

PROJECT ID: 7310-00-70
WITH: N/A

COUNTY: BUFFALO

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 = 86



DESIGN DESIGNATION

A.A.D.T.	2015	=	850
A.A.D.T.	2035	=	1,060
D.H.V.	2035	=	108
D.D.		=	60/40
T.		=	12.5%
DESIGN SPEED		=	40 MPH
ESALS		=	212,000

CONVENTIONAL SYMBOLS

PLAN

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

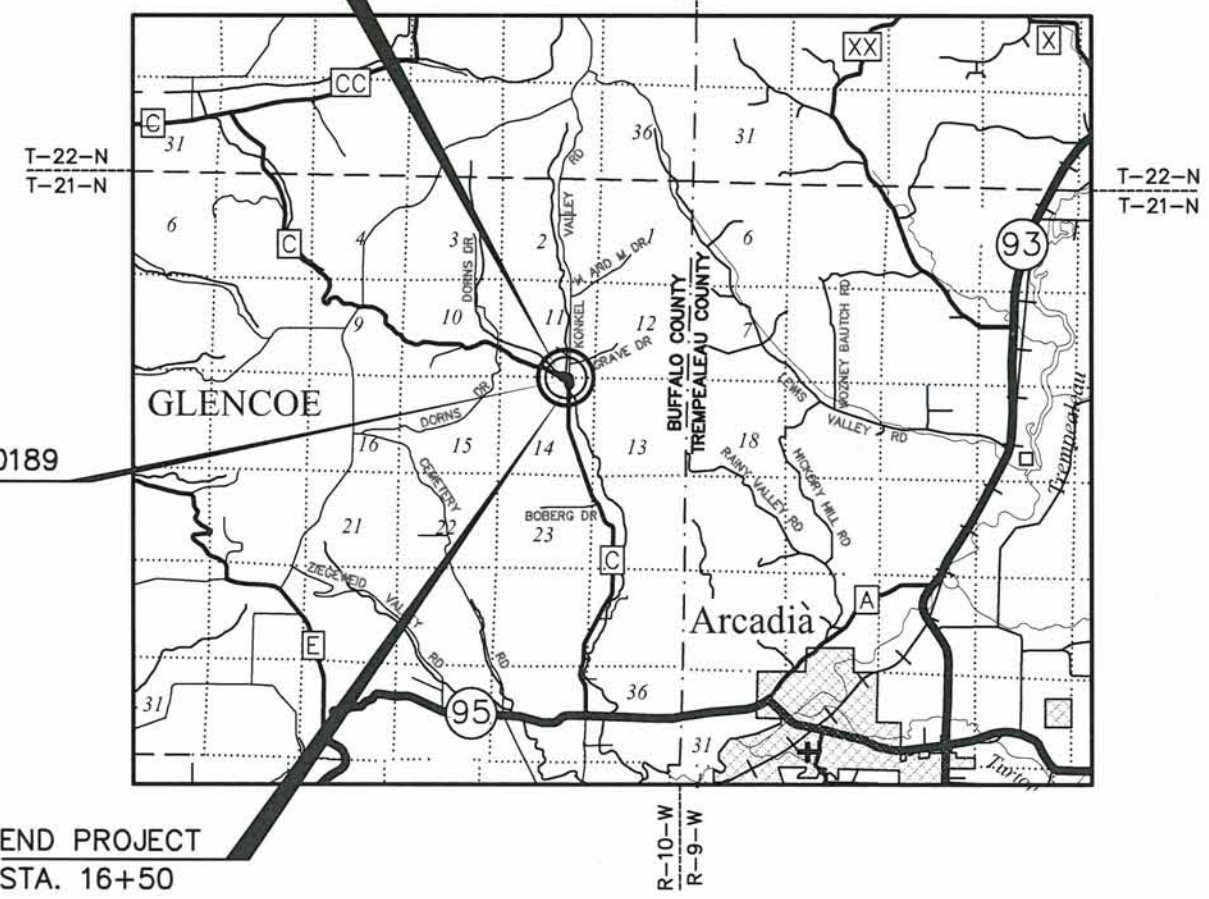
PROFILE

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	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
STH 95 - CTH CC
(SWINNS VALLEY CREEK BRIDGE B-06-0189)
CTH C
BUFFALO COUNTY

STATE PROJECT NUMBER
7310-00-70

BEGIN PROJECT
STA. 10+00
Y = 300,259.59
X = 638,209.53



STRUCTURE B-06-0189

END PROJECT
STA. 16+50

LAYOUT
SCALE 0 2 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.109 MI.

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

STATE PROJECT

LIST OF STANDARD ABBREVIATIONS

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

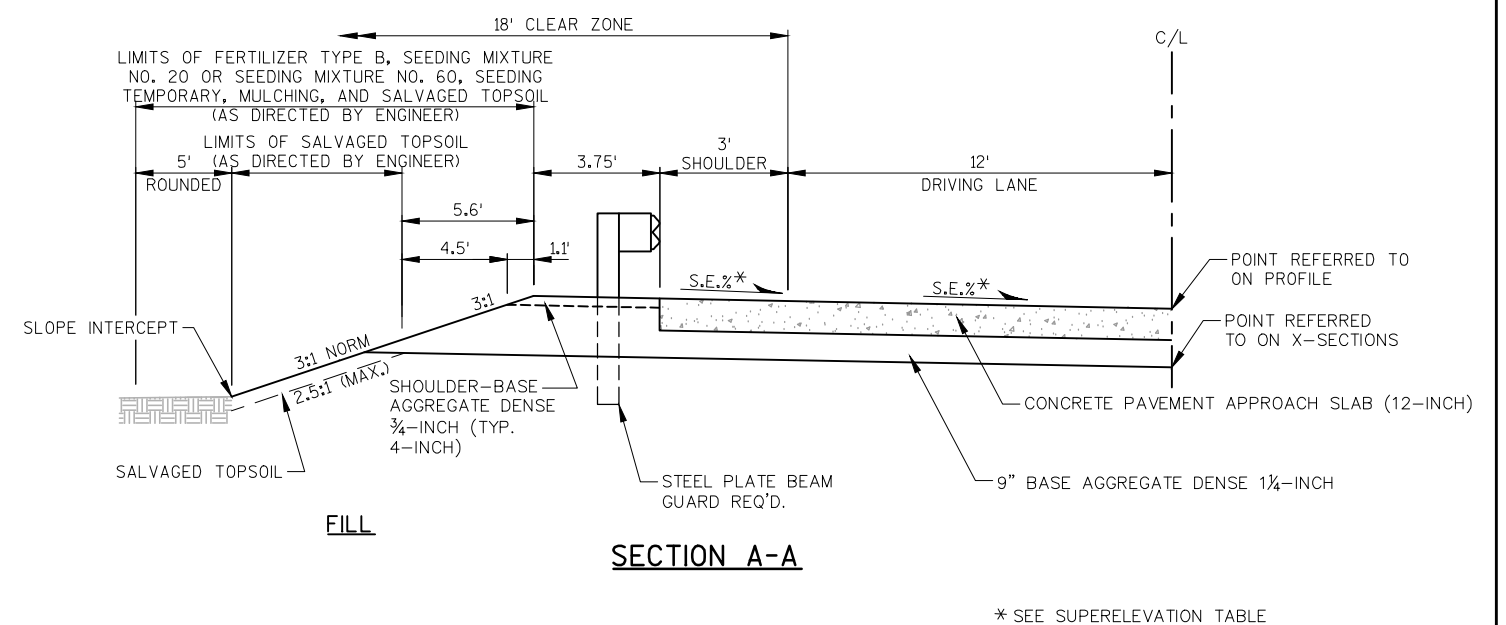
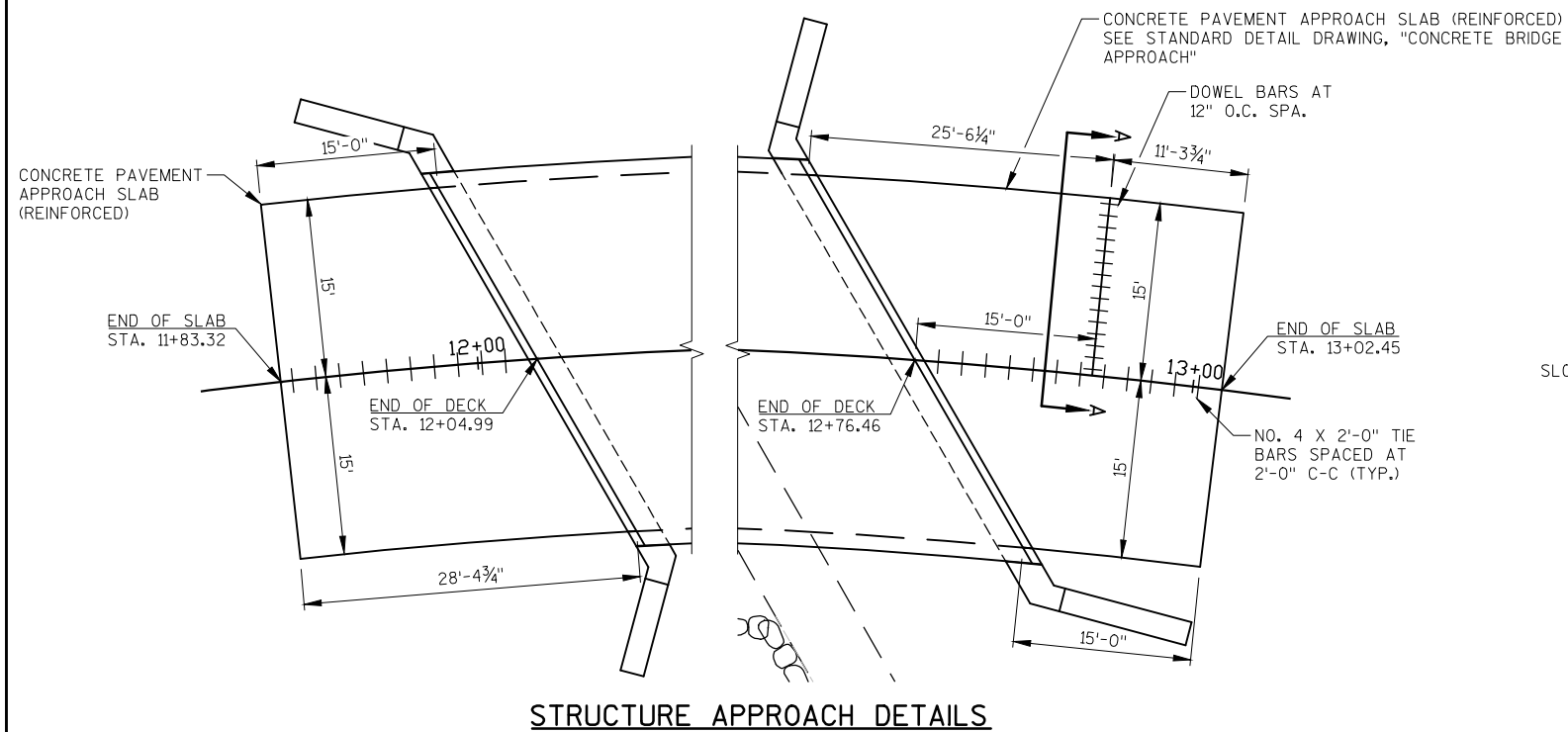
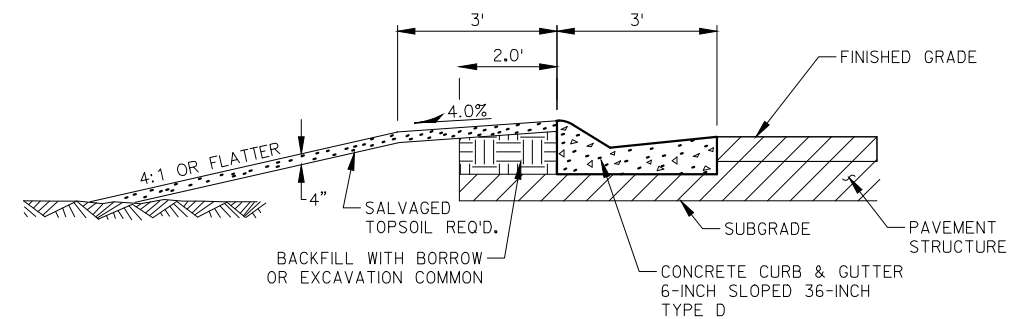
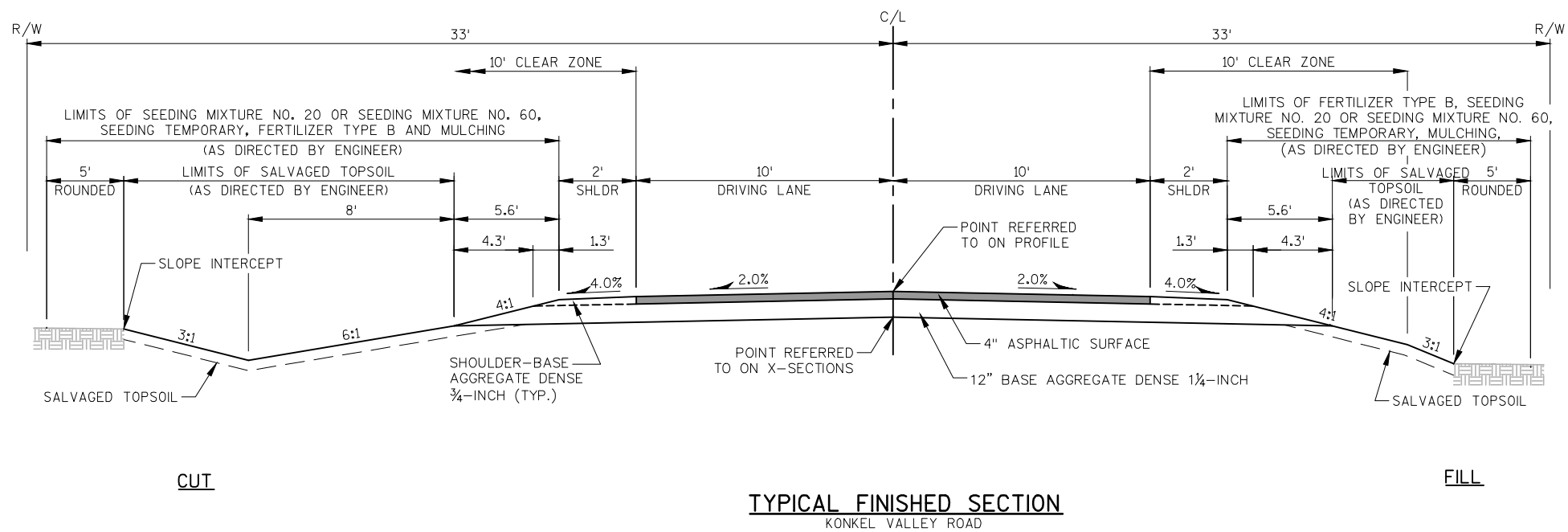
GENERAL NOTES

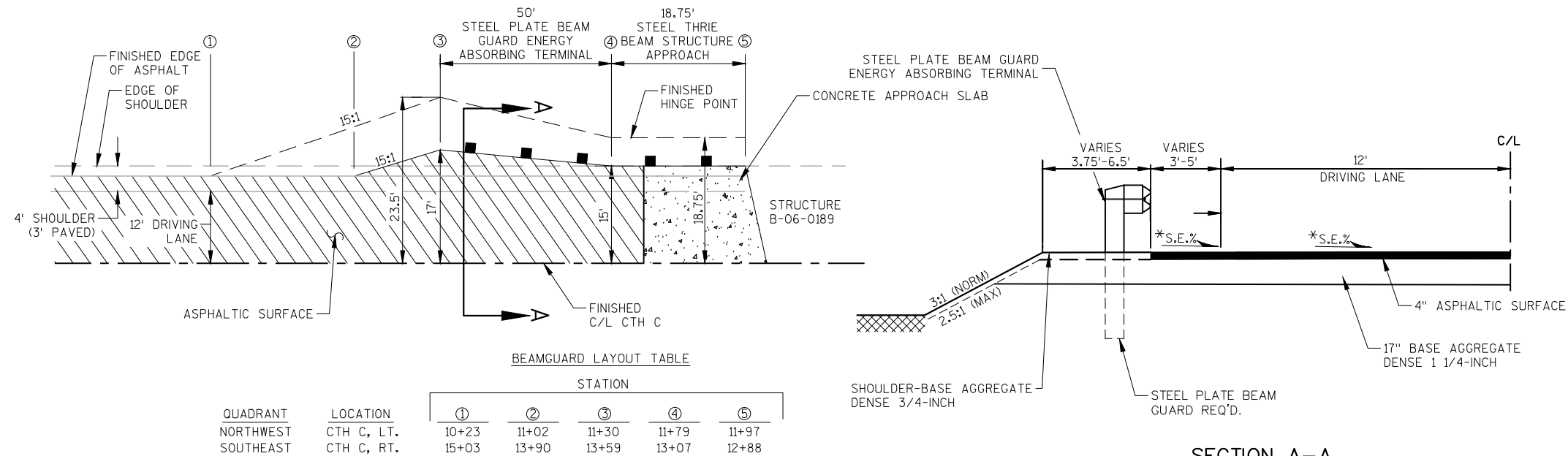
COORDINATES AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BUFFALO COUNTY.

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

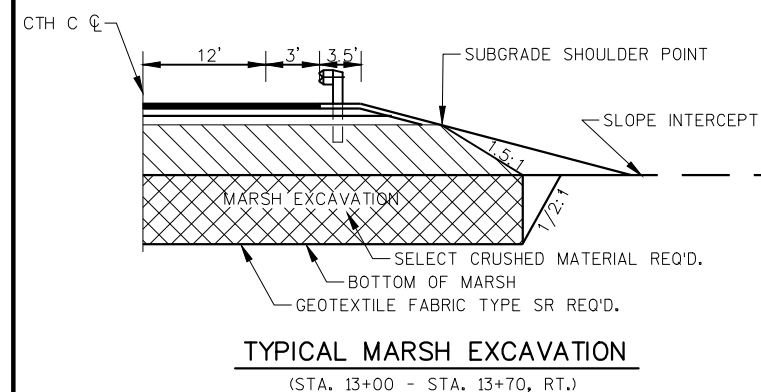
EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

DISTURBED AREAS SHOWN WITHIN THE RIGHT–OF–WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHO



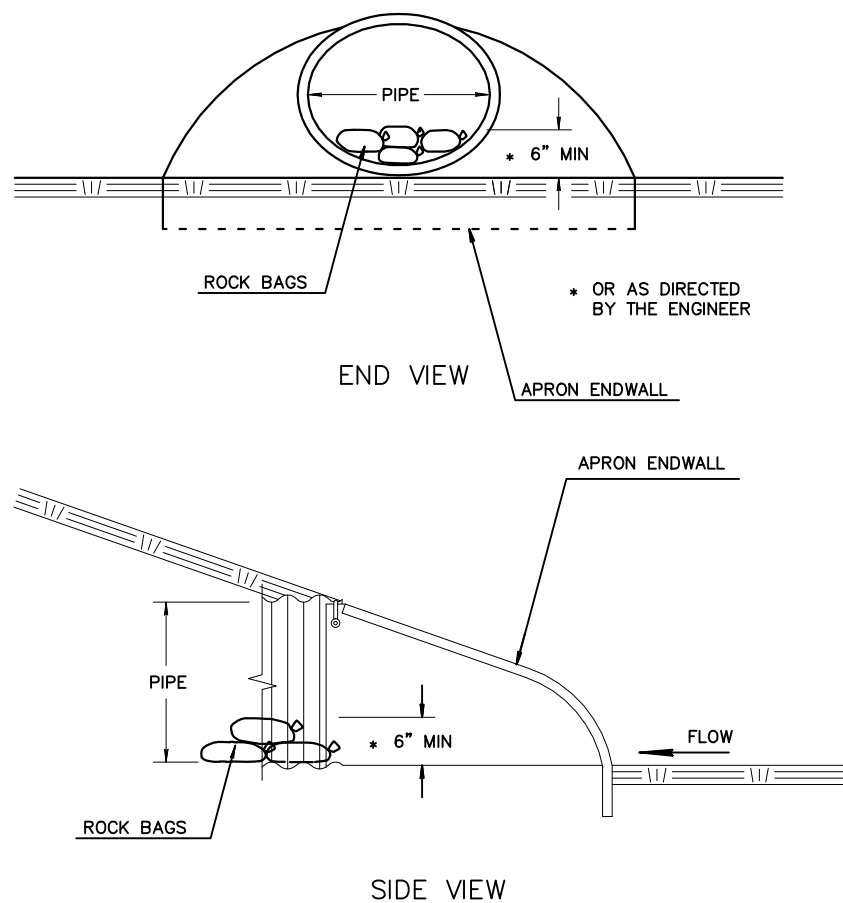


BEAMGUARD LAYOUT DETAIL

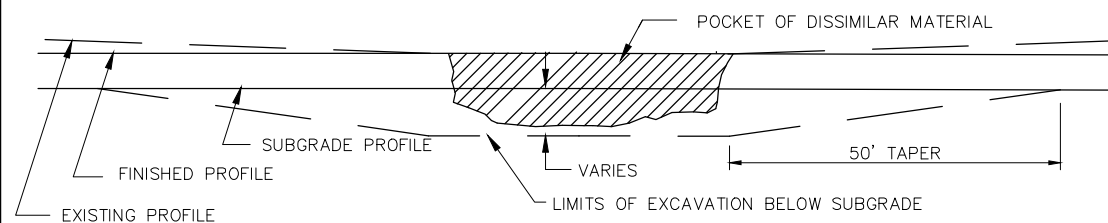
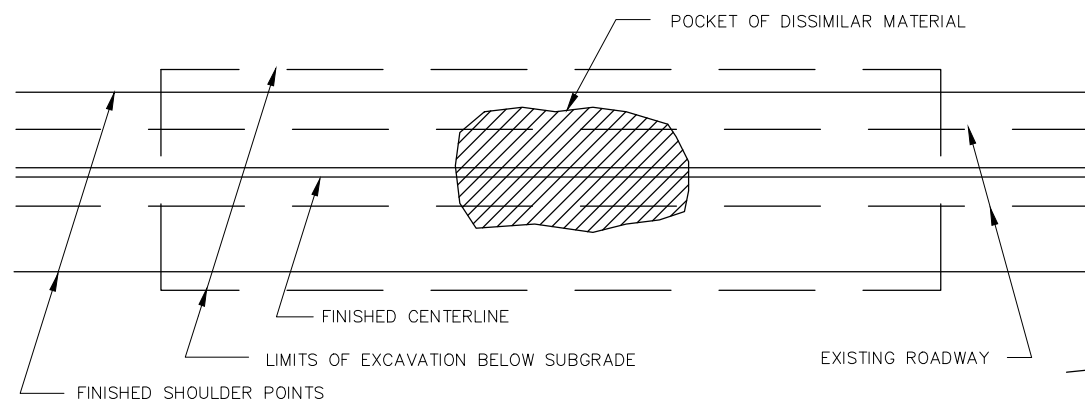


