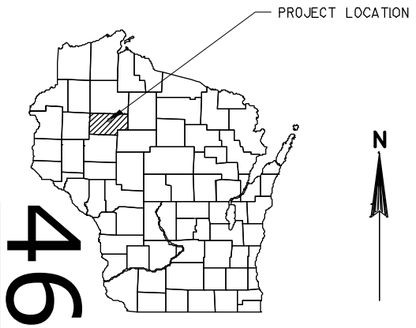
SUP MAY 2015

PROJECT ID: 1580-09-73
WITH: 8180-02-70

COUNTY: RUSK

ORDER OF SHEETS

TOTAL SHEETS = 36



46

DESIGN DESIGNATION

A.A.D.T.	2015	=	8020
A.A.D.T.	2035	=	9720
D.H.V.		=	1350
D.D.		=	59/41
T.		=	18.2%
DESIGN SPEED		=	30 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C. LADYSMITH, 3RD STREET

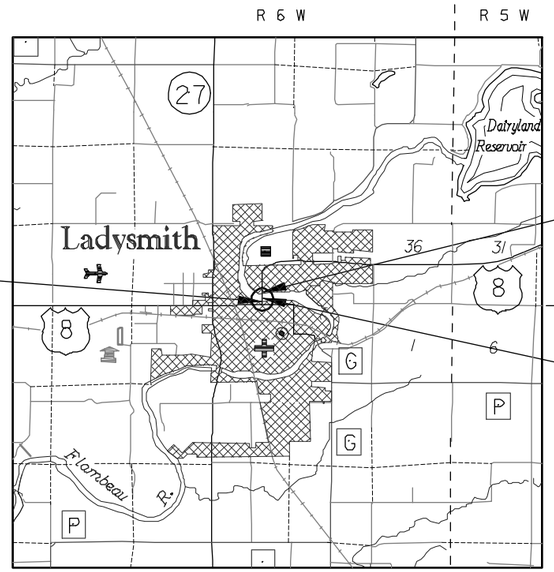
(FLAMBEAU RIVER BRIDGE B-54-0065)

USH 8

RUSK COUNTY

STATE PROJECT NUMBER
1580-09-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1580-09-73	WISC 2015014	1



BEGIN PROJECT
STA. 357+76.46
Y = 563741.80
X = 813889.84

END PROJECT
STA. 362+28.46
Y = 564193.20
X = 813866.50

STRUCTURE B-54-0065

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.085 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS). RUSK COUNTY

ORIGINAL PLANS PREPARED BY
FAA CONSULTING ENGINEERS

WISCONSIN
MATTHEW J. GUNDRY
36517
EAU CLAIRE
WI
PROFESSIONAL ENGINEER
1-9-13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FAA, INC.
Designer	FAA, INC.
Project Manager	MATTHEW DICKENSON
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	DAVID OSTROWSKI
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 8/6/14
(Signature)

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BAH	BEARING AHEAD
BBK	BEARING BACK
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
C/L	CENTER LINE
△	CENTRAL ANGLE OR DELTA
CE	COMMERCIAL ENTRANCE
CMP	CORRIGATED METAL PIPE
CONC	CONCRETE
CP	CULVERT PIPE
CP	CONTROL POINT
CPCP	CULVERT PIPE CORRUGATED POLYETHYLENE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III
CR	CREEK
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
C & G	CURB AND GUTTER
D	DEGREE OF CURVE/BOX DEPTH
DHV	DESIGN HOUR VOLUME
DD	DIRECTIONAL DISTRIBUTION
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
E	EAST
EL/ELEV	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FE	FIELD ENTRANCE
FERT	FERTILIZE
FF	FACE TO FACE
FL	FLOW LINE
FO	FIBER OPTIC
FS	FULL SUPER ELEVATION
FT	FOOT
G	GRADE
HMA	HOT MIX ASPHALT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
K	RATE OF VERTICAL CURVATURE
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LB	POUND
LF	LINEAR FOOT
LCB	LONG CHORD BEARING
LC	LONG CHORD
LN	LANE
LT	LEFT
LN	LANE
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MI	MILE
ML	MAINLINE
N	NORTH
NC	NORMAL CROWN
NO	NUMBER
NOR	NORMAL
OBLIT	OBLITERATE
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
R/RAD	RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD	ROAD
RDWY	ROADWAY
RR	RAILROAD
RT	RIGHT
SALV	SALVAGED
SAN S	SANITARY SEWER
S	SOUTH
SQ	SQUARE
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
SE	SUPERELEVATION
T	TANGENT LENGTH
T.	TRUCKS (PERCENT OF)
TC	TOP OF CURB
T OR TN	TOWN
TLE	TEMPORARY LIMITED EASEMENT
†	TON
TYP.	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
W	WEST
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE
YD	YARD

GENERAL NOTES

THE LOCATION 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. CONTACT DIGGERS HOTLINE BEFORE THE START OF CONSTRUCTION.

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOILED, FERTILIZED, SEEDED AND MULCHED OR SODDED

SIGN PLATE DETAILS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" UNLESS OTHERWISE PROVIDED FOR IN THE PLAN.

SEED MIXTURE NO. 40 SHALL BE USED THROUGHOUT THE PROJECT.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE COUNTY LAND SURVEYOR CONCERNING MONUMENT AND PROPERTY CORNER PRESERVATION. LANDMARK REFERENCE MONUMENTS SHALL BE PERPETUATED BY THE COUNTY SURVEYOR.

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

UTILITIES

CENTURYLINK COMMUNICATIONS
JIM ARQUETTE
20 S WILSON AVENUE
RICE LAKE, WI 54868
OFFICE PHONE: 715-452-5168
MOBILE PHONE: 715-563-8295
JIM.ARQUETTE@CENTURYLINK.NET

WE ENERGIES
LEWIS KNAPP
104 W SOUTH STREET
RICE LAKE, WI 54868
PHONE: 715-234-9605
LEWIS.KNAPP@WE-ENERGIES.COM

CHARTER COMMUNICATIONS
THOMAS HAASE
2304 S. MAIN STREET
RICE LAKE, WI 54868
PHONE: 715-234-5341

LADYSMITH MUNICIPAL WATER UTILITY
KURTIS GORSEGNER
P.O. BOX 431
LADYSMITH, WI 54848-0431
PHONE: 715-532-2600

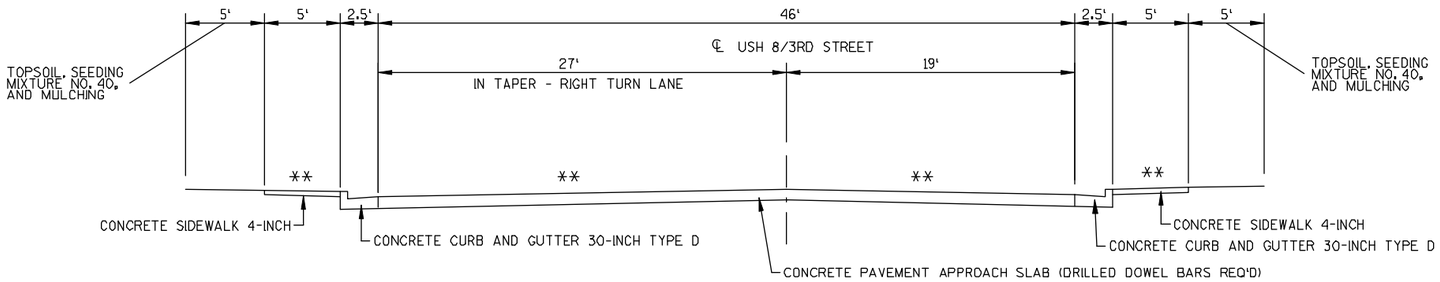
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONTACT

FLEMING, ANDRE & ASSOCIATES, INC.
3615 N. HASTINGS WAY
SUITE 100
EAU CLAIRE, WI. 54703-0474
ATTENTION: MATT GUNDRY
PHONE: 715-832-8400

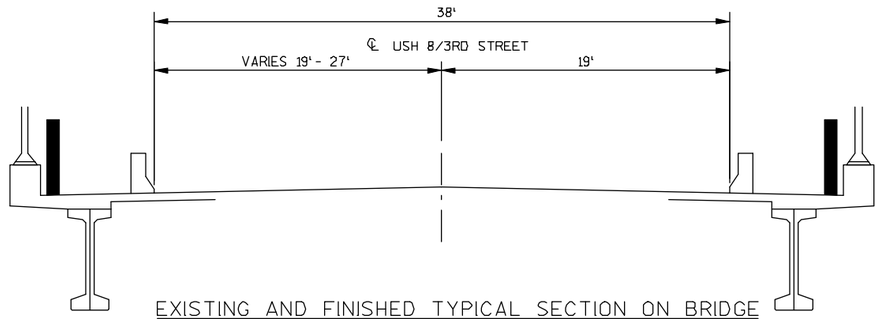
W.D.N.R. CONTACT

DEPARTMENT OF NATURAL RESOURCES
810 WEST MAPLE ST.
SPOONER, WI 54801
ATTENTION: AMY CRONK
PHONE: 715-635-4229



EXISTING AND FINISHED TYPICAL SECTION AT SOUTH APPROACH

STA. 357+76 TO STA. 357+98

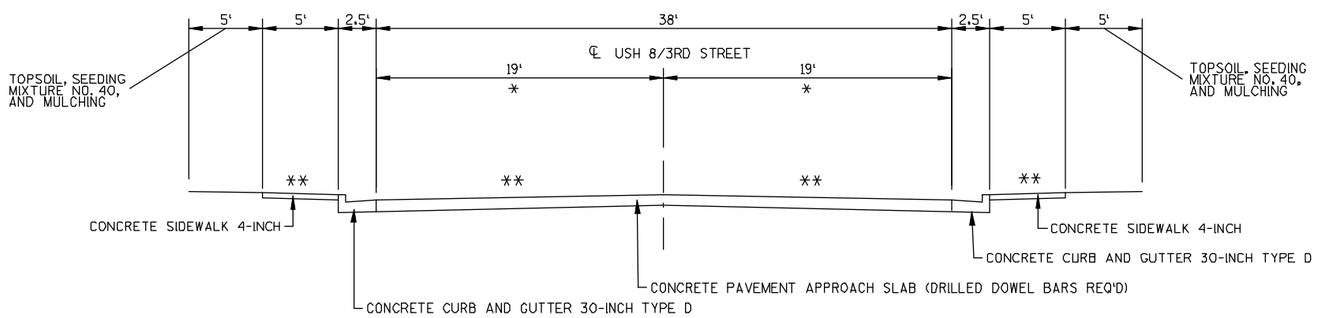


EXISTING AND FINISHED TYPICAL SECTION ON BRIDGE

STA. 357+98 TO STA. 362+06

** MATCH FINISHED PAVEMENT AND SIDEWALK SLOPES TO EXISTING PAVEMENTS AND THE END OF DECK

* LANE NARROWS TO 16' AT A DISTANCE OF 20' FROM THE END OF DECK



EXISTING AND FINISHED TYPICAL SECTION AT NORTH APPROACH

STA. 362+06 TO STA. 362+28

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 3	E

2

N

W5-52R
12" X 36"

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH YELLOW

TAPERS IN PAVEMENT MARKING ARE
60 FEET IN LENGTH

ROAD CLOSED
R11-2
48" X 30"

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
48" X 30"
(PLACE AT CROSSWALK)

ROAD CLOSED
R11-2
48" X 30"

SIDEWALK CLOSED AHEAD
CROSS HERE
R9-11
48" X 30"
(PLACE AT CROSSWALK)

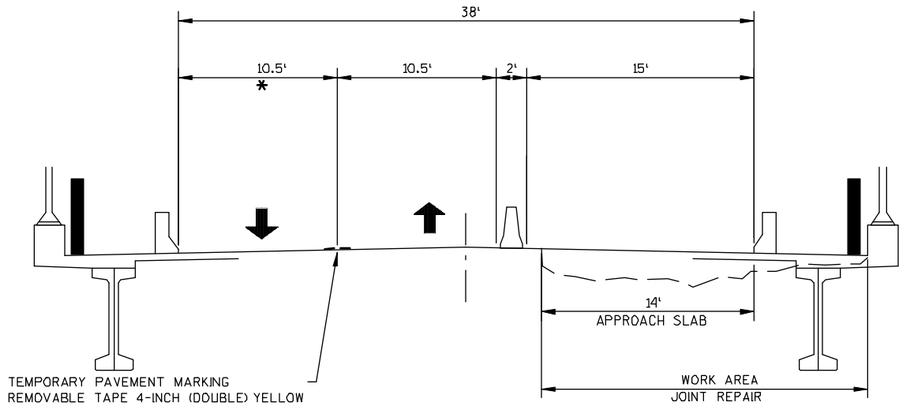
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS AND SDD 15D30, "TRAFFIC CONTROL, SIDEWALK CLOSURE".

x x x x	REMOVING PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
©	WARNING LIGHT TYPE C
	BARRICADE
	TEMPORARY CONCRETE BARRIER PRE-CAST
	WORK ZONE

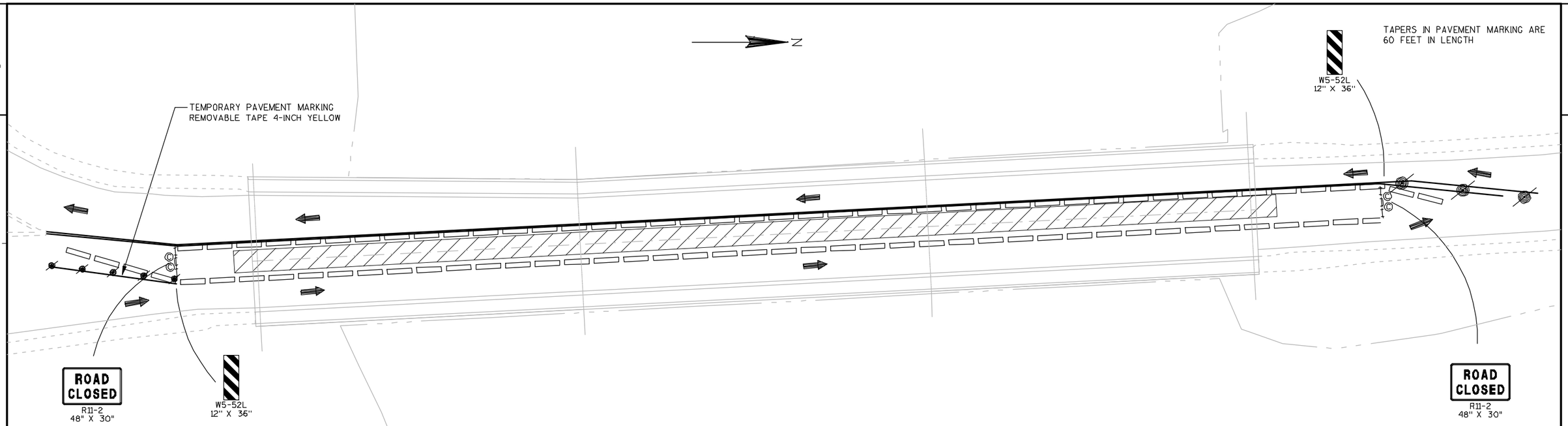
LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 1	SHEET 4	E



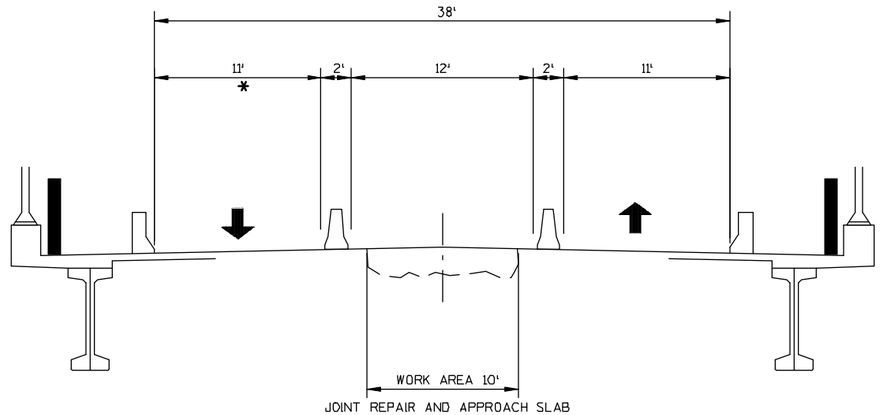
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS.

	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
	WARNING LIGHT TYPE C
	BARRICADE
	TEMPORARY CONCRETE BARRIER PRE-CAST
	WORK ZONE

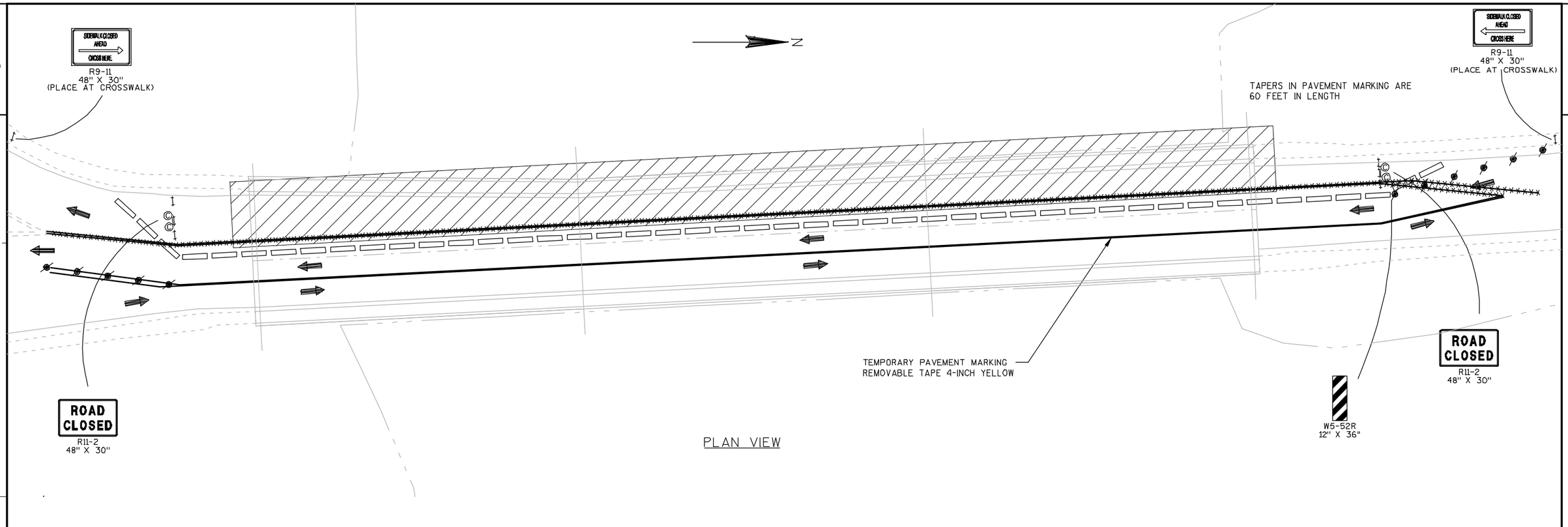
LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 2	SHEET 5	E



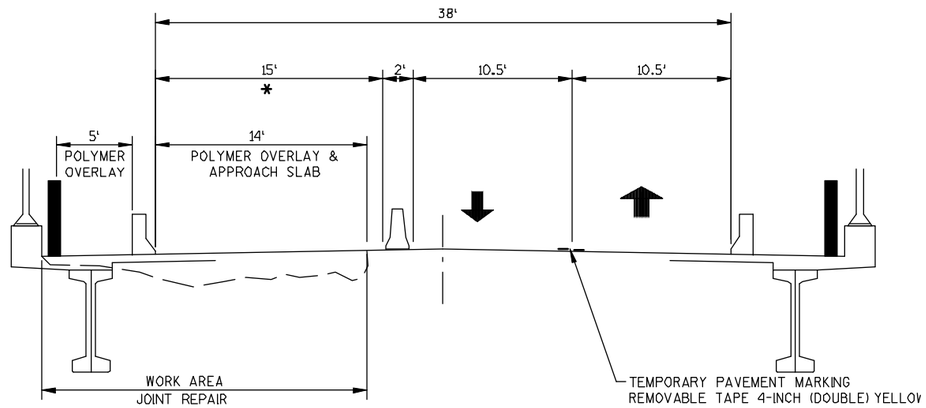
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28. "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE. UNDIVIDED HIGHWAY". FOR ADDITIONAL REQUIREMENTS AND SDD 15D30, "TRAFFIC CONTROL, SIDEWALK CLOSURE".

x x x x	REMOVE TEMPORARY PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
©	WARNING LIGHT TYPE C
	BARRICADE
	TEMPORARY CONCRETE BARRIER PRE-CAST
	WORK ZONE

LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

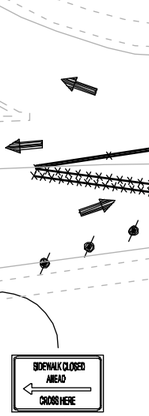
PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 3	SHEET 6	E

2

N

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH YELLOW

TAPERS IN PAVEMENT MARKING ARE
60 FEET IN LENGTH



R9-11
48" X 30"
(PLACE AT CROSSWALK)

R11-2
48" X 30"

R11-2
48" X 30"

R9-11
48" X 30"
(PLACE AT CROSSWALK)

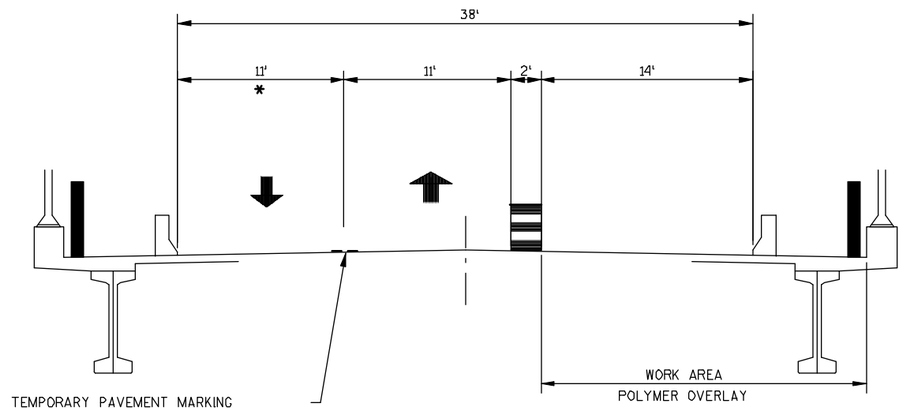
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS.

x x x x	REMOVE TEMPORARY PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
	DRUM
	WARNING LIGHT TYPE C
	BARRICADE
	WORK ZONE

LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



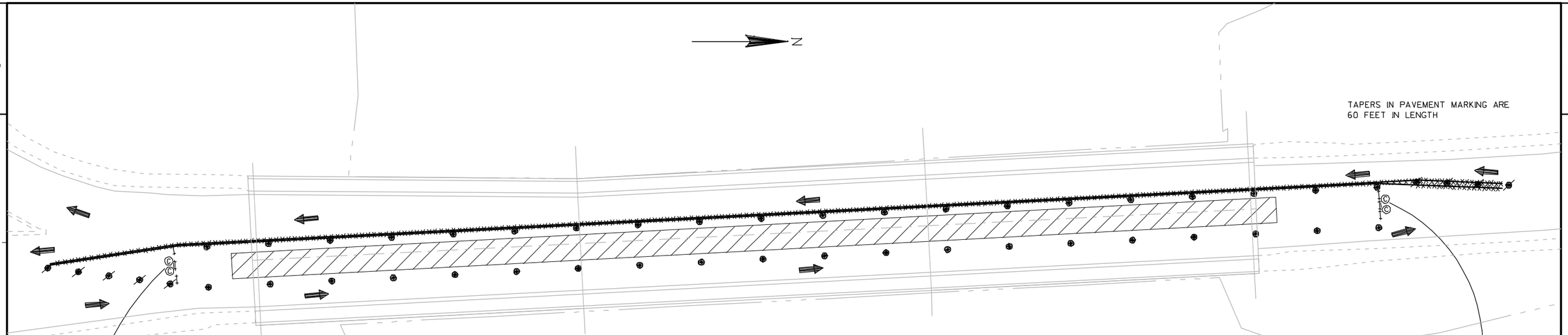
TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 4	SHEET 7	E

2

N

TAPERS IN PAVEMENT MARKING ARE
60 FEET IN LENGTH



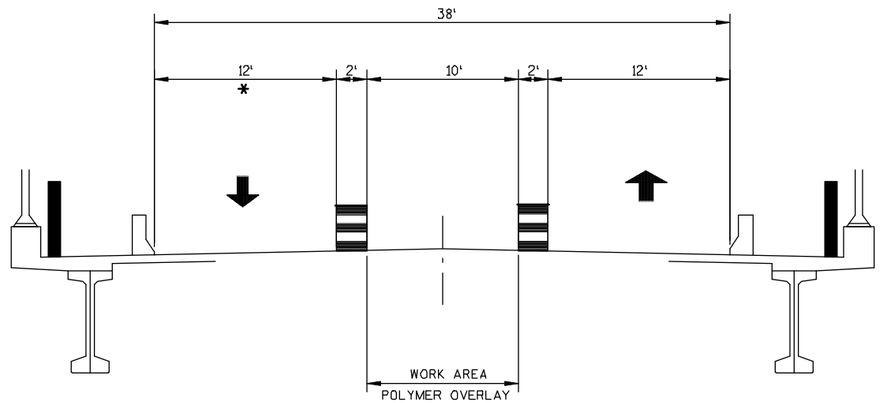
PLAN VIEW

NOTE: NOT ALL TRAFFIC CONTROL DETAILS ARE SHOWN. REFER TO SDD 15D28, "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED HIGHWAY", FOR ADDITIONAL REQUIREMENTS.

x x x x	REMOVE TEMPORARY PAVEMENT MARKINGS
	TRAFFIC FLOW
	DRUM W/ WARNING LIGHTS TYPE C
	DRUM
	WARNING LIGHT TYPE C
	BARRICADE
	WORK ZONE

LEGEND

* BRIDGE WIDTH VARIES. DIMENSIONS SHOWN ARE FOR MOST NARROW AREA. VARY THIS DIMENSION TO FIT ACTUAL BRIDGE WIDTH.



TYPICAL SECTION ON BRIDGE

PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	TRAFFIC CONTROL - STAGE 5	SHEET 8	E

2

N

WORK ZONE

Ladysmith

Tony

Glen Flora

Ingram

CN

Conrath

27

8

73

EAST
M3-2
24" X 12"

8
M1-4
36" X 36"

MAX. 10' WIDTH
W12-52

0.6 MILES AHEAD
W057-52
36" X 24"

15 MILES AHEAD
W057-52
36" X 24"

WEST
M3-4
36" X 18"

PROJECT NO:1580-09-73	HWY:USH 8	COUNTY:RUSK	TRAFFIC CONTROL - ADVANCE SIGNING	SHEET 9	E

FILE NAME : F:\Drawings\2012-128\0001\2605.dgn PLOT DATE : 12/1/2014 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 1 in : 100 ft

DATE 23MAR15 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1580-09-73 QUANTITY
0060	204.0100	Removing Pavement	SY	210.000	210.000
0080	204.0150	Removing Curb & Gutter	LF	90.000	90.000
0090	204.0155	Removing Concrete Sidewalk	SY	50.000	50.000
0140	213.0100	Finishing Roadway (project) 01. 1580-09-73	EACH	1.000	1.000
0190	415.1410	Concrete Pavement Approach Slab HES	SY	210.000	210.000
0200	416.0620	Drilled Dowel Bars	EACH	78.000	78.000
0280	502.3100	Expansion Device (structure) 01. B-54-0065	LS	1.000	1.000
0300	502.3210.S	Pigmented Protective Surface Treatment	SY	575.000	575.000
0310	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	114.000	114.000
0330	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	1,990.000	1,990.000
0340	505.0904	Bar Couplers No. 4	EACH	20.000	20.000
0350	505.0905	Bar Couplers No. 5	EACH	12.000	12.000
0360	509.0301	Preparation Decks Type 1	SY	1.000	1.000
0370	509.0302	Preparation Decks Type 2	SY	1.000	1.000
0380	509.1000	Joint Repair	SY	50.000	50.000
0390	509.1500	Concrete Surface Repair	SF	200.000	200.000
0400	509.2500	Concrete Masonry Overlay Decks	CY	15.000	15.000
0410	509.5100.S	Polymer Overlay	SY	2,325.000	2,325.000
0420	509.9020.S	Epoxy Crack Sealing	LF	40.000	40.000
0430	509.9050.S	Cleaning Parapets	LF	815.000	815.000
0440	514.0900	Adjusting Floor Drains	EACH	2.000	2.000
0510	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	90.000	90.000
0520	602.0405	Concrete Sidewalk 4-Inch	SF	440.000	440.000
0530	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,200.000	1,200.000
0540	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,400.000	2,400.000
0630	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1580-09-73	EACH	1.000	1.000
0650	619.1000	Mobilization	EACH	0.300	0.300
0660	625.0105	Topsoil	CY	5.000	5.000
0680	627.0200	Mulching	SY	20.000	20.000
0690	628.1504	Silt Fence	LF	100.000	100.000
0700	628.1520	Silt Fence Maintenance	LF	100.000	100.000
0710	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0720	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0750	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0790	630.0140	Seeding Mixture No. 40	LB	2.000	2.000
0870	642.5401	Field Office Type D	EACH	0.300	0.300
0880	643.0100	Traffic Control (project) 01. 1580-09-73	EACH	1.000	1.000
0900	643.0300	Traffic Control Drums	DAY	470.000	470.000
0910	643.0420	Traffic Control Barricades Type III	DAY	260.000	260.000
0930	643.0715	Traffic Control Warning Lights Type C	DAY	490.000	490.000
0940	643.0900	Traffic Control Signs	DAY	950.000	950.000
0990	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,220.000	1,220.000
1000	646.0600	Removing Pavement Markings	LF	1,220.000	1,220.000
1010	647.0456	Pavement Marking Curb Epoxy	LF	90.000	90.000
1030	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	3,840.000	3,840.000
1070	650.6500	Construction Staking Structure Layout (structure) 01. B-54-0065	LS	1.000	1.000

3

DATE 23MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1580-09-73 QUANTITY
1090	650.9910	Construction Staking Supplemental Control (project) 01. 1580-09-73	LS	1.000	1.000
1130	690.0250	Sawing Concrete	LF	222.000	222.000
1140	715.0415	Incentive Strength Concrete Pavement	DOL	250.000	250.000
1160	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000
1170	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	100.000	100.000
1190	SPV.0090	Special 01. Concrete Curb And Gutter Cure And Seal Treatment	LF	90.000	90.000
1200	SPV.0090	Special 02. Sawing Pavement Deck Preparation Areas	LF	150.000	150.000
1210	SPV.0165	Special 01. Concrete Sidewalk Cure And Seal Treatment	SF	440.000	440.000

REMOVING PAVEMENT		204.0100	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPR. SLAB	115	010
STA. 362+06 TO STA. 362+28	NORTH APPR. SLAB	95	010
ITEM TOTAL		210	

REMOVING CURB AND GUTTER		204.0150	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	22	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	23	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	22	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	23	010
ITEM TOTAL		90	

REMOVING CONCRETE SIDEWALK		204.0155	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	12	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	13	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	12	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	13	010
ITEM TOTAL		50	

CONCRETE PAVEMENT APPROACH SLAB HES		415.1410	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH	115	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH	95	010
ITEM TOTAL		210	

DRILLED DOWEL BARS		416.0620	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+76	SOUTH APPROACH	46	010
STA. 362+28	NORTH APPROACH	32	
ITEM TOTAL		78	

CONCRETE CURB AND GUTTER, 30-INCH, TYPE D		601.0411	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	22	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	23	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	22	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	23	010
ITEM TOTAL		90	

CONCRETE SIDEWALK 4-INCH		602.0405	
STATION TO STATION	LOCATION	S.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SOUTH APPROACH RT	110	010
STA. 357+76 TO STA. 357+98	SOUTH APPROACH LT	110	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH RT	110	010
STA. 362+06 TO STA. 362+28	NORTH APPROACH LT	110	010
ITEM TOTAL		440	

CONCRETE BARRIER TEMPORARY PRECAST DELIVERED		603.8000	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+00	STAGE 1 WORKZONE	600	010
STA. 357+00 TO STA. 363+00	STAGE 2 WORKZONE	600	010
ITEM TOTAL		1200	

CONCRETE BARRIER TEMPORARY PRECAST INSTALLED		603.8125	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+00	STAGE 1 WORKZONE	600	010
STA. 357+00 TO STA. 363+00	STAGE 2 WORKZONE	1200	010
STA. 357+00 TO STA. 363+00	STAGE 3 WORKZONE	600	010
ITEM TOTAL		2400	

MOBILIZATION		619.1000	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+00 TO STA. 363+10	APPROACHES	0.1	010
STA. 357+98 TO STA. 362+06	B-54-0065	0.2	020
ITEM TOTAL		0.3	

TOPSOIL		625.0105	
STATION TO STATION	LOCATION	C.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	3	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	2	010
ITEM TOTAL		5	

MULCHING		627.0200	
STATION TO STATION	LOCATION	S.Y.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	10	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	10	010
ITEM TOTAL		20	

SILT FENCE		628.1504	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	50	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	50	010
ITEM TOTAL		100	

SILT FENCE MAINTENANCE		628.1520	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	SIDEWALK RT & LT	50	010
STA. 362+06 TO STA. 362+28	SIDEWALK RT & LT	50	010
ITEM TOTAL		100	

MOBILIZATIONS EROSION CONTROL		628.1905	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+76 TO STA. 362+28	PROJECT	2	010
ITEM TOTAL		2	

MOBILIZATIONS EMERGENCY EROSION CONTROL		628.1910	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+76 TO STA. 362+28	PROJECT	1	010
ITEM TOTAL		1	

INLET PROTECTION TYPE C		628.7015	
STATION TO STATION	LOCATION	EACH	CATEGORY
STA. 357+36	RT & LT	2	010
STA. 365+00	RT & LT	4	010
ITEM TOTAL		6	

SEEDING MIXTURE NO. 40		630.0140	
STATION TO STATION	LOCATION	LB	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	1	010
STA. 362+06 TO STA. 362+28	RT & LT	1	010
ITEM TOTAL		2	

FIELD OFFICE TYPE D		642.5401	
STATION TO STATION	LOCATION	EACH	CATEGORY
		0.3	010
ITEM TOTAL		0.3	

TRAFFIC CONTROL PROJECT 1580-09-73		643.0100	
STATION TO STATION	LOCATION	EACH	CATEGORY
	PROJECT	1	010
ITEM TOTAL		1	

TRAFFIC CONTROL DRUMS		CAL:		643.0300	
STATION TO STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 TO STA. 363+00	STG 1-5 SHIFT TAPER	10	35	350	010
STA. 357+00 TO STA. 363+00	STAGE 4 WORKZONE	20	2	40	010
STA. 357+00 TO STA. 363+00	STAGE 5 WORKZONE	40	2	80	010
ITEM TOTAL				470	

TRAFFIC CONTROL BARRICADES TYPE III		CAL:		643.0420	
STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 & STA. 363+00	WORKZONE	6	35	210	010
STA. 357+00 & STA. 363+00	SIDEWALKS	5	10	50	010
ITEM TOTAL				260	

TRAFFIC CONTROL WARNING LIGHTS TYPE C		CAL:		643.0715	
STATION TO STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 & STA. 363+00	SHIFTING TAPERS	10	35	350	010
STA. 357+00 & STA. 363+00	WORKZONE BARRICADES	4	35	140	010
ITEM TOTAL				490	

TRAFFIC CONTROL SIGNS		CAL:		643.0900	
STATION TO STATION	LOCATION	EACH	DAYS	DAYS	CATEGORY
STA. 357+00 & STA. 363+00	APPR. AND WORKZONE	10	35	350	010
STA. 357+00 & STA. 363+00	SIDEWALKS	6	10	60	010
	ADVANCE WARNING	18	30	540	010
ITEM TOTAL				950	

PAVEMENT MARKING EPOXY 4-INCH		646.0106	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+10	DBL YLW CENTERLINE	1220	010
ITEM TOTAL		1220	

REMOVING PAVEMENT MARKINGS		646.0600	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+10	EXISTING CENTERLINE	1220	010
ITEM TOTAL		1220	

NOTE: METHODS FOR REMOVING PAVEMENT MARKINGS ARE LIMITED TO WATER BLASTING ONLY ON THE BRIDGE DECK

PAVEMENT MARKING CURB EPOXY		647.0456	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	45	010
STA. 362+06 TO STA. 362+28	RT & LT	45	010
ITEM TOTAL		90	

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH		649.0400	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+00 TO STA. 363+10	STAGE 1 TEMP. CL	1260	010
STA. 357+00 TO STA. 363+10	STAGE 2 SHIFT TAPER	60	010
STA. 357+00 TO STA. 363+10	STAGE 3 TEMP. CL	1270	010
STA. 357+00 TO STA. 363+10	STAGE 4 TEMP. CL	1250	010
ITEM TOTAL		3840	

SAWING CONCRETE		690.0250	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76	SOUTH APPROACH	123	010
STA. 362+28	NORTH APPROACH	99	010
ITEM TOTAL		222	

CONCRETE CURB AND GUTTER CURE AND SEAL TREATMENT		SPV.0090.01	
STATION TO STATION	LOCATION	L.F.	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	45	010
STA. 362+06 TO STA. 362+28	RT & LT	45	010
ITEM TOTAL		90	

CONCRETE SIDEWALK CURE AND SEAL TREATMENT		SPV.0165.01	
STATION TO STATION	LOCATION	S.F.	CATEGORY
STA. 357+76 TO STA. 357+98	RT & LT	220	010
STA. 362+06 TO STA. 362+28	RT & LT	220	010
ITEM TOTAL		440	

N

INLET PROTECTION TYPE C

25 LF SILT FENCE

STA 357+76 TO STA 357+98
115 SY REMOVING PAVEMENT
25 SY REMOVING CONCRETE SIDEWALK
45 SF REMOVING CURB & GUTTER
SAWCUT REQ'D

PAVEMENT MARKING CURB EPOXY

359+00

360+00

361+00

362+00

363+00

PAVEMENT MARKING CURB EPOXY

PAVEMENT MARKING CURB EPOXY

25 LF SILT FENCE

PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)

STA. 362+06 TO STA. 362+28
95 SY REMOVING PAVEMENT
25 SY REMOVING CONCRETE SIDEWALK
45 LF REMOVING CURB & GUTTER
SAWCUT REQ'D

25 LF SILT FENCE

INLET PROTECTION TYPE C

25 LF SILT FENCE

STA 357+76 TO STA 357+98
115 SY CONCRETE PAVEMENT APPROACH SLAB
46 EA DRILLED DOWEL BARS REQ'D
220 SF CONCRETE SIDEWALK 4-INCH
45 LF CONCRETE CURB & GUTTER 30-INCH TYPE D
2 CY TOPSOIL
10 SY MULCH
1 LB SEED MIXTURE NO. 40

STA. 632+06 TO STA. 362+28
95 SY CONCRETE PAVEMENT APPROACH SLAB
32 EA DRILLED DOWEL BARS REQ'D
220 SF CONCRETE SIDEWALK 4-INCH
45 LF CONCRETE CURB & GUTTER 30-INCH TYPE D
3 CY TOPSOIL
10 SY MULCH
1 LB SEED MIXTURE NO. 40

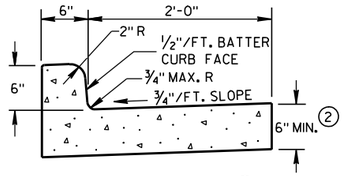
5

5

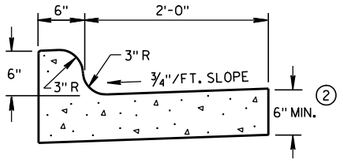
PROJECT NO: 1580-09-73	HWY: USH 8	COUNTY: RUSK	PLAN	SHEET 14	E

Standard Detail Drawing List

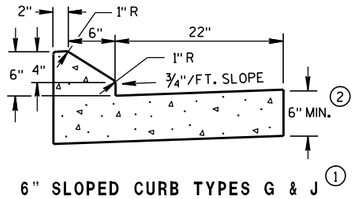
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13B02-07A	CONCRETE BRIDGE APPROACH
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY 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"
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



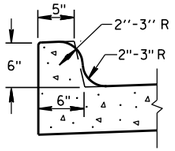
TYPES A & D (1)



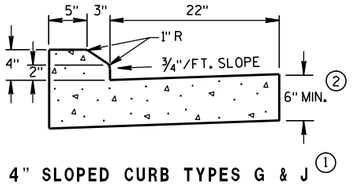
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

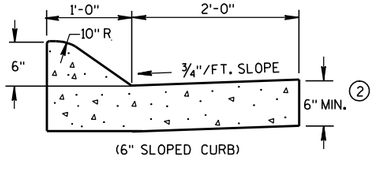


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

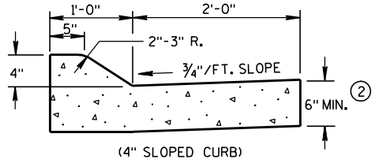


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

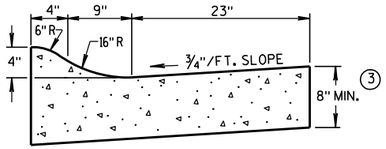


(6" SLOPED CURB)



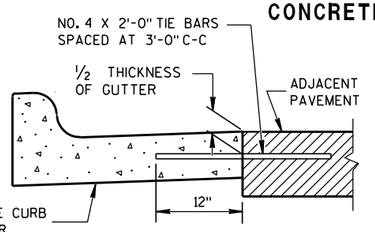
(4" SLOPED CURB)

TYPES A & D (1)

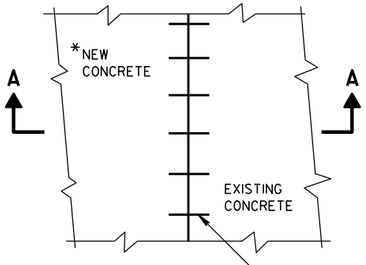


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

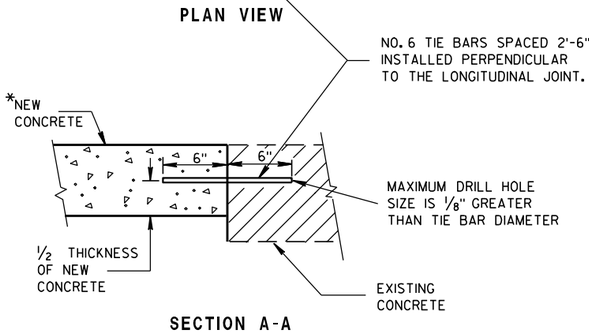


TYPICAL TIE BAR LOCATION (1)



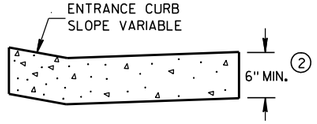
PLAN VIEW

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



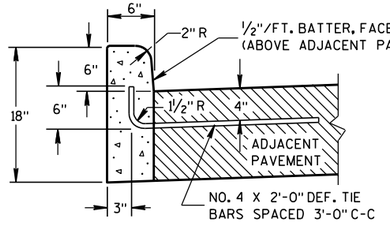
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

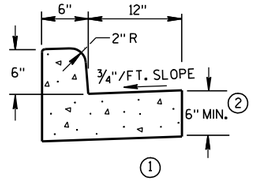


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

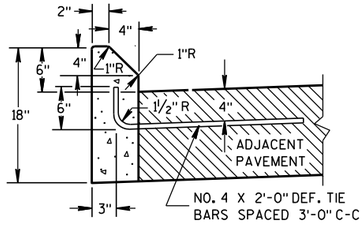


TYPES A & D (1)



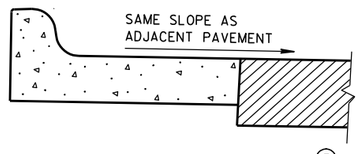
TYPES A & D (1)

CONCRETE CURB & GUTTER 18"



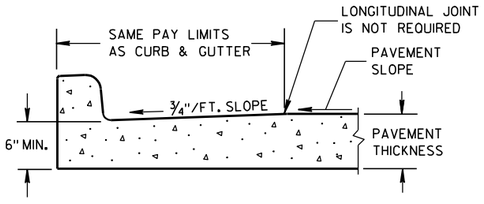
TYPES G & J (1)

CONCRETE CURB

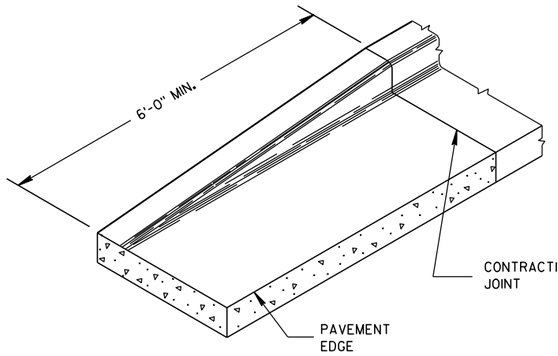


REVERSE SLOPE GUTTER (5)

(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08 — DATE

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

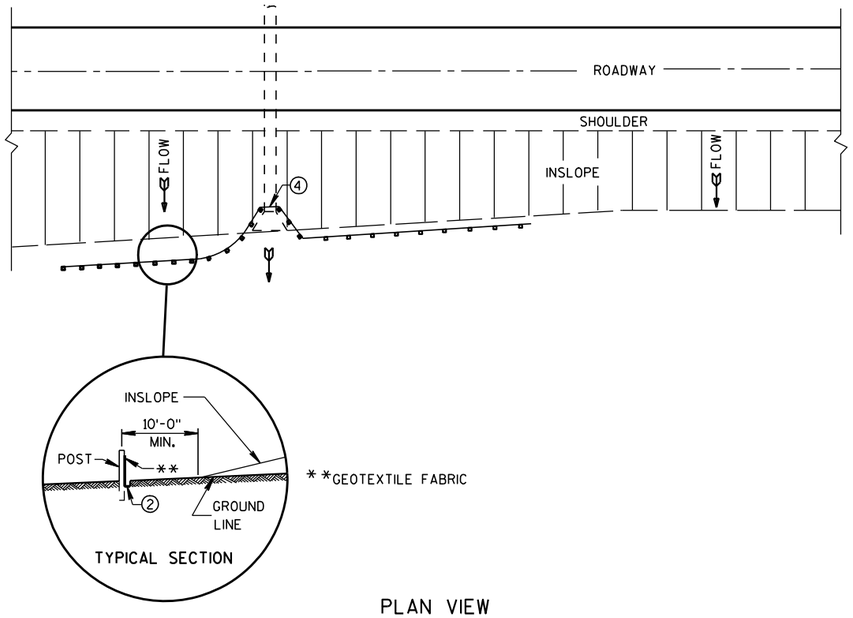
FHWA

6

S.D.D. 8 D 1-17

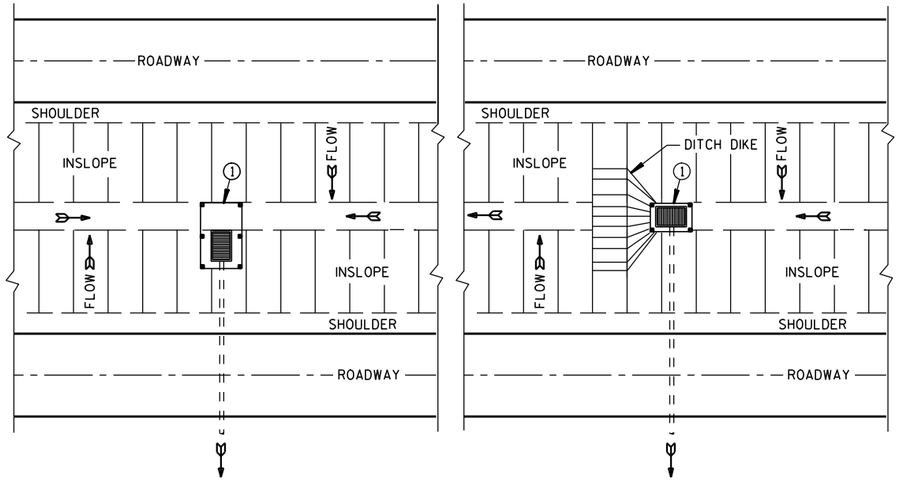
6

S.D.D. 8 D 1-17



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



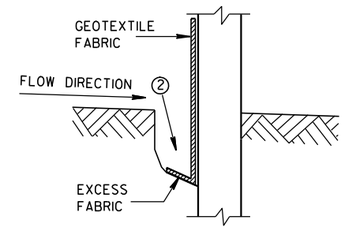
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

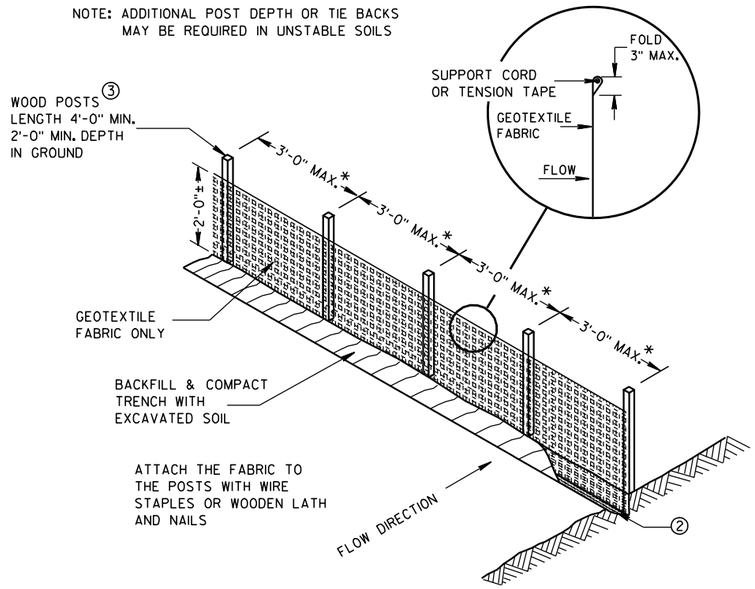
GENERAL NOTES

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

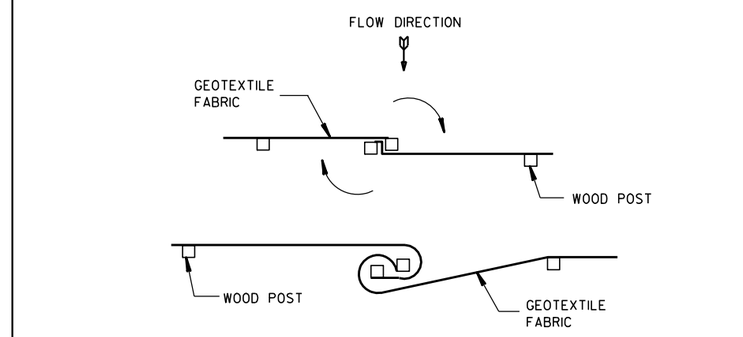
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



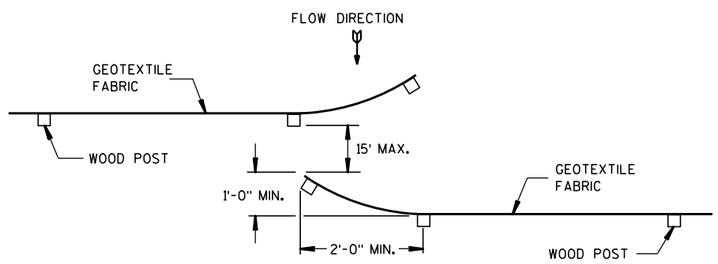
TRENCH DETAIL



SILT FENCE

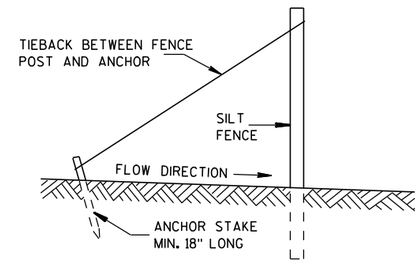


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

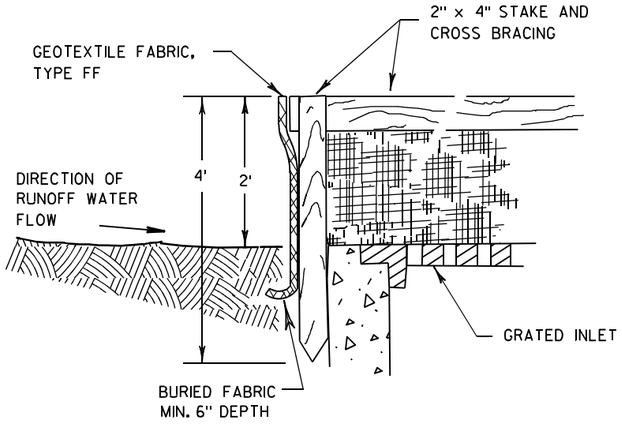
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

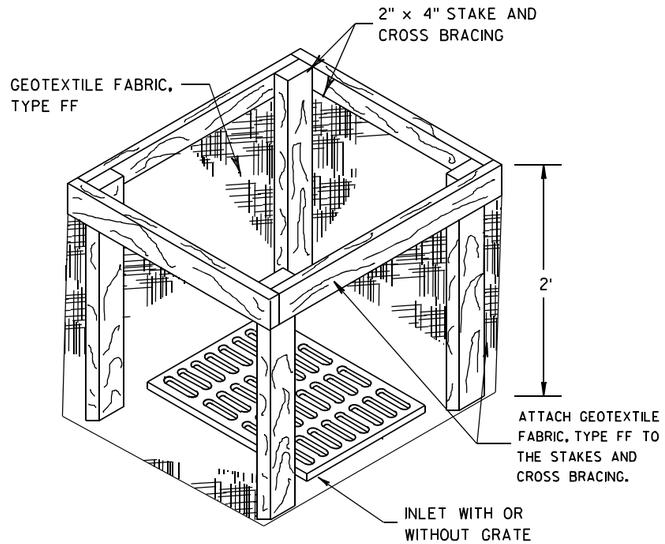
6

S.D.D. 8 E 9-6

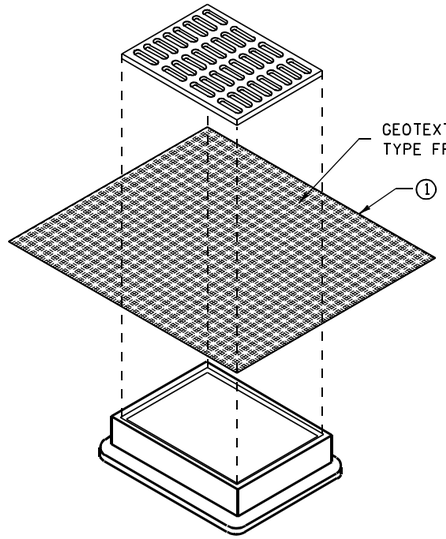
6

S.D.D. 8 E 9-6



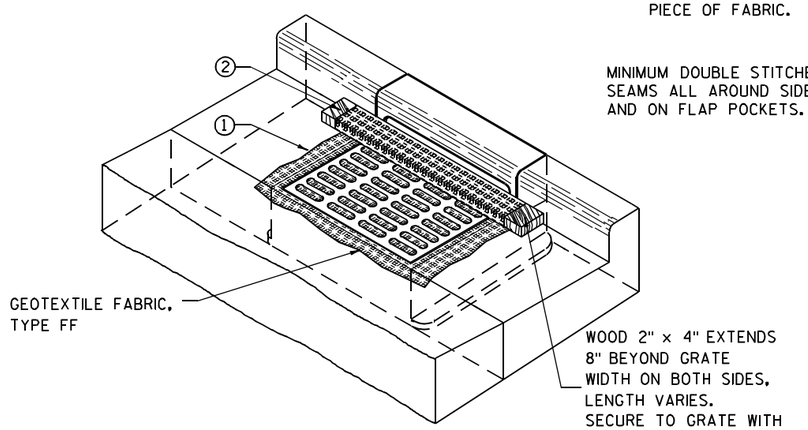


INLET PROTECTION, TYPE A

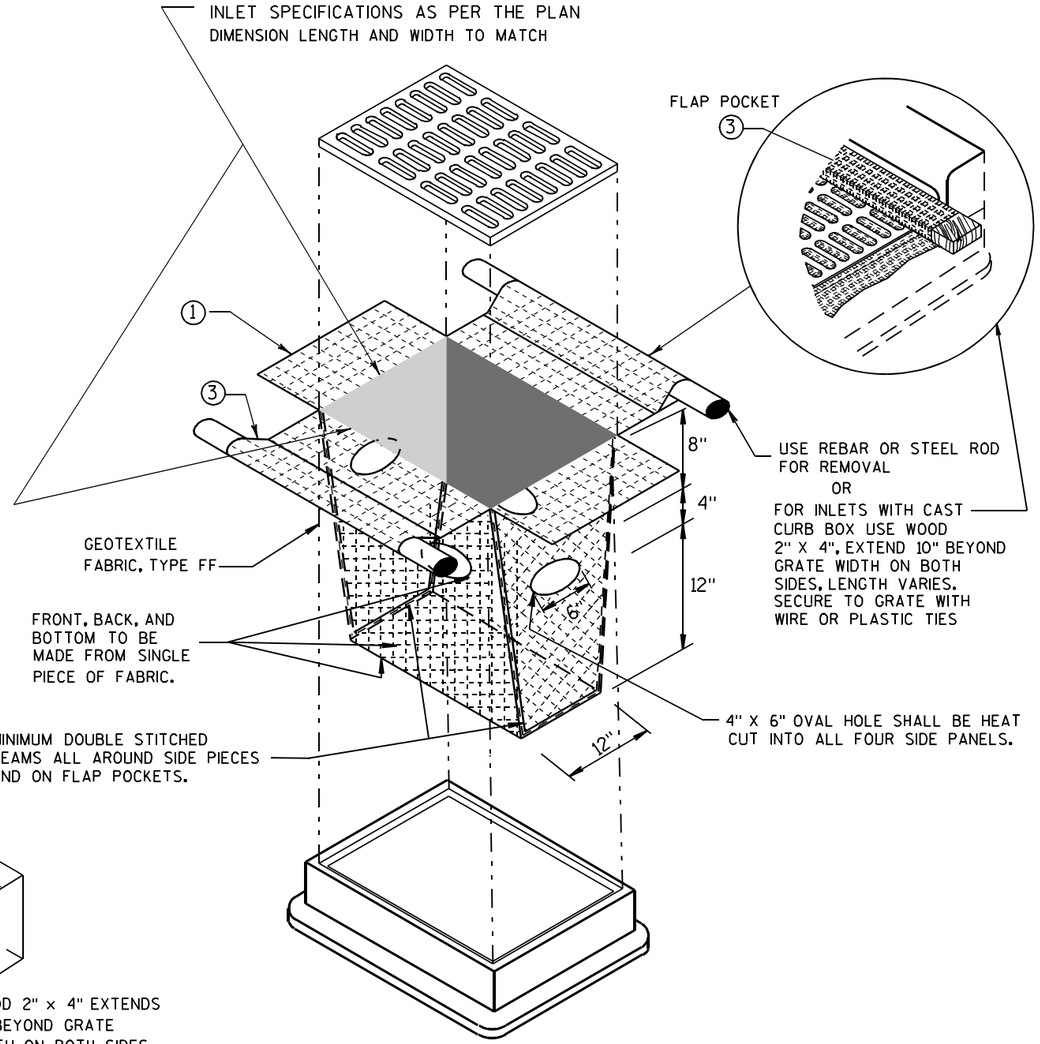


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

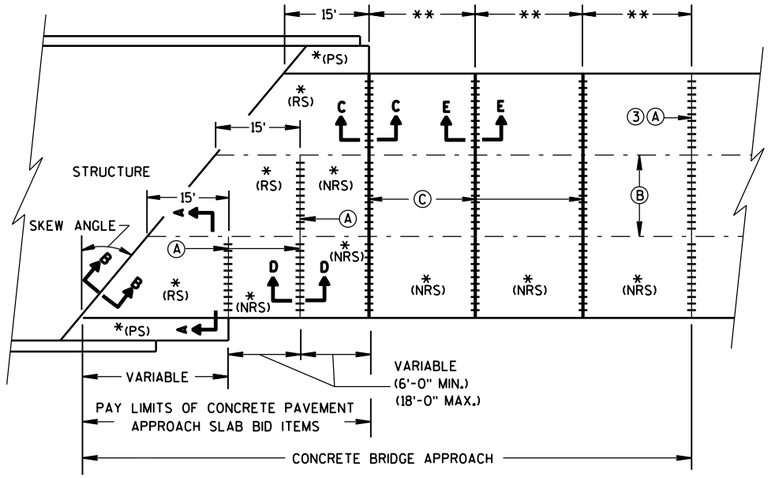
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

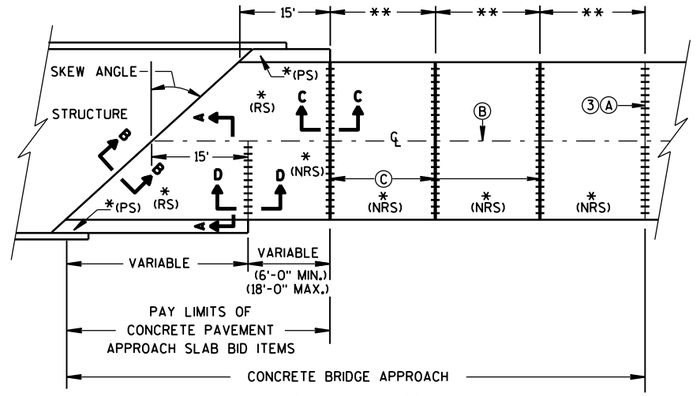
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

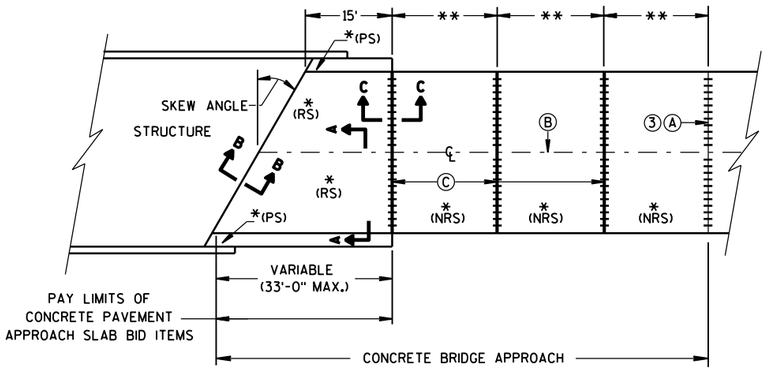
6
S.D.D. 8 E 10-2



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



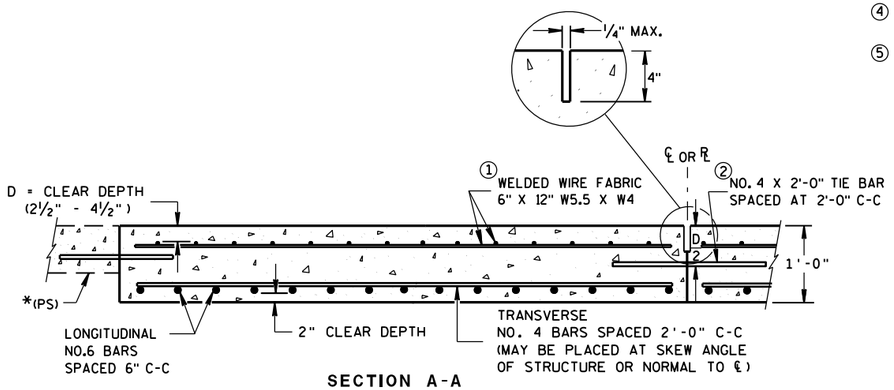
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

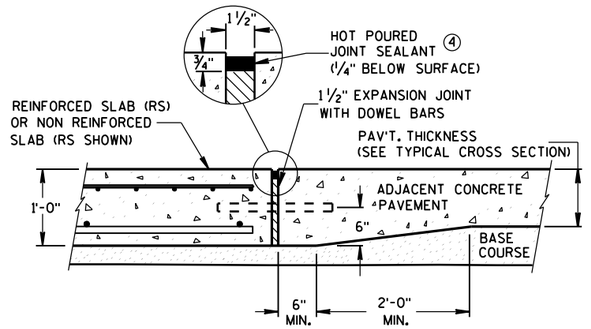
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

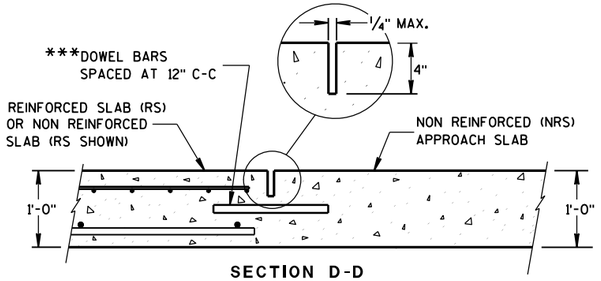
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



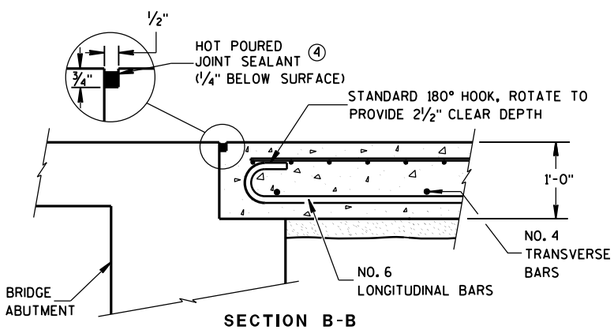
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

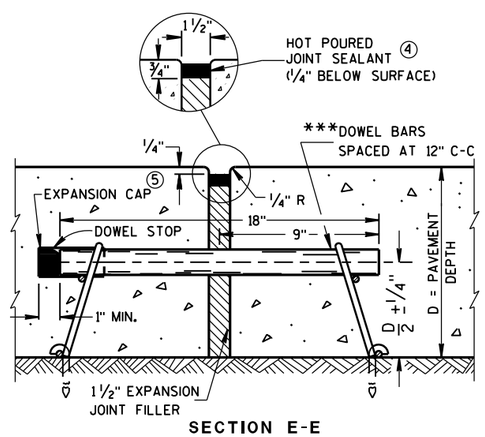
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

1. THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
2. THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
3. DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
4. USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
5. PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

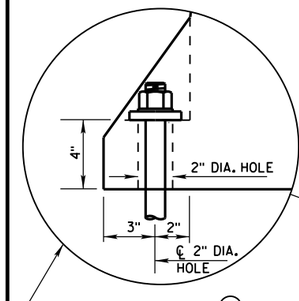
CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

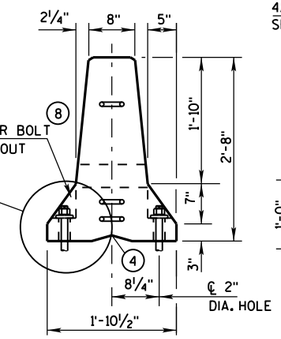
APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
EER
FHWA

6

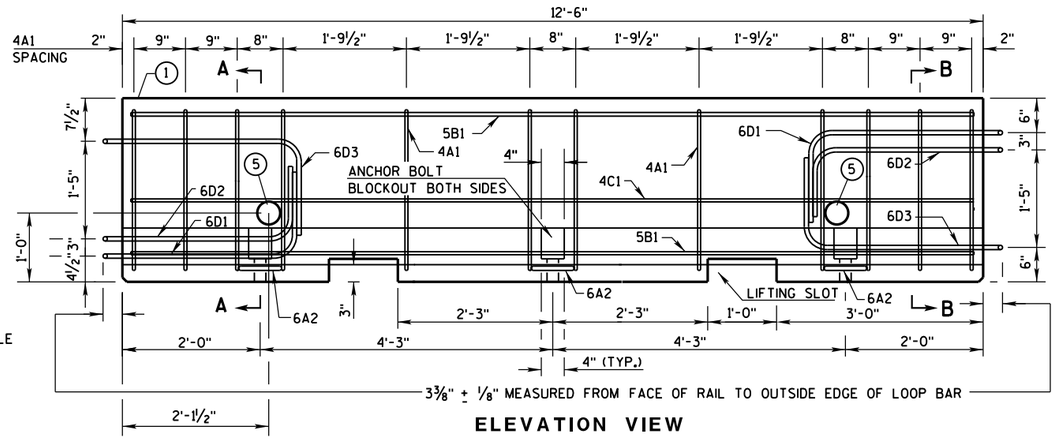
S.D.D. 13 B 2-7a



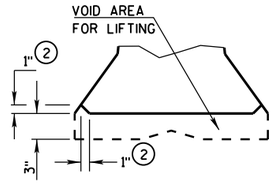
ANCHOR ON TRAFFIC SIDE ONLY WHEN REQUIRED (SEE SHEET D FOR ADDITIONAL ANCHOR DETAIL) (8)



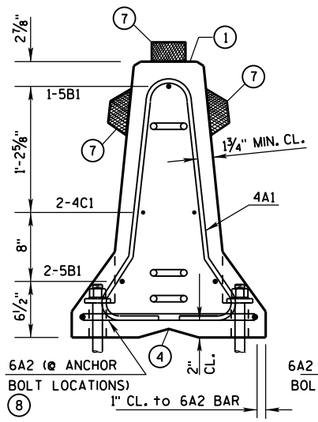
END VIEW



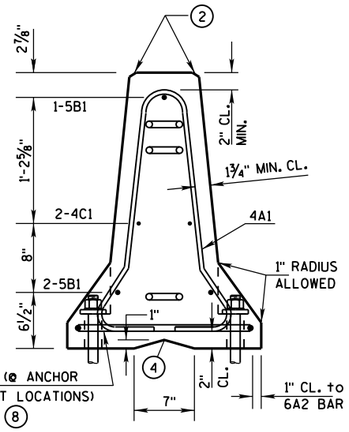
ELEVATION VIEW



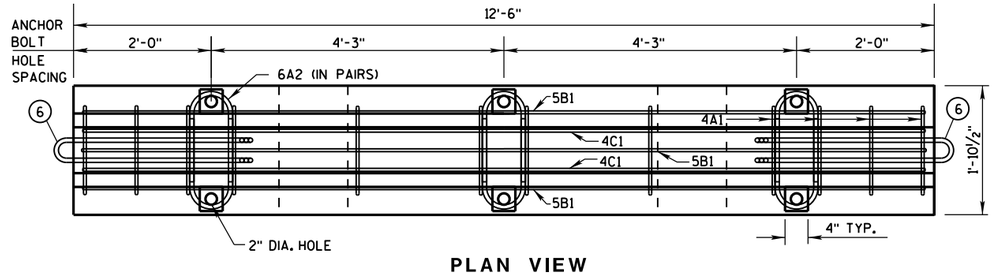
DETAIL "B" LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

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

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

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

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

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

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

INSTALL MECHANICAL OR 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: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

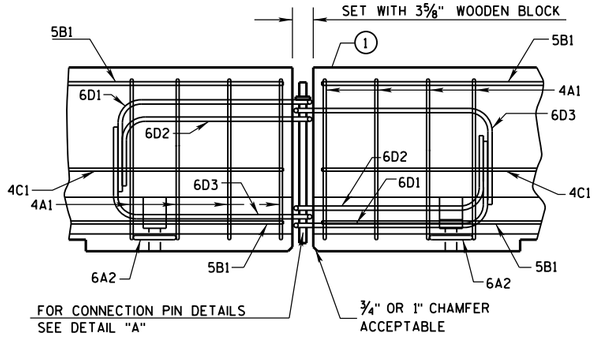
(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

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

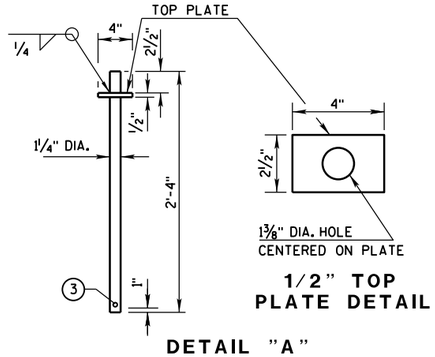
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

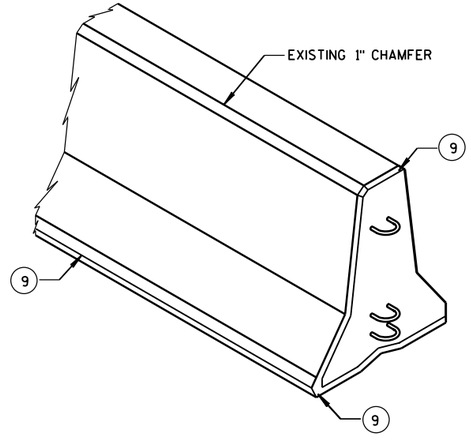


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 20

6

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

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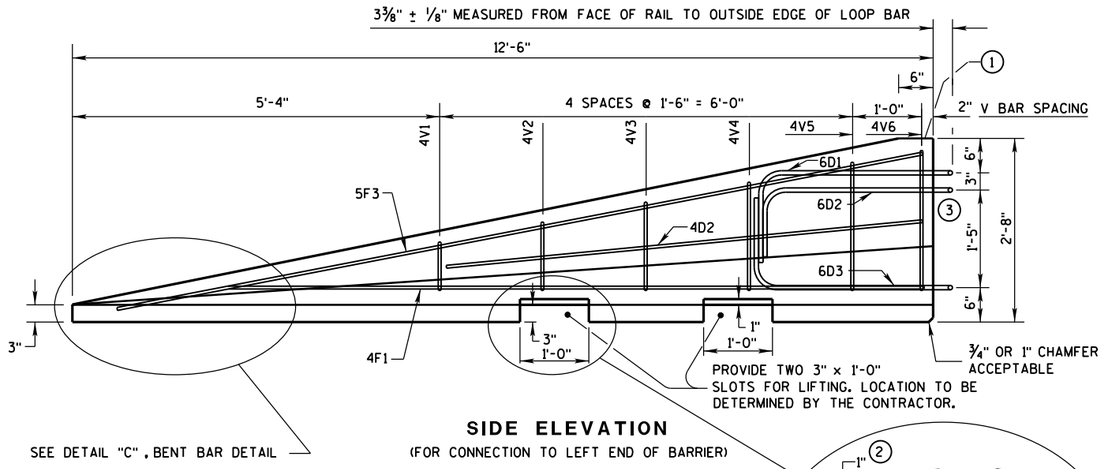
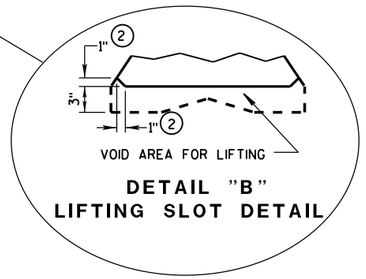
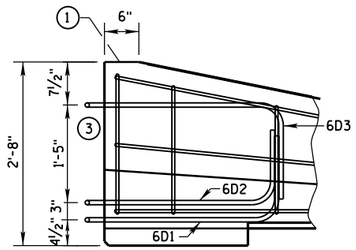
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



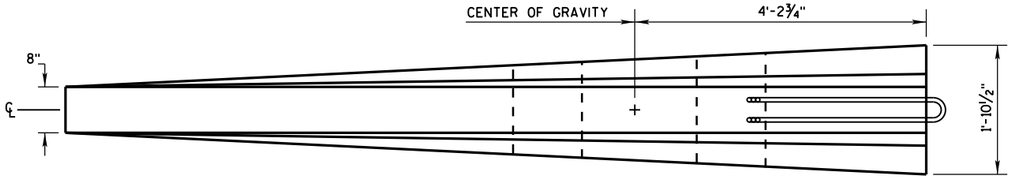
DETAIL "B"
LIFTING SLOT DETAIL



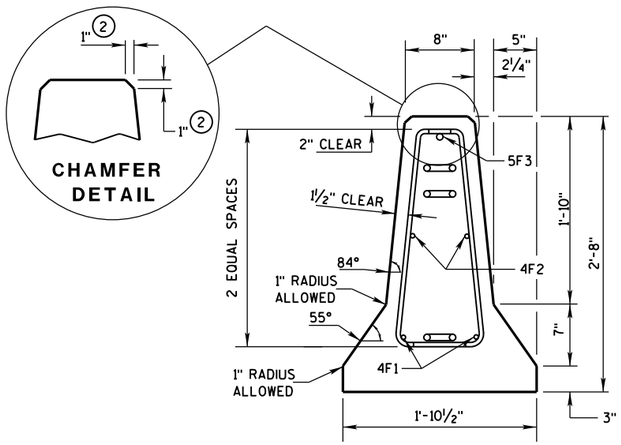
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

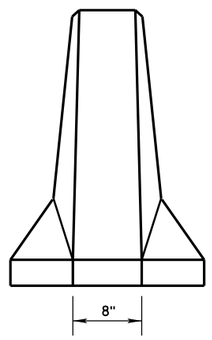
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



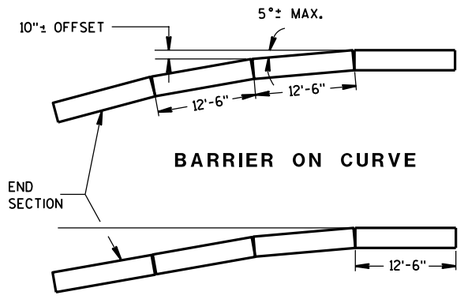
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

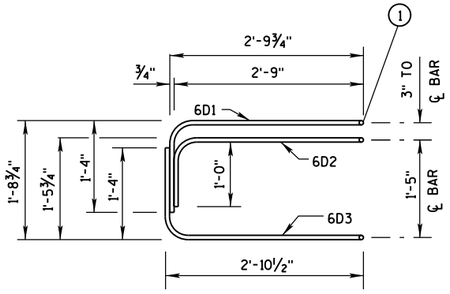
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

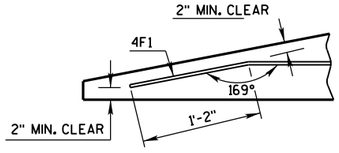
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

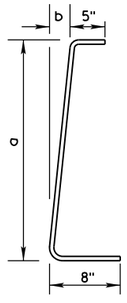
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

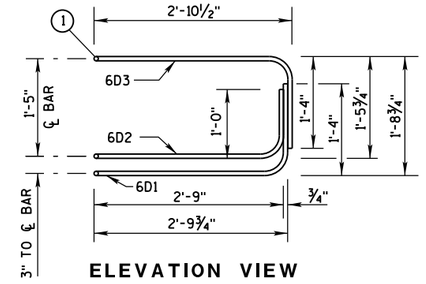
GENERAL NOTES

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

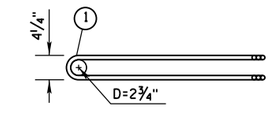
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

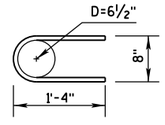
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



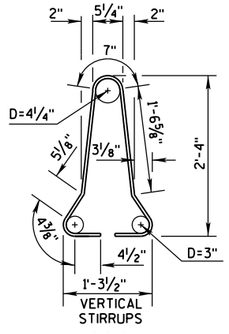
ELEVATION VIEW



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



6A2



4A1

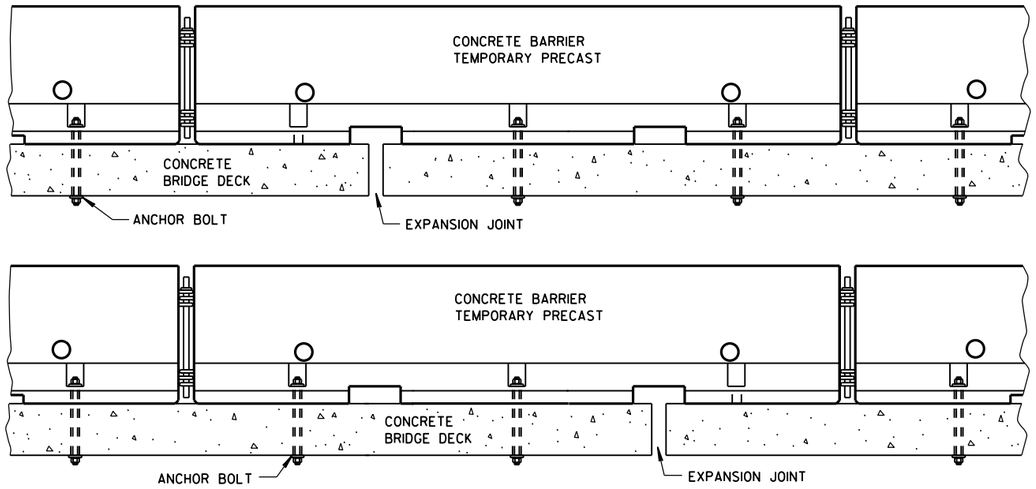
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

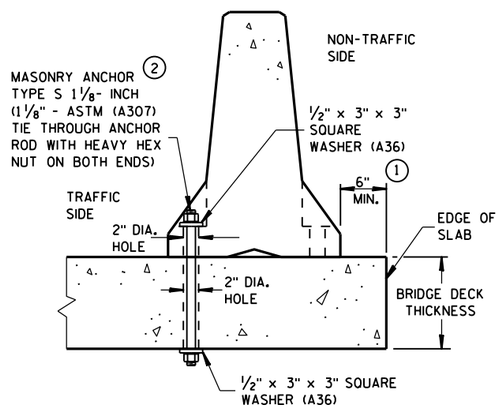
6

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



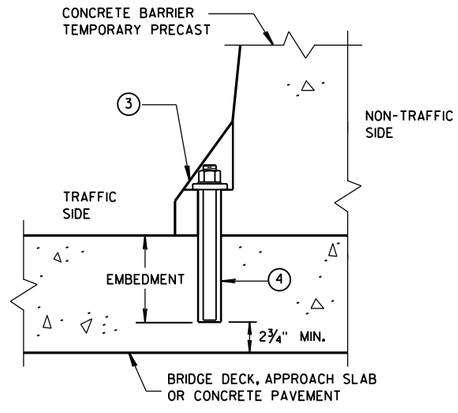
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

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

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

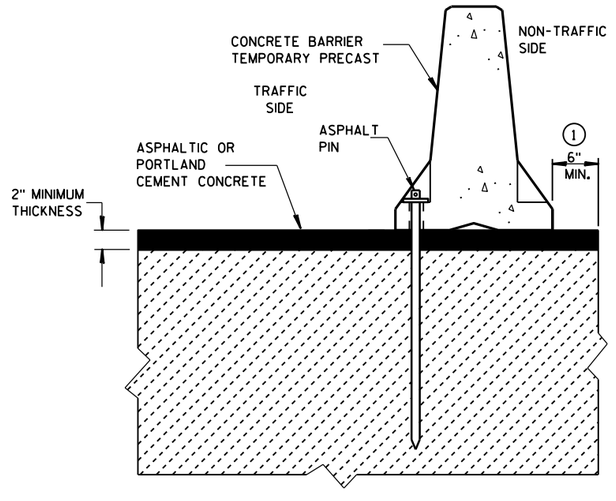
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

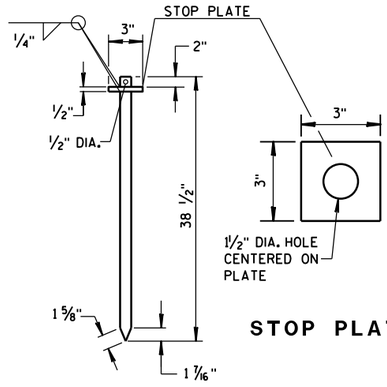
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE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

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

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

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



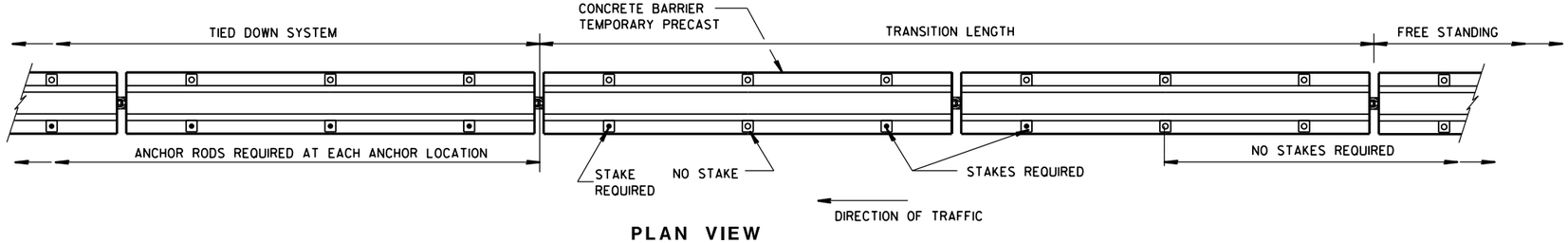


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

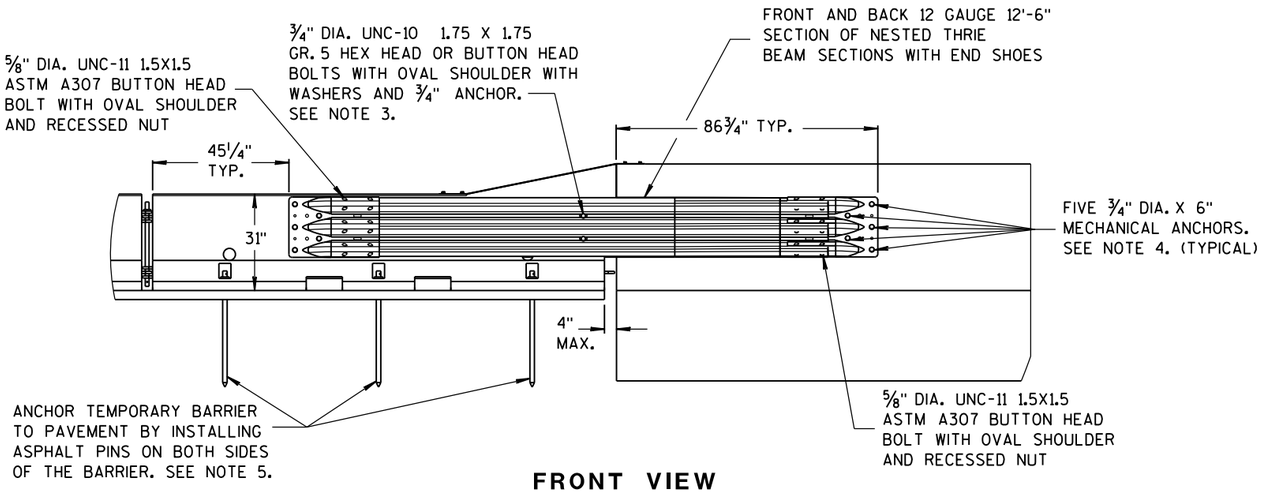
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

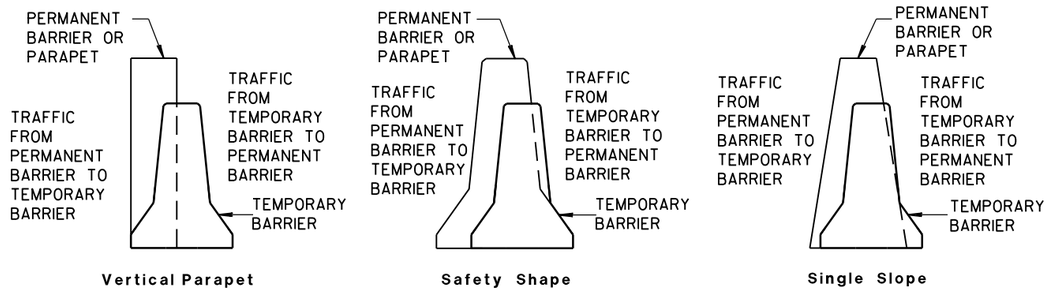
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



FRONT VIEW

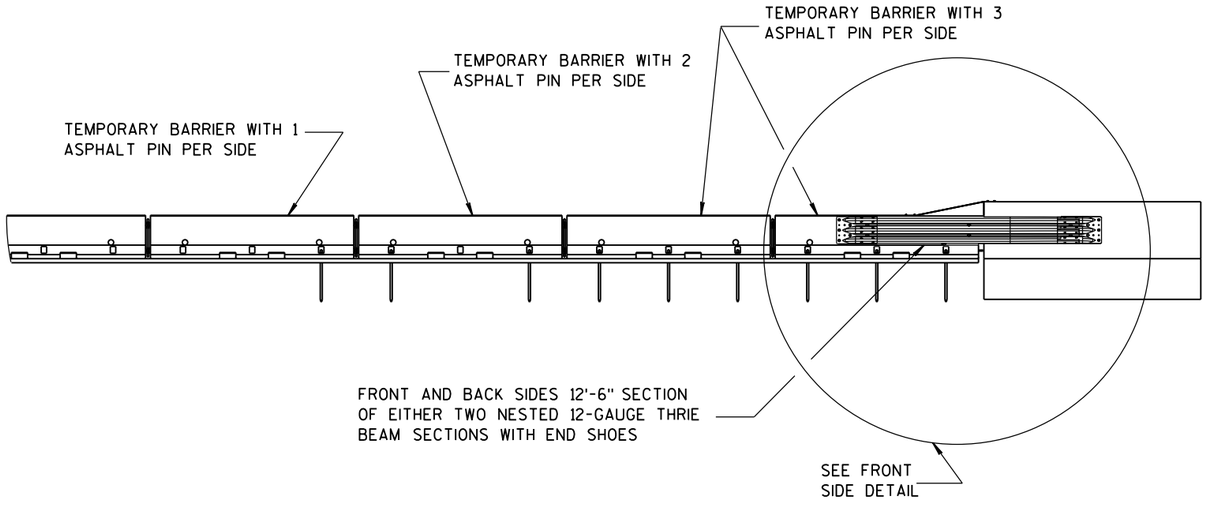


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

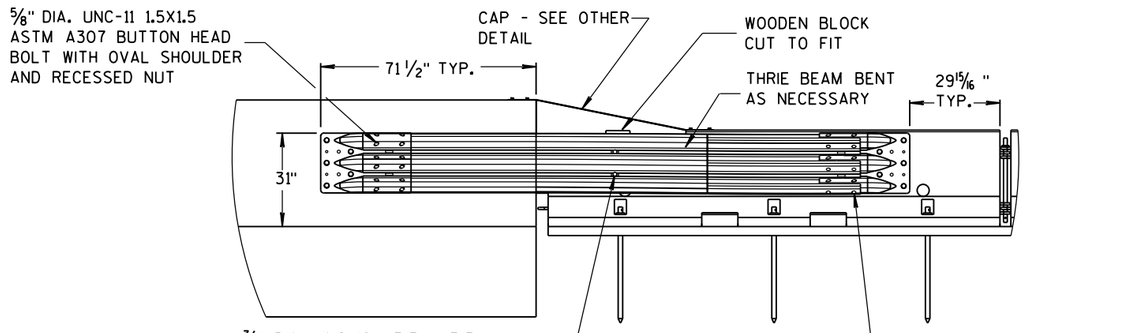
NOTES

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

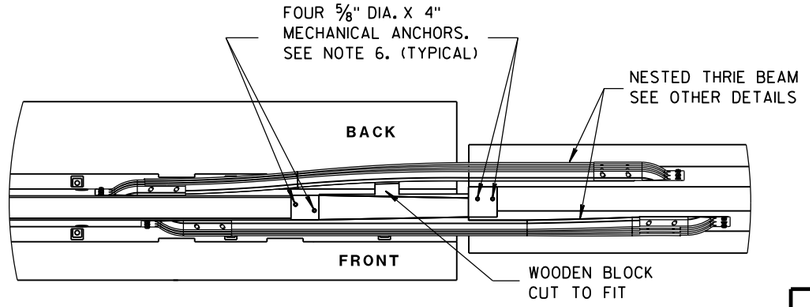
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 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.



