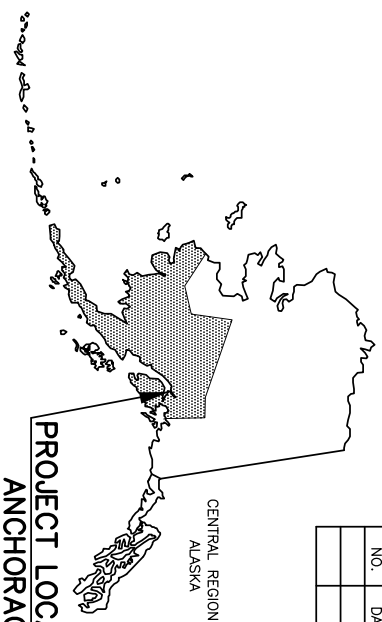


STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PROPOSED ROADWAY PROJECT

WEST DOWLING ROAD PHASE II C STREET TO MINNESOTA BLVD 51030



REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	51030	2010	A1	
ROUTE: 134130		MILEPOINT: X.XX TO X.XX		

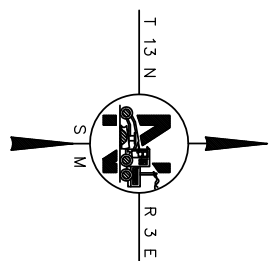
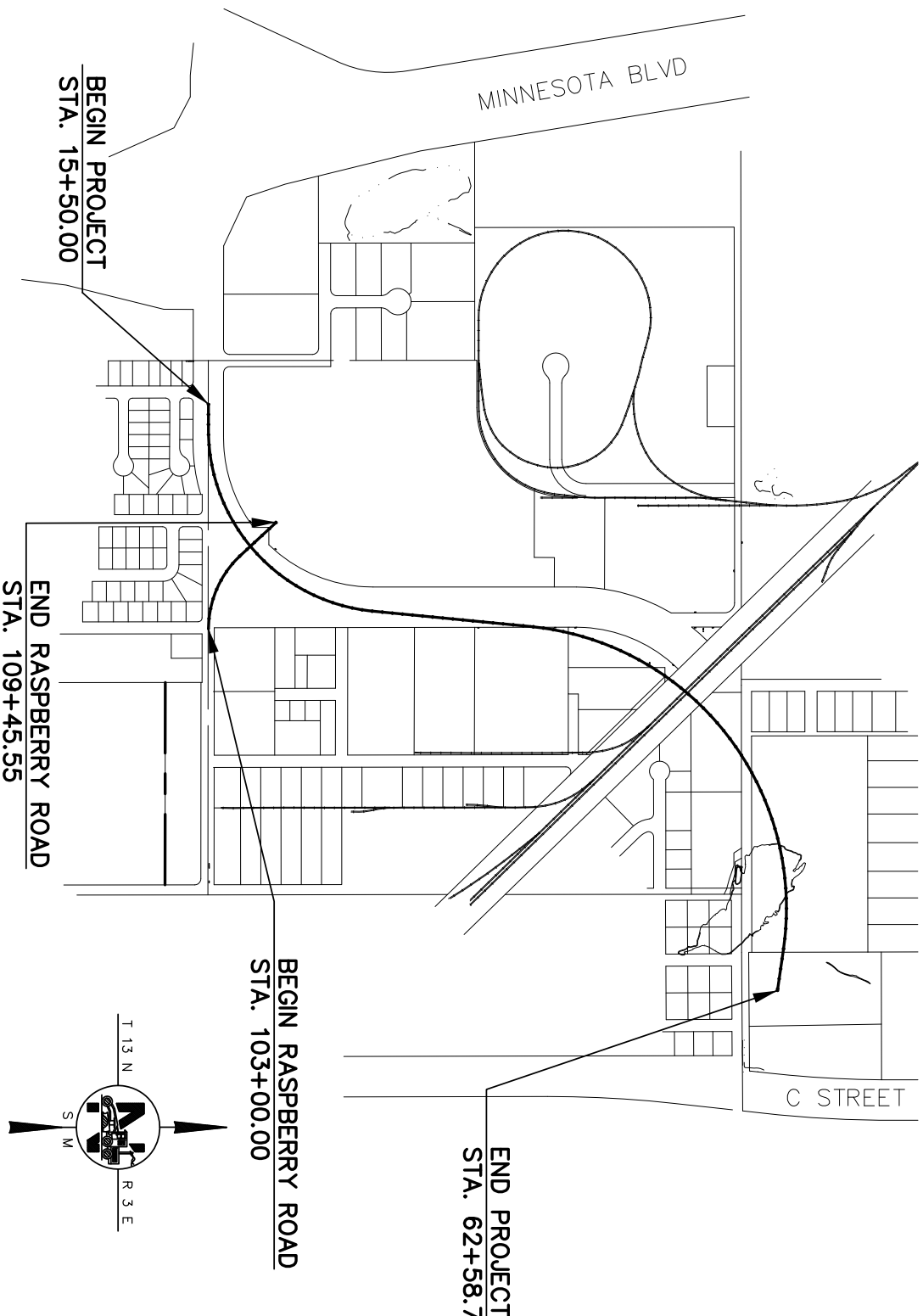
PROJECT SUMMARY		
SECTION	LENGTH (MI.)	WIDTH (FT.)
WEST DOWLING ROAD	0.89	66-88
RASPBERRY ROAD	0.12	36-50

SHEET NO.	DESCRIPTION
A1 - A3	TITLE SHEET & LEGEND SHEET
B1 - B3	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1 - D4	SUMMARY SHEETS
E1 - E3	DETAILS
F1 - F15	PLAN & PROFILES
N1 - N6	BRIDGE SHEETS
P1 - P19	UTILITY SHEETS

THE FOLLOWING STANDARD DRAWINGS APPLY TO THIS PROJECT:

D-01.02, D-06.10, D-20.03, D-22.01, D-23.01, D-24.00,
D-26.02, D-35.00
G-00.01, G-04.07W, G-30.00, G-46.10
I-20.13, I-81.00
S-00.10, S-10.00, S-22.00, S-31.00

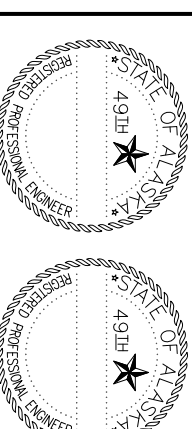
DRAWING LOCATION	DATE	TIME	LAYOUT	SCALE	XREFS	DESIGNED BY	CHECKED BY	DRAFTED BY
			A1	N/A				DAF



DESIGN DESIGNATIONS			
	WEST DOWLING ROAD	RASPBERRY ROAD	
A.A.D.T. 2015	9,050	9,050	
A.A.D.T. 2035	17,253	5,378	
V (mph)	50	35	
DHV	5,850	N/A	
T (%)	13	N/A	
D. (%)	N/A	N/A	

DESIGNED BY: SEAWOLF ENGINEERING

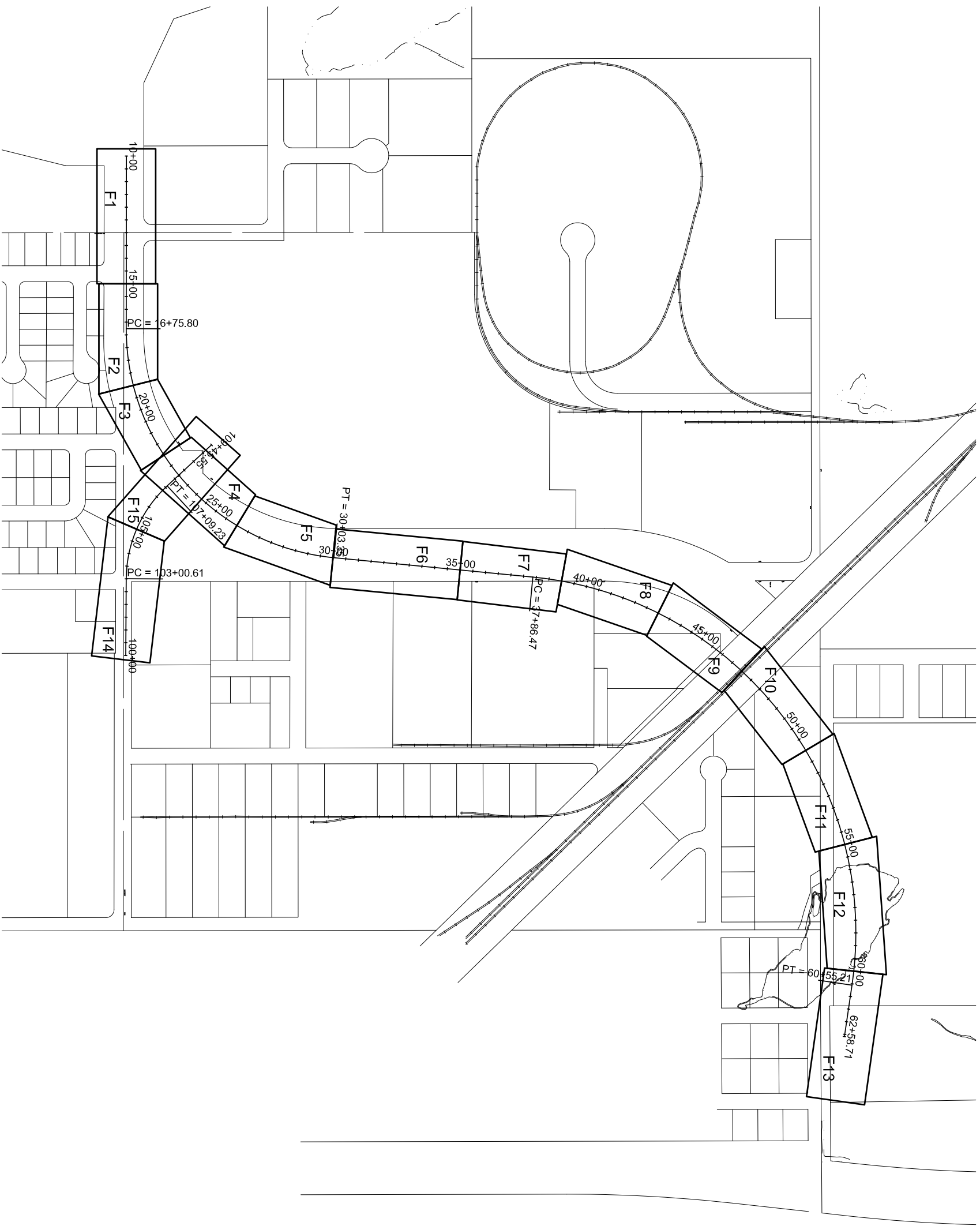
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
& PUBLIC FACILITIES



APPROVED:

REGIONAL PRE-CONSTRUCTION ENGINEER DATE
CONCUR: _____

DIRECTOR, DESIGN AND CONSTRUCTION DATE
CERTIFIED TRUE & CORRECT AS-BUILT OF ACTUAL FIELD CONDITION:
CONSTRUCTION PROJECT MANAGER DATE



REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	A3	

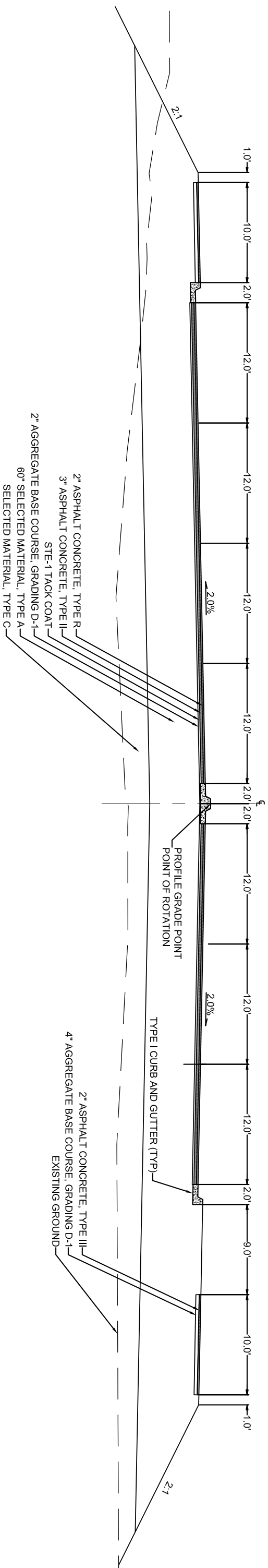
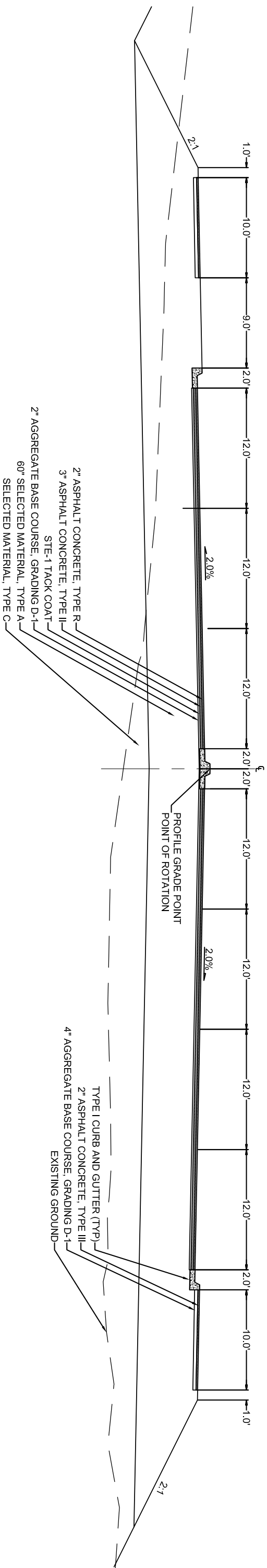


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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

SHEET LAYOUT

REVISIONS		STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
NO.	DATE	DESCRIPTION				
			ALASKA	51030	2010	B2



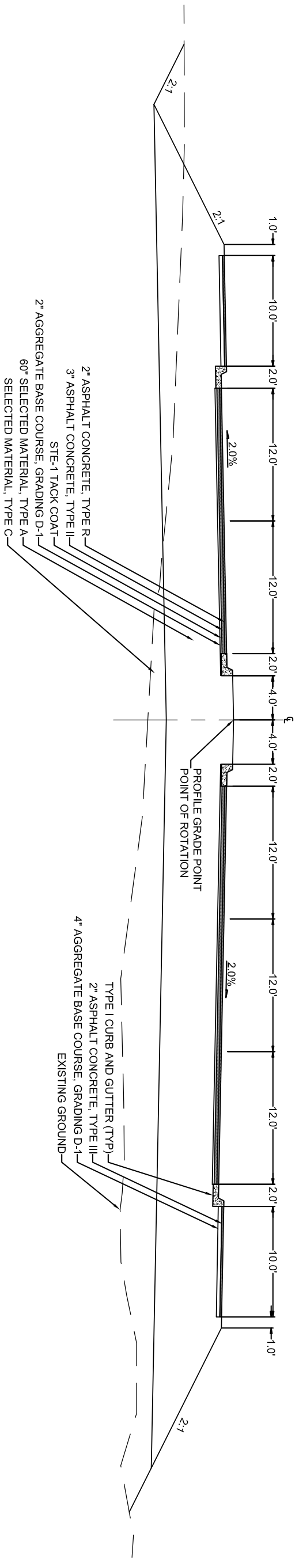
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

TYPICAL SECTIONS

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COMPUTER DESIGNATION	Sections.dwg	PLOT VIEW: PS	DRAFTED BY XX XXXX XX, 20XX



RASPBERRY ROAD

STA. 106+00.00 TO 107+37.72

REVISIONS	
NO.	DATE

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	B3	



UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

TYPICAL SECTIONS

ESTIMATE OF QUANTITIES

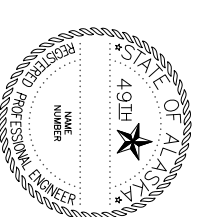
ITEM NO.	PAY ITEM	PAY UNIT	TOTAL QUANTITY
201(3A)	CLEARING AND GRUBBING	ACRE	11
202(1)	REMOVAL OF STRUCTURES	EACH	6
202(2)	REMOVAL OF PAVEMENT	SQUARE YARD	90000
202(3A)	REMOVAL OF CONCRETE SIDEWALK	SQUARE YARD	558
202(6)	REMOVAL OF MANHOLE	EACH	2
202(9)	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	4470
202(20)	REMOVAL OF WATER PIPE	LINEAR FOOT	400
203(3)	UNCLASSIFIED EXCAVATION	CUBIC YARD	86551
203(3A)	WETLANDS EXCAVATION	CUBIC YARD	10000
203(6A)	BORROW; TYPE A	TON	201111.88
203(6C)	BORROW; TYPE C	TON	175000
203(28)	EXCAVATING CONTAMINATED SOIL	CONTINGENT SUM	ALL REQUIRED
301(1)	AGGREGATE BASE COURSE, GRADING D-1	TON	5421.85
401(1A)	HOT MIX ASPHALT, TYPE II; CLASS A	TON	6098.33
401(2B)	ASPHALT CEMENT; PG 64-28	TON	77.59
402(1)	STE-1 ASPHALT, TYPE R	TON	15.14
409(1)	HOT MIX ASPHALT, TYPE R	TON	3828.44
409(2)	ASPHALT CEMENT; PG 64-34	TON	645.24
501(15B)	STUB WALL (AESTHETIC)	LINEAR FOOT	540
507(1)	STEEL BRIDGE RAILING	LINEAR FOOT	540
507(2)	PEDESTRIAN RAILING	LINEAR FOOT	540
5XXX	WETLANDS CREATION	SQUARE YARD	10000
603(1-18)	18" CSP	LINEAR FOOT	730
603(3-18)	END SECTION FOR 18" CSP	EACH	8
603(12-18)	PIPE 12" CORRUGATED POLYETHYLENE	LINEAR FOOT	2490
603(21-18)	PIPE 18" CORRUGATED POLYETHYLENE	LINEAR FOOT	360
603(1-42)	PIPE 42" CORRUGATED STEEL	LINEAR FOOT	14
604(3)	RECONSTRUCT EXISTING MANHOLE	EACH	1
604(5)	INLET	EACH	1
604(14)	OIL AND GRIT SEPARATOR	EACH	9
604(14X)	OIL AND GRIT SEPARATOR, STORMCEPTOR	EACH	23
605(7)	PIPE 8" PERFORATED PVC	LINEAR FOOT	2
606(1)	W-BEAM GUARDRAIL	LINEAR FOOT	3550
606(11)	EXTRUDER TERMINAL (ET-2000)	EACH	2000
606(12)	GUARDRAIL/BRIDGE RAIL CONNECTION	EACH	4
606(15)	CRASH CUSHION	EACH	4
608(2)	ASPHALT SIDEWALK	TON	1410.74
609(2)	CURB AND GUTTER	LINEAR FOOT	540
610(2)	DITCH LINING	TON	5500
611(2A)	RIPRAP, CLASS I	TON	270

REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	C1	

ESTIMATE OF QUANTITIES

ITEM NO.	PAY ITEM	PAY UNIT	TOTAL QUANTITY
614(1)	CONCRETE BARRIER	LINEAR FOOT	300
615(1)	STANDARD SIGN	SQUARE FOOT	178
618(1A)	SEEDING, TYPE A	ACRE	50000
619(2)	MATTING	SQUARE YARD	50000
620(1A)	TOPSOIL, 4" DEPTH	SQUARE YARD	380
627(1-10)	10" DUCTILE IRON WATER CONDUIT, CLASS 52	LINEAR FOOT	3
627(3)	INSTALL VALVE BOX	EACH	1
627(7)	FIRE HYDRANT REMOVAL	EACH	3
627(9-10)	INSTALL 10" GATE VALVE	EACH	4
627(10)	ADJUSTMENT OF VALVE BOX	EACH	3
627(12B)	INSTALL MAGNESIUM BAG ANODE	EACH	41400
631(1)	GEOTEXTILE, DRAINAGE	SQUARE YARD	4300
633(1)	SILT FENCE	LINEAR FOOT	100
641(1)	EROSION AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
642(3)	3-PERSON SURVEY PARTY	HOURL	55
670(10A)	METHYL METHACRYLATE PAVEMENT MARKINGS LONGITUDINAL SURFACE APPLIED	LINEAR FOOT	27000
670(10G)	METHYL METHACRYLATE PAVEMENT MARKINGS ONLY AND ARROW INLAID	EACH	24
670(10H1)	METHYL METHACRYLATE PAVEMENT MARKINGS TRANSVERSE INLAID	EACH	1
-	NOISE WALL, FURNISH AND INSTALL	EACH	1
-	BRIDGE CONSTRUCTION AND MATERIALS	EACH	1
-	MSE WALL	EACH	1



UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

ESTIMATE OF QUANTITIES

STRUCTURE SUMMARY

SHEET	STRUCTURE NO.	STATION	OFFSET	RIM ELEVATION	REMARKS
F2	CB2-1	16+90.15	39.19' RT	87.18	CURB INLET CATCH BASIN
F2	CB2-2	17+04.41	38.88' LT	82.64	CURB INLET CATCH BASIN
F3	CB3-1	19+27.93	38.00' LT	84.01	CURB INLET CATCH BASIN
F3	CB3-2	19+27.93	14.00' RT	87.13	CURB INLET CATCH BASIN
F3	CB3-3	20+43.06	14.00' RT	88.22	CURB INLET CATCH BASIN
F3	CB3-4	20+43.06	38.00' LT	85.1	CURB INLET CATCH BASIN
F4	CB4-1	22+06.16	38.00' LT	86.73	CURB INLET CATCH BASIN
F4	CB4-2	22+06.16	2.00' RT	89.13	CURB INLET CATCH BASIN
F4	CB4-3	23+50.00	2.00' RT	90.56	CURB INLET CATCH BASIN
F4	CB4-4	23+75.23	50.00' LT	86.34	CURB INLET CATCH BASIN
F4	CB4-5	25+31.13	50.00' LT	87.9	CURB INLET CATCH BASIN
F4	CB4-6	25+31.98	2.00' RT	92.39	CURB INLET CATCH BASIN
F4	CB4-7	108+64.88	32.00' RT	NEED TO VERIFY	CURB INLET CATCH BASIN
F4	CB4-8	108+65.48	30.00' LT	NEED TO VERIFY	CURB INLET CATCH BASIN
F5	CB5-1	26+41.37	48.82' LT	89.07	CURB INLET CATCH BASIN
F5	CB5-2	26+41.37	14.00' RT	94.2	CURB INLET CATCH BASIN
F5	CB5-3	28+00.00	41.92' LT	92.02	CURB INLET CATCH BASIN
F5	CB5-4	28+00.00	9.44' RT	95.51	CURB INLET CATCH BASIN
F5	CB5-5	29+18.92	39.39' LT	92.73	CURB INLET CATCH BASIN
F14	CB14-1	105+00.00	30.00' RT	NEED TO VERIFY	CURB INLET CATCH BASIN
F14	CB14-2	105+00.00	32.00' LT	NEED TO VERIFY	CURB INLET CATCH BASIN
F15	CB15-1	106+85.58	32.00' LT	NEED TO VERIFY	CURB INLET CATCH BASIN
F15	CB15-2	106+47.00	44.00' RT	NEED TO VERIFY	CURB INLET CATCH BASIN
F10	SC10-1	48+05.29	100.44' RT	107.28	STORM CEPTOR UNIT
F12	SC12-1	58+35.52	80.46' RT	101.31	STORM CEPTOR UNIT
F3	SDMH3-1	19+12.71	19.77' LT	84.99	TYPE I MANHOLE
F3	SDMH3-2	20+43.06	20.00' LT	86.18	TYPE I MANHOLE
F4	SDMH4-1	22+06.16	20.00' LT	87.81	TYPE I MANHOLE
F4	SDMH4-2	23+50.00	20.00' LT	89.24	TYPE I MANHOLE
F4	SDMH4-3	25+31.63	20.00' LT	91.06	TYPE I MANHOLE
F5	SDMH5-1	26+41.37	20.00' LT	92.16	TYPE I MANHOLE
F5	SDMH5-2	28+00.00	14.59' RT	94.07	TYPE I MANHOLE
F5	SDMH5-3	29+19.01	13.00' LT	95.36	TYPE I MANHOLE
F14	SDMH14-1	105+00.00	12.00' RT	NEED TO VERIFY	TYPE I MANHOLE
F15	SDMH15-1	106+59.27	12.00' RT	NEED TO VERIFY	TYPE I MANHOLE
P14	SDMH 11	47+44.99	150.65' LT	108.88	TYPE I MANHOLE
P14	SDMH 12	47+73.80	119.45' LT	109.55	TYPE I MANHOLE
P14	SDMH 13	47+73.80	126.21' RT	109.91	TYPE I MANHOLE
P14	SDMH 14	47+04.33	127.79' RT	108.78	TYPE I MANHOLE
P15	SSMH-1	25+27.10	133.12' RT	92.66	TYPE I MANHOLE
P16	SSMH-2	26+65.23	92.09' LT	93.05	TYPE I MANHOLE
P16	SSMH-3	30+04.45	109.99' LT	97.70	TYPE I MANHOLE
P17	SSMH-4	33+04.44	108.44' LT	95.51	TYPE I MANHOLE
P18	SSMH-5	36+04.43	111.28' LT	101.59	TYPE I MANHOLE
P18	SSMH-6	38+94.11	130.07' LT	99.20	TYPE I MANHOLE
P19	SSMH-7	41+61.65	177.22' LT	98.46	TYPE I MANHOLE

REMOVAL ITEMS

SHEET	STATION	OFFSET	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (FT ²)	REMOVAL OF WATER PIPE (FT.)	REMOVAL OF SEWER PIPE (FT.)	REMOVAL OF STORM PIPE (FT.)	REMOVAL OF GAS PIPE (FT.)	REMOVAL OF PAVEMENT (FT ²)	REMARKS
P5	28+15.00	R	POWER POLE						
P5	29+50.00	R	POWER POLE						
P6	30+80.00	R	POWER POLE						
P6	32+15.00	R	POWER POLE						
P6	33+60.00	R	POWER POLE						
P6	35+00.00	L	POWER POLE						
P7	35+10.00	R	POWER POLE						
P7	37+40.00	R	POWER POLE						
P7	37+75.00	R	POWER POLE						
P7	38+80.00	L	POWER POLE						
P8	39+10.00	R	EXISTING PHONE SERVICE						
P8	39+80.00	L	EXISTING U/G POWER						
P8	40+50.00	L	POWER POLE						
P8	40+50.00	L	POWER POLE						
P8	41+80.00	L	POWER POLE						
P8	42+00.00	L	FIRE HYDRANT						
P8	42+10.00	L	POWER POLE						
P9	44+00.00	R	PHONE SERVICE						
P9	44+75.00	R	RELOCATE GAS LINE						
P10	47+25.00	L/R	POWER POLE						
P10	47+75.00	R	SEWER MANHOLE						
P10	48+00.00	R	POWER POLE						
P10	50+00.00	L	POWER POLE						
TOTAL				200			210		
PAY ITEM QUANTITY				200			510		

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	D1	



UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

SUMMARY SHEETS

REVISIONS	
NO.	DATE

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	D3	

615(1)

SIGN SUMMARY

SHEET	POST NO.	STATION	OFFSET (LT/RT)	TYPE	LEGEND	SIZE WxH (IN.)	AREA (FT ²)	SIGN FACES	THICKNESS (IN.)		POST SIZE AND TYPE	NUMBER OF POSTS	REMARKS
									FRAMED	UNFRAMED			
F1	1	10+25.00	RT	R1-1		30x30	7.25	W	XX	0.125	XX	1	
F1	2	11+00.00	RT	R2-1		30x36	7.5	W	XX	0.125	XX	1	
F2	3	16+68.80		R4-7		30x36	7.5	W	XX	0.125	XX	1	
F2	4	18+50.00	RT	R3-7R		36x36	9	W	XX	0.125	XX	1	
F3	5	20+50.00	RT	R1-2		36x36	9	SW	XX	0.125	XX	1	
F3	6	20+92.00		R3-5L		30x36	7.5	SW	XX	0.125	XX	1	
F4	7	22+25.00		R3-8		30x30	7.25	NE	XX	0.125	XX	1	
F4	8	22+50.00		R1-2		36x36	9	SW	XX	0.125	XX	1	
F4	9	22+74.30	RT	W11-2		36x36	9	SW	XX	0.125	XX	1	
F4	10	23+20.50	LT	W11-2		36x36	9	NE	XX	0.125	XX	1	
F4	11	23+50.00		R1-2		36x36	9	NE	XX	0.125	XX	1	
F4	12	23+75.00		R3-8		30x30	7.25	SW	XX	0.125	XX	1	
F4	13	25+10.00		R3-5L		30x36	7.5	NE	XX	0.125	XX	1	
F4	14	25+40.00	LT	R1-2		36x36	9	NE	XX	0.125	XX	1	
F5	15	26+50.00	LT	R3-7R		36x36	9	N	XX	0.125	XX	1	
F5	16	30+03.25		R4-7		30x36	7.5	N	XX	0.125	XX	1	
F13	17	62+00.00	LT	R1-2		36x36	9	E	XX	0.125	XX	1	
F4	18	106+00.00	RT	R3-7R		36x36	9	SE	XX	0.125	XX	1	
F4	19	107+25.00	RT	R1-2		36x36	9	SE	XX	0.125	XX	1	
F4	20	108+15.00	LT	R1-2		36x36	9	NW	XX	0.125	XX	1	
F4	21	109+25.00	LT	R3-7R		36x36	9	NW	XX	0.125	XX	1	
TOTAL						176.25	178						

PAY ITEM QUANTITY

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UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
ESTIMATE OF QUANTITIES

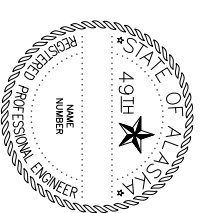
REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	D4	

PIPE SUMMARY

SHEET	PIPE NO.	12 INCH PIPE (FT.)	18 INCH PIPE (FT.)	24 INCH PIPE (FT.)	30 INCH PIPE (FT.)	42 INCH PIPE (FT.)	END SECTIONS (EACH)	2 INCH DIAMETER THAW PIPE (FT.)	INLET			OUTLET			REMARKS
									STATION	OFFSET	ELEVATION	STATION	OFFSET	ELEVATION	
F2	P2-1	44.43							16+90.15	39.19' RT	81.18	16+90.16	39.19' RT	76.51	
F2	P2-2	36.18							17+04.41	38.88' LT	76.64	16+90.15	39.19' RT	76.51	
F3	P3-1	23.43							19+27.93	38.00' LT	78.01	19+12.71	19.77' LT	77.53	
F3	P3-2	37.02							19+27.93	14.00' RT	81.13	19+12.71	19.77' LT	77.53	
F3	P3-3	43.57							19+12.71	19.77' LT	77.49	19+01.69	22.38' RT	77.27	
F3	P3-4	34.00							20+43.06	14.00' RT	82.22	20+43.06	20.00' LT	78.18	
F3	P3-5	127.35							20+43.06	20.00' LT	78.14	19+12.71	19.77' LT	77.51	
F3	P3-6	18.00							20+43.06	38.00' LT	79.10	20+43.06	20.00' LT	78.18	
F3	P3-7	159.26							22+06.16	20.00' LT	78.96	20+43.06	20.00' LT	78.16	
F4	P4-1	18.00							22+06.16	38.00' LT	80.73	22+06.16	20.00' LT	79.00	
F4	P4-2	22.00							22+06.16	2.00' RT	83.13	22+06.16	20.00' LT	79.00	
F4	P4-3	140.50							23+50.00	20.00' LT	79.68	22+06.16	20.00' LT	78.98	
F4	P4-4	22.00							23+50.00	2.00' RT	84.56	23+50.00	20.00' LT	79.72	
F4	P4-5	38.57							23+75.23	50.00' LT	80.34	23+50.00	20.00' LT	79.72	
F4	P4-6	30.00							25+31.13	50.00' LT	81.9	25+31.63	20.00' LT	80.63	
F4	P4-7	22.00							25+31.98	2.00' RT	86.39	25+31.63	20.00' LT	80.63	
F4	P4-8	107.23							26+41.37	20.00' LT	81.15	25+31.63	20.00' LT	80.61	
F4	P4-9	62.00							108+64.88	32.00' RT	NOT VERIFIED	108+65.48	30.00' LT	NOT VERIFIED	
F4	P4-10	13.20							108+65.48	30.00' LT	NOT VERIFIED	108+72.08	41.43' LT	NOT VERIFIED	
F4	P4-11	177.30							25+31.63	20.00' LT	80.59	23+50.00	20.00' LT	79.70	
F5	P5-1	28.82							26+41.37	48.82' LT	83.07	26+41.37	20.00' LT	81.19	
F5	P5-2	34.00							26+41.37	14.00' RT	88.20	26+41.37	20.00' LT	81.19	
F5	P5-3	155.48							28+00.00	14.59' RT	81.94	26+41.37	20.00' LT	81.17	
F5	P5-4	27.33							28+00.00	41.92' LT	86.02	28+00.00	14.59' RT	81.98	
F5	P5-5	24.02							28+00.00	9.44' RT	89.51	28+00.00	14.59' RT	81.98	
F5	P5-6	117.11							29+19.01	13.00' LT	82.55	28+00.00	14.59' RT	81.96	
F5	P5-7	26.39							29+18.92	39.39' LT	86.73	29+19.01	13.00' LT	82.57	
F5	P5-8						2		30+06.36	85.42' LT	98.00	29+50.71	85.47' RT	96.00	
F10	P10-1		162.56				2		47+92.30	113.10' LT	109.28	47+95.35	100.69' RT	108.28	
F10	P10-2	15.00	213.81				2		48+05.29	100.44' RT	102.28	48+17.25	110.58' RT	101.28	
F11	P11-1		180.06				2		51+50.00	95.75' LT	111.76	51+50.00	84.31' RT	110.73	
F12	P12-1		146.27				2		56+00.00	75.39' LT	104.21	56+00.00	70.88' RT	102.52	
F12	P12-2	8							58+35.61	72.46' RT	96.31	58+35.52	80.46' RT	95.31	
F14	P14-1	203.34							105+00.00	12.00' RT	80.34	102+93.20	0.49' LT	79.32	
F14	P14-2	18.00							105+00.00	30.00' RT	NOT VERIFIED	105+00.00	12.00' RT	80.38	
F14	P14-3	44.00							105+00.00	32.00' LT	NOT VERIFIED	105+00.00	12.00' RT	80.38	
F15	P15-1	154.79							106+59.27	12.00' RT	81.13	105+00.00	12.00' RT	80.36	
F15	P15-2	51.52							106+85.58	32.00' LT	NOT VERIFIED	106+59.27	12.00' RT	81.15	
F15	P15-3	34.89							106+47.00	44.00' RT	NOT VERIFIED	106+59.27	12.00' RT	81.15	
P14	P-SD1	44.39							47+44.99	150.65' LT	94.32	47+73.80	119.45' LT	94.09	
P14	P-SD2	245.66							47+73.80	119.45' LT	94.07	47+73.80	126.21' RT	92.84	
P14	P-SD3	63.18							47+73.80	126.21' RT	92.82	47+04.33	127.79' RT	92.50	
	P-S1				300				25+27.10	133.12' RT	82.18	23+48.48	333.08' RT	81.46	
	P-S2				265.22				26+65.23	92.09' LT	82.82	25+27.10	133.12' RT	82.20	
	P-S3				300				30+04.45	109.99' LT	83.55	26+65.23	92.09' LT	82.84	
	P-S4				300				33+04.44	108.44' LT	84.28	30+04.45	109.99' LT	83.57	
	P-S5				300				36+04.43	111.28' LT	85.00	33+04.44	108.44' LT	84.30	
	P-S6				300				38+94.11	130.07' LT	85.73	36+04.43	111.28' LT	85.02	
	P-S7				299.78				41+61.65	177.22' LT	86.46	38+94.11	130.07' LT	85.75	
	TOTAL	2471.96	702.70	2065			8	XX							
	PAY ITEM QUANTITY	2472	703	2065			XX	XX							

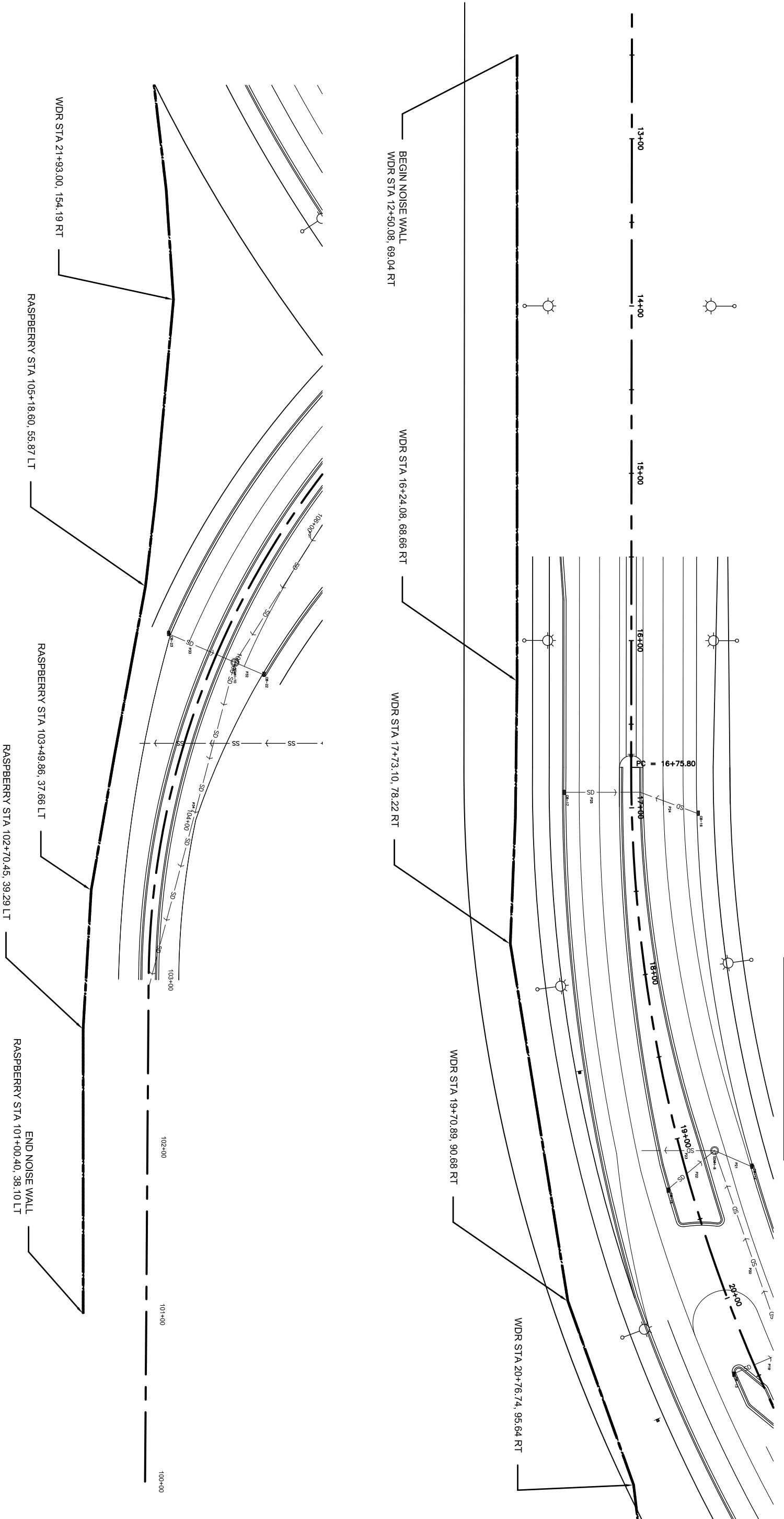
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PLOT DATE: 4/21/2010 4:10 PM Y:\CE 438 Transportation Branch\CAD Team\Drawings\Sheets\0 - Summary PLOT SCALE: CHECKED BY
COMPUTER DESIGNATION Sheets.dwg PLOT VIEW: PS DRAFTED BY



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
PUBLIC FACILITIES

**WEST DOWLING PHASE II
C ST TO MINNESOTA DR**

ESTIMATE OF QUANTITIES



NOISE WALL LOCATION

REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	E1	

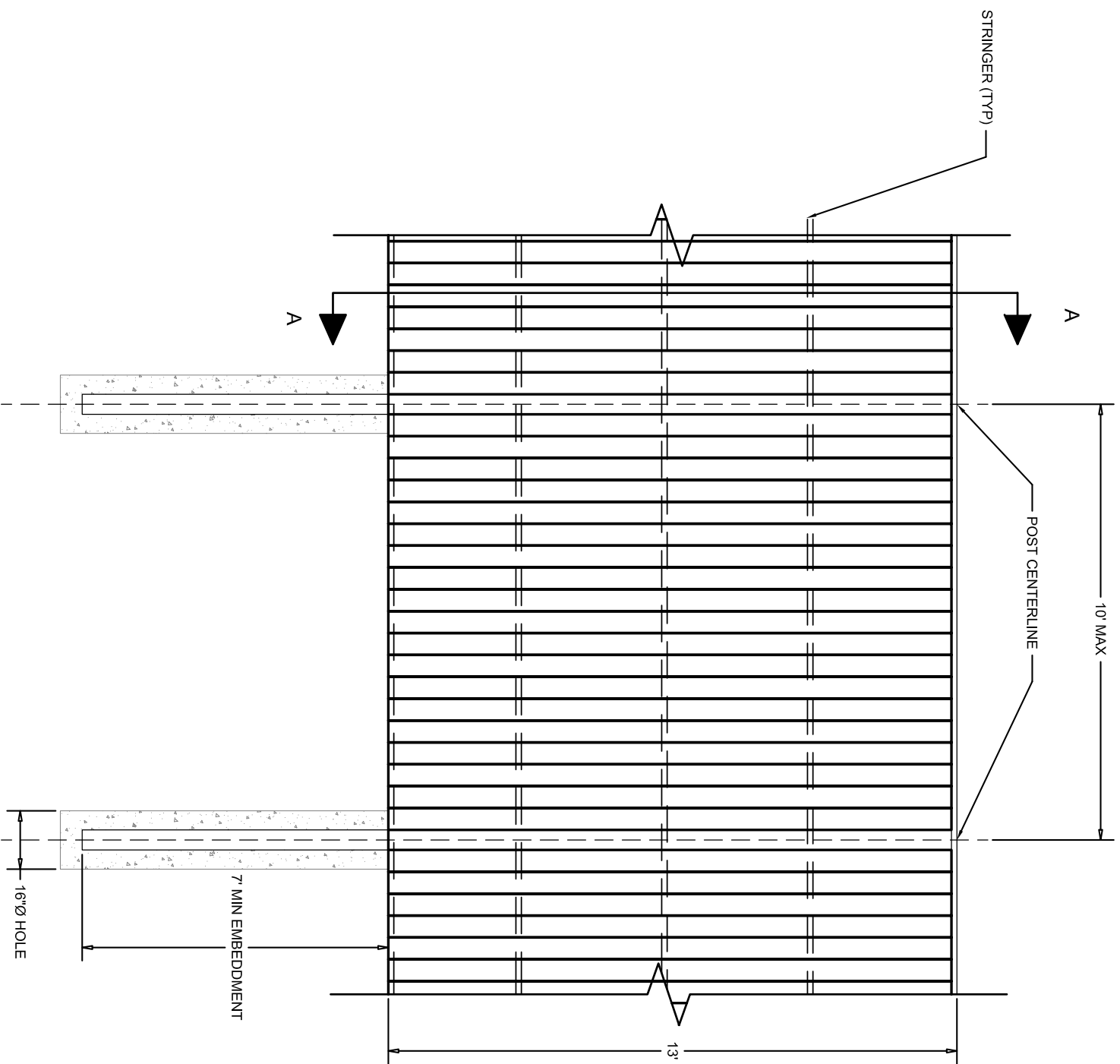


UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

DETAILS

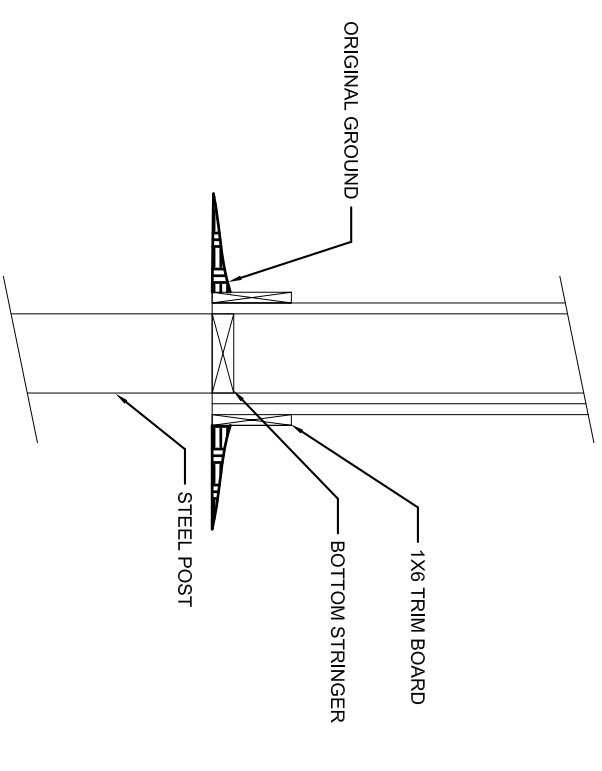
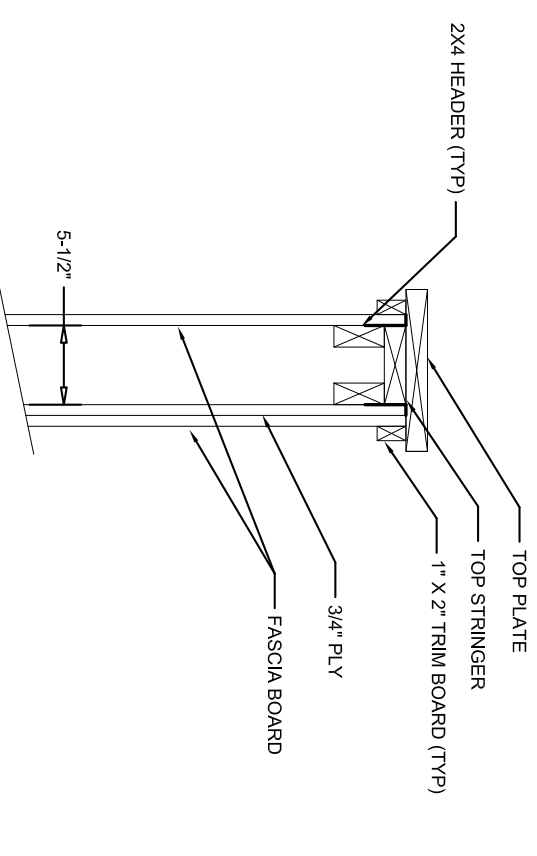
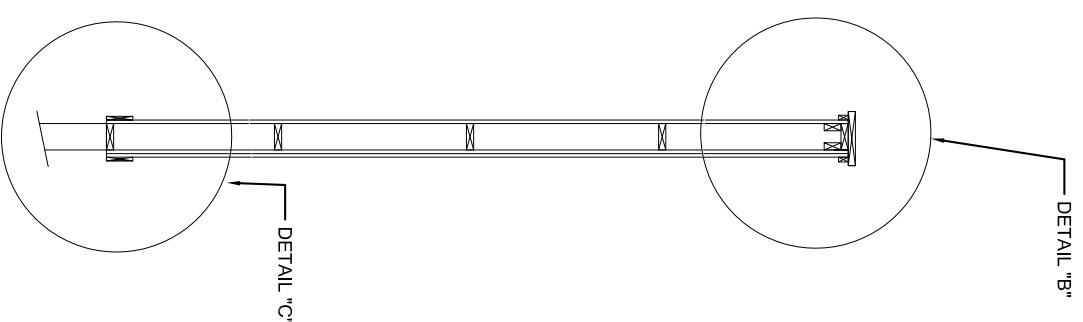
- NOTES:
1. ALL FASTENERS SHALL BE HOT DIPPED, GALVANIZED.
 2. VERTICAL FASCIA TO BE 1X6 CEDAR FASTENED TO EACH STRINGER WITH 2-10d NAILS.
 3. EMBED BASE TRIM BOARD MINIMUM 1" BELOW EXISTING GROUND.
 4. ALL DIMENSIONAL LUMBER TO BE AWW.
 5. POSTS TO BE HSS 5.5" X 5.5" X 5/16".
 6. CLASS A CONCRETE (5 SACK MINIMUM) SHALL BE USED TO FILL POST HOLES.
 7. TOP PLATE SHALL BE 2X12 CEDAR.
 8. TRIM BOARD SHALL BE CEDAR.
 9. FASTEN STRINGERS TO POST w/ ANGLED CLIPS.
 10. FINAL ELEVATIONS TO BE FIELD DETERMINED.



NOISE WALL DETAILS

REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	E2	



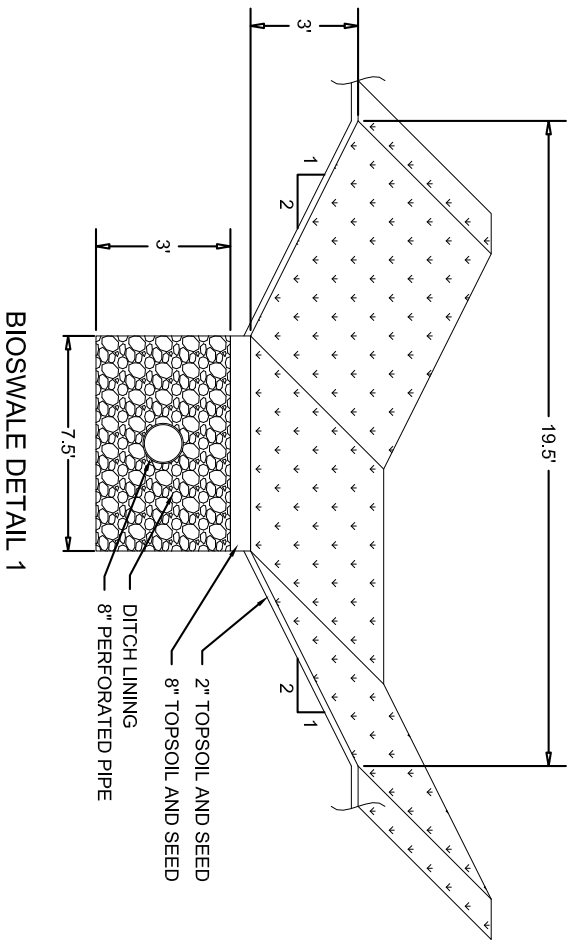
DETAIL C



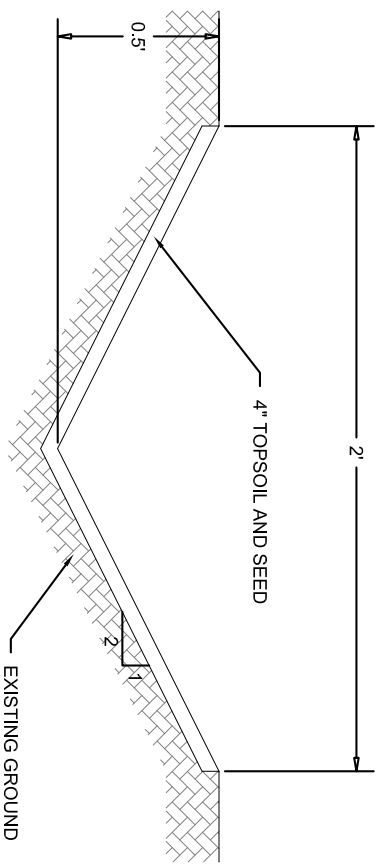
UAA ENGINEERING 2010

DETAILS

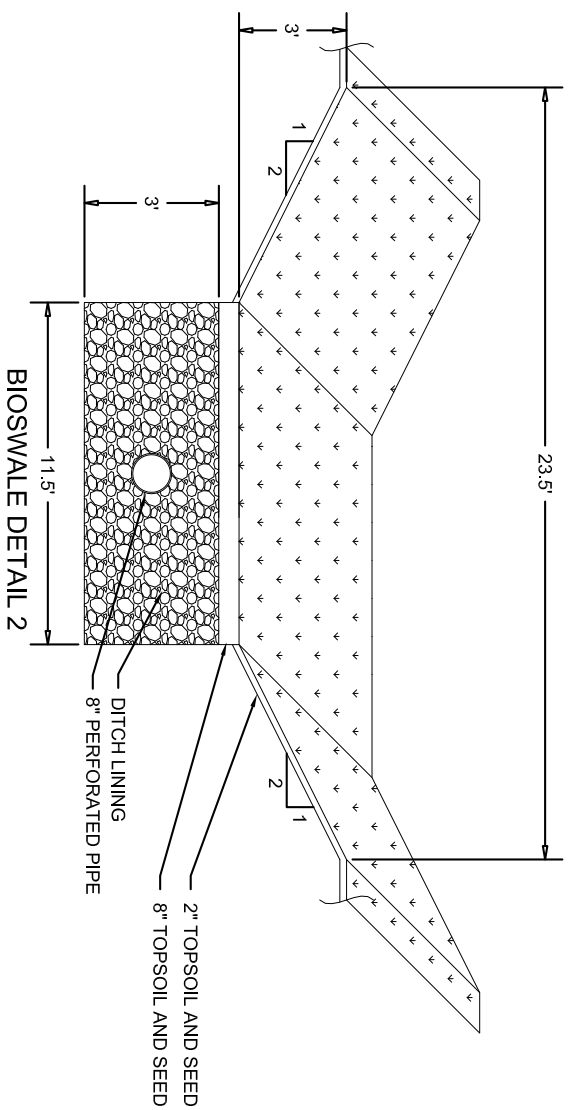
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR



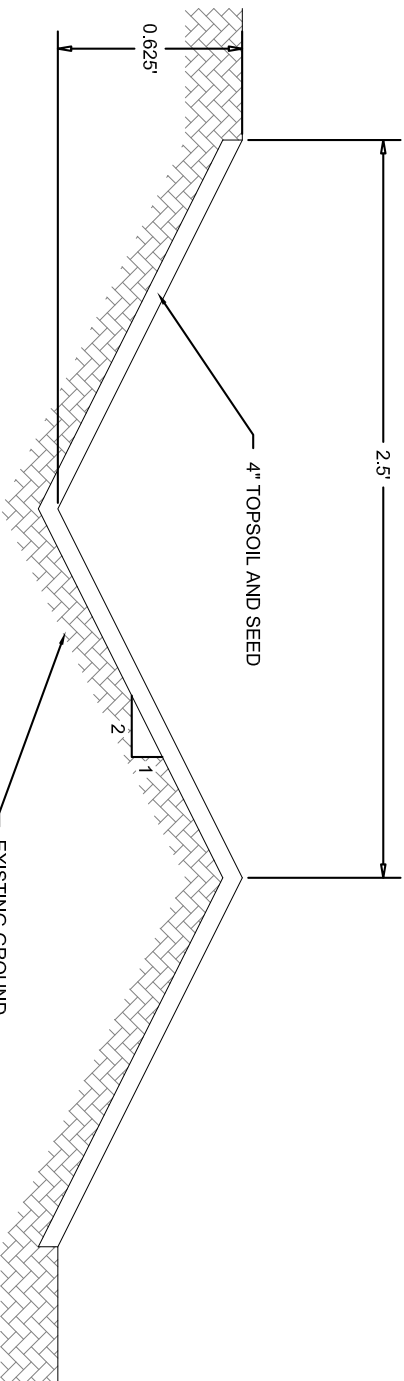
BIOSWALE DETAIL 1



DITCH DETAIL 1



BIOSWALE DETAIL 2



DITCH DETAIL 2

- NOTES:
- WHERE WATER TABLE PROBLEMS OCCUR, A LAND BARRIER MAY BE FORMED TO SEPARATE DITCH FROM EXISTING WATER. BARRIER WILL BE CONSTRUCTED WITH 2:1 SIDE SLOPES.

TYPICAL BIO-SWALE SECTIONS

NOT TO SCALE

REVISIONS	
NO.	DATE

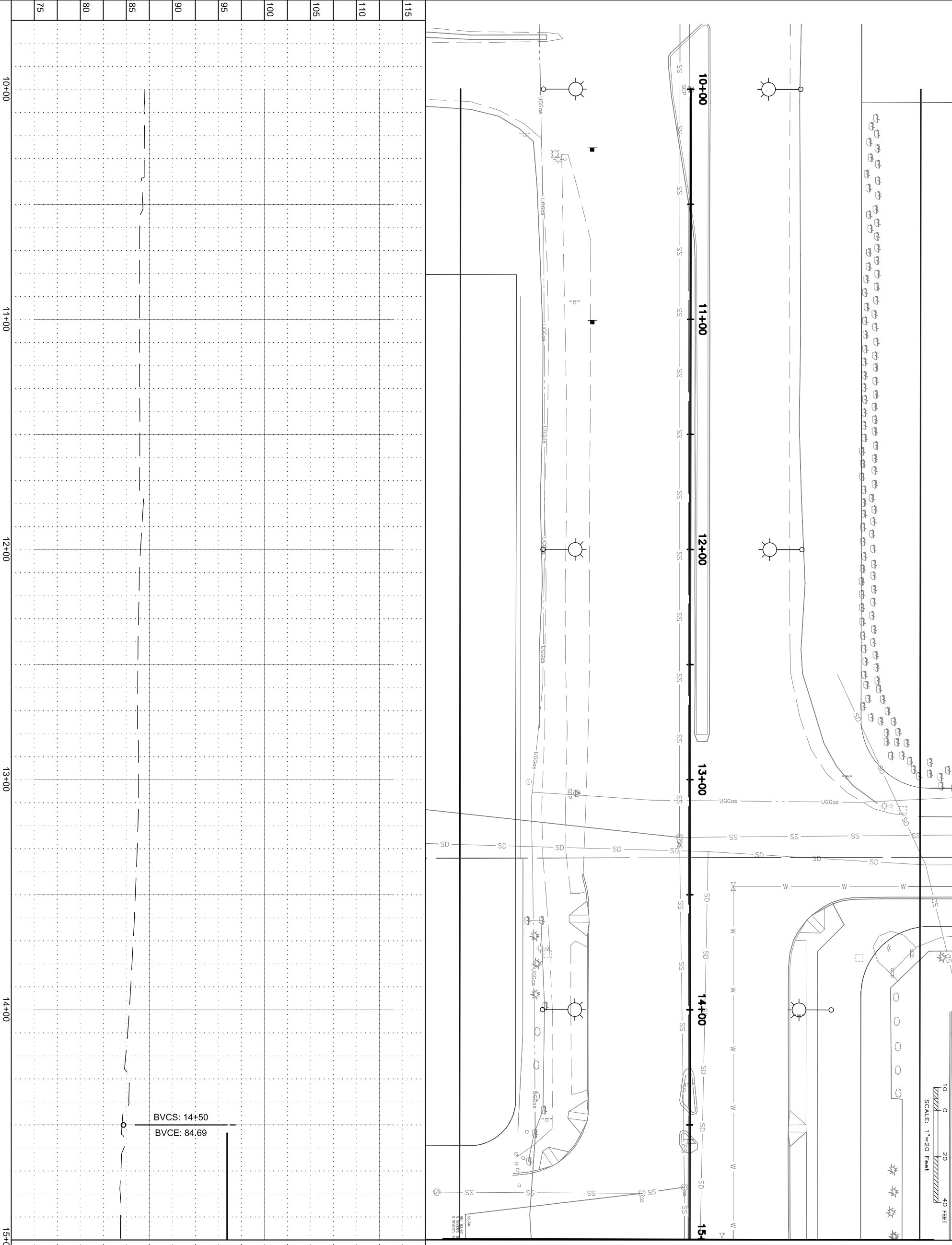
STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	E3	



UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

DETAILS



115	110	105	100	95	90	85	80	75
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SHEET NO.	F1	TOTAL SHEETS
STATE	ALASKA	YEAR
APPENDIX NO.	2010	

PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION

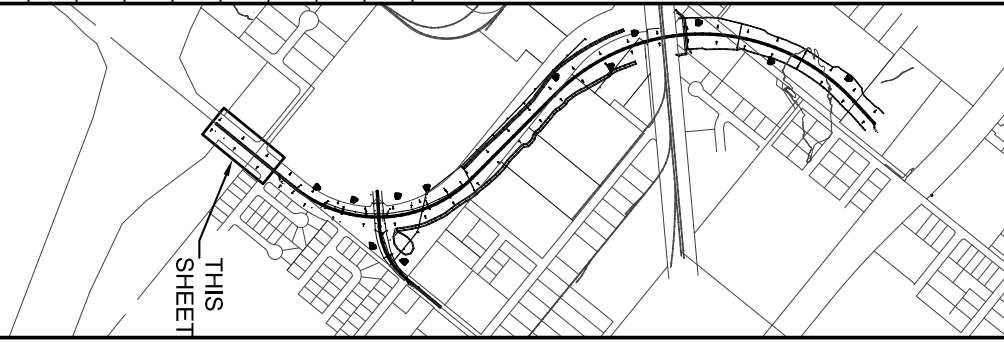


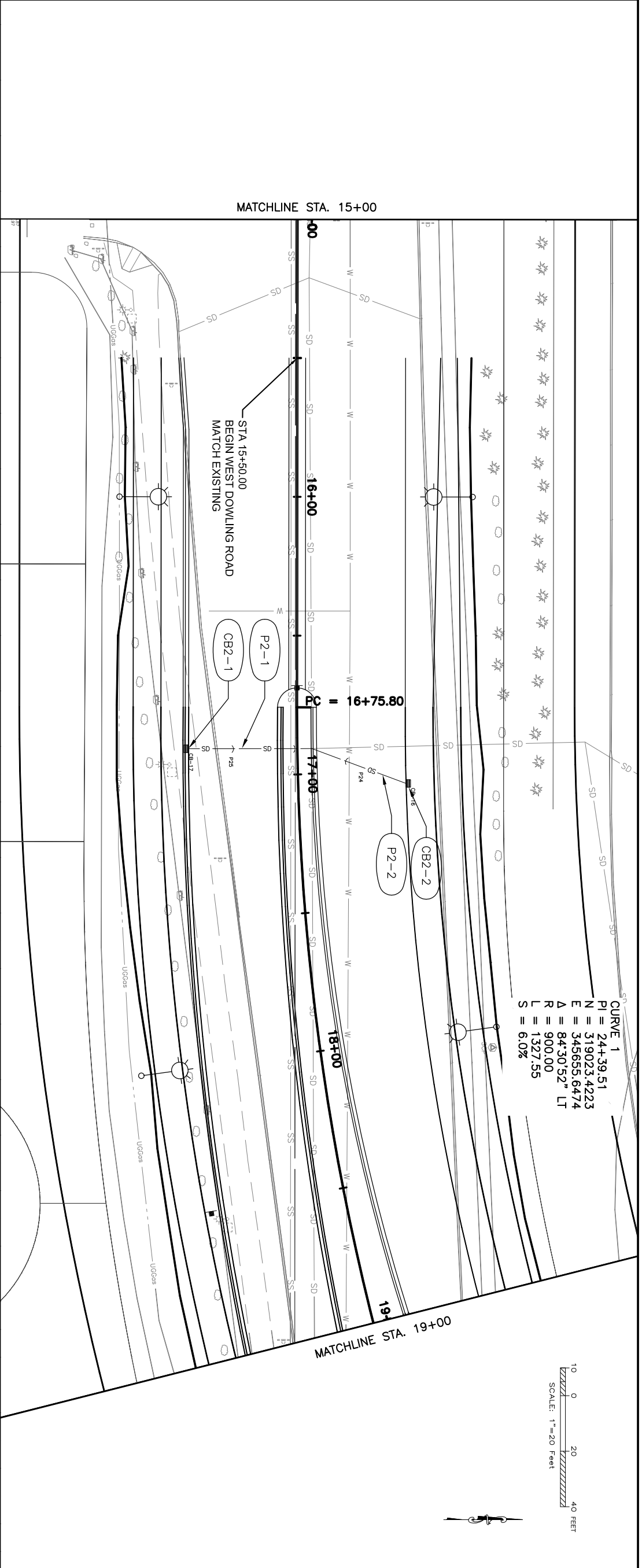
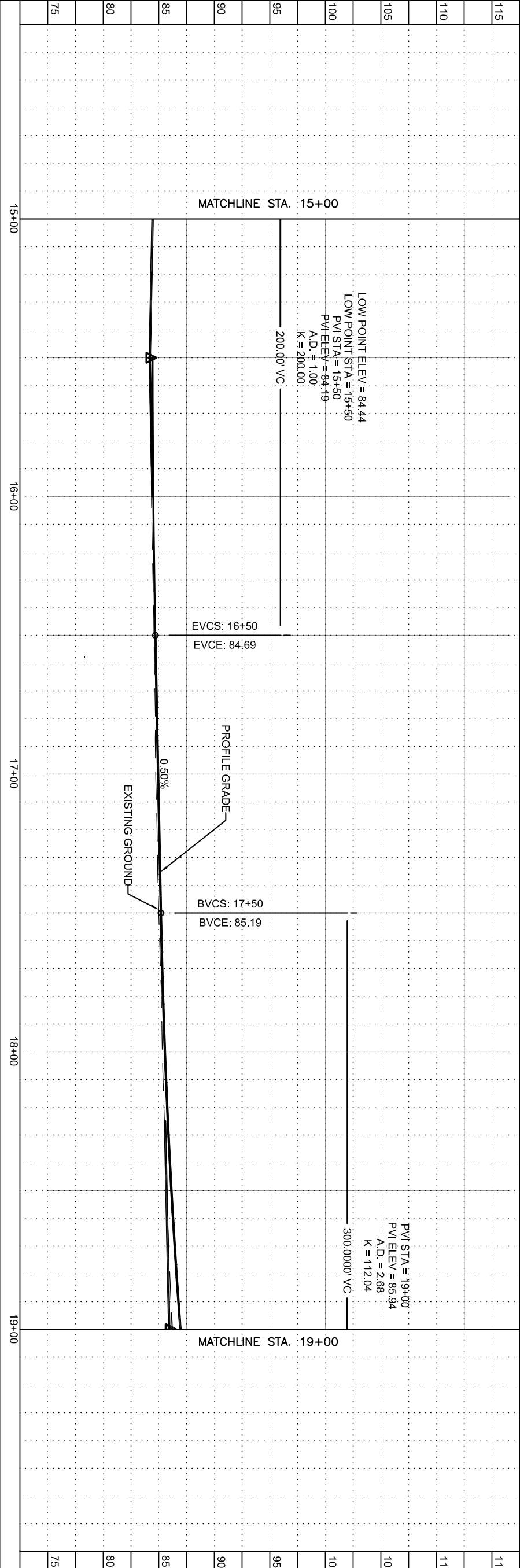
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

PLAN & PROFILE





SHEET NO.	F2	TOTAL SHEETS	
STATE	ALASKA	YEAR	2010
APPENDIX NO.	-		
PROJECT DESIGNATION	51030		
REVISIONS	NO. DATE DESCRIPTION		

REGISTERED PROFESSIONAL ENGINEER
NAME: ALEXANDER L. READ
NUMBER: 49118

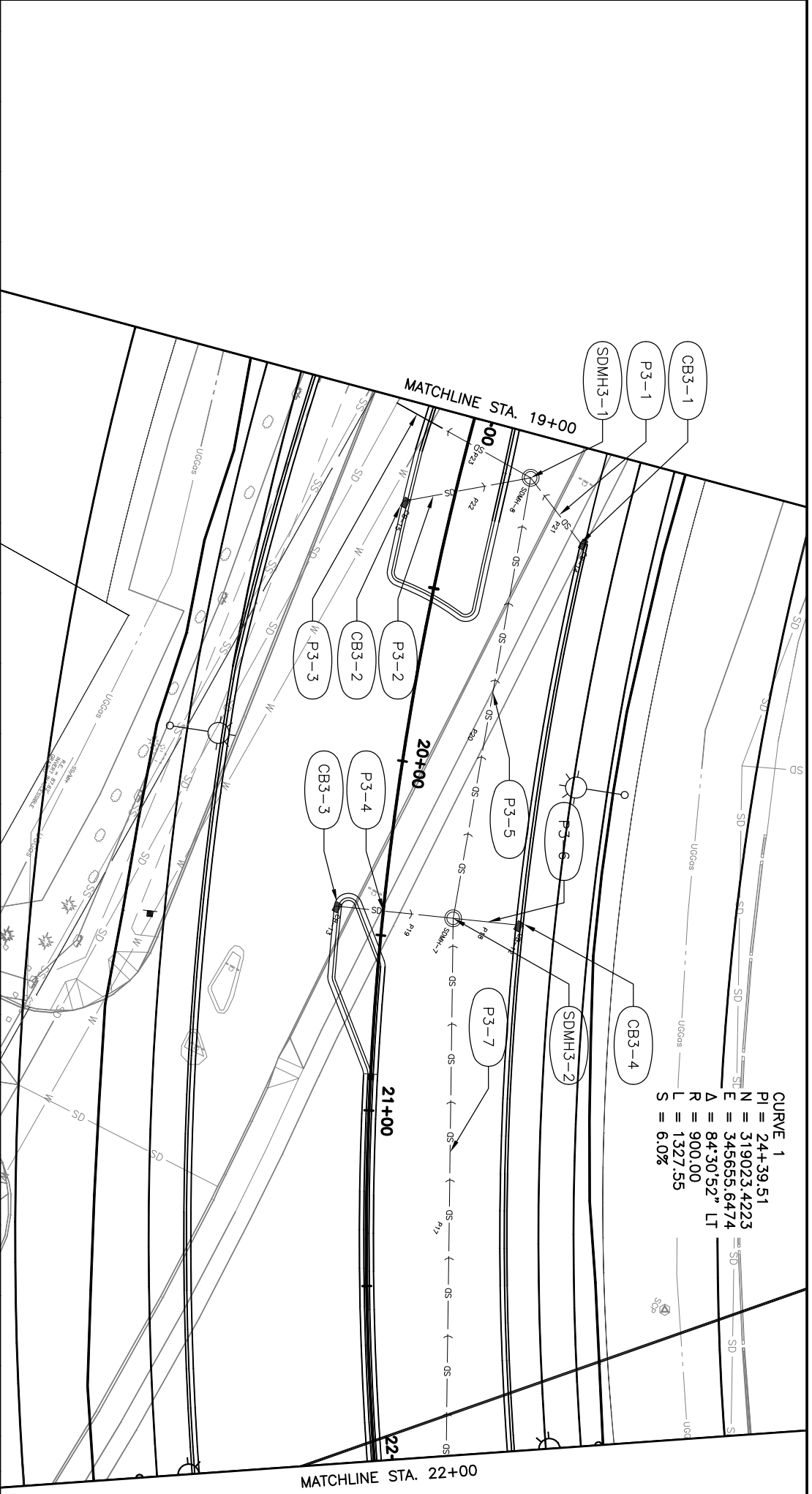
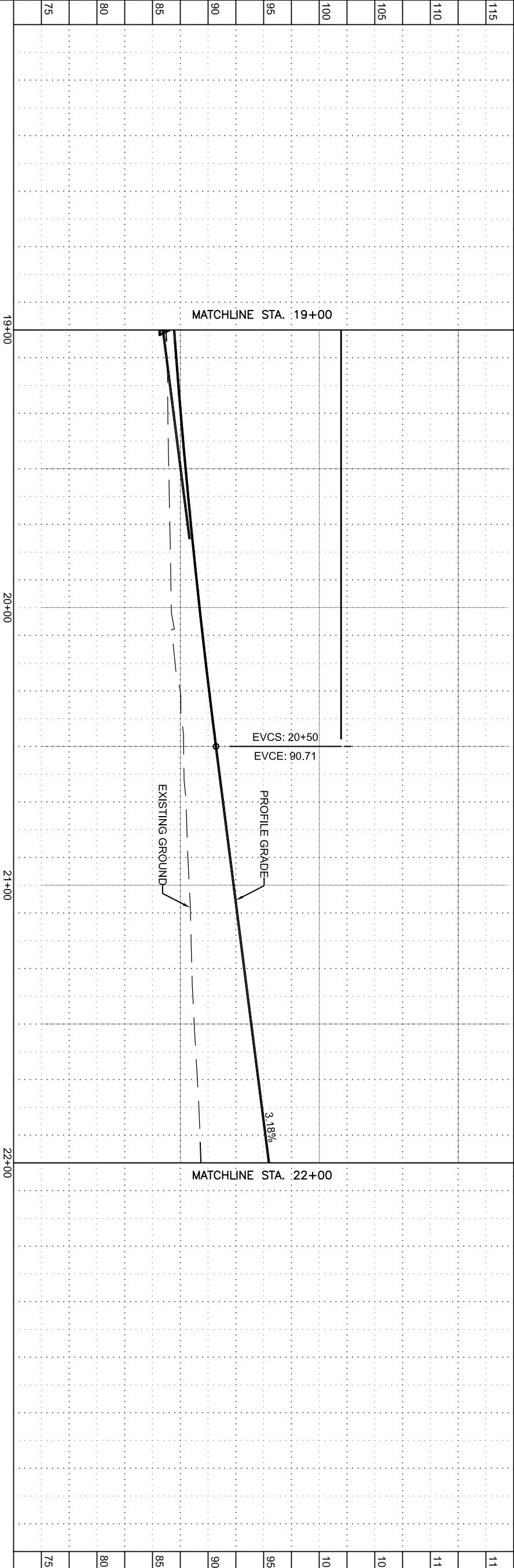
UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**WEST DOWLING PHASE II
C ST TO MINNESOTA DR**

PLAN & PROFILE

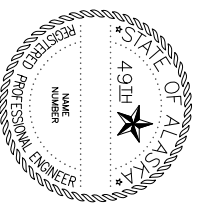
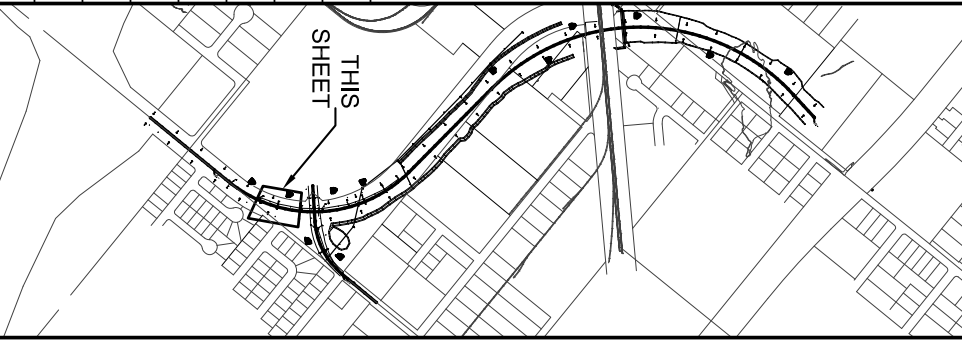
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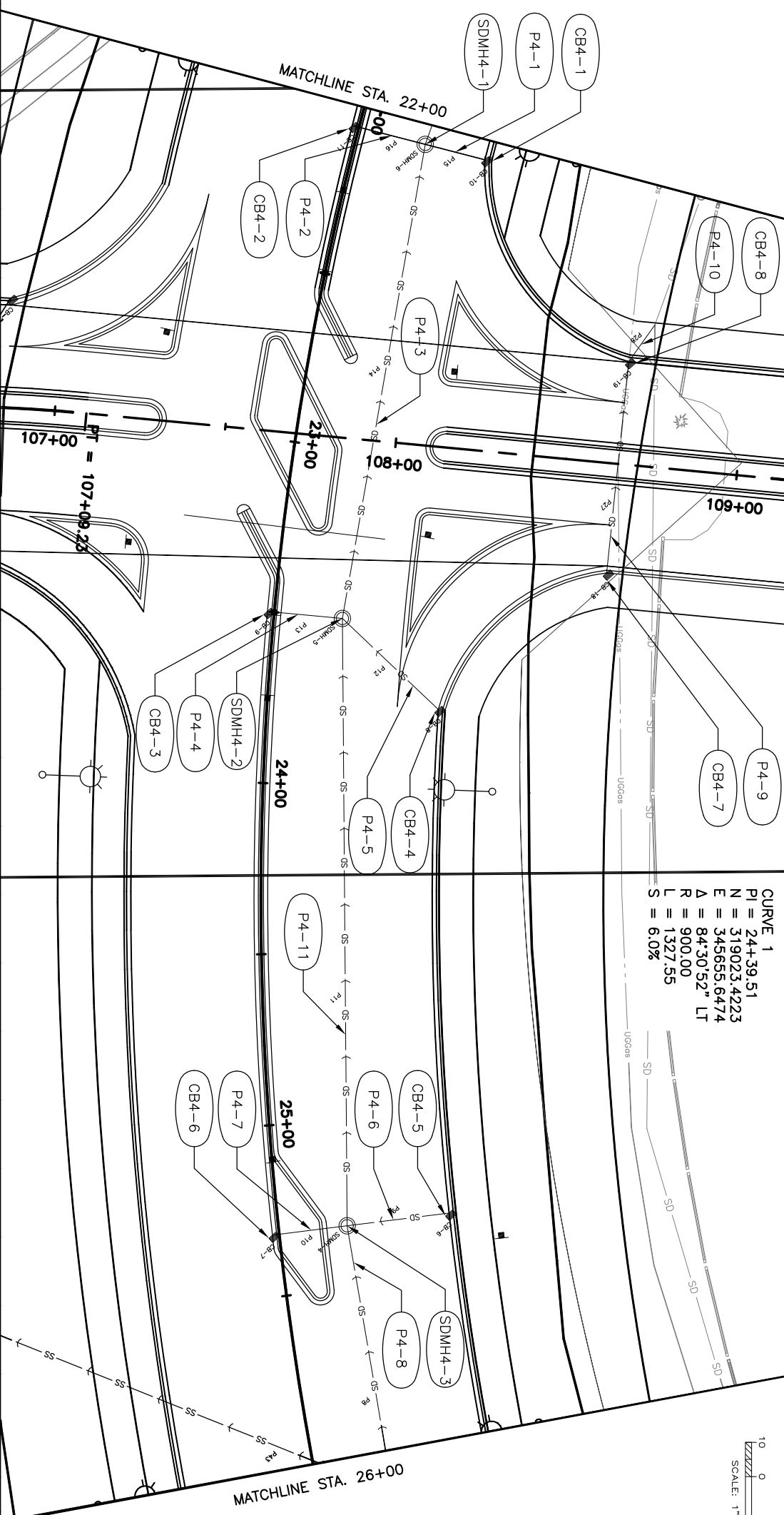
CURVE 1
 PI = 24+39.51
 N = 319023.4223
 E = 345655.6474
 A = 84°30'52" LT
 R = 900.00
 L = 1327.55
 S = 6.0%



SHEET NO.	F3	TOTAL SHEETS
STATE	ALASKA	YEAR
	2010	
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION



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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
PLAN & PROFILE



