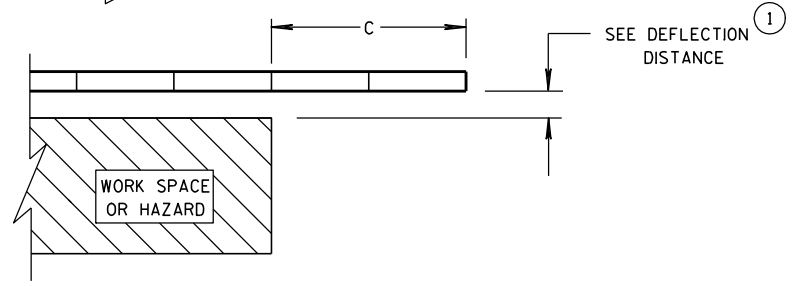
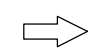


TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC

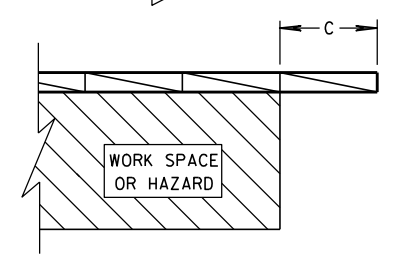
FOR MINIMUM DISTANCE
SEE DEFLECTION DISTANCE



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

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

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

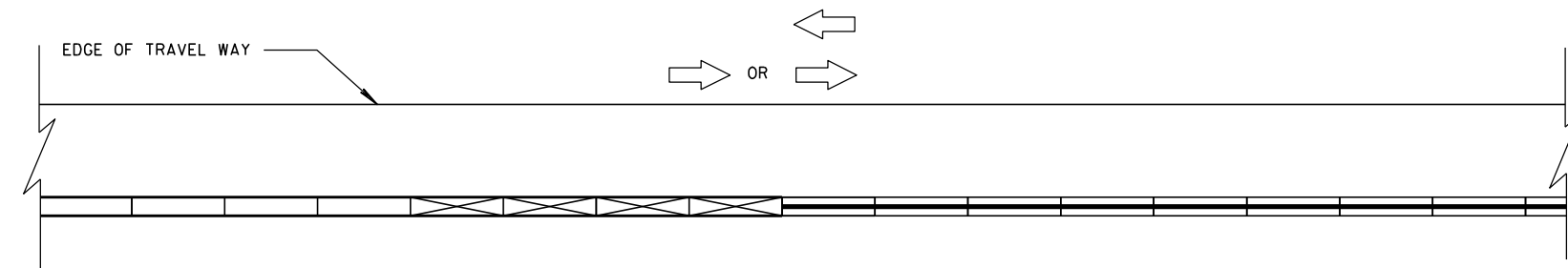
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

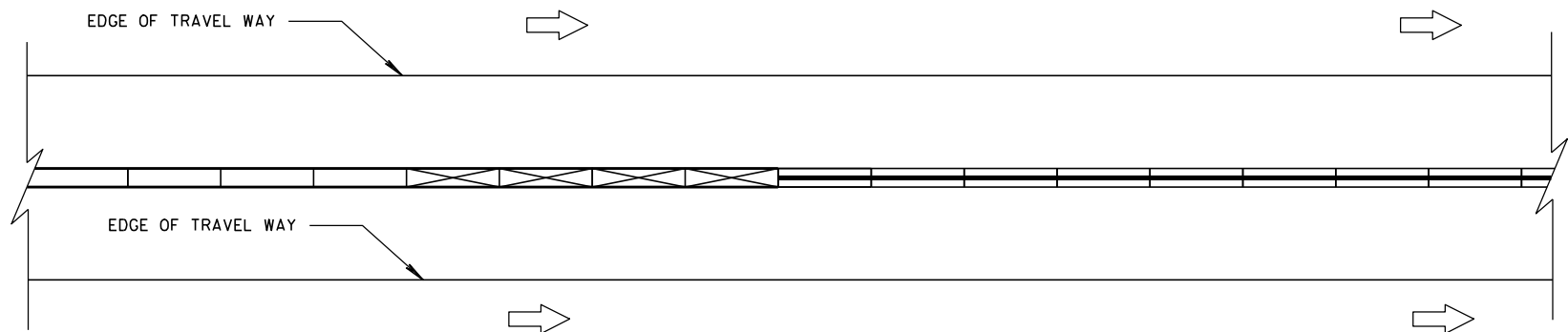
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S.D.D. 14 B 8-1c

S.D.D. 14 B 8-1c



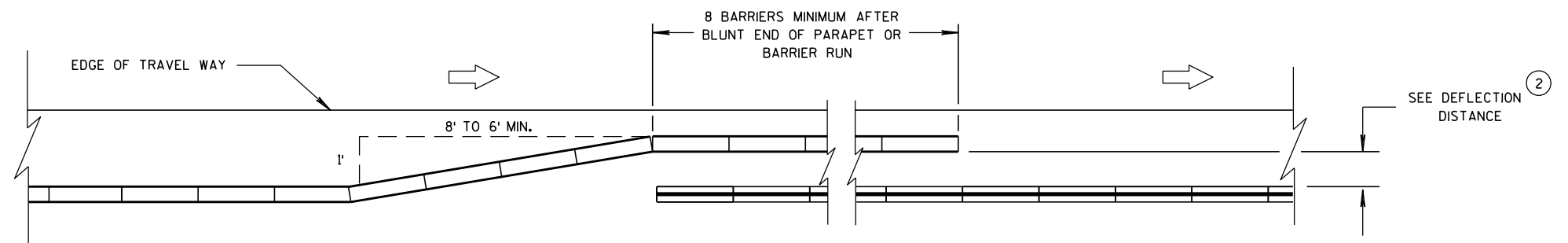
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE**



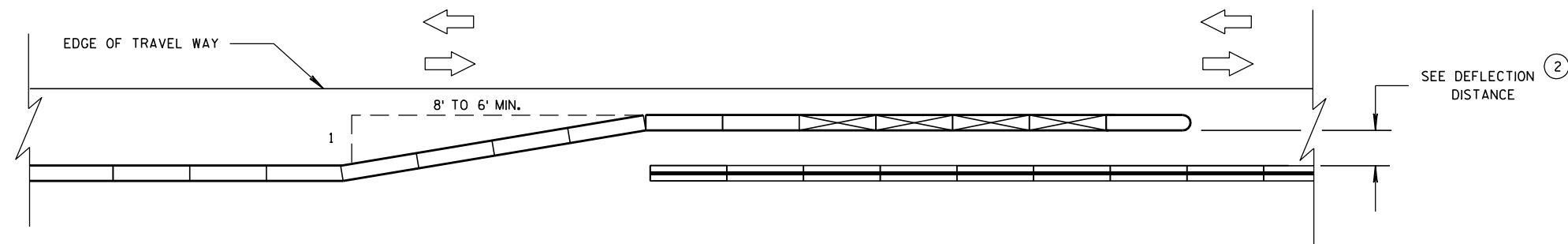
**CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES**

LEGEND

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



**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC**

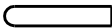


**OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC**

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

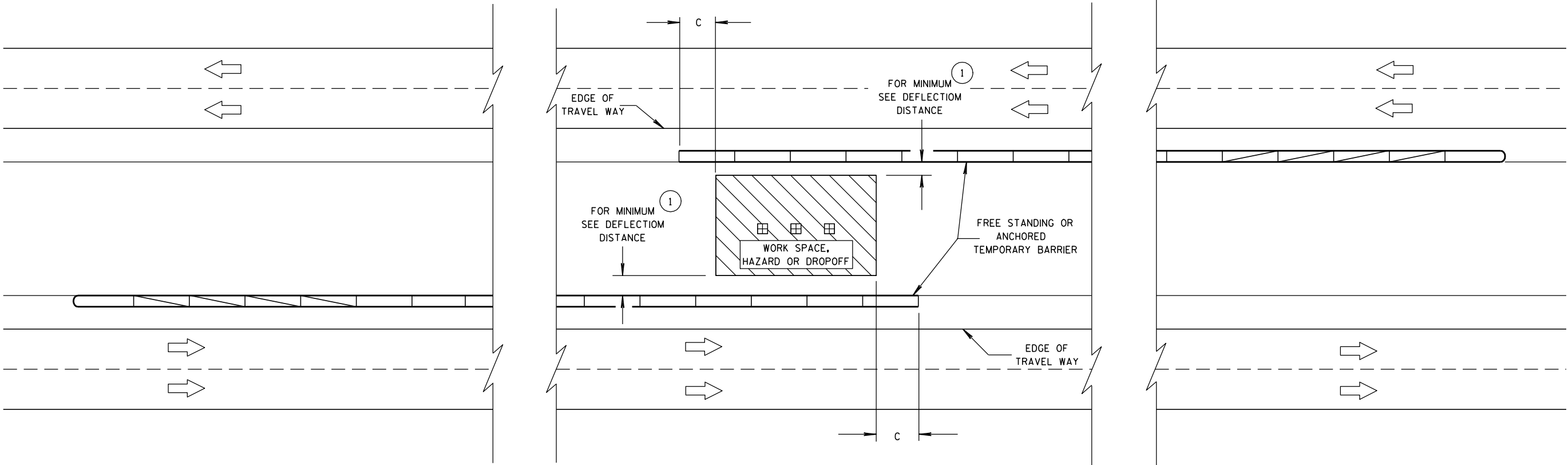
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

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

6



6

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS 69
ENGINEER
FHWA

S.D.D. 14 B 8-1e

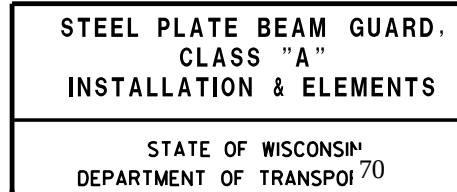
S.D.D. 14 B 8-1e

6

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

- 6

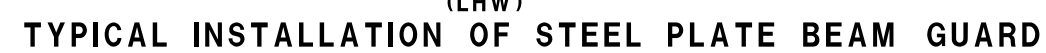
S.D.D. 14 B 15-8a



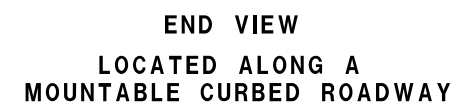
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



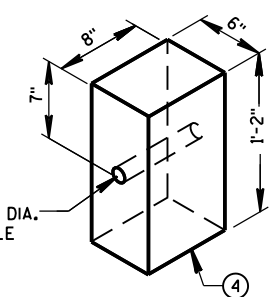
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



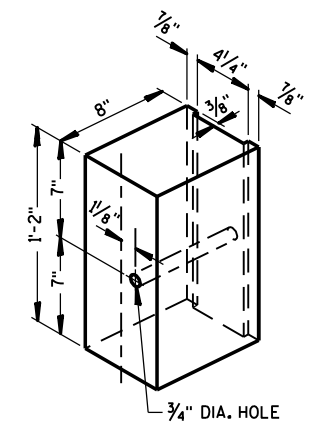
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



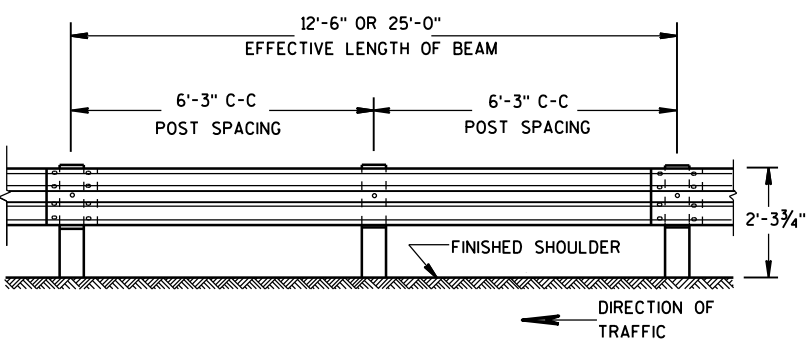
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



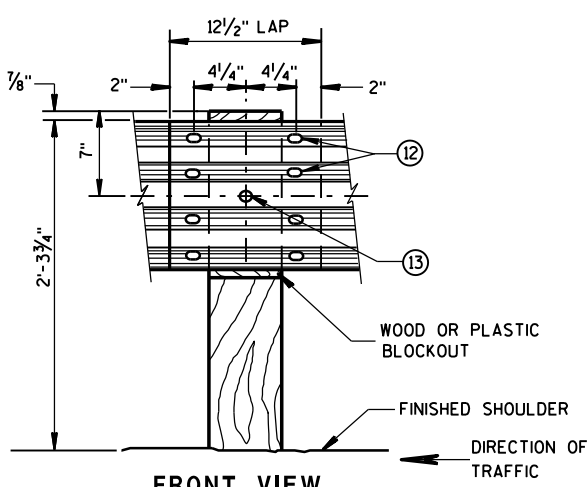
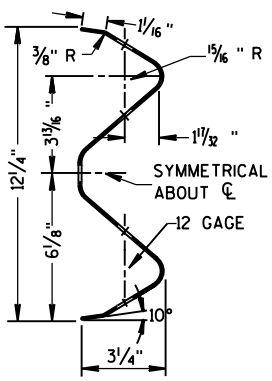
**TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS** ①



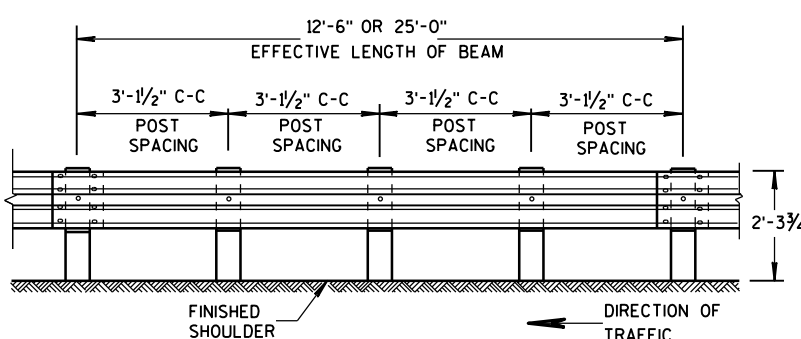
FRONT VIEW

POST SPACING STANDARD INSTALLATION

SECTION THRU W BEAM

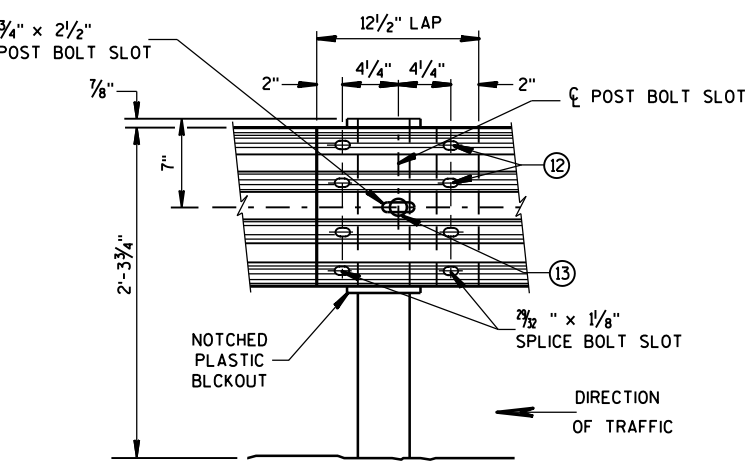


FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL



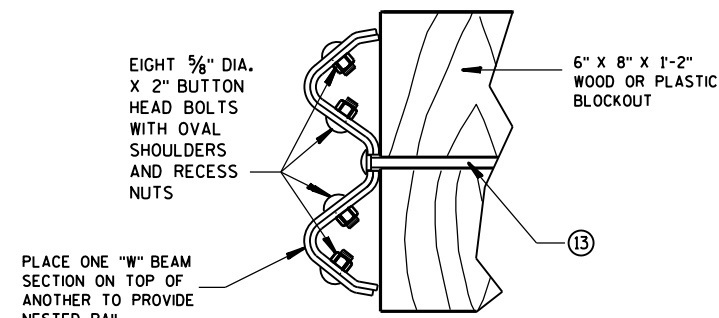
FRONT VIEW

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



FRONT VIEW
BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD

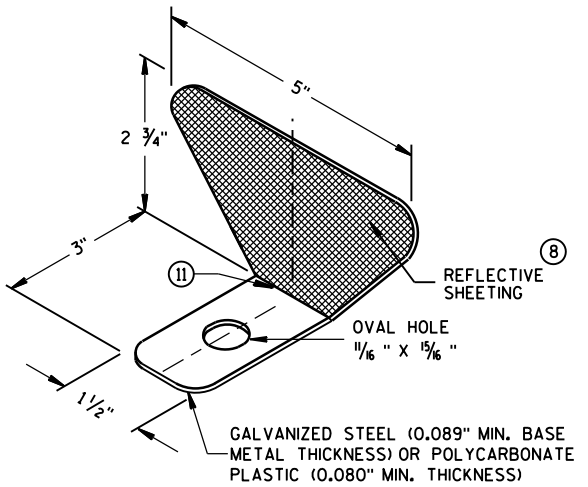
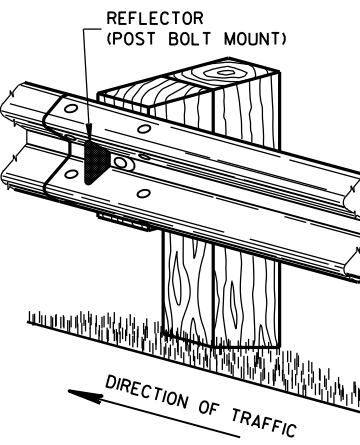


NESTED W BEAM (NW)

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

REFLECTOR SPACING^⑨

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



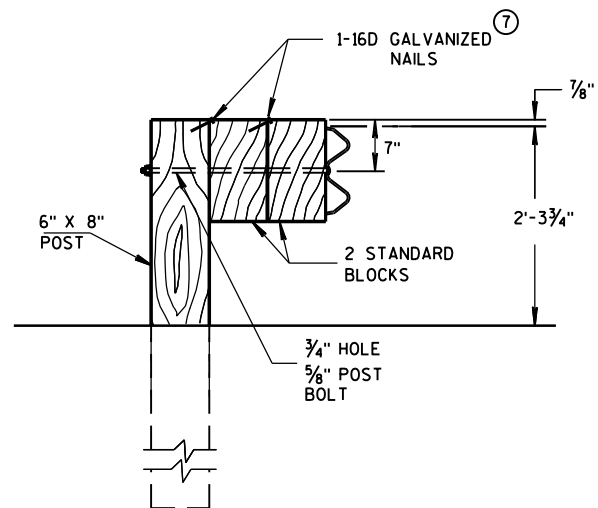
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

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

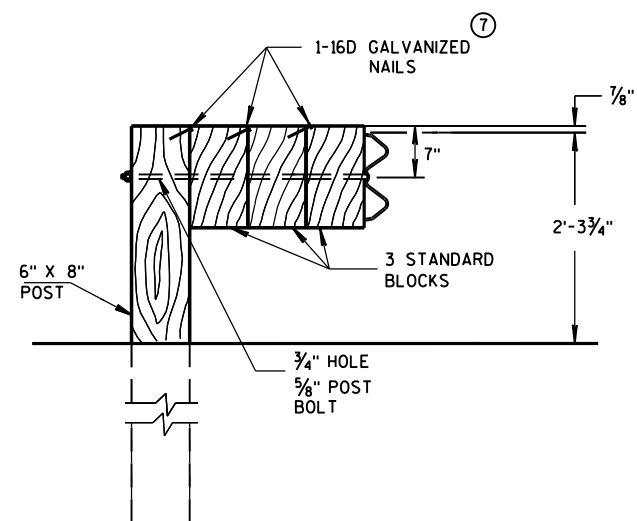
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

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

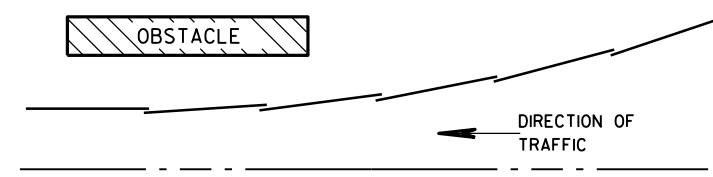


DETAIL FOR TRIPLE BLOCKS

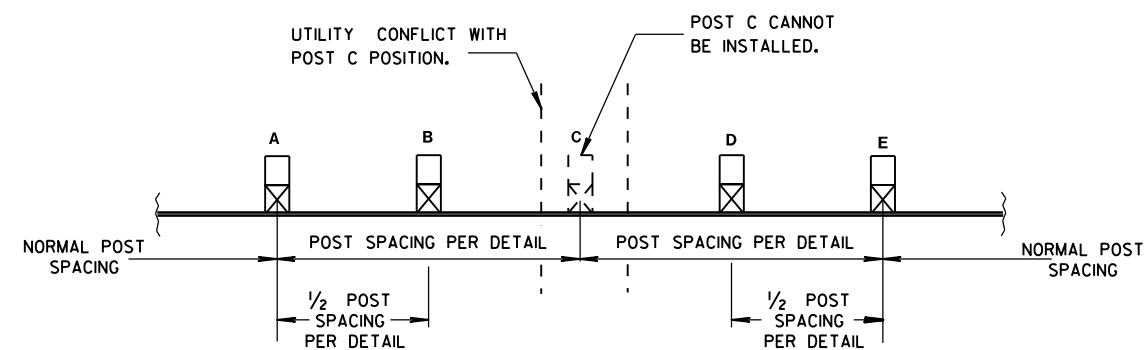
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014

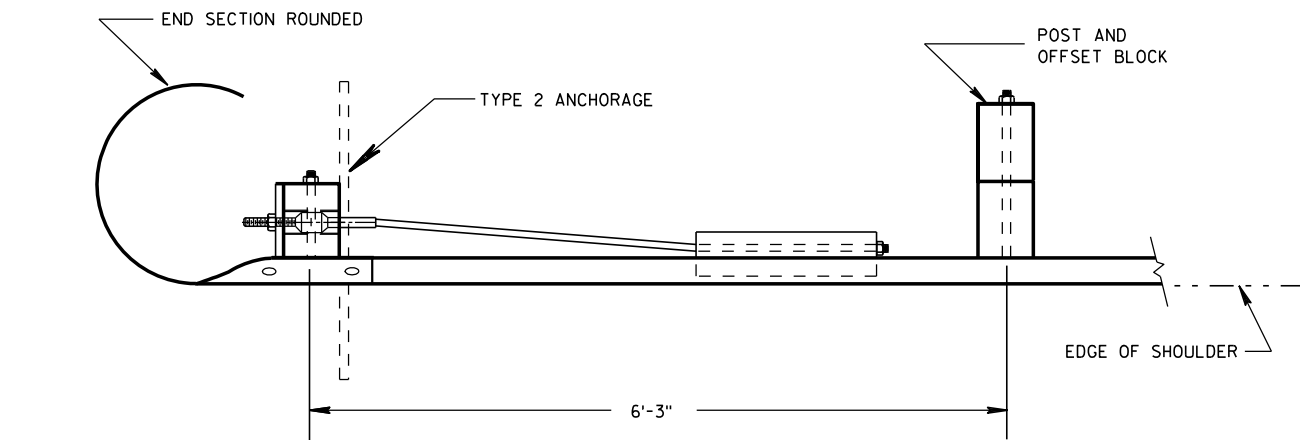
DATE

FHWA

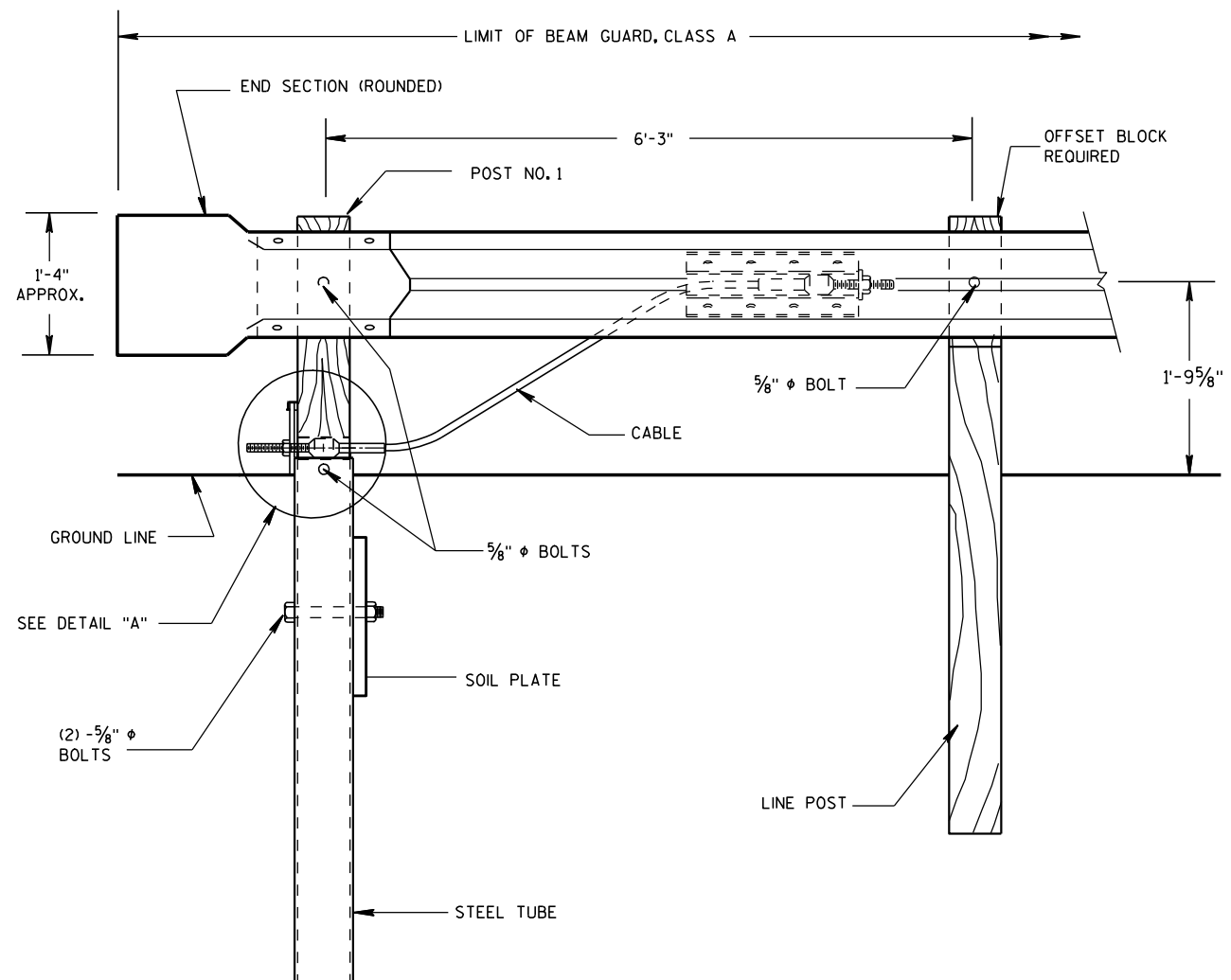
/S/ Jerry H. Zogg

ROADWAY STANDARDS

ENGINEER



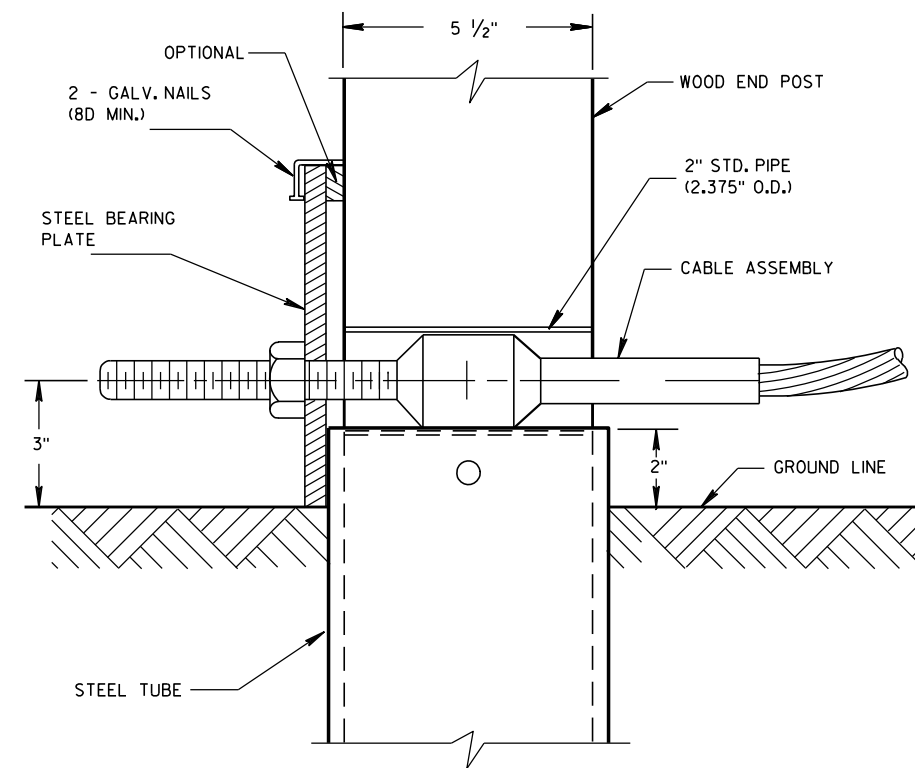
PLAN VIEW



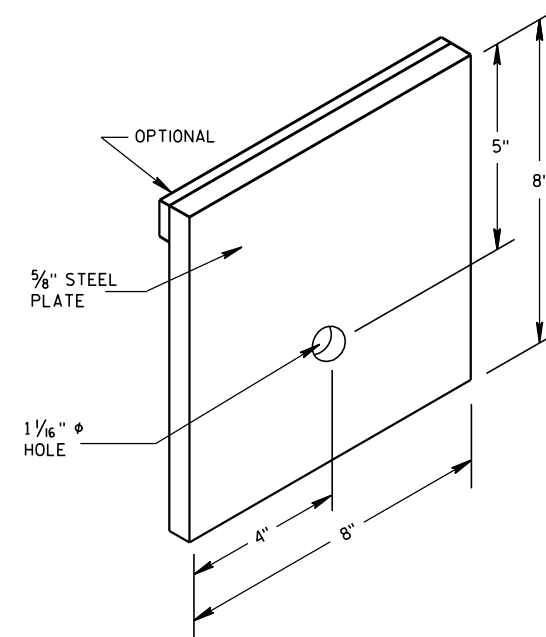
FRONT VIEW

END TREATMENT WITH TYPE 2 ANCHORAGE

(USE ON ONE-WAY ROADWAYS ONLY - DEPARTING END)

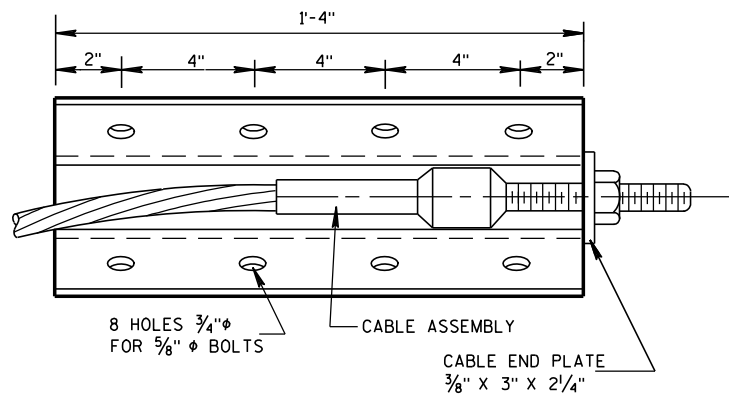
**DETAIL "A"**

POST NO. 1

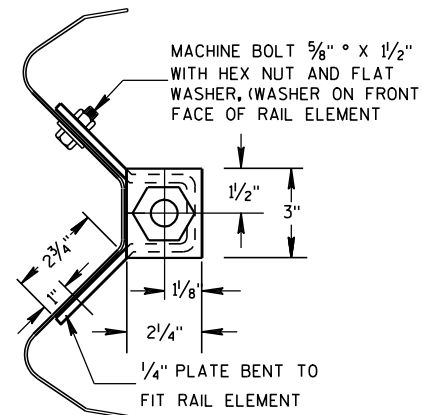
**STEEL BEARING PLATE**

**ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

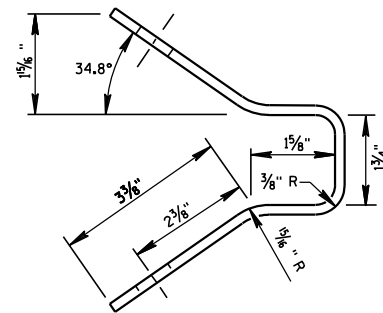


FRONT VIEW

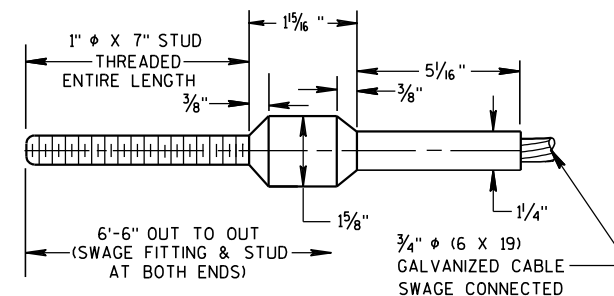


END VIEW

ANCHOR PLATE DETAIL



END VIEW OF BRACKET



CABLE ASSEMBLY

CABLE, SWAGE FITTING, STUD AND NUT SHALL DEVELOP A MINIMUM BREAKING STRENGTH OF 40,000 LB (TIGHTEN UNTIL TAUT)

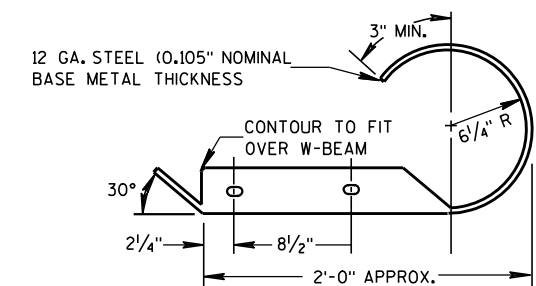
GENERAL NOTES

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

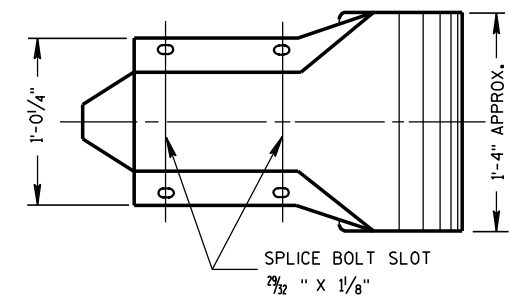
STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-500 GRADE B OR ASTM A-501.

POST NO. 1 SHALL BE WOOD BREAKAWAY POST INSERTED AND BOLTED INTO STEEL TUBE.

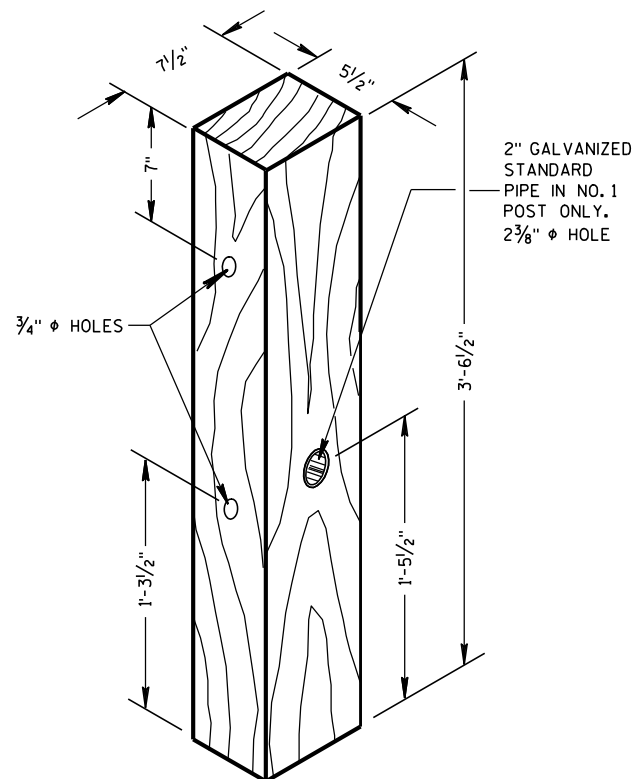
TYPE 2 ANCHORAGE SHALL CONSIST OF A STEEL TUBE, SOIL PLATE, WOOD BREAKAWAY POST, BEARING PLATE, ANCHOR PLATE, CABLE ASSEMBLY AND ALL ASSOCIATED HARDWARE, ALL STEEL PARTS SHALL BE GALVANIZED.



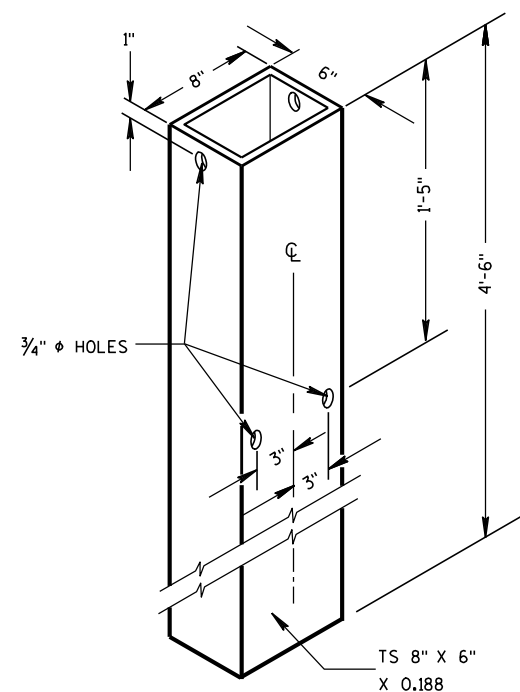
PLAN VIEW



FRONT VIEW
W BEAM END SECTION ROUNDED

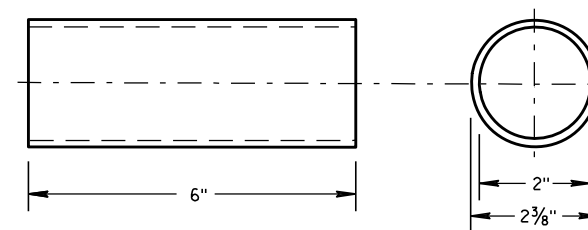


WOOD BREAKAWAY POST



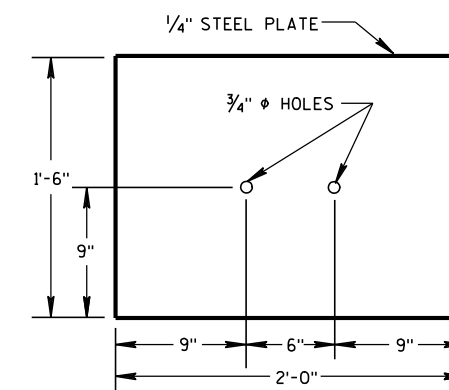
STEEL TUBE

STEEL TUBE SHALL CONFORM TO REQUIREMENTS OF ASTM A500



BREAKAWAY TERMINAL POST SLEEVE

GALVANIZED STANDARD STRENGTH STEEL PIPE, ASTM 53 GRADE "B"



SOIL PLATE

ANCHORAGE FOR STEEL
PLATE BEAM GUARD
TYPE 2

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/21/2007

DATE

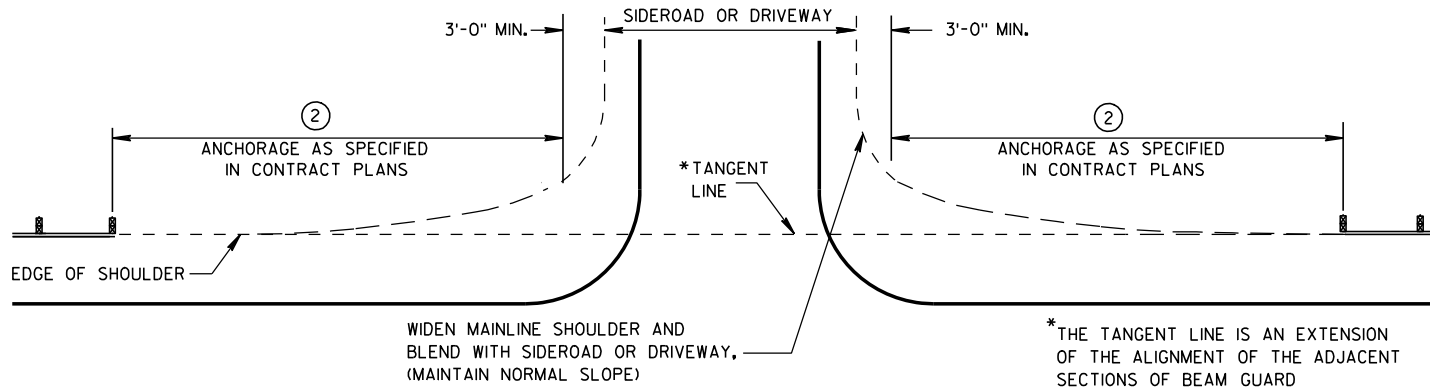
FHWA

/S/ Jerry H. 7444

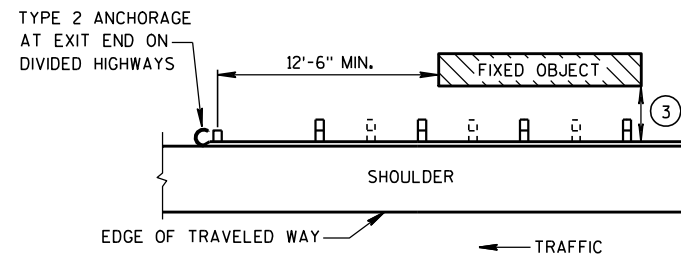
ROADWAY STANDARDS 74

ENGINEER

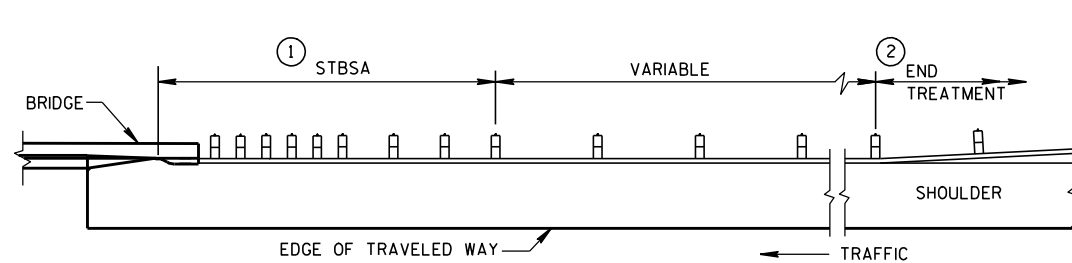
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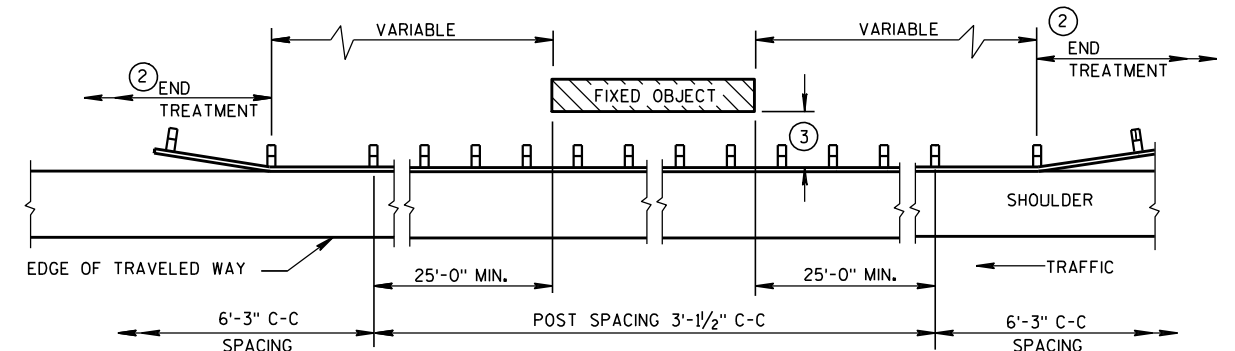
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

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

TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES

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

GENERAL NOTES

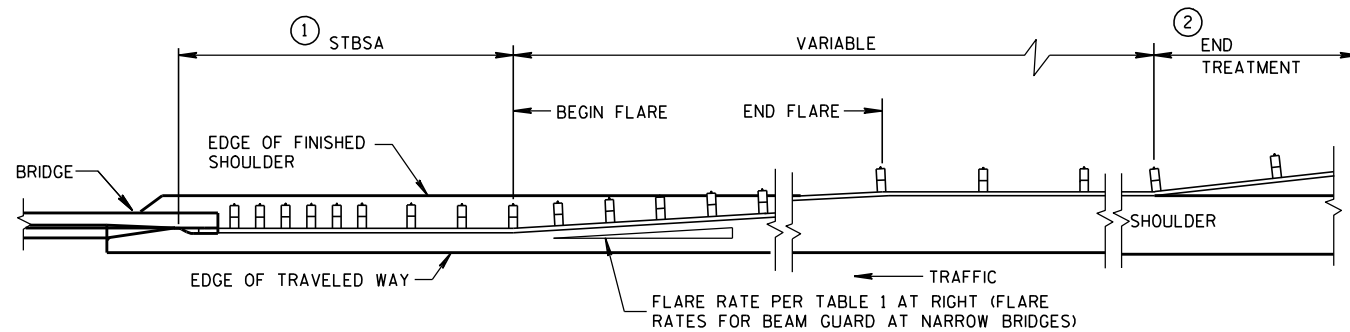
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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

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

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

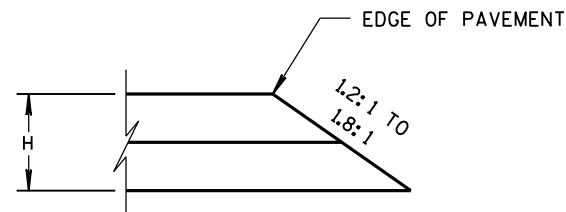


BEAM GUARD AT NARROW BRIDGES (FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

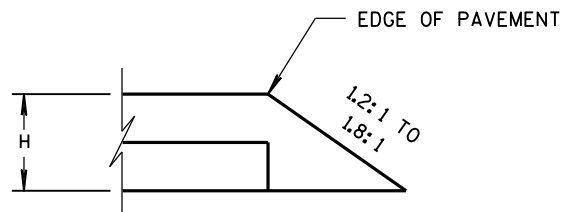
STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

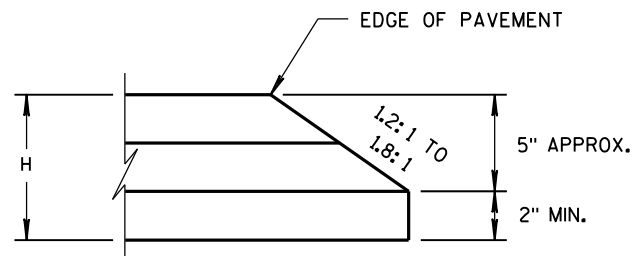
APPROVED
8-21-07 /S/ Jerry H. Zoon
DATE ROADWAY STANDARDS (75) INT
FHWA ENGINEER



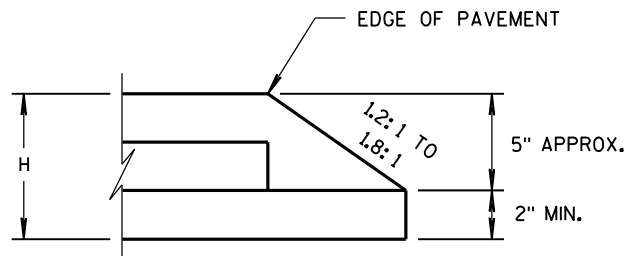
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

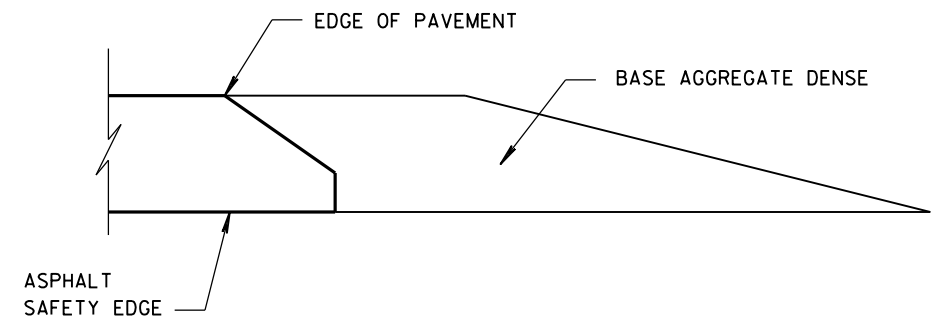


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

FHWA

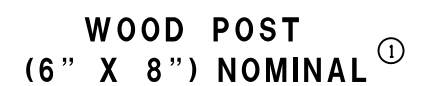
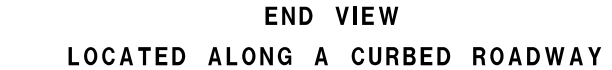
/s/ Jerry H. Zoaga
ROADWAY STANDARDS
ENGINEER

76

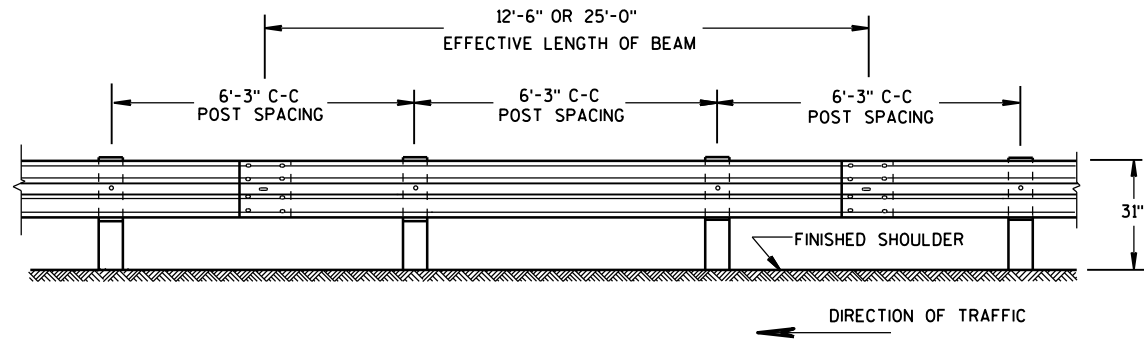
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S.D.D. 14 B 42-3a

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

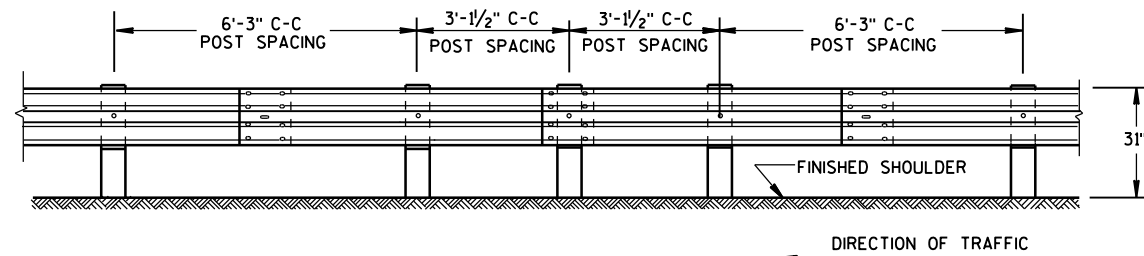


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁷⁷



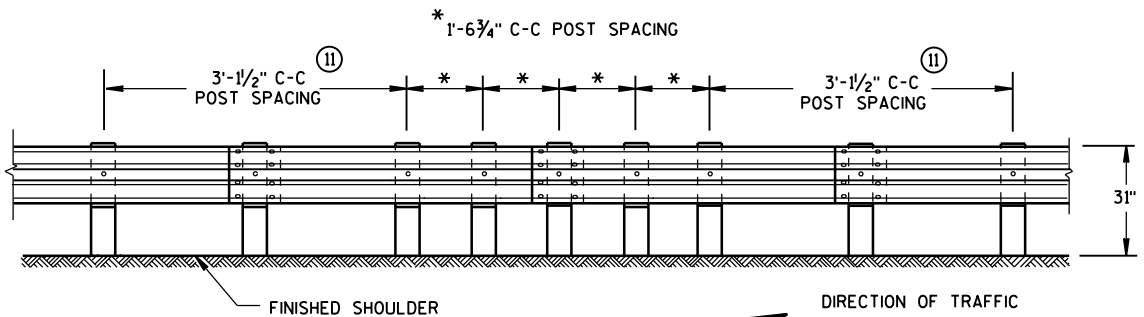
FRONT VIEW

POST SPACING STANDARD INSTALLATION



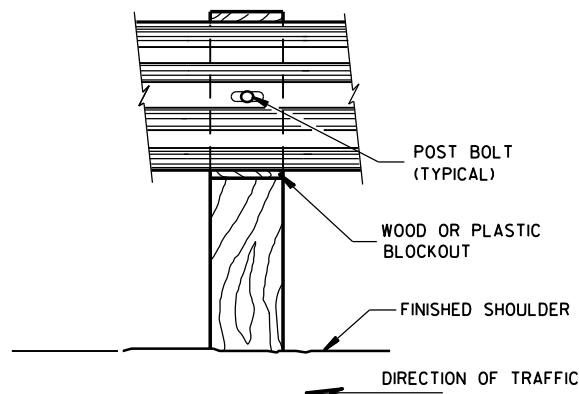
FRONT VIEW

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

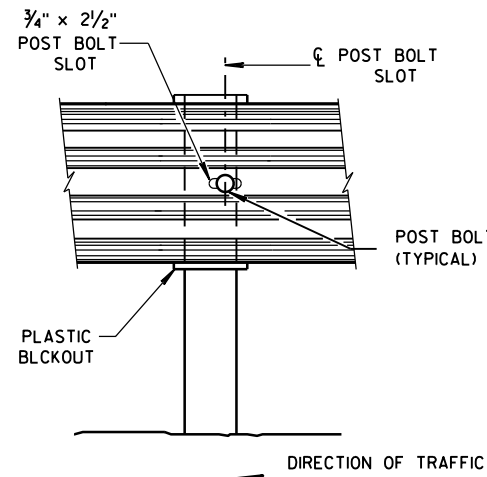


FRONT VIEW

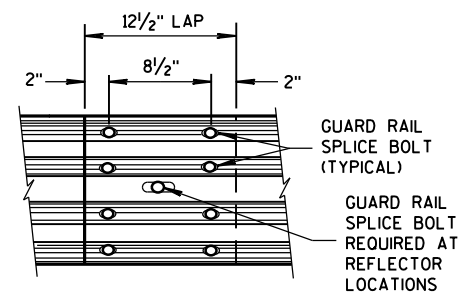
QUARTER POST SPACING (QS)



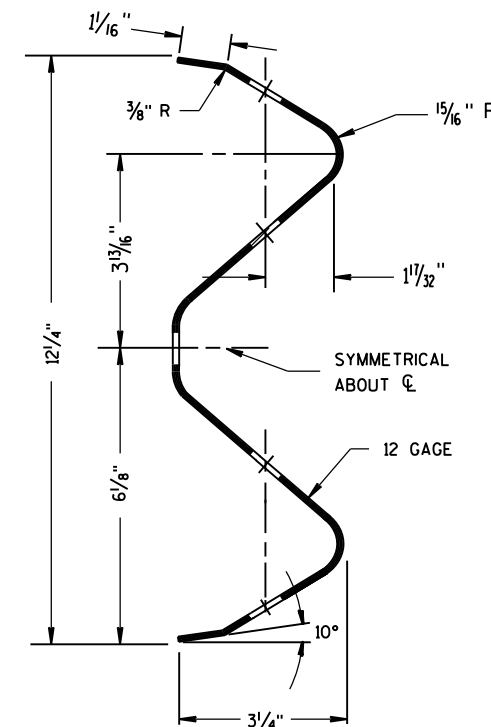
FRONT VIEW AT WOOD POST



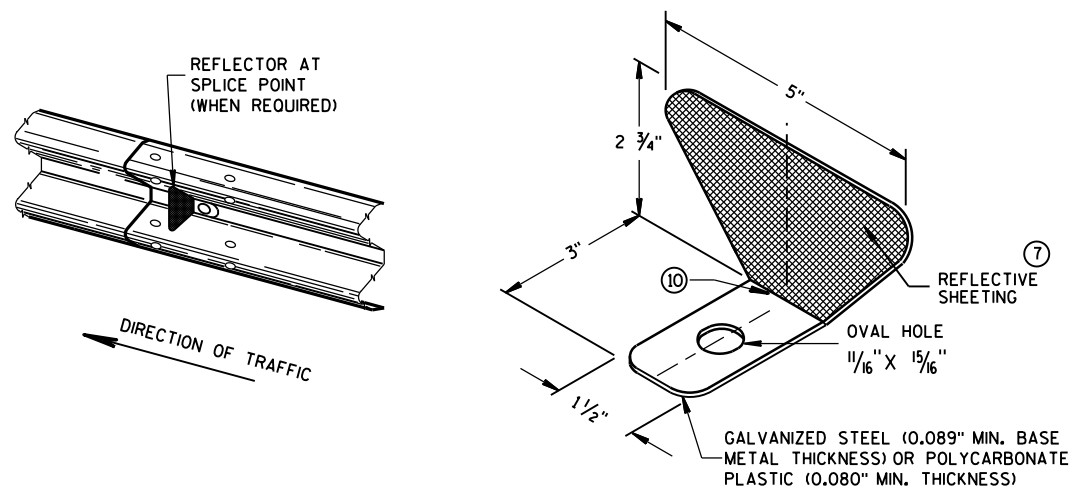
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

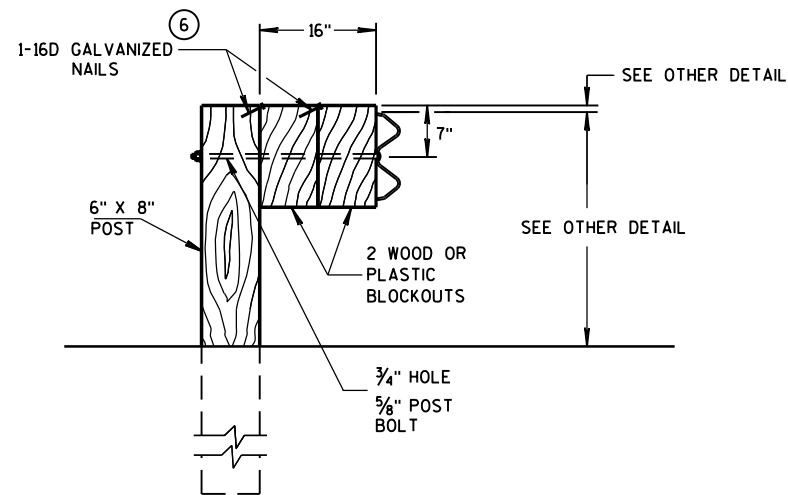
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

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

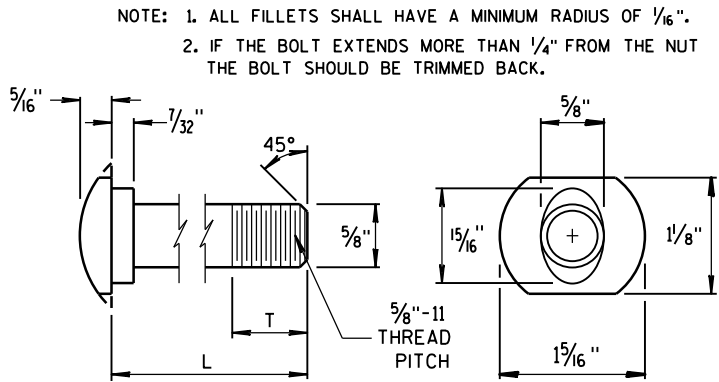
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

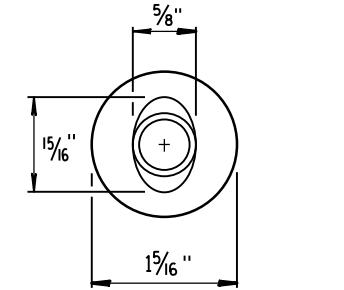


DETAIL FOR 16" BLOCKOUT DEPTH

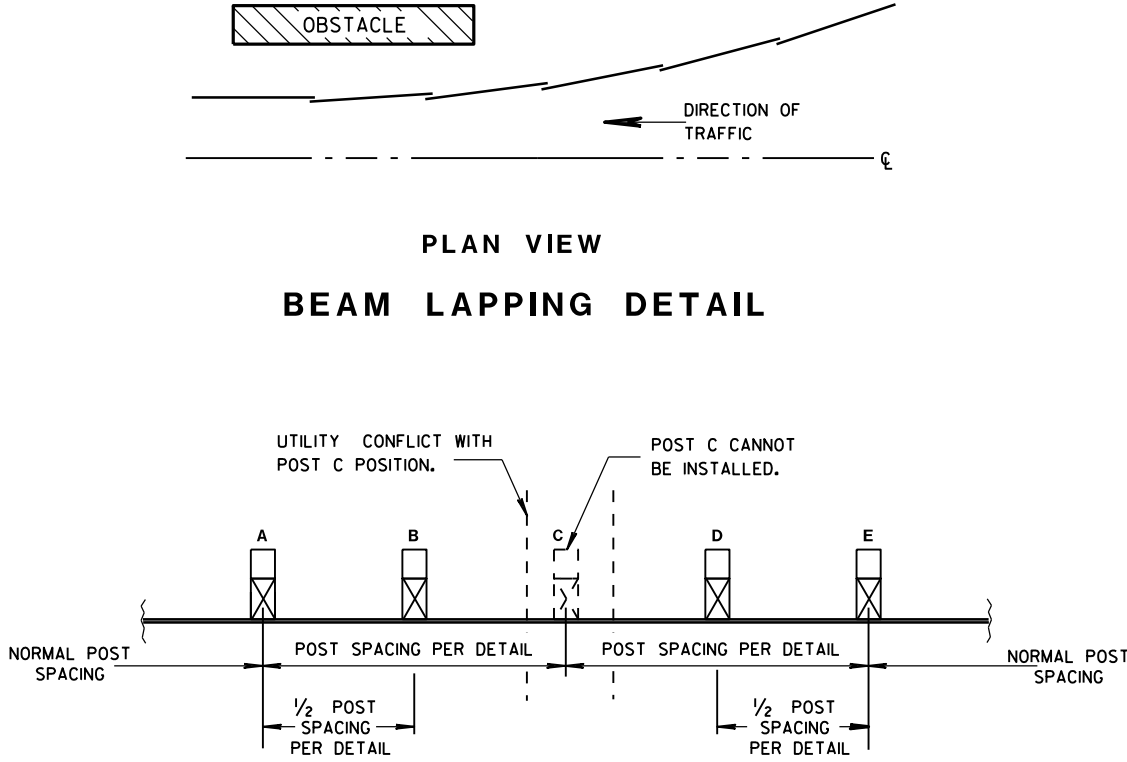
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



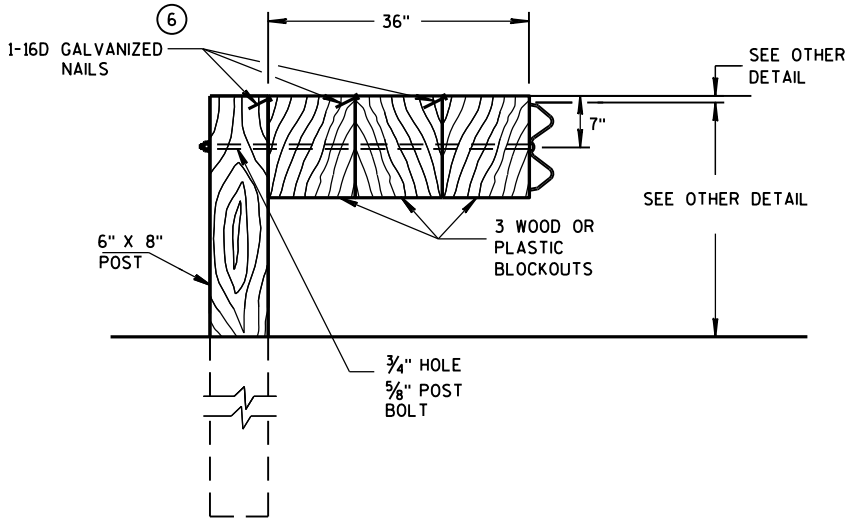
POST BOLT TABLE



ALTERNATE BOLT HEAD



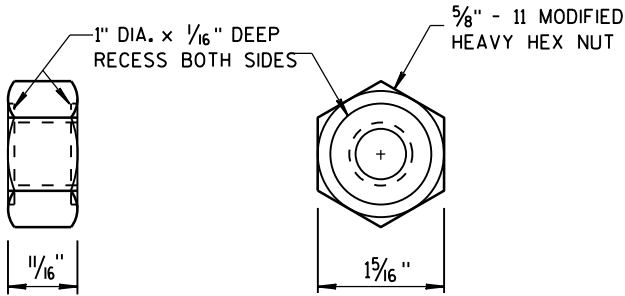
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



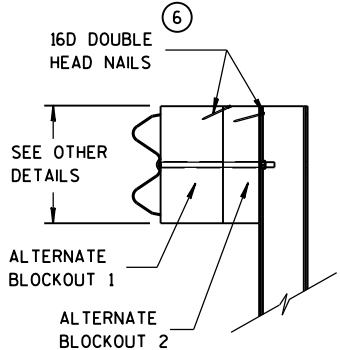
DETAIL FOR 36" BLOCKOUT DEPTH

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

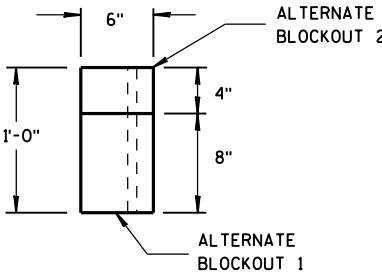
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



POST BOLT AND RECESS NUT



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS (79) ENT
FHWA ENGINEER

GENERAL NOTES

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

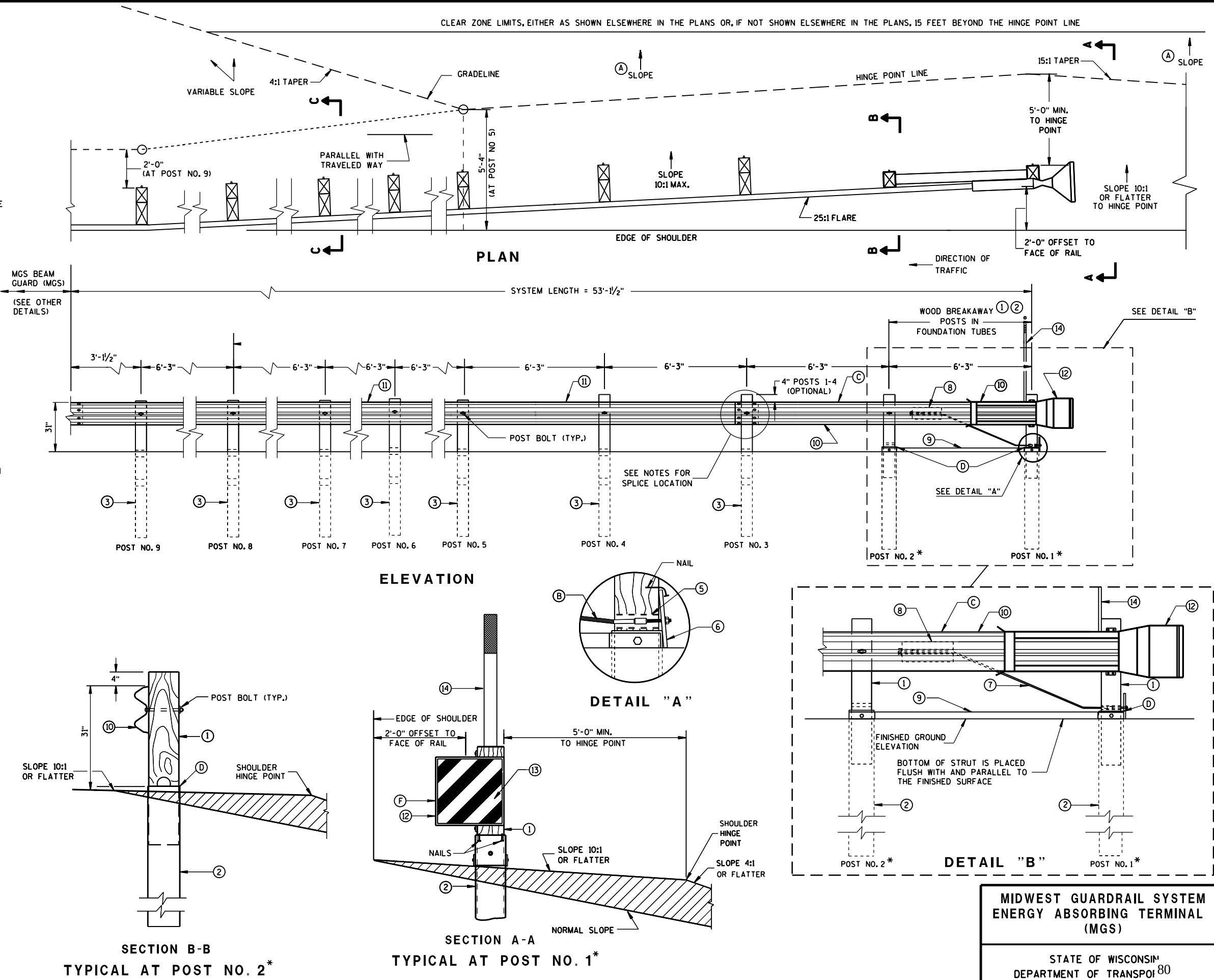
SEE SDD 14B42 FOR MORE INFORMATION.

