LAX

Dec 08, 2020

PROJECT ID: 5325-00-72

WITH: 5415-00-71

COUNTY: CRAWFORD

ORDER OF SHEETS

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

TOTAL SHEETS = 72



07

N

DESIGN DESIGNATION

A.A.D.T.	(2021)	= 25
A.A.D.T.	(2041)	= 40
D.H.V.	(2041)	= 4
D.D.		= 60/40
T.		= 10% (ASSUMED)
DESIGN SPEED		= 25 MPH
ESALS		= 11,900

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE			
SLOPE INTERCEPT		CULVERT (Profile View)	
REFERENCE LINE		UTILITIES	
EXISTING CULVERT		ELECTRIC	E
PROPOSED CULVERT (Box or Pipe)		FIBER OPTIC	FO
		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF CLAYTON, TILLER ROAD

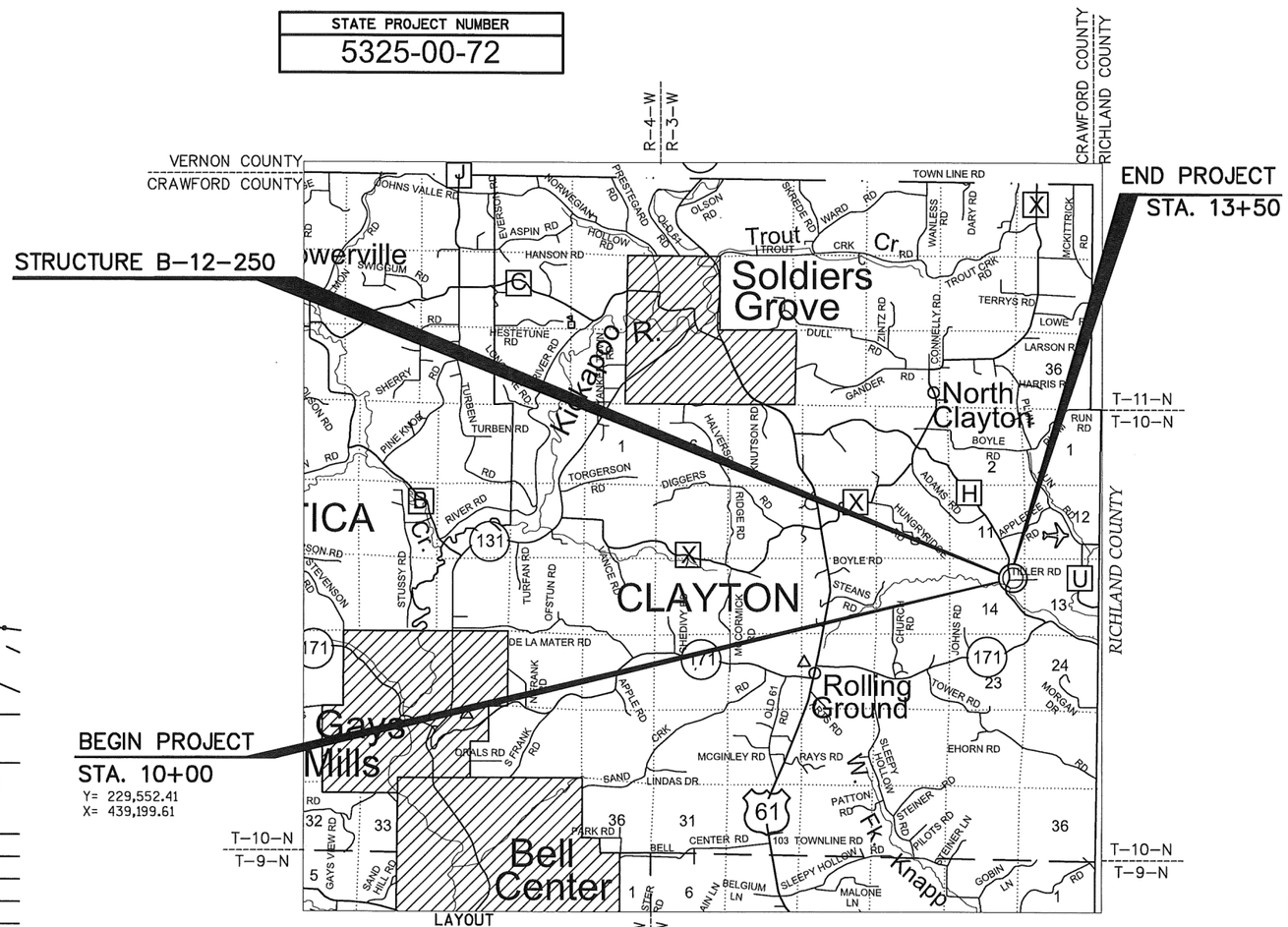
(PIGEON RUN CREEK BRIDGE B-12-250)

LOC STR

CRAWFORD COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5325-00-72	WISC 2021024	1

STATE PROJECT NUMBER
5325-00-72



TOTAL NET LENGTH OF CENTERLINE = 0.066 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, CRAWFORD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012).

ACCEPTED FOR COUNTY of CRAWFORD

7/7/2020 (Date) (Highway Commissioner)

ACCEPTED FOR TOWN of CLAYTON

7.7.20 (Date) (Town Chairperson)

ORIGINAL PLANS PREPARED BY

JEWELL associates engineers, inc.

Engineers - Architects - Surveyors

WISCONSIN ANGELA L. CLARY E-32243 LONE ROCK, WI PROFESSIONAL ENGINEER

6/26/20 (Date) Angela L Clary (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Regional Examiner	ALEIGHA BURG, P.E.
Regional Supervisor	OSCAR WINGER, P.E.

APPROVED FOR THE DEPARTMENT

7/13/2020 (Date) Aleigha Burg, P.E. Digitally signed by Aleigha Burg, Date: 2020.07.13 16:19:14 -05'00' (Signature)

E

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment
AC	Acre
AGG	Aggregate
AH	Ahead
<	Angle
ASPH	Asphaltic
AVG	Average
ADT	Average Daily Traffic
BAD	Base Aggregate Dense
BK	Back
BF	Back Face
BM	Bench Mark
BR	Bridge
C or C/L	Center Line
CC	Center to Center
CTH	County Trunk Highway
CR	Creek
CR	Crushed
CY or CU YD	Cubic Yard
CP	Culvert Pipe
C & G	Curb and Gutter
D	Degree of Curve
DHV	Design Hour Volume
DIA	Diameter
E	East
X	East Grid Coordinate
ELEC	Electric (al)
EL or ELEV	Elevation
ESALS	Equivalent Single Axle Loads
EBS	Excavation Below Subgrade
ESTR	Existing Sign to Remain
FF	Face to Face
FE	Field Entrance
F	Fill
FG	Finished Grade
FL or F/L	Flow Line
FT	Foot
FTG	Footing
GN	Grid North
HT	Height
CWT	Hundredweight
HYD	Hydrant
INL	Inlet
ID	Inside Diameter
INV	Invert
IP	Iron Pipe or Pin
IRS	Iron Rod Set
JT	Joint
JCT	Junction
LHF	Left–Hand Forward
L	Length of Curve
LIN FT or LF	Linear Foot
LC	Long Chord of Curve
MH	Manhole
MB	Mailbox
ML or M/L	Match Line
N	North
Y	North Grid Coordinate
O.A.L.	Overall Length
OD	Outside Diameter
PLE	Permanent Limited Easement
PT	Point
PC	Point of Curvature
PI	Point of Intersection
PRC	Point of Reverse Curvature
PT	Point of Tangency
POC	Point On Curve
POT	Point on Tangent
PVC	Polyvinyl Chloride
PCC	Portland Cement Concrete
LB	Pound
PSI	Pounds Per Square Inch
PE	Private Entrance
R	Radius
RR	Railroad
R	Range
RL or R/L	Reference Line
RP	Reference Point
RCCP	Reinforced Concrete Culvert Pipe
REQ'D	Required
RES	Residence or Residential
RW	Retaining Wall
RT	Right
RHF	Right–Hand Forward
R/W	Right–of–Way
R	River
RD	Road
RDWY	Roadway
SALV	Salvaged
SAN S	Sanitary Sewer
SEC	Section
SHLDR	Shoulder
SHR	Shrinkage
SW	Sidewalk
S	South
SQ	Square
SF or SQ FT	Square Feet
SY or SQ YD	Square Yard
STD	Standard
SDD	Standard Detail Drawings
STH	State Trunk Highways
STA	Station
SS	Storm Sewer
SG	Subgrade
SE	Superelevation
SL or S/L	Survey Line
SV	Septic Vent
T	Tangent
TEL	Telephone
TEMP	Temporary
TI	Temporary Interest
TLE	Temporary Limited Easement
t	Ton
T or TN	Town
TRANS	Transition
TL or T/L	Transit Line
T	Trucks (percent of)
TYP	Typical
UNCL	Unclassified
UG	Underground Cable
USH	United States Highway
VAR	Variable
V	Velocity or Design Speed
VERT	Vertical
VC	Vertical Curve
VOL	Volume
WM	Water Main
WV	Water Valve
W	West
WB	Westbound
YD	Yard

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

TOTAL PROJECT AREA= 1.02 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.83 ACRES

GENERAL NOTES

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

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

DISTURBED AREAS SHOWN WITHIN THE RIGHT–OF–WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER HINGE POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), AND MULCHED/EROSION MAT AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60. DO NOT FERTILIZE WETLAND AREAS.

WHEN THE QUANTITY OF THE ITEM OF BREAKER RUN, BASE AGGREGATE DENSE, OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

SILT FENCE AND TEMPORARY DITCH CHECKS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 112 LB/SY/IN. 4–INCH OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1¾–INCH UPPER LAYER AND A 2¼–INCH LOWER LAYER.

REMOVAL OF ASPHALTIC SURFACES (TO BE PAID FOR AS EXCAVATION COMMON) WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE OR STOCKPILE EQUIPMENT BEYOND THE EXISTING TOE OF SLOPE AT STA. 10+47 – STA. 11+65, LT. & RT. AND STA. 12+76 – STA. 13+17, LT.

THE EXACT LOCATION OF FIELD ENTRANCES TO BE DETERMINED IN FIELD BY THE ENGINEER.

INLET AND OUTLET ELEVATIONS FOR CULVERT PIPES AS SHOWN ON THE PLAN MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

CURVE DATA IS BASED ON THE ARC DEFINITION.

CONTACTS

CRAWFORD COUNTY HIGHWAY DEPARTMENT
KYLE KOZELKA, COMMISSIONER
21515 STATE HIGHWAY 27
P.O. BOX 39
SENECA, WI 54654
PH: (608) 734–9500
CELL: (608) 412–3774
E–MAIL: kkozelka@crawfordcountywi.org

TOWN OF CLAYTON
DENNIS SWIGGUM
10181 PRESTEGARD ROAD
SOLDIERS GROVE, WI 54655
PHONE: (608) 624-5663
EMAIL: swiggumrepair@gmail.com

DESIGN CONSULTANT
JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ANGELA CLARY, P.E.
PHONE: (608) 588-7484
CELL: (608) 574-3333
EMAIL: angie.clary@jewellassoc.com

DNR LIAISON
STATE OF WISCONSIN
DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PH: (608) 406–7880
E–MAIL: karen.kalvelage@wisconsin.gov

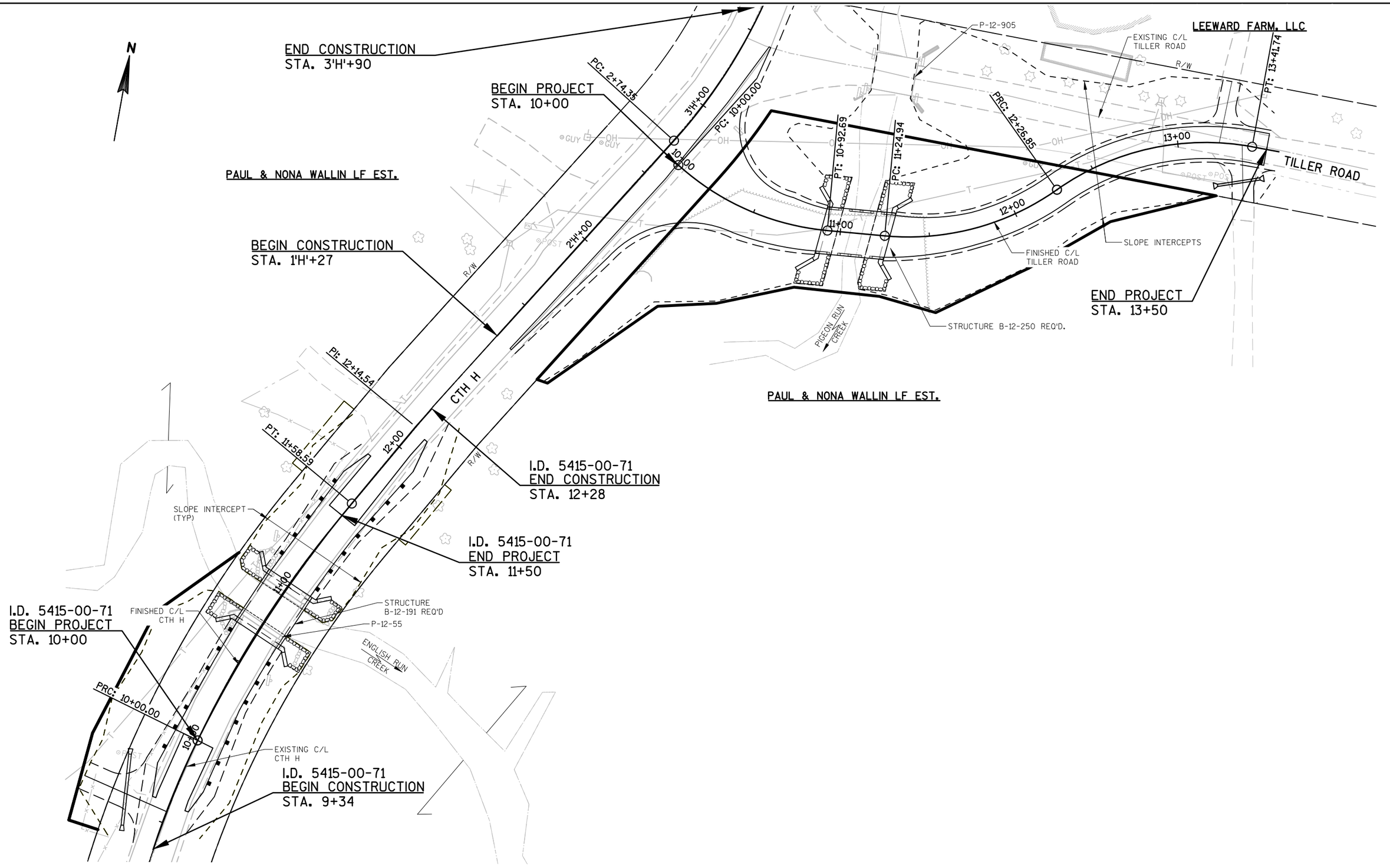
UTILITIES

COMMUNICATIONS*
CENTURYLINK
130 4TH STREET
BARABOO, WI 53913
ATTN: STEVE BISHOP
PH: (608) 355–7501
CELL: (608) 963–8594
E–MAIL: steven.bishop@centurylink.com

ELECTRIC*
RICHLAND ELECTRIC COOPERATIVE
ATTN: LARRY HALLETT
1027 N JEFFERSON
PO BOX 439
RICHLAND CENTER, WI 53581
PHONE: (608) 647–3173
CELL: (608) 553–1418
EMAIL: lhallett@rec.coop

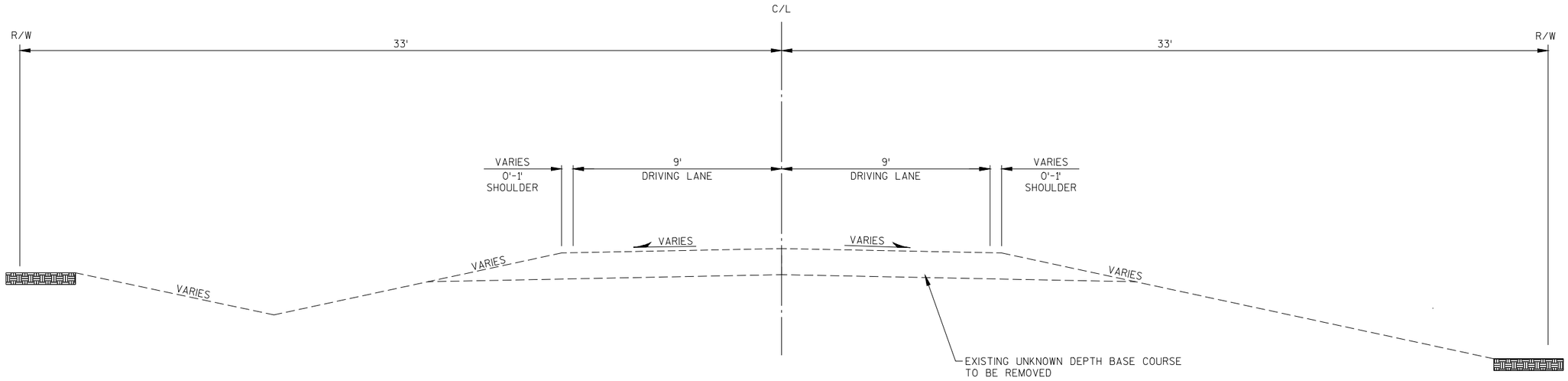
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

* DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE



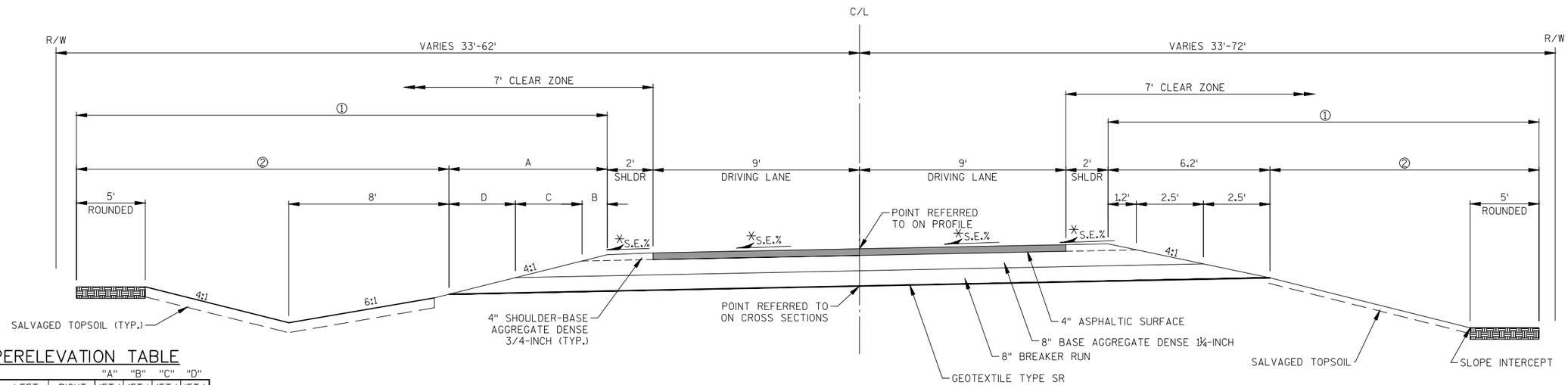
PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO – TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\C54550_OVERVIEW.DWG
LAYOUT :
PLOT DATE : 5/27/2020
PLOT TIME : 2:03:16 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'



TYPICAL EXISTING SECTION

TILLER ROAD



SUPERELEVATION TABLE

STATION	LEFT	RIGHT	"A" (FT.)	"B" (FT.)	"C" (FT.)	"D" (FT.)
10+00	MATCH EXISTING	MATCH EXISTING	-	-	-	-
10+50	0.1 →	2.0 →	6.7	1.3	2.7	2.7
10+80	← 2.0	2.0 →	7.1	1.3	2.9	2.9
11+40	← 2.0	2.0 →	7.1	1.3	2.9	2.9
11+50	← 2.0	1.3 →	7.1	1.3	2.9	2.9
11+69	← 2.0	0.0 →	7.1	1.3	2.9	2.9
11+98	← 2.0	← 2.0	7.1	1.3	2.9	2.9
12+00	← 1.9	← 1.9	7.1	1.3	2.9	2.9
12+27	0.0	0.0	6.7	1.3	2.7	2.7
12+50	1.4 →	1.4 →	6.3	1.3	2.5	2.5
12+60	2.0 →	2.0 →	6.2	1.2	2.5	2.5
12+90	2.0 →	2.0 →	6.2	1.2	2.5	2.5
13+00	1.3 →	2.0 →	6.3	1.2	2.5	2.5
13+20	0.0	2.0 →	6.7	1.3	2.7	2.7
13+50	MATCH EXISTING	MATCH EXISTING	-	-	-	-

CUT

TYPICAL FINISHED SUPERELEVATED SECTION

TILLER ROAD

FILL

① LIMITS OF SEEDING MIXTURE NO. 20 OR SEEDING MIXTURE NO. 60, & FERTILIZER TYPE B (AS DIRECTED BY ENGINEER)

② LIMITS OF SALVAGED TOPSOIL & MULCH OR EROSION MAT CLASS II TYPE C (AS DIRECTED BY ENGINEER)

✳ SEE SUPERELEVATION TABLE

THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION.

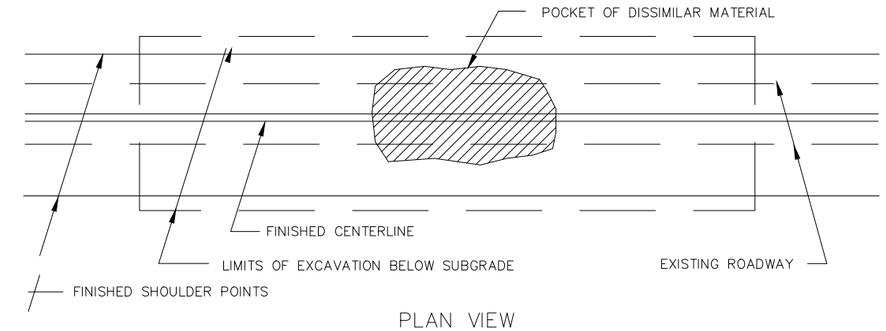
PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	TYPICAL EXISTING SECTION & TYPICAL FINISHED SECTION	SHEET 4	E

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO – TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\TYPICALS\53250002_TYPICALS.DWG
LAYOUT : 53250002_TYPICALS

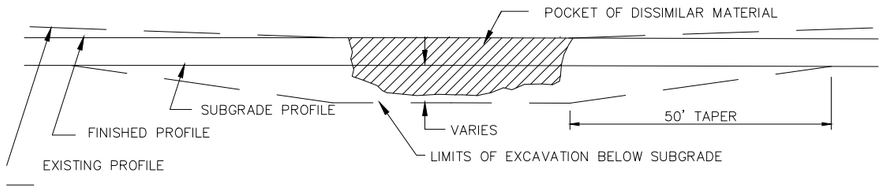
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PLOT TIME : 2:03:20 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'

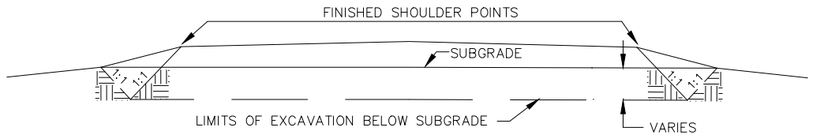


PLAN VIEW



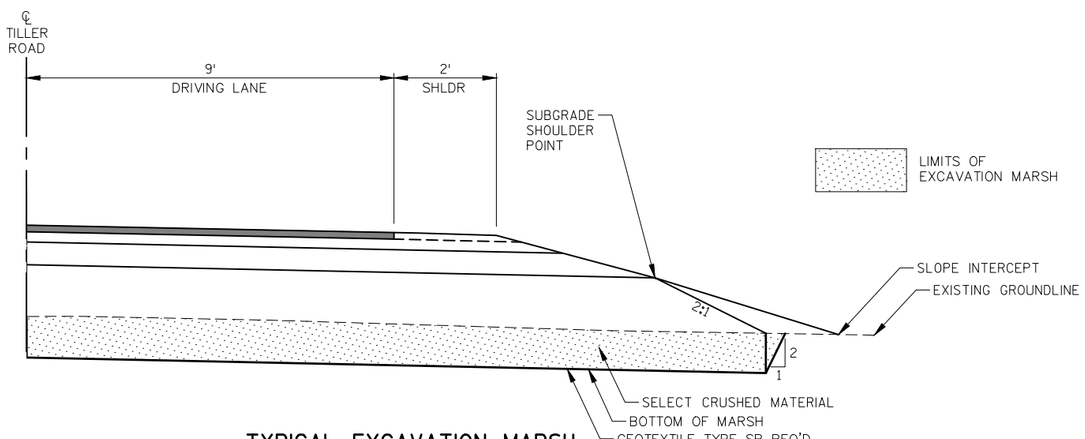
PROFILE VIEW

RURAL EXCAVATION BELOW SUBGRADE (E.B.S.)



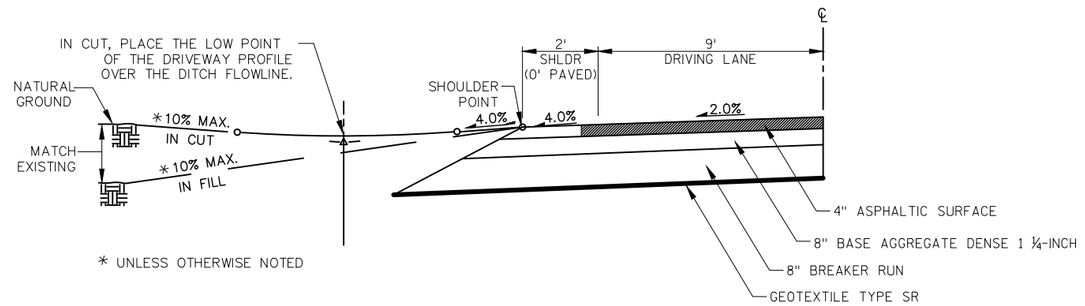
CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.



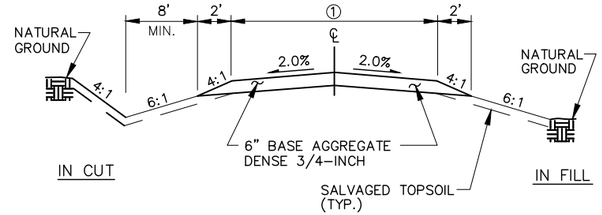
TYPICAL EXCAVATION MARSH

(STA. 10+48 – STA. 11+65)
SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION



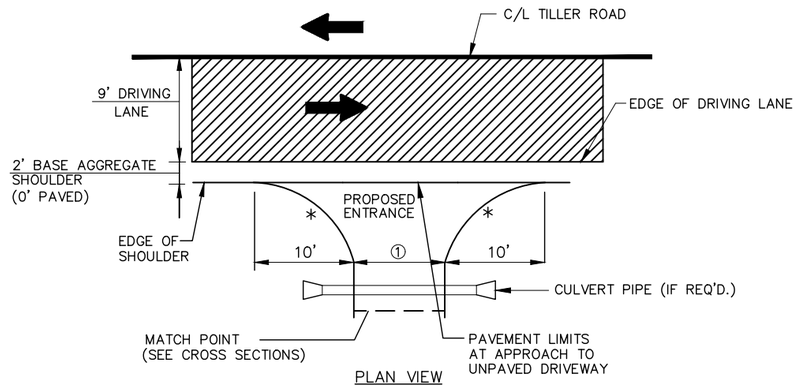
* UNLESS OTHERWISE NOTED

TYPICAL F.E. PROFILE



TYPICAL CROSS-SECTION FOR F.E.

STATION	① (FT)
13+23, LT.	10
13+36, RT.	12



PLAN VIEW

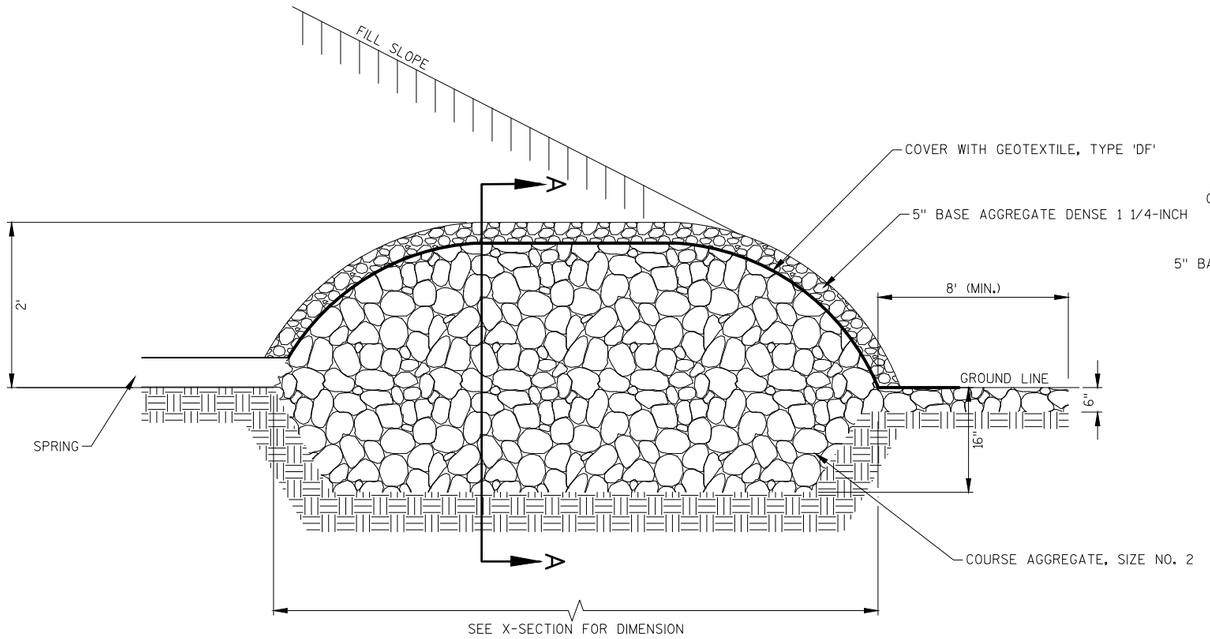
APPROACH AT F.E.

TYPICAL FIELD ENTERANCE (F.E.) DETAILS

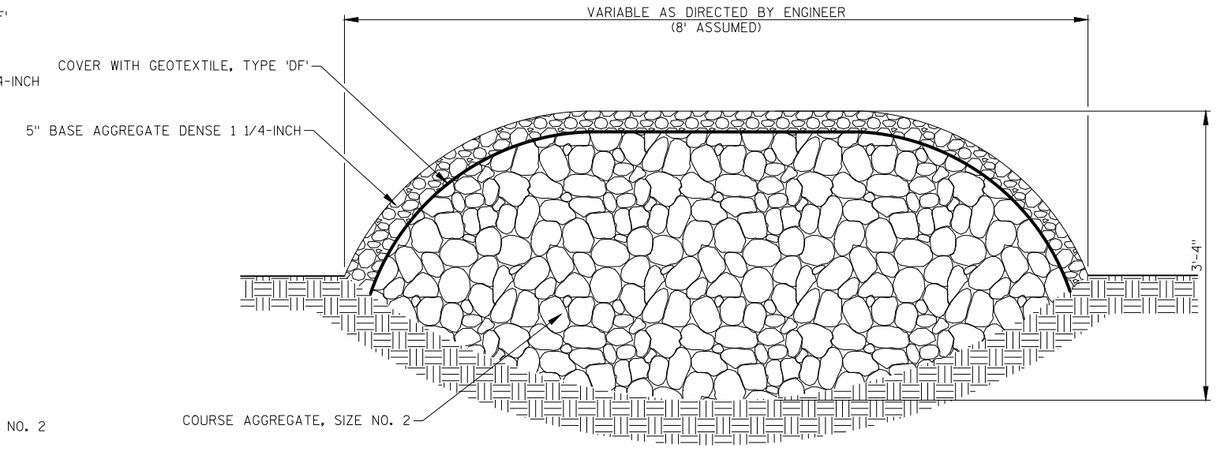
LIMITS OF ASPHALTIC SURFACE

* RADIUS = 10'

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LAYOUT :
PLOT DATE : 5/27/2020
PLOT TIME : 2:03:24 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'



SECTION NORMAL TO CENTERLINE OF TILER ROAD

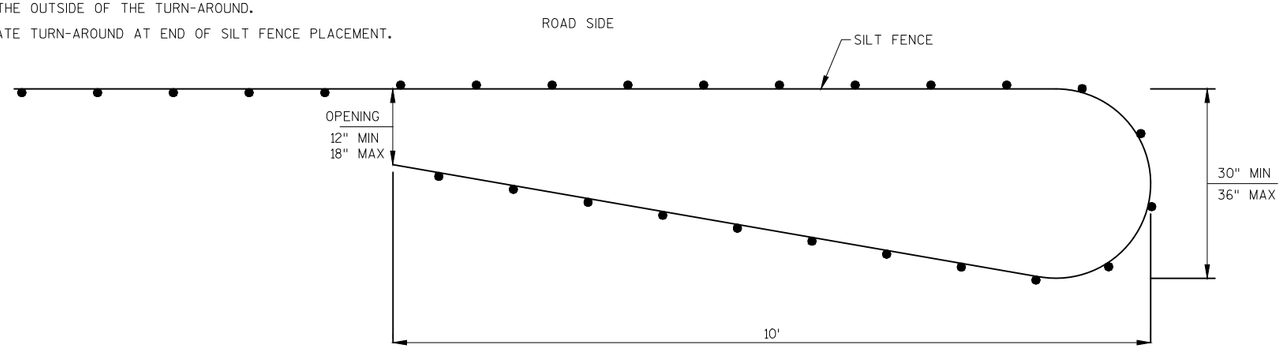


SECTION A–A

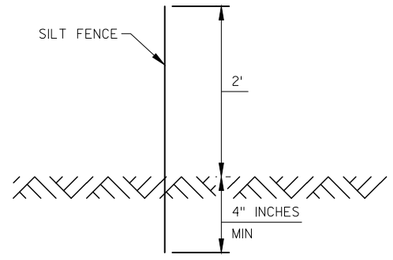
SPRING DRAINAGE

NOTE: PLACE SILT FENCE POSTS FOR THE TURN-AROUND ON THE OUTSIDE OF THE TURN-AROUND.

LOCATE TURN-AROUND AT END OF SILT FENCE PLACEMENT.



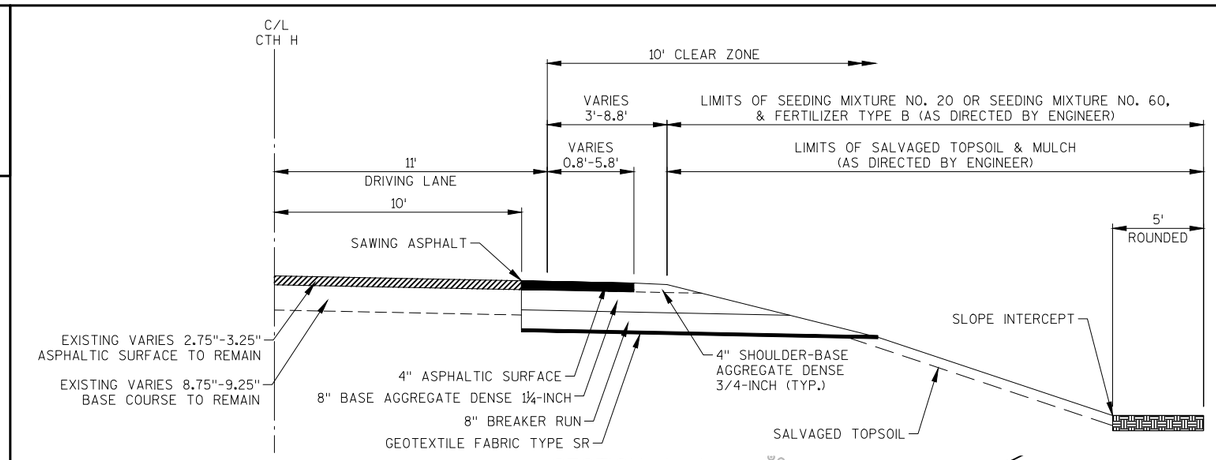
PLAN VIEW



PROFILE VIEW

SILT FENCE TURN-AROUND DETAIL

PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 6	E



SECTION A–A

END CONSTRUCTION
STA. 3'H'+90
Y= 229,672.86
X= 439,235.53

FINISHED C/L
CTH H

REMOVING OLD STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS STA. 11+22 (P-12-905)
SINGLE-SPAN STEEL DECK GIRDER STRUCTURE
19.0' CLEAR ROADWAY WIDTH
20.5' OVERALL DECK WIDTH
24.8' OVERALL LENGTH

STA. 9+89.00 (TILLER RD)
STA. 2+65.88 (CTH H)
INTERSECTION TYPE C (MOD) REQ'D.
SEE INTERSECTION DETAILS

3'H'+00

90°00'00"

1'H'+00

CENTURYLINK

STA. 2+11, LT.
P.E. TO REMAIN

BEGIN CONSTRUCTION
STA. 1'H'+27
Y= 229,440.35
X= 439,116.83

2'H'+00

16.5'

75'

R=40'

Y=229,585.89
X=439,268.99

PIGEON RUN CREEK

EXISTING C/L
TILLER ROAD

R/W

CURVE 1

15'

20' TAPER

2'

RICHLAND ELECTRIC
COOPERATIVE

1'H'+00

42' TAPER

FINISHED C/L
TILLER ROAD

CURVE 2

STA. 10+20, 58' RT.
EXISTING SPRING HEAD
SEE SPRING DRAINAGE
DETAIL

R=60'

Y=229,462.61
X=439,220.92

SLOPE INTERCEPT (TYP.)

STRUCTURE B-12-250 REQ'D.

PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	INTERSECTION DETAILS	SHEET 7	E

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO – TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\INTERSECTION DETAILS.DWG
LAYOUT : INTERSECTION DETAILS
PLOT DATE : 5/27/2020
PLOT TIME : 2:03:32 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

2

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- EDGE OF WATER
- WETLANDS
- HEAVY RIPRAP
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER
- SPRING DRAINAGE

NOTE: SEE TYPICAL FINISHED SECTIONS FOR LIMITS OF SEEDING, FERTILIZER, MULCHING, AND SALVAGED TOPSOIL.

N

LEEWARD FARM, LLC

PAUL & NONA WALLIN LF EST.

PAUL & NONA WALLIN LF EST.

BEGIN CONSTRUCTION
STA. 1'H'+27

BEGIN PROJECT
STA. 10+00

END CONSTRUCTION
STA. 13+57

END PROJECT
STA. 13+50

CTH H

TILLER ROAD

(ASPHALT)

(B.A.D.)

FINISHED C/L CTH H

EXISTING C/L TILLER ROAD

FINISHED C/L TILLER ROAD

SEE DETAIL A

STA. 10+20, 58' RT.
EXISTING SPRING HEAD
SEE SPRING DRAINAGE DETAIL

SLOPE INTERCEPTS

PIGEON RUN CREEK

R/W

OH

GUY

POST

10+00

11+00

12+00

13+00

1'H'+00

2'H'+00

3'H'+00

DETAIL A

NOTE: SEE CROSS-SECTIONS FOR CONSTRUCTION STAKING INFORMATION

WETLAND MITIGATION AREA.
TO BE PAID FOR UNDER ESTABLISH WETLANDS BID ITEM.
SEED WETLAND MITIGATION AREA WITH SEEDING MIXTURE NO. 60. DO NOT FERTILIZE WETLAND AREA

800
795
790
793
792
791
790
789
788

PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 8	E

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\C54550_EROSION CONTROL.DWG
LAYOUT : EROSION CONTROL

PLOT DATE : 7/20/2020
PLOT TIME : 1:45:48 PM

PLOT BY : AUSTIN KASZUBSKI

PLOT SCALE : 1" = 1'

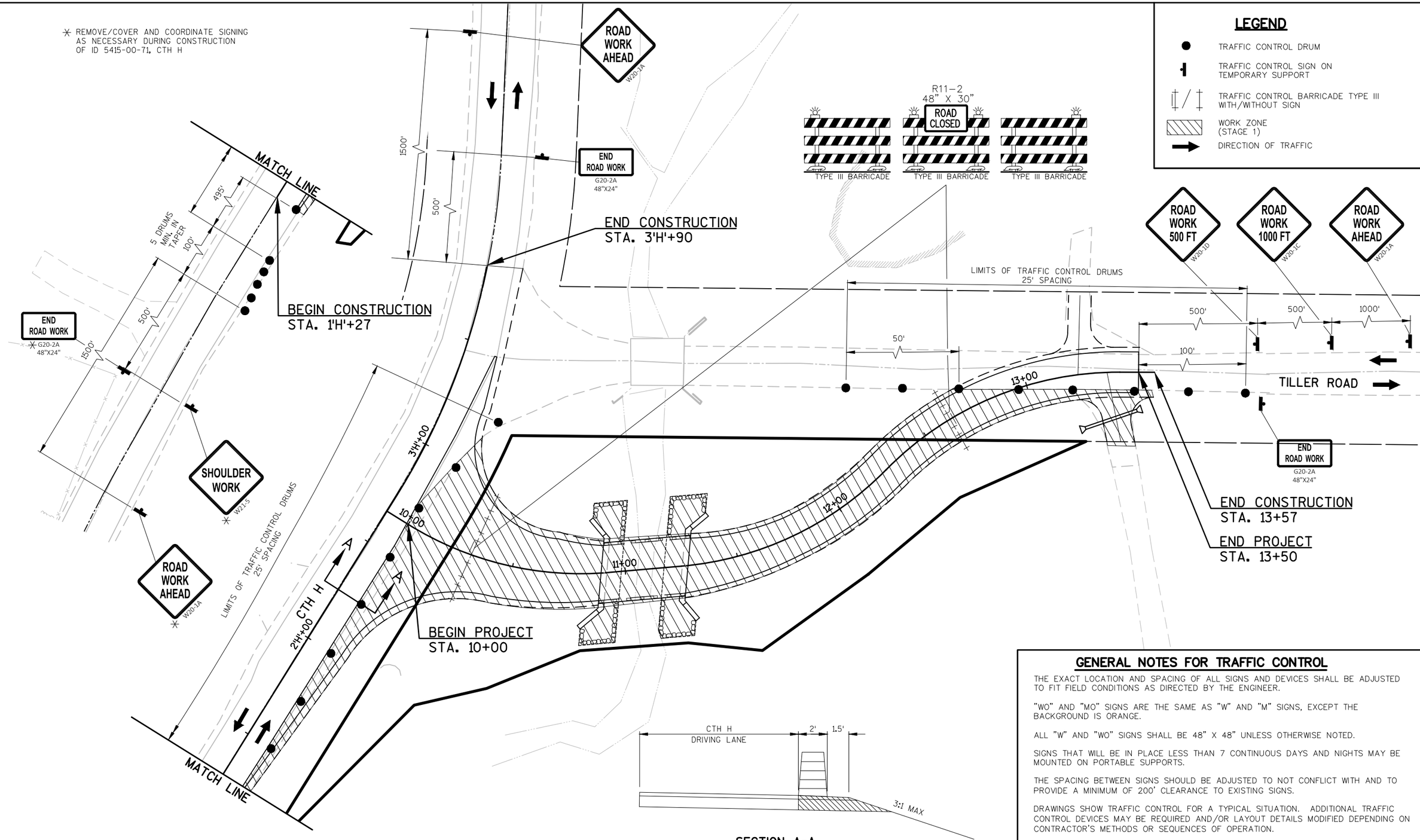
2

2

✳ REMOVE/COVER AND COORDINATE SIGNING AS NECESSARY DURING CONSTRUCTION OF ID 5415-00-71, CTH H

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- WORK ZONE (STAGE 1)
- DIRECTION OF TRAFFIC



SECTION A-A

GENERAL NOTES FOR TRAFFIC CONTROL

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

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

ALL "W" AND "WO" SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.

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

ADDITIONAL DRUMS OR TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS. COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.

PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 1	SHEET 9	E

2

2

✳ REMOVE/COVER AND COORDINATE SIGNING AS NECESSARY DURING CONSTRUCTION OF ID 5415-00-71, CTH H

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- WORK ZONE (STAGE 2)
- DIRECTION OF TRAFFIC

BEGIN CONSTRUCTION
STA. 1'H'+27

MATCH LINE

5 DRUMS MIN. IN TAPER

495'

100'

500'

1500'

END ROAD WORK
✳ G20-2A
48"X24"

SHOULDER WORK
✳ W21-5

ROAD WORK AHEAD
✳ W20-1A

LIMITS OF TRAFFIC CONTROL DRUMS
25' SPACING

MATCH LINE

ROAD WORK AHEAD
W20-1A

1500'

500'

100'

END ROAD WORK
G20-2A
48"X24"

END CONSTRUCTION
STA. 3'H'+90

R11-2
48" X 30"
ROAD CLOSED

TYPE III BARRICADE

TYPE III BARRICADE

TYPE III BARRICADE

END CONSTRUCTION
STA. 13+57

END PROJECT
STA. 13+50

ROAD WORK 500 FT
W20-1D

ROAD WORK 1000 FT
W20-1C

ROAD WORK AHEAD
W20-1A

500'

500'

1000'

100'

TILLER ROAD

END ROAD WORK
G20-2A
48"X24"

3'H'+00

2'H'+00

10+00

11+00

12+00

13+00

CTH H

50'

LIMITS OF TRAFFIC CONTROL DRUMS
25' SPACING

BEGIN PROJECT
STA. 10+00

A

A

CTH H
DRIVING LANE

2'

1.5'

3:1 MAX

SECTION A-A

GENERAL NOTES FOR TRAFFIC CONTROL

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THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.

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

ADDITIONAL DRUMS OR TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS. COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.

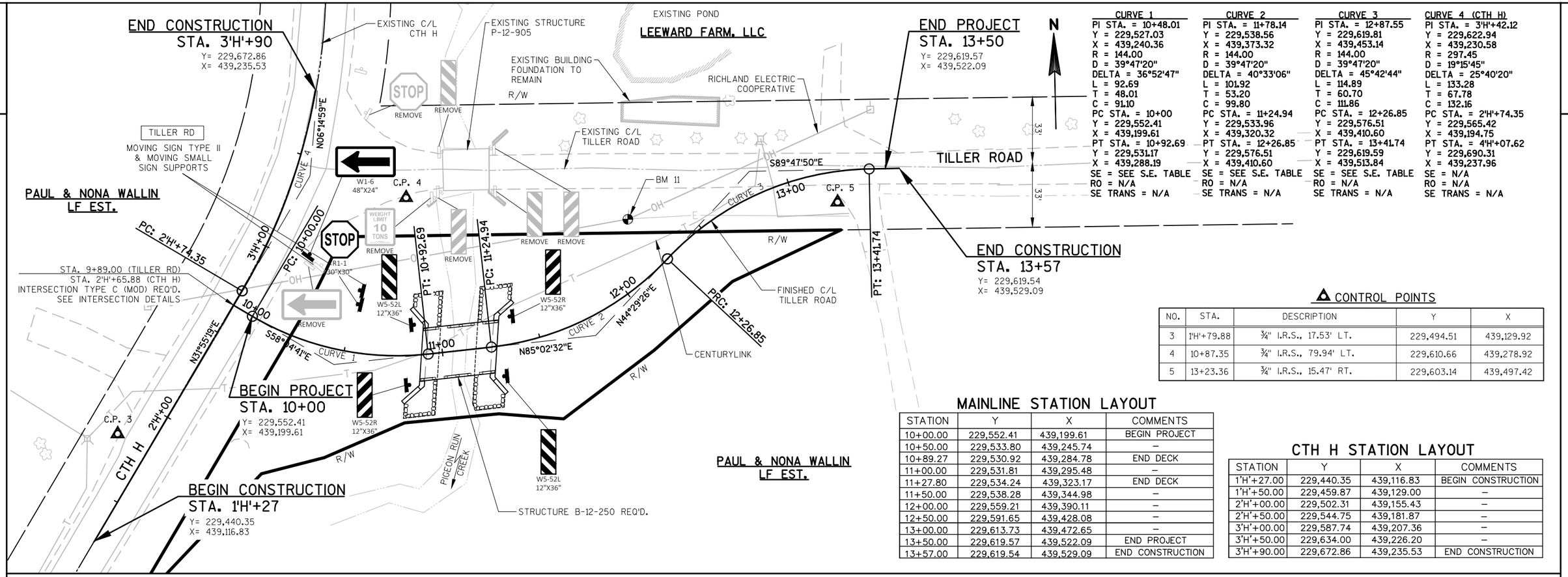
PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	TRAFFIC CONTROL - STAGE 2	SHEET 10	E

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\TRAFFIC CONTROL.DWG
LAYOUT : STAGE2

PLOT DATE : 5/27/2020
PLOT TIME : 2:03:45 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'



CURVE 1	CURVE 2	CURVE 3	CURVE 4 (CTH H)
PI STA. = 10+48.01	PI STA. = 11+78.14	PI STA. = 12+87.55	PI STA. = 3'H'+42.12
Y = 229,527.03	Y = 229,538.56	Y = 229,619.81	Y = 229,622.94
X = 439,240.36	X = 439,373.32	X = 439,453.14	X = 439,230.58
R = 144.00	R = 144.00	R = 144.00	R = 297.45
D = 39°47'20"	D = 39°47'20"	D = 39°47'20"	D = 19°15'45"
DELTA = 36°52'47"	DELTA = 40°33'06"	DELTA = 45°42'44"	DELTA = 25°40'20"
L = 92.69	L = 101.92	L = 114.89	L = 133.28
T = 48.01	T = 53.20	T = 60.70	T = 67.78
C = 91.10	C = 99.80	C = 111.86	C = 132.16
PC STA. = 10+00	PC STA. = 11+24.94	PC STA. = 12+26.85	PC STA. = 2'H'+74.35
Y = 229,552.41	Y = 229,533.96	Y = 229,576.51	Y = 229,565.42
X = 439,199.61	X = 439,320.32	X = 439,410.60	X = 439,194.75
PT STA. = 10+92.69	PT STA. = 12+26.85	PT STA. = 13+41.74	PT STA. = 4'H'+07.62
Y = 229,531.17	Y = 229,576.51	Y = 229,619.59	Y = 229,690.31
X = 439,288.19	X = 439,410.60	X = 439,513.84	X = 439,237.96
SE = SEE S.E. TABLE	SE = SEE S.E. TABLE	SE = SEE S.E. TABLE	SE = N/A
RO = N/A	RO = N/A	RO = N/A	RO = N/A
SE TRANS = N/A	SE TRANS = N/A	SE TRANS = N/A	SE TRANS = N/A

CONTROL POINTS

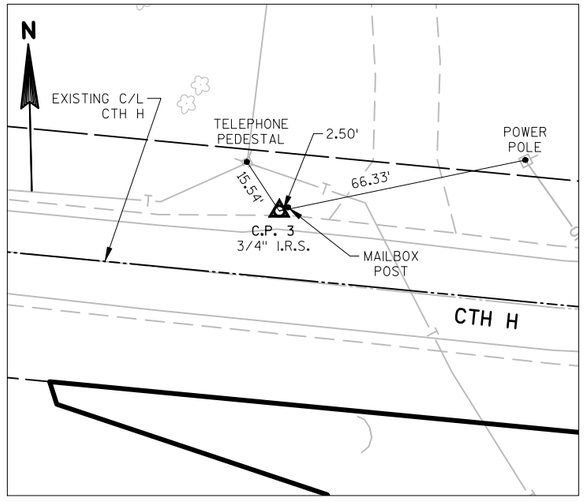
NO.	STA.	DESCRIPTION	Y	X
3	1'H'+79.88	¾" I.R.S., 17.53' LT.	229,494.51	439,129.92
4	10+87.35	¾" I.R.S., 79.94' LT.	229,610.66	439,278.92
5	13+23.36	¾" I.R.S., 15.47' RT.	229,603.14	439,497.42

MAINLINE STATION LAYOUT

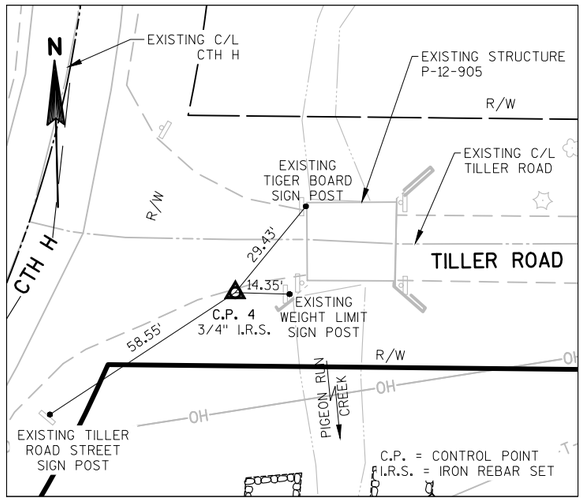
STATION	Y	X	COMMENTS
10+00.00	229,552.41	439,199.61	BEGIN PROJECT
10+50.00	229,533.80	439,245.74	–
10+89.27	229,530.92	439,284.78	END DECK
11+00.00	229,531.81	439,295.48	–
11+27.80	229,534.24	439,323.17	END DECK
11+50.00	229,538.28	439,344.98	–
12+00.00	229,559.21	439,390.11	–
12+50.00	229,591.65	439,428.08	–
13+00.00	229,613.73	439,472.65	–
13+50.00	229,619.57	439,522.09	END PROJECT
13+57.00	229,619.54	439,529.09	END CONSTRUCTION

CTH H STATION LAYOUT

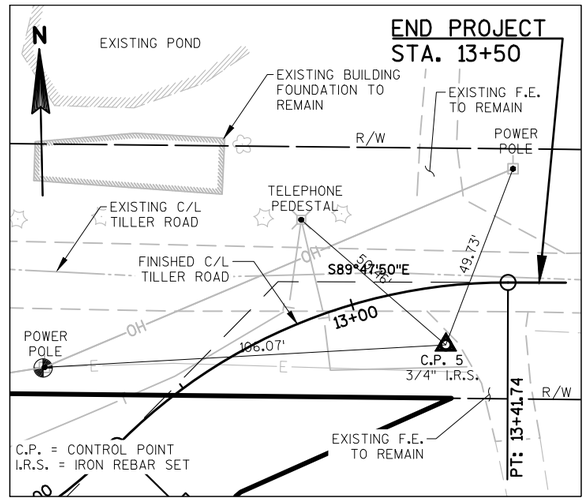
STATION	Y	X	COMMENTS
1'H'+27.00	229,440.35	439,116.83	BEGIN CONSTRUCTION
1'H'+50.00	229,459.87	439,129.00	–
2'H'+00.00	229,502.31	439,155.43	–
2'H'+50.00	229,544.75	439,181.87	–
3'H'+00.00	229,587.74	439,207.36	–
3'H'+50.00	229,634.00	439,226.20	–
3'H'+90.00	229,672.86	439,235.53	END CONSTRUCTION



TIES TO C.P.#3
STA. 1+79.88; 17.53' LT.
Y = 229,494.51
X = 439,129.92



TIES TO C.P.#4
STA. 10+87.35; 79.94' LT.
Y = 229,610.66
X = 439,278.92



TIES TO C.P.#5
STA. 13+23.36; 15.47' RT.
Y = 229,603.14
X = 439,497.42

PROJECT NO: 5325-00-72	HWY: TILLER ROAD	COUNTY: CRAWFORD	ALIGNMENT AND TIES AND PERMANENT SIGNING	SHEET 11	E

5325-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 11+22	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	2,000.000	2,000.000
0012	205.0400	Excavation Marsh	CY	700.000	700.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-12-250	LS	1.000	1.000
0018	208.0100	Borrow	CY	3,315.000	3,315.000
0020	209.0300.S	Backfill Coarse Aggregate (size) 01. No. 2	CY	50.000	50.000
0022	210.1500	Backfill Structure Type A	TON	700.000	700.000
0024	213.0100	Finishing Roadway (project) 01. 5325-00-72	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	100.000	100.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	680.000	680.000
0032	311.0110	Breaker Run	TON	700.000	700.000
0034	312.0110	Select Crushed Material	TON	1,700.000	1,700.000
0036	455.0605	Tack Coat	GAL	54.000	54.000
0038	465.0105	Asphaltic Surface	TON	240.000	240.000
0040	502.0100	Concrete Masonry Bridges	CY	162.000	162.000
0042	502.3200	Protective Surface Treatment	SY	140.000	140.000
0044	505.0400	Bar Steel Reinforcement HS Structures	LB	4,580.000	4,580.000
0046	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,630.000	15,630.000
0048	513.4061	Railing Tubular Type M	LF	81.000	81.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0052	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	2.000	2.000
0056	520.3315	Culvert Pipe Class III-A 15-Inch	LF	24.000	24.000
0062	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	360.000	360.000
0064	606.0300	Riprap Heavy	CY	135.000	135.000
0066	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0076	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5325-00-72	EACH	1.000	1.000
0080	619.1000	Mobilization	EACH	0.500	0.500
0082	624.0100	Water	MGAL	12.000	12.000
0084	625.0500	Salvaged Topsoil	SY	3,550.000	3,550.000
0086	627.0200	Mulching	SY	3,050.000	3,050.000
0088	628.1504	Silt Fence	LF	960.000	960.000
0090	628.1520	Silt Fence Maintenance	LF	1,920.000	1,920.000
0092	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0094	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0096	628.2027	Erosion Mat Class II Type C	SY	500.000	500.000

5325-00-72

Line	Item	Item Description	Unit	Total	Qty
0098	628.6005	Turbidity Barriers	SY	110.000	110.000
0100	628.7504	Temporary Ditch Checks	LF	32.000	32.000
0102	628.7555	Culvert Pipe Checks	EACH	1.000	1.000
0104	629.0210	Fertilizer Type B	CWT	4.000	4.000
0106	630.0120	Seeding Mixture No. 20	LB	110.000	110.000
0108	630.0160	Seeding Mixture No. 60	LB	5.000	5.000
0110	630.0200	Seeding Temporary	LB	110.000	110.000
0112	630.0300	Seeding Borrow Pit	LB	52.000	52.000
0114	630.0500	Seed Water	MGAL	120.000	120.000
0116	633.5100	Markers Row	EACH	16.000	16.000
0118	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0120	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0122	637.2210	Signs Type II Reflective H	SF	5.180	5.180
0124	637.2230	Signs Type II Reflective F	SF	20.000	20.000
0126	638.2102	Moving Signs Type II	EACH	1.000	1.000
0128	638.2602	Removing Signs Type II	EACH	7.000	7.000
0130	638.3000	Removing Small Sign Supports	EACH	7.000	7.000
0132	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
0134	642.5001	Field Office Type B	EACH	0.500	0.500
0136	643.0300	Traffic Control Drums	DAY	5,490.000	5,490.000
0138	643.0420	Traffic Control Barricades Type III	DAY	920.000	920.000
0140	643.0705	Traffic Control Warning Lights Type A	DAY	1,150.000	1,150.000
0142	643.0900	Traffic Control Signs	DAY	1,265.000	1,265.000
0144	643.5000	Traffic Control	EACH	0.500	0.500
0146	645.0111	Geotextile Type DF Schedule A	SY	165.000	165.000
0148	645.0120	Geotextile Type HR	SY	225.000	225.000
0150	645.0135	Geotextile Type SR	SY	2,890.000	2,890.000
0154	650.4500	Construction Staking Subgrade	LF	459.000	459.000
0156	650.5000	Construction Staking Base	LF	459.000	459.000
0158	650.6500	Construction Staking Structure Layout (structure) 01. B-12-250	LS	1.000	1.000
0162	650.9910	Construction Staking Supplemental Control (project) 01. 5325-00-72	LS	1.000	1.000
0166	650.9920	Construction Staking Slope Stakes	LF	459.000	459.000
0168	690.0150	Sawing Asphalt	LF	225.000	225.000
0170	715.0502	Incentive Strength Concrete Structures	DOL	972.000	972.000
0174	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0176	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0178	SPV.0180	Special 01. Establish Wetlands	SY	170.000	170.000

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

3

CLEARING & GRUBBING

STATION - STATION	LOCATION	201.0105 CLEARING (STA)	201.0205 GRUBBING (STA)
10+25 - 13+25	MAINLINE	3	3
	TOTAL =	3	3

EARTHWORK SUMMARY

STATION - STATION	LOCATION	205.0100 COMMON EXCAVATION CUT (1) (CY)	AVAILABLE MATERIAL (CY) (2)	205.0400 EXCAVATION MARSH (3) (CY)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25	MASS ORDINATE +/- (4) (CY)	208.0100 BORROW (CY)	WASTE (CY)
10+00-13+50	MAINLINE (TILLER) - STAGE 1	212	212	0	2624	3280	-3068	-3068	0
10+00-12+00 (MARSH)	MAINLINE (TILLER) - STAGE 1	0	0	700	0	0	0	0	0
10+00-13+50	MAINLINE (TILLER) - STAGE 2	1599	1599	0	0	0	1599	0	1599
1+27-3+00	CTH H - STAGE 1	76	76	0	258	323	-247	-247	0
1+27-3+90	CTH H - STAGE 2	113	113	0	0	0	113	0	113
	TOTALS =	2000	2000	700	2882	3603	-1603	-3315	1712

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT, ITEM NUMBER 205.0100
2.) AVAILABLE MATERIAL = CUT
3). MARSH EXCAVATION - AREA TO BE WRAPPED WITH GEOTEXTILE TYPE SR AND BACKFILLED WITH SELECT CRUSHED MATERIAL, USE EXCAVATED MARSH MATERIAL FOR ESTABLISH WETLANDS ITEM SPV.0180.01
4.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION

3

SPRING DRAIN

STATION - STATION	LOCATION	DESCRIPTION	209.0300.S COARSE AGGREGATE NO. 2 (CY)	*305.0120 BASE AGGREGATE DENSE 1 1/4 - INCH (TON)	645.0111 GEOTEXTILE TYPE DF SCHEDULE A (SY)
1'H'+64 - 2'H'+10	CTH H, RT.	SPRING DRAIN	50	20	65
		TOTAL =	50	20	65

*MORE LISTED ELSEWHERE

BASE AGGREGATE DENSE / BREAKER RUN / GEOTEXTILE TYPE SR

STATION - STATION	LOCATION	DESCRIPTION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	*305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON) STAGE 1	*305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON) STAGE 2	311.0110 BREAKER RUN (TON) STAGE 1	311.0110 BREAKER RUN (TON) STAGE 2	*645.0135 GEOTEXTILE TYPE SR (SY) STAGE 1	*645.0135 GEOTEXTILE TYPE SR (SY) STAGE 2
1'H'+27 - 2'H'+02	CTH H, RT.	-	8	36	-	43	-	105	-
3'H'+25 - 3'H'+90	CTH H, RT.	-	8	-	24	-	32	-	75
10+00 - 13+57	MAINLINE	-	56	516	84	537	88	1380	220
13+23	MAINLINE, LT.	F.E.	14	-	-	-	-	-	-
13+36	MAINLINE, RT.	F.E.	14	-	-	-	-	-	-
	SUBTOTALS =			552	108	580	120	1,485	295
	TOTALS =		100	660		700		1,780	

*MORE LISTED ELSEWHERE

MARSH BACKFILL

STATION - STATION	LOCATION	DESCRIPTION	312.0110 SELECT CRUSHED MATERIAL (TON)	*645.0135 GEOTEXTILE TYPE SR (SY)
10+00 - 12+00	MAINLINE	MARSH BACKFILL	1700	1110
	TOTAL =		1700	1110

*MORE LISTED ELSEWHERE

ASPHALTIC SURFACE

CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
030	1'H'+27 - 2'H'+02	CTH H, RT.	2	7
030	3'H'+25 - 3'H'+47	CTH H, RT.	1	3
030	10+00 - 10+39	MAINLINE	17	75
010	10+39 - 11+78	MAINLINE	15	70
030	11+78 - 13+50	MAINLINE	19	85
		TOTALS =	54	240

CULVERT PIPE

STATION - STATION	LOCATION	520.1015 APRON ENDWALLS 15-INCH (EACH)	520.3315 CLASS III-A 15-INCH (LF)
13+36	MAINLINE,F.E.	2	24
	TOTALS =	2	24

PIPE SIZE	MINIMUM THICKNESS (IN.) STEEL	MINIMUM THICKNESS (IN.) ALUMINUM
15-INCH	0.064	0.060

WATER

LOCATION	624.0100 (MGAL)
PROJECT	12
TOTAL =	12

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	628.2027 EROSION MAT CLASS II TYPE C (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	*630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0300 SEEDING BORROW PIT (LB)	630.0500 SEED WATER (MGAL)
1'H'+27 - 3'H'+90	CTH H, RT.	600	600	-	0.5	20	-	-	-	16
10+00 - 13+50	MAINLINE	2240	1840	400	1.5	65	4	-	-	60
-	BORROW PIT	-	-	-	1.5	-	-	-	52	44
-	UNDISTRIBUTED	710	610	100	0.5	25	1	110	-	-
	TOTALS=	3550	3050	500	4	110	5	110	52	120

*ALL AREAS ADJACENT TO EXISTING WETLANDS (STA 10+47-STA 11+65 LT & RT, AND STA 12+76-STA 13+17 LT) AND THE ESTABLISHED WETLAND AREAS

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
10+00 - 12+50	MAINLINE, RT.	410	820
10+00 - 12+50	MAINLINE, LT.	360	720
	UNDISTRIBUTED	190	380
	TOTALS =	960	1920

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

3

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
5325-00-72	4	2
TOTALS =	4	2

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
12+30	TILLER RD, MAINLINE, RT.	8
12+35	TILLER RD, MAINLINE, LT.	8
12+90	TILLER RD, MAINLINE, RT.	8
13+00	TILLER RD, MAINLINE, LT.	8
	TOTAL =	32

MARKERS ROW

PT #	STATION	LOCATION	OFFSET FROM FINISHED C/L FT	633.5100 MARKERS ROW (EACH)
100	13+50.00	MAINLINE, RT.	30.77	1
101	13+23.00	MAINLINE, RT.	29.65	1
102	12+45.00	MAINLINE, RT.	31.00	1
103	11+95.00	MAINLINE, RT.	31.00	1
104	11+50.00	MAINLINE, RT.	43.00	1
105	11+25.00	MAINLINE, RT.	34.00	1
106	10+80.00	MAINLINE, RT.	34.00	1
107	10+50.00	MAINLINE, RT.	55.00	1
108	10+30.00	MAINLINE, RT.	71.00	1
109	10+14.00	MAINLINE, RT.	141.00	1
110	10+11.00	MAINLINE, RT.	142.93	1
111	10+22.84	MAINLINE, LT.	6.61	1
112	10+29.69	MAINLINE, LT.	55.61	1
113	11+80.00	MAINLINE, LT.	46.61	1
114	13+10.66	MAINLINE, LT.	39.82	1
115	13+50.00	MAINLINE, LT.	35.23	1
		TOTAL=		16

SAWING ASPHALT

STATION	LOCATION	690.0150 (LF)
1'H'+27 - 3'H'+47	CTH H, RT.	225
	TOTAL =	225

3

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
13+50	TILLER RD, MAINLINE, RT.	1
	TOTAL =	1

TUBIDITY BARRIER

LOCATION	628.6005 (SY)
MAINLINE, EXISTING BRIDGE - WEST BANK	60
MAINLINE, EXISTING BRIDGE - EAST BANK	50
TOTALS =	110

ESTABLISH WETLANDS

LOCATION	SPV.0180.01 (SY)
MAINLINE	170
TOTAL =	170

PERMANENT SIGNING

APPROX. STATION	POSITION	SITE ID	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE (INXIN)	634.0612 POSTS WOOD 4X6 INCH 12 FT (EACH)	634.0614 POSTS WOOD 4X6 INCH 14 FT (EACH)	637.2210 SIGNS TYPE II REFLECTIVE H (S.F.)	637.2230 SIGNS TYPE II REFLECTIVE F (S.F.)	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
3'H'+02	RIGHT	CTH H	W1-6L	LEFT ARROW	---	48X24	---	---	---	---	---	1	1	---
3'H'+02	RIGHT	CTH H	-	STREET SIGN	TILLER ROAD	---	---	---	---	---	1	---	---	1
3'H'+06	RIGHT	CTH H	W1-6L	LEFT ARROW	---	48X24	---	1	---	8.00	---	---	---	---
3'H'+77	RIGHT	CTH H	R1-1	STOP	---	30X30	---	---	---	---	---	1	1	---
10+53	LEFT	MAINLINE	R1-1	STOP	---	30X30	---	1	5.18	---	---	---	---	---
10+83	RIGHT	MAINLINE	W5-52R	BRIDGE HASH MARKS	RIGHT	12X36	1	---	---	3.00	---	---	---	---
10+87	LEFT	MAINLINE	W5-52-L	BRIDGE HASH MARKS	LEFT	12X36	1	---	---	3.00	---	---	---	---
11+05	LEFT	MAINLINE	R12-1	WEIGHT LIMIT __ TONS	10	24X30	---	---	---	---	---	1	1	---
11+08	LEFT	MAINLINE	W5-52-R	BRIDGE HASH MARKS	RIGHT	12X36	---	---	---	---	---	1	1	---
11+11	LEFT	MAINLINE	W5-52-L	BRIDGE HASH MARKS	LEFT	12X36	---	---	---	---	---	1	1	---
11+29	RIGHT	MAINLINE	W5-52-L	BRIDGE HASH MARKS	LEFT	12X36	1	---	---	3.00	---	---	---	---
11+37	LEFT	MAINLINE	W5-52-R	BRIDGE HASH MARKS	RIGHT	12X36	1	---	---	3.00	---	---	---	---
11+45	LEFT	MAINLINE	W5-52-L	BRIDGE HASH MARKS	LEFT	12X36	---	---	---	---	---	1	1	---
11+60	LEFT	MAINLINE	W5-52-R	BRIDGE HASH MARKS	RIGHT	12X36	---	---	---	---	---	1	1	---
PROJECT TOTALS							4	2	5.18	20.00	1	7	7	1

TRAFFIC CONTROL

LOCATION	643.0300 DRUMS (DAYS) STAGE 1	643.0300 DRUMS (DAYS) STAGE 2	643.0420 BARRICADES TYPE III (DAYS) STAGE 1	643.0420 BARRICADES TYPE III (DAYS) STAGE 2	643.0705 WARNING LIGHTS TYPE A (DAY) STAGE 1	643.0705 WARNING LIGHTS TYPE A (DAY) STAGE 2	643.0900 SIGNS (DAYS) STAGE 1	643.0900 SIGNS (DAYS) STAGE 2	643.5000 TRAFFIC CONTROL (EACH)
PROJECT	-	-	-	-	-	-	-	-	0.5
MAINLINE	3,450	2,040	600	320	750	400	825	440	-
SUBTOTALS =	3,450	2,040	600	320	750	400	825	440	0.5
TOTALS=	5,490		920		1,150		1,265		0.5

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	*650.6500 STRUCTURE LAYOUT (LS)	650.9910 SUPPLEMENTAL CONTROL 01. 5325-00-72 (LS)	650.9920 SLOPE STAKES (LF)
1'H'+27 - 2'H'+02	CTH H, RT.	75	75	-	-	75
3'H'+24 - 3'H'+90	CTH H, RT.	66	66	-	-	66
10+00 - 10+89	MAINLINE	89	89	-	-	89
11+27 - 13+57	MAINLINE	229	229	-	-	229
	PROJECT	-	-	1	1	
	TOTALS =	459	459	1	1	459

*CATEGORY 020

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\TILLER ROAD - MISC QUANTITIES.DWG
LAYOUT : 15

PLOT DATE : 9/29/2020
PLOT TIME : 9:46:07 AM
PLOT BY : ANGIE CLARY
PLOT SCALE : 1" = 1'

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5325-00-02	4.01	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

TOWN OF CLAYTON, TILLER ROAD

(PIGEON RUN CREEK BRIDGE B-12-0250)

TOWN ROAD — CRAWFORD COUNTY

CONSTRUCTION PROJECT NUMBER
5325-00-72

CONVENTIONAL ABBREVIATIONS

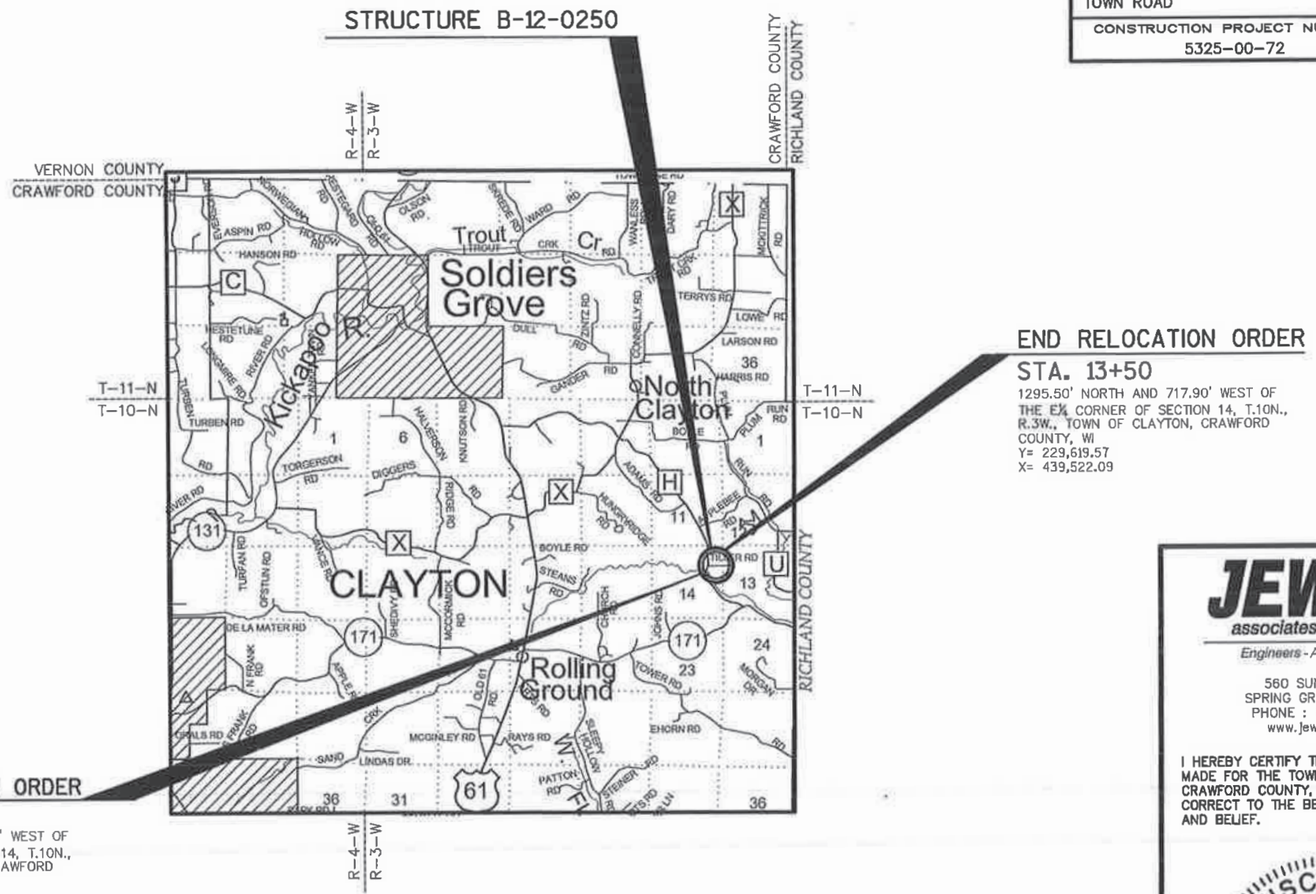
ACCESS POINT/ DRIVEWAY CONNECTION	AP	PROPERTY LINE	PL
ACCESS RIGHTS	AR	RECORDED AS	(100')
ACRES	AC.	REFERENCE LINE	R/L
AND OTHERS	ET.AL.	RELEASE OF RIGHTS	ROR
BARN	B.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	SHED	S.
CONVEYANCE OF RIGHTS	CR	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
GARAGE	G.		
HIGHWAY EASEMENT	H.E.	CURVE DATA	
HOUSE	H.	LONG CHORD	LCH
HOUSE TRAILER	H.T.	LONG CHORD BEARING	LCB
LAND CONTRACT	LC	RADIUS	R
MONUMENT	MON.	DEGREE OF CURVE	D
PAGE	P.	CENTRAL ANGLE OR DELTA	DELTA
PERMANENT LIMITED EASEMENT	PLE	LENGTH OF CURVE	L
		TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND SURVEY MONUMENT (WITH POINT NUMBER)	o 1040	PROPOSED R/W LINE	
R/W MONUMENT	o ● (SET)	EXISTING H.E. LINE	
R/W STANDARD	△ ▲ (SET)	PROPERTY LINE	
SIGN	SIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT		SLOPE INTERCEPTS	
SECTION CORNER SYMBOL		CORPORATE LIMITS	
FEE (HATCH VARIES)		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY ACQUISITION)	
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
R/W BOUNDARY POINT	RWB2D	SECTION LINE	
PARCEL NUMBER	8	QUARTER LINE	
UTILITY PARCEL NUMBER	92	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)	21-1	EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	
		ENCROACHMENT	E TYPE
		HIGHWAY EASEMENT	

CONVENTIONAL UTILITY SYMBOLS

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



END RELOCATION ORDER

STA. 13+50

1295.50' NORTH AND 717.90' WEST OF THE E¼ CORNER OF SECTION 14, T.10N., R.3W., TOWN OF CLAYTON, CRAWFORD COUNTY, WI
Y= 229,619.57
X= 439,522.09

BEGIN RELOCATION ORDER

STA. 10+00

1228.34' NORTH AND 1040.38' WEST OF THE E¼ CORNER OF SECTION 14, T.10N., R.3W., TOWN OF CLAYTON, CRAWFORD COUNTY, WI
Y= 229,552.41
X= 439,199.61

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, CRAWFORD COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

N

LAYOUT

SCALE 0 2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.066 MI.

JEWELL
associates engineers, inc.
Engineers - Architects - Surveyors

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE : 608.588.7484
www.jewellssoc.com

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FOR THE TOWN OF CLAYTON, CRAWFORD COUNTY, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
SCOTT D. WARNER
S-2524
RICHLAND CENTER
WI
02-20-2020
LAND SURVEYOR

REVISION DATE

APPROVED FOR THE TOWN OF CLAYTON
DATE: 6/9/2020 (NAME/TITLE)

E

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE ACRES REQ.
			NEW	EXISTING	TOTAL	
1	KAY JONES, NANCY HELT, DOUGLAS WALLIN, LINDA SPROSTY, KATHLEEN WALLIN–SOBEK, AND CAROLYN ENESS, AS TENANTS IN COMMON, SUBJECT TO THE LIFE ESTATE INTERESTS RESERVED BY PAUL J. WALLIN AND NONA M. WALLIN	FEE	0.49	0.14	0.63	--
2	LEEWARD FARMS, LLC, A NEVADA LIMITED LIABILITY COMPANY	FEE	--	0.02	0.02	--
201	CENTURYLINK	RELEASE OF RIGHTS				
202	RICHLAND ELECTRIC COOPERATIVE	RELEASE OF RIGHTS				

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM THE TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN OF CLAYTON.

ENCROACHMENT TABLE			
ENCROACHMENT	PROPERTY OWNER	LOCATION (STATION/OFFSET)	ENCROACHMENT TYPE
E–1	LEEWARD FARMS, LLC, A NEVADA LIMITED LIABILITY COMPANY	STA. 12+50 – STA. 12+85, 39.3'–75.2' LT.	BLDG. FOUNDATION TO REMAIN
E–2	KAY JONES, NANCY HELT, DOUGLAS WALLIN, LINDA SPROSTY, ET AL.	STA. 13+19, 17.5' RT.	FENCE POST

TOWN OF CLAYTON

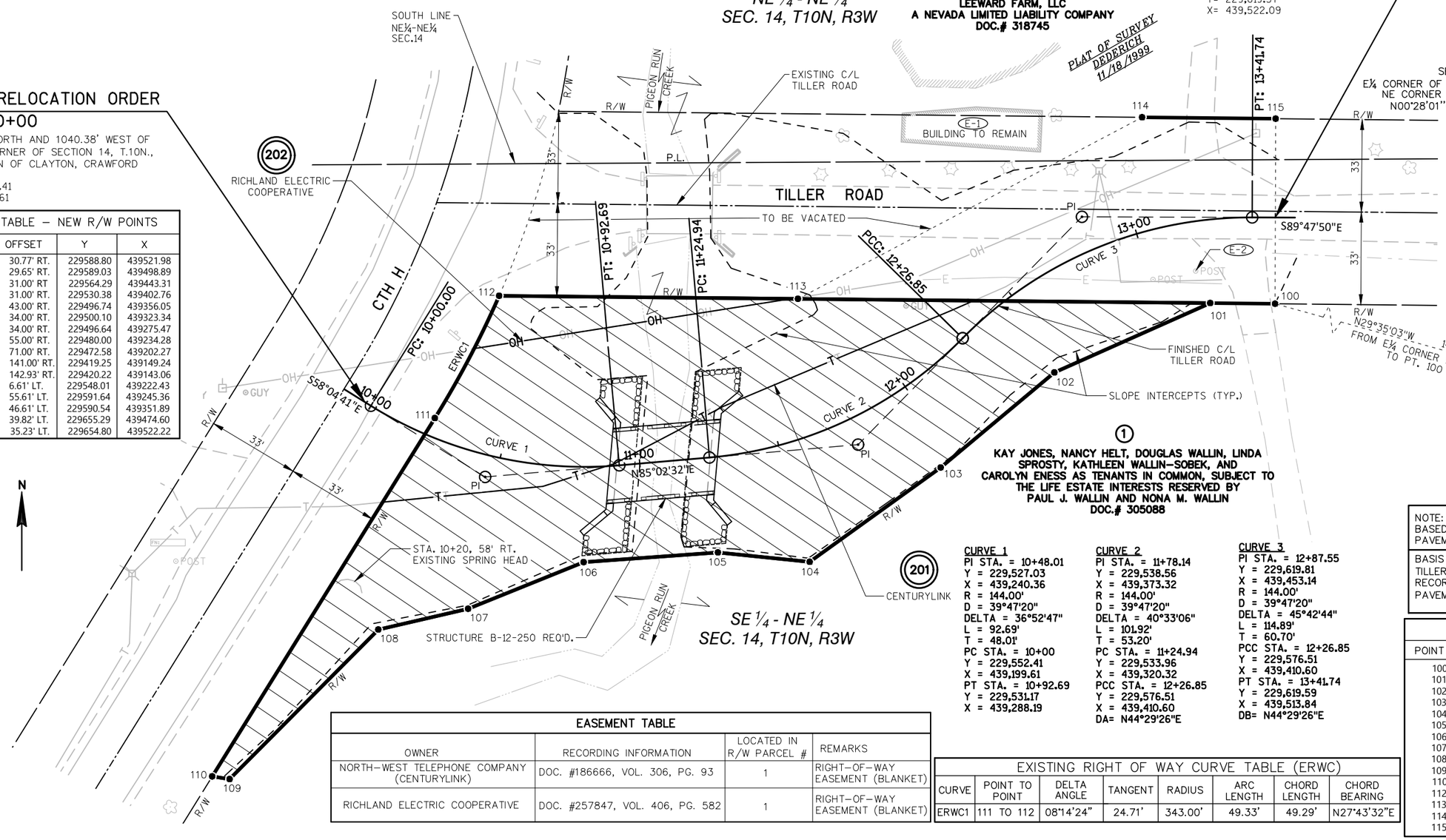
BEGIN RELOCATION ORDER
STA. 10+00
1228.34' NORTH AND 1040.38' WEST OF THE E¼ CORNER OF SECTION 14, T.10N., R.3W., TOWN OF CLAYTON, CRAWFORD COUNTY, WI
Y= 229,552.41
X= 439,199.61

END RELOCATION ORDER
STA. 13+50
1295.50' NORTH AND 717.90' WEST OF THE E¼ CORNER OF SECTION 14, T.10N., R.3W., TOWN OF CLAYTON, CRAWFORD COUNTY, WI
Y= 229,619.57
X= 439,522.09

NE CORNER SEC. 14
FOUND BROKEN HARRISON MONUMENT
Y = 230,963.83
X = 440,218.47

E¼ CORNER SEC. 14
FOUND BRASS CAPPED MONUMENT
Y = 228,324.07
X = 440,239.99

COORDINATE TABLE – NEW R/W POINTS				
PT.#	STATION	OFFSET	Y	X
100	13+50.00	30.77' RT.	229588.80	439521.98
101	13+23.00	29.65' RT.	229589.03	439498.89
102	12+45.00	31.00' RT	229564.29	439443.31
103	11+95.00	31.00' RT.	229530.38	439402.76
104	11+50.00	43.00' RT.	229496.74	439356.05
105	11+25.00	34.00' RT.	229500.10	439323.34
106	10+80.00	34.00' RT.	229496.64	439275.47
107	10+50.00	55.00' RT.	229480.00	439234.28
108	10+30.00	71.00' RT.	229472.58	439202.27
109	10+14.00	141.00' RT.	229419.25	439149.24
110	10+11.00	142.93' RT.	229420.22	439143.06
111	10+22.84	6.61' LT.	229548.01	439222.43
112	10+29.69	55.61' LT.	229591.64	439245.36
113	11+80.00	46.61' LT.	229590.54	439351.89
114	13+10.66	39.82' LT.	229655.29	439474.60
115	13+50.00	35.23' LT.	229654.80	439522.22



CURVE 1
PI STA. = 10+48.01
Y = 229,527.03
X = 439,240.36
R = 144.00'
D = 39°47'20"
DELTA = 36°52'47"
L = 92.69'
T = 48.01'
PC STA. = 10+00
Y = 229,552.41
X = 439,199.61
PT STA. = 10+92.69
Y = 229,531.17
X = 439,288.19

CURVE 2
PI STA. = 11+78.14
Y = 229,538.56
X = 439,373.32
R = 144.00'
D = 39°47'20"
DELTA = 40°33'06"
L = 101.92'
T = 53.20'
PC STA. = 11+24.94
Y = 229,533.96
X = 439,320.32
PCC STA. = 12+26.85
Y = 229,576.51
X = 439,410.60
DA= N44°29'26"E

CURVE 3
PI STA. = 12+87.55
Y = 229,619.81
X = 439,453.14
R = 144.00'
D = 39°47'20"
DELTA = 45°42'44"
L = 114.89'
T = 60.70'
PCC STA. = 12+26.85
Y = 229,576.51
X = 439,410.60
PT STA. = 13+41.74
Y = 229,619.59
X = 439,513.84
DB= N44°29'26"E

NOTE: EXISTING C/L OF TILLER ROAD WAS BASED ON CENTERLINE OF EXISTING PAVEMENT.

BASIS OF EXISTING RIGHT–OF–WAY FOR TILLER ROAD WAS BASED ON COUNTY/TOWN RECORDS, THE CENTERLINE OF EXISTING PAVEMENT, AND WIS. STATUTE 82.31(2).

RIGHT OF WAY LINE TABLE		
POINT TO POINT	BEARING	DISTANCE
100 TO 101	N89°24'41"W	23.10'
101 TO 102	S65°59'57"W	60.84'
102 TO 103	S50°05'37"W	52.85'
103 TO 104	S54°14'03"W	57.57'
104 TO 105	N84°08'13"W	32.89'
105 TO 106	S85°52'00"W	48.00'
106 TO 107	S68°00'36"W	44.42'
107 TO 108	S76°56'54"W	32.86'
108 TO 109	S44°50'14"W	75.21'
109 TO 110	N81°04'08"W	6.25'
110 TO 111	N31°50'44"E	150.43'
112 TO 113	S89°24'41"E	106.53'
113 TO 114	N62°10'58"E	138.74'
114 TO 115	S89°24'41"E	47.62'
115 TO 100	S00°12'10"W	66.00'

EASEMENT TABLE			
OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL #	REMARKS
NORTH–WEST TELEPHONE COMPANY (CENTURYLINK)	DOC. #186666, VOL. 306, PG. 93	1	RIGHT–OF–WAY EASEMENT (BLANKET)
RICHLAND ELECTRIC COOPERATIVE	DOC. #257847, VOL. 406, PG. 582	1	RIGHT–OF–WAY EASEMENT (BLANKET)

EXISTING RIGHT OF WAY CURVE TABLE (ERWC)							
CURVE	POINT TO POINT	DELTA ANGLE	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
ERWC1	111 TO 112	08°14'24"	24.71'	343.00'	49.33'	49.29'	N27°43'32"E

REVISION DATE	DATE	SCALE, FEET 0 20 40	HWY: TILLER ROAD	R/W PROJECT NUMBER: 5325–00–02	PLAT SHEET 4.02
	GRID FACTOR		COUNTY: CRAWFORD	CONSTRUCTION PROJECT NUMBER: 5325–00–72	PS&E SHEET 17 E

CURVE 1	CURVE 2	CURVE 3	CURVE 4 (CTH H)
PI STA. = 10+48.01	PI STA. = 11+78.14	PI STA. = 12+87.55	PI STA. = 3'H'+42.12
Y = 229,527.03	Y = 229,538.56	Y = 229,619.81	Y = 229,622.94
X = 439,240.36	X = 439,373.32	X = 439,453.14	X = 439,230.58
R = 144.00	R = 144.00	R = 144.00	R = 297.45
D = 39°47'20"	D = 39°47'20"	D = 39°47'20"	D = 19°15'45"
DELTA = 36°52'47"	DELTA = 40°33'06"	DELTA = 45°42'44"	DELTA = 25°40'20"
L = 92.69	L = 101.92	L = 114.89	L = 133.28
T = 48.01	T = 53.20	T = 60.70	T = 67.78
C = 91.10	C = 99.80	C = 111.86	C = 132.16
PC STA. = 10+00	PC STA. = 11+24.94	PC STA. = 12+26.85	PC STA. = 2'H'+74.35
Y = 229,552.41	Y = 229,533.96	Y = 229,576.51	Y = 229,565.42
X = 439,199.61	X = 439,320.32	X = 439,410.60	X = 439,194.75
PT STA. = 10+92.69	PT STA. = 12+26.85	PT STA. = 13+41.74	PT STA. = 4'H'+07.62
Y = 229,531.17	Y = 229,576.51	Y = 229,619.59	Y = 229,690.31
X = 439,288.19	X = 439,410.60	X = 439,513.84	y = 439,247.98
SE = SEE S.E. TABLE	SE = SEE S.E. TABLE	SE = SEE S.E. TABLE	SE = N/A
RO = N/A	RO = N/A	RO = N/A	RO = N/A
SE TRANS = N/A	SE TRANS = N/A	SE TRANS = N/A	SE TRANS = N/A

PAUL & NONA WALLIN
LF EST.

STA. 2+11, LT.
P.E. TO REMAIN

BM 3

BEGIN CONSTRUCTION
STA. 1'H'+27

CTH H

(ASPHALT)

FINISHED C/L
CTH H

CURVE 4

N06°14'59"E

3'H'+00

2'H'+00

1+00

90°00'00"

PC: 10+00.00

N31°55'19"E

S58°04'41"E

CURVE 1

N85°02'32"E

11+00

PT: 10+92.69

PC: 11+24.94

12+00

CURVE 2

PRC: 12+26.85

STA. 10+20, 58' RT.
EXISTING SPRING HEAD
SEE SPRING DRAINAGE DETAIL

R/W

BEGIN PROJECT
STA. 10+00
Y= 229,552.41
X= 439,199.61

PIGEON RUN CREEK

STRUCTURE B-12-250 REQ'D.

REMOVING OLD STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS STA. 11+22
(P-12-905)
SINGLE-SPAN STEEL DECK GIRDER
STRUCTURE
19.0' CLEAR ROADWAY WIDTH
20.5' OVERALL DECK WIDTH
24.8' OVERALL LENGTH

LEEWARD FARM, LLC

STA. 13+23, LT.
CONSTRUCT F.E.
(B.A.D.)

BM 4

RICHLAND ELECTRIC
COOPERATIVE

EXISTING C/L
TILLER ROAD

33'

EXISTING BUILDING
FOUNDATION TO
REMAIN

CENTURYLINK

STA. 9+89.00 (TILLER RD)
STA. 2'H'+65.88 (CTH H)
INTERSECTION TYPE C (MOD) REQ'D.
SEE INTERSECTION DETAILS

BM 11

PT: 13+41.74

CURVE 3

13+00

S89°47'50"E

44°29'26"E

END CONSTRUCTION
STA. 13+57

(B.A.D.)

TILLER ROAD

BM 5

FINISHED C/L
TILLER ROAD

SLOPE INTERCEPTS

PAUL & NONA WALLIN
LF EST.

STA. 13+36, RT.
CONSTRUCT F.E.
(B.A.D.)