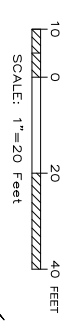
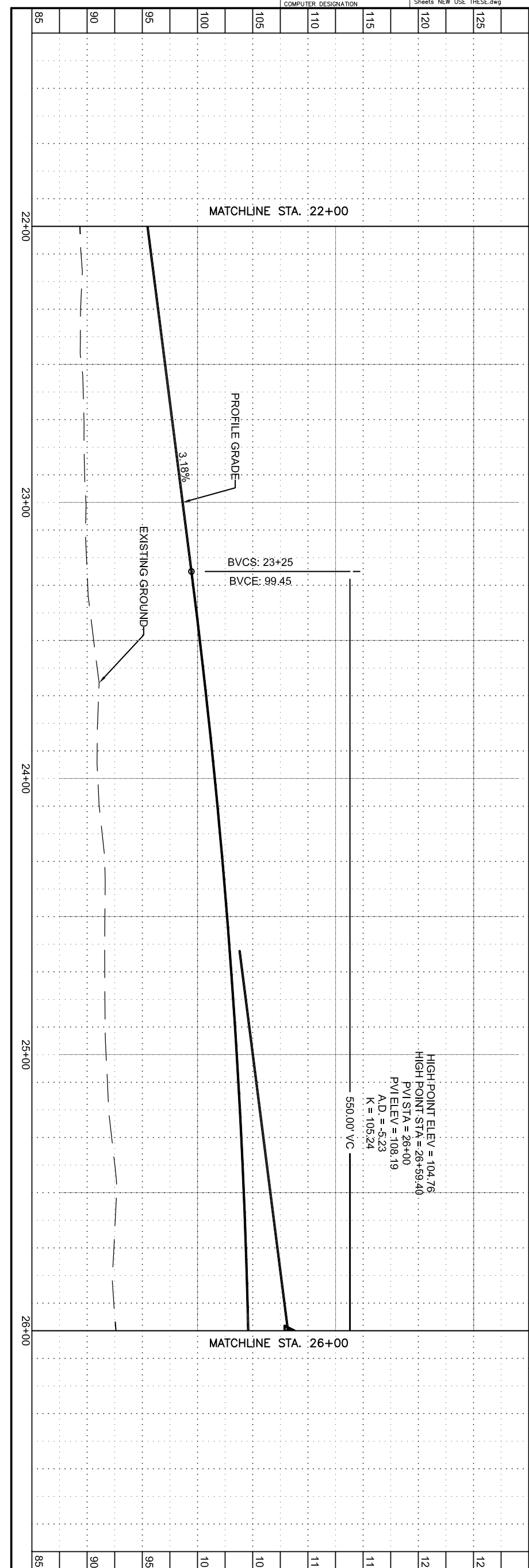
CURVE 1
 PI = 24+39.51
 N = 319023.4223
 E = 345655.6474
 Δ = 84°30'52" LT
 R = 900.00
 L = 1327.55
 S = 6.0%

HIGH POINT ELEV = 104.76
 HIGH POINT STA = 26+00
 PVI ELEV = 108.19
 A.D. = 5.23
 K = 105.24
 550.00' VC

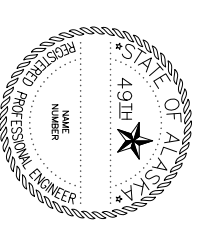
BVCS: 23+25
 BVCE: 99.45

3.18%

EXISTING GROUND

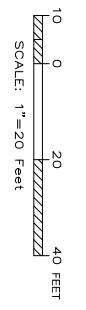
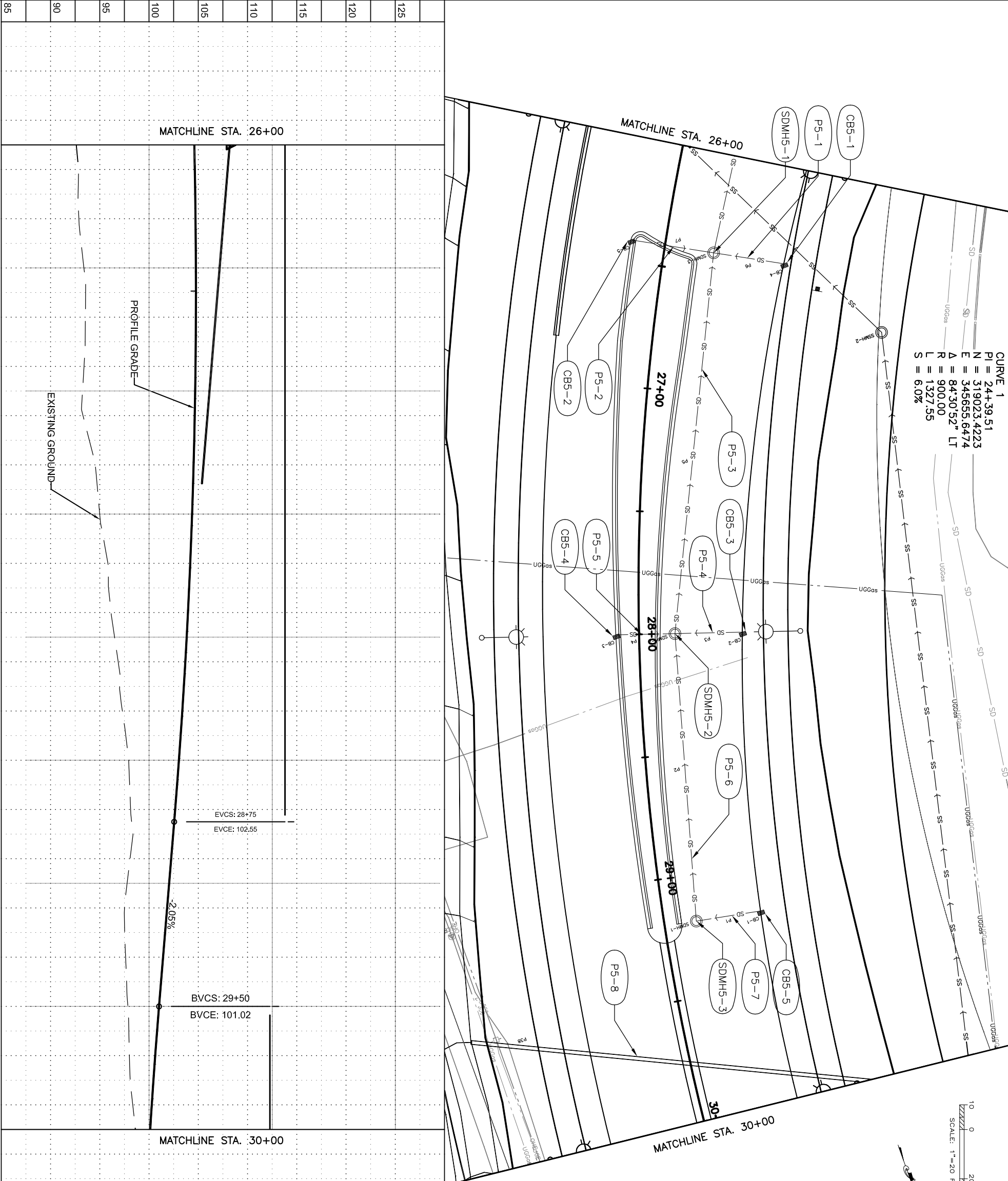


SHEET NO.	F4	TOTAL SHEETS
STATE	ALASKA	YEAR
		2010
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION



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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 WEST DOWLING PHASE II
 C ST TO MINNESOTA DR
 PLAN & PROFILE

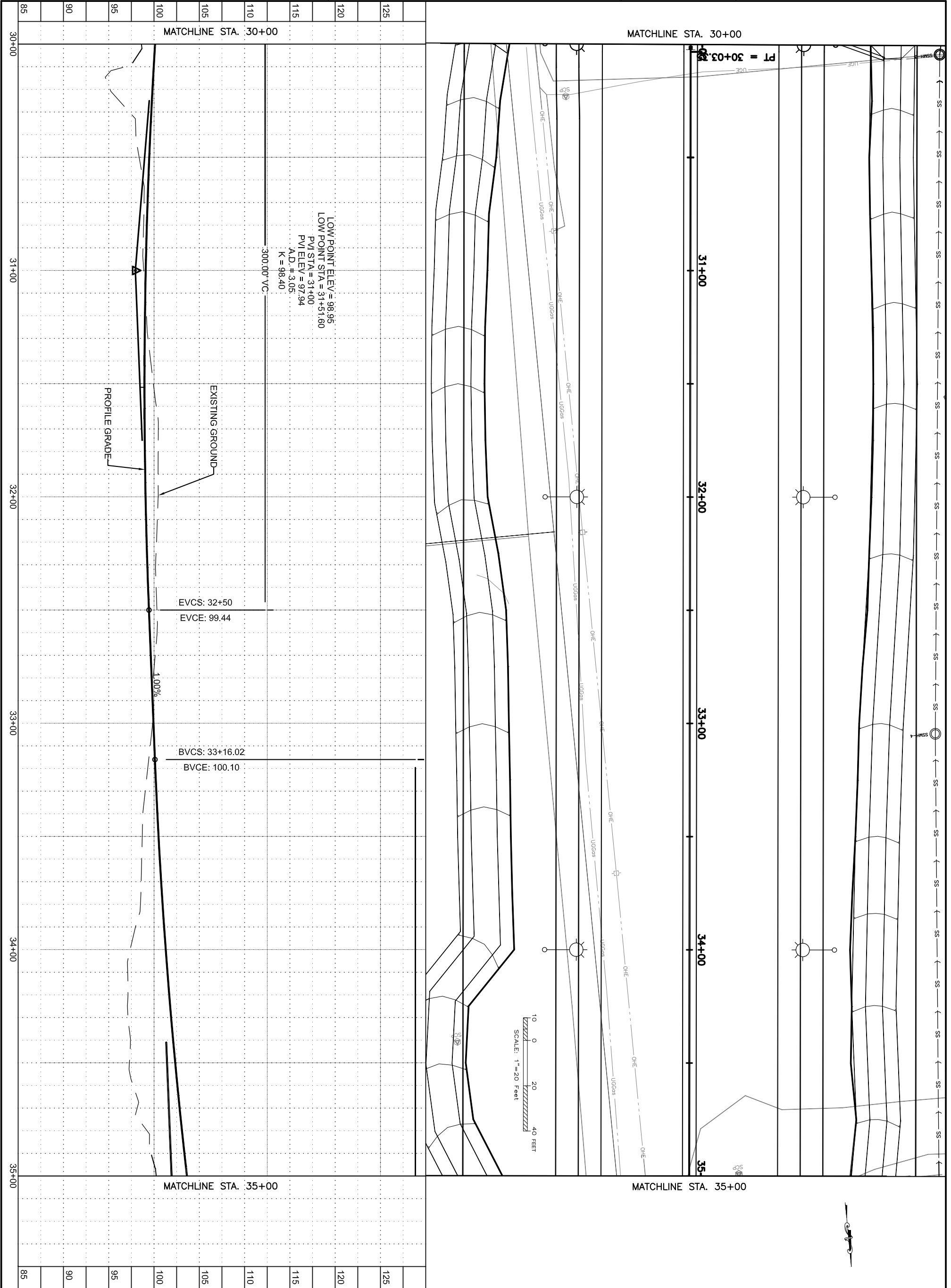
CURVE 1
 PI = 24+39.51
 N = 319023.4223
 E = 345655.6474
 Δ = 84°30'52" LT
 R = 900.00
 L = 1327.55
 S = 6.0%



SHEET NO. F5	TOTAL SHEETS	
STATE ALASKA	YEAR 2010	
APPENDIX NO. -		
PROJECT DESIGNATION 51030		
REVISIONS		
NO.	DATE	DESCRIPTION

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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
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SHEET NO. F6	TOTAL SHEETS	
STATE ALASKA	YEAR 2010	
APPENDIX NO. —		
PROJECT DESIGNATION 51030		
REVISIONS		
NO.	DATE	DESCRIPTION

UAA ENGINEERING 2010
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

THIS SHEET

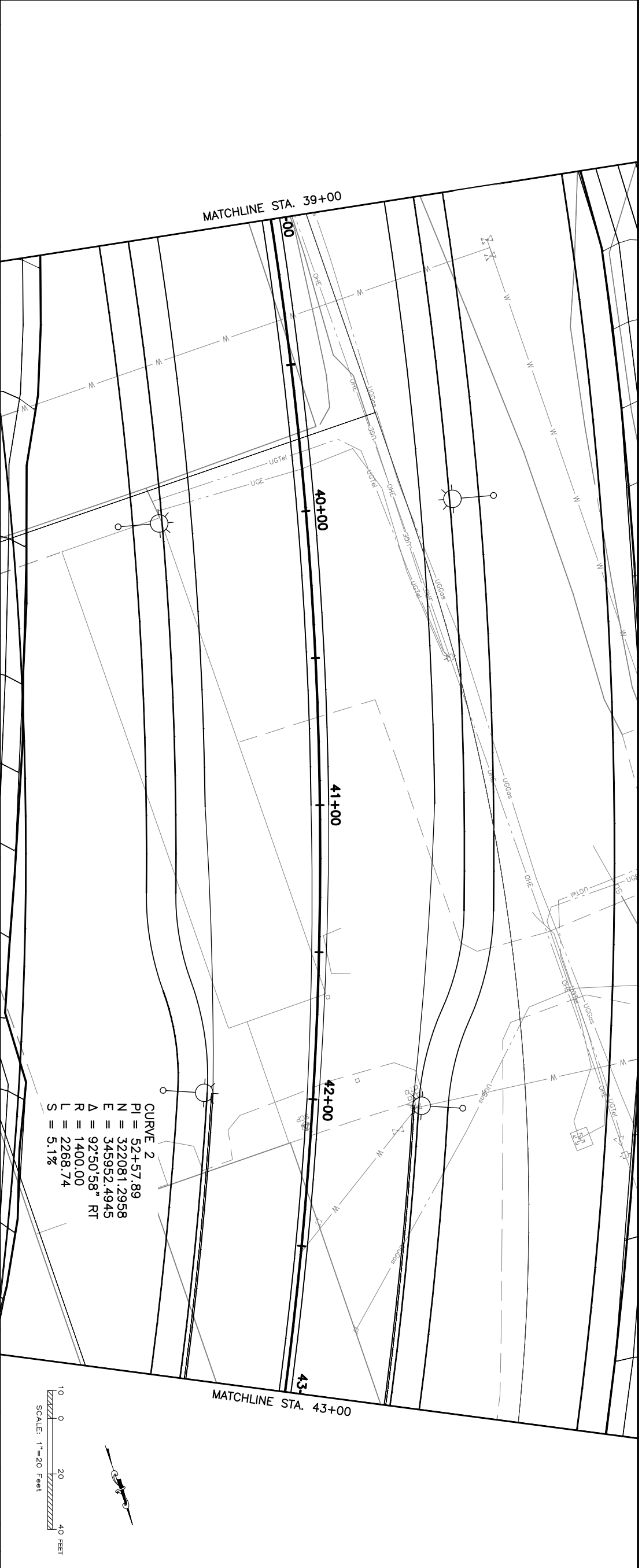
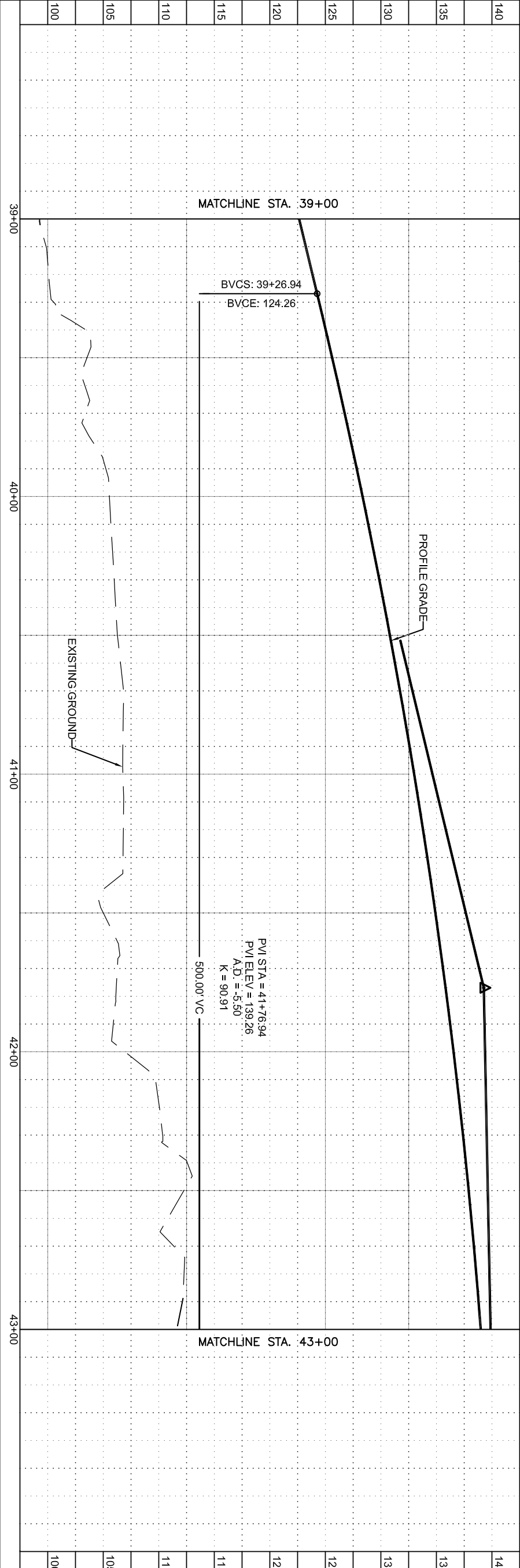
**WEST DOWLING PHASE II
C ST TO MINNESOTA DR
PLAN & PROFILE**



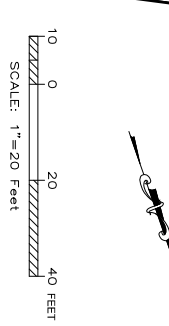
SHEET NO.	F7	TOTAL SHEETS	
STATE	ALASKA	YEAR	2010
APPENDIX NO.			
PROJECT DESIGNATION	51030		
REVISIONS			
NO.	DATE	DESCRIPTION	

THIS SHEET

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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
PLAN & PROFILE



CURVE 2
 PI = 52+57.89
 N = 322081.2958
 E = 345952.4945
 Δ = 92°50'58" RT
 R = 1400.00
 L = 2268.74
 S = 5.1%



SHEET NO. F8	TOTAL SHEETS	
STATE ALASKA	YEAR 2010	
APPENDIX NO. —		
PROJECT DESIGNATION 51030		
REVISIONS		
NO.	DATE	DESCRIPTION

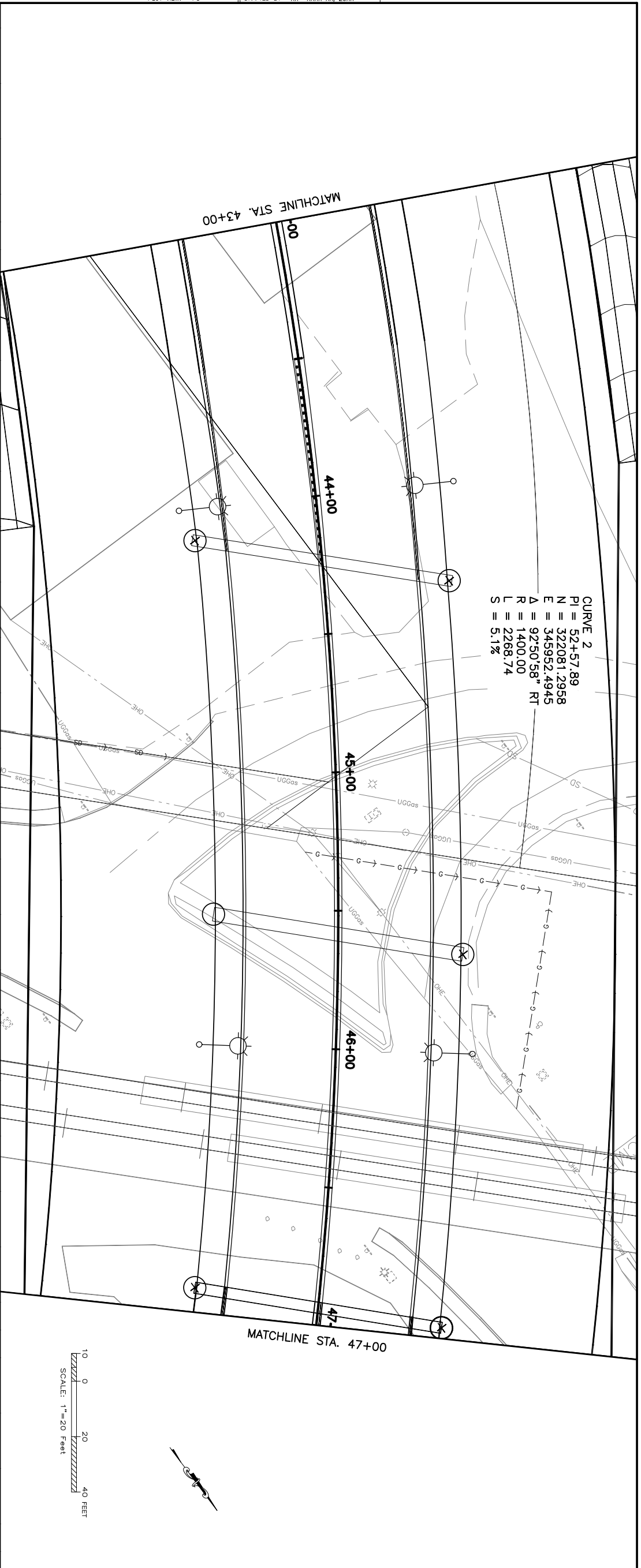
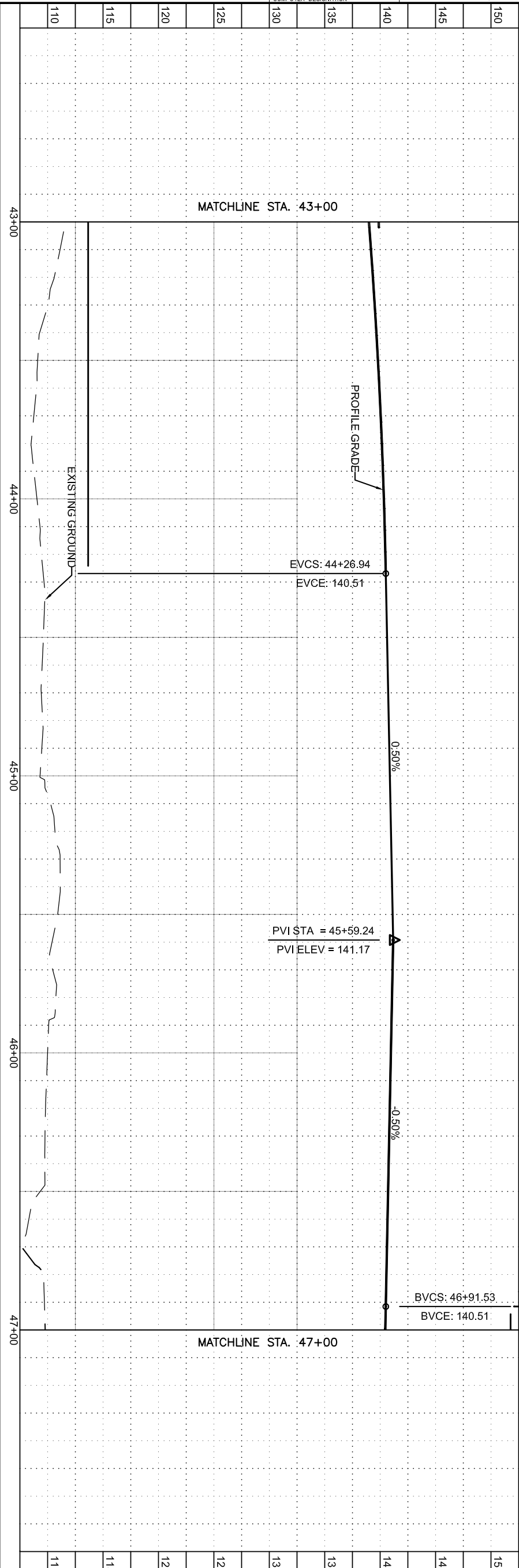
REGISTERED PROFESSIONAL ENGINEER
 NAME: ALEXANDER L. READ
 NUMBER: 4911
 STATE OF ALASKA

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STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

**WEST DOWLING PHASE II
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 PLAN & PROFILE**

THIS SHEET



110
115
120
125
130
135
140
145
150

THIS SHEET

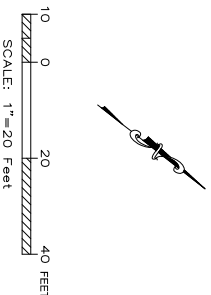
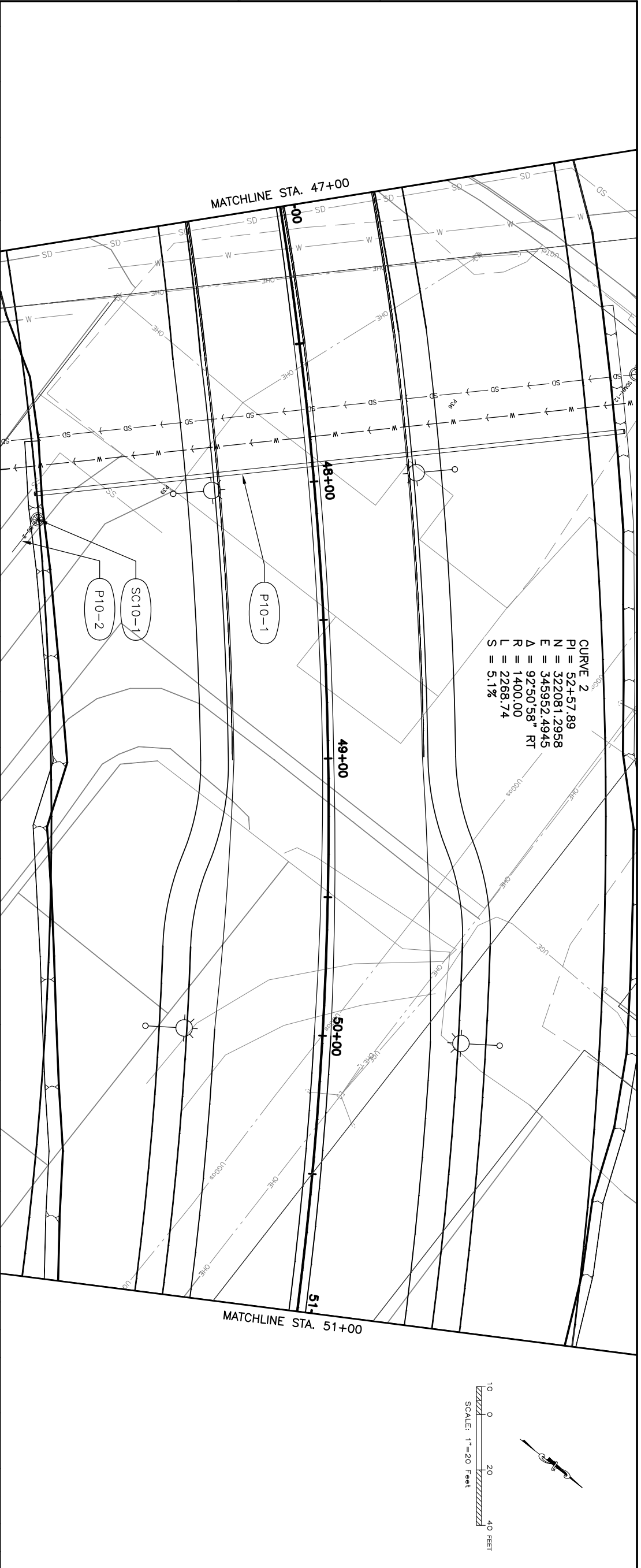
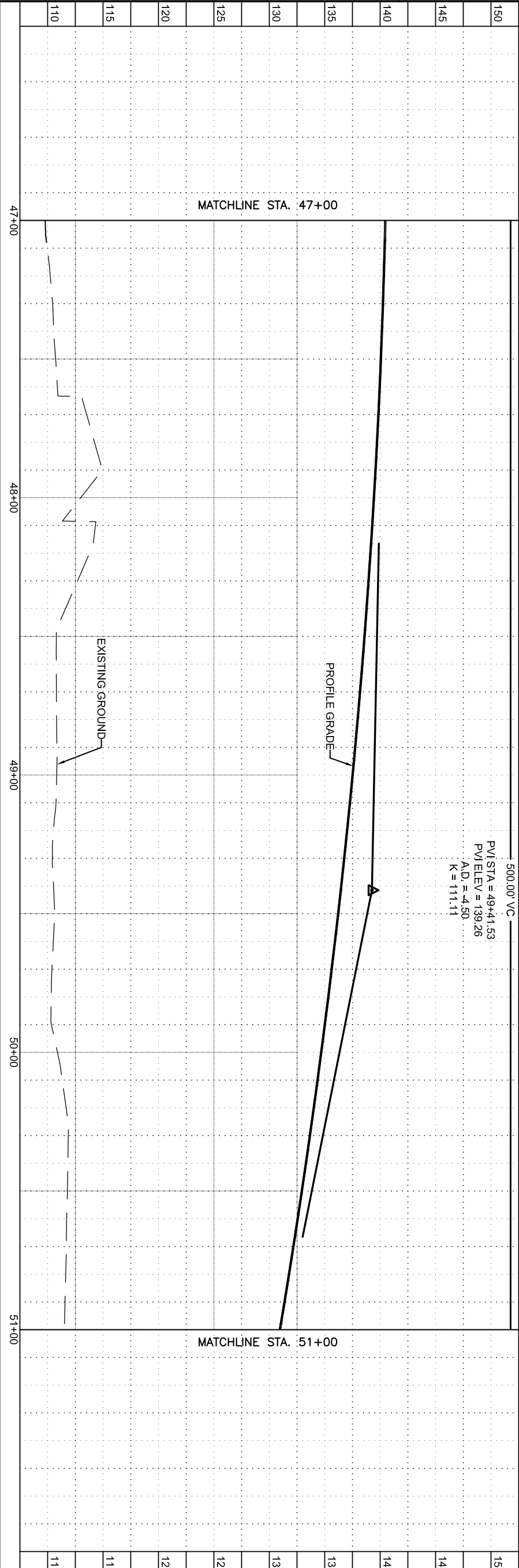
SHEET NO.	F9	TOTAL SHEETS
STATE	ALASKA	YEAR
	2010	
APPENDIX NO.	-	
PROJECT DESIGNATION	51030	
REVISIONS	NO. DATE DESCRIPTION	



UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

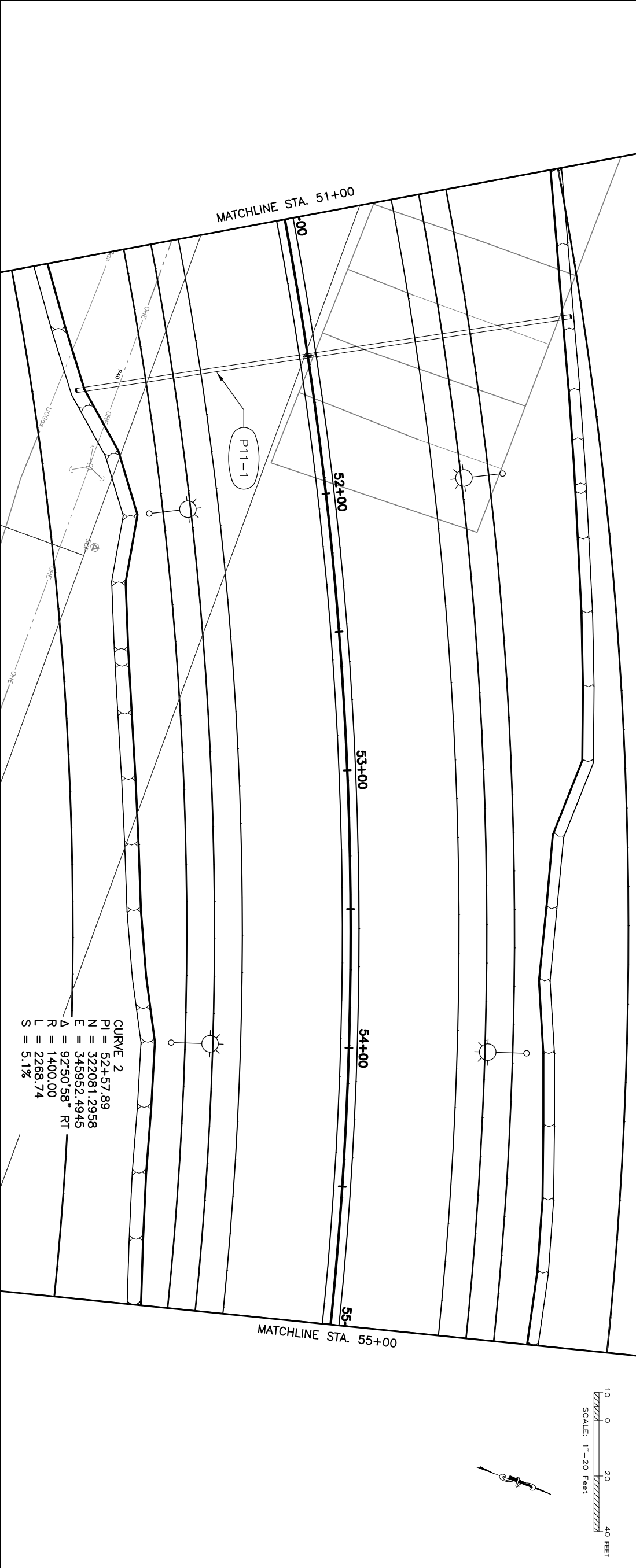
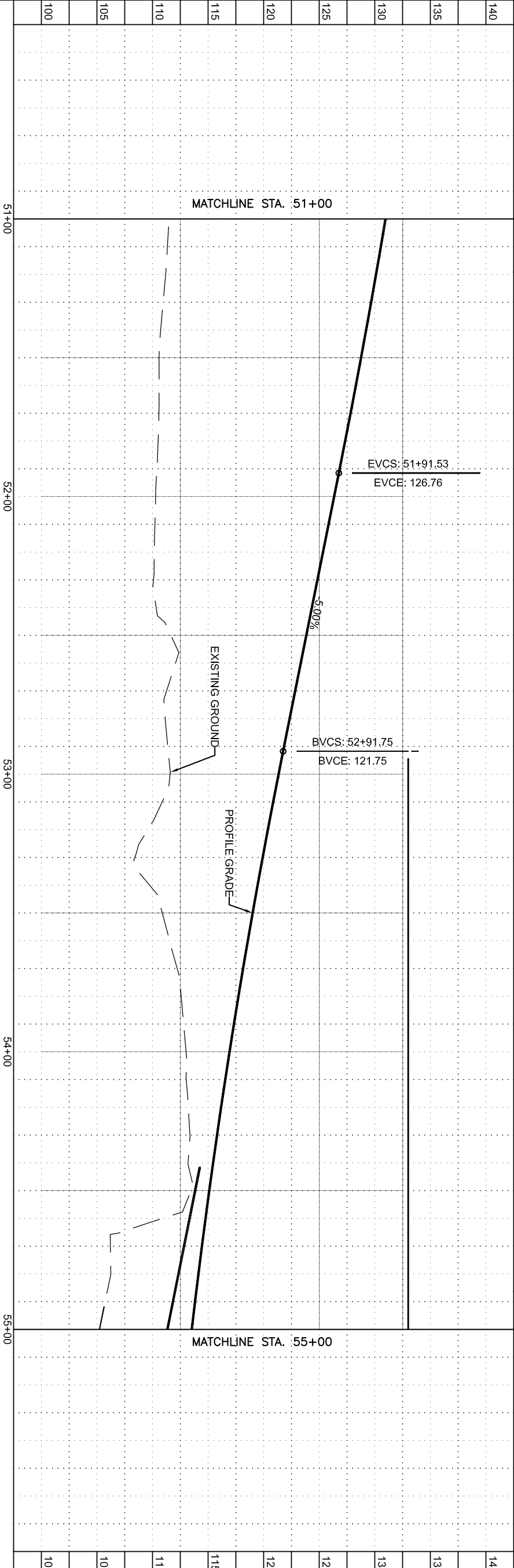
**WEST DOWLING PHASE II
C ST TO MINNESOTA DR
PLAN & PROFILE**



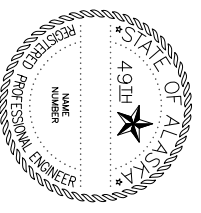
SHEET NO. F10	TOTAL SHEETS	
STATE ALASKA	YEAR 2010	
APPENDIX NO.		
PROJECT DESIGNATION 51030		
REVISIONS		
NO.	DATE	DESCRIPTION

THIS SHEET

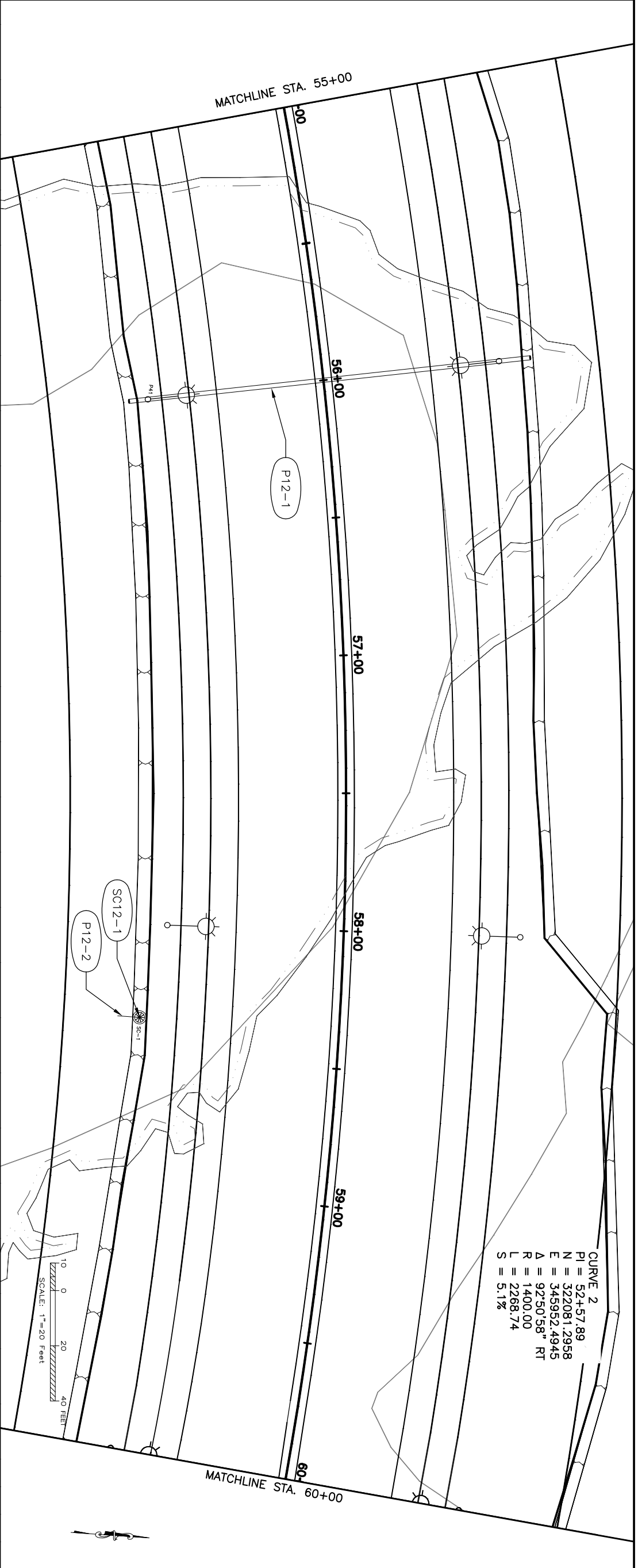
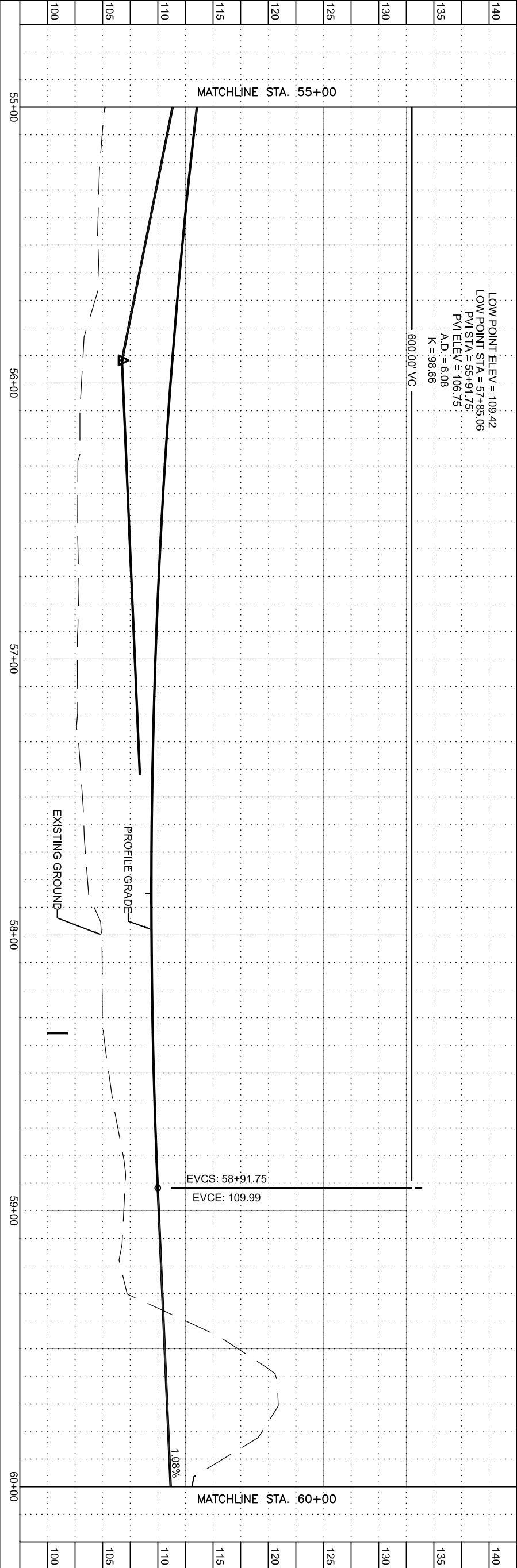
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
**WEST DOWLING PHASE II
 C ST TO MINNESOTA DR
 PLAN & PROFILE**



SHEET NO.	F11	TOTAL SHEETS
STATE	ALASKA	YEAR
	2010	
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION



UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 WEST DOWLING PHASE II
 C ST TO MINNESOTA DR
 PLAN & PROFILE



CURVE 2
 PI = 52+57.89
 N = 322081.2958
 E = 345952.4945
 A = 92°50'58" RT
 R = 1400.00
 L = 2268.74
 S = 5.1%

SHEET NO.	F12	TOTAL SHEETS	
STATE	ALASKA	YEAR	2010
APPENDIX NO.	-		
PROJECT DESIGNATION	51030		
REVISIONS	NO. DATE DESCRIPTION		

REGISTERED PROFESSIONAL ENGINEER
 NAME: ALEXANDER L. READ
 NUMBER: 49118
 EXPIRES: 4/30/12

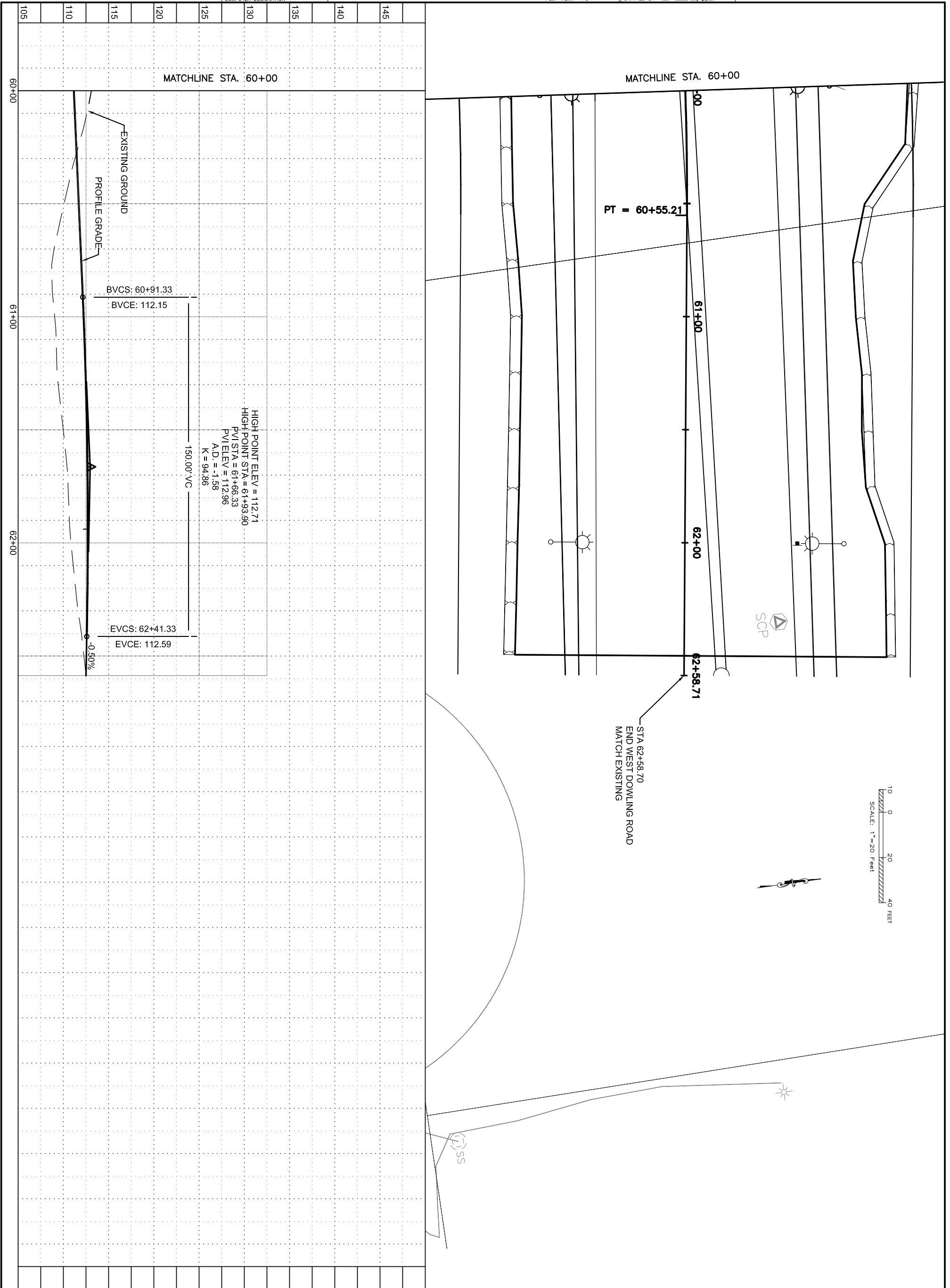
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STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES

**WEST DOWLING PHASE II
 C ST TO MINNESOTA DR**

PLAN & PROFILE

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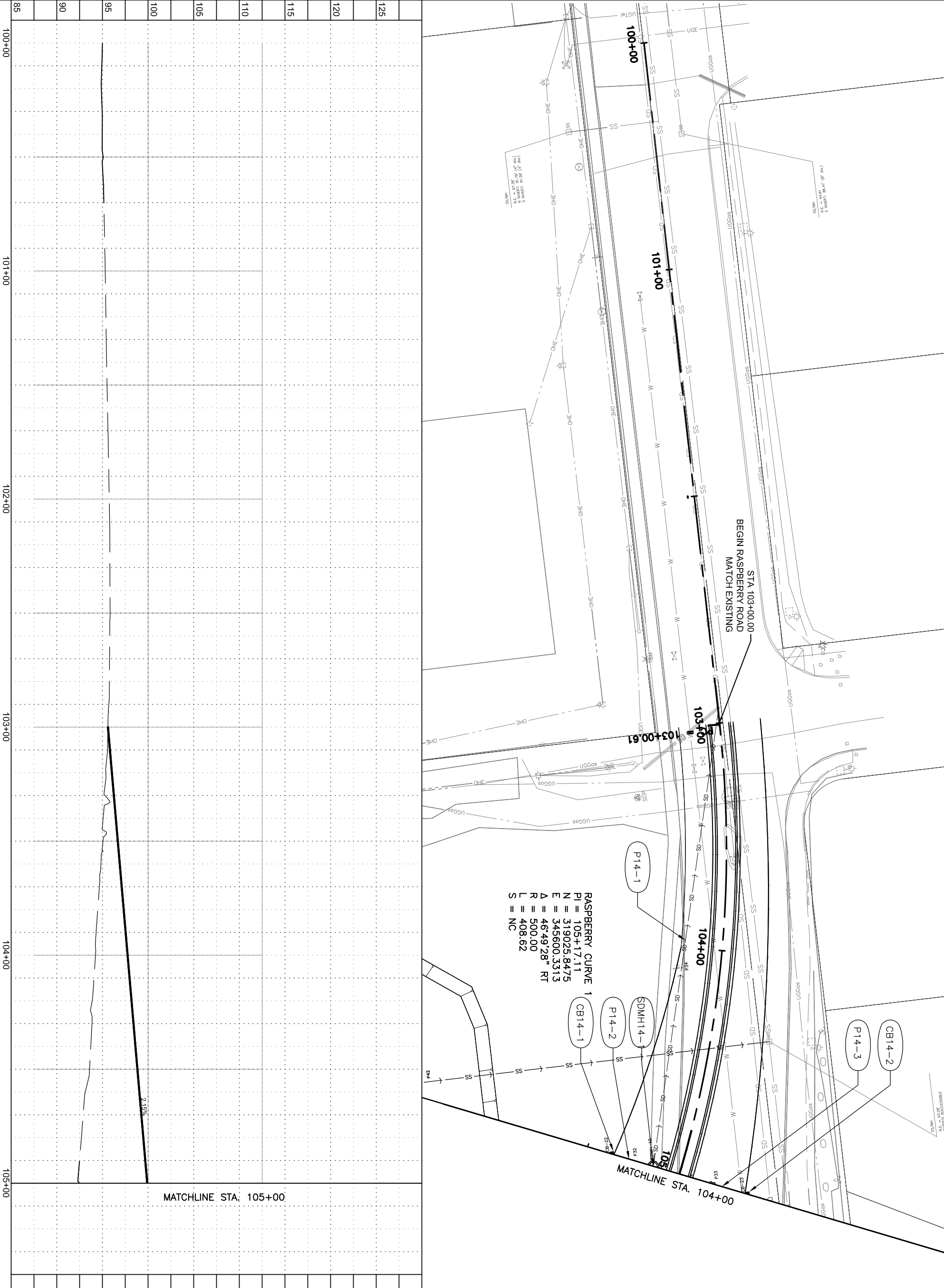
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STATE ALASKA	YEAR 2010	
APPENDIX NO. —		
PROJECT DESIGNATION 51030		
REVISIONS		
NO.	DATE	DESCRIPTION

STATE OF ALASKA
49TH
REGISTERED PROFESSIONAL ENGINEER

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR
PLAN & PROFILE

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SHEET NO. TOTAL SHEETS

F14

STATE YEAR

ALASKA 2010

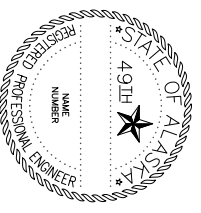
APPENDIX NO.

PROJECT DESIGNATION

51030

REVISIONS

NO.	DATE	DESCRIPTION

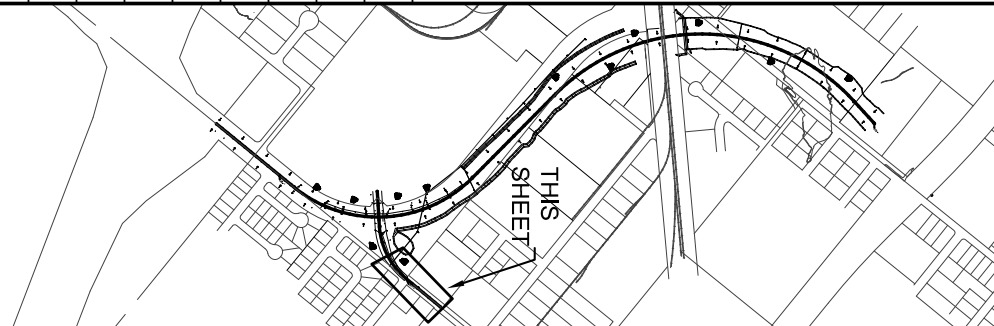


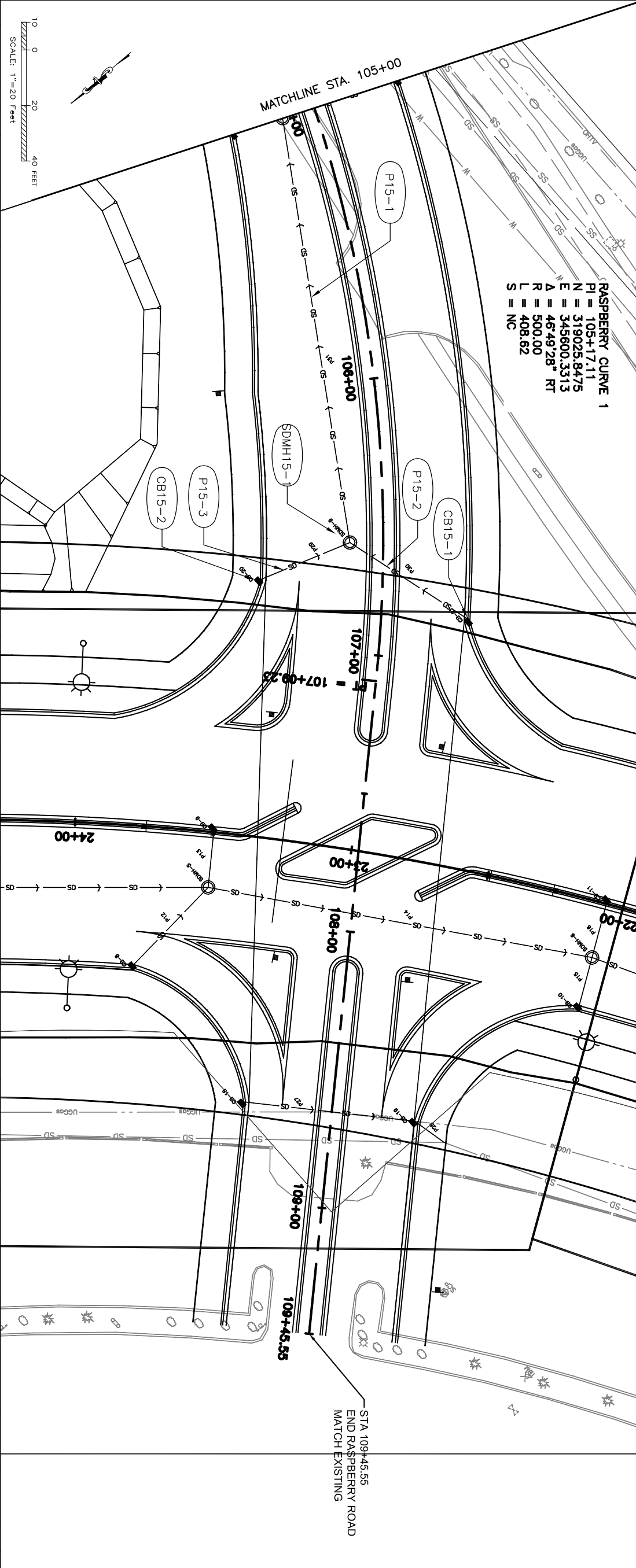
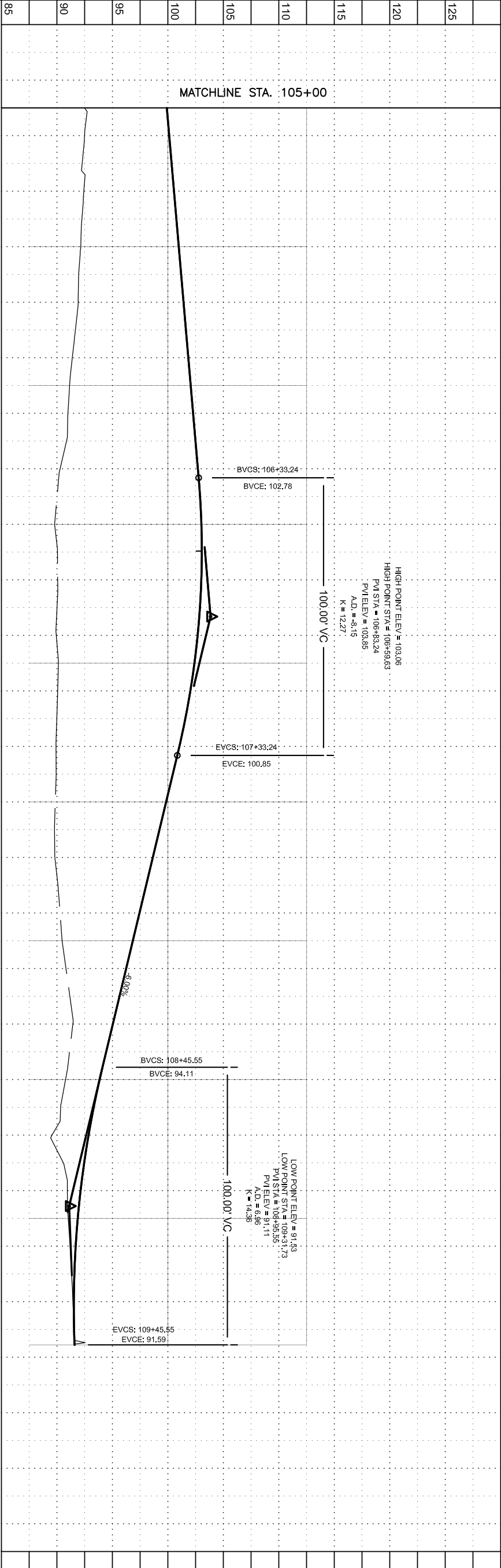
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

PLAN & PROFILE



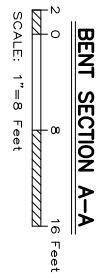
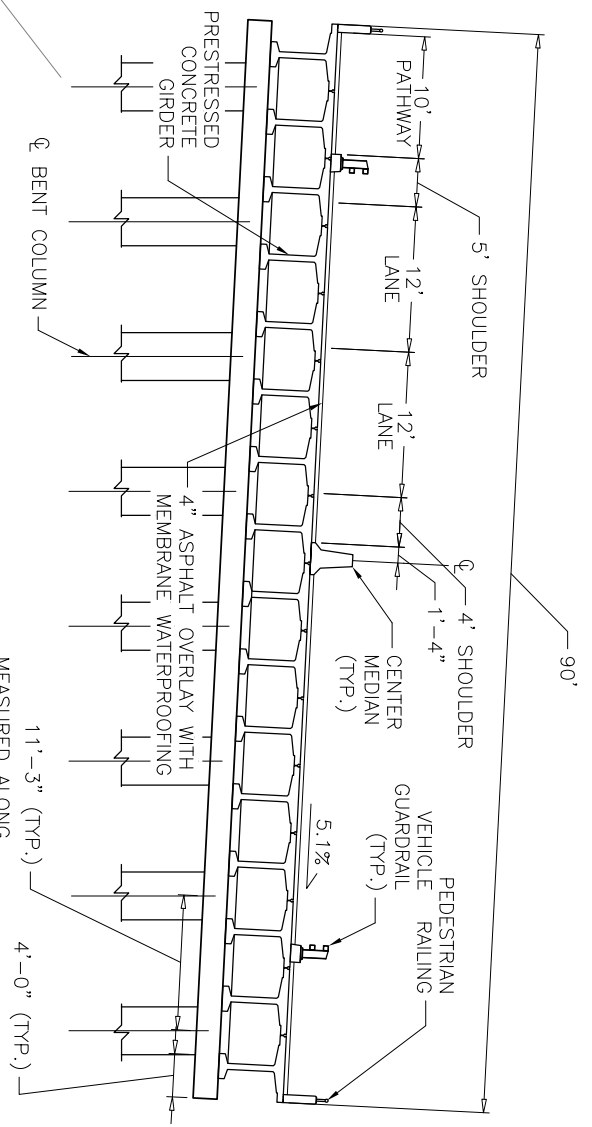
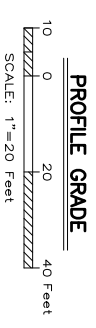
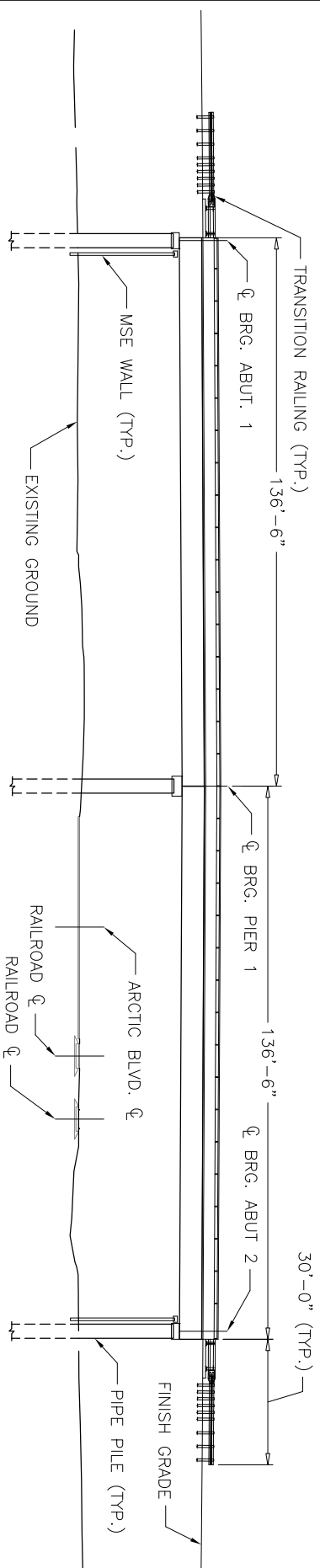


SHEET NO. F14	TOTAL SHEETS	
STATE ALASKA	YEAR 2010	
APPENDIX NO.		
PROJECT DESIGNATION 51030		
REVISIONS		
NO.	DATE	DESCRIPTION

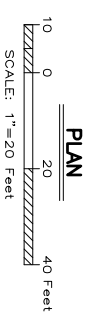
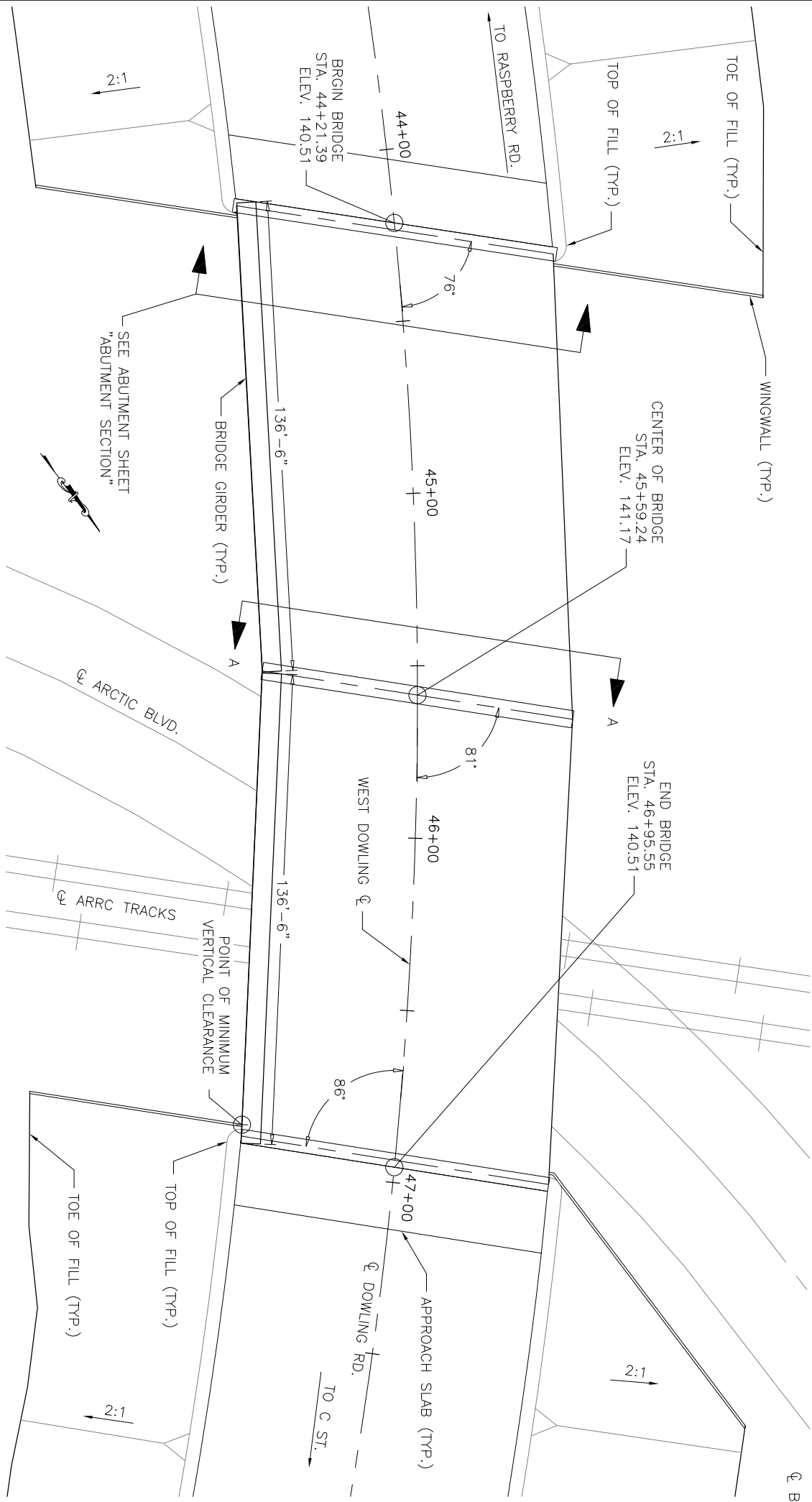
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
PLAN & PROFILE

REGISTERED PROFESSIONAL ENGINEER
 NAME
 NUMBER
 491H

THIS SHEET
 THIS SHEET



NOTE: DIMENSIONS ARE TYPICAL FOR EACH SIDE FROM CENTER LINE.
REFER TO ALASKA DOT STANDARD DRAWING G-46.10 FOR CENTER MEDIAN DETAILS



REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	N1	

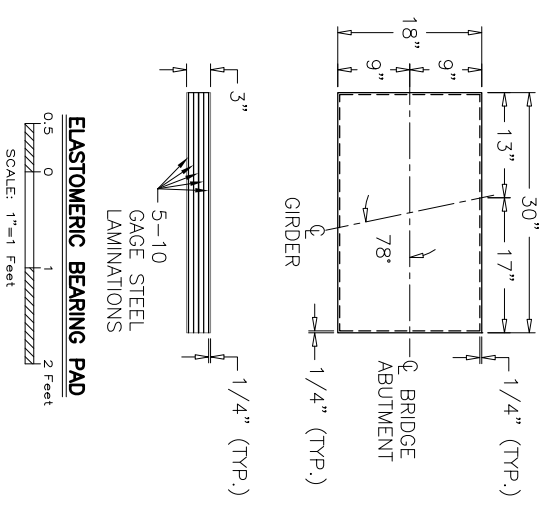
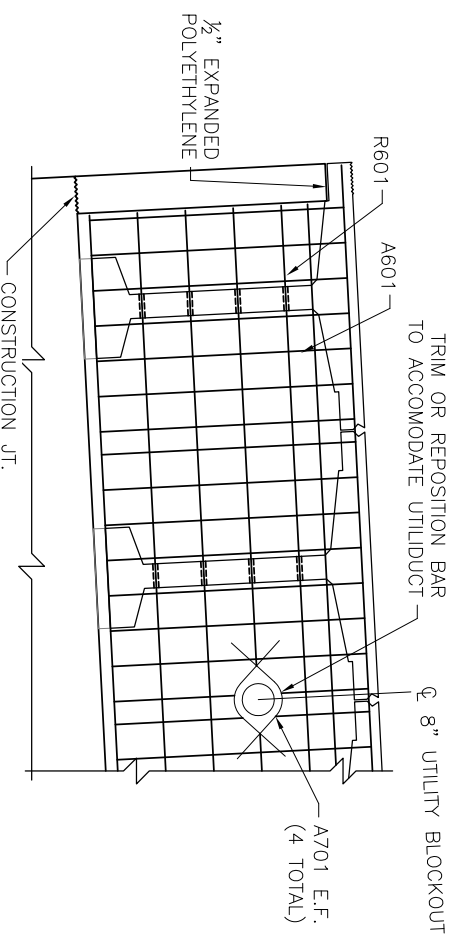
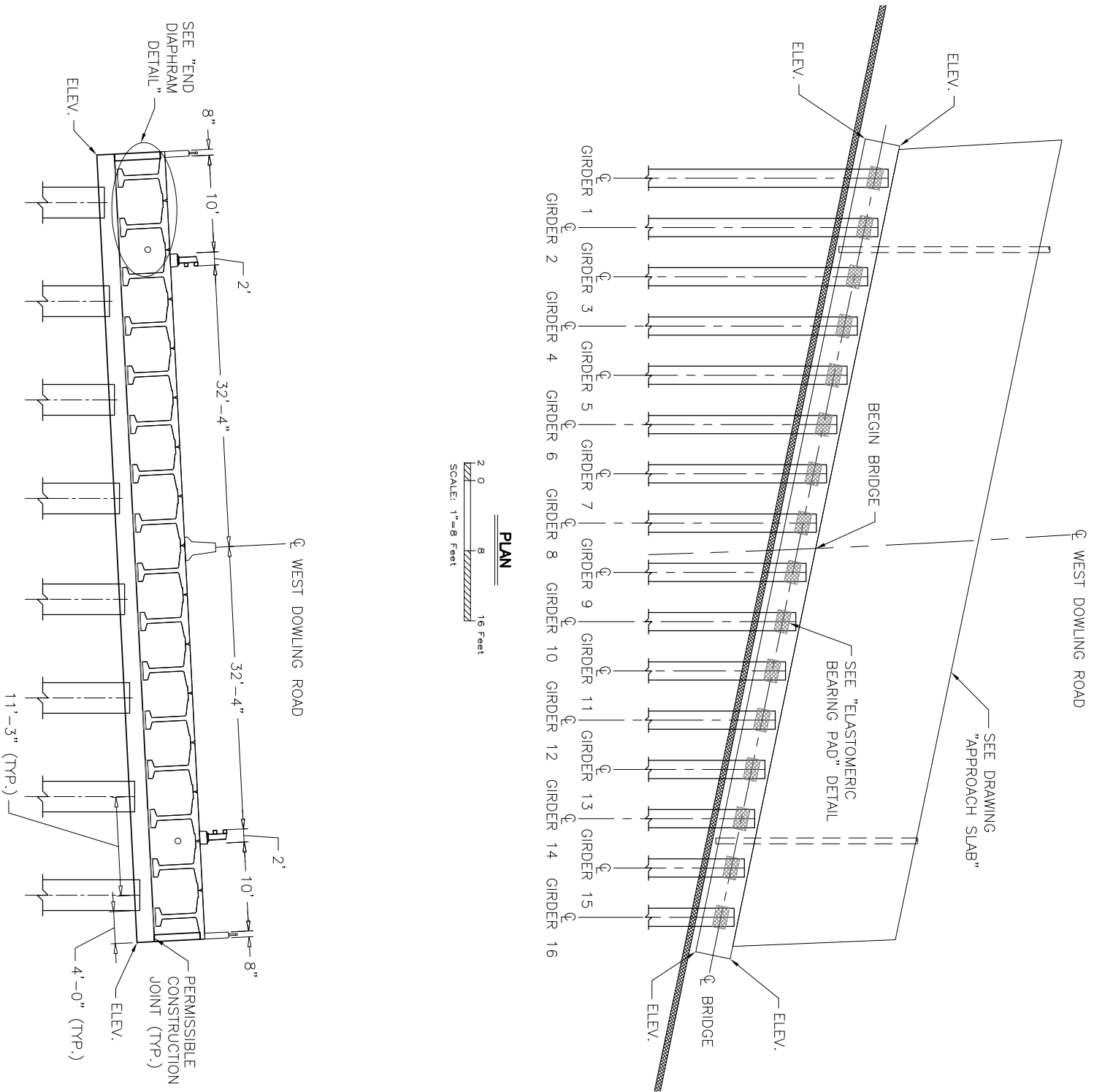


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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

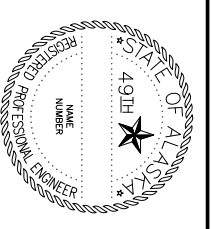
PLAN & PROFILE



REINFORCING STEEL - ONE GIRDER			BENDING DIAGRAM	
MARK	SIZE	TYPE	24"	42"
A701	7	BENT		
S401	4			
S501	5			
S502	5	BENT		
S801	8			

REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	N2	

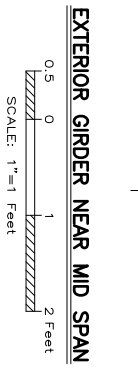
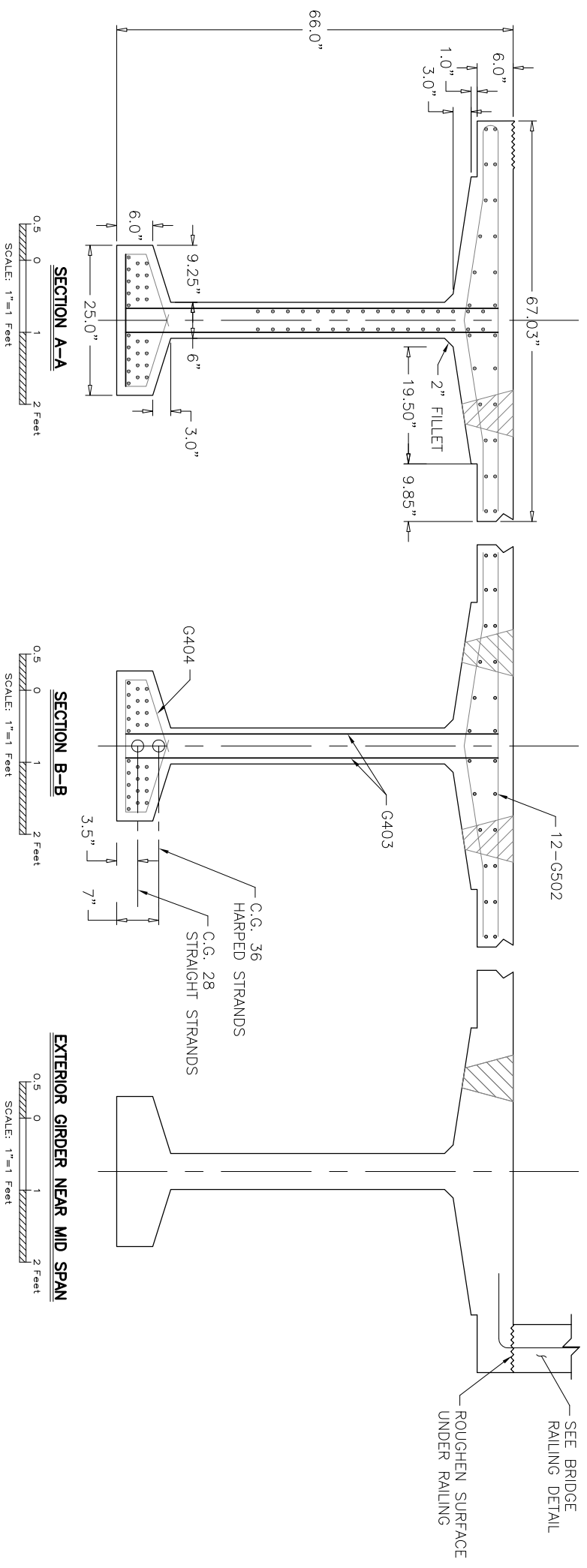
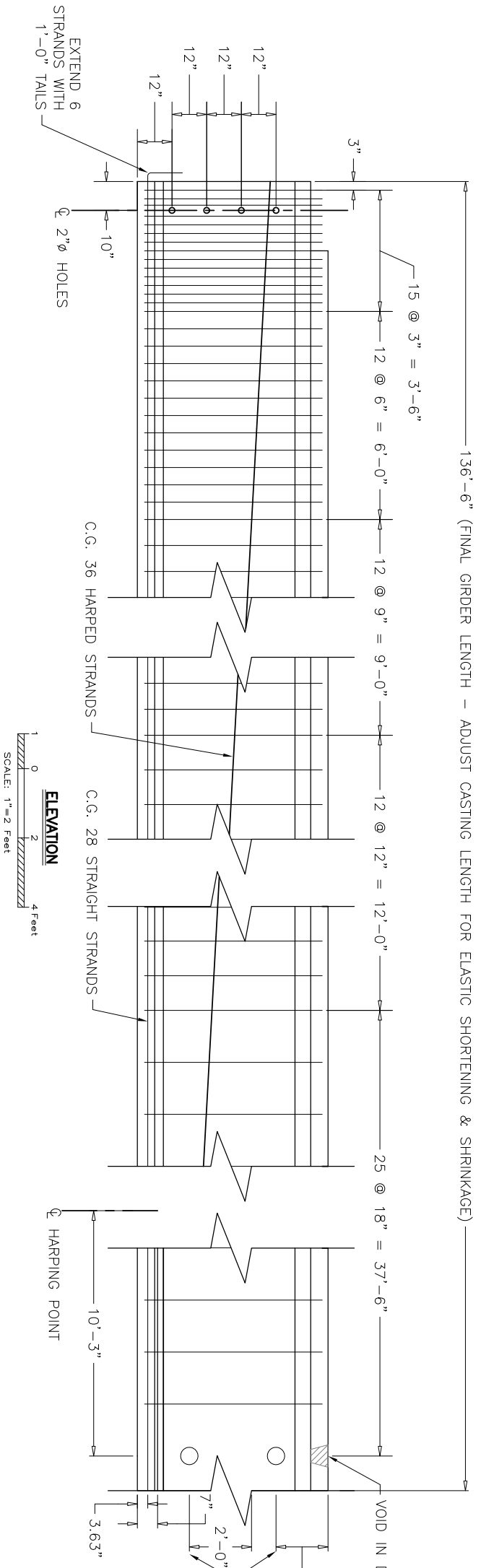
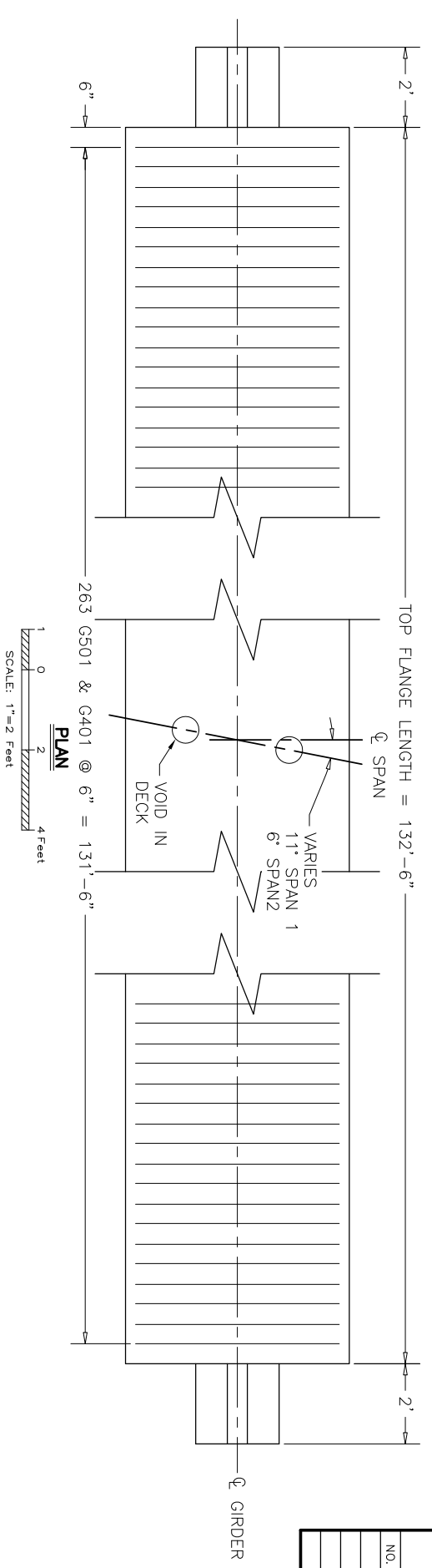


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

ABUTMENT DETAILS

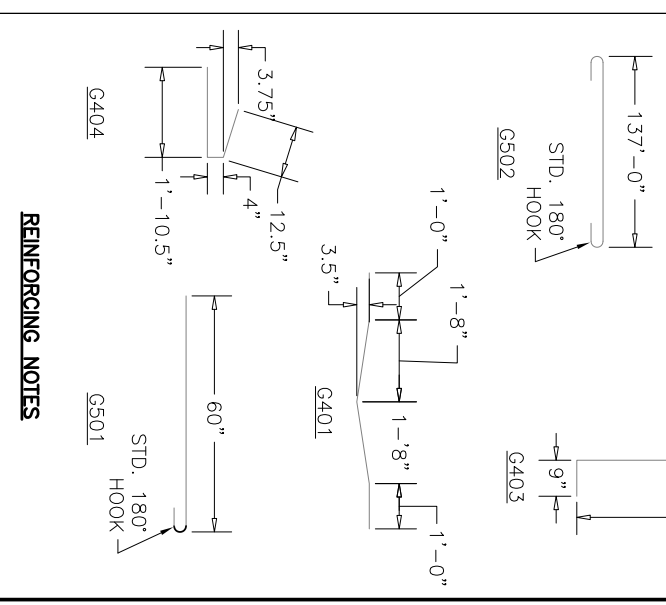
UAA ENGINEERING 2010



REVISIONS	
NO.	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	N3	

REINFORCING STEEL - ONE GIRDER				BENDING DIAGRAM	
MARK	SIZE	TYPE			
G401	4	BENT			
G403	4	BENT			
G404	4	BENT			
G501	5	BENT			
G502	5	BENT			



REINFORCING NOTES

- EPOXY COAT ALL GIRDER REINFORCING.
- MINIMUM LAP SPICES SHALL BE 2'-0" FOR #4 BARS.

