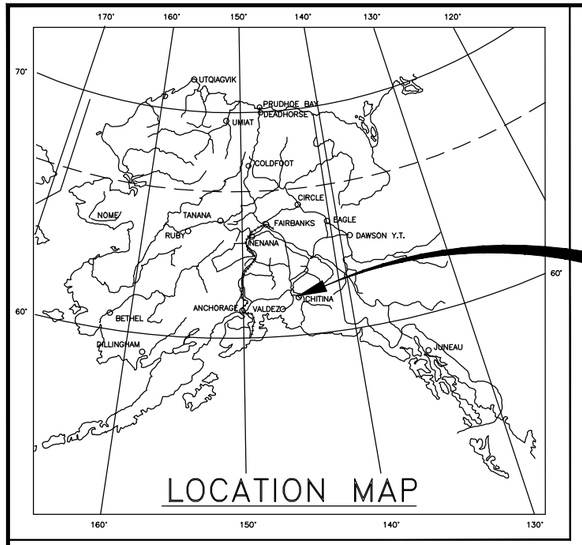
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	A1	44
CDS ROUTE: 198000	MILEPOINT: 24.395 TO 28.760			



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

0850030/NFHWY00587

EDGERTON HIGHWAY MP 24–29 RESURFACING

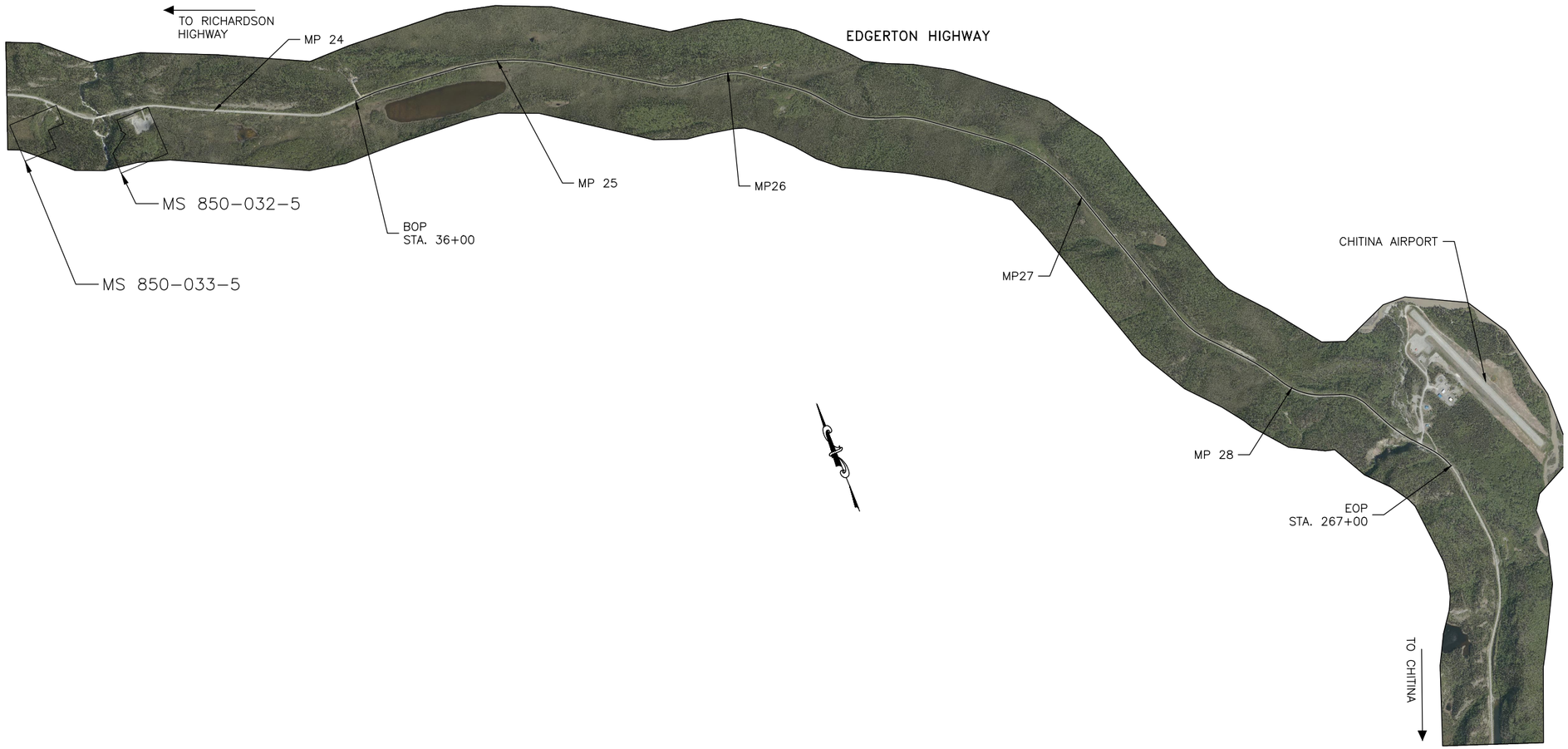
GRADING, DRAINAGE, PAVING

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	LEGEND
A3	SURVEY CONTROL
B1	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES & GENERAL NOTES
D1	GUARDRAIL SUMMARY
E1–E3	CULVERT SUMMARY
E4	DETAILS
F1–F4	PLAN & PROFILE
H1	SIGNING & STRIPING
Q1–Q5	ESCP
T1–T2	TRAFFIC CONTROL PLANS
V1–V22	STANDARD PLANS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
D–01.02
G–00.05, G–05.11S, G–10.21, G–16.00, G–20.12
I–81.00
S–00.12, S–01.02, S–05.02, S–20.11, S–30.05, S–31.02, S–32.02
T–21.04

DESIGN DESIGNATIONS	
ADT (2020)	515
ADT (2030)	570
DHV (22.6%)	130
PERCENT TRUCKS (T)	13.35%
DIRECTIONAL SPLIT (D)	35 / 65
DESIGN SPEED (V)	55 MPH

PROJECT SUMMARY	
WIDTH OF PAVEMENT	28 ft
LENGTH OF GRADING	23,100 ft
LENGTH OF PAVING	23,100 ft
LENGTH OF PROJECT	23,100 ft



JOHN JARO NETARDUS, P.E., ENGINEERING MANAGER
NICHOLAS BREHM, DESIGNER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:

_____ DATE _____

Sarah E. Schacher, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION:

_____ DATE _____

Joseph P. Kemp, P.E.
Acting Regional Director, Northern Region

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_B1-Title Sheet Wed, Dec/07/22 12:40pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	A2	A3

	RECOVERED	SET
BLM MONUMENT	✠	
GLO MONUMENT	✠	
USC&GS MONUMENT	▲	
PRIMARY MONUMENT	✠	✠
CENTERLINE MONUMENT IN CASING	⊕	⊕
PRIMARY R.O.W. MONUMENT	⊕	⊕
BEARING OBJECT	✳	
MISCELLANEOUS MONUMENT	⊗	
LINE OF SIGHT MONUMENT		⊕
CONCRETE R.O.W. MONUMENT	■	
BENCHMARK		BM
REBAR AND CAP	⊙	⊙
REBAR	⊕	●
IRON PIPE	✺	
PK NAIL		▽
SPIKE		✕
HUB AND TACK		◘

CONSTRUCTION CENTERLINE — 5+00

MISCELLANEOUS CENTERLINE — 10+00

STATION EQUATION — "L"48+97.23 POT BK= / "O"48+97.23 PC AHD

PROJECT RIGHT-OF-WAY LINE — R/W

EXISTING RIGHT-OF-WAY LINE

EXISTING PROPERTY LINE

CONTROLLED ACCESS LINE — C/A

UTILITY EASEMENT LINE — PUE

TEMPORARY EASEMENT LINE (TCP OR TCE) — TCP

ACCESS OR SECTION LINE EASEMENT — ACCESS EASEMENT

PROPOSED CUT SLOPE LIMIT

PROPOSED FILL SLOPE LIMIT

SECTION LINE

1/4 SECTION LINE

1/16 SECTION LINE

TOWNSHIP & RANGE LINE — T. 2 N. / T. 1 N. — T. 1 E. — T. 2 E.

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)	SS	SS
FUEL LINE	O	O
GAS LINE	G	G
WATER LINE	W	W
METER, VALVE, FIRE HYDRANT	W	W
EXISTING STORM DRAIN (FLOW DIRECTION →)	SD	
PROPOSED STORM DRAIN		S-10, S-11, P-11, P-10, MH
FIBER OPTIC LINE	FO	
DIRECT BURIAL TELEPHONE CABLE	T	T
DIRECT BURIAL ELECTRIC CABLE	E	E
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT	T	T
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE	MH	MH
SANITARY SEWER CLEAN OUT		

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT	CANTILEVER, SWITCH
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS	H	H = HOUSE G = GARAGE M = MERCHANT/STORE B = BARN S = SHED P = PRIVY SS = SERVICE STATION W = WAREHOUSE
POST OR BOLLARD		
WELL OR MONITORING WELL	W	
SEPTIC PIPE	S, SW	
FUEL TANK FILL PIPE/VENT	P	
SATELLITE DISH	SAT. DISH	
TEST HOLE	TH	
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		5
JUNCTION BOX, TYPE II		6
JUNCTION BOX, TYPE III		3
SIGNAL FACE, VEHICULAR	42	42
SIGNAL FACE, BACKPLATE	42	42
SIGNAL FACE, LEFT TURN, BACKPLATE	43	43
SIGNAL FACE, PEDESTRIAN	64	64
LOOP DETECTOR	33	73
VIDEO DETECTOR	2	2
RADAR DETECTOR	4	4A
OPTICOM DETECTOR	1	1
PEDESTRIAN PUSH BUTTON	1	1
SIGNAL POST W/O MAST ARM		1
SIGNAL POLE W/MAST ARM		4
SIGNAL CONTROLLER		
LOAD CENTER		
LUMINAIRE		22
RIGID METAL CONDUIT		

ABBREVIATIONS:

APPROX	APPROXIMATLY
AH	AHEAD
℄	CENTERLINE
CY	CUBIC YARD
CABC	CRUSHED ASPHALT BASE COURSE
E	EAST, EASTING
ELE, ELEV	ELEVATION
FT. '	FOOT, FEET
H	HORIZONTAL
IE	INVERT ELEVATION
IN, "	INCH, INCHES
L	LENGTH OF CURVE
L.C.L	LEFT OF CENTERLINE
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH, NORTHING
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
PC	POINT OF CURVATURE
POT	POINT ON TANGENT
PST	PERFORATED STEEL TUBE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R.C.L	RIGHT OF CENTERLINE
RT	RIGHT
S	SOUTH
SQ. FT.	SQUARE FOOT
STA	STATION
T	TANGENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
TS	TUBE STEEL
TYP	TYPICAL
V	VERTICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST
WWR	WELDED WIRE REINFORCEMENT
Ø	DIAMETER
ROW	RIGHT OF WAY
R/W	DOT ROW BOUNDARY
NTS	NOT TO SCALE
PI	POINT OF INTERSECTION
BOP	BEGINNING OF PROJECT
EOP	END OF PROJECT
GR	GAURDRAIL