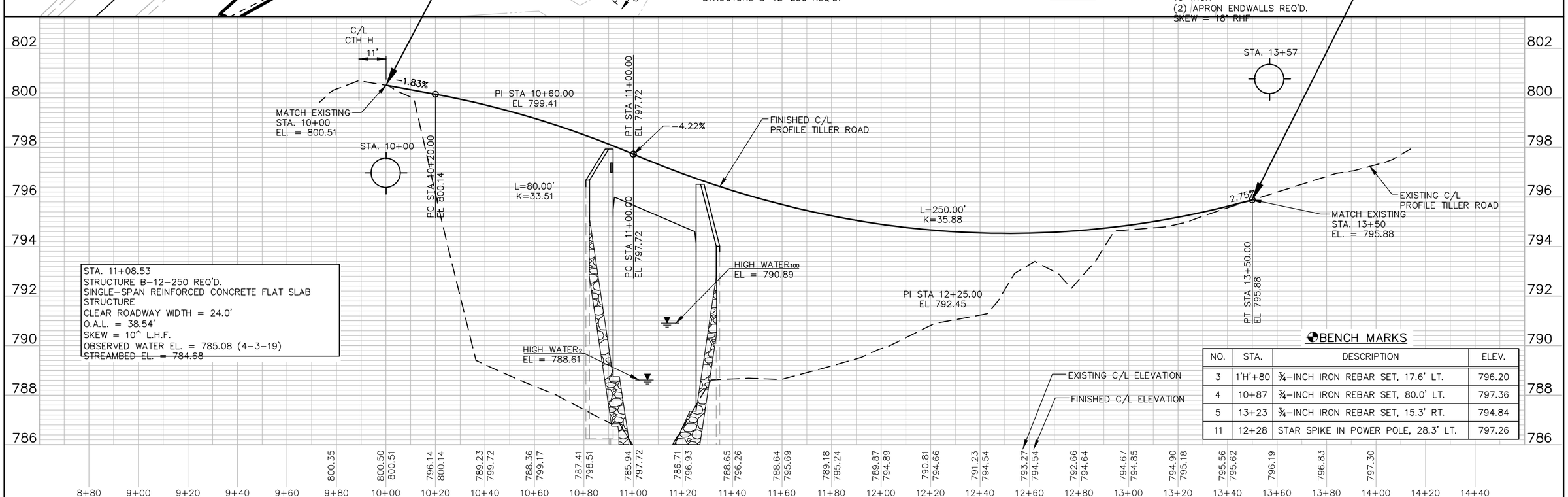
STA. 13+40, RT.
(1) CULVERT PIPE CLASS III-A
15-INCH
(2) APRON ENDWALLS REQ'D.
SKEW = 18° RHF

END PROJECT
STA. 13+50
Y= 229,619.57
X= 439,522.09

N

5

5



STA. 11+08.53
STRUCTURE B-12-250 REQ'D.
SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB STRUCTURE
CLEAR ROADWAY WIDTH = 24.0'
O.A.L. = 38.54'
SKEW = 10^ L.H.F.
OBSERVED WATER EL. = 785.08 (4-3-19)
STREAMBED EL. = 784.68

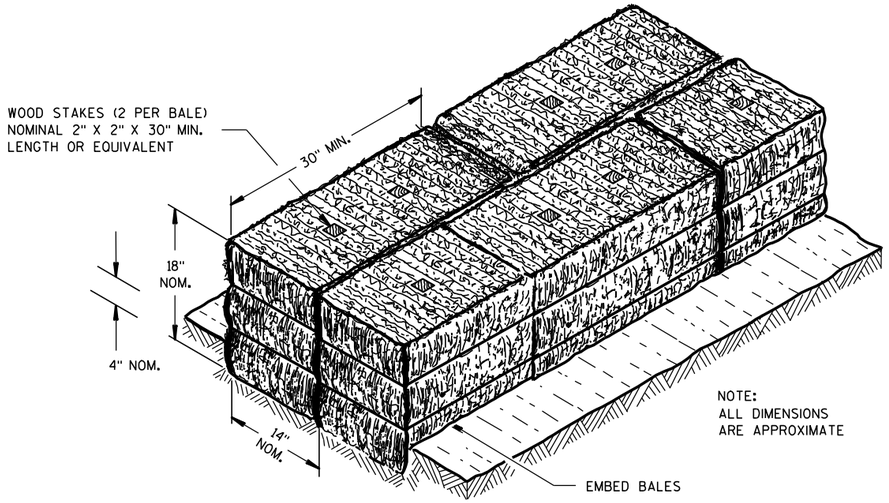
BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
3	1'H'+80	¾-INCH IRON REBAR SET, 17.6' LT.	796.20
4	10+87	¾-INCH IRON REBAR SET, 80.0' LT.	797.36
5	13+23	¾-INCH IRON REBAR SET, 15.3' RT.	794.84
11	12+28	STAR SPIKE IN POWER POLE, 28.3' LT.	797.26

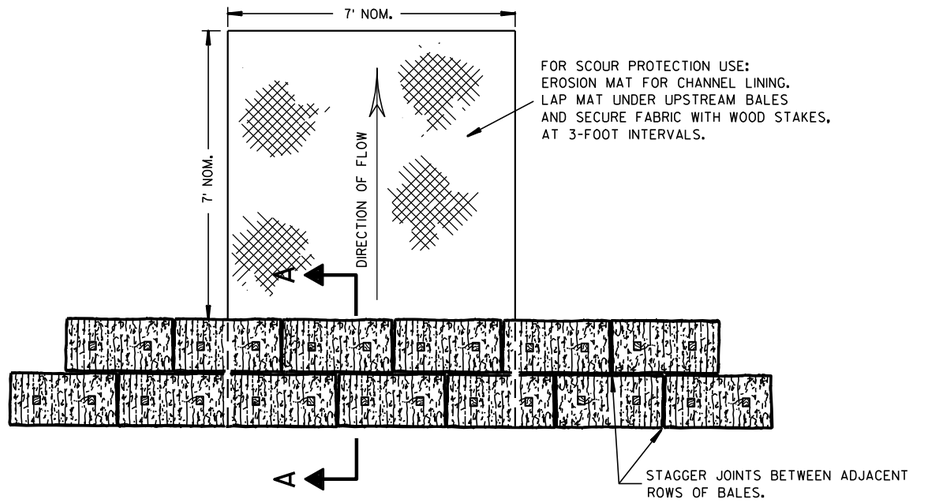
FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\SHEETSPLAN\PLAN & PROFILE SHEETS\P & P.DWG
LAYOUT :
PLOT DATE : 7/20/2020
PLOT TIME : 9:44:56 AM
PLOT BY : AUSTIN KASZUBSKI
PLOT SCALE : 1" = 1'

Standard Detail Drawing List

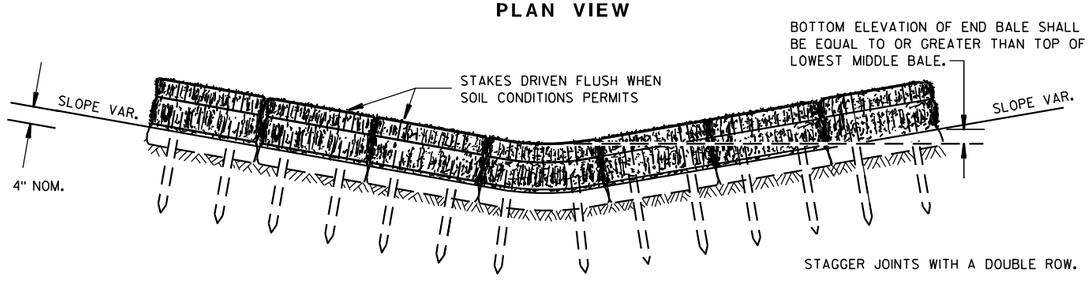
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



SECTION A-A



PLAN VIEW



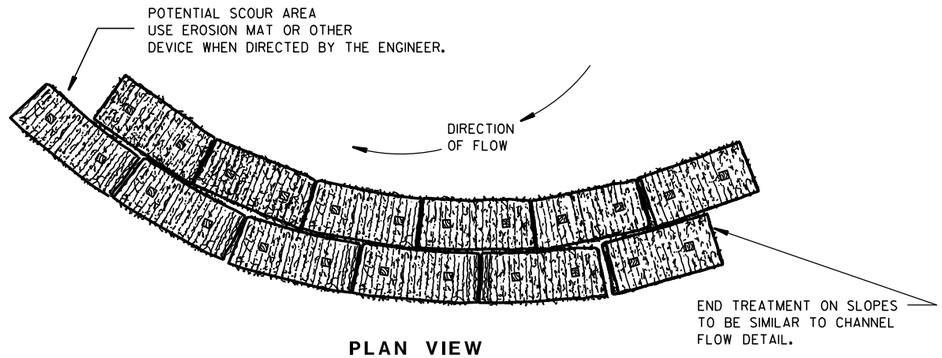
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

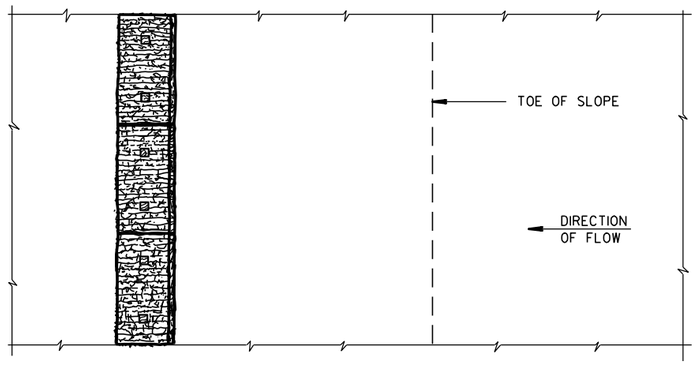
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

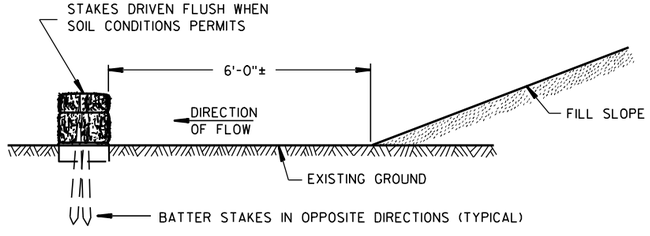


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

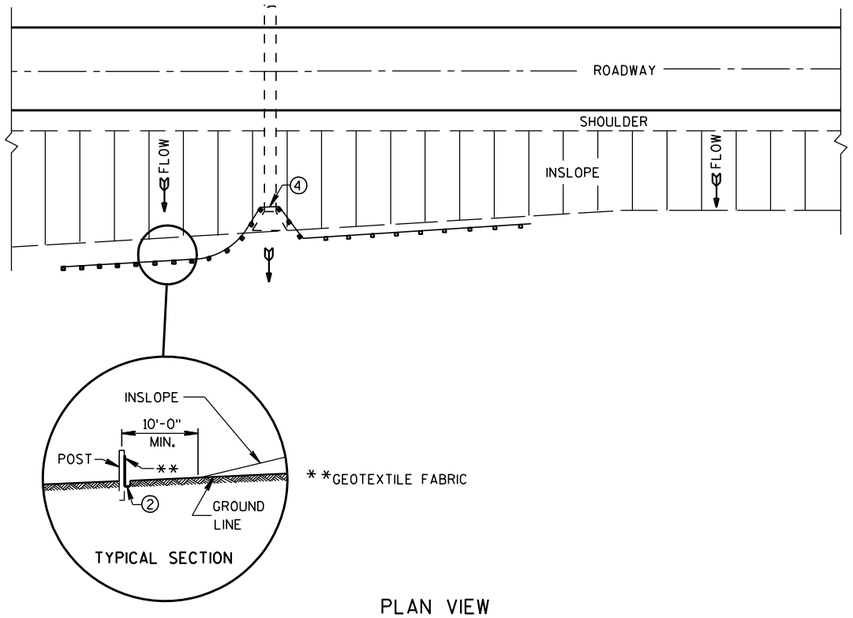
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

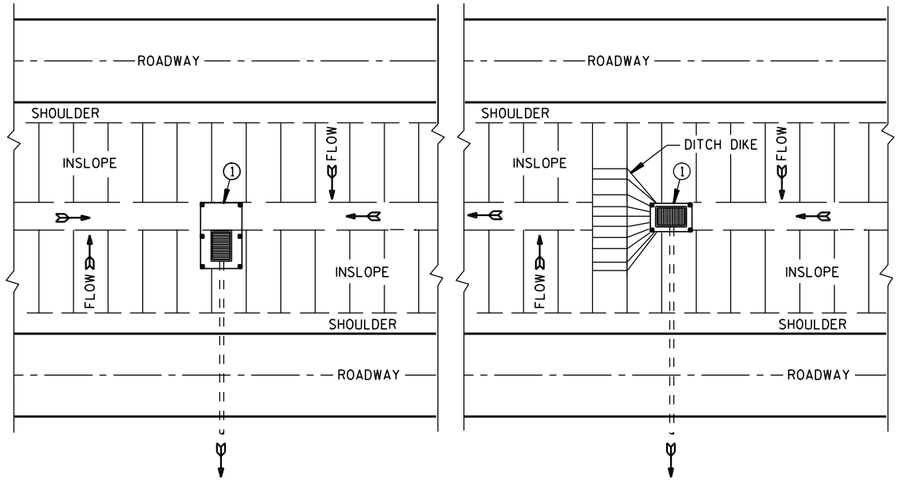
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



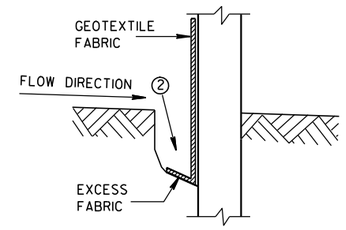
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

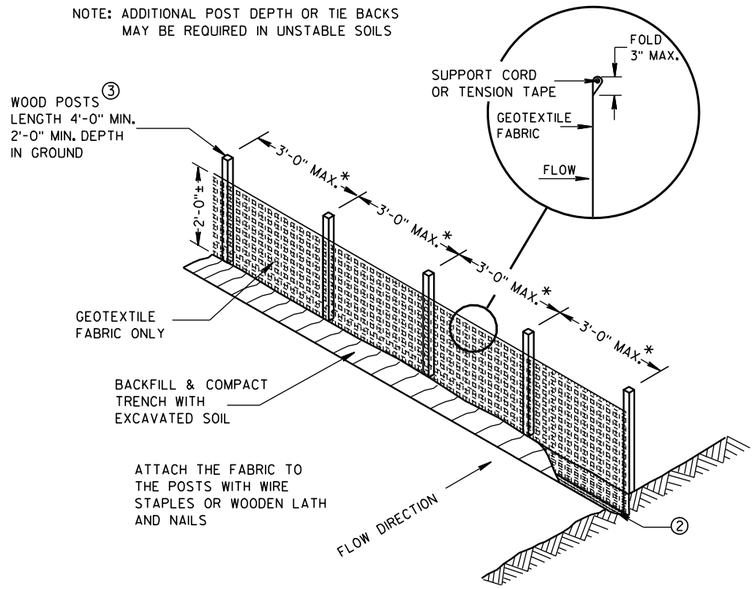
GENERAL NOTES

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

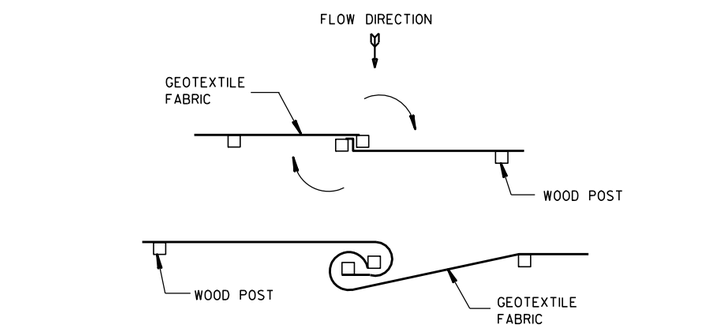
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



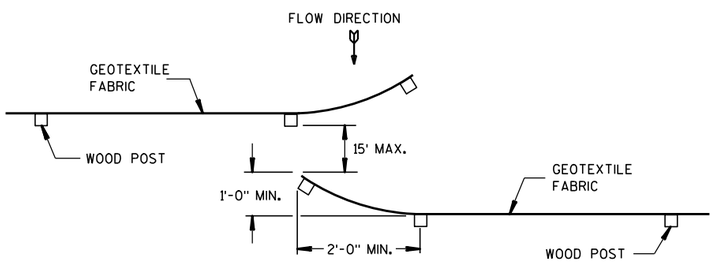
TRENCH DETAIL



SILT FENCE

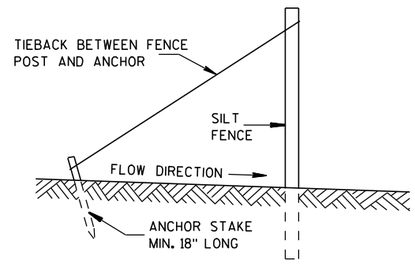


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

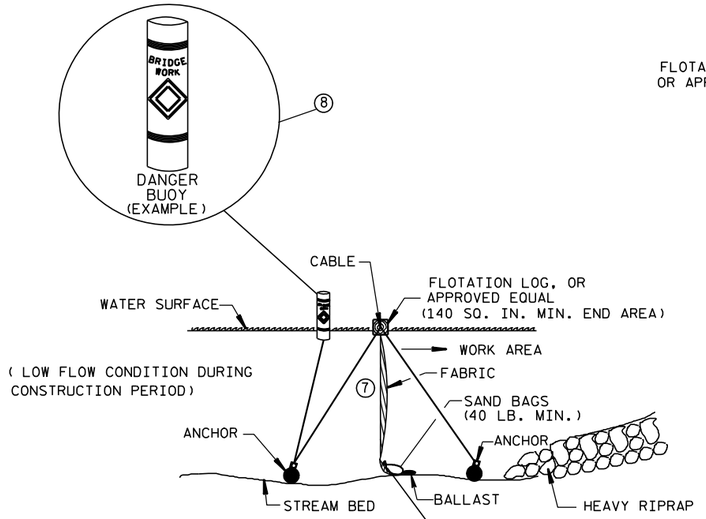
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

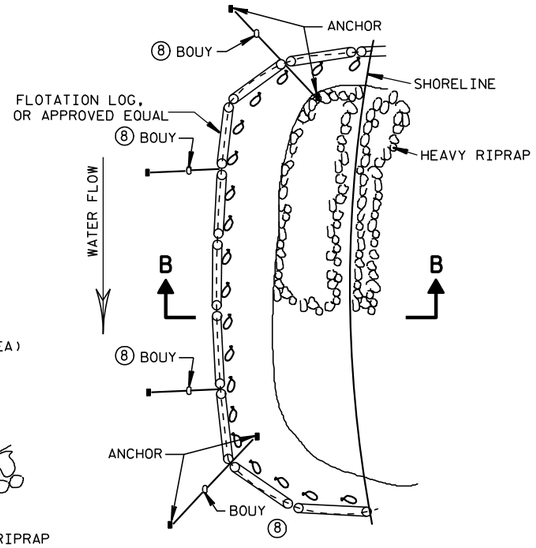
S.D.D. 8 E 9-6

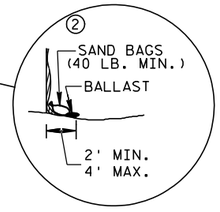
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S.D.D. 8 E 9-6

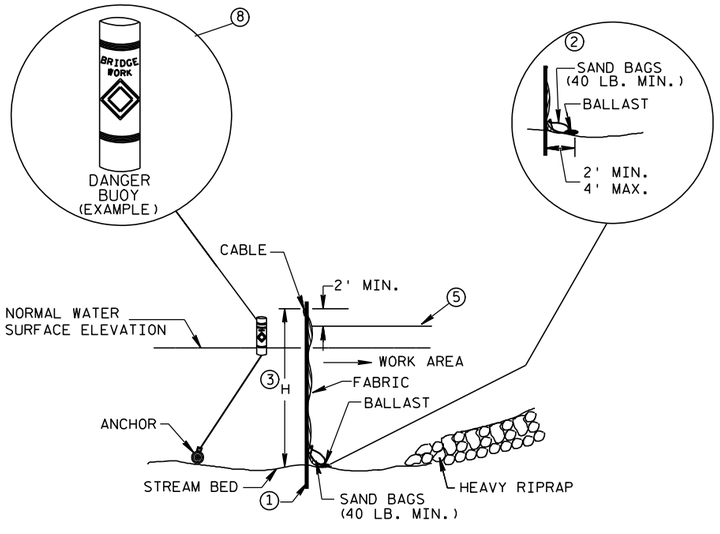


SECTION B-B

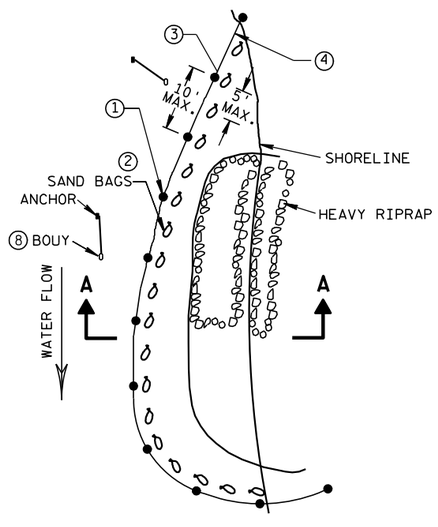




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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.

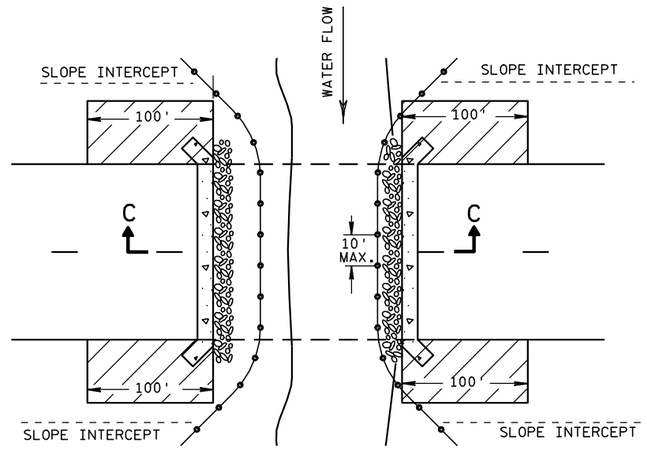
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

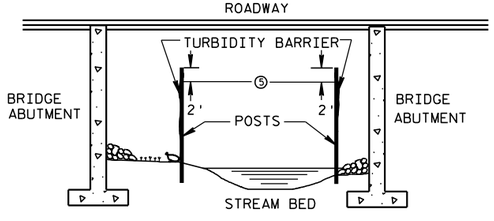
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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

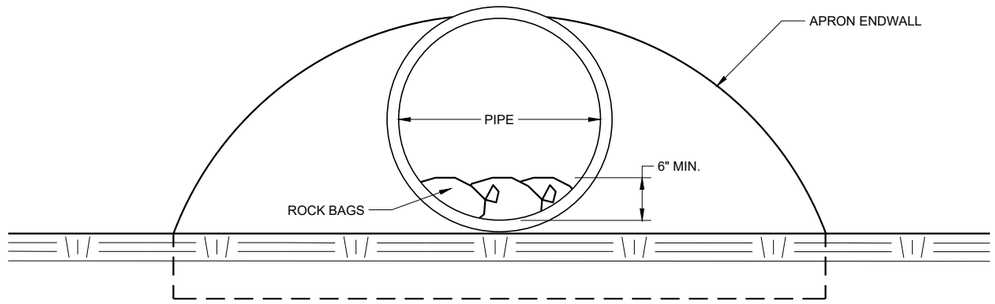
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

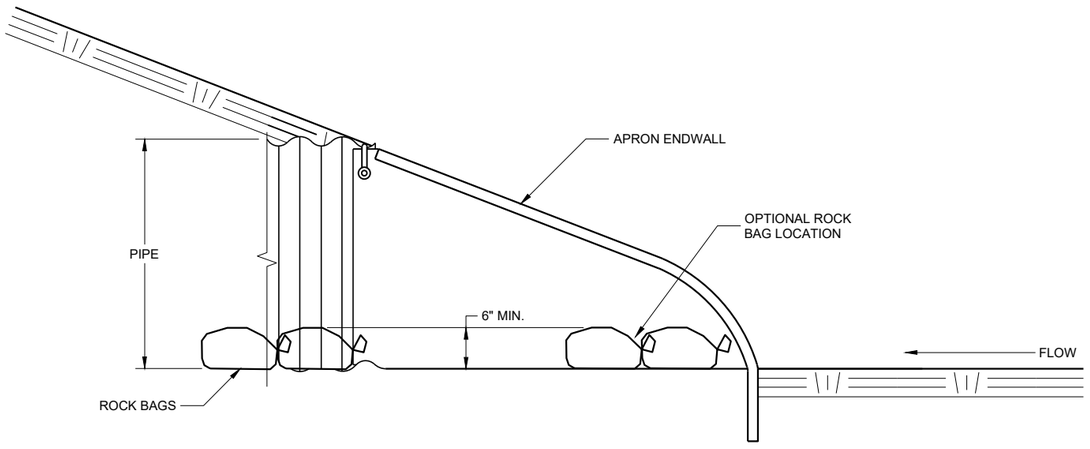
S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

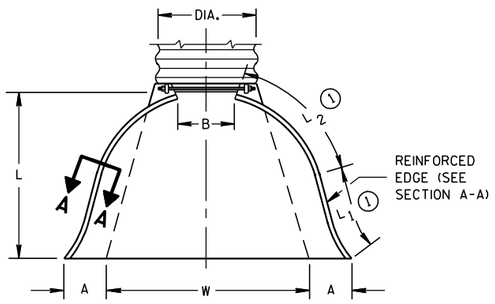
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

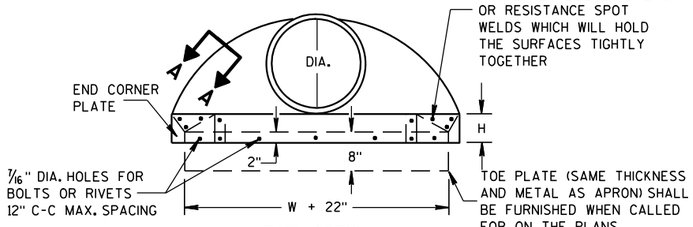
REINFORCED CONCRETE APRON ENDWALLS

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

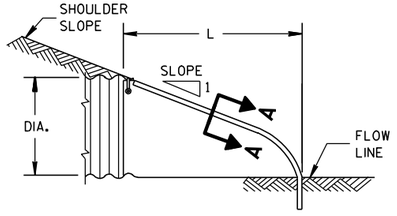
*MINIMUM
**MAXIMUM



PLAN VIEW

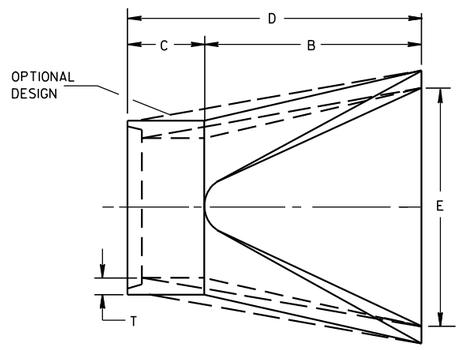


END VIEW

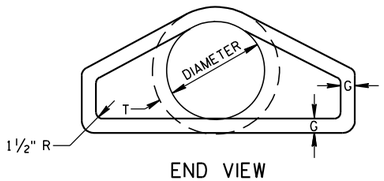


SIDE ELEVATION

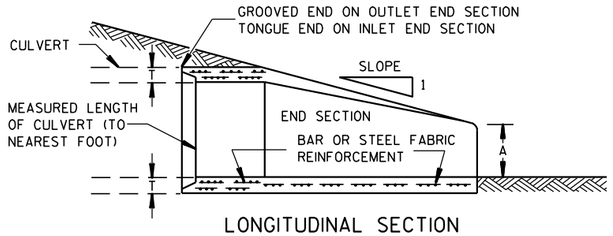
METAL ENDWALLS



PLAN

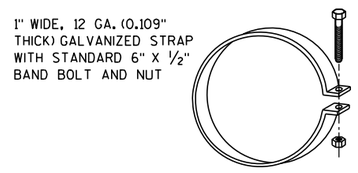


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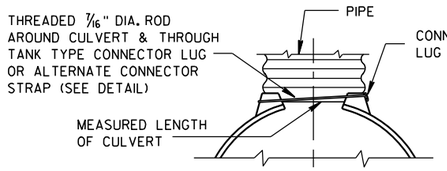
LONGITUDINAL SECTION

CONCRETE ENDWALLS

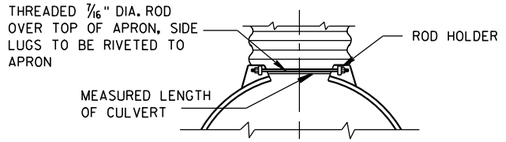


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

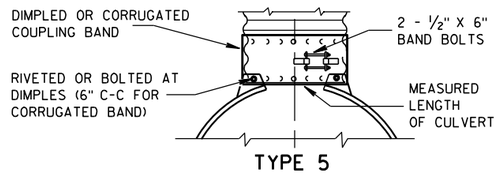


TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

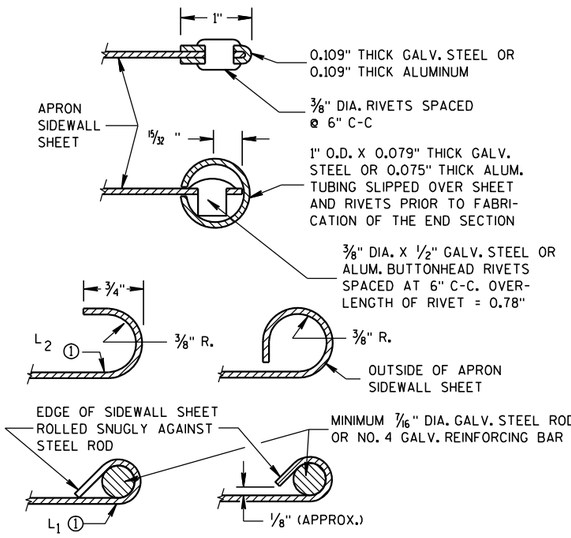
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

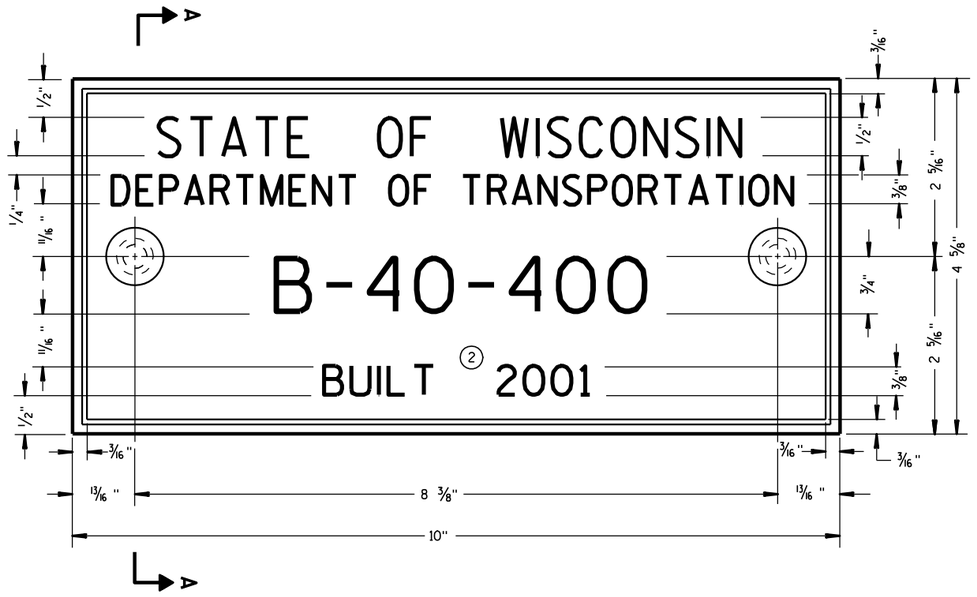
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

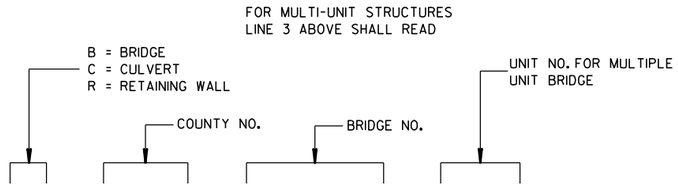
6

S.D.D. 8 F 1-11



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

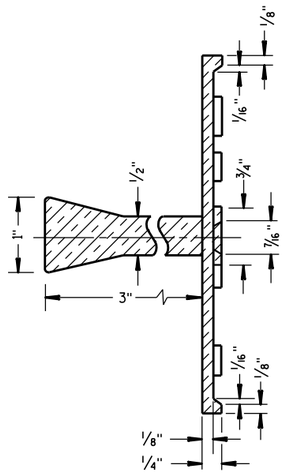
GENERAL NOTES

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

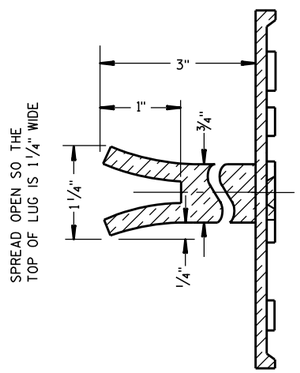
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

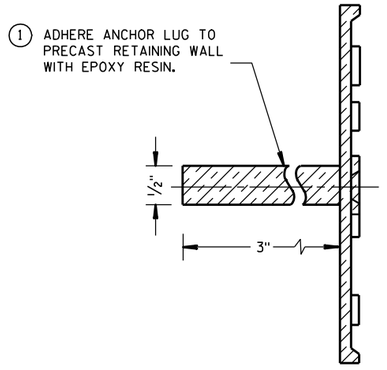
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

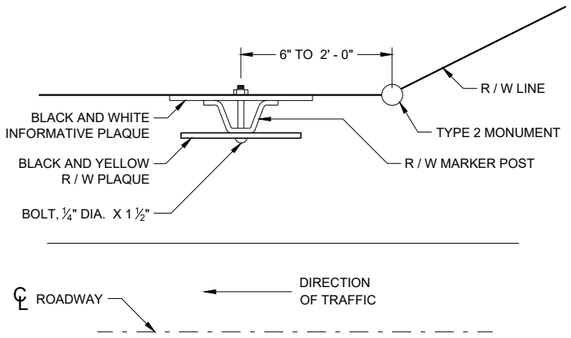
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER
FHWA	

6

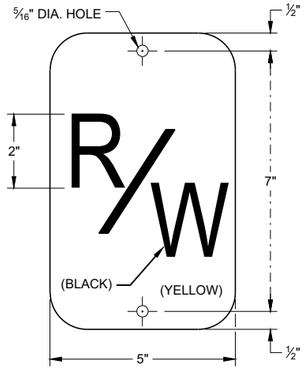
S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10

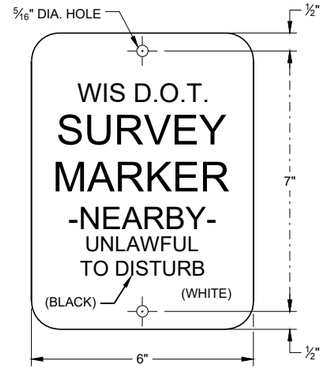


PLAN VIEW
STEEL MARKER POST



R / W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

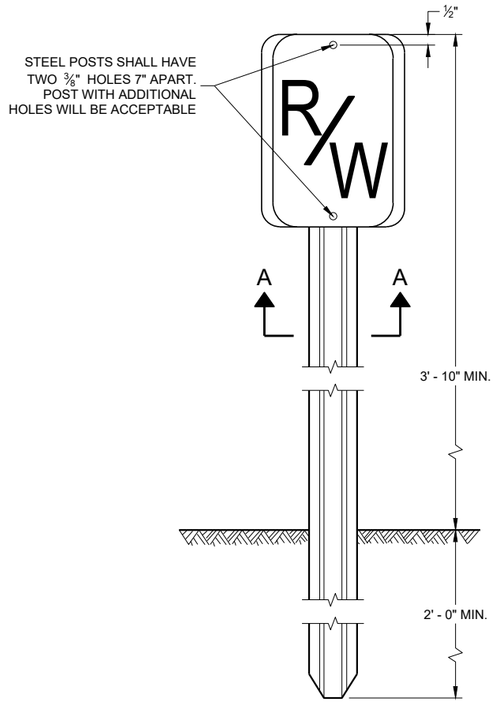
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

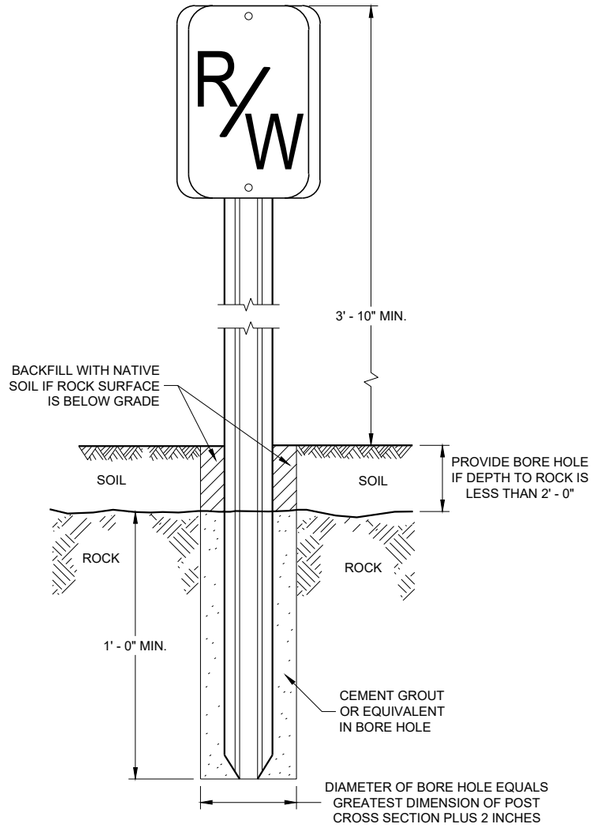
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFROMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

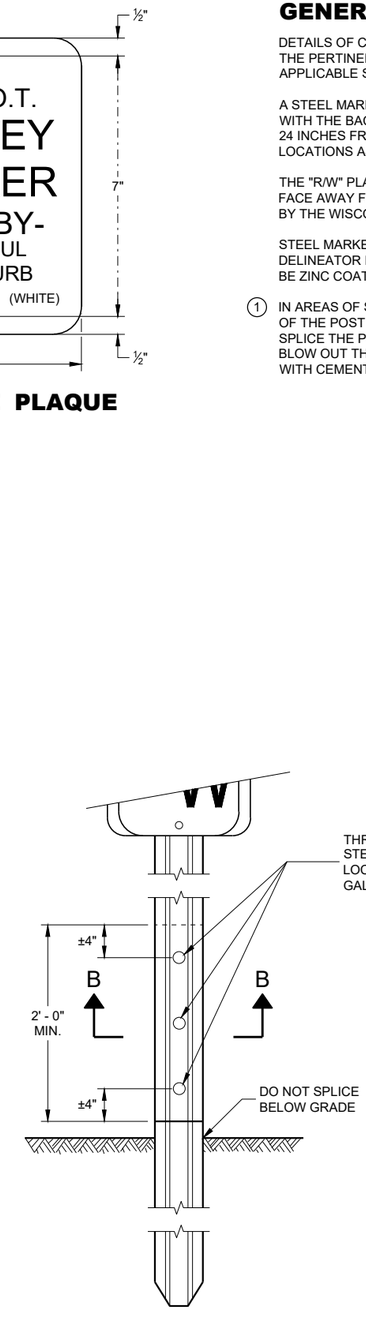
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



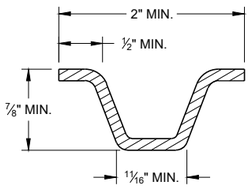
FRONT VIEW
STEEL MARKER POST



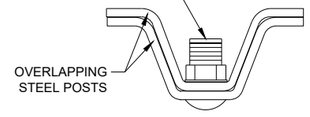
FRONT VIEW
ROCK INSTALLATION (1)



FRONT VIEW
SPLICE DETAIL



MIN. WEIGHT 1.12 LB./FT.
SECTION A - A



SECTION B - B

MARKER POST
FOR RIGHT - OF - WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016
DATE
/S/ Ray Kumapayi
CHIEF SURVEYING AND MA
ENGINEER

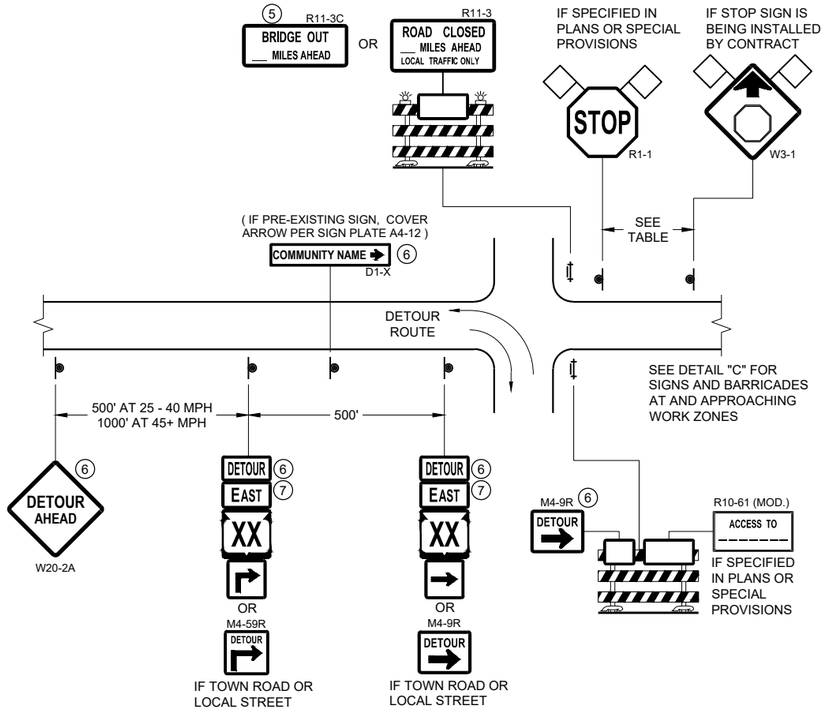
FHWA

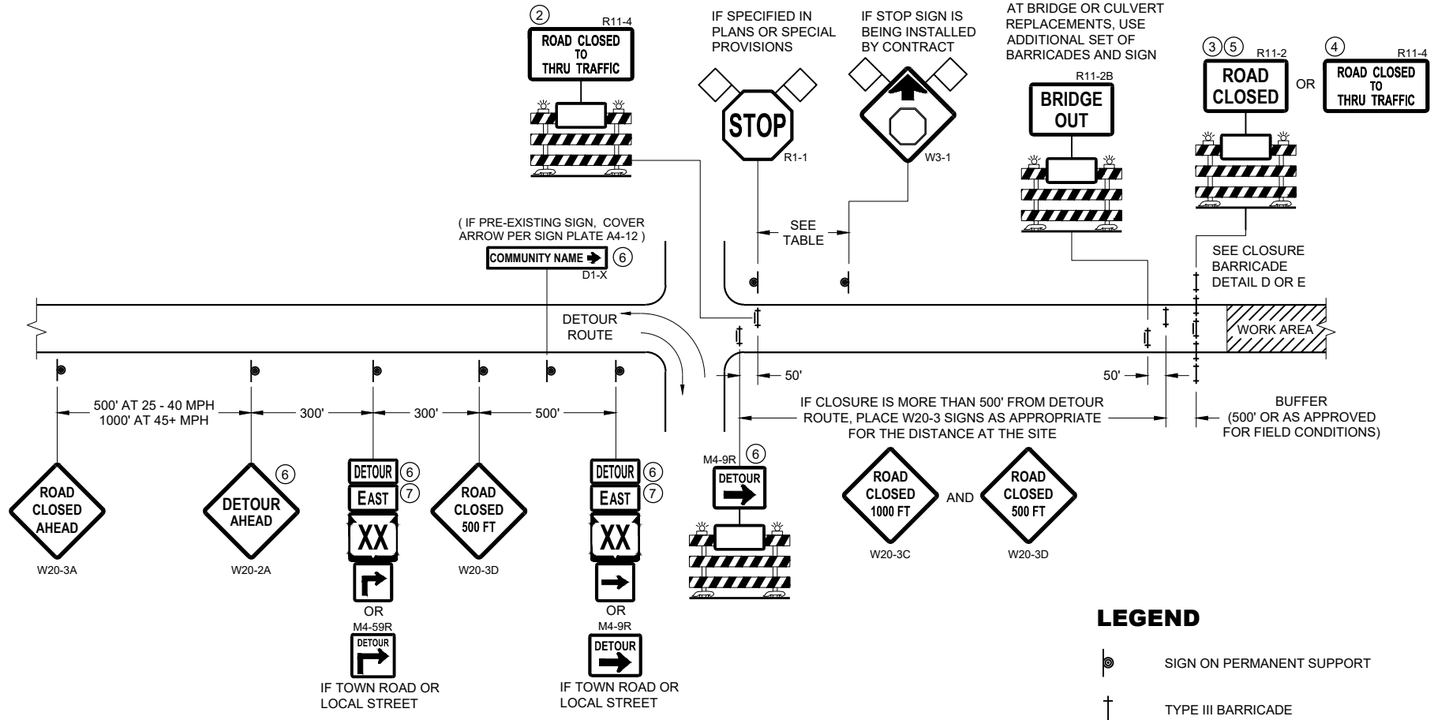
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SDD 15A01 - 13a

6

SDD15A01 - 13a



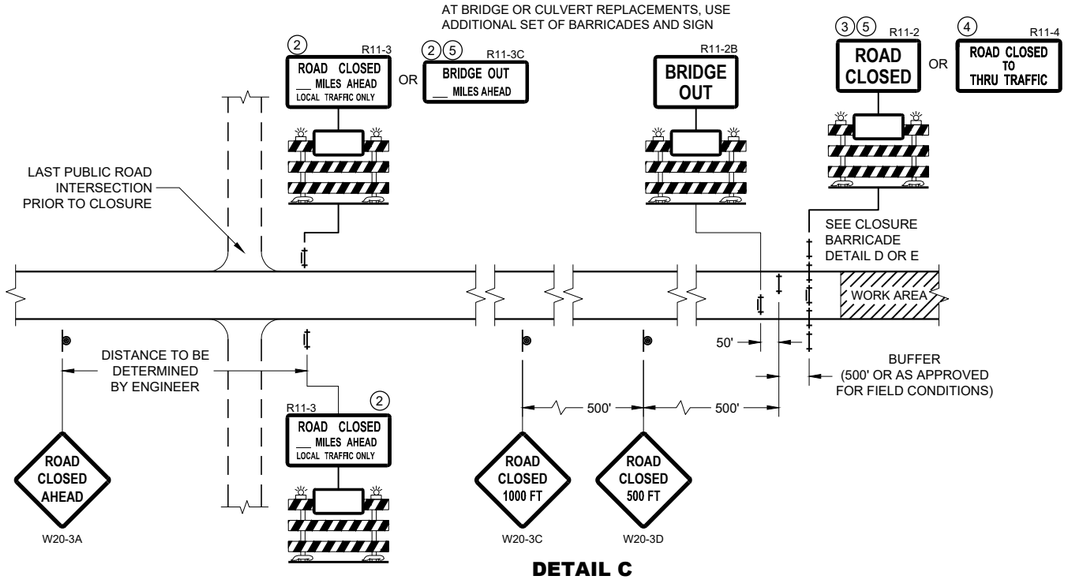


DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



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
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

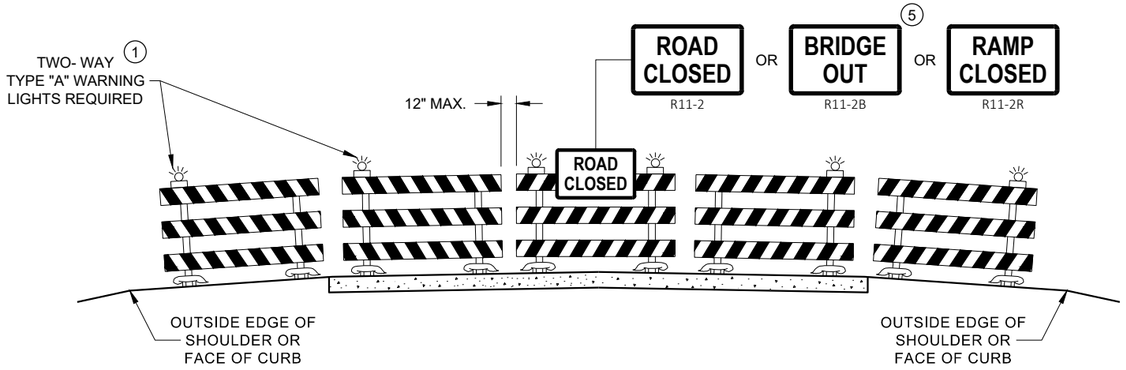
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

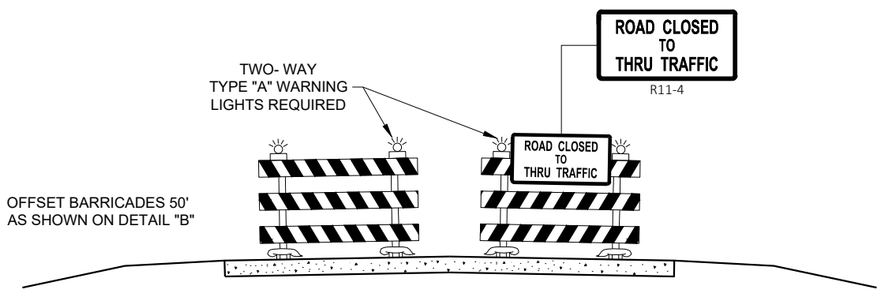
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SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

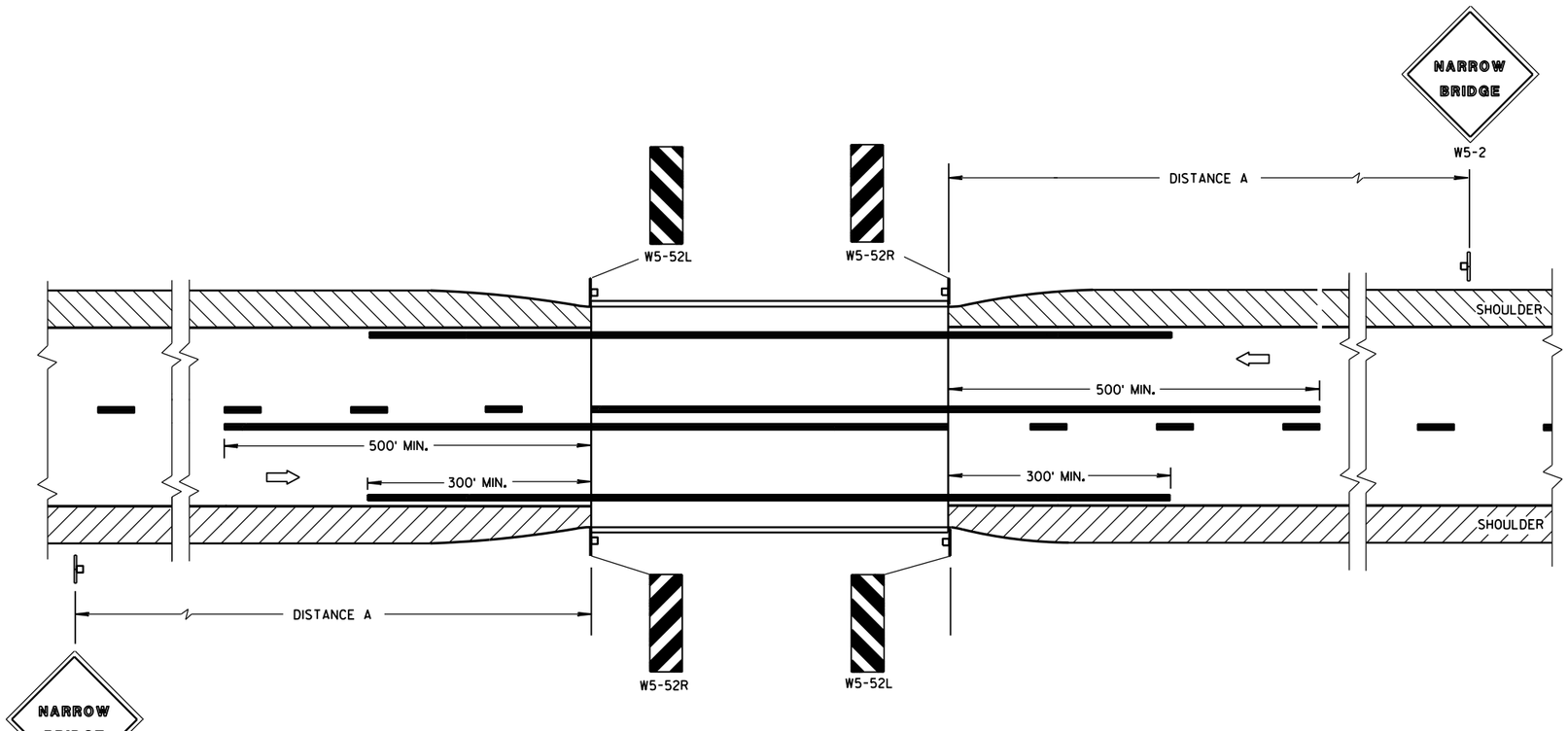
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b

6

SDD 15C02 - 08b



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

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

GENERAL NOTES

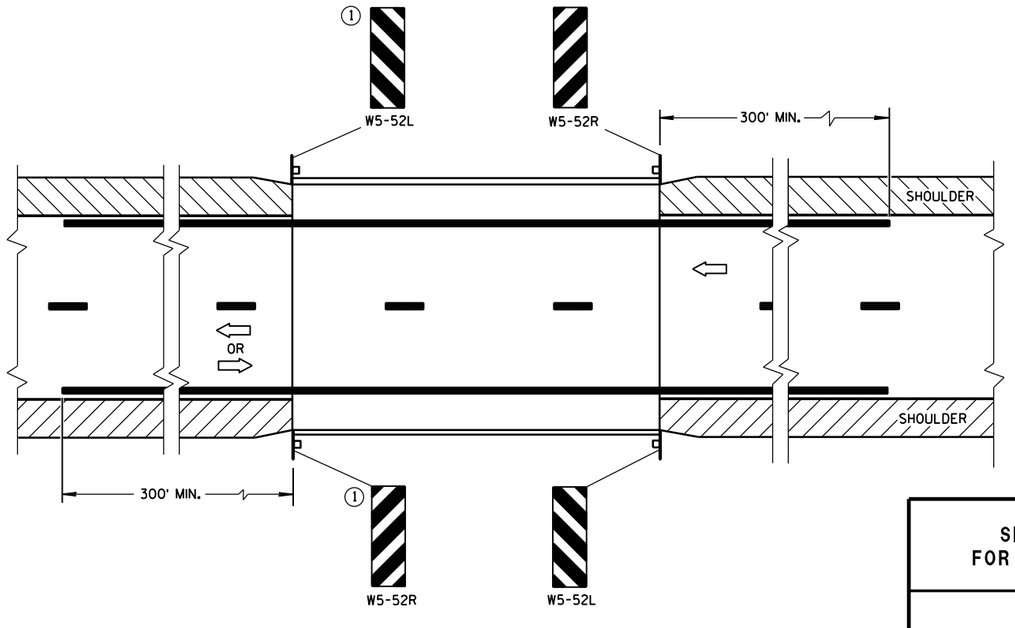
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

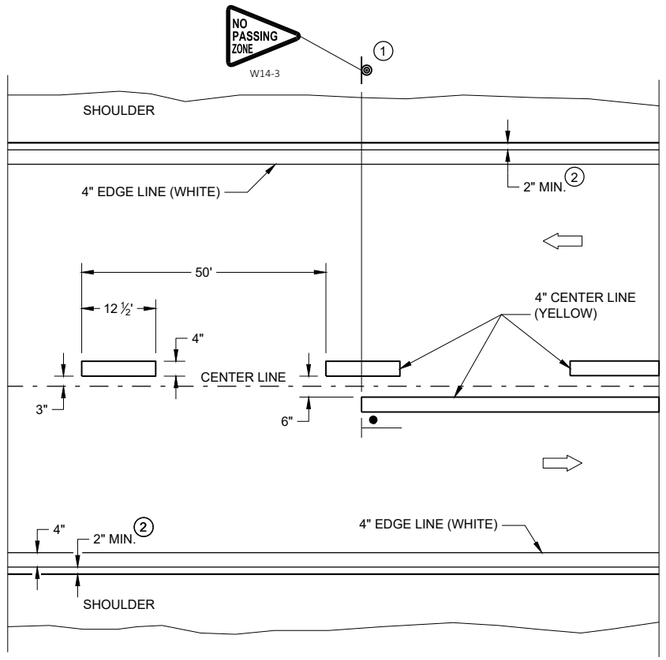
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

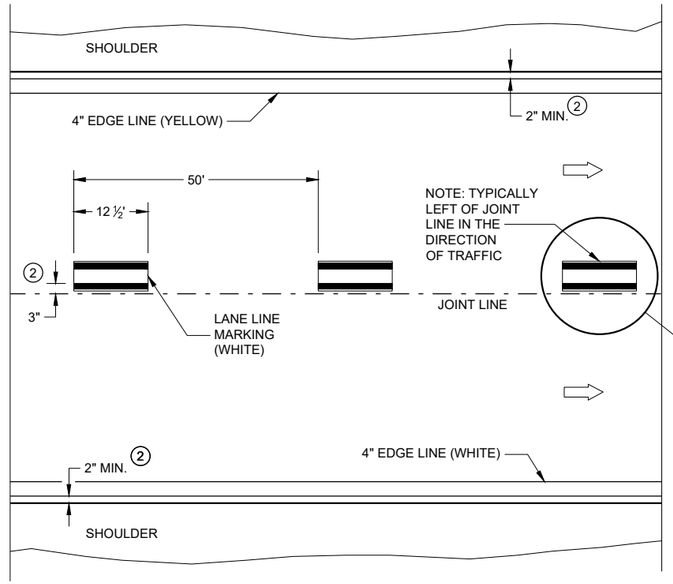
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ...IEER
FHWA

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S.D.D. 15 C 6-9

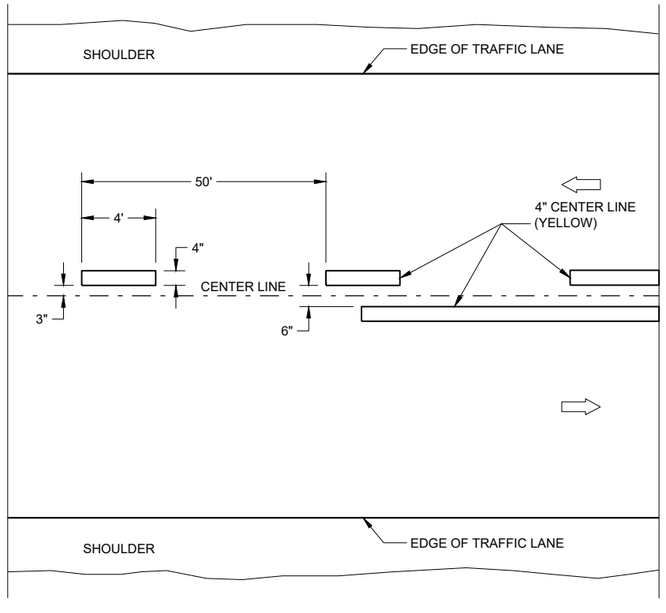


TWO WAY TRAFFIC

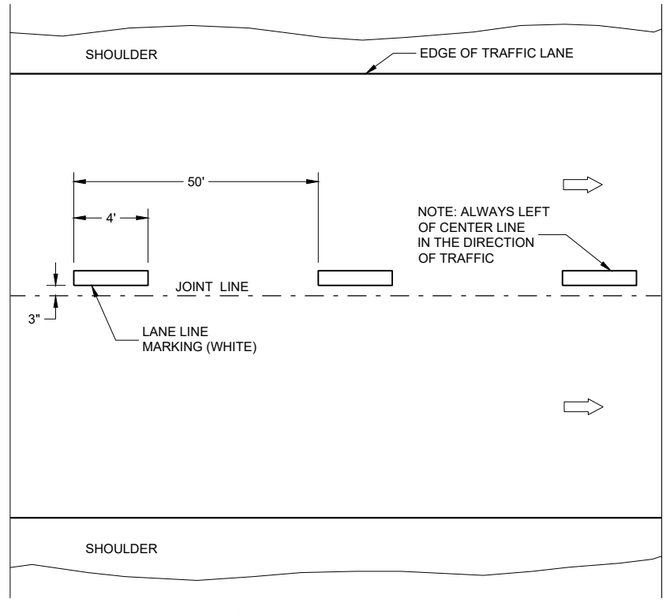


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

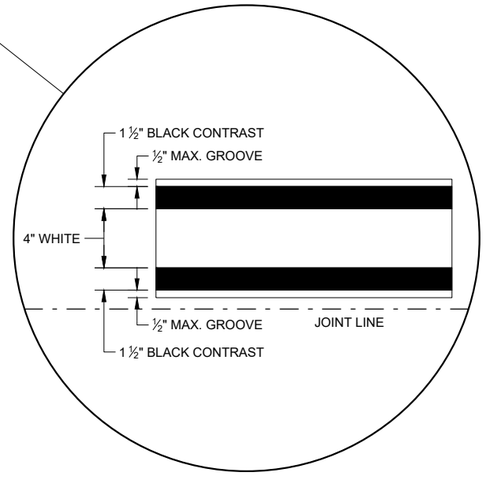
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Matthew Rauch
STATEWIDE SIGNING AND M
ENGINEER

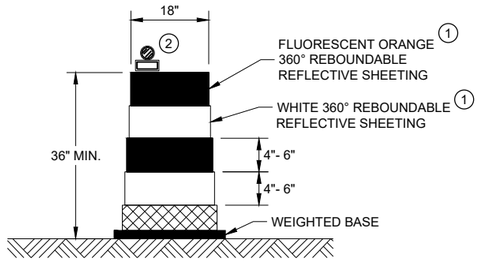
FHWA

SDD 15C08 - 20a

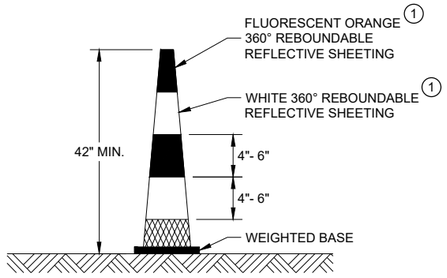
SDD 15C08 - 20a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

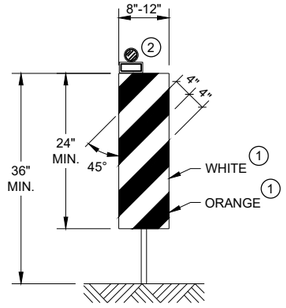


DRUM



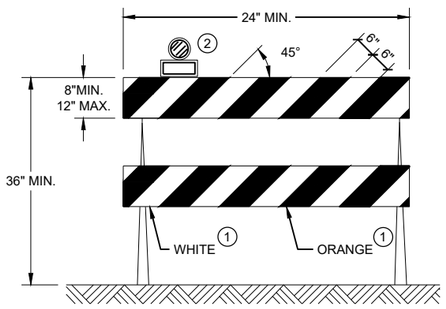
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



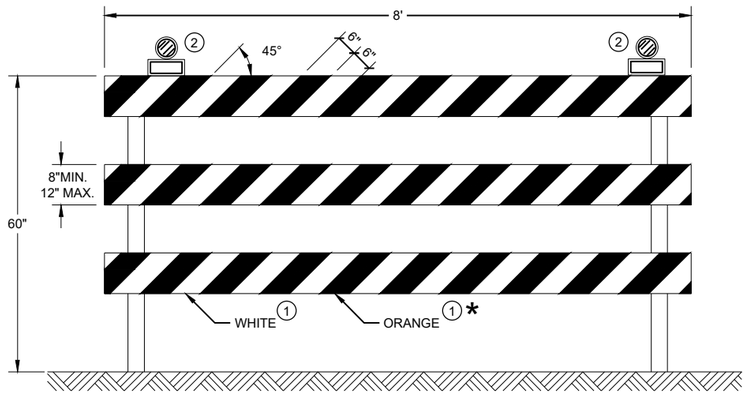
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 07b
SDD 15C11 - 07b

LEGEND

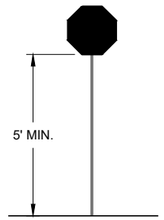
SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



STOP/SLOW PADDLE ON SUPPORT STAFF

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.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

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

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

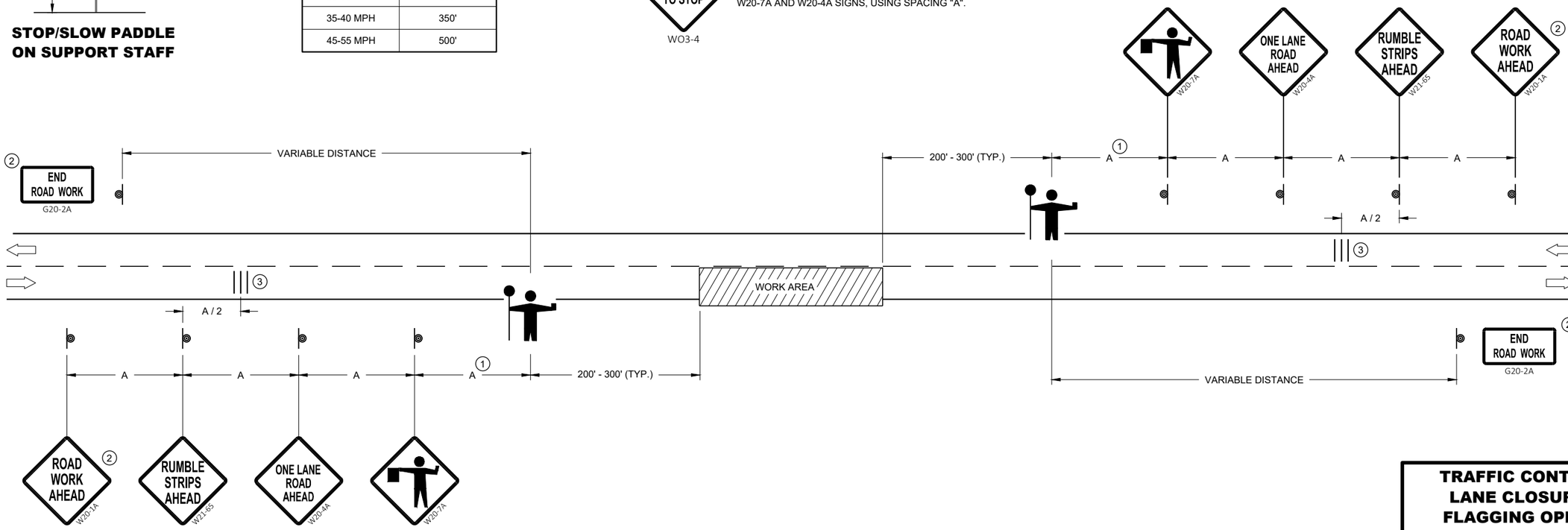
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C12 - 07

SDD 15C12 - 07

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

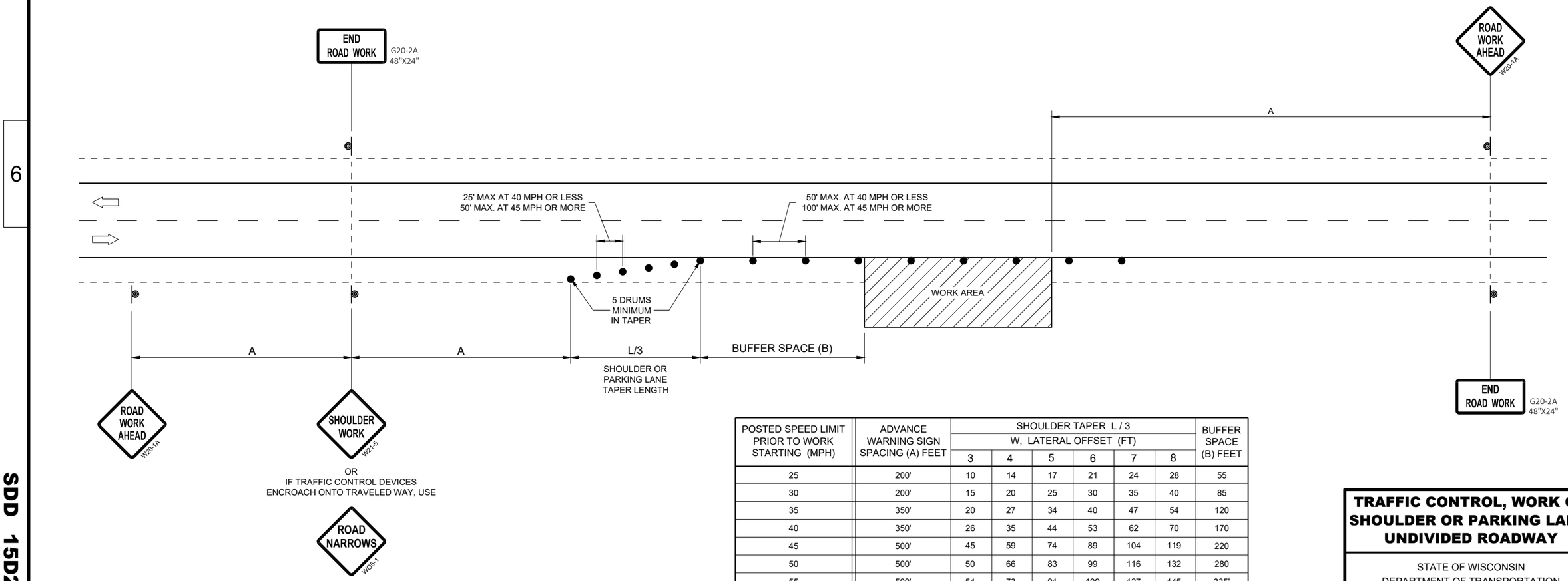
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

W20-1A 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.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

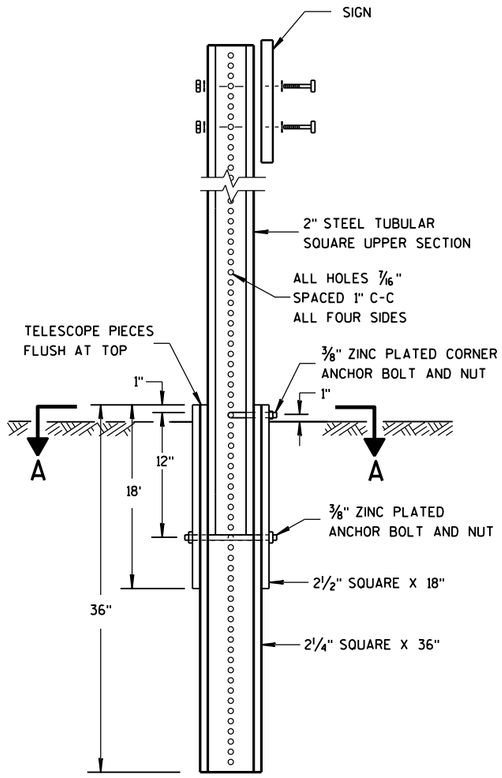
APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

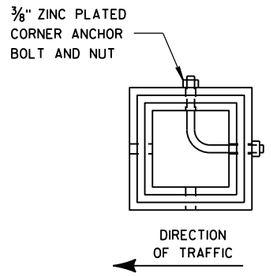
FHWA

SDD 15D28 - 04

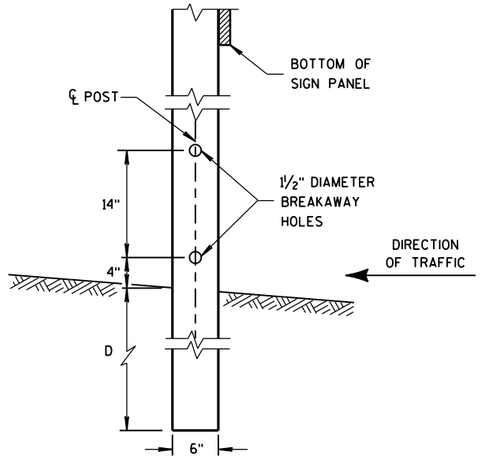
SDD 15D28 - 04



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



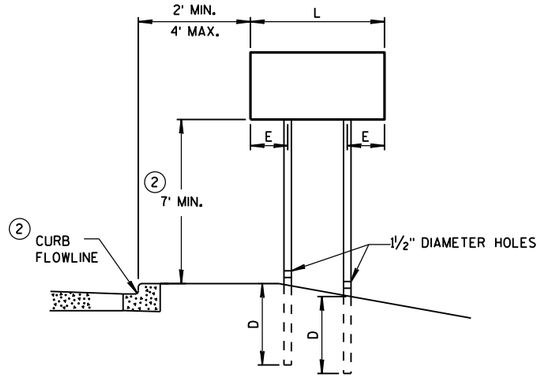
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

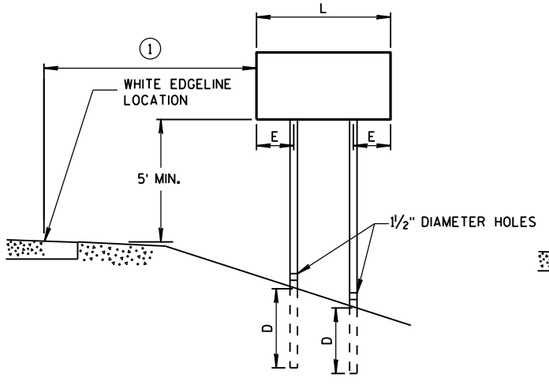
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

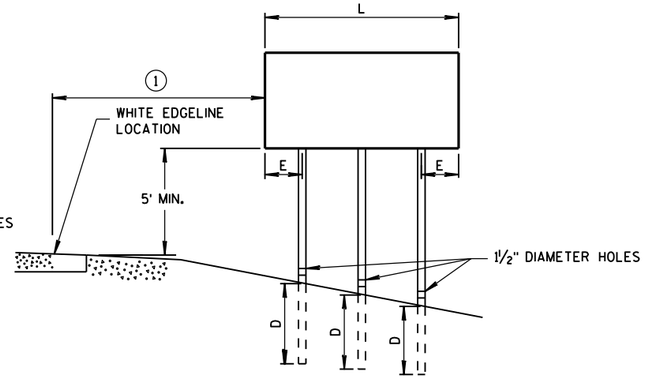
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

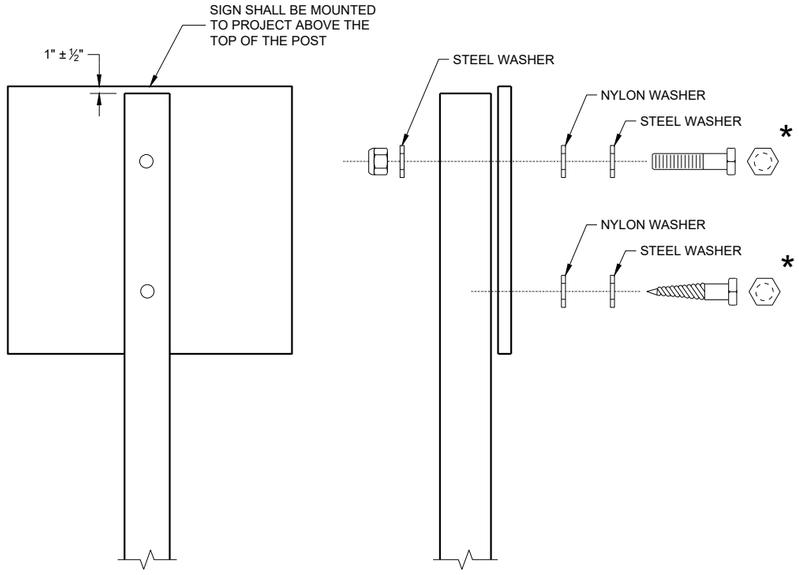
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 D 38-2a



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 POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

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

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SDD 15D38 - 02b

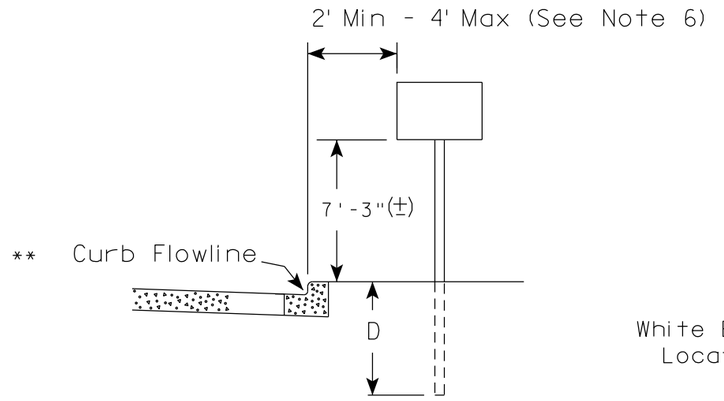
SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

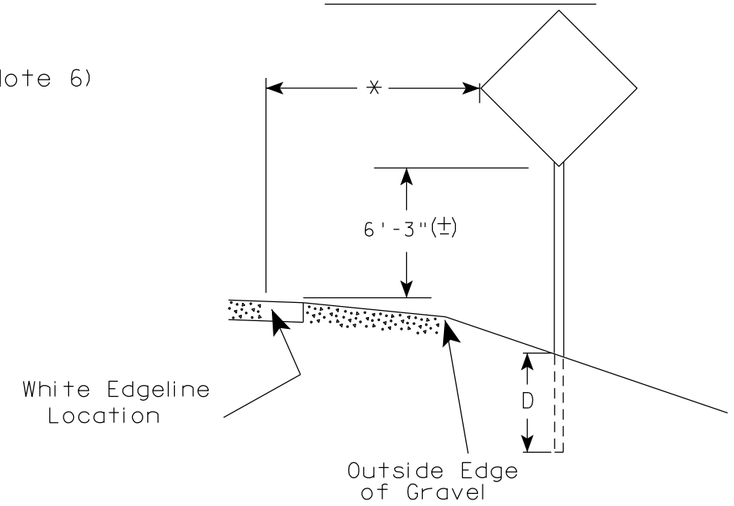
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

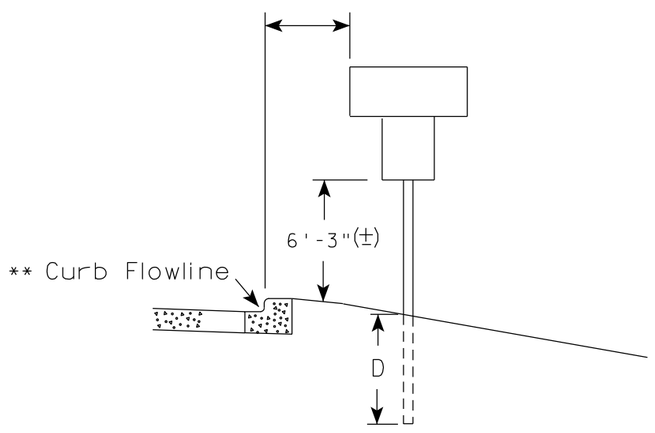
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

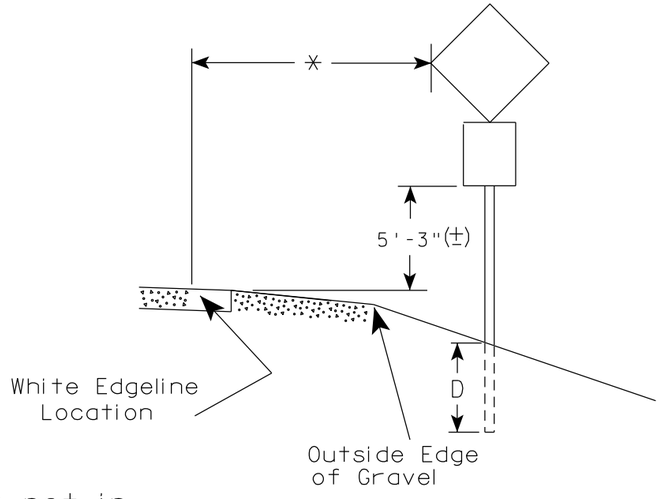
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

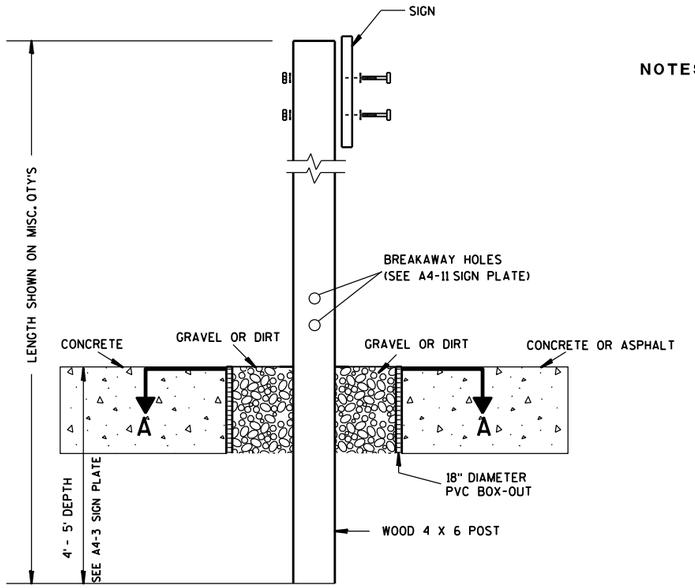
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

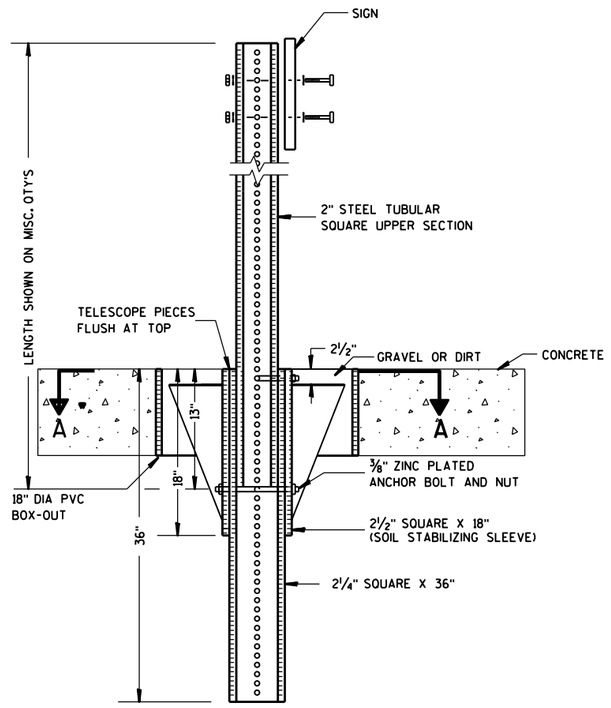
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 36	E



ELEVATION VIEW

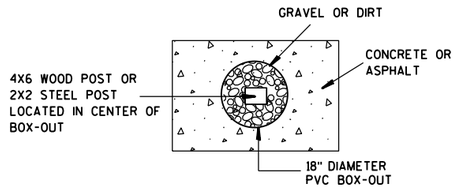
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

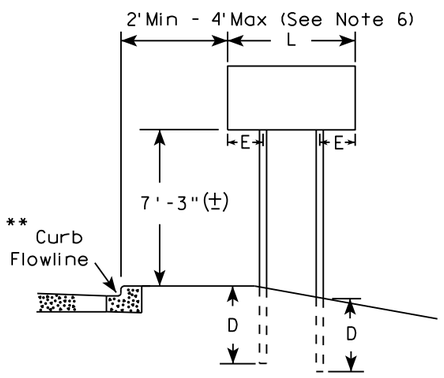
APPROVED Matthew R Rauch
for State Traffic Engineer

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

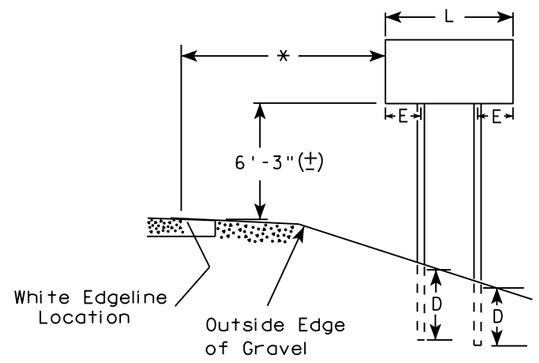
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

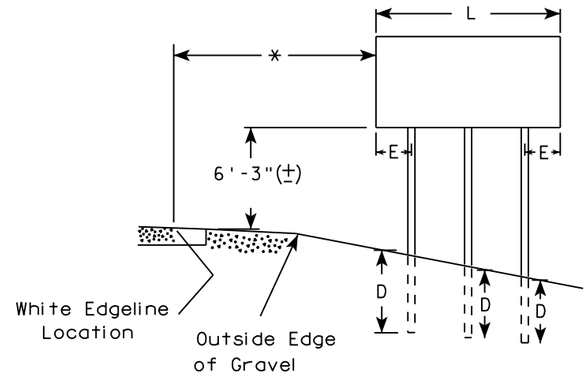
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

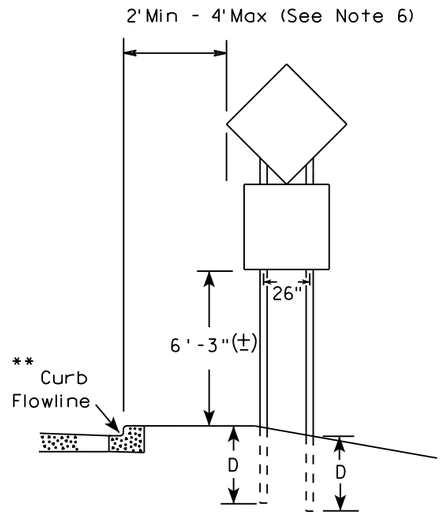
URBAN AREA



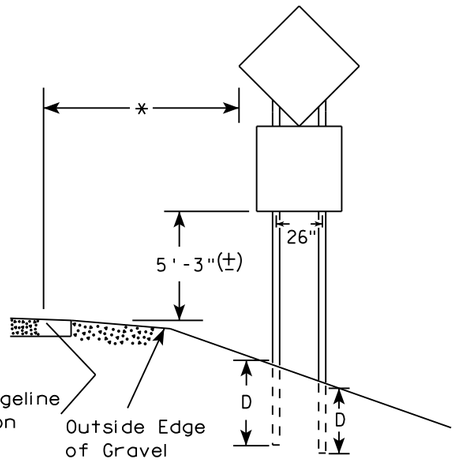
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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. J-Assemblies are considered to be one sign for mounting height.
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 and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

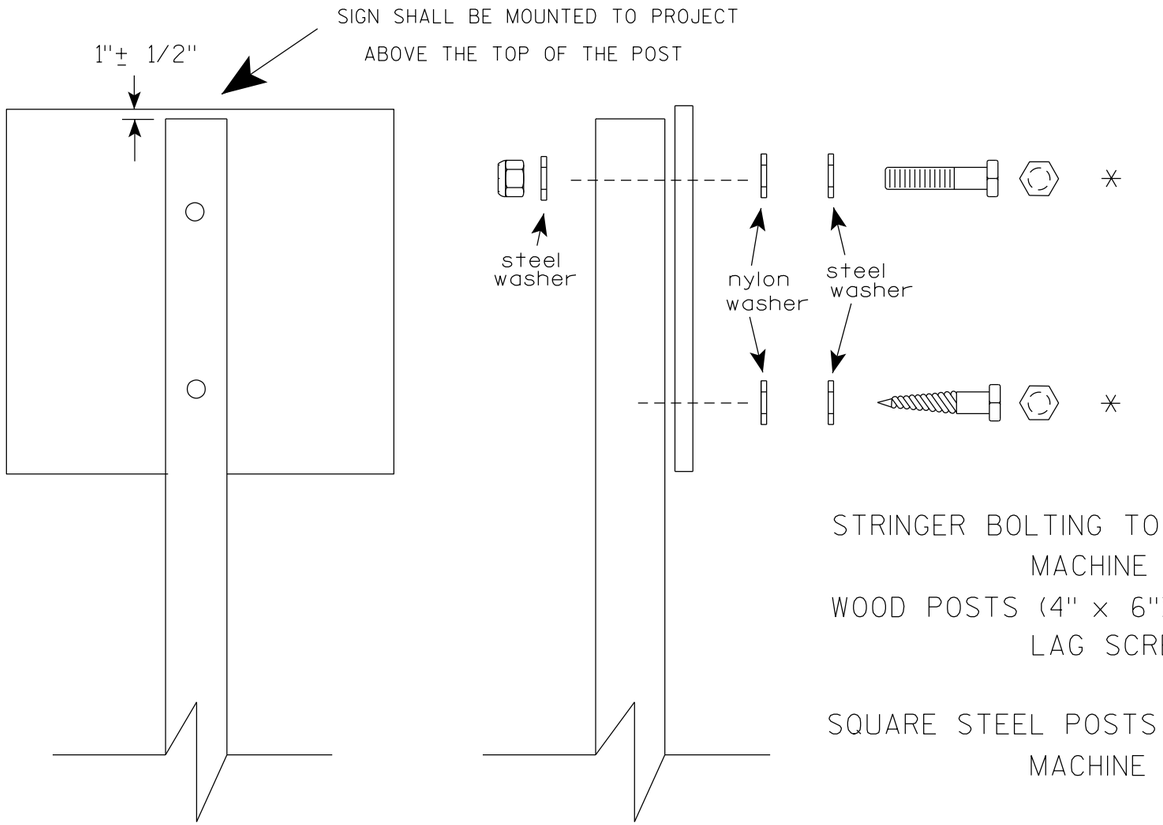
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 38	E



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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

* 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

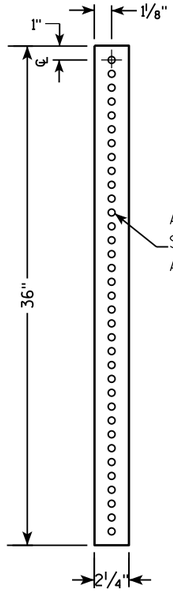
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

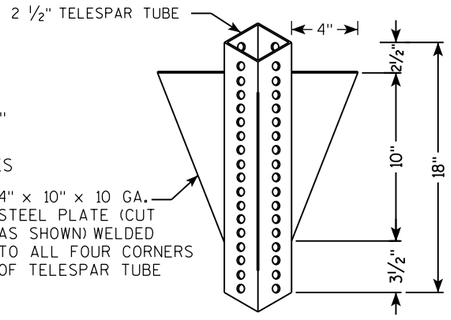
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

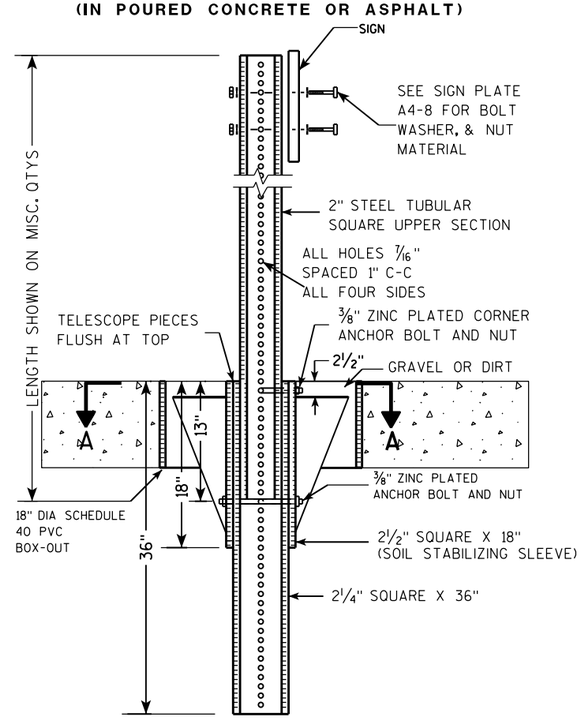
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



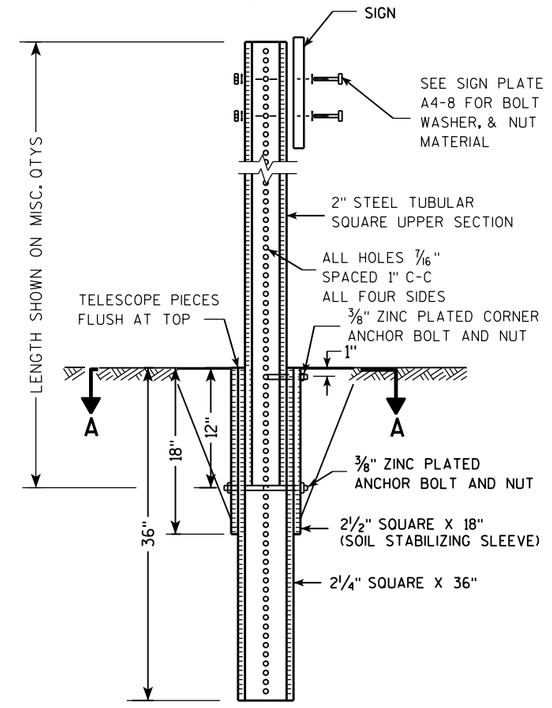
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