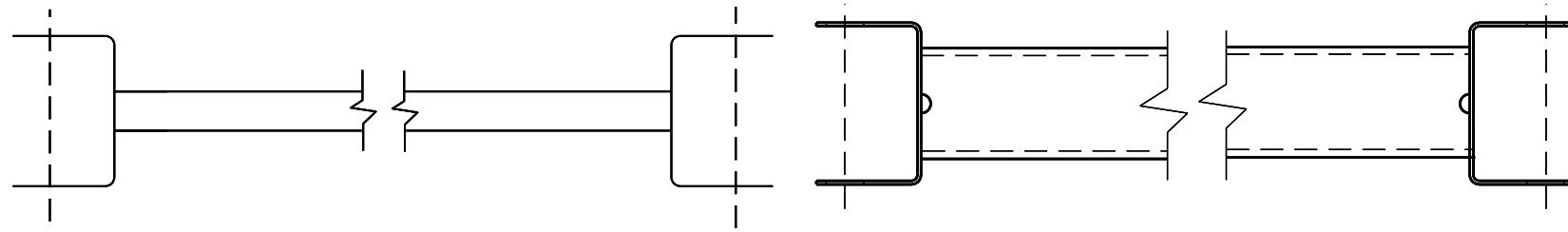
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

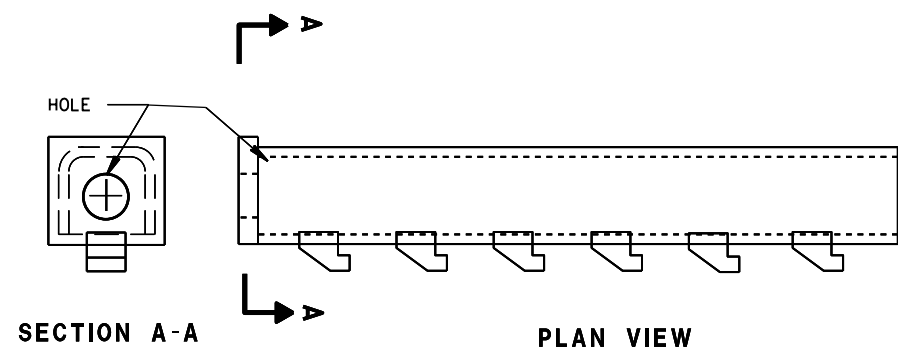
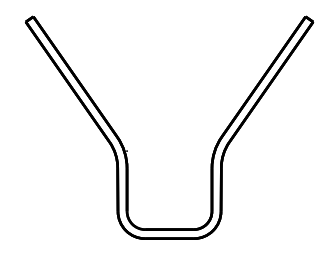
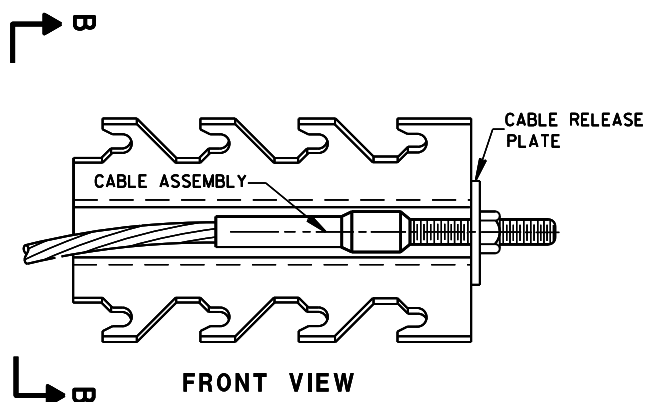
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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





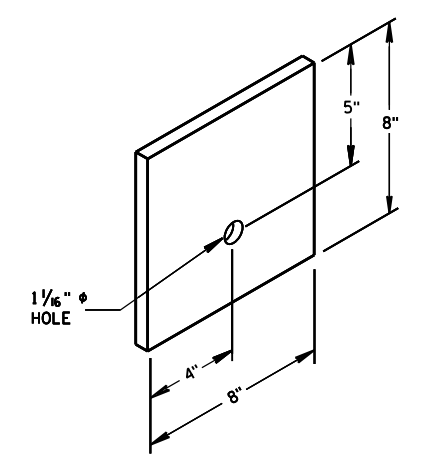
9 H
GENERIC GROUND STRUT



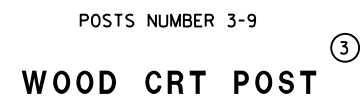
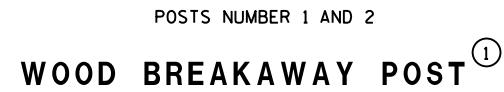
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

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



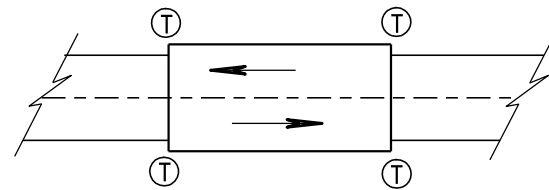
⑥
BEARING PLATE



WOOD BLOCKOUT

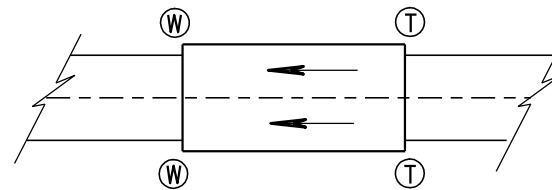


APPROVED	
June 2014	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS 82
FHWA	ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

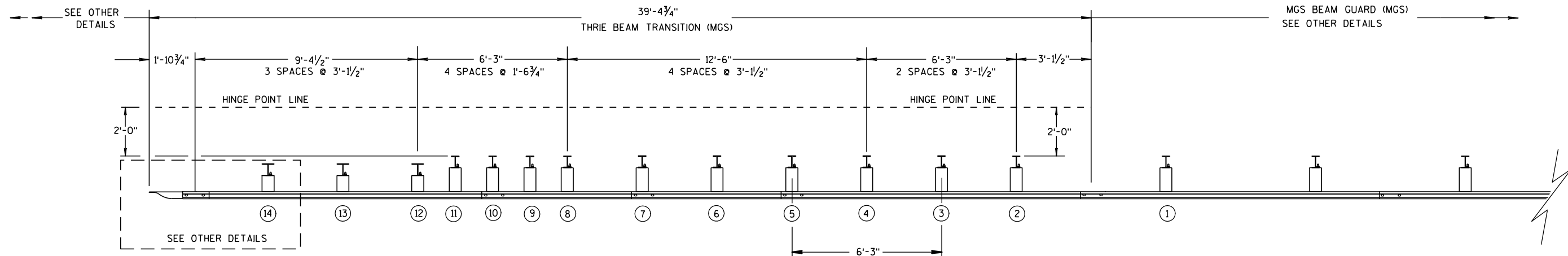
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

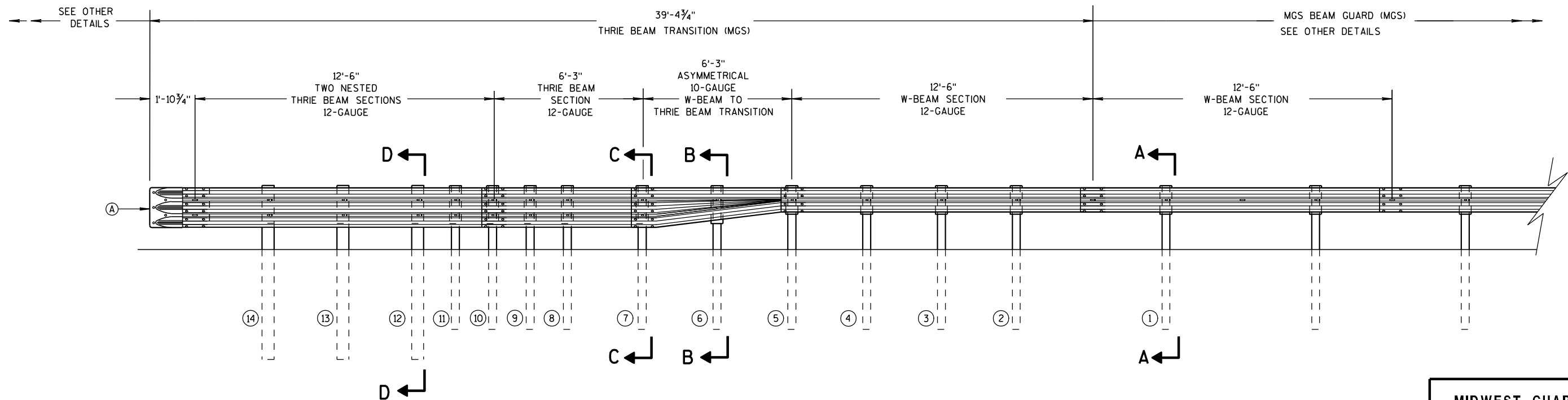
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

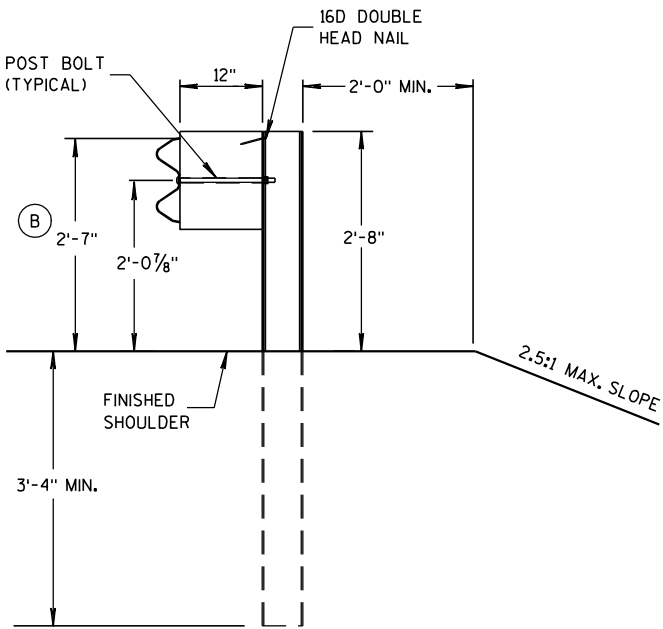
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

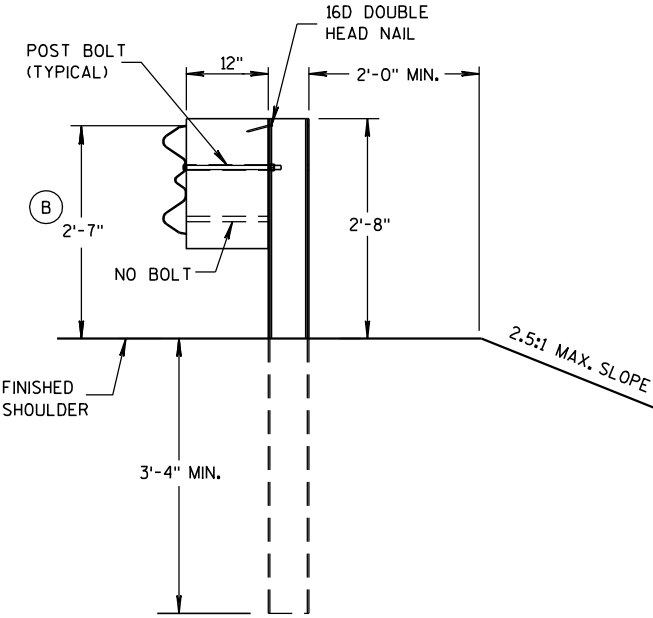
83

GENERAL NOTES

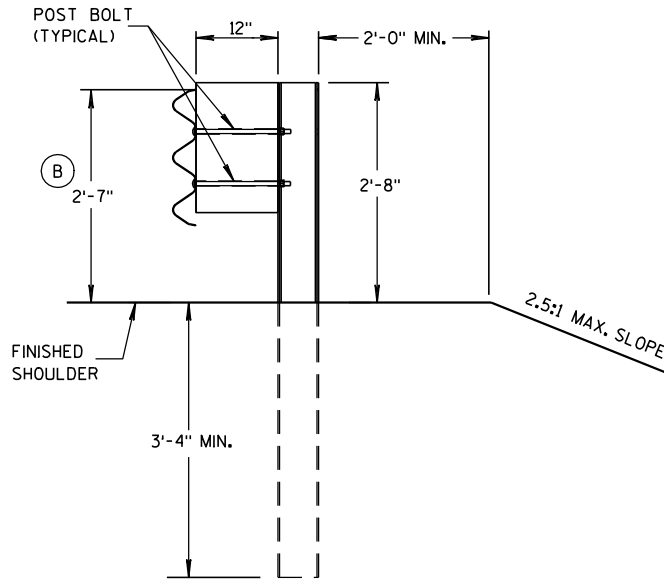
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



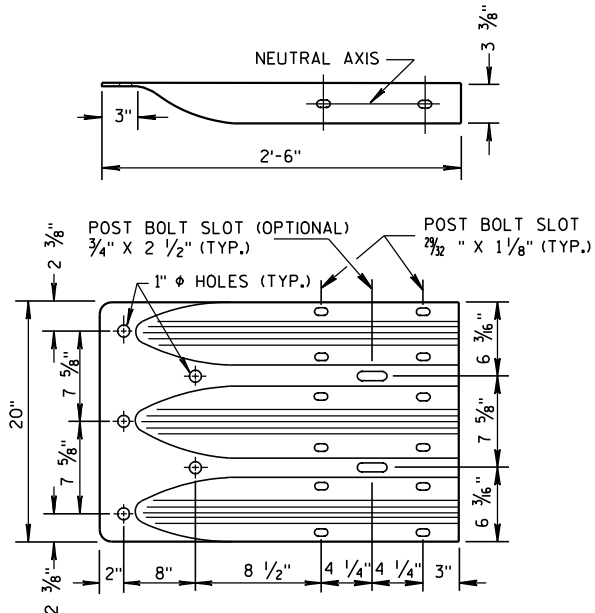
SECTION A-A
POSTS 1-5



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11



THRIE BEAM
TERMINAL CONNECTOR

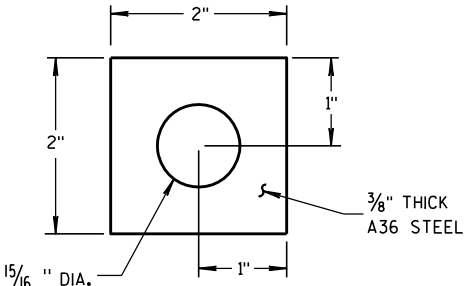
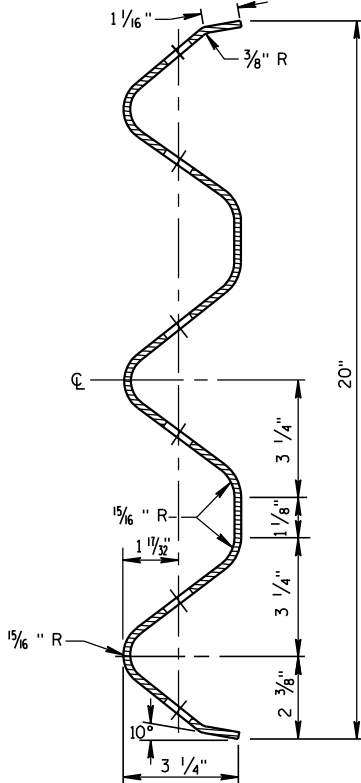
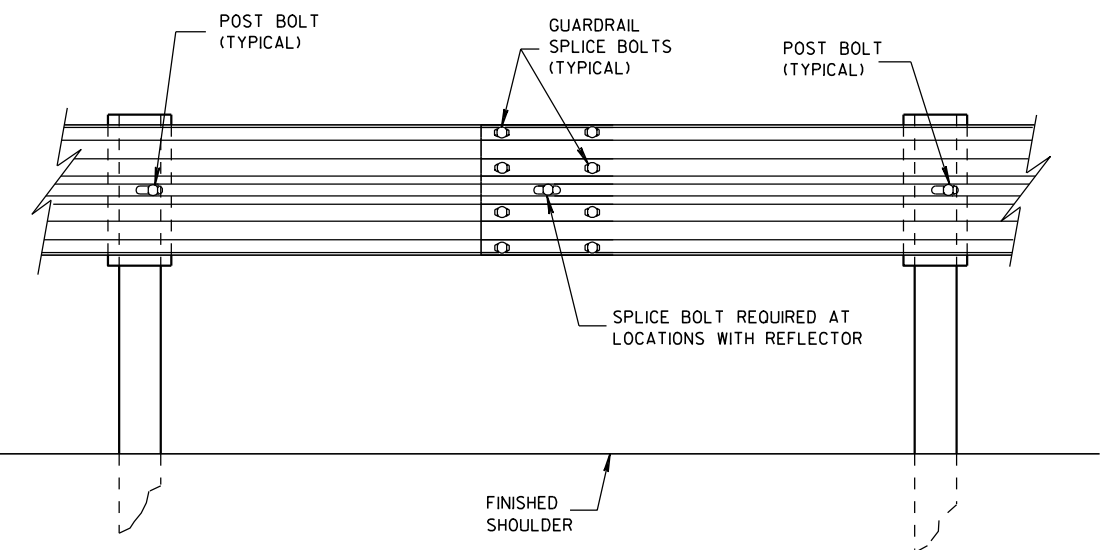


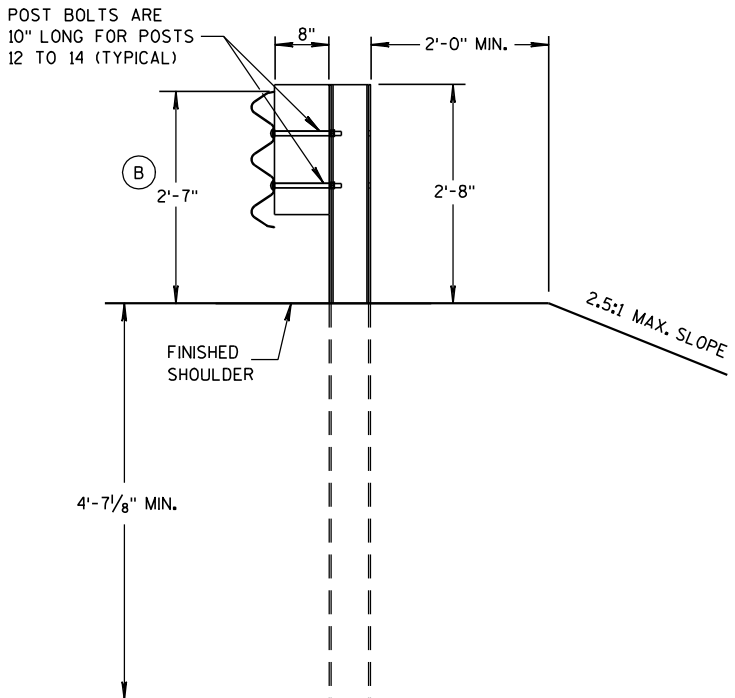
PLATE WASHER DETAIL



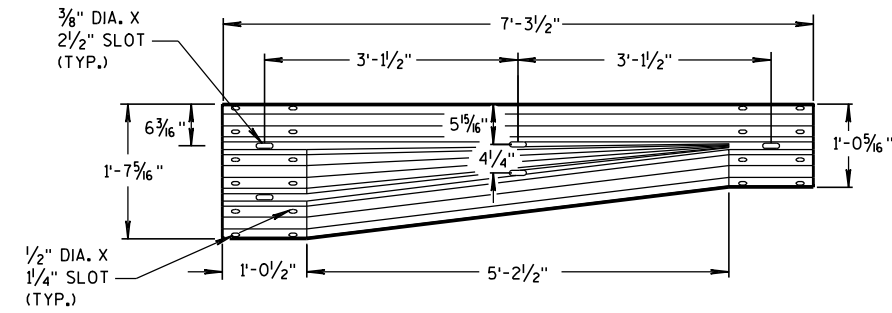
SECTION THRU THRIE
BEAM RAIL ELEMENT



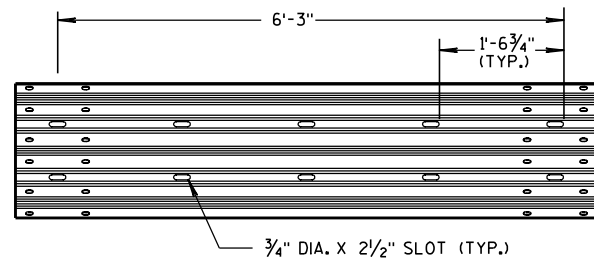
SPLICE DETAIL



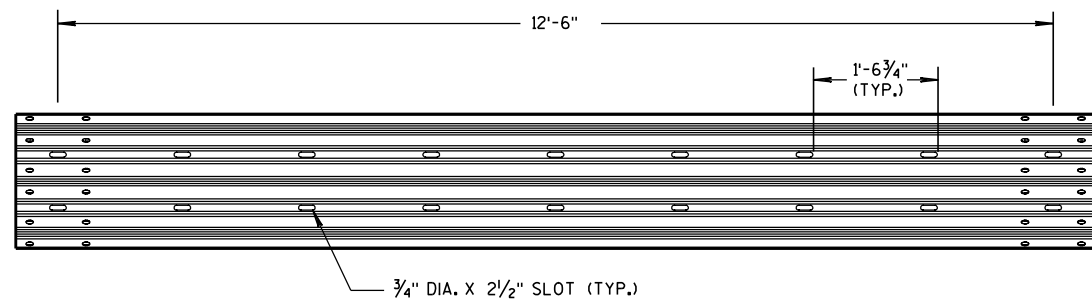
SECTION D-D
POSTS 12-14



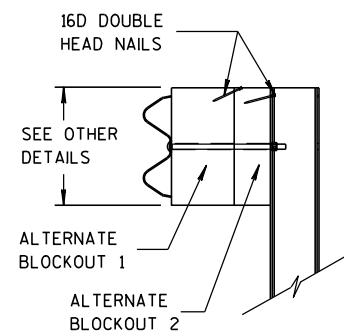
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

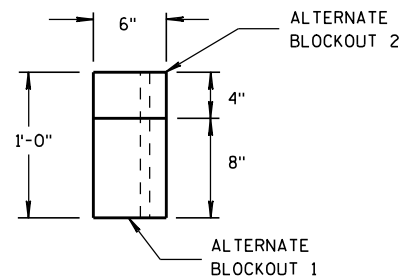


12'-6" THRIE BEAM SECTION

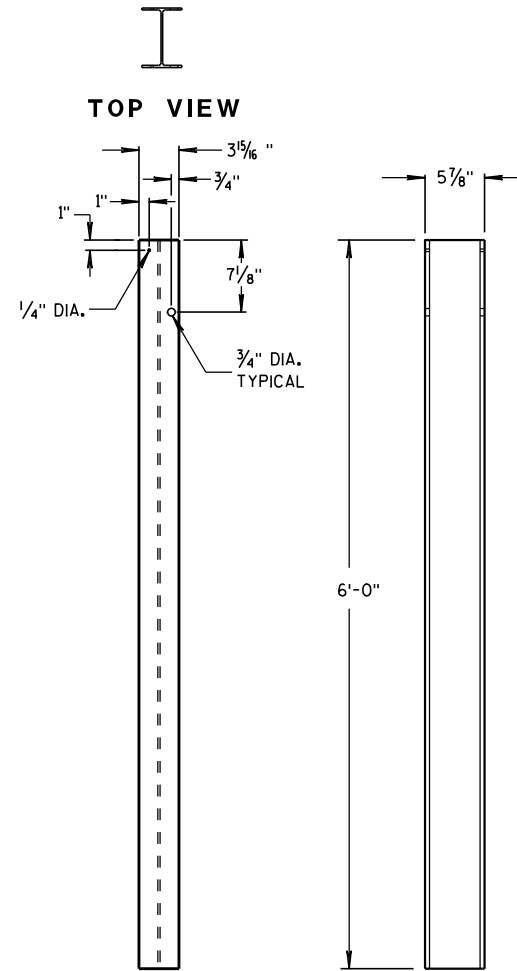


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



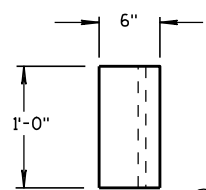
TOP VIEW



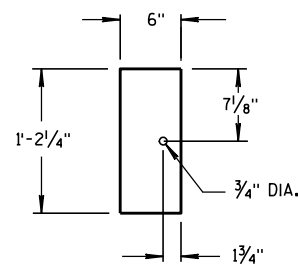
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

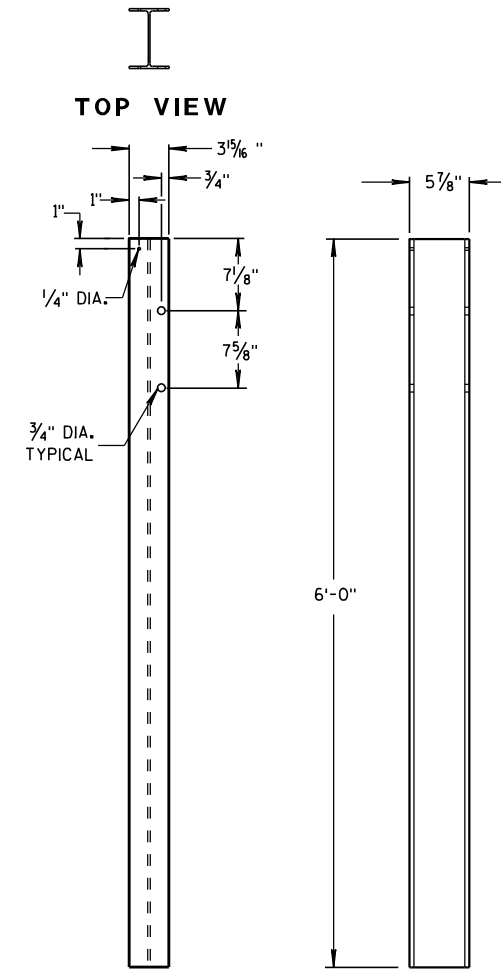


TOP VIEW



FRONT VIEW

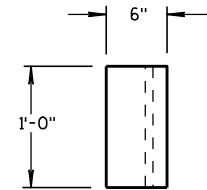
BLOCKOUT POSTS 1-5



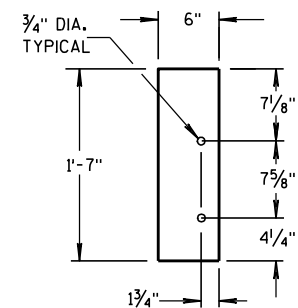
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

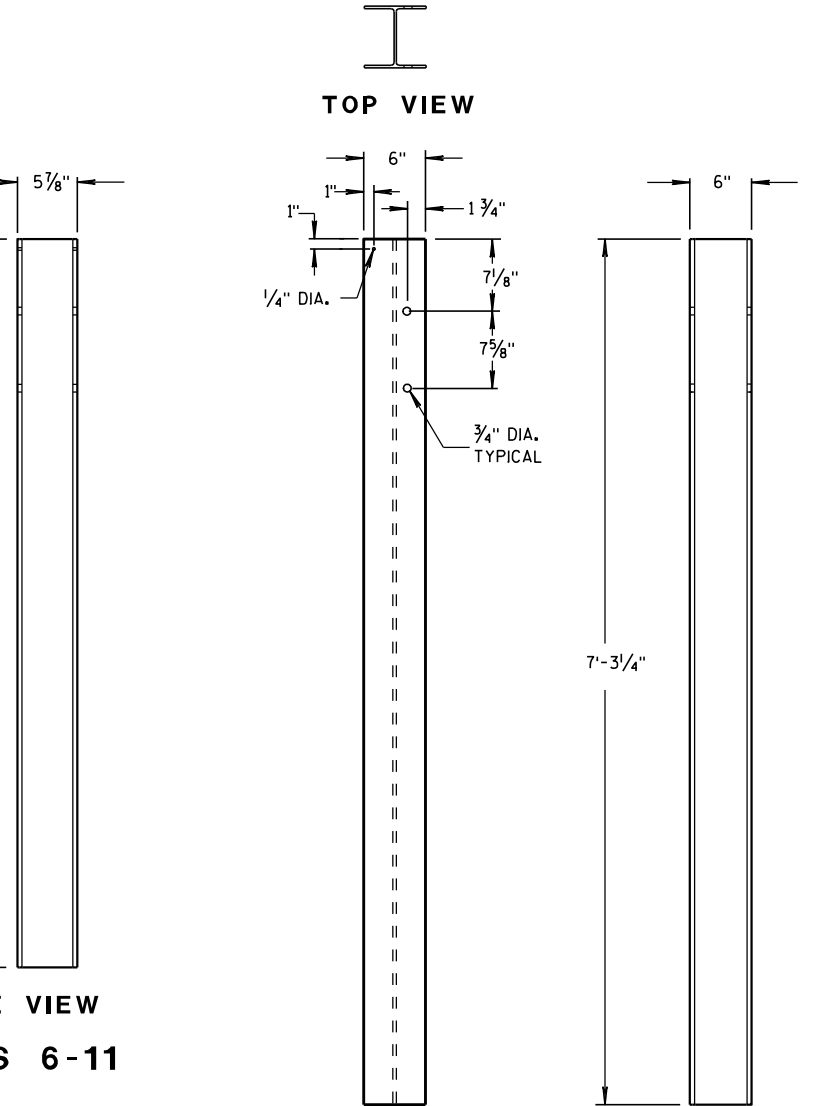


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

SIDE VIEW

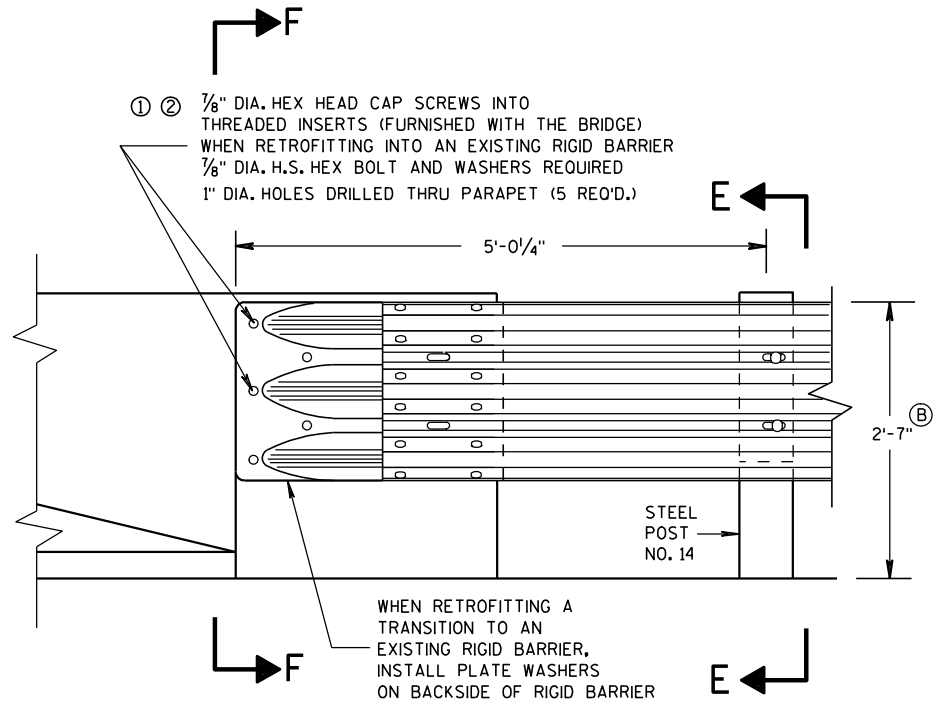
STEEL POSTS 12-14

STEEL POST SIZES

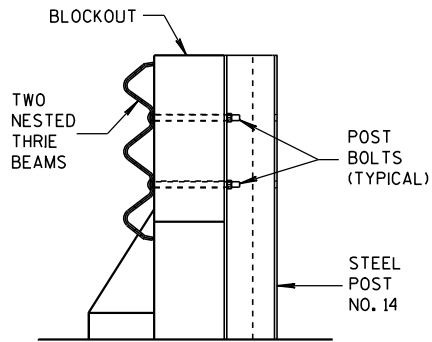
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS

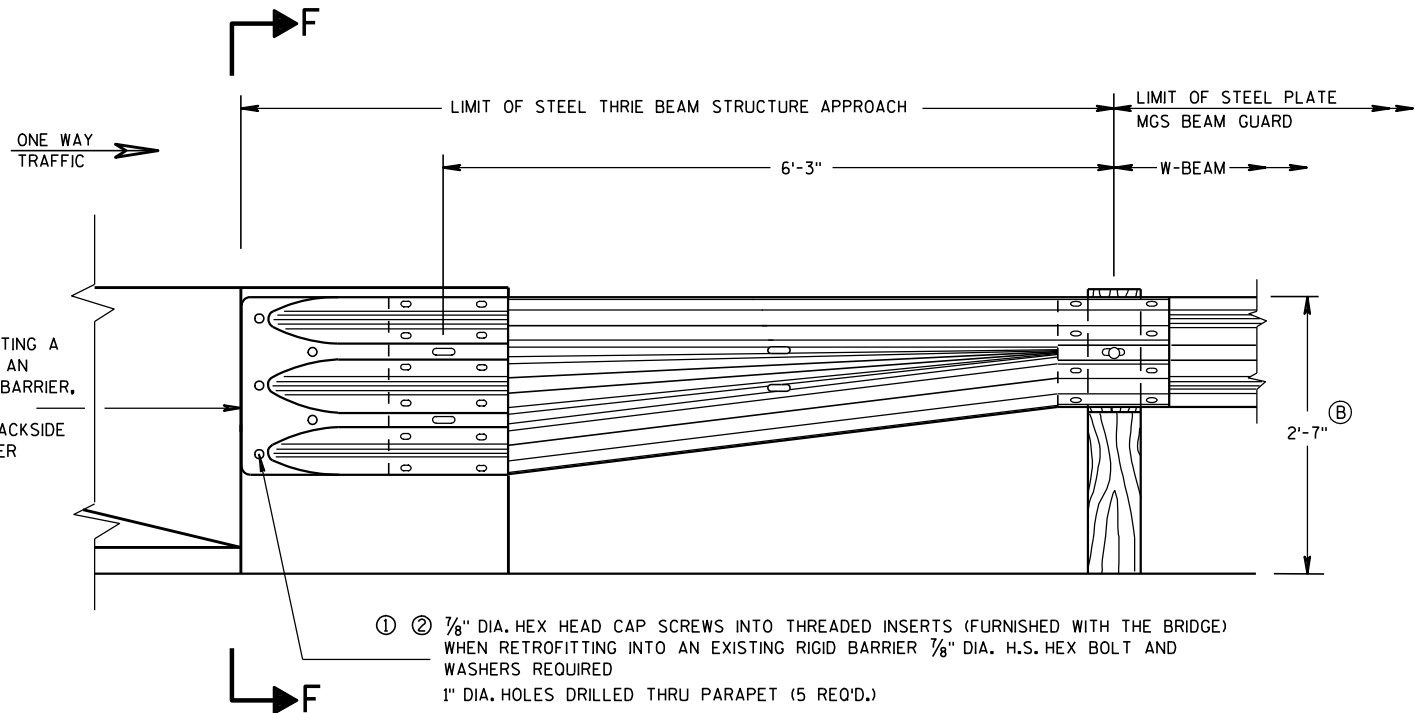


SECTION E-E

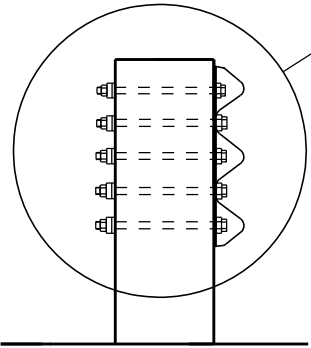
GENERAL NOTES

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

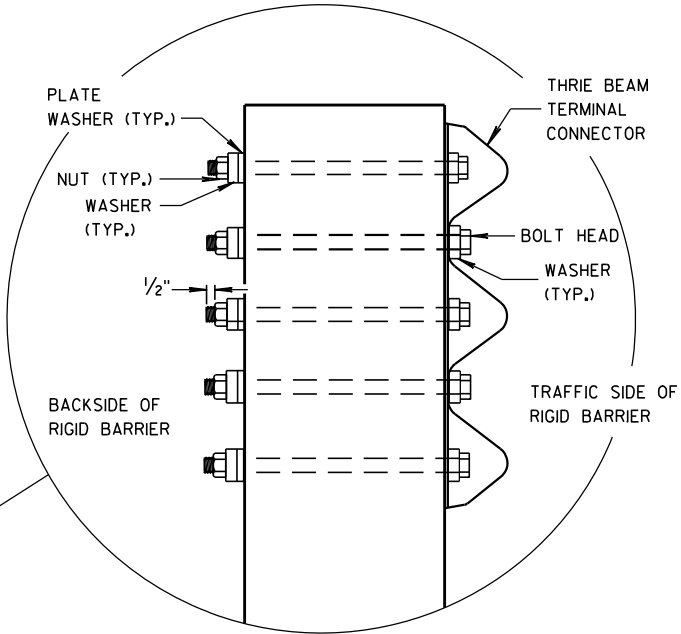
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR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



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



SECTION F-F

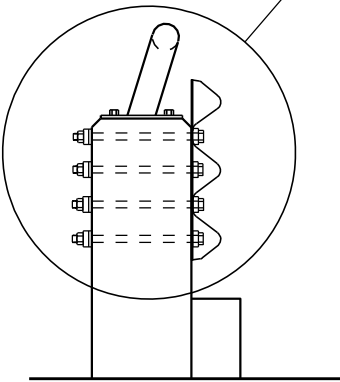
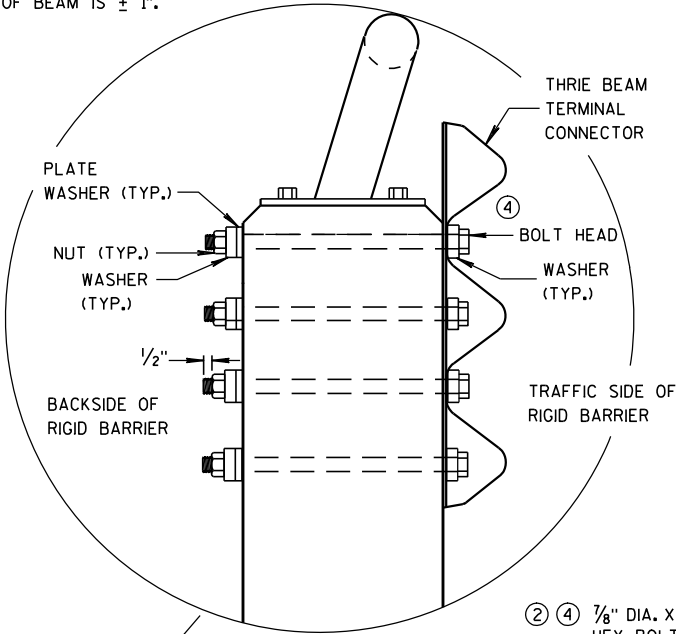


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zapp ROADWAY STANDARDS ENGINEER	ENT
FHWA		

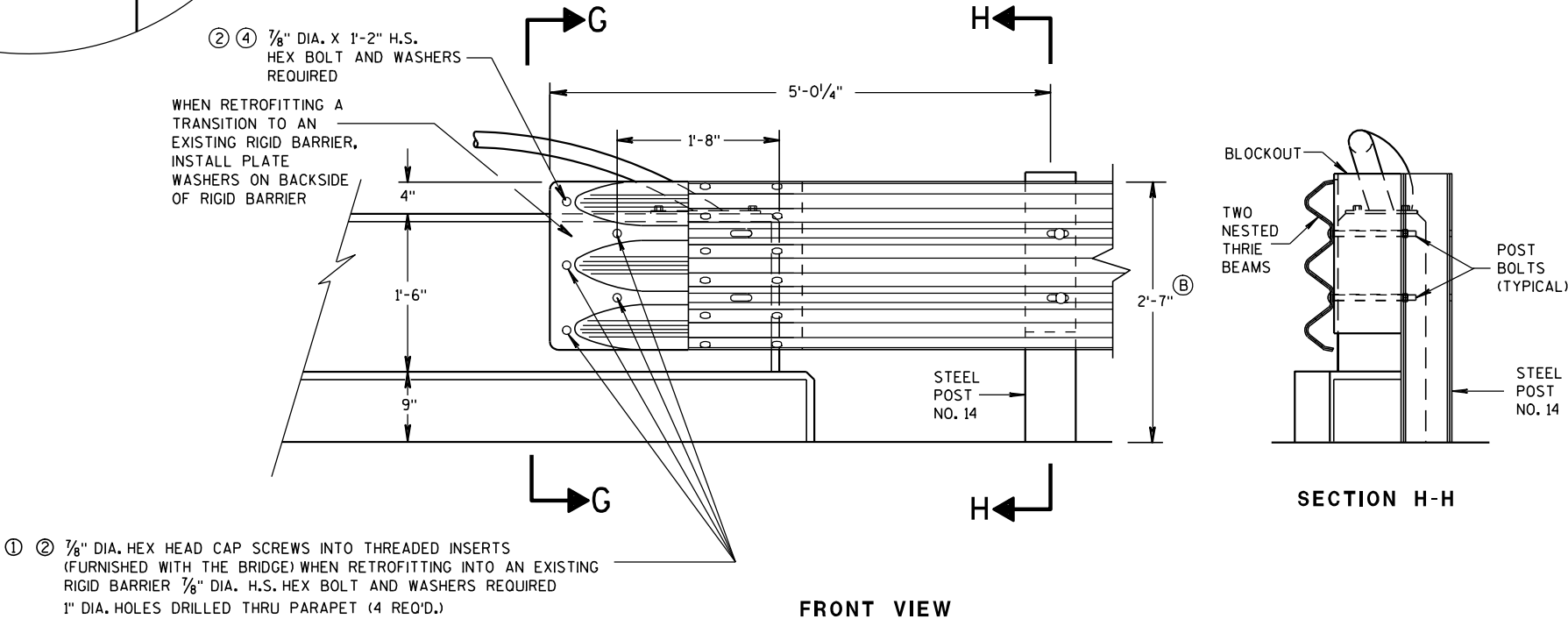
GENERAL NOTES

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

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

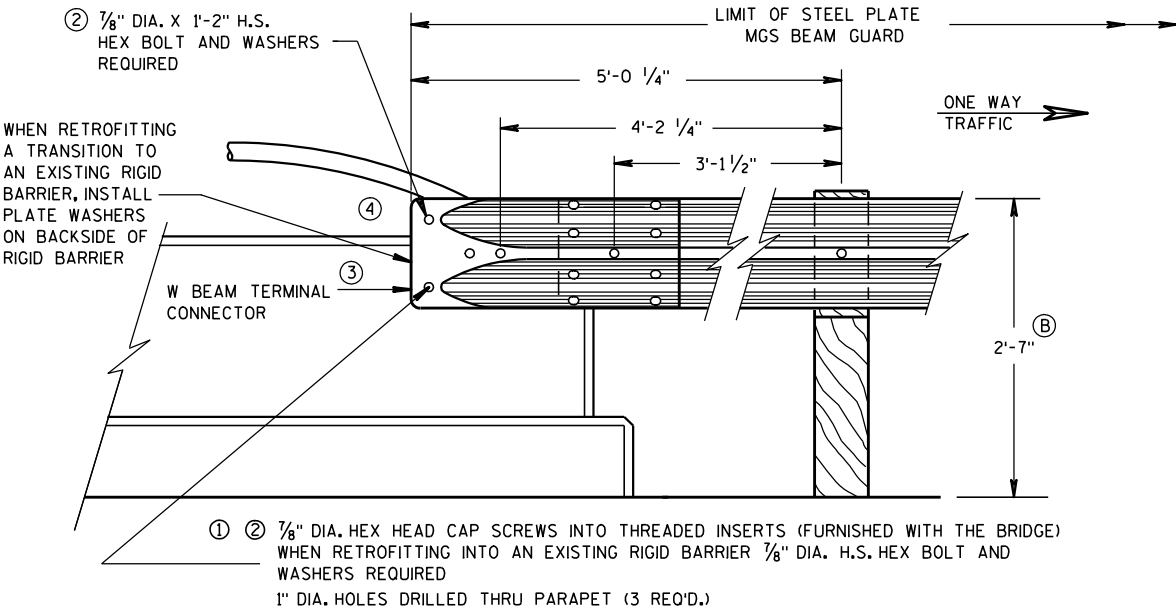


SECTION G-G



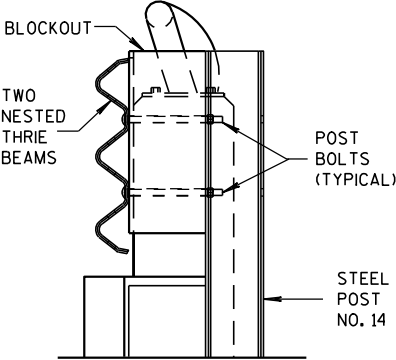
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

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

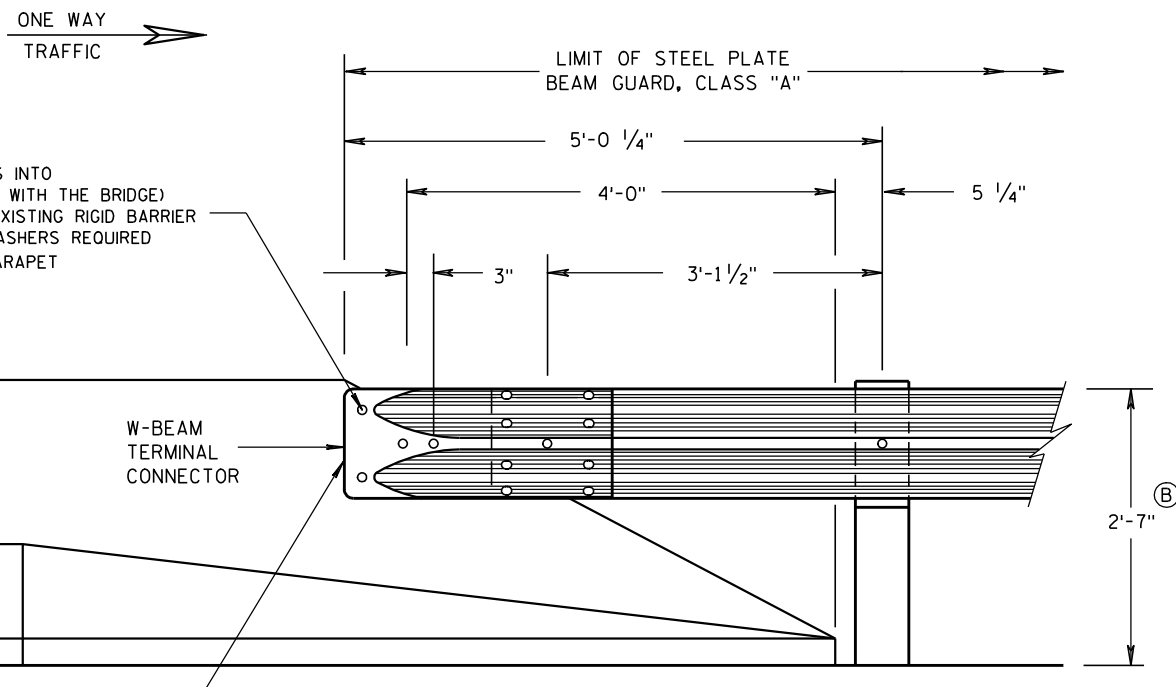


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS (87) ENT
FHWA ENGINEER



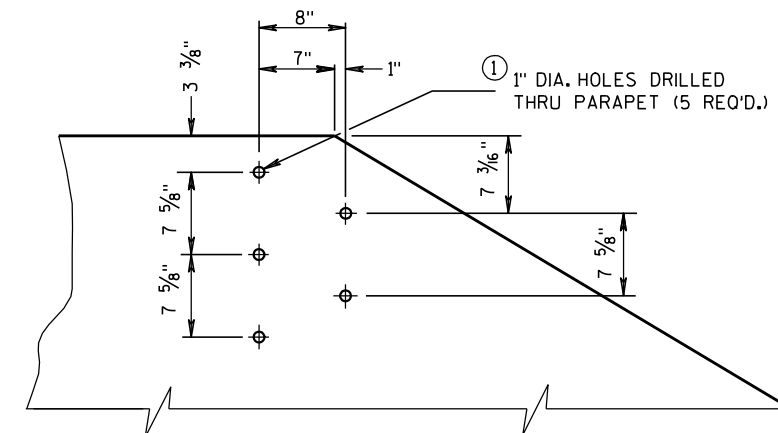
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

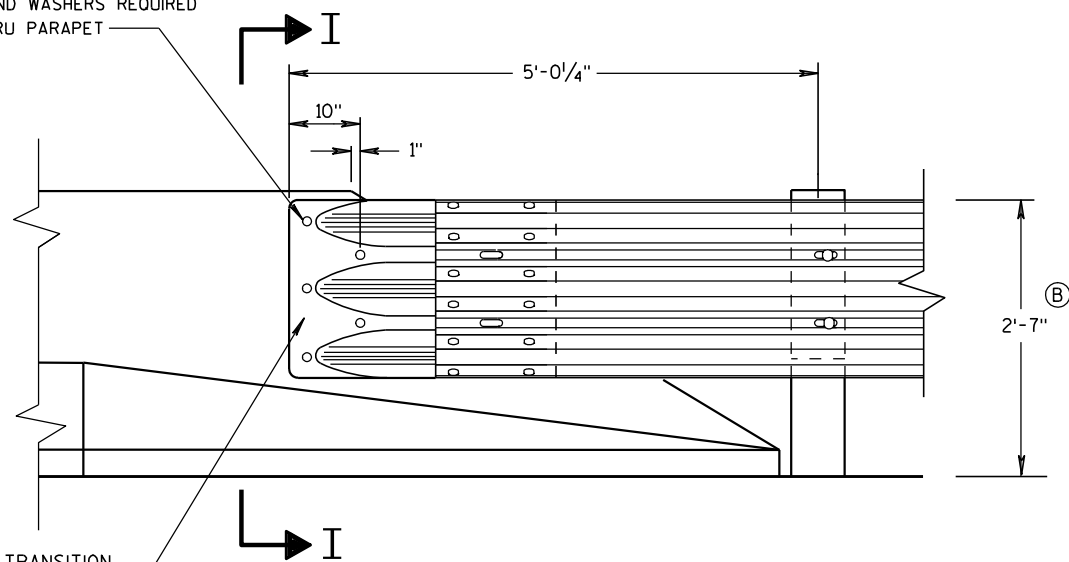
GENERAL NOTES

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



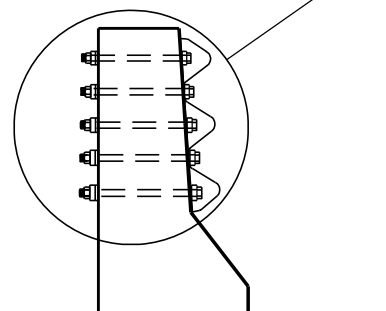
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

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

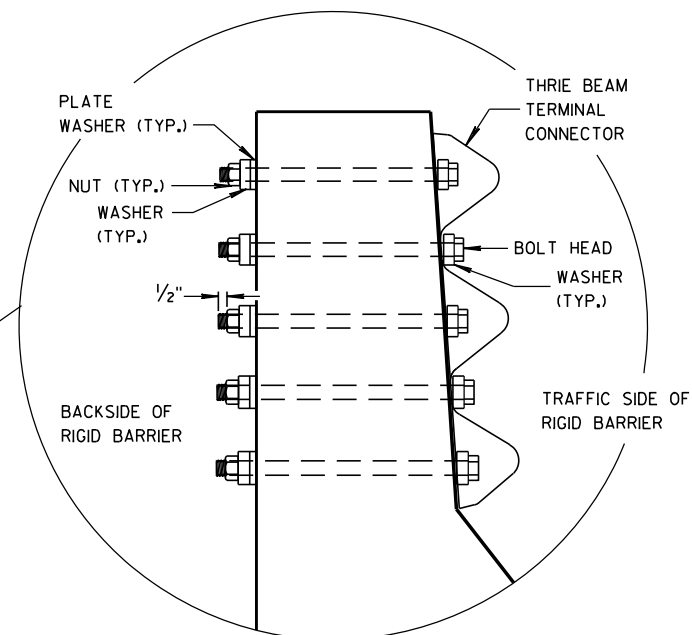


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I

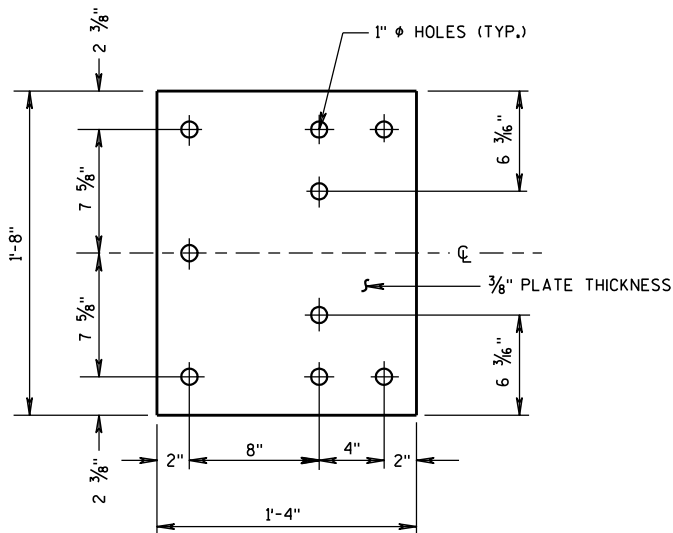


WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.

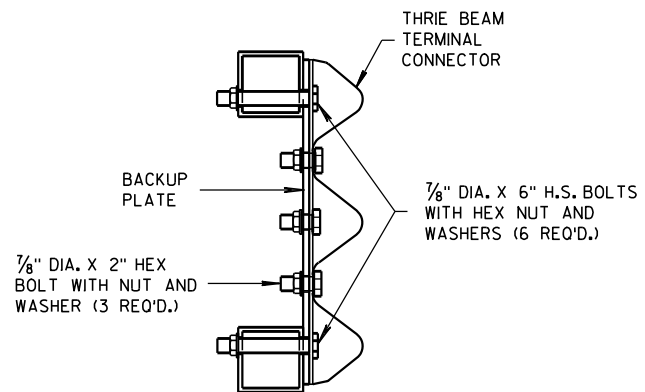
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

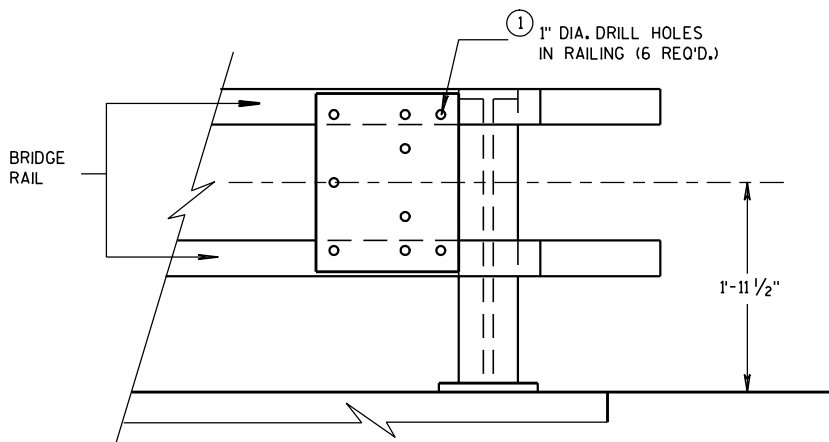
APPROVED
8/31/2012 /S/ Jerry H. Zopp
DATE ROADWAY STANDARDS 88 ENT
ENGINEER
FHWA



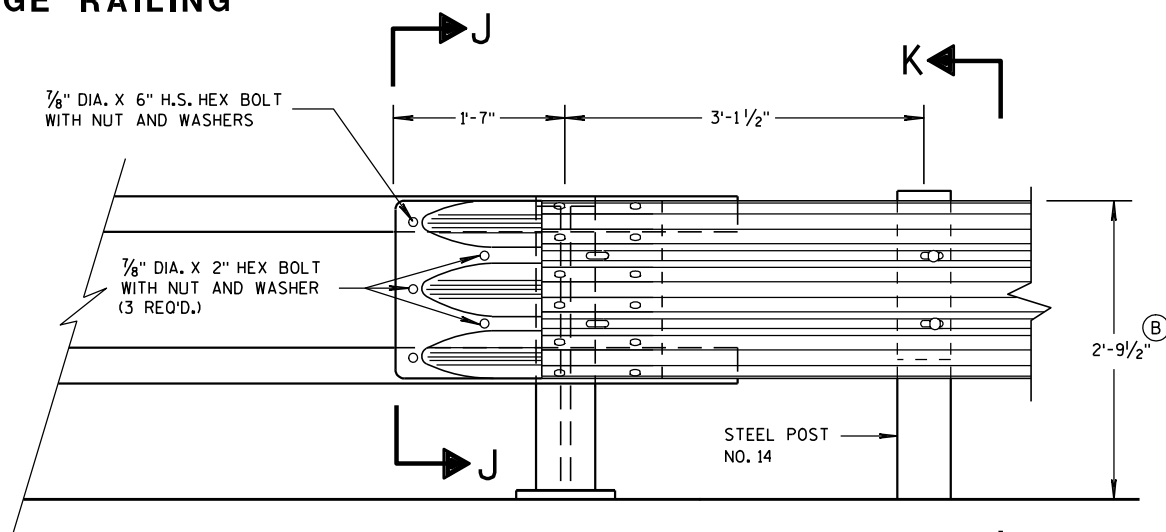
BACK-UP PLATE DETAIL



SECTION J-J

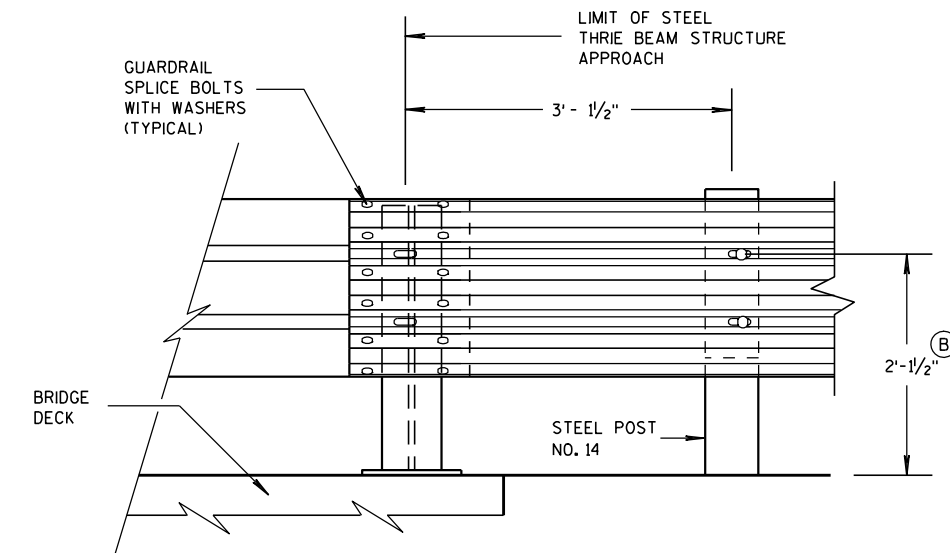


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



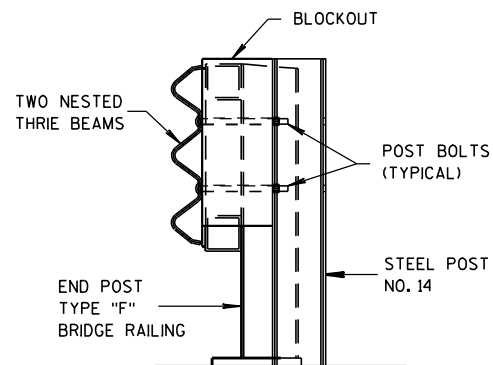
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

GENERAL NOTES

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



ANCHOR PLATE DETAIL, TYPE "M"



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



THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012

DATE _____

/S/ Jerry H. Zogg

ROADWAY STANDARDS 90

ENGINEER

EN



SINGLE SLOPE CONNECTION PLATE

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

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

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

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

ALL HOLE DIAMETERS SHALL BE 1".

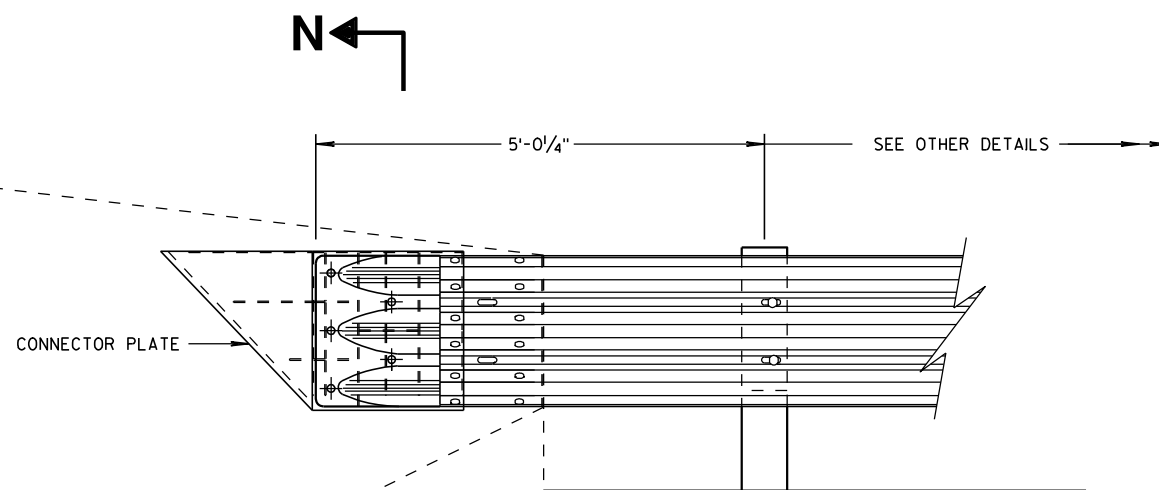
FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

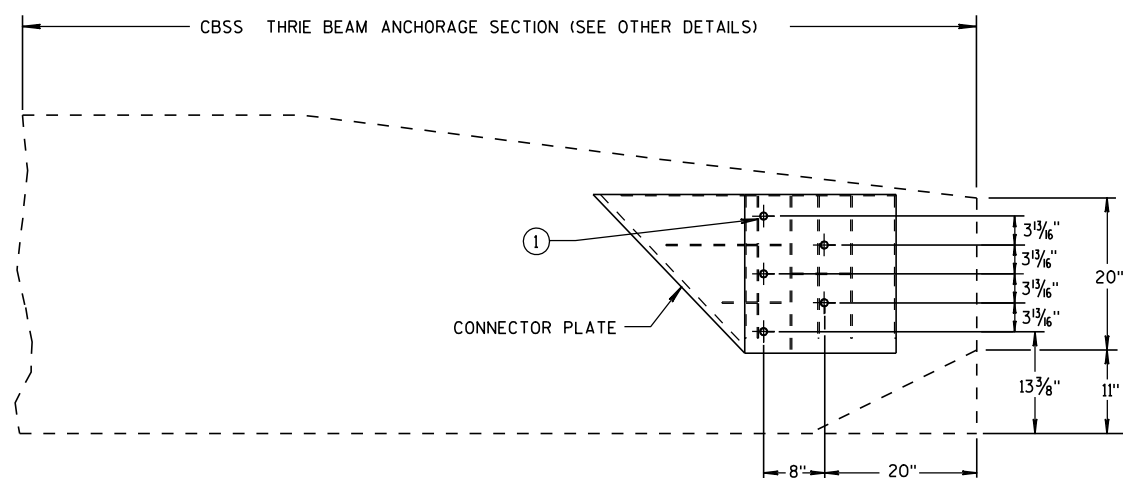
APPROVED

8/31/2012 /S/ Jerry H. [Signature]
DATE ROADWAY STANDARDS 91
ENGINEER

FHWA



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

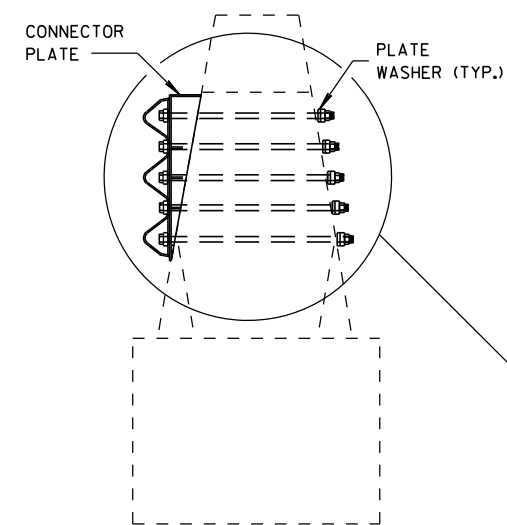


SINGLE SLOPE CONNECTION PLATE PLACEMENT

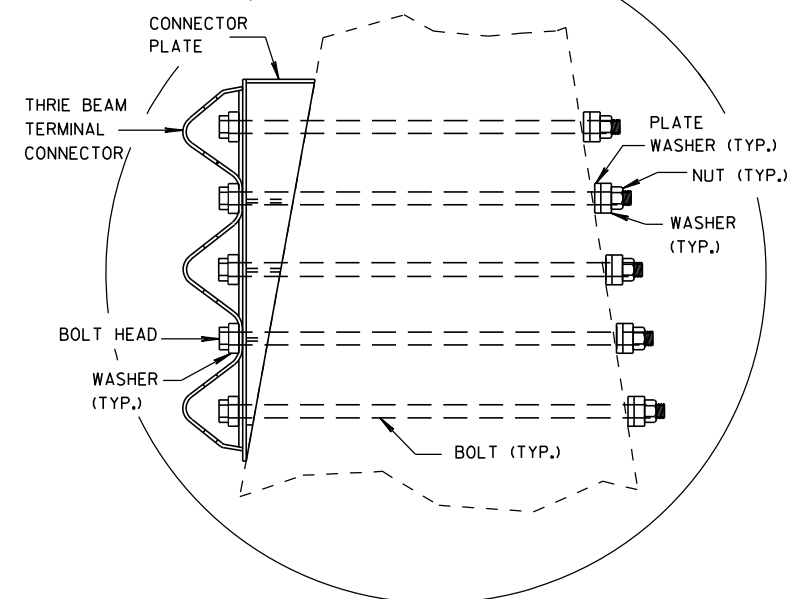
GENERAL NOTES

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM 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.



SECTION N-N



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

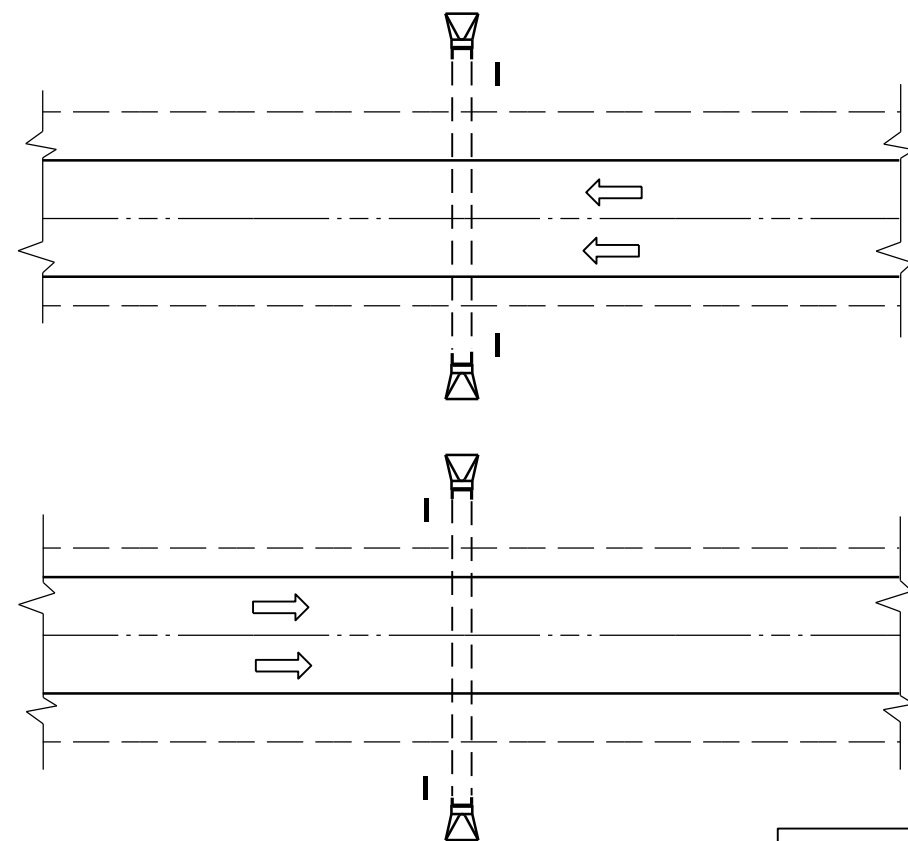
FHWA

/S/ Jerry H. [Signature]

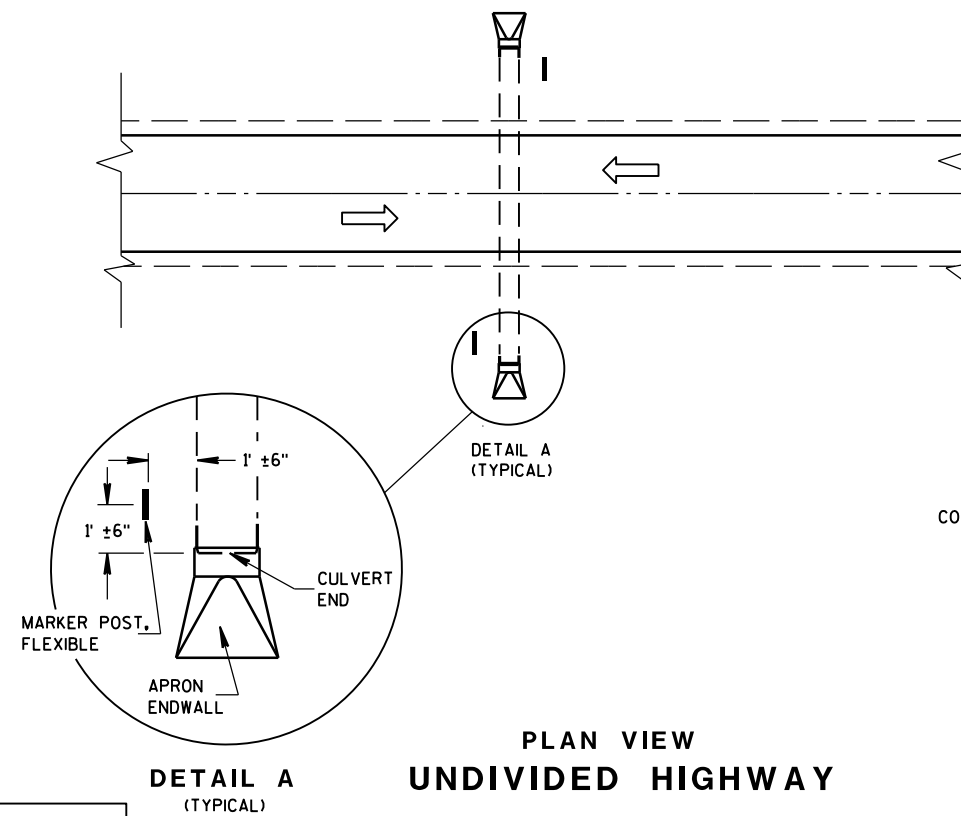
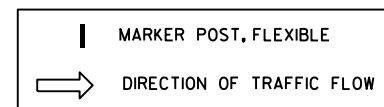
ROADWAY STANDARDS [Signature]

ENGINEER

ENT



PLAN VIEW
DIVIDED HIGHWAY

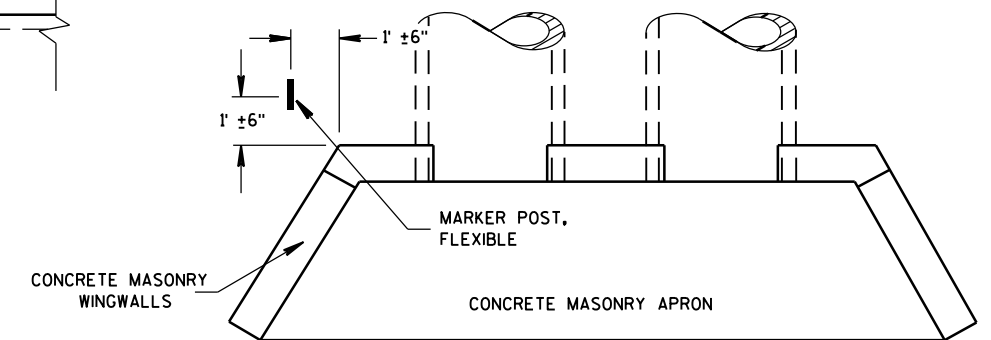


PLAN VIEW
UNDIVIDED HIGHWAY

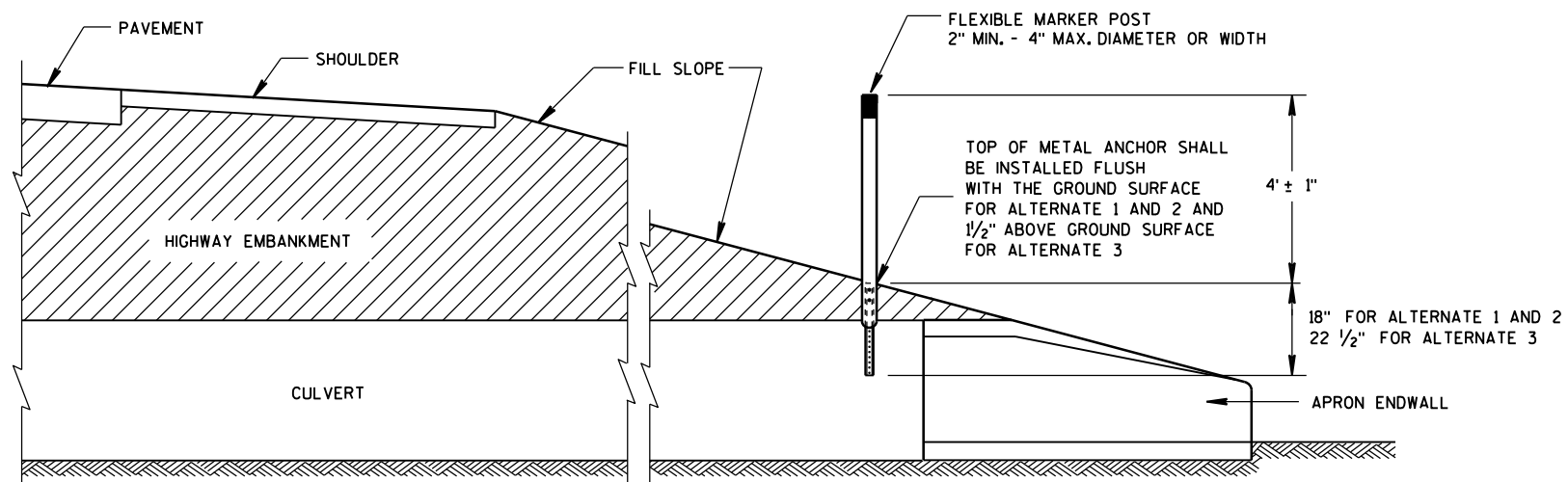
FLEXIBLE MARKER POST LOCATION

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.