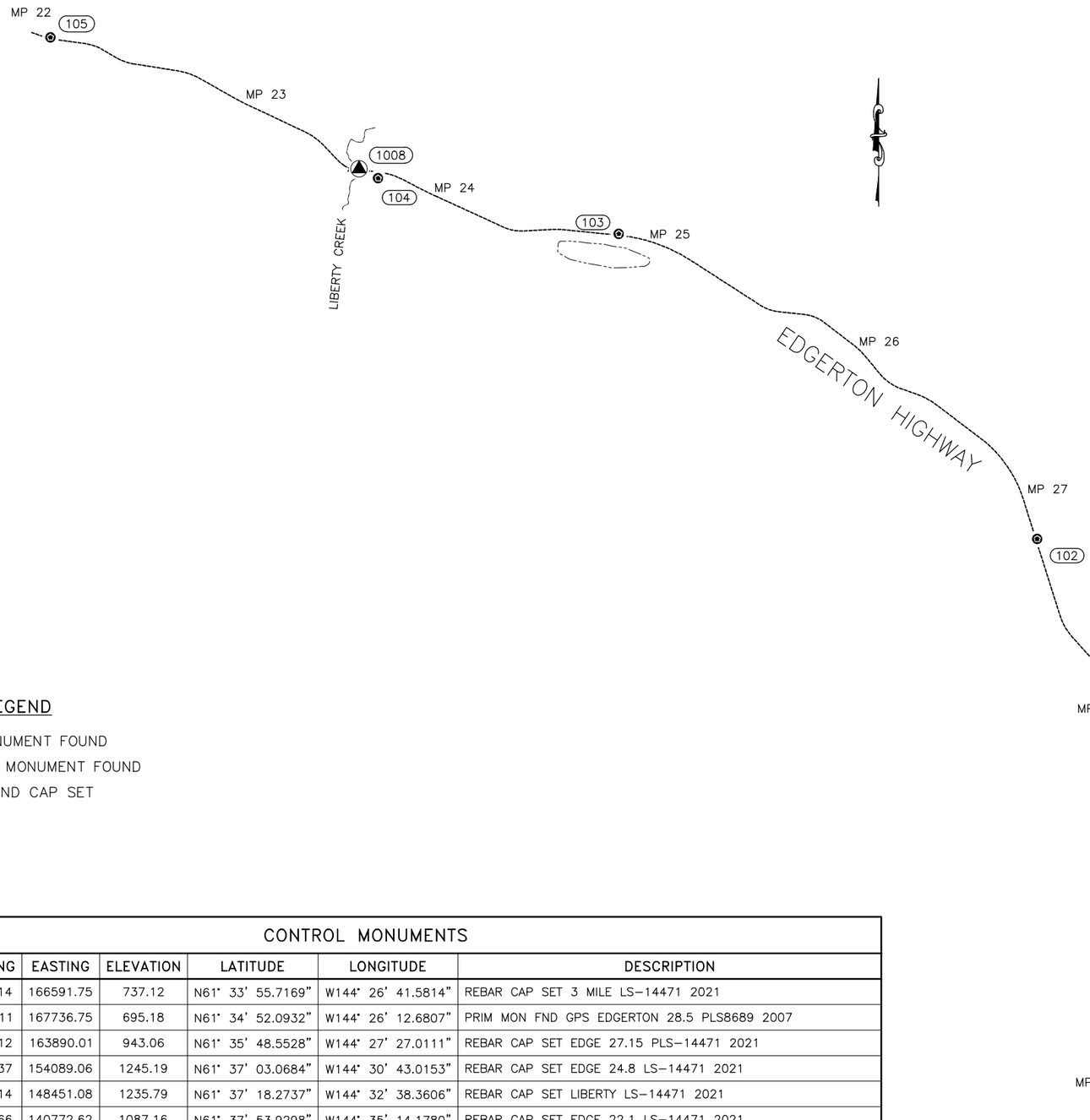
LEGEND

STATE OF ALASKA 49TH — John Jaro Netardus CE 124494 REGISTERED PROFESSIONAL ENGINEER — 12/7/22

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_B1-Legend Wed, Dec/07/22 12:41pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	A3	A3



GENERAL NOTES

1. VERIFY HORIZONTAL AND VERTICAL CONTROL PRIOR TO USE. ON MULTI YEAR PROJECTS, VERIFY ALL CONTROL ON A SEASONAL BASIS.

2. BACKGROUND MAPPING IS SHOWN FOR ORIENTATION PURPOSES ONLY. THIS SHEET DOES NOT PURPORT TO DEPICT RIGHT OF WAY AND SHOULD NOT BE USED FOR DESIGN.

3. ALL DISTANCES SHOWN ARE GROUND DISTANCES, IN U.S. SURVEY FEET.

4. THIS PROJECT IS LOCATED ENTIRELY WITHIN THE EDGERTON HWY 24_29 LOW DISTORTION PROJECTION (LDP), A LOW DISTORTION PROJECTION CREATED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.
FAIRBANKS LDP DEFINITION:

LINEAR UNIT: U.S. SURVEY FOOT (SFT)
DATUM: NAD83(2011)
PROJECTION: HOTINE_OBLIQUE_MERCATOR_AZIMUTH_NATURAL_ORIGIN
LATITUDE OF ORIGIN: 60°33'00"N
LONGITUDE OF ORIGIN: 147°21'00"W
FALSE NORTHING: −45,000,000 SFT
FALSE EASTING: 30,350,000 SFT
ORIGIN SCALE: 0.999797 (EXACT)
AZIMUTH ANGLE: −81°

5. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF PRIMARY MONUMENT "EDGERTON 28.5", POINT #101.

6. BASIS OF BEARING IS EDGERTON HWY 24_29 LDP.

7. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF 695.19 FT AT "EDGERTON 28.5", POINT #101.

LEGEND

- NGS MONUMENT FOUND
- PRIMARY MONUMENT FOUND
- REBAR AND CAP SET

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
100	743153.14	166591.75	737.12	N61° 33' 55.7169"	W144° 26' 41.5814"	REBAR CAP SET 3 MILE LS−14471 2021
101	748935.11	167736.75	695.18	N61° 34' 52.0932"	W144° 26' 12.6807"	PRIM MON FND GPS EDGERTON 28.5 PLS8689 2007
102	754505.12	163890.01	943.06	N61° 35' 48.5528"	W144° 27' 27.0111"	REBAR CAP SET EDGE 27.15 PLS−14471 2021
103	761653.37	154089.06	1245.19	N61° 37' 03.0684"	W144° 30' 43.0153"	REBAR CAP SET EDGE 24.8 LS−14471 2021
104	762957.14	148451.08	1235.79	N61° 37' 18.2737"	W144° 32' 38.3606"	REBAR CAP SET LIBERTY LS−14471 2021
105	766256.66	140772.62	1087.16	N61° 37' 53.9298"	W144° 35' 14.1780"	REBAR CAP SET EDGE 22.1 LS−14471 2021
106	769045.53	135136.18	814.39	N61° 38' 23.6811"	W144° 37' 08.3050"	PRIM MON FND GPS EDGERTON 20.8 PLS8689 2007 (not shown)
301	749481.73	167242.79	728.70	N61° 34' 57.6851"	W144° 26' 22.3754"	PRIM MON FND GPS EDGERTON 27.4 PLS8689 2007
1008	763176.50	148003.54	1150.60	N61° 37' 20.6193"	W144° 32' 47.4158"	NGS MON W89 1964

GRAPHIC SCALE

0 1500 3000 4500 6000 7500

SCALE 1"=1500'

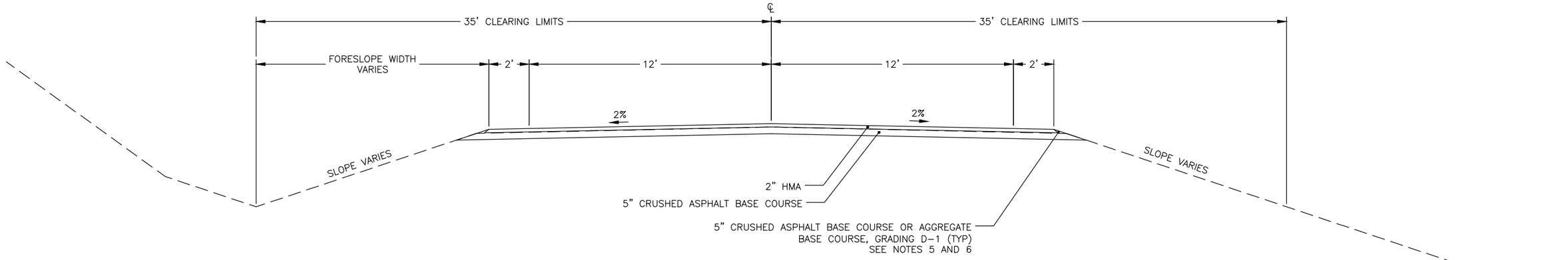
STATE OF ALASKA 49TH
TROY M. HICKS
Dec 07, 2022
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\A3 Survey Control\1-A3 Survey Control Wed, Dec/07/22 12:43pm

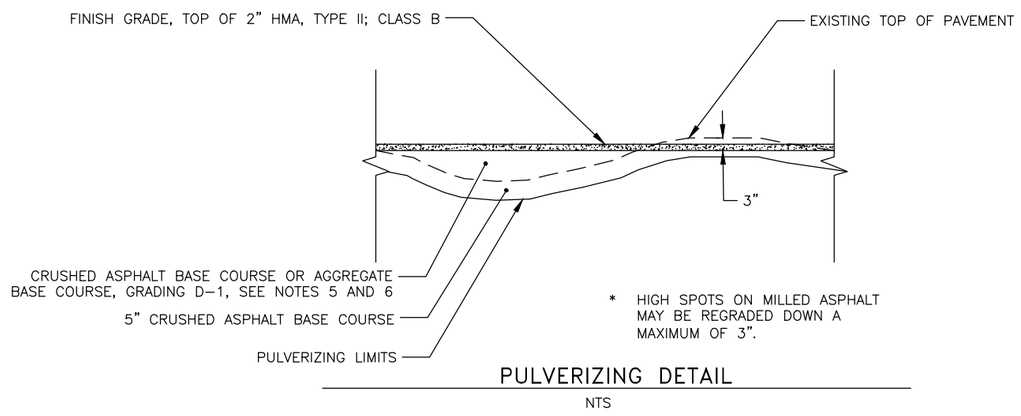
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	B1	B1



RESURFACING TYPICAL SECTION 1

STATION 36+00 TO STATION 267+00



PULVERIZING DETAIL

NTS

NOTES:

1. THE EXISTING ROADWAY WAS CONSTRUCTED WITH A 3% CROSS SLOPE. SEE TYPICAL SECTION AND SUPERELEVATION TABLE FOR NEW CROSS SLOPE REQUIREMENTS.
2. CLEARING LIMITS SHALL EXTEND 35' FROM CENTERLINE OR TO THE TOE OF SLOPE, WHICH EVER IS CLOSER. CLEARING IS NOT REQUIRED ON OR ABOVE ADJACENT CLIFF FACES WITHIN THE ROAD CORRIDOR.
3. PAVEMENT MARKING APPLICATIONS SHALL BE AS SHOWN ON STANDARD PLAN T-21.04 FOR TWO WAY ROADS WITH PAVED SHOULDERS AND A 10/30 STRIP/SKIP RATIO.
4. SEED ALL ERODIBLE DISTURBED AREAS IN ACCORDANCE WITH SECTION 618, EXCEPT WHERE RIPRAP IS INSTALLED OR AS DIRECTED BY THE ENGINEER.
5. THIS PROJECT DOES NOT HAVE A DESIGN PROFILE. USE CRUSHED ASPHALT BASE COURSE AND CRUSHED AGGREGATE BASE COURSE TO ESTABLISH A SMOOTH PROFILE AND CROSS-SLOPE.PLACE THE QUANTITY OF CRUSHED AGGREGATE BASE COURSE THAT APPEARS IN THE BID SCHEDULE AT LOCATIONS APPROVED BY THE ENGINEER. COMPACT THE CRUSHED AGGREGATE BASE COURSE TO THE SATISFACTION OF THE ENGINEER.
6. DO NOT PLACE AGGREGATE BASE COURSE, GRADING D-1 UNTIL AFTER THE USABLE CRUSHED ASPHALT BASE COURSE HAS BEEN PLACED IN THE FILL. PLACE D-1 AS DIRECTED BY ENGINEER.
7. TRANSITION TO MATCH EXISTING PAVEMENT OVER 100 FEET OR AT THE DIRECTION OF THE ENGINEER. THE EXISTING CROWN IS APPROXIMATELY 3%.
8. A BURIED TELEPHONE LINE IS LOCATED ALONG THE SIDE OF THE ROAD THROUGHOUT THE PROJECT. PRIOR TO ANY EXCAVATION OR POST DRIVING, THE CONTRACTOR SHALL COORDINATE WITH COPPER VALLEY TELEPHONE TO DETERMINE THE EXACT LOCATION OF THE LINE. THE CONTRACTOR SHALL PROTECT THE LINE DURING CONSTRUCTION AND SHALL COORDINATE WITH COPPER VALLEY TELEPHONE IF THE LINE REQUIRES RELOCATION.
9. INSTALL SAFETY EDGE DETAIL ON ALL PAVEMENT EDGES, SEE SAFETY EDGE DETAIL ON SHEET E4.
10. EXISTING ASPHALT WAS CONSTRUCTED BY HIGH FLOAT METHODS AND IS ASSUMED TO BE 1" THICK.

TYPICAL SECTION

STATE OF ALASKA
49TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	C1	C1

ESTIMATE OF QUANTITIES

ITEM NO.	PAY ITEM	PAY UNIT	QUANTITY
201.0007.0000	CLEARING	LS	ALL REQUIRED
202.0004.0000	REMOVAL OF CULVERT PIPE	LF	143
203.0006.0000	BORROW	TON	1,562
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	908
308.0004.0000	CRUSHED ASPHALT BASE COURSE	LS	ALL REQUIRED
401.0001.002B	HMA, TYPE II; CLASS B	TON	8236
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	TON	461
401.0008.002B	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CS	ALL REQUIRED
401.0013.0000	JOB MIX DESIGN	EACH	1
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CS	ALL REQUIRED
603.0001.0036	CSP 36 INCH	LF	136
606.0001.0000	W-BEAM GUARDRAIL	LF	1,650
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LF	2,220
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	11
606.0014.0000	BURIED IN BACKSLOPE GUARDRAIL TERMINAL	EACH	1
613.0002.0000	CULVERT MARKER POST	EACH	4
615.0001.0000	STANDARD SIGN	SF	73.5
616.0002.0050	THAW PIPE 1/2 INCH DIAMETER	EACH	2
618.0002.0000	SEEDING	LB	25
639.2000.0000	APPROACH	EA	1
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQUIRED
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	LS	ALL REQUIRED
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQUIRED
641.0003.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LS	ALL REQUIRED
641.0004.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CS	ALL REQUIRED
641.0006.0000	WITHHOLDING	CS	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQUIRED
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQUIRED
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CS	ALL REQUIRED
644.0001.0000	FIELD OFFICE	LS	ALL REQUIRED
644.0002.0000	FIELD LABORATORY	LS	ALL REQUIRED
644.0006.0000	VEHICLE	LS	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LS	ALL REQUIRED

TABLE OF LUMP SUM QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	REMARKS
201.0007.0000	CLEARING	22.3 ACRE	
308.0004.0000	CRUSHED ASPHALT BASE COURSE	66,733 SY	
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	4 EACH	
644.0006.0000	VEHICLE	1 EACH	

APPROACH SUMMARY

ID	STATION	SIDE	NAME	REMARKS
A1	249+25.25	LT	CHITINA AIRPORT ACCESS ROAD	

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	VALUE
203.0005.0000	BORROW	2 TON/CY
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	2 TON/CY
401.0001.002B	HMA, TYPE II; CLASS B	151 PCF @ 95%
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	5.6% OF TOTAL WEIGHT OF 401(1)

LUMP SUM PAINTED PAVEMENT MARKING ITEMS SUMMARY

ROAD	4" WHITE (LF)	4" DOUBLE YELLOW (LF)	4" SKIP YELLOW (LF)
EDGERTON HWY	46,044	11,550	11,550
4" EQUIVALENT	46,044	23100	2888

GENERAL NOTES:

1. STATE OF ALASKA MATERIAL SITE 850-033-5 AND 850-032-5 LOCATED AT MP 23 AND MP 24 RESPECTIVELY ON THE EDGERTON HIGHWAY IS AVAILABLE FOR USE ON THIS PROJECT BY THE CONTRACTOR PER SUB-SECTION 106-1.02.4.d.
2. MECHANIZED LAND VEGETATION CLEARING AND GRUBBING IS PROHIBITED DURING THE MIGRATORY BIRD NESTING SEASON (MAY 1 – JULY 15) UNLESS A MITIGATIVE WORK PLAN IS SUBMITTED BY THE CONTRACTOR AND APPROVED BY DOT&PF.
3. THE CONTRACTOR WILL AVOID DAMAGING THE VISIBLE SEGMENT OF THE OLD ROAD TO CHITINA DURING THE PROJECT ACTIVITIES ALONG THE EDGERTON HIGHWAY AND USAGE OF THE MATERIAL SITE 850-031-5.

SUPERELEVATION SUMMARY

	CURVE PI	RADIUS (FT)	BEGIN TRANSITION	TRANSITION LENGTH (FT)	CURVE PC	BEGIN FULL SUPERELEVATION	SUPERELEVATION RATE (%)	END FULL SUPERELEVATION	CURVE PT	TRANSITION LENGTH (FT)	END TRANSITION	REMARKS
1	40+11.23	2100	37+00	195	38+51.70	38+95	5.4	41+30	41+70.15	195	43+25	
2	63+62.65	3825	53+15	160	54+38.86	54+75	3.9	72+25	72+51.72	155	73+80	
3	94+20.26	980	90+20	215	91+83.26	92+35	6	96+05	96+48.34	210	98+15	
4	105+00.21	960	100+65	210	102+25.88	102+75	6	107+15	107+60.30	215	109+30	
5	118+49.39	1700	114+85	210	116+45.72	116+95	5.9	120+05	120+51.14	210	122+15	
6	128+33.25	1150	123+50	210	125+11.23	125+60	6	130+95	131+39.18	210	133+05	
7	138+30.03	1500	134+40	210	136+01.89	136+50	6	140+10	140+54.69	215	142+25	
8	162+72.29	2850	152+80	130	153+69.42	154+10	4.8	170+80	171+18.14	185	172+65	
9	202+96.41	1400	198+30	215	199+94.41	200+45	6	205+45	205+89.29	210	207+55	
10	216+45.07	3300	211+95	165	213+24.51	213+60	4.3	219+30	219+63.63	N/A	N/A	PLANAR TRANSITION INTO CURVE 11
11	225+60.15	1150	N/A	N/A	221+53.52	222+05	6	228+90	229+35.23	N/A	N/A	PLANAR TRANSITION INTO CURVE 12
12	235+06.39	700	N/A	N/A	232+28.52	232+80	6	237+10	237+57.55	215	239+25	
13	245+01.70	2300	240+65	195	242+14.70	242+60	5.4	247+45	247+85.74	195	249+40	
14	255+35.36	1165	250+01.12	215	251+65.30	252+16.12	6	258+34.59	258+81.95	215	260+49.59	

ESTIMATE OF QUANTITIES

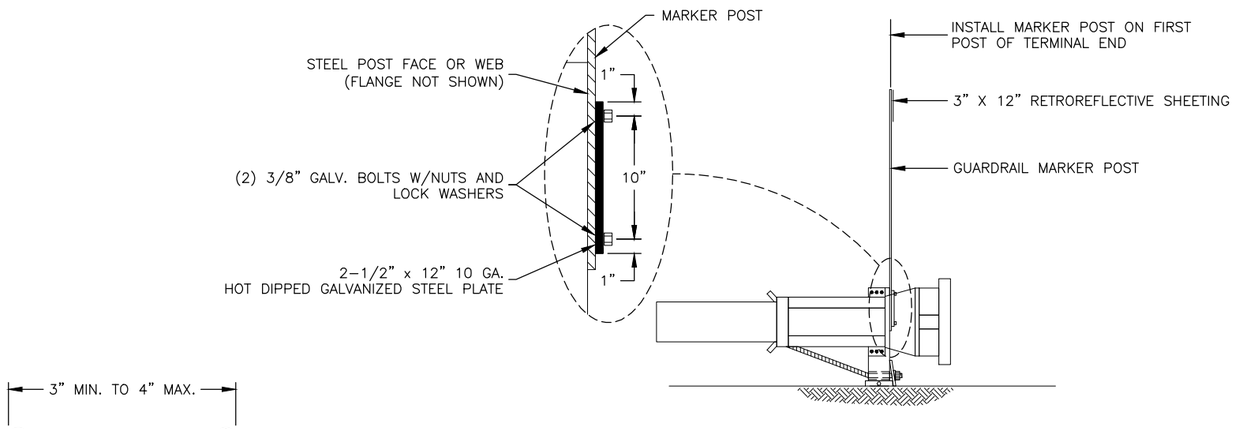
STATE OF ALASKA 49TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_B1-Estimate of Quantities Wed, Dec/07/22 12:47pm

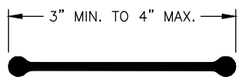
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	D1	D1