FRONT VIEW



BACK VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

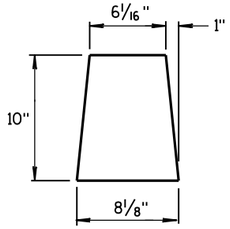
GUSSET 1

GUSSET 2

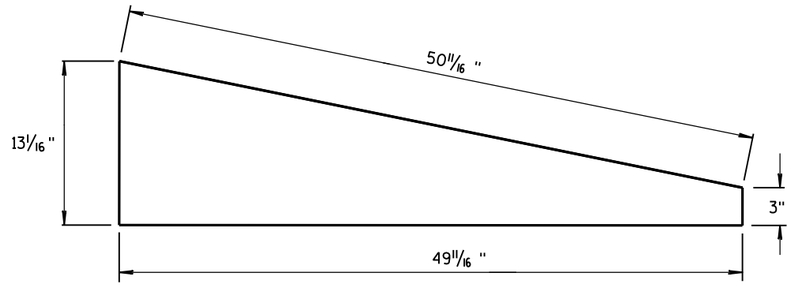
GUSSET 3

GUSSET 4

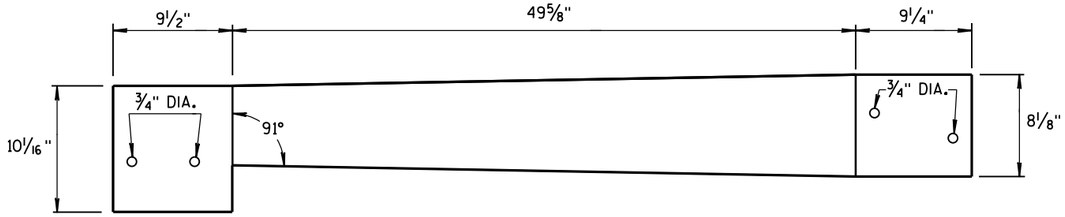
GUSSETS

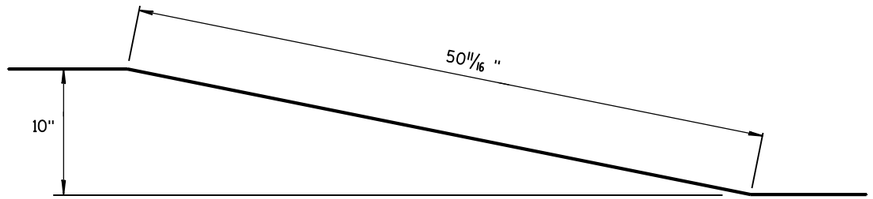


END PLATE

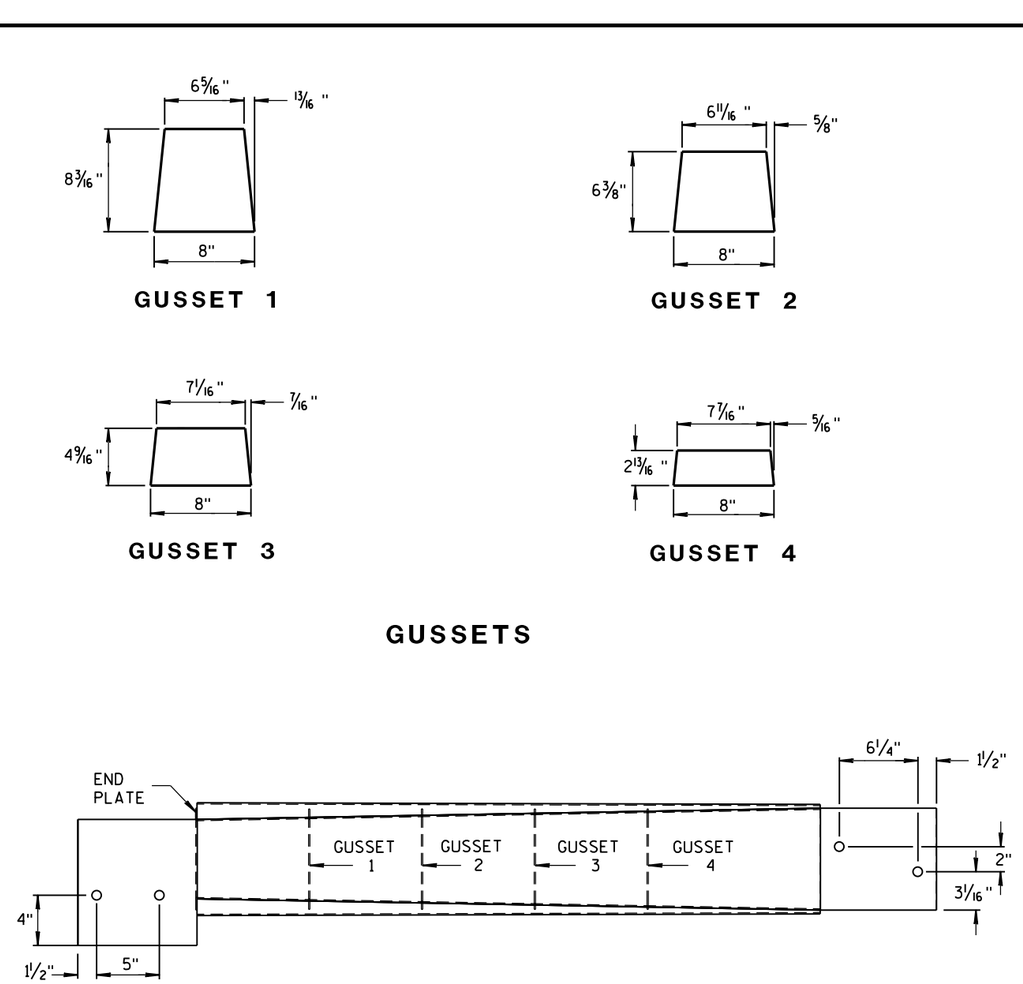


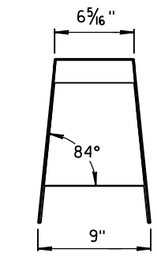
SIDE PLATE





TOP PLATE





SECTION C-C

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.

NOTES

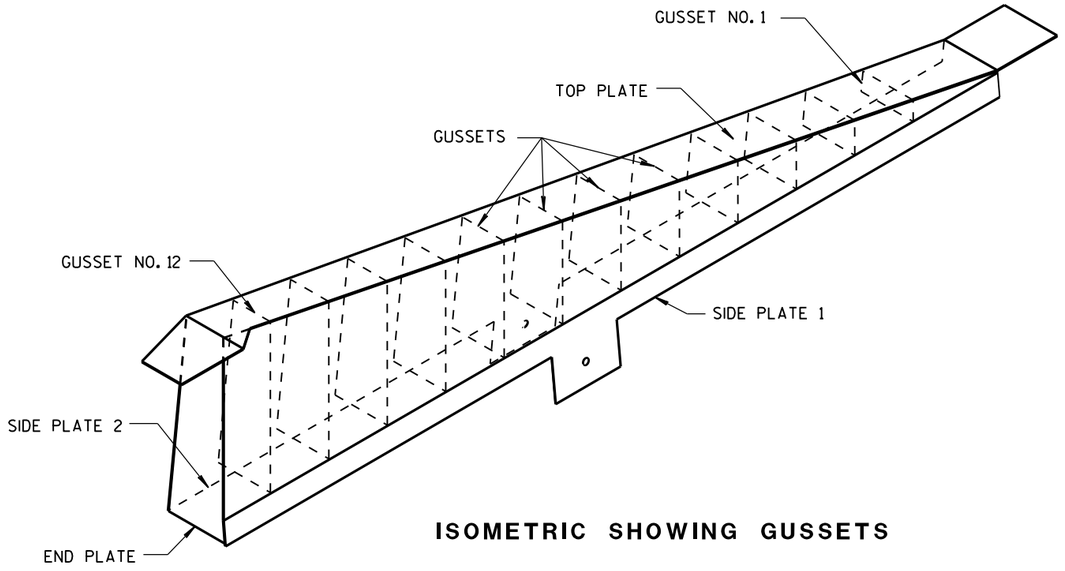
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

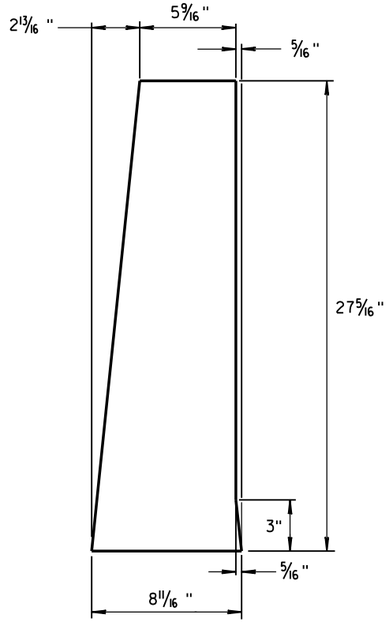
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

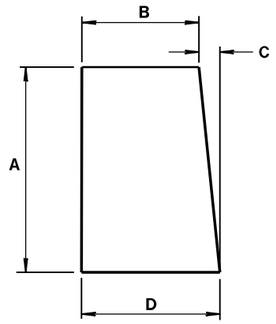


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



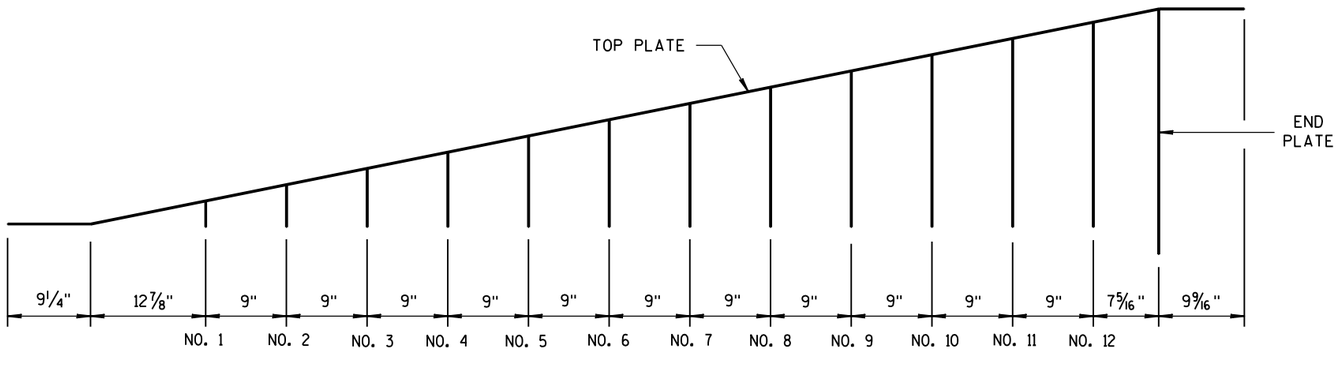
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

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

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

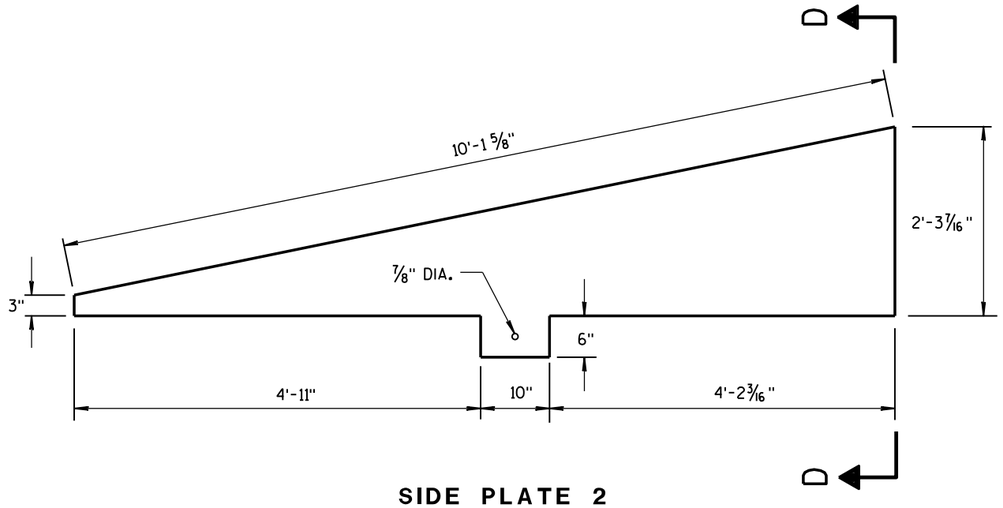
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

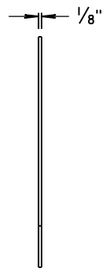
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

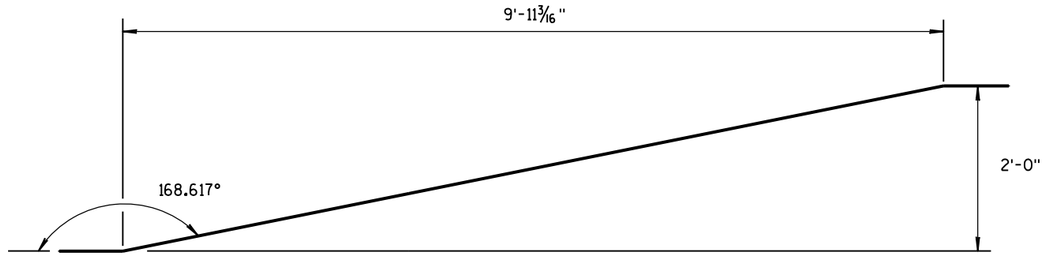
S.D.D. 14 B 7-14g



SIDE PLATE 2

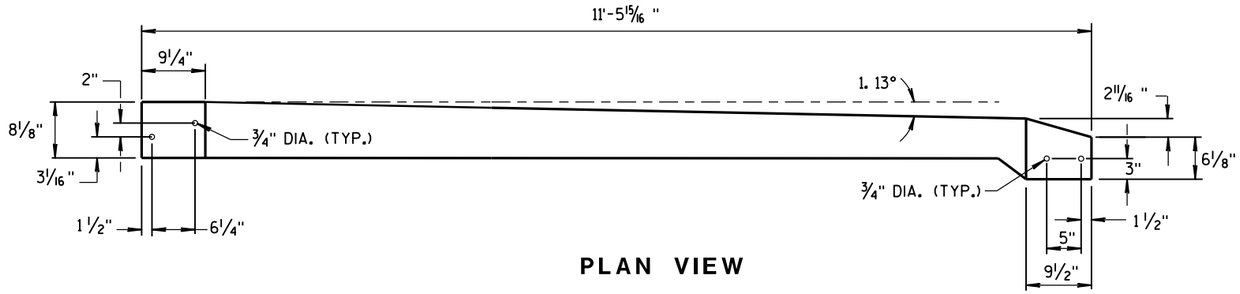


END VIEW



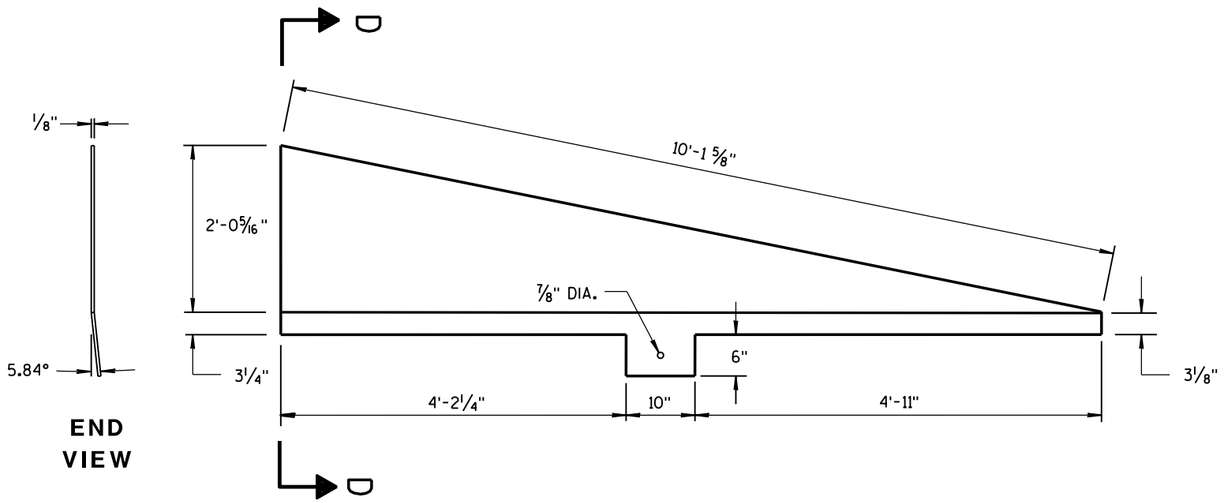
SIDE VIEW

TOP PLATE



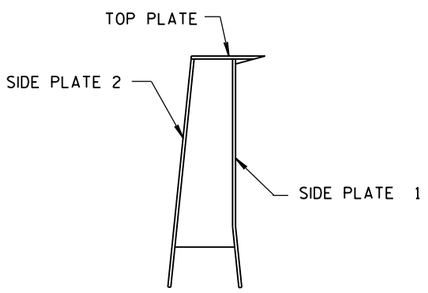
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

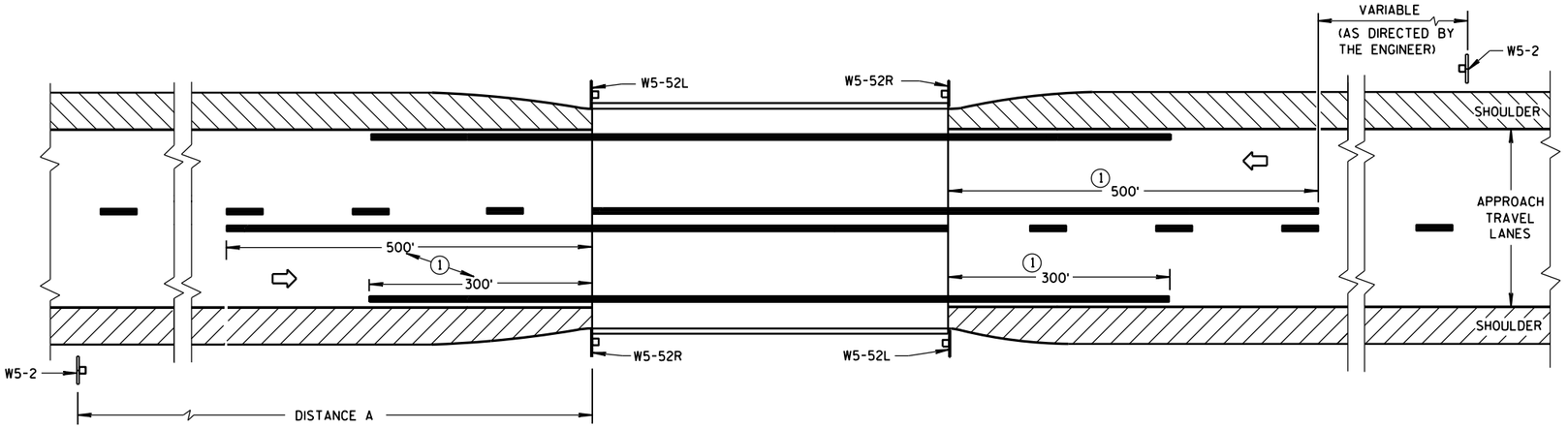
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

6

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

6

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



GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

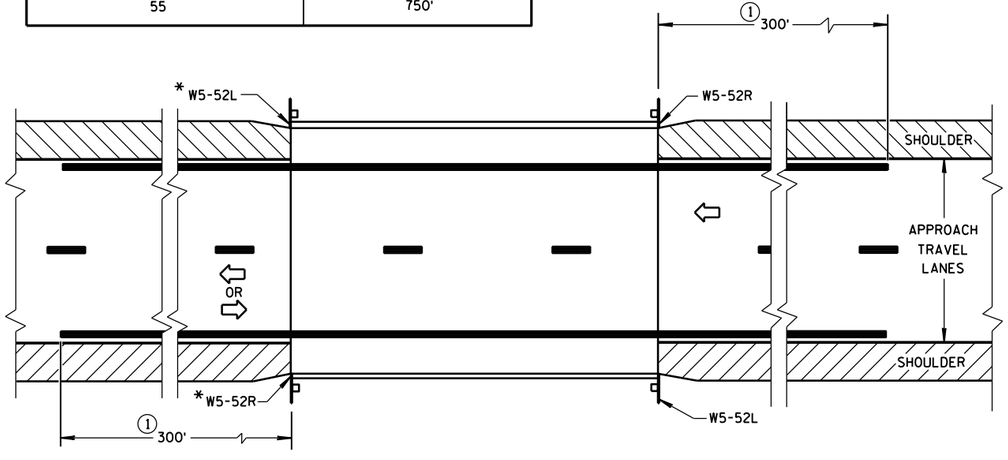
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

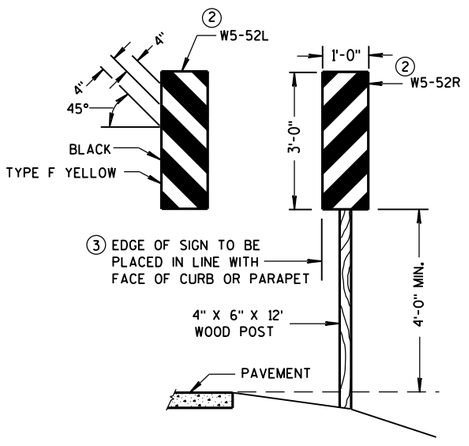


*OMIT ON ONE-WAY TRAVELLED WAYS

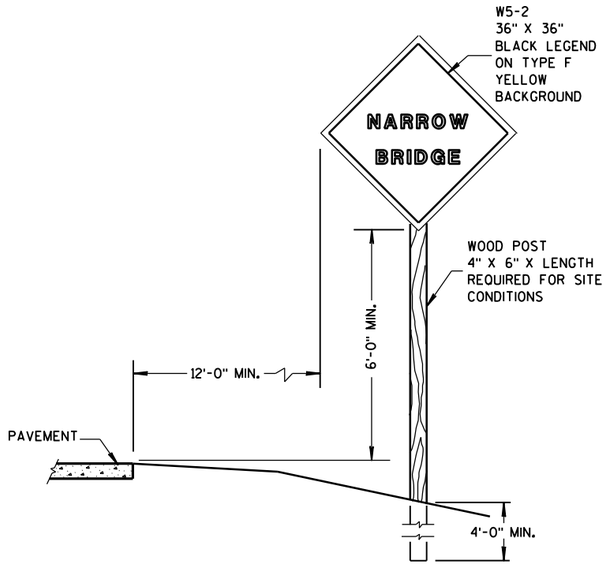
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

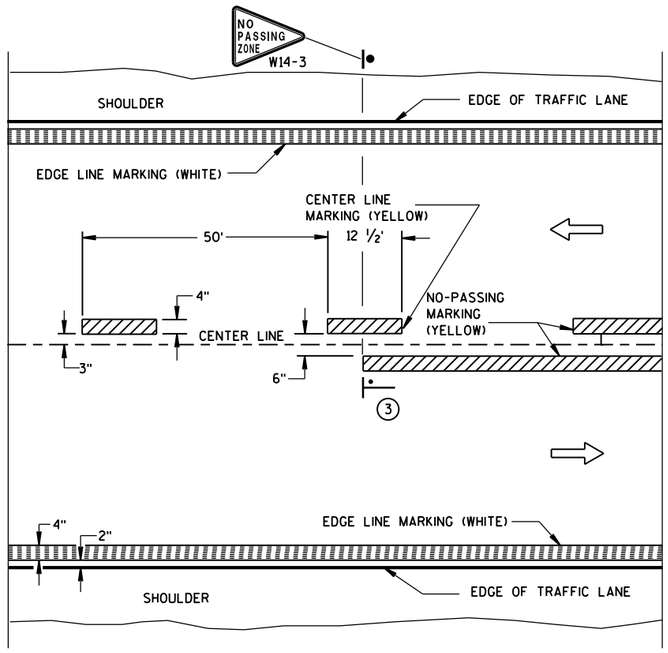
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

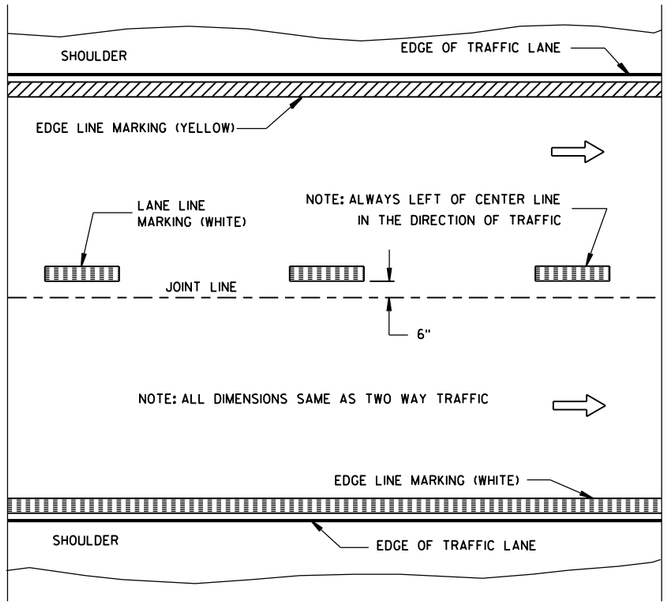
FHWA

6

S.D.D. 15 C 6-7

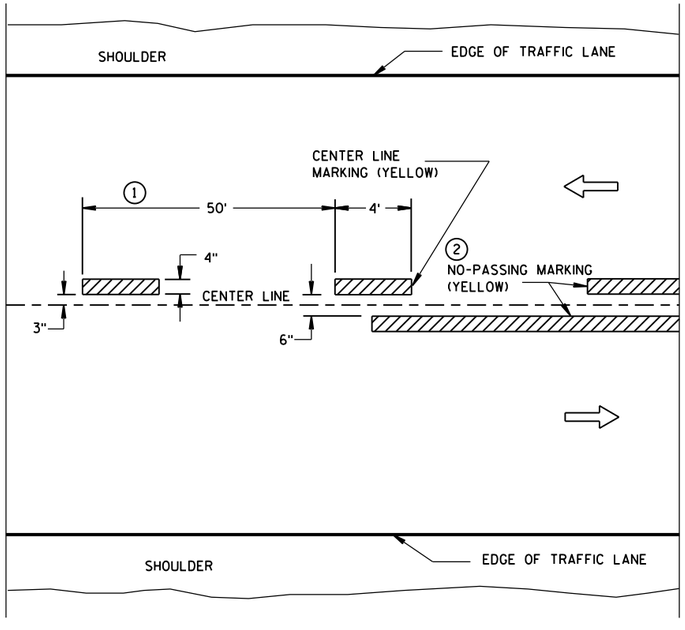


TWO WAY TRAFFIC

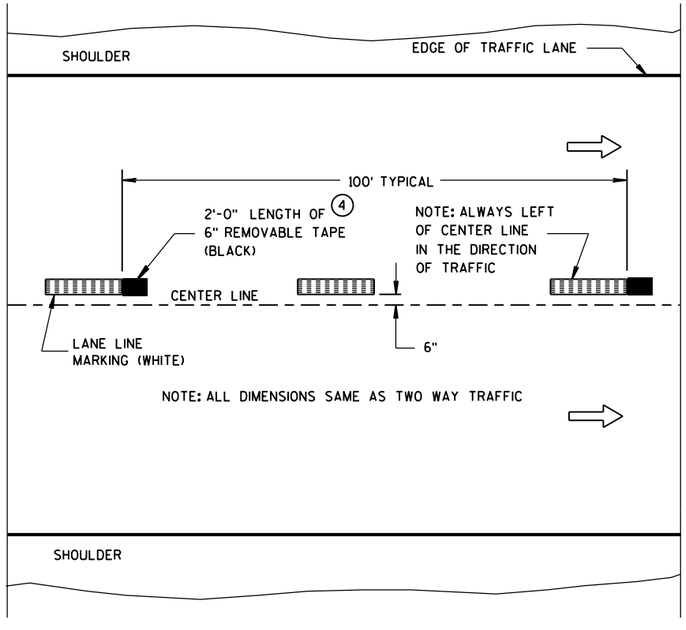


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

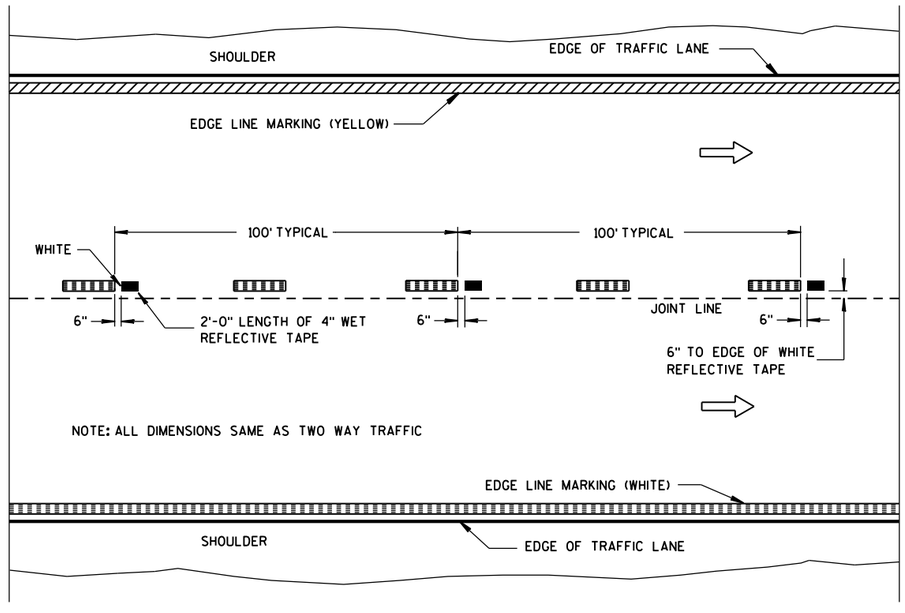
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

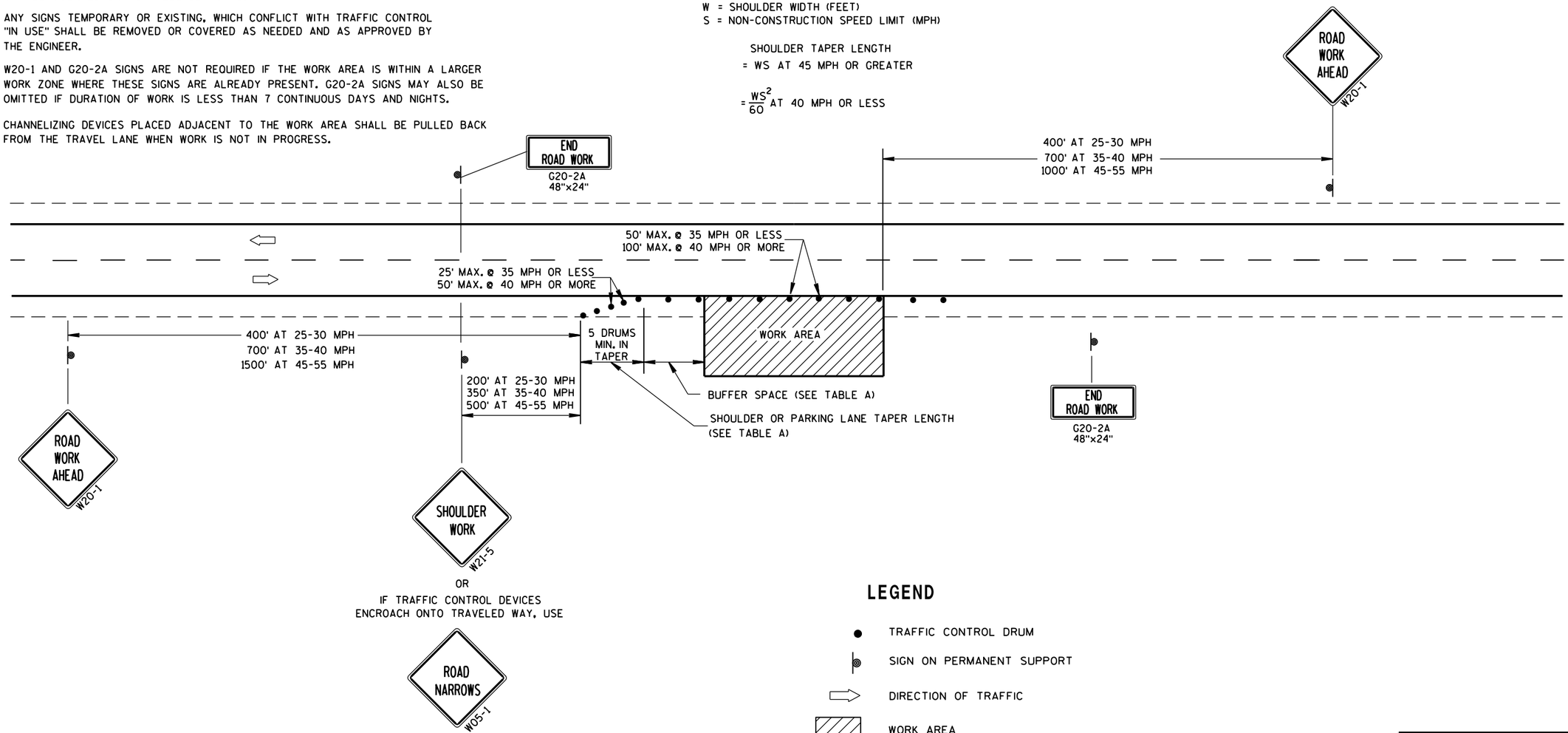
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

$= \frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

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

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

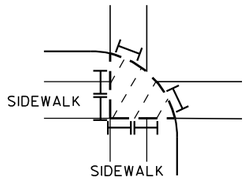
6

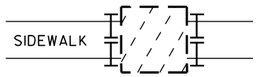
S.D.D. 15 D 28-2

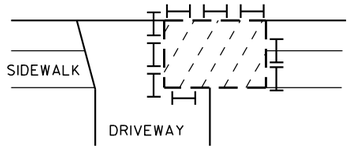
6

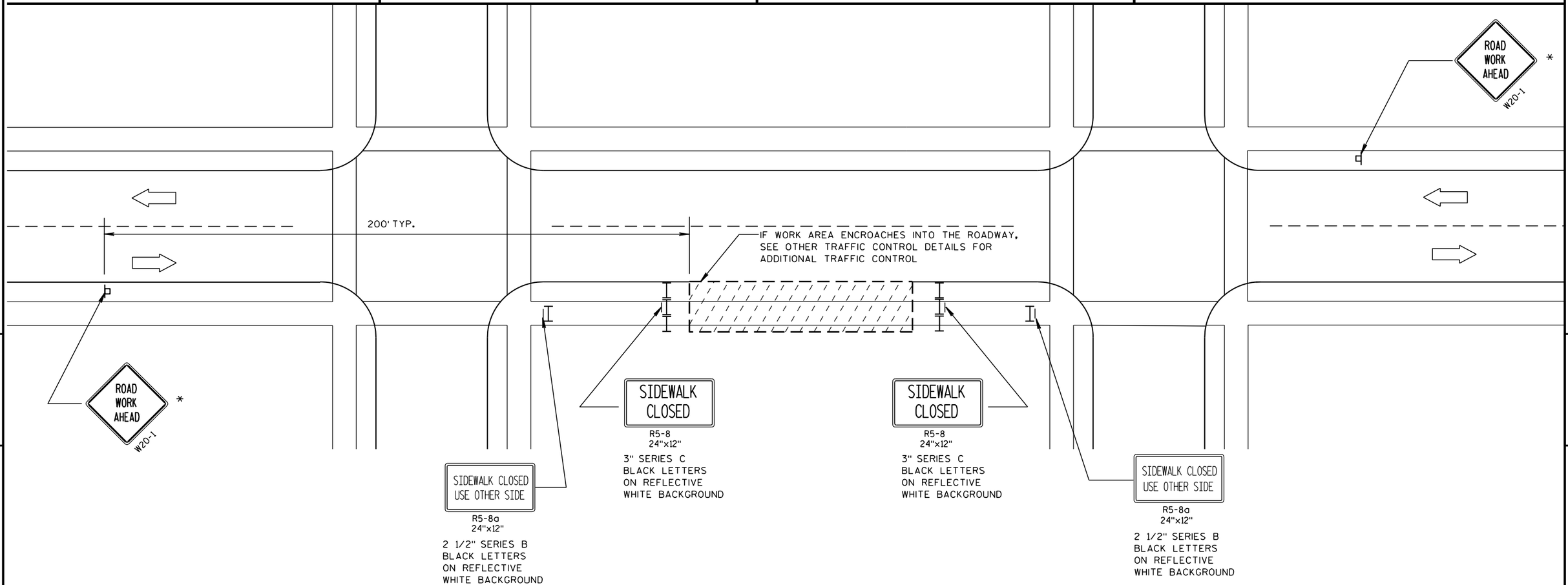
S.D.D. 15 D 28-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2000 DATE

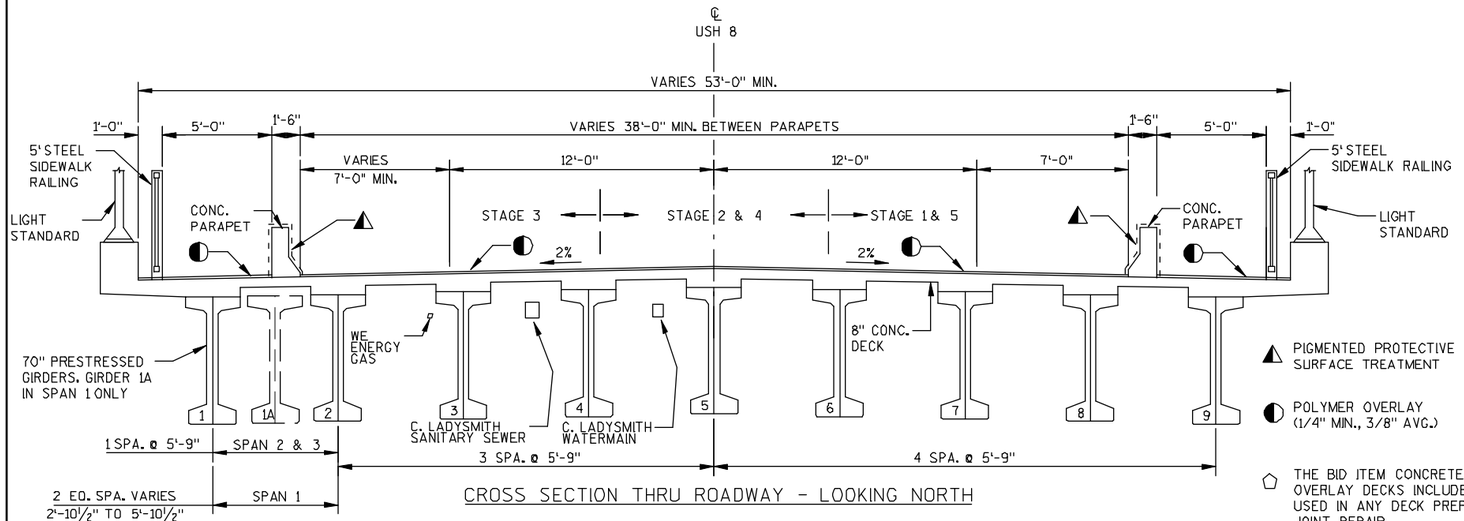
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible]NEER

FHWA

6

S.D.D. 15 D 30-1

STATE PROJECT NUMBER
1580-09-73



CROSS SECTION THRU ROADWAY - LOOKING NORTH

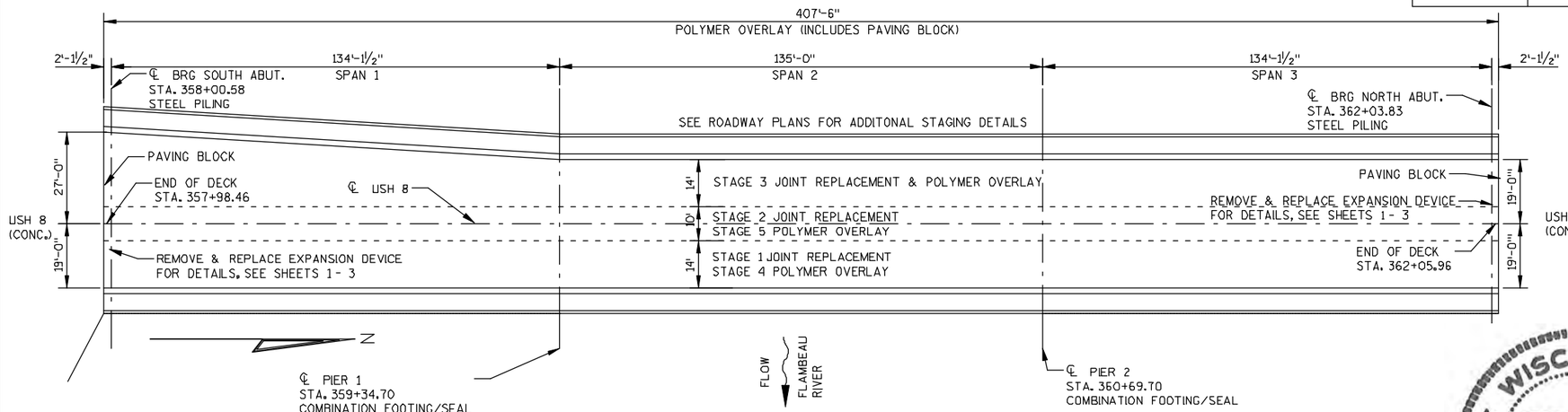
▲ PIGMENTED PROTECTIVE SURFACE TREATMENT

◐ POLYMER OVERLAY (1/4" MIN., 3/8" AVG.)

⬠ THE BID ITEM CONCRETE MASONRY OVERLAY DECKS INCLUDES CONCRETE USED IN ANY DECK PREPARATION AND JOINT REPAIR

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	SUPER.	TOTALS
502.3100	EXPANSION DEVICE STRUCTURE B-54-065	LS	1	1
502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	575	575
502.5005	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	114	114
505.0605	BAR COUPLERS NO. 4	EACH	20	20
505.0904	BAR COUPLERS NO. 5	EACH	12	12
505.0905	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1990	1990
509.0301	PREPARATION DECKS TYPE 1	SY	1	1
509.0302	PREPARATION DECKS TYPE 2	SY	1	1
509.1000	JOINT REPAIR	SY	50	50
509.1500	CONCRETE SURFACE REPAIR	SF	200	200
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	15	15
509.5100.S	POLYMER OVERLAY	SY	2325	2325
509.9020.S	EPOXY CRACK SEALING	LF	40	40
509.9050.S	CLEANING PARAPETS	LF	815	815
514.0900	ADJUSTING FLOOR DRAINS	EACH	2	2
SPV.0090.02	SAWING PAVEMENT DECK PREPARATION AREAS	LF	150	150



PLAN B-54-65

THREE-SPAN PRESTRESSED GIRDER BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN RATING = HS20
INVENTORY RATING = HS23
OPERATING RATING = HS48
WISCONSIN STANDARD PERMIT VEHICLE LOAD = 250 KIPS

NOTE:
RATINGS ARE BASED ON A SUPERIMPOSED DEADLOAD OF 5 LBS/SF FOR THE EPOXY OVERLAY

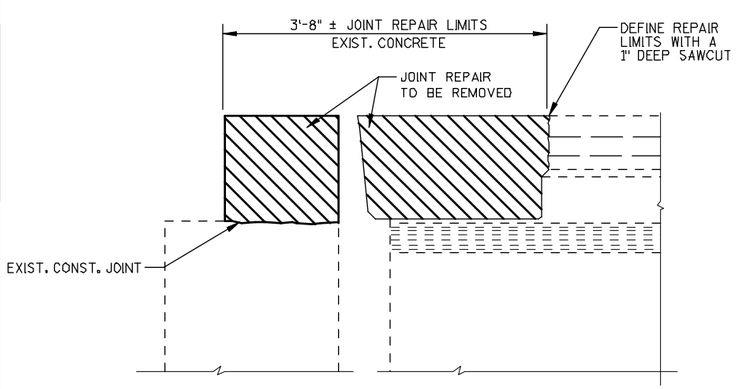
GENERAL NOTES

DRAWING SHALL NOT BE SCALED

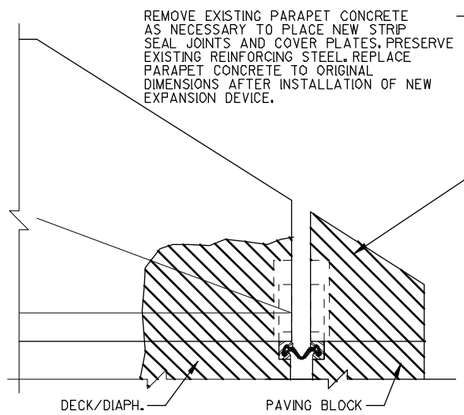
DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT

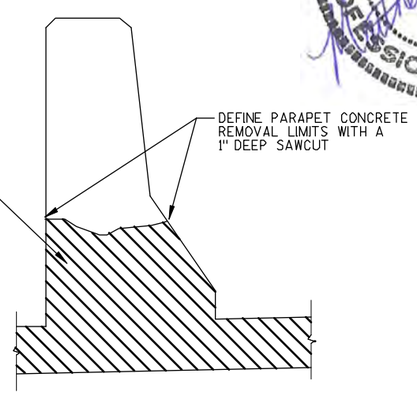
ANY EXCAVATION REQ'D TO COMPLETE THE OVERLAY OR THE PAVING BLOCK AT ABUTS. IS INCIDENTAL TO THE BID ITEM CONCRETE MASONRY OVERLAY DECKS



REMOVAL LIMITS AT EXISTING JOINT



REMOVAL LIMITS AT PARAPET - SIDE VIEW



REMOVAL LIMITS AT PARAPET - SECT. VIEW

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MATT GUNDRY (715) 832-8400

LIST OF DRAWINGS

1. GENERAL PLAN
2. JOINT DETAILS
3. JOINT DETAILS

NO.	DATE	REVISION	BY

FAA CONSULTING ENGINEERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 2/23/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-54-065

U.S.H. 8 OVER FLAMBEAU RIVER

COUNTY	TOWN/CITY/VILLAGE
RUSK	LADYSMITH

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MJG	RMJ	RMJ	

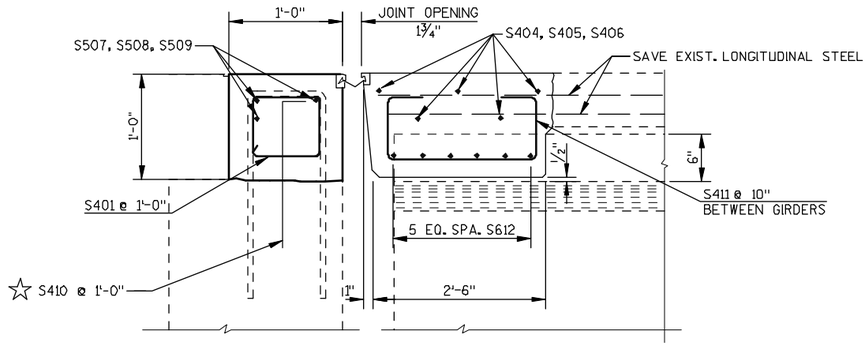
GENERAL PLAN

SHEET 1 OF 3
32

8

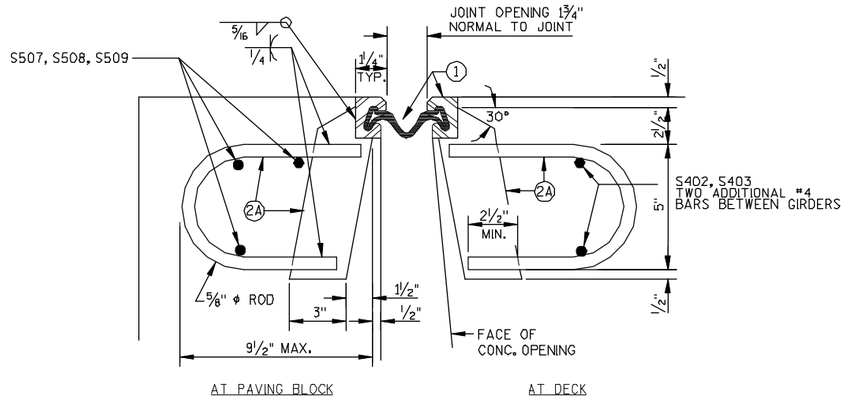
8

STATE PROJECT NUMBER
1580-09-73



PAVING BLOCK & DIAPHRAM DETAILS

☆ MASONRY ANCHORS TYPE L NO. 4 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN LEG AS NECESSARY TO FIT.

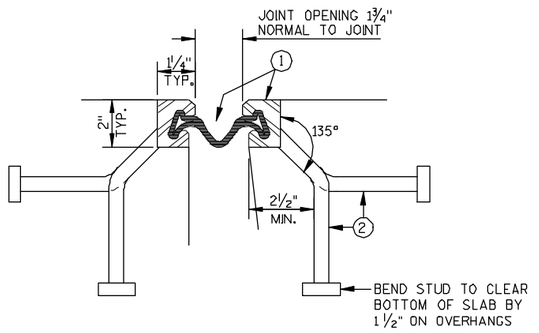


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN GIRDERS
1A & 8 (S. ABUT.) OR 2 & 8 (N. ABUT.)

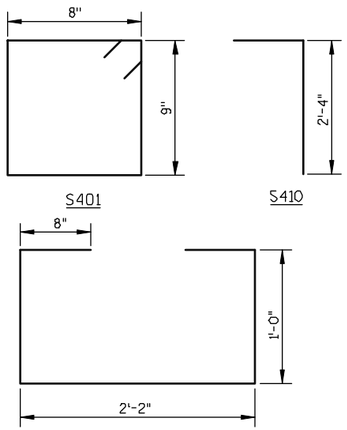
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS ⅝"ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.
7. ¾"ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"ϕ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.
11. SIDEWALK COVER PLATE ⅜" X 2'-0" X LIMITS SHOWN WITH HOLES FOR NO. 7. GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK & AT PARAPETS, MEDIANS & SIDEWALKS



BILL OF BARS

BAR MARK	COAT	NO. REQ'D. S. ABUT.	NO. REQ'D. N. ABUT.	LENGTH	BENT	LOCATION
S401	X	60	52	3'-4"	X	PAVING BLOCK - VERT.
S402	X	2	-	5'-4"		EXP. JOINT BETWEEN GIRDERS 1A & 2
S403	X	12	12	5'-2"		EXP. JOINT BETWEEN GIRDERS 2 THRU 8
S404	X	5	10	21'-4"		DECK - TRANS. STAGE 1 & 3 *
S405	X	5	5	10'-0"		DECK - TRANS. STAGE 2 *
S406	X	5	-	29'-4"		DECK - TRANS. STAGE 3 *
S507	X	3	6	21'-4"		PAVING BLOCK - TRANS. STAGE 1 & 3 *
S508	X	3	3	10'-0"		PAVING BLOCK - TRANS. STAGE 2 *
S509	X	3	-	29'-4"		PAVING BLOCK - TRANS. STAGE 3 *
S410	X	60	52	3'-1"	X	PAVING BLOCK VERT.
S411	X	36	32	5'-2"	X	DIAPH. STIRRUPS
S612	X	54	48	2'-11"		DIAPH. BOTTOM TRANS.

* BAR COUPLERS REQ'D TO PROVIDE CONTINUITY OF TRANSVERSE BARS IN DECK AND PAVING BLOCK. BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

GENERAL NOTES

DRAWING SHALL NOT BE SCALED

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGING, HANDLING, CROWN MATCHING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

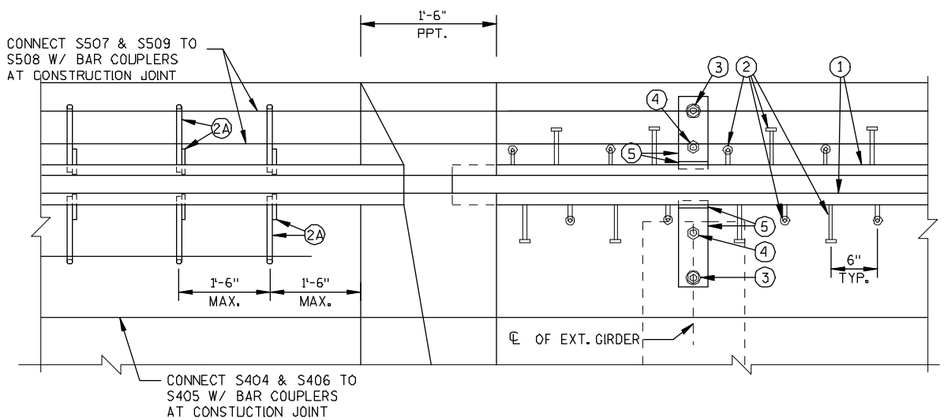
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

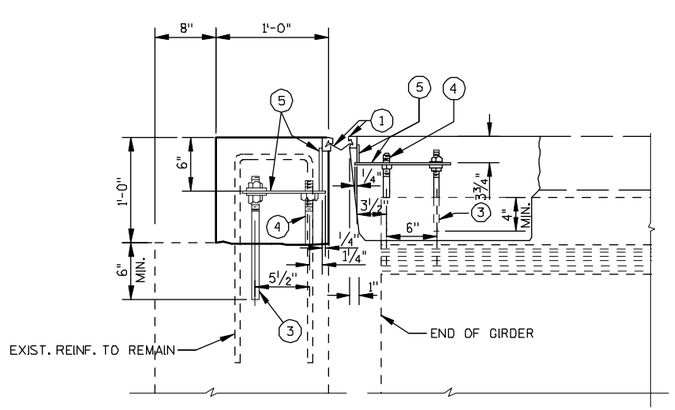
SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE".



PART PLAN



TYPICAL SECTION THRU JOINT AT PRESTRESSED GIRDER

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-065

DRAWN BY RMJ | PLANS CK'D. MJG

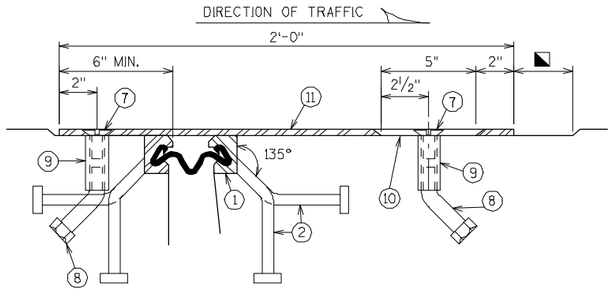
JOINT DETAILS

SHEET 2
33

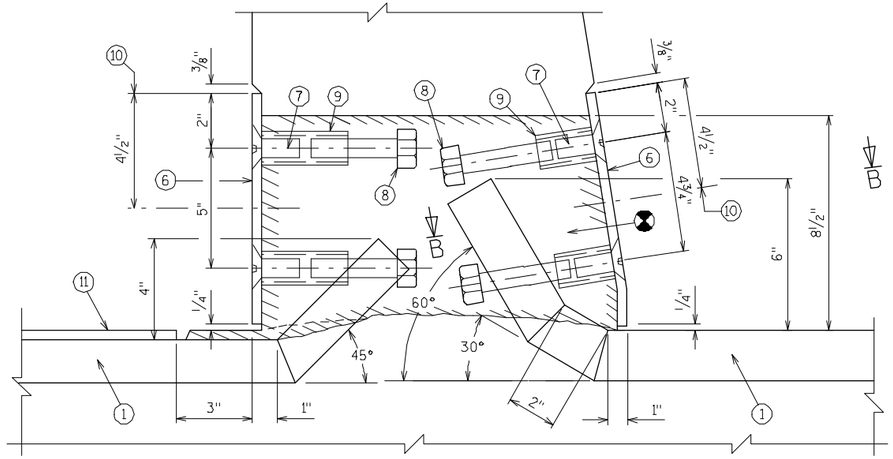
8

8

STATE PROJECT NUMBER
1580-09-73

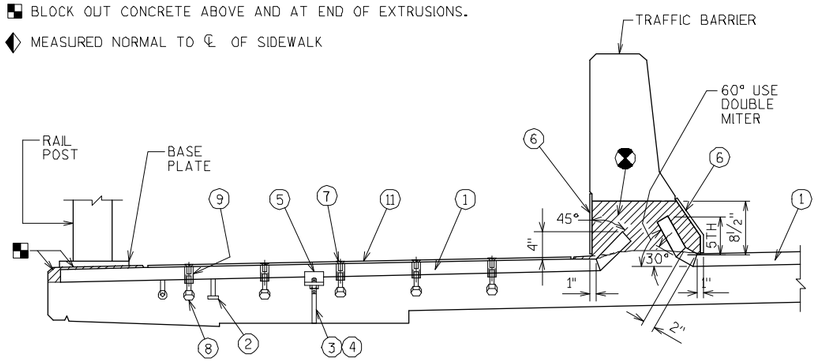


SECTION C-C

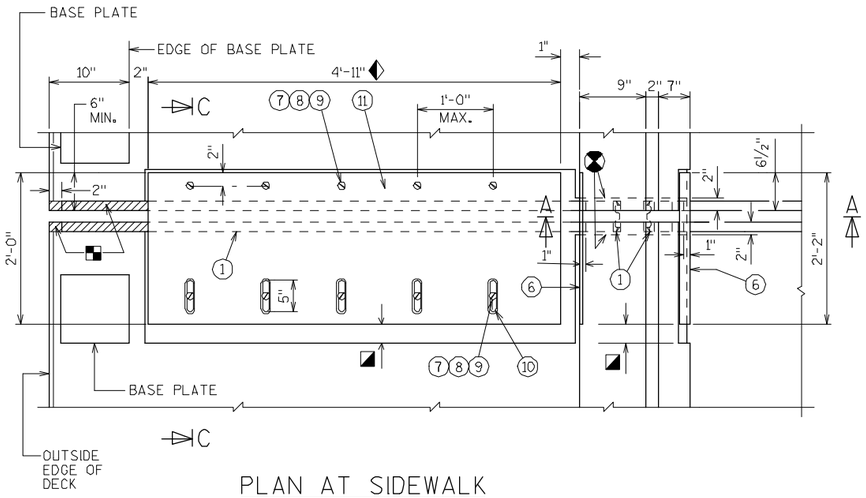


SECTION A-A
TRAFFIC BARRIER

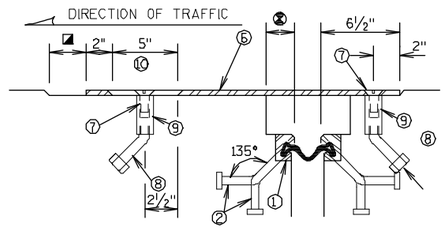
- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIMENSION ALONG SKEW PLUS ½".
- BLOCK OUT CONCRETE ABOVE AND AT END OF EXTRUSIONS.
- MEASURED NORMAL TO ℄ OF SIDEWALK



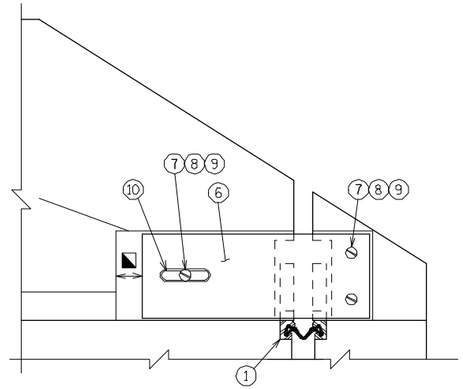
SECTION AT SIDEWALK



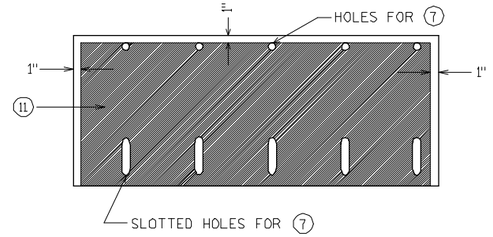
PLAN AT SIDEWALK



SECTION B-B



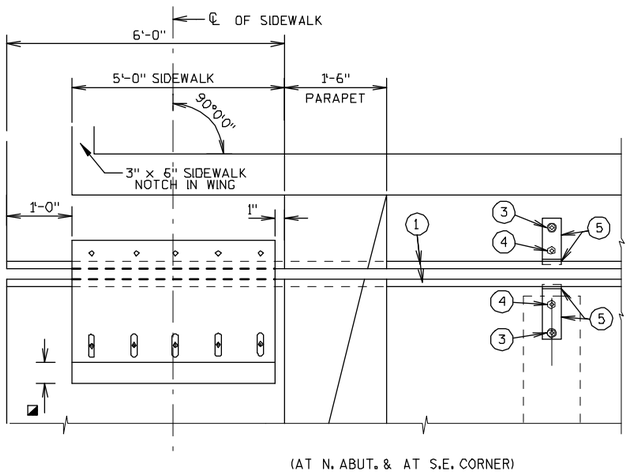
VIEW OF PARAPET PLATES FROM ROADWAY
TRAFFIC BARRIER



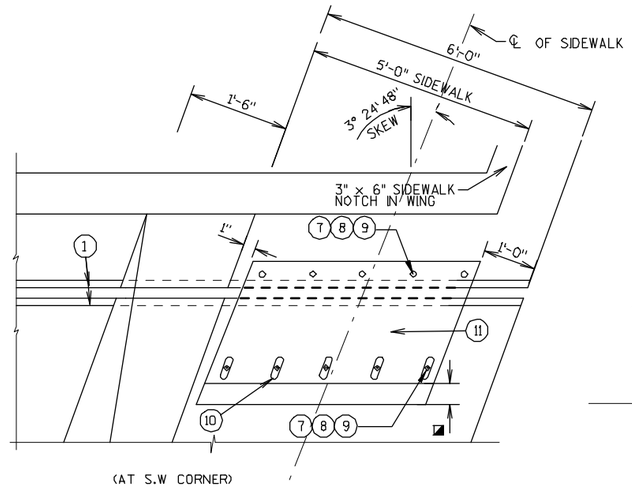
PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY. PROVIDE SKEWED PLATE AT SW CORNER

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170



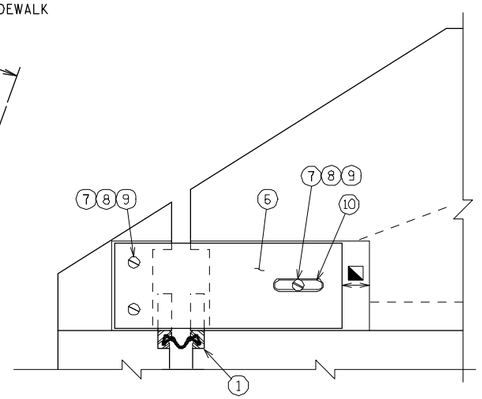
(AT N. ABUT. & AT S.E. CORNER)



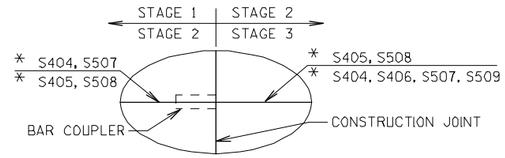
(AT S.W CORNER)

PLAN OF PROPOSED JOINT

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"



VIEW OF PARAPET PLATES FROM SIDEWALK
TRAFFIC BARRIER



BAR COUPLER DETAIL

* BAR LENGTH HAS BEEN COMPUTED TO ℄ OF VERTICAL CONSTRUCTION JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-065

DRAWN BY RMJ | PLANS CK'D. MJG

JOINT DETAILS

SHEET 3
34

8

8

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

SUP

MAY 2015

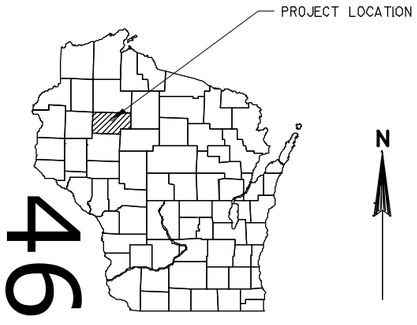
PROJECT ID: 8180-02-70
WITH: 1580-09-73

COUNTY: RUSK

46

ORDER OF SHEETS

TOTAL SHEETS = 108



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

LADYSMITH - OJIBWA

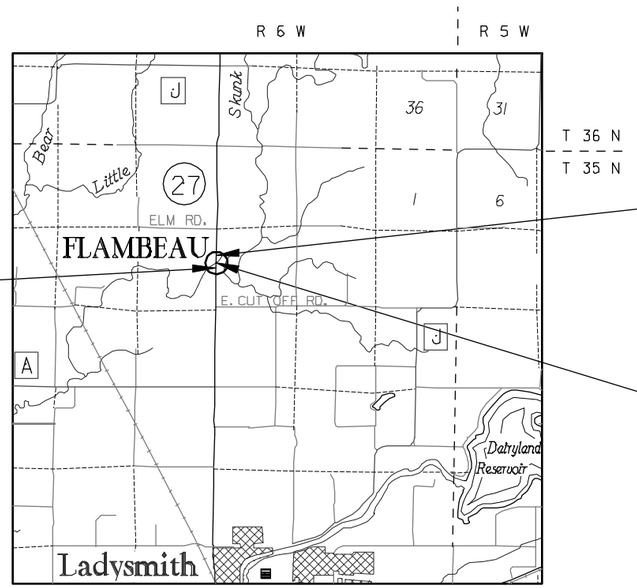
(THORNAPPLE RIVER BRIDGE B-54-0120)

STH 27

RUSK COUNTY

STATE PROJECT NUMBER
8180-02-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8180-02-70	WISC 2015018	1



BEGIN PROJECT
STA. 3+00.00

Y = 586994.839
X = 810484.360

END PROJECT
STA. 16+50.00

Y = 588344.782
X = 810495.078

STRUCTURE B-54-0120

DESIGN DESIGNATION

A.A.D.T.	2015	=	2500
A.A.D.T.	2035	=	3050
D.H.V.		=	450
D.D.		=	61/39
T.		=	18.0%
DESIGN SPEED		=	60 MPH
ESALS		=	1,095,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (955.36)
- CULVERT (Profile View)

UTILITIES

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

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.256 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS). RUSK COUNTY

ORIGINAL PLANS PREPARED BY

FAA CONSULTING ENGINEERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FAA, INC.
Designer	FAA, INC.
Project Manager	MATTHEW DICKENSON
Regional Examiner	DANIEL OJIBWAY
Regional Supervisor	DAVID OSTROWSKI
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 8/6/14
(Signature)

E

FILE NAME : F:\Drawings\2012-122\0001\1000.dgn PLOT DATE : 8/5/2014 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 1 in : 100 ft

WISDOT/CADDS SHEET 10

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
ASPH	ASPHALTIC
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BAH	BEARING AHEAD
BBK	BEARING BACK
BF	BACK FACE
BM	BENCH MARK
BR	BRIDGE
C/L	CENTER LINE
△	CENTRAL ANGLE OR DELTA
CE	COMMERCIAL ENTRANCE
CMP	CORRIGATED METAL PIPE
CONC	CONCRETE
CP	CULVERT PIPE
CP	CONTROL POINT
CPCP	CULVERT PIPE CORRUGATED POLYETHYLENE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III
CR	CREEK
CWT	HUNDREDWEIGHT
CY	CUBIC YARD
C & G	CURB AND GUTTER
D	DEGREE OF CURVE/BOX DEPTH
DHV	DESIGN HOUR VOLUME
DD	DIRECTIONAL DISTRIBUTION
DISCH	DISCHARGE
DG	DITCH GRADE
DWY	DRIVEWAY
E	EAST
EL/ELEV	ELEVATION
ENT	ENTRANCE
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FE	FIELD ENTRANCE
FERT	FERTILIZE
FF	FACE TO FACE
FL	FLOW LINE
FO	FIBER OPTIC
FS	FULL SUPER ELEVATION
FT	FOOT
G	GRADE
HMA	HOT MIX ASPHALT
HYD	HYDRANT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
K	RATE OF VERTICAL CURVATURE
LHF	LEFT-HAND FORWARD
L	LENGTH OF CURVE
LB	POUND
LF	LINEAR FOOT
LCB	LONG CHORD BEARING
LC	LONG CHORD
LN	LANE
LT	LEFT
LN	LANE
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MI	MILE
ML	MAINLINE
N	NORTH
NC	NORMAL CROWN
NO	NUMBER
NOR	NORMAL
OBLIT	OBLITERATE
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POE	POINT OF ENDING
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
R/RAD	RADIUS
RCCP	REINFORCED CONCRETE CULVERT PIPE
REQ'D	REQUIRED
RES	RESIDENCE OR RESIDENTIAL
RHF	RIGHT-HAND FORWARD
R/W	RIGHT OF WAY
RD	ROAD
RDWY	ROADWAY
RR	RAILROAD
RT	RIGHT
SALV	SALVAGED
SAN S	SANITARY SEWER
S	SOUTH
SQ	SQUARE
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
SE	SUPERELEVATION
T	TANGENT LENGTH
T.	TRUCKS (PERCENT OF)
TC	TOP OF CURB
T OR TN	TOWN
TLE	TEMPORARY LIMITED EASEMENT
†	TON
TYP.	TYPICAL
VAR	VARIABLE
VC	VERTICAL CURVE
W	WEST
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE
YD	YARD

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO USGS DATUM.

THE LOCATION 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.

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, FERTILIZED, SEEDED AND MULCHED OR SODDED

BEARINGS SHOWN ON THE PLANS ARE COUNTY BEARINGS TO THE NEAREST SECOND.

THE LOCATION OF THE DRIVEWAYS WILL BE DETERMINED BY THE ENGINEER.

SIGN PLATE DETAILS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" UNLESS OTHERWISE PROVIDED FOR IN THE PLAN.

CURVE DATA IS BASED ON THE ARC DEFINITION.

SEED MIXTURE NO. 20 SHALL BE USED THROUGHOUT THE PROJECT.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE COUNTY LAND SURVEYOR CONCERNING MONUMENT AND PROPERTY CORNER PRESERVATION. LANDMARK REFERENCE MONUMENTS SHALL BE PERPETUATED BY THE COUNTY SURVEYOR.

RADIUS DIMENSIONS ARE SHOWN TO FLAGLINE OF CURB & GUTTER OR EDGE OF PAVEMENT.