GIRDER NOTES

- USE NORMAL WEIGHT CONCRETE HAVING THE FOLLOWING STRENGTHS:
AT STRESS TRANSFER f'_{ci} = 7000 psi
AT 28 DAYS f'_c = 8000 psi
- USE $\frac{1}{2}$ " ROUND LOW RELAXATION STRANDS HAVING AN ULTIMATE STRENGTH OF 270 KSI.
- DESIGN IS BASED ON THE FOLLOWING STEEL STRESSES:
PRETENSIONING = 189 KSI
AFTER INITIAL LOSSES = 169 KSI
AFTER ALL LOSSES = 139 KSI
- DEFLECT GIRDER TO COMPENSATE FOR CAMBER
- PROVIDE A MAGNESIUM FLOAT FINISH ON THE ROADWAY SURFACE OF THE PRECAST MEMBER. ROUGHEN THE SURFACE UNDER THE RAILING STEM WALL.

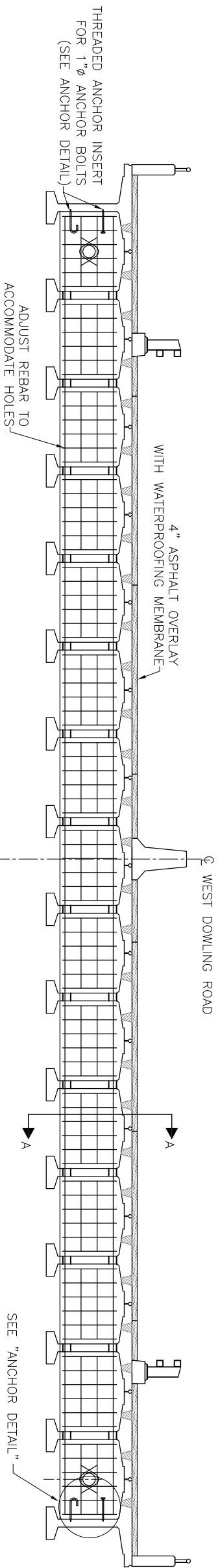
UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
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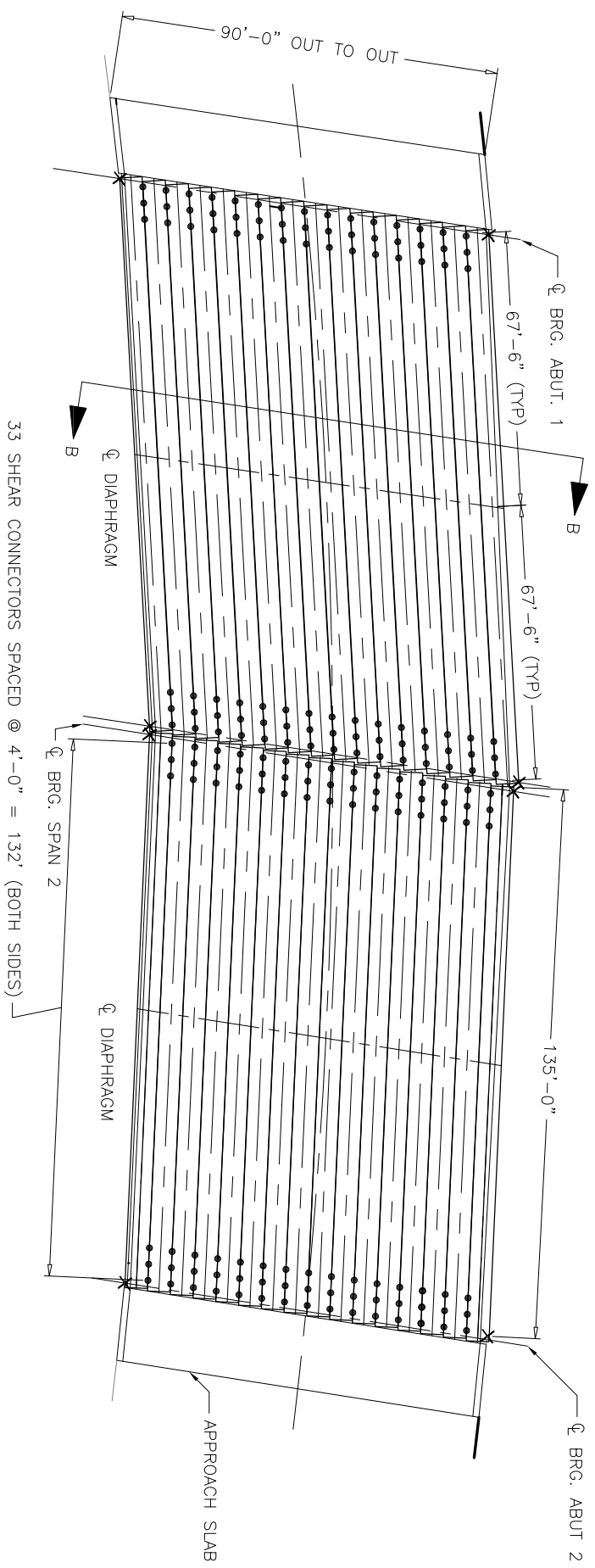
**WEST DOWLING PHASE II
C ST TO MINNESOTA DR**

GIRDERS

NOTE:
SUPERELEVATION OMITTED FOR CLARITY



SECTION B-B
SCALE: 1"=4 Feet

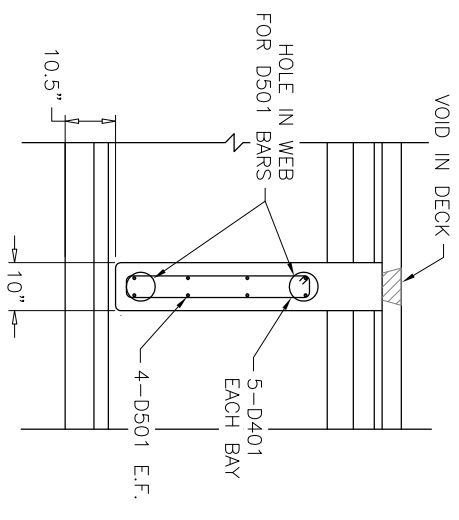
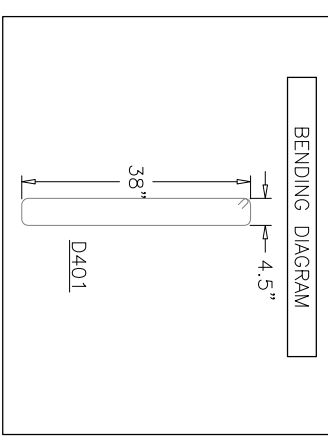


FRAMING PLAN
SCALE: 1"=20 Feet

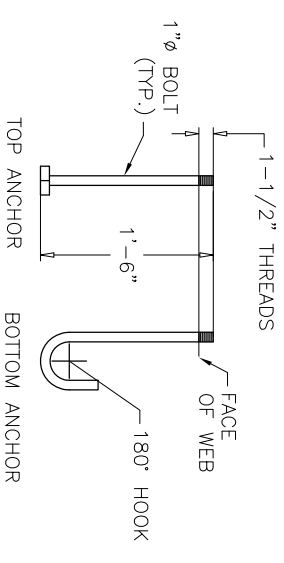
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	N4	

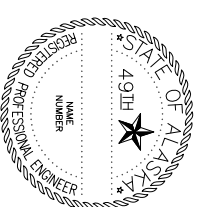
REINFORCING STEEL		
MARK	SIZE	TYPE
D401	4	BENT
D501	5	



DIAPHRAGM SECTION A-A
SCALE: 1"=20 Feet



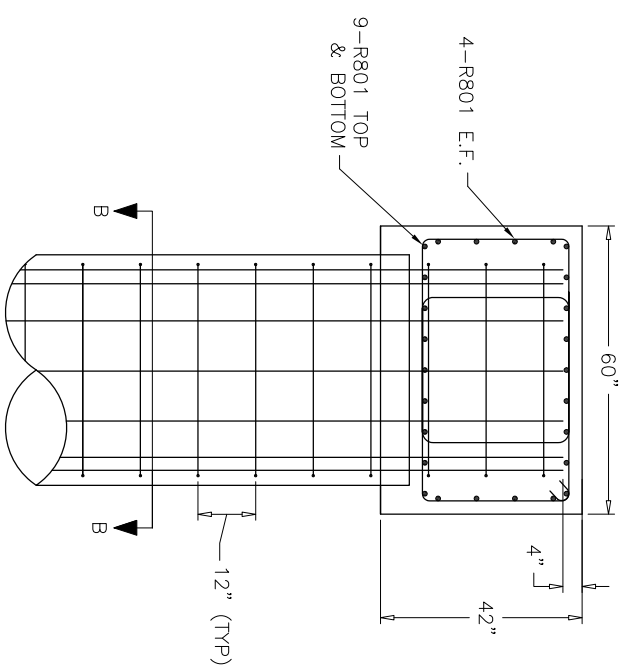
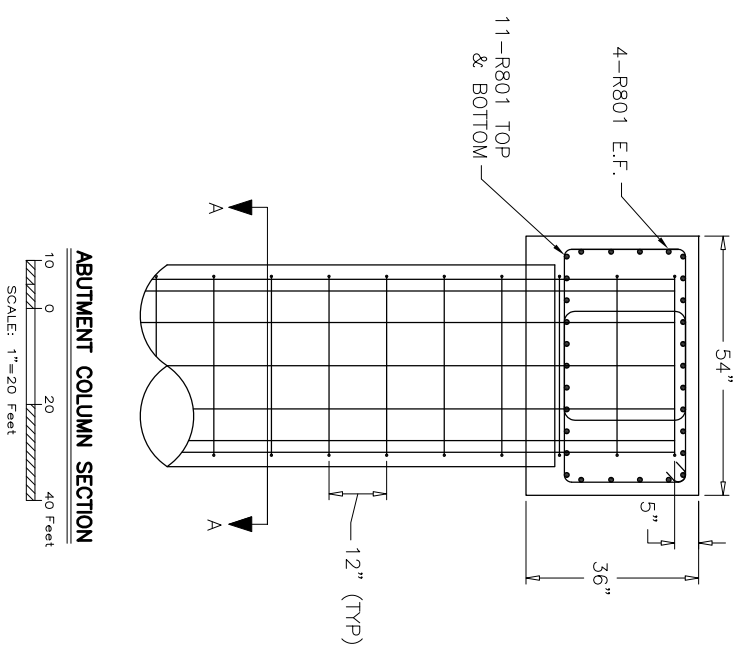
ANCHOR DETAIL



UAA ENGINEERING 2010

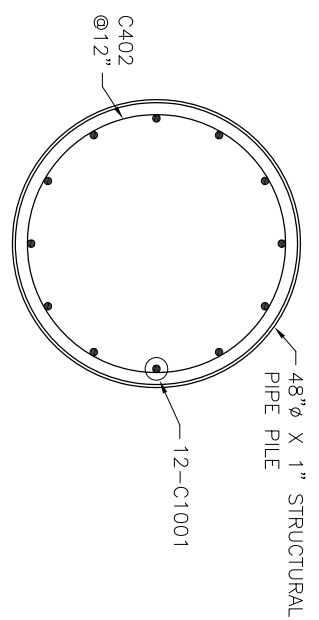
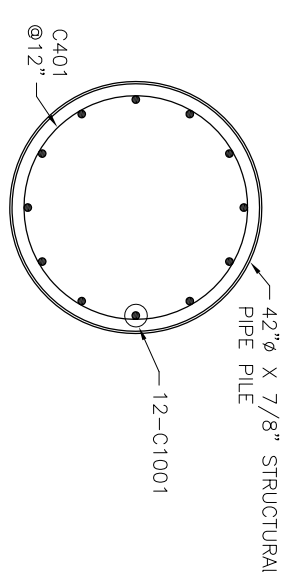
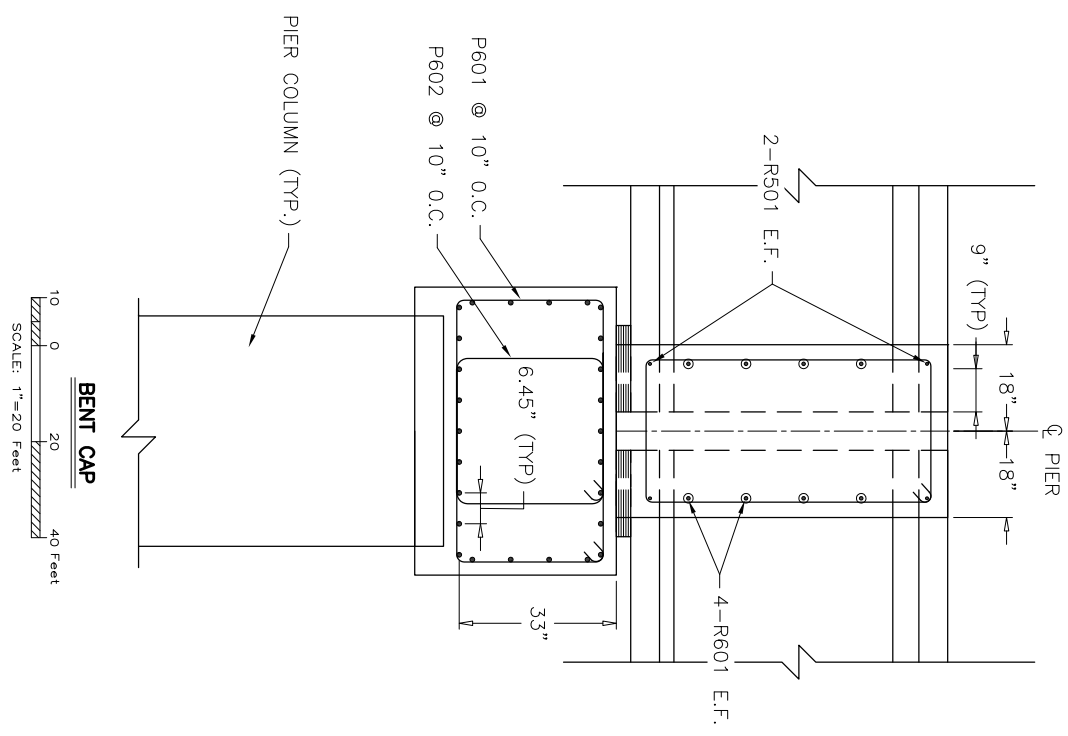
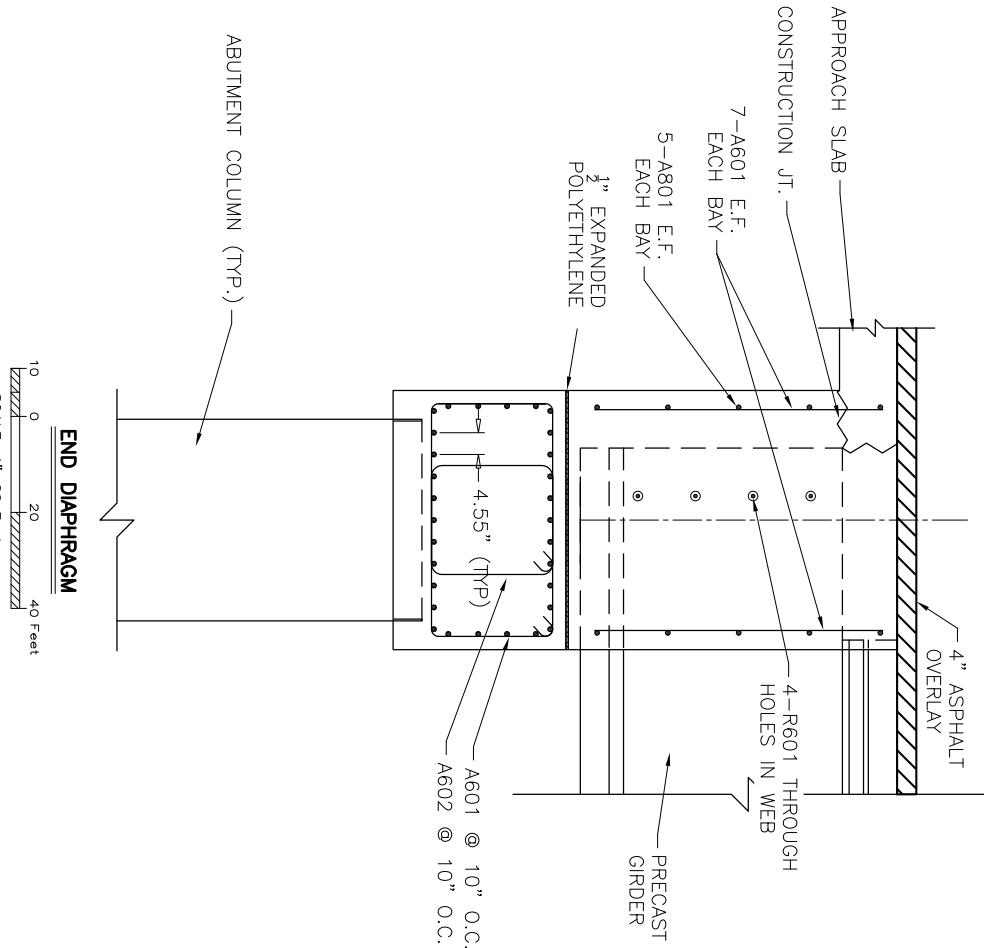
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

DIAPHRAGM DETAILS



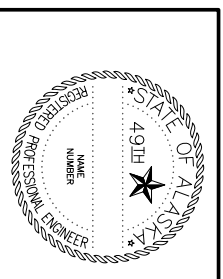
- COLUMN & CAP NOTES**
- ADJUST CAP AND COLUMN FLEXURAL REINFORCING TO FIT
 - EXTEND COLUMN CAGE TO MINIMUM DEPTH OF 40' BELOW EXISTING GROUND
 - FILL COLUMN WITH CONCRETE TO EXTENT OF REINFORCING CAGE
 - USE NORMAL WEIGHT CONCRETE:
 - $f'_c = 4000$ PSI
 - ALL REINFORCING STEEL SHALL HAVE THE FOLLOWING STRENGTH $f_y = 60,000$ psi

REINFORCING STEEL			BENDING DIAGRAM		
MARK	SIZE	TYPE			
A601	6	BENT	[Bending diagram for A601: 25" x 48"]		
A602	6	BENT	[Bending diagram for A602: 25" x 43"]		
C401	4	BENT	[Bending diagram for C401: 37" x 48"]		
C402	4	BENT	[Bending diagram for C402: 37" x 43"]		
C1001	10		[Bending diagram for C1001: 30" x 55"]		
C1002	10		[Bending diagram for C1002: 30" x 31"]		
P601	6	BENT	[Bending diagram for P601: 30" x 55"]		
P602	6	BENT	[Bending diagram for P602: 30" x 31"]		
R801	8		[Bending diagram for R801: 30" x 55"]		

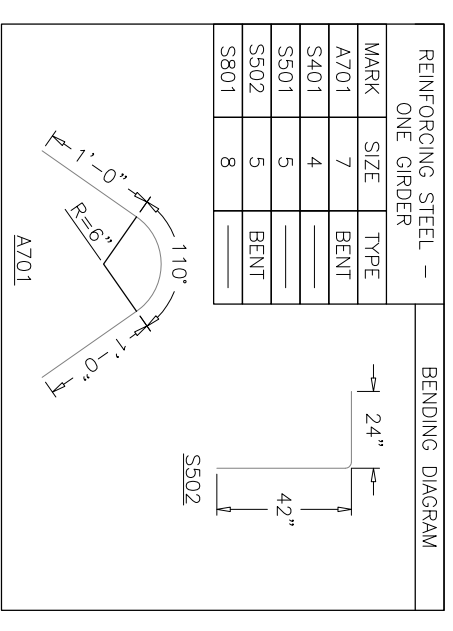
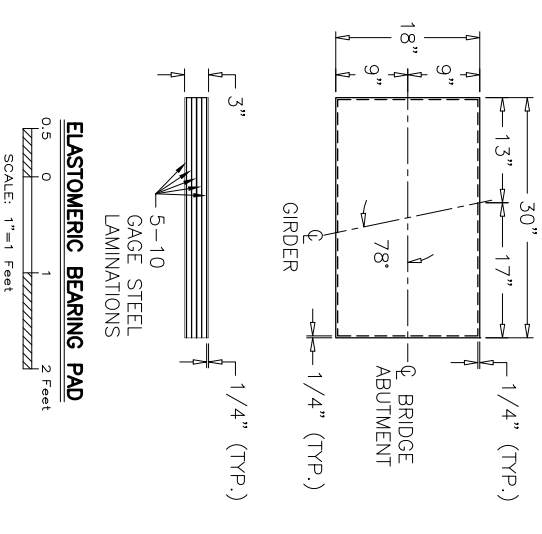
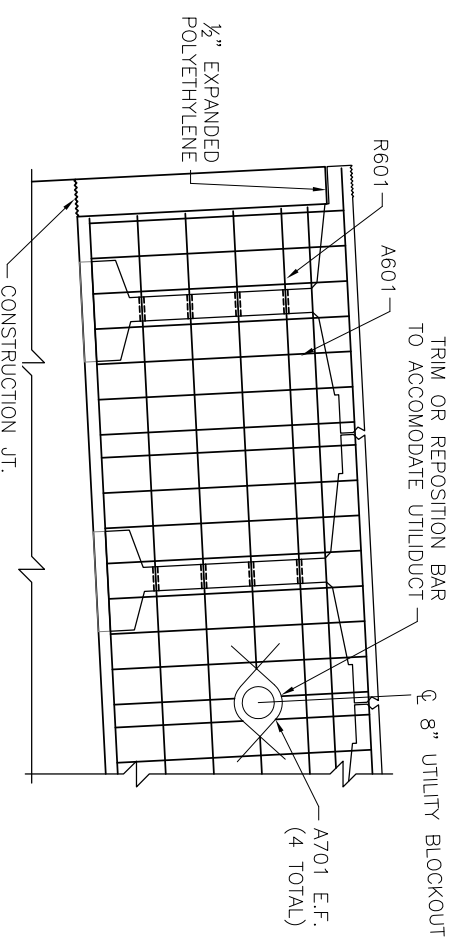
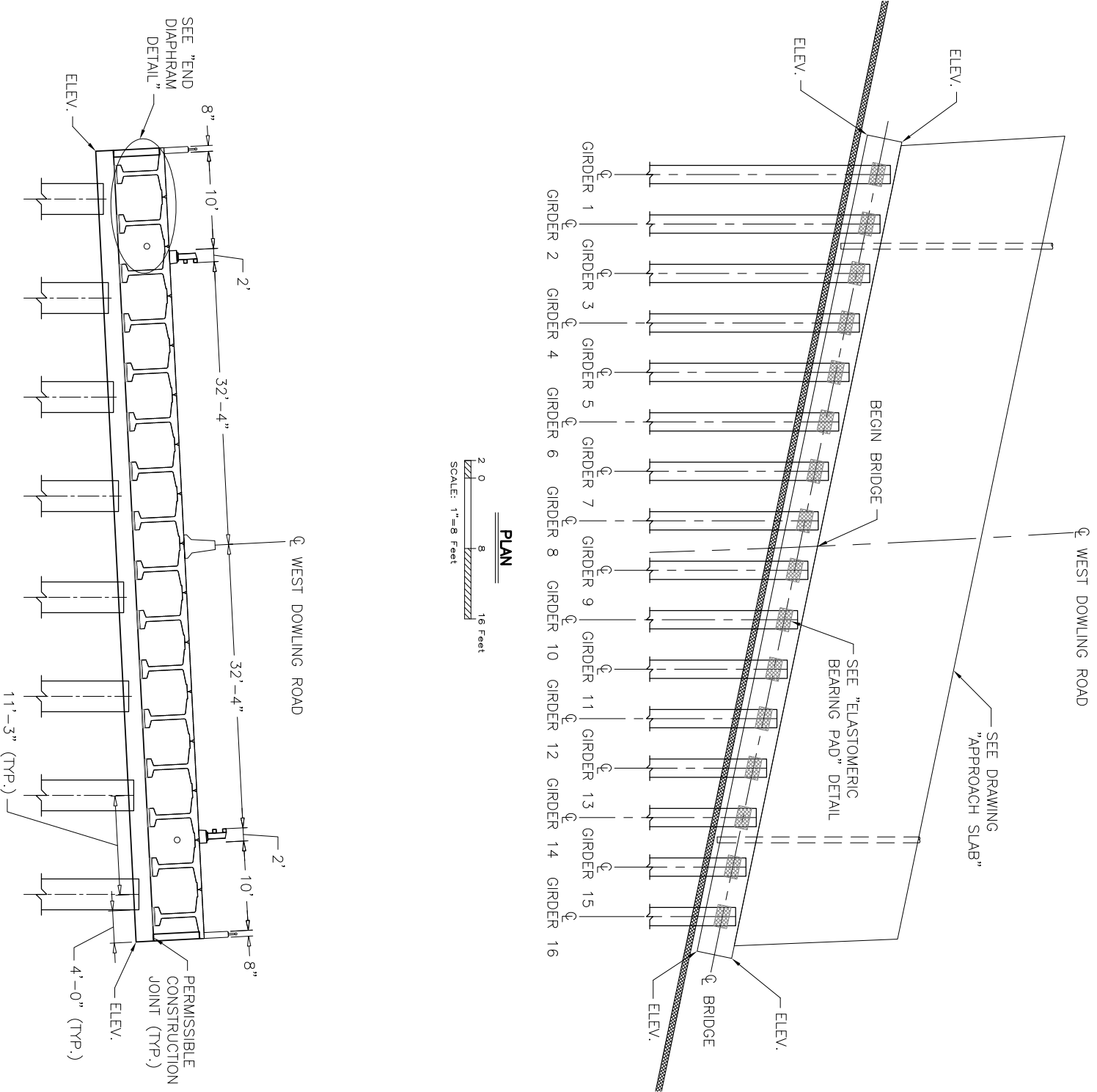


REVISIONS		
NO.	DATE	DESCRIPTION

STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	N5	

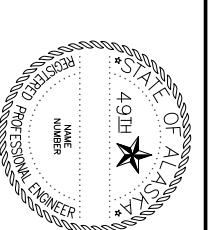


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
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PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UAA ENGINEERING 2010
COLUMN & CAP DETAILS



NO.	DATE	DESCRIPTION

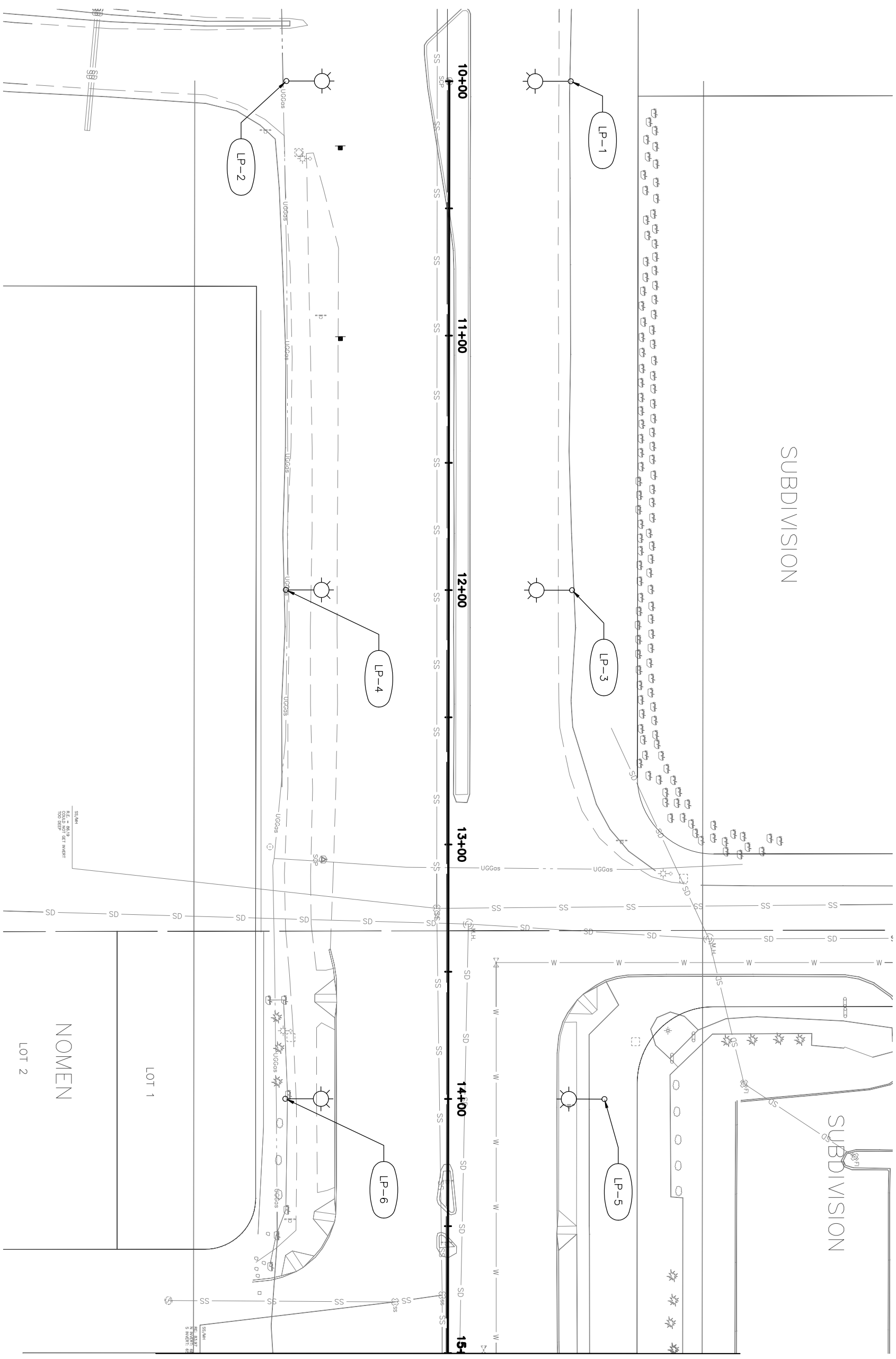
STATE	PROJECT DESIGNATION	YEAR	SHEET	OF
ALASKA	51030	2010	N2	



UAA ENGINEERING 2010

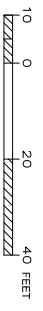
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND
PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR

ABUTMENT DETAILS

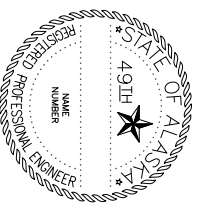
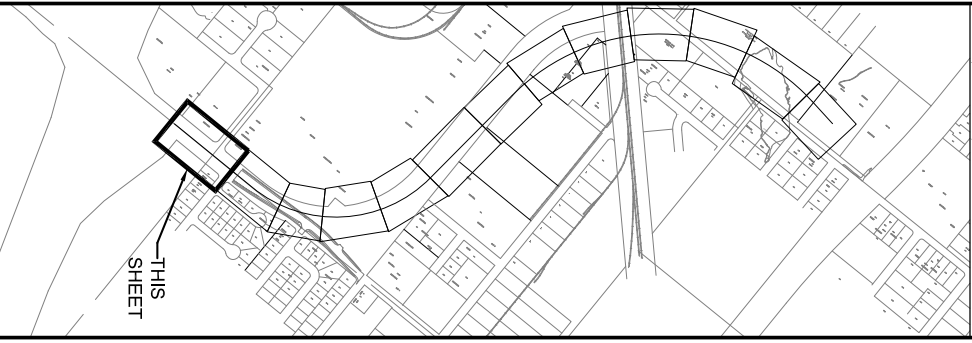


MATCHLINE STA. 15+00

SCALE: 1"=20 Feet



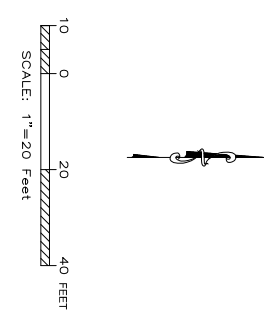
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STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION



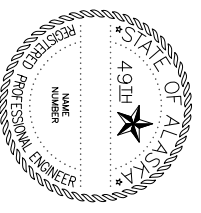
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
 UTILITY PLAN



UTILITY PLAN



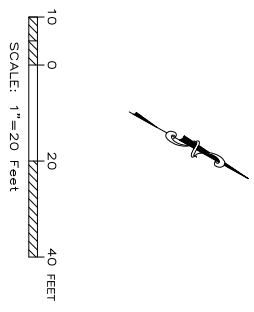
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STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION



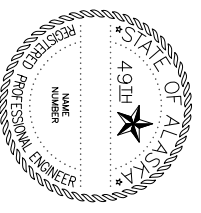
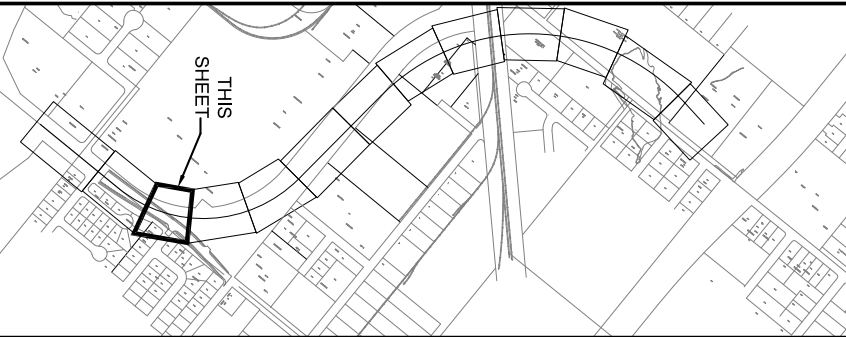
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN



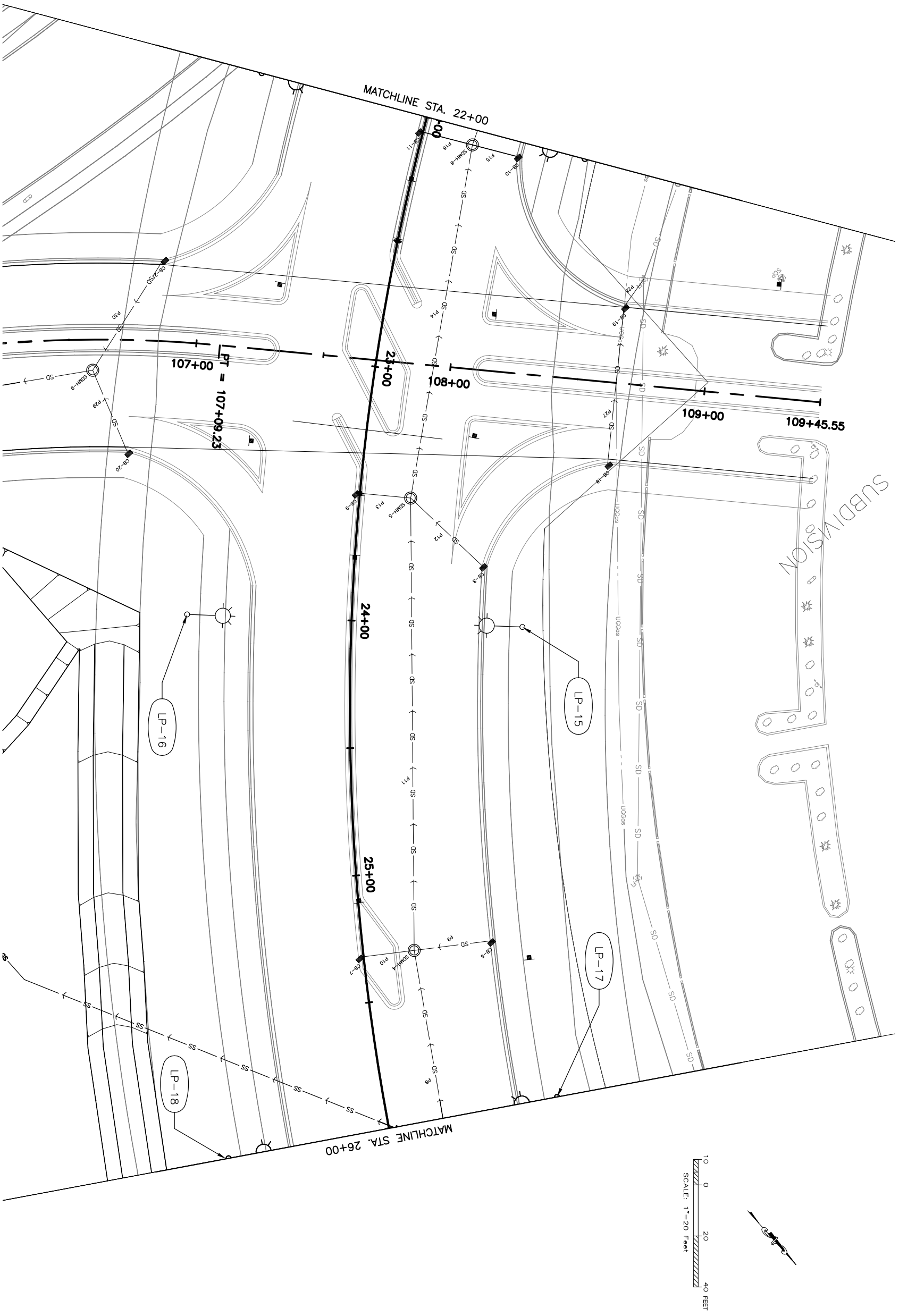
UTILITY PLAN



SHEET NO.	TOTAL SHEETS	
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STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION

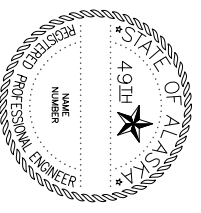
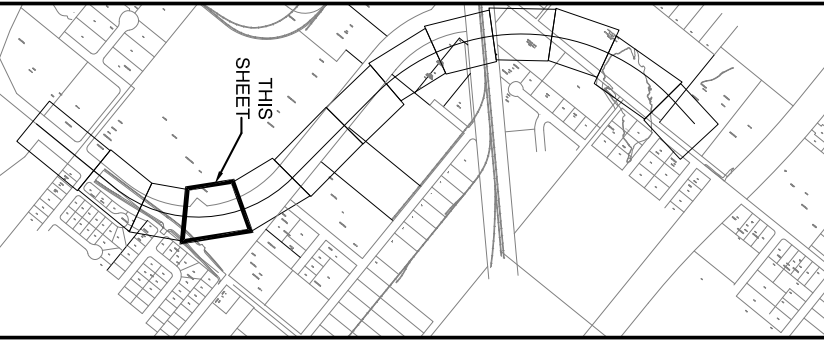


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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN

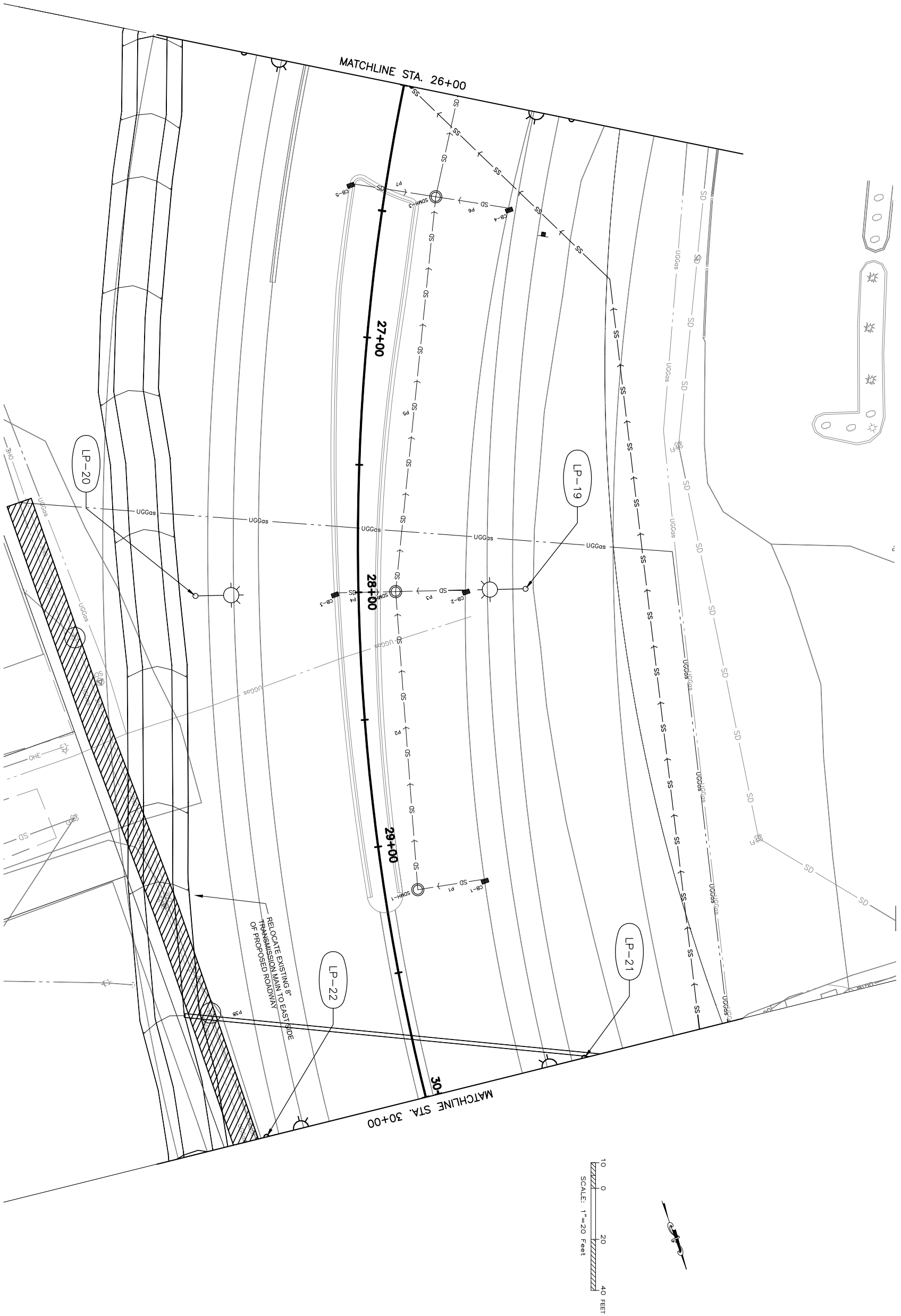


UTILITY PLAN

SHEET NO.	TOTAL SHEETS	
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STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION

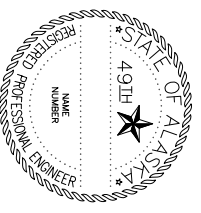


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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN



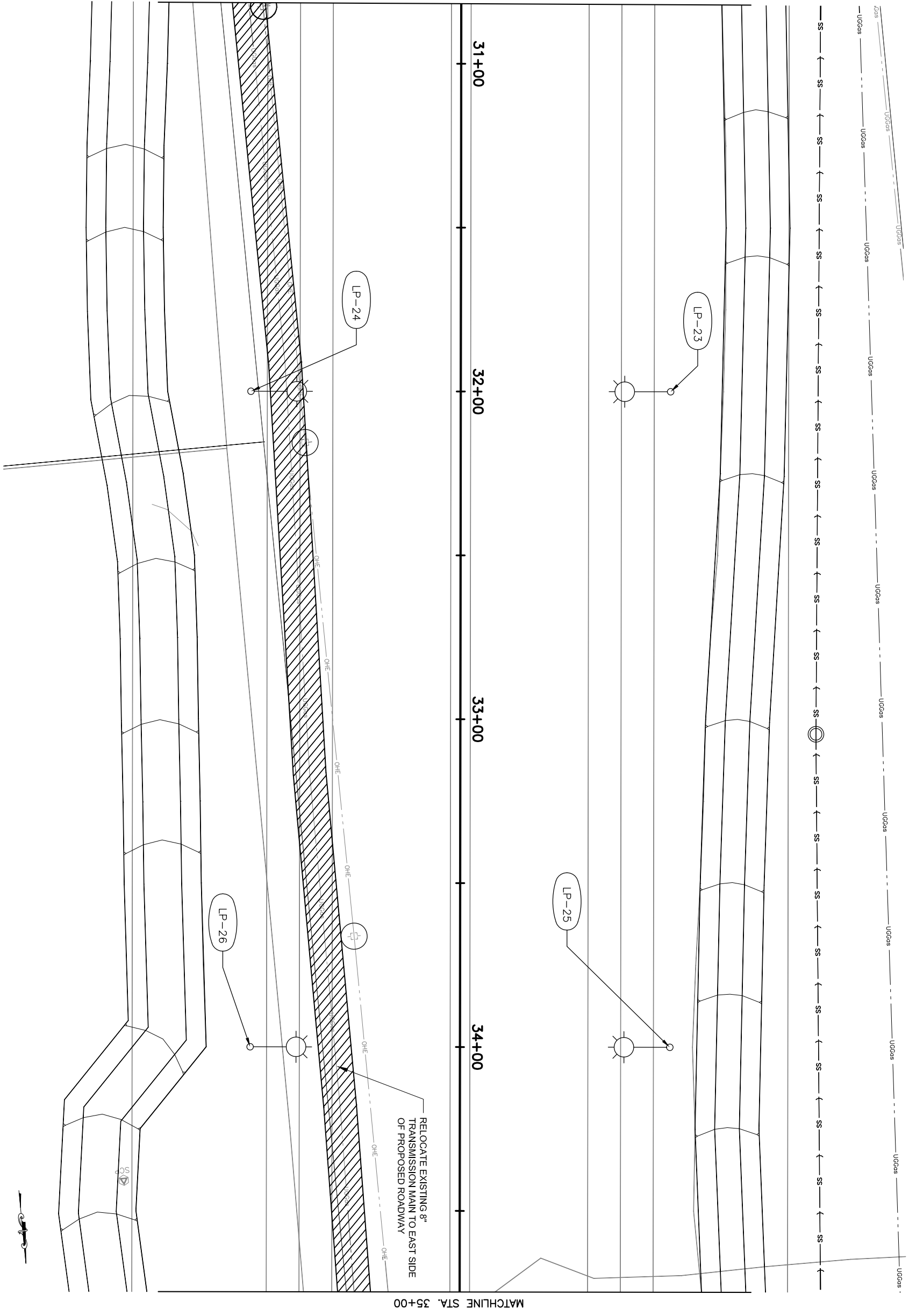
UTILITY PLAN

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STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION



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 STATE OF ALASKA
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WEST DOWLING PHASE II
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UTILITY PLAN

MATCHLINE STA. 30+00



MATCHLINE STA. 35+00

1" = 20 FEET
SCALE: 1"=20 Feet

UTILITY PLAN

SHEET NO. TOTAL SHEETS

P6

STATE YEAR

ALASKA 2010

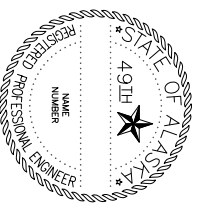
APPENDIX NO.

PROJECT DESIGNATION

51030

NO. DATE DESCRIPTION

REVISIONS

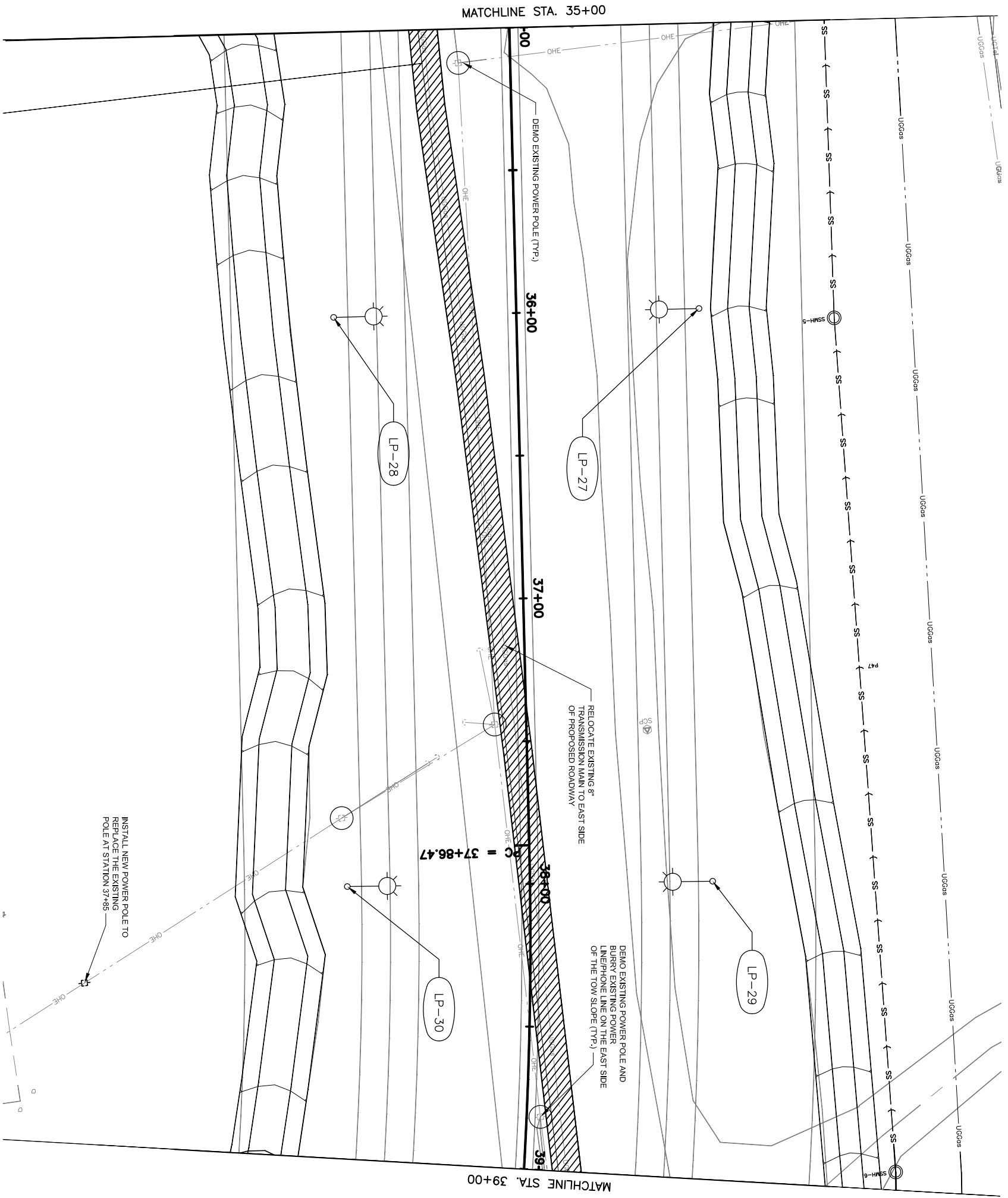


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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

UTILITY PLAN



MATCHLINE STA. 35+00

MATCHLINE STA. 39+00



UTILITY PLAN

SHEET NO. TOTAL SHEETS

P7

STATE YEAR

ALASKA 2010

APPENDIX NO.

PROJECT DESIGNATION

51030

REVISIONS

NO. DATE DESCRIPTION

NO.	DATE	DESCRIPTION

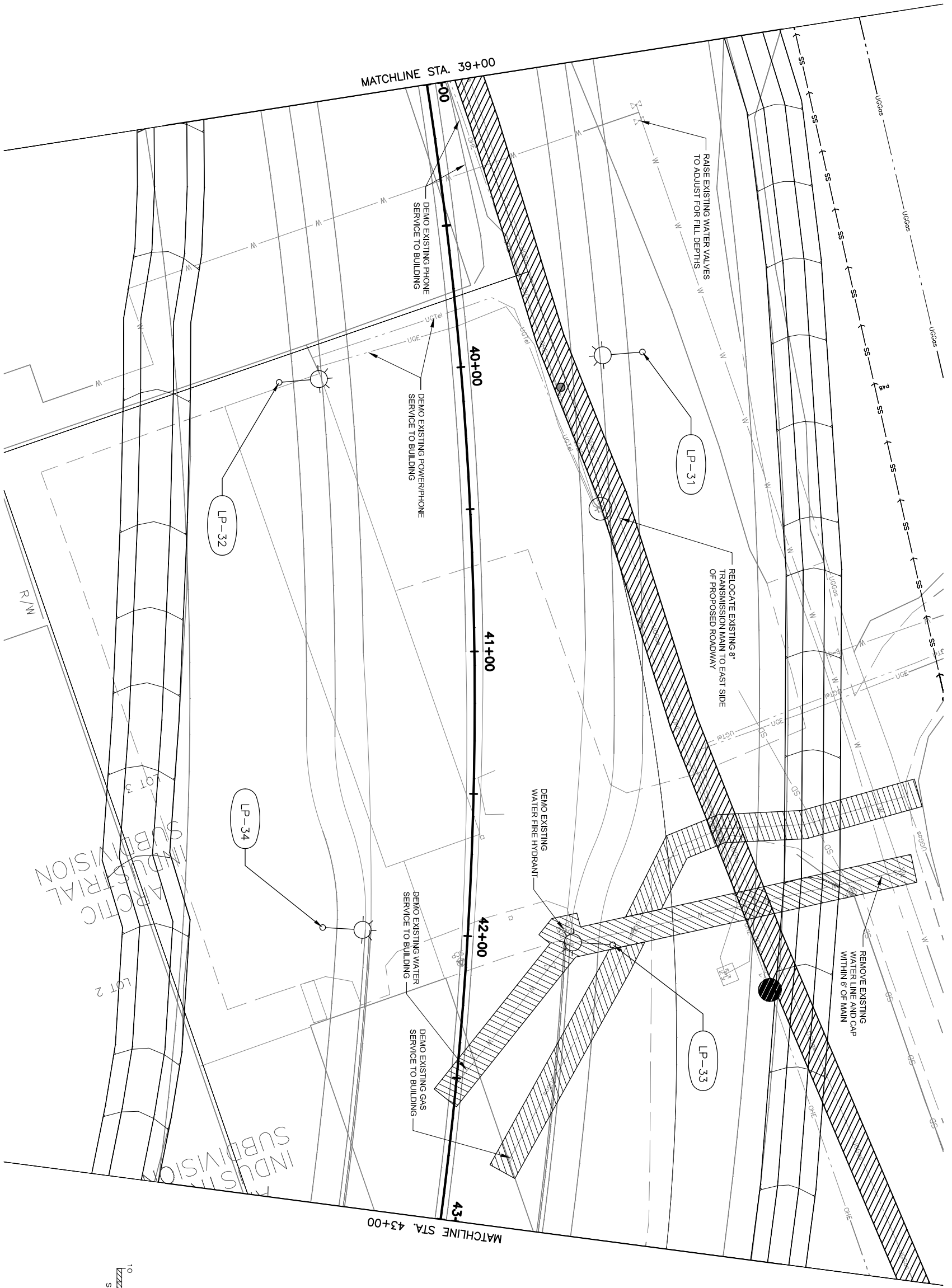


UAA ENGINEERING 2010

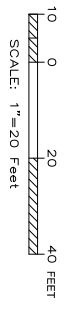
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

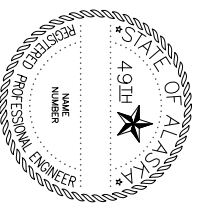
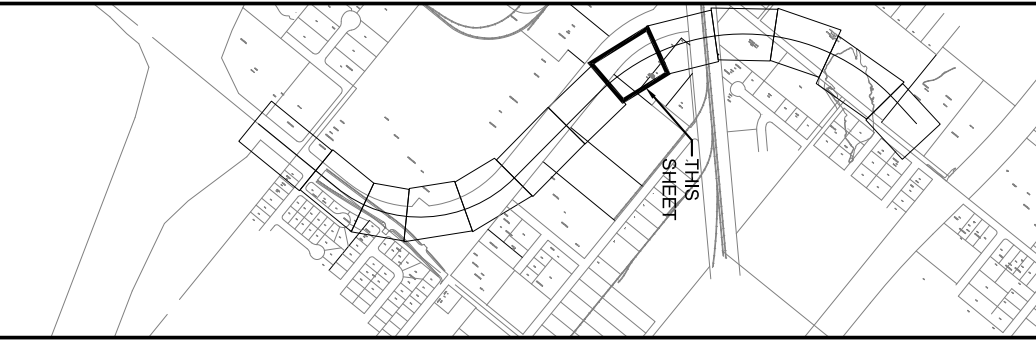
UTILITY PLAN



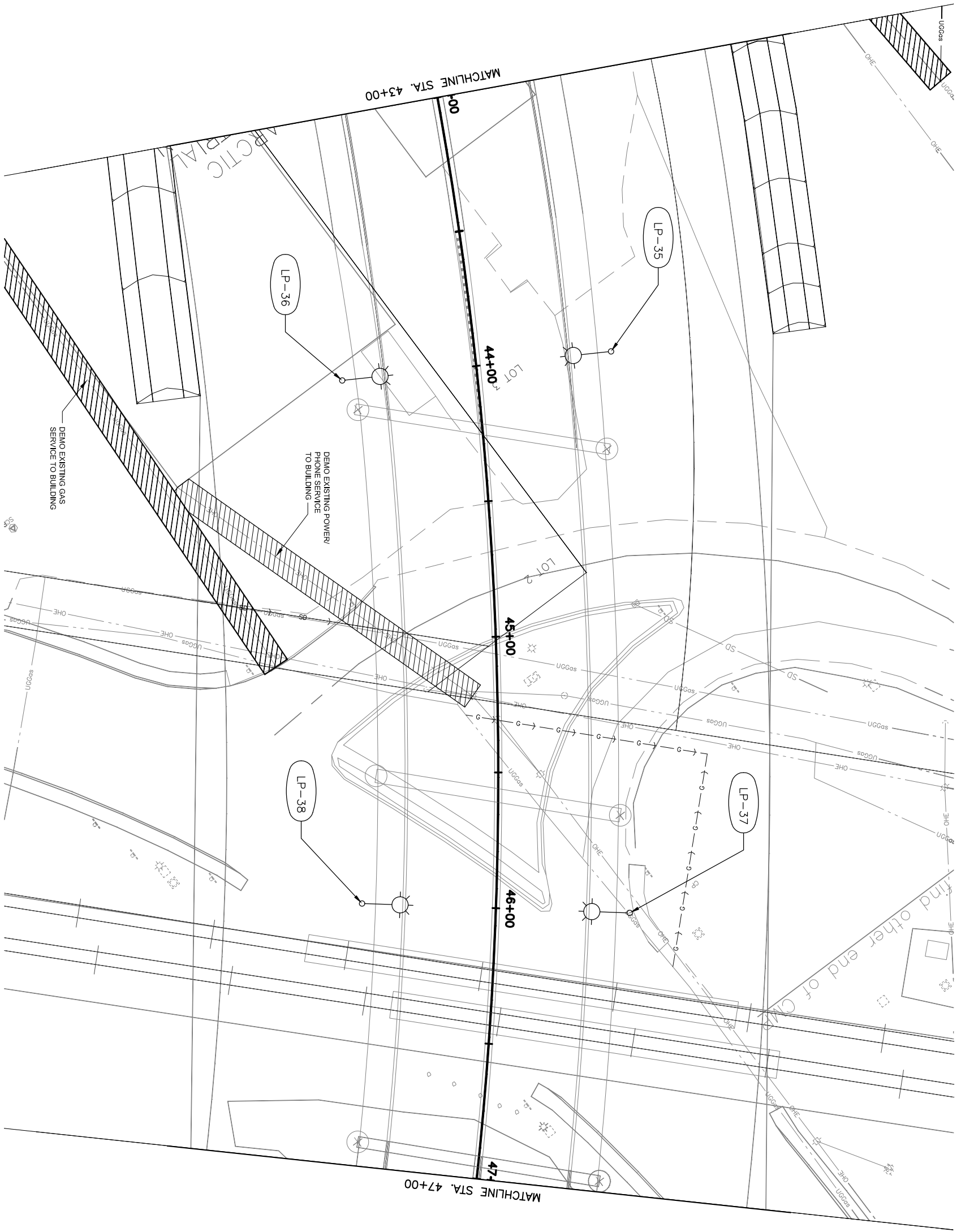
UTILITY PLAN



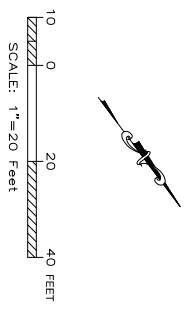
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STATE	ALASKA	YEAR
YEAR	2010	
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION



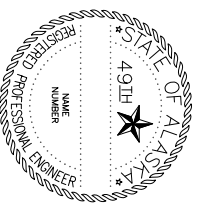
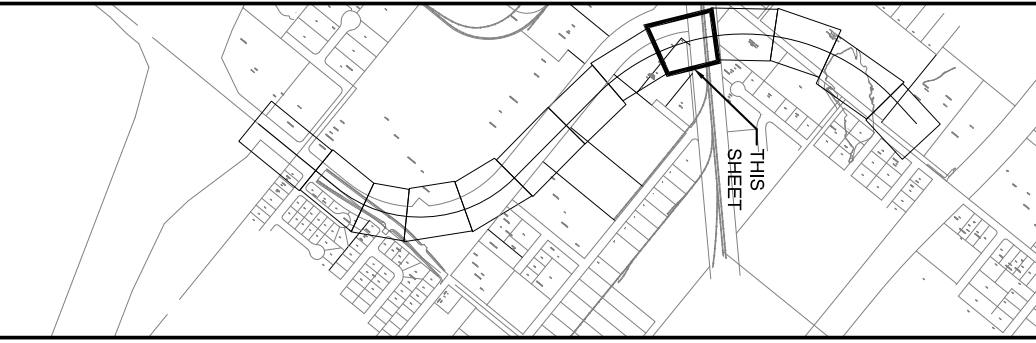
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
 UTILITY PLAN



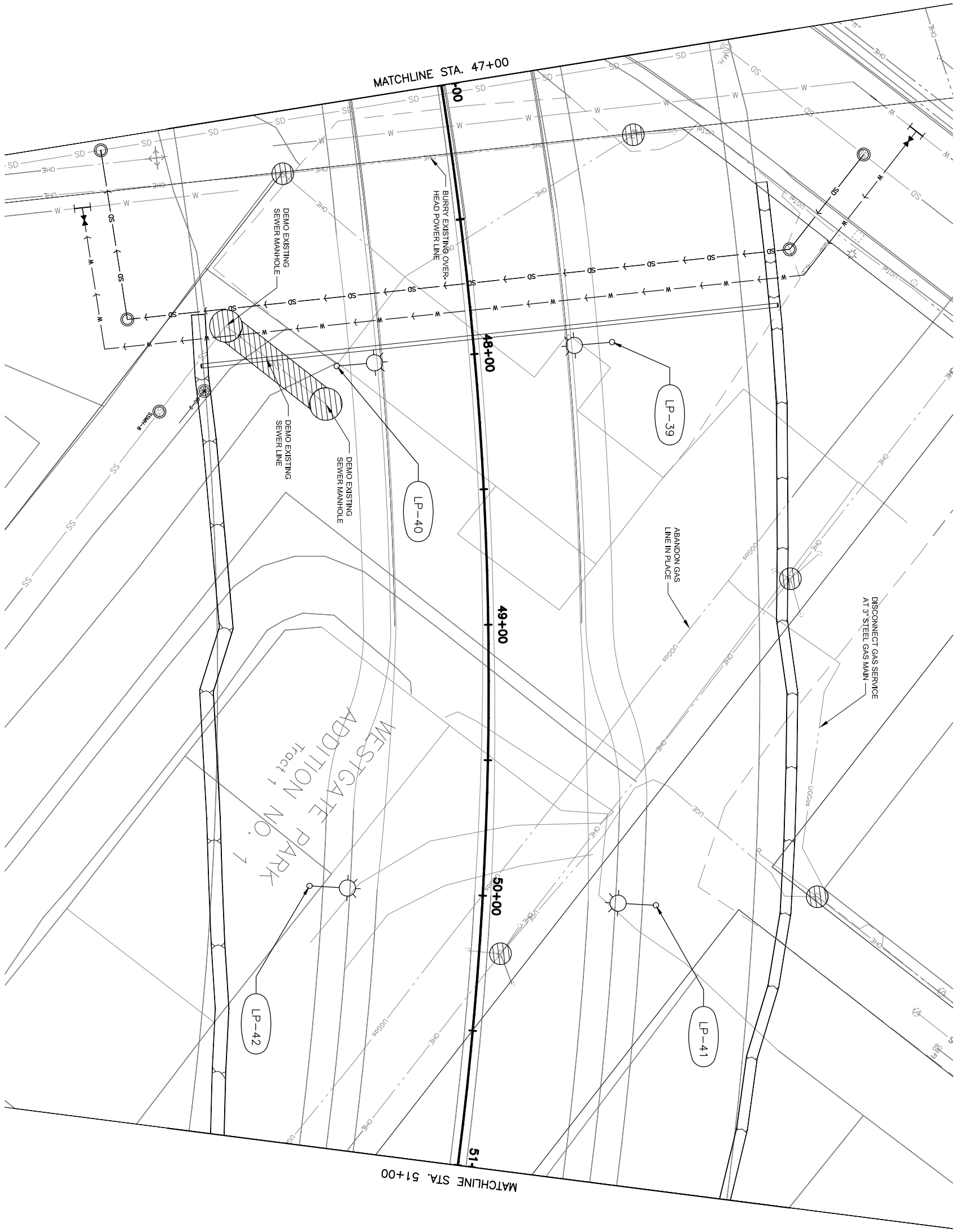
UTILITY PLAN



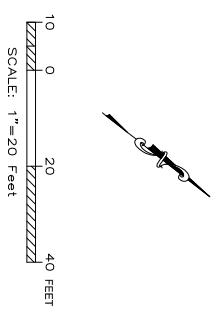
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P9		
STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION



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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
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WEST DOWLING PHASE II
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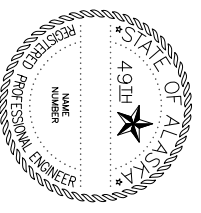
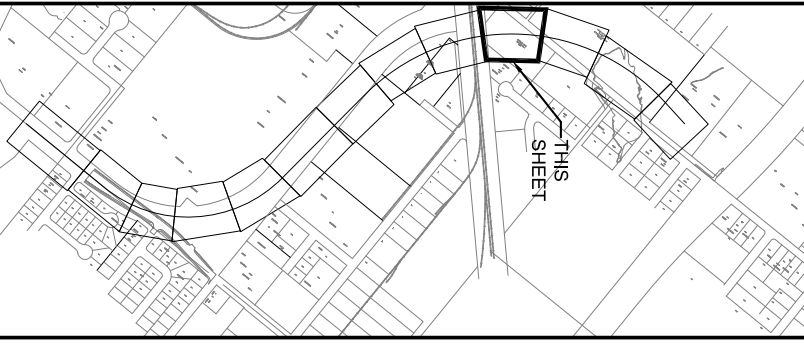


UTILITY PLAN

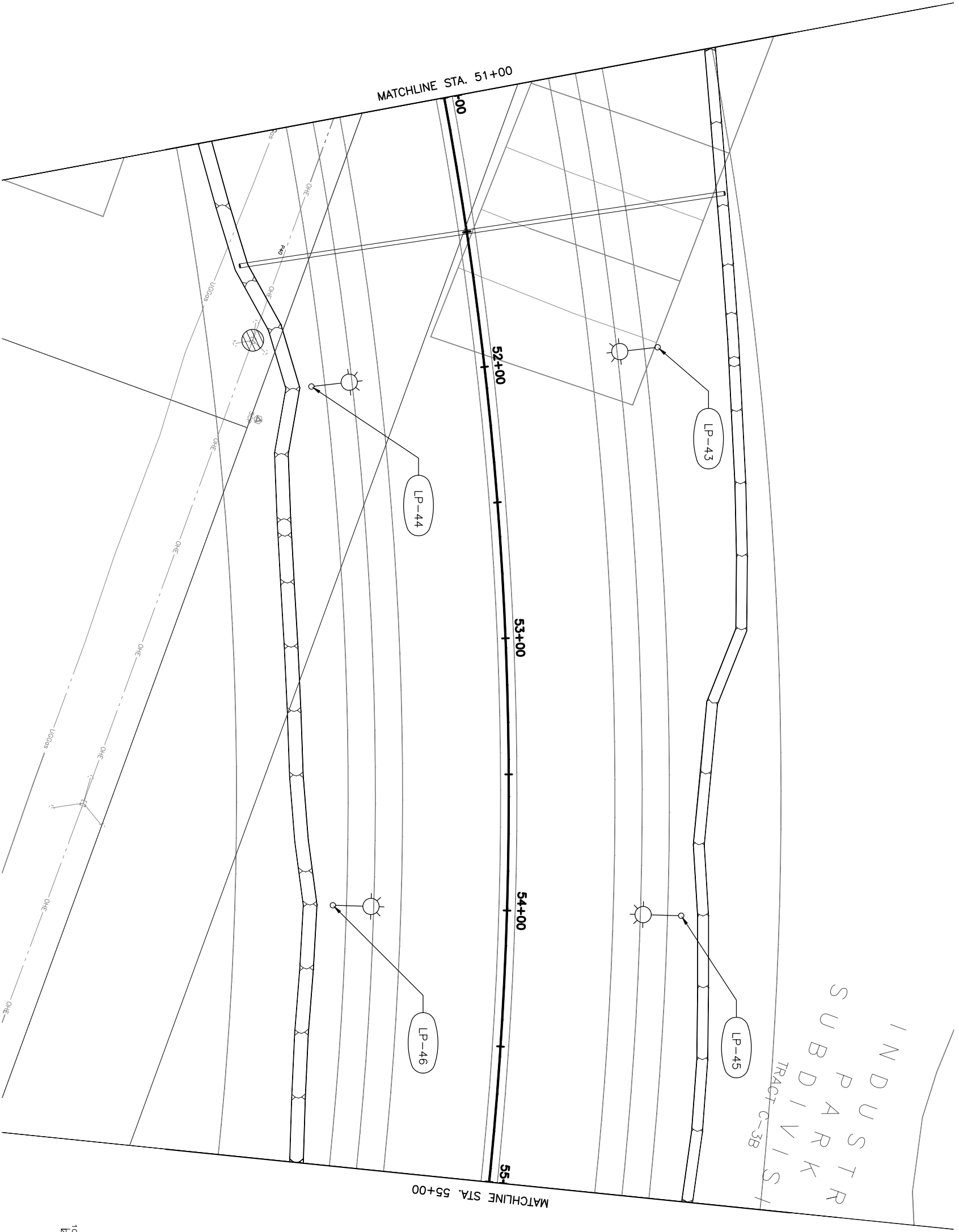


WESTGATE PARK
ADDITION NO. 7
Tract 1

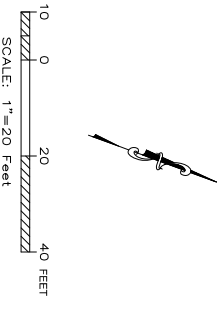
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STATE	ALASKA	YEAR
YEAR	2010	
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION



UAA ENGINEERING 2010
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN



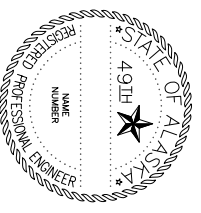
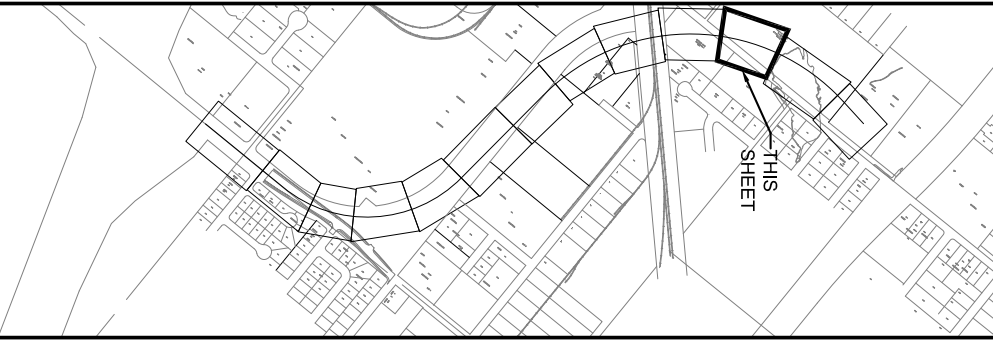
UTILITY PLAN



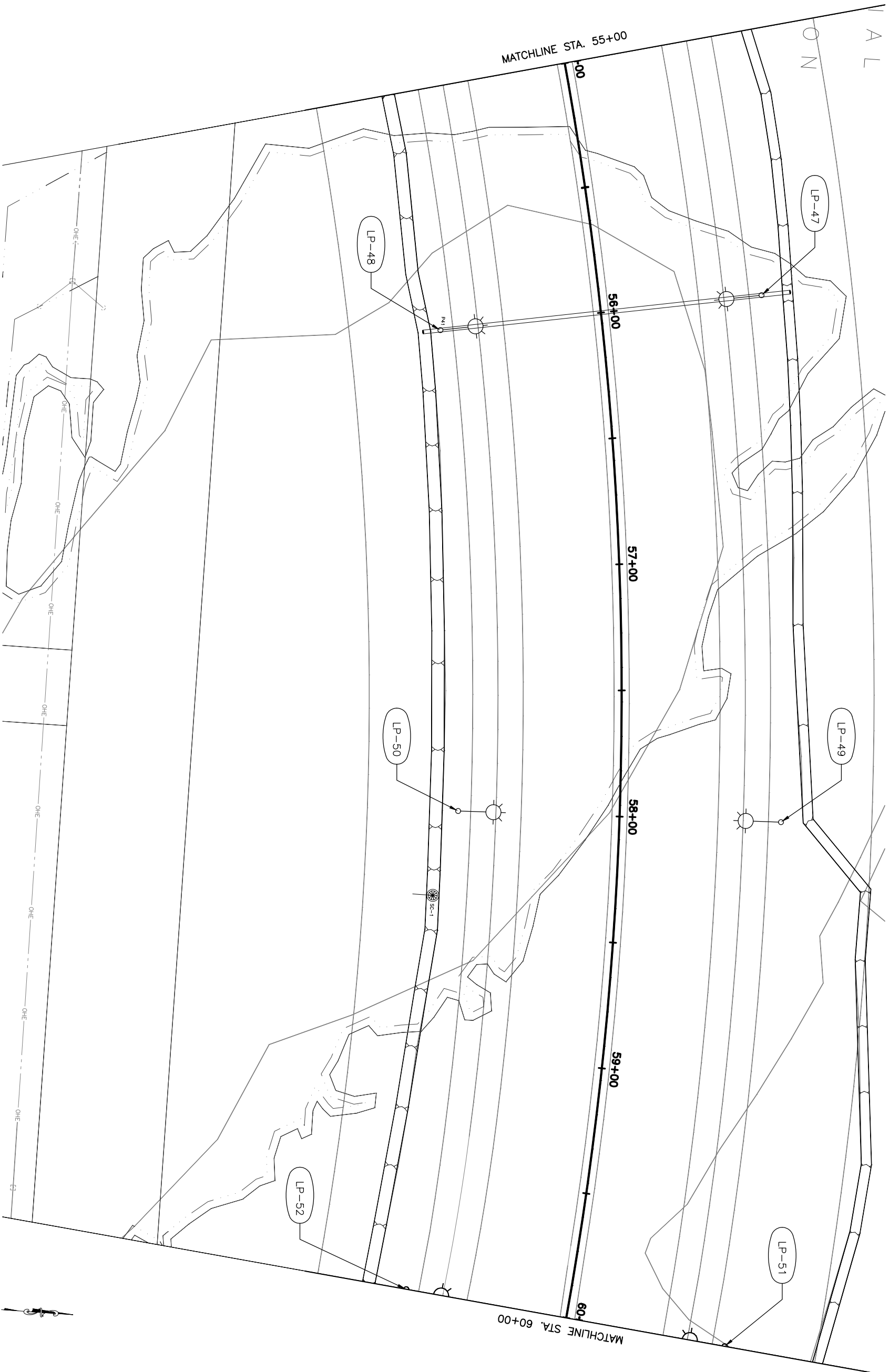
INDUSTRIAL
SUBDIVISION
TRACT C-3B

SHEET NO.	TOTAL SHEETS
P11	
STATE	YEAR
ALASKA	2010
APPENDIX NO.	

