

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

SECTIONS AS SHOWN ON THE CROSS SECTION SHEETS INCLUDE THE THICKNESS OF TOPSOIL.

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

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.



Call 811 3 Work Days Before You Dig
Or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

UTILITIES

KOCH PIPELINE COMPANY L.P. - GAS/PETROLEUM

SEAN MANTEI
2267 COUNTY ROAD HH
JUNCTION CITY, WI 54443
PHONE: (715) 457-6404
MOBILE: (715) 498-6633

TDS TELECOM - COMMUNICATION LINE

STEVE JAKUBIEC
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APPLETON, WI 54911
PHONE: (920) 882-4166
E-MAIL: steve.jakubiec@tdscom.com

WISCONSIN PUBLIC SERVICE CORPORTATION - ELECTRICITY

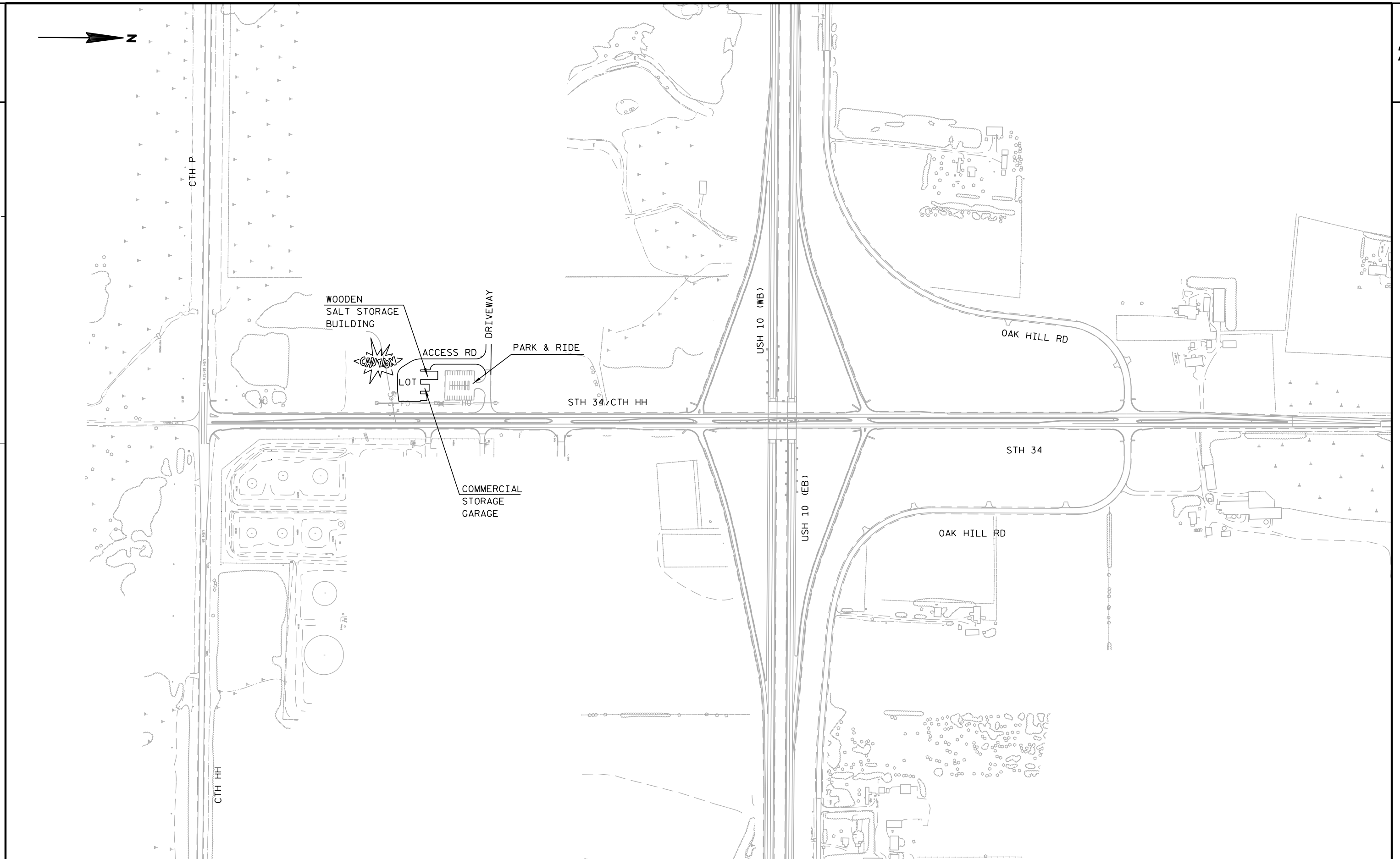
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E-MAIL: demezera@wisconsinpublicservice.com

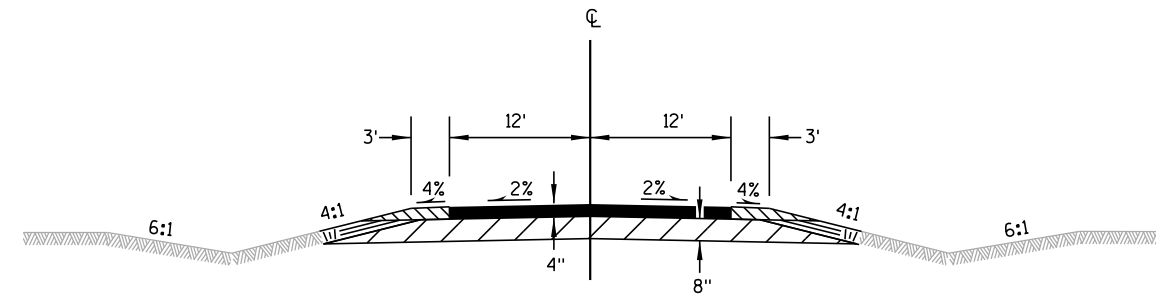
WISCONSIN DNR LIAISON

MARC HERSHFIELD
473 GRIFFITH AVENUE
WISCONSIN RAPIDS, WI 54494
PHONE: (715) 421-7867
E-MAIL: marc.hershfield@wisconsin.gov

US ARMY CORPS OF ENGINEERS

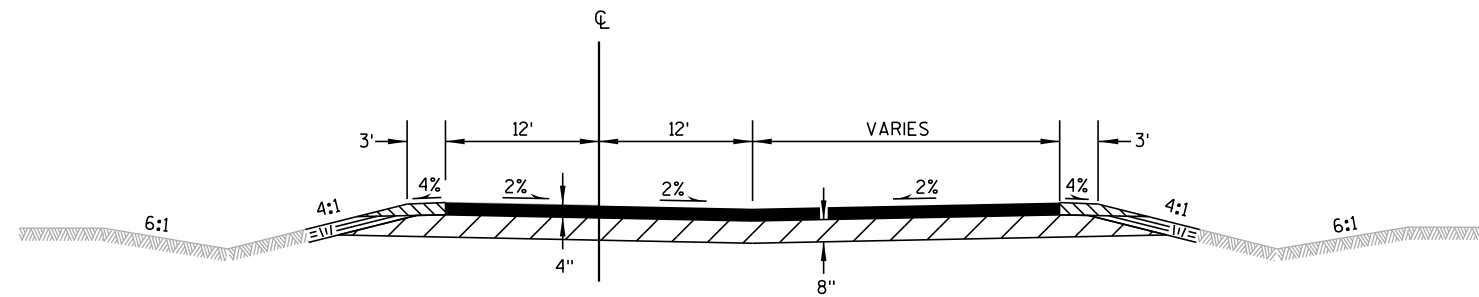
ERIC NORTON
1314 CONTRACTOR'S BLVD
PLOVER, WI 54467
PHONE: (715) 345-7911
E-MAIL: Eric.M.Norton@usace.army.mil





PROPOSED TYPICAL SECTION

ACCESS RD
STA 12+39 - STA 15+35
DRIVEWAY
STA 10+20 X - STA 11+60 X



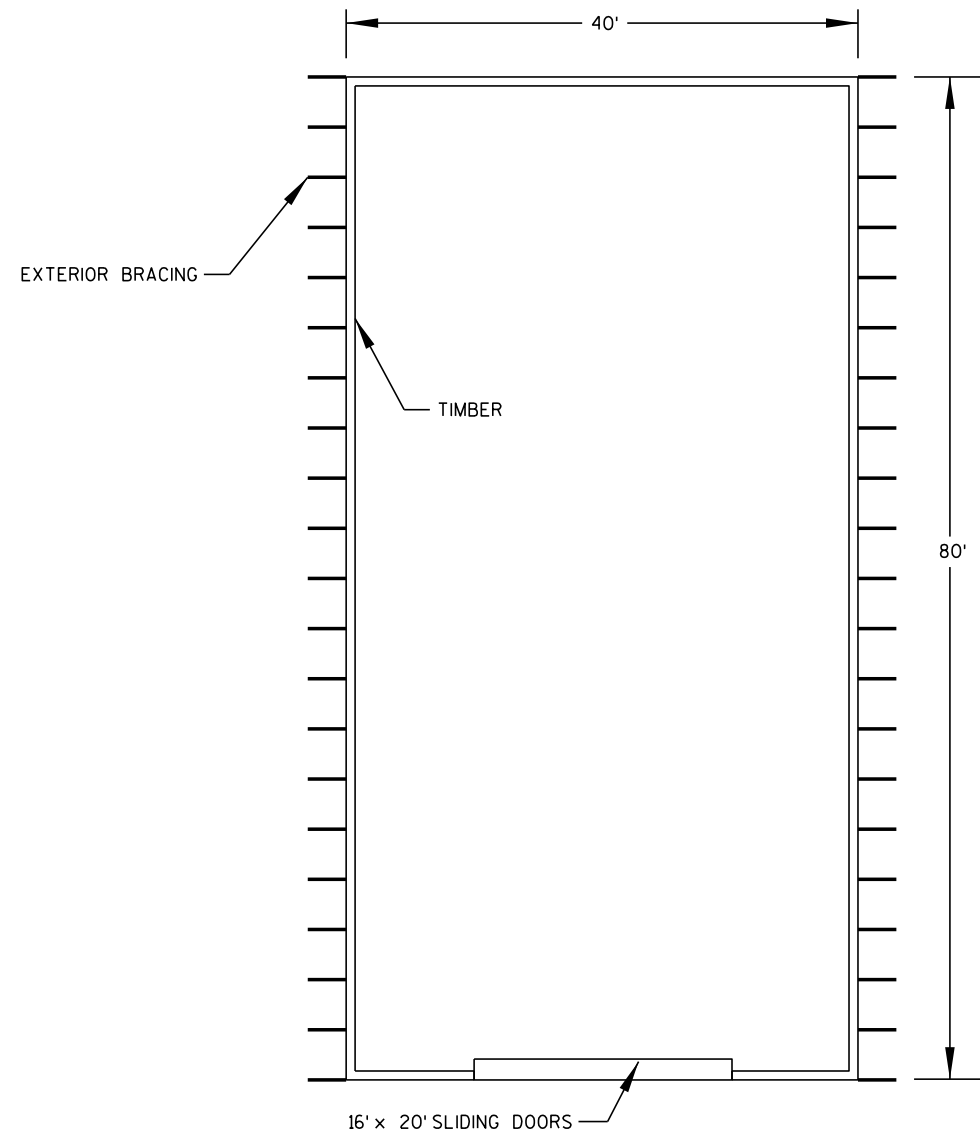
PROPOSED TYPICAL SECTION

SALT SHED LOT*
STA 10+00 - STA 12+39

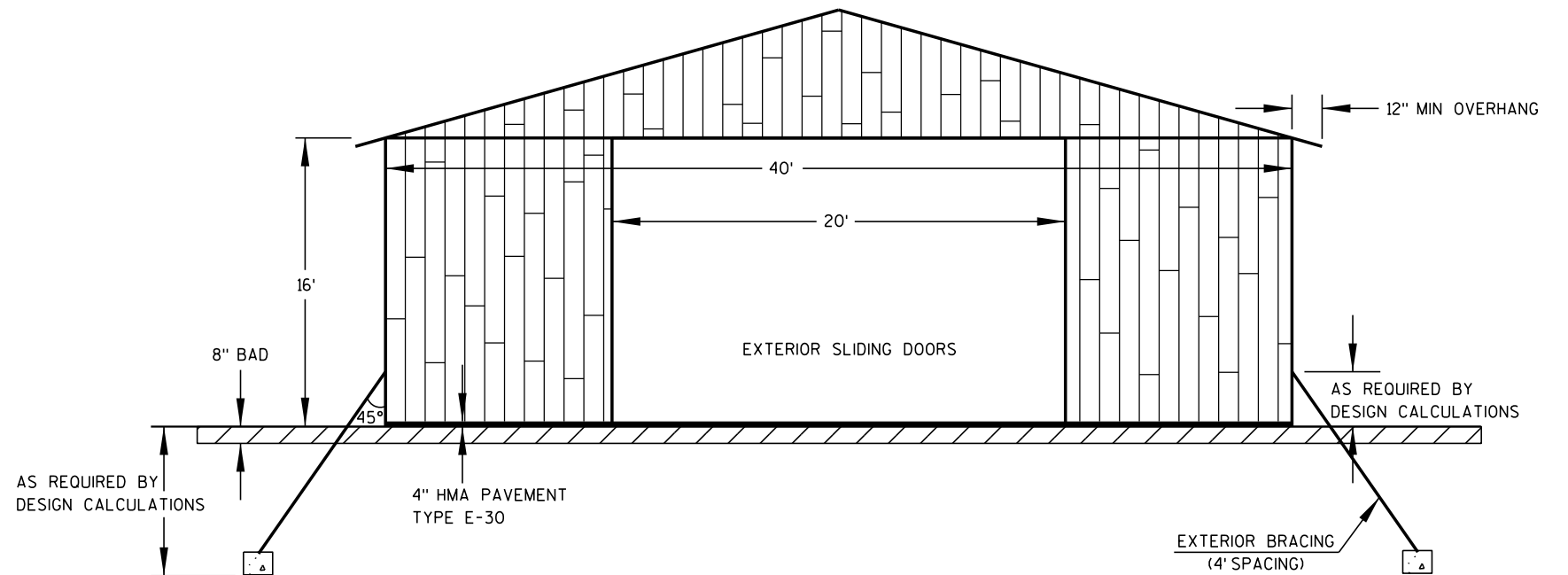
LEGEND

- HMA PAVEMENT TYPE E-30
- BASE AGGREGATE DENSE 3/4-INCH
- BASE AGGREGATE DENSE 1 1/4-INCH
- SALVAGED TOPSOIL, SEED, FERTILIZE & MULCH
- EXISTING GROUND

* USE THE SAME PAVEMENT STRUCTURE UNDERNEATH THE WOODEN SALT STORAGE BUILDING AND COMMERCIAL STORAGE GARAGE.



TOP VIEW

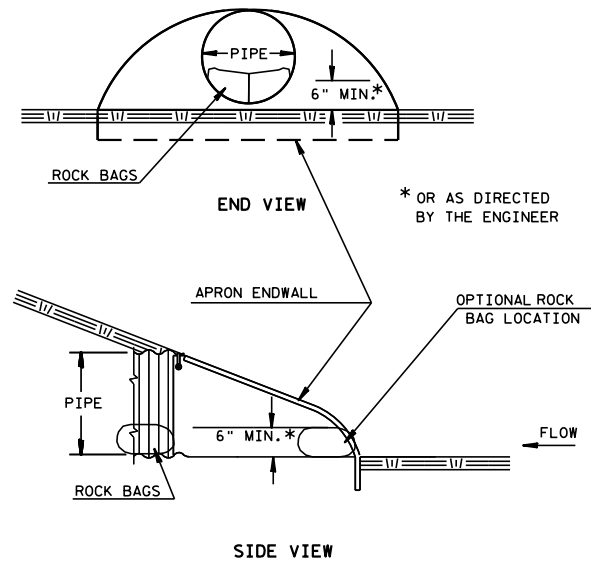


PROFILE VIEW

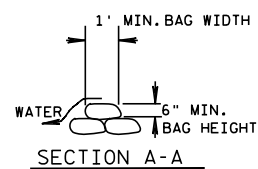
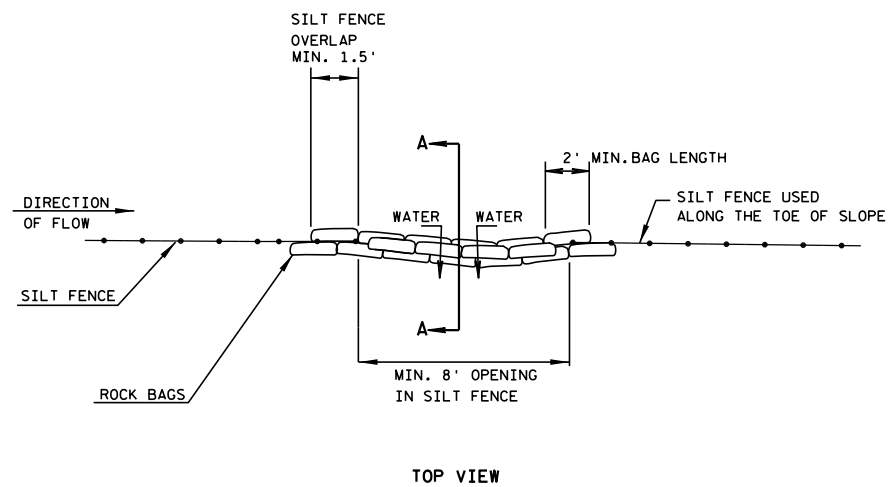
WOODEN SALT STORAGE BUILDING DETAIL

NOTE: CONTRACTOR WILL SUPPLY SHOP DRAWINGS

2

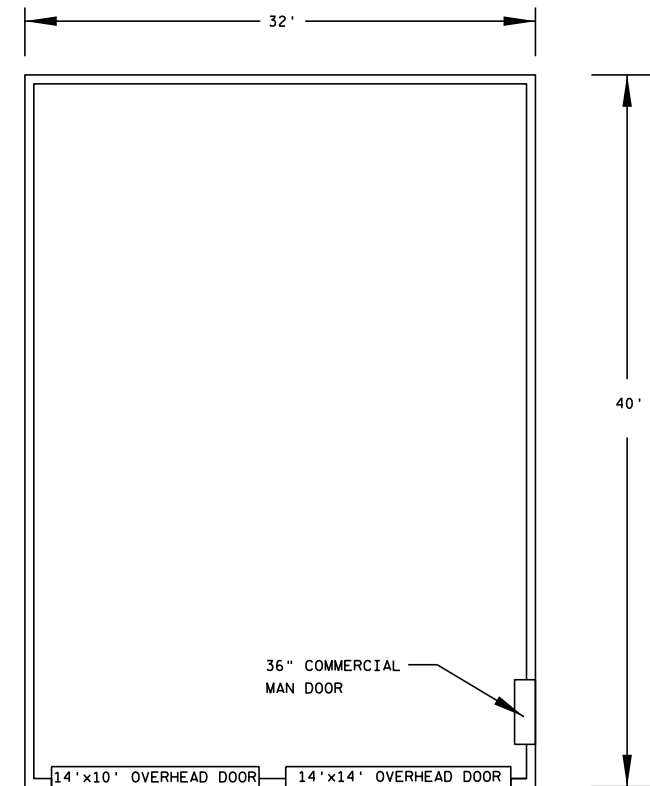


ROCK BAGS USED FOR CULVERT PIPE CHECKS DETAIL
(INSTALL ON INLET END ONLY)

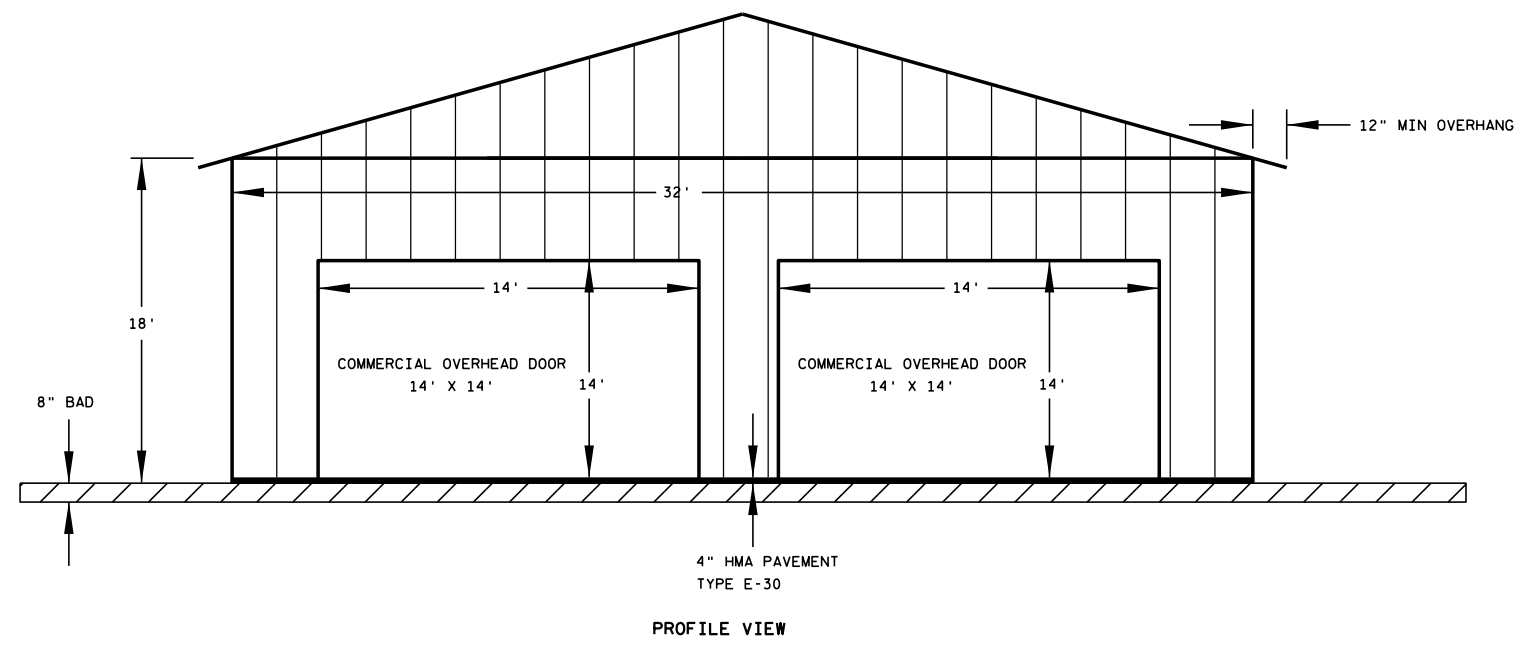


ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

2

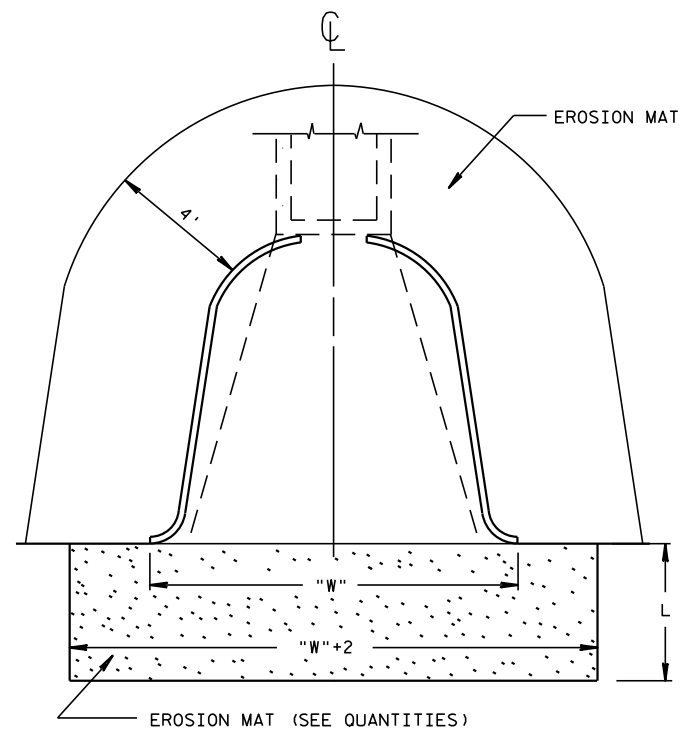


TOP VIEW



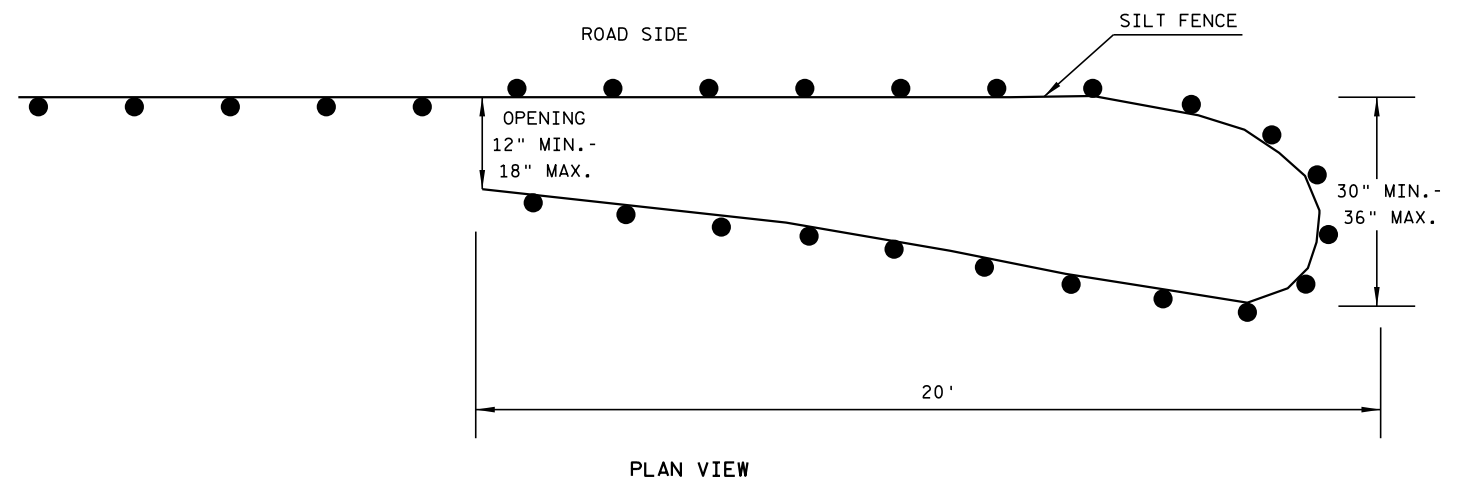
COMMERCIAL STORAGE GARAGE DETAIL

NOTE: CONTRACTOR WILL SUPPLY SHOP DRAWINGS



EROSION CONTROL AT PIPE ENDS

L = 3 TIMES DIAMETER OR 10' MIN.

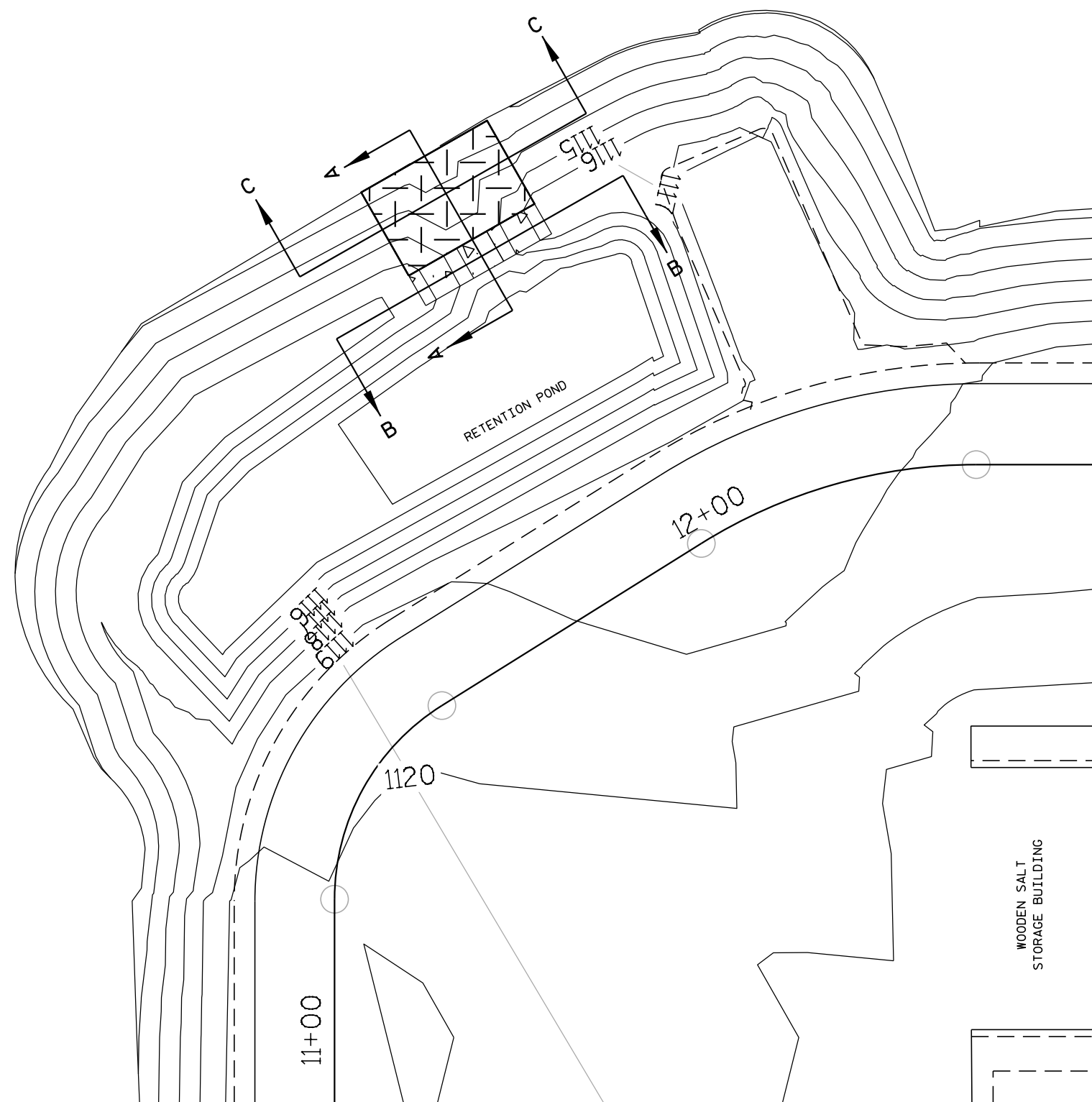


GENERAL NOTES:

THE PURPOSE OF THE TURTLE TURN-AROUNDS ARE TO REDIRECT THE TURTLES AWAY FROM THE CONSTRUCTION ZONE. DESIGN SHOULD ALSO INCLUDE TRENCHED-IN SEDIMENT FENCING AND FENCING SUPPORTS ON UPSLOPE SIDE OF FENCE. SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND.

