

MAD

PROJECT ID:

5693-00-72

COUNTY:

GRANT

MARCH 2018

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 (Includes Erosion Control Plan)
- 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 = 64

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH K - USH 61

(BIG GREEN RIVER BRIDGE B-22-0114)

CTH T

GRANT COUNTY

STATE PROJECT NUMBER
5693-00-72

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5693-00-72		



DESIGN DESIGNATION

A.A.D.T.	2018	=	240
A.A.D.T.	2038	=	270
D.H.V.		=	N/A
D.D.		=	60/40
T.		=	4.9%
DESIGN SPEED		=	40 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE

SLOPE INTERCEPT

REFERENCE LINE

- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)

COMBUSTIBLE FLUIDS

MARSH AREA

WOODED OR SHRUB AREA

PROFILE

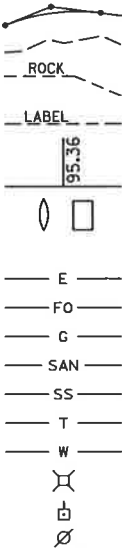
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such)
- SPECIAL DITCH

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

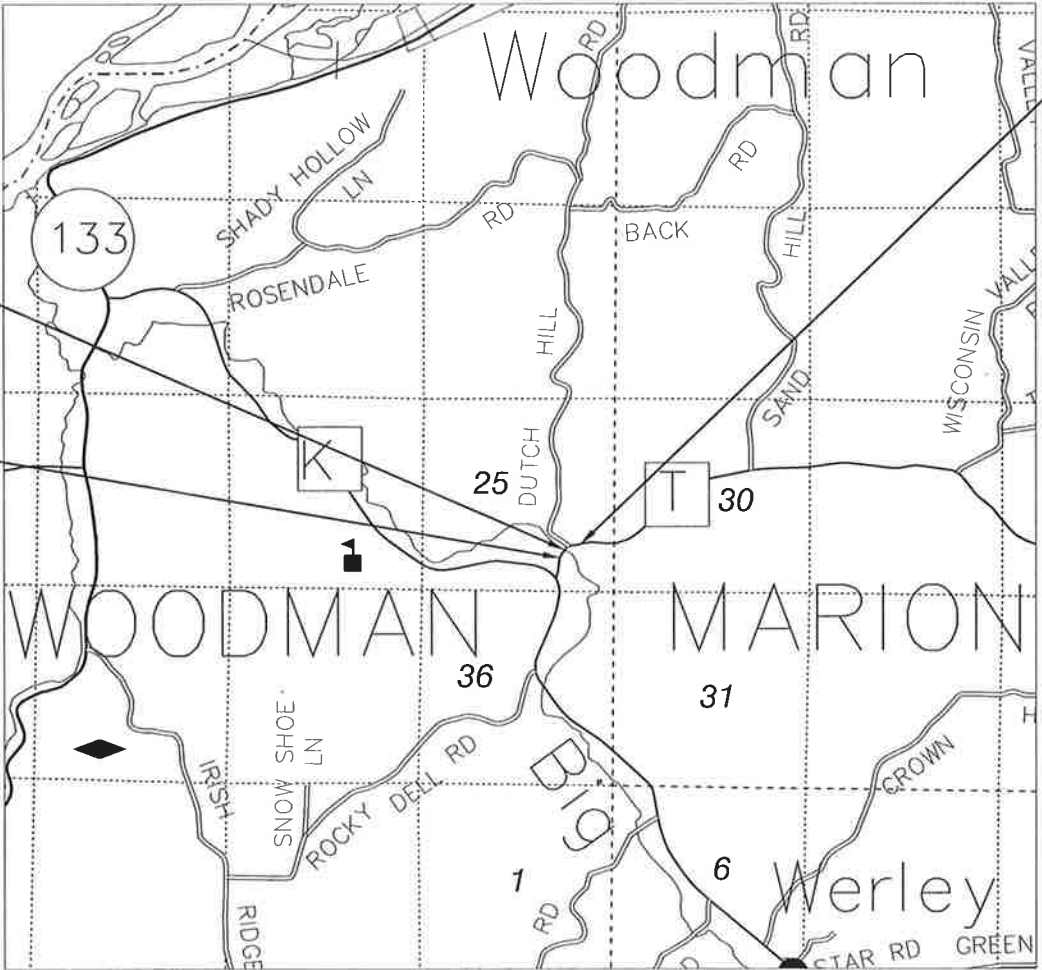
- ELECTRIC
- FIBER OPTIC
- GAS
- SANITARY SEWER
- STORM SEWER
- TELEPHONE
- WATER
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE



STRUCTURE B-22-0114

BEGIN PROJECT
STA. 8+00
Y = 597,100.11
X = 797,662.97

END PROJECT
STA. 13+50



LAYOUT
SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.104 MI

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

ACCEPTED FOR
COUNTY of GRANT

9/14/17
(Date)

David J. Fanta
(HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY

WISCONSIN
DANIEL H. WAGNER
E-19220
BARABOO, WI
PROFESSIONAL ENGINEER

9-13-2017
(Date)

Daniel H. Wagner
(Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor MSA PROFESSIONAL SERVICES, INC.

Designer MSA PROFESSIONAL SERVICES, INC.

Management Consultant KL ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT

DATE: 10/27/17

Signature

E

STANDARD ABBREVIATIONS

AC	ACRE	F/L	FLOW LINE	SALV	SALVAGED
AGG	AGGREGATE	FT	FOOT	SAN	SANITARY SEWER
<	ANGLE	GN	GRID NORTH	SECT	SECTION
ASPH	ASPHALTIC	HR	HANDICAP RAMP	SHLDR	SHOULDER
AC	ASPHALT CEMENT	HT	HEIGHT	SW	SIDEWALK
ADT	AVERAGE DAILY TRAFFIC	CWT	HUNDREDWEIGHT	S	SOUTH
B & B	BALLED AND BURLAPPED	HYD	HYDRANT	SB	SOUTHBOUND
BM	BENCH MARK	IN DIA	INCH DIAMETER	SPECS	SPECIFICATIONS
CB	CATCH BASIN	INL	INLET	SQ	SQUARE
℄ OR C/L	CENTER LINE	ID	INSIDE DIAMETER	SF OR SQ FT	SQUARE FEET
C-C	CENTER TO CENTER	I	INTERSECTION ANGLE	SY	SQUARE YARD
CONC	CONCRETE	IE	INVERT ELEVATION	SSPRC	STORM SEWER
CO	COUNTY	IP	IRON PIPE OR PIN		PIPE REINFORCED CONCRETE
CTH	COUNTY TRUNK HIGHWAY	JCT	JUNCTION	STD	STANDARD
CY	CUBIC YARD	L	LENGTH OF CURVE	SDD	STANDARD DETAIL DRAWINGS
CULV	CULVERT	LF	LINEAR FOOT	STH	STATE TRUNK HIGHWAYS
CP	CULVERT PIPE	LC	LONG CHORD OF CURVE	STA	STATION
CPRC	CULVERT PIPE	LCB	LONG CHORD BEARING	SS	STORM SEWER
	REINFORCED CONCRETE	LS	LUMP SUM	T	TANGENT
C & G	CURB AND GUTTER	MH	MANHOLE	TEL	TELEPHONE
D	DEGREE OF CURVE	N	NORTH	TEMP	TEMPORARY
DHV	DESIGN HOUR VOLUME	Y	NORTH GRID COORDINATE	TLE	TEMPORARY LIMITED EASEMENT
DIA OR ϕ	DIAMETER	OE	OUTLET ELEVATION	T	TON
DIST	DISTRICT	OL	OUT LOT	TC	TOP OF CURB
DWY	DRIVEWAY	OD	OUTSIDE DIAMETER	TN	TOWN
E	EAST	OH	OVERHEAD LINES	TRANS	TRANSITION
X	EAST GRID COORDINATE	PAVT	PAVEMENT	T	TRUCKS (percent of)
EB	EASTBOUND	PLE	PERMANENT LIMITED EASEMENT	TYP	TYPICAL
ELEC	ELECTRIC	PC	POINT OF CURVATURE	UNCL	UNCLASSIFIED
EL OR ELEV	ELEVATION	PI	POINT OF INTERSECTION	USH	UNITED STATES HIGHWAY
EMB	EMBANKMENT	PT	POINT OF TANGENCY	VAR	VARIABLE
EW	ENDWALL	PCC	PORTLAND CEMENT CONCRETE	VERT	VERTICAL
ESALS	EQUIVALENT SINGLE	LB	POUND	VC	VERTICAL CURVE
	AXLE LOADS	PE	PRIVATE ENTRANCE	VOL	VOLUME
EXC	EXCAVATION	R OR RAD	RADIUS	WM	WATER MAIN
EBS	EXCAVATION BELOW	RR	RAILROAD	WV	WATER VALVE
	SUBGRADE	R	RANGE	W	WEST
EXIST	EXISTING	℄ OR R/L	REFERENCE LINE	WB	WESTBOUND
EXP	EXPANSION	REQD	REQUIRED	YD	YARD
F-F	FACE TO FACE	RT	RIGHT		
FERT	FERTILIZER	R/W	RIGHT-OF-WAY		
FE	FIELD ENTRANCE	RD	ROAD		

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.69 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 1.20 ACRES

DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: DANIEL WAGNER, PE
1230 SOUTH BOULEVARD
BARABOO, WI 53913
608-355-8952
DWAGNER@MSA-PS.COM

COUNTY CONTACT

GRANT COUNTY
ATTN: DAVID LAMBERT, COMMISSIONER
1011 NORTH ADAMS STREET
LANCASTER, WI 53813
608-723-2595
DLAMBERT@CO.GRANT.WI.US

DNR LIAISON

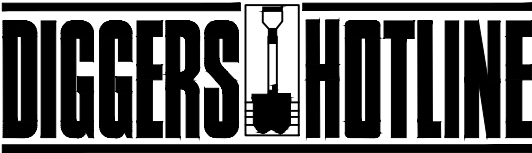
WISCONSIN DEPARTMENT OF
NATURAL RESOURCES
ATTN: ANDREW BARTA
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
608-275-3308
ANDREW.BARTA@WISCONSIN.GOV

UTILITIES

COMMUNICATION:
TDS TELECOM
ATTN: JERRY MYERS
525 JUNCTION ROAD
MADISON, WI 53717
608-664-4404
JERRY.MYERS@TDSTELECOM.COM

ELECTRIC:
SCENIC RIVERS ENERGY COOPERATIVE
ATTN: CHAD OLMSTEAD
231 N. SHERIDAN
LANCASTER, WI 53813
608-723-5561
COLMSTEAD@SREC.NET

* NOT A MEMBER OF
DIGGERS HOTLINE



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

GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER. OVERSOW PERMANENT SEEDING AREAS WITH TEMPORARY SEED AT 3 LBS. PER 1000 SQUARE FEET.

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

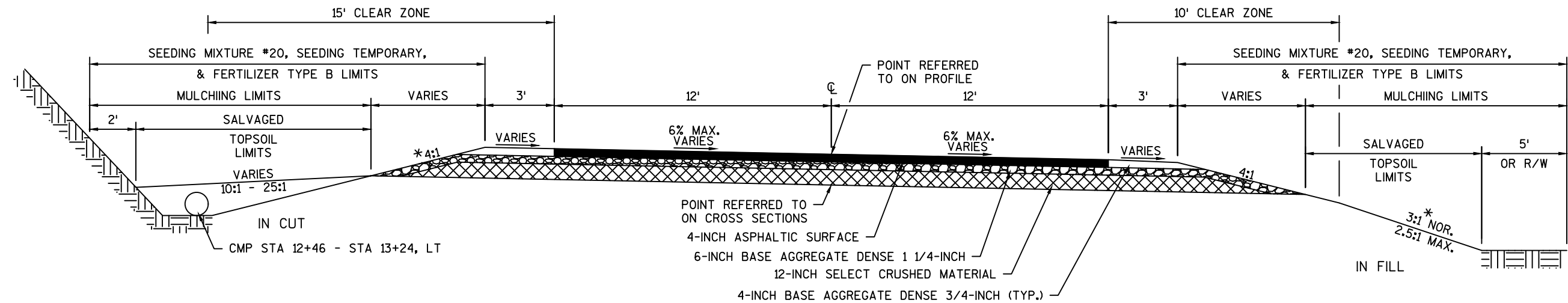
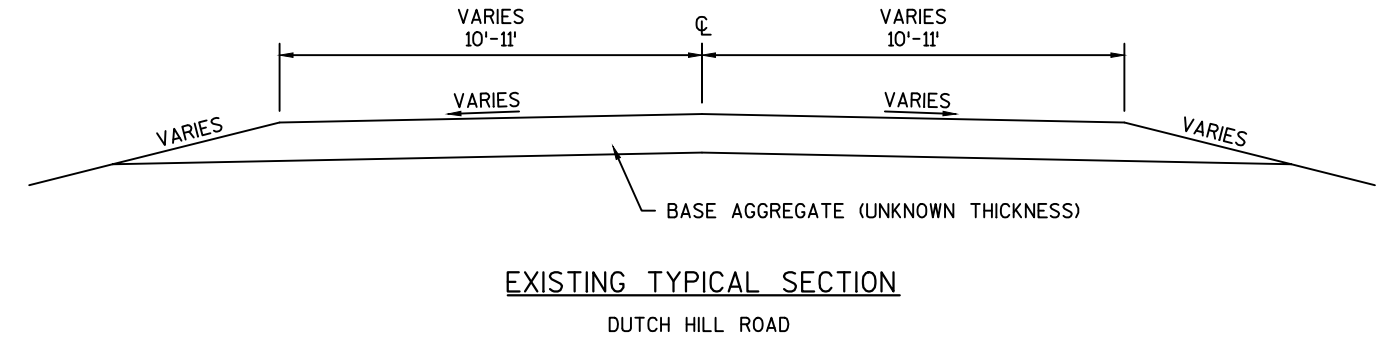
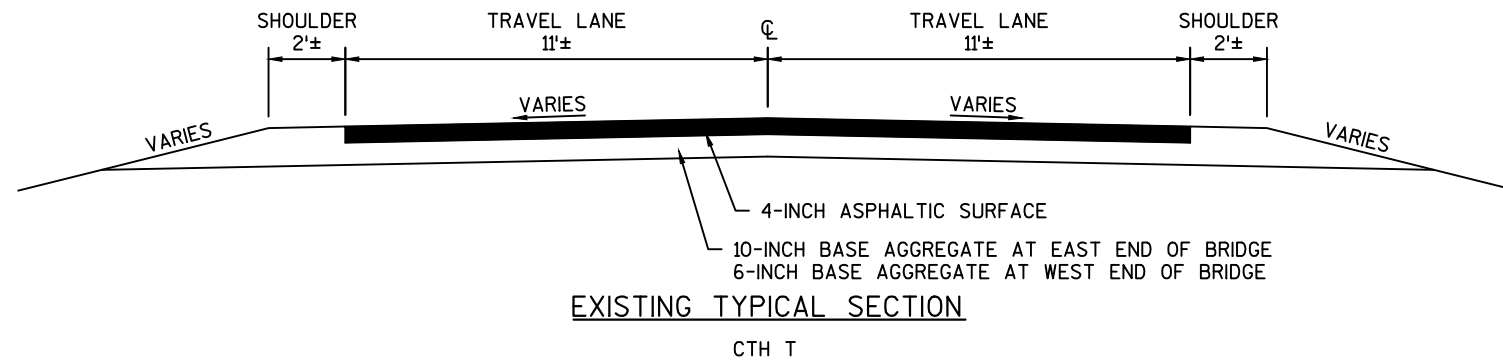
NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARKS WERE LOCATED IN THE FIELD USING GPS TECHNOLOGY.

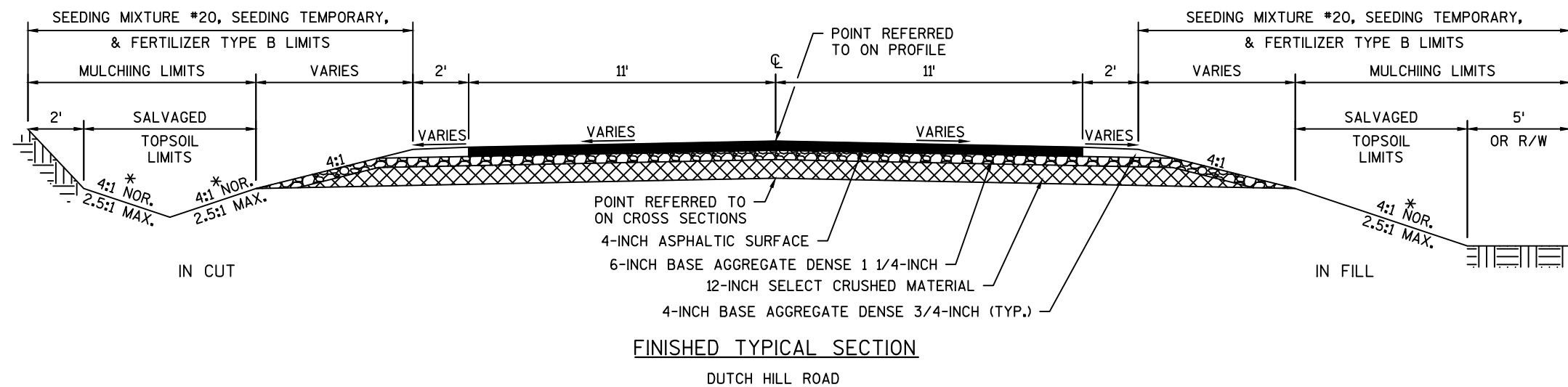
THE 4" ASPHALTIC SURFACE SHALL CONSIST OF A 1¾" UPPER LAYER WITH 12.5MM NOMINAL SIZE AGGREGATE AND A 2¼" LOWER LAYER 12.5MM NOMINAL SIZE AGGREGATE.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION OR BRIDGE REMOVAL.

WETLANDS ARE PRESENT ON THE STREAM BANKS. AREAS OUTSIDE THE SLOPE INTERCEPTS AND ADJACENT TO THE STREAM SHALL NOT BE DISTURBED IN THIS AREA.



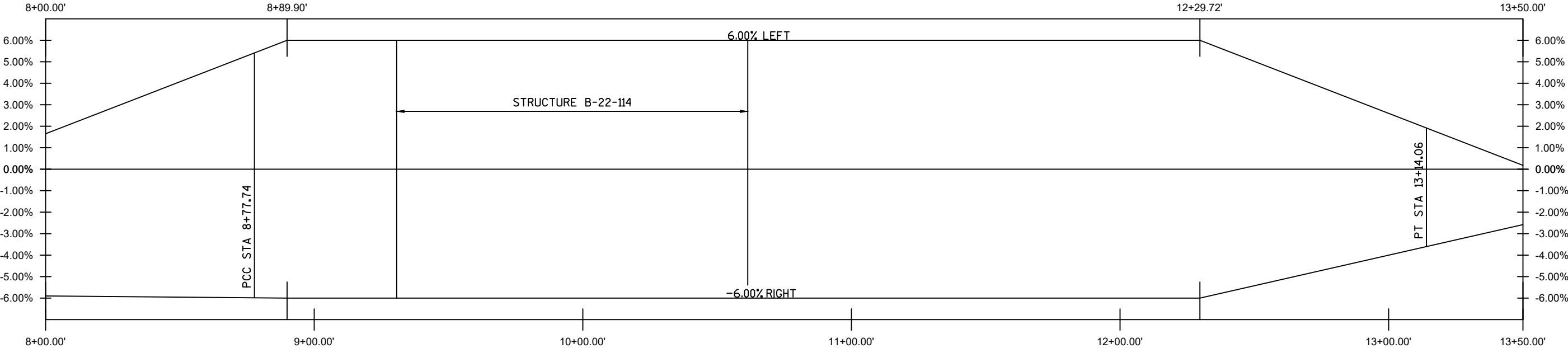
* FLATTEN TO 10:1 AT CMP



* EROSION MAT URBAN CLASS I, TYPE B IN AREAS OF 2.5:1 SLOPES. (SEE PLAN & PROFILE FOR LOCATIONS)



Superelevation



Estimate Of Quantities

5693-00-72					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0010	205.0100	Excavation Common	CY	829.000	829.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-22-114	LS	1.000	1.000
0014	208.0100	Borrow	CY	2,526.000	2,526.000
0016	210.1500	Backfill Structure Type A	TON	415.000	415.000
0018	213.0100	Finishing Roadway (project) 01. 5693-00-72	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	196.000	196.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	945.000	945.000
0024	312.0110	Select Crushed Material	TON	1,130.000	1,130.000
0026	455.0605	Tack Coat	GAL	90.000	90.000
0028	465.0105	Asphaltic Surface	TON	397.000	397.000
0030	465.0315	Asphaltic Flumes	SY	17.000	17.000
0032	502.0100	Concrete Masonry Bridges	CY	324.000	324.000
0034	502.3200	Protective Surface Treatment	SY	485.000	485.000
0036	502.3210	Pigmented Surface Sealer	SY	110.000	110.000
0038	503.0137	Prestressed Girder Type I 36W-Inch	LF	515.000	515.000
0040	505.0400	Bar Steel Reinforcement HS Structures	LB	8,140.000	8,140.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	45,720.000	45,720.000
0044	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	16.000	16.000
0046	506.4000	Steel Diaphragms (structure) 01. B-22-114	EACH	6.000	6.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0050	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000
0052	520.3324	Culvert Pipe Class III-A 24-Inch	LF	136.000	136.000
0054	550.0500	Pile Points	EACH	25.000	25.000
0056	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,290.000	1,290.000
0058	606.0200	Riprap Medium	CY	6.000	6.000
0060	606.0300	Riprap Heavy	CY	425.000	425.000
0062	606.0700	Grouted Riprap Heavy	CY	32.000	32.000
0064	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	190.000	190.000
0066	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0068	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5693-00-72	EACH	1.000	1.000
0070	619.1000	Mobilization	EACH	1.000	1.000
0072	624.0100	Water	MGAL	183.000	183.000
0074	625.0500	Salvaged Topsoil	SY	1,930.000	1,930.000

Estimate Of Quantities

5693-00-72

Line	Item	Item Description	Unit	Total	Qty
0076	627.0200	Mulching	SY	2,830.000	2,830.000
0078	628.1504	Silt Fence	LF	1,100.000	1,100.000
0080	628.1520	Silt Fence Maintenance	LF	1,100.000	1,100.000
0082	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0086	628.2008	Erosion Mat Urban Class I Type B	SY	725.000	725.000
0088	628.6005	Turbidity Barriers	SY	280.000	280.000
0090	629.0210	Fertilizer Type B	CWT	3.000	3.000
0092	630.0120	Seeding Mixture No. 20	LB	105.000	105.000
0094	630.0200	Seeding Temporary	LB	108.000	108.000
0096	630.0300	Seeding Borrow Pit	LB	15.000	15.000
0098	633.5100	Markers Row	EACH	11.000	11.000
0100	633.5200	Markers Culvert End	EACH	4.000	4.000
0102	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	8.000	8.000
0104	637.2230	Signs Type II Reflective F	SF	38.680	38.680
0106	638.2602	Removing Signs Type II	EACH	8.000	8.000
0108	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0110	642.5001	Field Office Type B	EACH	1.000	1.000
0112	643.0420	Traffic Control Barricades Type III	DAY	3,045.000	3,045.000
0114	643.0705	Traffic Control Warning Lights Type A	DAY	4,620.000	4,620.000
0116	643.0900	Traffic Control Signs	DAY	2,520.000	2,520.000
0118	643.5000	Traffic Control	EACH	1.000	1.000
0120	645.0111	Geotextile Type DF Schedule A	SY	110.000	110.000
0122	645.0120	Geotextile Type HR	SY	829.000	829.000
0124	646.1020	Marking Line Epoxy 4-Inch	LF	2,030.000	2,030.000
0126	650.4500	Construction Staking Subgrade	LF	563.000	563.000
0128	650.5000	Construction Staking Base	LF	563.000	563.000
0130	650.6500	Construction Staking Structure Layout (structure) 01. B-22-114	LS	1.000	1.000
0132	650.9910	Construction Staking Supplemental Control (project) 01. 5693-00-72	LS	1.000	1.000
0134	650.9920	Construction Staking Slope Stakes	LF	563.000	563.000
0136	690.0150	Sawing Asphalt	LF	44.000	44.000
0138	715.0502	Incentive Strength Concrete Structures	DOL	1,944.000	1,944.000

CLEARING & GRUBBING			
STATION - STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+00 - 11+00	RT	2	2
TOTALS:		2	2

REMOVING CULVERTS			
STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	REMARKS
18+89	CROSSING	1	18" CMP
TOTAL:		1	

EARTHWORK					
STATION - STATION	205.0100 EXCAVATION COMMON CY (3)	FILL CY (1)	EXPANDED FILL CY (2)	UNUSABLE PAVEMENT CY (1)	208.0100 BORROW CY
8+00.00 - 9+30.70	457	305	396	35	-26
10+35.98 - 13+50.00	206	2060	2679	79	2552
18+15.00 - 19+57.72	166	83	108	0	0
TOTALS:	829	2448	3183	114	2526

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%
(3) - EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS. SEE EARTHWORK TABLE.

BASE AGGREGATE ITEMS				
STATION - STATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER (1) MGAL
8+00.00 - 9+30.70	25	220	350	18
10+61.41 - 13+50.00	45	505	420	29
18+15.00 - 19+57.72	20	220	360	18
PARKING AREAS	106	—	—	3
TOTALS:	196	945	1130	68

(1) - ADDITIONAL QUANTITIES LISTED ELSEWHERE

ASPHALT PAVEMENT ITEMS		
STATION - STATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
8+00.00 - 9+30.70	18	80
10+61.41 - 13+50.00	52.5	231
18+15.00 - 19+57.72	19.5	86
TOTALS:	90	397

FLUMES		
STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY
9+20	RT	17
TOTAL:		17

CULVERT PIPES			
STATION	LOCATION	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	520.3324 CULVERT PIPE CLASS III-A 24-INCH LF
12+46	33.2' LT	1	84
13+24	21.1' LT	1	—
19+18	24.5' LT	1	52
19+18	26.3' RT	1	—
TOTALS:		4	136

RIPRAP			
STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.012 GEOTEXTILE TYPE HR SY
12+40	LT	6	19
TOTALS:		6	19

		RESTORATION ITEMS						
		625.0500 SALVAGED TOPSOIL	627.0200 MULCHING	629.0210 FERTILIZER TYPE B	630.0120 SEEDING MIXTURE NO. 20	630.0200 SEEDING TEMPORARY	630.0300 SEEDING BORROW PIT	624.0100 WATER (1)
STATION - STATION	LOCATION	SY	SY	CWT	LB	LB	LB	MGAL
8+00 - 9+30	LT	270	195	0.30	12	12	---	10
8+00 - 9+30	RT	315	235	0.30	14	14	---	11
10+60 - 13+50	RT	645	430	0.65	28	28	---	23
10+60 - 11+20	LT	70	130	0.30	12	12	---	10
11+40 - 13+50	LT	245	430	0.45	20	20	---	17
BORROW PIT	---	---	1055	0.75	---	---	11	27
UNDISTRIBUTED	---	385	355	0.25	19	22	4	17
TOTALS:		1930	2830	3.00	105	108	15	115

(1) - ADDITIONAL QUANTITIES LISTED ELSEWHERE

SILT FENCE				
STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.6005 TURBIDITY BARRIERS SY
8+00 - 9+60	LT	220	220	—
8+00 - 9+60	RT	205	205	—
9+70 - 9+80	LT & RT	—	—	53
9+85 - 10+05	LT & RT	—	—	84
10+20 - 10+65	LT & RT	—	—	120
10+30 - 11+10	LT	185	185	—
10+65 - 13+50	RT	265	265	—
UNDISTRIBUTED	—	225	225	22
TOTALS:		1100	1100	280

EROSION CONTROL ITEMS		
STATION - STATION	LOCATION	628.2008 EROSION MAT URBAN CLASS I TYPE B SY
8+78 - 9+15	RT	122
8+78 - 9+20	LT	126
10+55 - 10+70	LT	18
10+90 - 12+00	RT	292
19+18	RT	22
UNDISTRIBUTED	—	145
TOTALS:		725

MOBILIZATION EROSION CONTROL		
DESCRIPTION	628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
PROJECT 5693-00-72	2	2
TOTALS:	2	2

NOTE: ALL ITEMS ON THIS SHEET ARE
CATEGORY 0010 UNLESS NOTED OTHERWISE

R/W MARKERS				CULVERT MARKERS			SIGNING ITEMS								
STATION	LOCATION	PT. NO.	633.5100	STATION	LOCATION	633.5200	STATION	LOCATION	SIGN CODE	SIZE	634.0612	637.2230	638.2602	638.3000	COMMENTS
			MARKERS ROW EACH			CULVERT MARKERS EACH					WOOD POST 4x6-INCH X 12-FT EACH	SIGNS TYPE II REFLECTIVE F SF	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
8+00.00	33.00' LT	101	1	19+16	RT	1	8+15	RT	W8-14	30"x30"	1	6.25	1	1	WATCH FOR FALLEN ROCKS
8+00.00	50.00' LT	102	1	19+19	LT	1	8+15	LT	W3-1	36"x36"	1	9	1	1	STOP AHEAD
9+00.00	60.00' LT	103	1	12+45	LT	1	9+32	RT	—	—	—	—	1	1	EXISTING OBJECT MARKER
10+50.00	55.00' LT	104	1	13+24	LT	1	9+32	LT	—	—	—	—	1	1	EXISTING OBJECT MARKER
10+80.00	80.00' LT	105	1	TOTAL:		4	9+28	LT	W5-52L	12"x36"	1	3	—	—	OBJECT MARKER
19+06.00	29.41' RT	106	1				9+33	RT	W5-52R	12"x36"	1	3	—	—	OBJECT MARKER
8+00.00	33.00' RT	200	1				10+62	LT	—	—	—	—	1	1	EXISTING OBJECT MARKER
8+00.00	50.00' RT	201	1				10+68	LT	—	—	—	—	1	1	EXISTING OBJECT MARKER
10+75.00	55.00' RT	202	1				10+55	LT	W5-52R	12"x36"	1	3	—	—	OBJECT MARKER
11+25.00	55.00' RT	203	1				10+68	RT	W5-52L	12"x36"	1	3	—	—	OBJECT MARKER
13+50.00	45.46' RT	204	1				18+90	RT	W1-2R	30"x30"	1	6.25	1	1	CURVE RIGHT
TOTAL:			11				19+60	RT	R1-1	30"x30"	1	5.18	1	1	STOP
TOTALS:											8	38.68	8	8	

TRAFFIC CONTROL ITEMS							
LOCATION	DAYS	643.0420		643.0705		643.0900	
		TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS
LOCATION	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS
CTH K/CTH T INTERSECTION	105	2	210	4	420	7	735
BEGINNING OF PROJECT	105	7	735	10	1,050	2	210
END OF PROJECT	105	7	735	10	1,050	4	420
DUTCH HILL ROAD	105	7	735	10	1,050	4	420
SAND HILL ROAD/ CTH T INTERSECTION	105	2	210	4	420	1	105
USH 61/CTH T INTERSECTION	105	—	—	—	—	1	105
BACK ROAD/DUTCH HILL ROAD INTERSECTION	105	2	210	4	420	2	210
STH 133/DUTCH HILL ROAD INTERSECTION	105	—	—	—	—	1	105
UNDISTRIBUTED	105	2	210	2	210	2	210
TOTALS:		3,045		4,620		2,520	

PAVEMENT MARKING			
STATION - STATION	LOCATION	646.1020	646.1020
		MARKING LINE EPOXY 4-INCH YELLOW LF	MARKING LINE EPOXY 4-INCH WHITE LF
8+00 - 13+50	CENTERLINE	1100	—
8+00 - 13+50	LT EDGE LINE	—	390
8+00 - 13+50	RT EDGE LINE	—	540
TOTALS:		1100	930

CONSTRUCTION STAKING				
STATION - STATION	650.4500	650.5000	650.9920	650.9910
	CONSTRUCTION STAKING SUBGRADE	CONSTRUCTION STAKING BASE	CONSTRUCTION STAKING SLOPE STAKES	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 5693-00-72 LS
8+00 - 9+30	130	130	130	—
10+60 - 13+50	290	290	290	—
18+15 - 19+58	143	143	143	—
5693-00-72	—	—	—	1
TOTALS:	563	563	563	1

SAWING PAVEMENT ITEMS	
STATION	690.0150
8+00	SAWING ASPHALT LF
13+50	22
TOTAL:	44

MAINTENANCE AND REPAIR OF HAUL ROADS	
DESCRIPTION	618.0100
PROJECT 5693-00-72	MAINTENANCE AND REPAIR OF HAUL ROADS EACH
TOTALS:	1

NOTE: THIS ITEM IS CATEGORY 0030

NOTE: ALL ITEMS ON THIS SHEET ARE CATEGORY 0010 UNLESS NOTED OTHERWISE

CONVENTIONAL SYMBOLS

SECTION LINE		SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	
QUARTER LINE		SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	
SIXTEENTH LINE		GEODETIC SURVEY MONUMENT		FOUND IRON PIN (1-INCH UNLESS NOTED)	
NEW REFERENCE LINE		SIXTEENTH CORNER MONUMENT		OFF-PREMISE SIGN	
NEW R/W LINE		SIGN		COMPENSABLE	
EXISTING R/W OR HE LINE		ELECTRIC POLE		NON-COMPENSABLE	
PROPERTY LINE		TELEPHONE POLE			
LOT, TIE & OTHER MINOR LINES		PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)			
SLOPE INTERCEPT		ACCESS RESTRICTED BY ACQUISITION			
CORPORATE LIMITS		NO ACCESS (BY STATUTORY AUTHORITY)			
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC.)		ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)			
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)		NO ACCESS (NEW HIGHWAY)			
TEMPORARY LIMITED EASEMENT AREA		PARCEL NUMBER 25		UTILITY NUMBER 40	
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)		PARALLEL OFFSETS			
TRANSMISSION STRUCTURES					
BUILDING TO BE REMOVED					
BRIDGE					

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC	PROPERTY LINE	PL
AHEAD	AH	RECORDED AS	(100')
ALUMINUM	ALUM	REEL / IMAGE	R/I
AND OTHERS	ET AL	REFERENCE LINE	R/L
BACK	BK	REMAINING	REM
BLOCK	BLK	RESTRICTIVE DEVELOPMENT	RDE
CENTERLINE	C/L	EASEMENT	
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED	TLE
GAS VALVE	GV	EASEMENT	
GRID NORTH	GN	TRANSPORTATION PROJECT	TPP
HIGHWAY EASEMENT	HE	PLAT	
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		
POINT OF COMPOUND CURVE	PCC		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), GRANT 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 ARE 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 OR OTHER SURVEYS OF PUBLIC RECORD.

CONVENTIONAL UTILITY SYMBOLS

WATER	
GAS	
TELEPHONE	
OVERHEAD	
TRANSMISSION LINES	
ELECTRIC	
CABLE TELEVISION	
FIBER OPTIC	
SANITARY SEWER	
STORM SEWER	

END RELOCATION
ORDER STA.13+50.00

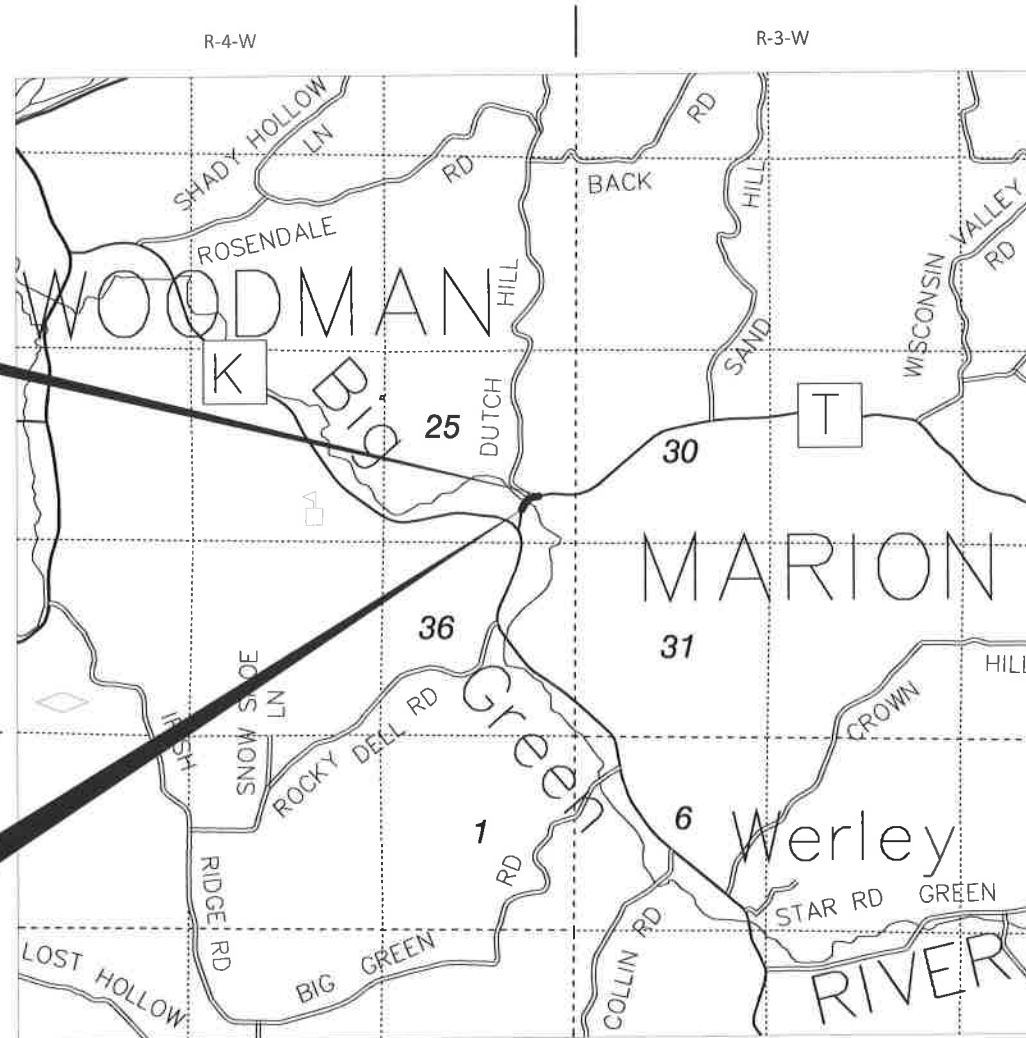
Y = 597,417.15
X = 798,082.34
1,272.24 FEET SOUTH OF AND 1,000.21 FEET WEST OF
THE EAST QUARTER CORNER OF SECTION 25, T-7-N,
R-4-W, TOWN OF WOODMAN, GRANT COUNTY, WI

BEGIN RELOCATION
ORDER STA. 8+00.00

Y = 597,100.11
X = 797,662.97
989.80 FEET NORTH OF AND 1,474.01 FEET WEST OF
THE SOUTHEAST CORNER OF SECTION 25, T-7-N,
R-4-W, TOWN OF WOODMAN, GRANT COUNTY, WI



CAUTION
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST
BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.104 MI

R/W PROJECT NUMBER 5693-00-02	SHEET NUMBER 4.01	TOTAL SHEETS 2
CONSTRUCTION PROJECT NUMBER 5693-00-72		

PLAT OF RIGHT OF WAY REQUIRED FOR
CTH K - USH 61
(BIG GREEN RIVER BRIDGE B-22-0114)
CTH T GRANT COUNTY

ORIGINAL PLAT PREPARED BY

MSA

PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770
Web Address: www.msa-ps.com
© MSA Professional Services, Inc.