SECTION A-A

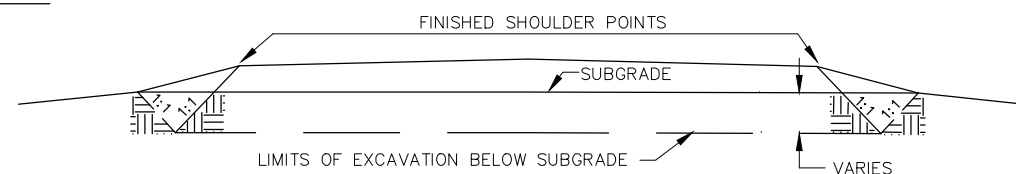
*SEE SUPERELEVATION TABLE



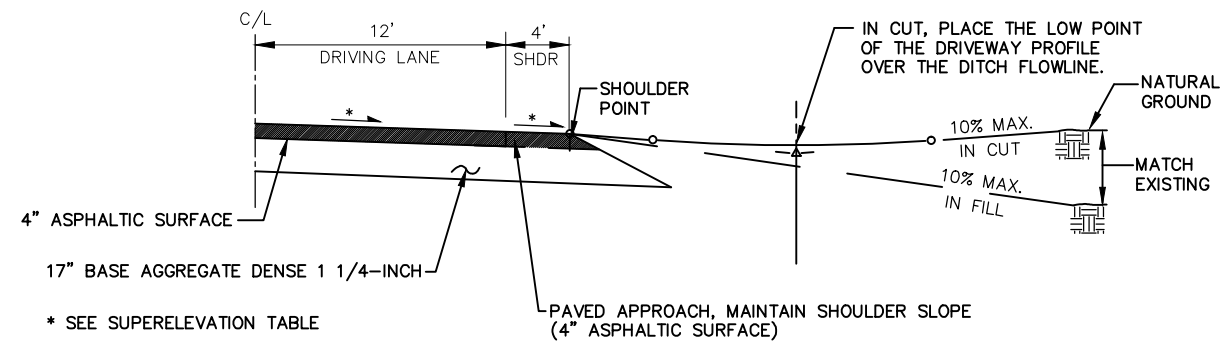
CULVERT PIPE CHECKS



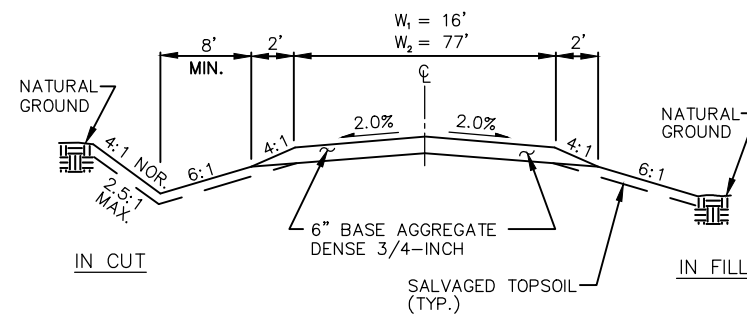
EXCAVATION BELOW SUBGRADE (E.B.S.)



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

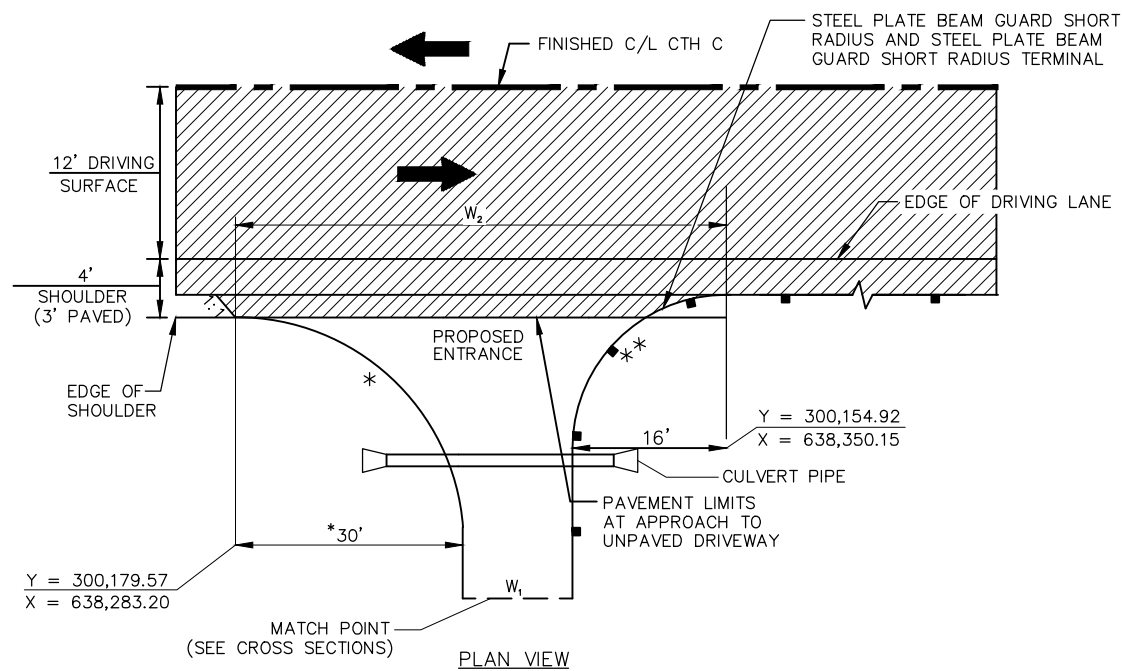


TYPICAL P.E. PROFILE



TYPICAL CROSS-SECTION FOR P.E.

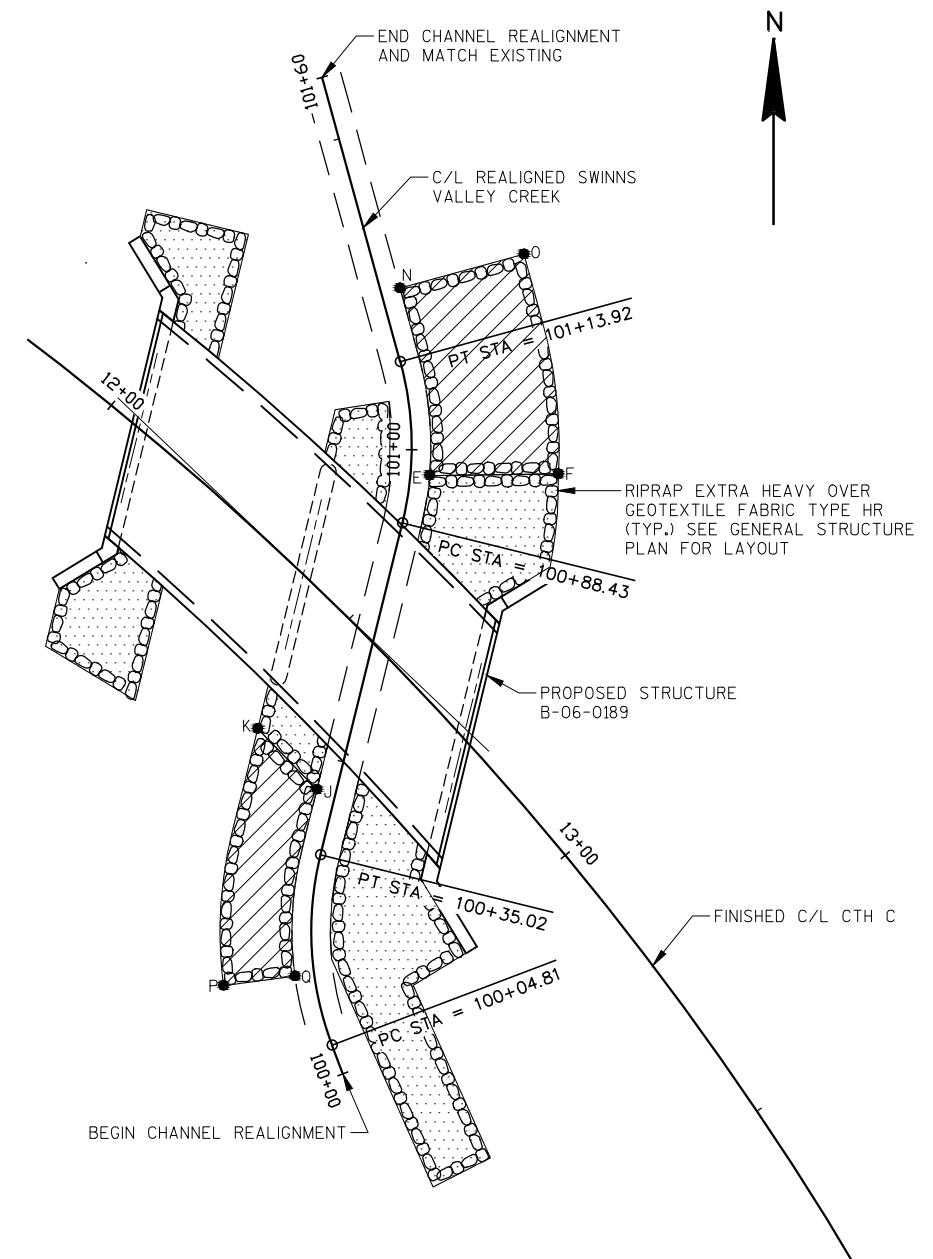
P.E. - STA. 11+44, RT.



APPROACH AT P.E.

TYPICAL PRIVATE ENTERANCE (P.E.) DETAILS

LIMITS OF ASPHALTIC SURFACE

* RADIUS = 30' W₁ = 16'** RADIUS = 16' W₂ = 77'

RIPRAP LAYOUT DETAIL

CATEGORY 010 RIPRAP-EXTRA HEAVY OVER GEOTEXTILE FABRIC TYPE HR (TYP.)

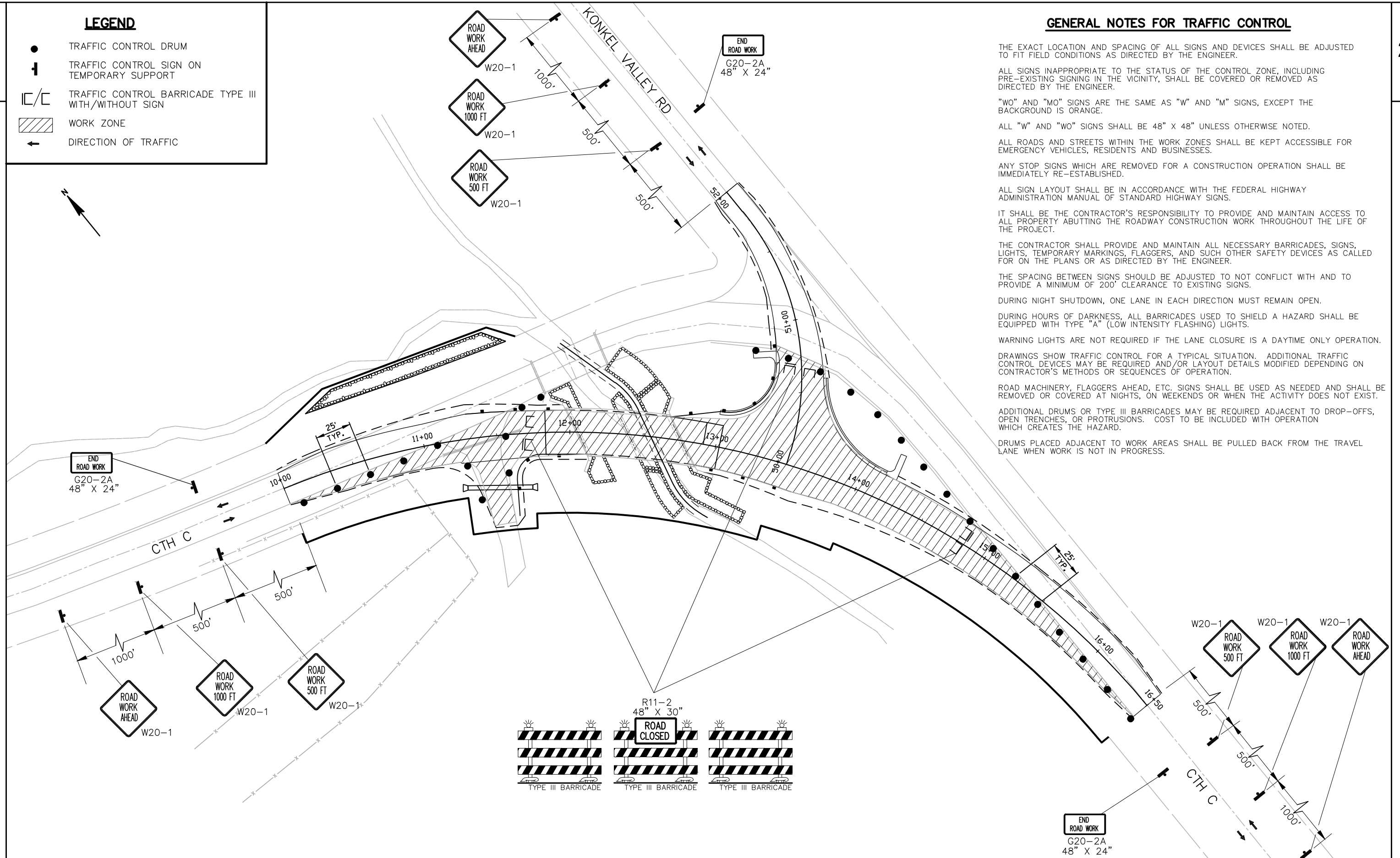
CATEGORY 020 RIPRAP-EXTRA HEAVY OVER GEOTEXTILE FABRIC TYPE HR (TYP.)

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
E	12+43	25' LT.
F	12+57	39' LT.
J	12+66	22' RT.
K	12+52	22' RT.
N	12+22	43' LT.

LEGEND

- TRAFFIC CONTROL DRUM
- 1 TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- IC/C TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- ▨ WORK ZONE
- ← DIRECTION OF TRAFFIC

**GENERAL NOTES FOR TRAFFIC CONTROL**

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

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

ALL ROADS AND STREETS WITHIN THE WORK ZONES SHALL BE KEPT ACCESSIBLE FOR EMERGENCY VEHICLES, RESIDENTS AND BUSINESSES.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ACCESS TO ALL PROPERTY ABUTTING THE ROADWAY CONSTRUCTION WORK THROUGHOUT THE LIFE OF THE PROJECT.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, LIGHTS, TEMPORARY MARKINGS, FLAGGERS, AND SUCH OTHER SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

DURING NIGHT SHUTDOWN, ONE LANE IN EACH DIRECTION MUST REMAIN OPEN.

DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

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

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

ROAD MACHINERY, FLAGGERS AHEAD, ETC. SIGNS SHALL BE USED AS NEEDED AND SHALL BE REMOVED OR COVERED AT NIGHTS, ON WEEKENDS OR WHEN THE ACTIVITY DOES NOT EXIST.

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

DRUMS PLACED ADJACENT TO WORK AREAS SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

PROJECT NO: 7310-00-70

HWY: CTH C

COUNTY: BUFFALO

TRAFFIC CONTROL - STAGE 1

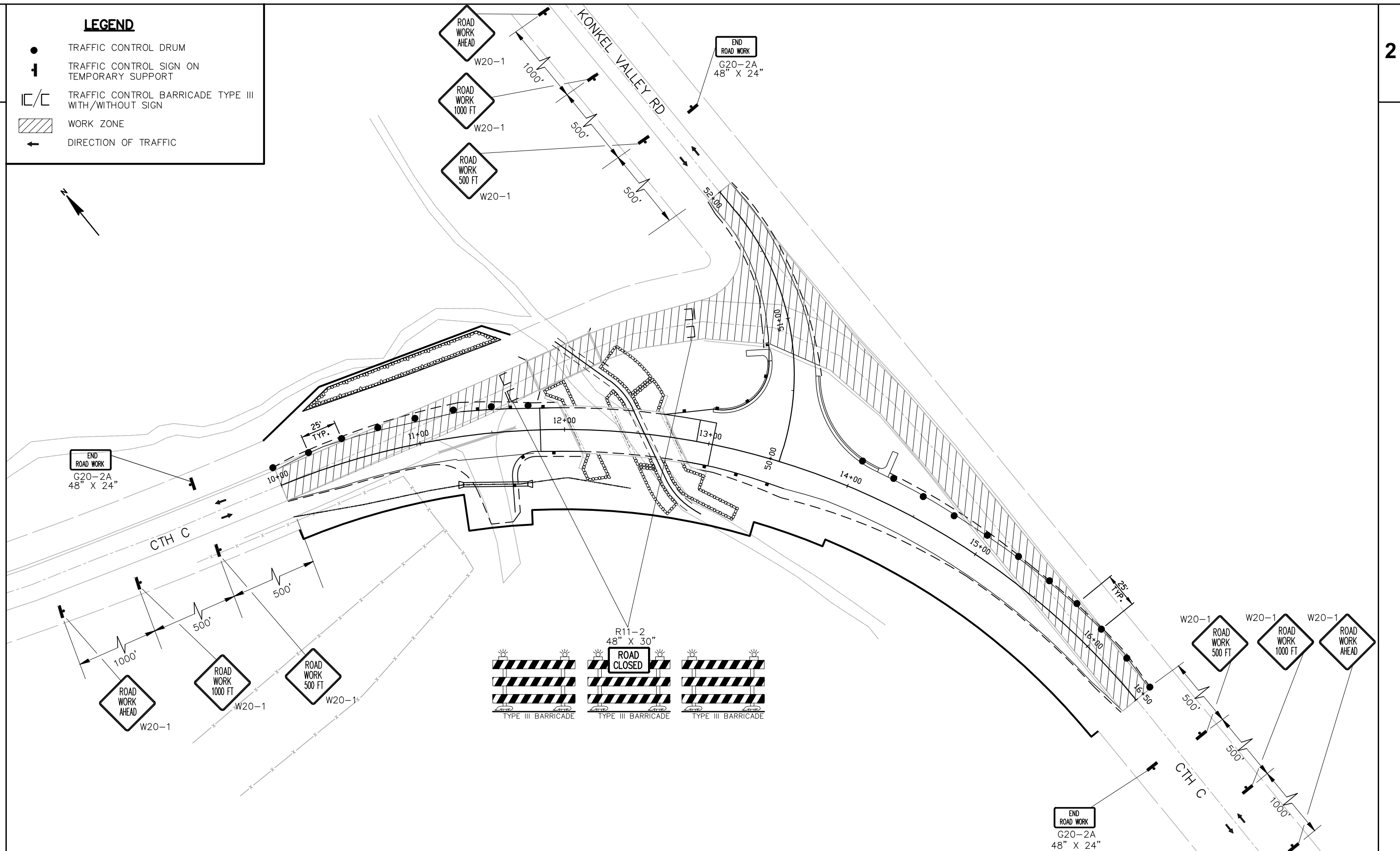
SHEET

E

FILE NAME : S:\PROJECTS\K49010 CTH C BRIDGE

LEGEND

- TRAFFIC CONTROL DRUM
- ⌋ TRAFFIC CONTROL SIGN ON TEMPORARY SUPPORT
- ⌋/⌋ TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- ▨ WORK ZONE
- ← DIRECTION OF TRAFFIC



PROJECT NO: 7310-00-70

HWY: CTH C

COUNTY: BUFFALO

TRAFFIC CONTROL - STAGE 2

SHEET

E

FILE NAME : S:\PROJECTS\K49010 CTH C BRIDGE, BUFFALO COUNTY\SHEETSP\DETAILS\TRAFFIC CONTROL.DWG
LAYOUT : STAGE 2

PLOT DATE : 1/23/2015
PLOT TIME : 9:48:44 AM

PLOT BY : STRINE, THERESA

PLOT SCALE : 1" = 1'