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

6-INCH HMA PAVEMENT TYPE E-0.3 SHALL BE CONSTRUCTED WITH A 2-INCH UPPER LAYER AND TWO LOWER LAYERS THAT ARE BOTH 2-INCH

UTILITIES

JUMP RIVER ELECTRIC COOPERATIVE
HANK LEW
1102 W. 9TH STREET N.
LADYSMITH, WI 54848
OFFICE: 715-532-5524
MOBILE: 715-403-3325
HLEW@JREC.COM

CENTURYLINK COMMUNICATIONS
JIM ARQUETTE
20 S WILSON AVENUE
RICE LAKE, WI 54868
OFFICE: 715-452-5168
MOBILE: 715-563-8295
JIM.ARQUETTE@CENTURYLINK.NET

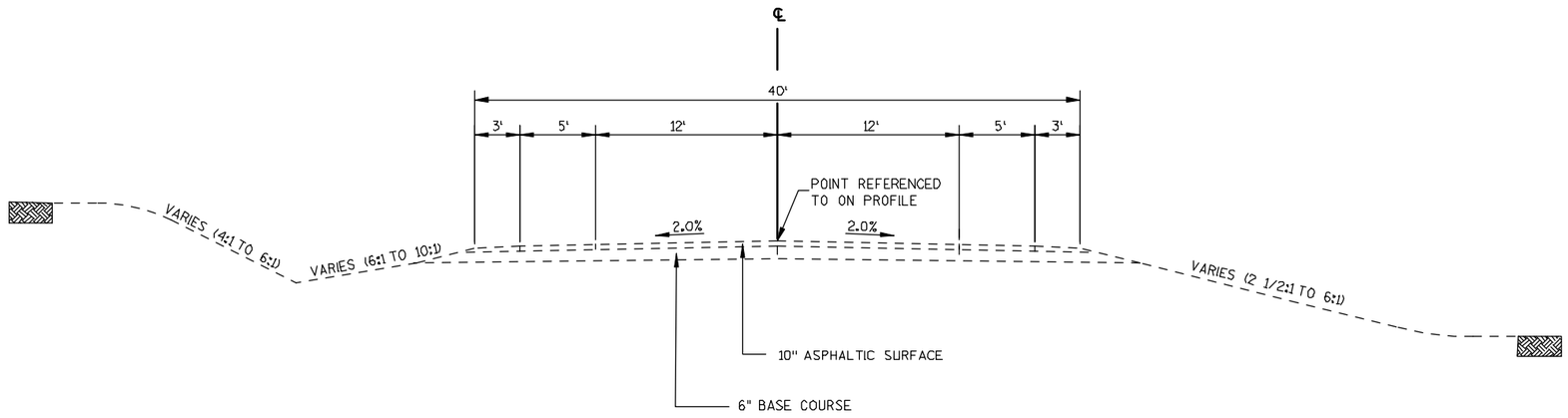
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

DESIGN CONTACT

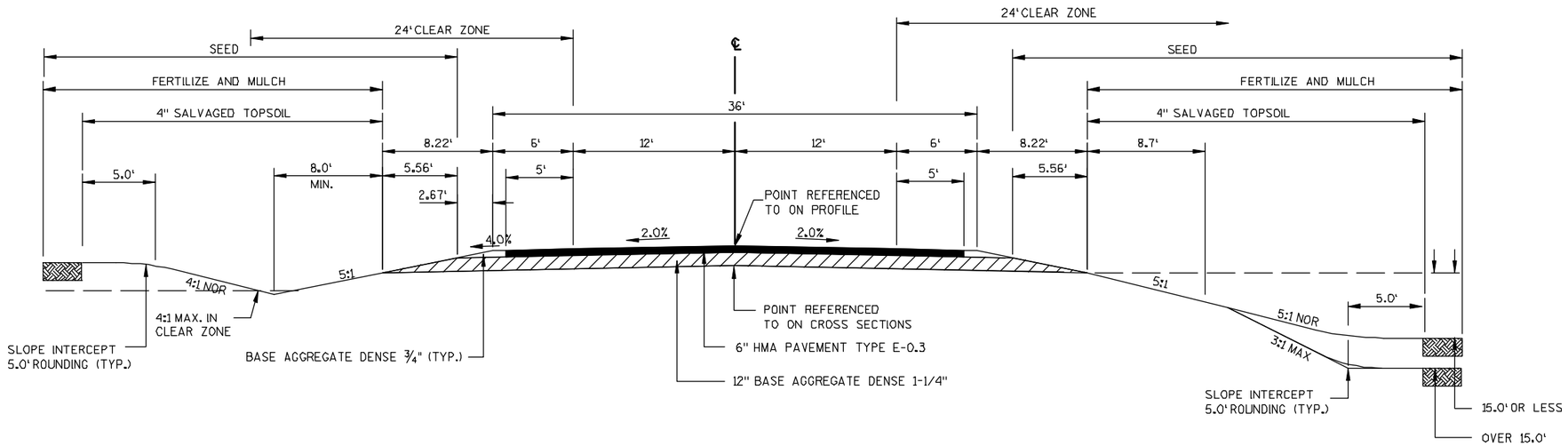
FLEMING, ANDRE & ASSOCIATES, INC.
3615 N. HASTINGS WAY
SUITE 100
EAU CLAIRE, WI. 54703-0474
ATTENTION: MATT GUNDRY
PHONE: 715-832-8400

W.D.N.R. CONTACT

DEPARTMENT OF NATURAL RESOURCES WEST CENTRAL REGION
810 W. MAPLE STREET
SPOONER, WI. 54801
ATTENTION: AMY CRONK
PHONE: 715-635-4229



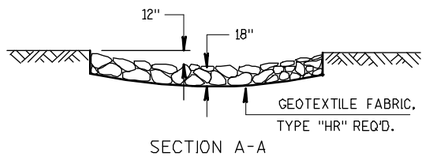
EXISTING TYPICAL SECTION - STH 27



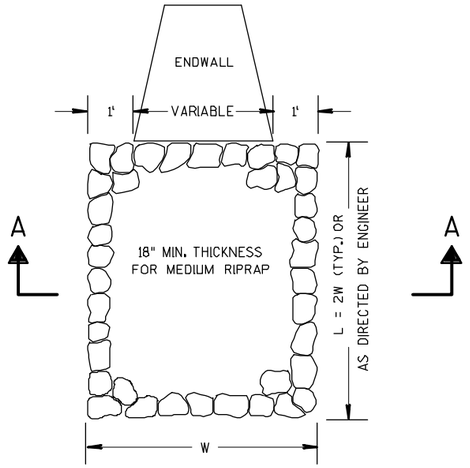
FINISHED TYPICAL SECTION - STH 27

STA 3+00 TO STA 9+37.47
STA 10+62.53 TO STA 16+50

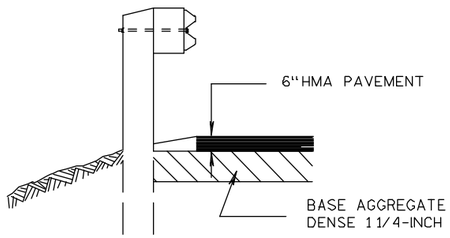
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 3	E

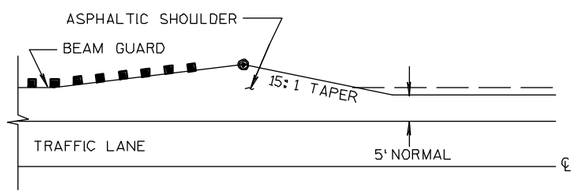


SECTION A-A

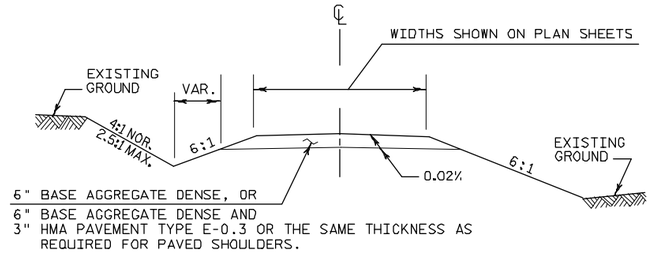


MEDIUM RIPRAP TREATMENT AT CULVERTS

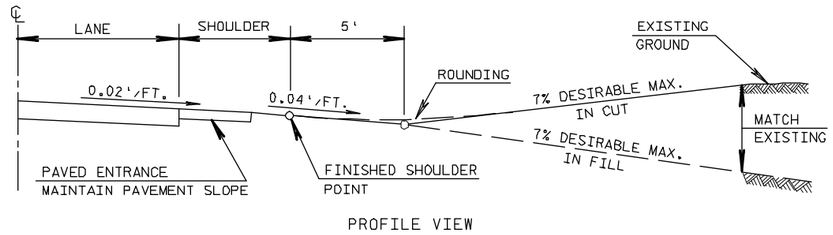




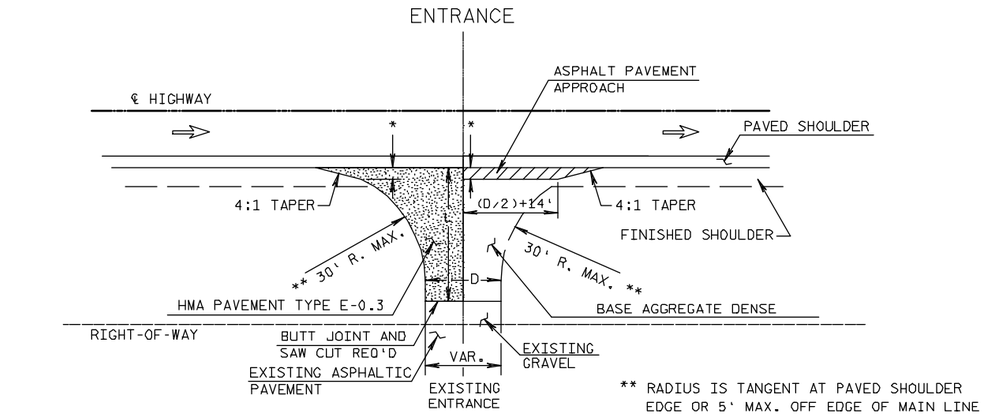
DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



TYPICAL CROSS SECTION



PROFILE VIEW



L=VARIABLE, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER. BLEND BACK ON THE ENTRANCE FAR ENOUGH TO GET A SMOOTH PROFILE.

D=DRIVEWAY WIDTH
D=20'TYP.(PE's & FE's) (16'MIN.-24'MAX.)

** RADIUS IS TANGENT AT PAVED SHOULDER EDGE OR 5' MAX. OFF EDGE OF MAIN LINE PAVEMENT WHICH EVER IS LESS.

* 3' MAX. OR TO FINISHED SHOULDER WHICH EVER IS LESS.

PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL
(PE's, FE's & CE'S)
(FOR NEW CONSTRUCTION)

2

LEGEND

- SURFACE WATER FLOW
- SILT FENCE
- TURBIDITY BARRIER
- TEMPORARY DITCH CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY

N

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

1150 1155 1156 1158 1157 1157 1158 1156

OH OH OH OH OH

* STA. 7+00 - 8+00 RT
SHAPE TO DRAIN SOUTH

THORNAPPLE RIVER

2

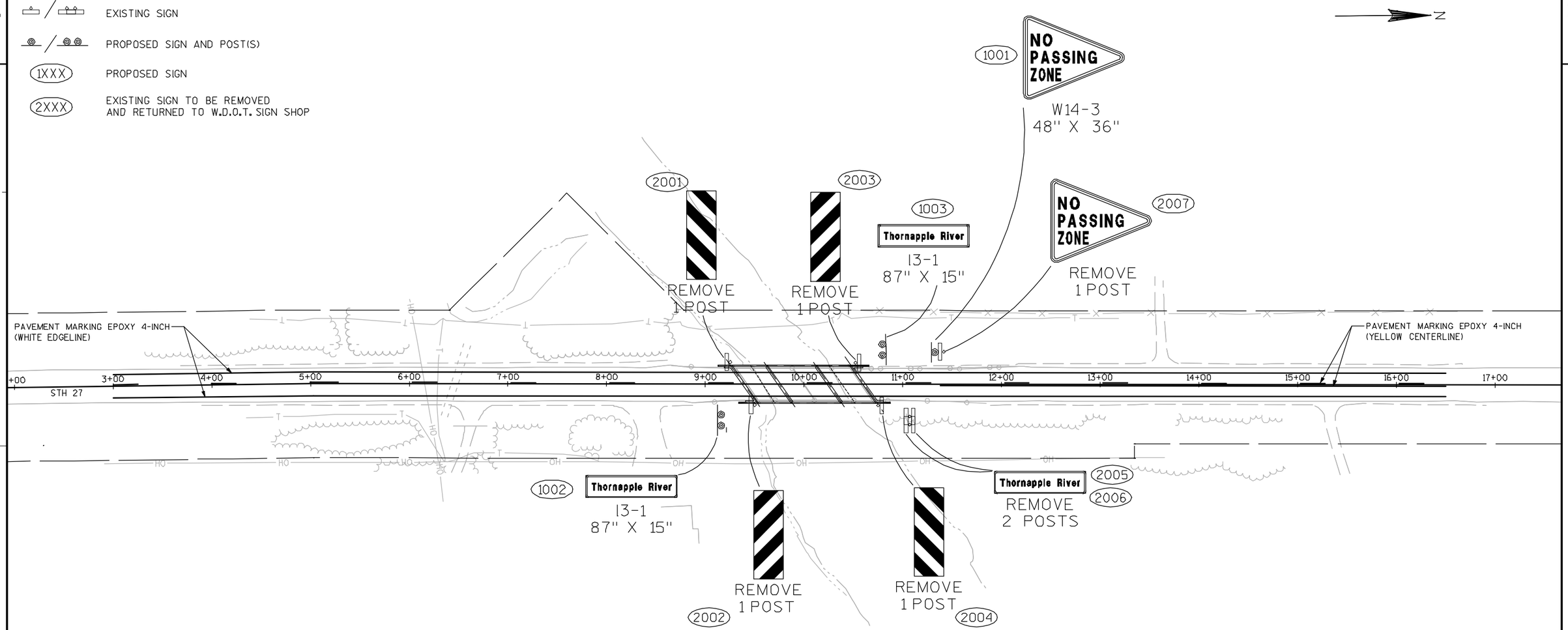
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	EROSION CONTROL PLAN	SHEET 5	E

FILE NAME : F:\Drawings\2012-122\0001\2300.dgn PLOT DATE : 2/1/2015 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 1 in : 100 ft

WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN
- PROPOSED SIGN AND POST(S)
- (1XXX) PROPOSED SIGN
- (2XXX) EXISTING SIGN TO BE REMOVED AND RETURNED TO W.D.O.T. SIGN SHOP



PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	PAVEMENT MARKING AND SIGNING PLAN	SHEET 6	E

FILE NAME : F:\Drawings\2012-122\0001\2500.dgn PLOT DATE : 2/1/2015 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 1 in : 100 ft

WISDOT/CADDS SHEET 42

2

(A)
DETOUR M4-8 24" X 12"
27 M1-6 24" X 24"
M06-4 21" X 21"

(B)
END DETOUR M4-8A 24" X 18"
NORTH M3-1 24" X 12"
27 M1-6 24" X 24"

(C)
END DETOUR M4-8A 24" X 18"
SOUTH M3-3 24" X 12"
27 M1-6 24" X 24"

(D)
DETOUR M4-8 24" X 12"
NORTH M3-1 24" X 12"
27 M1-6 24" X 24"
M05-1L 21" X 21" M06-1 21" X 21" M06-1 21" X 21"
M05-1R 21" X 21" M06-1 21" X 21" M06-4 21" X 21"

(G)
SOUTH M3-3 24" X 12"
27 M1-6 24" X 24"
DETOUR AHEAD W20-2

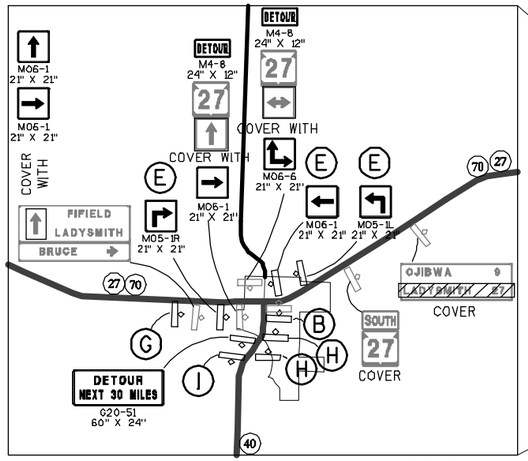
(E)
DETOUR M4-8 24" X 12"
SOUTH M3-3 24" X 12"
27 M1-6 24" X 24"
M05-1L 21" X 21" M06-1 21" X 21" M06-1 21" X 21"
M05-1R 21" X 21" M06-1 21" X 21" M06-4 21" X 21"

(H)
DETOUR M4-8 24" X 12"
NORTH M3-1 24" X 12"
27 M1-6 24" X 24"

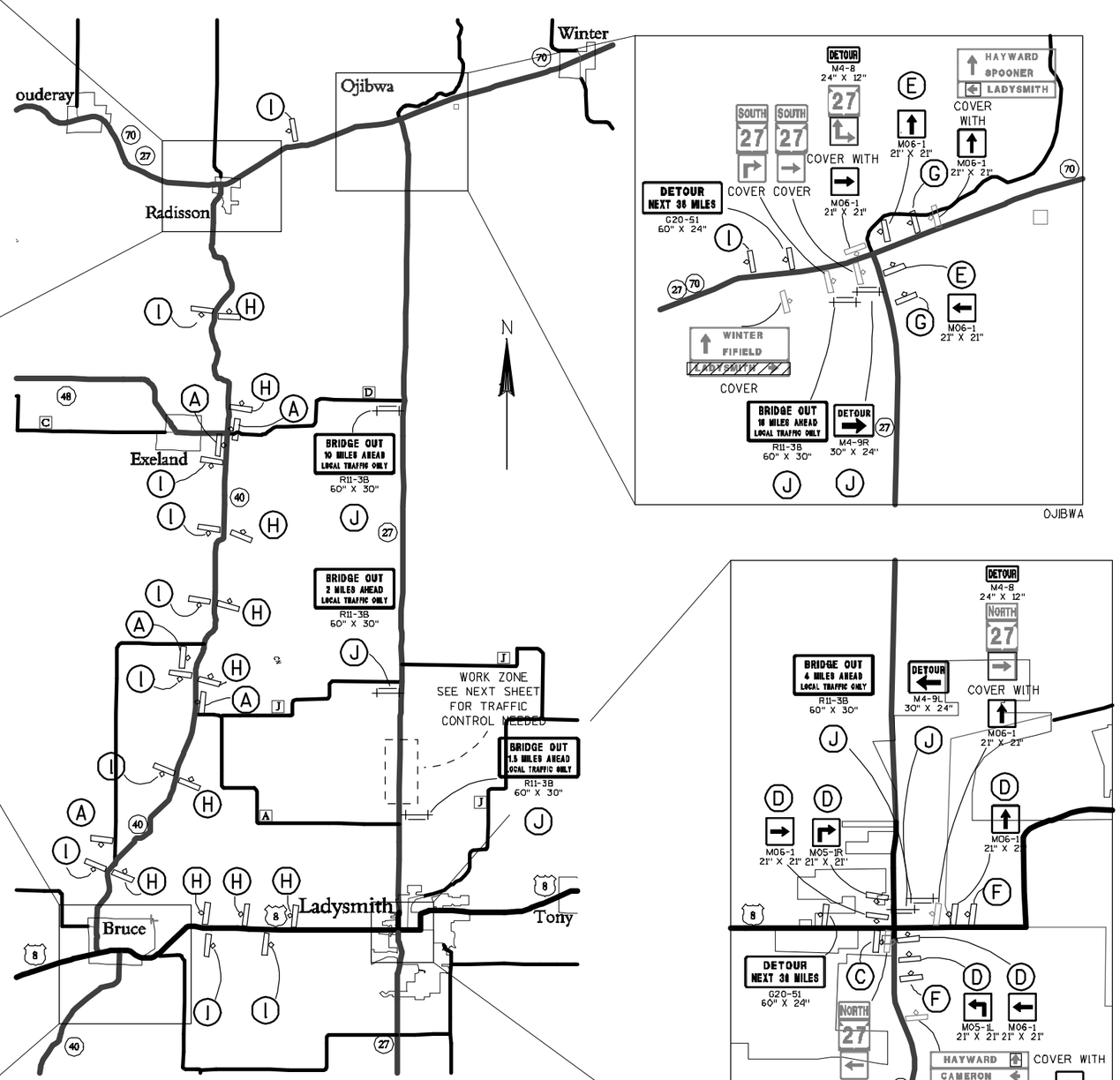
(I)
DETOUR M4-8 24" X 12"
SOUTH M3-3 24" X 12"
27 M1-6 24" X 24"

(F)
NORTH M3-1 24" X 12"
27 M1-6 24" X 24"
DETOUR AHEAD W20-2

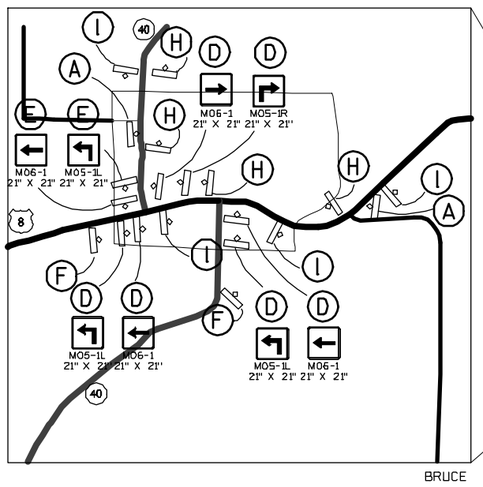
(J)
TYPE III BARRICADE



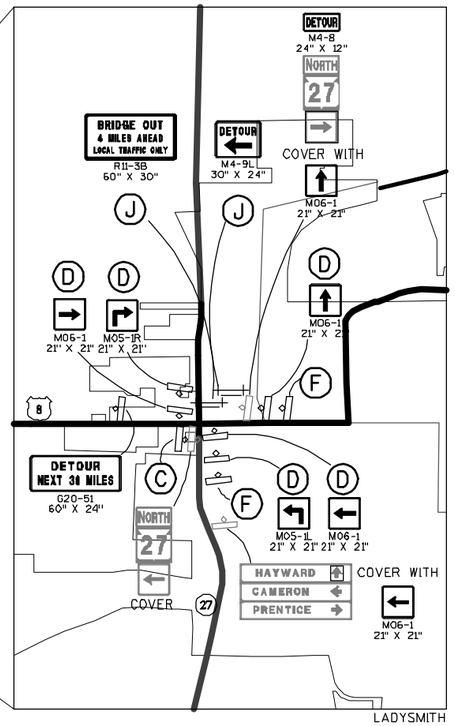
RADISSON



OJIBWA



BRUCE



LADYSMITH

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	TRAFFIC CONTROL DETOUR	SHEET 7	E

2

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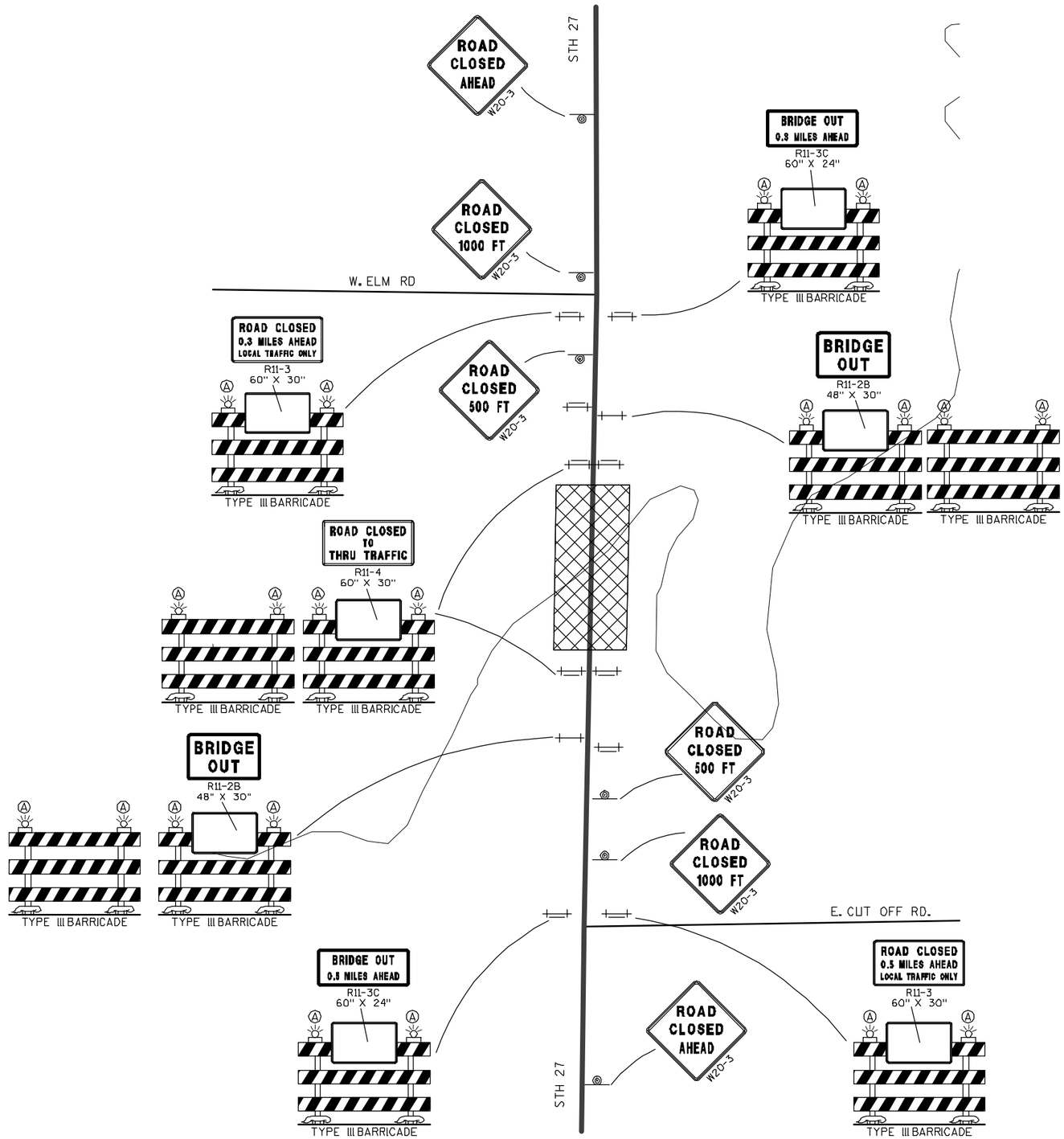


LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III
- Ⓐ TRAFFIC CONTROL WARNING LIGHTS TYPE A

PROJECT LIMITS

NOT TO SCALE

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	TRAFFIC CONTROL PROJECT	SHEET 8	E

DATE 23MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8180-02-70 QUANTITY
0010	201.0105	Clearing	STA	12.000	12.000
0020	201.0205	Grubbing	STA	12.000	12.000
0030	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0040	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-54-079	LS	1.000	1.000
0050	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0070	204.0110	Removing Asphaltic Surface	SY	4,645.000	4,645.000
0100	205.0100	Excavation Common	CY	560.000	560.000
0110	206.1000	Excavation for Structures Bridges (structure) 01. B-54-0120	LS	1.000	1.000
0120	208.1100	Select Borrow	CY	5,180.000	5,180.000
0130	210.0100	Backfill Structure	CY	290.000	290.000
0150	213.0100	Finishing Roadway (project) 02. 8180-02-70	EACH	1.000	1.000
0160	305.0110	Base Aggregate Dense 3/4-Inch	TON	230.000	230.000
0170	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,350.000	4,350.000
0180	415.0410	Concrete Pavement Approach Slab	SY	130.000	130.000
0210	416.1010	Concrete Surface Drains	CY	22.000	22.000
0220	455.0135	Asphaltic Material PG58-34P	TON	90.000	90.000
0230	455.0605	Tack Coat	GAL	490.000	490.000
0240	460.1100	HMA Pavement Type E-0.3	TON	1,620.000	1,620.000
0250	460.2000	Incentive Density HMA Pavement	DOL	1,040.000	1,040.000
0260	465.0315	Asphaltic Flumes	SY	20.000	20.000
0270	502.0100	Concrete Masonry Bridges	CY	629.000	629.000
0290	502.3200	Protective Surface Treatment	SY	700.000	700.000
0320	505.0405	Bar Steel Reinforcement HS Bridges	LB	6,000.000	6,000.000
0330	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	110,440.000	110,440.000
0450	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0460	521.0124	Culvert Pipe Corrugated Steel 24-Inch	LF	148.000	148.000
0470	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	8.000	8.000
0480	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	164.000	164.000
0490	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	4.000	4.000
0500	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	2,700.000	2,700.000
0550	606.0200	Riprap Medium	CY	48.000	48.000
0560	606.0300	Riprap Heavy	CY	590.000	590.000
0570	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0580	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0590	614.0920	Salvaged Rail	LF	390.000	390.000
0600	614.2300	MGS Guardrail 3	LF	150.000	150.000
0610	614.2500	MGS Thrie Beam Transition	LF	158.000	158.000
0620	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0640	618.0100	Maintenance And Repair of Haul Roads (project) 02. 8180-02-70	EACH	1.000	1.000
0650	619.1000	Mobilization	EACH	0.700	0.700
0670	625.0500	Salvaged Topsoil	SY	5,900.000	5,900.000
0680	627.0200	Mulching	SY	6,000.000	6,000.000
0690	628.1504	Silt Fence	LF	980.000	980.000
0700	628.1520	Silt Fence Maintenance	LF	980.000	980.000
0710	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000

3

DATE 23MAR15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8180-02-70 QUANTITY
0720	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0730	628.2004	Erosion Mat Class I Type B	SY	1,550.000	1,550.000
0740	628.6005	Turbidity Barriers	SY	400.000	400.000
0760	628.7504	Temporary Ditch Checks	LF	480.000	480.000
0770	629.0210	Fertilizer Type B	CWT	4.000	4.000
0780	630.0120	Seeding Mixture No. 20	LB	130.000	130.000
0800	633.5200	Markers Culvert End	EACH	2.000	2.000
0810	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	3.000	3.000
0820	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	2.000	2.000
0830	637.2210	Signs Type II Reflective H	SF	20.000	20.000
0840	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0850	638.2602	Removing Signs Type II	EACH	7.000	7.000
0860	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0870	642.5401	Field Office Type D	EACH	0.700	0.700
0890	643.0100	Traffic Control (project) 02. 8180-02-70	EACH	1.000	1.000
0910	643.0420	Traffic Control Barricades Type III	DAY	1,425.000	1,425.000
0920	643.0705	Traffic Control Warning Lights Type A	DAY	2,850.000	2,850.000
0940	643.0900	Traffic Control Signs	DAY	1,575.000	1,575.000
0950	643.0920	Traffic Control Covering Signs Type II	EACH	6.000	6.000
0960	643.2000	Traffic Control Detour (project) 01. 8180-02-70	EACH	1.000	1.000
0970	643.3000	Traffic Control Detour Signs	DAY	17,625.000	17,625.000
0980	645.0120	Geotextile Fabric Type HR	SY	825.000	825.000
0990	646.0106	Pavement Marking Epoxy 4-Inch	LF	3,550.000	3,550.000
1020	648.0100	Locating No-Passing Zones	MI	0.260	0.260
1040	650.4500	Construction Staking Subgrade	LF	1,225.000	1,225.000
1050	650.5000	Construction Staking Base	LF	1,225.000	1,225.000
1060	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
1080	650.6500	Construction Staking Structure Layout (structure) 02. B-54-0120	LS	1.000	1.000
1100	650.9910	Construction Staking Supplemental Control (project) 02. 8180-02-70	LS	1.000	1.000
1110	650.9920	Construction Staking Slope Stakes	LF	1,225.000	1,225.000
1120	690.0150	Sawing Asphalt	LF	68.000	68.000
1140	715.0415	Incentive Strength Concrete Pavement	DOL	250.000	250.000
1150	715.0502	Incentive Strength Concrete Structures	DOL	3,774.000	3,774.000
1160	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	900.000	900.000
1170	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000
1180	SPV.0060	Special 01. Salvaging Dry Hydrant	EACH	1.000	1.000

3

3

CLEARING AND GRUBBING					
				201.0105 CLEARING	201.0205 GRUBBING
STATION	TO	STATION	LOCATION	STA.	STA.
3+00	TO	6+00	LT	3	3
4+15	TO	6+50	RT	2	2
6+80	TO	8+25	RT	1	1
7+15	TO	8+70	LT	2	2
10+75	TO	14+85	RT	4	4
ITEM TOTAL				12	12

REMOVING ASPHALTIC SURFACE				204.0110
STATION	TO	STATION	LOCATION	S.Y.
3+00	TO	9+37	STH 27	2425
10+63	TO	16+50	STH 27	2220
ITEM TOTAL				4645

REMOVING SMALL PIPE CULVERTS			203.0100
STATION TO STATION		LOCATION	EACH
5+33		F.E. LT	1
6+46		STH 27	2
6+62		P.E. RT	1
ITEM TOTAL			4

SELECT BORROW				208.1100
STATION	TO	STATION	LOCATION	C.Y.
3+00	TO	9+37	STH 27	2019
10+63	TO	16+50	STH 27	3161
ITEM TOTAL				5180

FINISHING ROADWAY (PROJECT)				213.0100
STATION	TO	STATION	LOCATION	EACH
3+00	TO	16+50	MAINLINE	1
ITEM TOTAL				1

BASE AGGREGATE DENSE 3/4-INCH			305.0110
STATION TO STATION	LOCATION		TON
3+00 TO 9+37	SHOULDERS		120
10+62 TO 16+50	SHOULDERS		110
ITEM TOTAL			230

BASE AGGREGATE DENSE 1 1/4-INCH			305.0120
STATION TO STATION	LOCATION		TON
3+00 TO 9+37	STH 27		2200
10+62 TO 16+50	STH 27		2000
6+62	P.E. RT		30
8+29	P.E. RT		30
8+29	DRY HYD. ENTRANCE		40
13+61	P.E. LT		25
15+33	F.E. RT		25
ITEM TOTAL			4350

ASPHALTIC MATERIAL PG 58-34P			455.0135
STATION TO STATION	LOCATION		TON
3+00 TO 9+37	STH 27		46
10+63 TO 16+50	STH 27		42
7+78 TO 12+97	EAT FLARES		2
ITEM TOTAL			90

TACK COAT			455.0605
STATION TO STATION	LOCATION		GAL.
3+00 TO 9+37	STH 27		250
10+63 TO 16+50	STH 27		230
7+78 TO 12+97	EAT FLARES		10
ITEM TOTAL			490

HMA PAVEMENT TYPE E-0.3			460.1100
STATION TO STATION	LOCATION		TON
3+00 TO 9+37	STH 27		830
10+63 TO 16+50	STH 27		770
7+78 TO 12+97	EAT FLARES		20
ITEM TOTAL			1620

CONCRETE PAVEMENT APPROACH SLAB				415.0410
STATION	TO	STATION	LOCATION	S.Y.
9+13	TO	9+38	MAINLINE	65
10+63	TO	10+99	MAINLINE	65
ITEM TOTAL				130

CONCRETE SURFACE DRAINS			416.1010
STATION TO STATION		LOCATION	C.Y.
9+02		APPROACH SLAB LT	5.2
9+25		APPROACH SLAB RT	5.4
10+75		APPROACH SLAB LT	5.2
10+98		APPROACH SLAB RT	6.2
ITEM TOTAL			22

ASPHALTIC FLUMES			465.0315
STATION TO STATION		LOCATION	S.Y.
9+02		SURFACE DRAIN LT	5
9+25		SURFACE DRAIN RT	5
10+75		SURFACE DRAIN LT	5
10+98		SURFACE DRAIN RT	5
ITEM TOTAL			20

SALVAGED RAIL				614.0920
STATION	TO	STATION	LOCATION	L.F.
8+85	TO	9+30	LT	45
8+90	TO	9+50	RT	60
10+48	TO	12+18	LT	170
10+70	TO	11+85	RT	115
ITEM TOTAL				390

SALVAGING DRY HYDRANT			SPV. 0060.01
STATION TO STATION		LOCATION	EACH
9+00		LT	1
ITEM TOTAL			1

DIVISION	FROM/TO STATION	LOCATION	COMMON EXCAVATION (ITEM *205.0100)		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL (6)	EXPANDED FILL (13)	MASS ORDINATE +/- (14)
			CUT (2)	EBS EXCAVATION (3)				FACTOR 1.25	
1	3+00 - 9+25	MAINLINE	425	0	566	425	1955	2444	-2019
2	10+75 - 16+50	MAINLINE	135	0	614	135	2637	3296	-3161
GRAND TOTAL			560	0	1280	560	4592	5740	-5180
TOTAL COMMON EXC			560						

CULVERT PIPE AND APRON ENDWALLS					
STATION	LOCATION	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH (0.064 WALL) L.F.	522.0136 CPRC CLASS III 36-INCH L.F.	521.1024 APRON ENDWALLS CULVERT PIPE STEEL 24-INCH EACH	522.1036 APRON ENDWALLS FOR CPRC 36-INCH EACH
6+42.5	STH 27	-	82	-	2
6+49.5	STH 27	-	82	-	2
5+33	F.E. LT	50	-	2	-
6+62	P.E. RT	50	-	2	-
13+61	P.E. LT	28	-	2	-
15+33	F.E. RT	20	-	2	-
ITEM TOTAL		148	164	8	4

GUARDRAIL SUMMARY						
STATION	TO	STATION	LOCATION	614.2300 MGS 3 GUARDRAIL L.F.	614.2500 MGS THRIE BEAM TRANSITION L.F.	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
8+22.9	TO	9+15.4	LT	-	39.4	1
8+44.1	TO	9+36.6	RT	-	39.4	1
10+63.4	TO	12+30.9	LT	75.0	39.4	1
10+84.7	TO	12+52.2	RT	75.0	39.4	1
ITEM TOTAL				150	158	4

2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS NOT INCLUDED IN CUT. REMOVAL IS PAID FOR UNDER REMOVING ASPHALTIC SURFACE.

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

4) SALVAGED/UNUSABLE PAVEMENT MATERIAL

5) AVAILABLE MATERIAL = CUT (NO SALVAGED IS INCLUDED IN CUT)

(6) MATERIAL NECESSARY TO BACKFILL REMOVED PAVEMENT VOLUME BELOW SUBGRADE IS INCLUDED IN FILL

13) EXPANDED FILL. FACTOR = 1.25

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

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE ENGINEER ESTIMATE CATEGORY 010 UNLESS OTHERWISE NOTED.

RIPRAP MEDIUM		606.0200
STATION TO STATION	LOCATION	C.Y.
6+60	CULVERT DISCH. LT.	48
ITEM TOTAL		48

MOBILIZATION		619.1000	
STATION TO STATION	LOCATION	EACH	CATEGORY
3+00 TO 16+50	MAINLINE	0.3	010
10+00	B-54-0120	0.4	020
ITEM TOTAL		0.7	

SILT FENCE & SILT FENCE MAINTENANCE				
STATION TO STATION	LOCATION	628.1504 SILT FENCE L.F.	628.1520 SILT FENCE MAINTENANCE L.F.	
6+40 TO 7+00	LT	70.0	70.0	
6+90 TO 8+20	RT	140.0	140.0	
8+40 TO 9+20	EAT, LT	85.0	85.0	
8+40 TO 9+20	EAT, RT	85.0	85.0	
10+50 TO 12+00	EAT, LT	165.0	165.0	
11+10 TO 13+60	EAT, RT	275.0	275.0	
UNDISTRIBUTED		160.0	160.0	
ITEM TOTAL		980	980	

MOBILIZATIONS EROSION CONTROL		628.1905
STATION TO STATION	LOCATION	EACH
3+00 TO 16+50	PROJECT	2
ITEM TOTAL		2

MOBILIZATIONS EMERGENCY EROSION CONTROL		628.1910
STATION TO STATION	LOCATION	EACH
3+00 TO 16+50	PROJECT	2
ITEM TOTAL		2

SALVAGED TOPSOIL, MULCHING, FERTILIZING, & SEEDING					
STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL S.Y.	627.0200 MULCHING S.Y.	629.0210 FERTILIZER TYPE B C.W.T.	630.0120 SEEDING MIXTURE NO. 20 LB
3+00 TO 9+37	LT & RT	2800	3150	2.0	64
10+63 TO 16+50	LT & RT	2450	2200	1.4	46
UNDISTRIBUTED		650	650	0.6	20
ITEM TOTAL		5900	6000	4	130

TRAFFIC CONTROL ITEMS								
	LOCATION	643.0100 TRAFFIC CONTROL (PROJECT) 8180-02-70 EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 8180-02-70 EACH	643.0900 TRAFFIC CONTROL DETOUR SIGNS DAY
STH 27	SEE TRAFFIC CONTROL SHEETS	1	1425	2850	1575	--		--
DETOUR	SEE TRAFFIC CONTROL SHEETS	--	--	--	--	6	1	17625
ITEM TOTAL		1	1425	2850	1575	6	1	17625

EROSION MAT CLASS I TYPE B		628.2004
STATION TO STATION	LOCATION	S.Y.
10+80 TO 11+90	LT	390
11+20 TO 12+75	RT	910
UNDISTRIBUTED		250
ITEM TOTAL		1550

TURBIDITY BARRIER		628.2023
STATION TO STATION	LOCATION	S.Y.
9+15 TO 9+65	SOUTH ABUT.	200
10+30 TO 11+15	NORTH ABUT.	200
UNDISTRIBUTED		50
ITEM TOTAL		400

TEMPORARY DITCH CHECKS		628.7504
STATION TO STATION	LOCATION	L.F.
3+00 TO 6+00	DITCH RT	105
3+00 TO 8+50	DITCH LT	30
12+00 TO 16+50	DITCH LT	135
13+50 TO 16+50	DITCH RT	90
UNDISTRIBUTED		120
ITEM TOTAL		480

MARKERS CULVERT END		633.5200
STATION TO STATION	LOCATION	EACH
6+30	RT	1
6+60	LT	1
ITEM TOTAL		2

FIELD OFFICE TYPE D		642.5401
STATION TO STATION	LOCATION	EACH
3+00 TO 16+50	PROJECT	0.7
ITEM TOTAL		0.7

GEOTEXTILE FABRIC TYPE HR		645.0120
STATION TO STATION	LOCATION	S.Y.
6+60	CULVERT DISCH. LT.	95
ITEM TOTAL		95

PAVEMENT MARKING EPOXY 4-INCH		646.0106
STATION TO STATION	LOCATION	L.F.
3+00 TO 16+50	CNTRLN YLW SKIPS	340
11+40 TO 16+50	CNTRLN YLW SOLID	510
3+00 TO 16+50	EDGE WHT	2700
ITEM TOTAL		3550

LOCATING NO-PASSING ZONES			648.0100
STATION TO STATION		LOCATION	MI
3+00 TO 16+50		MAINLINE C/L	0.26
ITEM TOTAL			0.26

SAWING ASPHALT		690.0150
STATION TO STATION	LOCATION	L.F.
3+00	MAINLINE	34
16+50	MAINLINE	34
ITEM TOTAL		68

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE ENGINEER ESTIMATE CATEGORY 010 UNLESS OTHERWISE NOTED.

3

3

CONSTRUCTION STAKING								
STATION TO STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE L.F.	650.5000 CONSTRUCTION STAKING BASE L.F.	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) L.S.	650.9910 CONSTRUCTION STAKING SUPPLIMENTAL CONTROL (PROJECT) L.S.	650.9920 CONSTRUCTION STAKING SLOPE STAKES L.F.	CATEGORY
3+00 TO 16+50	PROJECT	1225	1225	--	--	1	1225	010
6+43	MAINLINE	--	--	1	--	--	--	010
6+50	MAINLINE	--	--	1	--	--	--	010
9+12 TO 10+88	B-54-0120	--	--	--	1	--	--	020
ITEM TOTAL		1225	1225	2	1	1	1225	

PERMANENT SIGNING									
SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN DESCRIPTION	637.2210 SIGNS, TYPE II, REFLECTIVE H (S_nF_n)	637.2230 SIGNS, TYPE II, REFLECTIVE F (S.F.)	634.0616 WOOD POSTS, 4X6-INCH X 16 FT (EACH)	634.0618 WOOD POSTS, 4X6-INCH X 18 FT (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
1001	11+40	LT	W14-3	NO PASSING ZONE	--	12.00	1	--	--	--
1002	9+20	RT	I3-1	THORNAPPLE RIVER	10.00	--	1	1	--	--
1003	10+80	LT	I3-1	THORNAPPLE RIVER	10.00	--	1	1	--	--
2001	9+26	LT	W5-52L	CLEARANCE STRIPER DOWN LEFT	--	--	--	--	1	1
2002	9+51	RT	W5-52R	CLEARANCE STRIPER DOWN RIGHT	--	--	--	--	1	1
2003	10+47	LT	W5-52R	CLEARANCE STRIPER DOWN RIGHT	--	--	--	--	1	1
2004	10+73	RT	W5-52L	CLEARANCE STRIPER DOWN LEFT	--	--	--	--	1	1
2005	11+00	RT	I3-1	THORNAPPLE RIVER	--	--	--	--	1	2
2006	11+00	RT	I3-1	THORNAPPLE RIVER	--	--	--	--	1	0
2007	11+40	LT	W14-3	NO PASSING ZONE	--	--	--	--	1	1
GRAND TOTAL					20.00	12.00	3	2	7	7

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE ENGINEER ESTIMATE CATEGORY 010 UNLESS OTHERWISE NOTED.

POB STA. = 0+99.97
Y = 586794.81
X = 810485.00

P.I. STA. = 5+03.11
Y = 587197.95
X = 810483.71
D = 0°45'0"

STA. 6+60 LT
INSTALL MEDIUM RIPRAP TREATMENT AT CULVERT
48 C.Y. - RIPRAP MEDIUM REQ'D
95 S.Y. - GEOTEXTILE FABRIC TYPE HR

STA. 9+13 - 9+37.5
CONSTRUCT CONCRETE PAVEMENT APPROACH SLAB

STA. 10+62.5 - 10+86
CONSTRUCT CONCRETE PAVEMENT APPROACH SLAB

N

STA. 9+00, LT
SALVAGING DRY HYDRANT

STA. 5+33 LT
CONSTRUCT F.E. LT (GRASS - MATCH EXIST.)
50 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH REQ'D
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH REQ'D

STA. 5+33 LT
1 EA. - REMOVING SMALL CULVERT PIPES

STA. 8+22.9 - 9+15.4 LT
39.4 L.F. - MGS THRIE BEAM TRANSITION REQ'D
1 EA. - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 8+85 - 9+30 LT
45 L.F. - SALVAGED RAIL

STA. 10+63.4 - 12+30.9 LT
75 L.F. - MGS GUARDRAIL 3 REQ'D
39.4 L.F. - MGS THRIE BEAM TRANSITION REQ'D
1 EA. - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 10+48 - 12+18 LT
170 L.F. - SALVAGED RAIL

STA. 13+61 LT
CONSTRUCT P.E. LT (AGG. - MATCH EXIST.)
28 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH REQ'D
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH REQ'D

POB STA. 0+99.97
75'
EXIST. R/W
CENTURYLINK
PROPOSED STRUCTURE B-54-0120
EXISTING STRUCTURE B-54-079
SLOPE INTERCEPT
1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00
N0°10'56"W 403.14'
N0°34'04"E 1546.89'
STH 27 (ASPHALT)
N0°34'04"E 1546.89'
60'
EXIST. R/W
SLOPE INTERCEPT
PROPOSED DRY HYDRANT (BY OTHERS)
JUMP RIVER ELECTRIC COOPERATIVE
THORNAPPLE RIVER
HO OH UG T

BEGIN PROJECT
STA. 3+00.00
Y = 586994.839
X = 810484.360
MATCH EXISTING

STA. 3+00
34 L.F. - SAWING ASPHALT

PI STA. 5+03.11

STA. 6+46
2 EA. - REMOVING SMALL CULVERT PIPES

STA. 6+62 RT
CONSTRUCT P.E. RT (AGG. - MATCH EXIST.)
50 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH REQ'D
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH REQ'D

STA. 6+62 RT
1 EA. - REMOVING SMALL CULVERT PIPES

STA. 8+29 RT
CONSTRUCT P.E. RT (24' AGG.)
W/ 16'X TO' ACCESS TO DRY HYDRANT

STA. 8+44.1 - 9+36.6 RT
39.4 L.F. - MGS THRIE BEAM TRANSITION REQ'D
1 EA. - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 8+90 - 9+50 RT
60 L.F. - SALVAGED RAIL

CONCRETE SURFACE DRAINS REQ'D
STA. 9+02 LT
STA. 9+25 RT
STA. 10+75 LT
STA. 10+98 RT

STA. 10+84.7 - 12+52.2 RT
75 L.F. - MGS GUARDRAIL 3 REQ'D
39.4 L.F. - MGS THRIE BEAM TRANSITION REQ'D
1 EA. - MGS GUARDRAIL TERMINAL EAT REQ'D

STA. 10+70 - 11+85 RT
115 L.F. - SALVAGED RAIL

5

5

1190 1180 1170 1160 1150 1140 1130 1120

L =1400.00'
G1 =-0.74%
G2 =3.60%
K =322.34

PVI 3+00.00
EL 1160.46
PVC 4+00.00
EL 1159.71
-0.74%
PROPOSED PROFILE
EXISTING PROFILE
PVI 11+00.00
EL 1154.50

STA. 6+44.10
82 L.F. - CPRC CLASS III 36-INCH REQ'D
2 EA. - APRON ENDWALLS FOR CPRC 36-INCH REQ'D
SKEW 18° L.H.F.

STA. 6+47.90
82 L.F. - CPRC CLASS III 36-INCH REQ'D
2 EA. - APRON ENDWALLS FOR CPRC 36-INCH REQ'D
SKEW 18° L.H.F.

STA. 10+00
STRUCTURE B-54-0120 REQ'D.
THREE SPAN REINFORCED CONCRETE HAUNCHED SLAB BRIDGE
36' CLEAR WIDTH x 125'-0 5/8" BACK-TO-BACK OF ABUTS.
SKEW 35° R.H.F.

STA. 10+00
EXISTING STRUCTURE B-54-79 TO BE REMOVED
TWO SPAN STEEL GIRDER BRIDGE
31'-3" CLEAR WIDTH x 119'-4 1/2" BACK-TO-BACK OF ABUTS.

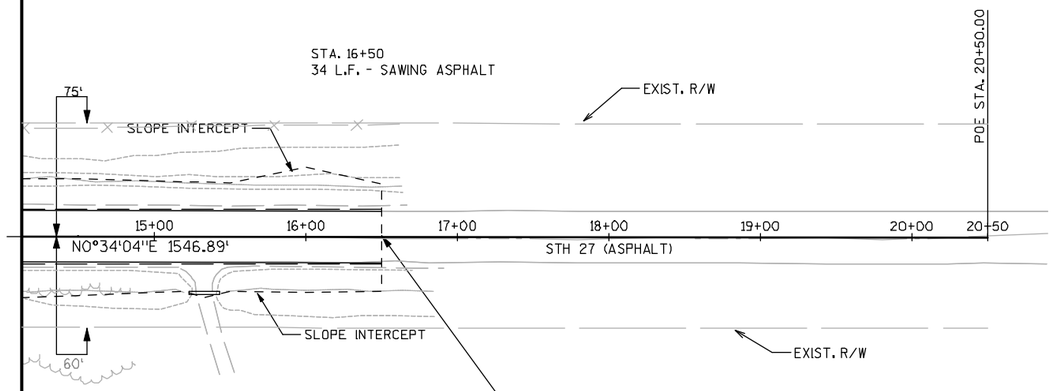
1162.2 1161.8 1161.4 1161.0 1160.5 1160.46 1160.0 1160.08 1159.5 1159.71 1159.2 1159.38 1158.9 1159.12 1158.6 1158.94 1158.2 1158.84 1157.8 1158.82 1157.5 1158.87 1157.2 1159.01 1157.1 1159.22 1157.1 1159.50 1157.1 1159.87 1152.8 1160.31 1141.6 1160.83 1152.5 1161.43 1159.1 1162.10 1159.8 1162.85 1160.7 1163.68 1161.9 1164.59 1163.2 1165.58 1164.5 1166.64 1166.0 1167.78 1167.7 1169.00 1169.5 1170.29

1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	PLAN AND PROFILE	SHEET 14	E

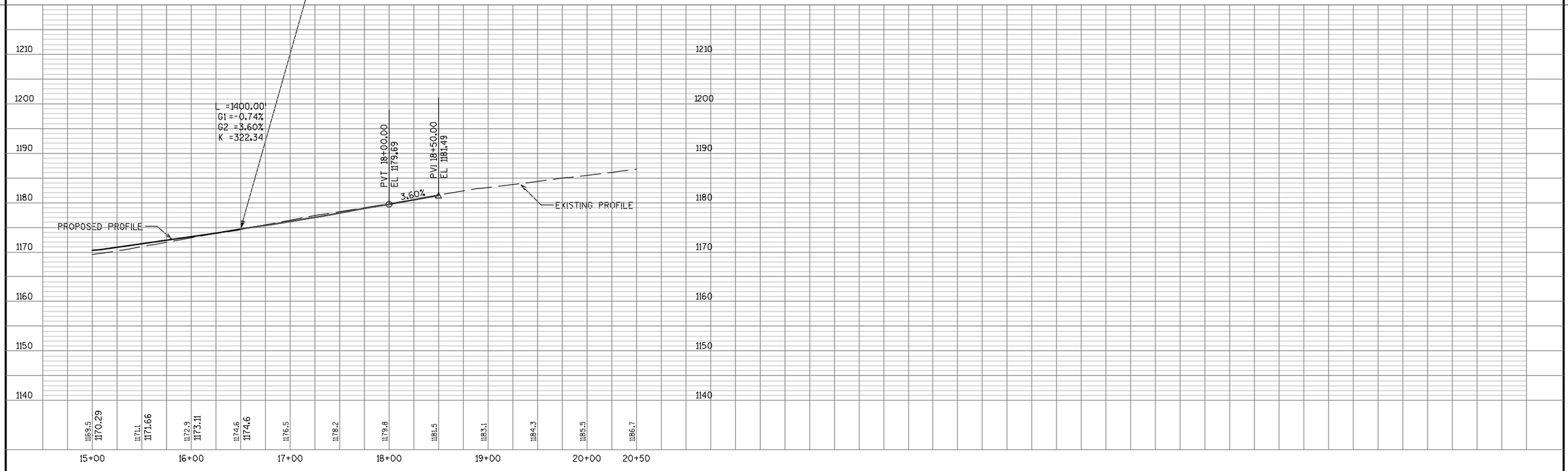
POE STA. = 20+50.00
Y = 588744.76
X = 810499.04

N



STA. 15+33 RT
CONSTRUCT F.E. RT (AGG. - MATCH EXIST.)
20 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH

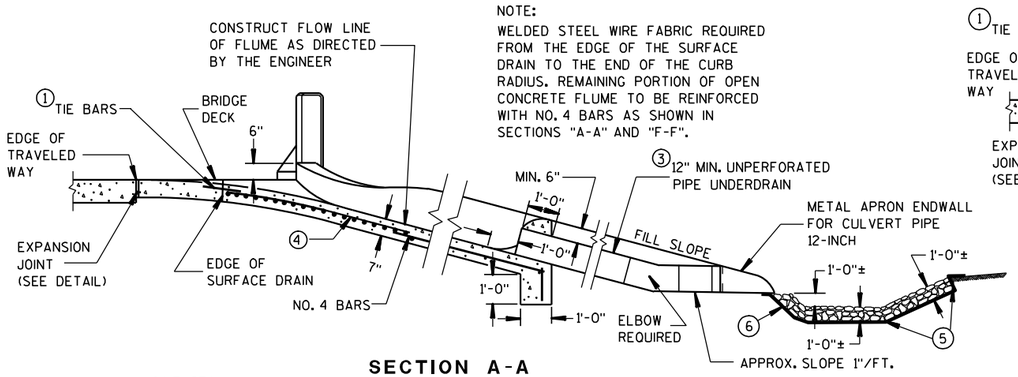
END PROJECT
STA. 16+50.00
Y = 588344.782
X = 810495.078
MATCH EXISTING



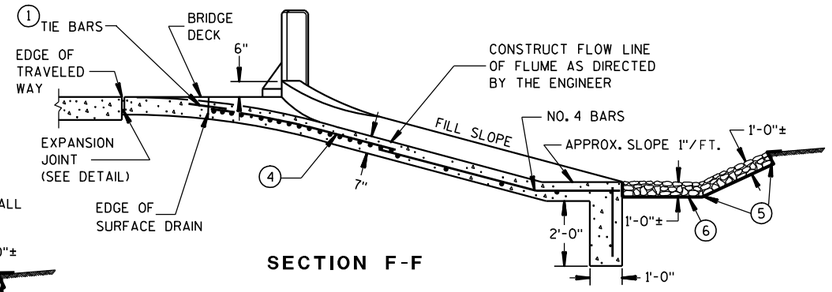
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	PLAN AND PROFILE	SHEET 15	E

Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
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
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)



SECTION A-A



SECTION F-F

GENERAL NOTES

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

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

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

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

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

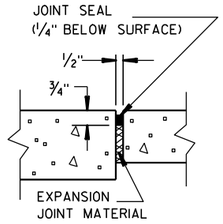
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

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

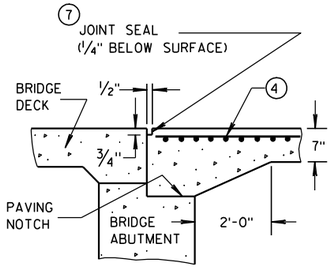
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

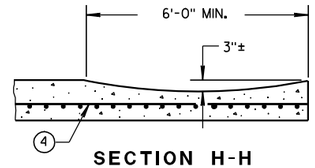
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



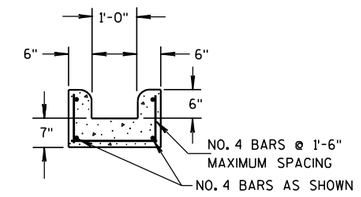
EXPANSION JOINT DETAIL



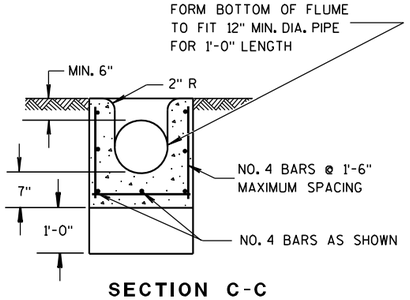
SECTION D-D



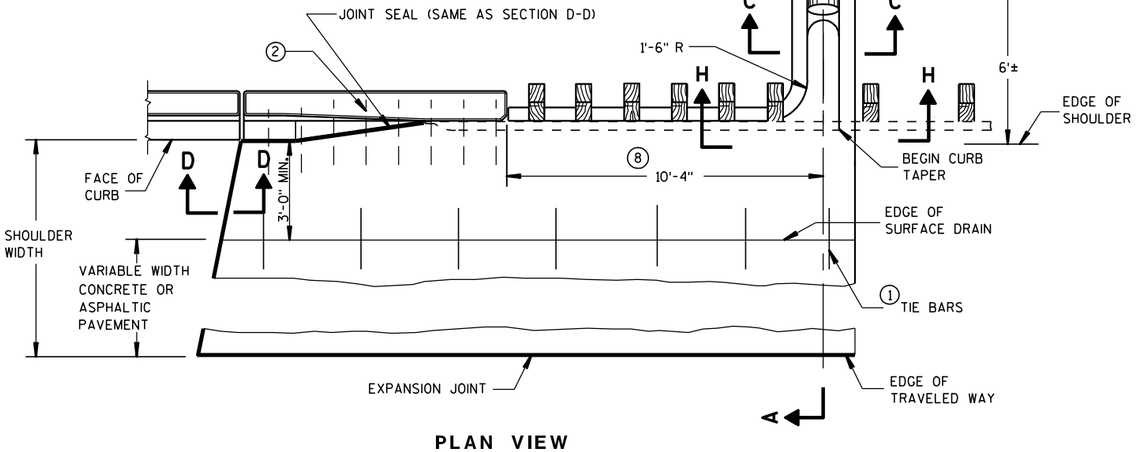
SECTION H-H



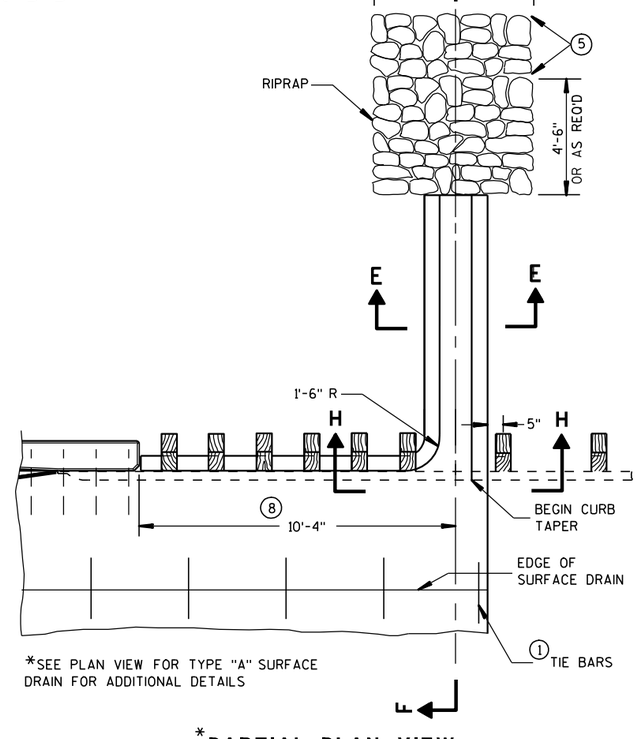
SECTION E-E



SECTION C-C

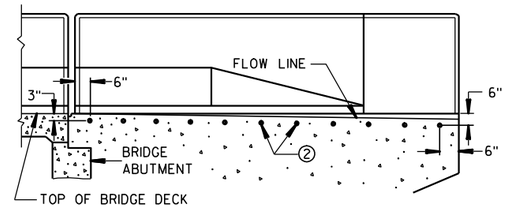


PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



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

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



LOCATION OF
TIE BARS IN WINGWALL

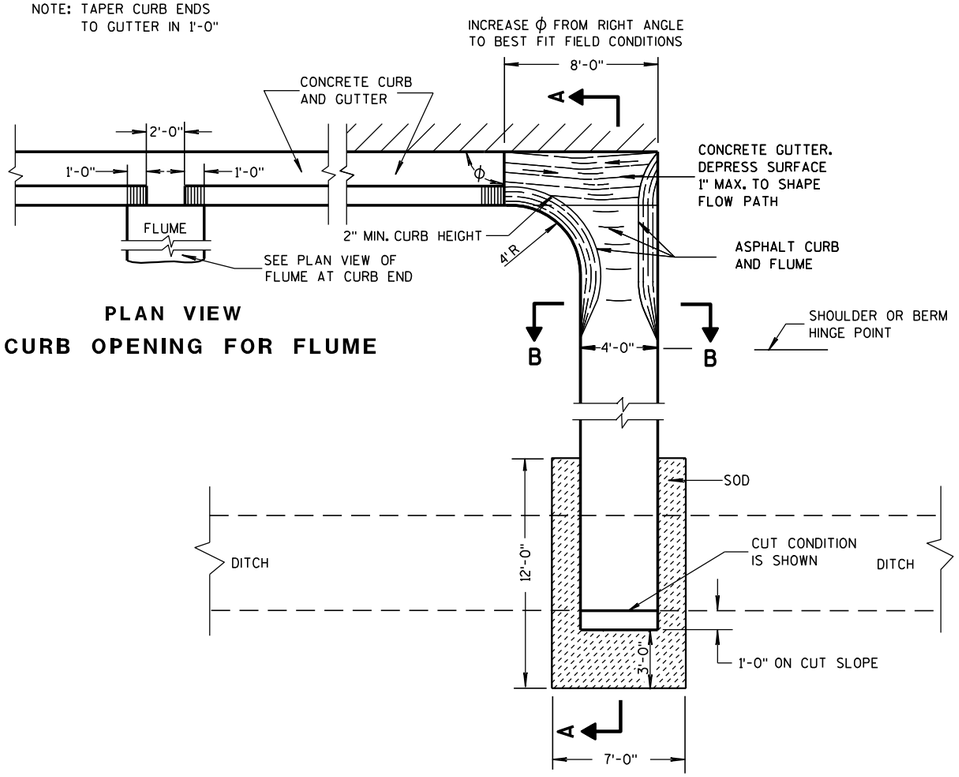
CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

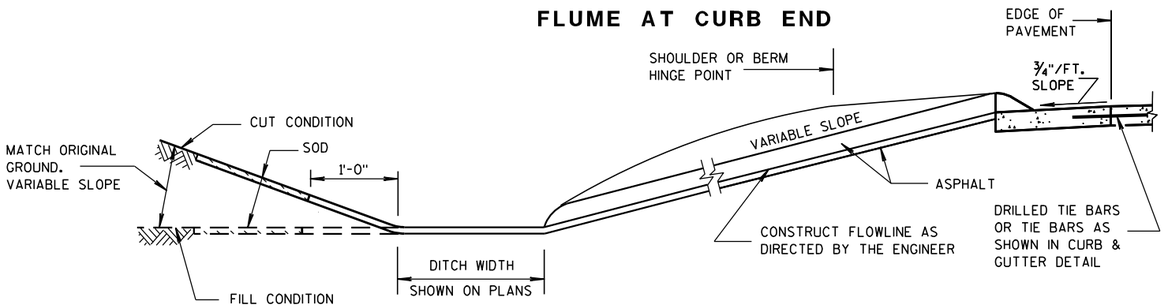
6
S.D.D. 8 D 2-6

ASPHALTIC FLUME

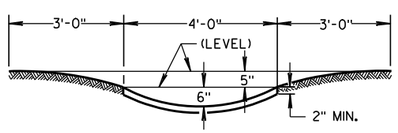


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

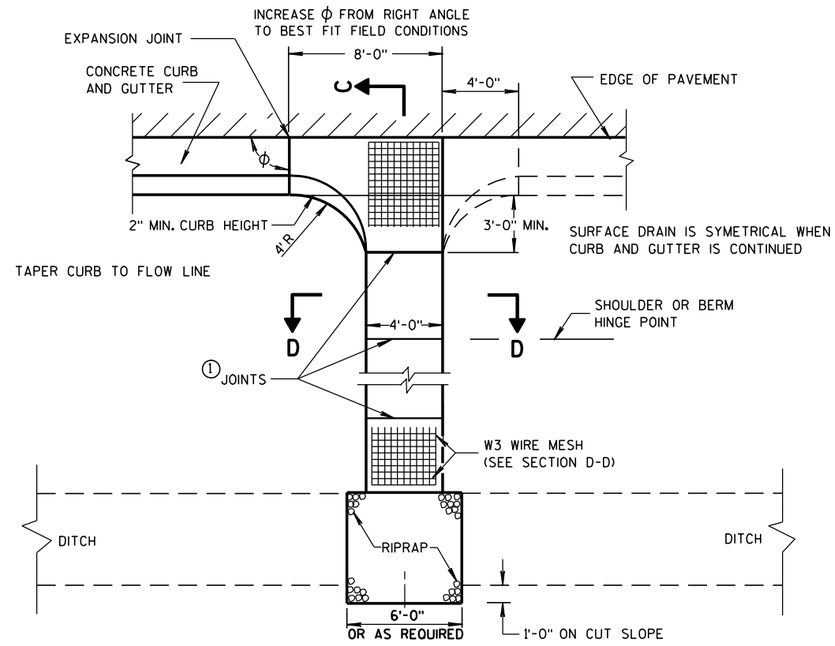
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

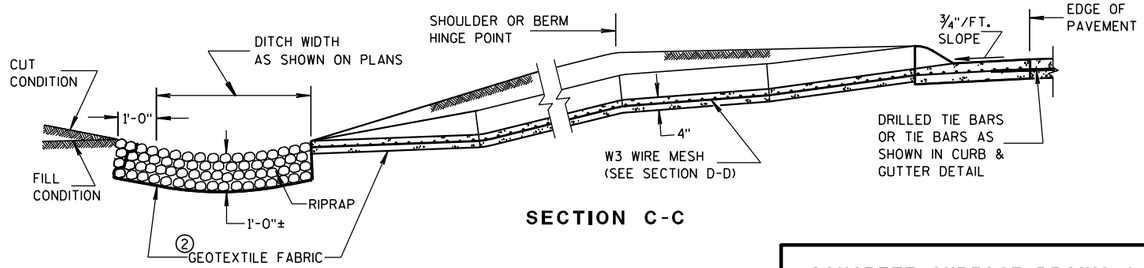
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

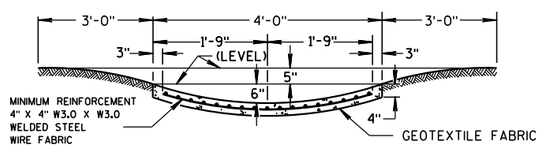
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C

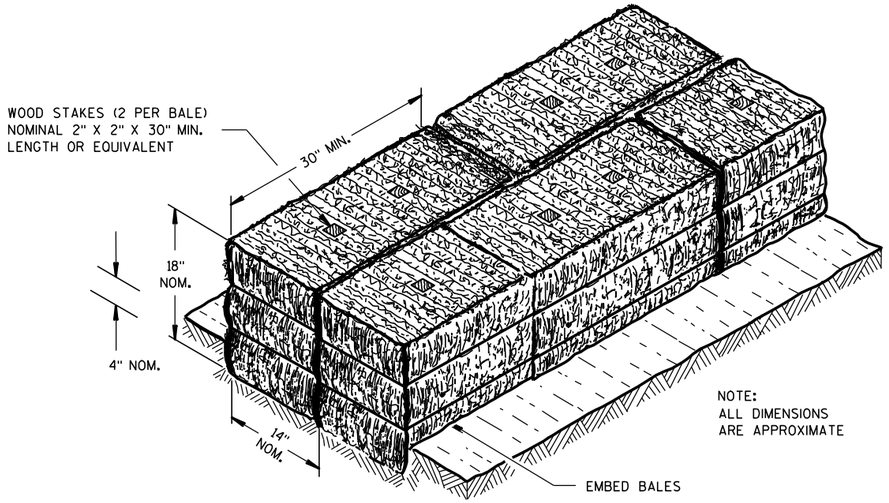


SECTION D-D

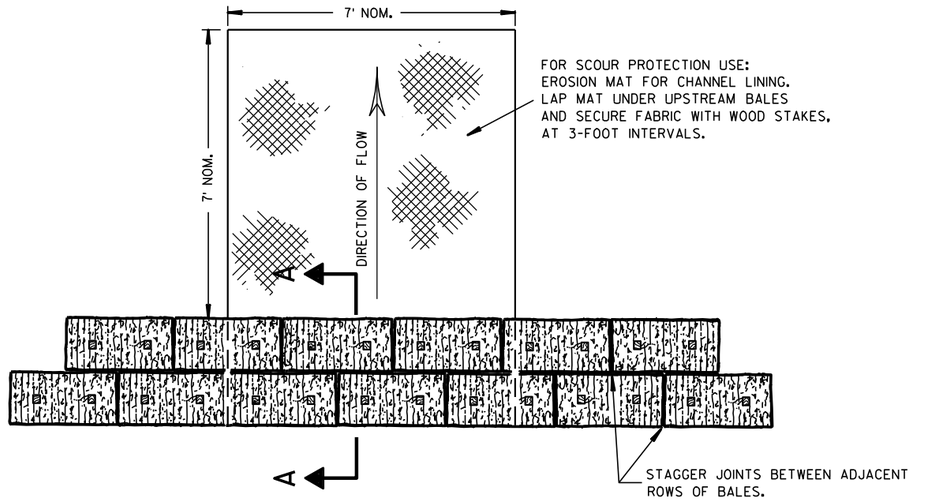
CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

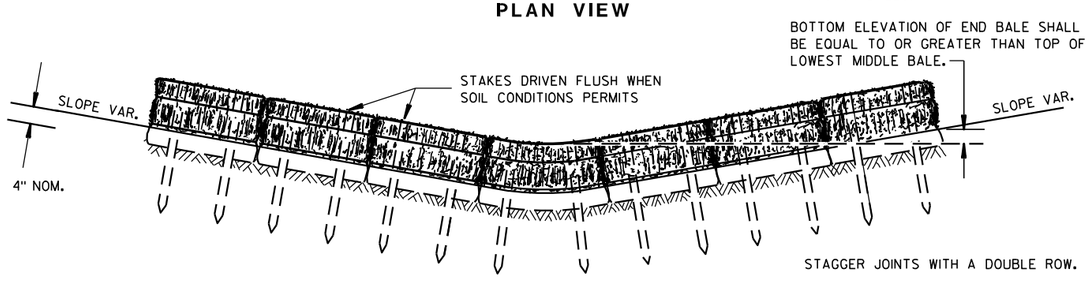
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA



SECTION A-A



PLAN VIEW



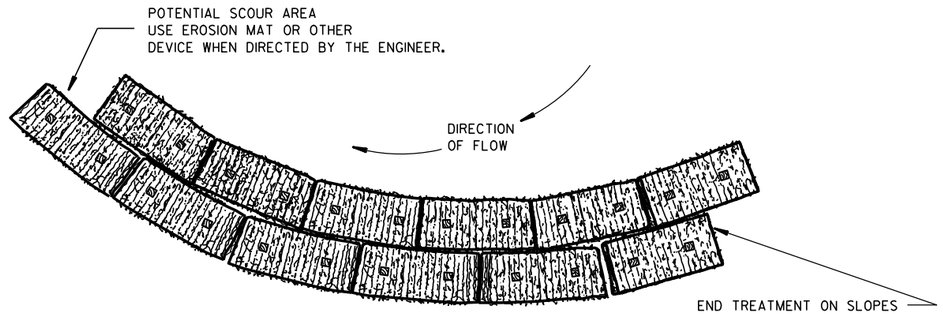
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

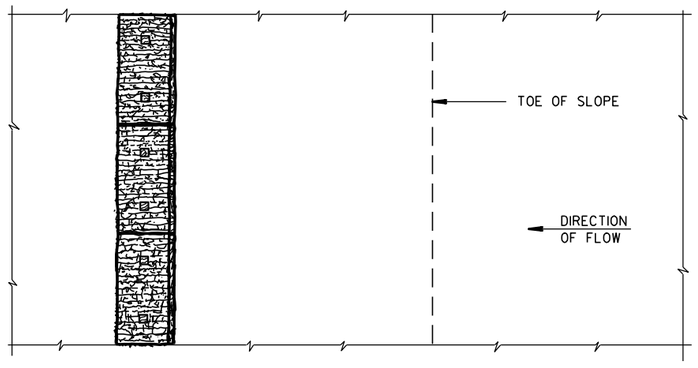
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

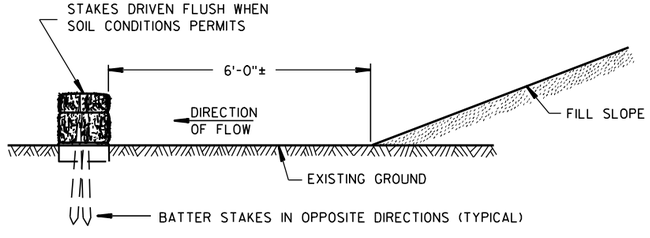


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

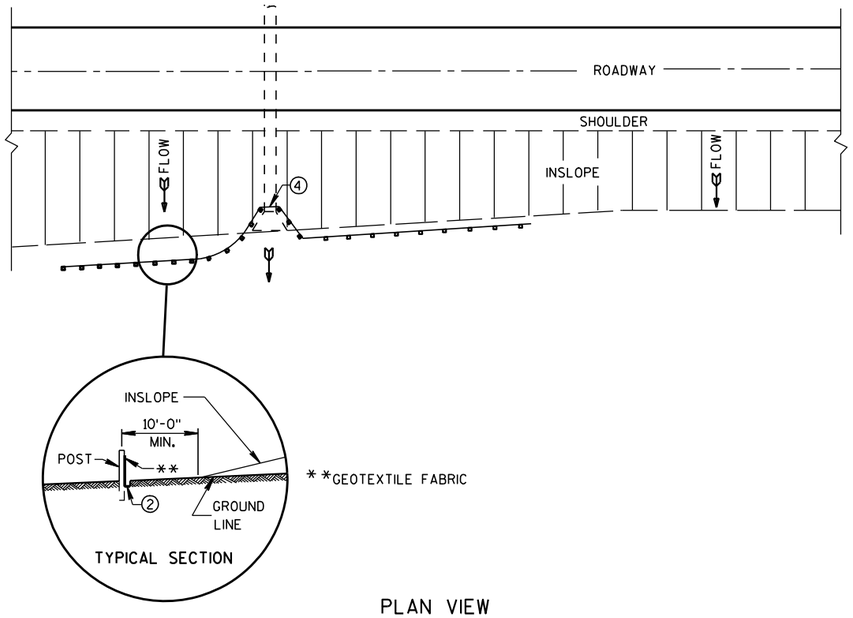
APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

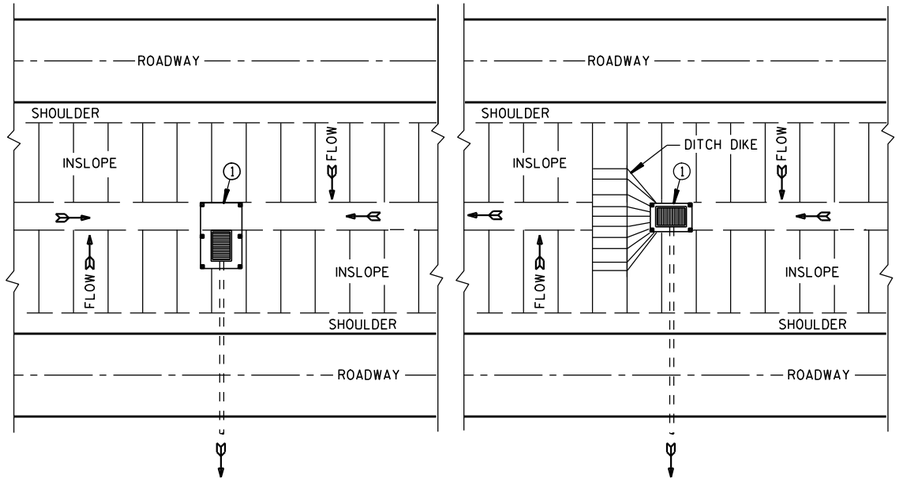
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



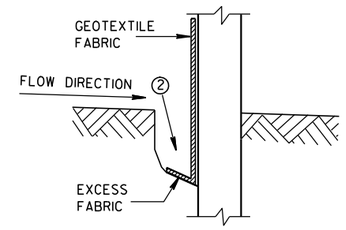
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

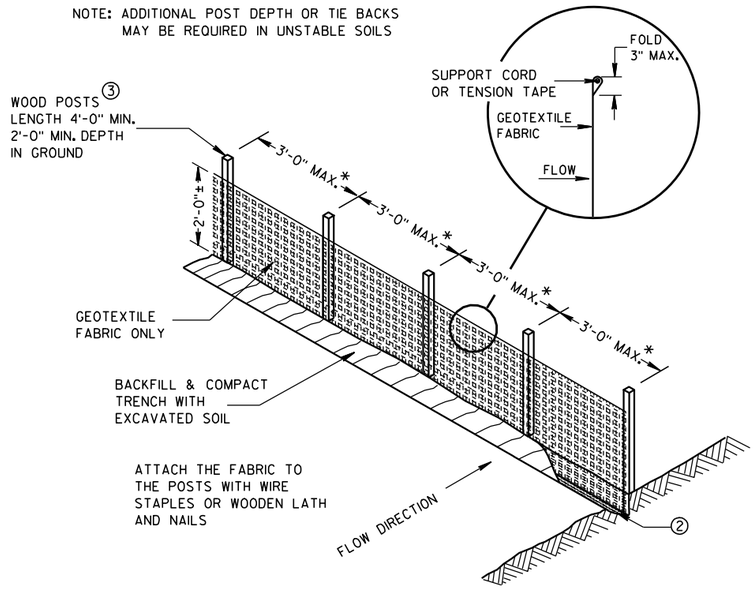
GENERAL NOTES

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

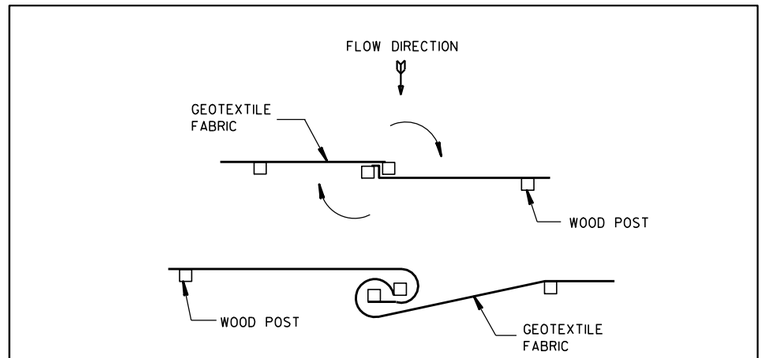
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



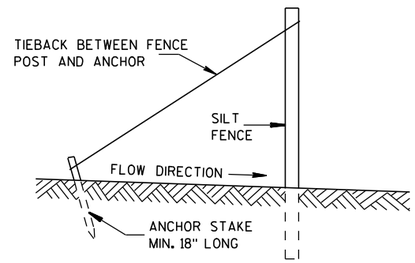
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