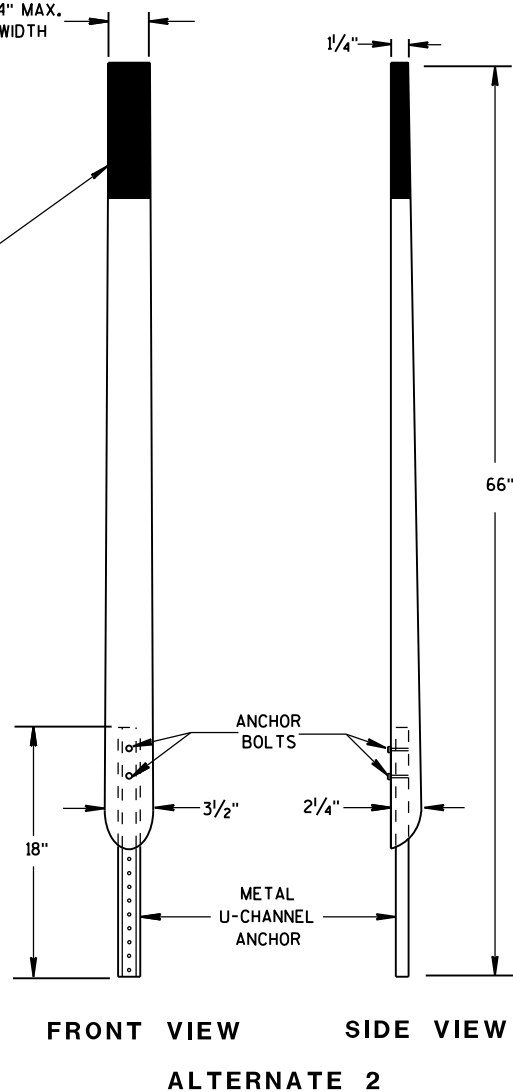
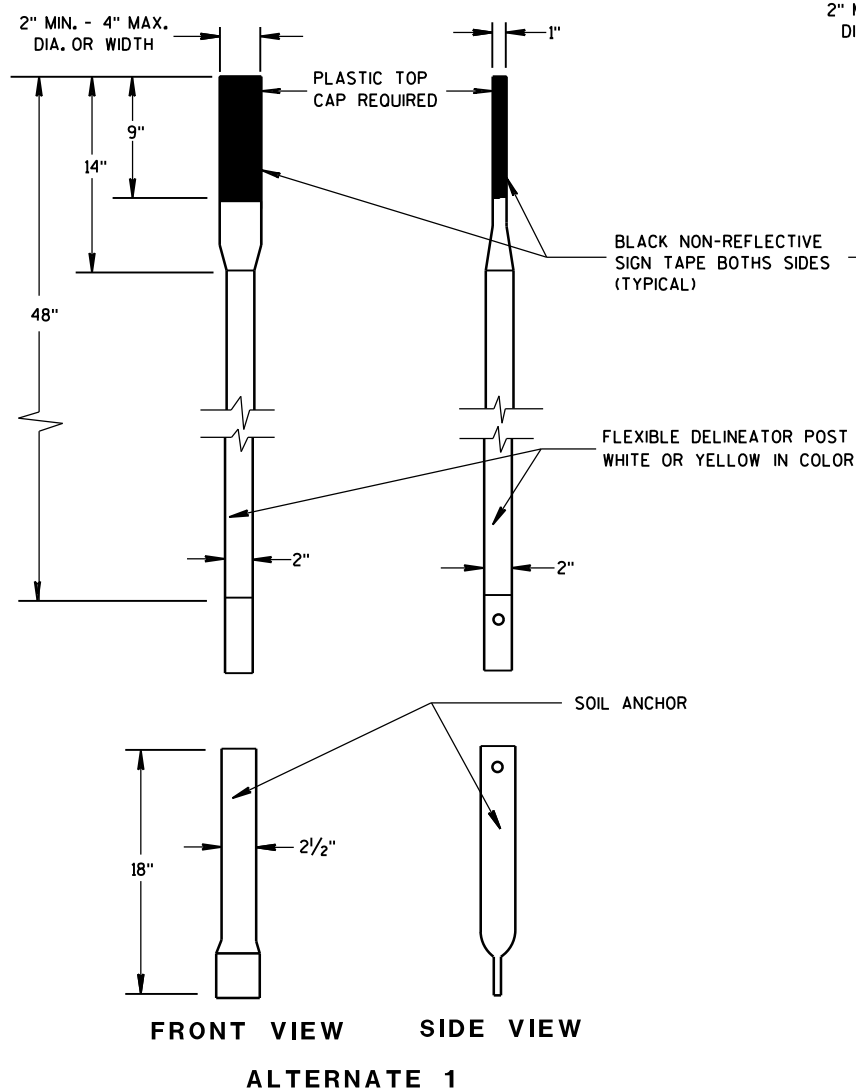
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



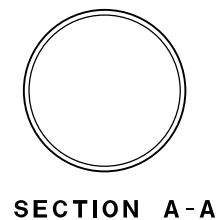
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

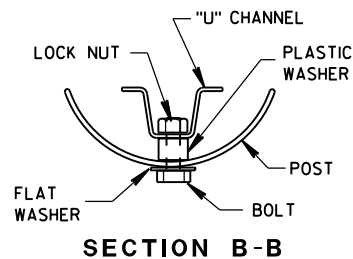
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



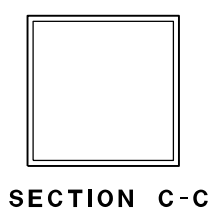
FLEXIBLE MARKER POSTS



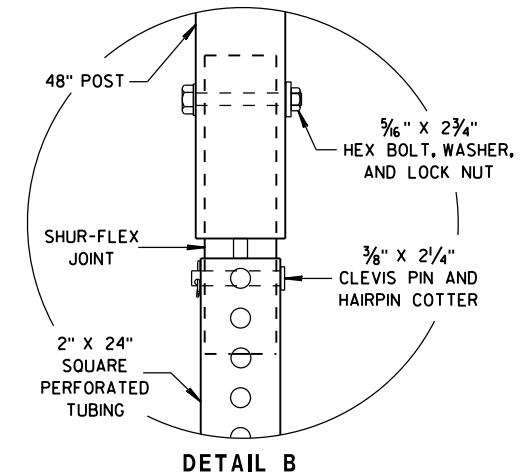
SECTION A-A



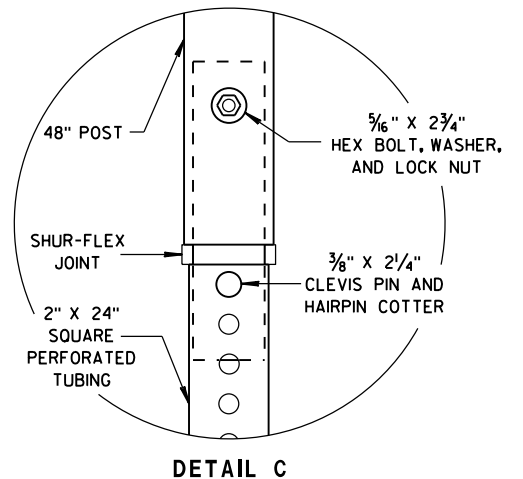
SECTION B-B



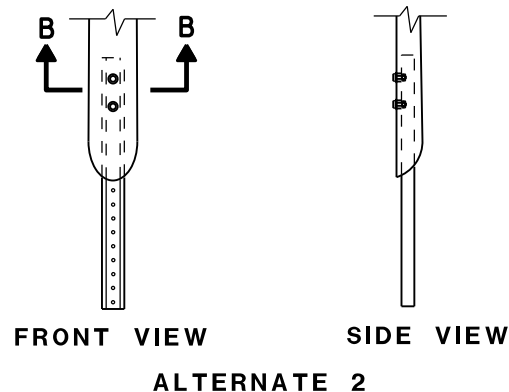
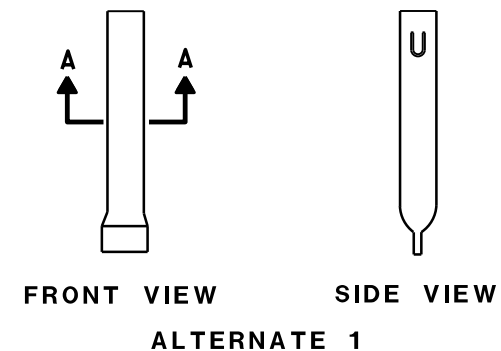
SECTION C-C



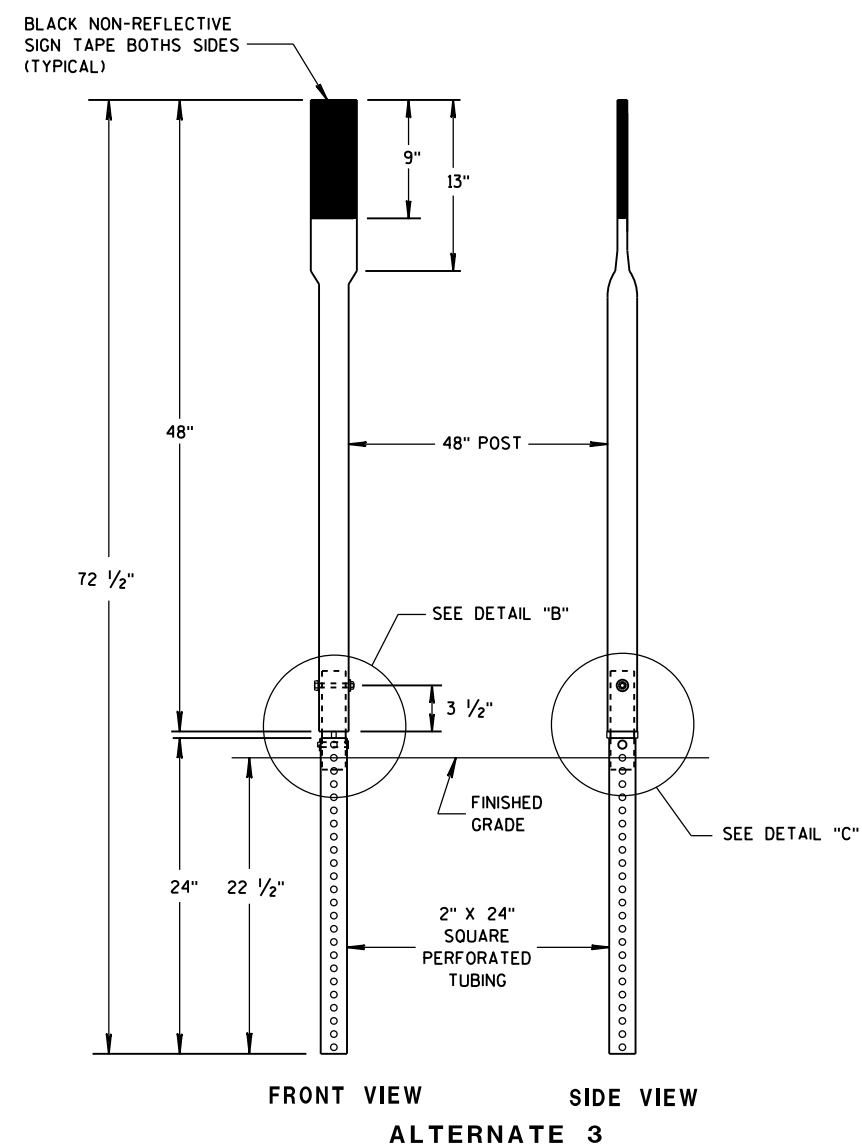
DETAIL B



DETAIL C

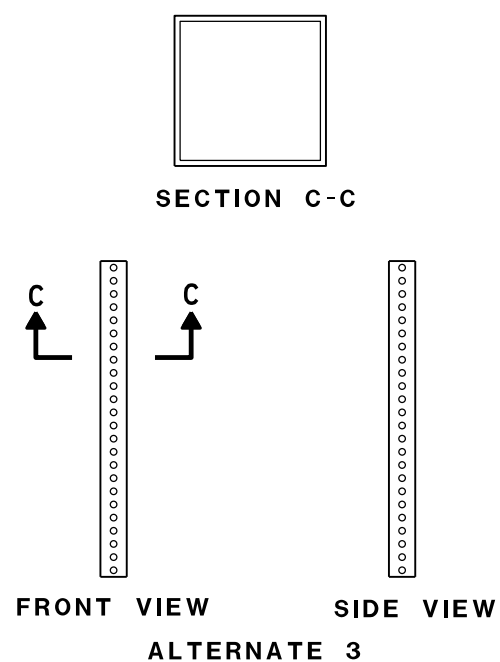


FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

ALTERNATE 3



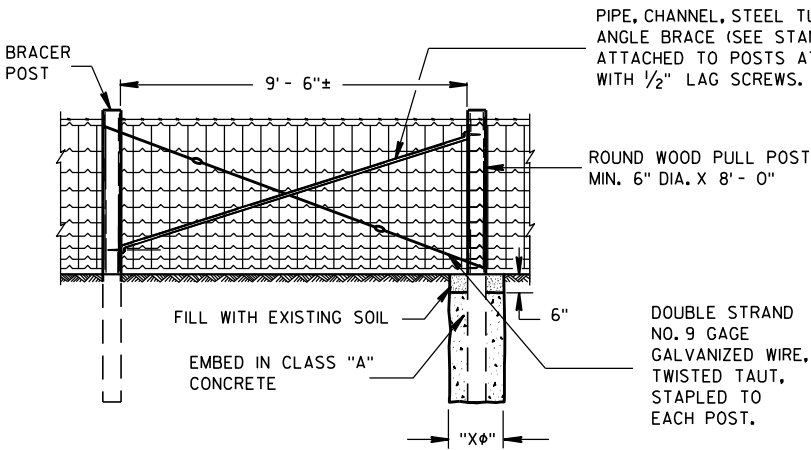
FRONT VIEW SIDE VIEW

ALTERNATE 3

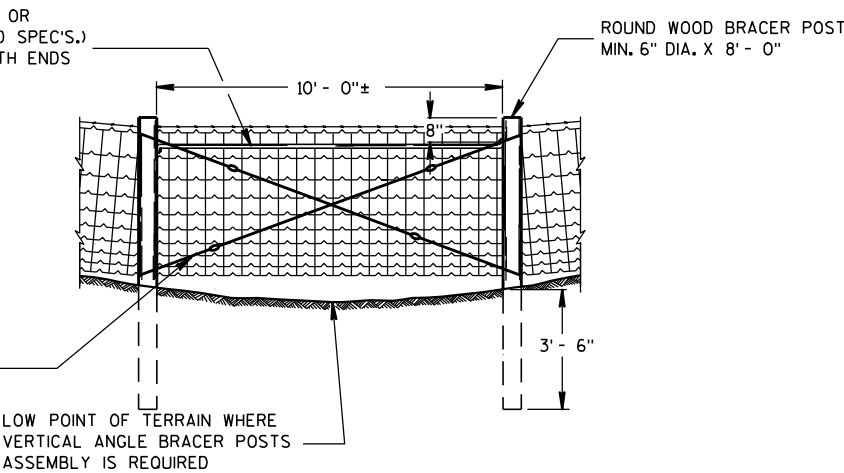
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER IGN
FHWA	

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

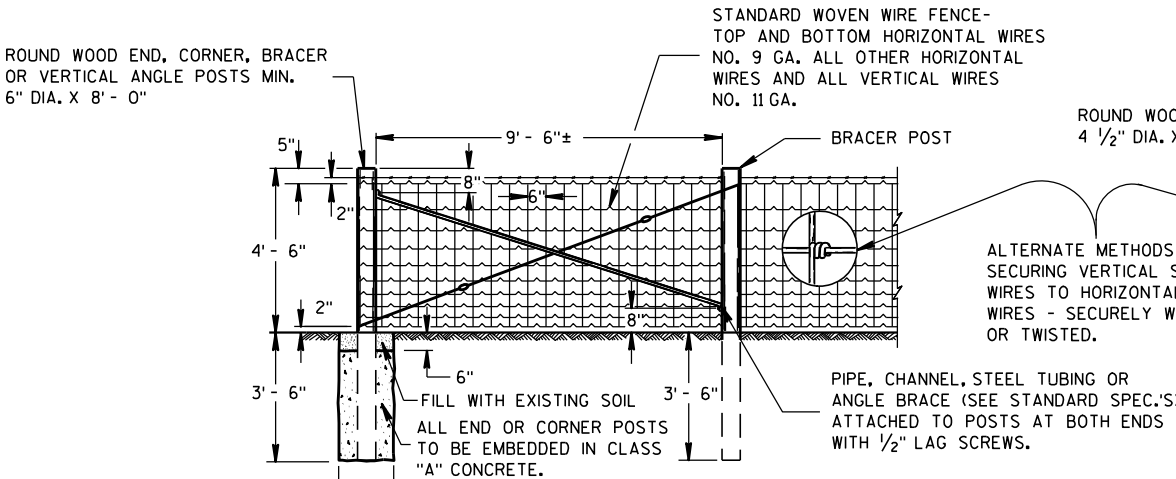
GENERAL NOTES

"Xφ" = DIAMETER OF THE POST PLUS 12".

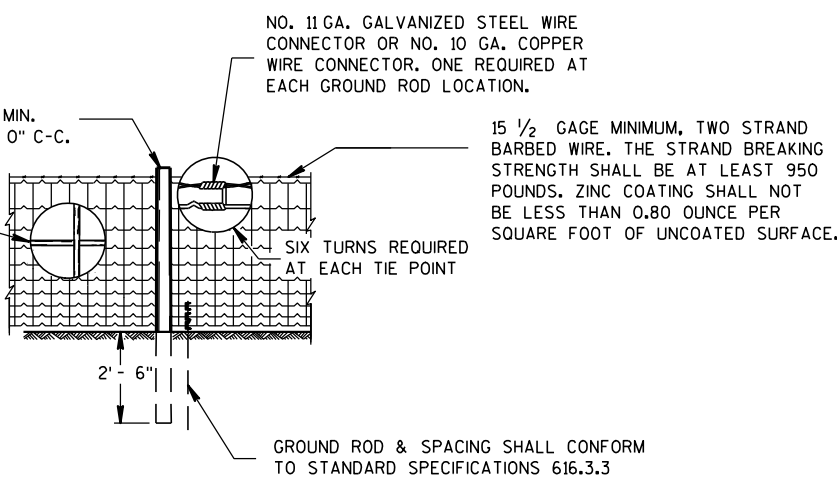
FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

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.

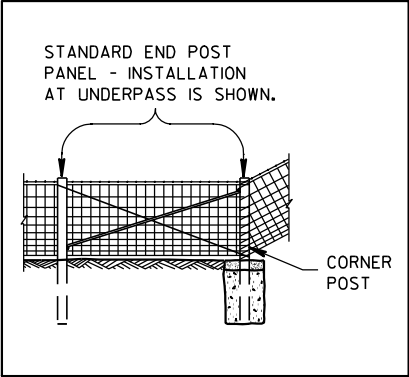


END OR CORNER POSTS ASSEMBLY

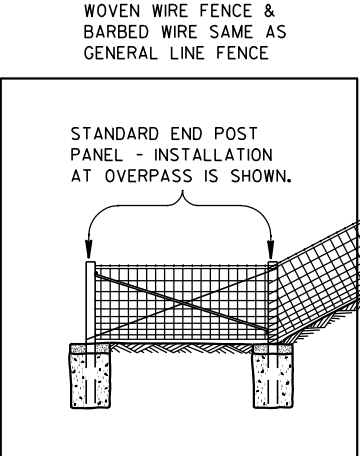


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



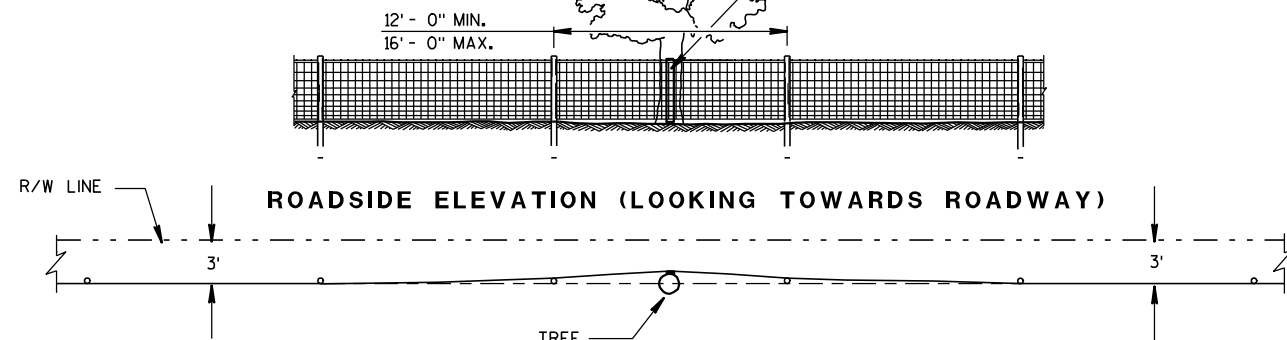
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

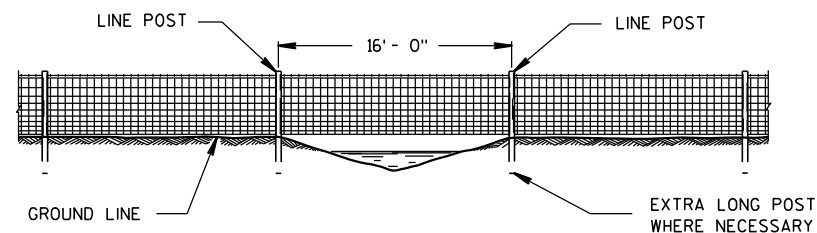
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

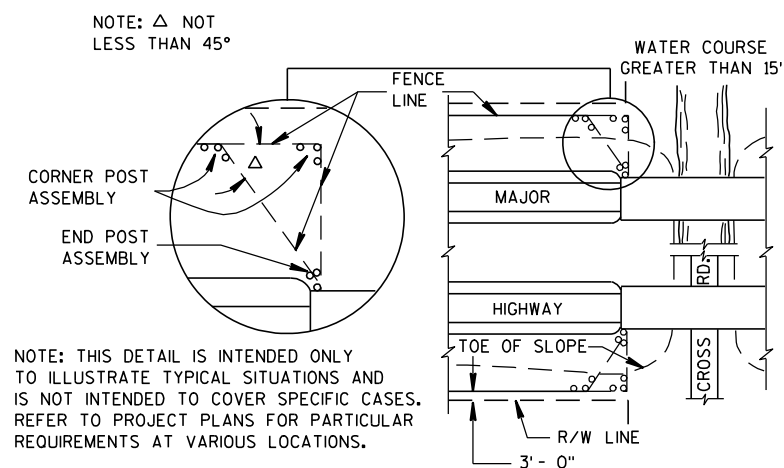
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE

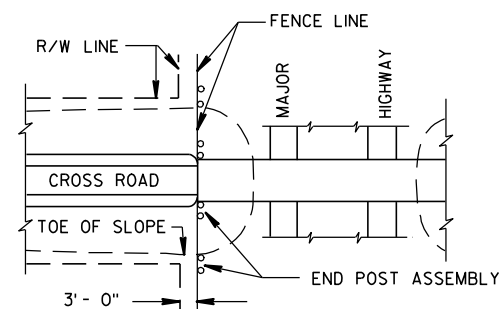


FENCE CONSTRUCTION OVER STREAM
COURSES OF 15 FT. OR LESS IN WIDTH

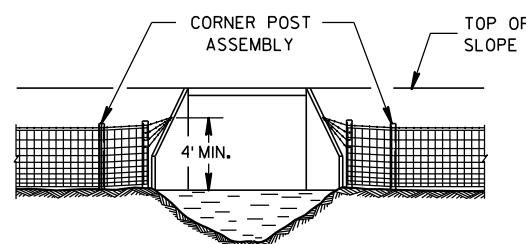


PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH

FENCE LOCATION AT STRUCTURES

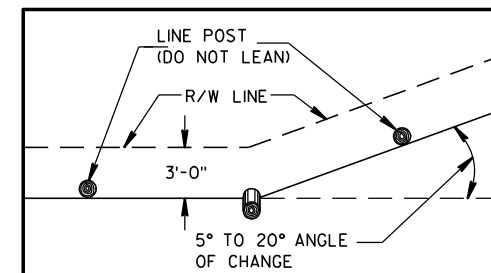
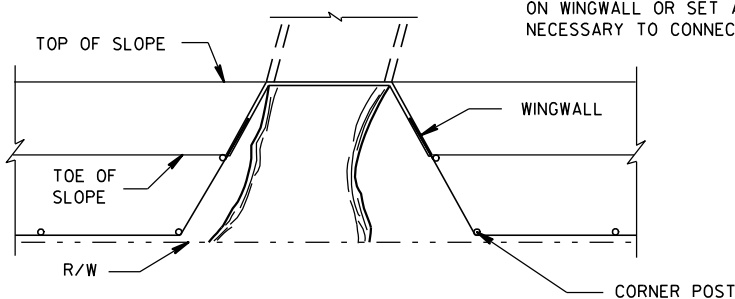


PLAN VIEW
MAJOR HIGHWAY UNDERPASS

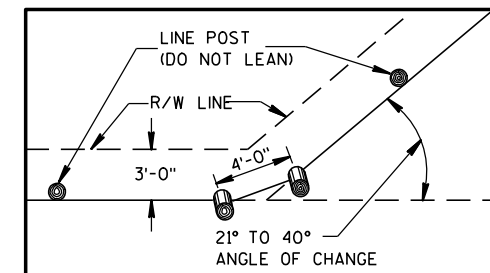


FENCE INSTALLATION TO WINGWALLS

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.



PLAN VIEW
SINGLE POST CORNER

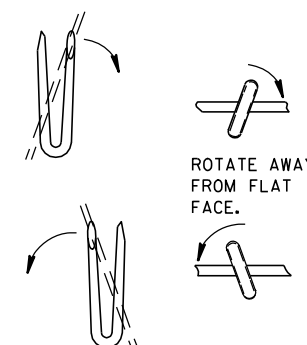


PLAN VIEW
DOUBLE POST CORNER

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.



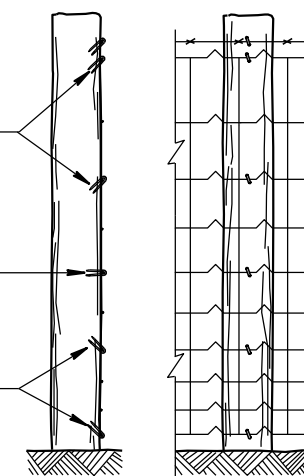
LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

STAPLES SLOPED DOWNWARD FOR SUSTAINED GRADES AND OVER KNOLLS.

STAPLES LEVEL FOR LEVEL GROUND.

SLOPE UPWARDS WHEN FENCE TENDS TO LIFT.



END ELEVATION
FARM SIDE ELEVATION
FENCE MOUNTING DETAIL

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/4/2008

DATE

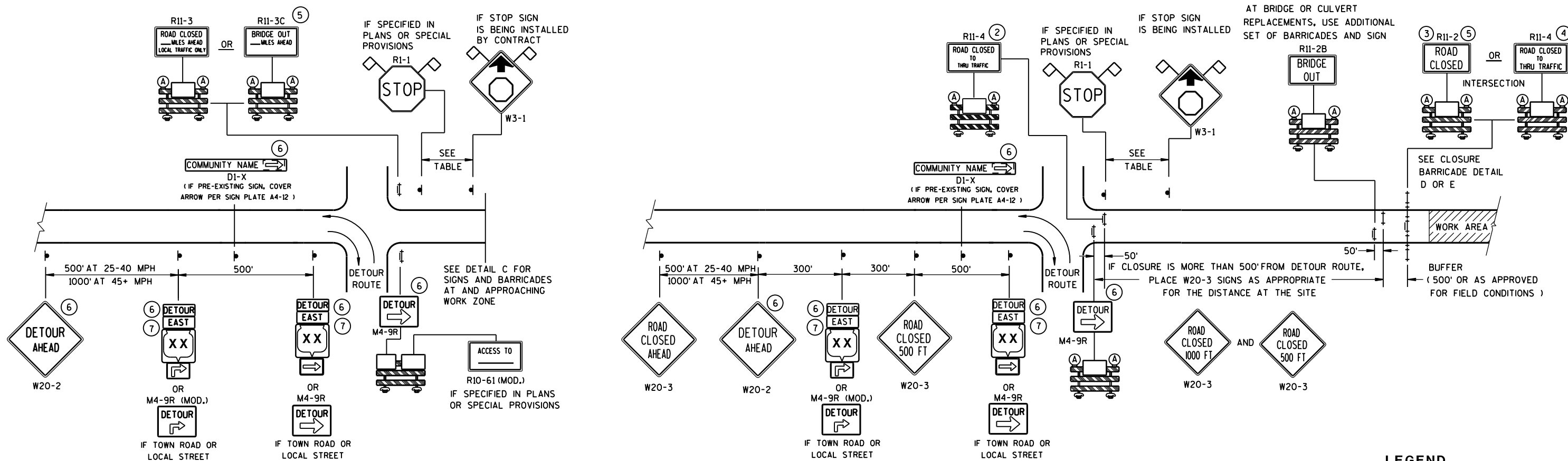
FHWA

/S/ Jerry H. 7----

ROADWAY STANDARDS 196

ENGINEER

ENT



LEGEND

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

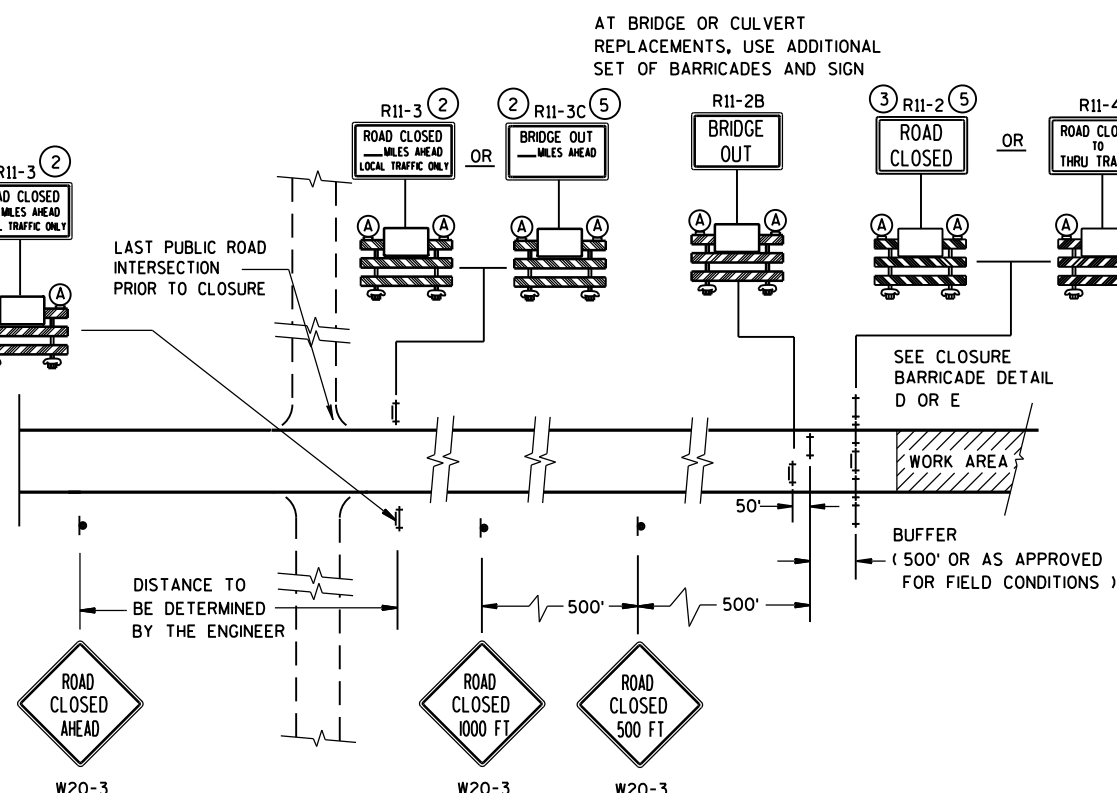
WORK AREA

DETOUR EAST
M4-8
M3-X
XX OR XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

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

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

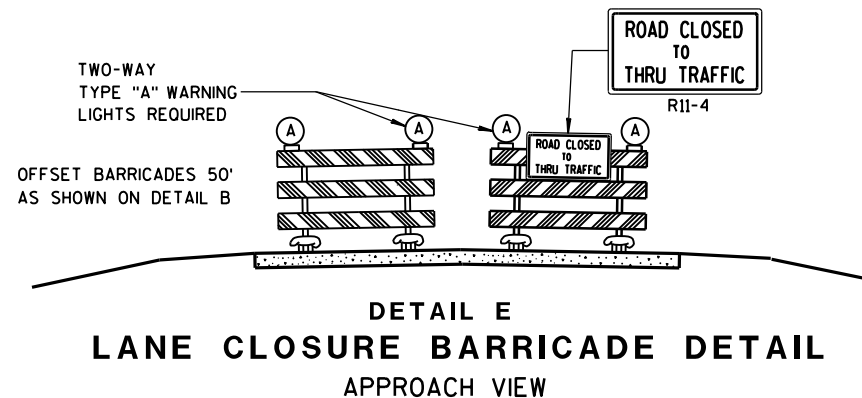
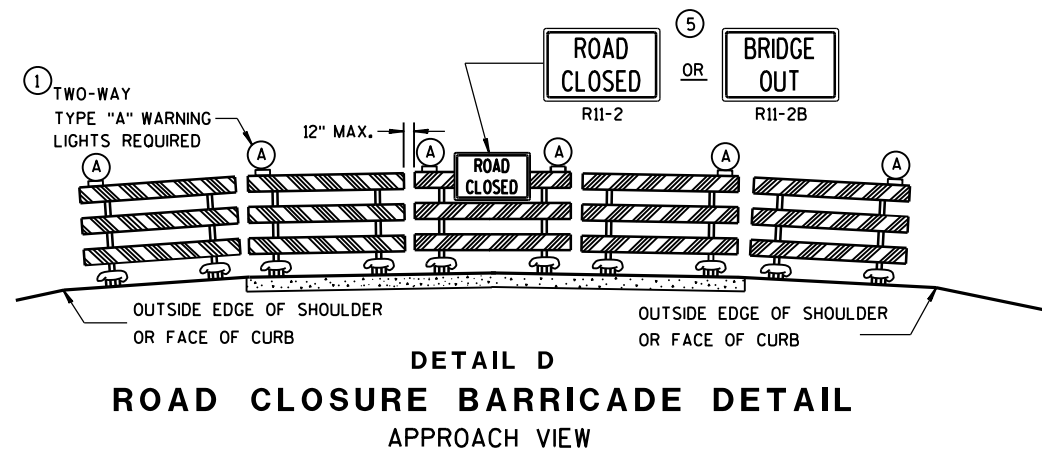


SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINE 97
FHWA EISN



SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

M4-9 SHALL BE 30" X 24".

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

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

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

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

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

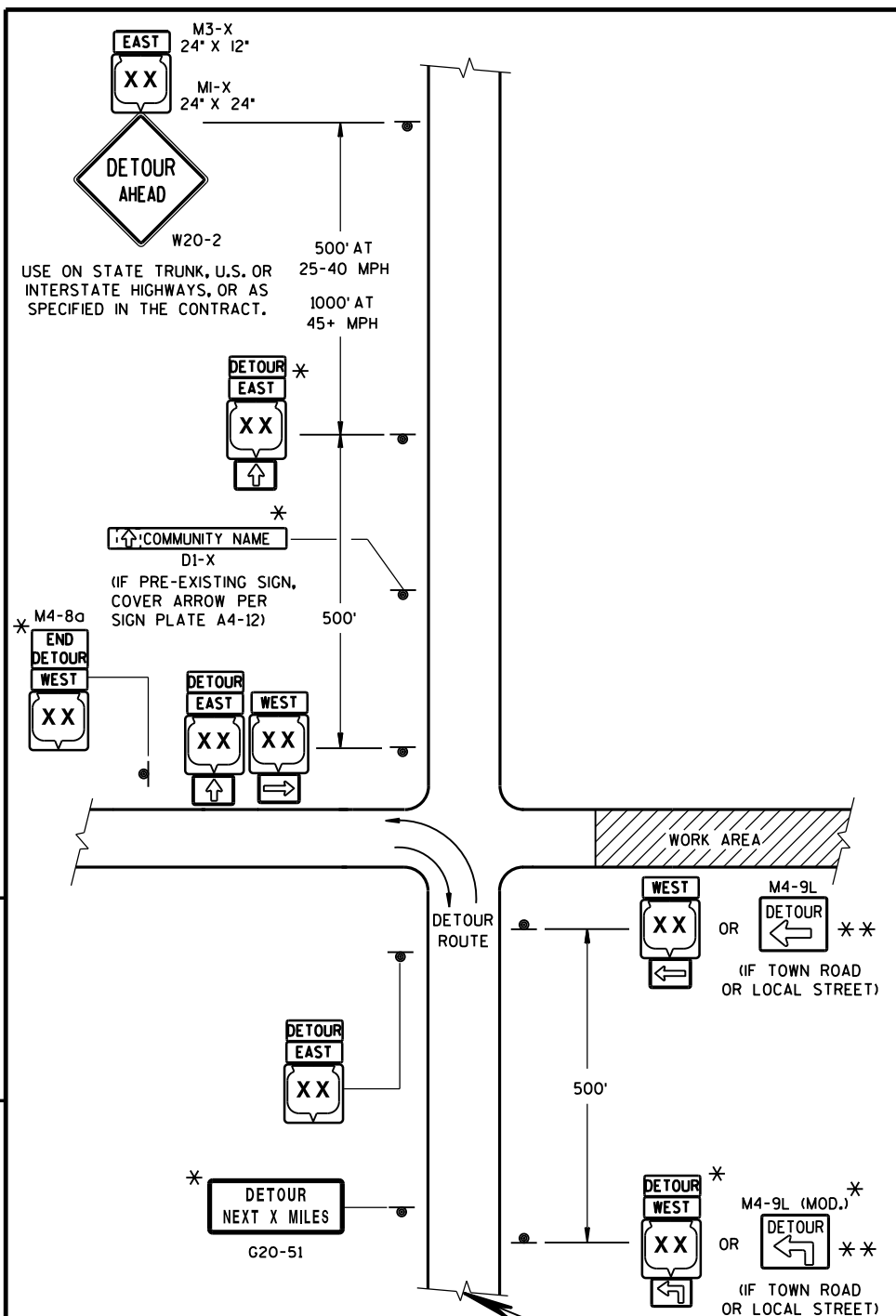
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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

MATCH POINT

DETAIL F
DETOUR SIGNING

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

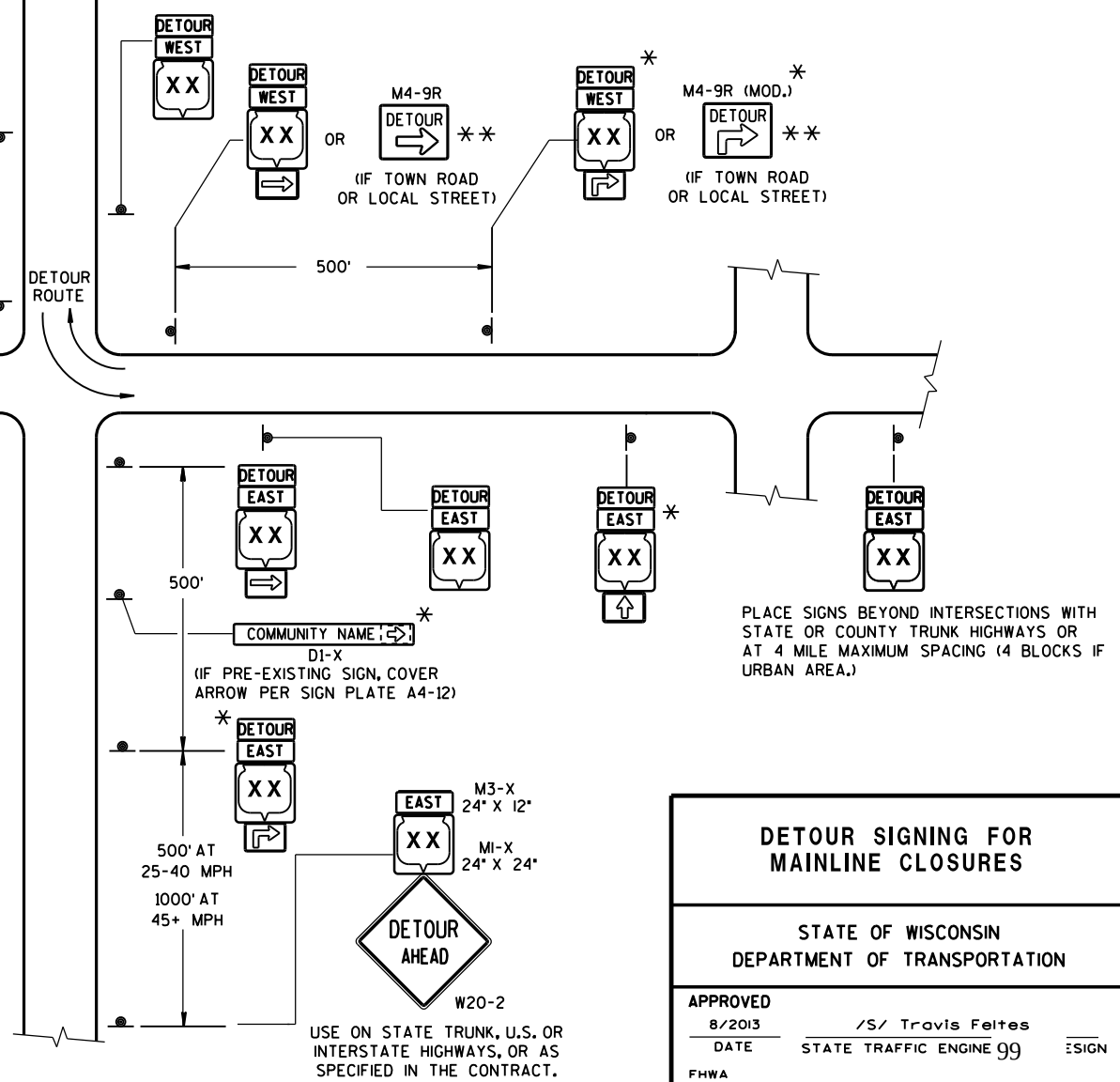
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETOUR SIGNING FOR MAINLINE CLOSURES		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 99	SIGN FHWA



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

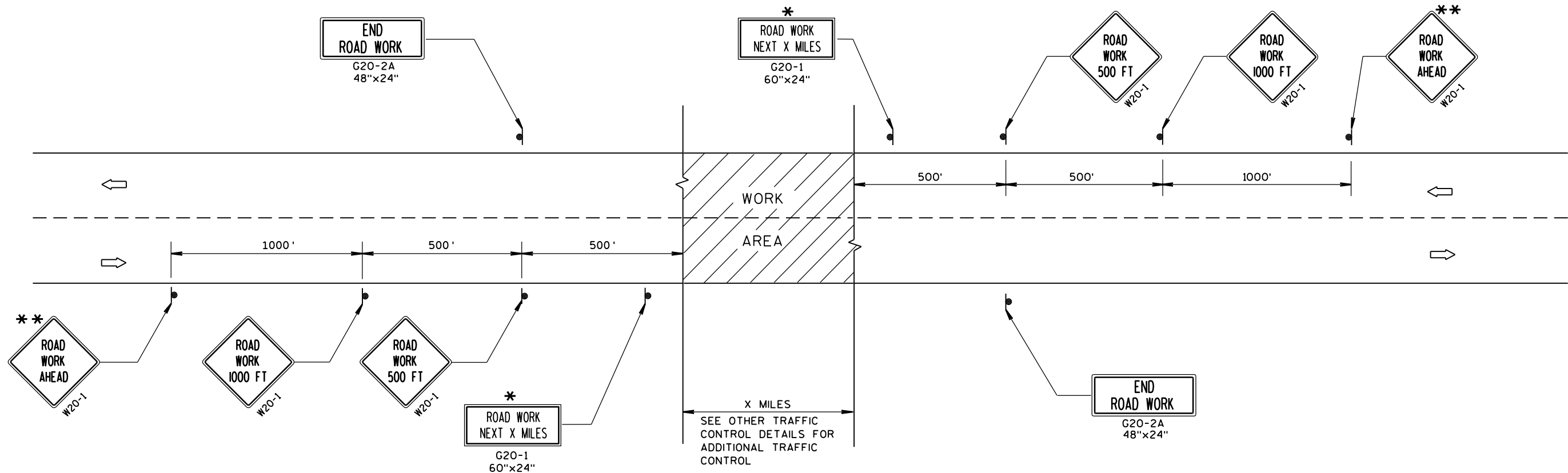
-  SIGN ON PERMANENT SUPPORT
 TYPE III BARRICADE
 TYPE III BARRICADE WITH ATTACHED SIGN
 TYPE "A" WARNING LIGHT (FLASHING)
 WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 100 SIGN

FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

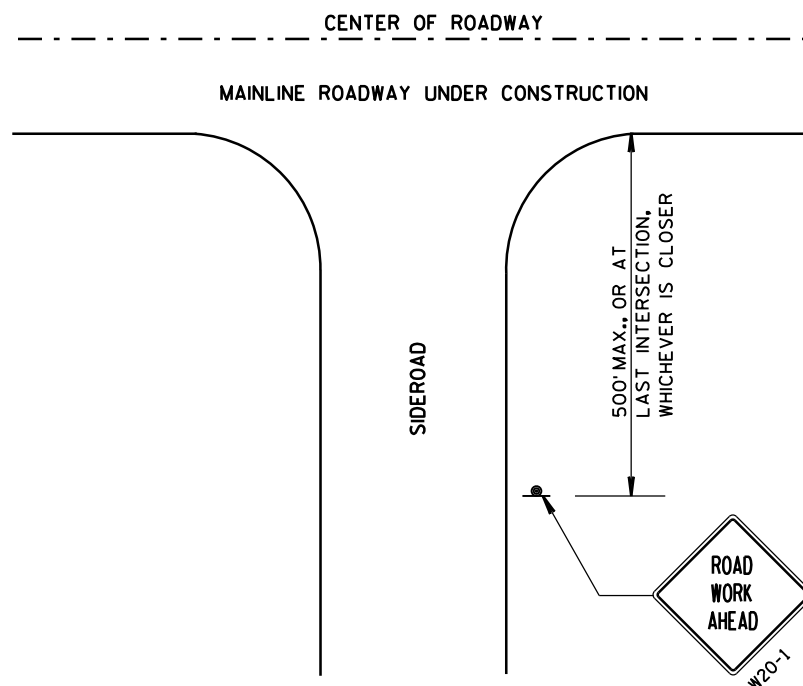
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

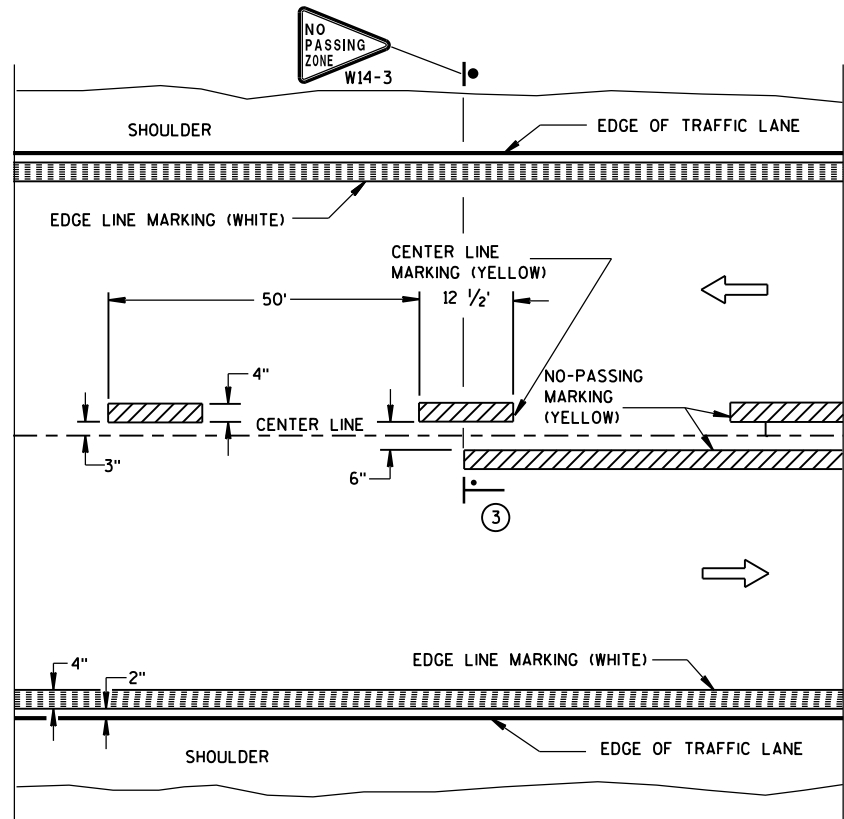
** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



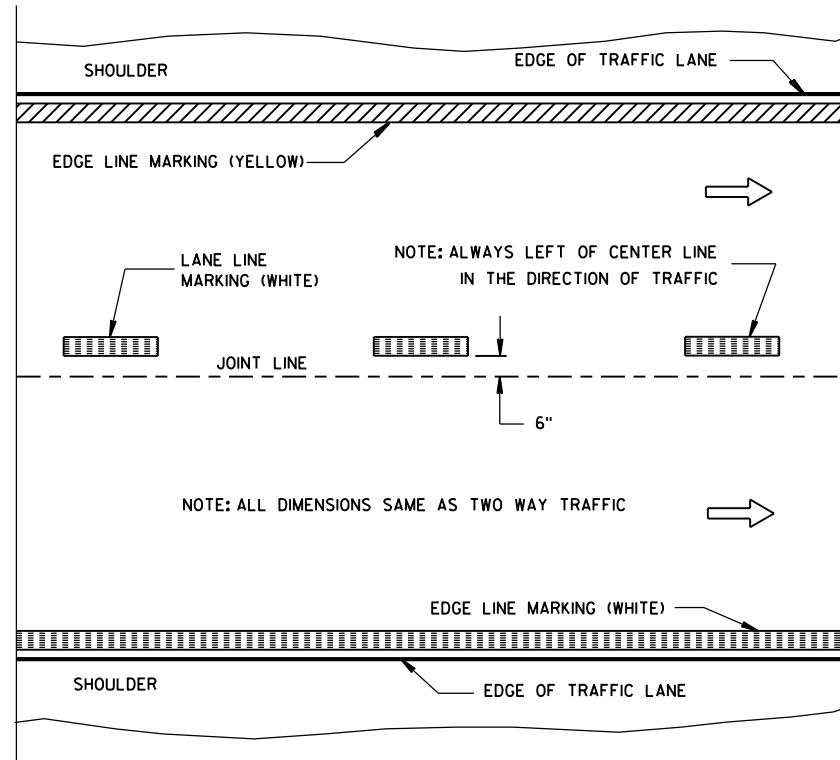
LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER	101 SIGN
FHWA		

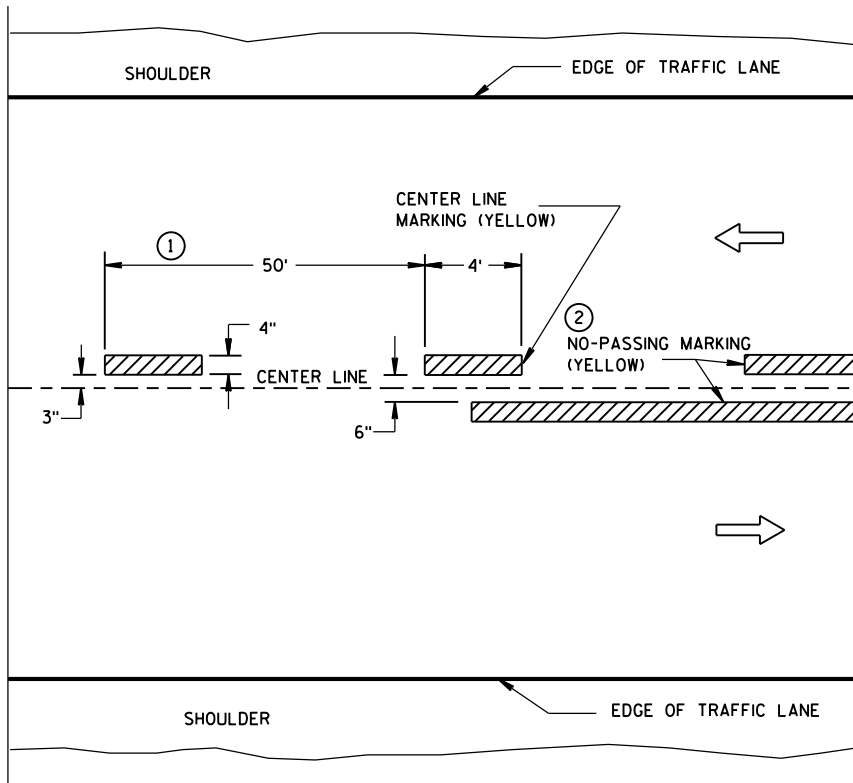


TWO WAY TRAFFIC

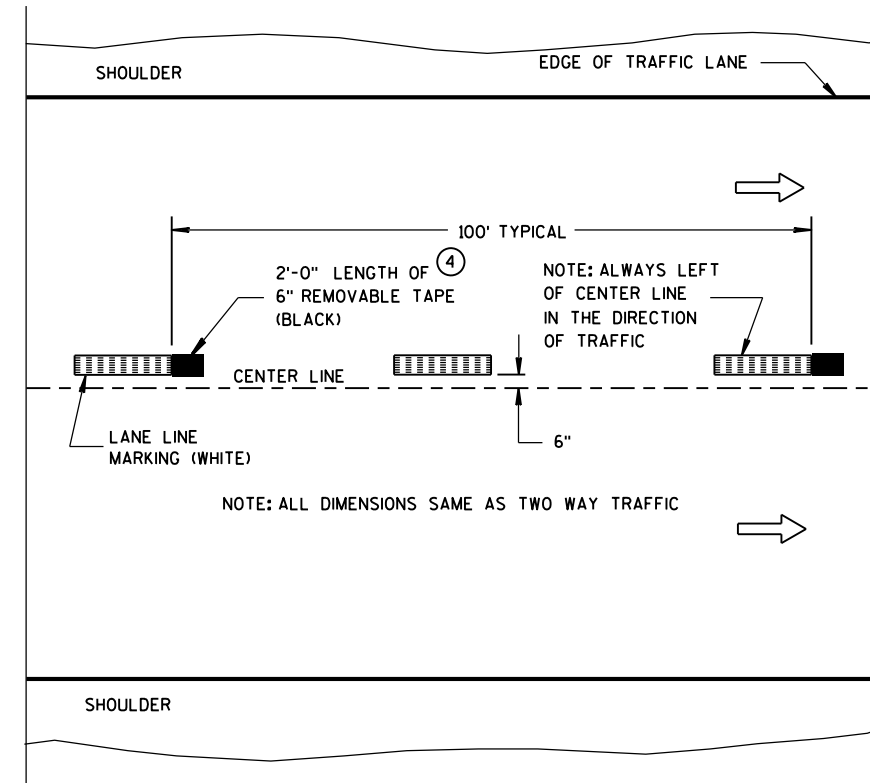


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

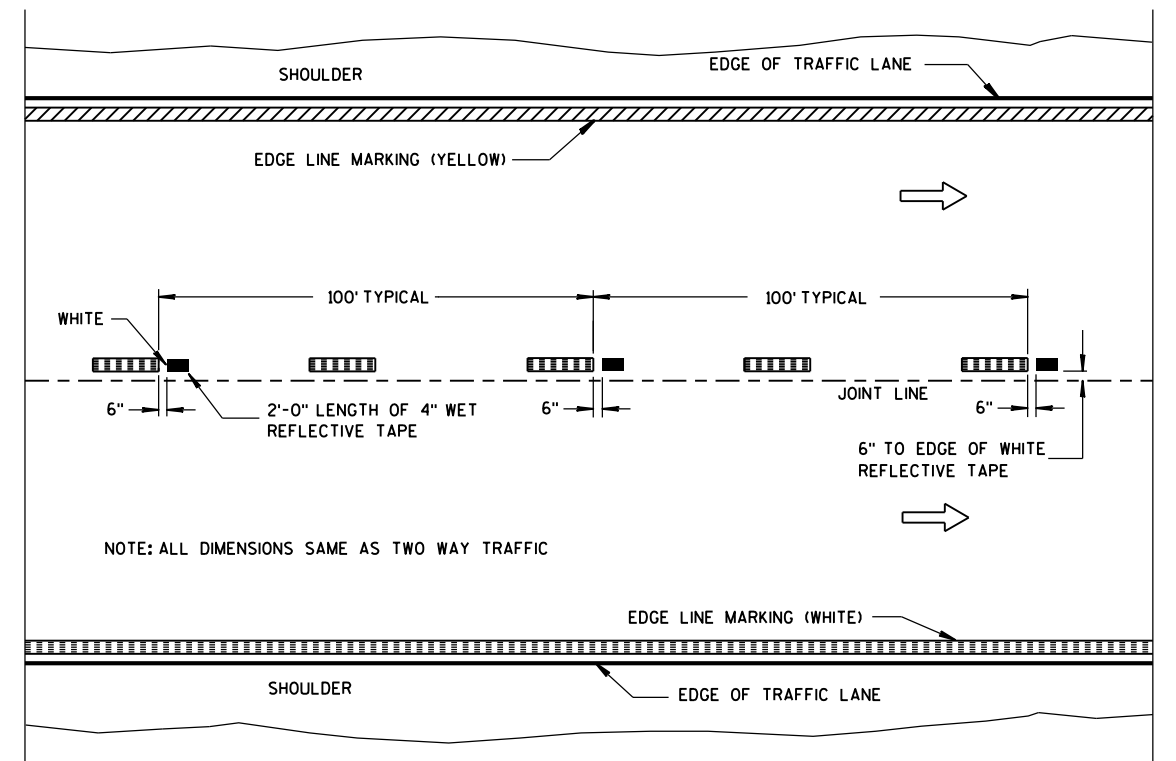
GENERAL NOTES

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

- 1 HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- 2 NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- 3 NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- 4 CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC E 102
FHWA

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

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

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

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

*** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.

TYPE III BARRICADE WITH ATTACHED SIGN

© SIGN ON PERMENENT SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

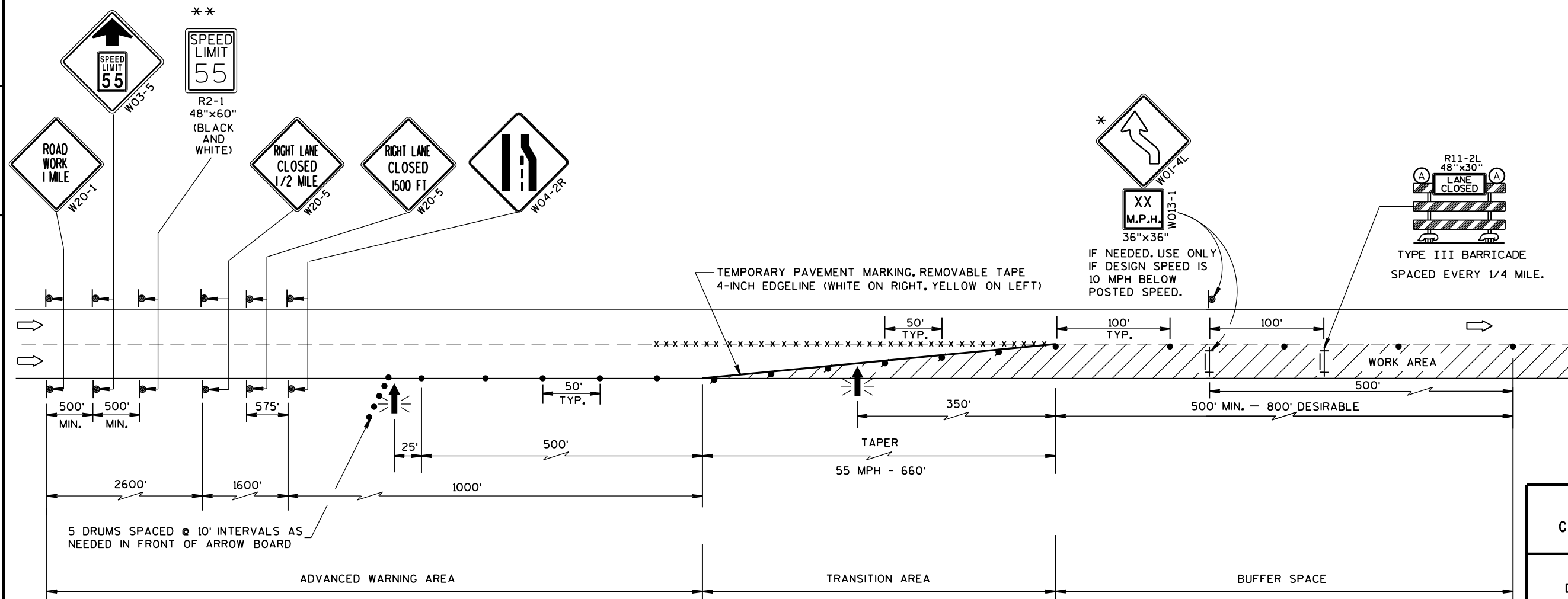
- TRAFFIC CONTROL DRUM

 FLASHING ARROW BOARD

Ⓐ TYPE "A" WARNING LIGHT (FLASHING)

~~X-X-X~~ REMOVING PAVEMENT MARKING

➡ DIRECTION OF TRAFFIC

 WORK AREA

TRAFFIC CONTROL, LANE
CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-2014 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 103 SIGN
FHWA

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

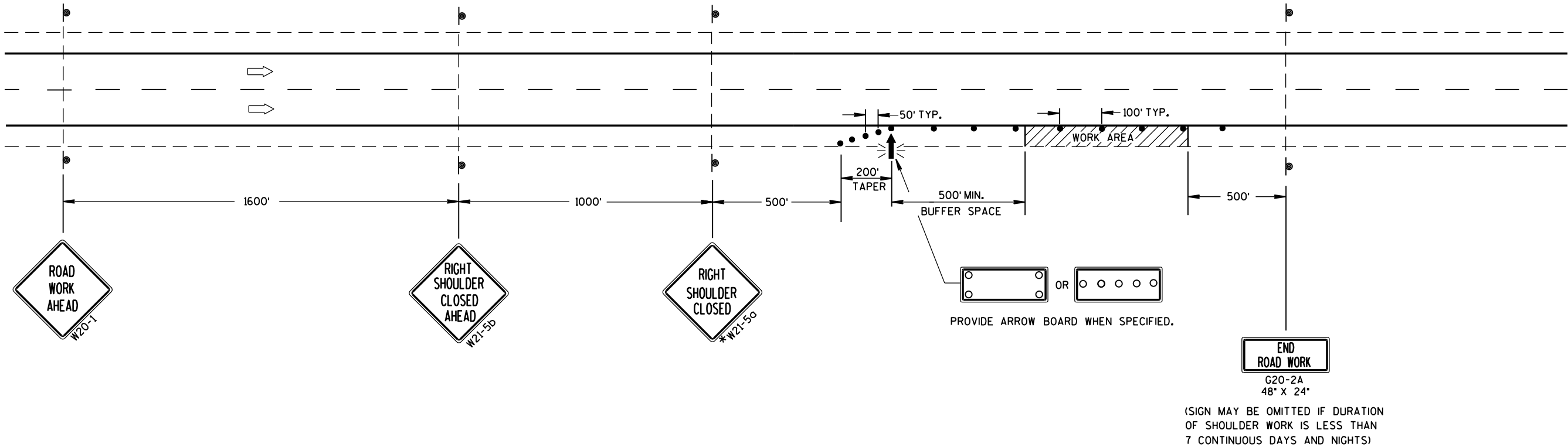
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.

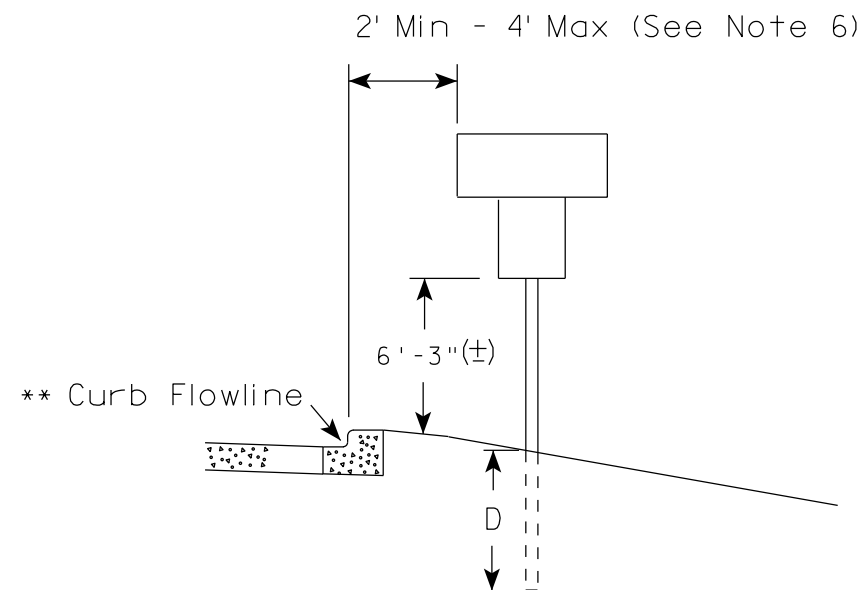
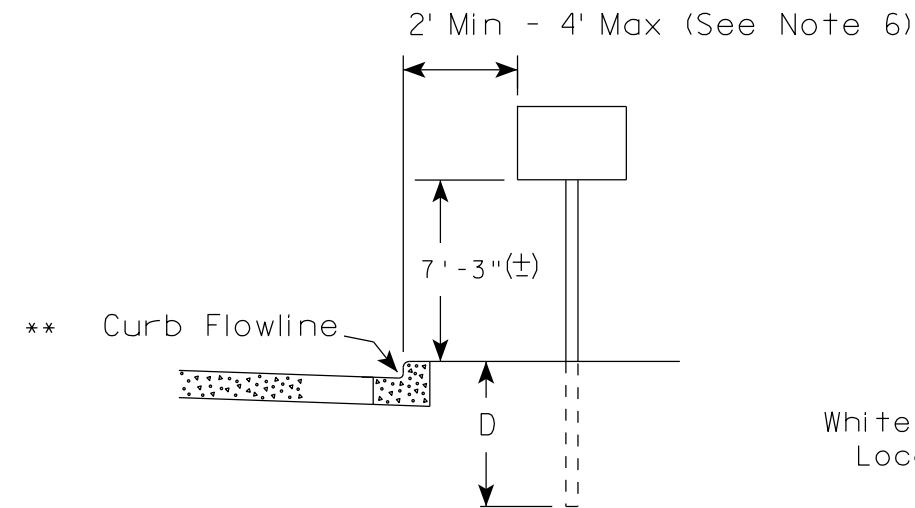


TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

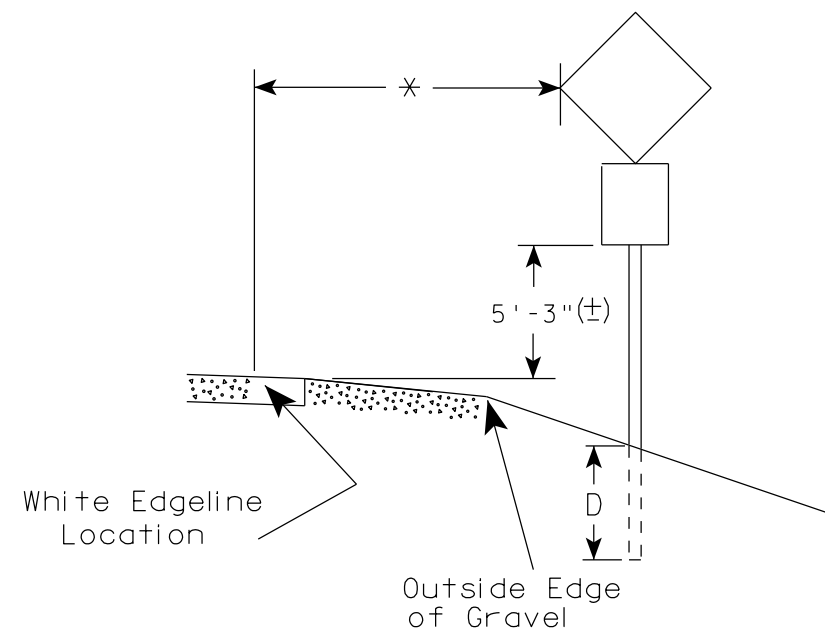
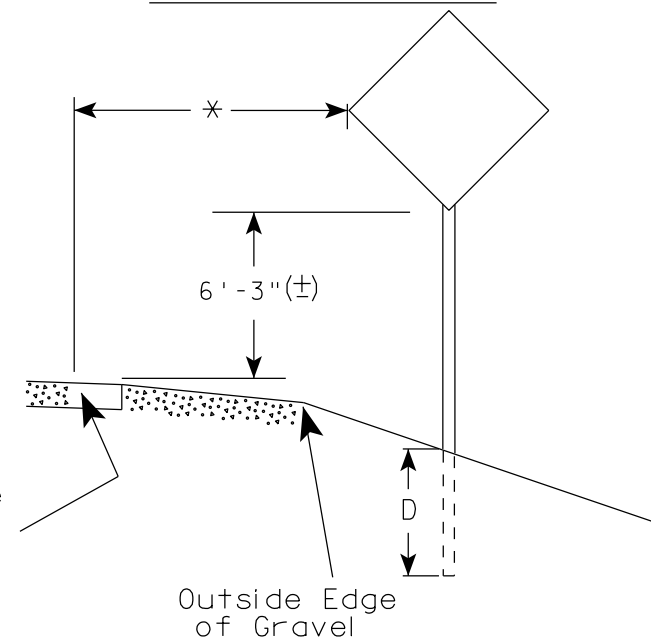
APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINE 104 SIGN
FHWA

URBAN AREA



White Edgeline Location

RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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

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

GENERAL NOTES

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

105

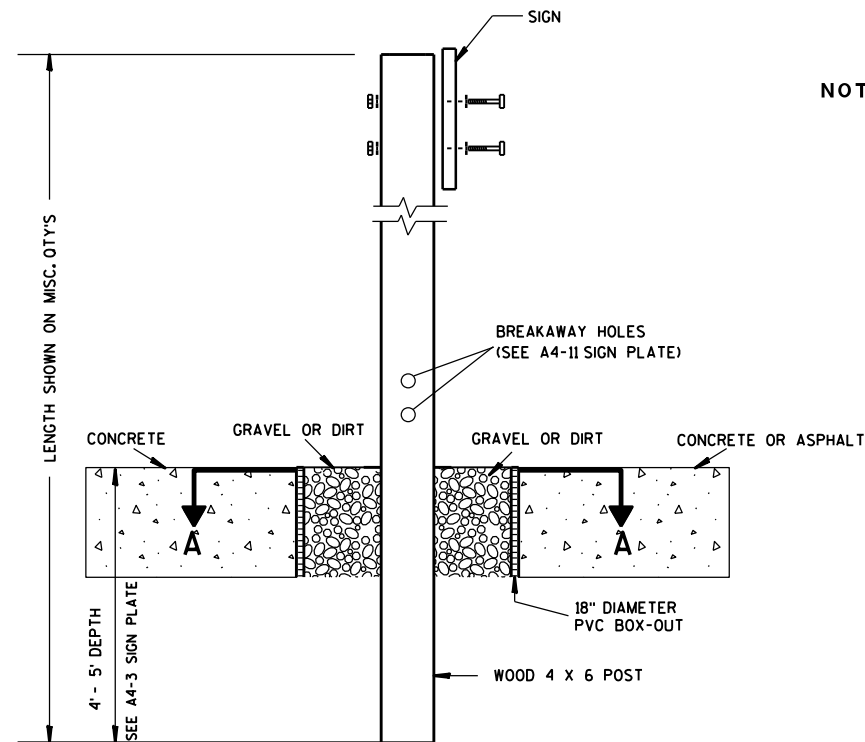
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

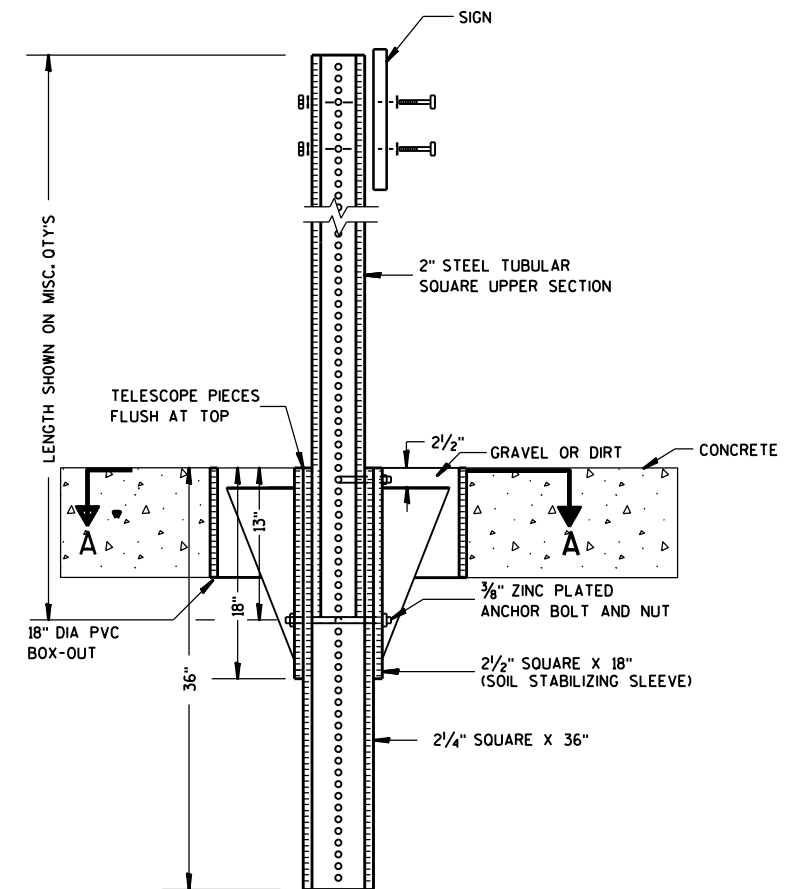
E



ELEVATION VIEW

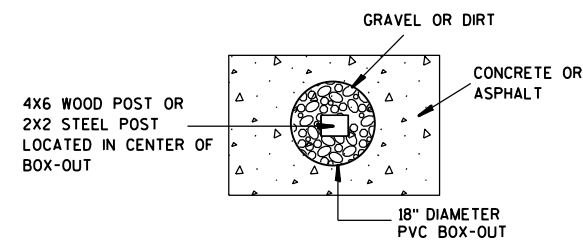
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 106 A4-3B.1

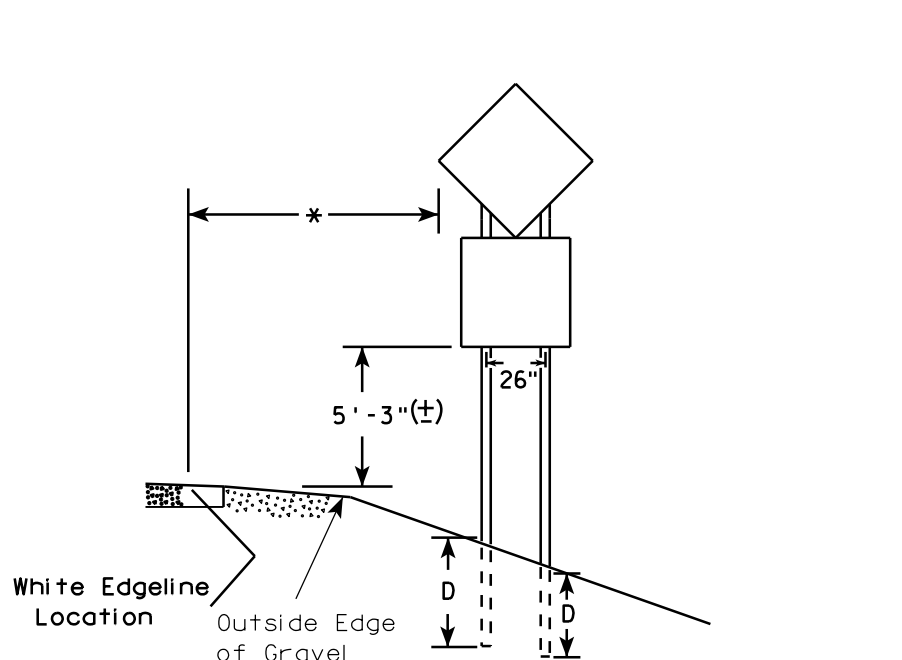
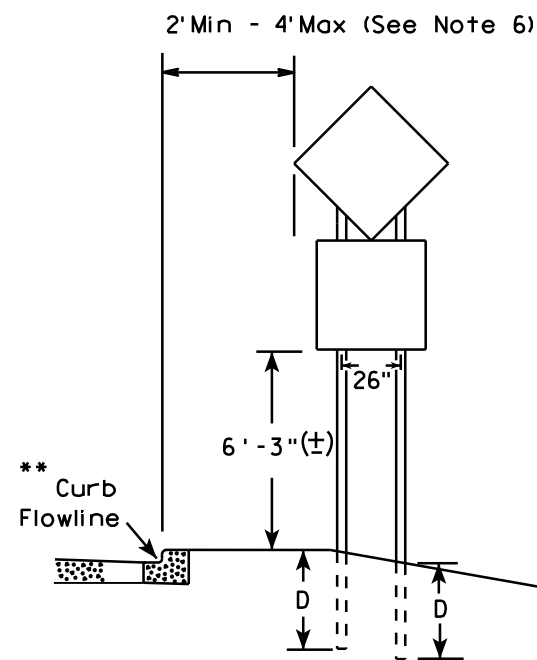
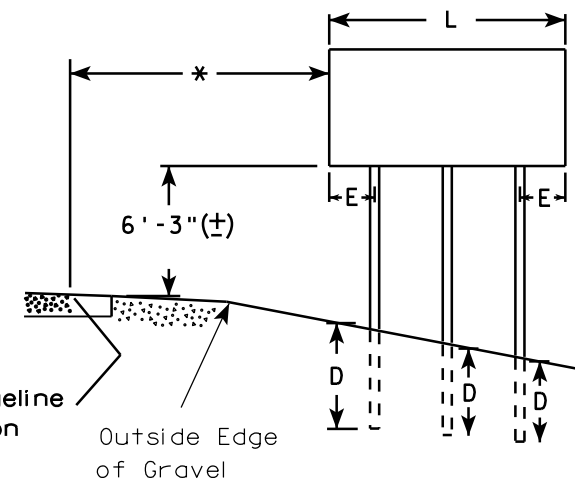
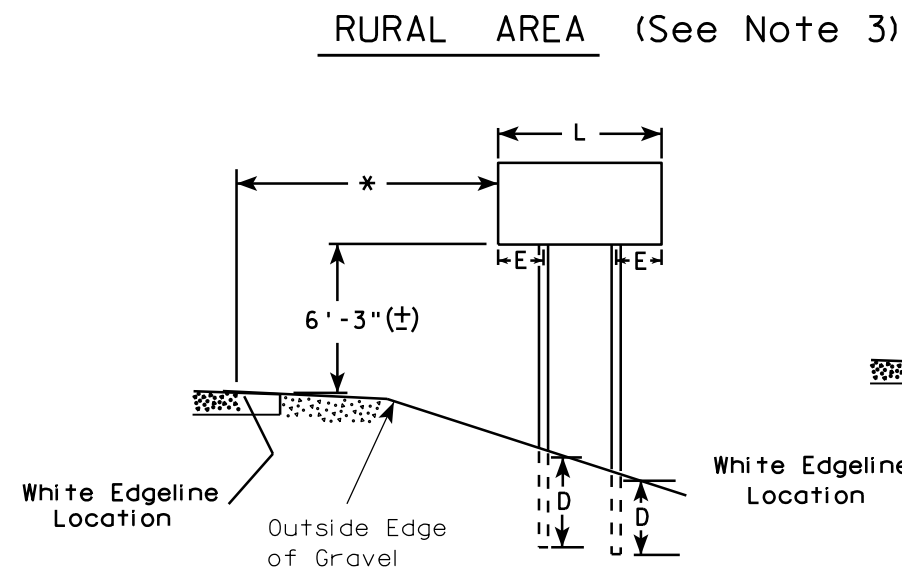
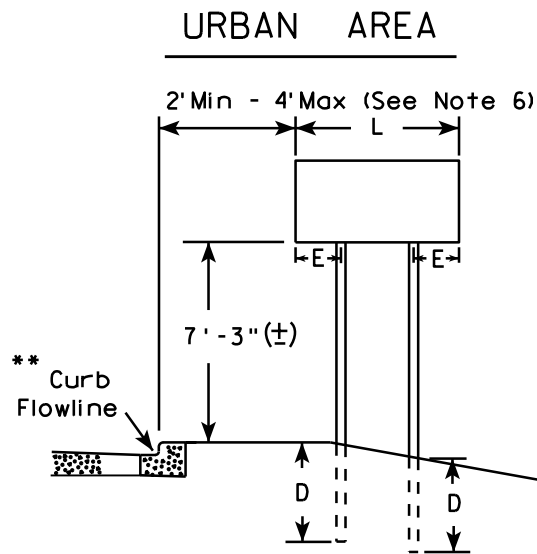
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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