TEMPORARY TURTLE TURN-AROUND DETAIL

2



RETENTION POND OUTLET

NOTE: WISDOT REQUIRES THAT ALL CLASSES OF TRM MATS SHALL BE COMPLETELY FILLED WITH TOPSOIL IMMEDIATELY AFTER INSTALLATION.

CONCRETE SIDEWALK 6-INCH

1114.5

EROSION MAT CLASS I URBAN TYPE A

SALVAGED TOPSOIL

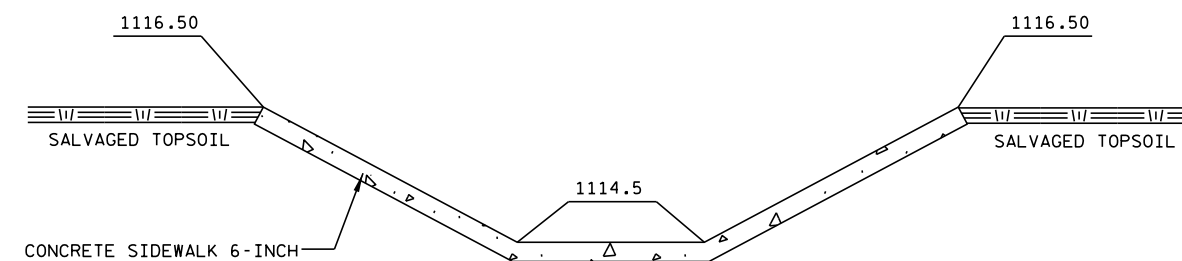
EROSION MAT CLASS III TYPE D

5'

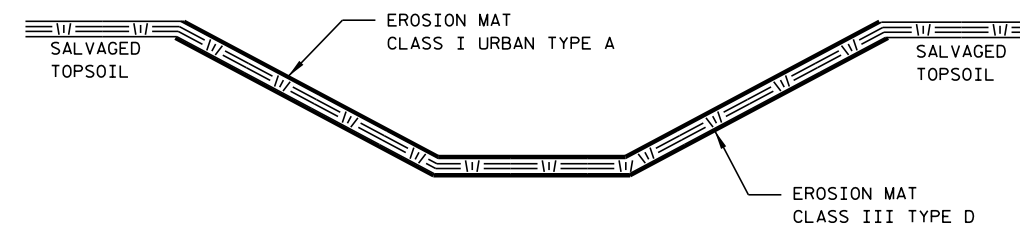
RETENTION POND

SECTION A-A

SECTION A-A



SECTION B-B



SECTION C-C

PROJECT NO:6350-06-89

HWY: USH 10

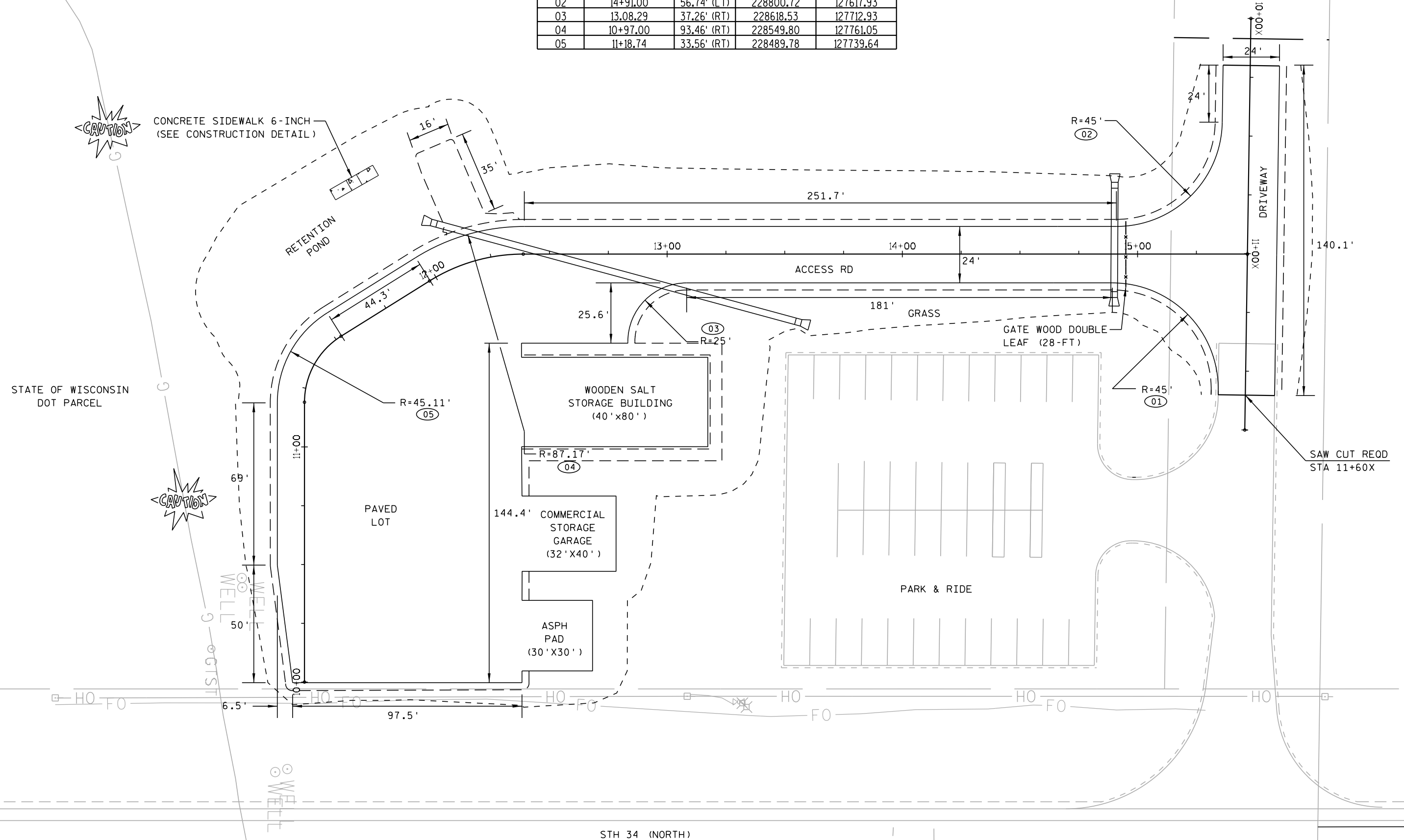
COUNTY:PORTAGE

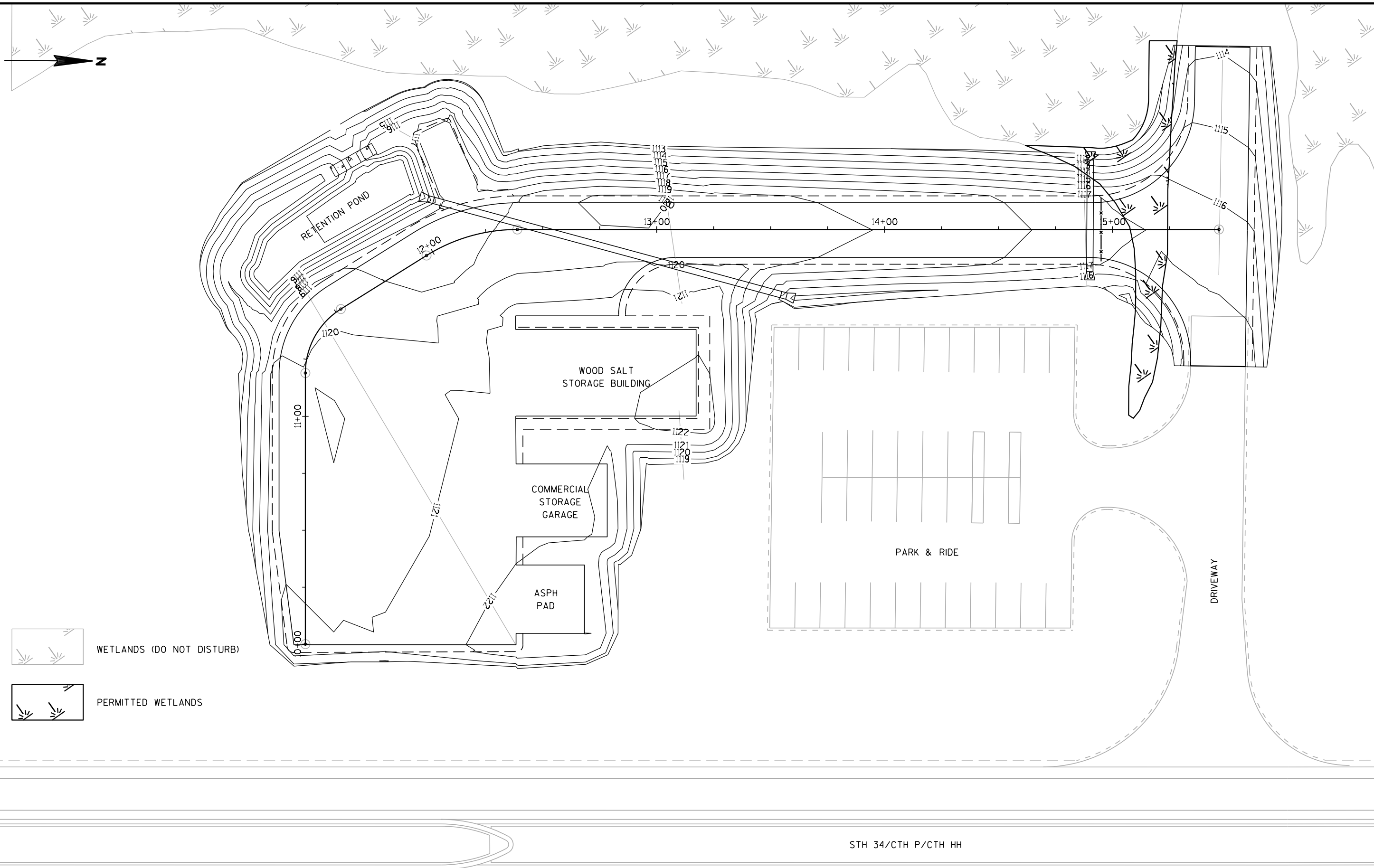
CONSTRUCTION DETAIL

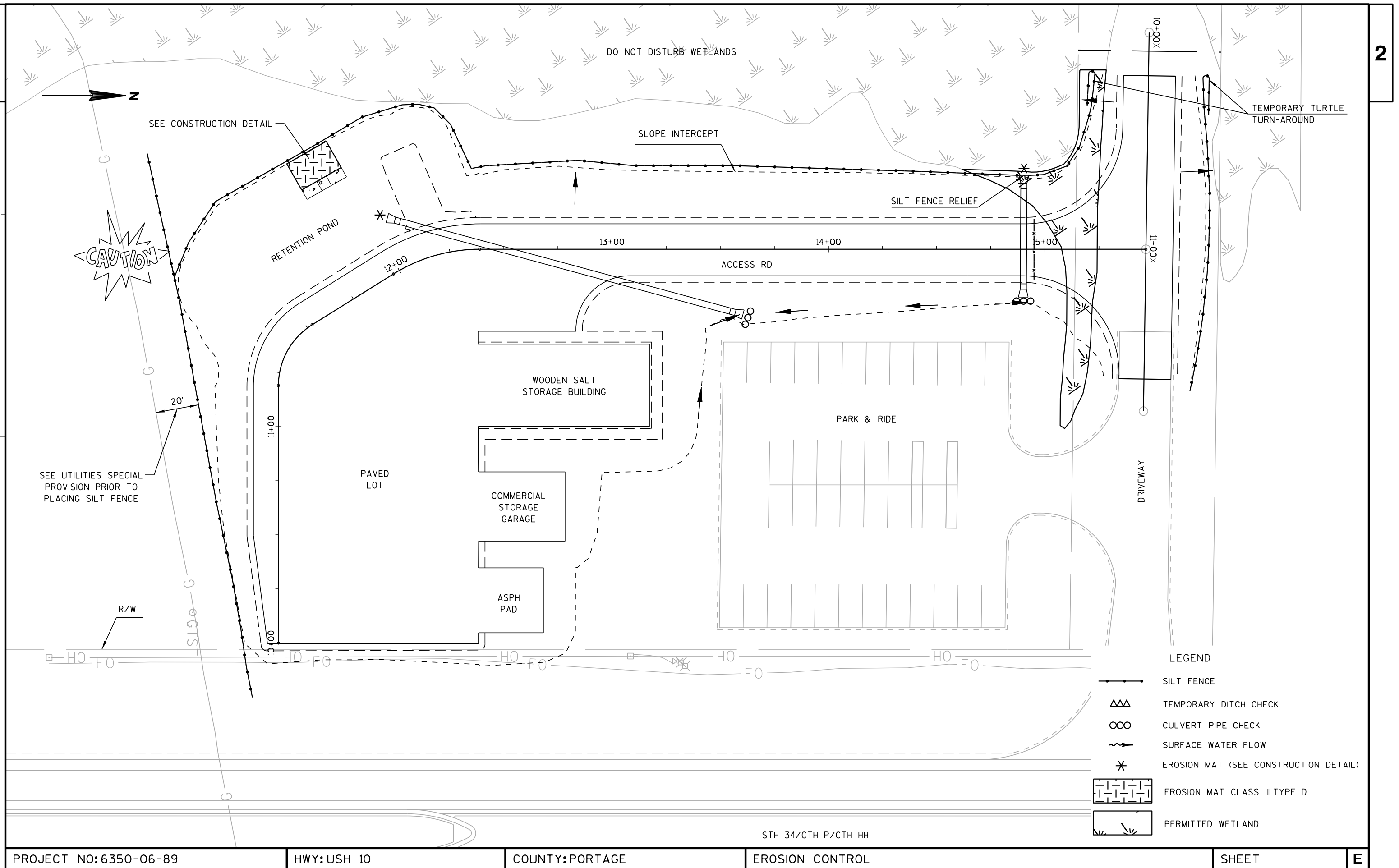
SHEET

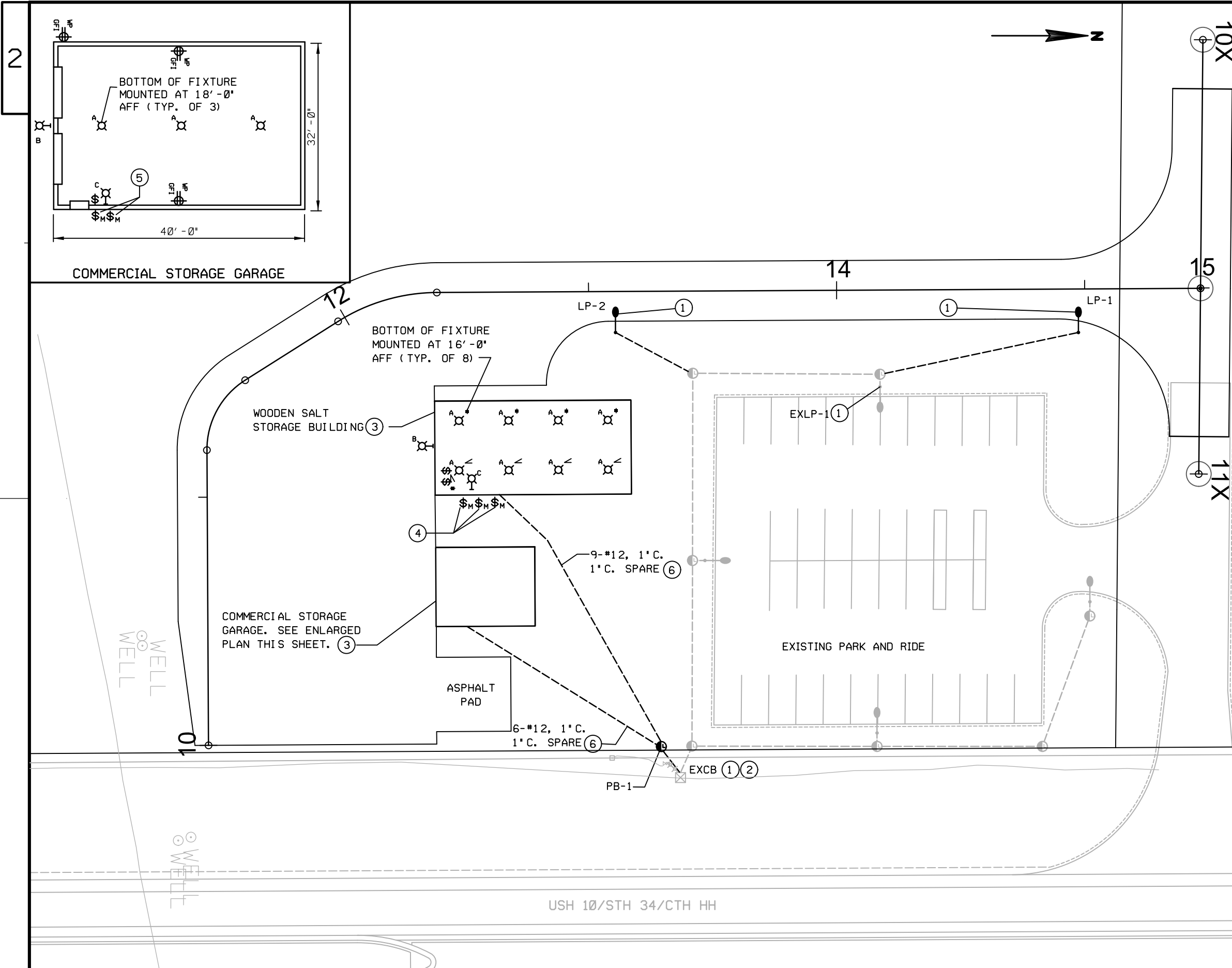
E

POINT	STATION	OFFSET	Y	X
01	14+89.29	57.26' (RT)	228799.63	127731.94
02	14+91.00	56.74' (LT)	228800.72	127617.93
03	13+08.29	37.26' (RT)	228618.53	127712.93
04	10+97.00	93.46' (RT)	228549.80	127761.05
05	11+18.74	33.56' (RT)	228489.78	127739.64









LEGEND

EXISTING LIGHTING CONTROL CABINET AND BASE (TYPE 6) WITH METER BREAKER PEDESTAL

EXISTING PARK AND RIDE LUMINAIRE

24' X 36' STEEL PULL BOX

CONDUIT RIGID NONMETALLIC, 2-INCH

250 WATT LUMINAIRE, HPS, ON TYPE 5 POLE AND BASE WITH 12-FT TRUSS TYPE LUMINAIRE ARM (4'-INCH CLAMP)

FIXTURE TYPE A (400 WATT HIGH BAY LUMINAIRE, METAL HALIDE)

FIXTURE TYPE B (100 WATT AREA LUMINAIRE, METAL HALIDE)

DUPLEX RECEPTACLE, 125 VOLT
WP INDICATES WEATHERPROOF
GFI INDICATES GROUND FAULT INDICATION

FIXTURE TYPE C (BATTERY POWER EMERGENCY LUMINAIRE)

DISCONNECT SWITCH

SINGLE POLE LIGHT SWITCH

- NOTES
1.

ALL MOUNTING HARDWARE ASSOCIATED WITH THE SITE LIGHTING AND INTERIOR ELECTRICAL WORK SHALL BE STAINLESS STEEL.
- KEY NOTES
- 1

ADD NEW LIGHT POLES TO EXISTING LIGHTING CIRCUIT. SPLICE NEW CONDUCTORS WITH EXISTING CONDUCTORS IN EXLP-1 POLE HANDHOLE AND EXTEND TO NEW DRIVEWAY LIGHT POLES.
- 2

PROVIDE FIVE SINGLE-POLE, 20A CIRCUIT BREAKERS IN EXISTING METER BREAKER PEDESTAL FOR POWER TO STORAGE STRUCTURES.
- 3

PROVIDE CONDUIT AND WIRE AS REQUIRED FOR LIGHTING AND RECEPTACLE BRANCH CIRCUITS TO STORAGE STRUCTURES. ELECTRICAL WORK IN STORAGE STRUCTURES IS A LUMP SUM ITEM.
- 4

PROVIDE NAMEPLATES READING 'INTERIOR LIGHTING CIRCUIT A', 'INTERIOR LIGHTING CIRCUIT B', AND 'EXTERIOR/EMERGENCY LIGHTING' FOR THE RESPECTIVE BRANCH CIRCUIT DISCONNECTS.
- 5

PROVIDE NAMEPLATES READING 'INTERIOR LIGHTING DISCONNECT' AND 'RECEPTACLES DISCONNECT' FOR THE RESPECTIVE BRANCH CIRCUIT DISCONNECTS.
- 6

PROVIDE ONE SPARE CONDUIT TO EACH STORAGE STRUCTURE. CAP CONDUITS.



CTH P

WOODEN SALT
STORAGE BUILDING

ACCESS RD

DRIVEWAY

PARK & RIDE

STH 34/CTH P/CTH HH

USH 10 (WB)

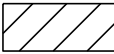
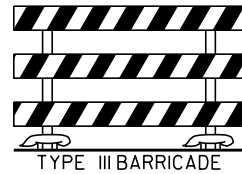
USH 10 (EB)

OAK HILL RD

STH 34

OAK HILL RD

CTH HH

 WORK ZONE AREA

TYPE III BARRICADE



TYPE III BARRICADE

R11-2
48" X 30"
ROAD
CLOSED

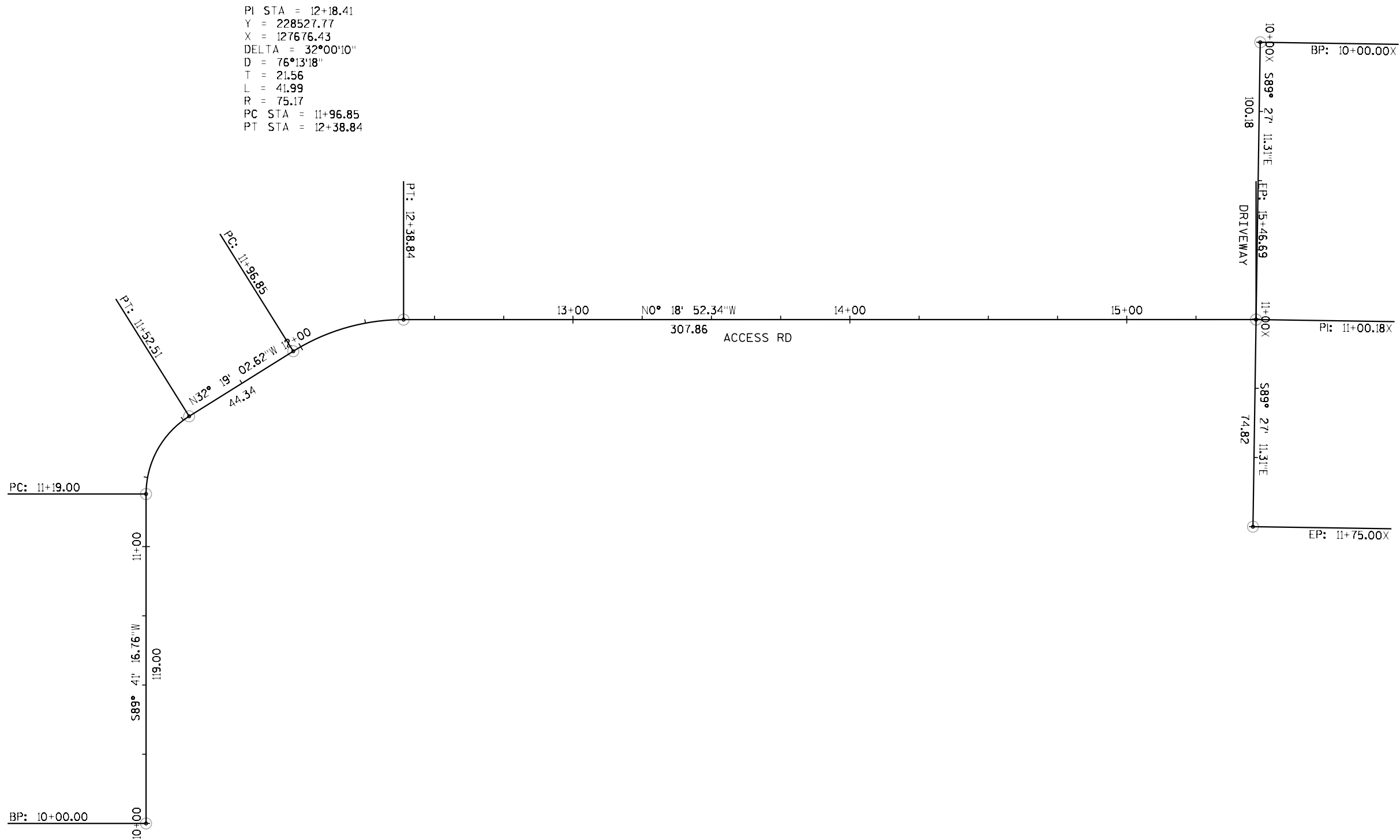
WB-6A



WB-6A



PI STA = 11+37.35
Y = 228456.58
X = 127721.47
DELTA = 57°59'41"
D = 173°04'00"
T = 18.35
L = 33.51
R = 33.11
PC STA = 11+19.00
PT STA = 11+52.51



DATE 24JUN13		E S T I M A T E O F Q U A N T I T I E S			
LINE				6350-06-89	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	204.0110	REMOVING ASPHALTIC SURFACE	SY	60.000	60.000
0020	205.0100	EXCAVATION COMMON	CY	175.000	175.000
0030	208.1100	SELECT BORROW	CY	7,927.000	7,927.000
0040	213.0100	FINISHING ROADWAY (PROJECT) 01.	EACH	1.000	1.000
		6350-06-89			
0050	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	140.000	140.000
0060	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	2,150.000	2,150.000
0070	455.0105	ASPHALTIC MATERIAL PG58-28	TON	50.300	50.300
0080	455.0605	TACK COAT	GAL	102.000	102.000
0090	460.1130	HMA PAVEMENT TYPE E-30	TON	915.000	915.000
0100	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	590.000	590.000
0110	520.0124	CULVERT PIPE CLASS III 24-INCH	LF	202.000	202.000
0120	520.1024	APRON ENDWALLS FOR CULVERT PIPE 24-INCH	EACH	4.000	4.000
0130	602.0415	CONCRETE SIDEWALK 6-INCH	SF	105.000	105.000
0140	616.0352.S	GATES WOOD DOUBLE LEAF (LENGTH) 01.	EACH	1.000	1.000
		28-FT			
0150	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS	EACH	1.000	1.000
		(PROJECT) 01. 6350-06-89			
0160	619.1000	MOBILIZATION	EACH	1.000	1.000
0170	625.0500	SALVAGED TOPSOIL	SY	3,550.000	3,550.000
0180	627.0200	MULCHING	SY	3,550.000	3,550.000
0190	628.1504	SILT FENCE	LF	1,225.000	1,225.000
0200	628.1520	SILT FENCE MAINTENANCE	LF	1,225.000	1,225.000
0210	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0220	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0230	628.2004	EROSION MAT CLASS I TYPE B	SY	65.000	65.000
0240	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	65.000	65.000
0250	628.2039	EROSION MAT CLASS III TYPE D	SY	40.000	40.000
0260	628.7555	CULVERT PIPE CHECKS	EACH	5.000	5.000
0270	628.7570	ROCK BAGS	EACH	20.000	20.000
0280	629.0210	FERTILIZER TYPE B	CWT	2.000	2.000
0290	630.0120	SEEDING MIXTURE NO. 20	LB	95.000	95.000
0300	630.0200	SEEDING TEMPORARY	LB	50.000	50.000
0310	633.5200	MARKERS CULVERT END	EACH	4.000	4.000
0320	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0330	643.0100	TRAFFIC CONTROL (PROJECT) 01. 6350-06-89	EACH	1.000	1.000
0340	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	60.000	60.000
0350	643.0900	TRAFFIC CONTROL SIGNS	DAY	90.000	90.000
0360	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	676.000	676.000
0370	650.5000	CONSTRUCTION STAKING BASE	LF	676.000	676.000
0380	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	2.000	2.000
0390	650.8500	CONSTRUCTION STAKING ELECTRICAL	LS	1.000	1.000
		INSTALLATIONS (PROJECT) 01. 6350-06-89			
0400	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	676.000	676.000
0410	652.0210	CONDUIT RIGID NONMETALLIC SCHEDULE 40	LF	420.000	420.000
		1-INCH			
0420	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40	LF	136.000	136.000
		2-INCH			
0430	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	1.000	1.000
0440	654.0105	CONCRETE BASES TYPE 5	EACH	2.000	2.000
0450	655.0610	ELECTRICAL WIRE LIGHTING 12 AWG	LF	2,739.000	2,739.000
0460	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH	EACH	2.000	2.000
		BOLT CIRCLE			
0470	657.0322	POLES TYPE 5-ALUMINUM	EACH	2.000	2.000

DATE 24JUN13			E S T I M A T E O F Q U A N T I T I E S		
LINE					6350-06-89
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0480	657.0710	LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH	EACH	2.000	2.000
		CLAMP 12-FT			
0490	659.0125	LUMINAIRES UTILITY HPS 250 WATTS	EACH	2.000	2.000
0500	690.0150	SAWING ASPHALT	LF	24.000	24.000
0510	SPV.0105	SPECIAL 01. WOODEN SALT STORAGE BUILDING	LS	1.000	1.000
0520	SPV.0105	SPECIAL 02. COMMERCIAL STORAGE GARAGE	LS	1.000	1.000
0530	SPV.0105	SPECIAL 03. ELECTRICIAL WORK IN STORAGE	LS	1.000	1.000
		STRUCTURES			

EXCAVATION SUMMARY

Division	Station To Station	Location	205.0100		Available Material (5)	Reduced EBS in Fill (9) Factor	Expanded EBS Backfill (11) Factor	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	208.1100 SELECT BORROW CY
			COMMON EXCAVATION (1) CY	EBS EXCAVATION (3) CY							
Division 1						0.80	1.30		1.25		
ERWK-AccessRd.xml	10+00/15+45	ACCESS RD	34	0	34	0	0	6,344	7,929	-7,895	-7,895
Division 1 Subtotal			34	0	34	0	0	6,344	7,929	-7,895	-7,895
Division 2											
ERWK-Driveway.xml	10+00/11+60	DRIVEWAY	40	100	40	80	130	162	203	-32	-32
Division 2 Subtotal			40	100	40	80	130	162	203	-32	-32
Grand Total			75	100	75	80	130	6,506	8,132	-7,927	-7,927
Total Common Exc			175								

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 9) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
- 11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100
- 13) Expanded Fill. Factor = 1.25
- Depending on selections:
- Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