CTH C STATION LAYOUT

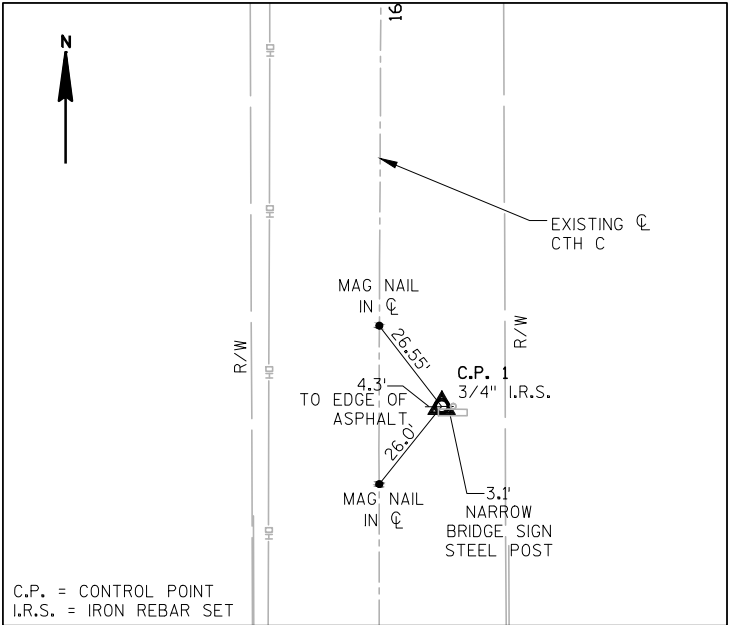
STATION	Y	X	COMMENTS
10+00	300,259.59	638,209.53	BEGIN PROJECT
10+50	300,242.92	638,256.65	—
11+00	300,221.73	638,301.91	—
11+50	300,196.21	638,344.89	—
12+00	300,166.60	638,385.15	—
12+04.99	300,163.43	638,389.01	END OF DECK
12+50	300,133.19	638,422.33	—
12+76.46	300,114.09	638,440.63	END OF DECK
13+00	300,096.31	638,456.06	—
13+50	300,056.30	638,486.01	—
14+00	300,013.55	638,511.91	—
14+50	299,968.47	638,533.49	—
15+00	299,921.50	638,550.56	—
15+50	299,873.08	638,562.95	—
16+00	299,823.68	638,570.55	—
16+50	299,773.77	638,573.27	END OF PROJECT

KONKEL VALLEY ROAD STATION LAYOUT

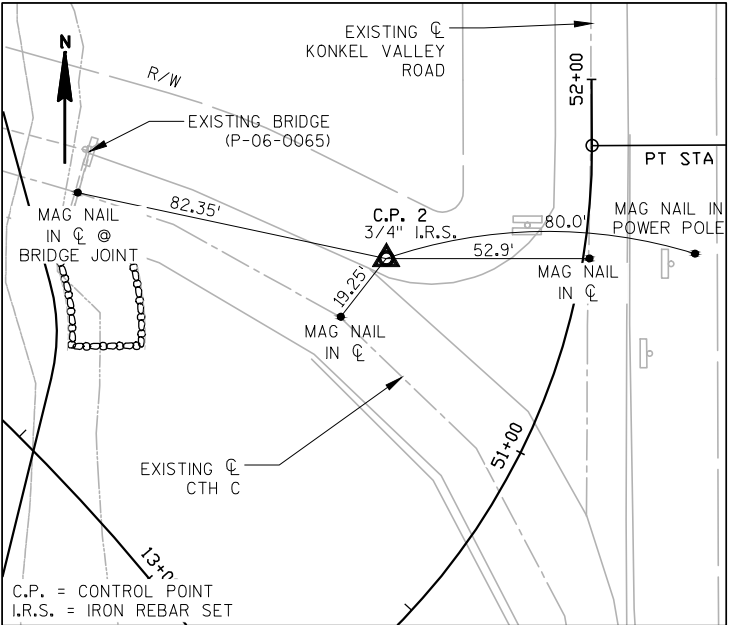
STATION	Y	X	COMMENTS
50+17	300,065.96	638,500.00	BEGIN CONSTRUCTION
50+00	300,056.30	638,486.01	—
50+50	300,088.01	638,524.49	—
51+00	300,129.03	638,552.78	—
51+50	300,176.32	638,568.51	—
52+00	300,226.15	638,571.27	END OF CONSTRUCTION

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X
1	17+57	¾" IRON REBAR SET, 16.3' LT.	299,666.95	638,589.42
2	12+79	¾" IRON REBAR SET, 101.1' LT.	300,179.49	638,517.84
3	54+69	¾" IRON REBAR SET, 12.1' LT.	300,494.91	638,557.24
4	7+59	¾" IRON REBAR SET, 14.8' RT.	300,320.52	637,976.67



TIES TO C.P.#1
STA. 17+57; 16.3' LT.
Y = 299,666.95
X = 638,589.42



DATE 03MAR15		E S T I M A T E O F Q U A N T I T I E S			
LINE					7310-00-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0120	Clearing	ID	70.000	70.000
0020	201.0220	Grubbing	ID	70.000	70.000
0030	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0040	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. Sta. 12+00	LS	1.000	1.000
0050	205.0100	Excavation Common	CY	4,700.000	4,700.000
0060	205.0400	Excavation Marsh	CY	60.000	60.000
0070	206.1000	Excavation for Structures Bridges (structure) 01. B-06-0189	LS	1.000	1.000
0080	208.0100	Borrow	CY	1,850.000	1,850.000
0090	210.0100	Backfill Structure	CY	350.000	350.000
0100	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 7310-00-70	LS	1.000	1.000
0110	213.0100	Finishing Roadway (project) 01. 7310-00-70	EACH	1.000	1.000
0120	305.0110	Base Aggregate Dense 3/4-Inch	TON	180.000	180.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,000.000	3,000.000
0140	312.0110	Select Crushed Material	TON	180.000	180.000
0150	415.0410	Concrete Pavement Approach Slab	SY	160.000	160.000
0160	455.0605	Tack Coat	GAL	130.000	130.000
0170	465.0105	Asphaltic Surface	TON	600.000	600.000
0180	465.0315	Asphaltic Flumes	SY	25.000	25.000
0190	502.0100	Concrete Masonry Bridges	CY	273.000	273.000
0200	502.3200	Protective Surface Treatment	SY	300.000	300.000
0210	505.0405	Bar Steel Reinforcement HS Bridges	LB	8,190.000	8,190.000
0220	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	34,180.000	34,180.000
0230	513.4060	Railing Tubular Type M (structure) 01. B-06-0189	LS	1.000	1.000
0240	516.0500	Rubberized Membrane Waterproofing	SY	15.000	15.000
0250	521.0735	Pipe Arch Corrugated Steel 35x24-Inch	LF	44.000	44.000
0260	521.1235	Apron Endwalls for Pipe Arch Steel 35x24-Inch	EACH	2.000	2.000
0270	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	880.000	880.000
0280	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	140.000	140.000
0290					

DATE 03MAR15		E S T I M A T E O F Q U A N T I T I E S			
LINE		7310-00-70			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0460	629.0210	Fertilizer Type B	CWT	6.000	6.000
0470	630.0120	Seeding Mixture No. 20	LB	160.000	160.000
0480	630.0160	Seeding Mixture No. 60	LB	6.000	6.000
0490	630.0200	Seeding Temporary	LB	80.000	80.000
0500	630.0300	Seeding Borrow Pit	LB	18.000	18.000
0510	633.5100	Markers Row	EACH	23.000	23.000
0520	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0530	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
0540	637.2210	Signs Type II Reflective H	SF	5.180	5.180
0550	637.2230	Signs Type II Reflective F	SF	30.500	30.500
0560	638.2602	Removing Signs Type II	EACH	14.000	14.000
0570	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0580	642.5001	Field Office Type B	EACH	1.000	1.000
0590	643.0100	Traffic Control (project) 01. 7310-00-70	EACH	1.000	1.000
0600	643.0300	Traffic Control Drums	DAY	2,210.000	2,210.000
0610	643.0420	Traffic Control Barricades Type III	DAY	1,000.000	1,000.000
0620	643.0705	Traffic Control Warning Lights Type A	DAY	1,250.000	1,250.000
0630	643.0900	Traffic Control Signs	DAY	1,200.000	1,200.000
0640	645.0120	Geotextile Fabric Type HR	SY	1,000.000	1,000.000
0650	645.0135	Geotextile Fabric Type SR	SY	100.000	100.000
0660	650.4500	Construction Staking Subgrade	LF	760.000	760.000
0670	650.5000	Construction Staking Base	LF	1,340.000	1,340.000
0680	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	120.000	120.000
0690	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0700	650.6500	Construction Staking Structure Layout (structure) 01. B-06-0189	LS	1.000	1.000
0710	650.9910	Construction Staking Supplemental Control (project) 01. 7310-00-70	LS	1.000	1.000
0720	650.9920	Construction Staking Slope Stakes	LF	760.000	760.000
0730	690.0150	Sawing Asphalt	LF	70.000	70.000
0740	715.0502	Incentive Strength Concrete Structures	DOL	1,638.000	1,638.

EARTHWORK SUMMARY

CATEGORY	FROM/TO STA	LOCATION	(1) 205.0100 COMMON EXCAVATION PAVEMENT			SALVAGED/ UNUSABLE PAVEMENT MATERIAL (CY) (5)	205.0400 MARSH EXCAVATION (CY) (6)	205.0200 ROCK EXCAVATION (CY) (7)	REDUCED MARSH IN FILL (CY) 0.6 (8)	REDUCED EBS IN FILL (CY) 0.8 (9)	EXPANDED MARSH BACKFILL (CY) 1.5 (10)	EXPANDED EBS BACKFILL (CY) 1.5 (11)	EXPANDED ROCK (CY) 1.1 (12)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) 1.25 (13)	MASS ORDINATE +/- (CY) (14)	WASTE (CY)	208.0100 BORROW (CY)
			CUT (2) (CY)	EBS (3) (CY)	MATERIAL (CY) (4)													
010	10+00 - 16+50	MAINLINE, STAGE 1	185	-	-	185	60	-	36	-	90	-	-	1023	1234	-1049	-	1049
010	10+00 - 16+50	MAINLINE, STAGE 2	805	-	-	805	-	-	-	-	-	-	-	25	30	775	775	-
010	50+17 - 52+00	KONKEL VALLEY RD, STAGE 1	0	-	-	0	-	-	-	-	-	-	-	649	811	-811	-	811
010	50+17 - 52+00	KONKEL VALLEY RD, STAGE 2	2900	-	-	2900	-	-	-	-	-	-	-	0	0	2900	2900	-
010	100+00 - 101+60	CHANNEL REALIGNMENT, STAGE 1	800	-	-	800	-	-	-	-	-	-	-	125	155	645	645	-
010	11+50	MAINLINE, RT. - P.E., STAGE 1	10	-	-	10	-	-	-	-	-	-	-	0	0	10	-	-10
TOTALS =			4700			4700	60		36		90			1822	2230		4320	1850

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3.) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
4.) SALVAGED/UNUSABLE PAVEMENT MATERIAL
5.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
6.) MARSH EXCAVATION - TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. ITEM 205.0400
7.) ROCK EXCAVATION. ITEM NUMBER 205.0200
8.) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USABLE IN FILLS OUT

3

CLEARING & GRUBBING				REMOVING SMALL PIPE CULVERTS				PREPARE FOUNDATION FOR ASPHALTIC PAVING				BASE AGGREGATE DENSE / SELECT CRUSHED MATERIAL				
												ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED				

3

EROSION MAT URBAN CLASS I TYPE A			TEMPORARY DITCH CHECKS			CULVERT PIPE CHECKS			ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED																																																																																																																																																																												
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CONVENTIONAL ABBREVIATIONS

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

CURVE DATA

LONG CHORD	LC
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

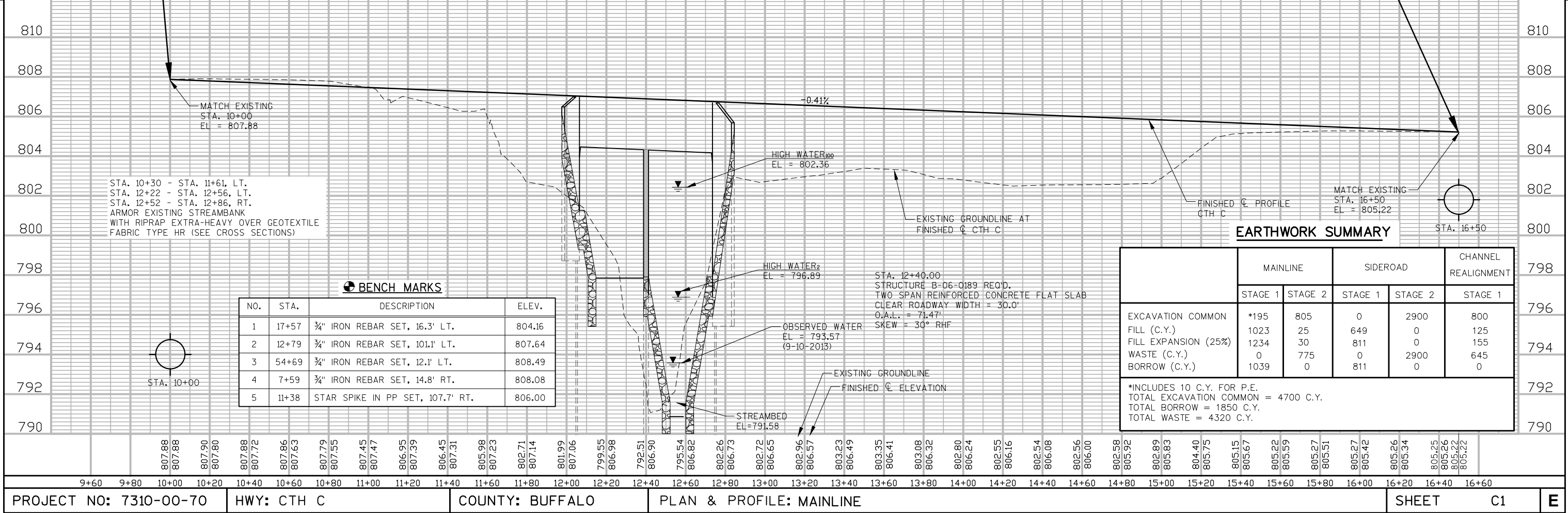
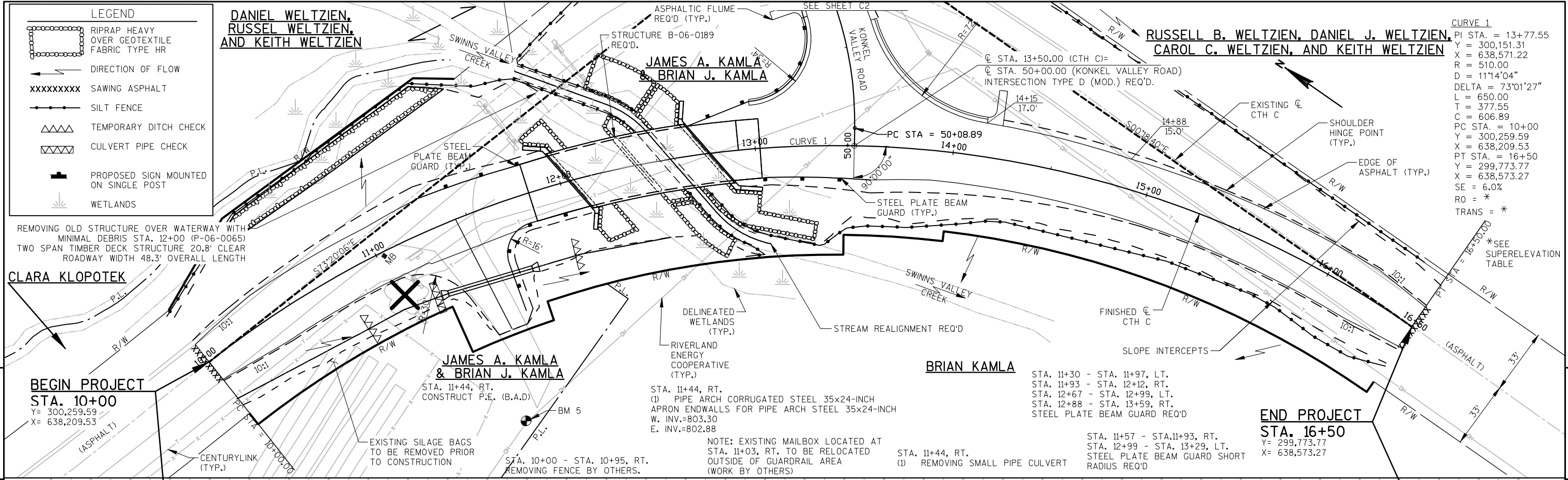
FOUND SURVEY MONUMENT (WITH POINT NUMBER)	1040	PROPOSED R/W LINE	---
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	---
R/W STANDARD	Δ (SET)	PROPERTY LINE	---
SIGN	ISIGN	LOT & TIE LINES	---
SECTION CORNER MONUMENT	⊙	SLOPE INTERCEPTS	---
SECTION CORNER SYMBOL	⊙	CORPORATE LIMITS	---
FEE (HATCH VARIES)	///	NO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

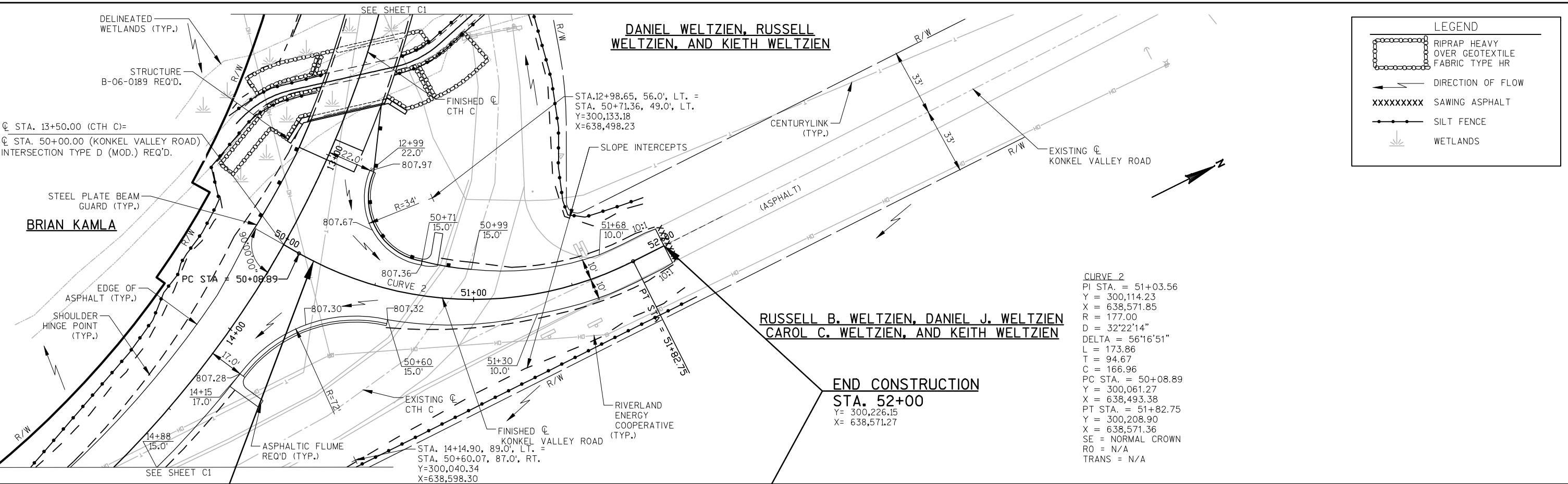
CONVENTIONAL UTILITY SYMBOLS

WATER	W	SANITARY SEWER	SAN
GAS	G	STORM SEWER	SS
TELEPHONE	T		
OVERHEAD	OH		
TRANSMISSION LINES	---		
E			

COORDINATE TABLE - NEW R/W POINTS				
PT.#	STATION	OFFSET	Y	X
1	10+00.00	40.00 RT	300221.27	638198.06
2	10+00.00	32.96 RT	300228.01	638200.08
3	10+00.00	33.05 LT	300291.25	638219.01
4	10+45.00	55.00 LT	300295.89	638272.36
5	11+50.00	74.00 LT	300257.91	638385.74
6	11+67.00	66.40 LT	300240.69	638397.38
7	12+19.98	91.86 LT	300222.64	638461.09
8	12+48.09	105.34 LT	300209.63	638494.84
9	12+78.40	118.72 LT	300192.18	638530.06
10	51+68.38	33.05 LT	300197.08	638537.88
11	52+00.00	33.48 LT	300225.98	638537.77
12	52+00.00	32.52 RT	300226.32	638603.77
13	16+50.00	32.27 LT	299773.95	638605.52
14	16+50.00	33.73 RT	299773.59	638539.52
15	16+50.00	40.00 RT	299773.56	638533.25
16	14+00.00	40.00 RT	299994.53	638476.70
17	14+00.00	45.00 RT	299992.15	638472.30
18	13+45.00	45.00 RT	300034.89	638446.12
19	13+45.00	55.00 RT	300029.22	638437.89
20	11+75.00	55.00 RT	300137.59	638332.78
21	11+75.00	65.00 RT	300129.53	638326.86
22	11+24.65	65.00 RT	300153.76	638290.24
23	11+24.65	40.00 RT	300175.27	638302.99