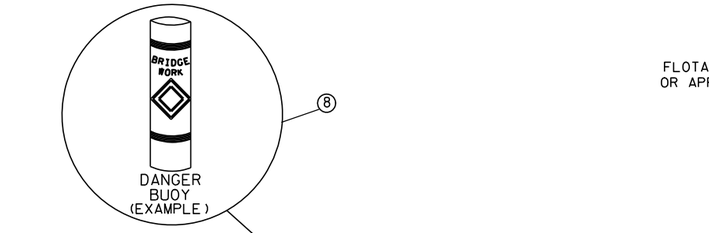
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

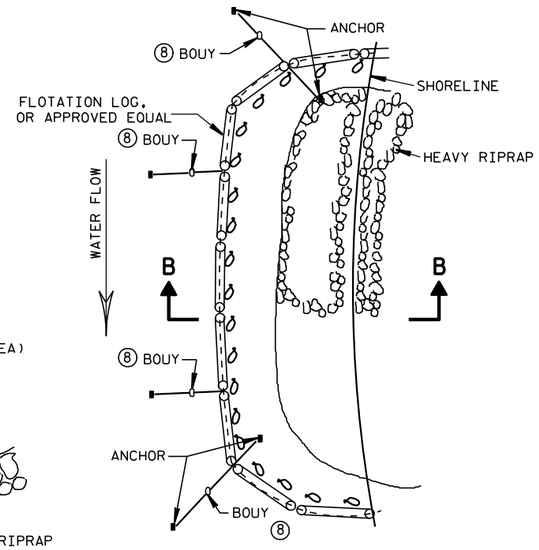
S.D.D. 8 E 9-6

6

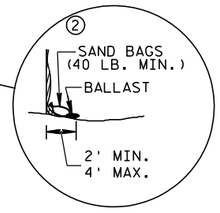
S.D.D. 8 E 9-6

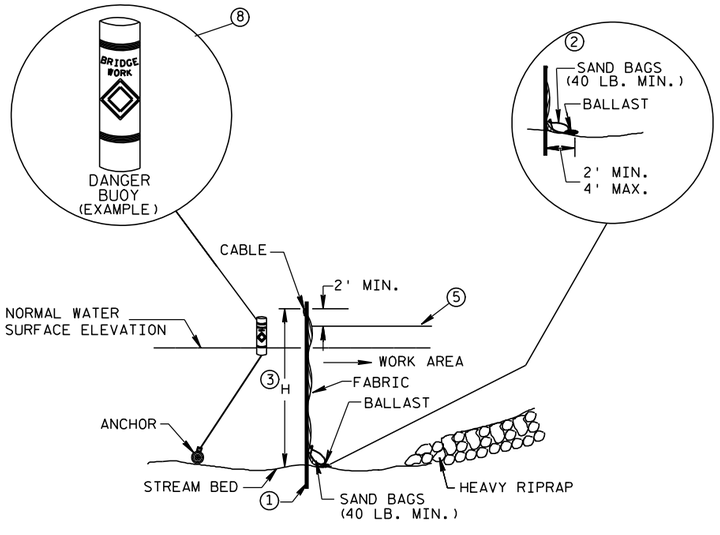


SECTION B-B

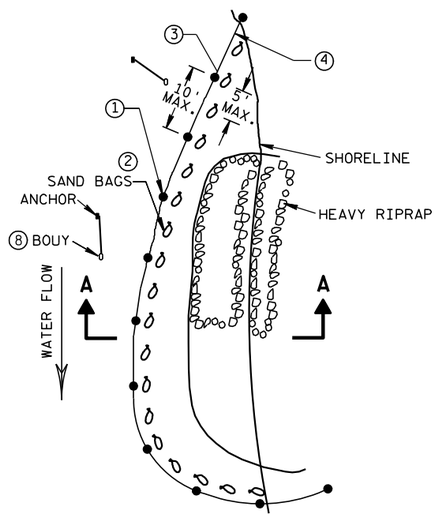


TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6





SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

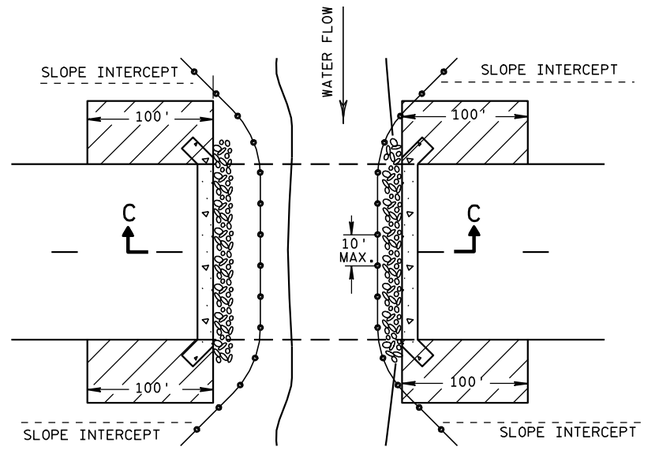
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE O2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

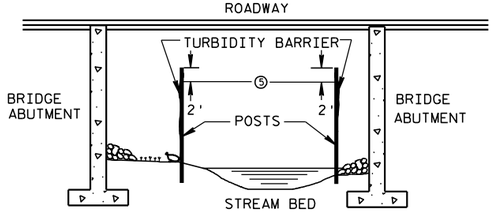
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

TURBIDITY BARRIER PLACEMENT DETAILS

METAL APRON ENDWALLS

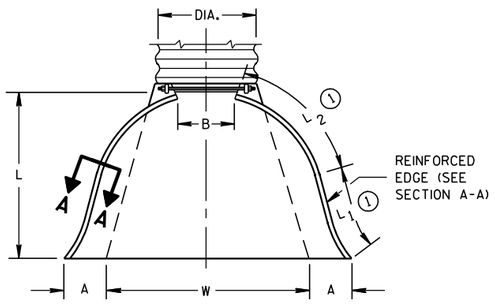
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

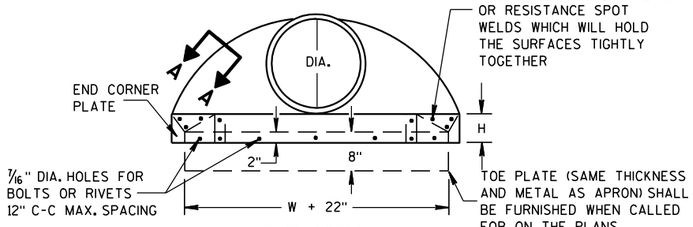
REINFORCED CONCRETE APRON ENDWALLS

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

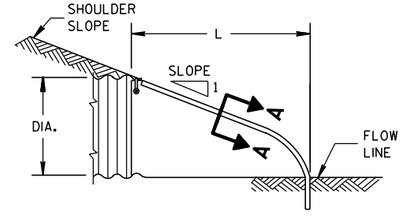
*MINIMUM
**MAXIMUM



PLAN VIEW

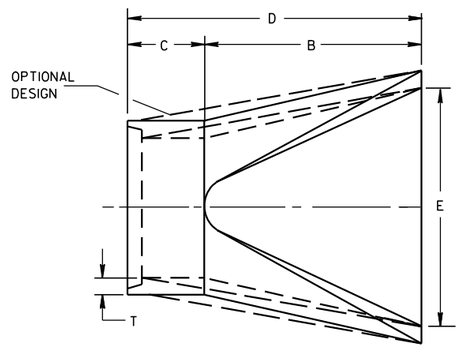


END VIEW

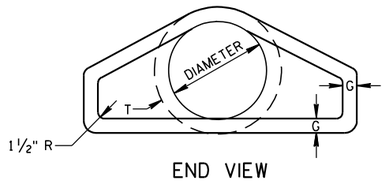


SIDE ELEVATION

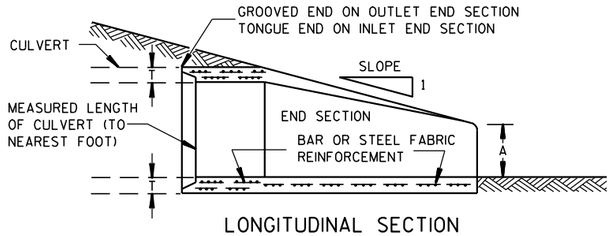
METAL ENDWALLS



PLAN

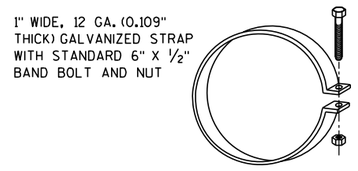


END VIEW



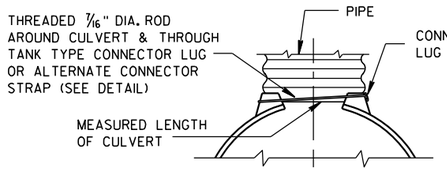
LONGITUDINAL SECTION

CONCRETE ENDWALLS

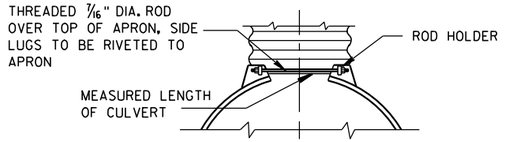


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

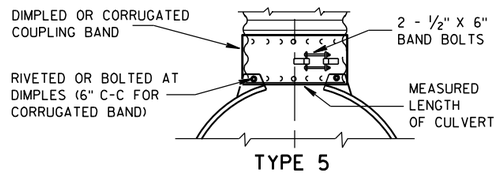


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

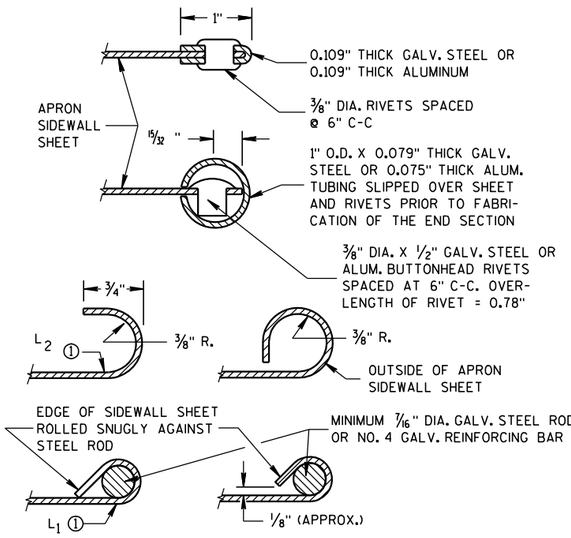
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

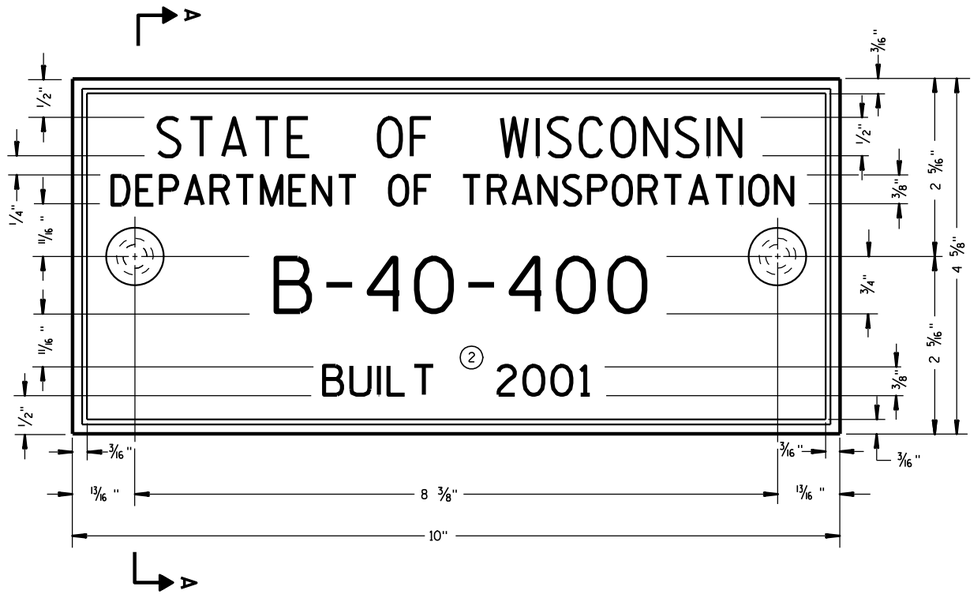
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 F 1-11



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

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

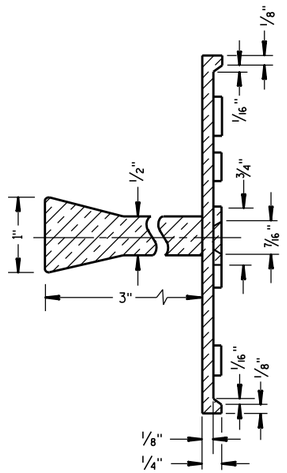
GENERAL NOTES

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

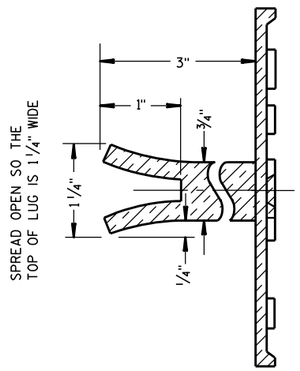
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

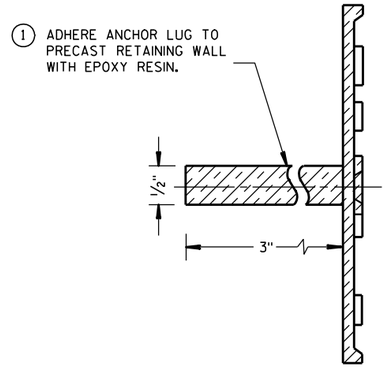
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

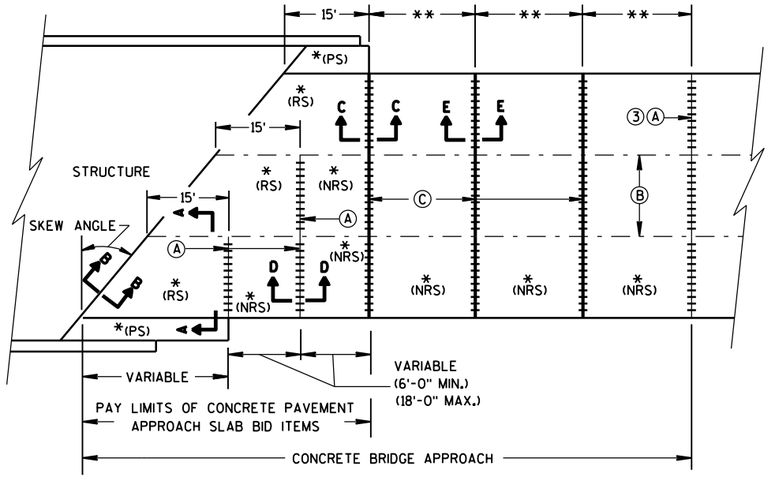
3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

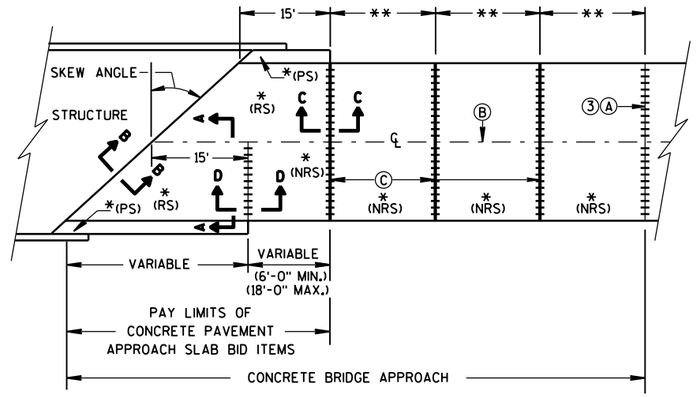
FHWA

6

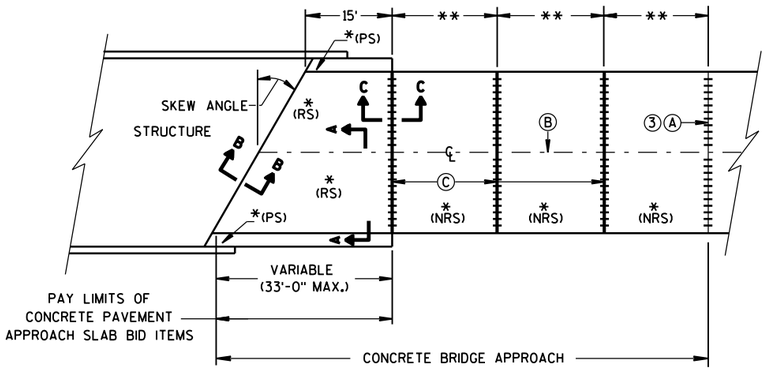
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



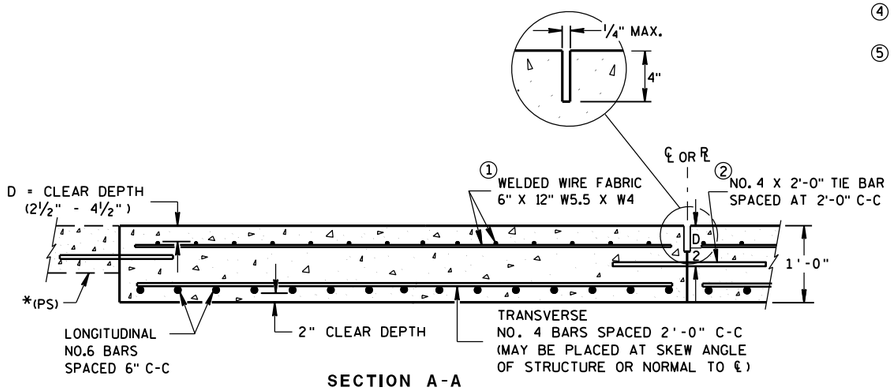
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

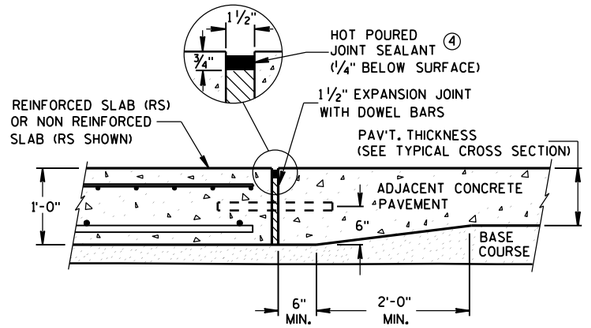
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

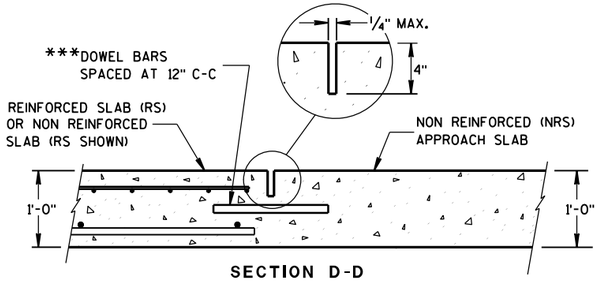
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

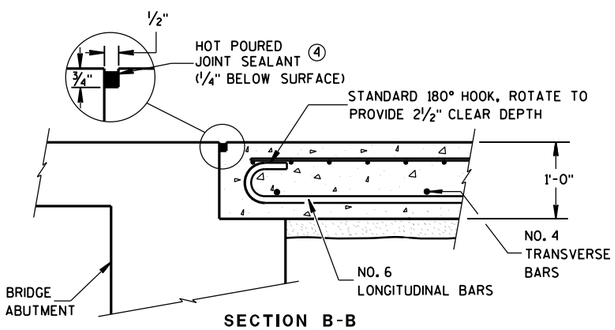
(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

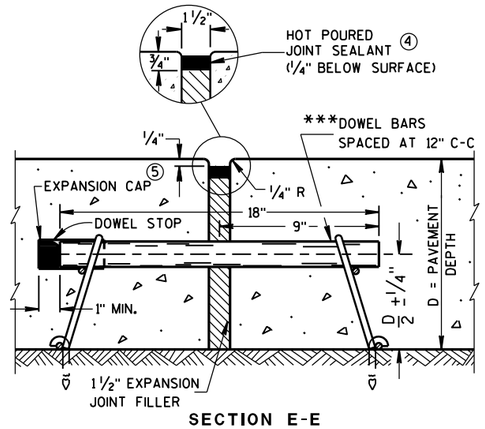
(3) DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
EER
FHWA

6
S.D.D. 13 B 2-7a

GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

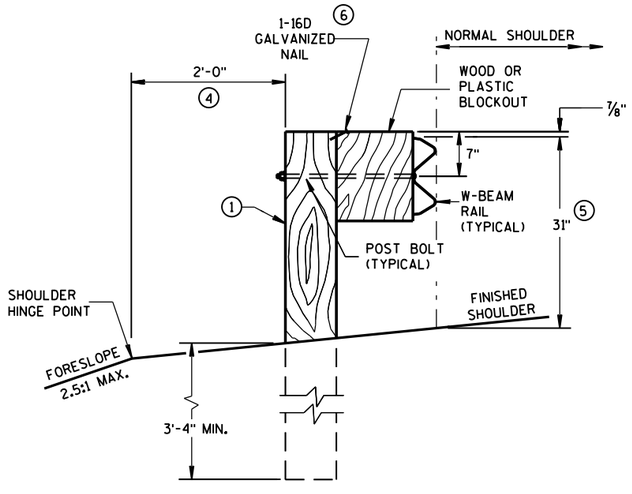
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

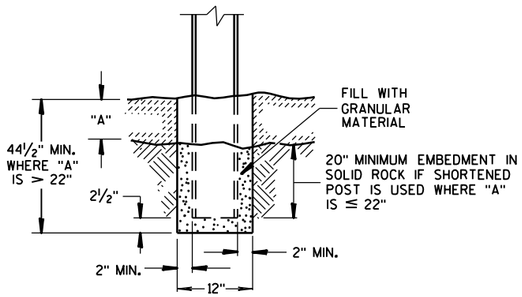
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



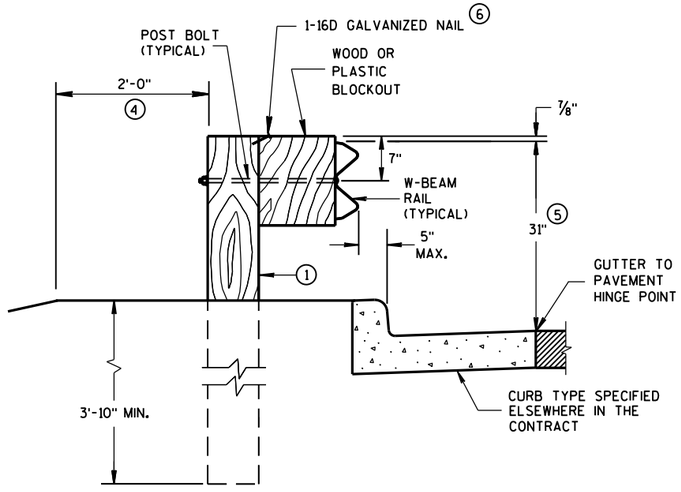
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



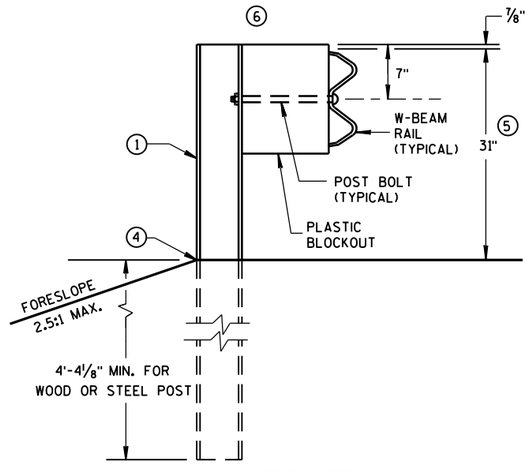
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



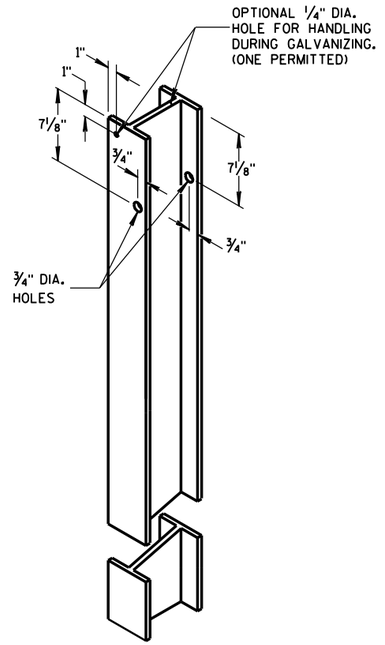
END VIEW

LOCATED ALONG A CURBED ROADWAY

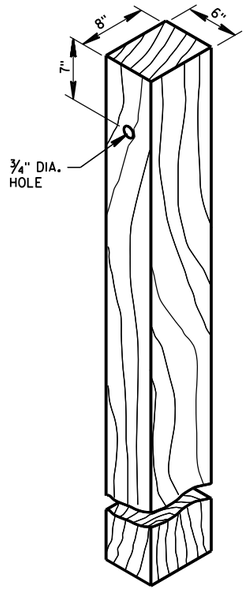


END VIEW

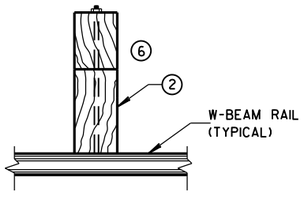
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



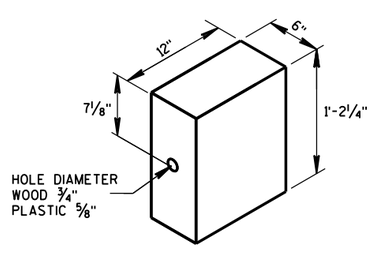
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



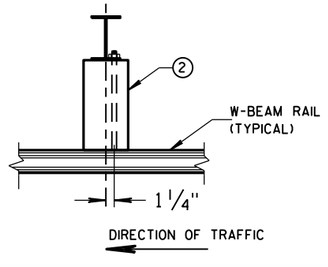
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)

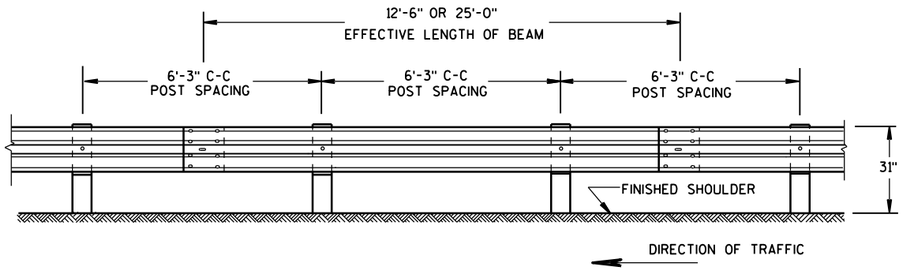


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

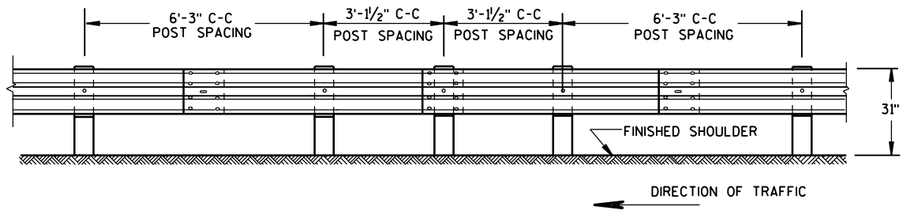
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



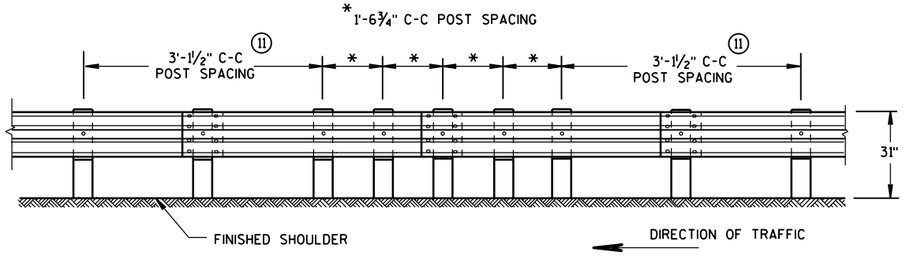
FRONT VIEW

POST SPACING STANDARD INSTALLATION



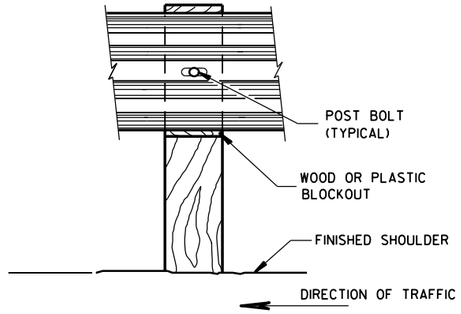
FRONT VIEW

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

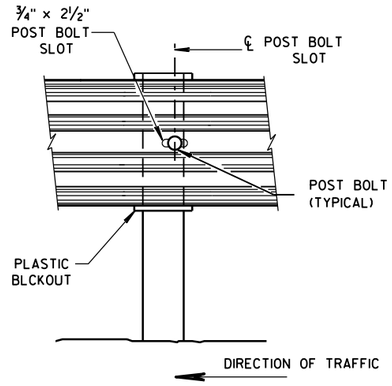


FRONT VIEW

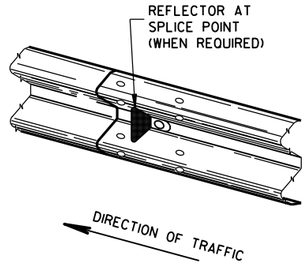
QUARTER POST SPACING (QS)

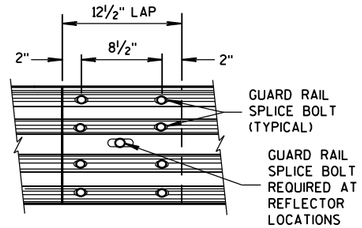


FRONT VIEW AT WOOD POST



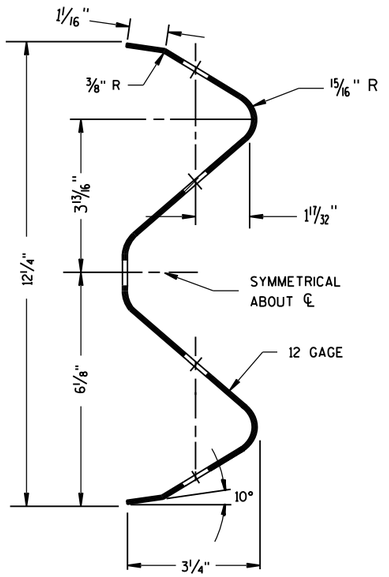
FRONT VIEW AT STEEL POST



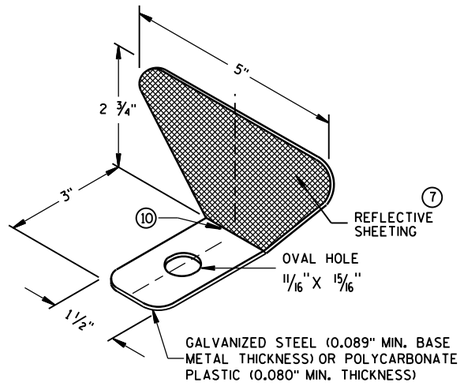


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

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

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

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

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

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

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧

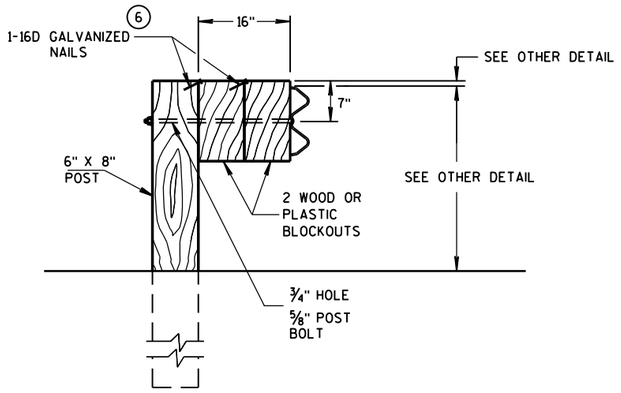
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

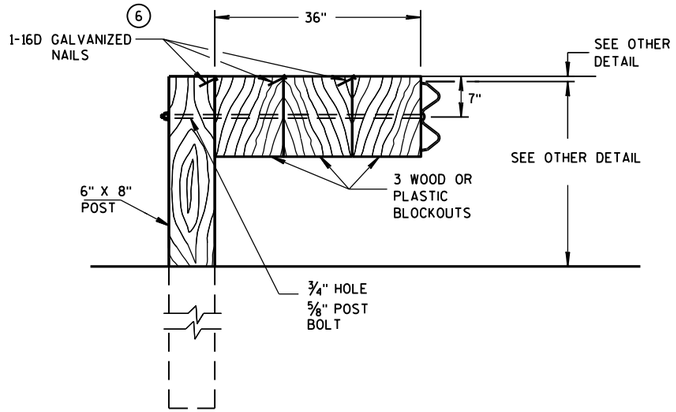
6

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



DETAIL FOR 16" BLOCKOUT DEPTH

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

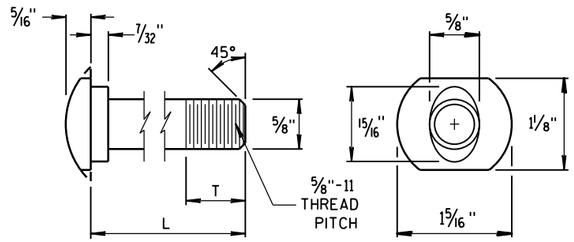


DETAIL FOR 36" BLOCKOUT DEPTH

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

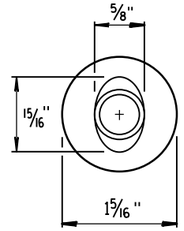
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

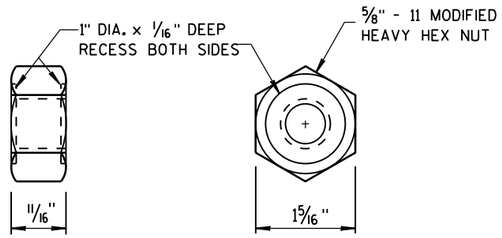


POST BOLT TABLE

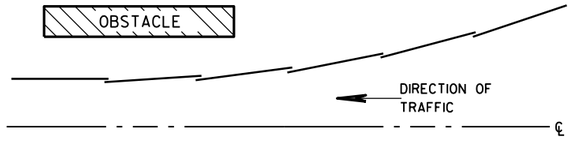
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

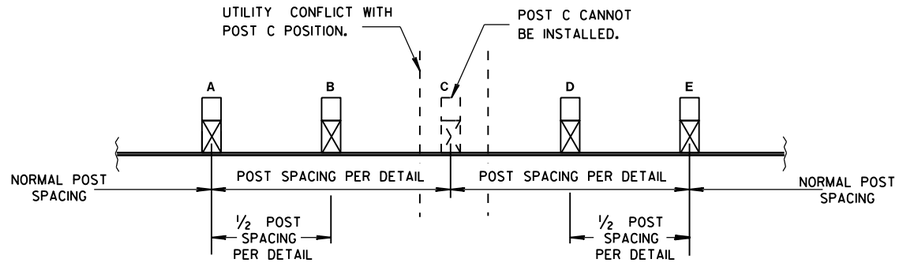


POST BOLT AND RECESS NUT

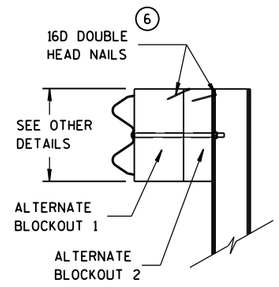


PLAN VIEW

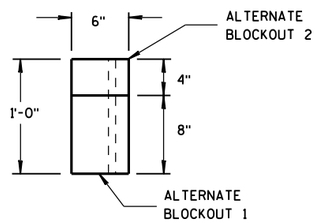
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

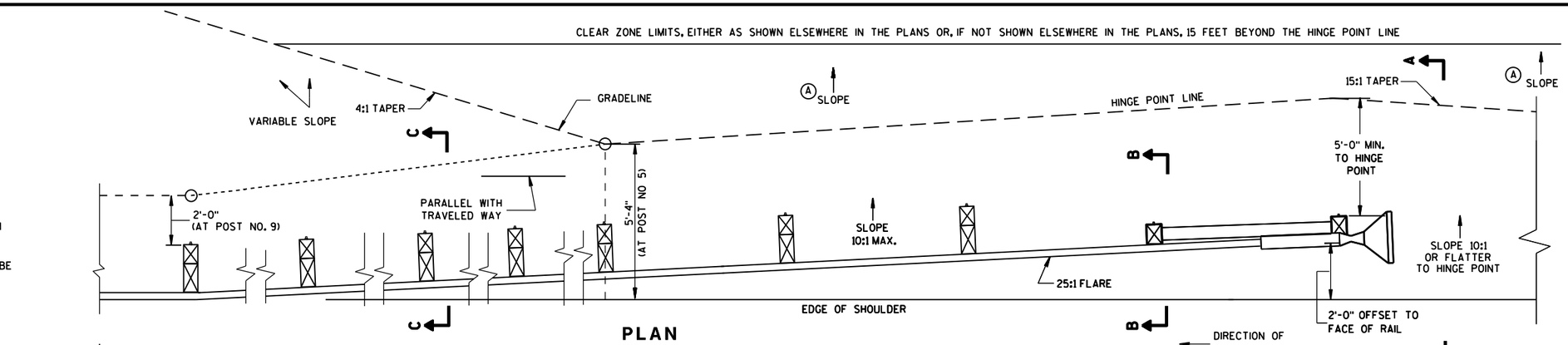
SEE SDD 14B42 FOR MORE INFORMATION.

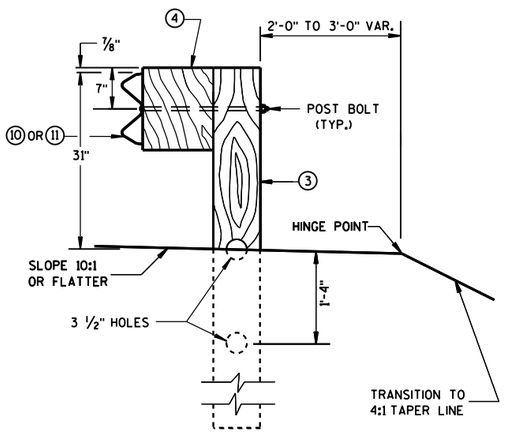
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

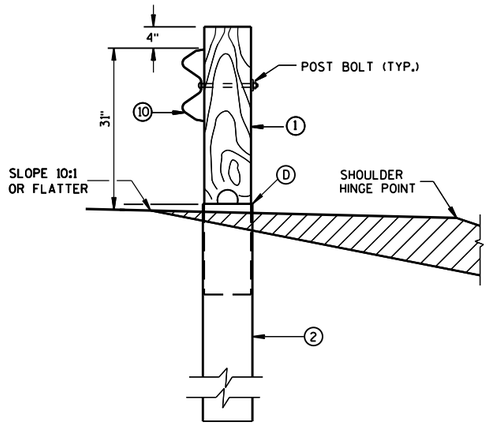
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

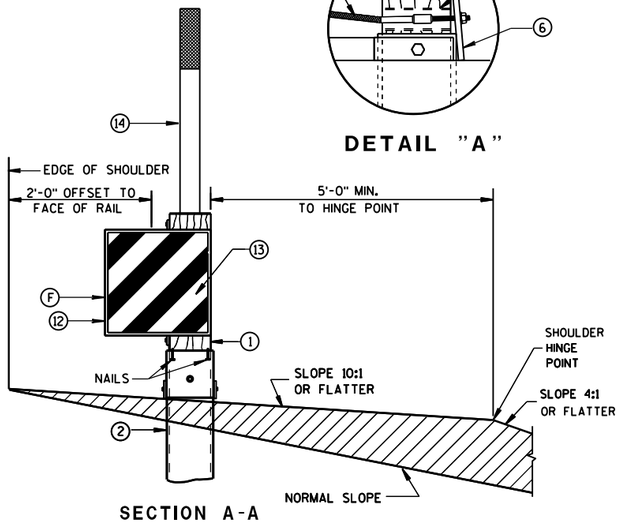




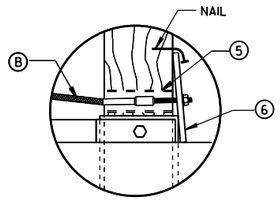
SECTION C-C
TYPICAL AT POST NOS. 3-9



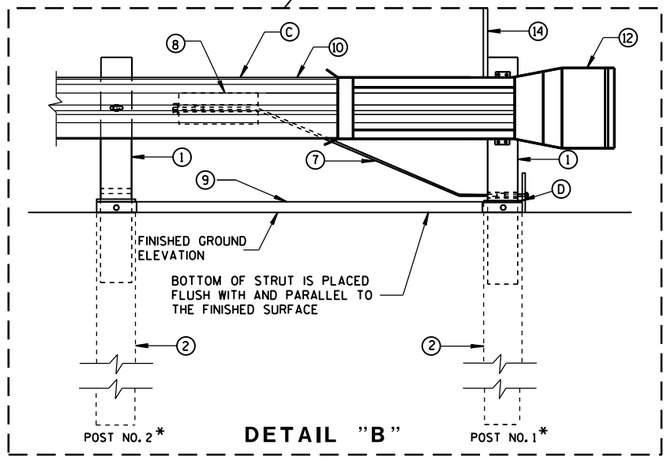
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



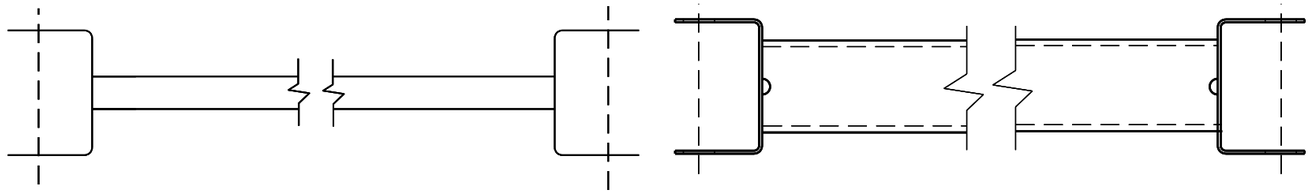
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

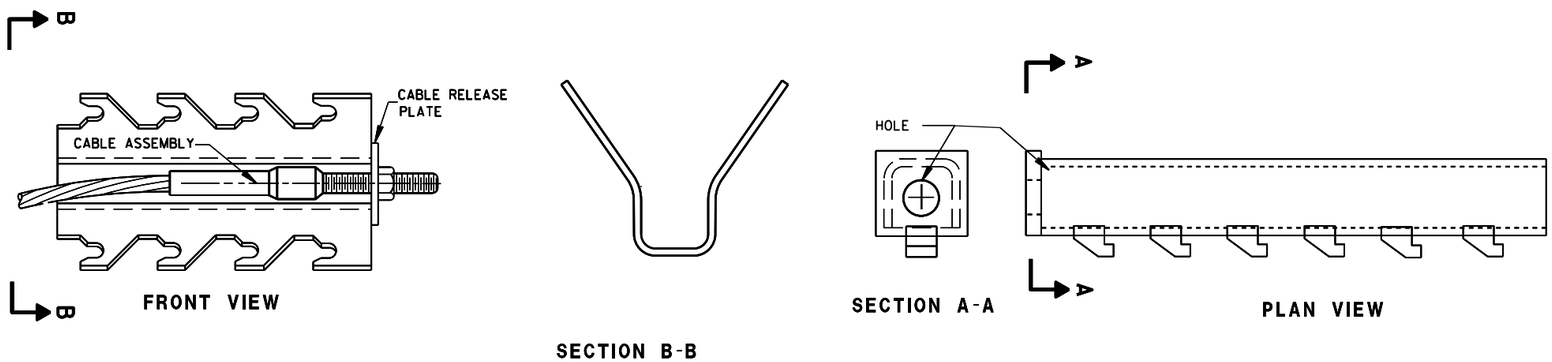
S.D.D. 14 B 44-2a



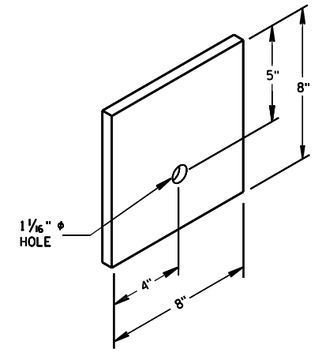
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX (8) (H)



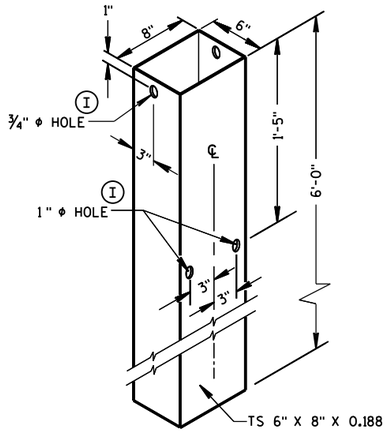
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

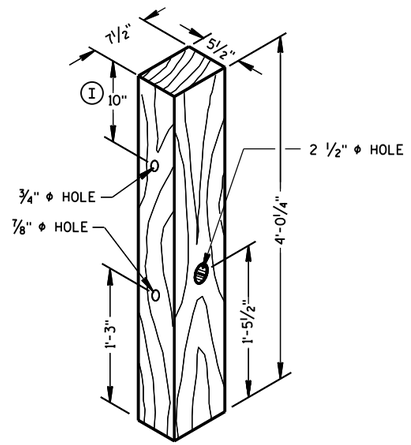
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

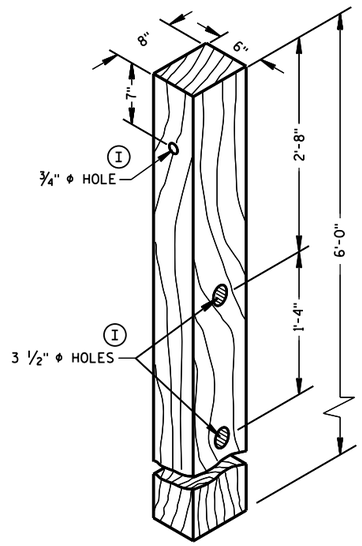


FOUNDATION TUBE (2)



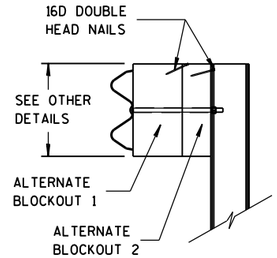
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

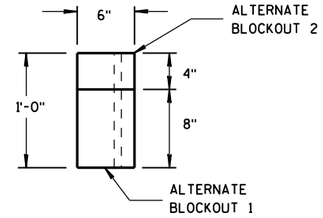


POSTS NUMBER 3-9

WOOD CRT POST (3)

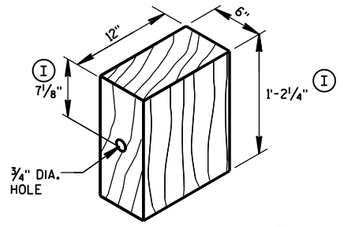


SIDE VIEW



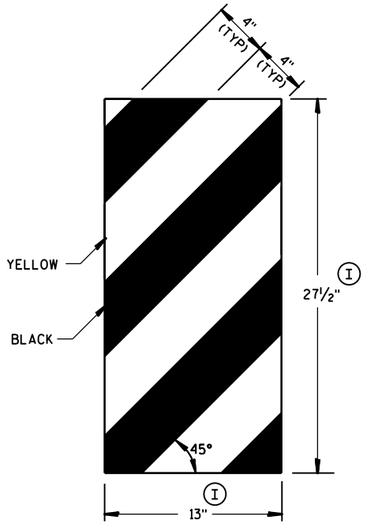
TOP VIEW

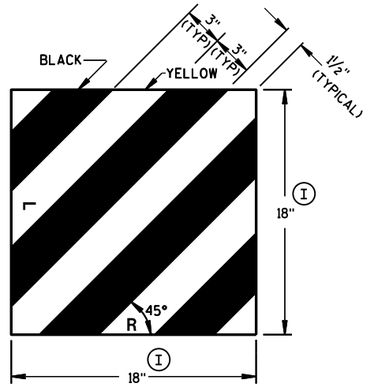
ALTERNATE WOOD BLOCKOUT DETAIL



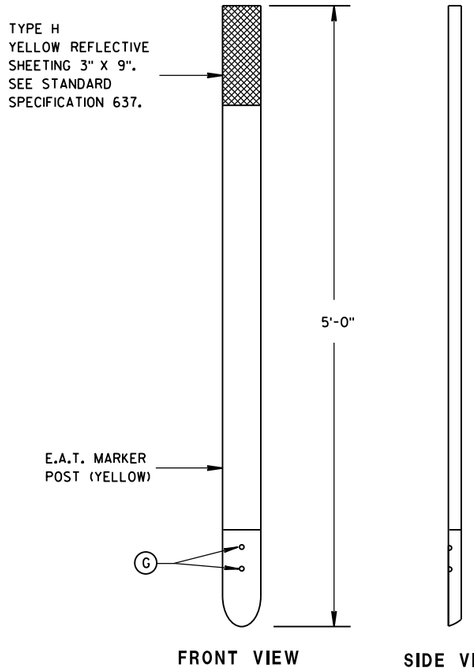
WOOD BLOCKOUT (4)

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





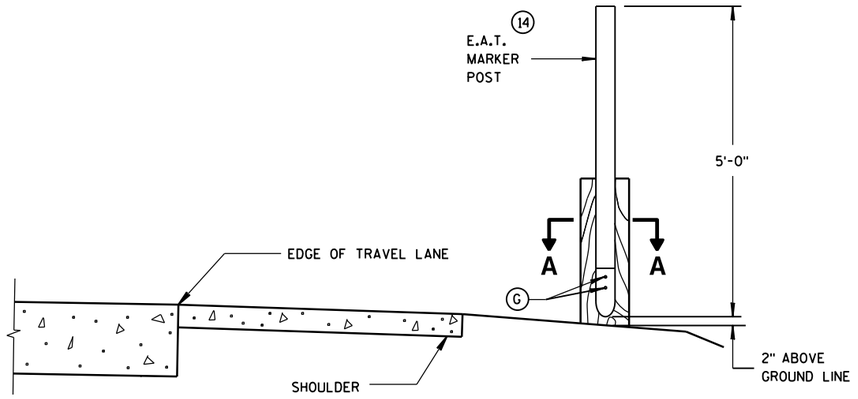
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

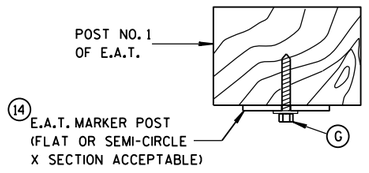
SIDE VIEW

E.A.T. MARKER POST (14)



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

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



SECTION A-A

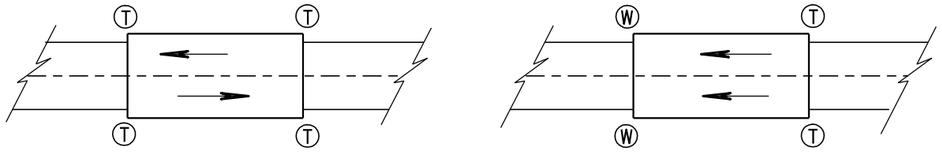
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

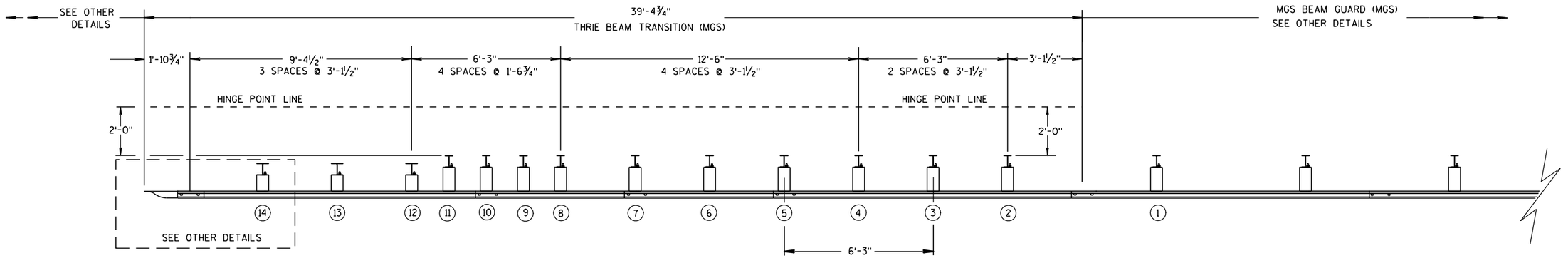
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

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

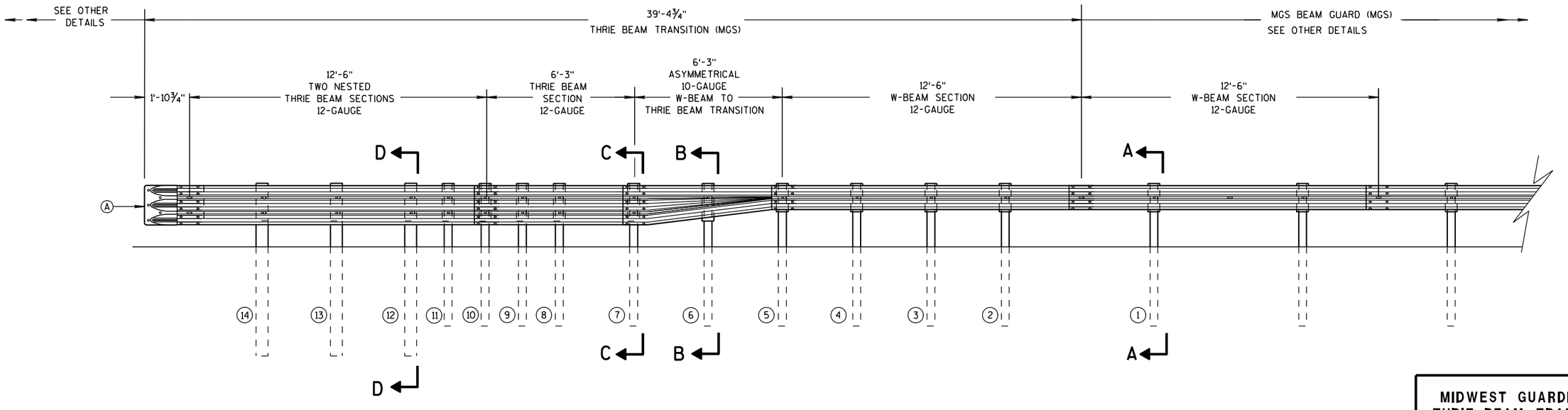
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

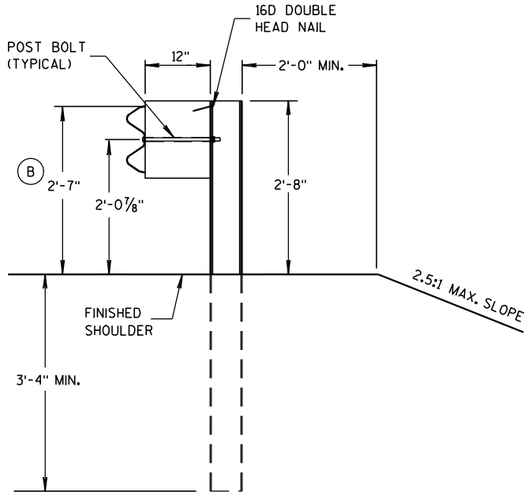
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-3a

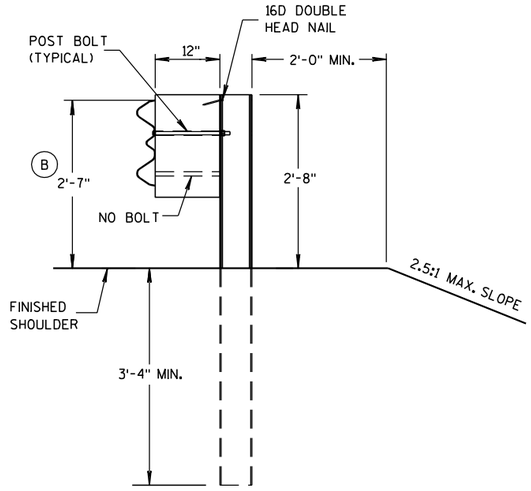
GENERAL NOTES

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



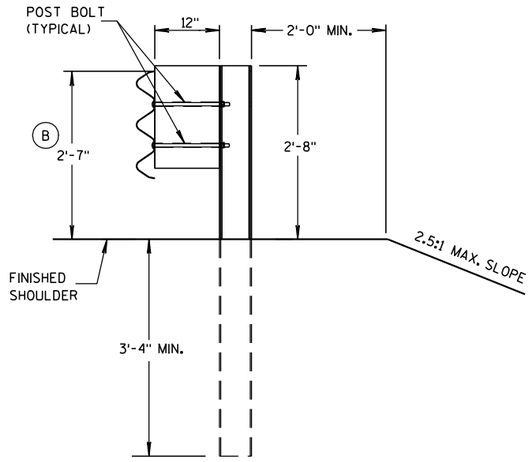
SECTION A-A

POSTS 1-5



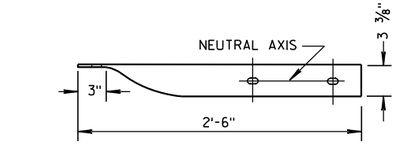
SECTION B-B

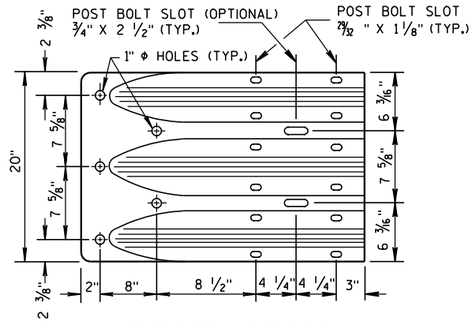
POST 6



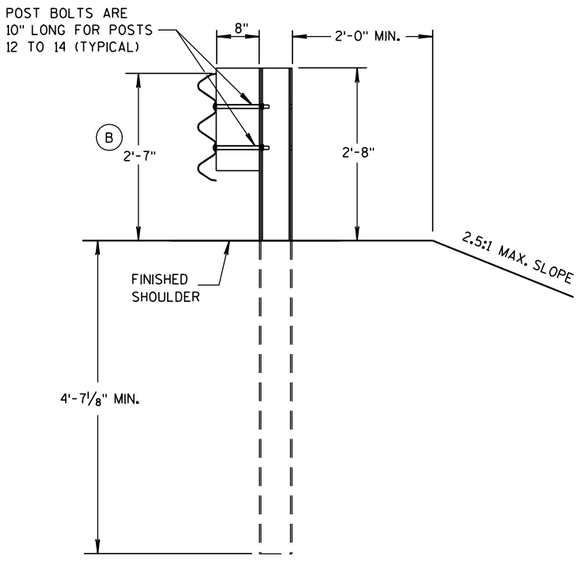
SECTION C-C

POSTS 7-11



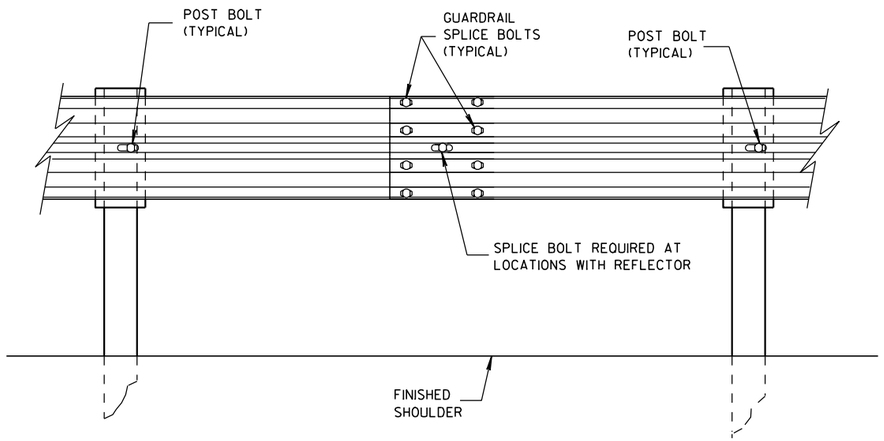


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14



SPLICE DETAIL

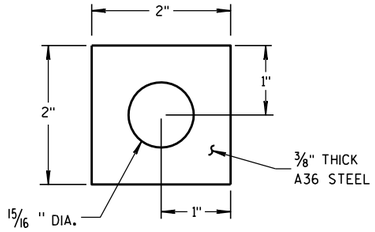
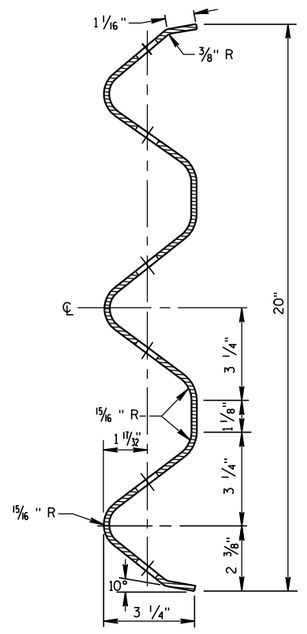


PLATE WASHER DETAIL

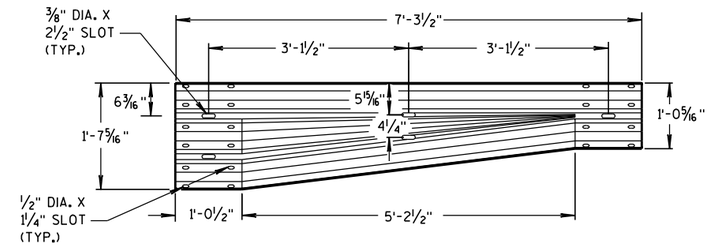


SECTION THRU THRIE BEAM RAIL ELEMENT

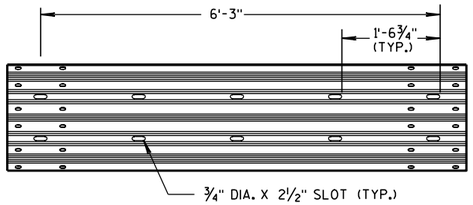
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

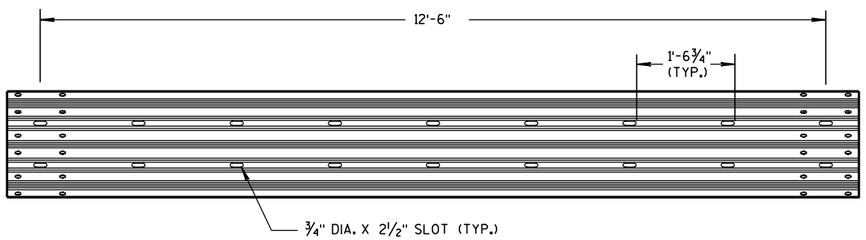
6
S.D.D. 14 B 45-3b



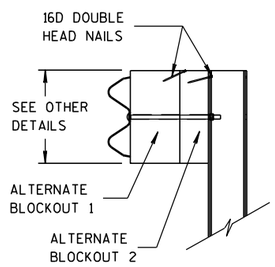
W-BEAM TO THRIE BEAM TRANSITION SECTION



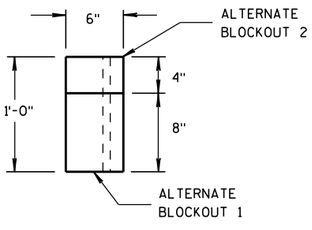
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

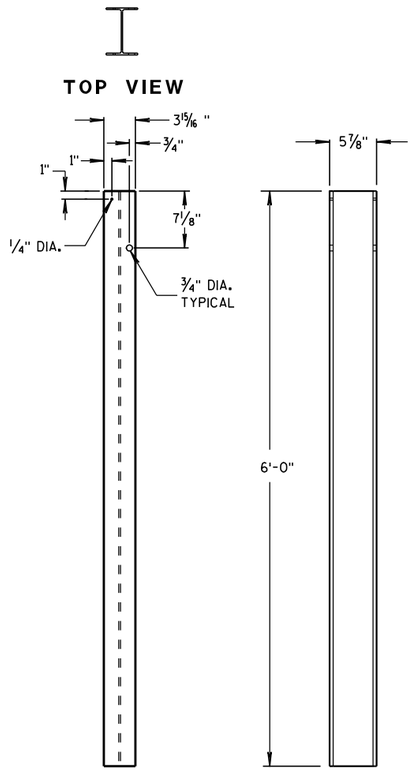


SIDE VIEW

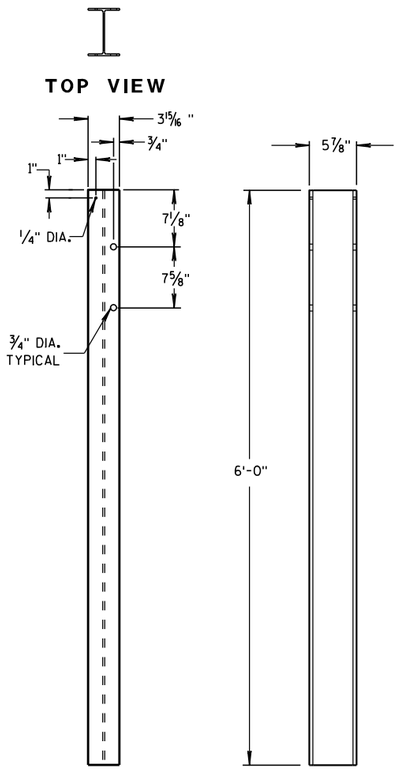


TOP VIEW

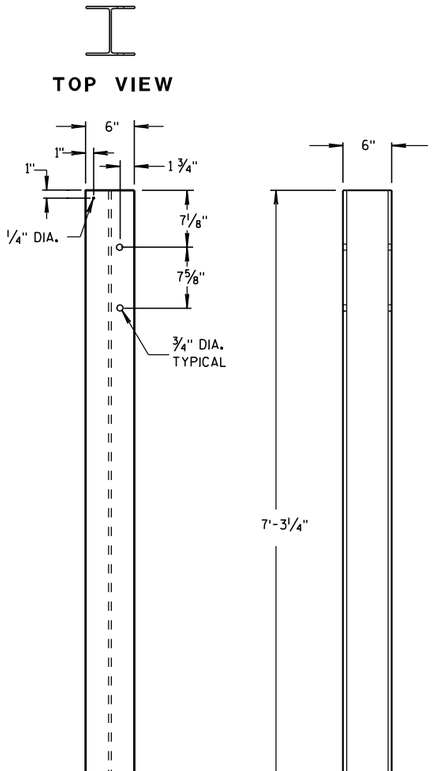
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

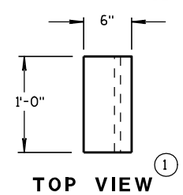


STEEL POSTS 6-11

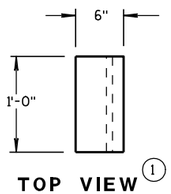


STEEL POSTS 12-14

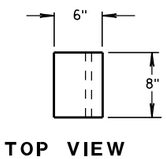
1 WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



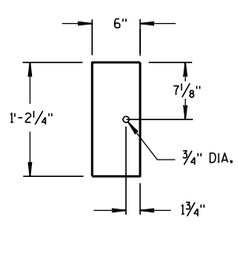
TOP VIEW (1)



TOP VIEW (1)

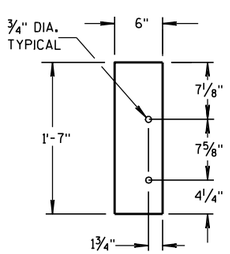


TOP VIEW



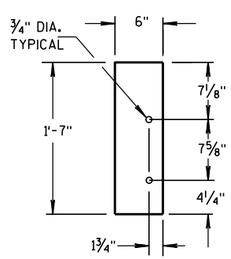
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

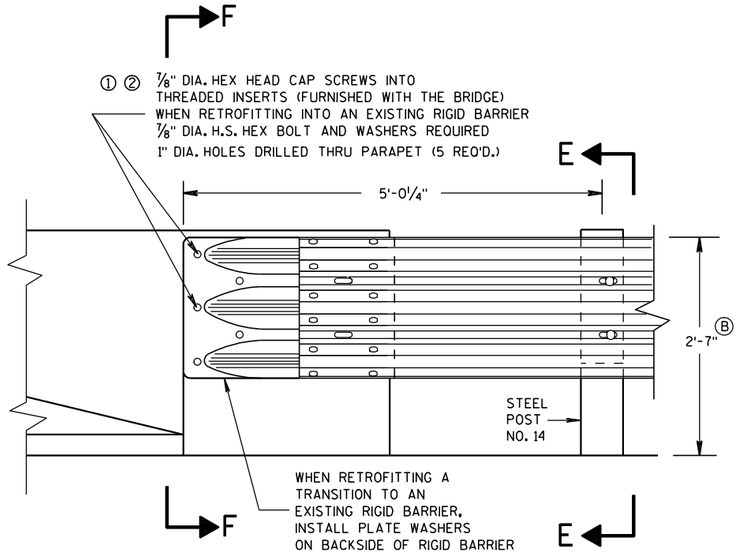
POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

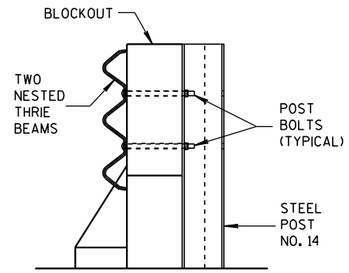
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-3c



FRONT VIEW



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.

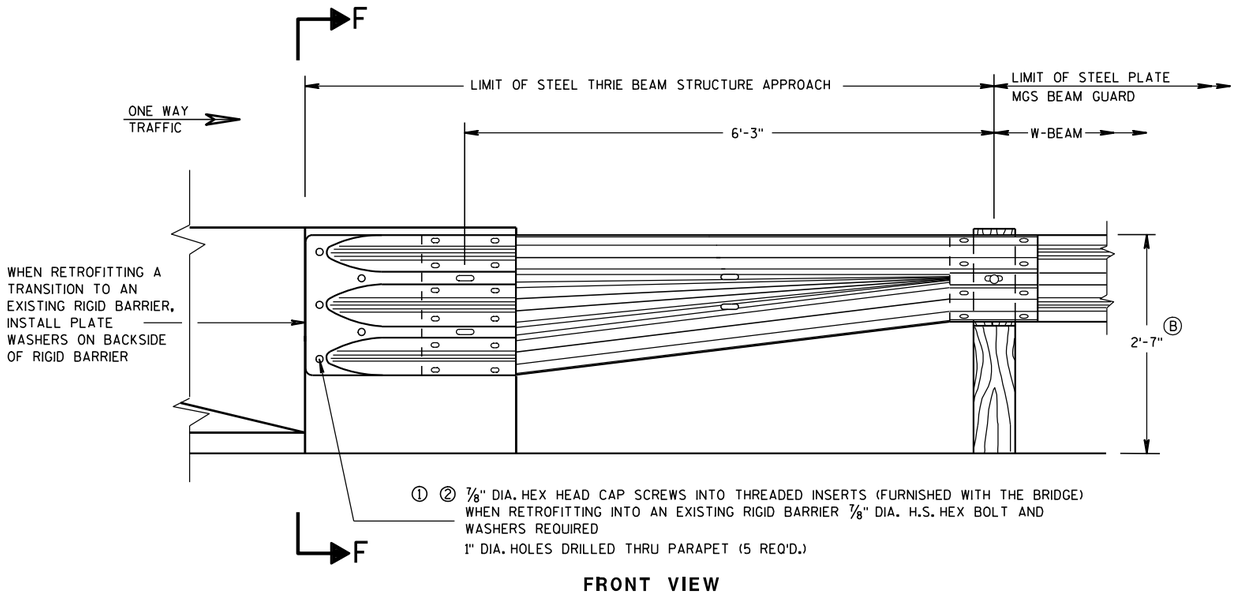
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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.

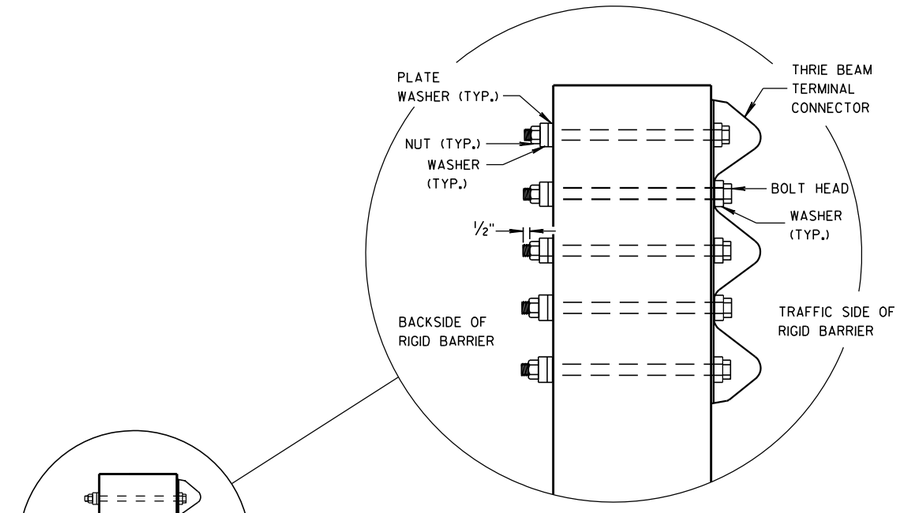
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

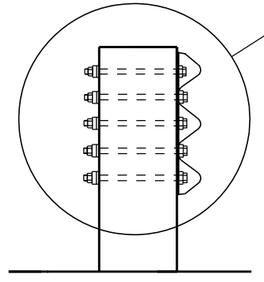
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW





SECTION F-F

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

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

FHWA

GENERAL NOTES

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

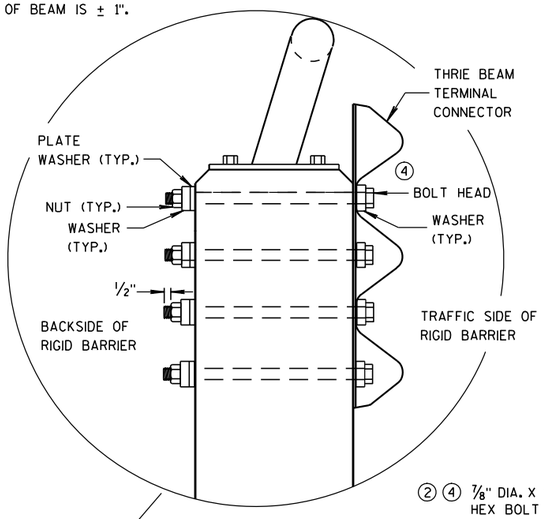
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

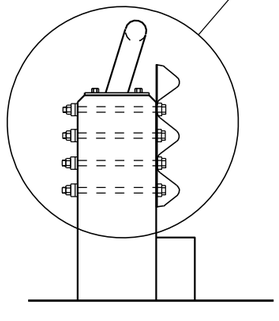
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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". BLOCK IS INCIDENTAL TO THE CONTRACT.