7/27/2017
(Date)
(Professional Land Surveyor)

REVISION DATE

APPROVED FOR GRANT COUNTY

DATE: 8-10-17
(Signature)

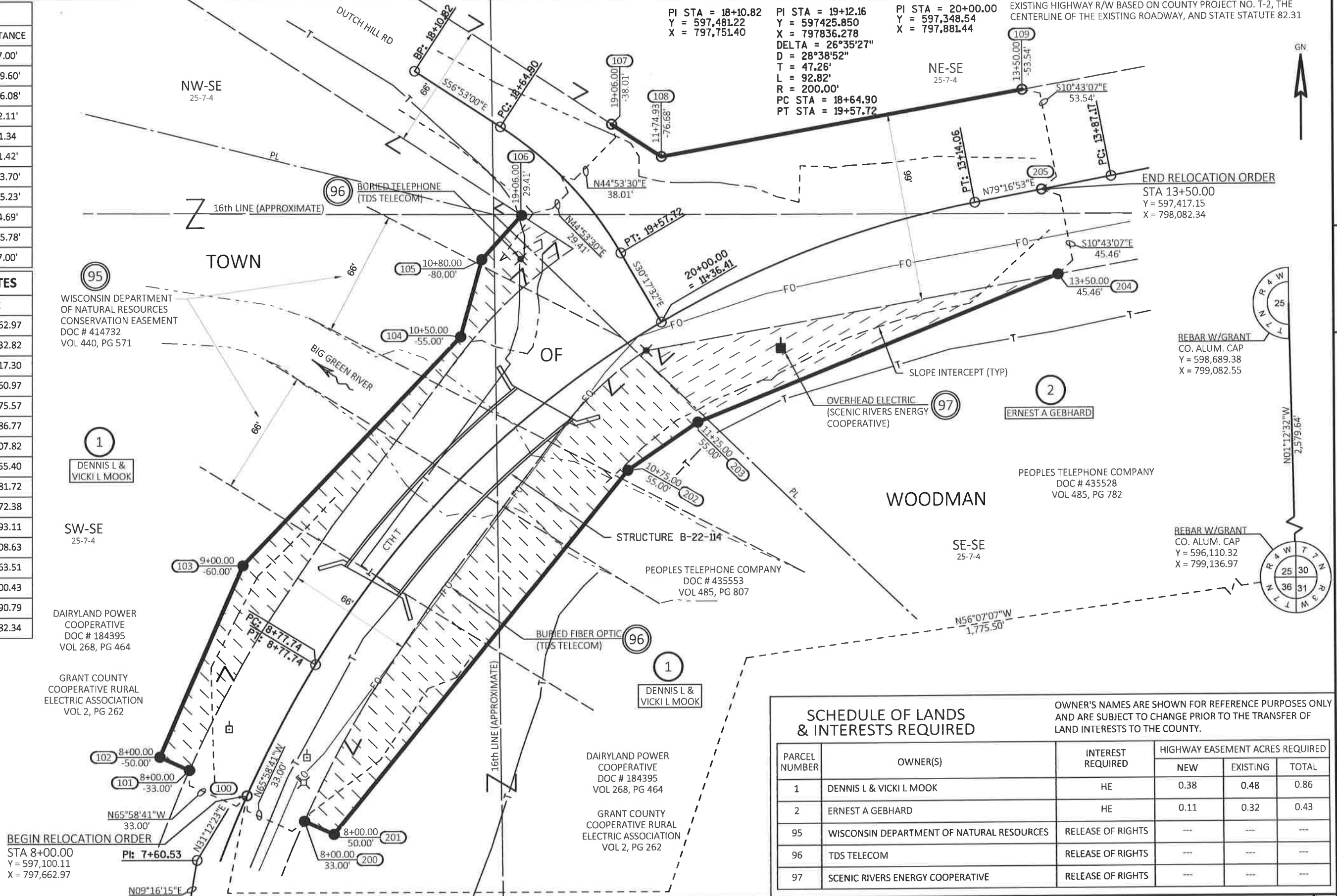
R/W COURSE TABLE		
COURSE	BEARING	DISTANCE
101 - 102	N65°58'41"W	17.00'
102 - 103	N23°28'59"E	109.60'
103 - 104	N43°37'46"E	166.08'
104 - 105	N15°26'04"E	42.11'
105 - 106	N42°11'46"E	31.34'
107 - 108	S56°53'00"E	31.42'
108 - 109	N79°50'51"E	193.70'
204 - 203	S68°03'41"W	205.23'
203 - 202	S55°41'43"W	44.69'
202 - 201	S39°03'33"W	245.78'
201 - 200	N65°58'41"W	17.00'

R/W POINT COORDINATES		
PT. NO.	Y	X
100	597,100.11	797,662.97
101	597,113.55	797,632.82
102	597,120.47	797,617.30
103	597,220.99	797,660.97
104	597,341.21	797,775.57
105	597,381.80	797,786.77
106	597,405.01	797,807.82
107	597,452.77	797,855.40
108	597,435.61	797,881.72
109	597,469.75	798,072.38
200	597,086.68	797,693.11
201	597,079.76	797,708.63
202	597,270.61	797,863.51
203	597,295.80	797,900.43
204	597,372.48	798,090.79
205	597,417.15	798,082.34

PI STA = 7+60.53
Y = 597066.189
X = 797636.723
DELTA = 21°56'07"
D = 9°14'29"
T = 120.15'
L = 237.36'
R = 620.00'
PC STA = 6+40.38
PT STA = 8+77.74

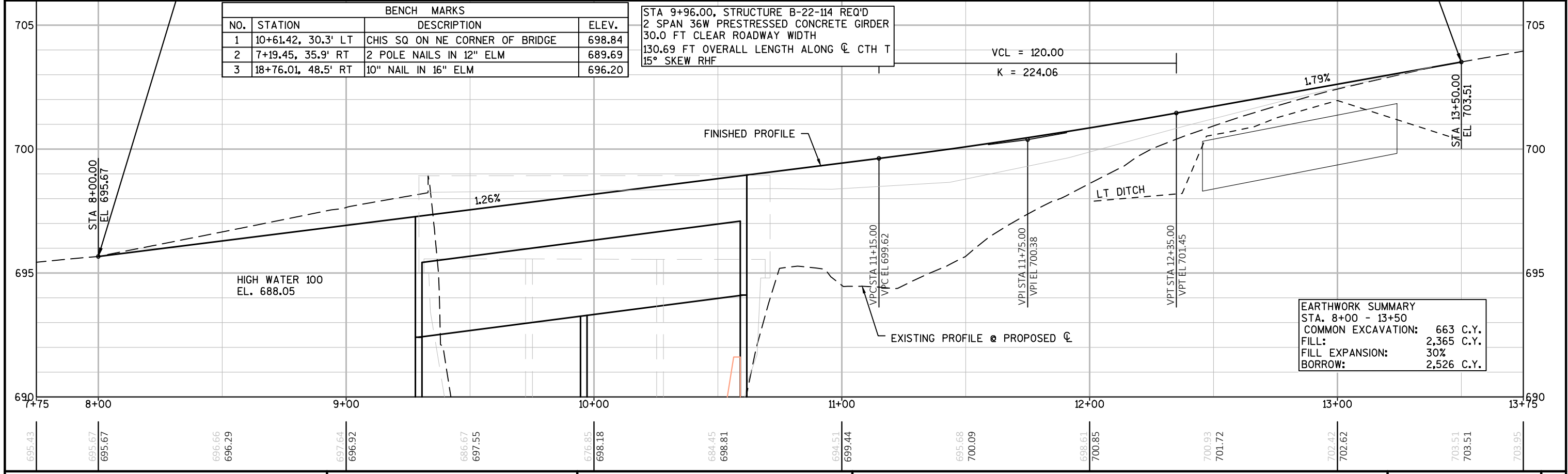
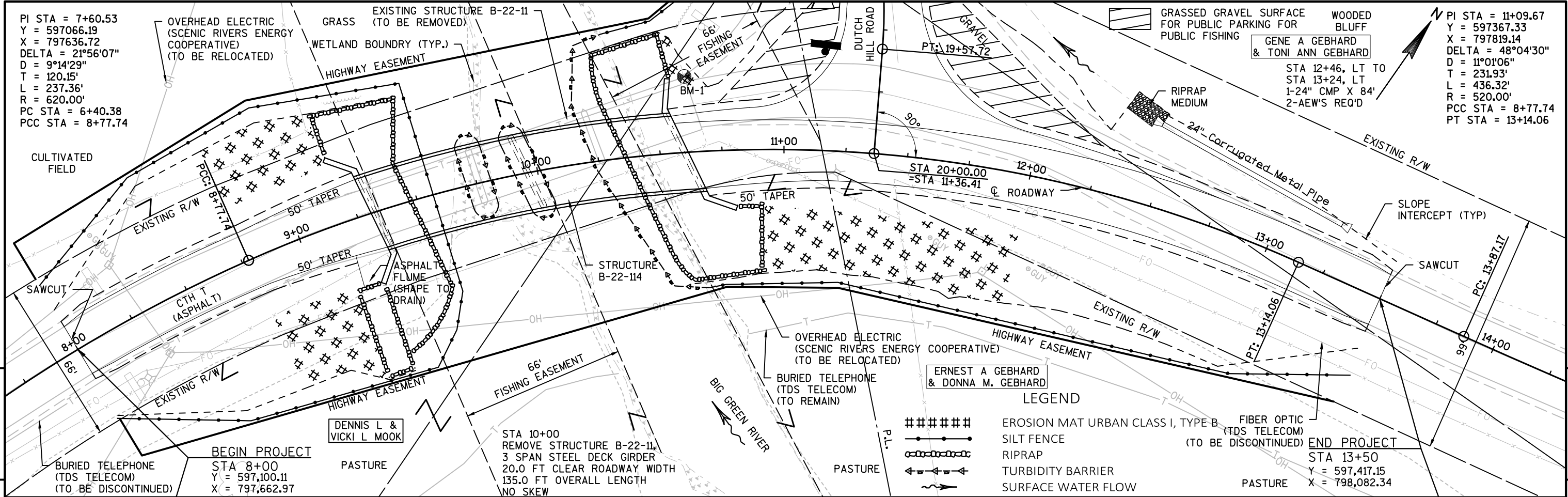
PI STA = 11+09.67
Y = 597367.327
X = 797819.144
DELTA = 48°04'30"
D = 11°01'06"
T = 231.93'
L = 436.32'
R = 520.00'
PC STA = 8+77.74
PT STA = 13+14.06

BEGIN RELOCATION ORDER
STA 8+00.00
Y = 597,100.11
X = 797,662.97



SCHEDULE OF LANDS & INTERESTS REQUIRED			OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.		
PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	HIGHWAY EASEMENT ACRES REQUIRED		
			NEW	EXISTING	TOTAL
1	DENNIS L & VICKI L MOOK	HE	0.38	0.48	0.86
2	ERNEST A GEBHARD	HE	0.11	0.32	0.43
95	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	RELEASE OF RIGHTS	---	---	---
96	TDS TELECOM	RELEASE OF RIGHTS	---	---	---
97	SCENIC RIVERS ENERGY COOPERATIVE	RELEASE OF RIGHTS	---	---	---

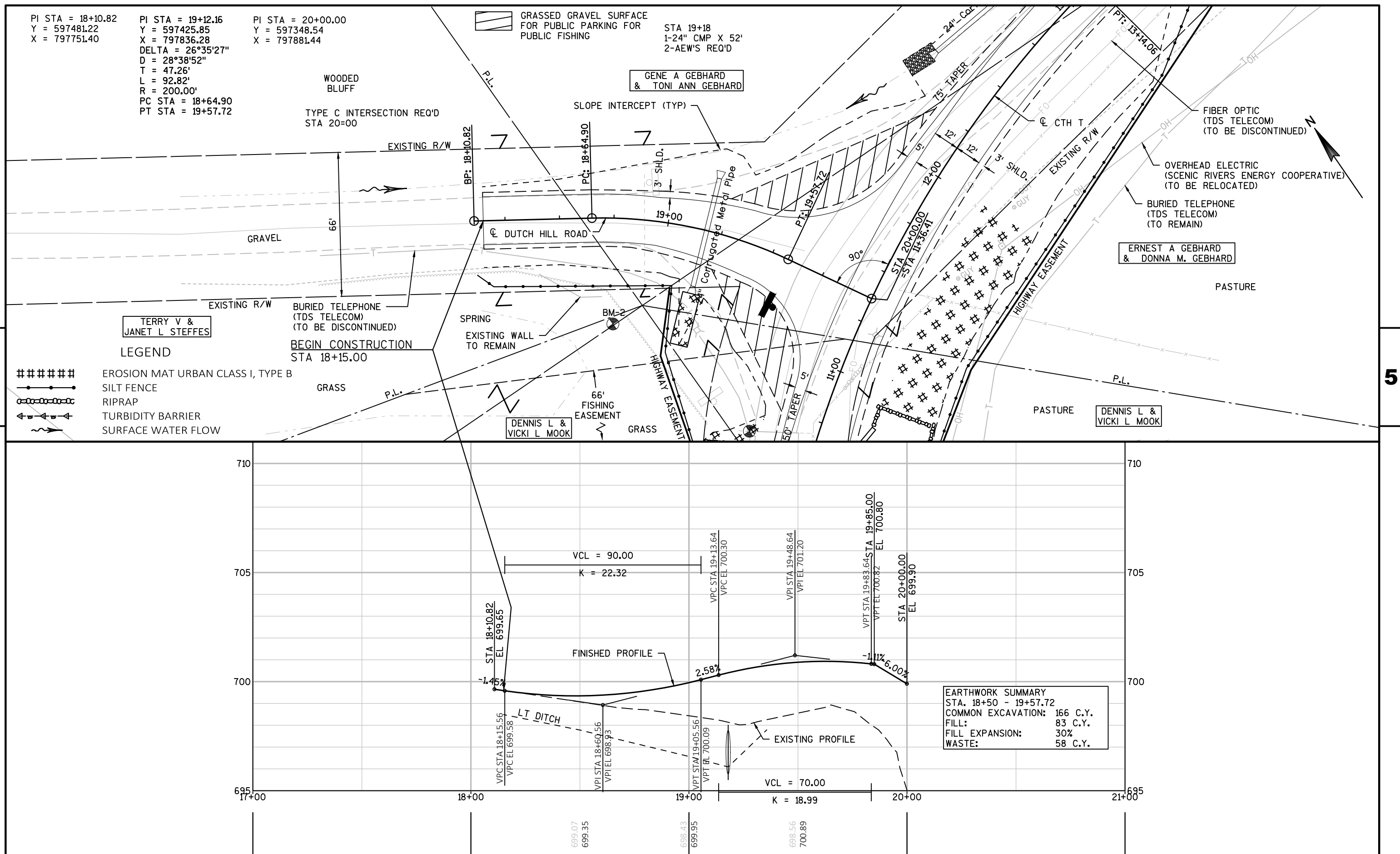
REVISION DATE	DATE JULY 27, 2017	SCALE, FEET	HWY: CTH T	STATE R/W PROJECT NUMBER 5693-00-02	PLAT SHEET 4.02
GRID FACTOR		0 25 50	COUNTY: GRANT	CONSTRUCTION PROJECT NUMBER 5693-00-72	PS&E SHEET



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1	10+61.42, 30.3' LT	CHIS SQ ON NE CORNER OF BRIDGE	698.84
2	7+19.45, 35.9' RT	2 POLE NAILS IN 12" ELM	689.69
3	18+76.01, 48.5' RT	10" NAIL IN 16" ELM	696.20

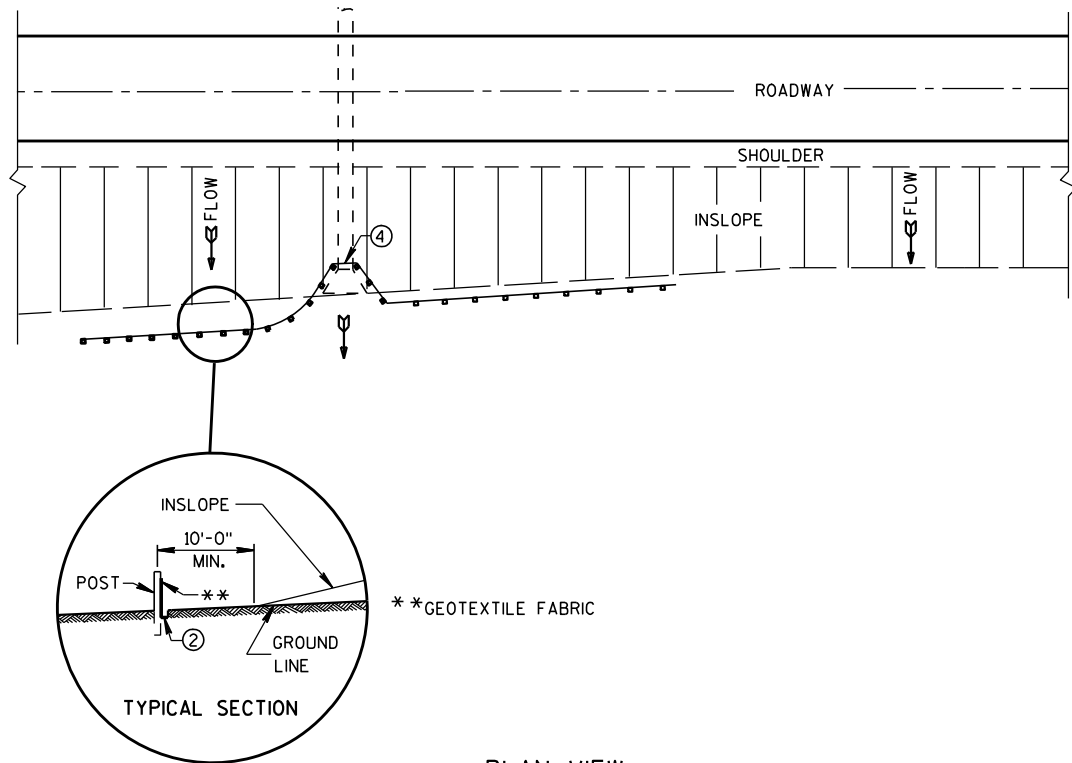
STA 9+96.00, STRUCTURE B-22-114 REQ'D
2 SPAN 36W PRESTRESSED CONCRETE GIRDER
30.0 FT CLEAR ROADWAY WIDTH
130.69 FT OVERALL LENGTH ALONG C CTH T
15° SKEW RHF

EARTHWORK SUMMARY
STA. 8+00 - 13+50
COMMON EXCAVATION: 663 C.Y.
FILL: 2,365 C.Y.
FILL EXPANSION: 30%
BORROW: 2,526 C.Y.

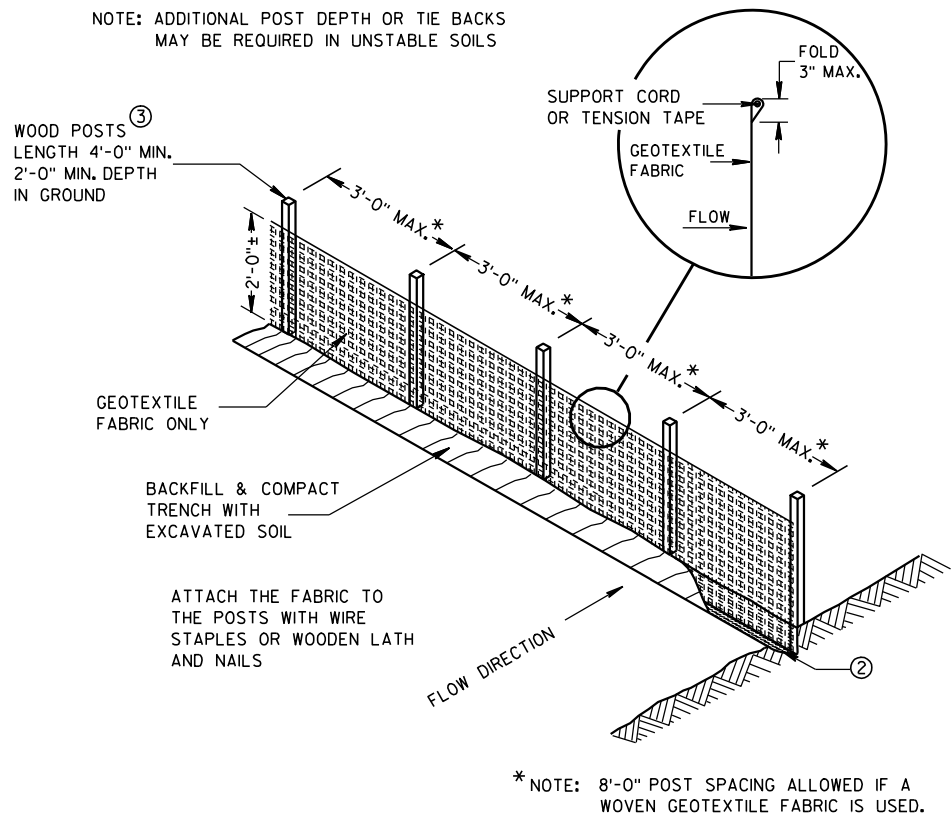


Standard Detail Drawing List

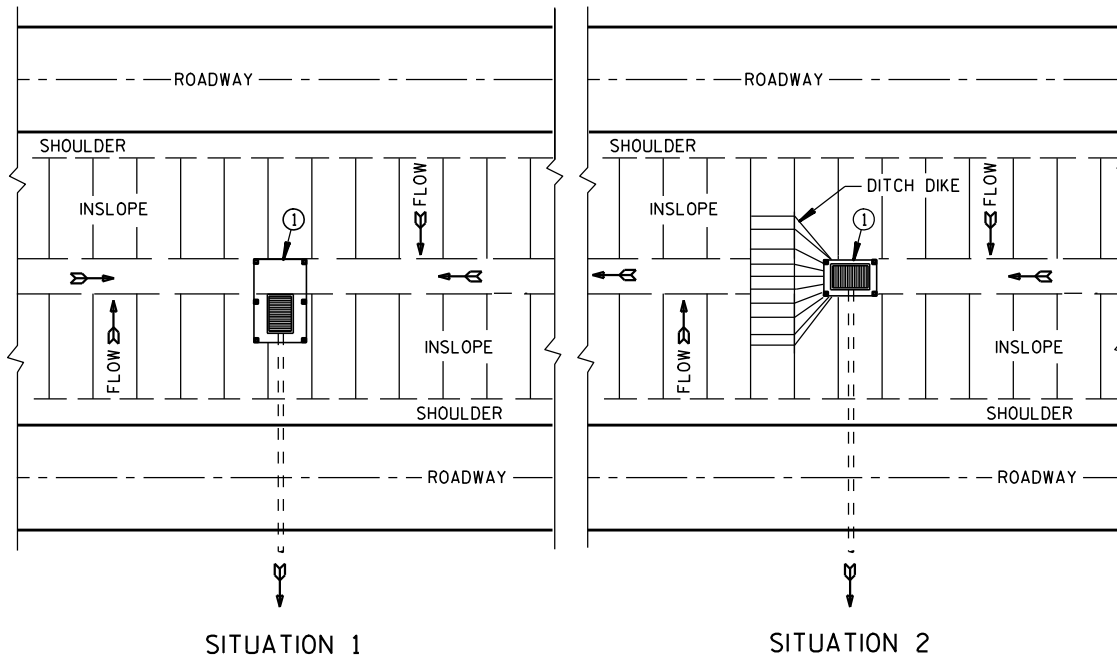
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C35-01A	PAVEMENT MARKING (INTERSECTIONS)



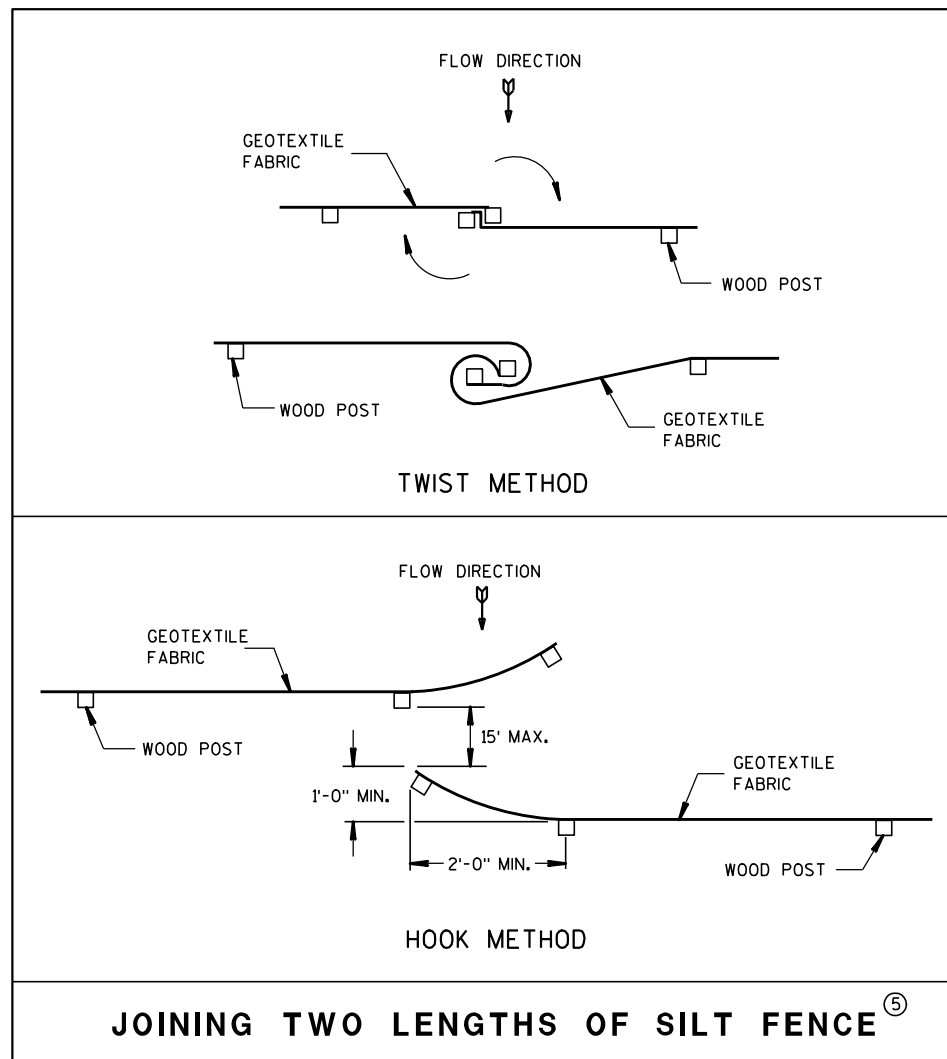
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

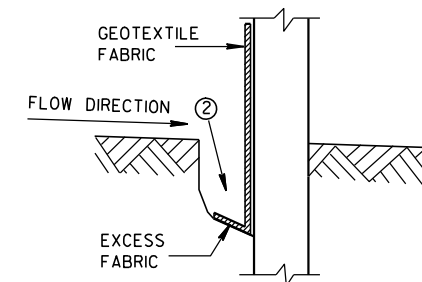


JOINING TWO LENGTHS OF SILT FENCE ⑤

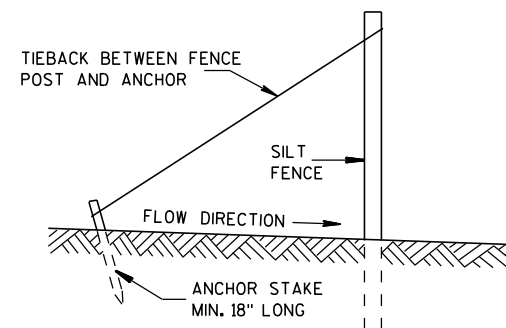
GENERAL NOTES

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 1 1/8" X 1 1/8" 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.

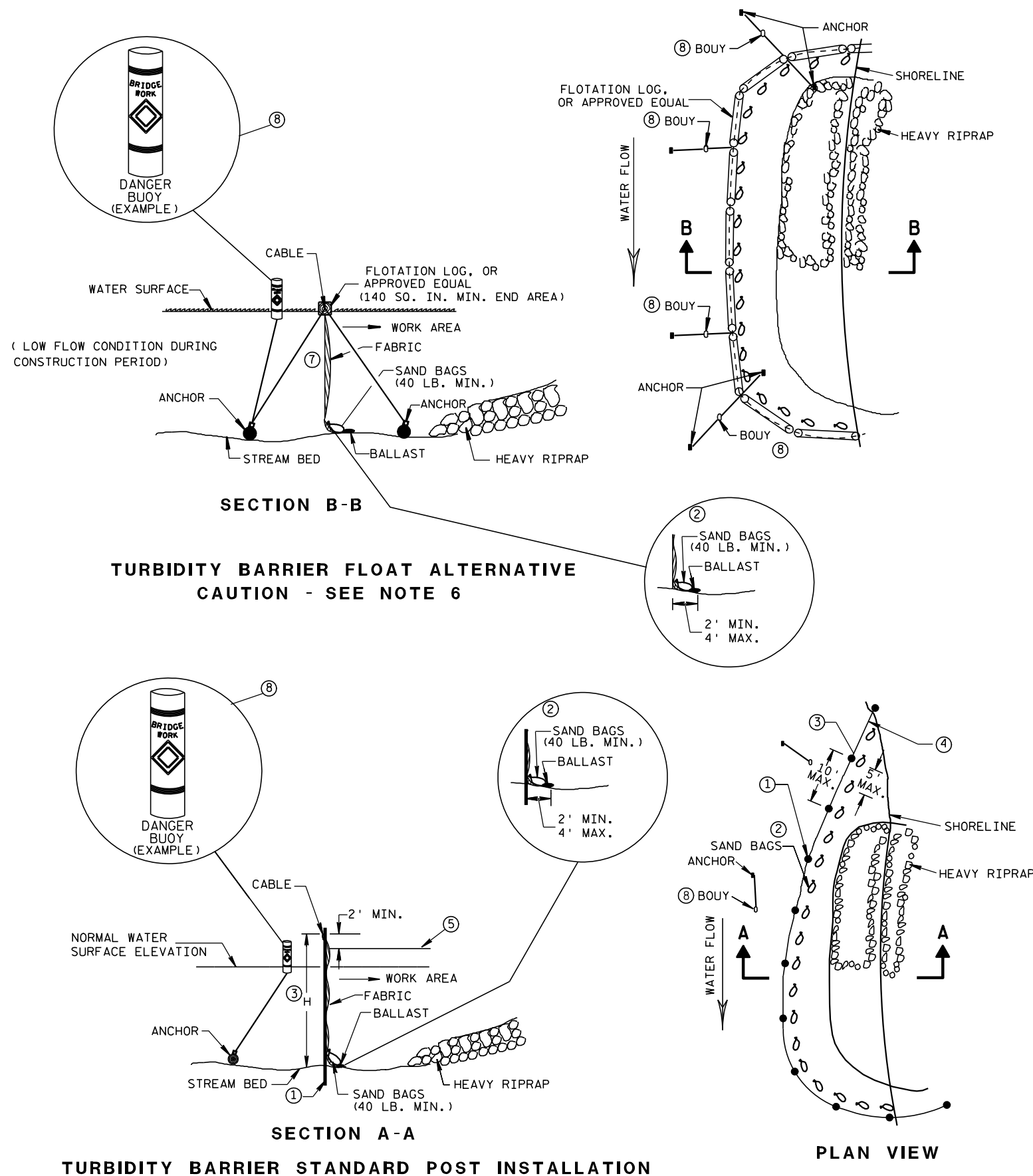


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

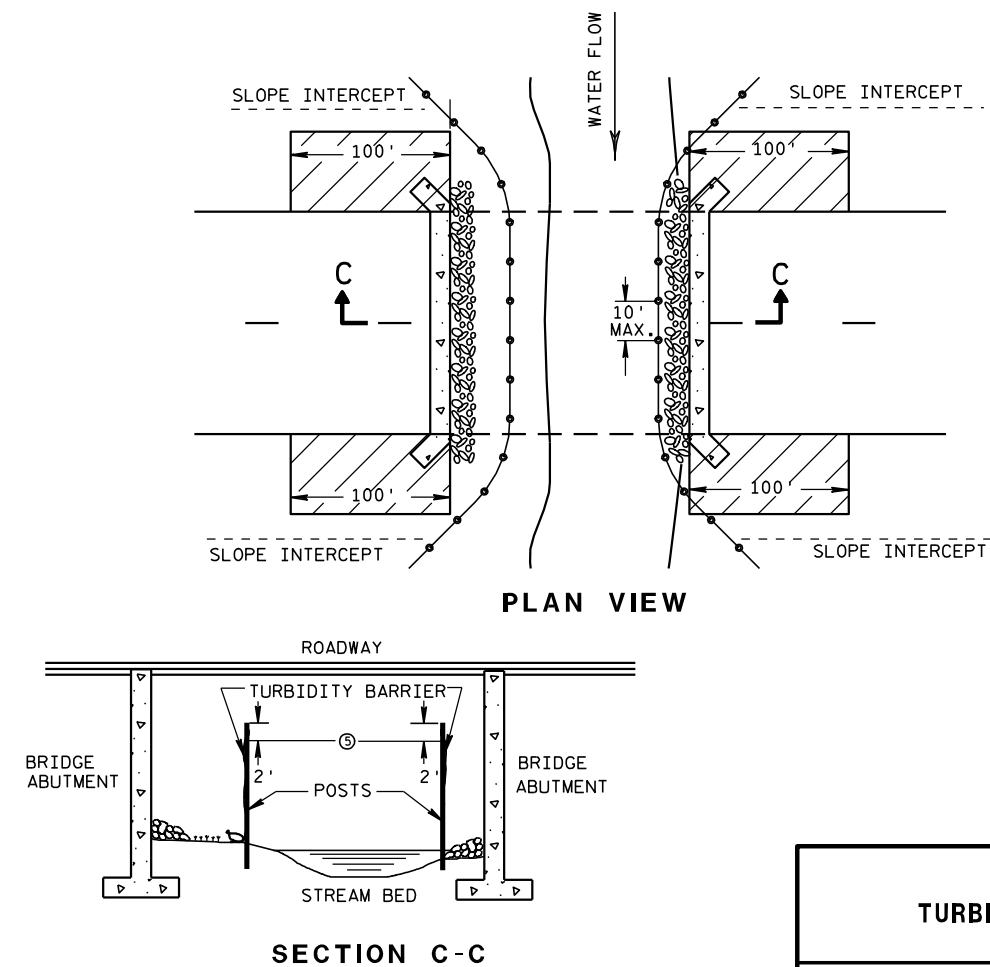


GENERAL NOTES

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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER 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.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

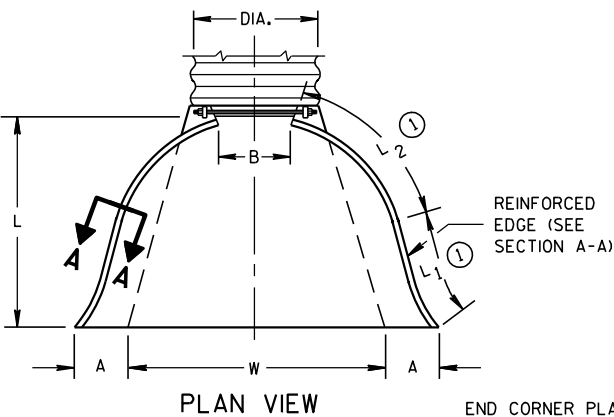
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

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

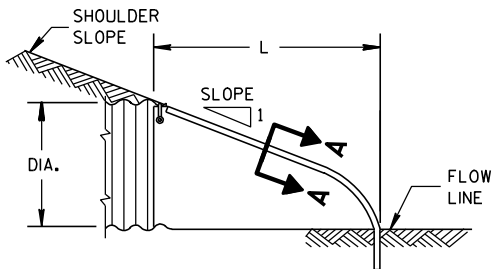
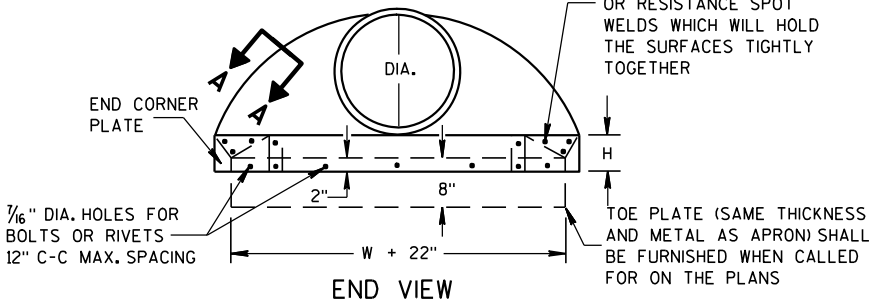
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



REINFORCED
EDGE (SEE
SECTION A-A)

END CORNER PLATES MAY
BE FASTENED TO APRON
PROPER BY BOLTS, RIVETS,
OR RESISTANCE SPOT
WELDS WHICH WILL HOLD
THE SURFACES TIGHTLY
TOGETHER

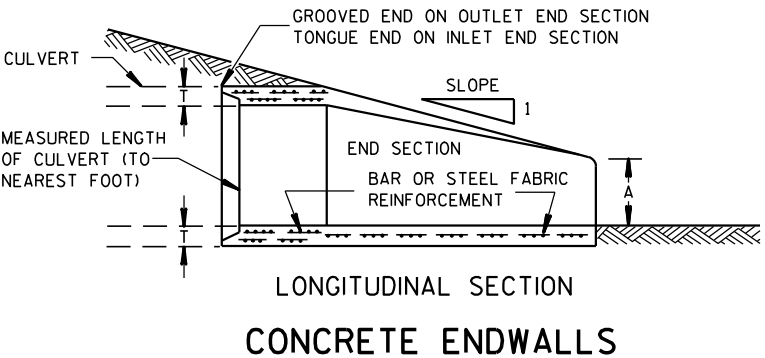
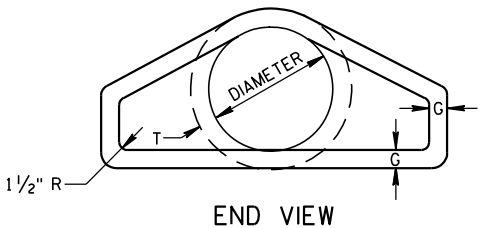
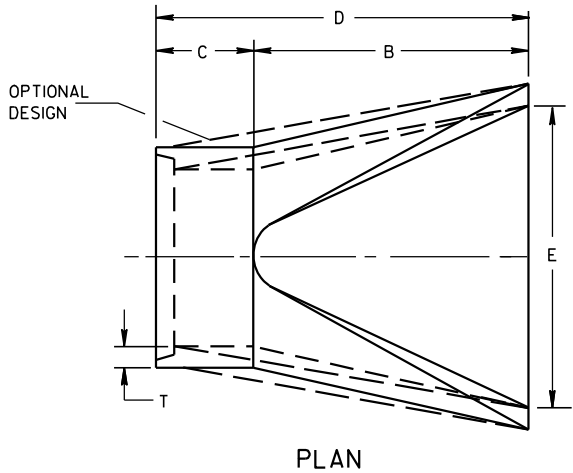
TOE PLATE (SAME THICKNESS
AND METAL AS APRON) SHALL
BE FURNISHED WHEN CALLED
FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

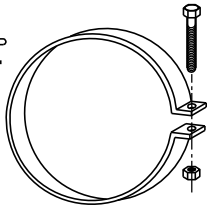
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ¹ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43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

*MINIMUM
**MAXIMUM

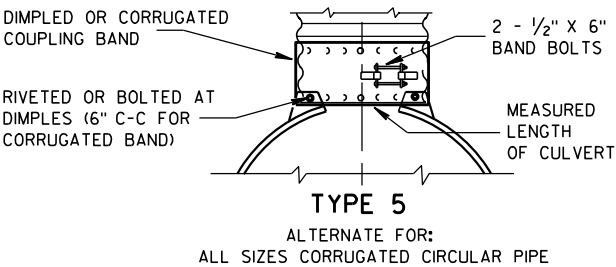
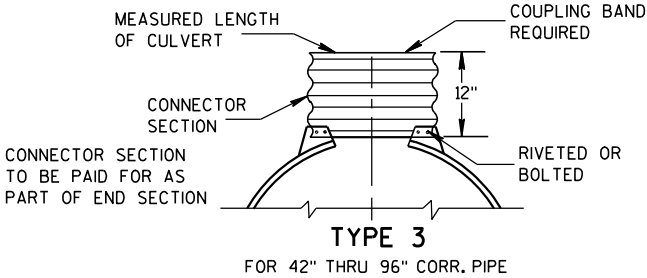
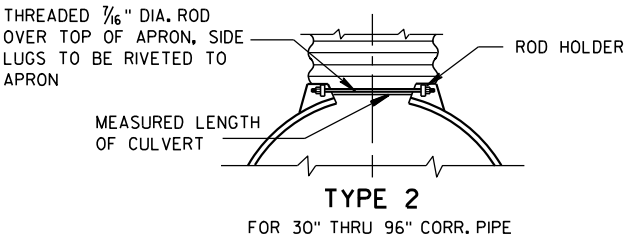
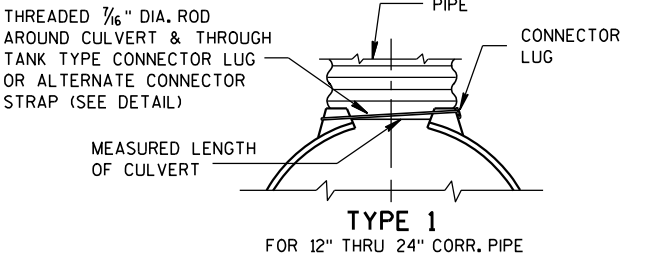


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



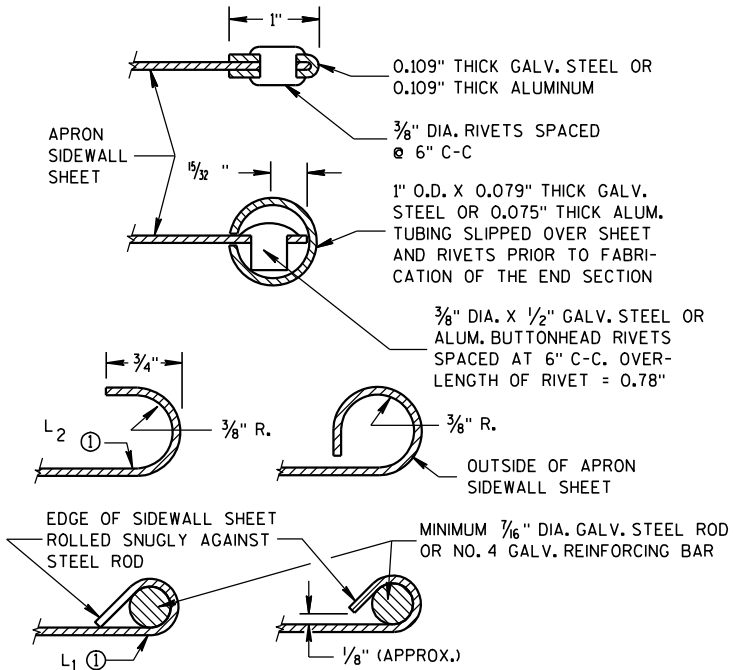
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



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.

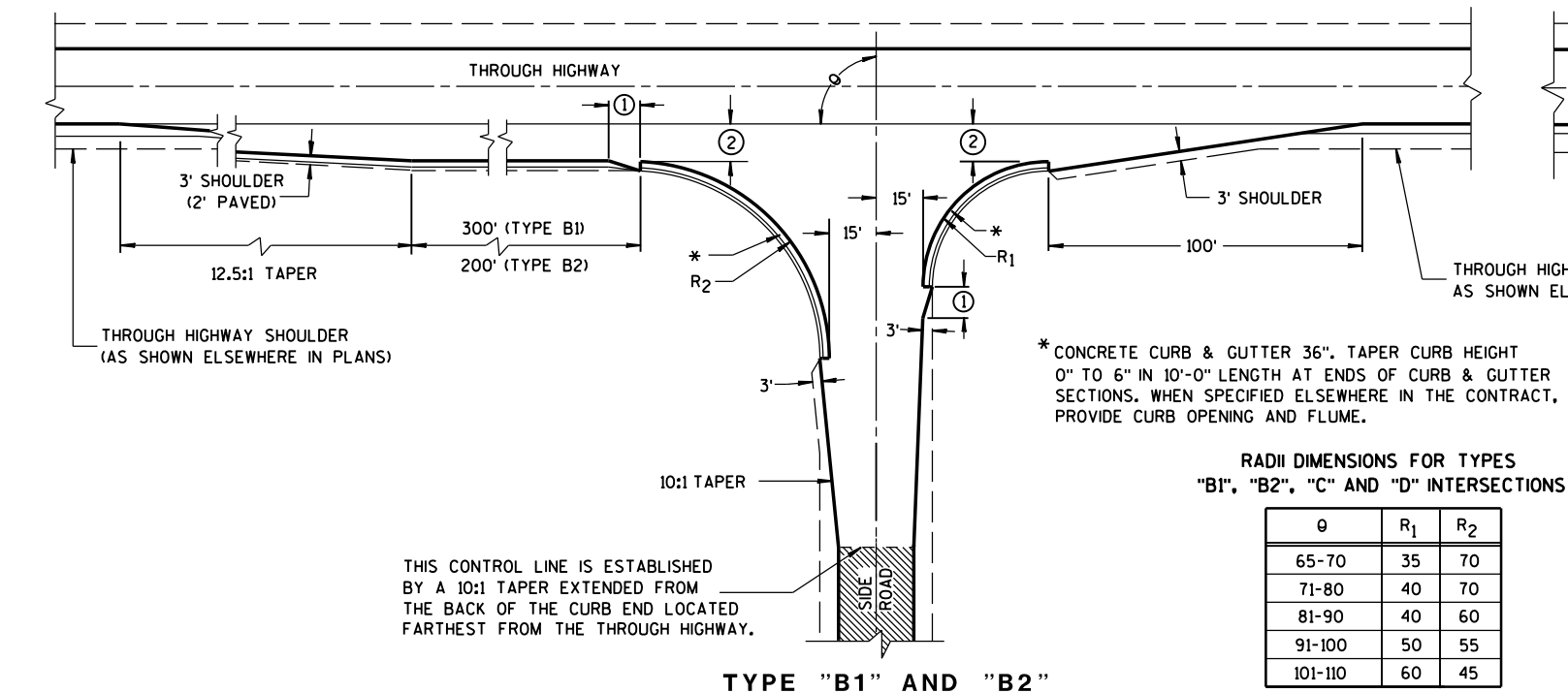
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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



GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

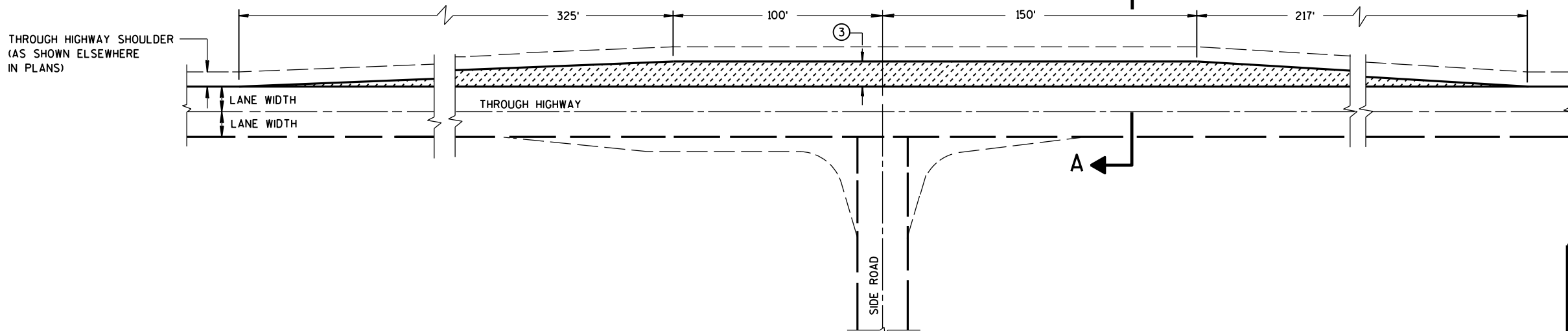
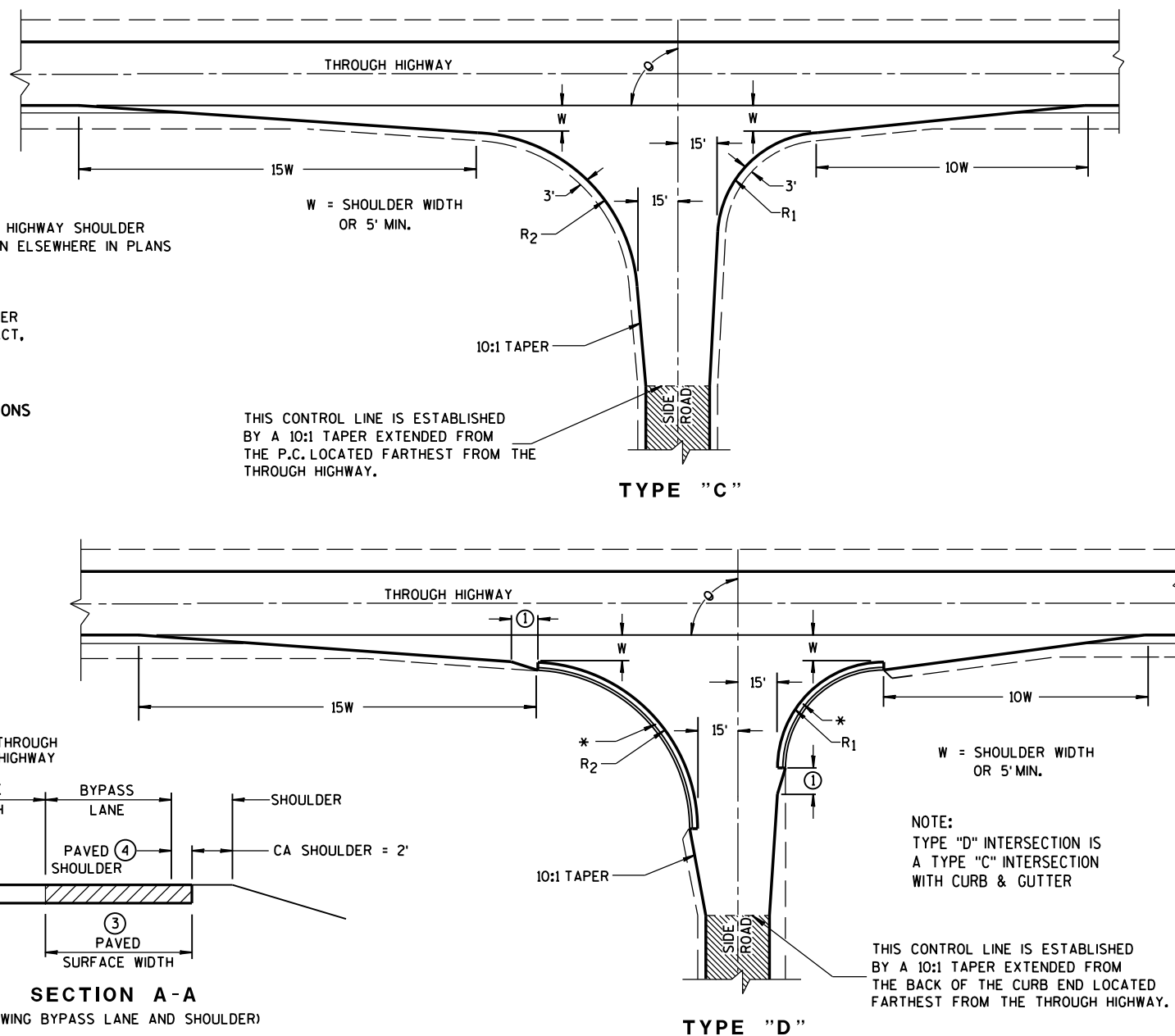
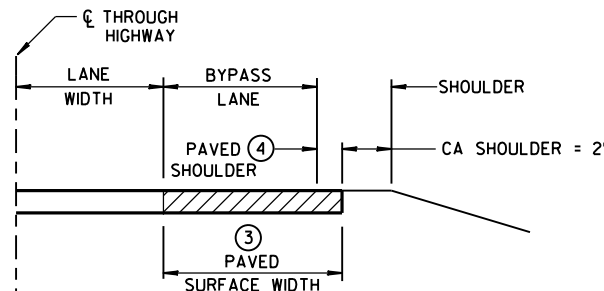
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