GUARDRAIL SUMMARY

BEGIN STATION	END STATION	REMOVING AND DISPOSING OF GUARDRAIL	RT/LT	APPROX. EXISTING LENGTH (LF)	W-BEAM GUARDRAIL (LINEAR FOOT)	PARALLEL GUARDRAIL TERMINAL (EACH)	BURIED IN BACKSLOPE GUARDRAIL TERMINAL	POST LENGTH (FT)	REMARKS
152+60.77	158+33.07	YES	LT	538	475	2		9	
238+08.35	244+09.69	YES	LT	601	500	2		9	
245+56.38	248+54.68	YES	RT	302	200	2		9	
246+03.84	248+54.98	YES	LT	252	150	2		9	
252+67.67	255+09.88	YES	LT	251	150	1	1	9	
262+75.02	265+50.00	YES	LT	276	175	2		9	
			TOTAL	2220.00	1650.00	11.00	1.00		



GUARDRAIL MARKER POST ATTACHMENT DETAIL
PARALLEL GUARDRAIL TERMINAL



POST DETAIL
CROSS-SECTIONAL VIEW

GUARDRAIL NOTES:

1. USE 50' PARALLEL END TREATMENT.
2. FOR PARALLEL GUARDRAIL TERMINALS, CONSTRUCT THE GUARDRAIL TERMINAL WIDENING IN ACCORDANCE WITH THE "STANDARD DETAIL" ON STANDARD DRAWING G-20.11. THE END OFFSET (X) SHALL BE 2 FEET.
3. INSTALL PARALLEL GUARDRAIL TERMINALS AT A HEIGHT OF 27-3/4" TO TOP OF THE RAIL.
4. PER SUBSECTION 606-3.01, INSTALL SIDE-MOUNTED GUARDRAIL REFLECTORS "STARTING WITH THE FIRST STANDARD POST". DO NOT INSTALL THESE REFLECTORS WITHIN THE LIMITS OF PARALLEL GUARDRAIL TERMINALS.
5. PLACE GUARDRAIL FACE MINIMUM 2 FT OFFSET FROM EDGE OF TRAVELED WAY (FOG LINE) UNIFORMLY. STAKE GUARDRAIL LOCATIONS AND OBTAIN THE ENGINEER'S APPROVAL PRIOR TO INSTALLATION.

GUARDRAIL MARKER NOTES:

1. GUARDRAIL BEGIN AND END STATIONS INCLUDE PARALLEL GUARDRAIL TERMINALS.
2. INSTALL END TERMINALS PER MANUFACTURER'S INSTRUCTIONS.
3. CONSTRUCT THE GUARDRAIL TERMINAL WIDENING IN ACCORDANCE WITH THE "ALTERNATIVE GUARDRAIL TERMINAL WIDENING DETAIL" ON STANDARD DRAWING G-20.12. THE END OFFSET (X) SHALL BE 2 FEET. USE 50' PARALLEL GUARDRAIL TERMINALS.
4. GUARDRAIL MARKER POSTS SHALL BE YELLOW AND AT LEAST 72" LONG. POSTS SHALL MEET THE REQUIREMENTS OF SECTION 730-2.05 FLEXIBLE DELINEATOR POSTS.
5. RETROREFLECTIVE SHEETING SHALL MEET ASTM D4956 REQUIREMENTS FOR TYPE VIII, IX, OR XI. COLOR OF RETROREFLECTIVE SHEETING SHALL MATCH COLOR OF ADJACENT EDGE LINE STRIPE. PLACE RETROREFLECTIVE SHEETING ON SIDE OF MARKER POST FACING TRAFFIC IN ADJACENT LANE.
6. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
7. ALL WORK AND MATERIAL REQUIRED TO INSTALL GUARDRAIL MARKER POSTS IS SUBSIDIARY TO 606 PAY ITEMS.

GUARDRAIL SUMMARY

STATE OF ALASKA 49TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	E1	E4

202.0004.0000 REMOVAL OF CULVERT PIPE SUMMARY

PROJECT STATION	DESCRIPTION	LENGTH (FT)	REMARKS
167+97	24" CSP	62	
183+70	36" CSP	81	
TOTALS:		143	

603.0001.0036 CULVERT SUMMARY

PROJECT STATION	LENGTH	613.0002.0000 MARKER POSTS (EA)	616.0002.0050 DIA. THAW PIPE (EA)	CULVERT DIAMETER (INCH)	NEW CULVERT TYPE	REMARKS	AS-BUILT CENTERLINE LOCATION		
							STATION	LATITUDE	LONGITUDE
167+95	60	2	1	36	CSP				
183+69	76	2	1	36	CSP				
TOTALS:	136	4	2						

CULVERT NOTES:

1. FOLLOW MANUFACTURERS INSTALLATION SPECIFICATIONS IN ALL CULVERT INSTALLATIONS.
2. ALL CULVERTS SHALL BE INSTALLED IN EXCAVATIONS ABSENT OF STANDING WATER.
3. STATIONING AND SKEW FOR CULVERTS ARE APPROXIMATE. STAKE CULVERTS TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
4. CULVERT LENGTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. WHEN INSTALLING SKEWED CULVERTS, ENSURE THE FINAL LENGTH IS DETERMINED OFF THE NEAR EDGE, NOT THE CENTERLINE OF THE CULVERT.
5. REMOVAL OF EXISTING CULVERTS, MARKER POSTS, AND THAW PIPES BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OF AT NO ADDITIONAL COST TO THE DEPARTMENT.
6. IN AREAS OF POOR FOUNDATION, SUBEXCAVATE BENEATH CULVERTS 1 FOOT TO 3 FEET, OR GREATER TO PROVIDE ADEQUATE FOUNDATION, AS DIRECTED BY THE ENGINEER.
7. MINIMUM ALLOWABLE CULVERT CROSS SLOPE IS 0.5%, UNLESS NOTED OTHERWISE ON THE PLANS.
8. ALL CULVERTS SHALL HAVE A MINIMUM CAMBER EQUAL TO 1% OF THE LENGTH OF THE PIPE, UNLESS THE PROJECT ENGINEER DIRECTS OTHERWISE.
9. NO CULVERT SHALL BE PLACED UNTIL THE BED HAS BEEN APPROVED BY THE ENGINEER.
10. THE CONTRACTOR SHALL ENTER AS-BUILT LOCATIONS FOR ALL CULVERTS IN THE CULVERT SUMMARY TABLE. COORDINATES SHALL BE LOCATED AT THE INTERSECTION OF THE CULVERT AND ROAD CENTERLINE. USE NAD 83 COORDINATE SYSTEM FORMATTED TO DECIMAL DEGREE TO A PRECISION OF 5 DECIMAL PLACES (DDD.DDDDDo). THIS WORK IS SUBSIDIARY TO 603 SERIES PAY ITEMS.
11. ALL NEW CULVERTS ARE CSP 14 GAUGE THAT REQUIRE A MINIMUM OF 12 INCHES OF COVER.

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H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587 Culvert Summary-CULVERT SUMMARY 1 OF 3 Wed, Dec/07/22 12:53pm

CULVERT SUMMARY 1 OF 3

STATE OF ALASKA
49TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

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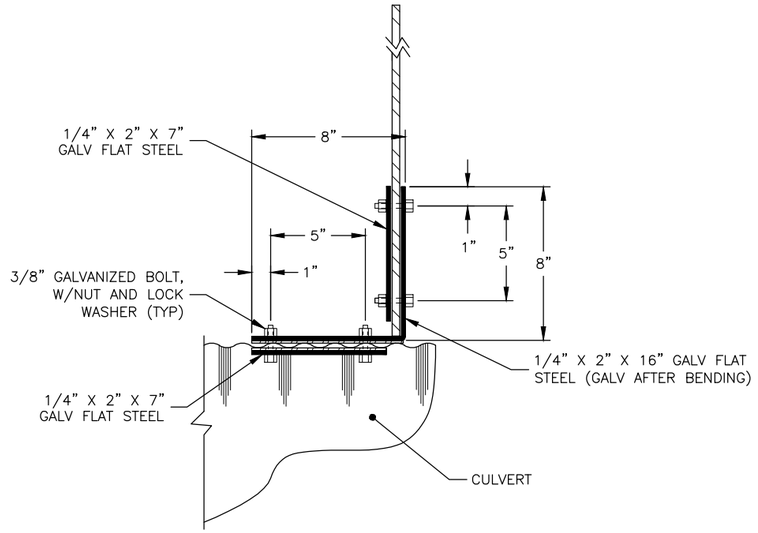
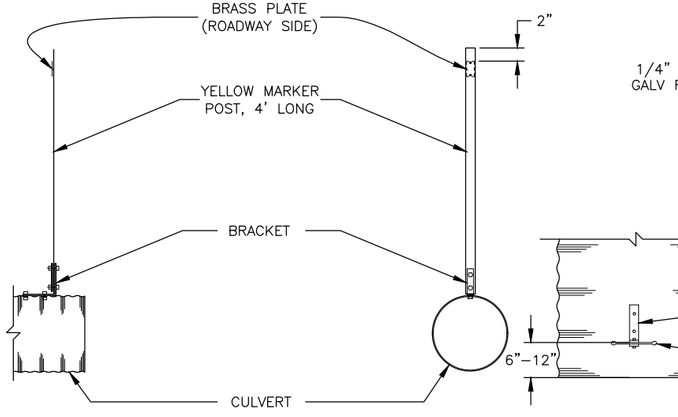
ALASKA	0850030/NFHWY00587	2023	E2	E4

CULVERT MARKER POSTS NOTES:

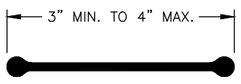
1. MARKER POSTS ARE TO BE INSTALLED ON CROSS CULVERTS ONLY.
2. IF CULVERTS ARE CLOSELY SPACED, MARK ONLY THE FIRST AND LAST CULVERT IN SERIES AS APPROVED BY THE ENGINEER.
3. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. GASKET MATERIAL SHALL BE PLACED BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED PRIOR TO INSTALLATION.