REMOVING ASPHALTIC SURFACE 204.0110 STATION - STATION LOCATION SY 11+35X - 11+60X DRIVEWAY 60 TOTAL 60	TACK COAT 455.0605 STATION - STATION LOCATION GAL 10+00 - 12+39 LOT 50 12+39 - 15+35 ACCESS RD 26 10+20 X - 11+60 X DRIVEWAY 10 SALT SHED/GARAGE/ASPH PAD 16 TOTAL 102	HMA PAVEMENT TYPE E-30 460.1130 455.0105 PAVEMENT MATERIAL TYPE E-30 PG58-28 STATION - STATION LOCATION TON TON 10+00 - 12+39 LOT 457 25.1 12+39 - 15+35 ACCESS RD 238 13.1 10+20 X - 11+60 X DRIVEWAY 87 4.8 SALT SHED/GARAGE/ASPH PAD 133 7.3 TOTALS 915 50.3	ACCESS ROAD CROSSDRAINS 520.0124 520.1024 CULVERT AEW PIPE FOR CLASS III CP MINIMUM 24-INCH 24-INCH THICKNESS STATION LOCATION LF EACH INCHES 12+49 CROSSDRAIN 158 2 0.064 14+90 CROSSDRAIN 44 2 0.064 TOTALS 202 4
BASE AGGREGATE DENSE 305.0110 305.0120 3/4-INCH 1 1/4-INCH STATION - STATION LOCATION TON TON 10+00 - 12+39 LOT 50 1009 12+39 - 15+35 ACCESS RD 70 660 10+20 X - 11+60 X DRIVEWAY 20 225 SALT SHED/GARAGE/ASPH PAD --- 256 TOTALS 140 2150			CONCRETE SIDEWALK 6-INCH 602.0415 STATION - STATION LOCATION SF 11+81 - 12+00 ACCESS RD 105 TOTAL 105

SALVAGED TOPSOIL, MULCHING, FERTILIZER, AND SEEDING

STATION - STATION	LOCATION	625.0150	627.0200	629.0210	630.0120	630.0200
		SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB
10+00 - 15+35	ACCESS RD (LT)	2201	2201	1.30	59	30
10+00 - 15+35	ACCESS RD (RT)	860	860	0.50	23	12
10+20 X - 11+60 X	DRIVEWAY (LT)	112	112	0.05	3	2
10+20 X - 11+60 X	DRIVEWAY (RT)	50	50	0.05	1	1
UNDISTRIBUTED		327	327	0.05	8	6
TOTALS		3550	3550	2.0	95	50

TRAFFIC CONTROL BARRICADES TYPE III

LOCATION	SIGN CODE	MESSAGE	NUMBER REQUIRED	DAYS NEEDED	643.0420 DAYS
DRIVEWAY	R11-2	ROAD CLOSED	2	30	60
TOTAL					60

EROSION CONTROL ITEMS

STATION	LOCATION	EROSION MAT						628.7555
		628.1504	628.1520	628.2004	628.2006	628.2039	628.7570	CULVERT
		SILT FENCE LF	SILT FENCE MAINTENANCE LF	CLASS I TYPE B SY	CLASS I URBAN TYPE A SY	CLASS III TYPE D SY	ROCK BAGS EACH	PIPE CHECKS EACH
11+35 - 14+85	LOT/ACCESS RD	440	440	---	---	---	---	---
12+49	ACCESS RD	---	---	25	10	---	---	2
14+90	ACCESS RD	---	---	25	10	---	16	2
10+20 X - 10+70 X	DRIVEWAY (RT)	90	90	---	---	---	---	---
10+20 X - 11+60 X	DRIVEWAY (LT)	200	200	---	---	---	---	---
RETENTION POND		250	250	---	30	30	---	---
UNDISTRIBUTED		245	245	15	15	10	4	1
TOTALS		1225	1225	65	65	40	20	5

TRAFFIC CONTROL SIGNS

LOCATION	SIGN CODE	MESSAGE	NUMBER REQUIRED	DAYS NEEDED	643.0900 DAYS
STH 34/CTH P/CTH HH	W8-6A	TRUCKS ENTERING & LEAVING	1	30	30
STH 34/CTH P/CTH HH	W8-6A	TRUCKS ENTERING & LEAVING	1	30	30
DRIVEWAY	R11-2	ROAD CLOSED	1	30	30
TOTAL					90

GATES WOOD DOUBLE LEAF

STATION	LOCATION	616.0352.S 28-FT EACH
14+95	ACCESS RD	1
TOTAL		1

MARKERS CULVERT END

STATION	LOCATION	633.5200 EACH
12+49	ACCESS RD	2
14+90	ACCESS RD	2
TOTAL		4

CONSTRUCTION STAKING

STATION - STATION	650.4500	650.5000	650.6000	650.9920	REMARKS
	SUBGRADE LF	BASE LF	PIPE CULVERTS EACH	SLOPE STAKES LF	
10+00 - 15+35	535	535	---	535	
12+49	---	---	1	---	CROSSDRAIN
14+90	---	---	1	---	CROSSDRAIN
10+20 X - 11+60 X	141	141	---	141	
TOTALS	676	676	2	676	

3

CONDUIT RIGID NONMETALLIC SCHEDULE 40

FROM ITEM NO.	TO ITEM NO.	652.0210 2-INCH LF	652.0225 2-INCH LF
EXLP-1	LP-1	---	86
EXLP-1	LP-2	---	35
EXCB	PR-1	---	15
PB-1	COMMERCIAL STORAGE GARAGE	180	---
PB-1	WOODEN SALT STORAGE BUILDING	240	---
		420	136

ELECTRICAL WIRE LIGHTING

EQUIPMENT LOCATION		655.0610 * ELECTRICAL WIRE LIGHTING	
FROM	TO	12 AWG LF	12 AWG (GROUND) LF
EXLP-1	LP-1	190	95
EXLP-1	LP-2	238	119
EXCB	PR-1	150	75
PB-1	COMMERCIAL STORAGE GARAGE	360	180
PB-1	WOODEN SALT STORAGE BUILDING	720	360
SUB-TOTALS		1658	829
TOTALS		2487	

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

3

PULL BOXES STEEL

STATION	LOCATION	653.0135 24"X36" EACH
PB1	PB-1	1
TOTAL		1

STREET LIGHTING SUMMARY

LUMINAIRE NUMBER	STATION	OFFSET	654.0105	655.0610 *		657.0255		657.0710	
			CONCRETE	ELECTRICIAL WIRE		TRANSFORMER	657.0322	LUMINAIRE	659.0125
			BASES	LIGHTING (POLE LUMINAIRE)		BASES	POLES	ARMS TRUSS	LUMINAIRES
			TYPE 5	<u>12 AWG 12 AWG (GROUND)</u>		BREAKAWAY	TYPE 5	TYPE 4-1/2 INCH	UTILITY HPS
			EACH	LF	LF	11 1/2-INCH BOLT CIRCLE	ALUMINUM	CLAMP 12-FT	250 WATTS
					EACH	EACH	EACH	EACH	
LP-1	14+97	18.53' RT	1	84	42	1	1	1	1
LP-2	13+60	18.50' RT	1	84	42	1	1	1	1
SUB-TOTALS			2	168	84	2	2	2	2
TOTALS			2	252		2	2	2	2

* ADDITIONAL QUANTITY SHOWN ELSEWHERE

SAWING ASPHALT

STATION	LOCATION	690.0100 LF
11+60 X	DRIVEWAY	24
TOTAL		24

WISDOT PLAT NO: 6350-06-29

MARSHFIELD - STEVENS POINT
(SALT SHED AT STH 34 NORTH INTERCHANGE)
RELOCATION ORDER USH 10, PORTAGE COUNTY

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

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

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

PART OF THE FRACTIONAL S 1/2-NW 1/4 OF SECTION 6, T 24 N, R 7 E,
TOWN OF CARSON, PORTAGE COUNTY, WISCONSIN

HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095,
WISCONSIN STATUTES. THIS PLAT IS APPROVED FOR THE WISCONSIN DEPARTMENT
OF TRANSPORTATION.

DATE: 9-6-12

Brent L. Stella
BRENT L. STELLA
REAL ESTATE SUPERVISOR

THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF:
DATE: 9-6-12

John S. Kedrowski
JOHN S. KEDROWSKI

0.86 ACRES OF EXCESS LAND SOLD TO
KEVIN E. GRUBER AND EDWARD J.
GRUBER BY O.C.D. DATED 6-26-07
RECORDED ON 07-09-07 AS
DOC. NO. 705882

12.16 ACRES OF EXCESS LAND SOLD TO
KEVIN E. GRUBER AND EDWARD J.
GRUBER BY O.C.D. DATED 07-18-07
RECORDED ON 07-24-07
AS DOC NO. 706492

SCHEDULE OF LANDS & INTERESTS REQUIRED

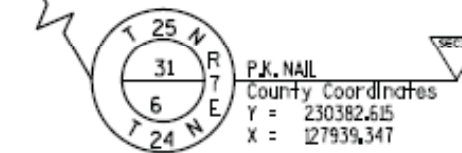
PARCEL NUMBER	OWNER	INTEREST REQUIRED
1	KEVIN E. GRUBER, EDWARD J. GRUBER	HIGHWAY EASEMENT
UTILITY NUMBER		
250	KOCH REFINING CO.	RELEASE OF RIGHTS

FRAC S 1/2-NW
SEC 6, T 24 N, R 7 E

DOT acquired under project
6351-00-26 as parcel 234
on April 13, 2007 as Doc. 702147

75' WIDE RIGHT OF WAY GRANT
TO KOCH PIPELINES INC. V. 499, P. 090
ASSIGNED TO KOCH REFINING CO.
V. 540, P. 583-587

EXHIBIT 'A'



CHAIN HE1
List PRW401, 224, T245, HE1-2, PRW401
Description highway easement area
Layer 1
Feature EASE

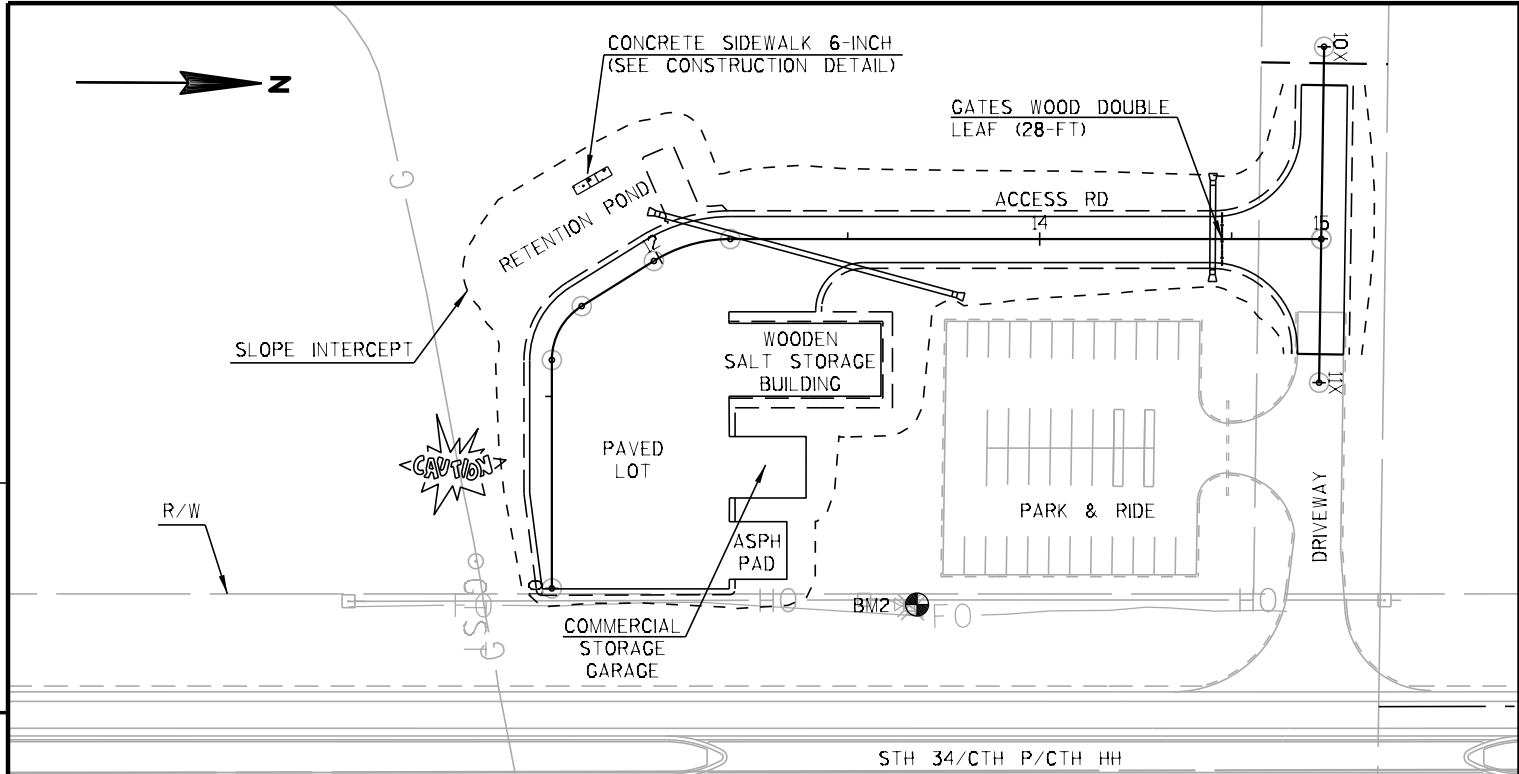
NORTH 1/4 CORNER SEC 6
SEC30 N 230382.615 E 127939.347
Distance 1559.45' Bearing S 0°26'23" E
T251 N 228823.209 E 127951.314
Distance 91.84' Bearing S 89°33'37" W
PRW401 N 228822.504 E 127859.474

PRW401 N 228822.504 E 127859.474
Distance 65.34' Bearing N 0°18'46" W
PRW224 N 228887.847 E 127859.117
Distance 0.66' Bearing N 0°21'27" W
T245 N 228888.510 E 127859.113
Distance 276.05' Bearing N 89°29'13" W
HE1 N 228890.981 E 127583.076
Distance 66.00' Bearing S 0°30'47" W
HE2 N 228824.984 E 127582.485
Distance 277.00' Bearing S 89°29'13" E
PRW401 N 228822.504 E 127859.474

CHAIN AREA 18250.607 sq. ft. 0.419 acres
CHAIN LENGTH 685.06'

NOT DRAWN TO SCALE

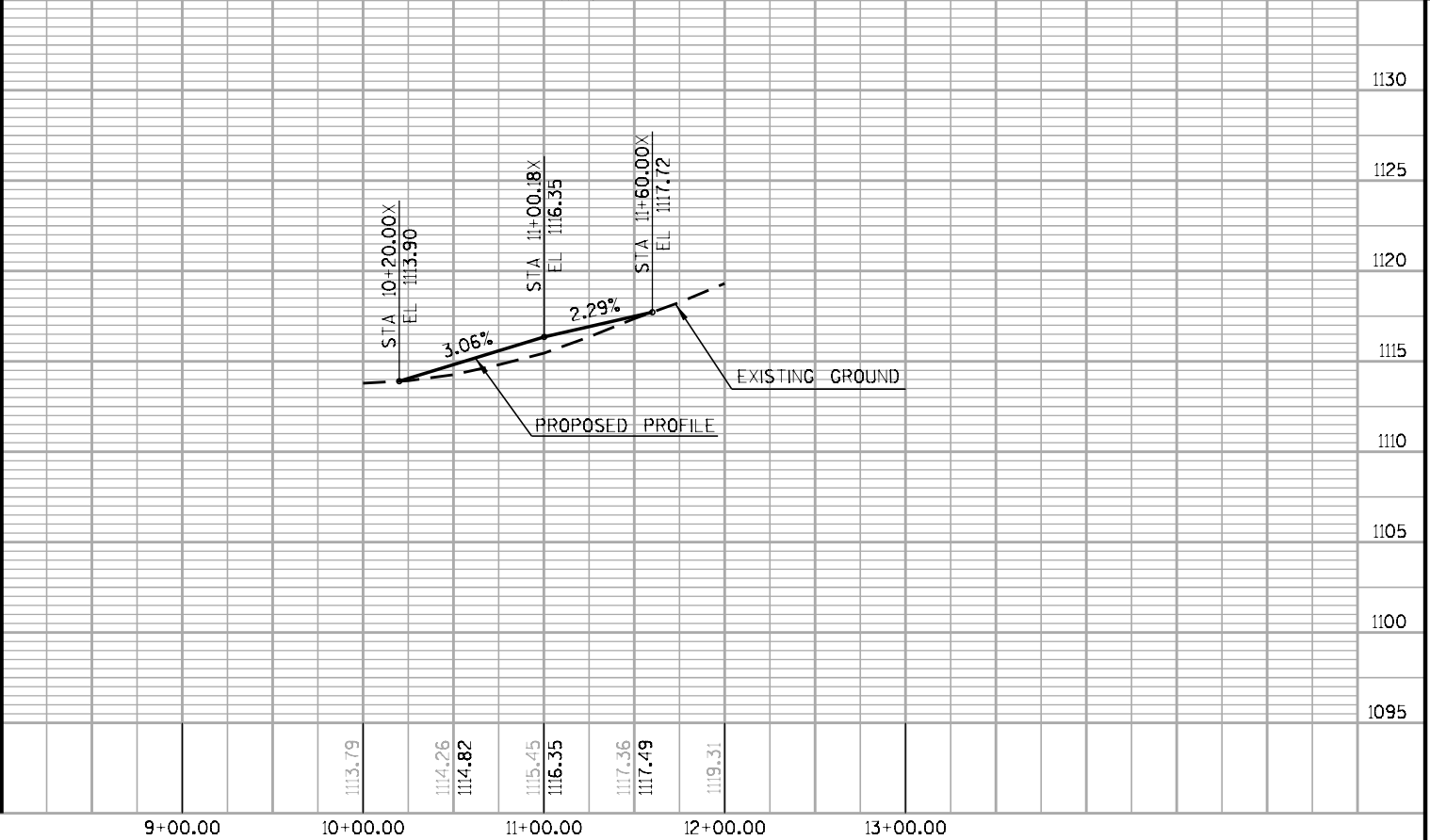
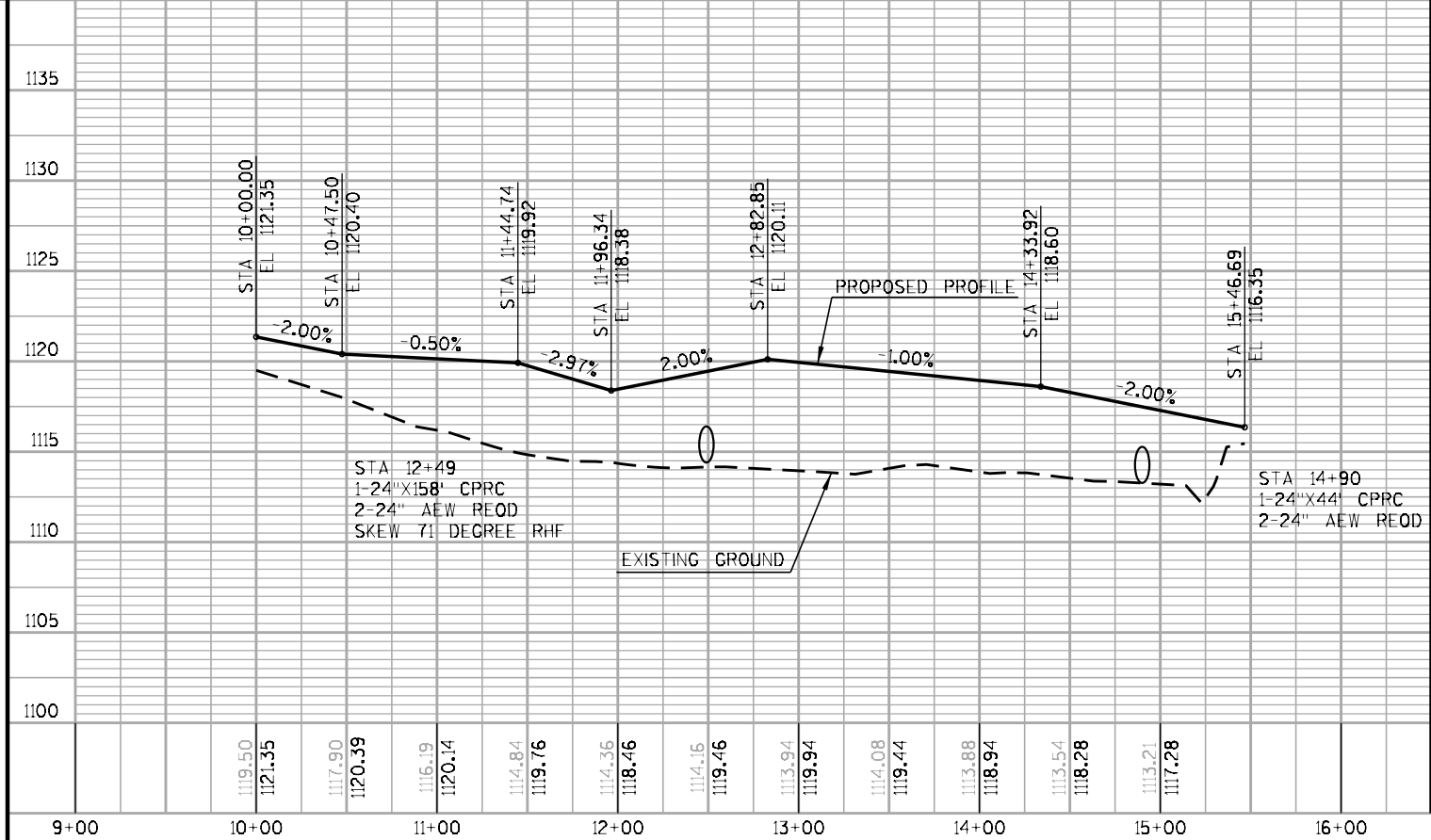
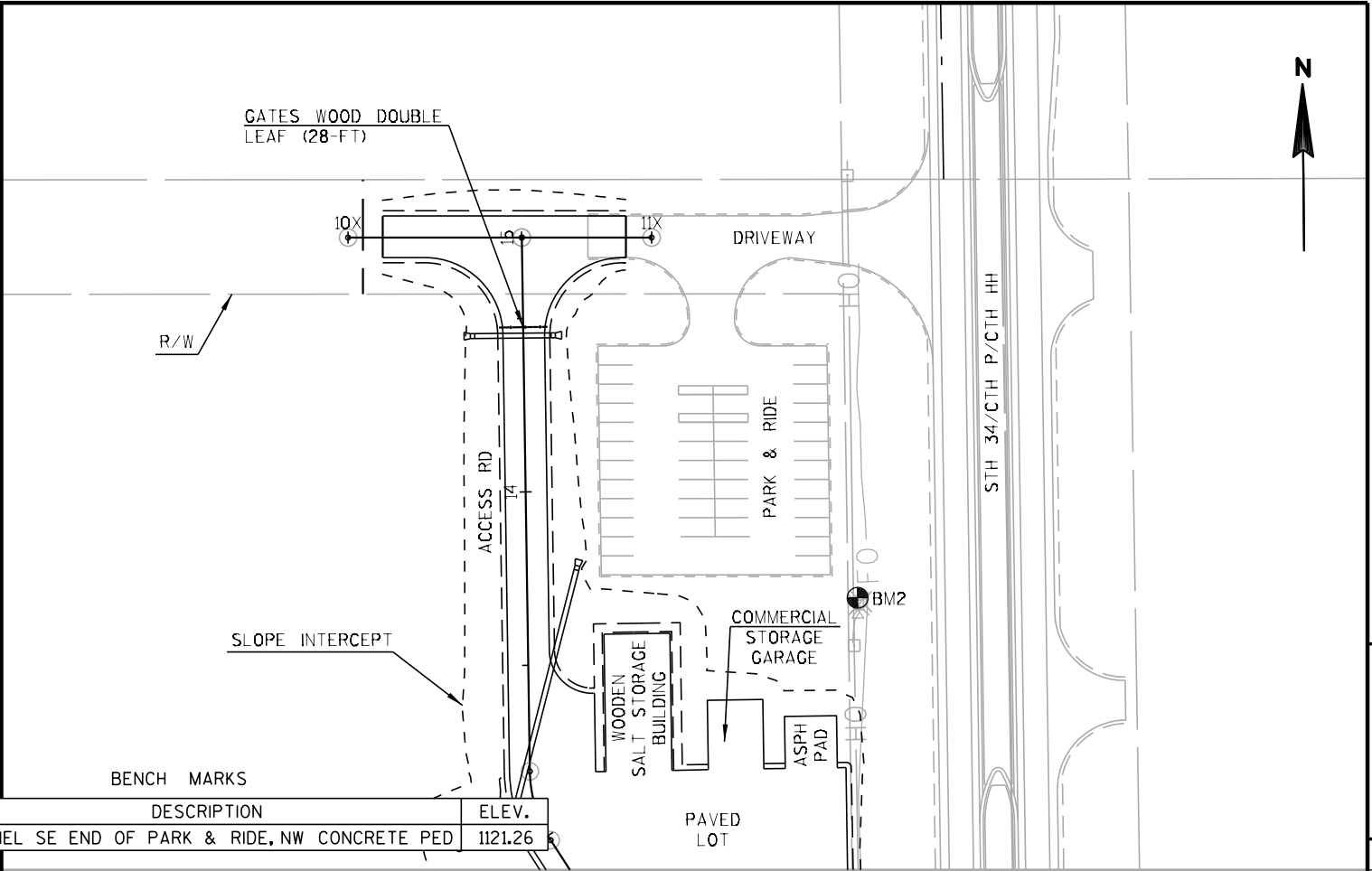
5



MAINLINE CROSSDRAINS									
STATION R/L	STATION BOP	OFFSET	STATION EOP	OFFSET	PIPE SIZE	LENGTH OF PIPE	FLOW LINE ELEVATION		SLOPE FT/FT
12+49	13+55	28.6' RT	12+09	-20.2' LT	24" CPRC	158	EOP (RT)	EOP (LT)	0.0043
14+90	14+90	16' RT	14+90	-28' LT	24" CPRC	44	1114.00	1112.00	0.0455

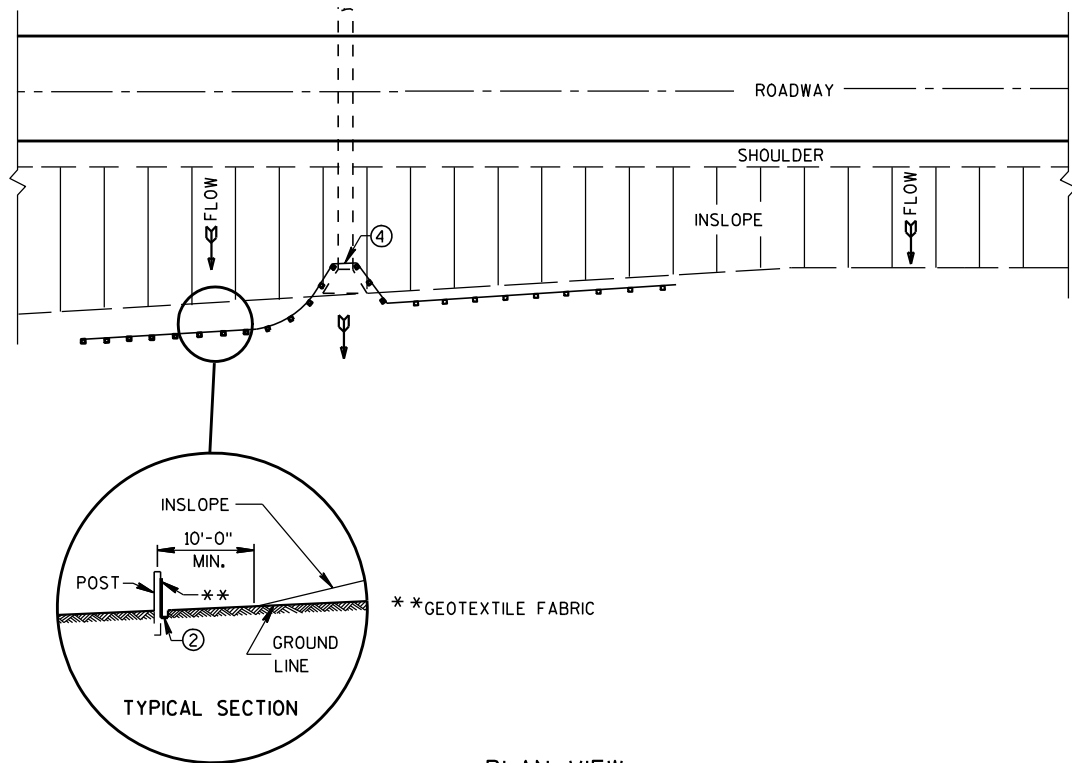
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
BM2	13+36	BLUE KIEL SE END OF PARK & RIDE, NW CONCRETE PED	1121.26