- 10-FT TYPICAL.
- 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

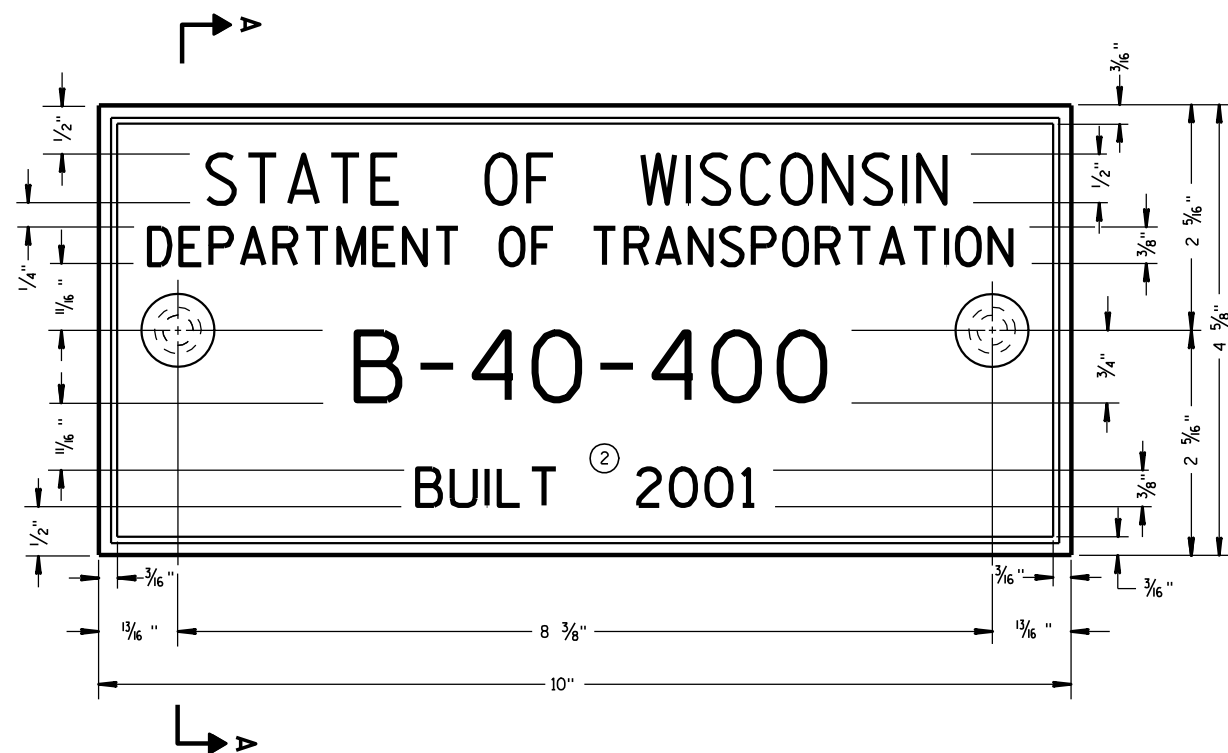
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



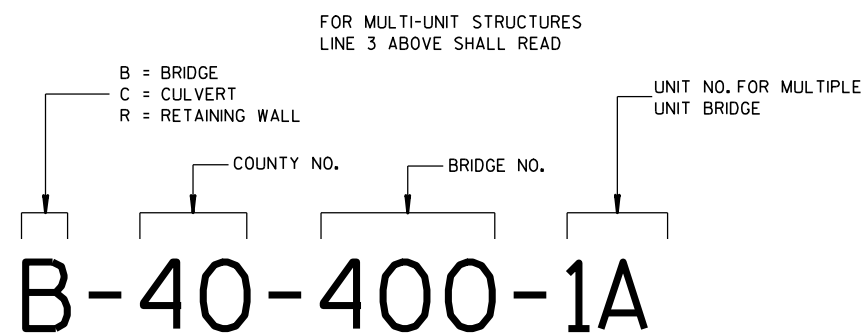
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



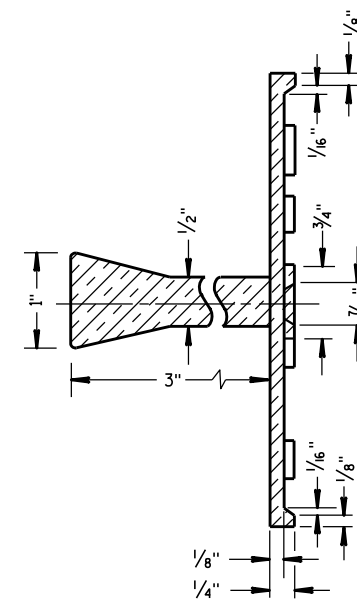
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

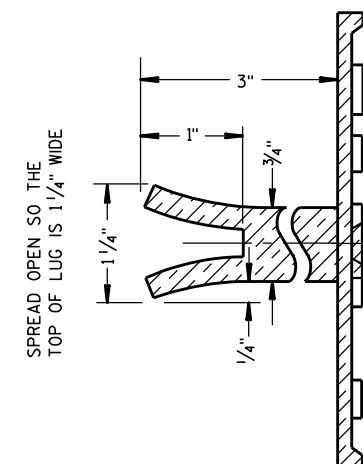
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

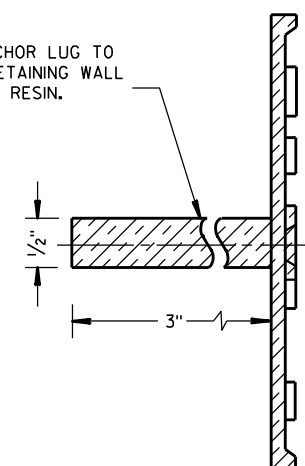


SECTION A-A



ALTERNATE LUG

- 1 ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

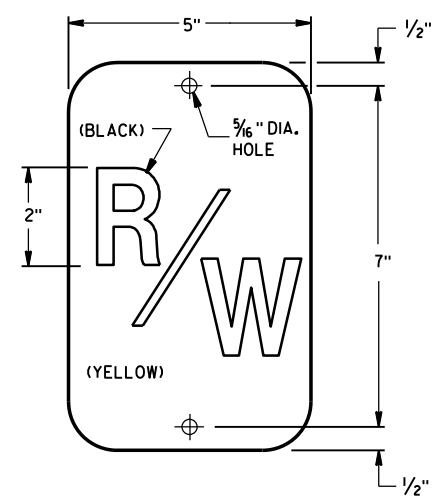
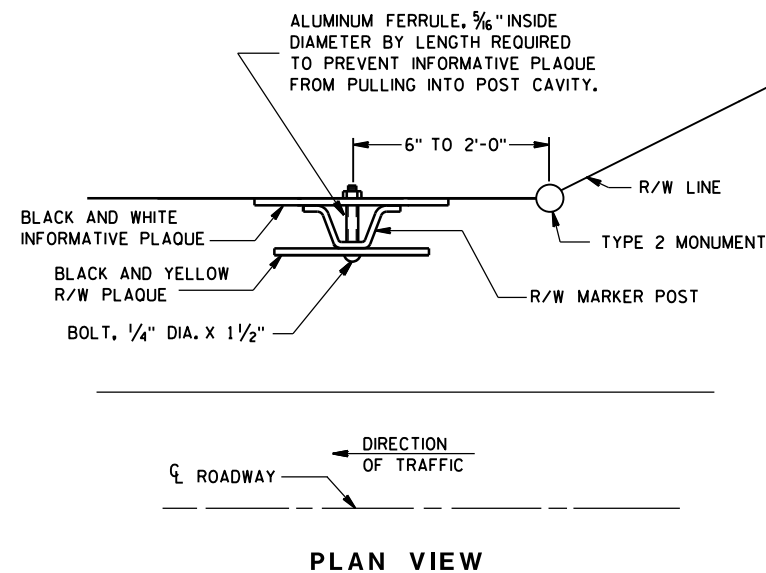
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

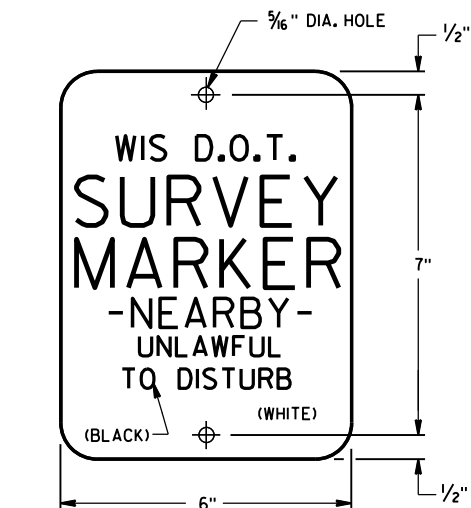
FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



R/W PLaque

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



GENERAL NOTES

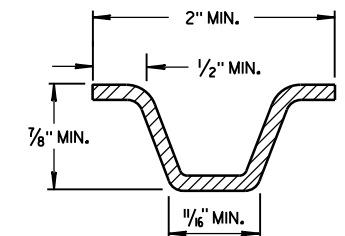
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

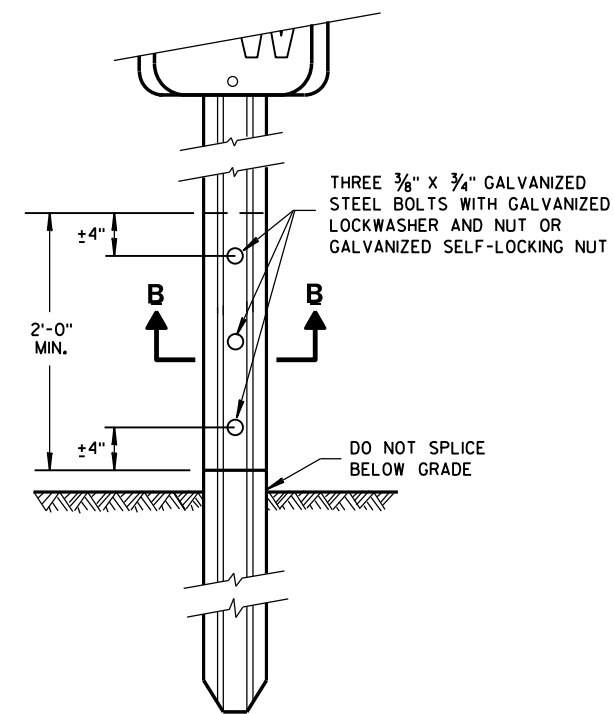
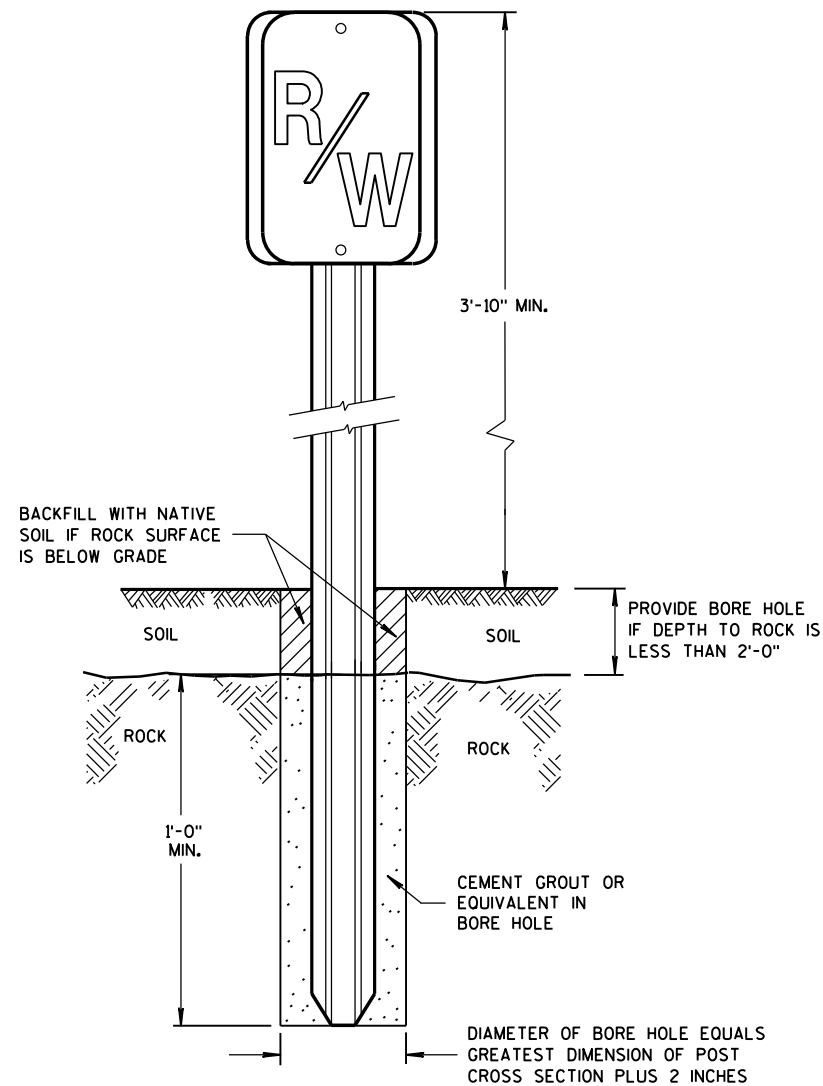
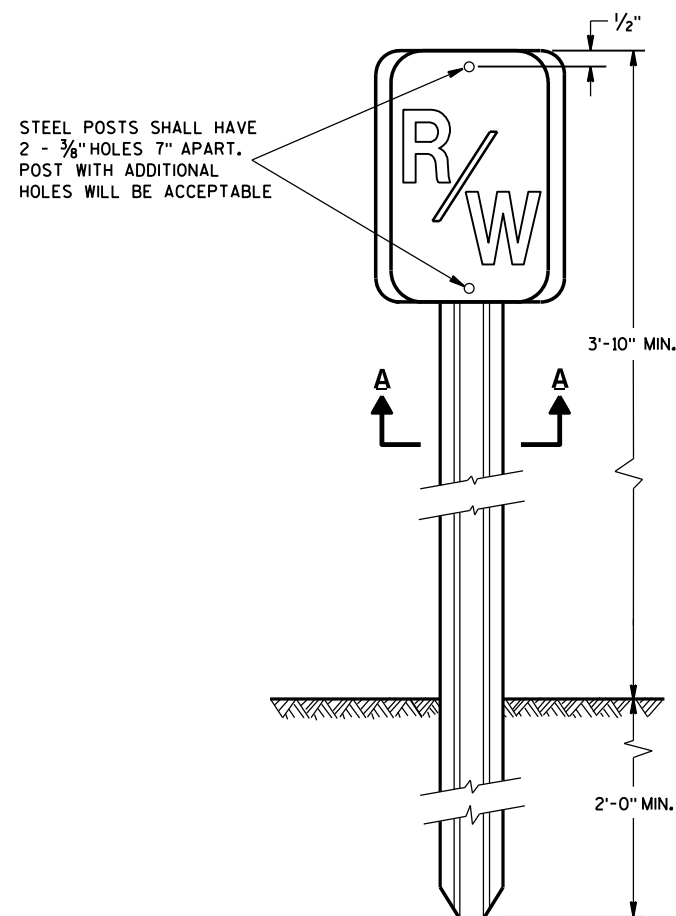
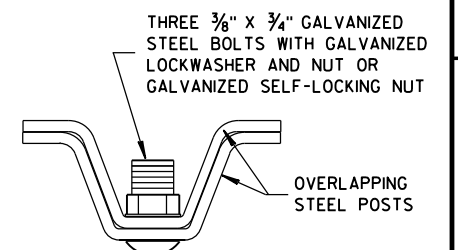
STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO 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.



MIN. WEIGHT 1.12 LB./FT.

SECTION A-A



**MARKER POST
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

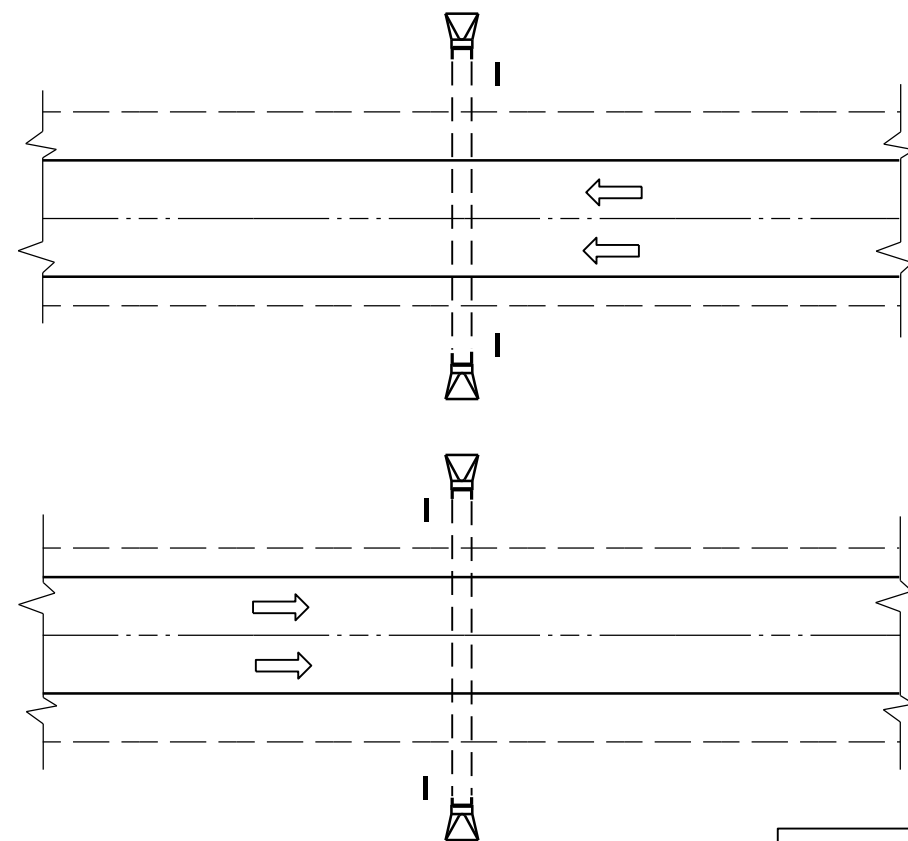
APPROVED

3/18/2016

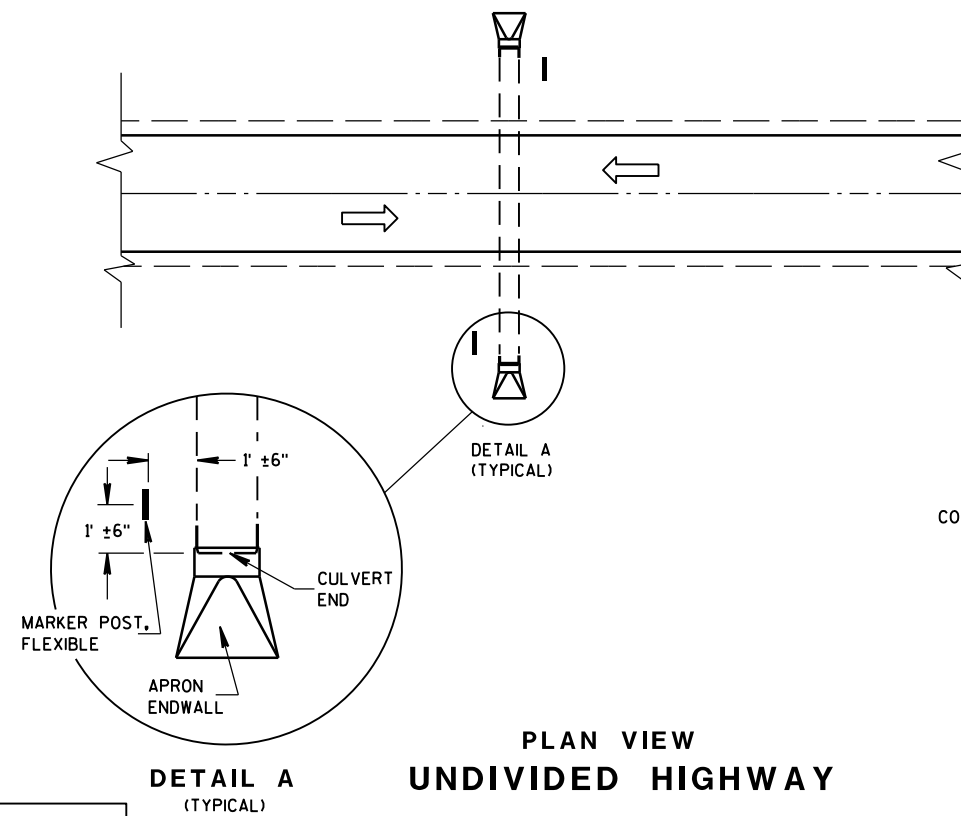
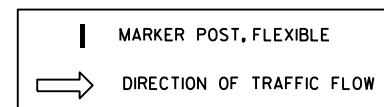
DATE

DATE _____

/S/ Ray Kumapayi
CHIEF SURVEYING AND MAPPING ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

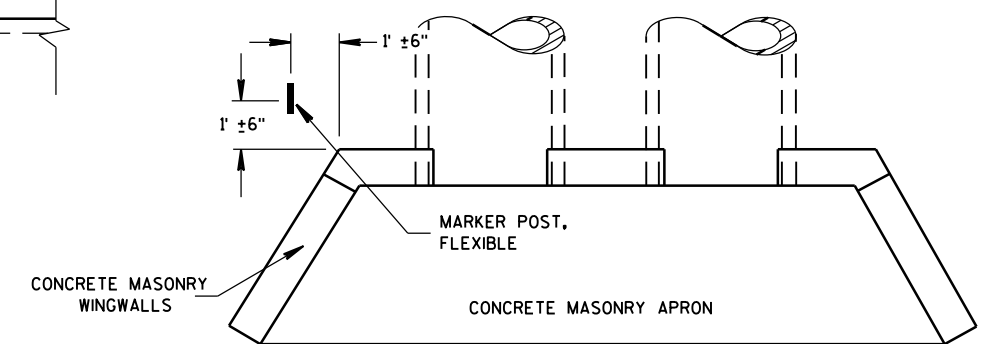


PLAN VIEW
UNDIVIDED HIGHWAY

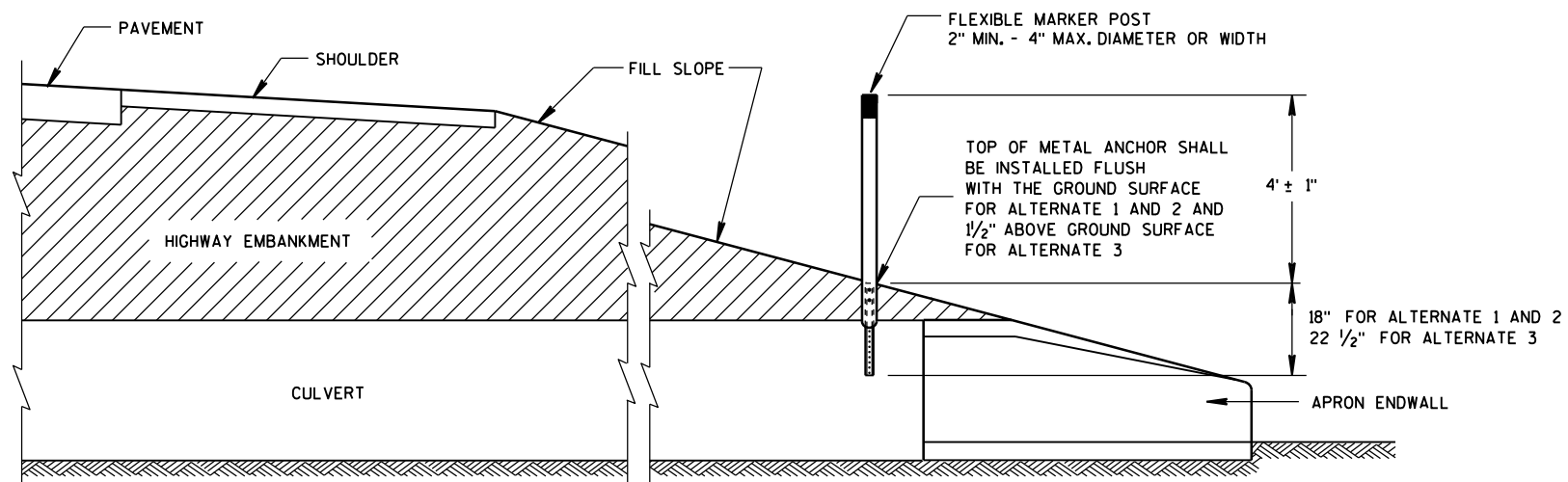
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



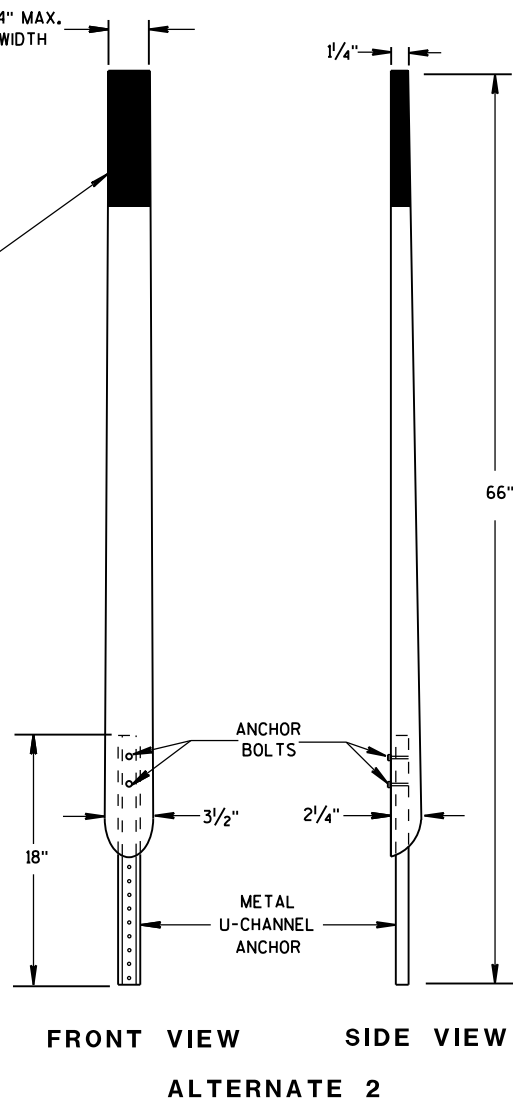
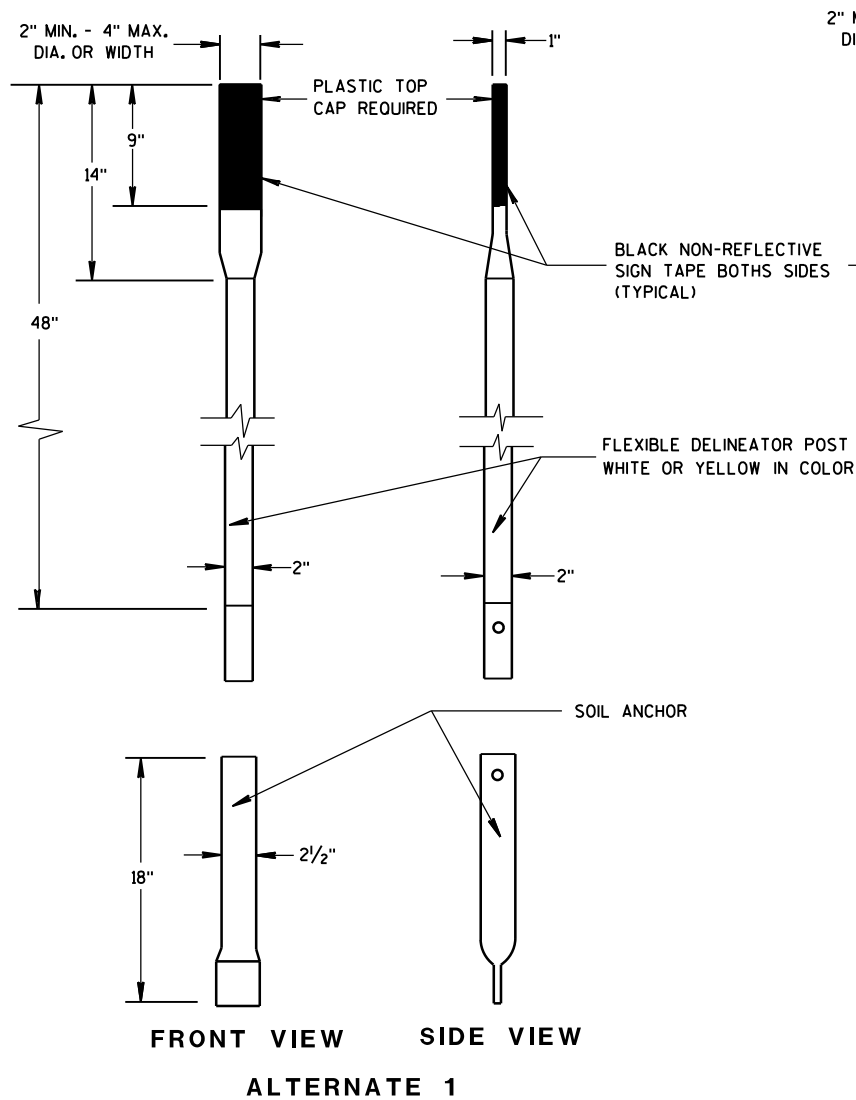
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



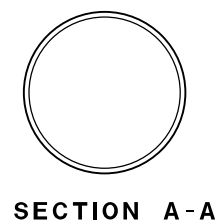
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

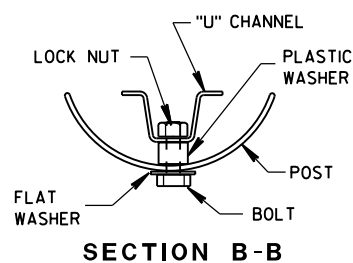
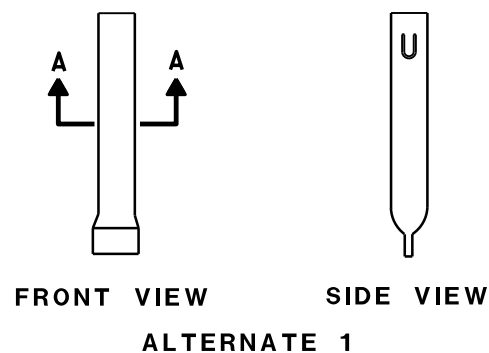
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



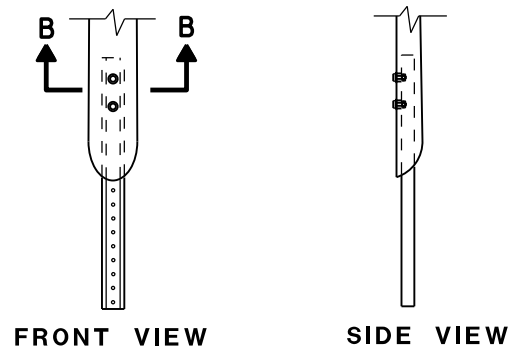
FLEXIBLE MARKER POSTS



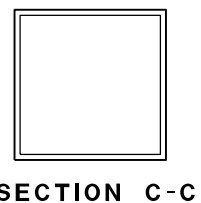
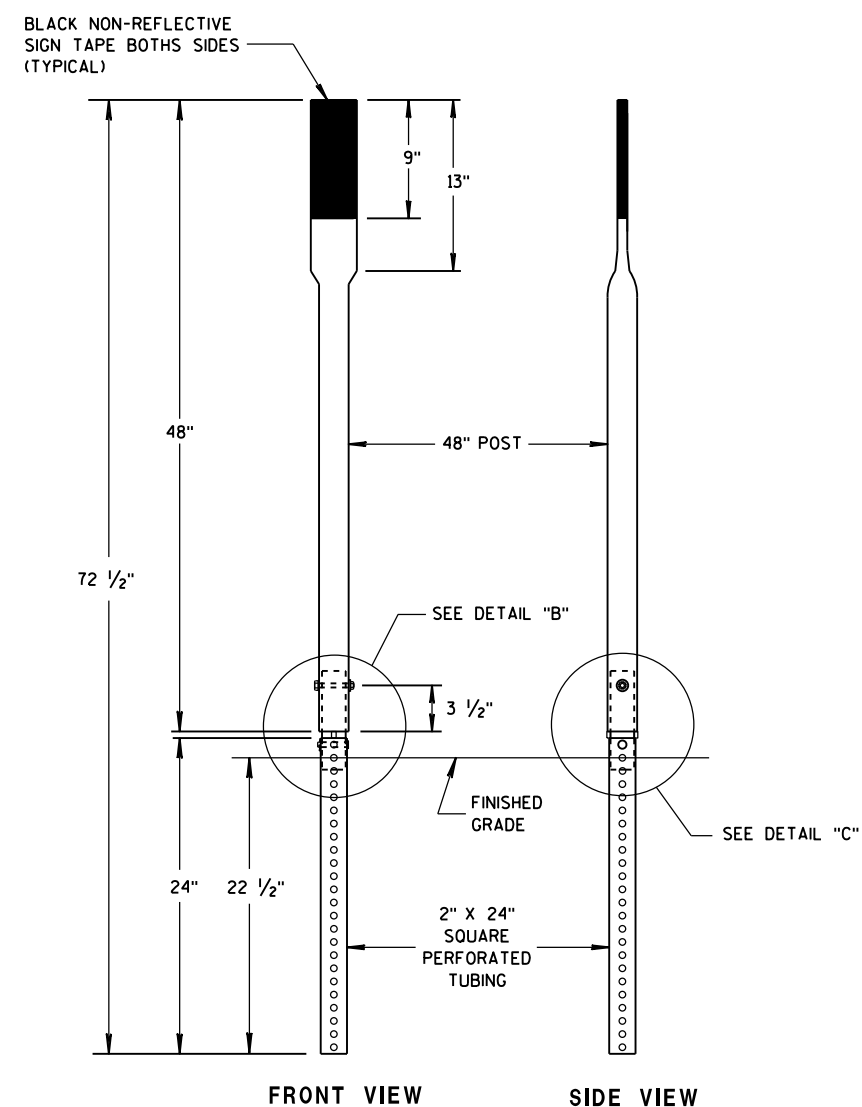
SECTION A-A



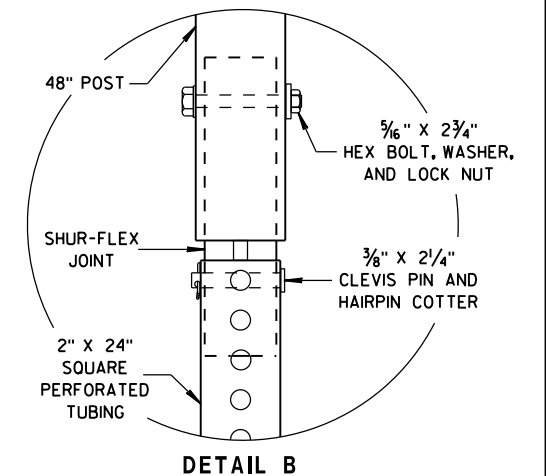
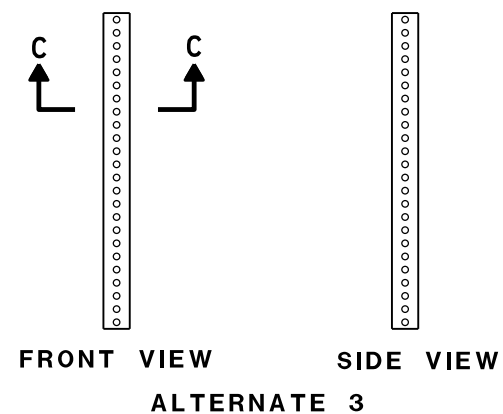
SECTION B-B



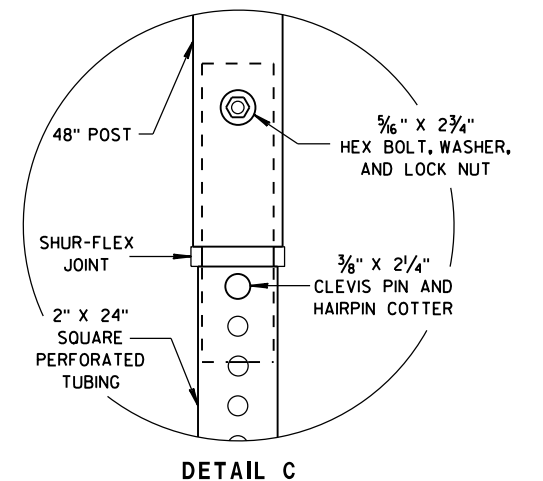
FLEXIBLE MARKER POST ANCHORS



SECTION C-C



DETAIL B

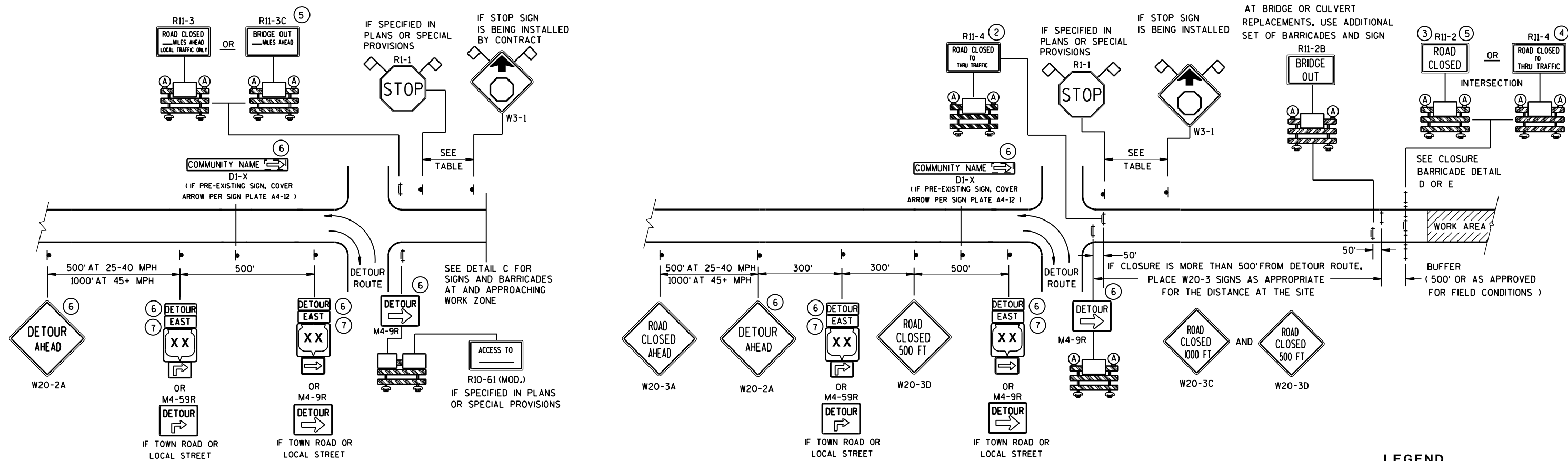


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

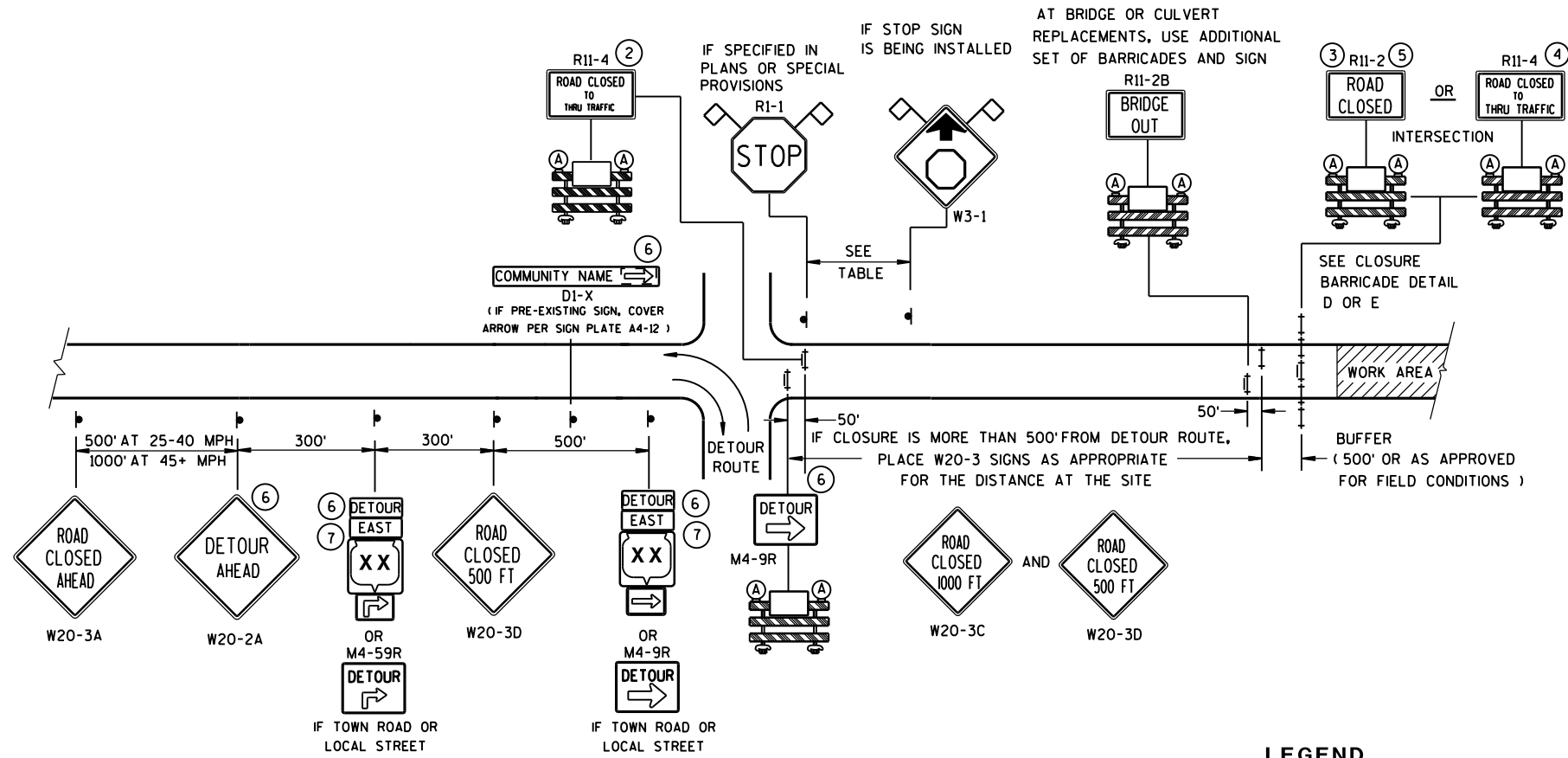
APPROVED
10/1/2012 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

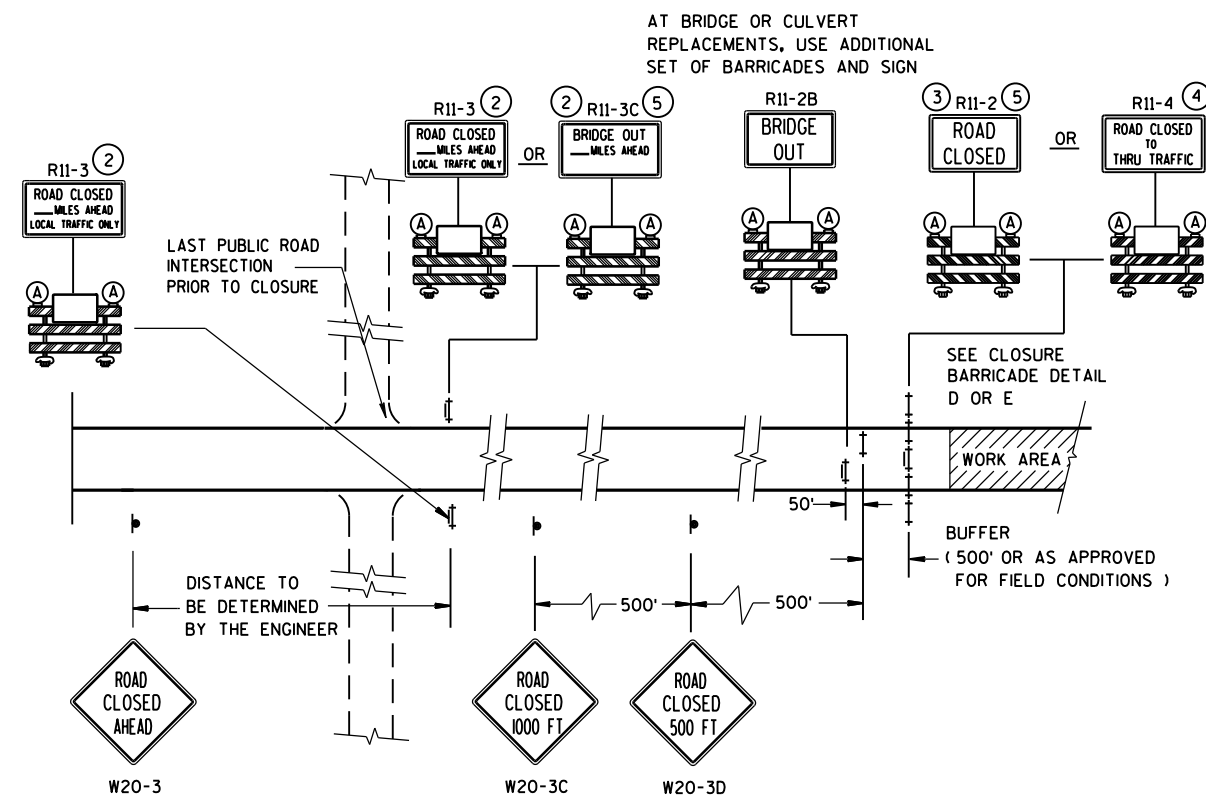
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



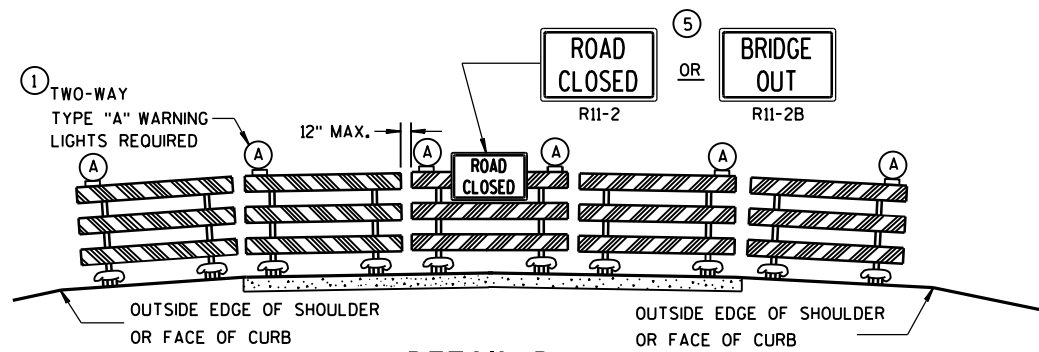
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

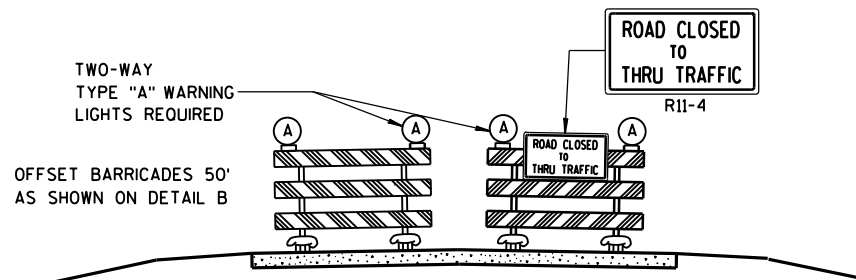
- ## LEGEND
-  SIGN ON PERMANENT SUPPORT
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  WORK AREA
-  M4-8
M3-X
-  OR  OR 
M1-4 M1-5A M1-6
-  OR 
M05-1 M06-1
-  FLAGS, 16" X 16" MIN., (ORANGE)

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015	/S/ Peter Amokobe Atepe
DATE	STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

M4-9 SHALL BE 30" X 24".