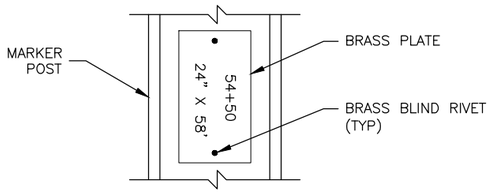
BRACKET DETAIL



CULVERT MARKER POST DETAIL

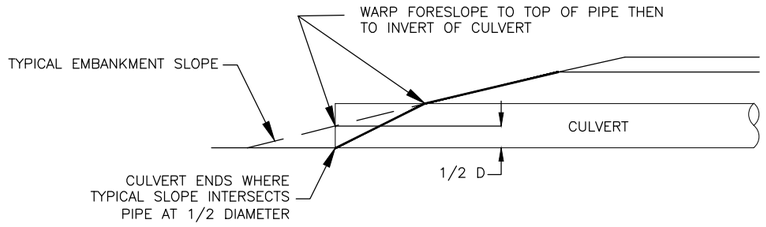


POST DETAIL

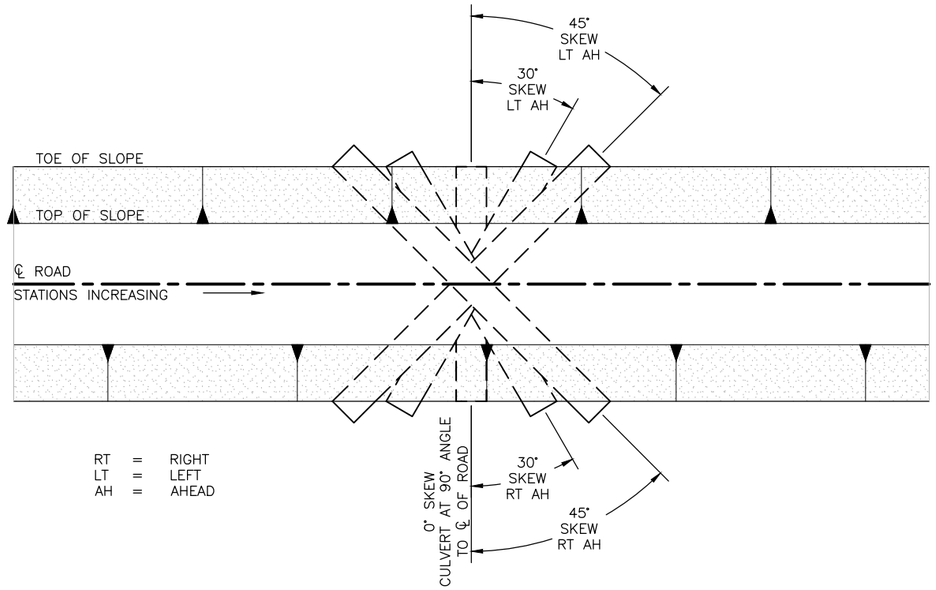


STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2" X 4" X 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

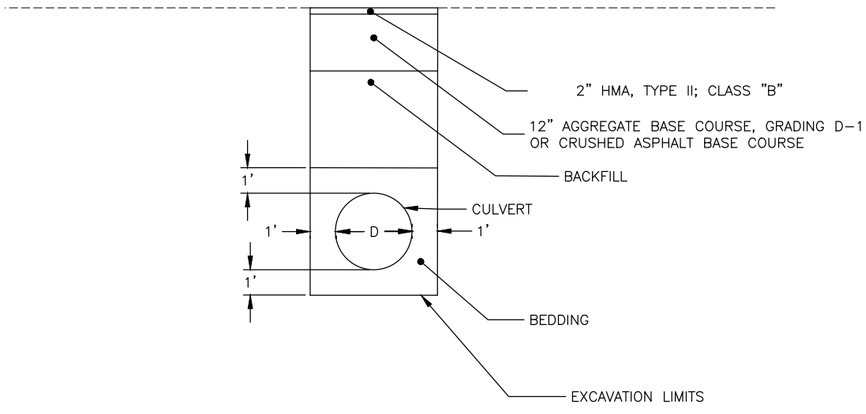
BRASS PLATE DETAIL



CULVERT SLOPE WARPING DETAIL
2:1 OR FLATTER FORESLOPES



CULVERT SKEW



CULVERT BEDDING DETAIL
END VIEW

CULVERT SUMMARY 2 OF 3

STATE OF ALASKA 49TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

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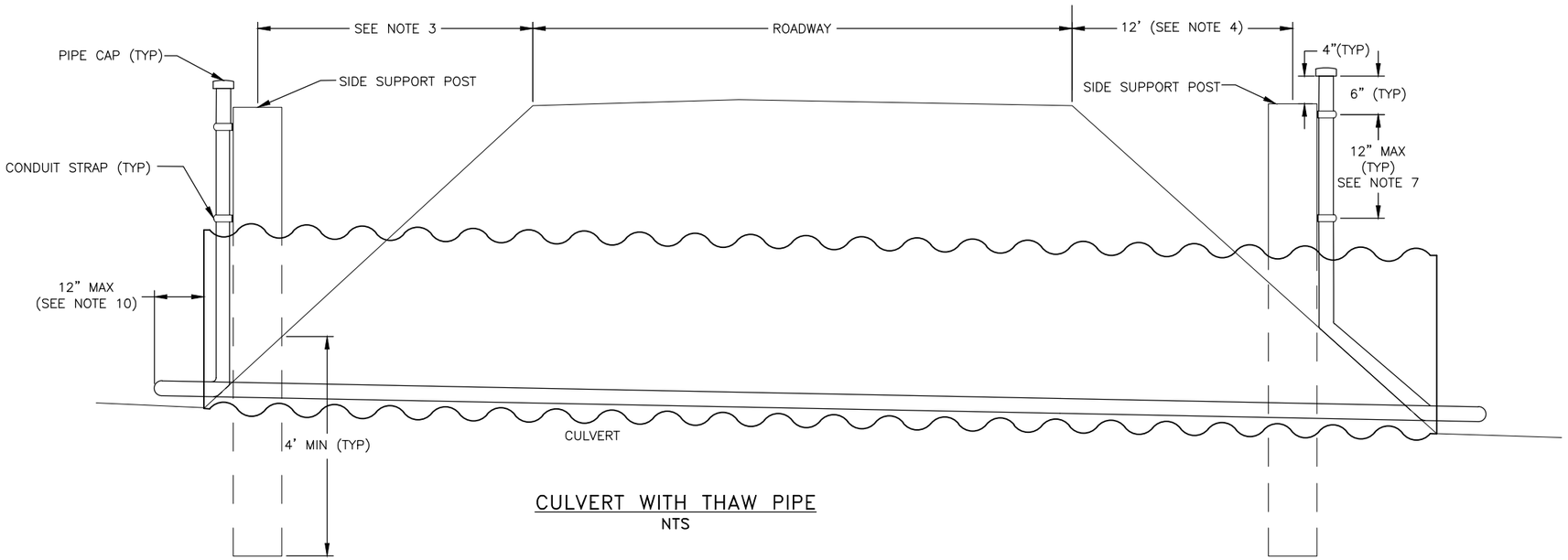
NO.	DATE	REVISION

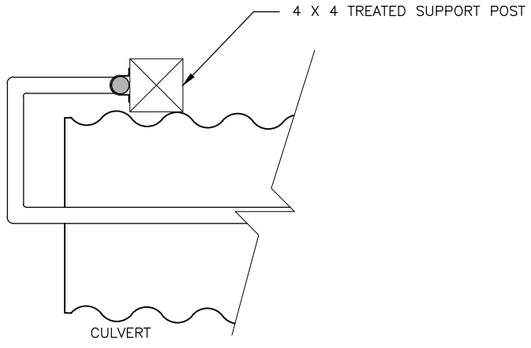
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	E3	E4



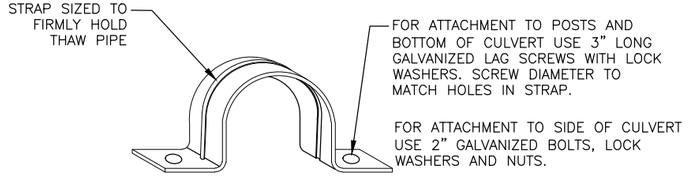
CULVERT WITH THAW PIPE
NTS

GENERAL NOTES:

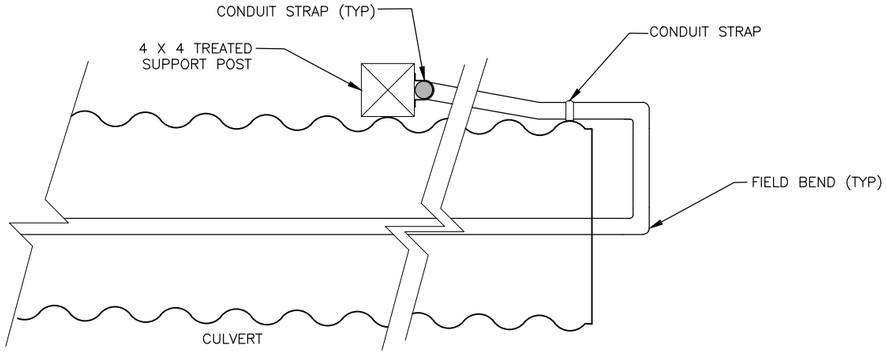
1. THESE THAW PIPES ARE INTENDED FOR USE IN STEAM THAWING.
2. USE ½" ID SCHEDULE 40 GALVANIZED PIPE AND FITTINGS.
3. WHEN THE HEIGHT OF FILL IS LESS THAN 5' TO TOP OF PIPE, LOCATE SUPPORT POST AT THE TOE OF SLOPE.
4. WHEN THE HEIGHT OF FILL EXCEEDS 5' TO TOP OF PIPE, LOCATE THE SUPPORT POST ON THE SIDE SLOPE 12' FROM THE SHOULDER.
5. USE PRESSURE TREATED SUPPORT POSTS OF HEM–FIR, NO. 2 OR BETTER. USE AMMONIACAL COPPER ZINC ARSENATE (ACZA) OR CHROMATED COPPER ARSENATE (CCA) PRESERVATIVES ON SUPPORT POSTS. PRESSURE TREAT IN ACCORDANCE WITH AASHTO M133.
6. ALIGN THE TOP OF THE SUPPORT POST WITH THE EDGE OF SHOULDER, OR TO A MAXIMUM HEIGHT OF 5'.
7. FASTEN THAW PIPE TO SUPPORT POSTS WITH GALVANIZED RIGID CONDUIT STRAPS AND 3" LONG GALVANIZED LAG SCREWS AT MAX. 12" CENTERS, IF MORE THAN ONE IS REQUIRED.
8. FILL ALL THAW PIPES WHILE REMOVING ALL AIR WITH A MIX OF TINTED PROPYLENE CLYCOL ANTIFREEZE AND WATER TO PROTECT DOWN TO MINUS 50°, THEN CAP BOTH ENDS OF THE THAW PIPE.
9. PLACE THAW PIPES IN THE BOTTOM OF THE CULVERT.
10. THAW PIPES SHALL BE BENT WITHOUT KINKS 180 DEGREES AROUND CULVERT ENDS FROM THE INSIDE TO OUTSIDE OF THE CULVERT WITH NO GREATER THAN 6–IN BEND RADIUS. THE BEND SHALL NOT PROTRUDE MORE THAN 12 INCHES BEYOND THE END OF THE CULVERT. DO NOT LOCATE THAW PIPE JOINTS OR COUPLINGS WITHIN 6 INCHES OF THE BEND OUTSIDE OF CULVERT ENDS.
11. LAY THE THAW PIPE DOWN INSIDE ON THE BOTTOM OF THE SPECIFIED CULVERT (NO INTERNAL PIPE HANGERS OR INTERNAL TIE–DOWN STRAPS ARE REQUIRED).
12. DO NOT LOCATE THAW PIPE JOINTS OR COUPLINGS WITHIN 30 INCHES OF CULVERT ENDS.
13. ALL THAW PIPES SHALL BE WATER TIGHT. SEAL ALL THAW PIPE JOINTS EXCEPT THE END CAPS WITH AN APPROVED SEALING COMPOUND.
14. ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO INSTALL THE THAW PIPES AND SUPPORT POSTS ARE SUBSIDIARY TO PAY ITEM 616.0002.0050.