5

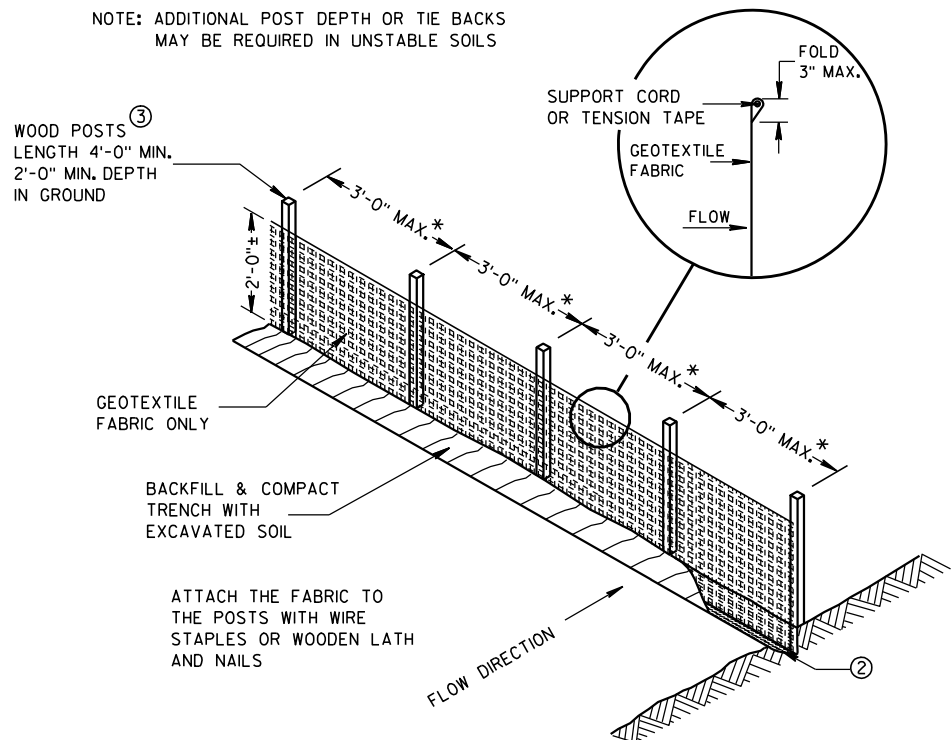


Standard Detail Drawing List

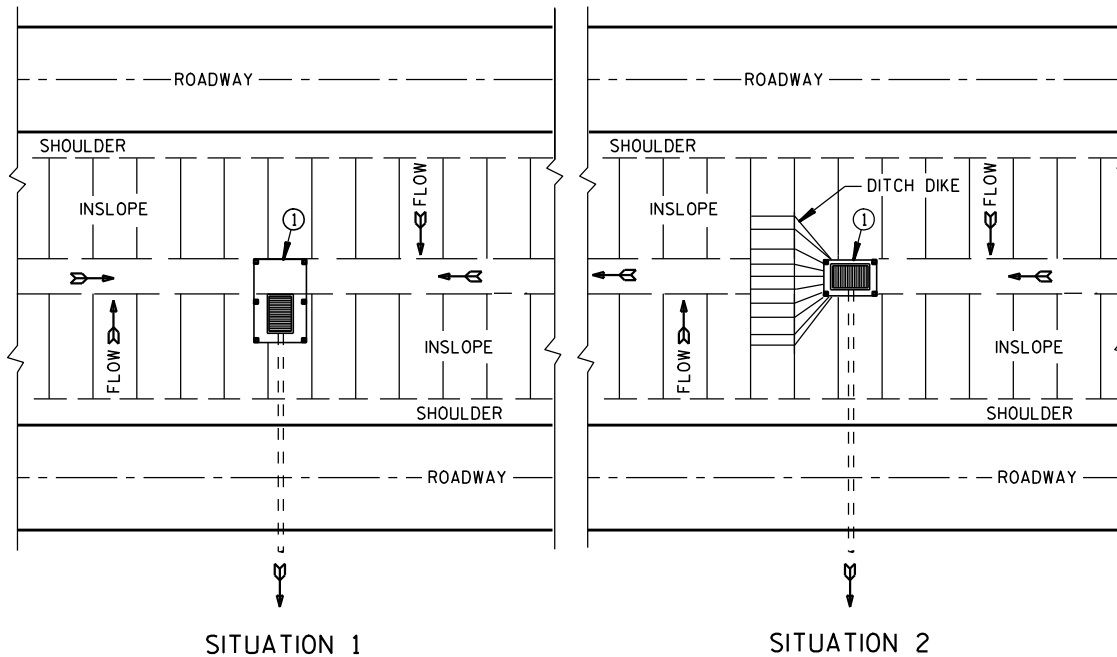
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-07	CONDUIT
09B04-10	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C03-03	TRANSFORMER/PEDESTAL BASES
09E01-12D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B10-01A	WOOD GATE, DOUBLE LEAF
15B10-01B	WOOD GATE, DOUBLE LEAF
15B10-01C	WOOD GATE, DOUBLE LEAF
15B12-01A	PIPE GATE DETAILS
15B12-01B	PIPE GATE DETAILS



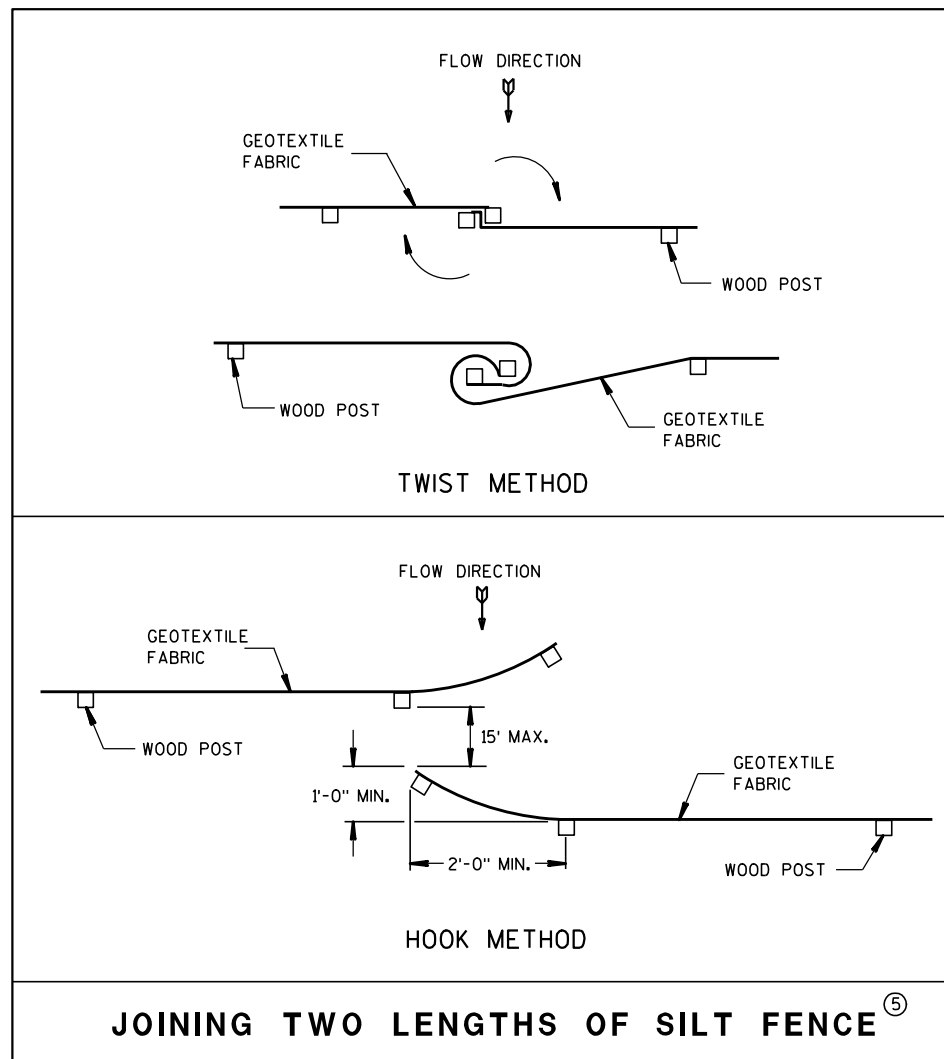
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

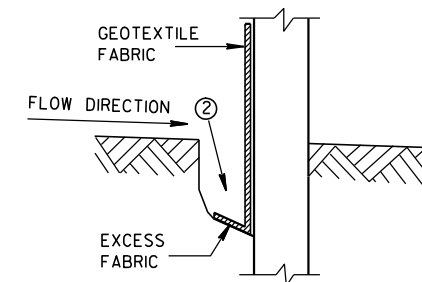


JOINING TWO LENGTHS OF SILT FENCE

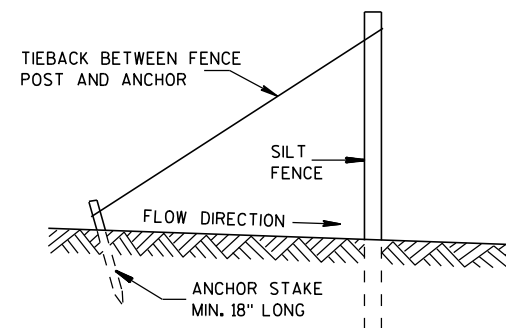
GENERAL NOTES

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

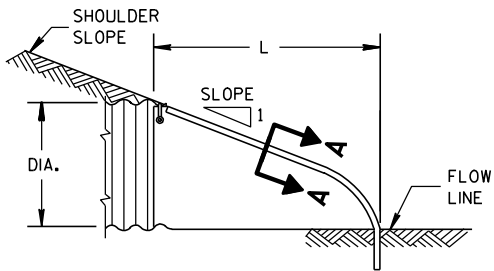
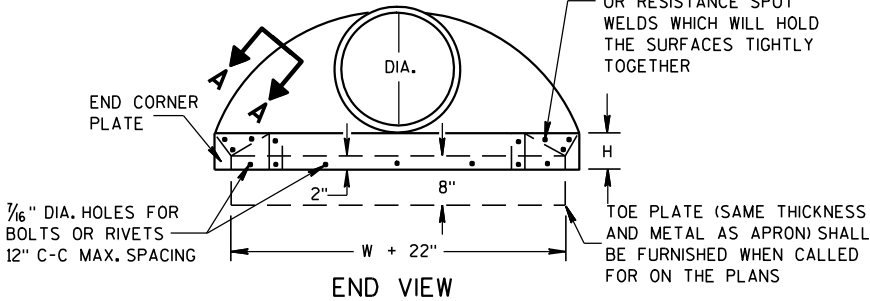
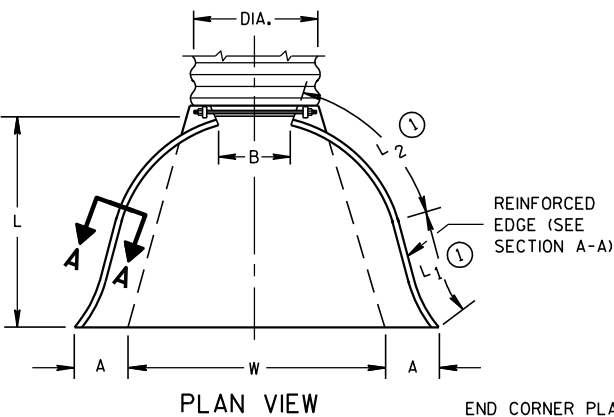


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

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

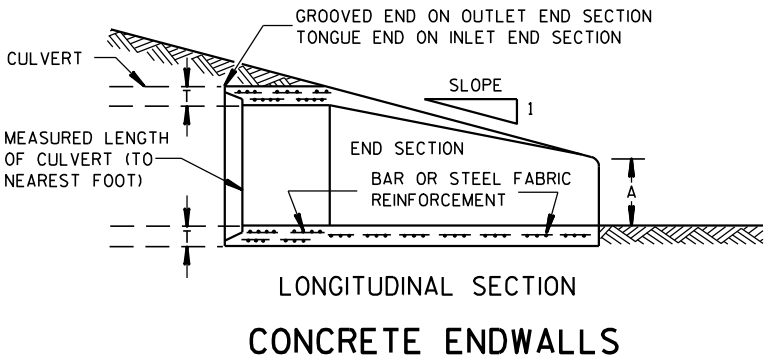
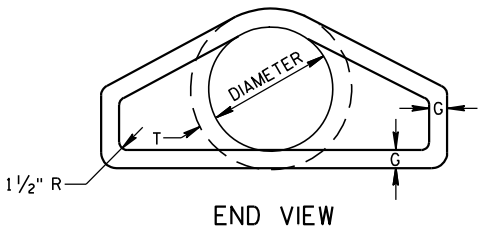
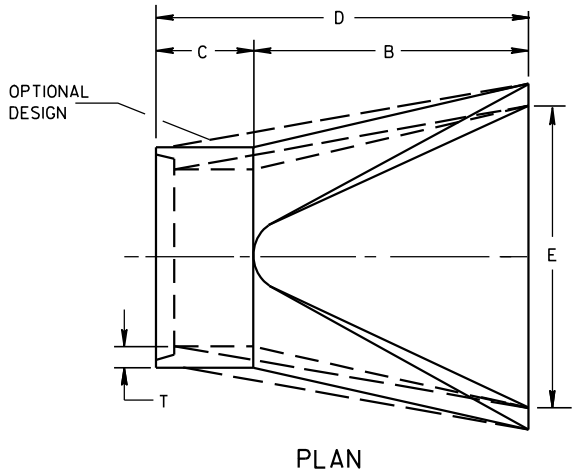
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

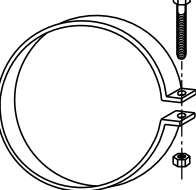
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

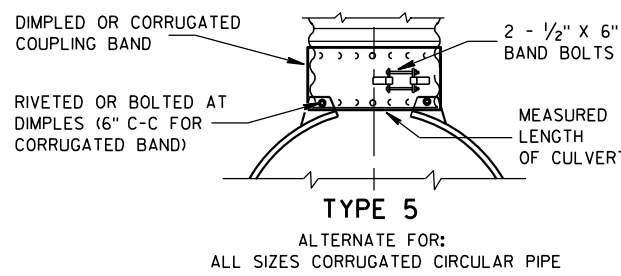
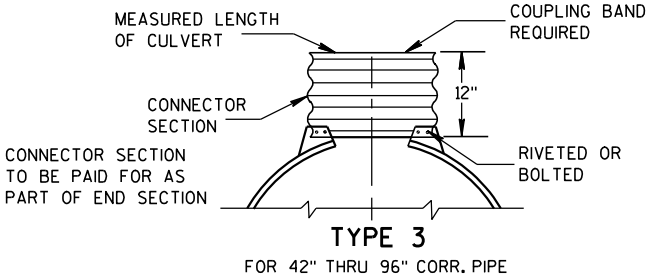
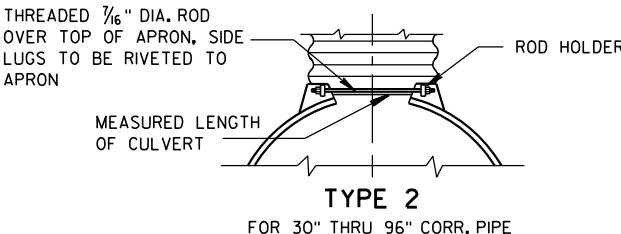
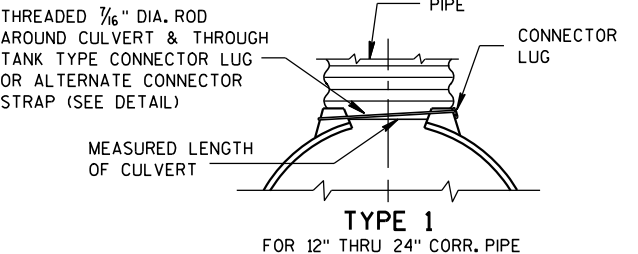


CONCRETE ENDWALLS

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



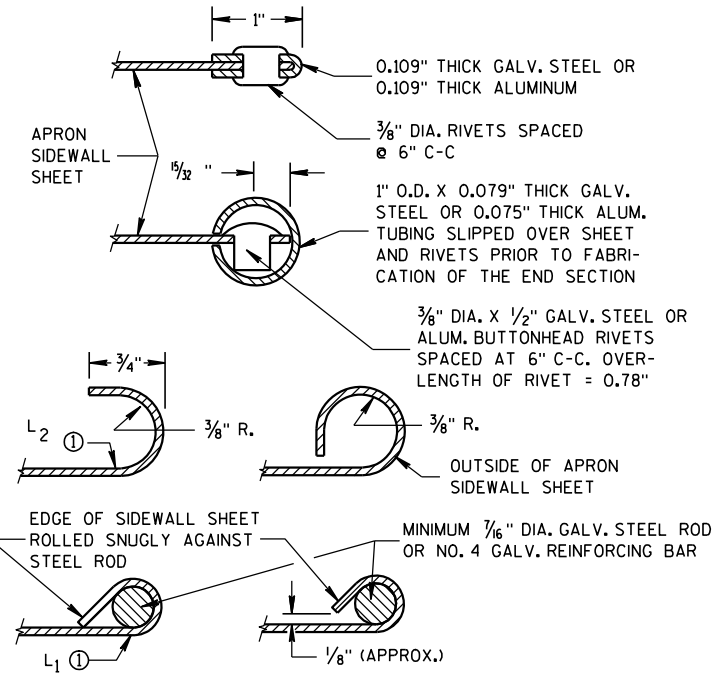
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

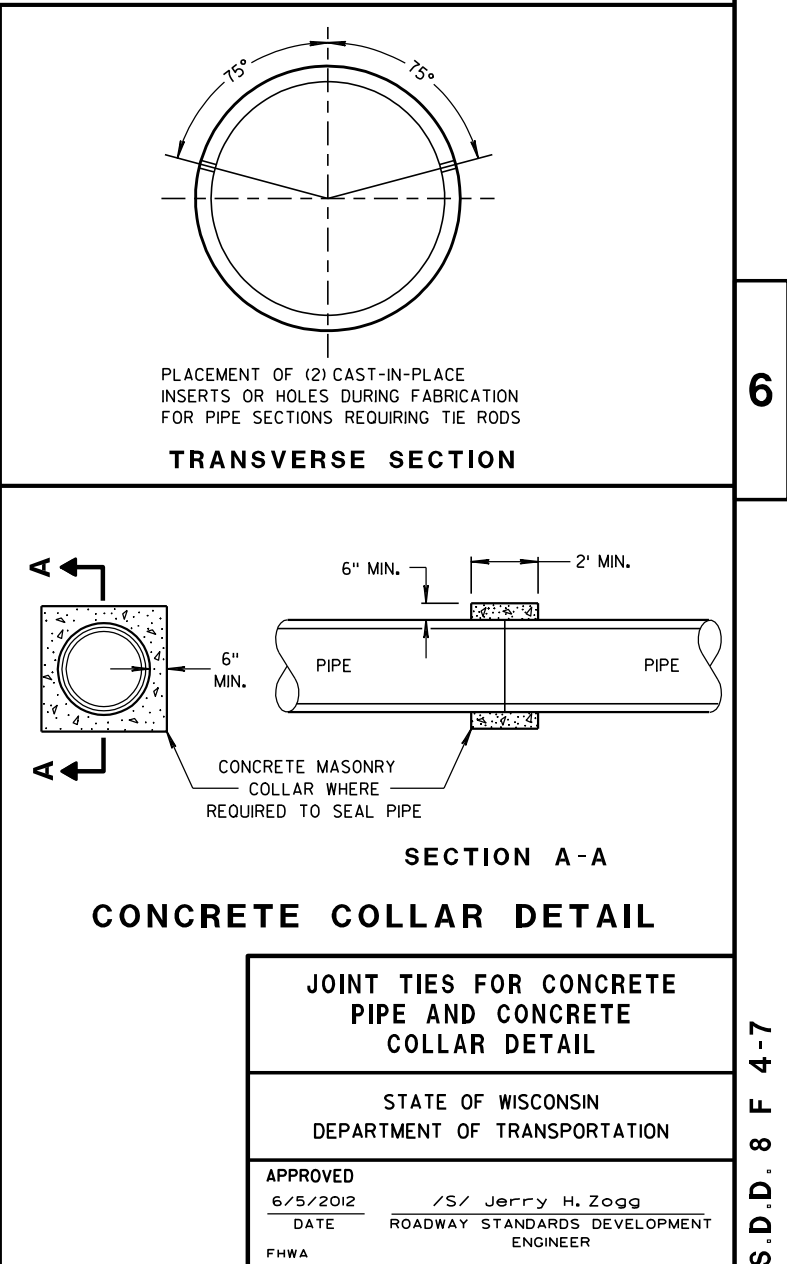
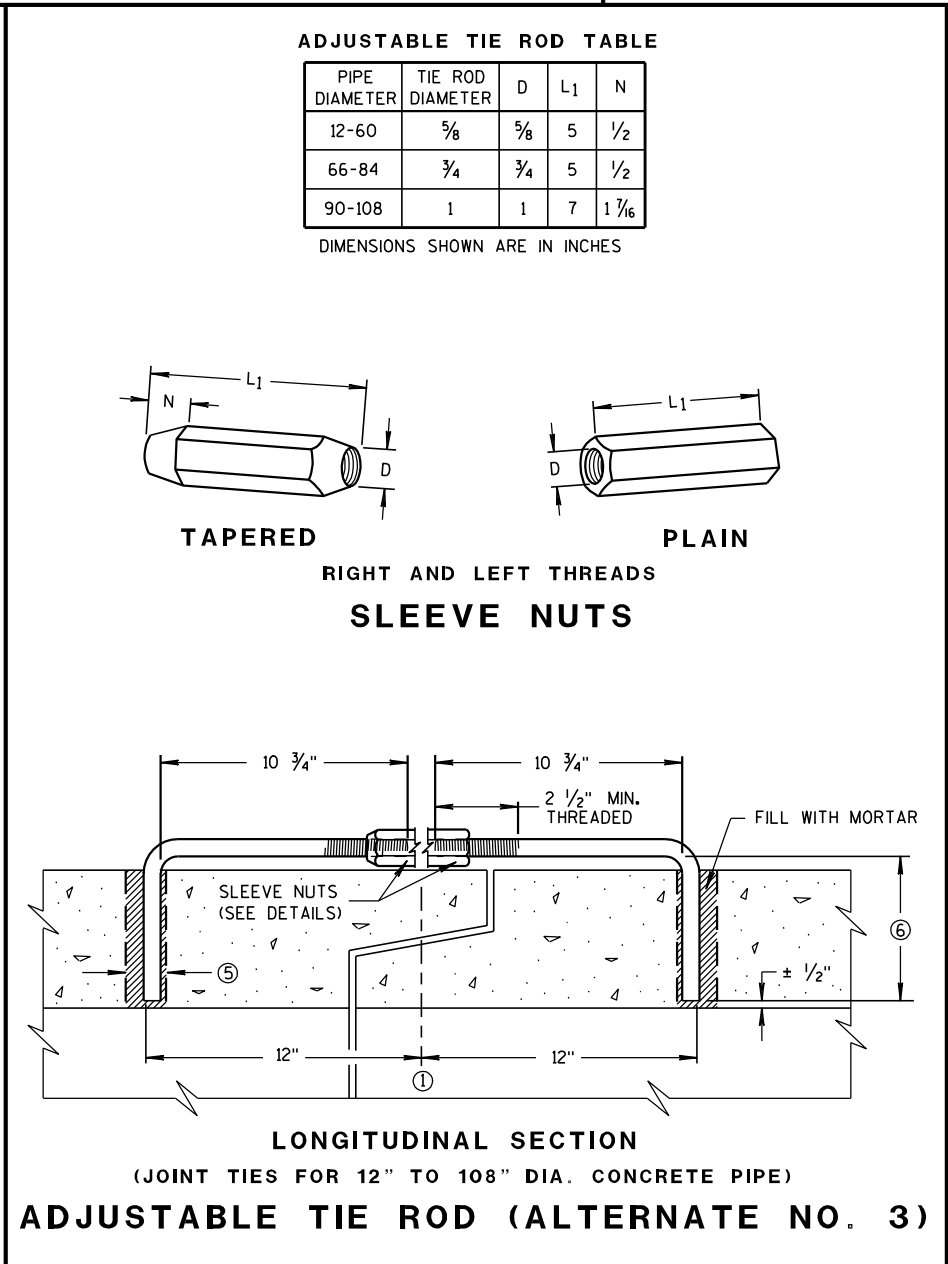
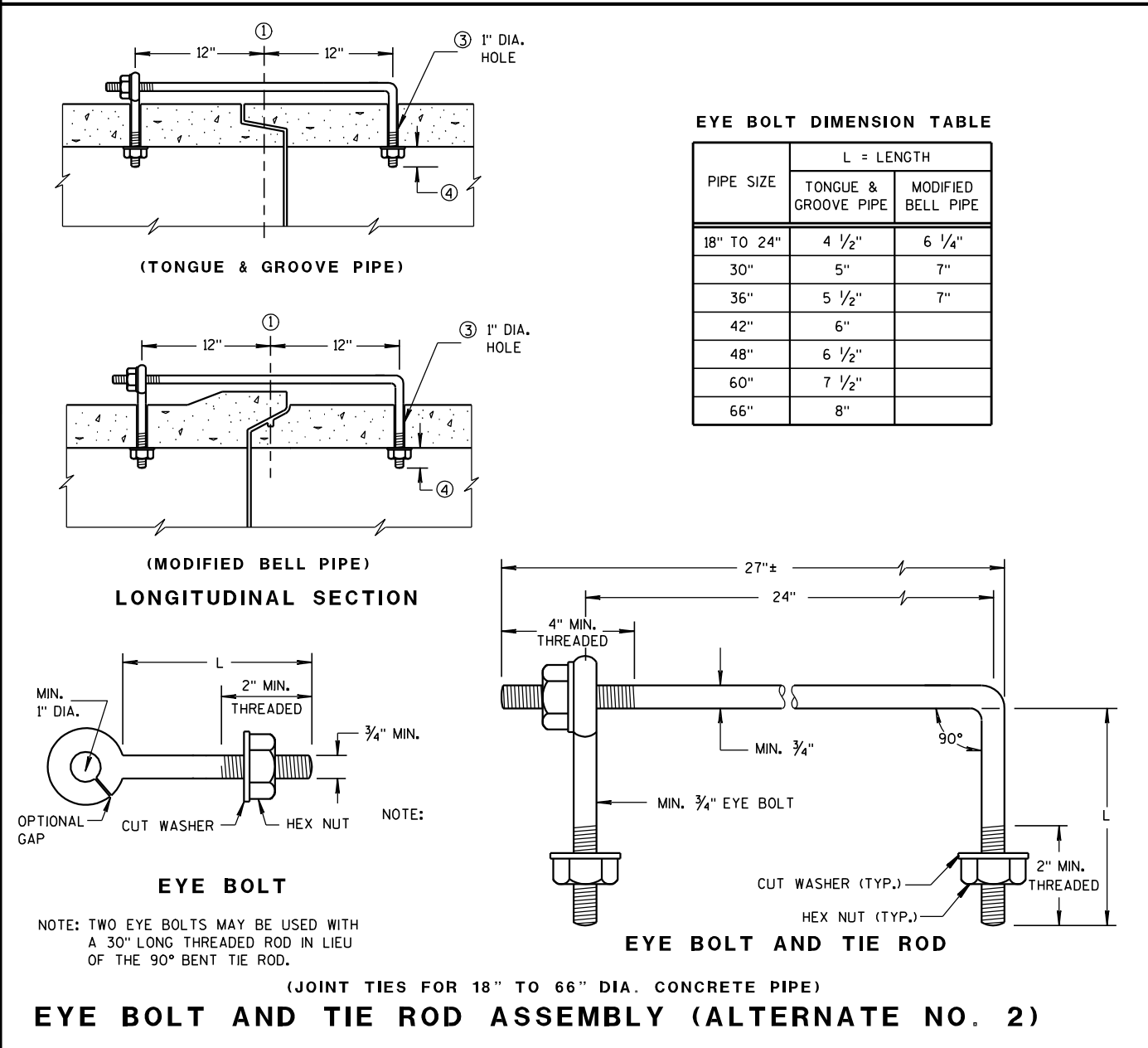
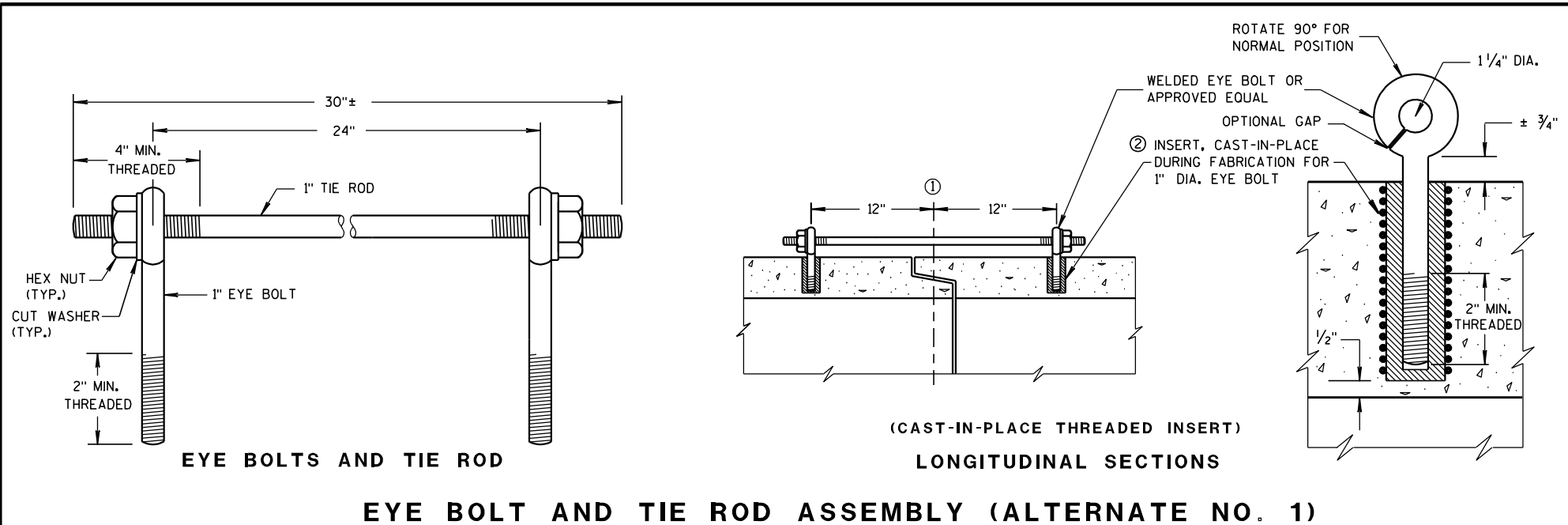
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

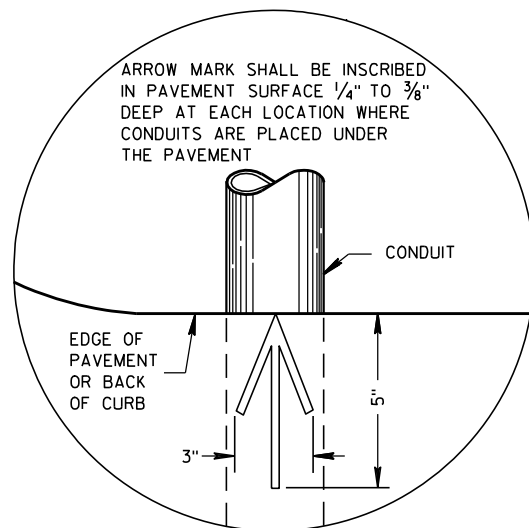
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