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

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

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

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

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

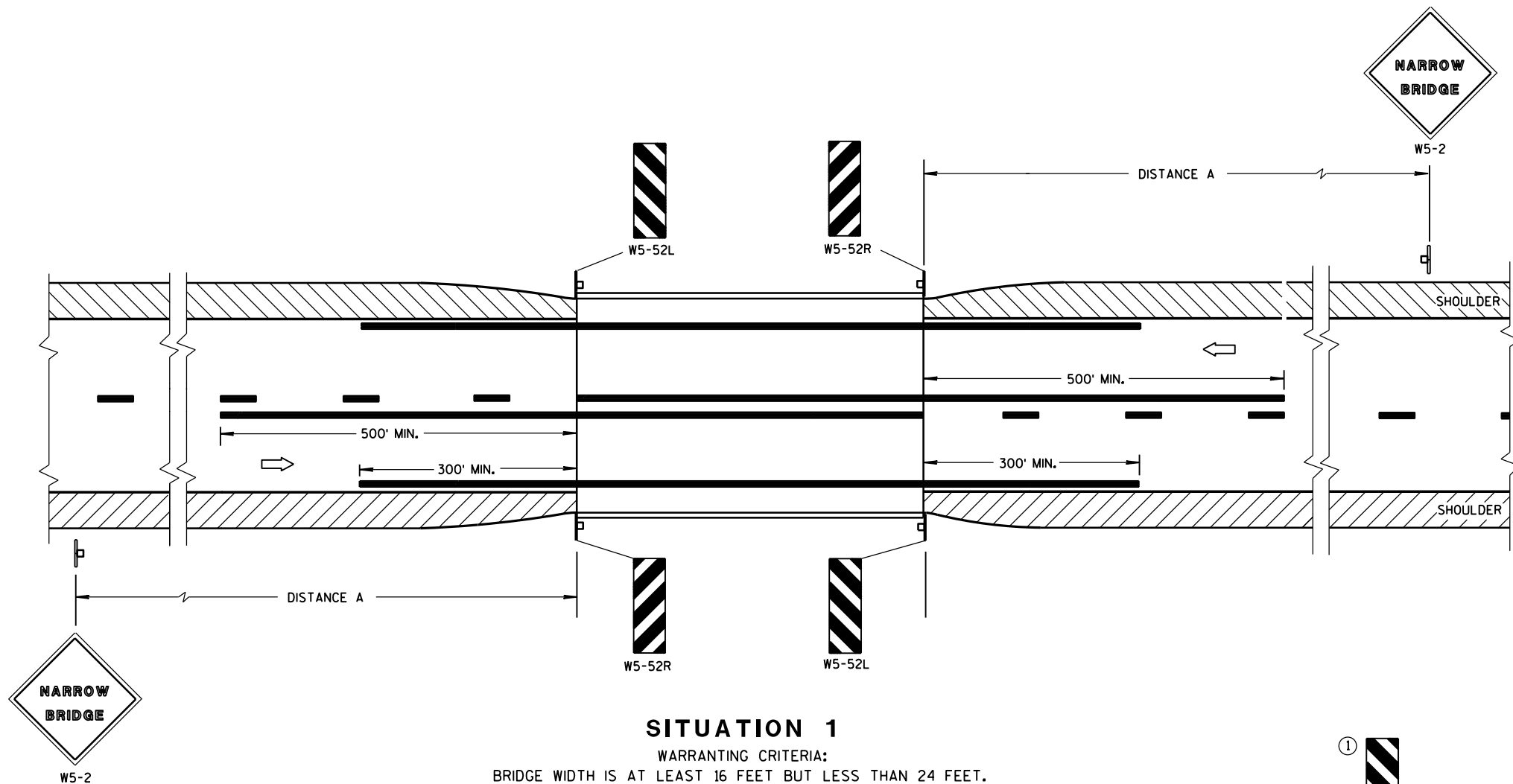
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



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

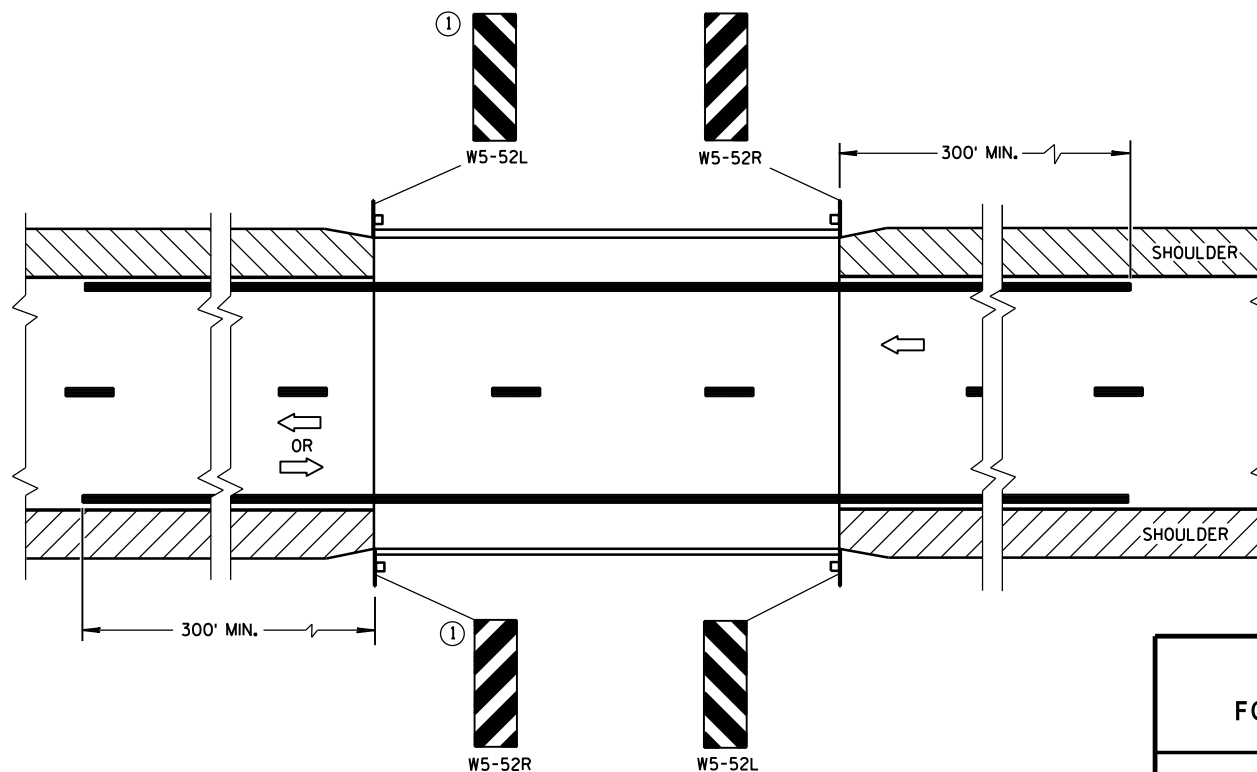
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

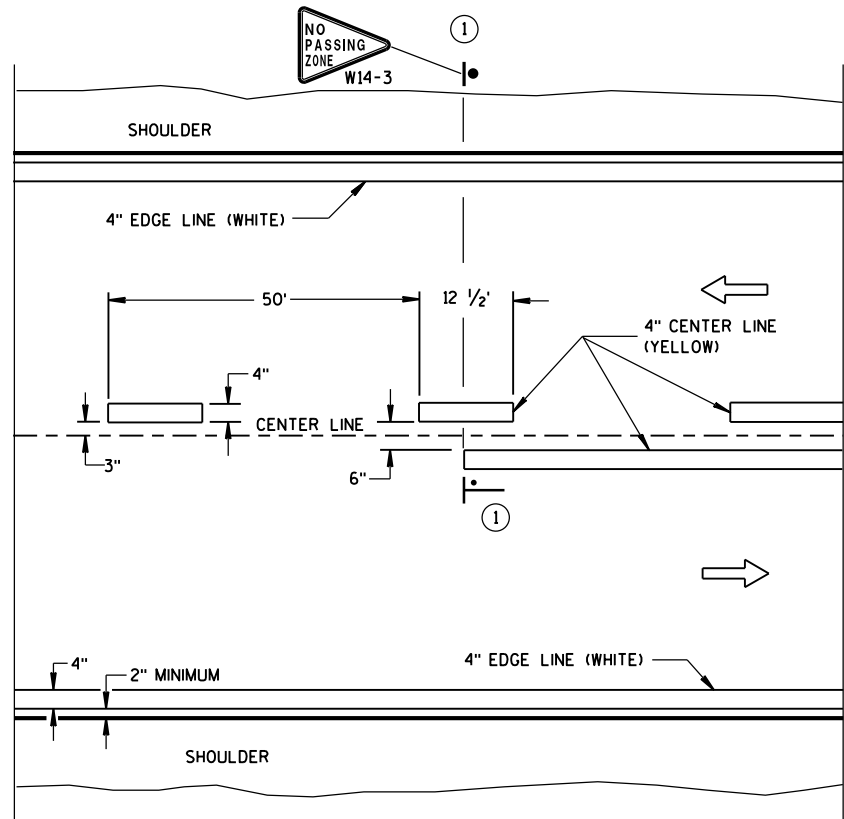
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

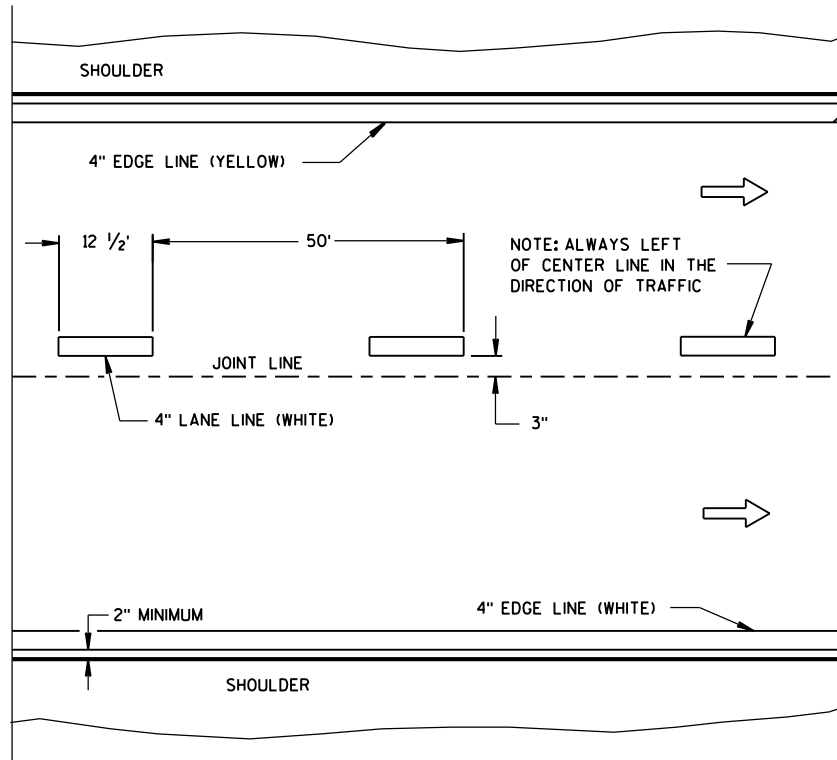
June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

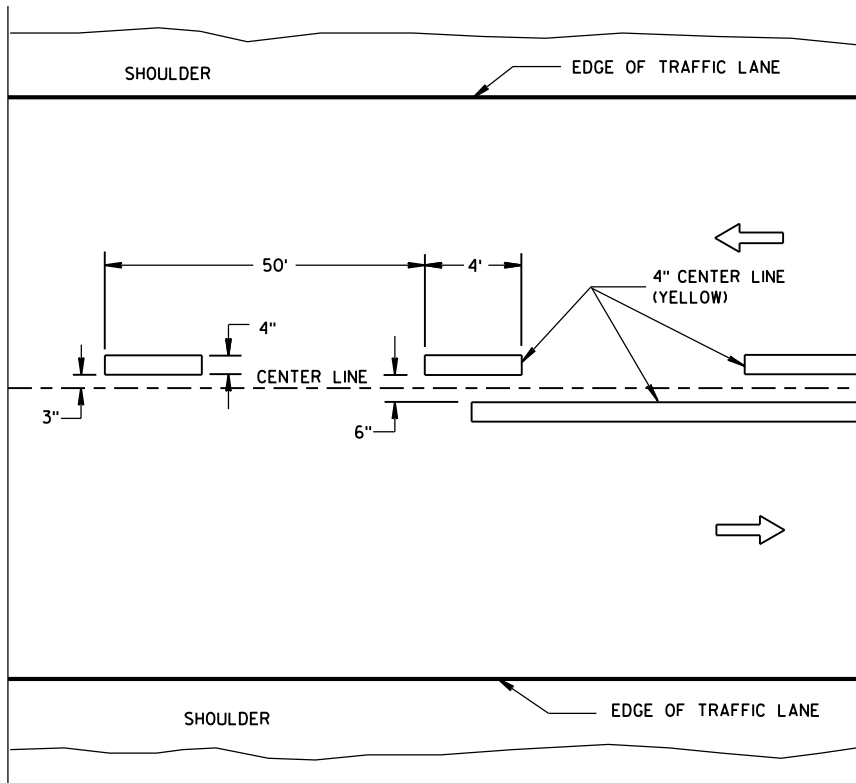


TWO WAY TRAFFIC

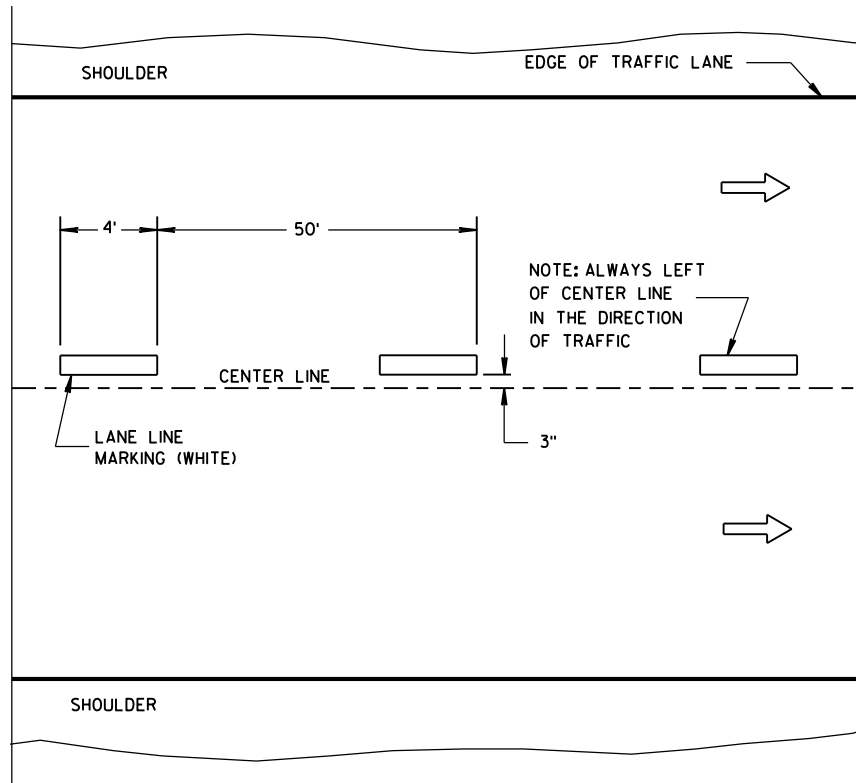


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

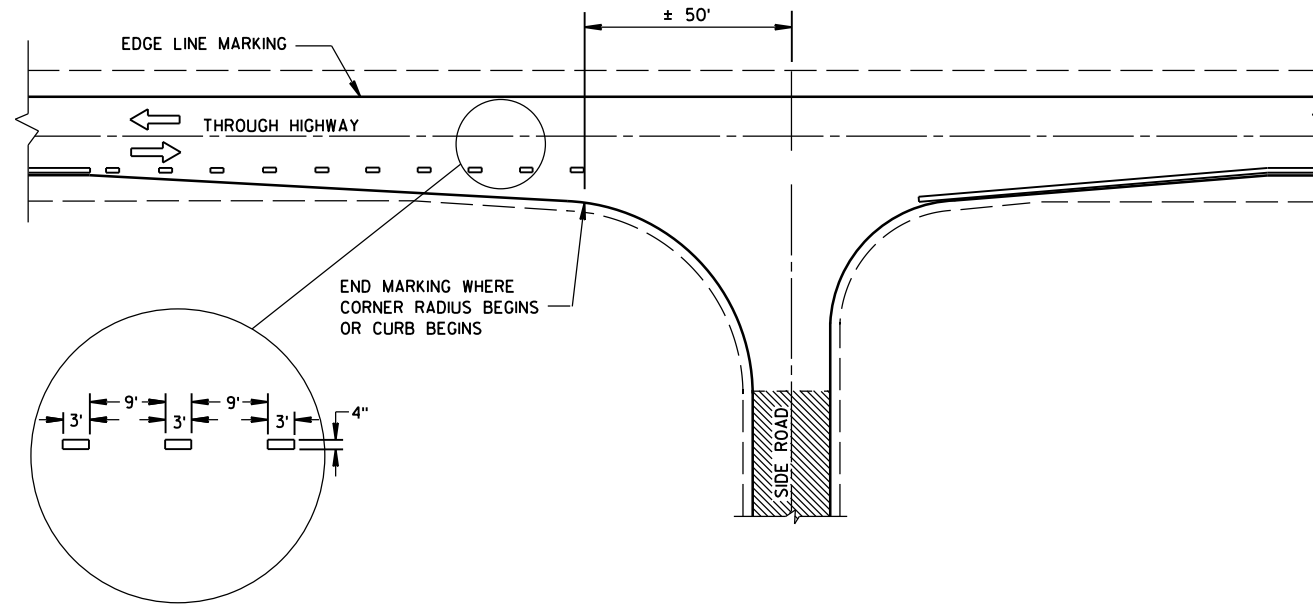
—●—"T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



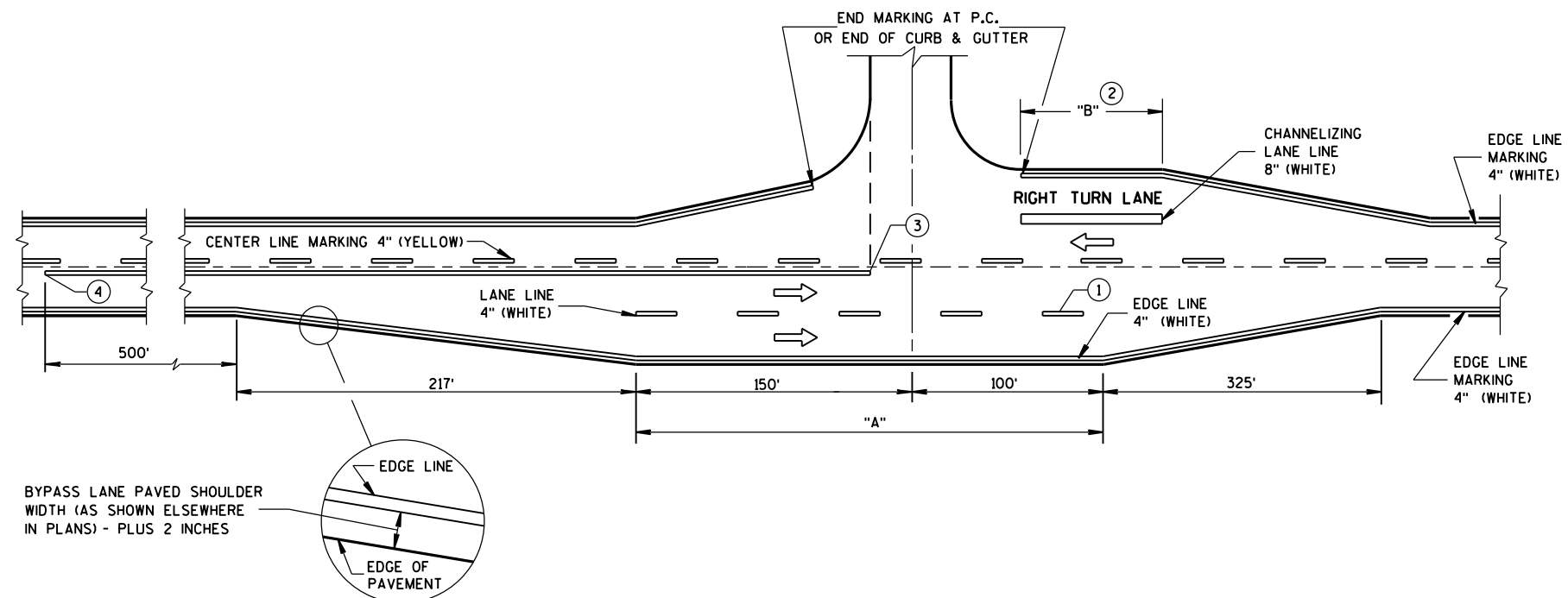
MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

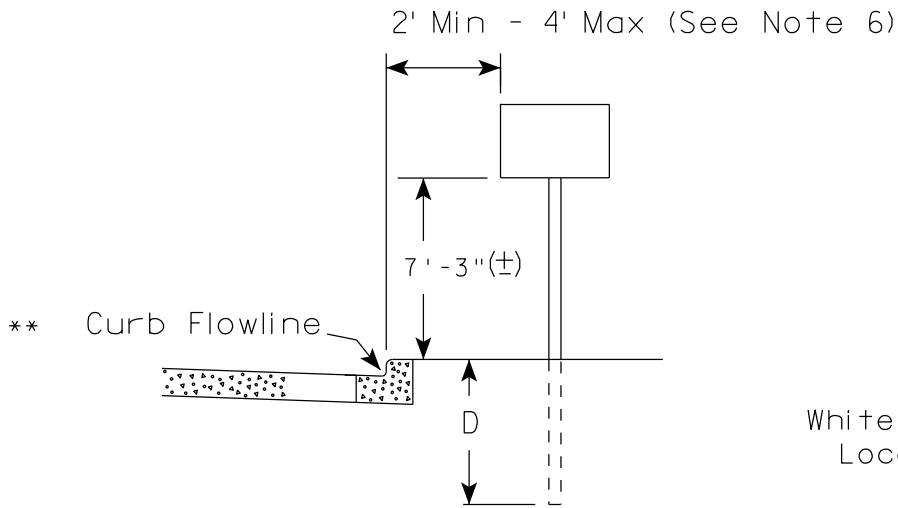


MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)

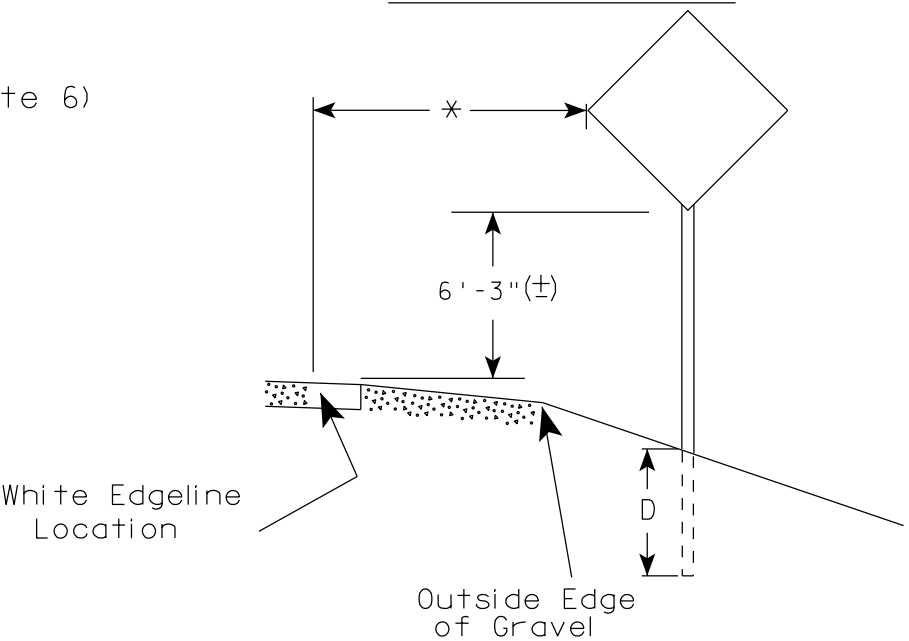
**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

URBAN AREA

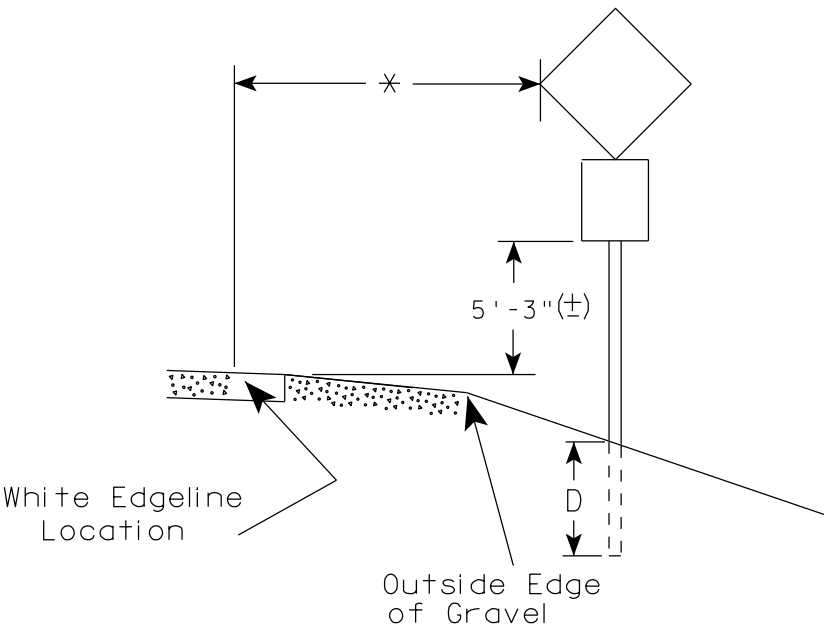
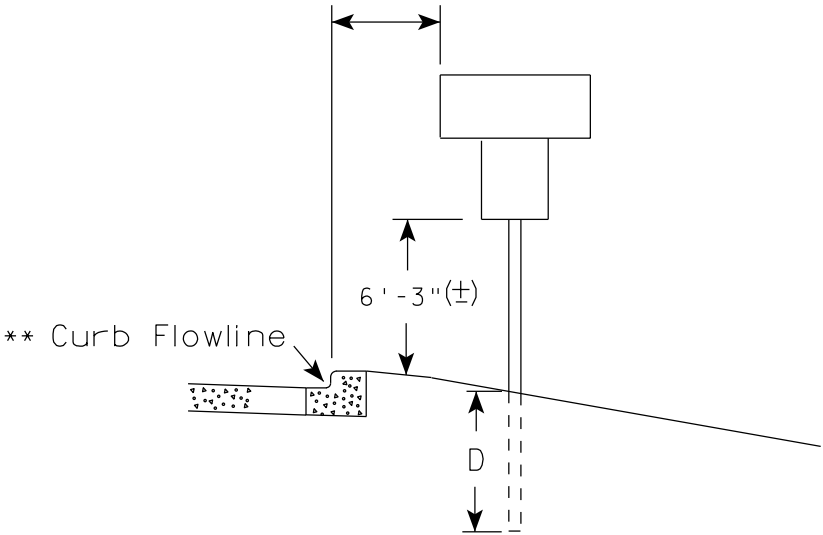


RURAL AREA (See Note 2)



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

2' Min - 4' Max (See Note 6)



POST EMBEDMENT DEPTH

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

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

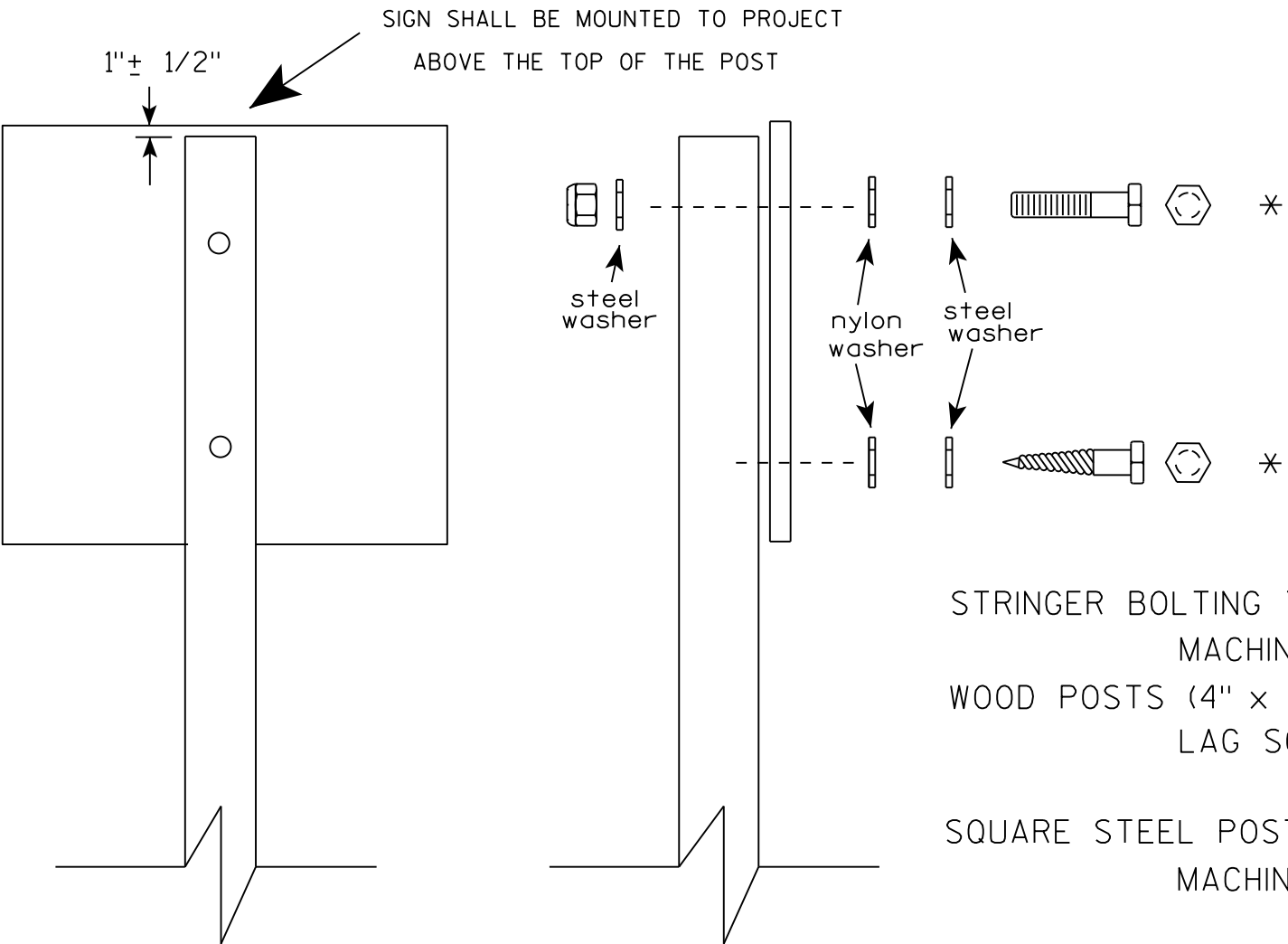
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

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



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.

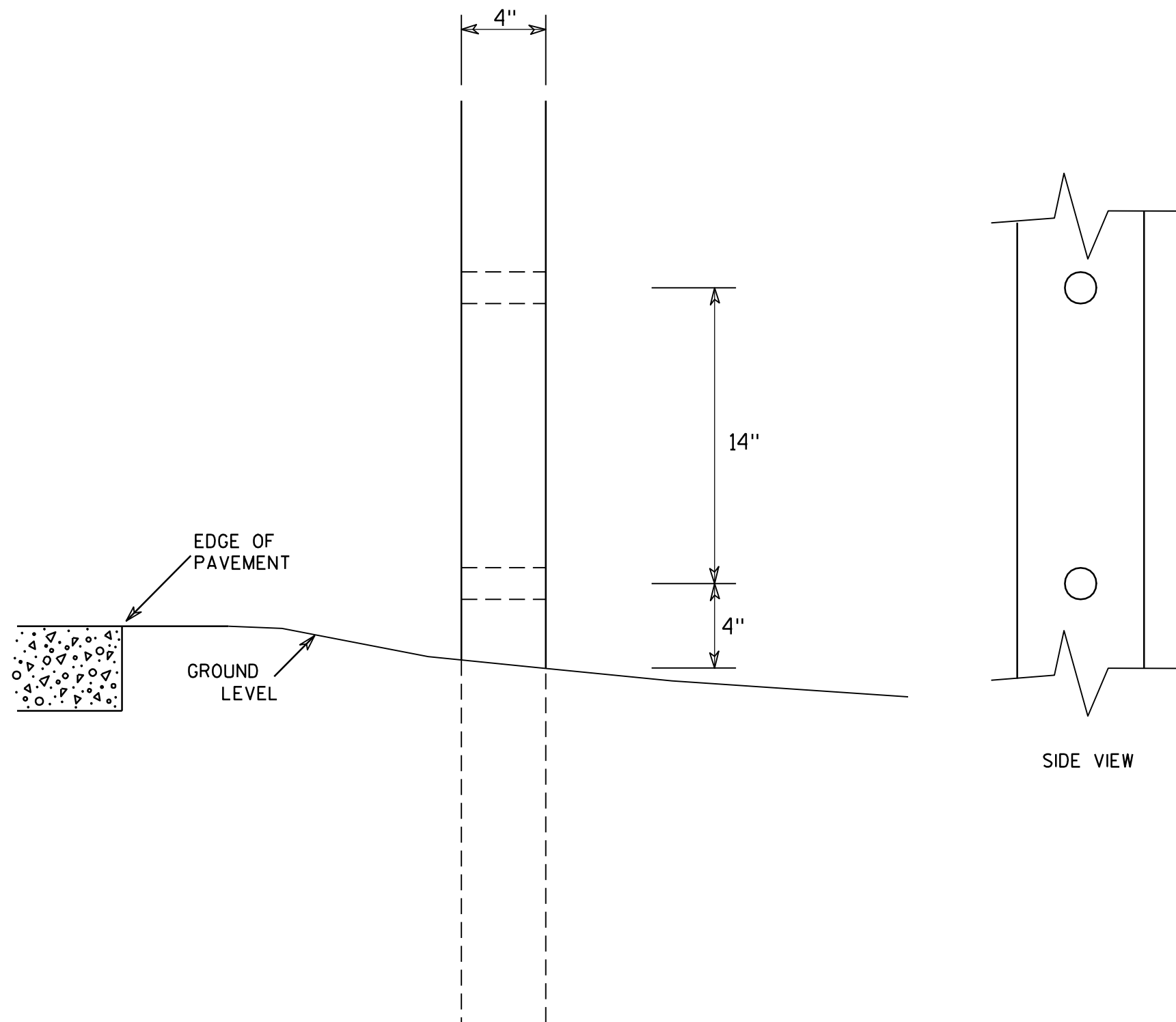
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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 4" or 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

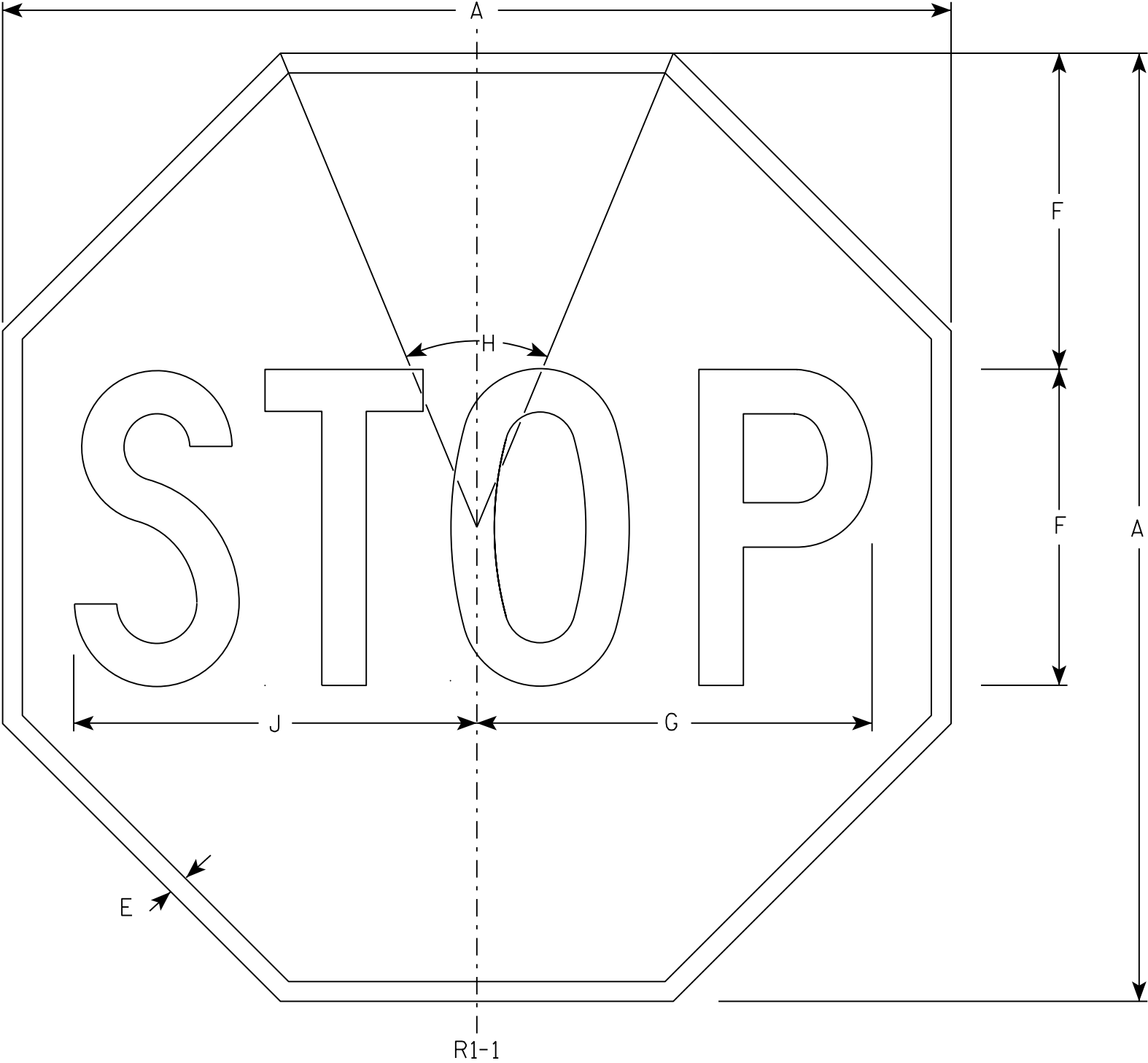
HWY:

COUNTY:

SHEET NO:

E

7



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

7

R1-1

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

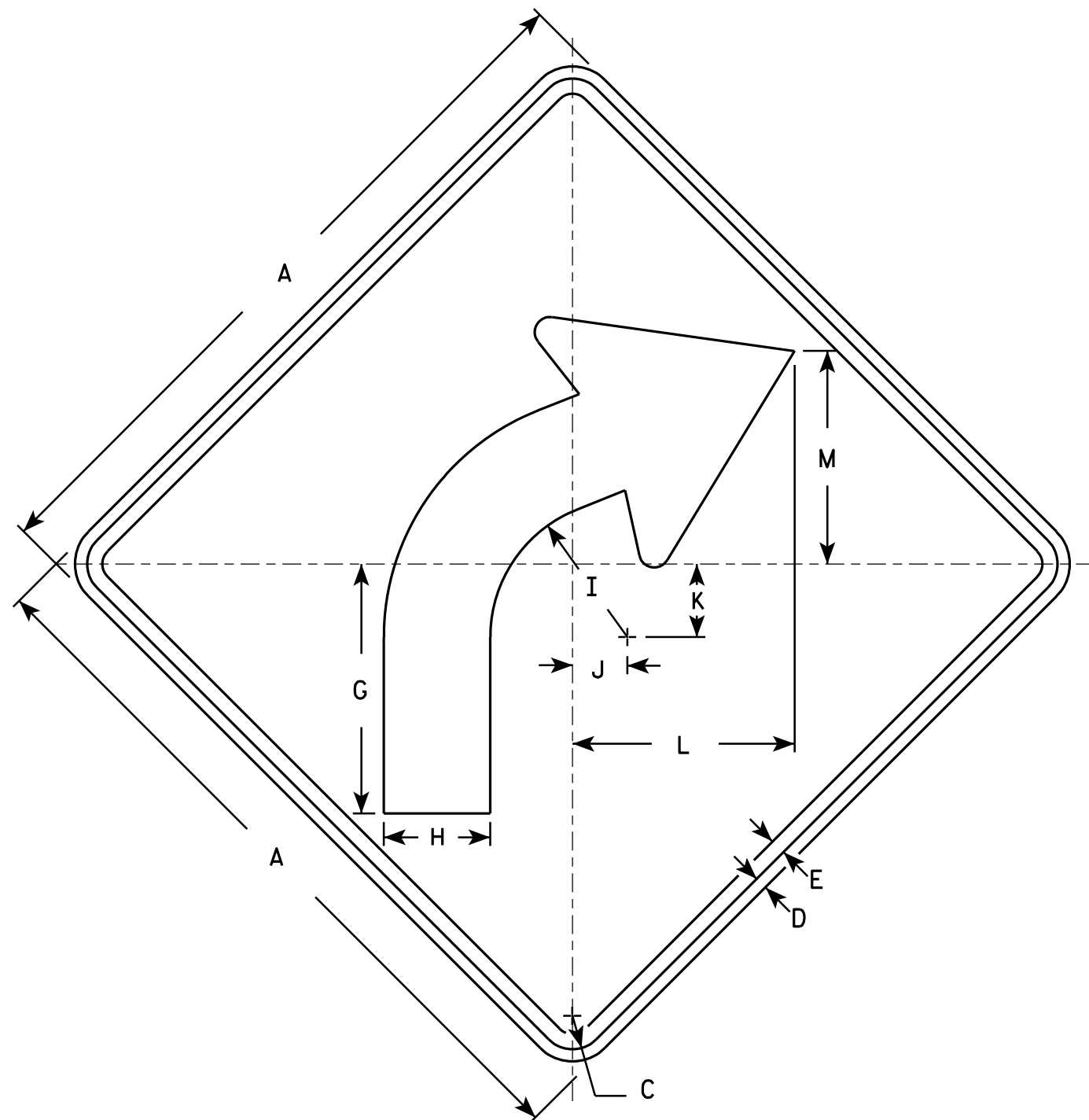
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

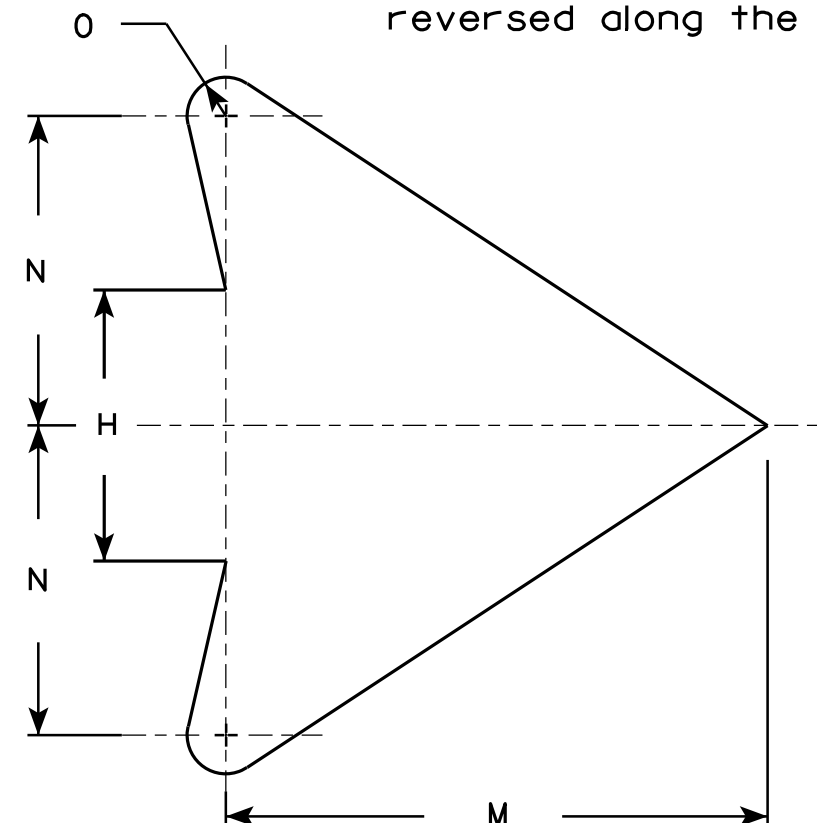
DATE 11/12/15 PLATE NO. R1-1.13

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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