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

*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

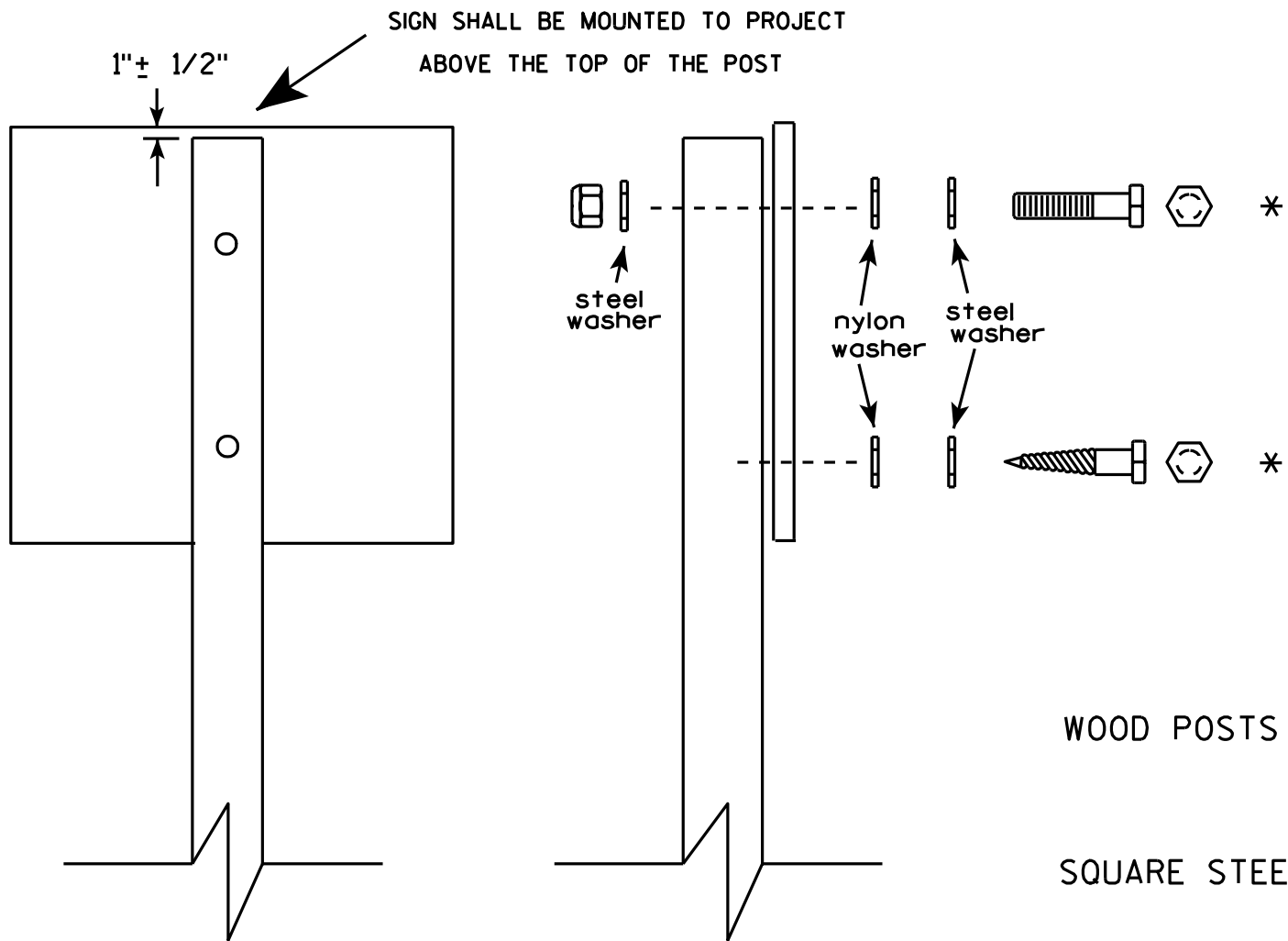
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/14 PLATE NO. 107 13

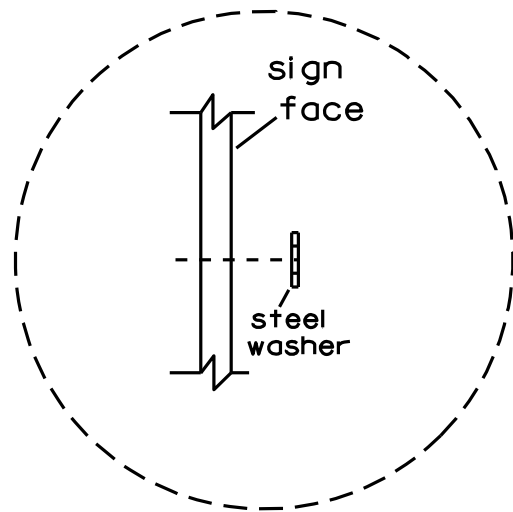


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

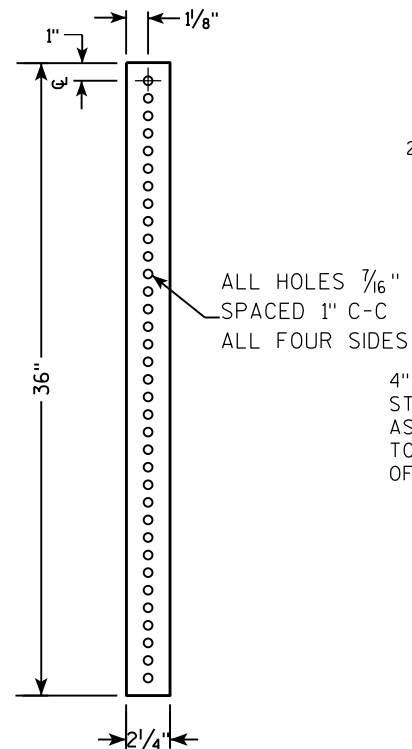


Washer Placement when Sign Has Other Than Type H or Type F Face

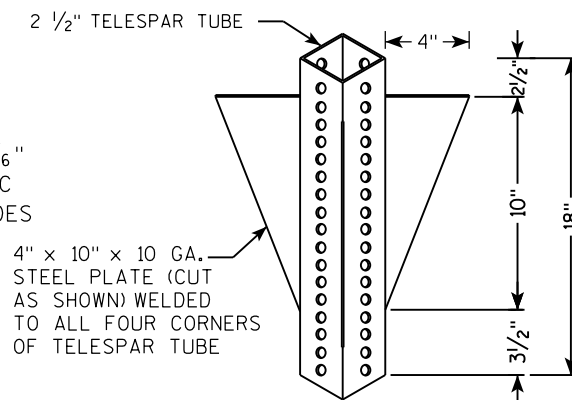
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



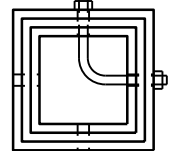
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 36"
 18"
 13"
 2 1/2"
 2 1/4" SQUARE X 36"
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 2 1/2" GRAVEL OR DIRT
 3/8" ZINC PLATED ANCHOR BOLT AND NUT
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
 2" STEEL TUBULAR SQUARE UPPER SECTION
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN

[illegible]

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

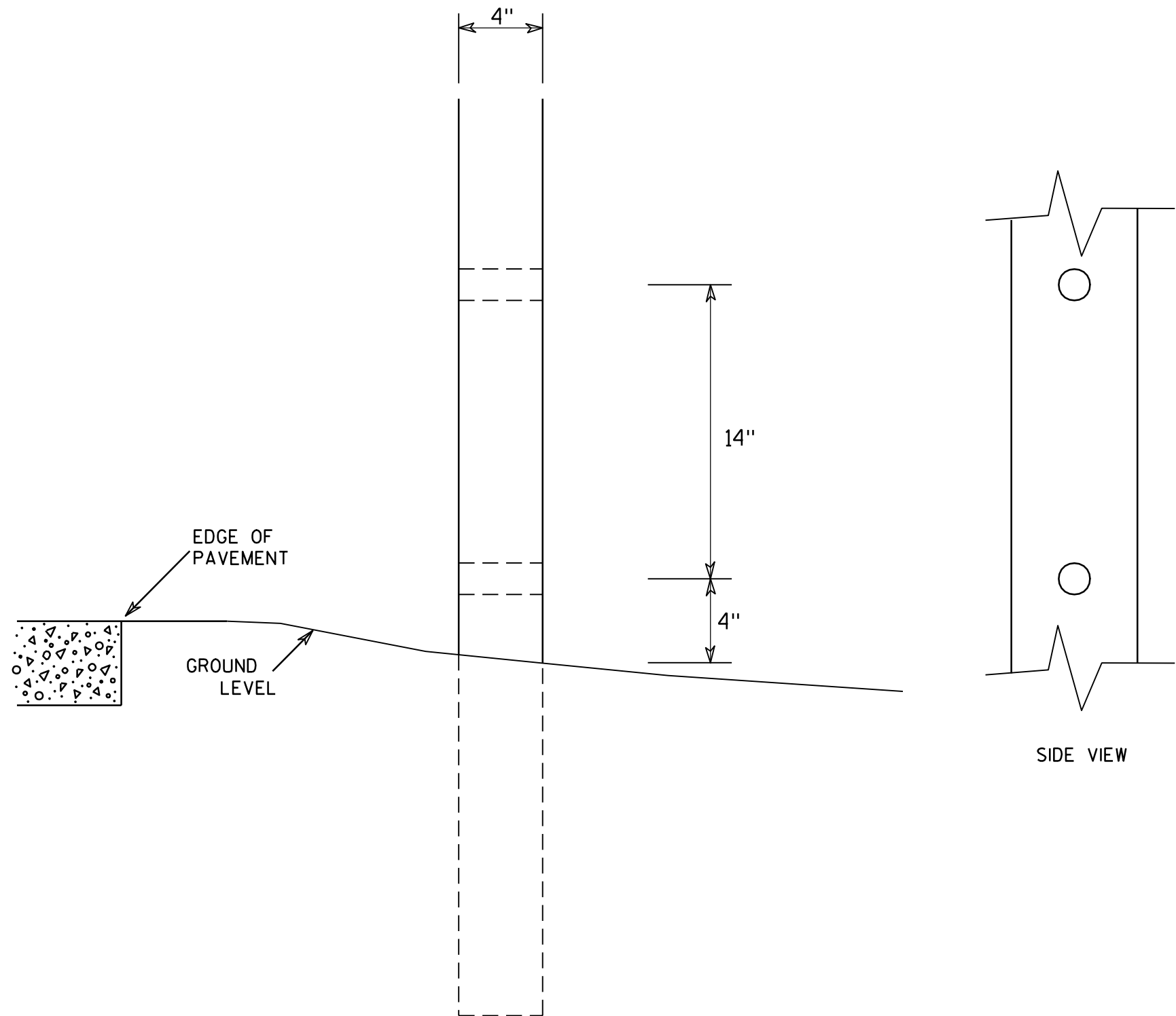
for State Traffic Engineer

DATE 2/05/15 PLATI 109 14-9.9

SHEET NO: E

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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7



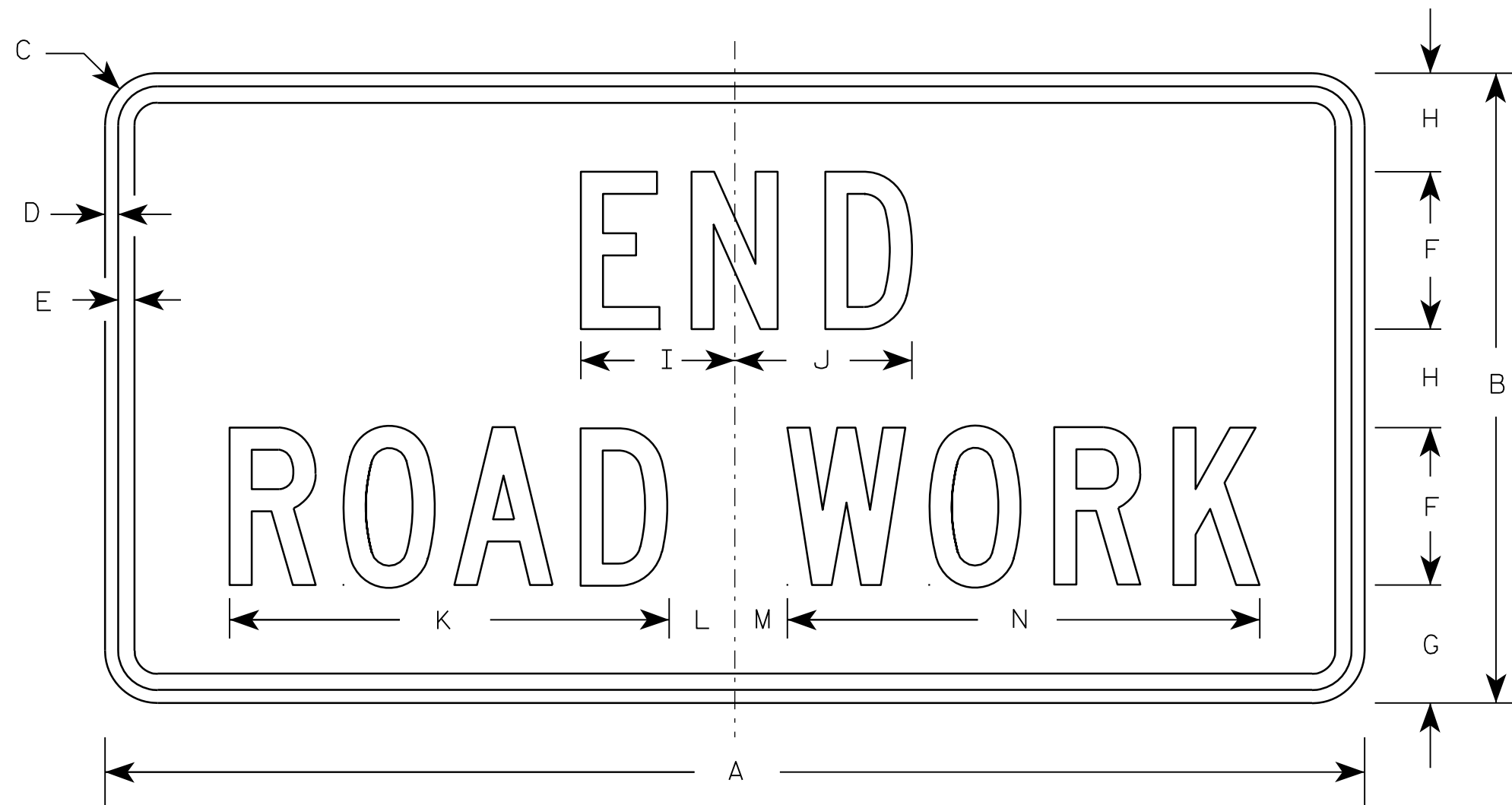
GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Chester J. Spang</i> for State Traffic Engineer
DATE 3/27/97	PLATE NO. A4-11.2

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

PROJECT NO:

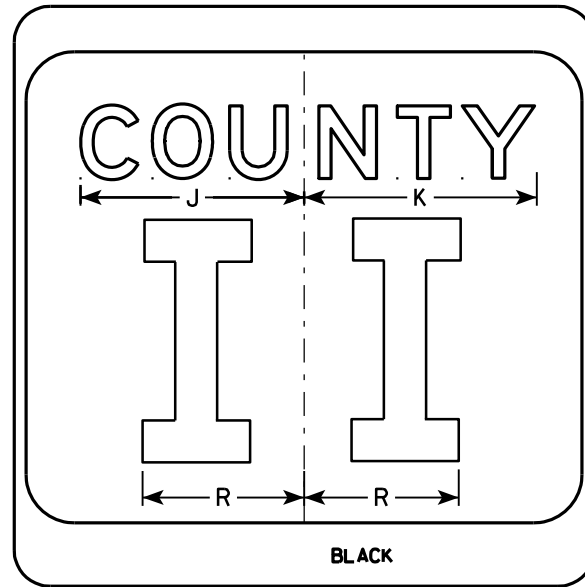
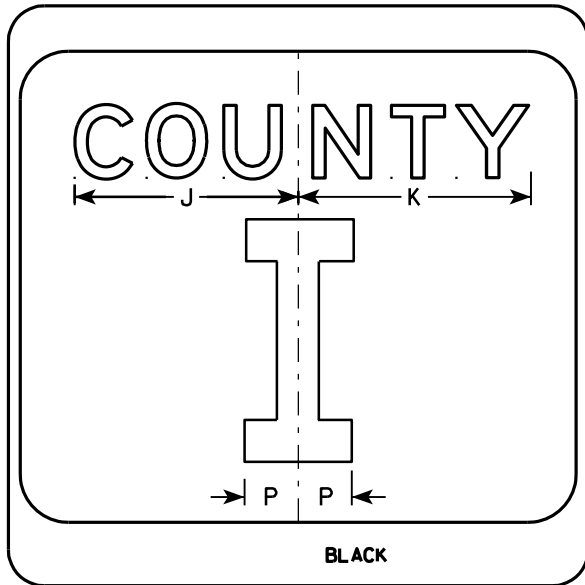
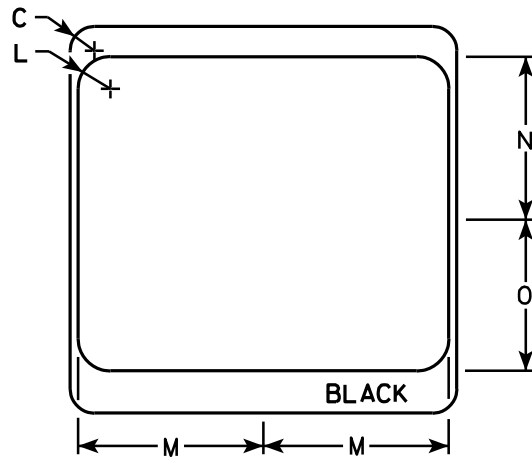
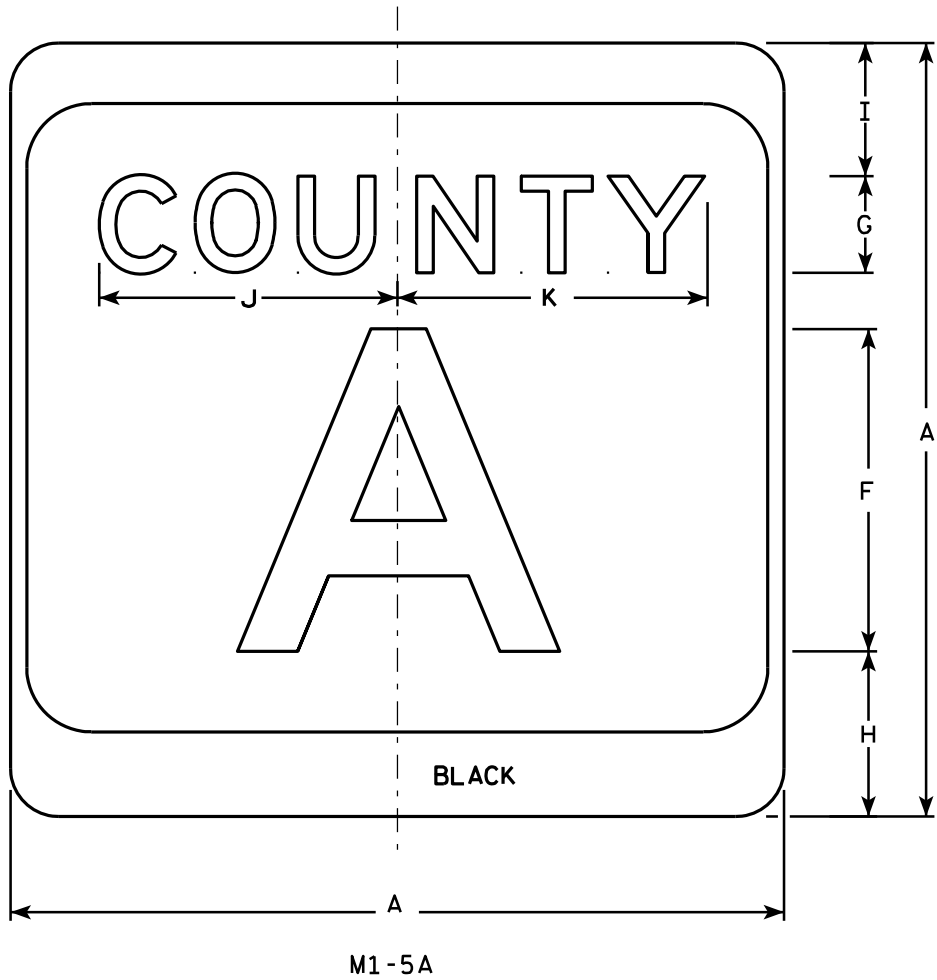
HWY:

COUNTY:

SHEET NO: 111

E

7



NOTES

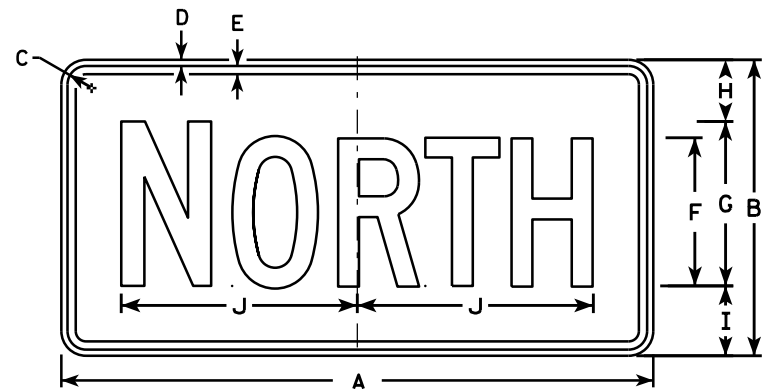
1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER	
M1-5A FOR ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/27/11	PLATE NO. M1-5A.8

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 112	E
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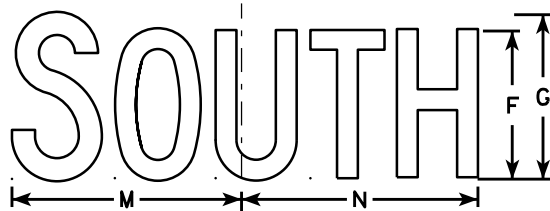
7



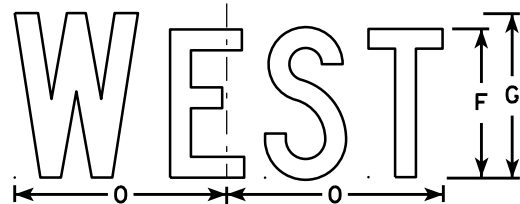
M3-1
MK3-1
MM3-1
MN3-1



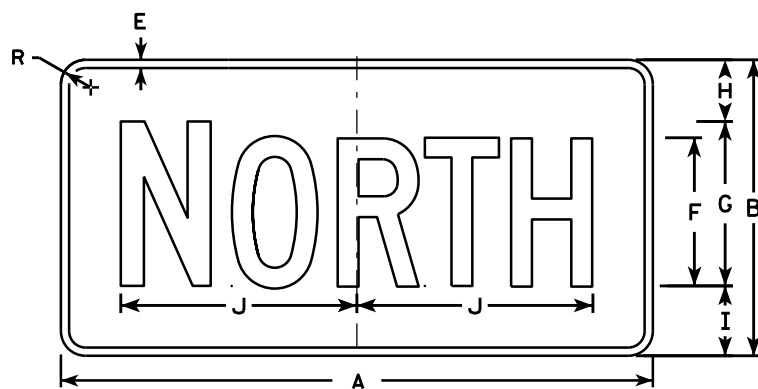
M3-2
MK3-2
MM3-2
MN3-2



M3-3
MK3-3
MM3-3
MN3-3



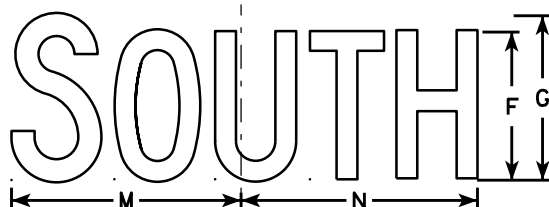
M3-4
MK3-4
MM3-4
MN3-4



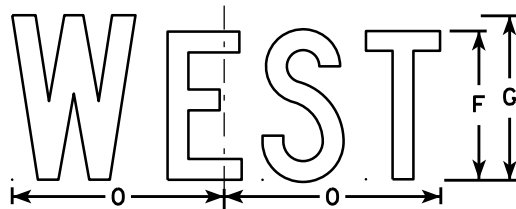
MB3-1



MB3-2



MB3-3



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

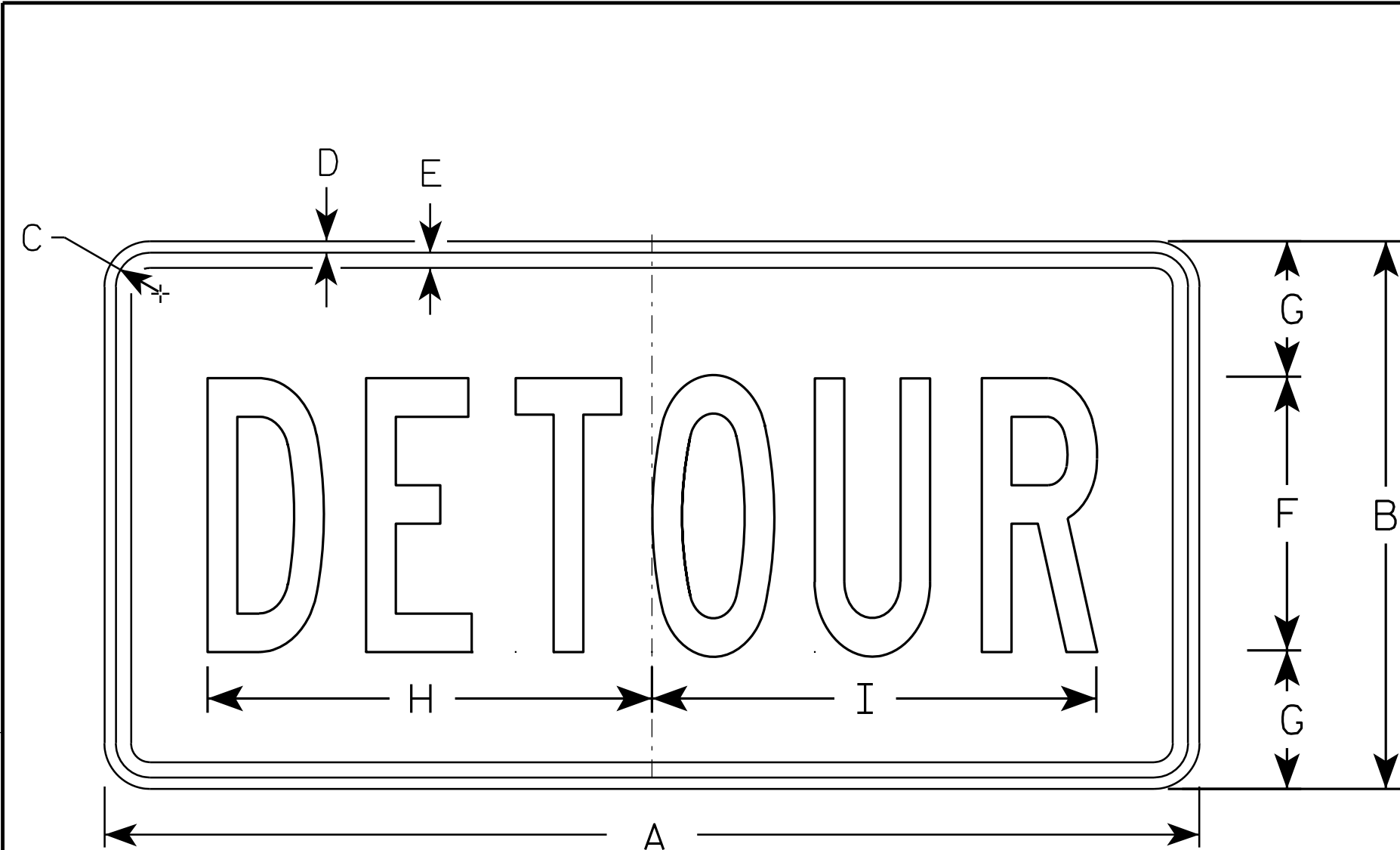
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 6/30/14 PLAT 113 M3-1.13



M4 - 8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN

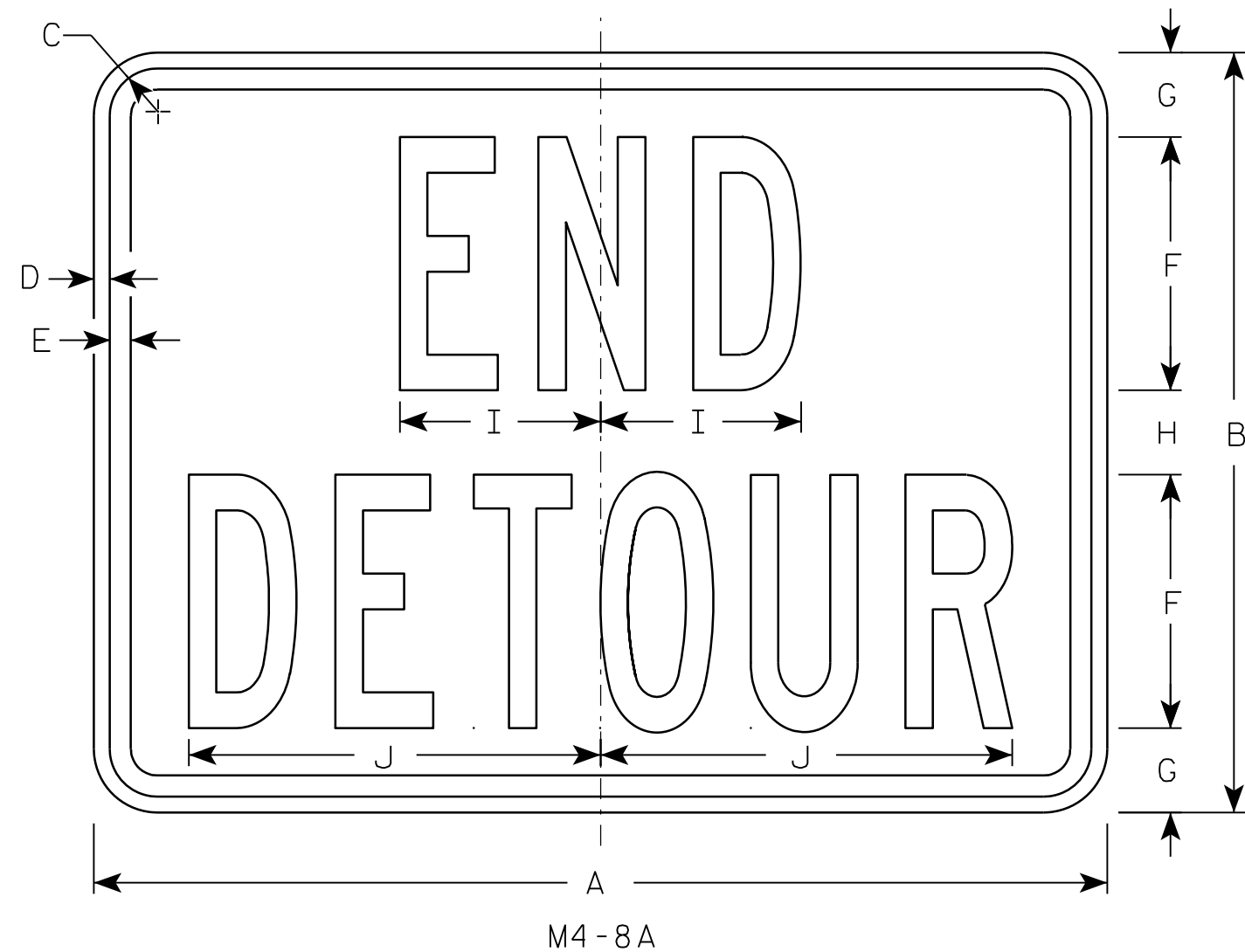
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

7



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

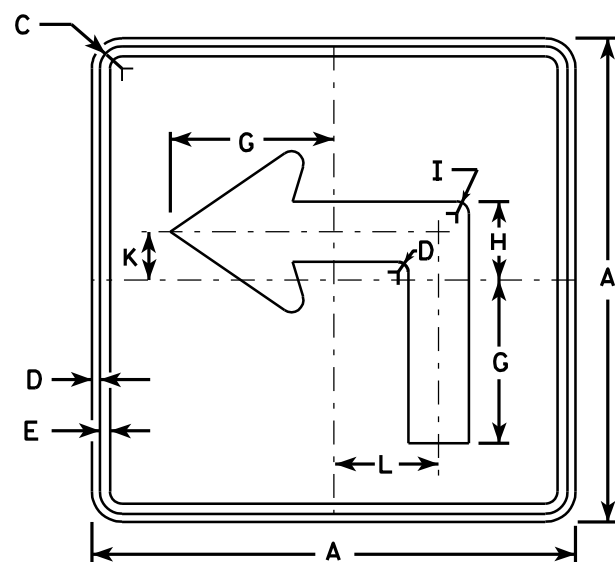
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 115	E
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STANDARD SIGN
M4-8A

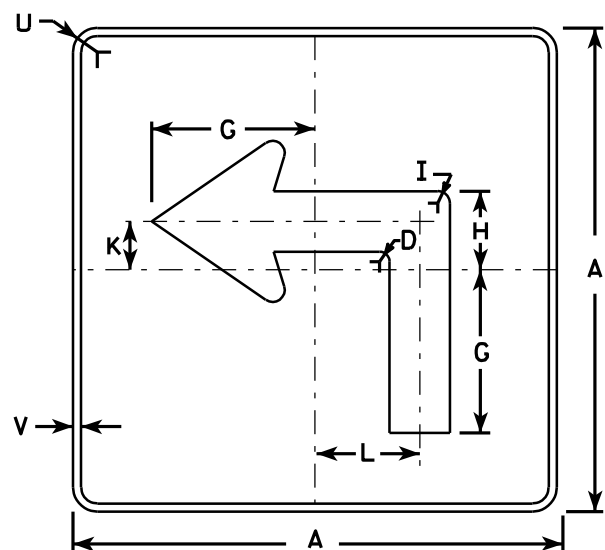
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

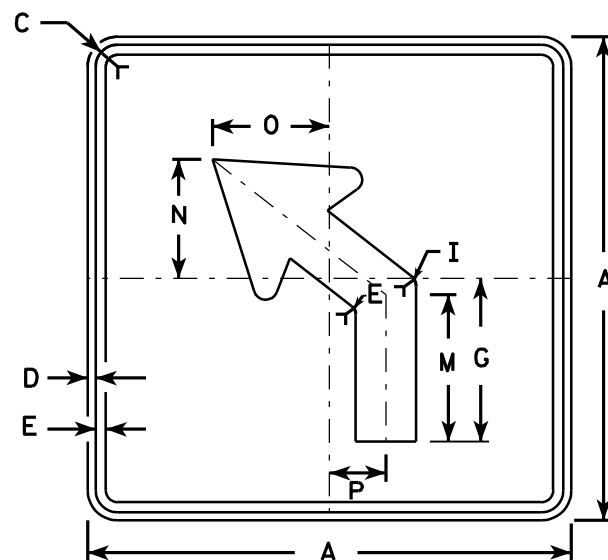
DATE 3/9/11 PLATE NO. M4-8A.2



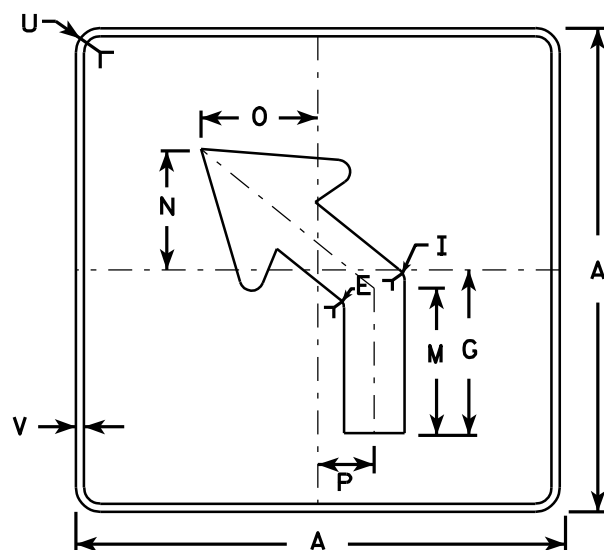
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



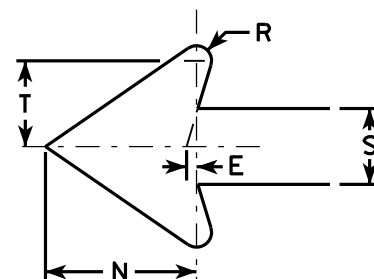
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



MB5-2L
MG5-2L
MN5-2L

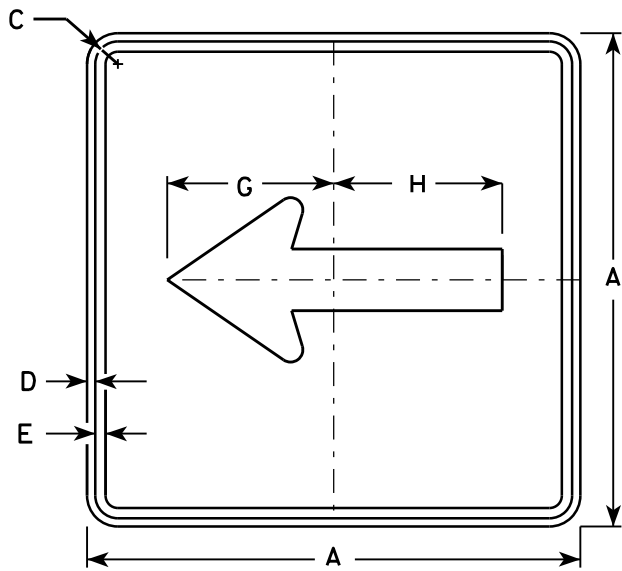


NOTES

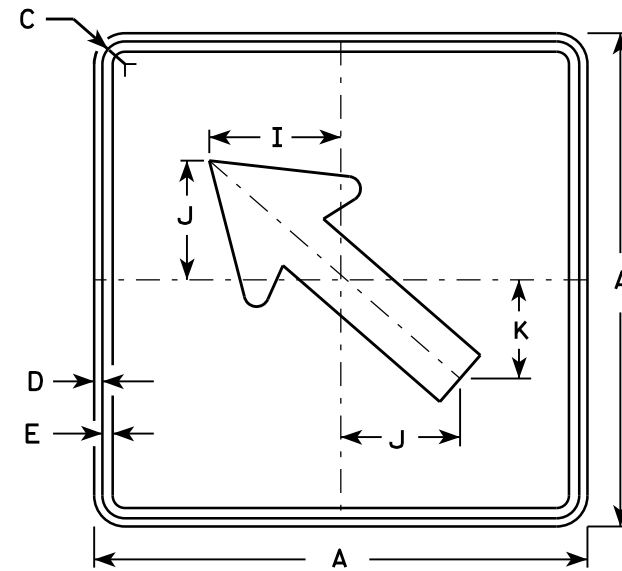
1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 4
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
MR5-1 and MR5-2 Background - Brown
Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

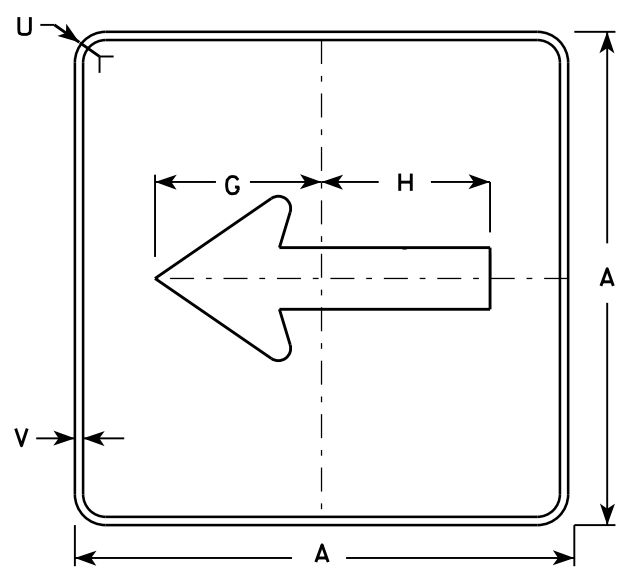
STANDARD SIGN	
M5-1 & M5-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 7/29/13	PLATE NO. M5-1.12



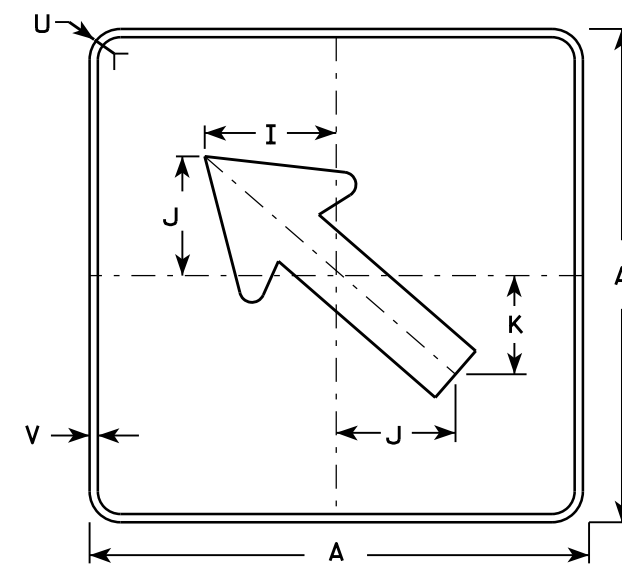
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



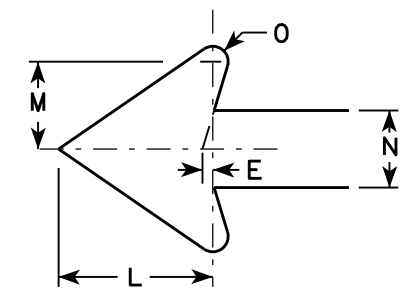
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MG6-1 and MG6-2 Background - Green
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

PROJECT NO:

HWY:

COUNTY:

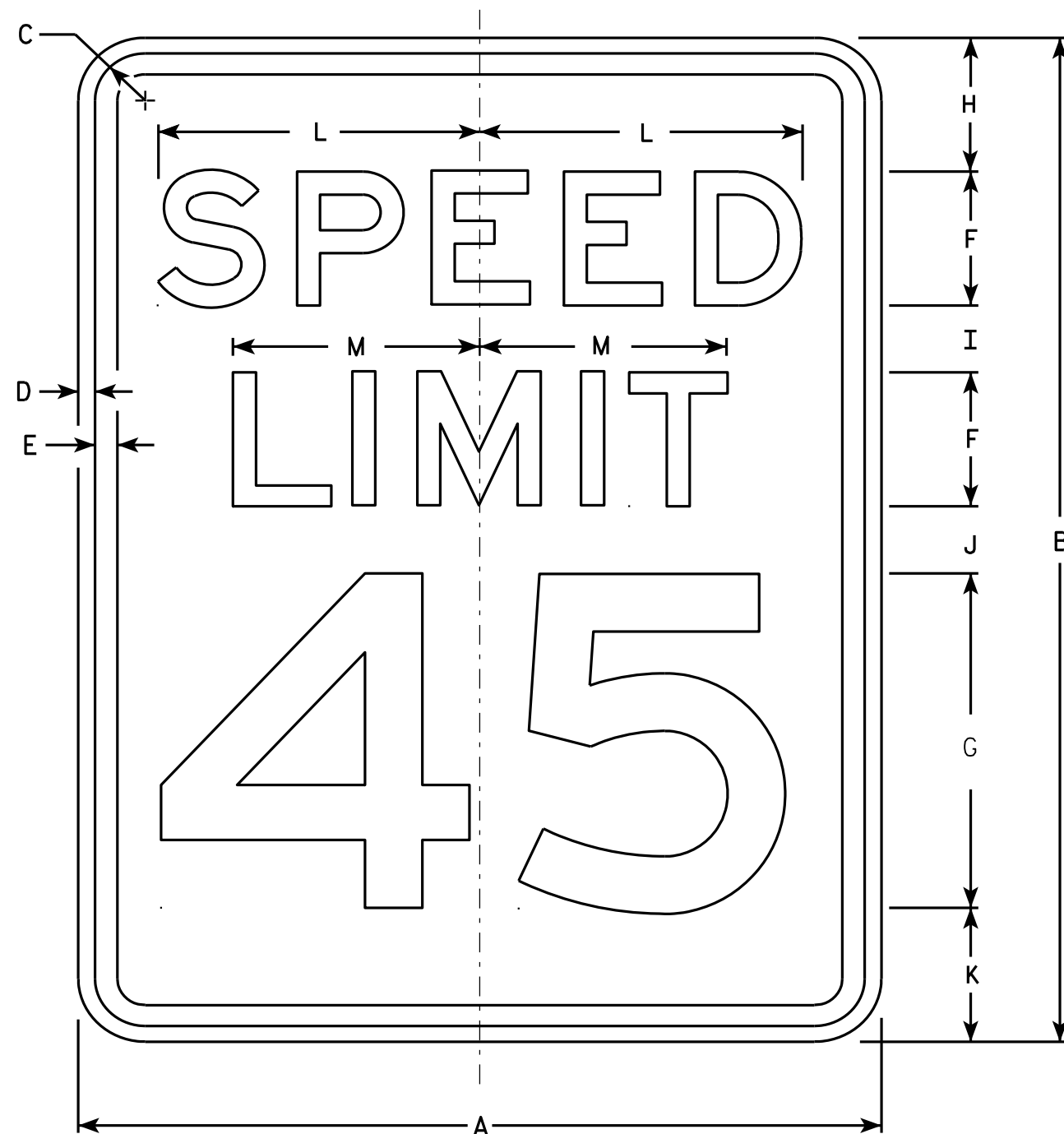
SHEET NO: E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/03/14 PLAT 117 M6-1.14



R2-1

NOTES

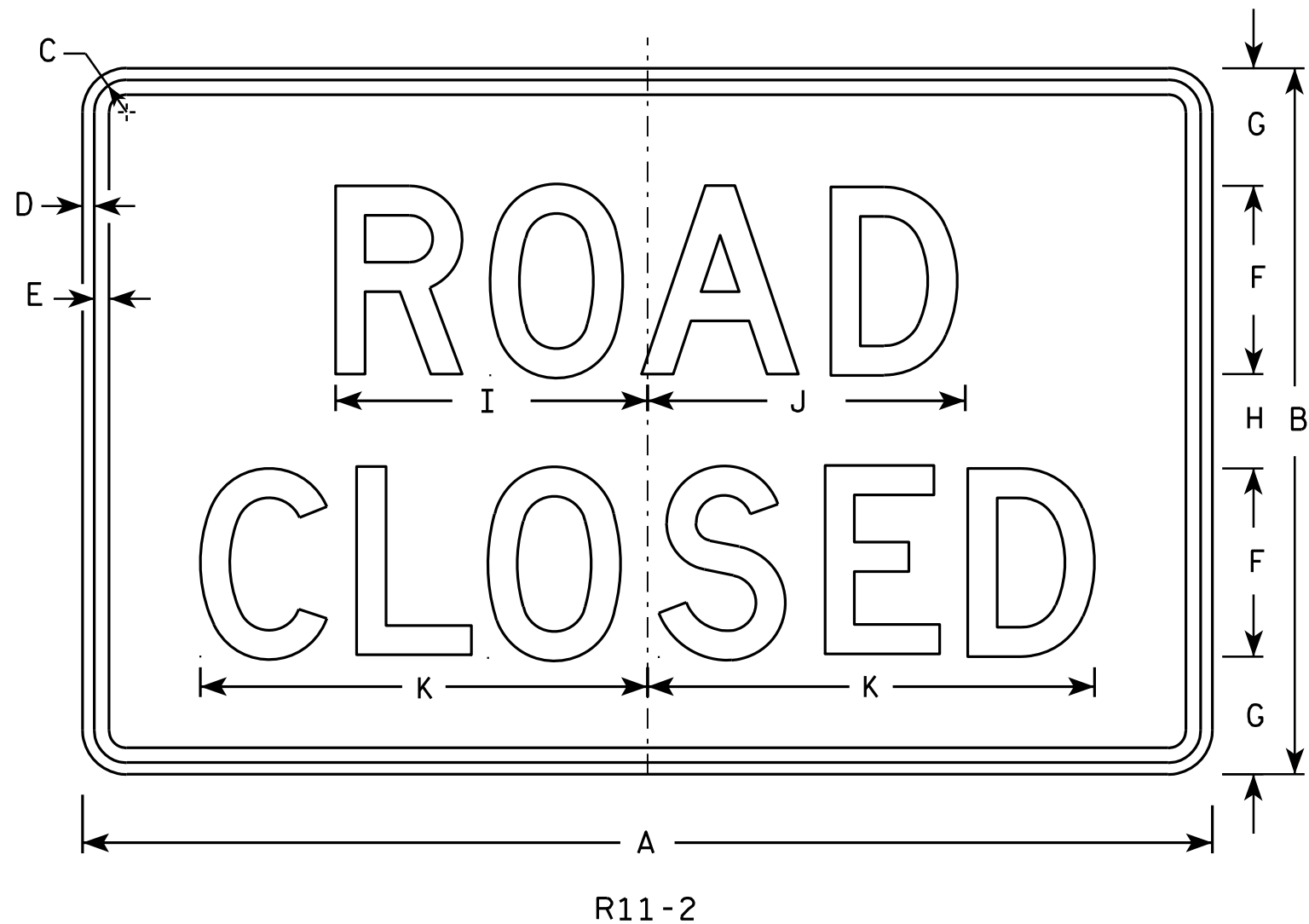
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

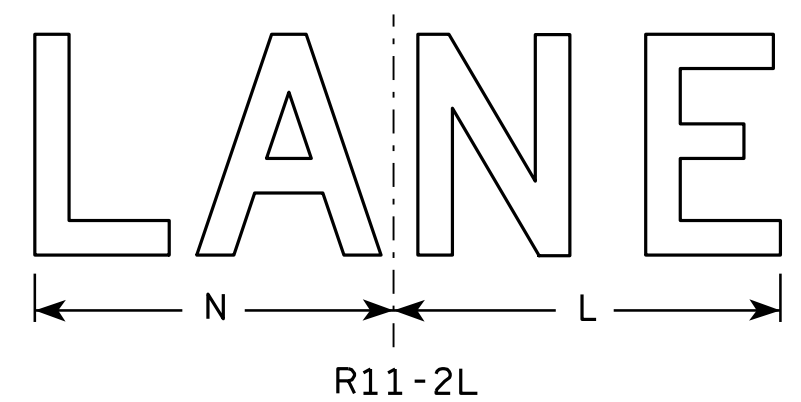
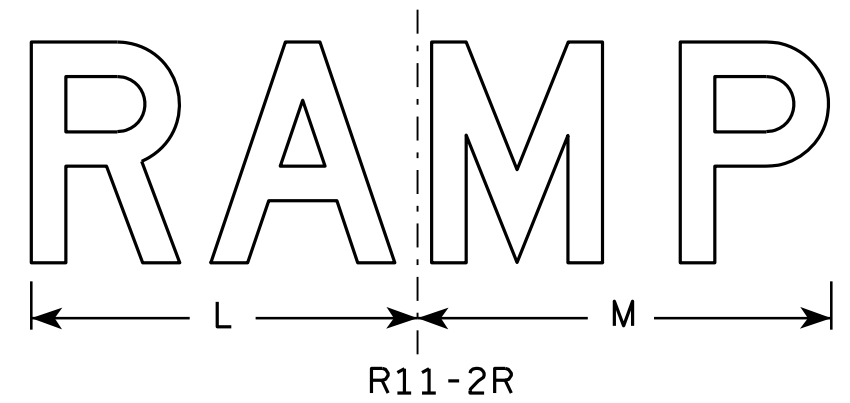
STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 118 E



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



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

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

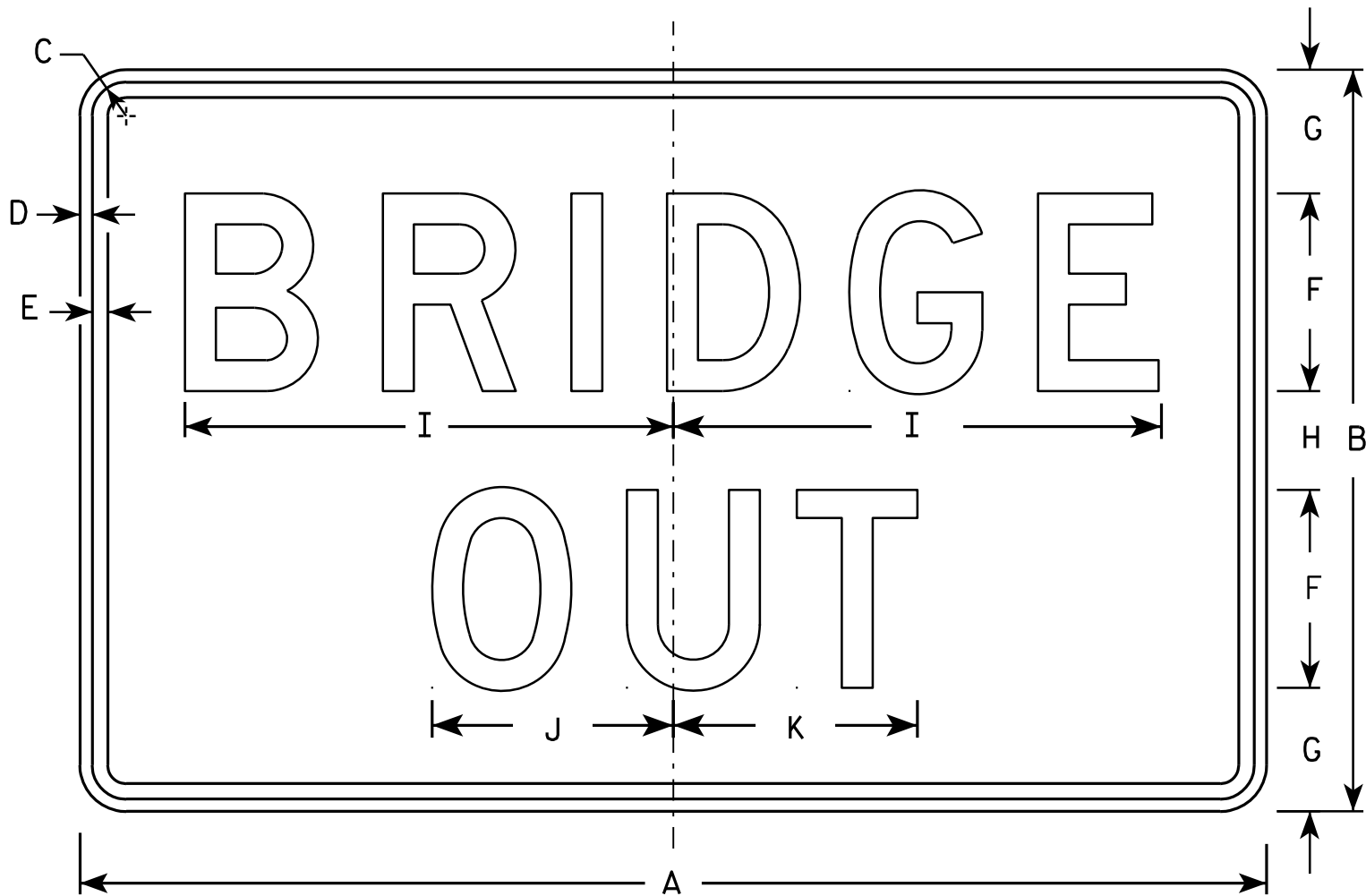
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: 119 **E**

NOTES

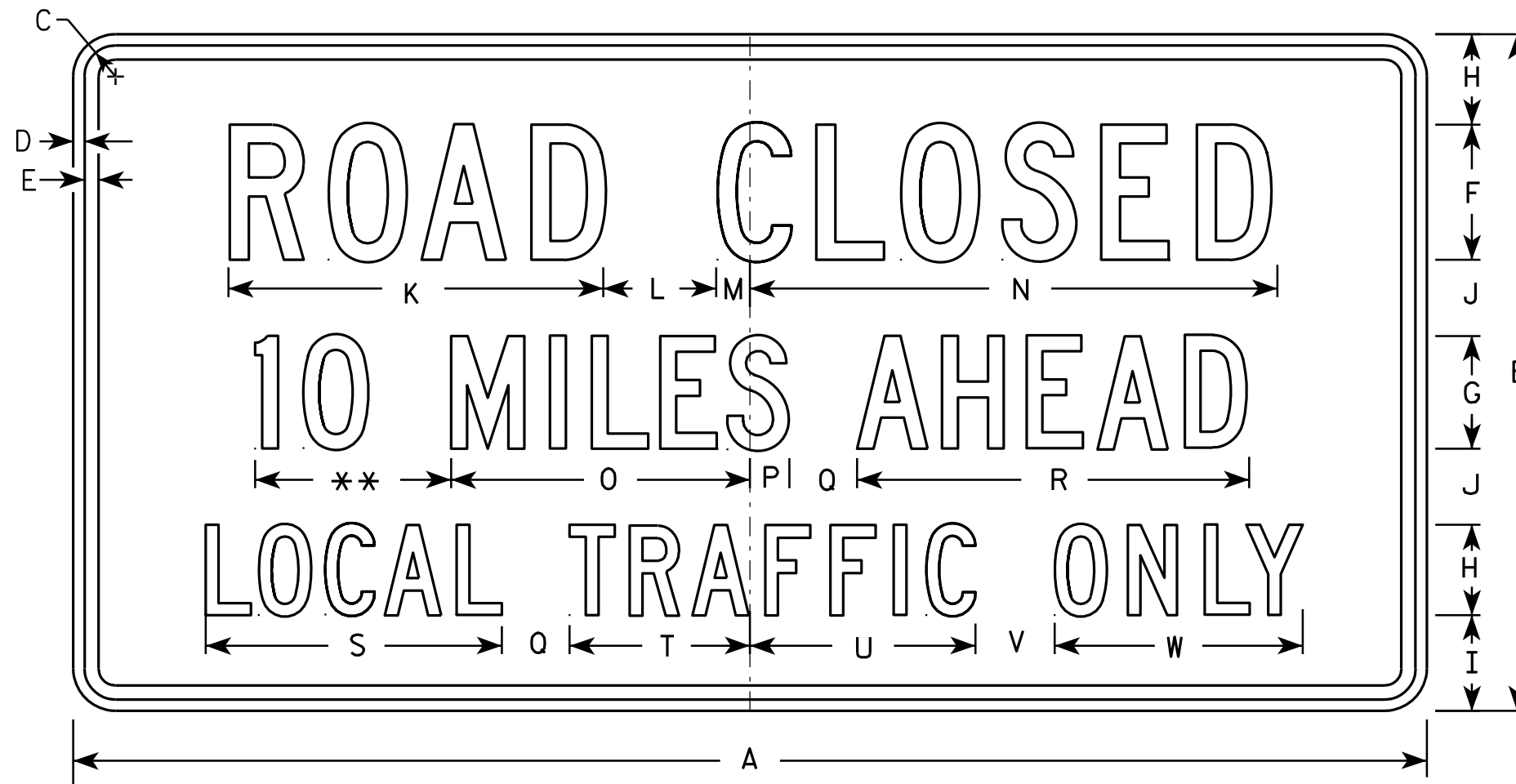
- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall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



R11-2B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	19 3⁄4	9 3⁄4	9 7⁄8																10.0

STANDARD SIGN	
R11-2B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-2B.2



R11-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

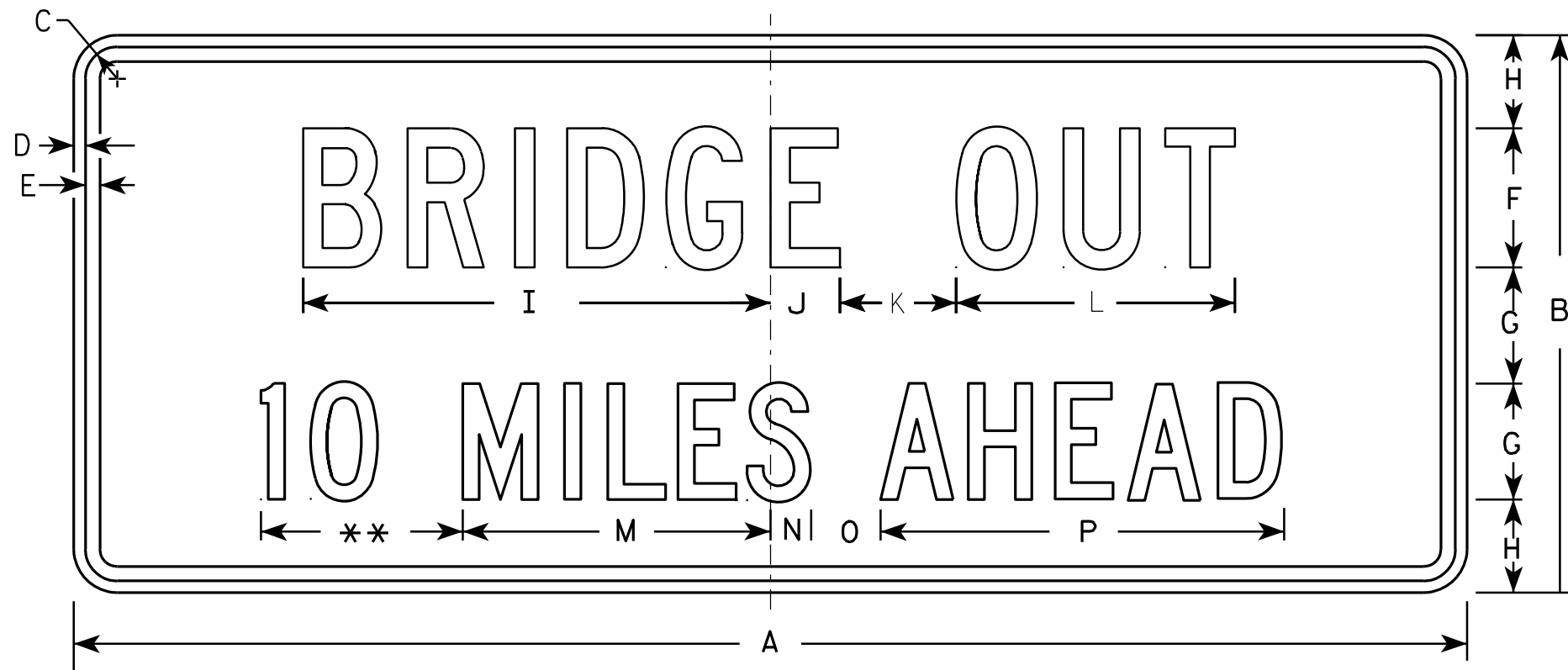
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3⁄8	1⁄2	5⁄8	4	3	2 1⁄2	2	2	11 1⁄8	3	1 1⁄8	15 1⁄4	8	1 1⁄2	2	10 3⁄4	8 3⁄8	4 3⁄4	6 1⁄2	2	6 3⁄4				4.5
2S	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	16 5⁄8	5	1 1⁄2	23	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11				12.5
2M	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	16 5⁄8	5	1 1⁄2	23	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11				12.5
3																											
4																											
5																											

STANDARD SIGN R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 4/1/11 PLATE NO. R11-3.6

PROJECT NO: HWY: COUNTY: SHEET NO: 121 E



R11-3C

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

** See Note 5

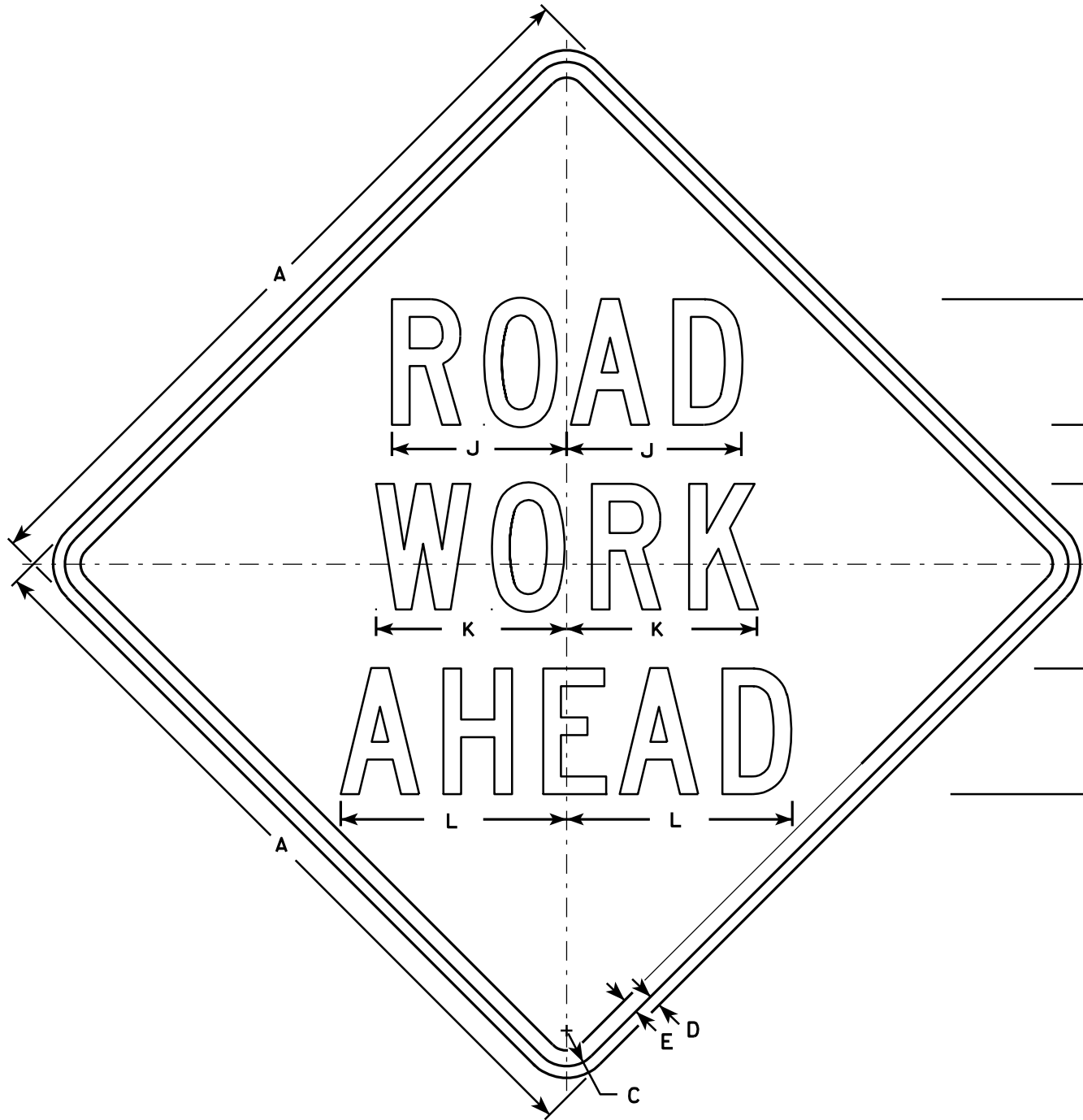
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3⁄8	1⁄2	5⁄8	4	3	2 1⁄2	13 1⁄4	2 1⁄4	3	8	8	1 1⁄2	2	10 3⁄4											3.75
2S	60	24	1 3⁄8	1⁄2	5⁄8	6	5	4	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8											10.0
2M	60	24	1 3⁄8	1⁄2	5⁄8	6	5	4	20 1⁄8	3	5	12	13 1⁄4	1 3⁄4	3	17 3⁄8											10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

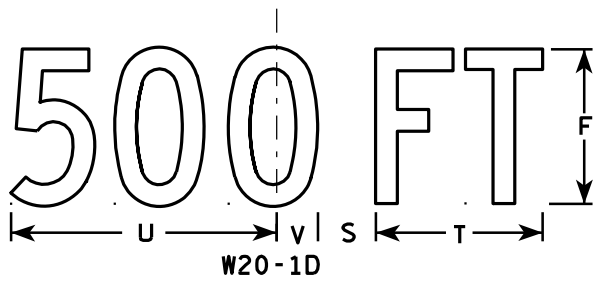
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

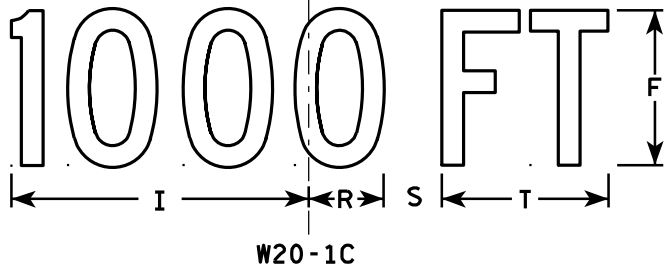
DATE 4/1/11 PLATE NO. R11-3C.2



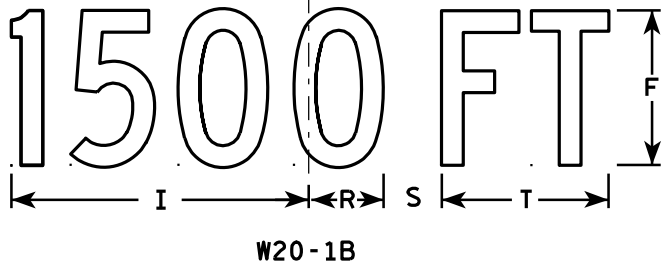
W20-1A



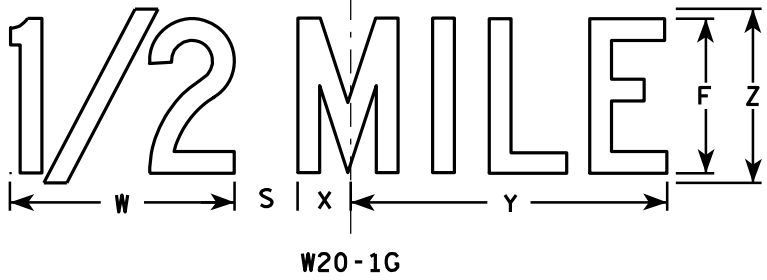
W20-1D



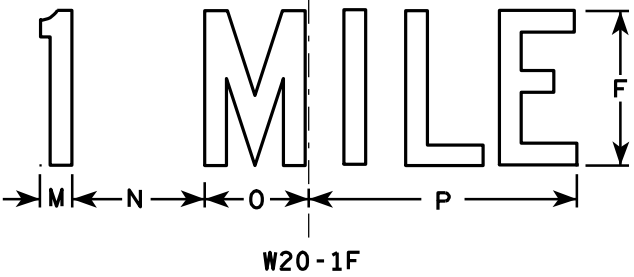
W20-1C



W20-1B



W20-1G



W20-1F

NOTES

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

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

PROJECT NO:

SHEET NO: 123

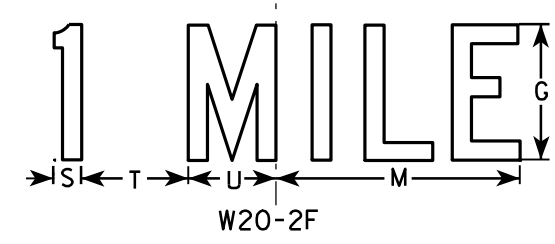
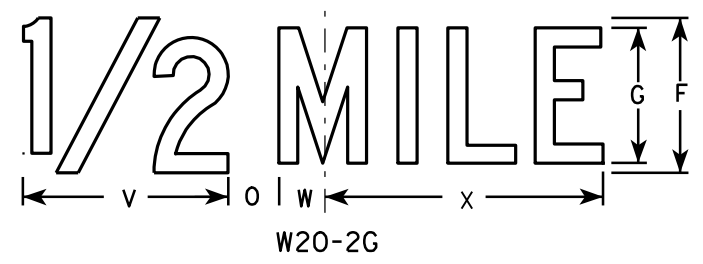
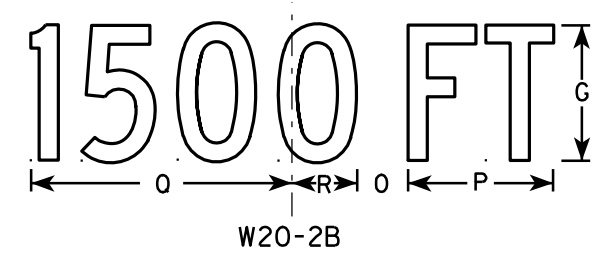
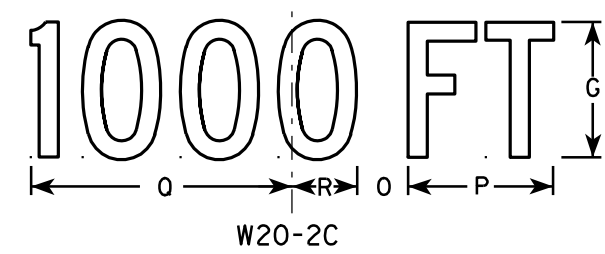
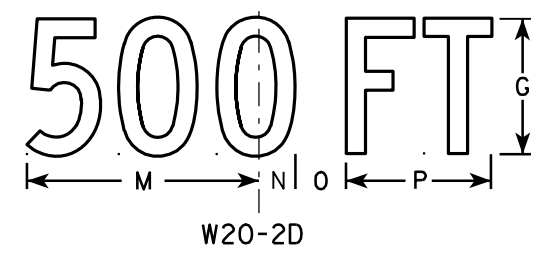
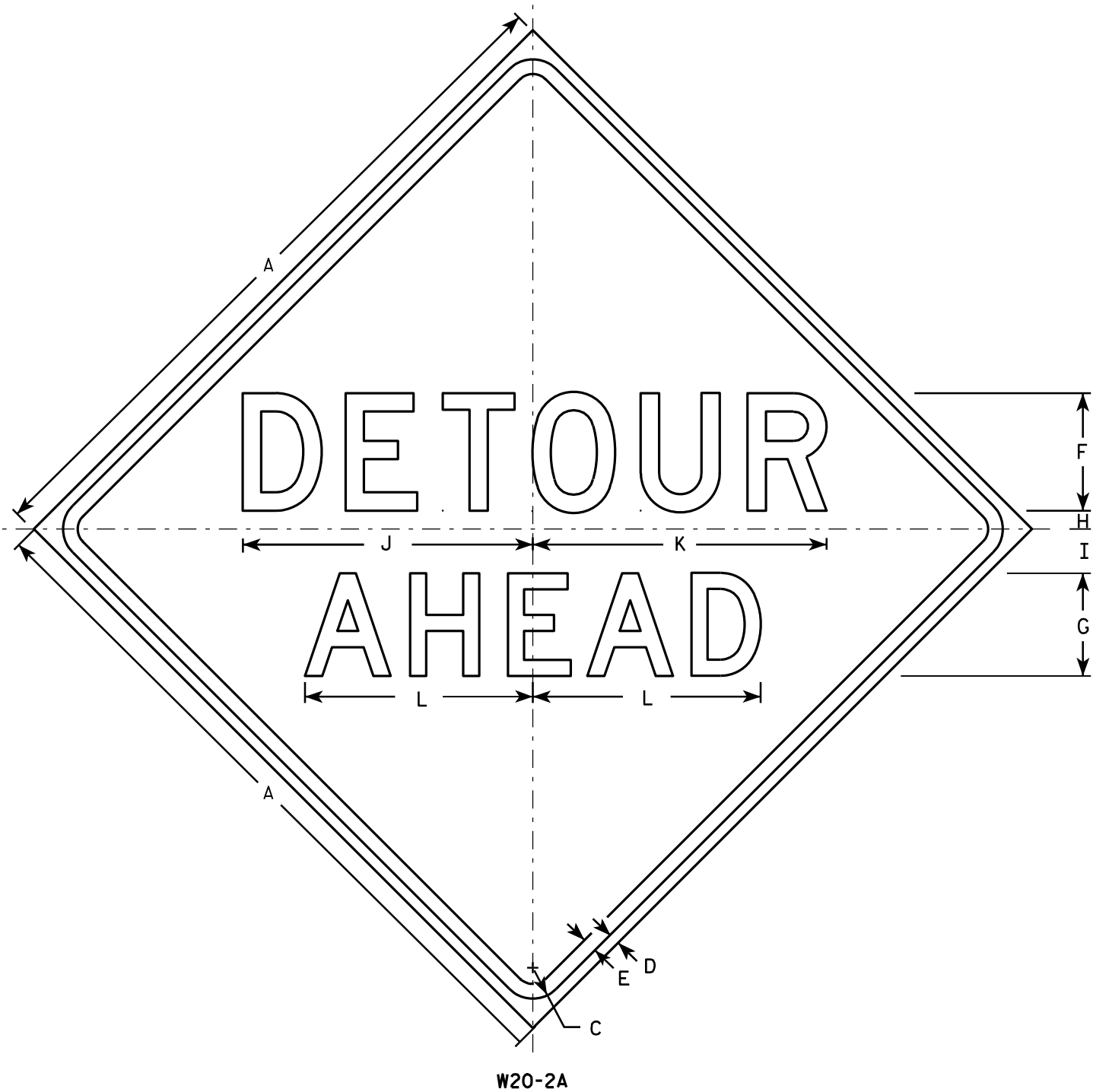
E

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 3/18/11
PLATE NO. W20-1.9



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

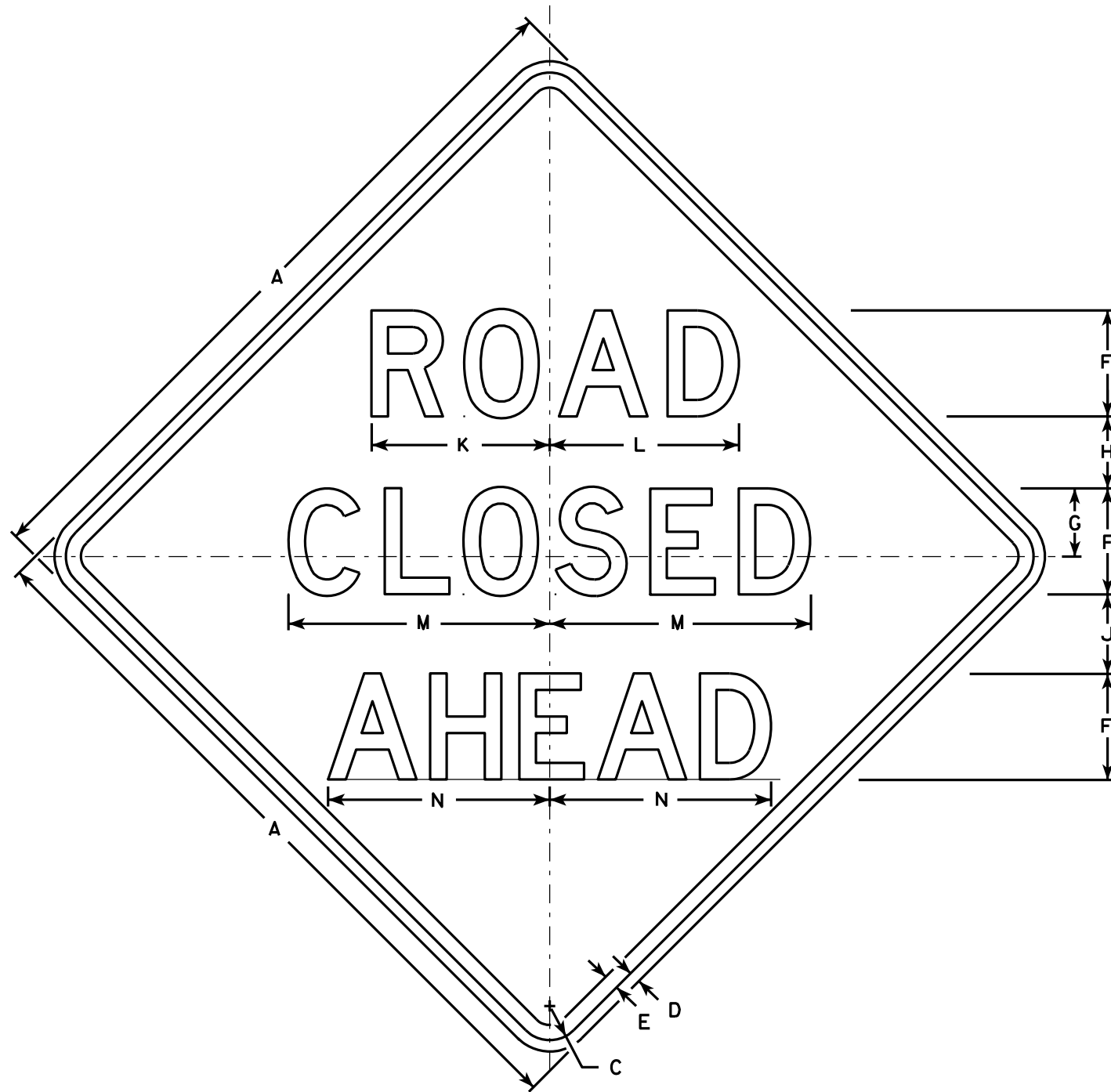
PROJECT NO:

HWY:

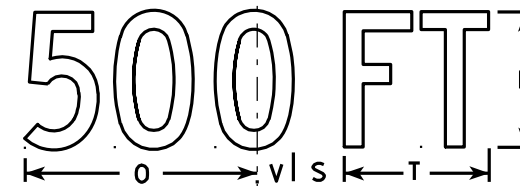
COUNTY:

SHEET NO: 124

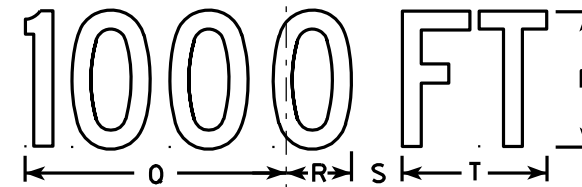
E



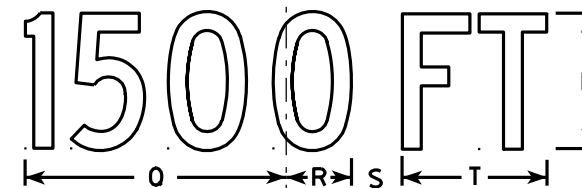
W20-3A



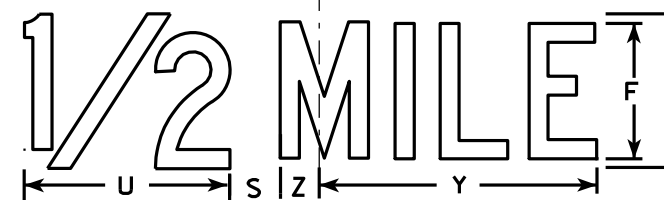
W20-3D



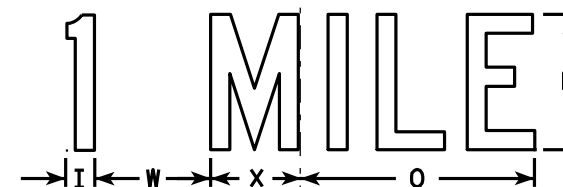
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

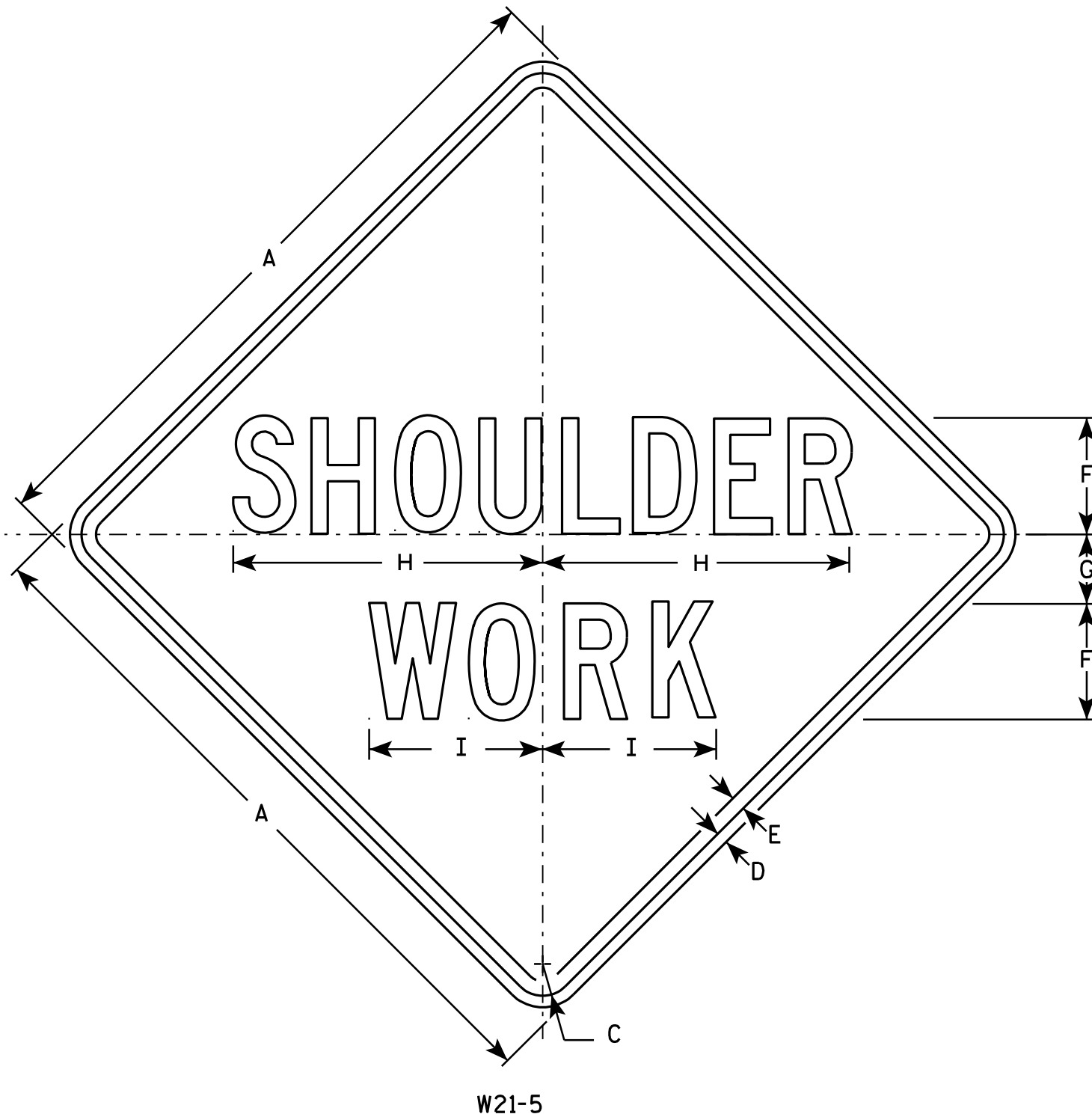
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 125

E



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN

W21-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO:

HWY:

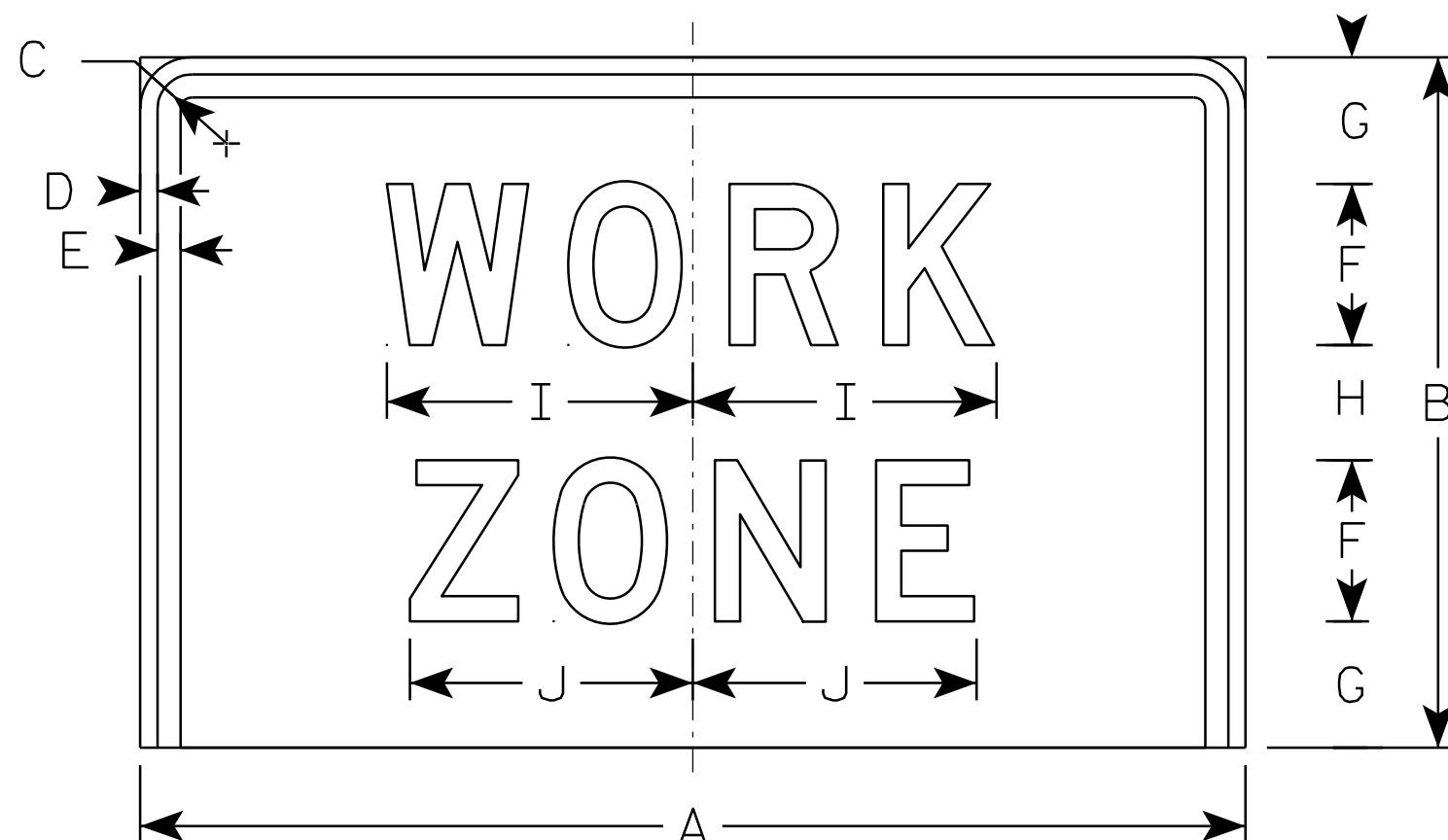
COUNTY:

SHEET NO: 126

E

NOTES

1. Sign is Type II - Type F - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - D



W21-620

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
2M	48	30	2 1/4	3/4	1	7	5 1/2	5	13 1/4	12 1/4																	10.0
3																											
4																											
5																											

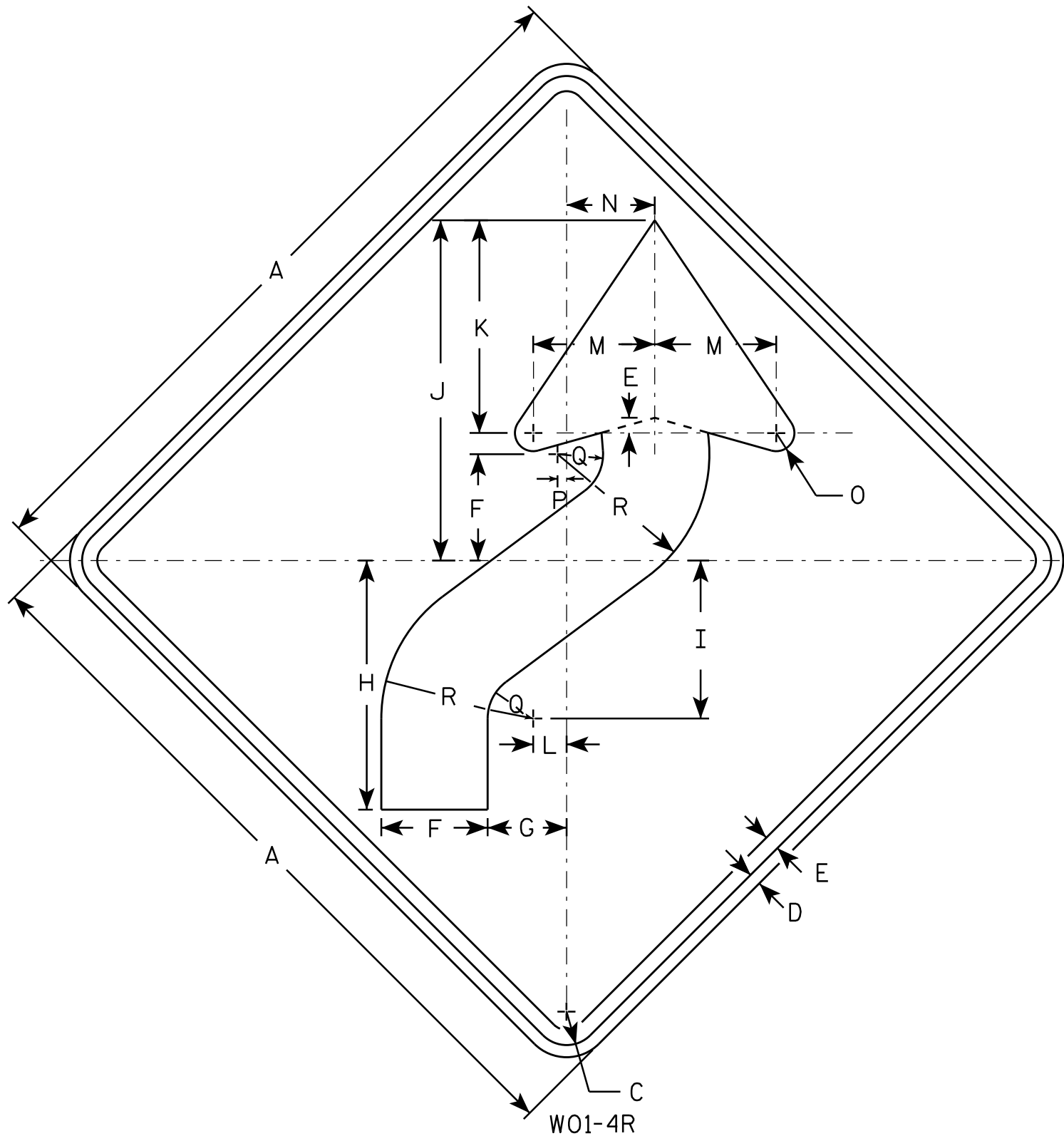
STANDARD SIGN
W21-620

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-620.2

PROJECT NO: HWY: COUNTY: SHEET NO: 127 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-4.1
128

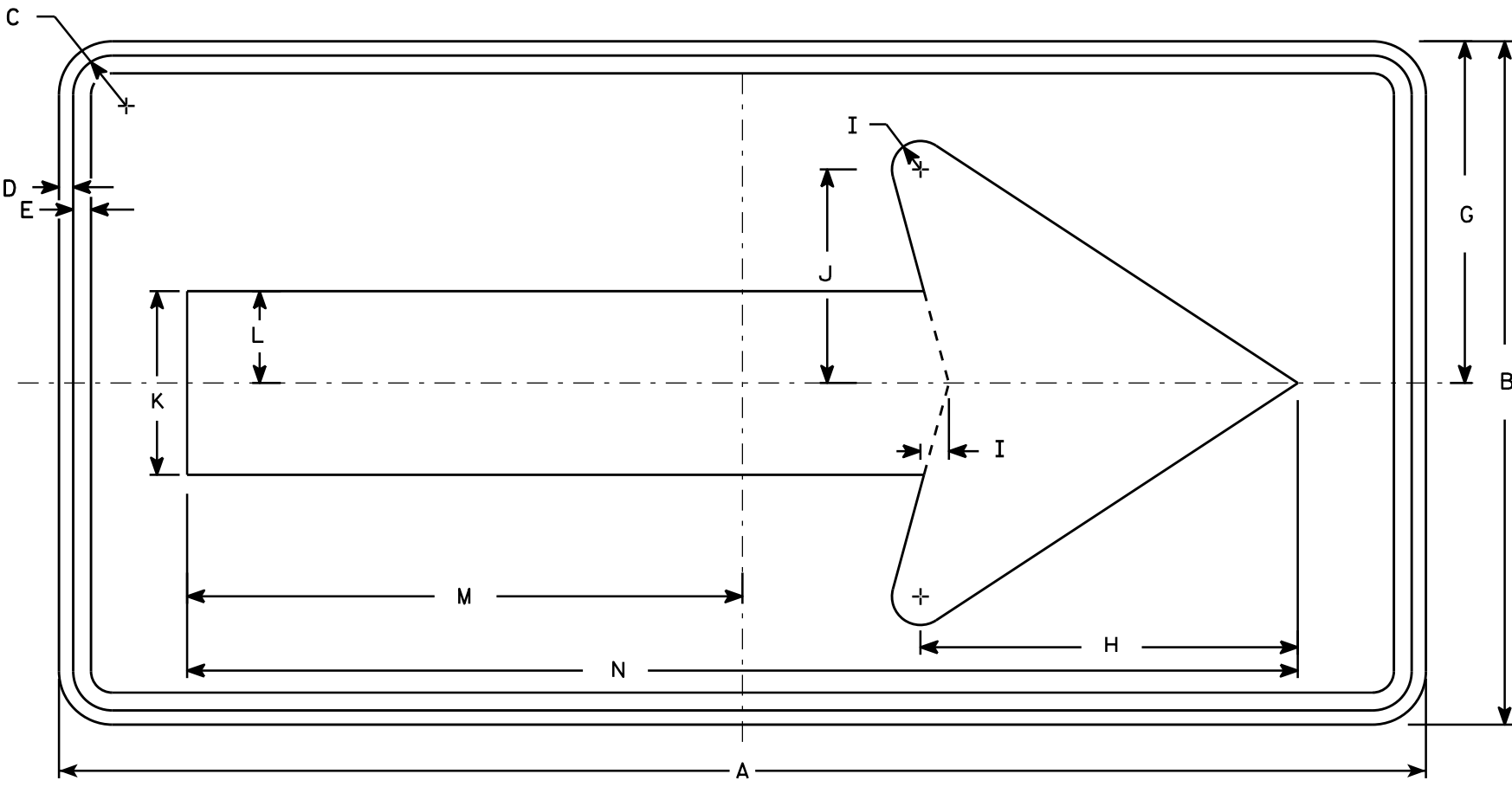
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W01-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN

W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. 129 W01-6.1

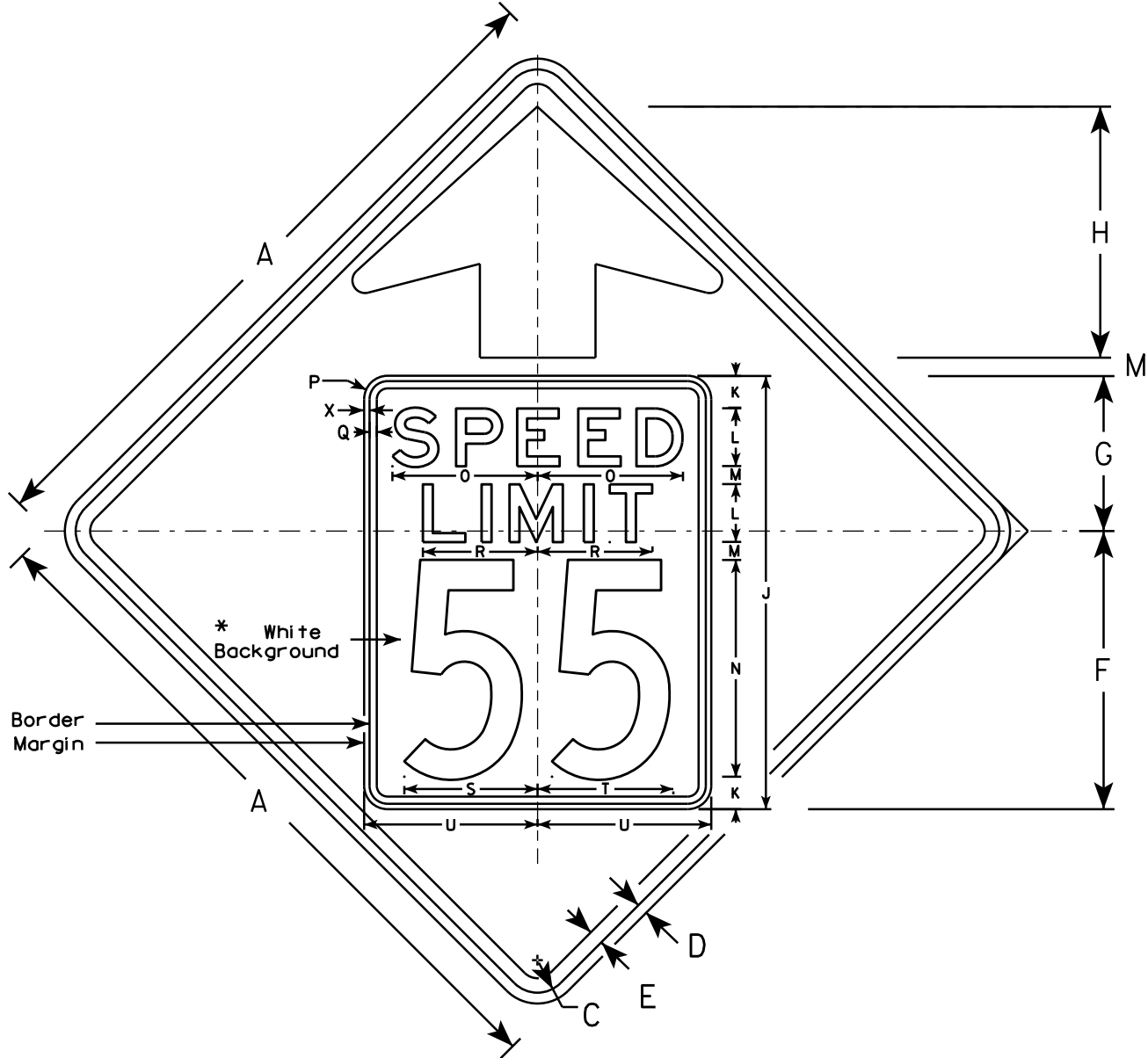
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

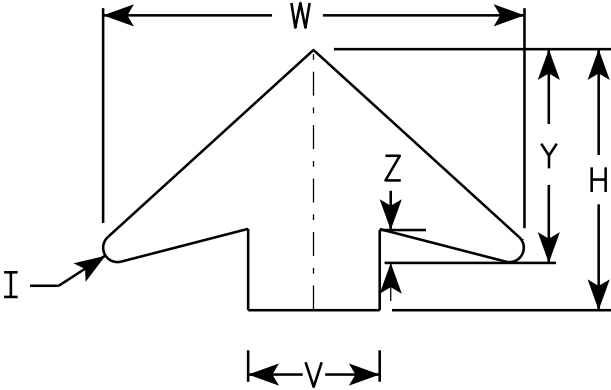


W03-5

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color: *
Background - ORANGE*
Message - BLACK
- 3. Message Series - C for numbers Series E for wording
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

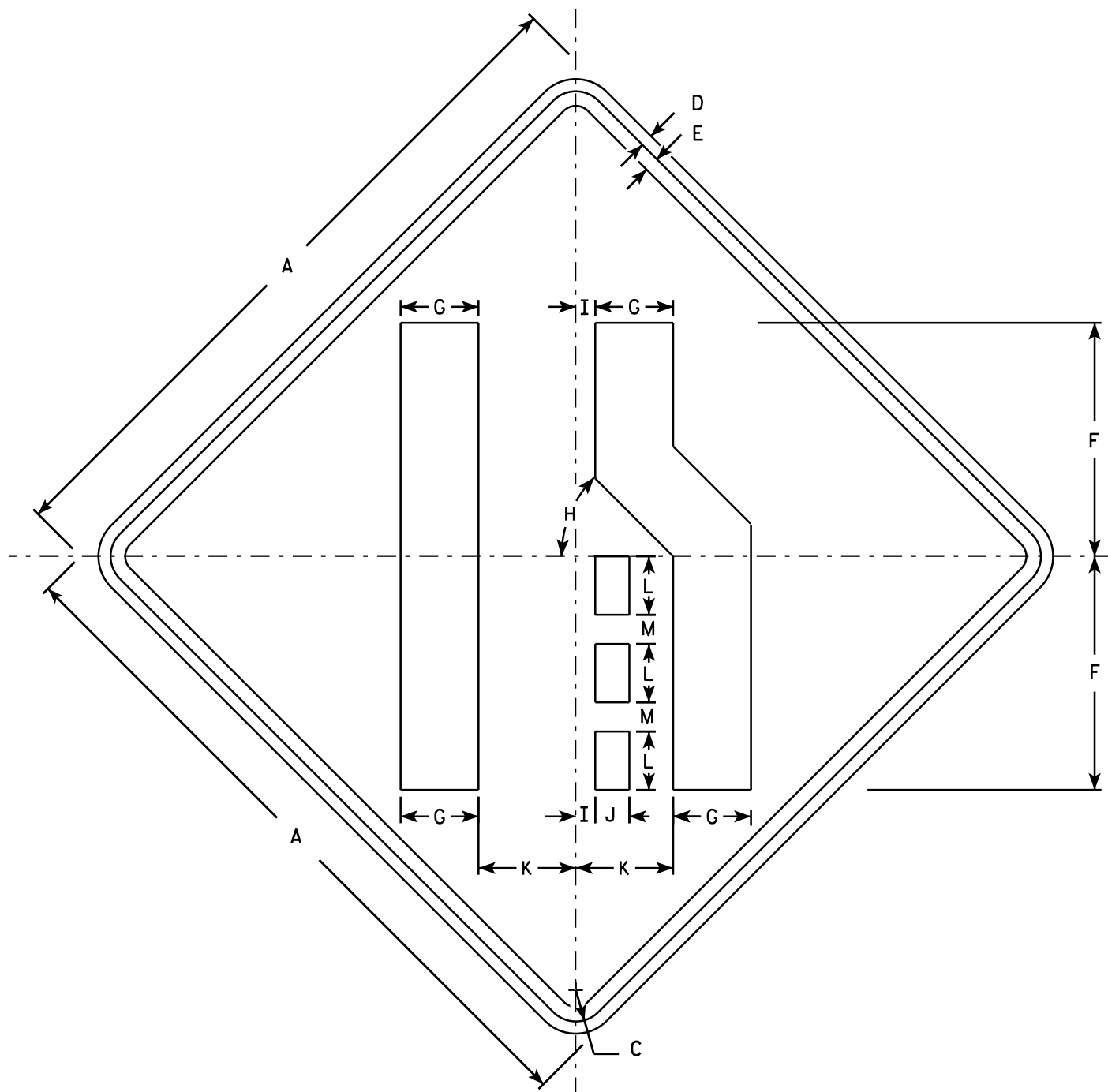
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE 130 W03-5.1



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 11/20/13 PLATE 131 W04-2.1

PROJECT NO:

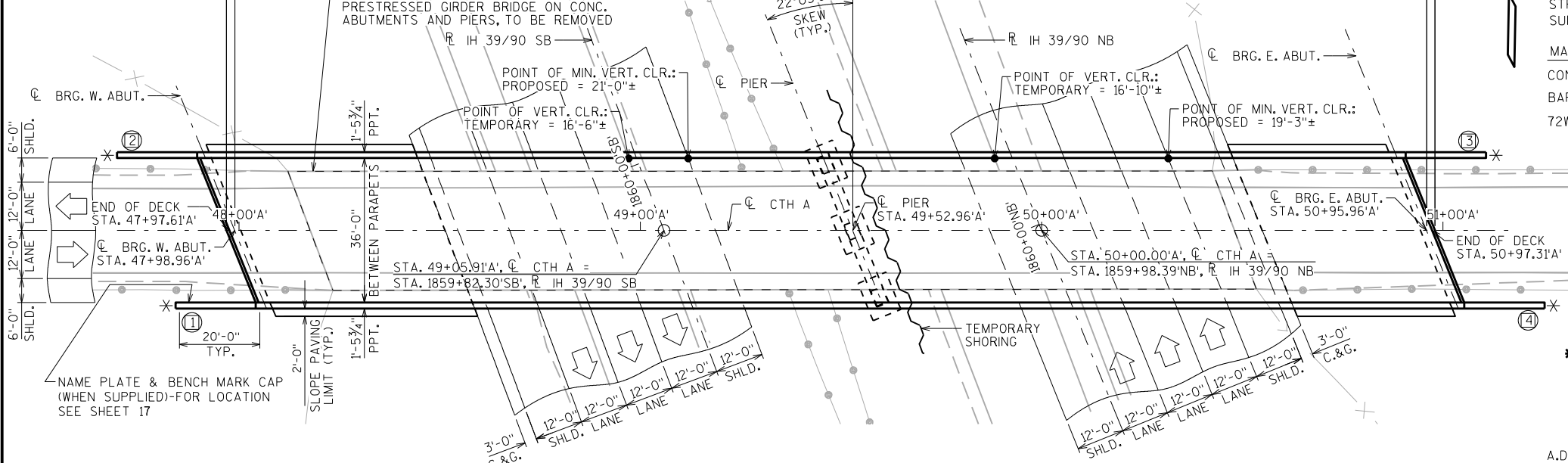
SHEET NO:

E

NOTE: SURFACE DRAIN ANCHORS
REQUIRED AT WINGS 3 & 4.

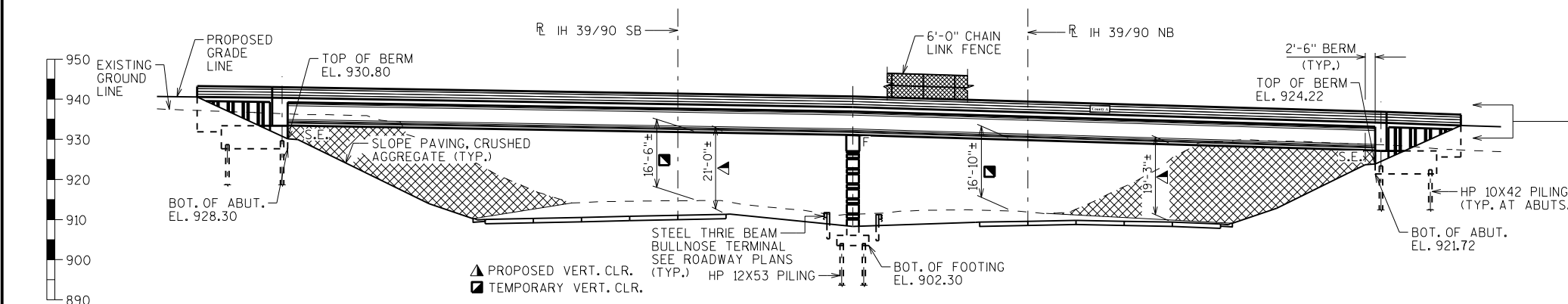
* PROVIDE FOR THREE BEAM
GUARD RAIL ATTACHMENT
AT UNUSED ANCHOR ASSEMBLIES
CAULK HOLES SHUT WITH
"100% SILICONE CAULK".

INDICATES WING NUMBER



PLAN

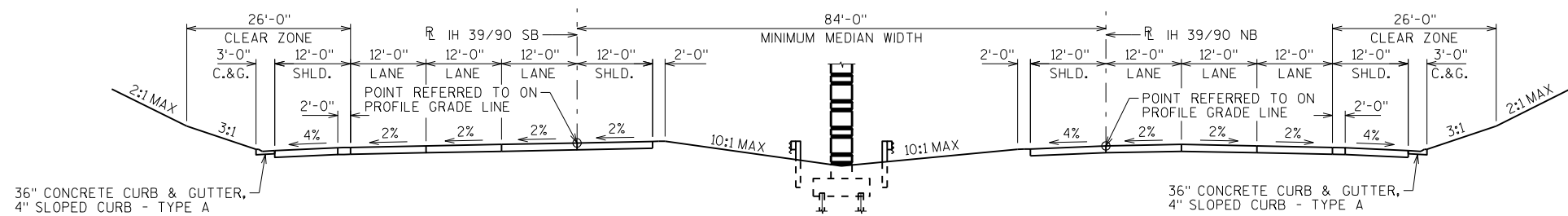
(2 SPAN - 72" PRESTRESSED GIRDERS)



ELEVATION

(NORMAL TO IH 39/90, LOOKING NORTH)

COMMON EXCAVATION - SEE ROADWAY PLANS FOR DETAILS



TYPICAL SECTION THRU IH 39/90

(FOR INFORMATION ONLY - IH 39/90 NB TO BE RECONSTRUCTED UNDER FUTURE CONTRACT 1007-11-75
& IH 39/90 SB TO BE RECONSTRUCTED UNDER FUTURE CONTRACT 1007-11-74)
(LOOKING NORTH)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.04
OPERATING RATING FACTOR: RF=1.35
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)
STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY SLAB — f'_c = 4,000 P.S.I. ALL OTHER — f'_c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — f_y = 60,000 P.S.I.
72W" PRESTRESSED GIRDERS, CONCRETE MASONRY — f'_c = 8,000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 45'-0" LONG AT THE WEST ABUTMENT, PILE POINTS REQUIRED.
ESTIMATED 60'-0" LONG AT THE EAST ABUTMENT, PILE POINTS REQUIRED.

PIER TO BE SUPPORTED ON HP 12X53 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 40'-0" LONG, PILE POINTS REQUIRED.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN
IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR
OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

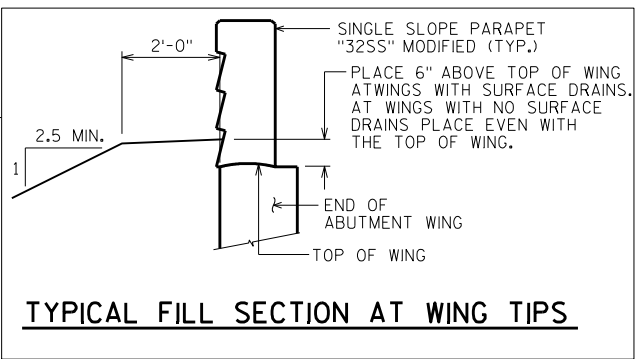
TRAFFIC VOLUME

CTH A
A.D.T.=892 (2040)
R.D.S.=55 M.P.H.

IH 39/90 NB & SB
A.D.T.=71,800 (2040)
R.D.S.=70 M.P.H.

CURVE DATA

IH 39/90 SB
P.L. = 1840+87.66
 Δ = 24°-05'-00"
D = 0°-33'-03"
T = 2218.49'
L = 4371.47'
R = 10,400'
S.E. = 2.0%
P.C. = 1818+69.17
P.T. = 1862+92.04



TYPICAL FILL SECTION AT WING TIPS

STRUCTURE DESIGN CONTACTS:

NICK RICE (608) 266-5092
AARON BONK (608) 261-0261

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. PIER
9. PIER FOOTINGS
10. PIER COLUMNS & CAP
11. PRECAST PIER DETAILS
12. 72W" PRESTRESSED GIRDER DETAILS 1
13. 72W" PRESTRESSED GIRDER DETAILS 2
14. STEEL DIAPHRAGM
15. SUPERSTRUCTURE
16. SUPERSTRUCTURE DETAILS
17. MODIFIED SINGLE SLOPE PARAPET 32SS
18. CONDUIT DETAILS
19. AESTHETIC DETAILS
20. CHAIN LINK FENCE DETAILS
21. SLOPE PAVING, CRUSHED AGGREGATE

NO.	DATE	REVISION	BY



Plans Prepared By
WISDOT
BUREAU OF STRUCTURES

ACCEPTED

CHIEF STRUCTURES DESIGN ENGINEER

DATE
5/13/15

STRUCTURE B-13-709

CTH A OVER IH 39/90 NB & SB

COUNTY DANE TOWN/CITY/VILLAGE ALBION

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY NAR DESIGN CKD. REL BY NAR PLANS CKD. MJK

GENERAL PLAN

SHEET 1 OF 21

132

I.D. 1007-10-01U

DATE: DEC. 2014

8

8

SCALE = 17.5

DRAWINGS SHALL NOT BE SCALED.

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

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

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

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

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

PIGMENTED PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

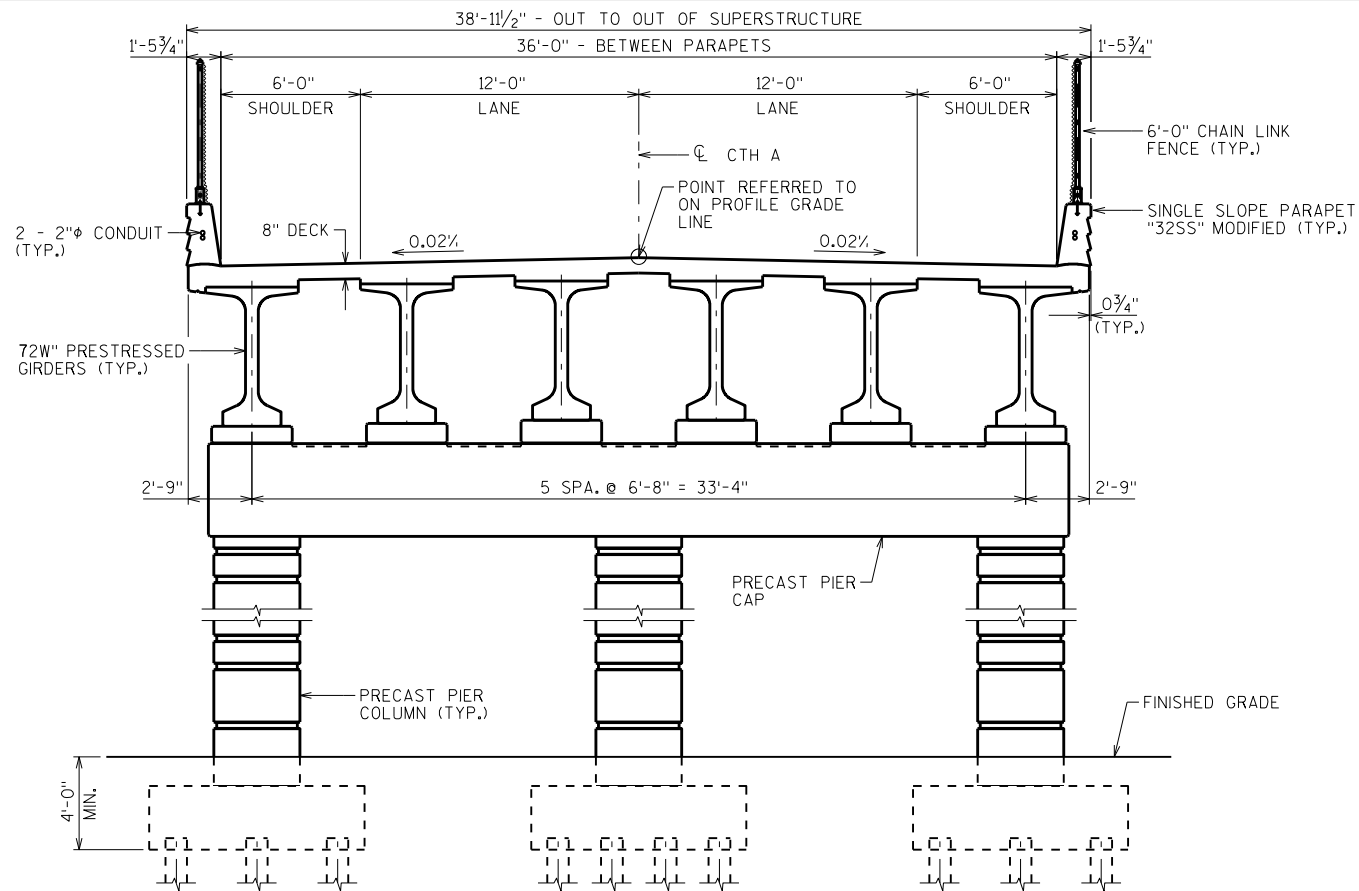
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

CONCRETE STAINING AND ARCHITECTURAL SURFACE TREATMENT IS REQUIRED ON THE BRIDGE. SEE "AESTHETIC DETAILS" SHEET FOR DETAILS.

AT ABUTMENTS, HP 12X53 STEEL PILING MAY BE USED IN LIEU OF HP 10X42 STEEL PILING. PAYMENT SHALL BE BASED ON BID PRICE FOR HP 10X42 STEEL PILING.

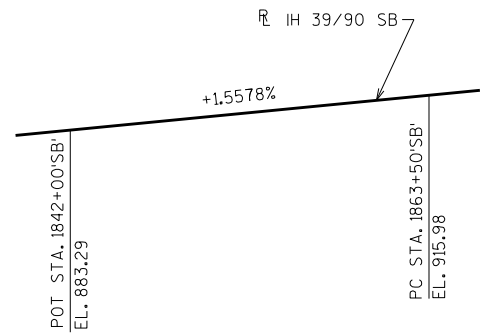
BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED OR SHOWN.

THE EXISTING PIER FOOTINGS OF STRUCTURE B-13-170 SHALL BE COMPLETELY REMOVED.

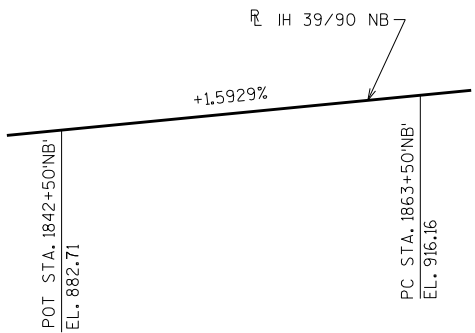


CROSS-SECTION THRU ROADWAY
(LOOKING EAST)

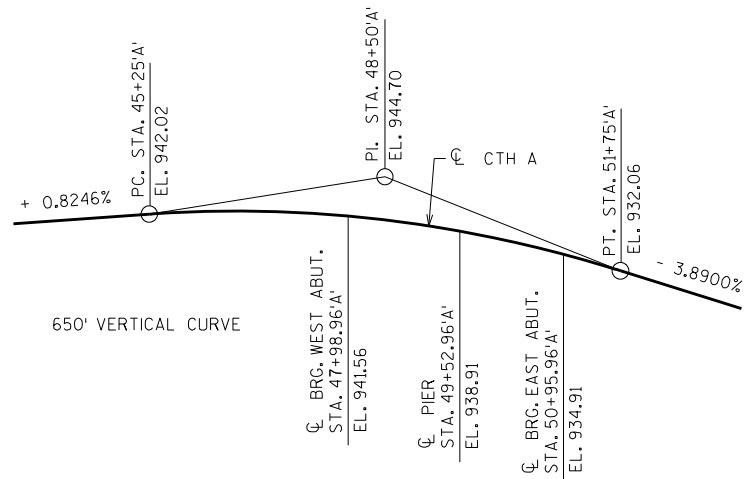
BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	PIER	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 49+70'A'	LS	—	—	—	—	1
203.0225.S	DEBRIS CONTAINMENT B-13-170	LS	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-709	LS	—	—	—	—	1
210.0100	BACKFILL STRUCTURE	CY	—	270	270	—	540
502.0100	CONCRETE MASONRY BRIDGES	CY	522	70	67	23	678
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,203	—	—	—	1,203
502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	252	17	17	—	286
503.0172	PRESTRESSED GIRDER TYPE I 72W-INCH	LF	1,787	—	—	—	1,787
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	—	3,515	3,565	1,930	9,010
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	100,725	5,025	4,545	1,000	111,295
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	—	6	6	12	24
506.4000	STEEL DIAPHRAGMS B-13-709	EACH	20	—	—	—	20
511.1200	TEMPORARY SHORING B-13-709	SF	—	—	—	510	510
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	15	15	—	30
517.1010.S	CONCRETE STAINING B-13-709	SF	8,875	625	605	1,555	11,660
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-13-709	SF	1,330	480	455	—	2,265
550.0500	PILE POINTS	EACH	—	14	13	30	57
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	—	630	780	—	1,410
550.1120	PILING STEEL HP 12-INCH X 53 LB	LF	—	—	—	1,200	1,200
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	—	250	195	—	445
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	—	110	110	—	220
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	—	2	2	—	4
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	25	15	15	—	55
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	1,190	135	135	—	1,460
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	4	—	—	—	4
SPV.0060.701	GROUTED BAR COUPLERS	EACH	—	—	—	108	108
SPV.0090.701	PRECAST PIER COLUMNS	LF	—	—	—	66	66
SPV.0090.702	PRECAST PIER CAPS	LF	—	—	—	40	40
SPV.0090.703	FENCE CHAIN LINK POLYMER COATED 6-FT	LF	605	40	40	—	685
SPV.0165.701	LONGITUDINAL GROOVING BRIDGE DECK	SF	10,790	—	—	—	10,790
	NON-BID ITEMS						
	FILLER	SIZE	—	—	—	—	1/2" & 3/4"



PROFILE GRADE LINE IH 39/90 SB



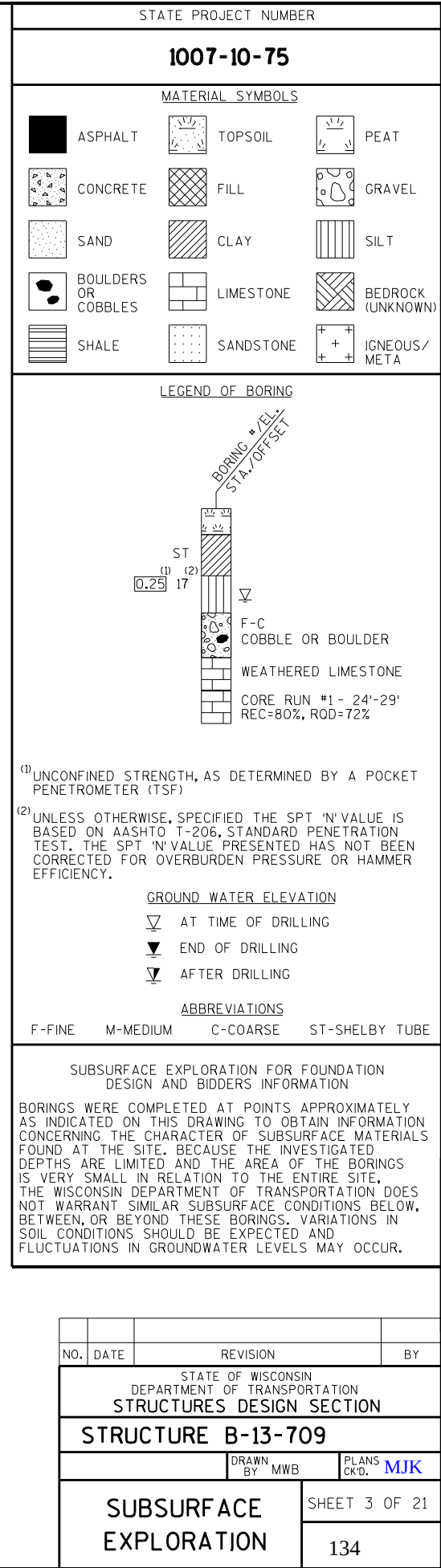
PROFILE GRADE LINE IH 39/90 NB



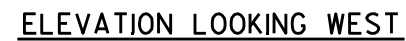
PROFILE GRADE LINE CTH A

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		NAR	PLANS CK'D. MJK
CROSS SECTION & QUANTITIES		SHEET 2 OF 21	
		133	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	6/19/2013	431,833.4460	900,507.8984
2	6/11/2013	431,821.8400	900,339.2178
3	6/13/2013	431,833.9905	900,644.4847
BORINGS COMPLETED BY: GESTRA			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			



SCALE = 10.5



SECTION B-B

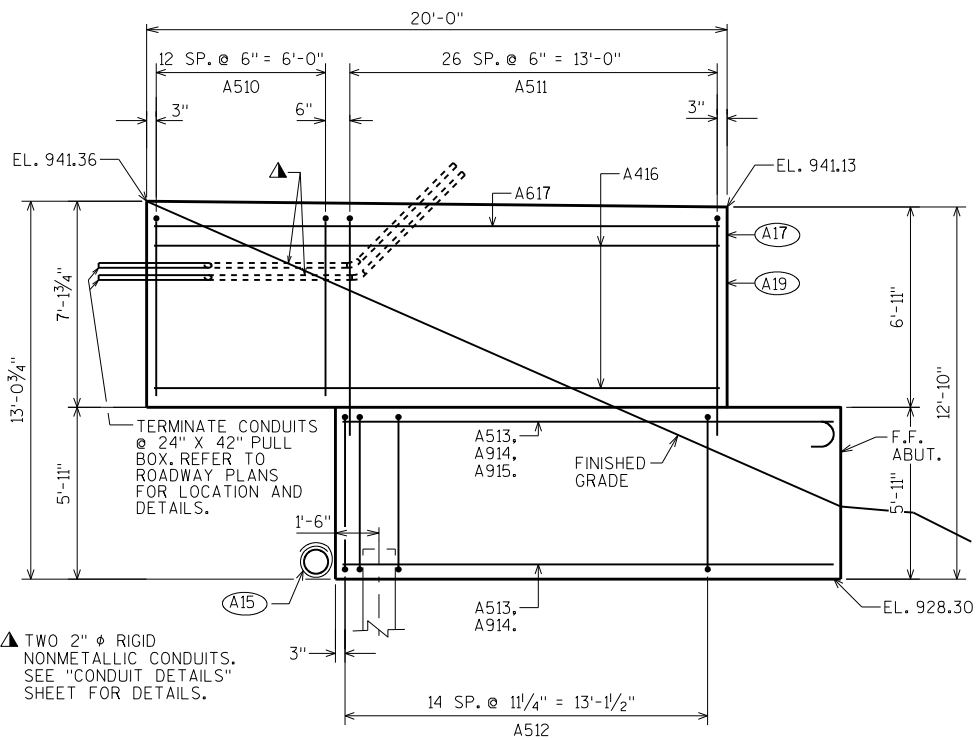


-
- DOUBLER PLATE
3/8" x 5" x 5"
- SEE HP
WELD
DETAIL
- 3/16"
- 55°
- GF
- SEE HP
WELD
DETAIL
- 3/16"
- 55°
- HP10X42
- STEEL 'HP' SHAPE
- DOUBLER PLATE
AT FLANGE
- GRIND WELD
FLUSH UNDER
DOUBLER PLATE
- 1/4"
- WELD
55°
- 3/16"
TYP.
- HP WELD DETAIL
FLANGE SHOWN, WEB SIMILAR
- PILE DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-13-709	
		DRAWN BY	MWB PLANS CK'D. MJK
WEST ABUTMENT		SHEET 4 OF 21	
		135	

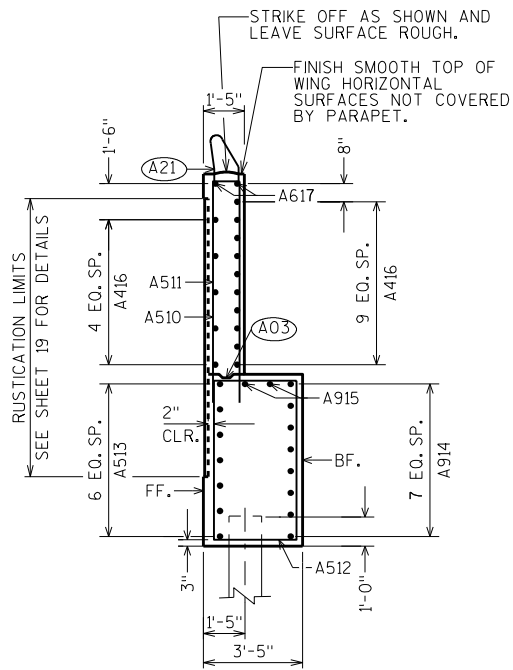
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		52	17'-4"	X		BODY-STIRRUPS
A402		24	2'-3"			PILES- 2 PER PILE
A1003		8	41'-7"			BODY-HORIZONTAL
A604		11	41'-7"			BODY-HORIZONTAL
A405		12	28'-0"	X		PILES-1 PER PILE
A406		3	33'-5"			BODY-HORZ. UNDER GIRTS. 1-5
A507		9	5'-5"	X		BODY-VERT. UNDER GIRTS. 1-5
A408		15	3'-11"	X		BODY-VERT. BETWEEN BEAM SEATS
A409		10	5'-9"			BODY-HORZ. BETWEEN BEAM SEATS
A510	X	13	14'-0"	X		WING 1-VERTICAL
A511	X	27	18'-6"	X		WING 1-VERTICAL
A512	X	15	17'-6"	X		WING 1-STIRRUP
A513	X	7	16'-8"			WING 1-HORIZONTAL-F.F.
A914	X	8	17'-2"	X		WING 1-HORIZONTAL-B.F.
A915	X	2	17'-8"	X		WING 1-HORIZONTAL-F.F. & B.F.
A416	X	15	19'-6"			WING 1-HORIZONTAL-F.F. & B.F.
A617	X	2	19'-6"			WING 1-HORIZONTAL-F.F. & B.F.
A518	X	13	14'-0"	X		WING 2-VERTICAL
A519	X	27	18'-6"	X		WING 2-VERTICAL
A520	X	15	17'-10"	X		WING 2-STIRRUP
A521	X	7	16'-7"			WING 2-HORIZONTAL-F.F.
A922	X	8	18'-8"	X		WING 2-HORIZONTAL-B.F.
A923	X	2	18'-3"	X		WING 2-HORIZONTAL-F.F. & B.F.
A424	X	15	19'-6"			WING 2-HORIZONTAL-F.F. & B.F.
A625	X	2	19'-6"			WING 2-HORIZONTAL-F.F. & B.F.

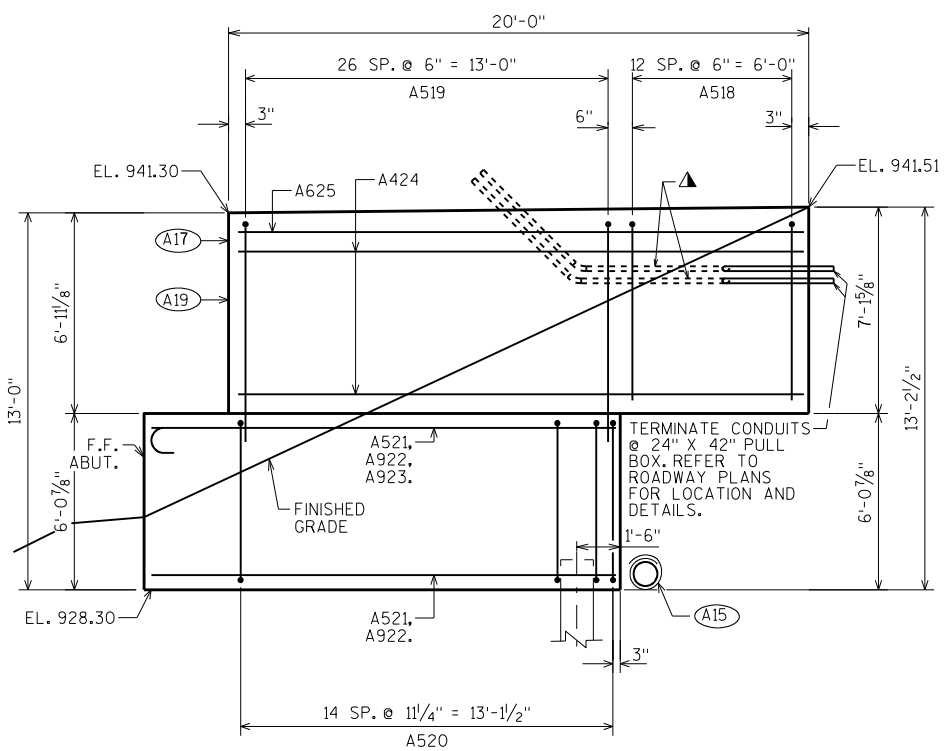
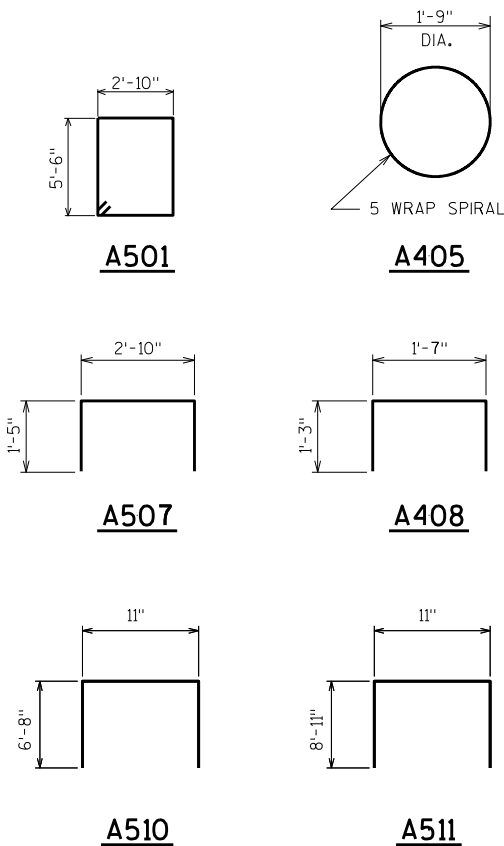


WING 1 ELEVATION

(LOOKING AT F.F. OF WING)

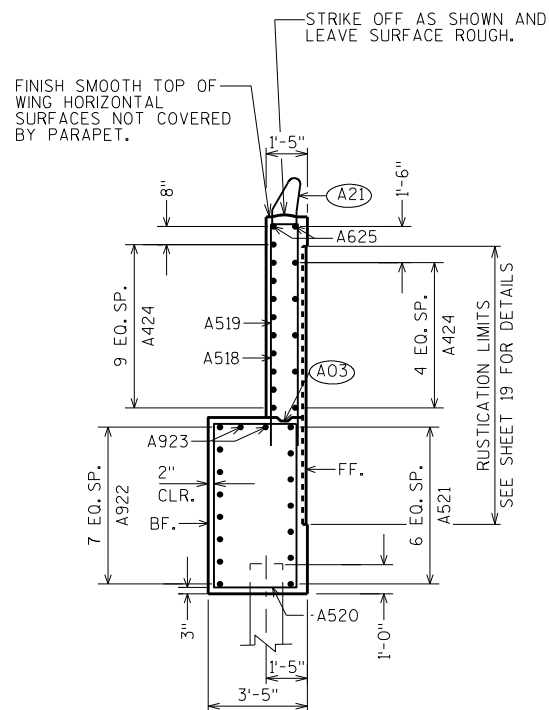


WING 1 SECTION

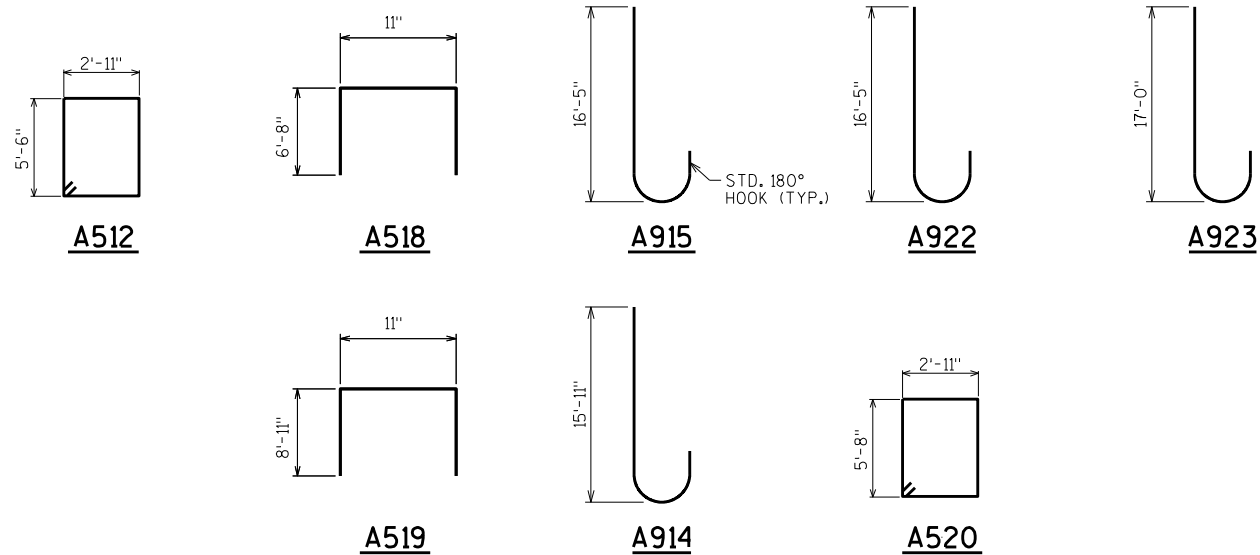


WING 2 ELEVATION

(LOOKING AT F.F. OF WING)

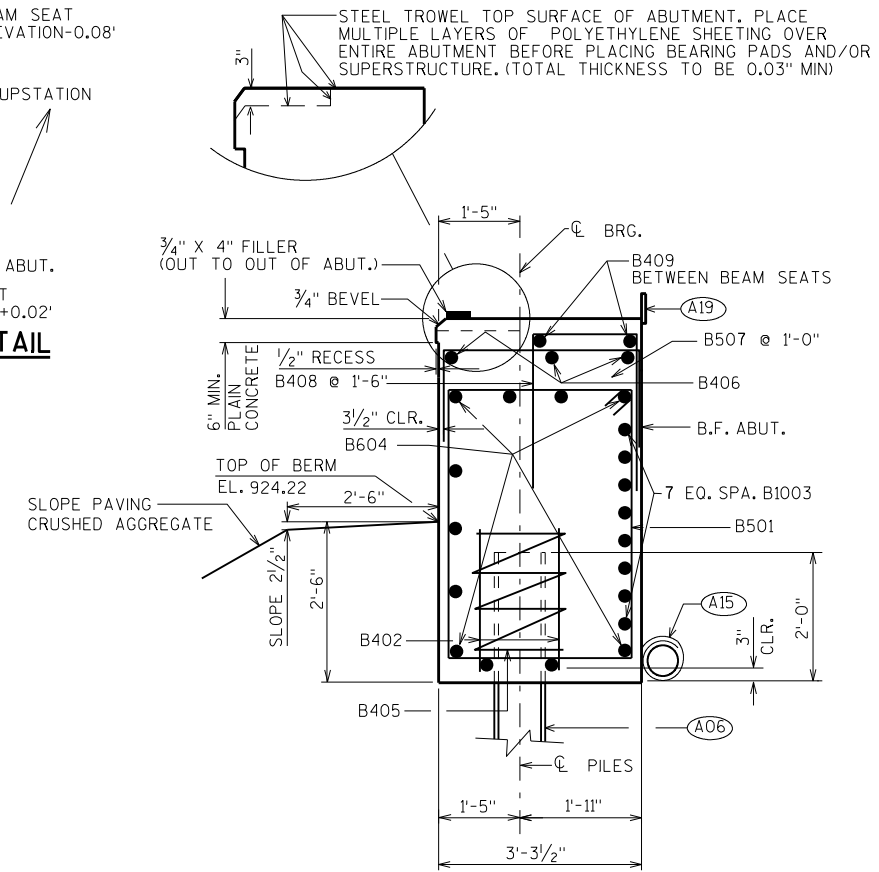
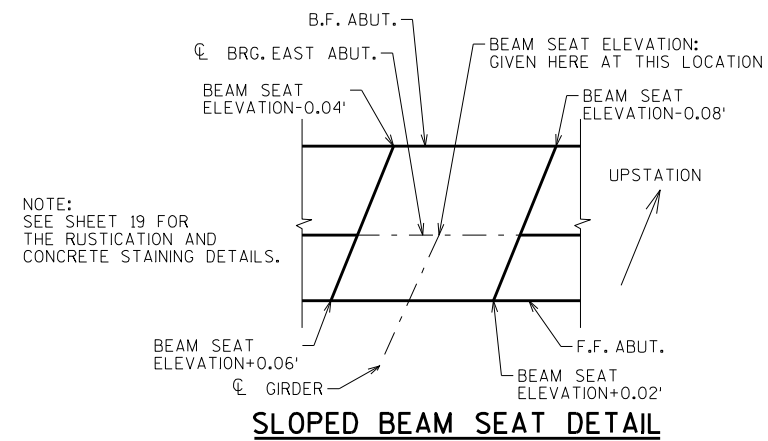
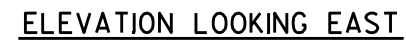


WING 2 SECTION

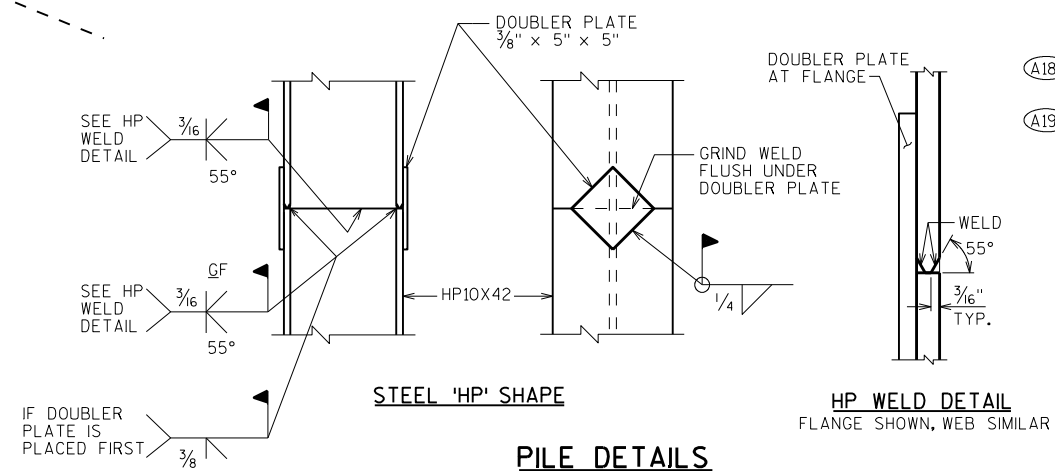
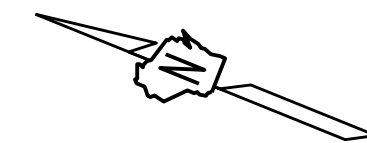


- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" X 6". (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		MWB	PLANS CK'D. MJK
WEST ABUTMENT DETAILS			SHEET 5 OF 21
			136



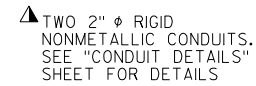
SECTION THRU BODY



- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 60 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

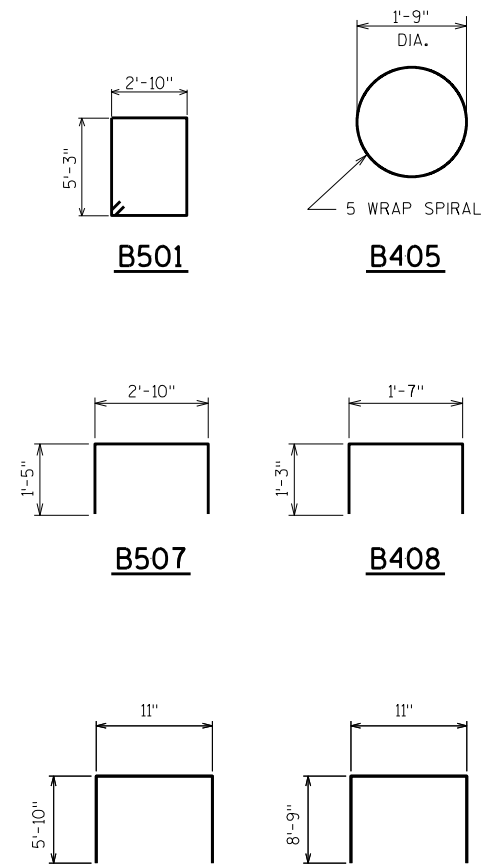
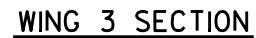
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-13-709	
		DRAWN BY	PLANS CK'D. MJK
EAST ABUTMENT		SHEET 6 OF 21	
		137	

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		52	16'-10"	X		BODY-STIRRUPS
B402		22	2'-3"			PILES- 2 PER PILE
B1003		8	41'-6"			BODY-HORIZONTAL
B604		11	41'-6"			BODY-HORIZONTAL
B405		11	28'-0"	X		PILES-1 PER PILE
B406		3	27'-11"			BODY-HORZ. UNDER GIRS. 1-4
B507		29	5'-5"	X		BODY-VERT. UNDER GIRS. 1-4
B408		15	3'-11"	X		BODY-VERT. BETWEEN BEAM SEATS
B409		10	5'-6"			BODY-HORZ. BETWEEN BEAM SEATS
B510	X	9	12'-4"	X		WING 3-VERTICAL
B511	X	19	18'-2"	X		WING 3-VERTICAL
B512	X	15	17'-10"	X		WING 3-STIRRUP
B513	X	7	17'-3"			WING 3-HORIZONTAL-F.F.
B914	X	8	17'-1"	X		WING 3-HORIZONTAL-B.F.
B915	X	2	17'-11"	X		WING 3-HORIZONTAL-F.F. & B.F.
B416	X	15	19'-6"			WING 3-HORIZONTAL-F.F. & B.F.
B617	X	2	19'-6"			WING 3-HORIZONTAL-F.F. & B.F.
B518	X	9	12'-2"	X		WING 4-VERTICAL
B519	X	19	18'-0"	X		WING 4-VERTICAL
B520	X	15	17'-0"	X		WING 4-STIRRUP
B521	X	7	16'-1"			WING 4-HORIZONTAL-F.F.
B922	X	8	18'-9"	X		WING 4-HORIZONTAL-B.F.
B923	X	2	17'-11"	X		WING 4-HORIZONTAL-F.F. & B.F.
B424	X	15	19'-6"			WING 4-HORIZONTAL-F.F. & B.F.
B625	X	2	19'-6"			WING 4-HORIZONTAL-F.F. & B.F.