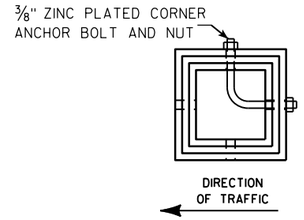


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

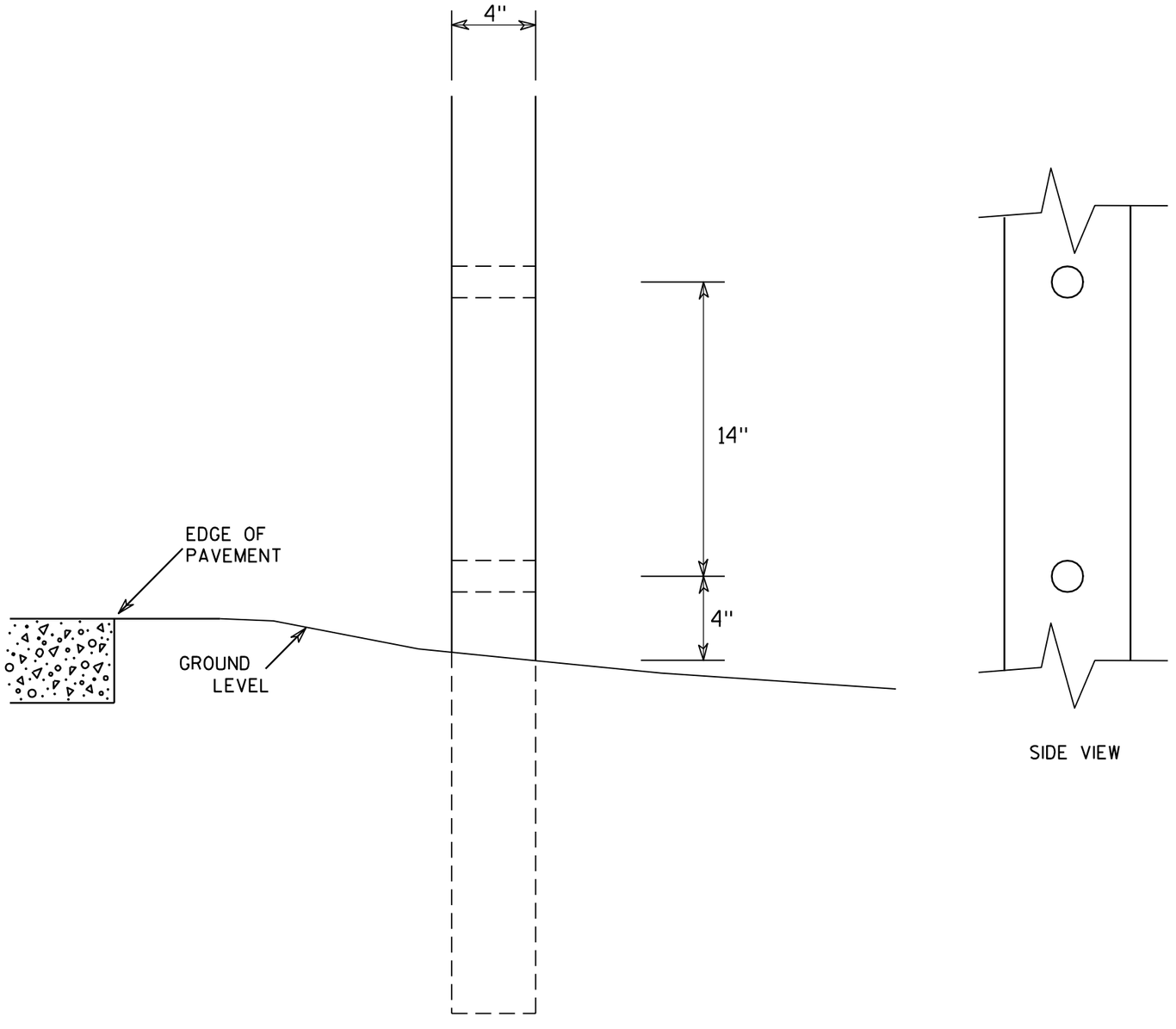
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 40 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

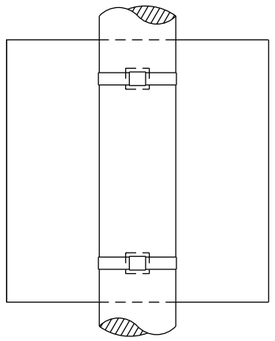
APPROVED Chester J Spang
for State Traffic Engineer

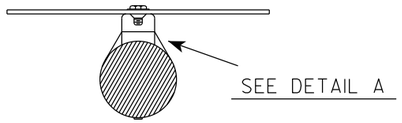
DATE 3/27/97 PLATE NO. A4-11.2

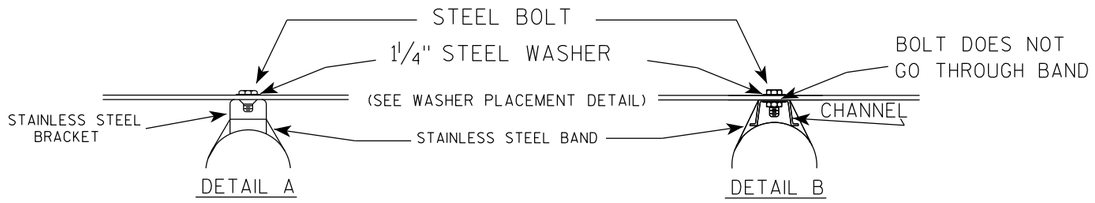
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 41	E

BANDING

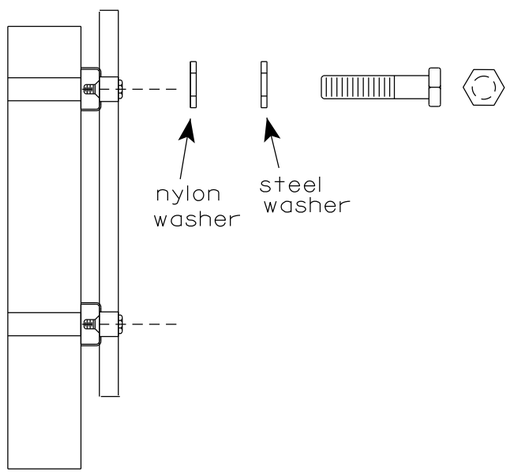
SINGLE SIGN







WASHER PLACEMENT

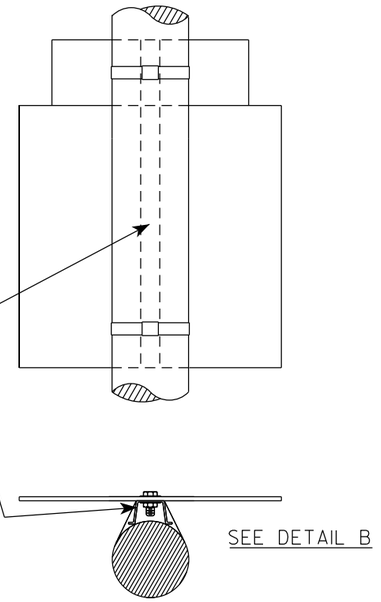


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

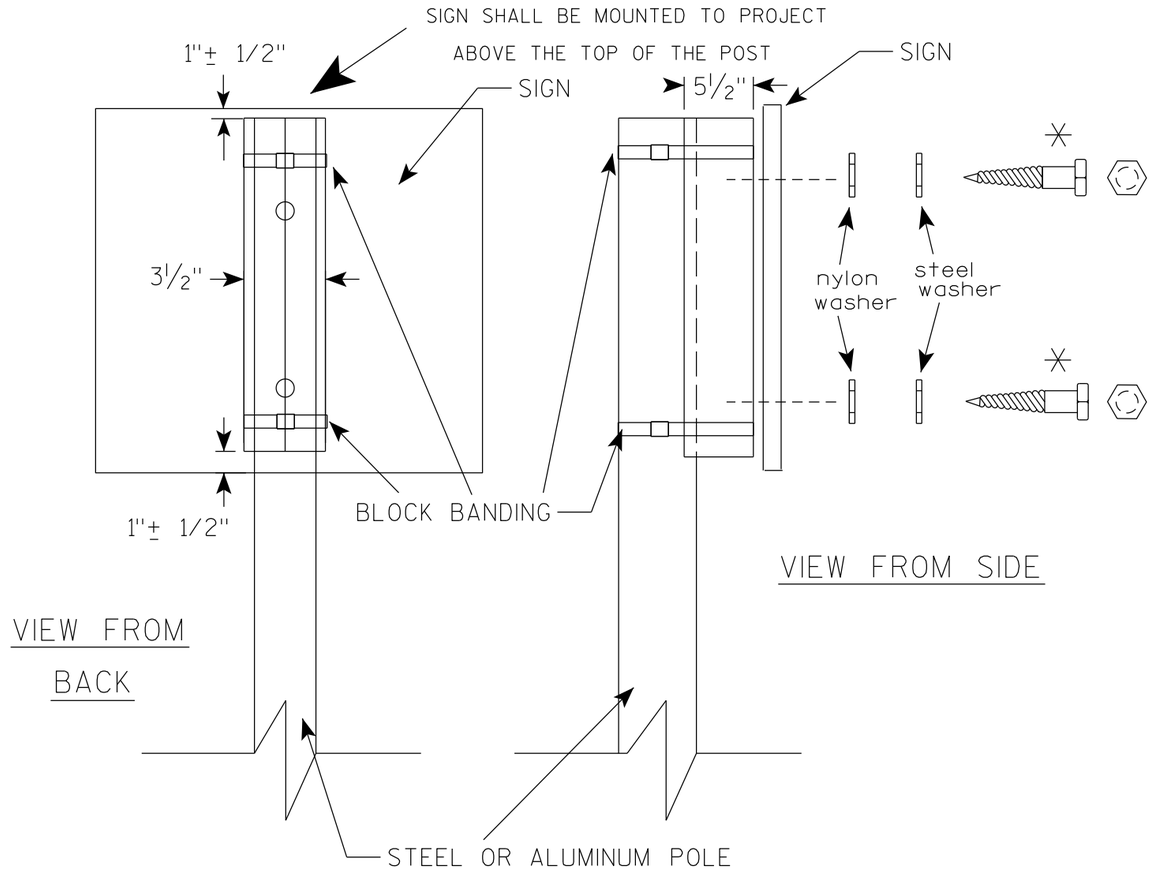
DATE 6/10/19 PLATE NO. A5-9.4

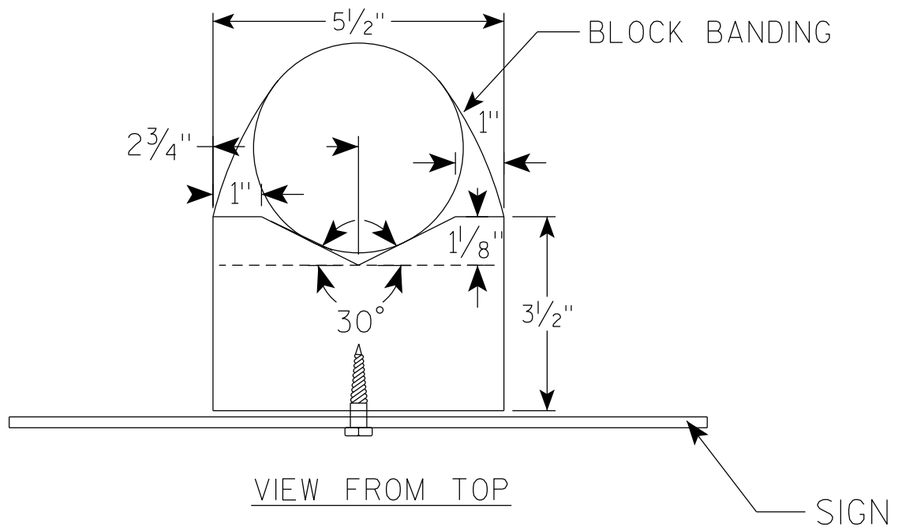
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 42	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

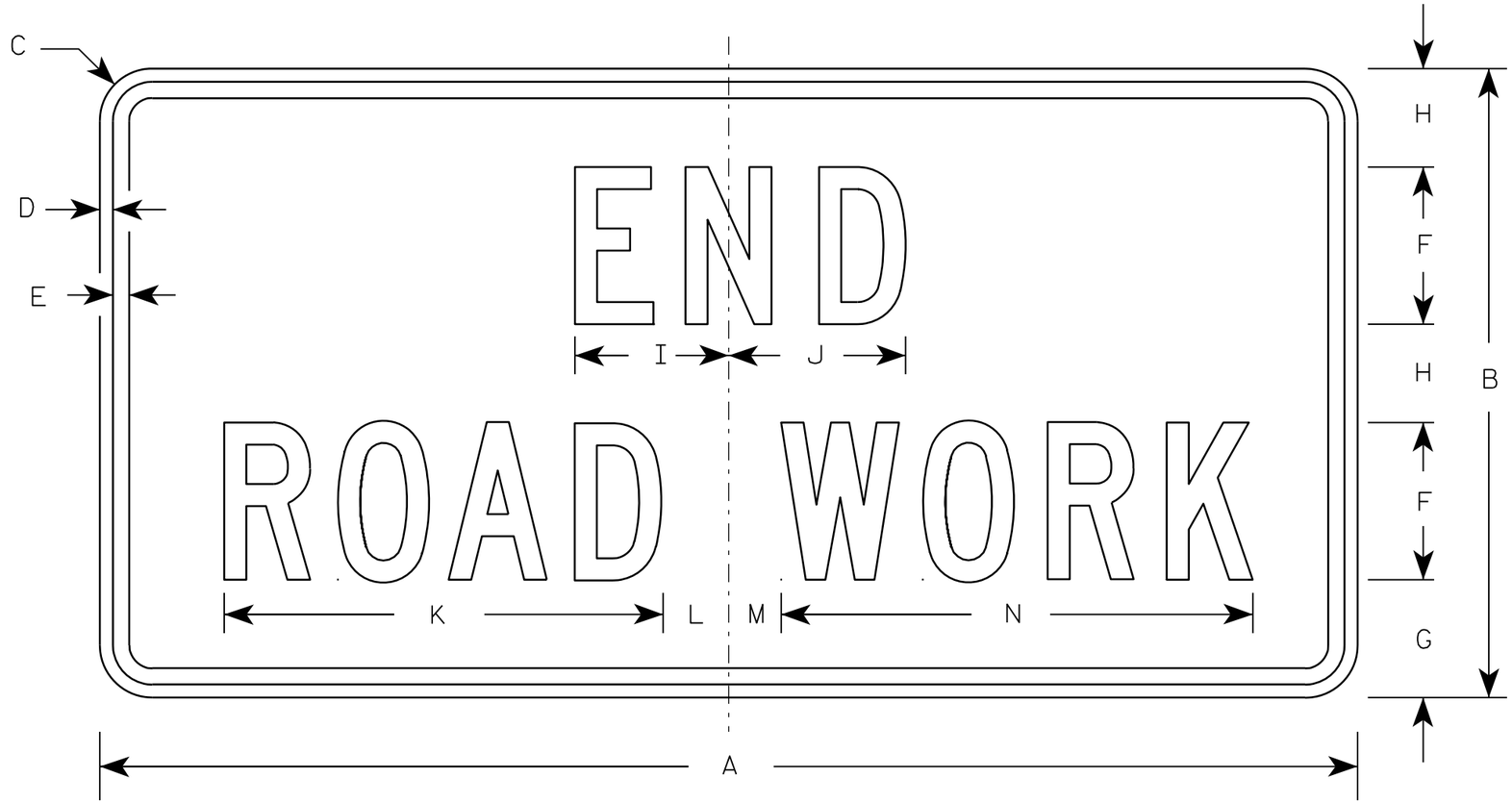
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:				SHEET NO: 43	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

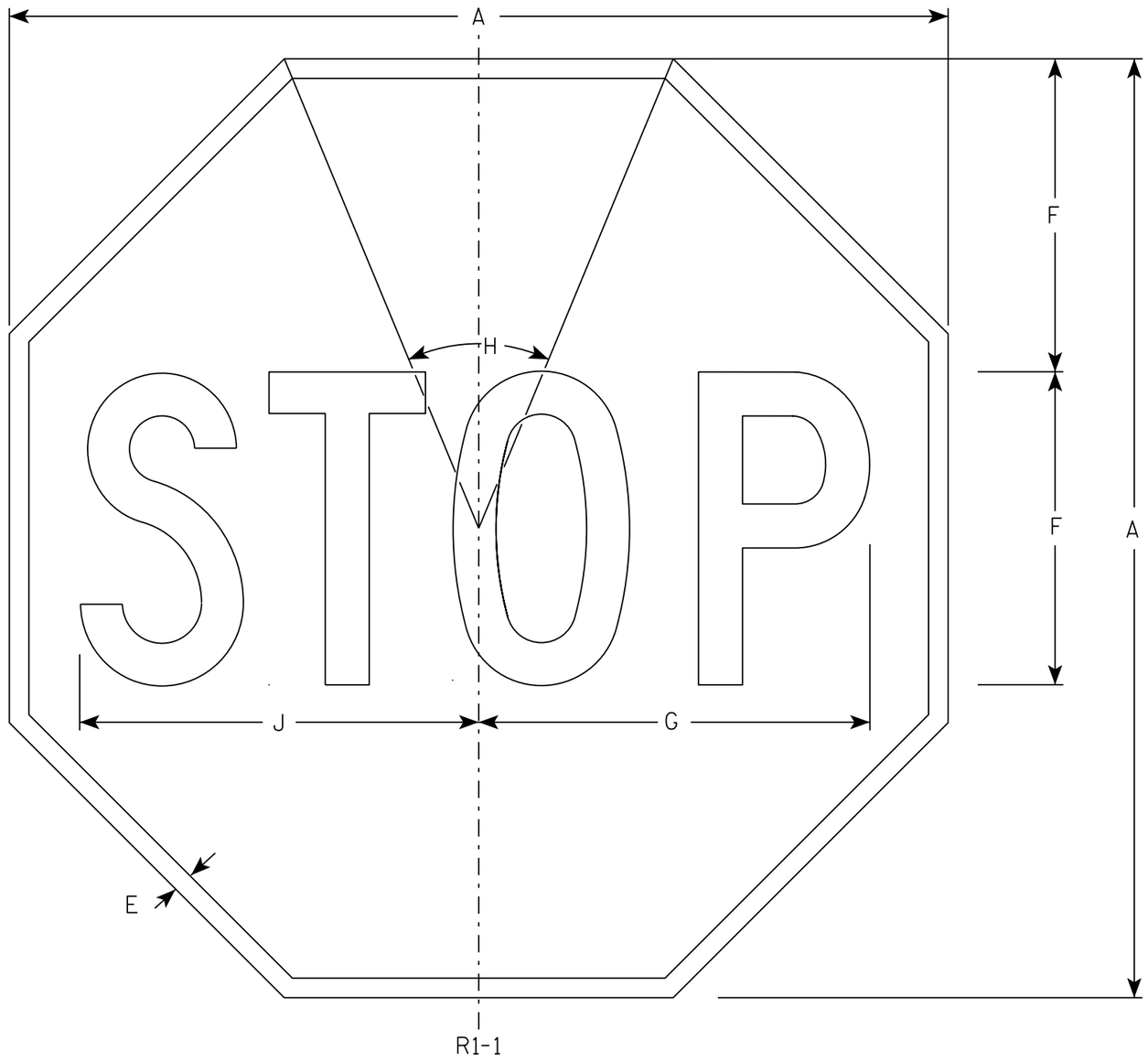
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 44	E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

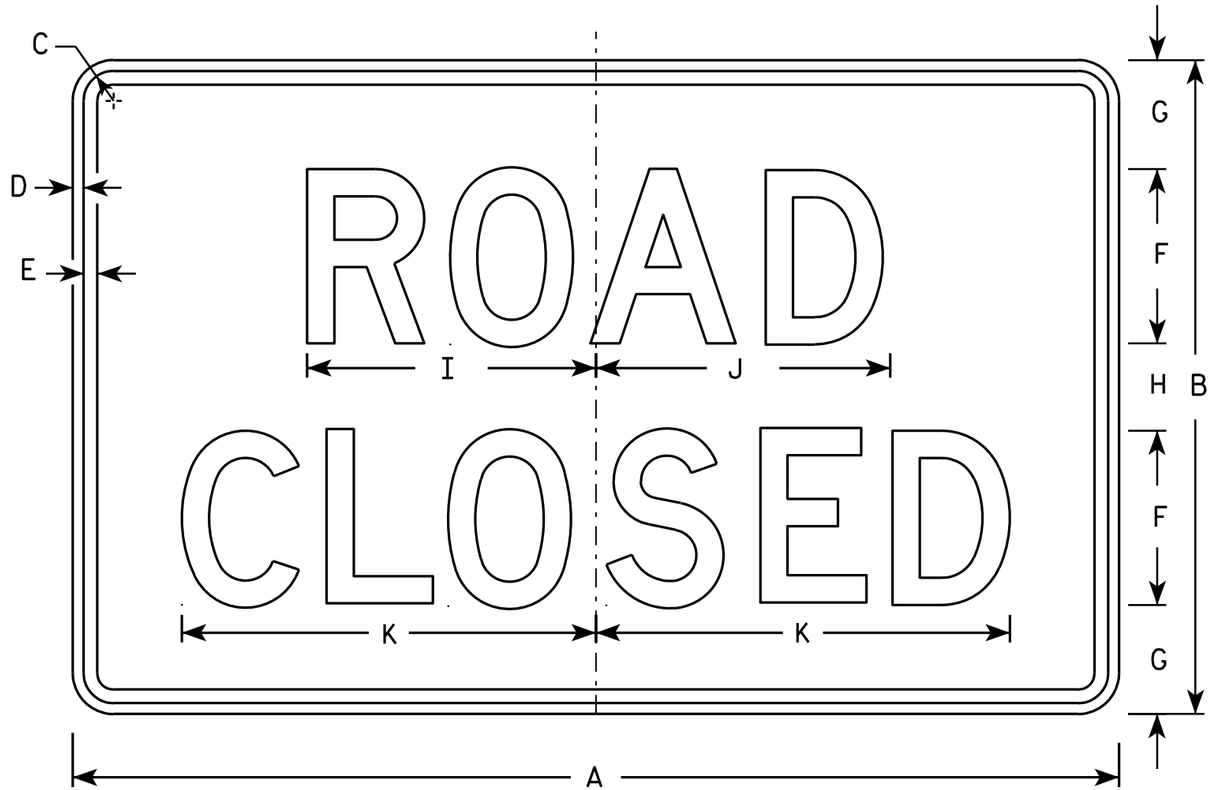
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

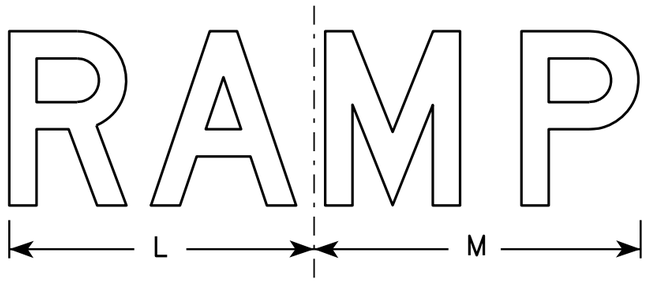
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 45	E



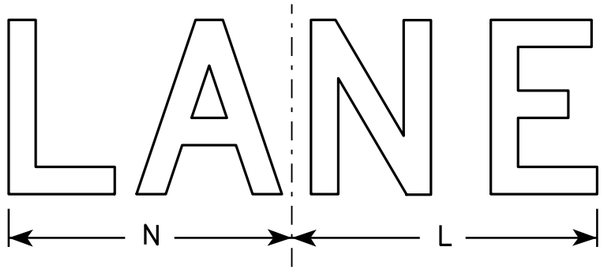
R11-2

NOTES

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



R11-2R



R11-2L

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

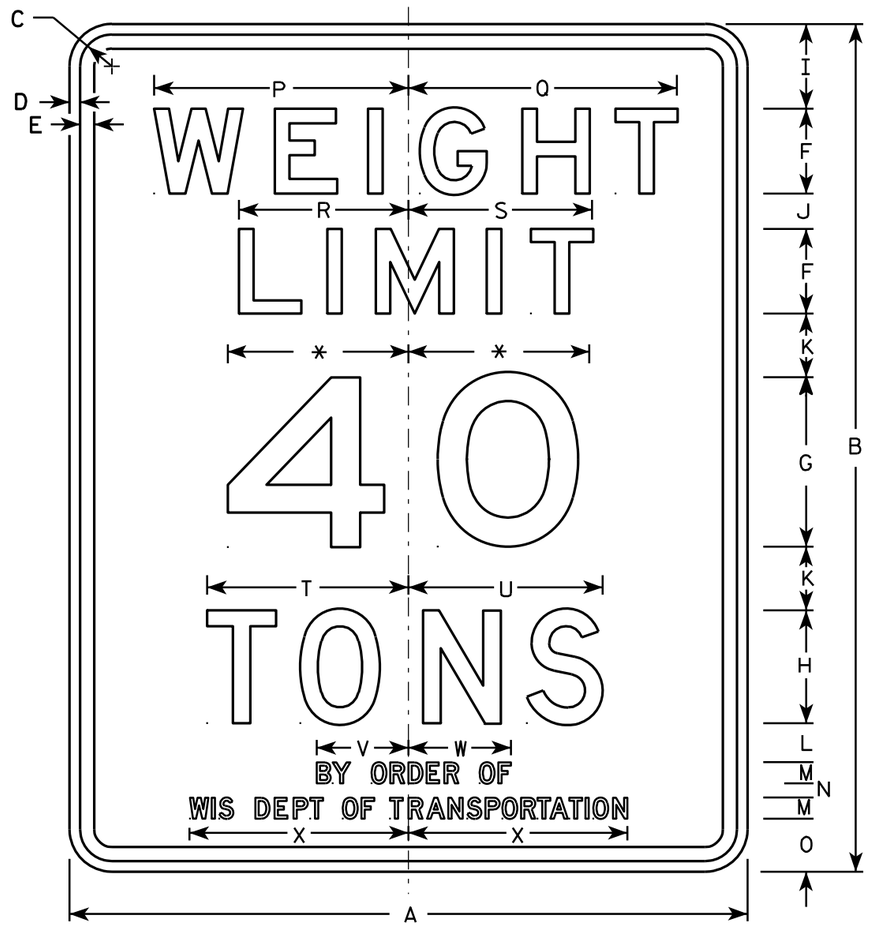
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 46	E



R12-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - 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, 2 & 3 are series E
   Lines 4, 5, & 6 are series D.
6. Substitute appropriate numeral and optically adjust spacing to achieve proper balance.
7. Substitute name of county or town on County Trunk and Town Highways respectively. Community name on City or Village Streets including Connecting Highways is optional.

* Varies (see note 6)

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8	3/8	1/2	3	6	4	3	1 1/4	2 1/4	1 3/8	3/4	1/2	1 7/8	9	9 1/2	6	6 1/2	7 1/8	6 7/8	3 1/4	3 5/8	7 3/4			5.0
2S	24	30	1 1/8	3/8	1/2	3	6	4	3	1 1/4	2 1/4	1 3/8	3/4	1/2	1 7/8	9	9 1/2	6	6 1/2	7 1/8	6 7/8	3 1/4	3 5/8	7 3/4			5.0
2M	24	30	1 1/8	3/8	1/2	3	6	4	3	1 1/4	2 1/4	1 3/8	3/4	1/2	1 7/8	9	9 1/2	6	6 1/2	7 1/8	6 7/8	3 1/4	3 5/8	7 3/4			5.0
3	36	48	1 3/8	1/2	5/8	6	10	8	4 1/2	2 1/2	2 1/4	1 1/2	3/4	1/2	3	13 1/2	14 1/4	9	9 3/4	10 5/8	10 1/4	3 1/4	3 5/8	7 3/4			12.0
4	48	60	2 1/4	3/4	1	6	12	8	6	2 1/2	4 1/2	2 3/4	1 1/2	1	3 3/4	18	19	12	13	14 1/4	13 3/4	6 1/2	7 1/4	15 1/2			20.0
5																											

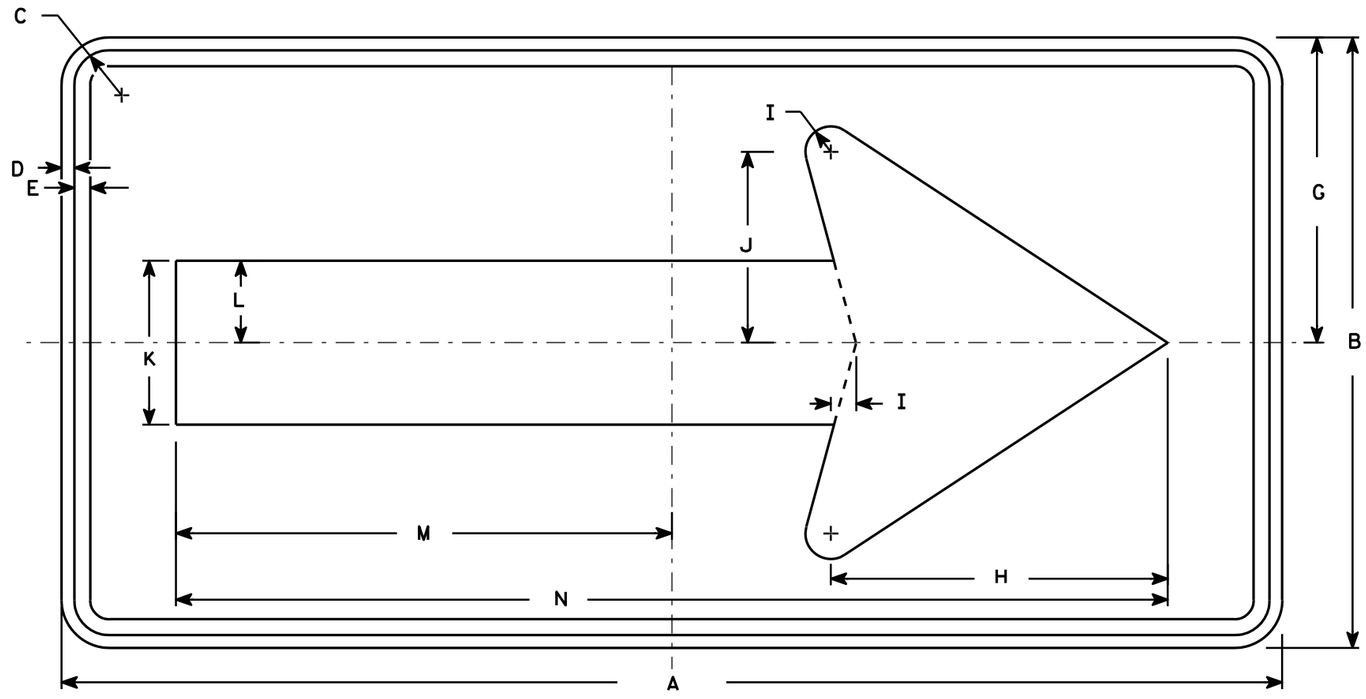
STANDARD SIGN
R12-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R12-1.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 47 | E



W1-6

NOTES

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

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 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

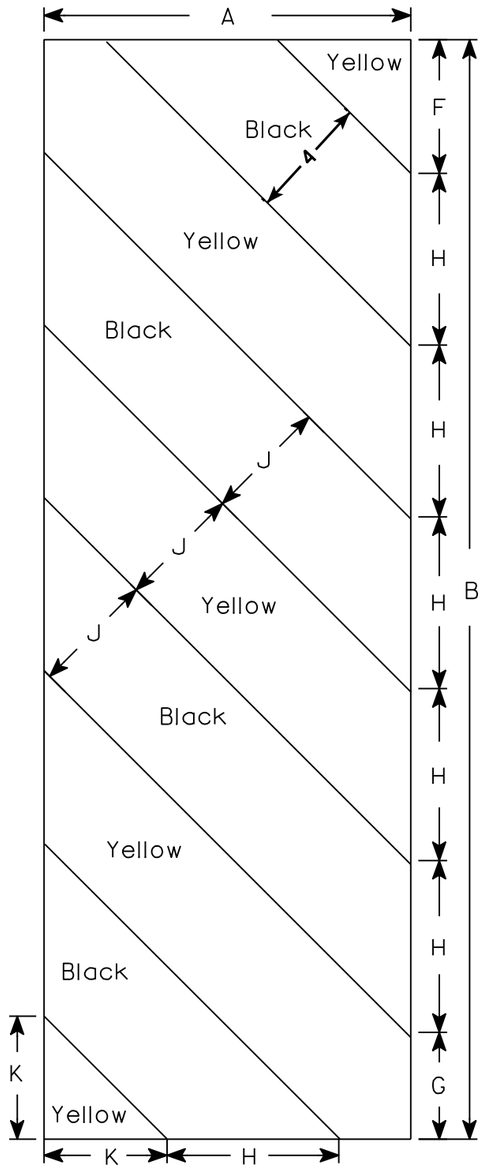
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

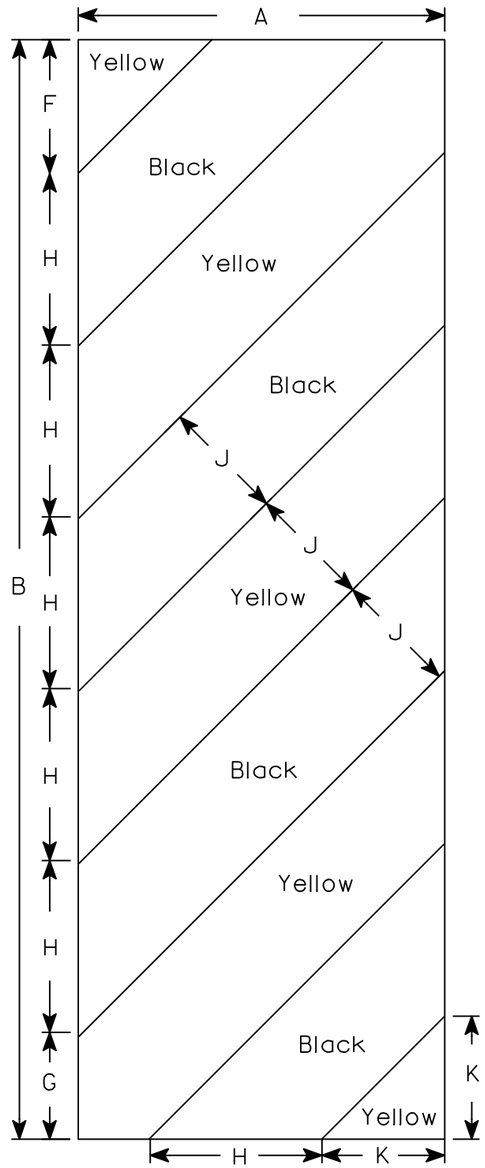
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 48



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

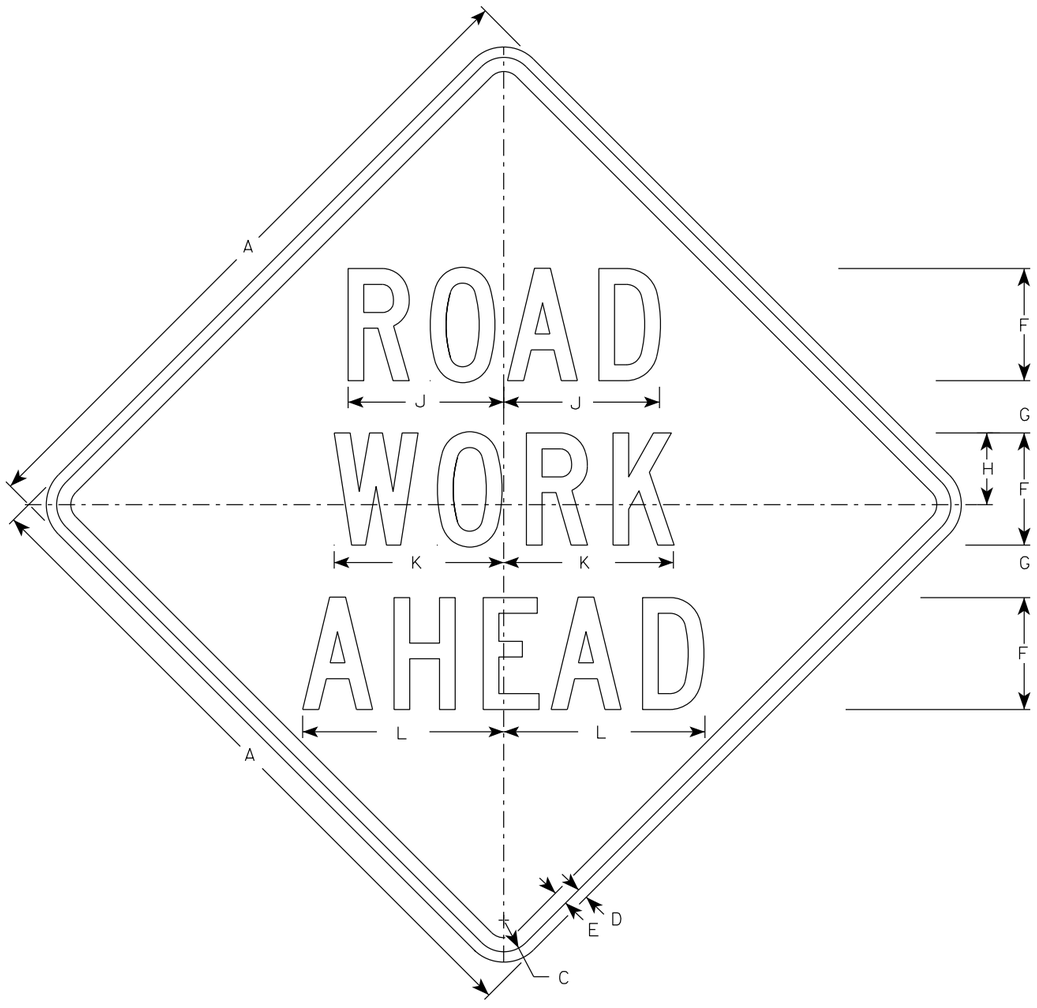
APPROVED Matthew R Rauch
for State Traffic Engineer

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

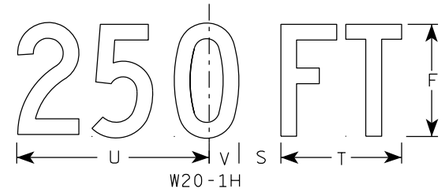
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 49 | E

NOTES

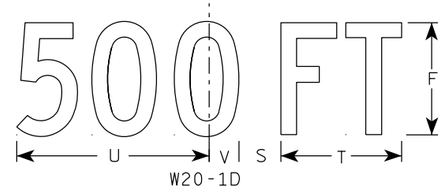
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1A



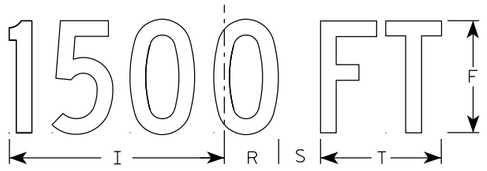
W20-1H



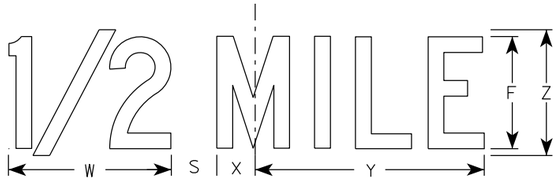
W20-1D



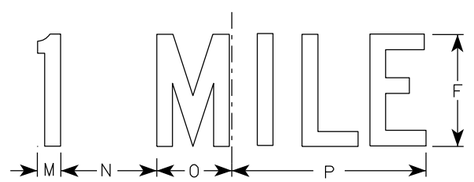
W20-1C



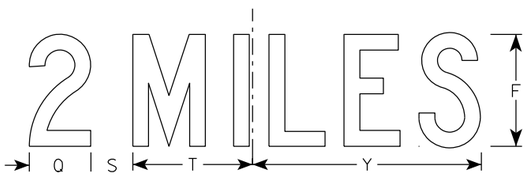
W20-1B



W20-1G



W20-1F



W20-1E

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	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

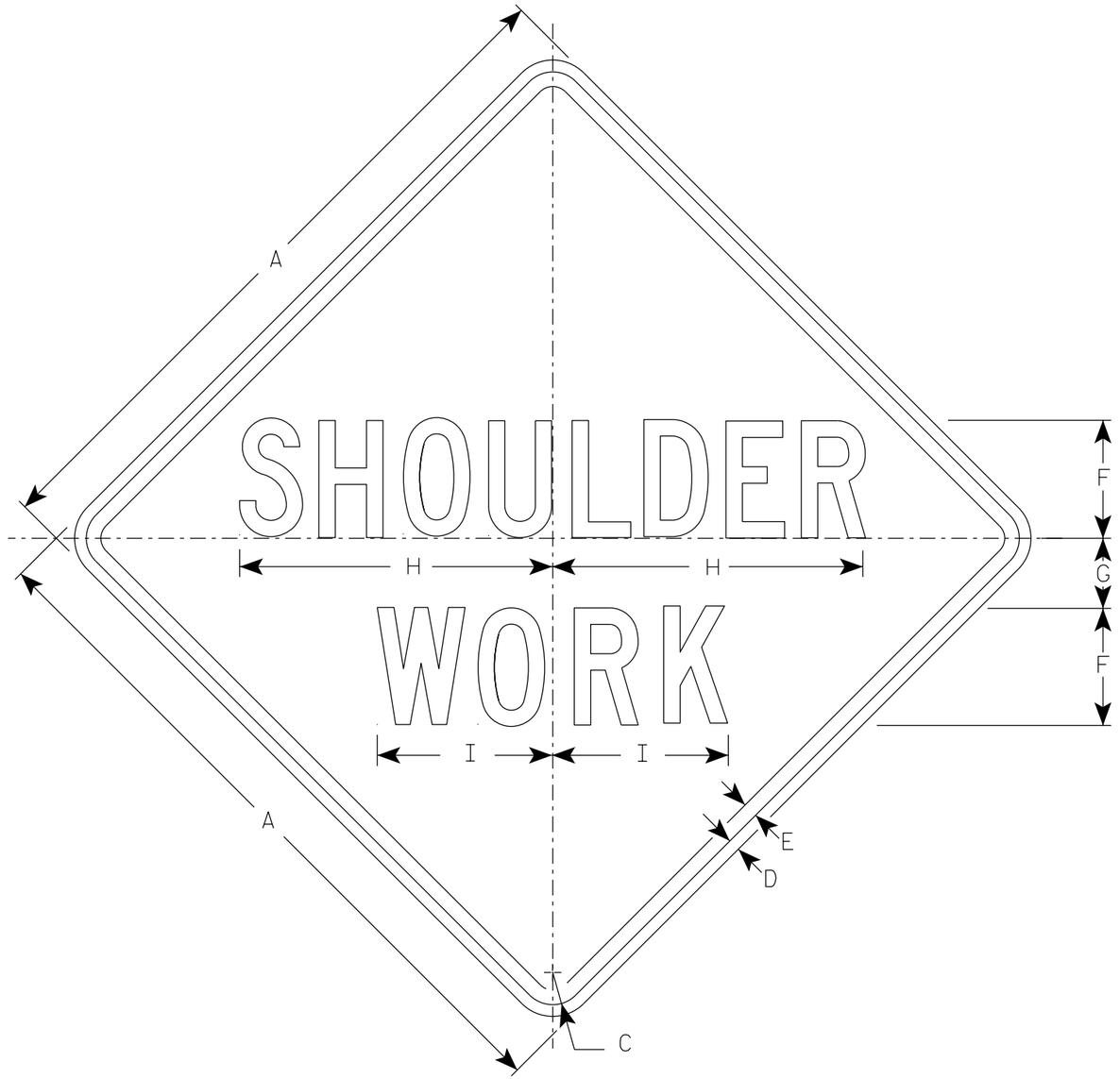
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11

PROJECT NO:

SHEET NO: E



W21-5

NOTES

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

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

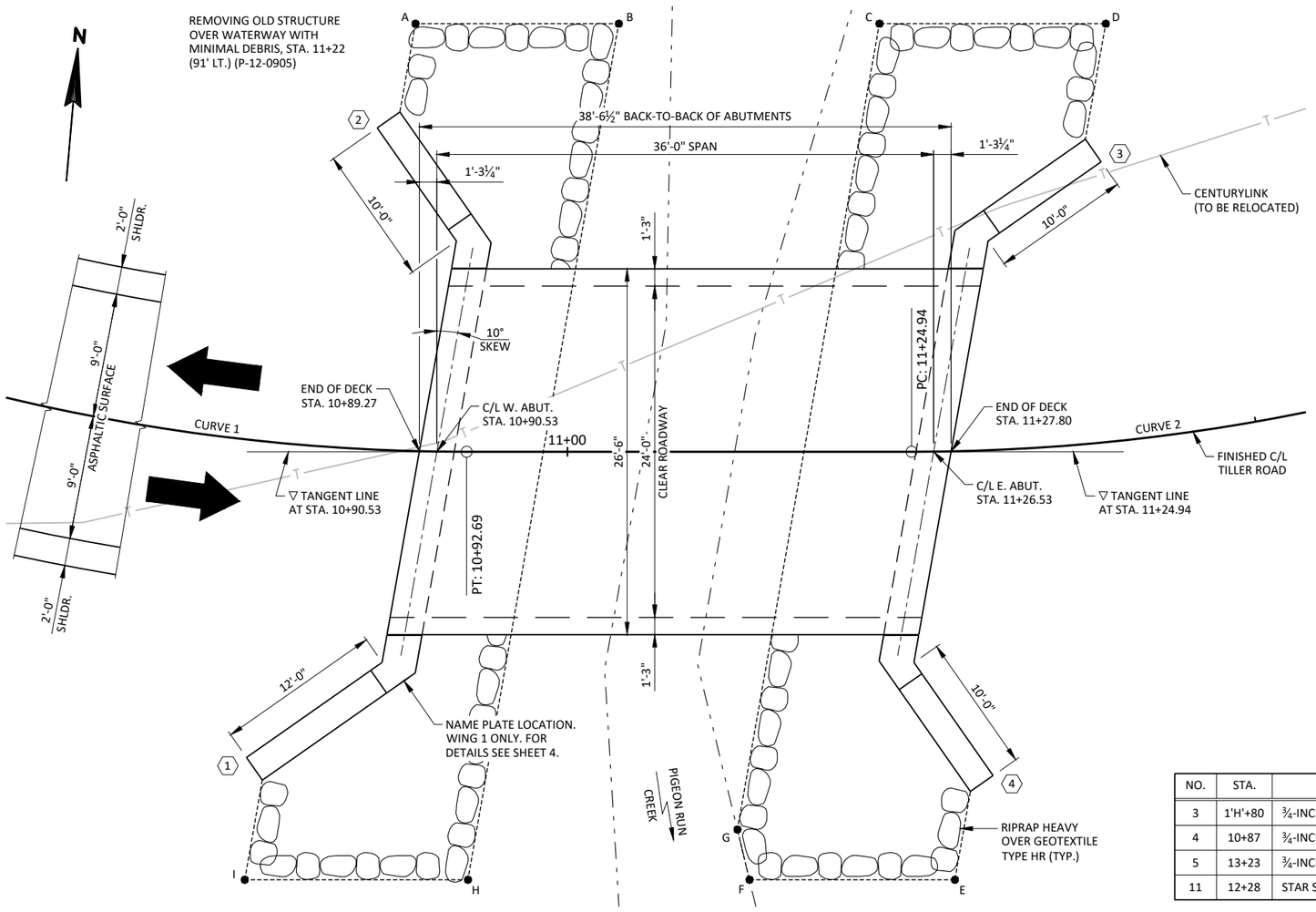
STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

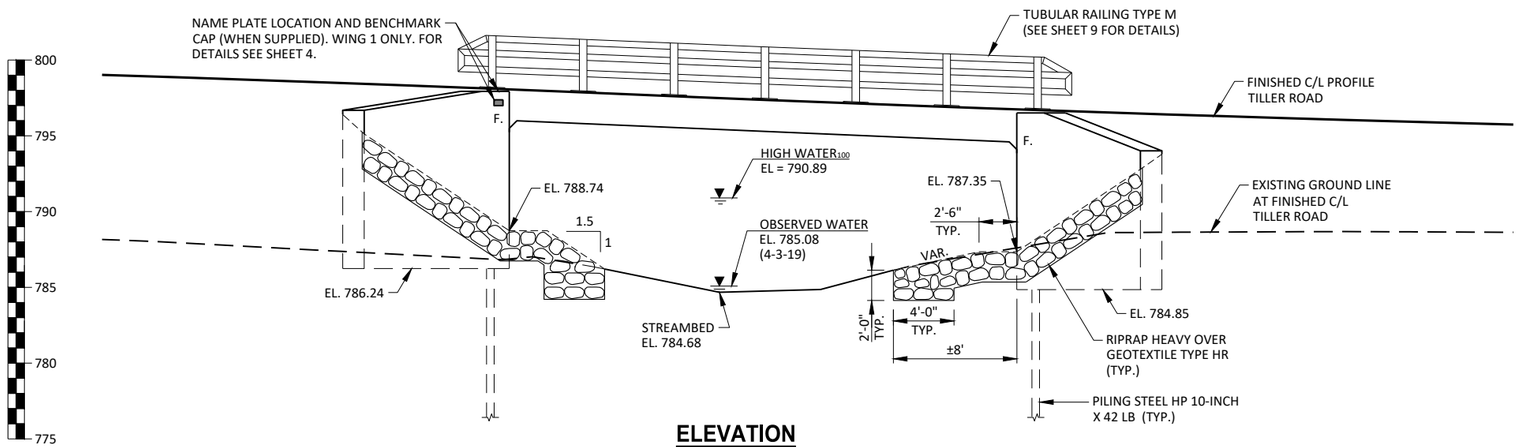
DATE 4/30/2020 PLATE NO. W21-5.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 51 | E



PLAN B-12-250

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB)



ELEVATION

(NORMAL TO PIGEON RUN CREEK)

INDICATES WING NUMBER

▽ SEE SHEET 4 AND SHEET 6 FOR OFFSET DETAILS

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	10+88	31' LT.
B	11+04	31' LT.
C	11+23	31' LT.
D	11+43	31' LT.
E	11+28	31' RT.
F	11+13	31' RT.
G	11+12	27' RT.
H	10+93	31' RT.
I	10+80	32' RT.

CURVE 1 DATA

PI STA. = 10+48.01
Y = 229,527.03
X = 439,240.36
R = 144.00
D = 39°47'20"
DELTA = 36°52'47"
L = 92.69
T = 48.01
C = 91.10
PC STA. = 10+00
Y = 229,552.41
X = 439,199.61
PT STA. = 10+92.69
Y = 229,531.17
X = 439,288.19

CURVE 2 DATA

PI STA. = 11+78.14
Y = 229,538.56
X = 439,373.32
R = 144.00
D = 39°47'20"
DELTA = 40°33'06"
L = 101.92
T = 53.20
C = 99.80
PC STA. = 11+24.94
Y = 229,533.96
X = 439,320.32
PT STA. = 12+26.85
Y = 229,576.51
X = 439,410.60

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
3	1'H'+80	¾-INCH IRON REBAR SET, 17.6' LT.	796.20
4	10+87	¾-INCH IRON REBAR SET, 80.0' LT.	797.36
5	13+23	¾-INCH IRON REBAR SET, 15.3' RT.	794.84
11	12+28	STAR SPIKE IN POWER POLE, 28.3' LT.	797.26

STATE PROJECT NUMBER

5325-00-72

DESIGN DATA

LIVE LOAD:

DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF=1.30
OPERATING RATING FACTOR — RF=1.68
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.
HIGH-STRENGTH 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 170 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT PILE LENGTHS AT BOTH ABUTMENTS.

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

TRAFFIC DATA

A.D.T. (2021) — 25
A.D.T. (2041) — 40
DESIGN SPEED — 25 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA — 1.8 SQ. MI.
Q_{100} TOTAL — 700 C.F.S.
THROUGH STRUCTURE — 700 C.F.S.
OVERTOPPING ROADWAY — N/A
VELOCITY - THROUGH STRUCTURE — 9.1 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE — 77.2 SQ. FT.
HIGH WATER$_{100}$ ELEVATION — 790.89
SCOUR CRITICAL CODE — 5

EROSION CONTROL
Q_2 — 100 C.F.S.
VELOCITY$_2$ — 4.3 F.P.S.
HIGH WATER$_2$ ELEVATION — 788.61

LIST OF DRAWINGS

GENERAL PLAN — 1.
CROSS SECTION AND QUANTITIES — 2.
SUBSURFACE EXPLORATION — 3.
WEST ABUTMENT — 4.
WEST ABUTMENT DETAILS — 5.
EAST ABUTMENT — 6.
EAST ABUTMENT DETAILS — 7.
SUPERSTRUCTURE — 8.
TUBULAR RAILING TYPE M — 9.

WISCONSIN PROFESSIONAL ENGINEER
PATRICK T. BOLAND E-36303 HILLPOINT WIS
Patrick Boland 8-26-2020

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc. Engineers - Architects - Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
OFFICE: (608) 588-7484
www.jewellassoc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED — SDR — 09/04/20
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-12-250

TILLER ROAD OVER PIGEON RUN CREEK

COUNTY: CRAWFORD — TOWN/~~CITY/VILLAGE~~: CLAYTON
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

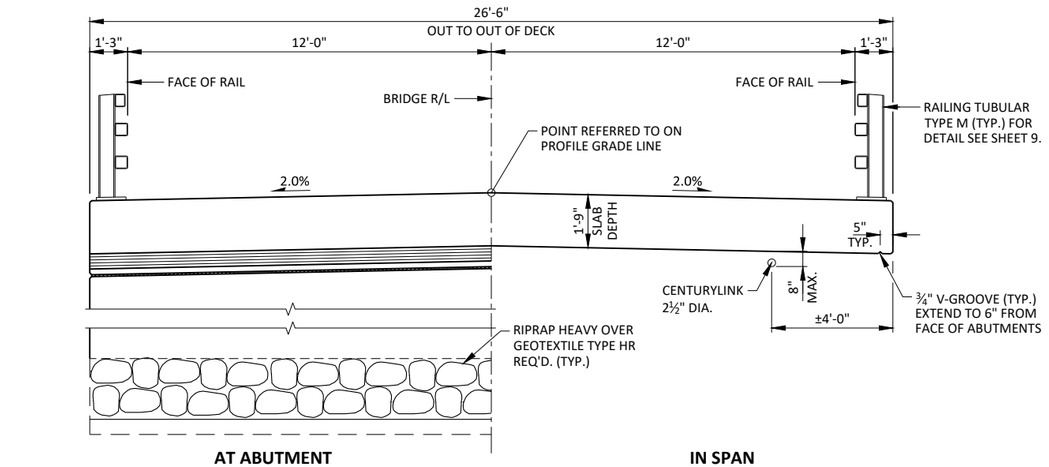
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PMF	PTB	PMF	PTB

GENERAL PLAN

SHEET 1 OF 9
52

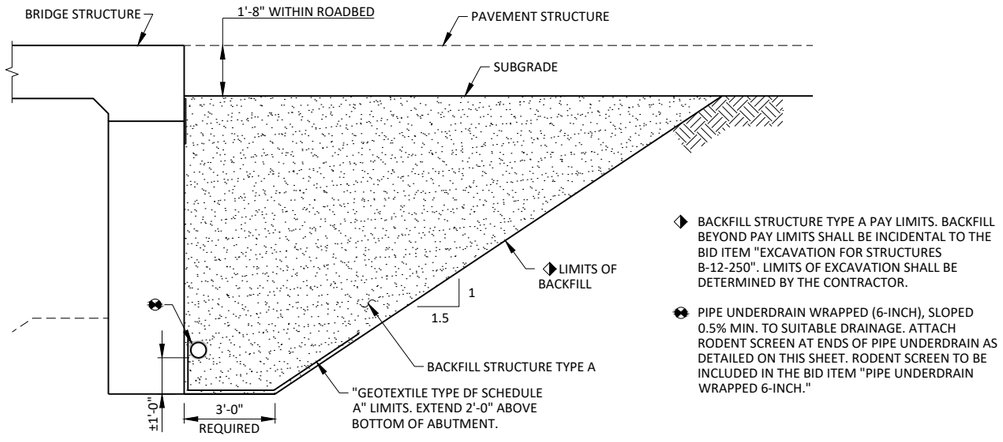
DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
AARON BONK, PE
(608) 261-0261



PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING EAST



◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES B-12-250". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

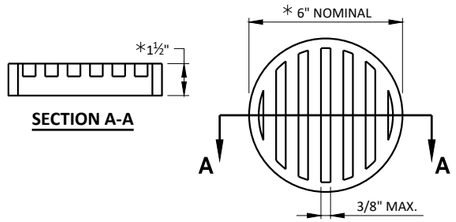
◓ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

BACKFILL STRUCTURE DETAIL

(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	SUPER	E. ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 11+22	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-12-250	LS	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	355	--	345	700
502.0100	CONCRETE MASONRY BRIDGES	CY	47	70	45	162
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	140	--	140
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,290	--	2,290	4,580
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,760	12,250	1,620	15,630
513.4061	RAILING TUBULAR TYPE M	LF	--	81	--	81
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	--	6	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	180	--	180	360
606.0300	RIPRAP HEAVY	CY	65	--	70	135
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	--	75	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	--	50	100
645.0120	GEOTEXTILE TYPE HR	SY	105	--	120	225
	NON-BID ITEMS					
	FILLER	SIZE				½" & ¾"
	NAME PLATE					



SECTION A-A

RODENT SCREEN

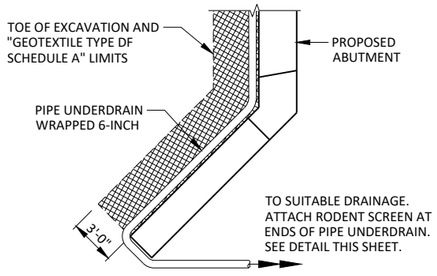
NOTES:

∗ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

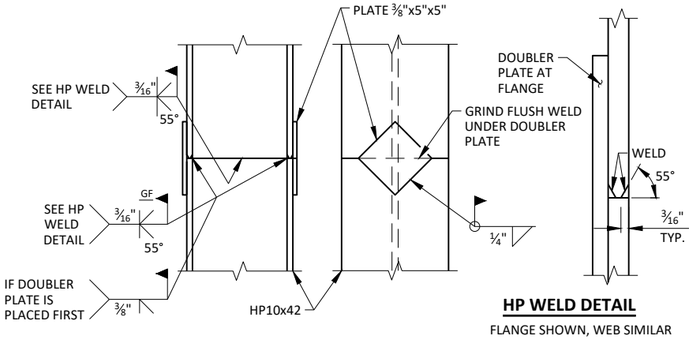
ORIENT SCREEN SO SLOTS ARE VERTICAL.

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

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



PIPE UNDERDRAIN DETAIL

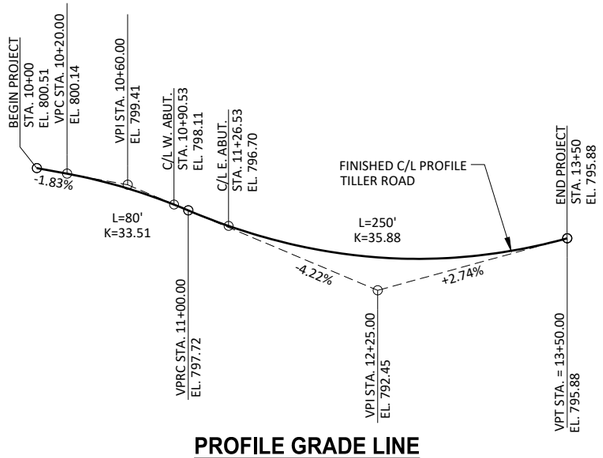


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.



PROFILE GRADE LINE

TILLER ROAD

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE DECK AND EXTERIOR 12" OF THE UNDERSIDE OF THE DECK (CONCRETE MATERIAL ONLY).

WALL SLEEVES AT ABUTMENTS AND CONCRETE INSERTS AT BOTTOM SIDE OF DECK ARE REQUIRED TO ACCOMMODATE THE RELOCATED CENTURYLINK FIBER OPTIC COMMUNICATION LINE CROSSING. SEE ABUTMENT AND SUPERSTRUCTURE SHEETS FOR DETAILS. ALL MATERIALS REQUIRED FOR THE UTILITY CROSSING ARE INCIDENTAL TO THE CONCRETE MASONRY BID ITEM.

THE EXISTING STRUCTURE (P-12-0905) IS A SINGLE-SPAN DECK GIRDER STRUCTURE WITH STEEL GIRDERS AND A CONCRETE DECK SUPPORTED ON CONCRETE ABUTMENTS. THE STRUCTURE HAS A CONCRETE APRON AND FLOOR. THE STRUCTURE IS 20.5' WIDE BY 24.8' LONG AND SHALL BE REMOVED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER IN THE FIELD.

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

STATE PROJECT NUMBER

5325-00-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-250

DRAWN BY PMF | PLANS CK'D. PTB

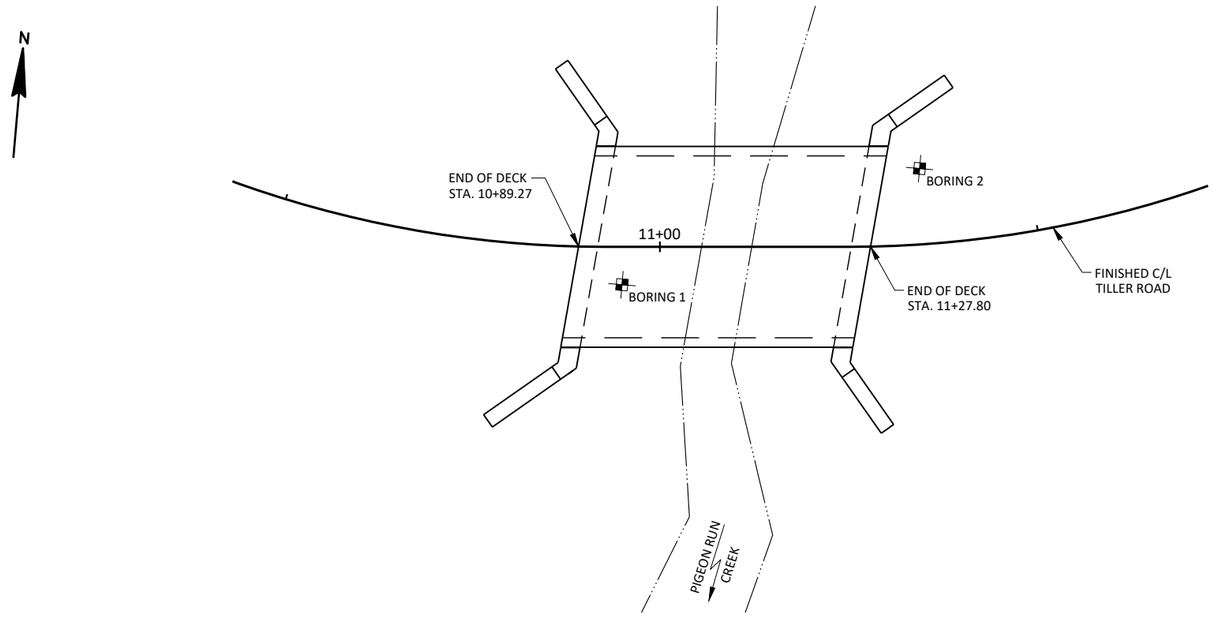
CROSS SECTION AND QUANTITIES

SHEET 2 OF 9

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8

8



PLAN B-12-250

SOIL BORINGS

BORING NUMBER	NORTHING (Y)	EASTING (X)	DATE COMPLETED
1	229,526.39	439,290.93	08/01/19
2	229,545.06	439,328.73	08/01/19

BORINGS & REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
5620 WOODLAND DRIVE
WAUNAKEE, WI 53597

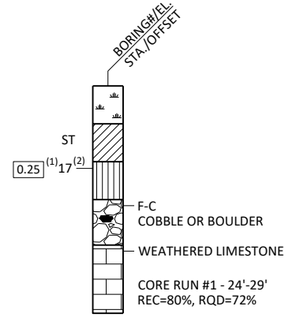
STATE PROJECT NUMBER

5325-00-72

MATERIAL SYMBOLS

Asphalt, Topsoil, Peat, Concrete, Fill, Gravel, Sand, Clay, Silt, Boulders or Cobbles, Limestone, Bedrock (unknown), Shale, Sandstone, Igneous/ meta

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED, THE SPT 'N' VALUE IS BASED ON AASHTO T-206 STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATIONS

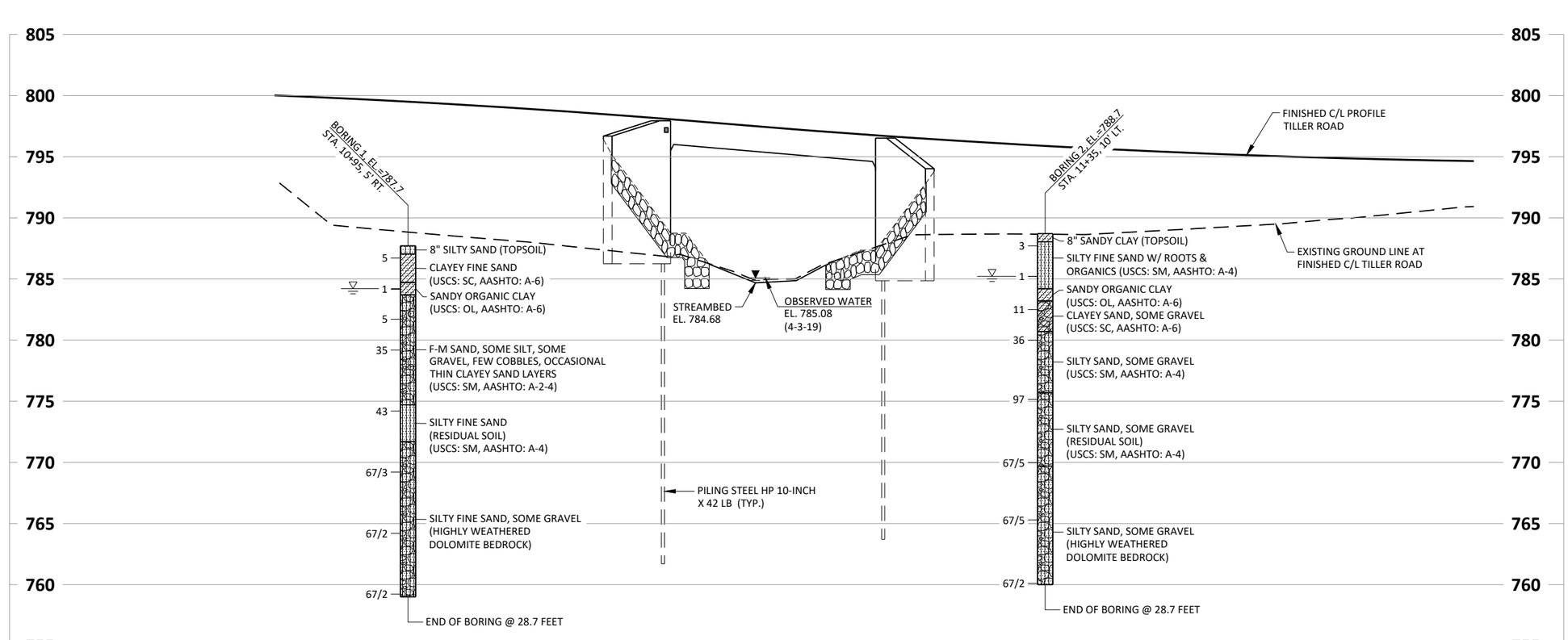
AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COURSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.



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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-250

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SUBSURFACE EXPLORATION

SHEET 3 OF 9

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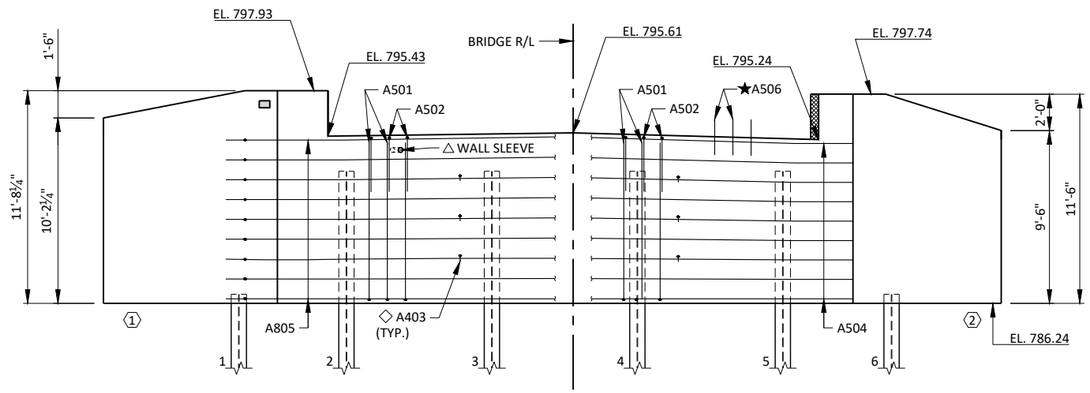
FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\STRUCTURE\CAD FILES\FINALS\03 SUBSURFACE EXPLORATION.DWG

PLOT SCALE : 1" = 1'

LAYOUT : LAYOUT1

STATE PROJECT NUMBER

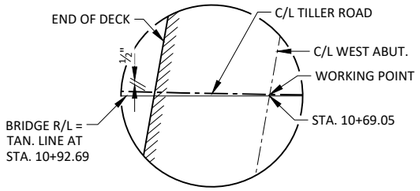
5325-00-72



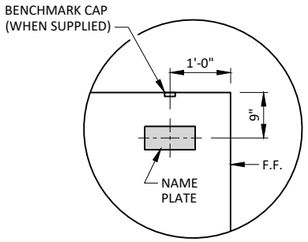
BACK FACE BAR STEEL REINF. **FRONT FACE BAR STEEL REINF.**

ELEVATION

(WEST ABUTMENT LOOKING WEST)

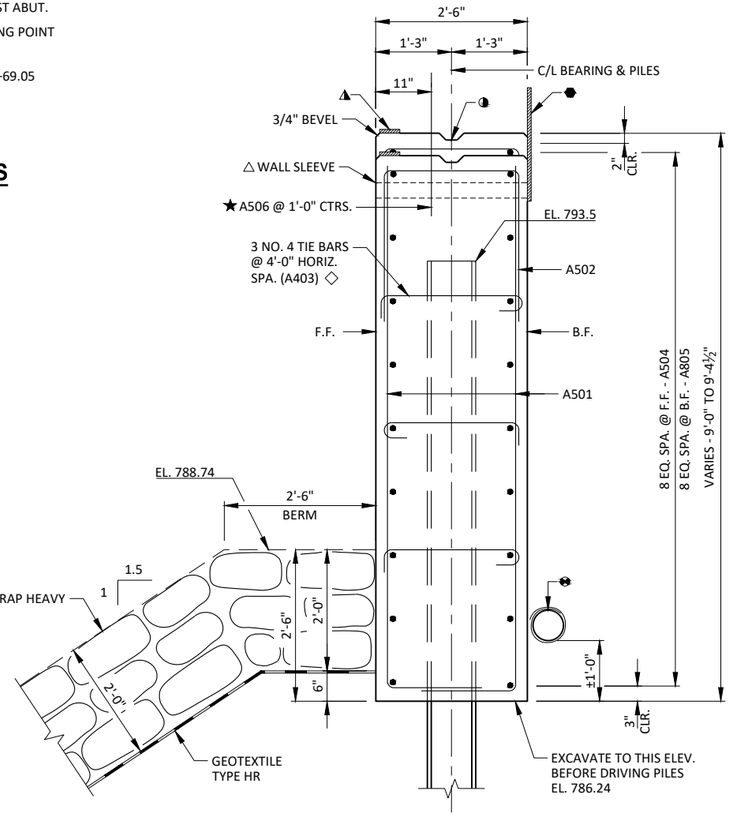


TANGENT OFFSET DETAILS WEST ABUTMENT



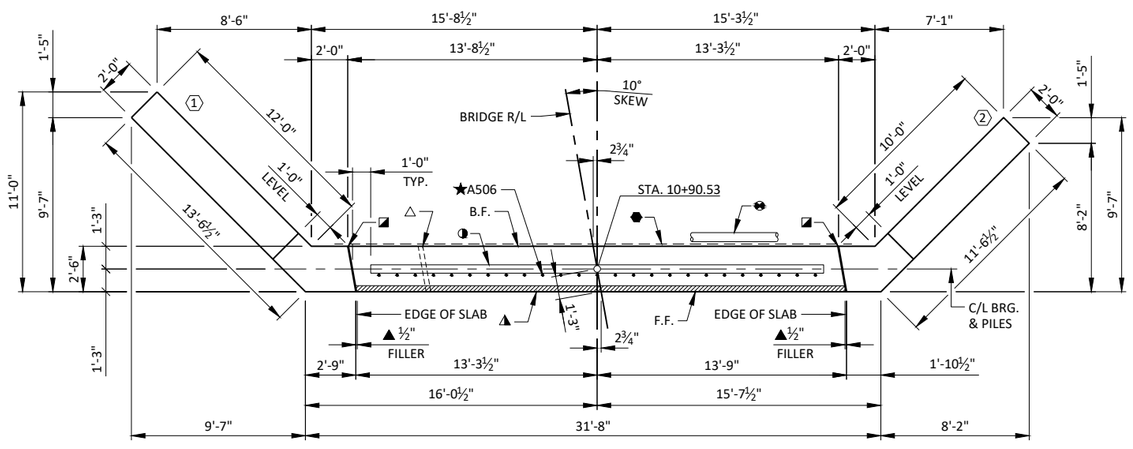
NAME PLATE AND BENCHMARK CAP DETAIL

(WING 1 ONLY)

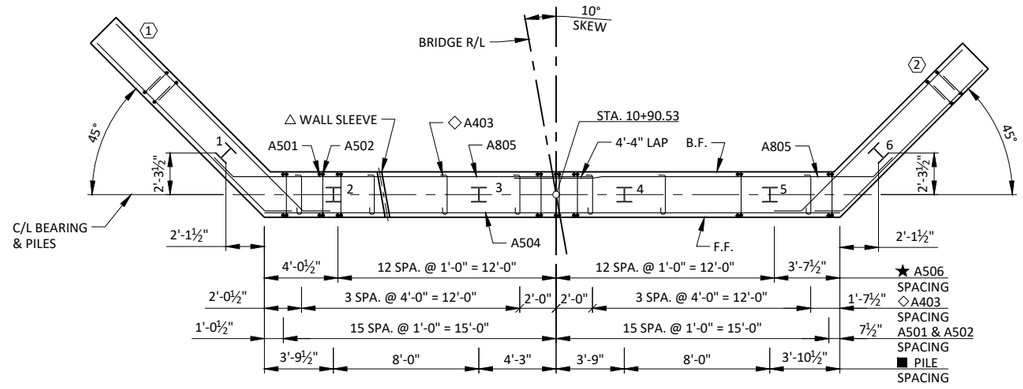


ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT. PILE LENGTHS AT THE WEST ABUTMENT.

TYPICAL SECTION THROUGH ABUTMENT BODY



PLAN



LAYOUT

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◭ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬬ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGN. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.
- △ 3-INCH DIA. WALL SLEEVE REQ'D. TO ACCOMMODATE THE RELOCATED CENTURYLINK FIBER OPTIC COMMUNICATION LINE. INSTALL WALL SLEEVE ALONG UTILITY PATH AS SHOWN ON SUPERSTRUCTURE SHEET. VERIFY SLEEVE SIZE, MATERIAL, AND LOCATION WITH CENTURYLINK PRIOR TO INSTALLATION.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-250

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WEST ABUTMENT

SHEET 4 OF 9

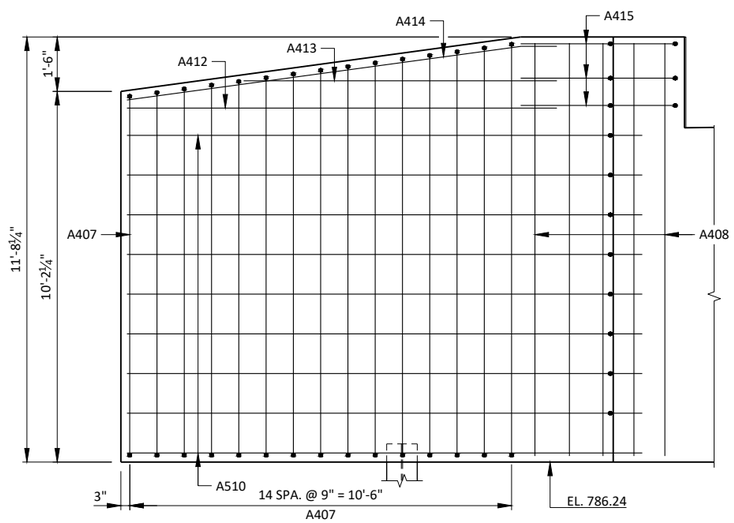
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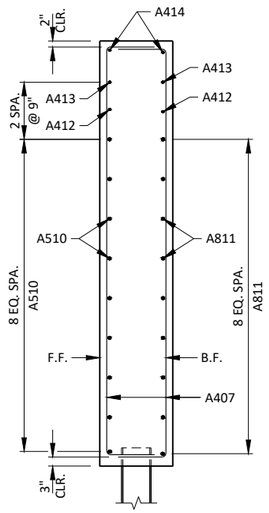
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STATE PROJECT NUMBER

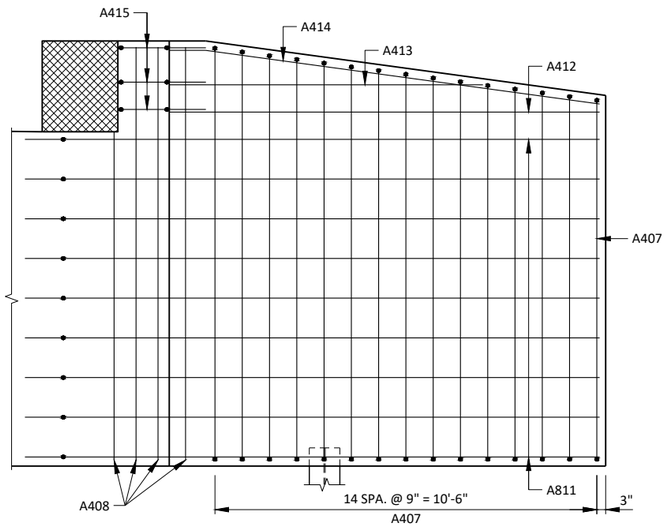
5325-00-72



F.F. ELEVATION - WING 1



SECTION A-A



B.F. ELEVATION - WING 1

BILL OF BARS
WEST ABUTMENT

1,760 LB (COATED)
2,290 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	62	10-1	X			BODY - VERT. - F.F & B.F.
A502	31	7-11	X			BODY - VERT. - TOP
A403	24	3-1	X			TIE BARS
A504	9	31-6				BODY - HORIZ. - F.F.
A805	18	21-8	X			BODY - HORIZ. - B.F.
A506	25	2-0		X		BODY - VERT. - DOWELS
A407	30	13-0	X	X	✳	WING 1 - VERT. - F.F. & B.F.
A408	9	11-3		X		WING 1- VERT.
A409	1	3-4		X		WING 1 - VERT. - TOP
A510	9	14-9	X	X		WING 1 - HORIZ. - F.F.
A811	9	16-5	X	X		WING 1- HORIZ. - B.F.
A412	2	11-10		X		WING 1 - HORIZ. - F.F. & B.F. - TOP
A413	2	8-8		X		WING 1 - HORIZ. - F.F. & B.F. - TOP
A414	2	11-11	X	X		WING 1 - HORIZ. - F.F. & B.F. - TOP
A415	3	9-10	X	X		WING 1 - HORIZ. - TOP
A416	24	12-5	X	X	✳	WING 2 - VERT. - F.F. & B.F.
A417	9	11-1		X		WING 2- VERT.
A418	1	3-4		X		WING 2 - VERT. - TOP
A519	9	12-9	X	X		WING 2 - HORIZ. - F.F.
A820	9	14-5	X	X		WING 2 - HORIZ. - B.F.
A421	2	9-0		X		WING 2 - HORIZ. - F.F. & B.F. - TOP
A422	2	5-8		X		WING 2 - HORIZ.- F.F & B.F. - TOP
A423	2	10-0	X	X		WING 2 - HORIZ. F.F. & B.F.- TOP
A424	3	9-0	X	X		WING 2 HORIZ. F.F. & B.F. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

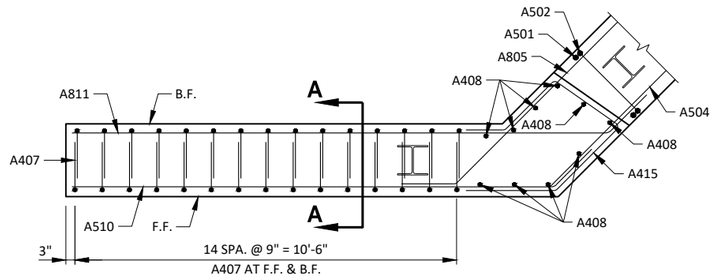
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

✳ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A407	2 SERIES OF 15	13-9 TO 12-3
A416	2 SERIES OF 12	13-3 TO 11-7

BUNDLE AND TAG EACH SERIES SEPARATELY.



PLAN VIEW - WING 1

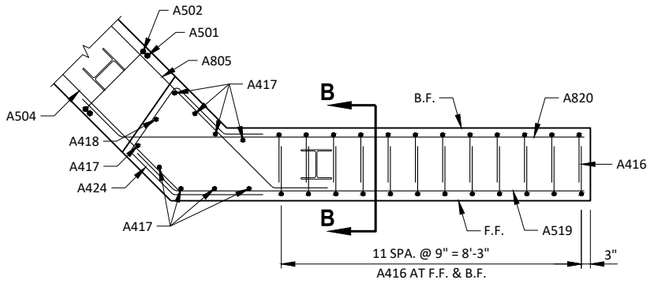
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

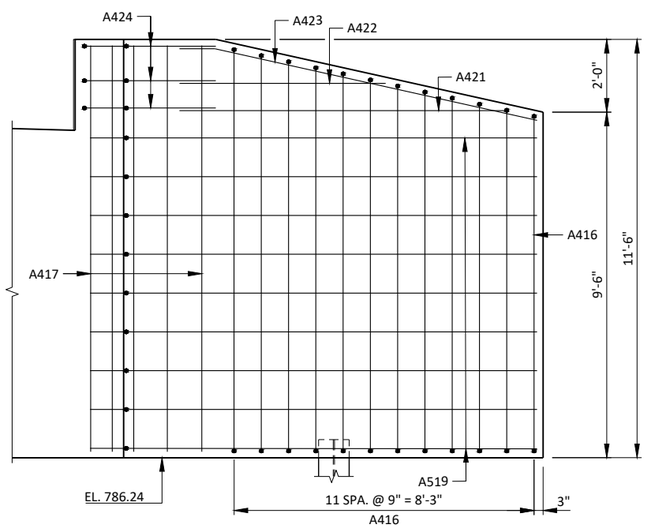
SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

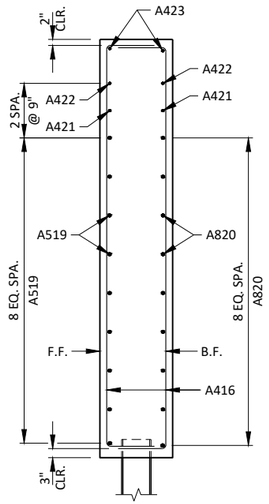
B.F. - BACK FACE



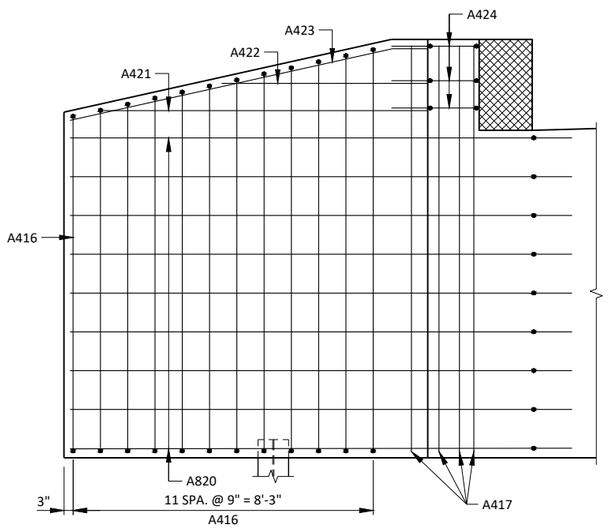
PLAN VIEW - WING 2



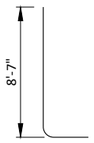
F.F. ELEVATION - WING 2



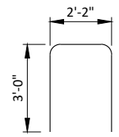
SECTION B-B



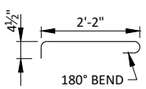
B.F. ELEVATION - WING 2



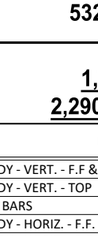
A501



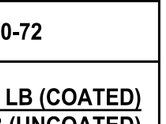
A502



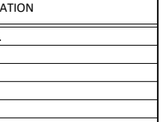
A403



A407 & A416



A415



A424



A805, A510, A811, A519 & A820



A414 & A423

MARK	'A'
A414	172°14'
A423	167°28'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-250

DRAWN BY: PMF | PLANS CK'D.: PTB

WEST ABUTMENT DETAILS

SHEET 5 OF 9

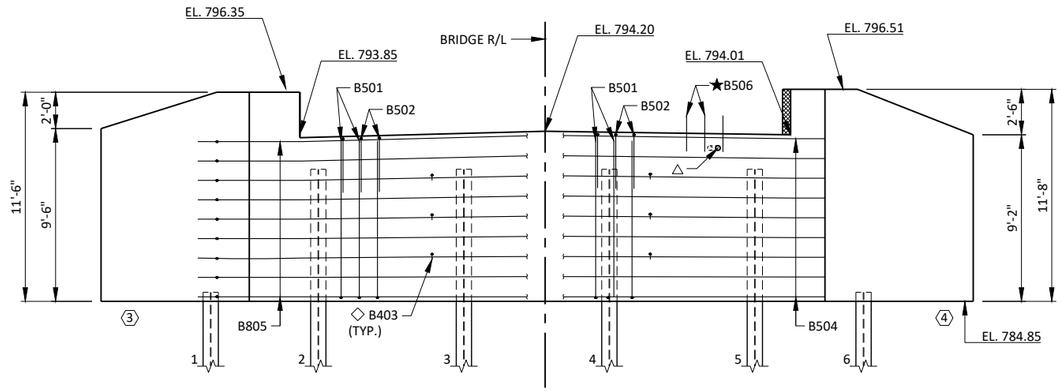
56

8

8

STATE PROJECT NUMBER

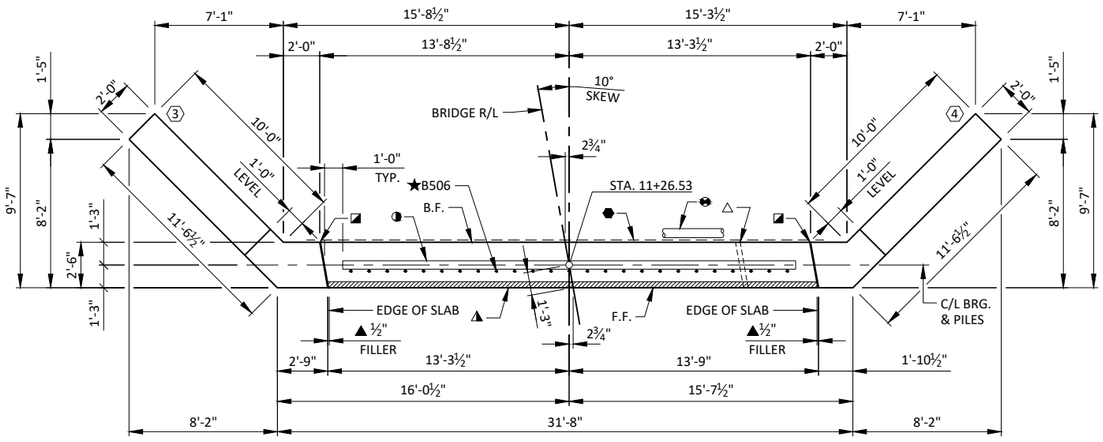
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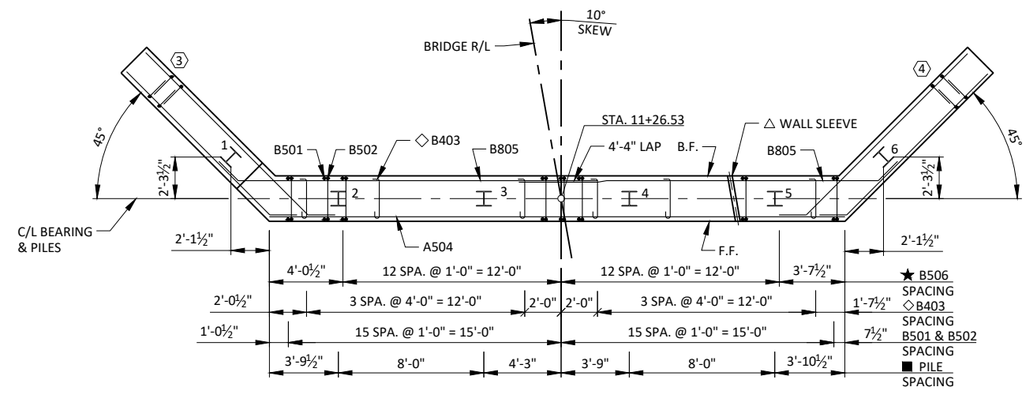
BACK FACE BAR STEEL REINF. **FRONT FACE BAR STEEL REINF.**

ELEVATION

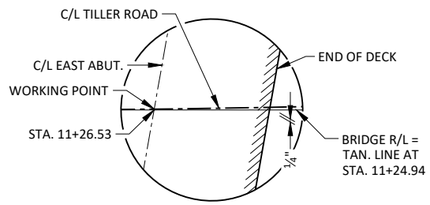
(EAST ABUTMENT LOOKING EAST)



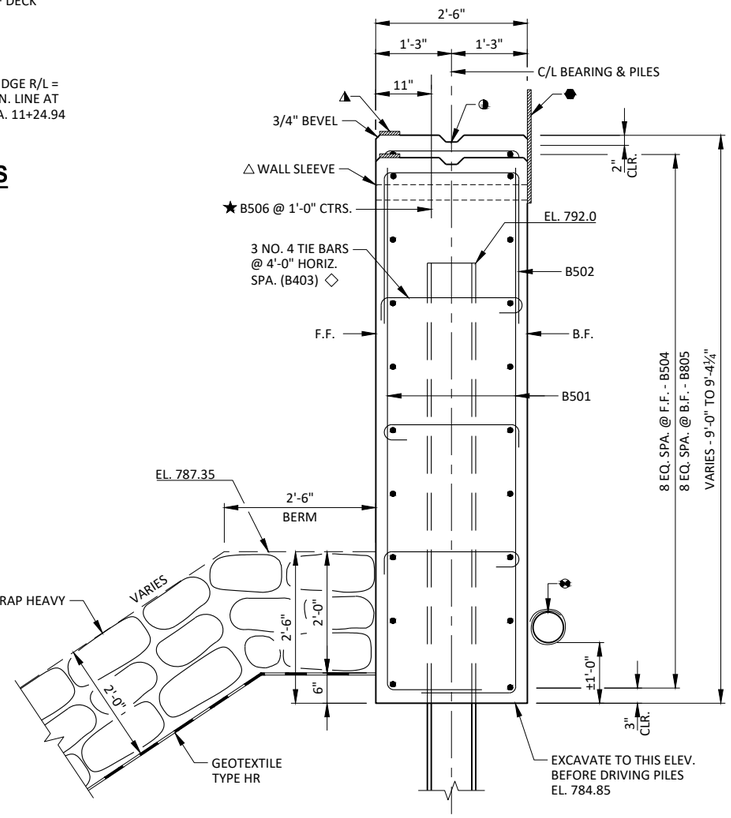
PLAN



LAYOUT



TANGENT OFFSET DETAILS EAST ABUTMENT



ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 170 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT. PILE LENGTHS AT THE EAST ABUTMENT.

TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◭ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬬ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGN. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.
- △ 3-INCH DIA. WALL SLEEVE REQ'D. TO ACCOMMODATE THE RELOCATED CENTURYLINK FIBER OPTIC COMMUNICATION LINE. INSTALL WALL SLEEVE ALONG UTILITY PATH AS SHOWN ON SUPERSTRUCTURE SHEET. VERIFY SLEEVE SIZE, MATERIAL, AND LOCATION WITH CENTURYLINK PRIOR TO INSTALLATION.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 7 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-250

DRAWN BY PMF | PLANS CK'D. PTB

EAST ABUTMENT

SHEET 6 OF 9

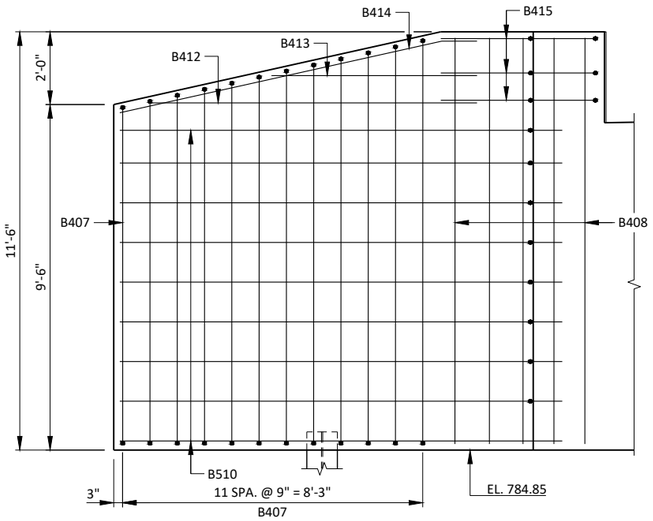
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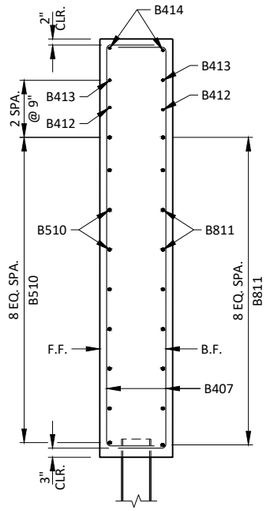
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STATE PROJECT NUMBER

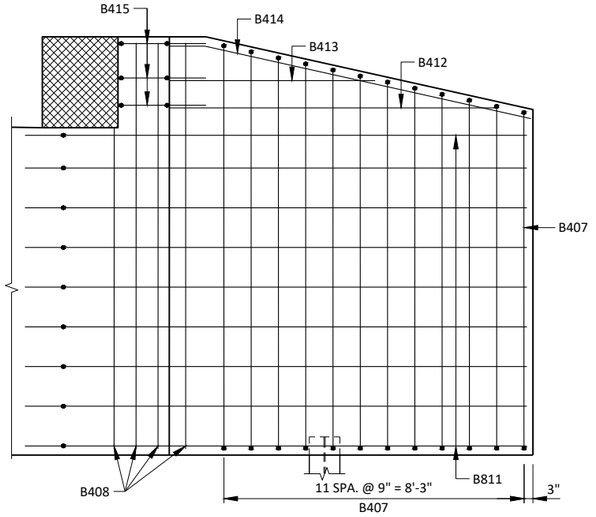
5325-00-72



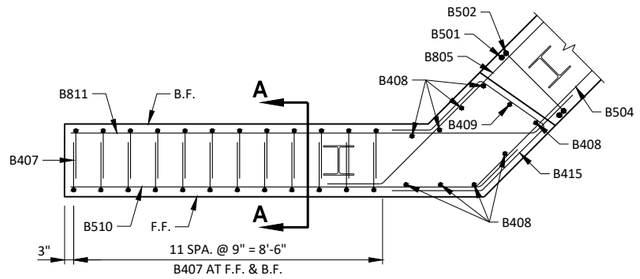
F.F. ELEVATION - WING 3



SECTION A-A



B.F. ELEVATION - WING 3



PLAN VIEW - WING 3

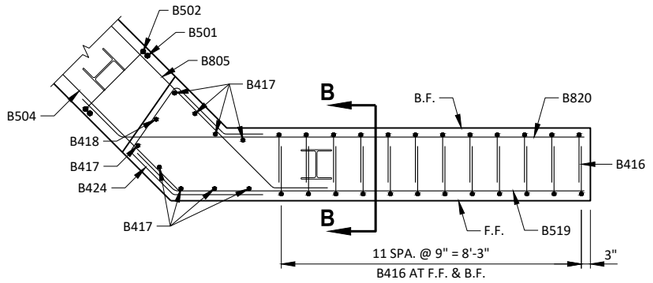
NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE



PLAN VIEW - WING 4

BILL OF BARS
EAST ABUTMENT

1,620 LB (COATED)
2,290 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
B501	62	10-1	X			BODY - VERT. - F.F & B.F.
B502	31	7-11	X			BODY - VERT. - TOP
B403	24	3-1	X			TIE BARS
B504	9	31-6				BODY - HORIZ. - F.F.
B805	18	21-8	X			BODY - HORIZ. - B.F.
B506	25	2-0		X		BODY - VERT. - DOWELS
B407	24	12-6	X	X	✳	WING 3 - VERT. - F.F. & B.F.
B408	9	11-1		X		WING 3- VERT.
B409	1	3-4		X		WING 3 - VERT. - TOP
B510	9	12-9	X	X		WING 3 - HORIZ. - F.F.
B811	9	14-5	X	X		WING 3- HORIZ. - B.F.
B412	2	9-0		X		WING 3 - HORIZ. - F.F. & B.F. - TOP
B413	2	5-8		X		WING 3 - HORIZ. - F.F. & B.F. - TOP
B414	2	10-0	X	X		WING 3 - HORIZ. - F.F. & B.F. - TOP
B415	3	9-10	X	X		WING 3 - HORIZ. - TOP
B416	24	12-5	X	X	✳	WING 4 - VERT. - F.F. & B.F.
B417	9	11-3		X		WING 4- VERT.
B418	1	3-4		X		WING 4 - VERT. - TOP
B519	9	12-9	X	X		WING 4 - HORIZ. - F.F.
B820	9	14-5	X	X		WING 4 - HORIZ. - B.F.
B421	2	7-5		X		WING 4 - HORIZ. - F.F. & B.F. - TOP
B422	2	4-9		X		WING 4 - HORIZ.- F.F & B.F. - TOP
B423	2	10-2	X	X		WING 4 - HORIZ. F.F. & B.F.- TOP
B424	3	9-0	X	X		WING 4 HORIZ. F.F. & B.F. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

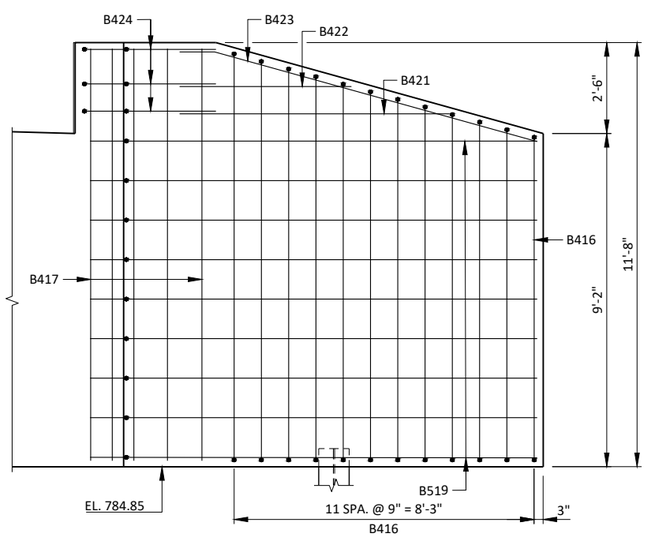
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

✳ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

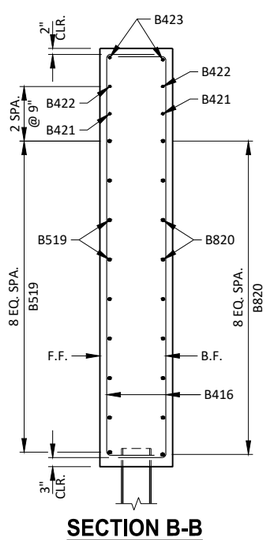
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A407	2 SERIES OF 12	13-5 TO 11-7
A416	2 SERIES OF 12	13-7 TO 11-3

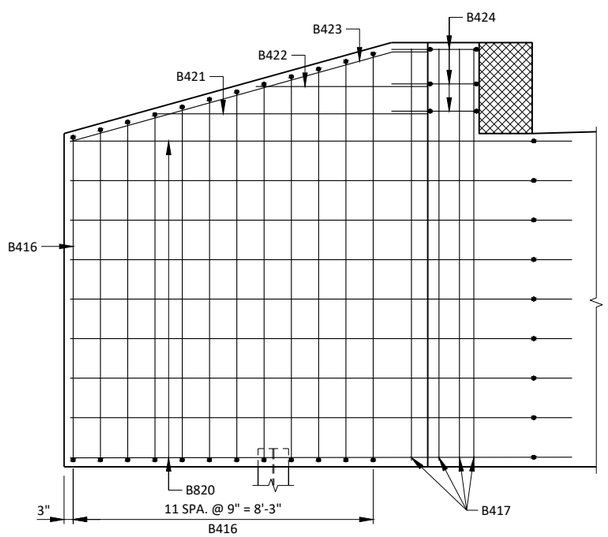
BUNDLE AND TAG EACH SERIES SEPARATELY.



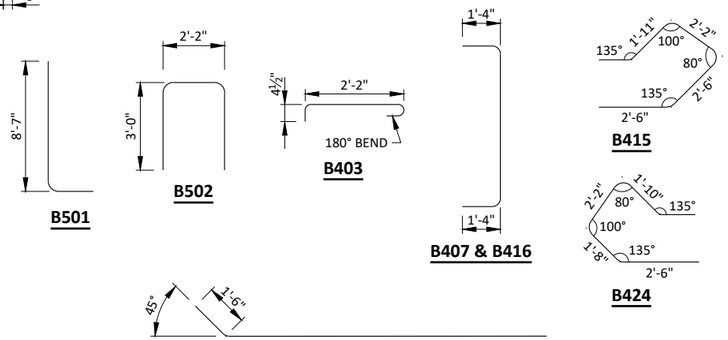
F.F. ELEVATION - WING 4

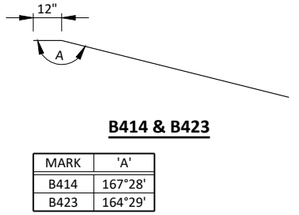


SECTION B-B



B.F. ELEVATION - WING 4





B414 & B423

MARK	'A'
B414	167°28'
B423	164°29'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-250

DRAWN BY PMF | PLANS CK'D. PTB

EAST ABUTMENT DETAILS

SHEET 7 OF 9

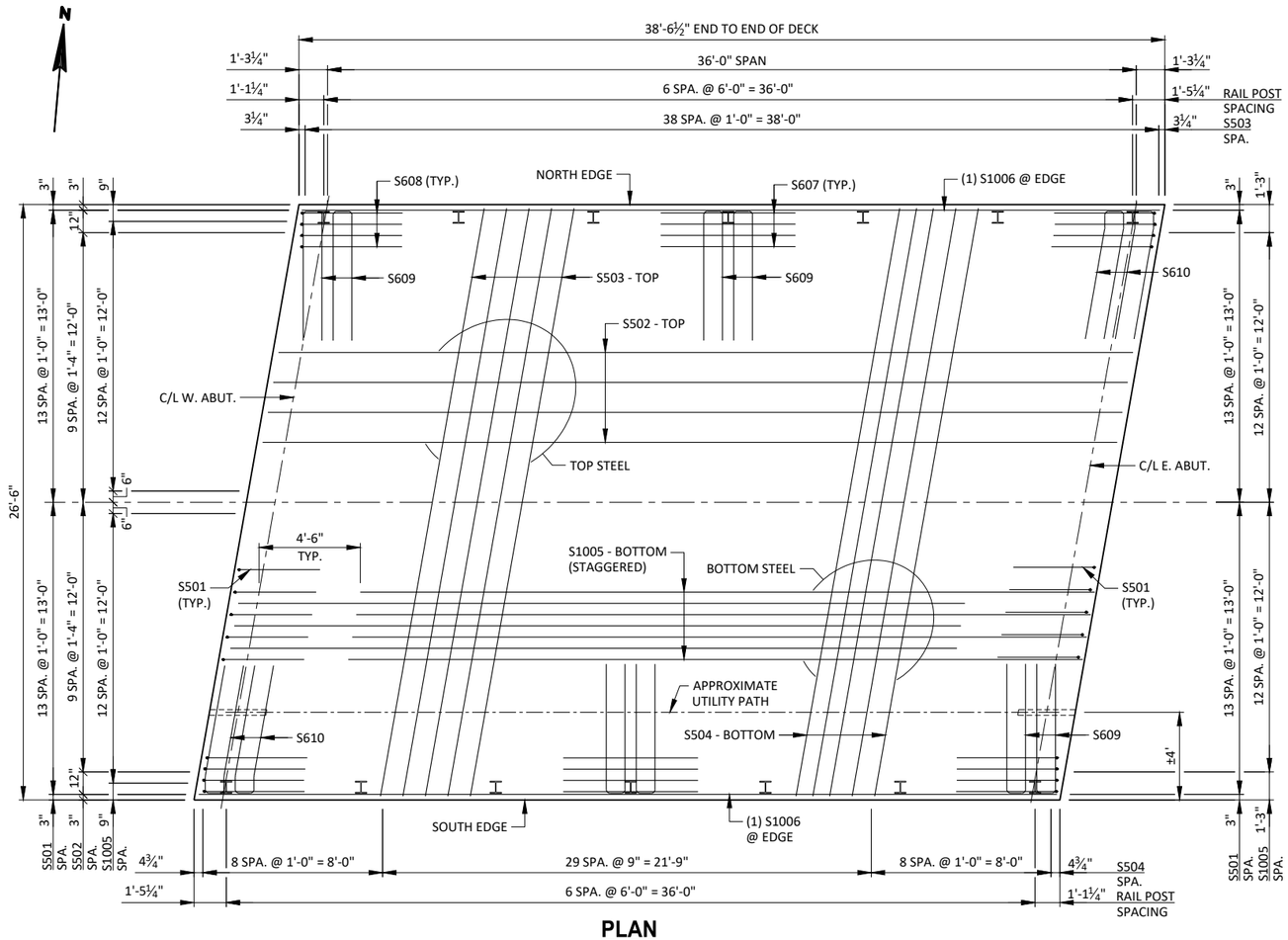
58

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FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\STRUCTURE\CAD FILES\FINALS\04 ABUTMENTS.DWG
PLOT DATE : 8/26/2020 11:10:47 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1" = 1'
LAYOUT : EAST ABUT DETAILS

STATE PROJECT NUMBER

5325-00-72



PLAN

NOTES

CONTRACTOR TO INSTALL DECK INSERTS PROVIDED BY CENTURYLINK ALONG UTILITY PATH UNLESS INSTRUCTED OTHERWISE BY THE UTILITY.

SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

SURVEY TOP OF DECK ELEVATIONS

	W. ABUT.	0.50 PT.	E. ABUT.
NORTH EDGE OF DECK			
CENTER LINE			
SOUTH EDGE OF DECK			

PRIOR TO RELEASING SLAB FASLEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF THE ABUTMENTS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE EDGE OF DECK AND CENTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

BILL OF BARS SUPERSTRUCTURE

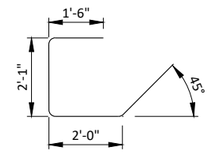
12,250 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	54	7-6	X	X	ENDS OF DECK
S502	21	38-2		X	SLAB - TOP - LONGIT.
S503	45	26-6		X	SLAB - TOP - TRANS.
S504	45	26-6		X	SLAB - BOTTOM - TRANS.
S1005	51	32-8		X	SLAB - BOTTOM - LONGIT.
S1006	2	38-2		X	SLAB - BOTTOM - LONGIT. - EDGES
S607	40	6-0		X	RAIL POSTS - INTERIOR
S608	16	6-0	X	X	RAIL POSTS - CORNERS
S609	24	12-0	X	X	RAIL POSTS
S610	4	12-0	X	X	RAIL POSTS - CORNERS 1 & 3

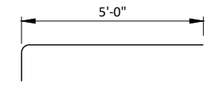
NOTES: THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

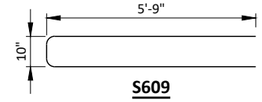
SOME BARS HAVE BEEN OMITTED FOR CLARITY.



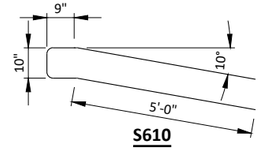
S501



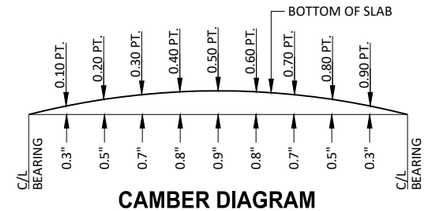
S608



S609



S610



CAMBER DIAGRAM

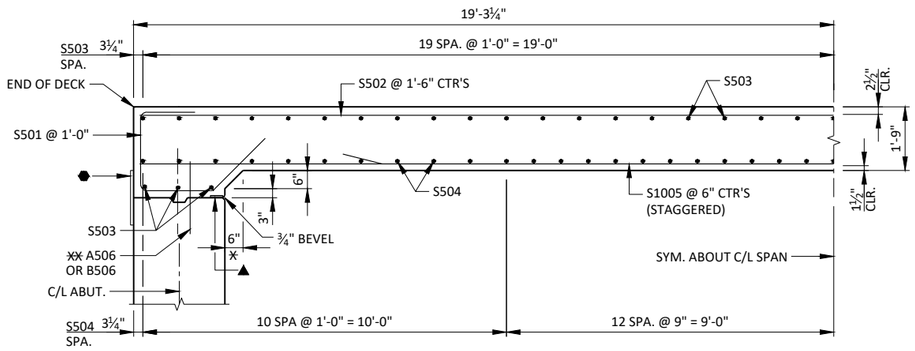
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB OR CENTER LINE FOLLOW THIS PROCEDURE:

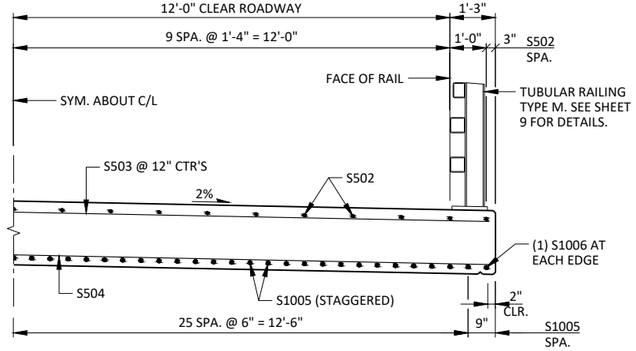
TOP OF SLAB ELEVATION AT FINAL GRADE
-SLAB THICKNESS
+CAMBER
+FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)
=TOP OF SLAB FALSEWORK ELEVATION.

TOP OF DECK ELEVATIONS

	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE	797.74	797.60	797.45	797.30	797.15	797.01	796.87	796.73	796.60	796.47	796.35
C/L	798.11	797.96	797.81	797.66	797.52	797.37	797.23	797.09	796.96	796.83	796.70
S. EDGE	797.93	797.79	797.64	797.49	797.34	797.19	797.05	796.91	796.77	796.64	796.51



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY



PARTIAL CROSS SECTION THROUGH ROADWAY

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- X DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- XX SEE SHEET 4 FOR PLACEMENT OF A506 BARS AND SHEET 6 FOR PLACEMENT OF B506 BARS.

NO.	DATE	REVISION	BY

STRUCTURE B-12-250

DRAWN BY: PMF | PLANS CK'D.: PTB

SUPERSTRUCTURE

SHEET 8 OF 9

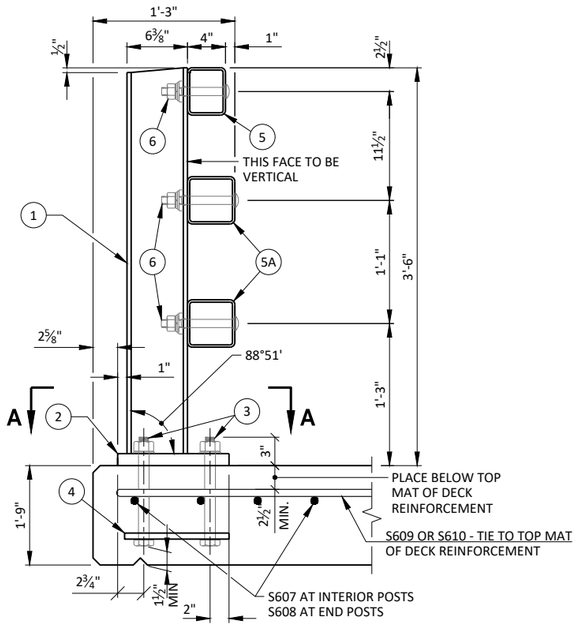
59

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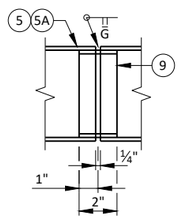
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STATE PROJECT NUMBER

5325-00-72

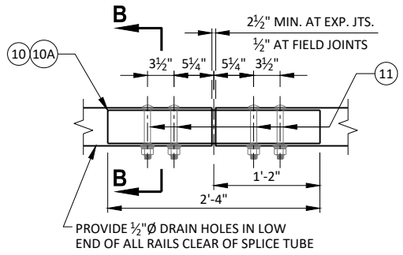


SECTION THROUGH RAILING ON DECK

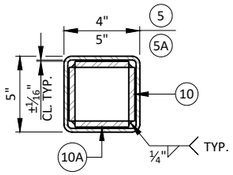


SHOP RAIL SPLICE DETAIL

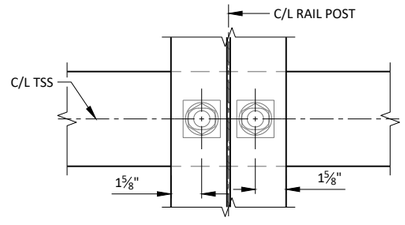
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



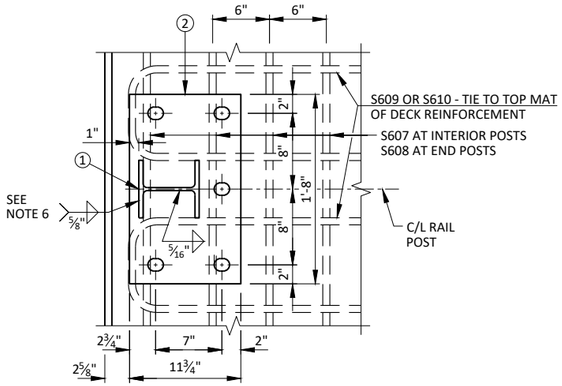
FIELD ERECTION JOINT DETAIL



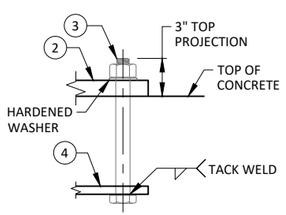
SECTION B-B



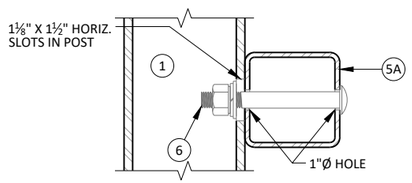
SECTION THROUGH POST WEB



SECTION A-A



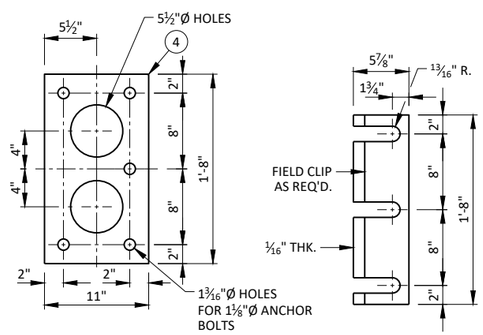
ANCHOR BOLTS



SECTION THROUGH RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

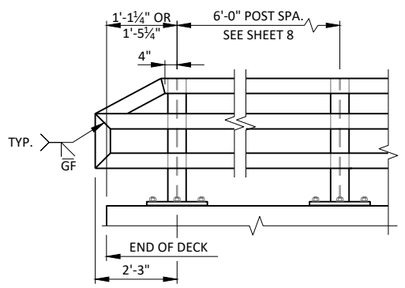
TYPICAL RAIL TO POST CONNECTIONS



ANCHOR PLATE

AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



PART ELEVATION OF RAILING

LEGEND

1. W6x25 WITH 1⅛" x 1½" HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1½"x11¾"x1'-8" WITH 1⁵⁄₁₆"x1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG.
4. ⅝"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1¾6" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
5. TSS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TSS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ³⁄₁₆"x1⅝"x1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜"x3⅜"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜"x2⅝"x2'-4" PLATE USED IN NO. 5, ⅜"x3⅜"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE ¹⁵⁄₁₆"x1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND ¹⁵⁄₁₆"x2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

NO.	DATE	REVISION	BY

STRUCTURE B-12-250

DRAWN BY PMF | PLANS CK'D. PTB

TUBULAR RAILING TYPE M

SHEET 9 OF 9

60

8

8

STAGE 1

EARTHWORK - TILLER ROAD, MAINLINE - STAGE 1

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10+00	173	0	0	0	0	0	0	0	0
10+50	0	723	160	669	836	160	669	836	-676
10+89	0	723	0	1044	1305	160	1713	2141	-1981
10+89	0	0	0	0	0	160	1713	2141	-1981
11+28	0	0	0	0	0	160	1713	2141	-1981
11+28	0	318	0	0	0	160	1713	2141	-1981
11+50	0	318	0	259	324	160	1972	2465	-2305
12+00	0	157	0	440	550	160	2412	3015	-2855
12+50	0	34	0	177	221	160	2589	3236	-3076
13+00	28	2	26	33	41	186	2622	3277	-3091
13+50	0	0	26	2	3	212	2624	3280	-3068
MAINLINE COLUMN SUBTOTALS =			212	2624	3280				

EARTHWORK - CTH H - STAGE 1

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
01+27	12	0	0	0	0	0	0	0	0
01+50	12	32	10	14	18	10	14	18	-8
02+00	12	110	22	131	164	32	145	182	-150
02+50	12	0	22	0	0	54	145	182	-128
03+00	12	122	22	113	141	76	258	323	-247
COLUMN SUBTOTALS =			76	258	323				
STAGE 1 PROJECT TOTALS			288	2882	3603				

MARSH EXCAVATION - TILLER ROAD, MAINLINE - STAGE 1

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10+00	0	0	0	0	0	0	0	0	0
10+50	210	0	194	0	0	194	0	0	194
10+89	211	0	304	0	0	498	0	0	498
10+89	0	0	0	0	0	498	0	0	498
11+28	0	0	0	0	0	498	0	0	498
11+28	117	0	0	0	0	498	0	0	498
11+50	116	0	95	0	0	593	0	0	593
12+00	0	0	107	0	0	700	0	0	700
MAINLINE COLUMN SUBTOTALS =			700	0	0				

STAGE 2

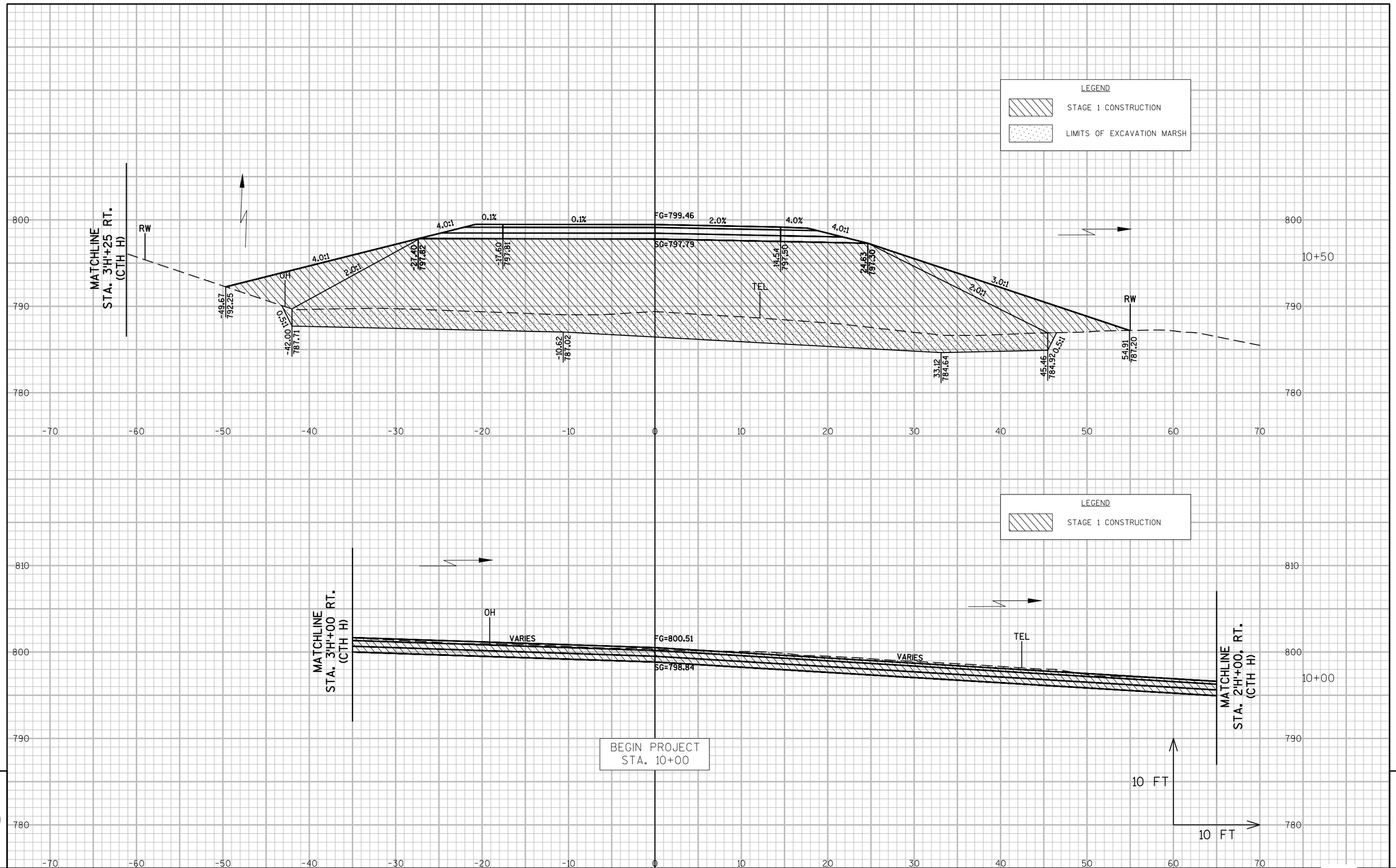
EARTHWORK - TILLER ROAD, MAINLINE - STAGE 2

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10+00	0	0	0	0	0	0	0	0	0
10+50	0	0	0	0	0	0	0	0	0
10+89	205	0	148	0	0	148	0	0	148
10+89	0	0	0	0	0	148	0	0	148
11+28	0	0	0	0	0	148	0	0	148
11+28	240	0	0	0	0	148	0	0	148
11+50	240	0	196	0	0	344	0	0	344
12+00	402	0	594	0	0	938	0	0	938
12+50	103	0	468	0	0	1406	0	0	1406
13+00	53	0	144	0	0	1550	0	0	1550
13+50	0	0	49	0	0	1599	0	0	1599
MAINLINE COLUMN SUBTOTALS =			1599	0	0				

EARTHWORK - CTH H - STAGE 2

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
03+00	11	0	0	0	0	0	0	0	0
03+25	34	0	21	0	0	21	0	0	21
03+47	57	0	37	0	0	58	0	0	58
03+50	55	0	6	0	0	64	0	0	64
03+75	31	0	40	0	0	104	0	0	104
03+90	0	0	9	0	0	113	0	0	113
COLUMN SUBTOTALS =			113	0	0				
STAGE 2 PROJECT TOTALS			1712	0	0				

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - FILL (25%)	FILL 25%: (UNEXPANDED FILL)*1.25
4 - MASS ORDINATE	(CUT - FILL (25%))



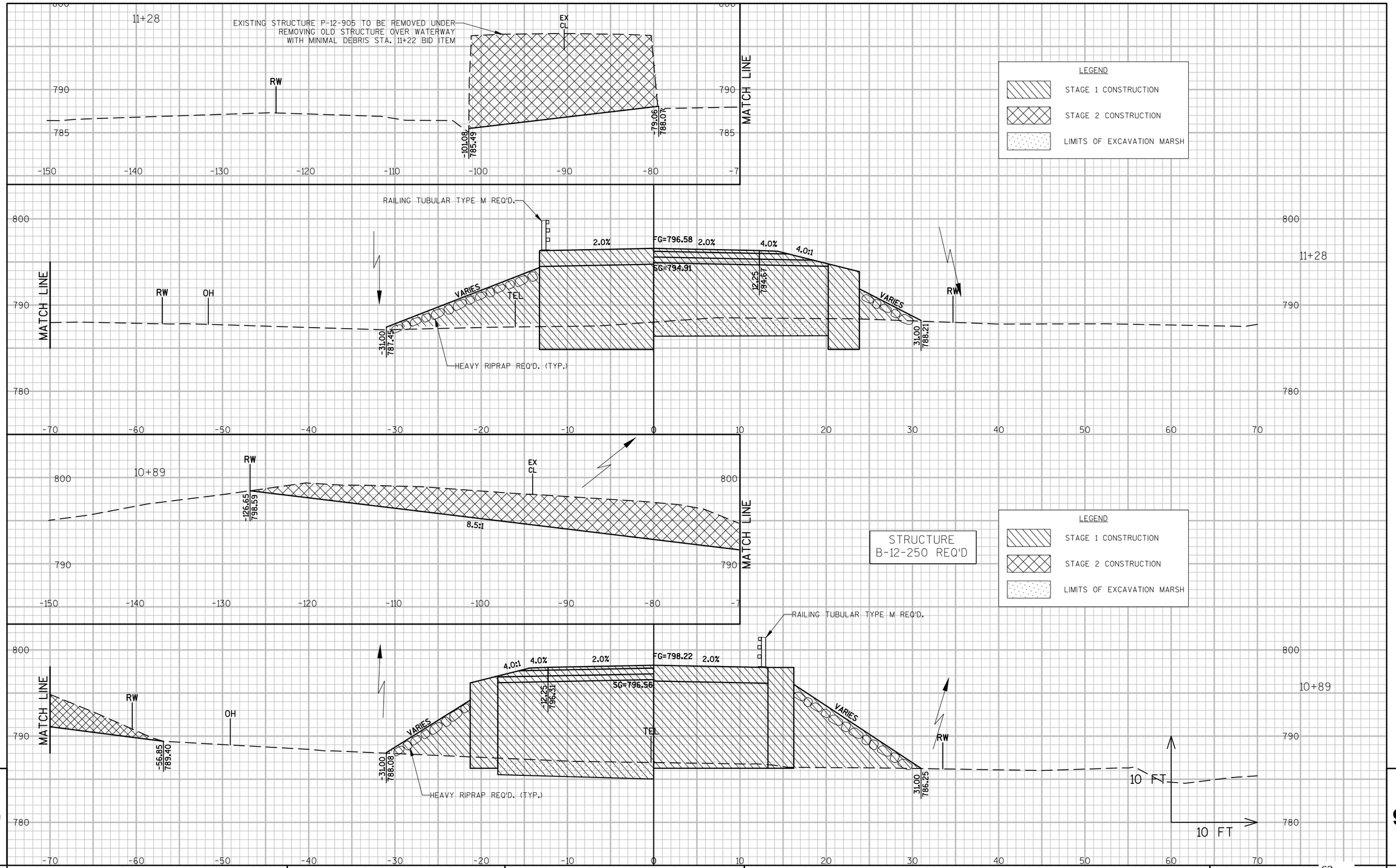
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LAYOUT : TILLER RD MAINLINE – (1)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:32 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'



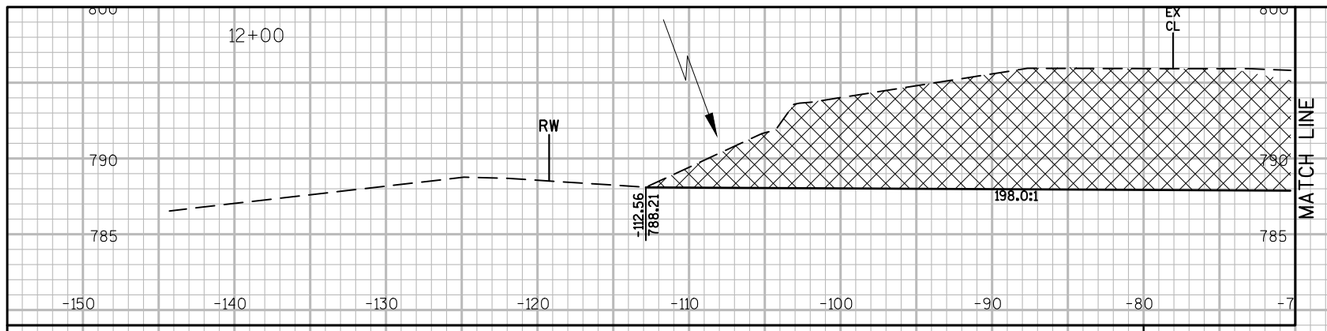
PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: MAINLINE	SHEET

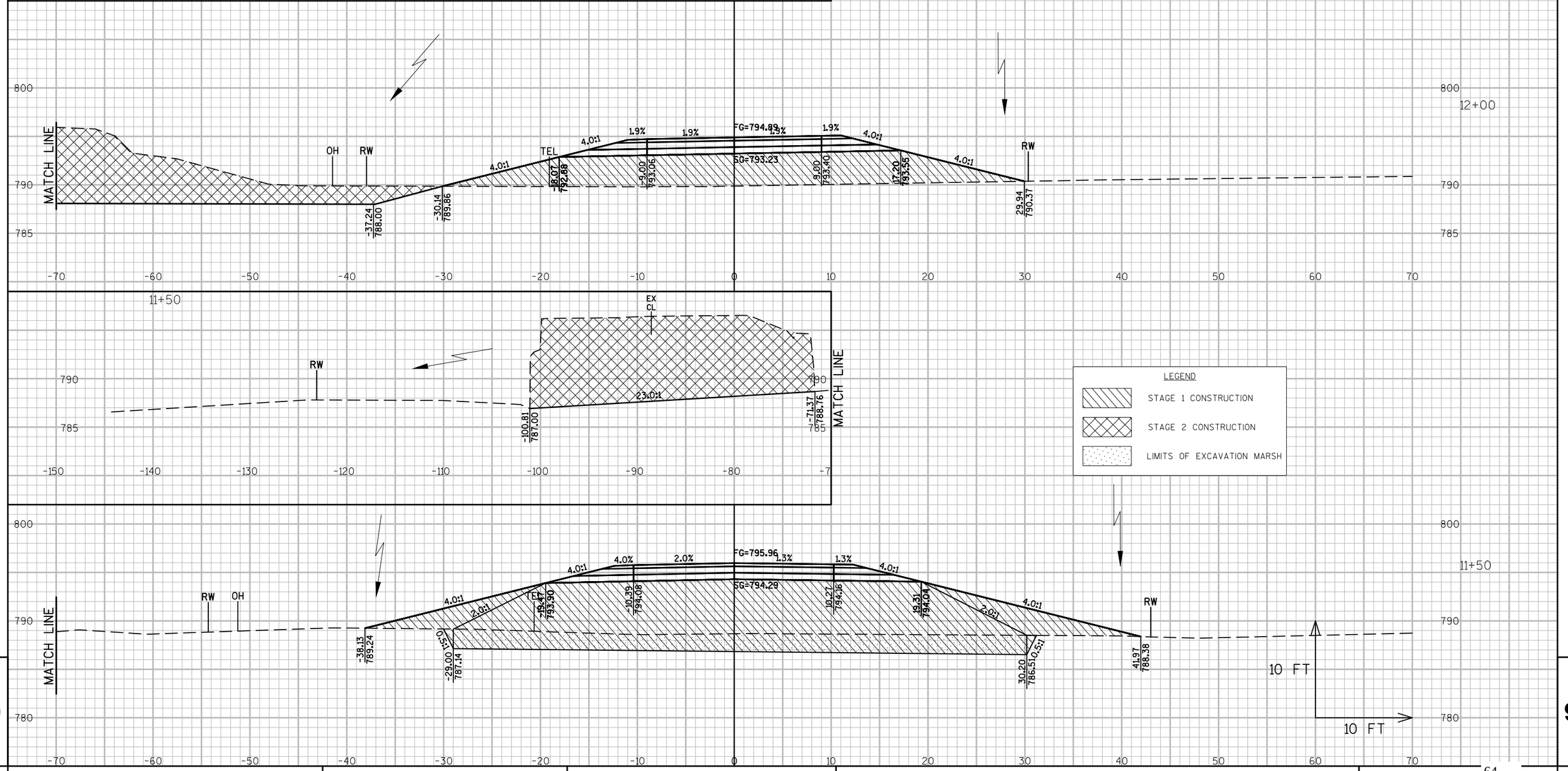
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LAYOUT : TILLER RD MAINLINE – (2)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:34 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'





LEGEND

STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

LIMITS OF EXCAVATION MARSH

9

9

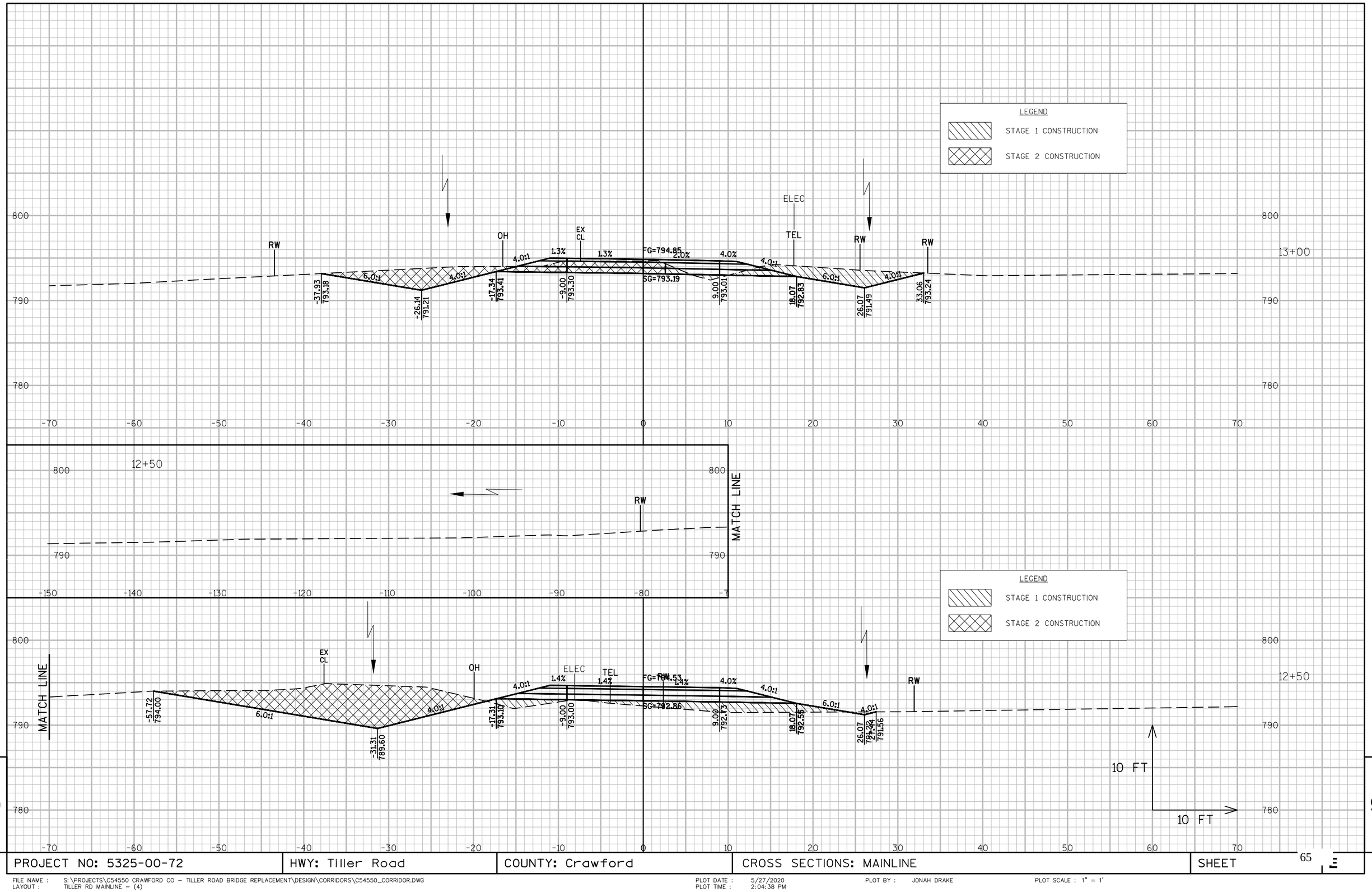
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FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54550_CORRIDOR.DWG
LAYOUT : TILLER RD MAINLINE - (3)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:36 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'



PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: MAINLINE	SHEET

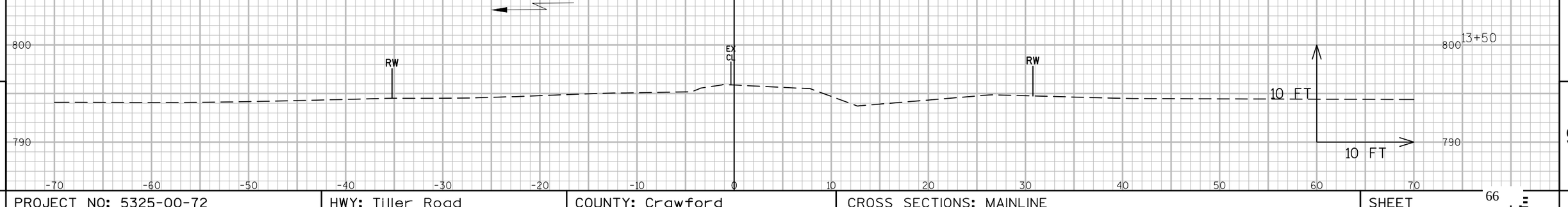
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LAYOUT : TILLER RD MAINLINE - (4)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:38 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'

END PROJECT
STA. 13+50
MATCH EXISTING



9

9

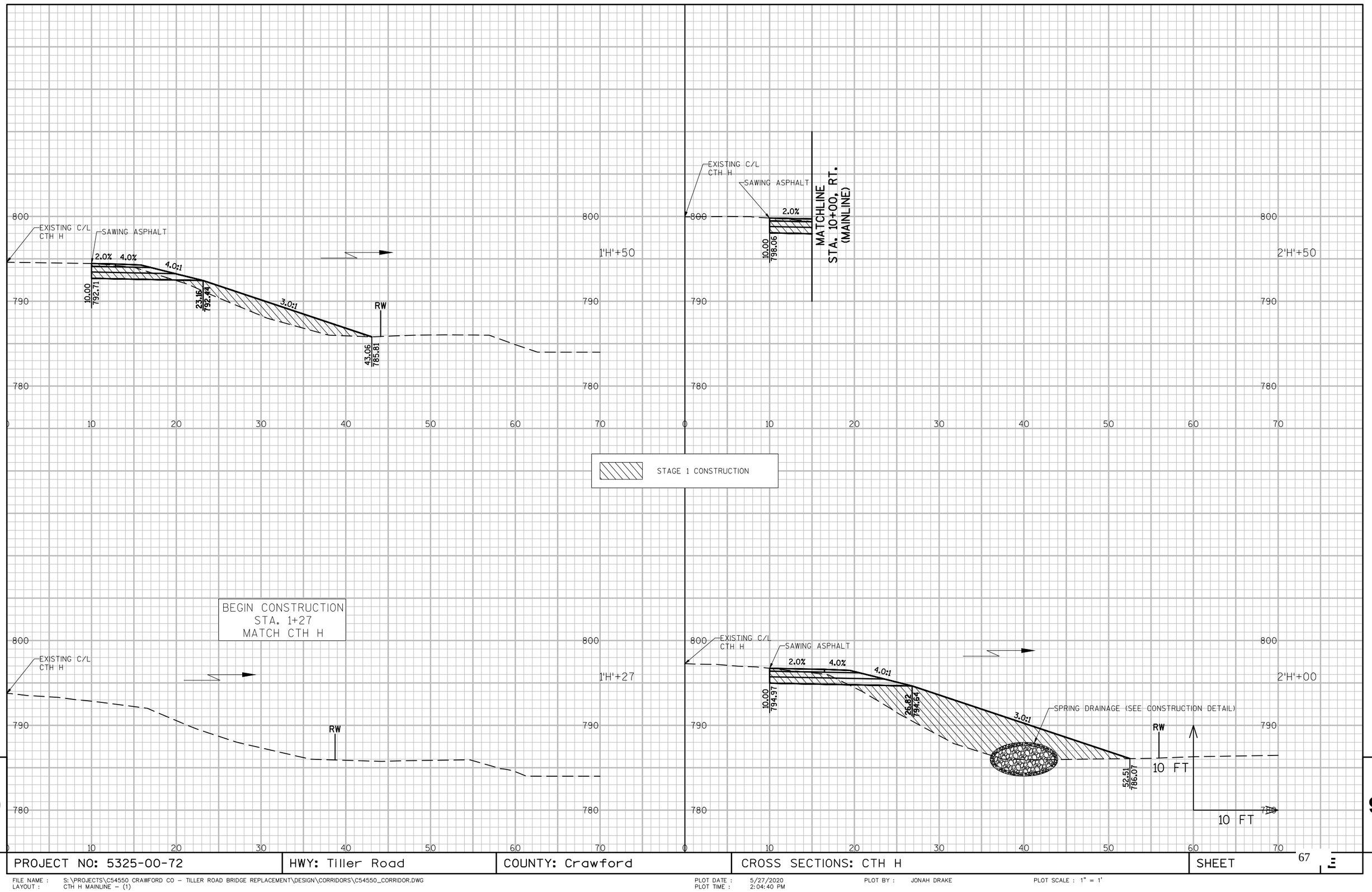
PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: MAINLINE	SHEET

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54550_CORRIDOR.DWG
LAYOUT : TILLER RD MAINLINE - (5)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:39 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'



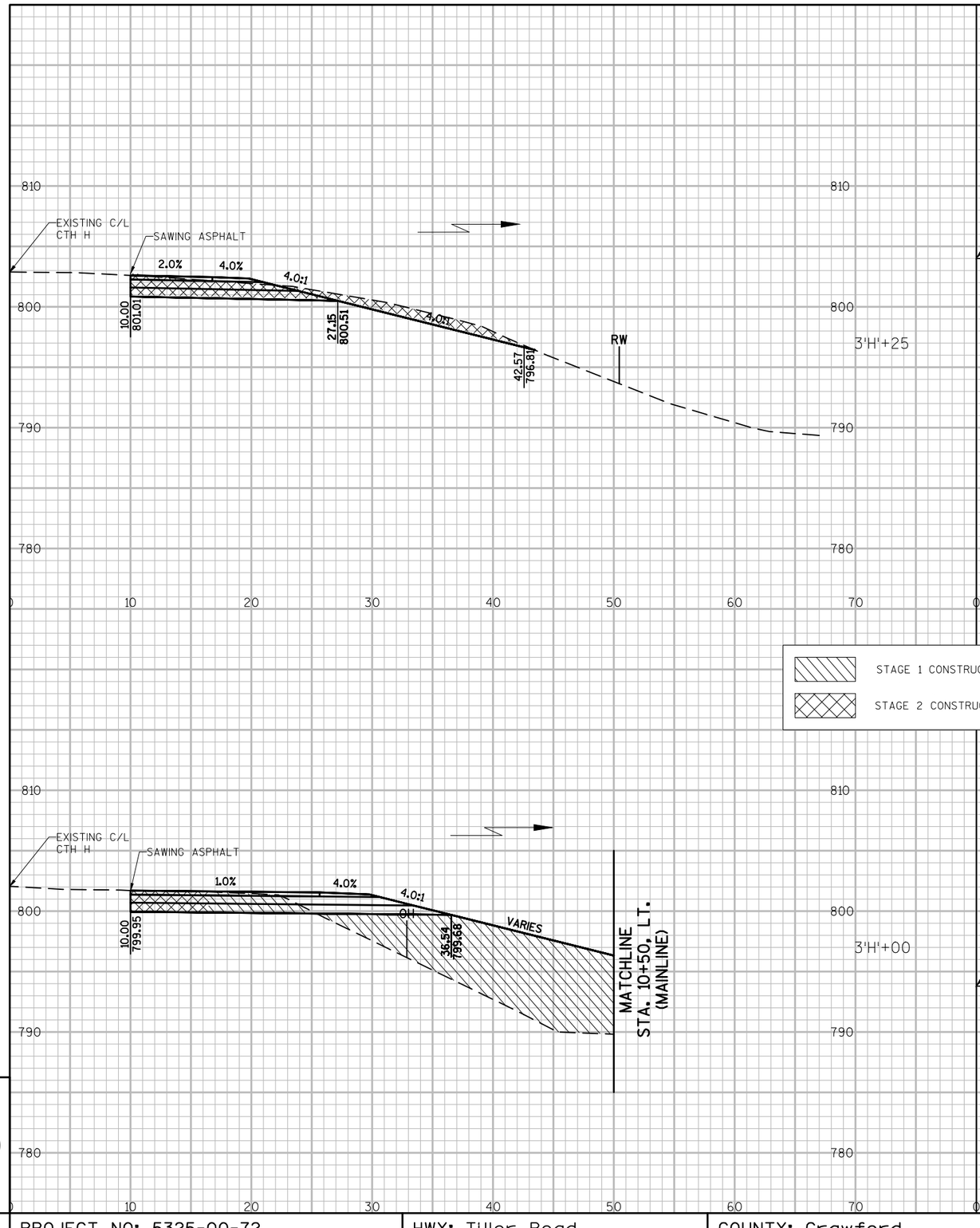
PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: CTH H	SHEET

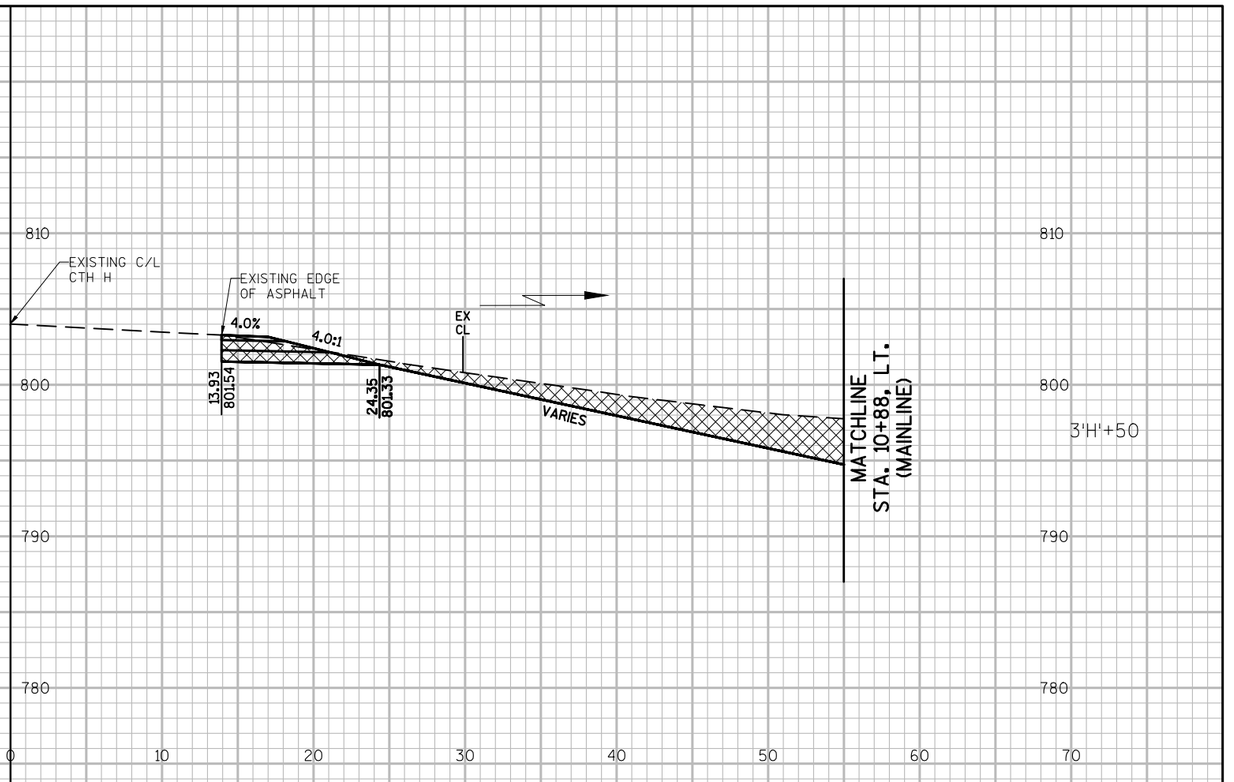
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LAYOUT : CTH H MAINLINE – (1)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:40 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'





9

9

PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: CTH H	SHEET

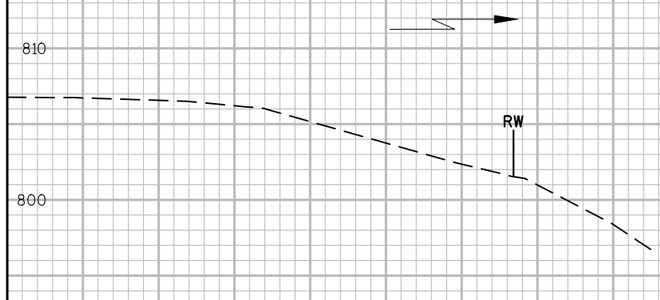
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LAYOUT : CTH H MAINLINE – (2)

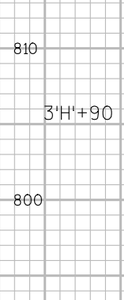
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PLOT TIME : 2:04:41 PM

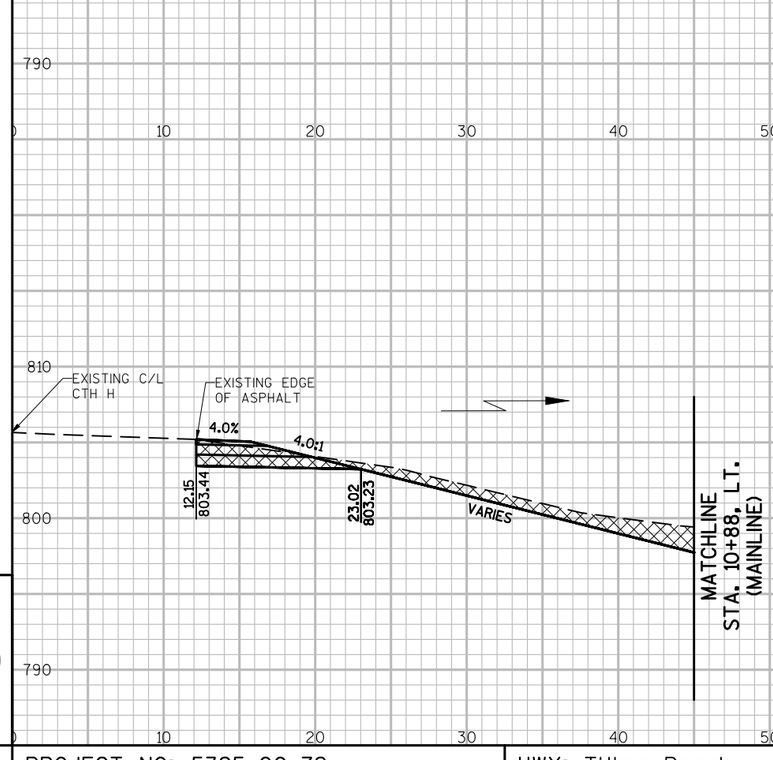
PLOT BY : JONAH DRAKE

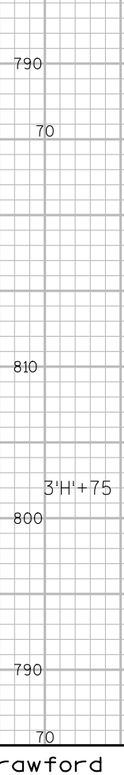
PLOT SCALE : 1" = 1'

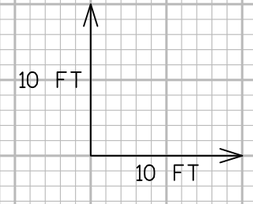
END CONSTRUCTION
STA. 3+90
MATCH CTH H











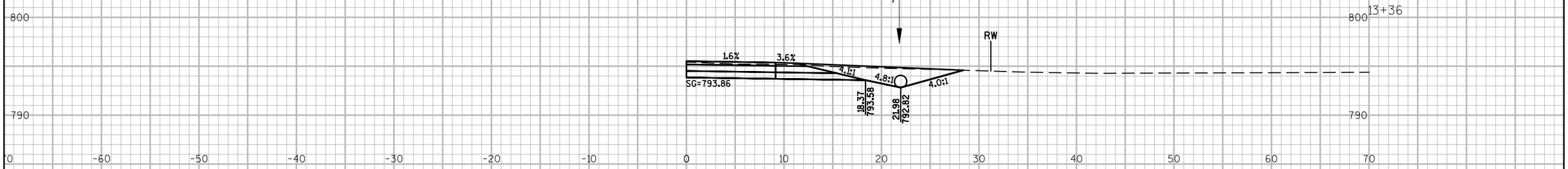
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9

PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: CTH H	SHEET

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO – TILLER ROAD BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54550_CORRIDOR.DWG
LAYOUT : CTH H MAINLINE – (3)
PLOT DATE : 5/27/2020
PLOT TIME : 2:04:42 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

STA. 13+36, RT.
CONSTRUCT F.E. (B.A.D.)
(1) CULVERT PIPE CLASS III-A 15-INCH
(2) APRON ENDWALLS REQ'D.
18° SKEW R.H.F.



STA. 13+23, LT.
CONSTRUCT F.E. (B.A.D.)

9

9

PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: FIELD ENTRANCES	SHEET 70

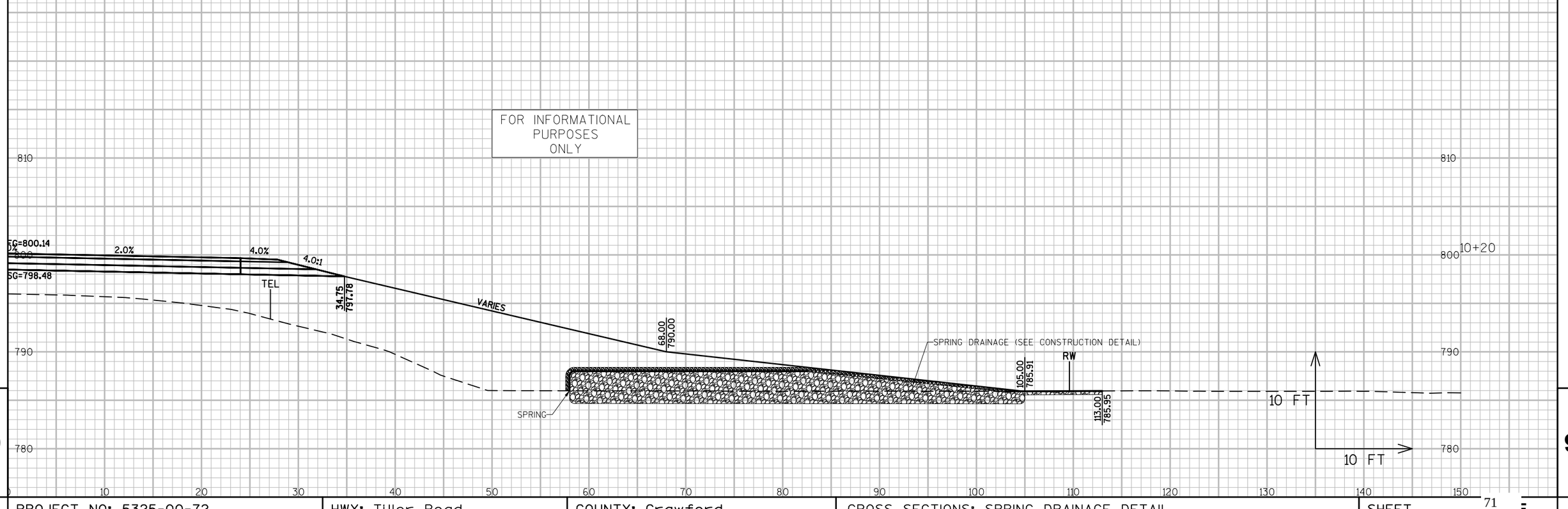
FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54550_CORRIDOR.DWG
LAYOUT : SECTION SHEET - (31)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:43 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'

FOR INFORMATIONAL PURPOSES ONLY



9

9

PROJECT NO: 5325-00-72	HWY: Tiller Road	COUNTY: Crawford	CROSS SECTIONS: SPRING DRAINAGE DETAIL	SHEET

FILE NAME : S:\PROJECTS\C54550 CRAWFORD CO - TILLER ROAD BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54550_CORRIDOR.DWG
LAYOUT : SECTION SHEET - (32)

PLOT DATE : 5/27/2020
PLOT TIME : 2:04:44 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

LAX

DEC 08, 2020

PROJECT ID: 5415-00-71

WITH: 5325-00-72

COUNTY: CRAWFORD

ORDER OF SHEETS

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

TOTAL SHEETS = 82



07

N

DESIGN DESIGNATION

A.A.D.T. (2021)	=	250
A.A.D.T. (2041)	=	370
D.H.V. (2041)	=	34
D.D.	=	60/40
T.	=	10% (ASSUMED)
DESIGN SPEED	=	40 MPH
ESALS	=	73,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5415-00-71	WISC 2020025	1

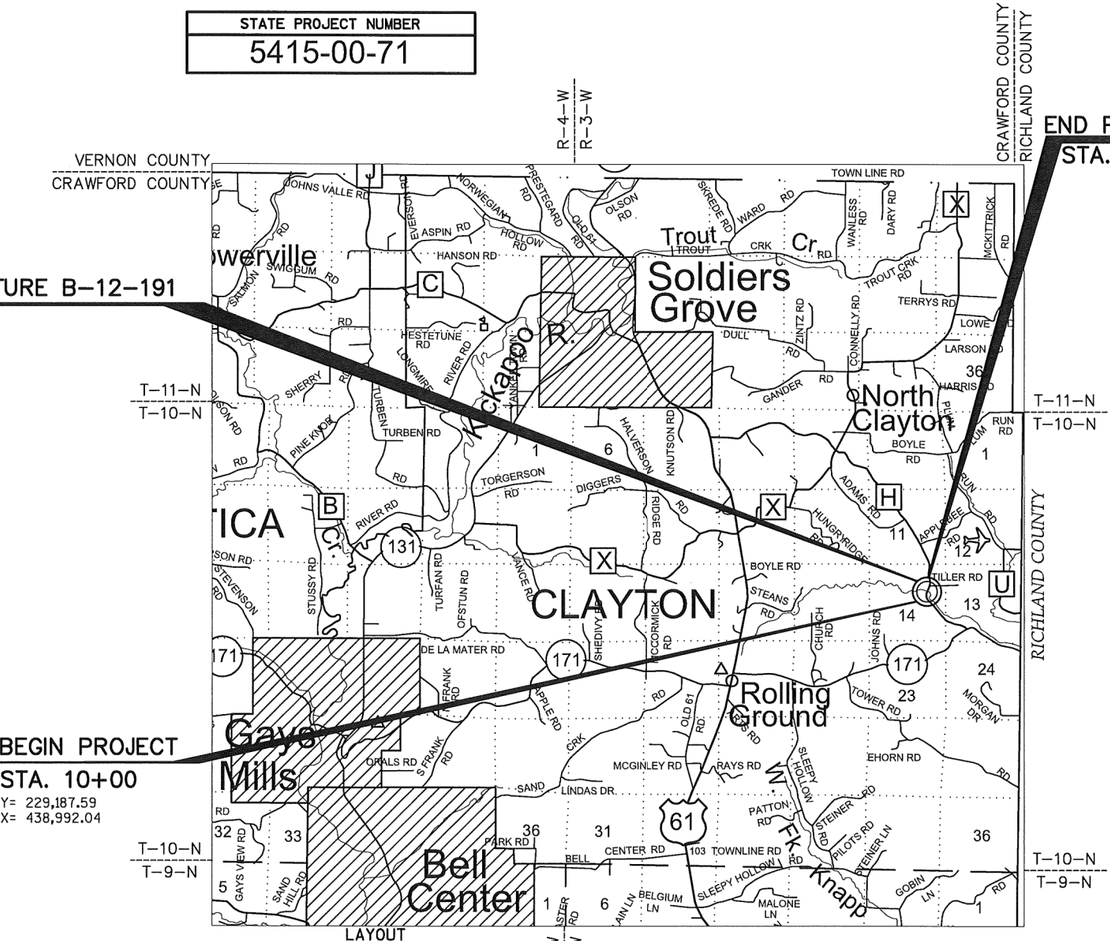
STH 171 - CTH X

(ENGLISH RUN CREEK BRIDGE B-12-191)

CTH H

CRAWFORD COUNTY

STATE PROJECT NUMBER
5415-00-71



TOTAL NET LENGTH OF CENTERLINE = 0.028 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, CRAWFORD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD (2012).

ACCEPTED FOR

COUNTY of CRAWFORD

7/7/2020 (Date) (Highway Commissioner)

ORIGINAL PLANS PREPARED BY

JEWELL associates engineers, inc.

Engineers - Architects - Surveyors

WISCONSIN ANGELA L. CLARY E-32243 LONE ROCK, WI PROFESSIONAL ENGINEER

6/26/20 (Date) Angela L Clary (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Regional Examiner	ALEIGHA BURG, P.E.
Regional Supervisor	OSCAR WINGER, P.E.

APPROVED FOR THE DEPARTMENT

7/13/2020 (Date) Aleigha Burg, P.E. (Signature) Digitally signed by Aleigha Burg, P.E. Date: 2020.07.13 16:27:14 -05'00'

E

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment
AC	Acre
AGG	Aggregate
AH	Ahead
<	Angle
ASPH	Asphaltic
AVG	Average
ADT	Average Daily Traffic
BAD	Base Aggregate Dense
BK	Back
BF	Back Face
BM	Bench Mark
BR	Bridge
C or C/L	Center Line
CC	Center to Center
CTH	County Trunk Highway
CR	Creek
CR	Crushed
CY or CU YD	Cubic Yard
CP	Culvert Pipe
C & G	Curb and Gutter
D	Degree of Curve
DHV	Design Hour Volume
DIA	Diameter
E	East
X	East Grid Coordinate
ELEC	Electric (al)
EL or ELEV	Elevation
ESALS	Equivalent Single Axle Loads
EBS	Excavation Below Subgrade
ESTR	Existing Sign to Remain
FF	Face to Face
FE	Field Entrance
F	Fill
FG	Finished Grade
FL or F/L	Flow Line
FT	Foot
FTG	Footing
GN	Grid North
HT	Height
CWT	Hundredweight
HYD	Hydrant
INL	Inlet
ID	Inside Diameter
INV	Invert
IP	Iron Pipe or Pin
IRS	Iron Rod Set
JT	Joint
JCT	Junction
LHF	Left–Hand Forward
L	Length of Curve
LIN FT or LF	Linear Foot
LC	Long Chord of Curve
MH	Manhole
MB	Mailbox
ML or M/L	Match Line
N	North
Y	North Grid Coordinate
O.A.L.	Overall Length
OD	Outside Diameter
PLE	Permanent Limited Easement
PT	Point
PC	Point of Curvature
PI	Point of Intersection
PRC	Point of Reverse Curvature
PT	Point of Tangency
POC	Point On Curve
POT	Point on Tangent
PVC	Polyvinyl Chloride
PCC	Portland Cement Concrete
LB	Pound
PSI	Pounds Per Square Inch
PE	Private Entrance
R	Radius
RR	Railroad
R	Range
RL or R/L	Reference Line
RP	Reference Point
RCCP	Reinforced Concrete Culvert Pipe
REQ'D	Required
RES	Residence or Residential
RW	Retaining Wall
RT	Right
RHF	Right–Hand Forward
R/W	Right–of–Way
R	River
RD	Road
RDWY	Roadway
SALV	Salvaged
SAN S	Sanitary Sewer
SEC	Section
SHLDR	Shoulder
SHR	Shrinkage
SW	Sidewalk
S	South
SQ	Square
SF or SQ FT	Square Feet
SY or SQ YD	Square Yard
STD	Standard
SDD	Standard Detail Drawings
STH	State Trunk Highways
STA	Station
SS	Storm Sewer
SG	Subgrade
SE	Superelevation
SL or S/L	Survey Line
SV	Septic Vent
T	Tangent
TEL	Telephone
TEMP	Temporary
TI	Temporary Interest
TLE	Temporary Limited Easement
t	Ton
T or TN	Town
TRANS	Transition
TL or T/L	Transit Line
T	Trucks (percent of)
TYP	Typical
UNCL	Unclassified
UG	Underground Cable
USH	United States Highway
VAR	Variable
V	Velocity or Design Speed
VERT	Vertical
VC	Vertical Curve
VOL	Volume
WM	Water Main
WV	Water Valve
W	West
WB	Westbound
YD	Yard

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

TOTAL PROJECT AREA= 0.51 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.35 ACRES

GENERAL NOTES

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

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

DISTURBED AREAS SHOWN WITHIN THE RIGHT–OF–WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER HINGE POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 20), AND COVERED IN MULCH OR EROSION MAT AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE NO. 60. DO NOT FERTILIZE WETLAND AREAS.

WHEN THE QUANTITY OF THE ITEM OF BREAKER RUN, BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLAN IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

SILT FENCE AND TEMPORARY DITCH CHECKS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION AND IN PLACE PRIOR TO STRUCTURE REMOVAL.

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.

ASPHALTIC SURFACE QUANTITIES WERE CALCULATED USING 112 LB/SY/IN. 4–INCH OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1¾–INCH UPPER LAYER AND A 2¼–INCH LOWER LAYER.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

WETLANDS ARE PRESENT IN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE OR STOCKPILE EQUIPMENT BEYOND THE EXISTING TOE OF SLOPE AT STA. 9+34 – STA. 10+50, LT., STA. 9+56 – STA. 10+78, RT., STA. 10+94 – STA. 11+35, LT., STA. 11+67 – STA. 12+00, LT.

CURVE DATA IS BASED ON THE ARC DEFINITION.

THE EXACT LOCATION OF PRIVATE ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

INLET AND OUTLET ELEVATIONS FOR CULVERT PIPES AS SHOWN ON THE PLAN MAY BE ADJUSTED BY THE ENGINEER TO FIT FIELD CONDITIONS.

CONTACTS

CRAWFORD COUNTY HIGHWAY DEPARTMENT
KYLE KOZELKA, COMMISSIONER
21515 STATE HIGHWAY 27
P.O. BOX 39
SENECA, WI 54654
PH: (608) 734–9500
CELL: (608) 412–3774
E–MAIL: kkozelka@crawfordcountywi.org

DESIGN CONSULTANT
JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ANGELA CLARY, P.E.
PHONE: (608) 588–7484
CELL: (608) 574–3333
EMAIL: angle.clary@jewellassoc.com

DNR LIAISON
STATE OF WISCONSIN
DNR SERVICE CENTER
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
ATTN: KAREN KALVELAGE
PH: (608) 406–7880
E–MAIL: karen.kalvelage@wisconsin.gov

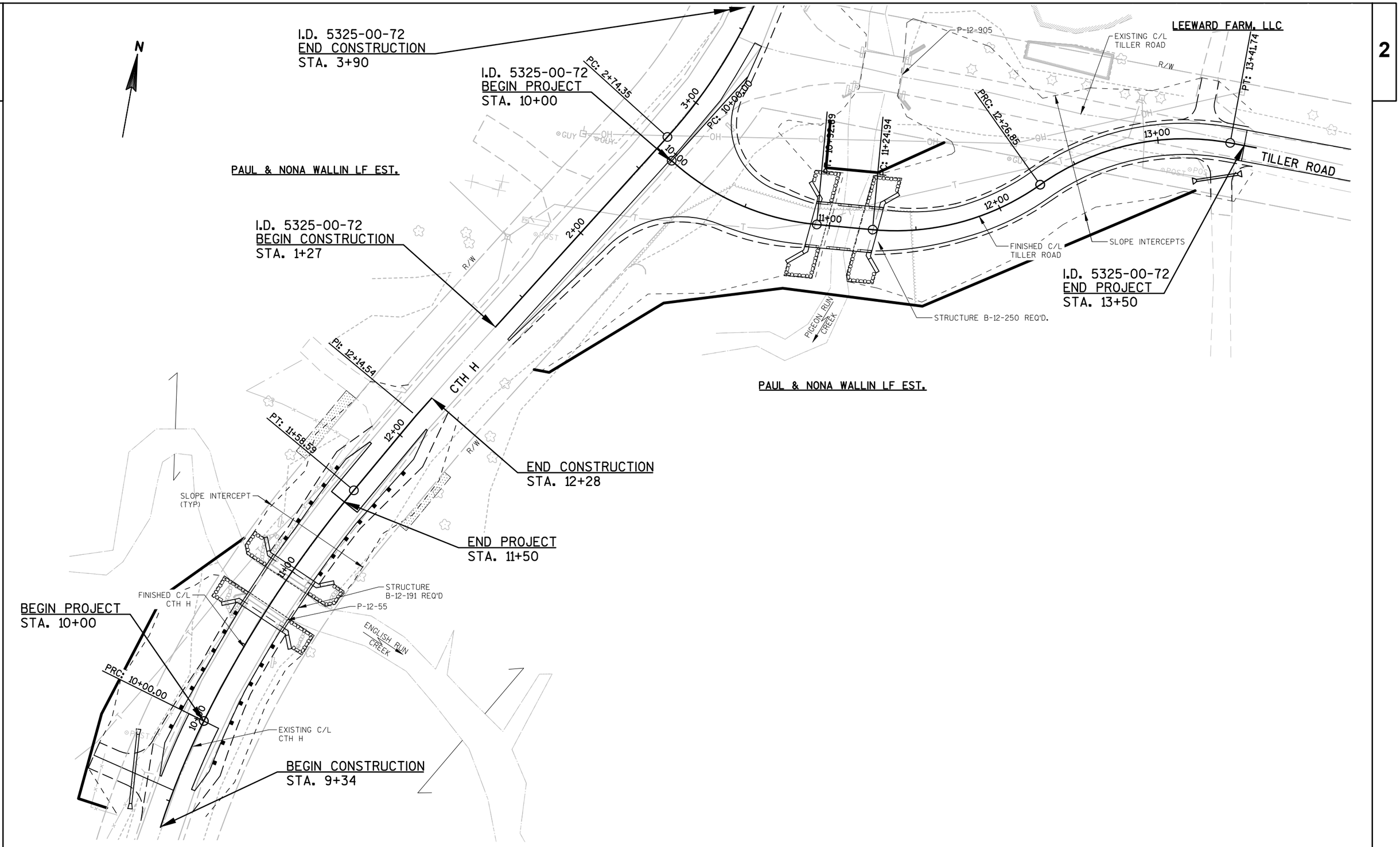
UTILITIES

COMMUNICATIONS
CENTURYLINK
130 4TH STREET
BARABOO, WI 53913
ATTN: STEVE BISHOP
PH: (608) 355–7501
CELL: (608) 963–8594
E–MAIL: steven.bishop@centurylink.com

ELECTRIC
RICHLAND ELECTRIC COOPERATIVE
ATTN: LARRY HALLETT
1027 N JEFFERSON
PO BOX 439
RICHLAND CENTER, WI 53581
PH: (608) 647–3173
CELL: (608) 553–1418
EMAIL: lhallett@rec.coop

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

* DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

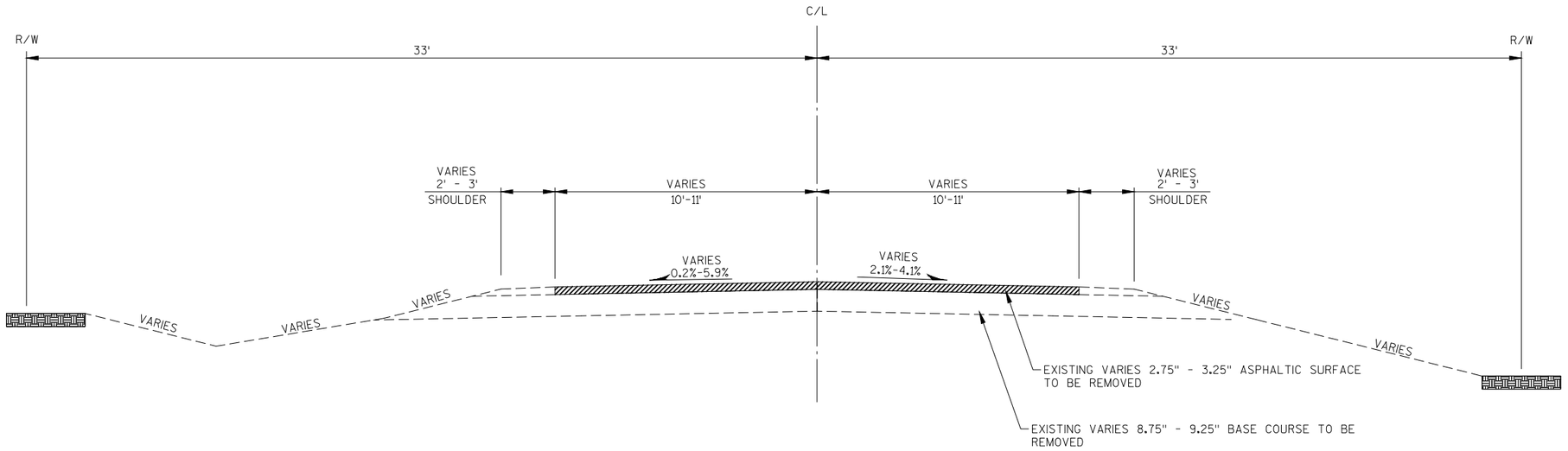


PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	PROJECT OVERVIEW	SHEET 3	E

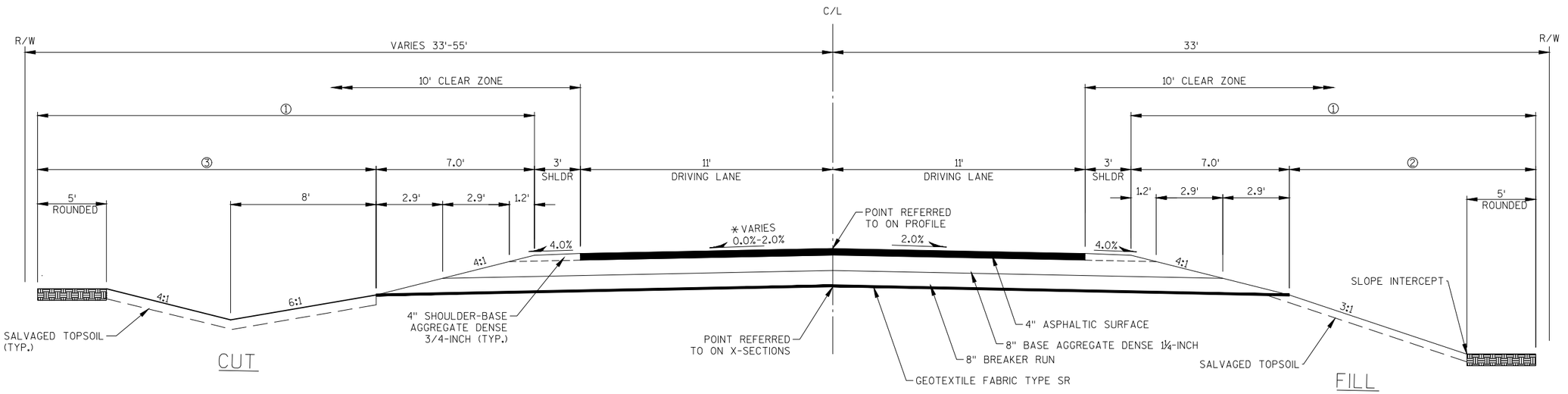
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LAYOUT :

PLOT DATE : 5/26/2020
PLOT TIME : 3:24:23 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

2



TYPICAL EXISTING SECTION
CTH H



TYPICAL FINISHED SECTION
CTH H

CURVE 1/2 SUPERELEVATION TABLE

STATION	LEFT	RIGHT
9+34	0.0%	2.0%
9+50	0.0%	2.0%
10+00	1.0%	2.0%
10+50	2.0%	2.0%

NOTE: CROSS SLOPE ON SHOULDER-BASE AGGREGATE DENSE ¾-INCH TO REMAIN 4.0% SLOPE AS SHOWN IN TYPICAL FINISHED SECTION ABOVE

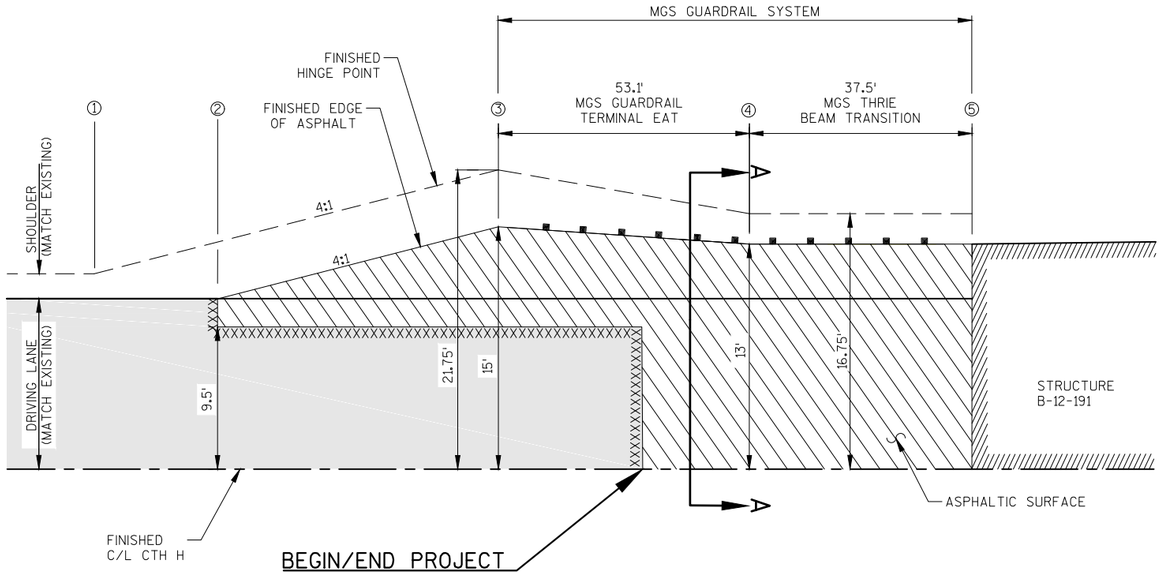
① LIMITS OF SEEDING MIXTURE NO. 20 OR SEEDING MIXTURE NO. 60, & FERTILIZER TYPE B (AS DIRECTED BY ENGINEER)

② LIMITS OF SALVAGED TOPSOIL & MULCH (AS DIRECTED BY ENGINEER)

③ LIMITS OF SALVAGED TOPSOIL & EROSION MAT CLASS II TYPE C

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	TYPICAL EXISTING SECTION & TYPICAL FINISHED SECTION	SHEET 4	E

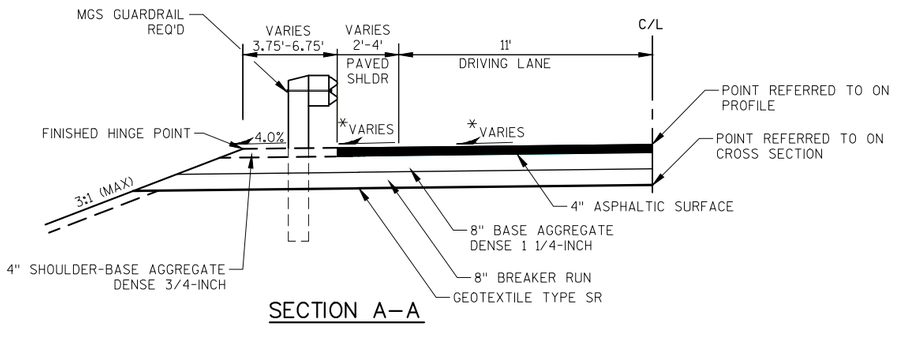
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LAYOUT : 54150001_TYPICAL
PLOT DATE : 5/26/2020
PLOT TIME : 3:24:28 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'



BEAMGUARD LAYOUT TABLE

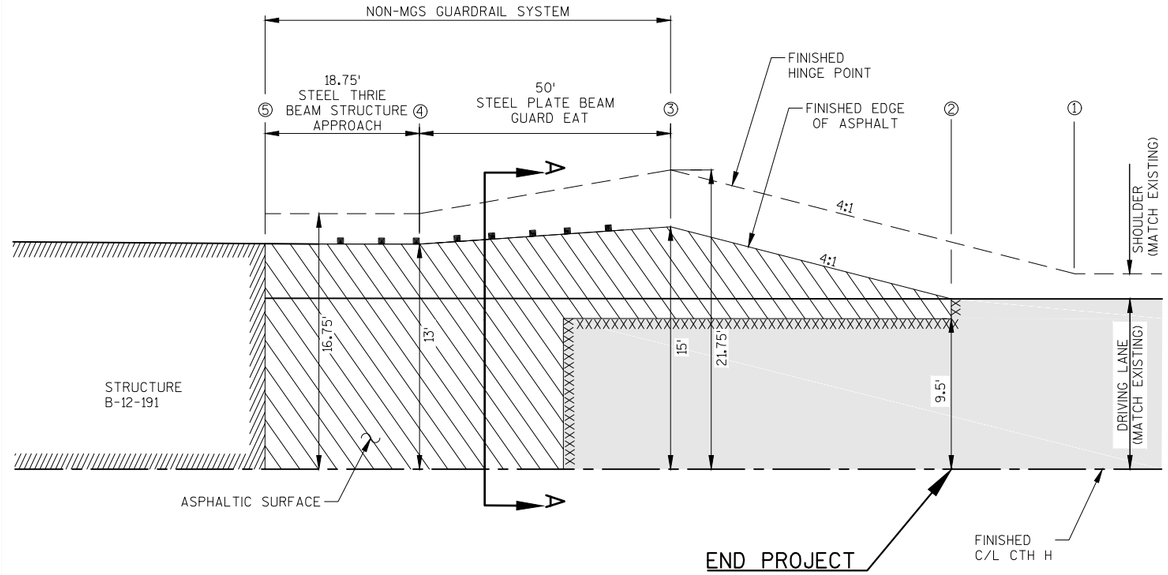
QUADRANT	LOCATION	STATION ①	②	③	④	⑤
SOUTHWEST	MAINLINE, LT.	9+34	9+61	9+80	10+30	10+68
SOUTHEAST	MAINLINE, RT.	9+49	9+61	9+75	10+30	10+68
NORTHEAST	MAINLINE, RT.	12+28	12+12	11+94	11+41	11+03

MGS BEAMGUARD LAYOUT DETAIL



SECTION A–A

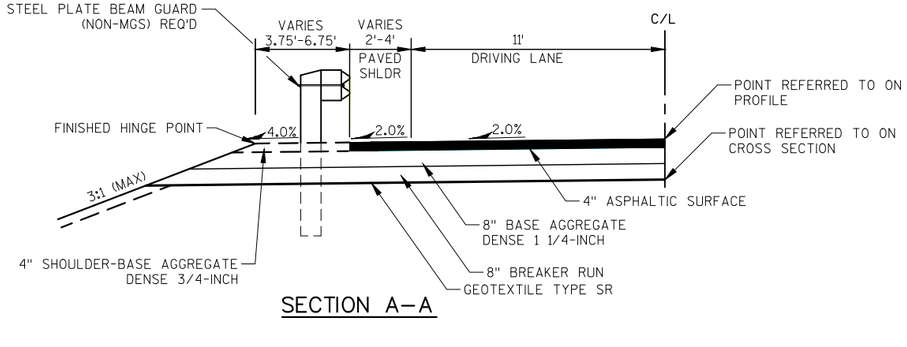
* SEE TYPICAL FINISHED SECTION AND SUPERELEVATION TABLE



BEAMGUARD LAYOUT TABLE

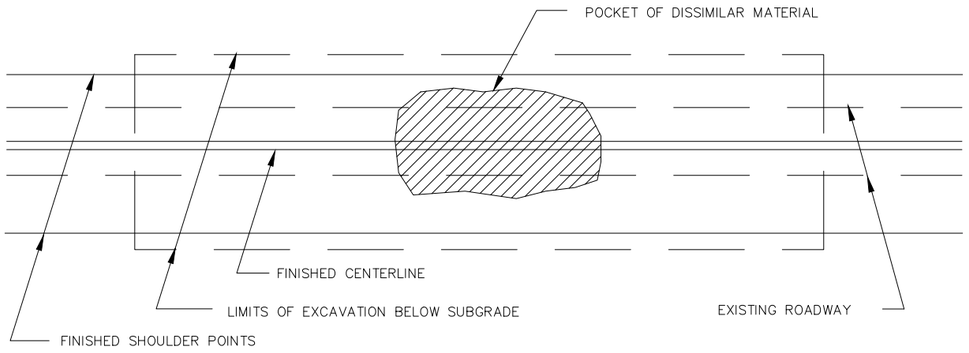
QUADRANT	LOCATION	STATION ①	②	③	④	⑤
NORTHWEST	MAINLINE, LT.	12+01	11+87	11+70	11+20	11+03

NON–MGS BEAMGUARD LAYOUT DETAIL

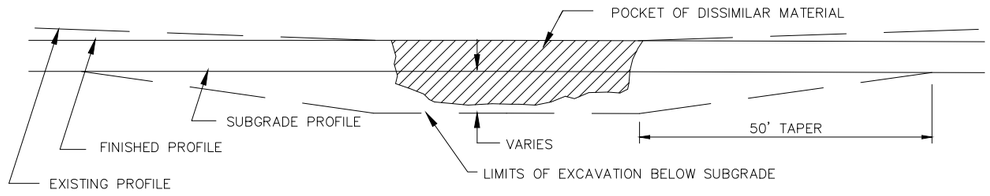


SECTION A–A

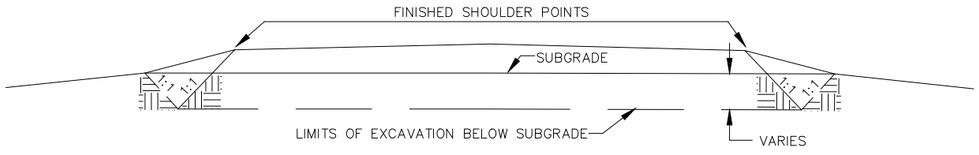
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LAYOUT :
PLOT DATE : 5/26/2020
PLOT TIME : 3:24:32 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'



PLAN VIEW



PROFILE VIEW



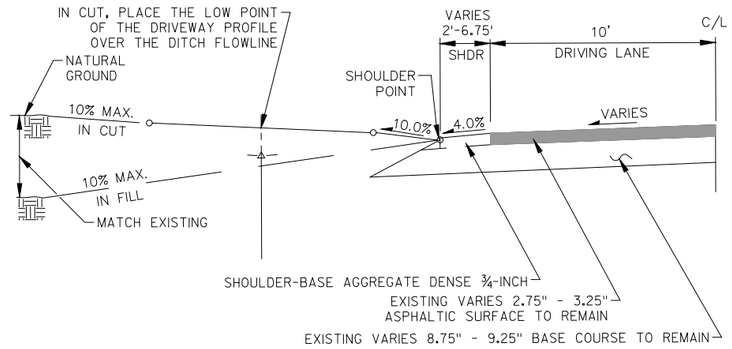
CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

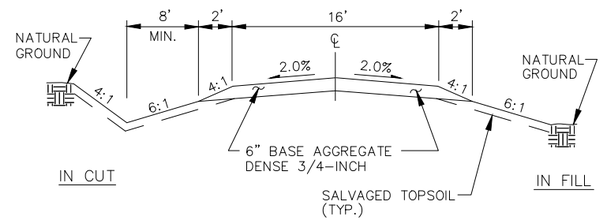
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.