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	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

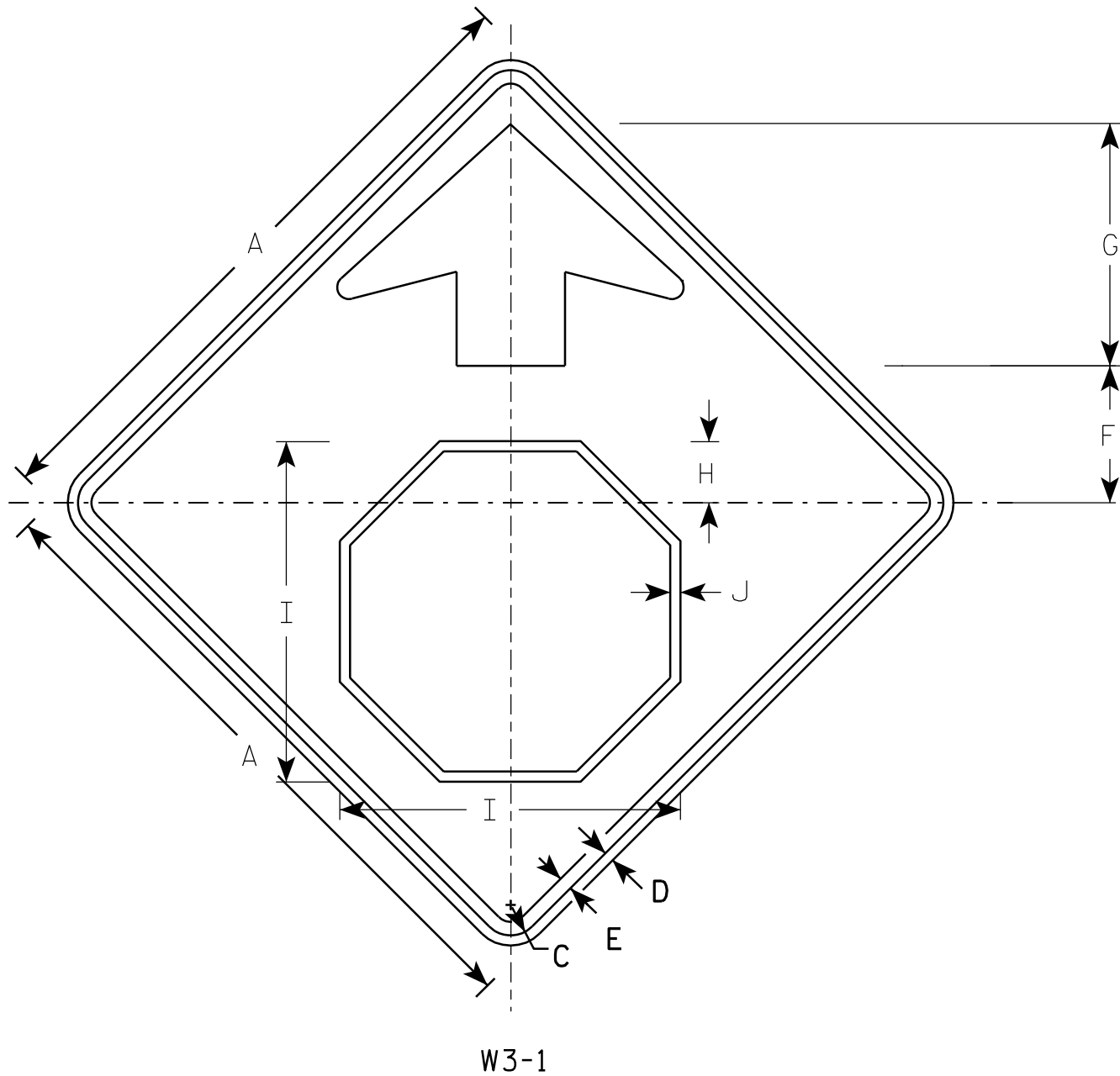
PROJECT NO:

HWY:

COUNTY:

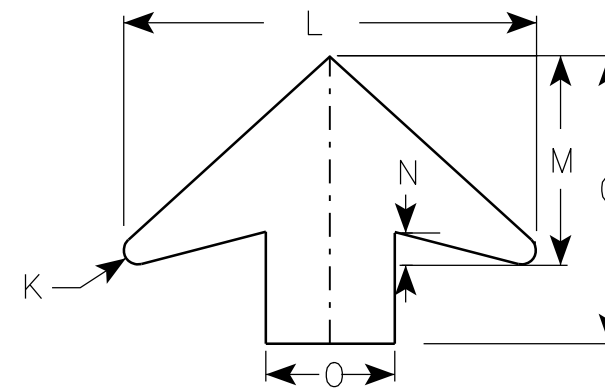
SHEET NO:

E



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
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	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	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
2M	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
3	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
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

PROJECT NO:

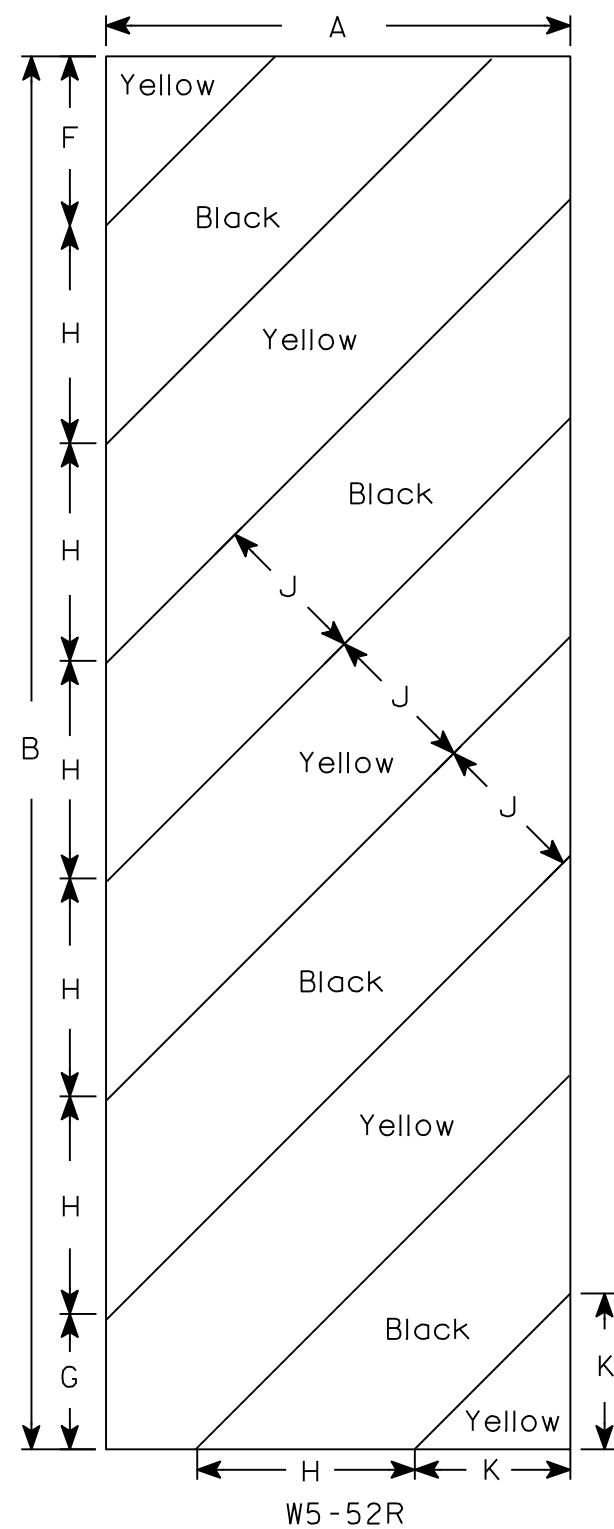
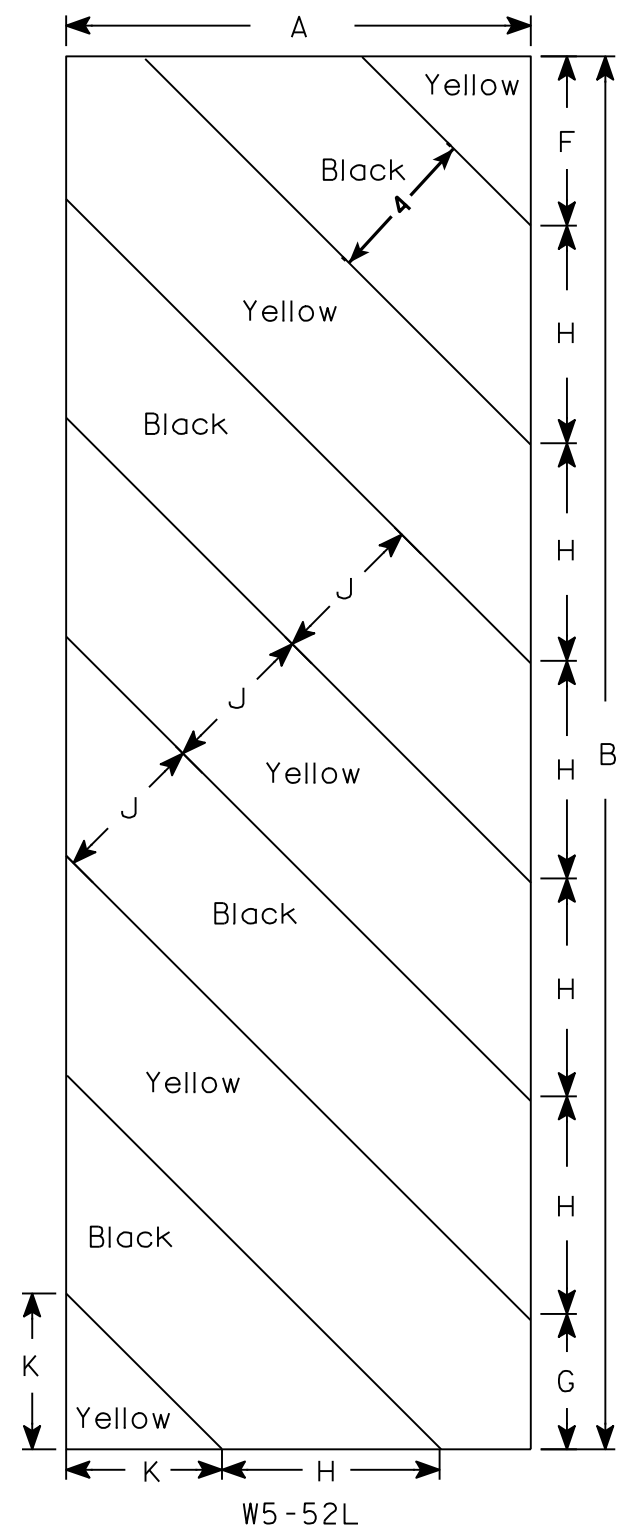
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

E



NOTES

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

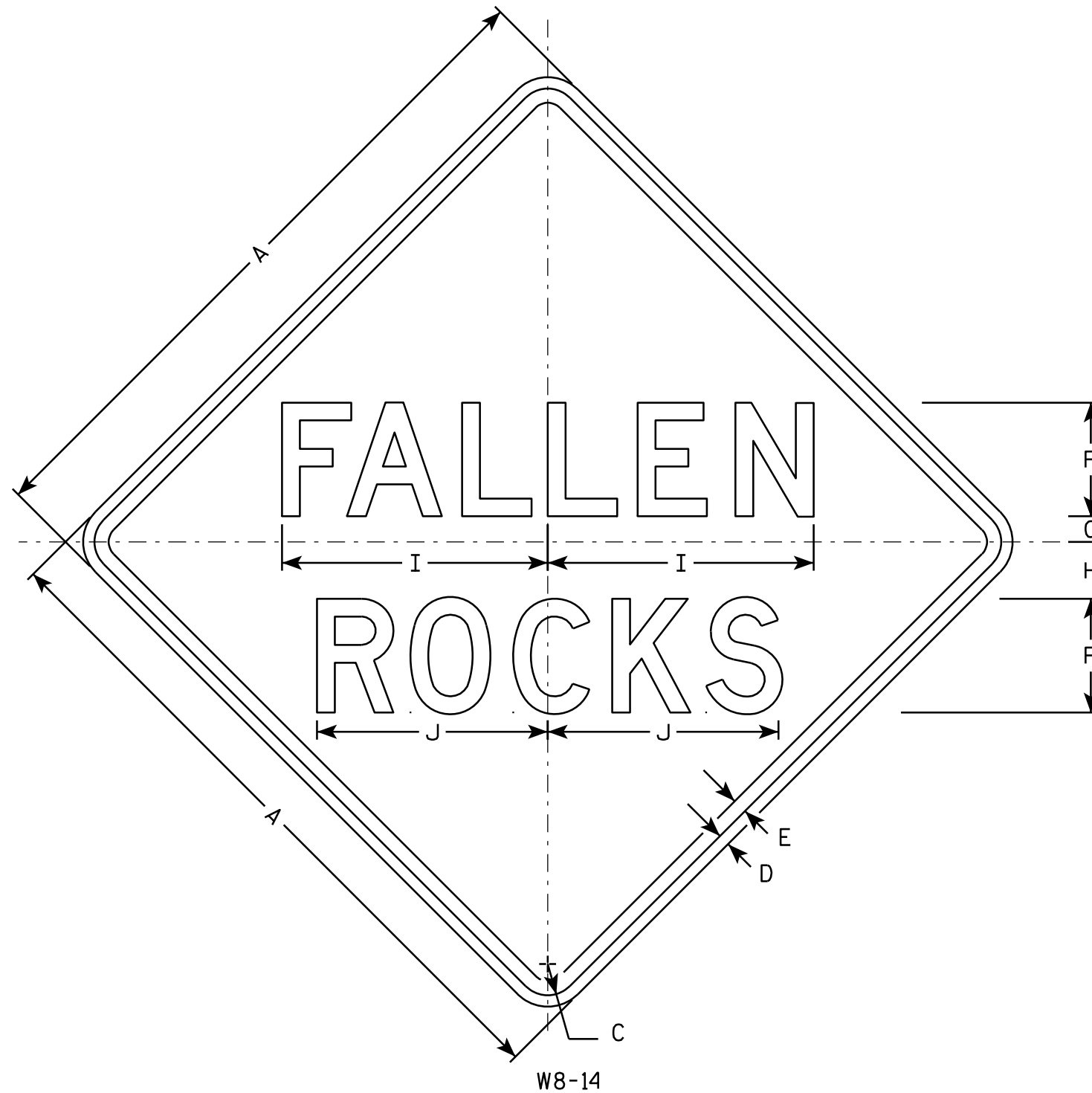
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄6																6.75
4																											
5																											

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



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Yellow
Message - Black
- Message Series - D
- 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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 3⁄8	1⁄2	5⁄8	5	1 1⁄8	2 1⁄2	11 3⁄4	10 1⁄8																	6.25
2M	36		1 5⁄8	5⁄8	3⁄4	6	1 3⁄8	3	14	12 1⁄8																	9.0
3	36		1 5⁄8	5⁄8	3⁄4	6	1 3⁄8	3	14	12 1⁄8																	9.0
4	36		1 5⁄8	5⁄8	3⁄4	6	1 3⁄8	3	14	12 1⁄8																	9.0
5	48		2 1⁄4	3⁄4	1	8	1 3⁄4	4	18 3⁄4	16 1⁄4																	16.0

STANDARD SIGN

W8-14

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/14/13 PLATE NO. W8-14.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

BENCHMARKS			
NO.	STA./OFFSET	DESCRIPTION	ELEV.
1	10+61.42, 30.3' LT.	CHISELED SQUARE ON NE CORNER OF BRIDGE	698.84
2	7+19.45, 35.9' RT.	2 POLE NAILS IN 12" ϕ ELM TREE	689.69
3	18+76.01, 48.5' RT.	10" NAIL IN 16" ϕ ELM TREE	696.20

LIVE LOAD:

DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.09
OPERATIONAL RATING FACTOR : 1.50
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.
STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
36W" PRESTRESSED GIRDERS, CONCRETE MASONRY — f'c = 8000 P.S.I.
STRANDS- 0.60" ϕ WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS AND PIERS TO BE SUPPORTED ON PILING STEEL
HP 10-INCH x 42 LB. WITH PILE POINTS, DRIVE ABUT. BODY PILES TO A
REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE. DRIVE ABUT. WING PILES
TO A REQUIRED DRIVING RESISTANCE OF 80 TONS PER PILE. DRIVE PIER PILES
TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ~~DRIVE PILES TO~~
THE REQUIRED DRIVING RESISTANCE AS DETERMINED BY THE MODIFIED GATES
DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 50'-0" AT THE WEST ABUT.
BODY AND 40'-0" AT THE WEST ABUT. WINGS, 60'-0" AT THE EAST ABUT. BODY
AND 50'-0" AT THE EAST ABUT. WINGS, AND 50'-0" AT THE PIER.

* 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.

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA	41.2	SO. MI.
Q ₁₀₀	6,000	C.F.S.
VELOCITY	7.51	FT./SEC.
WATERWAY AREA	799	SO. FT.
SCOUR CRITICAL CODE	5	
HIGH WATER ₁₀₀ ELEVATION	688.00	
Q ₂ ELEVATION (910 C.F.S.)	683.48	

ROADWAY OVERFLOW DESIGN FREQUENCY

OVERTOPPING FREQUENCY _____ > 100 YEARS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. PIER
9. BEARING SEAT LAYOUT
10. 36W" PRESTRESSED GIRDER DETAILS
11. STEEL DIAPHRAGM
12. SUPERSTRUCTURE
13. SUPERSTRUCTURE DECK FORMING &
BAR STEEL DETAILS
14. SUPERSTRUCTURE SECTIONS
15. SINGLE SLOPE PARAPET 32SS

CONSULTANT DESIGN CONTACT:
DANIEL WAGNER
(608) 355-8952

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

NO.	DATE	REVISION	BY
-----	------	----------	----

PLANS PREPARED BY

MSA
PROFESSIONAL NEWS

**TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL**
1230 South Bonestell Road, Waukegan, WI 53093
608-356-2771 1-800-362-4585 FAX: 608-356-27

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dieker SDR 11/08/11
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE	B-22-114
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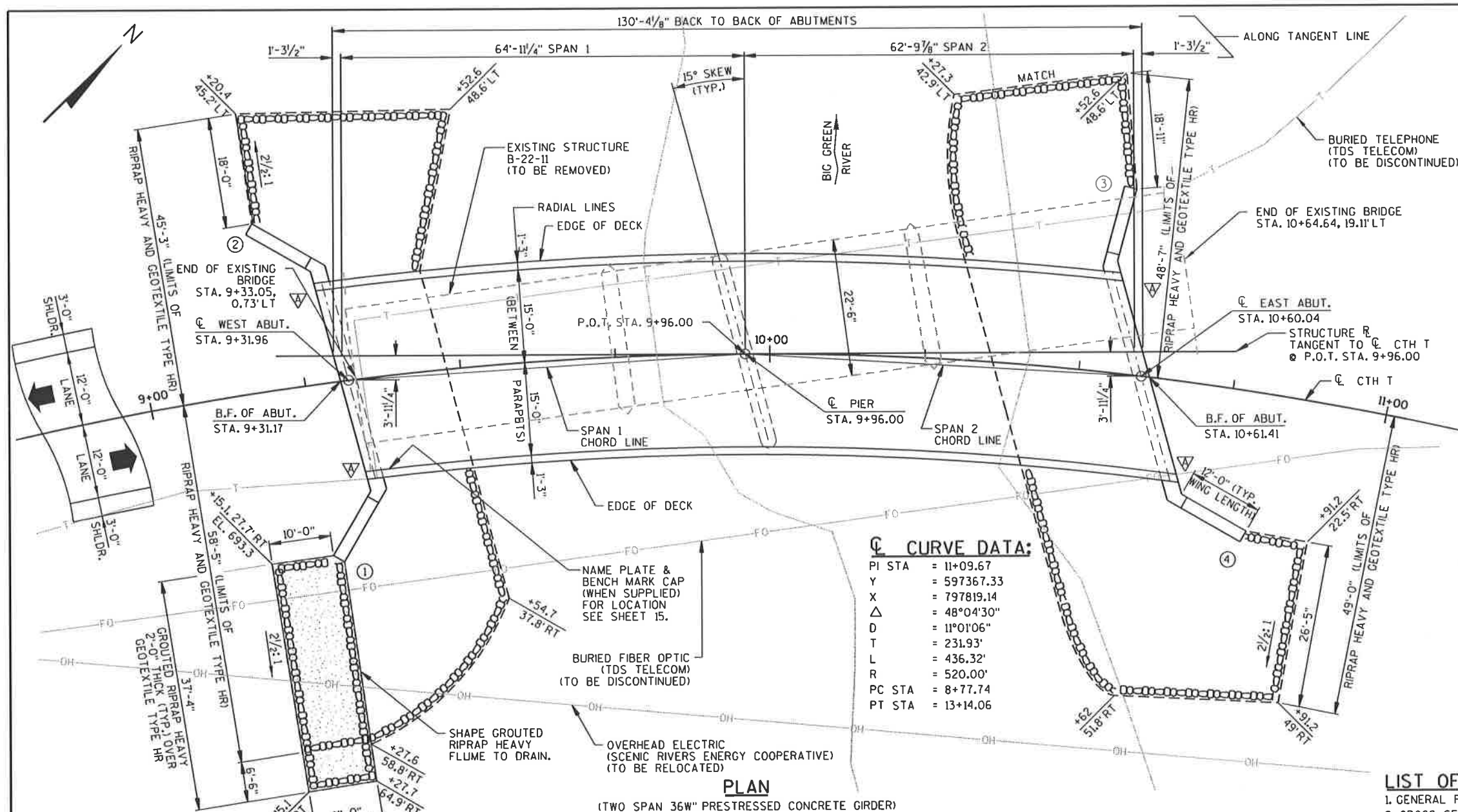
CTH T OVER BIG GREEN RIVER

COUNTY	GRANT	TOWN/CITY/VILLAGE	WOODMAN
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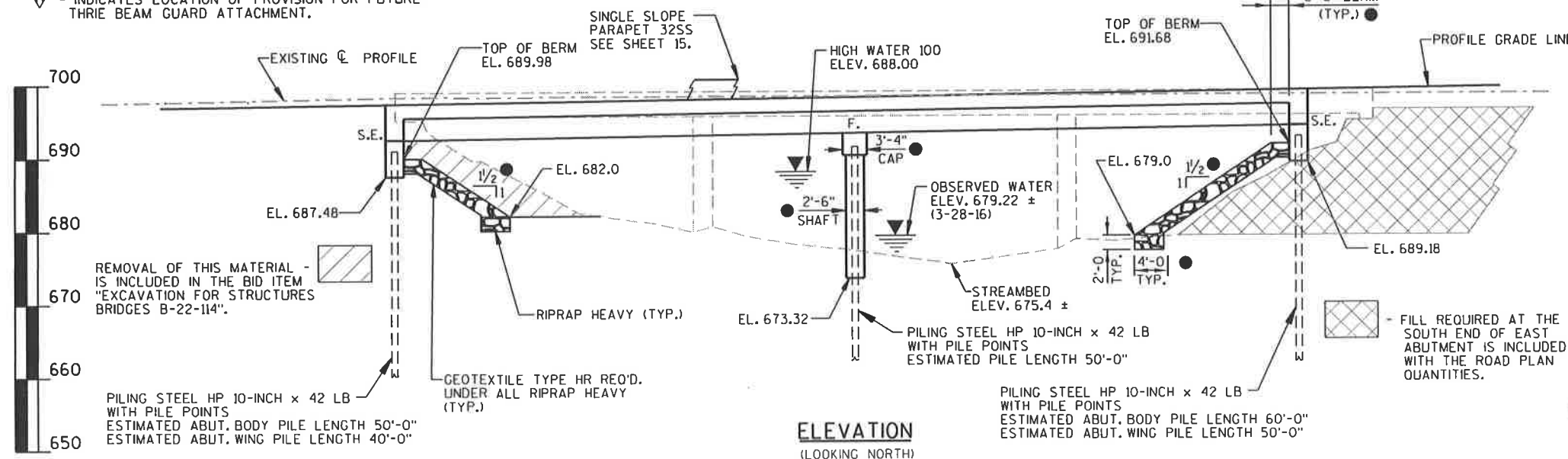
DESIGN SPEC.						
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS						
DESIGNED BY	IAS	DESIGN CK'D	DHW	DRAWN BY	PJR	PLANS CK'D

GENERAL PLAN

SHEET 1 OF 15



- - INDICATES WING NUMBER
- - NORMAL TO $\angle$ OF SUBSTRUCTURE.
- ▽ - INDICATES LOCATION OF PROVISION FOR FUTURE THRIE BEAM GUARD ATTACHMENT.



ELEVATION
(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEETS 1, 4 AND 6, OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS AND PIER.

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, B-22-11, A 22.5 FOOT WIDE BY 135 FOOT LONG, THREE SPAN, STEEL DECK GIRDER BRIDGE SET ON CONCRETE SILL ABUTMENTS AND OPEN FRAME CONCRETE PIERS ALL ON TIMBER PILING.

Ⓑ-BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

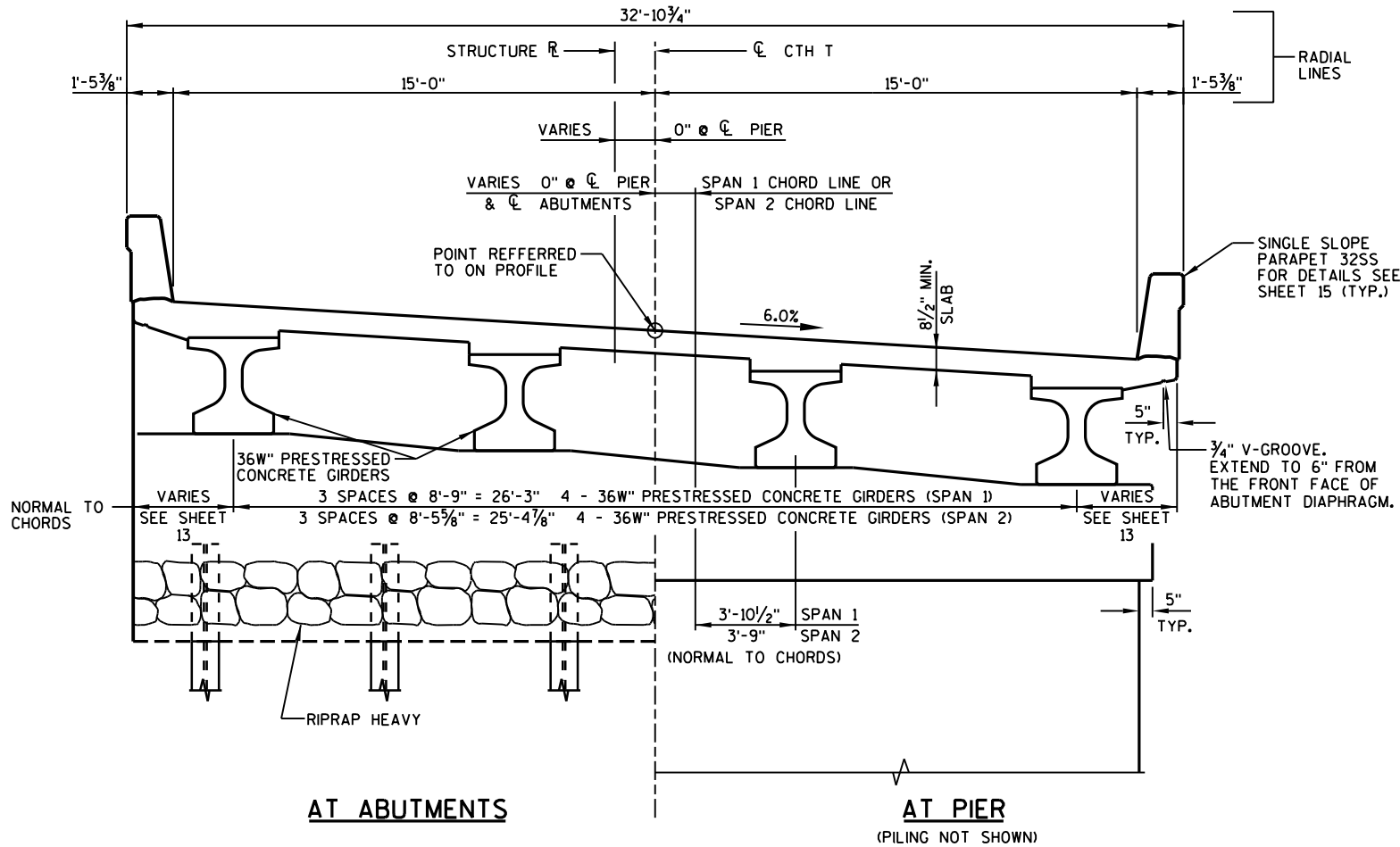
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CAN NOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 (2012) DATUM.

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF DECK, TOPS OF WINGS, AND TO THE EXPOSED FRONT FACES OF THE WINGS.

PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE INSIDE FACES, TOP FACES, AND ENDS OF THE PARAPETS.

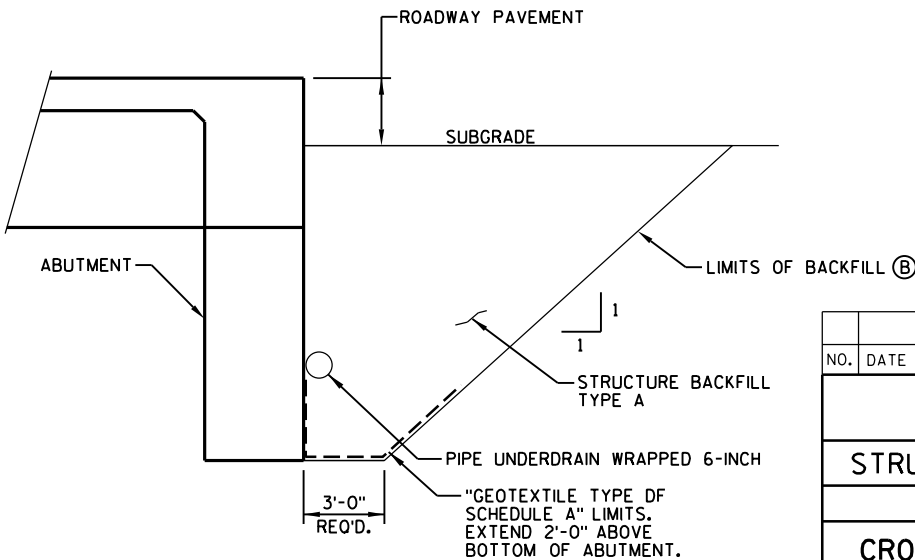
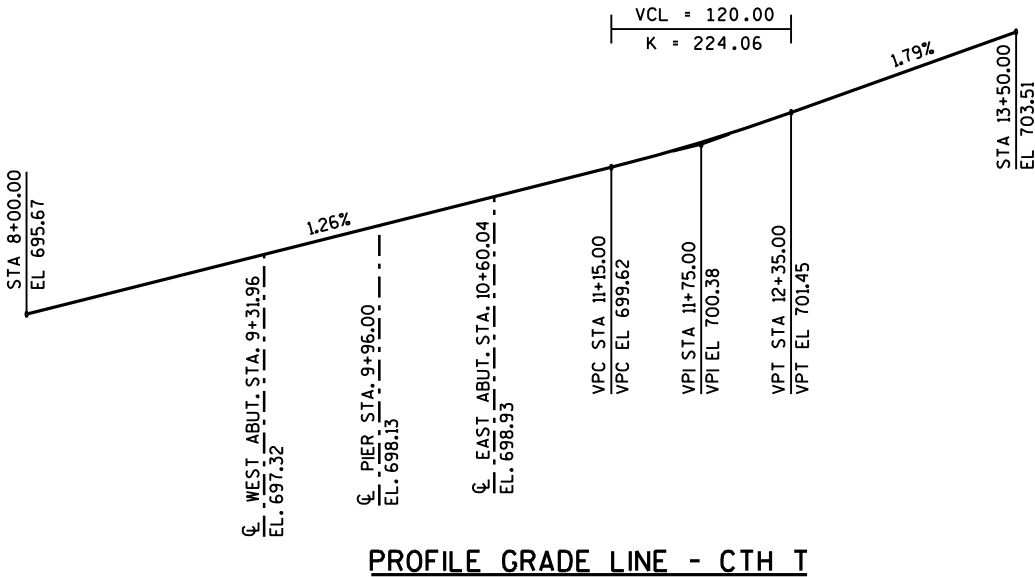
THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON SHEET 13.



CROSS SECTION THRU BRIDGE
(LOOKING EAST)

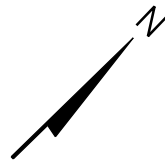
TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER	EAST ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-22-114	LS	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	205	-	210	-	415
502.0100	CONCRETE MASONRY BRIDGES	CY	38	61	39	186	324
502.3200	PROTECTIVE SURFACE TREATMENT	SY	25	-	25	435	485
502.3210	PIGMENTED SURFACE SEALER	SY	-	-	-	110	110
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-	-	-	515	515
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2480	3090	2570	-	8140
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1945	30	1970	41775	45720
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	-	16	16
506.4000.01	STEEL DIAPHRAGMS B-22-114	EACH	-	-	-	6	6
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	-	12	-	24
550.0500	PILE POINTS	EACH	8	9	8	-	25
550.1100	PIILING STEEL HP 10-INCH X 42 LB	LF	380	450	460	-	1290
606.0300	RIPRAP HEAVY	CY	180	-	245	-	425
606.0700	GROUTED RIPRAP HEAVY	CY	32	-	-	-	32
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	95	-	95	-	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	-	4	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	55	-	55	-	110
645.0120	GEOTEXTILE TYPE HR	SY	380	-	430	-	810
NON-BID ITEMS							
	CORK FILLER	SIZE					3/4"
	PREFORMED FILLER	SIZE					1/2" & 3/4"

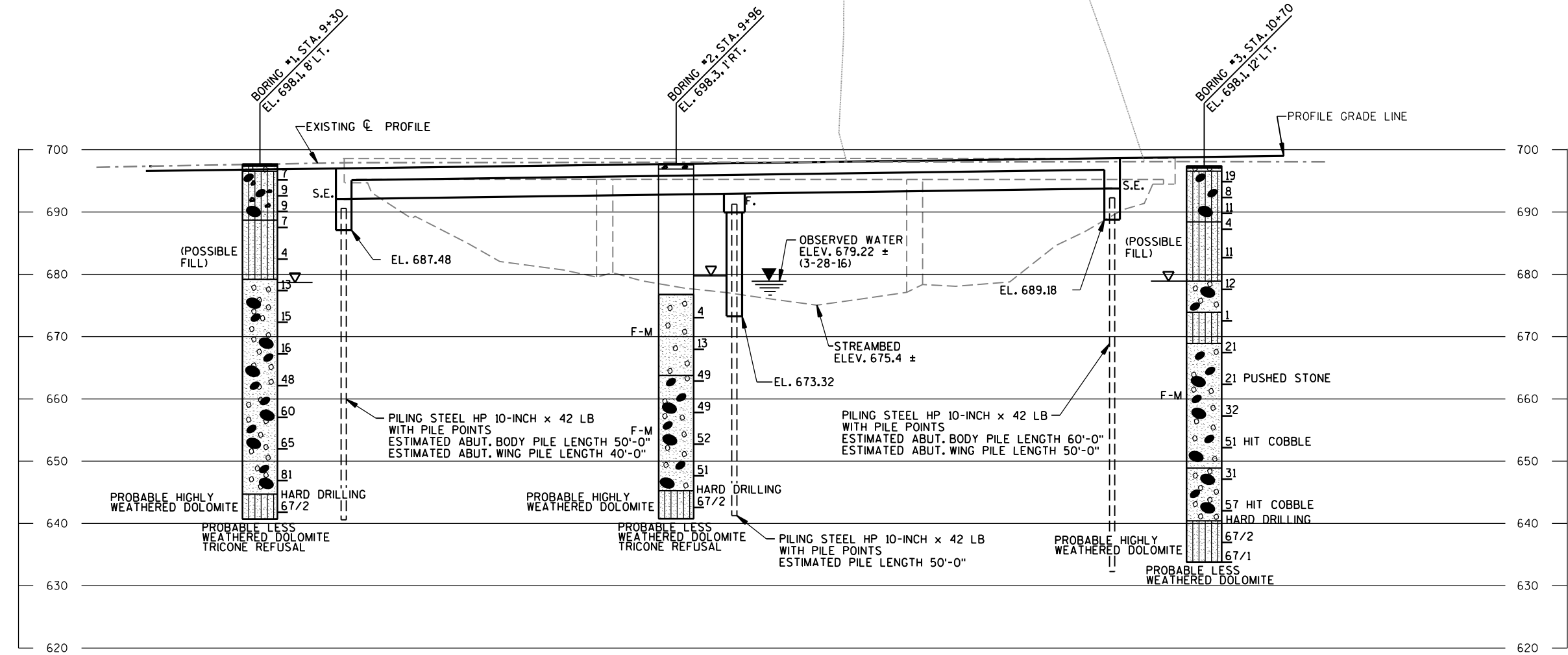
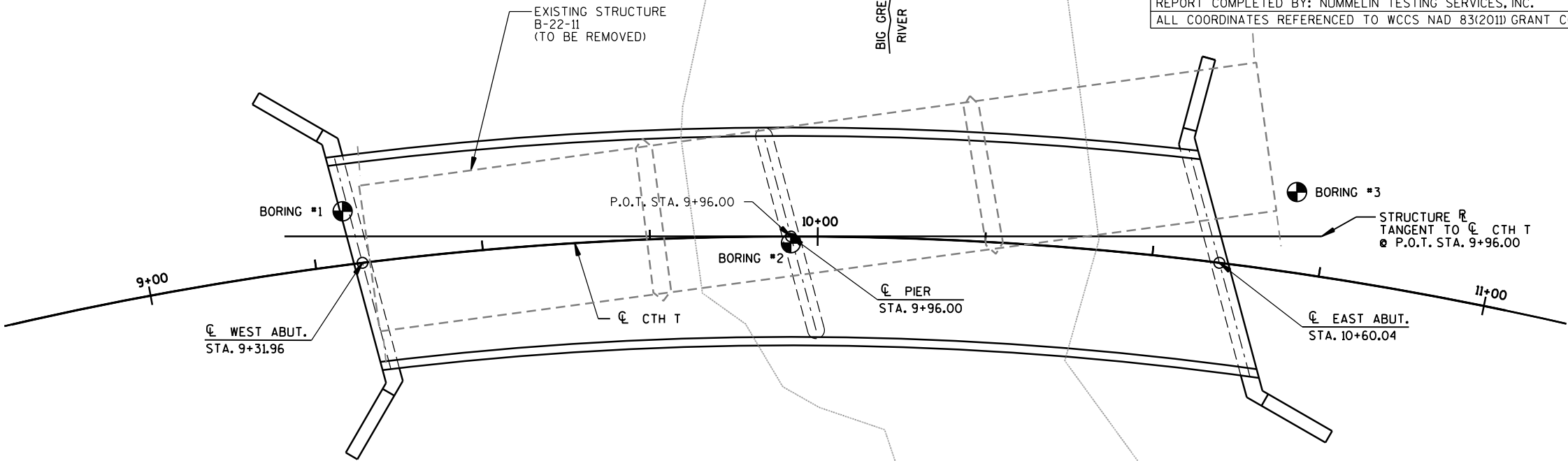


STRUCTURE BACKFILL DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-114			
DRAWN BY RLR		PLANS CK'D. JAS	
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 15



BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	7-19-2016	597,217.0	797,721.9
2	7-19-2016	597,261.6	797,771.9
3	7-18-2016	597,321.0	797,819.1
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) GRANT COUNTY			



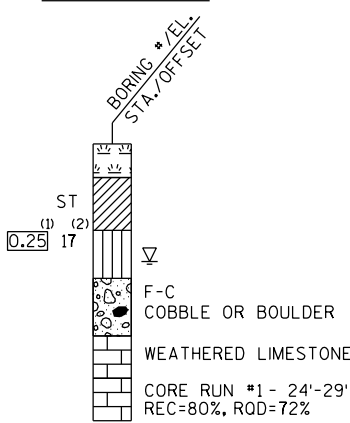
STATE PROJECT NUMBER

5693-00-72

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 ELEVATION

▽ AT TIME OF DRILLING
▽ END OF DRILLING
▽ AFTER DRILLING

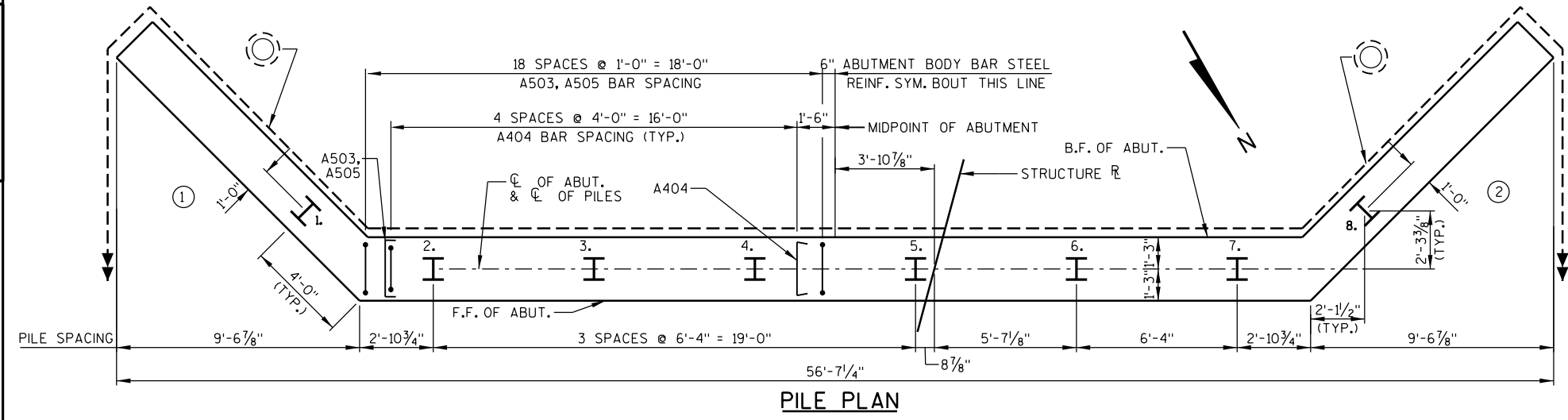
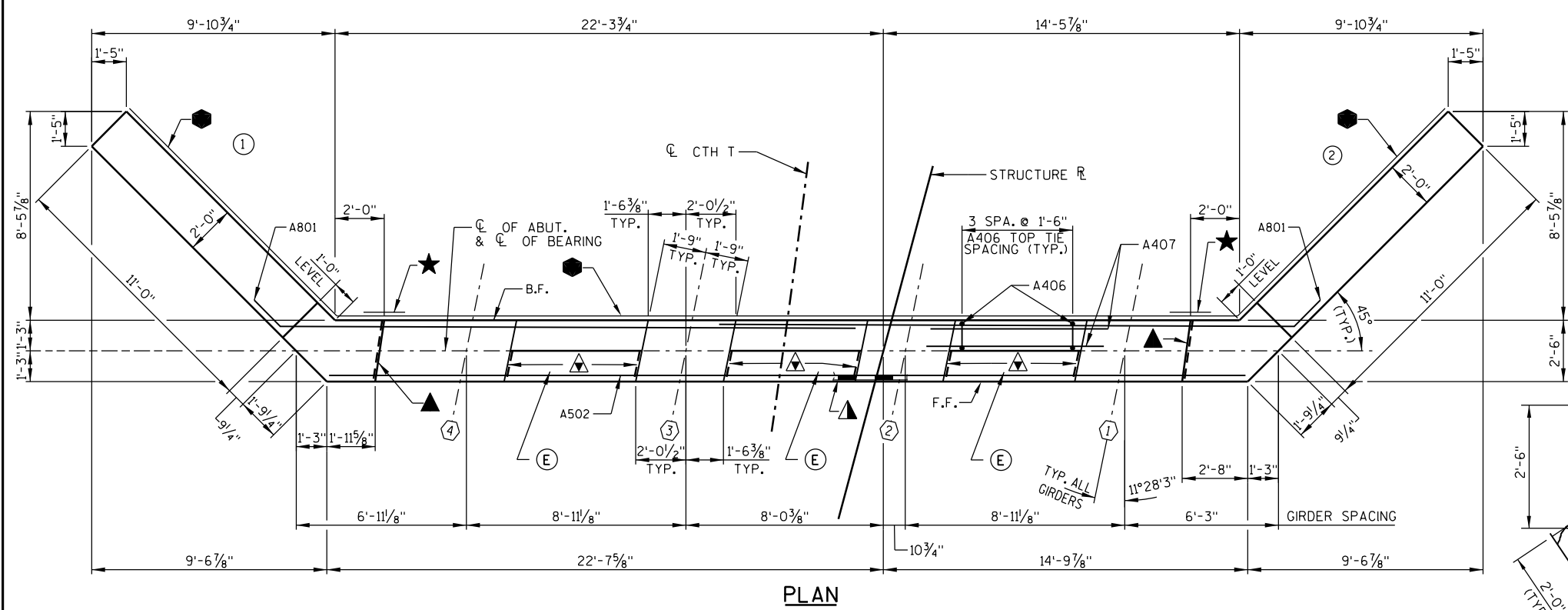
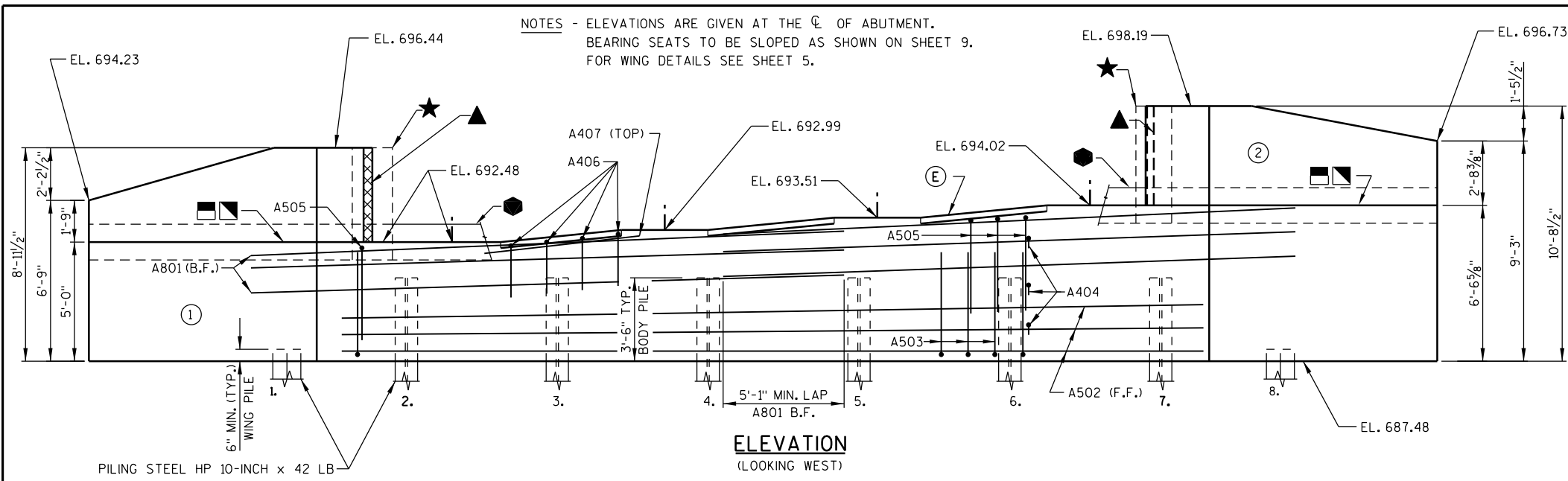
ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

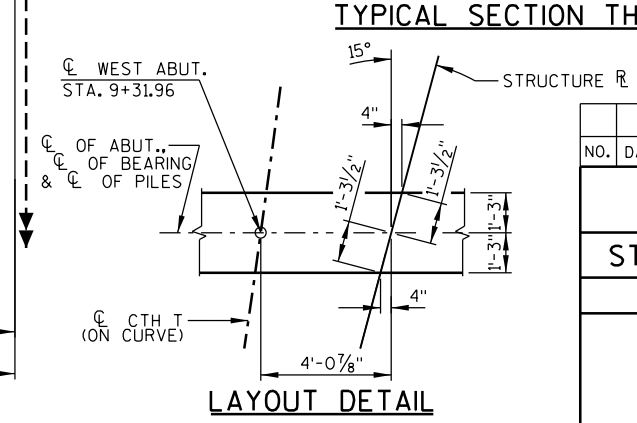
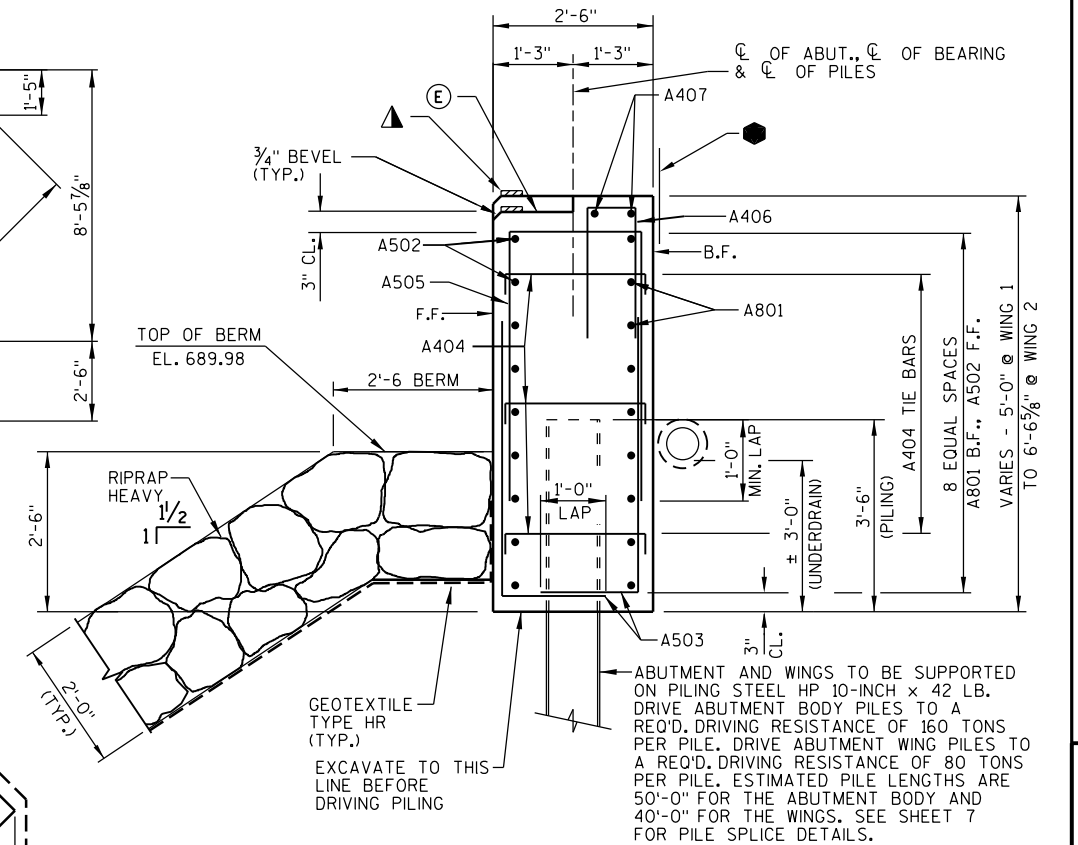
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT 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-22-114			
DRAWN BY		RLR	PLANS CK'D. JAS
SUBSURFACE EXPLORATION		SHEET 3 OF 15	

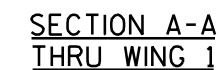
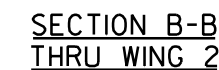


- LEGEND**
- — INDICATES WING NUMBER
 - ⬡ — INDICATES GIRDER NUMBER
 - F.F. — FRONT FACE B.F. — BACK FACE CL. — CLEAR
 - ▲ — 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
 - ▲ — 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF DECK.
 - ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
 - — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
 - — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ● ON B.F. OF WING.
 - ▤ — 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
 - ⊙ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE SHEET 5 FOR DETAILS.
 - (E) — SEMI-EXPANSION STEP, CONSTRUCT 3" DEEPER THAN ABUTMENT BACKWALL. STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES.
 - ▲ — 3/4" CORK FILLER (SIDE VERTICAL FACES ONLY) AT SEMI-EXPANSION POCKETS.