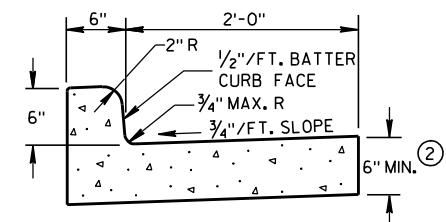
R/W COURSE TABLE		
PT. TO PT.	DIRECTION	DISTANCE
1 TO 2	N16°39'54"E	7.04'
2 TO 3	N16°39'54"E	66.01'
3 TO 4	N85°01'21"E	53.56'
4 TO 5	S71°28'32"E	119.57'
5 TO 6	S34°04'17"E	20.78'



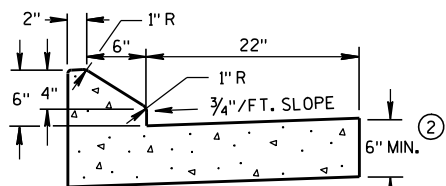


Standard Detail Drawing List

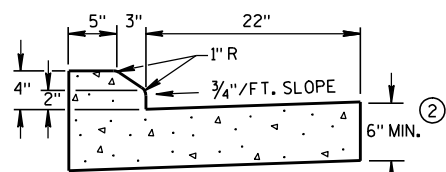
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
13B02-07A	CONCRETE BRIDGE APPROACH
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)



TYPES A & D ①

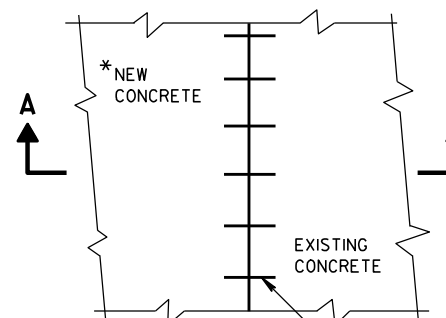


6" SLOPED CURB TYPES G & J ①



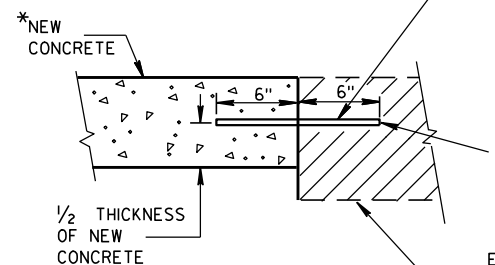
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



PLAN VIEW

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

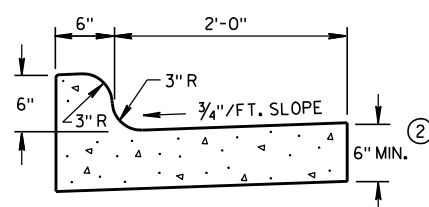


SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

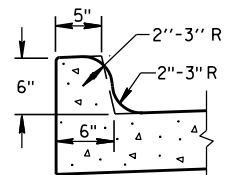
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

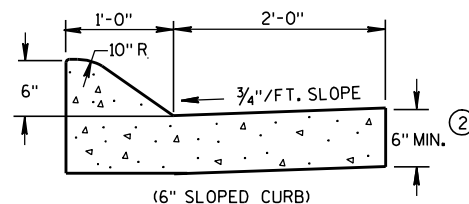
EXISTING
CONCRETE



TYPES K & L ①



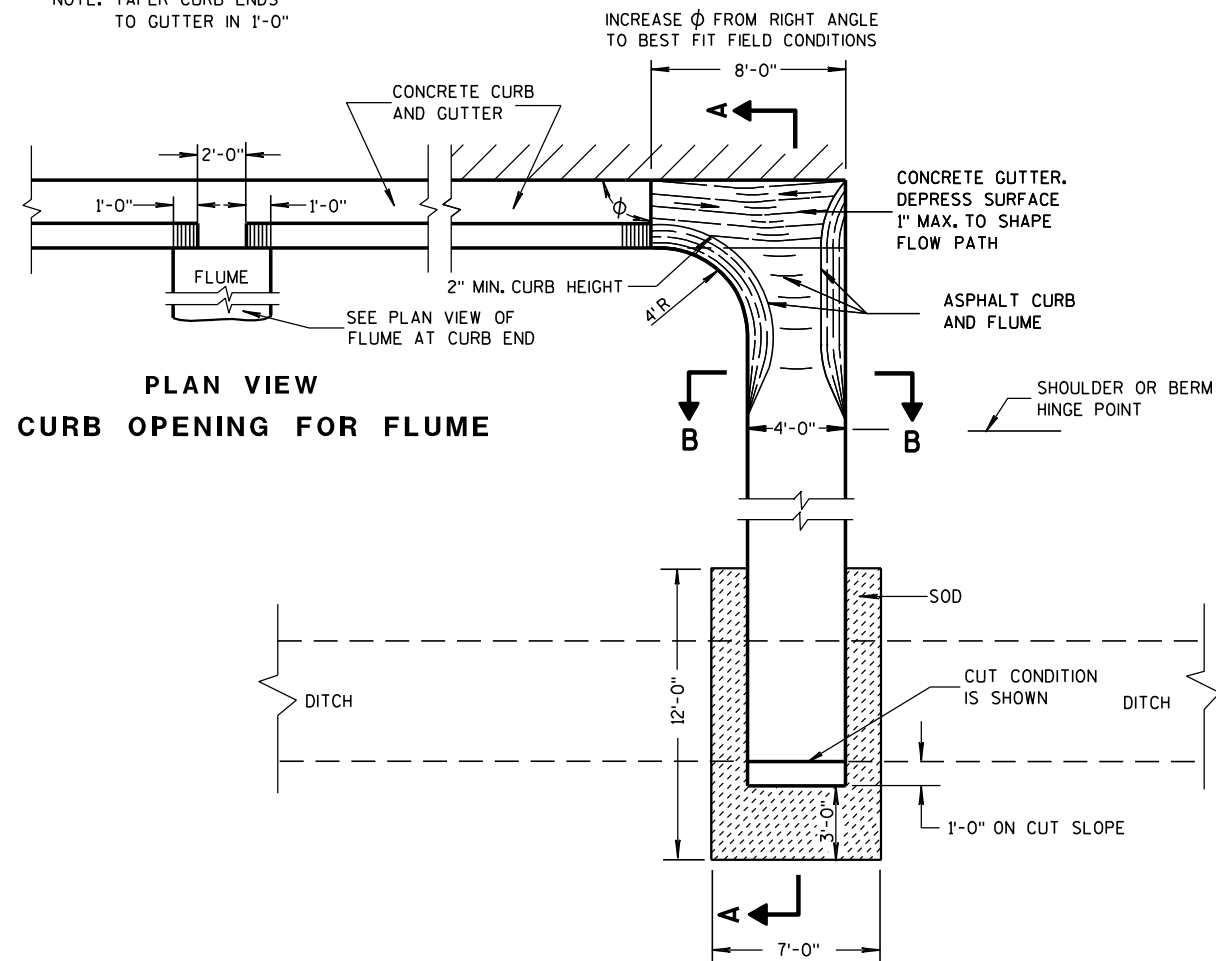
OPTIONAL CURB SHAPE
FOR TYPES K & L ①



(6" SLOPED CURB)

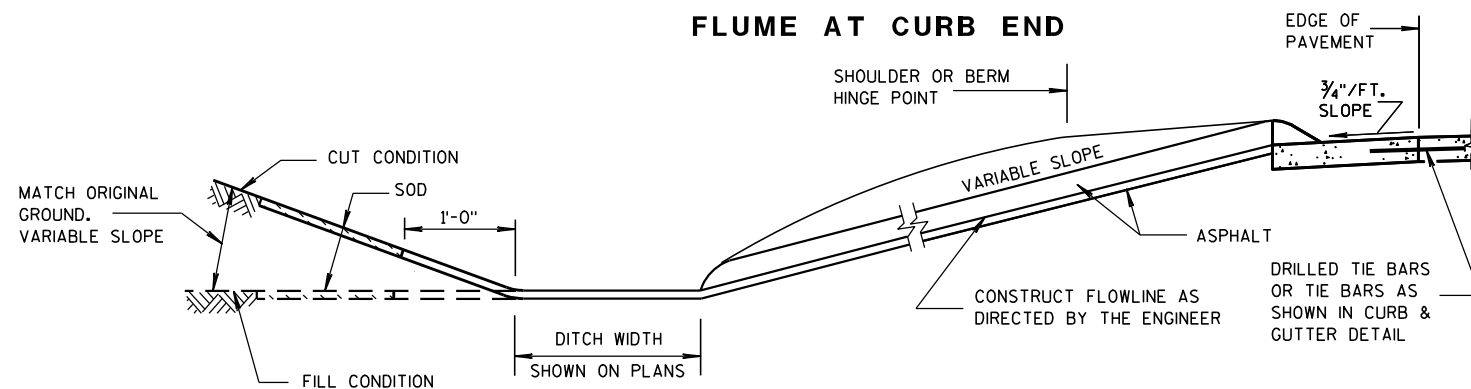
ASPHALTIC FLUME

NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"

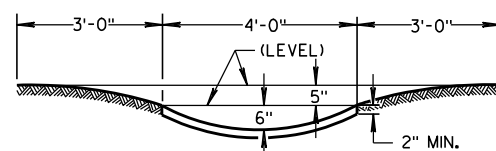


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

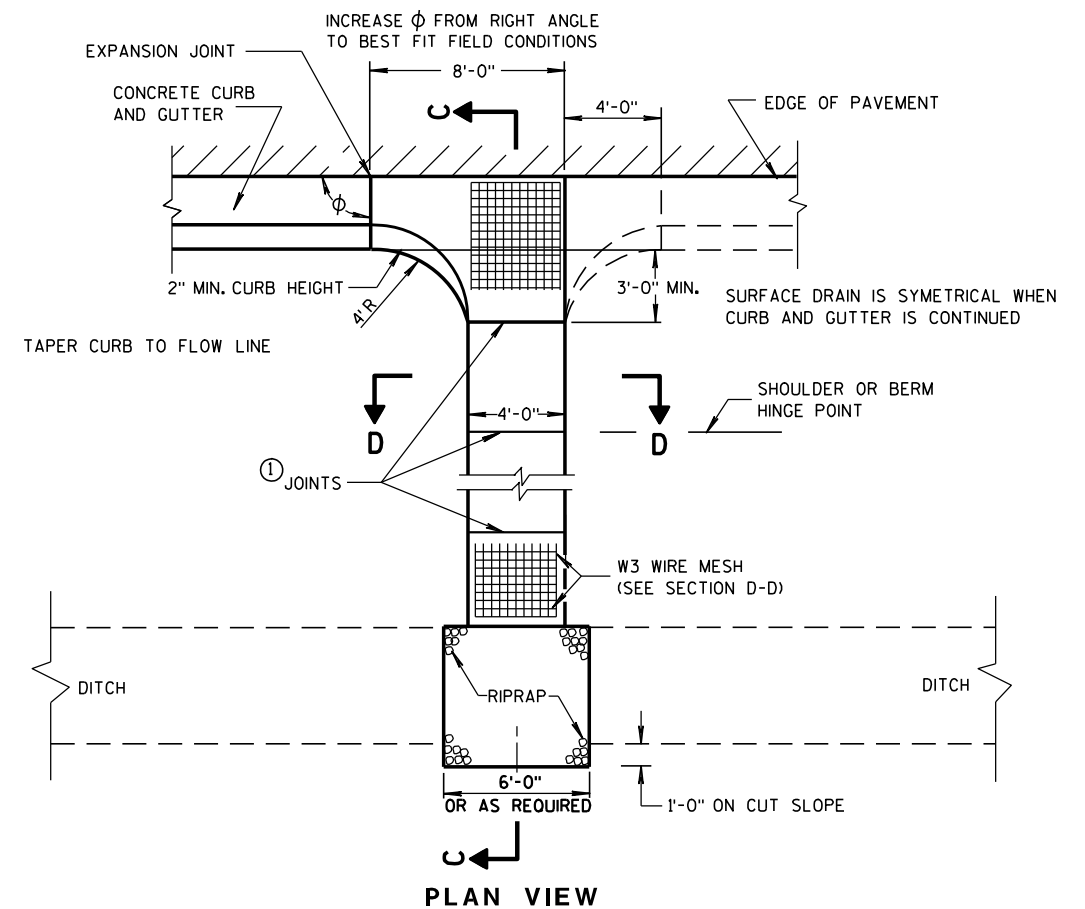
GENERAL NOTES

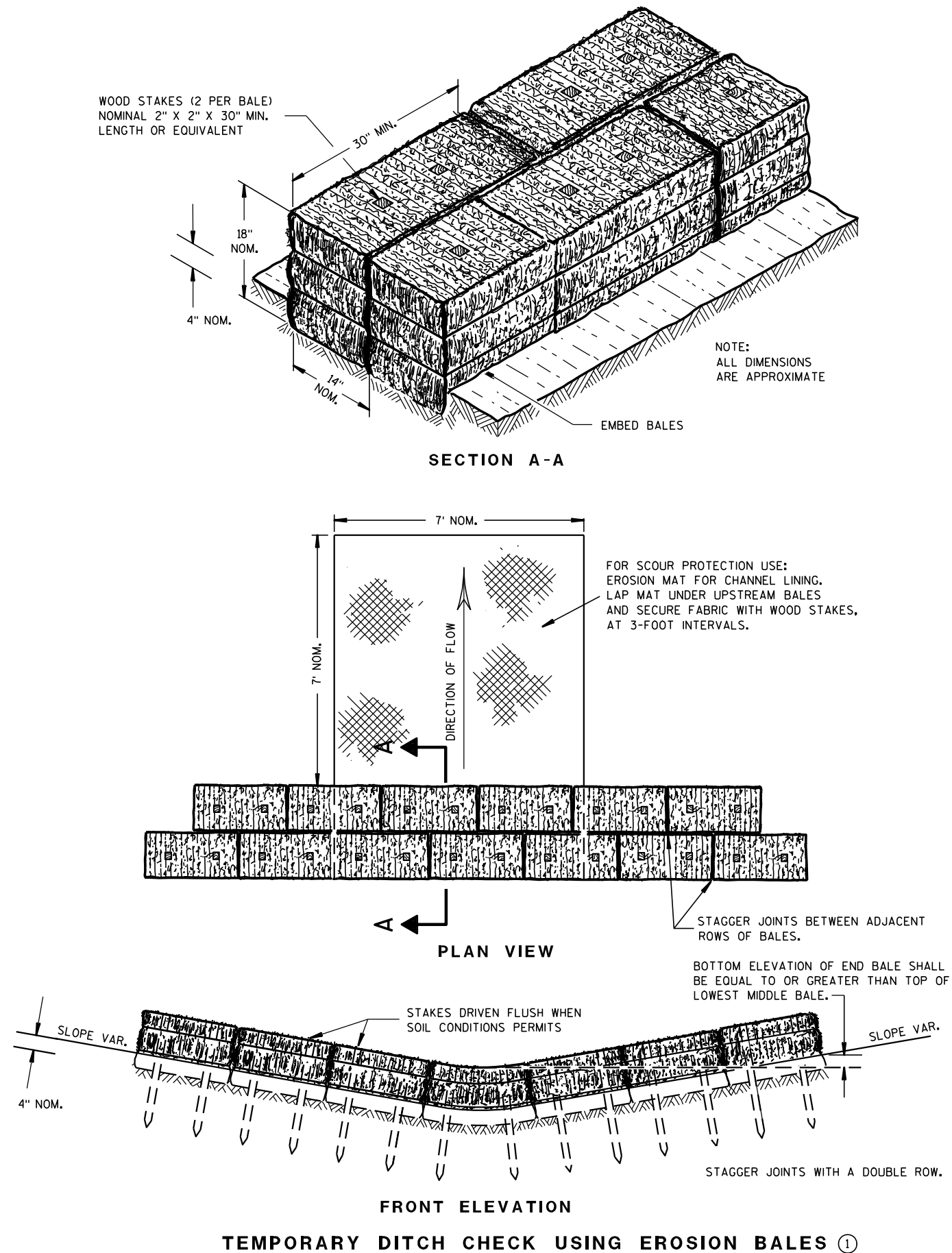
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

③ CONCRETE SURFACE DRAIN

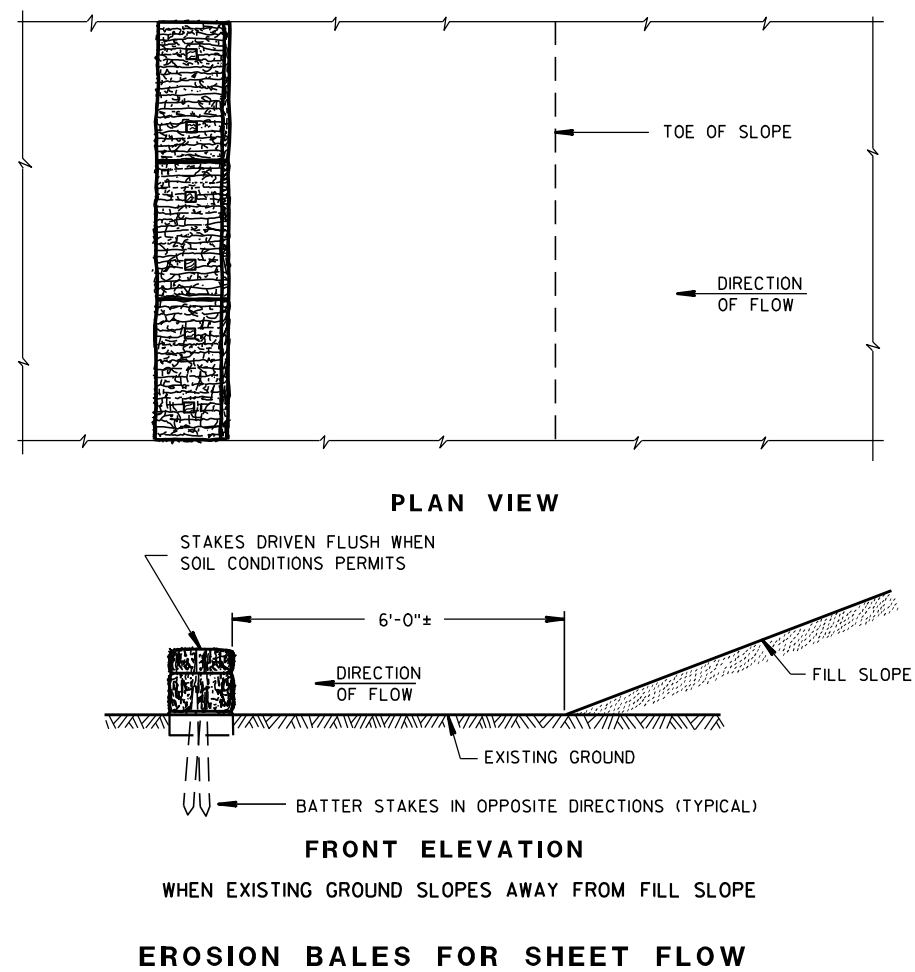
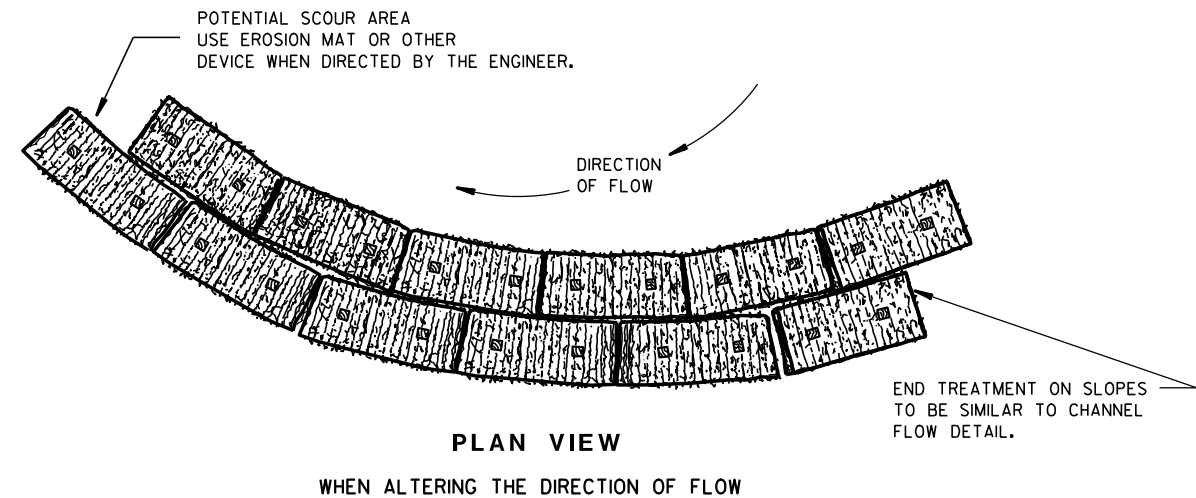