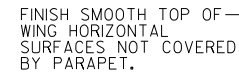
WING 3 ELEVATION

(LOOKING AT F.F. OF WING)

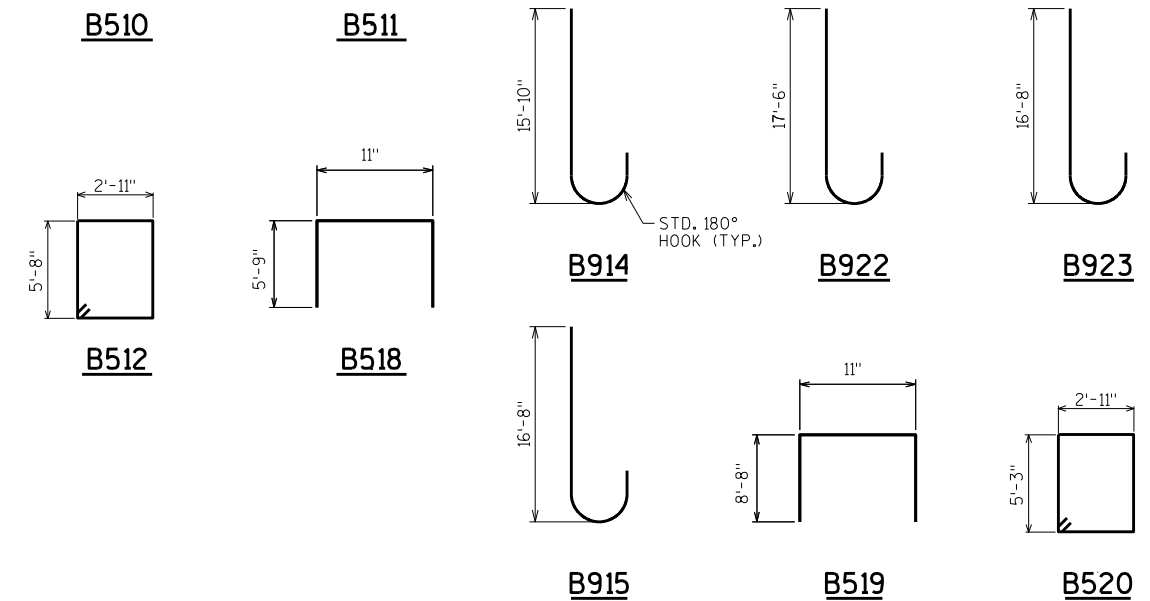


WING 4 ELEVATION

(LOOKING AT F.F. OF WING)



WING 4 SECTION



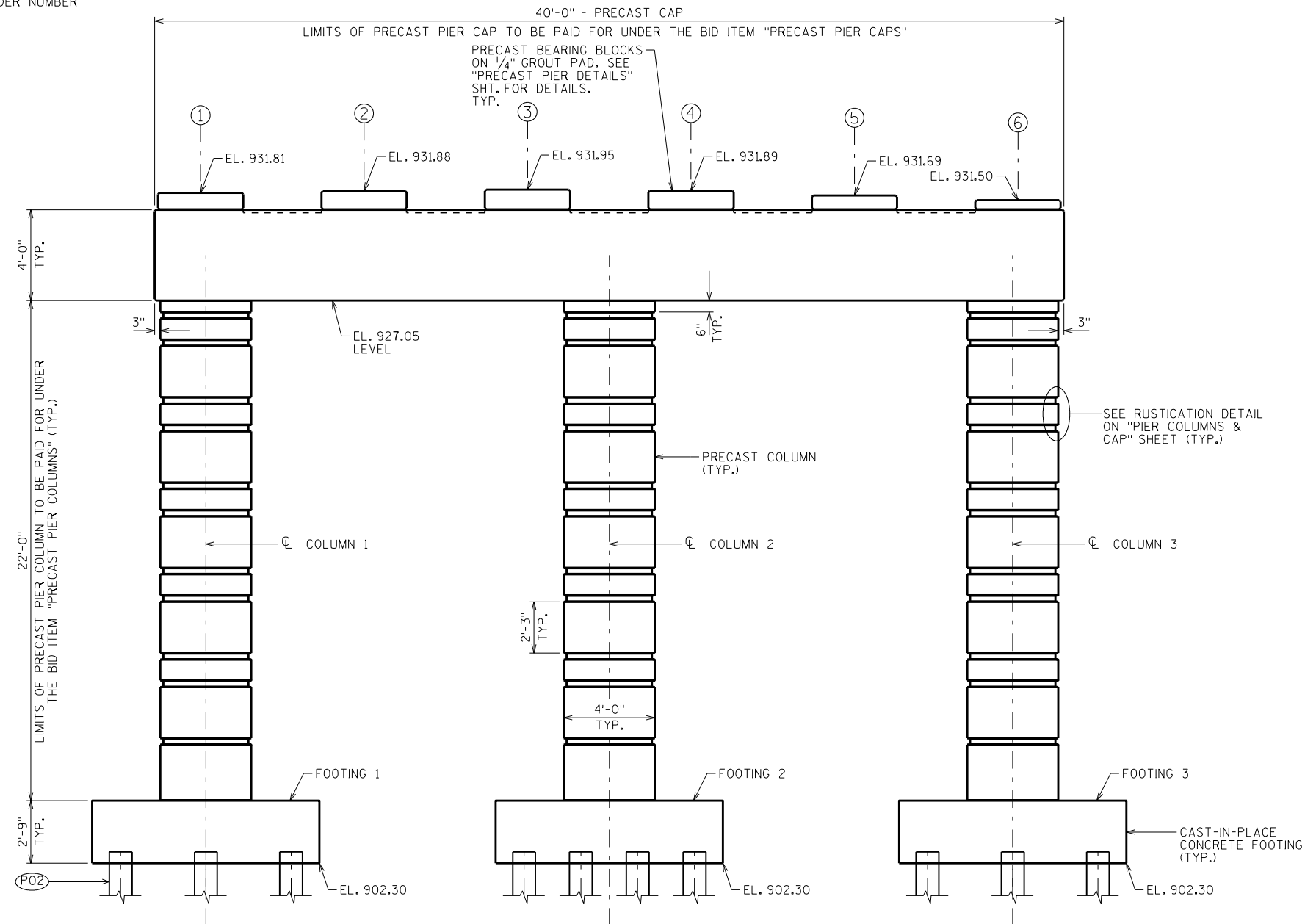
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A21) FOR PPT.BARS & DIMENSION SEE PARAPET SHT.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE		B-13-709			
		DRAWN BY	MWB	PLANS C'K'D.	MJK
EAST ABUTMENT DETAILS			SHEET 7 OF 21		
			138		

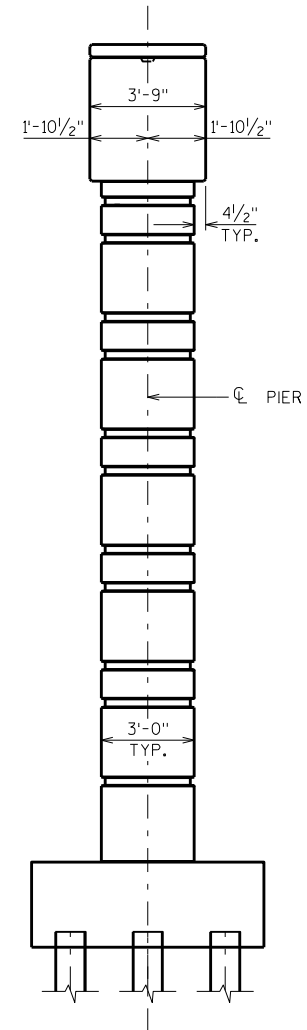
○ INDICATES GIRDER NUMBER

STATE PROJECT NUMBER

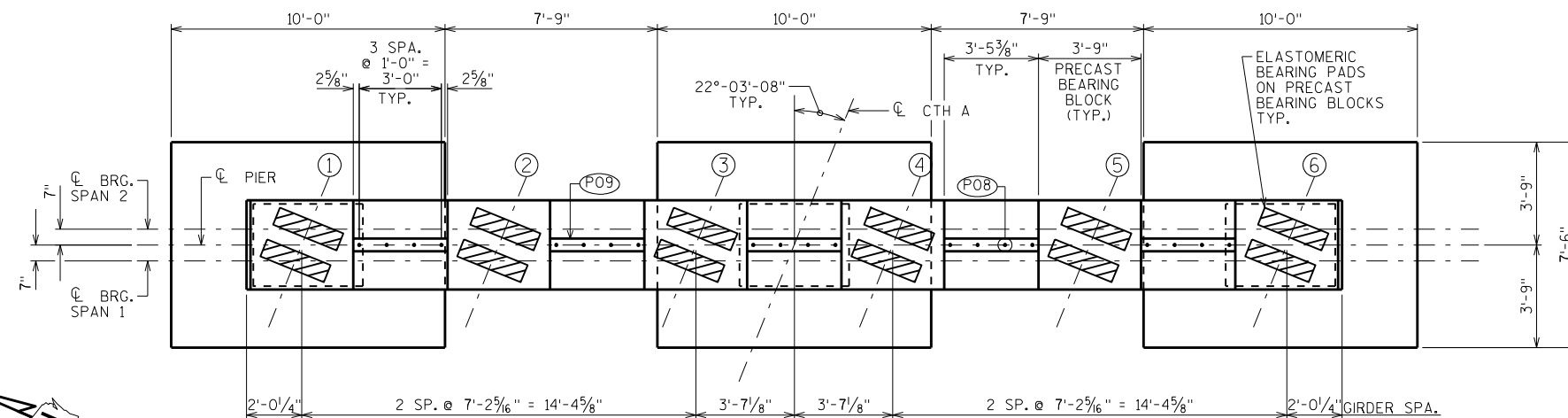
1007-10-75



ELEVATION
(LOOKING NORTHEAST)



END VIEW
(LOOKING NORTHWEST)



PLAN

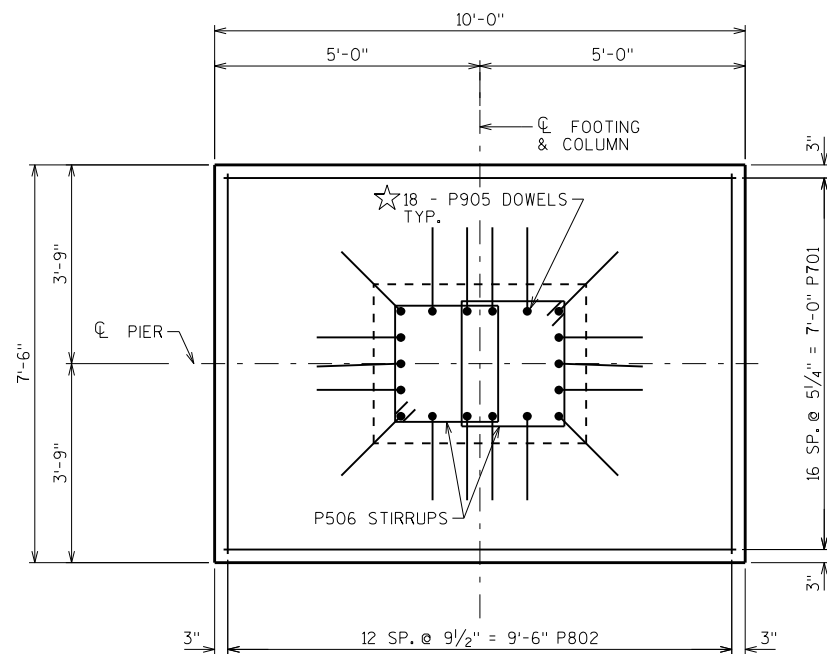
- (P02) SUPPORT PIER ON HP 12 x 53 STEEL PILING, ESTIMATED 40'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.
- (P08) P517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. EMBED 1'-0" INTO CAP CONCRETE.
- (P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

GENERAL NOTES

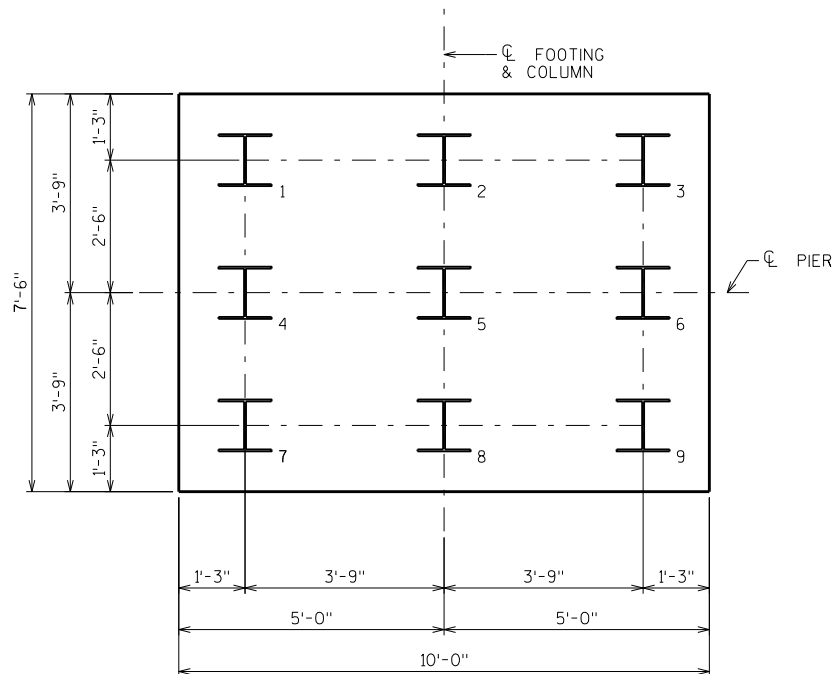
PROVIDE A SUITABLE LIFTING DEVICE FOR THE PRECAST CAP AND COLUMN UNIT(S).
CAST-IN-PLACE ALTERNATIVE IS NOT ALLOWED.
STIRRUPS AT THE GROUTED COUPLERS ARE SIZED BASED ON A 3" OUTER DIAMETER COUPLER SLEEVE. ADJUST STIRRUP DIMENSIONS AS REQUIRED IF THE ACTUAL COUPLER SLEEVE DIAMETER DIFFERS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		NAR	PLANS CK'D. MJK
PIER		SHEET 8 OF 21	
		139	

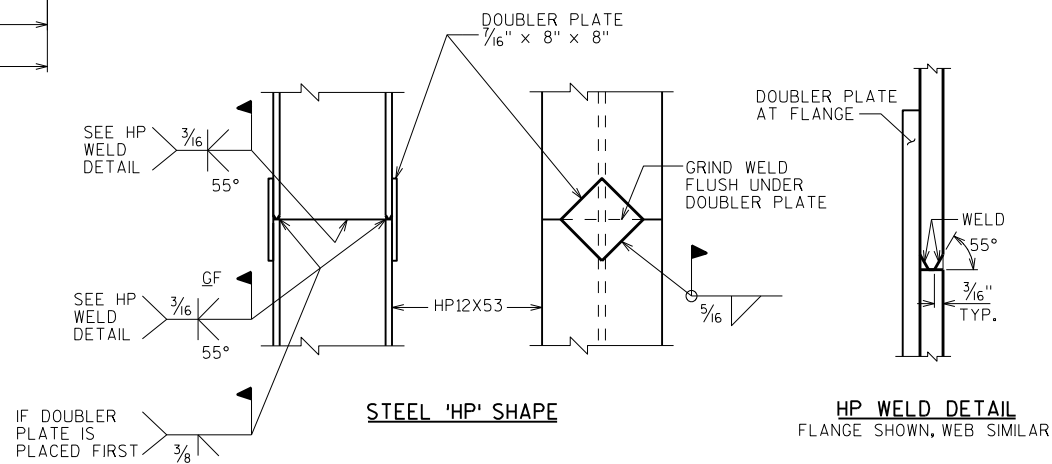
SCALE = 3



FOOTING 1 & 3 REINFORCEMENT PLAN

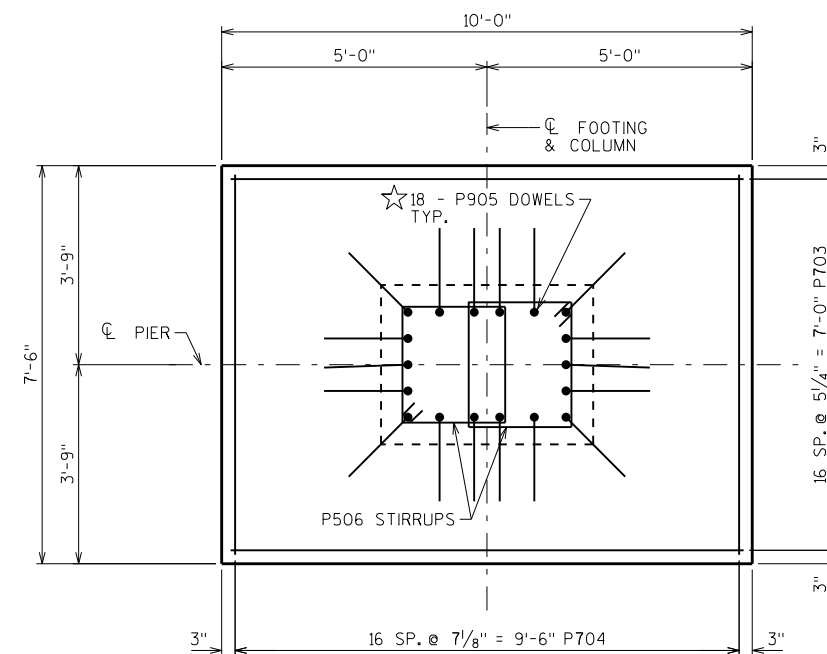


FOOTING 1 & 3 PILE LAYOUT

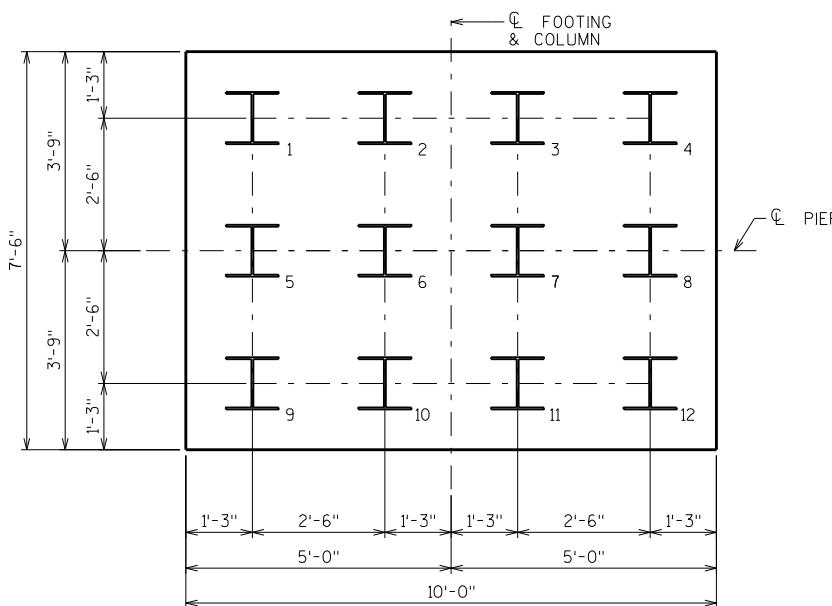


STEEL 'HP' SHAPE

PILE DETAILS



FOOTING 2 REINFORCEMENT PLAN



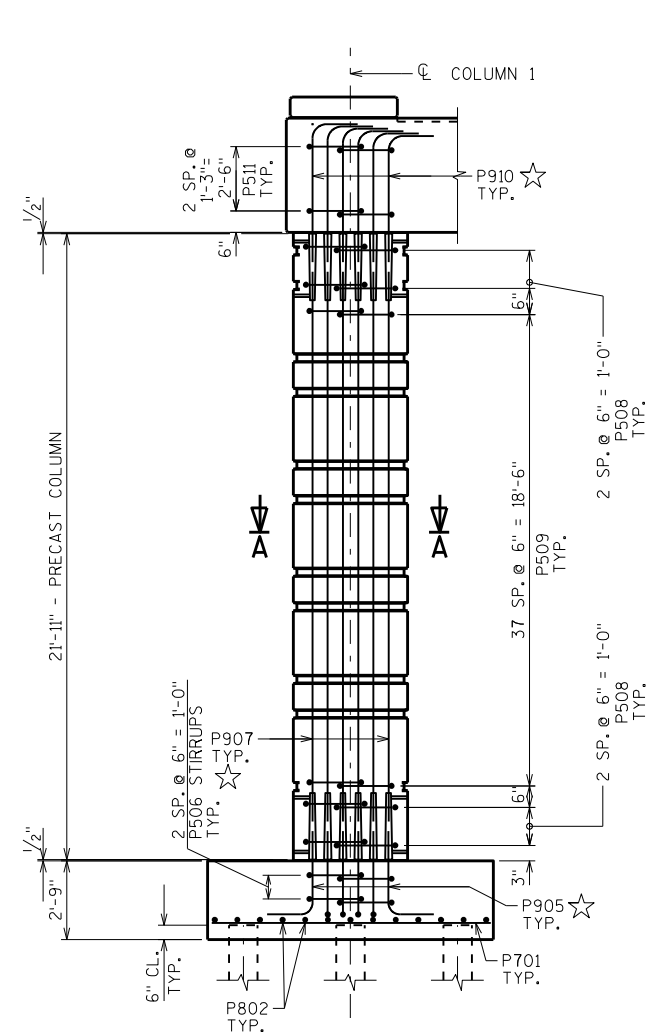
FOOTING 2 PILE LAYOUT

NOTE:

USE TEMPLATE TO ALIGN P905 DOWELS INTO PRECAST COLUMNS. TEMPLATE TO BE PROVIDED BY PRECASTER.

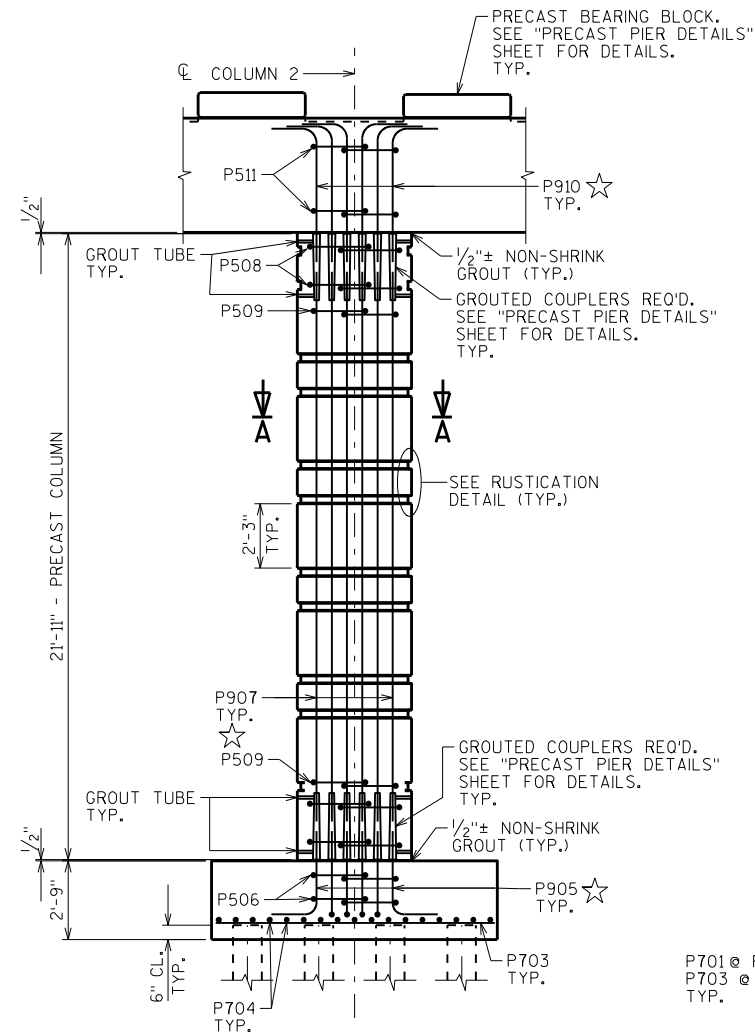
★ SUPPLY REINFORCEMENT BARS ACCORDING TO GROUTED COUPLER REQUIREMENTS FOR EMBEDMENT. BARS MAY BE FIELD CUT IF NEEDED. PAYMENT IS BASED ON PLAN LENGTHS AS SHOWN IN THE BILL OF BARS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		NAR	PLANS CK'D. MJK
PIER FOOTINGS		SHEET 9 OF 21	
		140	

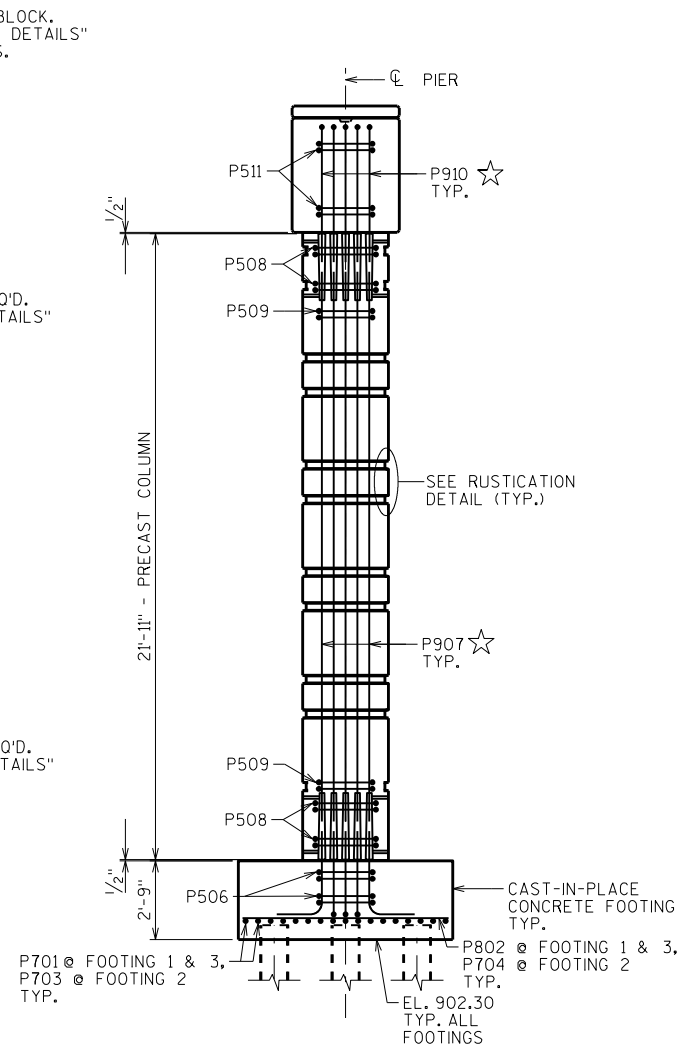


PRECAST COLUMN 1 ELEVATION

(COLUMN 3 IS SIMILAR, REINFORCEMENT SPACING TYPICAL FOR ALL COLUMNS)

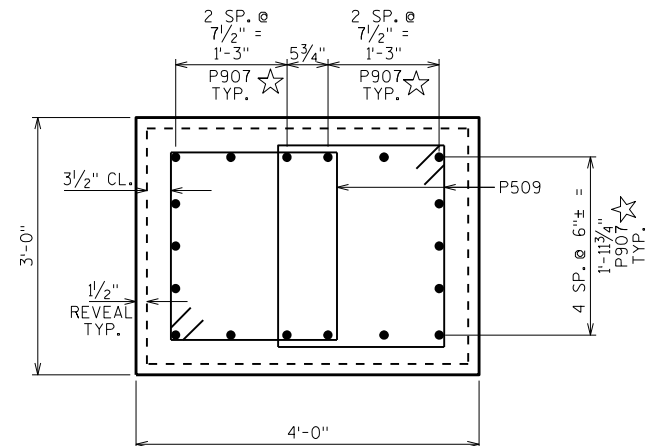


PRECAST COLUMN 2 ELEVATION

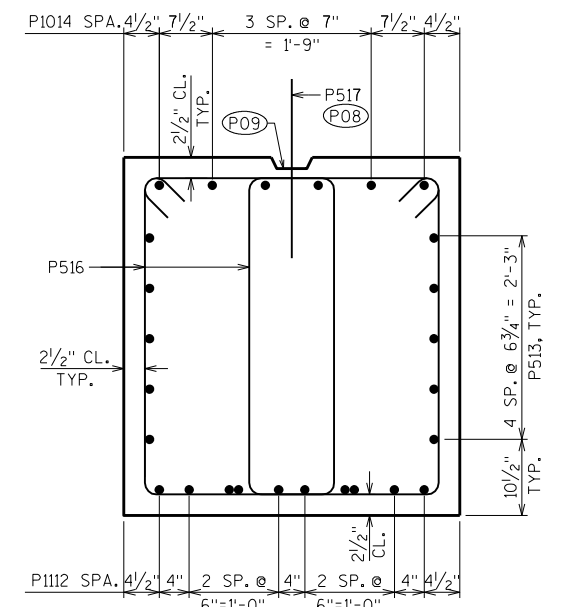


PRECAST COLUMN ELEVATION - END VIEW

(COLUMN 1 & 3 SHOWN, COLUMN 2 IS SIMILAR)



SECTION A-A



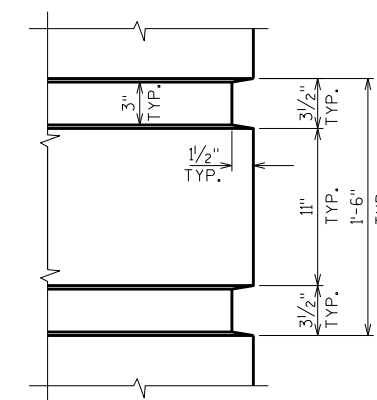
SECTION B-B

(P08) P517 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. EMBED 1'-0" INTO CAP CONCRETE.

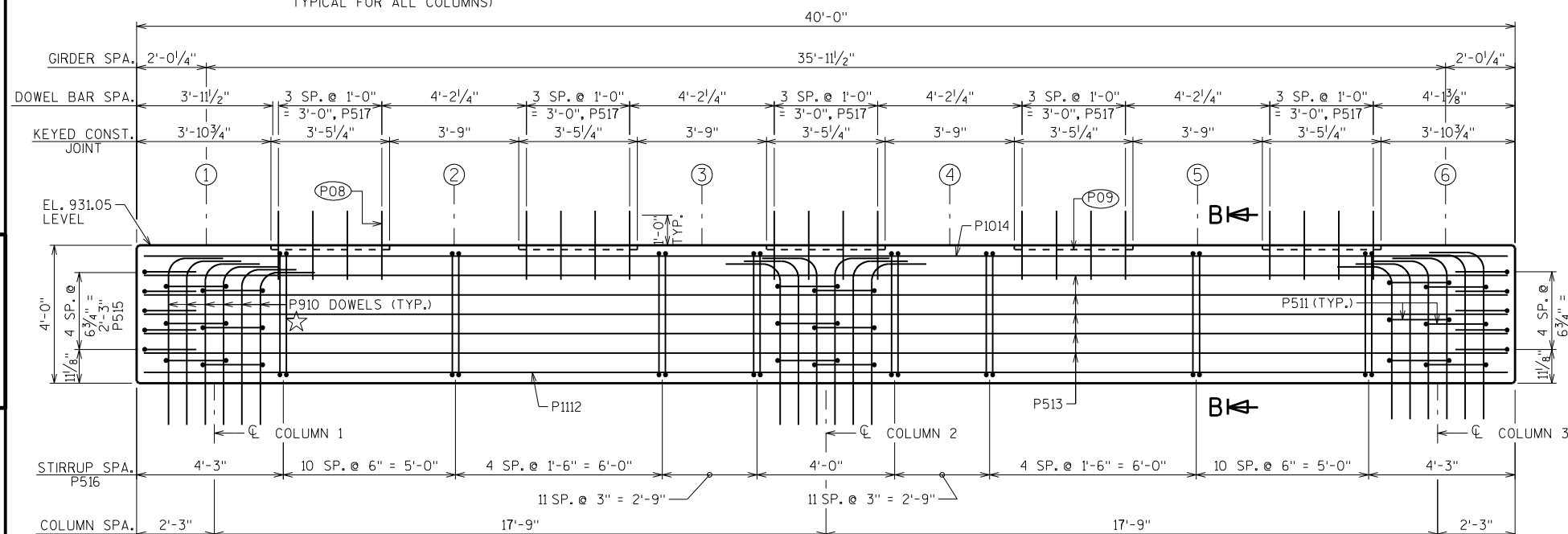
(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

★ SUPPLY REINFORCEMENT BARS ACCORDING TO GROUTED COUPLER REQUIREMENTS FOR EMBEDMENT. BARS MAY BE FIELD CUT IF NEEDED. PAYMENT IS BASED ON PLAN LENGTHS AS SHOWN IN THE BILL OF BARS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY NAR		PLANS CKD. MJK	
PIER COLUMNS & CAP		SHEET 10 OF 21	
		141	



RUSTICATION DETAIL



PRECAST CAP ELEVATION - LOOKING NORTHEAST

GROUTED SPLICE COUPLER CONNECTION SEQUENCE

FOLLOW THE WRITTEN INSTALLATION PROCEDURES OF THE COUPLER MANUFACTURER. THE FOLLOWING ARE GENERAL PROCEDURES THAT APPLY TO MOST COUPLER MANUFACTURERS:

1. IT IS RECOMMENDED THAT THE ELEMENT WITH THE REINFORCEMENT BARS EXTENDING OUT BE FABRICATED WITH EXTRA BAR LENGTHS.
2. SURVEY LOCATION AND ELEVATION OF LOWER ELEMENT.
3. DETERMINE THE REQUIRED REINFORCING BAR EXTENSION LENGTHS AND THE REQUIRED SHIM HEIGHTS BASED ON THE SURVEY.
4. CUT THE BAR EXTENSIONS TO THE REQUIRED LENGTH BASED ON THE SURVEY AND THE COUPLER MANUFACTURER'S RECOMMENDATIONS. FOR COATED BARS, THE ENDS OF THE BARS SHALL BE RE-COATED.
5. PLACE BEDDING GROUT ON TOP OF LOWER ELEMENT. THE USE OF EXTRA GROUT THAT IS ALLOWED TO FLOW OUT DURING ELEMENT PLACEMENT IS RECOMMENDED. IN LIEU OF PRE-PLACEMENT OF BEDDING GROUT, THE BEDDING GROUT CAN BE FLOWED INTO PLACE AFTER ELEMENT ERECTION BUT PRIOR TO GROUTING OF COUPLERS.
6. ERECT UPPER ELEMENT TO WITHIN THE SPECIFIED ERECTION TOLERANCES INDICATED IN THE SPECIAL PROVISIONS. PREVENT BEDDING GROUT FROM FLOWING INTO COUPLER.
7. MAINTAIN INTEGRITY OF GROUT BED DURING SETTING OPERATION. REPAIR GROUT THAT IS DISPLACED OR GAPS THAT DEVELOP IN THE GROUT JOINT USING HAND TOOLS.
8. BRACE THE UPPER ELEMENT.
9. INSTALL GROUT IN COUPLERS FOLLOWING THE MANUFACTURER'S WRITTEN PROCEDURES. IF THE COUPLER IS BELOW THE JOINT, COUPLER GROUT CAN BE INSTALLED PRIOR TO APPLICATION OF BEDDING GROUT.
10. ERECTION OF SUBSEQUENT ELEMENTS ABOVE A CONNECTION SHALL NOT COMMENCE UNTIL THE CONNECTION HAS ACHIEVED ADEQUATE STRENGTH AS DETERMINED THROUGH STRENGTH TESTING OF THE GROUT. THE TIMING OF SUBSEQUENT CONSTRUCTION STEPS SHOULD BE SPECIFIED IN BRIDGE ASSEMBLY PLAN.

GROUTED COUPLER NOTES

USE MATCHING TEMPLATES FOR THE LOCATION OF REINFORCEMENT AND GROUTED COUPLER PLACEMENT WITHIN THE ELEMENTS TO CONTROL CRITICAL DIMENSIONS AND ORIENTATION IN ALL DIRECTIONS.

- CONSULT MANUFACTURER OF THE GROUTED COUPLER FOR PROPER DIMENSIONS "B" AND "D" AND FOR TOLERANCE OF THESE DIMENSIONS. FIELD CUT FOOTING AND CAP DOWELS AS REQUIRED.

BEFORE EXECUTING GROUTED COUPLER ASSEMBLIES, ALWAYS SEEK INSTALLATION RECOMMENDATIONS FROM THE MANUFACTURER OF THE GROUTED COUPLER USED.

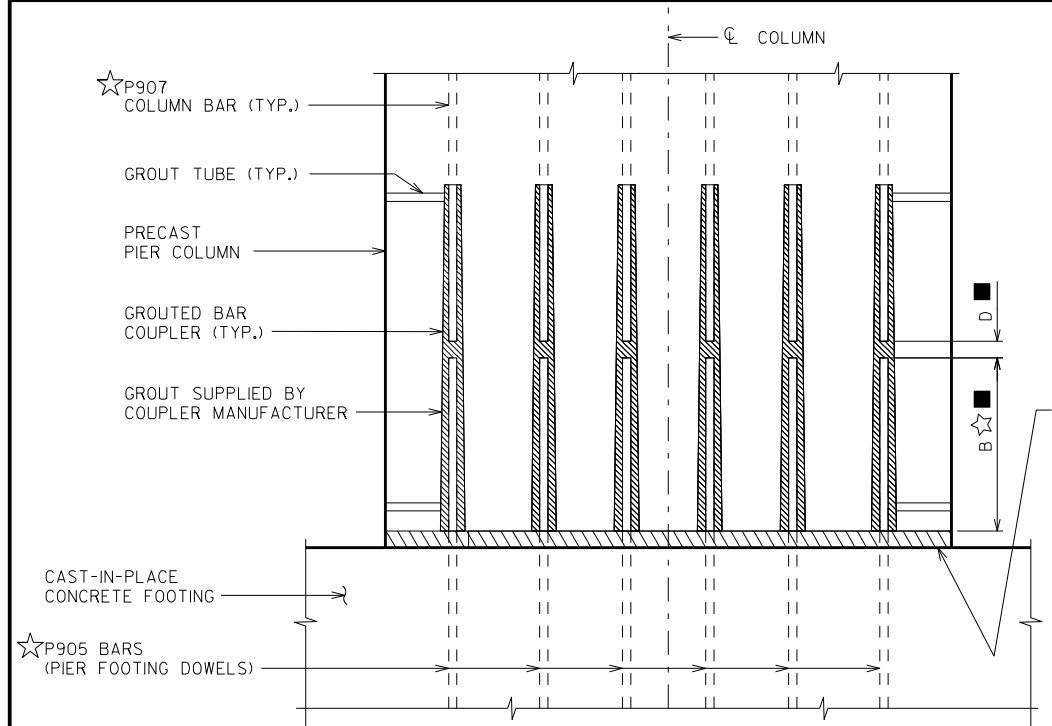
CONTRACTOR TO PROVIDE ADEQUATE BRACING OF COLUMNS UNTIL GROUTED COUPLER CONNECTIONS HAVE ACHIEVED ADEQUATE STRENGTH.

ALL GROUTED COUPLERS SHALL BE EPOXY COATED.

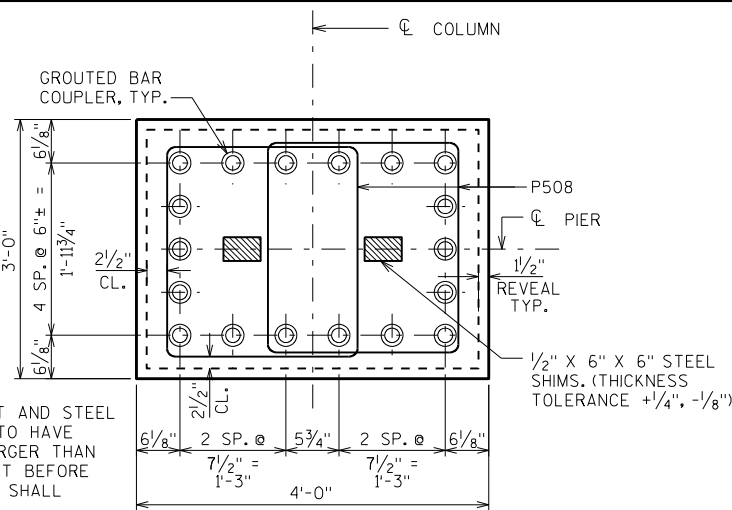
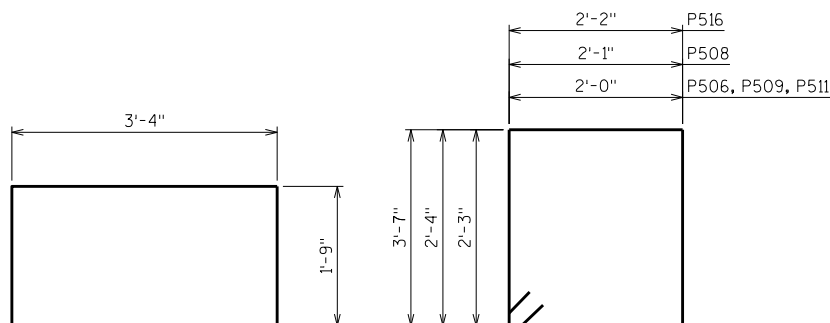
ADJUST SHIM STACK HEIGHT TO CONTROL ERECTION ELEVATIONS.

- ☆ SUPPLY REINFORCEMENT BARS ACCORDING TO GROUTED COUPLER REQUIREMENTS FOR EMBEDMENT. BARS MAY BE FIELD CUT IF NEEDED. PAYMENT IS BASED ON PLAN LENGTHS AS SHOWN IN THE BILL OF BARS.

PRECASTER SHALL PROVIDE PORTS IN THE PRECAST ELEMENTS TO ALLOW THE COUPLERS TO BE GROUTED AFTER THE PRECAST ELEMENTS HAVE BEEN ERECTED.

**GROUTED BAR COUPLER DETAILS**

(PIER COLUMN/FOOTING CONNECTION SHOWN. PIER CAP/COLUMN CONNECTION SIMILAR)

**GROUTED COUPLER PLAN AT TOP AND BOTTOM OF COLUMN****BILL OF BARS - PIER FOOTINGS**

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	UNCOATED = 1,930 LBS. COATED = 1,000 LBS.
LOCATION					
P701	34	9'-8"			FOOTING 1 & 3 - BOTTOM - HORIZ. - LONGIT.
P802	26	7'-2"			FOOTING 1 & 3 - BOTTOM - HORIZ. - TRANS.
P703	17	9'-8"			FOOTING 2 - BOTTOM - HORIZ. - LONGIT.
P704	17	7'-2"			FOOTING 2 - BOTTOM - HORIZ. - TRANS.
P905	54	5'-5"	X	X	FOOTING DOWELS - VERT.
P506	18	9'-2"		X	FOOTING DOWEL STIRRUPS - HORIZ.

BILL OF BARS - PIER PRECAST COLUMNS

BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	UNCOATED = 0 LBS. COATED = 6,580 LBS.
LOCATION					
P907	54	22'-0"	X		COLUMNS - VERT.
P508	36	9'-6"	X	X	COLUMNS - STIRRUPS - AT BAR COUPLERS
P509	228	9'-2"	X	X	COLUMNS - STIRRUPS - BETWEEN BAR COUPLERS

BILL OF BARS - PIER PRECAST CAPS

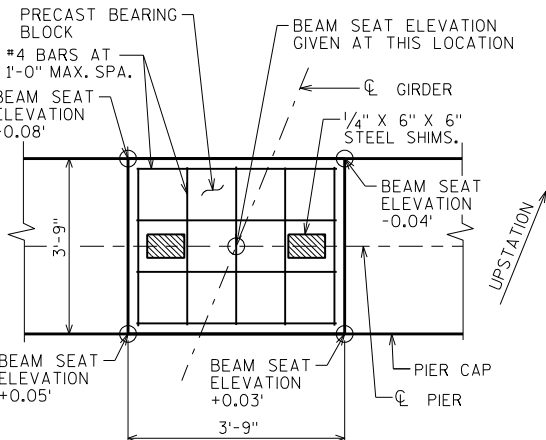
BAR MARK	NO. REQ'D.	LENGTH	COAT	BENT	UNCOATED = 0 LBS. COATED = 6,450 LBS.
LOCATION					
P910	54	7'-1"	X	X	CAP DOWELS - BOTTOM - VERT.
P511	18	9'-2"	X	X	CAP DOWEL STIRRUPS - HORIZ.
P1112	10	39'-7"	X		CAP - BOTTOM - HORIZ. - LONGIT.
P513	10	39'-7"	X		CAP - AT BOTH FACES - HORIZ. - LONGIT.
P1014	6	39'-7"	X		CAP - TOP - HORIZ. - LONGIT.
P515	10	6'-7"	X	X	CAP - BOTH ENDS - HORIZ.
P516	104	12'-2"	X	X	CAP - STIRRUPS - VERT.
P517	20	2'-0"	X		CAP DOWELS - TOP - VERT.

NOTE: THIS BILL OF BARS IS SHOWN FOR INFORMATION ONLY. PAYMENT FOR REINFORCEMENT IN PRECAST COLUMNS AND PRECAST CAP IS INCLUDED IN THE BID ITEMS 'PRECAST PIER COLUMNS' AND 'PRECAST PIER CAPS'.

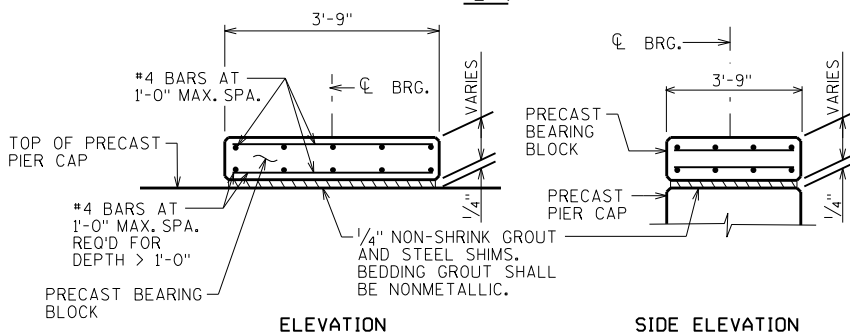
P905, P910

P515

P506, P508, P509, P511, P516



PLAN

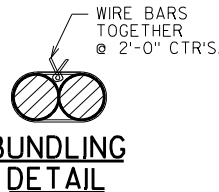


ELEVATION

SIDE ELEVATION

PRECAST BEARING BLOCK DETAILS

PRECAST BEARING BLOCKS ARE INCLUDED WITH THE BID ITEM "PRECAST PIER CAPS" REINFORCING STEEL TO BE EPOXY COATED



**BUNDLING
DETAIL**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		NAR	PLANS CK'D. MJK
PRECAST PIER DETAILS		SHEET 11 OF 21	
		142	

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

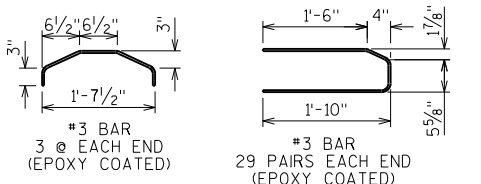
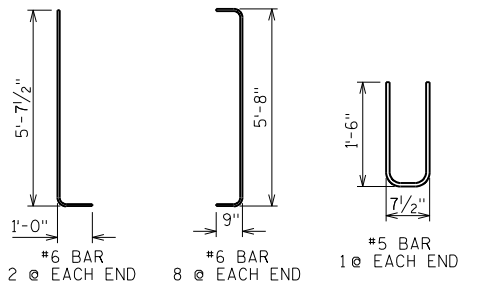
THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7 WIRE
LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF
270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE
"STEEL DIAPHRAGM" SHEET.



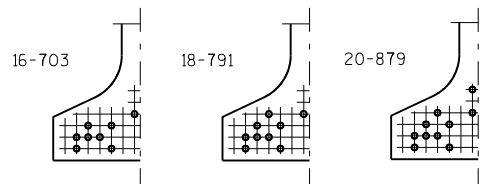
(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

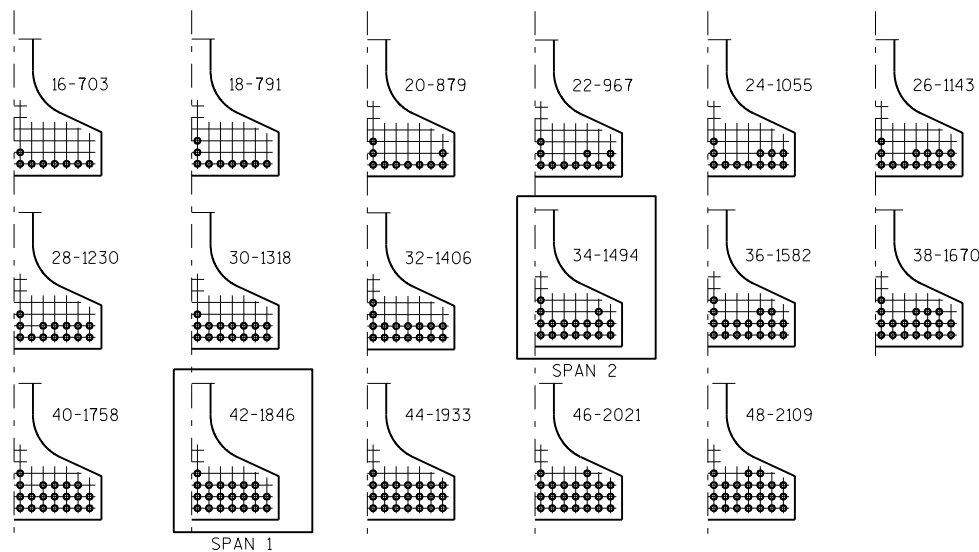
GIRDER DATA

[illegible]

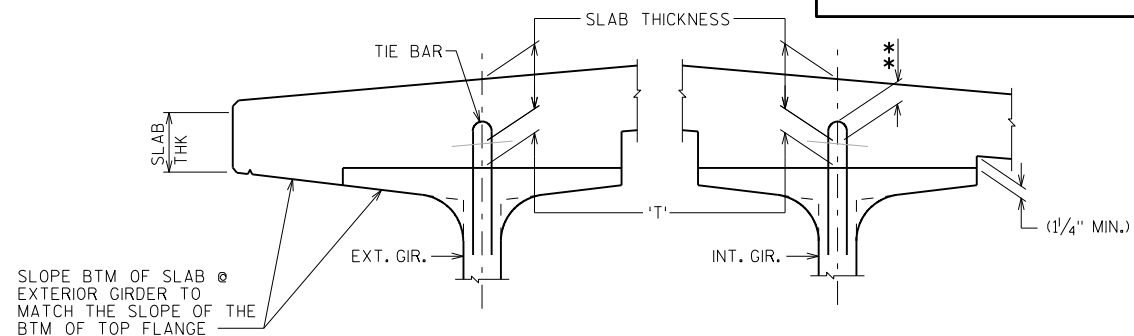
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE		B-13-709	
		DRAWN BY	MWB PLANS CK'D. MJK
72W" PRESTRESSED GIRDER DETAILS 1		SHEET 12 OF 21	
		143	



STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6" ϕ STRANDS

ARRANGEMENT AT ϕ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6" ϕ STRANDS

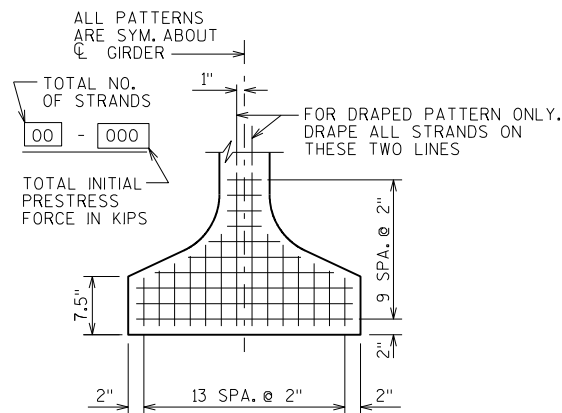
SLAB HAUNCH DETAIL

IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

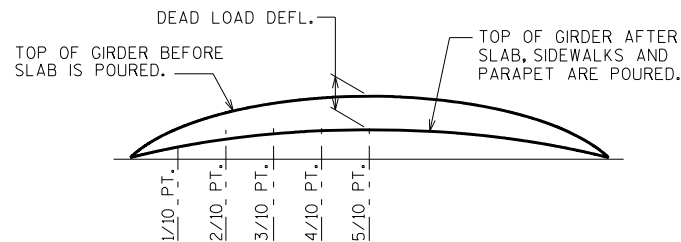
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ϕ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

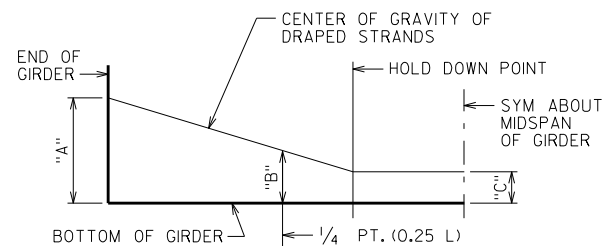
NOTE: AN AVERAGE HAUNCH ('T') OF 3/4" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



TYP. STRAND PATTERN



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.89
2	2.59

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY MWB		PLANS CK'D. MJK	
72W" PRESTRESSED GIRDER DETAILS 2			SHEET 13 OF 21
			144

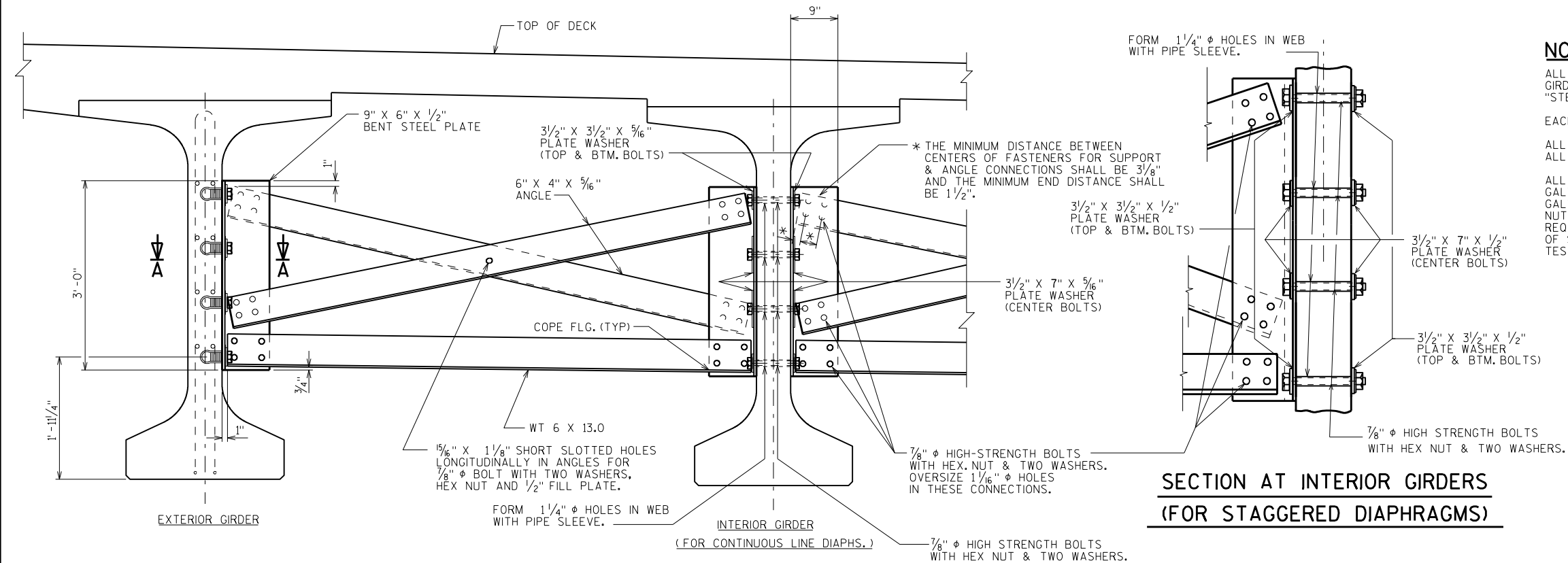
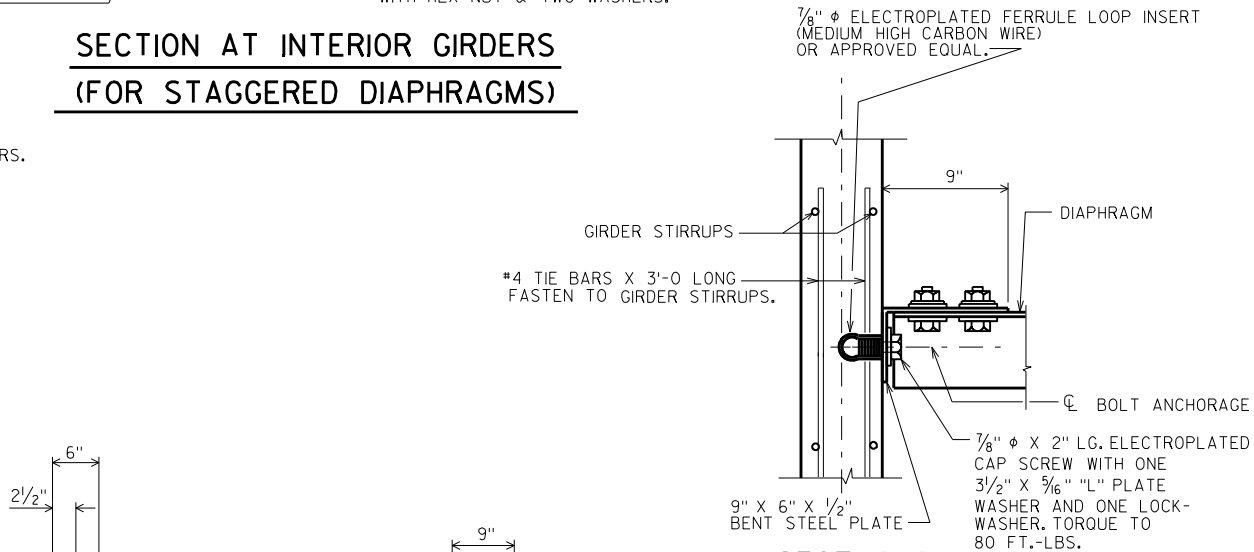
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-709", EACH.

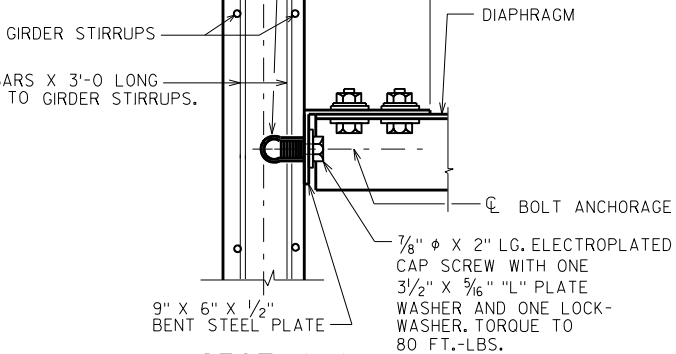
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S10 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

**PART TRANSVERSE SECTION AT DIAPHRAGM****SECTION AT INTERIOR GIRDERS
(FOR STAGGERED DIAPHRAGMS)**

7/8" ϕ ELECTROPLATED FERRULE LOOP INSERT (MEDIUM HIGH CARBON WIRE) OR APPROVED EQUAL.

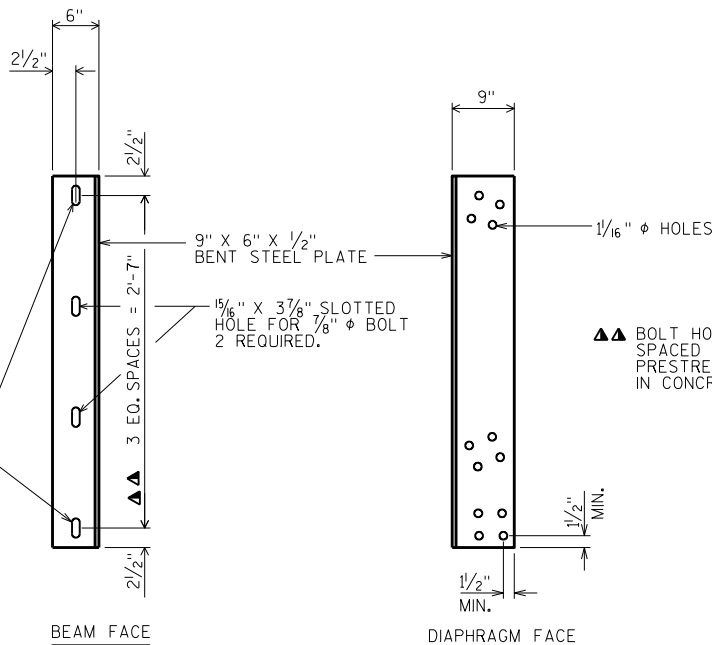
**SECT. A-A**

(FOR EXTERIOR ATTACHMENT)

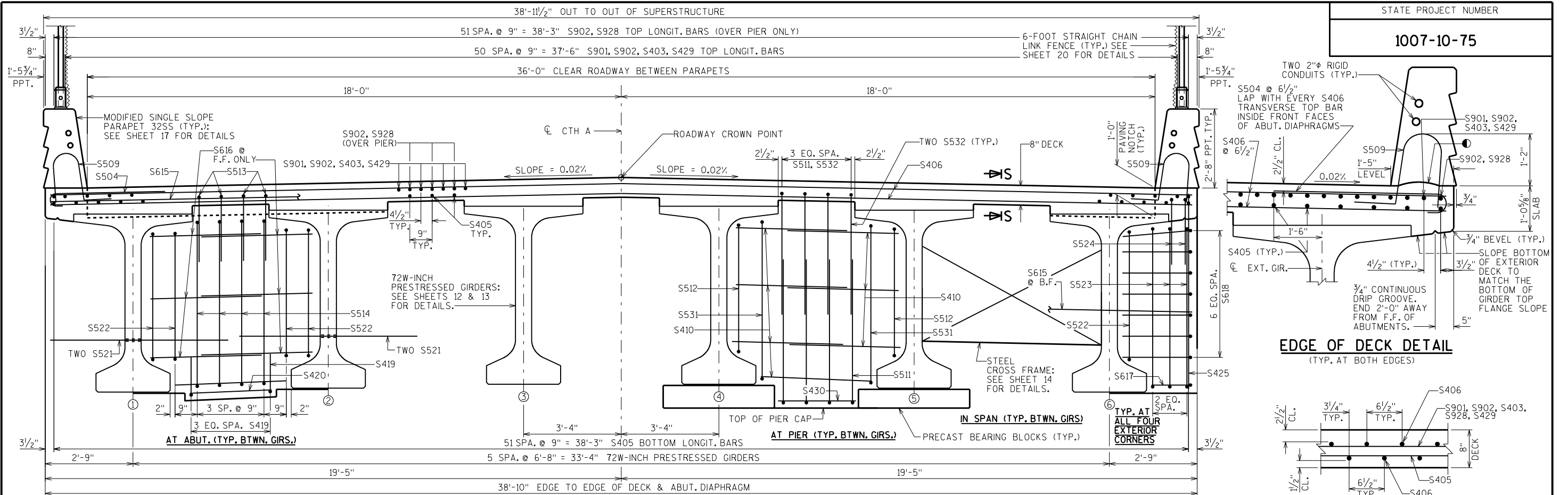
"L" = 3 1/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS

▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

15/16" X 2 3/16" LONG SLOTTED HOLE FOR 7/8" ϕ BOLT. 2 REQUIRED.

**DIAPHRAGM SUPPORT**

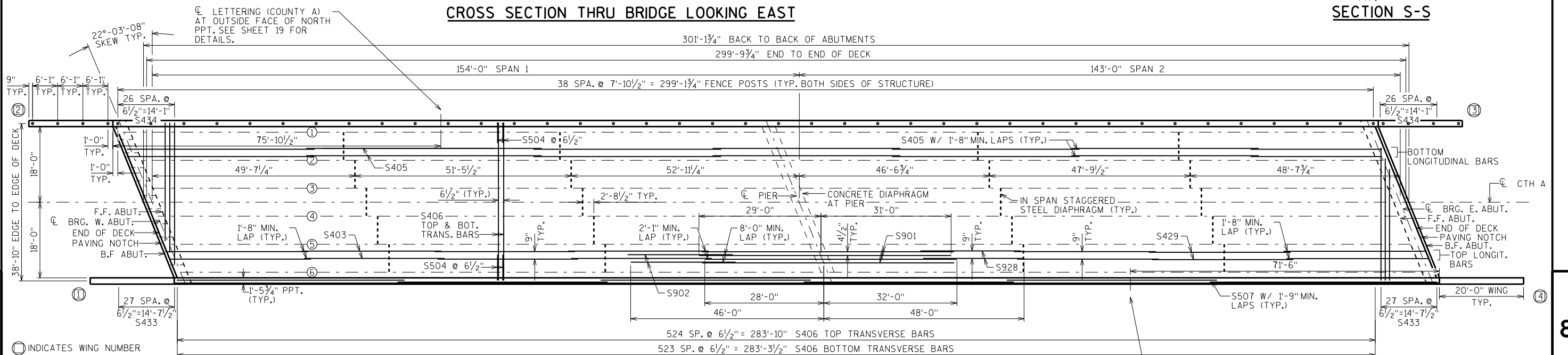
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY MWB		PLANS CKD. MJK	
STEEL DIAPHRAGM			SHEET 14 OF 21
			145



CROSS SECTION THRU BRIDGE LOOKING EAST

EDGE OF DECK DETAIL
(TYP. AT BOTH EDGES)

SECTION S-S



TOP OF DECK ELEVATIONS

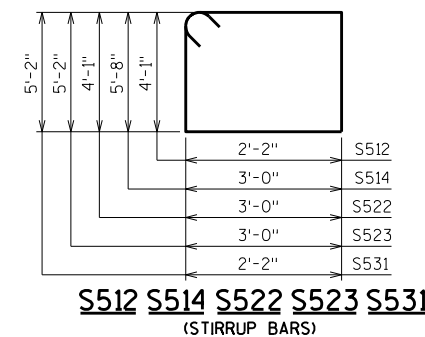
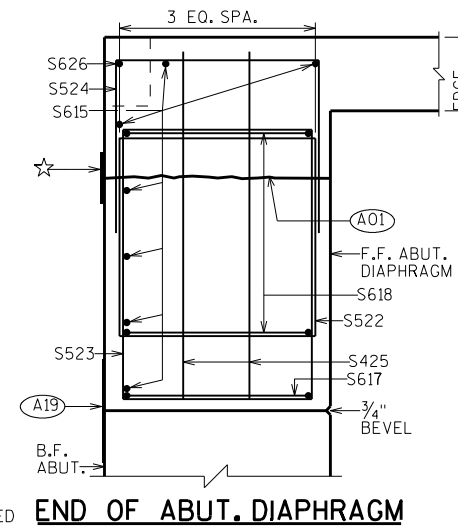
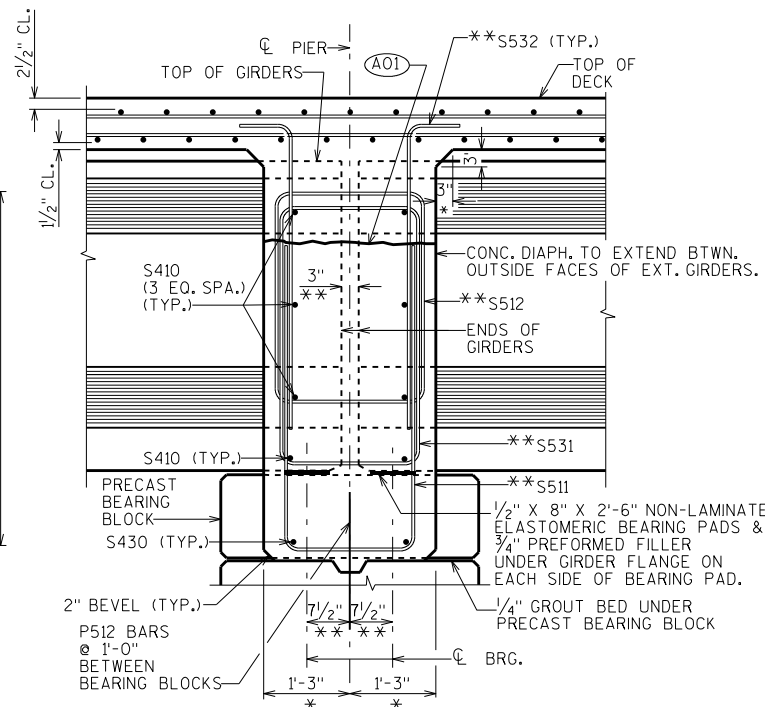
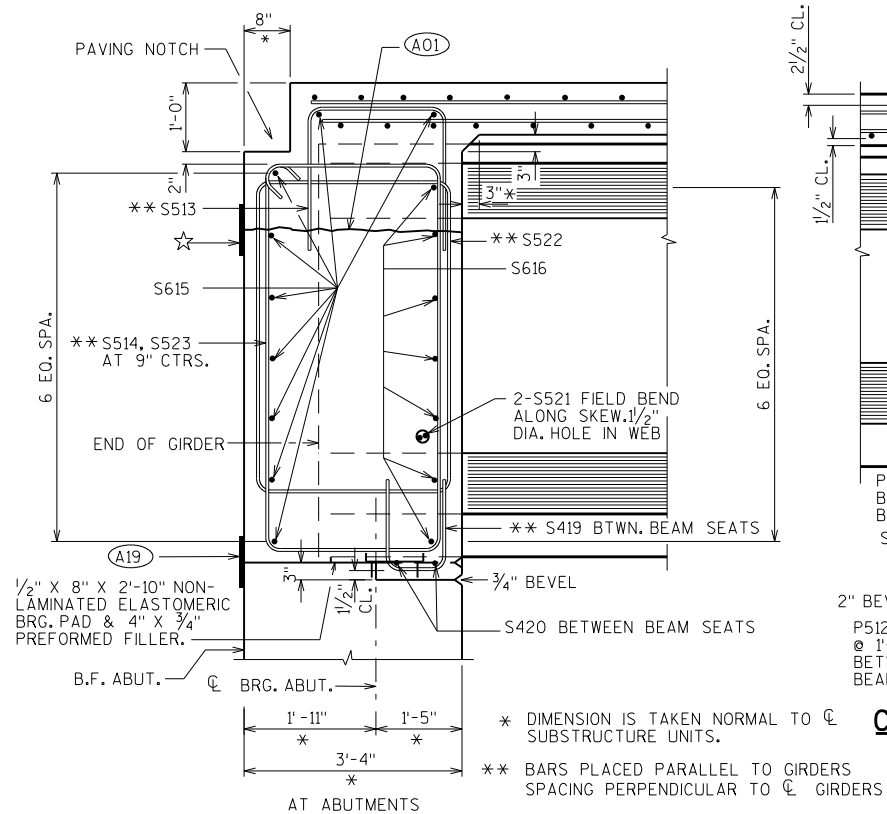
EOD = EDGE OF DECK

	CL BRG. W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CL PIER	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CL BRG. E. ABUT.	
N. EOD	941.29	941.11	940.91	940.70	940.47	940.22	939.96	939.67	939.37	939.06	938.72	938.40	938.06	937.70	937.33	936.95	936.55	936.14	935.71	935.26	934.80	N. EOD
GUTTER	941.28	941.10	940.90	940.69	940.46	940.21	939.94	939.66	939.36	939.05	938.71	938.39	938.04	937.69	937.32	936.93	936.53	936.12	935.69	935.24	934.78	GUTTER
CL GIR. 1	941.30	941.12	940.92	940.71	940.48	940.23	939.96	939.68	939.38	939.06	938.73	938.40	938.06	937.70	937.33	936.95	936.54	936.13	935.70	935.25	934.79	CL GIR. 1
CL GIR. 2	941.40	941.22	941.02	940.80	940.57	940.32	940.05	939.76	939.46	939.14	938.80	938.47	938.13	937.77	937.39	937.00	936.60	936.18	935.75	935.30	934.84	CL GIR. 2
CL GIR. 3	941.51	941.32	941.12	940.90	940.66	940.40	940.13	939.84	939.54	939.21	938.87	938.54	938.19	937.83	937.45	937.06	936.66	936.24	935.80	935.35	934.88	CL GIR. 3
CROWN PT.	941.56	941.37	941.16	940.94	940.70	940.45	940.17	939.88	939.57	939.25	938.91	938.57	938.23	937.86	937.48	937.09	936.68	936.26	935.82	935.37	934.90	CROWN PT.
CL GIR. 4	941.47	941.29	941.08	940.86	940.61	940.36	940.08	939.79	939.48	939.15	938.81	938.47	938.12	937.76	937.38	936.99	936.58	936.15	935.72	935.26	934.79	CL GIR. 4
CL GIR. 5	941.31	941.12	940.91	940.68	940.44	940.18	939.90	939.60	939.29	938.96	938.62	938.28	937.92	937.56	937.17	936.78	936.37	935.94	935.50	935.04	934.57	CL GIR. 5
CL GIR. 6	941.14	940.95	940.74	940.51	940.26	940.00	939.72	939.42	939.10	938.77	938.42	938.08	937.72	937.35	936.97	936.57	936.15	935.72	935.28	934.82	934.34	CL GIR. 6
GUTTER	941.11	940.91	940.70	940.47	940.22	939.96	939.68	939.38	939.06	938.73	938.38	938.04	937.68	937.31	936.93	936.53	936.11	935.68	935.24	934.78	934.30	GUTTER
S. EOD	941.10	940.91	940.69	940.46	940.22	939.95	939.67	939.37	939.05	938.72	938.37	938.02	937.67	937.30	936.91	936.51	936.10	935.66	935.22	934.76	934.28	S. EOD

CL LETTERING (COUNTY A)
AT OUTSIDE FACE OF SOUTH
PPT. SEE SHEET 19 FOR
DETAILS.