STATE PROJECT NUMBER
5693-00-72



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-22-114	
DRAWN BY		RLR	PLANS CK'D. JAS
WEST ABUTMENT		SHEET 4 OF 15	



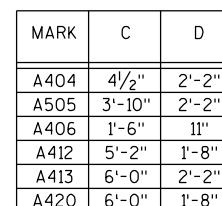
☆ 六边形 正方形 长方形 三角形



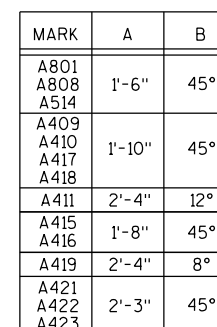
PLAN



① - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



A503



BAR MARK	NO. REQ'D.	LENGTH
A410	1 SERIES OF 4	3'-0" TO 13'-0"
A416	1 SERIES OF 4	4'-1" TO 14'-1"

BAR SERIES TABLE

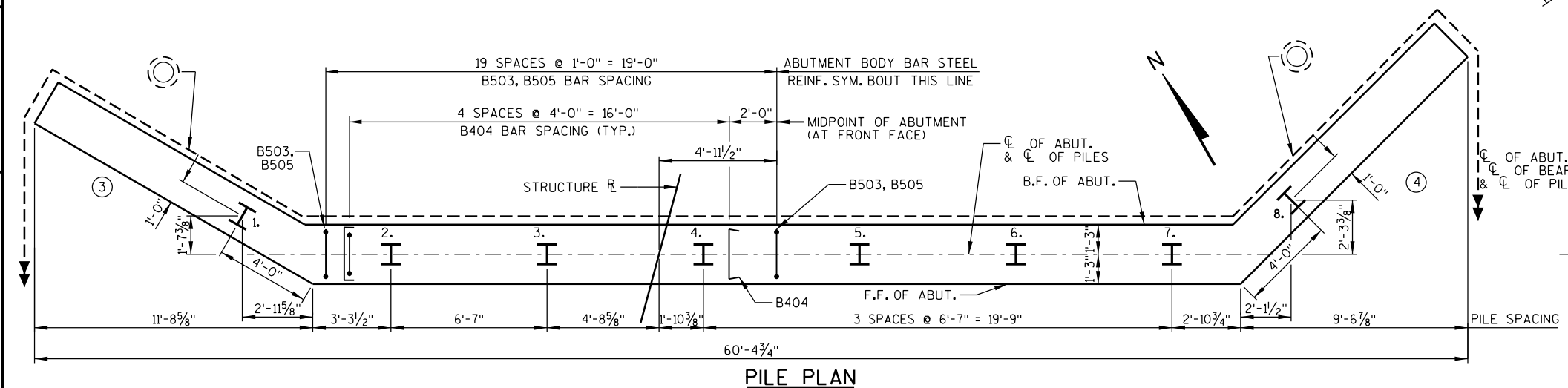
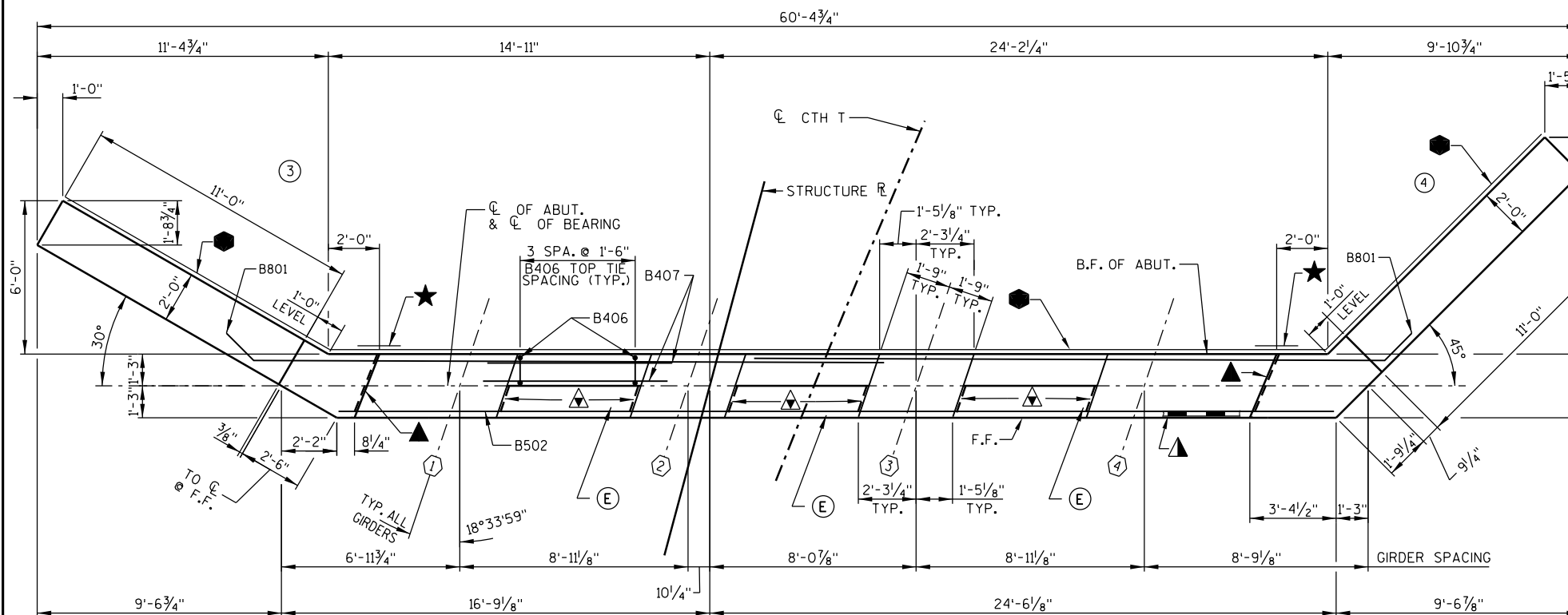
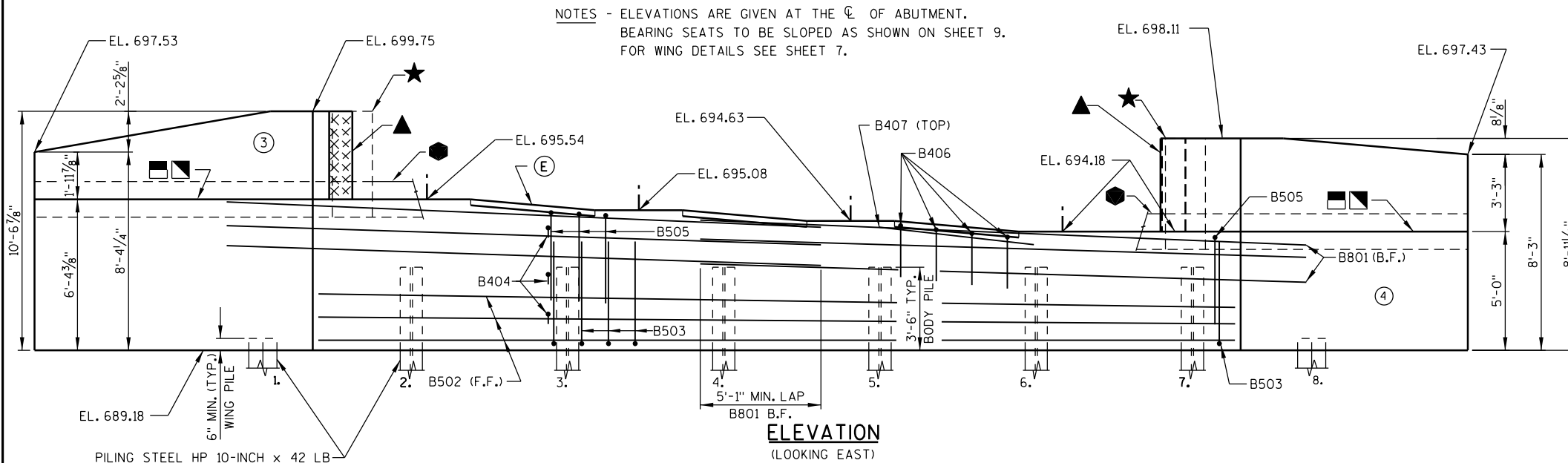
BILL OF BARS (WEST ABUT.)

MARK	NUMBER COATED	REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
A801	-	18	24'-7"	X		ABUTMENT BODY - B.F. - HORIZ.
A502	-	9	37'-4"			ABUTMENT BODY - F.F. - HORIZ.
A503	-	76	5'-9"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
A404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
A505	-	38	9'-7"	X		ABUTMENT BODY - TOP - VERT.
A406	-	12	3'-9"	X		ABUTMENT BODY - BACKWALL TIE - VERT.
A407	-	6	7'-4"			ABUTMENT BODY - BACKWALL - HORIZ.
A808	18	-	16'-2"	X		WINGS - B.F. - HORIZ.
A409	6	-	13'-8"	X		WINGS - B.F. - HORIZ.
A410	4	-	8'-0"	X		WING 1 - B.F. - HORIZ.
A411	2	-	13'-6"	X		WING 1 - F.F. & B.F. - TOP - HORIZ.
A412	36	-	11'-10"	X		WING 1 - TOP & BOTTOM - VERT.
A413	7	-	14'-0"	X		WINGS - TOP - VERT.
A514	18	-	14'-8"	X		WINGS - F.F. - HORIZ.
A415	2	-	14'-10"	X		WING 1 - F.F. - HORIZ.
A416	4	-	9'-1"	X		WING 1 - F.F. - HORIZ.
A417	1	-	8'-11"	X		WING 2 - B.F. - HORIZ.
A418	1	-	3'-4"	X		WING 2 - B.F. - HORIZ.
A419	2	-	13'-3"	X		WING 2 - F.F. & B.F. - TOP - HORIZ.
A420	36	-	13'-6"	X		WING 2 - TOP & BOTTOM - VERT.
A421	4	-	15'-5"	X		WING 2 - F.F. - HORIZ.
A422	1	-	10'-7"	X		WING 2 - F.F. - HORIZ.
A423	1	-	5'-1"	X		WING 2 - F.F. - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-22-114	
		DRAWN BY RLR	PLANS CK'D. JAS
WEST ABUTMENT DETAILS		SHEET 5 OF 1	

NOTES - ELEVATIONS ARE GIVEN AT THE C OF ABUTMENT.
BEARING SEATS TO BE SLOPED AS SHOWN ON SHEET 9.
FOR WING DETAILS SEE SHEET 7.

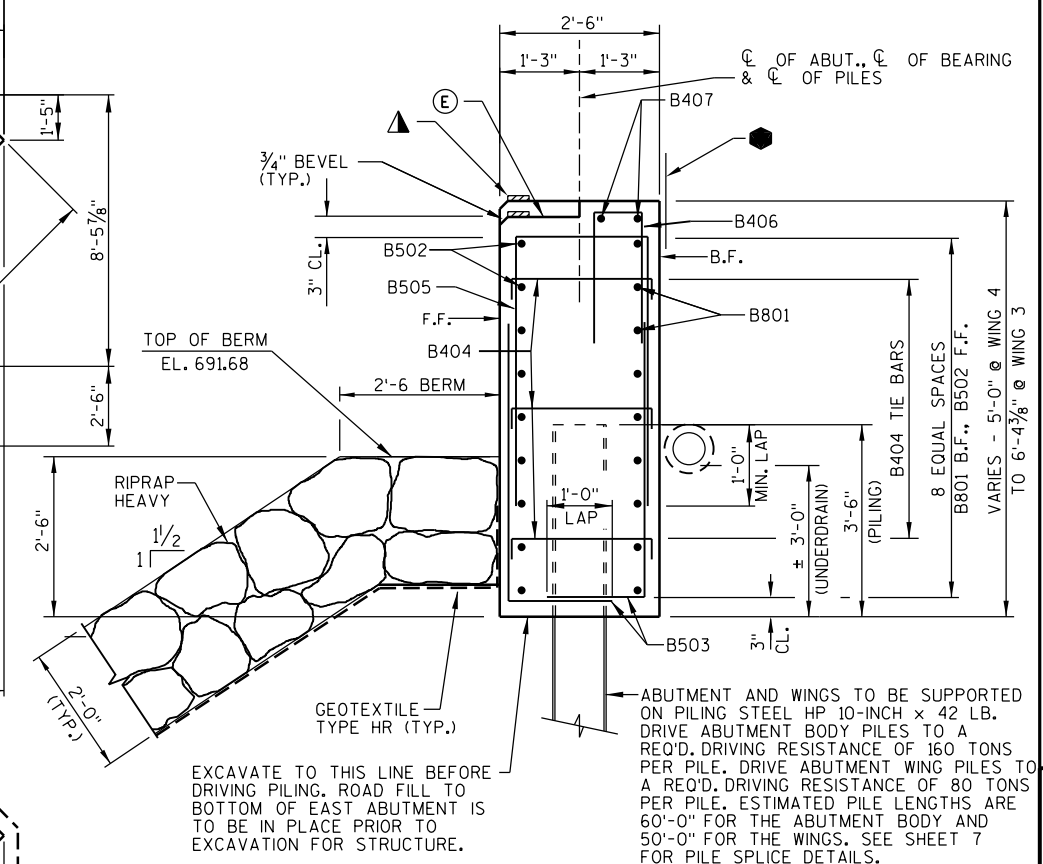


LEGEND

- INDICATES WING NUMBER
- ⬡ INDICATES GIRDER NUMBER
- F.F.— FRONT FACE B.F.— BACK FACE CL.— CLEAR
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
- ▲ 4"x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF DECK.
- ★ VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ▣ OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 4. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING.
- ▤ 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ⊙ PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE SHEET 5 FOR DETAILS.
- ⓔ SEMI-EXPANSION STEP, CONSTRUCT 3" DEEPER THAN ABUTMENT BACKWALL. STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03 INCHES.
- ▲ 3/4" CORK FILLER (SIDE VERTICAL FACES ONLY) AT SEMI-EXPANSION POCKETS.

STATE PROJECT NUMBER

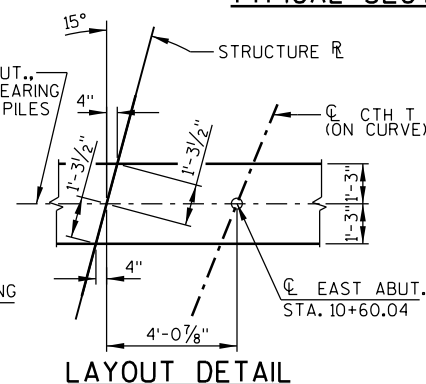
5693-00-72



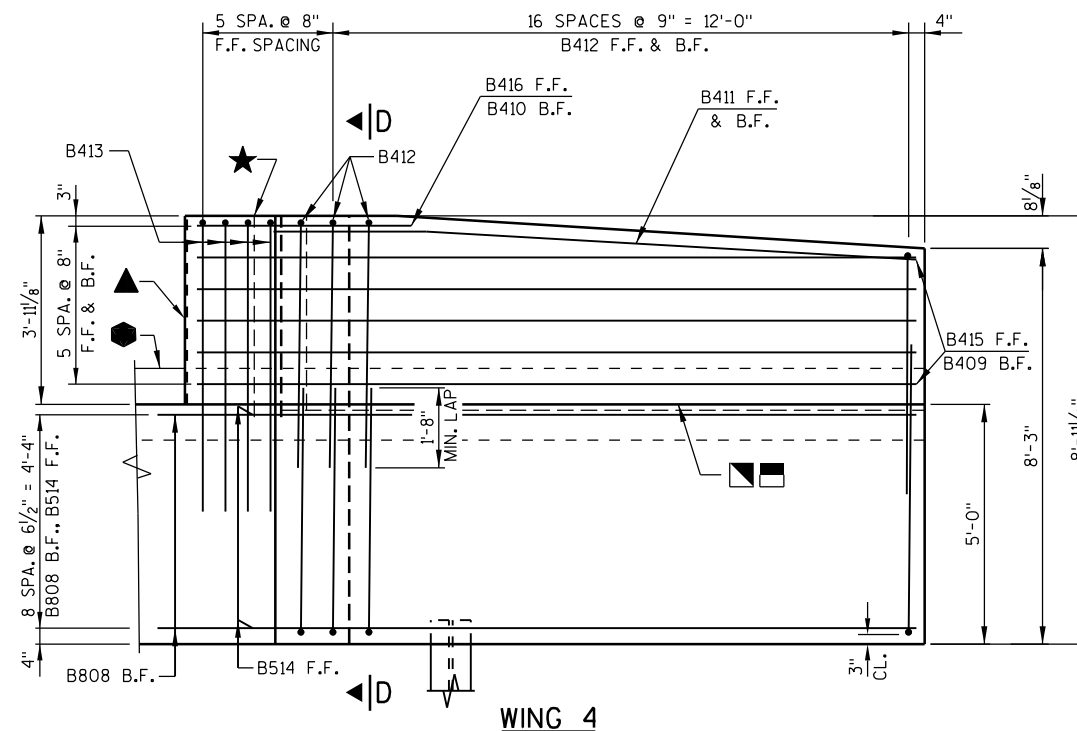
EXCAVATE TO THIS LINE BEFORE DRIVING PILING. ROAD FILL TO BOTTOM OF EAST ABUTMENT IS TO BE IN PLACE PRIOR TO EXCAVATION FOR STRUCTURE.

ABUTMENT AND WINGS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. DRIVE ABUTMENT BODY PILES TO A REQ'D. DRIVING RESISTANCE OF 160 TONS PER PILE. DRIVE ABUTMENT WING PILES TO A REQ'D. DRIVING RESISTANCE OF 80 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 60'-0" FOR THE ABUTMENT BODY AND 50'-0" FOR THE WINGS. SEE SHEET 7 FOR PILE SPLICE DETAILS.

TYPICAL SECTION THRU ABUTMENT

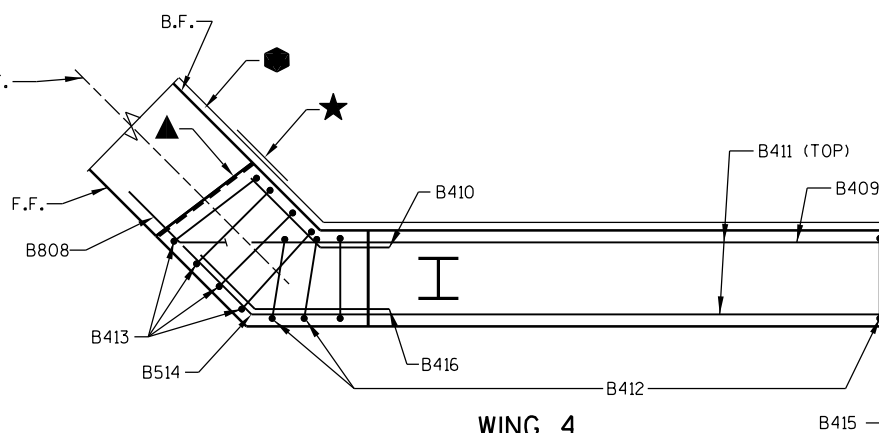


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-114			
DRAWN BY RLR		PLANS CK'D. JAS	
EAST ABUTMENT		SHEET 6 OF 15	



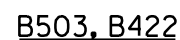
SECTION D-D
THRU WING 4

★ 六角形 □ 斜線 □ 黒色 ▲

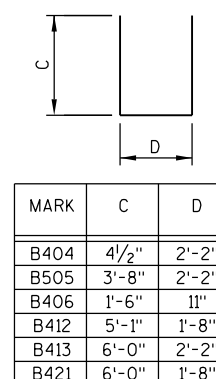


WING 4

8



PILE SPLICE DETAILS



MARK	A	B
B801 B808 B514	1'-6"	45°
B409 B410	1'-10"	45°
B411	1'-11"	4°
B415 B416	2'-3"	45°
B817 B523	1'-6"	30°
B418 B419	1'-8"	30°
B420	1'-8"	12°
B424 B425	5"	30°

BAR MARK	NO. REQ'D.	LENGTH
B419	1 SERIES OF 4	2'-9" TO 13'-7"
B425	1 SERIES OF 4	2'-10" TO 13'-8"

BAR SERIES TABLE

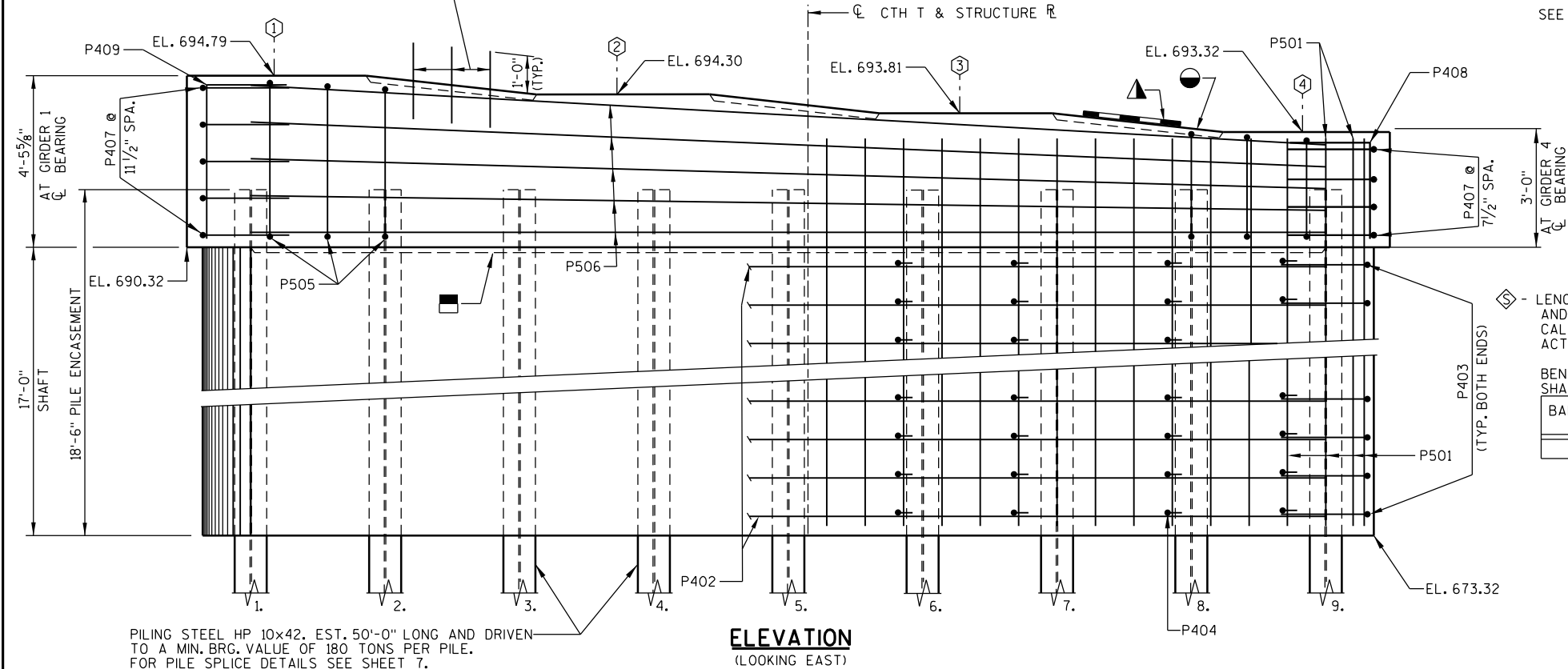
MARK	NUMBER REQUIRED		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
B801	-	18	26'-1"	X		ABUTMENT BODY - B.F. - HORIZ.
B502	-	9	38'-11"			ABUTMENT BODY - F.F. - HORIZ.
B503	-	78	5'-8"	X		ABUTMENT BODY - F.F. & B.F. - VERT.
B404	-	30	2'-9"	X		ABUTMENT BODY - TIES - HORIZ.
B505	-	39	9'-3"	X		ABUTMENT BODY - TOP - VERT.
B406	-	12	3'-9"	X		ABUTMENT BODY - BACKWALL TIE - VERT.
B407	-	6	7'-4"			ABUTMENT BODY - BACKWALL - HORIZ.
B808	9	-	16'-2"	X		WING 4 - B.F. - HORIZ.
B409	5	-	13'-9"	X		WING 4 - B.F. - HORIZ.
B410	1	-	3'-8"	X		WING 4 - B.F. - HORIZ.
B411	2	-	13'-4"	X		WING 4 - F.F. & B.F. - TOP - HORIZ.
B412	36	-	11'-8"	X		WING 4 - TOP & BOTTOM - VERT.
B413	4	-	14'-0"	X		WING 4 - TOP - VERT.
B514	9	-	14'-8"	X		WING 4 - F.F. - HORIZ.
B415	5	-	15'-6"	X		WING 4 - F.F. - HORIZ.
B416	1	-	5'-4"	X		WING 4 - F.F. - HORIZ.
B817	9	-	17'-4"	X		WING 3 - B.F. - HORIZ.
B418	2	-	13'-7"	X		WING 3 - B.F. - HORIZ.
B419	4	-	8'-2"	X	⬡	WING 3 - B.F. - HORIZ.
B420	2	-	13'-0"	X		WING 3 - F.F. & B.F. - TOP - HORIZ.
B421	38	-	13'-6"	X		WING 3 - TOP & BOTTOM - VERT.
B422	2	-	7'-11"	X		WING 3 - B.F. - VERT.
B523	9	-	14'-9"	X		WING 3 - F.F. - HORIZ.
B424	2	-	13'-8"	X		WING 3 - F.F. - HORIZ.
B425	4	-	8'-3"	X	⬡	WING 3 - F.F. - HORIZ.

EAST ABUTMENT DETAILS

SHEET 7 OF 15

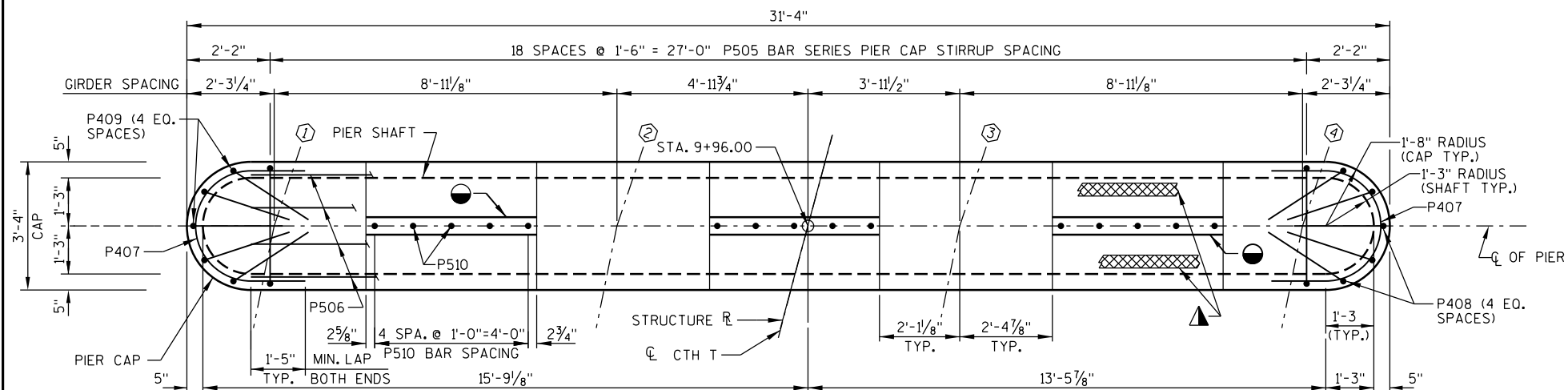
FILE= 3405003_07.DGN
DATE=8/31/2017

P510 BARS @ 1'-0" CENTERS, MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. SEE CAP LAYOUT PLAN FOR SPACING.

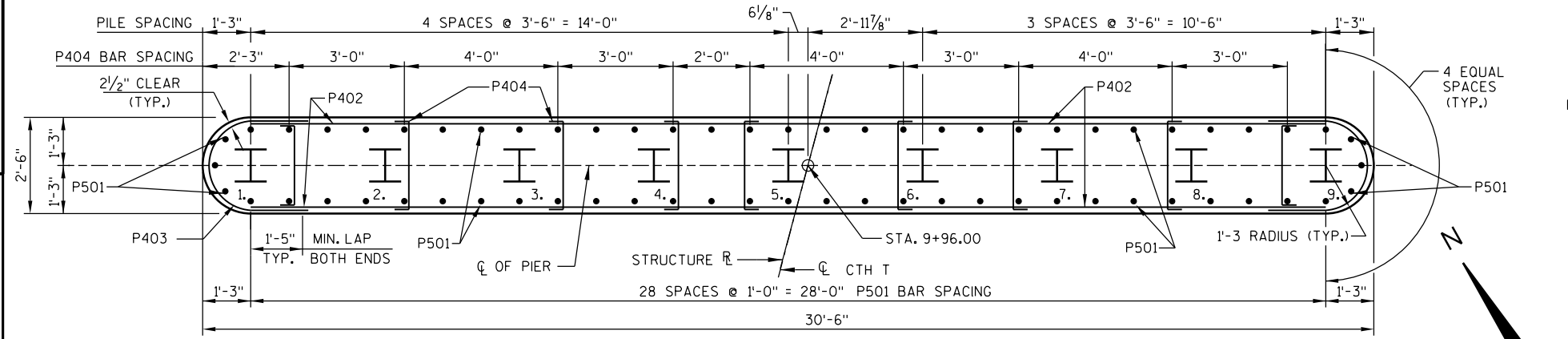


PIILING STEEL HP 10x42, EST. 50'-0" LONG AND DRIVEN TO A MIN. BRG. VALUE OF 180 TONS PER PILE. FOR PILE SPLICE DETAILS SEE SHEET 7.

ELEVATION
(LOOKING EAST)



CAP LAYOUT PLAN



SHAFT REINFORCEMENT PLAN

NOTE:

ELEVATIONS ARE GIVEN AT CL OF PIER.

SEE SHEET 9 FOR ADDITIONAL BEARING SEAT ELEVATIONS.

LEGEND

○ - INDICATES GIRDER NUMBER.

▲ - 4"x 3/4" PREFORMED FILLER BETWEEN GIRDERS.

● - KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.

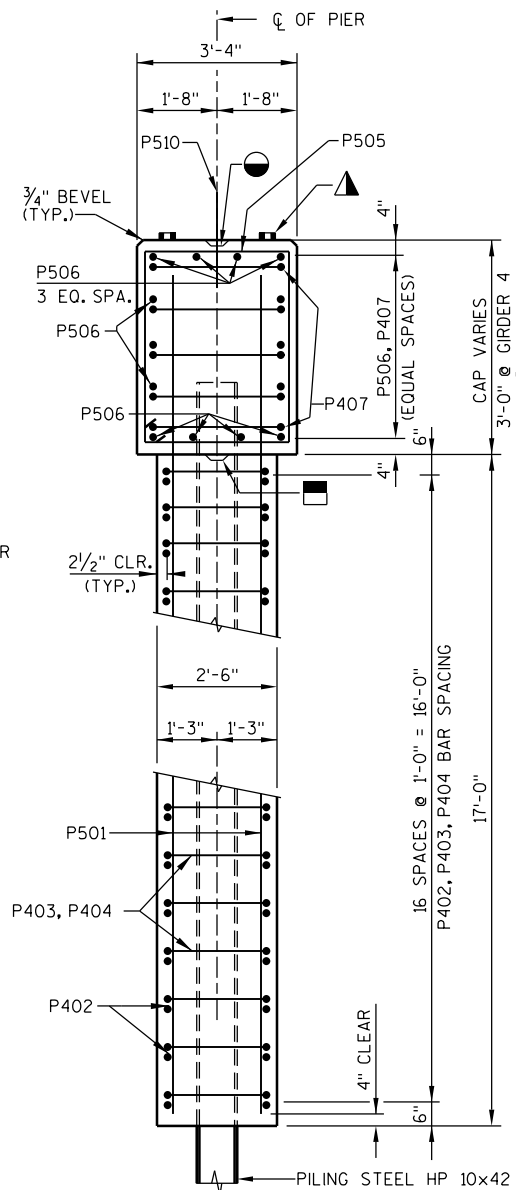
■ - OPTIONAL CONST. JOINT WITH BEVELED 2x6 x 28'-0" LONG KEYWAY.

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

BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
P505	1 SERIES OF 19	11'-7" TO 14'-7"

BAR SERIES TABLE



TYPICAL SECTION
THRU PIER

STATE PROJECT NUMBER

5693-00-72

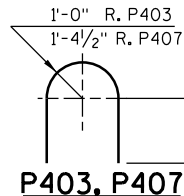
BILL OF BARS

COATED 30 LBS.
UNCOATED 3090 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
P501	64	19'-5"			PIER - SHAFT - VERT.
P402	34	28'-0"			PIER - SHAFT - HORIZ.
P403	34	6'-0"	X		PIER - SHAFT - ENDS - HORIZ.
P404	153	2'-8"	X		PIER - SHAFT - TIES - HORIZ.
P505	19	13'-1"	X	◇	PIER - CAP - STIRRUPS - VERT.
P506	14	28'-0"			PIER - CAP - HORIZ.
P407	9	7'-1"	X		PIER - CAP - ENDS - HORIZ.
P408	5	4'-9"	X		PIER - CAP - LOW END - VERT.
P409	5	6'-3"	X		PIER - CAP - HIGH END - VERT.
P510	15	2'-0"			PIER - CAP - TOP DOWELS - VERT.

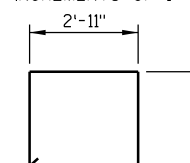
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* EPOXY COAT THESE BARS.

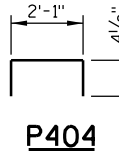


P403, P407

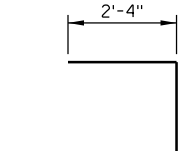
VARIES, 2'-6" MIN. TO 4'-0" MAX. IN INCREMENTS OF 1"



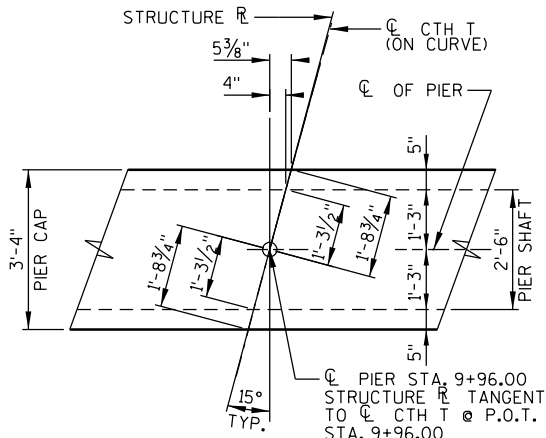
P505



P404

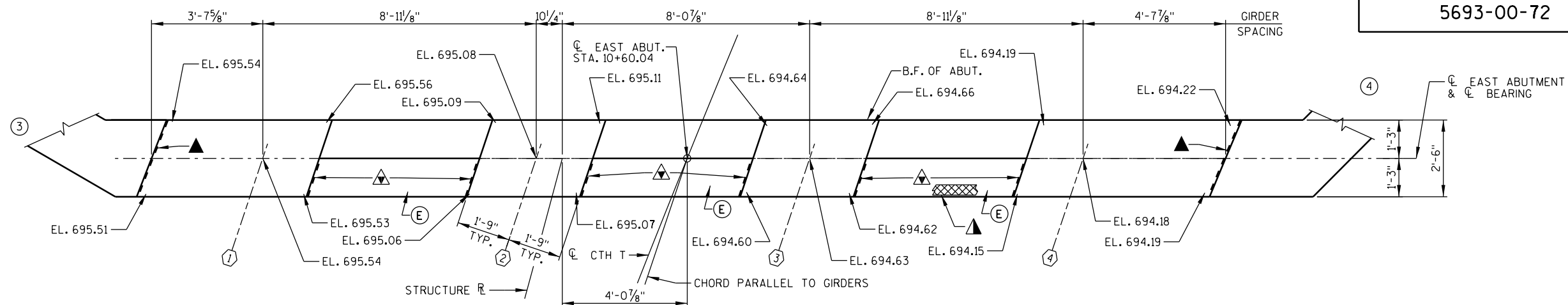


P408, P409

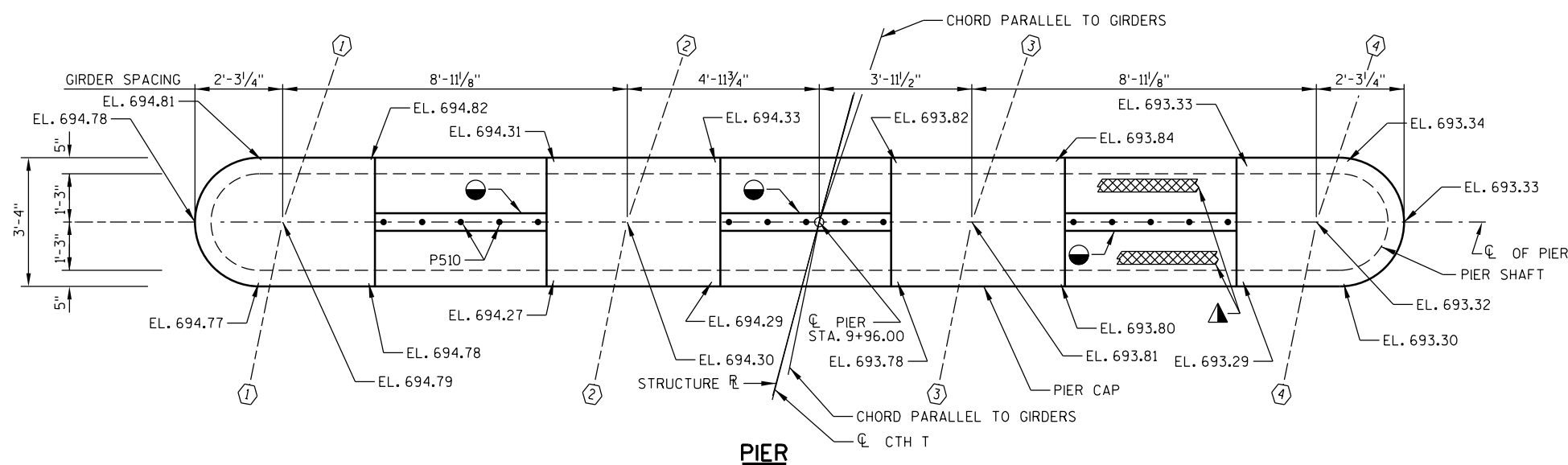


PIER LAYOUT DETAIL

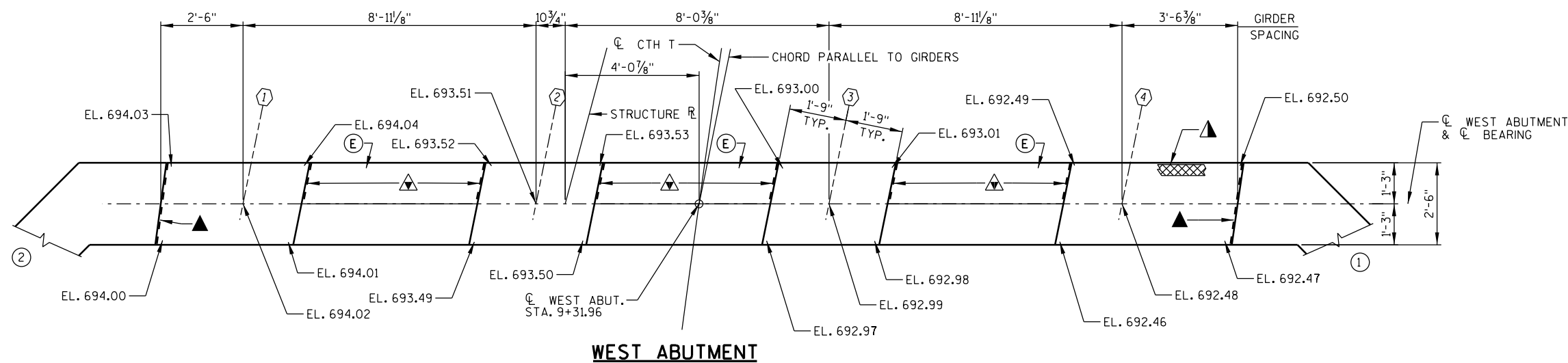
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-114		DRAWN BY RLR	PLANS CK'D. JAS
PIER		SHEET 8 OF 15	

**EAST ABUTMENT**

NOTE:

SLOPE BETWEEN BEAM SEATS
(TYP. AT ABUTMENTS & PIERS).**PIER****LEGEND**

- - INDICATES WING NUMBER.
- ⬡ - INDICATES GIRDER NUMBER.
- ▲ - 4" x 3/4" PREFORMED FILLER BETWEEN GIRDERS, AT PIER & BETWEEN WINGWALLS AT ABUTMENTS.
- - KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2X6.
- ▲ - 1/2" PREFORMED JOINT FILLER.
- ⓔ - SEMI-EXPANSION POCKET, CONSTRUCT 3" DEEPER THAN SURROUNDING BEAM SEATS & BACKWALL.
- ▲ - 3/4" CORK FILLER (SIDE VERTICAL FACES ONLY) AT SEMI-EXPANSION POCKETS.
- - KEYWAY FORMED BY BEVELED 2X6.