PROJECT DESIGNATION	
51030	
REVISIONS	
NO.	DESCRIPTION



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STATE OF ALASKA
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WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN



UTILITY PLAN



SHEET NO. TOTAL SHEETS

P12

STATE YEAR

ALASKA 2010

APPENDIX NO.

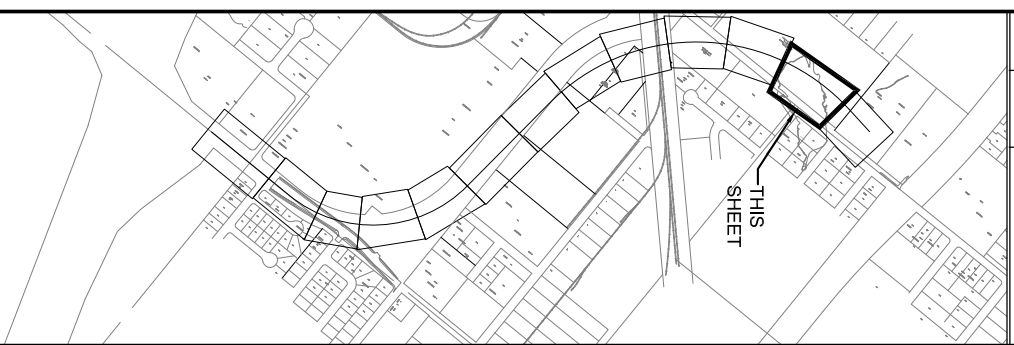
PROJECT DESIGNATION

51030

REVISIONS

NO.	DATE	DESCRIPTION

THIS SHEET



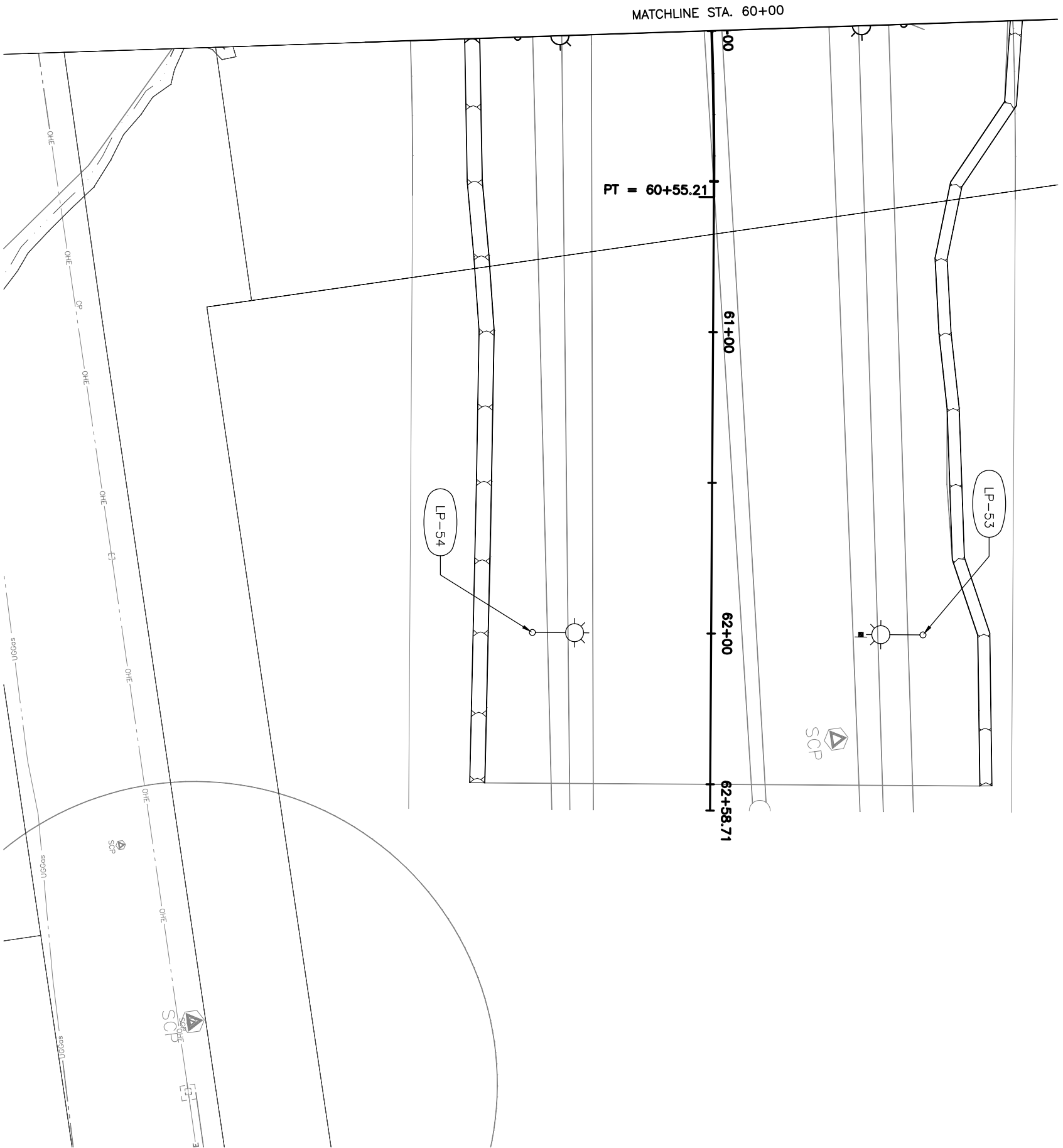
UAA ENGINEERING 2010

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**WEST DOWLING PHASE II
C ST TO MINNESOTA DR**

UTILITY PLAN

USER: Alexander L Read	FILENAME:	PLOT CTB: dot_half.ctb	DESIGNED BY XX XXXX XX, 20XX
PLOT DATE: 4/21/2010 4:22 PM	Y:\CE 438 Transportation Branch\CAD Team\Drawings\Sheets\P - Utility	PLOT SCALE:	CHECKED BY XX XXXX XX, 20XX
COMPUTER DESIGNATION	P&P.dwg	PLOT VIEW: PS	DRAFTED BY XX XXXX XX, 20XX



UTILITY PLAN



SHEET NO. TOTAL SHEETS

P13

STATE YEAR

ALASKA 2010

APPENDIX NO.

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PROJECT DESIGNATION

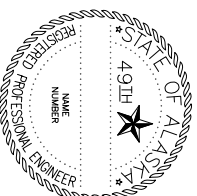
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REVISIONS

NO. DATE DESCRIPTION

NO.	DATE	DESCRIPTION

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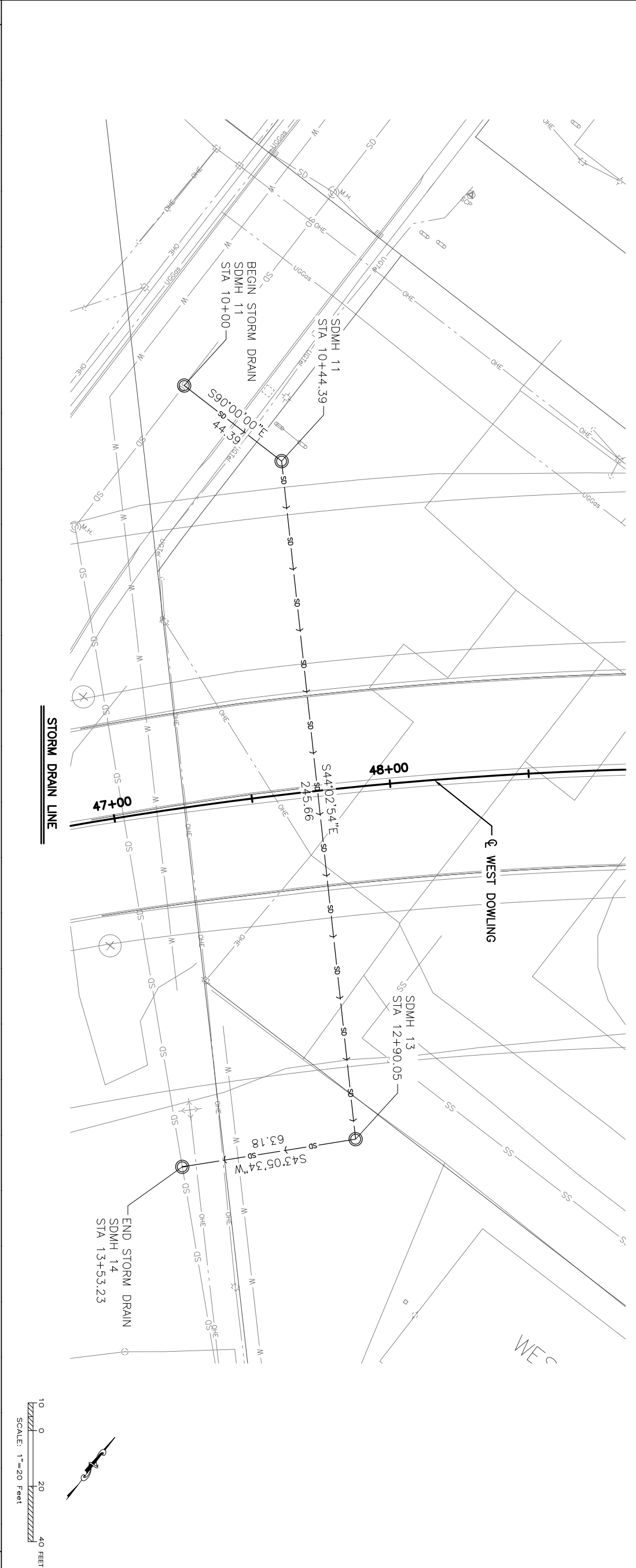


UAA ENGINEERING 2010

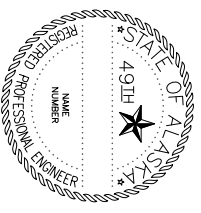
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

WEST DOWLING PHASE II
C ST TO MINNESOTA DR

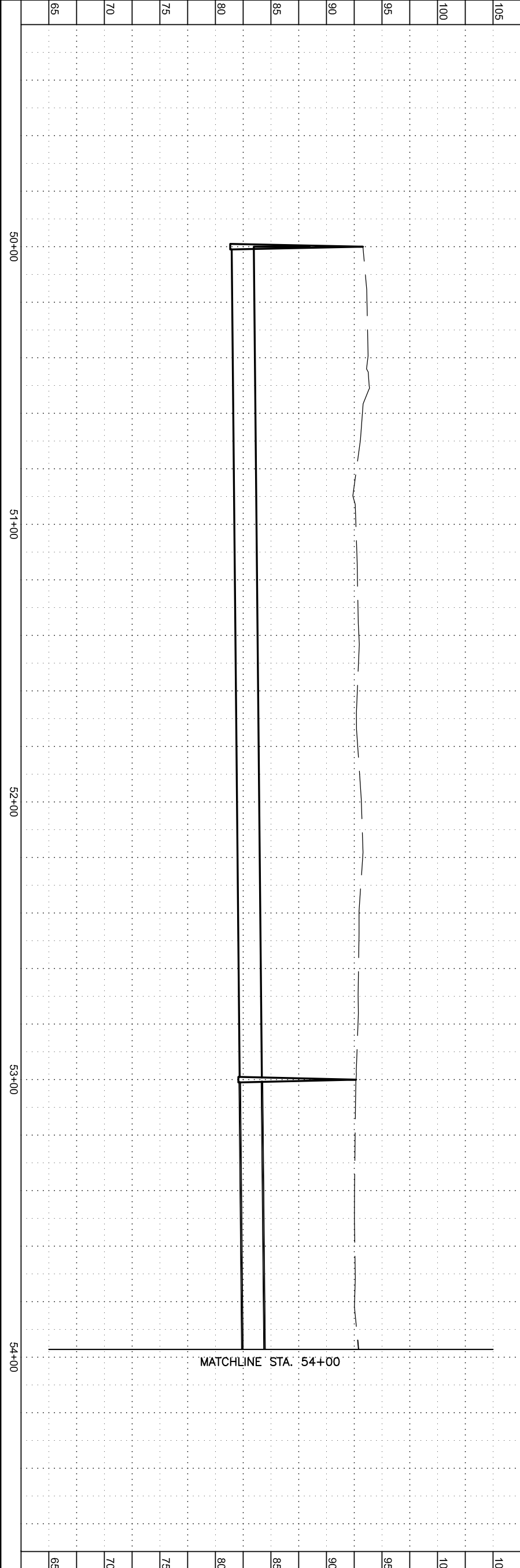
UTILITY PLAN



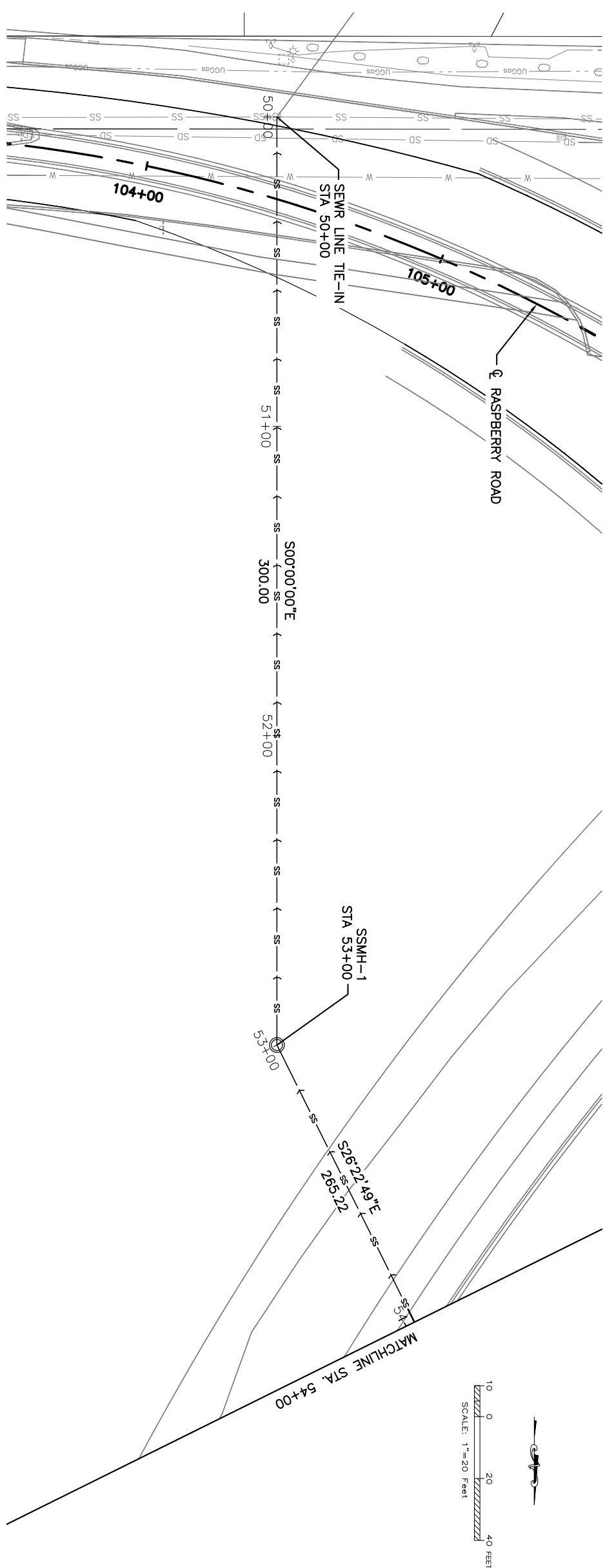
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STATE	ALASKA	YEAR	2010
APPENDIX NO.			
PROJECT DESIGNATION	51030		
REVISIONS			
NO.	DATE	DESCRIPTION	



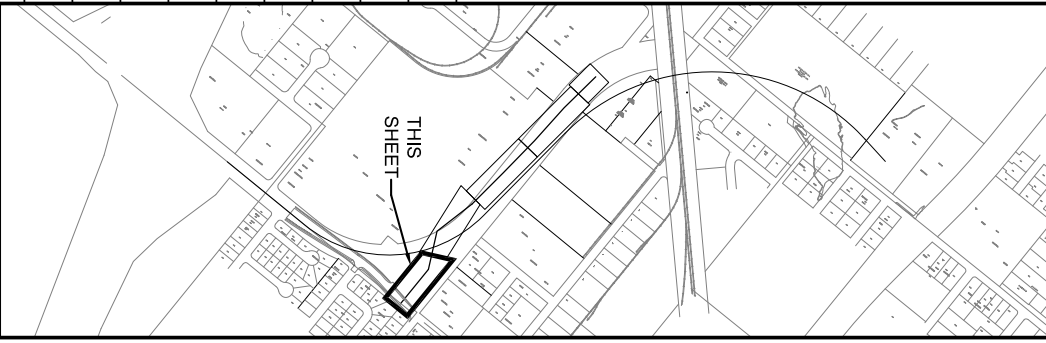
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN & PROFILE



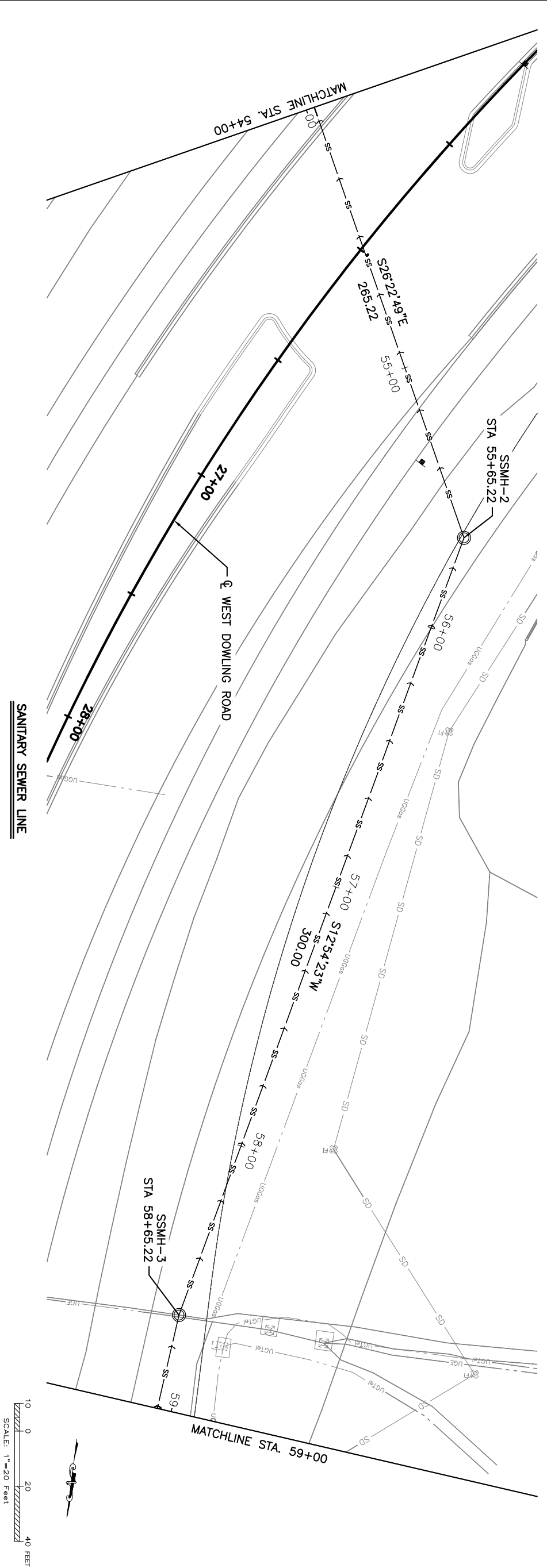
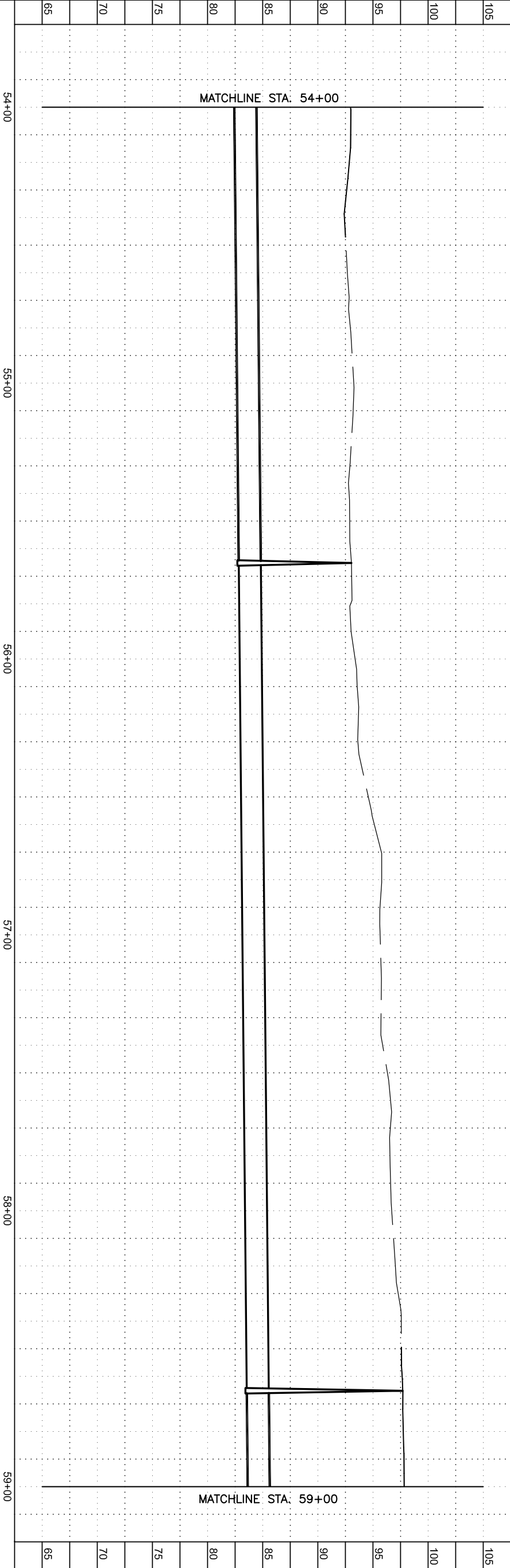
SANITARY SEWER LINE



SHEET NO.	P15	TOTAL SHEETS
STATE	ALASKA	YEAR
		2010
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS	NO.	DATE
		DESCRIPTION



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WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN & PROFILE



SHEET NO.	TOTAL SHEETS	
P16		
STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION

UAA ENGINEERING 2010

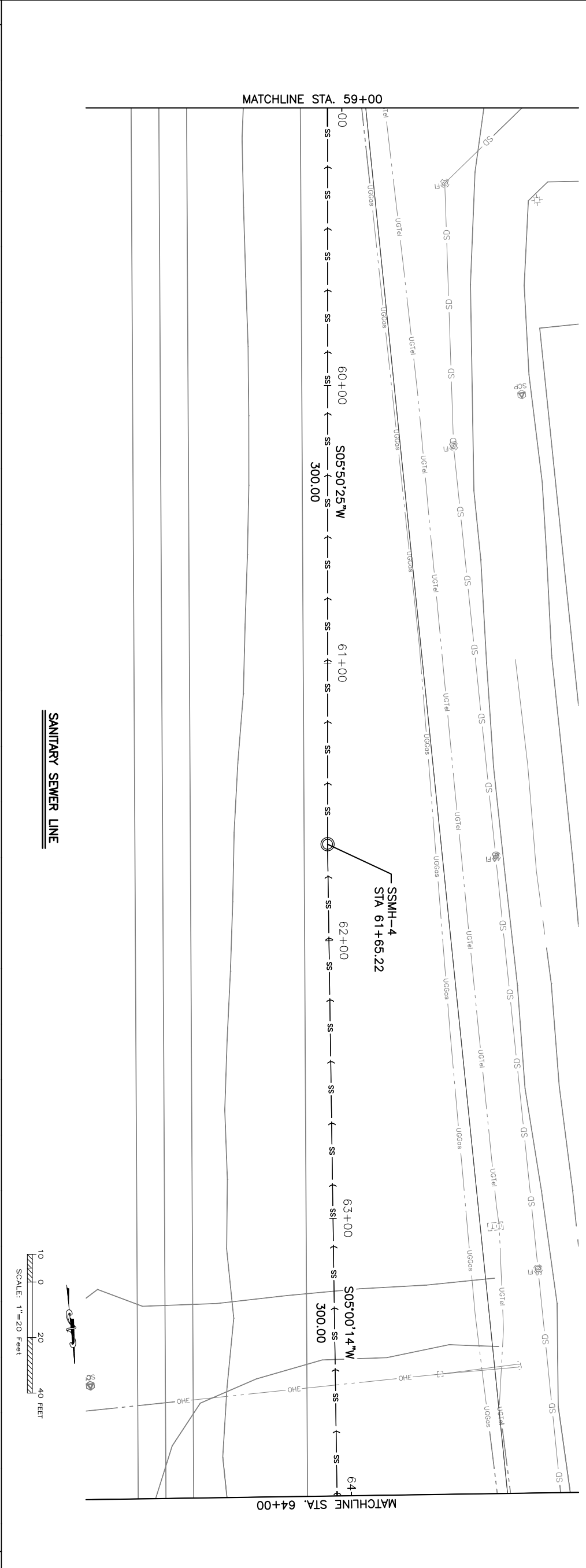
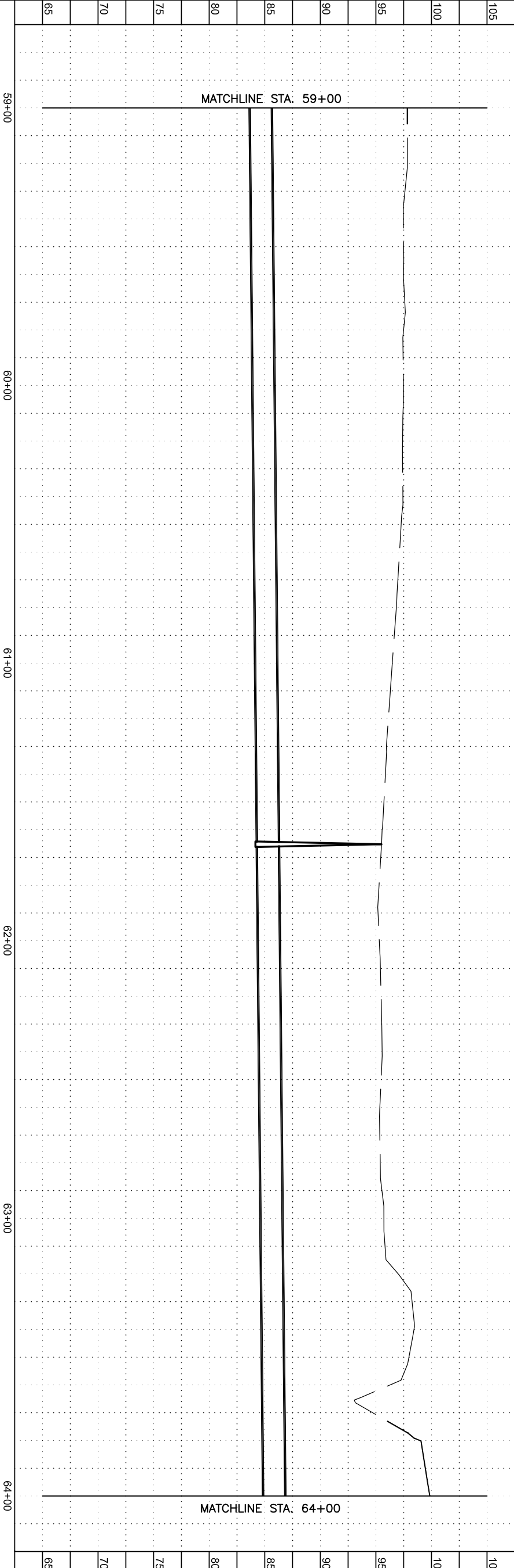
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**WEST DOWLING PHASE II
C ST TO MINNESOTA DR**

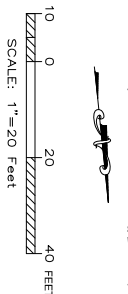
UTILITY PLAN & PROFILE

THIS SHEET

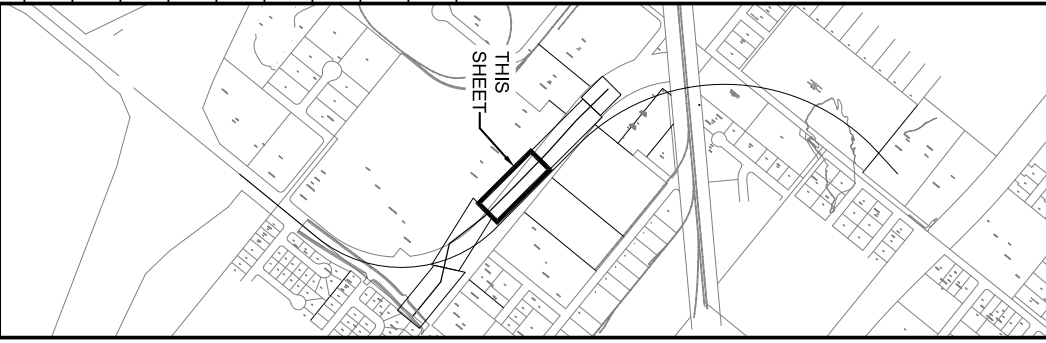
SCALE: 1"=20 Feet



SANITARY SEWER LINE

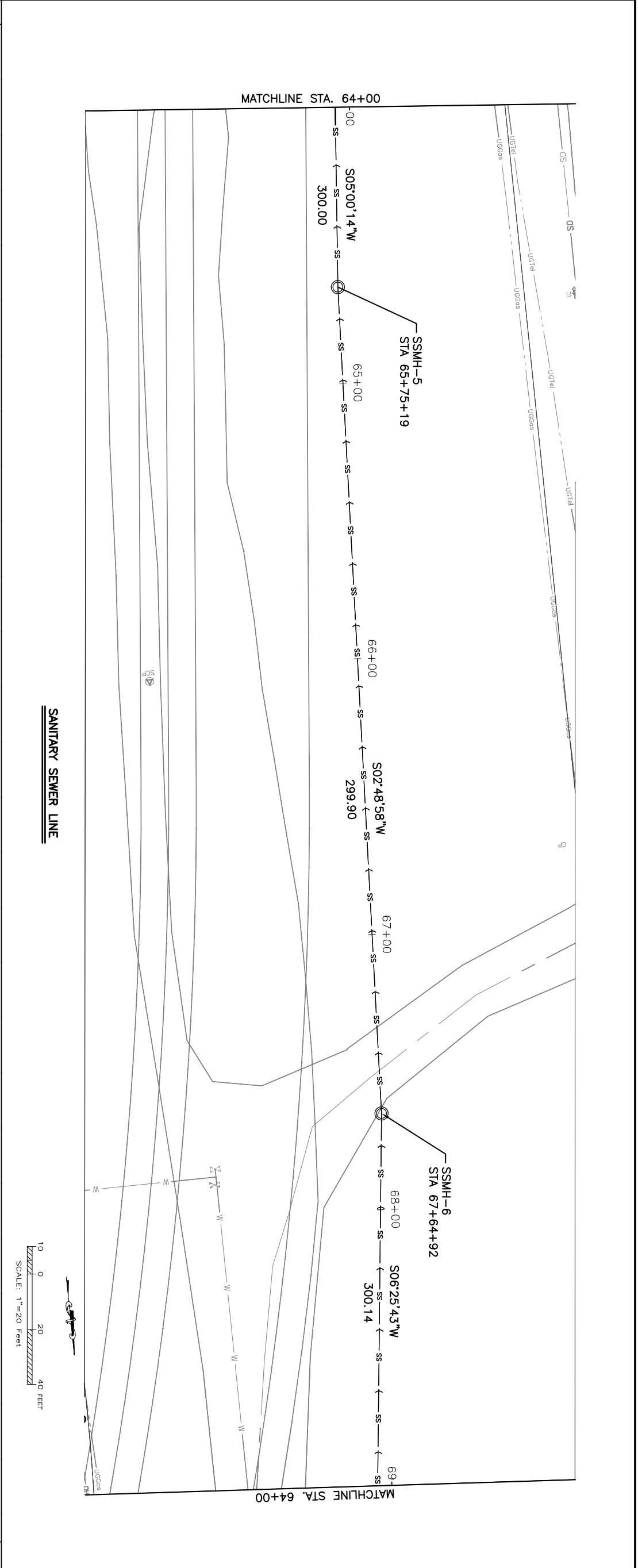
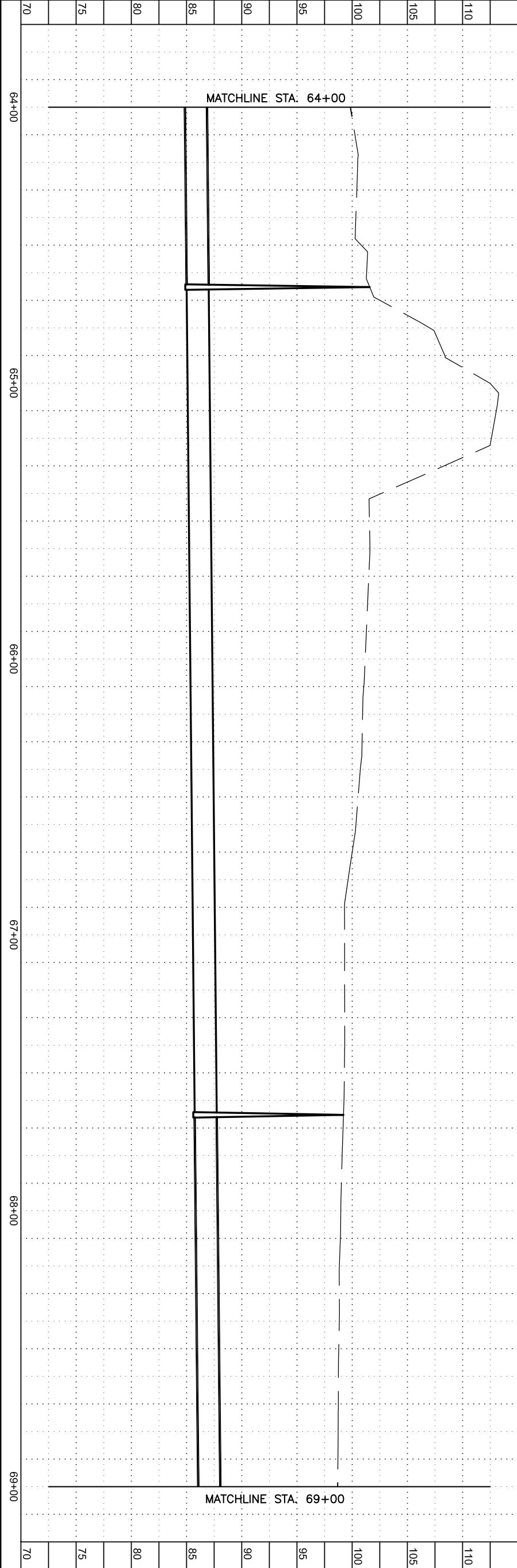


SHEET NO.	P17	TOTAL SHEETS
STATE	ALASKA	YEAR
	2010	
APPENDIX NO.		
PROJECT DESIGNATION	51030	
REVISIONS		
NO.	DATE	DESCRIPTION



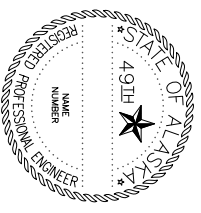
UAA ENGINEERING 2010
 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN & PROFILE

USER: Alexander L Read	FILENAME:	PLOT CTB: dot_half.ctb	DESIGNED BY XX XXXX XX, 20XX
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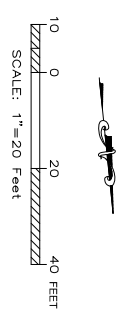
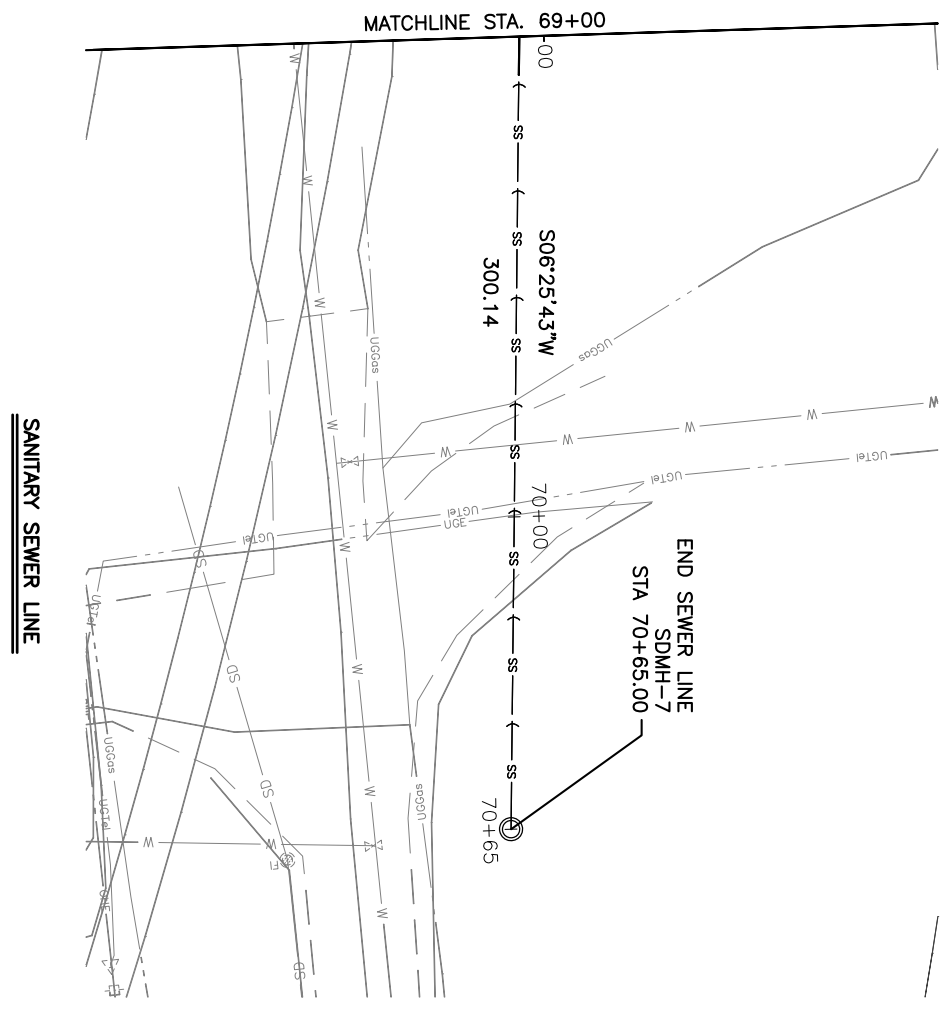
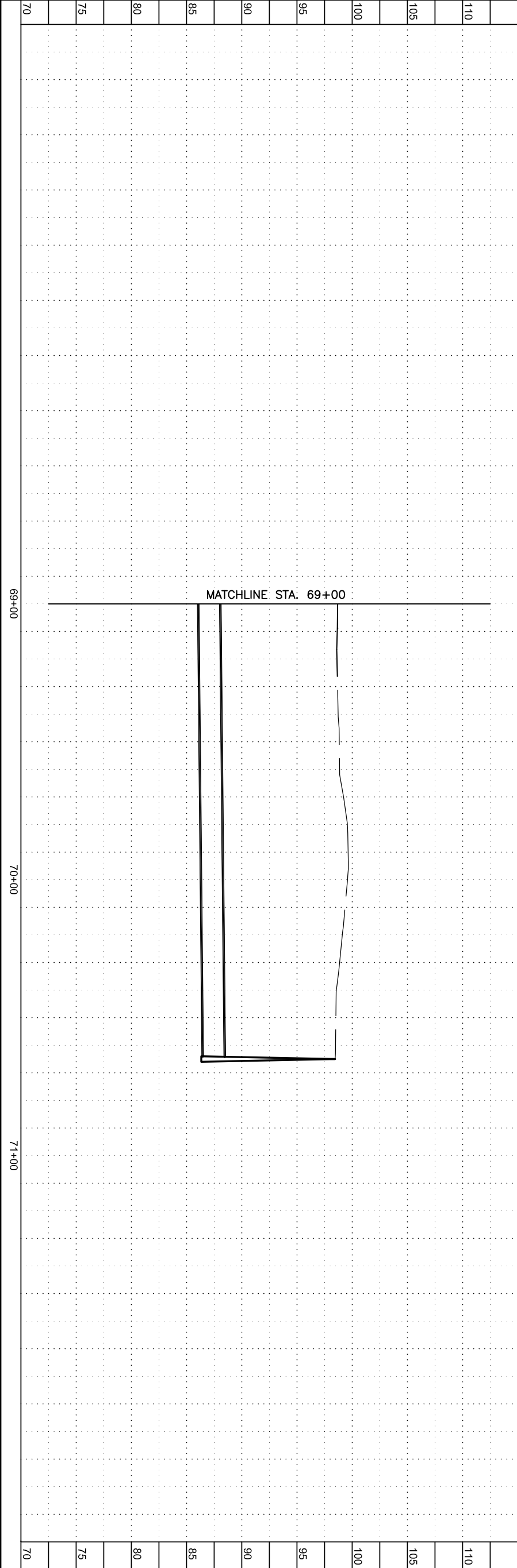


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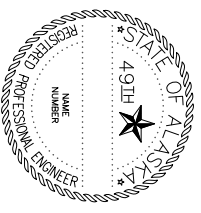
SHEET NO.	TOTAL SHEETS	
P18		
STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION



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 STATE OF ALASKA
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WEST DOWLING PHASE II
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SHEET NO.	TOTAL SHEETS	
P19		
STATE	YEAR	
ALASKA	2010	
APPENDIX NO.		
PROJECT DESIGNATION		
51030		
REVISIONS		
NO.	DATE	DESCRIPTION

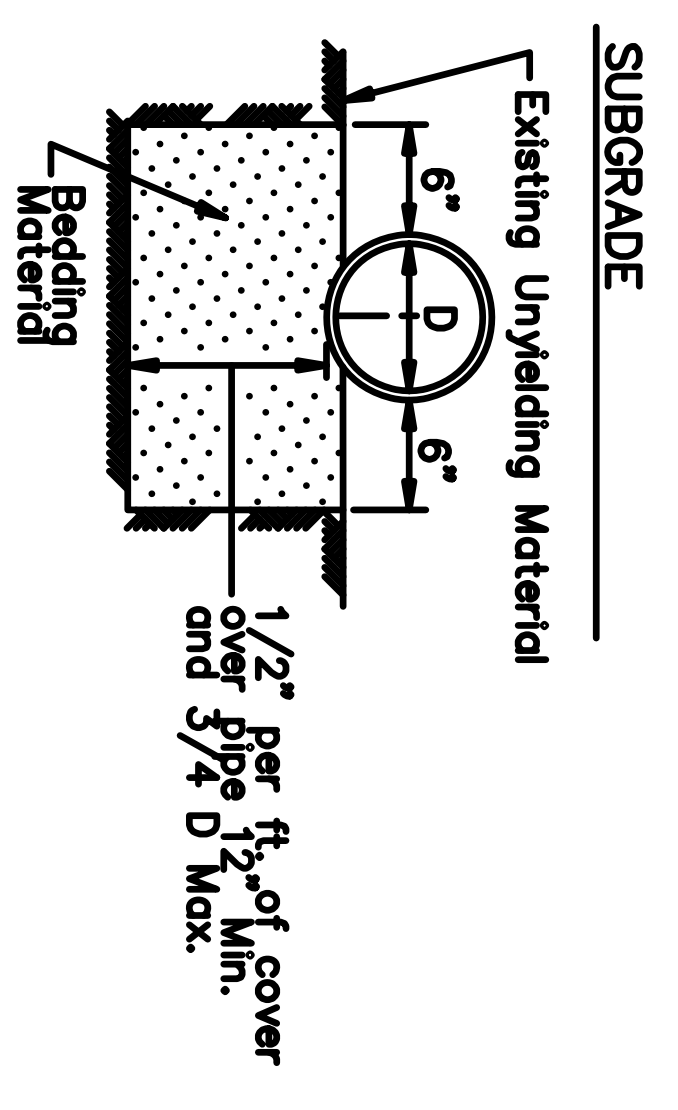
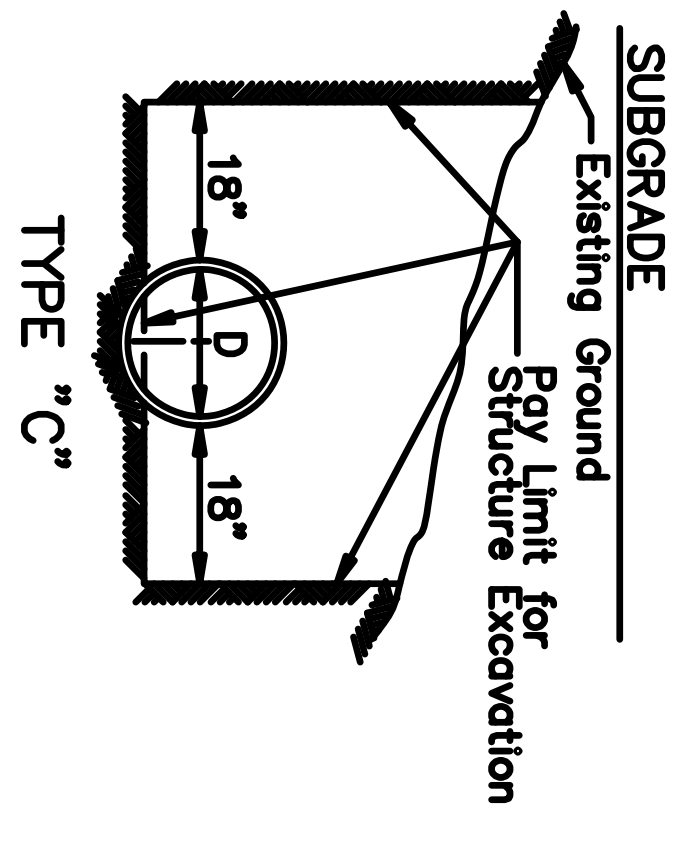
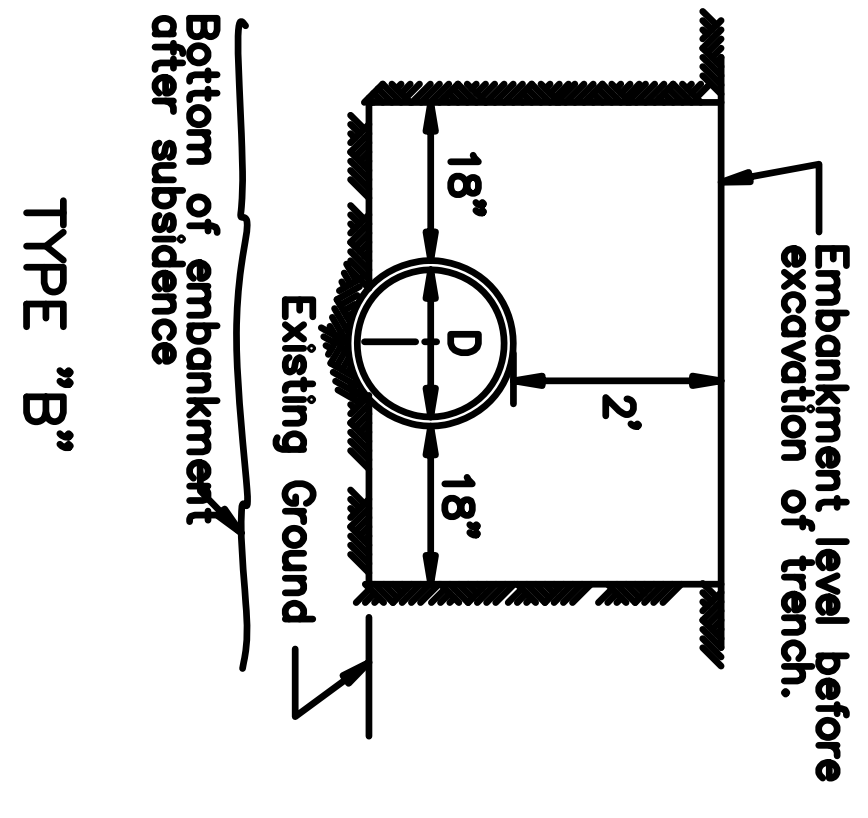
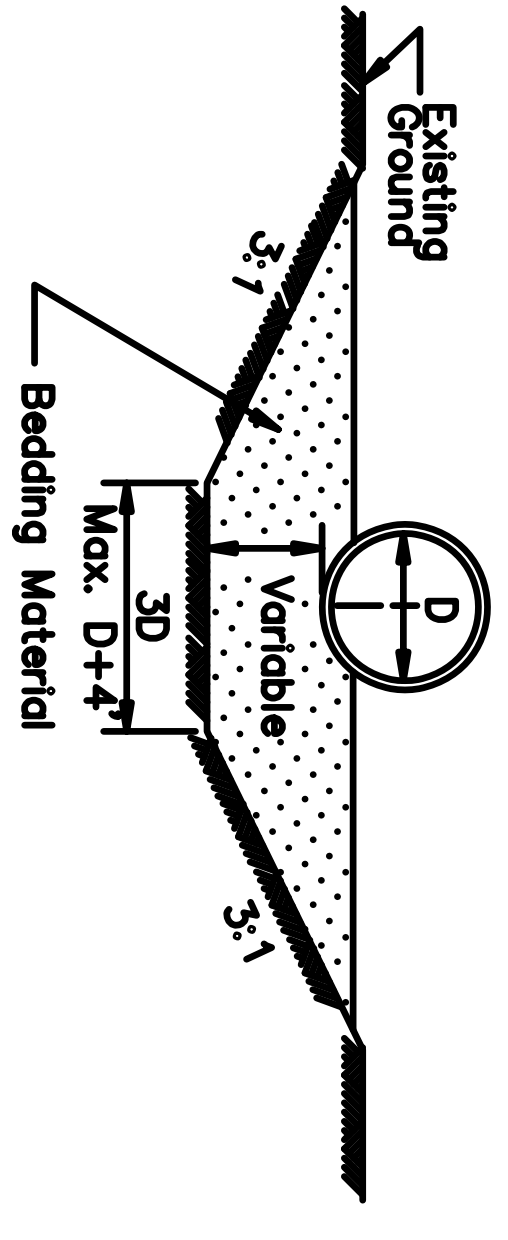


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 STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
WEST DOWLING PHASE II
C ST TO MINNESOTA DR
UTILITY PLAN & PROFILE

GENERAL NOTES:

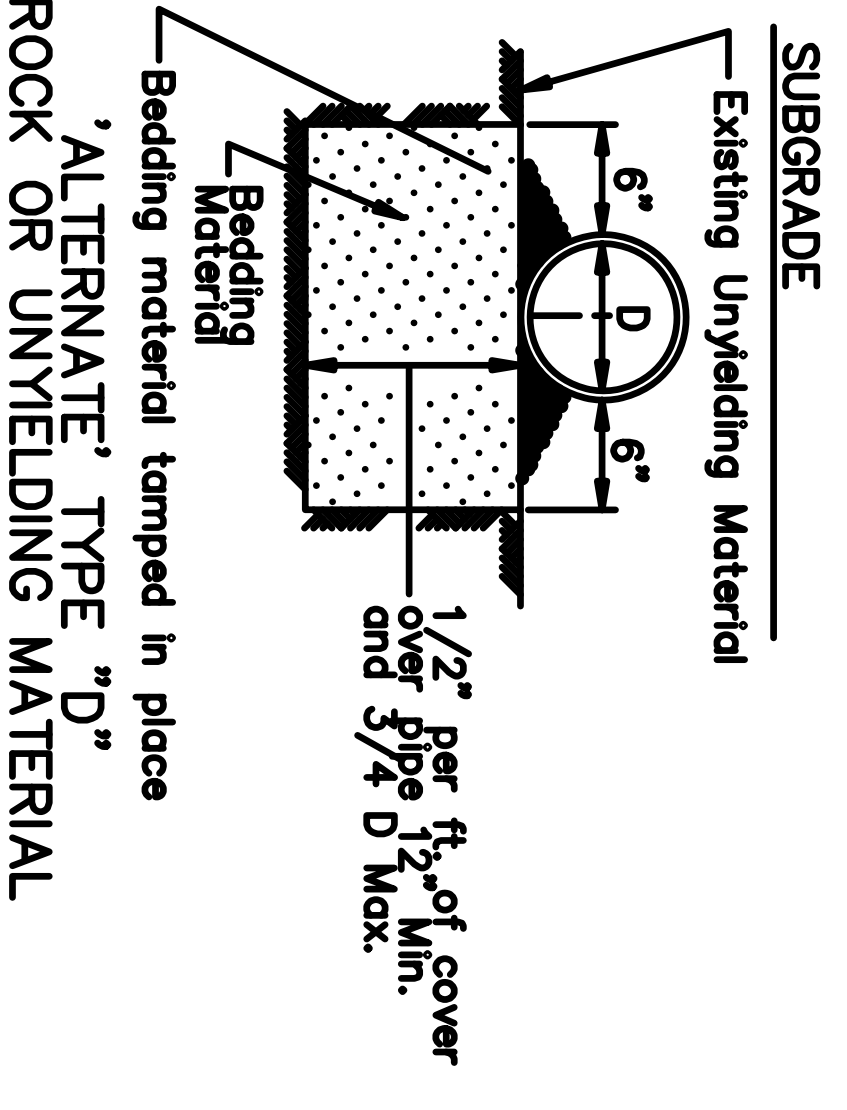
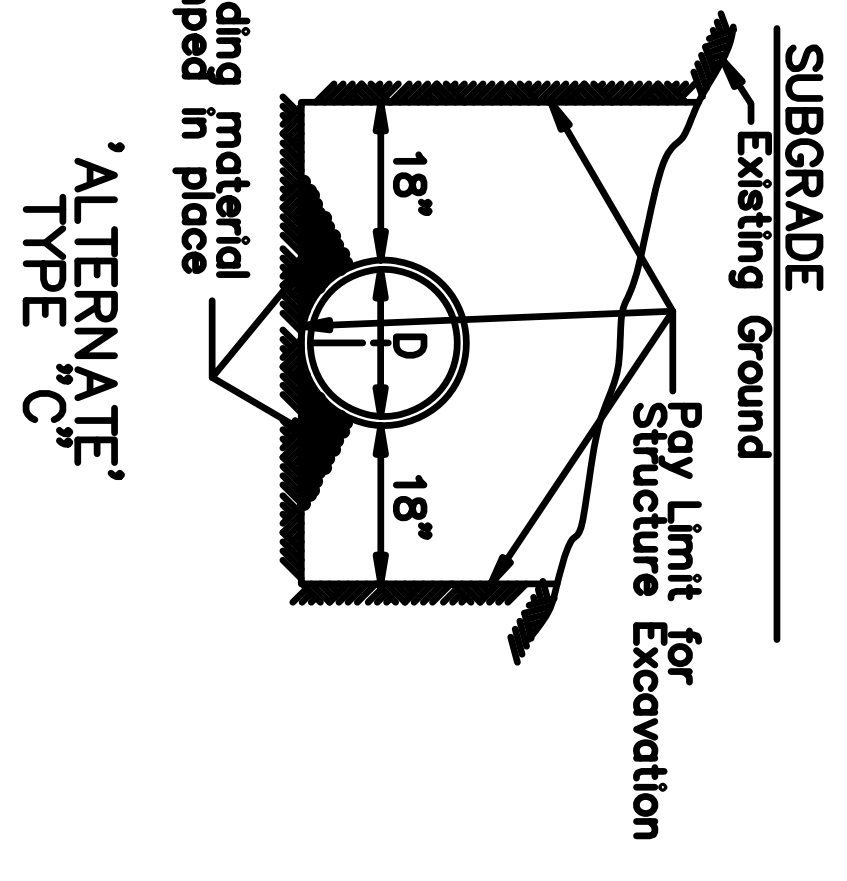
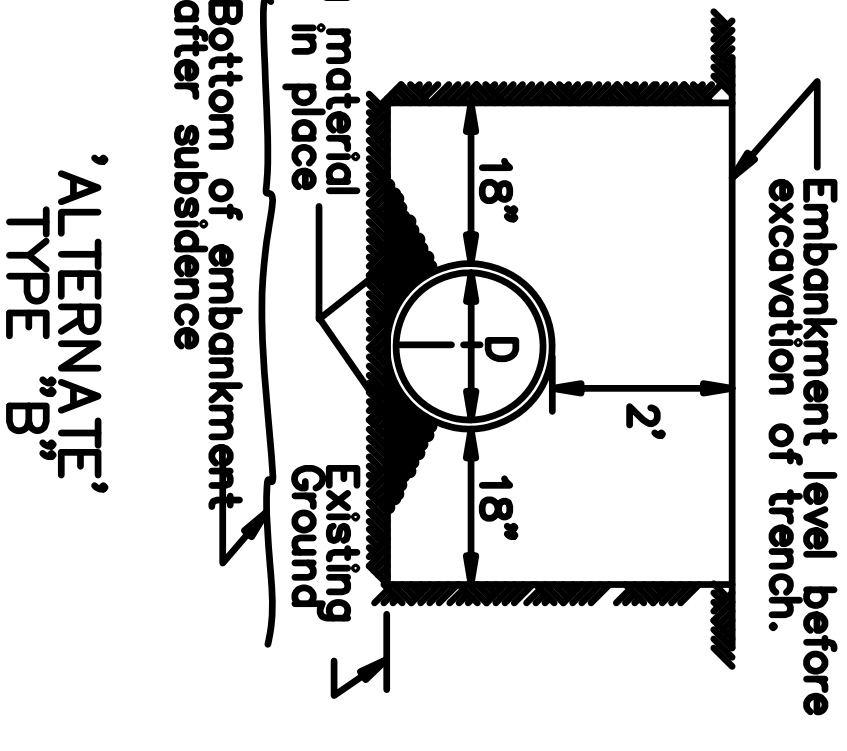
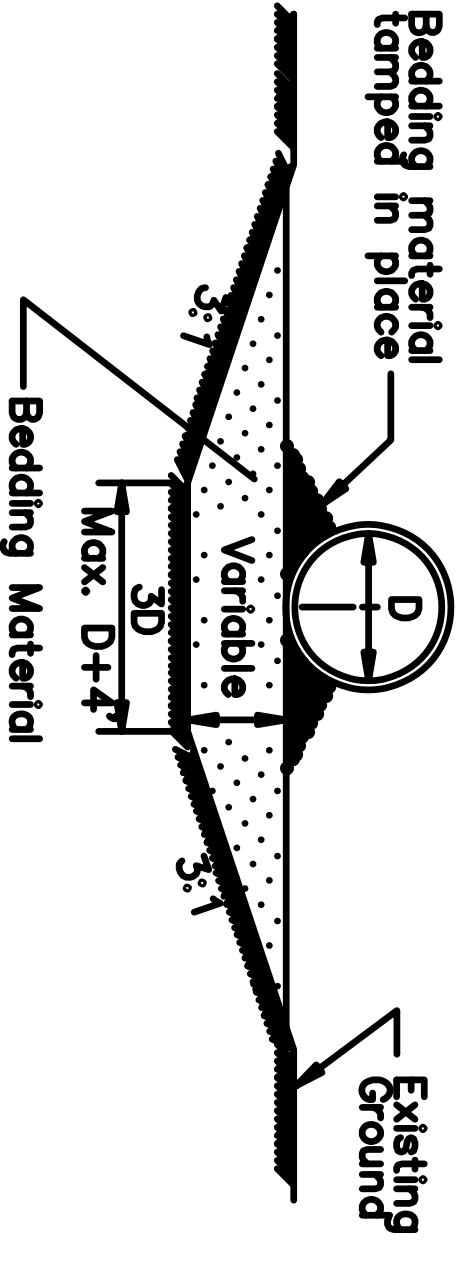
1. Sidefill shall be placed and compacted with care under haunches of pipe and shall be brought up evenly and simultaneously on both sides of pipe to 1 foot above the top of the full length of the pipe.
2. Alternate installation methods may only be used when specified or approved by the Engineer.

FOUNDATION STABILIZATION
TYPE "A"
 To be used in unstable areas as directed by the Engineer.



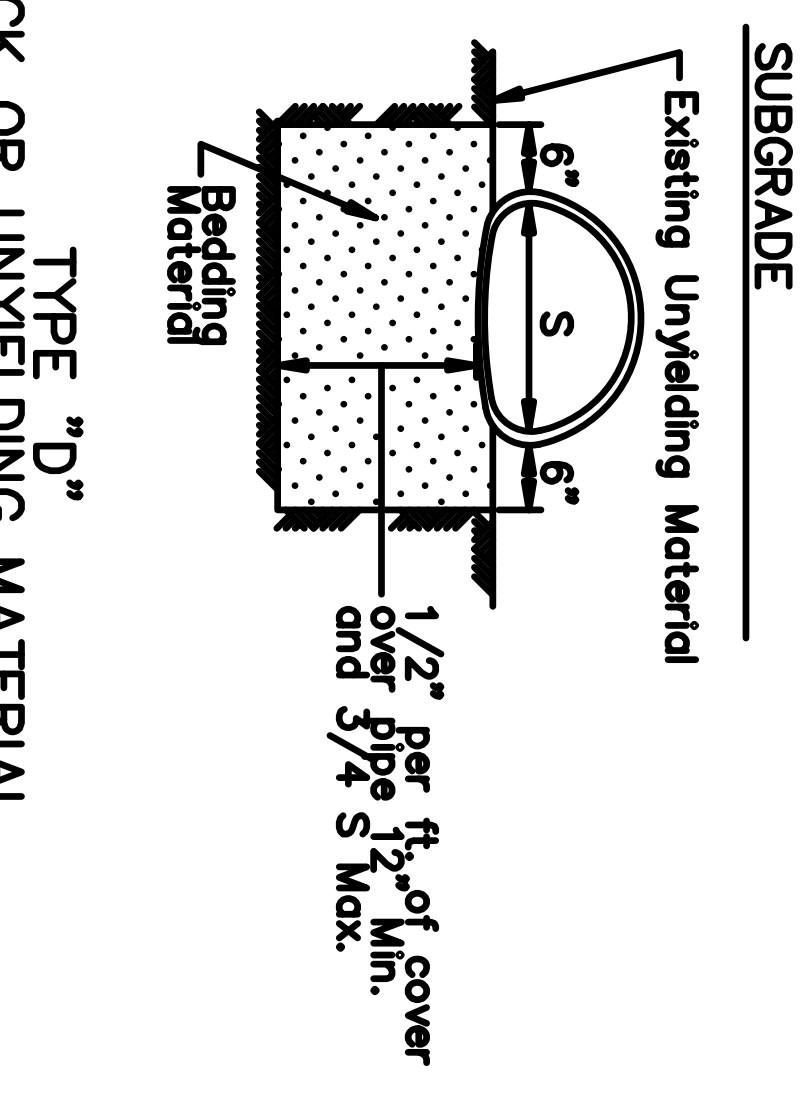
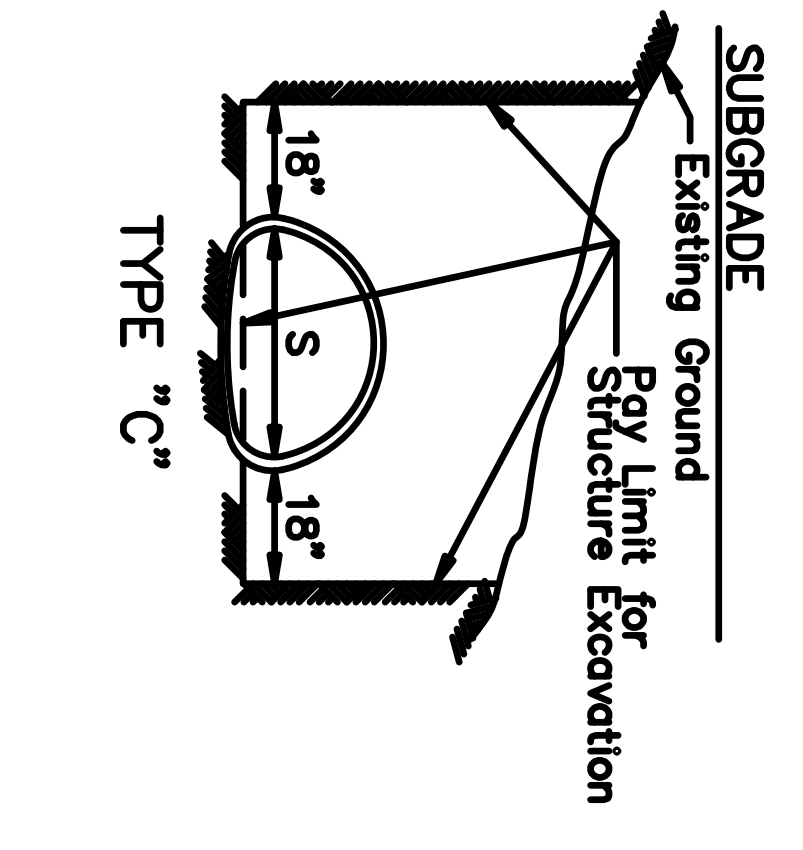
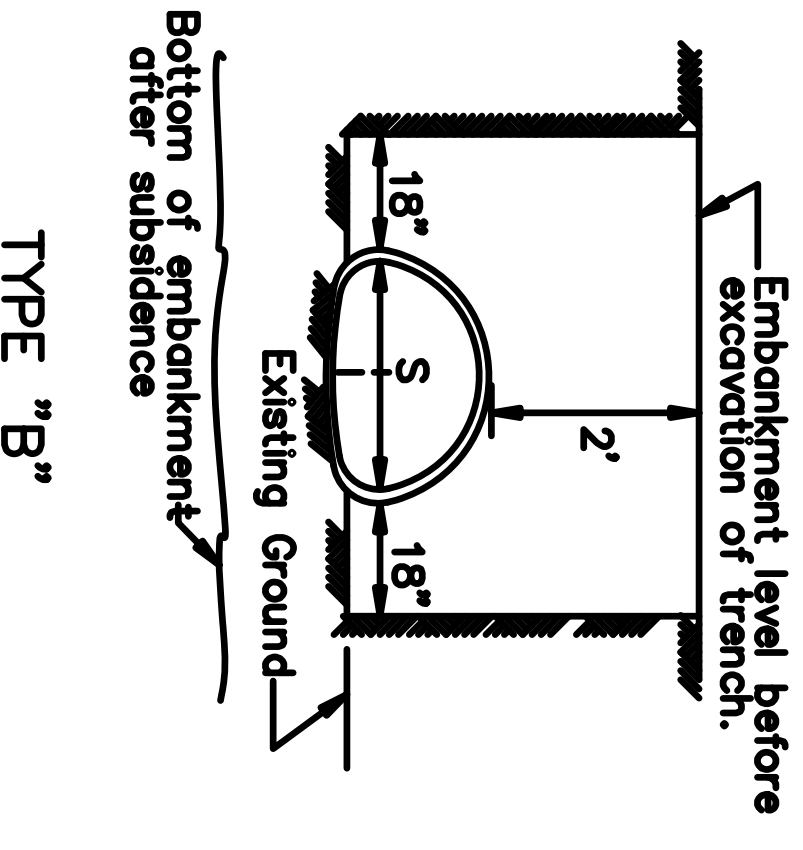
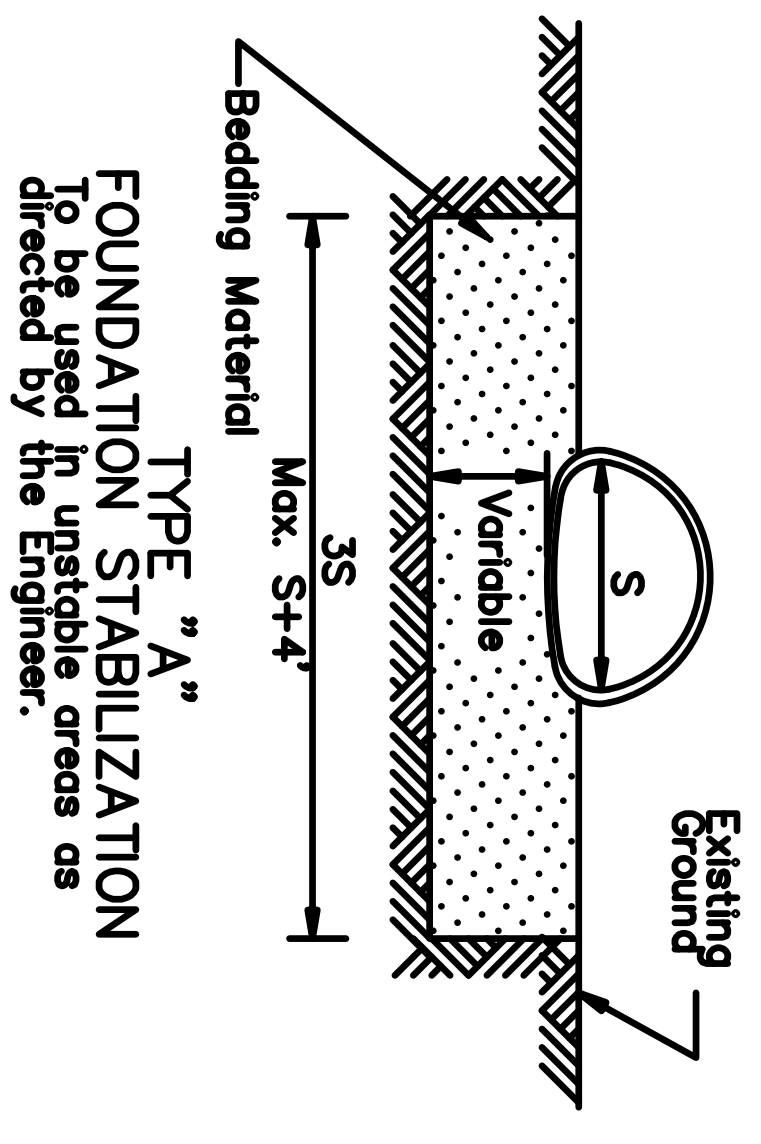
ROCK OR UNYIELDING MATERIAL
TYPE "D"

FOUNDATION STABILIZATION
TYPE "A"
'ALTERNATE'
 To be used in unstable areas as directed by the Engineer.



ROCK OR UNYIELDING MATERIAL
'ALTERNATE' TYPE "D"

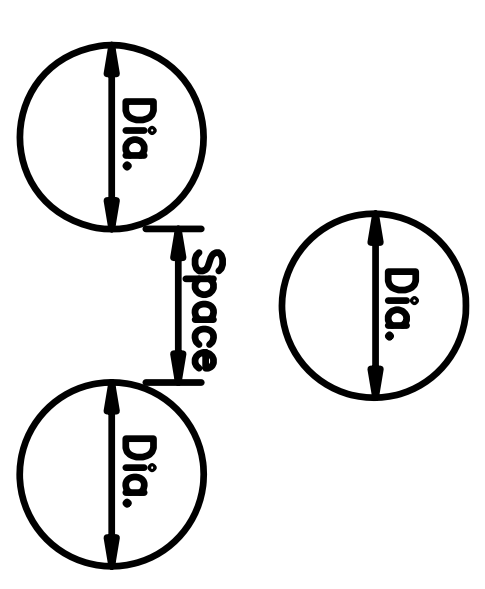
CULVERT PIPE



ROCK OR UNYIELDING MATERIAL
TYPE "D"

ARCH

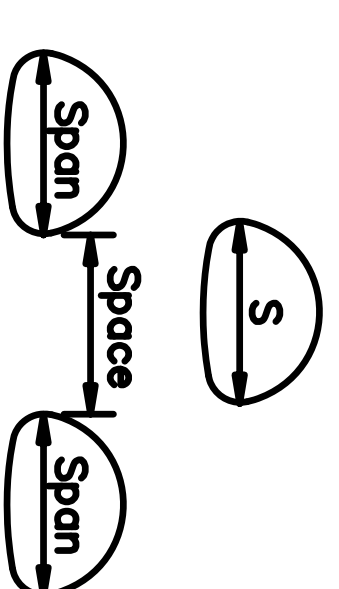
D = Nominal Pipe Diameter



MULTIPLE INSTALLATIONS

Dia.	0" - 42"	Minimum Space Between Pipes	24"
Dia.	48" & Over	1/2 Dia. of pipe or 3', whichever is less.	

S = Nominal Pipe Arch Span



MULTIPLE INSTALLATIONS

Dia.	0" - 42"	Minimum Space Between Pipes	24"
Dia.	48" & Over	1/2 Span of pipe arch or 3', whichever is less.	