HORIZ. CONST. JOINT:
STRIKE OFF AND LEAVE
ROUGH AS SHOWN

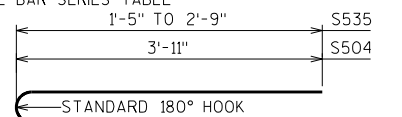
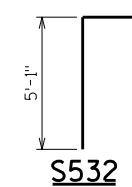
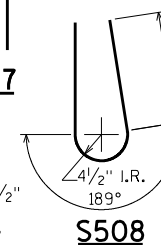
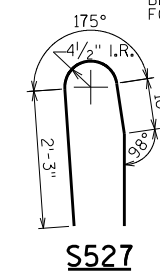
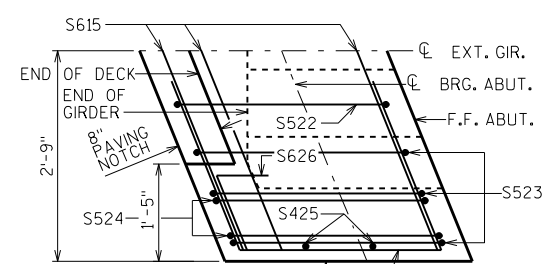
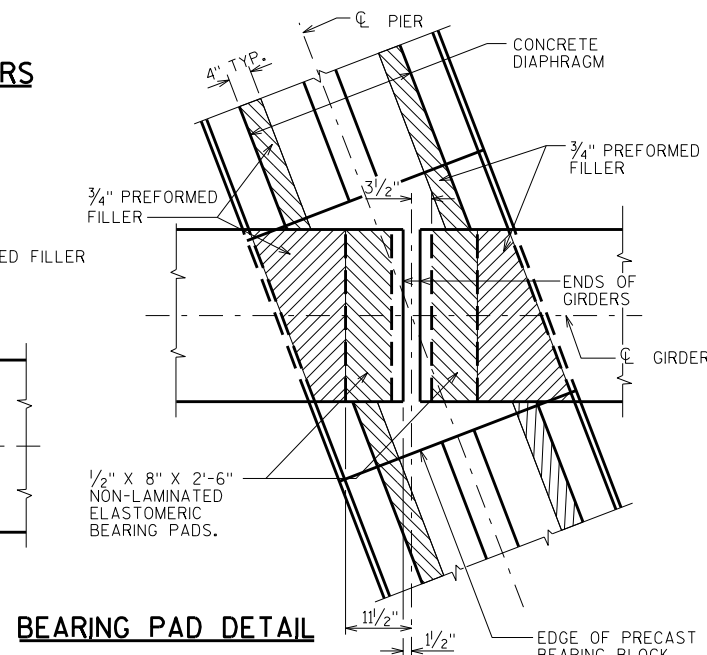
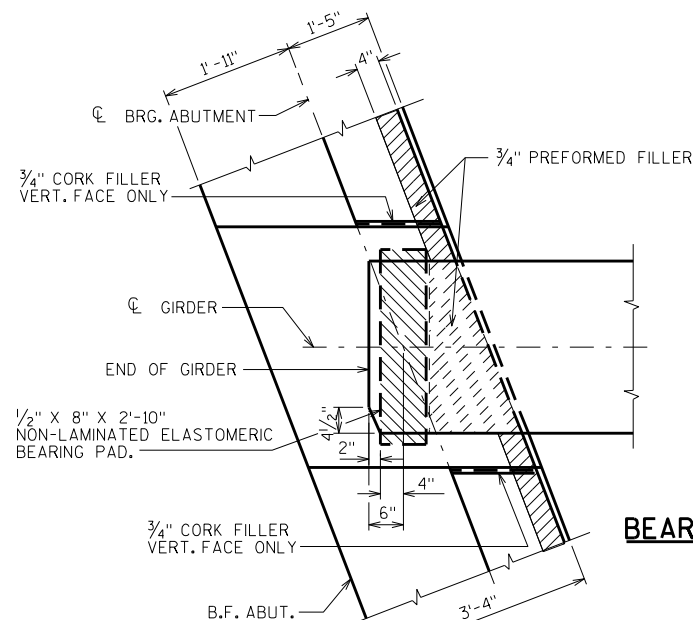
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		MWB	PLANS CKD. MJK
SUPERSTRUCTURE			SHEET 15 OF 21
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**BILL OF BARS**

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S901	X	102	59'-0"			DECK-TOP-HORIZ.-LONGITUDINAL-CONTINUITY-OVER PIER
S902	X	52	26'-0"			DECK-TOP-HORIZ.-LONGITUDINAL-CONTINUITY-SPAN 1
S403	X	204	35'-4"			DECK-TOP-HORIZ.-LONGITUDINAL-SPAN 1
S504	X	1100	4'-6"	X		DECK-TOP-VERT.-TRANSVERSE-AT EDGES-BTWN. ABUTS.
S405	X	364	44'-3"			DECK-BOTTOM-HORIZ.-LONGITUDINAL
S406	X	1049	38'-7"			DECK-TOP & BOTTOM-HORIZ.-TRANSVERSE
S507	X	72	53'-8"			PARAPET-HORIZ.-LONGIT.
S508	X	894	5'-0"	X		PARAPET-VERT.-TRANS.
S509	X	894	4'-5"	X		PARAPET & DECK-VERT.-TRANS.
S410	X	90	4'-4"			PIER DIAPHRAGM-BOTH FACES-HORIZ.-BTWN. GIRS.
S511	X	20	11'-5"	X		PIER DIAPHRAGM-BOT.-VERT.-BTWN. GIRS.
S512	X	10	13'-2"	X		PIER DIAPHRAGM-VERT.-UNDER GIR. FLANGES-BTWN. GIRS.
S513	X	40	6'-11"	X		ABUT. DIAPHRAGM & DECK-VERT.-BTWN. GIRS.
S514	X	40	18'-0"	X		ABUT. DIAPHRAGM-VERT.-BTWN. GIRS.
S615	X	18	41'-6"			ABUT. DIAPHRAGM B.F. & DECK-HORIZ.
S616	X	130	5'-0"			ABUT. DIAPHRAGM-F.F.-HORIZ.-BTWN. GIRS.
S617	X	4	5'-0"	X		ABUT. DIAPHRAGM-BOT.-HORIZ.-AT GIR. EXTERIORS
S618	X	28	6'-9"	X		ABUT. DIAPHRAGM-HORIZ.-AT GIR. EXTERIORS
S419	X	40	3'-7"	X		ABUT. DIAPHRAGM-F.F.-BOT.-VERT.-BTWN. BEAM SEATS
S420	X	20	3'-6"			ABUT. DIAPHRAGM-BOT.-HORIZ.-BTWN. BEAM SEATS
S521	X	24	6'-4"			ABUT. DIAPHRAGM-HORIZ.-THRU GIRDERS
S522	X	44	14'-10"	X		ABUT. DIAPHRAGM-VERT.-UNDER GIR. FLANGES
S523	X	12	17'-0"	X		ABUT. DIAPHRAGM-VERT.-AT GIR. EXTERIORS
S524	X	8	7'-7"	X		ABUT. DIAPHRAGM & DECK-VERT.-AT GIR. EXTERIORS
S425	X	8	6'-8"			ABUT. DIAPHRAGM & DECK-VERT.-AT GIR. EXTERIORS
S626	X	4	1'-11"	X		ABUT. DIAPHRAGM & DECK-HORIZ.-AT GIR. EXTERIORS
S527	X	4	5'-10"	X		PARAPET & DECK-VERT.-TRANS.-AT ENDS ONLY
S928	X	52	25'-0"			DECK-TOP-HORIZ.-LONGITUDINAL-CONTINUITY-SPAN 2
S429	X	153	34'-0"			DECK-TOP-HORIZ.-LONGITUDINAL-SPAN 2
S430	X	10	2'-10"			PIER DIAPHRAGM-BOT.-BOTH FACES-HORIZ.-BTWN. BLOCKS
S531	X	10	15'-4"	X		PIER DIAPHRAGM-VERT.-UNDER GIR. FLANGES-BTWN. GIRS.
S532	X	40	5'-11"	X		PIER DIAPHRAGM/DECK-BOTH FACES-VERT.-BTWN. GIRS.
S433	X	56	19'-5"		▲	DECK-TOP-TRANS.-CUT
S434	X	54	19'-5"		▲	DECK-BOT.-TRANS.-CUT
S535	X	4	2'-8"	X	▲	DECK-TOP-VERT.-TRANS.-AT EDGES-CUT

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

CROSS SECTION THRU ABUTMENT DIAPHRAGMS BETWEEN EXTERIOR GIRDERS**BAR SERIES TABLE**

BUNDLE AND TAG EACH SERIES SEPARATELY

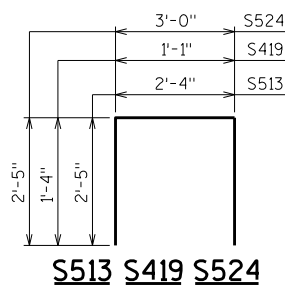
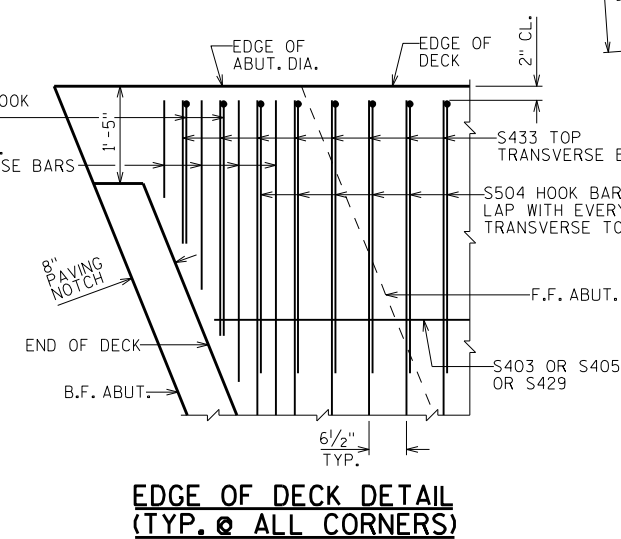
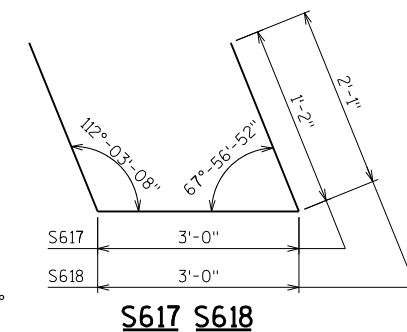
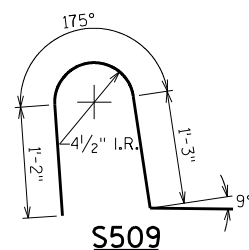
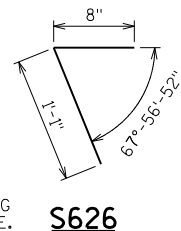
MARK	NO. REQ'D.	LENGTH
S433	2 SERIES OF 28	1'-5" TO 37'-6"
S434	2 SERIES OF 27	2'-1" TO 36'-10"
S535	2 SERIES OF 2	2'-0" TO 3'-4"

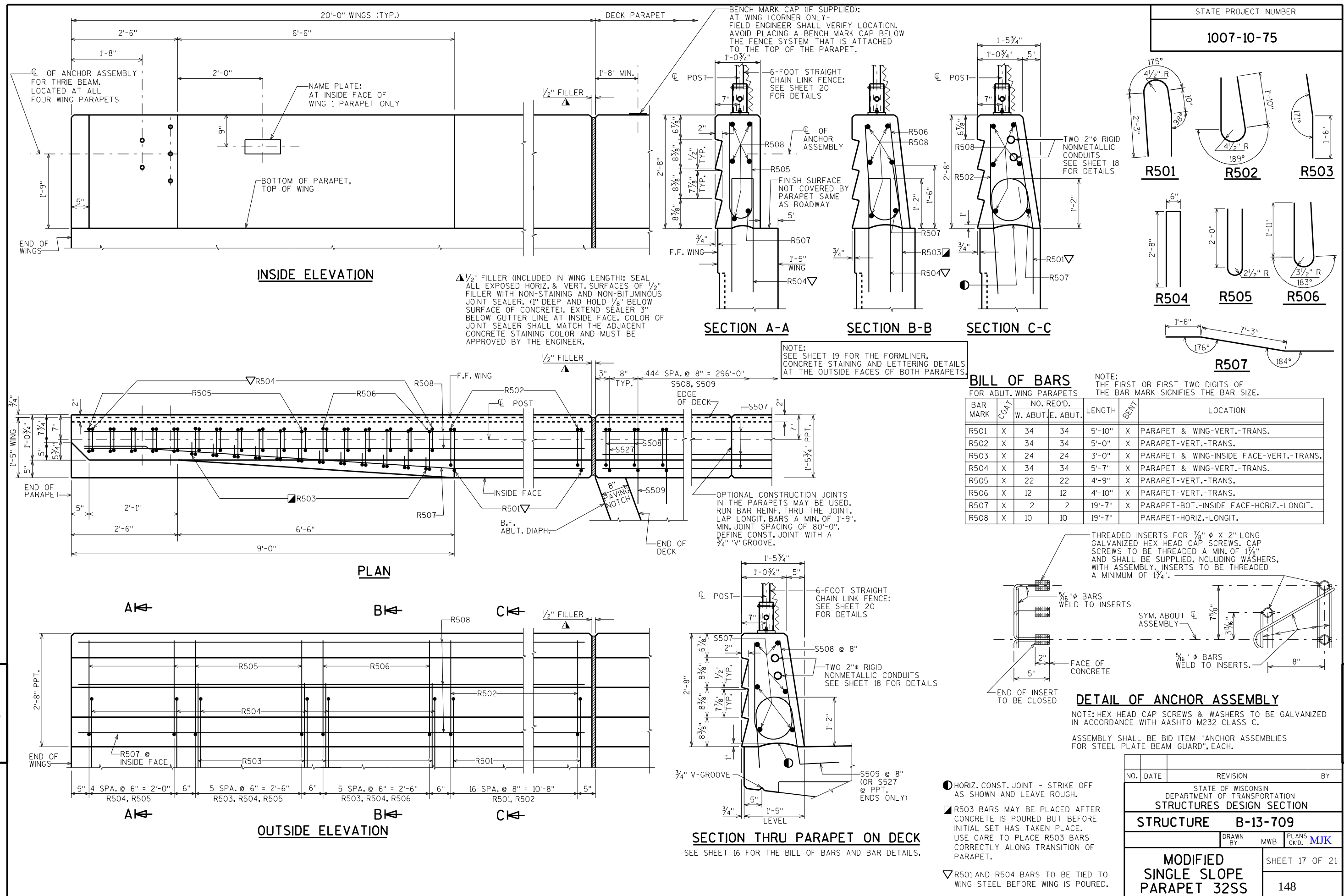
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-13-709			
DRAWN BY		MWB	PLANS CKD. MJK
SUPERSTRUCTURE DETAILS			SHEET 16 OF 21
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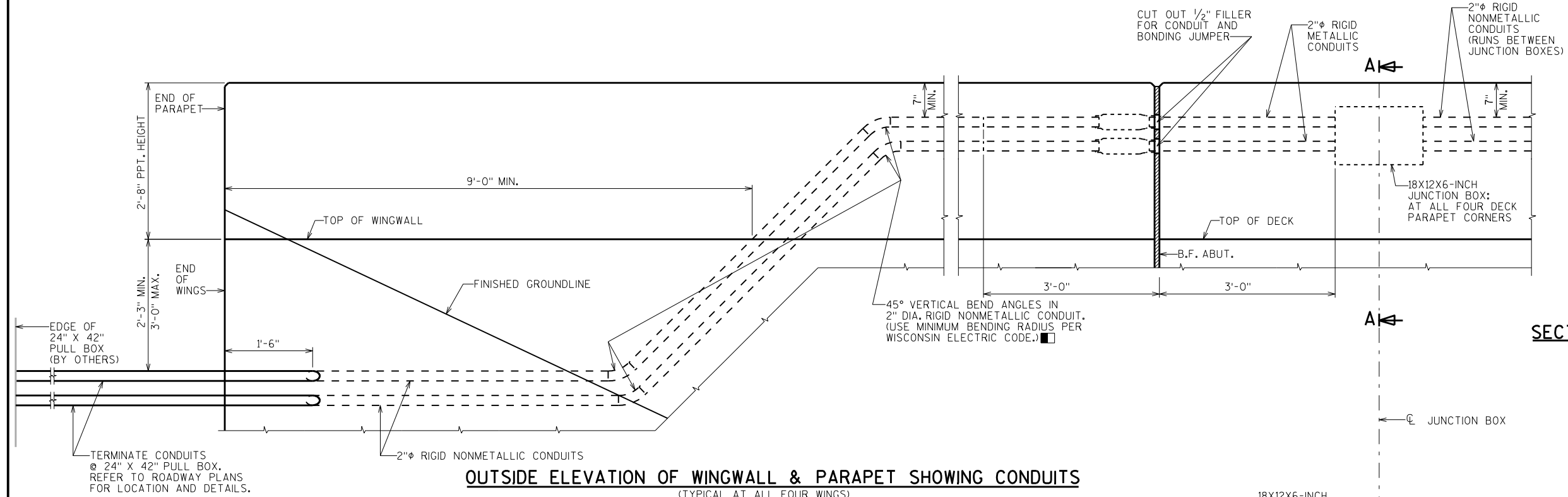
☆ 18" R.M.W.: SEAL ONLY IF OPT. CONST. JT. IS USED (COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES")

(A01) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

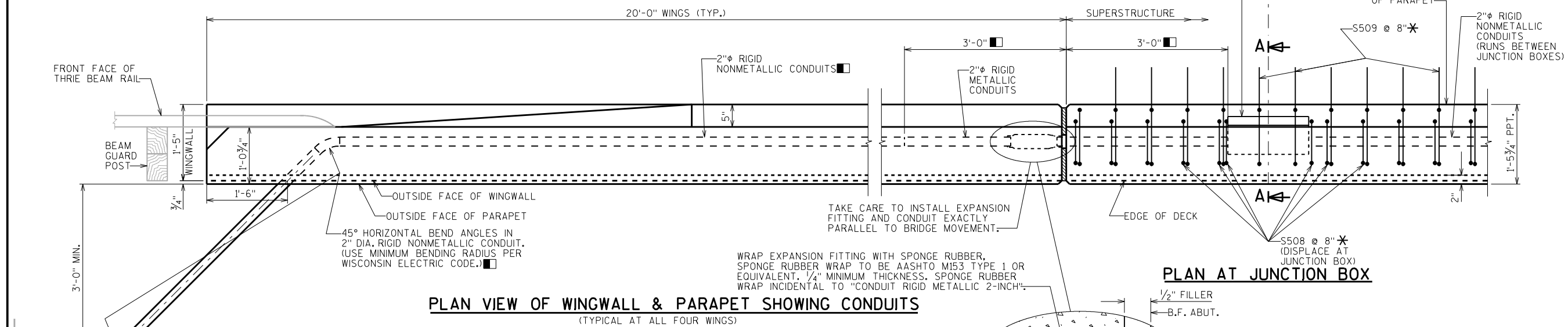
(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.







SECTION A-A (AT JUNCTION BOX)



PLAN AT JUNCTION BOX

NOTES

BID ITEMS SHALL BE:

"JUNCTION BOXES 18X12X6-INCH", EACH.
 "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
 "CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
 SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
 0-Z/GEDNEY TYPE AX-200 AND BONDING JUMPER (4" TOTAL CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCLUDED
 WITH "CONDUIT RIGID METALLIC 2-INCH".

WHEN CONNECTING NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY
 ADAPTER FITTINGS U.L. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

- USE 2" RIGID NONMETALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE 2" RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND WING SIDES OF THE B.F. ABUT.

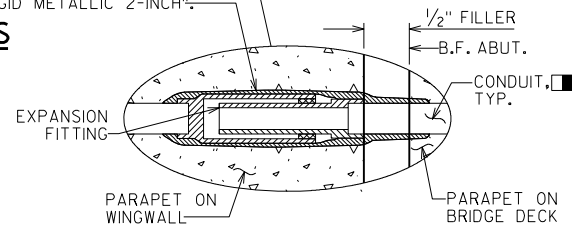
- ▲ CUT OUT 1"± OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

- * SEE "SINGLE SLOPE PARAPET 32SS" SHEET 17. FOR ADDITIONAL BAR STEEL DETAILS.

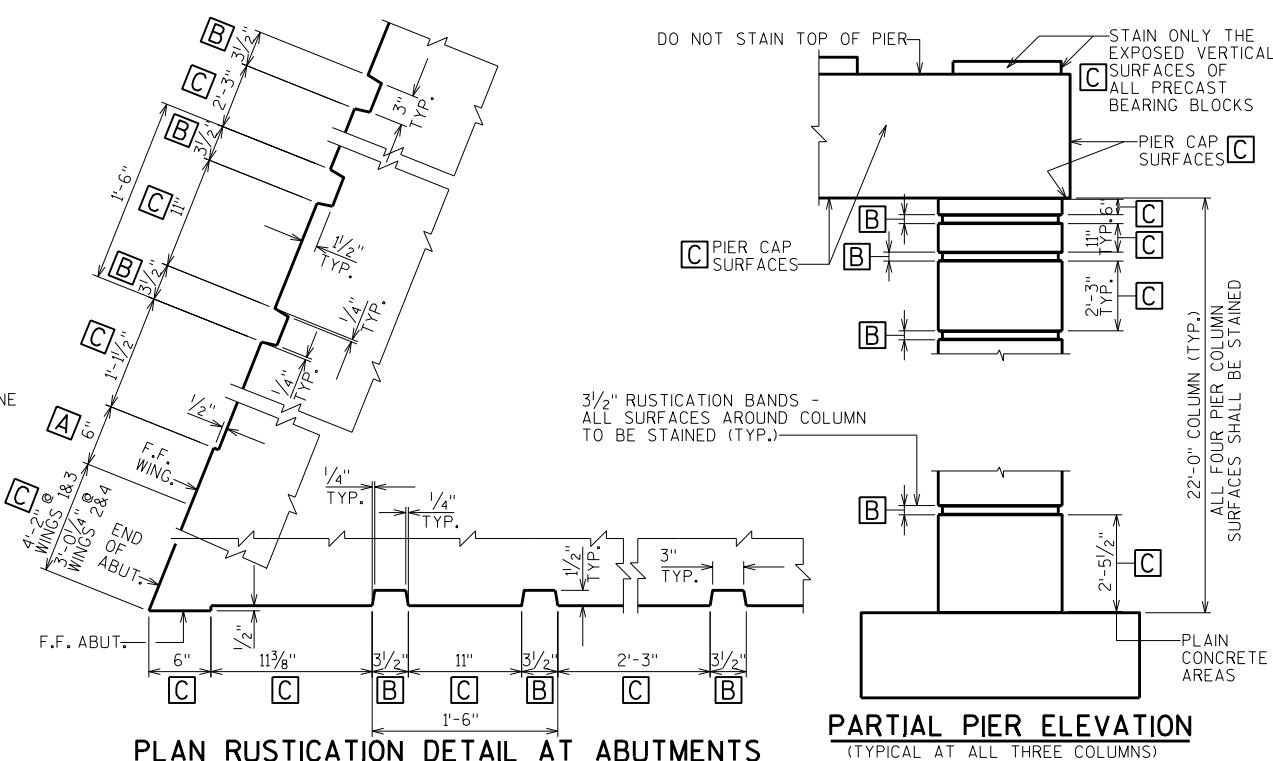
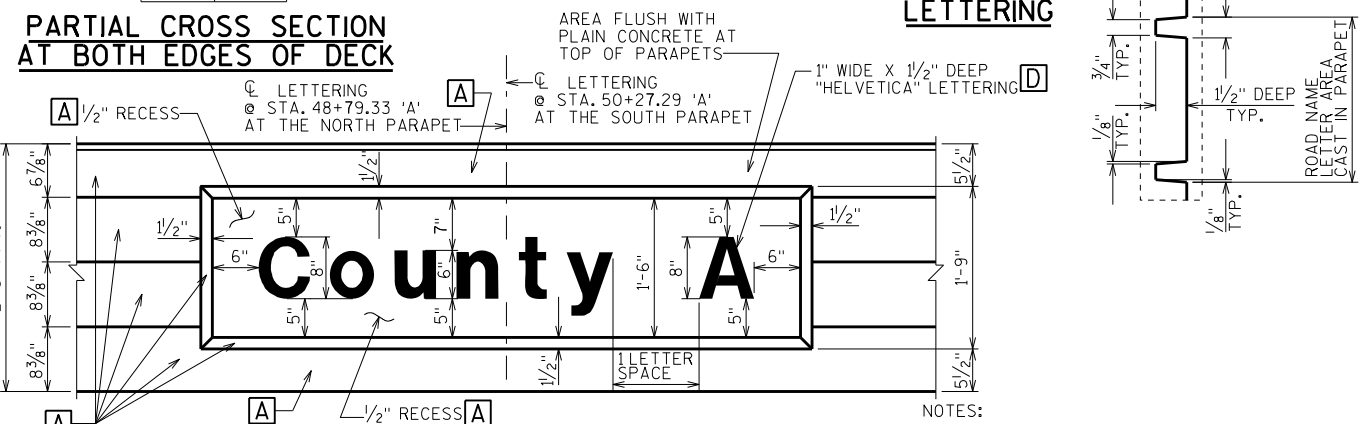
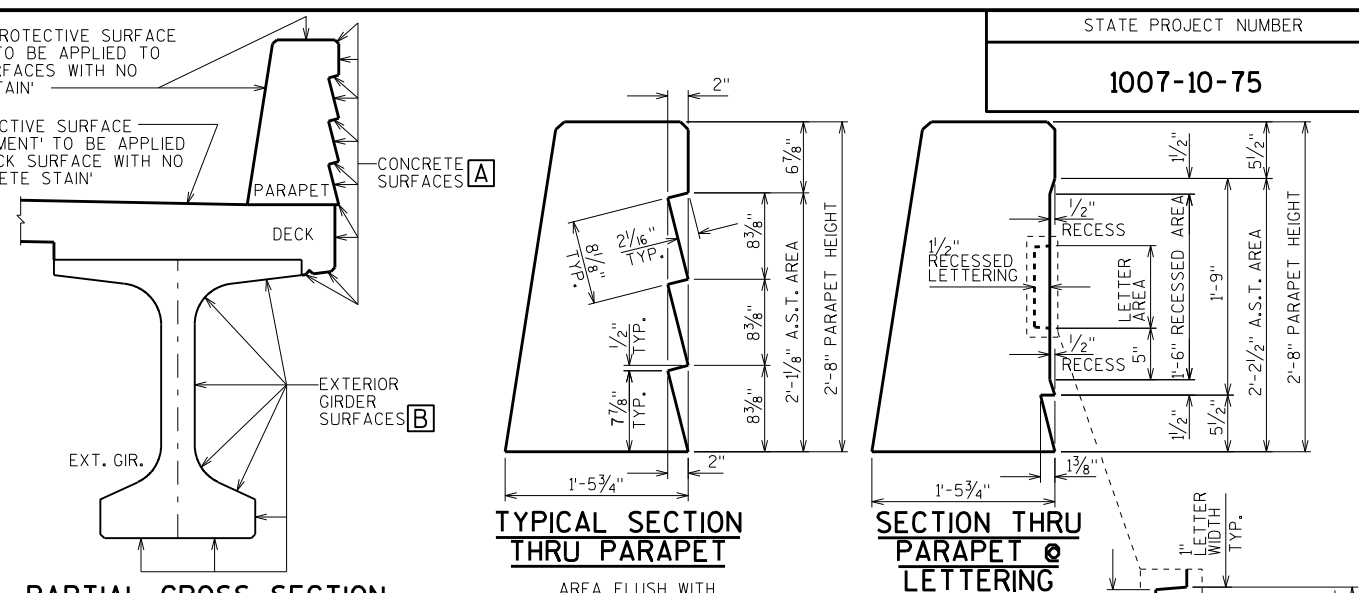
WRAP EXPANSION FITTING WITH SPONGE RUBBER. SPONGE RUBBER WRAP TO BE AASHTO M153 TYPE 1 OR EQUIVALENT. 1/4" MINIMUM THICKNESS. SPONGE RUBBER WRAP INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.



LIMITS OF STRUCTURE
 BID ITEM FOR CONDUITS AT
 EDGE OF 24" X 42" PULL BOX
 OFF OF STRUCTURE

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CONDUIT DETAILS			SHEET 18 OF 21
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STATE PROJECT NUMBER

1007-10-75

SECTION THRU PARAPET @ LETTERING

1/2" DEEP LETTERING A-A

NOTES:

FORMING LETTERING WORK SHALL BE PAID FOR UNDER THE BID ITEM "ARCHITECTURAL SURFACE TREATMENT B-13-709".

STAINING LETTERING WORK SHALL BE PAID FOR UNDER THE BID ITEM "CONCRETE STAINING B-13-709".

THE LETTERING FONT TYPE SHALL BE "HELVEITICA" (1" WIDE X 1/2" DEEP) WITH 8" HIGH UPPER CASE LETTERS AND 6" HIGH LOWER CASE LETTERS.

LETTERING SHALL ONLY BE PLACED AT THE OUTSIDE FACES OF PARAPETS.

STAINING OF CONCRETE SURFACE AREAS SHALL BE PAID FOR UNDER THE BID ITEM "CONCRETE STAINING B-13-709".

IF TOUCH UP PAINTING IS REQUIRED, IT SHALL BE DONE TO THE SATISFACTION OF THE FIELD ENGINEER AT NO ADDITIONAL COST.

A.S.T. = ARCHITECTURAL SURFACE TREATMENT

COLOR STAINING SCHEDULE

A	AREAS SHALL BE STAINED WITH FEDERAL COLOR NUMBER 36642.
B	AREAS SHALL BE STAINED WITH FEDERAL COLOR NUMBER 30140.
C	AREAS SHALL BE STAINED WITH FEDERAL COLOR NUMBER 30372.
D	LETTERING SHALL BE STAINED WITH FEDERAL COLOR NUMBER 27038.

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GENERAL NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER-COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626. SEE THE "BRIDGE SPECIAL PROVISIONS" FOR ADDITIONAL DETAILS.

THE COLOR OF POLYMER-COATING FOR THIS FENCING SHALL BE FEDERAL COLOR NO. 30140 IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER COATED 6-FT", LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE ϕ OF THE POST.

■ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✱ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

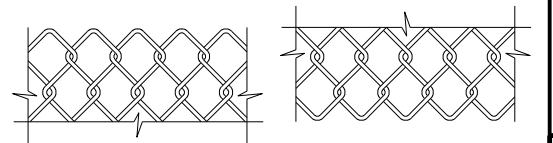
▲ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER, TYPE "S", 1/2" DIA. CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2" DIA. BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE "S" ANCHORS ARE USED. SEE ☆

☆ MASONRY ANCHOR TYPE S 1/2-INCH. EMBED 6" IN CONCRETE. ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.

■ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

■ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4" POINT OF POST SPACING.



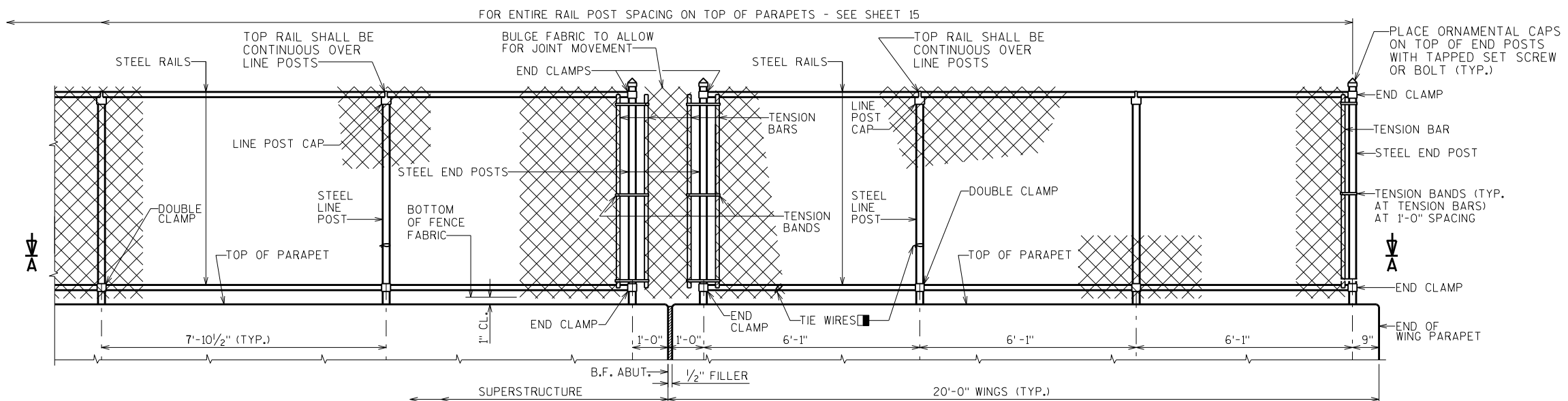
TOP DETAIL

BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

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CHAIN LINK FENCE DETAILS			SHEET 20 OF 21
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**FENCE PART ELEVATION**

VIEWING FABRIC SIDE - INSIDE FACE OF PARAPET

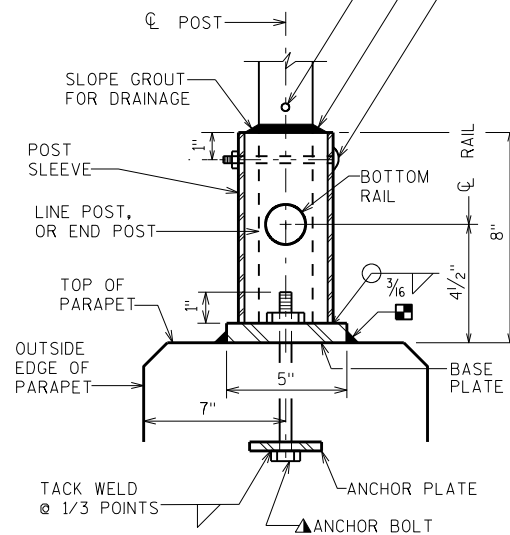
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12

3/8" DIA. GALV. CARRIAGE BOLT WITH LOCKING NUT. (TO BE SUPPLIED WITH ASSEMBLY)

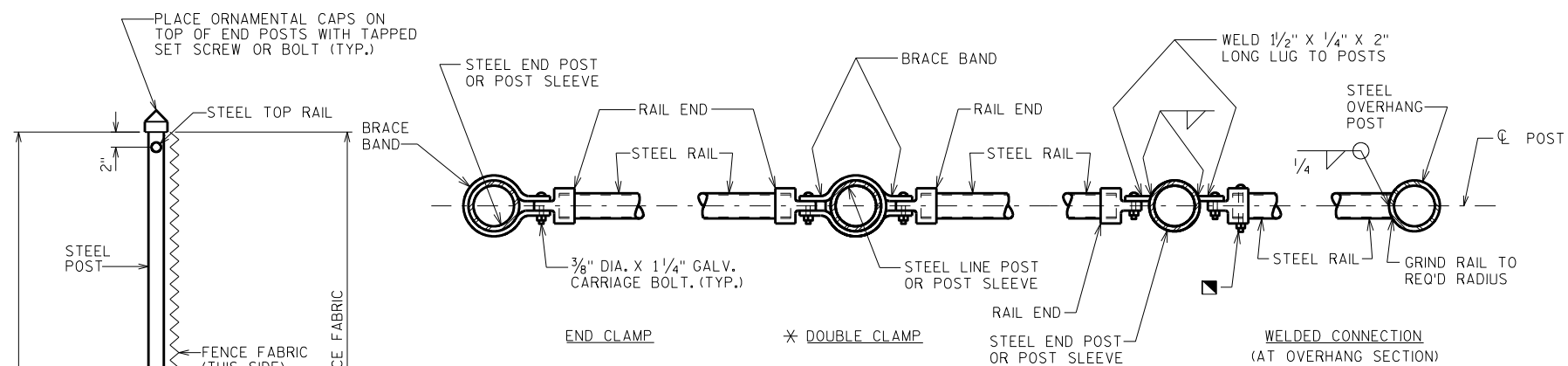
FILL SLEEVE AND BEVEL AWAY FROM POST WITH NON-SHRINK GROUT AFTER SETTING POST. (LEAVE NO VOIDS)

DRILL 3/16" DIA. DRAIN HOLE PARALLEL TO ROADWAY IMMEDIATELY ABOVE GROUT IN POST. SLEEVE LOCATIONS ONLY.

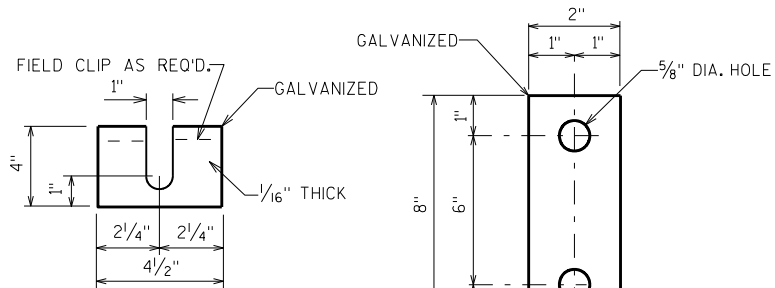
**DETAIL 'A'**

UNIT SHALL BE GALVANIZED AFTER FABRICATION

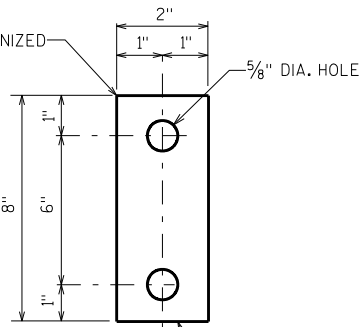
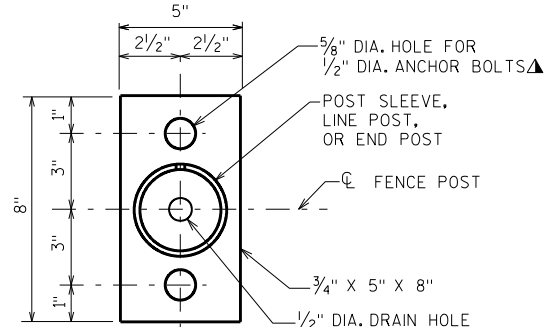
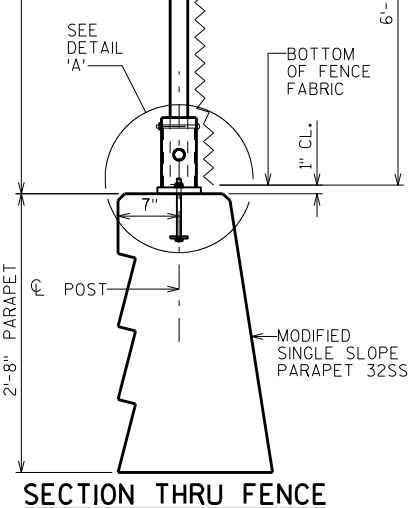
NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

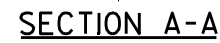
**SECTION A-A**

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS

**POST SHIM DETAILS**

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.

**ANCHOR PLATE****BASE PLATE****SECTION THRU FENCE**

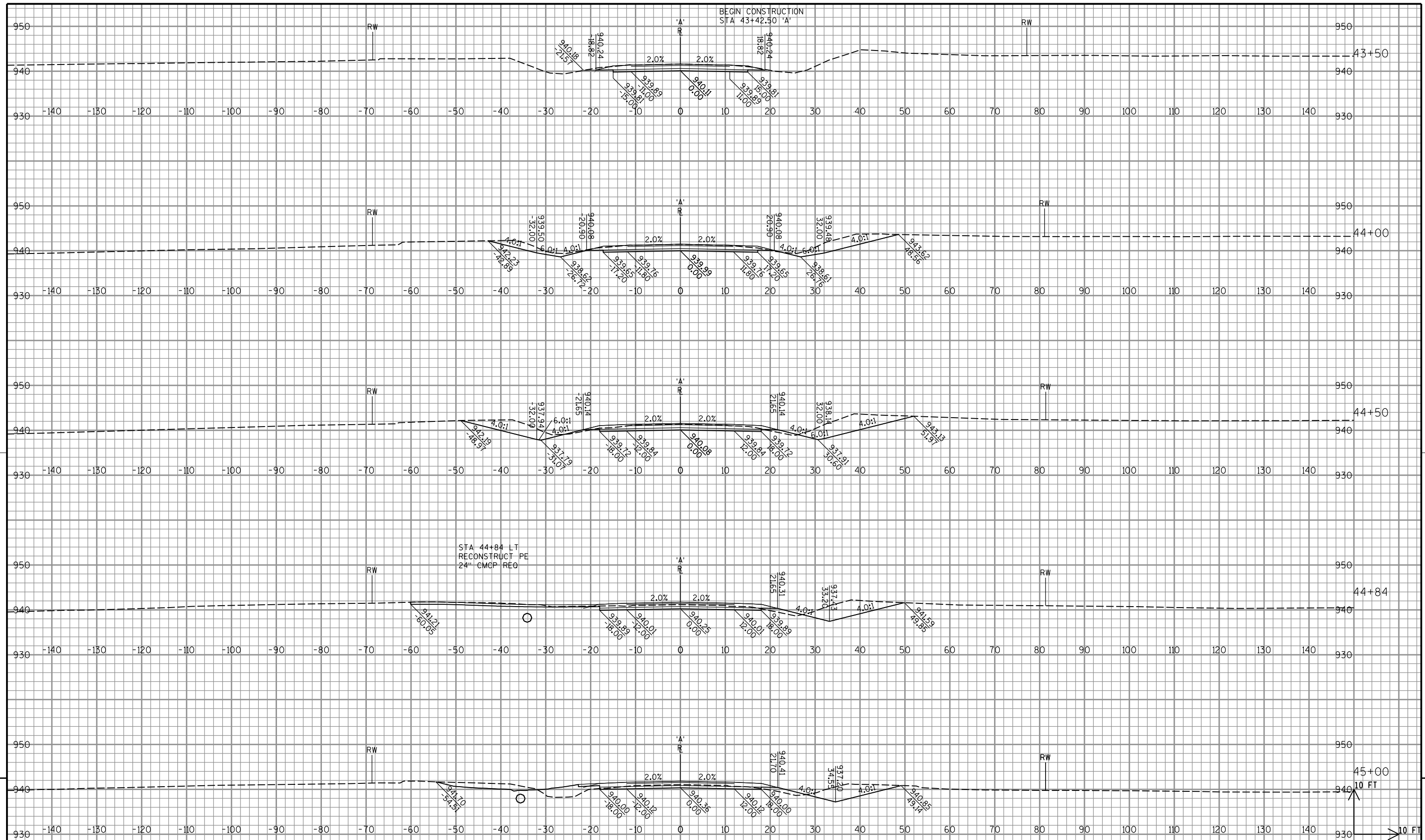


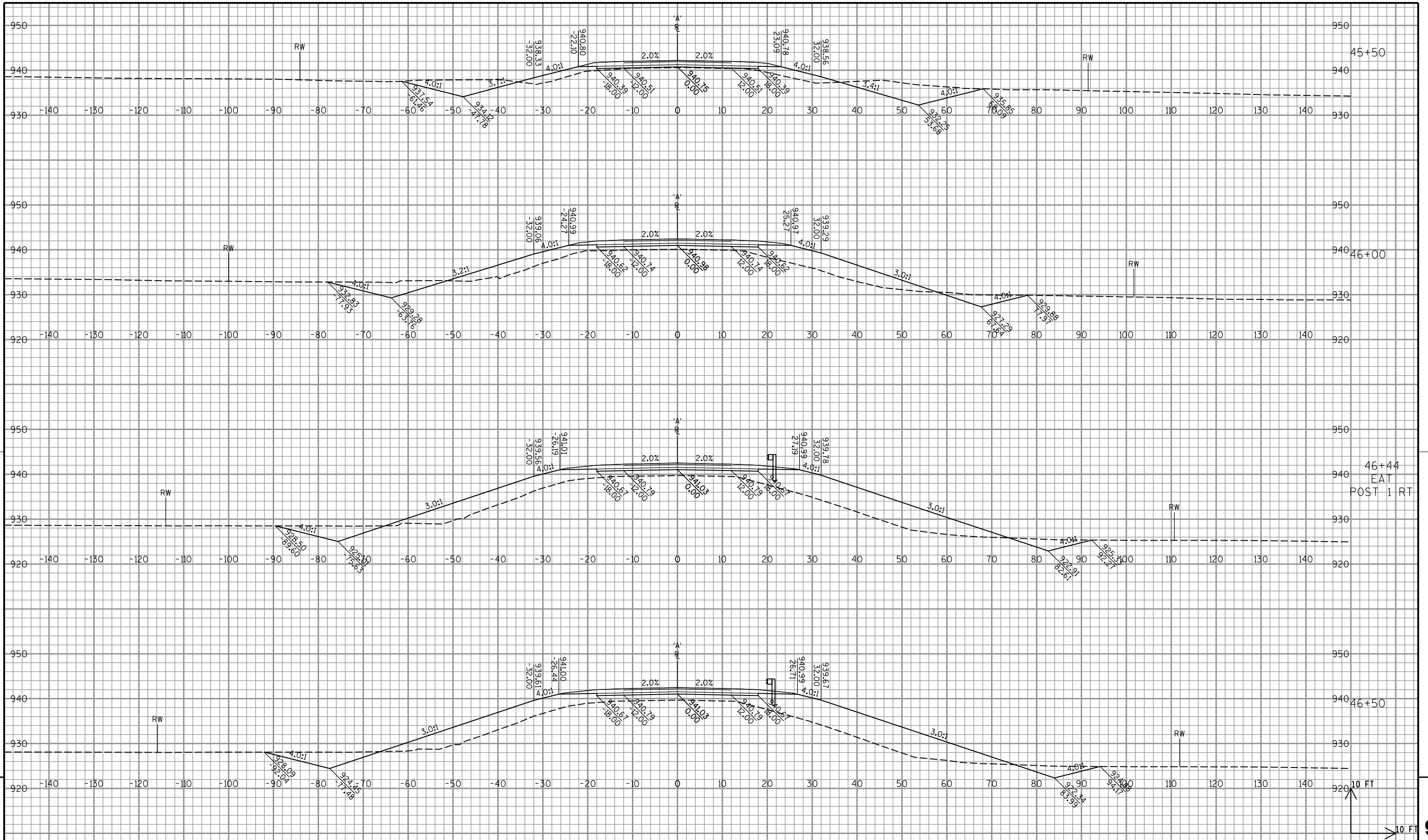
GENERAL NOTES

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SLOPE PAVING, CRUSHED AGGREGATE			SHEET 21 OF 21		
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STATION	REAL STATION	DISTANCE	AREA (SF)							INCREMENTAL VOL (CY) UNADJUSTED						CUMULATIVE VOL (CY)							MASS ORDINATE	LOCATION
			CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	EXPANDED MARSH			EXPANDED EBS	REDUCED MARSH	REDUCED EBS				
															CUT	EXPANDED FILL	BACKFILL	EXPANDED ROCK	BACKFILL	IN FILL	IN FILL			
									NOTE 1	NOTE 4				NOTE 3	NOTE 1	NOTE 8	1.50	1.10	NOTE 7	0.60	0.80	NOTE 6	NOTE 9	
43+42.00 'A'	4342.00	0.00	46.97	6.42	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	CTH A WEST
43+50.00 'A'	4350.00	8.00	47.28	6.42	0.00	0.00	0.00	0.00	14	2	0	0	0	0	12	0	0	0	0	0.00	0.00	0.00	12.06	CTH A WEST
44+00.00 'A'	4400.00	50.00	105.06	6.42	0.26	0.00	0.00	0.00	141	12	0	0	0	0	141	0	0	0	0	0.00	0.00	0.00	140.93	CTH A WEST
44+50.00 'A'	4450.00	50.00	138.50	6.42	4.29	0.00	0.00	0.00	226	12	4	0	0	0	355	6	0	0	0	0.00	0.00	0.00	349.31	CTH A WEST
44+84.06 'A'	4484.06	34.06	97.32	6.42	5.37	0.00	0.00	0.00	149	8	6	0	0	0	496	13	0	0	0	0.00	0.00	0.00	482.37	CTH A WEST
45+00.00 'A'	4500.00	15.94	81.34	6.42	28.04	0.00	0.00	0.00	53	4	10	0	0	0	544	25	0	0	0	0.00	0.00	0.00	518.98	CTH A WEST
45+50.00 'A'	4550.00	50.00	129.62	6.42	55.58	0.00	0.00	0.00	195	12	77	0	0	0	728	122	0	0	0	0.00	0.00	0.00	605.66	CTH A WEST
46+00.00 'A'	4600.00	50.00	74.74	6.42	221.04	0.00	0.00	0.00	189	12	256	0	0	0	905	442	0	0	0	0.00	0.00	0.00	462.84	CTH A WEST
46+44.20 'A'	4644.20	44.20	65.36	6.42	424.65	0.00	0.00	0.00	115	11	528	0	0	0	1,009	1,103	0	0	0	0.00	0.00	0.00	-93.60	CTH A WEST
46+50.00 'A'	4650.00	5.80	71.41	6.42	449.29	0.00	0.00	0.00	15	1	94	0	0	0	1,023	1,220	0	0	0	0.00	0.00	0.00	-197.65	CTH A WEST
46+67.12 'A'	4667.12	17.12	75.10	6.42	523.53	0.00	0.00	0.00	46	4	308	0	0	0	1,065	1,606	0	0	0	0.00	0.00	0.00	-540.70	CTH A WEST
46+69.18 'A'	4669.18	2.06	75.42	6.42	530.27	0.00	0.00	0.00	6	0	40	0	0	0	1,070	1,656	0	0	0	0.00	0.00	0.00	-585.77	CTH A WEST
46+92.06 'A'	4692.06	22.88	90.49	6.42	578.73	0.00	0.00	0.00	70	5	470	0	0	0	1,135	2,243	0	0	0	0.00	0.00	0.00	-1,108.25	CTH A WEST
46+94.15 'A'	4694.15	2.10	93.78	6.42	582.87	0.00	0.00	0.00	7	0	45	0	0	0	1,142	2,300	0	0	0	0.00	0.00	0.00	-1,157.97	CTH A WEST
47+00.00 'A'	4700.00	5.85	105.66	6.42	595.93	0.00	0.00	0.00	22	1	128	0	0	0	1,162	2,459	0	0	0	0.00	0.00	0.00	-1,297.29	CTH A WEST
47+17.07 'A'	4717.07	17.07	107.58	6.42	630.82	0.00	0.00	0.00	67	4	388	0	0	0	1,225	2,944	0	0	0	0.00	0.00	0.00	-1,718.69	CTH A WEST
47+50.00 'A'	4750.00	32.93	124.61	6.42	731.52	0.00	0.00	0.00	142	8	831	0	0	0	1,359	3,983	0	0	0	0.00	0.00	0.00	-2,623.37	CTH A WEST
47+69.55 'A'	4769.55	19.55	122.87	6.42	853.76	0.00	0.00	0.00	90	5	574	0	0	0	1,444	4,700	0	0	0	0.00	0.00	0.00	-3,255.84	CTH A WEST
51+25.35 'A'	5125.35	0.00	2.58	6.42	1162.59	0.00	0.00	0.00	0	0	0	0	0	0	1,444	4,700	0	0	0	0.00	0.00	0.00	-3,255.84	CTH A EAST
51+50.00 'A'	5150.00	24.65	3.47	6.42	1088.07	0.00	0.00	0.00	3	6	1,027	0	0	0	1,441	5,984	0	0	0	0.00	0.00	0.00	-4,543.17	CTH A EAST
52+00.78 'A'	5200.78	50.78	19.21	6.42	710.29	0.00	0.00	0.00	21	12	1,691	0	0	0	1,450	8,098	0	0	0	0.00	0.00	0.00	-6,647.74	CTH A EAST
52+25.73 'A'	5225.73	24.95	29.54	6.42	526.19	0.00	0.00	0.00	23	6	571	0	0	0	1,467	8,812	0	0	0	0.00	0.00	0.00	-7,345.37	CTH A EAST
52+50.71 'A'	5250.71	24.98	42.30	6.42	449.26	0.00	0.00	0.00	33	6	451	0	0	0	1,494	9,376	0	0	0	0.00	0.00	0.00	-7,882.12	CTH A EAST
53+00.00 'A'	5300.00	49.29	50.96	6.42	225.47	0.00	0.00	0.00	85	12	616	0	0	0	1,568	10,146	0	0	0	0.00	0.00	0.00	-8,578.52	CTH A EAST
53+34.94 'A'	5334.94	34.94	68.36	6.42	488.02	0.00	0.00	0.00	77	8	462	0	0	0	1,637	10,723	0	0	0	0.00	0.00	0.00	-9,086.73	CTH A EAST
53+50.00 'A'	5350.00	15.06	73.56	6.42	519.41	0.00	0.00	0.00	40	4	281	0	0	0	1,673	11,074	0	0	0	0.00	0.00	0.00	-9,401.88	CTH A EAST
54+00.00 'A'	5400.00	50.00	35.15	6.42	394.13	0.00	0.00	0.00	101	12	846	0	0	0	1,761	12,132	0	0	0	0.00	0.00	0.00	-10,370.44	CTH A EAST
54+50.00 'A'	5450.00	50.00	29.70	6.42	745.23	0.00	0.00	0.00	60	12	1,055	0	0	0	1,809	13,450	0	0	0	0.00	0.00	0.00	-11,640.98	CTH A EAST
55+00.00 'A'	5500.00	50.00	20.05	6.42	881.54	0.00	0.00	0.00	46	12	1,506	0	0	0	1,844	15,333	0	0	0	0.00	0.00	0.00	-13,489.64	CTH A EAST
55+50.00 'A'	5550.00	50.00	1.52	6.42	804.87	0.00	0.00	0.00	20	12	1,561	0	0	0	1,852	17,285	0	0	0	0.00	0.00	0.00	-15,433.42	CTH A EAST
55+69.43.																								

STATION	REAL STATION	DISTANCE	AREA (SF)						INCREMENTAL VOL (CY) UNADJUSTED						CUMULATIVE VOL (CY)								MASS ORDINATE	LOCATION
			CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	MARSH EXC	ROCK EXC	EBS	CUT	EXPANDED FILL	EXPANDED MARSH BACKFILL	EXPANDED ROCK	EXPANDED EBS BACKFILL	REDUCED MARSH IN FILL	REDUCED EBS IN FILL			
																						1.00		
									NOTE 1	NOTE 4					NOTE 1	NOTE 8			NOTE 7		NOTE 6	NOTE 9		
465+00.00 'NBE'	46500.00	50.00	11.43	0.00	0.00	0.00	0.00	0.00	21	0	0	0	0	0	2,848	21,882	0	0	0	0.00	0.00	-19,033.78	NB IH 39	
465+50.00 'NBE'	46550.00	50.00	10.53	0.00	0.00	0.00	0.00	0.00	20	0	0	0	0	0	2,868	21,882	0	0	0	0.00	0.00	-19,013.45	NB IH 39	
465+57.73 'NBE'	46557.73	7.73	10.53	0.00	0.00	0.00	0.00	0.00	3	0	0	0	0	0	2,871	21,882	0	0	0	0.00	0.00	-19,010.44	NB IH 39	
457+20.14 'SBE'	45720.14	0.00	30.03	2.67	66.91	0.00	0.00	0.00	0	0	0	0	0	0	2,871	21,882	0	0	0	0.00	0.00	-19,010.44	SB IH 39	
457+50.00 'SBE'	45750.00	29.86	31.00	2.67	67.05	0.00	0.00	0.00	34	3	74	0	0	0	2,902	21,975	0	0	0	0.00	0.00	-19,072.23	SB IH 39	
458+00.00 'SBE'	45800.00	50.00	29.42	2.67	61.49	0.00	0.00	0.00	56	5	119	0	0	0	2,953	22,123	0	0	0	0.00	0.00	-19,170.00	SB IH 39	
458+50.00 'SBE'	45850.00	50.00	29.18	2.67	56.65	0.00	0.00	0.00	54	5	109	0	0	0	3,003	22,260	0	0	0	0.00	0.00	-19,257.43	SB IH 39	
459+00.00 'SBE'	45900.00	50.00	29.73	2.67	42.45	0.00	0.00	0.00	55	5	92	0	0	0	3,052	22,375	0	0	0	0.00	0.00	-19,322.52	SB IH 39	
459+50.00 'SBE'	45950.00	50.00	33.22	2.67	9.45	0.00	0.00	0.00	58	5	48	0	0	0	3,106	22,435	0	0	0	0.00	0.00	-19,329.24	SB IH 39	
460+00.00 'SBE'	46000.00	50.00	35.51	2.67	3.48	0.00	0.00	0.00	64	5	12	0	0	0	3,164	22,450	0	0	0	0.00	0.00	-19,285.50	SB IH 39	
460+24.84 'SBE'	46024.84	24.84	34.47	2.67	3.15	0.00	0.00	0.00	32	2	3	0	0	0	3,194	22,454	0	0	0	0.00	0.00	-19,259.58	SB IH 39	
460+50.00 'SBE'	46050.00	25.16	32.07	2.67	6.82	0.00	0.00	0.00	31	2	5	0	0	0	3,223	22,459	0	0	0	0.00	0.00	-19,236.86	SB IH 39	
461+00.00 'SBE'	46100.00	50.00	34.70	2.00	2.61	0.00	0.00	0.00	62	4	9	0	0	0	3,280	22,470	0	0	0	0.00	0.00	-19,190.27	SB IH 39	
461+50.00 'SBE'	46150.00	50.00	36.55	2.00	3.38	0.00	0.00	0.00	66	4	6	0	0	0	3,342	22,477	0	0	0	0.00	0.00	-19,134.93	SB IH 39	
462+00.00 'SBE'	46200.00	50.00	41.12	2.00	0.42	0.00	0.00	0.00	72	4	4	0	0	0	3,410	22,482	0	0	0	0.00	0.00	-19,071.11	SB IH 39	
462+50.00 'SBE'	46250.00	50.00	37.23	2.00	1.35	0.00	0.00	0.00	73	4	2	0	0	0	3,479	22,484	0	0	0	0.00	0.00	-19,004.30	SB IH 39	
463+00.00 'SBE'	46300.00	50.00	30.36	2.00	31.70	0.00	0.00	0.00	0	0	0	0	0	0	3,479	22,484	0	0	0	0.00	0.00	-19,004.30	SB IH 39	
463+08.92 'SBE'	46308.92	8.92	30.47	2.00	34.83	0.00	0.00	0.00	10	1	11	0	0	0	3,489	22,497	0	0	0	0.00	0.00	-19,008.66	SB IH 39	
463+50.00 'SBE'	46350.00	41.08	31.91	2.67	36.04	0.00	0.00	0.00	47	4	54	0	0	0	3,533	22,565	0	0	0	0.00	0.00	-19,032.15	SB IH 39	
463+85.05 'SBE'	46385.05	35.05	34.42	2.67	23.65	0.00	0.00	0.00	43	3	39	0	0	0	3,572	22,613	0	0	0	0.00	0.00	-19,040.99	SB IH 39	
464+00.00 'SBE'	46400.00	14.95	34.05	2.67	20.89	0.00	0.00	0.00	19	1	12	0	0	0	3,590	22,629	0	0	0	0.00	0.00	-19,038.92	SB IH 39	
464+41.94 'SBE'	46441.94	41.94	30.88	2.67	22.44	0.00	0.00	0.00	50	4	34	0	0	0	3,636	22,671	0	0	0	0.00	0.00	-19,034.70	SB IH 39	
464+50.00 'SBE'	46450.00	8.06	31.01	2.67	21.69	0.00	0.00	0.00	9	1	7	0	0	0	3,644	22,679	0	0	0	0.00	0.00	-19,034.49	SB IH 39	
464+51.39 'SBE'	46451.39	1.39	31.03	2.67	21.67	0.00	0.00	0.00	2	0	1	0	0	0	3,646	22,680	0	0	0	0.00	0.00	-19,034.42	SB IH 39	
464+76.60 'SBE'	46476.60	25.21	32.90	2.67	17.85	0.00	0.00	0.00	30	2	18	0	0	0	3,673	22,703	0	0	0	0.00	0.00	-19,030.13	SB IH 39	
465+00.00 'SBE'	46500.00	23.40	32.67	2.67	18.08	0.00	0.00	0.00	28	2	16	0	0	0	3,699	22,723	0	0	0	0.00	0.00	-19,023.49	SB IH 39	
465+45.94 'SBE'	46545.94	45.94	32.12	2.67	15.34	0.00	0.00	0.00	55	5	28	0	0	0	3,750	22,758	0	0	0	0.00	0.00	-19,008.45	SB IH 39	
465+50.00 'SBE'	46550.00	4.06	32.09	2.67	15.30	0.00	0.00	0.00	5	0	2	0	0	0	3,754	22,761	0	0	0	0.00	0.00	-19,006.90	SB IH 39	
466+00.00 'SBE'	46600.00	50.00	33.57	2.67	12.39	0.00	0.00	0.00	61	5	26	0	0	0	3,810	22,793	0	0	0	0.00	0.00	-18,983.08	SB IH 39	
466+40.48 'SBE'	46640.48	40.48	36.44	2.67	7.44	0.00	0.00	0.00	52	4	15	0	0	0	3,859	22,812	0	0	0	0.00	0.00	-18,953.16	SB IH 39	
466+50.00 'SBE'	46650.00	9.52	37.24	2.67	6.03	0.00	0.00	0.00	13	1	2	0	0	0	3,871	22,815	0	0	0	0.00	0.00	-18,944.09	SB IH 39	
467+00.00 'SBE'	46700.00	50.00	33.90	2.67	9.99	0.00	0.00	0.00	66	5	15	0	0	0	3,932	22,833	0	0	0	0.00	0.00	-18		





PROJECT NO: 1007-10-75

HWY: IH-39

COUNTY: DANE

CROSS SECTIONS: CTH A

SHEET 156

E

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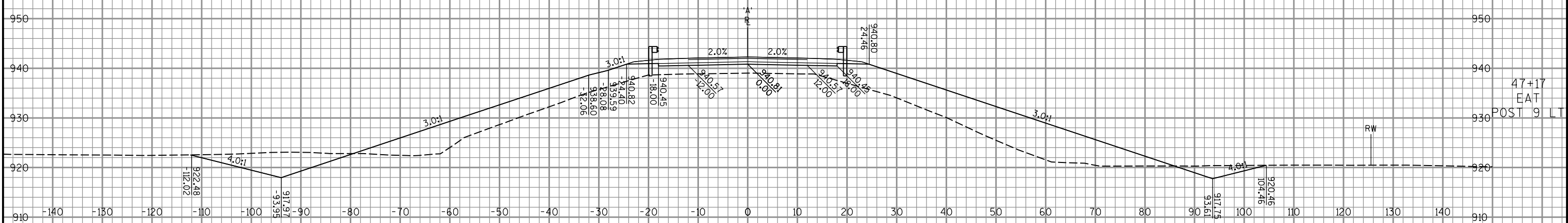
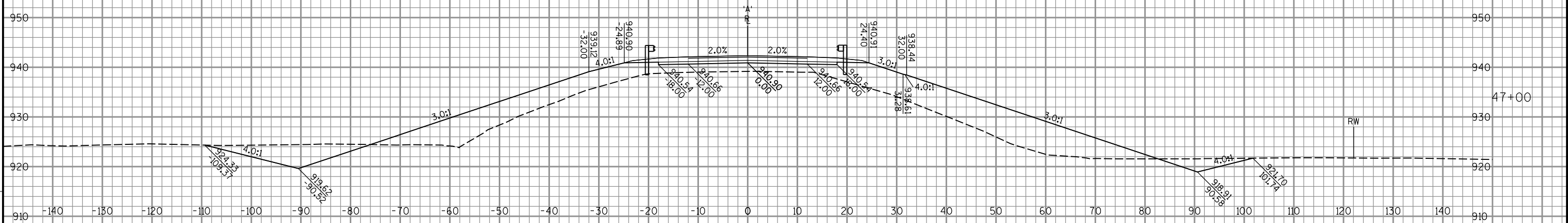
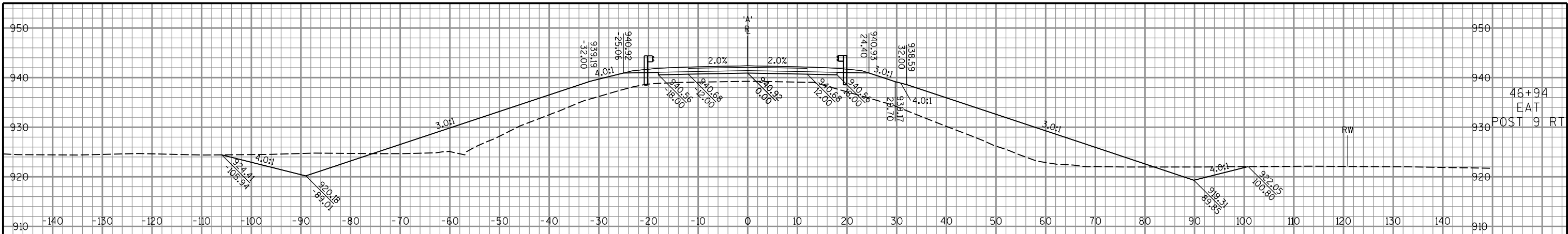
PLOT DATE : 11/25/2014

PLOT BY : cti

PLOT NAME :

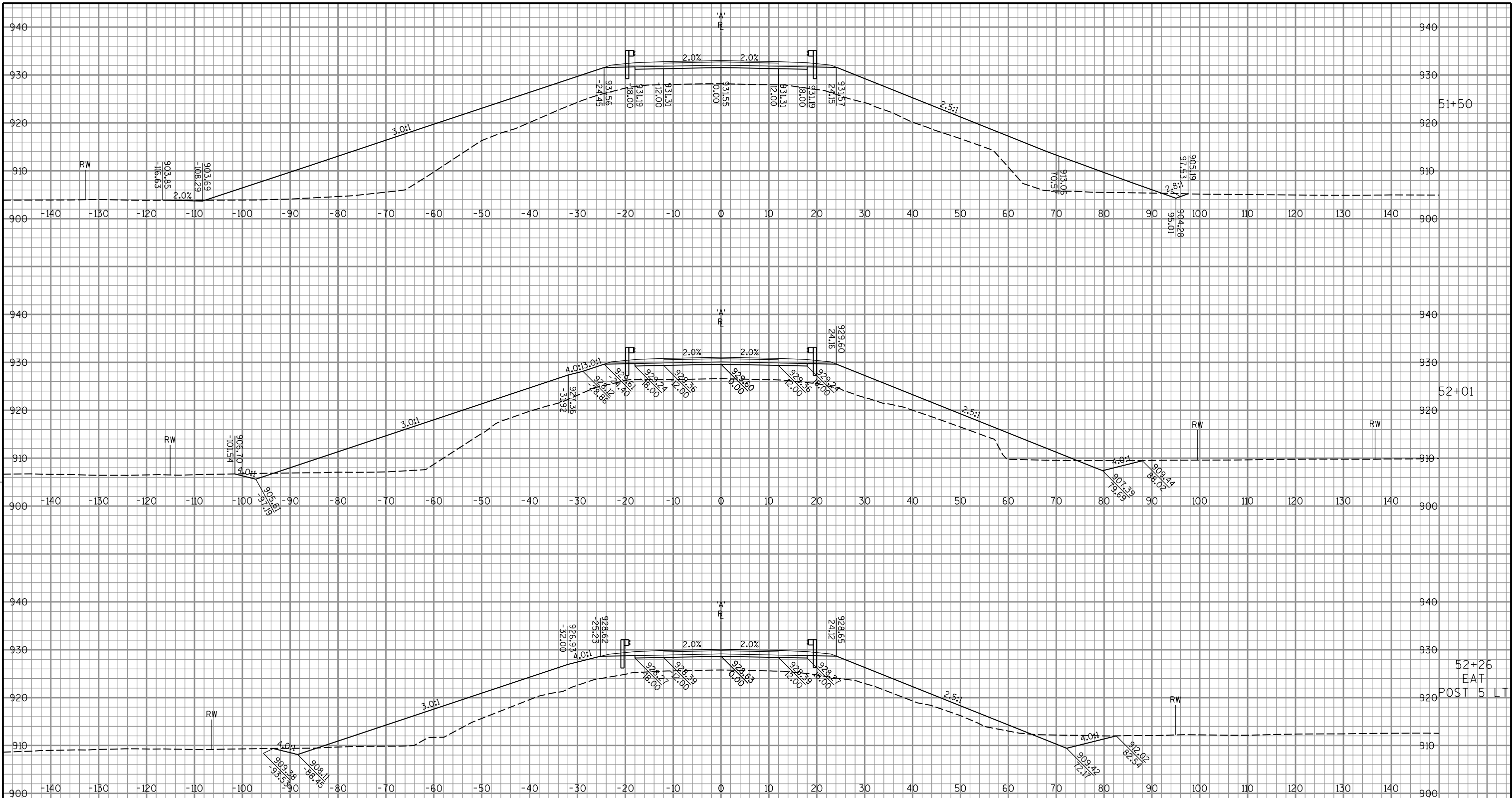
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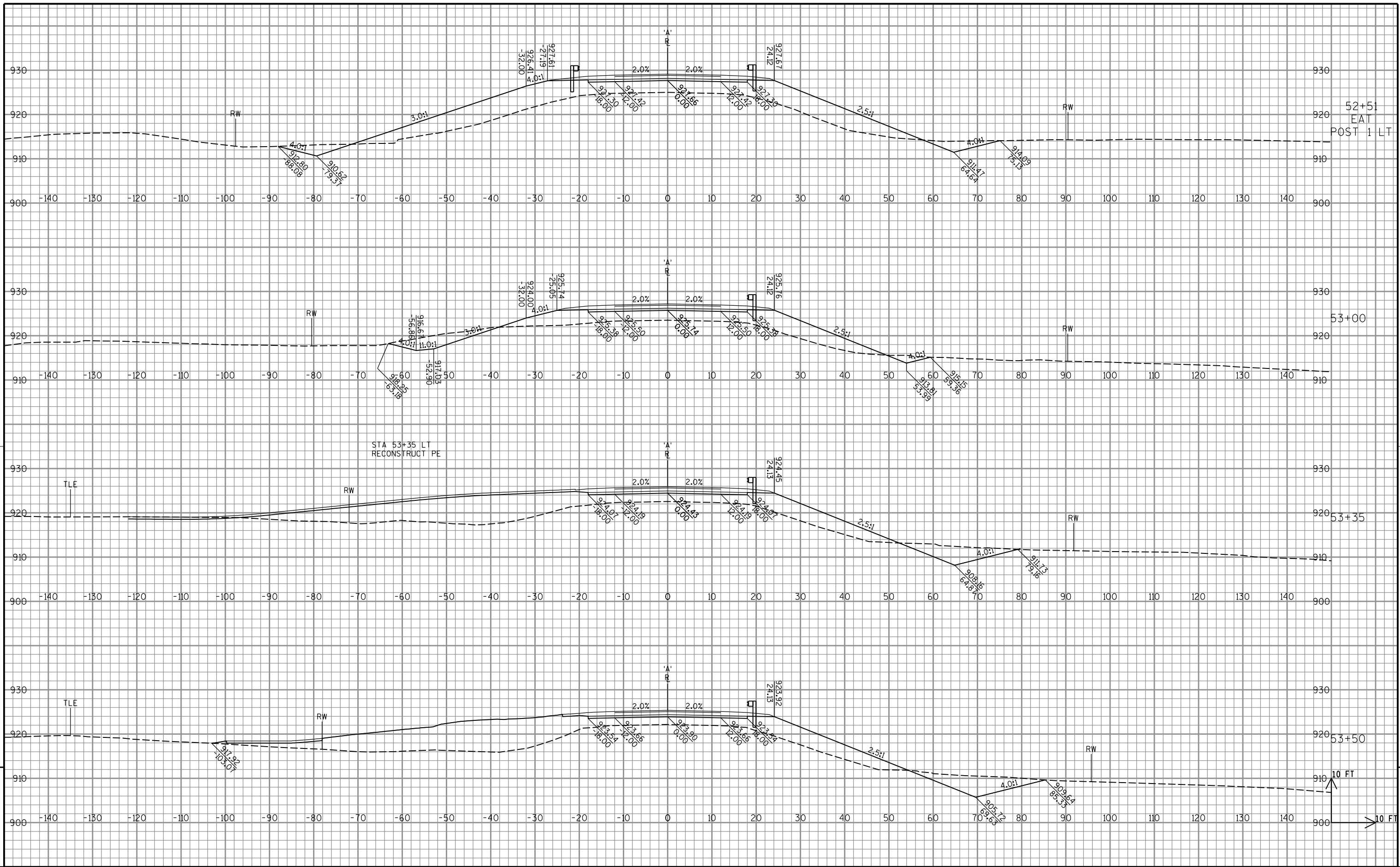
WISDOT/CADDs SHEET 21