GENERAL NOTES

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

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

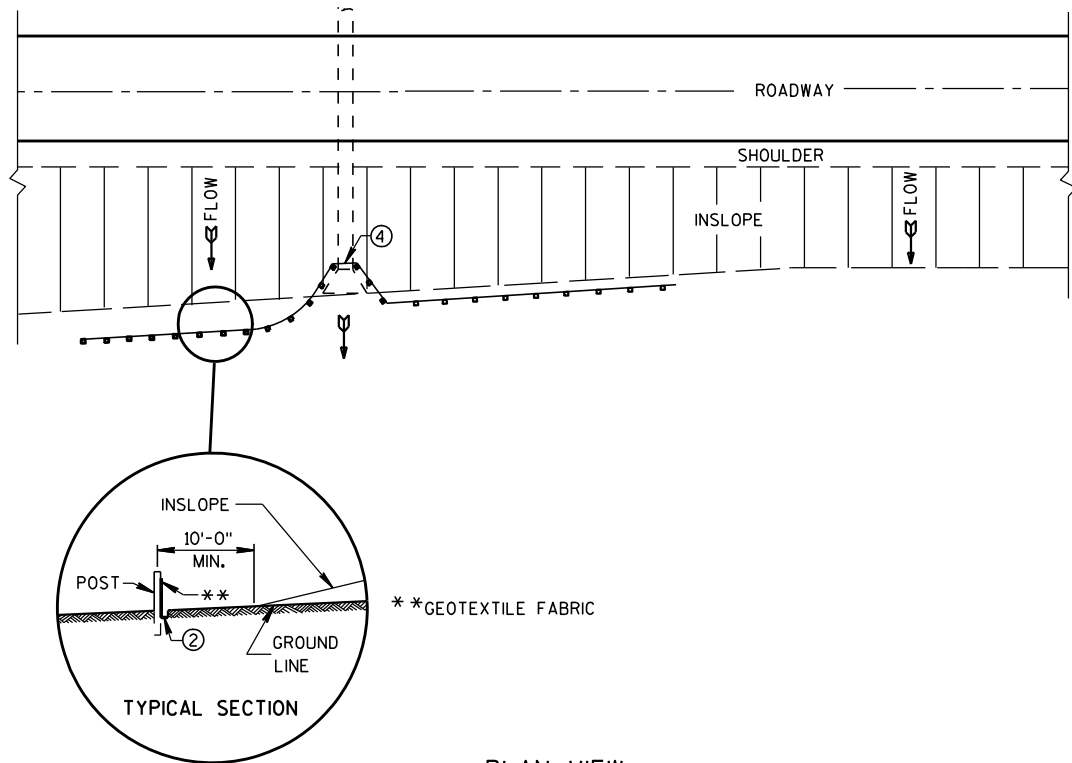
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

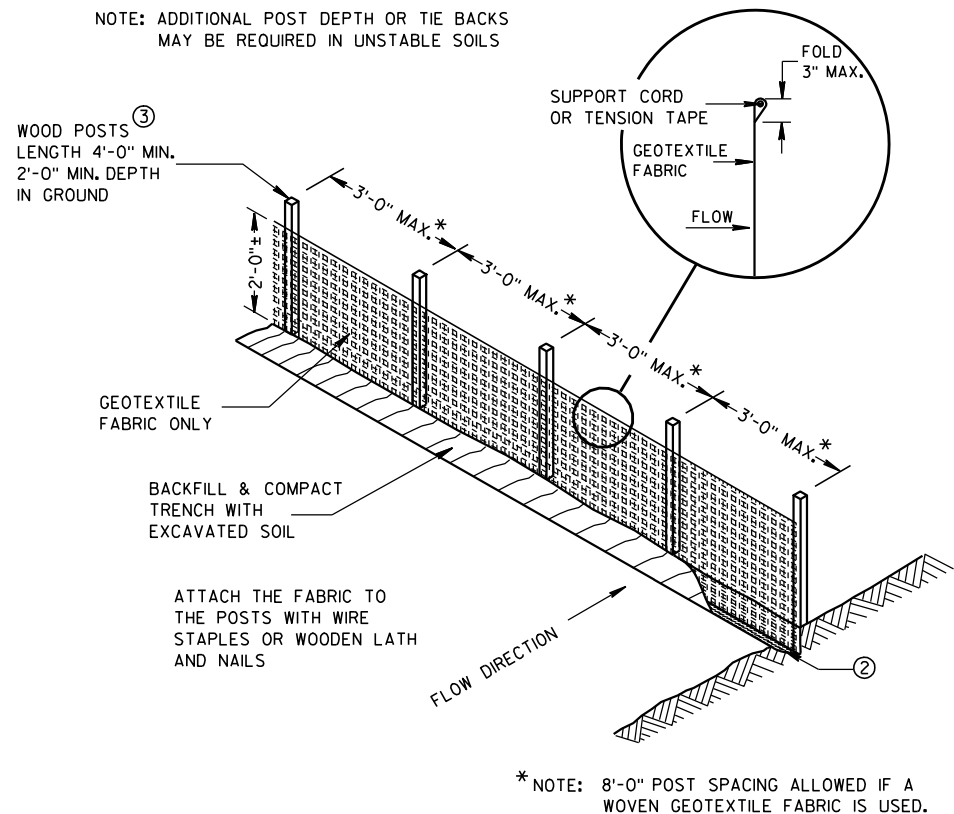
APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

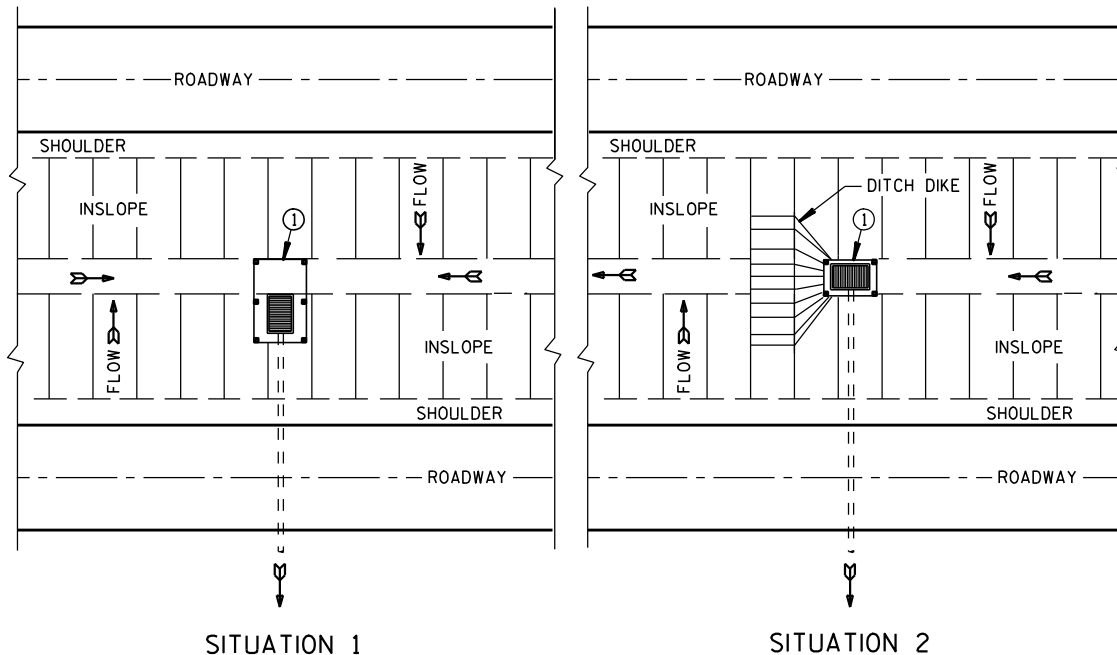
FHWA



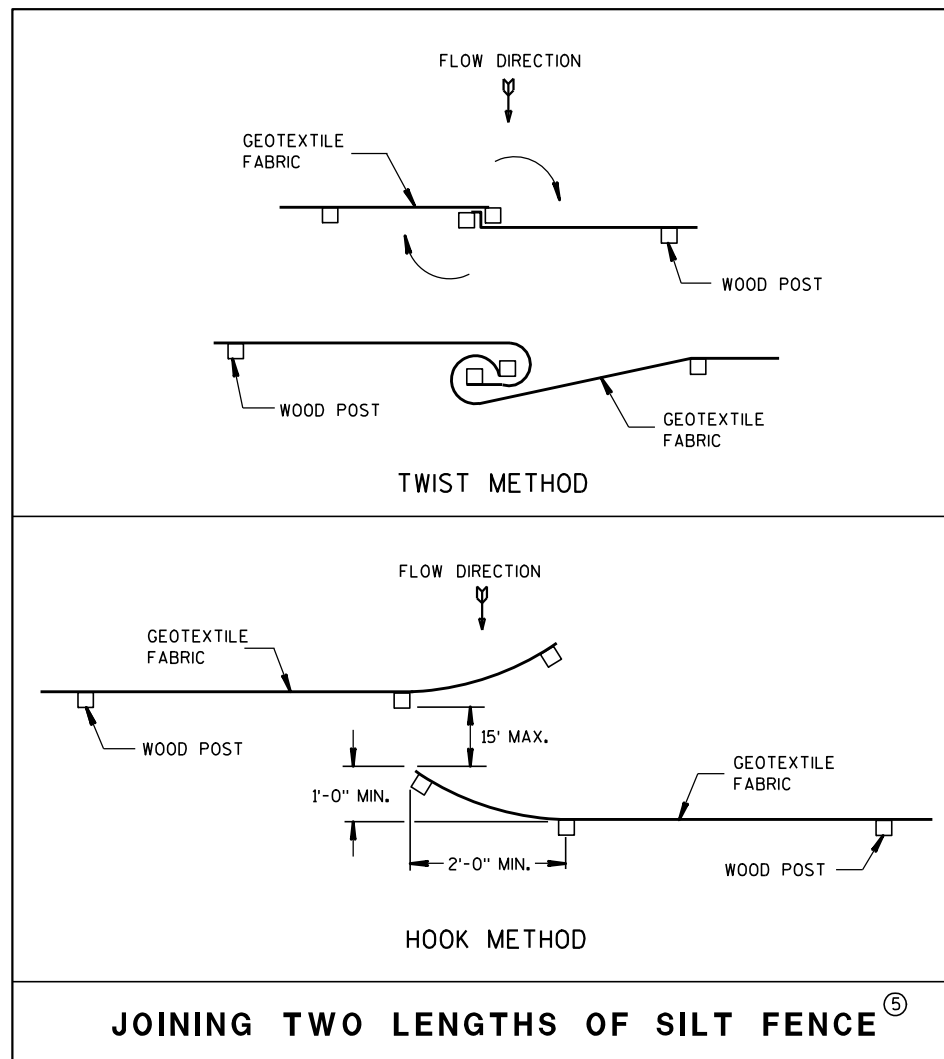
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

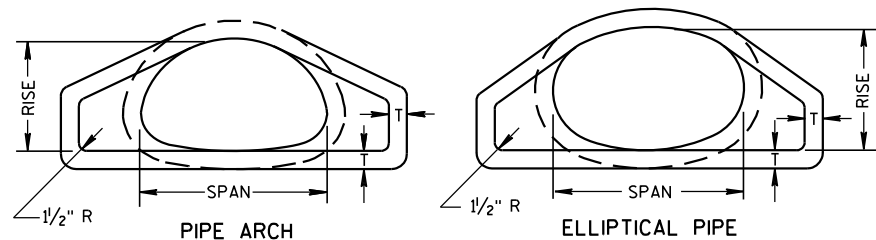


JOINING TWO LENGTHS OF SILT FENCE (5)

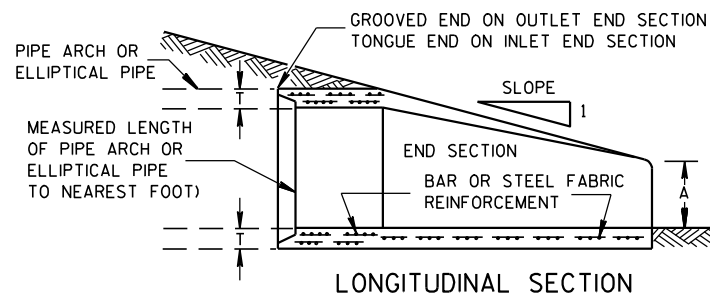
GENERAL NOTES

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.

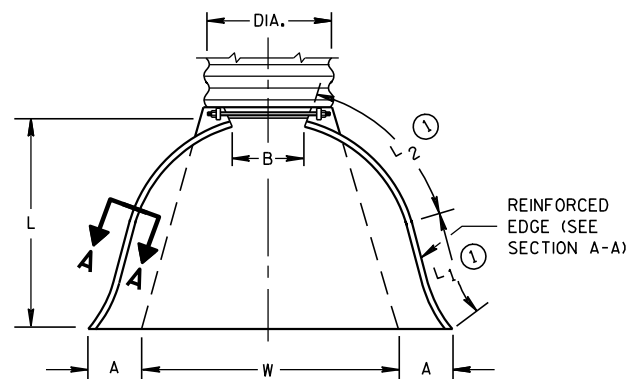


END VIEW



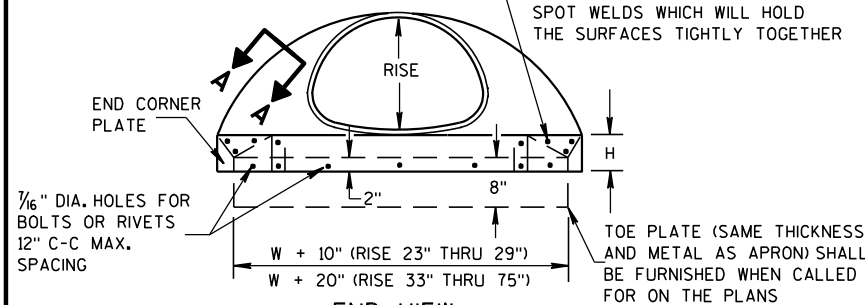
LONGITUDINAL SECTION

CONCRETE ENDWALLS

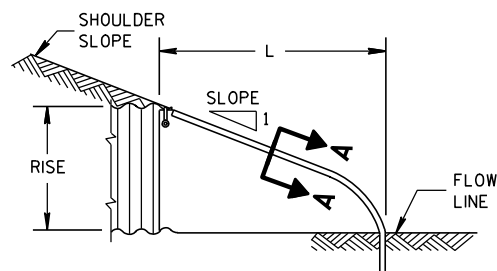
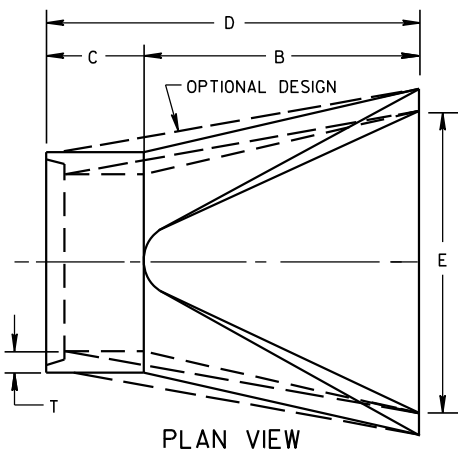


PLAN VIEW

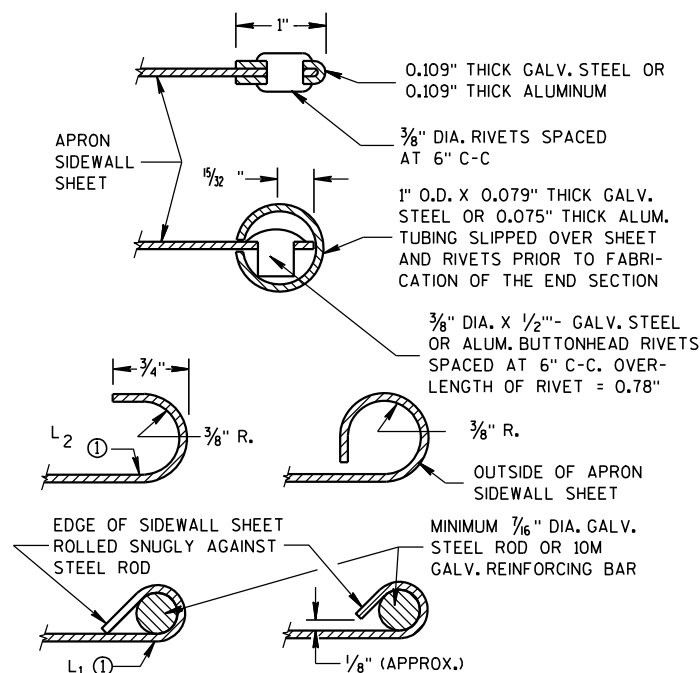
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

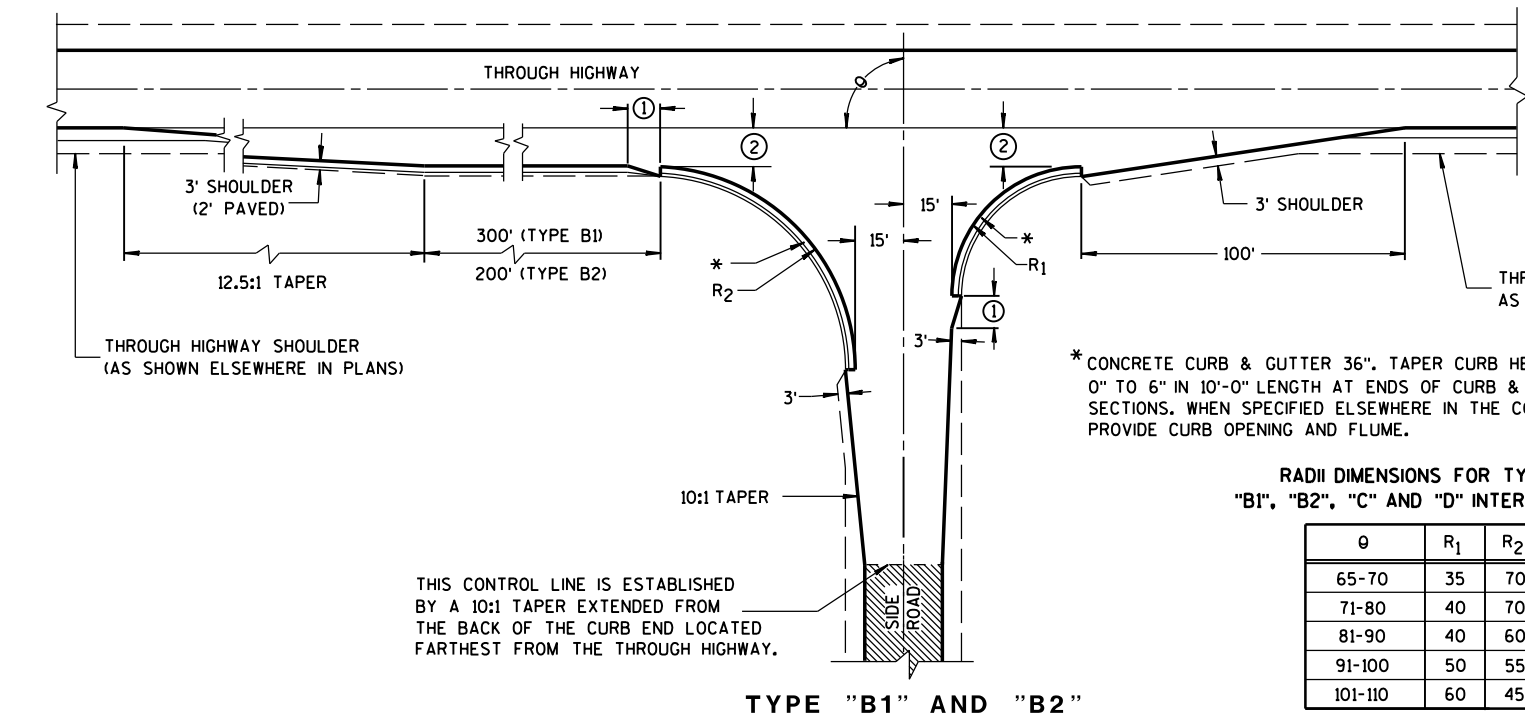


END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW





RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R ₁	R ₂
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45

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.