LOW FILL CONDITION
TOP VIEW (NTS)



GALVANIZED RIGID CONDUIT
STRAP DETAIL
NTS



DEEP FILL CONDITION
TOP VIEW (NTS)

CULVERT SUMMARY 3 OF 3

STATE OF ALASKA 49TH
John Jaro Netardus
CE 124494
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12/7/22

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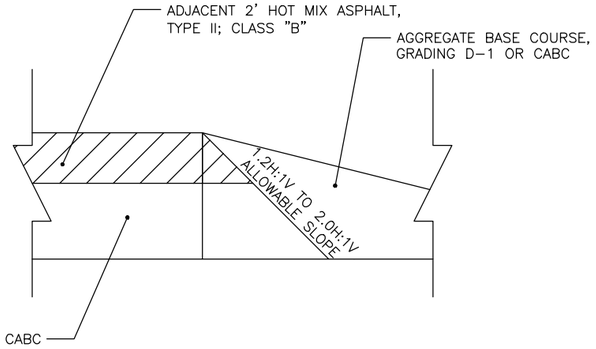
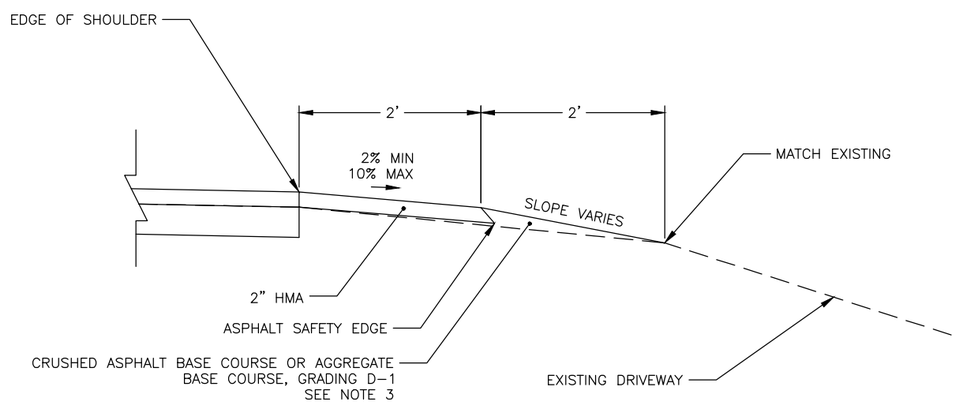


ASPHALT SAFETY EDGE DETAIL
NTS

ASPHALT SAFETY EDGE NOTES:

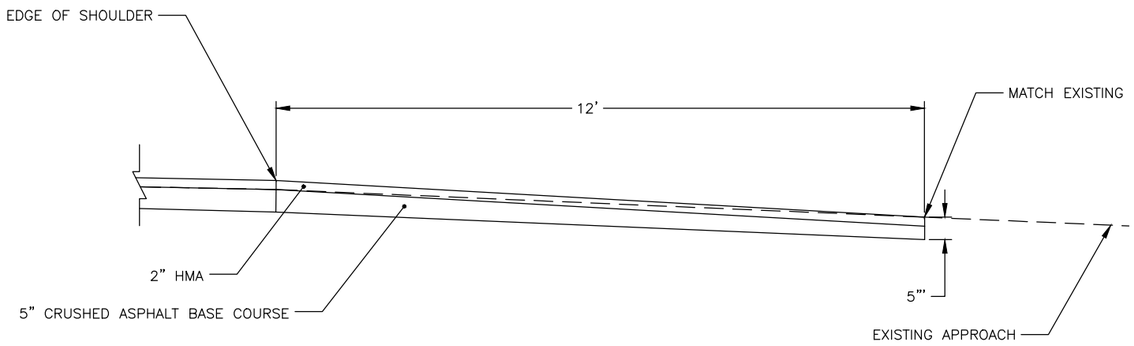
1. LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT THE SAFETY EDGE ARE SUBSIDIARY TO PAY ITEMS 401.0001.002B.
2. ASPHALT MATERIAL WILL BE PAID FOR AT THE UNIT RATE ESTABLISHED FOR PAY ITEM 401.0001.002B.



DRIVEWAY APPROACH DETAIL
NTS

DRIVEWAY APPROACH DETAIL NOTES:

1. USE DRIVEWAY APPROACH DETAIL ON ALL DRIVEWAYS ACCESSING THE EDGERTON HIGHWAY. SEE SHEET F1–F4 FOR LOCATION OF DRIVEWAYS.
2. DRIVEWAY APPROACH WIDTH WILL MATCH EXISTING DRIVEWAY WIDTH. MARK WIDTH OF APPROACH PRIOR TO PAVING. DRIVEWAY APPROACH WIDTH TO BE APPROVED BY PROJECT ENGINEER PRIOR TO PAVING.
3. DO NOT PLACE AGGREGATE BASE COURSE, GRADING D–1 UNTIL AFTER THE USABLE CRUSHED ASPHALT BASE COURSE HAS BEEN PLACED IN THE FILL. PLACE D–1 AS DIRECTED BY ENGINEER.



APPROACH DETAIL
NTS

APPROACH DETAIL NOTES:

1. PULVERIZE APPROACH PAVEMENT.
2. APPROACH WIDTH AND RADII WILL MATCH EXISTING. MARK WIDTH AND RADII OF APPROACH PRIOR TO PAVING. APPROACH AND RADII TO BE APPROVED BY PROJECT ENGINEER PRIOR TO PAVING.
3. TRANSITION NEW EDGERTON HIGHWAY PAVEMENT PROFILE TO MATCH EXISTING AIRPORT ACCESS ROAD PROFILE AS SHOWN IN APPROACH DETAIL.

DETAILS

STATE OF ALASKA
49TH
John Jaro Netardus
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12/7/22

PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (#) STATION / SIGN CODE(S) — *SIGN LOCATION #*

m		
POINT	NORTHING	EASTING
BOP	152256.6126	761743.1293
"O" 38+51.70 PC	152507.9454	761756.1078
EOP	168045.4239	747504.2709

NO.	DATE	REVISION

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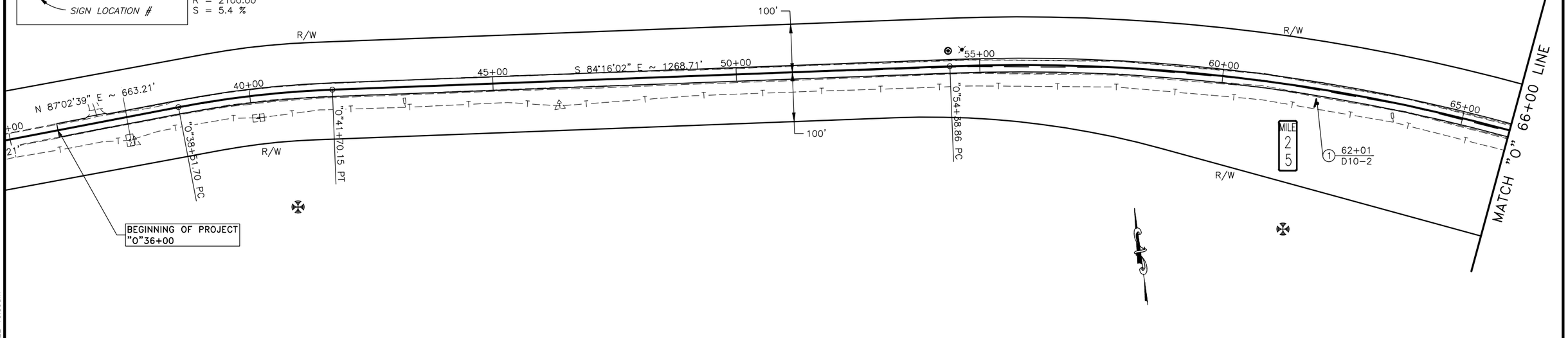
ALASKA	0850030/NFHWY00587	2023	F1	F4

"O"40+11.23 PI
Δ = 8°41'19"
D = 2°43'42"
T = 159.53'
L = 318.45'
R = 2100.00'
S = 5.4 %

"O"63+62.65 PI
Δ = 27°09'19"
D = 1°29'53"
T = 923.79'
L = 1812.86'
R = 3825.00'
S = 3.9 %



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D = 1°29'53"
T = 923.79'
L = 1812.86'
R = 3825.00'
S = 3.9 %

"O"94+20.26 PI
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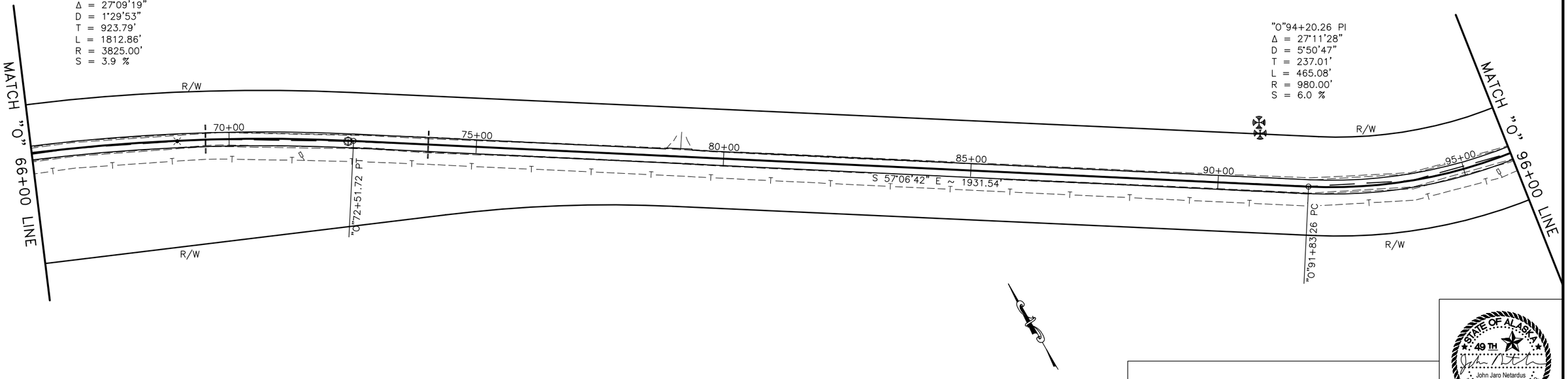
D = 5°50'47"
T = 237.01'
L = 465.08'
R = 980.00'
S = 6.0 %