**WEST ABUTMENT**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-114			
DRAWN BY RLR		PLANS CK'D. JAS	
BEARING SEAT LAYOUT		SHEET 9 OF 15	

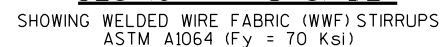
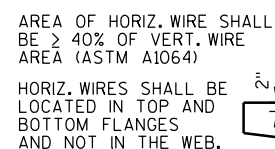
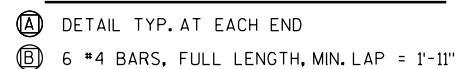
TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

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

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHEET 11.

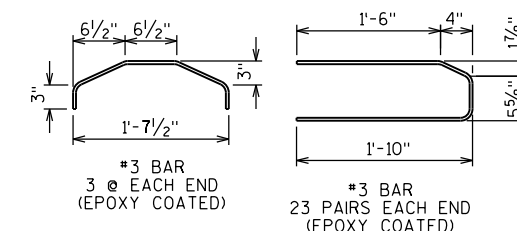
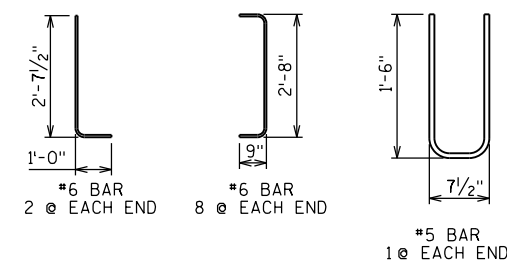
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.



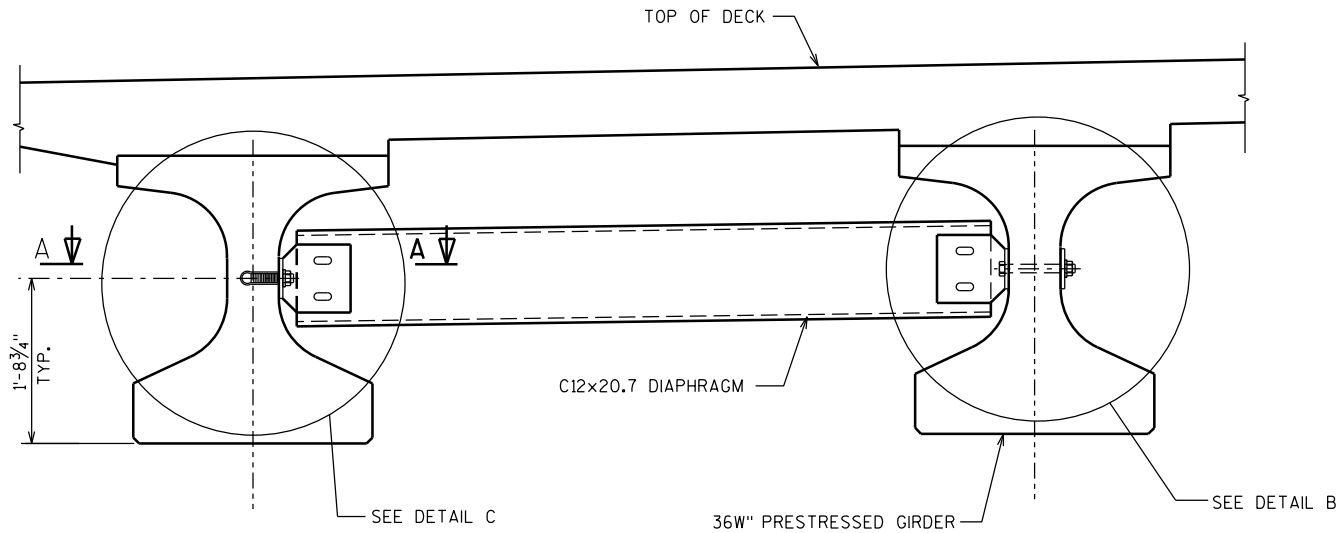
THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN. VALUES INCLUDE A MAGNIFICATION FACTOR OF 1.4 TO ACCOUNT FOR CREEP BETWEEN RELEASE AND INSTALLATION.

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



* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.																		
GIRDER DATA																		
SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	TOTAL NO. OF STRANDS	f'c (P.S.) *
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10							
1 & 2	1-4	64'-3 1/2"	0.2	0.4	0.5	0.6	0.6	0.6	0.5	0.4	0.2	8000	7.875"	7.875"	7.875"	0.6	16	6800

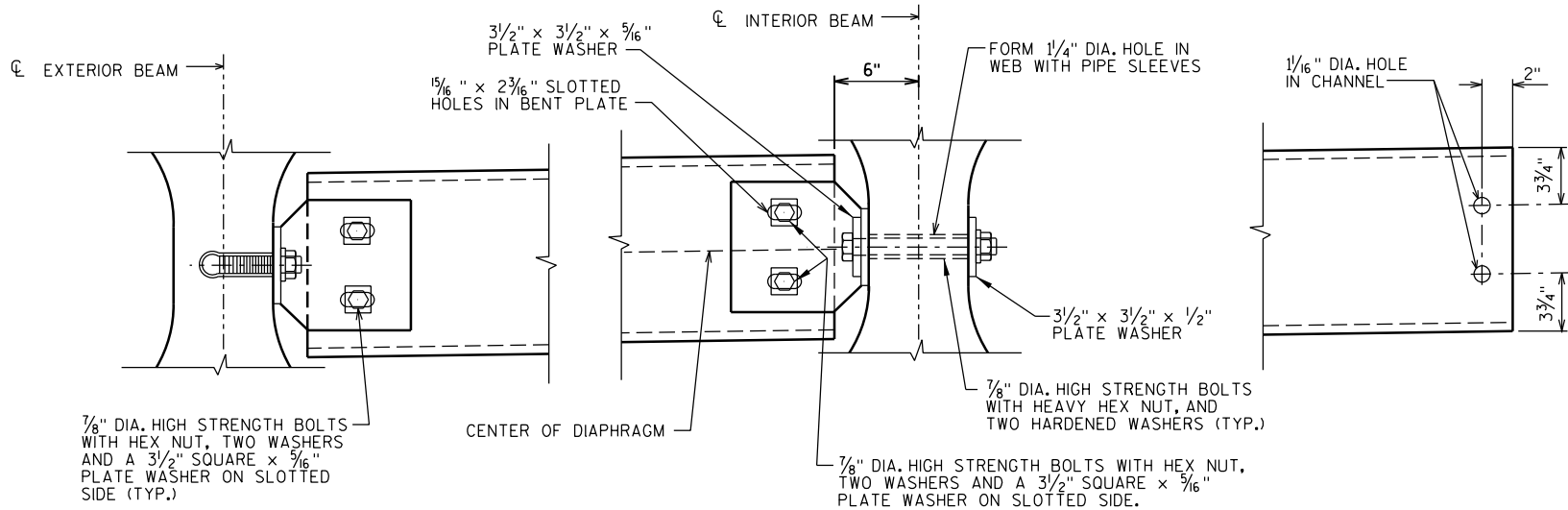
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-22-114	
	DRAWN BY	RLR	PLANS CK'D. JAS
36W" PRESTRESSED GIRDER DETAILS		SHEET 10 OF 1	



EXTERIOR GIRDER

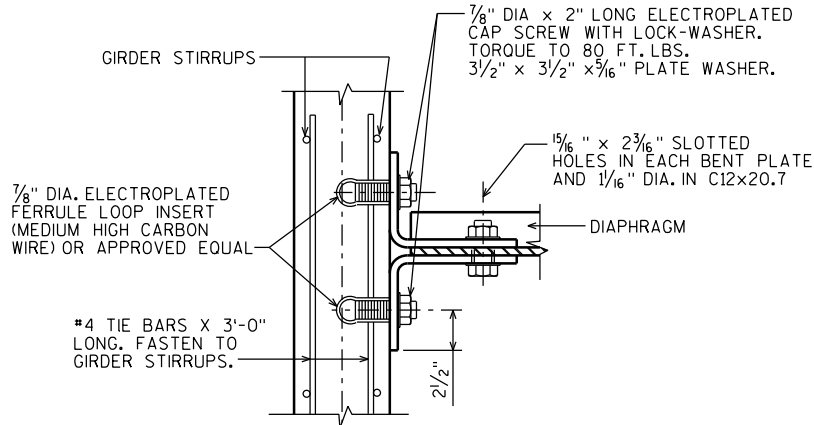
INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM



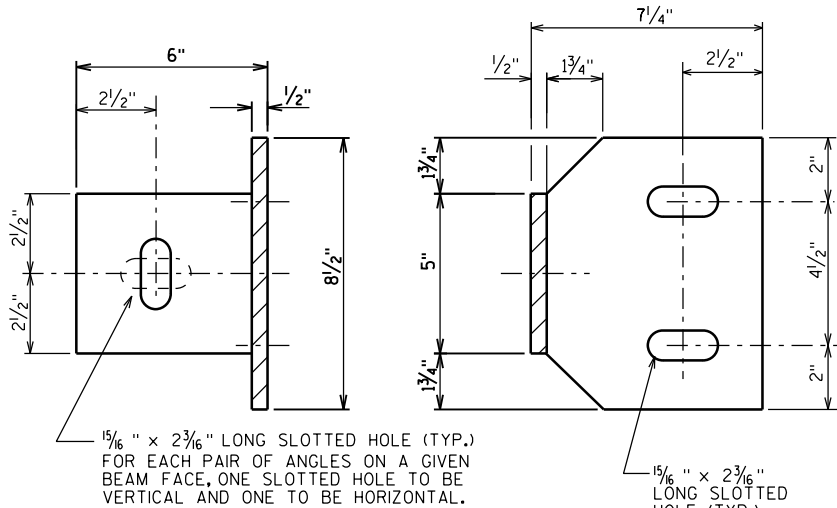
DETAIL C

DETAIL B



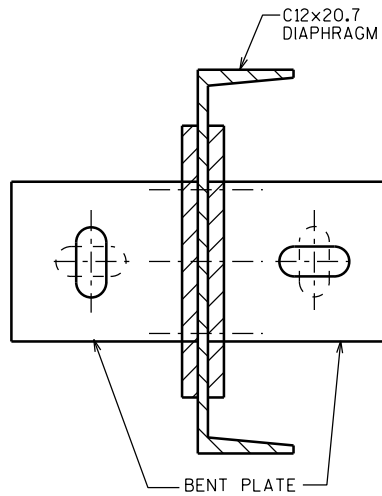
SECTION A-A

(FOR EXTERIOR ATTACHMENT)

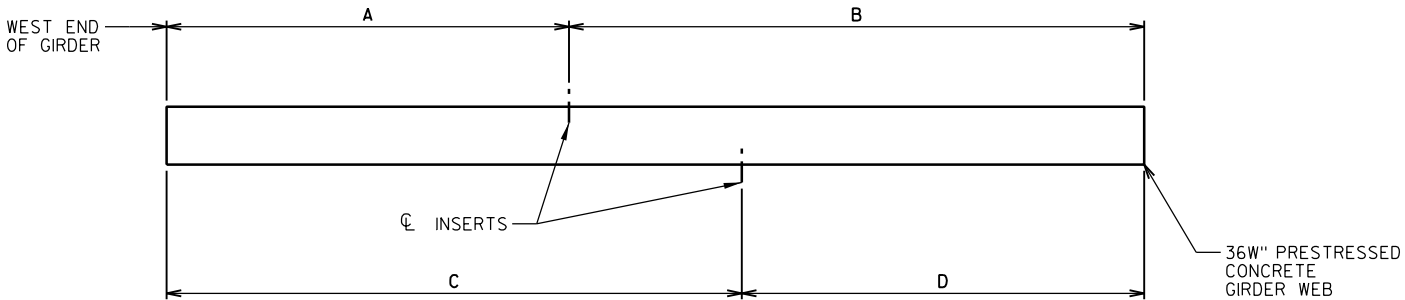


BEAM FACE

DIAPHRAGM FACE



ATTACHMENT TO CHANNEL



DIAPHRAGM INSERT LOCATION PLAN

SEE PLAN, SHEET 12

DIAPHRAGM INSERT LOCATION TABLE

SPAN	GIRDER NUMBER	A	B	C	D	INSERT TYPE
1	1	-	-	33'-0 3/8"	31'-3 1/8"	FERRULE LOOPS
	2	31'-3 1/8"	33'-0 3/8"	33'-0 3/8"	31'-3 1/8"	PIPE SLEEVES
	3	31'-3 1/8"	33'-0 3/8"	33'-0 3/8"	31'-3 1/8"	PIPE SLEEVES
	4	31'-3 1/8"	33'-0 3/8"	-	-	FERRULE LOOPS
2	1	-	-	33'-6 7/8"	30'-8 3/4"	FERRULE LOOPS
	2	30'-8 3/4"	33'-6 7/8"	33'-6 7/8"	30'-8 3/4"	PIPE SLEEVES
	3	30'-8 3/4"	33'-6 7/8"	33'-6 7/8"	30'-8 3/4"	PIPE SLEEVES
	4	30'-8 3/4"	33'-6 7/8"	-	-	FERRULE LOOPS

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-22-114", EACH.

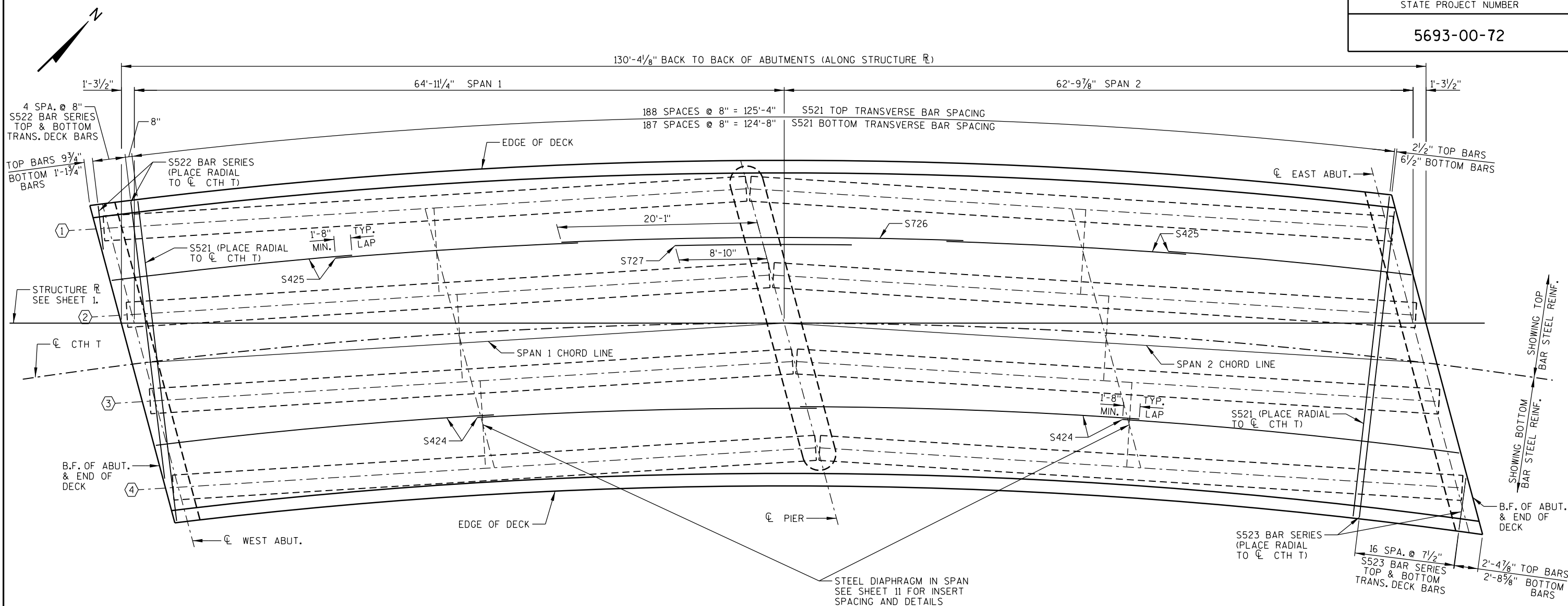
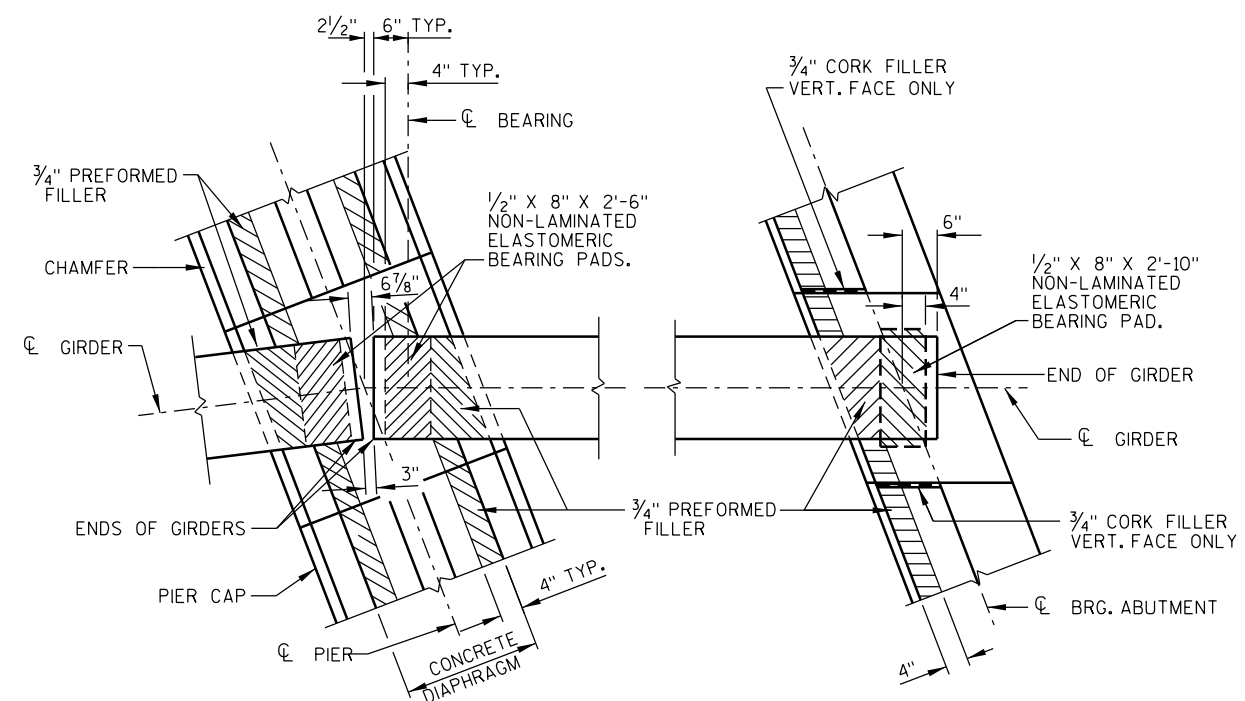
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS OF ASTM A325 OR ASTM A449.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-22-114	
DRAWN BY		RLR	PLANS CK'D. JAS
STEEL DIAPHRAGM		SHEET 11 OF 15	

**PLAN****AT PIER****AT ABUTMENTS**
(EAST ABUT. SHOWN)**BEARING PAD DETAIL****GENERAL NOTES**

PLACE LONGITUDINAL BARS PARALLEL TO THE EDGE OF DECK.

TRANSVERSE BARS SHALL BE PLACED ON RADIAL LINES TO THE C_L OF CTH T. MEASUREMENT TAKEN ALONG NORTH EDGE OF DECK EXCEPT FOR S523 BARS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-114			
DRAWN BY RLR		PLANS CK'D. JAS	
SUPERSTRUCTURE			SHEET 12 OF 15

TOP OF DECK ELEVATIONS @ C OF GIRDERS

LOCATION	SPAN POINT	SOUTH EDGE OF SLAB	GIRDER 4	GIRDER 3	CTH T C/L	GIRDER 2	GIRDER 1	NORTH EDGE OF SLAB
W. ABUT	1	696.45	696.58	697.10	697.32	697.61	698.13	698.20
	1.1	696.53	696.64	697.16	697.40	697.67	698.18	698.28
	1.2	696.62	696.71	697.22	697.48	697.73	698.24	698.35
	1.3	696.70	696.78	697.29	697.56	697.80	698.31	698.43
	1.4	696.78	696.86	697.37	697.64	697.87	698.38	698.51
	1.5	696.86	696.94	697.44	697.73	697.95	698.45	698.59
	1.6	696.95	697.03	697.53	697.80	698.03	698.53	698.67
	1.7	697.03	697.12	697.62	697.89	698.12	698.61	698.74
	1.8	697.11	697.22	697.71	697.97	698.21	698.70	698.82
	1.9	697.20	697.32	697.81	698.05	698.30	698.79	698.90
PIER	2	697.28	697.43	697.91	698.13	698.40	698.89	698.98
	2.1	697.36	697.49	697.97	698.21	698.46	698.95	699.06
	2.2	697.44	697.56	698.04	698.29	698.52	699.00	699.13
	2.3	697.53	697.63	698.11	698.37	698.59	699.07	699.21
	2.4	697.61	697.71	698.18	698.45	698.66	699.14	699.29
	2.5	697.69	697.79	698.26	698.53	698.73	699.21	699.37
	2.6	697.78	697.88	698.35	698.61	698.82	699.29	699.44
	2.7	697.86	697.97	698.44	698.69	698.90	699.37	699.52
	2.8	697.94	698.07	698.53	698.77	698.99	699.45	699.60
	2.9	698.03	698.17	698.63	698.85	699.09	699.55	699.68
E. ABUT	3	698.11	698.28	698.73	698.93	699.18	699.64	699.76

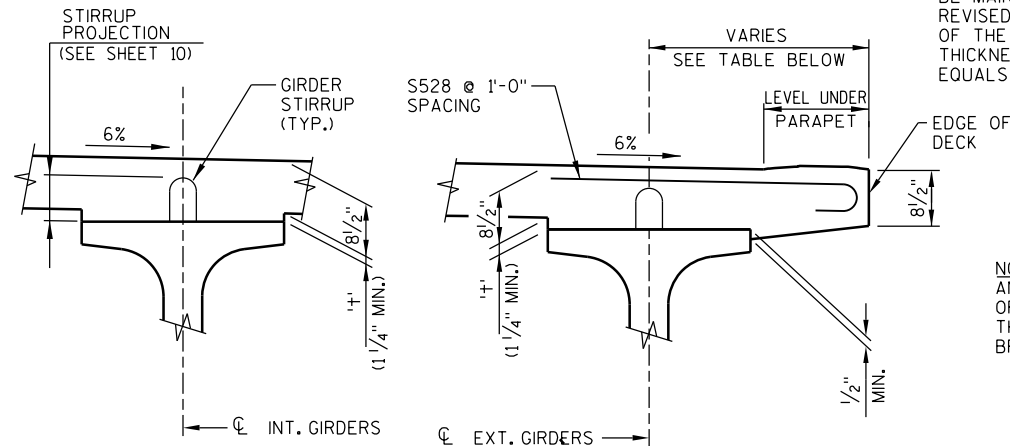
NOTE: THE TOP OF DECK ELEVATIONS AT EDGE OF DECK ARE THE SAME AT THE TRAFFIC FACE OF THE PARAPET.

TO DETERMINE '+', ELEV. OF TOP OF GIRDERS AT C OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. TO DETERMINE THE TOP OF DECK ELEVATION FOR POINT REFERRED USE TABLE ON THIS SHEET AND ADJUST FOR CROSS SLOPE OVER GIRDER. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEADLOAD DEFLECTION (SEE SHEET 10)
- DECK THICKNESS

= HAUNCH HEIGHT '+'

IF 1 1/4" MINIMUM HAUNCH HEIGHT '+' CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. MAX. HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 3".



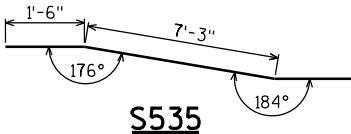
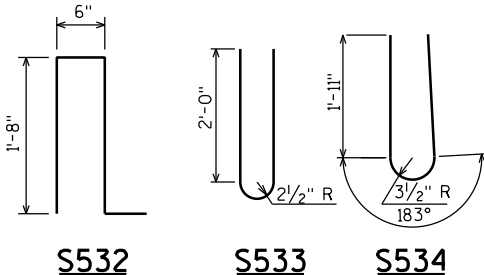
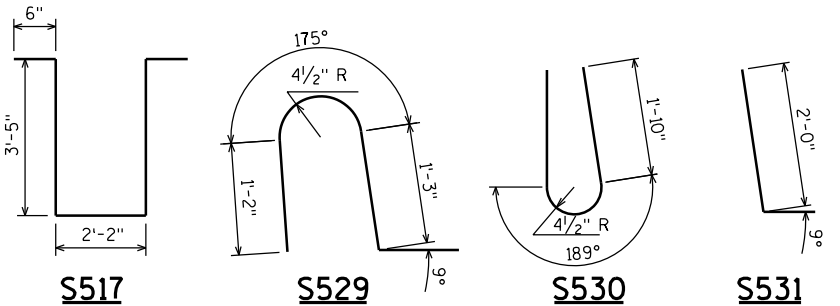
DECK HAUNCH DETAIL

DECK LAYOUT OFFSETS FROM EXTERIOR GIRDERS

	WEST ABUT.	SPAN 1									PIER	SPAN 2									EAST ABUT.
LOCATION	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
NORTH EDGE	2'-5 7/8"	2'-10 3/8"	3'-2"	3'-4 5/8"	3'-6 3/8"	3'-7 1/4"	3'-7 1/4"	3'-6 1/4"	3'-4 3/8"	3'-1 1/2"	2'-9 3/4"	3'-2 5/8"	3'-6 1/2"	3'-9 1/2"	3'-11 1/2"	4'-0 5/8"	4'-0 7/8"	4'-0 1/4"	3'-10 5/8"	3'-8 1/8"	3'-4 5/8"
SOUTH EDGE	3'-6"	3'-2"	2'-10 7/8"	2'-8 7/8"	2'-7 7/8"	2'-7 3/4"	2'-8 5/8"	2'-10 1/2"	3'-1 1/4"	3'-5 1/8"	3'-9 7/8"	3'-6"	3'-3 1/4"	3'-1 3/8"	3'-0 1/2"	3'-0 1/2"	3'-1 5/8"	3'-3 5/8"	3'-6 5/8"	3'-10 5/8"	4'-3 5/8"

EDGE OF DECK OFFSETS ARE MEASURED FROM THE C OF THE ADJACENT EXTERIOR GIRDER AND PERPENDICULAR AT THE TENTH POINTS OF THAT GIRDER.
TENTH POINT LOCATIONS ALONG THE GIRDERS ARE ALONG THE TYPICAL 64.00' LENGTH FROM THE C/L OF BEARING AT EITHER ABUTMENT TO THE C OF PIER.

BAR MARK	A	B	C
S401	1'-6"	11"	90°
S608	3'-6"	2'-0"	98°
S609			
S610	3'-6"	2'-0"	82°
S611			
S612	3'-6"	2'-2"	112°
S613			
S614	3'-6"	2'-2"	68°
S615			



BILL OF BARS (COATED)

41,775 LBS.

BAR MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S401	36	3'-9"	X		DIAPHRAGM @ ABUT. - SEMIEXP. NOTCH STIRRUP - VERT.
S402	12	4'-11"			DIAPHRAGM @ ABUT. - SEMIEXP. NOTCH - HORIZ.
S503	60	11'-10"	X		DIAPHRAGM @ ABUT. - STIRRUP - VERT.
S504	16	7'-8"	X		DIAPHRAGM @ ABUT. - STIRRUP - VERT.
S605	20	19'-1"			DIAPHRAGM @ ABUT. - B.F. - HORIZ.
S606	6	6'-0"			DIAPHRAGM @ ABUT. - F.F. - INT. BAY - HORIZ.
S607	24	5'-1"			DIAPHRAGM @ ABUT. - F.F. - INT. BAY - HORIZ.
S608	1	7'-0"	X		DIAPHRAGM @ ABUT. - END @ WING 1 - HORIZ.
S609	2	8'-0"	X		DIAPHRAGM @ ABUT. - END @ WING 1 - HORIZ.
S610	1	6'-1"	X		DIAPHRAGM @ ABUT. - END @ WING 2 - HORIZ.
S611	2	7'-1"	X		DIAPHRAGM @ ABUT. - END @ WING 2 - HORIZ.
S612	1	7'-4"	X		DIAPHRAGM @ ABUT. - END @ WING 3 - HORIZ.
S613	2	8'-5"	X		DIAPHRAGM @ ABUT. - END @ WING 3 - HORIZ.
S614	1	8'-2"	X		DIAPHRAGM @ ABUT. - END @ WING 4 - HORIZ.
S615	2	9'-3"	X		DIAPHRAGM @ ABUT. - END @ WING 4 - HORIZ.
S516	16	6'-0"	X		DIAPHRAGM @ ABUT. - 2 THRU GIRDER WEB - HORIZ.
S517	21	9'-6"	X		DIAPHRAGM @ PIER - STIRRUP - VERT.
S518	6	7'-8"	X		DIAPHRAGM @ PIER - STIRRUP - VERT.
S419	6	6'-0"			DIAPHRAGM @ PIER - HORIZ.
S420	24	4'-8"			DIAPHRAGM @ PIER - HORIZ.
S521	377	32'-2"			DECK - TOP & BOTTOM - TRANS.
S522	10	16'-1"			DECK - TOP & BOTTOM AT WEST END - TRANS.
S523	34	17'-11"			DECK - TOP & BOTTOM AT EAST END - TRANS.
S424	188	33'-11"			DECK - BOTTOM - LONGIT.
S425	184	24'-4"			DECK - TOP - AT ENDS & IN SPAN - LONGIT.
S726	46	40'-2"			DECK - TOP - OVER PIER - LONGIT.
S727	45	17'-8"			DECK - TOP - OVER PIER - LONGIT.
S528	261	6'-0"	X		DECK - TOP AT EDGES - TRANS.
S529	341	4'-5"	X		PARAPET - STIRRUP INTO DECK - IN SPAN - VERT.
S530	341	5'-0"	X		PARAPET - STIRRUP - IN SPAN - VERT.
S531	48	2'-9"	X		PARAPET - STIRRUP - DECK ENDS - VERT.
S532	68	4'-4"	X		PARAPET - STIRRUP - DECK ENDS - VERT.
S533	44	4'-9"	X		PARAPET - STIRRUP - DECK ENDS - VERT.
S534	24	4'-10"	X		PARAPET - STIRRUP - DECK ENDS - VERT.
S535	4	12'-6"	X		PARAPET - DECK ENDS - LONGIT.
S536	20	12'-6"			PARAPET - DECK ENDS - LONGIT.
S537	36	37'-7"			PARAPET - IN SPAN - LONGIT.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

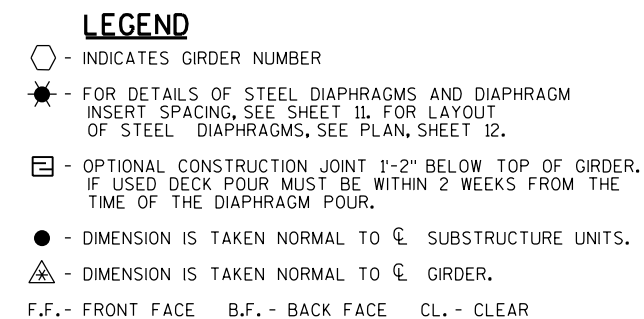
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL.

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

BAR MARK	NO. REQ'D.	LENGTH
S522	2 SERIES OF 5	4'-4" TO 27'-10"
S523	2 SERIES OF 17	5'-2" TO 30'-8"

BAR SERIES TABLE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-114			
DRAWN BY RLR		PLANS CK'D. JAS	
SUPERSTRUCTURE DECK FORMING & BAR STEEL DETAILS		SHEET 13 OF 15	



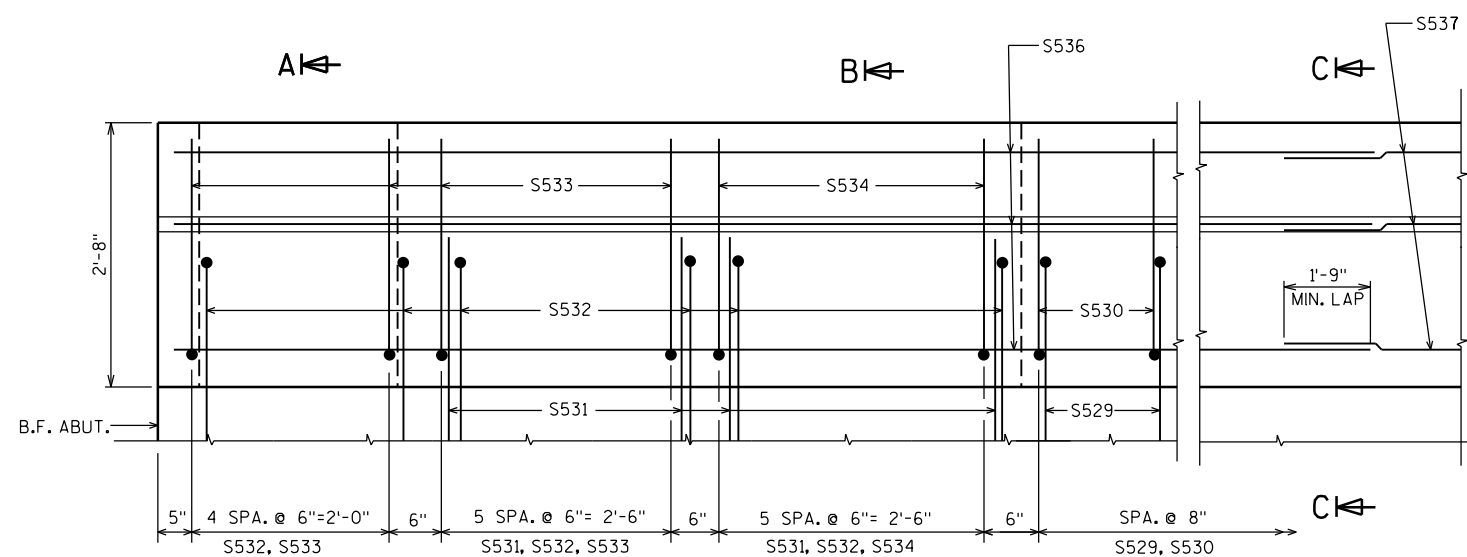
EXTERIOR GIRDER

TOP OF DECK

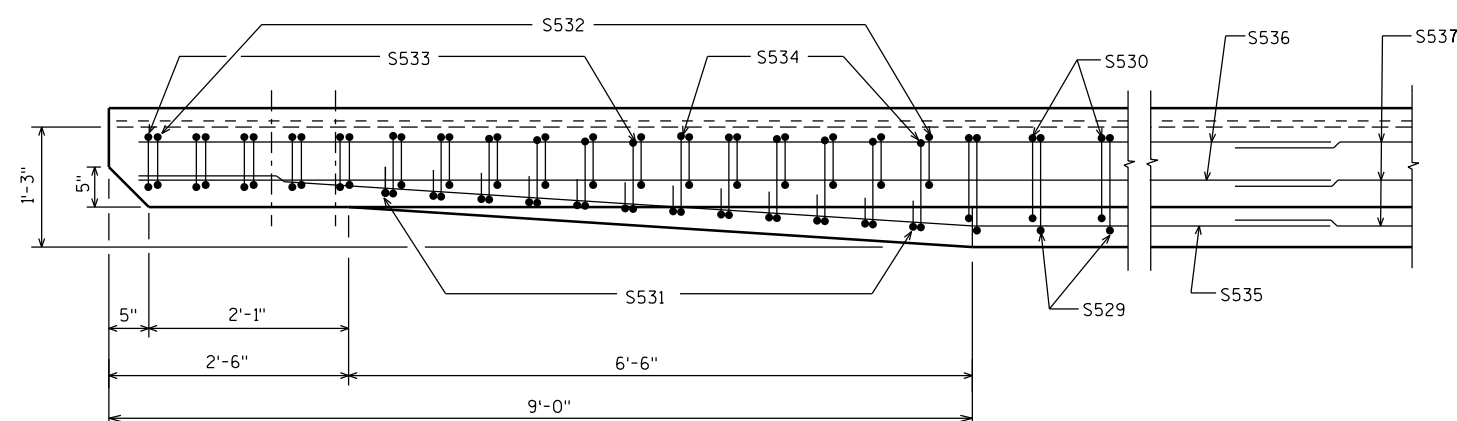
S528 @ 1'-0" SPA. AT EDGE OF DECK

5" TYP.

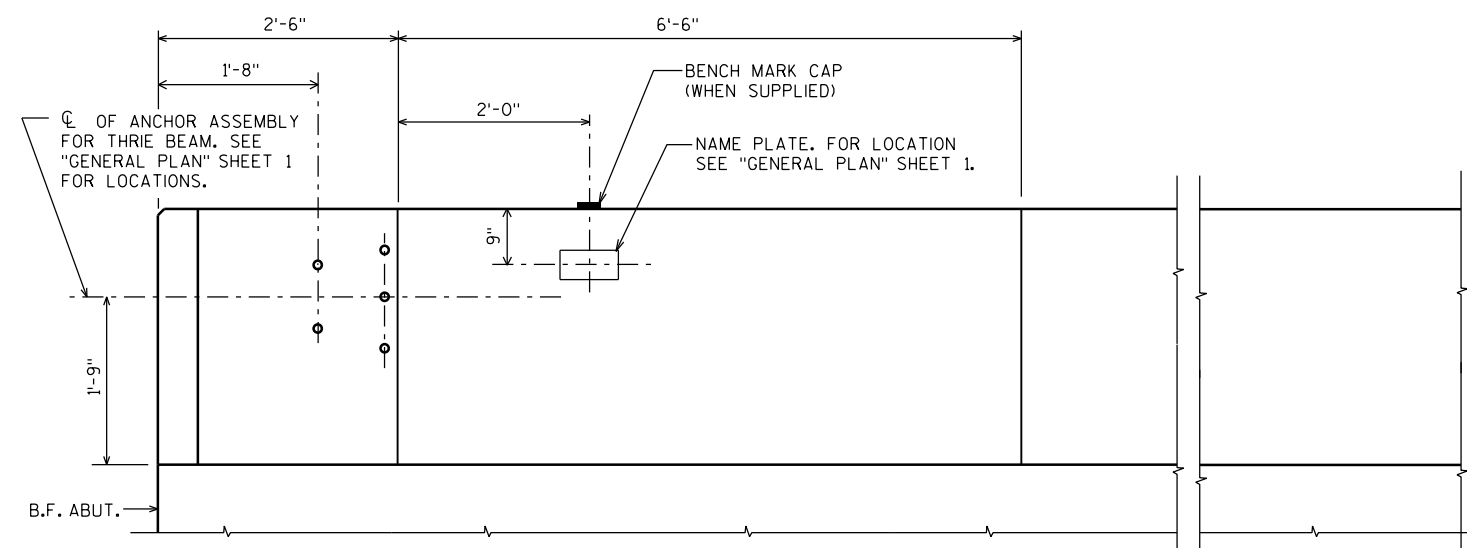
3/4" V-GROOVE. EXTEND TO 6" FROM THE FRONT FACE OF ABUT. DIAPHRAGM.