3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

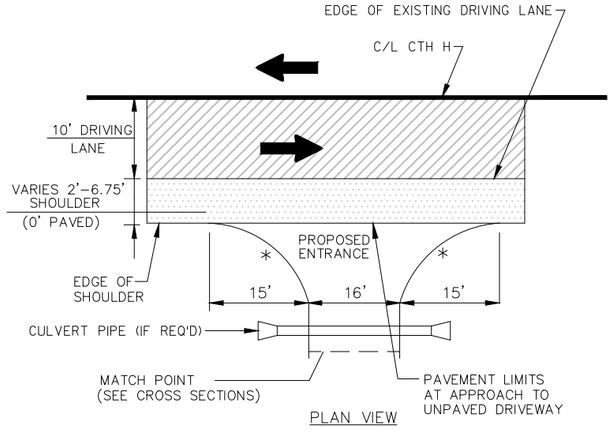
EXCAVATION BELOW SUBGRADE (E.B.S.)



TYPICAL F.E. PROFILE



TYPICAL CROSS-SECTION FOR F.E.



PLAN VIEW

APPROACH AT F.E.

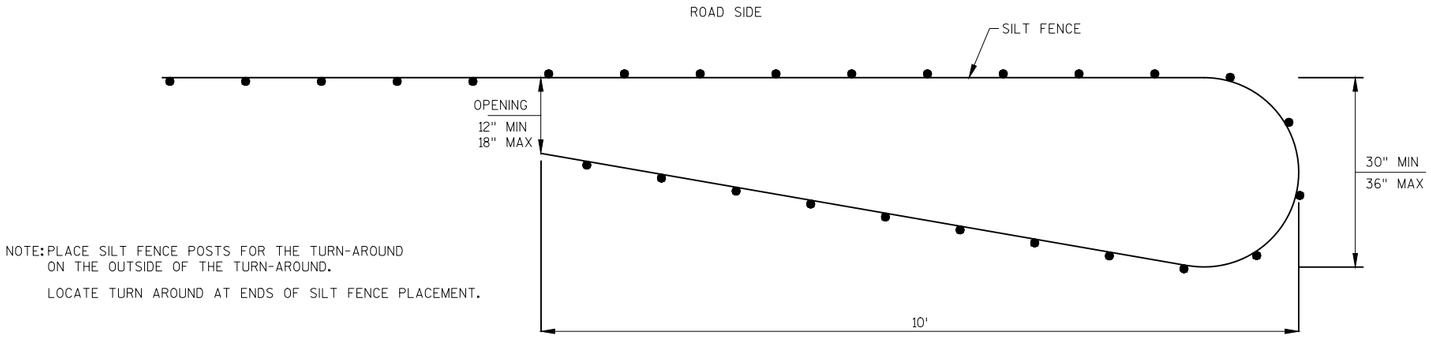
TYPICAL FIELD ENTERANCE (F.E.) DETAILS

LIMITS OF EXISTING ASPHALTIC SURFACE

* RADIUS = 15'

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CONSTRUCTION DETAILS	SHEET 6	E

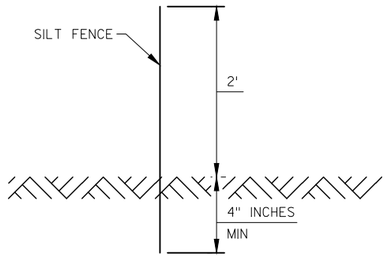
2



NOTE: PLACE SILT FENCE POSTS FOR THE TURN-AROUND ON THE OUTSIDE OF THE TURN-AROUND.

LOCATE TURN AROUND AT ENDS OF SILT FENCE PLACEMENT.

PLAN VIEW



PROFILE VIEW

SILT FENCE TURN-AROUND DETAIL

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- EDGE OF WATER
- WETLANDS
- HEAVY RIPRAP
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS II TYPE C
- TURBIDITY BARRIER

NOTE: SEE TYPICAL FINISHED SECTIONS FOR LIMITS OF SEEDING, FERTILIZER, MULCHING, AND SALVAGED TOPSOIL.

N

BEGIN CONSTRUCTION
STA. 9+34

BEGIN PROJECT
STA. 10+00

END CONSTRUCTION
STA. 12+28

BEGIN PROJECT
STA. 10+00
(PROJECT ID
5325-00-72)

END PROJECT
STA. 11+50

PAUL & NONA
WALLIN LF EST

PAUL & NONA
WALLIN LF EST

STA. 13+66, 37.7' RT.
EXISTING SPRING HEAD
TO REMAIN

ENGLISH RUN
CREEK

ENGLISH RUN
CREEK

CTH H

FINISHED C/L
CTH H

R/W

(ASPHALT)

10+00

11+00

12+00

BM 2

BM 10

SLOPE INTERCEPT

PC: 10+

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	EROSION CONTROL	SHEET 8	E

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO – CTH H BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\54150001_EROSION CONTROL.DWG
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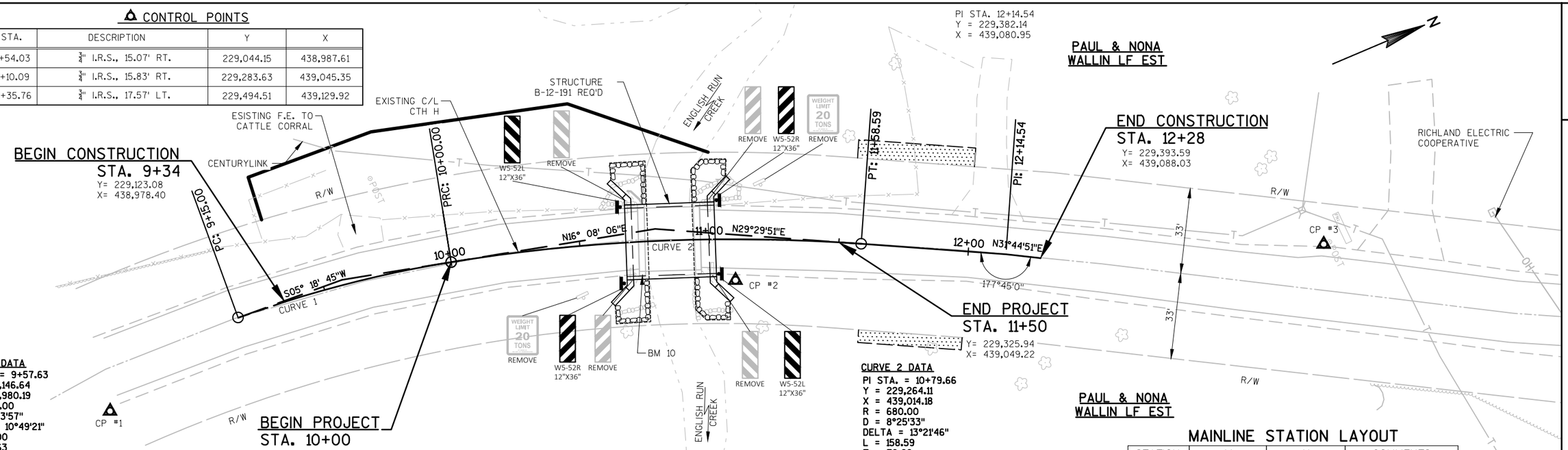
PLOT DATE : 7/20/2020
PLOT TIME : 1:36:18 PM

PLOT BY : AUSTIN KASZUBSKI

PLOT SCALE : 1" = 1'

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	8+54.03	¾" I.R.S., 15.07' RT.	229,044.15	438,987.61
2	11+10.09	¾" I.R.S., 15.83' RT.	229,283.63	439,045.35
3	13+35.76	¾" I.R.S., 17.57' LT.	229,494.51	439,129.92

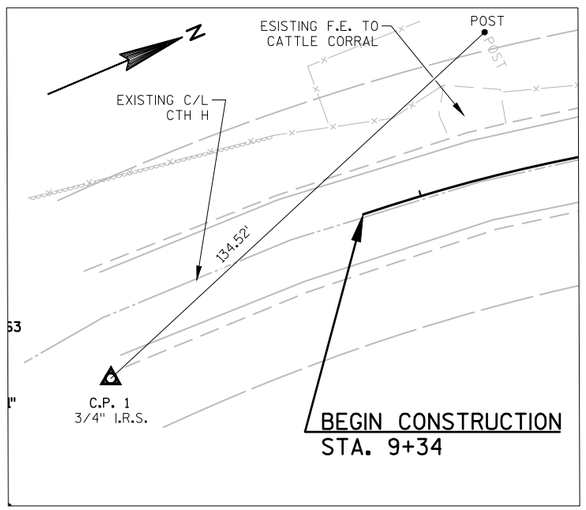


CURVE 1 DATA
PI STA. = 9+57.63
Y = 229,146.64
X = 438,980.19
R = 450.00
D = 12°43'57"
DELTA = 10°49'21"
L = 85.00
T = 42.63
C = 84.87
PC STA. = 9+15
Y = 229,104.20
X = 438,976.25
PT STA. = 10+00
Y = 229,187.59
SE = MATCH EXISTING
RO = N/A
SE TRANS = N/A

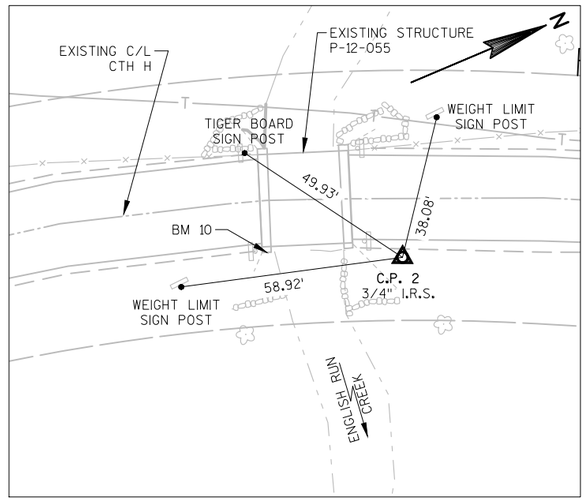
CURVE 2 DATA
PI STA. = 10+79.66
Y = 229,264.11
X = 439,014.18
R = 680.00
D = 8°25'33"
DELTA = 13°21'46"
L = 158.59
T = 79.66
C = 158.23
PC STA. = 10+00
Y = 229,187.59
X = 438,992.04
PT STA. = 11+58.59
Y = 229,333.44
X = 439,053.40
SE = SEE SUPERELEVATION TABLE
RO = N/A
SE TRANS = N/A

MAINLINE STATION LAYOUT

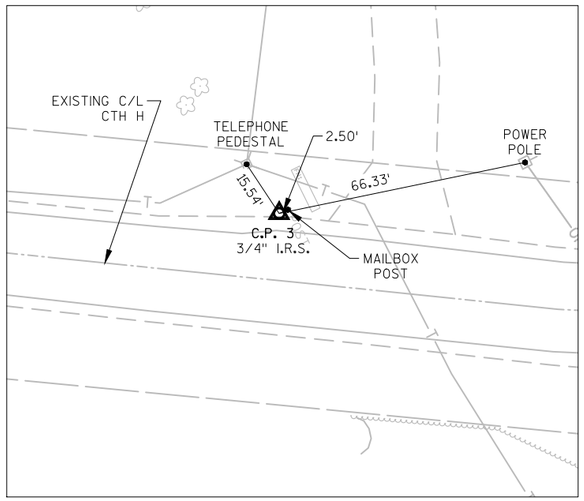
STATION	Y	X	COMMENTS
9+34.00	229,123.08	438,978.40	BEGIN CONSTRUCTION
9+50.00	229,138.89	438,980.84	–
10+00.00	229,187.59	438,992.04	BEGIN PROJECT
10+50.00	229,235.07	439,007.69	–
10+67.80	229,251.68	439,014.09	END DECK
11+00.00	229,281.27	439,026.78	–
11+02.30	229,283.36	439,027.74	END DECK
11+50.00	229,325.94	439,049.22	END PROJECT
12+00.00	229,369.49	439,073.79	–
12+28.00	229,393.59	439,088.03	END CONSTRUCTION



TIES TO C.P.#1
STA. 8+53.89; 14.97' RT.
Y = 229,044.15
X = 438,987.61



TIES TO C.P.#2
STA. 11+10.09; 15.83' RT.
Y = 229,283.63
X = 439,045.35



TIES TO C.P.#3
STA. 13+35.76; 17.67' LT.
Y = 229,494.51
X = 439,129.92

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	ALIGNMENT AND TIES	SHEET 9	E

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO – CTH H BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\ALIGN AND LAYOUT : DETAILS
PLOT DATE : 5/26/2020
PLOT TIME : 3:24:47 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

5415-00-71

Line	Item	Item Description	Unit	Total	Qty
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 02. 10+85	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	450.000	450.000
0016	206.1000	Excavation for Structures Bridges (structure) 02. B-12-191	LS	1.000	1.000
0022	210.1500	Backfill Structure Type A	TON	440.000	440.000
0026	213.0100	Finishing Roadway (project) 02. 5415-00-71	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	100.000	100.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	400.000	400.000
0032	311.0110	Breaker Run	TON	420.000	420.000
0036	455.0605	Tack Coat	GAL	30.000	30.000
0038	465.0105	Asphaltic Surface	TON	110.000	110.000
0040	502.0100	Concrete Masonry Bridges	CY	132.000	132.000
0042	502.3200	Protective Surface Treatment	SY	130.000	130.000
0044	505.0400	Bar Steel Reinforcement HS Structures	LB	4,480.000	4,480.000
0046	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	13,420.000	13,420.000
0048	513.4061	Railing Tubular Type M	LF	73.000	73.000
0050	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0054	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0058	520.4118	Culvert Pipe Class IV 18-Inch	LF	40.000	40.000
0060	550.0500	Pile Points	EACH	14.000	14.000
0062	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	420.000	420.000
0064	606.0300	Riprap Heavy	CY	110.000	110.000
0066	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0068	614.0200	Steel Thrie Beam Structure Approach	LF	20.000	20.000
0070	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	1.000	1.000
0072	614.2500	MGS Thrie Beam Transition	LF	120.000	120.000
0074	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0078	618.0100	Maintenance And Repair of Haul Roads (project) 02. 5415-00-71	EACH	1.000	1.000
0080	619.1000	Mobilization	EACH	0.500	0.500
0082	624.0100	Water	MGAL	8.000	8.000
0084	625.0500	Salvaged Topsoil	SY	850.000	850.000
0086	627.0200	Mulching	SY	440.000	440.000
0088	628.1504	Silt Fence	LF	620.000	620.000
0090	628.1520	Silt Fence Maintenance	LF	1,240.000	1,240.000
0092	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0094	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0096	628.2027	Erosion Mat Class II Type C	SY	440.000	440.000
0098	628.6005	Turbidity Barriers	SY	85.000	85.000

5415-00-71

Line	Item	Item Description	Unit	Total	Qty
0100	628.7504	Temporary Ditch Checks	LF	16.000	16.000
0102	628.7555	Culvert Pipe Checks	EACH	1.000	1.000
0104	629.0210	Fertilizer Type B	CWT	1.000	1.000
0106	630.0120	Seeding Mixture No. 20	LB	26.000	26.000
0108	630.0160	Seeding Mixture No. 60	LB	5.000	5.000
0110	630.0200	Seeding Temporary	LB	34.000	34.000
0114	630.0500	Seed Water	MGAL	23.000	23.000
0116	633.5100	Markers Row	EACH	10.000	10.000
0118	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0124	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0128	638.2602	Removing Signs Type II	EACH	8.000	8.000
0130	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0134	642.5001	Field Office Type B	EACH	0.500	0.500
0138	643.0420	Traffic Control Barricades Type III	DAY	2,070.000	2,070.000
0140	643.0705	Traffic Control Warning Lights Type A	DAY	3,220.000	3,220.000
0142	643.0900	Traffic Control Signs	DAY	1,610.000	1,610.000
0144	643.5000	Traffic Control	EACH	0.500	0.500
0146	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0148	645.0120	Geotextile Type HR	SY	190.000	190.000
0150	645.0135	Geotextile Type SR	SY	1,060.000	1,060.000
0152	646.1020	Marking Line Epoxy 4-Inch	LF	300.000	300.000
0154	650.4500	Construction Staking Subgrade	LF	219.000	219.000
0156	650.5000	Construction Staking Base	LF	219.000	219.000
0160	650.6500	Construction Staking Structure Layout (structure) 02. B-12-191	LS	1.000	1.000
0164	650.9910	Construction Staking Supplemental Control (project) 02. 5415-00-71	LS	1.000	1.000
0166	650.9920	Construction Staking Slope Stakes	LF	219.000	219.000
0168	690.0150	Sawing Asphalt	LF	221.000	221.000
0172	715.0502	Incentive Strength Concrete Structures	DOL	792.000	792.000

ALL ITEMS CATEGORY 010 UNLESS OTHERWISE NOTED

3

EARTHWORK SUMMARY

CATEGORY	FROM/TO STA	LOCATION	205.0100 COMMON EXCAVATION CUT (CY)	AVAILABLE MATERIAL (CY) (1)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (2)	MASS ORDINATE +/- (CY) (3)	WASTE (CY)
010	9+34 - 12+28	CTH, MAINLINE	450	450	72	90	360	360
		TOTALS =	450	450	72	90	360	360

NOTES:
1.) AVAILABLE MATERIAL=CUT
2.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
3.) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

BASE AGGREGATE DENSE / BREAKER RUN/ GEOTEXTILE TYPE SR

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	311.0110 BREAKER RUN (TON)	645.0135 GEOTEXTILE TYPE SR (SY)
9+34 - 10+68	CTH H, MAINLINE	65	220	230	580
11+03 - 12+28	CTH H, MAINLINE	35	180	190	480
	TOTALS =	100	400	420	1060

3

ASPHALTIC SURFACE

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	465.0105 ASPHALTIC SURFACE (TON)
9+61 - 10+68	CTH H, MAINLINE	15	60
11+03 - 12+12	CTH H, MAINLINE	15	50
	TOTALS =	30	110

CULVERT PIPE

STATION	LOCATION	520.1018 APRON ENDWALL FOR CULVERT PIPE 18-INCH (EACH)	520.4118 CULVERT PIPE CLASS IV 18-INCH (LF)
9+57, LT	CTH H, F.E.	2	40
	TOTALS =	2	40

	MINIMUM THICKNESS (IN.)	
PIPE SIZE	STEEL	ALUMINUM
18-INCH	0.064	0.060

BEAM GUARD

STATION - STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL (EACH)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
9+75 - 10+68	CTH H, MAINLINE, RT	-	-	40	1
9+80 - 10+68	CTH H, MAINLINE, LT	-	-	40	1
11+03 - 11+94	CTH H, MAINLINE, RT	-	-	40	1
11+03 - 11+70	CTH H, MAINLINE, LT	20	1	-	-
	TOTALS =	20	1	120	3

WATER

PROJECT	624.0100 (MGAL)
5415-00-71	8
TOTAL =	8

FINISHING ITEMS

STATION - STATION	LOCATION	625.0500 SALVAGED TOPSOIL (SY)	627.0200 MULCHING (SY)	628.2027 EROSION MAT CLASS II TYPE C (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)	630.0160 SEEDING MIXTURE NO. 60 (LB)	630.0200 SEEDING TEMPORARY (LB)	630.0500 SEED WATER (MGAL)
9+34 - 12+28	CTH H, MAINLINE	680	350	350	0.75	21	*3.5	-	23
-	UNDISTRIBUTED	170	90	90	0.25	5	1.5	34	-
	TOTALS =	850	440	440	1.00	26	5	34	23

* STA. 9+34 - STA. 10+50, LT.
STA. 9+56 - STA. 10+78, RT.
STA. 10+94 - STA. 11+35, LT.
STA. 11+67 - STA. 12+00, LT.

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
9+47 - 10+78	CTH H, MAINLINE, RT.	143	286
10+63 - 10+77	CTH H, MAINLINE, LT.	43	86
10+93 - 11+99	CTH H, MAINLINE, LT.	127	254
10+94 - 12+32	CTH H, MAINLINE, RT.	157	314
-	UNDISTRIBUTED	150	300
	TOTALS =	620	1,240

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
5415-00-71	4	2
TOTALS =	4	2

TURBIDITY BARRIER

STATION	LOCATION	628.6005 (S.Y.)
10+77	CTH H, MAINLINE, S ABUT	45
10+93	CTH H, MAINLINE, N ABUT	40
	TOTAL =	85

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
10+52	CTH H, MAINLINE, LT.	8
10+70	CTH H, MAINLINE, LT.	8

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555 (EACH)
9+38	CTH H, MAINLINE, LT.	1
	TOTAL =	1

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO - CTH H BRIDGE REPLACEMENT\SHEETSPLAN\DETAILS\54150001_MISC QUANTS.DWG
LAYOUT :
PLOT DATE : 7/20/2020
PLOT TIME : 10:41:35 AM
PLOT BY : AUSTIN KASZUBSKI
PLOT SCALE : 1" = 1'

ALL ITEMS CATEGORY 010 UNLESS OTHERWISE NOTED

3

MARKERS ROW

PT. NO.	STATION	LOCATION	OFFSET FROM FINISHED C/L	633.5100 (EACH)
100	9+35	CTH H, MAINLINE	32.82 LT.	1
101	9+35	CTH H, MAINLINE	50.00 LT.	1
102	9+80	CTH H, MAINLINE	55.00 LT.	1
103	10+50	CTH H, MAINLINE	55.00 LT.	1
104	11+00	CTH H, MAINLINE	33.61 LT.	1
105	11+48.21	CTH H, MAINLINE	33.00 LT.	1
106	12+28.00	CTH H, MAINLINE	33.26 LT.	1
107	12+28.00	CTH H, MAINLINE	32.78' RT	1
108	11+46.97	CTH H, MAINLINE	32.99' RT	1
109	9+35.00	CTH H, MAINLINE	33.19' RT.	1
			TOTALS =	10

PERMANENT SIGNING

APPROX. STATION	POSITION	SITE ID	SIGN CODE	SIGN DESCRIPTION	SIGN SIZE	634.0612 POSTS WOOD 4X6-INCH X 12-FT (EACH)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
AT STH 171	RIGHT	CTH H, MAINLINE	R12-55	20 TON BRDGE __ MILES AHEAD	48X18	---	---	1	1
10+50	RIGHT	CTH H, MAINLINE	R12-1	WEIGHT LIMIT 20 TONS	24X30	---	---	1	1
10+66	LEFT	CTH H, MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	1	3.00	---	---
10+66	RIGHT	CTH H, MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	1	3.00	---	---
10+70	LEFT	CTH H, MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	---	---	1	1
10+70	RIGHT	CTH H, MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	---	---	1	1
10+99	LEFT	CTH H, MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	---	---	1	1
10+99	RIGHT	CTH H, MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	---	---	1	1
11+03	LEFT	CTH H, MAINLINE	W5-52L	BRIDGE HASH MARKS	12X36	1	3.00	---	---
11+03	RIGHT	CTH H, MAINLINE	W5-52R	BRIDGE HASH MARKS	12X36	1	3.00	---	---
11+19	LEFT	CTH H, MAINLINE	W12-1	WEIGHT LIMIT 20 TONS	24X30	---	---	1	1
AT CTH X	LEFT	CTH H, MAINLINE	R12-55	20 TON BRDGE __ MILES AHEAD	48X18	---	---	1	1
					TOTALS =	4	12.00	8	8

3

TRAFFIC CONTROL

LOCATION	TRAFFIC CONTROL 643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0900 TRAFFIC CONTROL SIGNS (DAY)	643.5000 TRAFFIC CONTROL (EACH)
5415-00-71	2,070	3,220	1,610	0.5
TOTALS =	2,070	3,220	1,610	0.5

MARKING LINE EPOXY 4-INCH

STATION - STATION	LOCATION	DESCRIPTION	646.1020 (LF)
10+00 - 11+50	CTH H, MAINLINE	DOUBLE YELLOW	300
		TOTAL =	300

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 (L.F.)
9+60 - 10+00	CTH H, MAINLINE	100
11+50 - 12+12	CTH H, MAINLINE	121
	TOTAL =	221

CONSTRUCTION STAKING

STATION -STATION	LOCATION	CONSTRUCTION STAKING 650.4500 SUBGRADE (L.F.)	650.5000 BASE (L.F.)	*650.6500 STRUCTURE LAYOUT (L.S.)	650.9910 SUPPLEMENTAL CONTROL (5921-00-74) (L.S.)	650.9920 SLOPES STAKES (L.F.)
9+60 - 10+68	CTH H, MAINLINE	108	108	-	-	108
11+02 - 12+13	CTH H, MAINLINE	111	111	-	-	111
-	CTH H, MAINLINE	-	-	1	1	-
	TOTAL =	219	219	1	1	219

*CATEGORY 020

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	MISCELLANEOUS QUANTITIES	SHEET 13	E

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
5415-00-01		
FEDERAL PROJECT NUMBER	4.01	2

PLAT OF RIGHT-OF-WAY REQUIRED FOR

STH 171 – CTH X

(ENGLISH RUN CREEK BRIDGE B-12-0191)

CTH H — CRAWFORD COUNTY

CONSTRUCTION PROJECT NUMBER

5415-00-71

CONVENTIONAL ABBREVIATIONS

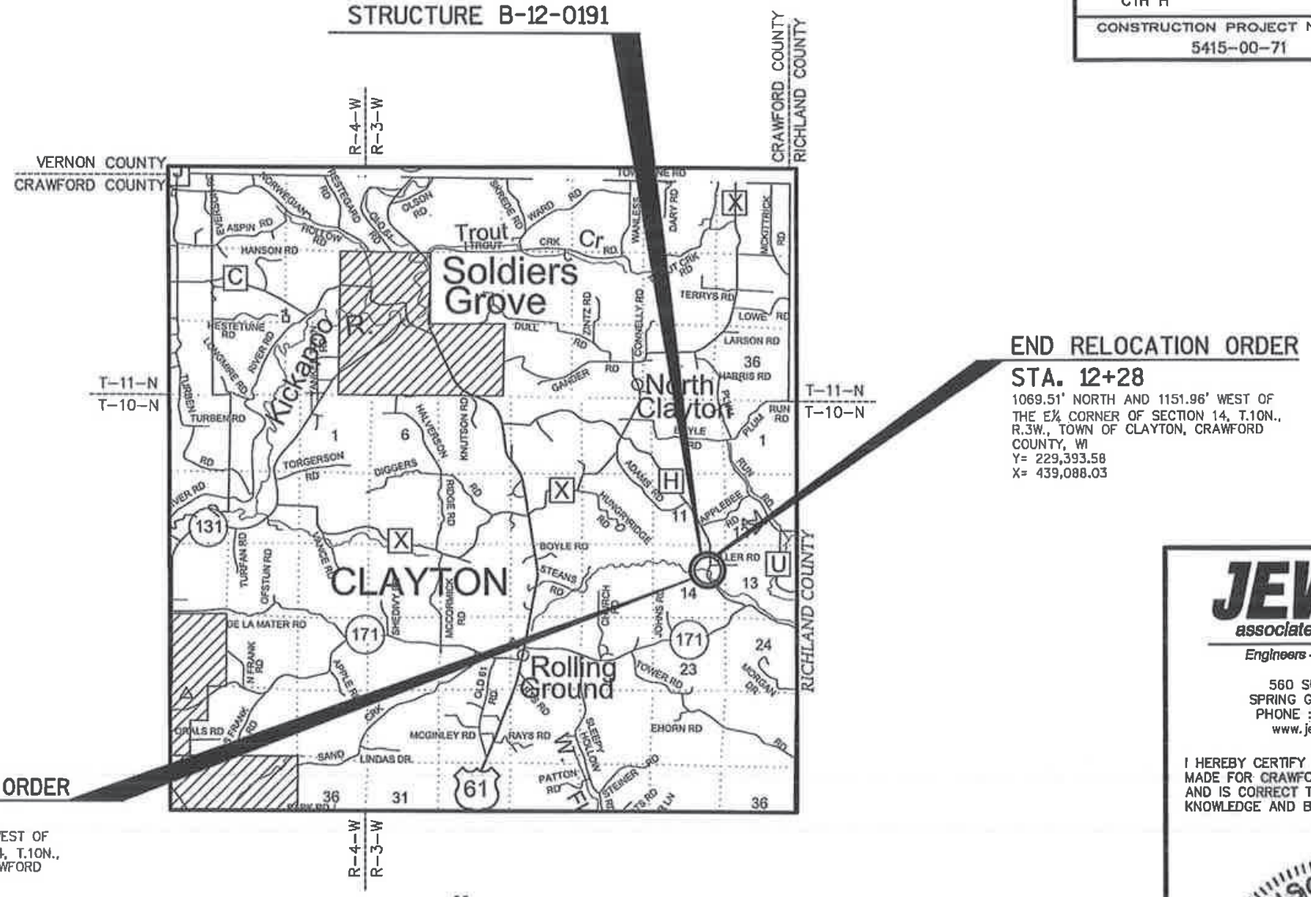
ACCESS POINT/ DRIVEWAY CONNECTION	AP	PROPERTY LINE	PL
ACCESS RIGHTS	AR	RECORDED AS	(100')
ACRES	AC.	REFERENCE LINE	R/L
AND OTHERS	ET.AL.	RELEASE OF RIGHTS	ROR
BARN	B.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	SHED	S.
CONVEYANCE OF RIGHTS	CR	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
GARAGE	G.		
HIGHWAY EASEMENT	H.E.	CURVE DATA	
HOUSE	H.	LONG CHORD	LCH
HOUSE TRAILER	H.T.	LONG CHORD BEARING	LCB
LAND CONTRACT	LC	RADIUS	R
MONUMENT	MON.	DEGREE OF CURVE	D
PAGE	P.	CENTRAL ANGLE OR DELTA	DELTA
PERMANENT LIMITED EASEMENT	PLE	LENGTH OF CURVE	L
		TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND SURVEY MONUMENT (WITH POINT NUMBER)	o1040	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	o ● (SET)	PROPERTY LINE	
R/W STANDARD	△ ▲ (SET)	LOT & TIE LINES	
SIGN	ISIGN	SLOPE INTERCEPTS	
		CORPORATE LIMITS	
SECTION CORNER MONUMENT		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
SECTION CORNER SYMBOL		NO ACCESS (BY ACQUISTION)	
		NO ACCESS (BY STATUTORY AUTHORITY)	
FEE (HATCH VARIES)		SECTION LINE	
TEMPORARY LIMITED EASEMENT		QUARTER LINE	
		SIXTEENTH LINE	
PERMANENT LIMITED EASEMENT		EXISTING CENTERLINE	
R/W BOUNDARY POINT	RWB20	PROPOSED REFERENCE LINE	
PARCEL NUMBER	8	PARALLEL OFFSET	
UTILITY PARCEL NUMBER	92	ENCROACHMENT	E-1 TYPE
SIGN NUMBER (OFF PREMISE)	21-0	HIGHWAY EASEMENT	
BUILDING			

CONVENTIONAL UTILITY SYMBOLS

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



END RELOCATION ORDER

STA. 12+28

1069.51' NORTH AND 1151.96' WEST OF THE E¼ CORNER OF SECTION 14, T.10N., R.3W., TOWN OF CLAYTON, CRAWFORD COUNTY, WI
Y= 229,393.58
X= 439,088.03

BEGIN RELOCATION ORDER

STA. 9+35

800.00' NORTH AND 1261.45' WEST OF THE E¼ CORNER OF SECTION 14, T.10N., R.3W., TOWN OF CLAYTON, CRAWFORD COUNTY, WI
Y= 229,124.07
X= 438,978.54

TOTAL NET LENGTH OF CENTERLINE = 0.055 MI.

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CRAWFORD COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

JEWELL
associates engineers, inc.
Engineers - Architects - Surveyors

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE : 608.588.7484
www.jewellassoc.com

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FOR CRAWFORD COUNTY, WISCONSIN AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN
SCOTT D. WARNER
S-2524
RICHLAND CENTER
WI
02-10-2020
LAND SURVEYOR

REVISION DATE

APPROVED FOR CRAWFORD COUNTY
DATE: 2/20/20 Thomas M. Crawford
(NAME/TITLE) County Chair

E

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE ACRES REQ.
			NEW	EXISTING	TOTAL	
1	KAY JONES, NANCY HELT, DOUGLAS WALLIN, LINDA SPROSTY, KATHLEEN WALLIN-SOBEK, AND CAROLYN ENESS, AS TENANTS IN COMMON, SUBJECT TO THE LIFE ESTATE INTERESTS RESERVED BY PAUL J. WALLIN AND NONA M. WALLIN	FEE, TLE	0.07	0.44	0.51	0.02
201	CENTURYLINK	RELEASE OF RIGHTS				
202	RICHLAND ELECTRIC COOPERATIVE	RELEASE OF RIGHTS				

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM THE TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO CRAWFORD COUNTY.

EXISTING RIGHT OF WAY CURVE TABLE (ERWC)

CURVE	POINT TO POINT	DELTA ANGLE	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
ERWC1	104 TO 105	04°43'38"	25.30'	613.00'	50.58'	50.56'	N27°16'54"E
ERWC2	108 TO 109	20°57'50"	101.20'	547.00'	200.14'	199.03'	S19°09'48"W

ENCROACHMENT TABLE

ENCROACHMENT	PROPERTY OWNER	LOCATION (STATION/OFFSET)	ENCROACHMENT TYPE
E-1	KAY JONES, NANCY HELT, DOUGLAS WALLIN, LINDA SPROSTY, ET AL.	STA. 9+35 – STA. 9+63, 21.8'–26.6' LT.	FENCE
E-2	KAY JONES, NANCY HELT, DOUGLAS WALLIN, LINDA SPROSTY, ET AL.	STA. 9+77 – STA. 10+73, 13.0'–20.9' LT.	FENCE
E-3	KAY JONES, NANCY HELT, DOUGLAS WALLIN, LINDA SPROSTY, ET AL.	STA. 10+96 – STA. 11+79, 12.7'–33.0' LT.	FENCE

EASEMENT TABLE

OWNER	RECORDING INFORMATION	LOCATED IN R/W PARCEL #	REMARKS
NORTH-WEST TELEPHONE COMPANY (CENTURYLINK)	DOC. #186666, VOL. 306, PG. 93	1	RIGHT-OF-WAY EASEMENT (BLANKET)
RICHLAND ELECTRIC COOPERATIVE	DOC. #257847, VOL. 406, PG. 582	1	RIGHT-OF-WAY EASEMENT (BLANKET)

COORDINATE TABLE – NEW R/W POINTS

PT.#	STATION	OFFSET	Y	X
100	9+35.00	32.82' LT.	229128.56	438946.03
101	9+35.00	50.00' LT.	229130.90	438929.01
102	9+80.00	55.00' LT.	229181.19	438933.45
103	10+50.00	55.00' LT.	229254.19	438956.12
104	11+00.00	33.61' LT.	229295.24	438996.21
105	11+48.21	33.00' LT.	229340.18	439019.39
106	12+28.00	33.26' LT.	229411.09	439059.74
107	12+28.00	32.78' RT.	229376.33	439115.91
108	11+46.97	32.99' RT.	229307.53	439076.75
109	9+35.00	33.19' RT.	229119.53	439011.42

COORDINATE TABLE – TEMPORARY LIMITED EASEMENT (TLE) POINTS

PT.#	STATION	OFFSET	Y	X
500	11+55.00	32.91' LT.	229346.37	439022.91
501	11+55.00	40.00' LT.	229349.82	439016.72
502	12+00.00	40.00' LT.	229389.18	439038.97
503	12+00.00	32.78' LT.	229385.63	439045.26
504	12+00.00	33.22' RT.	229353.13	439102.70
505	12+00.00	38.00' RT.	229350.77	439106.86
506	11+60.00	38.00' RT.	229315.96	439087.17
507	11+60.00	33.12' RT.	229318.36	439082.92

RIGHT OF WAY LINE TABLE

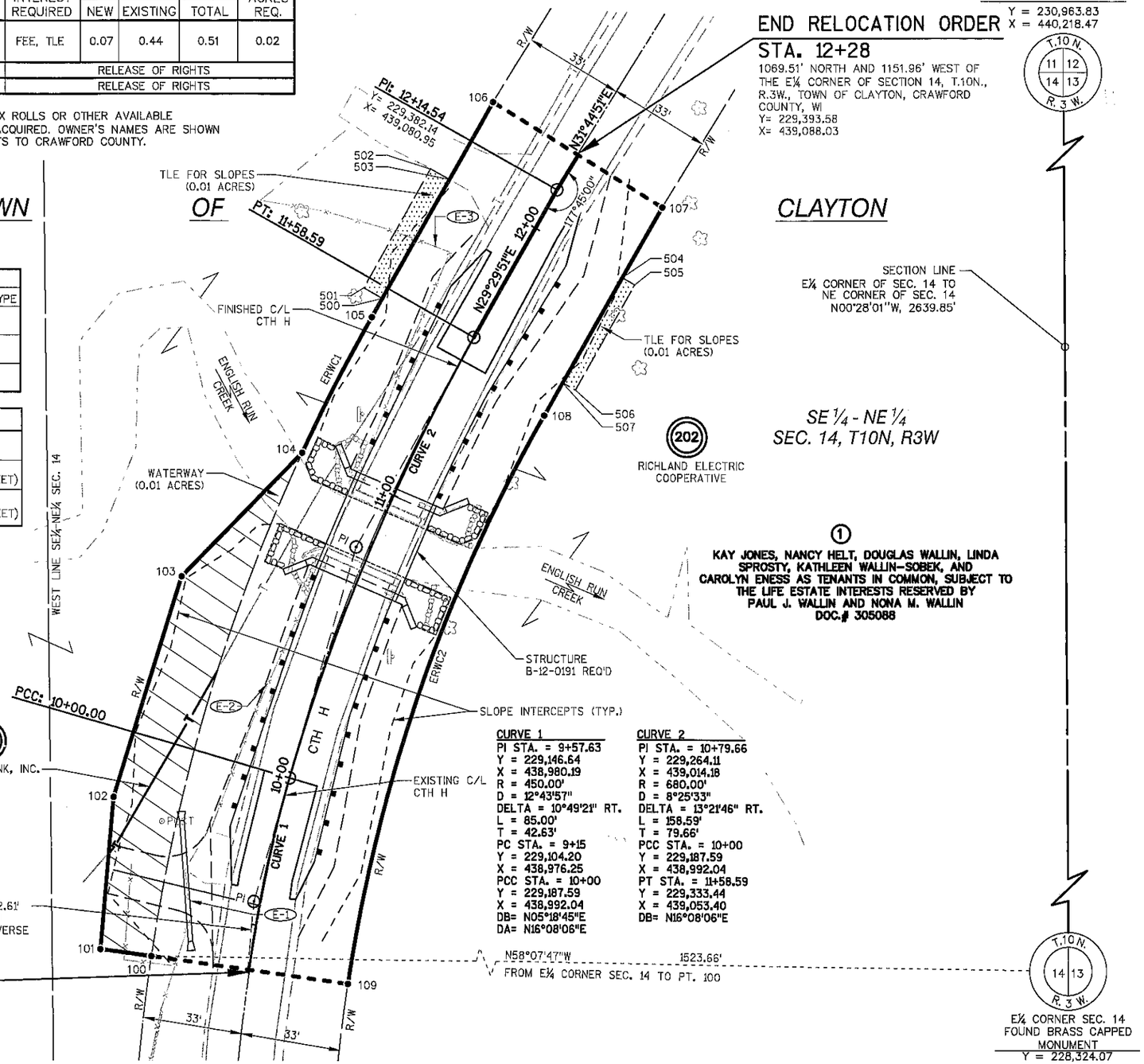
POINT TO POINT	BEARING	DISTANCE
100 TO 101	N82°09'02"W	17.18'
101 TO 102	N05°02'46"E	50.48'
102 TO 103	N17°14'59"E	76.45'
103 TO 104	N44°19'44"E	57.38'
105 TO 106	N29°38'43"E	81.59'
106 TO 107	S58°15'09"E	66.04'
107 TO 108	S29°38'43"W	79.17'
109 TO 100	N82°08'27"W	66.01'

TLE LINE TABLE

POINT TO POINT	BEARING	DISTANCE
105 TO 500	N29°38'43"E	7.12'
500 TO 501	N60°48'18"W	7.09'
501 TO 502	N29°29'06"E	45.21'
502 TO 503	S60°30'09"E	7.22'
503 TO 106	N29°38'43"E	29.29'
107 TO 504	S29°38'43"W	26.70'
504 TO 505	S60°30'09"E	4.78'
505 TO 506	S29°29'51"W	40.00'
506 TO 507	N60°30'09"W	4.88'
507 TO 105	S29°38'43"W	12.46'

NOTE: EXISTING C/L OF CTH H WAS BASED ON CENTERLINE OF EXISTING PAVEMENT.

BASIS OF EXISTING RIGHT-OF-WAY FOR CTH H WAS BASED ON COUNTY RECORDS, THE CENTERLINE OF EXISTING PAVEMENT, AND WIS. STATUTE 82.31(2).



REVISION DATE	DATE	SCALE, FEET 0 20 40	HWY: CTH H	R/W PROJECT NUMBER: 5415-00-01	PLAT SHEET 4.02	
	GRID FACTOR		COUNTY: CRAWFORD	CONSTRUCTION PROJECT NUMBER: 5415-00-71	PS&E SHEET 15	E

FILE NAME : S:\Projects\C54555 Crawford Co - CTH H Bridge Replacement\RW\54150001_Plat.dwg PLOT DATE : 10/9/2019 1:06 PM PLOT BY : Scott Warner PLOT NAME : PLOT SCALE : 1:1

WISDOT/CADDS SHEET 75

CURVE 1 DATA
PI STA. = 9+57.63
Y = 229,146.64
X = 438,980.19
R = 450.00
D = 12°43'57"
DELTA = 10°49'21"
L = 85.00
T = 42.63
C = 84.87
PC STA. = 9+15
Y = 229,104.20
X = 438,976.25
PT STA. = 10+00
Y = 229,187.59
X = 438,992.04
S.E. = MATCH EXISTING
RO = N/A
S.E. TRANS = N/A

CURVE 2 DATA
PI STA. = 10+79.66
Y = 229,264.11
X = 439,014.18
R = 680.00
D = 8°25'33"
DELTA = 13°21'46"
L = 158.59
T = 79.66
C = 158.23
PC STA. = 10+00
Y = 229,187.59
X = 438,992.04
PT STA. = 11+58.59
Y = 229,333.44
X = 439,053.40
S.E. = SEE S.E. TABLE
RO = N/A
S.E. TRANS = N/A

STA. 9+57, LT.
CONSTRUCT F.E. REQ'D
CULVERT PIPE CLASS IV 18-INCH
(2) APRON ENDWALLS REQ'D

REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS
STA. 10+85 (P-12-55)
SINGLE-SPAN STEEL DECK GIRDER STRUCTURE
24.2' CLEAR ROADWAY WIDTH
24.5' OVERALL DECK WIDTH
24.0' OVERALL LENGTH
PI STA. 12+14.54
Y = 229,382.14
X = 439,080.95

STA. 12+06, LT.
EXISTING P.E. TO REMAIN

LEGEND
DIRECTION OF FLOW
XXXXXXXXX SAWING ASPHALT
EDGE OF WATER
WETLANDS
HEAVY RIPRAP

CENTURYLINK (TYP.)
R/W
ENGLISH RUN CREEK
EXISTING C/L CTH H
NON-MGS GUARDRAIL
TLE REQ'D
PRC: 10+00.00
PI: 11+58.59
PI: 12+14.54
PAUL & NONA WALLIN LF EST

BEGIN PROJECT
STA. 10+00
(PROJECT ID 5325-00-72)

END CONSTRUCTION
STA. 12+28
Y= 229,393.59
X= 439,088.03

BEGIN CONSTRUCTION
STA. 9+34
Y= 229,123.08
X= 438,978.40
R/W
PRC: 9+15.00
S05° 18' 45"W
CTH H
10+00
N16° 08' 06"E
11+00 N29° 29' 51"E
12+00
177°45'0"
N31° 44' 51"E
33'
33'
(ASPHALT)
BM 1
BM 2
BM 3
BM 10
FINISHED C/L CTH H
MGS GUARDRAIL
STRUCTURE B-12-191 REQ'D
SLOPE INTERCEPT
RICHLAND ELECTRIC COOPERATIVE (TYP.)
PC: 2+
3+0
PC: 10+

BEGIN PROJECT
STA. 10+00
Y= 229,187.59
X= 438,992.04

REMOVING FENCING (BY OTHERS)
STA. 9+34 - STA. 9+63, LT.,
STA. 9+77 - 10+73, LT., &
STA. 10+96 - STA. 11+79, LT.

END PROJECT
STA. 11+50
Y= 229,325.94
X= 439,049.22

PAUL & NONA WALLIN LF EST

STA. 13+66, 37.7' RT.
EXISTING SPRING HEAD
TO REMAIN

STA. 10+85
STRUCTURE B-12-191 REQ'D.
SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB STRUCTURE
CLEAR ROADWAY WIDTH = 26.3'
O.A.L. = 34.50'
SKEW = 0°

PC STA 10+00.00
EL 787.76
PT STA 11+20.00
EL 789.39
PI STA 10+60.00
EL 788.81
0.97%
L=120.00'
K=153.19
MATCH EXISTING
STA. 10+00
EL. = 787.76
MATCH EXISTING
STA. 11+50
EL. = 789.68
FINISHED C/L PROFILE
CTH H
EXISTING C/L PROFILE
CTH H
HIGH WATER$_2$
EL = 783.17
HIGH WATER$_{100}$
EL = 786.82
OBSERVED WATER
EL = 780.71
(4-1-2019)
STREAMBED
EL = 779.63
EXISTING C/L ELEVATION
FINISHED C/L ELEVATION

EARTHWORK SUMMARY

		MAINLINE
EXCAVATION COMMON	=	450 C.Y.
FILL	=	72 C.Y.
FILL EXPANSION (25%)	=	90 C.Y.
WASTE	=	360 C.Y.

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	8+54	¾-INCH IRON REBAR SET, 15.1' RT.	785.64
2	11+10	¾-INCH IRON REBAR SET, 15.8' RT.	788.96
3	13+36	¾-INCH IRON REBAR SET, 17.6' LT.	796.20
10	10+73	PAINT DOT ON SE WINGWALL, 12.9' RT.	788.26

794 792 790 788 786 784 782 780 778

786.59 786.64 786.71 786.82 786.92 787.27 787.75 787.76 788.22 788.10 788.66 788.41 789.08 788.69 788.40 788.95 789.45 789.18 789.52 789.39 789.62 789.58 789.83 790.14 790.44 791.22 791.98 792.83 793.84 794.85 795.89 796.95 798.00 798.90 799.80

8+60 8+80 9+00 9+20 9+40 9+60 9+80 10+00 10+20 10+40 10+60 10+80 11+00 11+20 11+40 11+60 11+80 12+00 12+20 12+40 12+60 12+80 13+00 13+20 13+40 13+60 13+80 14+00 14+20

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	PLAN & PROFILE	SHEET 16	E

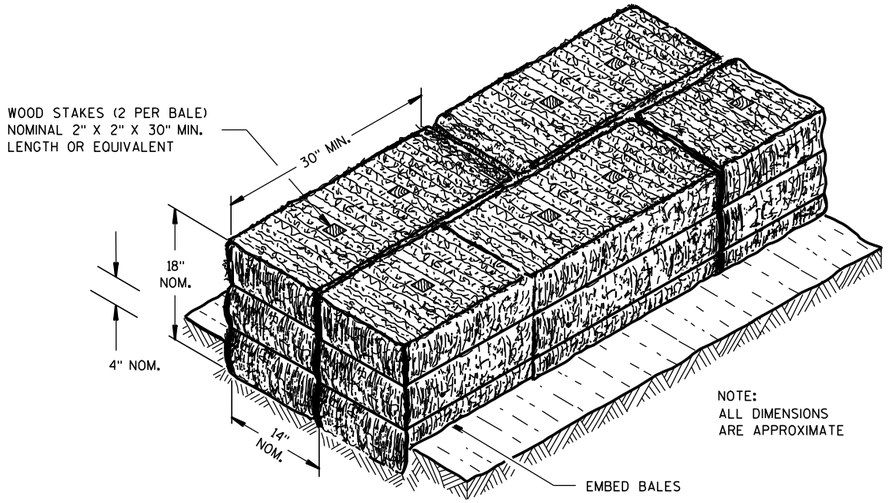
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LAYOUT : PROFILE
PLOT DATE : 5/26/2020
PLOT TIME : 3:25:18 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

Standard Detail Drawing List

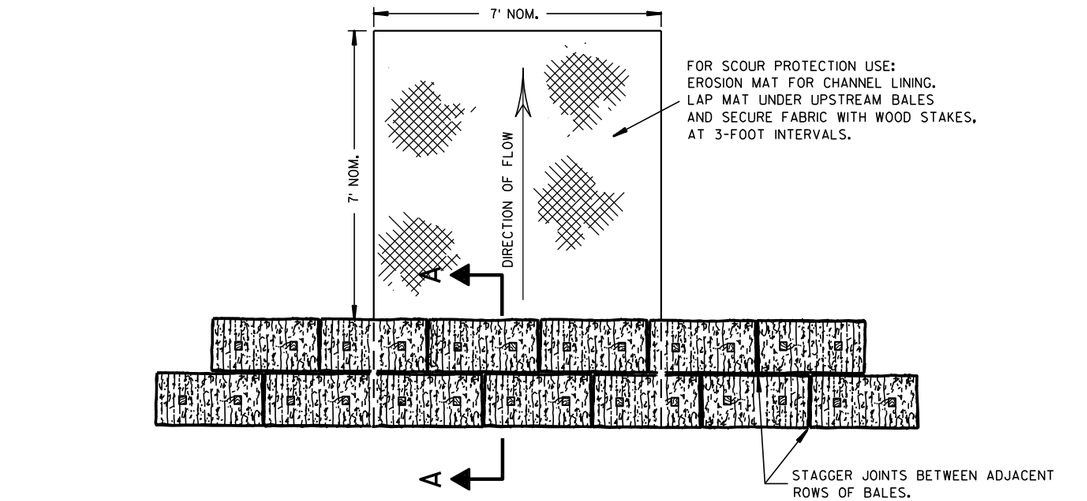
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

6

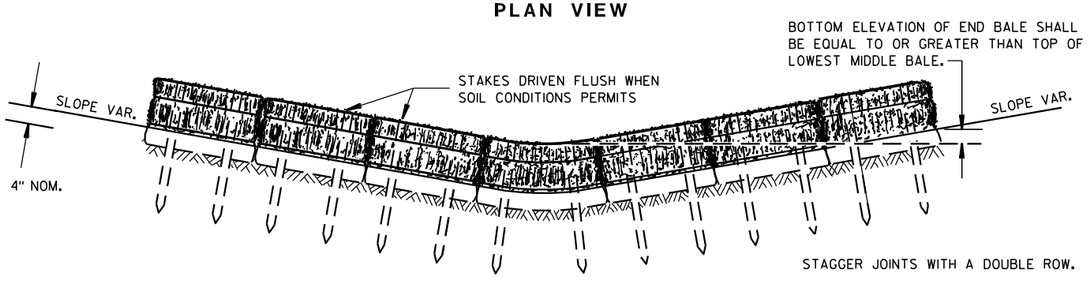
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SECTION A-A



PLAN VIEW



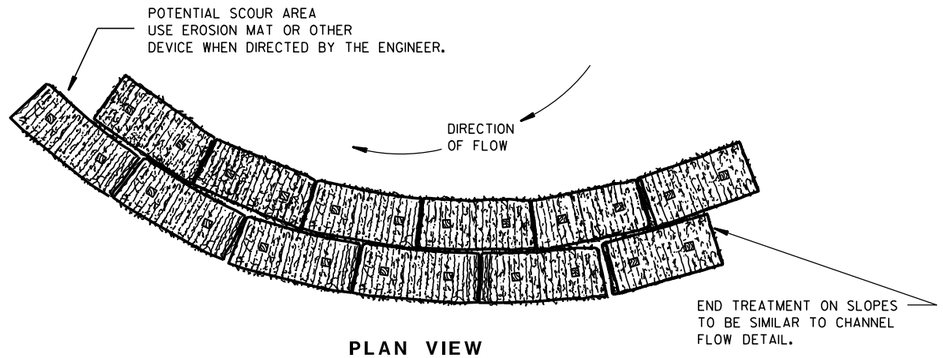
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

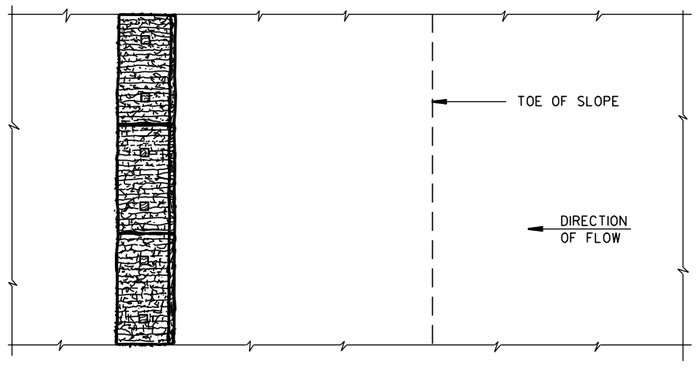
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

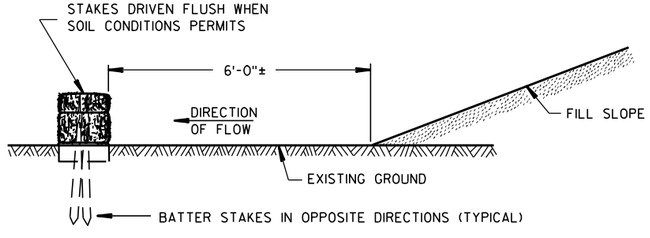


PLAN VIEW

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

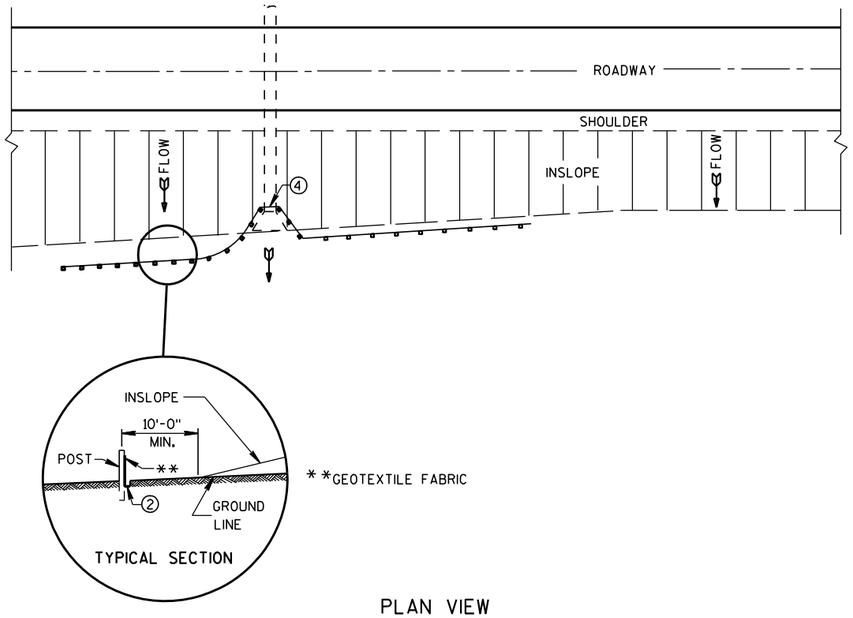
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

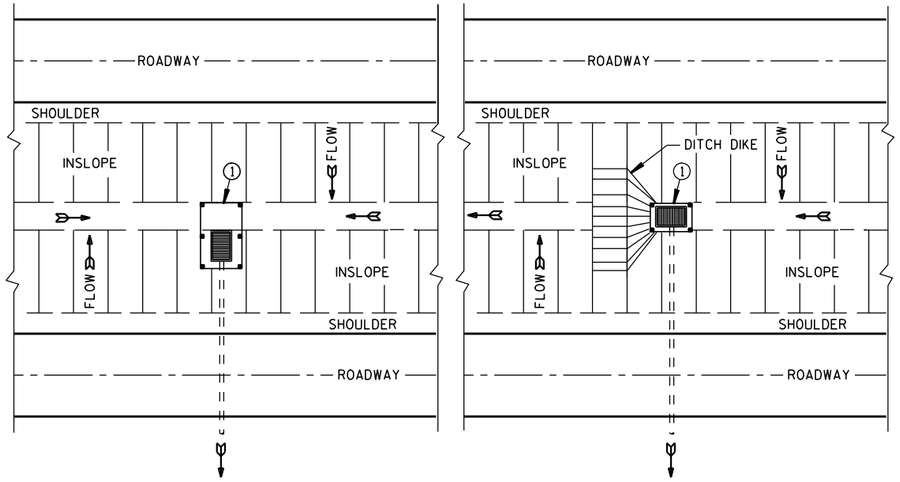
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S.D.D. 8 E 8-3



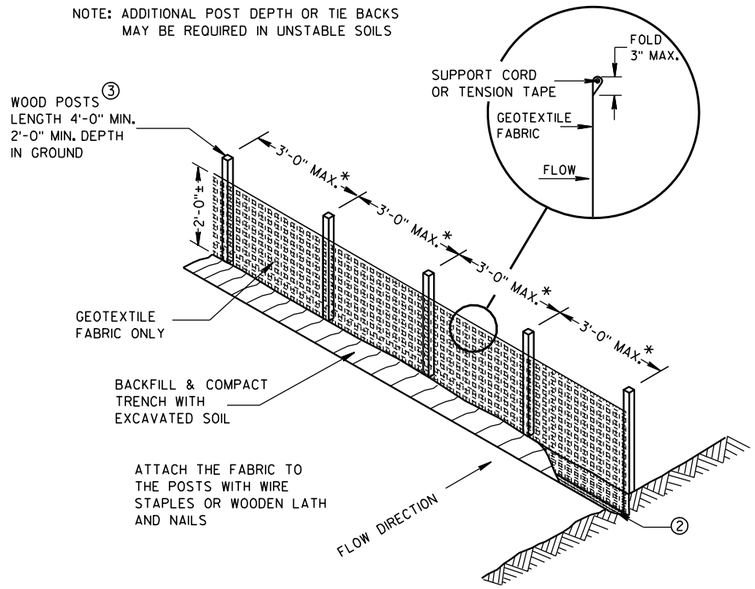
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



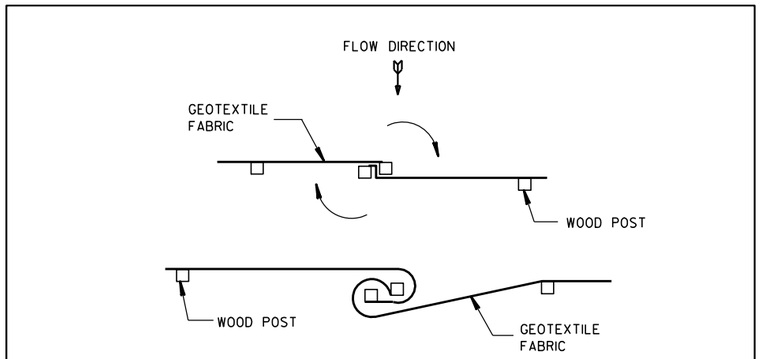
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



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

SILT FENCE

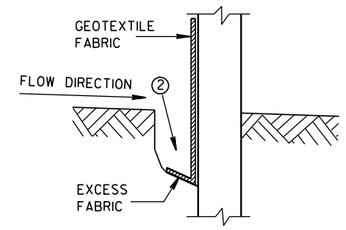


JOINING TWO LENGTHS OF SILT FENCE 5

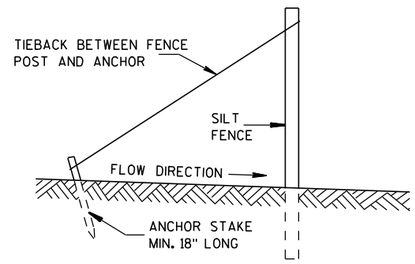
GENERAL NOTES

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 TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

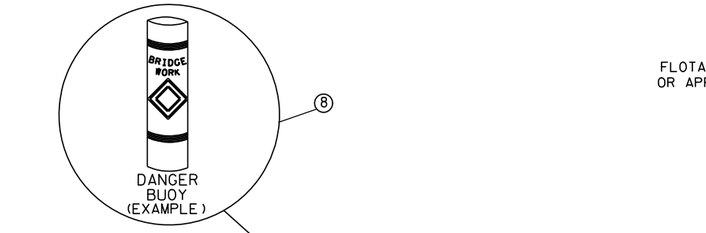
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

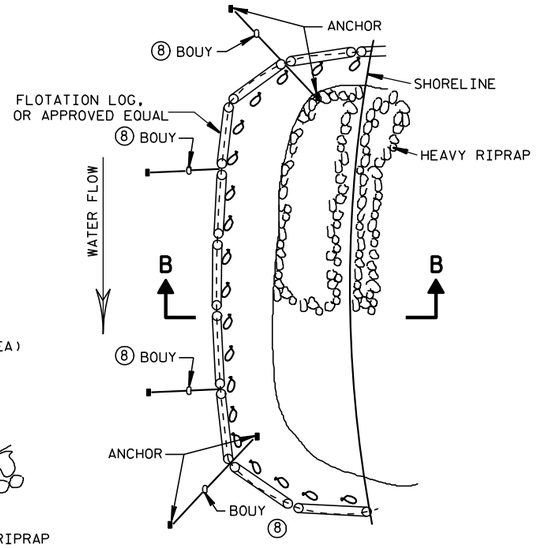
S.D.D. 8 E 9-6

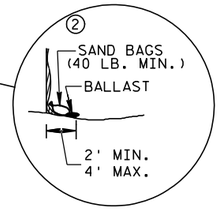
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S.D.D. 8 E 9-6

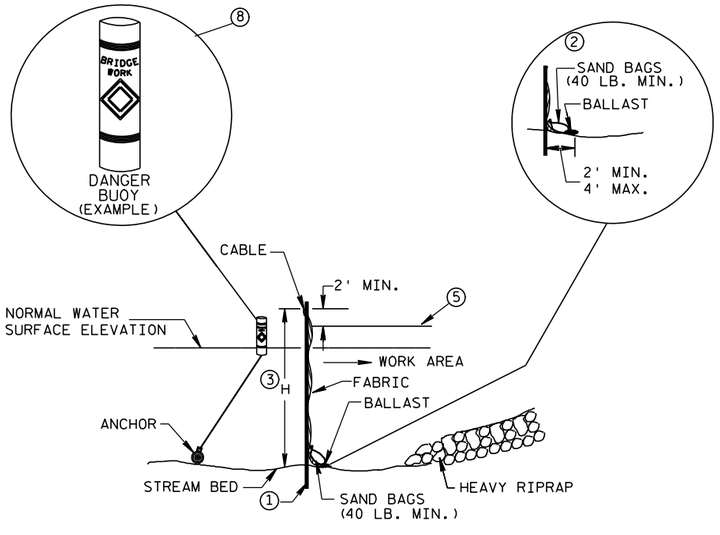


SECTION B-B

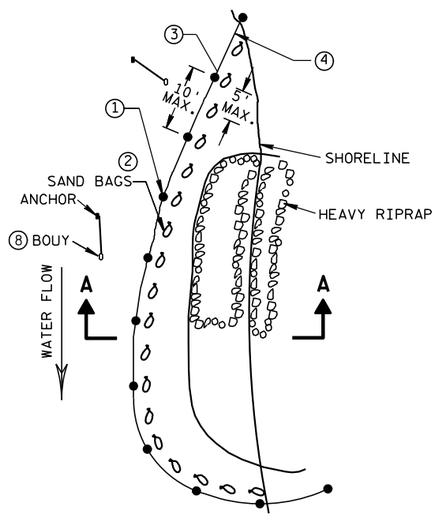




TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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.

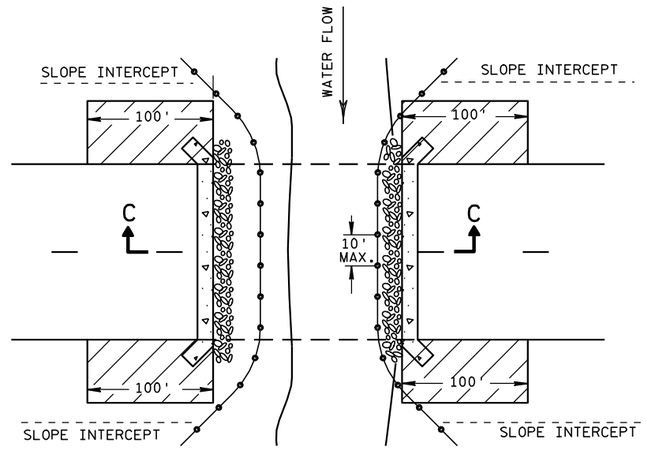
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

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.

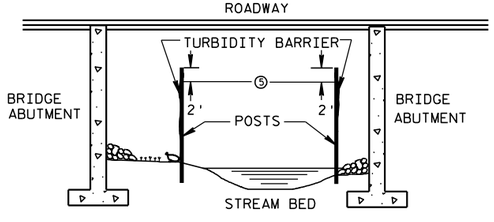
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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



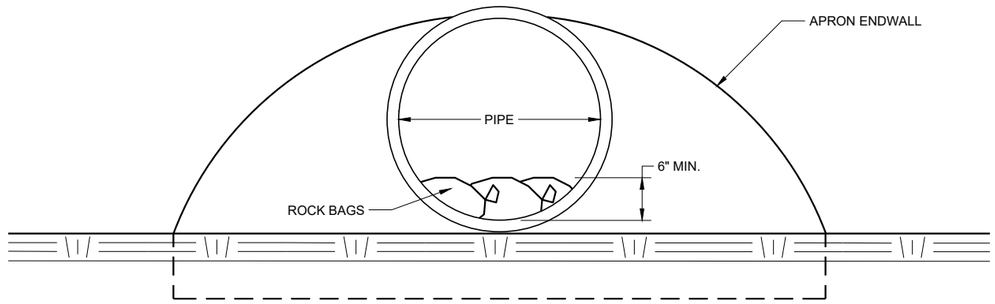
SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

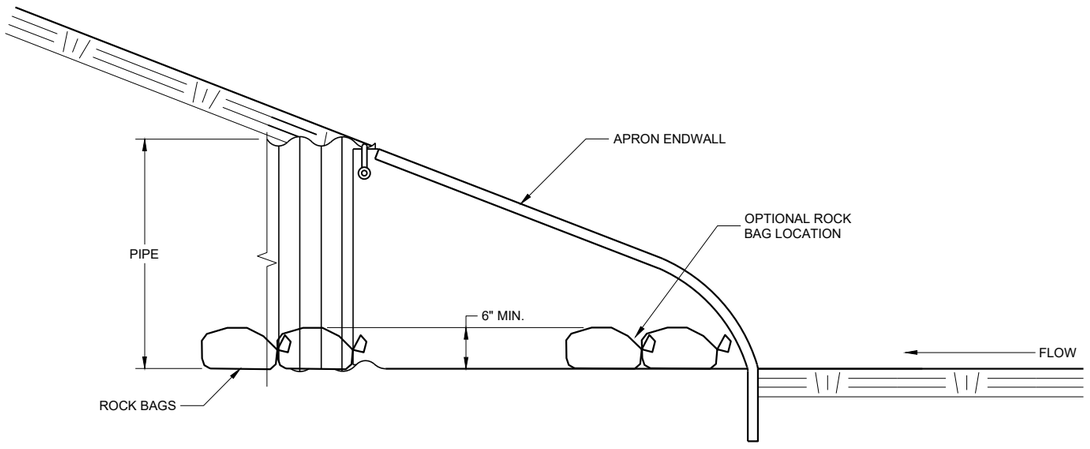
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

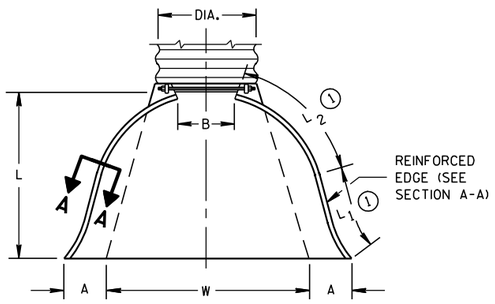
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

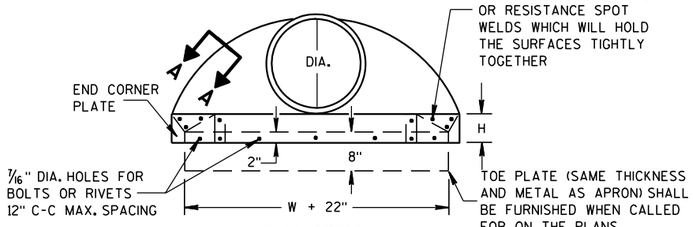
REINFORCED CONCRETE APRON ENDWALLS

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

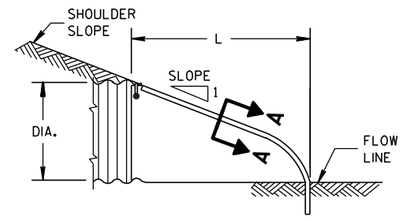
*MINIMUM
**MAXIMUM



PLAN VIEW

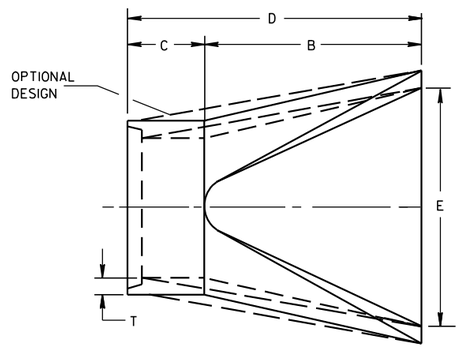


END VIEW

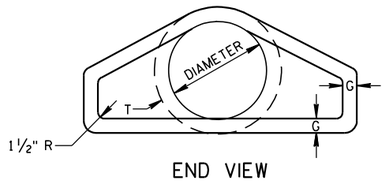


SIDE ELEVATION

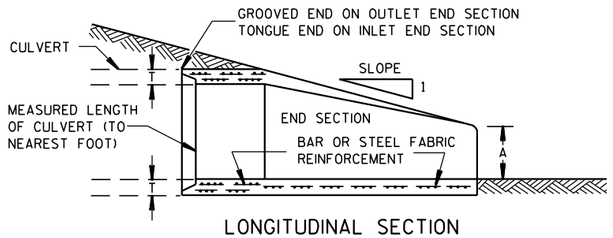
METAL ENDWALLS



PLAN

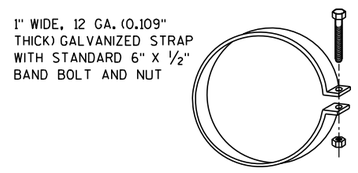


END VIEW



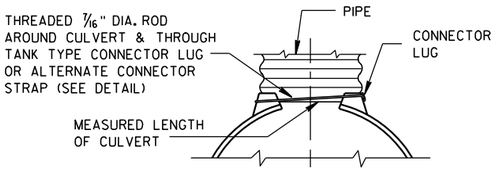
LONGITUDINAL SECTION

CONCRETE ENDWALLS

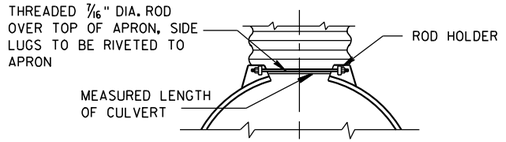


ALTERNATE FOR TYPE 1 CONNECTION

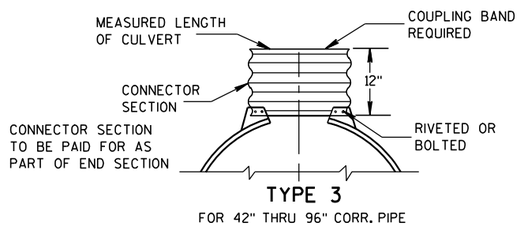
END SECTION CONNECTOR STRAP



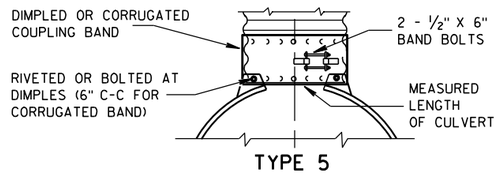
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

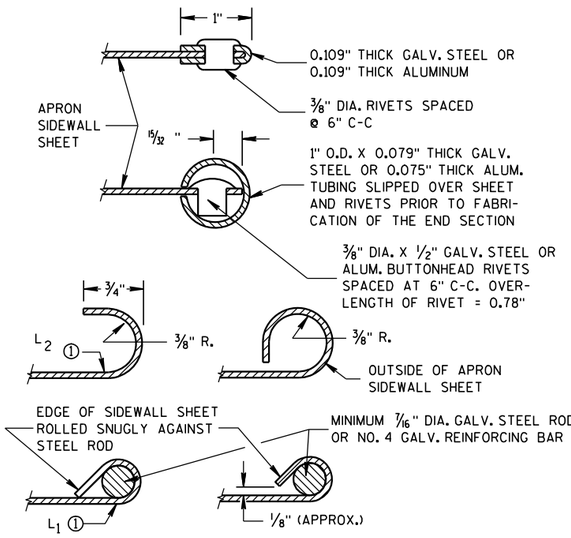
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

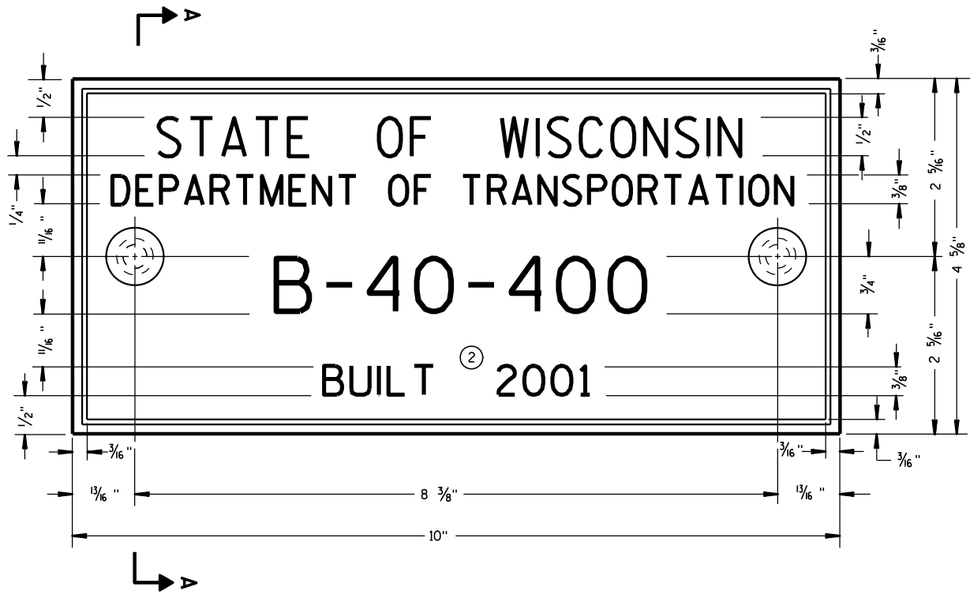
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

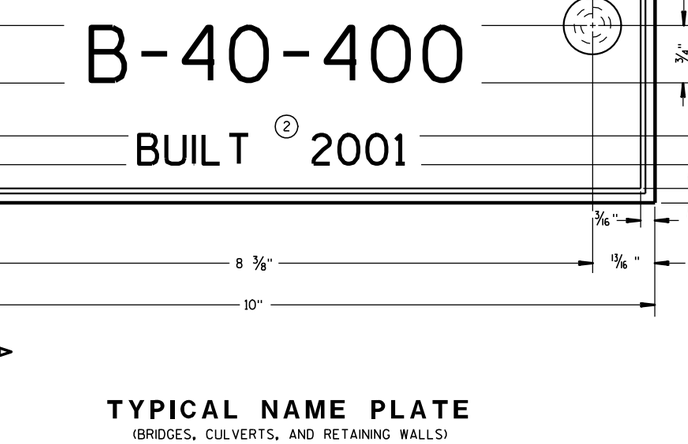
6

S.D.D. 8 F 1-11



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

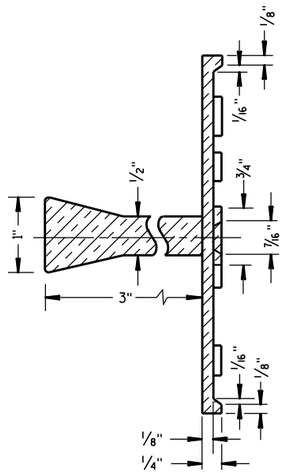
GENERAL NOTES

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

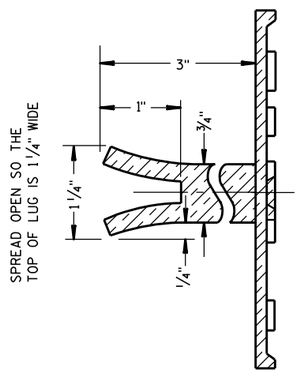
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

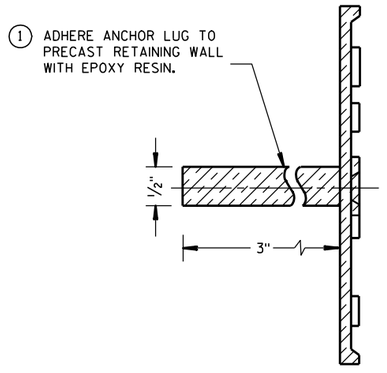
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

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

6

S.D.D. 12 A 3-10

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

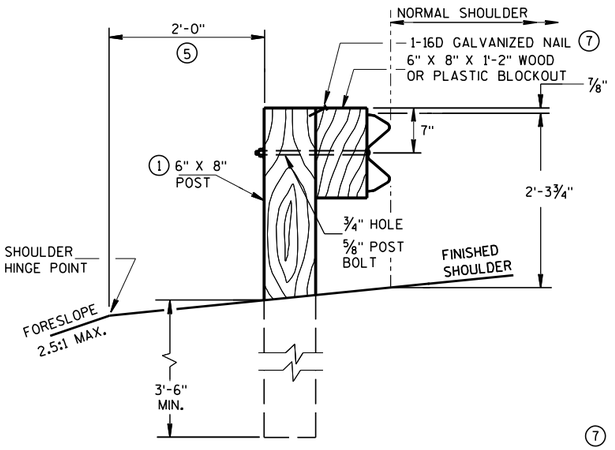
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

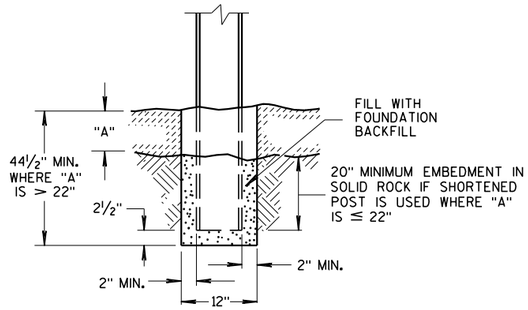
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

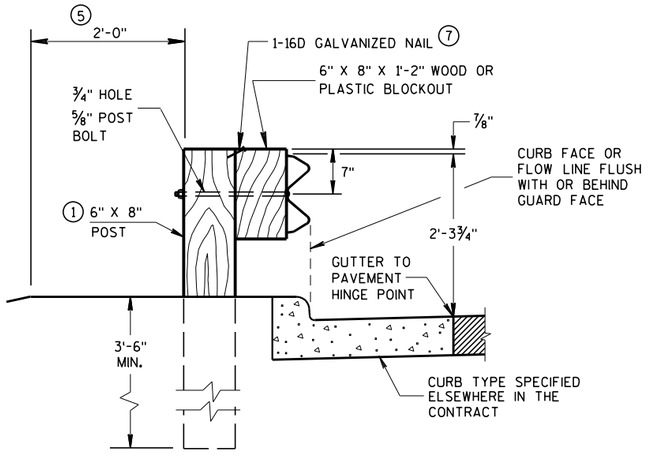
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



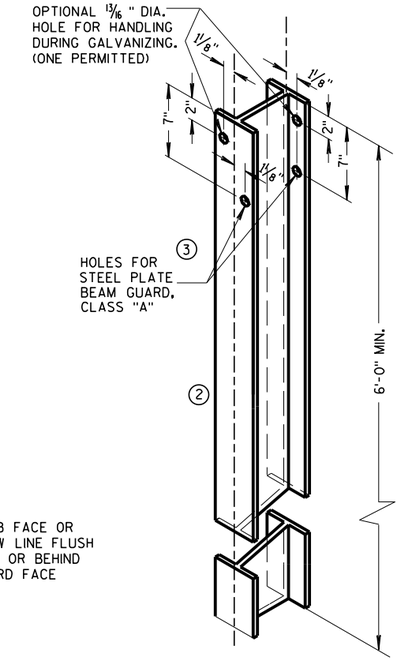
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



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

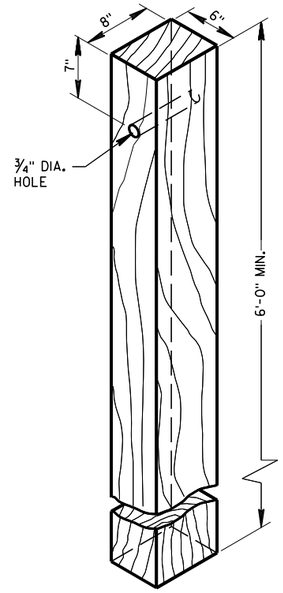


END VIEW
LOCATED ALONG A CURBED ROADWAY

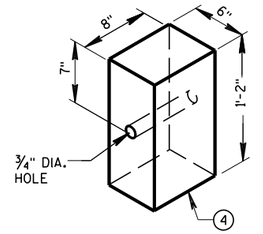


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

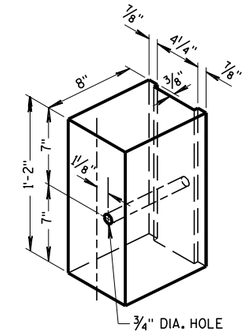
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



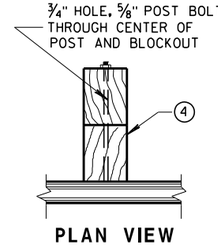
WOOD POST
(6"X8") NOMINAL



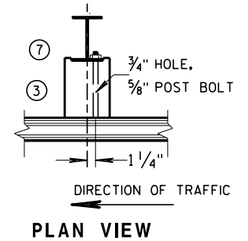
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



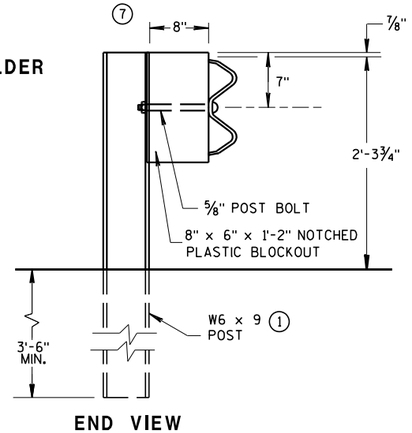
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



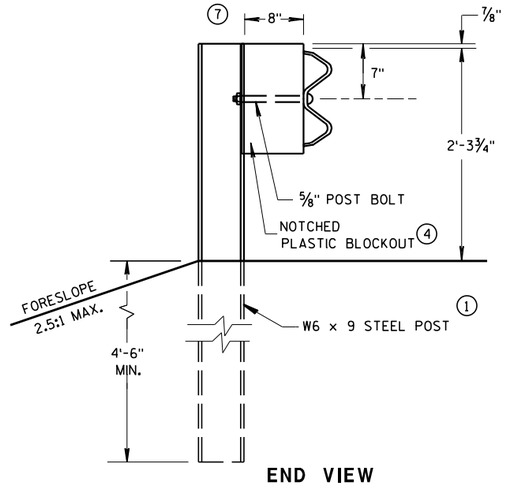
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



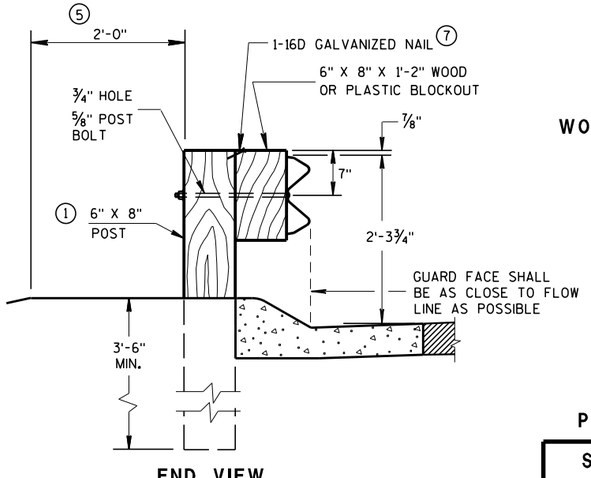
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



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



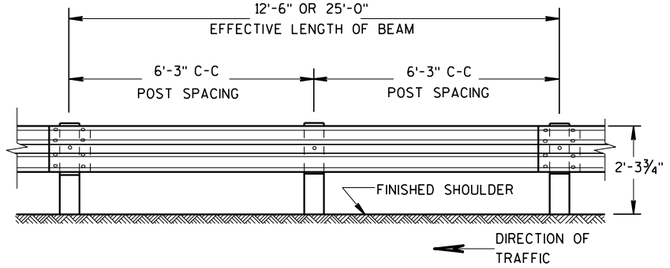
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

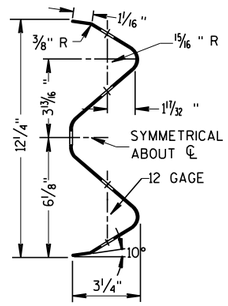
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 15-11a

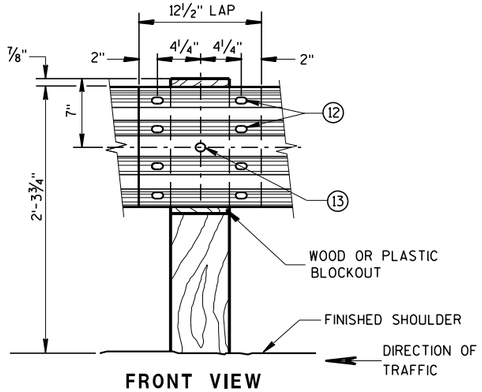


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

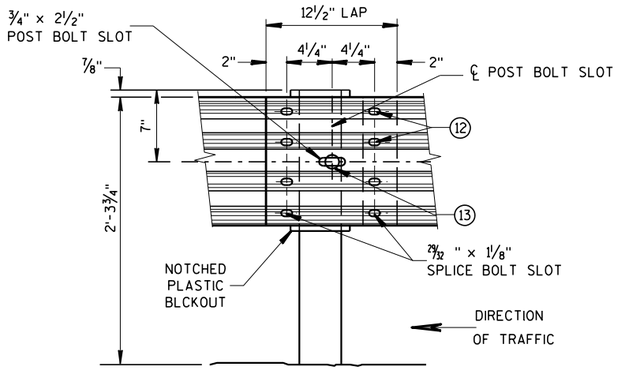
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

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

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

FRONT VIEW

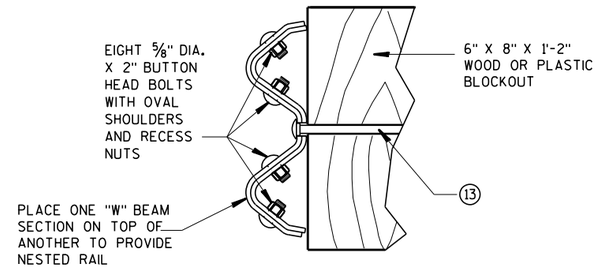
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

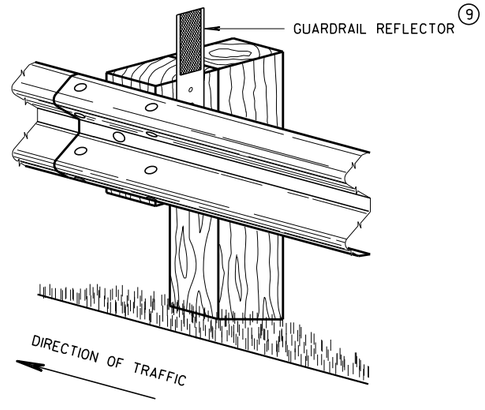
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



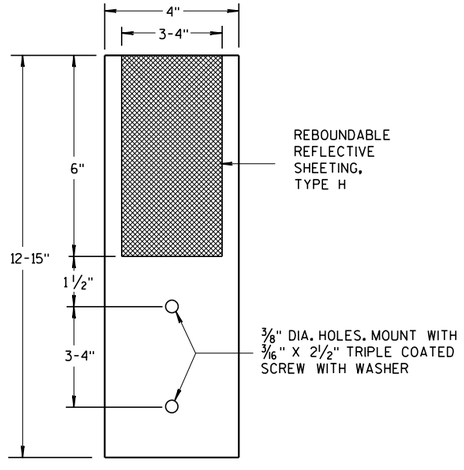
NESTED W BEAM (NW)

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

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



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



4"x 12" GUARDRAIL REFLECTOR

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

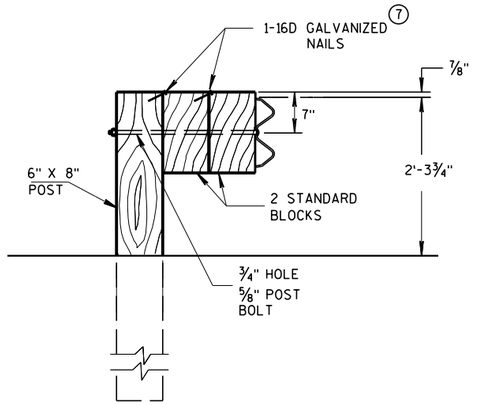
STATE OF WISCO 25
DEPARTMENT OF TRANSPORTATION

6

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

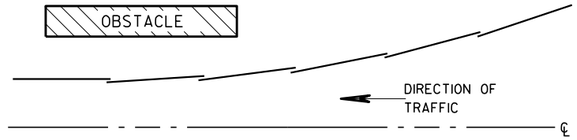
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S.D.D. 14 B 15-11b

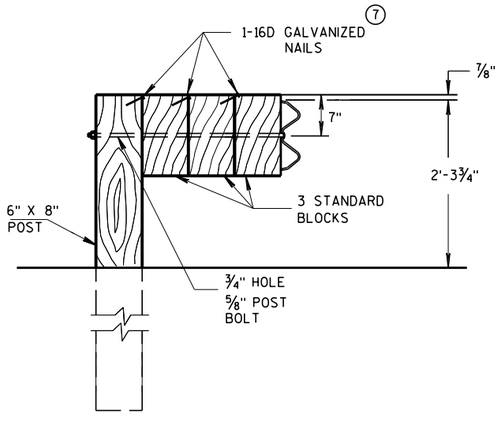


DETAIL FOR DOUBLE BLOCKS

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

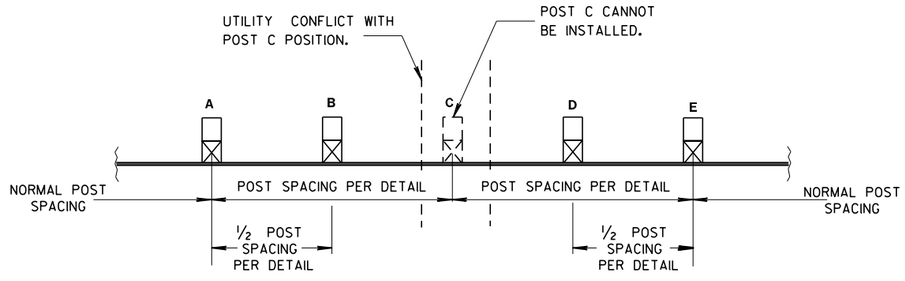


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

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



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

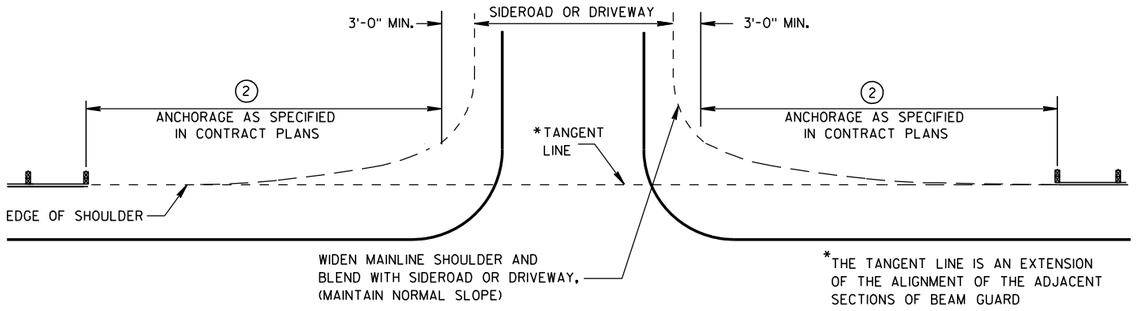
NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