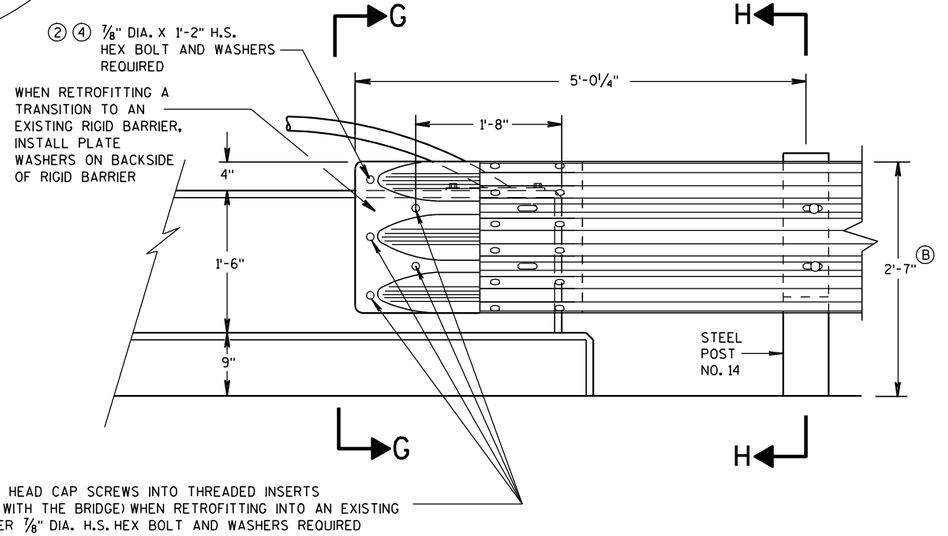
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

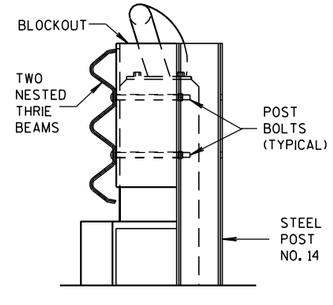




SECTION G-G

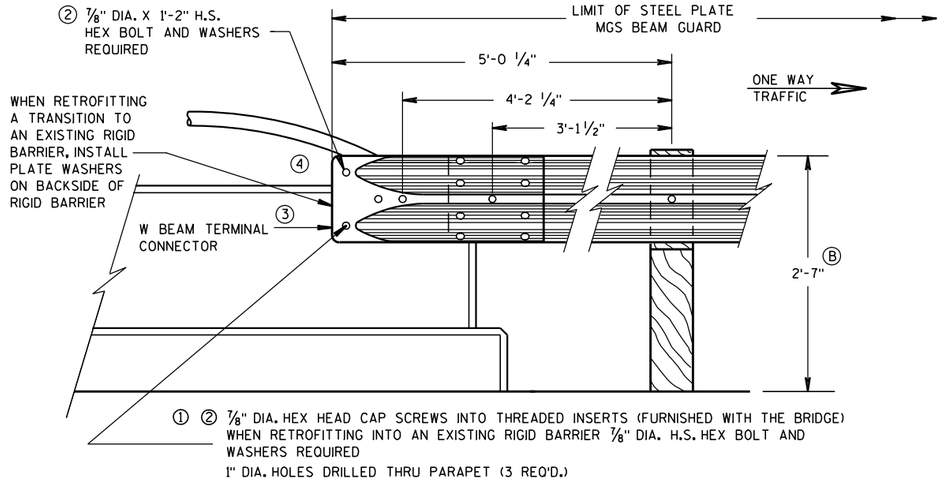


FRONT VIEW



SECTION H-H

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)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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S.D.D. 14 B 45-3e

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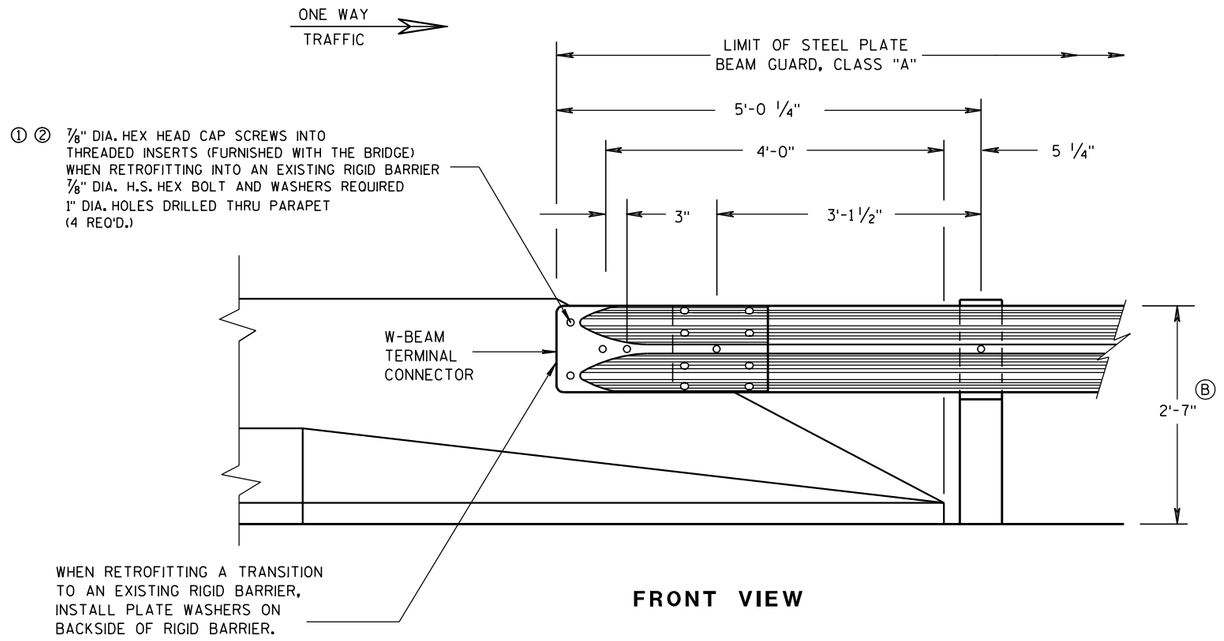
S.D.D. 14 B 45-3e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

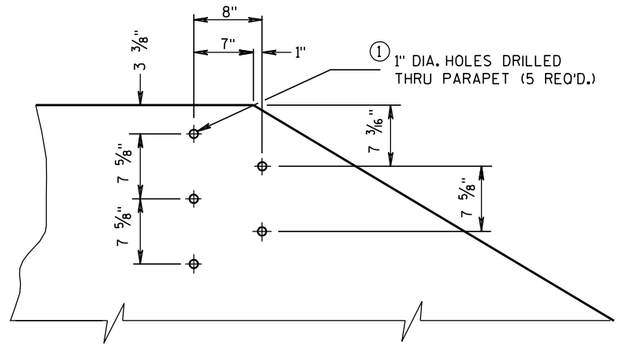
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

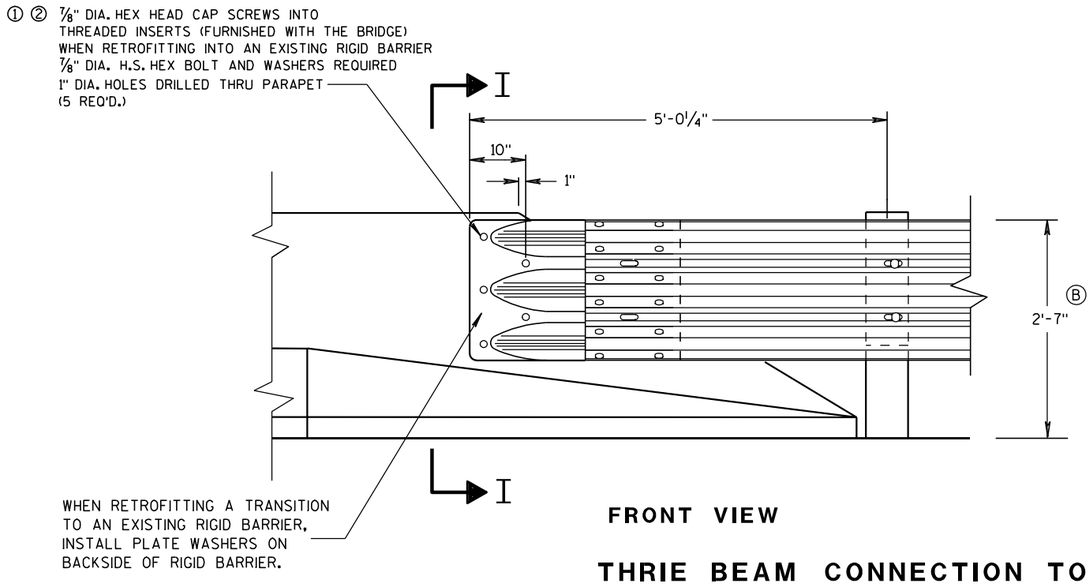
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

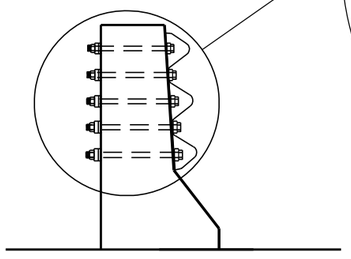
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



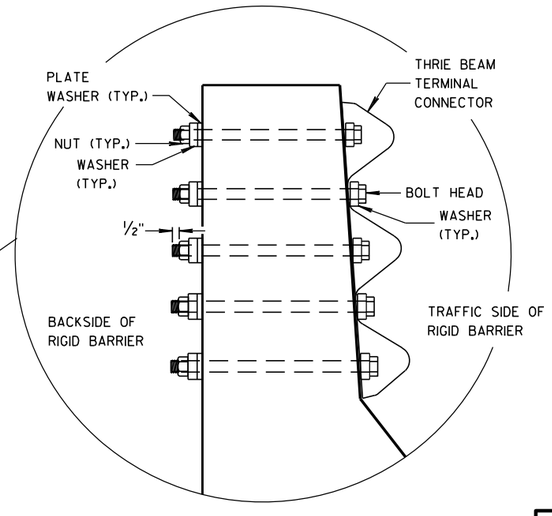
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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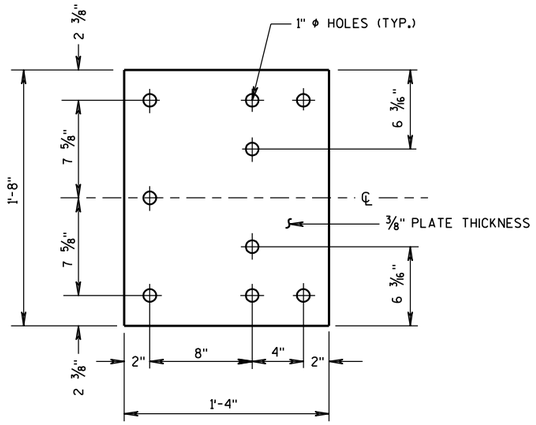
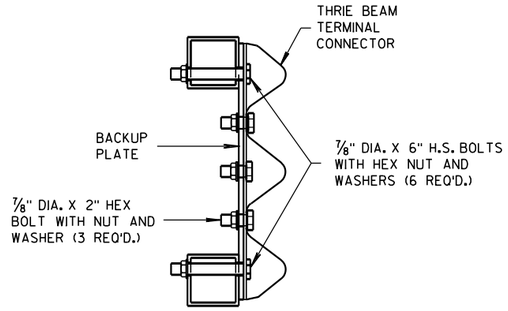
S.D.D. 14 B 45-3f



BACK-UP PLATE DETAIL

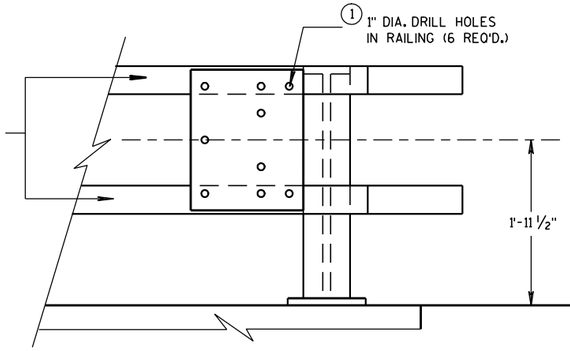


SECTION J-J

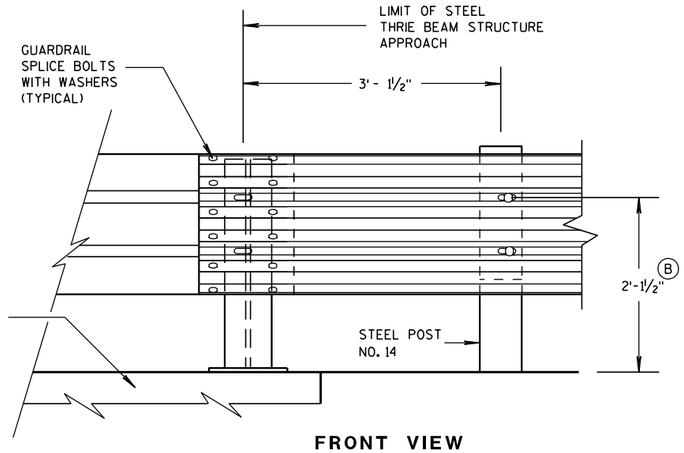
GENERAL NOTES

(1) DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(B) TOLERANCE FOR TOP OF BEAM IS ± 1".

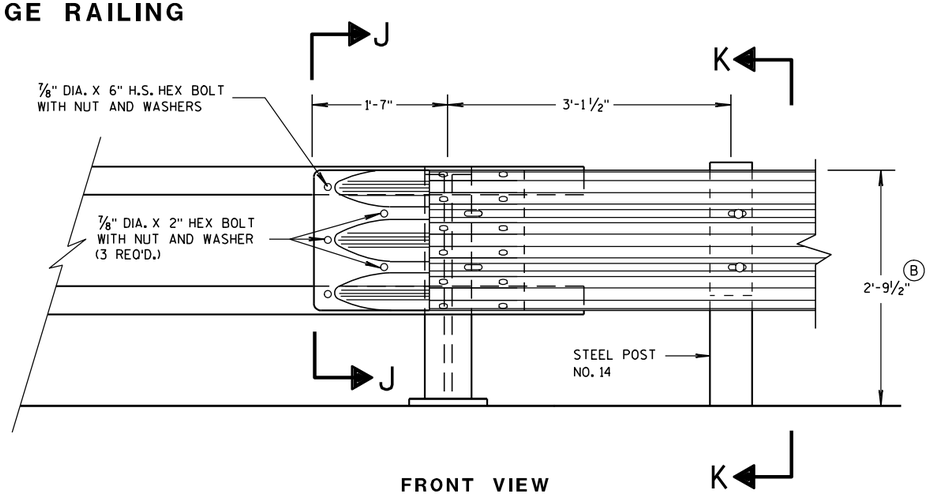


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

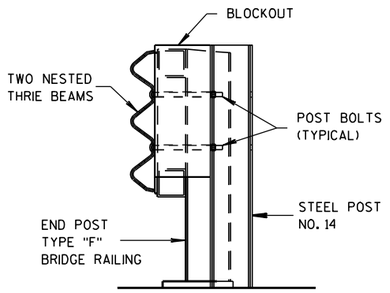


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

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

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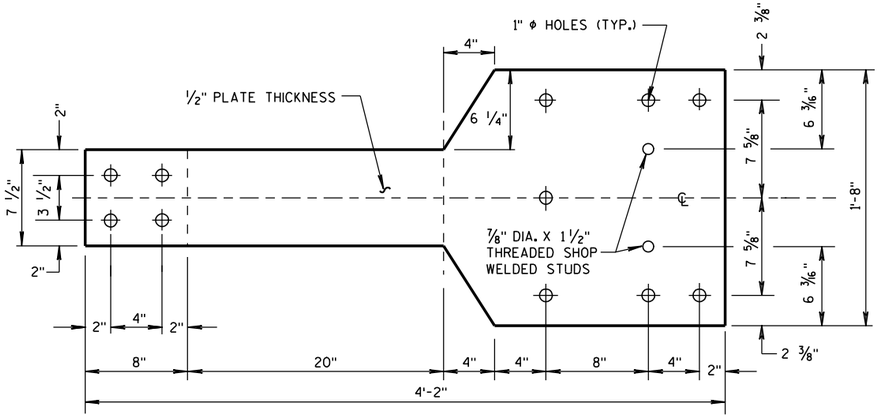
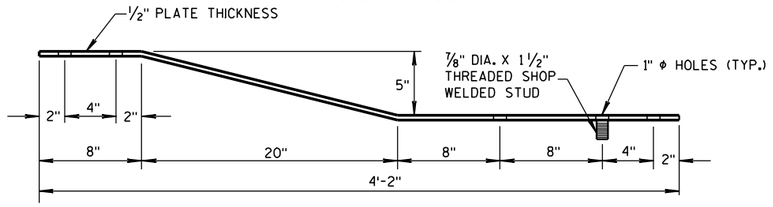
GENERAL NOTES

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

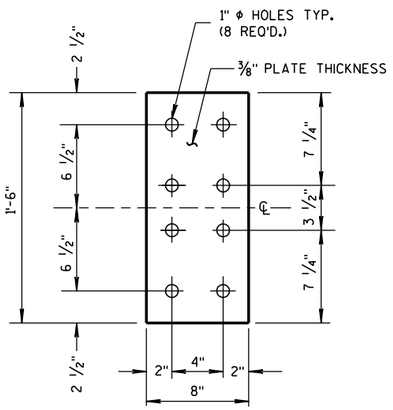


FRONT VIEW



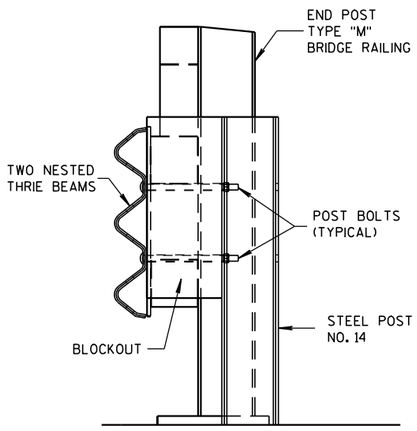
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

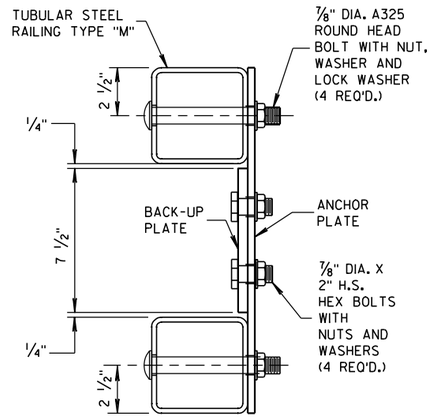


FRONT VIEW

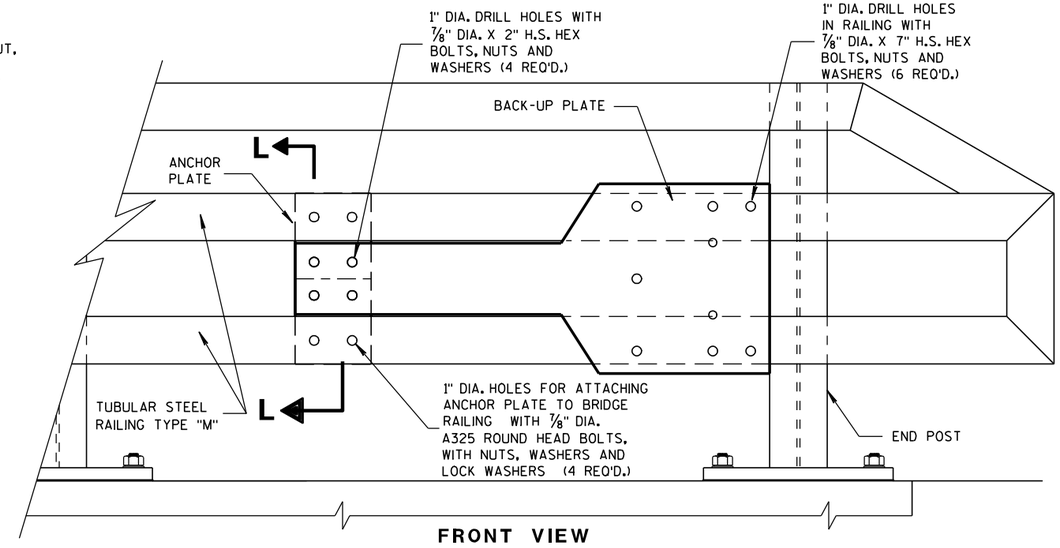
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

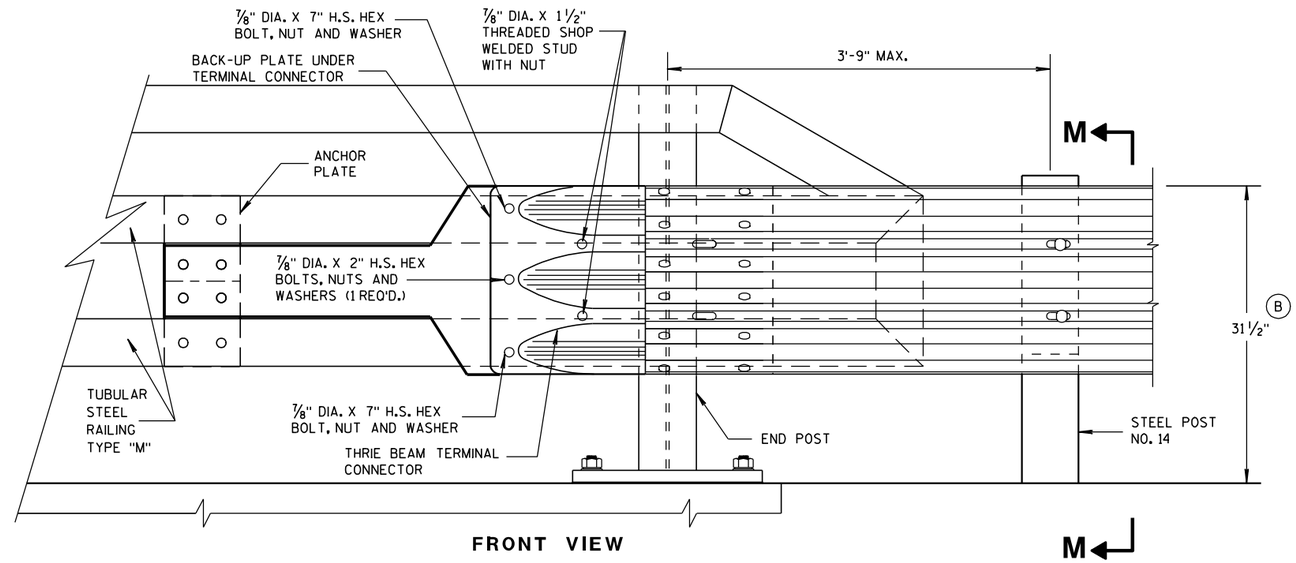


SECTION L-L

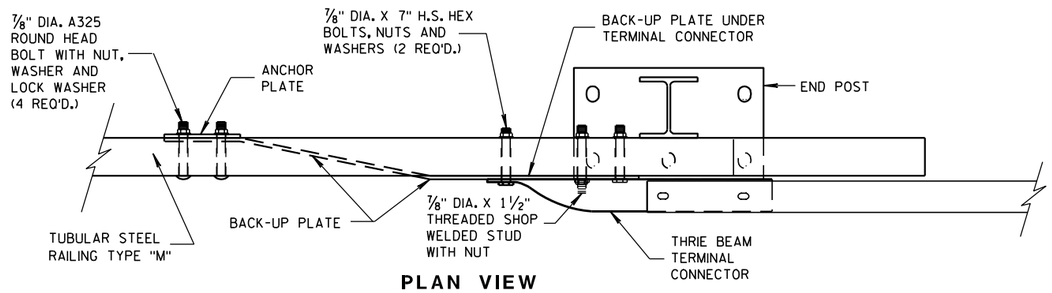


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

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

38

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GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

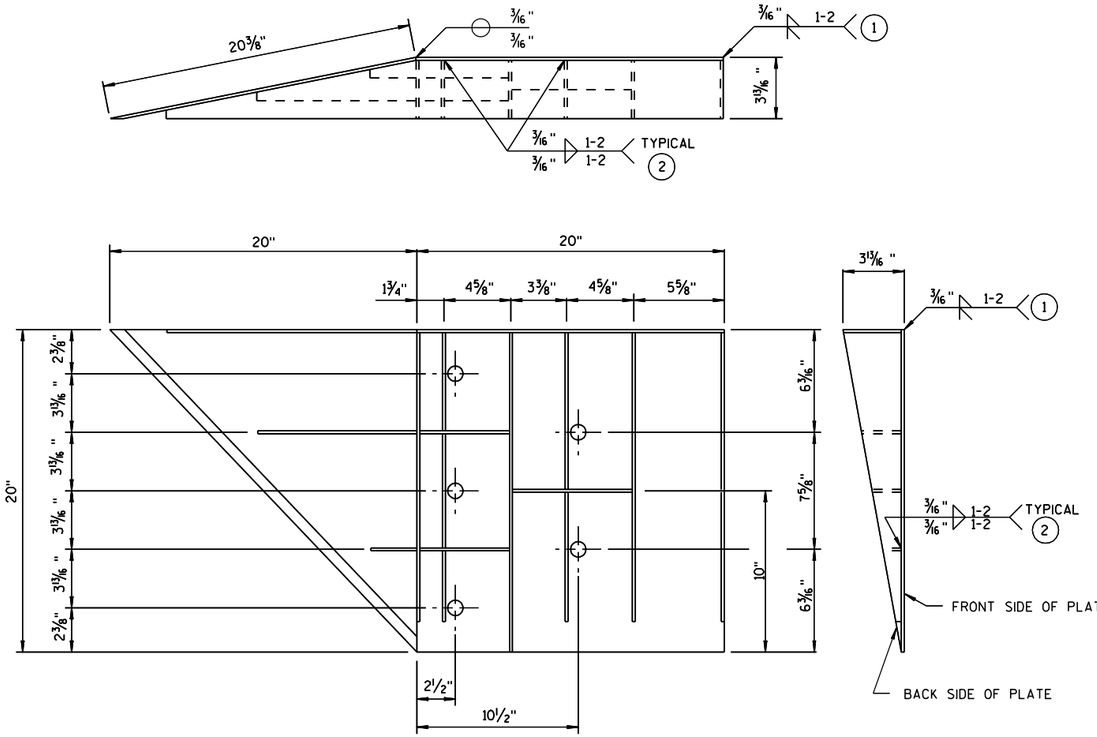
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

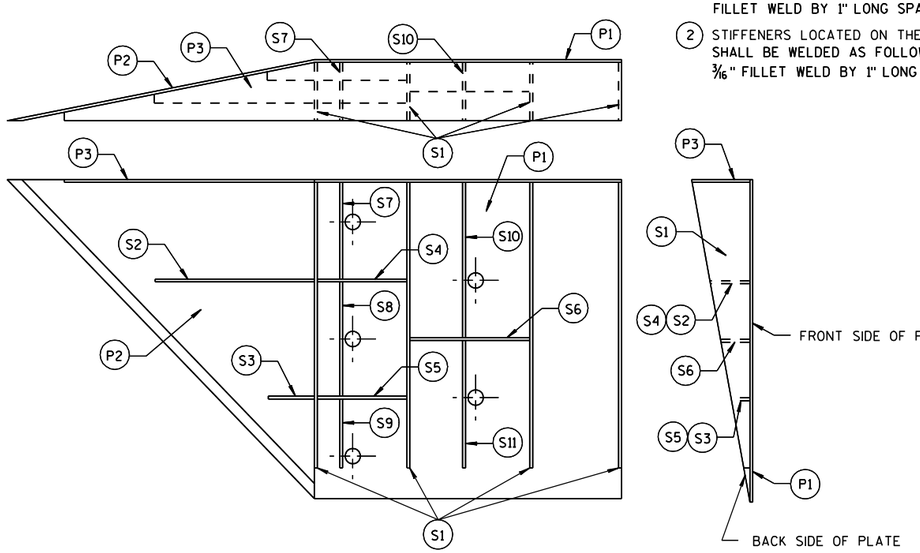


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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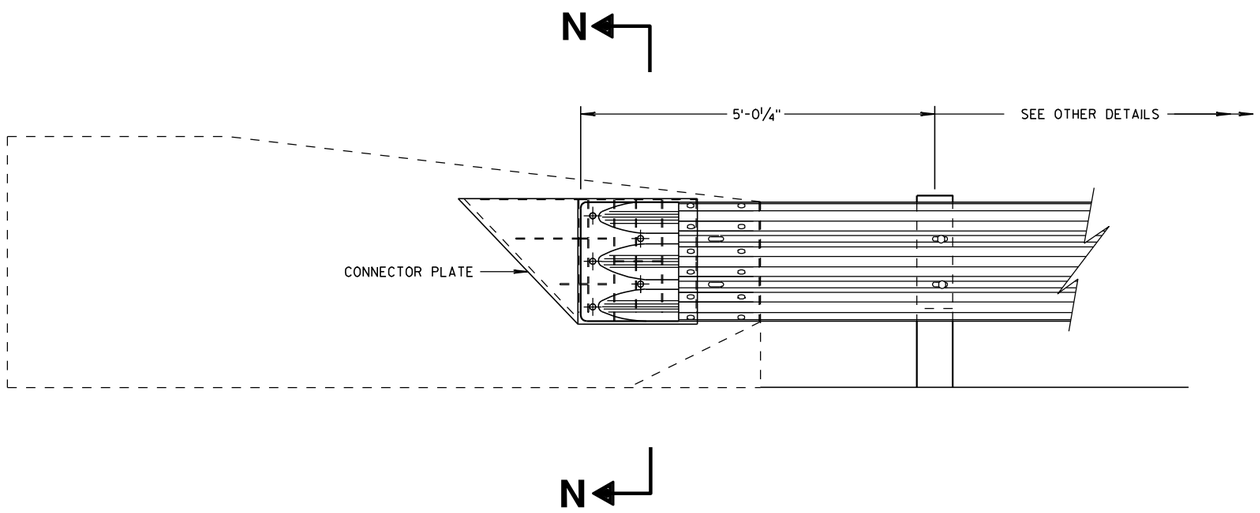
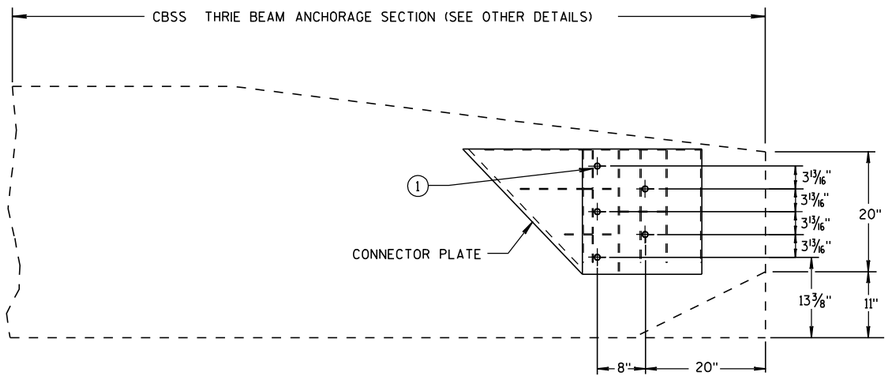
S.D.D. 14 B 45-3i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

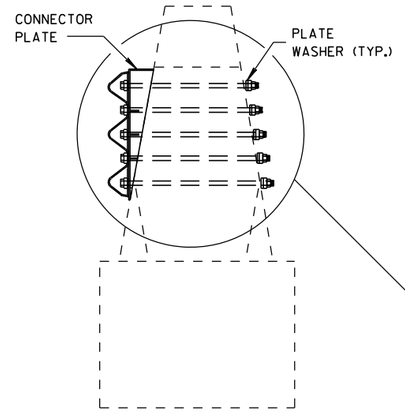


SINGLE SLOPE CONNECTION PLATE PLACEMENT

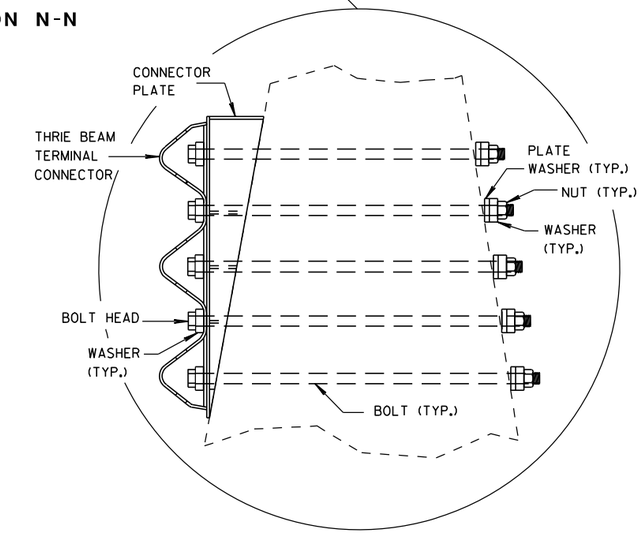
GENERAL NOTES

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 ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

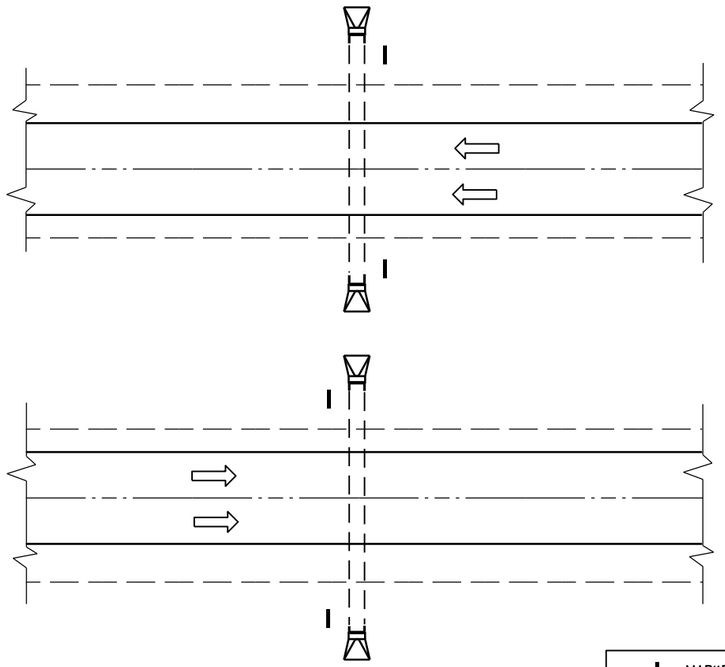
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

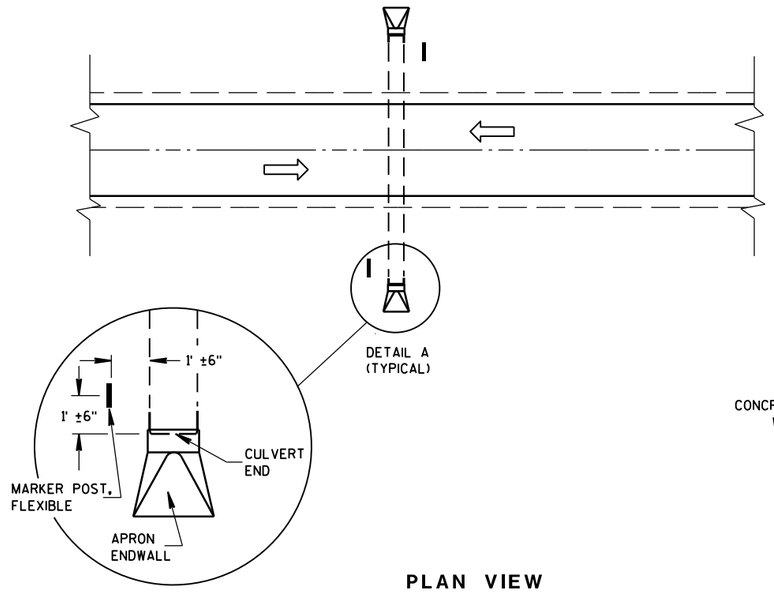
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

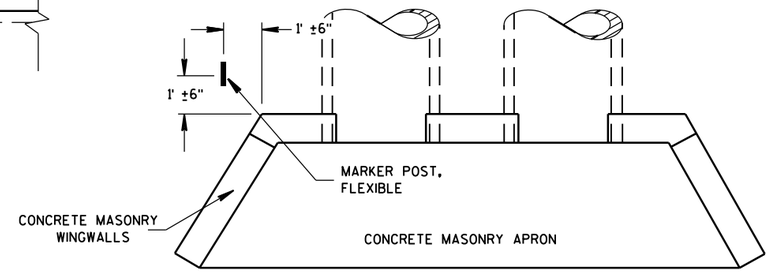
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

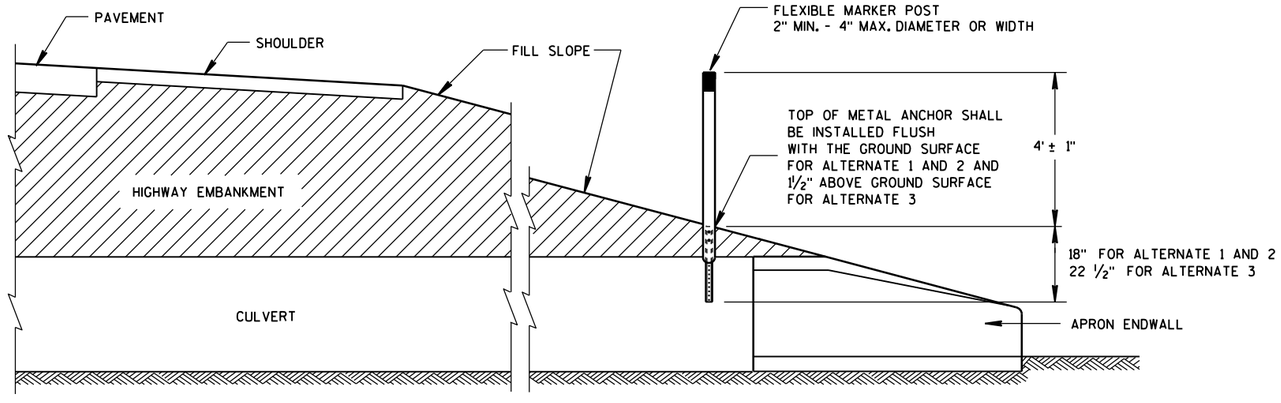
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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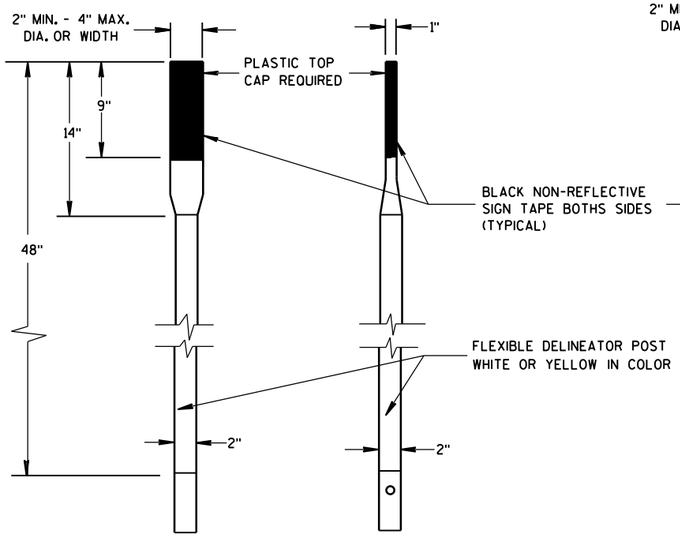
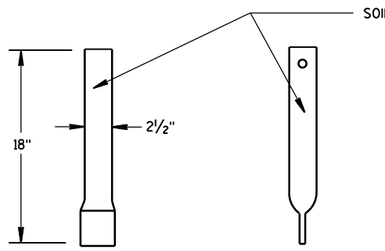
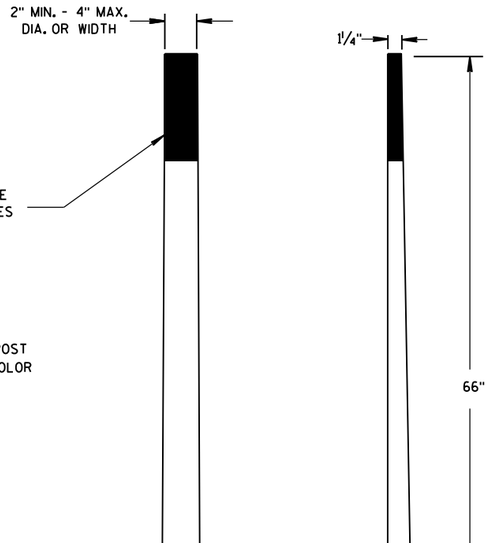
S.D.D. 15 A 3-2a





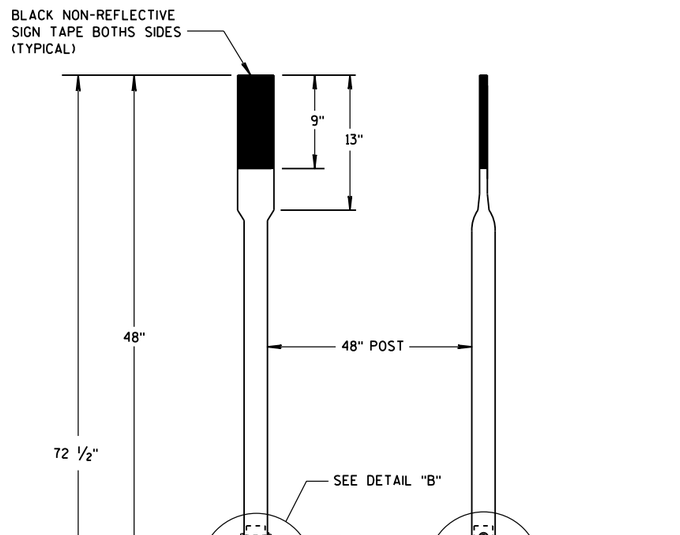
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

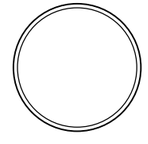
ALTERNATE 2



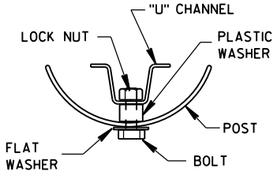
FRONT VIEW SIDE VIEW

ALTERNATE 3

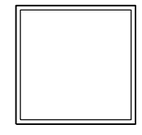
FLEXIBLE MARKER POSTS



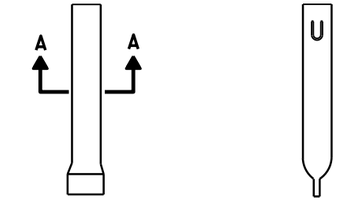
SECTION A-A



SECTION B-B

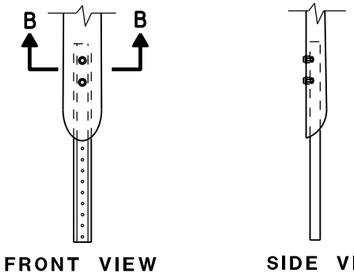


SECTION C-C



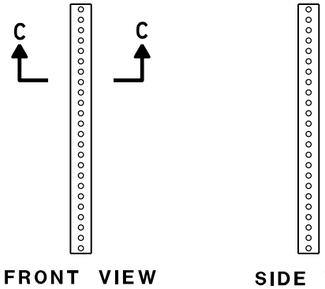
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

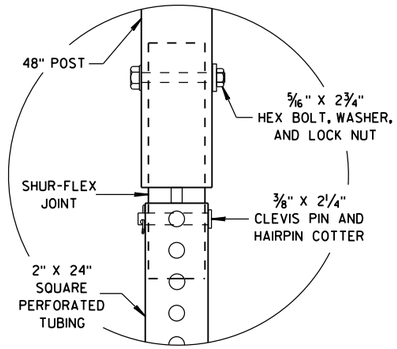
ALTERNATE 2



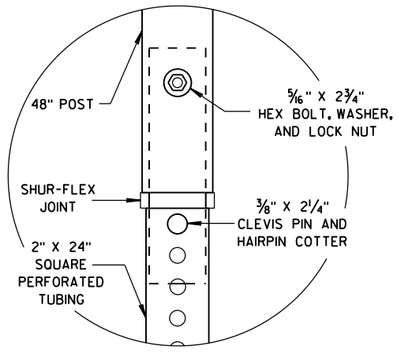
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



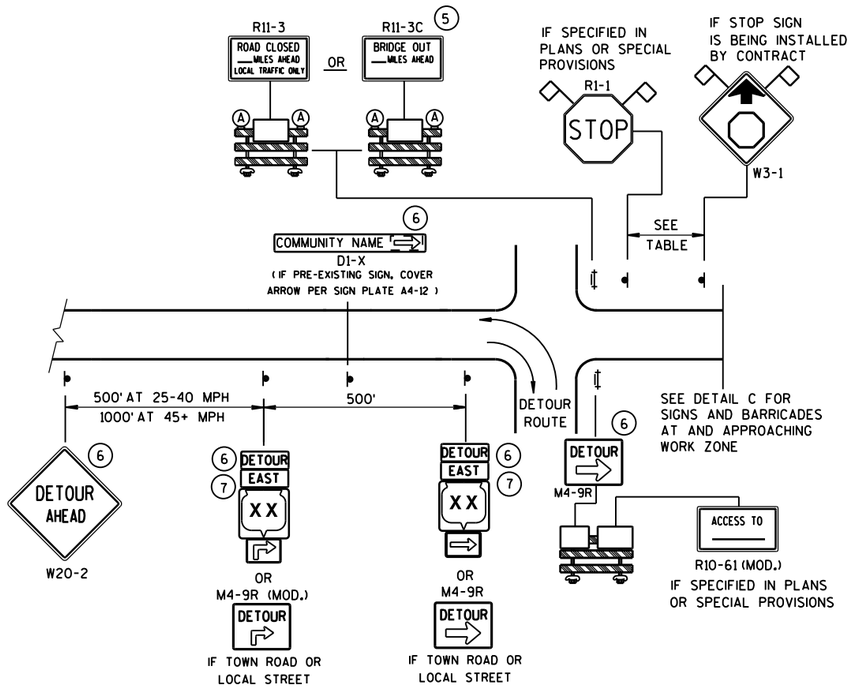
DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

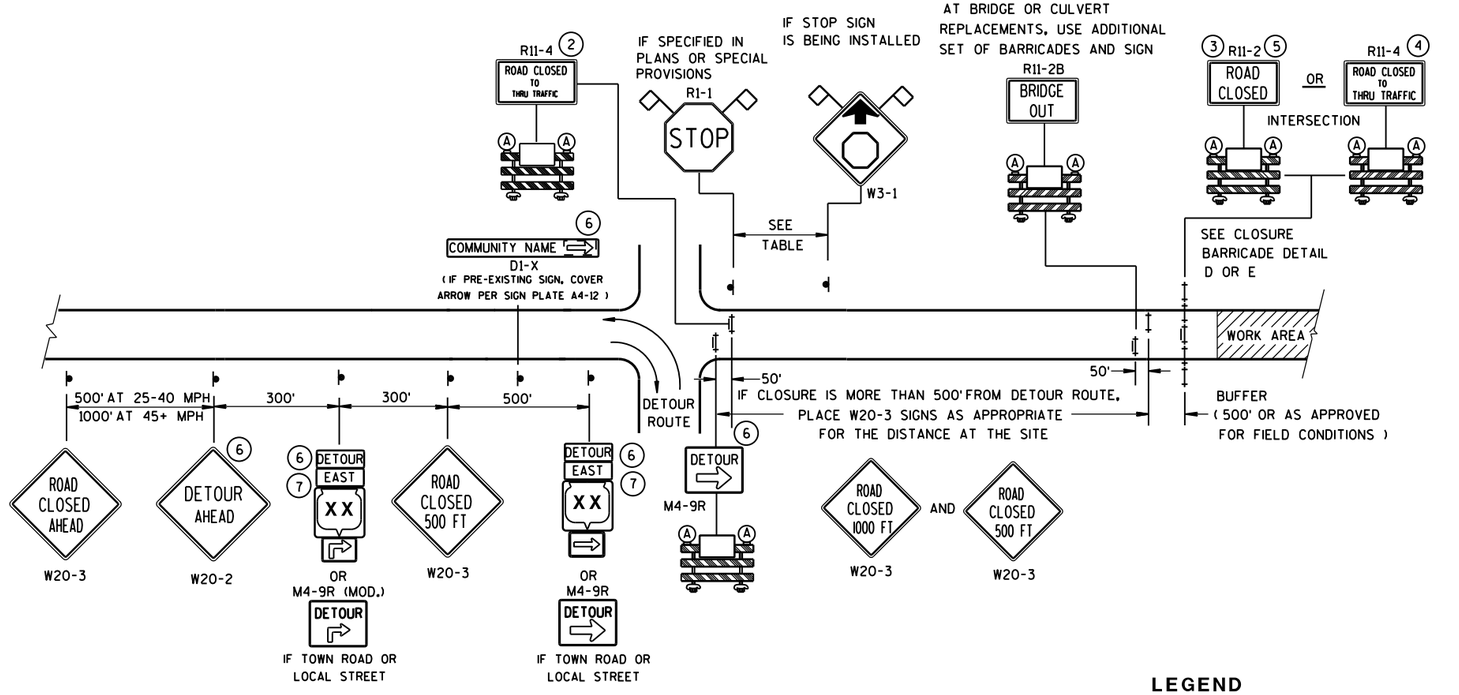
APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
IGN
FHWA

6
S.D.D. 15 A 3-2b



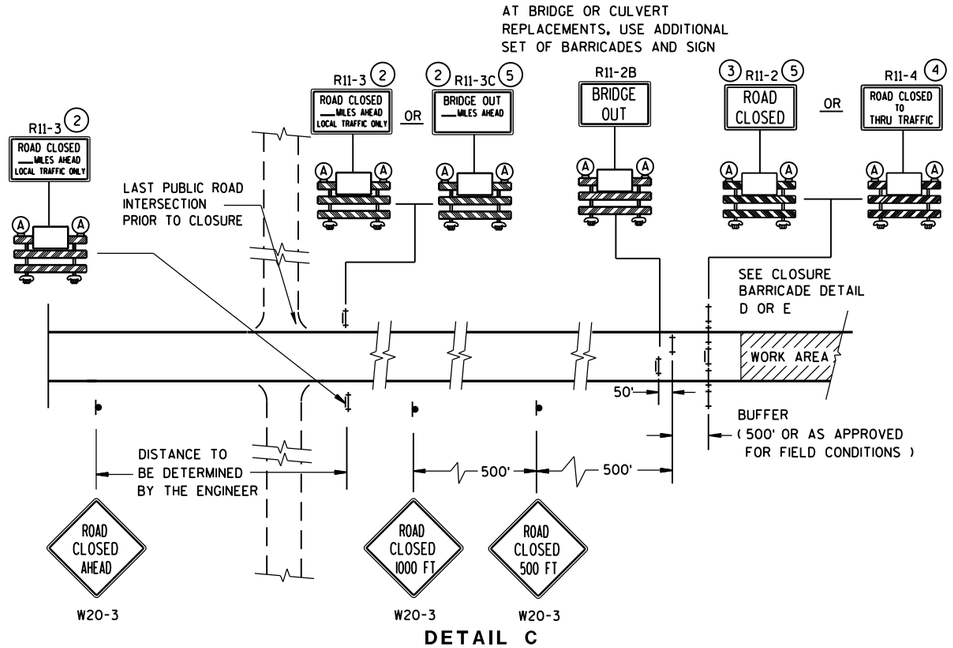
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

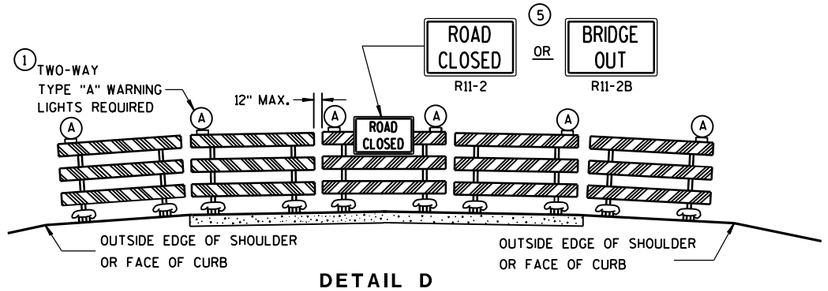
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA

6

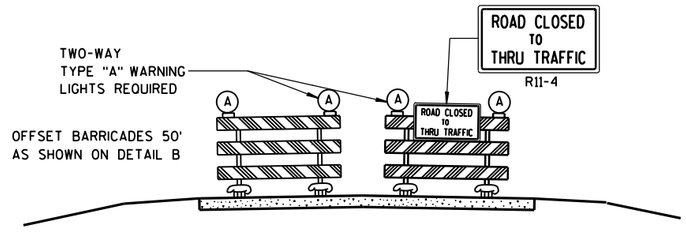
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 C 2-5b

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

GENERAL NOTES

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

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

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

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

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

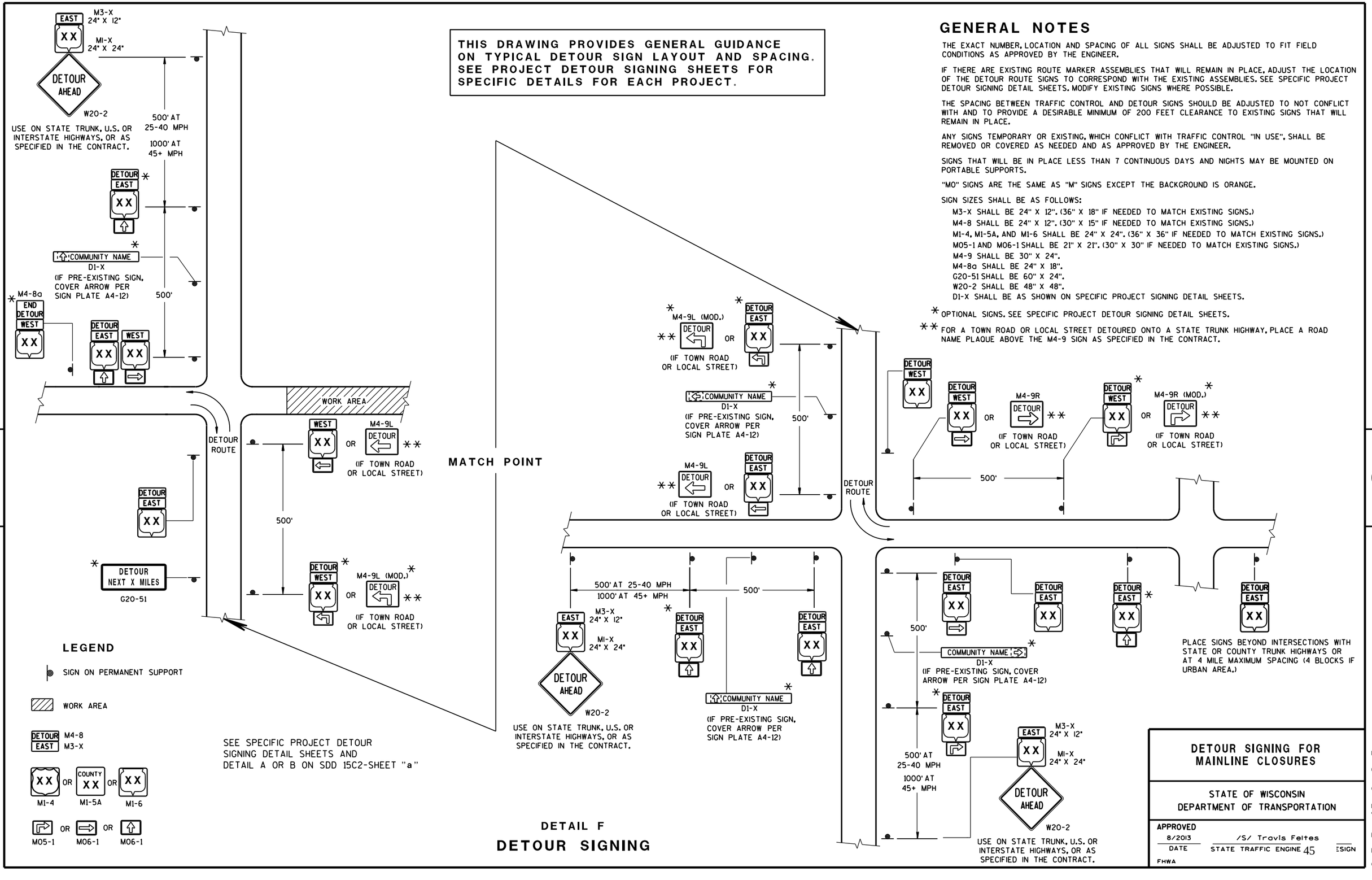
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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



DETAIL F

DETOUR SIGNING

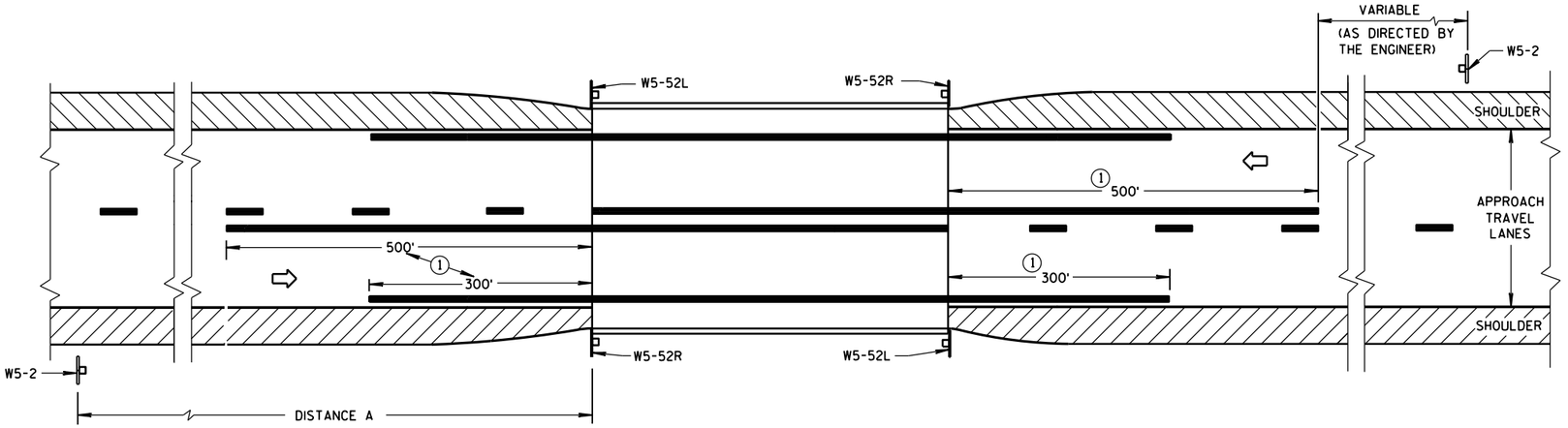
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

S.D.D. 15 C 2-5c



GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

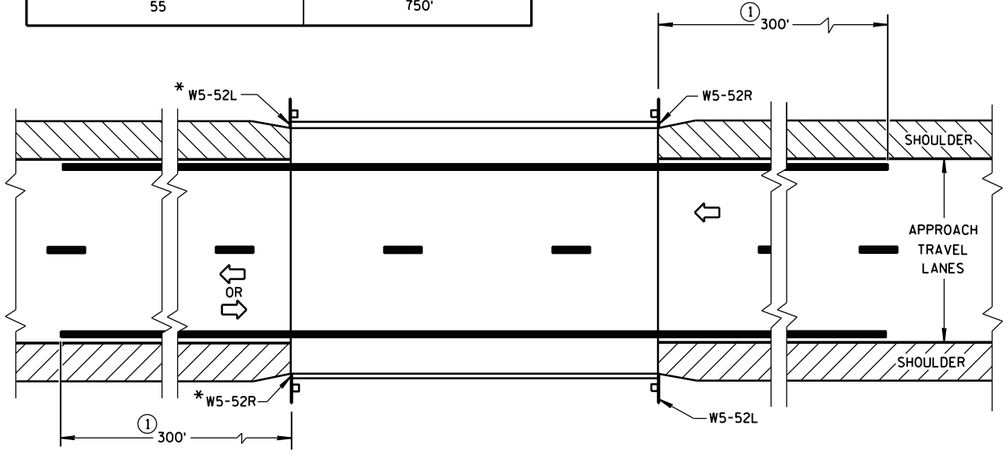
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

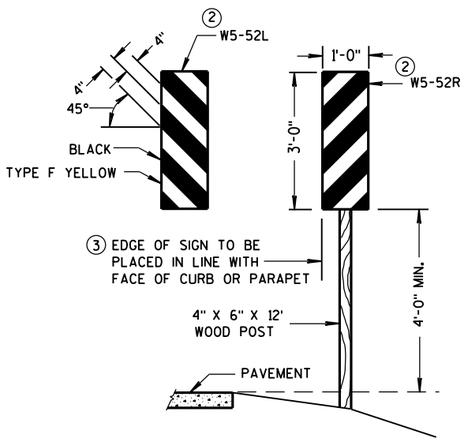


*OMIT ON ONE-WAY TRAVELLED WAYS

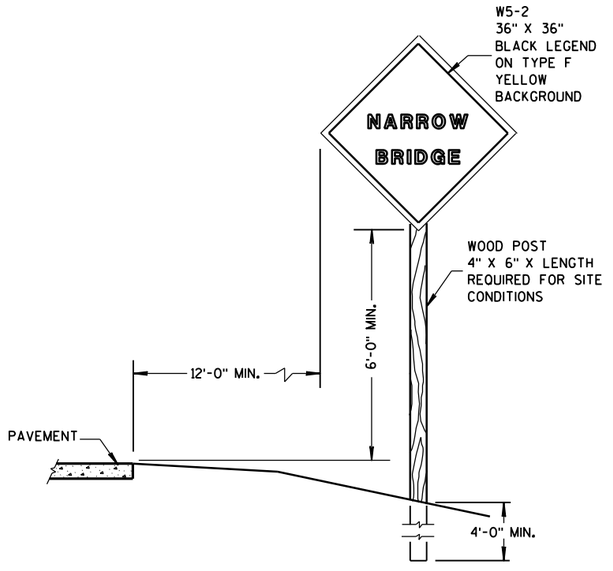
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

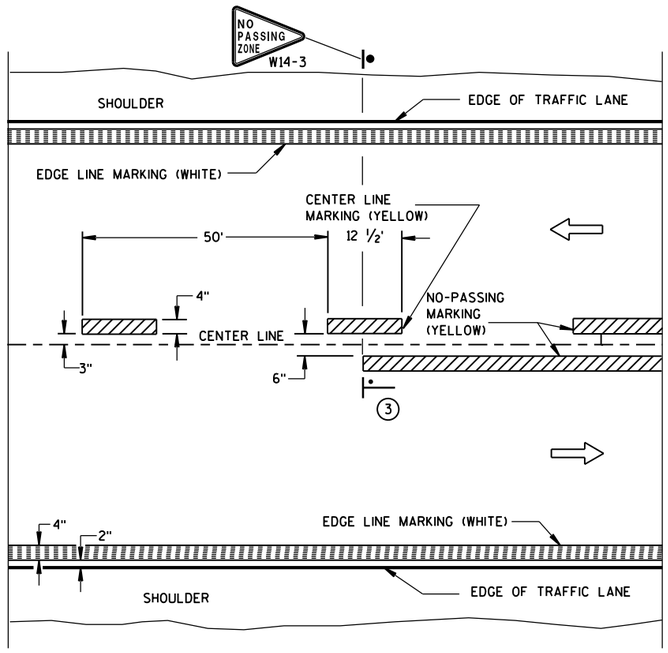
3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

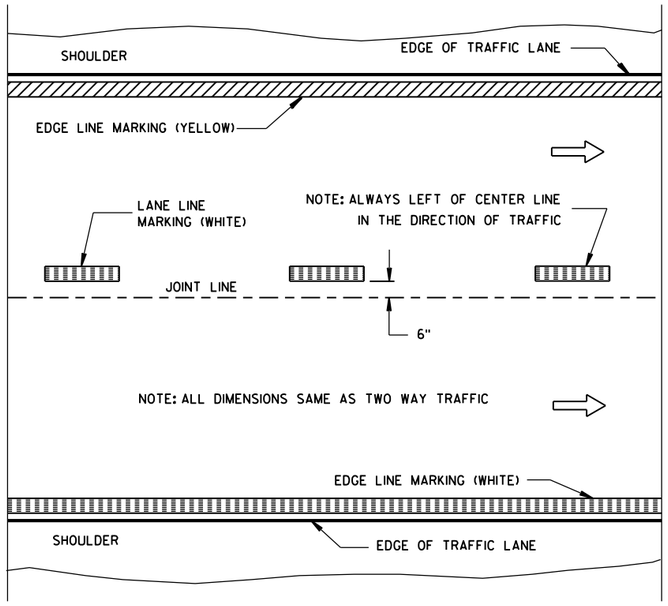
FHWA

6

S.D.D. 15 C 6-7

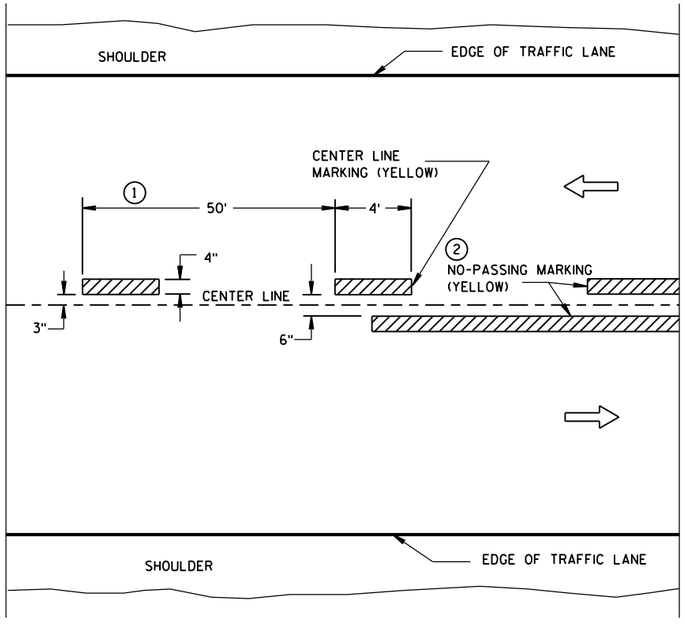


TWO WAY TRAFFIC

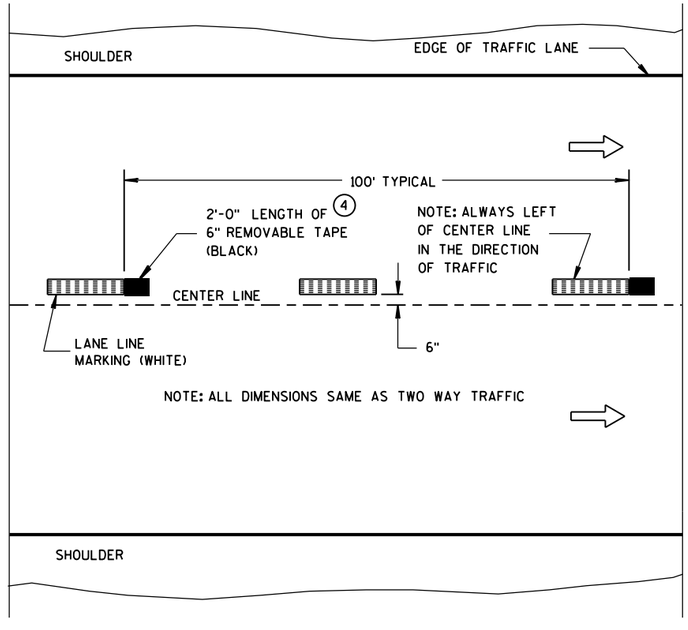


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

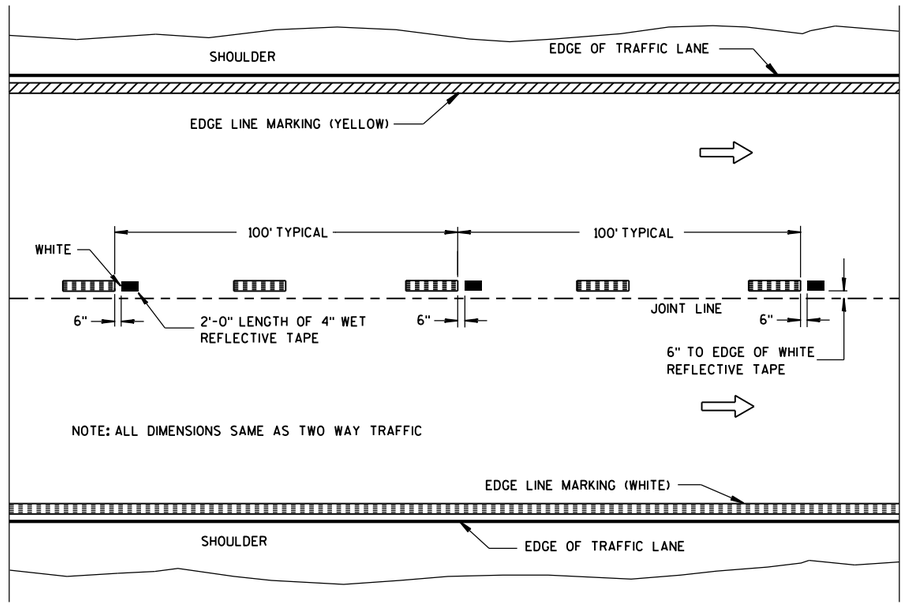
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

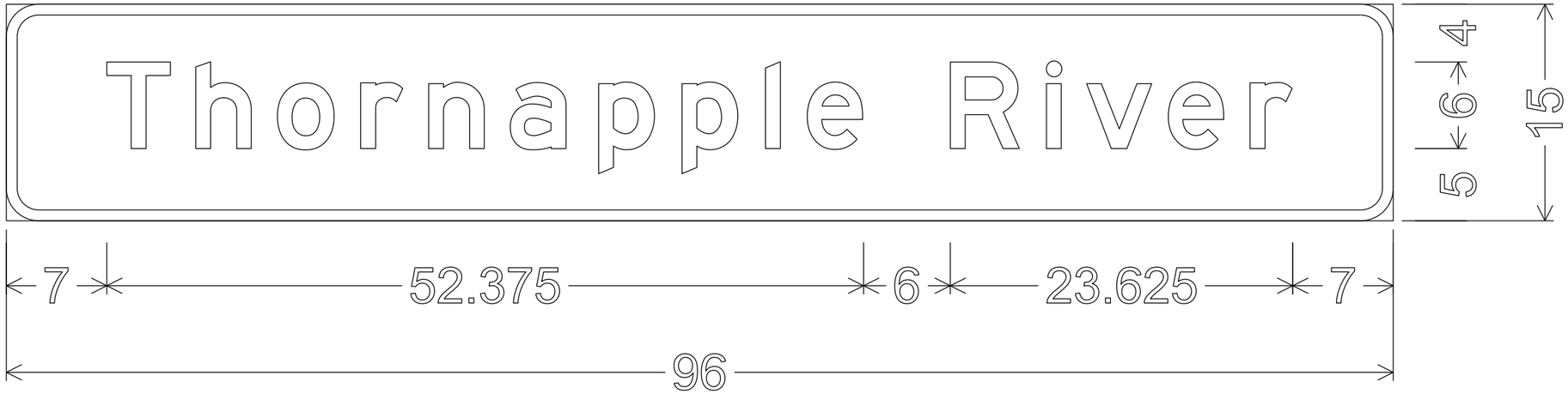
S.D.D. 15 C 8-16a

6

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

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E

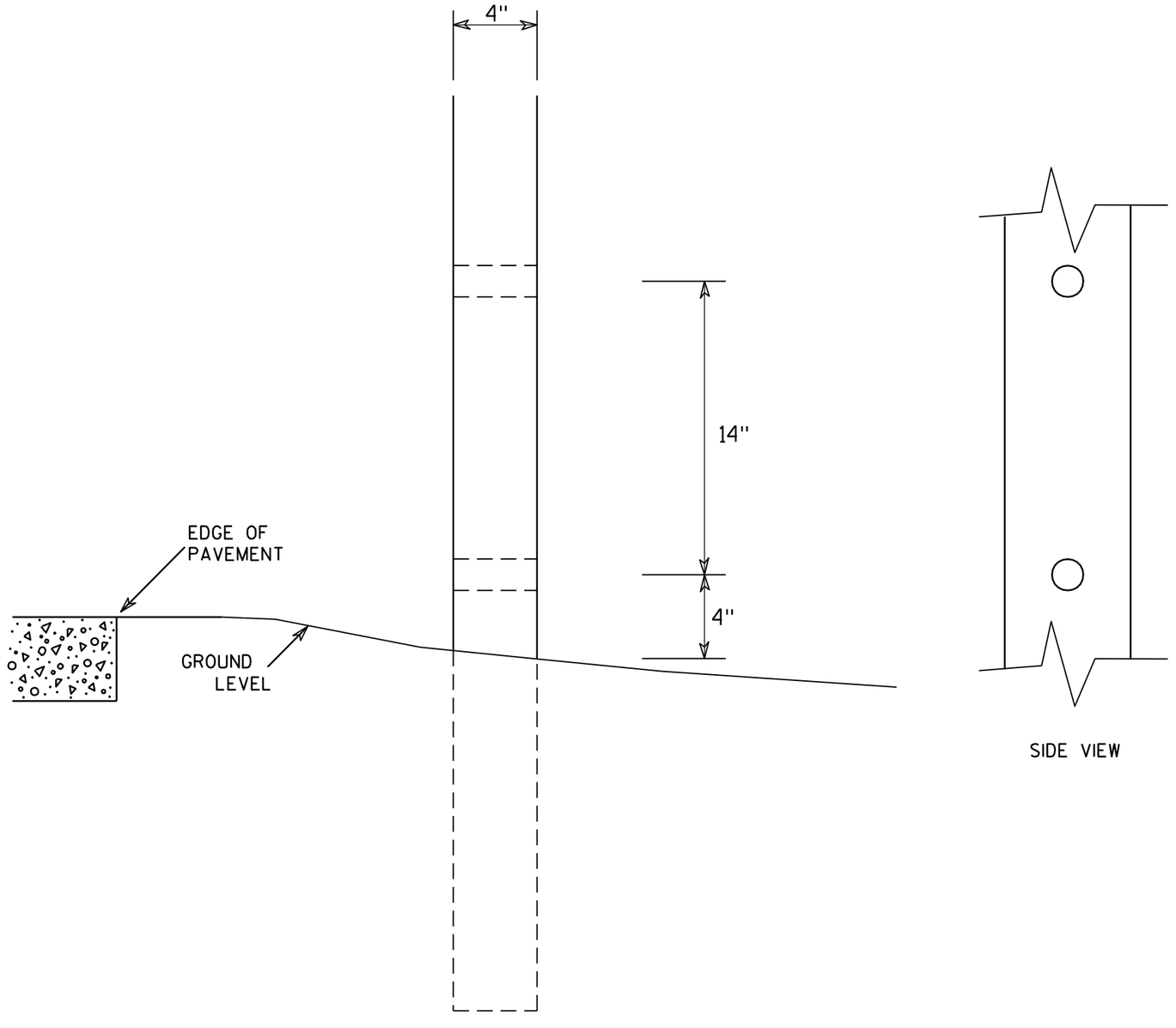


7

7

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	PERMANENT SIGNING	SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_d8\ThornappleRiver.dgn PLOT DATE : 10-FEB-2015 09:33 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 13.515007:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

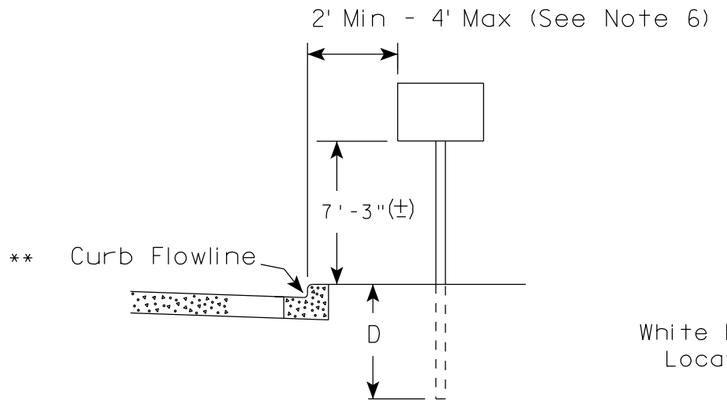
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

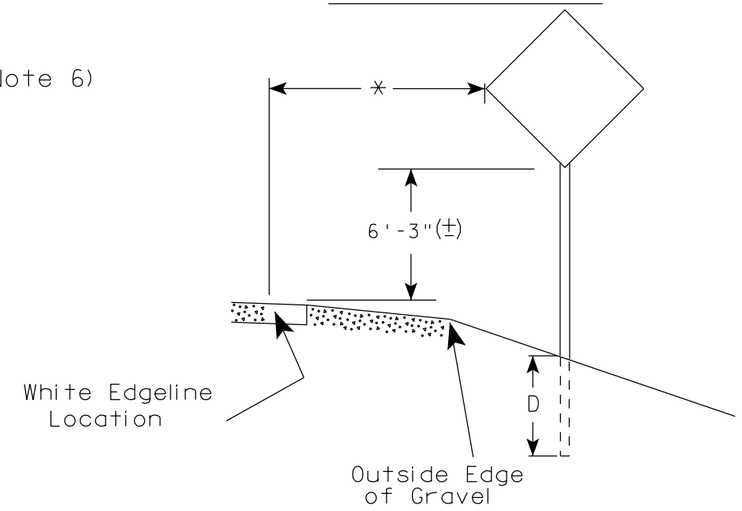
DATE 3/27/97 PLATE NO. A4-11.2

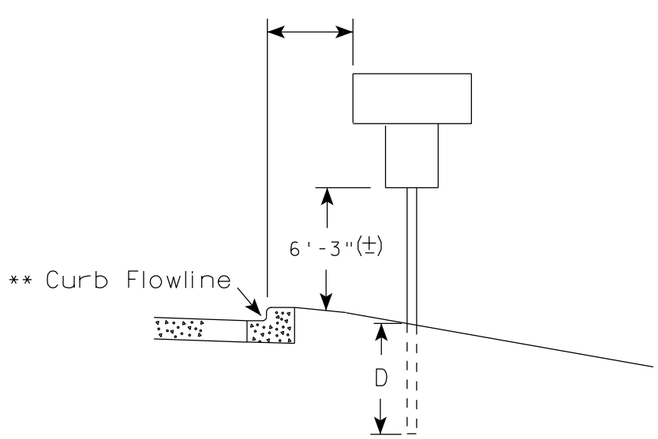
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 49	E

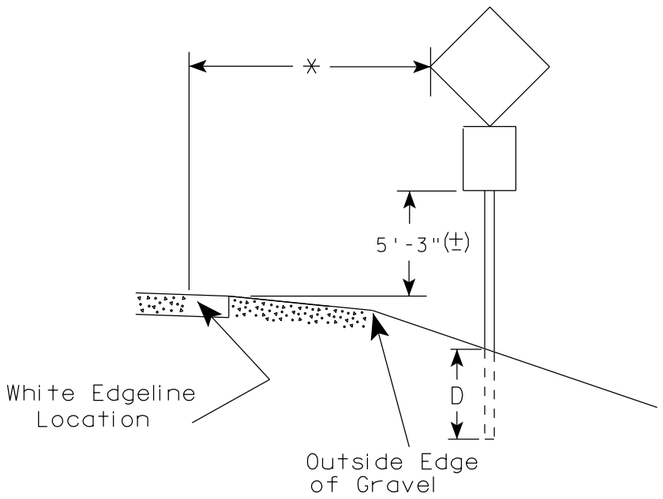
URBAN AREA



RURAL AREA (See Note 2)







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 directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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.