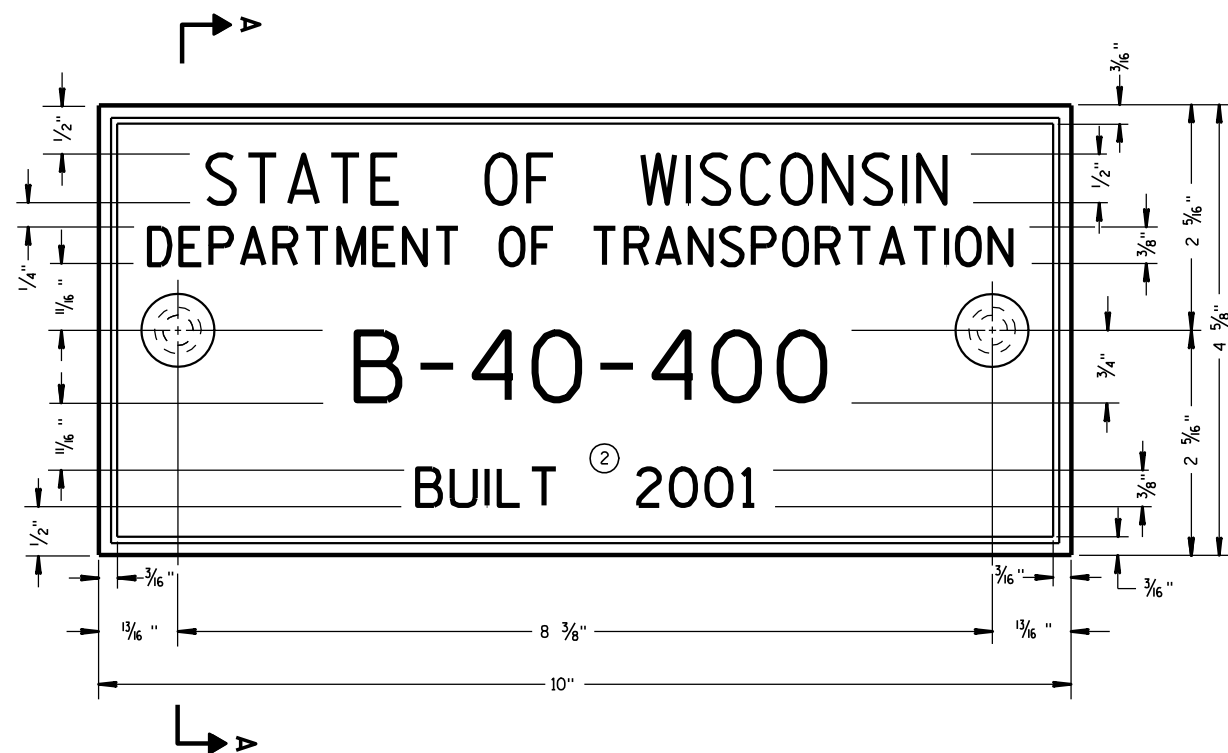
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

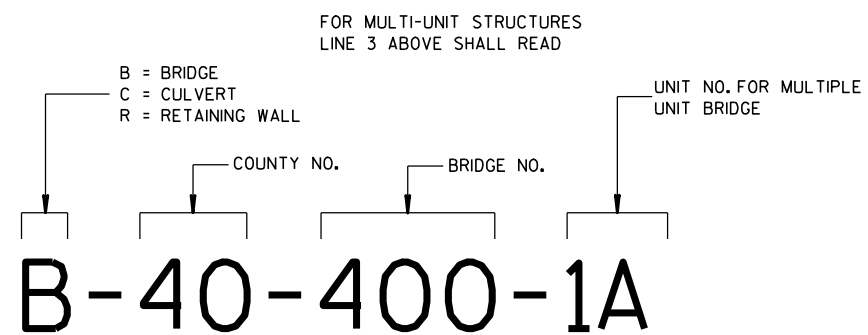
BYPASS LANE

- 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



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



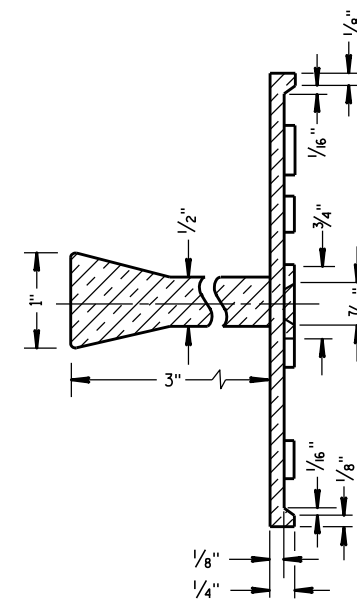
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

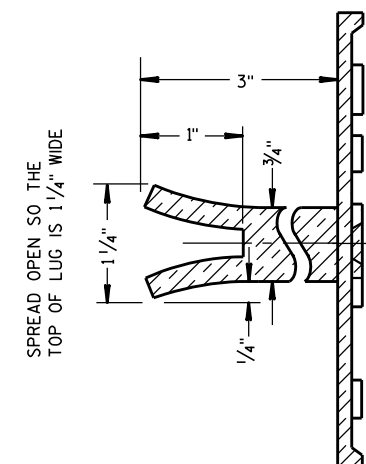
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

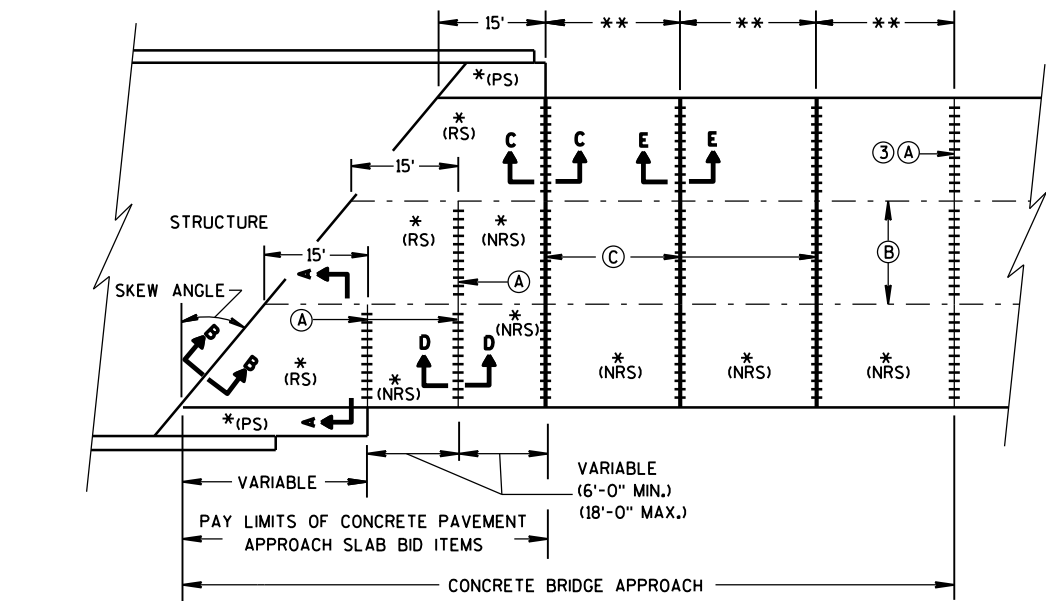


SECTION A-A

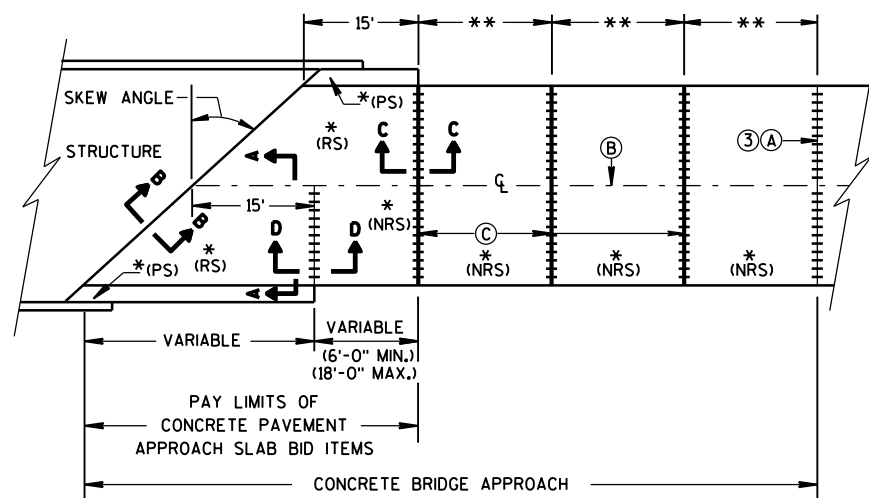


ALTERNATE LUG

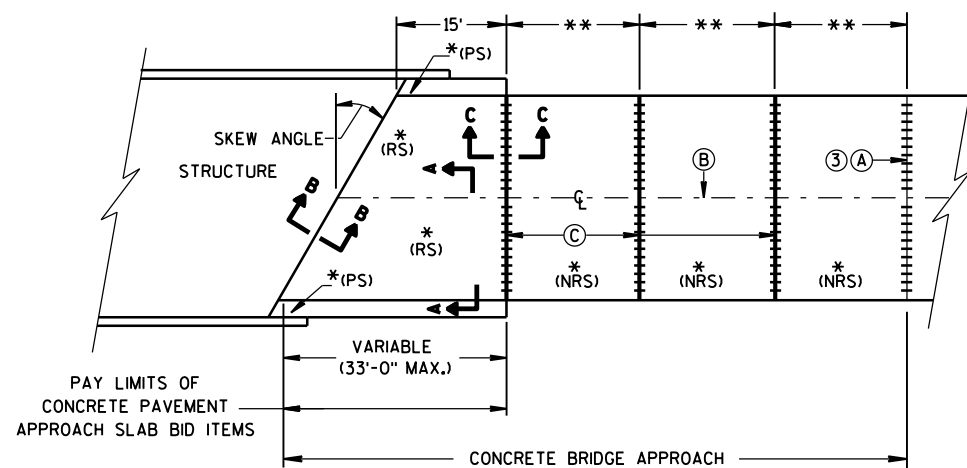
- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



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



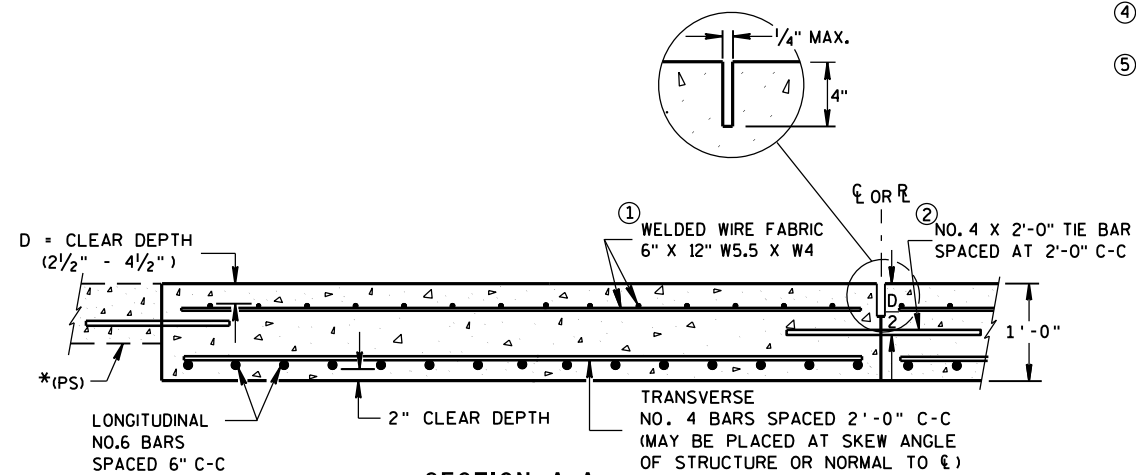
**SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')**



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

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

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

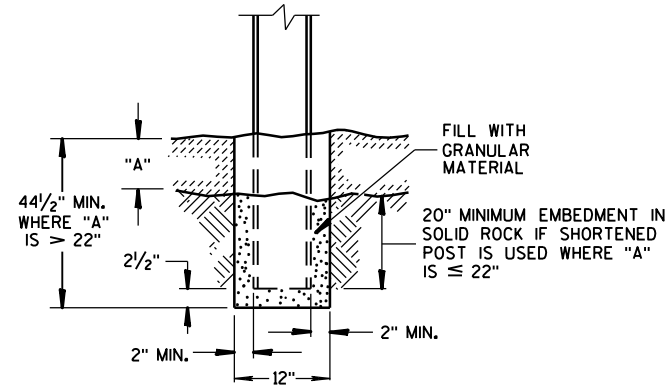


GENERAL NOTES

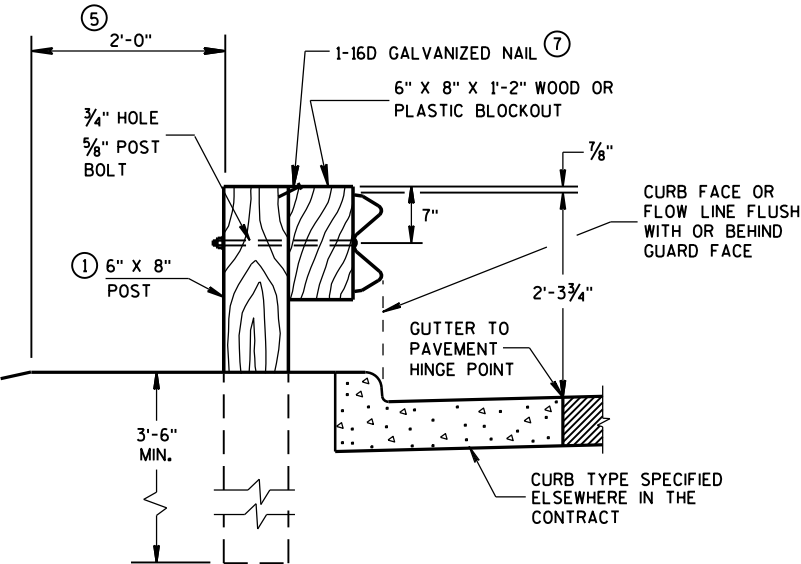
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND THE APPLICABLE SPECIAL PROVISIONS.

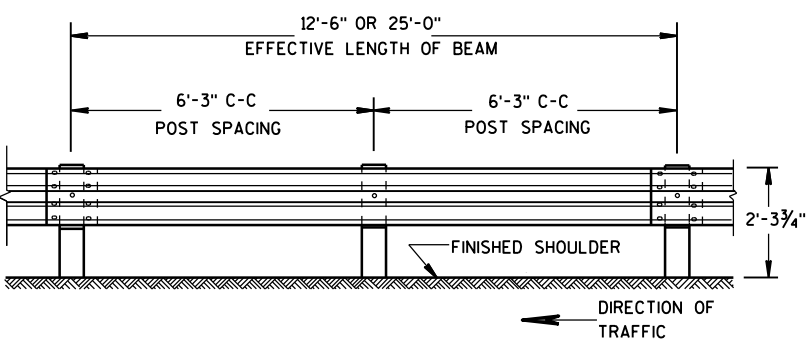
- ① W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- ② USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111 EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
- ③ INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ④ USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- ⑤ IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- ⑥ IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
- ⑦ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



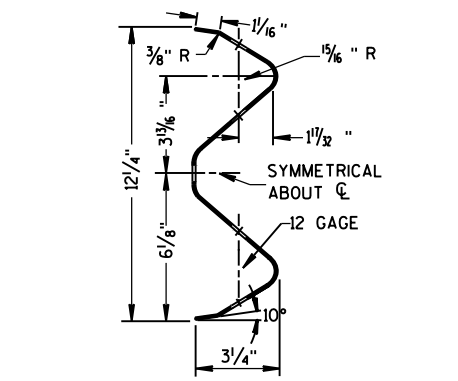
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



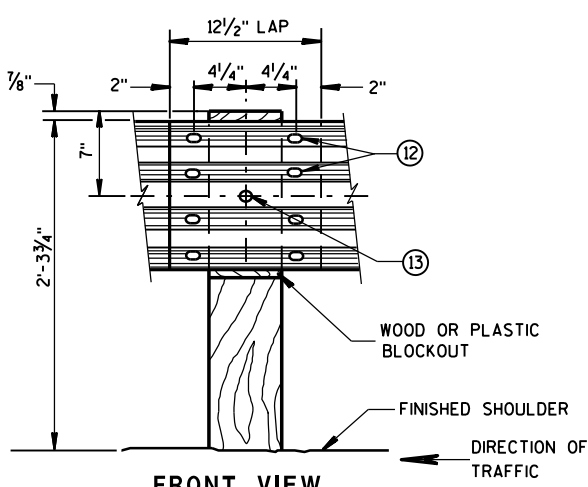


FRONT VIEW

POST SPACING STANDARD INSTALLATION



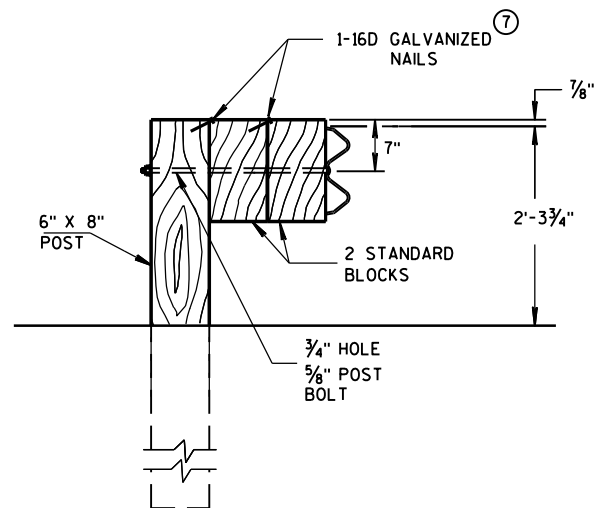
SECTION THRU W BEAM



FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL

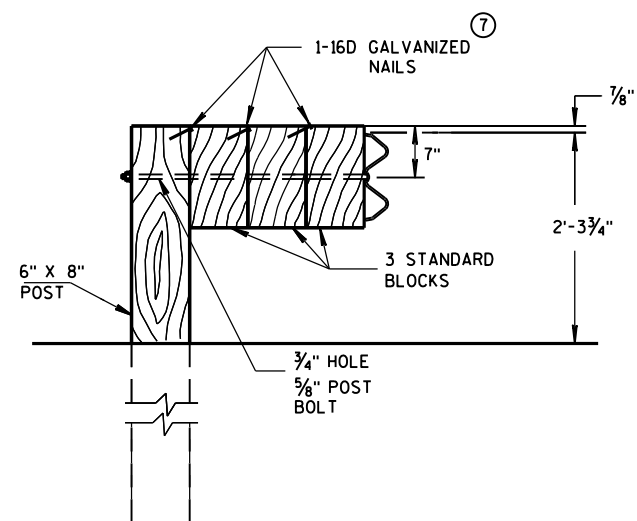
GENERAL NOTES

- ⑧ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- ⑩ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ⑪ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑫ 8 - 5/8" ϕ X



DETAIL FOR DOUBLE BLOCKS

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

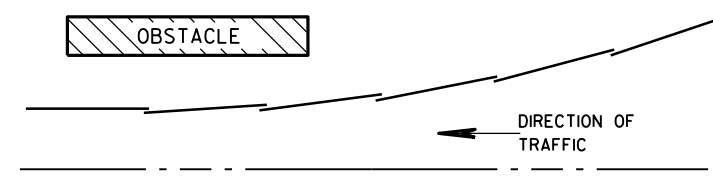


DETAIL FOR TRIPLE BLOCKS

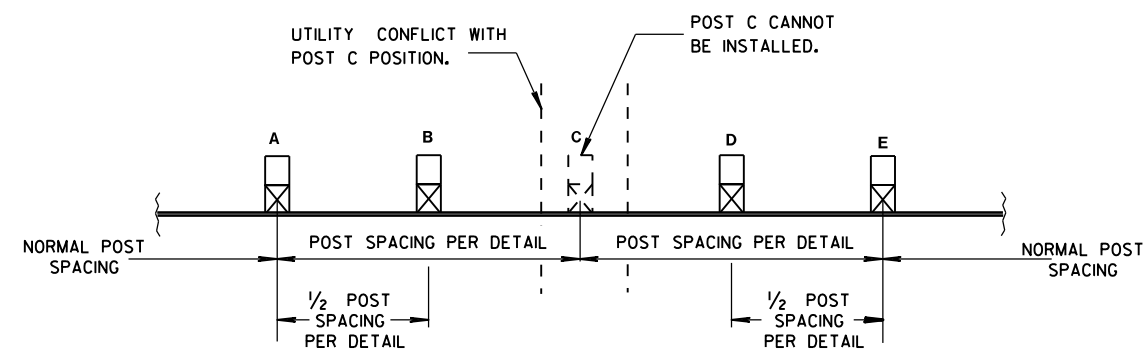
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW BEAM LAPPING DETAIL



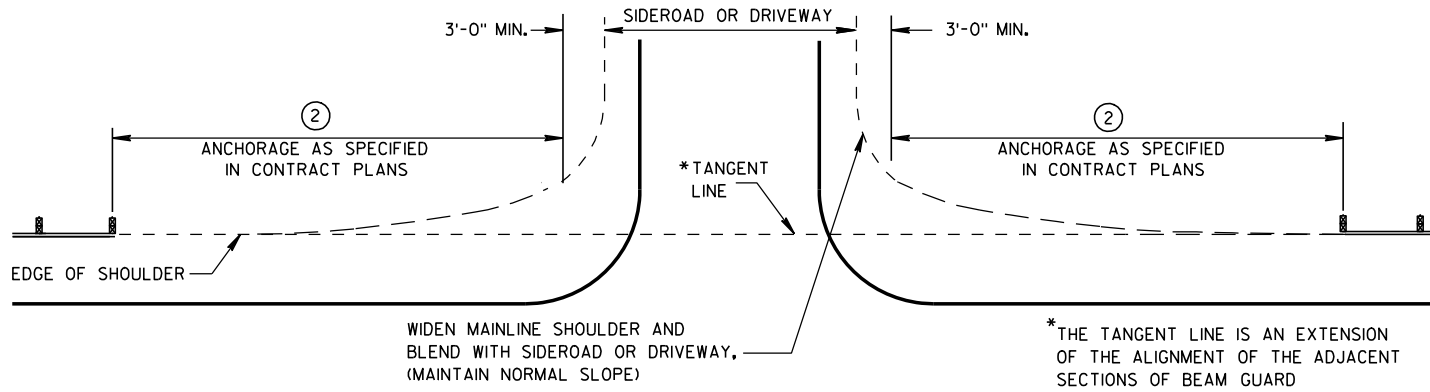
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