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

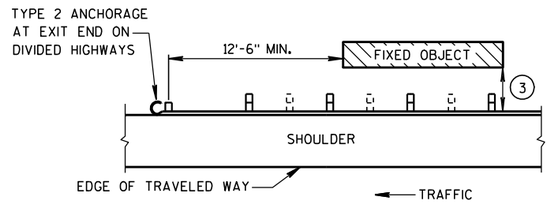
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

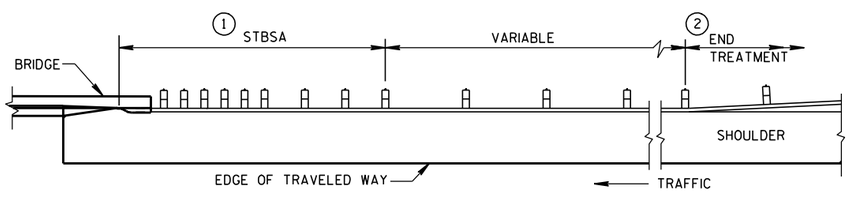
APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA



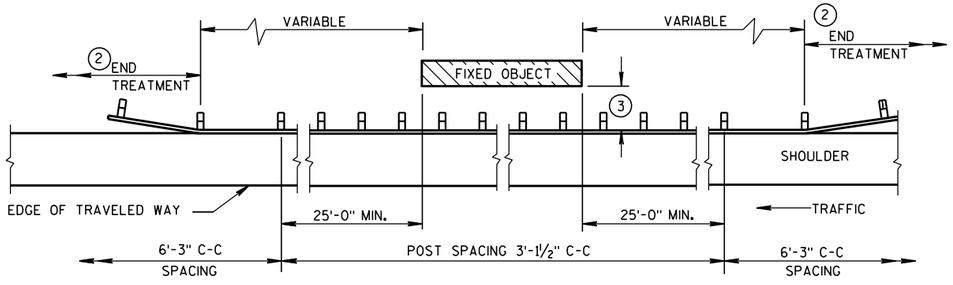
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

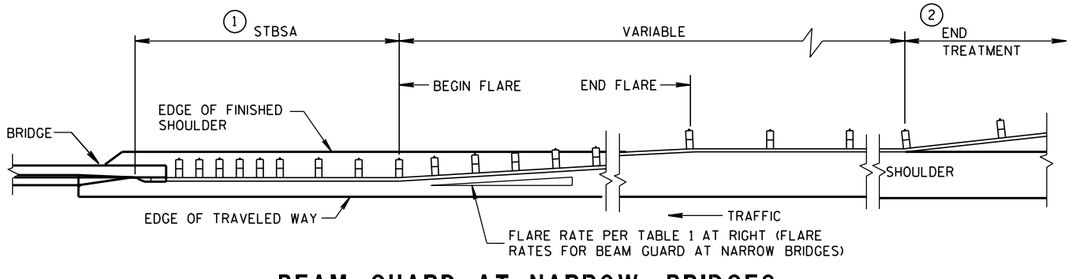


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

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



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

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

GENERAL NOTES

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

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

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

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

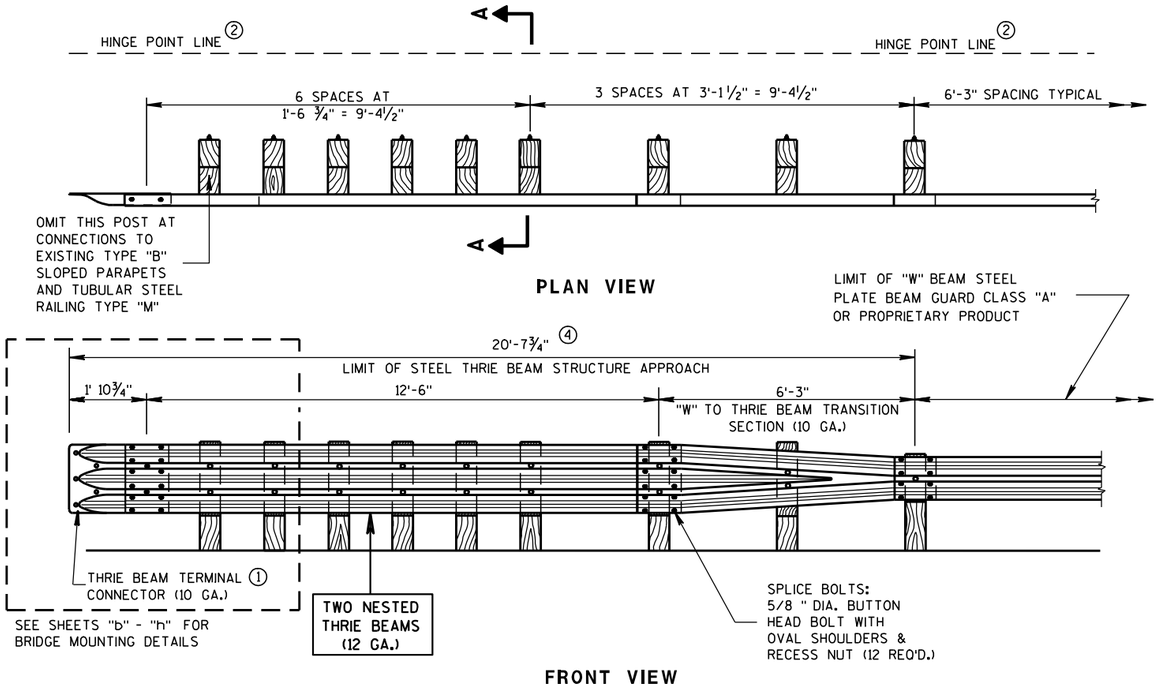
(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



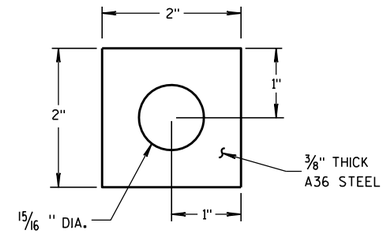


PLATE WASHER DETAIL

GENERAL NOTES

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

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

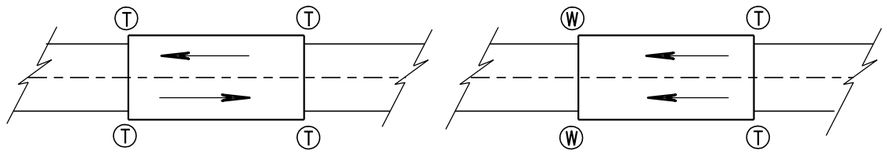
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



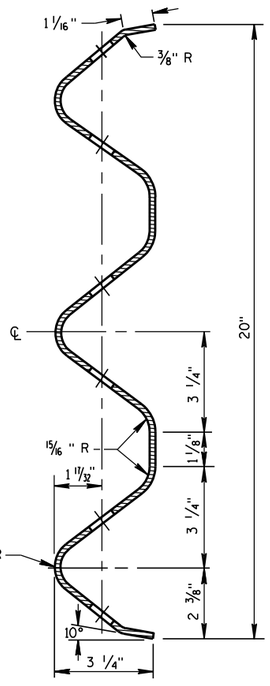
TWO WAY TRAFFIC

ONE WAY TRAFFIC

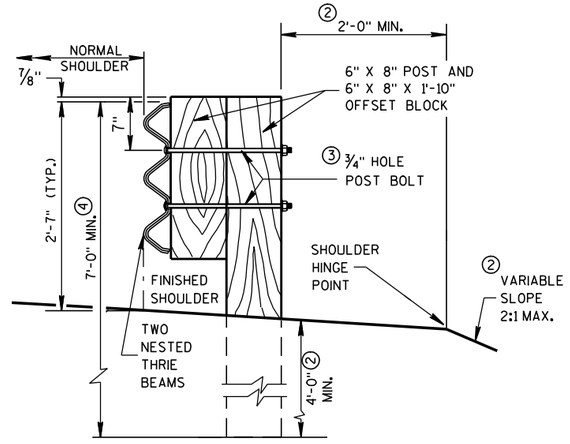
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

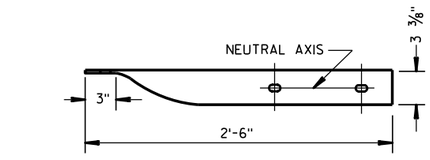
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

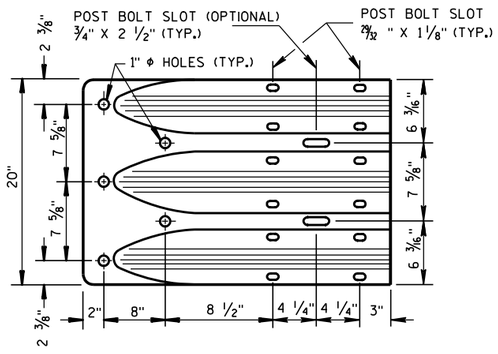


SECTION THRU THRIE BEAM RAIL ELEMENT

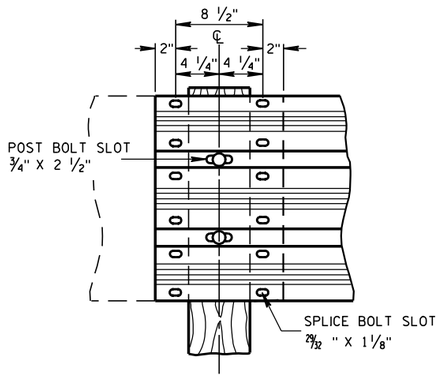


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

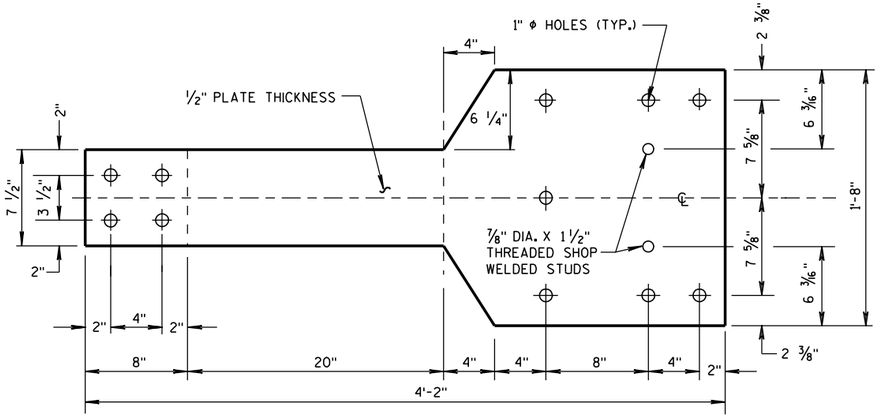
8/31/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

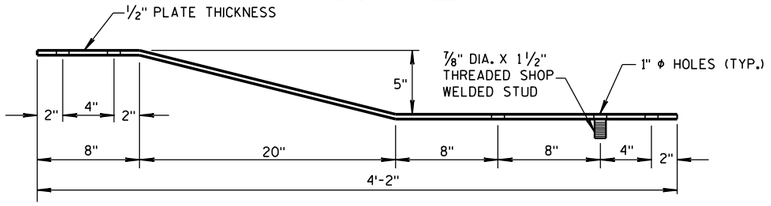
FHWA

GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

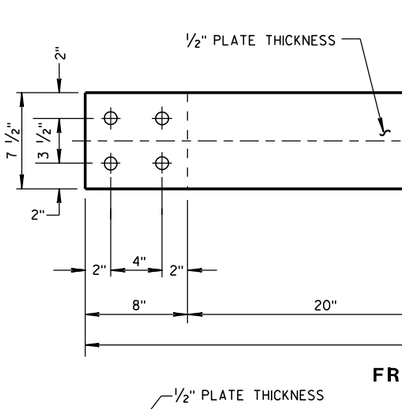


FRONT VIEW



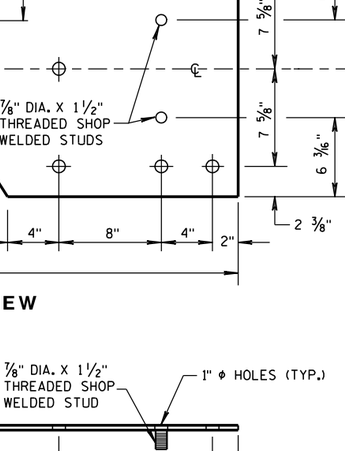
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

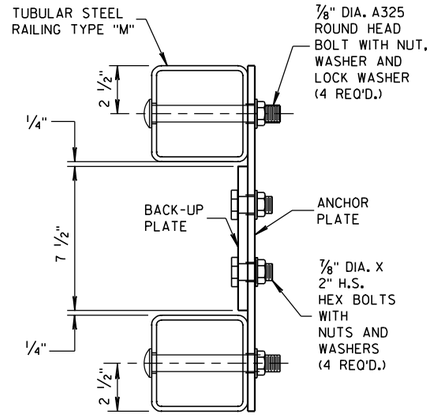


FRONT VIEW

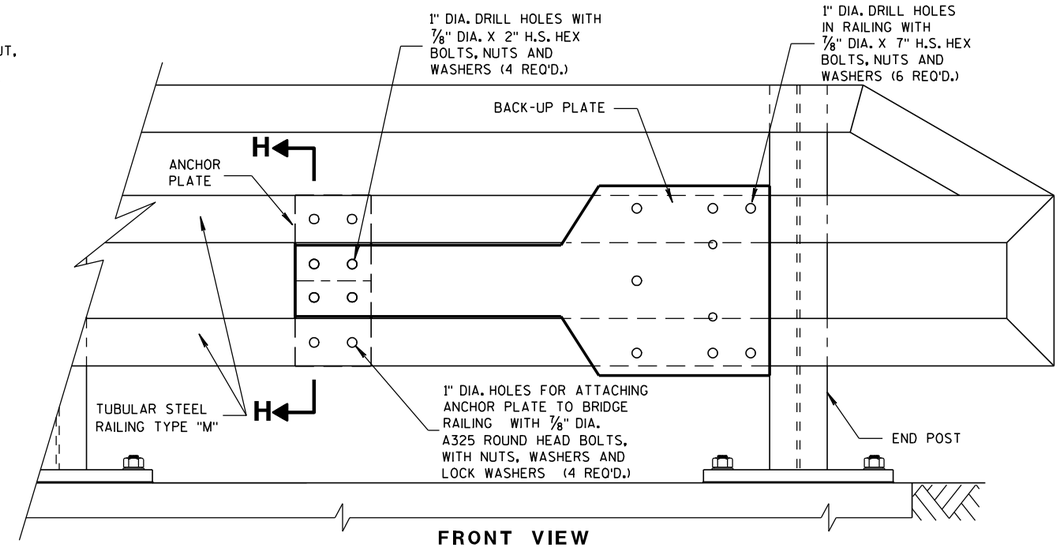
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I

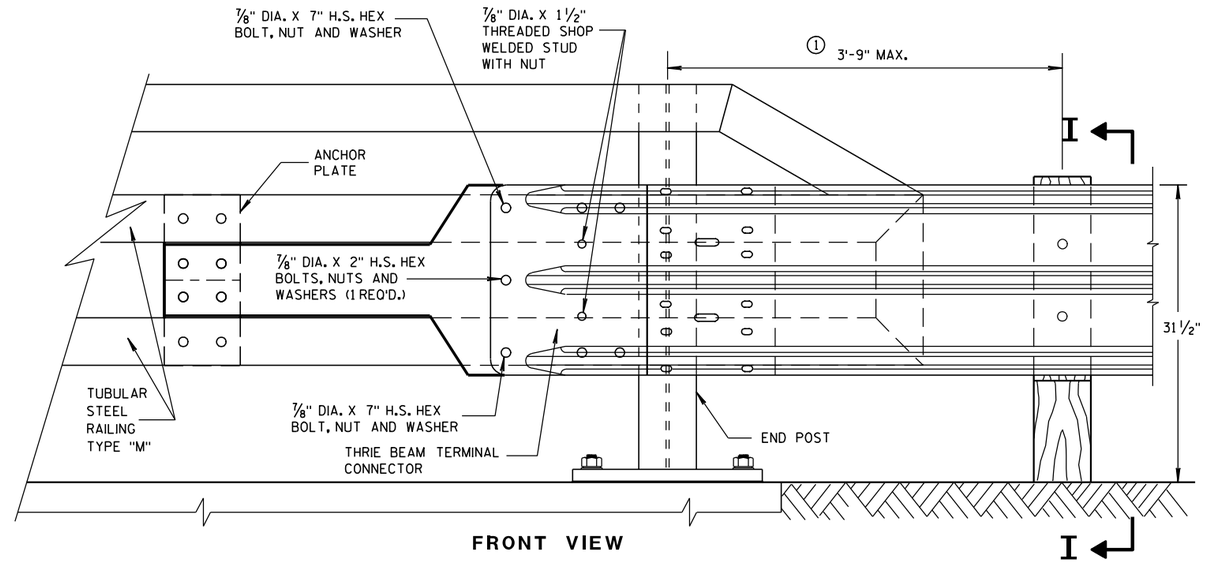


SECTION H-H

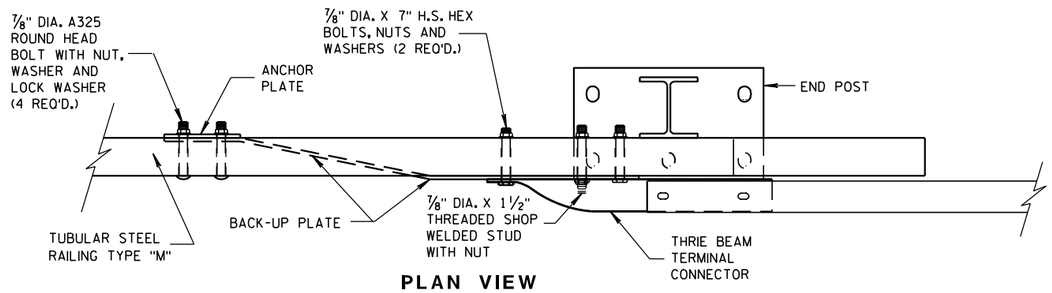


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE
/S/ Jerry H. [illegible] ENT
ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 20-11f

BILL OF MATERIALS

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

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

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

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

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

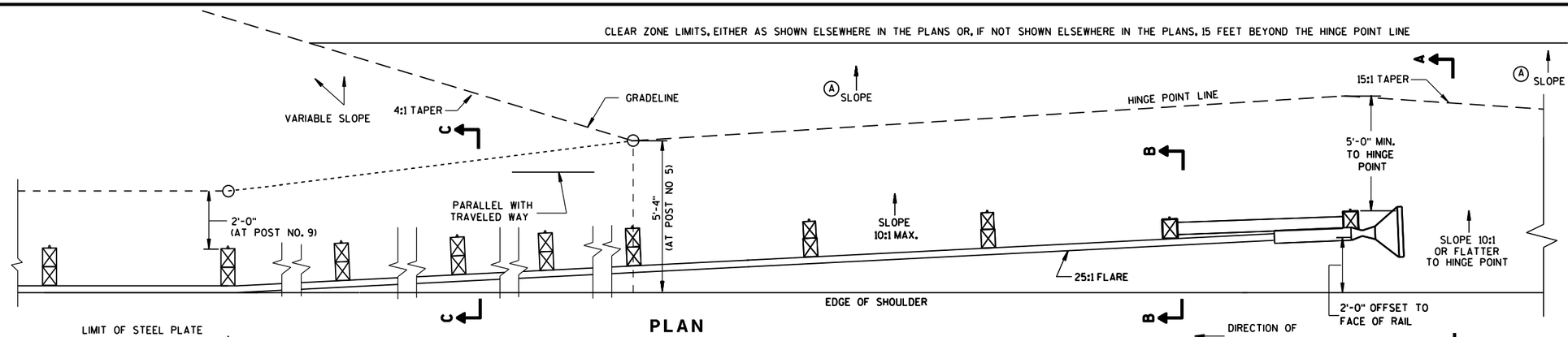
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

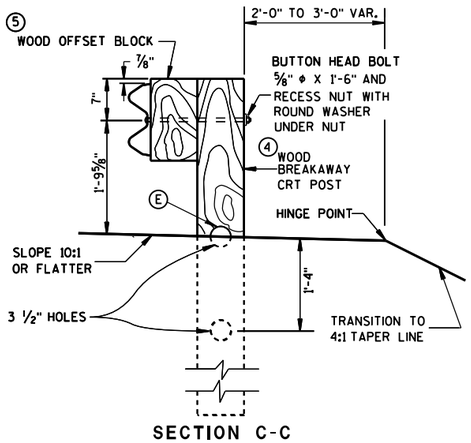
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

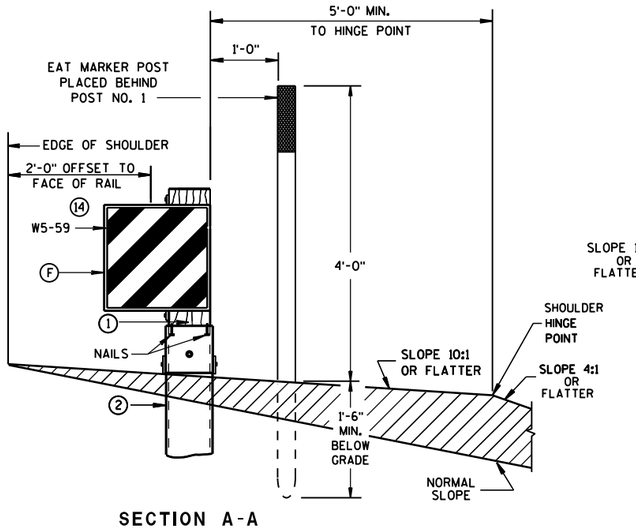
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

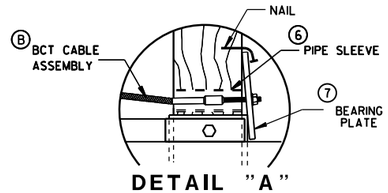
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

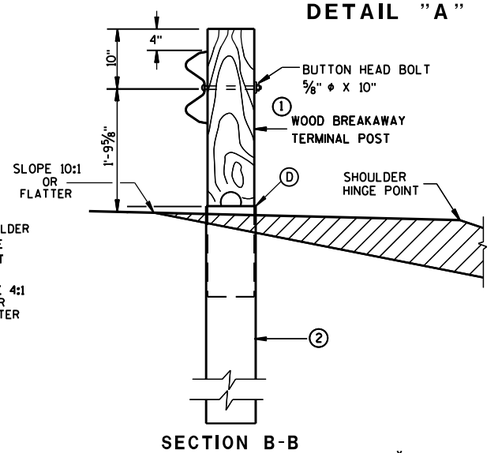
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

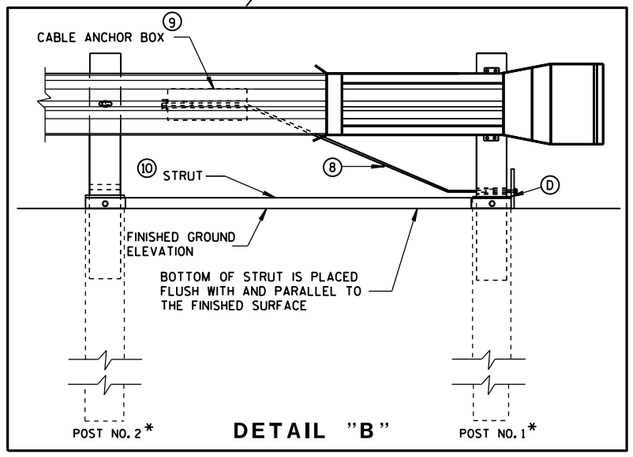










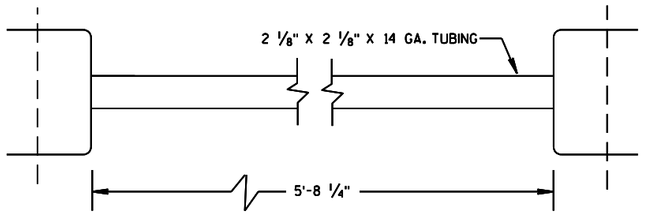


STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

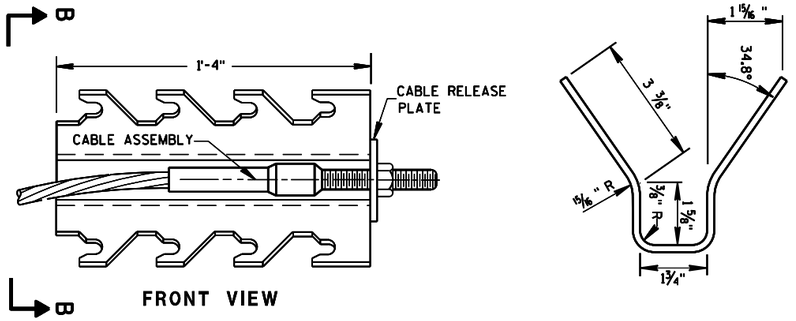
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

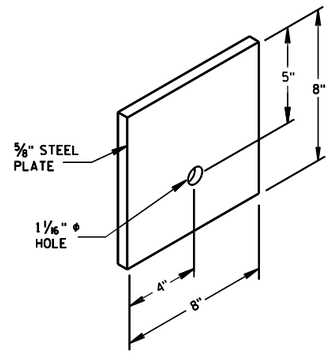
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

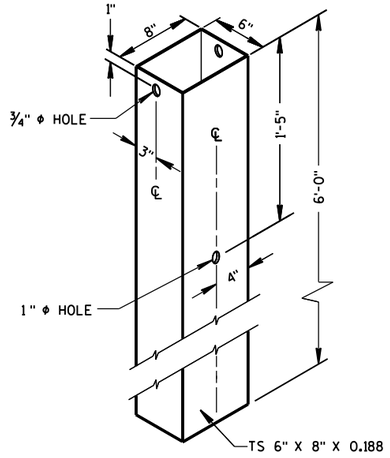
6

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

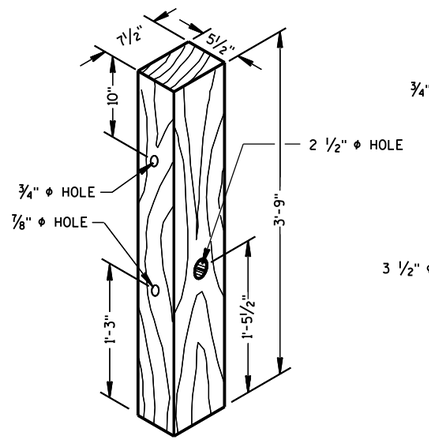
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

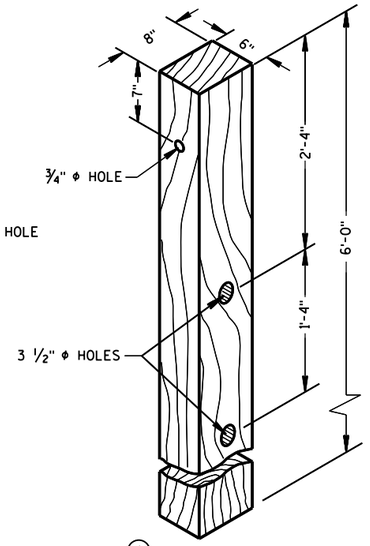
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-2



① TERMINAL POST

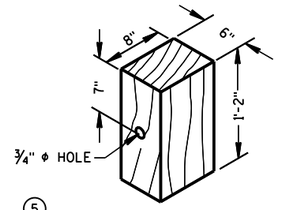


④ CRT POST
(POSTS NO'S 5-8

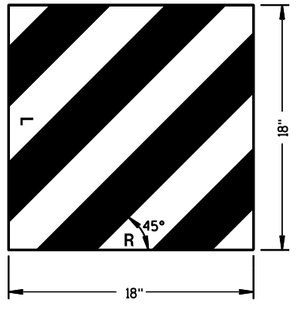
WOOD BREAKAWAY POSTS

GENERAL NOTES

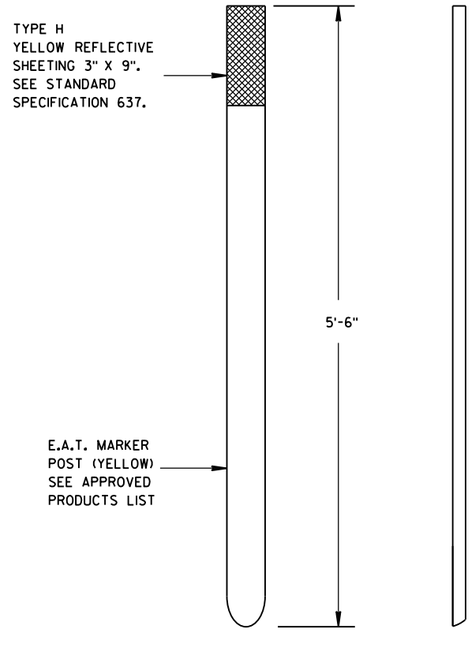
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH,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



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



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS 32 ENT
UNIT SUPERV...

6

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

6

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

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

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

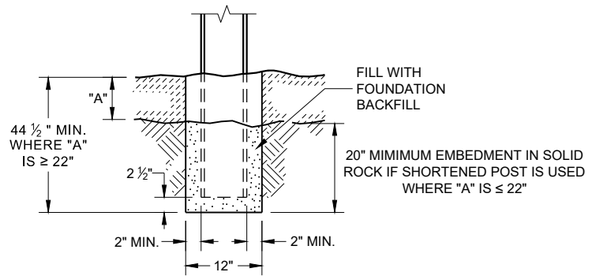
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

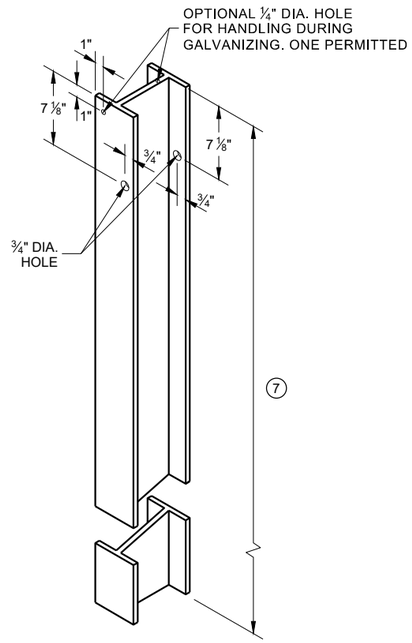
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS +1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

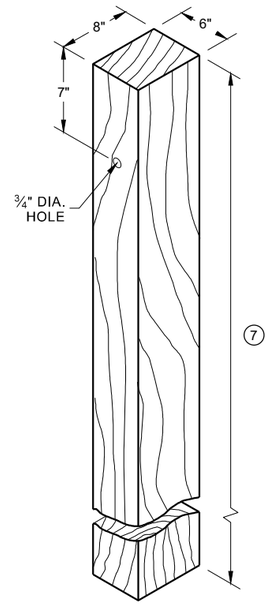
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



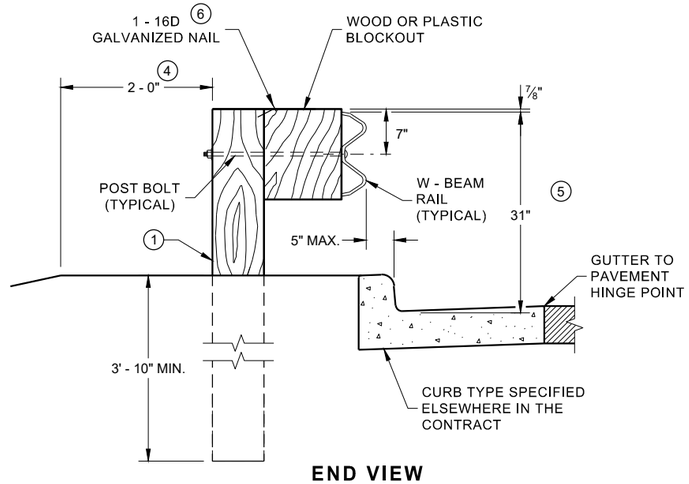
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



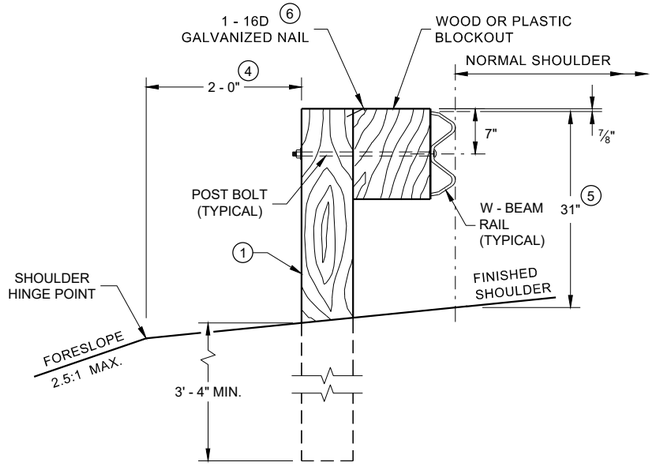
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



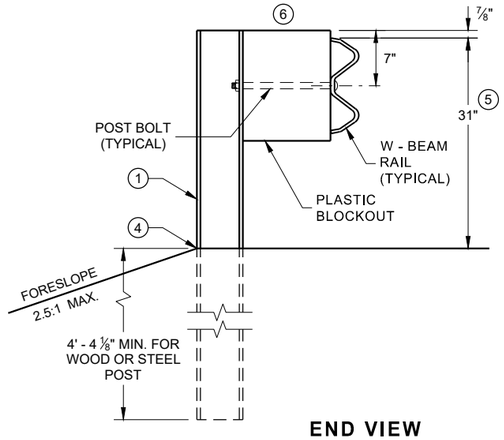
WOOD POST (6" X 8") NOMINAL (1)



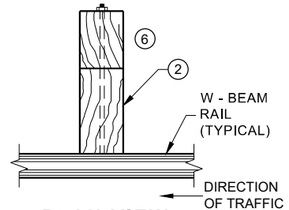
END VIEW
LOCATED ALONG A CURBED ROADWAY



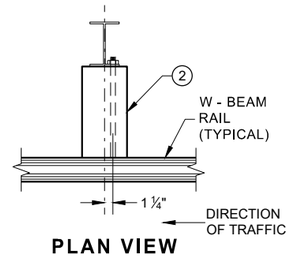
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



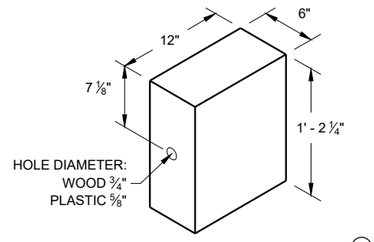
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

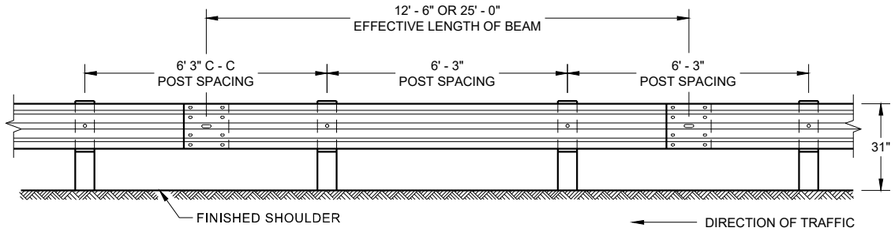
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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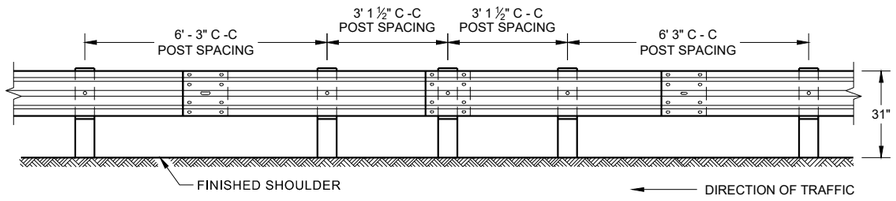
SDD 14B42 - 06a

6

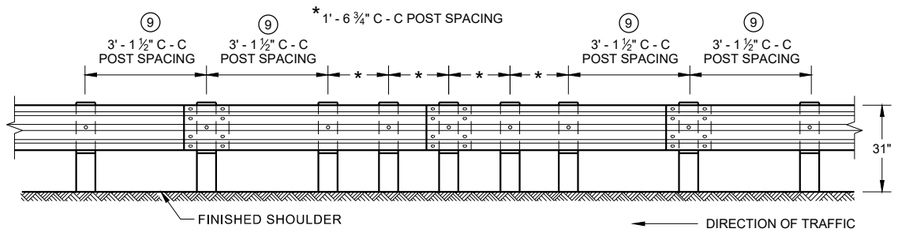
SDD 14B42 - 06a



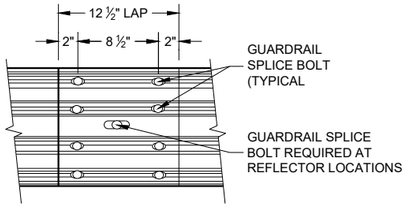
FRONT VIEW
POST SPACING STANDARD INSTALLATION



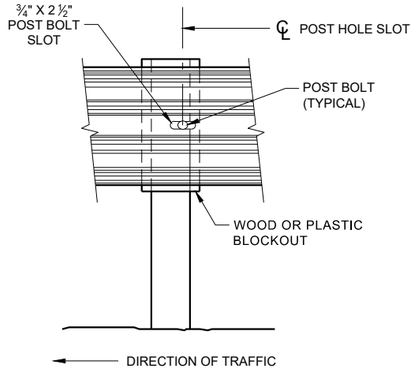
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



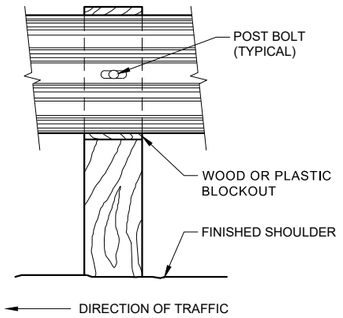
FRONT VIEW
QUARTER POST SPACING (QS)



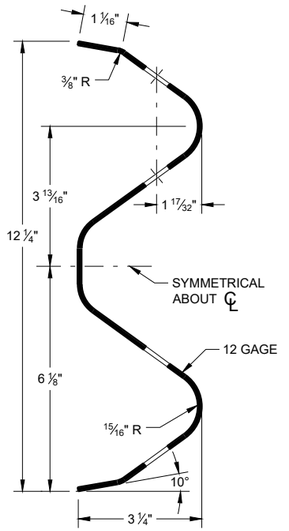
FRONT VIEW
MID-SPAN BEAM SPLICE



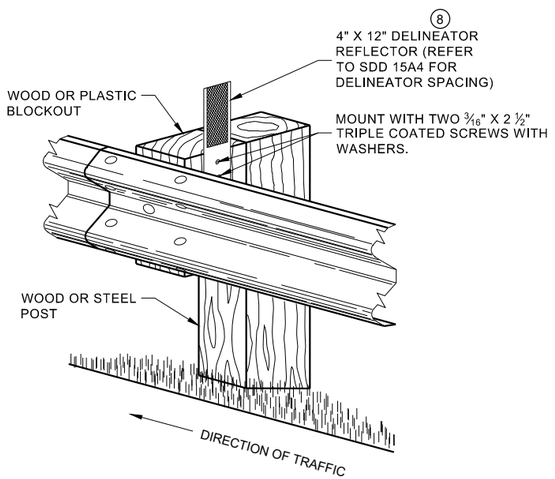
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

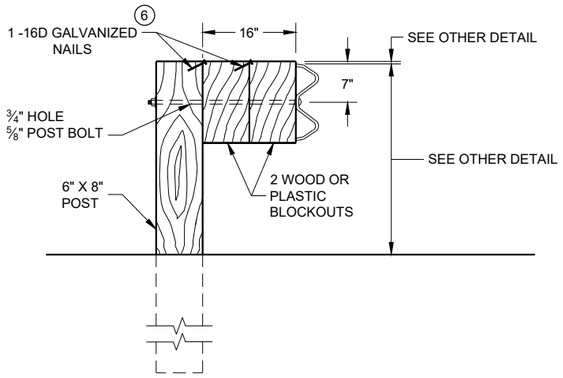
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 06b

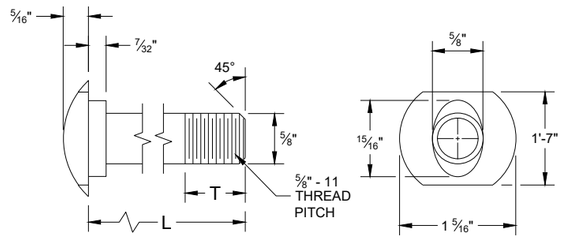


DETAIL FOR 16" BLOCKOUT DEPTH

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

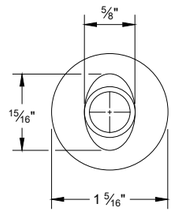
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

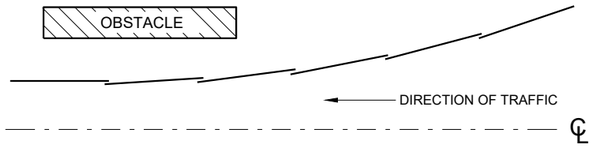


POST BOLT TABLE

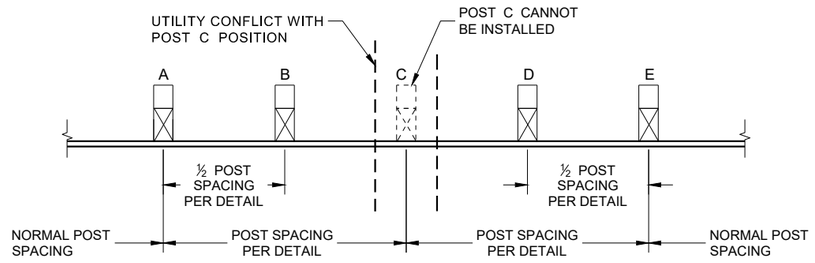
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



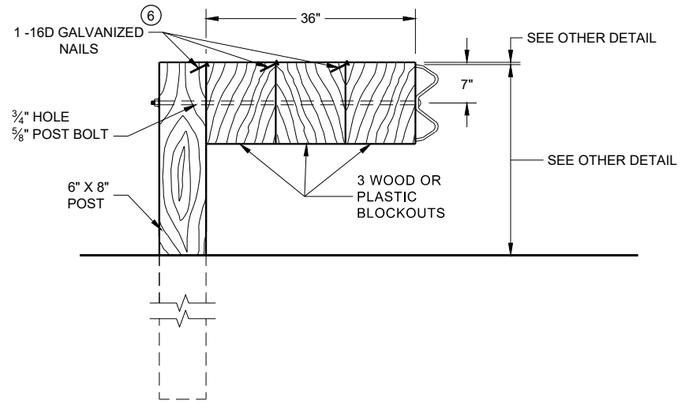
ALTERNATE BOLT HEAD



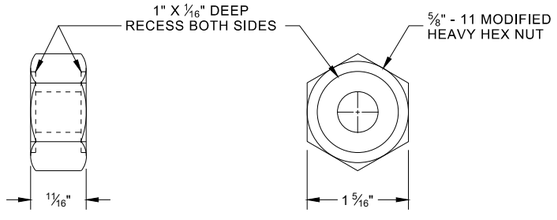
PLAN VIEW
BEAM LAPPING DETAIL



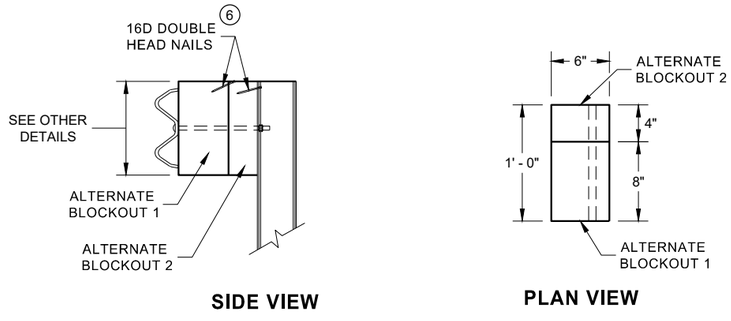
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

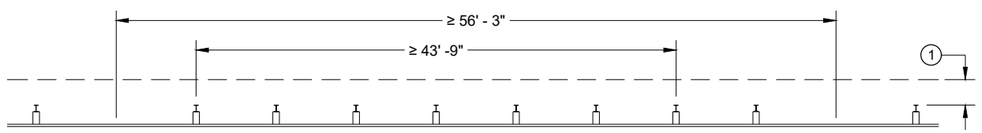
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

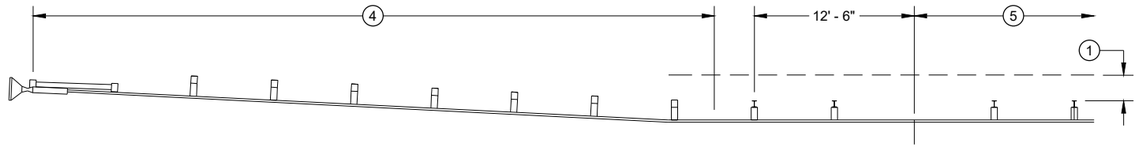
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

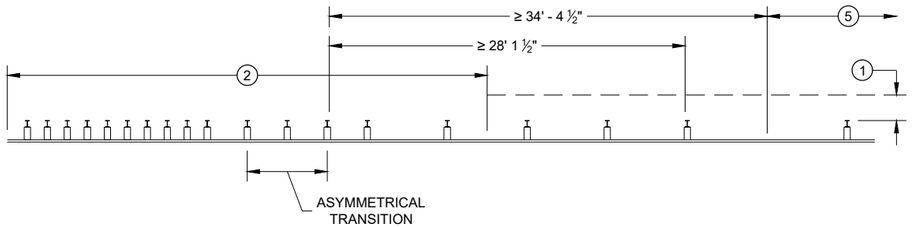
SDD 14B42 - 06c



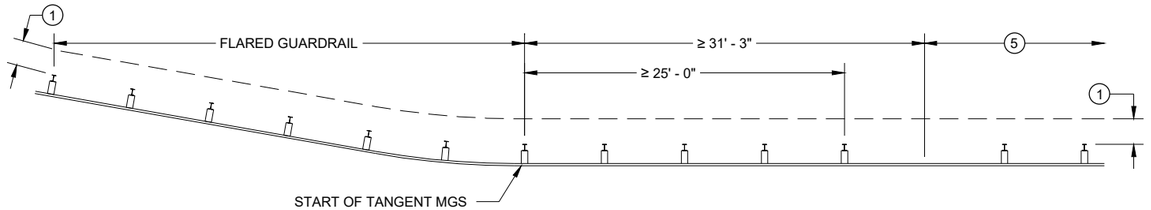
MISSING POST IN NORMAL BEAM GUARD RUN



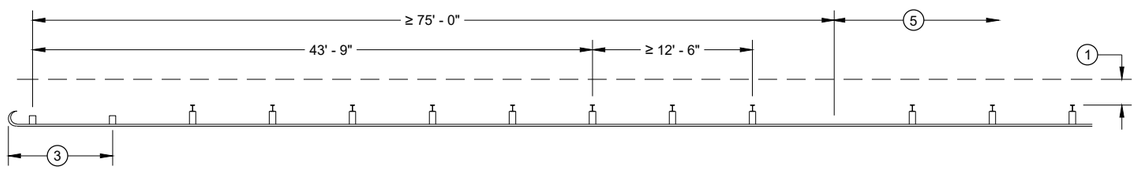
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



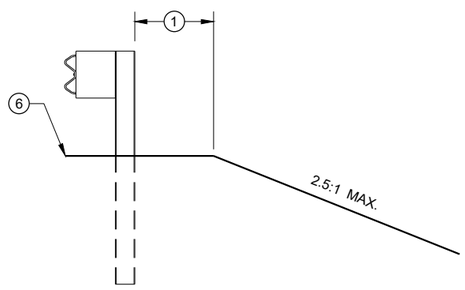
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

(1) MINIMUM OF 2 FEET OF GRADING BEHIND POST.

(2) SEE SDD 14B45 FOR MORE DETAILS.

(3) SEE SDD 14B47 FOR MORE DETAILS.

(4) SEE SDD 14B44 FOR MORE DETAILS.

(5) SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.

(6) SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 06d

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

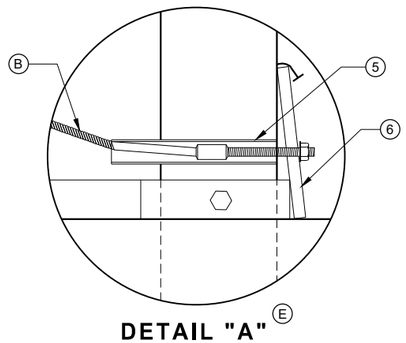
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

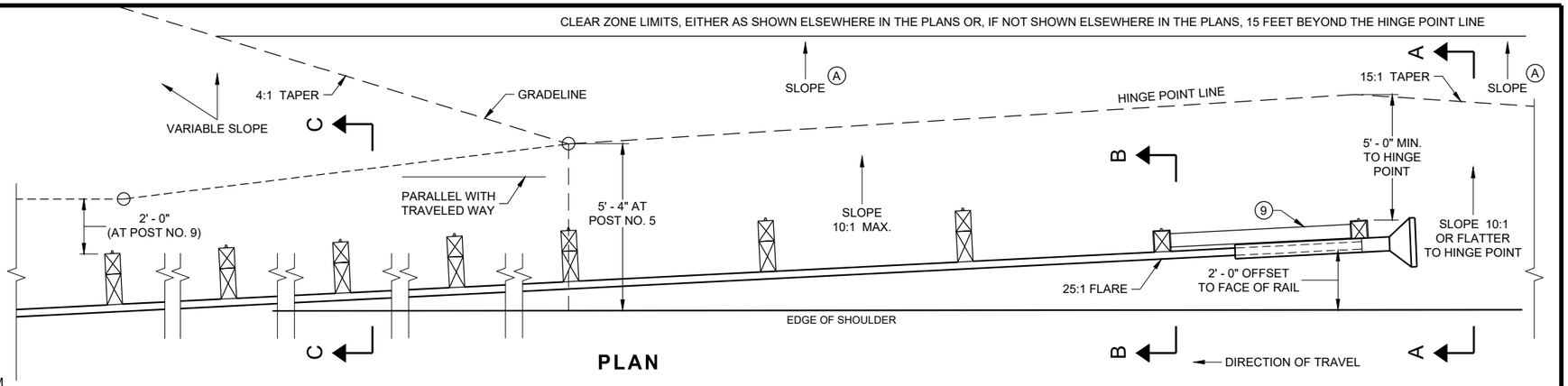
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

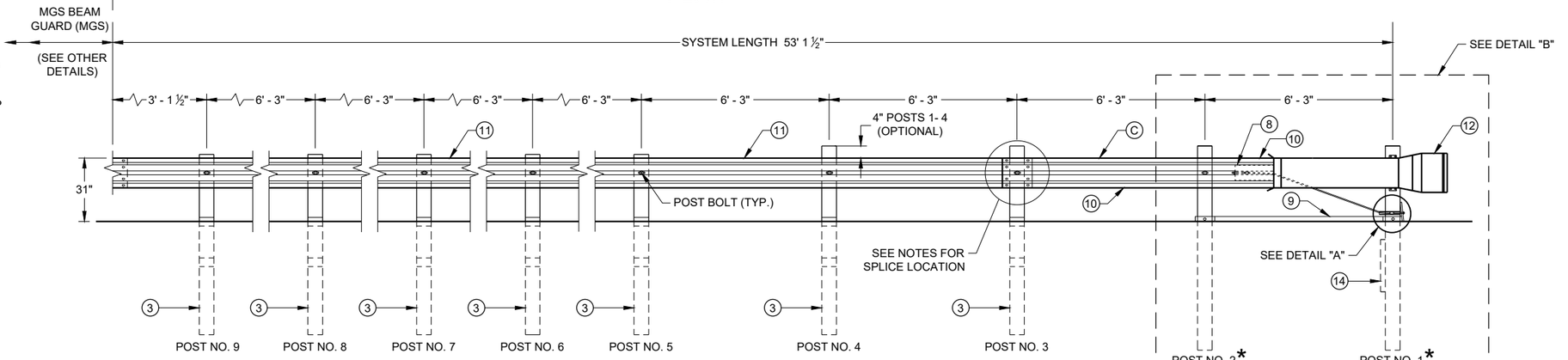
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



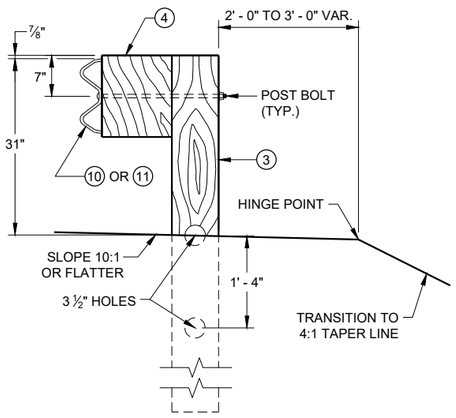
DETAIL "A" (E)



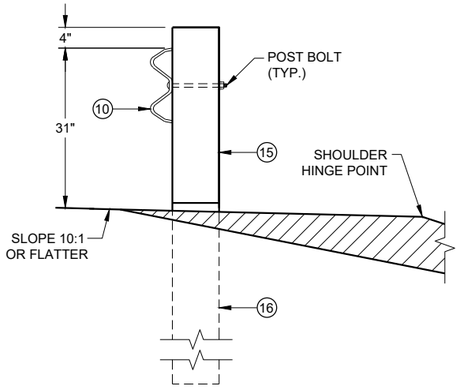
PLAN



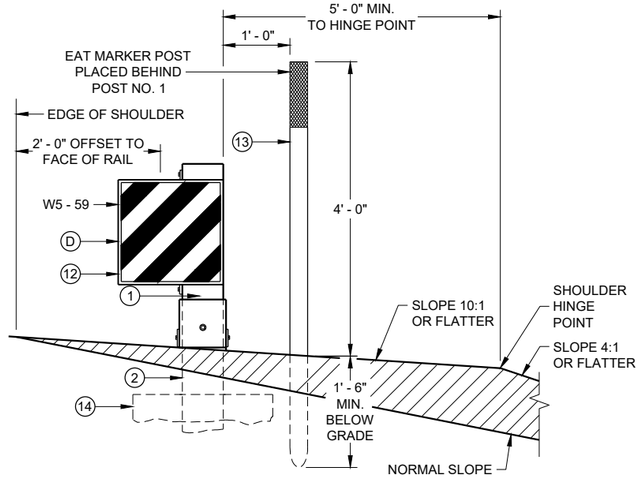
ELEVATION



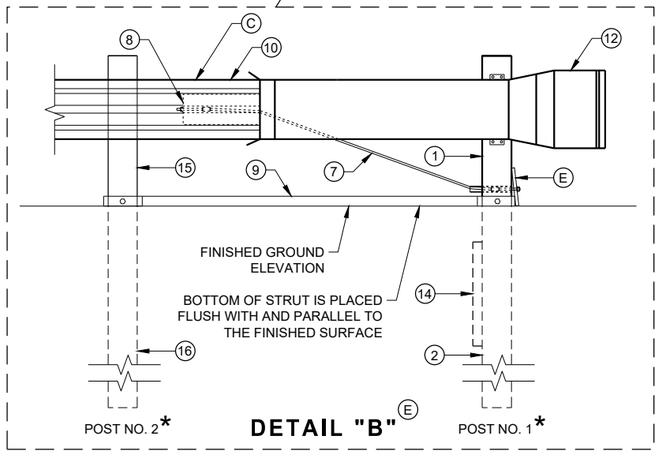
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



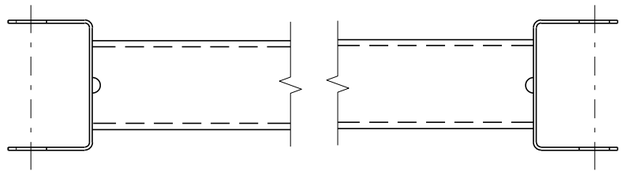
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

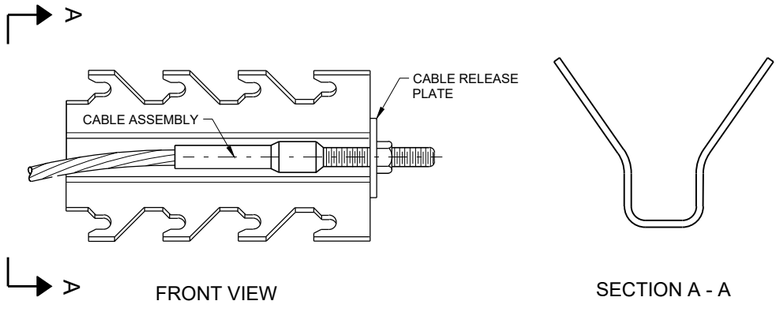
SDD 14B44 - 04a



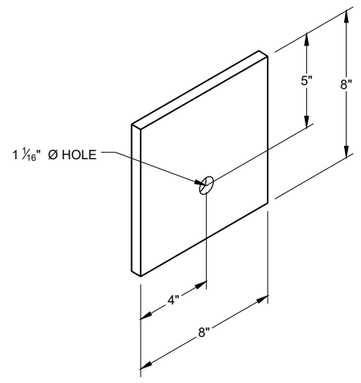
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

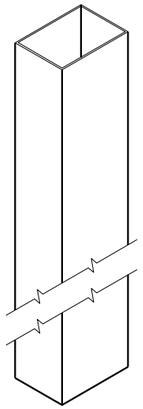
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SDD 14B44 - 04b

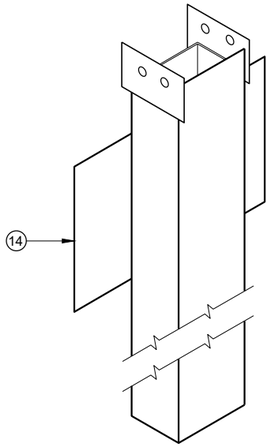
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

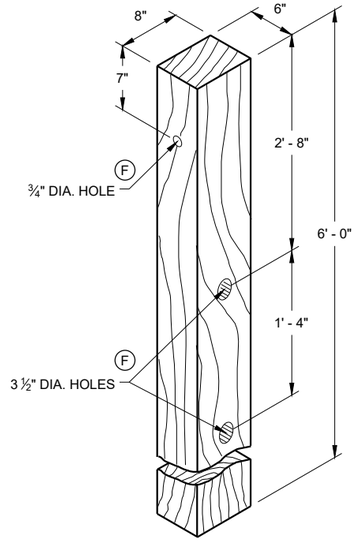
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



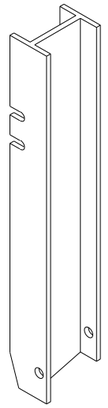
UPPER POST NO. 1 (1) (E)



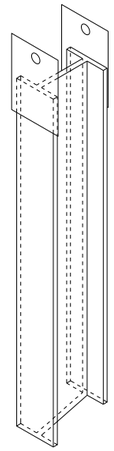
LOWER POST NO. 1 (2) (E)



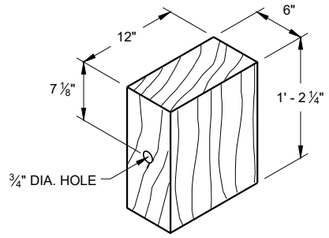
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



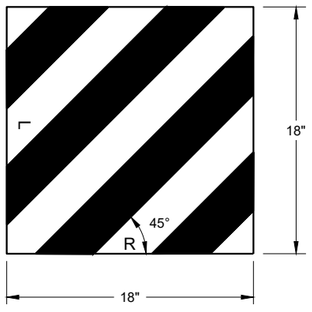
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

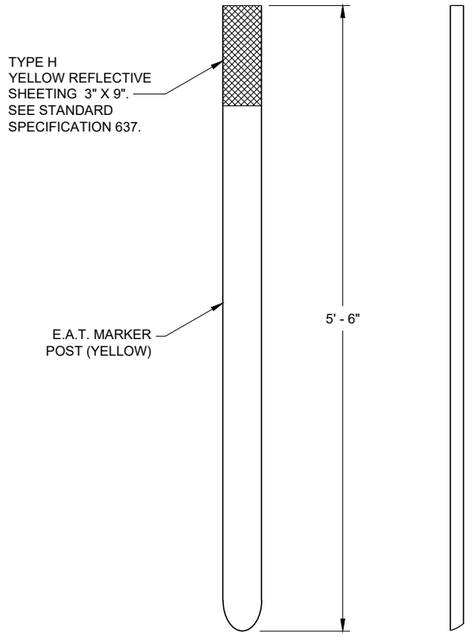


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



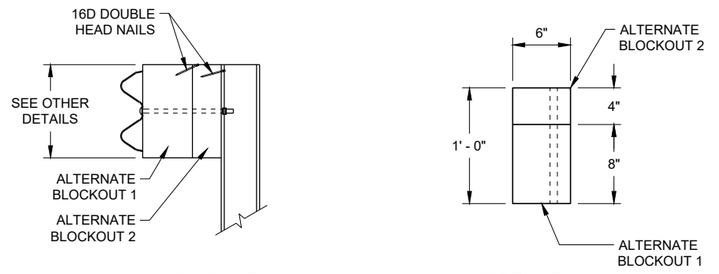
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

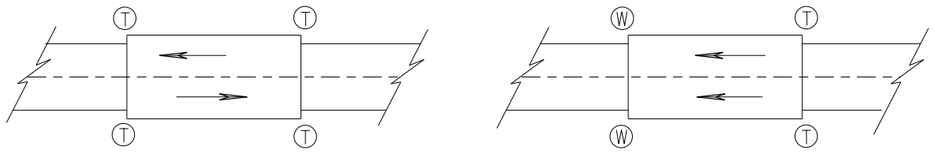
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

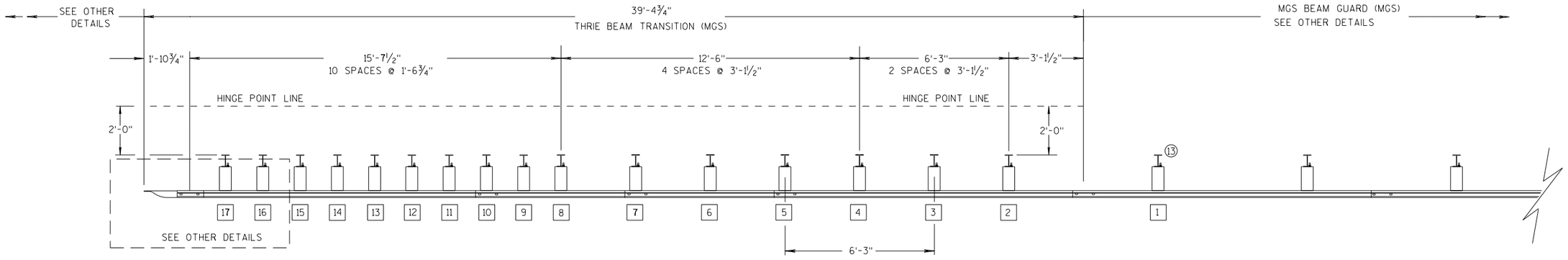
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

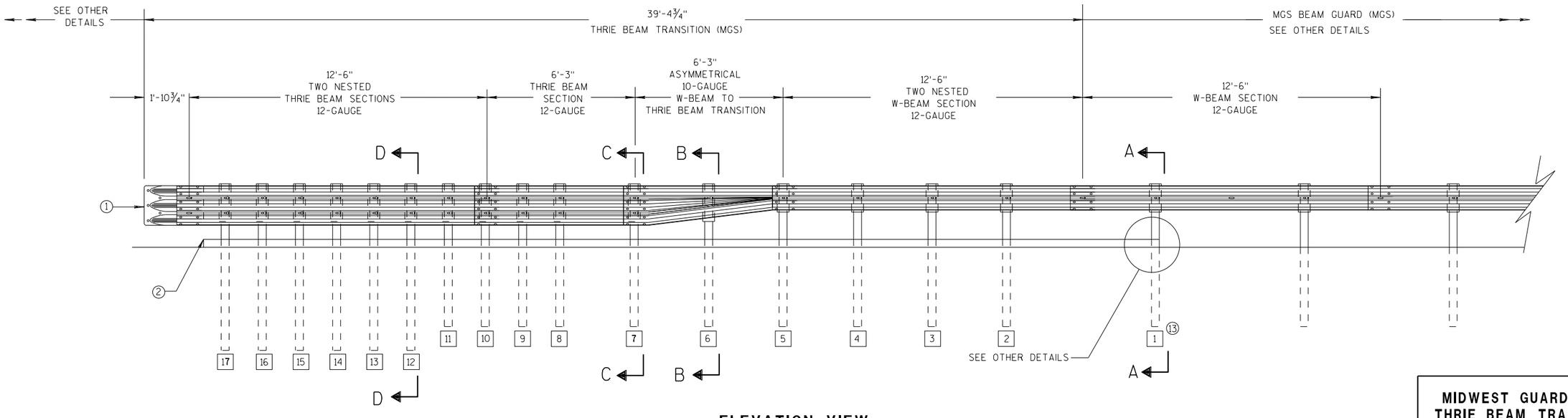
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

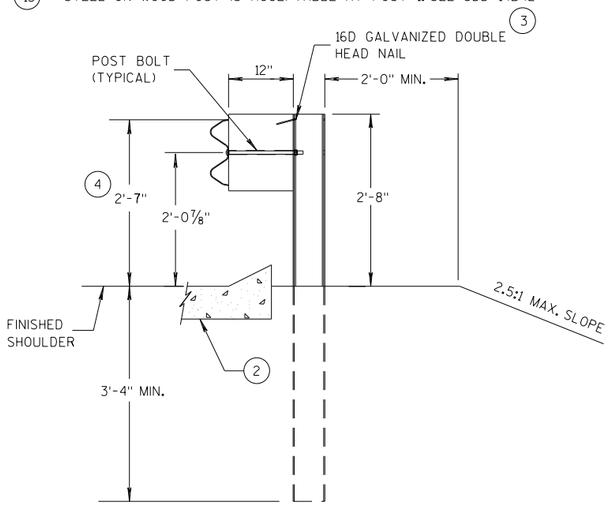
GENERAL NOTES

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

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

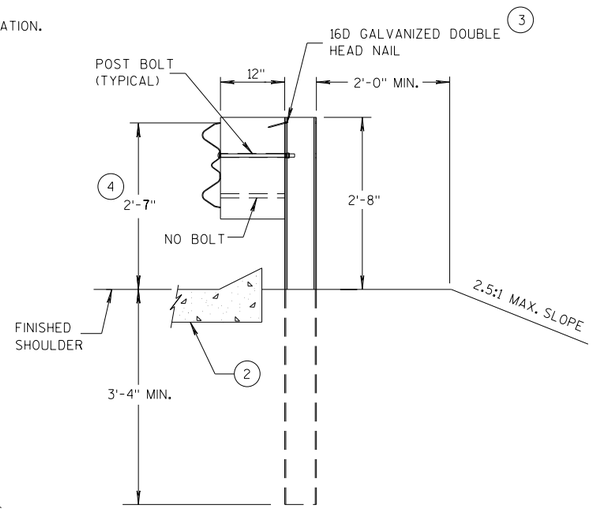
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



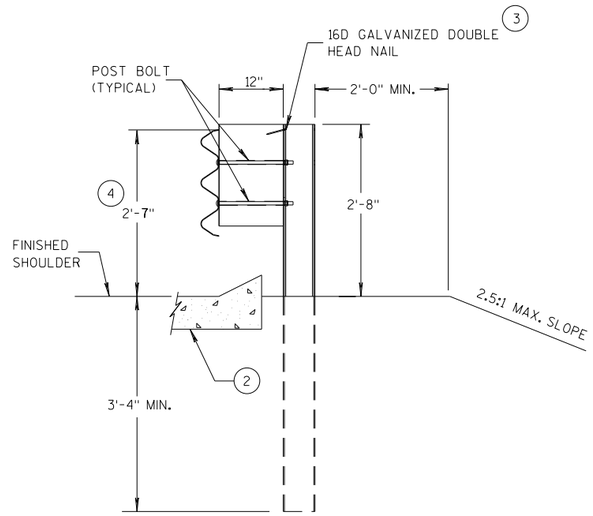
SECTION A-A (13)

POSTS 1-5



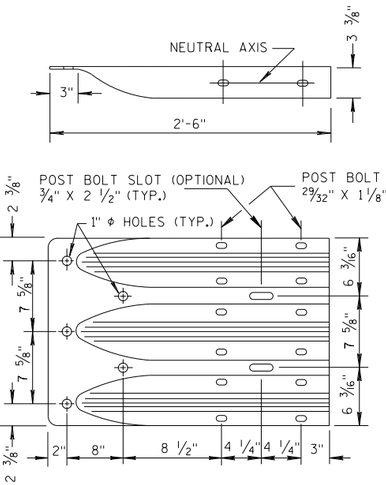
SECTION B-B

POST 6

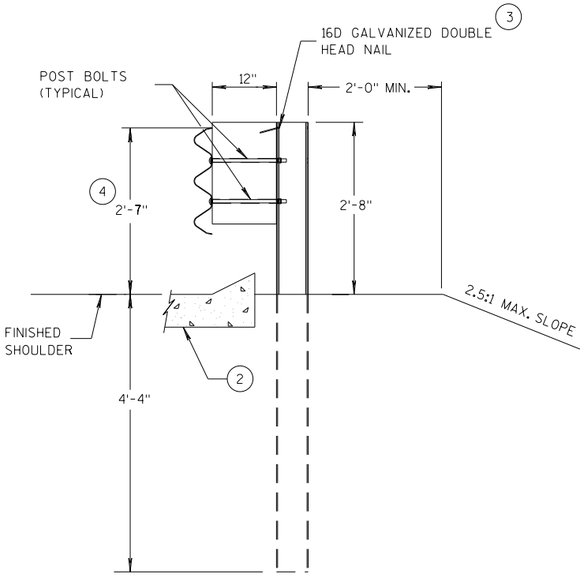


SECTION C-C

POSTS 7-11

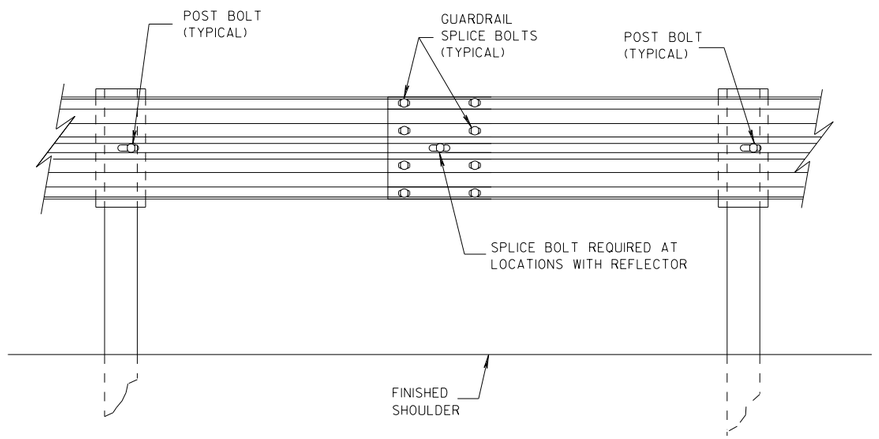


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

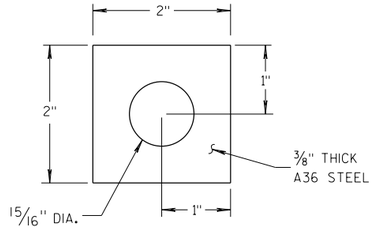
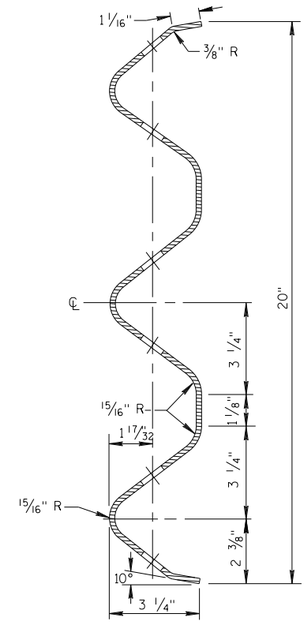


PLATE WASHER DETAIL

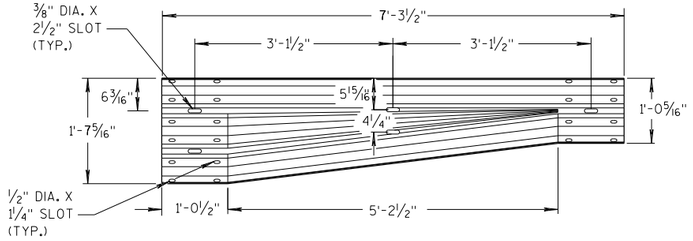


SECTION THRU THRIE BEAM RAIL ELEMENT

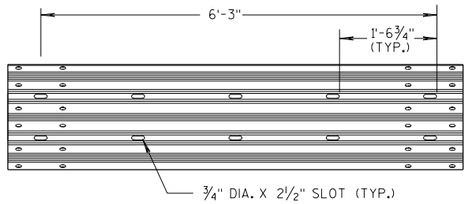
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

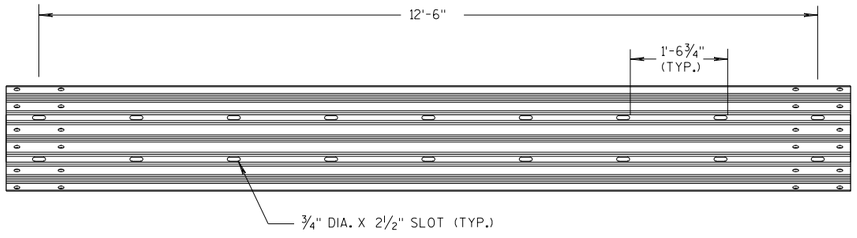
6
S.D.D. 14 B 45-5b



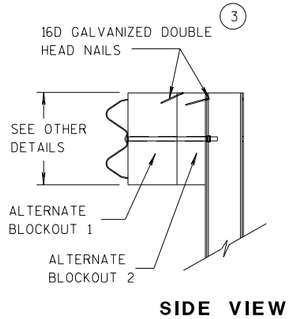
W-BEAM TO THRIE BEAM TRANSITION SECTION



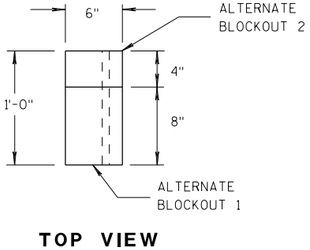
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

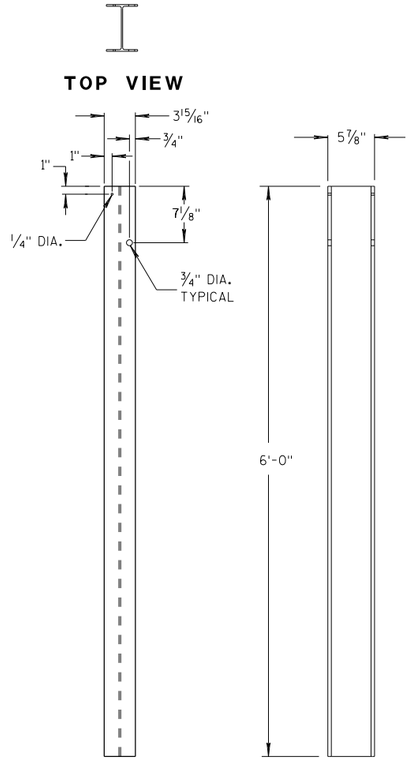


SIDE VIEW



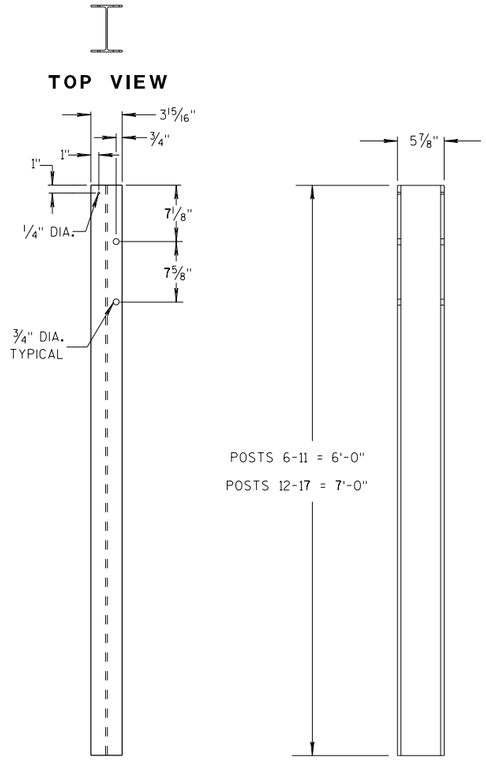
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



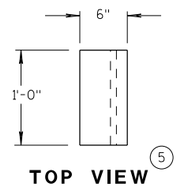
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

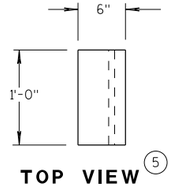


FRONT VIEW SIDE VIEW

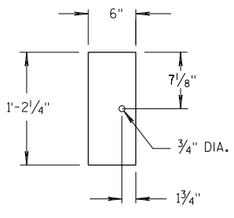
STEEL POSTS 6-17



TOP VIEW (5)

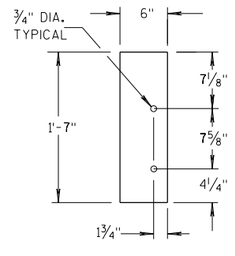


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

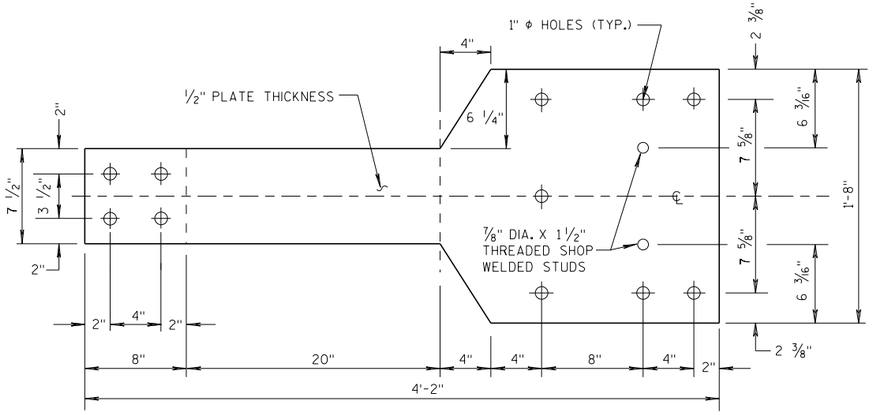
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

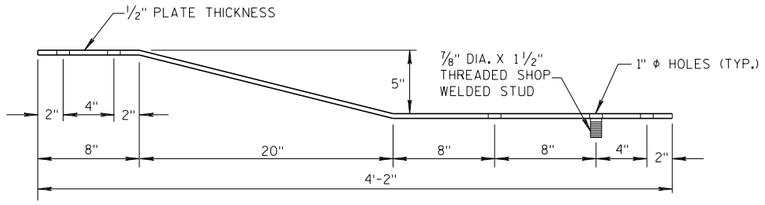
6
S.D.D. 14 B 45-5c

GENERAL NOTES

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

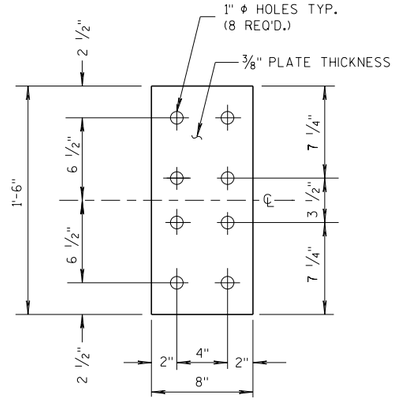


FRONT VIEW



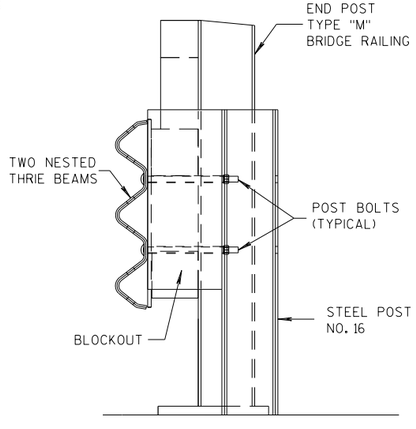
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

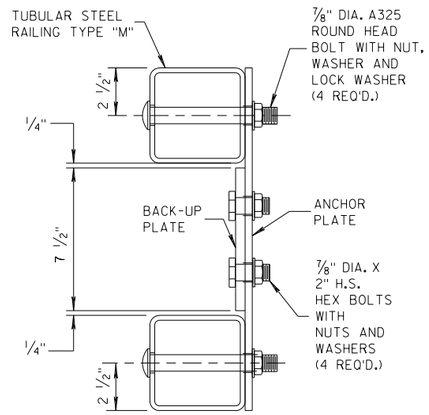


FRONT VIEW

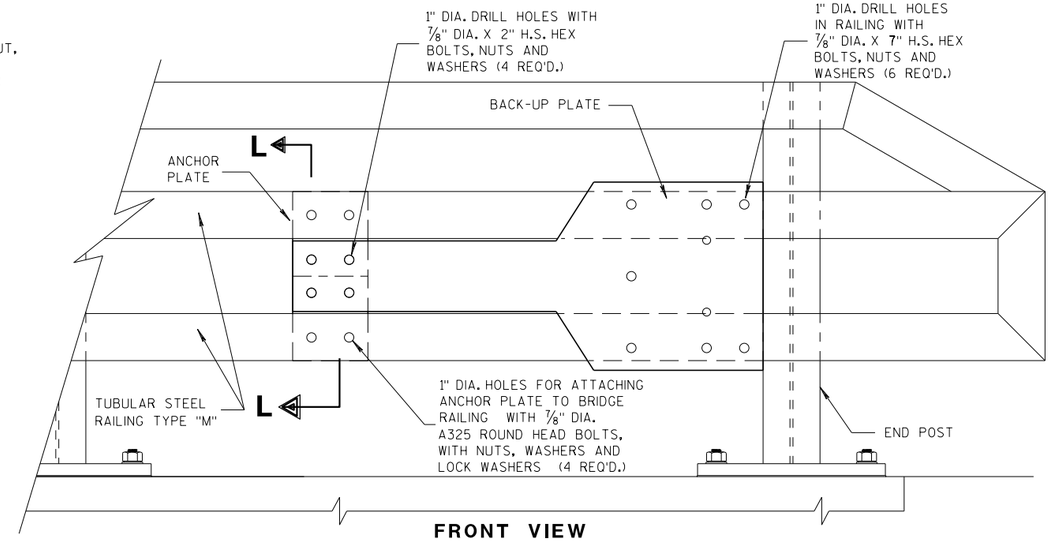
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

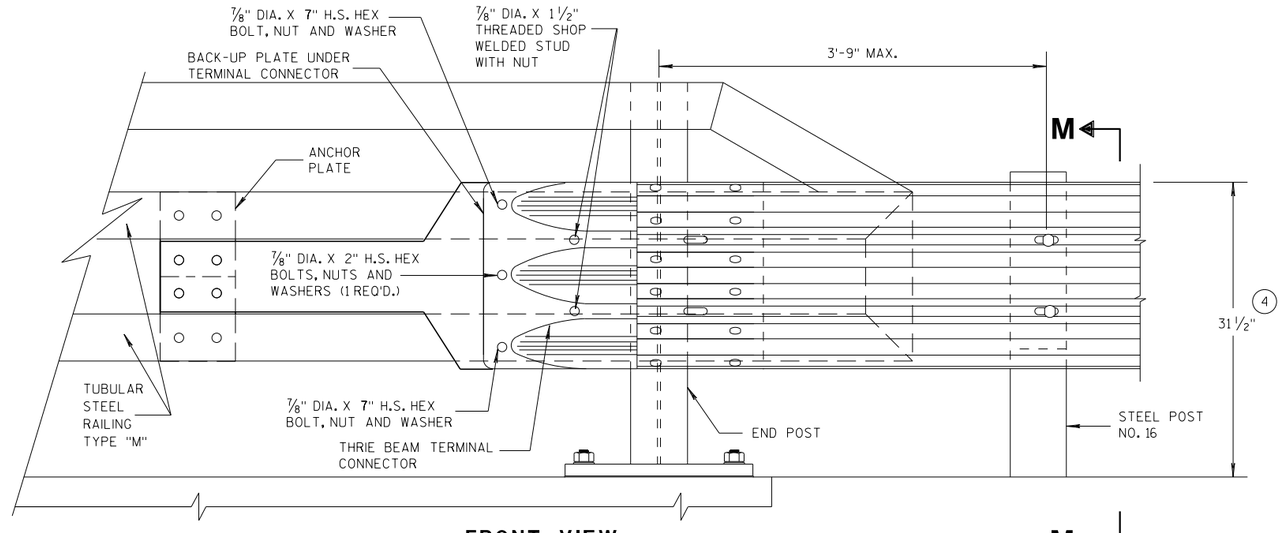


SECTION L-L

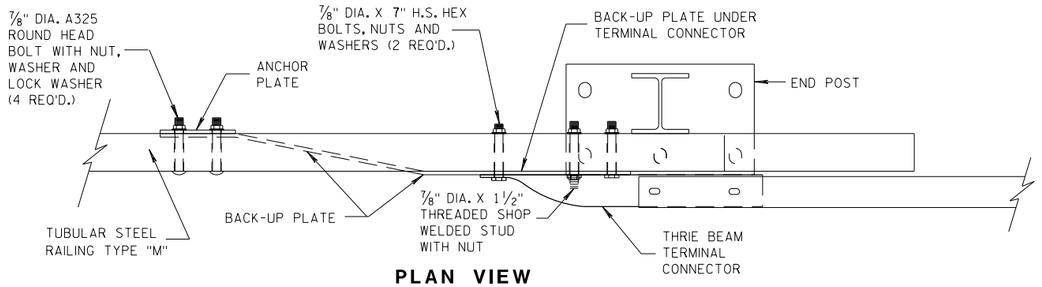


FRONT VIEW

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

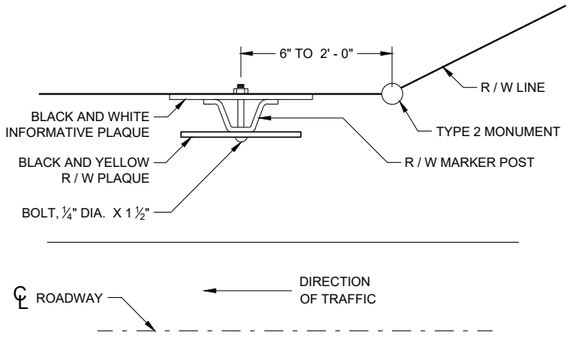
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

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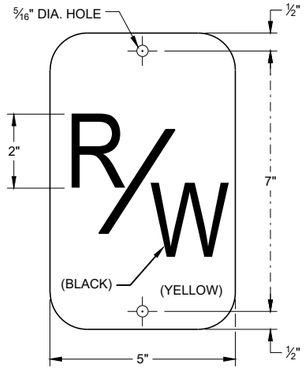
S.D.D. 14 B 45-5h

6

S.D.D. 14 B 45-5h



PLAN VIEW
STEEL MARKER POST



R / W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

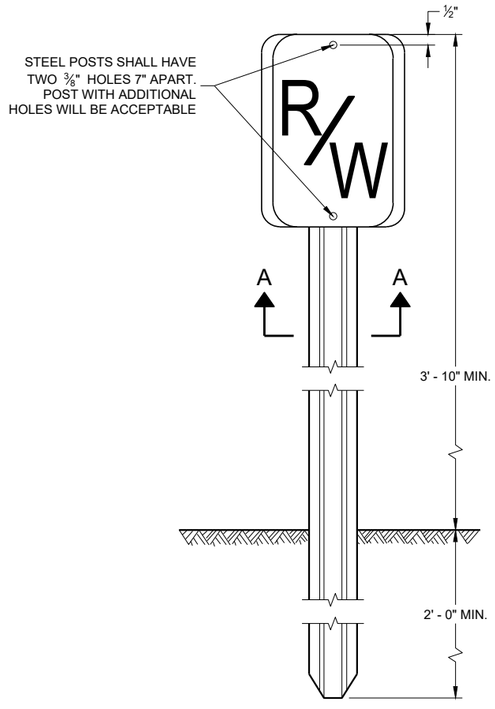
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

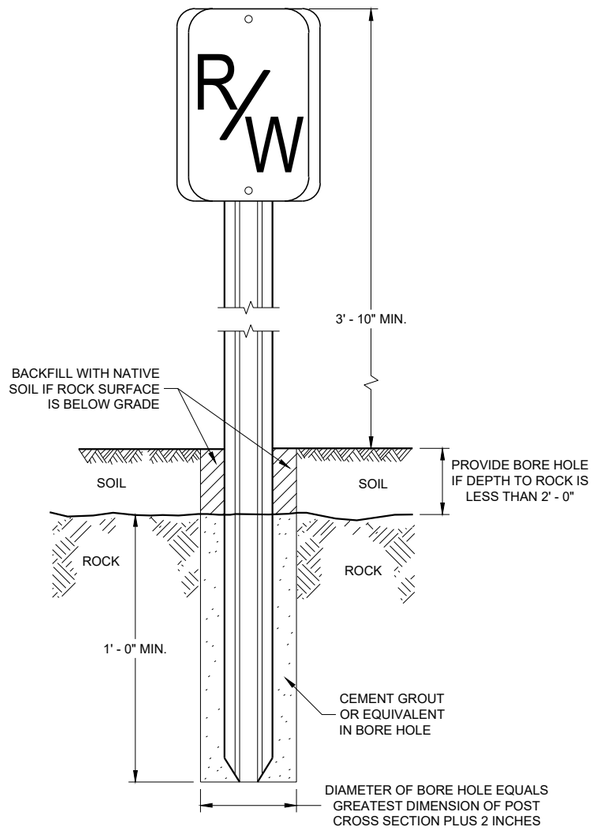
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFROMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

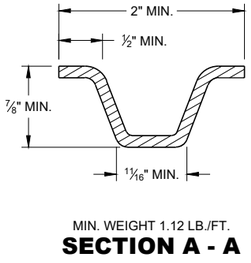
(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



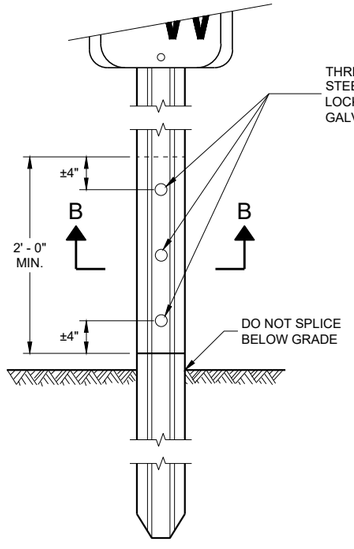
FRONT VIEW
STEEL MARKER POST



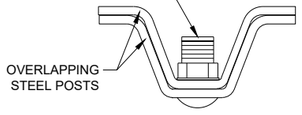
FRONT VIEW
ROCK INSTALLATION (1)



MIN. WEIGHT 1.12 LB./FT.
SECTION A - A



FRONT VIEW
SPLICE DETAIL



SECTION B - B

MARKER POST FOR RIGHT - OF - WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MA ENGINEER