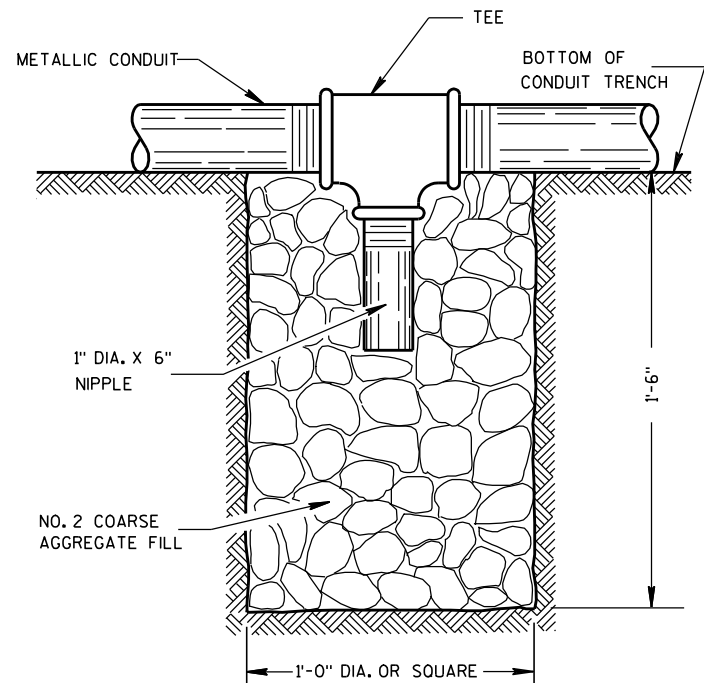
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



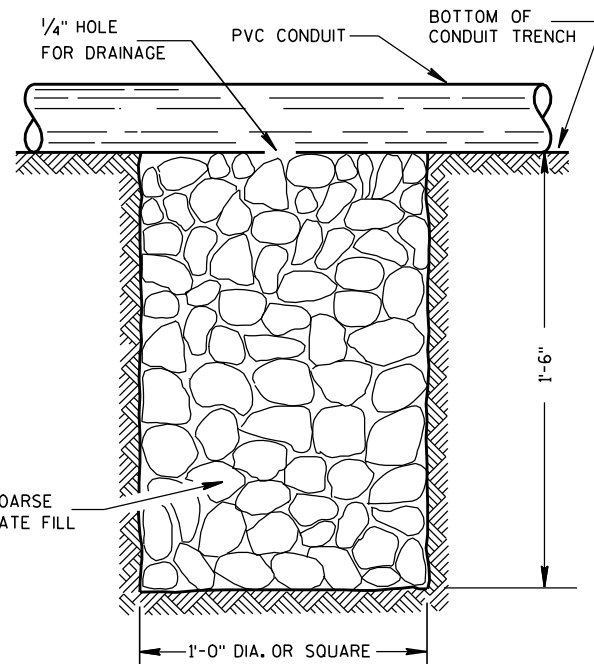


**PLAN VIEW
ARROW MARK**



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSON TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

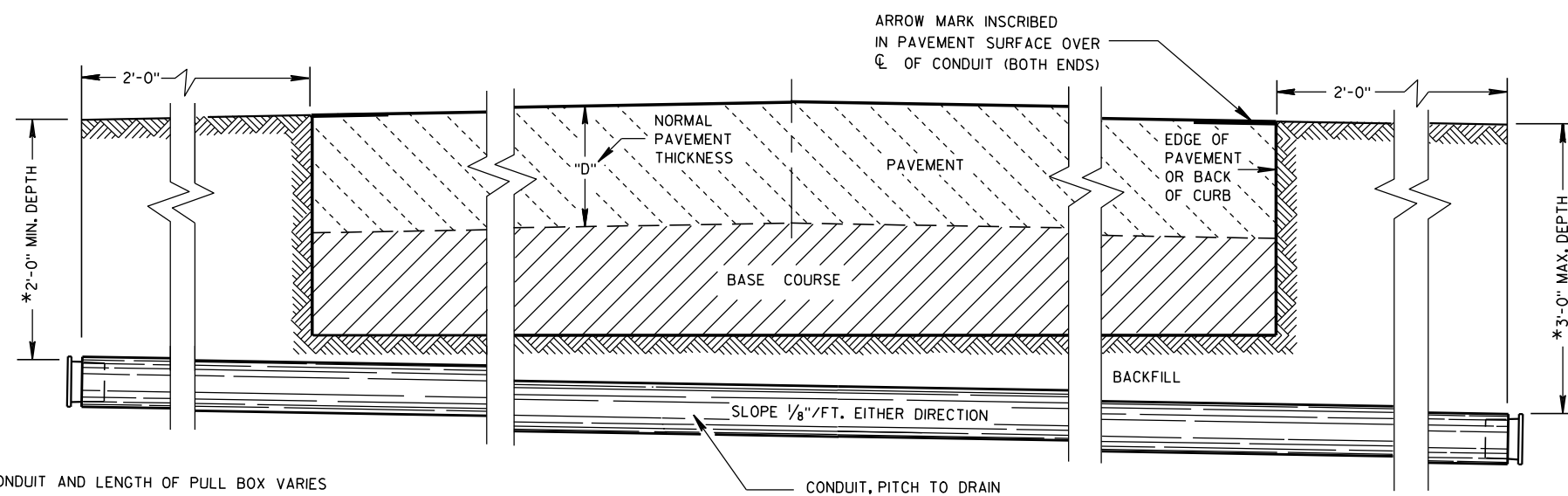
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03

DATE

FHWA

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGINEER FOR HWYS

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

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

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

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

GENERAL NOTES

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

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

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

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

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

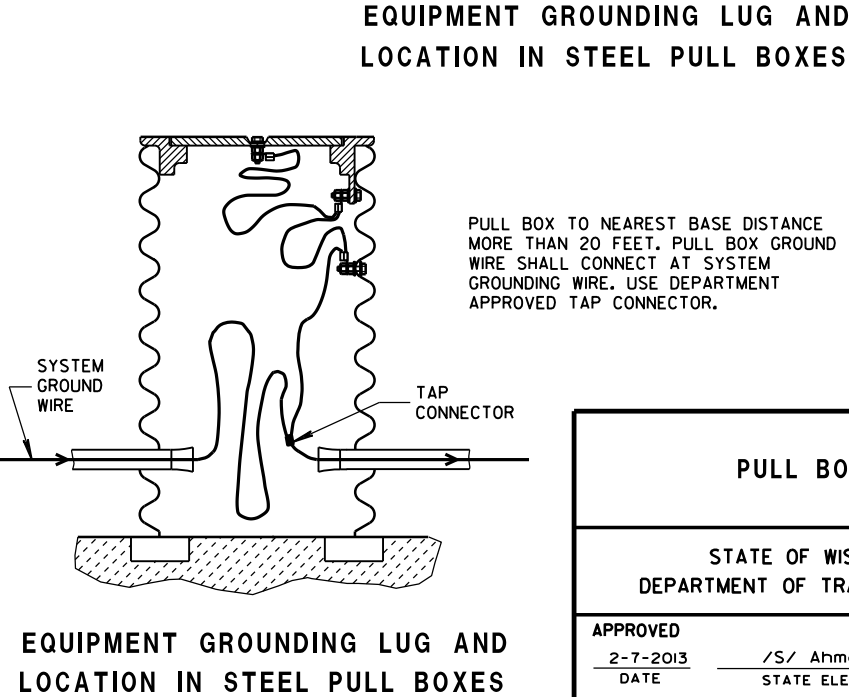
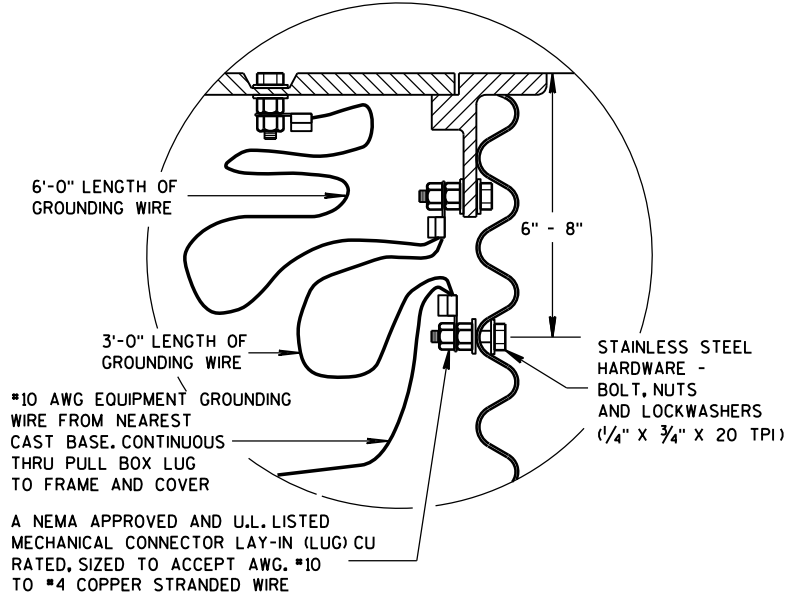
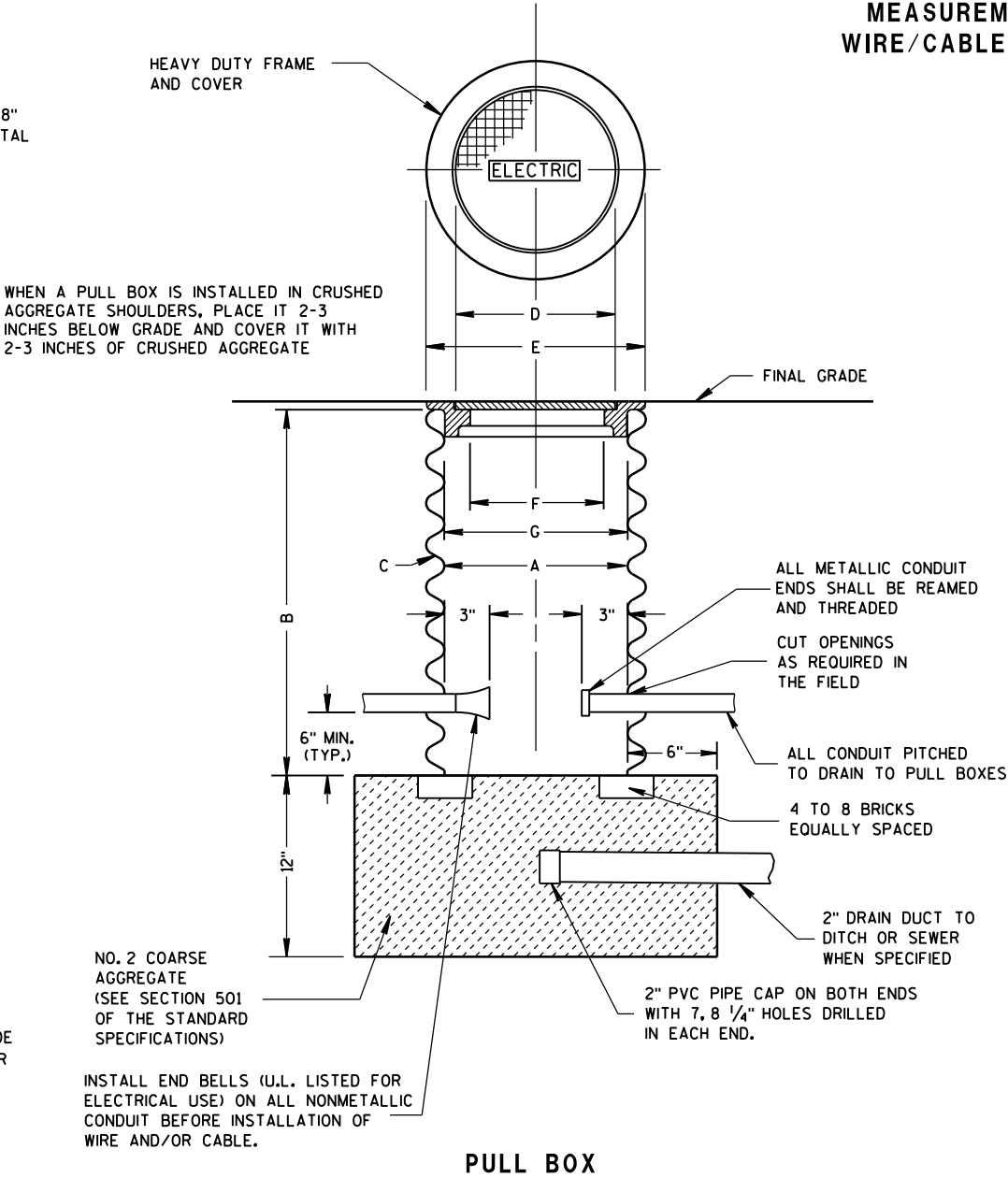
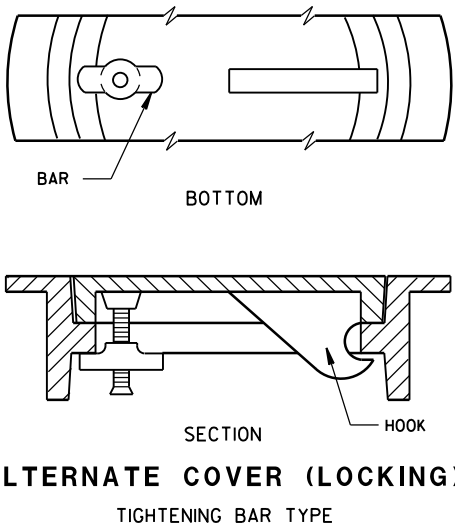
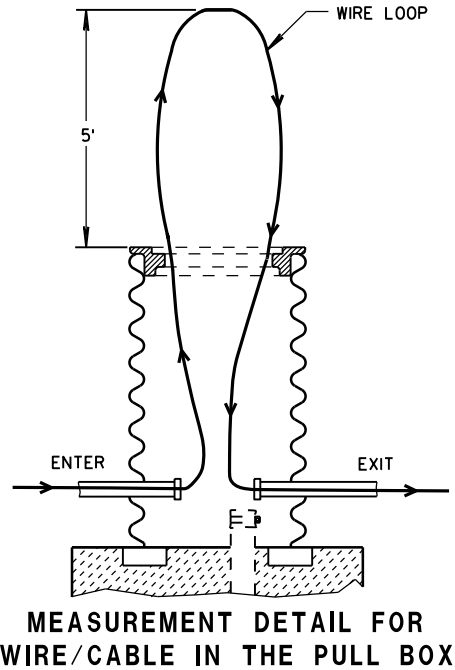
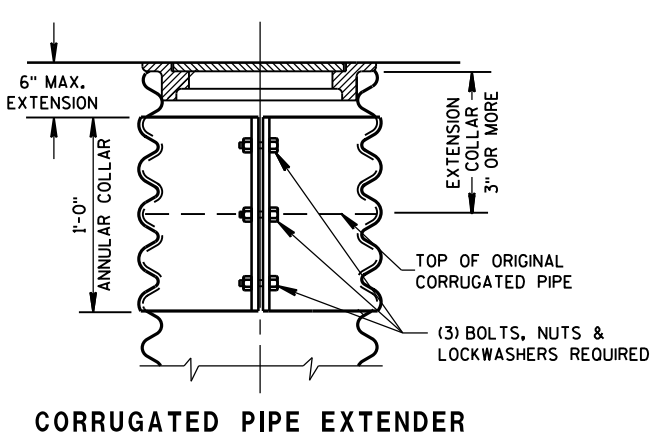
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

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

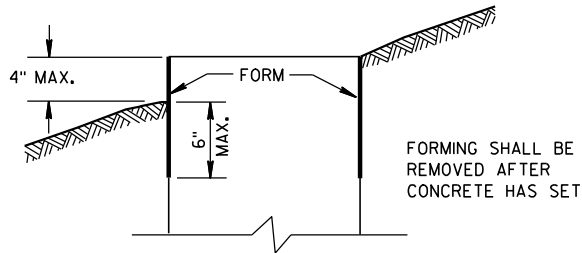
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

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



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-7-2013 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD, ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

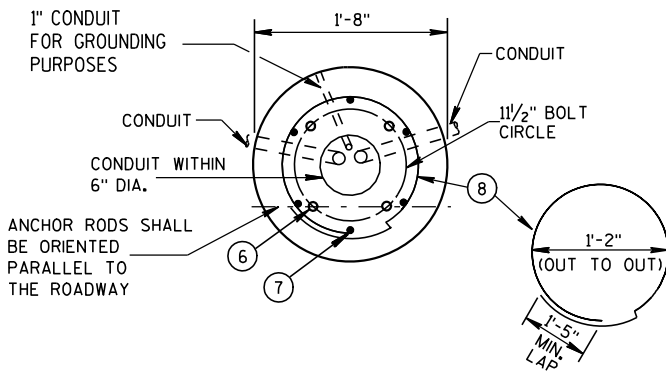
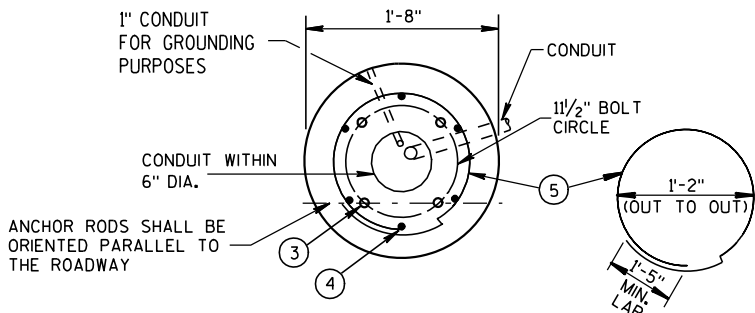
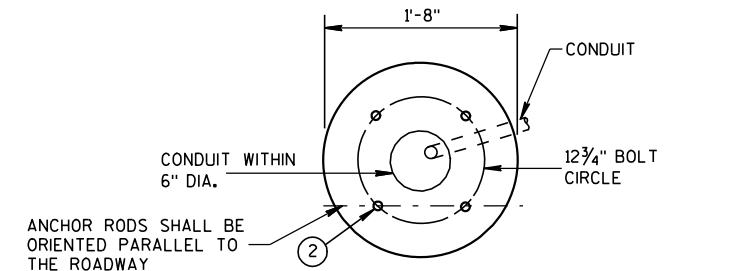
WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

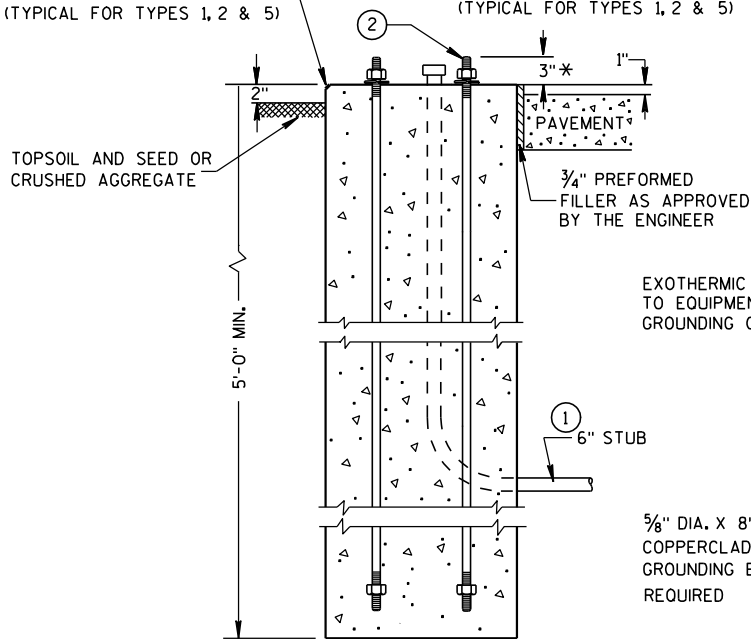
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.
- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
- 4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- 6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



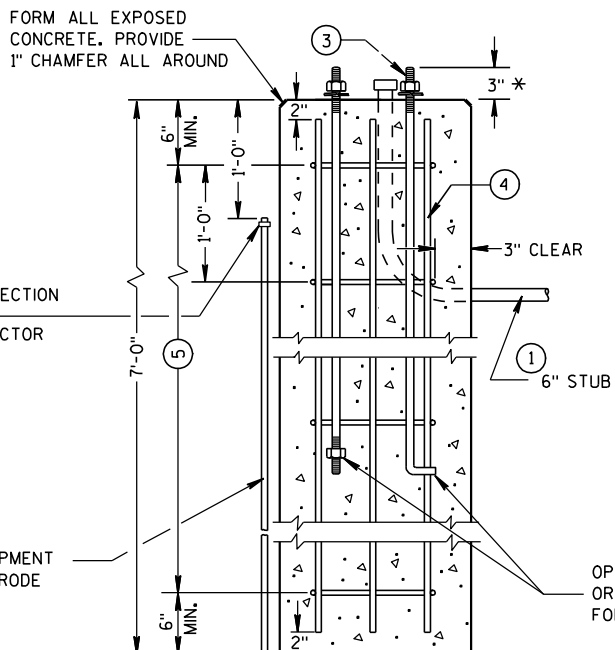
FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2 & 5)

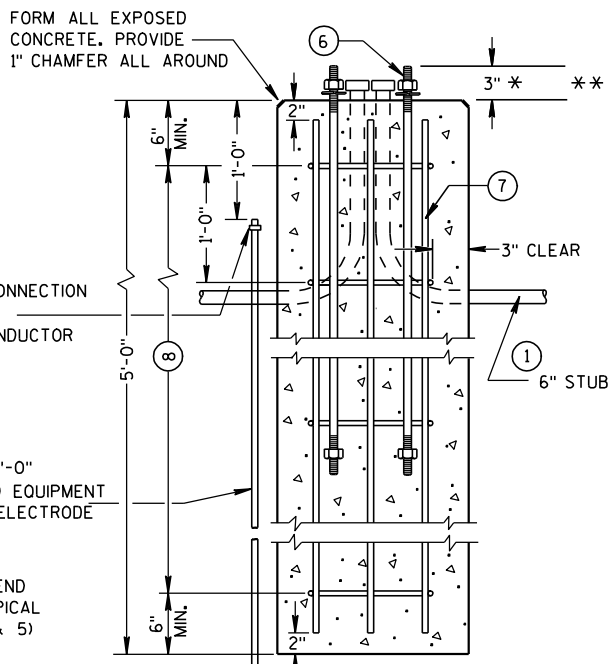
HALF SECTION IN PAVEMENT (TYPICAL FOR TYPES 1, 2 & 5)



TYPE 1



TYPE 2



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/3/10

DATE

FHWA

/S/ Joanna L. Bush
STATE ELECTRICAL ENGINEER FOR HWYS

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-325, (92,000 YIELD) HEAVY HEX NUT AND BE GALVANIZED IN ACCORDANCE WITH ASTM A-153, CLASS C.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED AND U.L. LISTED MECHANICAL CONNECTOR (LUG) AL/CU RATED AND SIZED TO ACCEPT #10 AWG STRANDED WIRE, SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

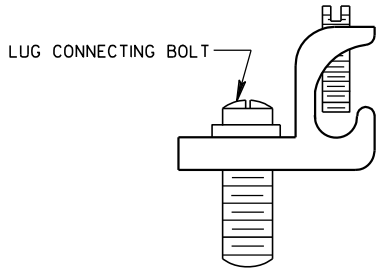
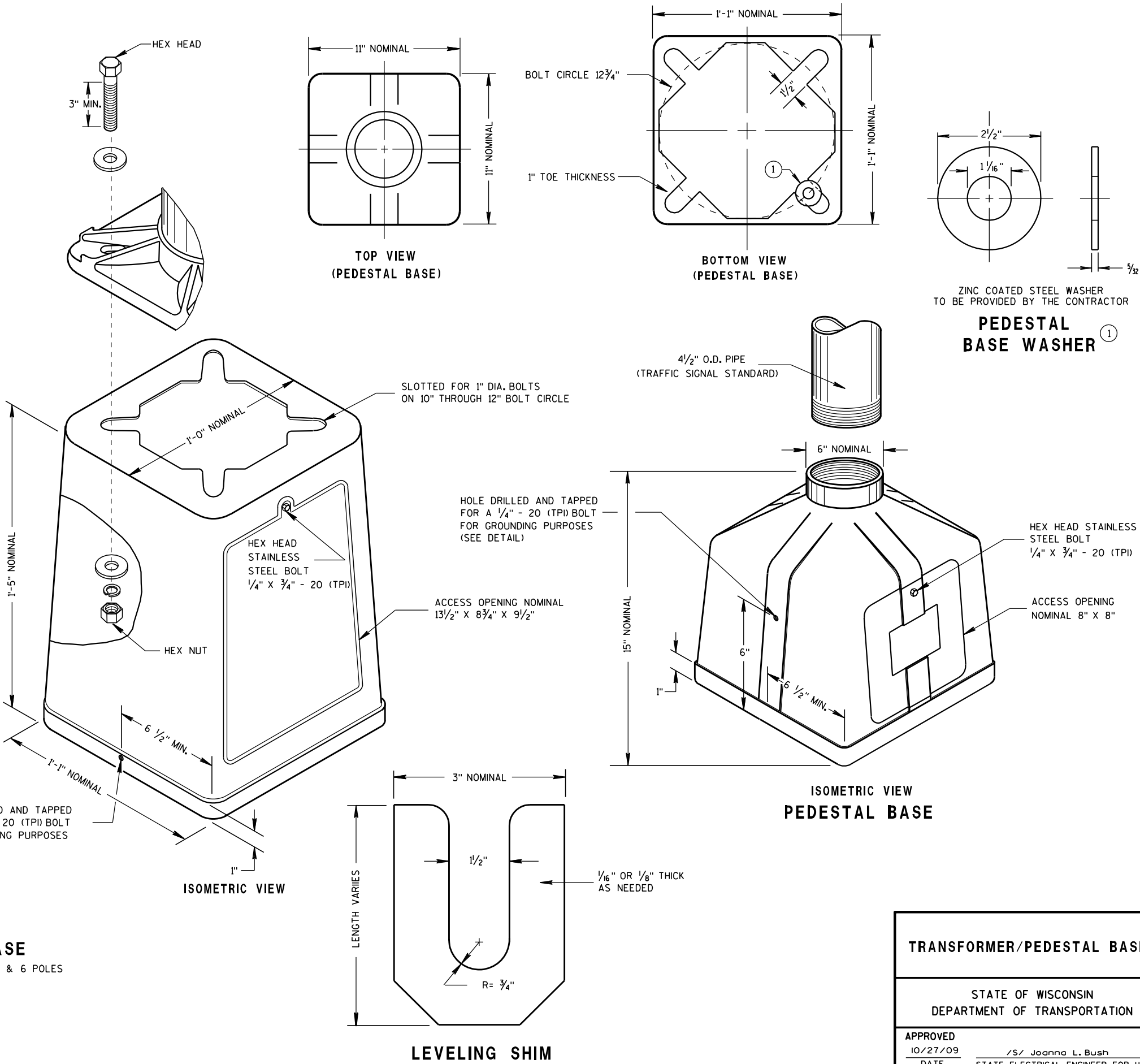
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

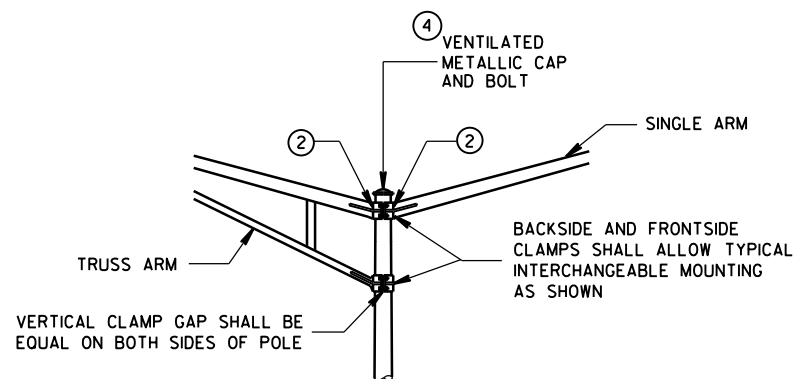
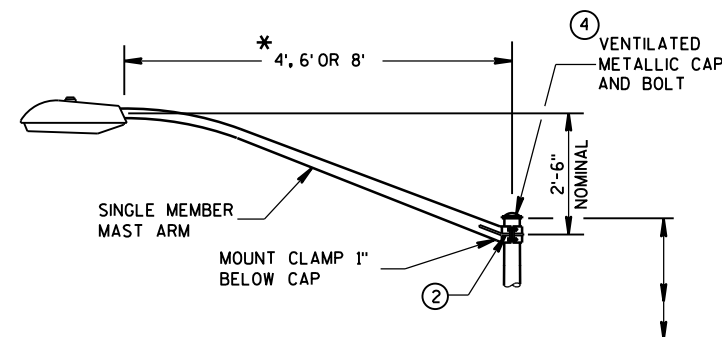
TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

TRANSFORMER/PEDESTAL BASES

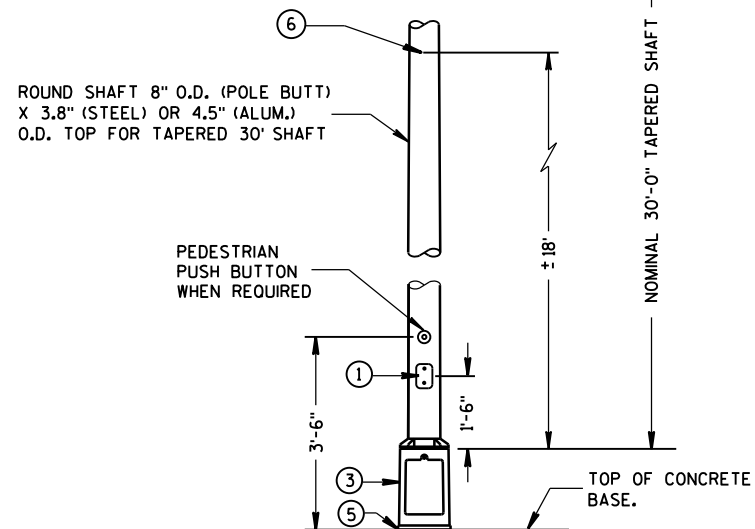
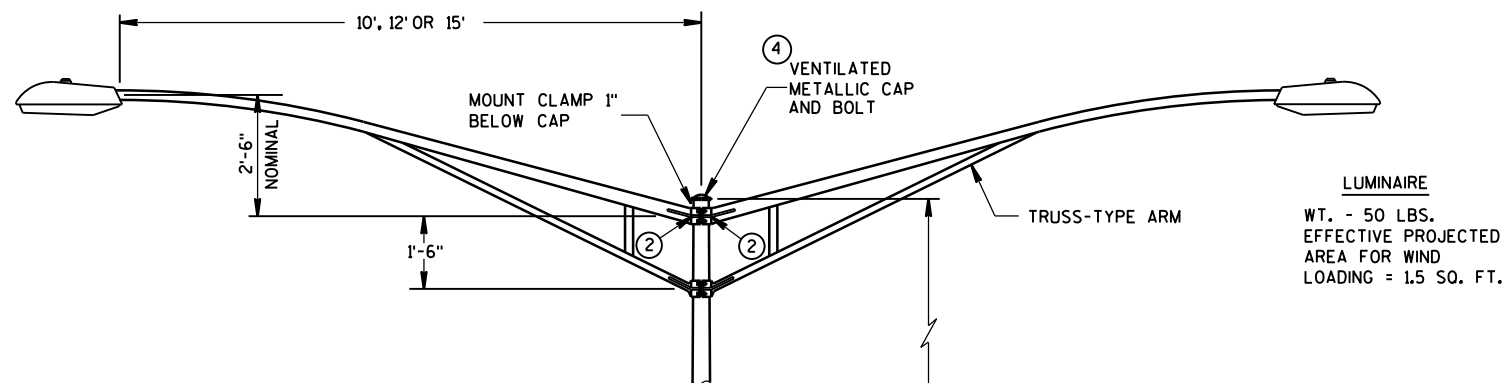
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/27/09
DATE
/S/ Joanna L. Bush
STATE ELECTRICAL ENGINEER FOR HWYS
FHWA

* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

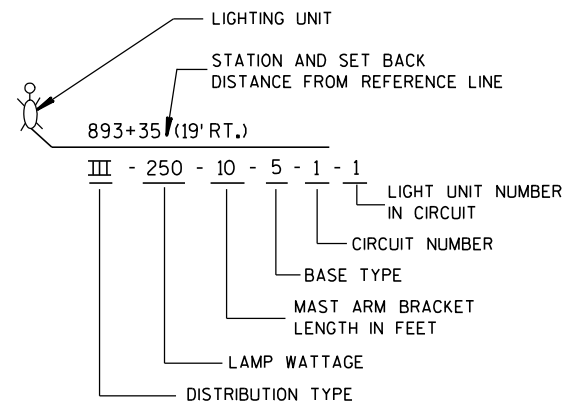
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL $2\frac{3}{8}$ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

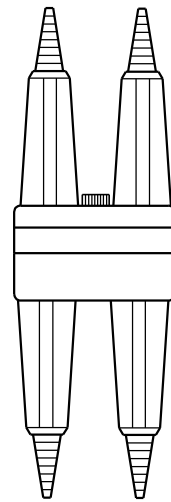
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR $1\frac{1}{8}$ " HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

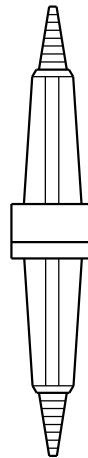
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



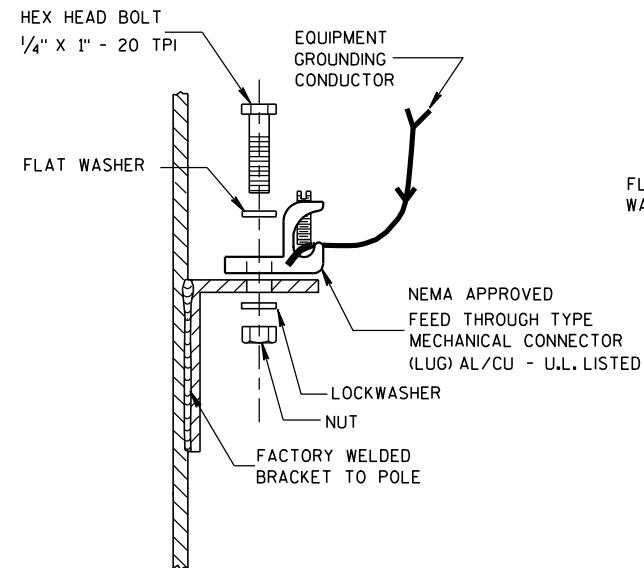
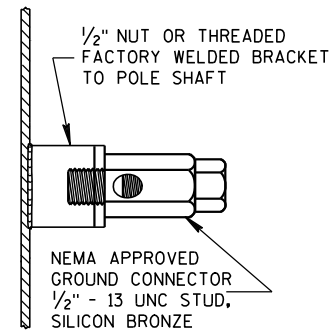
**LIGHTING UNIT CODE
(TYPICAL)**



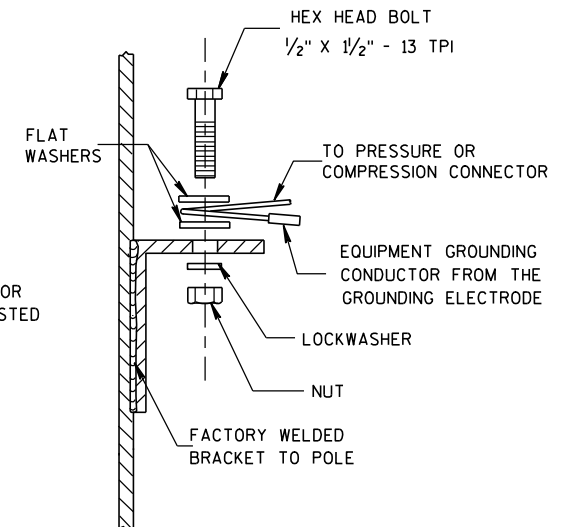
**DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT**



**DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT**



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPLICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FNO FUSE
(SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR**

UNGROUND CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E.
RATED, XLP INSULATED.
SINGLE LIGHTING UNIT SHOWN

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPLICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

**2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FNO FUSES
(SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

**NON-FREWAY LIGHTING UNIT
POLE WIRING**

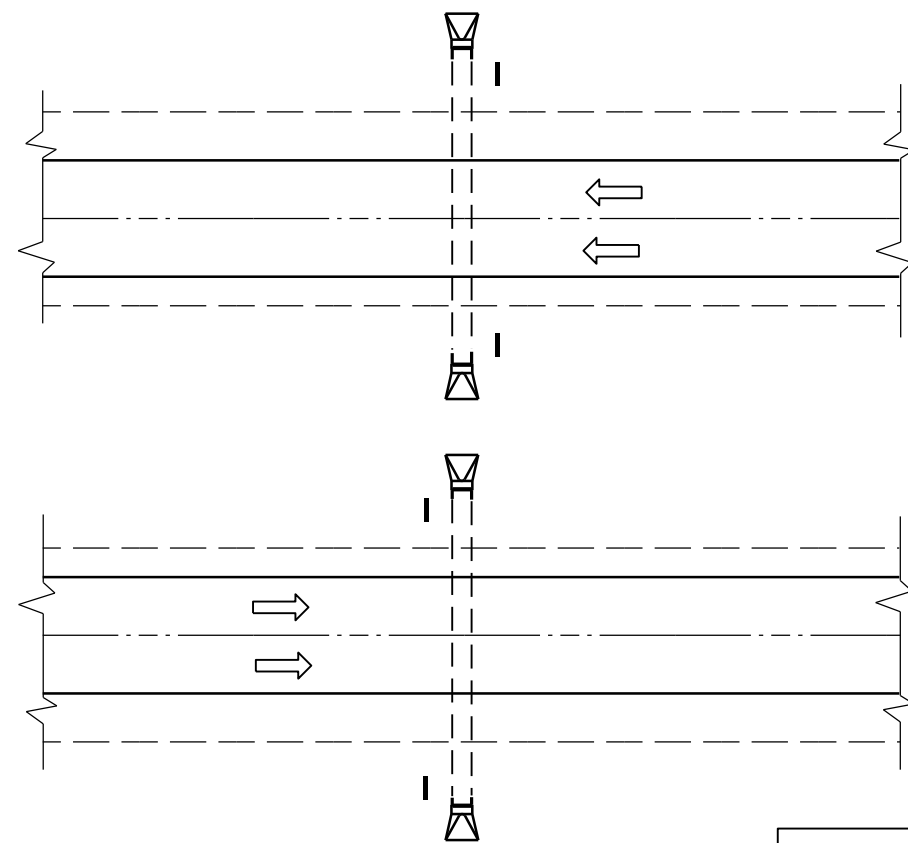
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

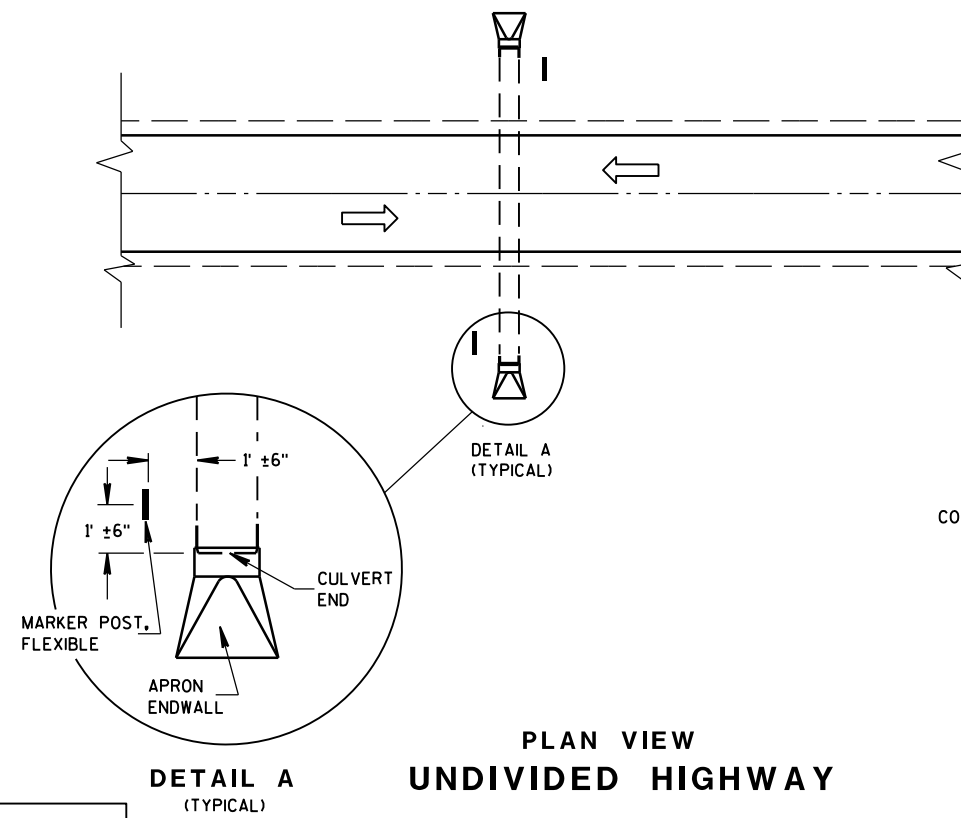
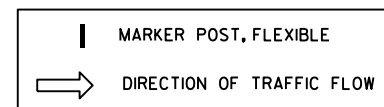
3/2/2011
DATE

FHWA

/S/ Thomas J. Goring
STATE ELECTRICAL ENGINEER FOR HWYS



PLAN VIEW
DIVIDED HIGHWAY



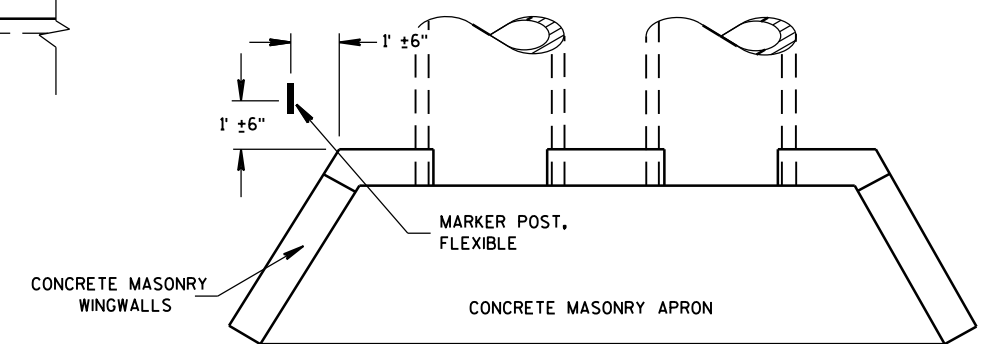
DETAIL A
(TYPICAL)

PLAN VIEW
UNDIVIDED HIGHWAY

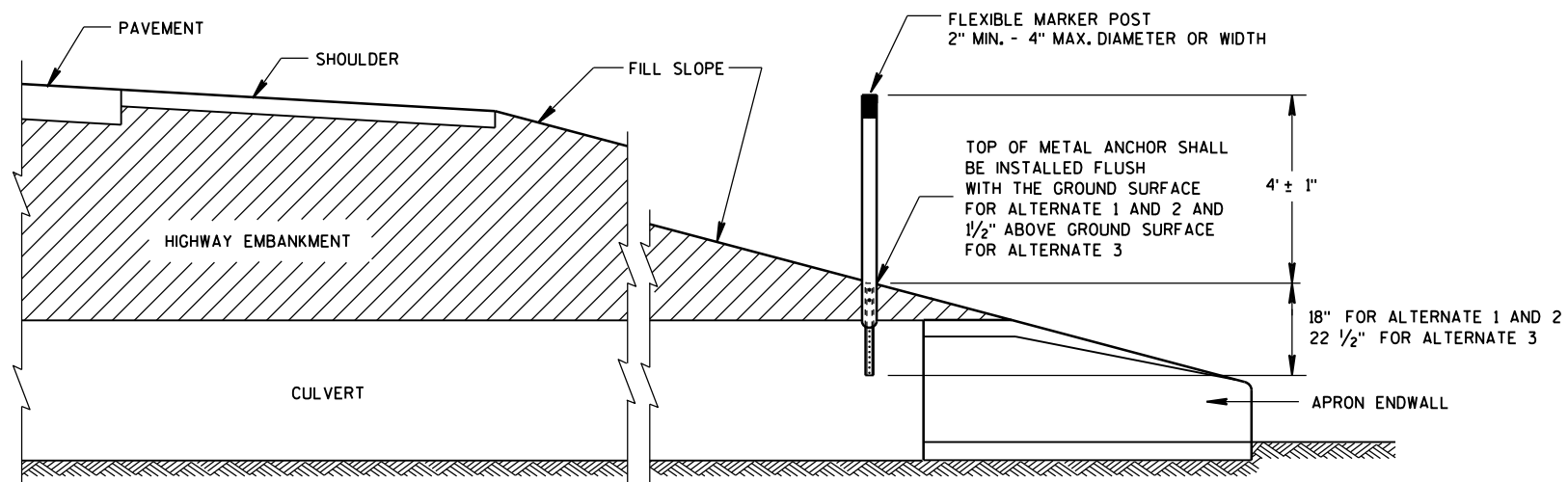
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



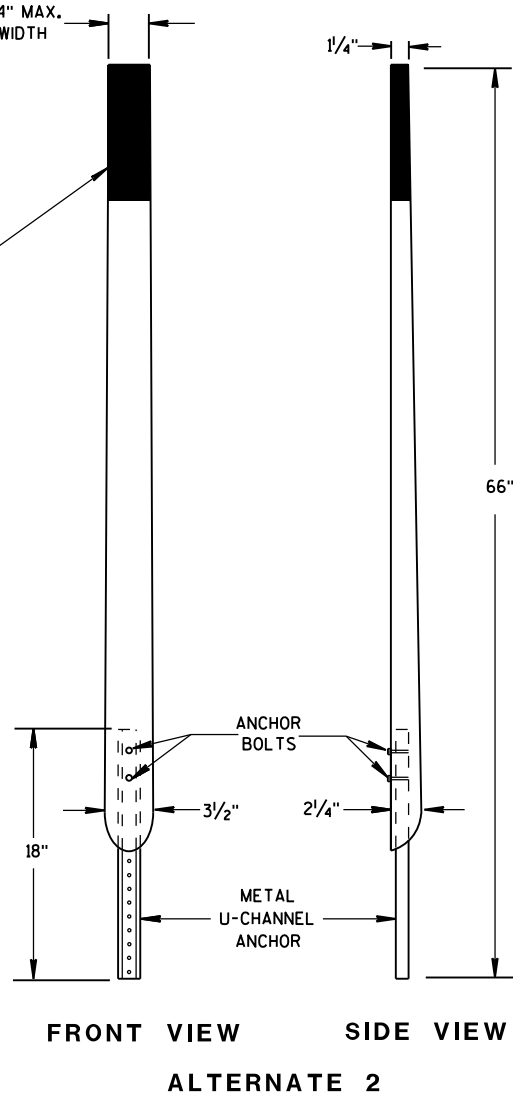
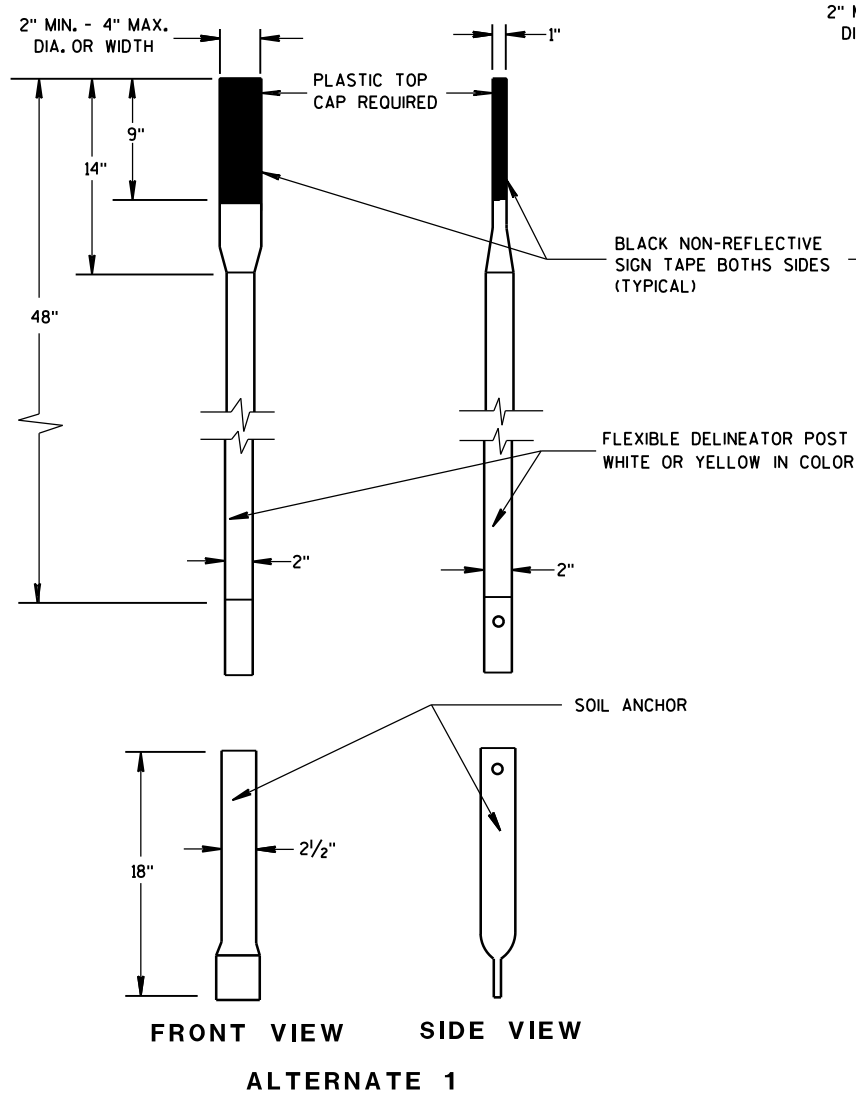
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



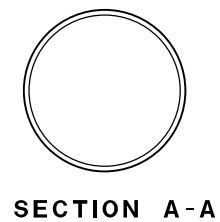
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

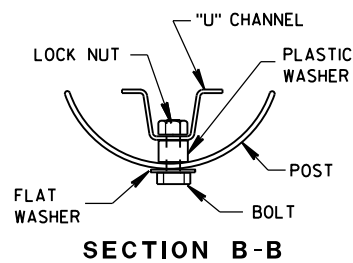
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



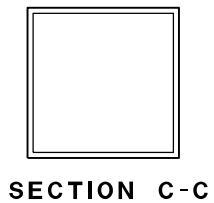
FLEXIBLE MARKER POSTS



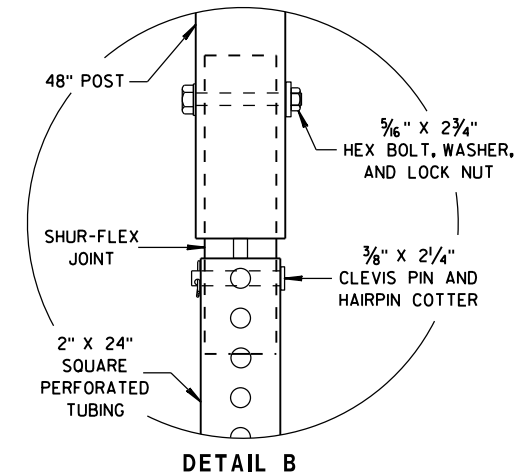
SECTION A-A



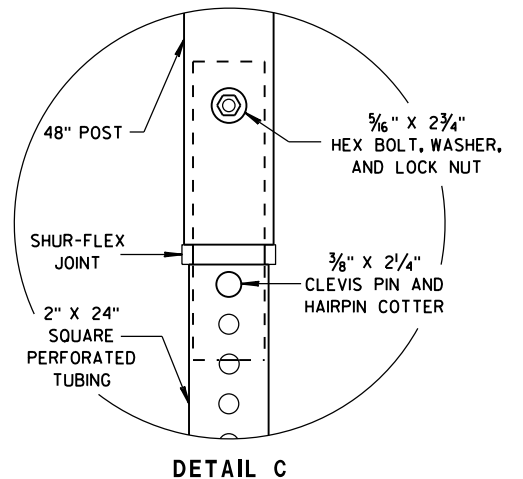
SECTION B-B



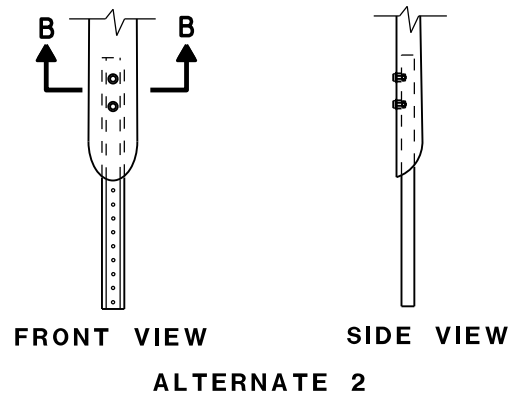
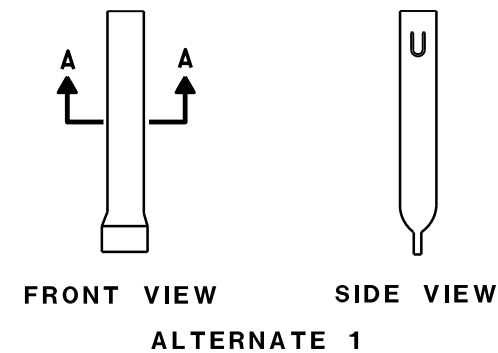
SECTION C-C



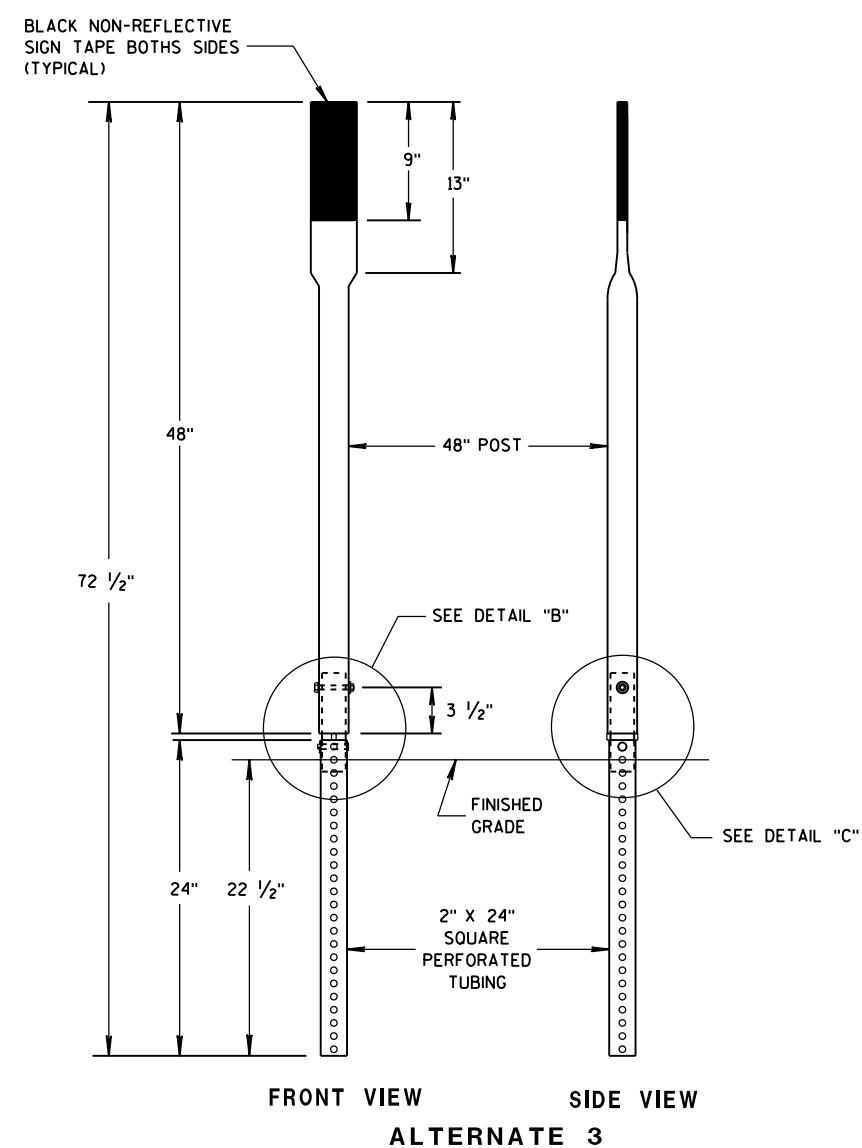
DETAIL B



DETAIL C

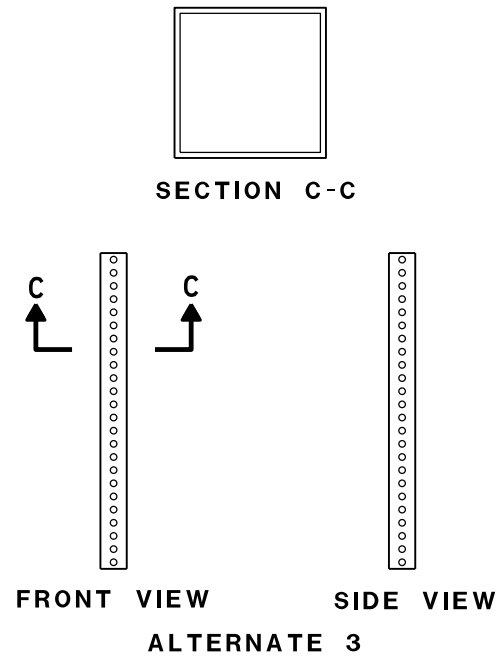


FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

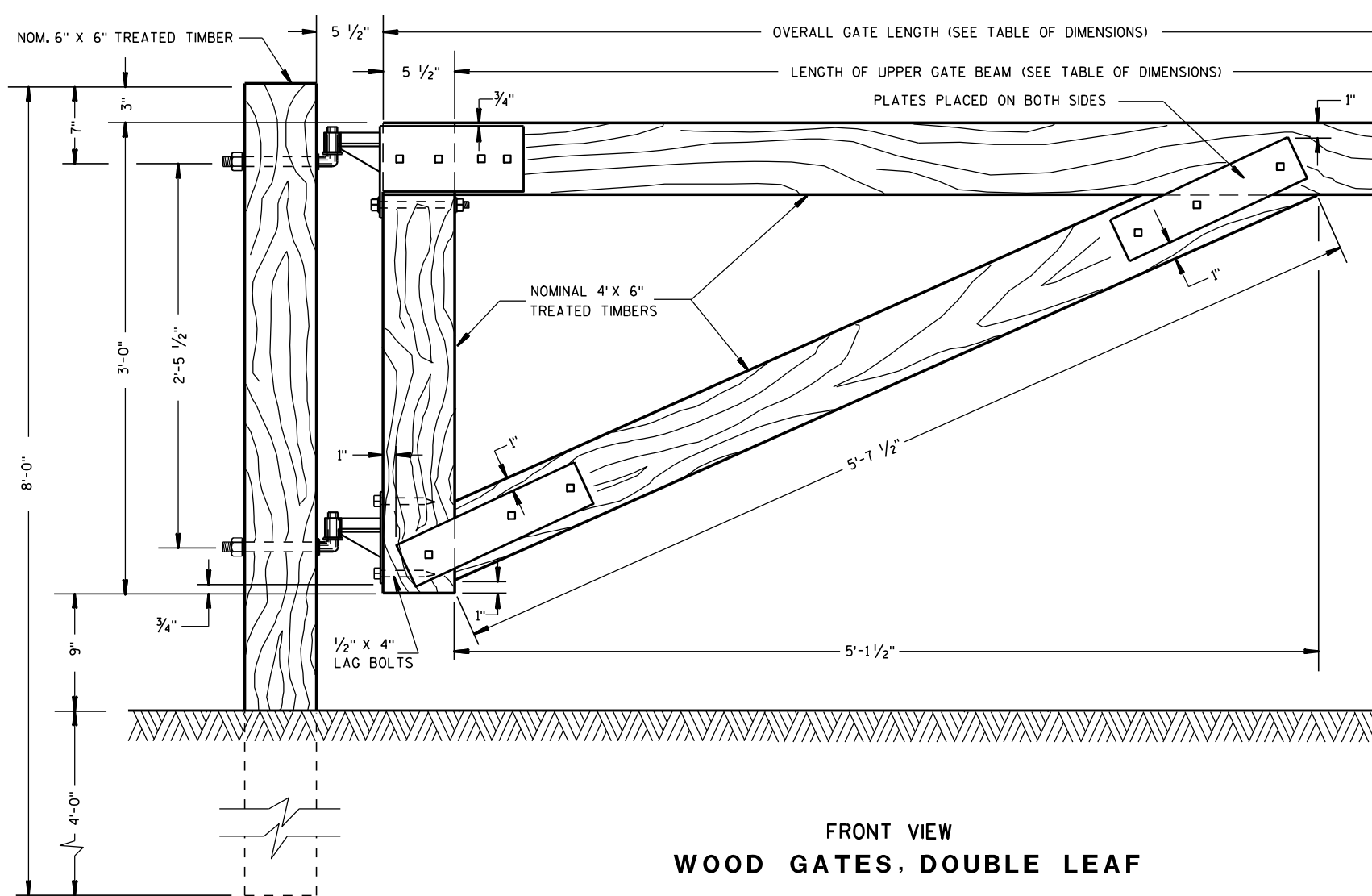
ALTERNATE 3



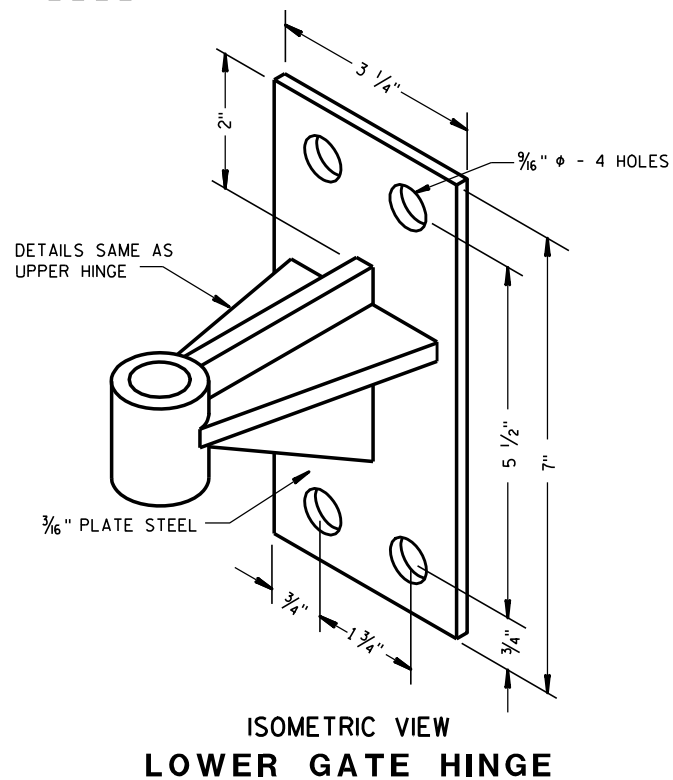
FRONT VIEW SIDE VIEW

ALTERNATE 3

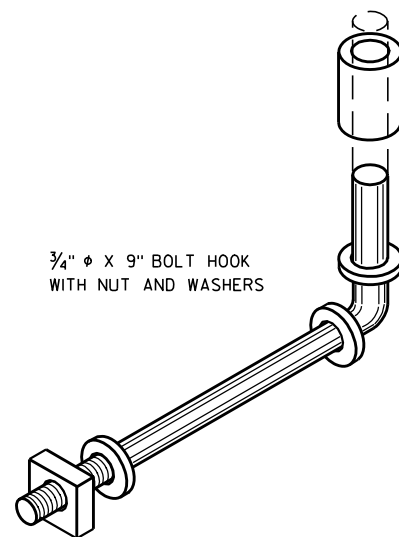
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