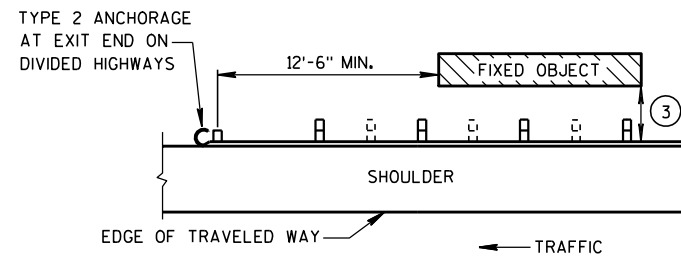
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
FHWA

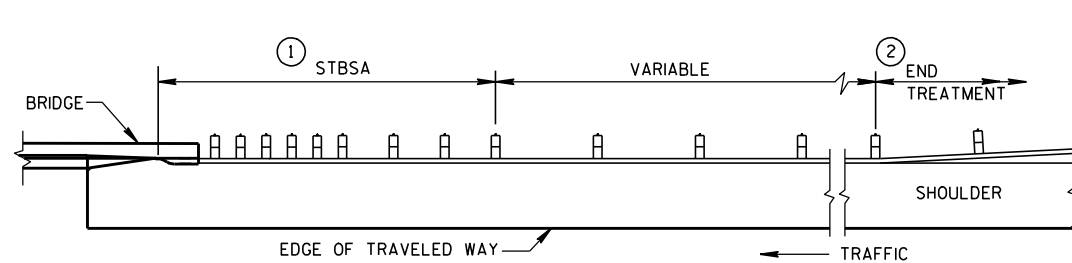
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



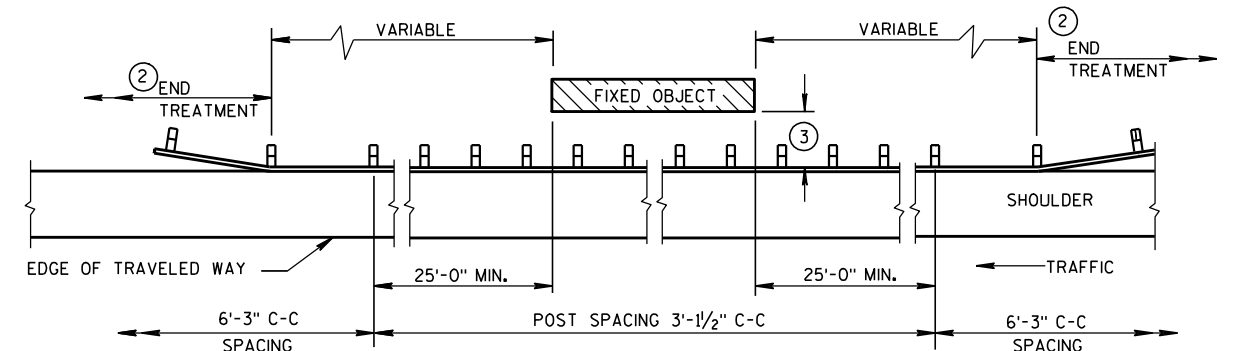
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

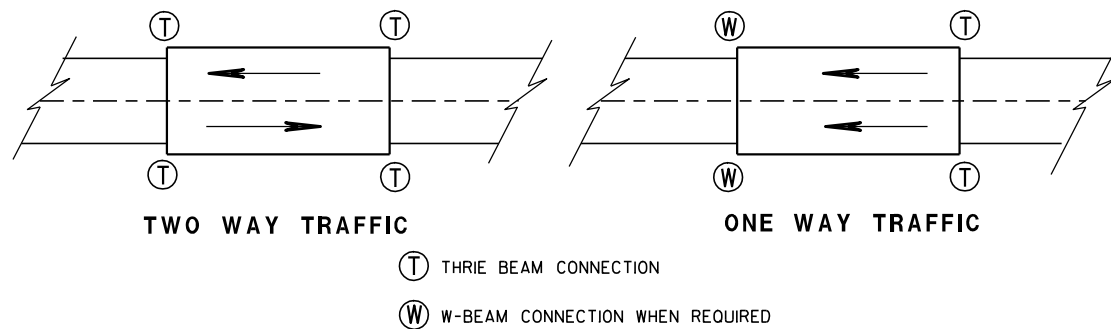
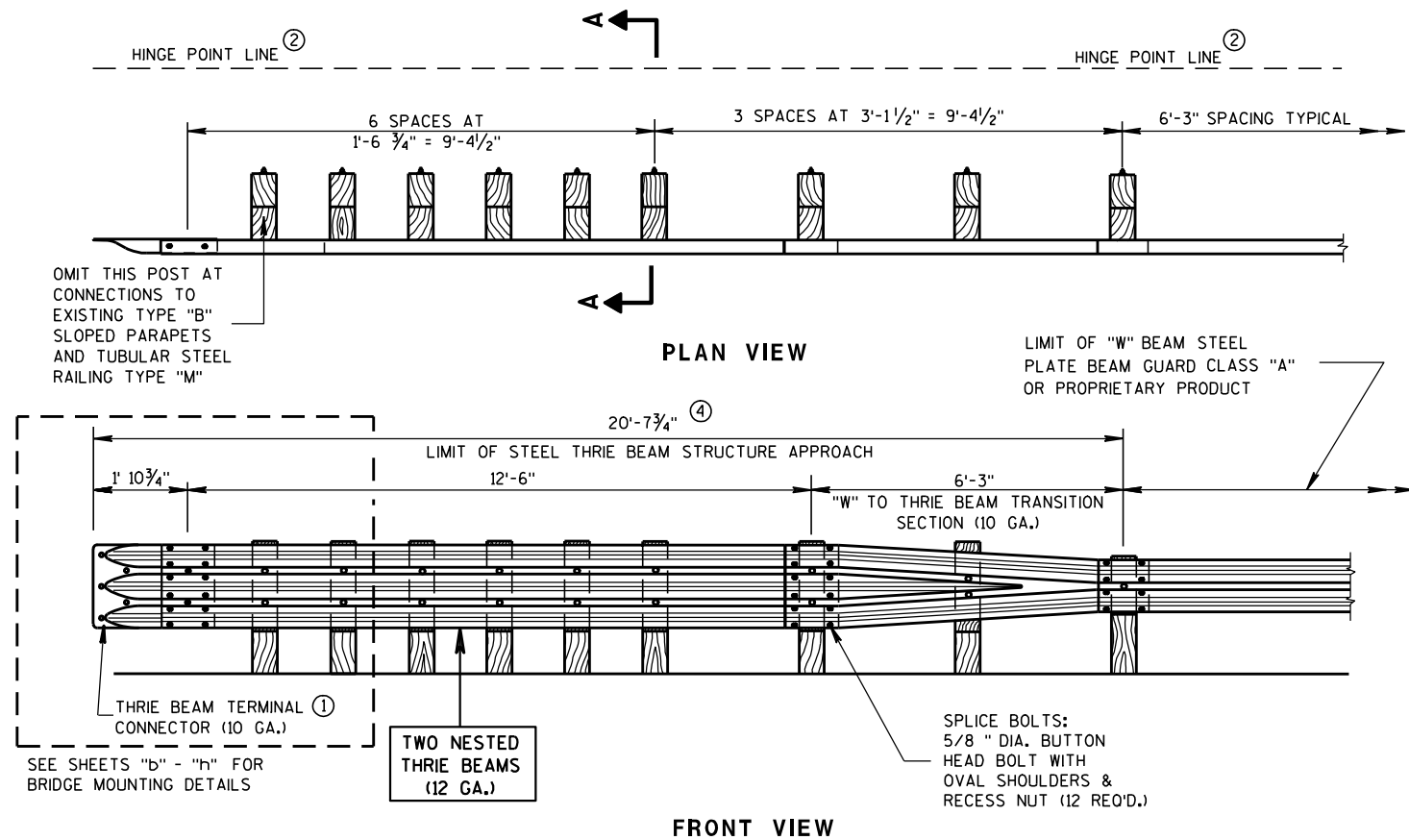


BEAM GUARD AT FULL WIDTH BRIDGES

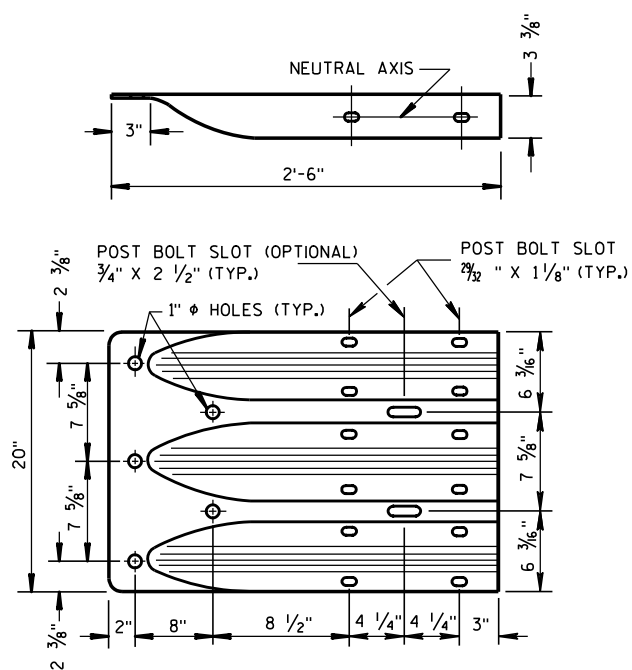


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OB

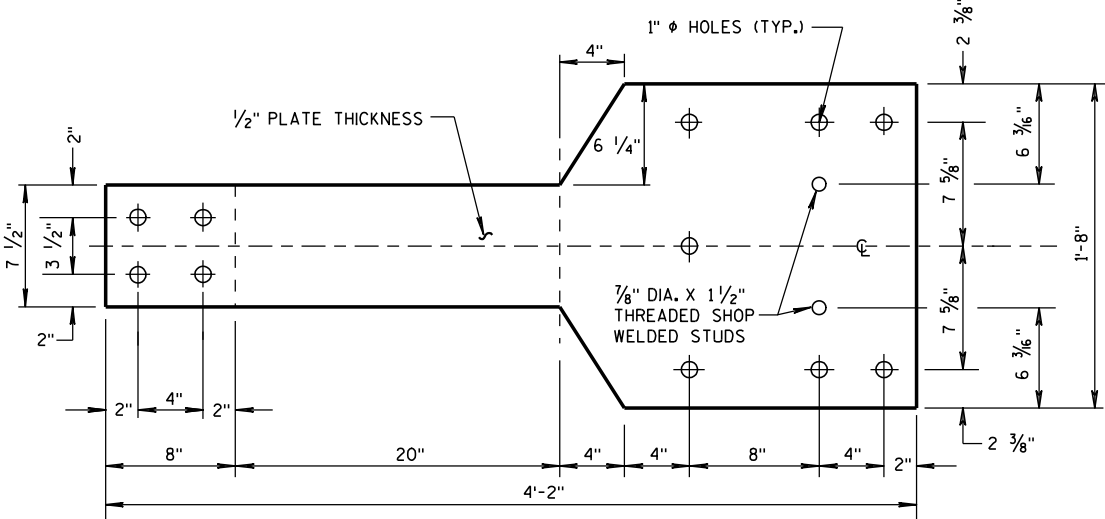


TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

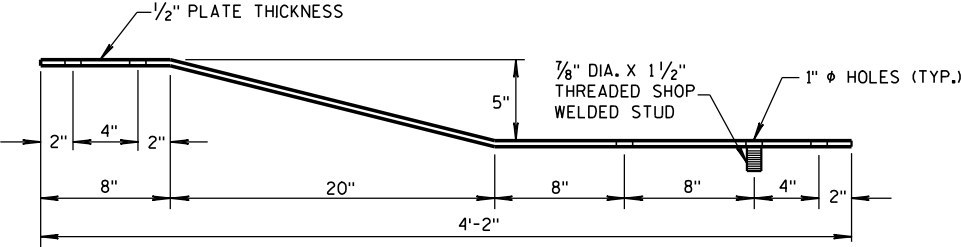


GENERAL NOTES

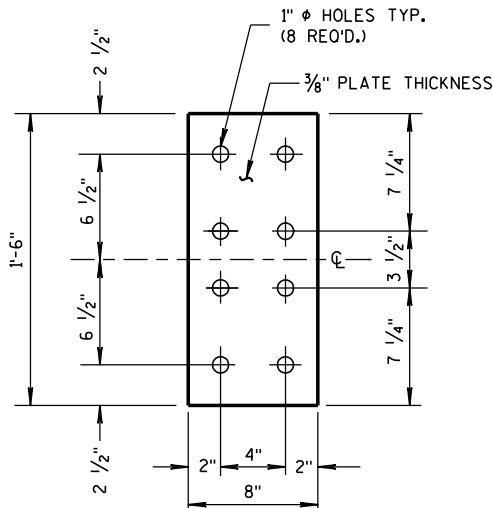
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW



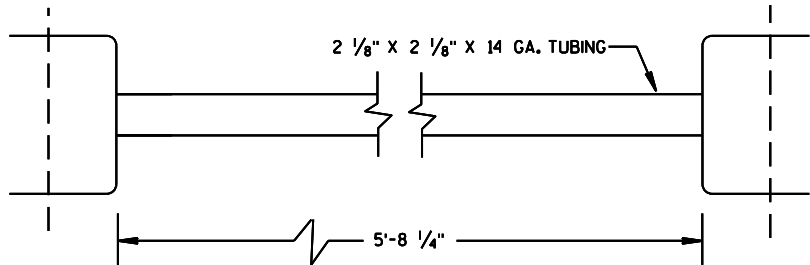
PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"



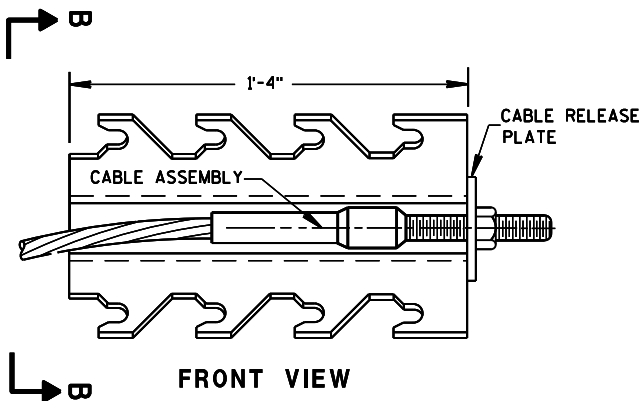
FRONT VIEW
ANCHOR PLATE DETAIL, TYPE "M"

BILL OF MATERIALS

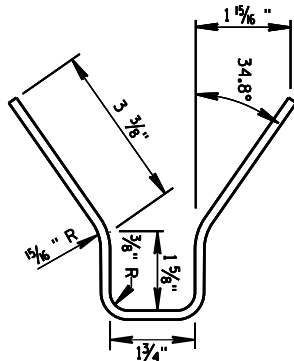
NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANTITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANTITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X 1/4" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6 1/2" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE



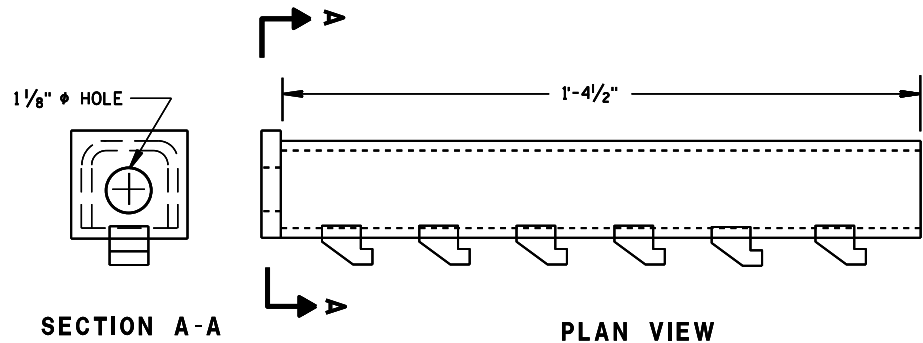
⑩ STRUT DETAIL (SKT-350)



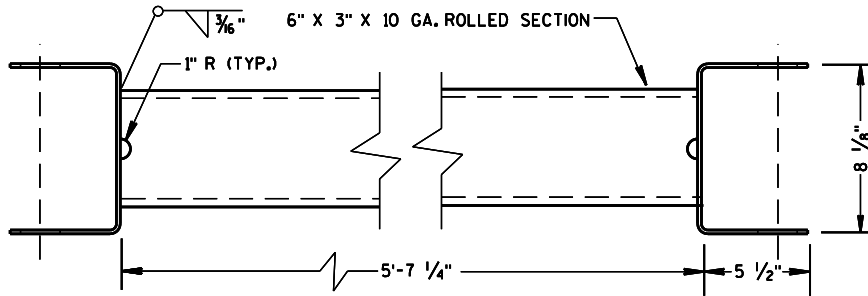
⑨ CABLE ANCHOR BOX (SKT-350)
(SKT-350)



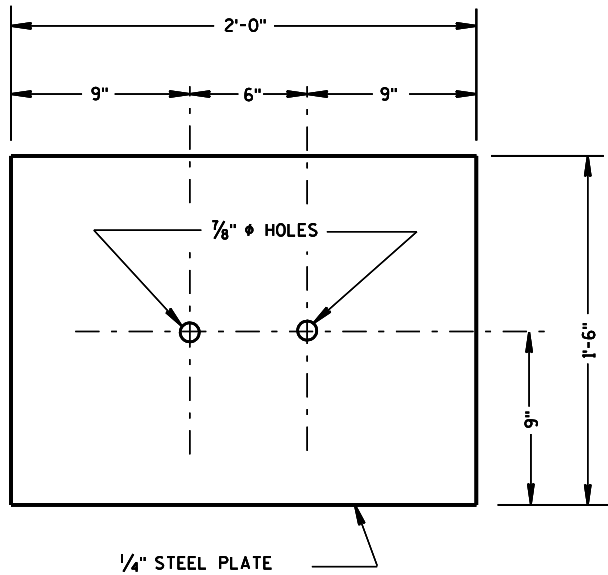
SECTION B-B



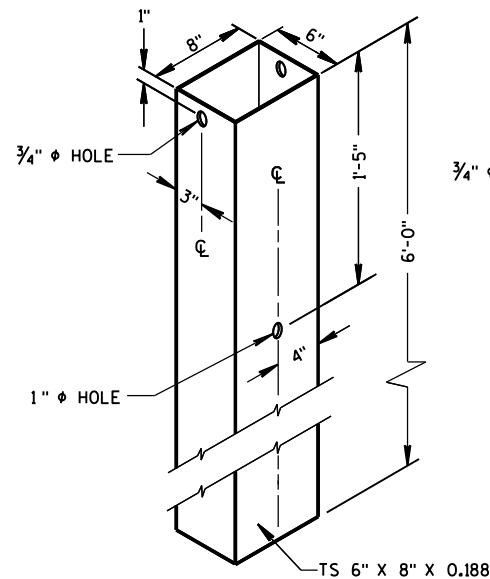
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



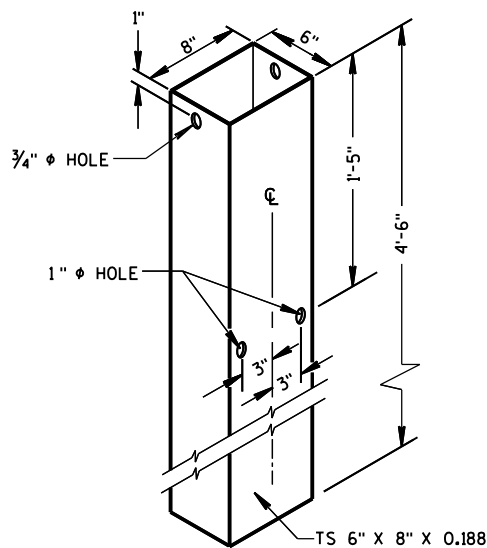
⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)
(ET-2000/ET-2000 PLUS)



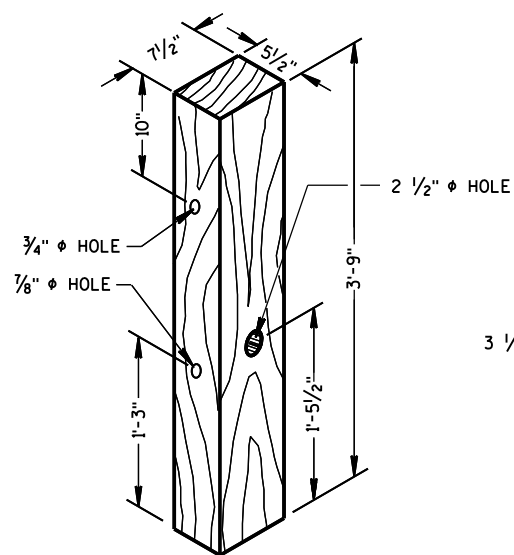
③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)



② **72" STEEL TUBE**
(POSTS NO. 1-4)