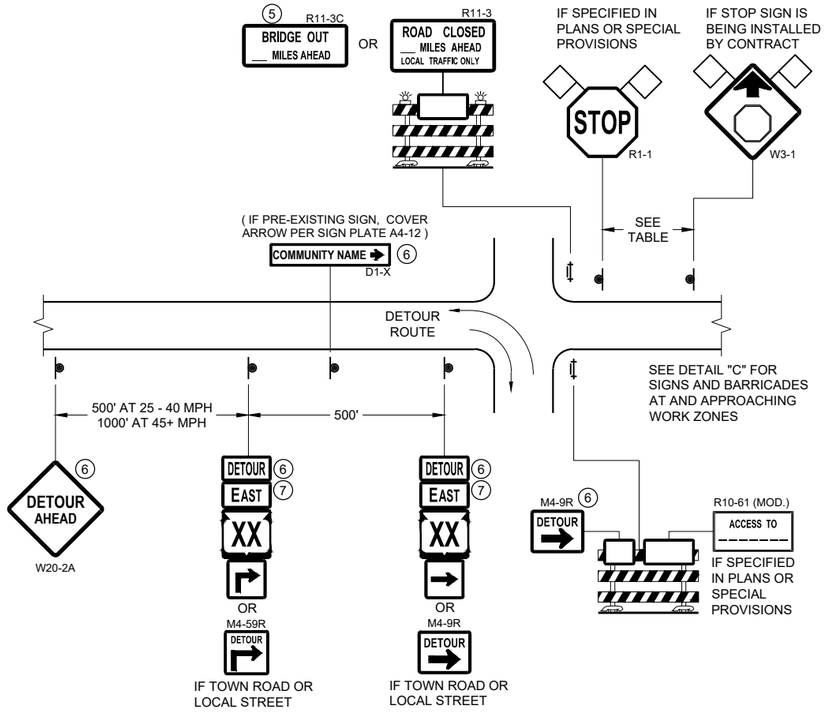
FHWA

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SDD 15A01 - 13a

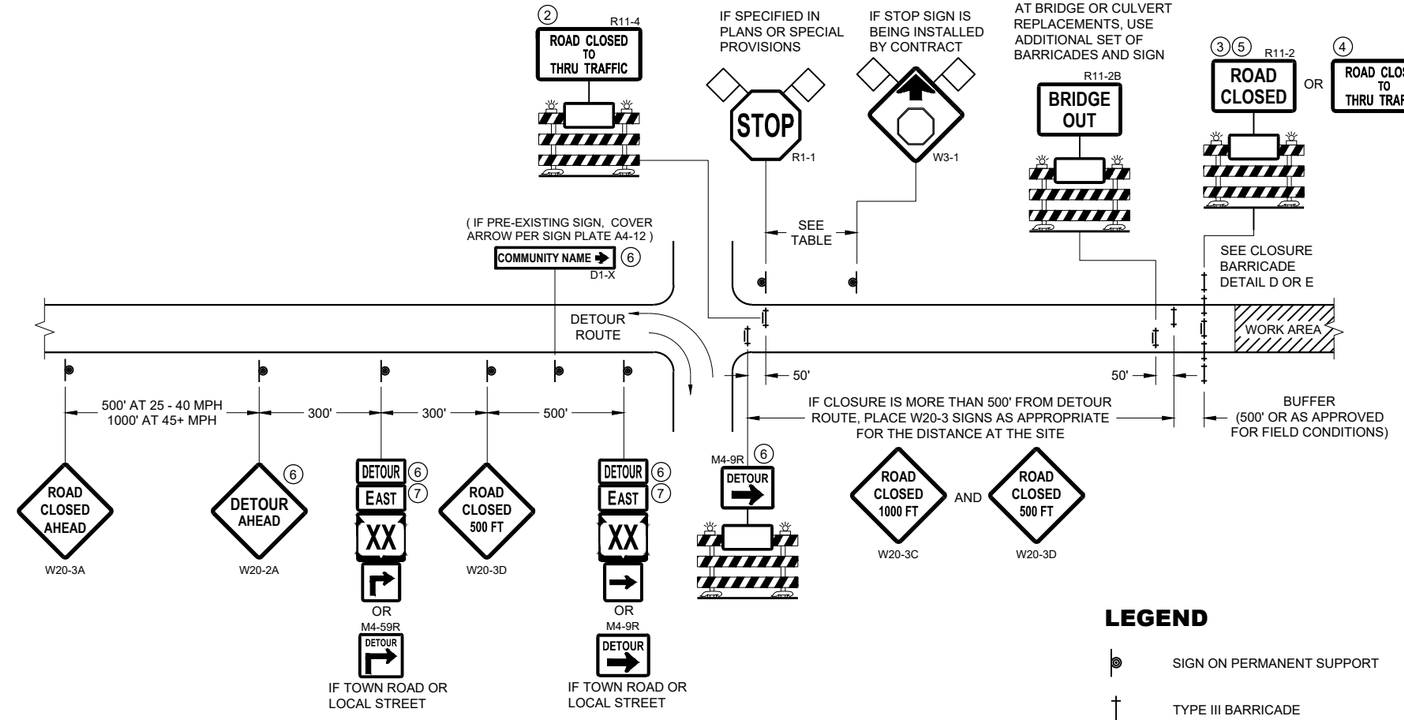
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SDD15A01 - 13a



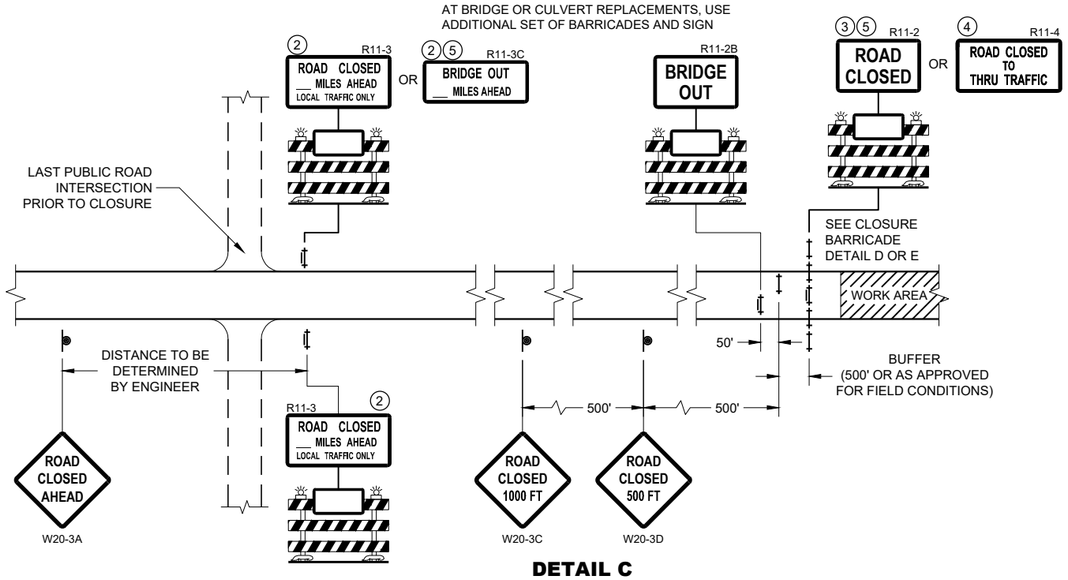
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



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
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

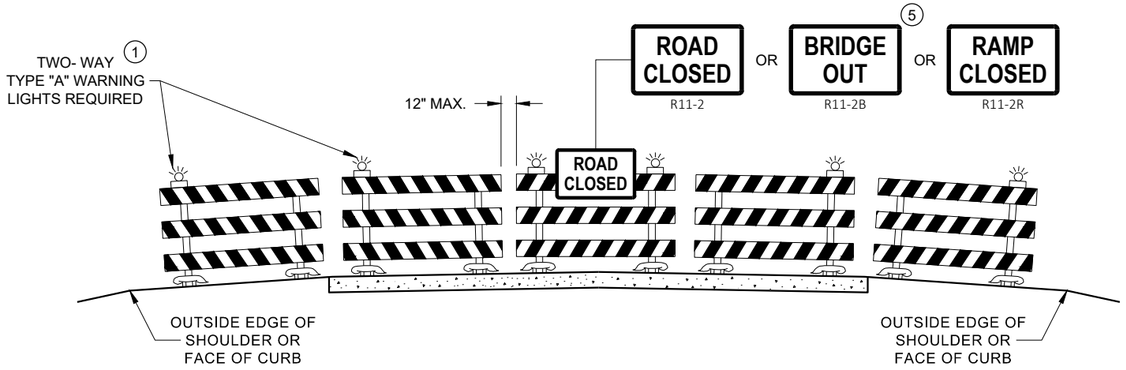
APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

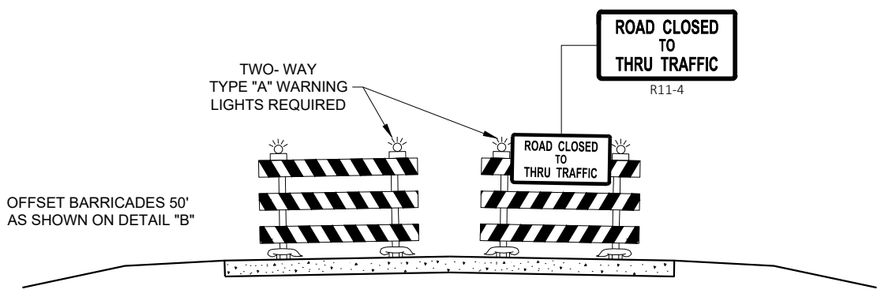
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SDD 15C02 - 08a

SDD 15C02 - 08a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

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

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

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

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

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

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

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

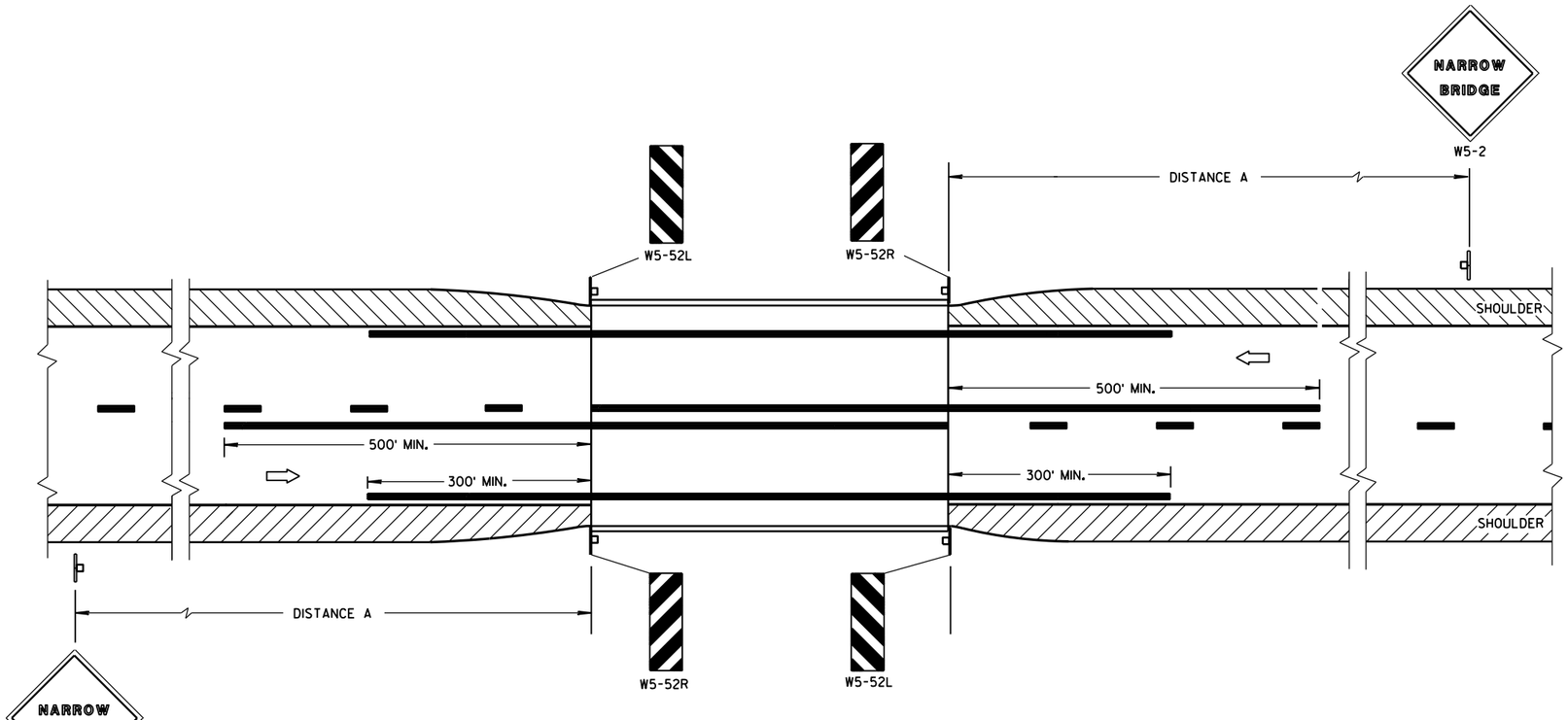
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 08b



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

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

GENERAL NOTES

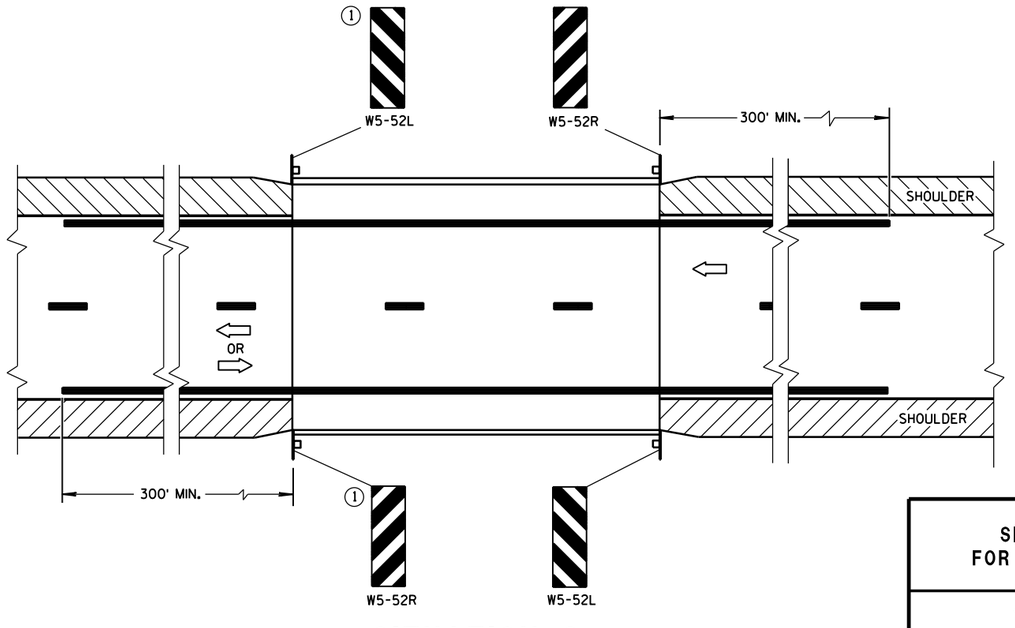
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

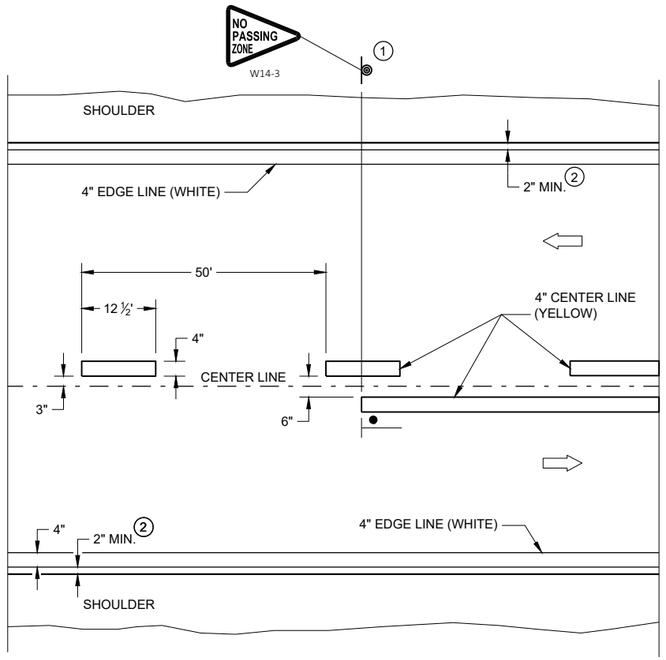
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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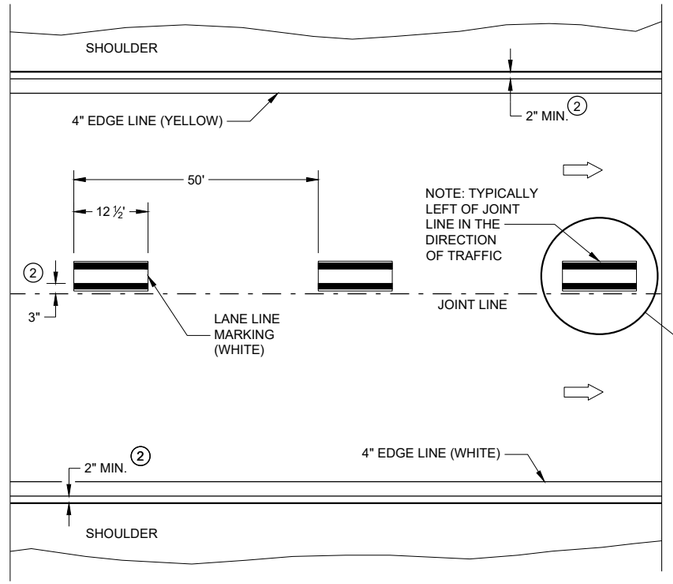
S.D.D. 15 C 6-9

6

S.D.D. 15 C 6-9

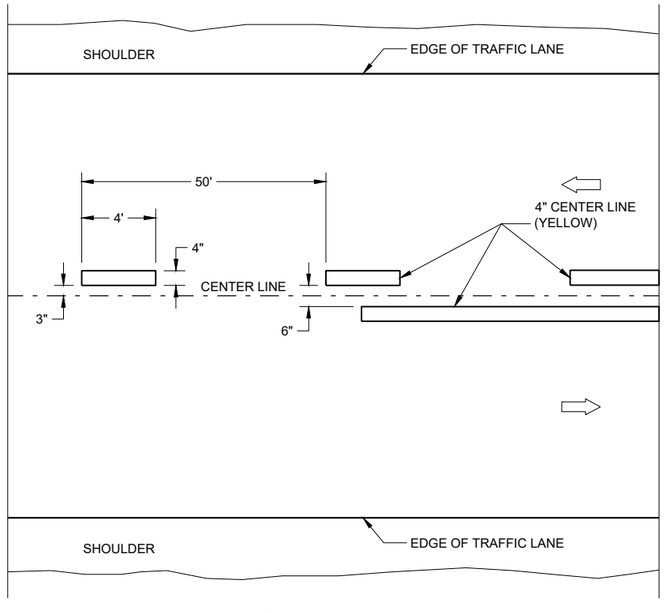


TWO WAY TRAFFIC

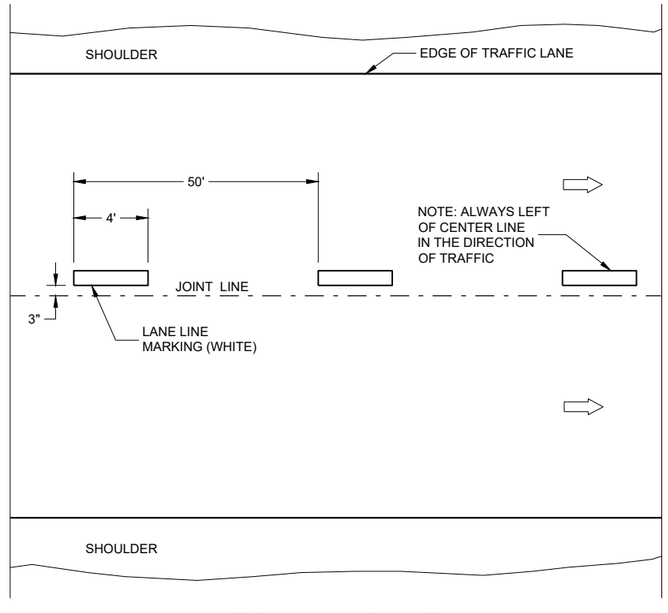


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

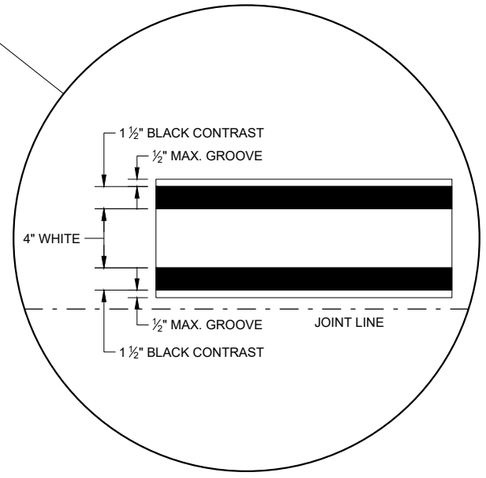
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

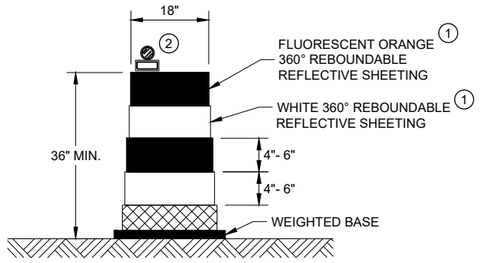
FHWA

SDD 15C08 - 20a

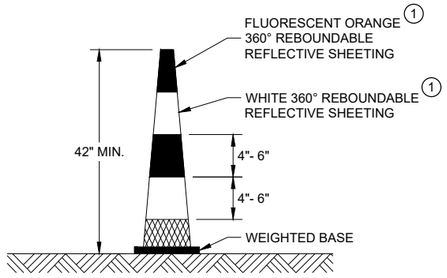
SDD 15C08 - 20a

GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

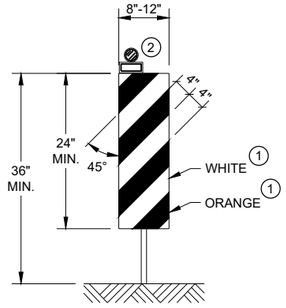


DRUM



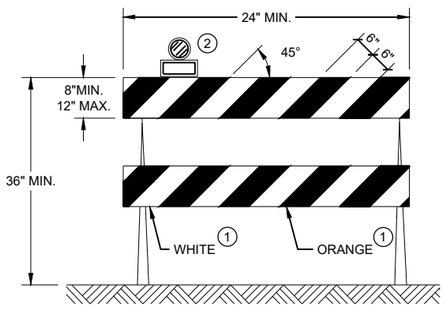
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



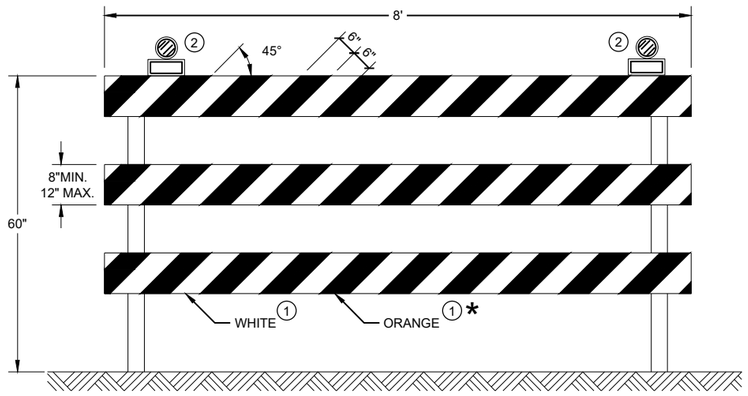
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

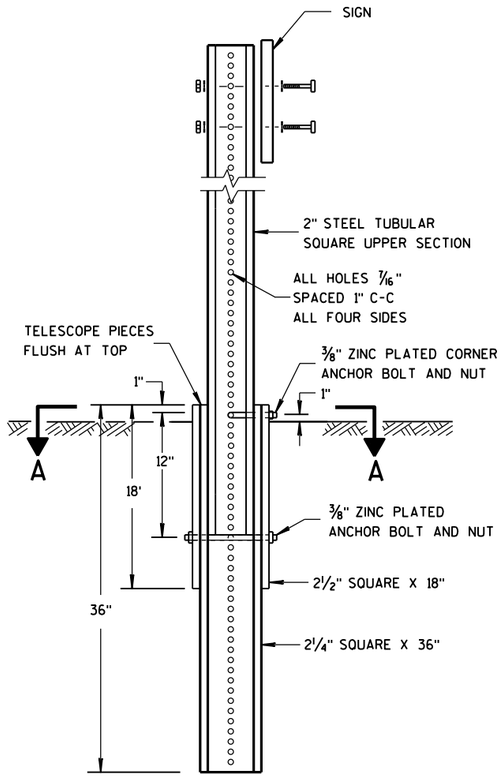
APPROVED
June 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

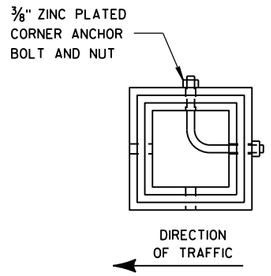
SDD 15C11 - 07b

6

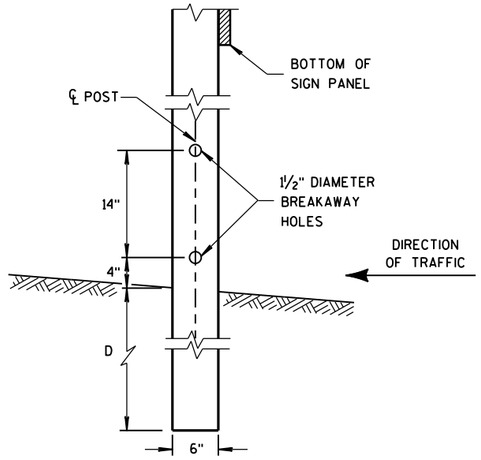
SDD 15C11 - 07b



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



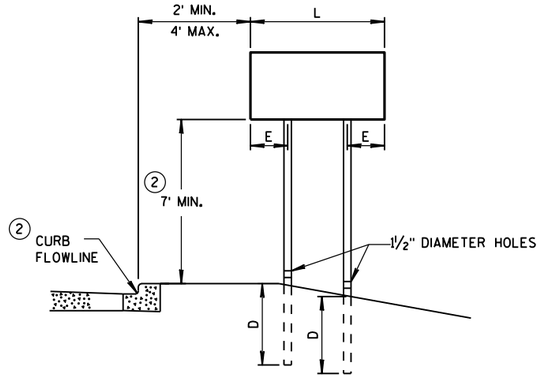
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

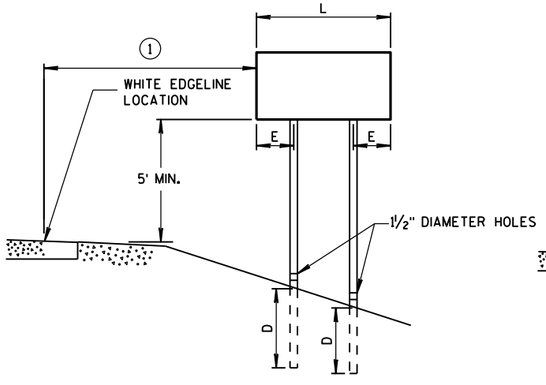
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

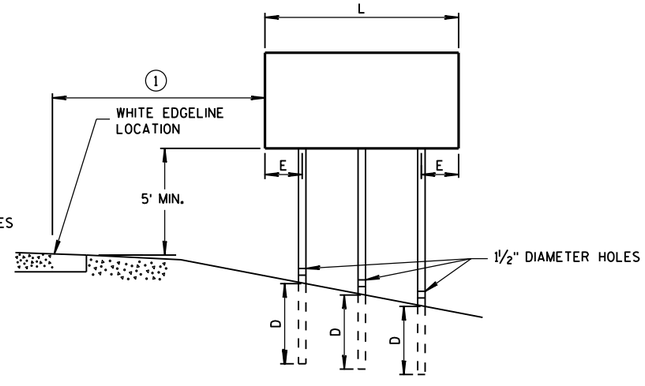
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

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



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

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

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

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

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

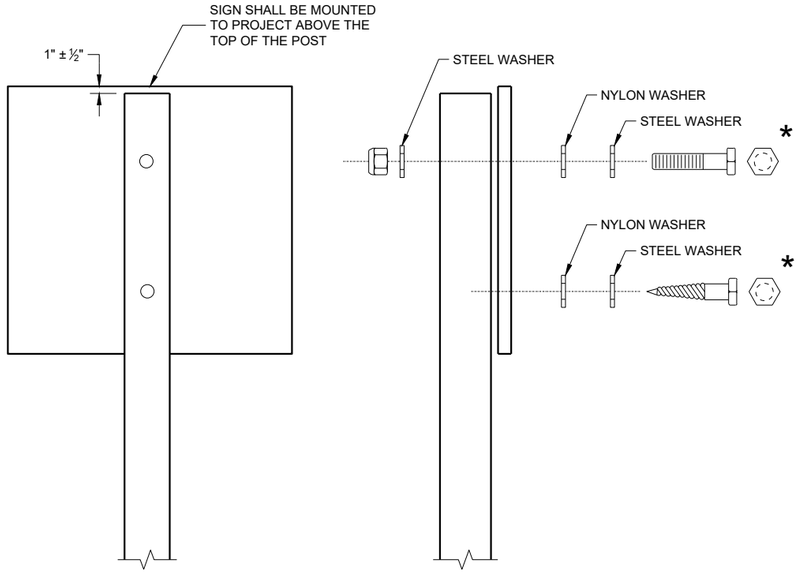
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a

6

S.D.D. 15 D 38-2a



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 POST (4" x 6")
LAG SCREWS - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH, GRIP RANGE 0.042 - 0.375 INCH

WASHERS (ALL POSTS) -
1 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" I.D. x 0.080 NYLON

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

6

6

SDD 15D38 - 02b

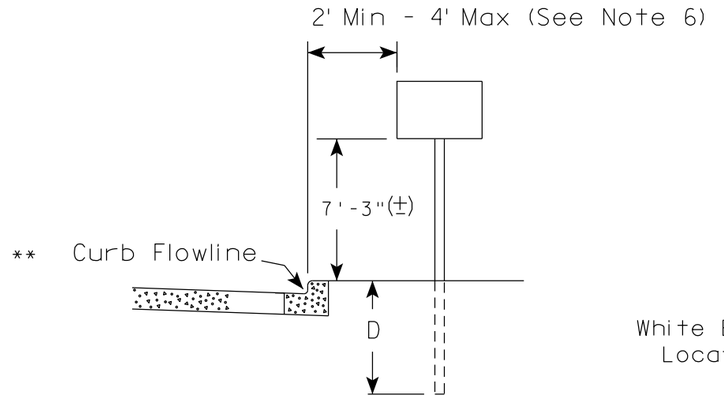
SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

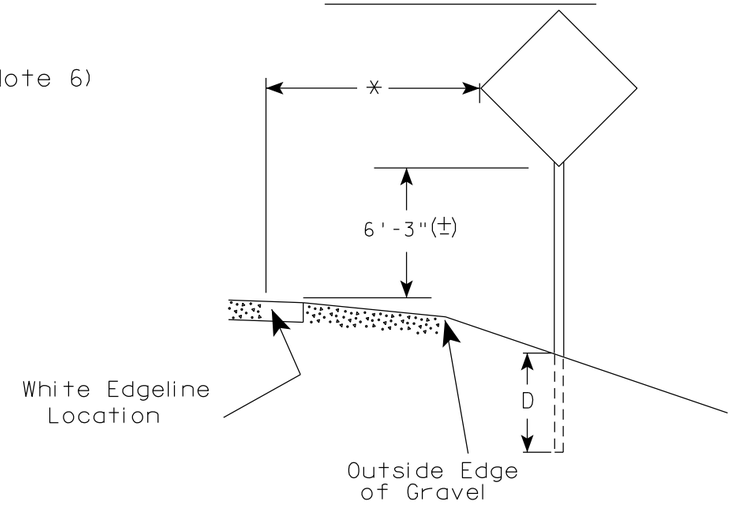
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

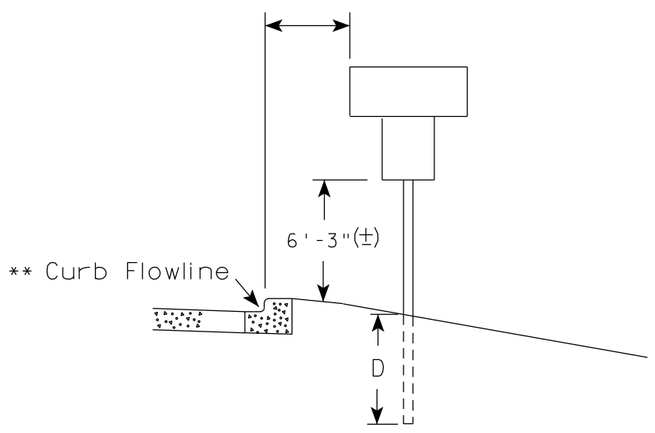
APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

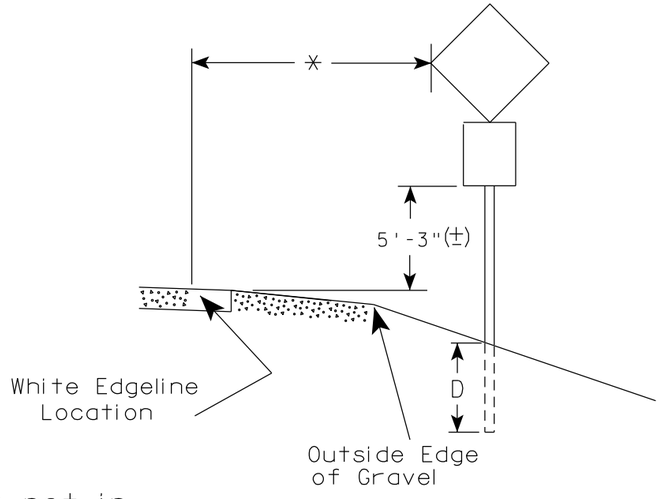
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

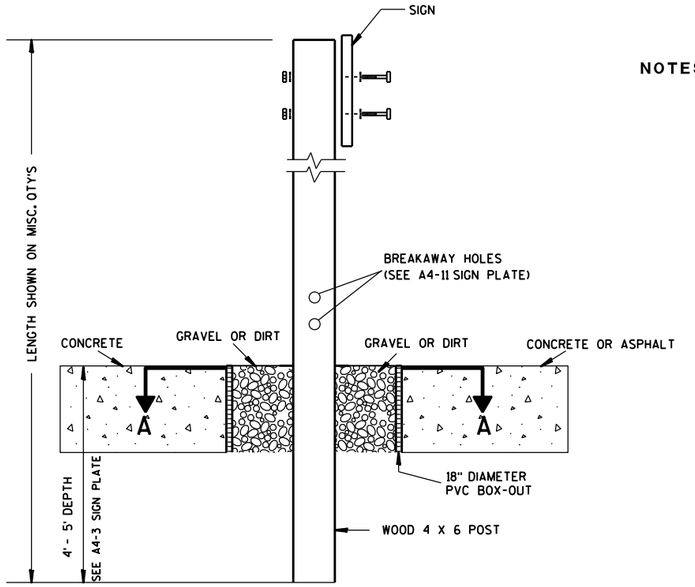
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

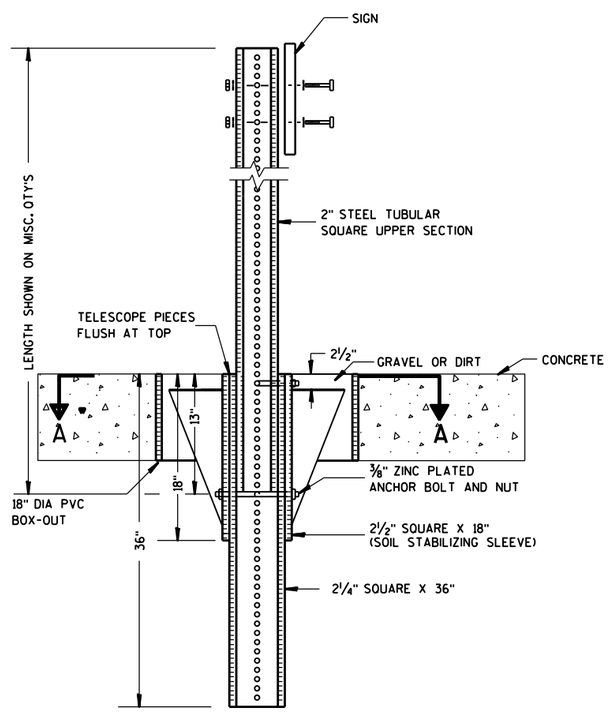
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 52	E



ELEVATION VIEW

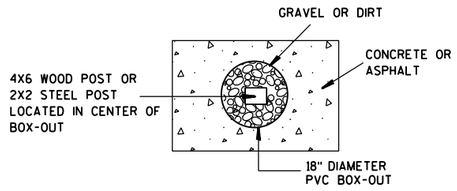
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

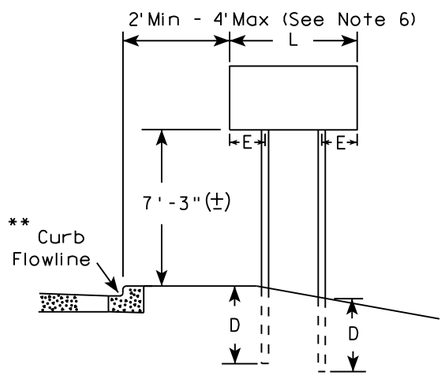
APPROVED Matthew R Rauch
for State Traffic Engineer

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

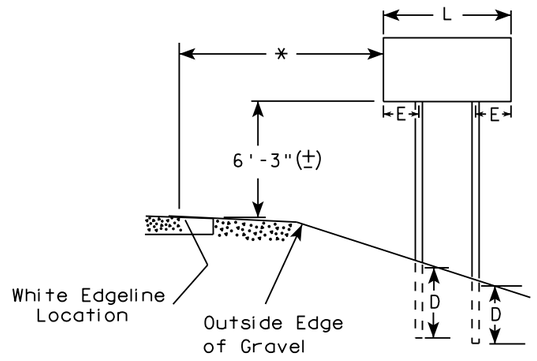
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

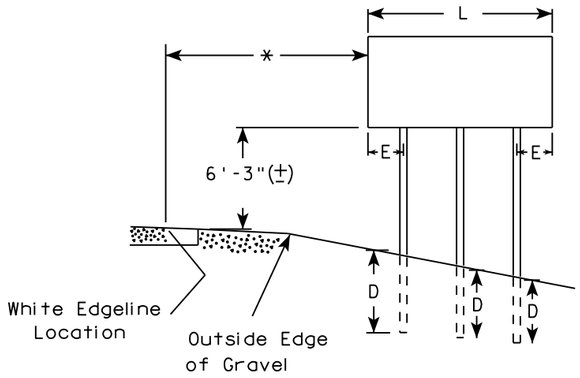
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

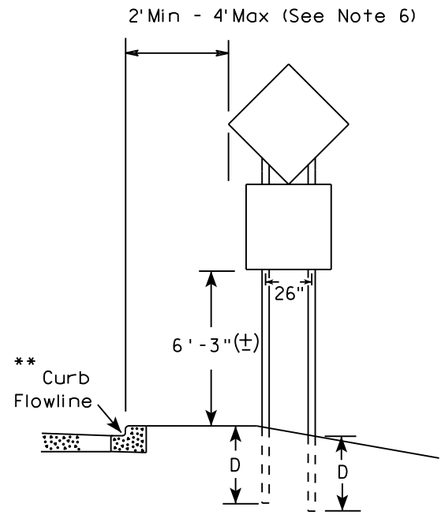
URBAN AREA



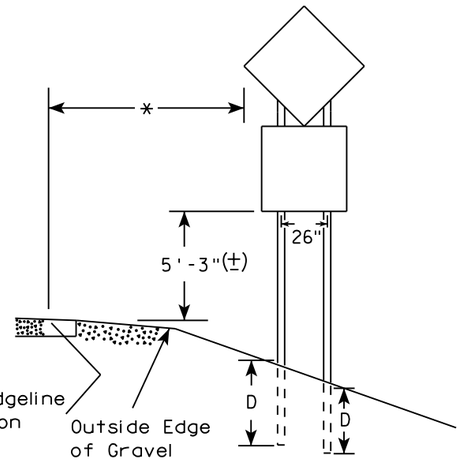
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

***	SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
	L	E
	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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. J-Assemblies are considered to be one sign for mounting height.
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 and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

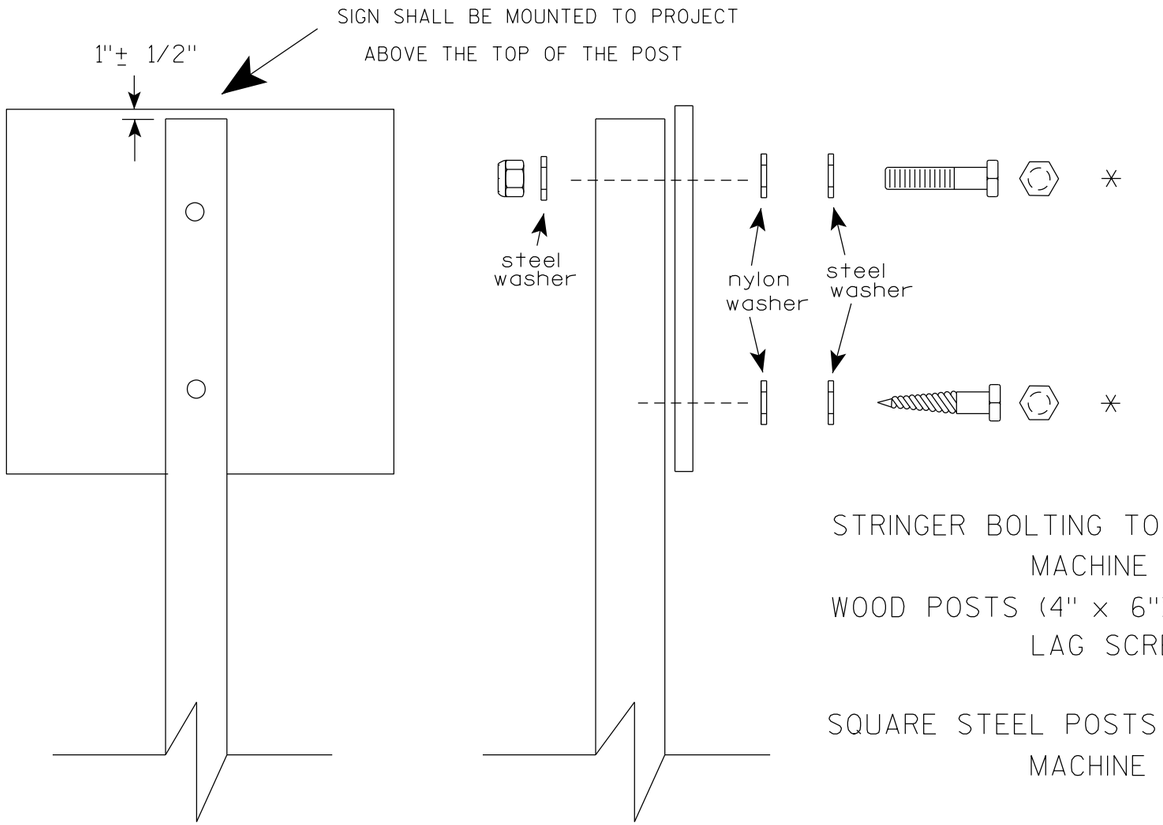
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 54	E



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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

* 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

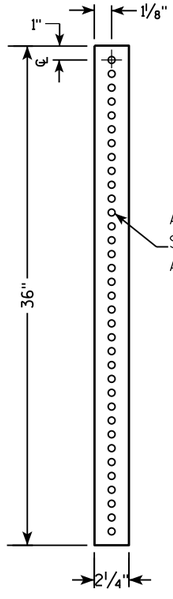
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

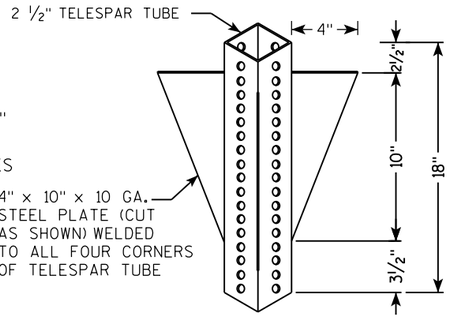
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

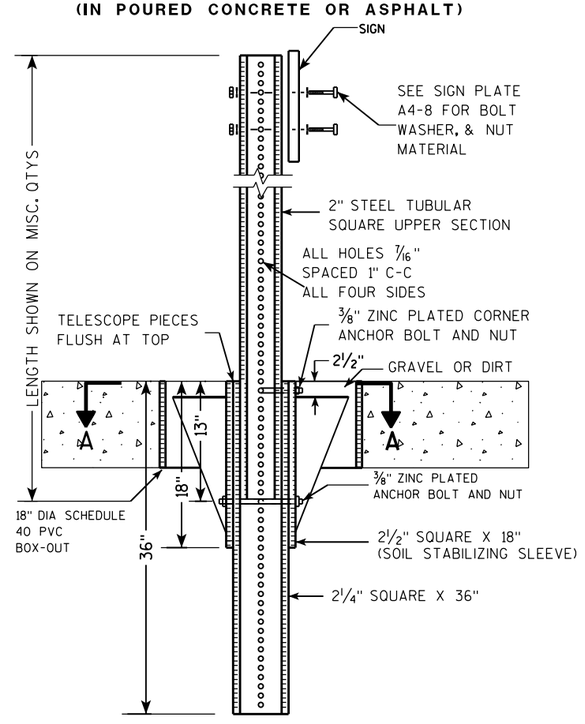
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



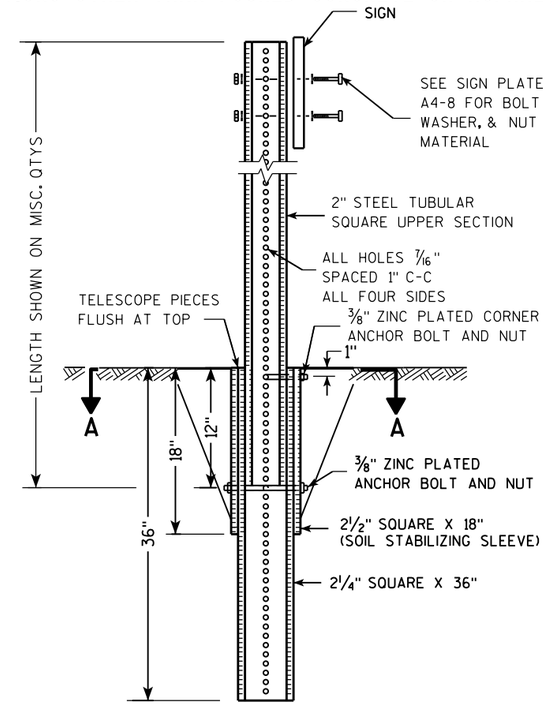
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

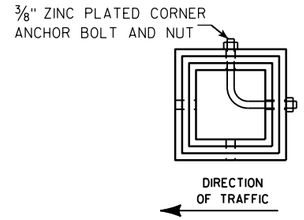


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

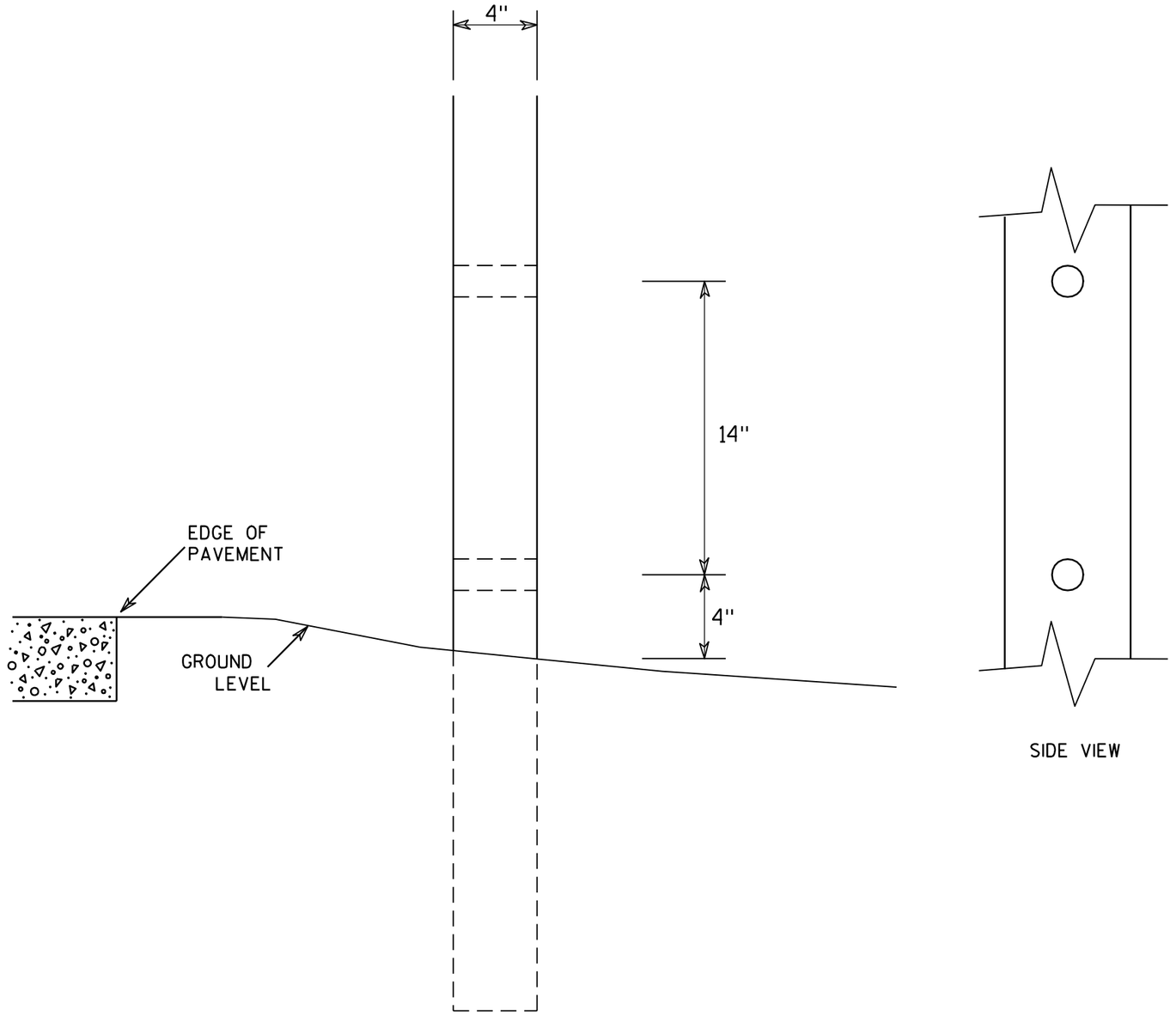
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

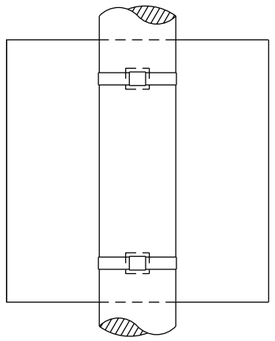
APPROVED Chester J Spang for State Traffic Engineer

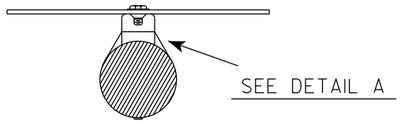
DATE 3/27/97 PLATE NO. A4-11.2

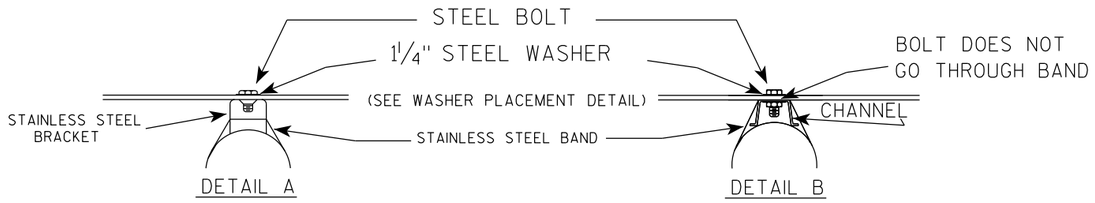
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 57	E

BANDING

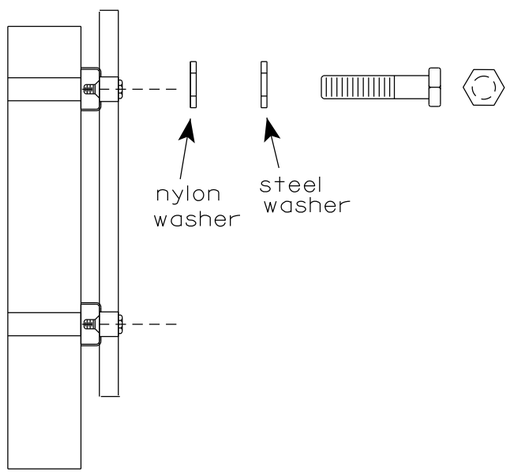
SINGLE SIGN







WASHER PLACEMENT

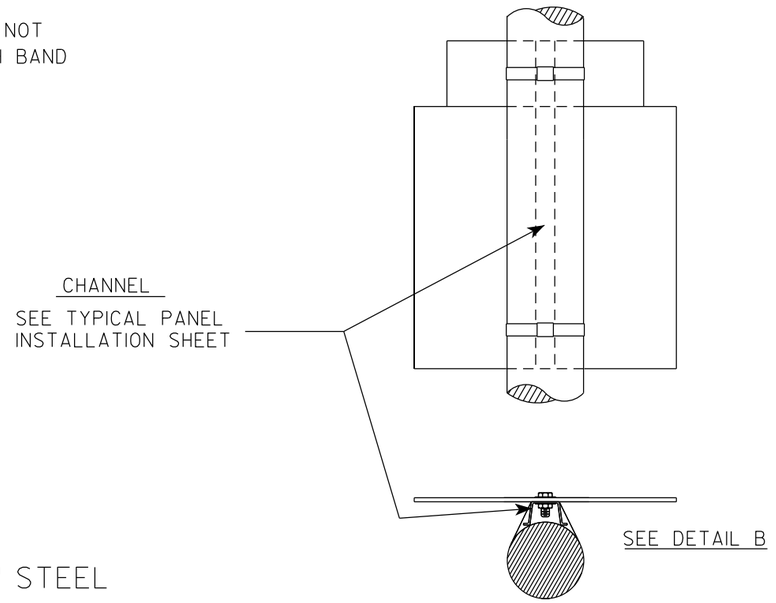


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

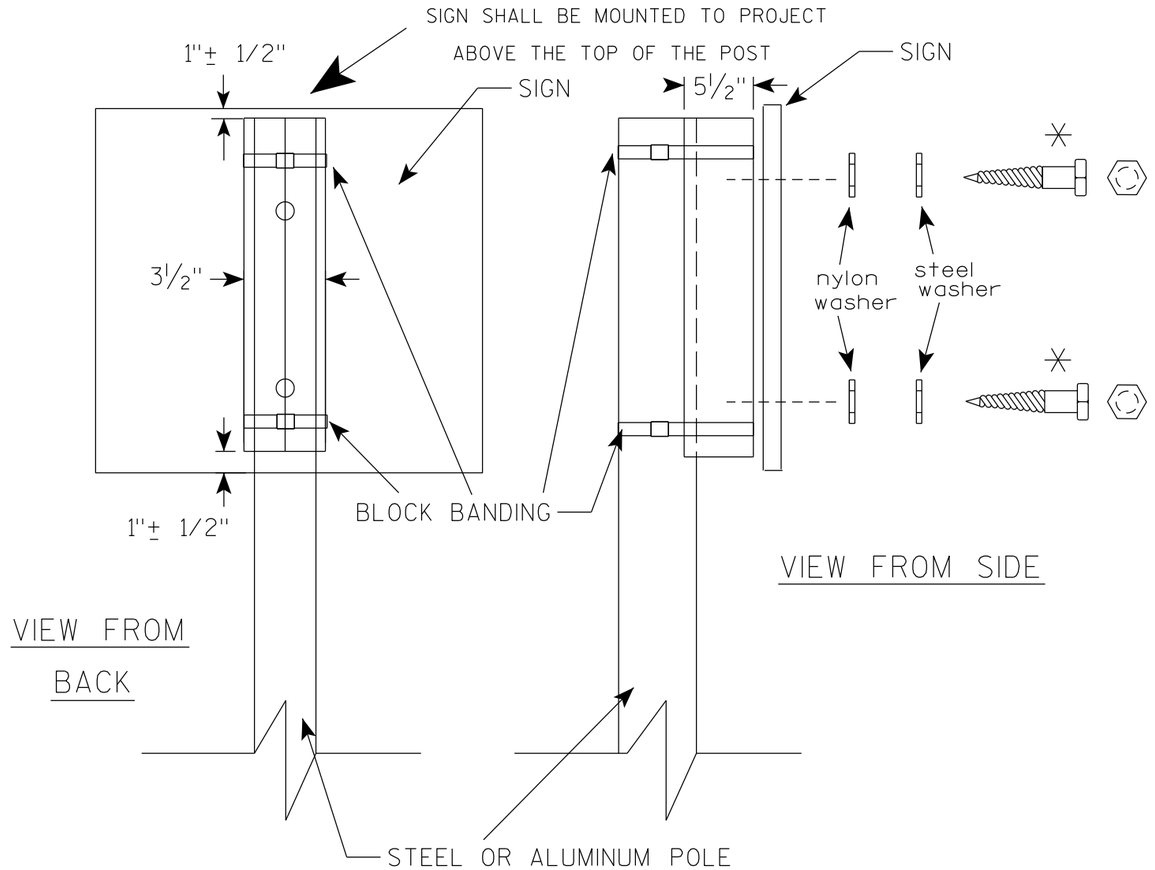
DATE 6/10/19 PLATE NO. A5-9.4

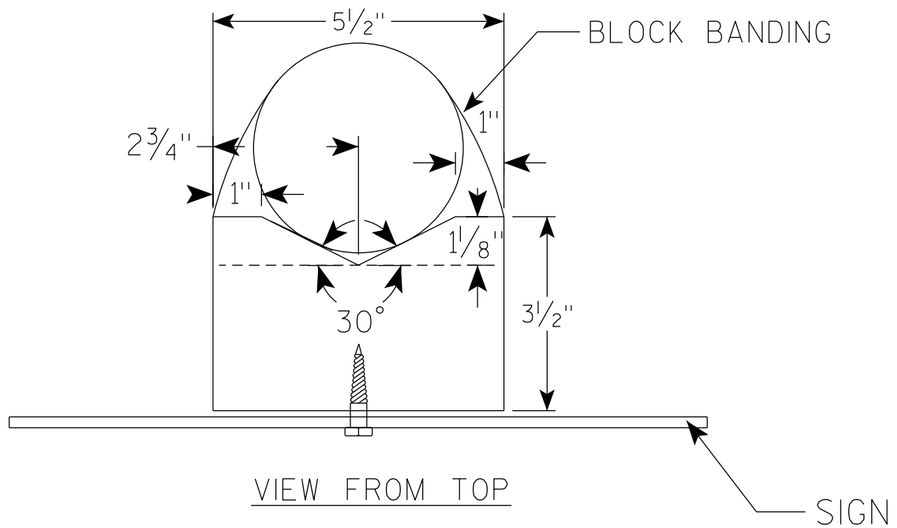
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 58	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

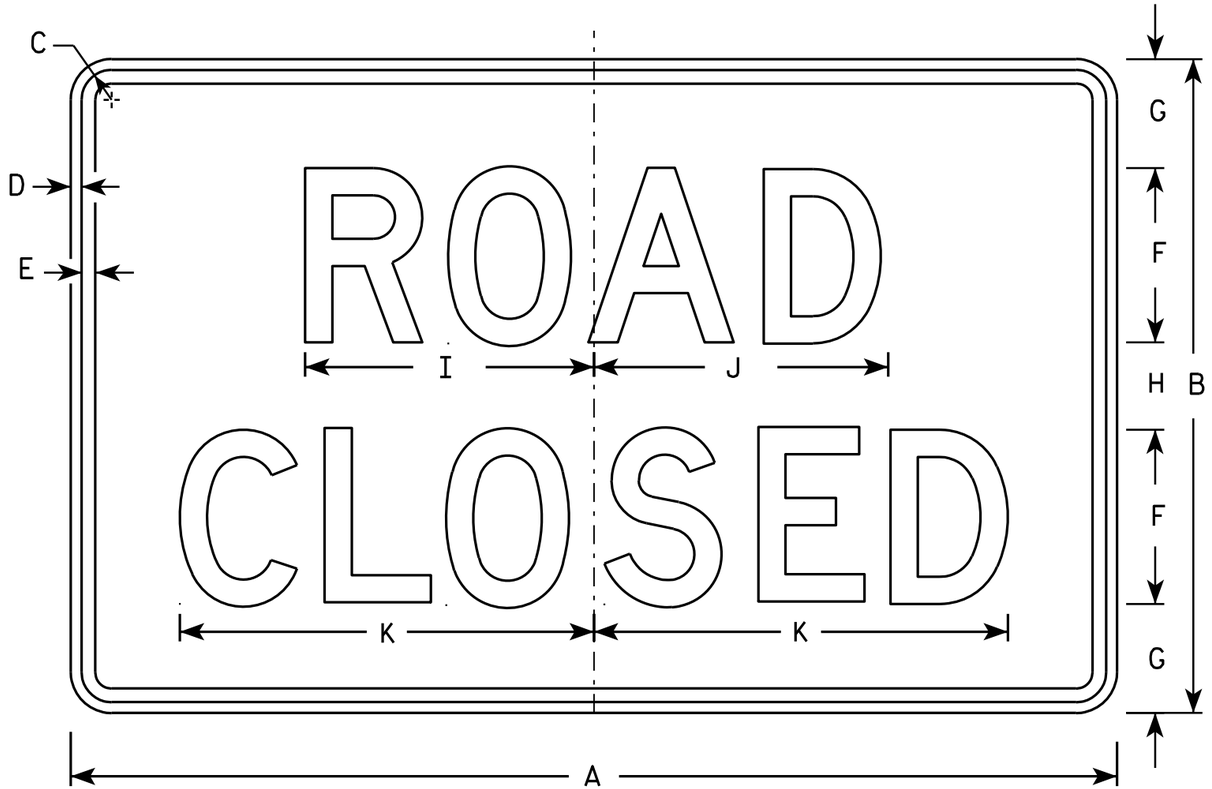
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

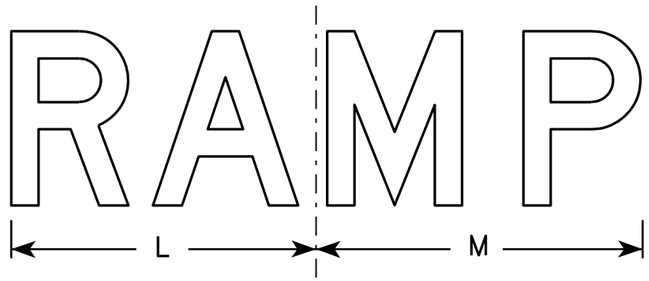
PROJECT NO:				SHEET NO: 59	E



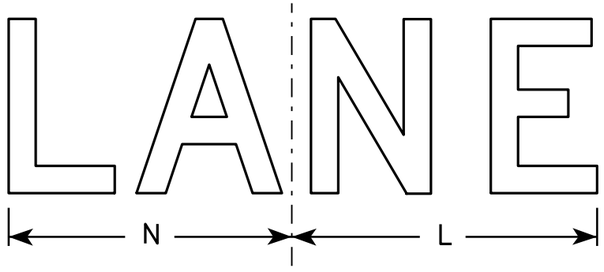
R11-2

NOTES

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



R11-2R



R11-2L

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

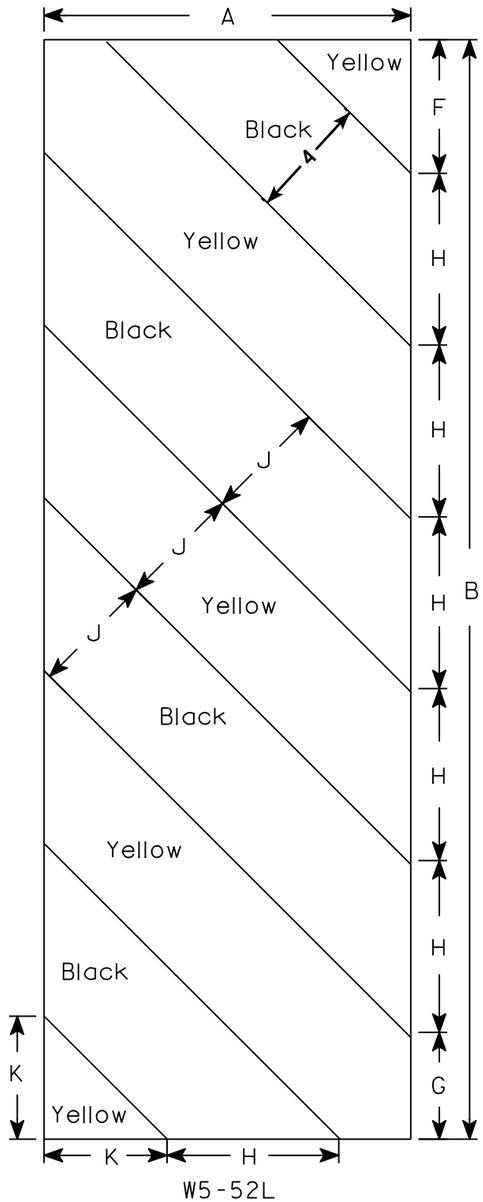
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

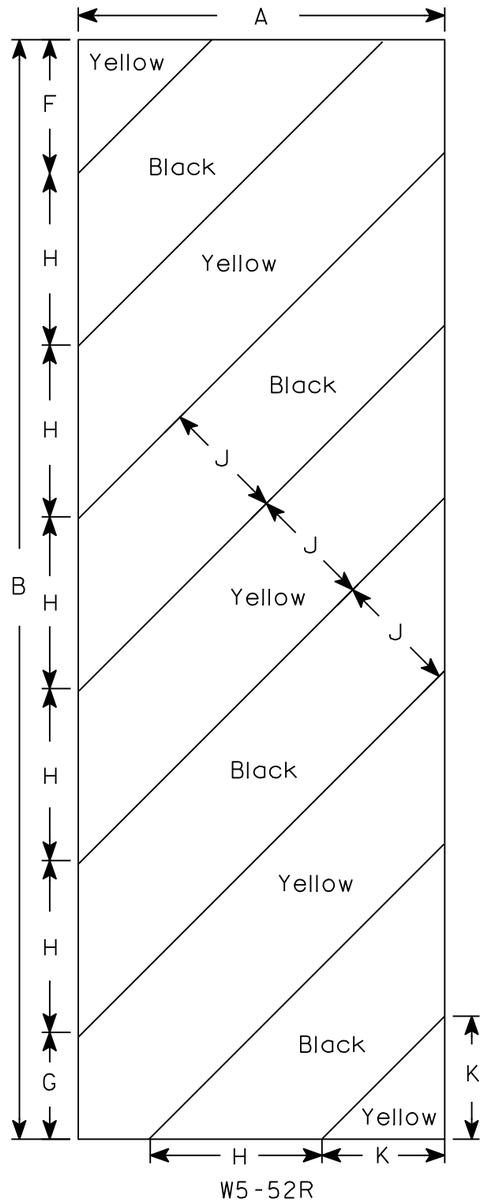
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

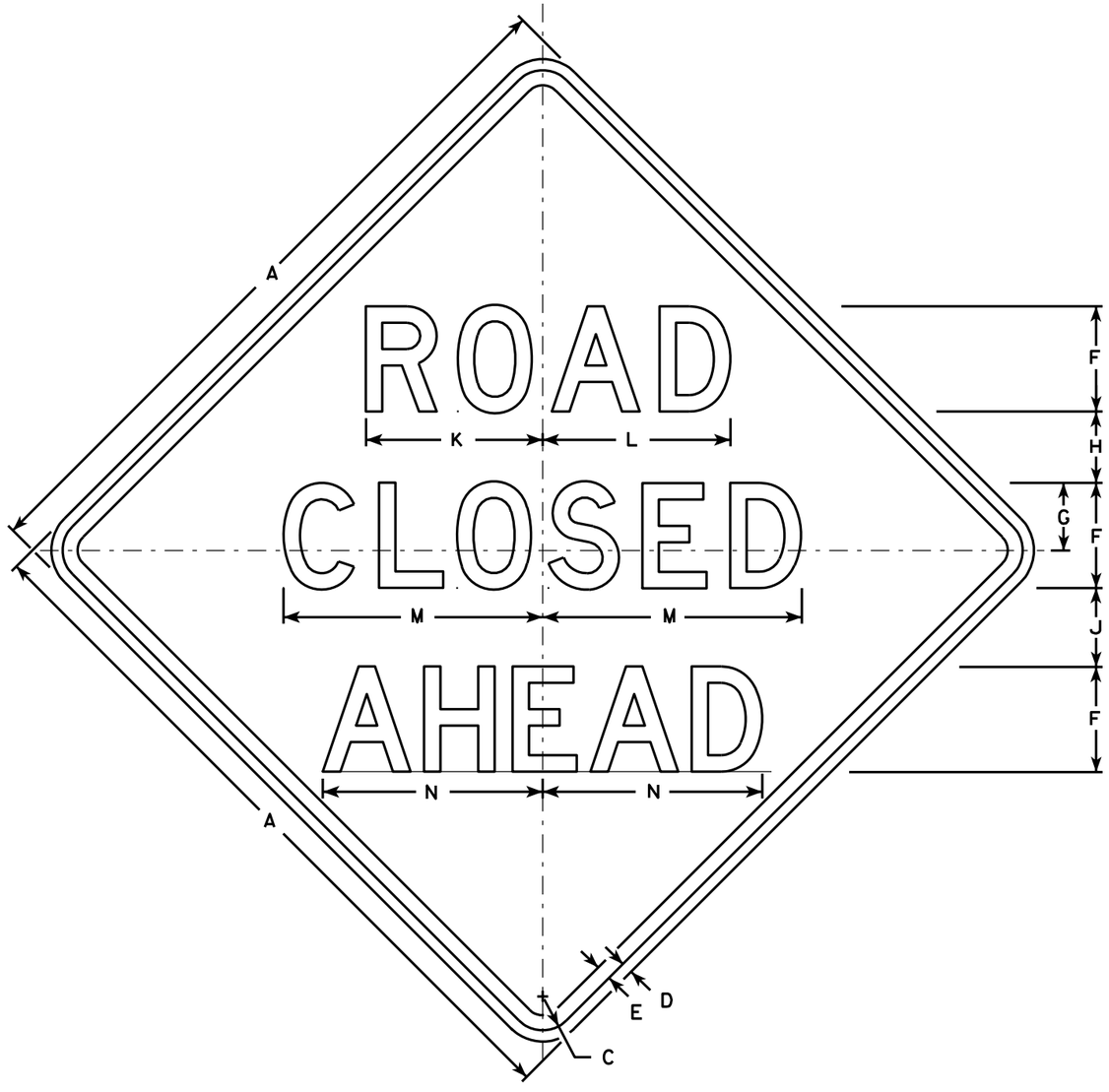
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

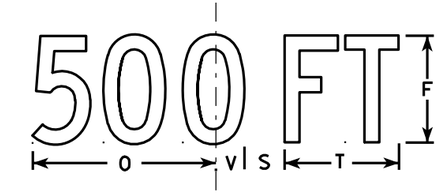
APPROVED Matthew R Rauch
for State Traffic Engineer

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

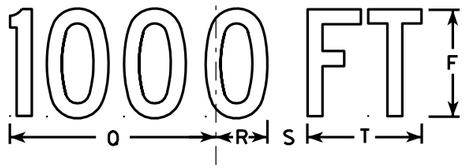
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 61	E



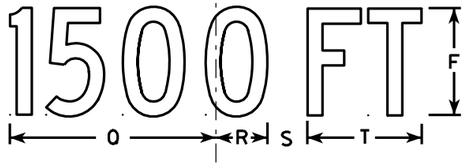
W20-3A



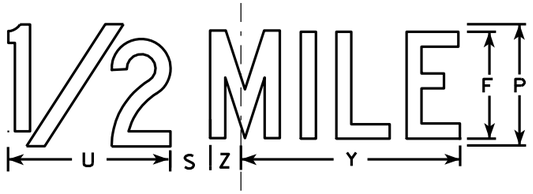
W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

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

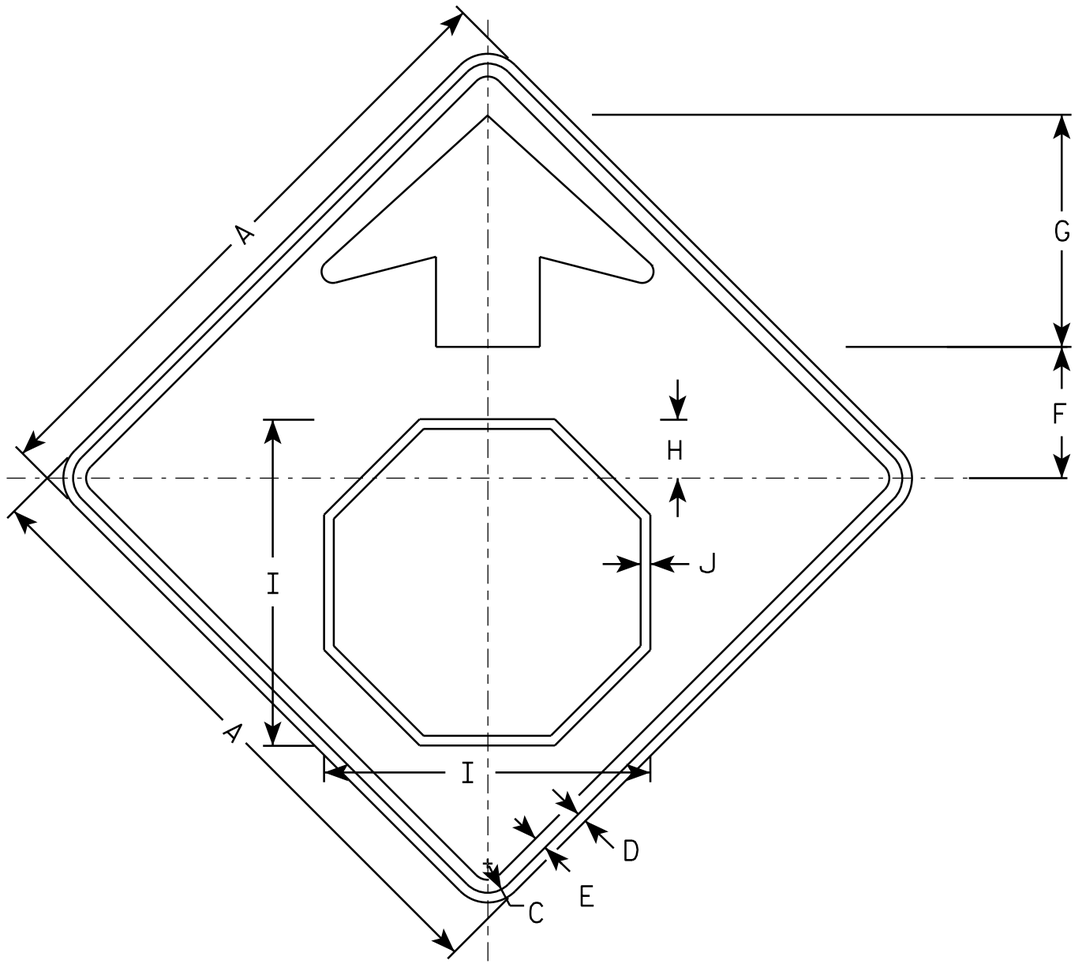
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 62 | E

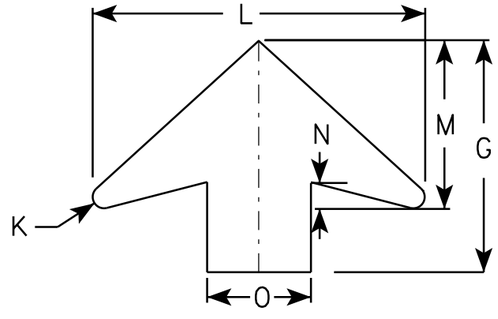
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



W03-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

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

STANDARD SIGN
W03-1

WISCONSIN DEPT OF TRANSPORTATION

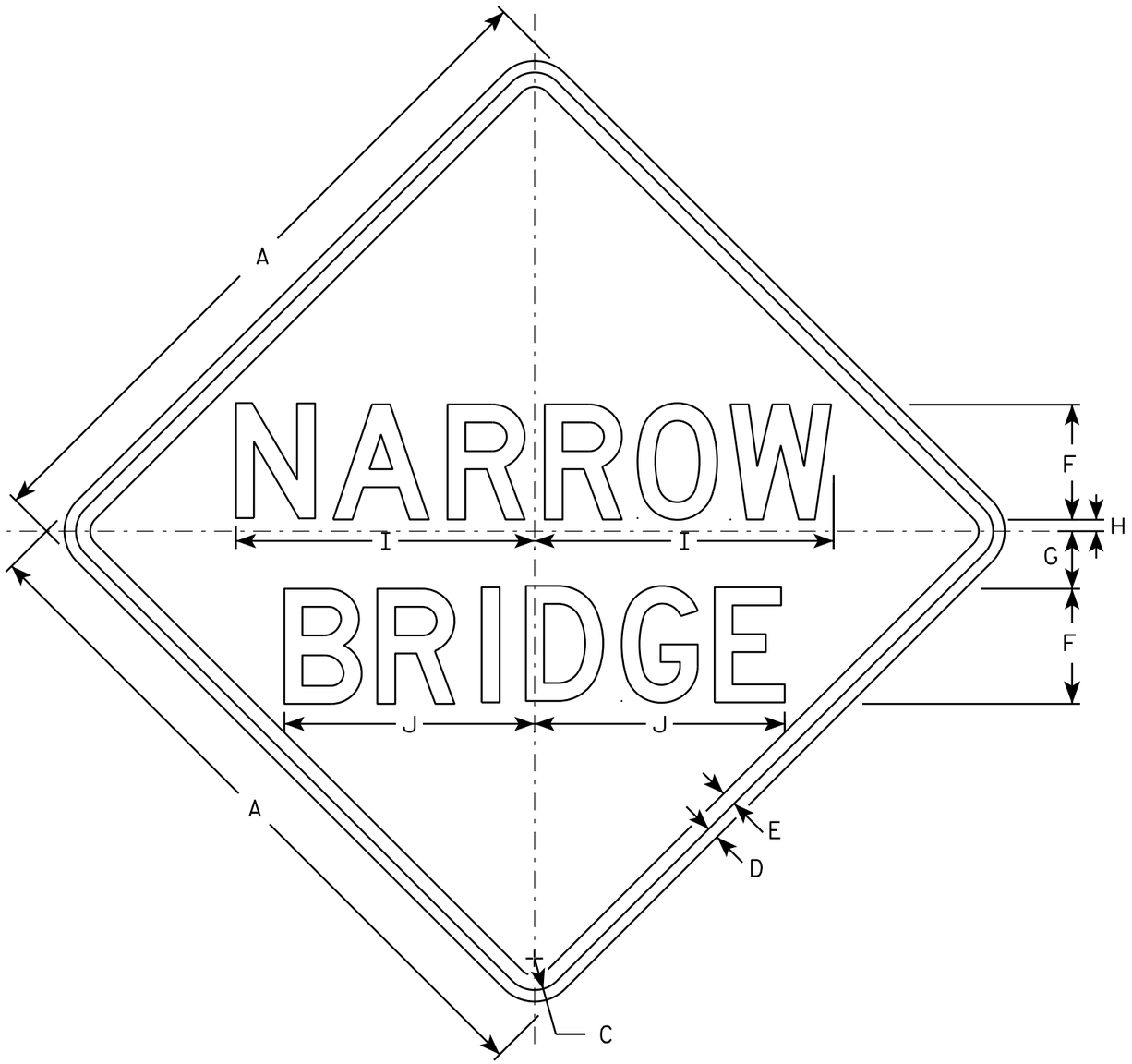
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 03-1.1

PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W031.DGN PLOT DATE : 20-NOV-2013 10:54 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W05-2

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
2S	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0
2M	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0
3	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0
4	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0
5	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0

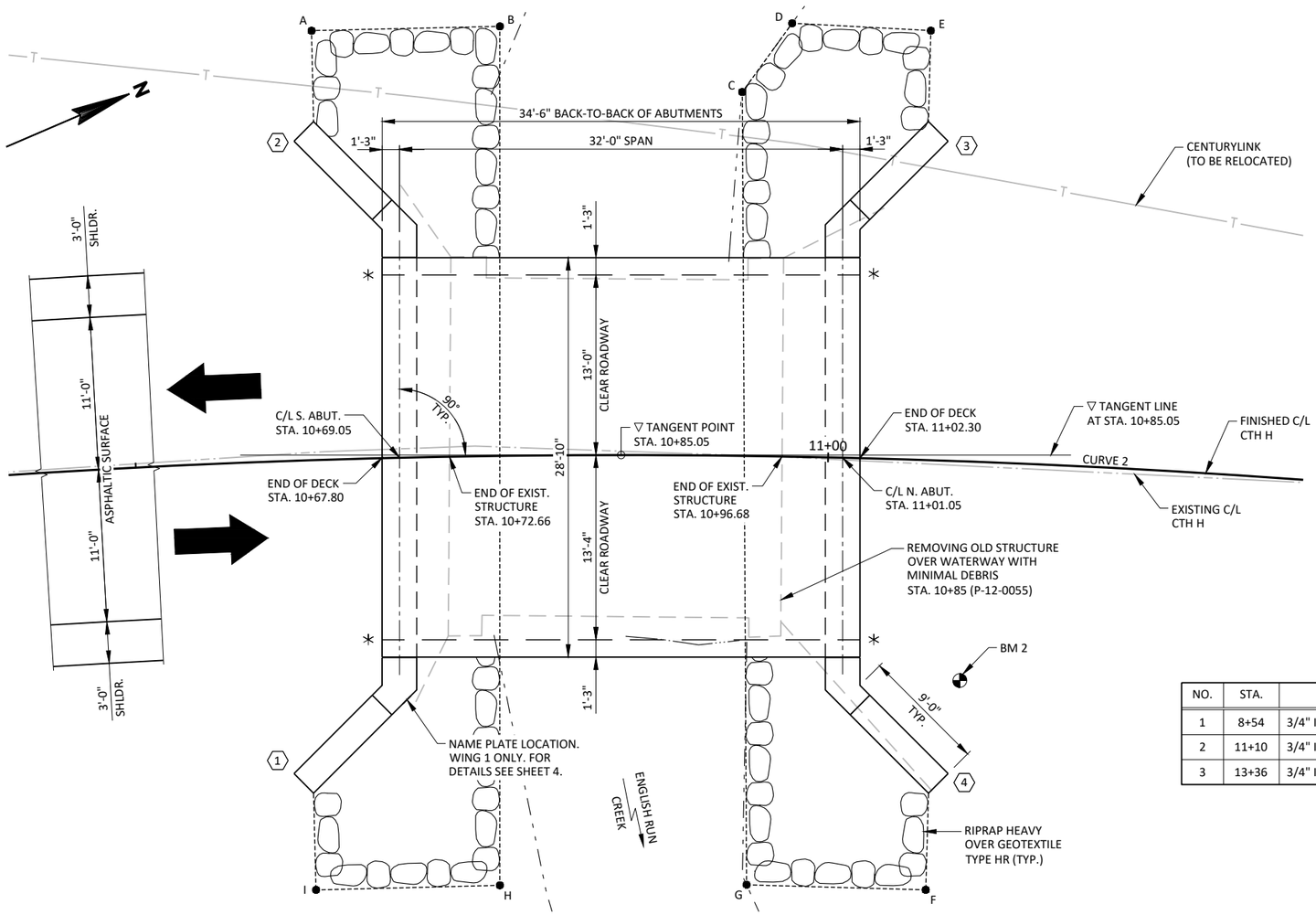
STANDARD SIGN
W05-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

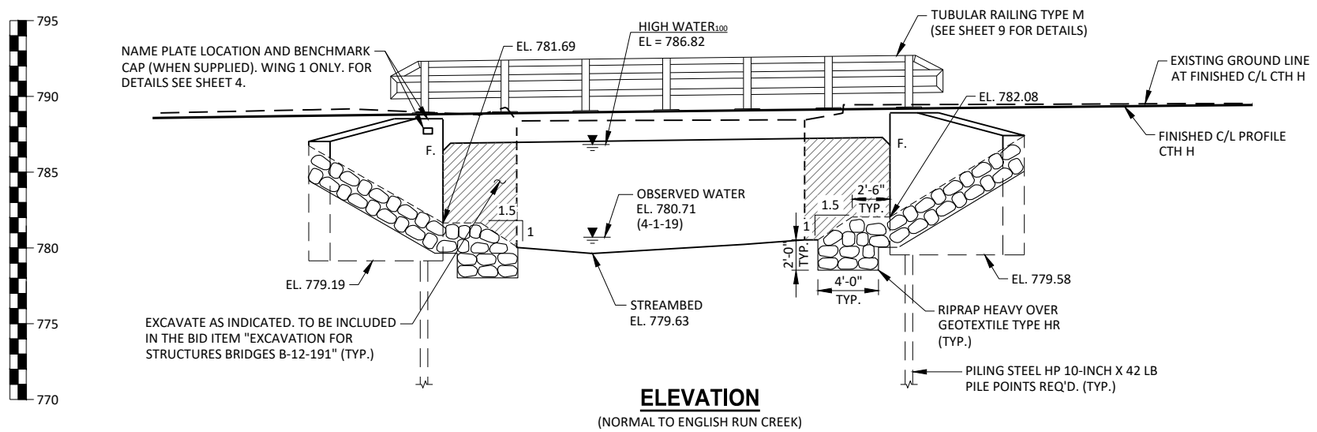
DATE 11/20/13 PLATE 64 W05-2.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



PLAN B-12-191

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB)



ELEVATION

(NORMAL TO ENGLISH RUN CREEK)

⬡ INDICATES WING NUMBER

▽ SEE SHEET 2 FOR OFFSET DETAILS

✳ THRIE BEAM RAIL ATTACHMENT

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	10+64	31' LT.
B	10+77	31' LT.
C	10+93	26' LT.
D	10+97	31' LT.
E	11+06	31' LT.
F	11+08	31' RT.
G	10+95	31' RT.
H	10+76	31' RT.
I	10+62	31' RT.

CURVE 2 DATA

PI STA. = 10+79.66
Y = 229,264.11
X = 439,014.18
R = 680.00
D = 8°25'33"
DELTA = 13°21'46"
L = 158.59
T = 79.66
C = 158.23
PC STA. = 10+00
Y = 229,187.59
X = 438,992.04
PT STA. = 11+58.59
Y = 229,333.44
X = 439,053.40

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	8+54	3/4" IRON REBAR SET, 15.0' RT.	785.64
2	11+10	3/4" IRON REBAR SET, 15.8' RT.	788.96
3	13+36	3/4" IRON REBAR SET, 17.7' LT.	796.20

STATE PROJECT NUMBER

5415-00-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF=1.08
OPERATING RATING FACTOR — RF=1.40
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) — 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.
HIGH-STRENGTH 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 120 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT PILE LENGTHS AT BOTH ABUTMENTS. PILE POINTS REQ'D. AT ALL LOCATIONS.

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

TRAFFIC DATA

A.D.T. (2021) — 250
A.D.T. (2041) — 370
DESIGN SPEED — 40 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY
DRAINAGE AREA — 4.5 SQ. MI.
Q_{100} TOTAL — 1,100 C.F.S.
THROUGH STRUCTURE — 1,100 C.F.S.
OVERTOPPING ROADWAY — N/A
VELOCITY - THROUGH STRUCTURE — 7.3 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE — 151.5 SQ. FT.
HIGH WATER$_{100}$ ELEVATION — 786.82
SCOUR CRITICAL CODE — 5

EROSION CONTROL
Q_2 — 190 C.F.S.
VELOCITY$_2$ — 2.9 F.P.S.
HIGH WATER$_2$ ELEVATION — 783.17

LIST OF DRAWINGS

GENERAL PLAN — 1.
CROSS SECTION AND QUANTITIES — 2.
SUBSURFACE EXPLORATION — 3.
SOUTH ABUTMENT — 4.
SOUTH ABUTMENT DETAILS — 5.
NORTH ABUTMENT — 6.
NORTH ABUTMENT DETAILS — 7.
SUPERSTRUCTURE — 8.
TUBULAR RAILING TYPE M — 9.

WISCONSIN
PATRICK
T. BOLAND
E-36303
HILLPOINT
WIS
Patrick Boland
7-7-2020
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers · Architects · Surveyors
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
OFFICE: (608) 588-7484
www.jewellassoc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED — SDR — CHIEF STRUCTURES DESIGN ENGINEER — 08/25/20 DATE

STRUCTURE B-12-191

CTH H OVER ENGLISH RUN CREEK

COUNTY: CRAWFORD — TOWN/~~CITY/VILLAGE~~: CLAYTON
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PMF	PTB	PMF	PTB

GENERAL PLAN

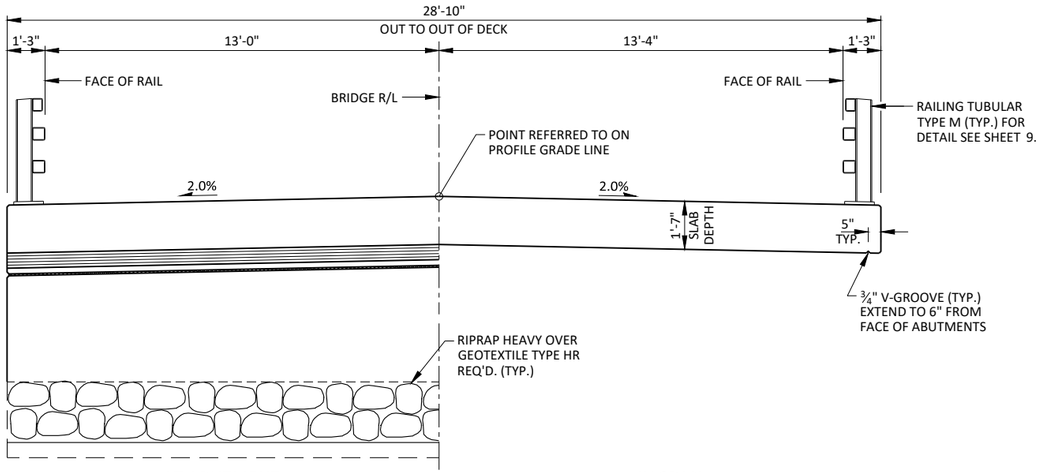
SHEET 1 OF 9
65

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
AARON BONK, PE
(608) 261-0261

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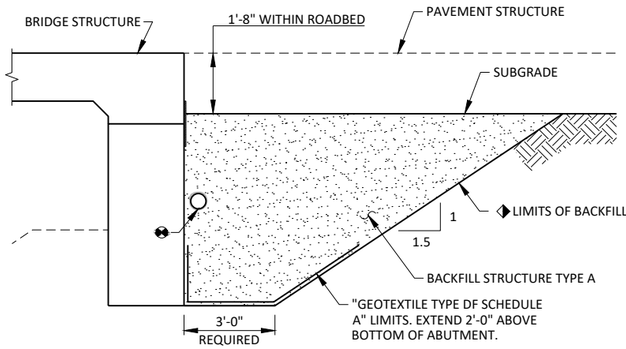
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AT ABUTMENT **IN SPAN**

PROPOSED CROSS-SECTION THROUGH ROADWAY

LOOKING NORTH



BACKFILL STRUCTURE DETAIL

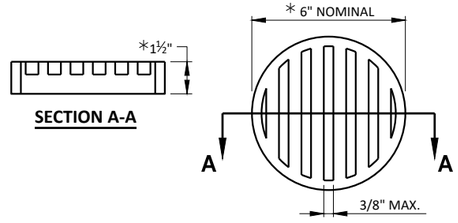
(TYPICAL AT ABUTMENTS. ABUTMENT BODY SHOWN - WING WALLS SIMILAR)

◆ BACKFILL STRUCTURE TYPE A PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-12-191". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

◆ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	S. ABUT.	SUPER	N. ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 10+85	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-12-191	LS	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	220	--	220	440
502.0100	CONCRETE MASONRY BRIDGES	CY	35	62	35	132
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	130	--	130
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,240	--	2,240	4,480
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,440	10,540	1,440	13,420
513.4061	RAILING TUBULAR TYPE M	LF	--	73	--	73
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	--	6	12
550.0500	PILE POINTS	EACH	7	--	7	14
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	210	--	210	420
606.0300	RIPRAP HEAVY	CY	56	--	54	110
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	75	--	75	150
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	--	50	100
645.0120	GEOTEXTILE TYPE HR	SY	95	--	95	190
	NON-BID ITEMS					
	FILLER	SIZE				½"
	NAME PLATE					



RODENT SCREEN

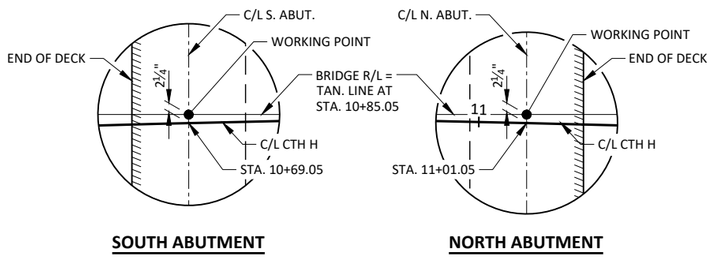
NOTES:

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

ORIENT SCREEN SO SLOTS ARE VERTICAL.