PLAN VIEW 1 OF 4

STATE OF ALASKA 49TH
John Jaro Netardus
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REGISTERED PROFESSIONAL ENGINEER
12/5/22

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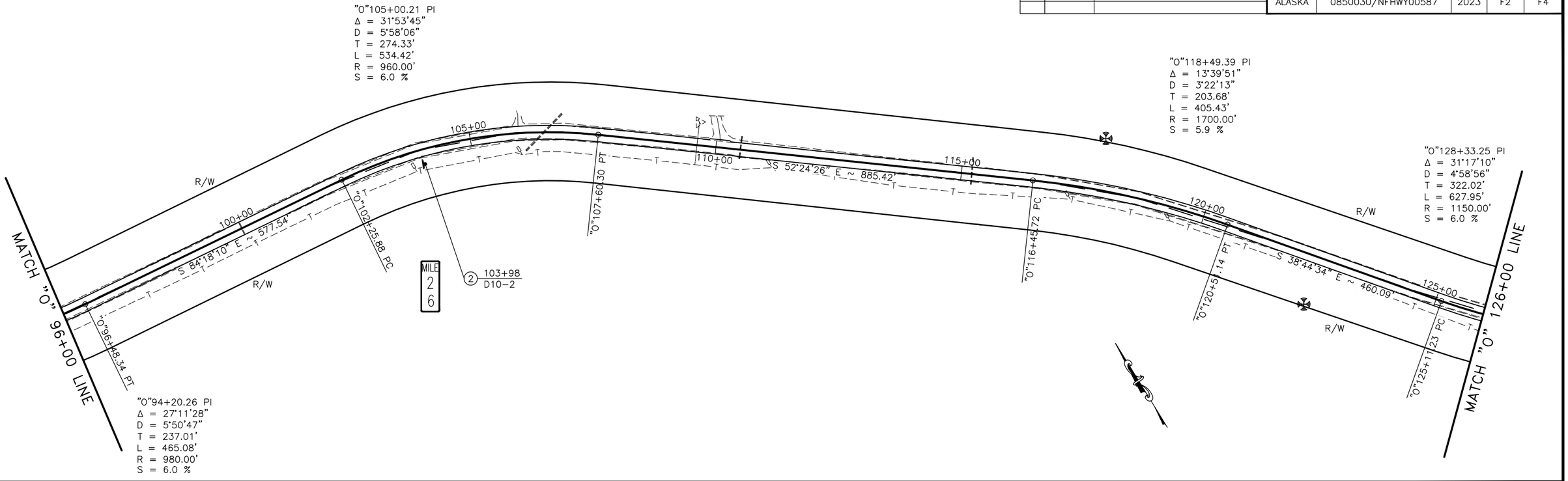
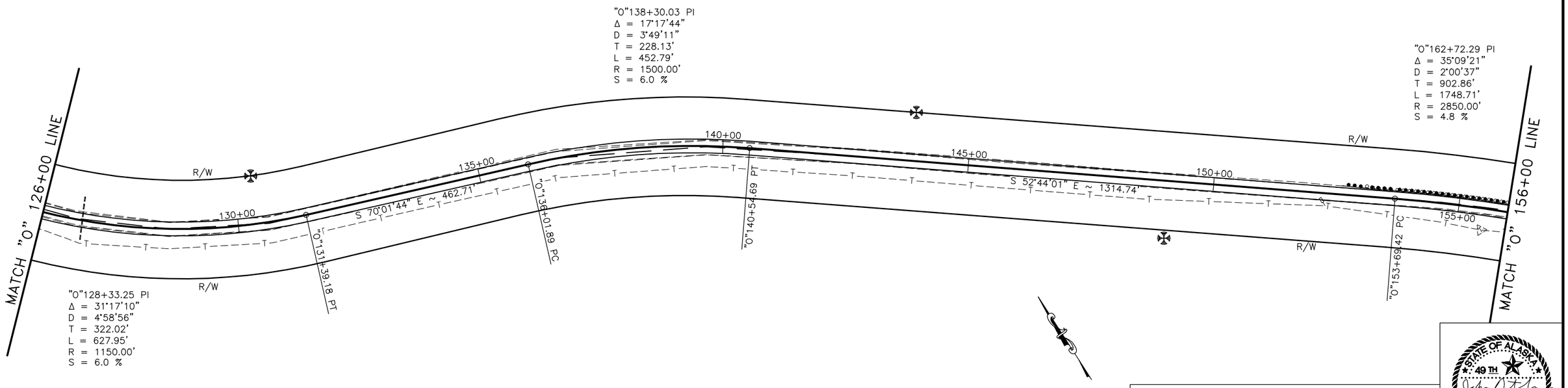
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	F2	F4





PLAN VIEW 2 OF 4

STATE OF ALASKA 49TH
John Jaro Netardus
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12/5/22

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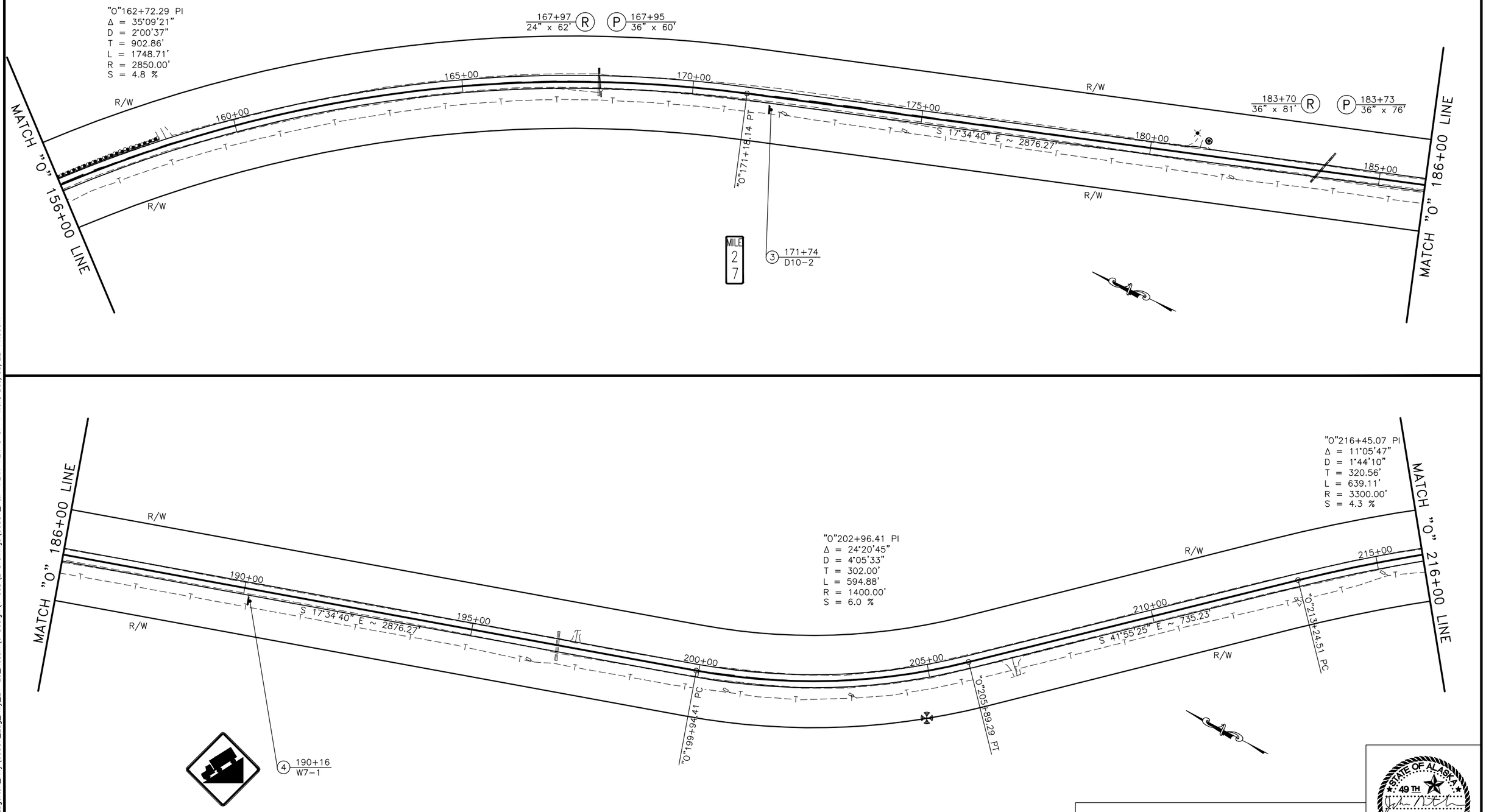
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	F3	F4



PLAN VIEW 3 OF 4

STATE OF ALASKA 49TH
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12/5/22