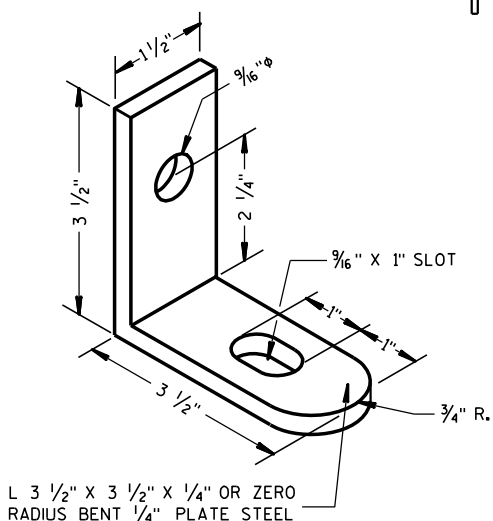
FRONT VIEW
WOOD GATES, DOUBLE LEAF



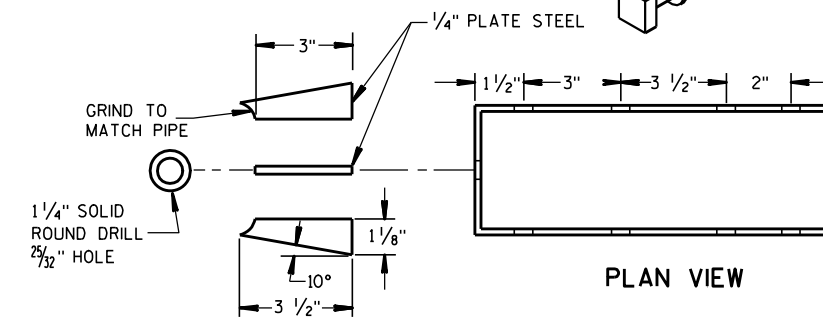
ISOMETRIC VIEW
LOWER GATE HINGE



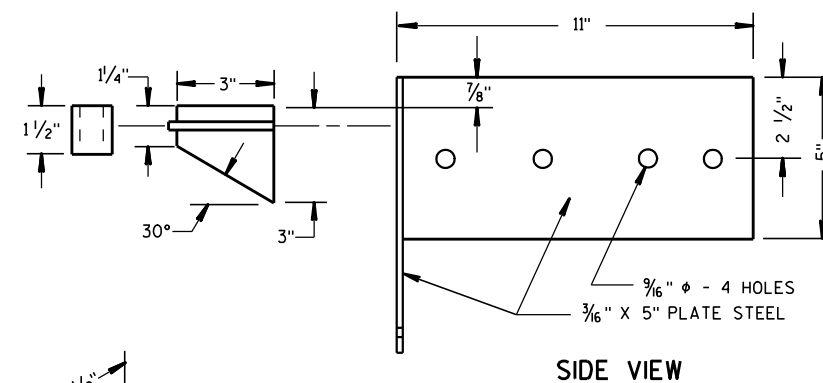
ISOMETRIC VIEW
BOLT HOOK



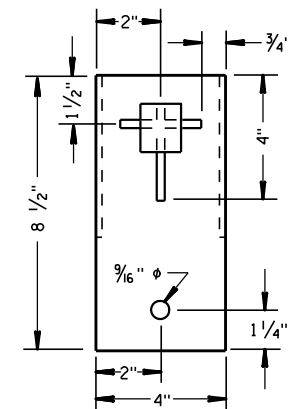
ISOMETRIC VIEW
SWING ARM LOCKING BAR



PLAN VIEW

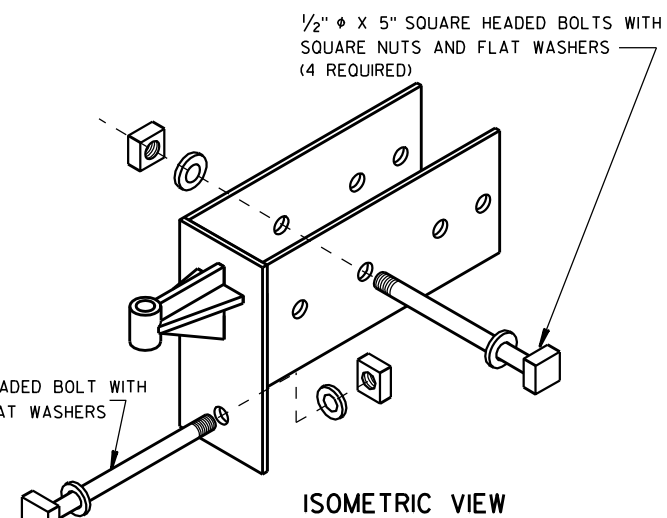


SIDE VIEW



END VIEW

UPPER HINGE DETAIL ASSEMBLY

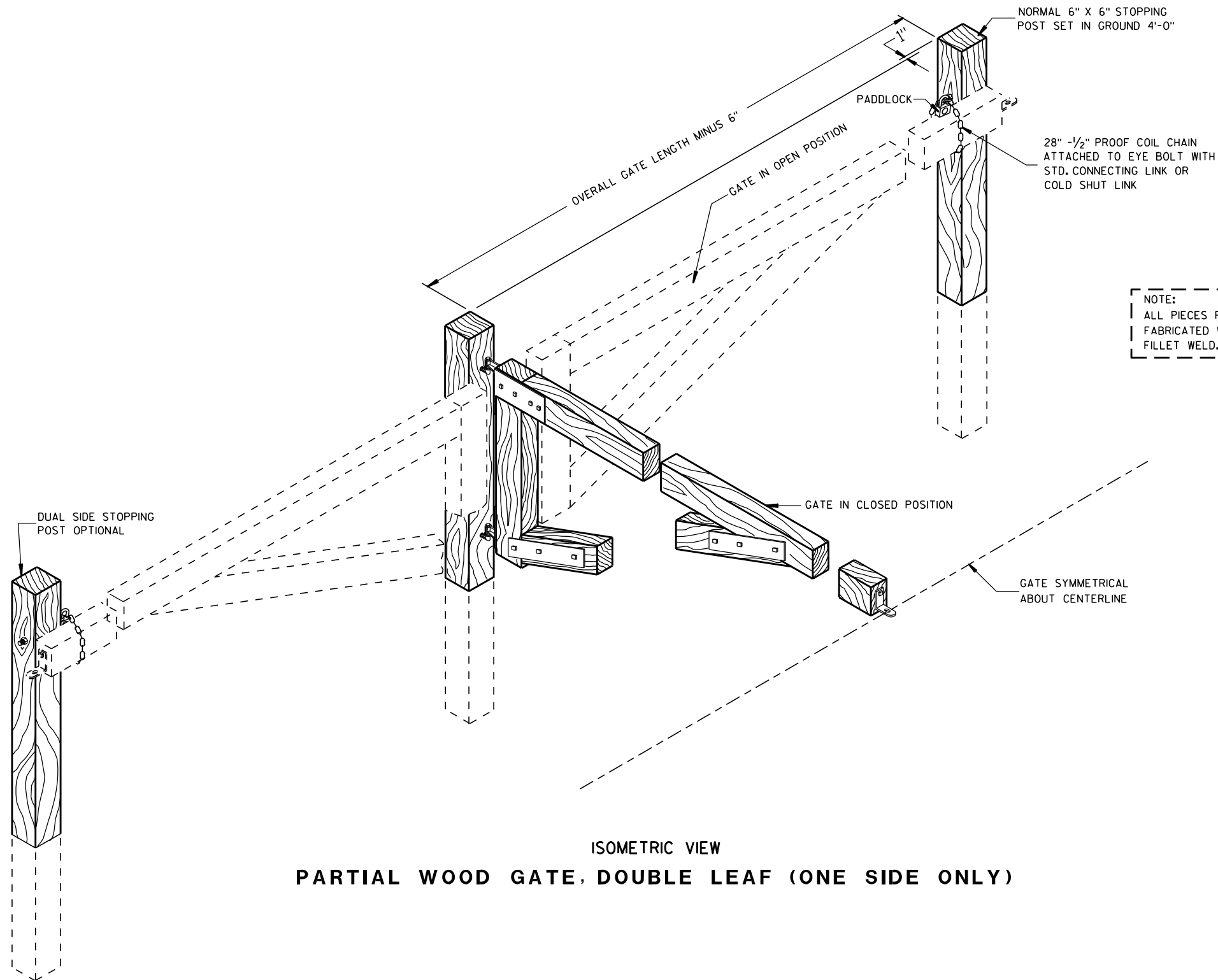


ISOMETRIC VIEW

NOTE:
ALL PIECES FOR HINGE SHALL BE
FABRICATED WITH A $\frac{3}{16}$ " LEG
FILLET WELD.

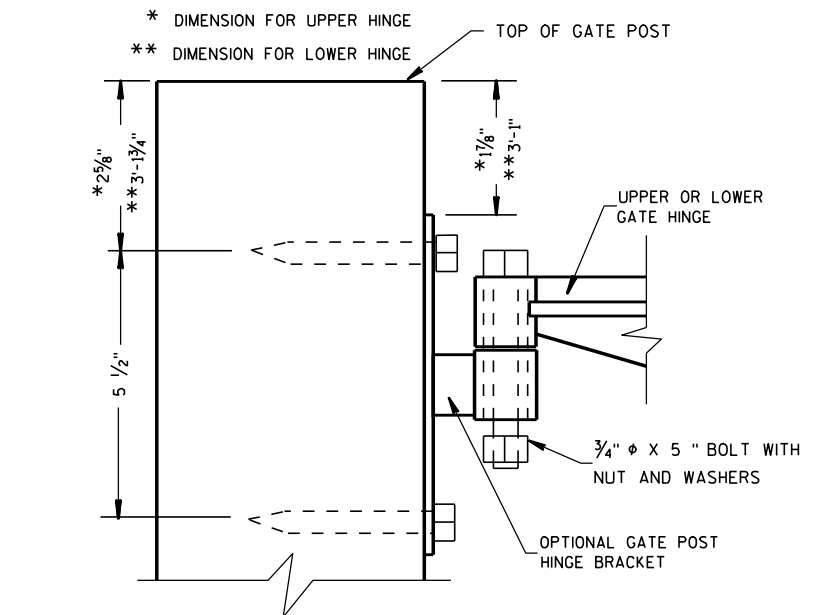
WOOD GATE, DOUBLE LEAF

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

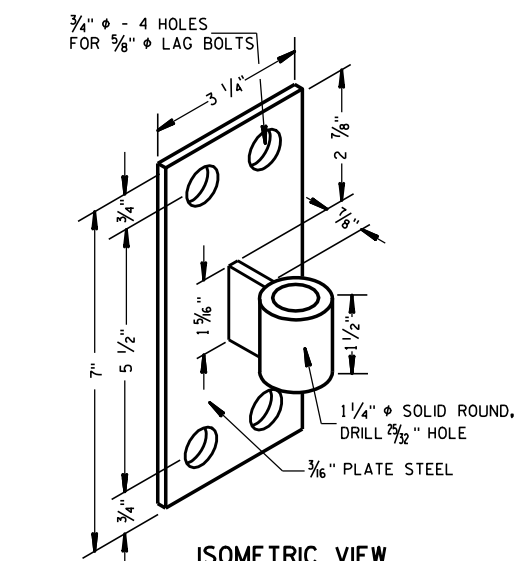


ISOMETRIC VIEW
PARTIAL WOOD GATE, DOUBLE LEAF (ONE SIDE ONLY)

NOTE:
ALL PIECES FOR HINGE SHALL BE
FABRICATED WITH A $\frac{3}{16}$ " LEG
FILLET WELD.



SIDE VIEW
INSTALLATION FOR OPTION B
GATE POST HINGE BRACKET

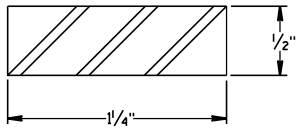


ISOMETRIC VIEW
OPTION B
GATE POST HINGE BRACKET

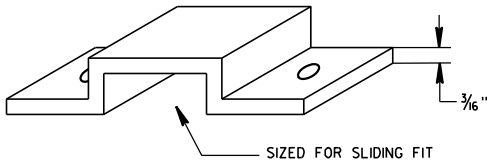
NOTE: TO BE USED IN PLACE OF HOOK BOLT
FOR A 16' CLEAR WIDTH OPENING ONLY
(USE ON BOTH UPPER & LOWER GATE HINGE ASSEMBLY)

WOOD GATE, DOUBLE LEAF

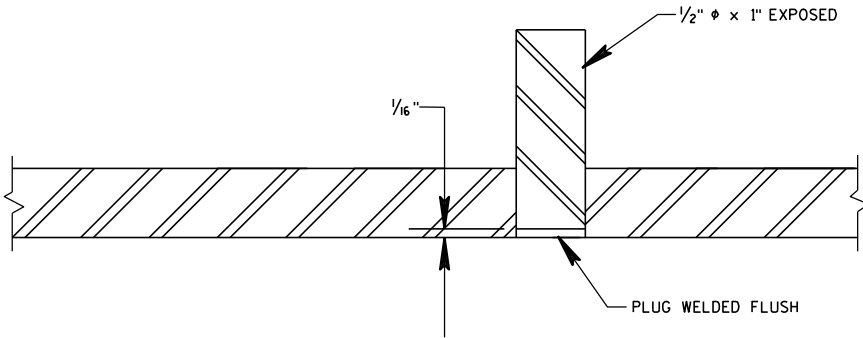
STATE OF WISCONSIN
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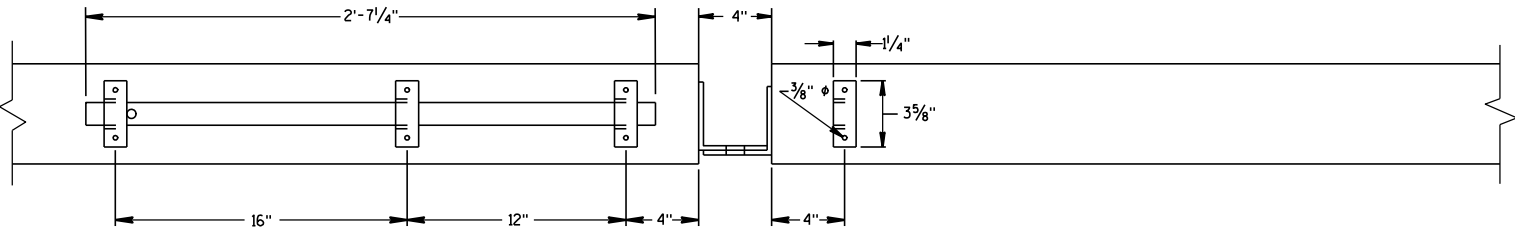
SLIDE BAR CROSS SECTION



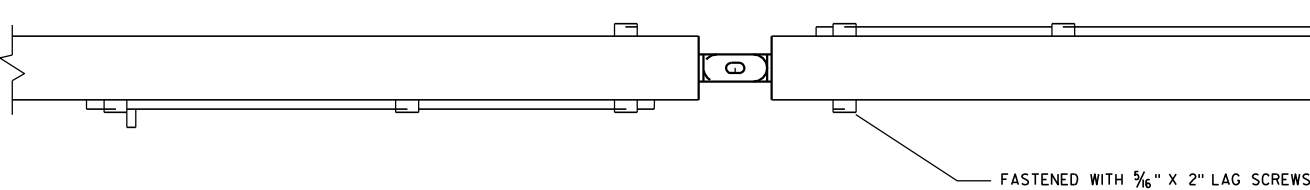
KEYWAY FOR SLIDE BAR
ISOMETRIC VIEW



SECTION FOR SLIDE PIN ASSEMBLY



ELEVATION VIEW



PLAN VIEW

SLIDE BAR ASSEMBLY FOR GATES GREATER THEN 20'-0"

GENERAL NOTES

POSTS SHALL BE SET IN GROUND AT THE DEPTH SHOWN, FILLED AND COMPACTED EVERY 6 INCHES WITH ORIGINAL SUBSOIL.

ALL SAW CUTS AND HOLES DRILLED IN TIMBERS SHALL BE TREATED IN ACCORDANCE WITH SECTION 507.2.2.6 AND WOOD PRESERVATIVE SHALL BE SECTION 507.2.3.4 OF THE STANDARD SPECIFICATIONS.

GATE LOCK CAN BE MASTER KEYED AND SHALL HAVE THE FOLLOWING MINIMUM DIMENSIONS: SHACKLE DIA. OF 3/8", VERTICAL CLEARANCE OF 1 1/2", HORIZONTAL CLEARANCE OF 1/2".

ALL METAL SHALL BE PAINTED WITH A ZINC RICH PRIMER AND ONE COAT OF EPOXY FINISH PAINT. A SECOND FINISH COAT SHALL BE FIELD APPLIED AFTER INSTALLATION.

STOPPING POSTS SHALL BE SET AT EACH SIDE AND EQUIPPED WITH LOCKING POST LOCK BAR FOR HOLDING IN POSITION.

ALL TIMBER BRACES AND HINGE ASSEMBLY SHALL BE SHOP FABRICATED.

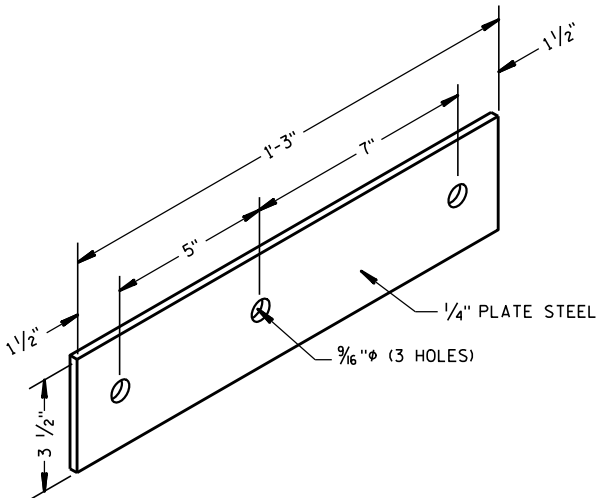
(TABLE OF DIMENSIONS)

CLEAR WIDTH	DISTANCE BETWEEN POSTS	LENGTH OF UPPER GATE BEAM	OVERALL GATE LENGTH
12'-0"	12'-7"	5'-2 1/2"	5'-8"
14'-0"	14'-7"	6'-2 1/2"	6'-8"
16'-0"	16'-7"	7'-2 1/2"	7'-8"
18'-0"	18'-7"	8'-2 1/2"	8'-8"
** 20'-0"	20'-7"	9'-2 1/2"	9'-8"
** 24'-0"	24'-7"	11'-2 1/2"	11'-8"
** 28'-0"	28'-7"	13'-2 1/2"	13'-8"
** 30'-0"	30'-7"	14'-2 1/2"	14'-8"
** 32'-0"	32'-7"	15'-2 1/2"	15'-8"

DESIGN NOTE:

GATE SIZE SHALL BE SPECIFIED AS THE CLEAR WIDTH OF OPENING.

**FOR A 20' AND UP CLEAR WIDTH OPENING - HINGE BRACKET (OPTION B) IS TO BE USED INSTEAD OF THE BOLT HOOK, AND HINGE POST SHALL BE AT A MIN. DEPTH OF 6'-0" AND SLIDE BAR ASSEMBLY SHALL BE USED.

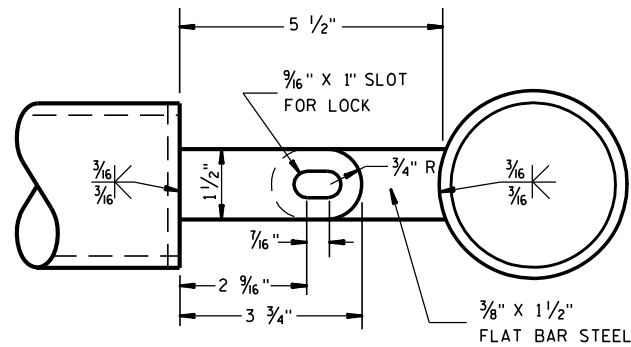


ISOMETRIC VIEW
UPPER AND LOWER SPLICE PLATES

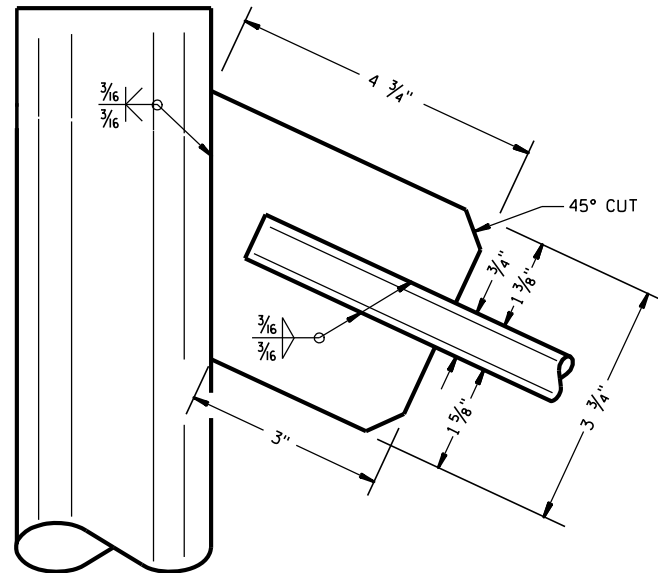
WOOD GATE, DOUBLE LEAF

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

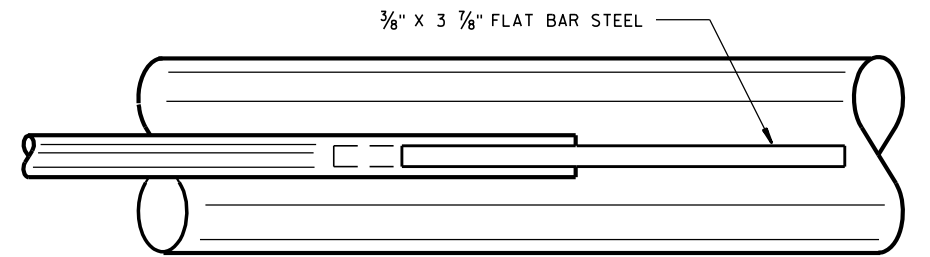
APPROVED
1/5/94
DATE
/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER
FHWA