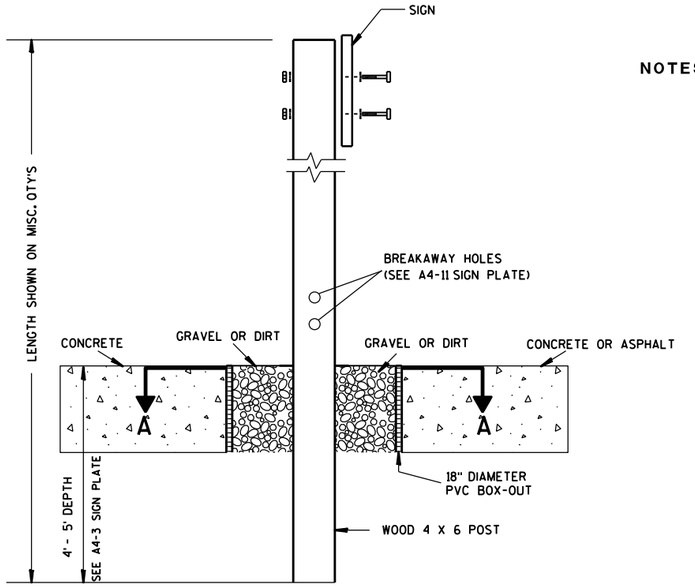
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

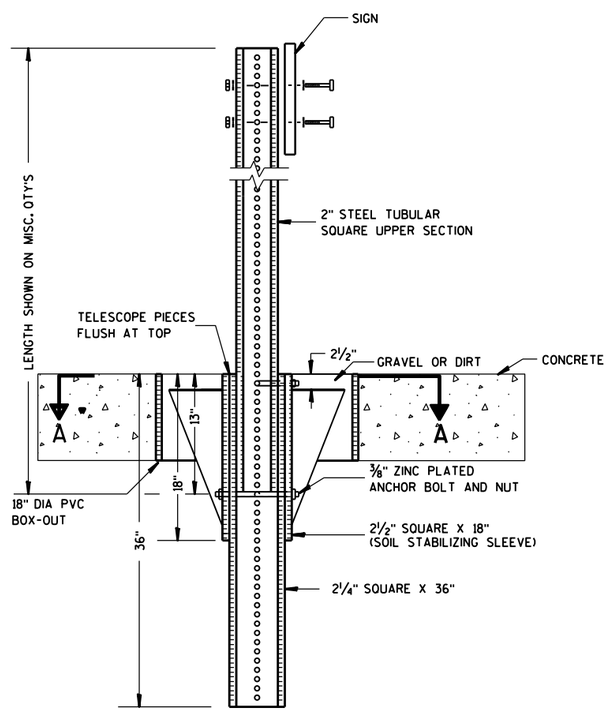
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

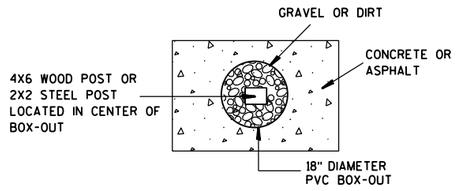
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

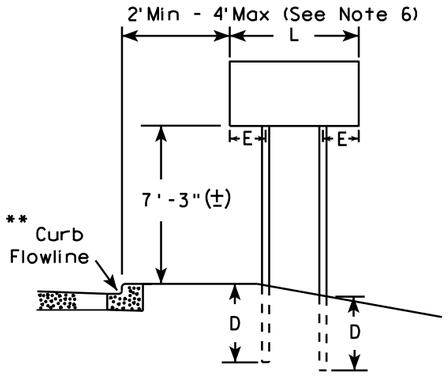
APPROVED Matthew R Rauch
for State Traffic Engineer

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

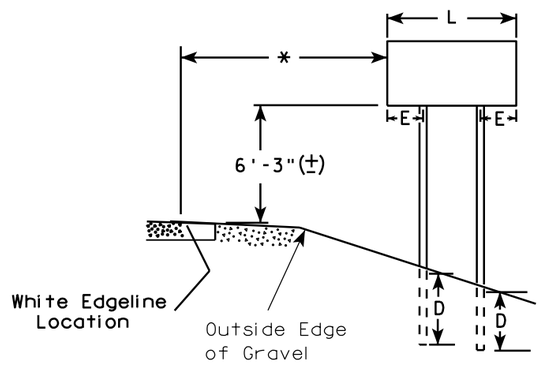
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

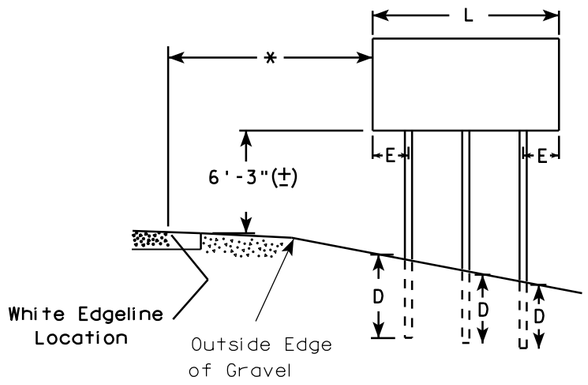
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

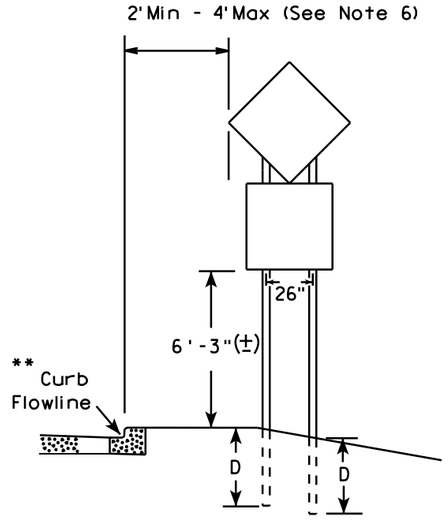
URBAN AREA



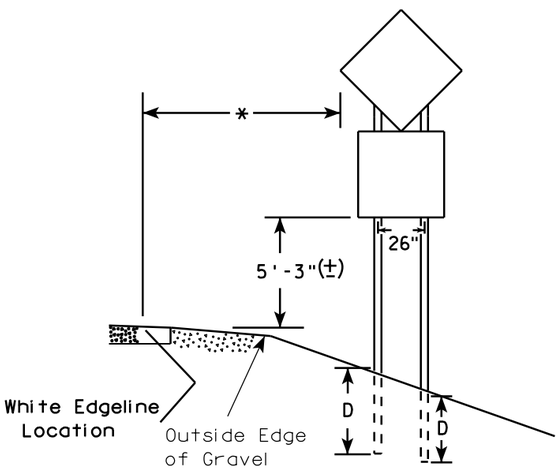
RURAL AREA (See Note 3)







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

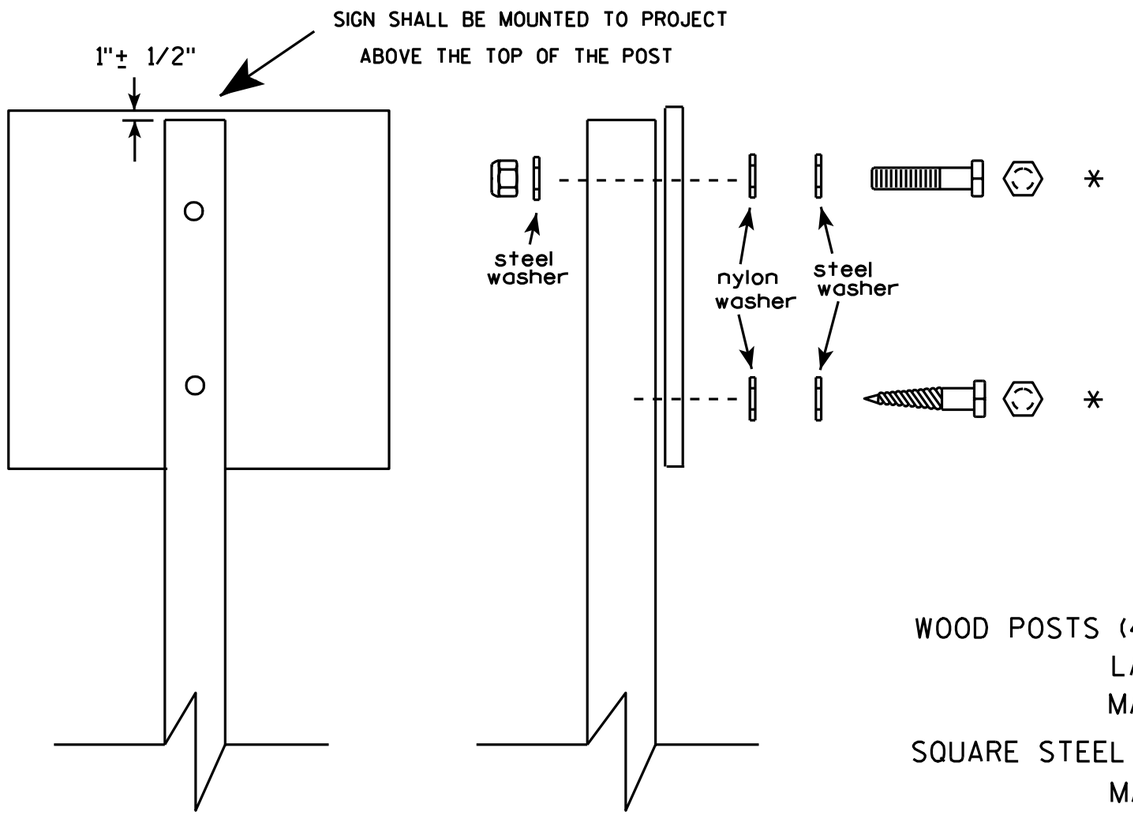
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 52 13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 12-NOV-2014 14:01 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

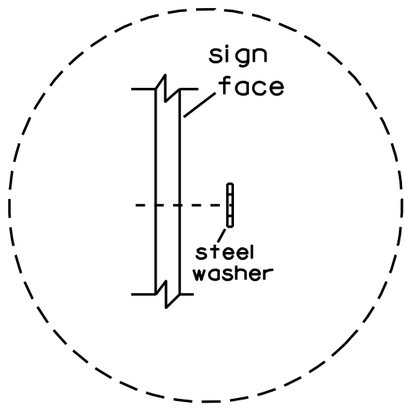
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

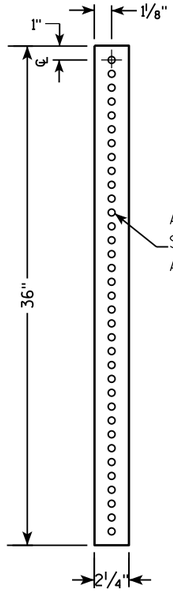
7

PROJECT NO:

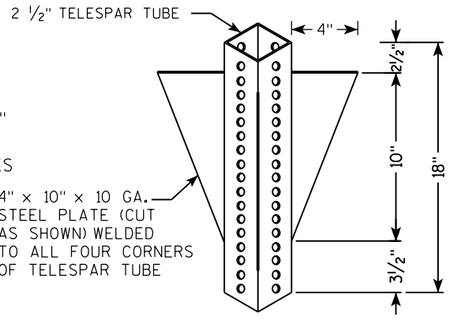
SHEET NO: 53 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

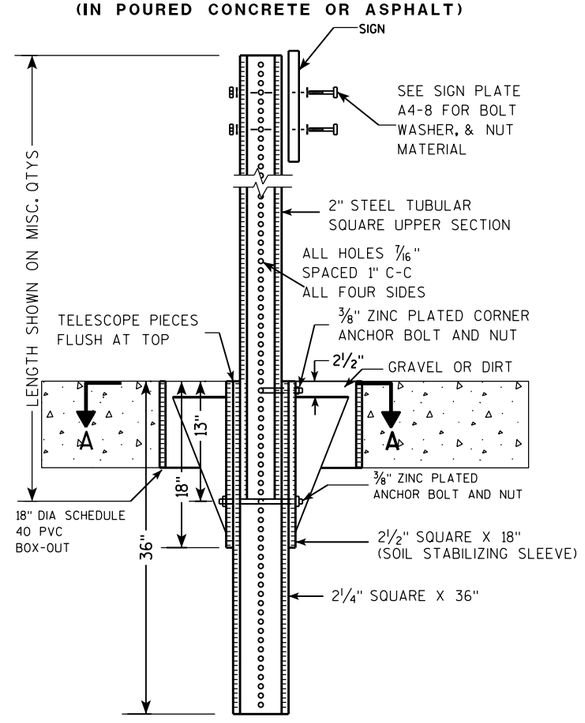
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



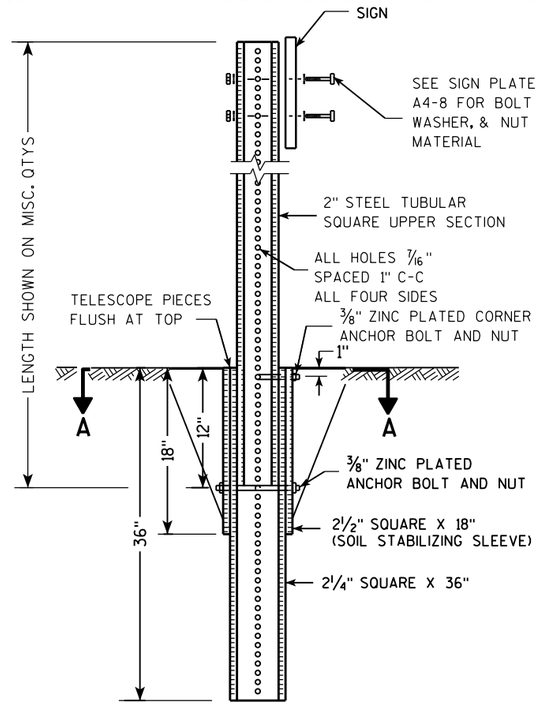
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

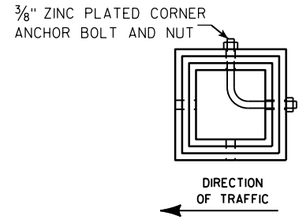


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

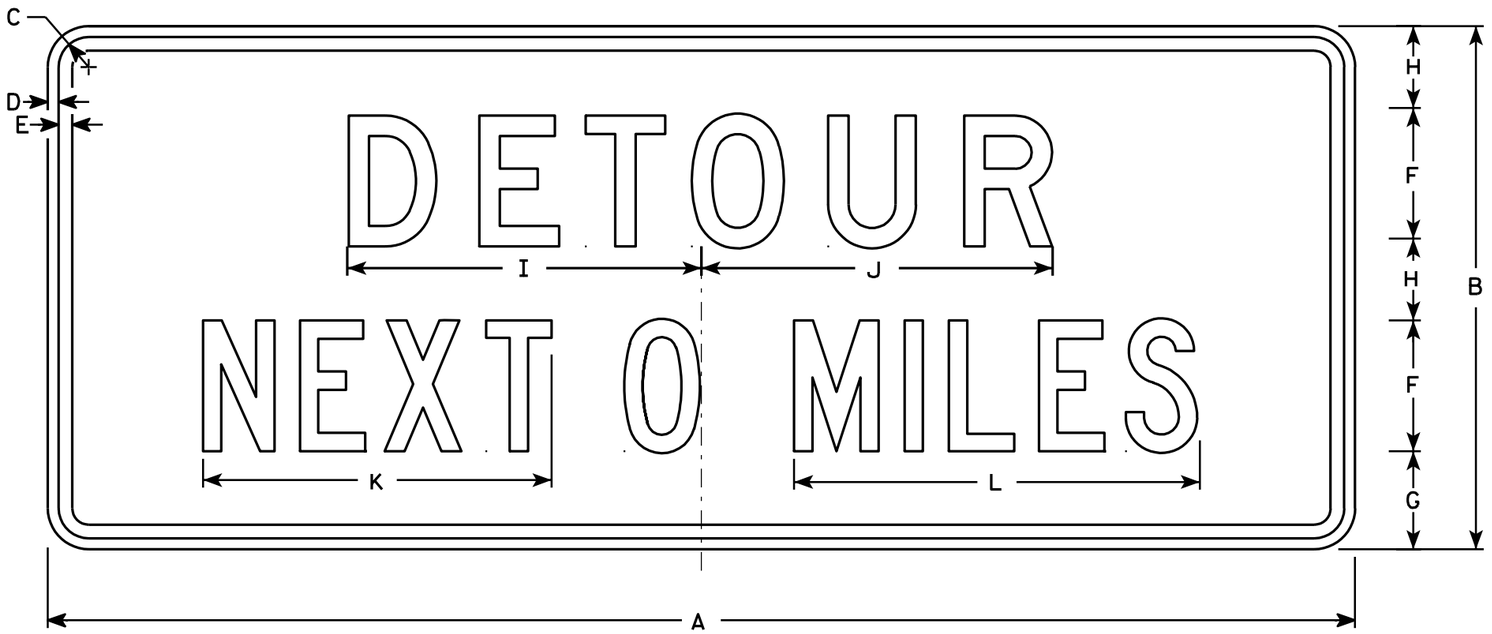
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 54 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



G20-51

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 - Line 1 is D and Line 2 is 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

Metric equivalent for this sign is:

SIZE	
1	
2	1500 mm X 600 mm
3	
4	1500 mm X 600 mm
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.	Area m2
1																												
2	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10	.90
3																												
4	60	24	1 3/8	1/2	5/8	6	4 1/2	3 3/4	16 1/4	16 1/8	16	18 5/8															10	.90
5																												

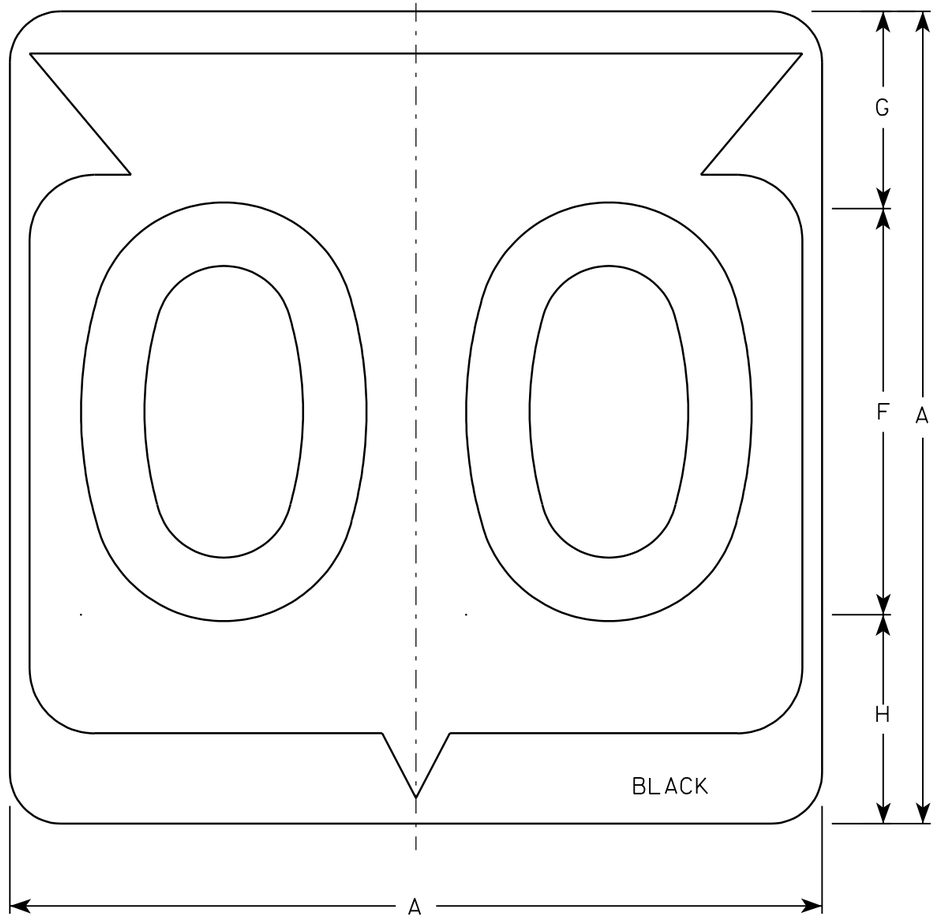
STANDARD SIGN
G20-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/02 PLATE NO. G20-51.1

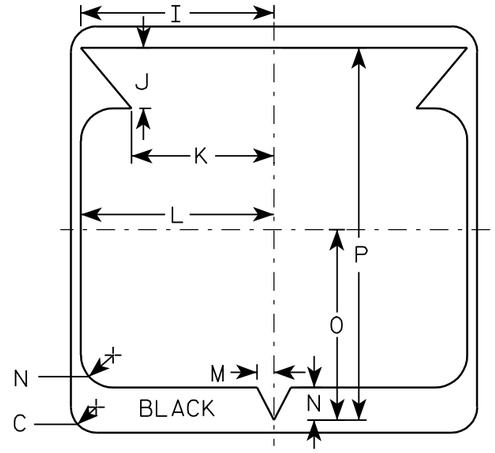
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 55	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

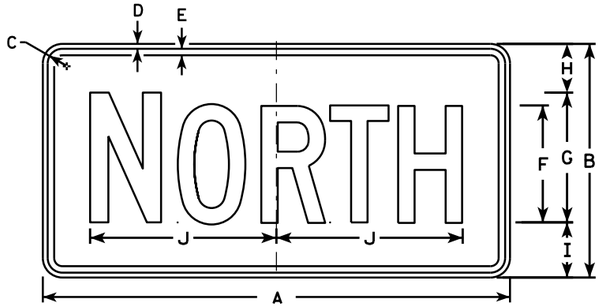
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

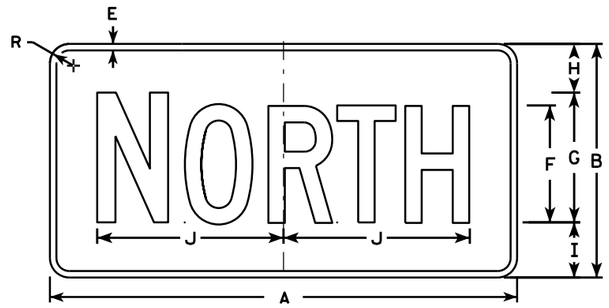
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E

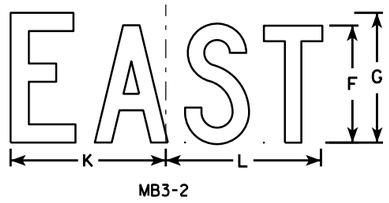


M3-1
MK3-1
MM3-1
MN3-1

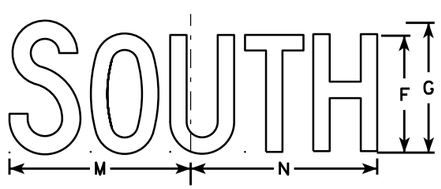


MB3-1

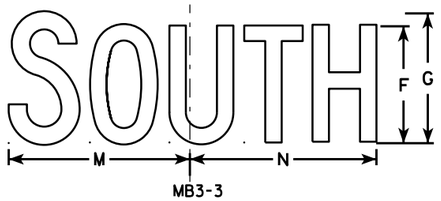
M3-2
MK3-2
MM3-2
MN3-2



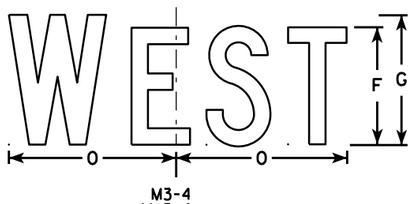
MB3-2



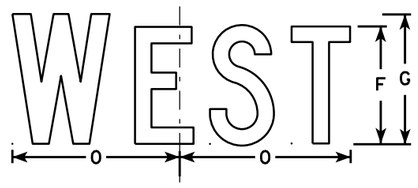
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



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



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

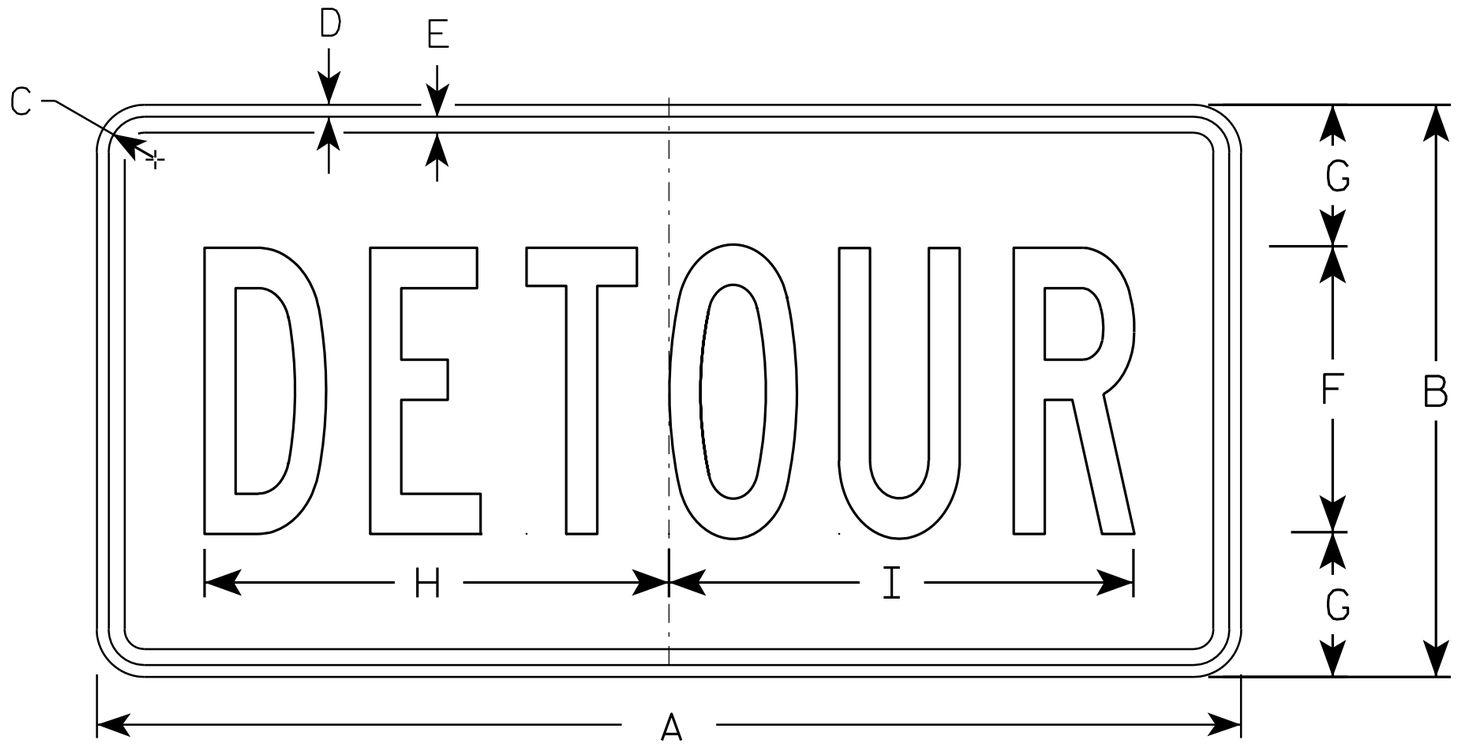
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

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



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																											

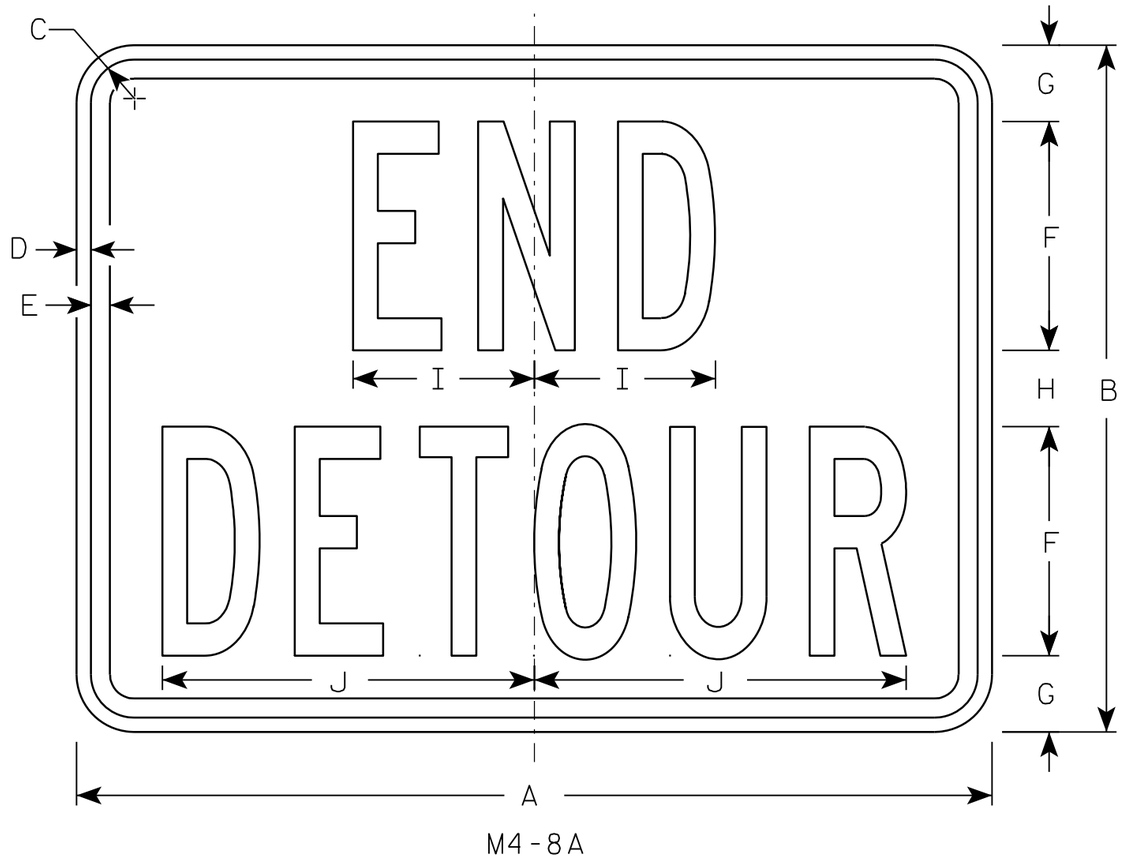
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	E



M4-8A

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	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																											

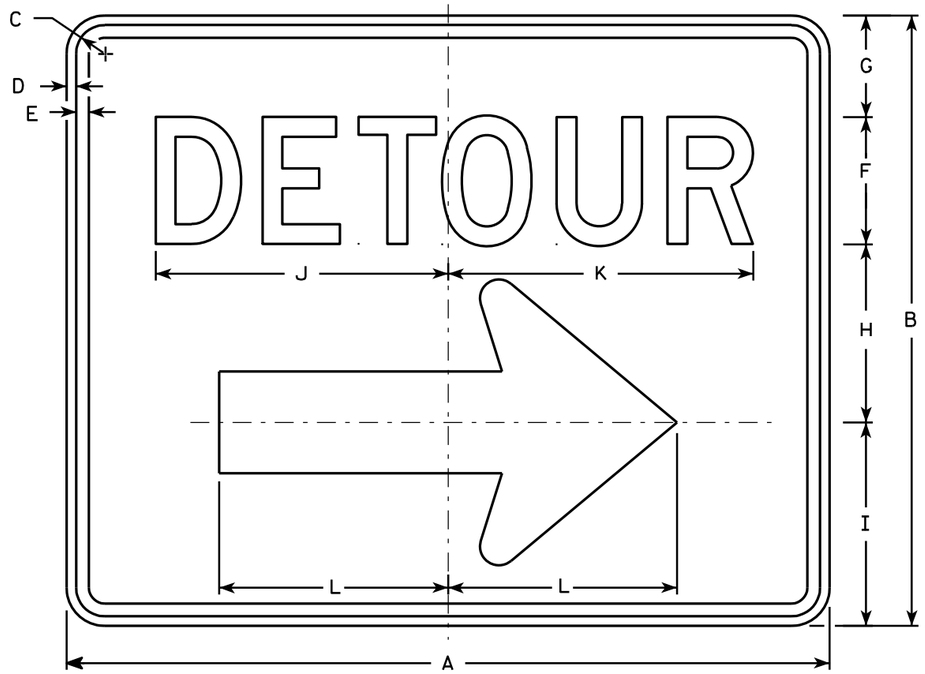
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

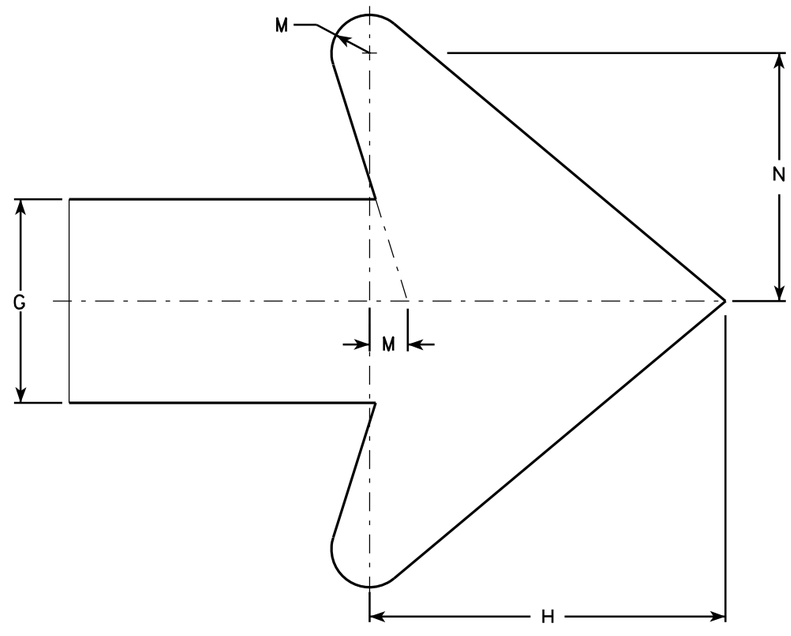
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 59	E



M4-9R

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 - 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. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

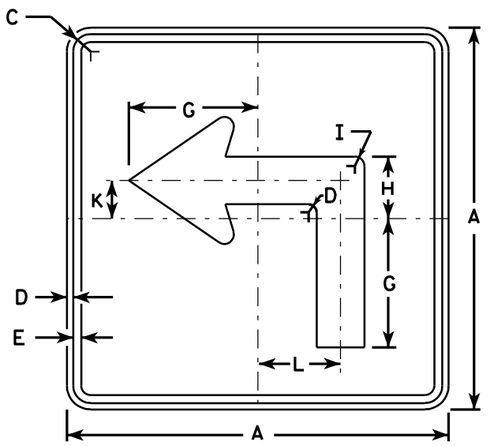
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

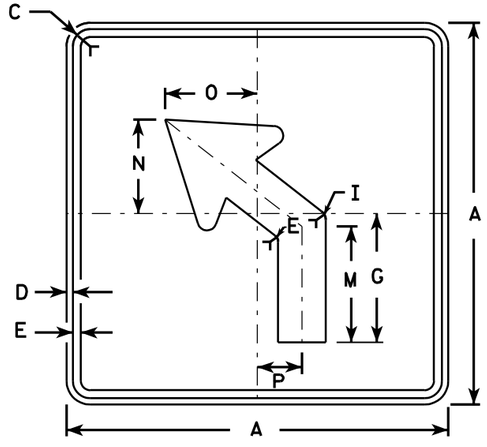
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

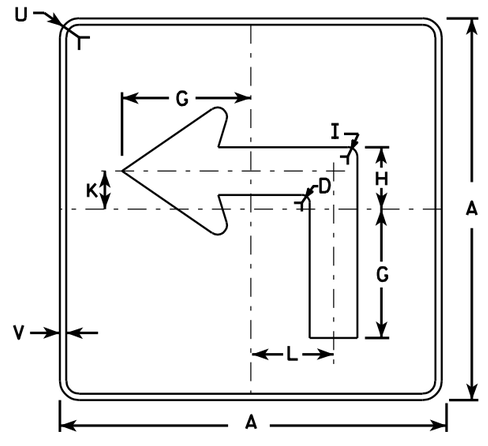
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 60 | E



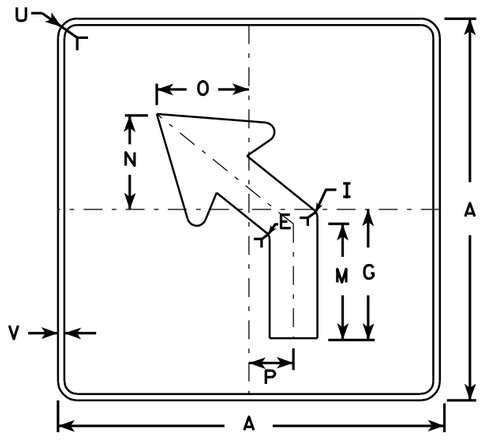
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



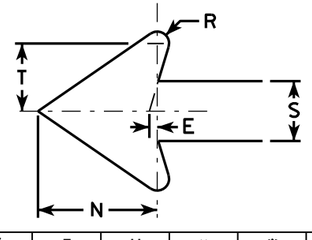
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



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



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



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

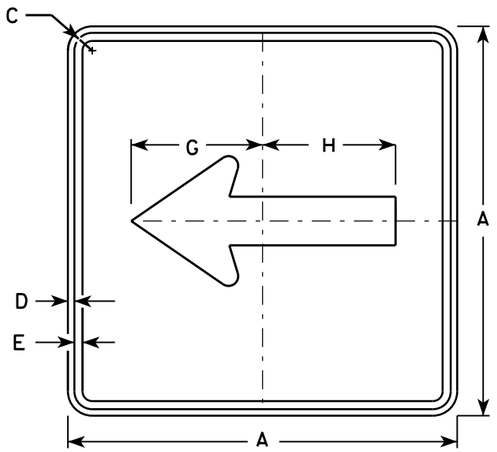
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

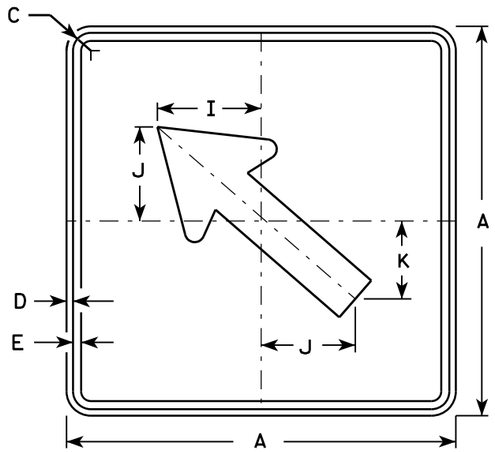
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 61 | E

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 29-JUL-2013 13:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.908552:1.000000
WISDOT/CADDS SHEET 42



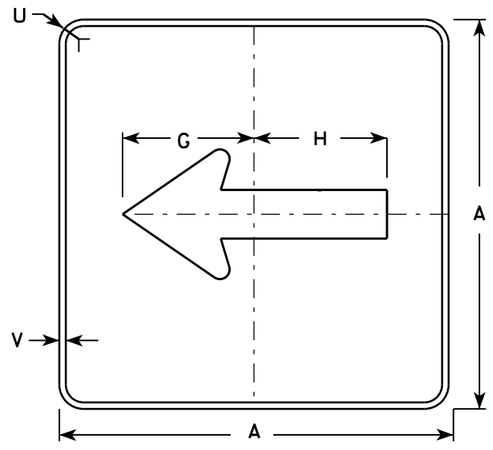
M6-1
MK6-1
MM6-1
MN6-1
MO6-1
MP6-1
MR6-1



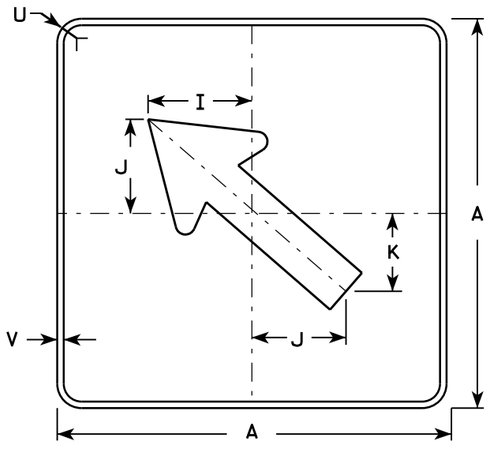
M6-2
MK6-2
MM6-2
MN6-2
MO6-2
MP6-2
MR6-2

NOTES

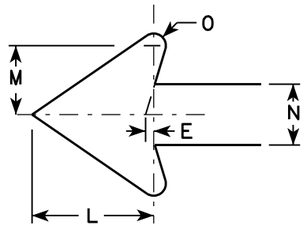
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   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
   MO6-1 and MO6-2 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



MB6-1



MB6-2



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

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

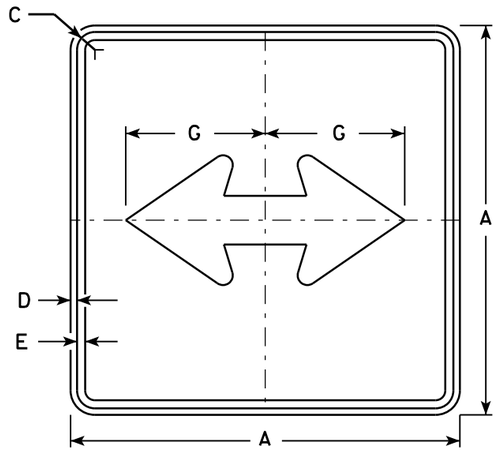
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE 62 M6-1.14

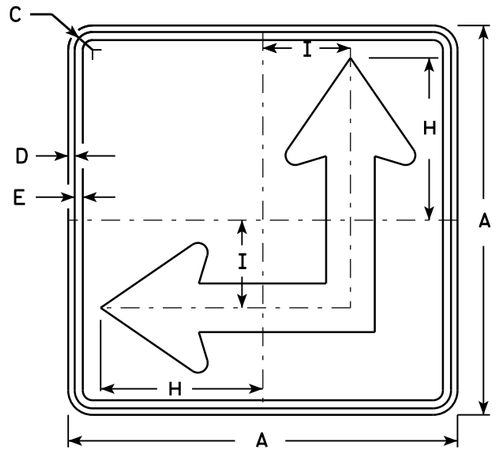
PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 03-JUL-2014 14:28 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 11.675051:1.000000

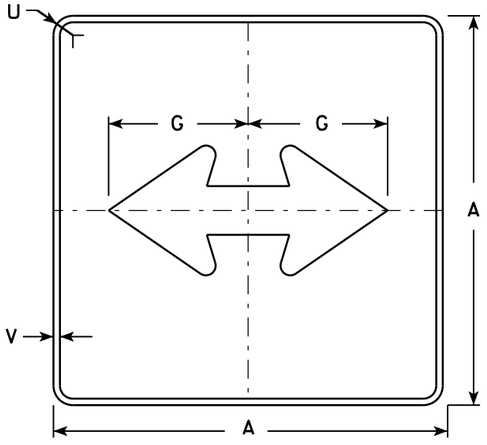
WISDOT/CADDS SHEET 42



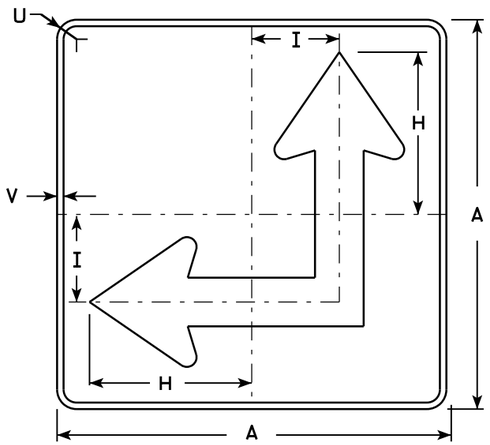
M6-4
MK6-4
MM6-4
MN6-4
MO6-4
MP6-4
MR6-4



M6-6
MK6-6
MM6-6
MN6-6
MO6-6
MP6-6
MR6-6



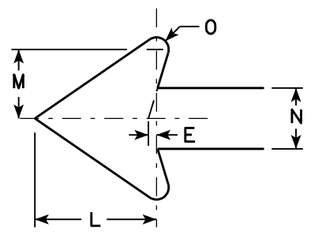
MB6-4



MB6-6

NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and 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 1/2	8 3/4	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	12 1/2	6 3/4			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	12 1/2	6 3/4			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	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

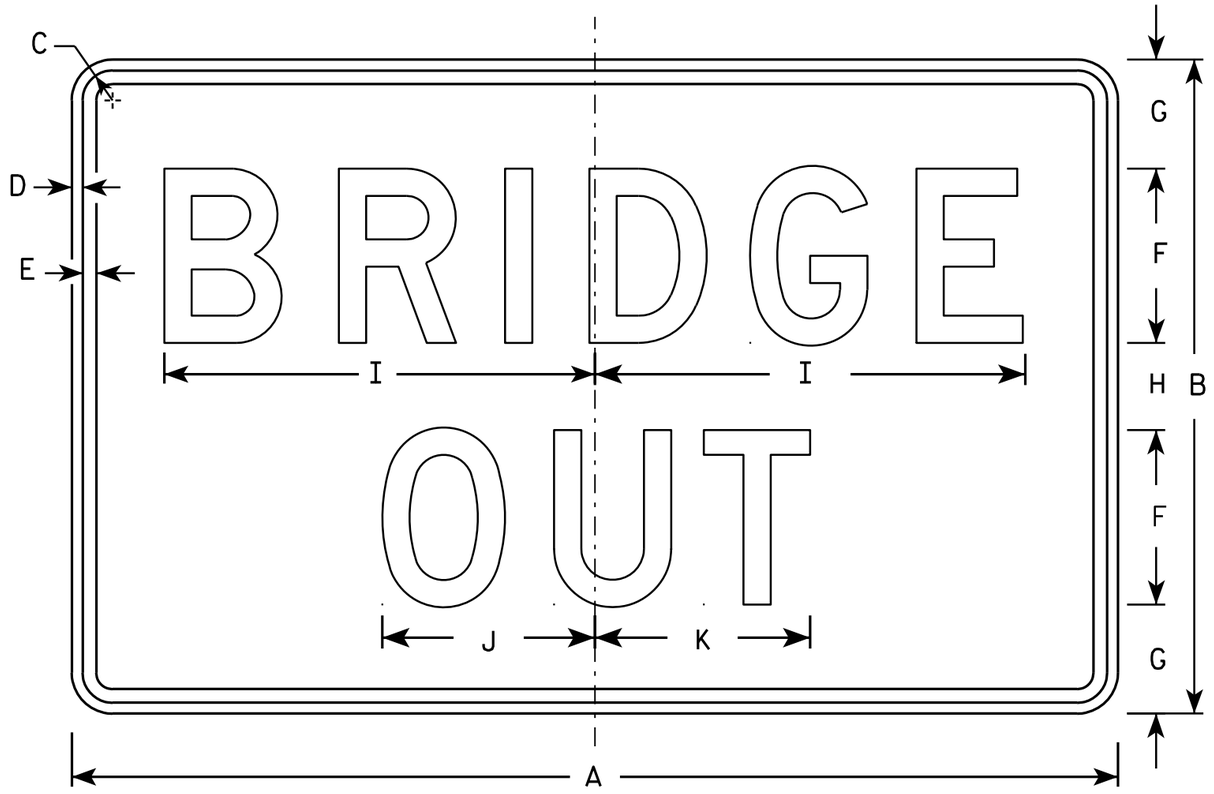
STANDARD SIGN M6-4 & M6-6 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 7/03/14 PLATE M6-4.9

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



R11-2B

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.

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

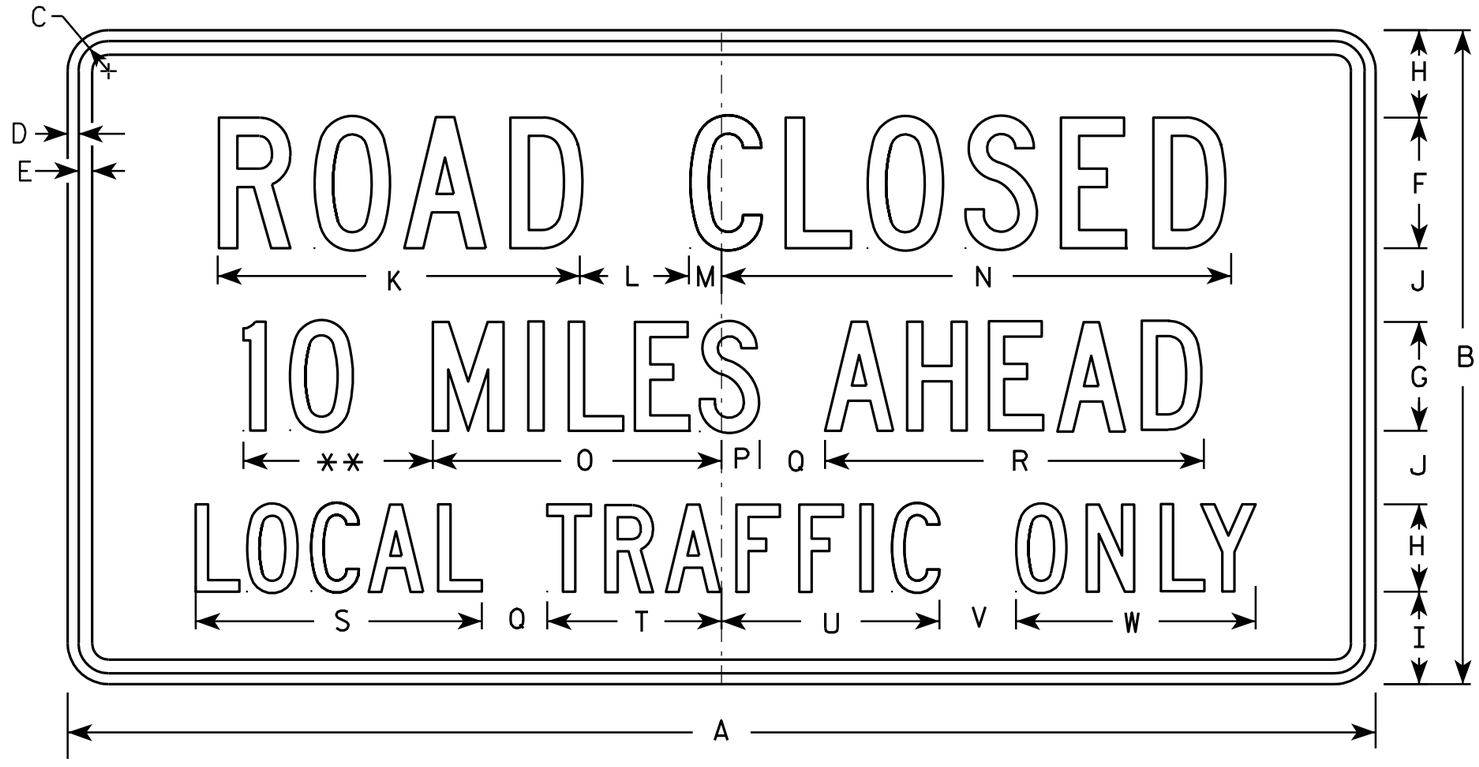
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 64 E



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																											

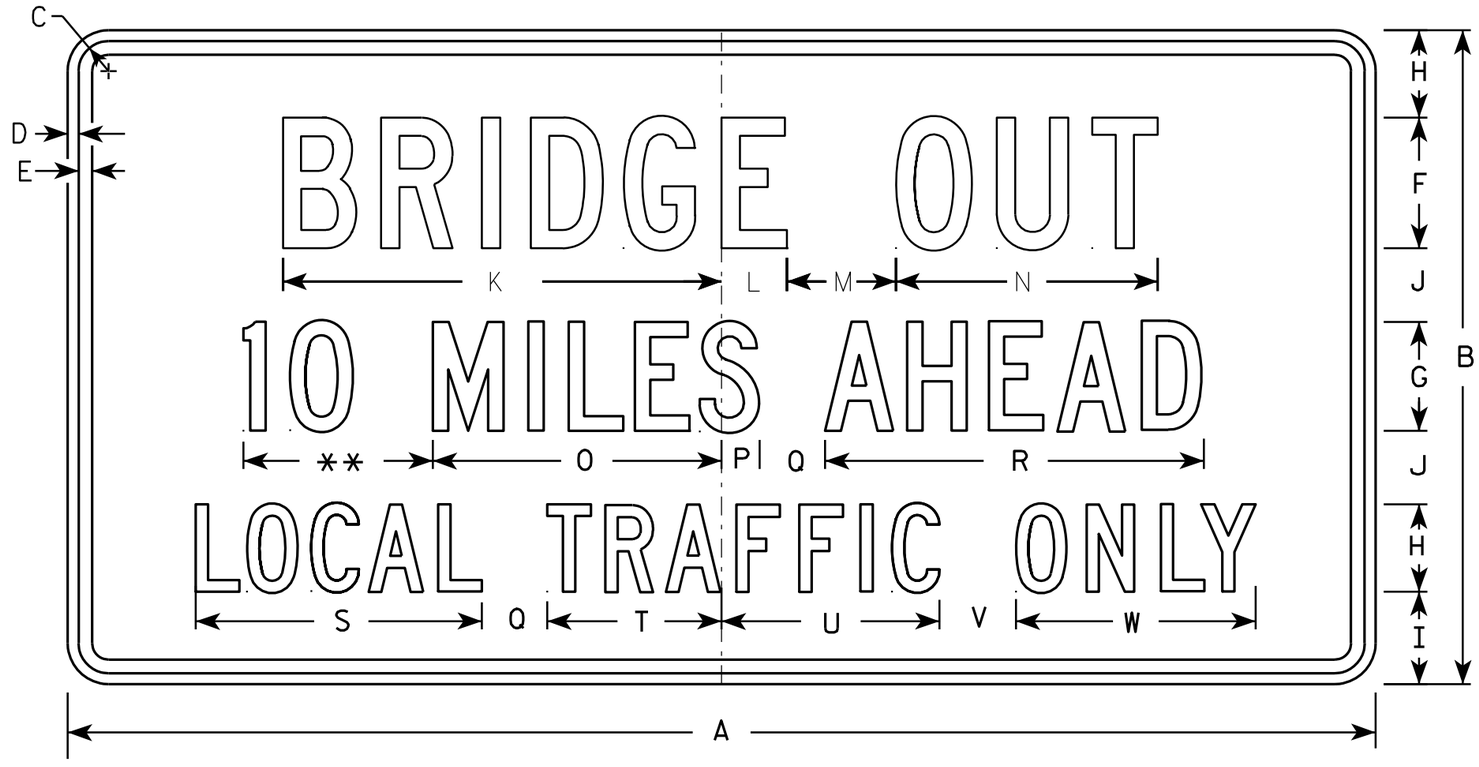
STANDARD SIGN
R11-3

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: 65 | E



R11-3B

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	13 1/4	2 1/4	3	8	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	20 1/8	3	5	12	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	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
3																											
4																											
5																											

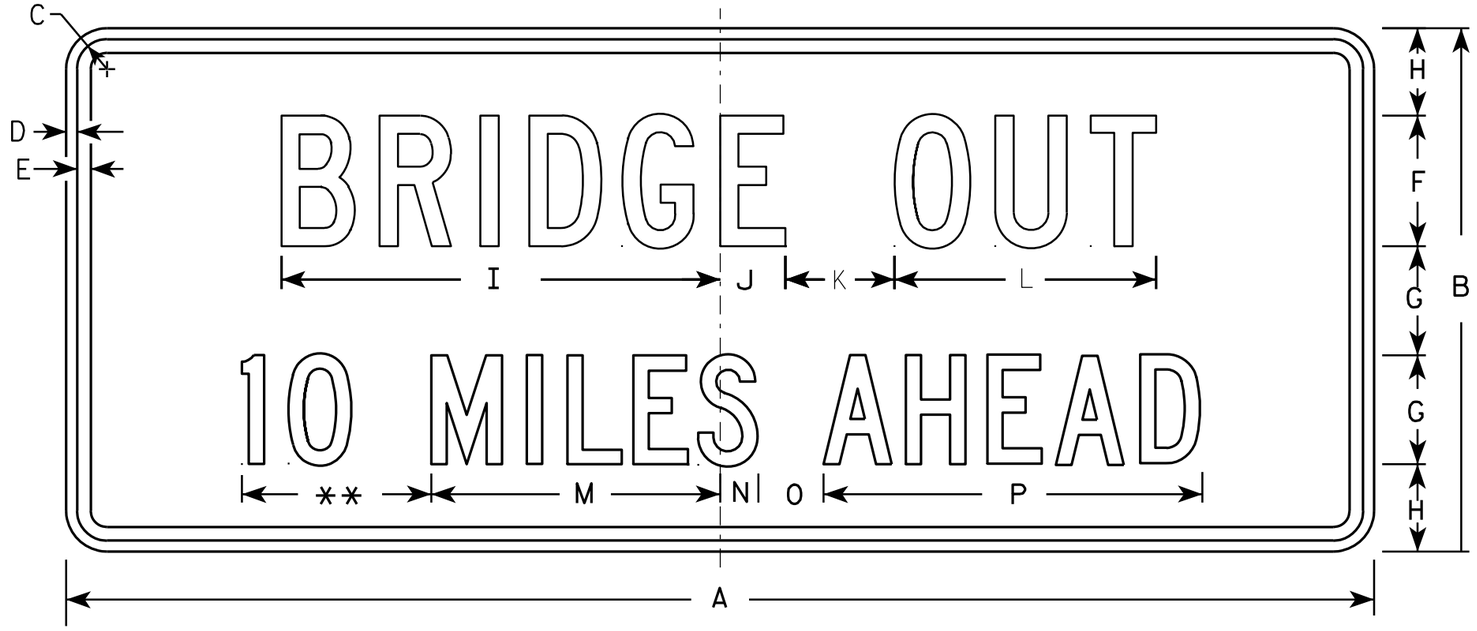
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 66 | 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

PROJECT NO:

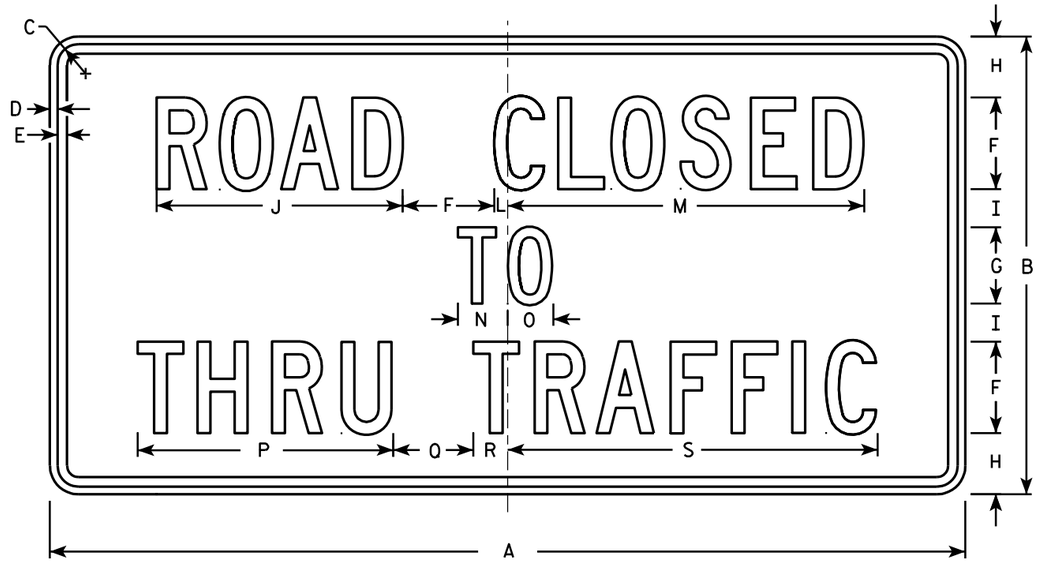
SHEET NO: 67 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R113C.DGN PLOT DATE : 01-APR-2011 14:15 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42

7

7



R11-4

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.

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

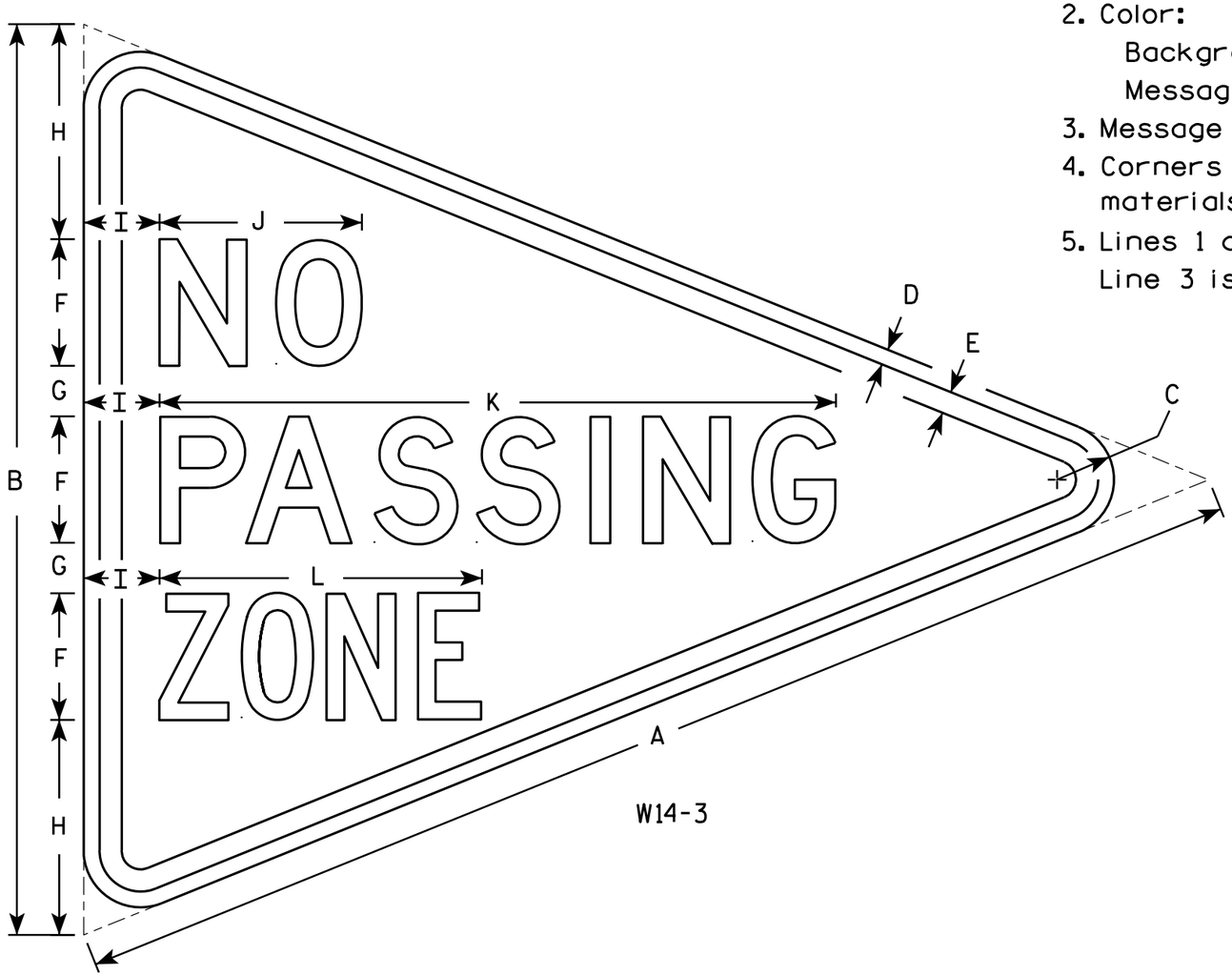
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 68 | 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 - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

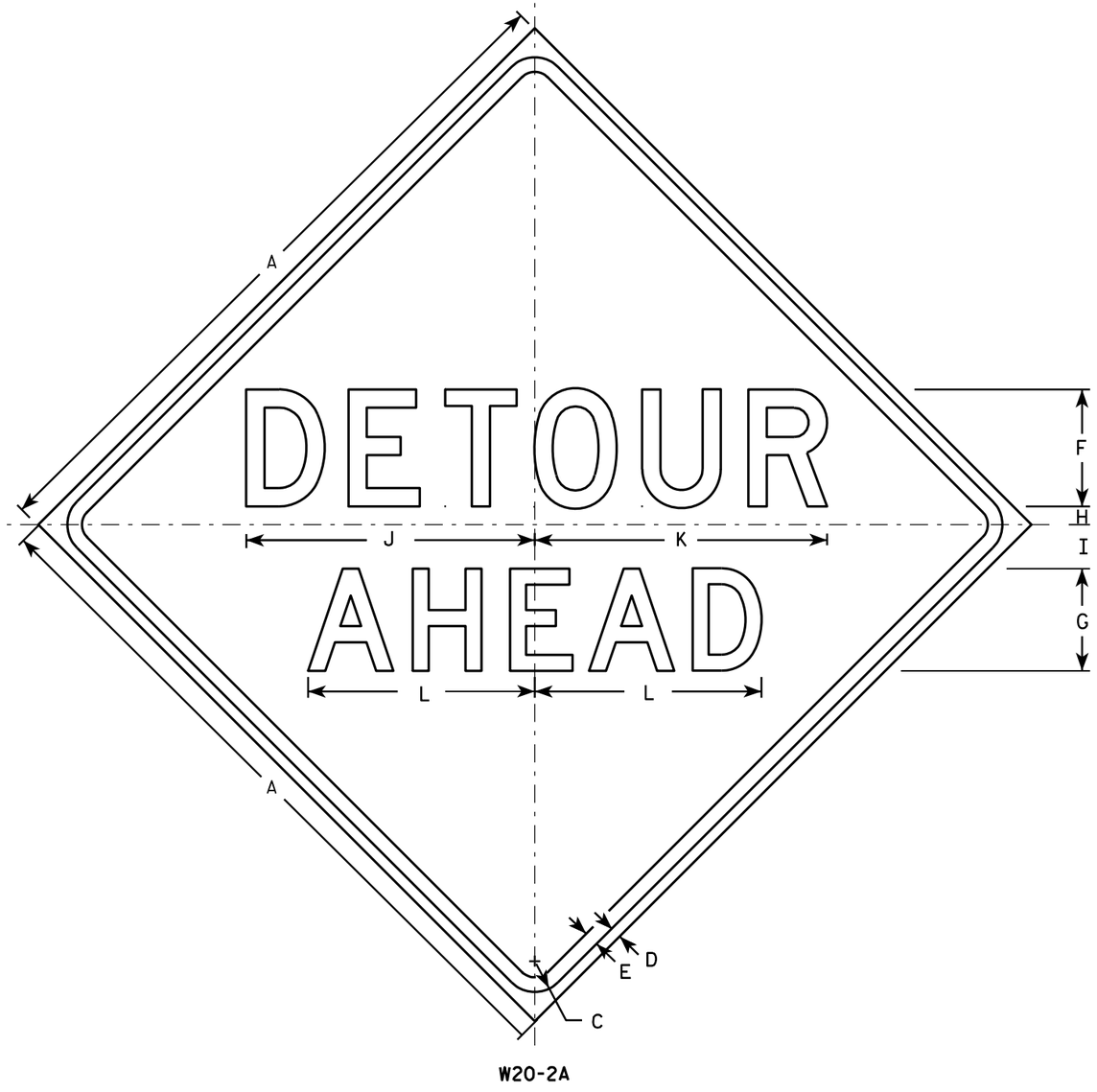
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

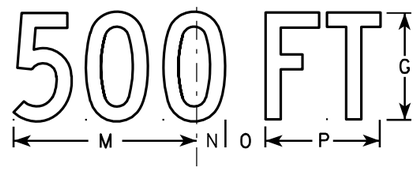
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

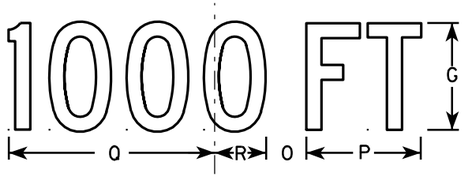
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 69	E



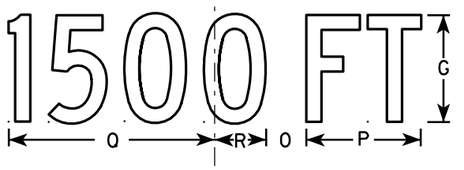
W20-2A



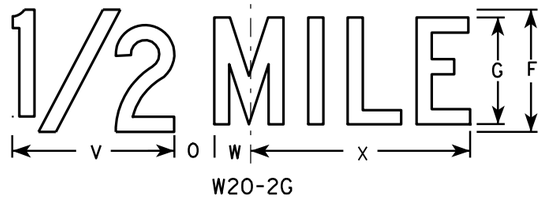
W20-2D



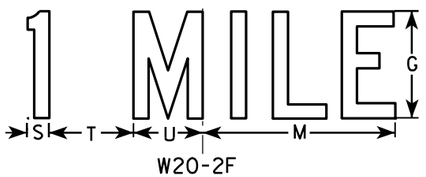
W20-2C



W20-2B



W20-2G



W20-2F

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	O	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

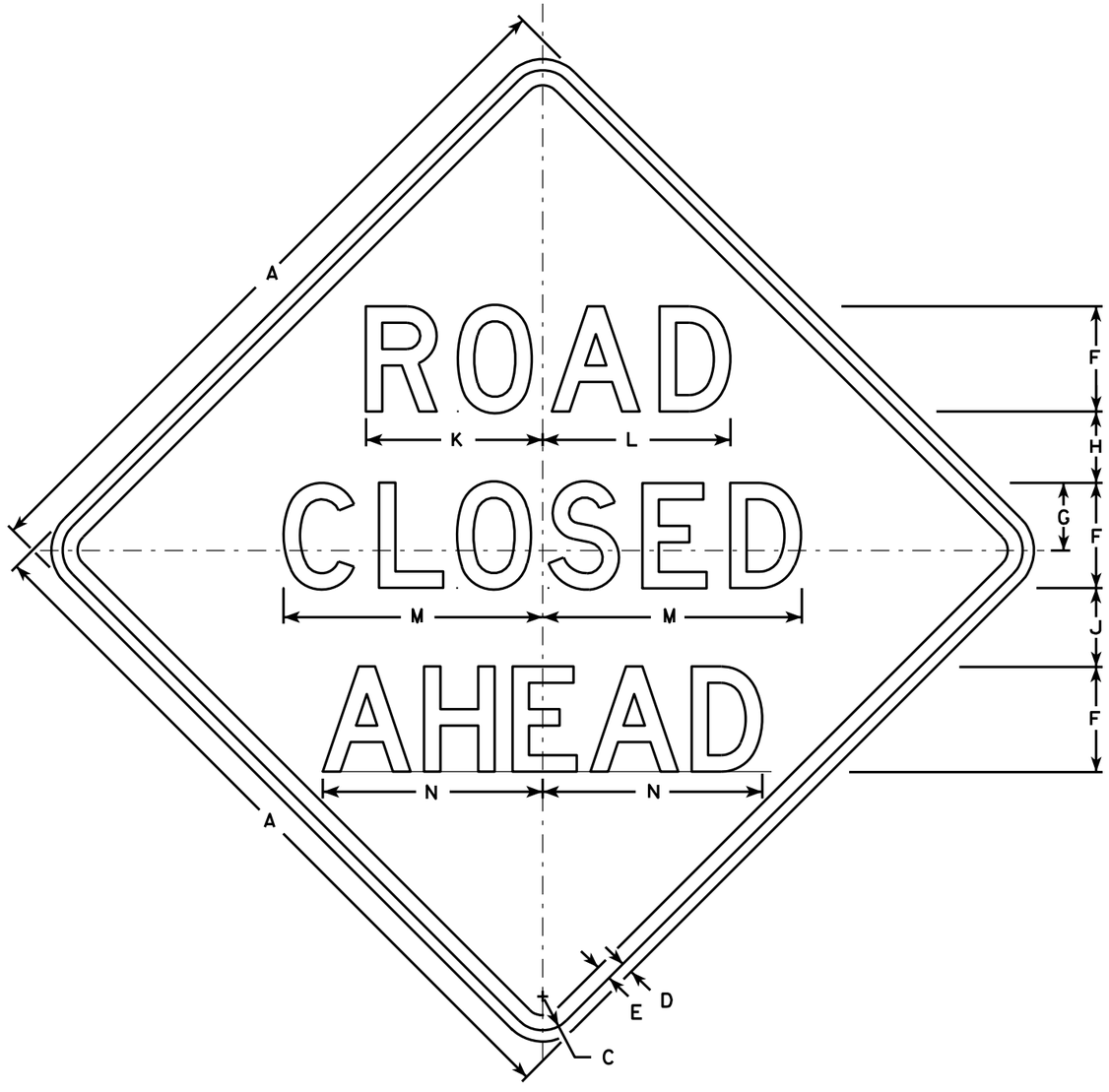
APPROVED Matthew R Rauch
for State Traffic Engineer

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

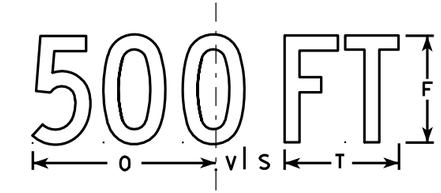
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 70 | E

7

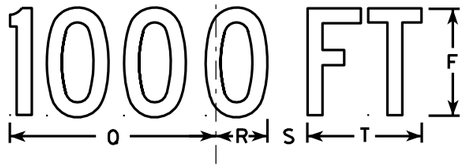
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



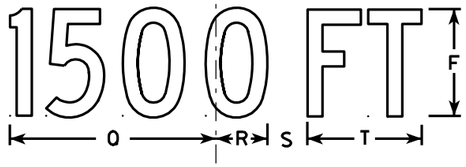
W20-3A



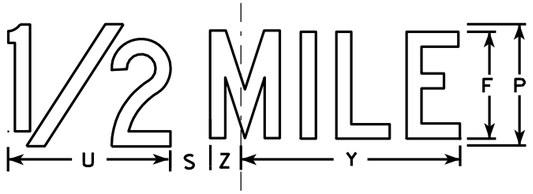
W20-3D



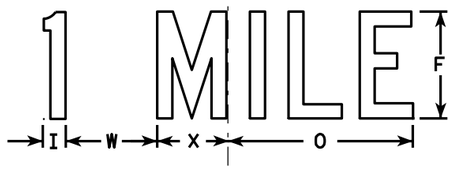
W20-3C



W20-3B



W20-3G



W20-3F

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

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.

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

WISCONSIN DEPT OF TRANSPORTATION

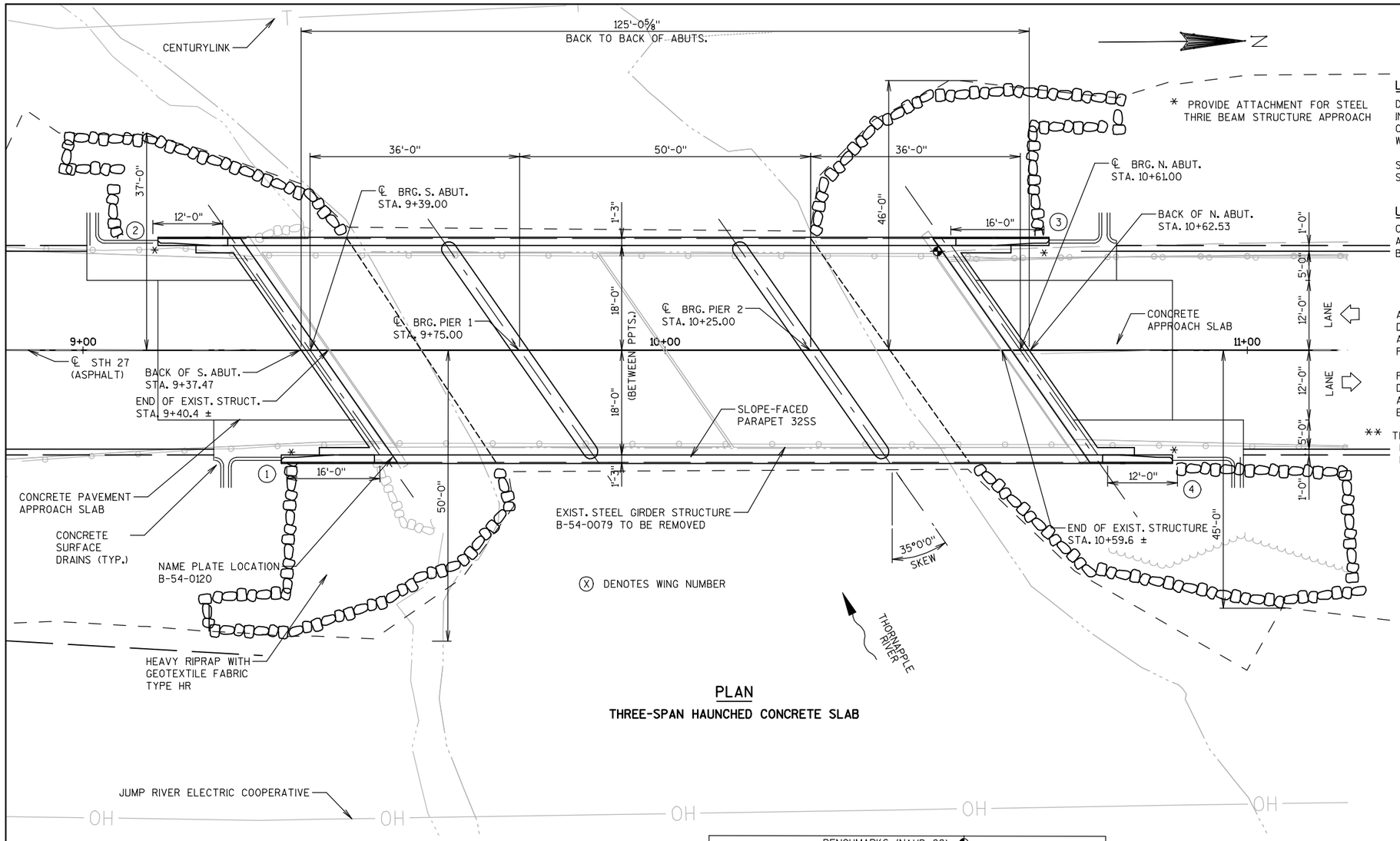
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 71 | E

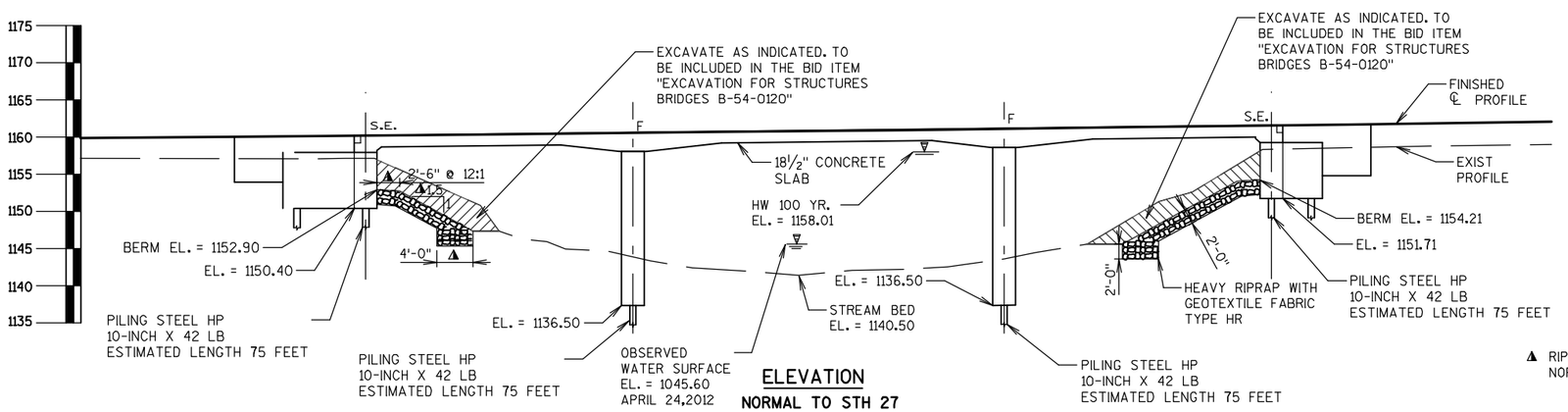
7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



PLAN
THREE-SPAN HAUNCHED CONCRETE SLAB

BENCHMARKS (NAVD 88)			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
BM 1	10+47, 18'LT	NORTH ABUT.	1157.79



ELEVATION
NORMAL TO STH 27

▲ RIPRAP DIMENSIONS MEASURED NORMAL TO ABUTMENTS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR; RF = 1.04
OPERATING RATING FACTOR; RF = 1.35
WISCONSIN STANDARD PERMIT VEHICLE LOAD (Wis-SPV) = 250 KIPS

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB ---------- f'c = 4000 P.S.I.
ALL OTHER CONCRETE MASONRY ---------- f'c = 3500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ---------- fy = 60,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 75'IN BOTH ABUTMENTS.

PIERS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 75'IN BOTH PIERS.

** 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.

LIST OF DRAWINGS

HYDRAULIC DATA

100 YEAR FREQUENCY

Q (100) = 9500 C.F.S.
VEL. = 10.82 F.P.S.
HW. EL. = 1158.01
WATERWAY AREA = 878 SQ. FT.
DRAINAGE AREA = 159 SQ. MI.
OVERTOPPING MIN. EL. = 1158.82
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

Q 2 = 2890 C.F.S.
HW. EL. = 1151.13

TRAFFIC DATA

A.D.T. (2035) = 3050
R.D.S. = 60 MPH

BRIDGE OFFICE CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MATT GUNDRY (715) 832-8400

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

STATE PROJECT NUMBER
8180-02-70

NO.	DATE	REVISION	BY

FAA CONSULTING ENGINEERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher 3/26/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN MATTHEW J. GUNDRY 36217 EAU CLAIRE WI PROFESSIONAL ENGINEER 3-25-15

STRUCTURE B-54-0120

S.T.H. 27 OVER THORNAPPLE RIVER

COUNTY	TOWN/CITY/VILLAGE
RUSK	FLAMBEAU

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	RMJ	DESIGN CK'D.	MJG	DRAWN BY	RMJ	PLANS CK'D.	MJG

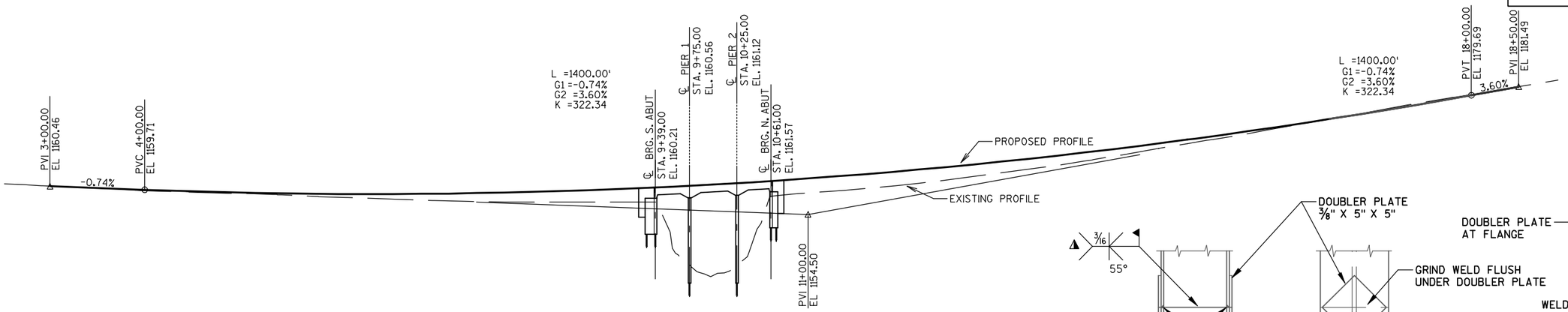
GENERAL PLAN

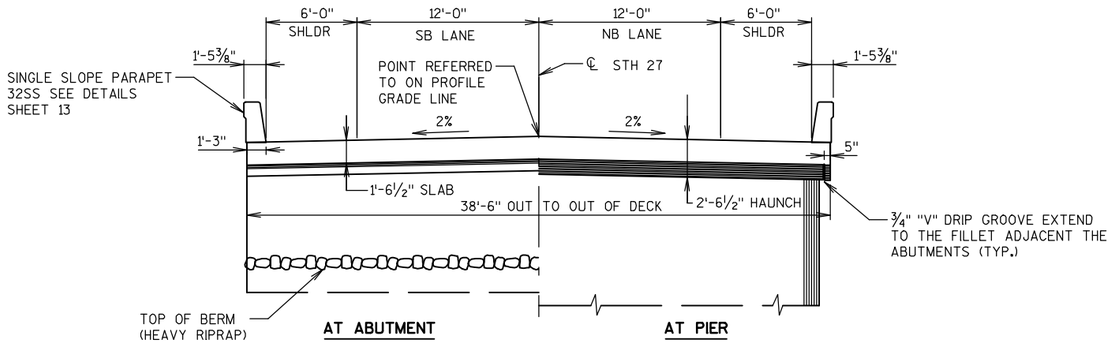
SHEET 1 OF 13
72

8

8

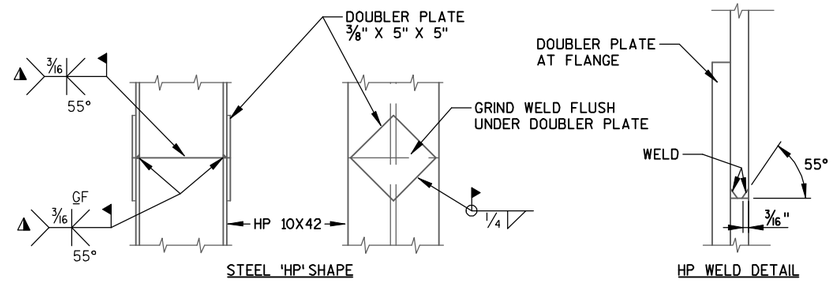
STATE PROJECT NUMBER
8180-02-70





CROSS SECTION THRU BRIDGE

LOOKING NORTH



PILE SPLICE DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC HR TO THE LIMITS SHOWN ON SHEET 1 OR AS DIRECTED BY THE ENGINEER

AT THE BACKFACE OF ABUTMENT, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES"

THIS STRUCTURE WILL REPLACE AN EXISTING BRIDGE, B-54-079, A 119.4-FOOT LONG BY 31.3 CLEAR ROADWAY WIDTH, TWO-SPAN STEEL GIRDER STRUCTURE SET ON CONCRETE ABUTMENTS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF BRIDGE DECK, INSIDE FACE OF PARAPETS, TOP OF PARAPETS, AND PARAPET ENDS.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	PIER 1	PIER 2	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 10+00	LS	-	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-54-0120)	LS	-	-	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	-	145	145	-	-	290
502.0100	CONCRETE MASONRY BRIDGES	CY	343	54	54	88	90	629
502.3200	PROTECTIVE SURFACE TREATMENT	SY	675	12.5	12.5	-	-	700
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	-	2970	3030	-	-	6000
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	99160	1330	1330	4280	4340	110440
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	11	11	-	-	22
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	-	675	675	675	675	2700
606.0300	RIPRAP HEAVY	CY	-	255	335	-	-	590
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	90	90	-	-	180
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	2	2	-	-	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	-	320	410	-	-	730
	NON-BID ITEMS							
	FILLER	SIZE	-	-	-	-	-	½" & ¾"

8

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-0120

DRAWN BY RMJ | PLANS CK'D. MJG

CROSS SECTION & QUANTITIES

SHEET 2 OF 13
73

8

SOIL BORINGS

BY: MIDWEST ENGINEERING SERVICES, INC.
EAU CLAIRE, WI

ON: 11/08/2012 - 11/09/2012

GEOTECHNICAL REPORT

BY: MIDWEST ENGINEERING SERVICES, INC.
EAU CLAIRE, WI

ON: 11/23/2012

N

CENTURYLINK

℄ OF PIER 1
STA. 9+75.00

℄ OF PIER 2
STA. 10+25.00

℄ OF N. ABUT.
STA. 10+61.00

BORING NO. 1

STH 27
(ASPHALT)

9+00 10+00 11+00 12+00 13+00

℄ OF S. ABUT.
STA. 9+39.00

BORING NO. 3

BORING NO. 2

THORNAPPLE RIVER

NOTE:
BORINGS WERE TAKEN AFTER THE ORIGINAL TOPO SURVEY WAS COMPLETED.