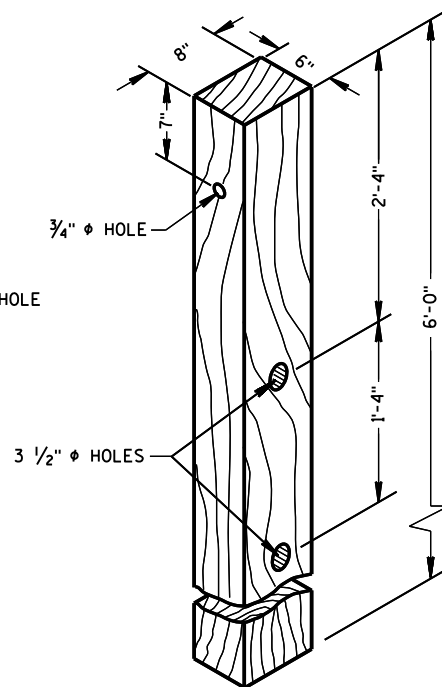


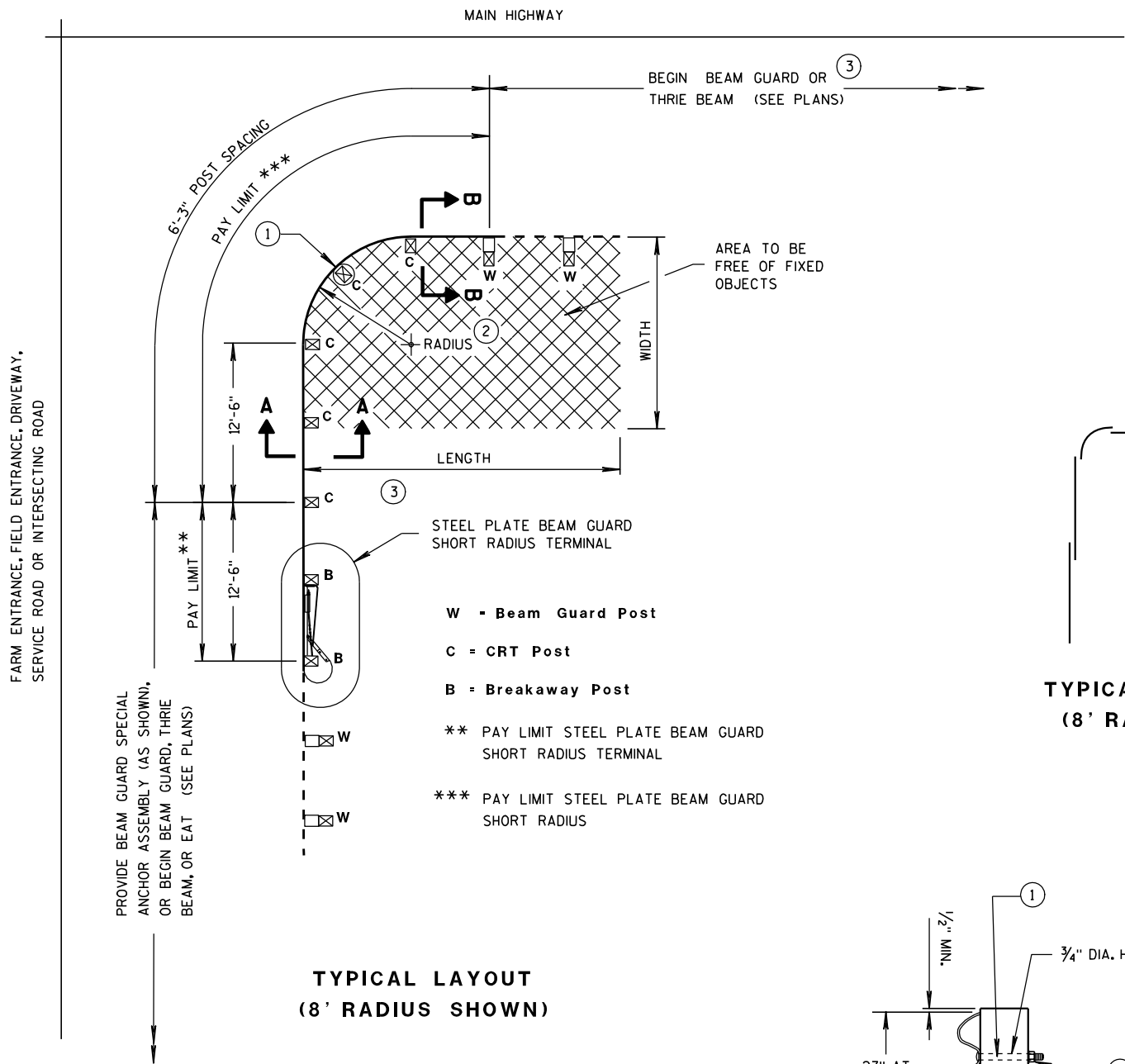
② **54" STEEL TUBE**
(POSTS NO. 1-4)



① **TERMINAL POST**
(POSTS NO. 1-4)

WOOD BREAKAWAY POSTS





TYPICAL LAYOUT
(8' RADIUS SHOWN)

W - Beam Guard Post
C = CRT Post
B = Breakaway Post

** PAY LIMIT STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
*** PAY LIMIT STEEL PLATE BEAM GUARD SHORT RADIUS

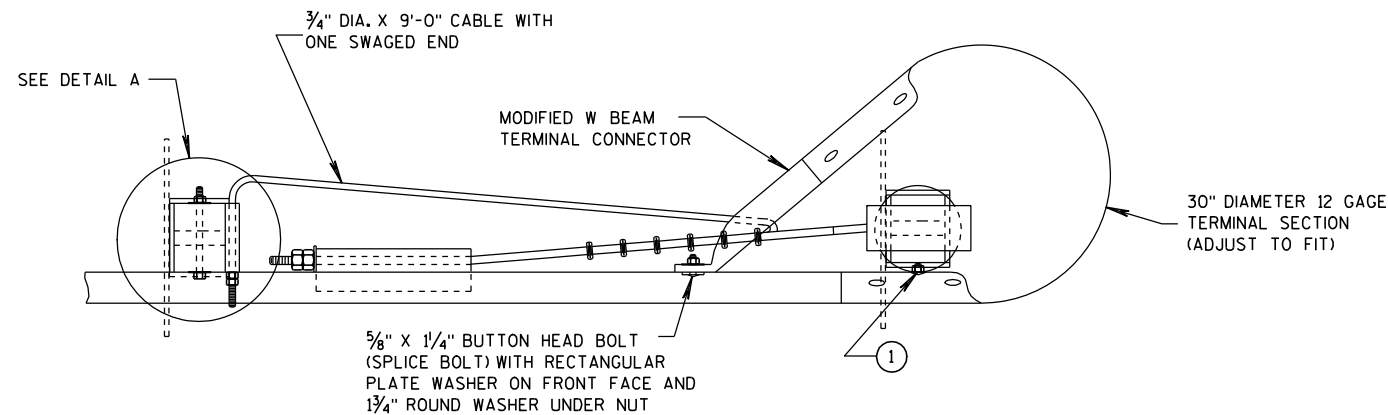
SLOPE SHALL BE 15:1 OR FLATTER (TYP.)

27" AT FACE OF RAIL

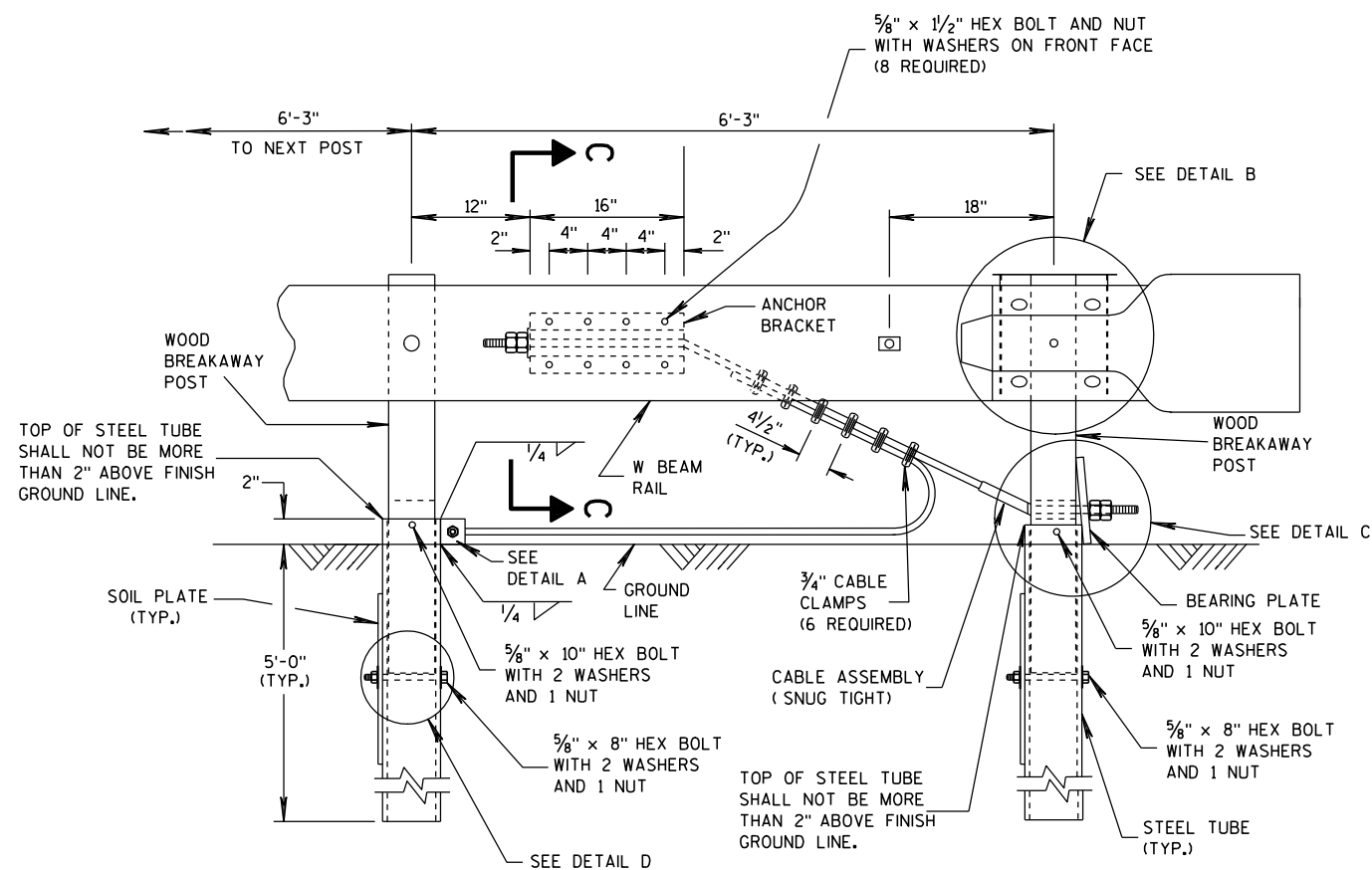
3 1/2" DIA. HOLES CENTERED IN SIDE OF POST

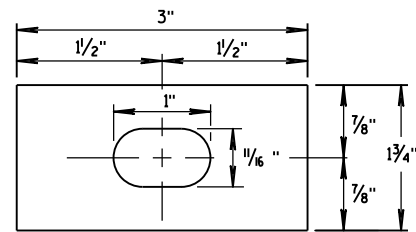
6"x8"x6'-0" WOOD POST MODIFIED AS SHOWN AND SHALL BE PRESERVATIVE TREATED AFTER DRILLING

SECTION A-A
(CRT POST)

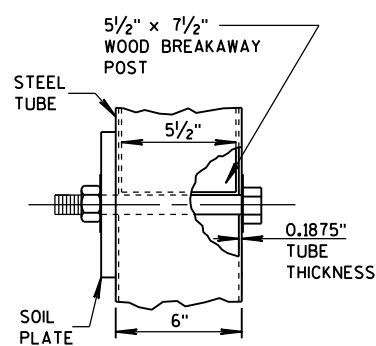


PLAN VIEW

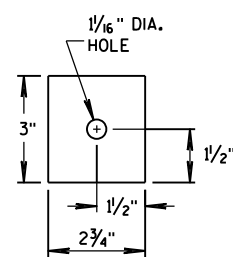




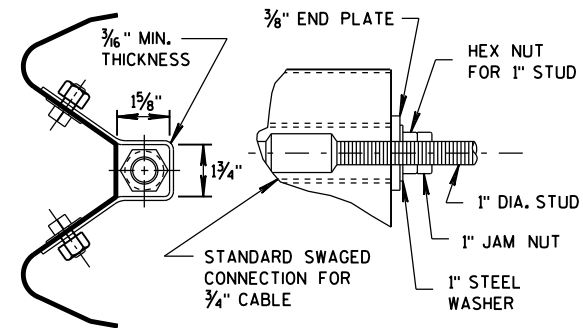
**RECTANGULAR
PLATE WASHER**

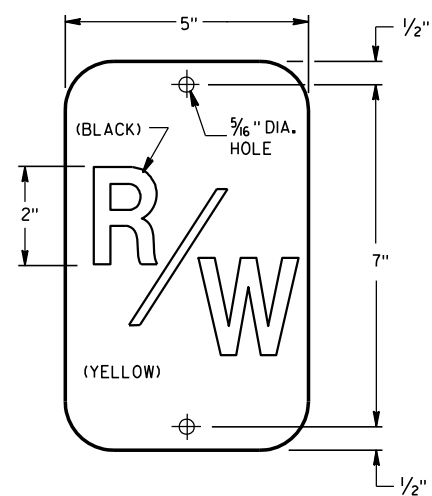
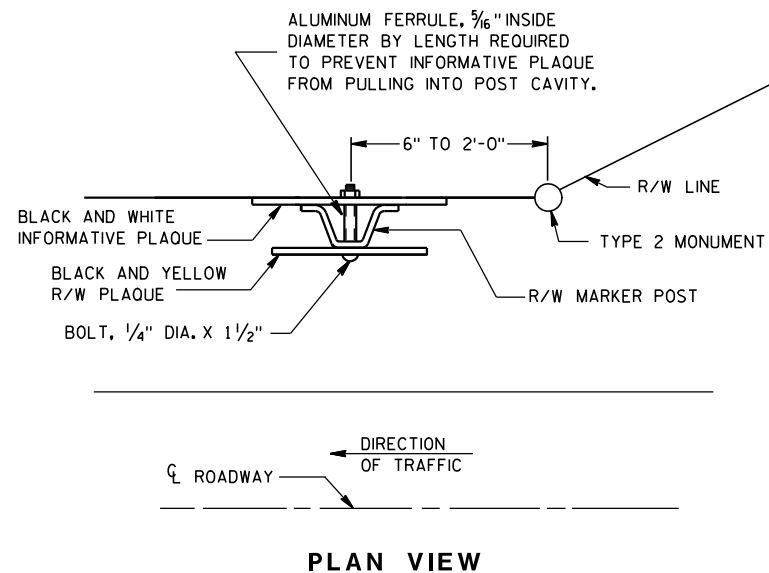


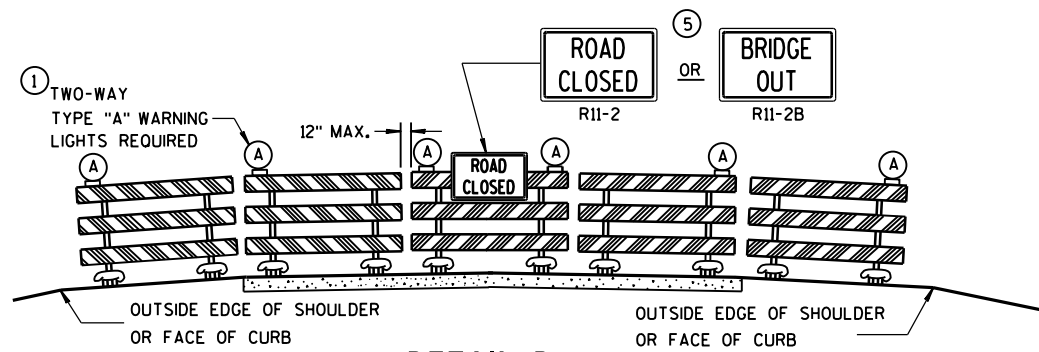
DETAIL D



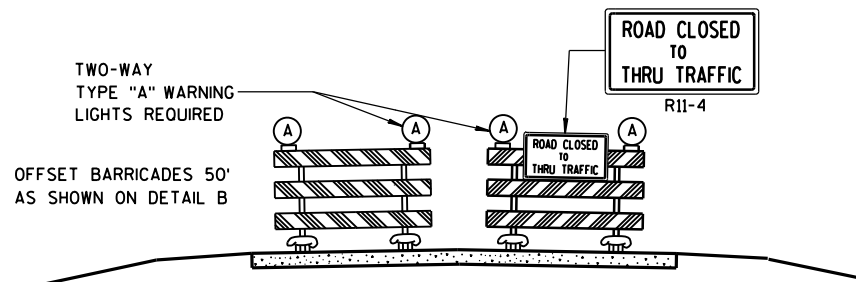
END PLATE

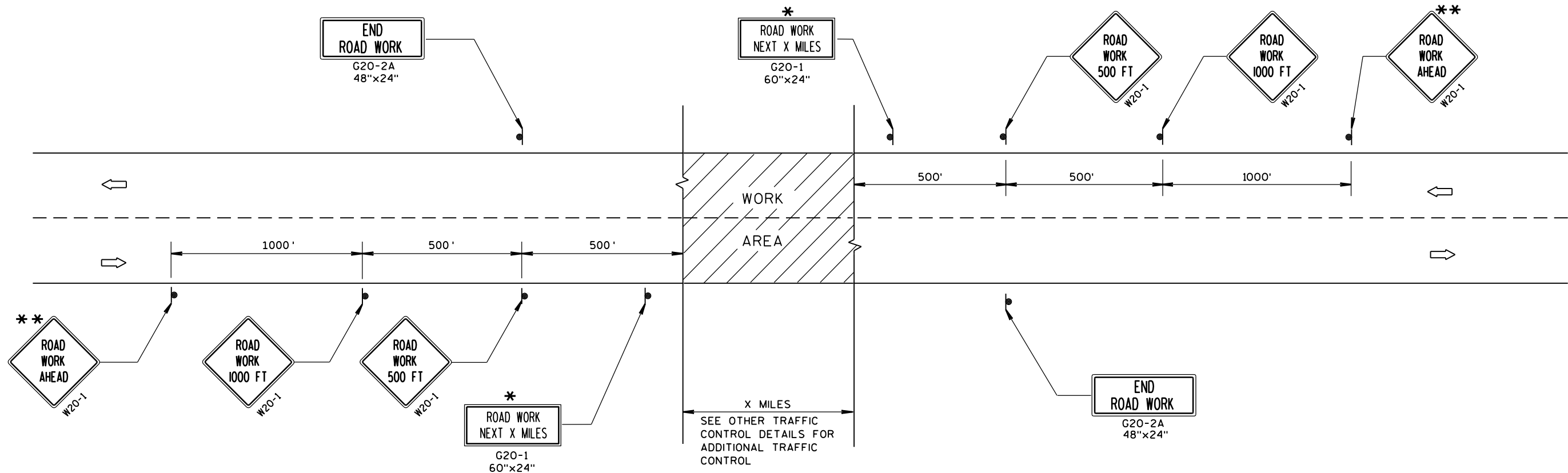


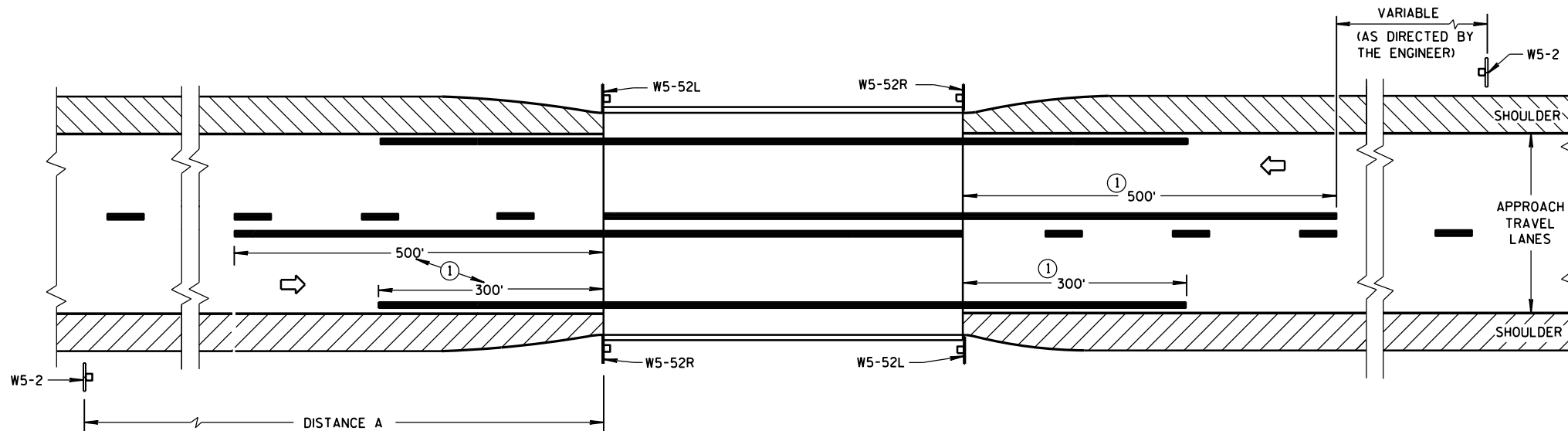




DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW







URBAN AREA