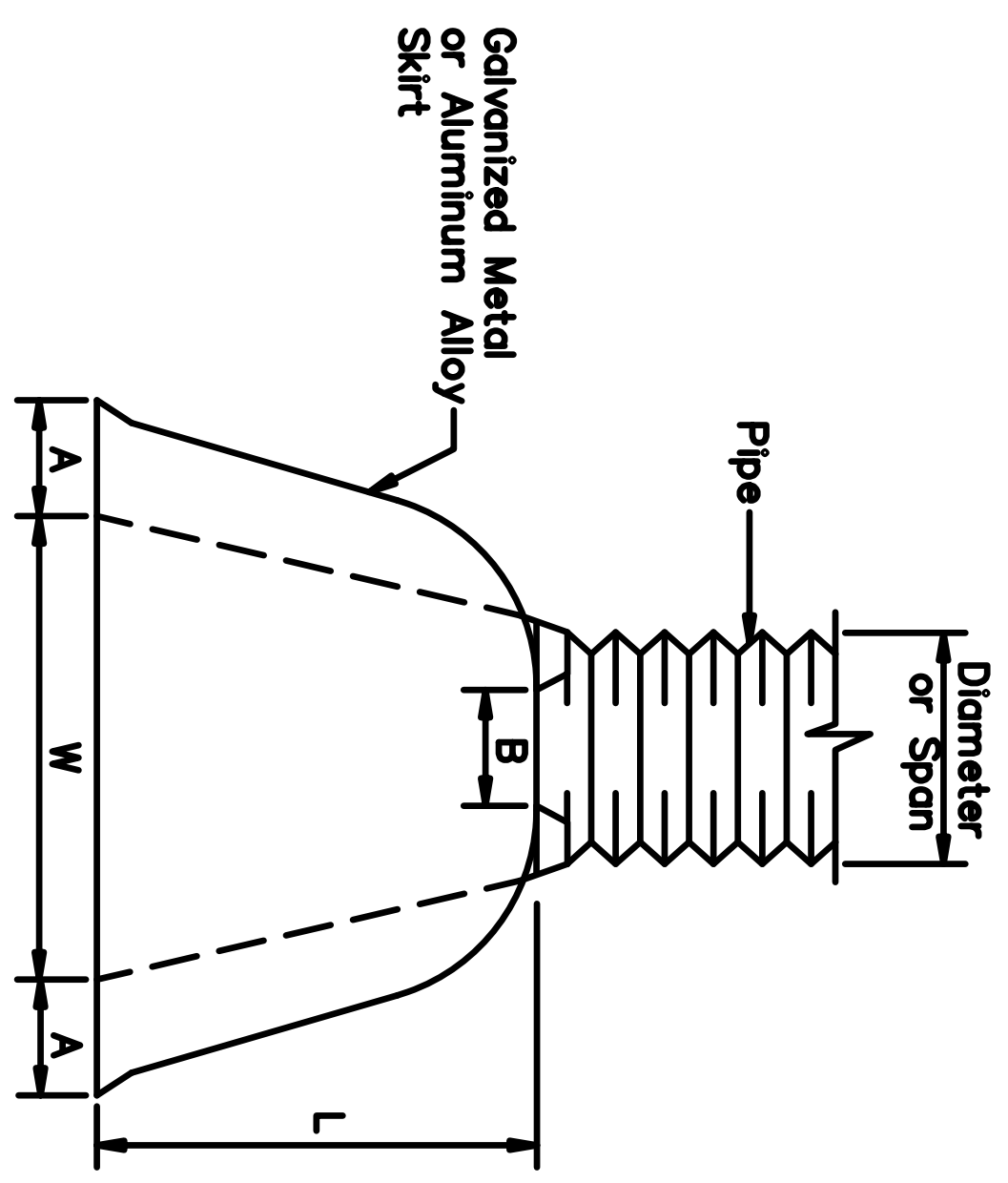
REVISIONS

Date	Description	By
12/1/81	Delete ref. to Specs.	Gdo
4/1/83	Delete Alt. Arch	Gdo

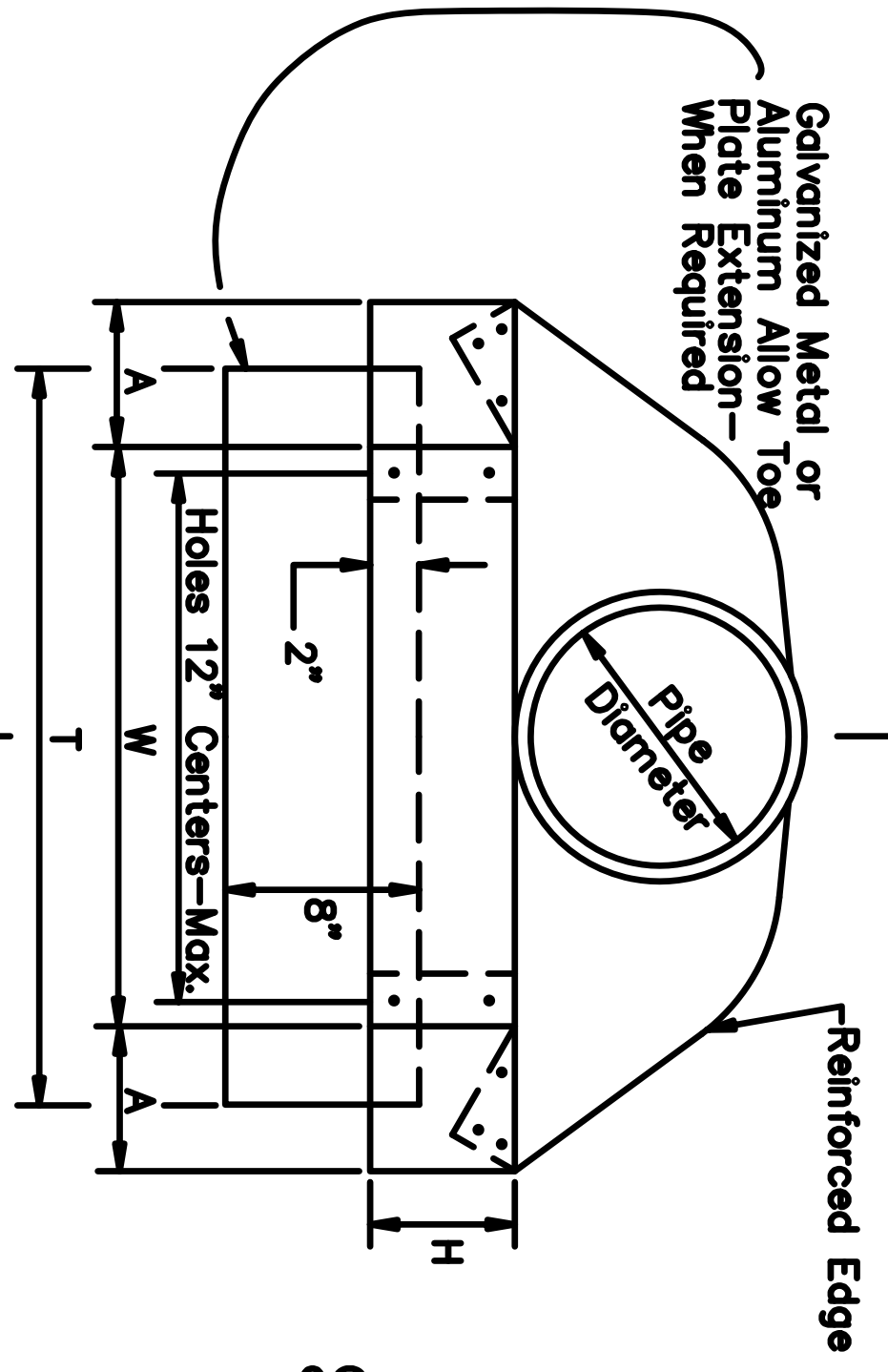
State of Alaska
 Department of Transportation
 & Public Facilities
**CULVERT PIPE & ARCH
 INSTALLATION DETAILS**

A	P	R	O	V	E
D					

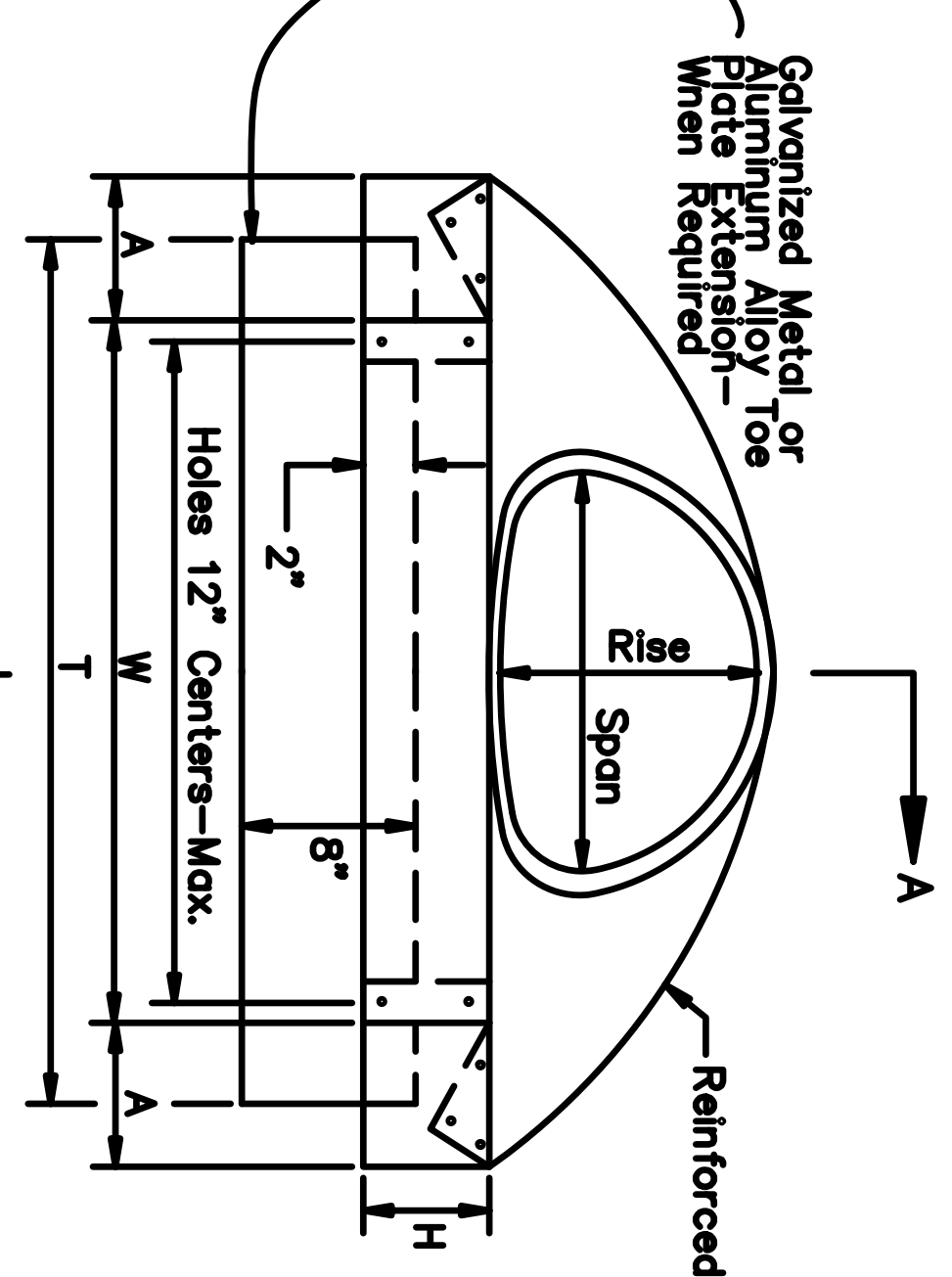
Date 7/15/82



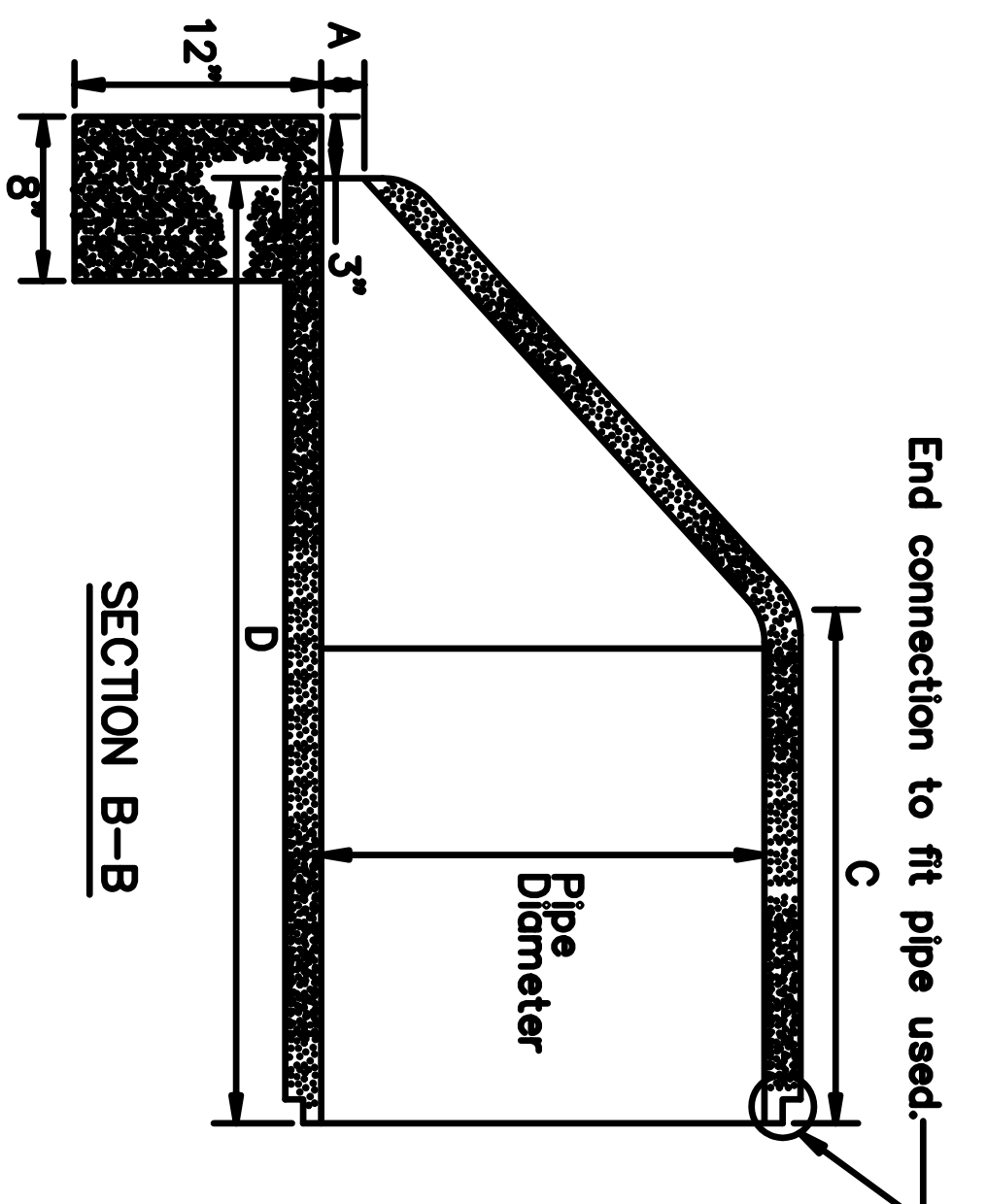
ROUND AND PIPE ARCH



ROUND PIPE

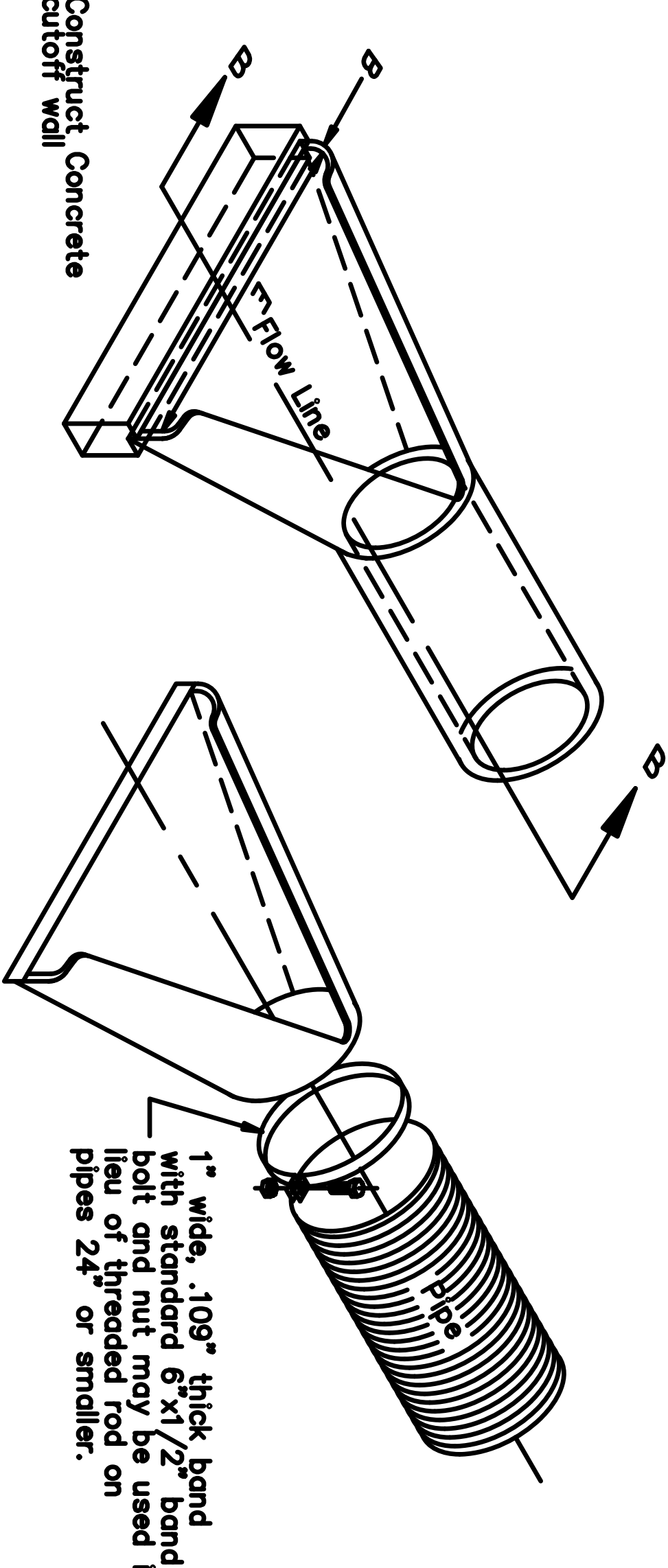


PIPE ARCH

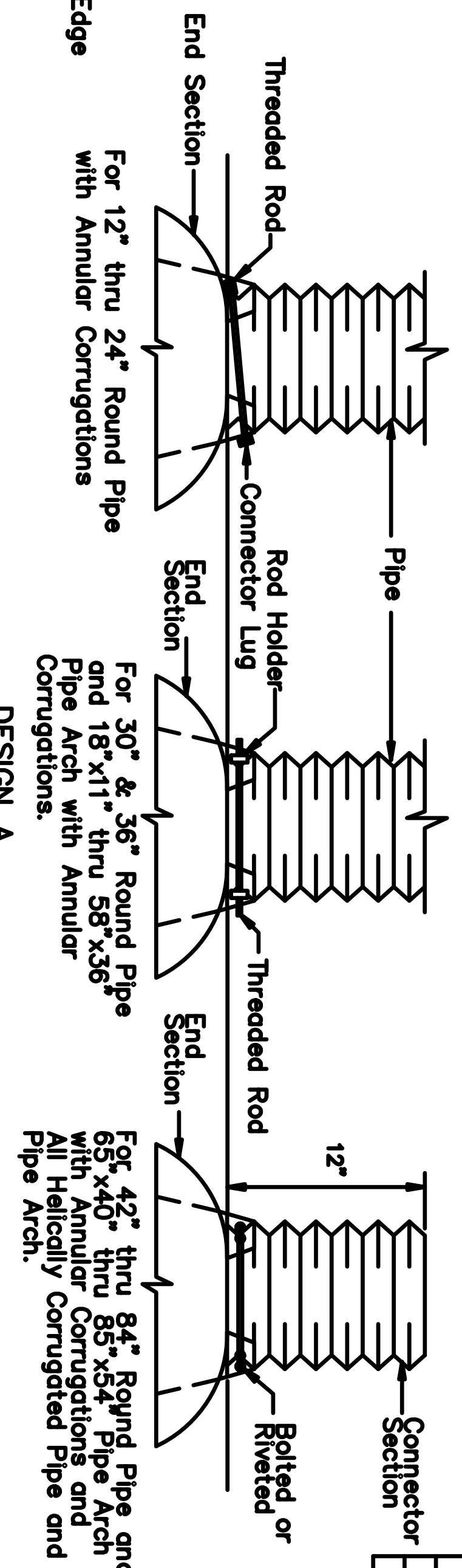


SECTION B-B

Pipe Diameter	MINIMUM DIMENSIONS				
	A	B	C	D	E
12"	4"	1 3/4"	24"	45"	24"
18"	9"	2 1/2"	25"	50"	36"
24"	9 1/2"	2 1/2"	30"	72"	48"
30"	12"	3"	20"	73"	60"
36"	15"	3 3/8"	35"	97"	72"
42"	21"	3 3/4"	35"	98"	78"
48"	24"	4 1/4"	26"	98"	84"
54"	27"	4 5/8"	33"	99"	82"



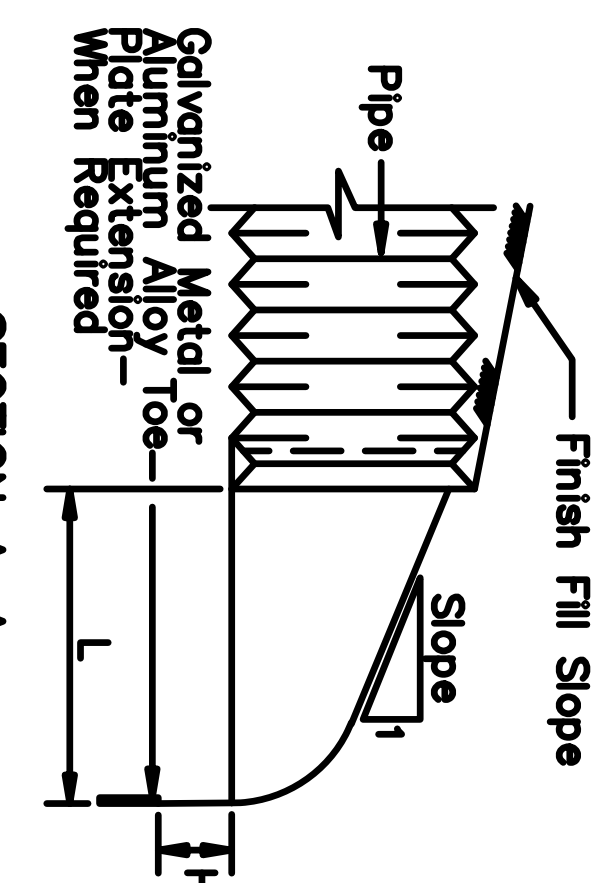
PRECAST CONCRETE END SECTION



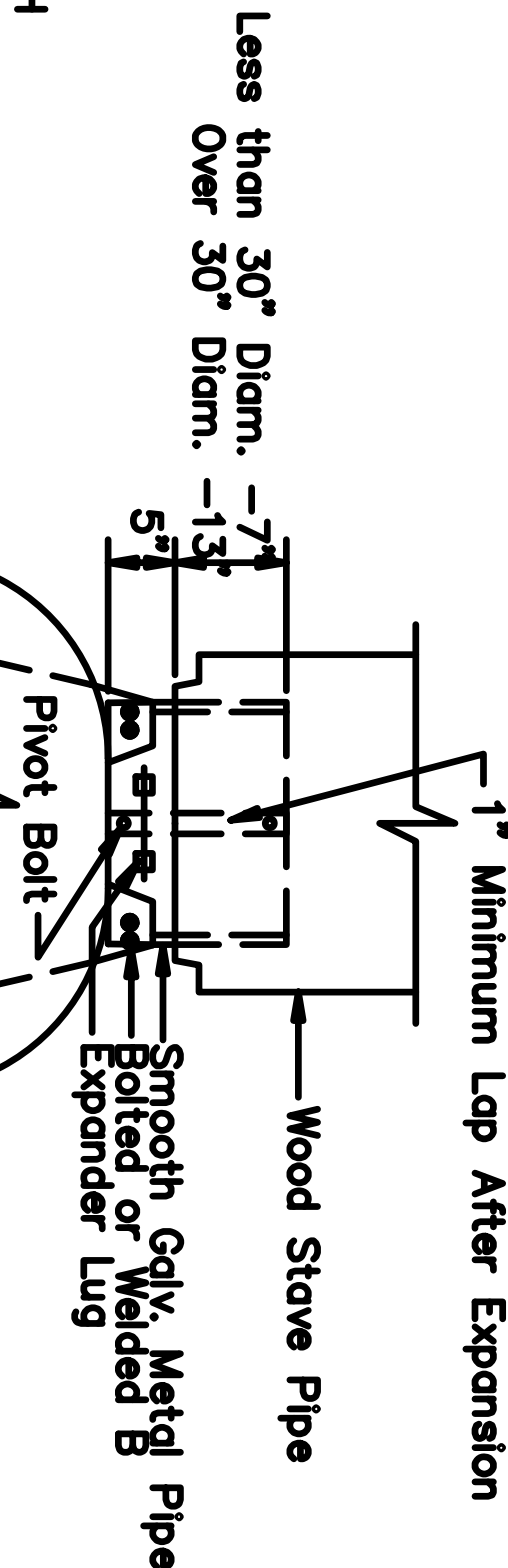
DESIGN A

DESIGN B

DESIGN C



SECTION A-A



METAL END SECTION CONNECTED TO WOOD STAVE PIPE

Pipe Dim. Inches	Thickness for Alu. Metal	Thk. for Galv. Metal	ROUND PIPE					Skirt	Approx. Slope	
			1" Tol.	B Max. 1" Tol.	H 1" Tol.	1 1/2" Tol.	2" Tol.			
12"	0.060	0.064	6"	6"	6"	21"	24"	34"	1 P.C.	2 1/2
15"	0.060	0.064	7"	8"	6"	26"	30"	40"	1 P.C.	2 1/2
18"	0.060	0.064	8"	10"	6"	31"	36"	46"	1 P.C.	2 1/2
21"	0.060	0.064	9"	12"	6"	36"	42"	52"	1 P.C.	2 1/2
24"	0.075	0.064	10"	13"	6"	41"	48"	58"	1 P.C.	2 1/2
30"	0.075	0.079	12"	16"	8"	51"	60"	70"	1 P.C.	2 1/2
36"	0.105	0.079	14"	19"	9"	60"	72"	94"	2 P.C.	2 1/2
42"	0.105	0.109	16"	22"	11"	69"	84"	106"	2 P.C.	2 1/2
48"	0.105	0.109	18"	27"	12"	78"	90"	112"	2 P.C.	2 1/4
54"	0.105	0.109	18"	30"	12"	84"	102"	122"	2 P.C.	2 1/4
60"	0.135	0.109	18"	33"	12"	87"	114"	134"	3 P.C.	2 1/4
66"	0.135	0.109	18"	36"	12"	87"	120"	142"	3 P.C.	2 1/4
72"	0.135	0.109	18"	39"	12"	87"	126"	146"	3 P.C.	2 1/4
78"	---	0.109	18"	42"	12"	87"	132"	152"	3 P.C.	1 1/4
84"	---	0.109	18"	45"	12"	87"	138"	158"	3 P.C.	1 1/6

PIPE-ARCH

Pipe-Arch Span Rise	Thickness for Alu. Metal	Thk. for Galv. Metal	Dimension Inches					Skirt	Approx. Slope	
			1" Tol.	B Max. 1" Tol.	H 1" Tol.	1 1/2" Tol.	2" Tol.			
17"	0.060	0.064	7"	9"	6"	19"	30"	40"	1 P.C.	2 1/2
21"	0.060	0.064	7"	10"	6"	23"	36"	48"	1 P.C.	2 1/2
24"	0.060	0.064	8"	12"	6"	28"	42"	52"	1 P.C.	2 1/2
28"	0.075	0.064	9"	14"	6"	32"	48"	58"	1 P.C.	2 1/2
35"	0.075	0.079	10"	16"	6"	39"	60"	70"	1 P.C.	2 1/2
42"	0.105	0.079	12"	18"	8"	46"	75"	85"	1 P.C.	2 1/2
49"	0.105	0.109	13"	21"	9"	53"	85"	103"	2 P.C.	2 1/2
57"	0.105	0.109	18"	26"	12"	63"	90"	114"	2 P.C.	2 1/2
64"	0.105	0.109	18"	30"	12"	70"	102"	130"	2 P.C.	2 1/4
71"	0.135	0.109	18"	33"	12"	77"	114"	144"	3 P.C.	2 1/4
77"	0.135	0.109	18"	36"	12"	84"	120"	158"	3 P.C.	2 1/4
83"	0.135	0.109	18"	39"	12"	90"	126"	170"	3 P.C.	2 1/4

GENERAL NOTES:

1. Toe plate extensions will be required only when provided for on the plans. When required, the toe plate extensions shall be punched with holes to match those in lip of skirt and fastened with 3/8 inch or larger galvanized nuts and bolts and shall be the same gage as the end section.
2. Galvanized Metal or Aluminum Alloy End Sections may be used on Wood Stave and Plastic Pipe.
3. All 3 piece bodies shall have 12 gage sides and 10 gage center panels. Multiple panel bodies shall have lap seams which are to be tightly joined by 3/8 galvanized rivets or bolts.

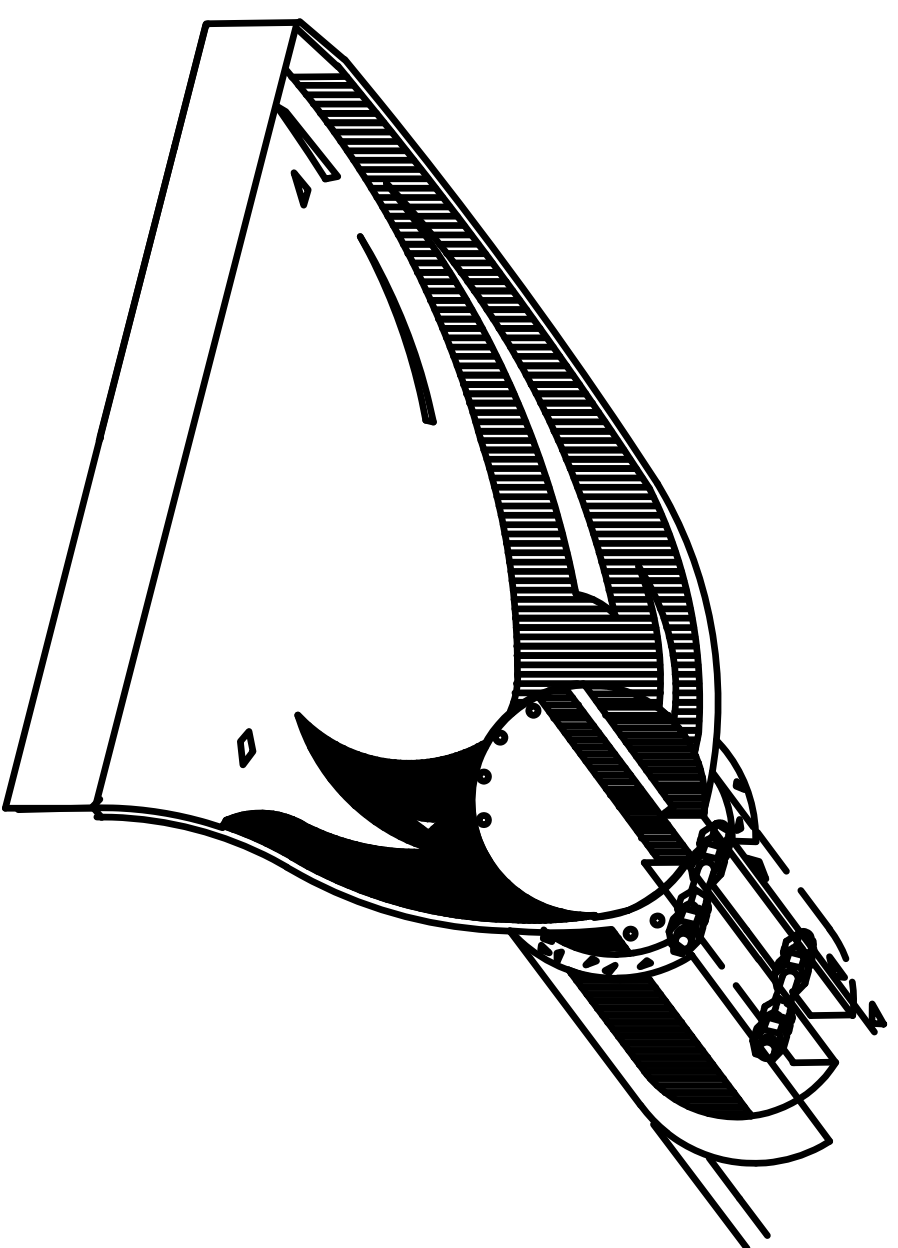
REVISIONS		
Date	Description	By
3/1/83	Arch Dimensions	MJF/HK
8/10/04	Note 2	DEJ

Sheet 1 of 3
 State of Alaska
 Department of Transportation
 & Public Facilities
 CULVERT END SECTIONS

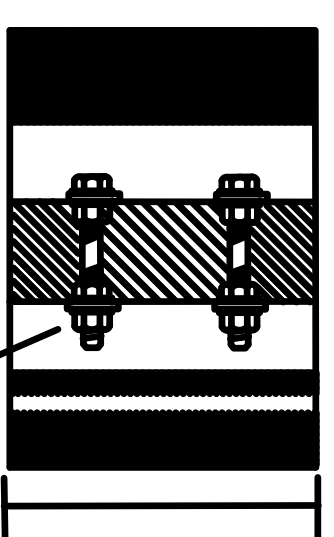
Date	By
7/15/82	A P R O V E D

GENERAL NOTES

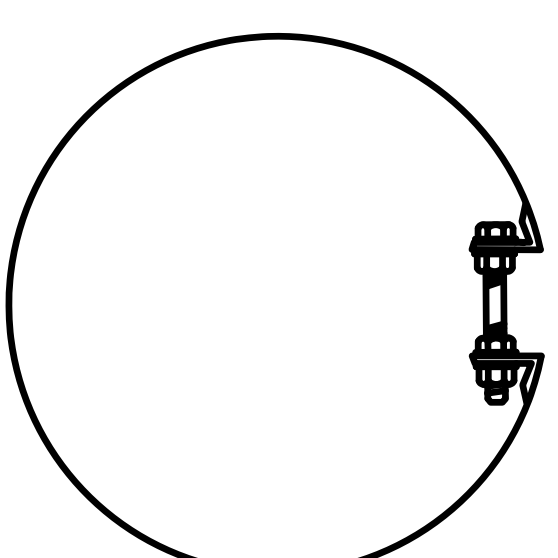
1. See general notes on sheet 1 of 3.
2. See sheet 1 of 3 for metal end section dimensions.
3. Insert bolts, washers and rivets shall be galvanized. Insert thickness is the same as the end section.
4. Use culvert inserts only at inlet.



FOR CONNECTING CONCRETE PIPE OR CORRUGATED POLYETHYLENE PIPE TO METAL END SECTION.



SEE NOTE 2



METAL INSERTS FOR USE WITH CORRUGATED
PLASTIC PIPE AND
METAL END SECTIONS

REVISIONS	
Date	By

Sheet 2 of 3

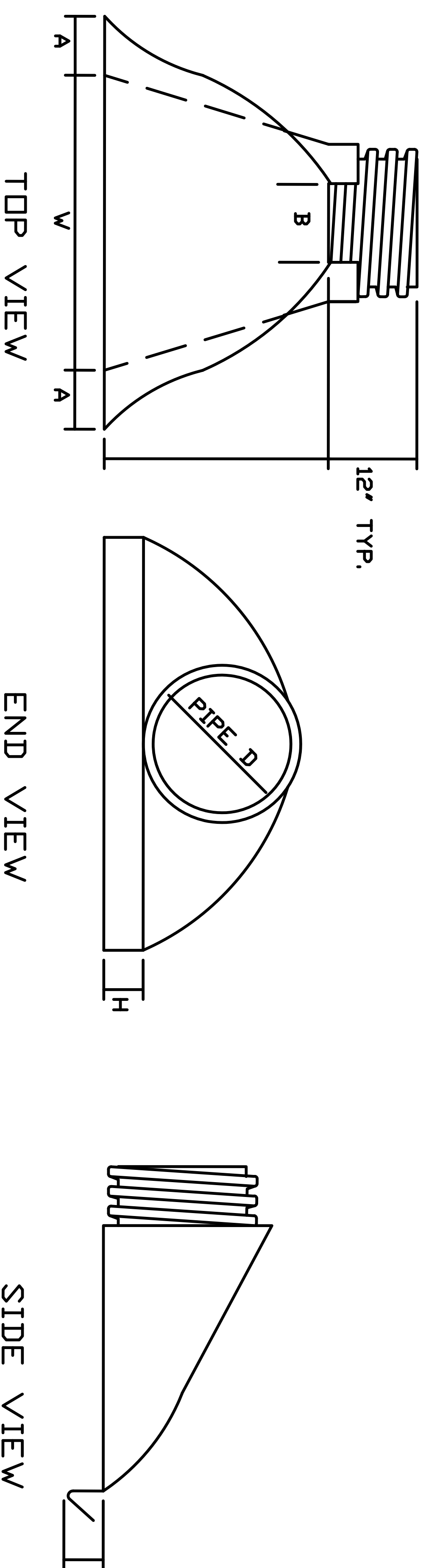
State of Alaska
Department of Transportation
& Public Facilities

CULVERT END SECTIONS

A P P R O V E D	Date
5/15/01	

GENERAL NOTES

1. Plastic flared end sections may be used with HDPE corrugated culvert pipes where noted in project plans or approved by project engineer.
2. Consult manufacturer's recommendations for proper sizing and coupling devices. Recommended fasteners may include connecting bands or cinch ties. Fittings across dimension B may include threaded rods with wing nuts or bolts and washers. Plastic welds may be recommended.
3. Align coupling to accommodate pipe corrugations.
4. Metal components e.g. bolts or washers must be galvanized.
5. Attachment of end section should preserve culvert alignment and not impair pipe function. Use end sections only on culvert inlet.
6. Toe plate extensions will be required only when designated on the plans.
7. End sections will not be used on HDPE culvert pipes larger than 36" unless indicated by project plans or approved by the Engineer.



PIPE DIAMETER	DIMENSIONS IN MILLIMETERS				
	A(±)	B MAX	H(±)	L(1/2'±)	W(2'±)
12' and 15'	6 1/2'	10'	6 1/2'	25'	29'
18'	7 1/2'	15'	6 1/2'	32'	35'
24'	7 1/2'	18'	6 1/2'	36'	45'
30'	10 1/2'	N/A	7'	53'	68'
36'	10 1/2'	N/A	7'	53'	68'

PLASTIC END SECTION FOR CORRUGATED PLASTIC PIPE

CULVERT END SECTIONS

State of Alaska
Department of Transportation
& Public Facilities

Sheet 3 of 3

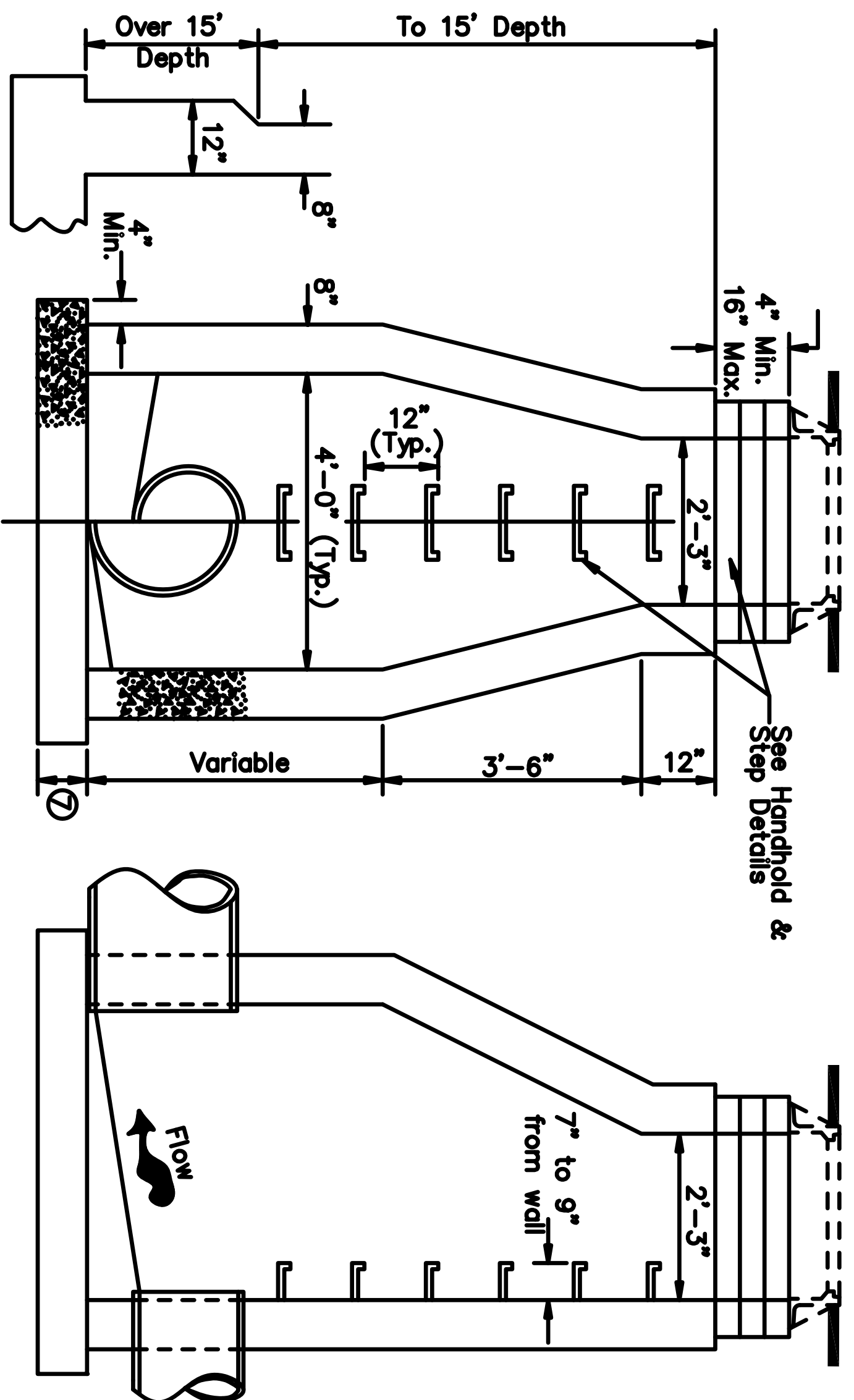
REVISIONS	
Date	By

A	
P	
R	
O	
V	
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D	

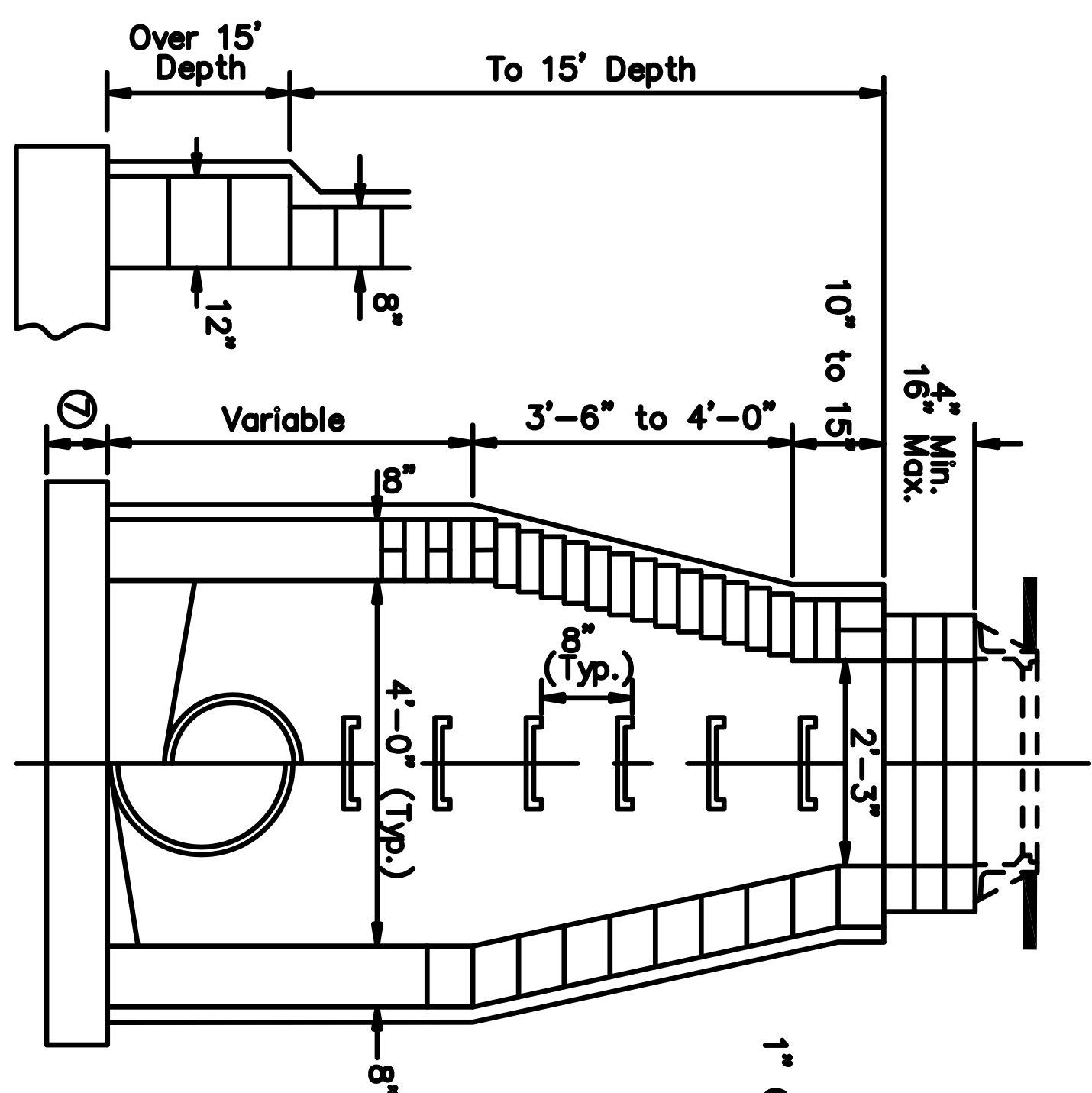
Date 5/15/01

GENERAL NOTES:

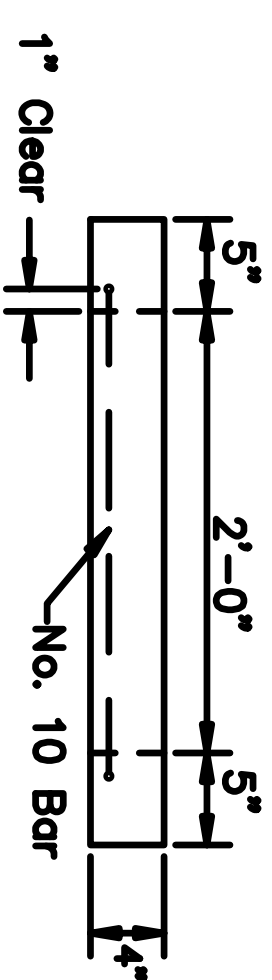
1. Manhole depth shall be as shown on the plans or as directed by the Engineer.
2. Cast in place concrete shall be class W.
3. Manhole frame and cover bearing surface shall be machine finished and all covers interchangeable. Details shown are to indicate general design and may vary among manufacturers.
4. Precast Reinforced Bases may be used in lieu of cast in place bases.
5. Manhole frame shall have a depth of 6" unless specified otherwise on the plans.
6. Precast bases shall have No. 4 reinforcing bar on 12" centers each way for depths under 20" and No. 5 reinforcing bar on 6" centers for depths of 20" and over.
7. Poured in place concrete bases shall be 8" thick for depths less than 15" and 12" thick for depths 15" or greater.



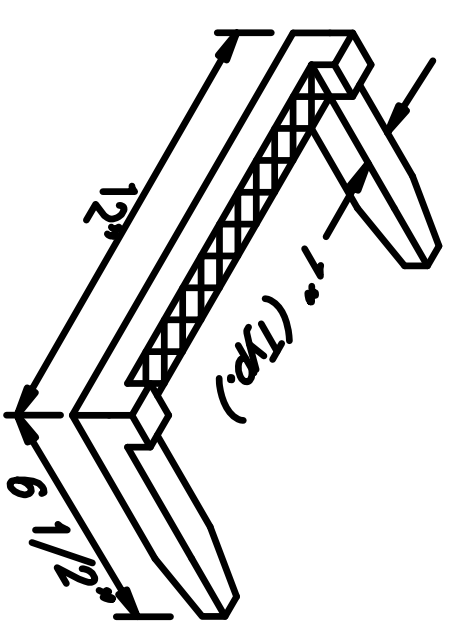
CAST IN PLACE MANHOLE



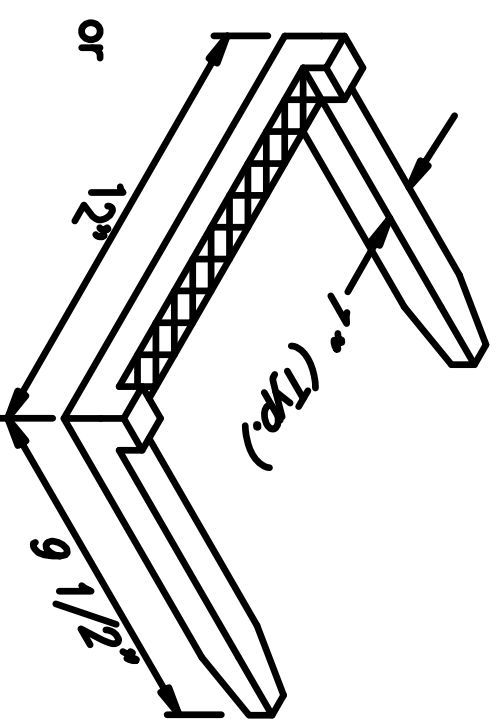
BRICK OR BLOCK MANHOLE



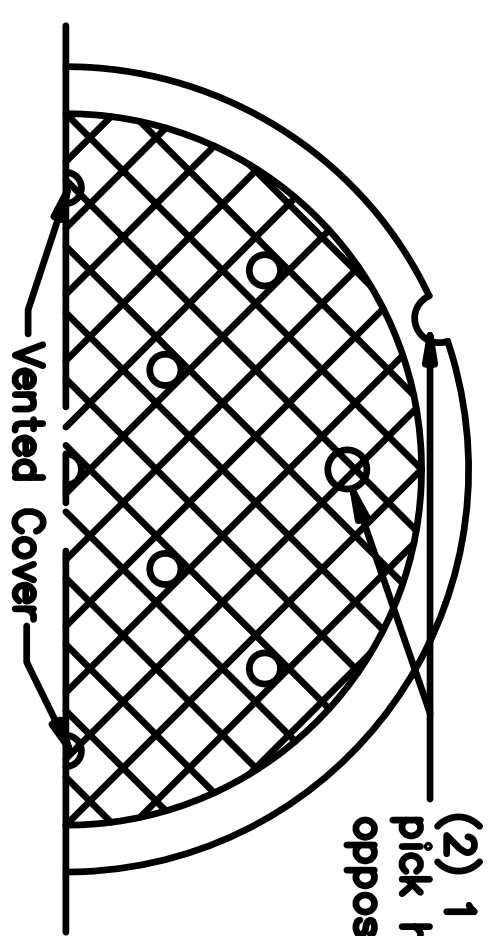
GRADE RING



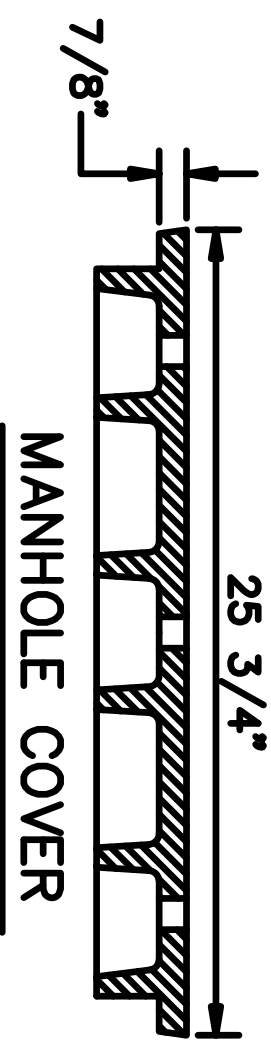
HANDHOLD DETAIL



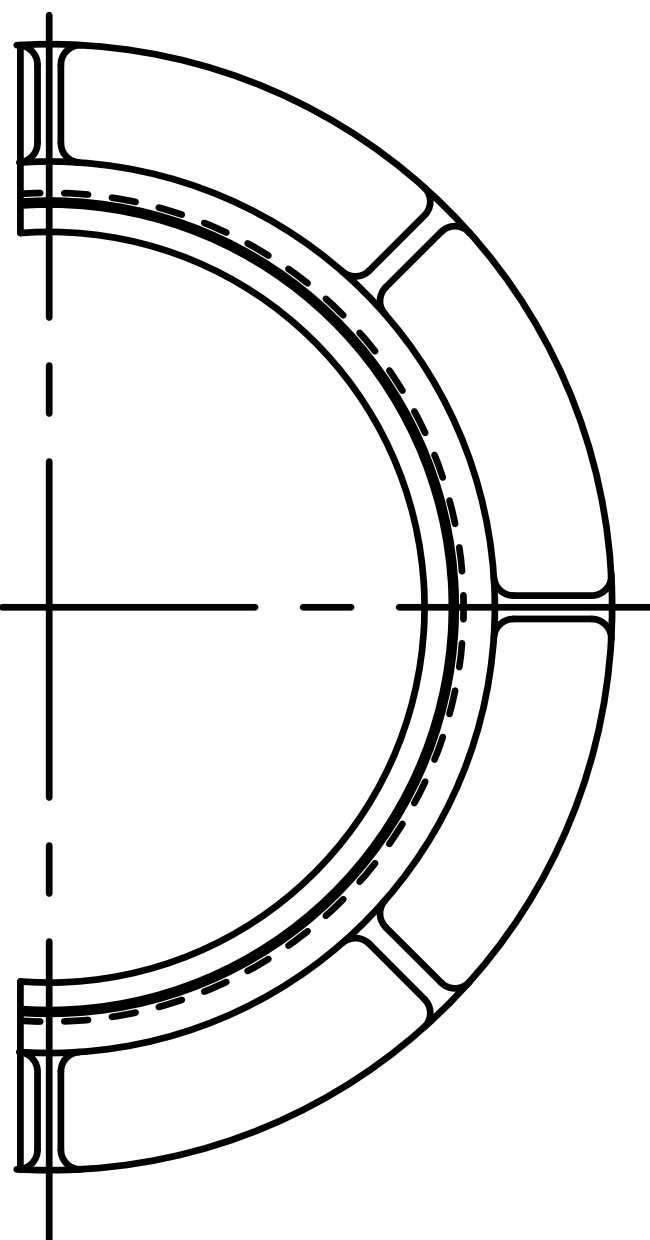
STEP DETAIL



(2) 1 1/4" lift holes or pick holes diametric opposite on cover.

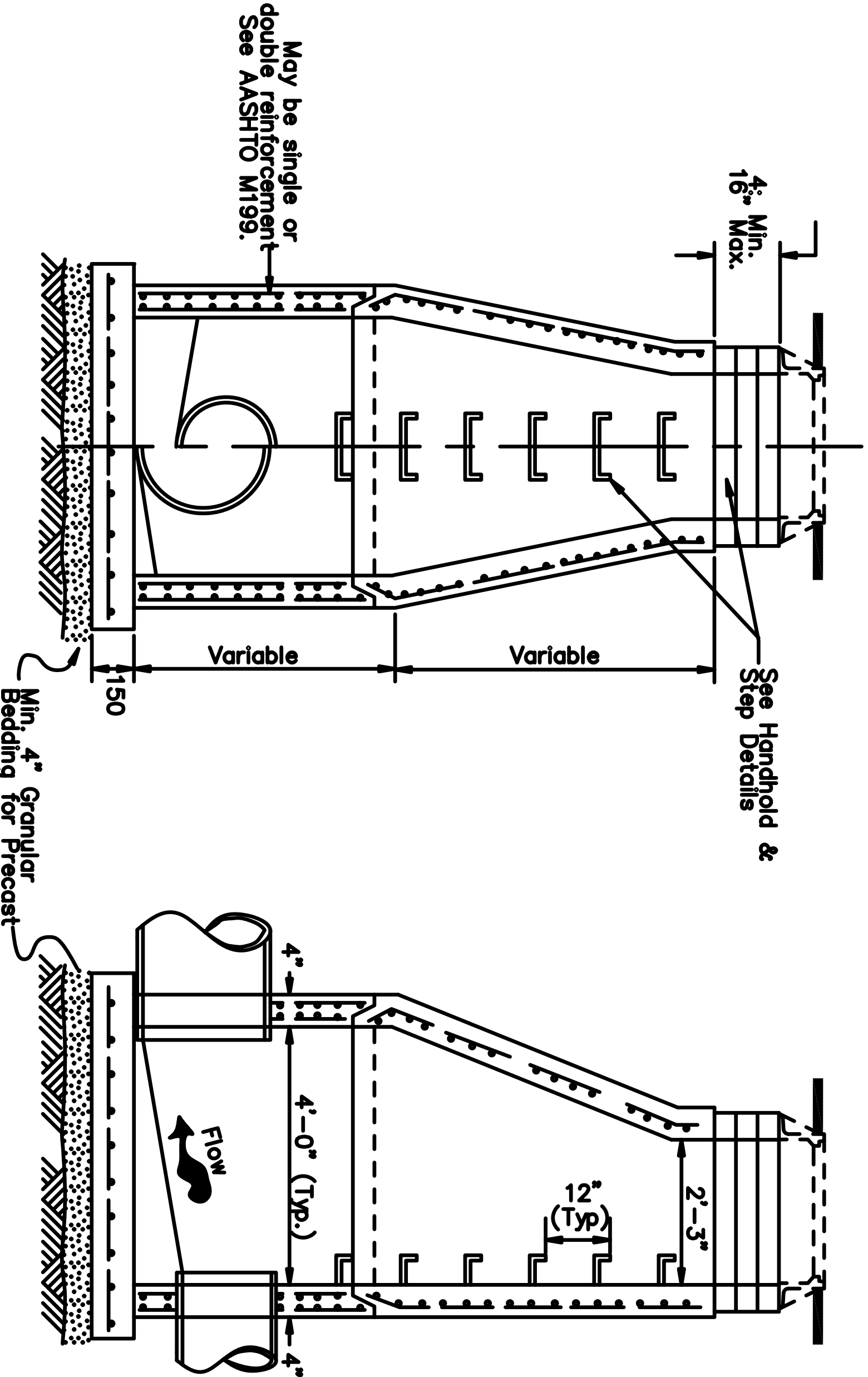


MANHOLE COVER



MANHOLE FRAME

* Depth	MANHOLE FRAME & COVER MINIMUM WEIGHT
5"	350 lbs
6"	380 lbs
7"	400 lbs
8"	440 lbs
9"	470 lbs
10"	500 lbs

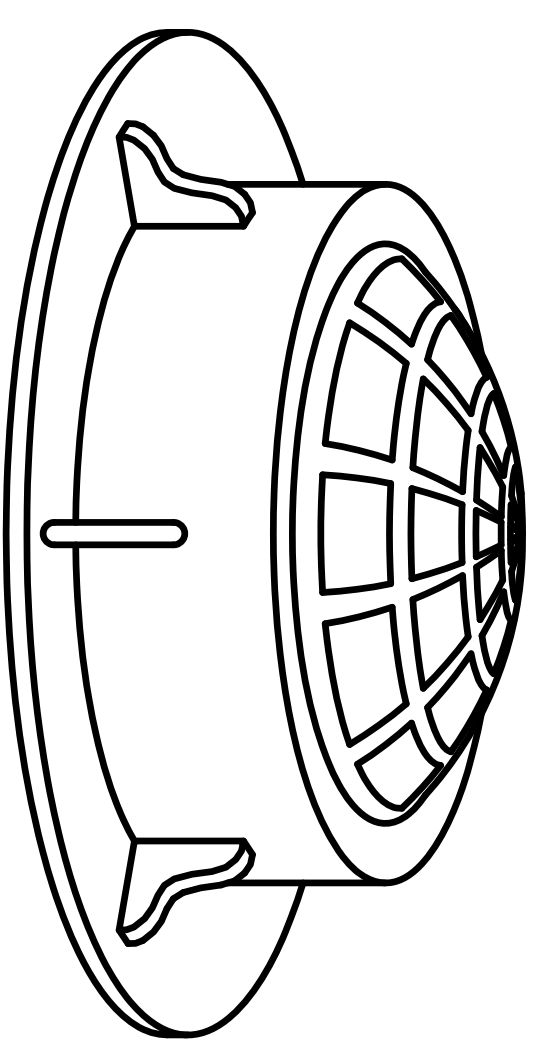


PRECAST CONCRETE MANHOLE

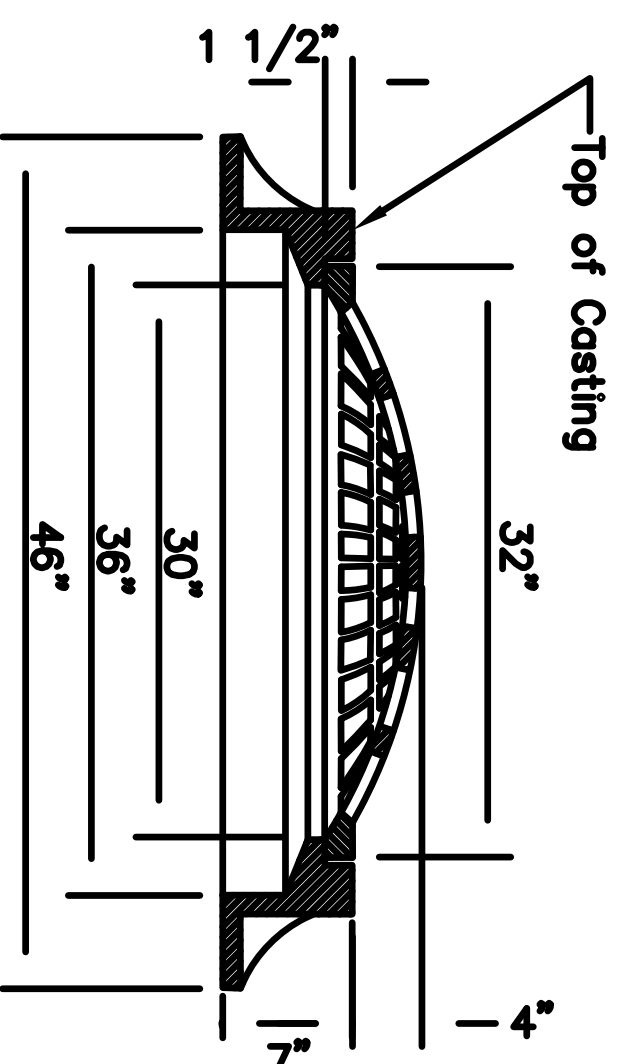
REVISIONS		
Date	Description	By
9/15/91	Added Grade Rings	Gdo
3/15/89	Remove Steps in Rings	EMR

State of Alaska
Department of Transportation
& Public Facilities
**MANHOLES FRAME
AND COVER**

A
P
R
O
V
E
D
Date 7/15/82

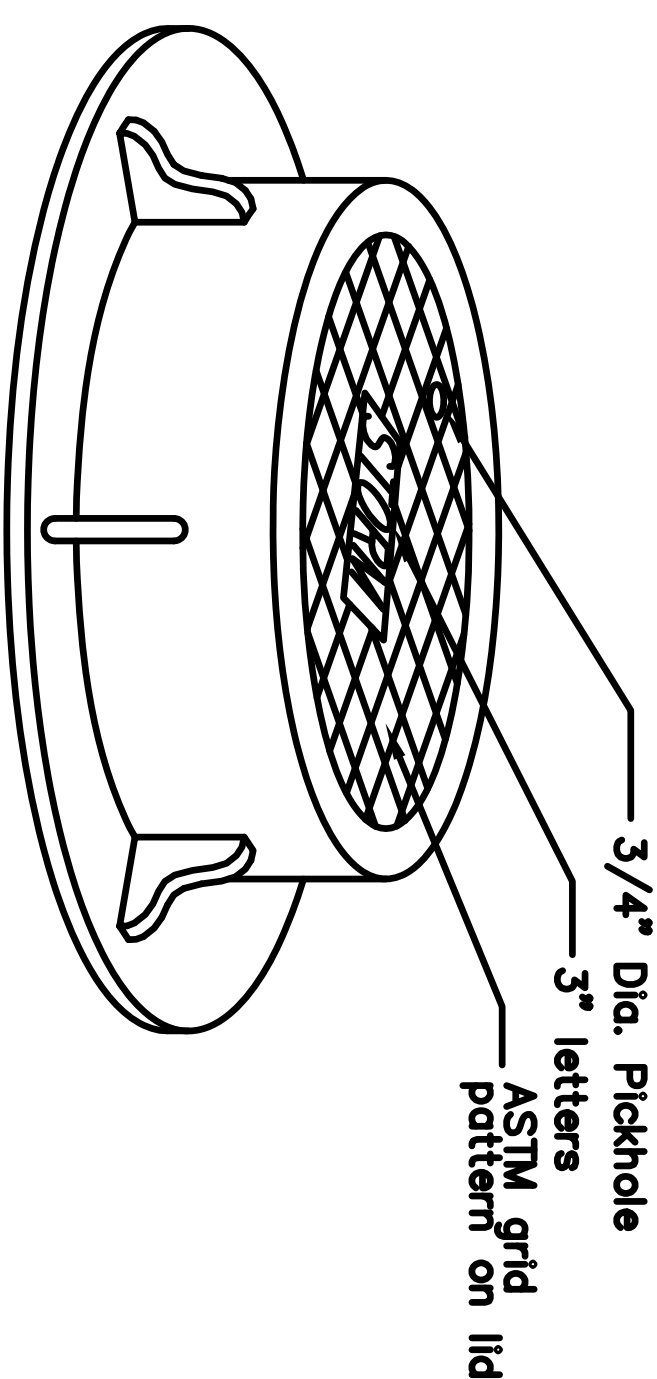


Surround field inlets with a 24" wide rock rubble collar 10" deep, 3" maximum size rock.

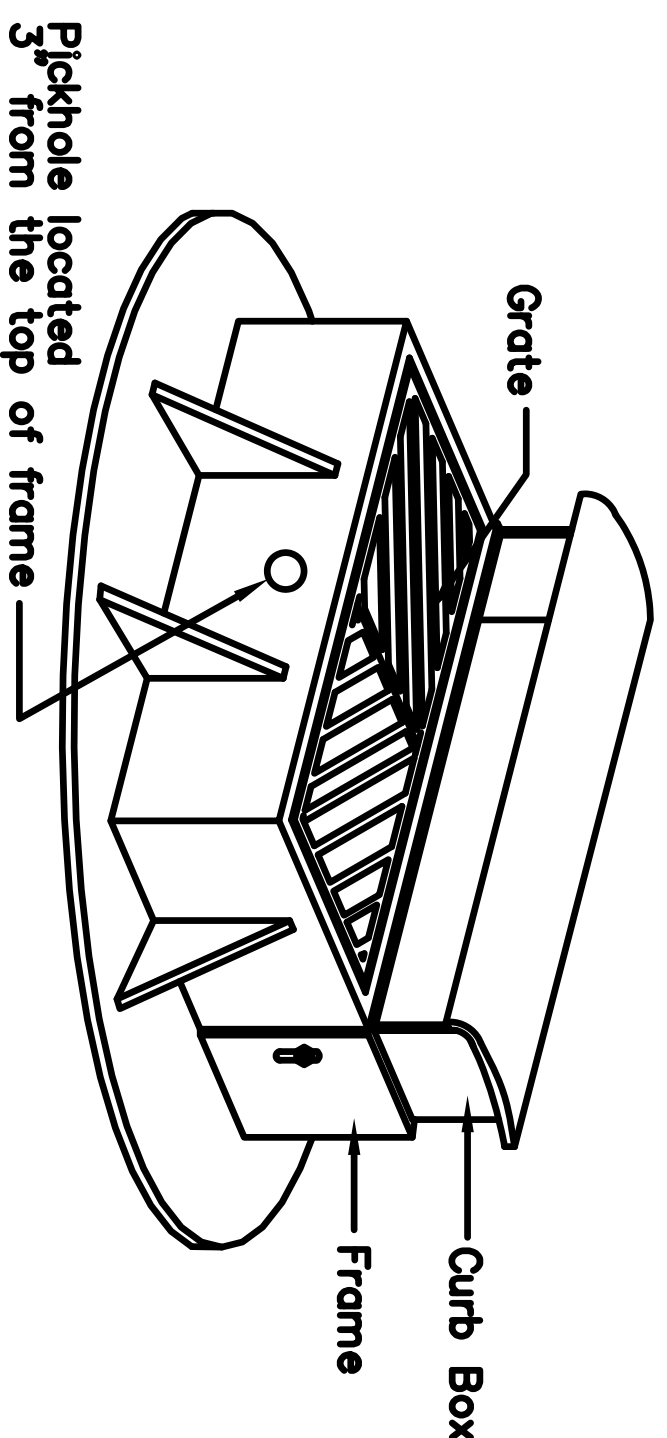


FIELD INLET FRAME & GRATE

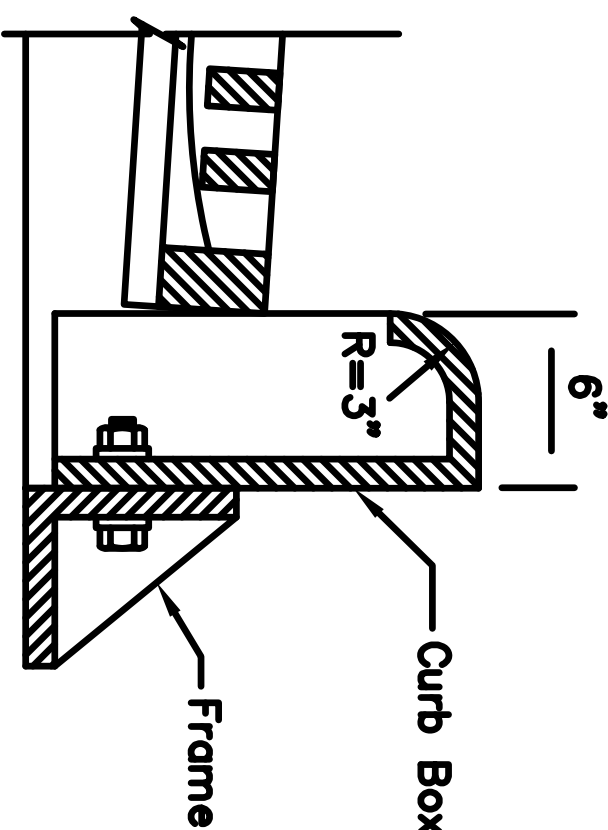
To be supplied for storm drain manholes where field inlets are specified. Field inlet frame and grate shall have a minimum total weight of 525 lb.



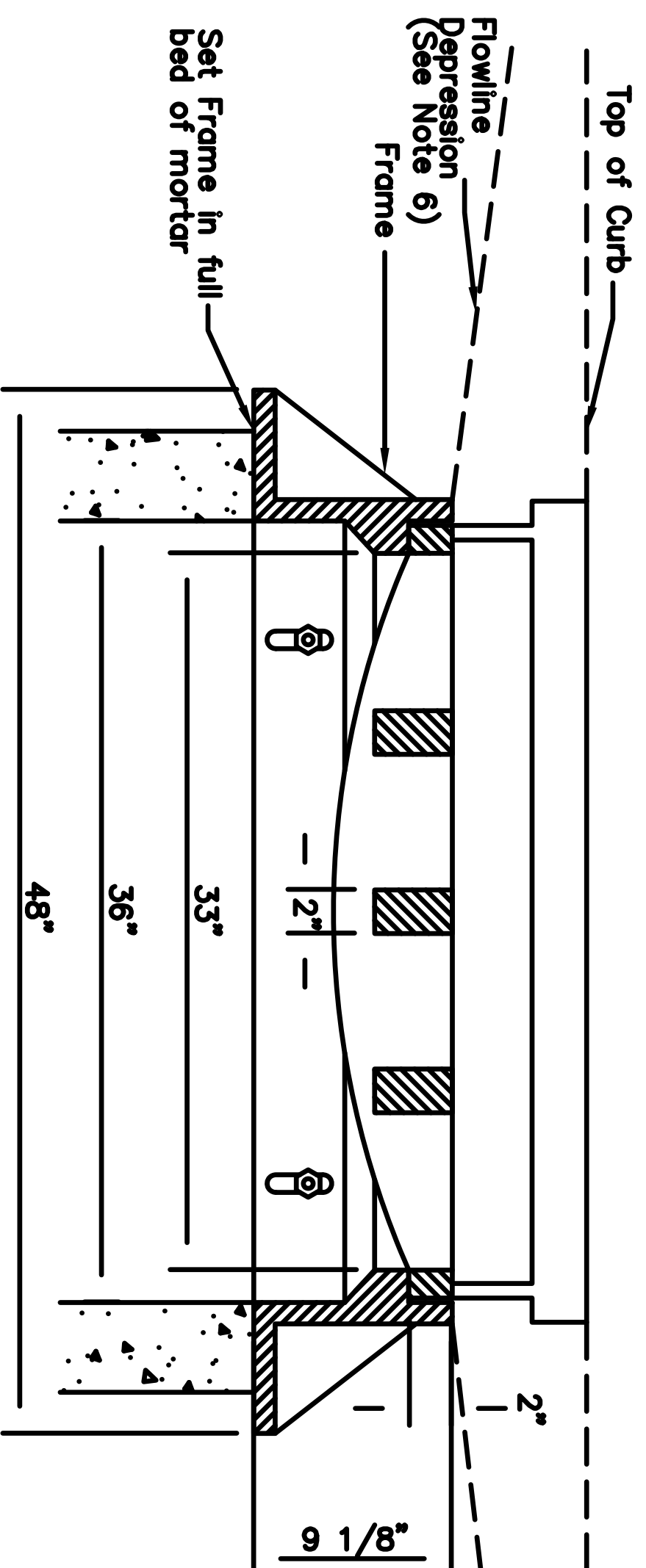
MANHOLE LID FRAME AND GRATE



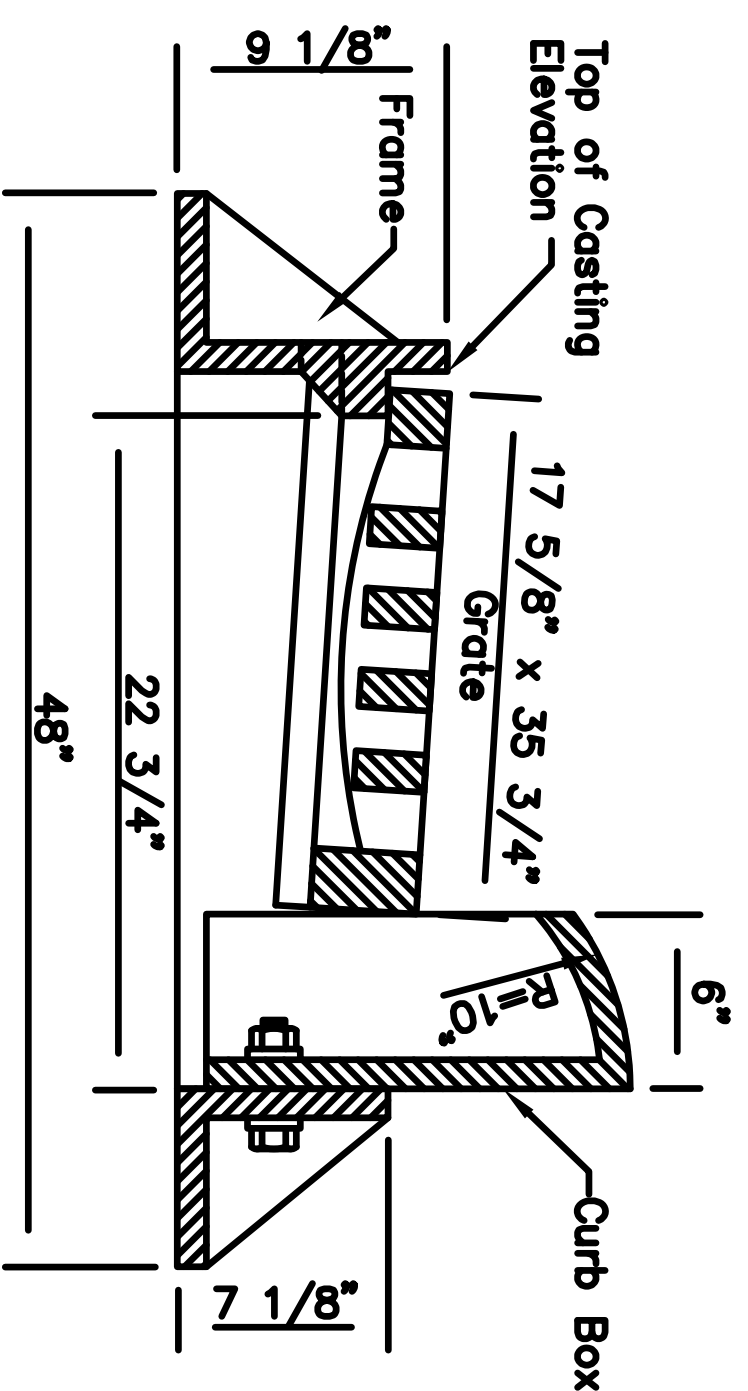
NOTE: Curb Box, Grate and frame shall have a minimum total weight of 725 lb.



SIDE VIEW MOUNTABLE CURB AND GUTTER



FRONT VIEW



SIDE VIEW

EXPRESSWAY CURB AND GUTTER

CURB INLET FRAME AND GRATE

To be supplied for storm drain manholes Type I, Type II and Type III where curb inlets are specified.

NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers, except that inlet grate shall be within $\pm 1/8$ of dimensions shown on this drawing.
2. Manhole lids shall be 32" in diameter and may be used with field inlet frames.
3. Type A field inlet frame inside dimensions shall be 24" x 36". Lugs will not protrude outside the concrete surface of the inlet box.
4. Grates shall be bicycle safe. Where high capacity grates are called for on the plans, they shall conform to Std. Dwg. D-25.
5. Frame and grate casting types are identified by the following abbreviations:
C.I. = Curb Inlet
F.I. = Field Inlet
M.H. = Manhole
6. Flowline depression shall conform to Std. Dwg. D-23 for an on grade or sag point conditions.
7. These are the default frames and grates to be used unless shown otherwise on the drainage plans or drainage structure summary.