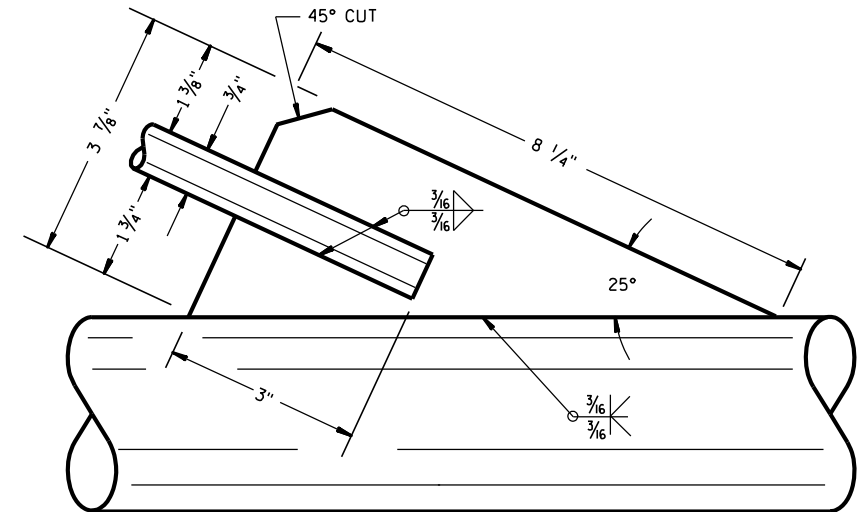
PLAN VIEW
DETAIL A



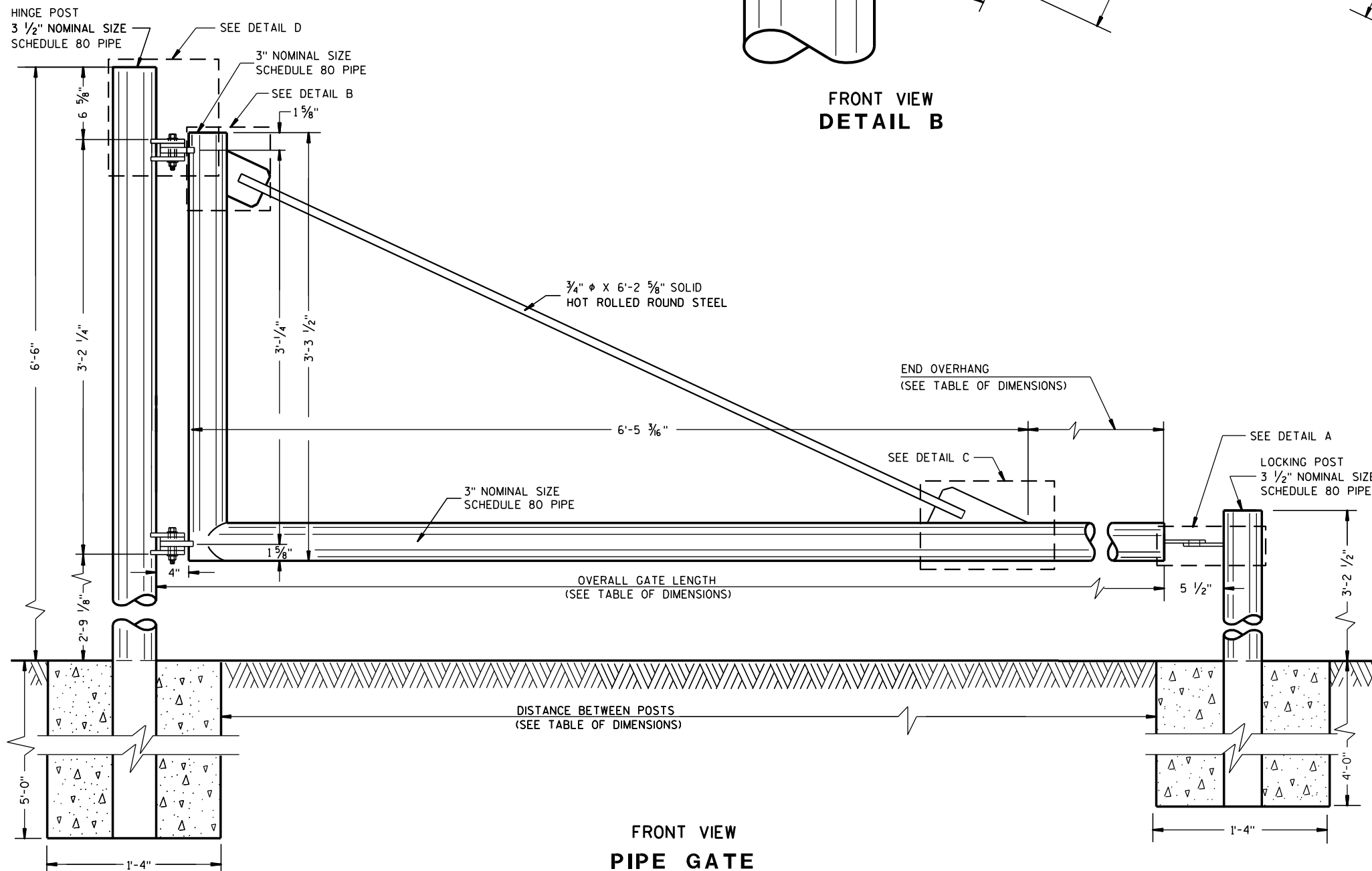
FRONT VIEW
DETAIL B



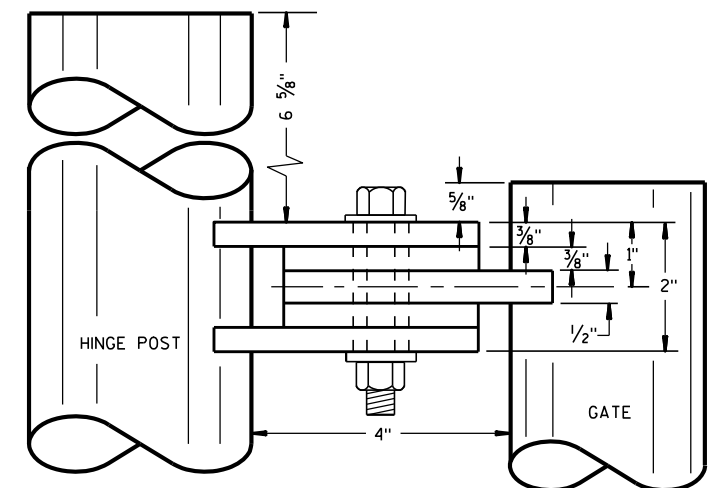
PLAN VIEW



FRONT VIEW
DETAIL C



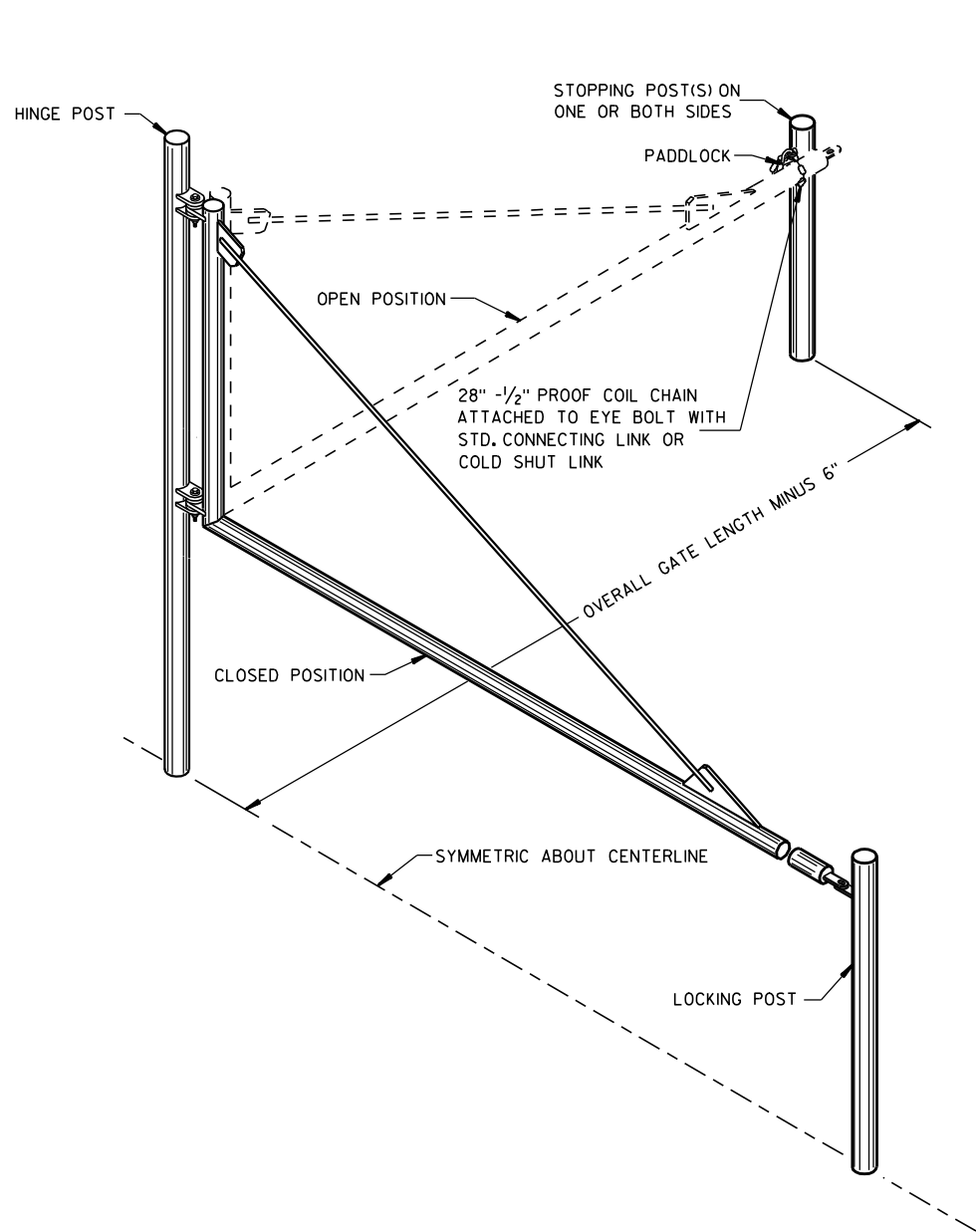
FRONT VIEW
PIPE GATE



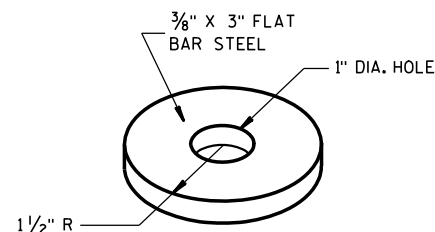
FRONT VIEW
DETAIL D

PIPE GATE DETAILS

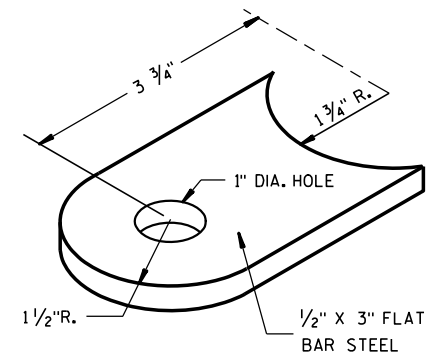
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



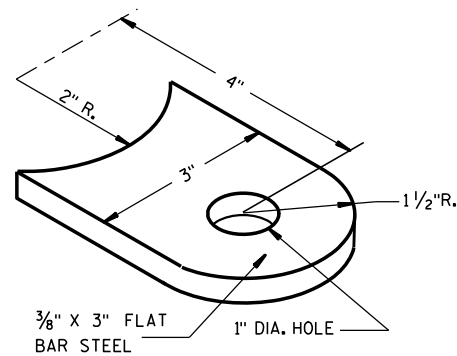
ISOMETRIC VIEW
PIPE GATE PARTIAL LAYOUT (ONE SIDE ONLY)



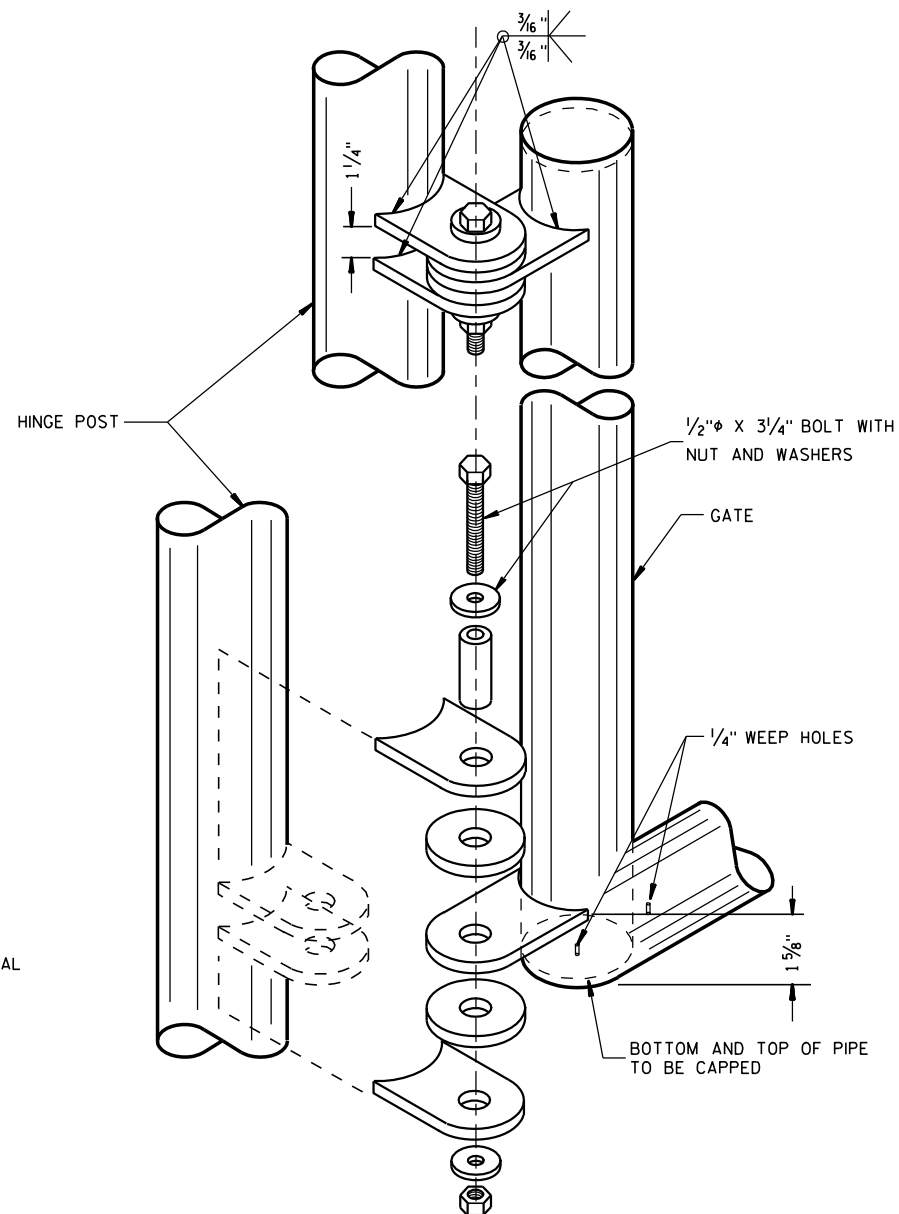
ISOMETRIC VIEW
SPACING RING
4 REQUIRED



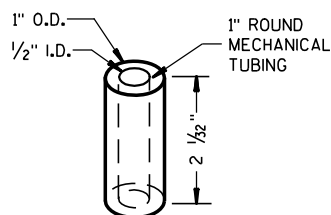
ISOMETRIC VIEW
SWING ARM BRACKET
2 REQUIRED



ISOMETRIC VIEW
POST BRACKET
4 REQUIRED



ISOMETRIC VIEW
HINGE ASSEMBLY



ISOMETRIC VIEW
SLEEVE
2 REQUIRED

GENERAL NOTES

- ALL PIPE POSTS SHALL HAVE OPEN BOTTOMS.
- ALL OTHER EXPOSED ENDS SHALL BE CAPPED AND SEALED TO PREVENT WATER FROM ENTERING.
- ALL STEEL BRACKETS SHALL BE ASTM A36.
- ALL UNITS SHALL BE SHOP FABRICATED.
- BOTH POSTS SHALL BE PLACED IN CONCRETE IN ACCORDANCE WITH THE DETAILED PLANS.
- ALL METAL SHALL BE CLEANED BY SANDBLASTING TO A SSPC-10, COMMERCIAL BLAST FINISH.
- ALL METAL SHALL BE PAINTED WITH A ZINC RICH PRIMER AND ONE COAT OF EPOXY FINISH PAINT. A SECOND FINISH COAT SHALL BE FIELD APPLIED AFTER INSTALLATION.
- GATE LOCK CAN BE MASTER KEYED AND SHALL HAVE THE FOLLOWING MINIMUM DIMENSIONS: SHACKLE DIA. OF 3/8", VERTICAL CLEARANCE OF 1 1/2", HORIZONTAL CLEARANCE OF 1 1/2".
- HINGE BOLT THREADS SHALL BE PEINED OR SPOT WELDED IN PLACE TO PREVENT REMOVAL.
- HOLE IN HINGE BRACKETS SHALL BE LARGE ENOUGH SO THAT 1" OD PIPE COLLAR JUST SLIDES THROUGH OPENING.
- ALL BOLTS, WASHERS AND NUTS SHALL BE UNL ASTM A325.

(TABLE OF DIMENSIONS) SINGLE GATE

CLEAR WIDTH	END OVERHANG	DISTANCE BETWEEN POSTS	OVERALL GATE LENGTH
10'-0"	3'-5 1/4"	10'-7 1/4"	9'-9 3/4"
12'-0"	5'-5 1/4"	12'-7 1/4"	11'-9 3/4"

IF CLEAR WIDTH GREATER THAN 12'-0" THAN USE DUAL OPENING GATES.

DUAL OPENING GATES

CLEAR WIDTH	END OVERHANG	DISTANCE BETWEEN POSTS	OVERALL GATE LENGTH
14'-0"	3 1/4"	14'-7"	7'-3/4"
16'-0"	1'- 3 1/4"	16'-7"	8'-3/4"
18'-0"	2'- 3 1/4"	18'-7"	9'-3/4"

DESIGN NOTE:

GATE SIZE SHALL BE SPECIFIED AS THE CLEAR WIDTH OF OPENING.

PIPE GATE DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/5/94 /S/ Rory L. Rhinesmith
DATE CHIEF METHODS DEVELOPMENT ENGINEER
FHWA

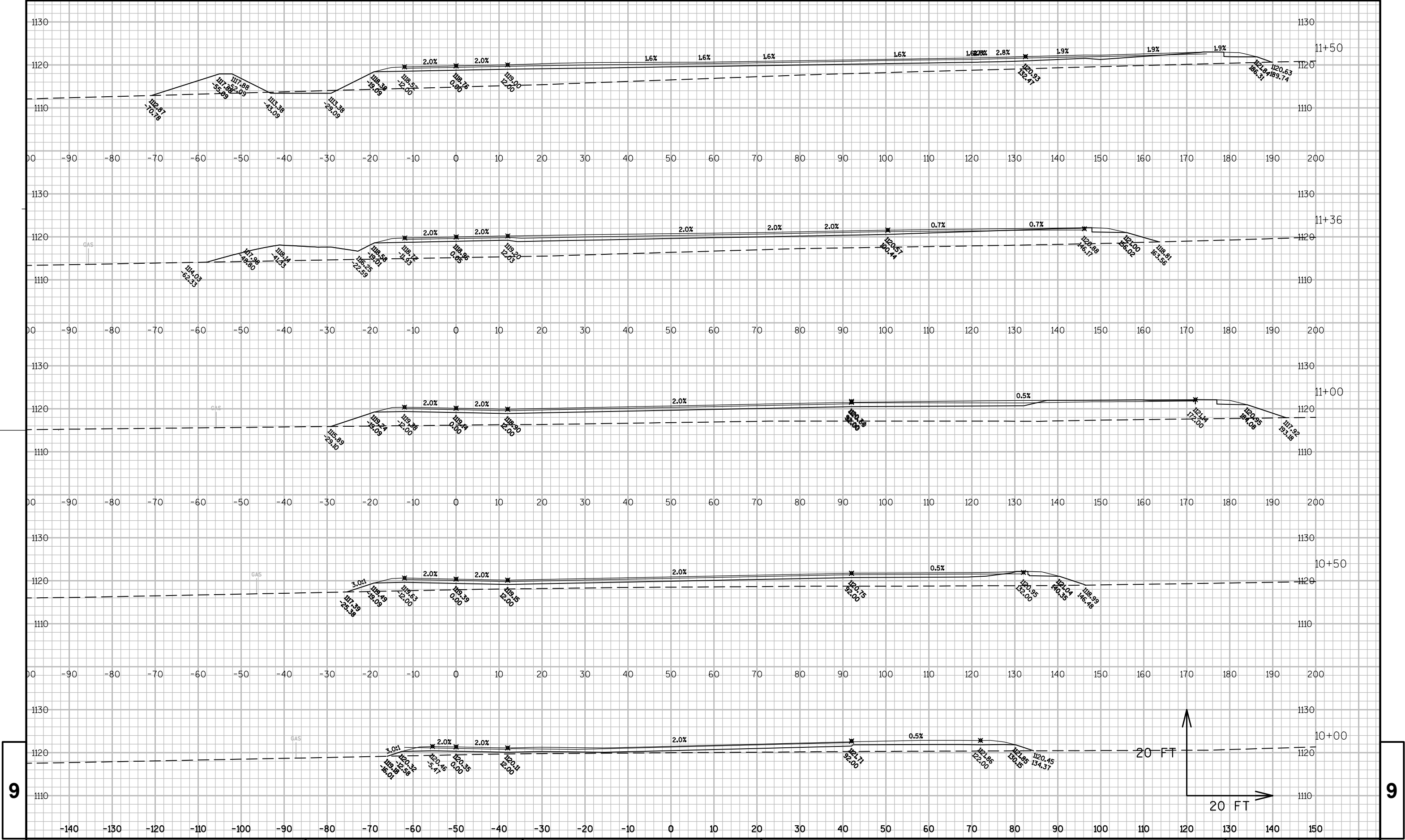
ACCESS RD EARTHWORK SUMMARY

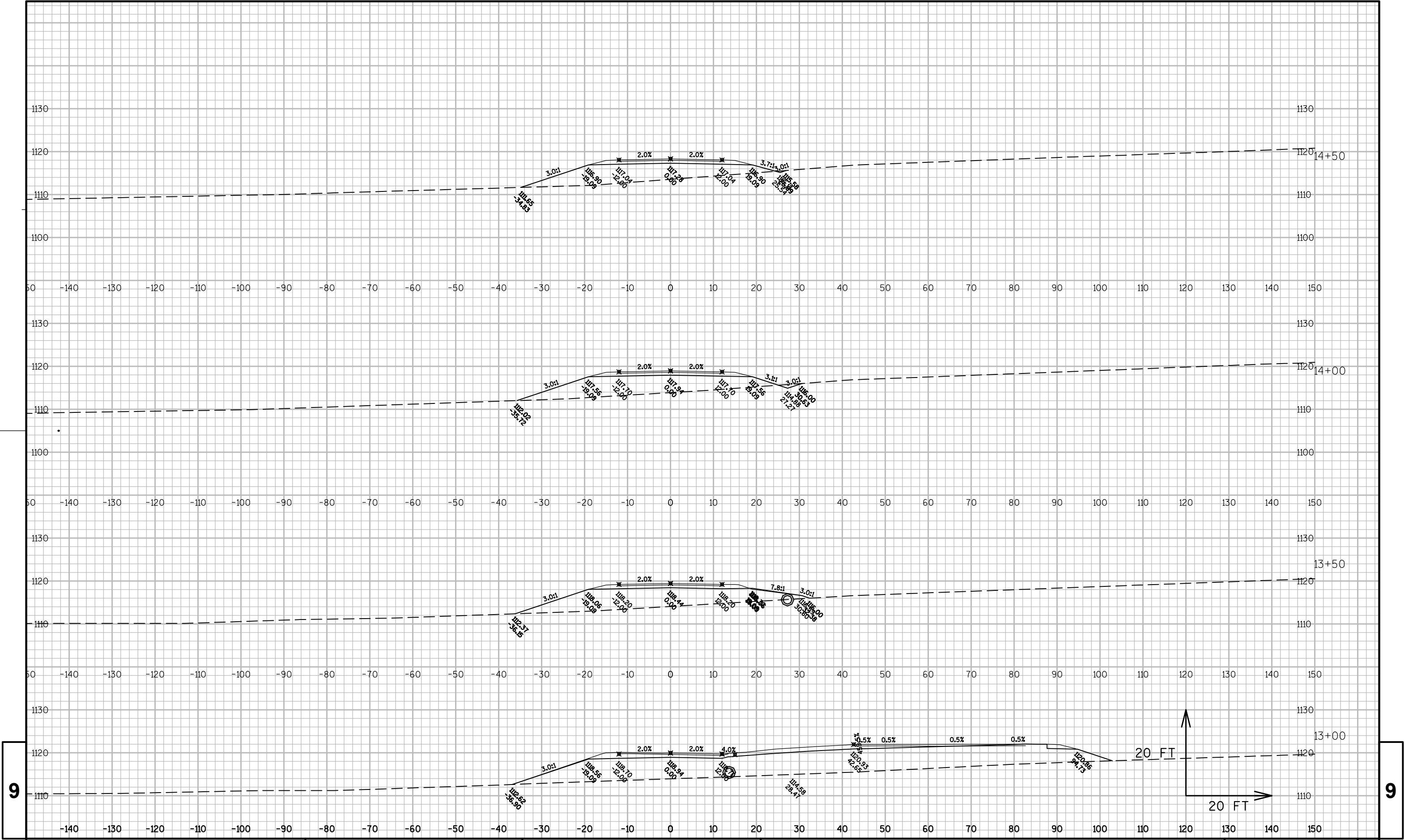
STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
	CUT	FILL	CUT	FILL	CUT 1.00	Expanded Fill 1.25	
10+00	0	75	0	0	0	0	0
10+25	0	118	0	89	0	112	-112
10+50	0	175	0	135	0	281	-281
10+75	0	266	0	204	0	536	-536
11+00	0	348	0	284	0	891	-891
11+19	0	188	0	189	0	1127	-1127
11+25	0	194	0	42	0	1180	-1180
11+30	0	230	0	39	0	1229	-1229
11+35	0	281	0	47	0	1289	-1289
11+40	3	261	0	50	0	1351	-1351
11+45	8	274	1	50	1	1413	-1412
11+50	7	285	1	52	3	1478	-1475
11+52.51	8	282	1	26	3	1511	-1508
11+55	8	289	1	26	4	1544	-1540
11+60	9	303	2	55	6	1612	-1607
11+65	10	318	2	58	8	1684	-1677
11+70	11	332	2	60	10	1759	-1750
11+75	12	346	2	63	12	1838	-1826
11+80	13	359	2	65	14	1920	-1906
11+85	13	364	2	67	16	2003	-1987
11+90	14	363	3	67	19	2088	-2069
11+95	15	387	3	69	22	2174	-2153
11+96.85	15	404	1	27	23	2208	-2186
12+00	15	419	2	48	24	2268	-2244
12+05	0	439	1	79	26	2368	-2342
12+10	0	543	0	91	26	2481	-2455
12+15	0	559	0	102	26	2609	-2583
12+20	0	579	0	105	26	2741	-2715
12+25	0	543	0	104	26	2870	-2845
12+30	0	466	0	93	26	2987	-2961
12+35	0	433	0	83	26	3091	-3066
12+38.84	0	446	0	62	26	3169	-3144
12+38.84	0	446	0	0	26	3170	-3144
12+40	0	715	0	25	26	3201	-3175
12+41	0	718	0	27	26	3234	-3208
12+45	0	734	0	108	26	3368	-3342
12+50	0	753	0	138	26	3540	-3515
12+55	0	772	0	141	26	3717	-3691
12+60	0	791	0	145	26	3898	-3872
12+65	0	812	0	148	26	4083	-4057
12+70	0	821	0	151	26	4272	-4246
12+75	0	823	0	152	26	4462	-4437
12+80	0	764	0	147	26	4646	-4620
12+85	0	736	0	139	26	4820	-4794

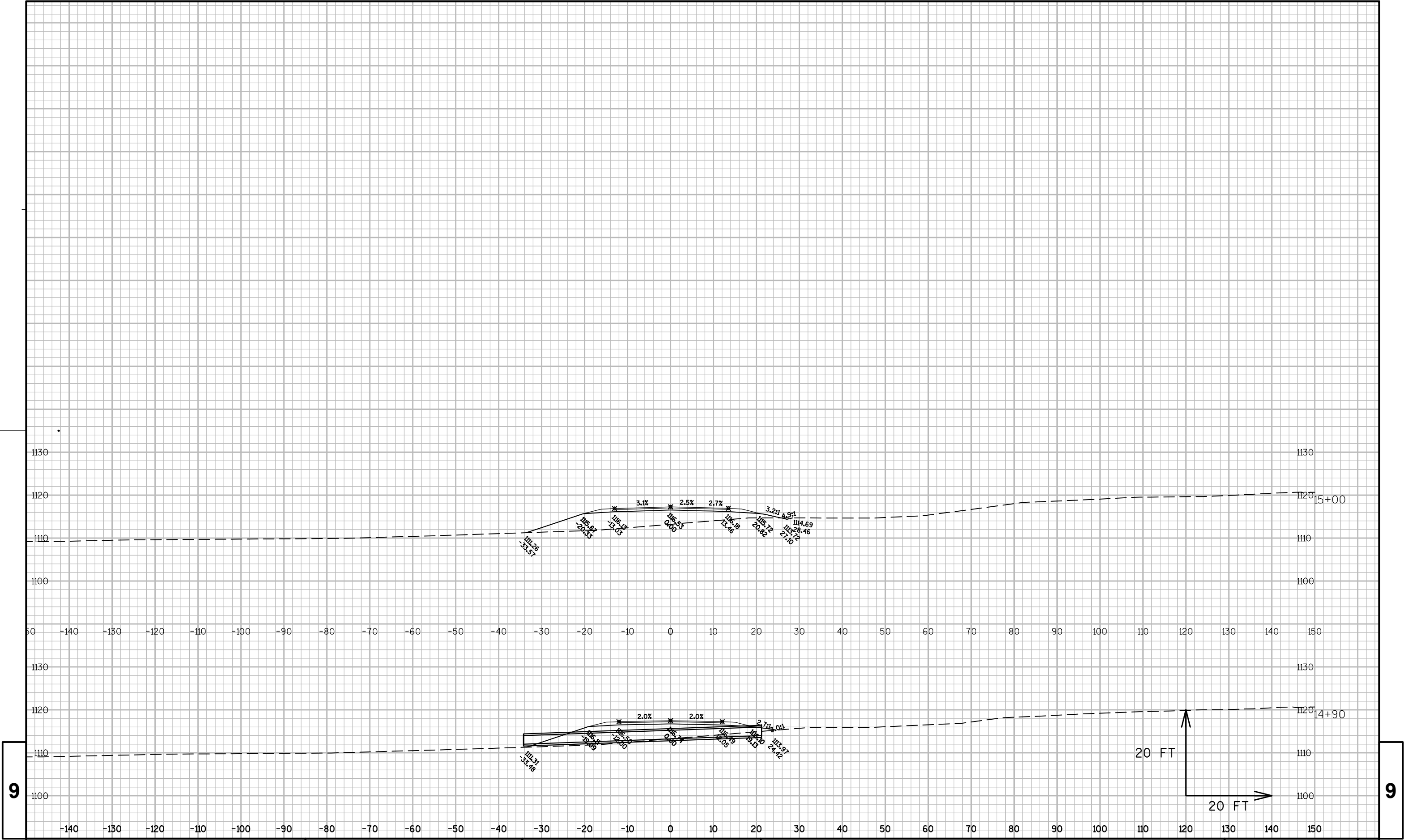
STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
	CUT	FILL	CUT	FILL	CUT 1.00	Expanded Fill 1.25	
12+90	0	674	0	131	26	4983	-4957
12+95	0	627	0	120	26	5133	-5108
13+00	0	612	0	115	26	5277	-5251
13+05	0	605	0	113	26	5418	-5392
13+10	0	594	0	111	26	5557	-5531
13+15	0	585	0	109	26	5693	-5667
13+20	0	621	0	112	26	5833	-5807
13+25	0	566	0	110	26	5970	-5944
13+25	0	566	0	0	26	5970	-5944
13+30	0	531	0	102	26	6097	-6071
13+35	0	403	0	87	26	6205	-6179
13+40	0	287	0	64	26	6285	-6259
13+41	0	272	0	10	26	6298	-6272
13+42	0	260	0	10	26	6310	-6285
13+43	0	251	0	9	26	6322	-6296
13+50	0	226	0	62	26	6400	-6374
13+75	5	192	2	194	28	6642	-6614
14+00	2	195	3	180	31	6866	-6835
14+25	2	187	2	177	33	7087	-7054
14+30	1	186	0	34	33	7131	-7097
14+35	1	185	0	34	34	7174	-7140
14+40	1	183	0	34	34	7216	-7182
14+45	1	181	0	34	34	7258	-7224
14+50	0	179	0	33	34	7300	-7266
14+55	0	176	0	33	34	7341	-7307
14+60	0	174	0	32	34	7381	-7347
14+65	0	170	0	32	34	7421	-7387
14+70	0	166	0	31	34	7460	-7426
14+75	0	162	0	30	34	7498	-7464
14+80	0	158	0	30	34	7535	-7501
14+85	0	154	0	29	34	7571	-7537
14+90	0	158	0	29	34	7607	-7573
14+95	0	152	0	29	34	7643	-7609
15+00	0	151	0	28	34	7678	-7644
15+05	0	159	0	29	34	7714	-7680
15+10	0	185	0	32	34	7754	-7720
15+15	0	210	0	37	34	7800	-7765
15+20	0	192	0	37	34	7846	-7812
15+25	0	147	0	31	34	7886	-7851
15+30	0	86	0	22	34	7912	-7878
15+35	0	25	0	10	34	7925	-7891
15+40	0	5	0	3	34	7929	-7894
15+45	0	1	0	1	34	7929	-7895

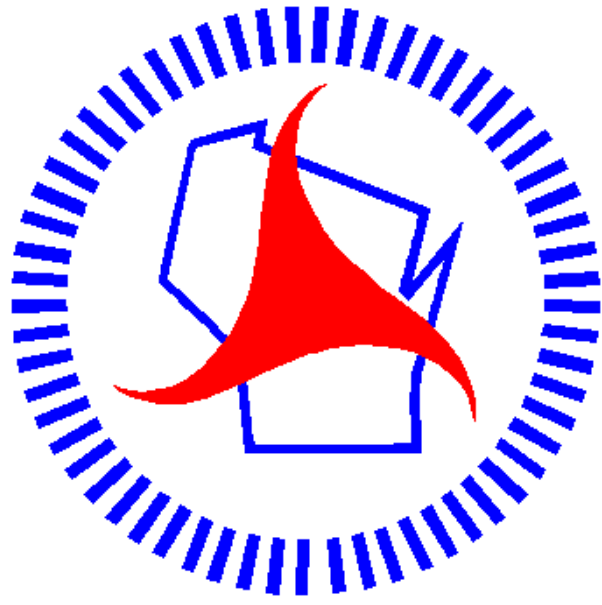
DRIVEWAY “X” EARTHWORK SUMMARY

STATION	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
	CUT	FILL	CUT	FILL	CUT 1.00	Expanded Fill 1.25	
10+20	25	2	0	0	0	0	0
10+25	21	4	4	1	4	1	4
10+30	17	6	4	1	8	2	6
10+35	14	8	3	1	11	3	7
10+40	11	11	2	2	13	6	7
10+45	8	16	2	3	15	9	6
10+50	5	23	1	4	16	13	3
10+55	4	34	1	5	17	20	-3
10+60	3	48	1	8	18	29	-12
10+65	3	65	1	10	18	43	-24
10+70	2	65	0	12	19	58	-39
10+75	2	51	0	11	19	71	-52
10+80	1	34	0	8	19	81	-62
10+85	1	19	0	5	20	87	-67
10+90	1	12	0	3	20	91	-71
10+95	1	10	0	2	20	93	-73
11+00	1	9	0	2	20	96	-75
11+00.18	1	516	0	2	20	98	-78
11+05	1	10	0	47	20	156	-136
11+10	2	10	0	2	21	159	-138
11+15	3	14	0	2	21	161	-140
11+20	4	22	1	3	22	166	-144
11+25	6	31	1	5	22	172	-149
11+30	6	40	1	7	24	180	-156
11+35	8	40	1	7	25	189	-164
11+40	11	23	2	6	27	196	-170
11+45	14	10	2	3	29	200	-171
11+50	18	3	3	1	32	202	-170
11+55	22	1	4	0	36	202	-167
11+60	30	1	5	0	40	203	-162









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