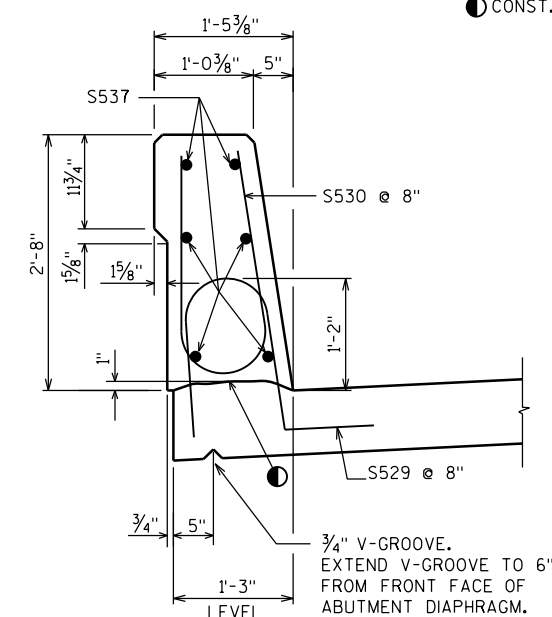
OUTSIDE ELEVATION



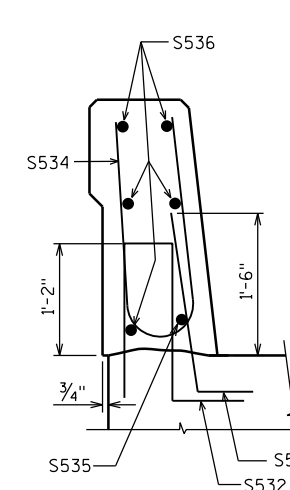
PLAN



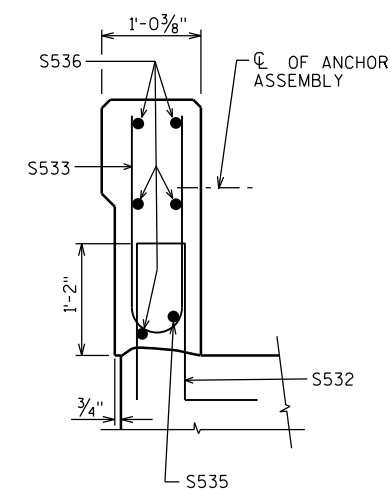
INSIDE ELEVATION



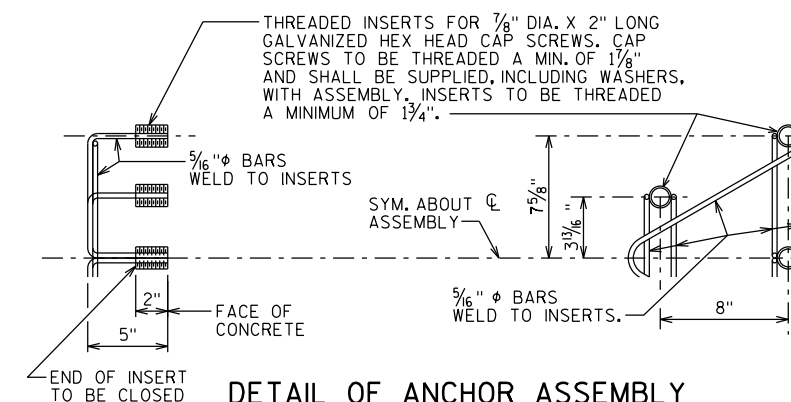
SECTION C



SECTION B



SECTION A



DETAIL OF ANCHOR ASSEMBLY

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

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

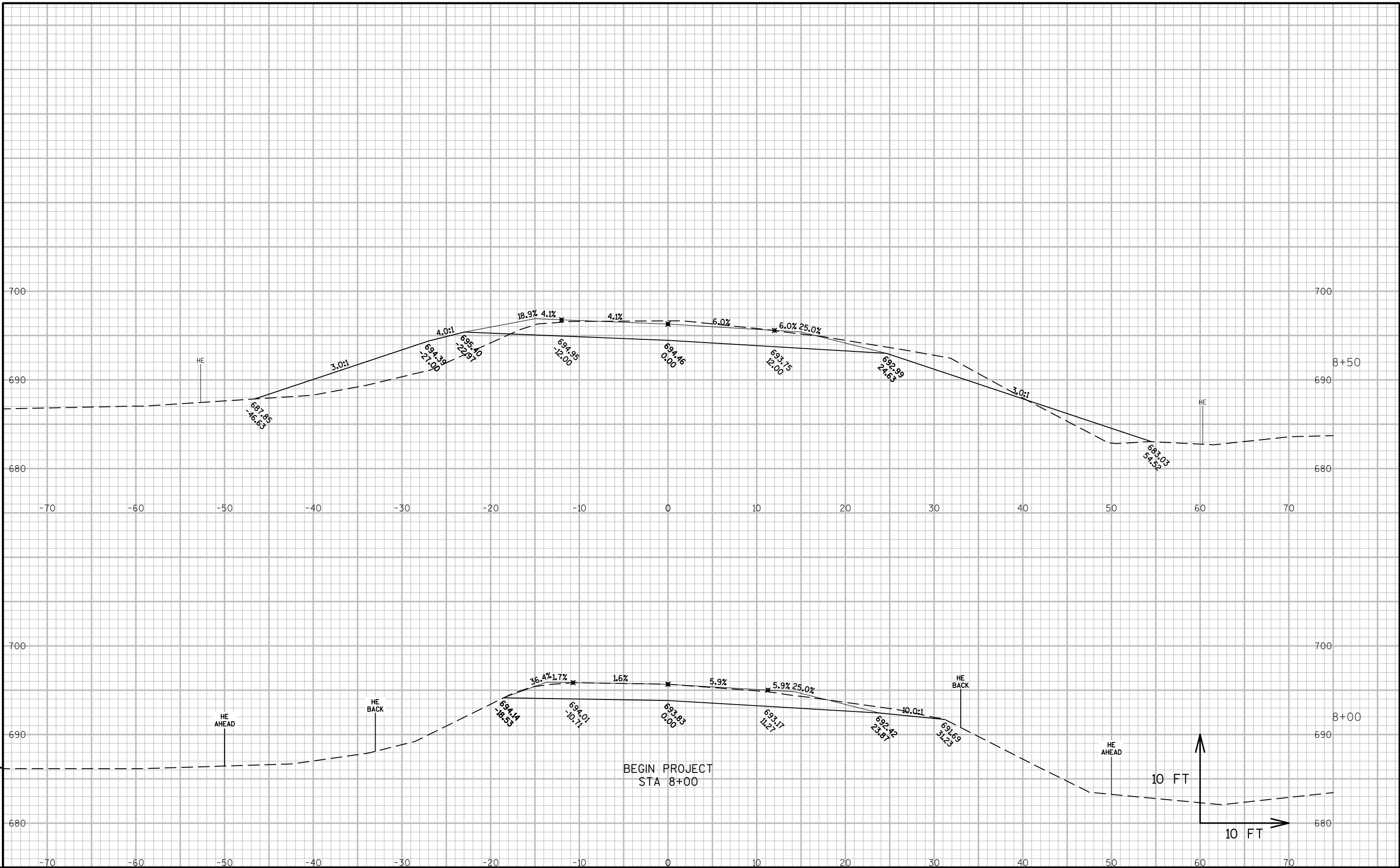
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-22-114	
		DRAWN BY RLR	PLANS CK'D. JAS
SINGLE SLOPE PARAPET 32SS		SHEET 15 OF 1	

PROJECT I.D. 5693-00-72 EARTHWORK SUMMARY
CTH T

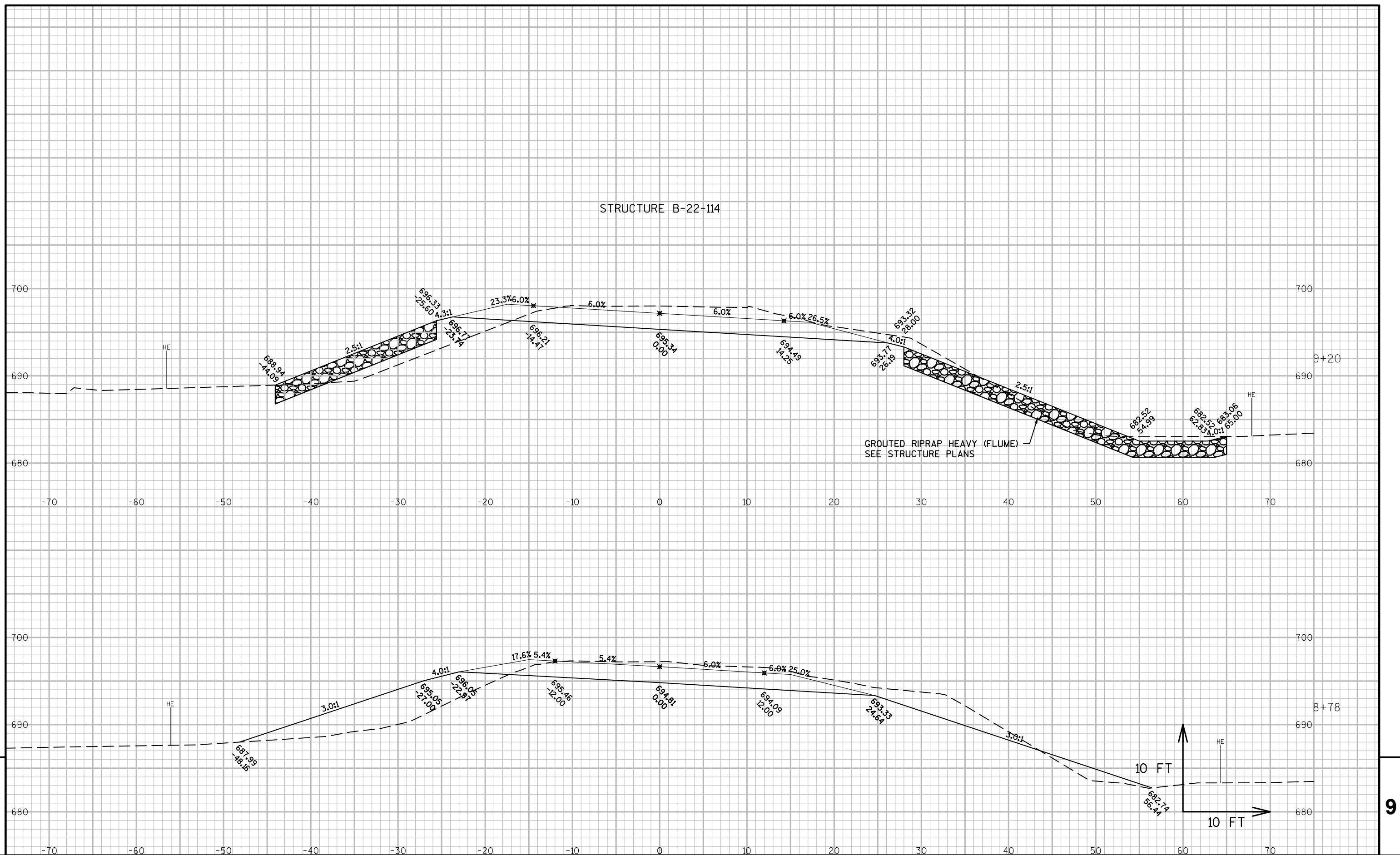
STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
8+00.00	143	0	66	86	57	-57
8+50.00	102	0	80	104	-2	2
8+77.73	170	0	128	166	4	-4
9+20.00	42	0	31	40	2	-2
9+30.70						
STRUCTURE B-22-0114						
10+35.98	0	0	179	233	-233	233
10+61.41	0	0	299	389	-389	389
10+85.00	0	0	529	688	-688	688
11+36.41	0	0	562	731	-731	731
12+00.00	28	0	299	389	-361	361
12+50.00	75	0	141	183	-108	108
13+00.00	103	0	51	66	37	-37
13+50.00						
SUBTOTALS						
WEST APPROACH	457	0	305	396	61	-61
EAST APPROACH	206	0	2060	2679	-2473	2473
UNUSABLE PAVEMENT (3)						114
TOTALS	663	0	2365	3075	-2412	2526
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY. (2) - FILL EXPANSION 30% (3) - EXISTING PAVEMENT BASED ON AVE THK OF 4" OF ASPHALT PER BORING LOG.						

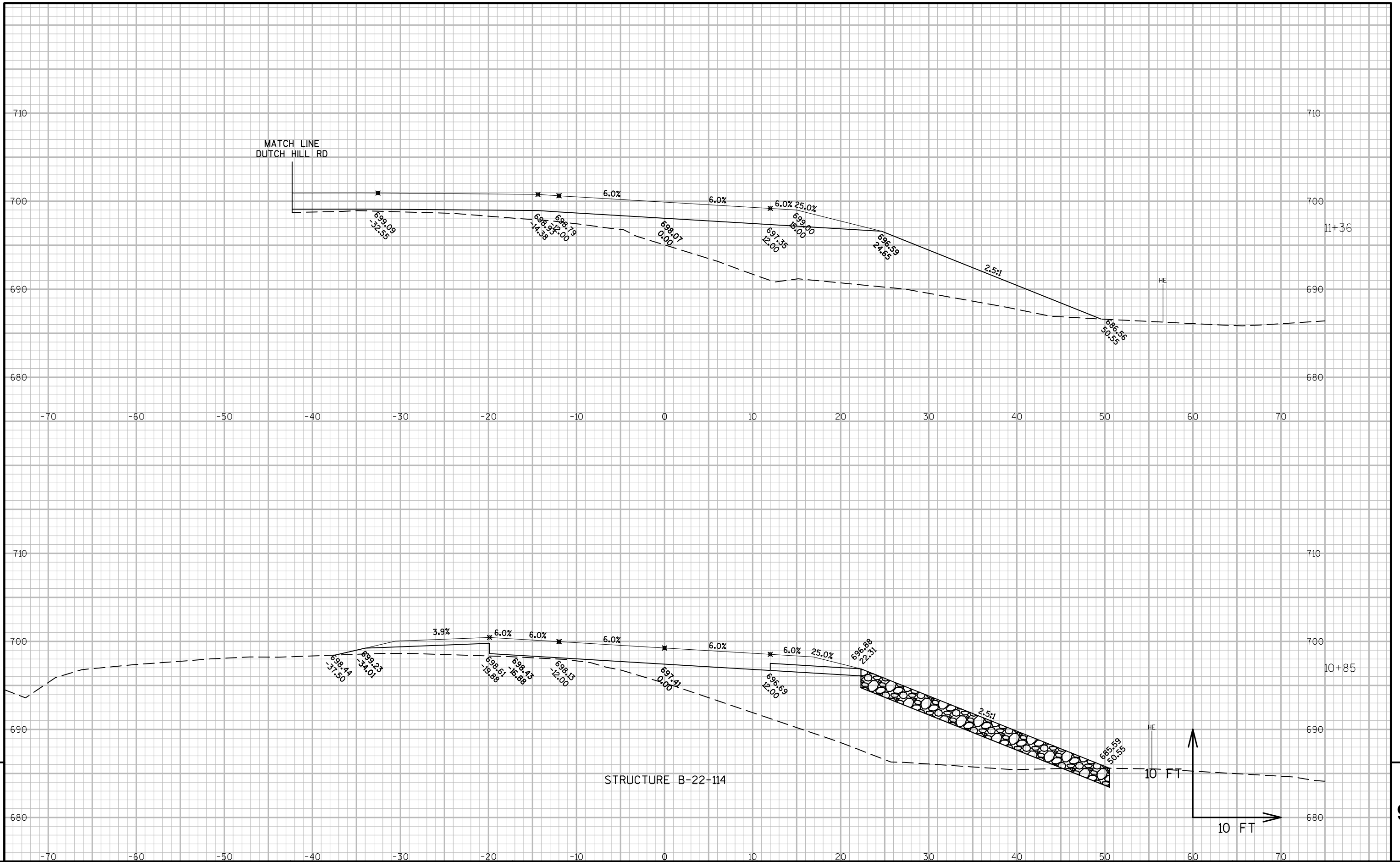
PROJECT I.D. 5693-00-72 EARTHWORK SUMMARY
DUTCH HILL ROAD

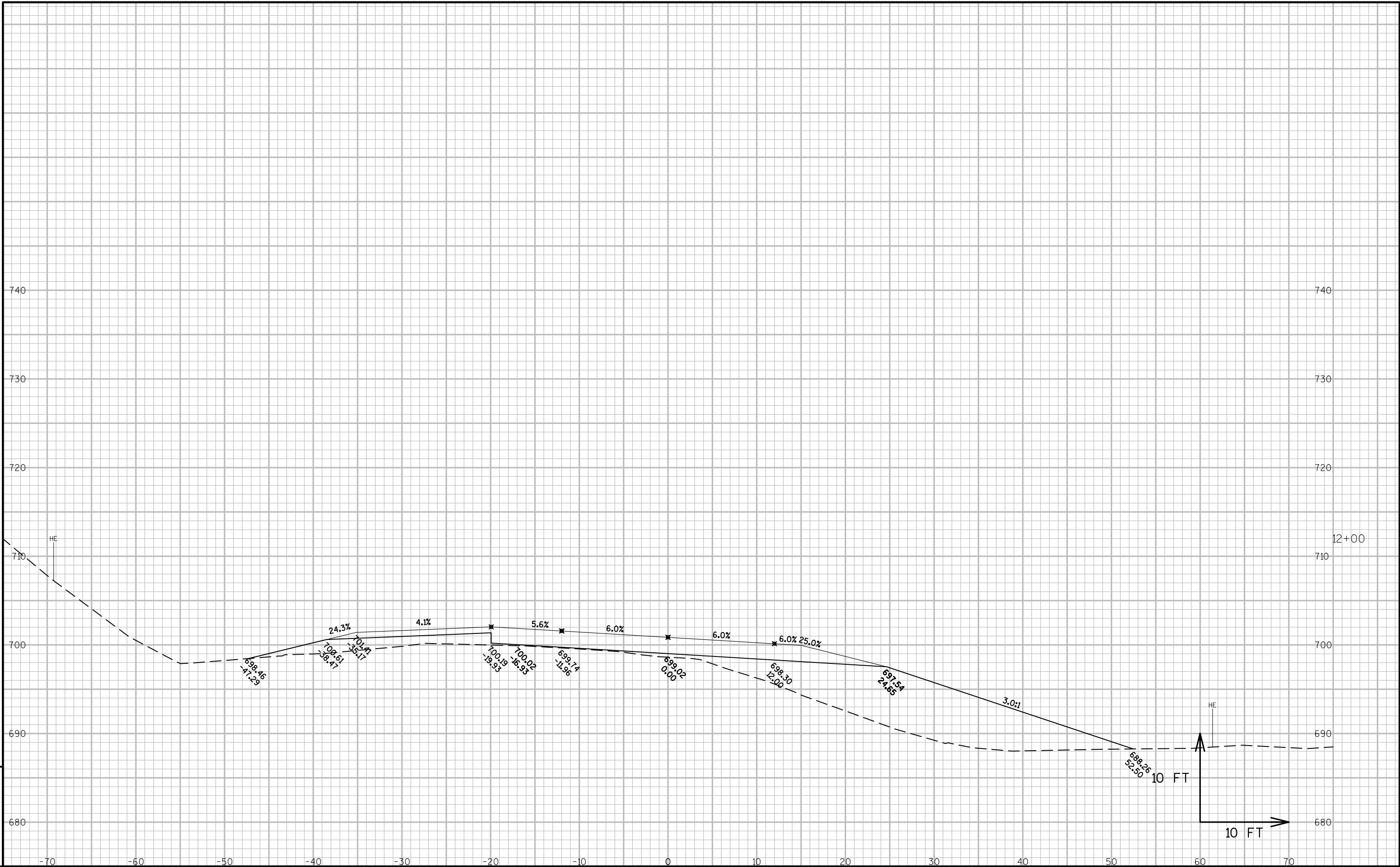
STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
18+15.00	61	0	0	0	61	-61
18+50.00	56	0	1	1	55	-55
19+00.00	19	0	5	7	12	-12
19+18.00	30	0	77	100	-70	70
19+57.72						
TOTALS	166	0	83	108	58	-58
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY. (2) - FILL EXPANSION 30%						

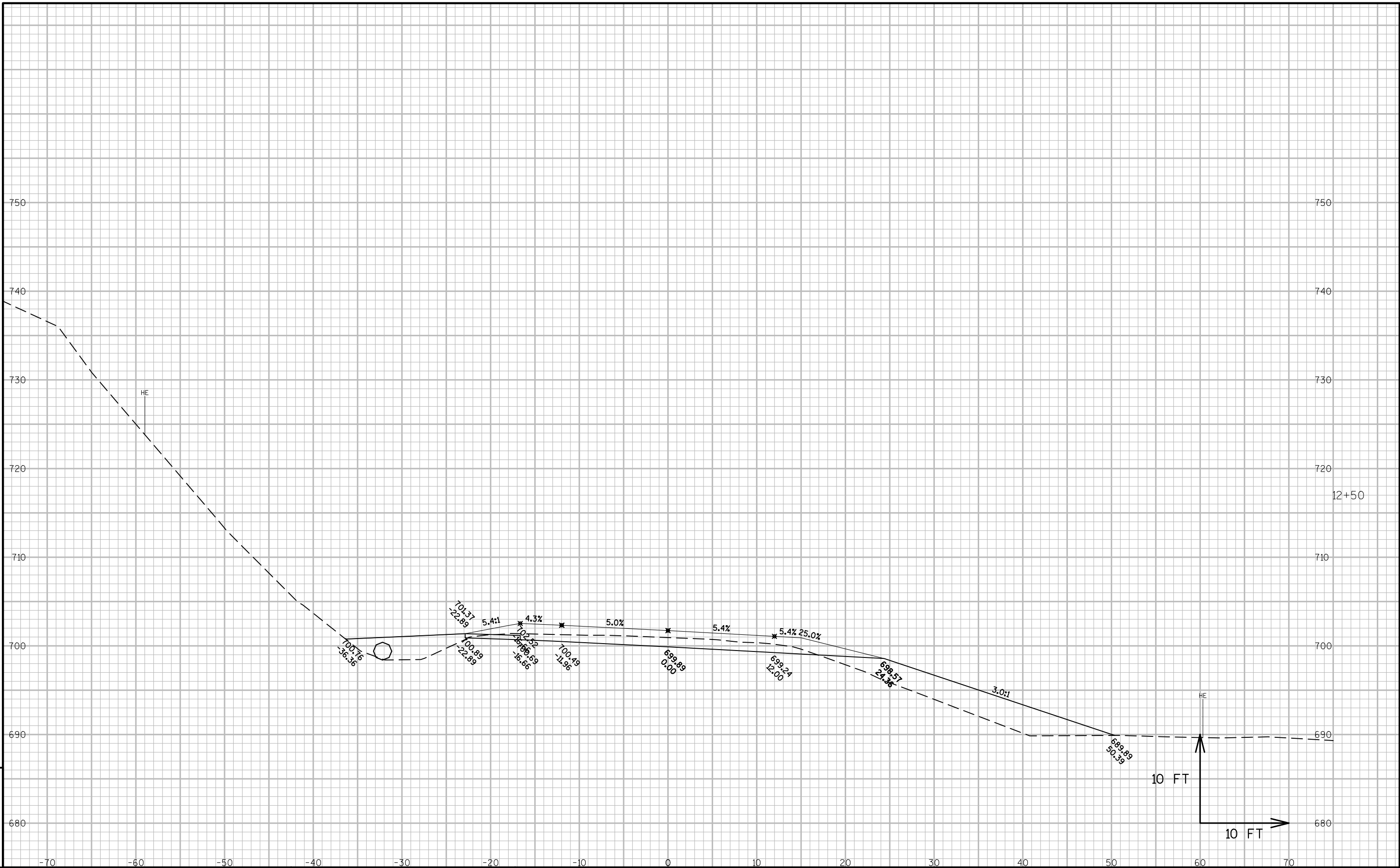


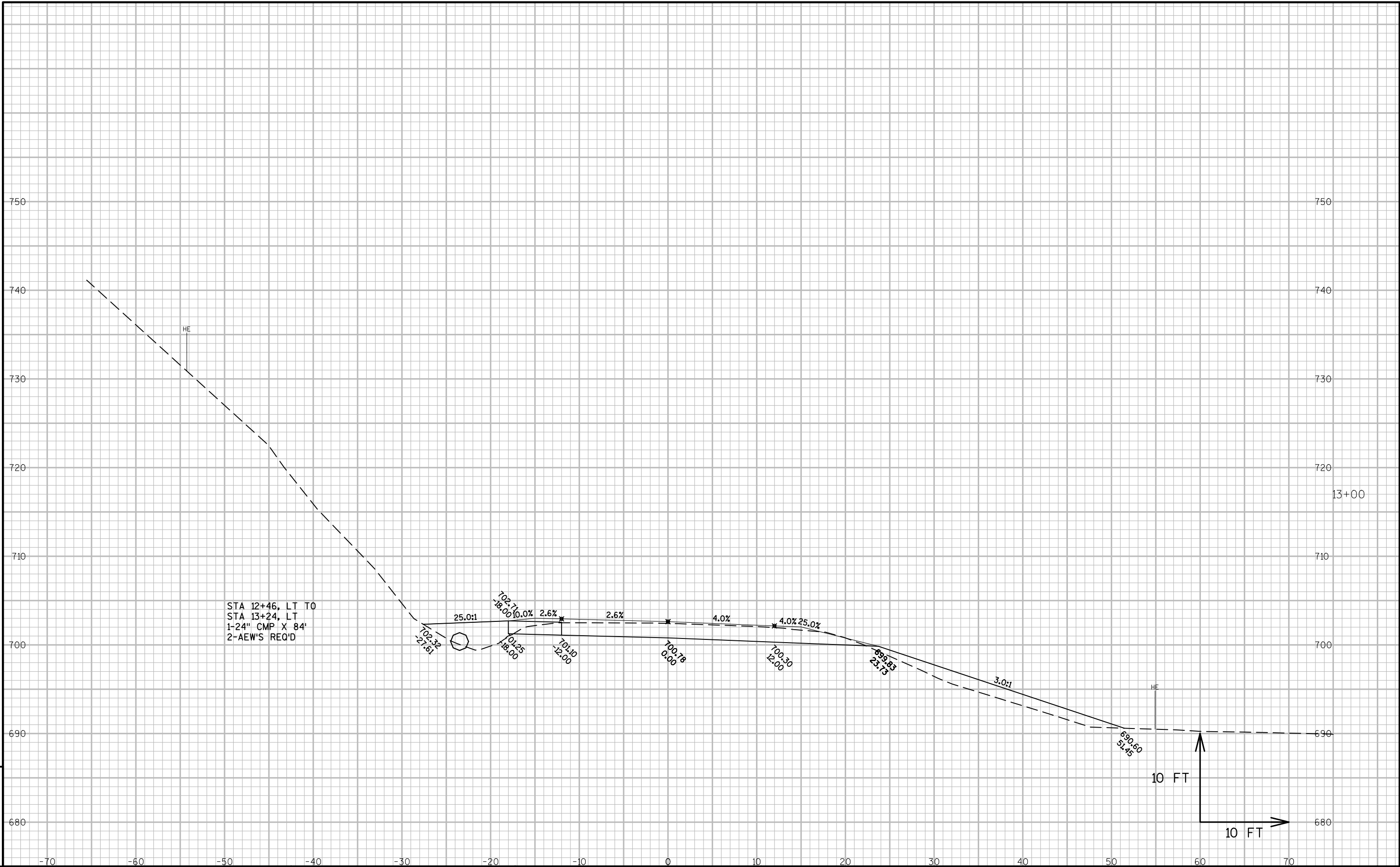
PROJECT NO:5693-00-72	HWY:CTH T	COUNTY:GRANT	CROSS SECTIONS: CTH T	SHEET	E
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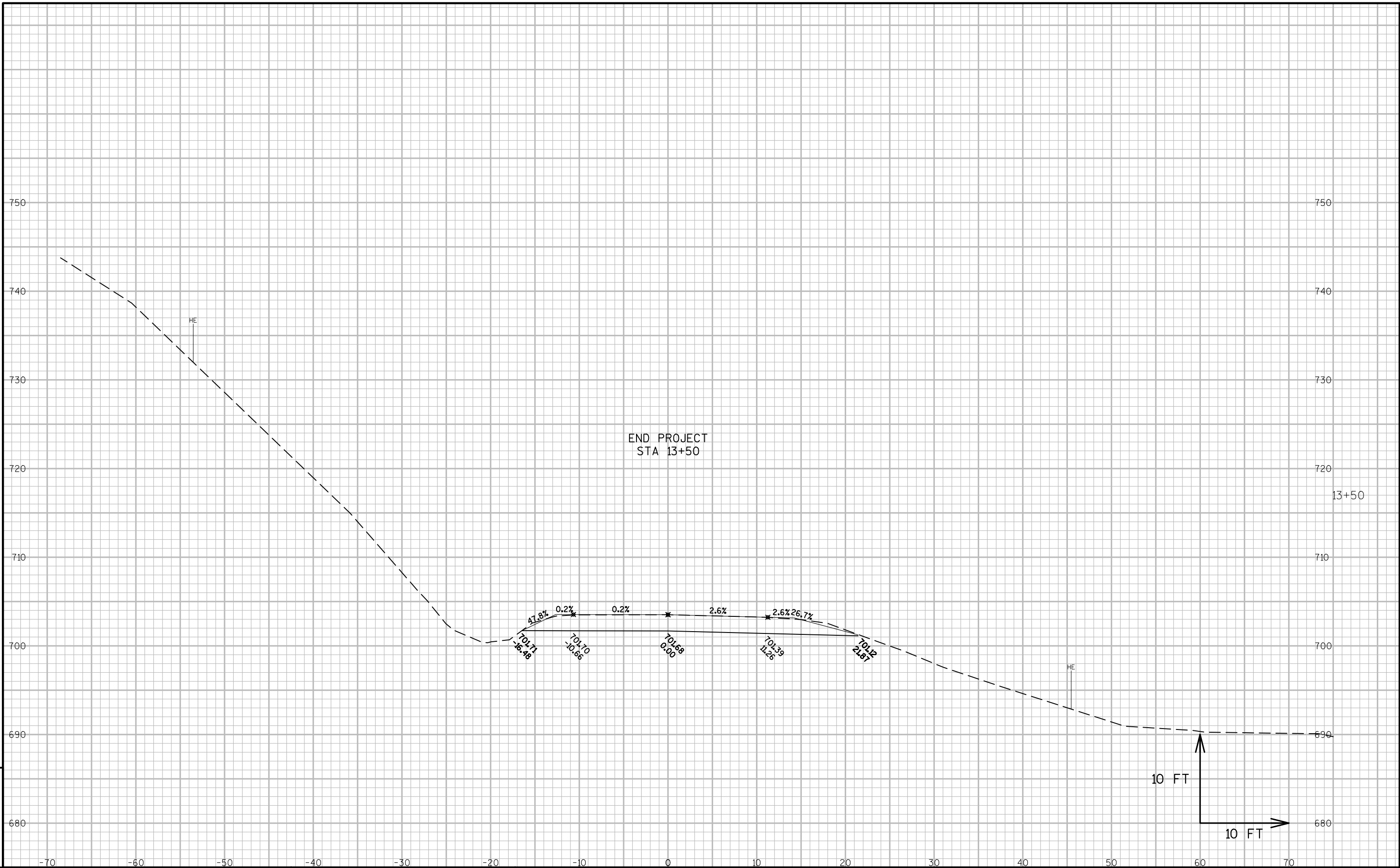


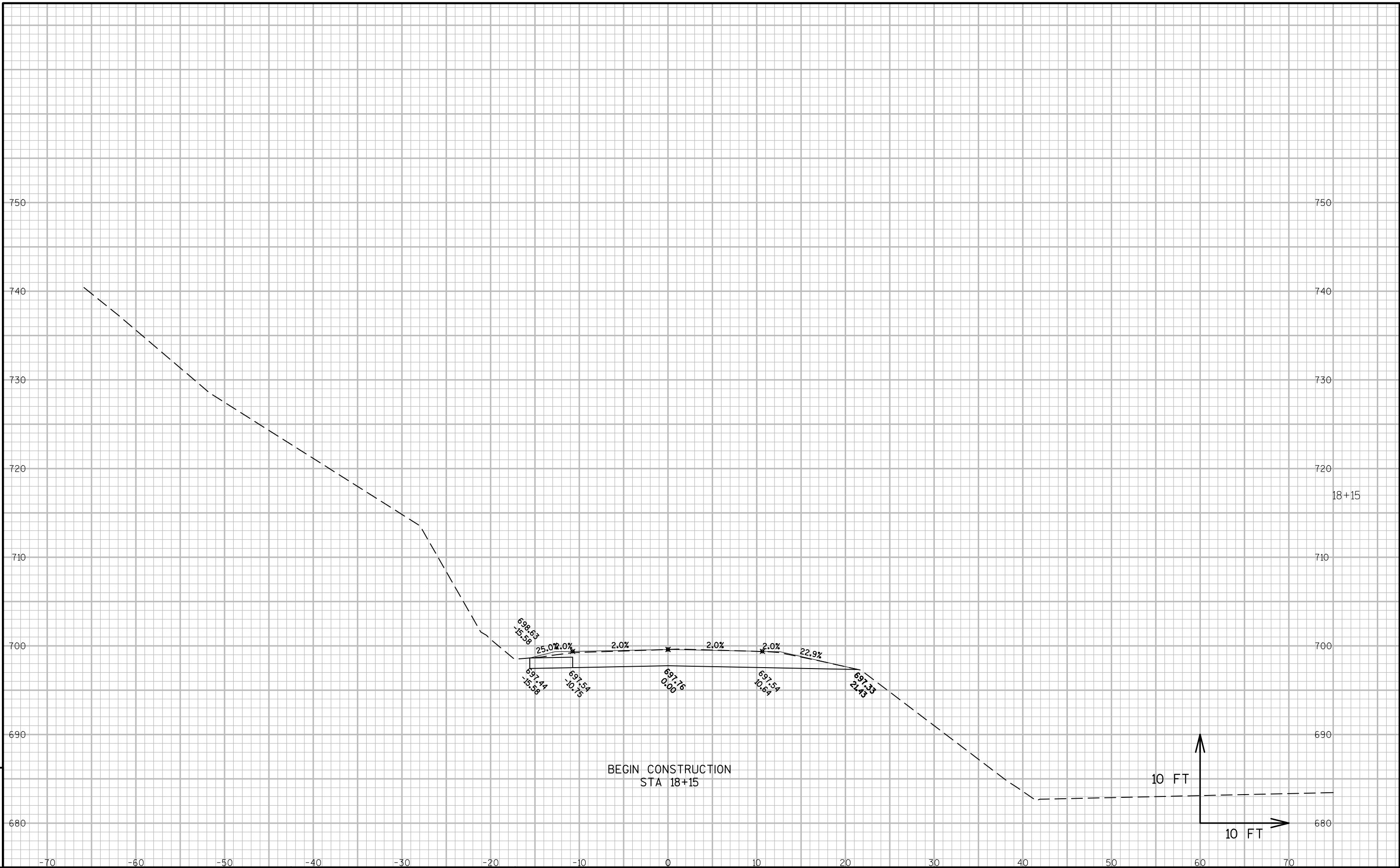


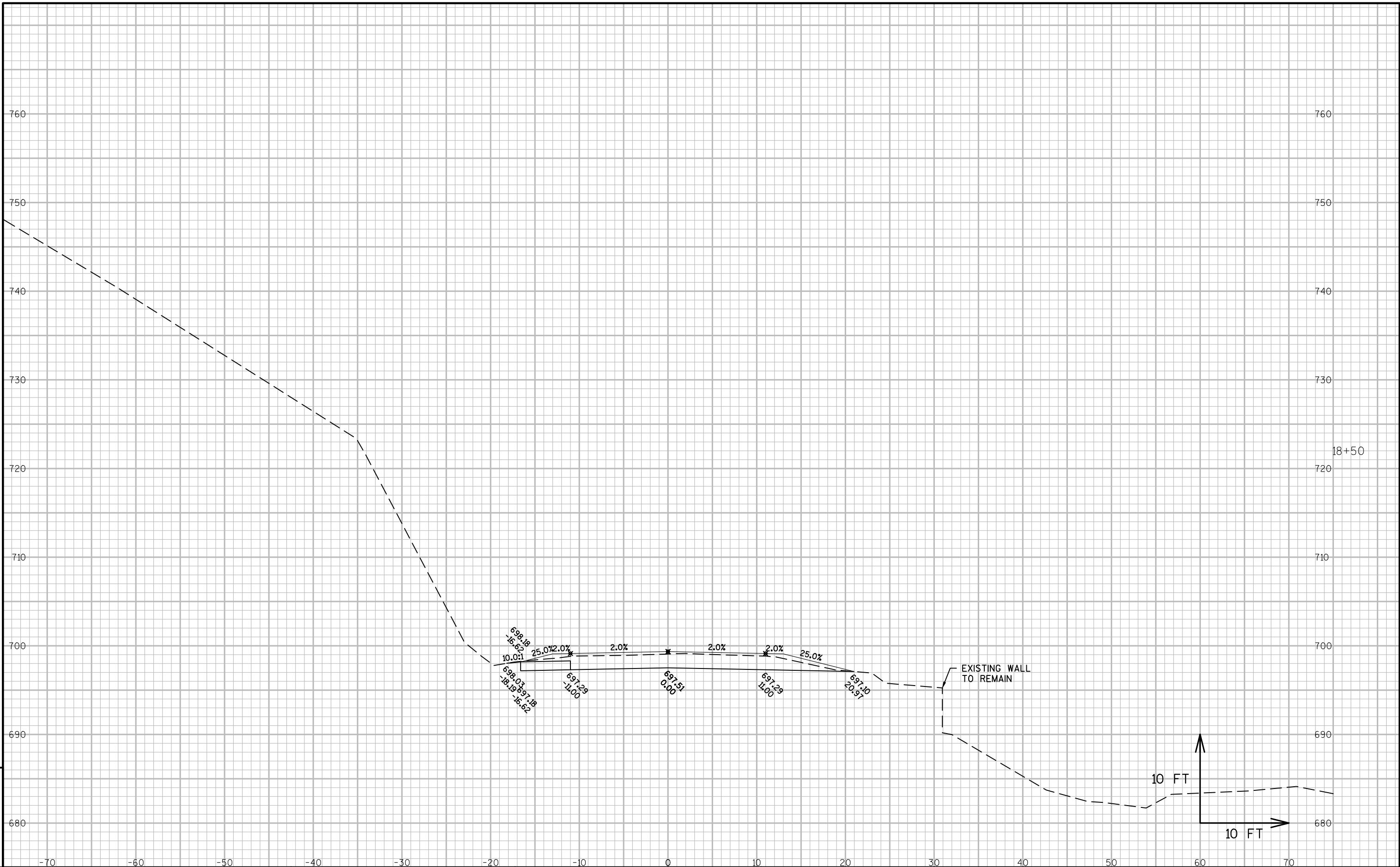


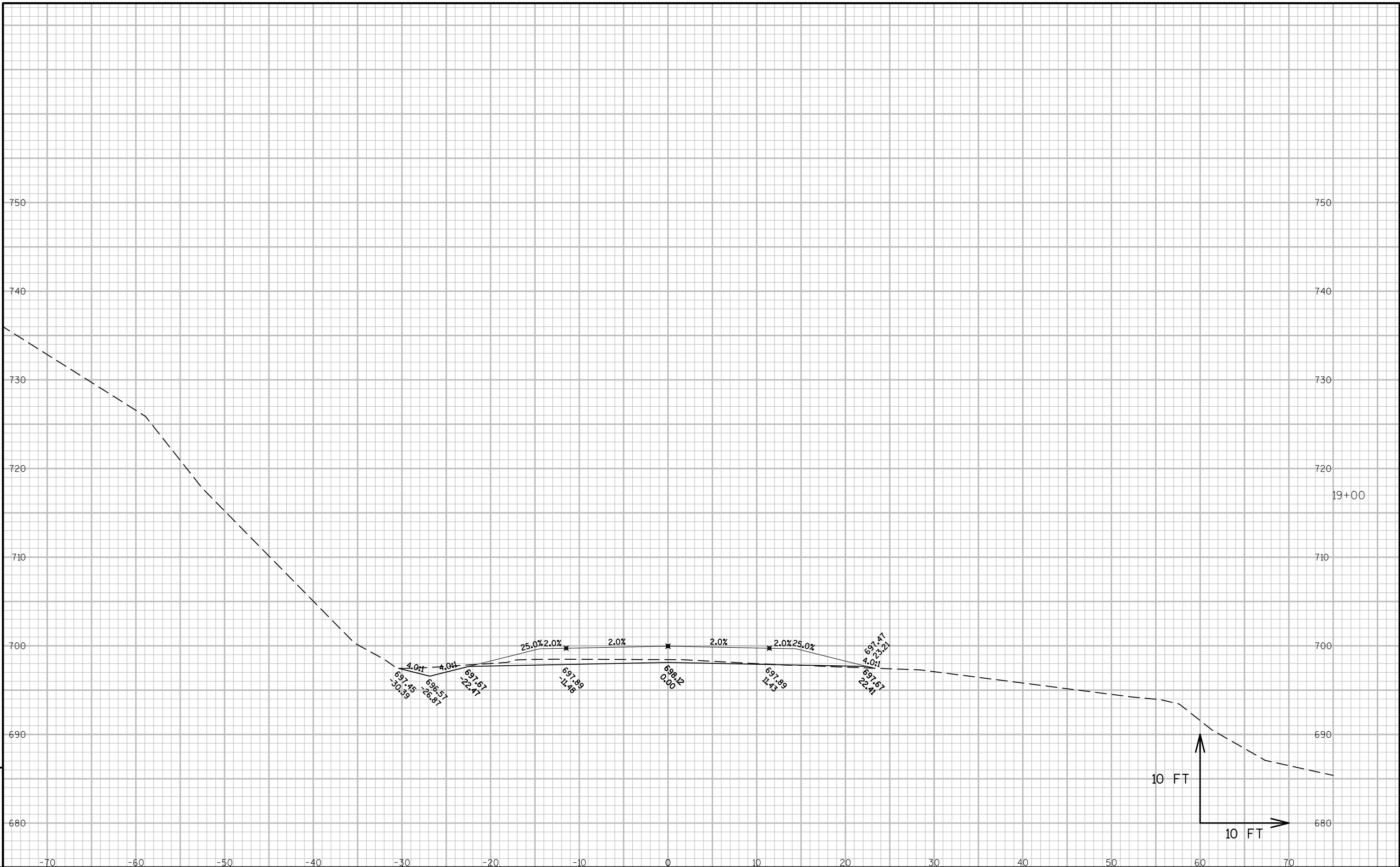




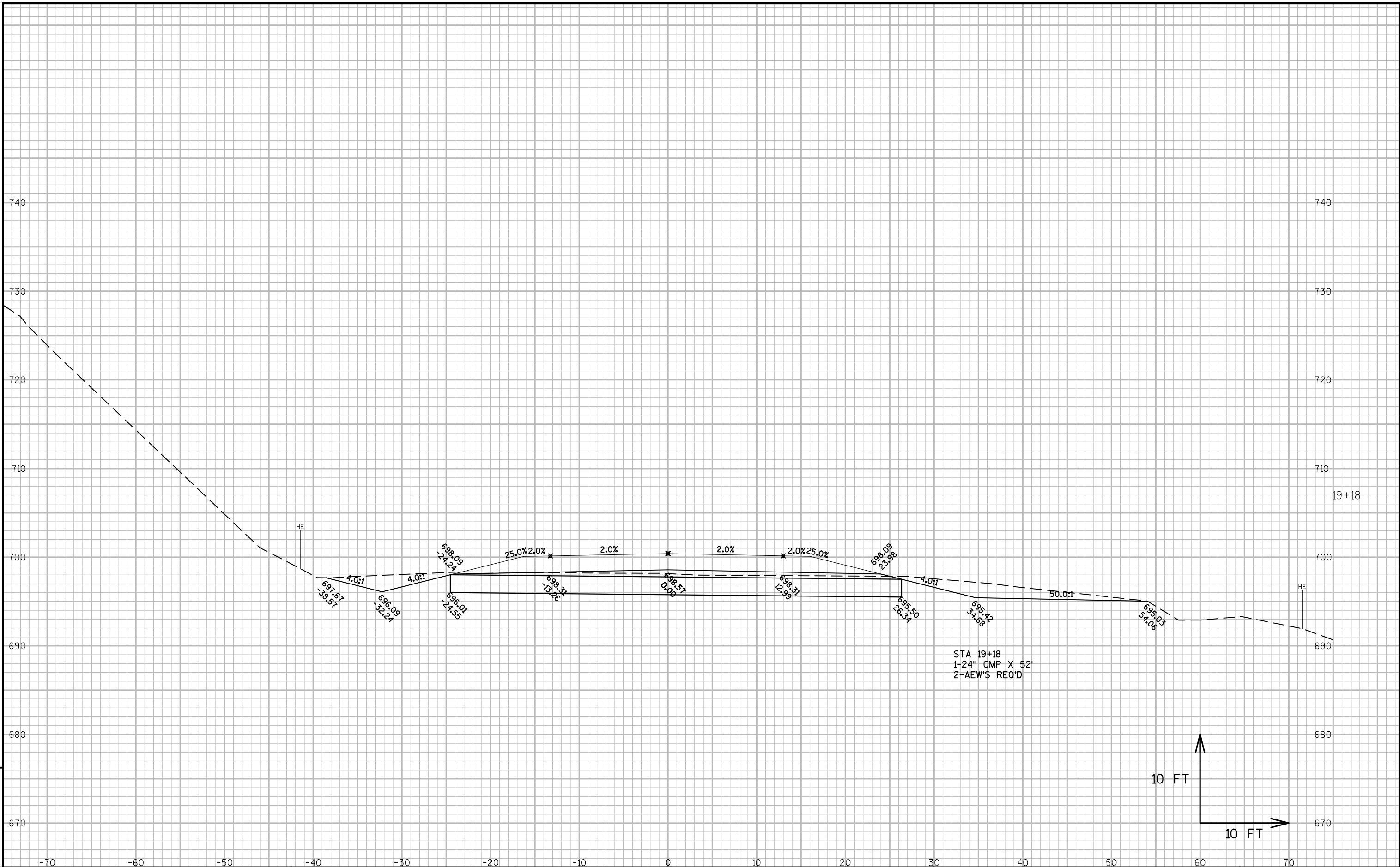


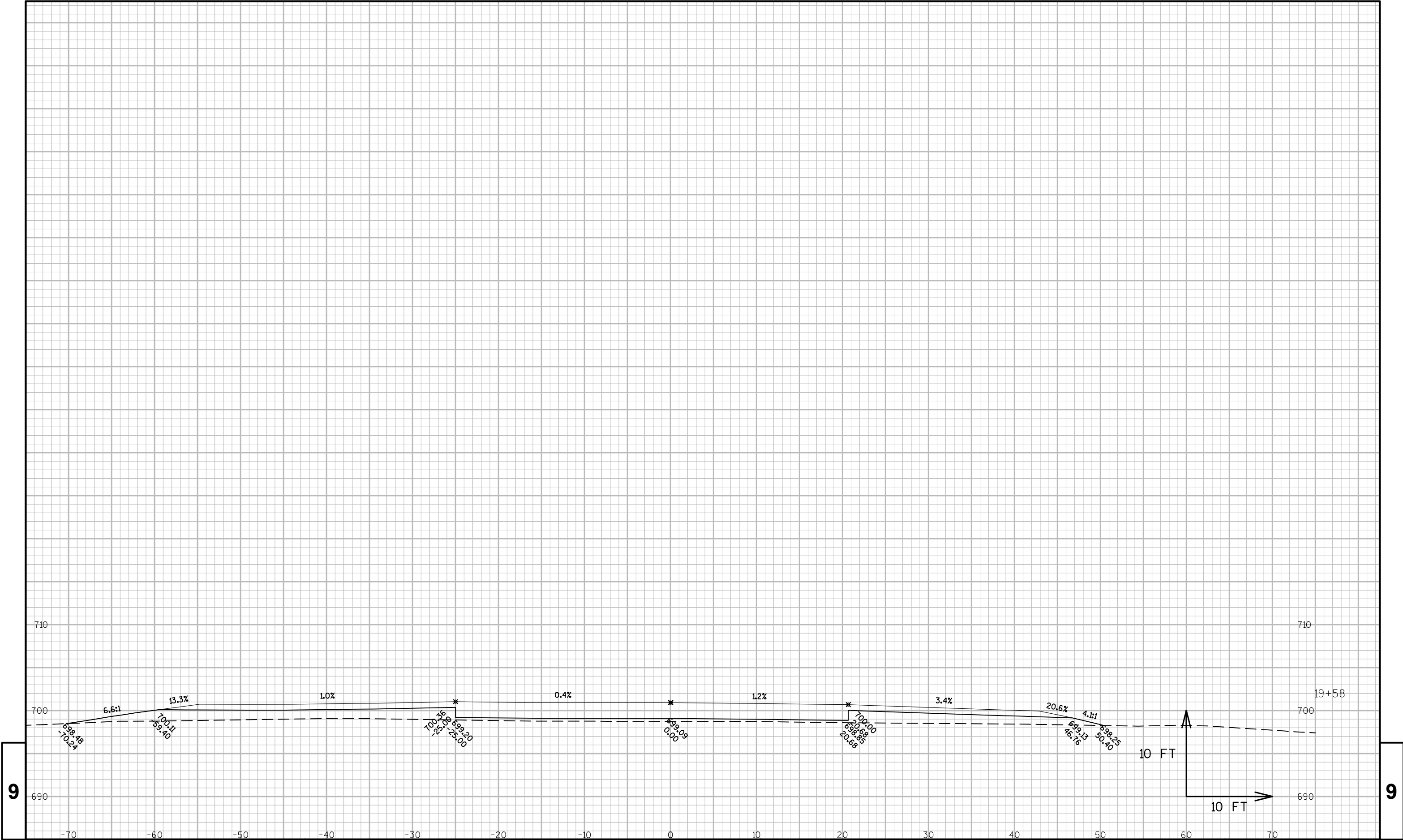






PROJECT NO:5693-00-72	HWY:CTH T	COUNTY:GRANT	CROSS SECTIONS: DUTCH HILL ROAD	SHEET	E
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PROJECT NO:5693-00-72

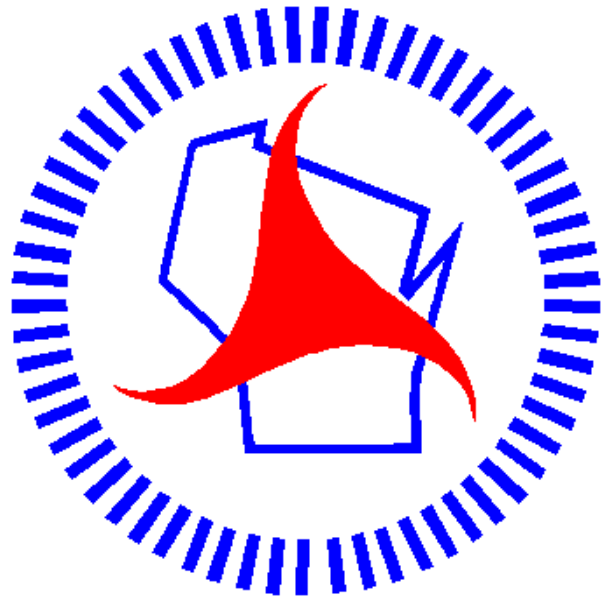
HWY:CTH T

COUNTY:GRANT

CROSS SECTIONS: DUTCH HILL ROAD

SHEET

E



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