REQUIRED FRAME AND GRATES		
(See Note 7)		
STRUCTURE	INLET TYPE	CURB TYPE
INLET BOX, TYPE A	Curb	Mountable
	Curb	Expressway
	Curb	Rolled Curb
	Field	-----
STORM DRAIN MANHOLES, TYPE I, II AND III	Curb	Mountable
	Curb	Expressway
	Curb	Rolled Curb
	Field	-----

REVISIONS		
Date	Description	By
10/31/03	Revisions	LRC
	Corrections	

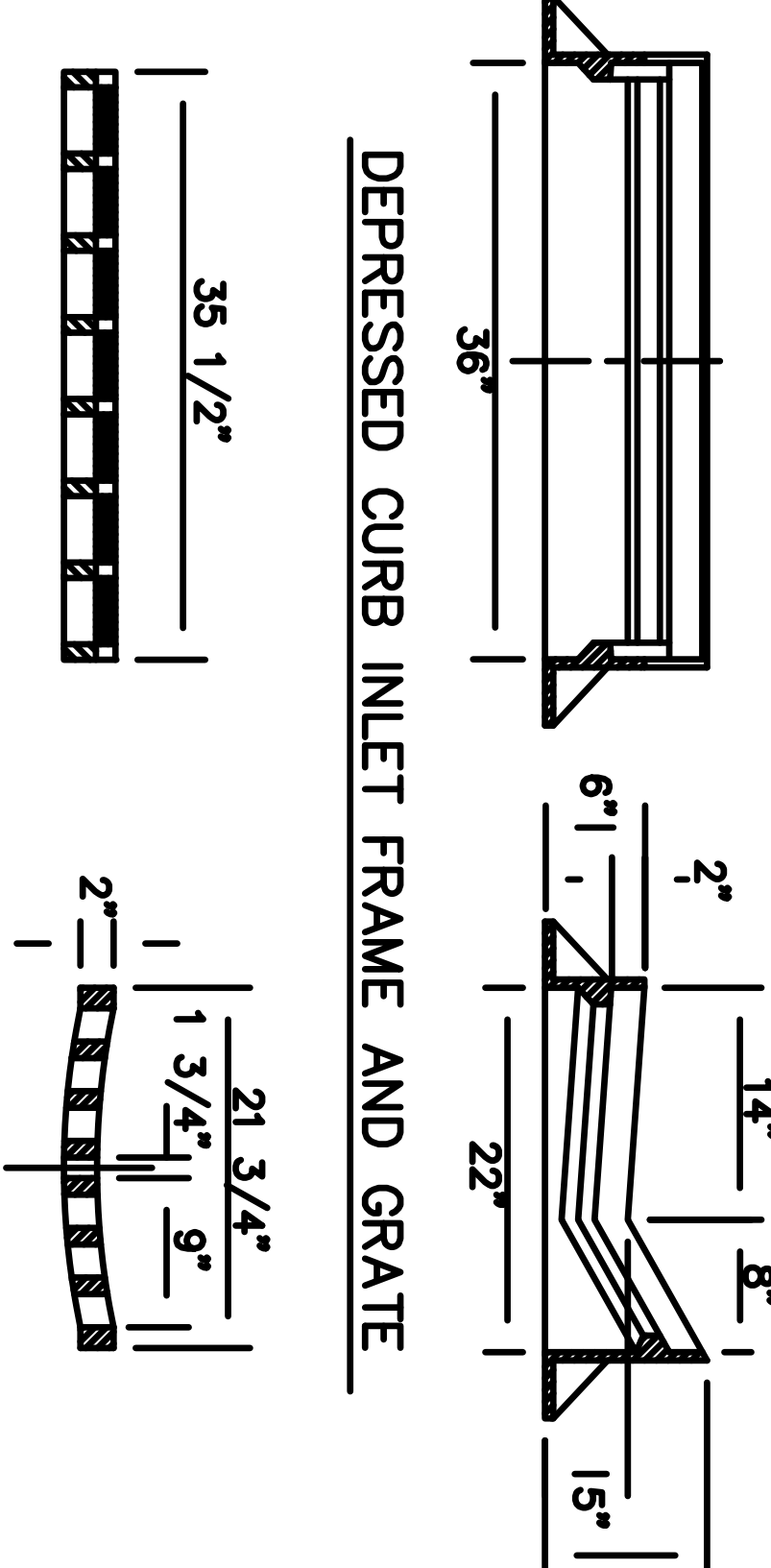
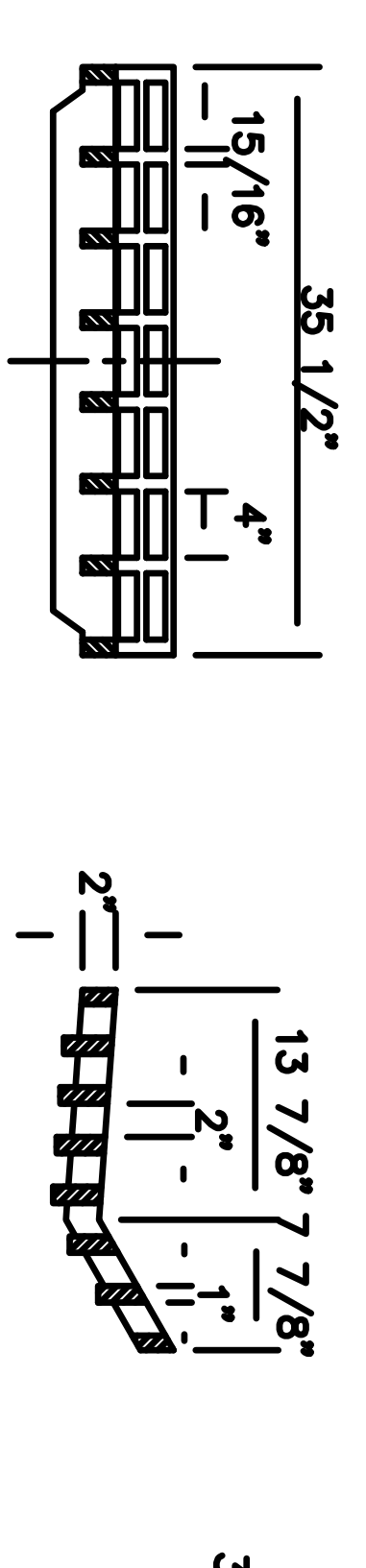
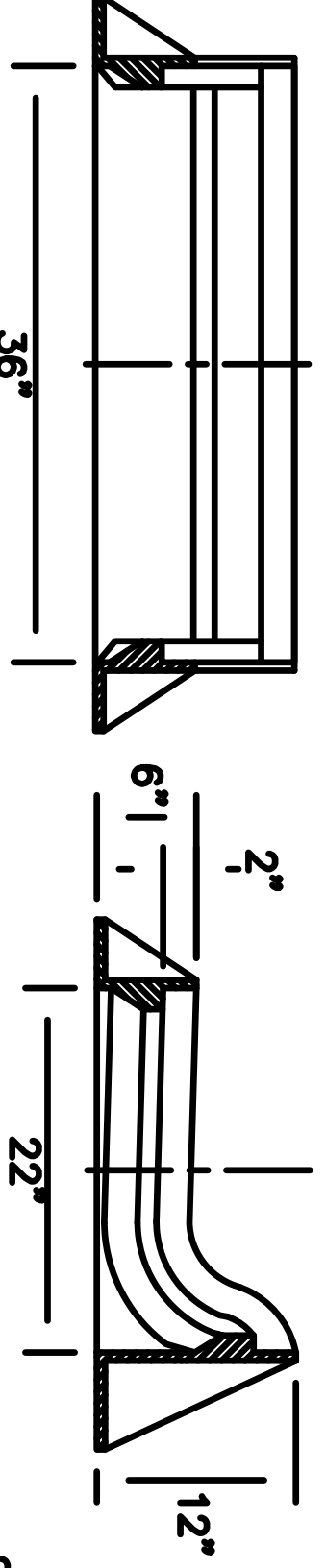
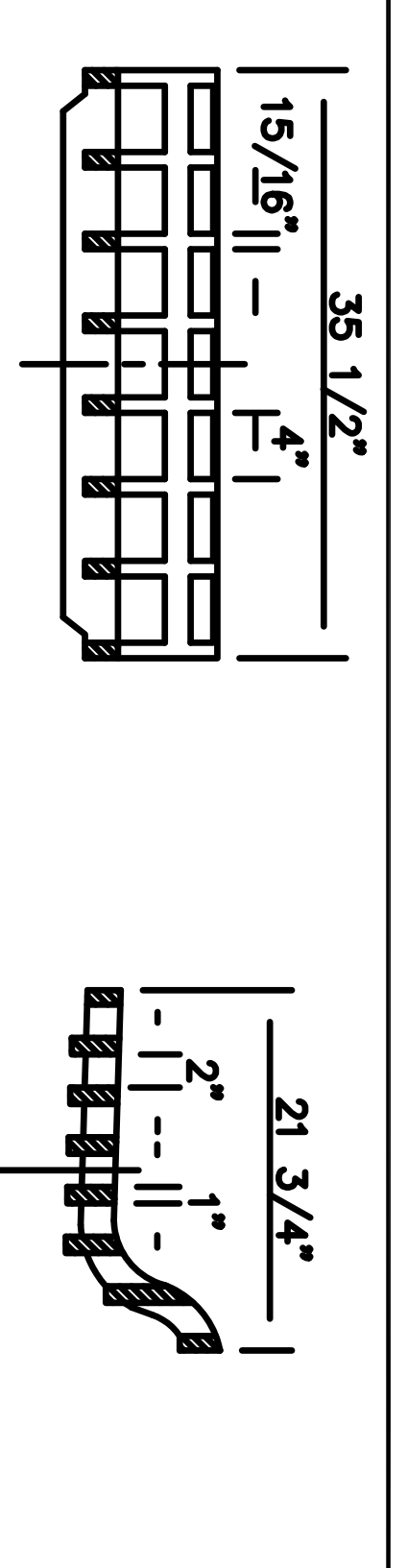
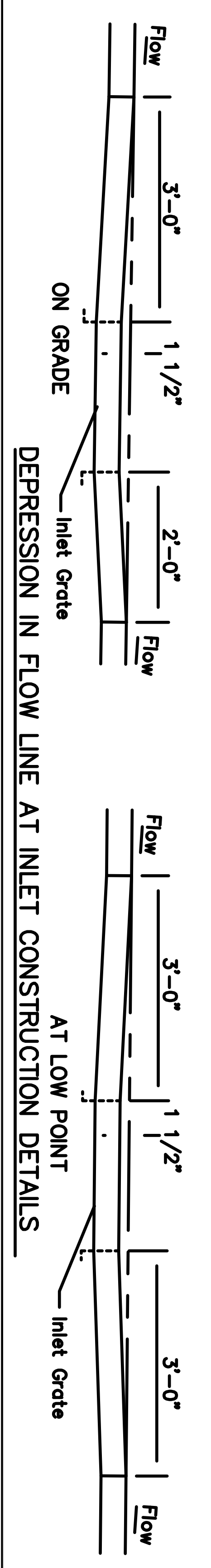
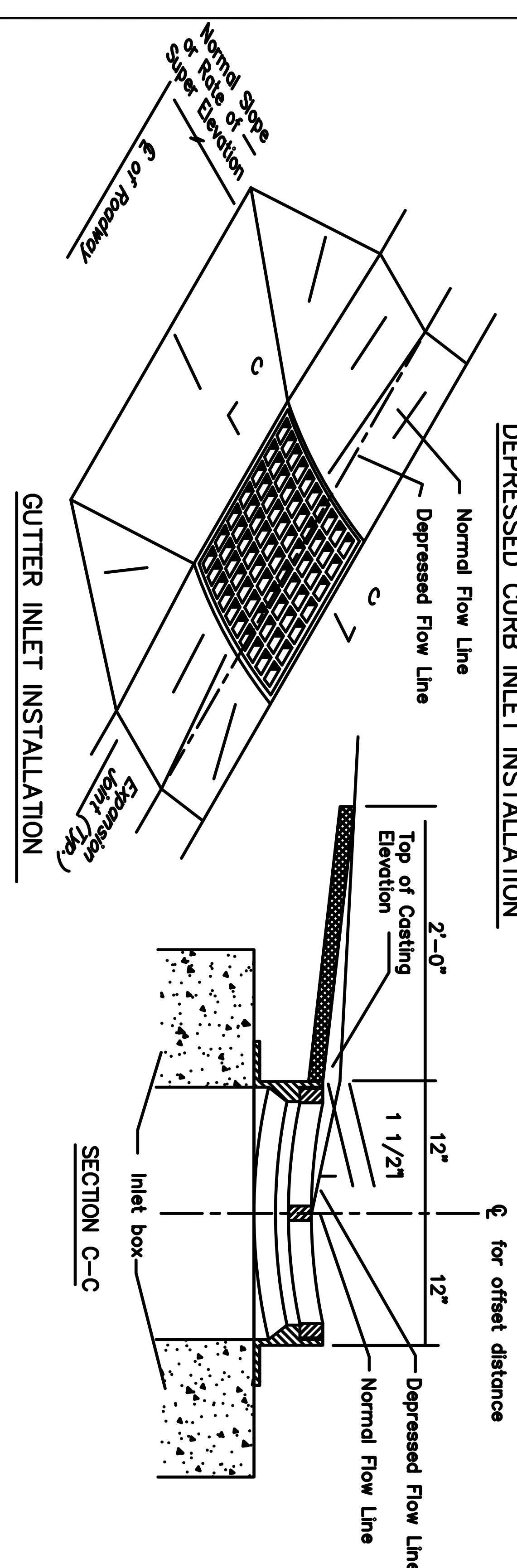
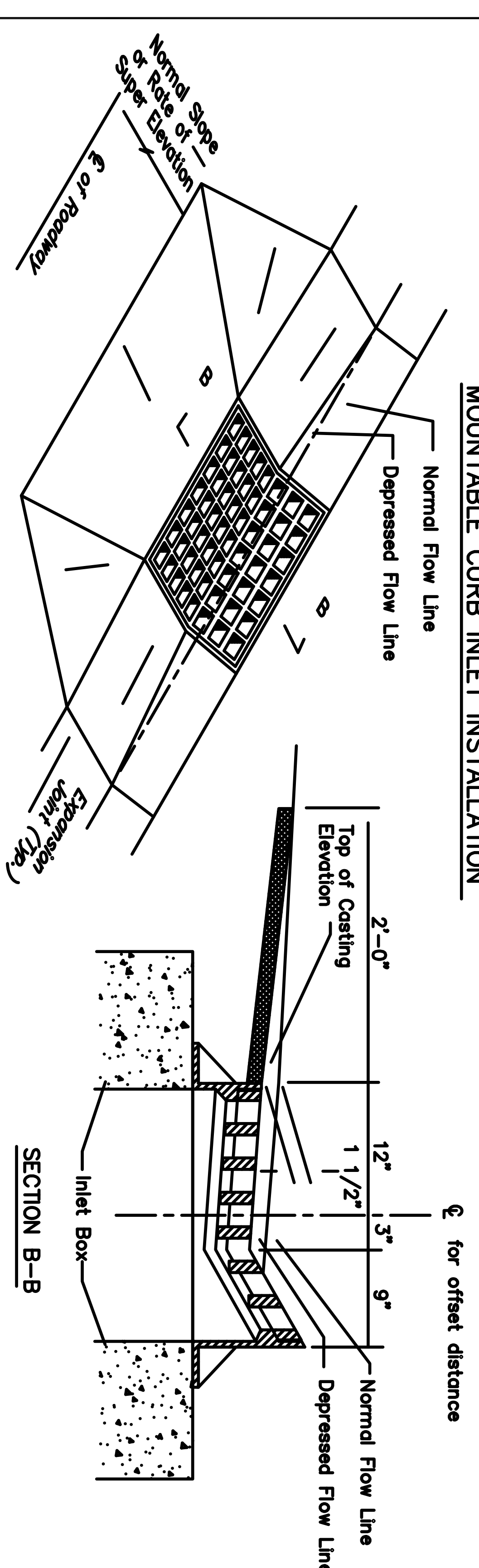
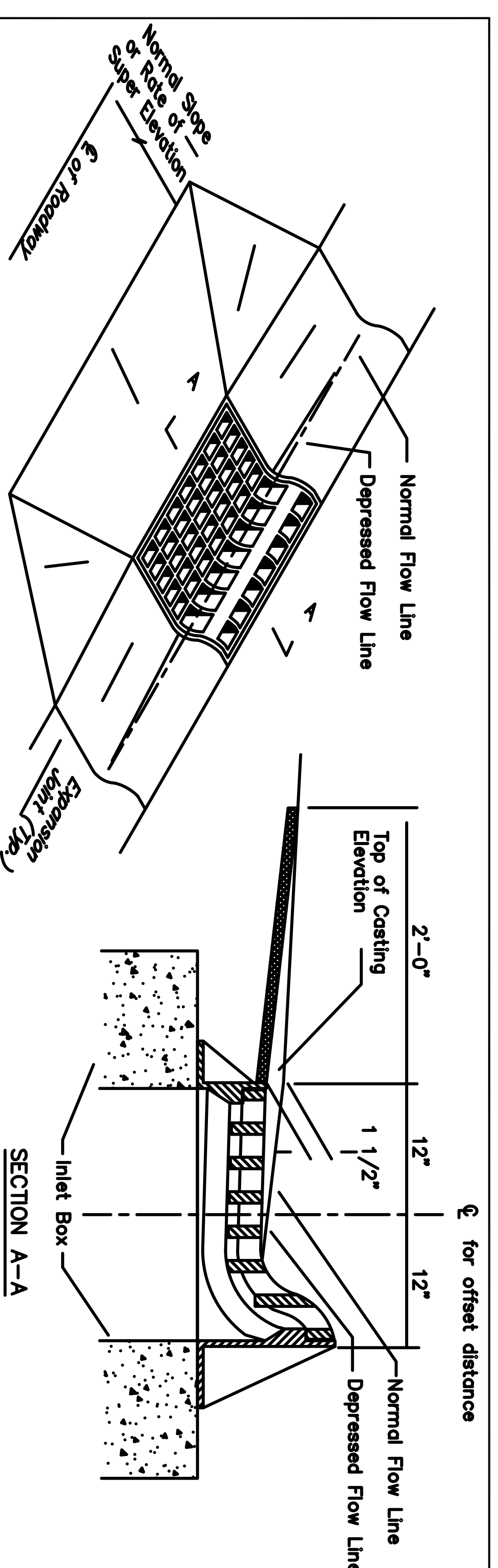
Sheet 1 of 1
 State of Alaska
 Department of Transportation
 & Public Facilities
 STORM DRAIN MANHOLE
 FRAME AND GRATE
 DETAILS

NOT TO SCALE

Date 10/31/03

GENERAL NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers. Except inlet grate outside dimension shall be as shown on this drawing.
2. Minimum casting weight shall be 550lbs. for Curb Inlet Frame and Grate, 450lbs. for Gutter Inlet Frame and Grate, and 300lbs. for Field Inlet Frame and Grate.
3. Field Inlet Frame may be welded assembly of L 1 3/4"x1 3/4"x1/4" angle equivalent to ASTM A-36 steel.



NOTE: All Angle Frame shall have Anchor Lugs
FIELD INLET FRAME AND GRATE

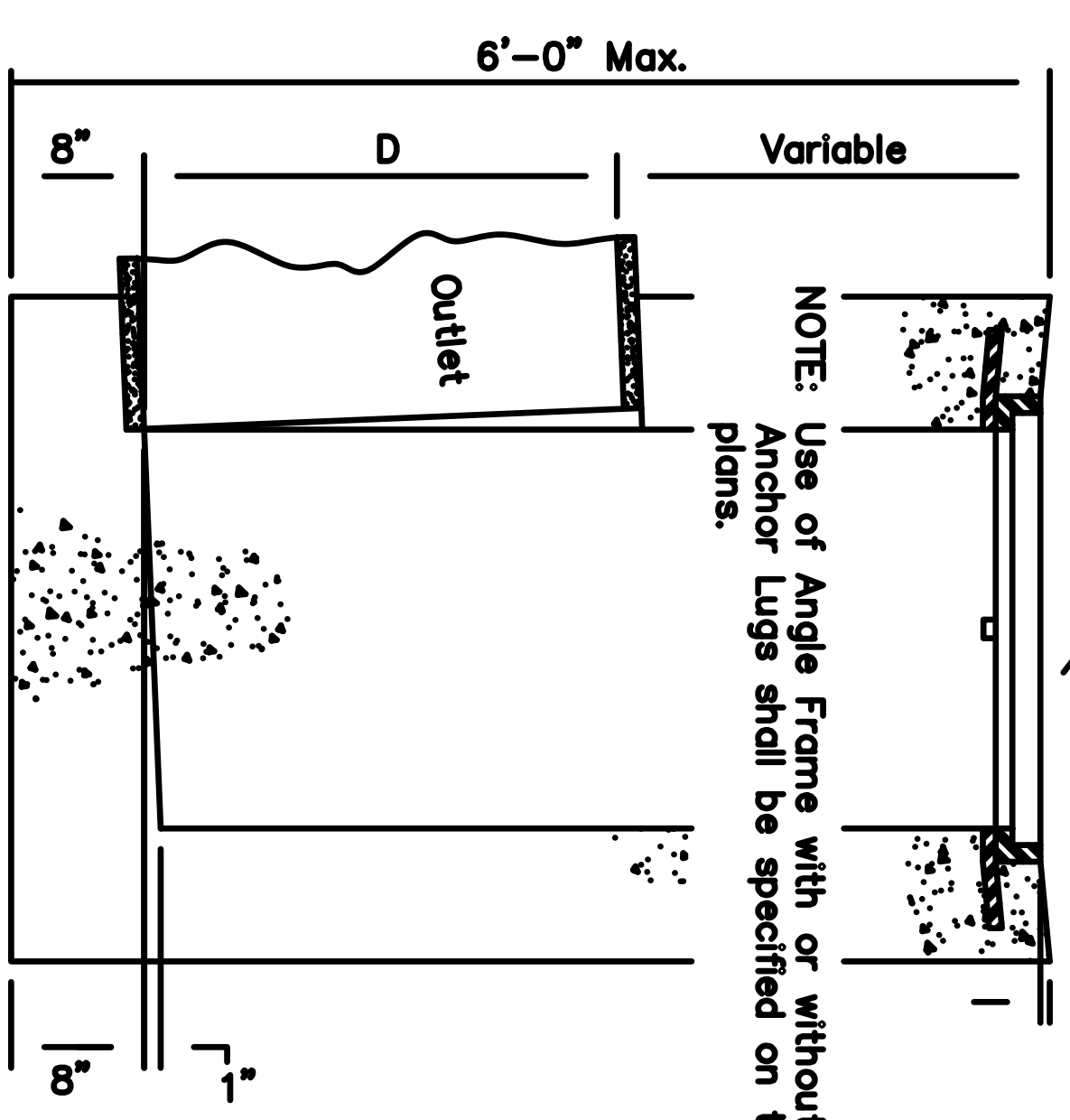
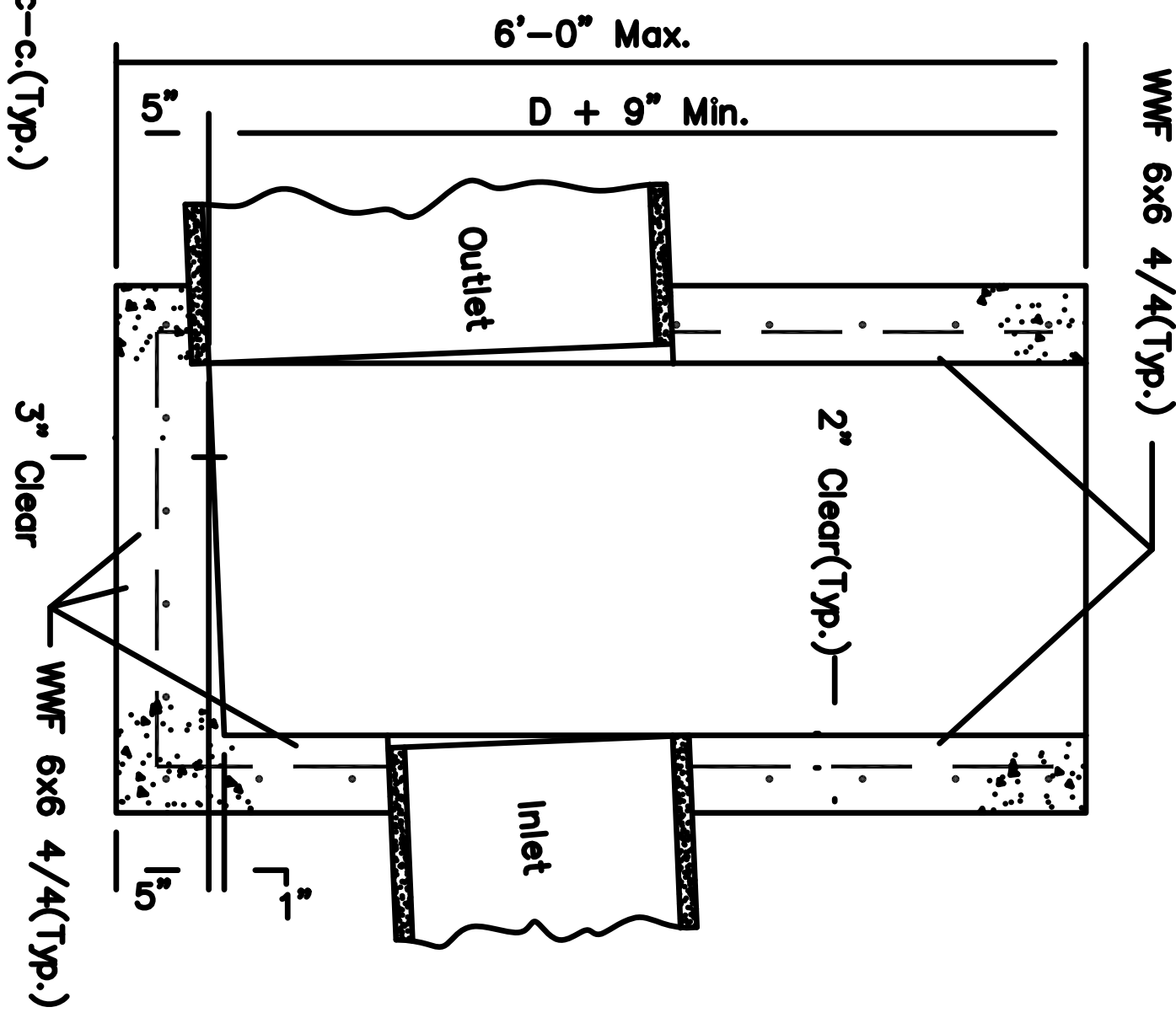
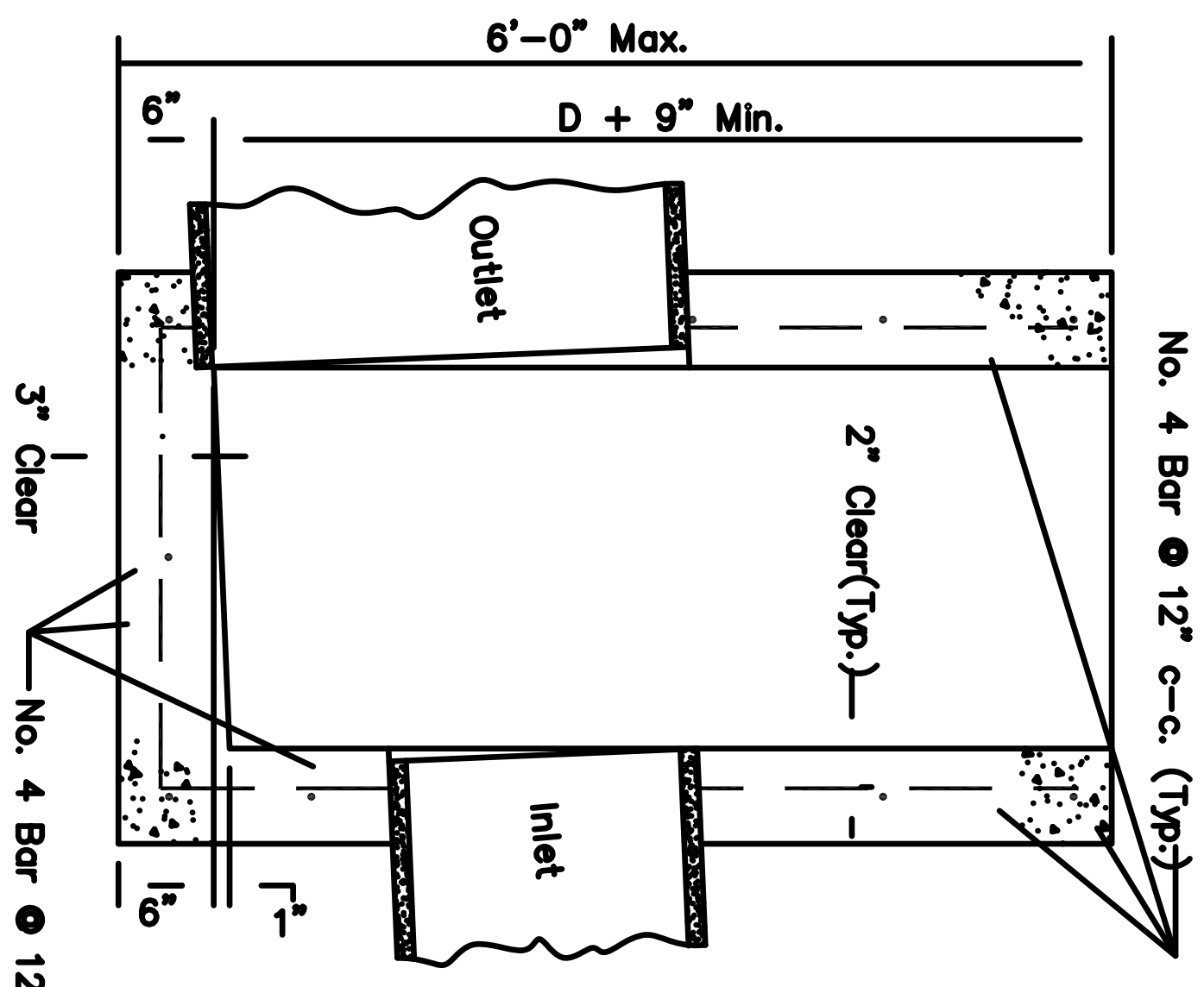
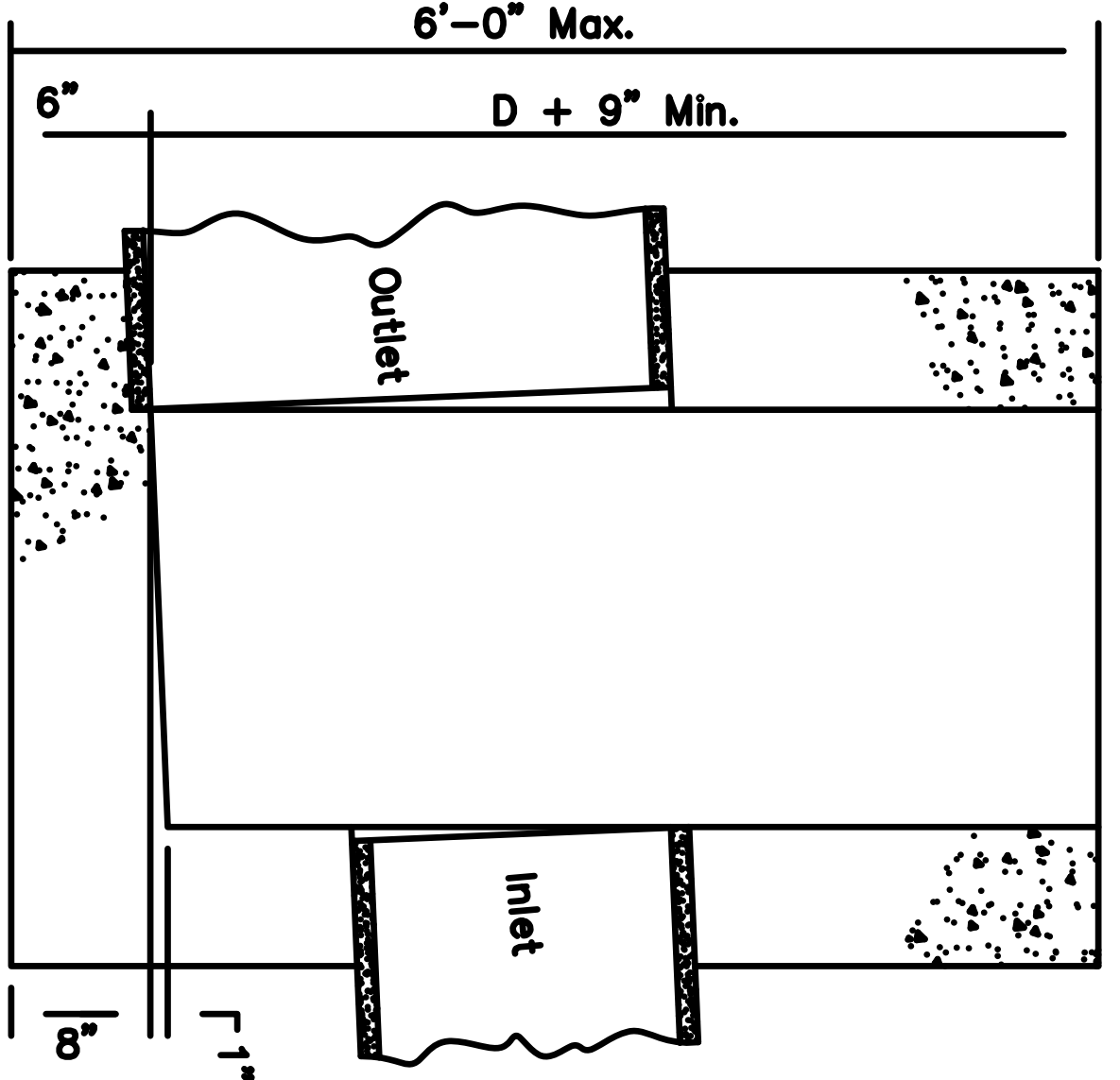
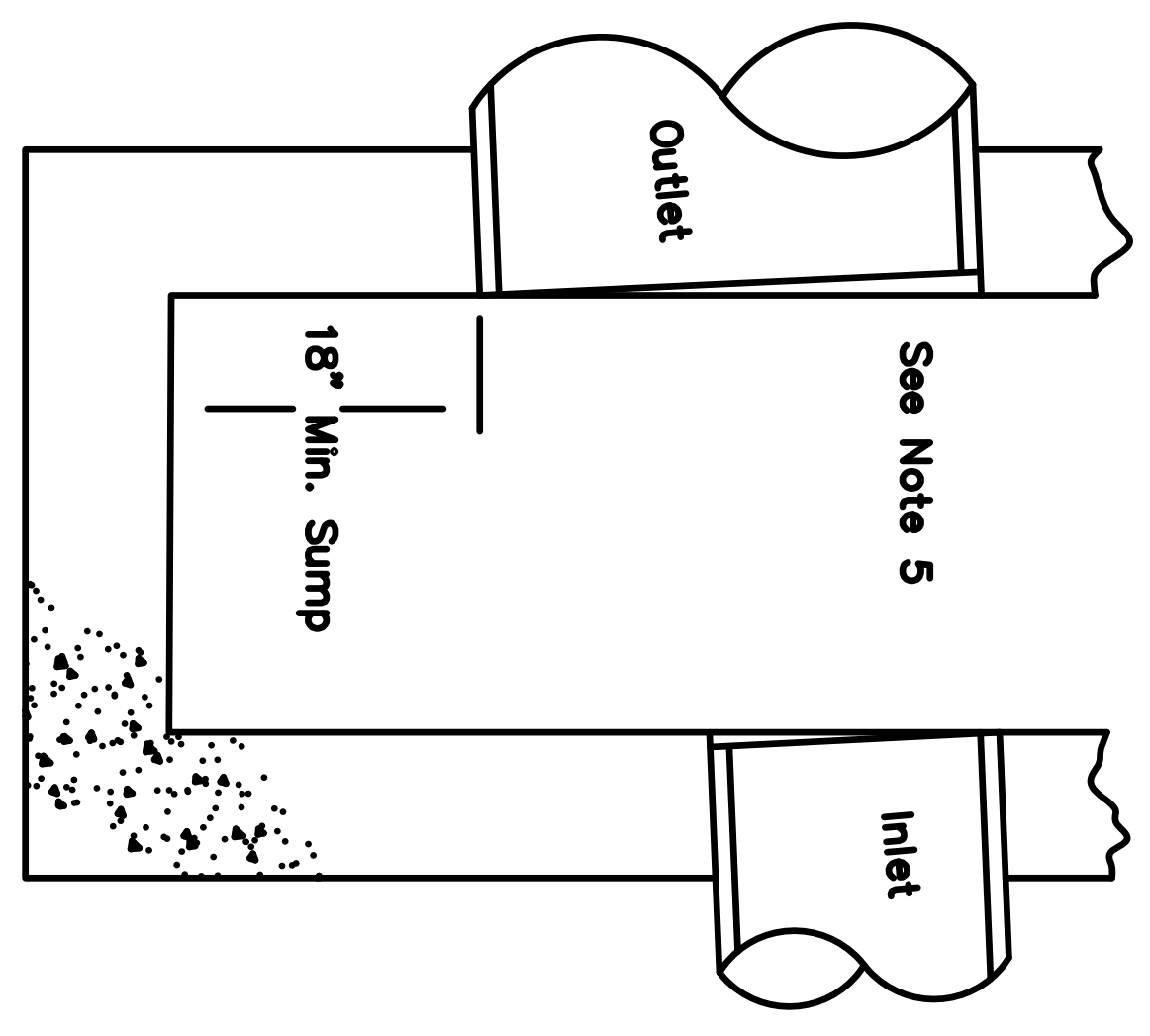
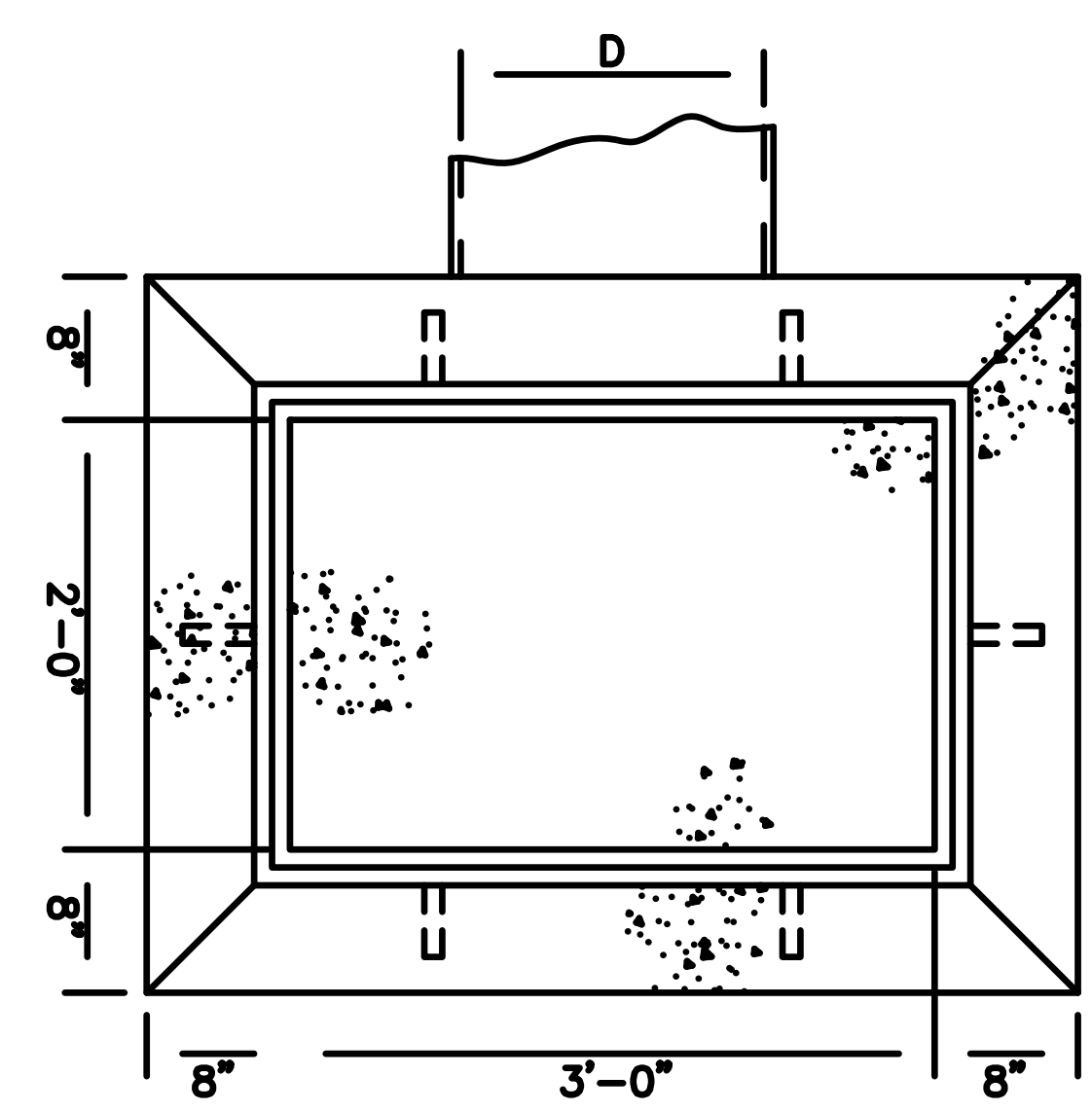
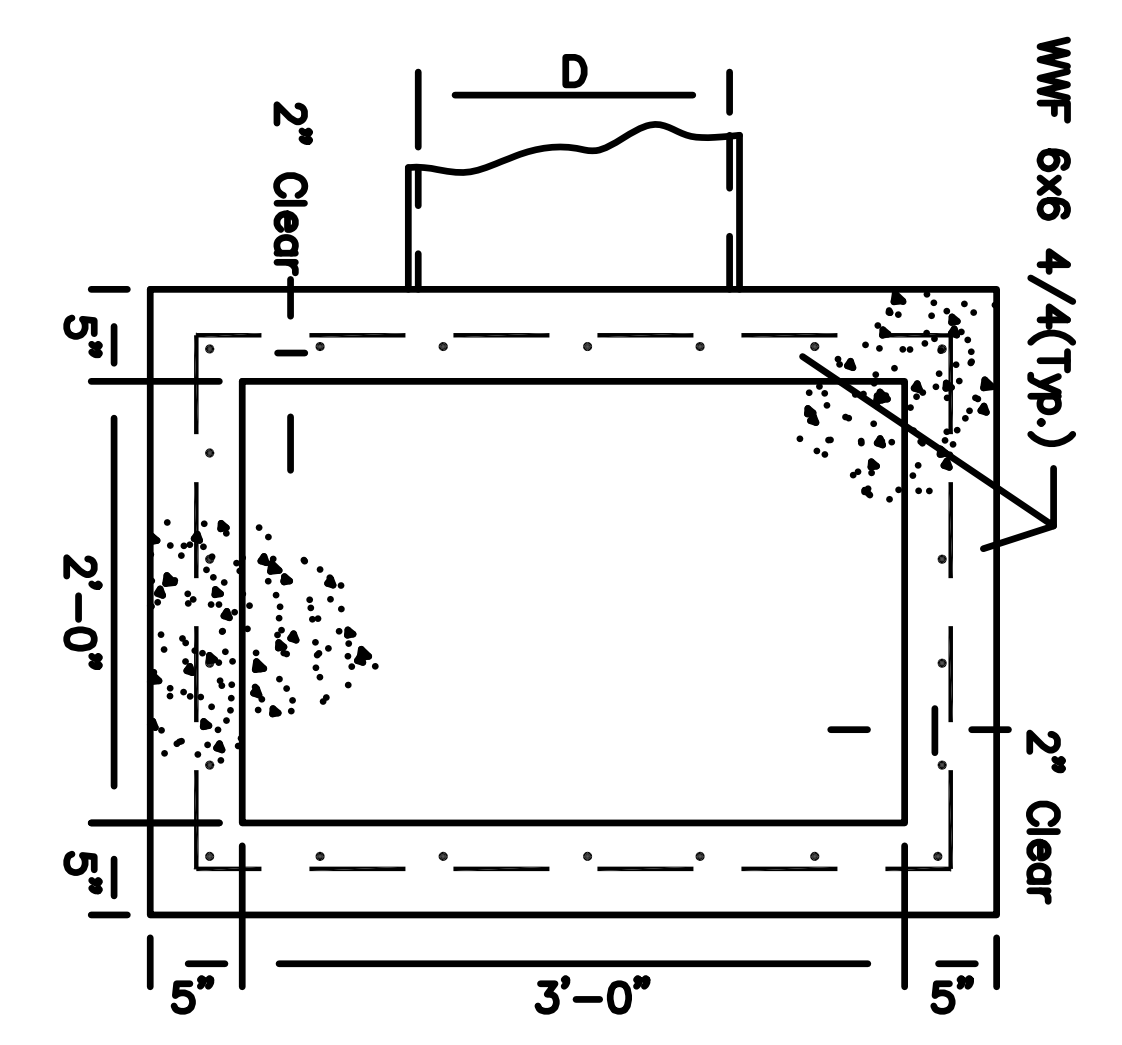
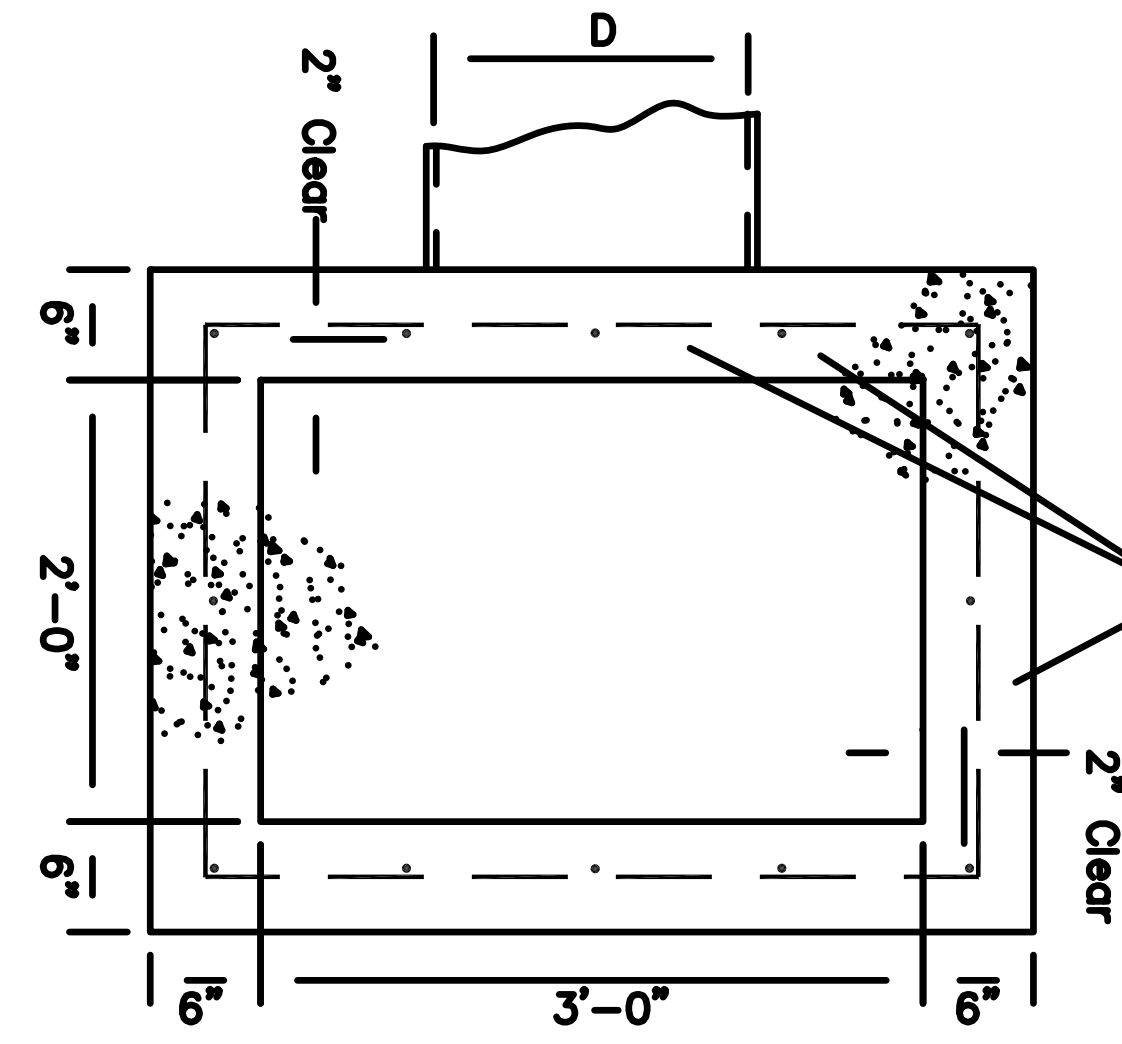
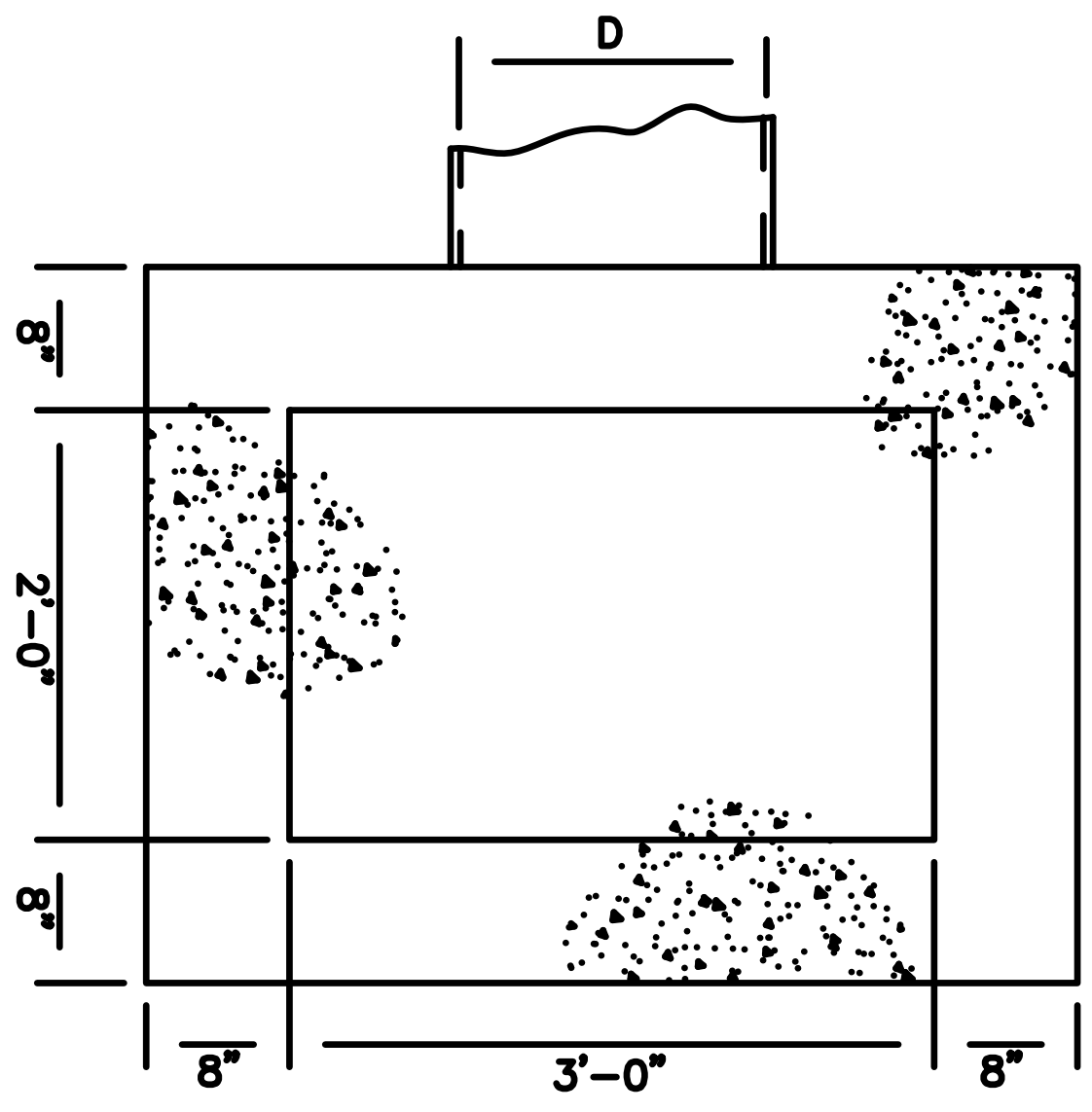
REVISIONS	DESCRIPTION	BY
Date		

State of Alaska
Department of Transportation
& Public Facilities
INLET FRAMES
AND GRATES

A P P R O V E D
Date 7/15/82

GENERAL NOTES:

1. Cast in Place Concrete Inlet Box shall be Class W^m Concrete.
2. Concrete Inlet Box depth and location shall be shown on the plans, or as directed by the Engineer.
3. Shape floors to drain.
4. Concrete Inlet Box shall be parallel to roadway centerline unless directed otherwise by the Engineer.
5. Shall be specified on plans when inlets require a sump.



Angle Frame
3/4" Depressed

NOTE: Use of Angle Frame with or without Anchor Lugs shall be specified on the plans.

CAST IN PLACE

REINFORCED
CAST IN PLACE

PRECAST

FIELD INLET BOX
CAST IN PLACE

TYPE "A" CONCRETE INLET BOXES

* May be Precast or Reinforced
Cast-In-Place Box.

REVISIONS		By
Date	Description	
3/1/83	Gen. Note Revision	W/E/HK
1/1/96	Add 6'-0" Box Ht.	Gdd

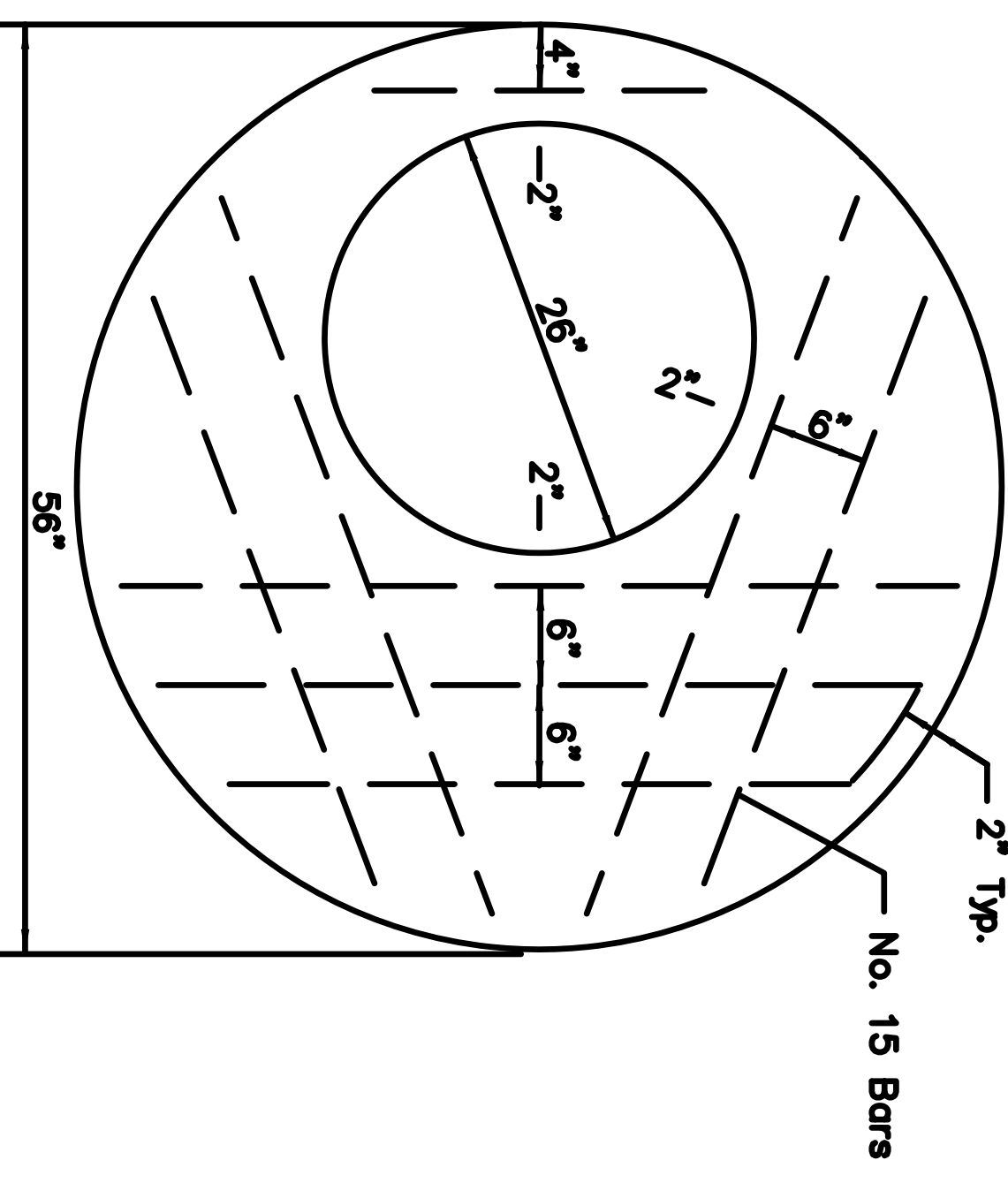
State of Alaska
Department of Transportation
& Public Facilities

TYPE "A"
INLET BOXES

A P P R O V E D
Date 7/15/82

GENERAL NOTES:

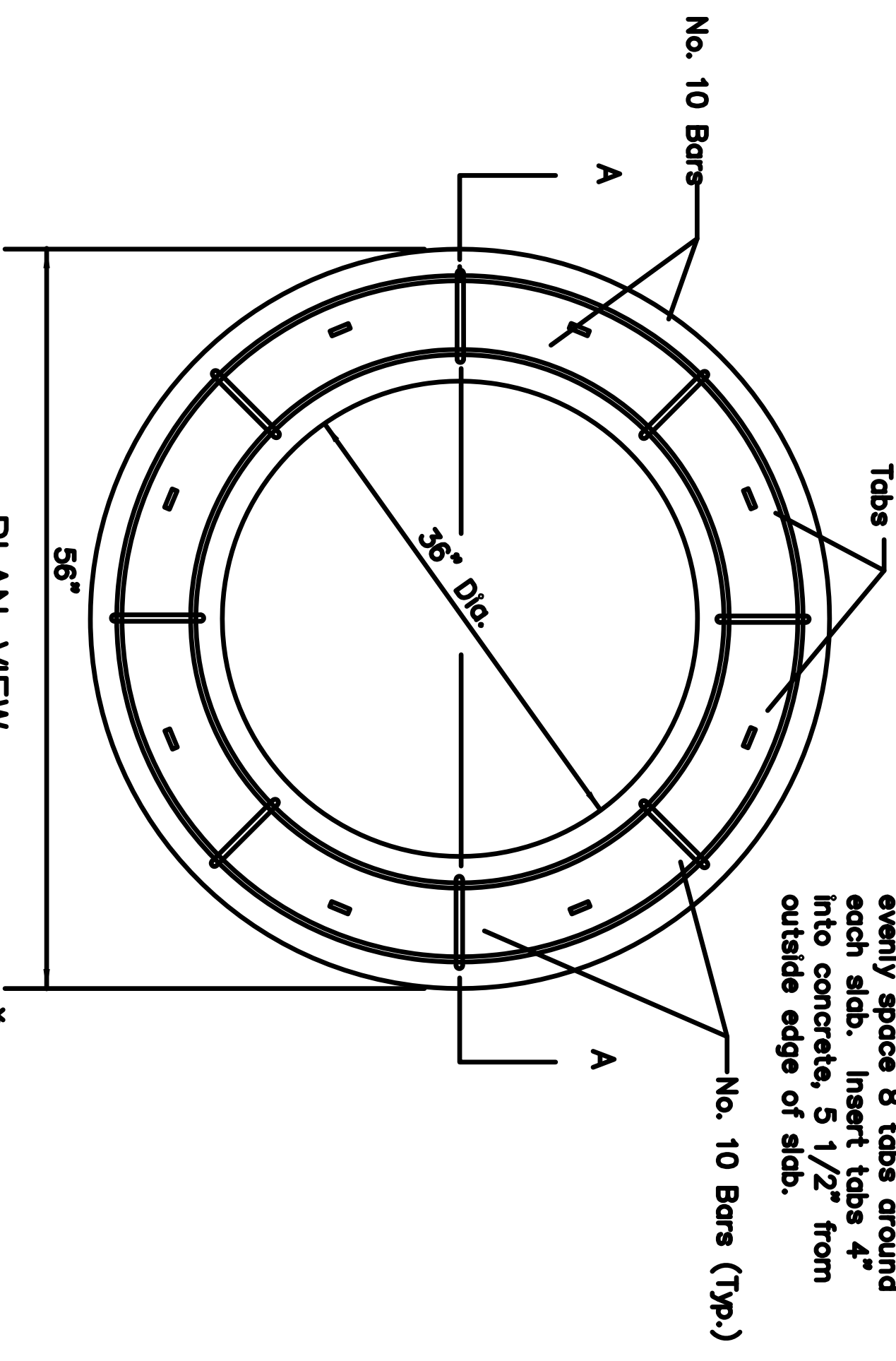
1. All drainage structures and appurtenances shall meet the requirements of ASTM C-478.
2. Minimum steel required for barrel as per ASTM-478 shall be imbedded in base so that the first barrel section is connected to the base by continuous steel.
3. Cast-In-Place structures may be used if approved by the Engineer.
4. All blockouts shall be formed.
5. All storm drain manholes and inlets shall have 18" minimum sumps. Manholes with petroleum separators shall have 24" minimum sumps.
6. Steps shall be placed 12" O.C. on the unobstructed side of the structure, 20" from top of casting and 18" maximum from manhole base.
7. On storm drain manhole, type I structures, primary pipes not to exceed 30" C.M.P. or 27" rigid concrete pipe with included angle between pipes no less than 135 degrees or primary pipes not to exceed 24" C.M.P. or 21" rigid concrete pipe with included angle no less than 135 degrees.
8. Offsets are measured from I.C. of the road to I.C. of the structure.
9. The precast concrete reducing slab with a 26" opening is to be used with the depressed inlet frame in the rolled curb areas.



PRECAST CONCRETE REDUCING SLAB

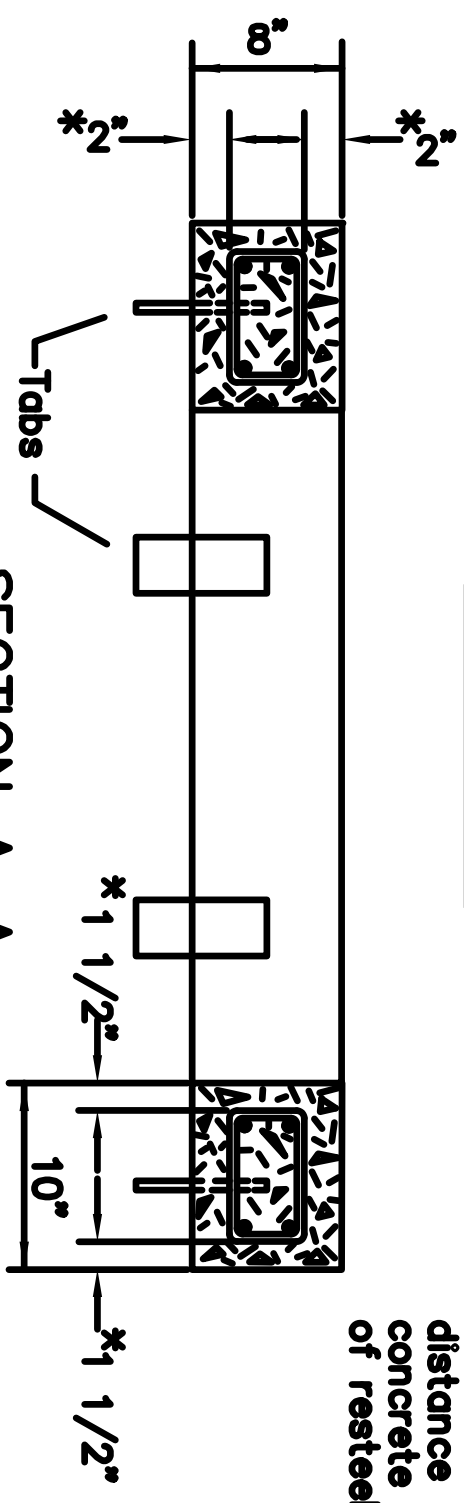
56" to 26" with offset hole.

NOTE: Tabs will be 1/2" x 3" x 7" galvanized steel plates. evenly space 8 tabs around each slab. Insert tabs 4" into concrete, 5 1/2" from outside edge of slab.



PLAN VIEW

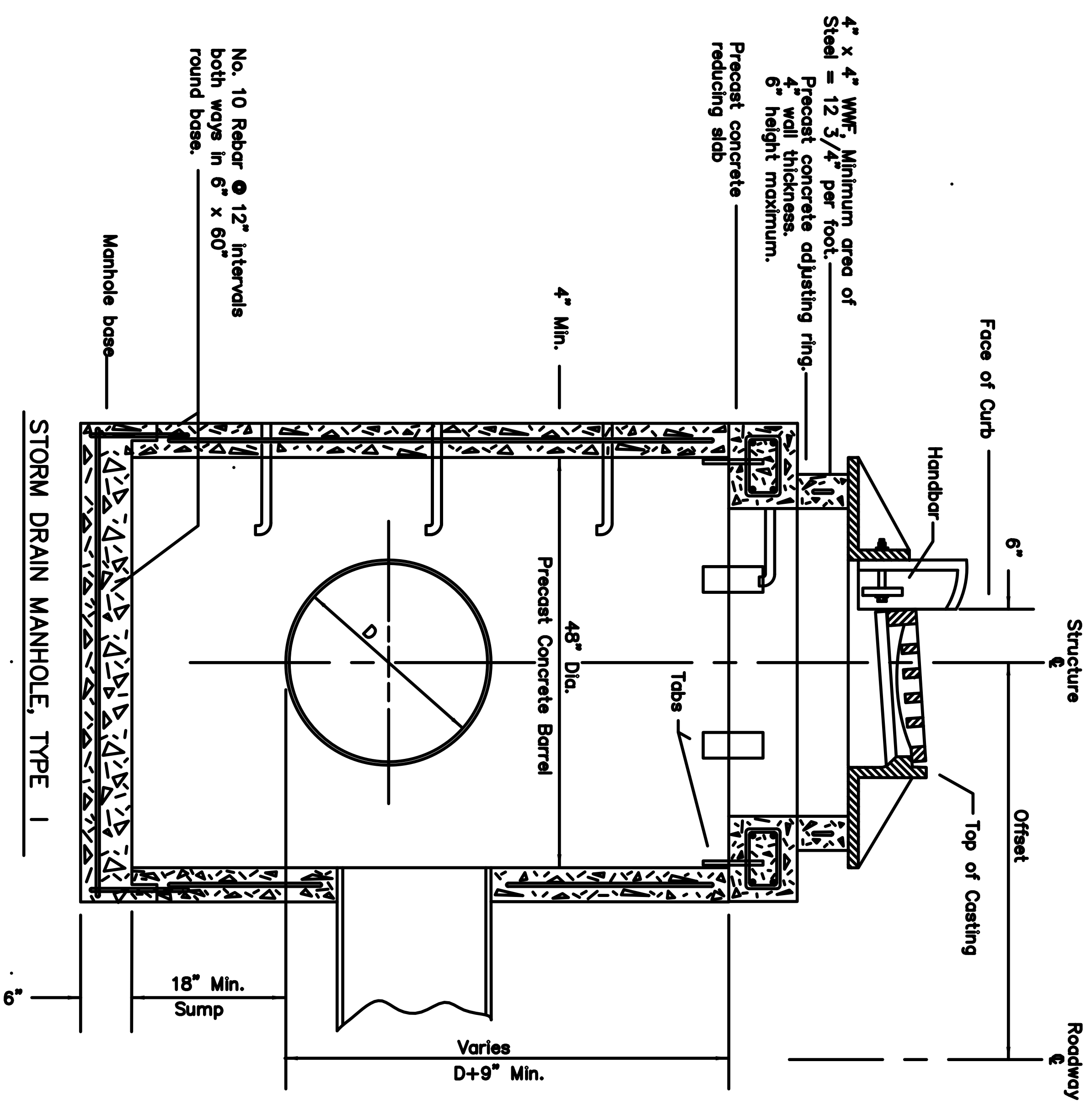
*These dimensions denote distance between edge of concrete and outside edge of resteel.



SECTION A-A

PRECAST CONCRETE REDUCING SLAB

56" to 36" with centered hole.



STORM DRAIN MANHOLE, TYPE I

REVISIONS	
Date	By

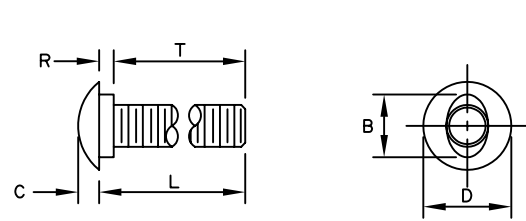
State of Alaska
Department of Transportation
& Public Facilities

48" STORM
DRAIN MANHOLE

A
P
R
O
V
E
D
Date 3/15/89

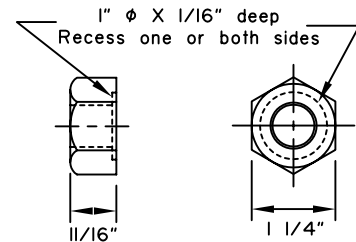
GENERAL NOTES:

1. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition.

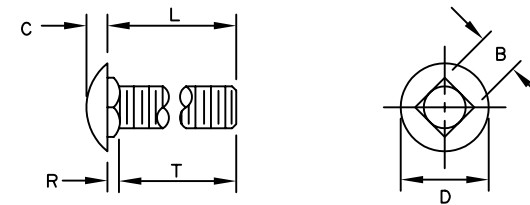


B	C	D	L (Length)	R	T (Thread Length)
15/16"	5/16"	1 5/16" or 1 7/16"	As Required	7/32"	As Required

5/8" BUTTONHEAD BOLT

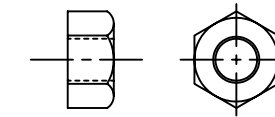


5/8" Dia. RECESSED HEX NUT

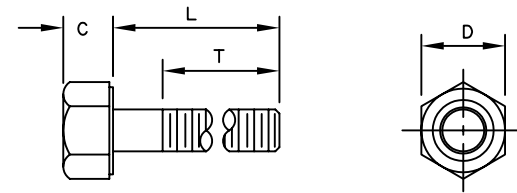


B	C	D	L (Length)	R	T (Thread Length)
5/8"	5/16"	1 5/16"	As Required	3/16"	As Required

5/8" Dia. CARRIAGE BOLT

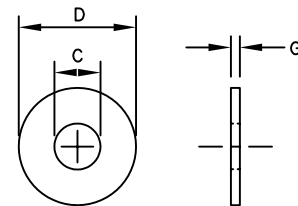


STANDARD HEX NUT



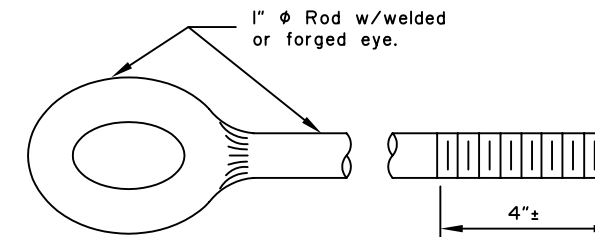
Bolt Size	C	D	L (Length)	T (Thread Length)
5/16"	—	—	1 1/2"	7/8"
5/16"	—	—	1"	1"
3/8"	—	—	7 1/2"	1 1/2"
1/2"	—	—	1 1/2"	1 1/2"
1/2"	—	—	1 1/4"	1 1/4"
5/8" H.S.	5/16"	7/8"	8"	1 1/2"
5/8"-II	—	—	1 1/2"	1 1/2"
3/4"	—	—	1 1/2"	1 1/2"
3/4"	—	—	As Required	2"
3/4" H.S.	15/32"	1 1/4"	2"	1 1/2"

STANDARD HEX BOLTS

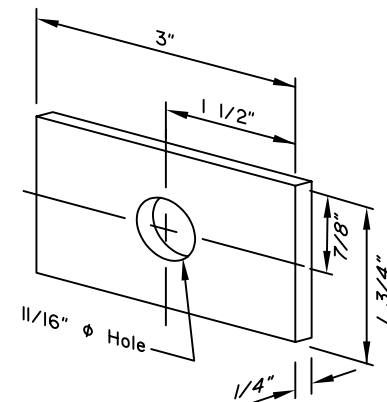


For Bolt ϕ	C	D	G
3/8"	7/16"	1"	5/64"
1/2"	17/32"	1 1/16"	3/32"
1/2" H.S.	17/32"	1 1/16"	3/32"
5/8"	11/16"	1 3/4"	9/64"
3/4"	13/16"	1 15/32"	9/64"
3/4" H.S.	13/16"	2"	5/32"
1"	1 1/16"	2"	9/64"

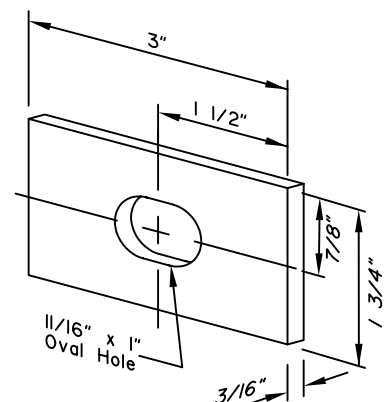
STANDARD STEEL WASHERS



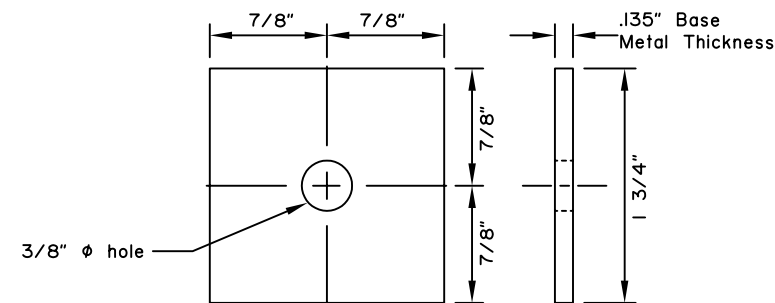
EYE BOLT



FLAT PLATE WASHER



RECTANGULAR POST BOLT WASHER



SQUARE STEEL WASHER

REVISIONS		
Date	Description	By
3/15/99	Delete BCT Hardware	KJS

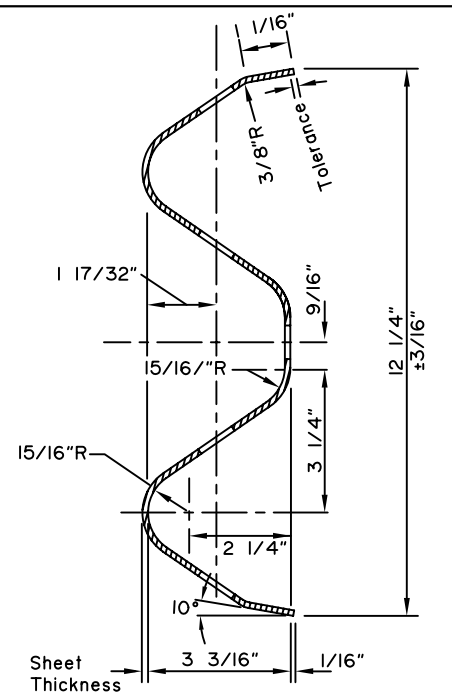
State of Alaska
Department of Transportation
& Public Facilities
**STANDARD GUARDRAIL
HARDWARE
(NUTS, BOLTS, WASHERS)**



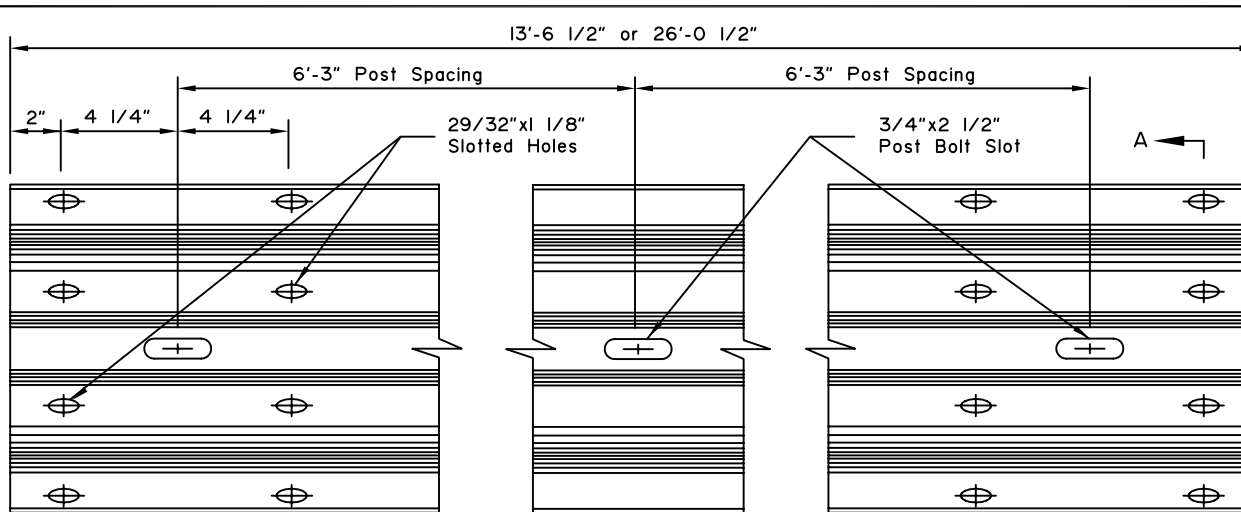
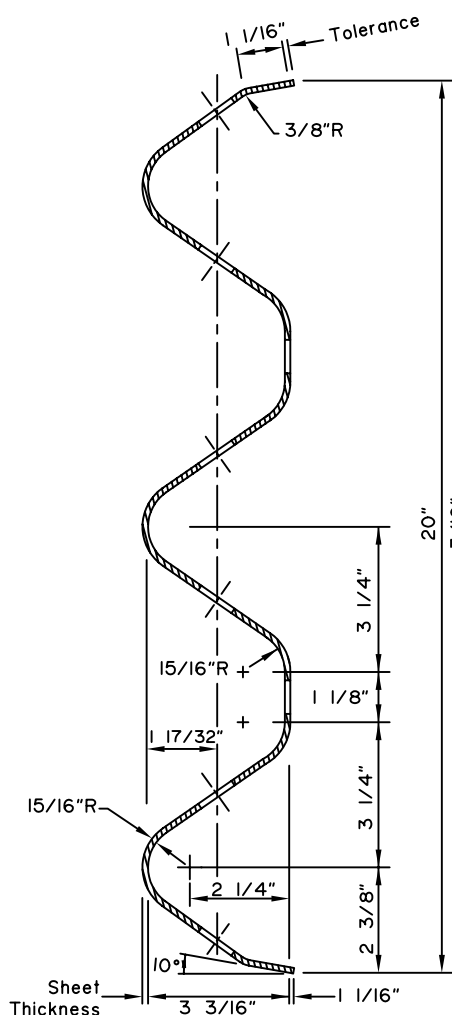
Date 1/1/96

GENERAL NOTES:

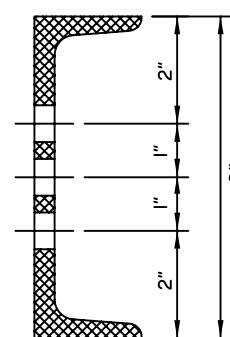
1. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition.
2. Back-up Plates shall be used at intermediate (Non-Splice) Posts.