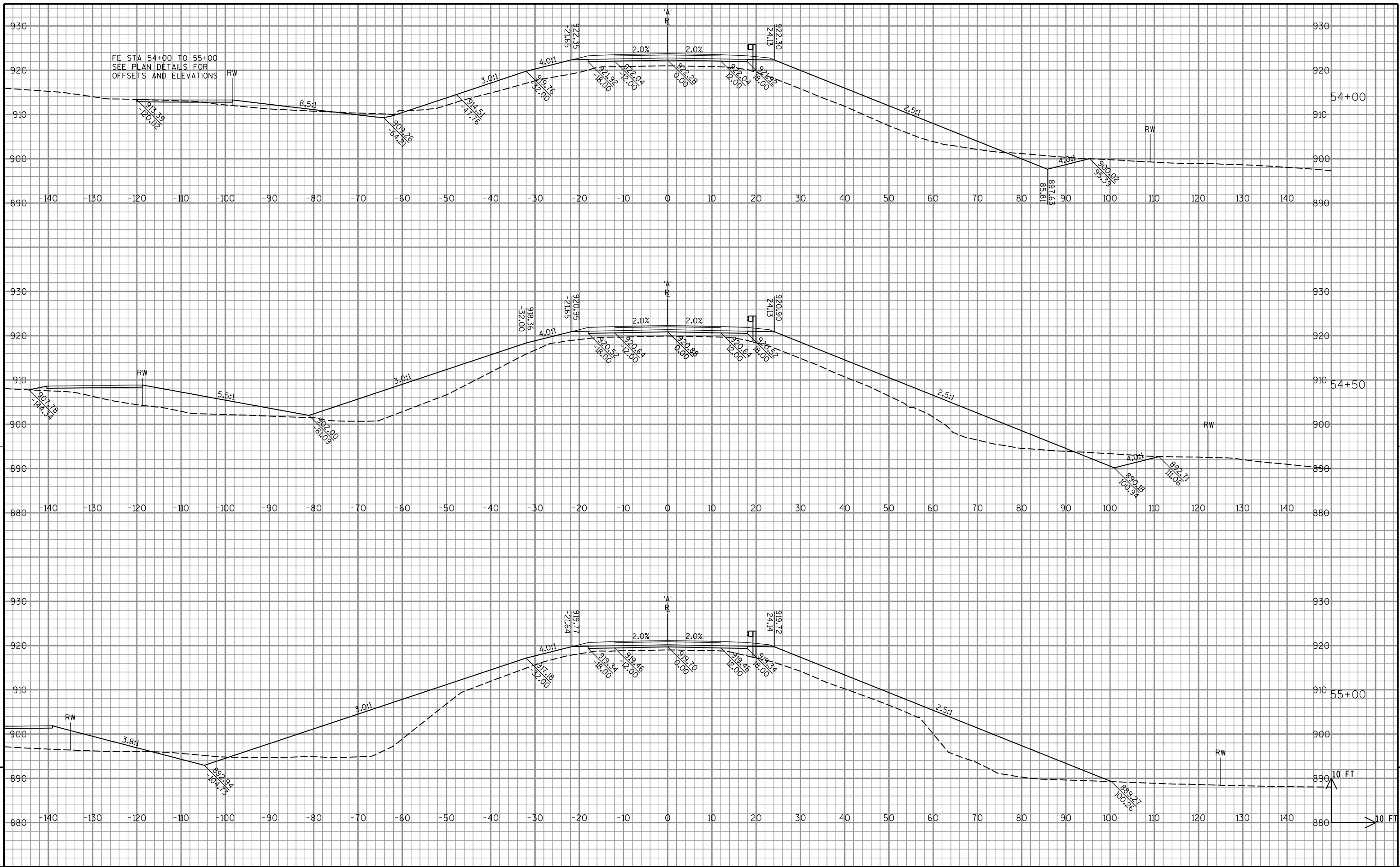


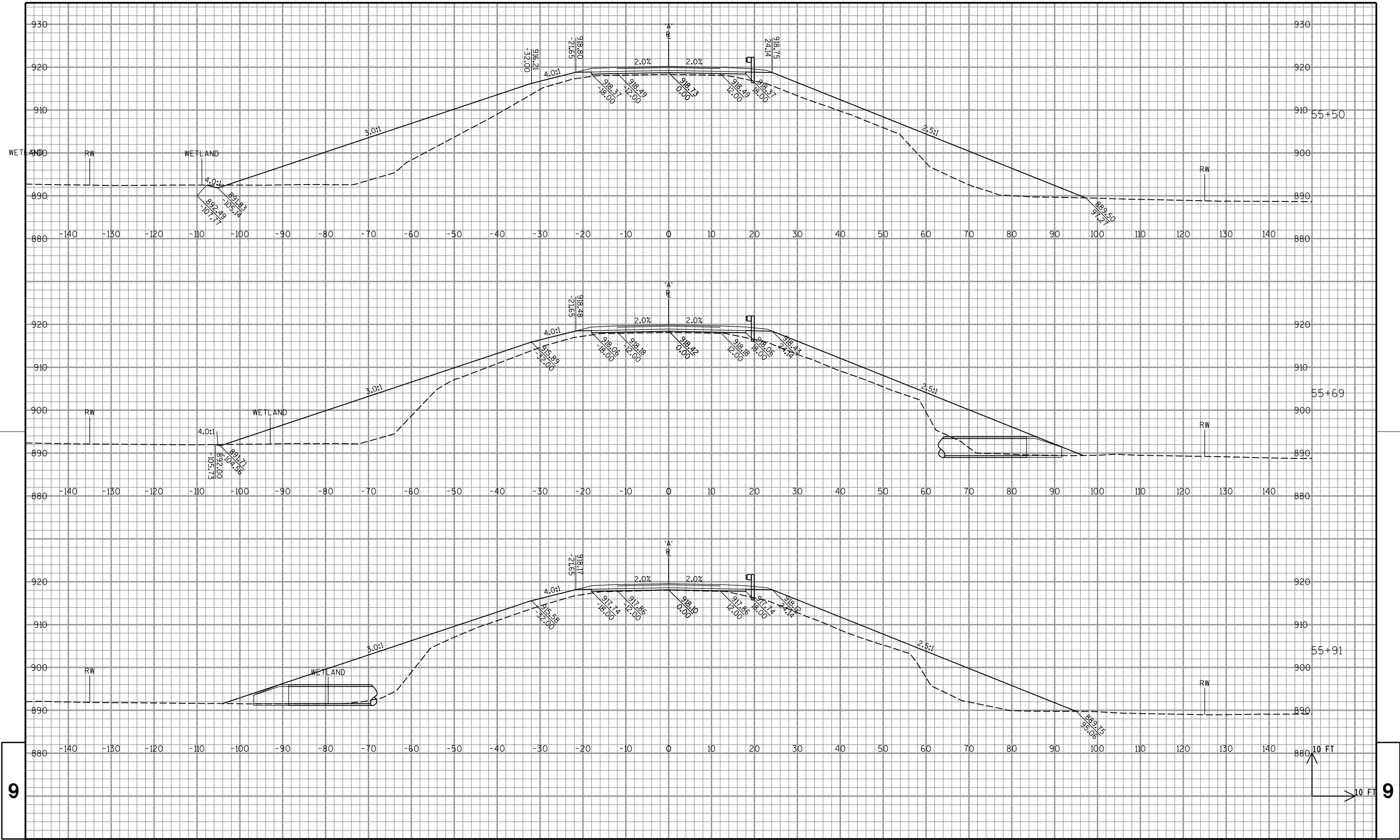
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PROJECT NO:1007-10-75

HWY: IH 39

COUNTY: DANE

CROSS SECTIONS: CTH A

SHEET 163

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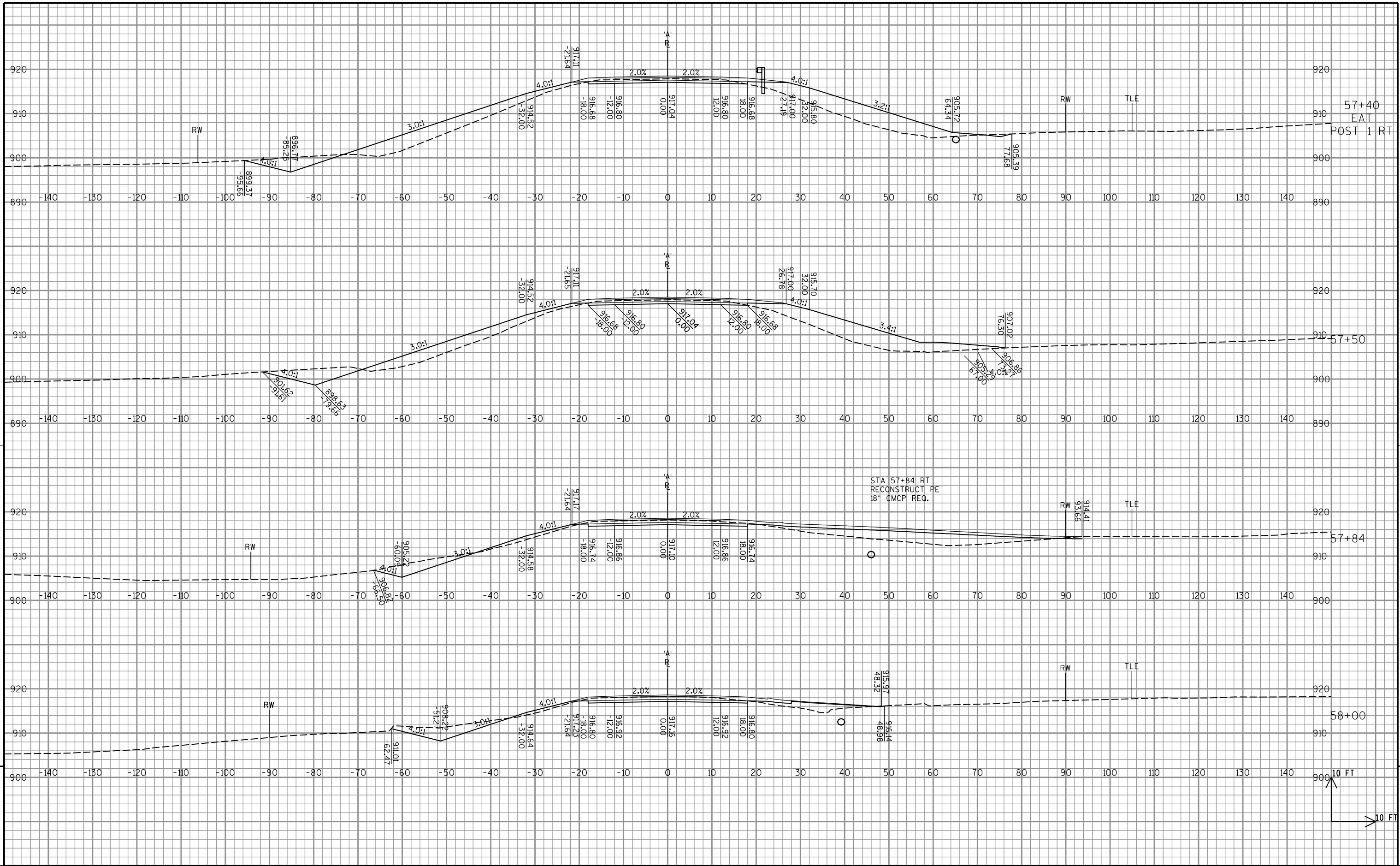
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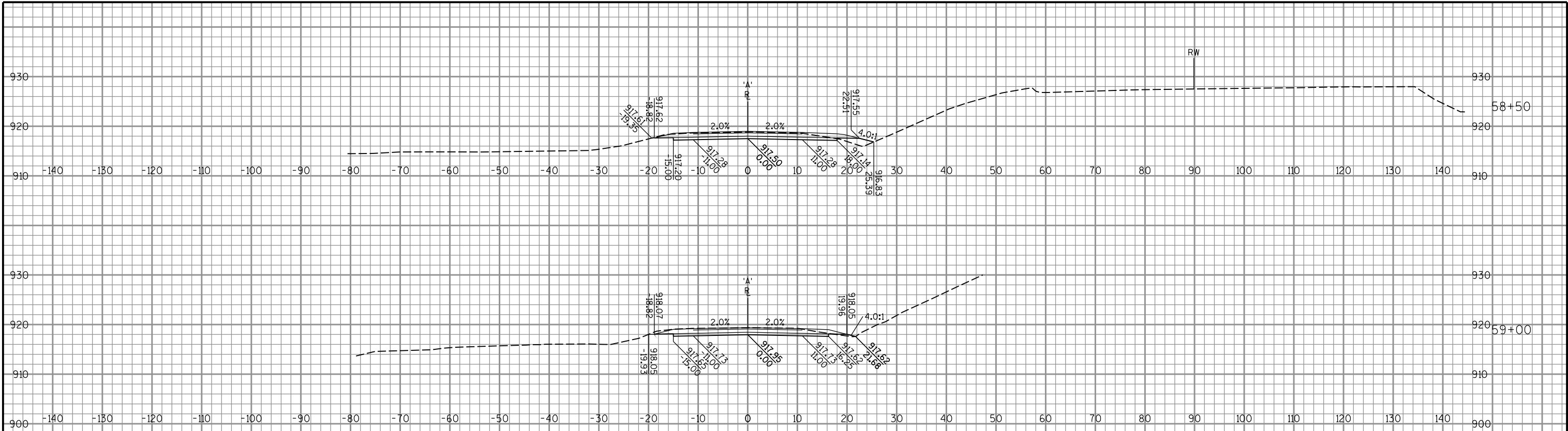
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PLOT NAME :

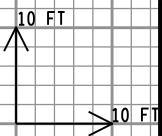
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WISDOT/CADDs SHEET 21



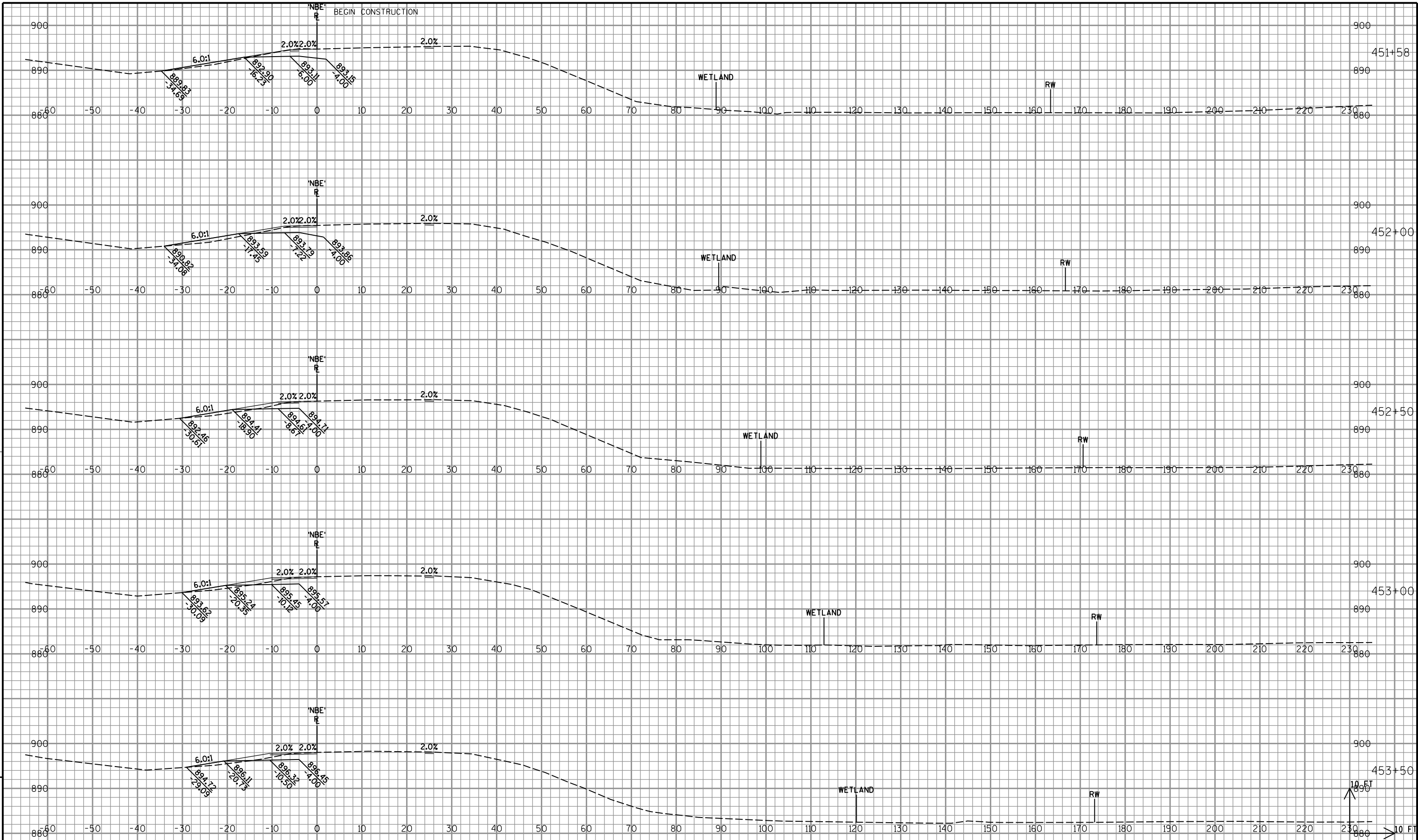


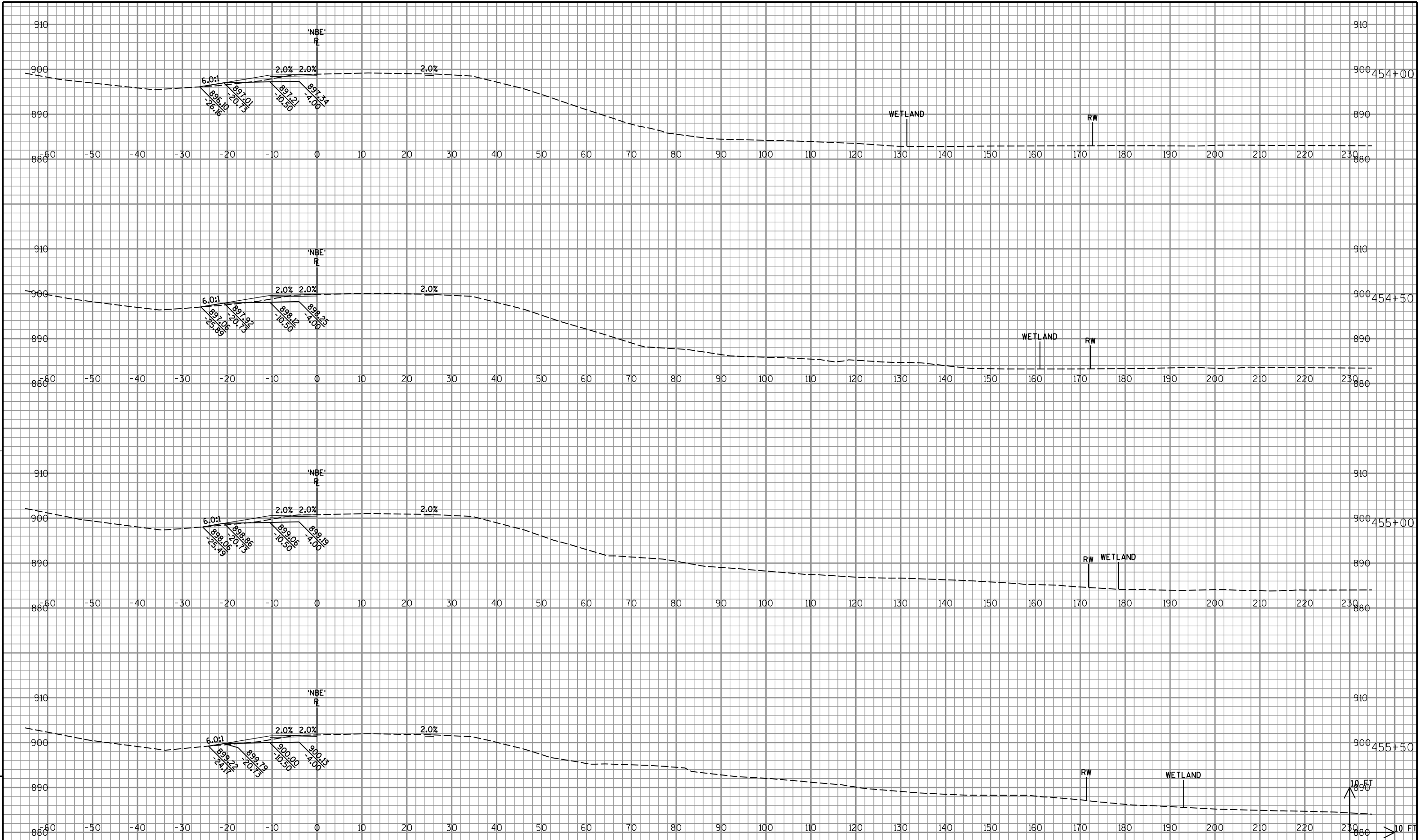
END CONSTRUCTION
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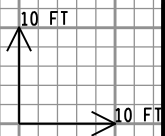
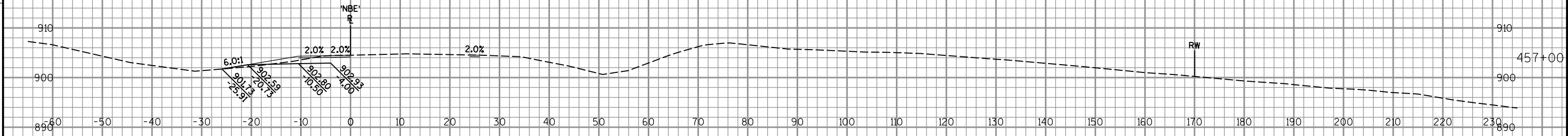
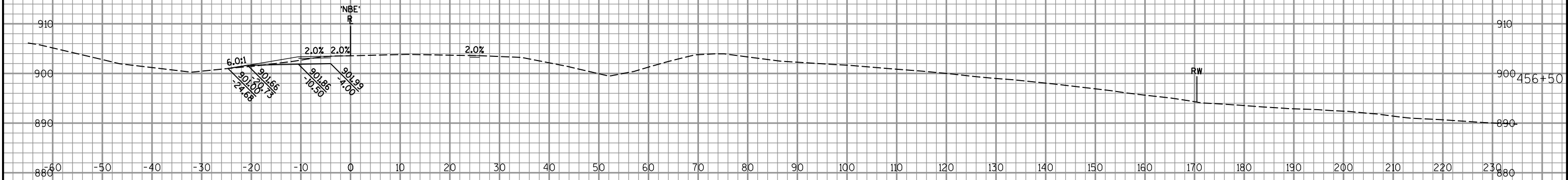
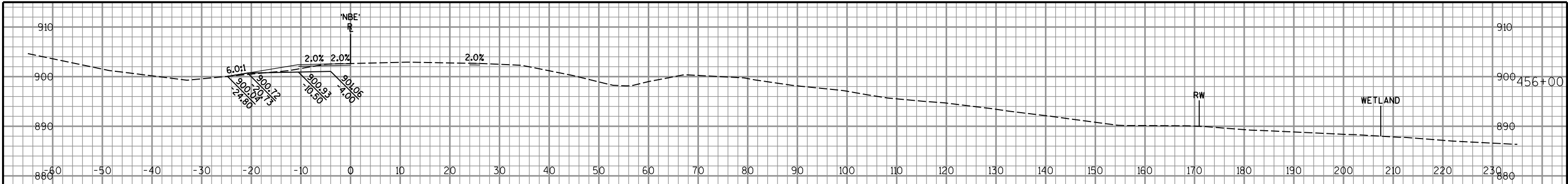


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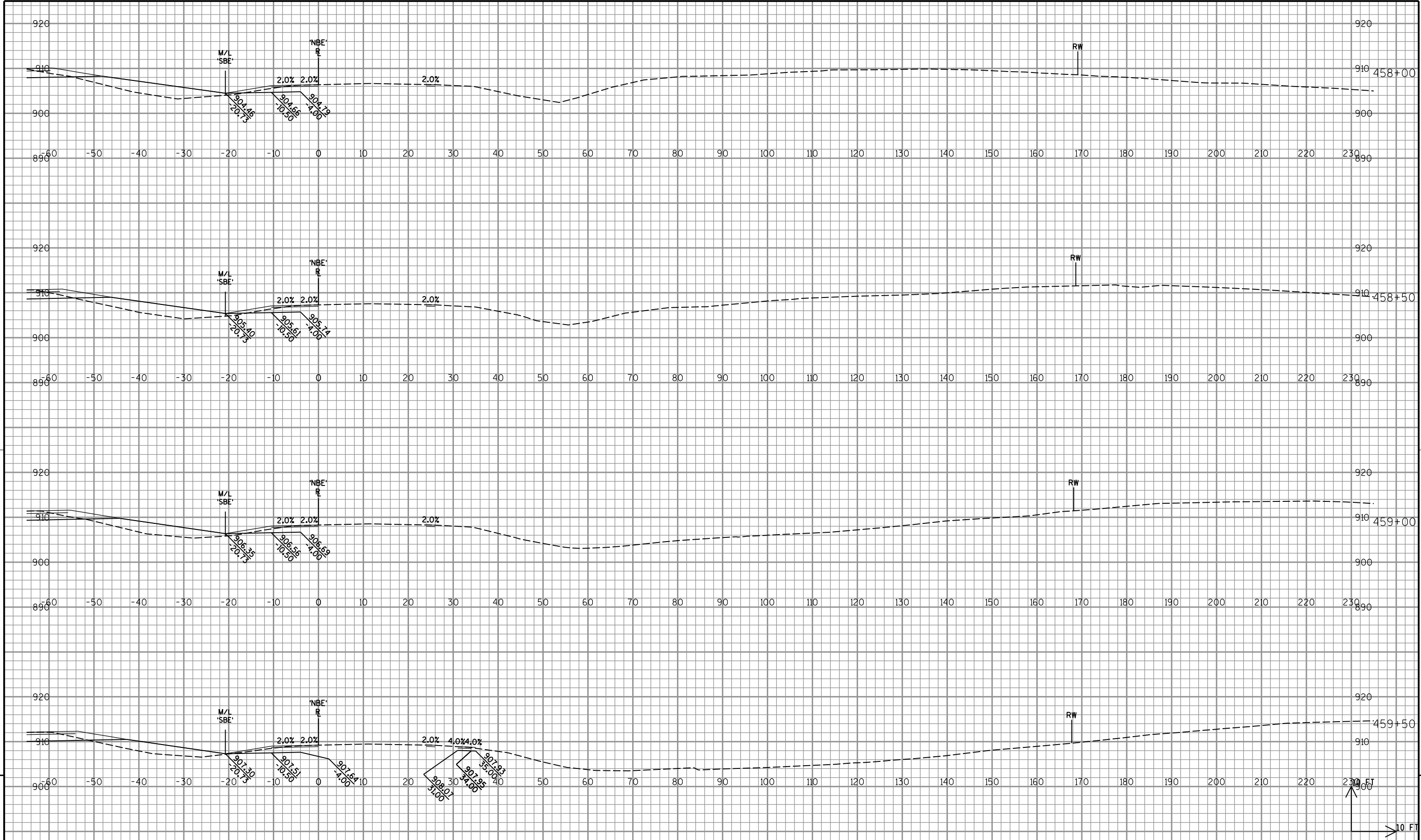






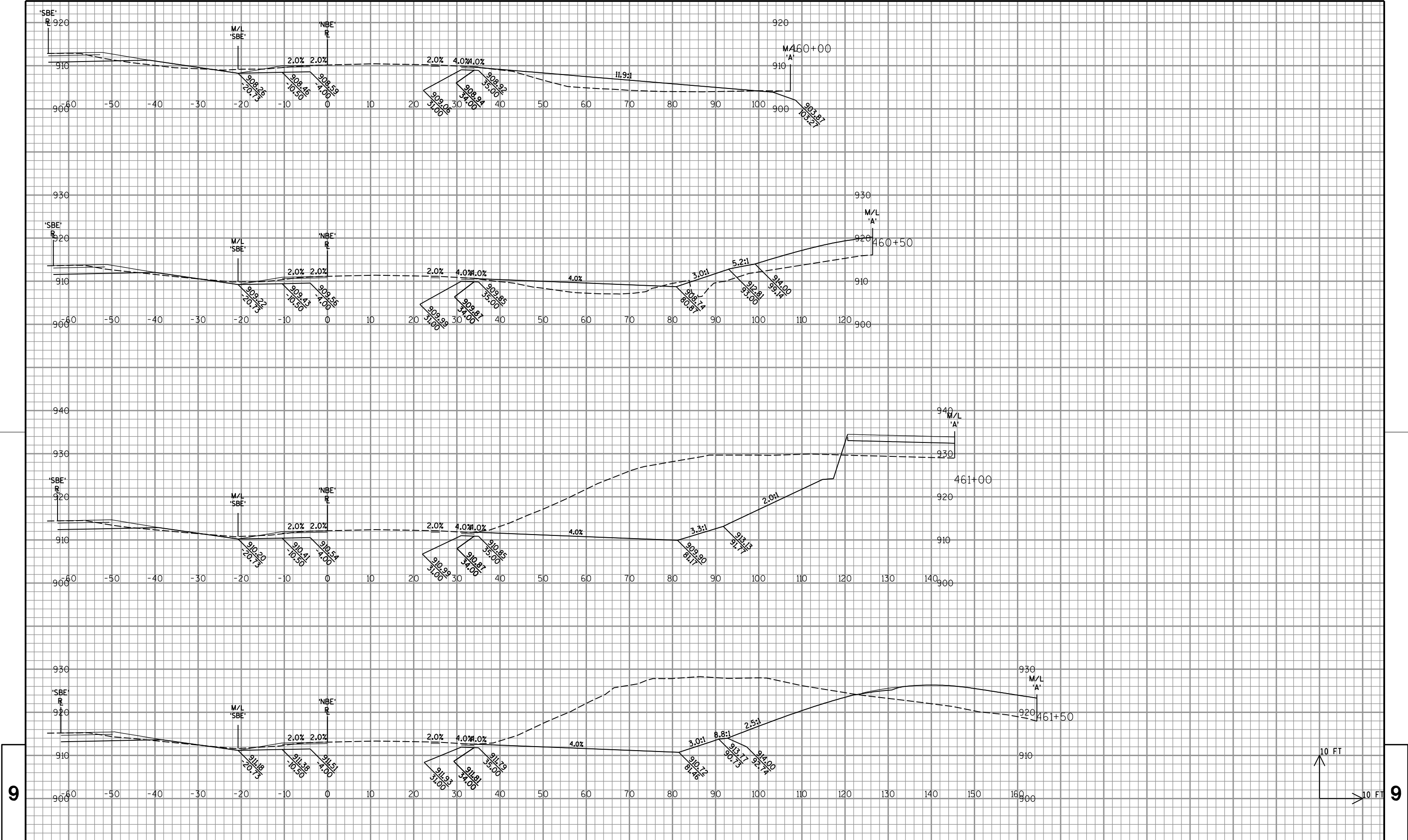
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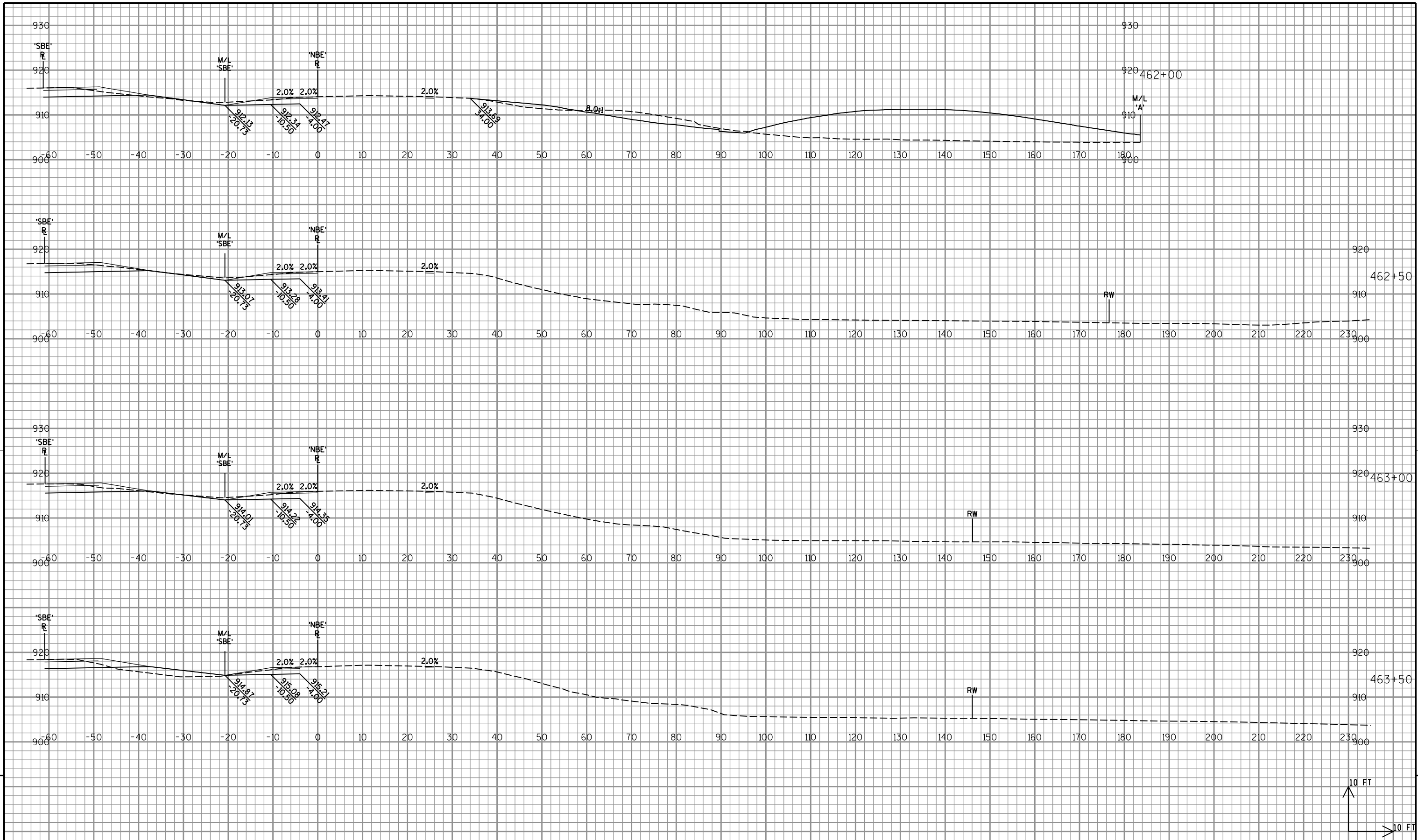
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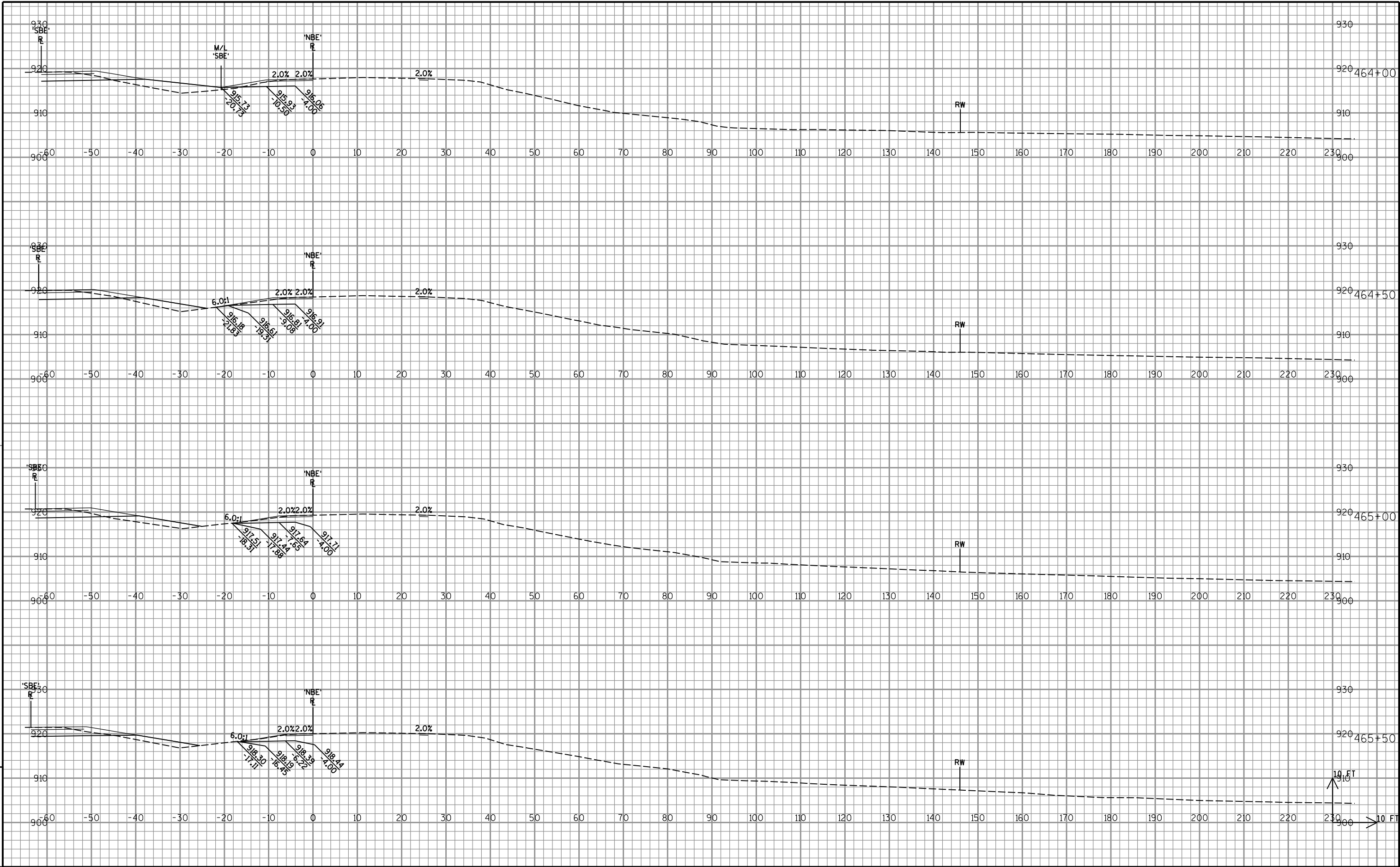


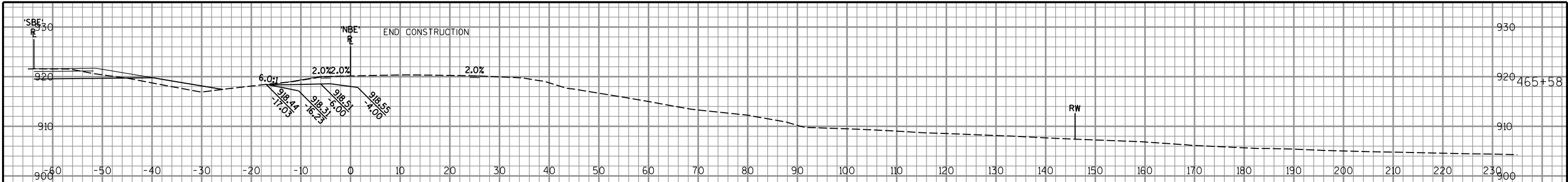
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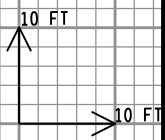




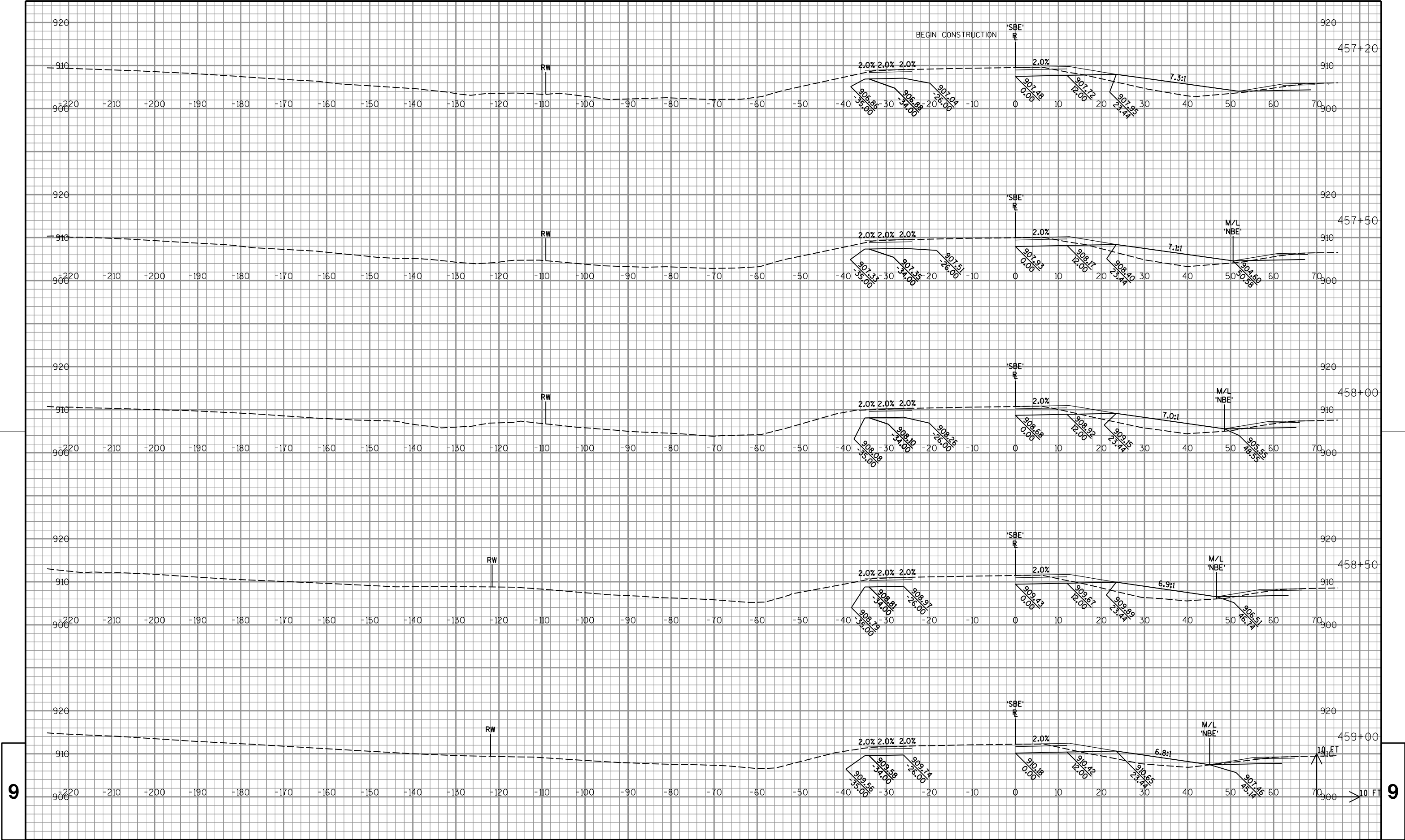




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PROJECT NO: 1007-10-75

HWY: IH 39

COUNTY: DANE

CROSS SECTIONS: SB IH 39

SHEET

175

E

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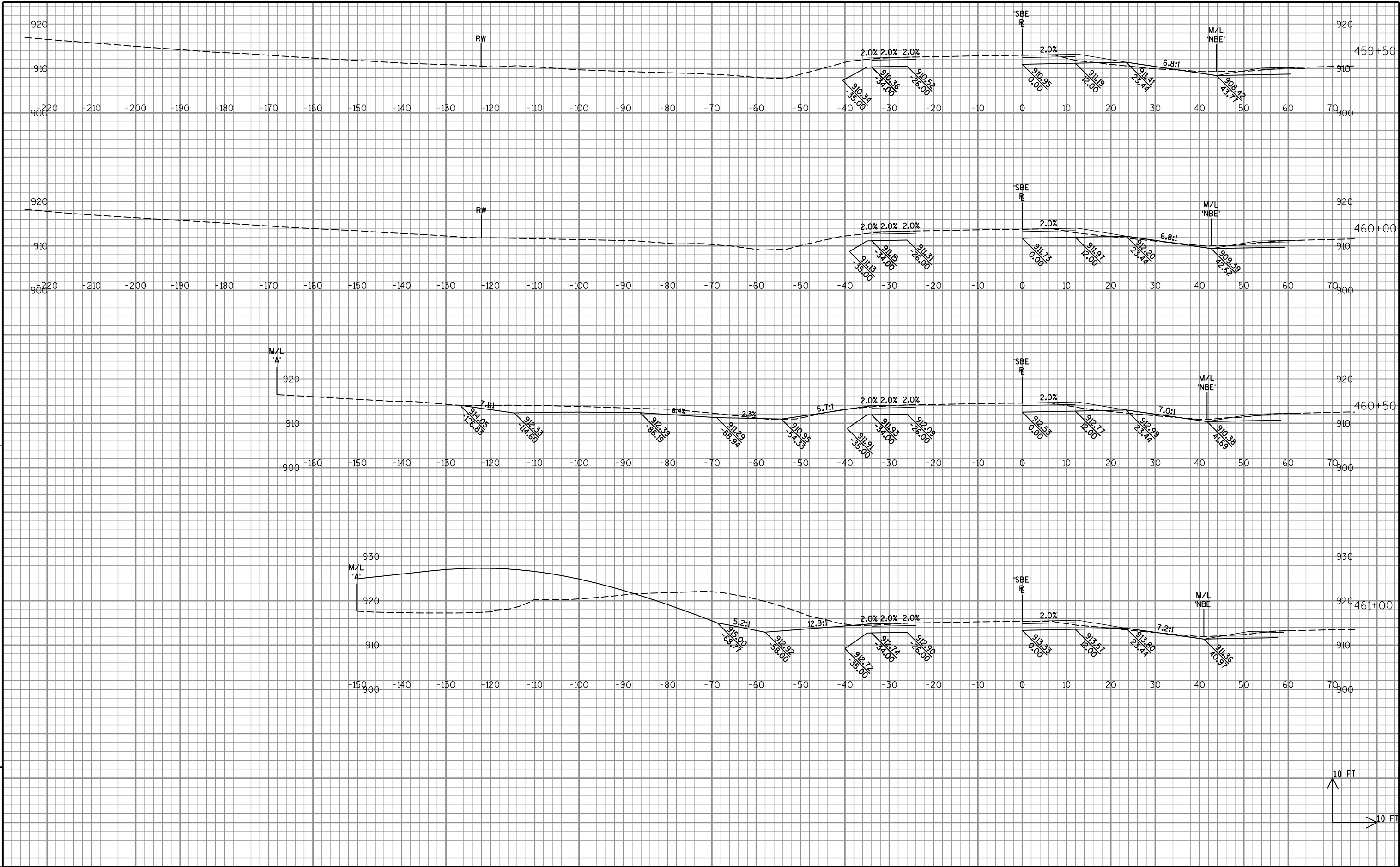
PLOT DATE : 11/25/2014

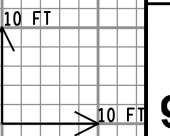
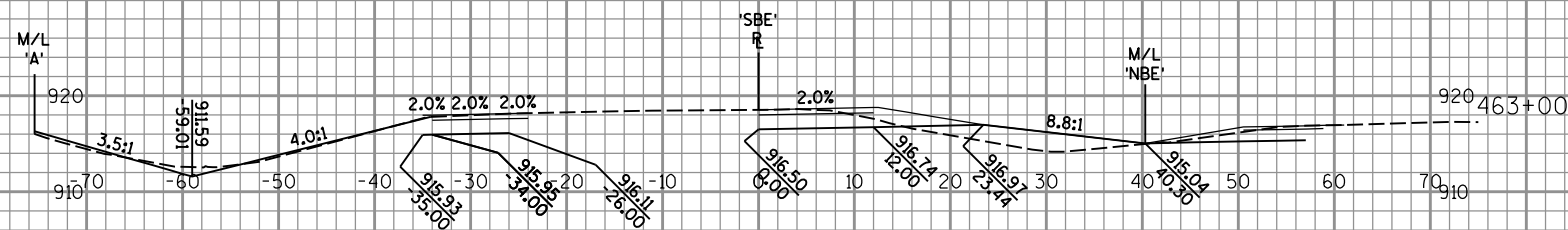
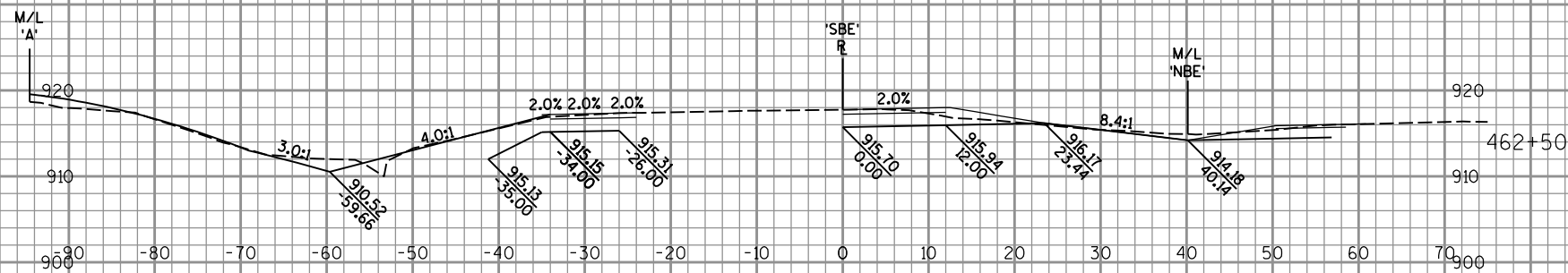
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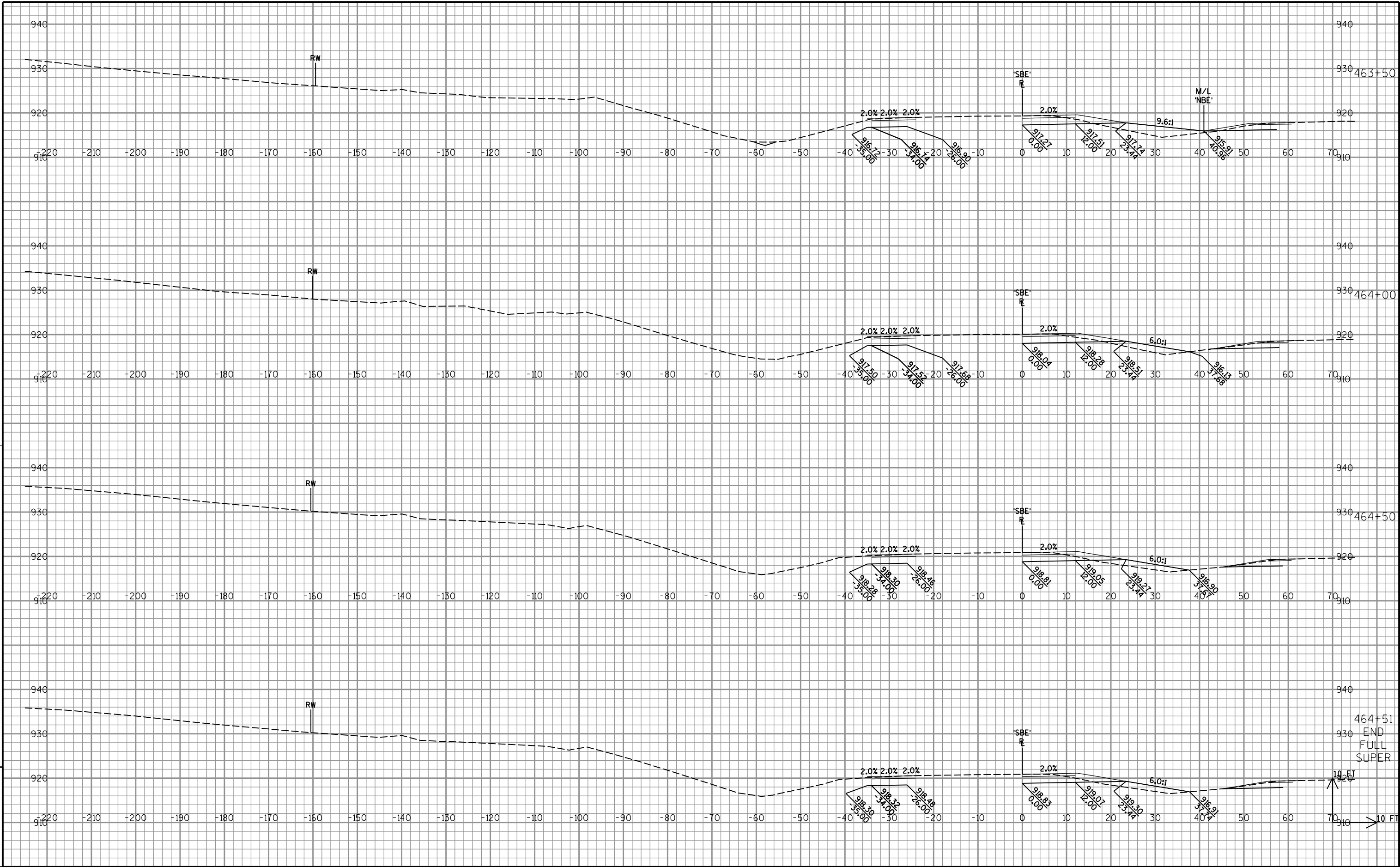
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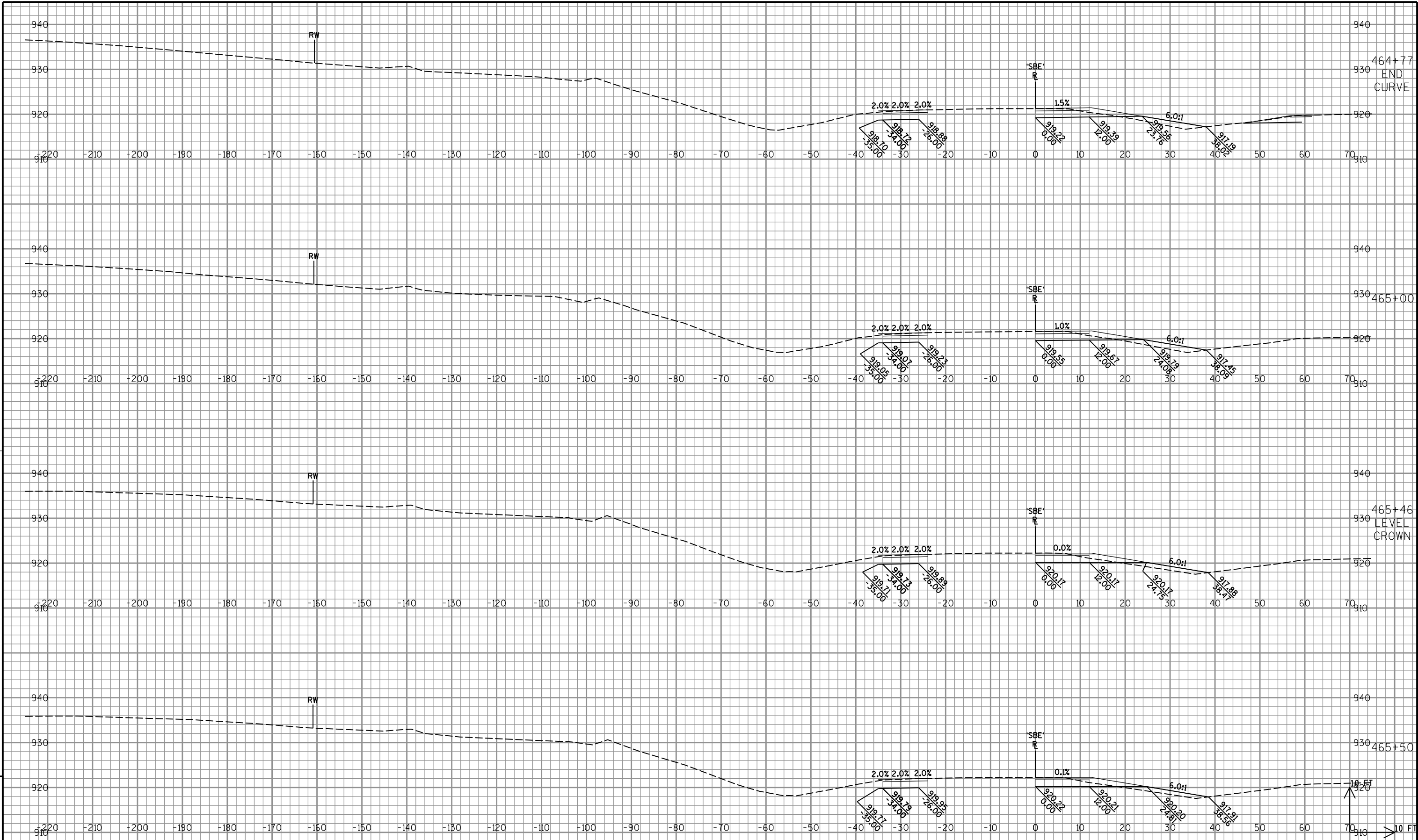
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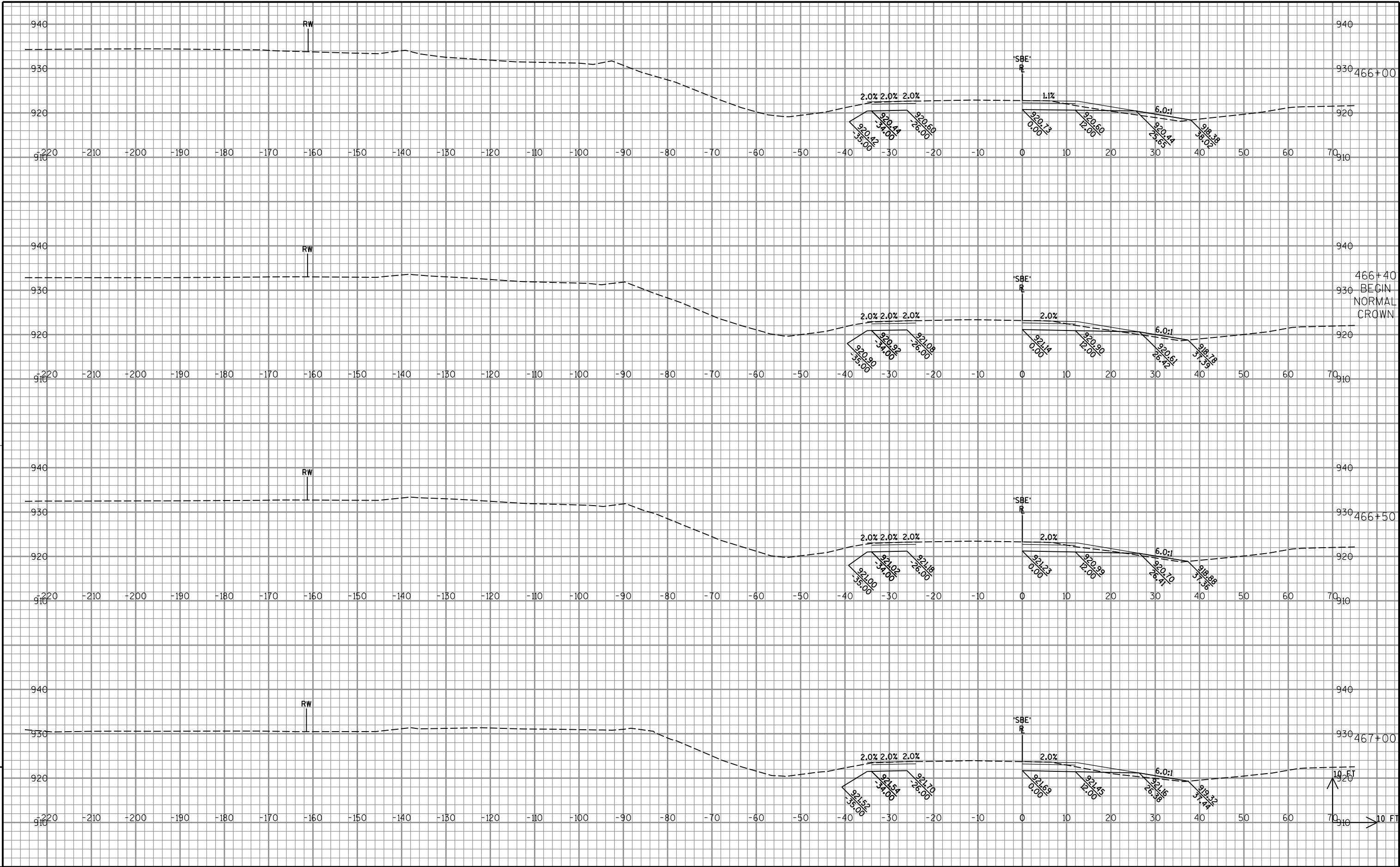
WISDOT/CADDs SHEET 21

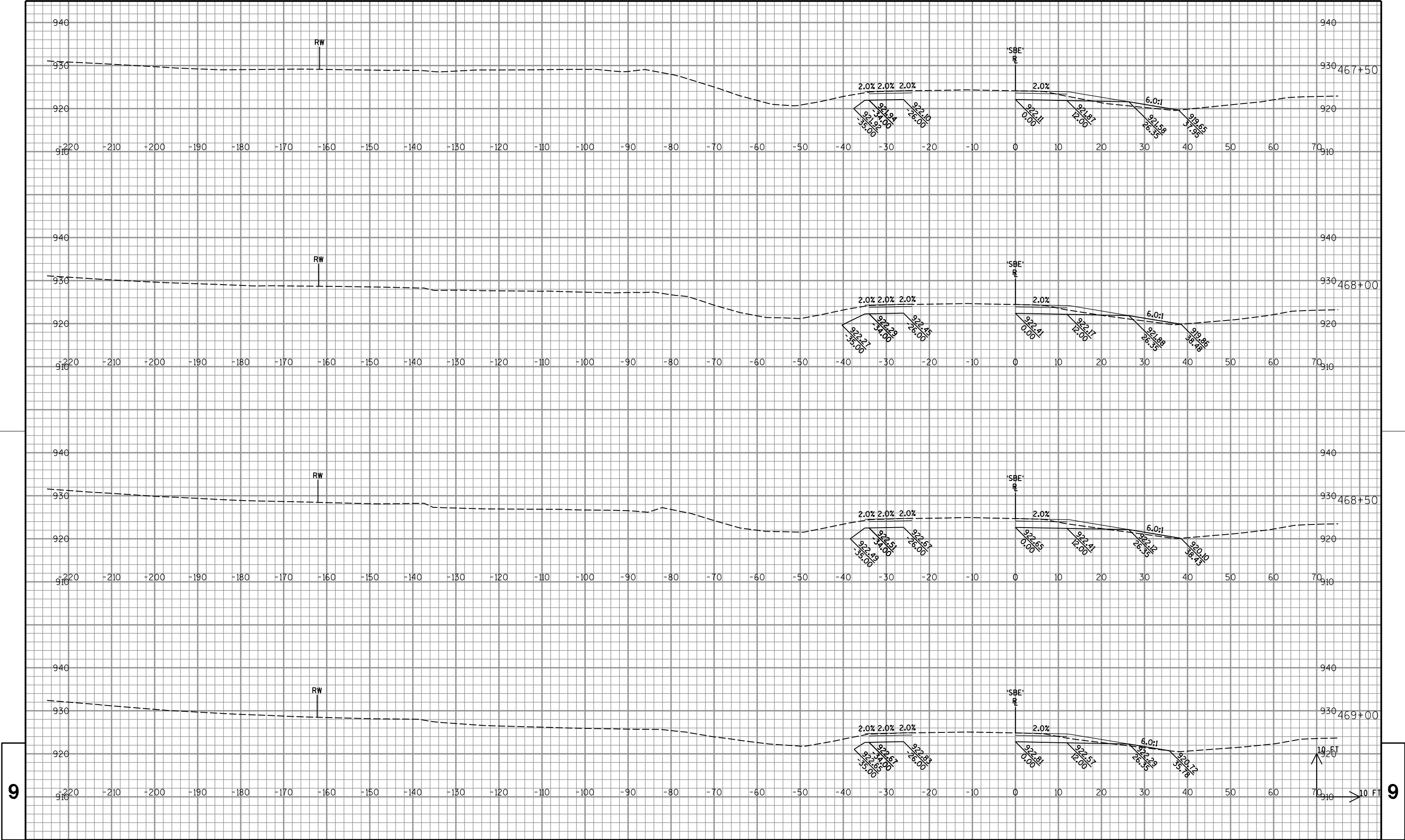


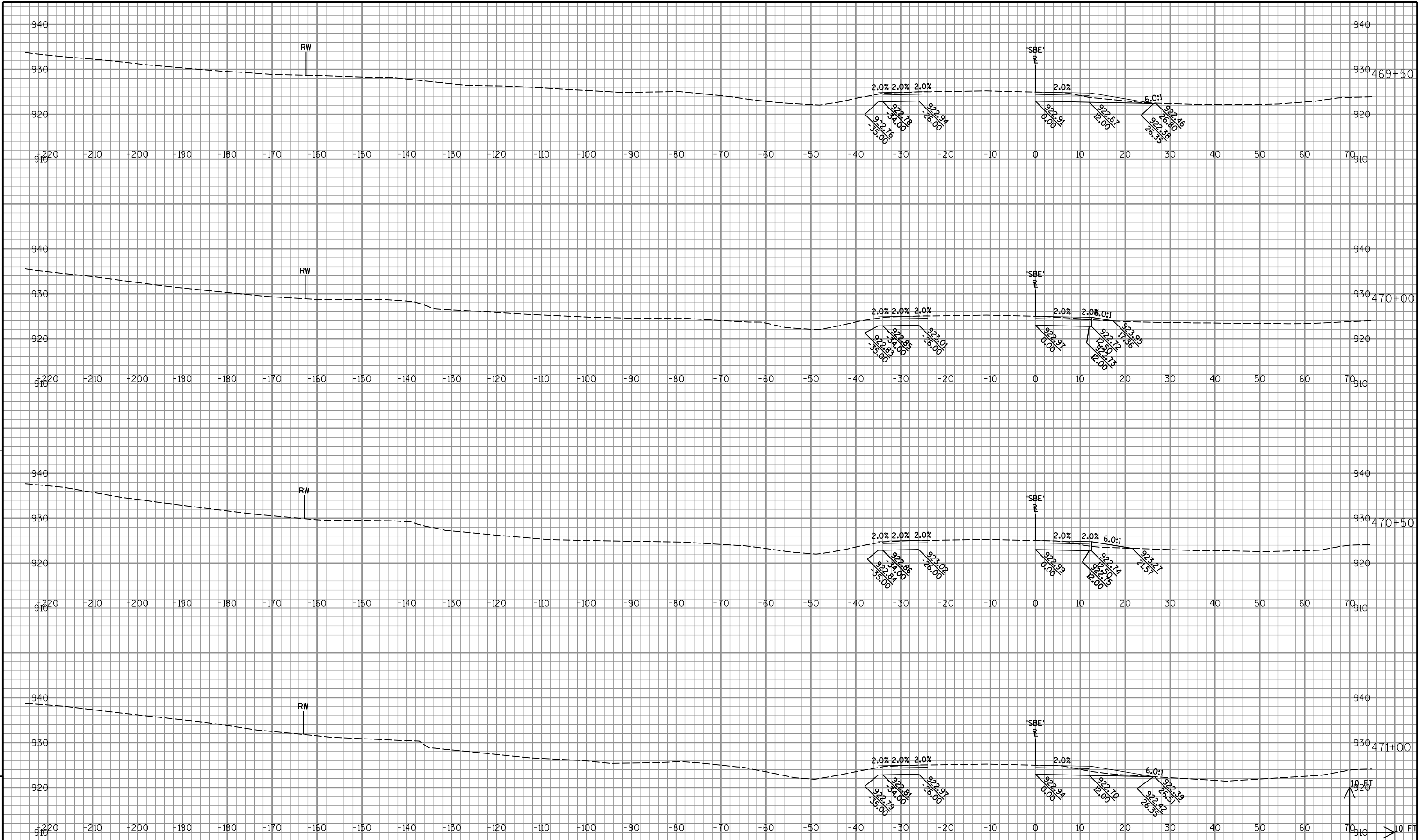


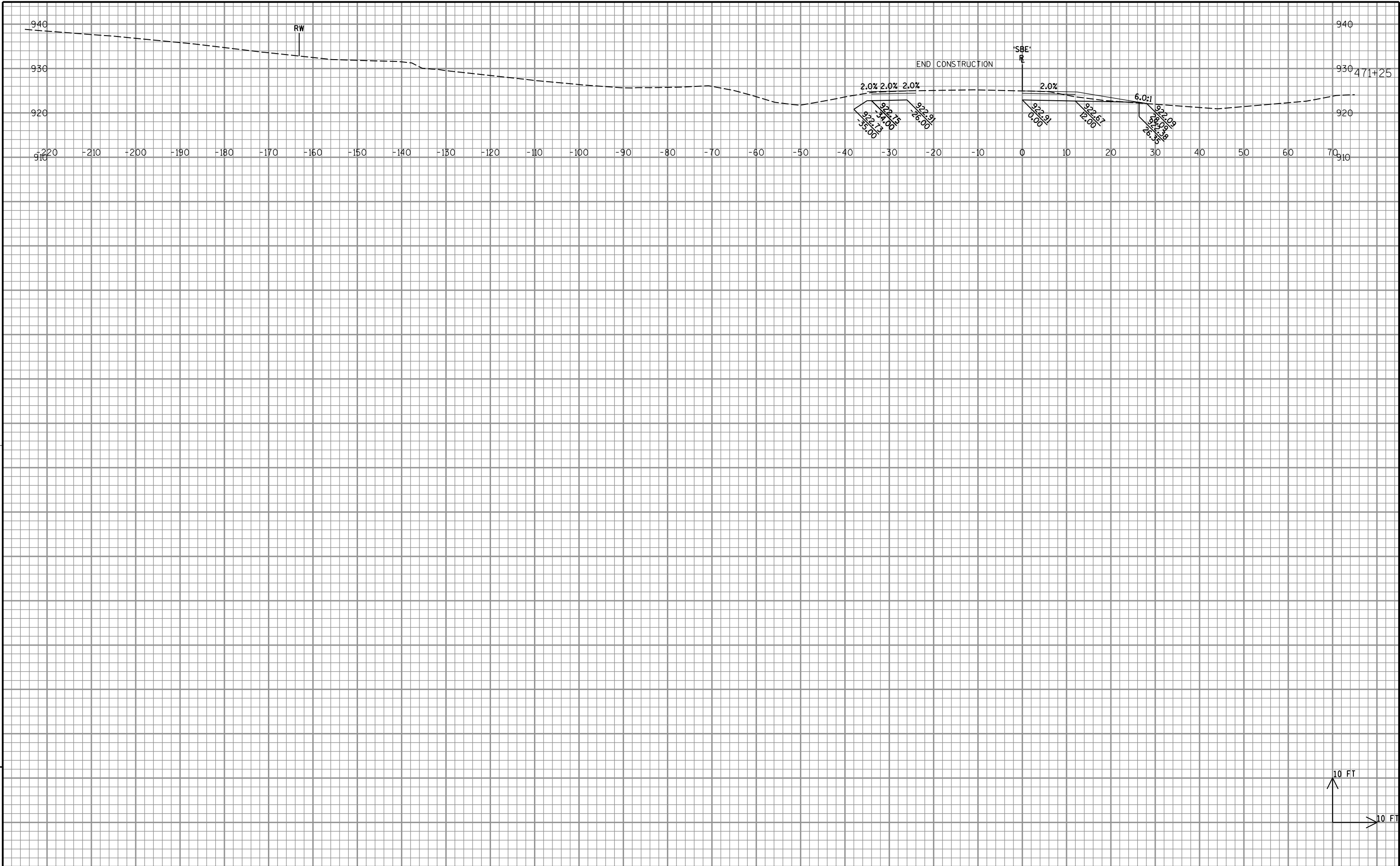






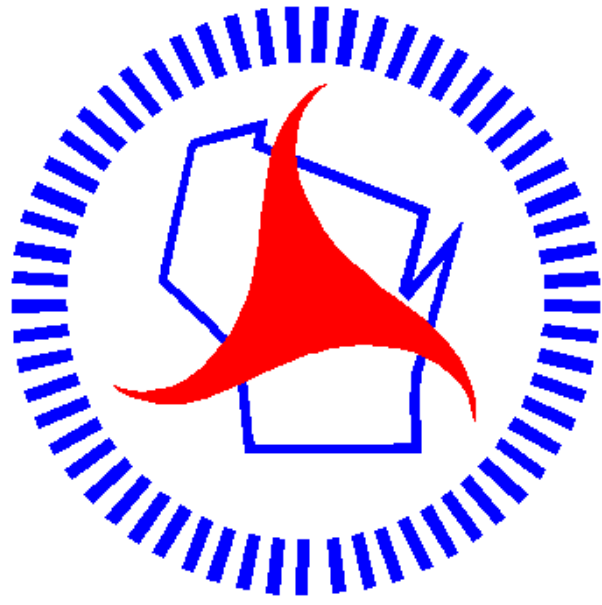






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