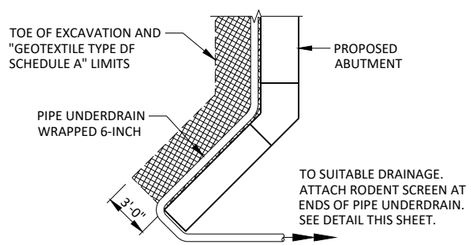
THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

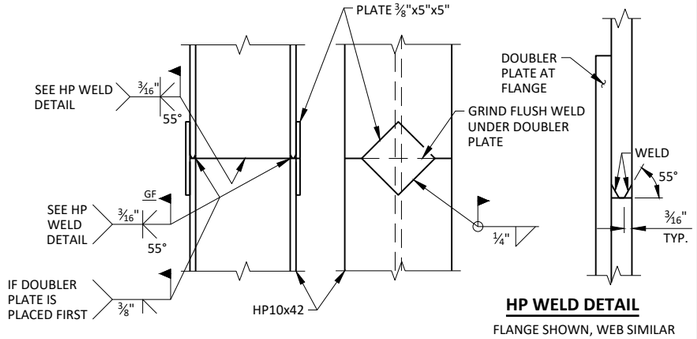


SOUTH ABUTMENT **NORTH ABUTMENT**

TANGENT OFFSET DETAILS



PIPE UNDERDRAIN DETAIL

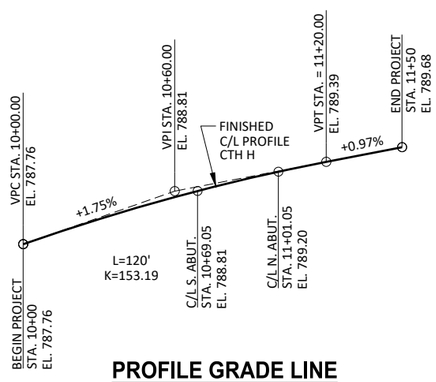


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A 572 GRADE 50.



PROFILE GRADE LINE

CTH H

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 2012).

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. SEE THIS SHEET FOR DETAIL.

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE DECK AND EXTERIOR 12" OF THE UNDERSIDE OF THE DECK (CONCRETE MATERIAL ONLY).

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER IN THE FIELD.

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

THE EXISTING STRUCTURE (P-12-0055) IS A STEEL DECK GIRDER STRUCTURE WITH A CONCRETE DECK SUPPORTED ON TIMBER ABUTMENTS. THE STRUCTURE HAS A OVERALL WIDTH OF 24.5' AND AN OVERALL LENGTH OF 24.0', AND SHALL BE REMOVED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

DRAWN BY PMF | PLANS CK'D. PTB

CROSS SECTIONS AND QUANTITIES

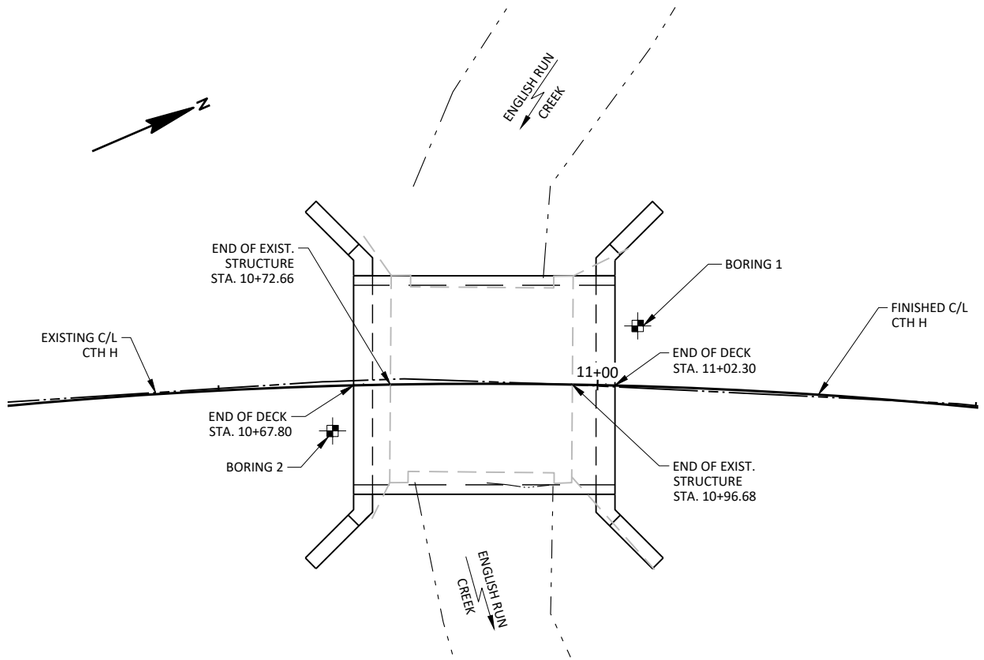
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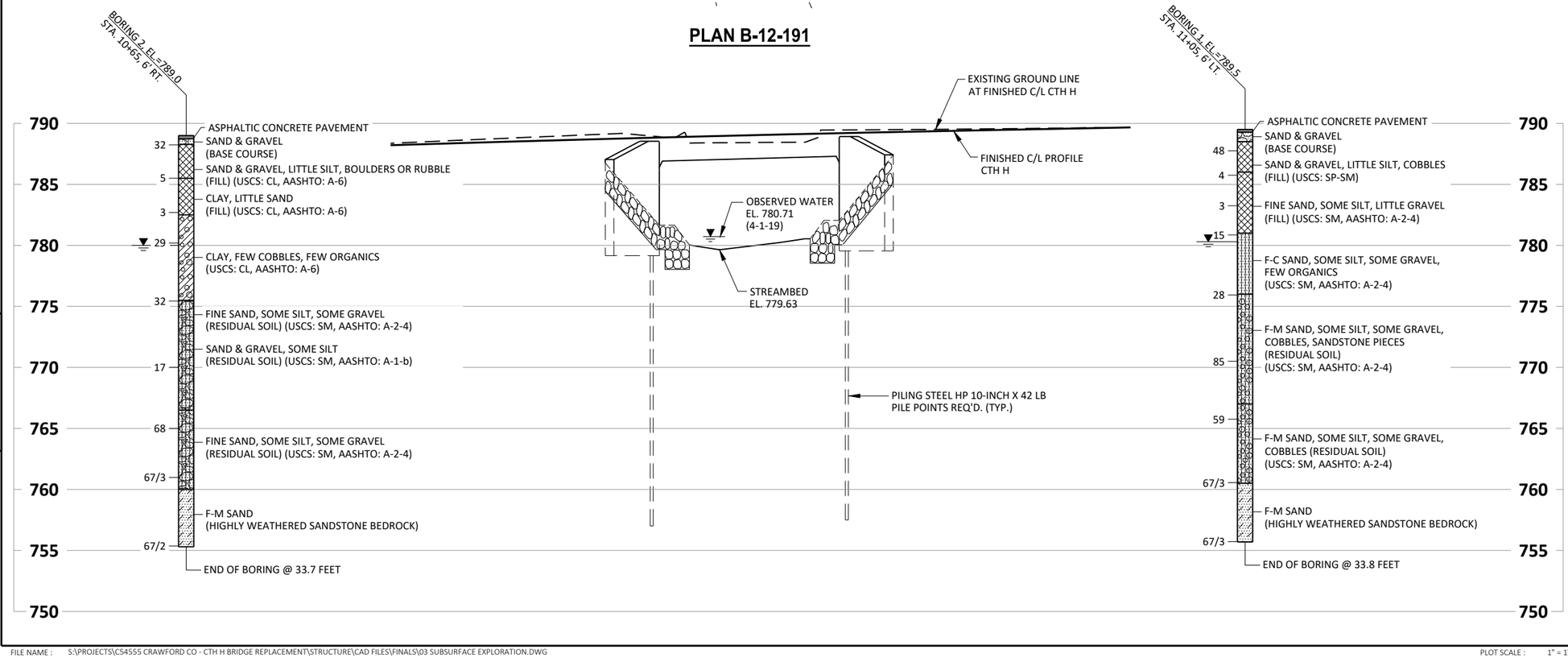
SOIL BORINGS

BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	06/10/19	229,288.46	439,023.55
2	06/10/19	229,246.85	439,018.64

BORINGS & REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
5620 WOODLAND DRIVE
WAUNAKEE, WI 53597



PLAN B-12-191



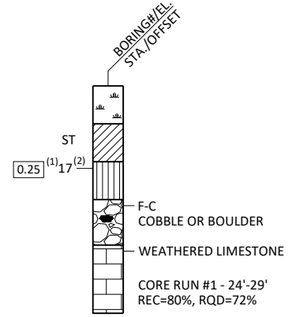
STATE PROJECT NUMBER

5415-00-71

MATERIAL SYMBOLS

Asphalt · Topsoil · Peat
Concrete · Fill · Gravel
Sand · Clay · Silt
Boulders or Cobbles · Limestone · Bedrock (unknown)
Shale · Sandstone · Igneous/ meta

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED, THE SPT 'N' VALUE IS BASED ON AASHTO T-206 STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATIONS

AT TIME OF DRILLING
END OF DRILLING
AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COURSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

DRAWN BY PMF | PLANS CK'D. PTB

SUBSURFACE EXPLORATION

SHEET 3 OF 9

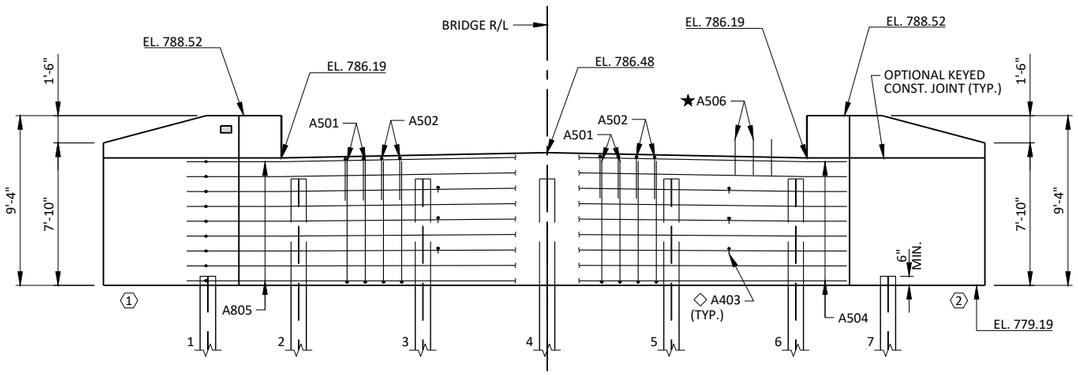
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STATE PROJECT NUMBER

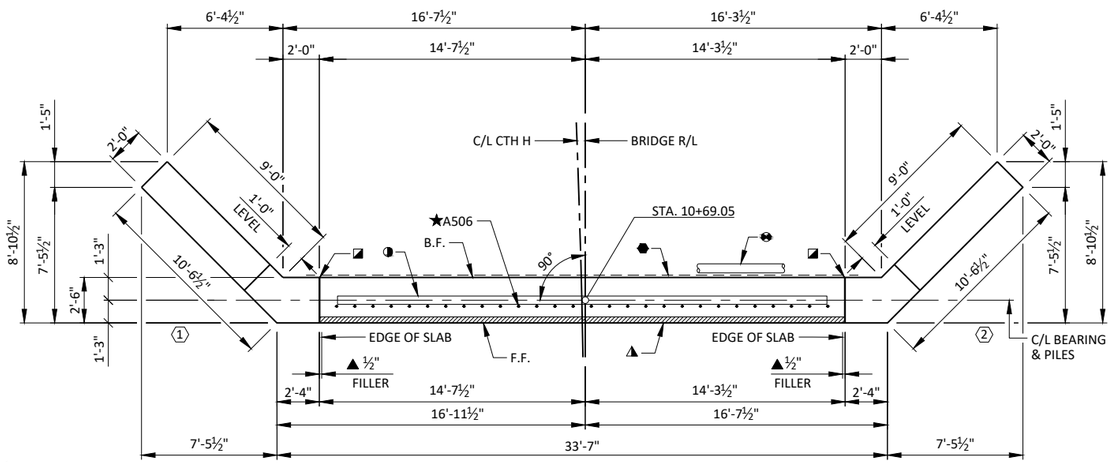
5415-00-71



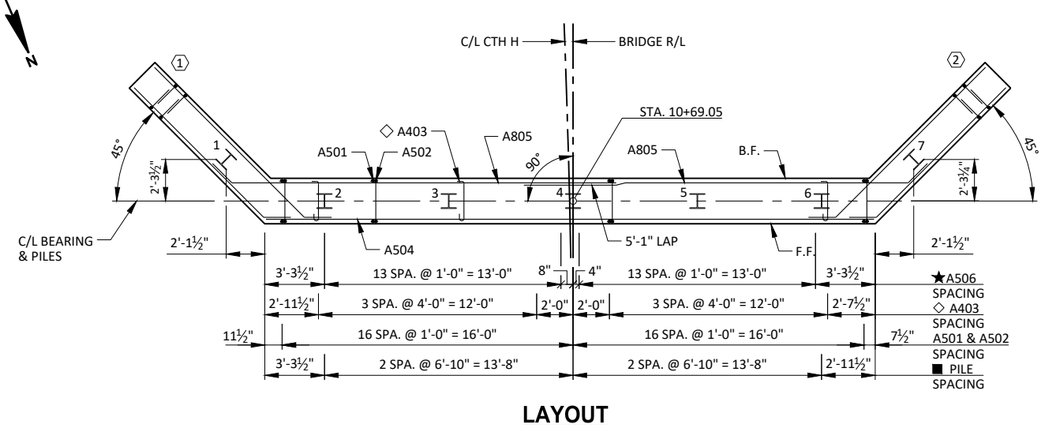
BACK FACE BAR STEEL REINF. **FRONT FACE BAR STEEL REINF.**

ELEVATION

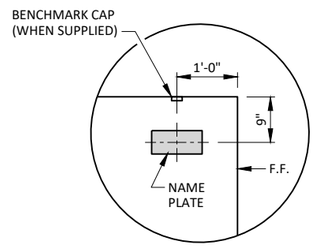
(SOUTH ABUTMENT LOOKING SOUTH)



PLAN

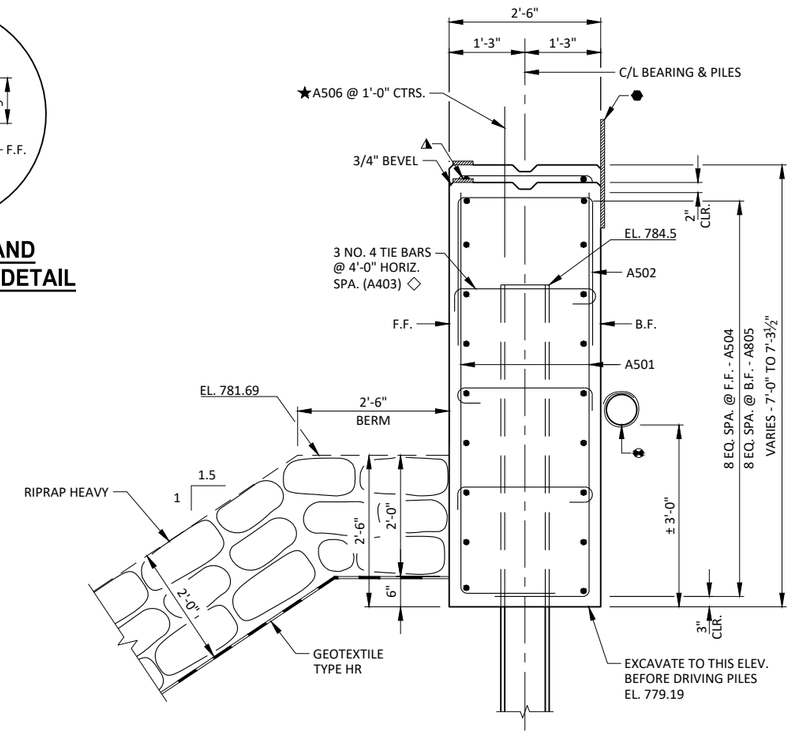


LAYOUT



NAME PLATE AND BENCHMARK CAP DETAIL

(WING 1 ONLY)



ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT PILE LENGTHS AT ABUTMENT. PILE POINTS REQ'D. AT ALL LOCATIONS.

TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◮ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ◓ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGN. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

DRAWN BY PMF | PLANS CK'D. PTB

SOUTH ABUTMENT

SHEET 4 OF 9

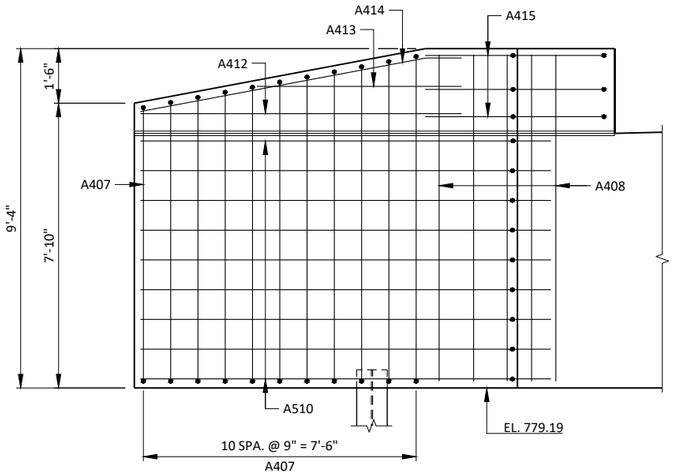
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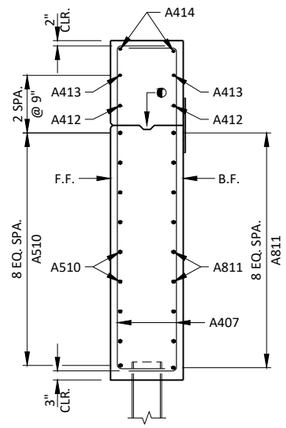
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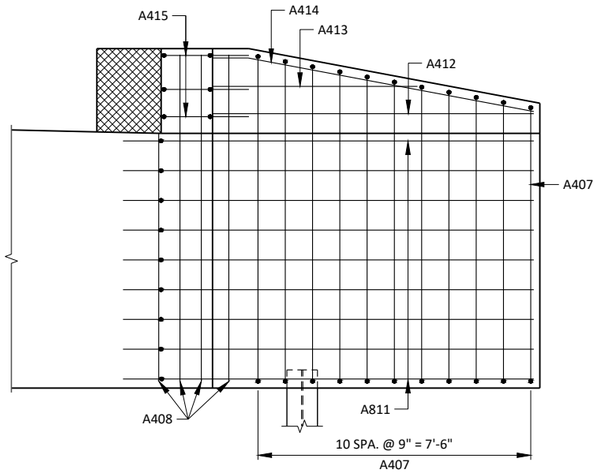


F.F. ELEVATION - WING 1

WING 1 SHOWN, WING 2 SIMILAR

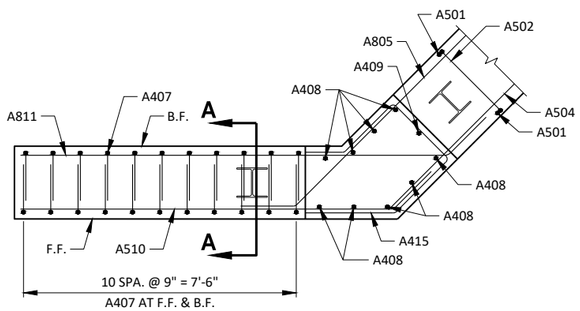


SECTION A-A



B.F. ELEVATION - WING 1

WING 1 SHOWN, WING 2 SIMILAR



PLAN VIEW - WING 1

WING 1 SHOWN, WING 2 SIMILAR

LEGEND

◐ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

BILL OF BARS
SOUTH ABUTMENT

1,440 LB (COATED)
2,240 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	66	8-1	X			BODY - VERT. - F.F & B.F.
A502	33	6-7	X			BODY - VERT. - TOP
A403	24	2-8	X			TIE BARS
A504	9	33-4				BODY - HORIZ. - F.F.
A805	18	22-10	X			BODY - HORIZ. - B.F.
A506	28	2-0		X		BODY - VERT. - DOWELS
A407	44	10-8	X	X	✳	WINGS - VERT. - F.F. & B.F.
A408	18	8-10		X		WINGS - VERT.
A409	2	3-2		X		WINGS - VERT. - TOP
A510	18	11-9	X	X		WINGS - HORIZ. - F.F.
A811	18	13-4	X	X		WINGS - HORIZ. - B.F.
A412	4	8-10		X		WINGS - HORIZ. - F.F. & B.F. - TOP
A413	4	5-8		X		WINGS - HORIZ. - F.F. & B.F. - TOP
A414	4	9-0	X	X		WINGS - HORIZ. - F.F. & B.F. - TOP
A415	6	9-7	X	X		WINGS - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

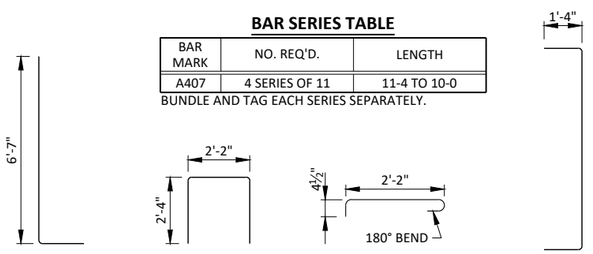
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

✳ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A407	4 SERIES OF 11	11-4 TO 10-0

BUNDLE AND TAG EACH SERIES SEPARATELY.

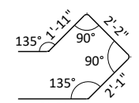




A805, A510, A811



A414



A415

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

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SOUTH ABUTMENT DETAILS

SHEET 5 OF 9

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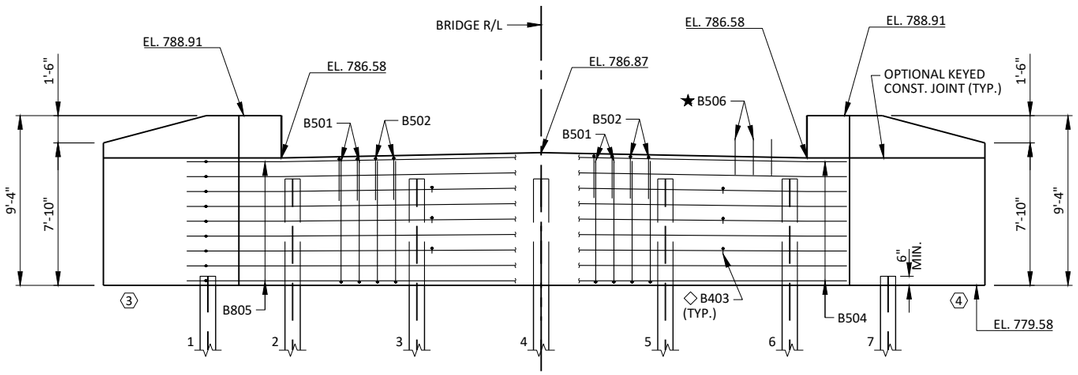
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8

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO - CTH H BRIDGE REPLACEMENT\STRUCTURE\CAD FILES\FINALS\04 ABUTMENTS.DWG PLOT DATE : 6/29/2020 3:16:38 PM PLOT BY : BOLAND, PATRICK PLOT SCALE : 1" = 1' LAYOUT : S. ABUT DETAIL

STATE PROJECT NUMBER

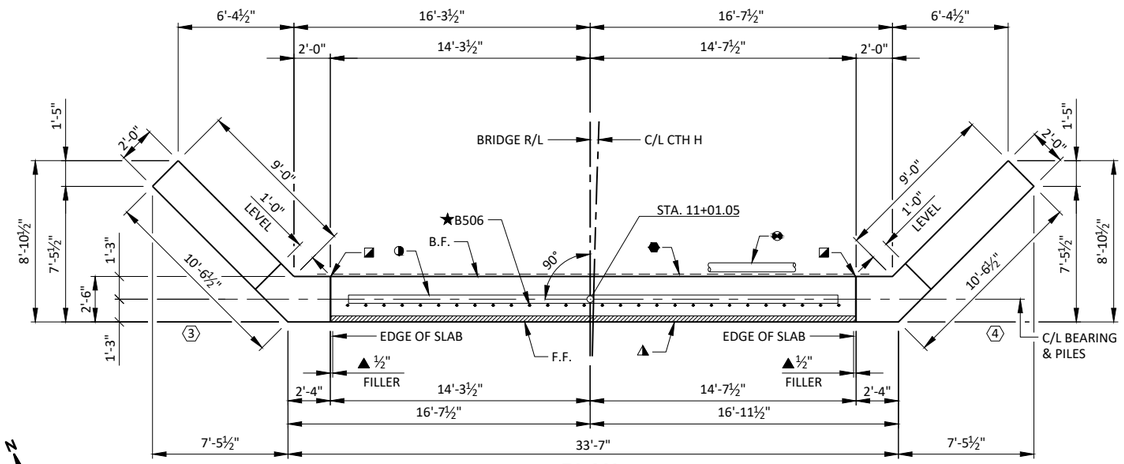
5415-00-71



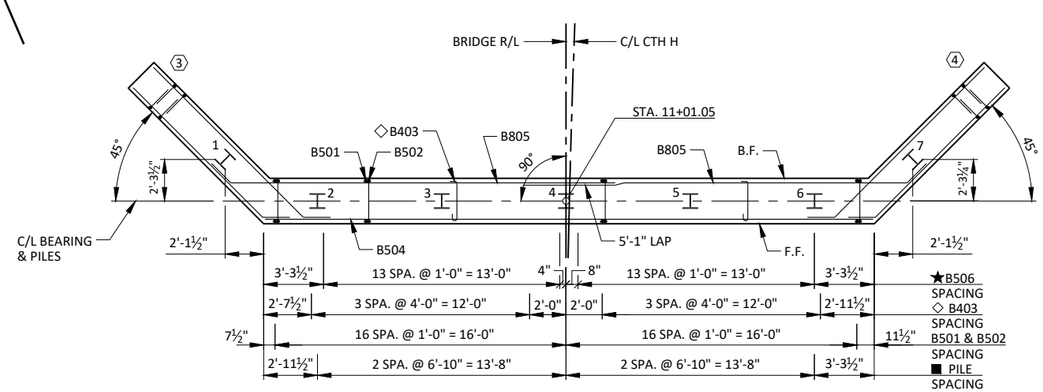
BACK FACE BAR STEEL REINF. **FRONT FACE BAR STEEL REINF.**

ELEVATION

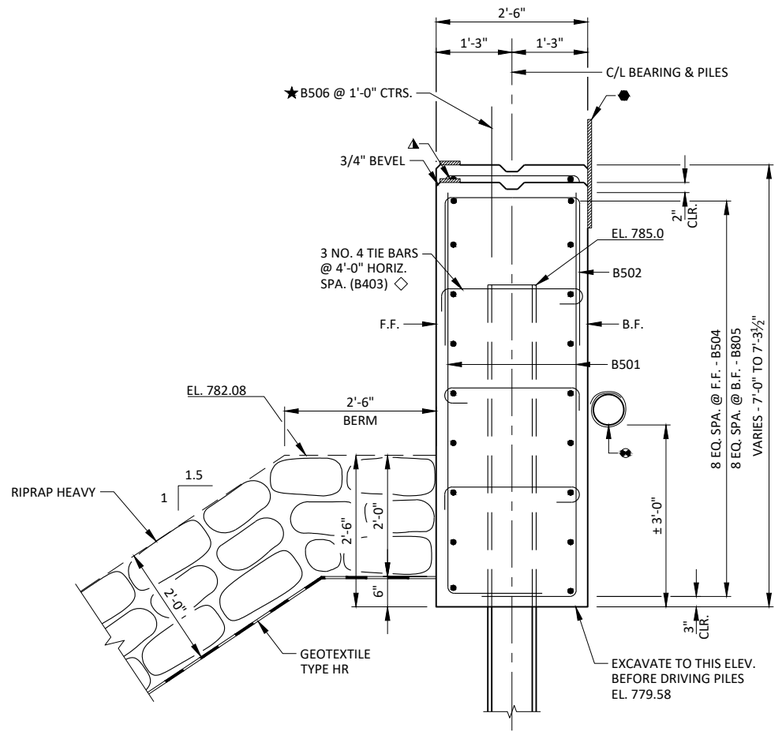
(NORTH ABUTMENT LOOKING NORTH)



PLAN



LAYOUT



ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 120 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 30 FT PILE LENGTHS AT ABUTMENT. PILE POINTS REQ'D. AT ALL LOCATIONS.

TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- ◪ VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE)
- ◮ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ★ B506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- ■ PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- ⬬ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGN. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."
- ◇ ALTERNATE THE POSITION OF THE 90° AND THE 180° BENDS AT EACH VERTICAL LAYER OF TIES.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 7 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

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NORTH ABUTMENT

SHEET 6 OF 9

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8

8

STATE PROJECT NUMBER

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BILL OF BARS
NORTH ABUTMENT

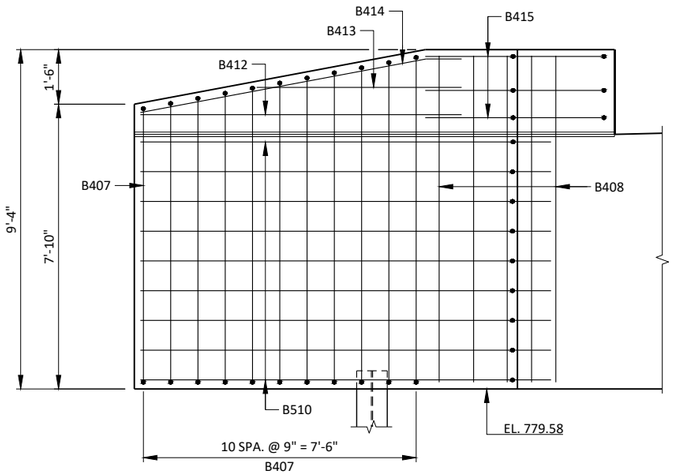
1,440 LB (COATED)
2,240 LB (UNCOATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
B501	66	8-1	X			BODY - VERT. - F.F & B.F.
B502	33	6-7	X			BODY - VERT. - TOP
B403	24	2-8	X			TIE BARS
B504	9	33-4				BODY - HORIZ. - F.F.
B805	18	22-10	X			BODY - HORIZ. - B.F.
B506	28	2-0		X		BODY - VERT. - DOWELS
B407	44	10-8	X	X	✳	WINGS - VERT. - F.F. & B.F.
B408	18	8-10		X		WINGS - VERT.
B409	2	3-2		X		WINGS - VERT. - TOP
B510	18	11-9	X	X		WINGS - HORIZ. - F.F.
B811	18	13-4	X	X		WINGS - HORIZ. - B.F.
B412	4	8-10		X		WINGS - HORIZ. - F.F. & B.F. - TOP
B413	4	5-8		X		WINGS - HORIZ. - F.F. & B.F. - TOP
B414	4	9-0	X	X		WINGS - HORIZ. - F.F. & B.F. - TOP
B415	6	9-7	X	X		WINGS - HORIZ. - TOP

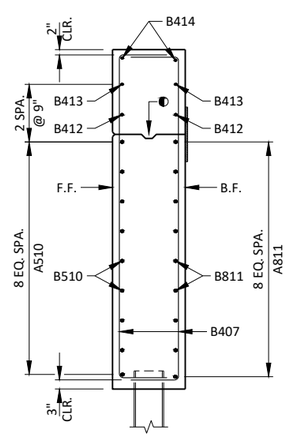
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

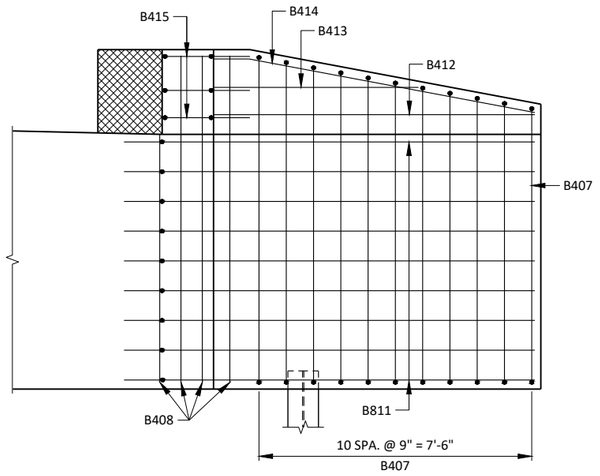
✳ LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



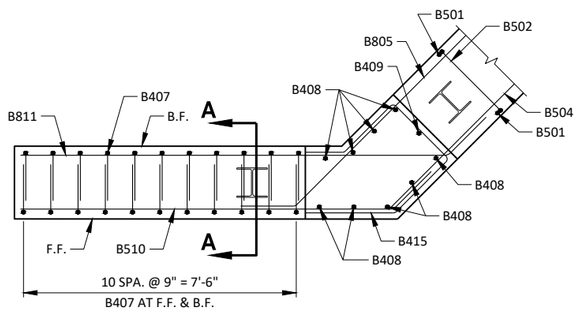
F.F. ELEVATION - WING 3
WING 3 SHOWN, WING 4 SIMILAR



SECTION A-A



B.F. ELEVATION - WING 3
WING 3 SHOWN, WING 4 SIMILAR



PLAN VIEW - WING 3
WING 3 SHOWN, WING 4 SIMILAR

LEGEND

◐ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6. ¾" "V" GROOVE AT FRONT FACE OF WING WALL AND HORIZONTAL 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE IF CONSTRUCTION JOINT IS USED. COST IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY BRIDGES".

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

SPACE REINFORCEMENT TO MISS PILING

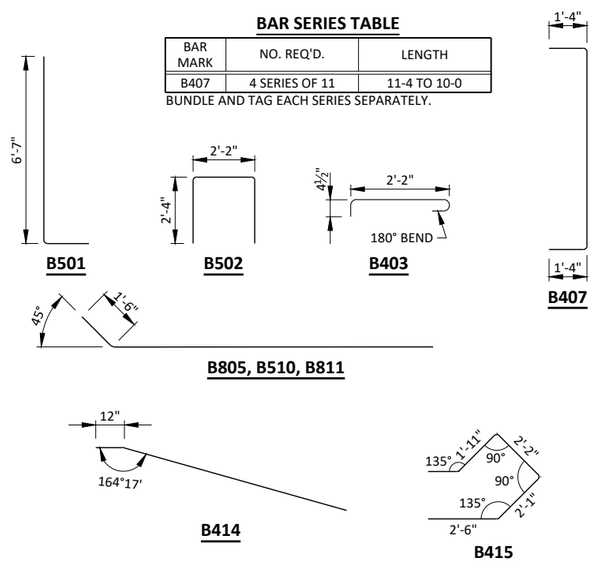
F.F. - FRONT FACE

B.F. - BACK FACE

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
B407	4 SERIES OF 11	11-4 TO 10-0

BUNDLE AND TAG EACH SERIES SEPARATELY.



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

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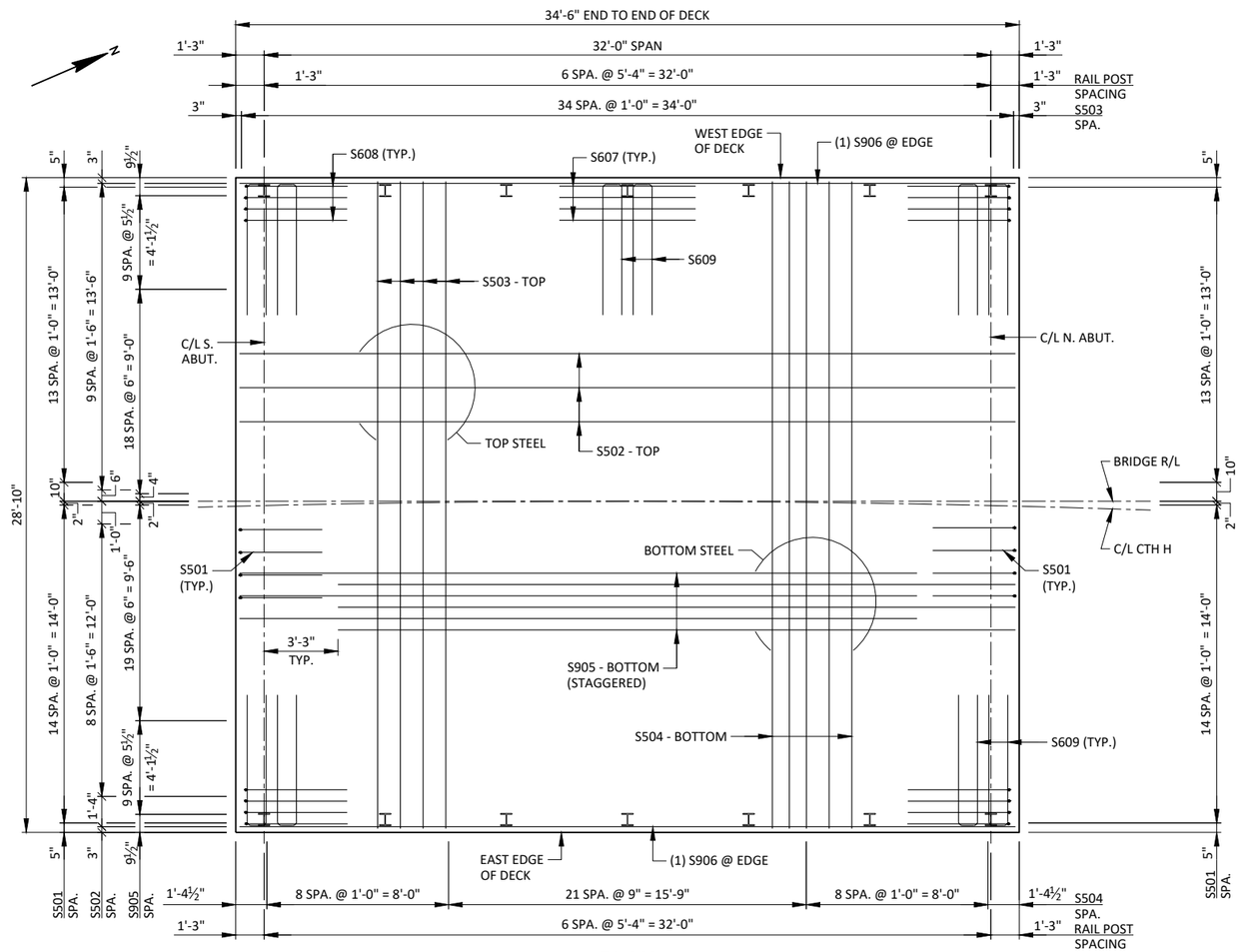
NORTH ABUTMENT DETAILS

SHEET 7 OF 9

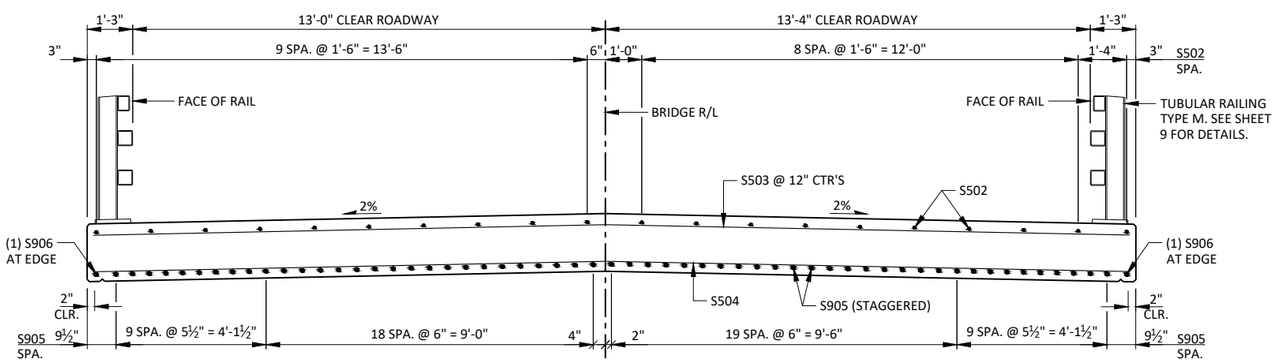
71

8

8



PLAN



CROSS SECTION THROUGH ROADWAY

NOTES

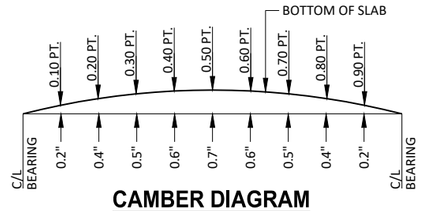
SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

LEGEND

- ⬣ 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ✕ DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ✕✕ SEE SHEETS 4 & 6 FOR PLACEMENT OF NO. 5 DOWEL BARS.



CAMBER DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB OR CENTER LINE FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE
-SLAB THICKNESS
+CAMBER
+FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)
=TOP OF SLAB FALSEWORK ELEVATION.

STATE PROJECT NUMBER

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BILL OF BARS SUPERSTRUCTURE

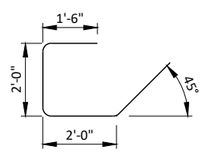
10,540 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	58	7-6	X	X	ENDS OF DECK
S502	20	34-2		X	SLAB - TOP - LONGIT.
S503	41	28-6		X	SLAB - TOP - TRANS.
S504	38	28-6		X	SLAB - BOTTOM - TRANS.
S905	57	29-10		X	SLAB - BOTTOM - LONGIT.
S906	2	34-2		X	SLAB - BOTTOM - LONGIT. - EDGES
S607	40	6-0		X	RAIL POSTS - INTERIOR
S608	16	6-0	X	X	RAIL POSTS - CORNERS
S609	28	12-0	X	X	RAIL POSTS

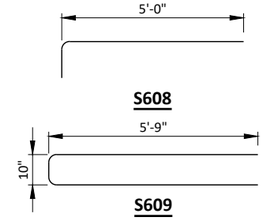
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY.



S501

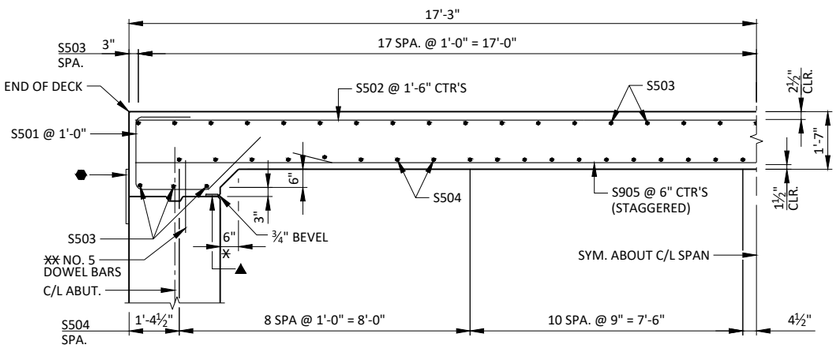


S609

SURVEY TOP OF DECK ELEVATIONS

	S. ABUT.	0.50 PT.	N. ABUT.
WEST EDGE OF DECK			
BRIDGE R/L			
EAST EDGE OF DECK			

PRIOR TO RELEASING SLAB FASLEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF THE ABUTMENTS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE EDGE OF DECK AND CENTER LINE. RECORD THE ELEVATIONS IN THE TABLE AT LEFT FOR THE "AS BUILT" PLANS.



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY

TOP OF DECK ELEVATIONS

	C/L S. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L N. ABUT.
W. EDGE	788.52	788.56	788.60	788.64	788.68	788.72	788.76	788.80	788.83	788.87	788.91
BRIDGE R/L	788.81	788.85	788.89	788.93	788.97	789.01	789.05	789.09	789.12	789.16	789.20
E. EDGE	788.52	788.56	788.60	788.64	788.68	788.72	788.76	788.80	788.83	788.87	788.91

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

DRAWN BY: PMF | PLANS CK'D.: PTB

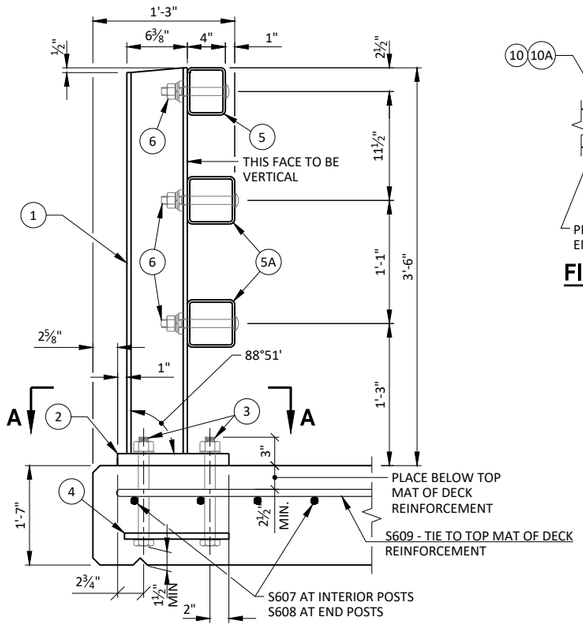
SUPERSTRUCTURE

SHEET 8 OF 9

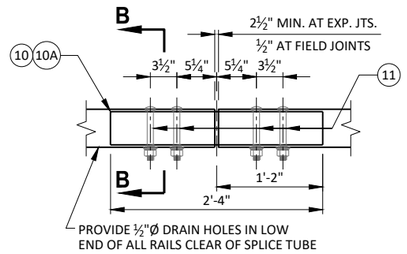
72

8

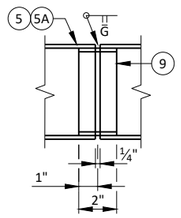
8



SECTION THROUGH RAILING ON DECK

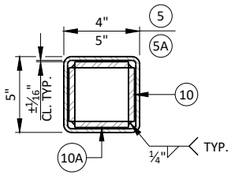


FIELD ERECTION JOINT DETAIL

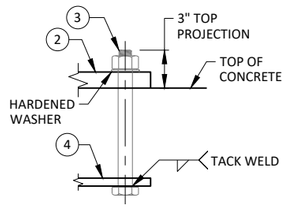


SHOP RAIL SPLICE DETAIL

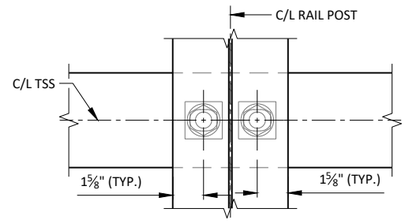
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)



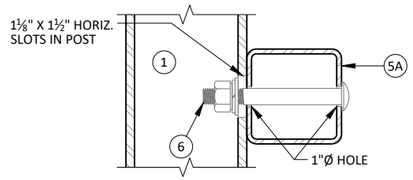
SECTION B-B



ANCHOR BOLTS



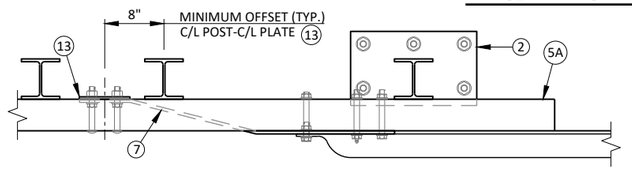
SECTION THROUGH POST WEB



SECTION THROUGH RAIL

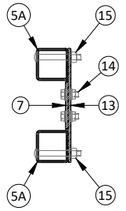
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

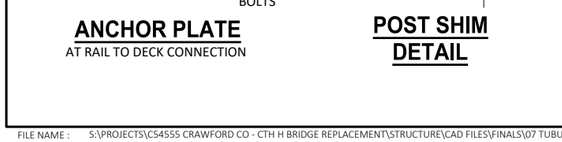


TOP VIEW AT END POST

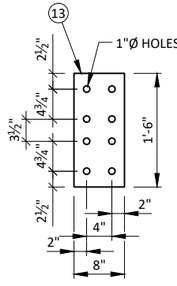
(THRIE BEAM RAIL ATTACHMENT)



SECTION C-C

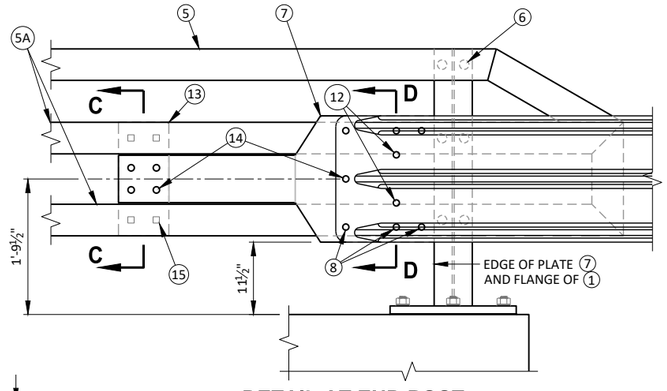


SECTION A-A



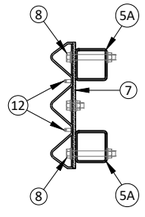
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

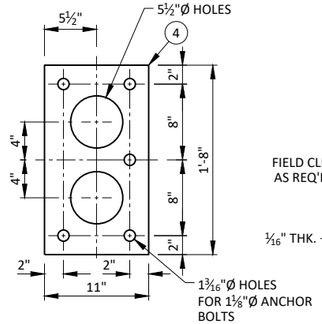


DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)

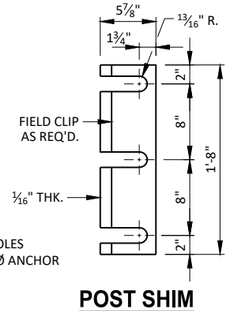


SECTION D-D

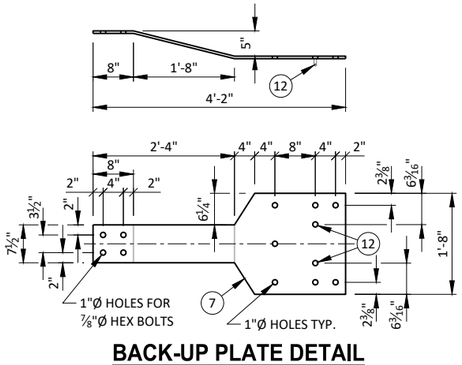


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

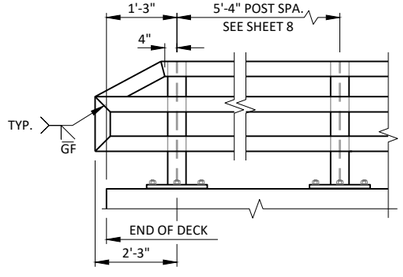


POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

STATE PROJECT NUMBER

5415-00-71

LEGEND

① W6x25 WITH 1⅛" x 1½" HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

② PLATE 1½"x11¾"x1'-8" WITH 1⁵⁄₁₆"x1⅝" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

③ ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS.

④ ⅝"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1³⁄₁₆" DIA. HOLES FOR ANCHOR BOLTS NO. 3.

⑤ TSS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑤A TSS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

⑥ ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, ³⁄₁₆"x1⅝"x1⅝" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).

⑦ ½" THK. BACK-UP PLATE WITH 2 - ⅞"x1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

⑨ SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

⑩ ⅜"x3⅜"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

⑩A ⅜"x2⅜"x2'-4" PLATE USED IN NO. 5, ⅜"x3⅜"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

⑪ ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE ¹⁵⁄₁₆"x1¼" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND ¹⁵⁄₁₆"x2½" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

⑫ ⅞" DIA. BY 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

⑬ ⅜"x8"x1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

⑭ ⅞" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-12-191

DRAWN BY: PMF | PLANS CK'D.: PTB

TUBULAR RAILING TYPE M

SHEET 9 OF 9

73

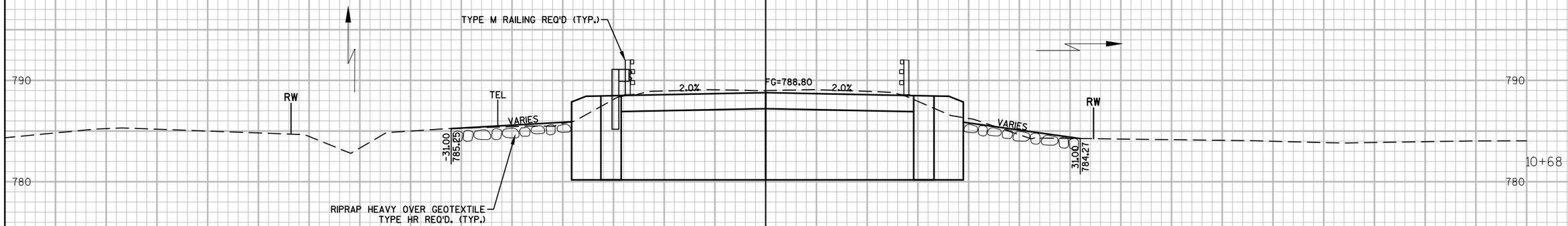
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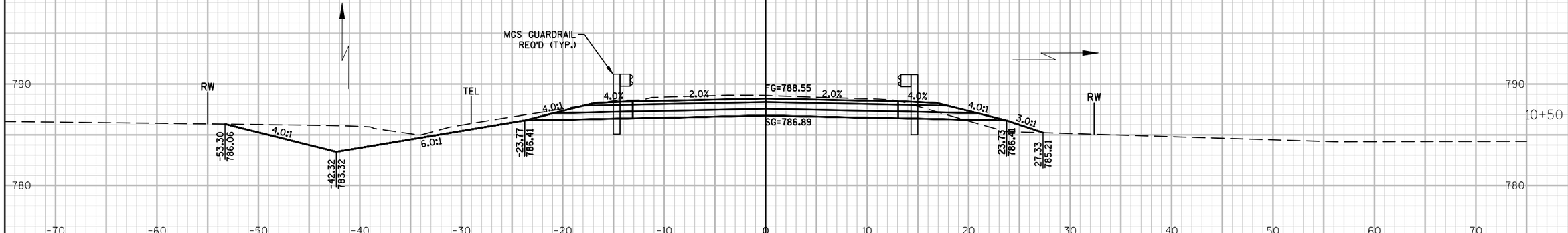
EARTHWORK - CTH H, MAINLINE

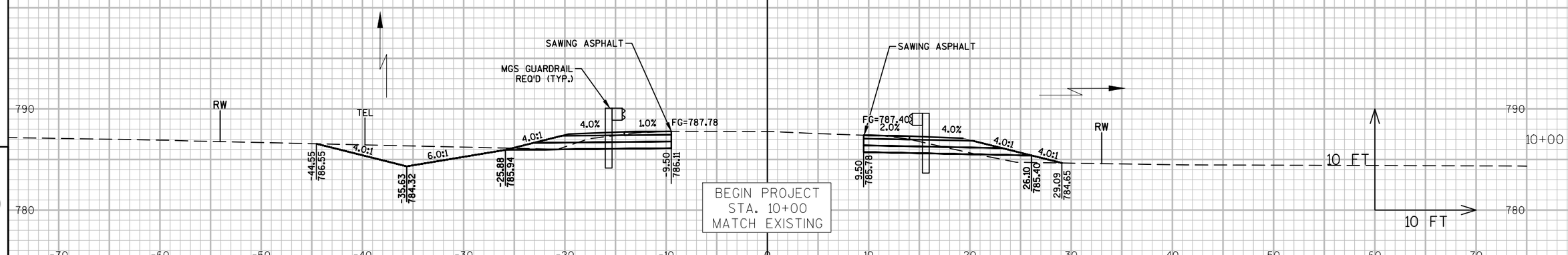
	AREA (SF)		INCREMENTAL VOLUME (CY)			CUMULATIVE VOLUME (CY)			
STATION	CUT	FILL	CUT NOTE 1	FILL NOTE 2	FILL (25%) NOTE 3	CUT 1.00 NOTE 1	FILL NOTE 2	FILL (25%) NOTE 3	MASS ORDINATE NOTE 4
09+34	0	0	0	0	0	0	0	0	0
09+77	35	4	28	3	4	28	3	4	24
10+00	46	4	35	3	4	63	6	8	55
10+00	77	4	0	0	0	63	6	8	55
10+50	103	4	167	8	10	230	14	18	212
10+68	103	4	69	3	4	299	17	22	277
10+68	0	0	0	0	0	299	17	22	277
11+02	0	0	0	0	0	299	17	22	277
11+02	61	5	0	0	0	299	17	22	277
11+50	61	5	108	9	11	407	26	33	374
11+50	28	5	0	0	0	407	26	33	374
11+70	22	30	19	13	16	426	39	49	377
12+28	0	0	24	33	41	450	72	90	360
MAINLINE COLUMN SUBTOTALS =			450	72	90				

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - FILL (25%)	FILL 25%: (UNEXPANDED FILL)*1.25
4 - MASS ORDINATE	(CUT - FILL (25%))

STRUCTURE
B-12-191 REQ'D







BEGIN PROJECT
STA. 10+00
MATCH EXISTING

9

9

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CROSS SECTIONS: MAINLINE	SHEET 75

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO – CTH H BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54555_CORRIDOR.DWG
LAYOUT : MAINLINE – (1)

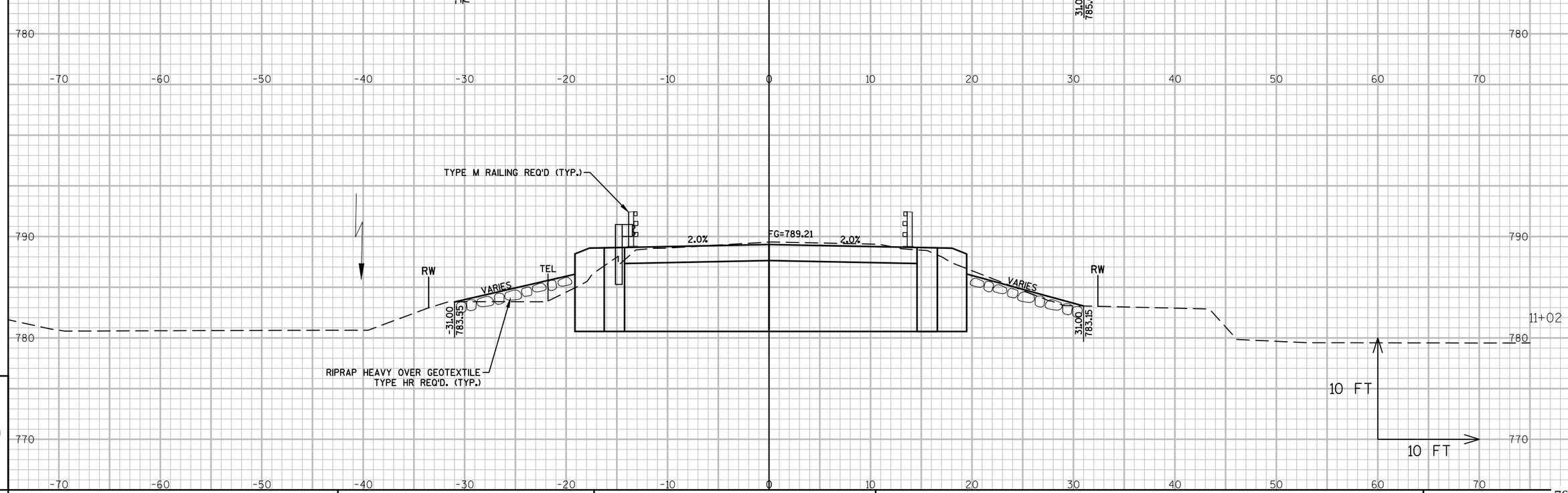
PLOT DATE : 5/26/2020
PLOT TIME : 3:25:29 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'

END PROJECT
STA. 11+50
MATCH EXISTING





9

9

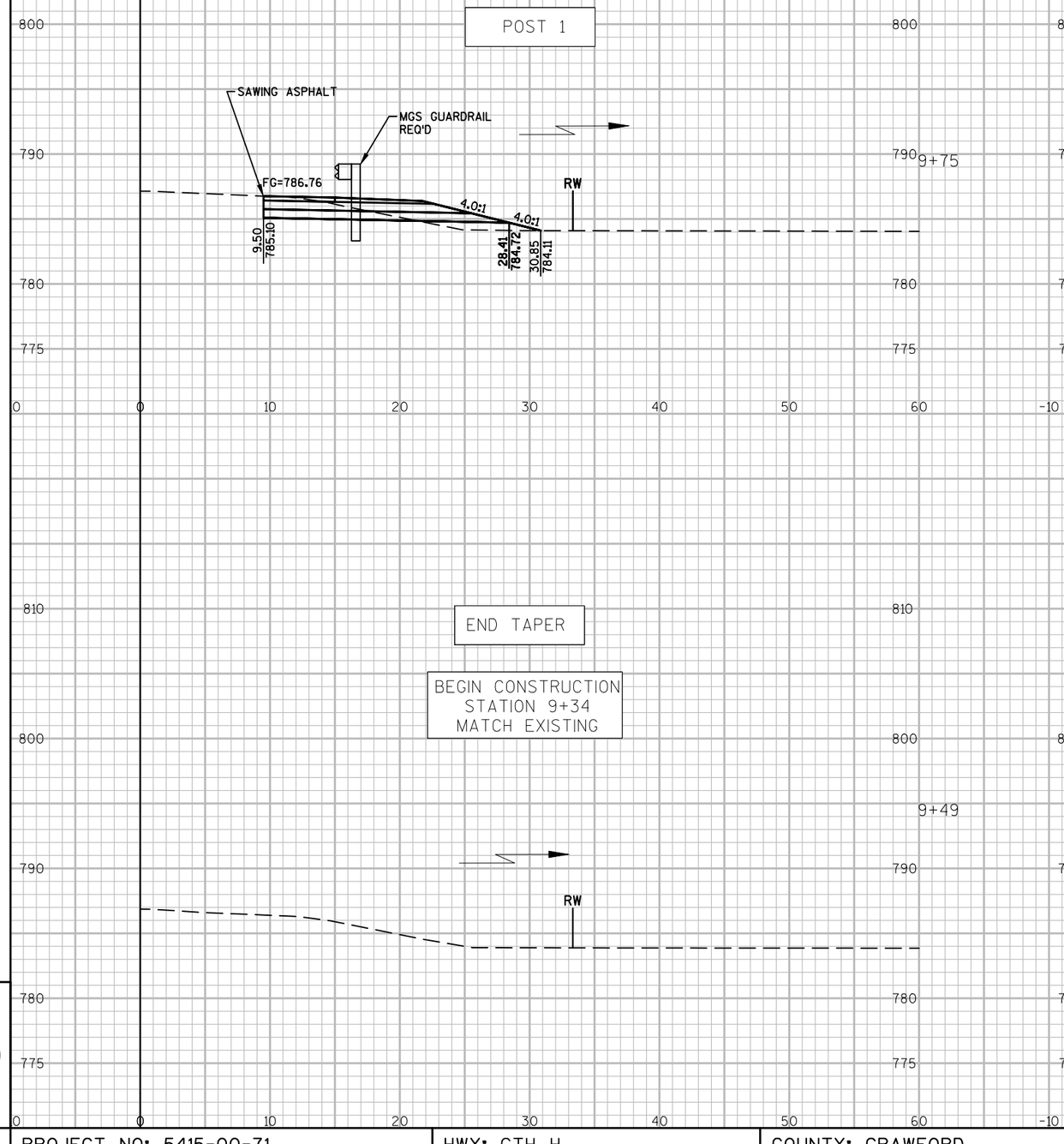
PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CROSS SECTIONS: MAINLINE	SHEET 76

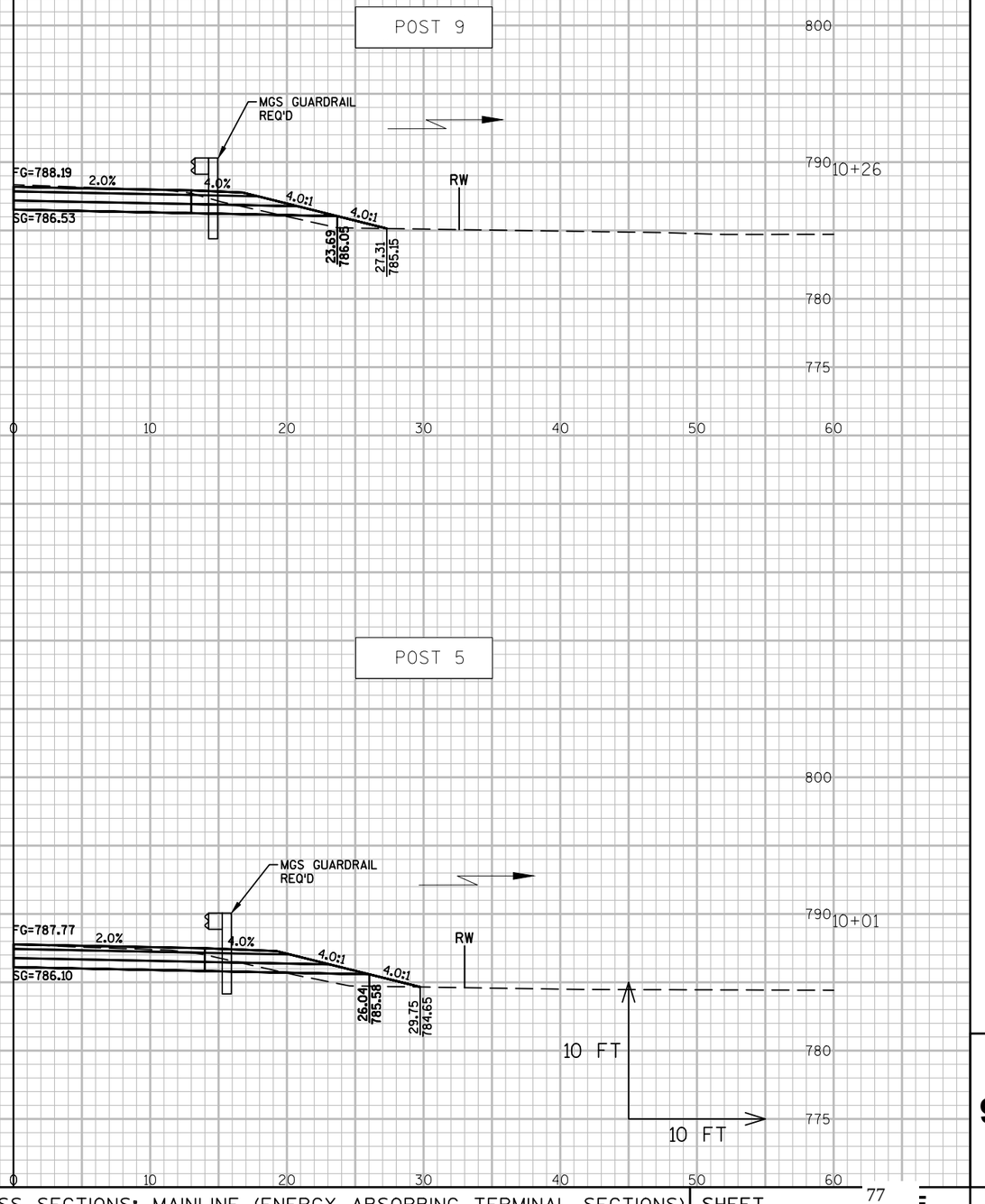
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LAYOUT : MAINLINE – (2)

PLOT DATE : 5/26/2020
PLOT TIME : 3:25:30 PM

PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'





9

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PROJECT NO: 5415-00-71 | HWY: CTH H | COUNTY: CRAWFORD | CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS) | SHEET 77

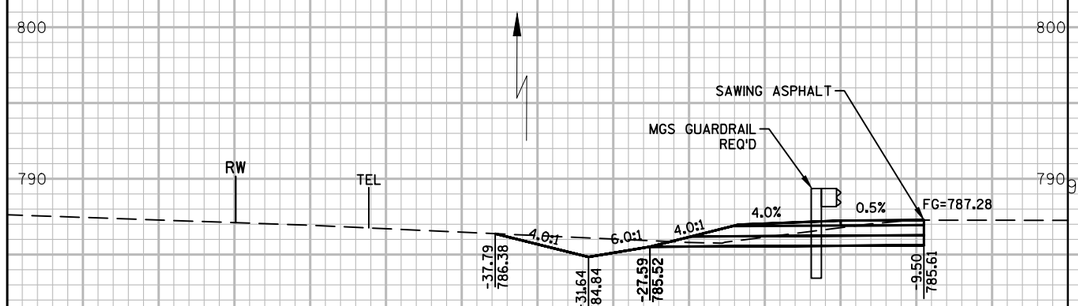
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LAYOUT : SE BEAMGUARD

PLOT DATE : 5/26/2020
PLOT TIME : 3:25:31 PM

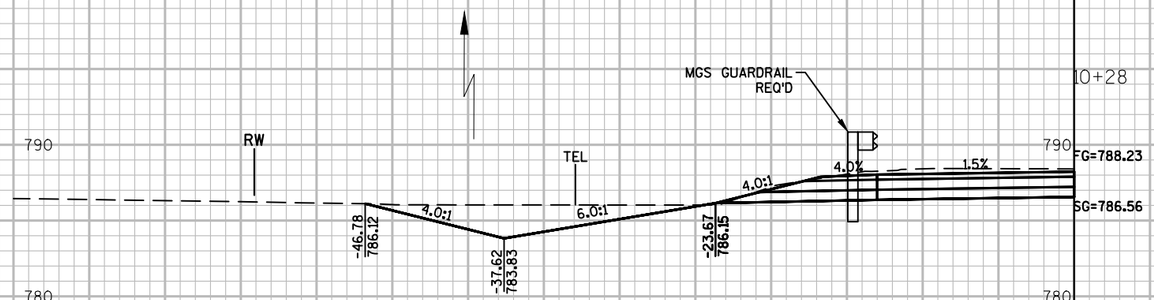
PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'

POST 1

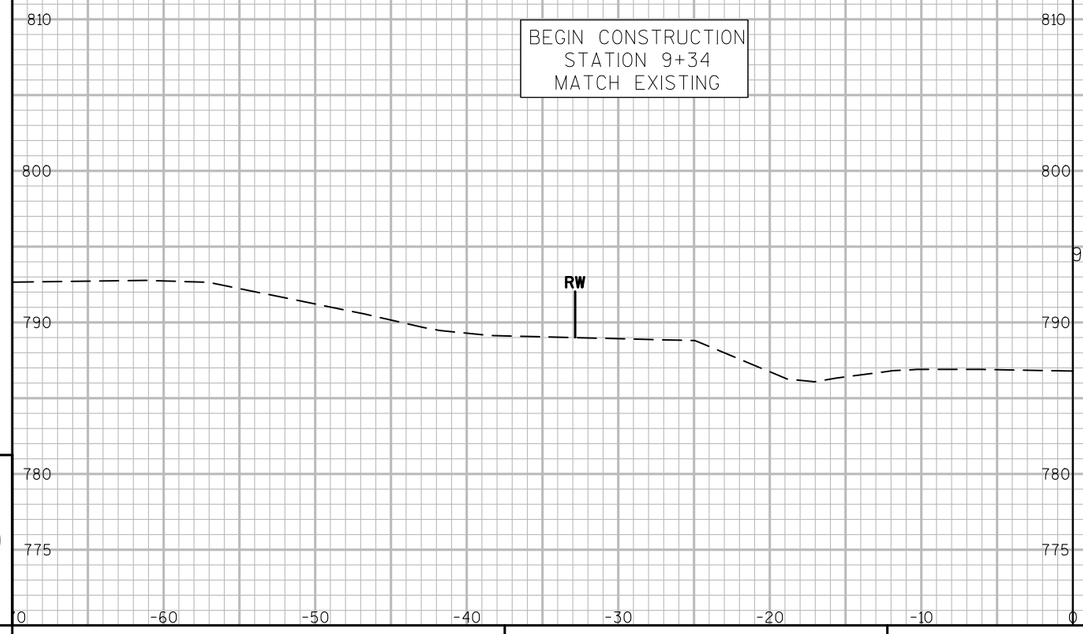


POST 9

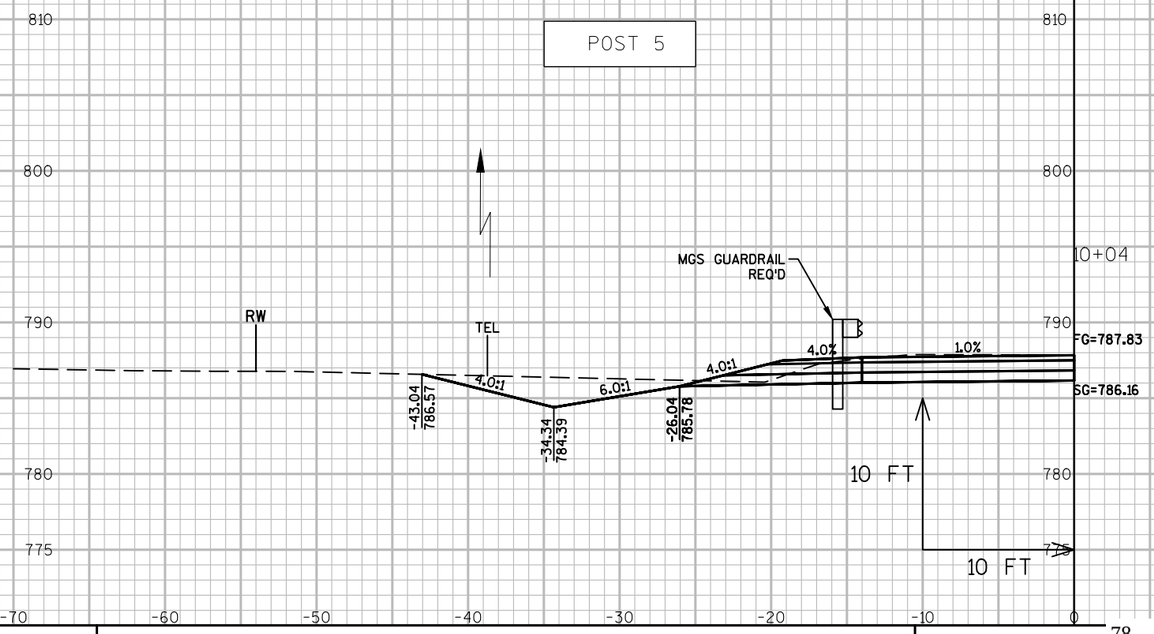


END TAPER

BEGIN CONSTRUCTION
STATION 9+34
MATCH EXISTING



POST 5



9

9

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET 78

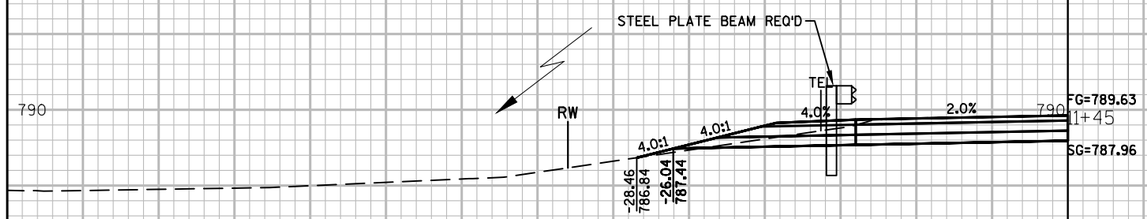
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LAYOUT : SW BEAMGUARD

PLOT DATE : 5/26/2020
PLOT TIME : 3:25:32 PM

PLOT BY : JONAH DRAKE

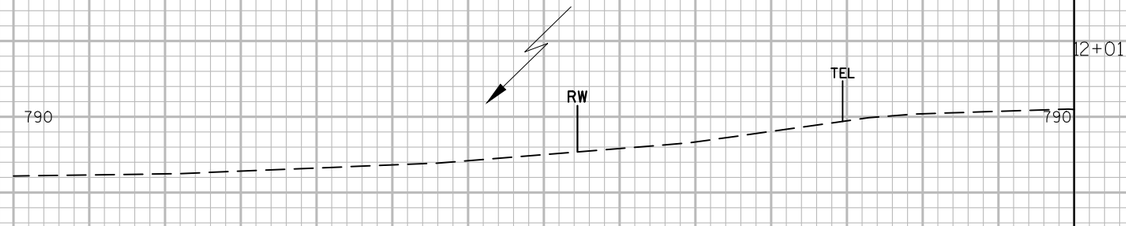
PLOT SCALE : 1" = 1'

POST 5



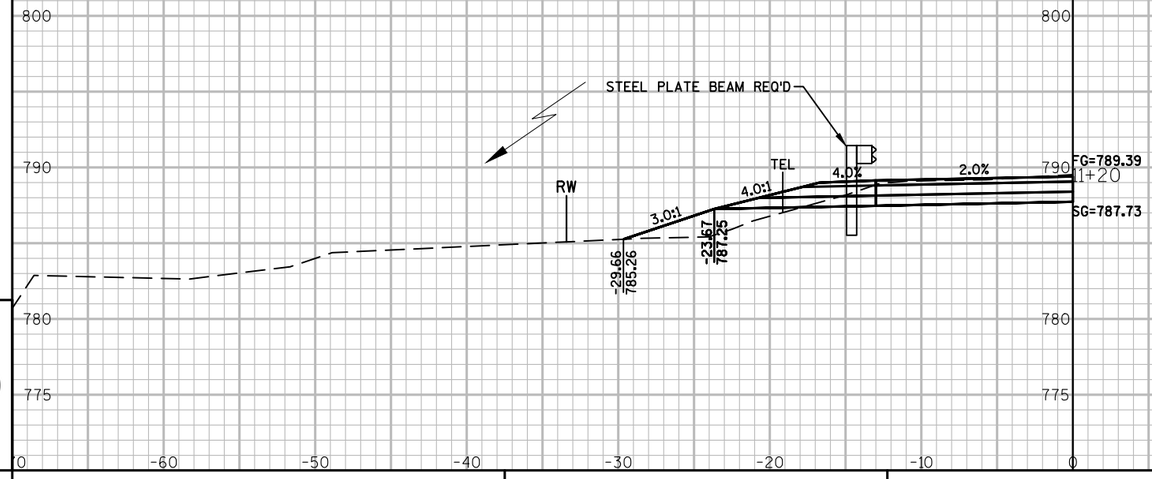
11+45

END TAPER



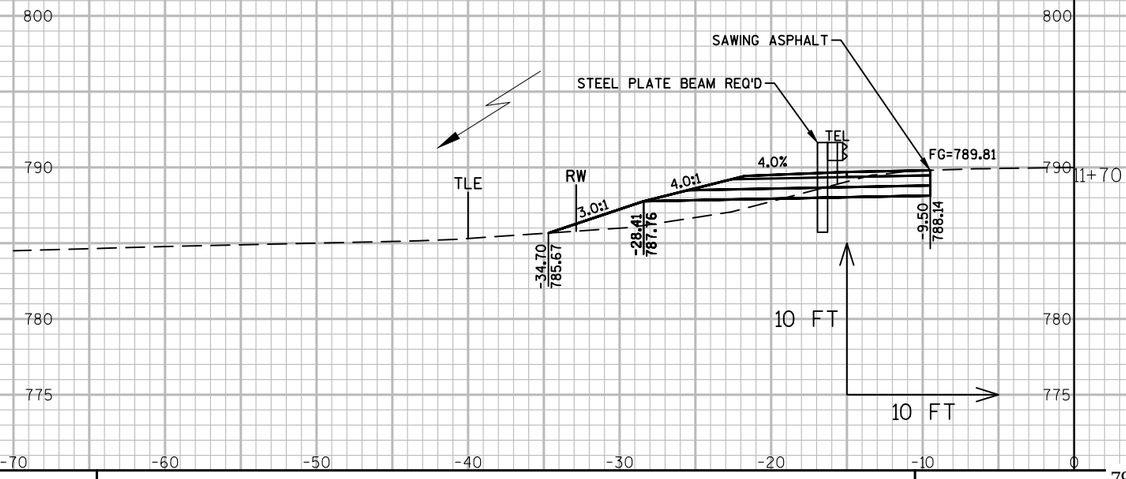
12+01

POST 9



11+20

POST 1



11+70

9

9

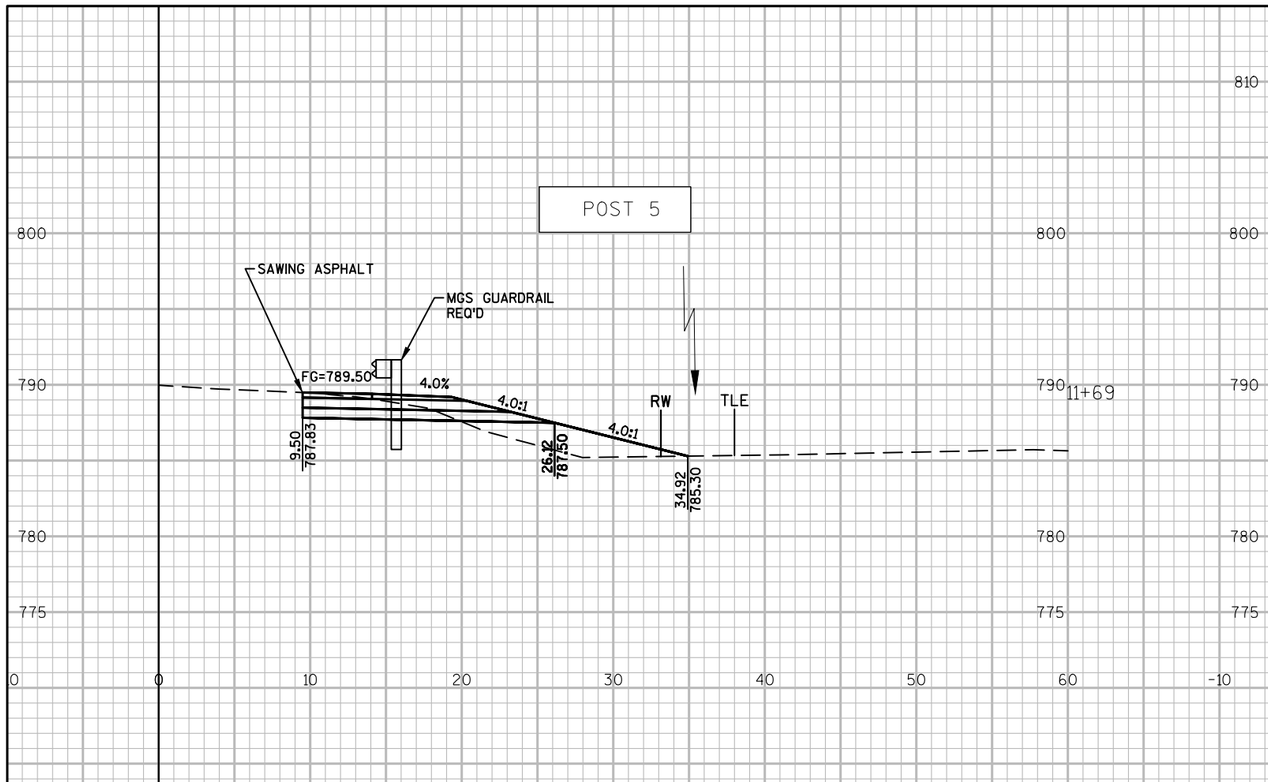
PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET

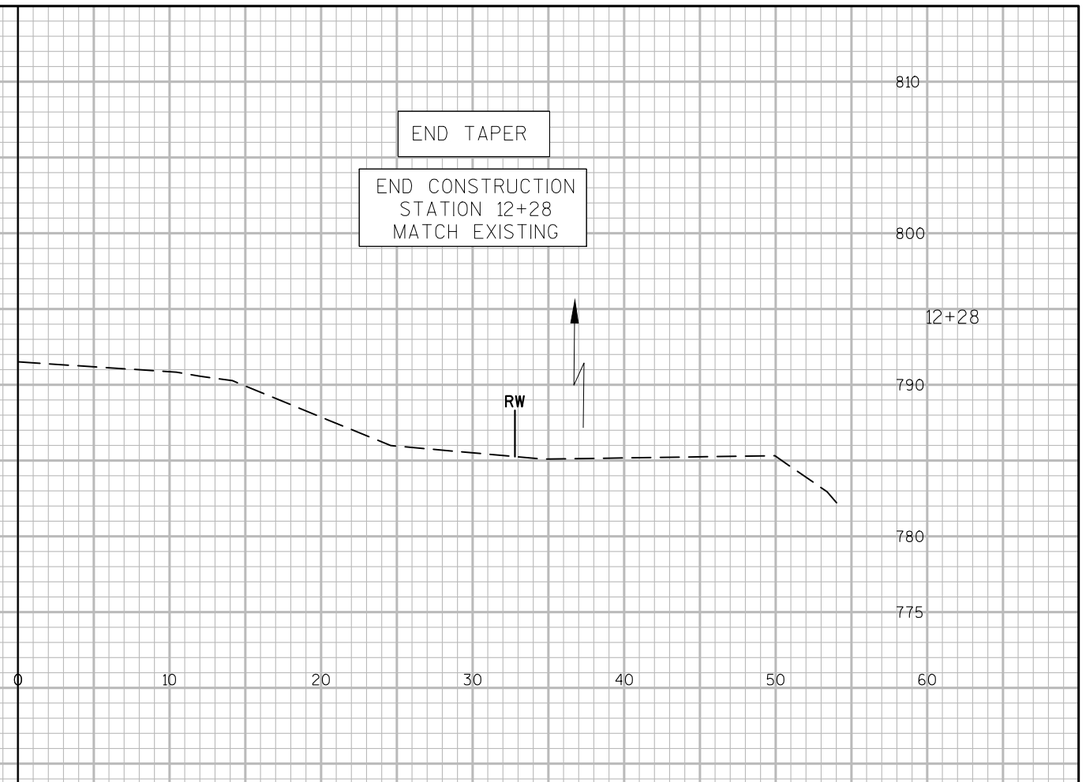
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LAYOUT : NW BEAMGUARD

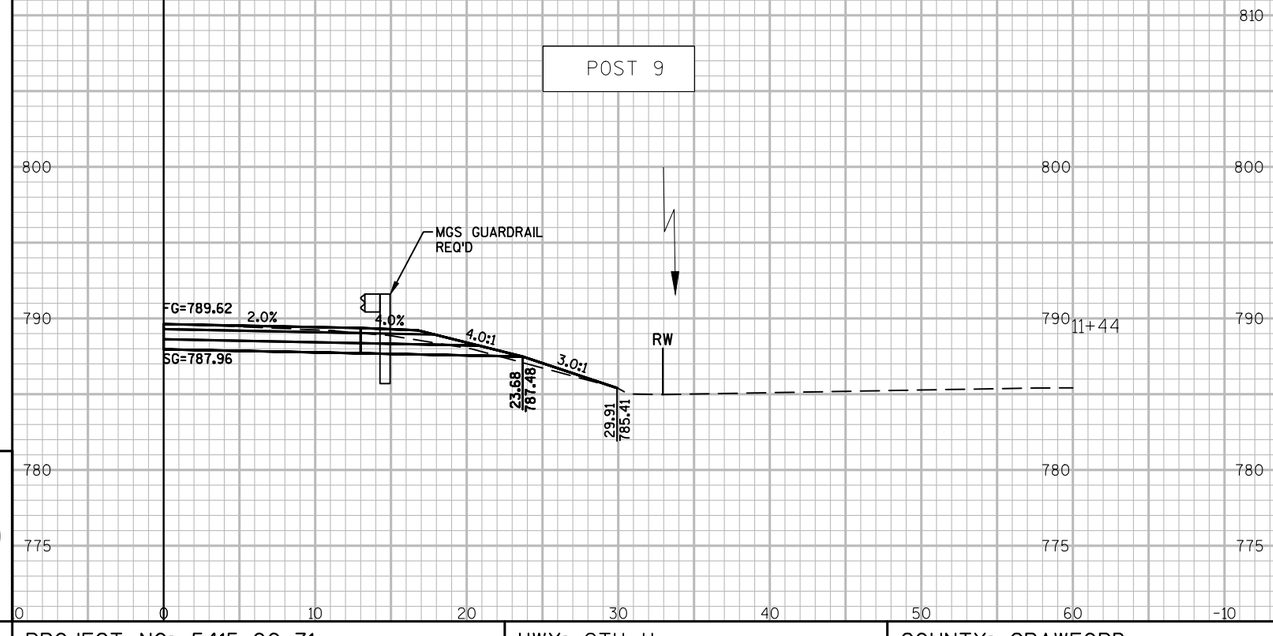
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PLOT TIME : 3:25:32 PM

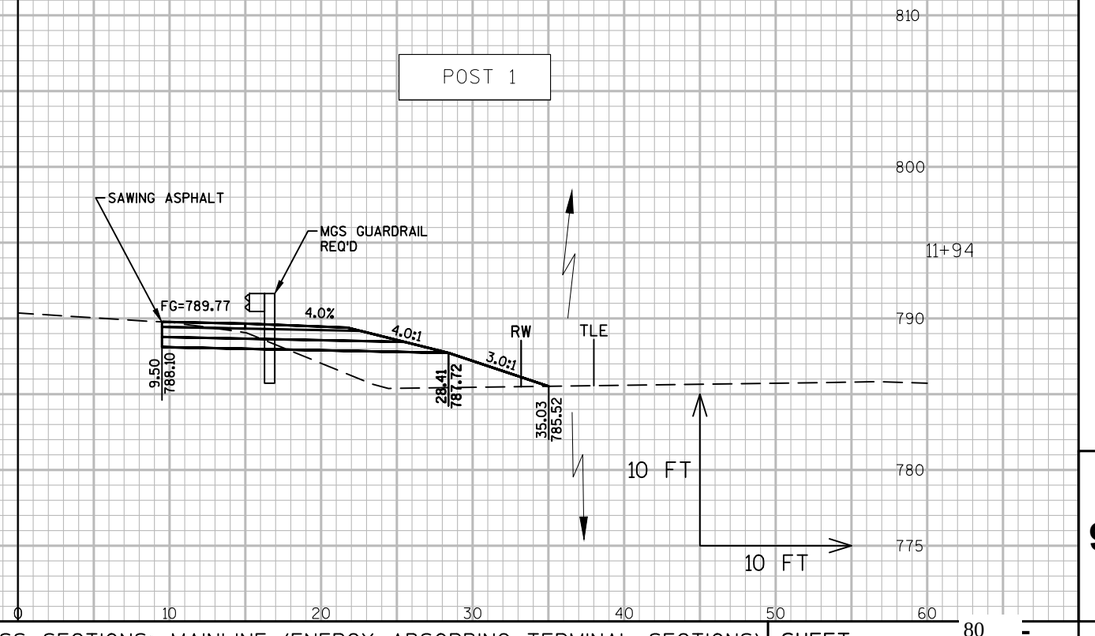
PLOT BY : JONAH DRAKE

PLOT SCALE : 1" = 1'









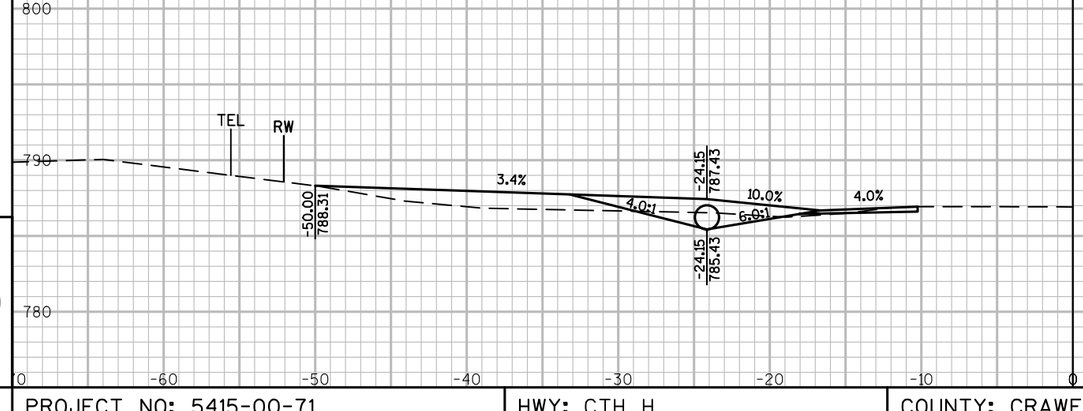
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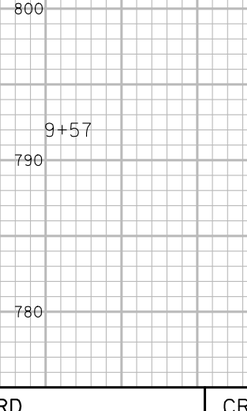
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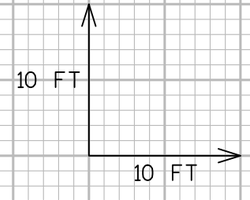
PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL SECTIONS)	SHEET

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO – CTH H BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54555_CORRIDOR.DWG
LAYOUT : NE BEAMGUARD
PLOT DATE : 5/26/2020
PLOT TIME : 3:25:33 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

STA. 9+57, LT.
CONSTRUCT F.E. (B.A.D.)
(1) CULVERT PIPE CLASS IV 18-INCH
(2) APRON ENDWALLS REQ'D







9

9

PROJECT NO: 5415-00-71	HWY: CTH H	COUNTY: CRAWFORD	CROSS SECTIONS: MAINLINE (FIELD ENTRANCE)	SHEET

FILE NAME : S:\PROJECTS\C54555 CRAWFORD CO – CTH H BRIDGE REPLACEMENT\DESIGN\CORRIDORS\C54555_CORRIDOR.DWG
LAYOUT : FE
PLOT DATE : 5/26/2020
PLOT TIME : 3:25:34 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'

Wisconsin Department of Transportation

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through innovation and exceptional service.

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