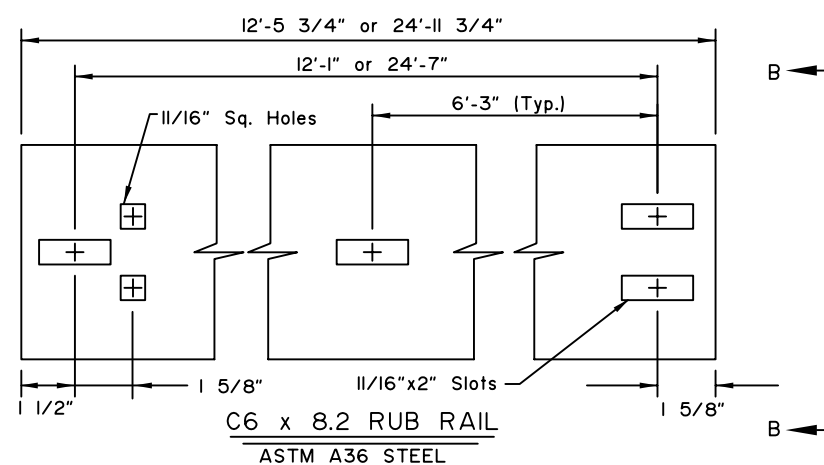
SECTION A-A



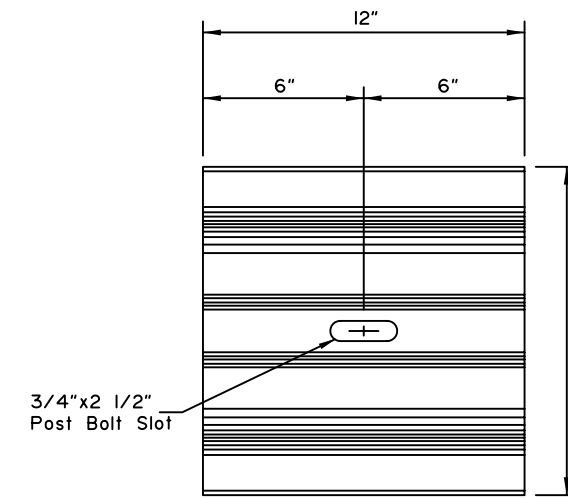
STANDARD W-BEAM PANEL



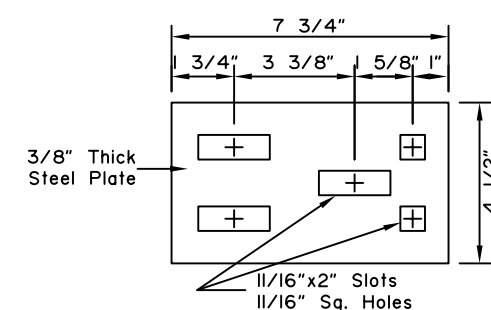
SECTION B-B



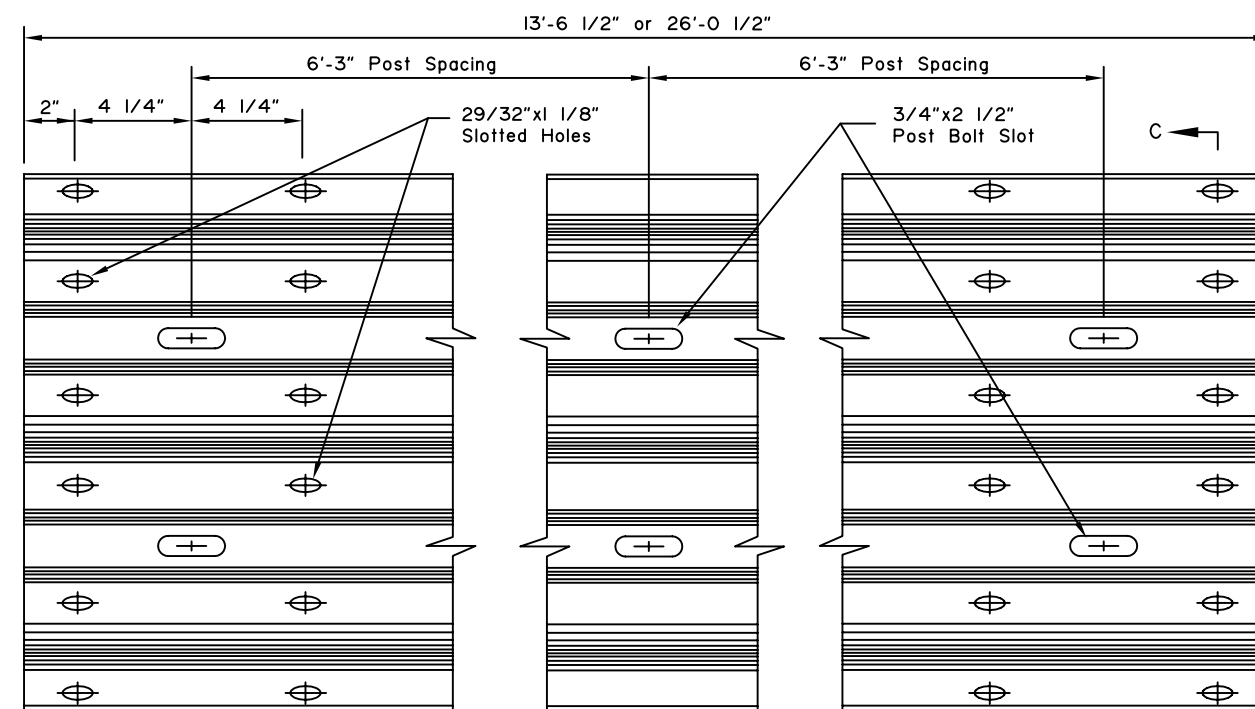
C6 x 8.2 RUB RAIL
ASTM A36 STEEL



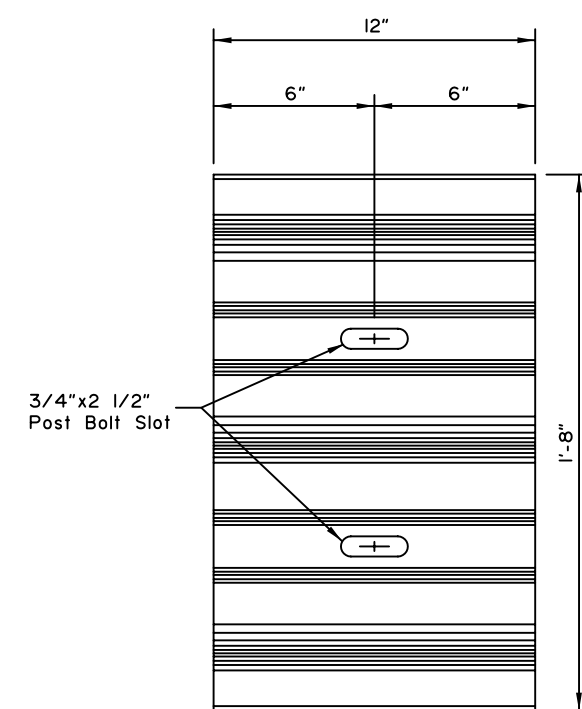
W-BEAM BACKUP PLATE



SPLICE PLATE
ASTM A36 STEEL



STANDARD THRIE BEAM PANEL



THRIE BEAM BACKUP PLATE

REVISIONS		
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities

**STANDARD GUARDRAIL
HARDWARE
(RAILS AND SPLICES)**

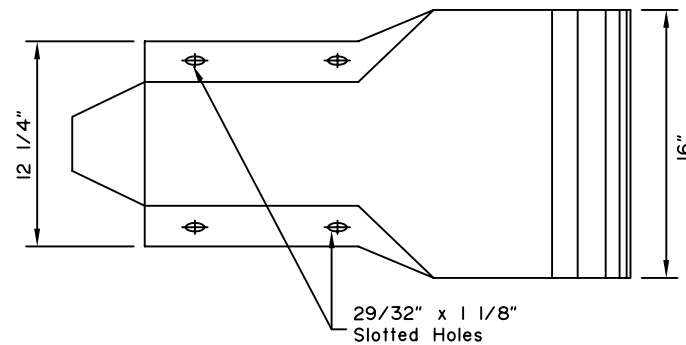
APPROVED



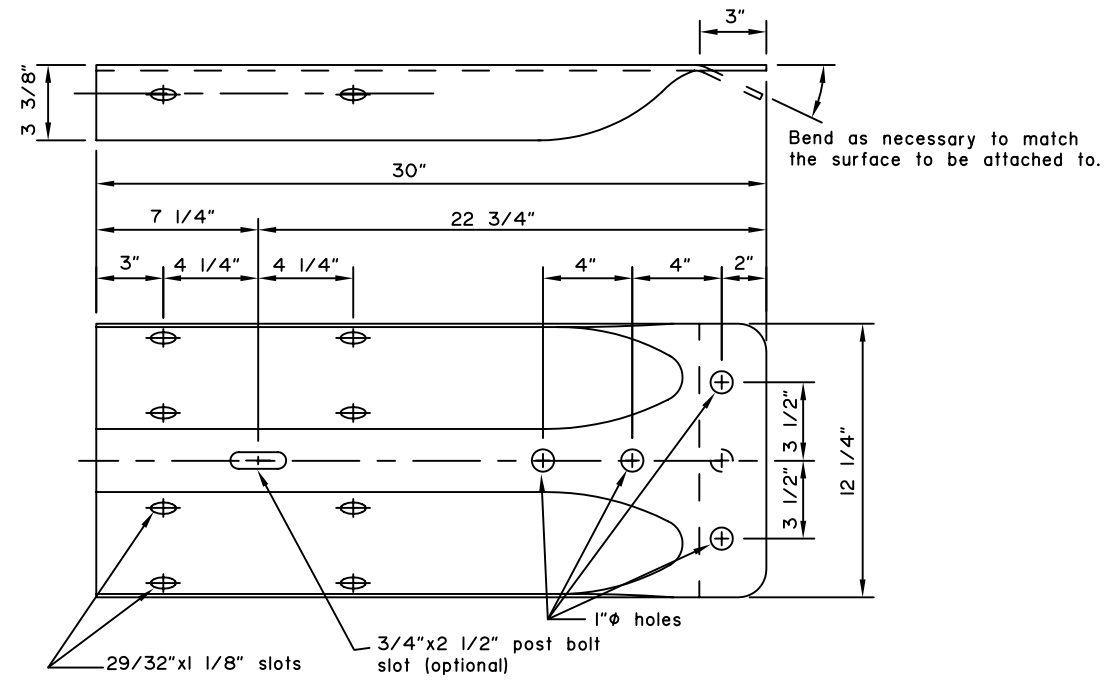
Date 1/1/96

GENERAL NOTES:

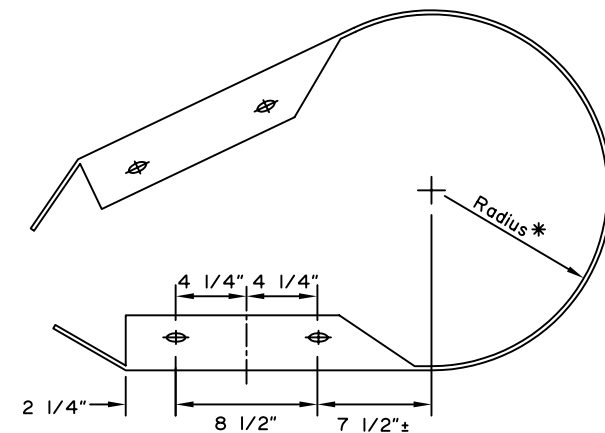
1. W-Beam and Thrie Beam Terminal Connectors shall conform to AASHTO M180, Class B, Type 2.
2. W-Beam end sections shall conform to AASHTO M180, Class A, Type 2.
3. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition.



PROFILE



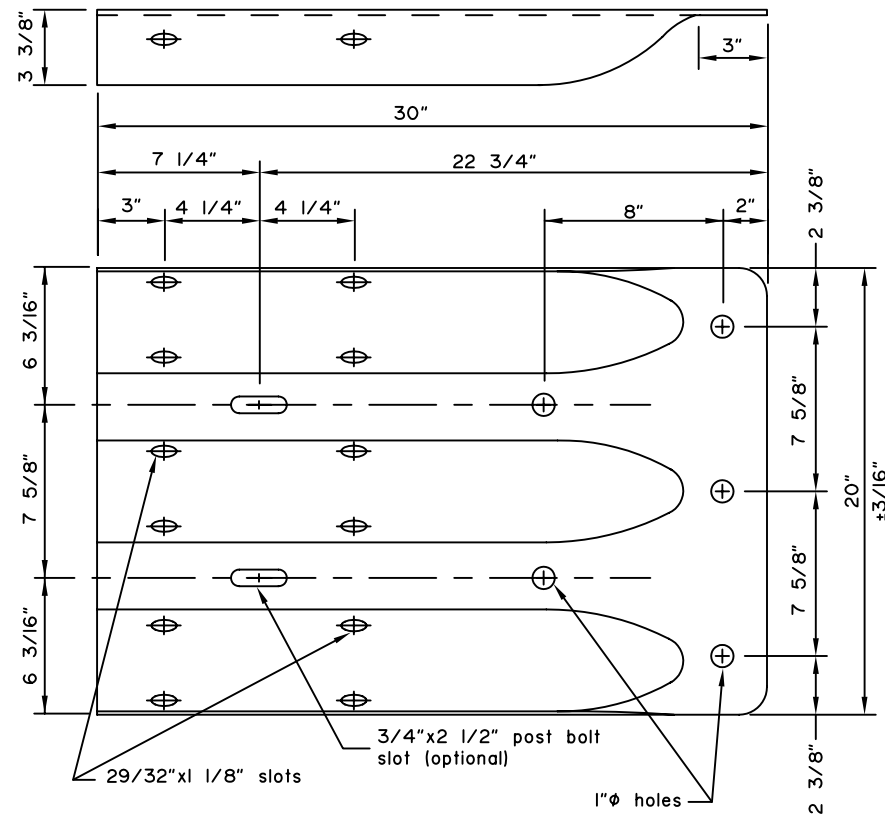
STANDARD W-BEAM TERMINAL CONNECTOR



W-BEAM PLAN VIEW

Radius to be specified on the plans

STANDARD W-BEAM END SECTION



STANDARD THRIE BEAM TERMINAL CONNECTOR

REVISIONS		
Date	Description	By
3/15/99	Delete Thrie End Sect.	KJS

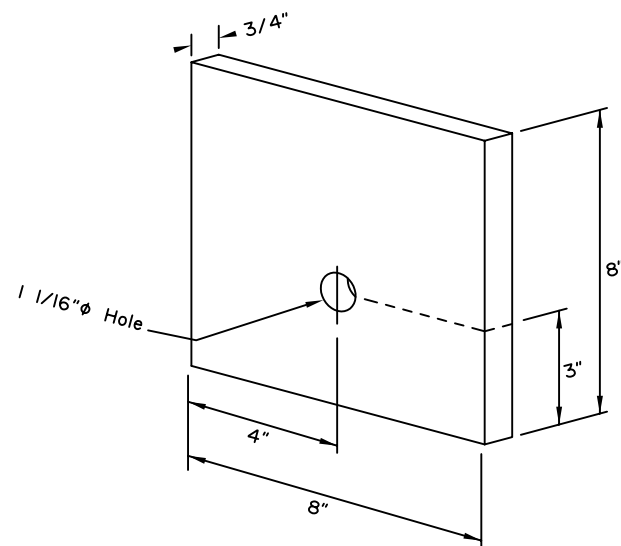
State of Alaska
Department of Transportation
& Public Facilities
**STANDARD GUARDRAIL
HARDWARE
(TERMINAL CONNECTORS)**



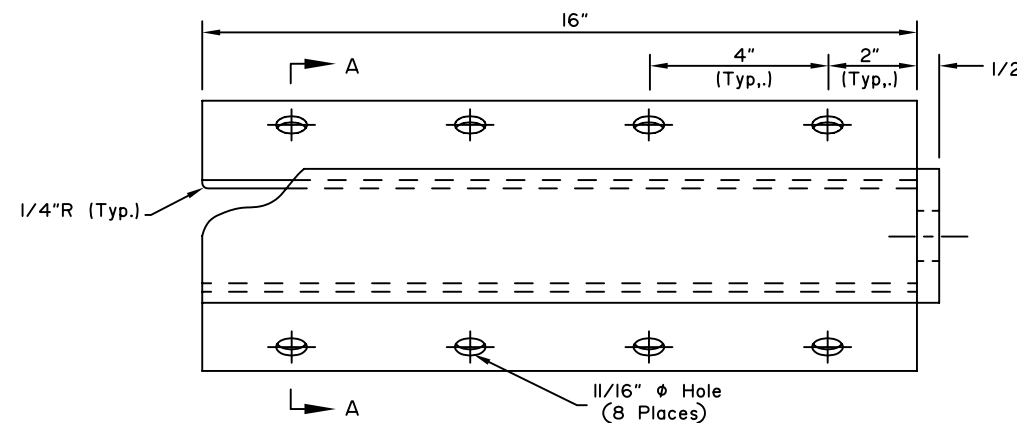
Date 1/1/96

GENERAL NOTES:

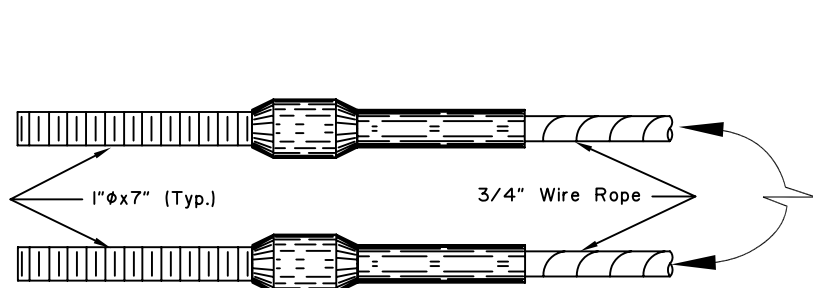
1. Cable Anchor Plate may be formed in single unit or welded fabrication.
2. Anchor Cable Assembly shall conform to AASHTO M-30 with Type II Wire Rope.
3. Sleeve for Wood Posts shall conform to the requirements of ASTM A120 and shall be of 2-inch galvanized standard pipe. Sleeve shall be a tight, pressed fit in post.
4. Bolts, nuts and washers shall conform to ASTM A-325 and galvanized in accordance with ASTM A-153.
5. Radius ID plates shall be attached to all shop-bent guardrail sections. They shall be bolted to the back side of the guardrail panel with the lower splice bolt nearest the P.C. of the radius.
6. Rail bend radius in feet shall be shown as "XX" on the radius ID plate. Digits shall be etched or stamped and have a min. height of 1 1/2" and a max. width of 3/4". The plate shall be galvanized after digits are marked.
7. All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition.



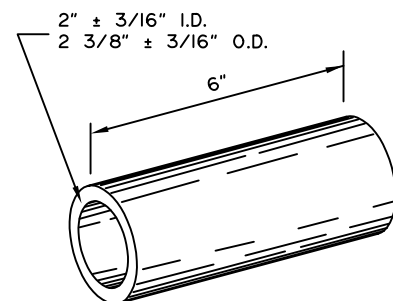
BEARING PLATE for CRT TERMINAL ANCHOR



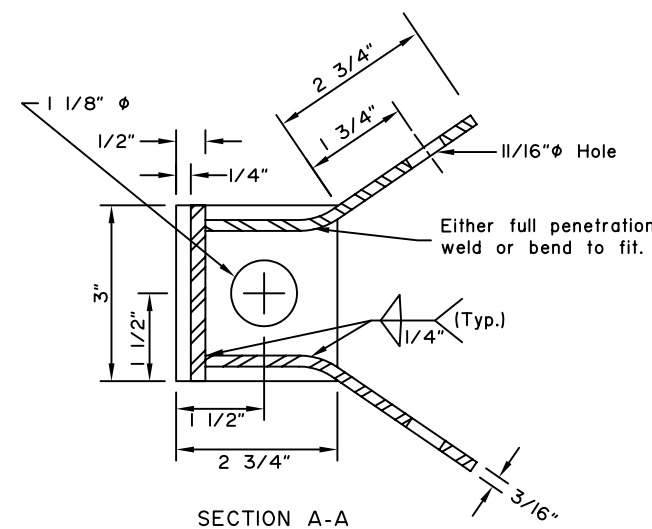
CABLE ANCHOR PLATE



SWAGED FITTING DETAIL

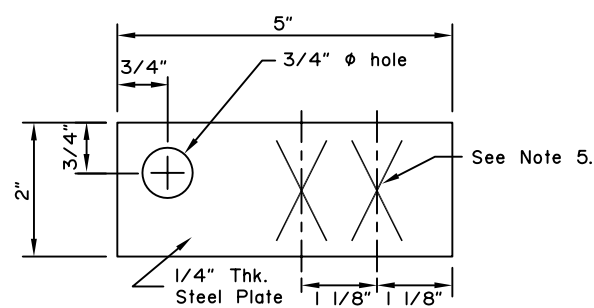


SLEEVE DETAIL

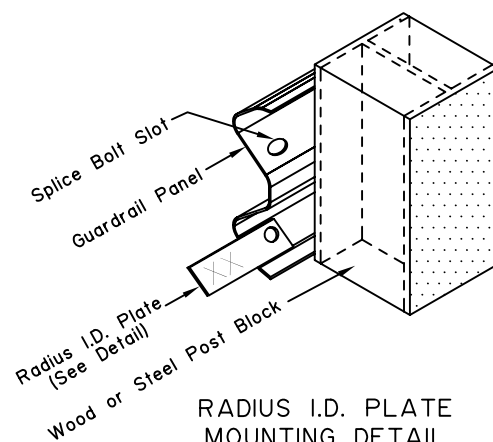


SECTION A-A

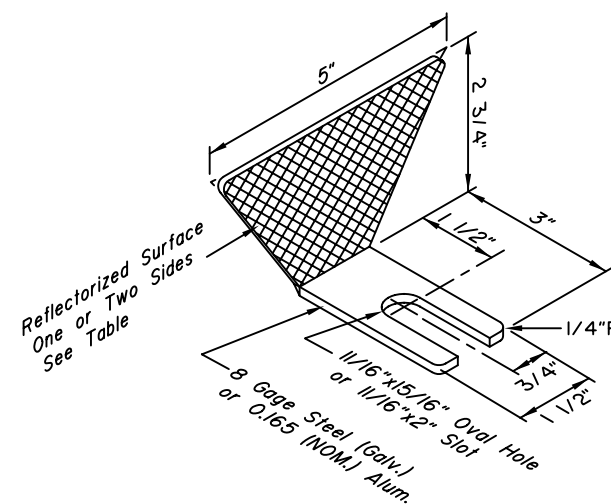
CONTROLLED RELEASE TERMINAL HARDWARE DETAILS



RADIUS I.D. PLATE



RADIUS I.D. PLATE MOUNTING DETAIL



GUARDRAIL REFLECTOR

Type	Guardrail Color	Reflector Color	Reflectorized
A	White	White	Front & Rear
B	White	Yellow	Front
C	Yellow	Yellow	Front
D	Yellow	Yellow	Front & Rear

REVISIONS		
Date	Description	By
3/15/99	Delete BCT Hardware	KJS

State of Alaska
Department of Transportation
& Public Facilities

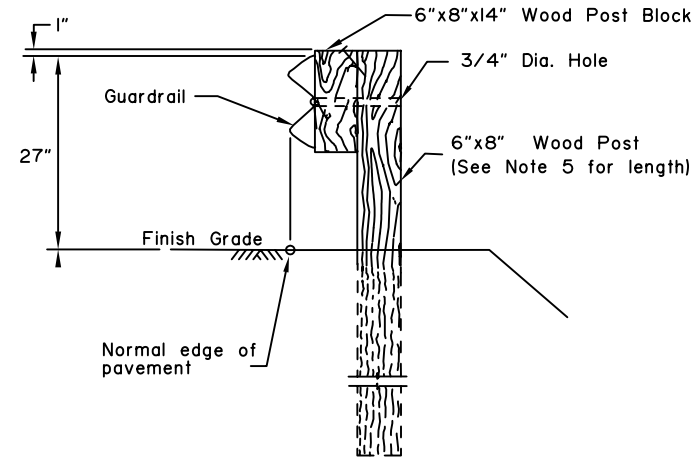
**STANDARD GUARDRAIL
HARDWARE
(MISCELLANEOUS)**



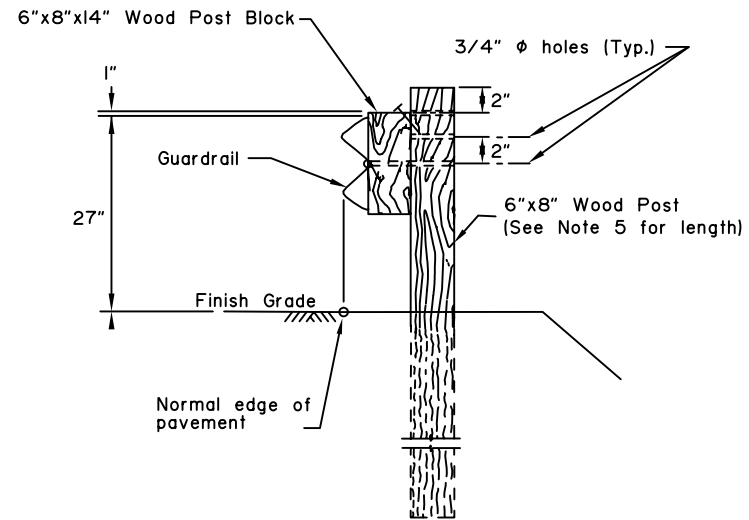
Date 1/1/96

GENERAL NOTES:

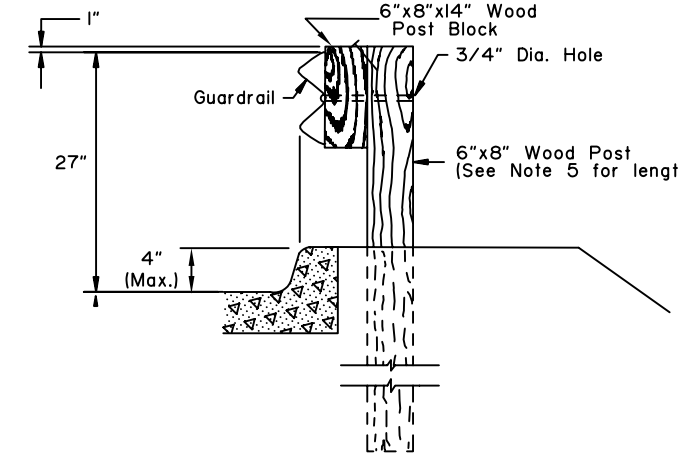
- Guardrail Reflectors shall be mounted at 50' centers beginning with the first post. Type A Reflectors shall be used unless specified otherwise on the plans.
- All covered hardware shall comply with the AASHTO/AGC/ARTBA "A Guide to Standardized Highway Barrier Hardware", latest edition.
- See standard drawings G-00, "Standard Guardrail Hardware" for hardware details.
- Type II installations facilitate raising the rail and should be used when future overlays are anticipated.
- See standard drawing G-10, "Beam Guardrail Post Installation" for post lengths corresponding to different combinations of slope and behind-post embankment width.
- Typical post spacing is 6'-3" center to center.
- This barrier is acceptable under NCHRP 350, TL3.



TYPE I POST INSTALLATION



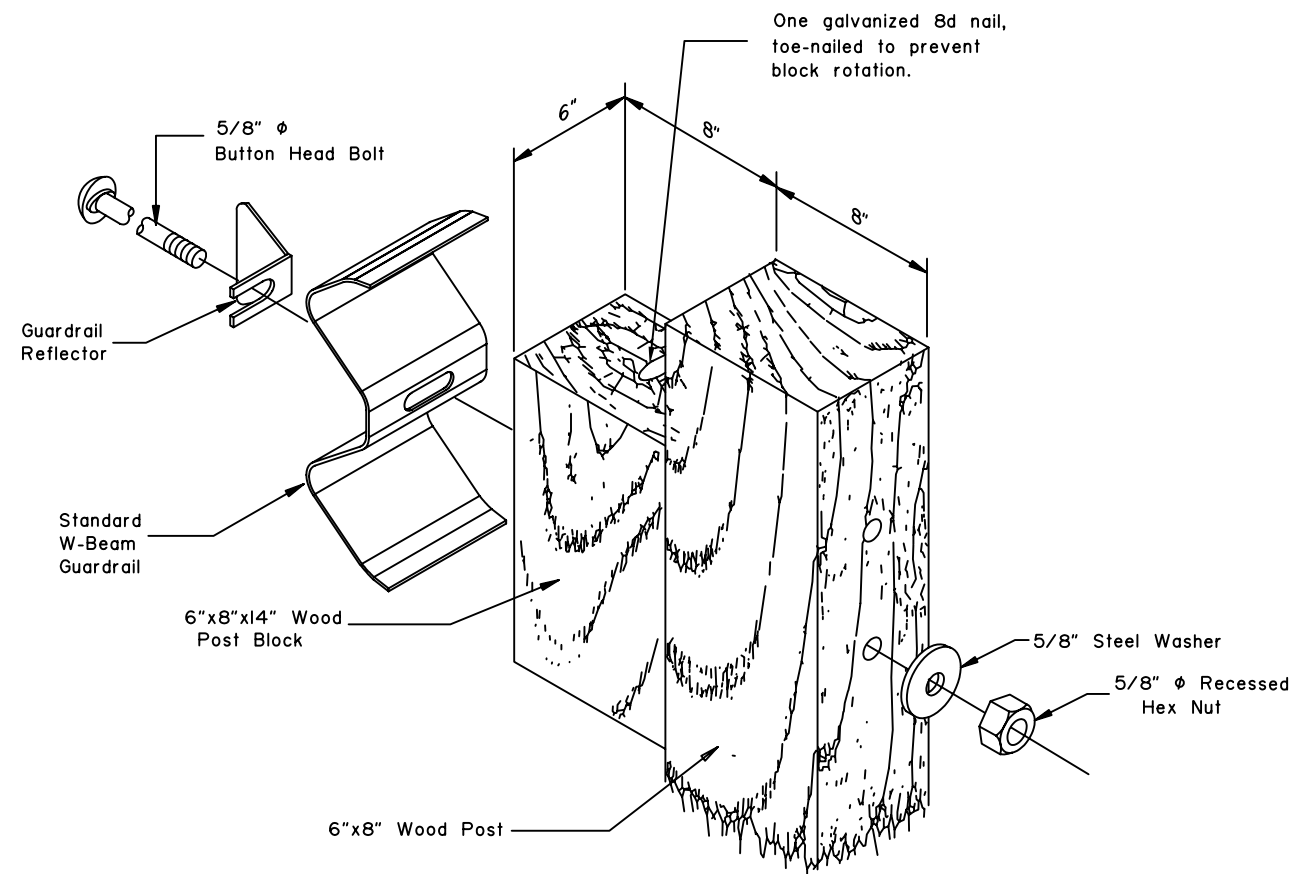
TYPE II POST INSTALLATION



CURB DETAIL

TYPE III POST INSTALLATION

NOTE: Curb should not be installed with guardrail when the speed limit exceeds 40 mph.



ASSEMBLY DETAIL

REVISIONS		
Date	Description	By
12/1/87	2'-0" Behind Post	Gdo
5/15/89	Ref. SAS to Rough Sawn	Gdo
4/1/93	Hinge Point Note	Gdo
1/1/96	Del. Hrdwr/Add Type II	Gdo
3/15/99	Mod. post length & misc.	KJS

State of Alaska
Department of Transportation
& Public Facilities

**WOOD POST
W-BEAM GUARDRAIL**

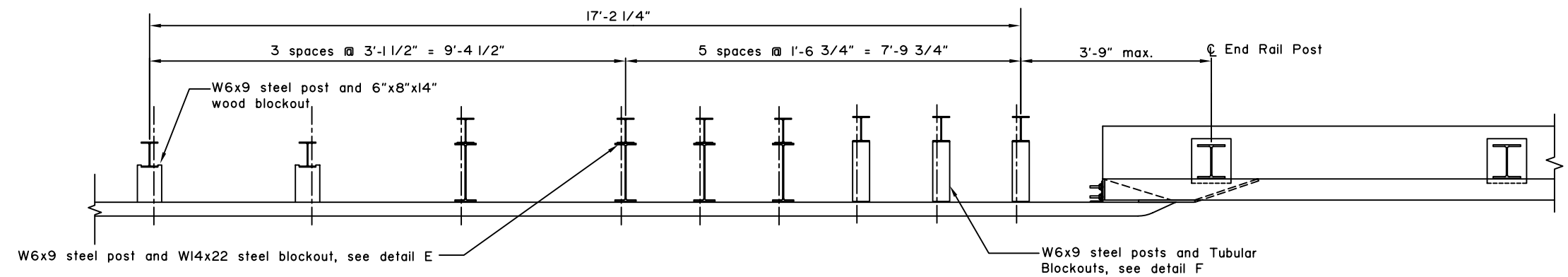


Date 1/1/86

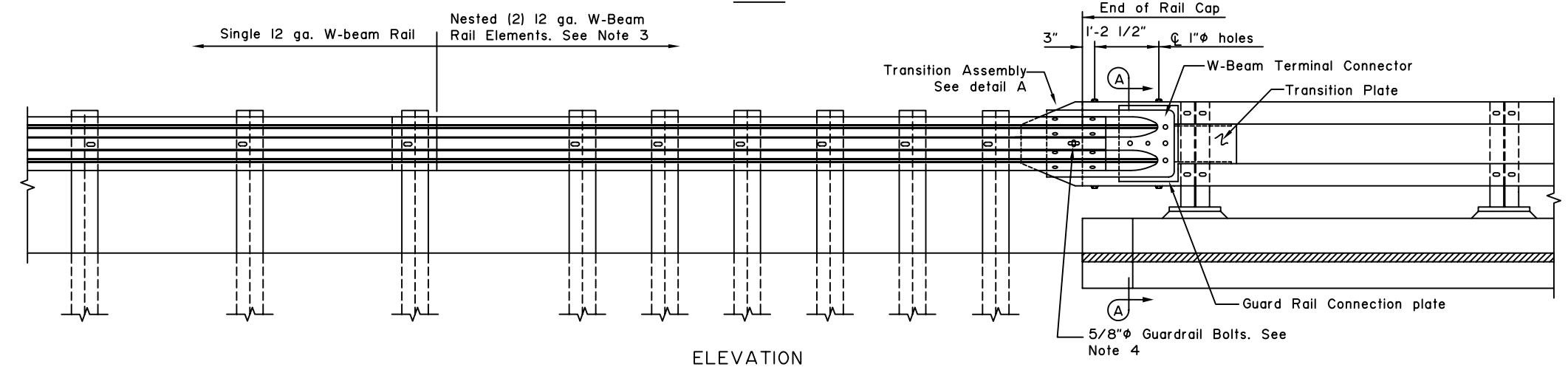
G-30.00

GENERAL NOTES

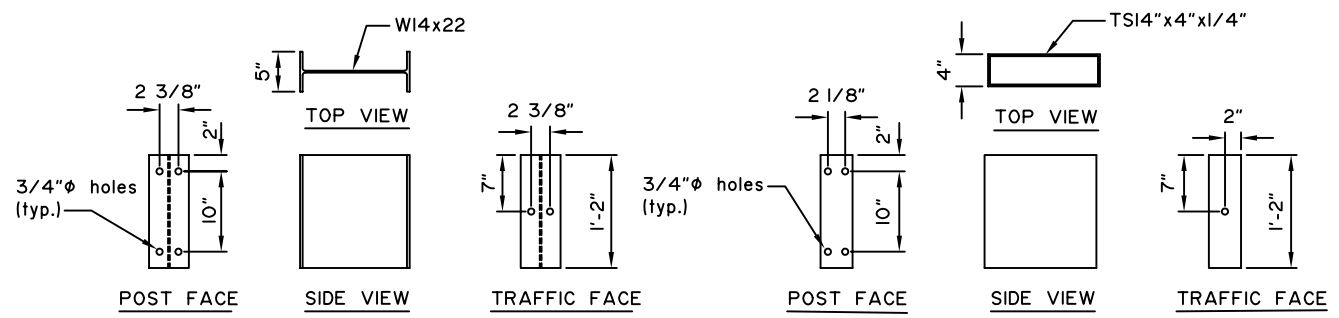
1. All guardrail and guardrail connection hardware to conform to AASHTO M-180. All H.S. Bolts conform to ASTM A325. All other steel to conform to ASTM A709 Grade 36.
2. Conform to G-00, G-04S, G-25S for all guardrail details not shown.
3. Lap approach guardrail to prevent snags from oncoming traffic.
4. Provide 4 1/2" horizontal slot in approach guardrail. Adjust guardrail bolts for sliding fit.
5. This design is approved for NCHRP 350, TL 3.



PLAN

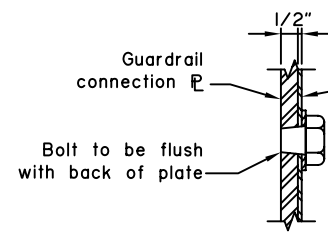


ELEVATION

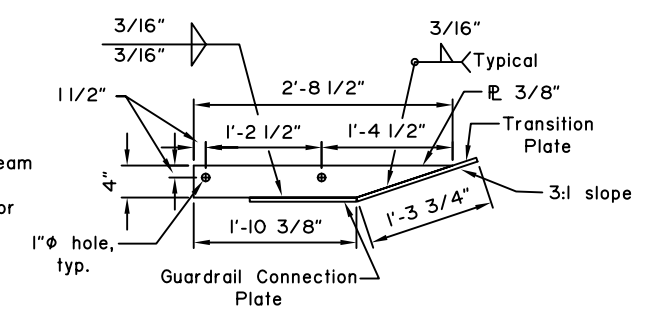


DETAIL E - STEEL BLOCK

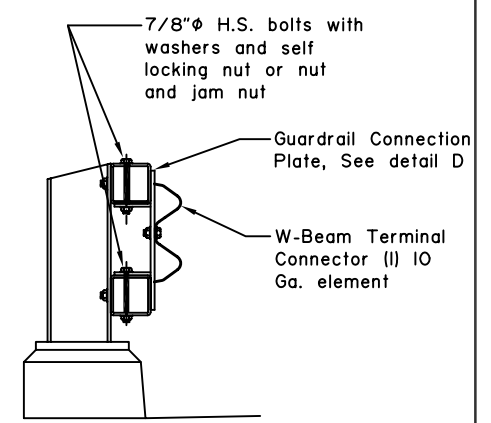
DETAIL F - TUBULAR BLOCKOUTS



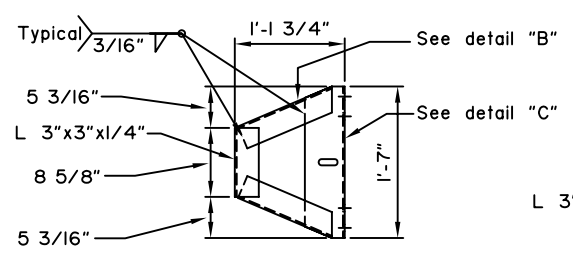
DETAIL G



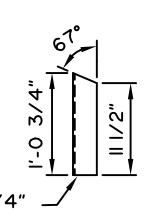
VIEW H-H



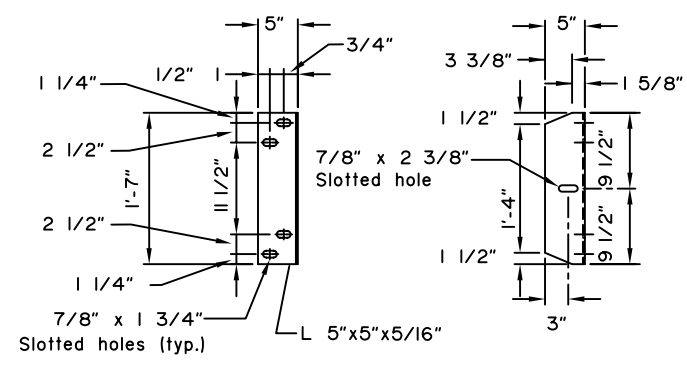
SECTION A-A



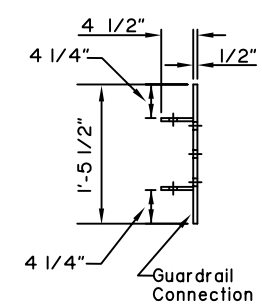
DETAIL A - TRANSITION ASSEMBLY



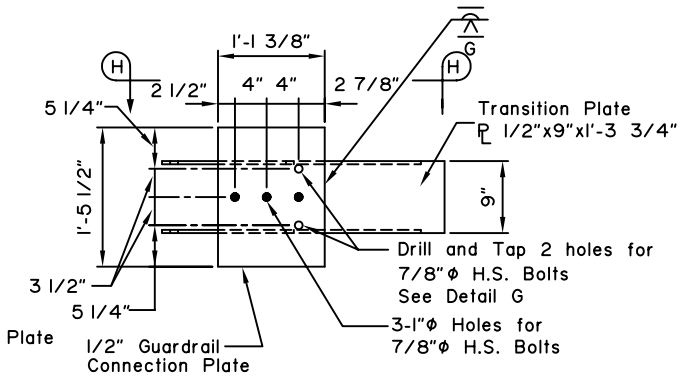
DETAIL B



DETAIL C



DETAIL D - GUARDRAIL CONNECTION PLATE



DETAIL D - GUARDRAIL CONNECTION PLATE

REVISIONS		
Date	Description	By

Sheet 1 of 1

State of Alaska
Department of Transportation
& Public Facilities

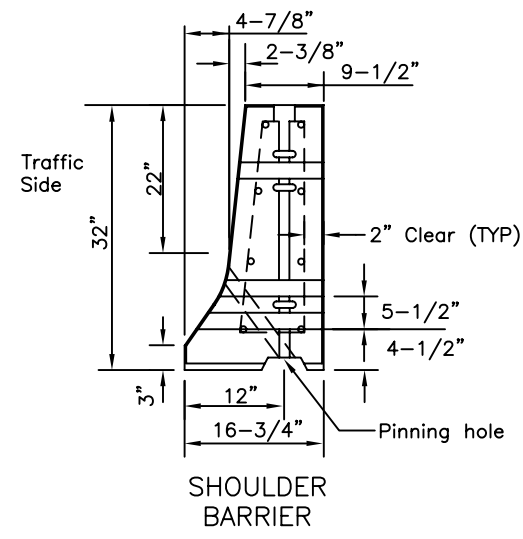
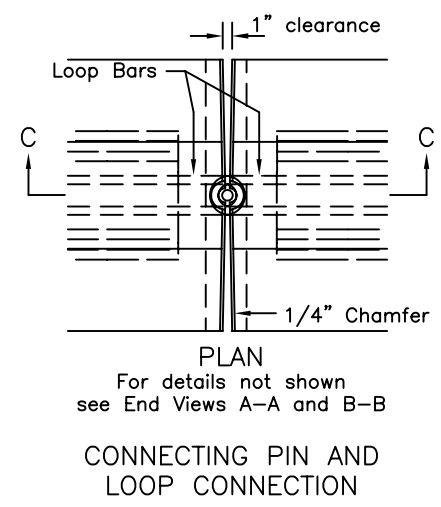
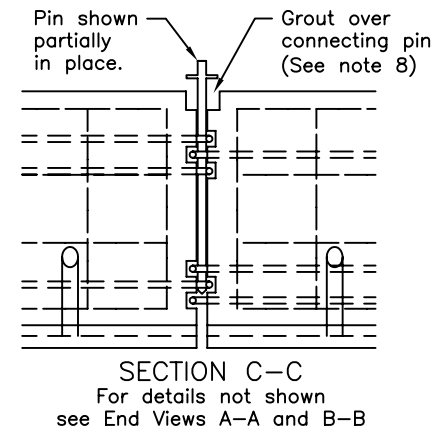
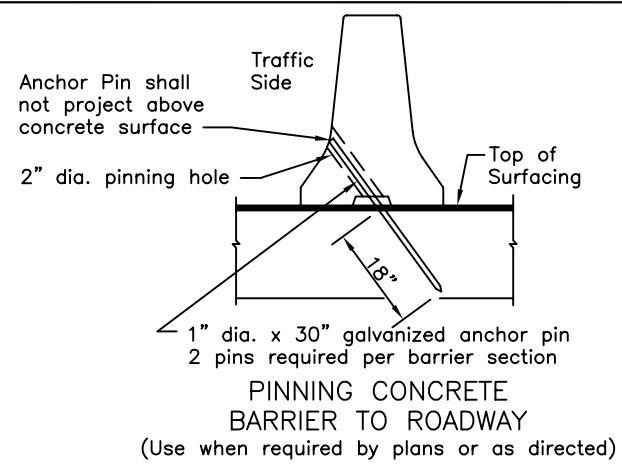
BRIDGE RAIL W-BEAM TRANSITION

APPROVED

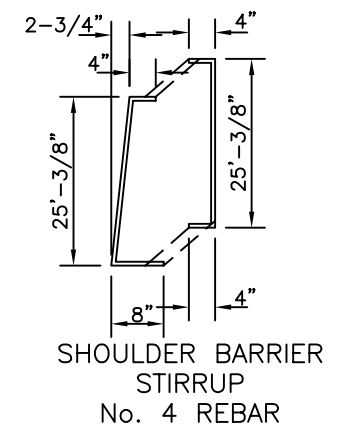
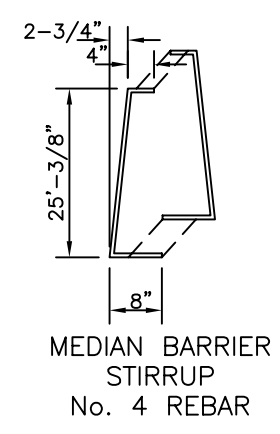
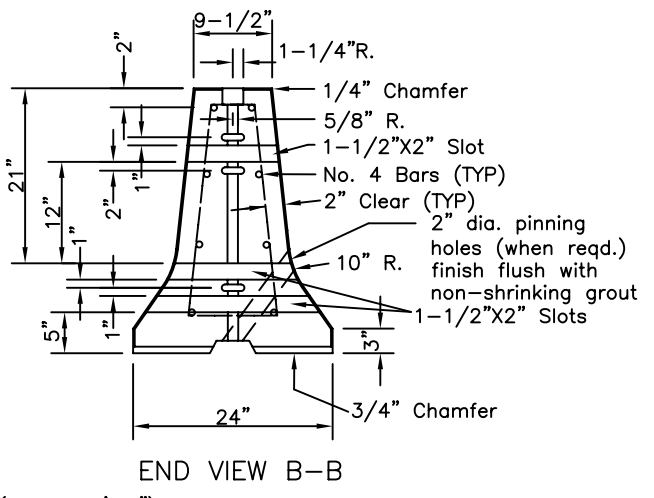
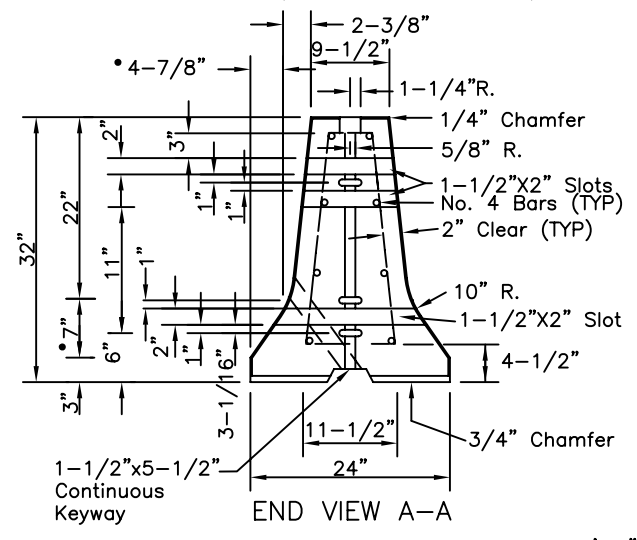
No Scale Date 02/28/03

G-30.00

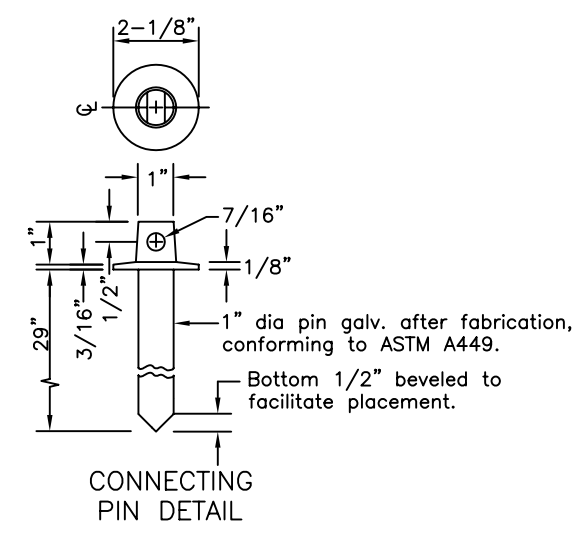
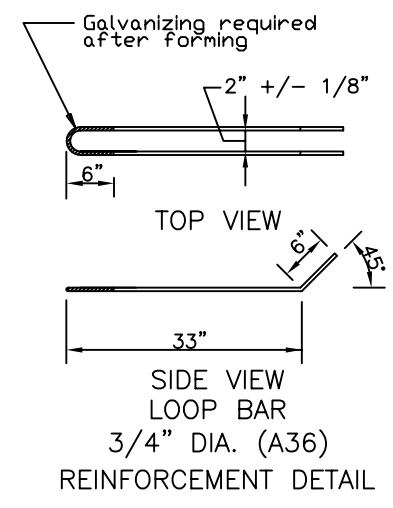
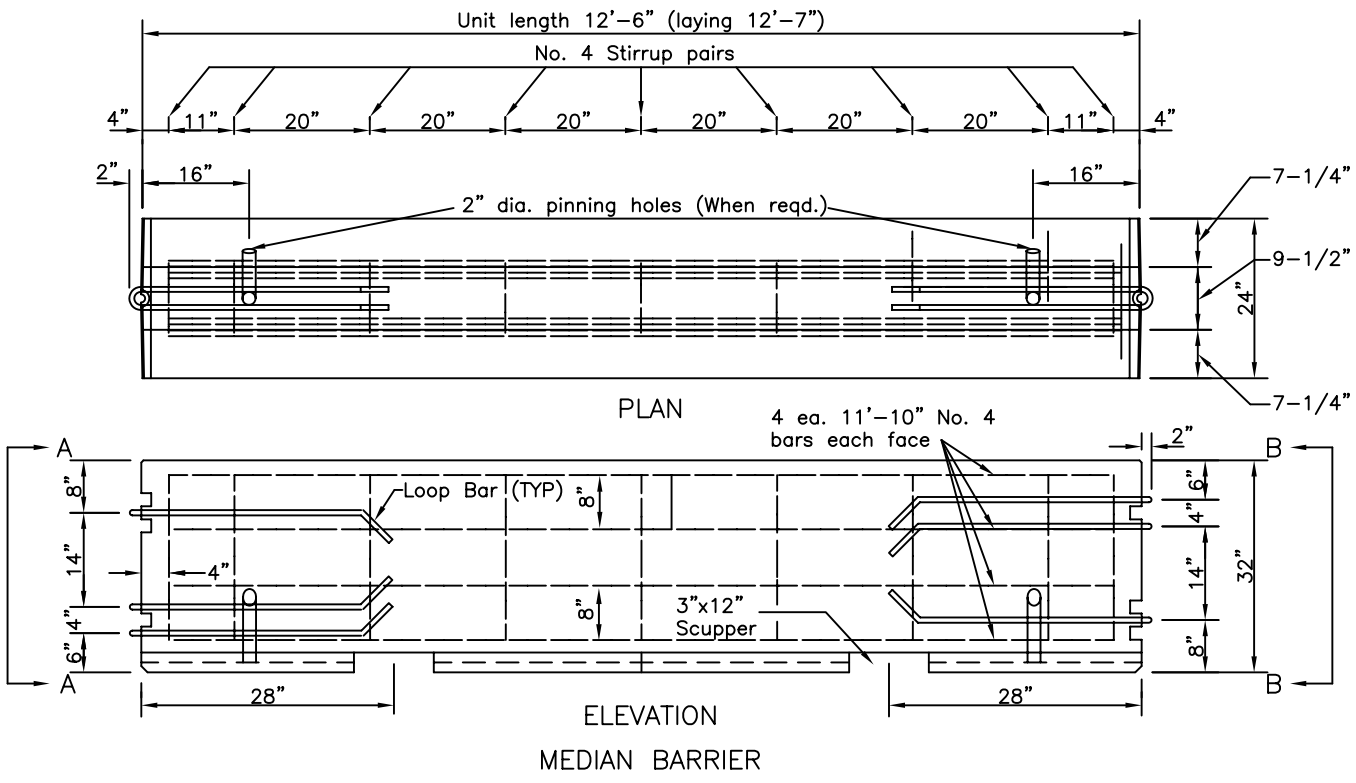
G-46.10



* Dimensions marked thus are to the Intersection point of the barrier slopes.



- GENERAL NOTES**
1. Barriers may be used for temporary and permanent applications.
 2. Provide 36" unobstructed smooth deflection area behind barrier for unanchored applications. Provide 12" unobstructed smooth deflection area behind barrier for anchored applications.
 3. When anchored, install anchor pins on the side facing traffic. Precast barrier used as permanent median barrier in medians less than 8' in width shall be anchored to the roadway. When anchored in medians, install anchor pins on both sides of the barrier.
 4. All metal reinforcement shall be 2" clear of nearest face of concrete unless otherwise shown.
 5. Normal use of precast barrier units is restricted to curvatures with radii greater than 770'.
 6. Use of narrow base shoulder barrier is approved only at locations with full height backfill or equivalent structural support placed behind barrier.
 7. When scuppers are not required plug them with a minimum 2" of grout.
 8. Concrete grout for grouting over pins, pinning holes or grouting of scuppers shall be a non-shrinking grout, weak in strength and of thick consistency.
 9. This precast concrete barrier is NCHRP 350 TL 3 approved.



REVISIONS		
Date	Description	By

Sheet 1 of 2

State of Alaska
Department of Transportation & Public Facilities

PRECAST CONCRETE "F" SHAPE BARRIER

APPROVED

49th

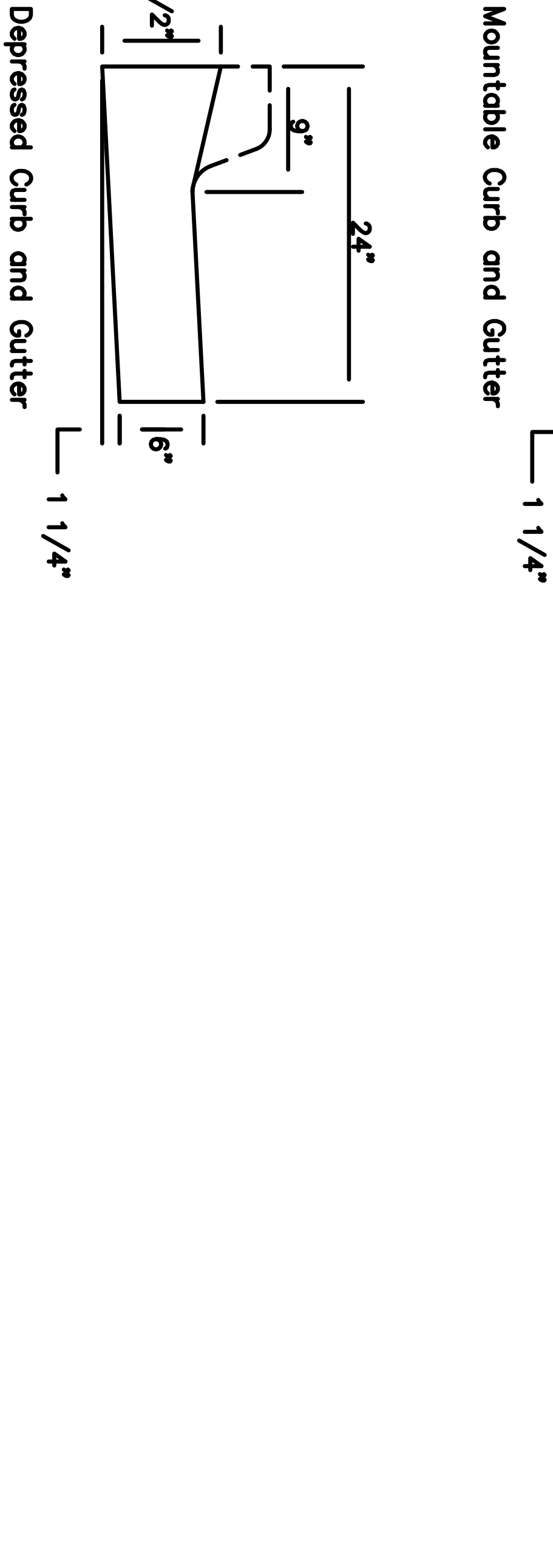
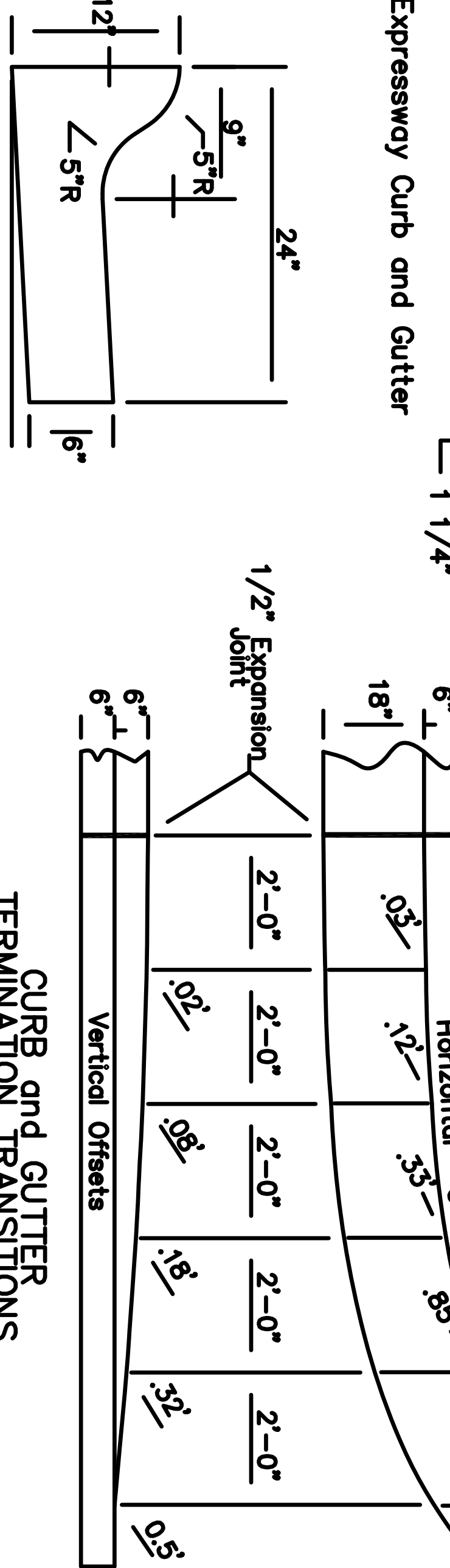
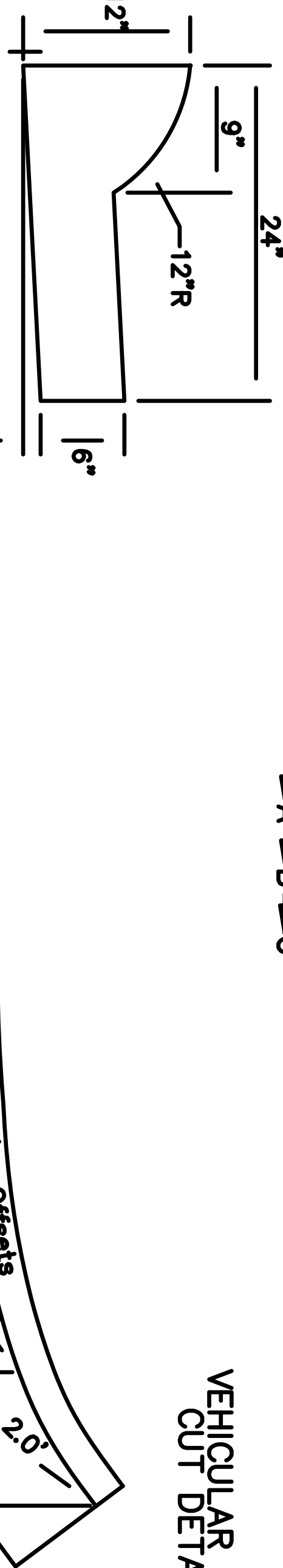
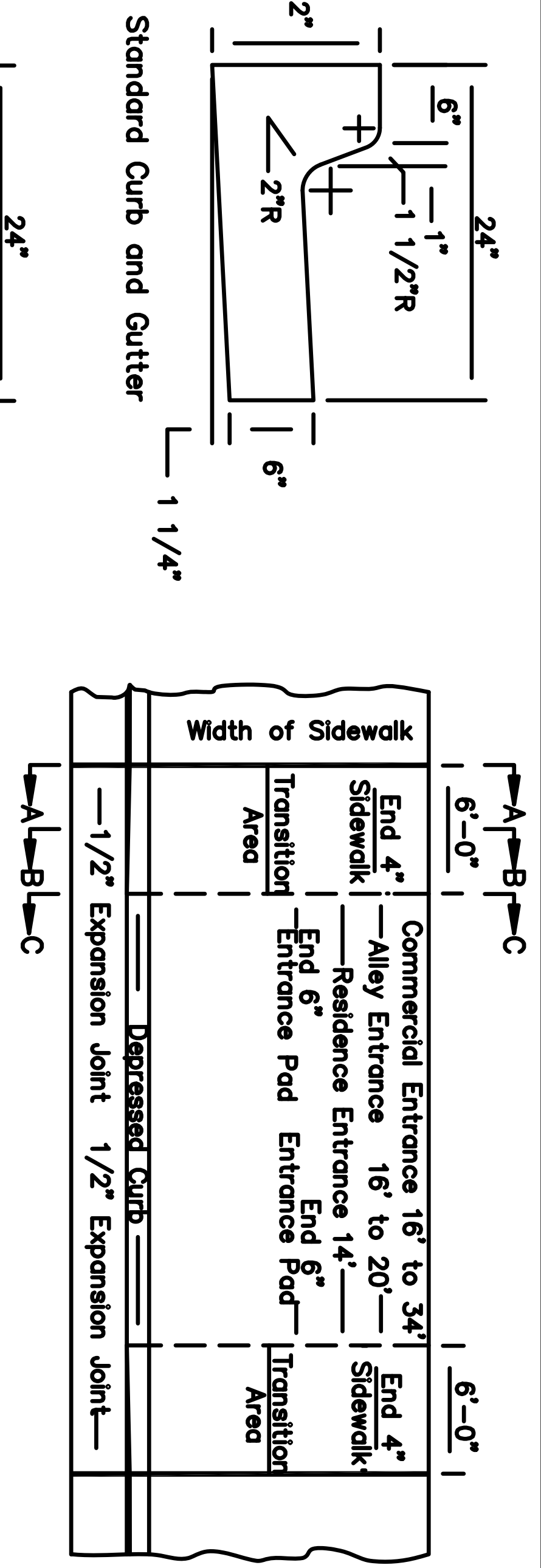
49th

Date 2/28/03

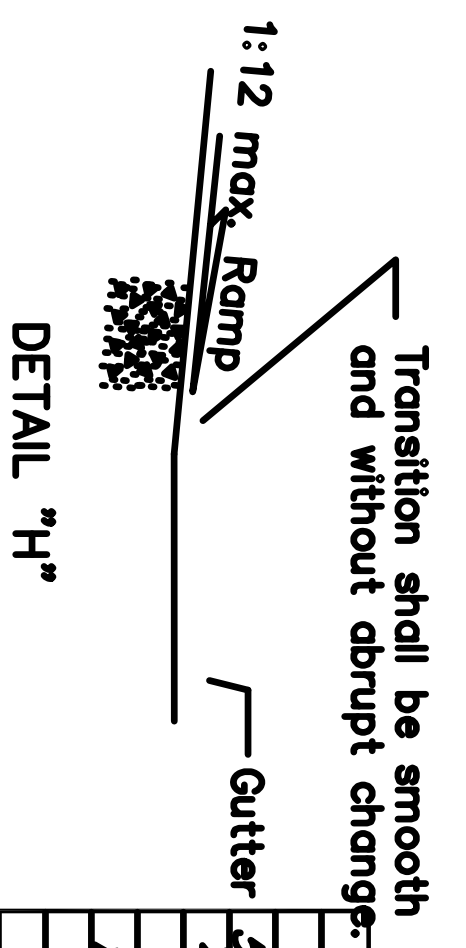
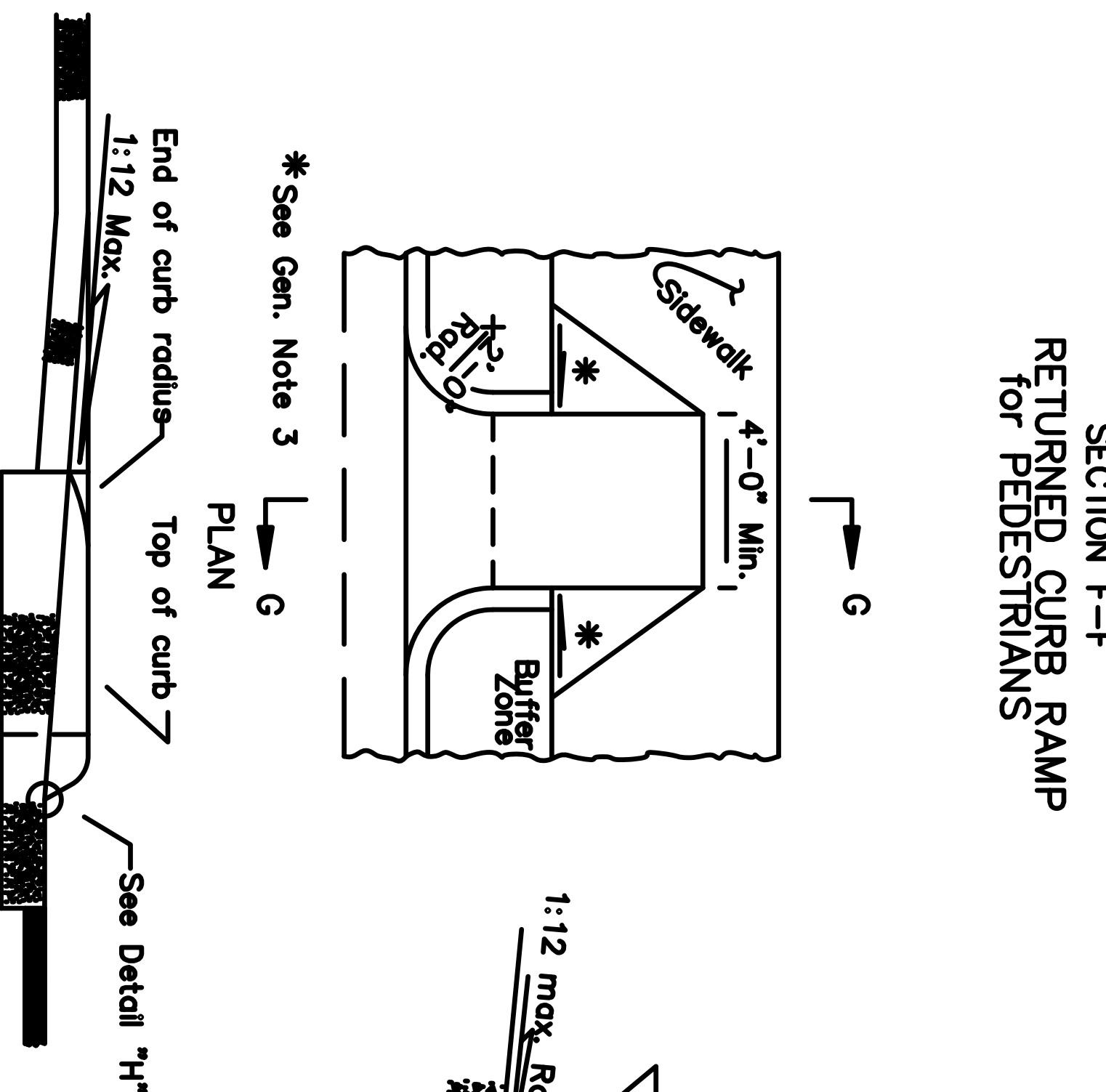
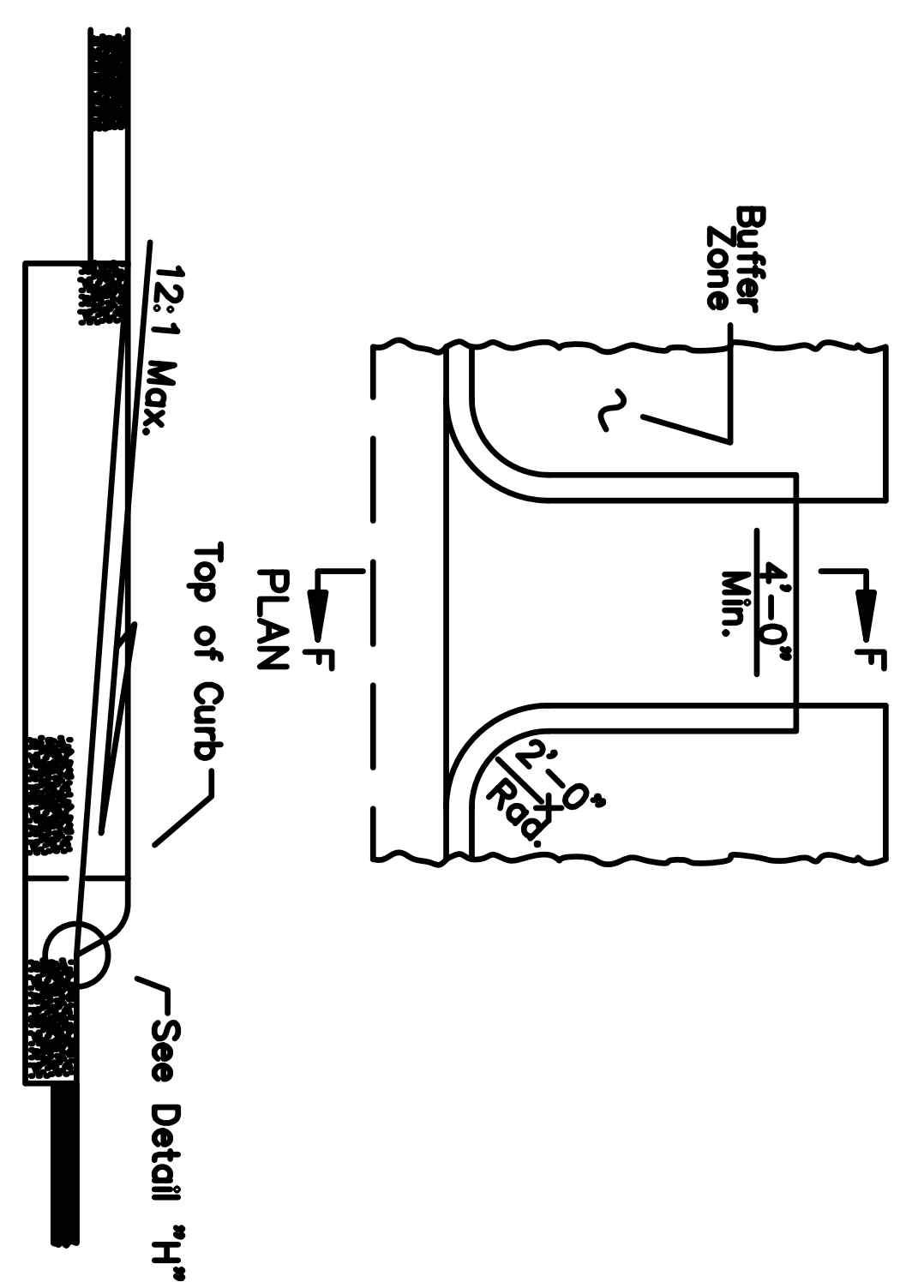
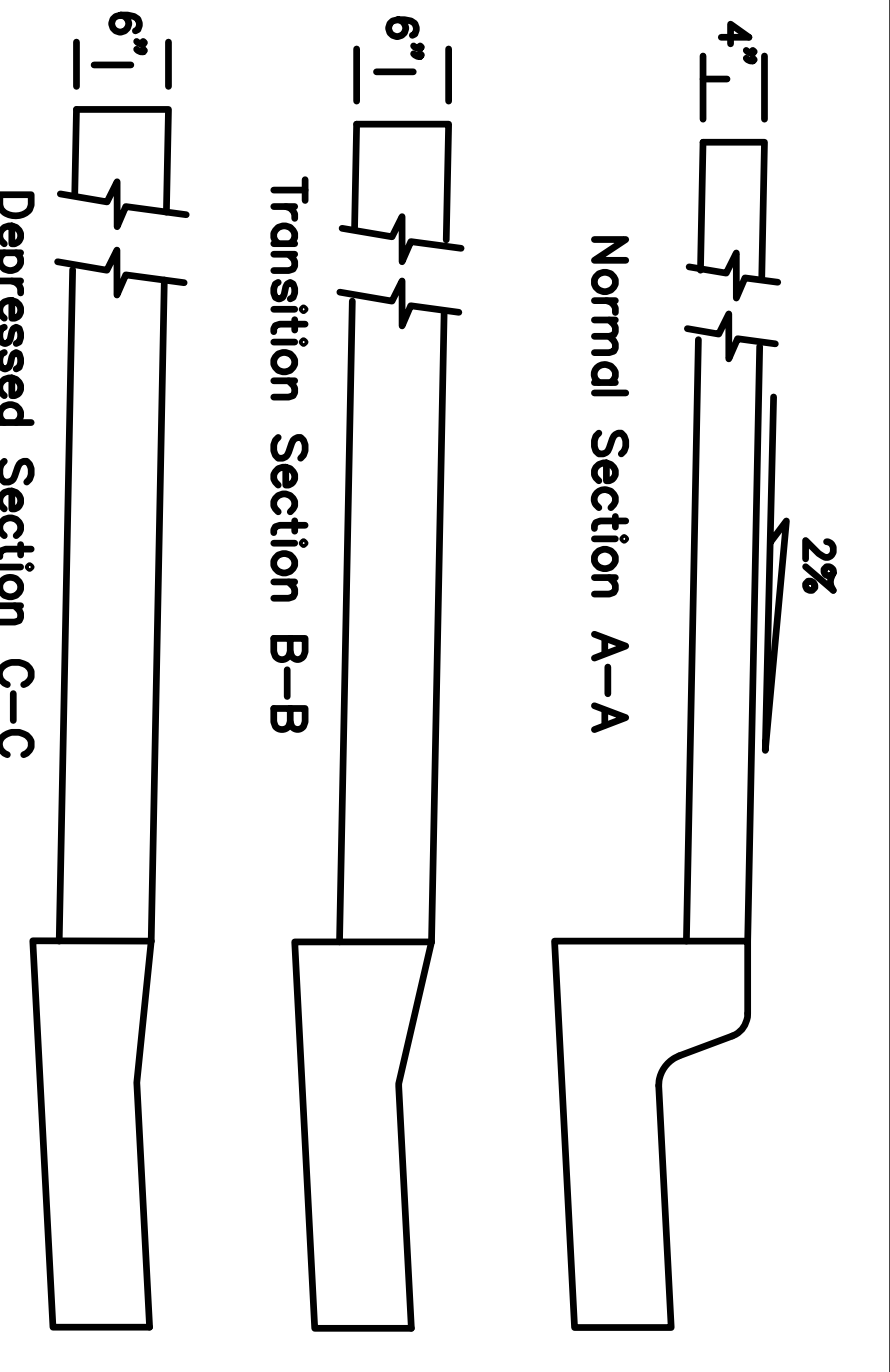
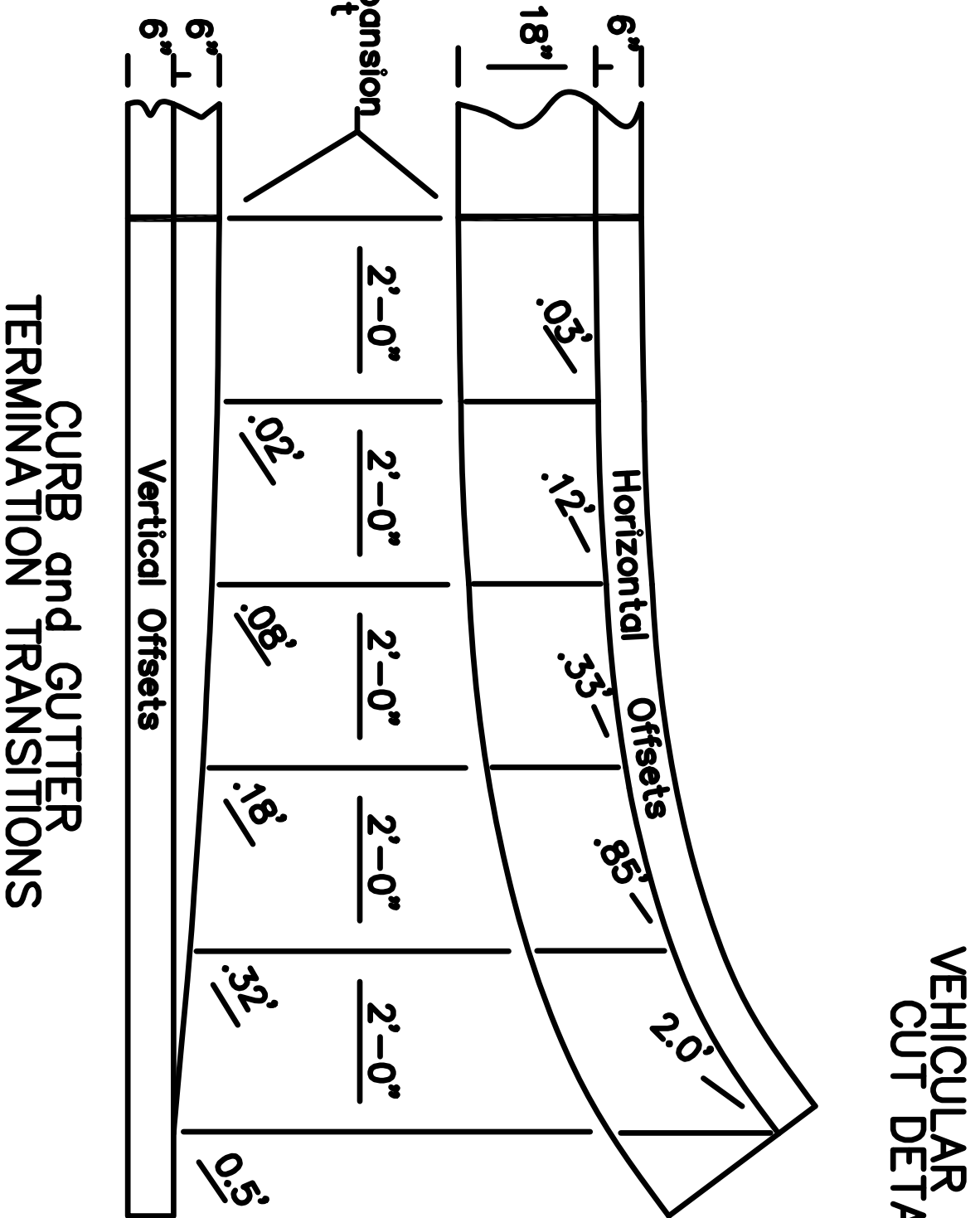
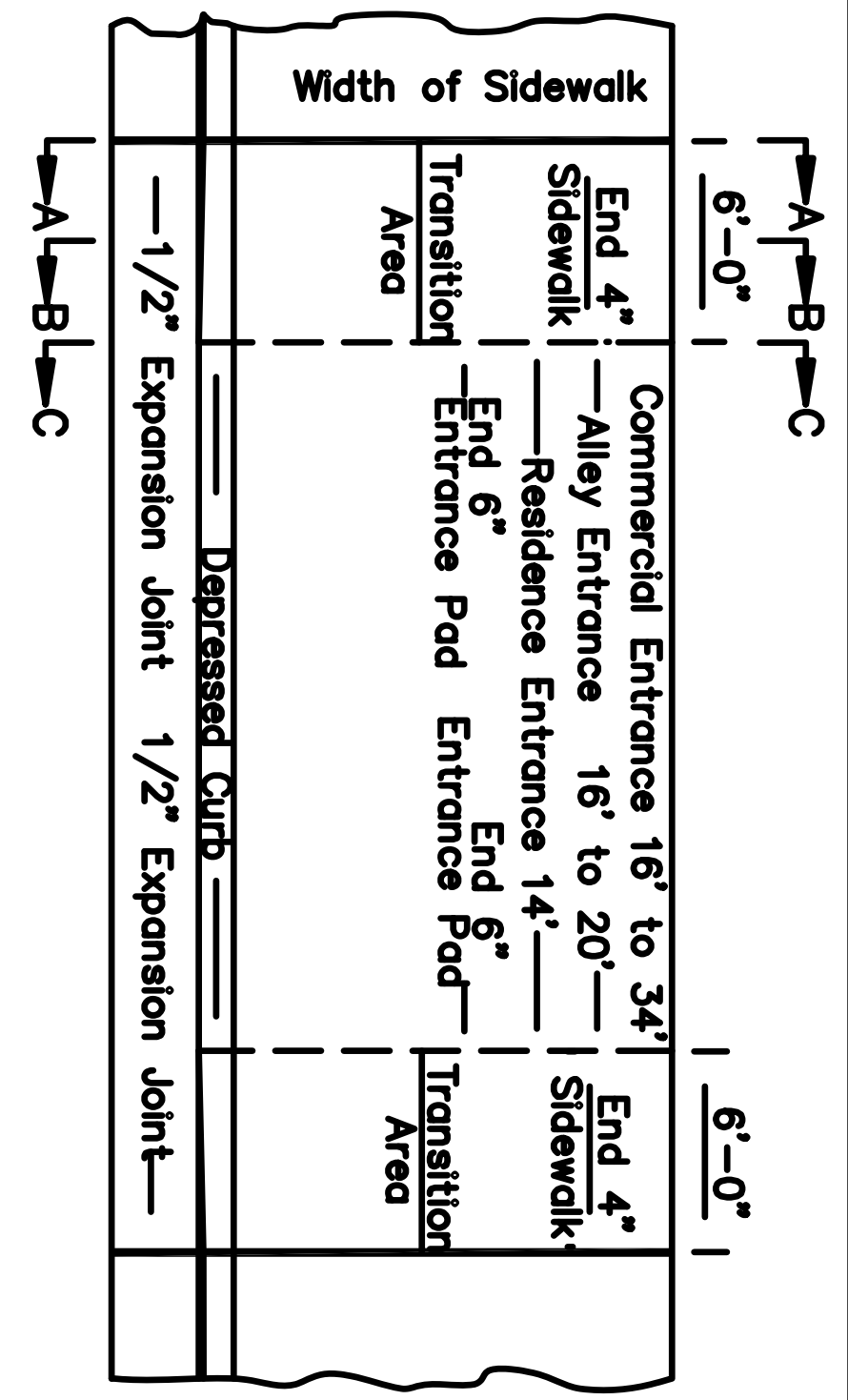
G-46.10

GENERAL NOTES:

1. Type of Curb and/or Gutter shall be specified on the plans.
2. Mountable or Expressway Curbs shall be used on medians and traffic islands.
3. Ramp transition shall maintain a grade that does not exceed a 12:1 slope.