JUMP RIVER ELECTRIC COOPERATIVE

OH OH OH OH OH OH OH OH OH OH OH

BORING NO. 1 EL. 1156.9
STA. 9+25, 8' LT

℄ BRG. SOUTH ABUT.
STA. 9+39.00
EL. 1160.21

℄ BRG. PIER 1
STA. 9+75.00
EL. 1160.56

℄ BRG. PIER 2
STA. 10+25
EL. 1161.12

℄ BRG. NORTH ABUT.
STA. 10+61.00
EL. 1161.57

BORING NO. 2 EL. 1157.8
STA 10+25, 8' RT

BORING NO. 3 EL. 1158.5
STA. 10+75, 8' RT

1170
1160
1150
1140
1130
1120
1110
1100
1090
1080

9½" ASPHALT PAVEMENT
5" BASE COURSE
BROWN SAND, WITH GRAVEL, LITTLE CLAY, DAMP — 11
BROWN CLAYEY SAND, TRACE GRAVEL, MOIST — 5
LIGHT BROWN SAND, TRACE CLAY AND GRAVEL, MOIST — 9
BROWN CLAYEY SAND, TRACE GRAVEL, MOIST — 8
BROWN SAND, LITTLE CLAY, TRACE GRAVEL, VERY MOIST — 7
BROWN SAND, TRACE SILT, GRAVEL, WOOD, MOIST — 7
BROWN SAND, TRACE SILT, GRAVEL, WOOD, WET — 12
REDDISH BROWN CLAYEY SAND, WITH COURSE SAND LAYERS, LITTLE GRAVEL, WET — 50/4"
REDDISH BROWN TO BROWN CLAYEY SAND, LITTLE GRAVEL, OCCASIONAL COBBLES, WET — 13, 12, 12, 22, 35, 26
END OF BORING @ 61.5' ±

PILING STEEL HP
10-INCH X 42 LB
ESTIMATED LENGTH 75 FEET

PILING STEEL HP
10-INCH X 42 LB
ESTIMATED LENGTH 75 FEET

10+00.00

PILING STEEL HP
10-INCH X 42 LB
ESTIMATED LENGTH 75 FEET

7" CONCRETE BRIDGE DECK
CLEAR SPACE BETWEEN BRIDGE DECK AND WATER SURFACE
WATER
BROWN SAND, LITTLE GRAVEL, TRACE SILT, WET — 34, 24
REDDISH BROWN TO BROWN CLAYEY SAND, LITTLE GRAVEL, OCCASIONAL COBBLES, WET — 2, 3, 16, 16, 17, 11, 18
END OF BORING @ 61.5' ±

11" ASPHALT PAVEMENT
7" BASE COURSE
BROWN SAND, WITH GRAVEL, LITTLE CLAY, DAMP — 22
REDDISH BROWN SAND, LITTLE CLAY, TRACE GRAVEL, MOIST — 22
REDDISH BROWN CLAYEY SAND, LITTLE GRAVEL, MOIST — 11
LIGHT BROWN SAND, TRACE SILT AND GRAVEL, MOIST — 10, 27
GRAYISH BROWN SAND, WITH GRAVEL, LITTLE CLAY, TRACE COBBELS AND ORGANICS, WET — 24
LIGHT BROWN SAND, LITTLE GRAVEL, TRACE SILT AND COBBELS, WET — 12, 17
REDDISH BROWN CLAYEY SAND, LITTLE GRAVEL, OCCASIONAL COBBELS, WET — 16, 10
REDDISH BROWN TO BROWN CLAYEY SAND, LITTLE GRAVEL, OCCASIONAL COBBLES, WET — 15, 17, 11, 17
END OF BORING @ 61.5' ±

PROJECT NUMBER

8180-02-70

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING

BORING NO.
STA.
ELEV.
UNCONFINED STRENGTH — 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0120

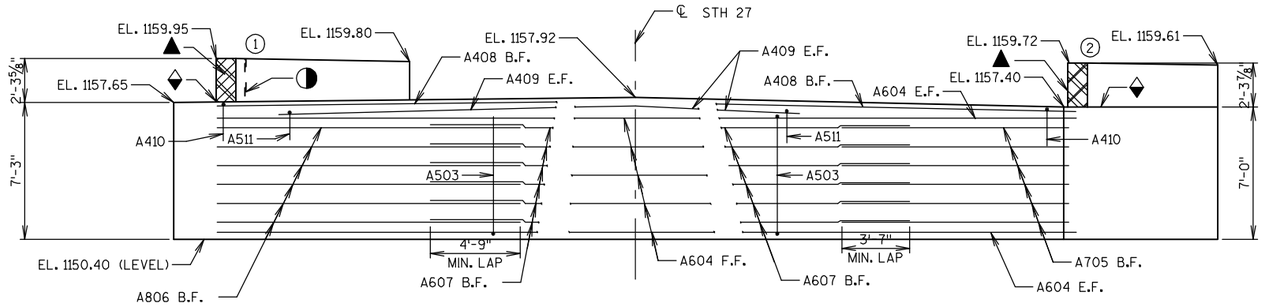
DRAWN BY RMJ | PLANS CK'D. MJG

SUBSURFACE EXPLORATION

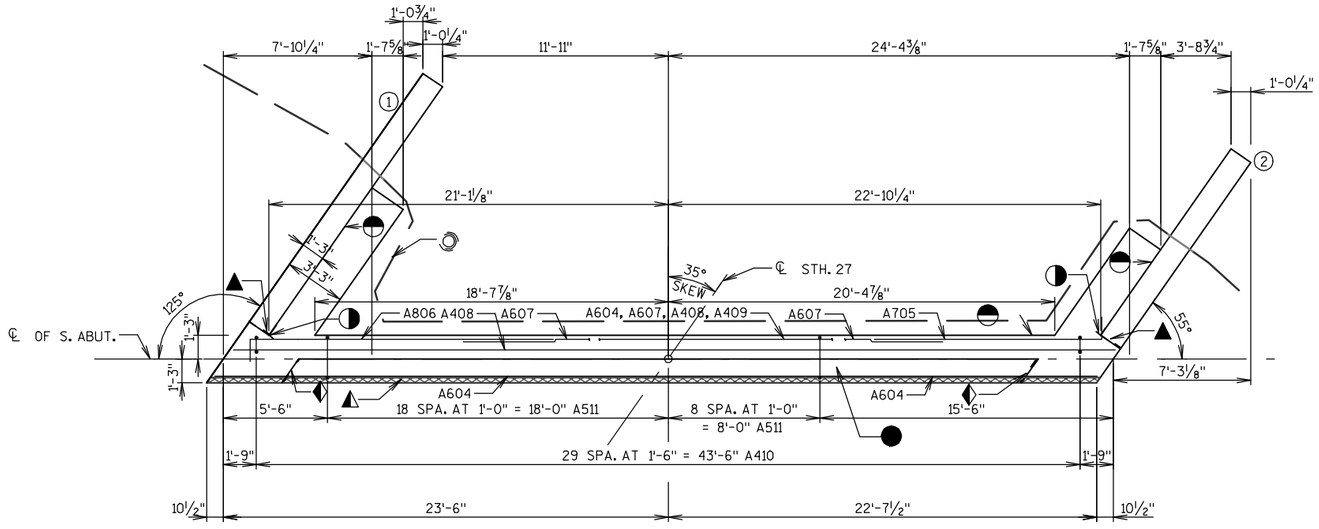
SHEET 3 OF 13
74

FILE=
SCALE =

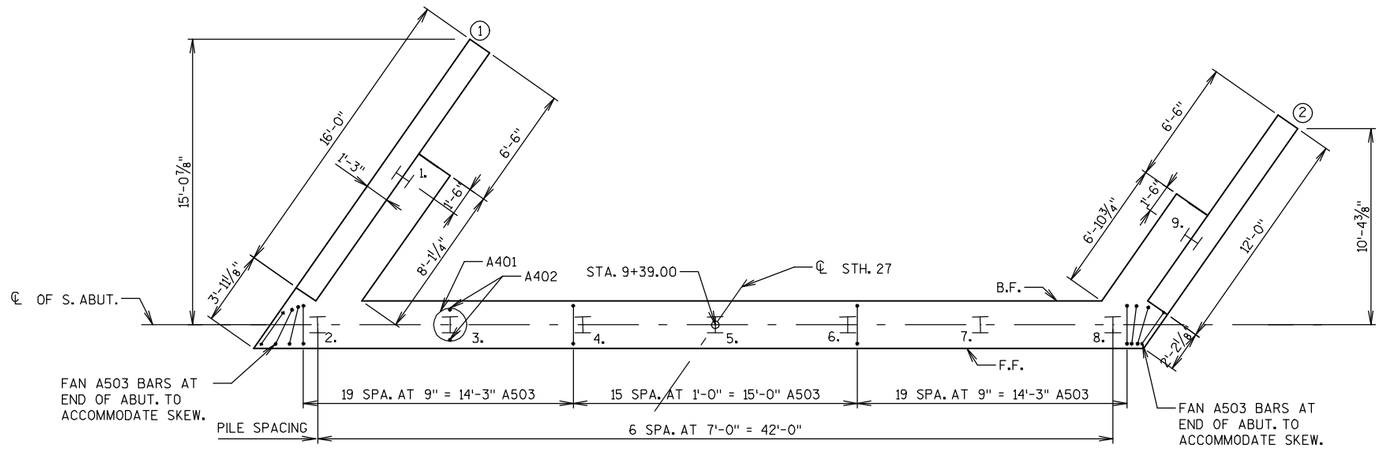
STATE PROJECT NUMBER
8180-02-70



ELEVATION
(S. ABUT. LOOKING SOUTH)



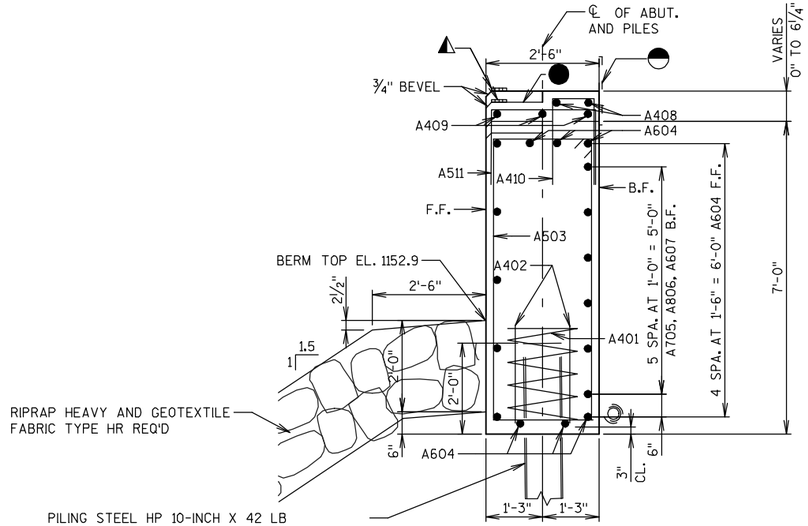
PLAN



PILE LAYOUT

LEGEND

- (#) WING NUMBER.
- SEMI-EXPANSIVE STEP FROM F.F. TO ℄ OF ABUT. CONSTRUCT 3" DEEPER THAN BACKWALL. STEEL TROWEL TOP SURFACE OF ABUT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUT. TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- 4" X¾" FILLER TO EXTEND LENGTH OF ABUT.
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE. PROVIDE¾" V-GROOVE AT F.F. OF WALL IF OPTIONAL CONSTRUCTION JOINT IS USED.
- HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO SEAL ALL HORIZ. JOINTS ON BACKFACE.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. TO SEAL ALL VERT. JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM BIRDGE SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD⅛" BELOW SURFACE OF CONRETE.)
- ¾" CORK FILLER (SIDE VERTICAL FACES ONLY)
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACHED RODENT SHEILD AT ENDS OF PIPE UNDERDRAIN, DETAILED ON SHEET 8.



PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A MIN. DRIVING RESISTANCE OF 180 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75' LONG.

SECTION THRU ABUTMENT BODY

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-0120

DRAWN BY RMJ | PLANS CK'D. MJG

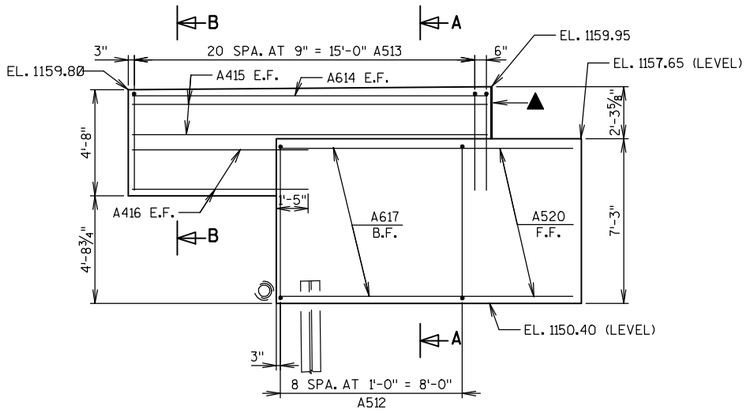
SOUTH ABUTMENT DETAILS

SHEET 4 OF 13
75

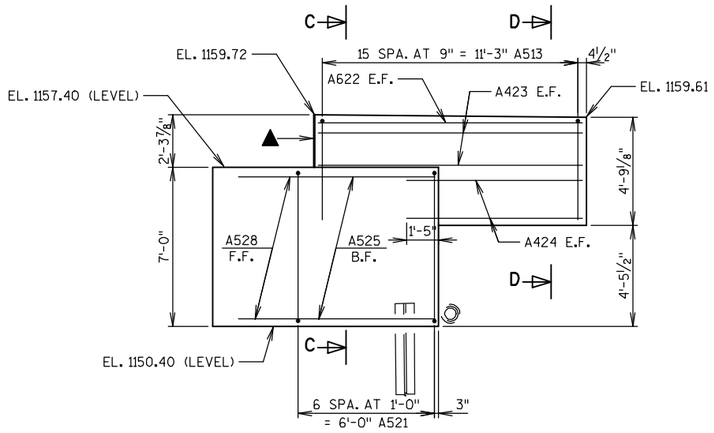
8

8

STATE PROJECT NUMBER
8180-02-70



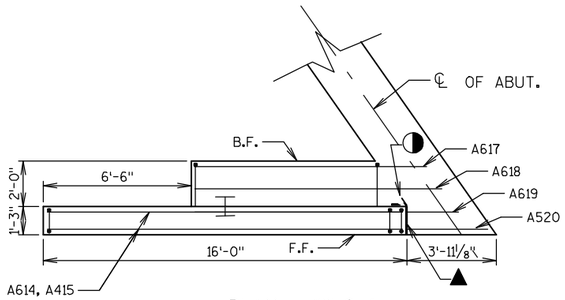
ELEVATION - WING 1



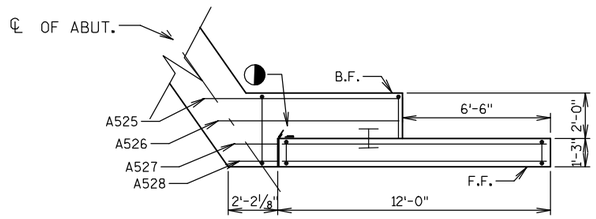
ELEVATION - WING 2

LEGEND

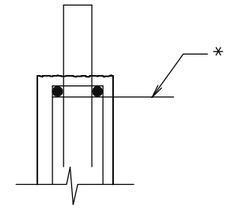
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE. PROVIDE ¾" V-GROOVE AT F.F. OF WALL IF OPTIONAL CONSTRUCTION JOINT IS USED.
- HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO SEAL ALL HORIZ. JOINTS ON BACKFACE.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. TO SEAL ALL VERT. JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM BIRDGE SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONRETE.)
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACHED RODENT SHEILD AT ENDS OF PIPE UNDERDRAIN, DETAILED ON SHEET 6.



PLAN - WING 1

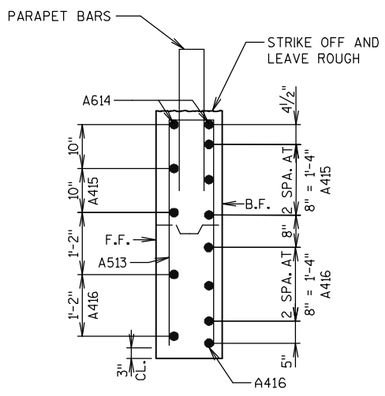


PLAN - WING 2

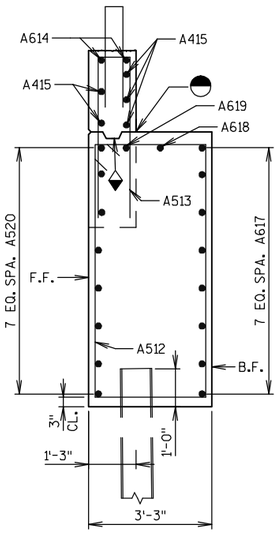


SURFACE DRAIN ANCHOR BAR PLACEMENT

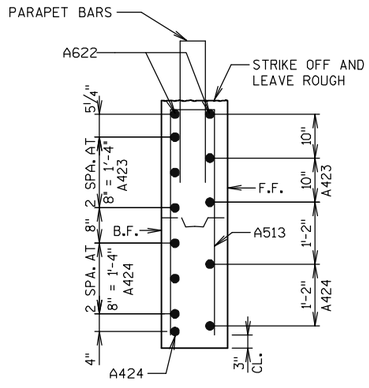
* #4 DOWELS (COATED) 2'-0" LONG SPACED AT 1'-0" ALONG ENTIRE WING LENGTH. (INCIDENTAL TO "CONCRETE SURFACE DRAINS")



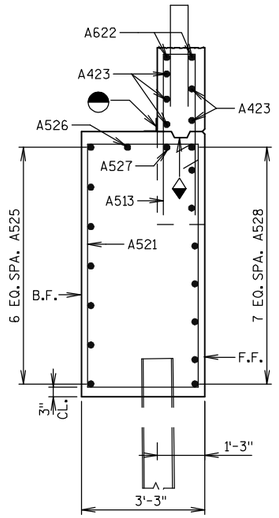
SECTION B-B



SECTION A-A



SECTION D-D



SECTION C-C

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-0120

DRAWN BY	RMJ	PLANS CK'D.	MJG

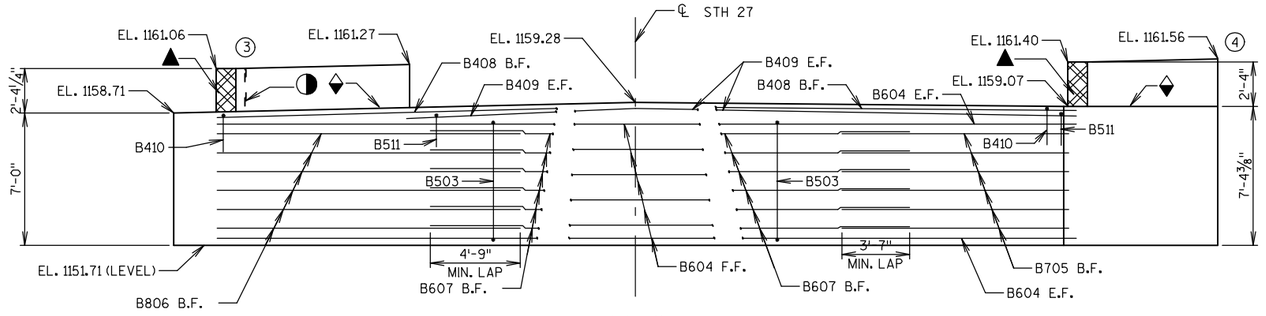
SOUTH ABUTMENT WING DETAILS

SHEET 5 OF 13
76

8

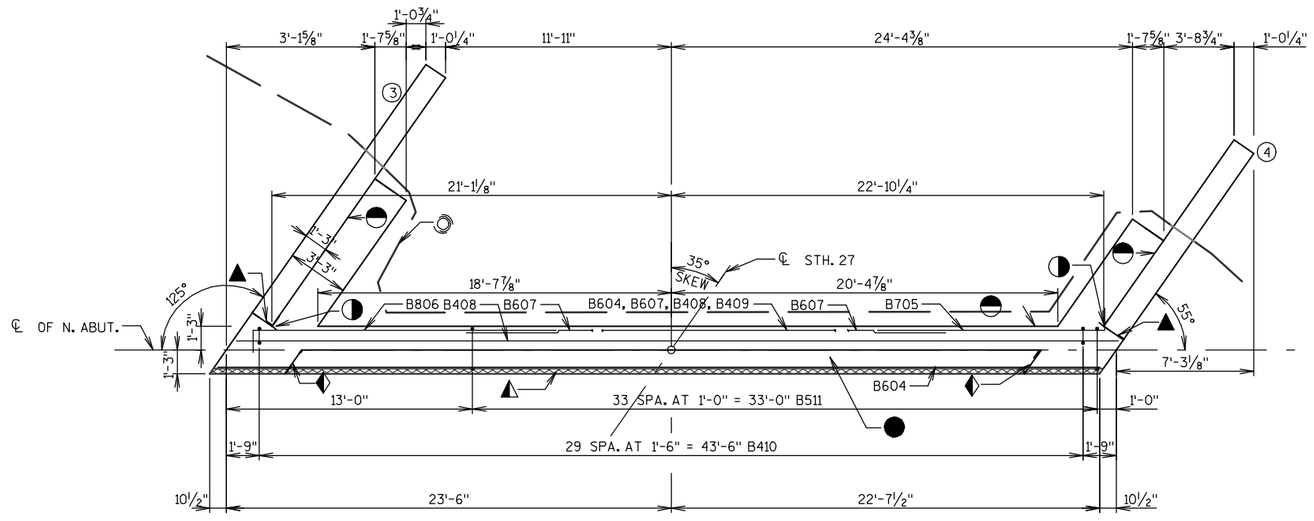
8

STATE PROJECT NUMBER
8180-02-70

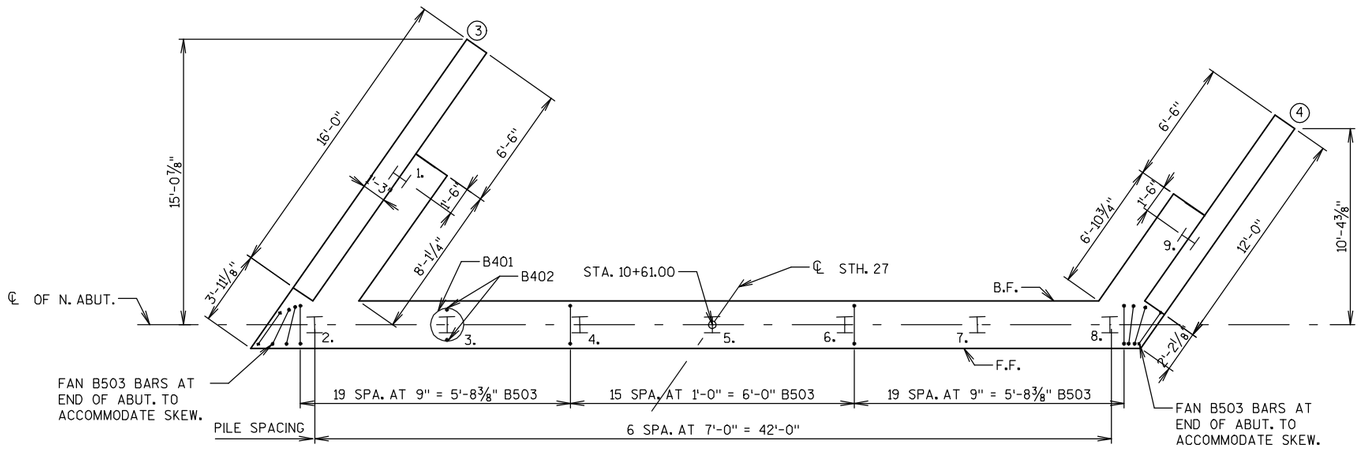


ELEVATION

(N. ABUT. LOOKING NORTH)



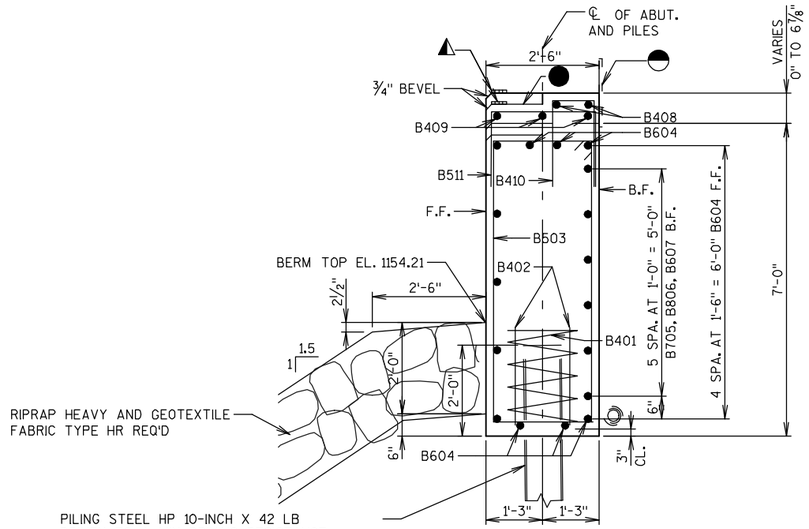
PLAN



PILE LAYOUT

LEGEND

- (#) WING NUMBER.
- SEMI-EXPANSIVE STEP FROM F.F. TO ℄ OF ABUT. CONSTRUCT 3" DEEPER THAN BACKWALL. STEEL TROWEL TOP SURFACE OF ABUT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUT. TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- 4" X ¾" FILLER TO EXTEND LENGTH OF ABUT.
- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" × 6" KEYWAY WITH MEMBRANE ON BACKFACE. PROVIDE ¾" V-GROOVE AT F.F. OF WALL IF OPTIONAL CONSTRUCTION JOINT IS USED.
- HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO SEAL ALL HORIZ. JOINTS ON BACKFACE.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. TO SEAL ALL VERT. JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM BIRDGE SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONRETE.)
- ¾" CORK FILLER (SIDE VERTICAL FACES ONLY)
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACHED RODENT SHEILD AT ENDS OF PIPE UNDERDRAIN, DETAILED ON SHEET 8.



SECTION THRU ABUTMENT BODY

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

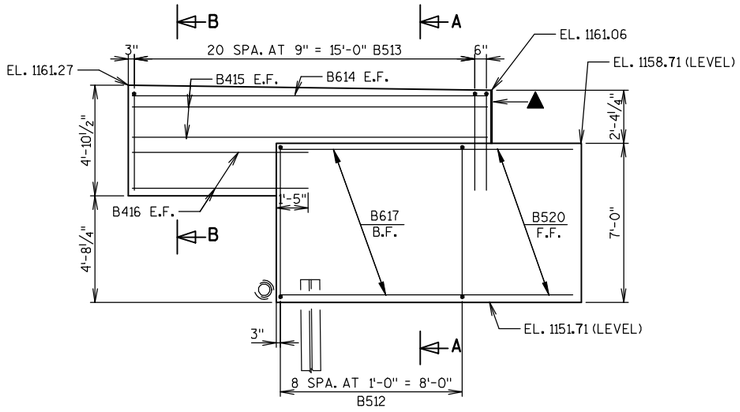
STRUCTURE B-54-0120

DRAWN BY RMJ | PLANS CK'D. MJG

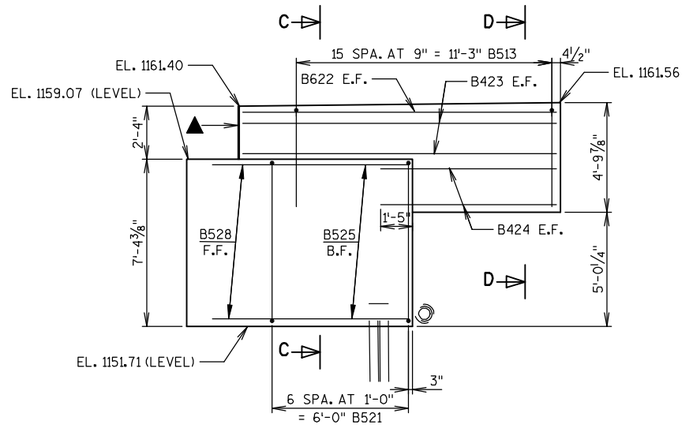
NORTH ABUTMENT DETAILS

8

STATE PROJECT NUMBER
8180-02-70



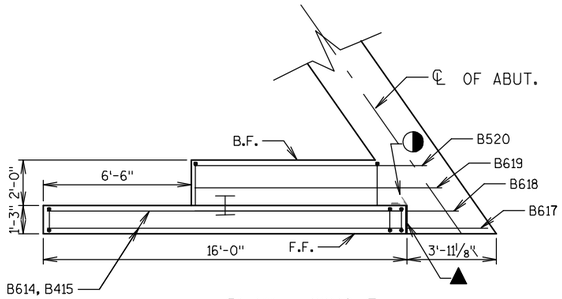
ELEVATION - WING 3



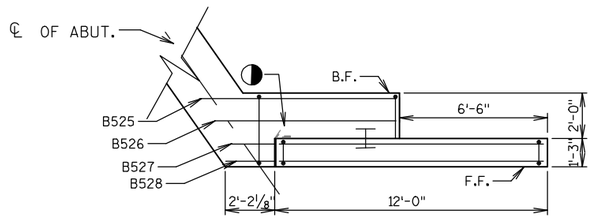
ELEVATION - WING 4

LEGEND

- OPT. KEYED CONST. JOINT FORMED BY BEVELED 2" x 6" KEYWAY WITH MEMBRANE ON BACKFACE. PROVIDE ¾" V-GROOVE AT F.F. OF WALL IF OPTIONAL CONSTRUCTION JOINT IS USED.
- HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO SEAL ALL HORIZ. JOINTS ON BACKFACE.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL. TO SEAL ALL VERT. JOINTS ON BACKFACE.
- ½" FILLER TO EXTEND FROM BIRDGE SEAT TO TOP OF PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONRETE.)
- PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACHED RODENT SHEILD AT ENDS OF PIPE UNDERDRAIN, DETAILED ON SHEET 8.



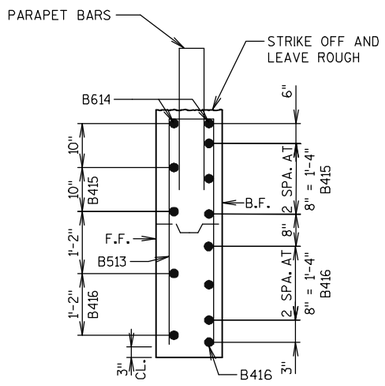
PLAN - WING 3



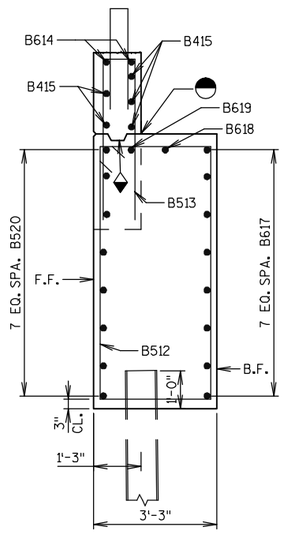
PLAN - WING 4

SURFACE DRAIN ANCHOR BAR PLACEMENT

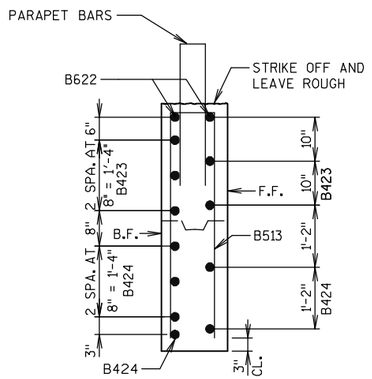
* #4 DOWELS (COATED) 2'-0" LONG SPACED AT 1'-0" ALONG ENTIRE WING LENGTH. (INCIDENTAL TO "CONCRETE SURFACE DRAINS")



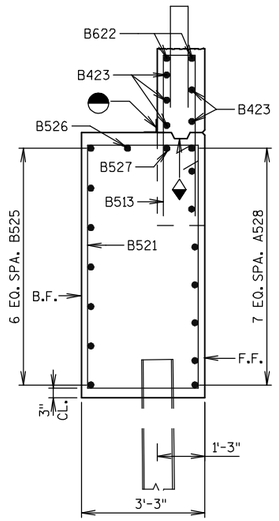
SECTION B-B



SECTION A-A



SECTION D-D



SECTION C-C

E.F. DENOTES EACH FACE

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

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3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-54-0120

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NORTH ABUTMENT WING DETAILS

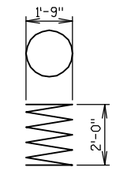
SHEET 7 OF 13
78

8

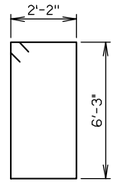
8

STATE PROJECT NUMBER

8180-02-70



A501, B501



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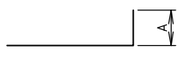
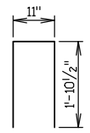
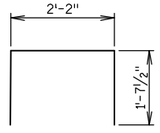


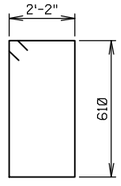
MARK	DIM. A
A705	1'-2"
A806	1'-4"
B705	1'-2"
B806	1'-4"



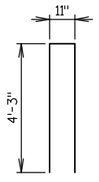
A410, B410



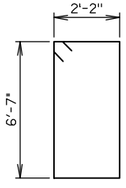
A511, B511



A512, B521



A513, B513



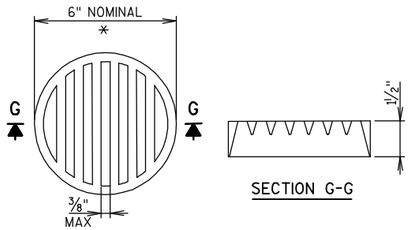
A521, B512

MARK	NO. REQ'D	LENGTH	SERIES	COAT	BENT	LOCATION
A401	7	28 - 0			X	BODY AT PILES
A402	14	2 - 3				BODY AT PILES
A503	58	17 - 5			X	BODY VERT.
A604	11	46 - 7				BODY HORIZ. E.F.
A705	6	13 - Ø			X	BODY HORIZ. B.F.
A806	6	17 - 2			X	BODY HORIZ. B.F.
A607	6	25 - 4				BODY HORIZ. B.F.
A408	2	46 - 7				BODY HORIZ. TOP
A409	3	27 - 0				BODY HORIZ. TOP
A410	30	3 - 6			X	BODY VERT.
A511	27	5 - 3			X	BODY VERT.
A512	9	2Ø - 1		X	X	WING 1 VERT.
A513	38	9 - 2		X	X	WINGS 1 & 2 VERT.
A614	2	15 - 7		X		WING 1 HORIZ. E.F.
A415	5	15 - 7		X		WING 1 HORIZ. E.F.
A416	6	7 - 9		X		WING 1 HORIZ. E.F.
A617	8	10 - 3		X		WING 1 HORIZ. B.F.
A618	1	10 - 11		X		WING 1 HORIZ.
A619	1	11 - 7		X		WING 1 HORIZ.
A520	8	12 - 10		X		WING 1 HORIZ. F.F.
A521	7	19 - 7		X	X	WING 2 VERT.
A622	2	11 - 7		X		WING 2 HORIZ. E.F.
A423	5	11 - 7		X		WING 2 HORIZ. E.F.
A424	6	7 - 9		X		WING 2 HORIZ. E.F.
A525	7	8 - 8		X		WING 2 HORIZ. B.F.
A526	1	8 - 0		X		WING 2 HORIZ.
A527	1	7 - 3		X		WING 2 HORIZ.
A528	8	7 - 5		X		WING 2 HORIZ. F.F.
TOTAL WEIGHT (S. ABUT.) - COATED						1330 LBS
TOTAL WEIGHT (S. ABUT.) - UNCOATED						2970 LBS

SOUTH ABUTMENT - BILL OF BARS

MARK	NO. REQ'D	LENGTH	SERIES	COAT	BENT	LOCATION
B401	7	28 - 0			X	BODY AT PILES
B402	14	2 - 3				BODY AT PILES
B503	58	17 - 5			X	BODY VERT.
B604	11	46 - 7				BODY HORIZ. E.F.
B705	6	13 - Ø			X	BODY HORIZ. B.F.
B806	6	17 - 2			X	BODY HORIZ. B.F.
B607	6	25 - 4				BODY HORIZ. B.F.
B408	2	46 - 7				BODY HORIZ. TOP
B409	3	35 - 4				BODY HORIZ. TOP
B410	30	3 - 6			X	BODY VERT.
B511	34	5 - 3			X	BODY VERT.
B512	9	19 - 7		X	X	WING 3 VERT.
B513	38	9 - 2		X	X	WINGS 3 & 4 VERT.
B614	2	15 - 7		X		WING 3 HORIZ. E.F.
B415	5	15 - 7		X		WING 3 HORIZ. E.F.
B416	6	7 - 9		X		WING 3 HORIZ. E.F.
B617	8	10 - 3		X		WING 3 HORIZ. B.F.
B618	1	10 - 11		X		WING 3 HORIZ.
B619	1	11 - 7		X		WING 3 HORIZ.
B520	8	12 - 10		X		WING 3 HORIZ. F.F.
B521	7	2Ø - 1		X	X	WING 4 VERT.
B622	2	11 - 7		X		WING 4 HORIZ. E.F.
B423	5	11 - 7		X		WING 4 HORIZ. E.F.
B424	6	7 - 9		X		WING 4 HORIZ. E.F.
B525	7	8 - 8		X		WING 4 HORIZ. B.F.
B526	1	8 - 0		X		WING 4 HORIZ.
B527	1	7 - 3		X		WING 4 HORIZ.
B528	8	7 - 5		X		WING 4 HORIZ. F.F.
TOTAL WEIGHT (N. ABUT.) - COATED						1330 LBS
TOTAL WEIGHT (N. ABUT.) - UNCOATED						3030 LBS

NORTH ABUTMENT - BILL OF BARS



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

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

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

RODENT SHIELD DETAIL

NOTES

DIMENSIONS ARE OUT TO OUT OF BARS.

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STRUCTURE B-54-0120

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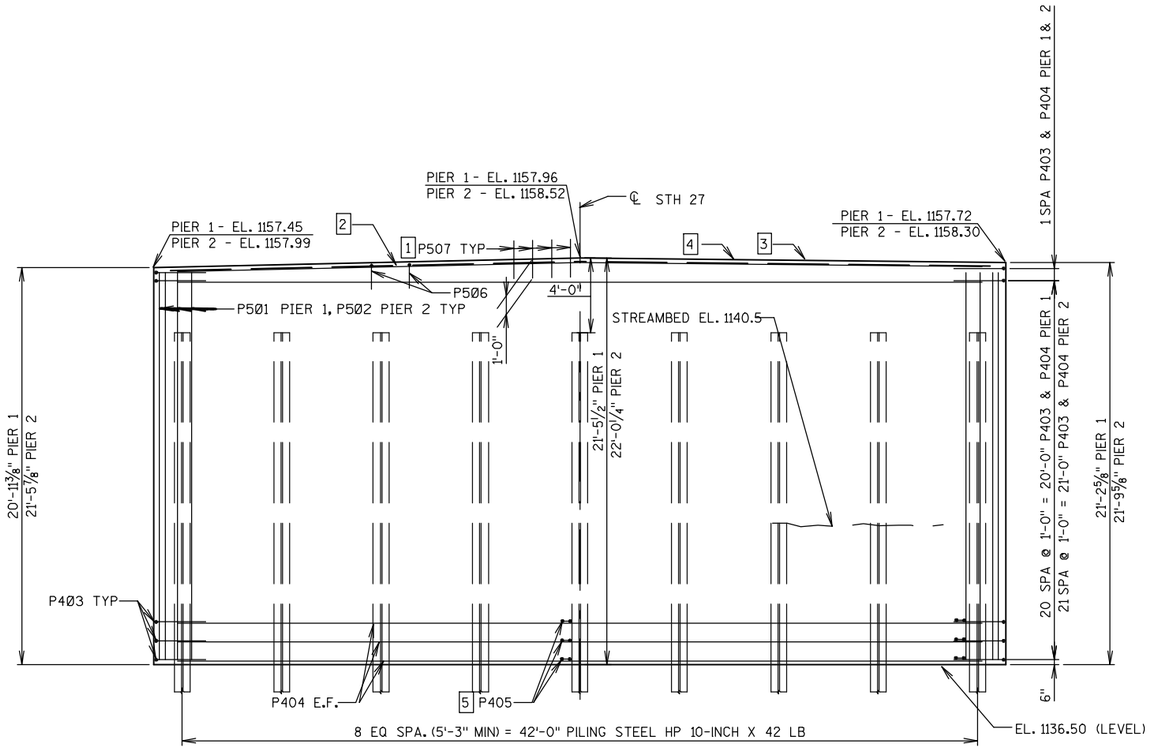
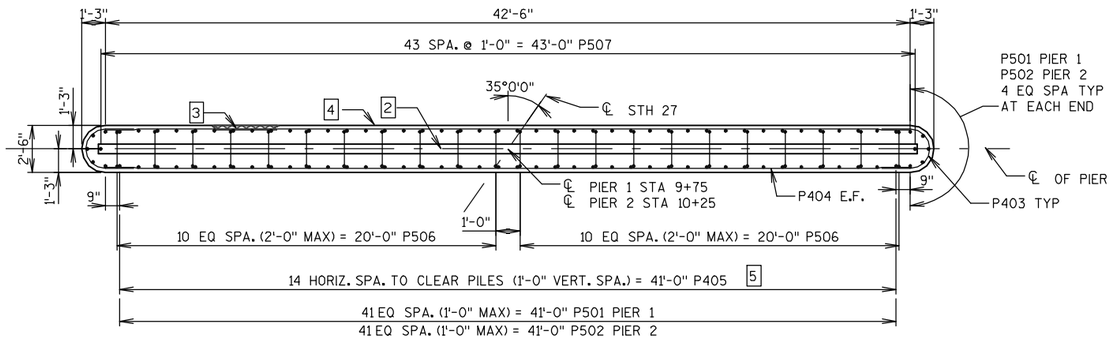
ABUTMENT DETAILS

SHEET 8 OF 13

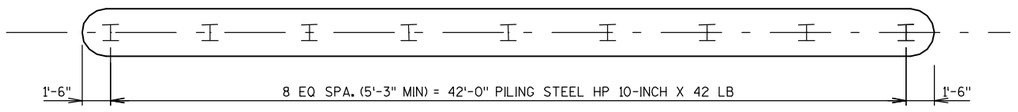
STATE PROJECT NUMBER
8180-02-70



ELEVATION
(LOOKING NORTH)



PLAN



PLAN - PILE LAYOUT

NOTES

PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED 75' LONG.

FOR PILE SPLICE DETAILS SEE SHEET 2

1. P507 BARS AT 1'-0" MAX CENTERS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'-0" INTO CONCRETE.
2. KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"X6" KEYWAY
3. 4" X ¾" FILLER TO EXTEND AROUND TOP EDGES OF PIER
4. ¾" BEVEL TO EXTEND AROUND TOP EDGES OF PIER
5. ALTERNATE THE POSITION OF 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. ADJACENT TO EACH PILE, ONE SIDE ONLY.

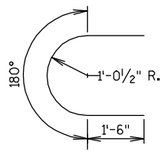
BILL OF BARS PIERS 1 & 2

COATED 8620 LBS

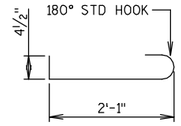
MARK	NO. REQ'D	LENGTH	COAT	BENT	LOCATION
P501	94	20 - 3	X		PIER 1 COLUMN VERT.
P502	94	20 - 9	X		PIER 2 COLUMN VERT.
P403	90	6 - 4	X	X	COLUMN - HORIZ. AT END
P404	90	42 - 6	X		COLUMN - HORIZ.
P405	645	2 - 11	X	X	COLUMN BODY TIES
P506	44	4 - 9	X	X	COLUMN TOP
P507	88	2 - 0	X		DOWELS

BAR DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BARS

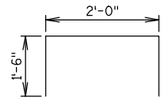
THE FIRST DIGIT OF A 3 DIGIT BAR MARK OR THE FIRST 2 DIGITS OF A 4 DIGIT BAR MARK SIGNIFIES THE BAR SIZE



P403



P405



P506

E.F. DENOTES EACH FACE

DIMENSIONS ARE NORMAL TO ℄ OF SUBSTRUCTURE, UNLESS SPECIFIED OTHERWISE.

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STRUCTURE B-54-0120

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PIER DETAILS

8

8

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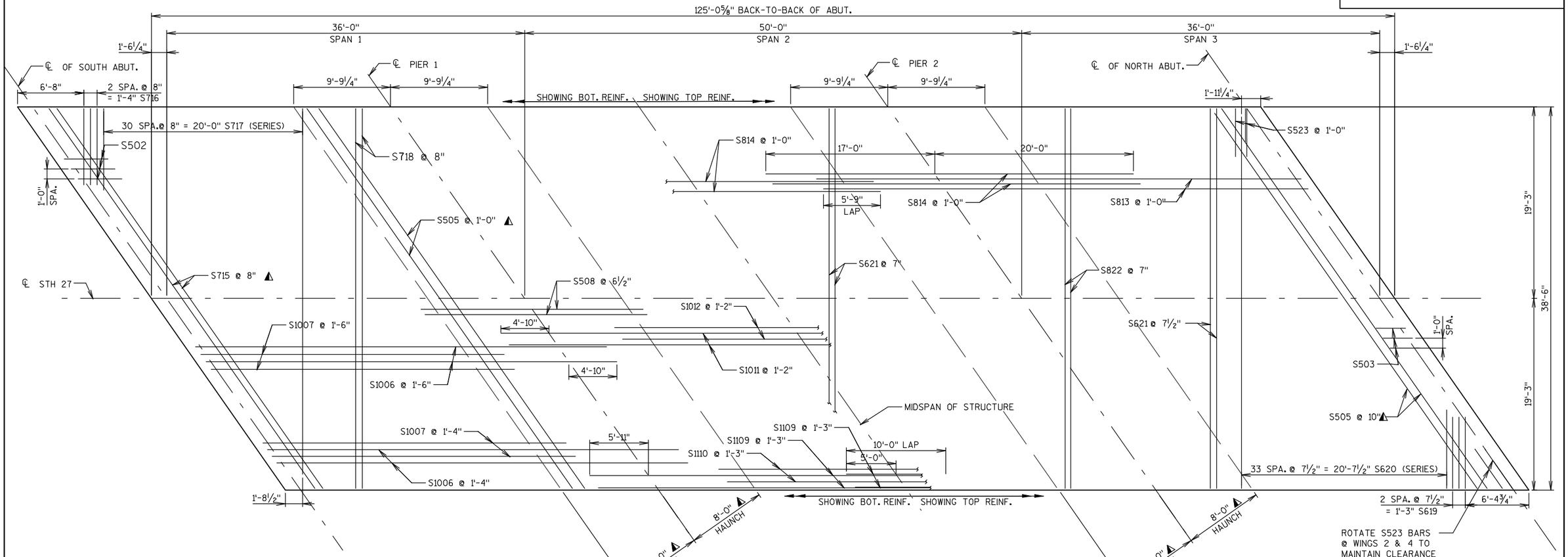
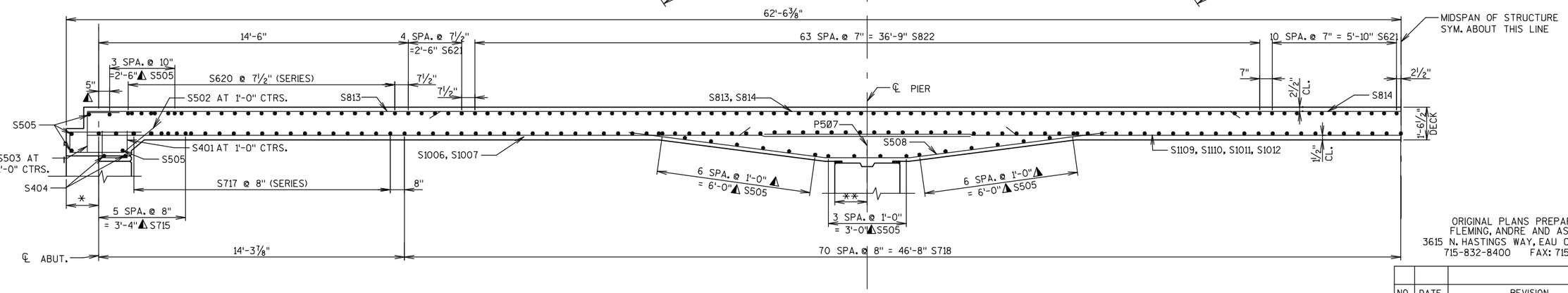


PLAN



LONGITUDINAL HALF-SECTION

LEGEND

* SEE SHEET 11 FOR SLAB DIMENSIONS AT ABUT.
** SEE SHEET 11 FOR SLAB DIMENSIONS AT PIER.
◭ MEASURED NORMAL TO ℄ OF SUBSTRUCTURE

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STRUCTURE B-54-0120

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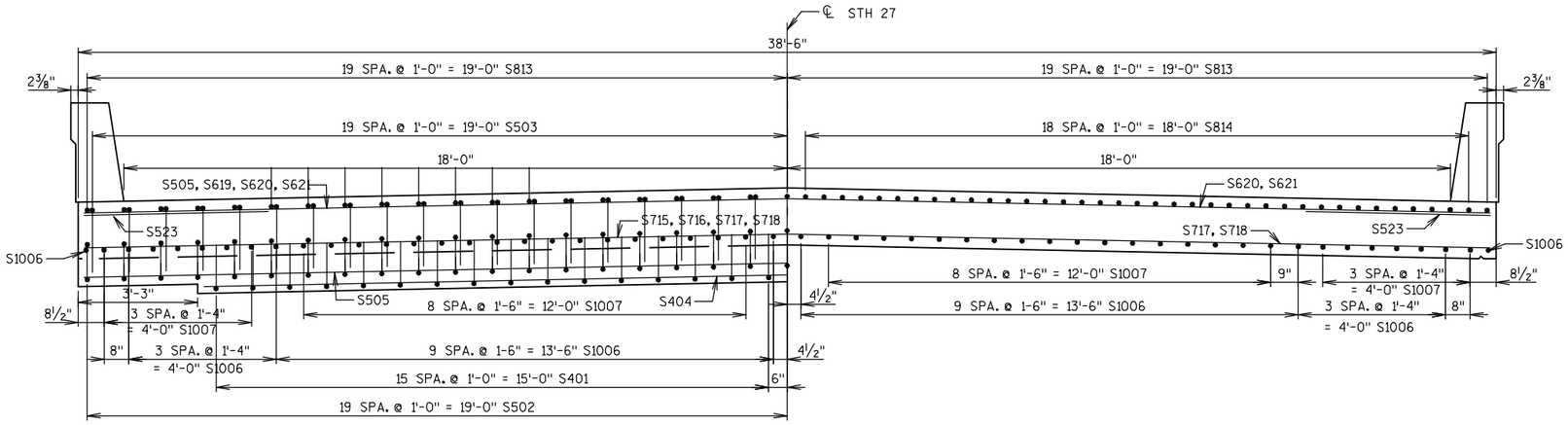
SUPERSTRUCTURE DETAILS

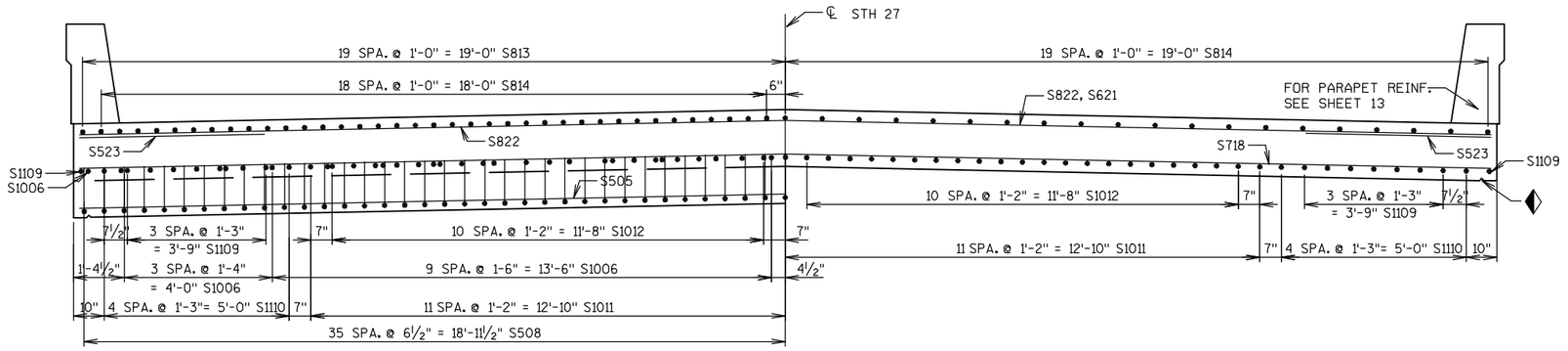
SHEET 10 OF 13
81

STATE PROJECT NUMBER
8180-02-70



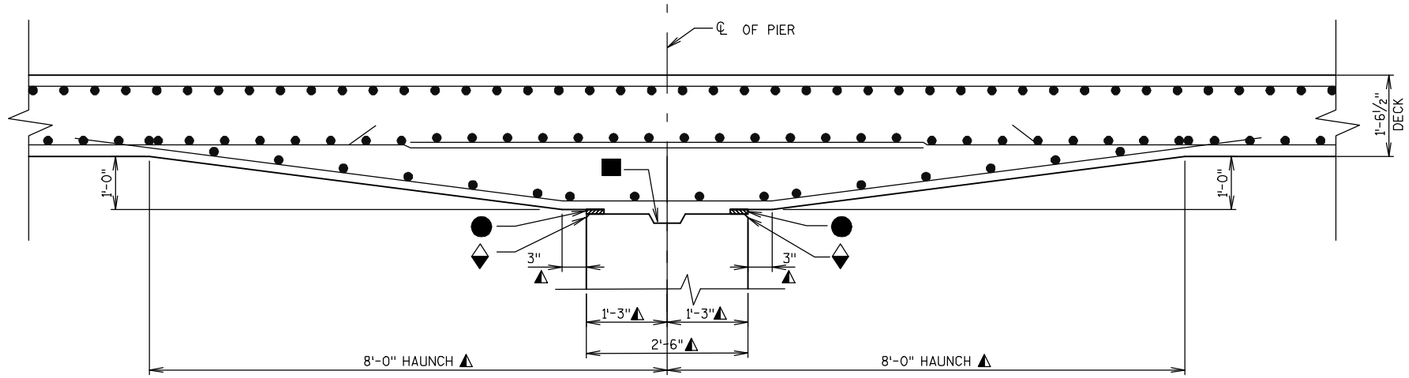
AT ABUTMENTS **IN SPANS 1& 3**

SECTION THRU DECK



AT PIERS **IN SPANS 2**

SECTION THRU DECK



SLAB AT PIER

NOTES

DIMENSIONS ARE OUT TO OUT OF BARS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

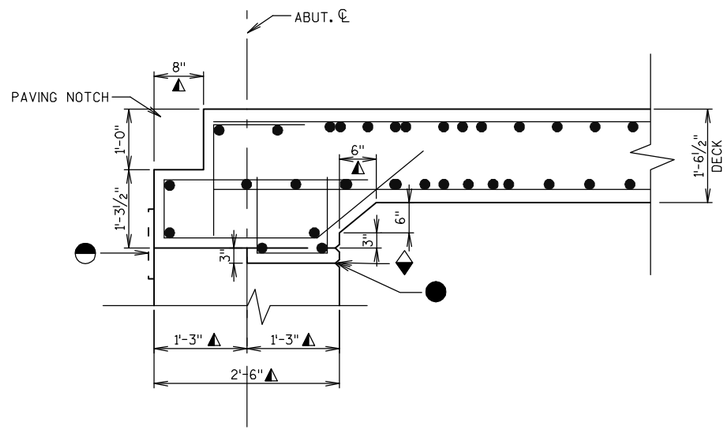
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE ℄ OF PIERS AND AT THE 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR ℄.

LEGEND

- HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO SEAL ALL HORIZ. JOINTS ON BACKFACE.
- 4" x ¾" FILLER TO EXTEND BETWEEN EDGES OF SLAB
- ¾" BEVEL
- ¾" CONT. DRIP GROOVE TO END 6" FROM F.F. OF ABUT.
- 2" x 6" BEVELED KEYWAY
- MEASURED NORMAL TO ℄ OF SUBSTRUCTURE



SLAB AT ABUTMENT

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SUPERSTRUCTURE DETAILS

SHEET 11 OF 13
82

8

8

STATE PROJECT NUMBER
8180-02-70

BILL OF BARS - SUPERSTRUCTURE

MARK	NO. REQ'D	LENGTH	SERIES	COAT	BENT	LOCATION
S401	64	3 - 6		X	X	SEMI-EXP. NOTCH @ ABUT. - VERT.
S502	78	8 - 5		X	X	SLAB BOT. @ ABUT. - VERT.
S503	78	3 - 3		X	X	SLAB TOP. @ ABUT. - VERT.
S404	4	38 - 7		X		SEMI-EXP. NOTCH @ ABUT. - TRANS.
S505	52	46 - 7		X		SKEWED - TRANS.
S1006	56	41 - 3		X		SLAB BOT. - SPANS 1& 3 - LONG.
S1007	52	30 - 6		X		SLAB BOT. - SPANS 1& 3 - LONG.
S508	142	22 - 7		X	X	HAUNCH BOT. @ PIER - LONG.
S1109	20	35 - 11		X		SLAB EDGE BOT. - SPAN 2 - LONG.
S1110	10	35 - 0		X		SLAB EDGE BOT. - SPAN 2 - LONG.
S1011	23	59 - 8		X		SLAB BOT. - SPAN 2 - LONG.
S1012	22	36 - 0		X		SLAB BOT. - SPAN 2 - LONG.
S813	78	48 - 9		X		SLAB TOP - SPANS 1& 3 - LONG.
S814	115	37 - 0		X		SLAB TOP - LONG.
S715	12	46 - 7		X		SLAB BOT. @ ABUT. (SKEWED) - TRANS.
S716	6	7 - 8		X		SLAB BOT. - SPANS 1& 3 - TRANS.
S717	62	22 - 6	Ⓧ	X		SLAB BOT. - SPANS 1& 3 - TRANS.
S718	141	38 - 2		X		SLAB BOT. - TRANS.
S619	6	7 - 0		X		SLAB TOP. - SPANS 1& 3 - TRANS.
S620	68	22 - 8	Ⓧ	X		SLAB TOP. - SPANS 1& 3 - TRANS.
S621	32	38 - 2		X		SLAB TOP. - TRANS.
S822	128	38 - 2		X		SLAB TOP. - TRANS.
S523	246	5 - 0		X		SLAB TOP @ EDGE - TRANS.
S524	36	42 - 5		X		PARAPET - LONG.
S525	366	5 - 0		X	X	PARAPET - VERT.
S526	366	4 - 5		X	X	PARAPET - VERT.
						TOTAL WEIGHT (COATED) - 99,160 LBS

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

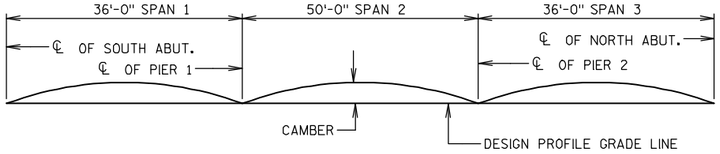
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S717	2 SERIES OF 31	8-2 TO 36-9
S620	2 SERIES OF 34	7-11 TO 37-4

BUNDLE AND TAG EACH SERIES SEPARATELY.

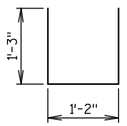
TOP OF SLAB ELEVATIONS AND CAMBER VALUES

SPAN POINT	LEFT EDGE			BRIDGE ℄			RIGHT EDGE		
	STA.	ELEV.	CAMBER (INCHES)	STA.	ELEV.	CAMBER (INCHES)	STA.	ELEV.	CAMBER (INCHES)
S. ABUT. ℄	9+25.52	1159.70	0	9+39.00	1160.21	0	9+52.48	1159.95	0
0.1	9+29.12	1159.74	1/8	9+42.60	1160.24	1/8	9+56.08	1159.99	0
0.2	9+32.72	1159.77	3/8	9+46.20	1160.27	1/4	9+59.68	1160.02	0
0.3	9+36.32	1159.80	1/2	9+49.80	1160.31	1/4	9+63.28	1160.06	0
0.4	9+39.92	1159.83	1/2	9+53.40	1160.34	1/4	9+66.88	1160.10	0
0.5	9+43.52	1159.87	1/2	9+57.00	1160.38	1/4	9+70.48	1160.13	0
0.6	9+47.12	1159.90	1/2	9+60.60	1160.41	1/8	9+74.08	1160.17	0
0.7	9+50.72	1159.94	3/8	9+64.20	1160.45	1/8	9+77.68	1160.21	0
0.8	9+54.32	1159.97	1/4	9+67.80	1160.49	0	9+81.28	1160.25	0
0.9	9+57.92	1160.01	1/8	9+71.40	1160.52	0	9+84.88	1160.28	0
PIER 1 ℄	9+61.52	1160.04	0	9+75.00	1160.56	0	9+88.48	1160.32	0
0.1	9+66.52	1160.09	0	9+80.00	1160.61	1/8	9+93.48	1160.38	1/4
0.2	9+71.52	1160.14	0	9+85.00	1160.66	1/4	9+98.48	1160.43	1/2
0.3	9+76.52	1160.20	1/4	9+90.00	1160.72	1/2	10+03.48	1160.49	5/8
0.4	9+81.52	1160.25	3/8	9+95.00	1160.77	5/8	10+08.48	1160.54	3/4
0.5	9+86.52	1160.30	5/8	10+00.00	1160.83	3/4	10+13.48	1160.60	5/8
0.6	9+91.52	1160.36	3/4	10+05.00	1160.89	5/8	10+18.48	1160.66	3/8
0.7	9+96.52	1160.41	5/8	10+10.00	1160.94	1/2	10+23.48	1160.72	1/4
0.8	10+01.52	1160.47	1/2	10+15.00	1161.00	1/4	10+28.48	1160.78	0
0.9	10+06.52	1160.52	1/4	10+20.00	1161.06	1/8	10+33.48	1160.84	0
PIER 2 ℄	10+11.52	1160.58	0	10+25.00	1161.12	0	10+38.48	1160.90	0
0.1	10+15.12	1160.62	0	10+28.60	1161.16	0	10+42.08	1160.95	1/8
0.2	10+18.72	1160.66	0	10+32.20	1161.20	0	10+45.68	1160.99	1/4
0.3	10+22.32	1160.71	0	10+35.80	1161.25	1/8	10+49.28	1161.04	3/8
0.4	10+25.92	1160.75	0	10+39.40	1161.29	1/8	10+52.88	1161.08	1/2
0.5	10+29.52	1160.79	0	10+43.00	1161.34	1/4	10+56.48	1161.13	1/2
0.6	10+33.12	1160.84	0	10+46.60	1161.38	1/4	10+60.08	1161.18	1/2
0.7	10+36.72	1160.88	0	10+50.20	1161.43	1/4	10+63.68	1161.22	1/2
0.8	10+40.32	1160.92	0	10+53.80	1161.47	1/4	10+67.28	1161.27	3/8
0.9	10+43.92	1160.97	0	10+57.40	1161.52	1/8	10+70.88	1161.32	1/8
N. ABUT. ℄	10+47.52	1161.01	0	10+61.00	1161.57	0	10+74.48	1161.37	0

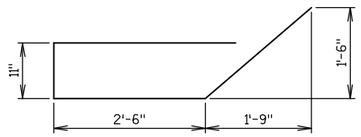


CAMBER DIAGRAM

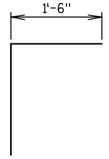
CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. SEE CAMBER VALUES IN ADJACENT TABLE. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEADLOAD DEFLECTION COMPRISES APPROXIMATELY 1/3 OF THE FULL CAMBER VALUE GIVEN.



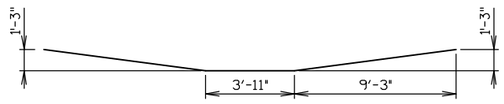
S401



S502



S503



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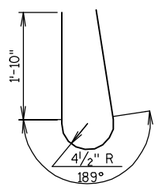

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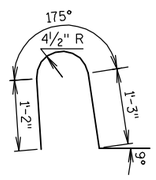


S526

NOTES

DIMENSIONS ARE OUT TO OUT OF BARS.

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, THE ℄ OF PIERS AND AT THE 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR ℄.

ORIGINAL PLANS PREPARED BY:
FLEMING, ANDRE AND ASSOC., INC.
3615 N. HASTINGS WAY, EAU CLAIRE, WI 54703
715-832-8400 FAX: 715-832-1367

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-0120

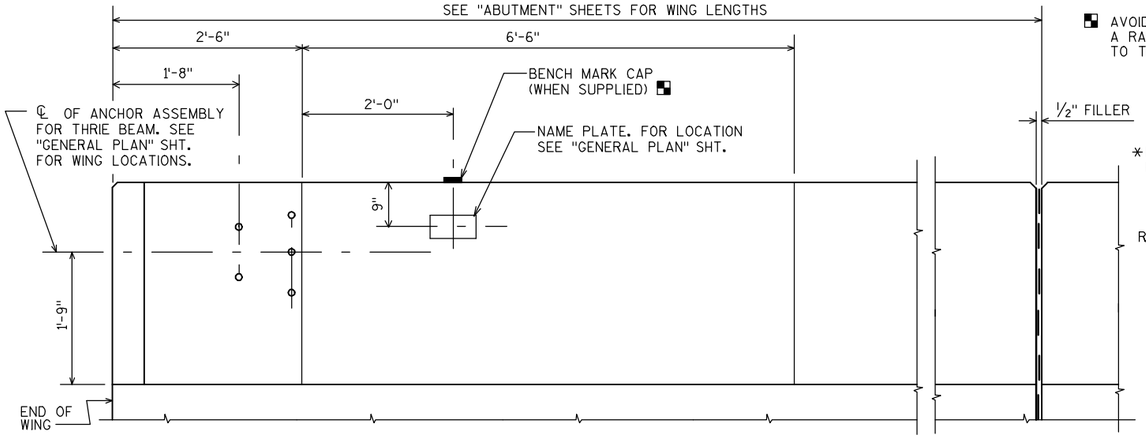
DRAWN BY	RMJ	PLANS CK'D.	MJG

SUPERSTRUCTURE DETAILS

8

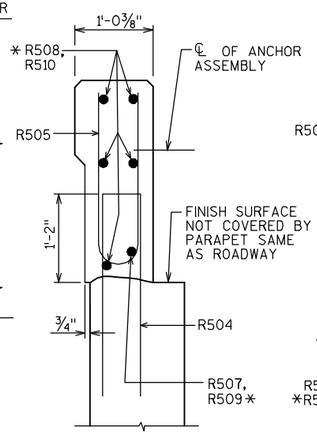
8

STATE PROJECT NUMBER
8180-02-70

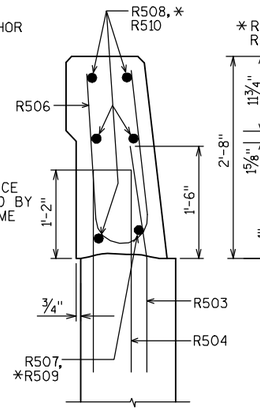


AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

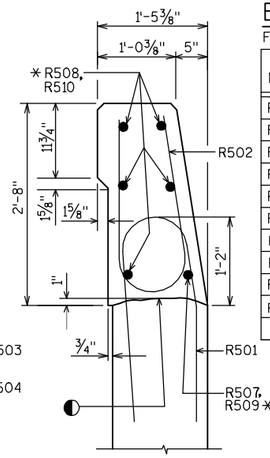
INSIDE ELEVATION



SECTION A



SECTION B

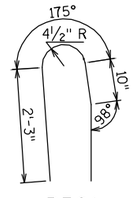


SECTION C

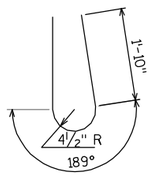
BILL OF BARS

FOR ABUTMENT PARAPETS

BAR MARK	COAT	NORTH ABUT.	SOUTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	16	5-10	X		PARAPET VERT.
R502	X	16	16	5-0	X		PARAPET VERT.
R503	X	24	24	3-0	X		PARAPET VERT.
R504	X	34	34	5-7	X		PARAPET VERT.
R505	X	22	22	4-9	X		PARAPET VERT.
R506	X	12	12	4-10	X		PARAPET VERT.
R507	X	1	1	15-6	X		PARAPET HORIZ.
R508	X	5	5	15-6			PARAPET HORIZ.
R509	X	1	1	11-6	X		PARAPET HORIZ
R510	X	5	5	11-6			PARAPET HORIZ



R501



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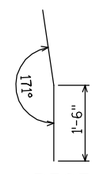
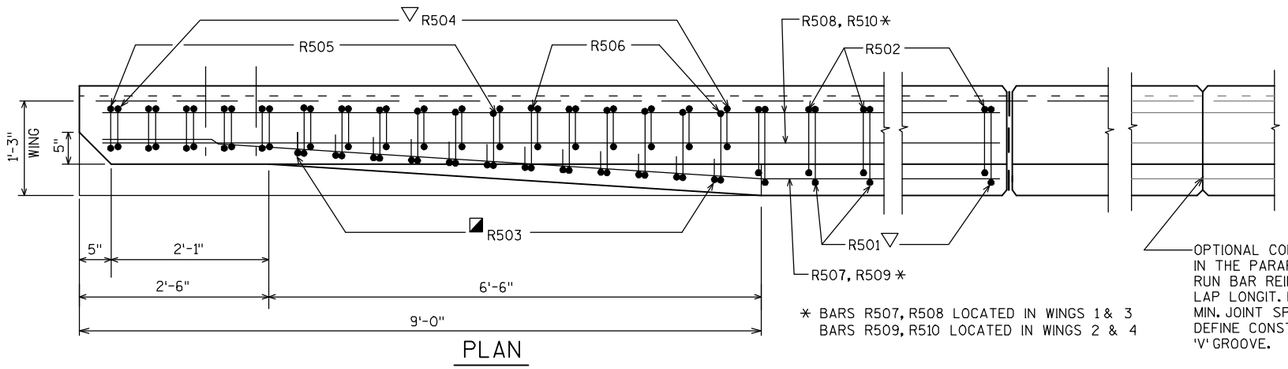


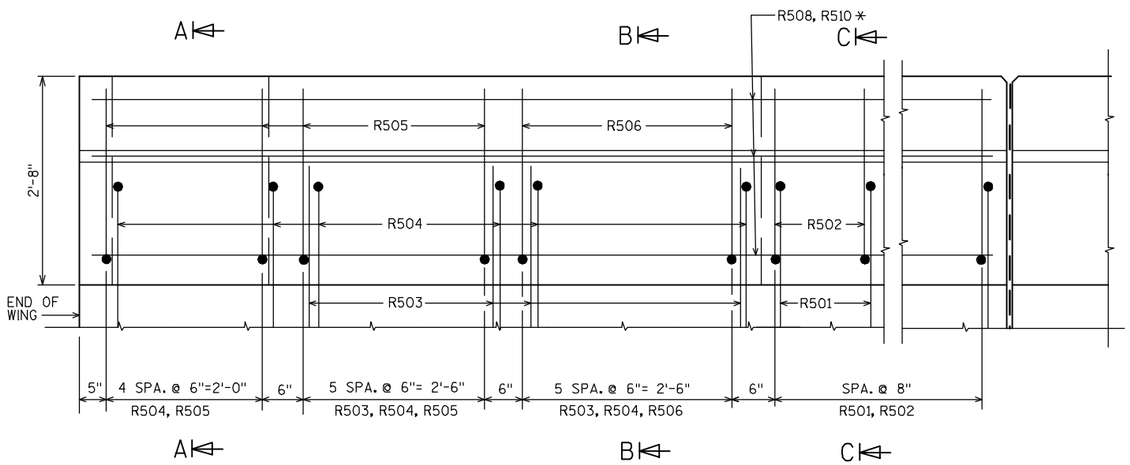
R503



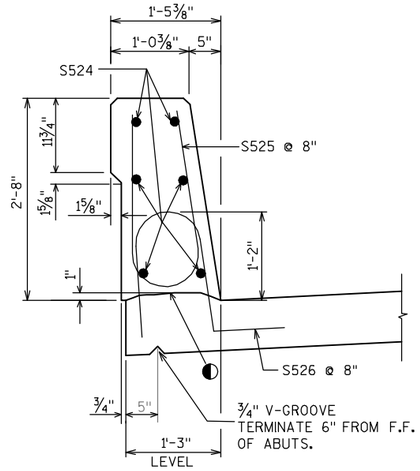
PLAN

* BARS R507, R508 LOCATED IN WINGS 1 & 3
BARS R509, R510 LOCATED IN WINGS 2 & 4

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION



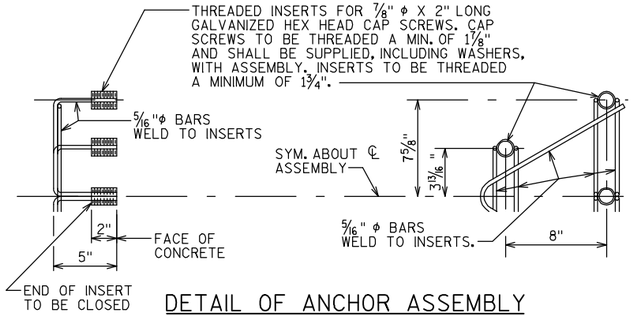
SECTION THRU PARAPET ON BRIDGE

R504

R505

R506

R507
R509



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 OR S503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-54-0120

DRAWN BY	RMJ	PLANS CK'D.	MJG

SINGLE SLOPE PARAPET 32SS

SHEET 13 OF 13
84

8

1 2 3 4 7 9 12

SCALE = 1

32SSWIN
1-14

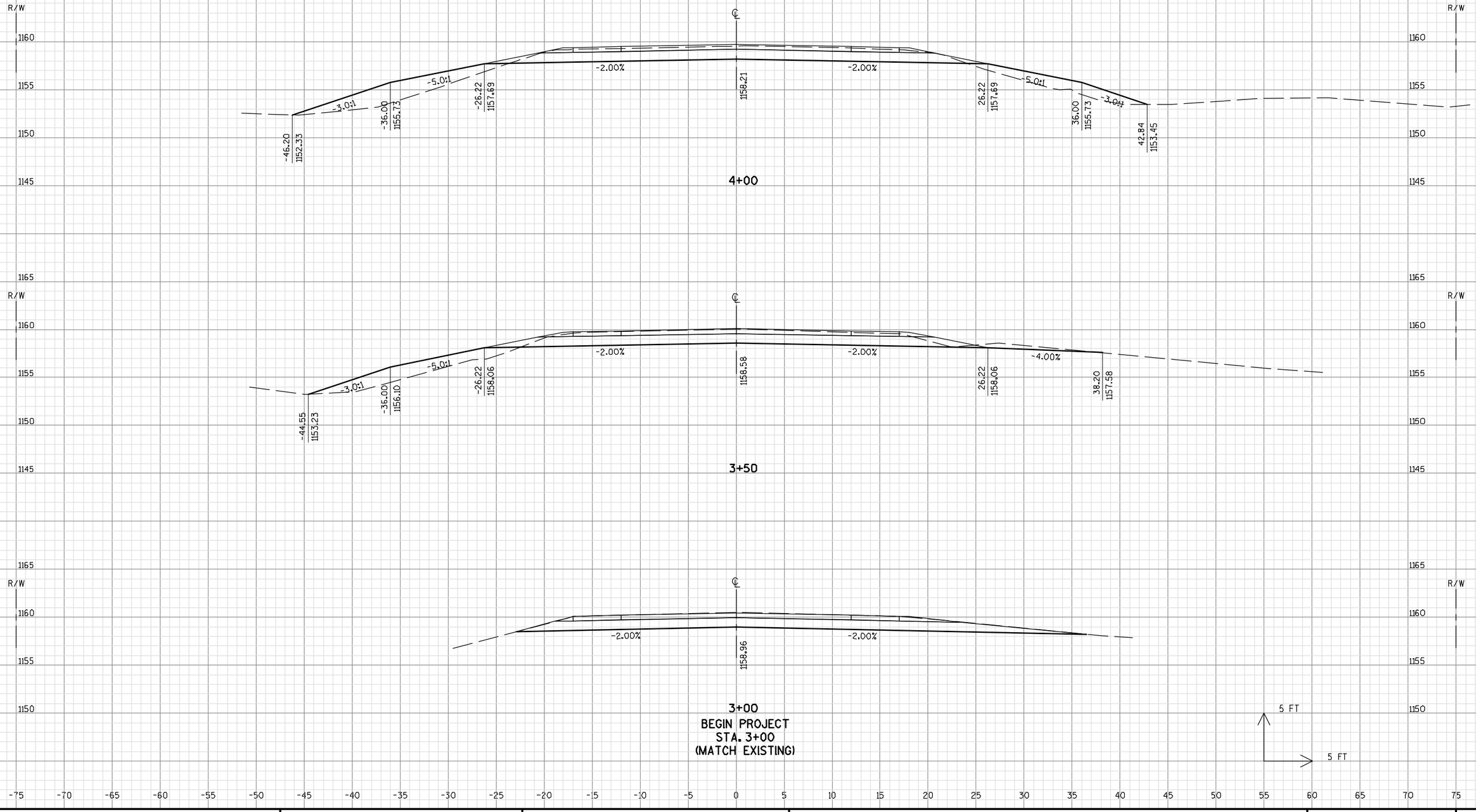
STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) SALVAGED/UNUSABLE PAVEMENT MATERIAL	AREA (SF) FILL	Incremental Vol (CY) (Unadjusted) CUT NOTE 1	Incremental Vol (CY) (Unadjusted) SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	Incremental Vol (CY) (Unadjusted) FILL NOTE 3	Cumulative Vol (CY) CUT 1.00 NOTE 1	Cumulative Vol (CY) EXP. FILL 1.25	MASS ORD. Note 8
3+00	300		42	28	0	0	0	0	0	0	0
3+50	350	50	33	28	24	69	52	22	69	28	42
4+00	400	50	29	28	44	57	52	63	126	106	20
4+50	450	50	39	28	22	63	52	61	189	183	6
5+00	500	50	57	28	42	89	52	59	278	256	21
5+33	533	33	29	28	25	53	35	41	331	308	22
5+50	550	17	49	28	45	24	18	22	355	335	19
6+00	600	50	9	28	67	53	52	103	408	464	-56
6+46	646	46	5	28	159	12	48	192	420	704	-284
6+50	650	4	5	28	63	1	4	16	421	724	-304
6+62	662	12	2	28	92	2	13	34	423	766	-344
7+00	700	38	0	28	104	1	40	138	424	939	-516
7+48	748	48	0	28	123	0	50	201	424	1190	-767
7+50	750	2	3	28	120	0	2	9	424	1201	-778
7+69	769	19	1	28	128	1	20	88	425	1311	-887
7+84	784	15	0	28	133	0	16	74	425	1404	-979
8+00	800	16	0	28	134	0	16	77	425	1500	-1075
8+07	807	7	0	28	134	0	7	33	425	1541	-1117
8+23	823	16	0	28	116	0	17	75	425	1635	-1210
8+29	829	6	0	28	116	0	6	26	425	1668	-1243
8+44	844	15	0	28	120	0	16	66	425	1750	-1325
8+48	848	4	0	28	118	0	4	17	425	1771	-1347
8+50	850	2	0	28	118	0	2	9	425	1783	-1358
8+69	869	19	0	28	140	0	20	91	425	1896	-1472
8+73	873	4	0	28	132	0	4	19	425	1920	-1495
8+94	894	21	0	28	178	0	22	122	425	2073	-1648
9+00	900	6	0	28	186	0	6	40	425	2123	-1698
9+13	913	13	0	28	261	0	14	107	425	2256	-1832
9+34	934	21	0	28	95	0	22	140	425	2431	-2007
9+37	937	3	0	28	73	0	4	10	425	2444	-2019
						425	666	1955			

STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) SALVAGED/UNUSABLE PAVEMENT MATERIAL	AREA (SF) FILL	Incremental Vol (CY) (Unadjusted) CUT NOTE 1	Incremental Vol (CY) (Unadjusted) SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	Incremental Vol (CY) (Unadjusted) FILL NOTE 3	Cumulative Vol (CY) CUT 1.00 NOTE 1	Cumulative Vol (CY) EXP. FILL 1.25	MASS ORD. Note 8
10+63	1063		0	28	68	0	0	0	0	0	0
10+66	1066	3	0	28	103	0	4	11	0	14	-14
10+87	1087	21	0	28	250	0	22	138	0	186	-186
11+00	1100	13	0	28	204	0	14	108	0	321	-321
11+50	1150	50	0	28	200	0	52	374	0	789	-789
11+81	1181	31	0	28	218	0	32	239	0	1088	-1088
12+00	1200	19	0	28	229	0	20	158	0	1285	-1285
12+02	1202	2	0	28	230	0	2	19	0	1309	-1309
12+06	1206	4	0	28	240	0	4	32	0	1349	-1349
12+27	1227	21	0	28	311	0	22	217	0	1620	-1620
12+31	1231	4	0	28	302	0	4	42	0	1673	-1673
12+50	1250	19	0	28	258	0	20	198	0	1920	-1920
12+52	1252	2	0	28	254	0	2	21	0	1946	-1946
12+68	1268	16	0	28	229	0	17	145	0	2128	-2128
12+90	1290	21	1	28	176	1	22	160	1	2328	-2327
13+00	1300	10	0	28	162	0	11	65	1	2409	-2408
13+06	1306	6	0	28	149	0	6	34	1	2451	-2450
13+27	1327	21	0	28	136	0	22	112	1	2591	-2590
13+50	1350	23	5	28	115	2	24	106	3	2724	-2721
13+61	1361	11	0	28	106	1	12	45	4	2780	-2776
14+00	1400	39	0	28	87	0	41	139	4	2954	-2950
14+50	1450	50	0	28	53	0	52	130	4	3116	-3112
15+00	1500	50	12	28	27	11	52	74	15	3209	-3194
15+33	1533	33	18	28	14	18	35	25	33	3240	-3207
15+50	1550	17	11	28	12	9	18	8	42	3250	-3208
16+00	1600	50	25	28	14	35	52	24	77	3280	-3204
16+50	1650	50	38	28	0	58	52	13	135	3296	-3162
						135	614	2637			

1- Cut	Cut does not include Salvaged Pavement material (paid with Removing Asphaltic Surface)
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections
3 - Fill	Includes volume to backfill removed pavement

9

9



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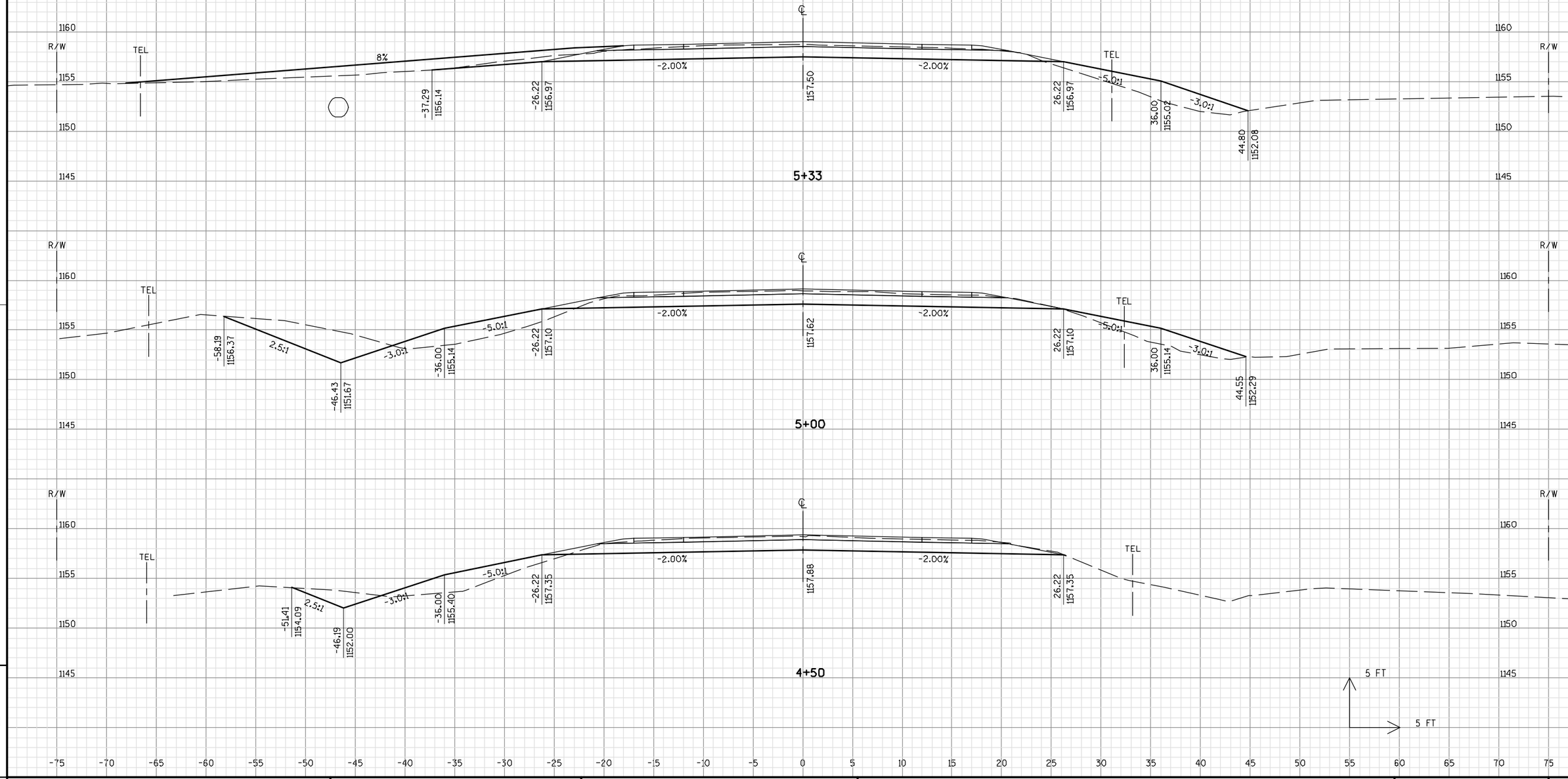
9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 86	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

STA. 5+33 LT
CONSTRUCT F.E. LT (GRASS - MATCH EXIST.)
50 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH



9

9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 87	E

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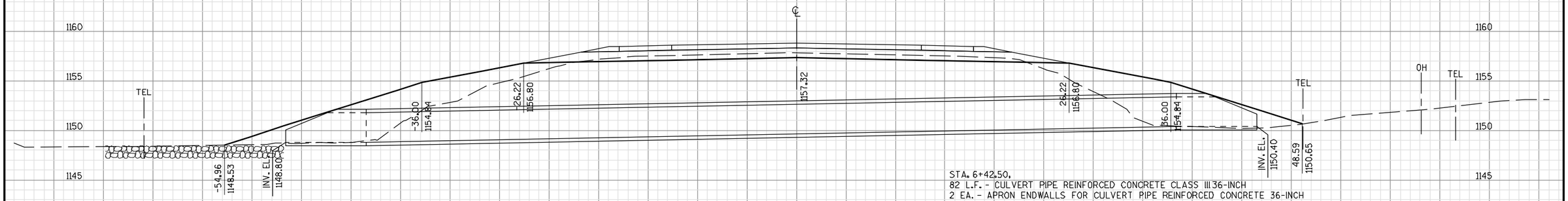
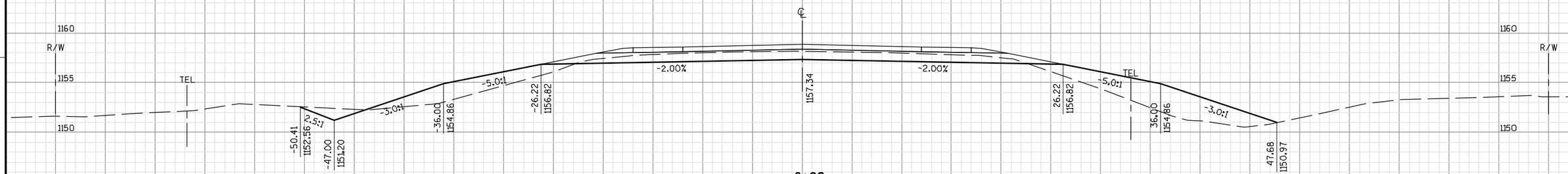
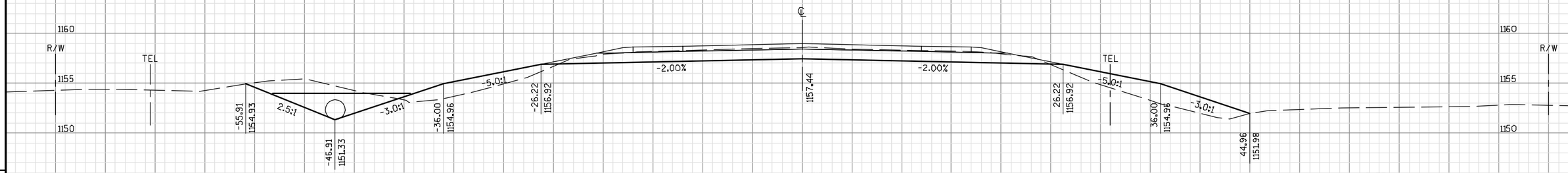


STA. 6+42.50,
82 L.F. - CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH
2 EA. - APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH
SKEWED 18° L.H.F.