CURB and GUTTER DETAILS



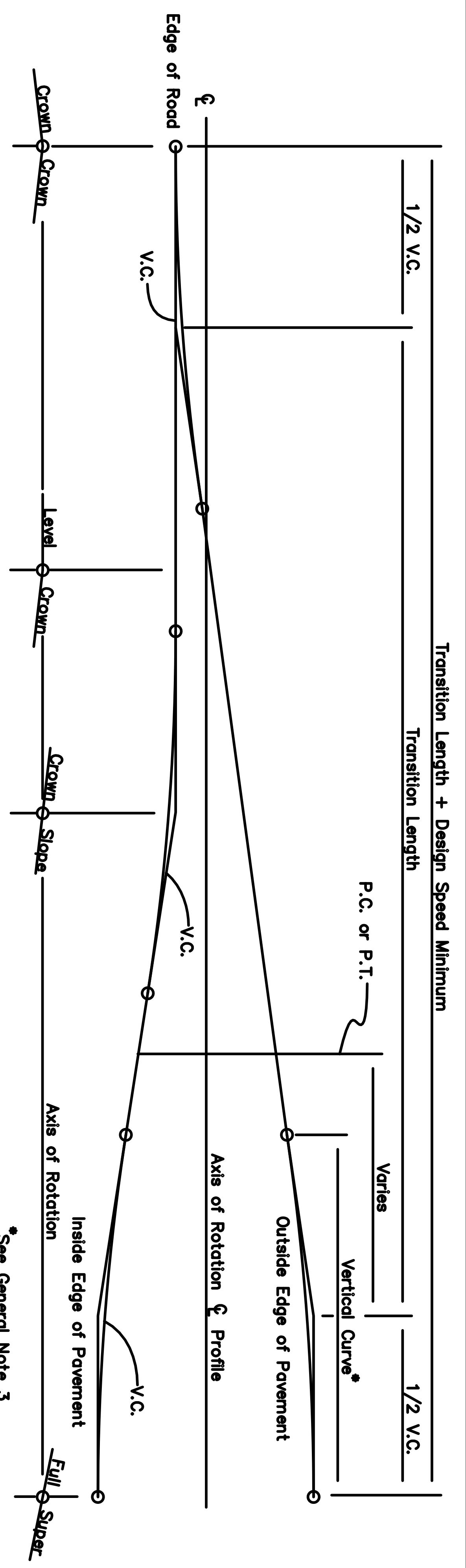
REVISIONS		
Date	Description	By
5/15/84	Added Curb Ramps	Gdo
4/1/83	Revised Detail "H"	Gdo
1/1/96	Gen. Note 3	Gdo
12/1/84	Del. Flared Ramp	KLS

State of Alaska
Department of Transportation
& Public Facilities
**CURB CUT
CURB & GUTTER
AND CURB RAMP DETAILS**

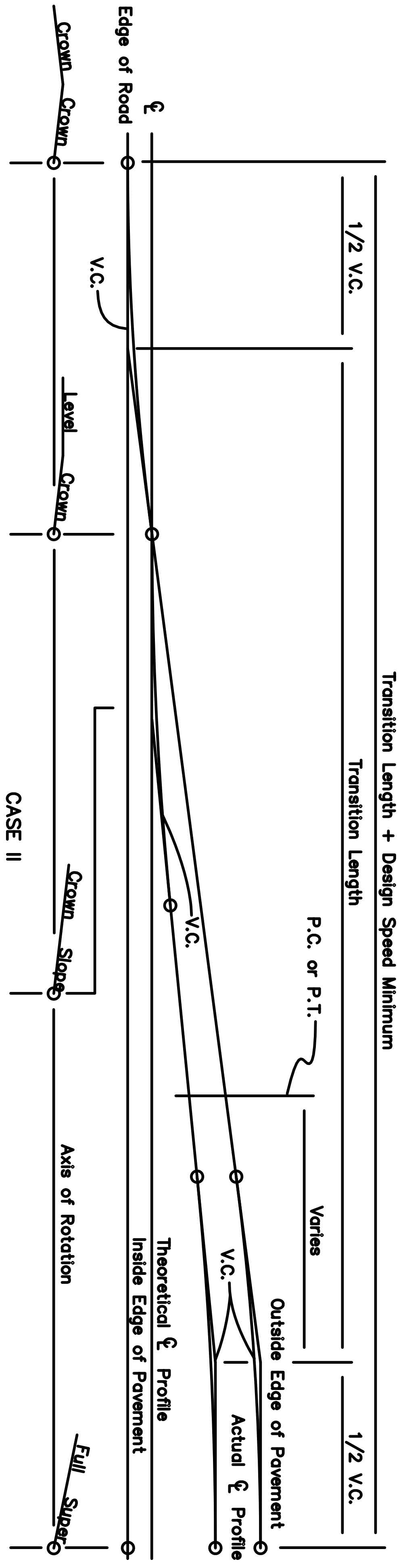
APR 1982
Date 7/15/82

GENERAL NOTES:

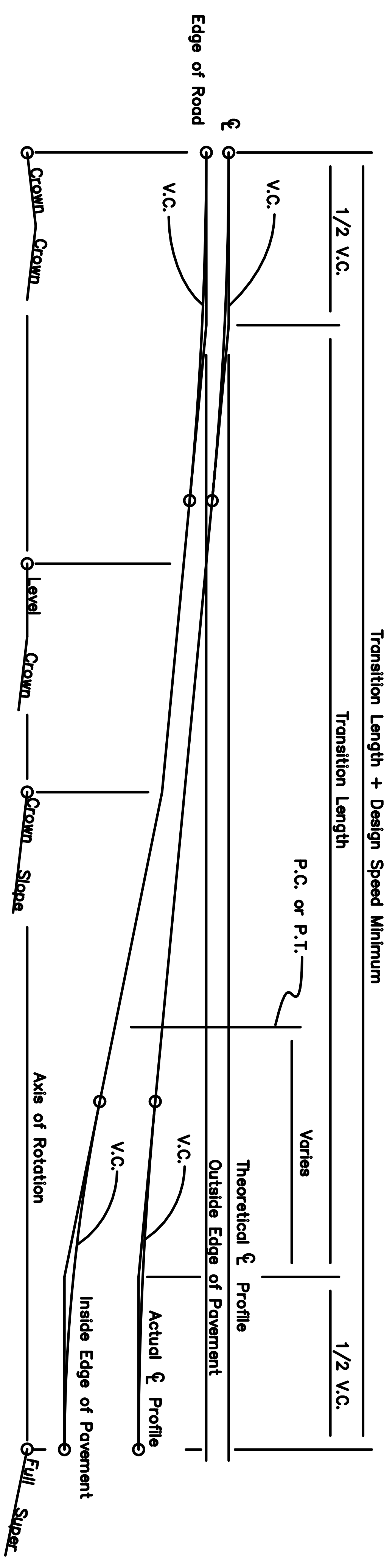
1. Location of transition length relative to horizontal curves will be shown on the plans or as directed by the Engineer.
2. Widening for guardrail or curvature will not change the location of the axis of rotation.
3. Minimum vertical curve length in feet shall be the numerical value of the design speed in M.P.H.
4. Superelevation shall be built into the subgrade and carried through the shoulders.



CASE I
PAVEMENT REVOLVED ABOUT CENTERLINE



CASE II
PAVEMENT REVOLVED ABOUT INSIDE EDGE
TO BE USED WHERE DRAINAGE IS THE GOVERNING CONSIDERATION



CASE III
PAVEMENT REVOLVED ABOUT OUTSIDE EDGE TO BE
USED WHERE OVERALL APPEARANCE IS THE MAIN CONTROL

REVISIONS	
Date	By

State of Alaska
Department of Transportation
& Public Facilities
**SUPERELEVATION
TRANSITION**

A P R O V E D
Date 12/1/87

GENERAL NOTES

1. See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
2. Fabricate all signs from 0.125" thick aluminum sheeting.
3. Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer certifies their design equals or exceeds the strength of the zee shaped design.
4. Install one piece wind framing members on all signs up to 23.5' wide. Use one splice in each wind frame on all signs wider than 23.5'. Locate splices at least 18" from all posts and panel edges. Stagger splices in adjacent framing members at least 8.0' apart.
5. Attach wind framing members with rivets or with an engineer approved, double sided, high strength, adhesive tape. Clean and handle sheeting and framing members and apply tape in accordance with the tape manufacturer's written instructions. Install two rivets in both ends of each framing member.
6. Use 3/16" diameter rivets conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-143 for hot driven rivets.
7. Sign fabricators may use sign panels extruded with integral framing with approval of the engineer, if the manufacturer certifies their design equals or exceeds the strength of the 0.125" thick panel with framing attached to it.
8. Frame all signs taller than 8.0' with five wind framing members located (H-0.15)/4 spaces. If needed, make a horizontal splice at the middle wind frame.

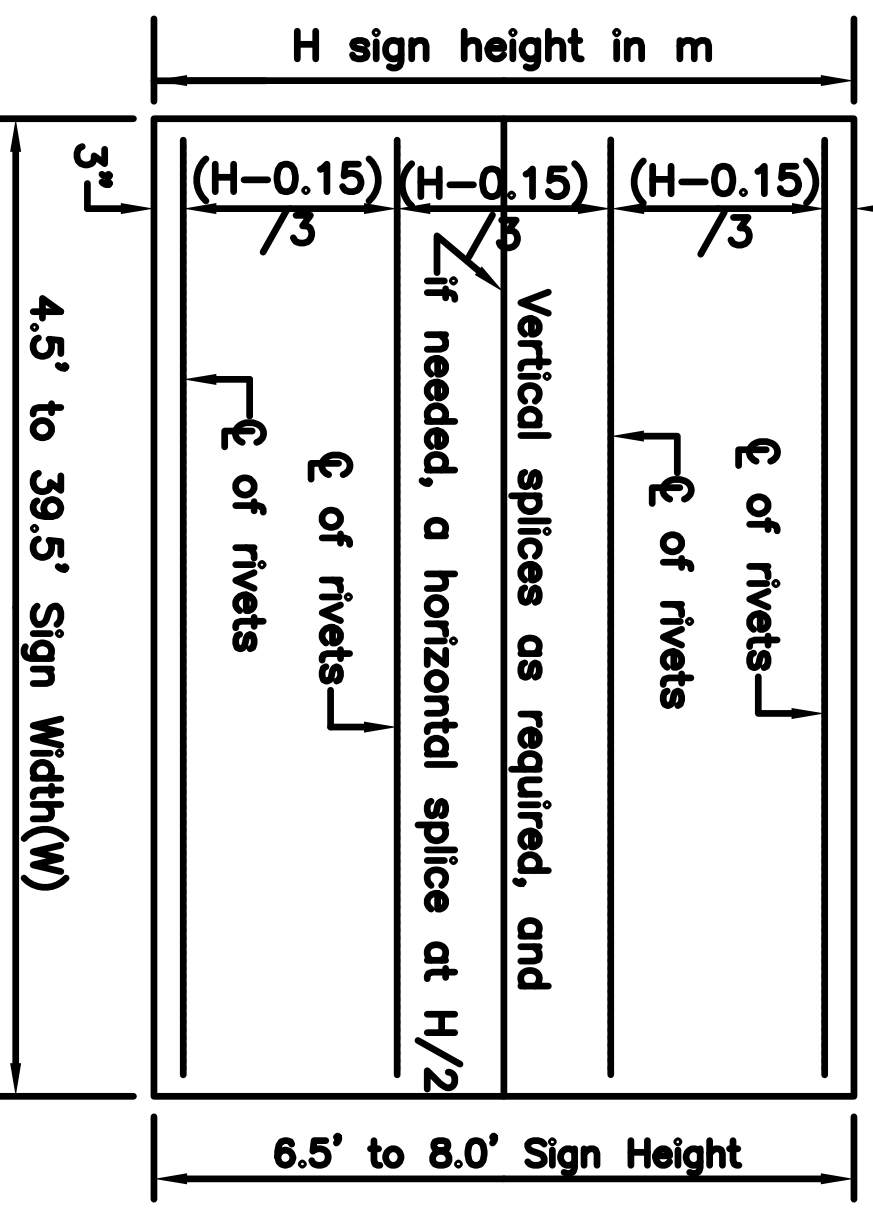
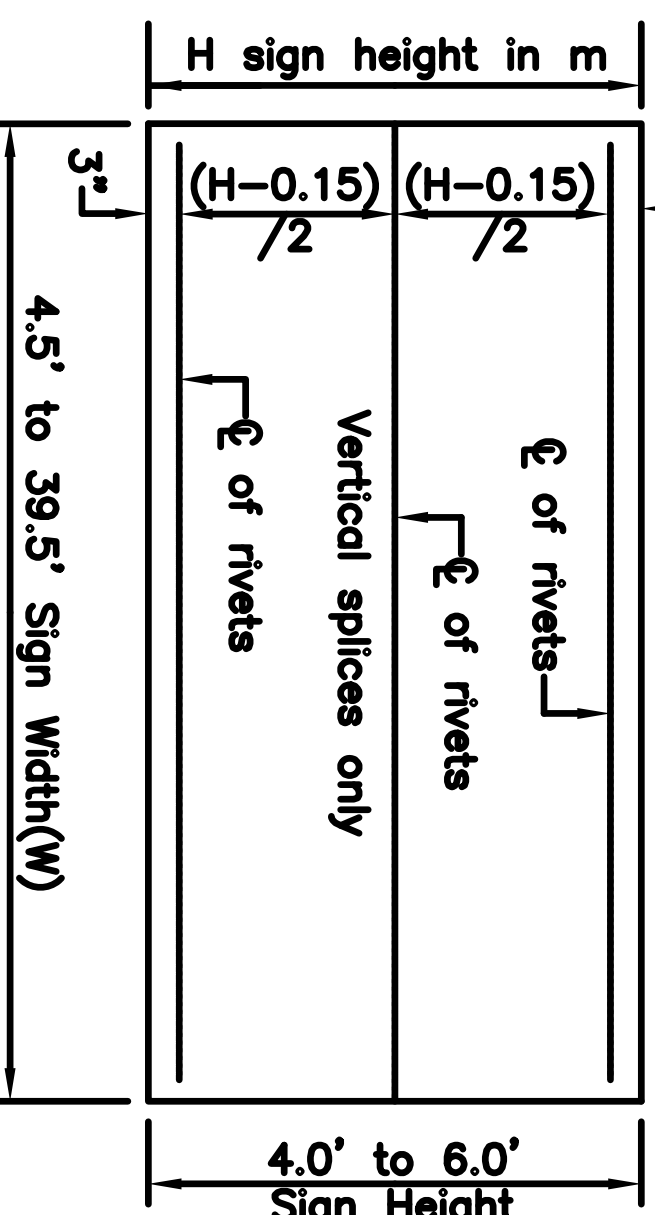
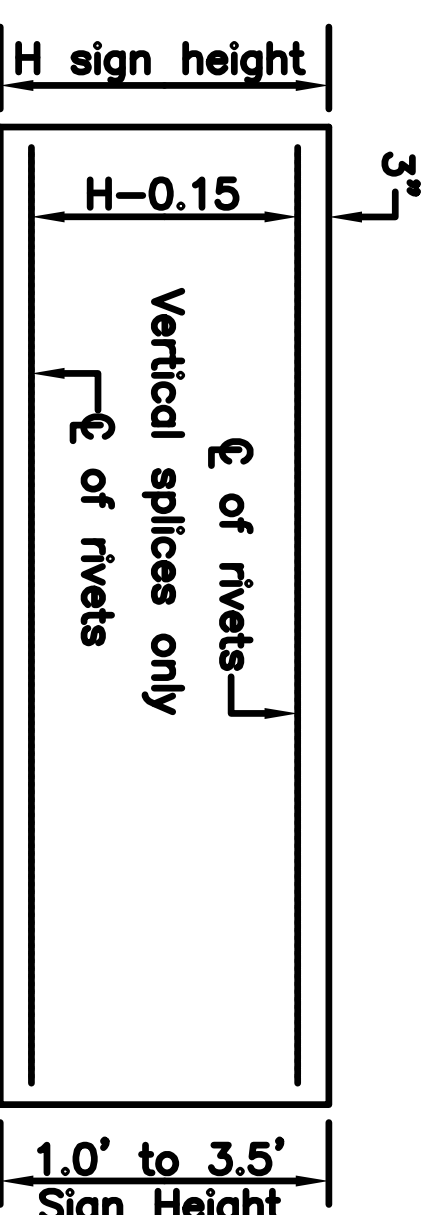
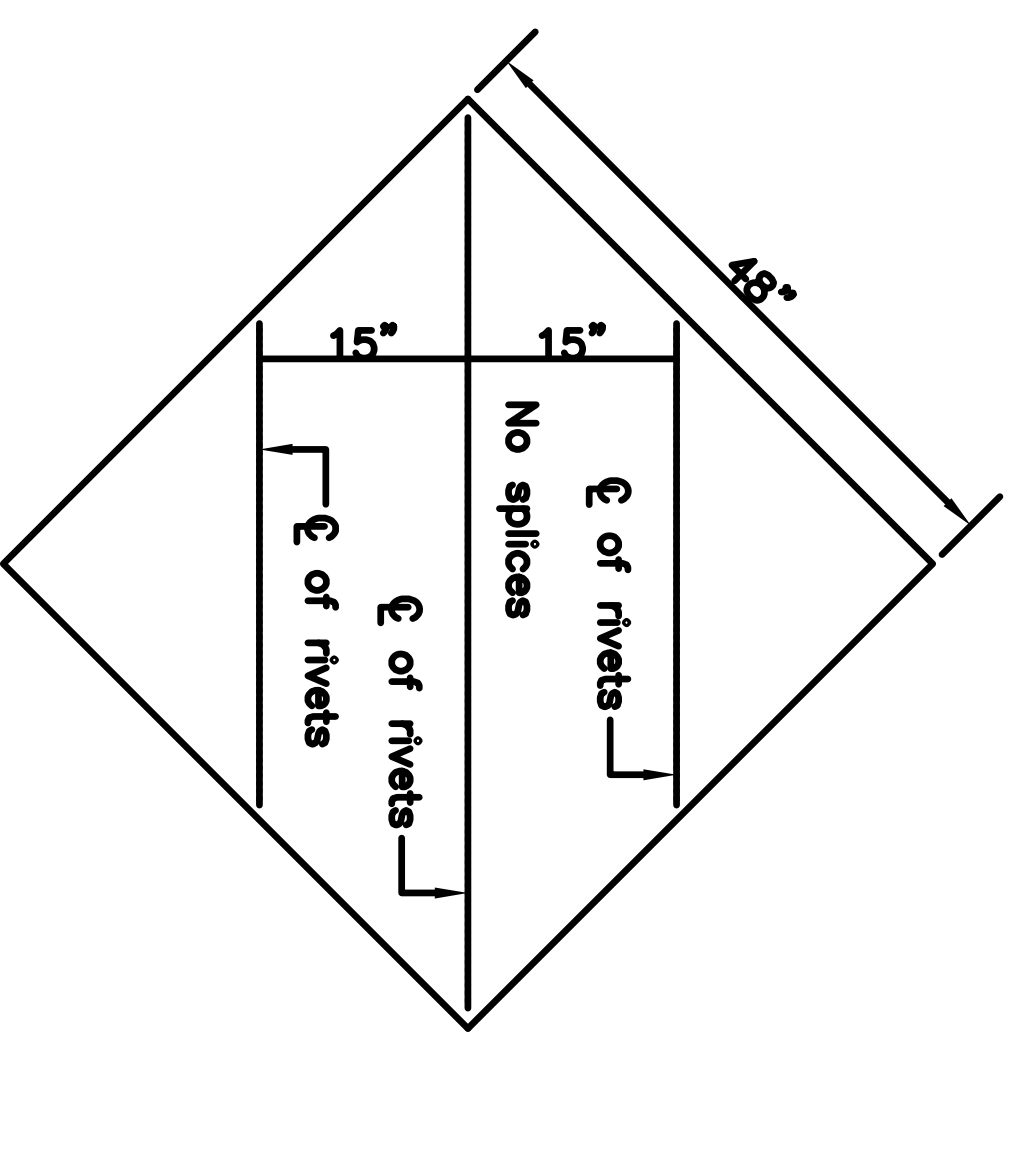
Pipe and Tube Sign Post Spacing		
Sign Width (W)	No. of Distance Posts Between Posts	Sign
4.5 ft. to 10.0 ft.	2	0.6W
10.5 ft. to 11.0 ft.	2	6.0 feet
		Varies

W Shape Sign Post Spacing		
Sign Width (W)	No. of Distance Posts Between Posts	Sign
11.5 ft to 13.0 ft	2	8.0 feet
13.5 ft to 20.0 ft	2	0.6W
20.5 ft to 22.5 ft	3	8.0 feet
23.0 ft to 29.5 ft	3	0.35W
30.0 ft to 31.5 ft	4	8.0 feet
32.0 ft to 40.0 ft	4	0.25W
		0.125W

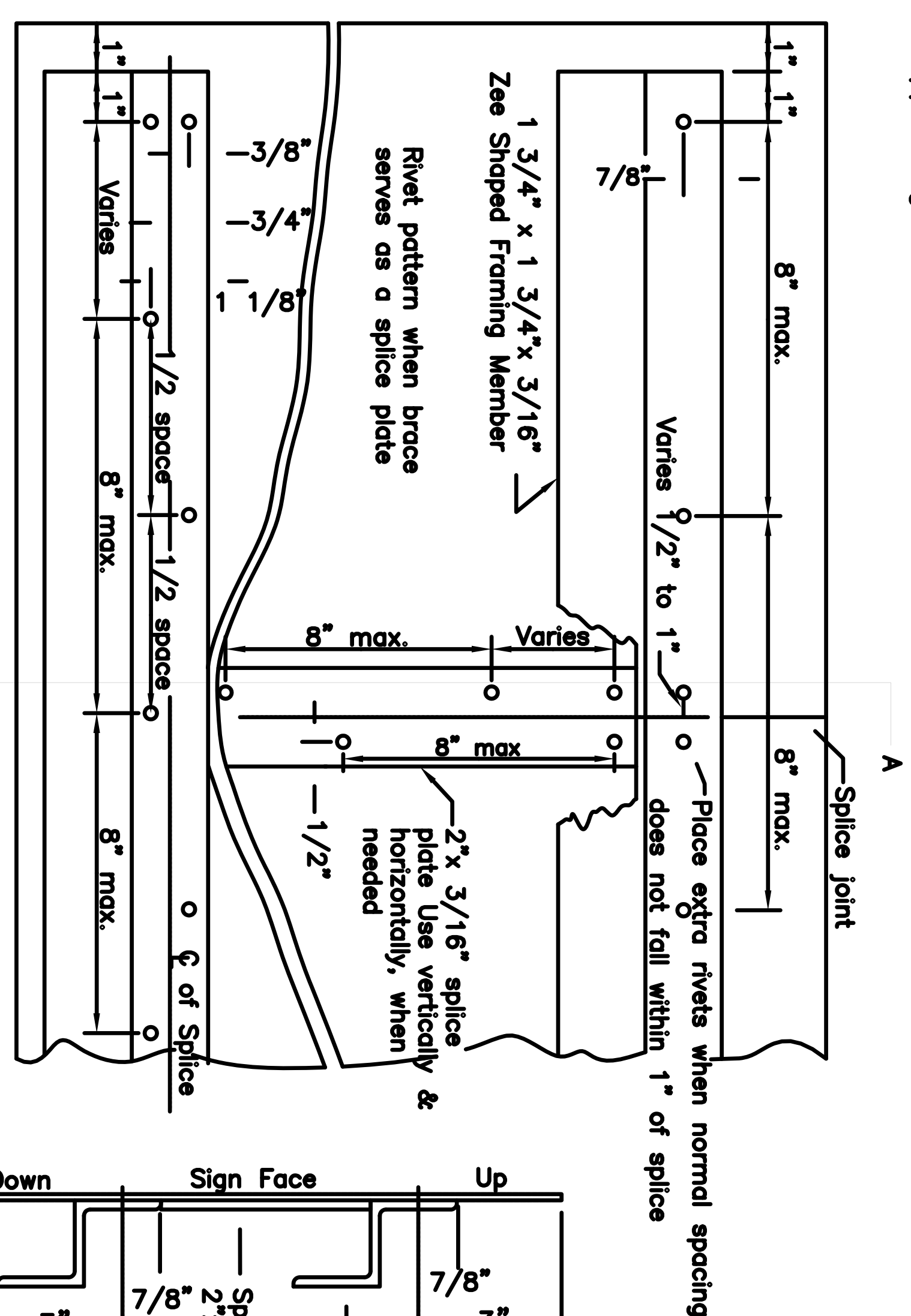
SIGN POST SPACING

SIGN POST SELECTION AND SPACING NOTES

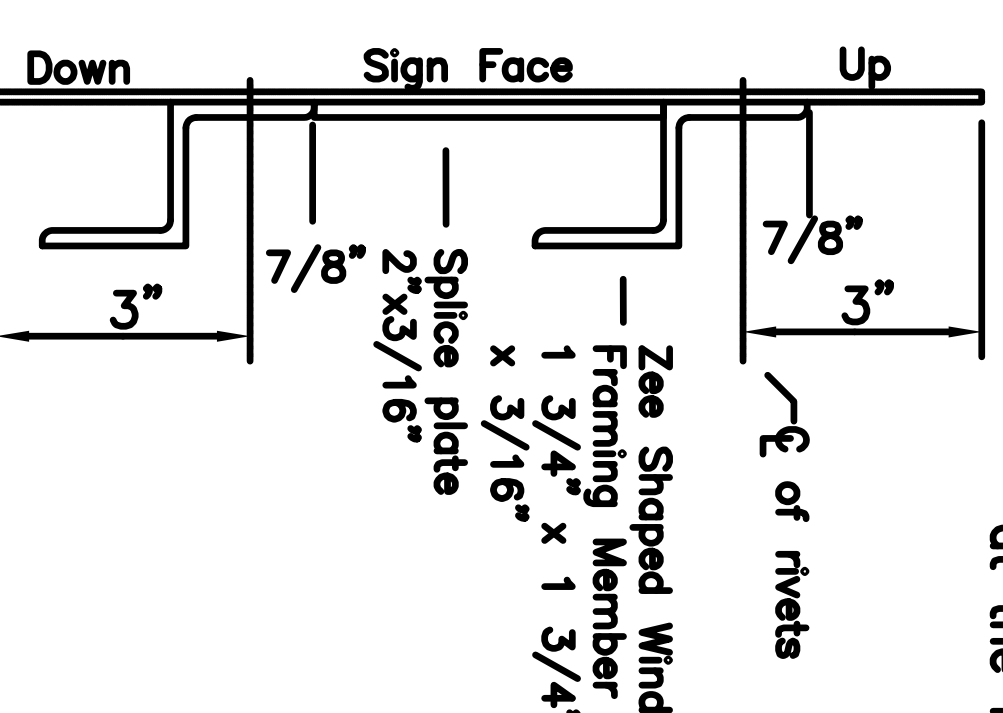
1. Use one tube (solid or perforated) to support all signs that measure 48" or less in width or diameter, diamond shaped signs that measure 48" or less on a side, Class T roadway route marker assemblies, and E5-1 gore signs. Do not use pipe posts for single post signs.
2. Install combination stop and street name signs on a 2-1/2" perforated tube.
3. Use two pipes spaced according to the Pipe and Tube Sign Post Spacing table to support signs too large for one post and not more than 11.0' in width. Tubes may be substituted for pipes provided the tube size equals the nominal pipe size.
4. Do not use perforated tubing larger than 2" for two post installations.
5. Use the number of W shape posts specified in the W Shape Sign Post table to support signs more than 11.0' in width.



WIND FRAMING LOCATIONS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

State of Alaska
Department of Transportation
& Public Facilities
**SIGN FRAMING AND
POST SPACING**

REVISIONS		
Date	Description	By

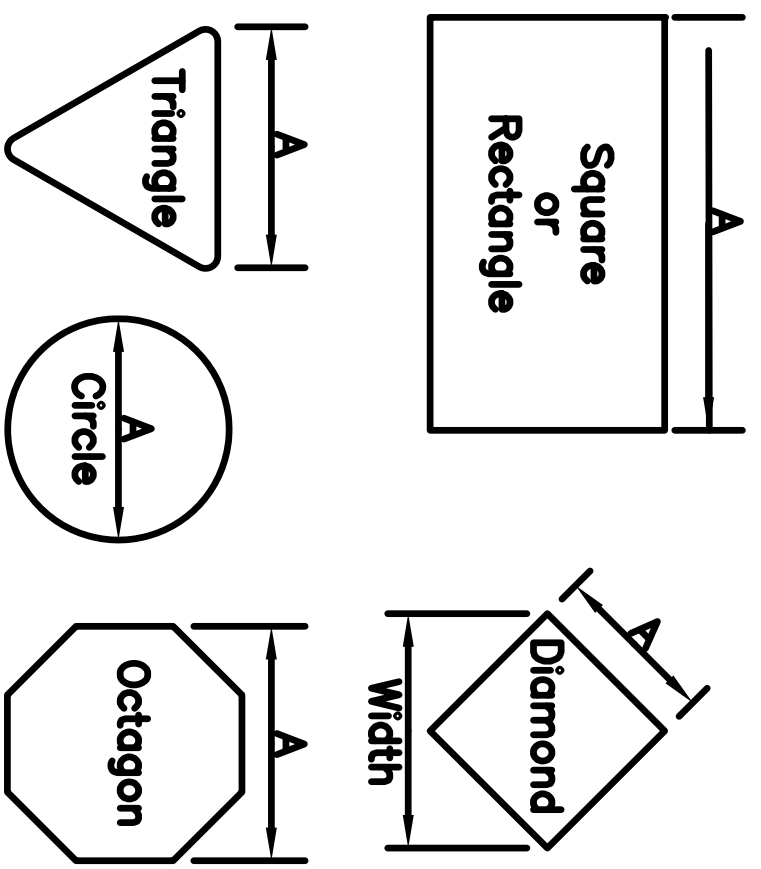
Sheet 1 of 1

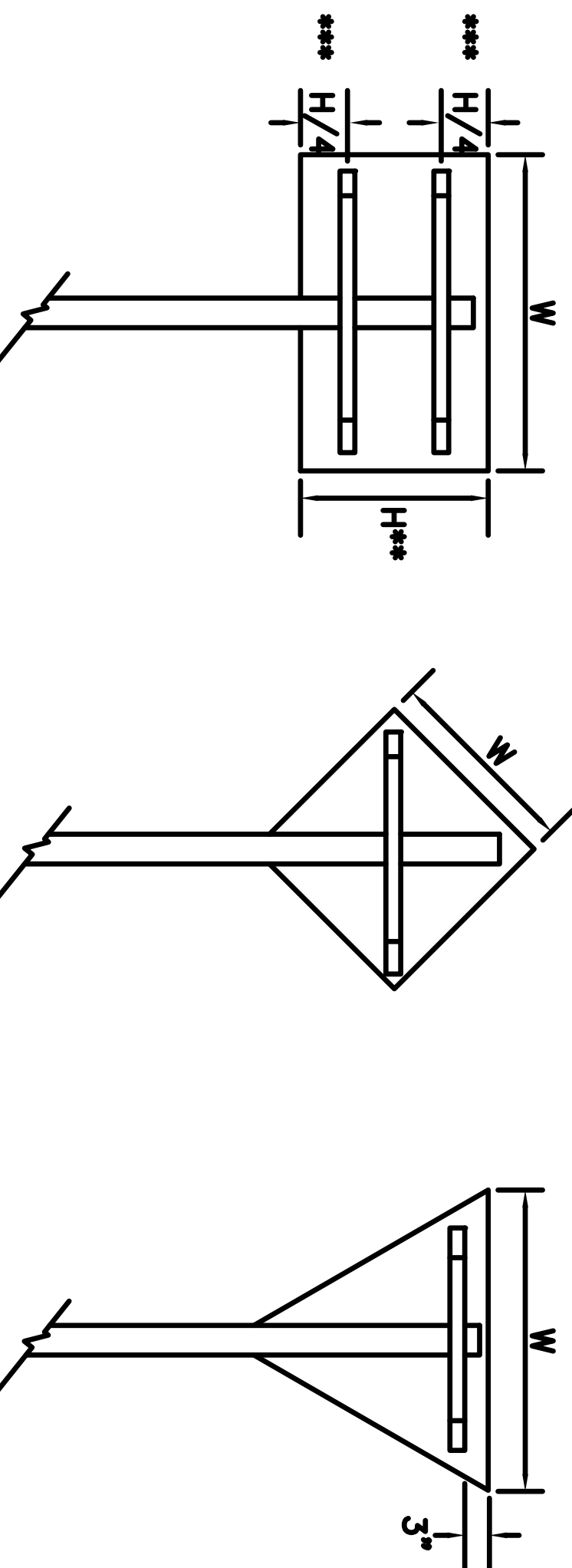
Date 2/28/03

Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

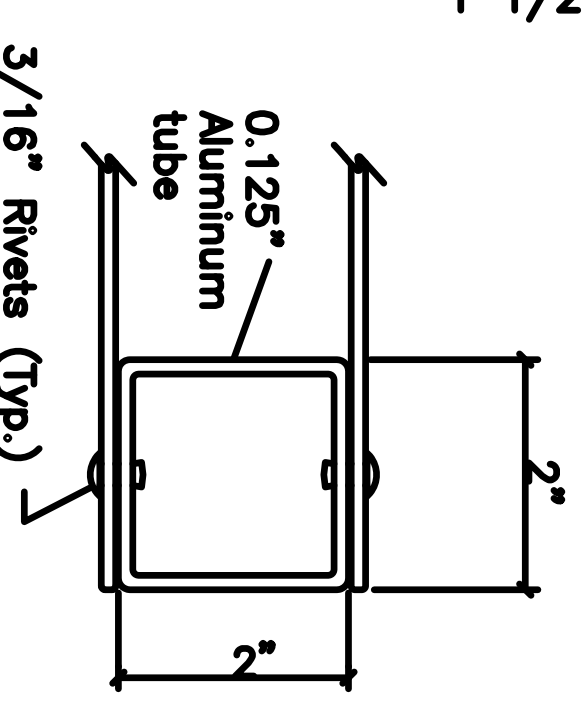
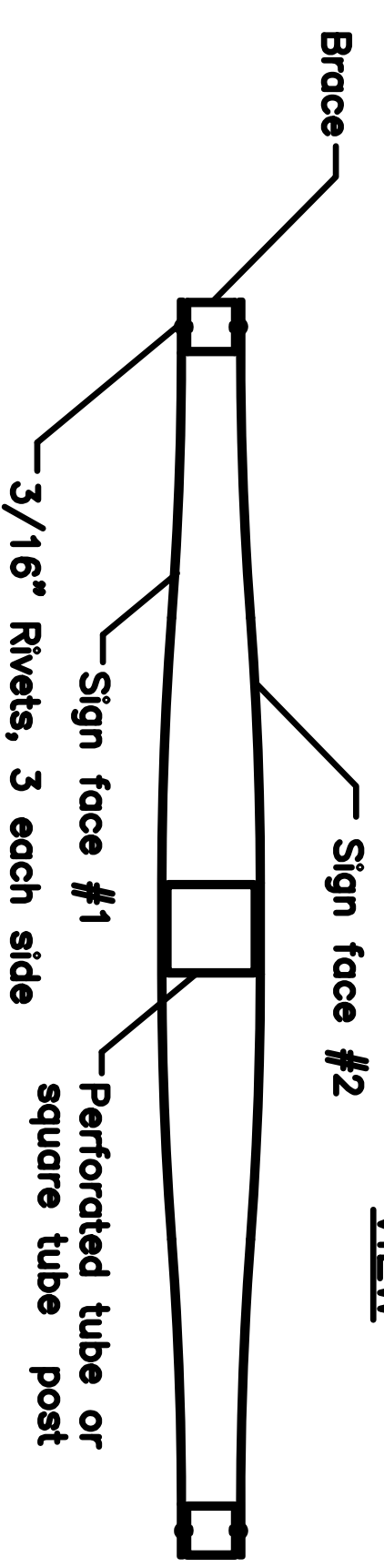
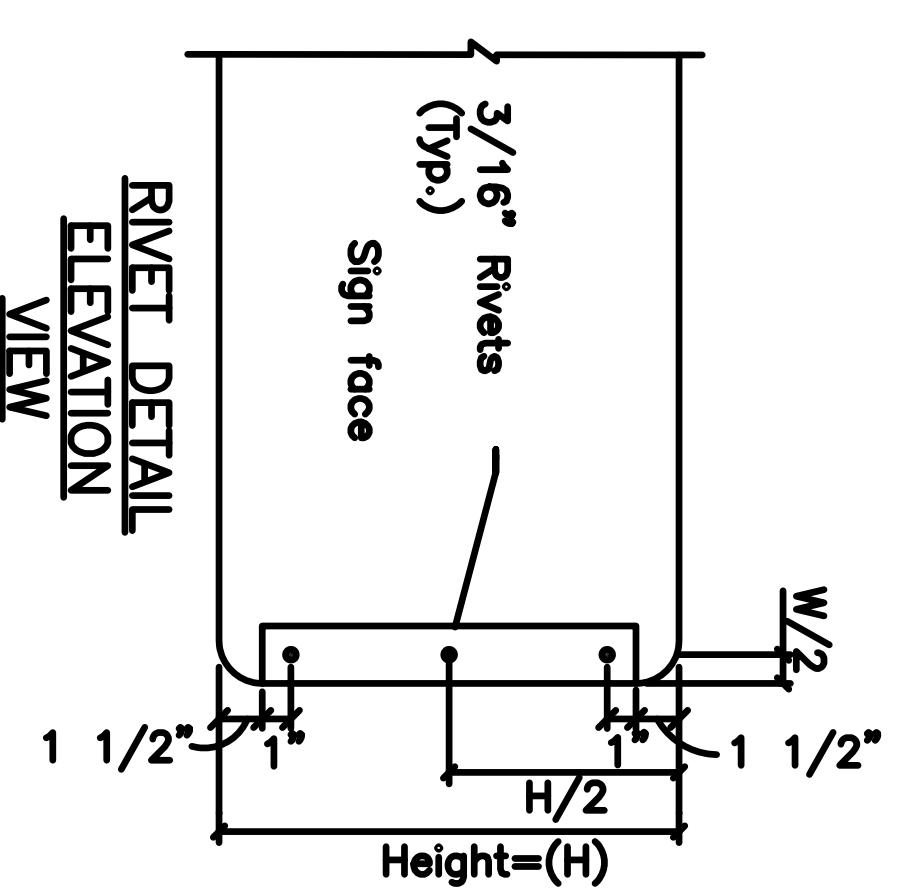
Maximum size unframed signs using 0.125" thick aluminum sheeting.

LIGHT SIGNS

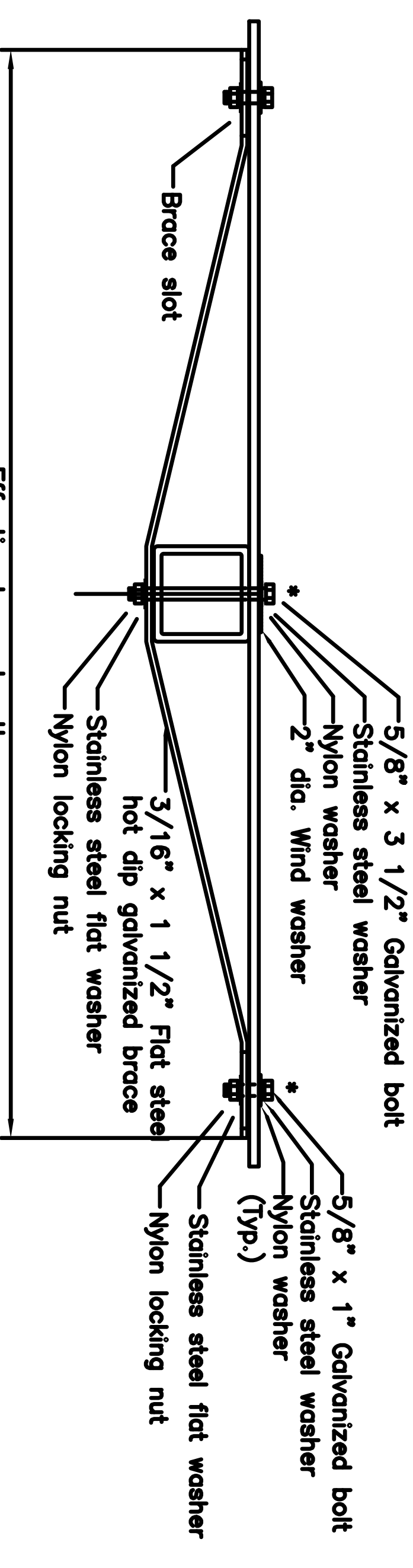
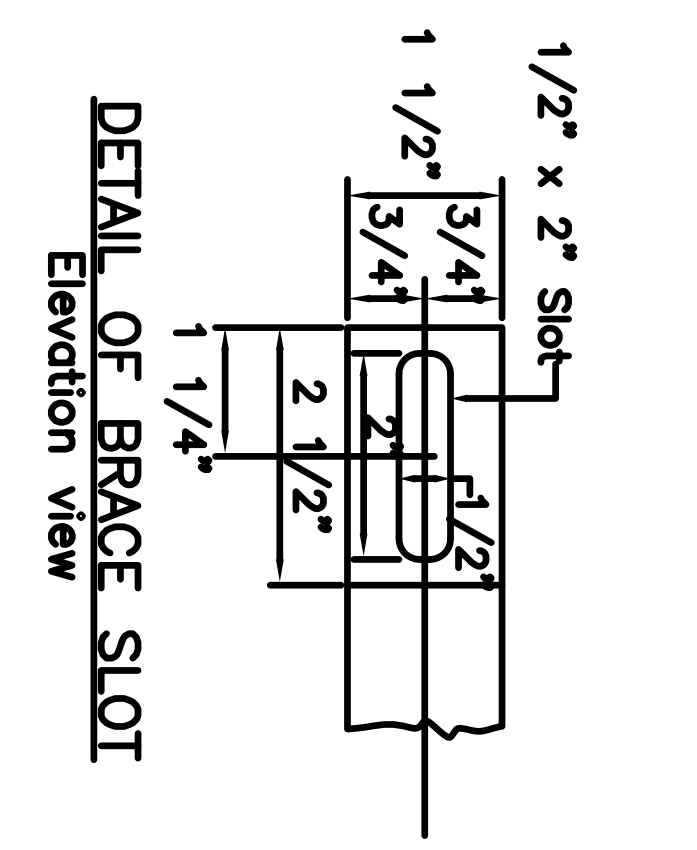




SIGN BRACING PLACEMENT



SMALL STREET NAME SIGN (D3-1, D3-1A, D3-1D) BRACING DETAILS



SIGN WIDTH(W)	EFFECTIVE BRACE LENGTH	WARNING	YIELD	OTHER
30"	36"	24"	24"	24"
36"	42"	30"	30"	30"
42"	48"	-	36"	36"
48"	TWO POSTS	36"	42"	42"

< 30" No bracing required and use square tube

REVISIONS		
Date	Description	By

Sheet 1 of 1
 State of Alaska
 Department of Transportation
 & Public Facilities
BRACING FOR SIGNS MOUNTED ON SINGLE POST

GENERAL NOTES:

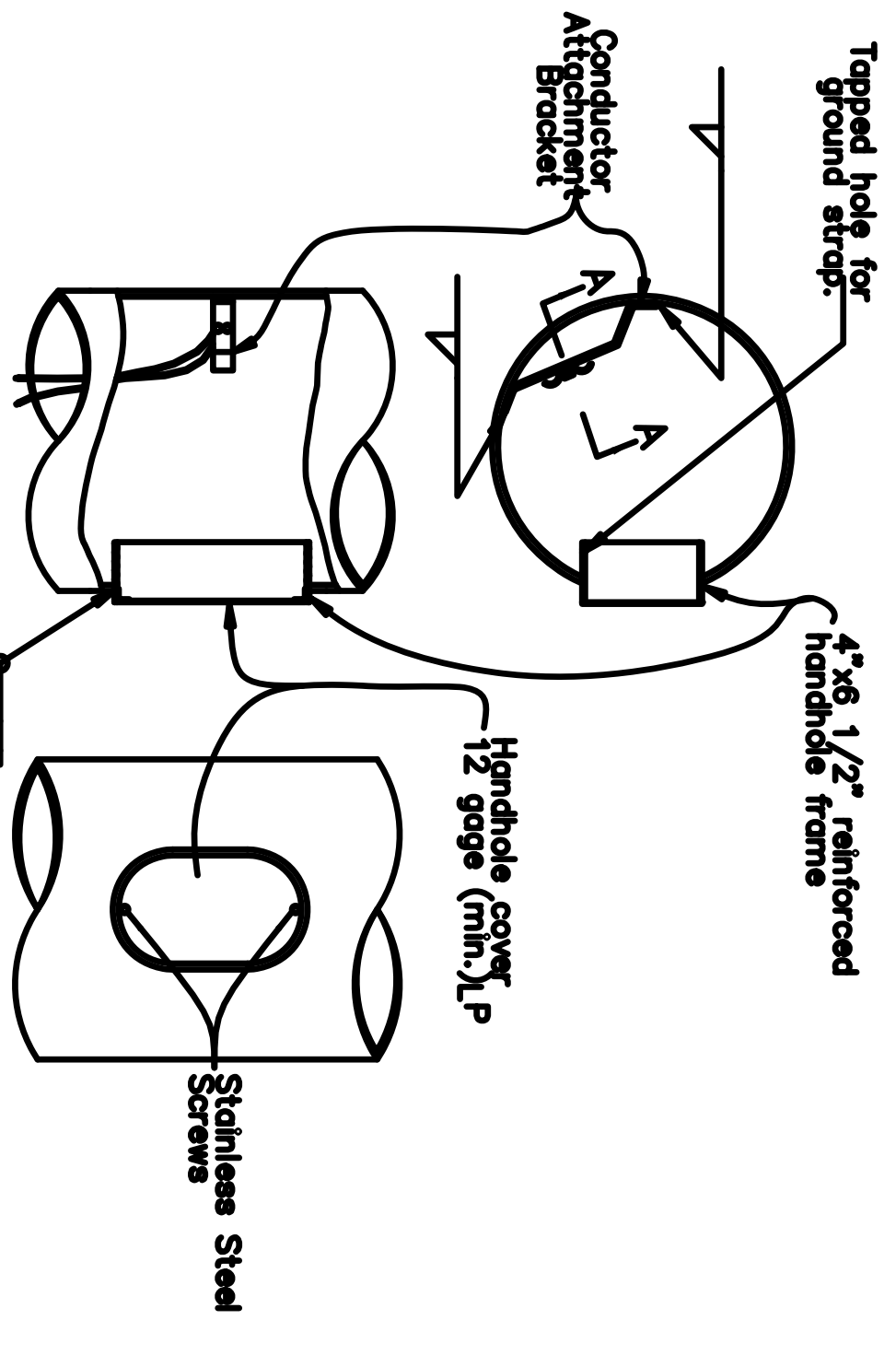
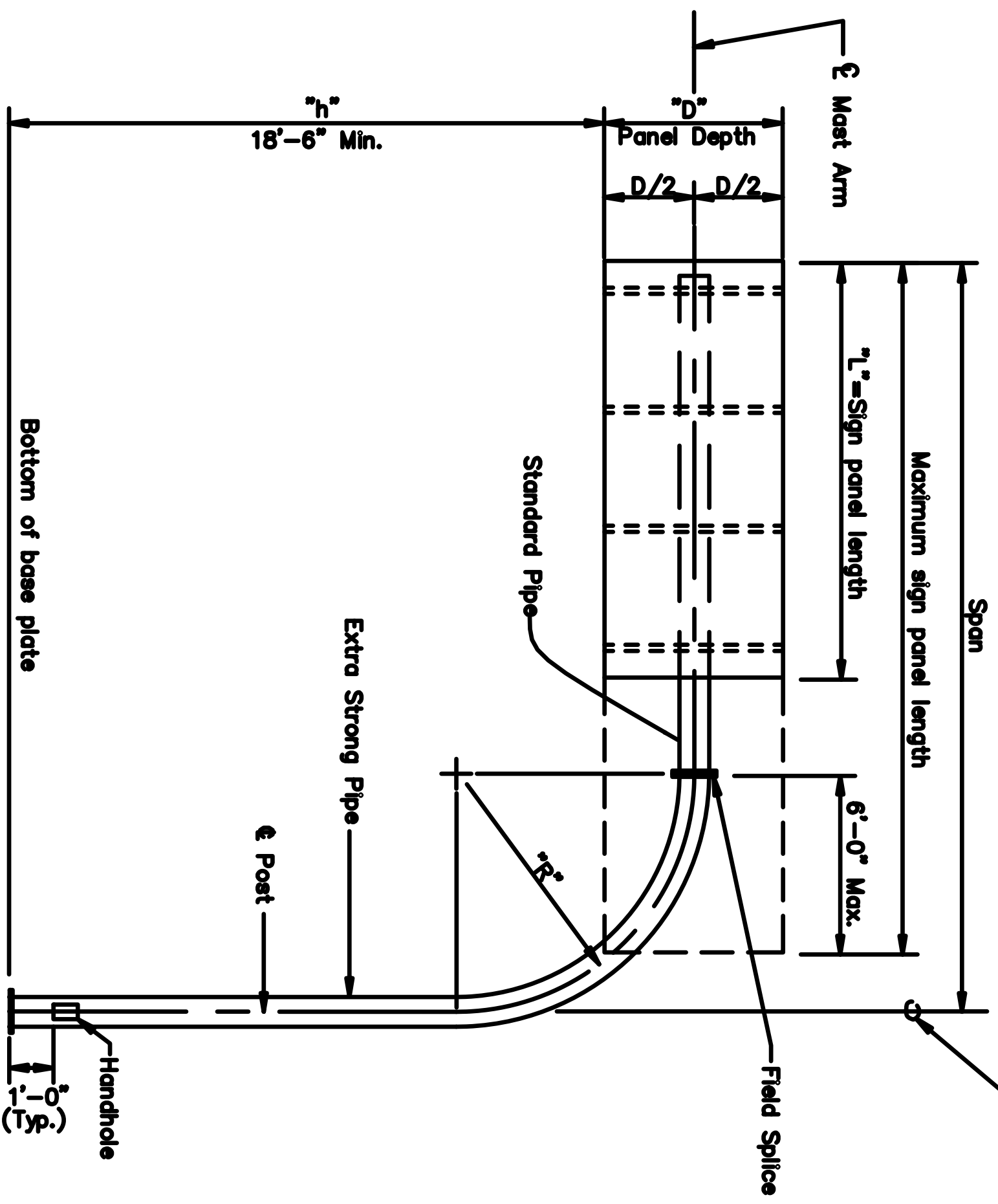
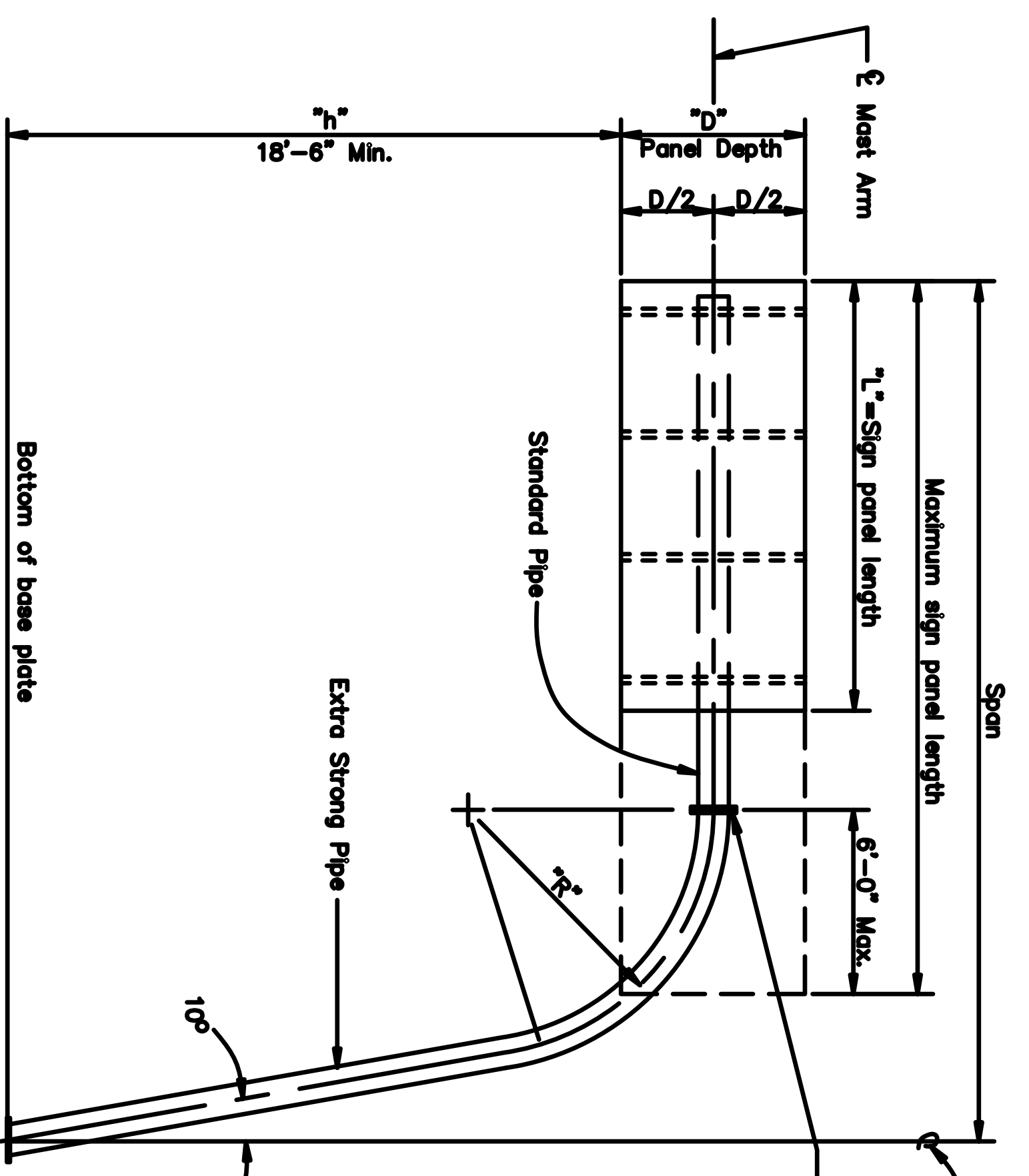
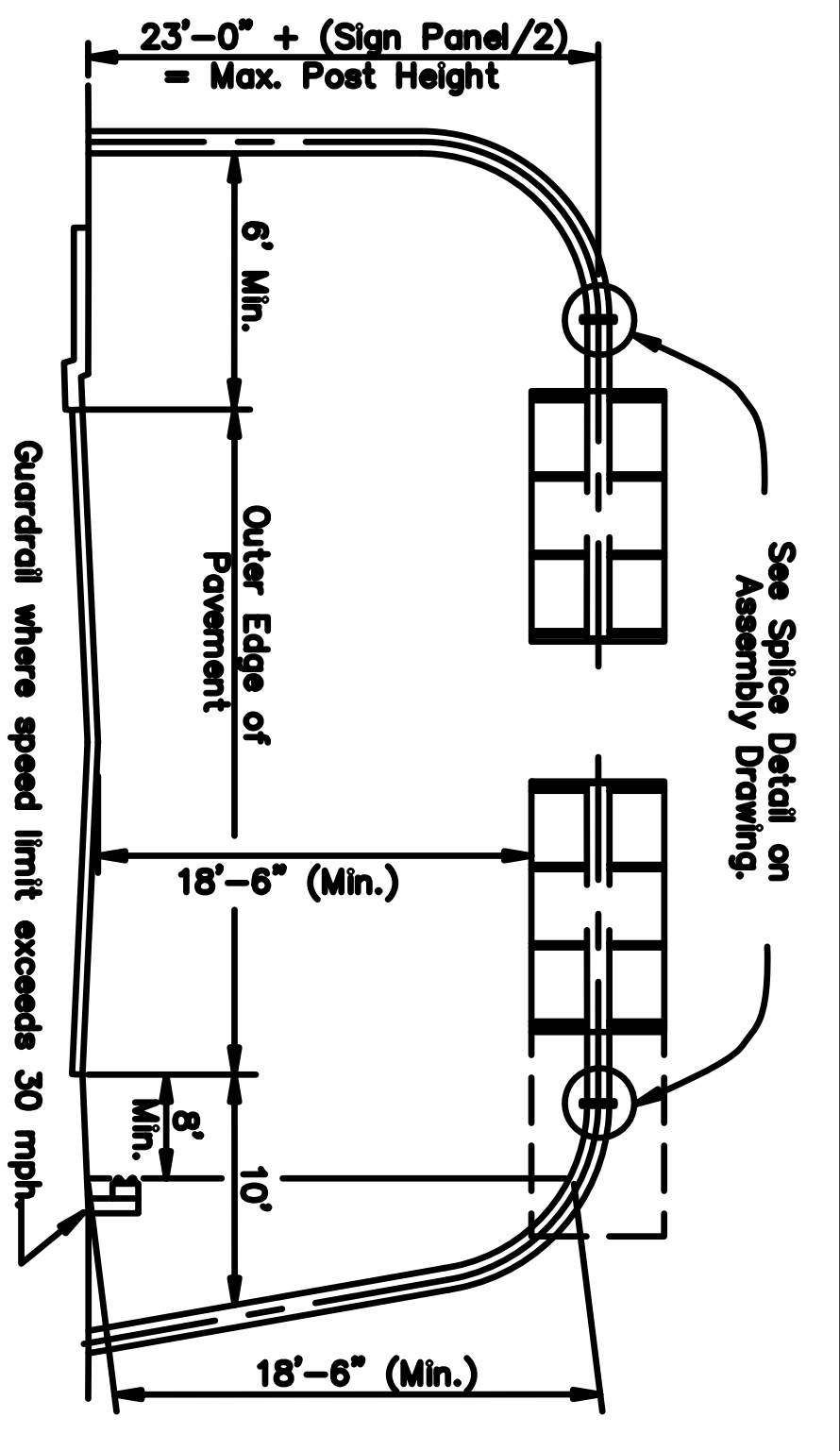
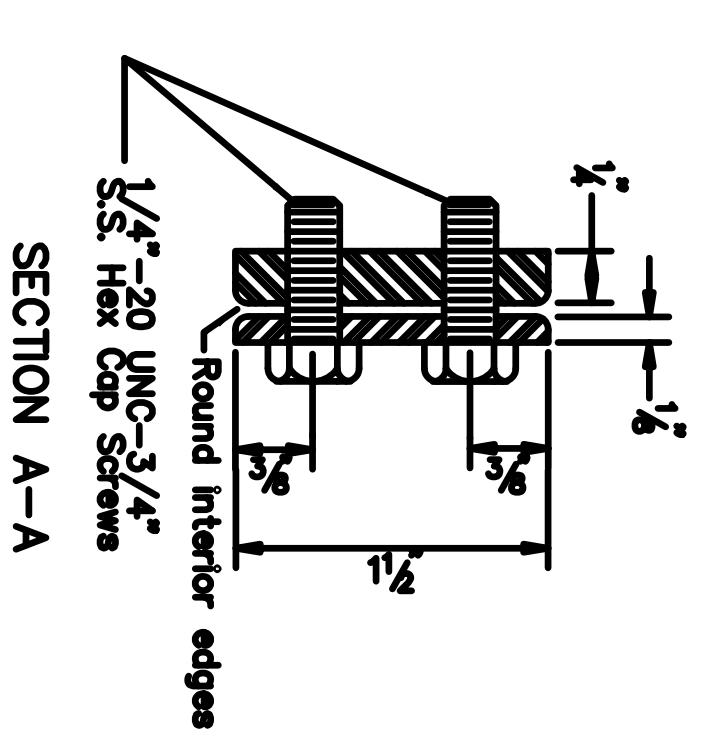
1. Design, fabrication and installation of structural support systems for traffic signs shall conform to the Alaska Standard Specifications for Highway Construction, latest edition.
2. Anchor bolts, nuts and washers shall conform to ASTM A687.
3. Wind loadings shall be 100 mph.
4. Sign support geometry shall be specified on the plans.
5. Handhole details are to indicate general design only and may be altered to conform with manufacturers fabrication design.

TABLE A
SLANTED POST CANTILEVER

Pipe Post	70°	80°	90°	100°	110°	120°
R	520	520	520	520	520	520
8'-0" 12"	19	18	17	16	15	14
8'-0" 14"	21	21	19	18	17	16
8'-0" 16"	25	24	23	22	21	20
10'-0" 18"	30	29	28	27	26	25
10'-0" 20"	33	33	31	29	28	27
12'-0" 24"	41	39	38	36	34	33

- SLANTED POST PIPE SELECTION PROCEDURE
1. Enter table by proper column with length, h_p .
 2. Read down column to desired span length.
 3. Determine Pipe Post "Dia." and "R" for allow by reading to the left horizontally.

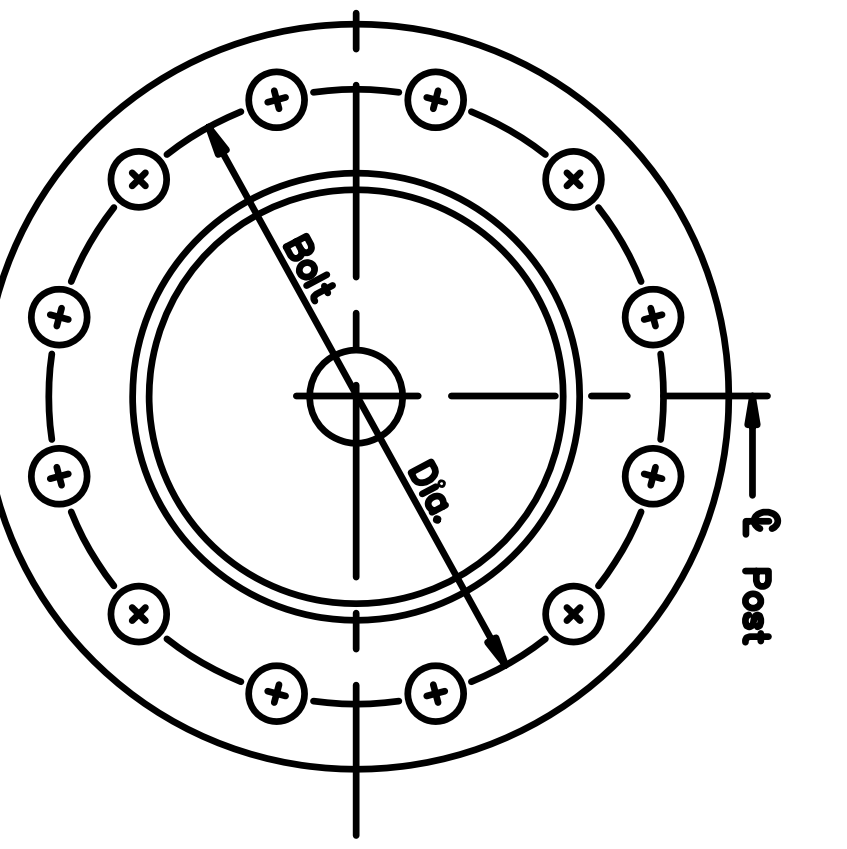
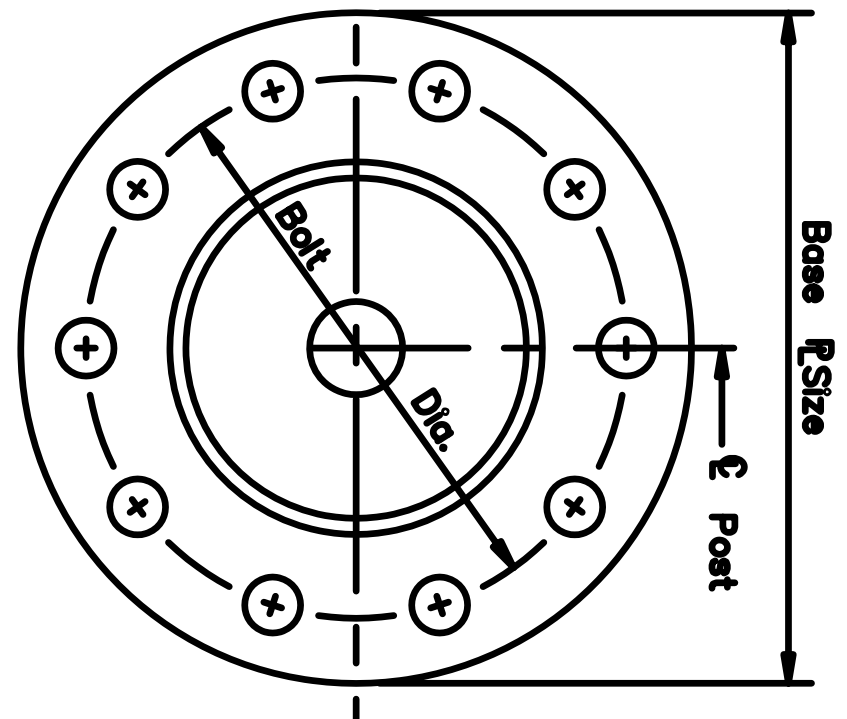
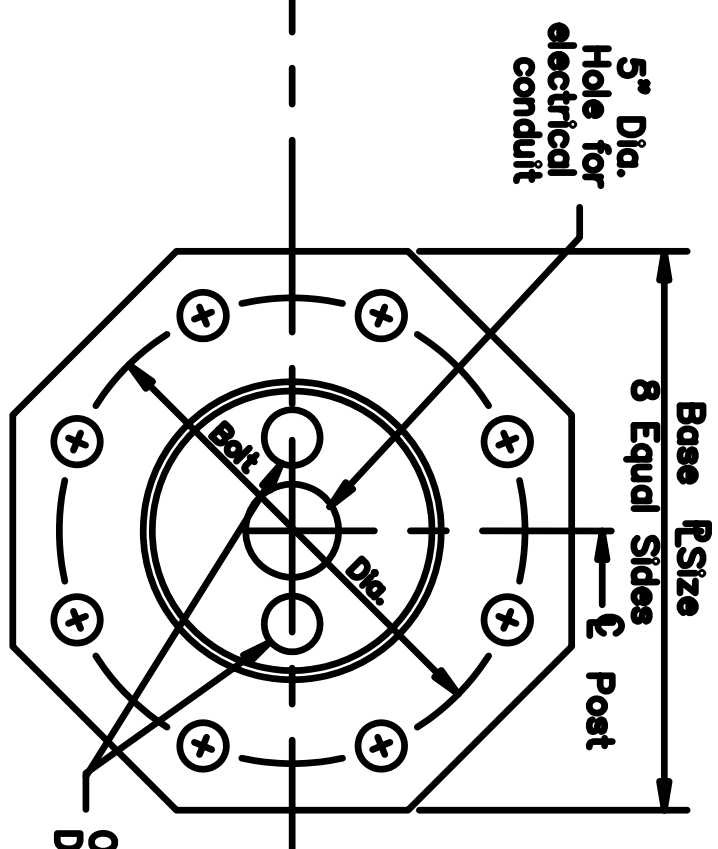
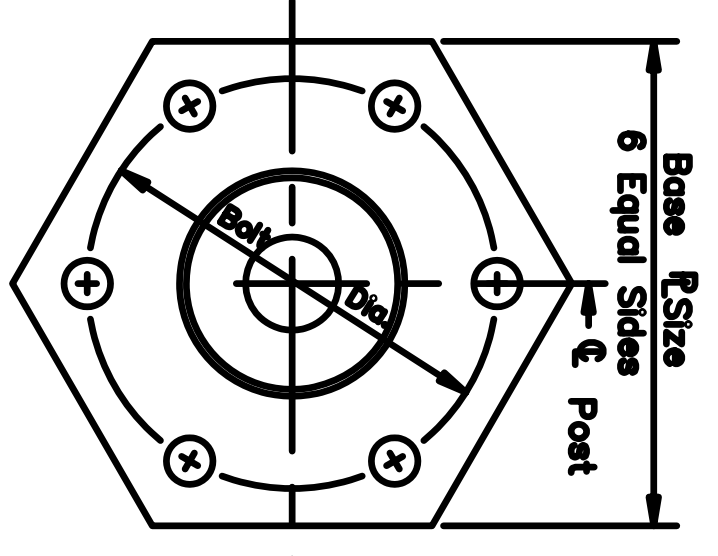
- VERTICAL POST PIPE SELECTION PROCEDURE
1. For vertical post cantilevers add 2'-0" to the vertical post span and enter table by the vertical post span and enter table by end appropriate height, h_p , panel depth.
 2. Read down column to desired span length.
 3. Determine Pipe Post "Dia." and "R" for allow by reading to the left horizontally.



SLANTED SINGLE POST CANTILEVER

VERTICAL SINGLE POST CANTILEVER

HANDHOLE DETAIL



6 BOLTS

8 BOLTS

10 BOLTS

12 BOLTS

BASE PLATE DETAILS

TABLE B

Pipe Size	Base P Size	Bolt Circle	Anchor Bolts
12 x-8	2'-2\"/>		

REVISIONS

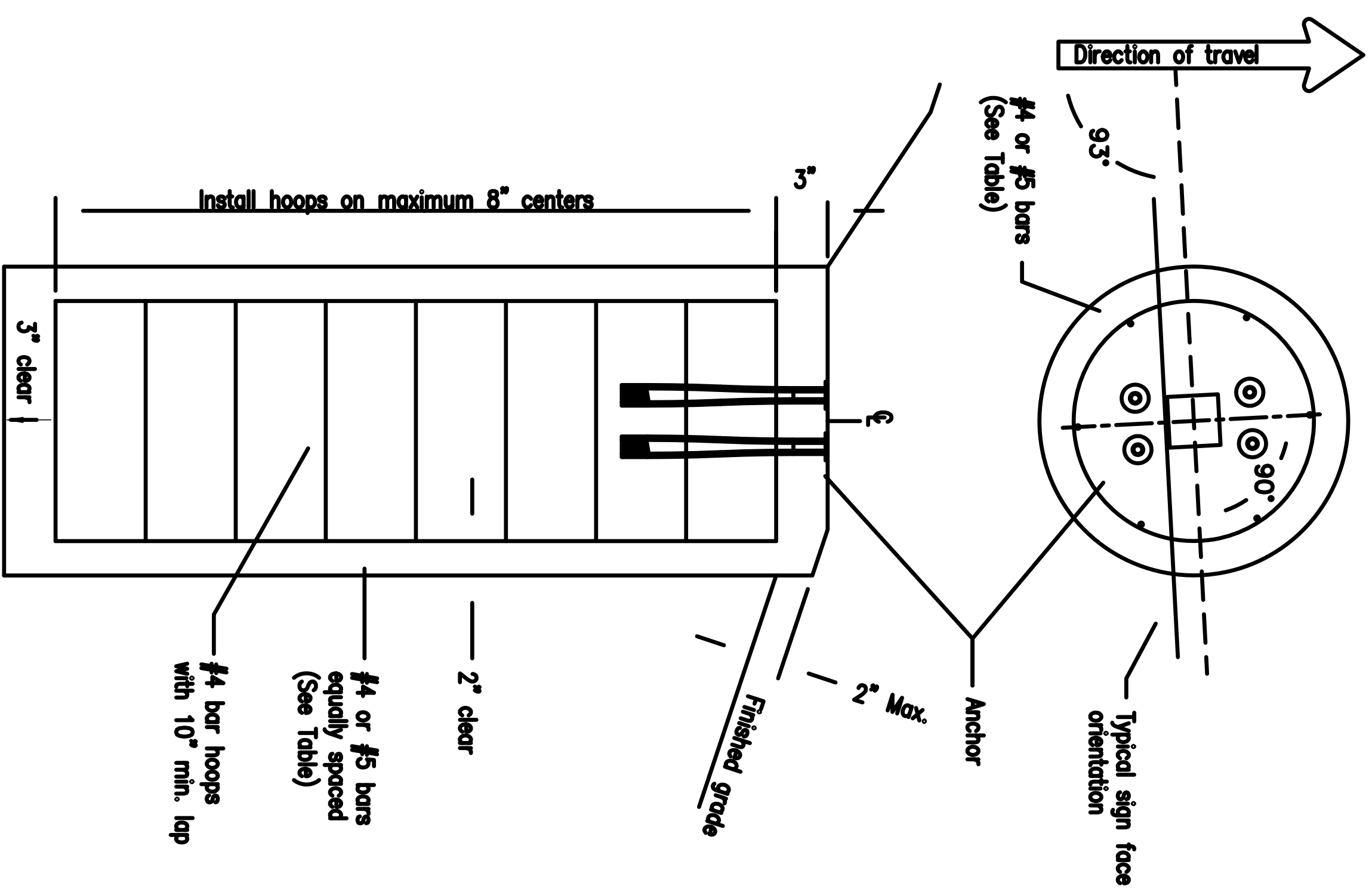
Date	Description	By

State of Alaska
Department of Transportation
& Public Facilities
STANDARD OVERHEAD
SIGN & BASE
STRUCTURE

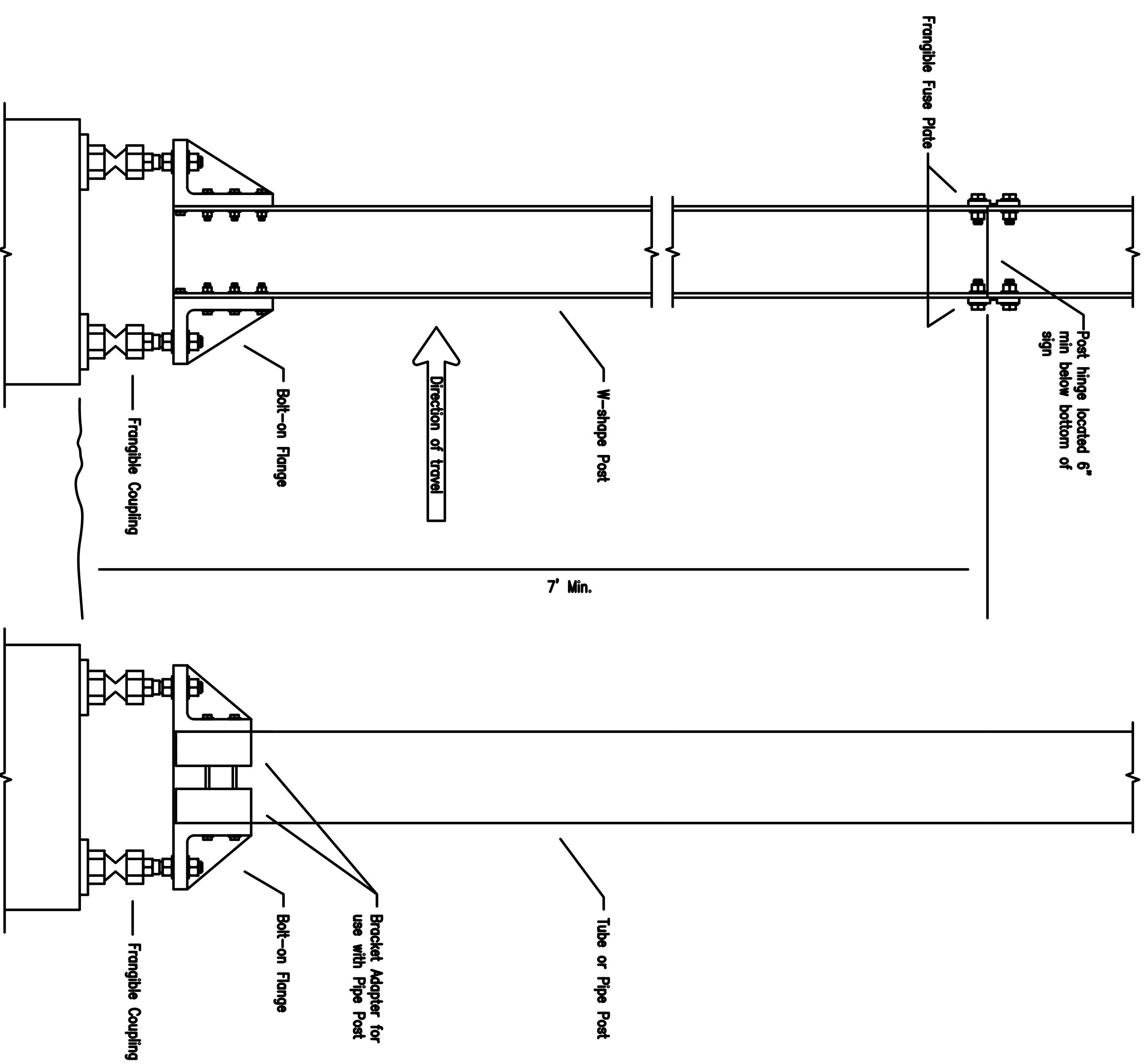
Date 4/1/83

GENERAL NOTES

1. Furnish sign posts with NCHRP 350 compliant, FHWA approved frangible couplings and bolt-on flanges, designed to break away safely when struck from any direction. The frangible couplings shall not have specific installation torque requirements.
2. Furnish frangible coupling systems with bolt-on flanges.
3. Details on this sheet illustrate only the general components of a frangible coupling system, and are not intended to specify a particular product.
4. Install frangible fuse plates on all hinged joints in "W" shape sign posts.
5. Install the components of the breakaway system in accordance with the written instructions of the system manufacturer.
6. Use Class A concrete conforming to section 501 of the Standard Specifications. Furnish ASTM A615 grade 60 steel bars for concrete reinforcement conforming to AASHTO M31.
7. Spiral reinforcing steel may be substituted for hoops in concrete foundation. Spiral option shall consist of #3 plain spiral with 6" pitch with three flat turns at the top and one flat turn at the bottom.
8. Install the concrete anchors using a rigid template. Locate the anchors on centers and within tolerances specified by the manufacturer.
9. Install the anchors in fresh concrete as recommended by the manufacturer. Adjust the template's final position until it is level. Remove and replace all foundations that need more than 2 shims under any 1 coupling or more than a total of 3 shims under any pair of couplings to plumb the post.
10. Drill the holes for attaching brackets before the sign posts are hot dip galvanized. Test fit templates in the holes to ensure the brackets can be installed square to the posts.



SIGN POST FOUNDATION
See Table for depth and diameter



**FRANGIBLE COUPLING SYSTEM
FOR W-SHAPE POST**

**FRANGIBLE COUPLING SYSTEM
FOR TUBE OR PIPE POST**

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT		
	DIA.	MIN. DEPTH	CONC. C ³	VERTICAL BARS DTY SIZE LGTH	DTY SIZE	HOOPS DIA.
2 1/2" PIPE	1'-6"	4'-0"	0.26	6 #4	3'-6"	7 #4
3" PIPE	1'-6"	4'-0"	0.26	6 #4	3'-6"	7 #4
3 1/2" PIPE	1'-6"	4'-6"	0.30	6 #4	4'-0"	8 #4
4" PIPE	1'-6"	5'-0"	0.33	6 #4	4'-6"	8 #4
2 1/2" TUBE	1'-6"	4'-0"	0.26	6 #4	3'-6"	7 #4
3" TUBE	1'-6"	4'-0"	0.26	6 #4	3'-6"	7 #4
3 1/2" TUBE	1'-6"	4'-6"	0.30	6 #4	4'-0"	8 #4
4" TUBE	2'-6"	4'-0"	0.72	7 #5	3'-6"	7 #4
4 1/2" TUBE	2'-6"	4'-6"	0.81	7 #5	4'-0"	8 #4
5" TUBE	2'-6"	5'-6"	1.00	7 #5	5'-0"	9 #4
W6 x 9	2'-6"	4'-0"	0.95	8 #5	3'-6"	7 #4
W6 x 12	2'-6"	4'-6"	1.07	8 #5	4'-0"	8 #4
W6 x 15	3'-0"	6'-6"	1.69	8 #5	6'-0"	11 #4
W6 x 30	3'-0"	7'-6"	1.95	8 #5	7'-0"	12 #4

FOUNDATION TABLE

* Foundations sized for use where there are no loose, high moisture, or fine grained soils.

REVISIONS	
Date	Description

Sheet 1 of 1
State of Alaska
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& Public Facilities
**SIGN POST BASE AND
FOUNDATION**

A P R O V E D
Date 2/28/03