6+46
SKEWED 18° L.H.F.

STA. 6+49.50,
82 L.F. - CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH
2 EA. - APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH
SKEWED 18° L.H.F.

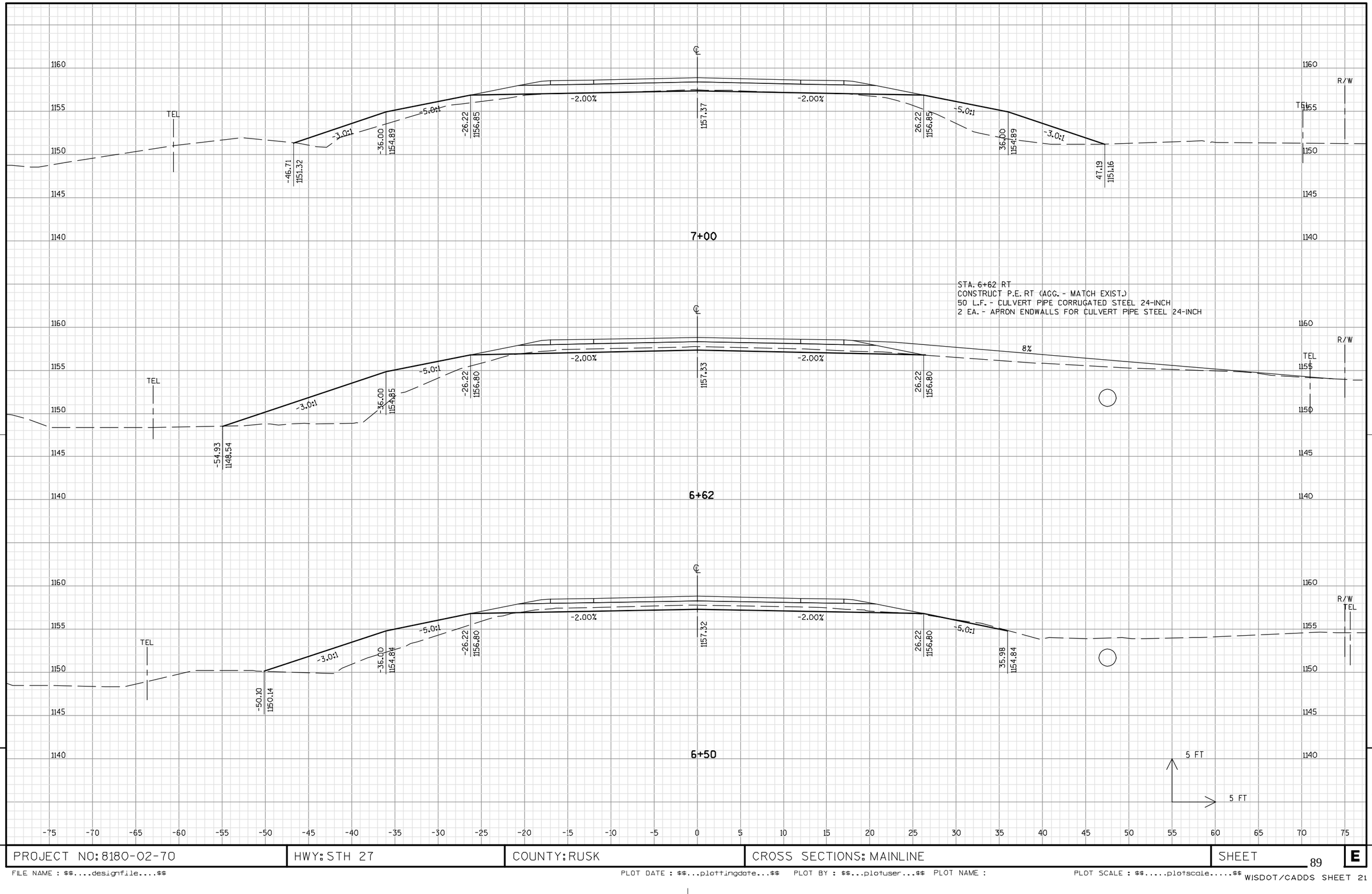




-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

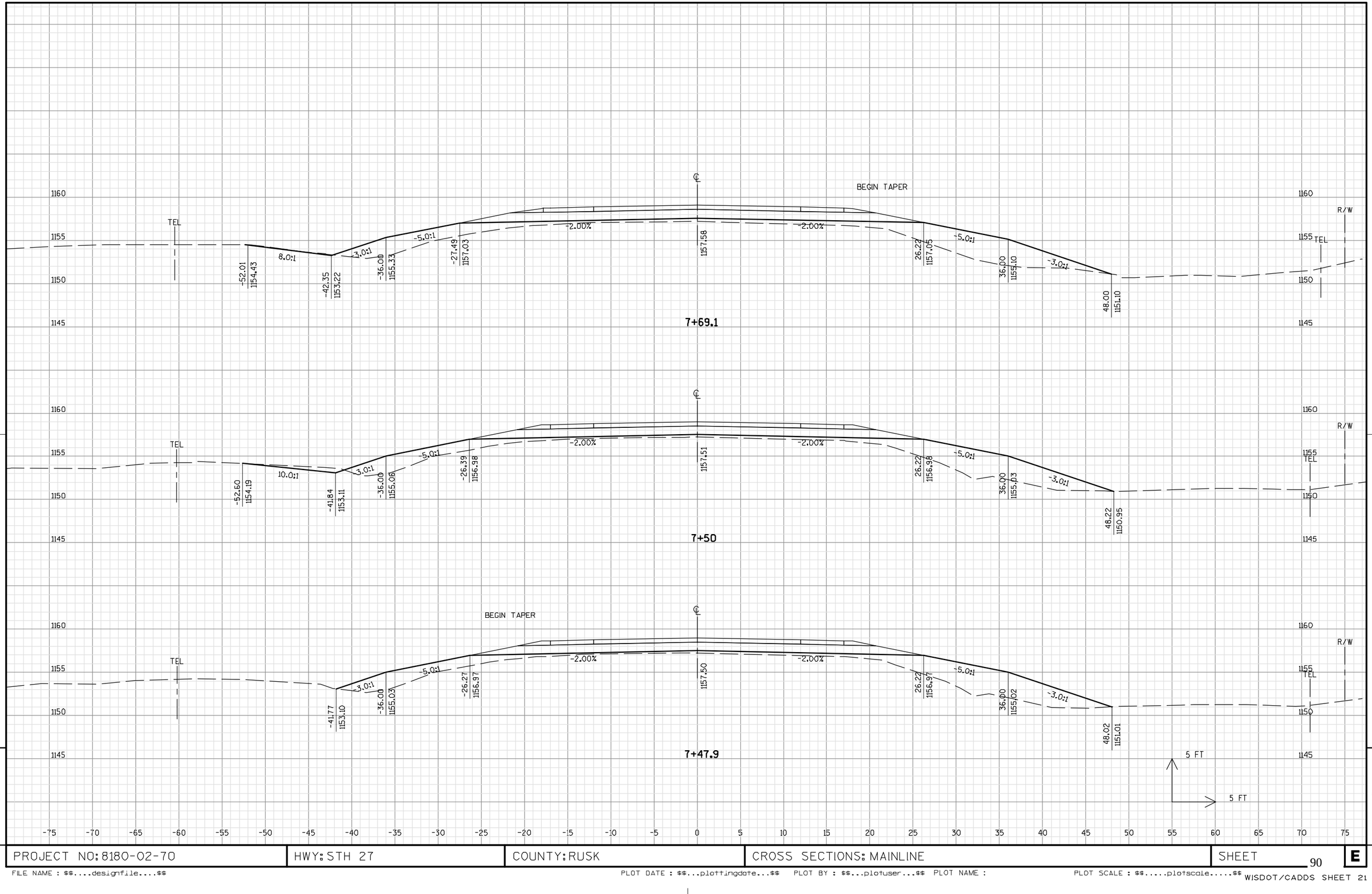
9 9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 88 E



9 9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 89	E



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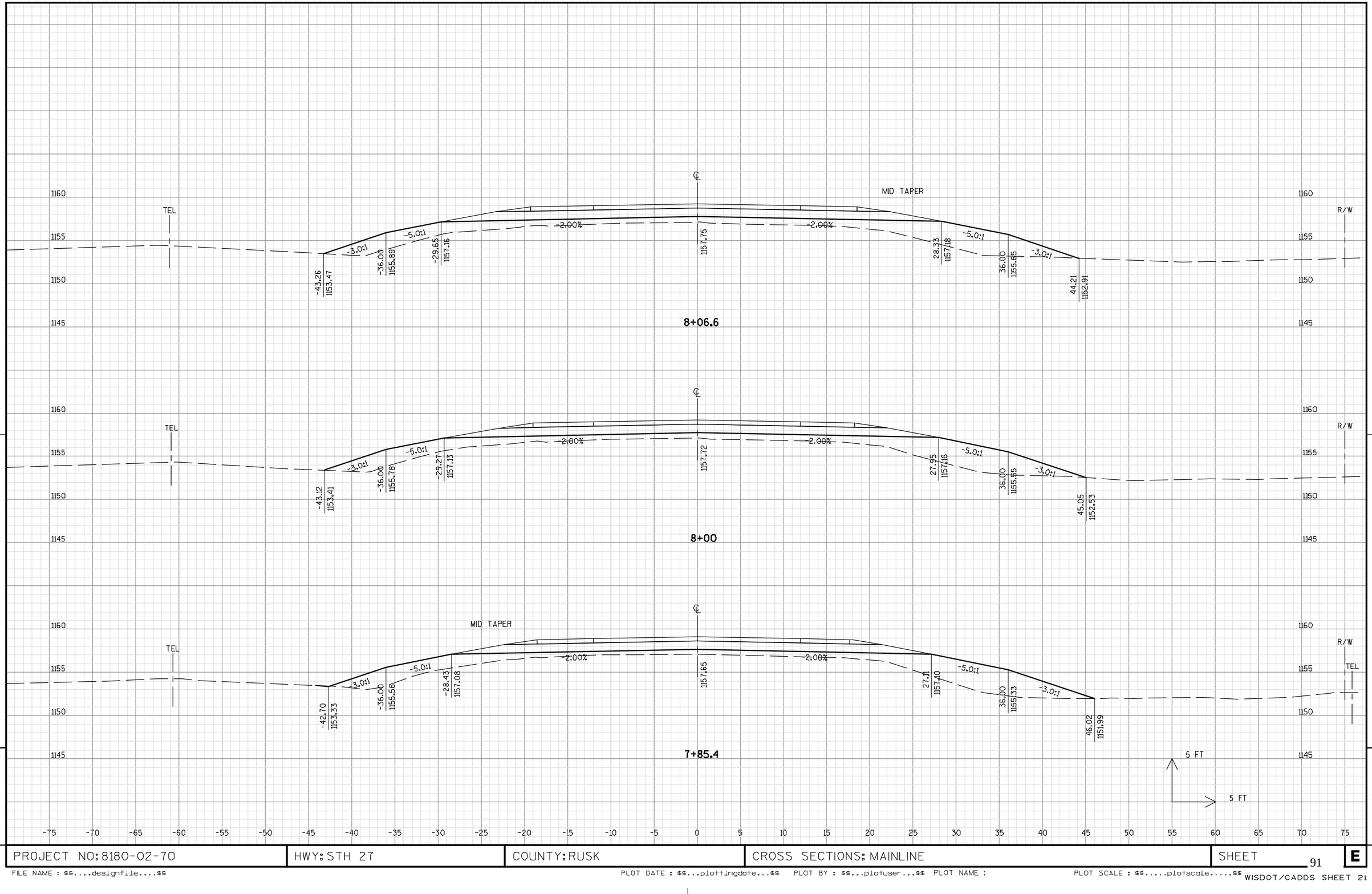
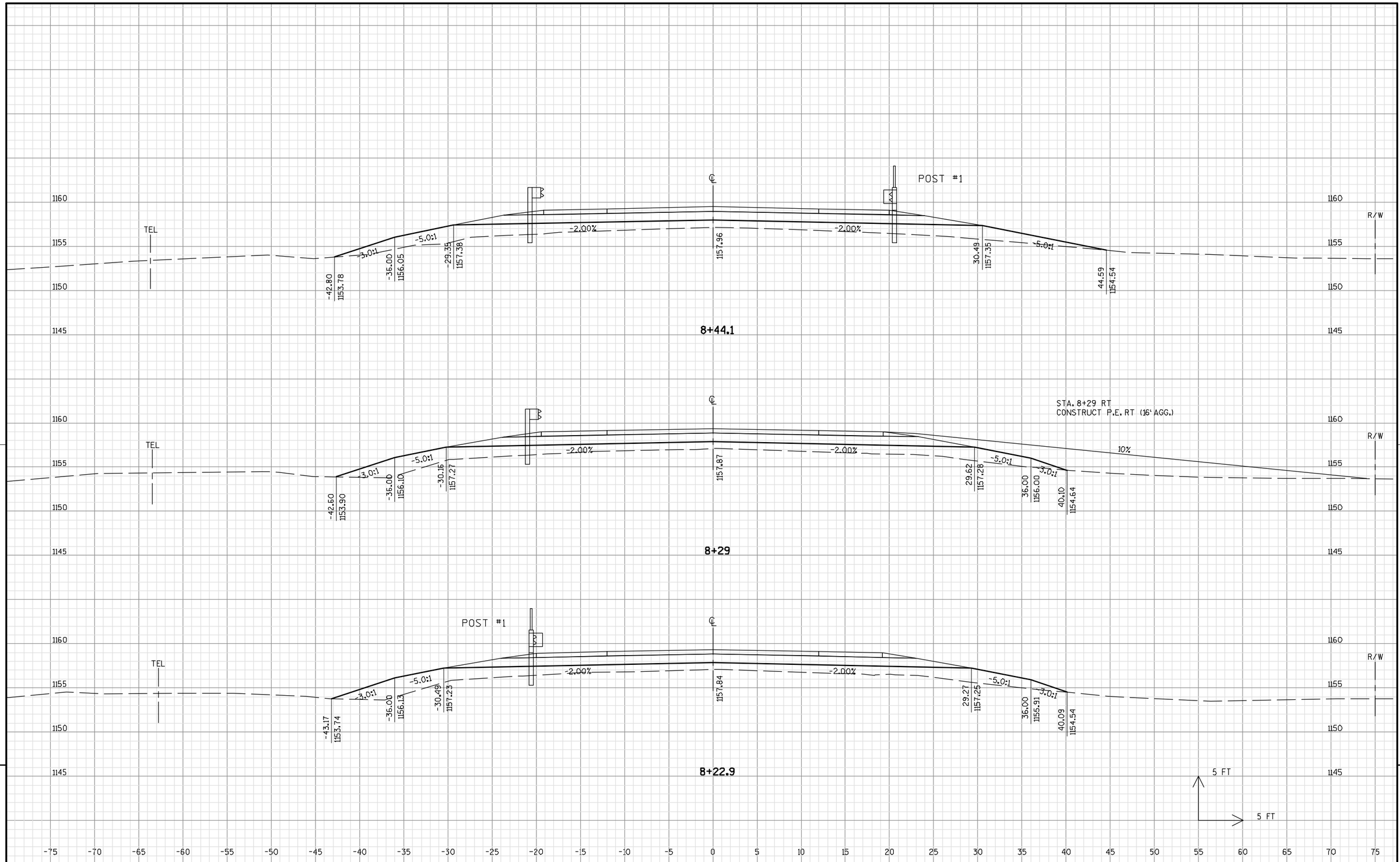
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



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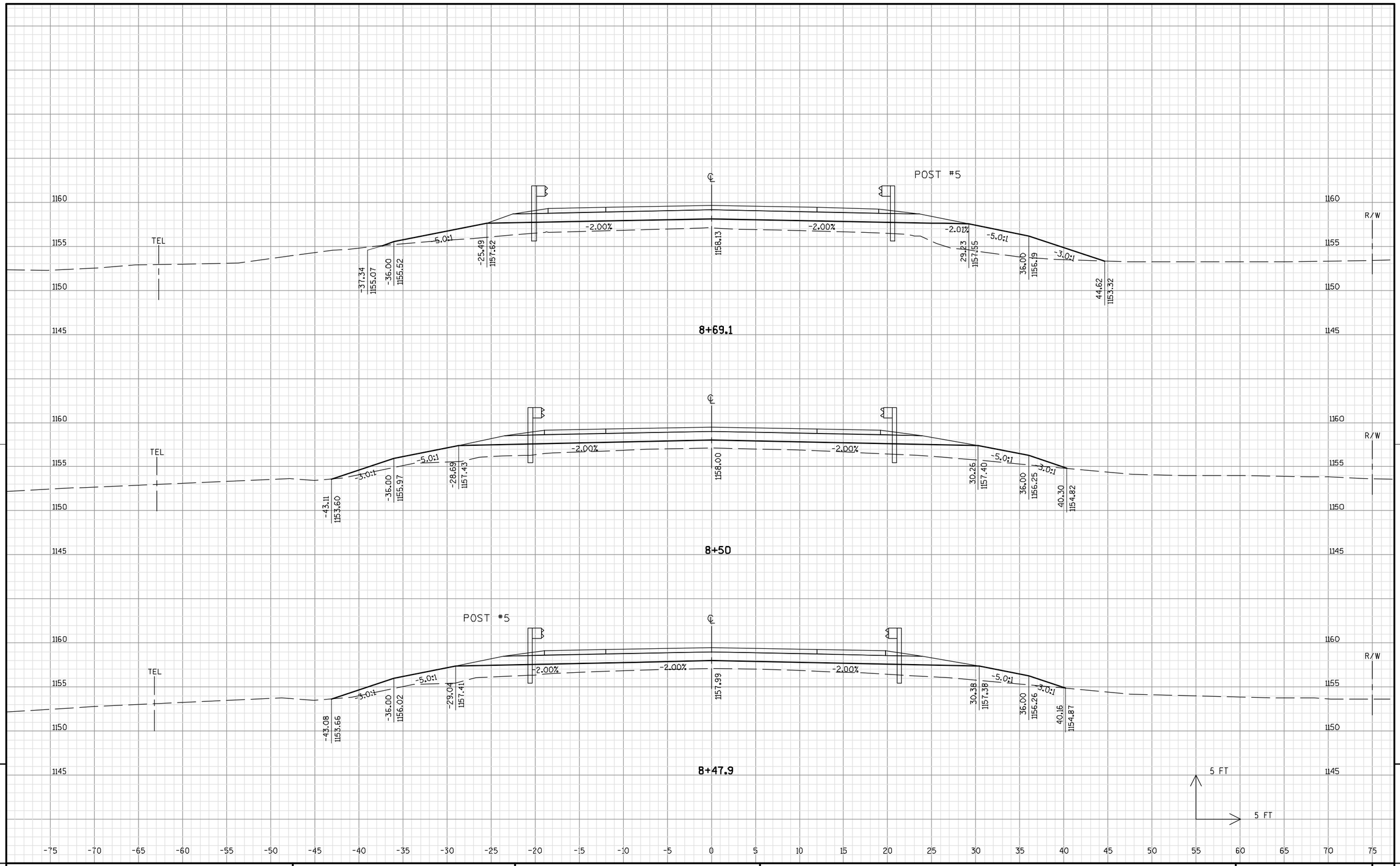
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 92	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21



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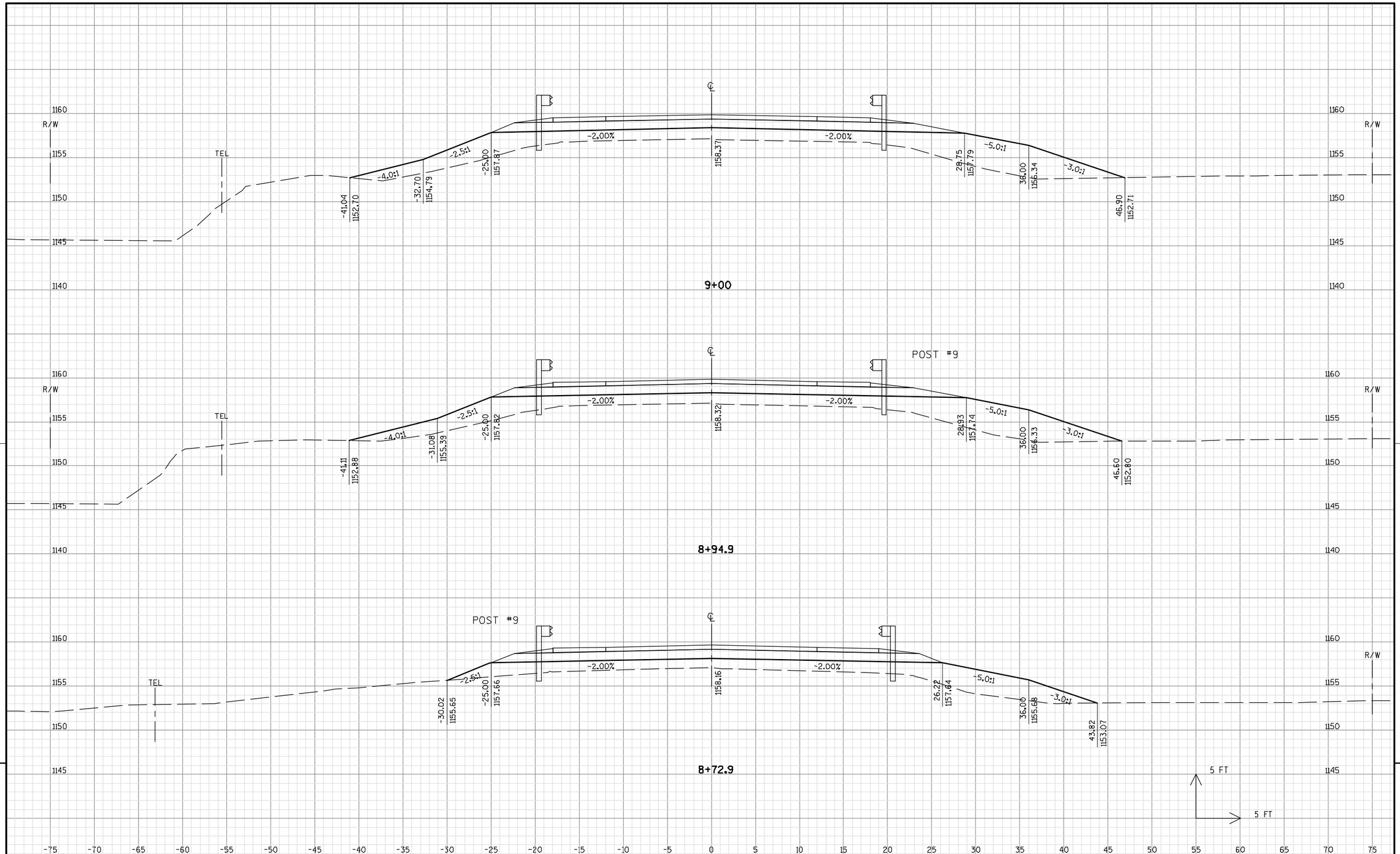
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



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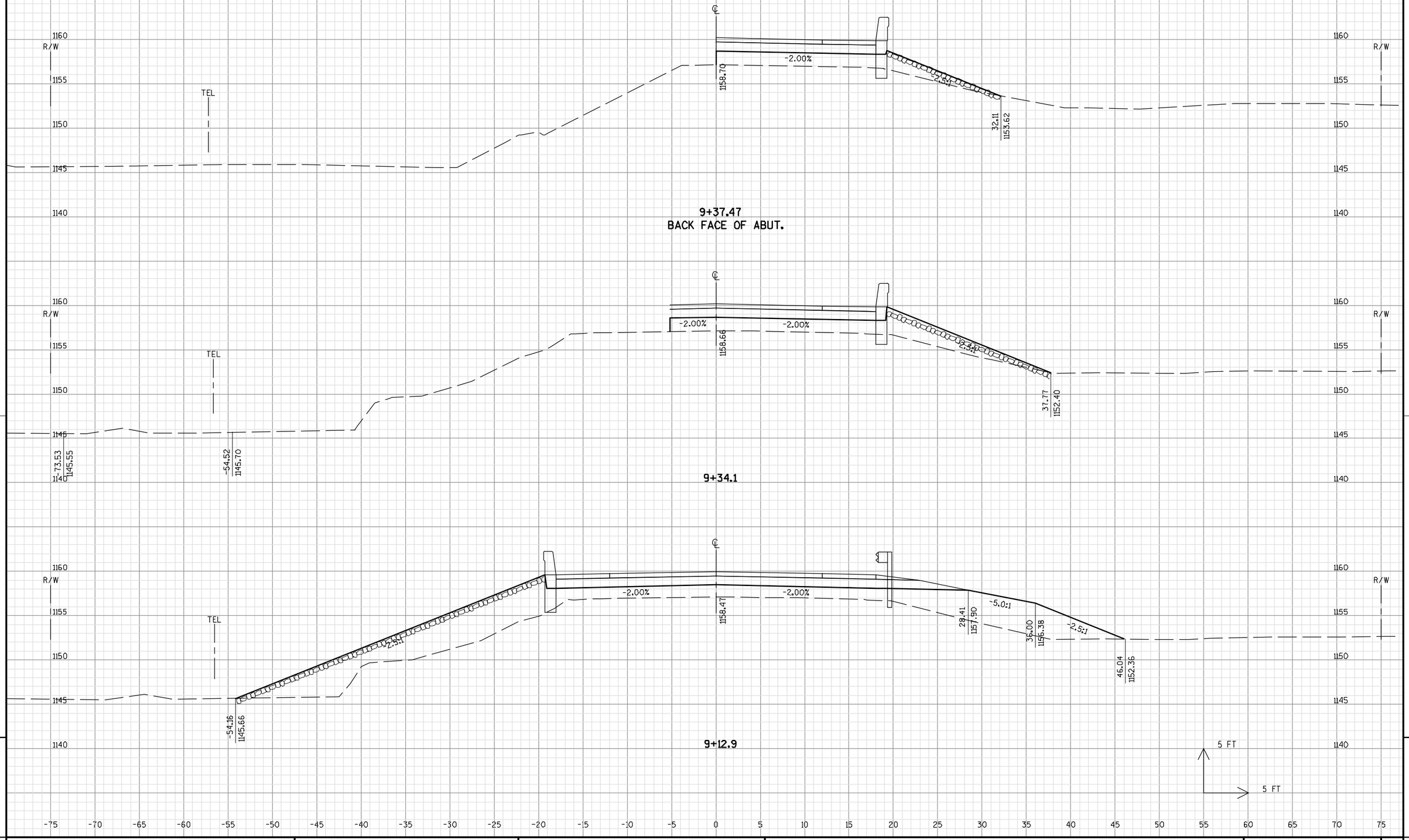
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 94	E



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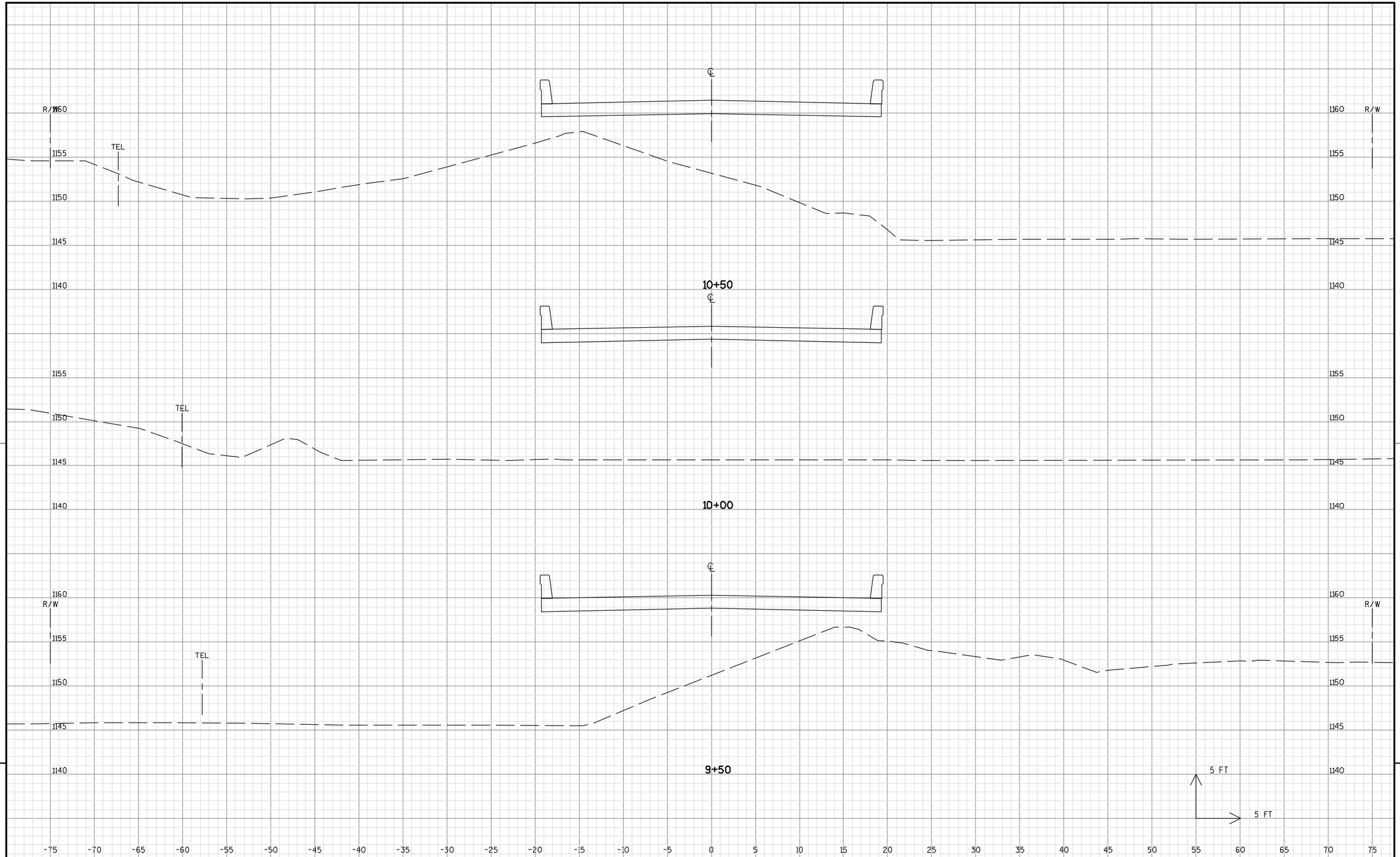
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 95	E



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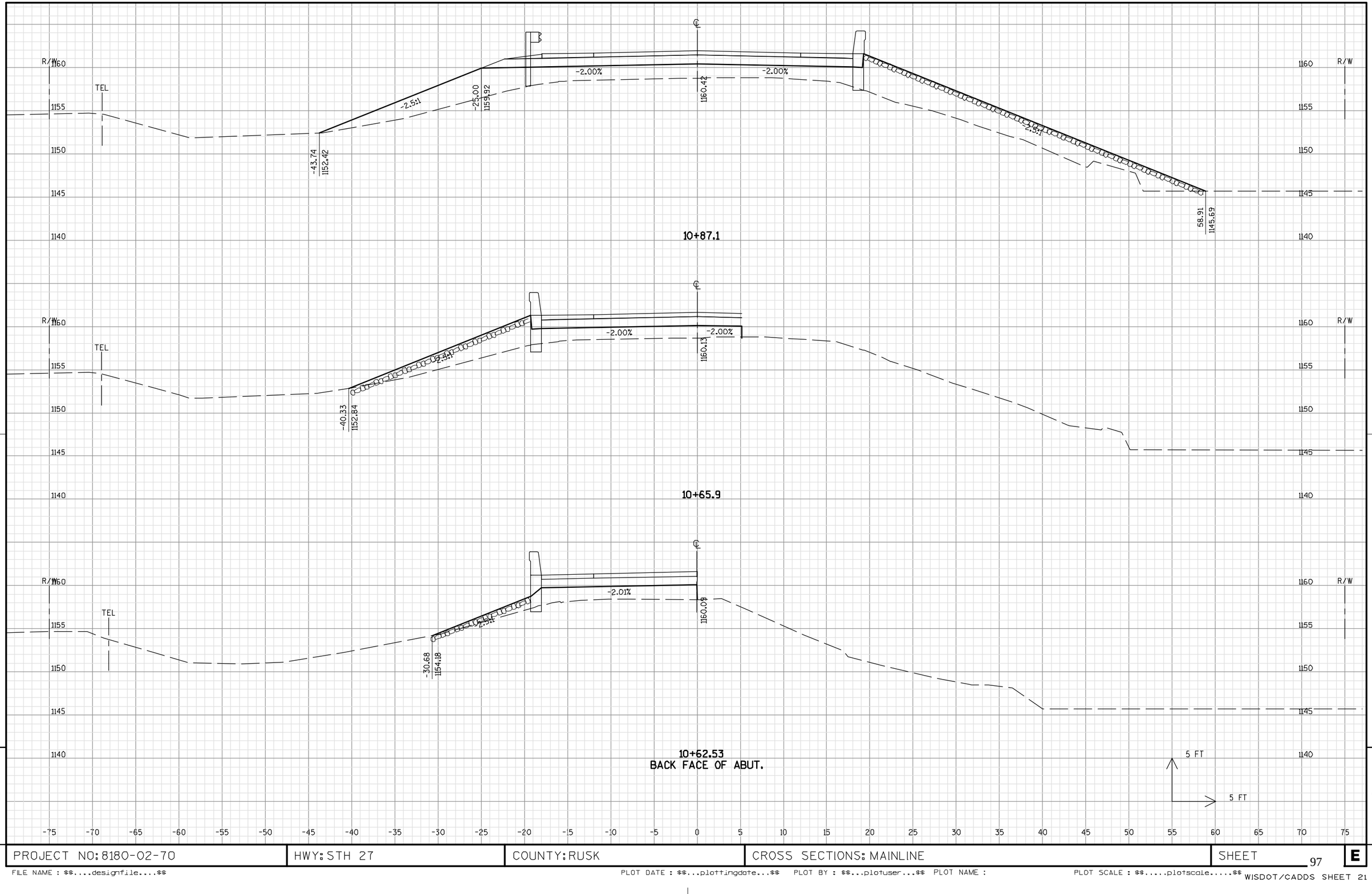
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



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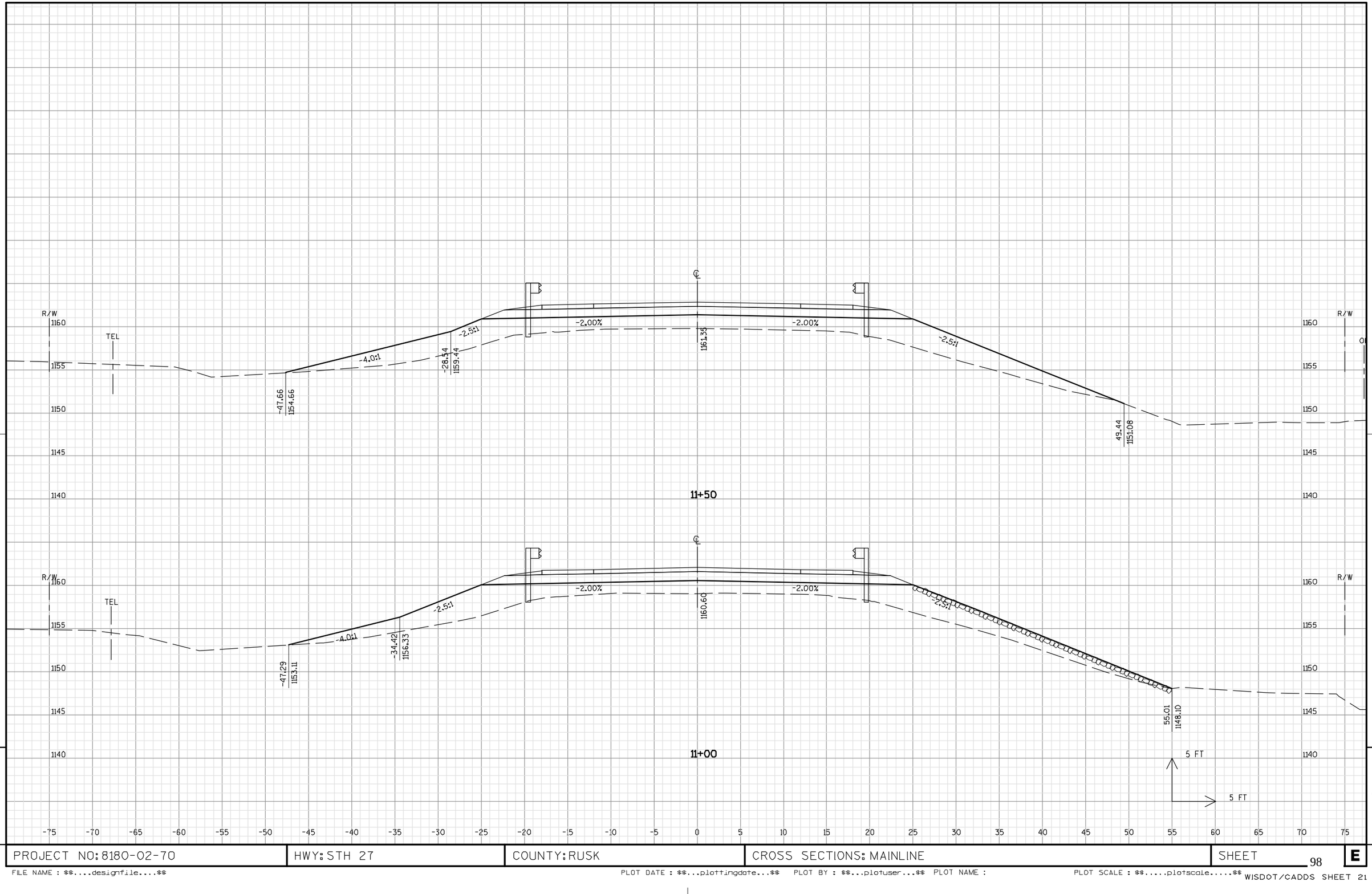
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 97	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



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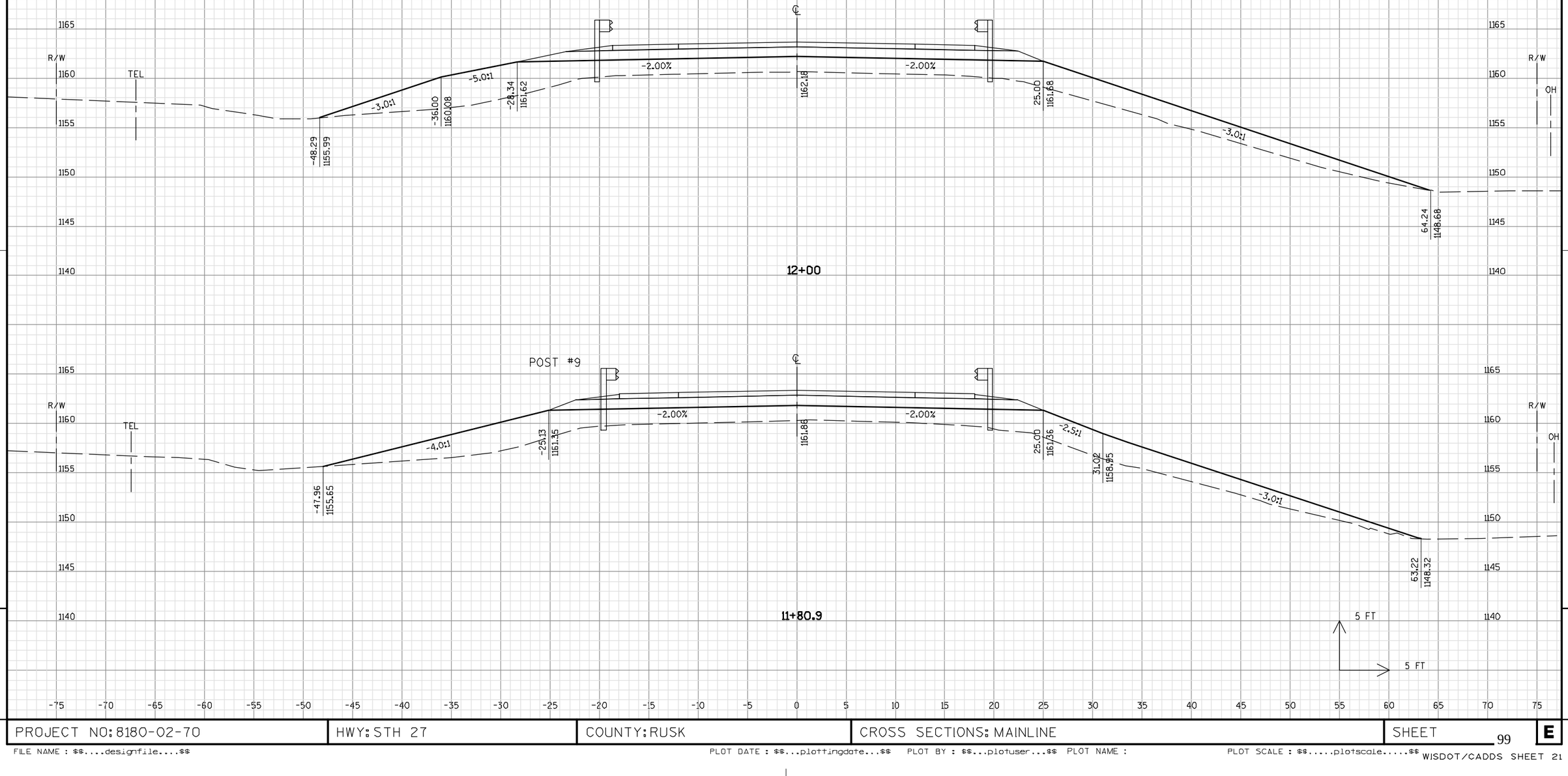
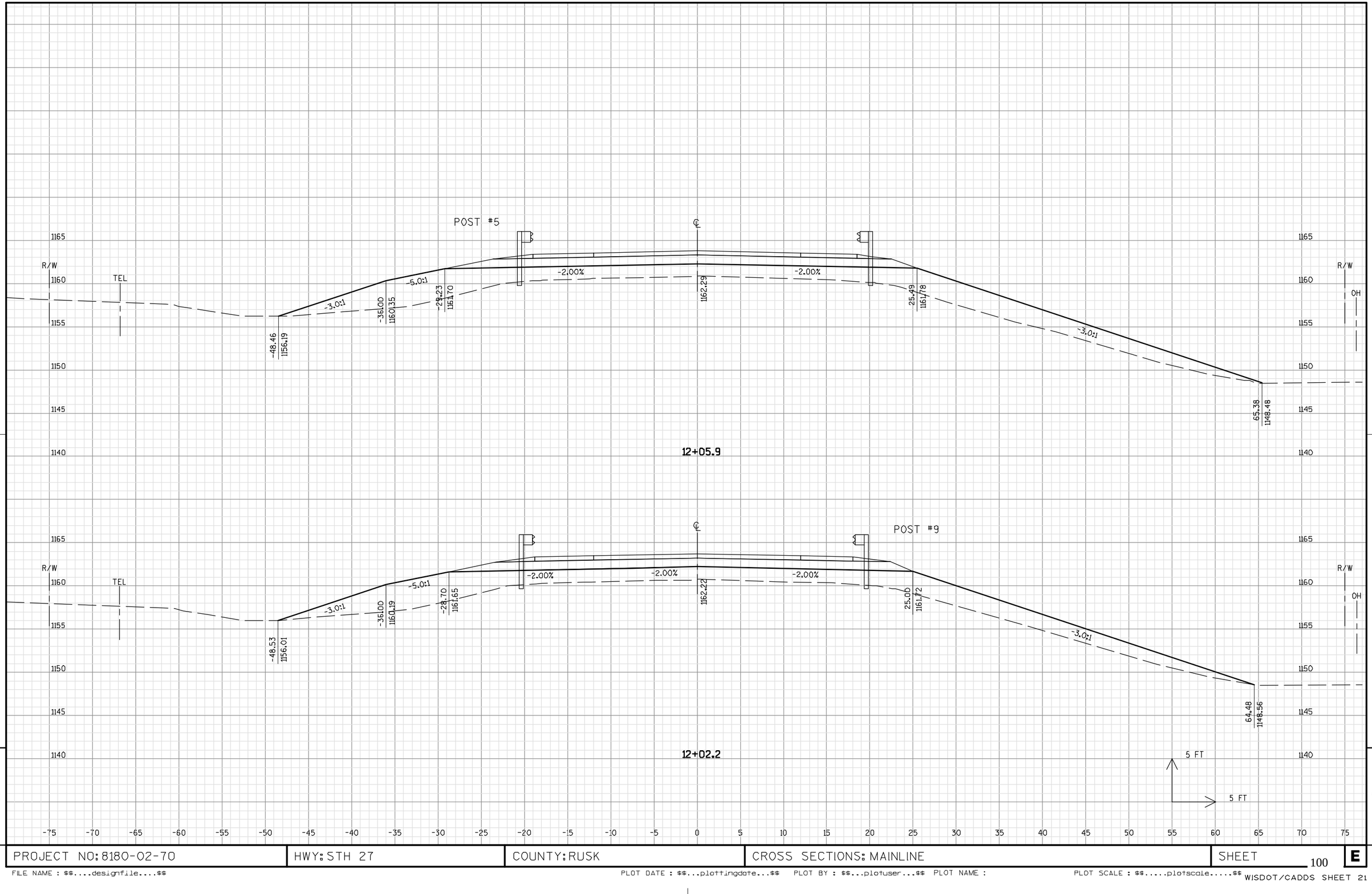
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 21



9 9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 99	E



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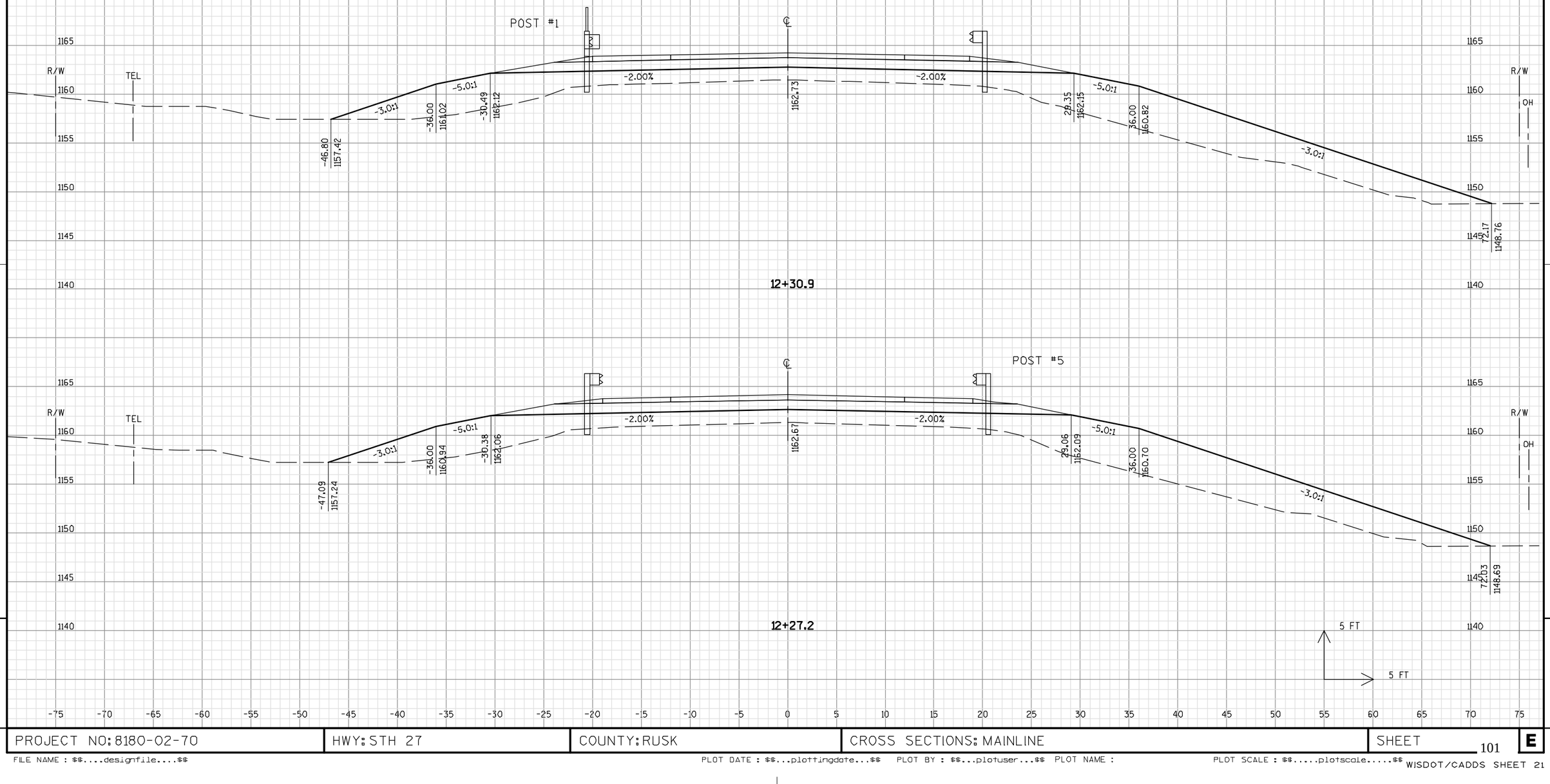
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 100	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



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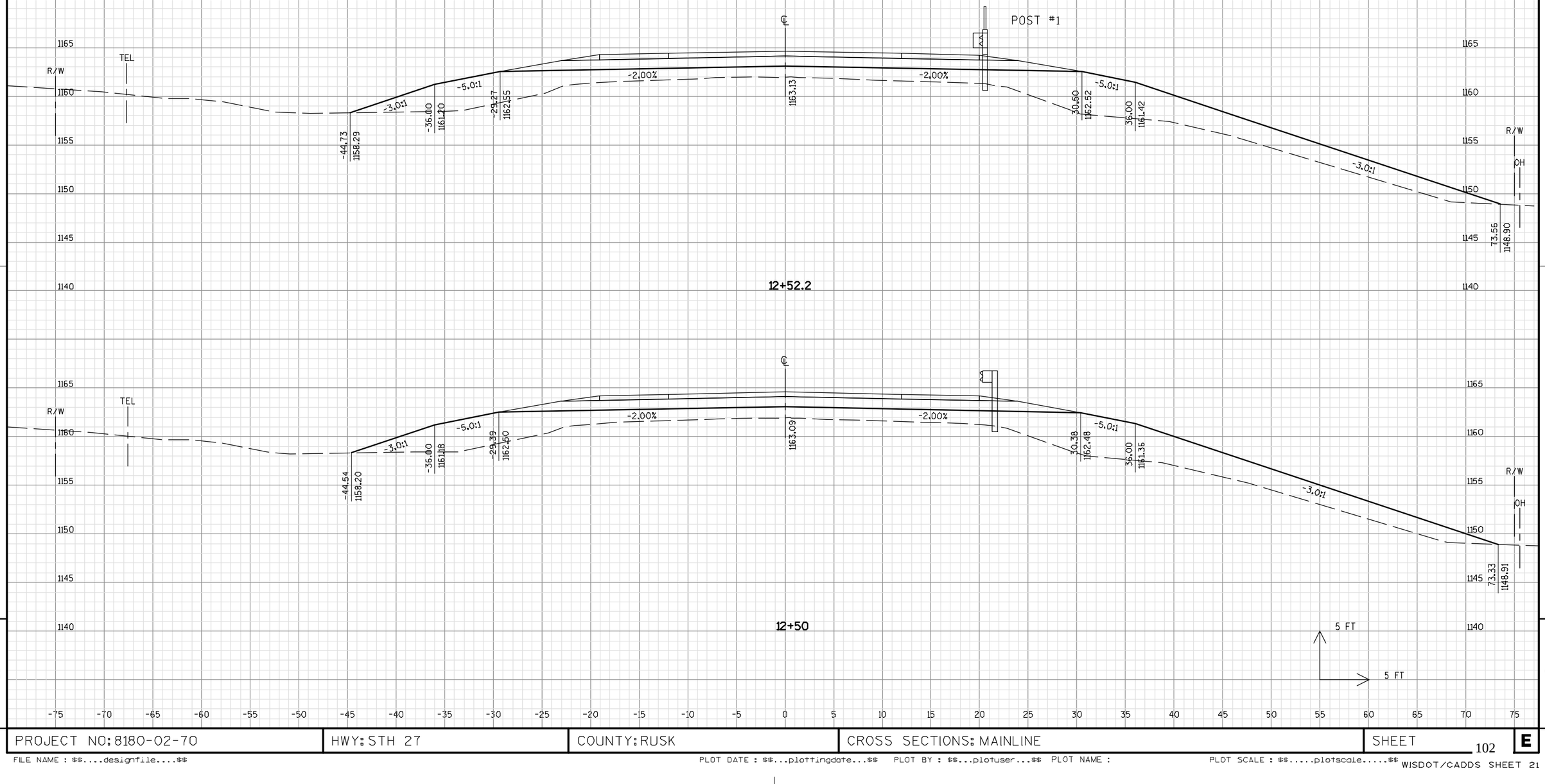
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 101	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21



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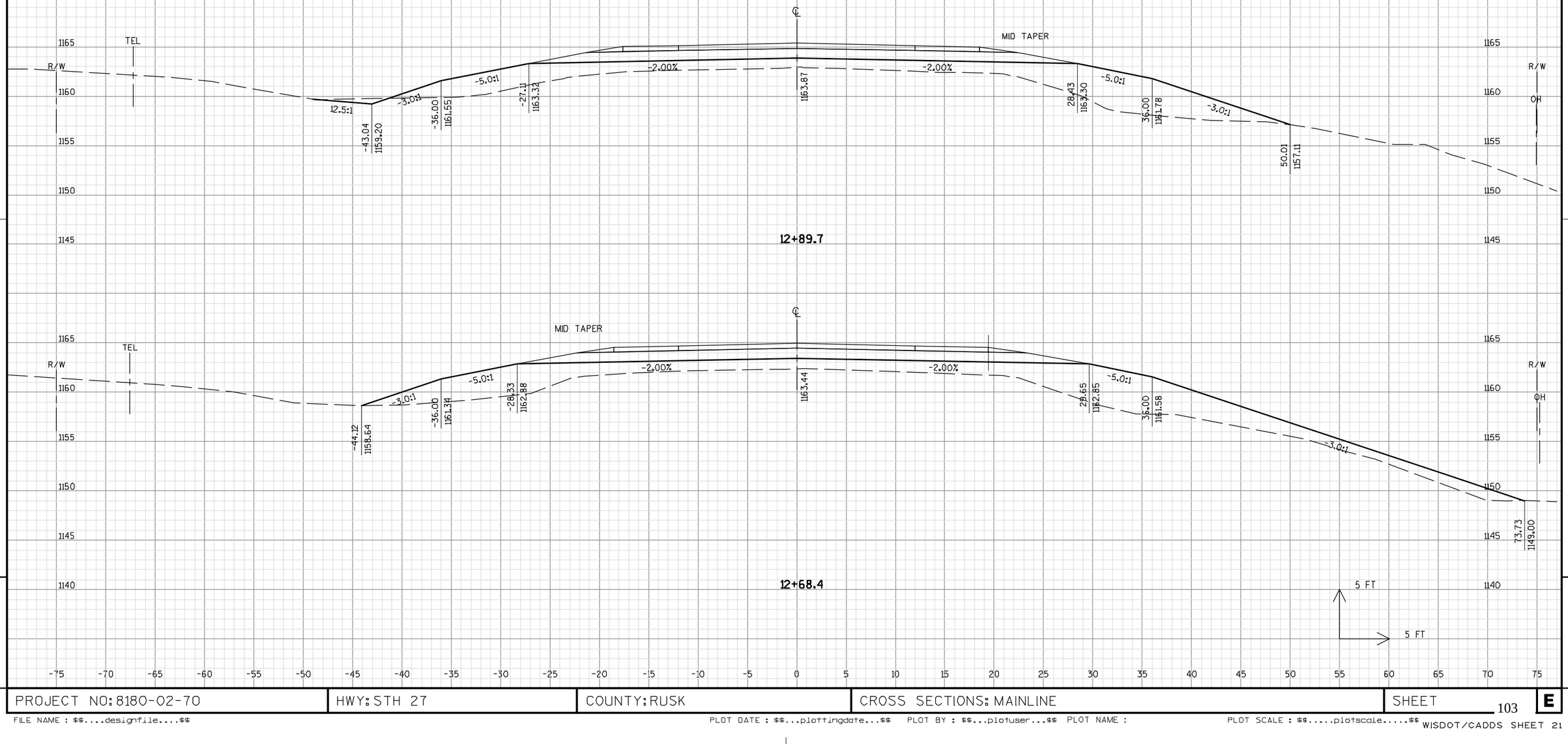
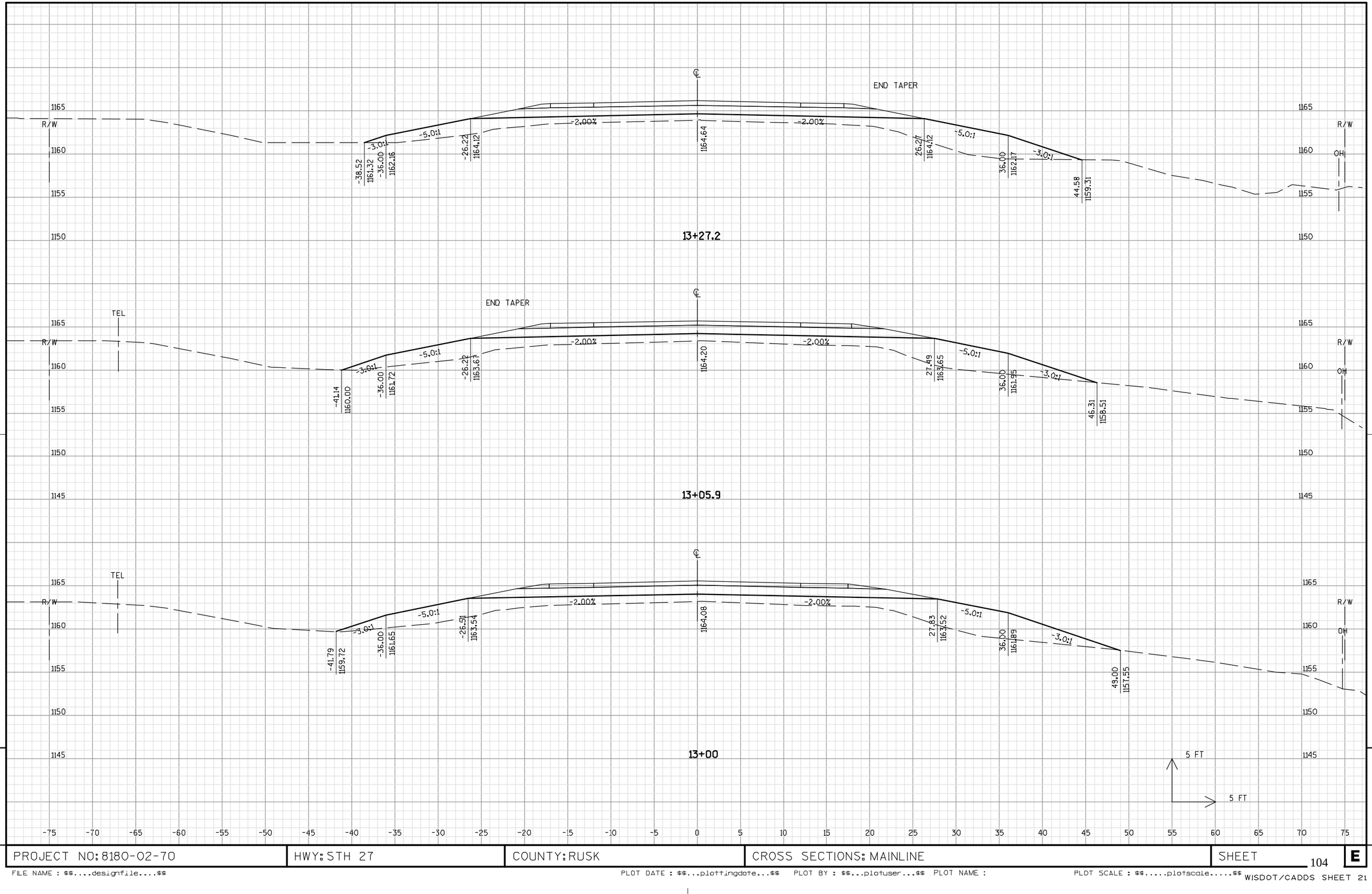
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 102	E



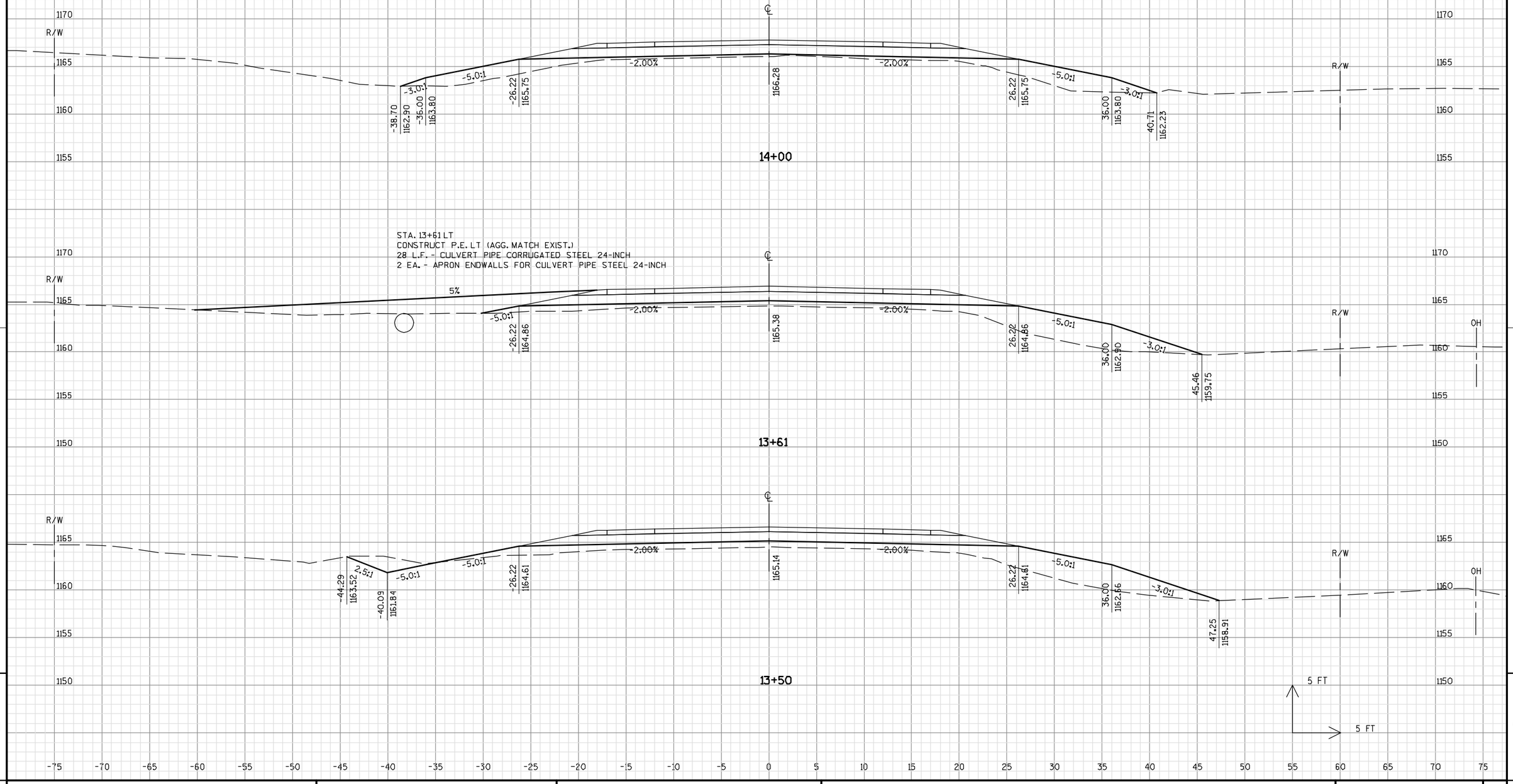
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 103	E



9 9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 104	E

STA. 13+61 LT
CONSTRUCT P.E. LT (AGG. MATCH EXIST.)
28 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH

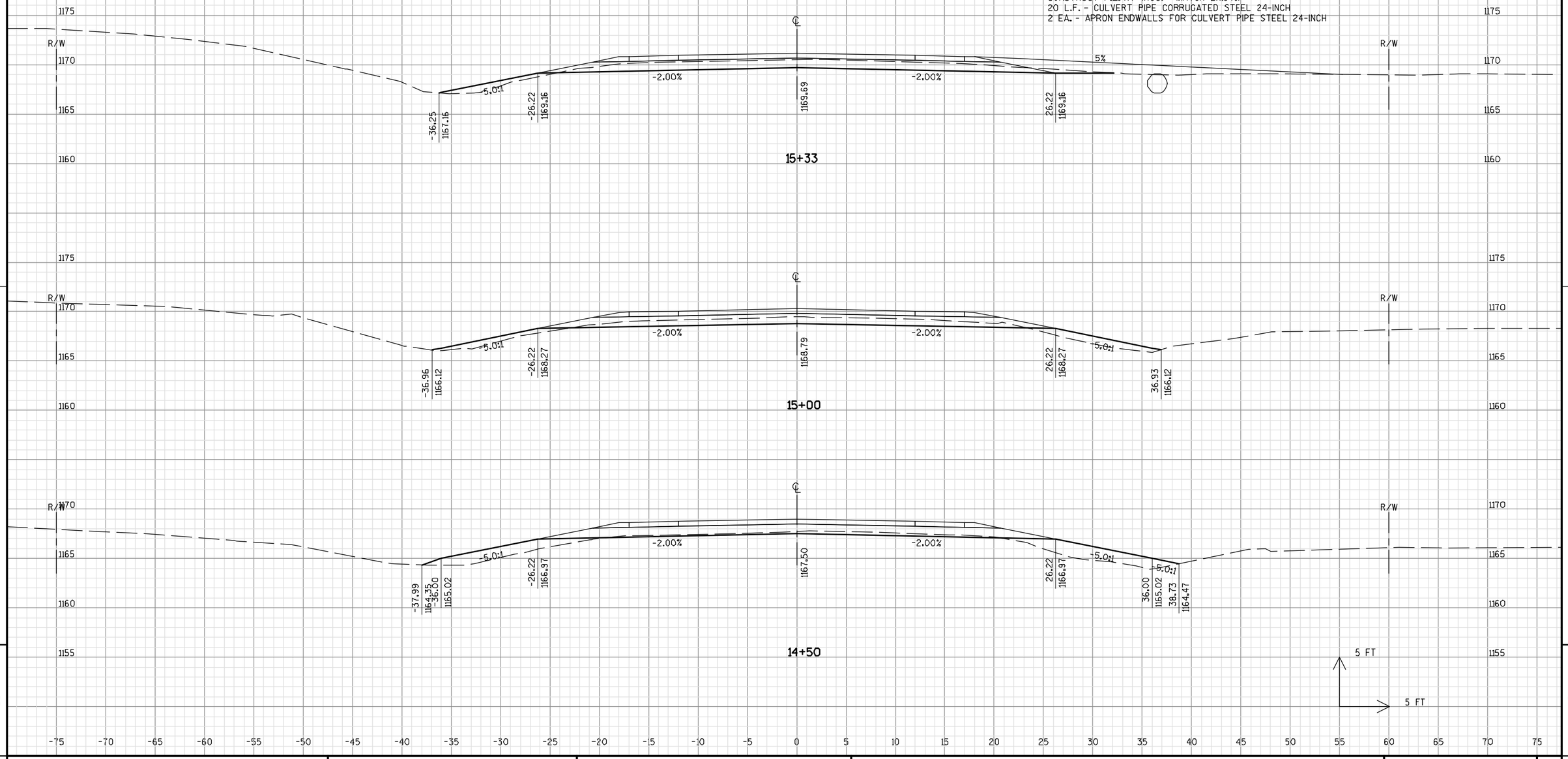


9 9

PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

STA. 15+33 RT
CONSTRUCT F.E. RT (AGG. - MATCH EXIST.)
20 L.F. - CULVERT PIPE CORRUGATED STEEL 24-INCH
2 EA. - APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH



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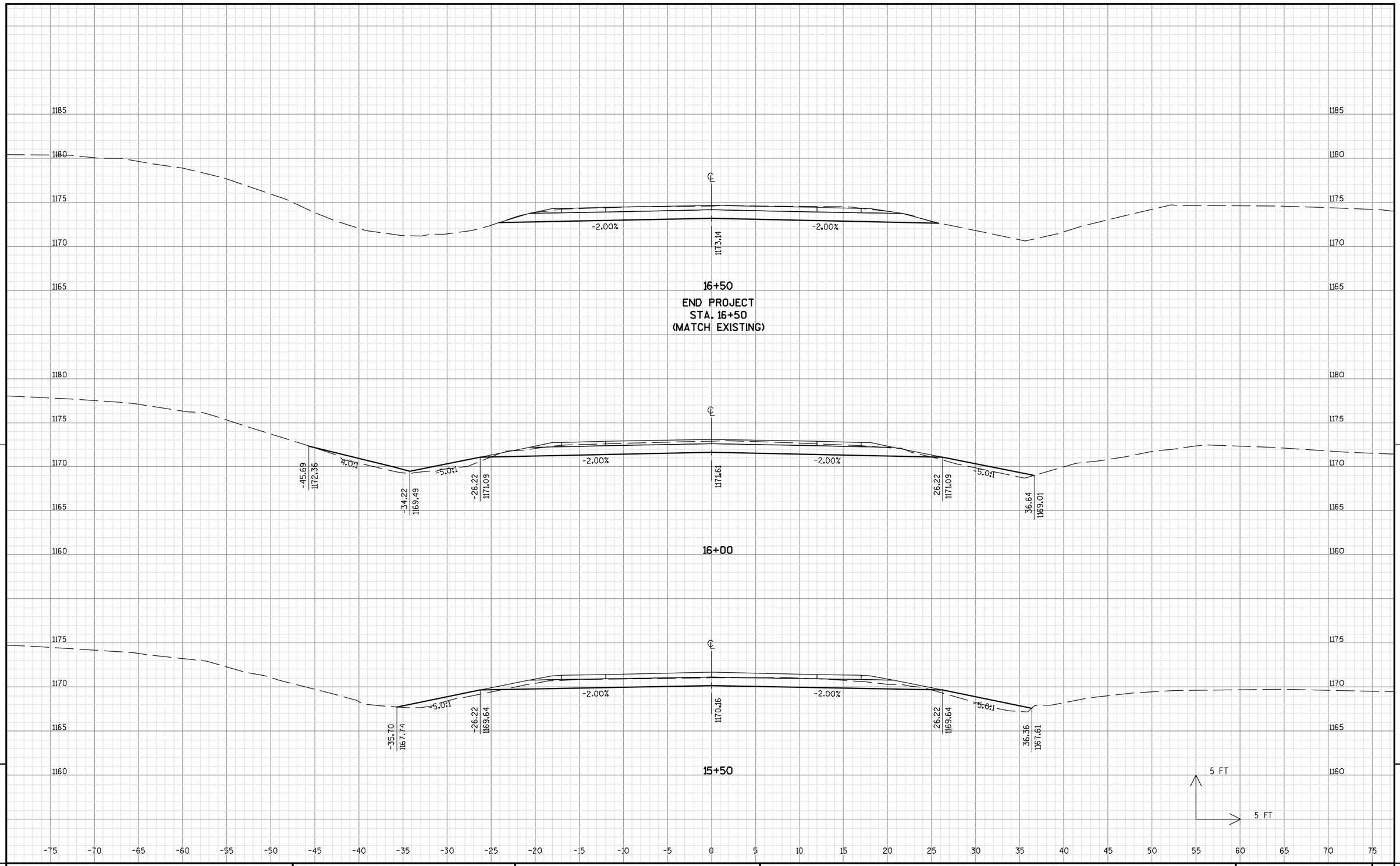
PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$



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PROJECT NO: 8180-02-70	HWY: STH 27	COUNTY: RUSK	CROSS SECTIONS: MAINLINE	SHEET 107	E

FILE NAME : $$....designfile....$$ PLOT DATE : $$...plottingdate...$$ PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

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