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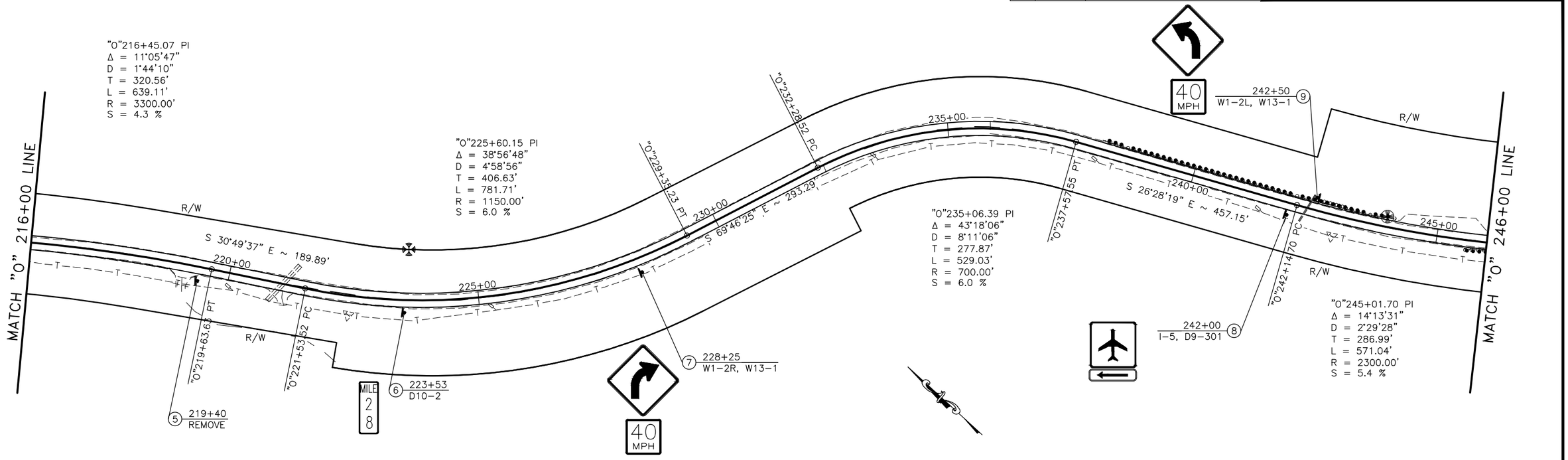
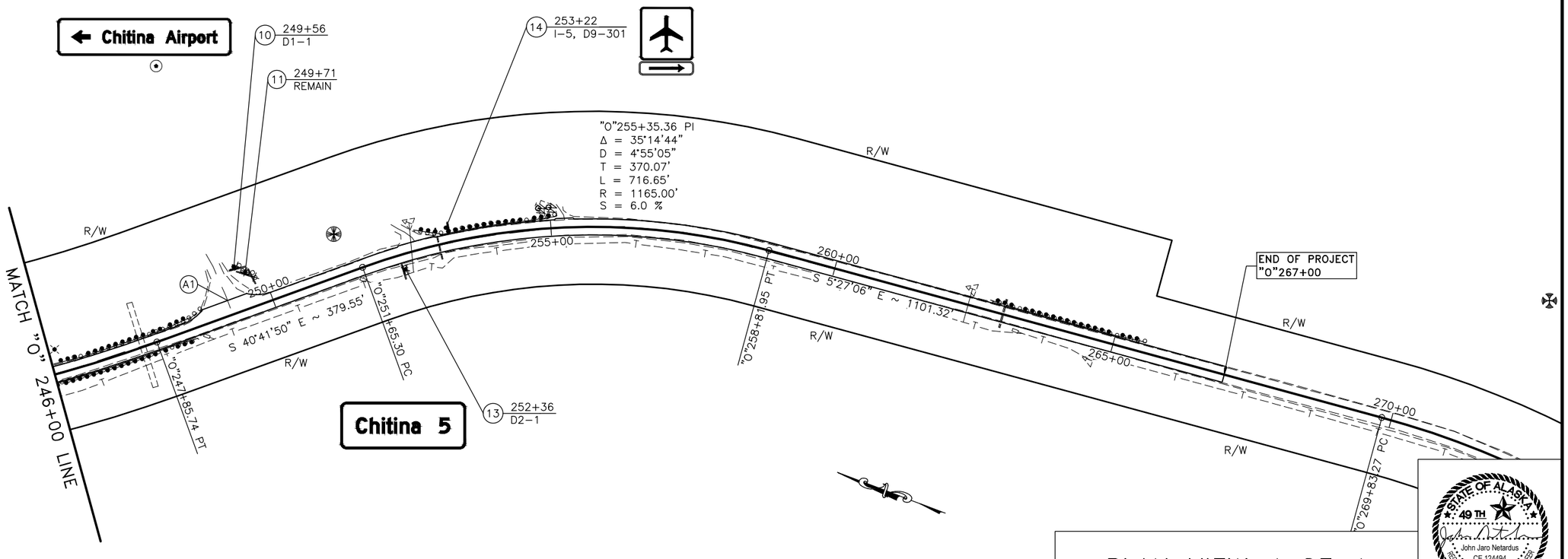
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_P&P-PLAN VIEW 3 OF 4 Mon, Dec/05/22 11:00am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	F4	F4





PLAN VIEW 4 OF 4

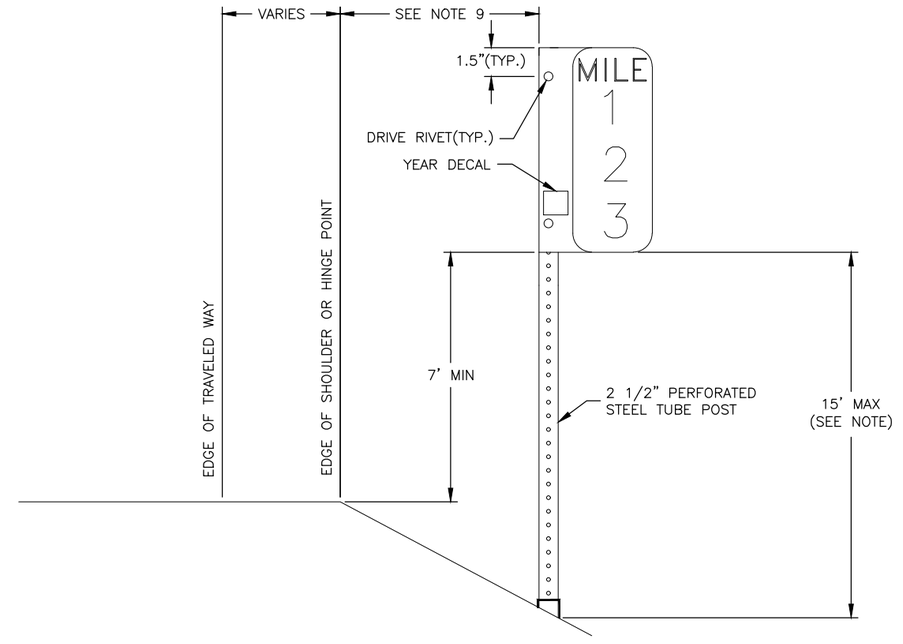
STATE OF ALASKA 49 TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/5/22

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_P&P-PLAN VIEW 4 OF 4 Mon, Dec/05/22 11:00am

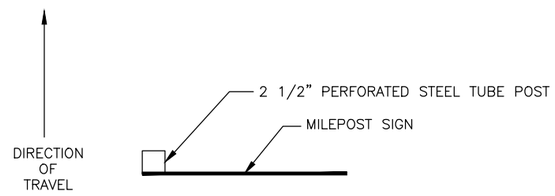
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	H1	H1

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	62+01		x	D10-102	MP 25	12 X 36			3.00		W	PST	2.5	1	
2	103+98		X	D10-102	MP 26	12 X 36			3.00		W	PST	2.5	1	
3	171+74		X	D10-102	MP 27	12 X 36			3.00		W	PST	2.5	1	
4	190+16		X	W7-1	HILL	36 X 36	X		9.00		W	PST	2.5	1	
5	219+40		X		TONSUNIA	X									REMOVE
6	223+53		X	D10-102	MP 28	12 X 36			3.00		W	PST	2.5	1	
7	228+25		X	W1-2R	CURVE	36 X 36	X		9.00		W	PST	2.5	1	
				W13-1	40 MPH	24 X 24			4.00						
8	242+00		X	I-5	AIRPORT	24 X 24			4.00		W	PST	2.5	1	
				D9-301	LEFT	24 X 6			1.00						
9	242+50	X		W1-2L	CURVE	36 X 36	X		9.00		W	PST	2.5	1	
				W13-1	40 MPH	24 X 24			4.00						
10	249+56	X		D1-1	CHITINA AIRPORT	84 X 18		X	10.50		E	TS	3	2	SEE NOTE 21
11	249+71	X			MAINTENANCE STATION	X									EXISTING TO REMAIN
12	249+83	X			HEALTH CENTER	X									REMOVE
13	252+36		X	D2-1	CHITNA 5 MILES	48 X 18		X	6.00		E	TS	3	2	SEE NOTE 21
14	253+22	X		I-5	AIRPORT	24 X 24			4.00		W	PST	2.5	1	
				D9-301	RIGHT	24 X 6			1.00						
						TOTAL = 73.50									



MILEPOST DETAIL
(D10-101, D10-102)



SIGNING NOTES:

1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT THOSE DESIGNATED FOR REINSTALLATION, SALVAGE OR OTHERWISE NOTED.
2. INSTALL MILEPOST SIGNS (D10 SERIES) IN ACCORDANCE WITH STANDARD PLAN S-05.02, EXCEPT WITH A 15 TO 30 FOOT OFFSET. REDUCE THE OFFSET AS NECESSARY SO THE BOTTOM OF THE SIGN IS NO MORE THAN 15 FEET ABOVE THE GROUND. THE SIGN OFFSET SHALL NOT BE LESS THAN THE OFFSETS SHOWN IN S-05.02.
3. MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED.
4. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
5. INSTALL PST SIGN POSTS WITH SLEEVE TYPE CONCRETE FOUNDATION OR SOIL EMBEDMENT. EMBED PST IN SLEEVE 24". PER STANDARD PLAN S-30.05. ATTACH THE SIGN POST TO THE SLEEVE USING GALVANIZED 3/8" BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
6. 1/4" X 1 1/2" ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES AS SHOWN ON STANDARD PLAN S-01.02.
7. INSTALL 48" DIAMOND WARNING SIGNS ON A SINGLE POST WITH A BRACE HAVING EFFECTIVE BRACE LENGTH OF 54" OR WITH THREE WIND FRAMING MEMBERS AS SHOWN ON STANDARD PLAN S-00.12. THIS MODIFIES STANDARD PLAN S-01.02.
8. ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PST POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
9. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" UNDER SECTION 730-2.07 OF THE SSHC.
10. STOP (R1-1) AND YIELD (R1-2) SIGN LOCATIONS, ESPECIALLY THOSE AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. THE ENGINEER WILL APPROVE FINAL LOCATIONS.
11. INSTALL D3-100 SIGNS ABOVE THEIR RESPECTIVE STOP SIGNS. WHEN TWO D3-100 SERIES SIGNS ARE TO BE LOCATED ON THE SAME POST, INSTALL THE CROSS-STREET PANEL IN THE LOWER POSITION.
12. D3-100 SERIES SIGNS REQUIRE TWO SEPARATE SINGLE SIDED PANELS. END-BRACE PANELS PER SMALL STREET NAME SIGN BRACING DETAILS IN STANDARD PLAN S-01.01.
13. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
14. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
15. USE SERIES C LETTERS FOR D3-100 SERIES SIGNS UNLESS OTHERWISE NOTED. USE 4.5" FOR DIMENSION "E" FOR 12" D3-100 SIGNS. THE LETTERING INDICATING THE TYPE OF STREET (SUCH AS St, Ave, OR Rd) WILL BE UPPER CASE AND LOWER CASE. THIS MODIFIES THE ASDS.
16. USE A 3" HORIZONTAL SPACING BETWEEN WORDS, BETWEEN CARDINAL DIRECTIONS AND WORDS, AND BETWEEN WORDS AND NUMBERS ON D3-100 AND D3-100A SIGNS UNLESS OTHERWISE NOTED.
17. LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO: PIPELINES, INTERCONNECT CABLES, SIGNAL SYSTEMS, LIGHTING SYSTEMS, STORM AND SANITARY SEWERS, WATER SYSTEMS, AND TELEPHONE AND ELECTRICAL CABLES, PRIOR TO INSTALLING SIGN POSTS. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.
18. CLEARING, AS DIRECTED BY THE ENGINEER, MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
19. INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
20. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
21. HINGED JOINTS WITH FRANGIBLE FUSE PLATES ARE REQUIRED ON ALL MULTIPLE POST SIGNS WITH FRANGIBLE COUPLING SYSTEMS. THE HINGE LOCATION ON ALL POSTS SHALL BE THE SAME DISTANCE BELOW THE SIGN, INSTEAD OF THE 6" MINIMUM SHOWN ON STANDARD PLAN S-31.02. SEE MANUFACTURER'S SPECIFICATION FOR HINGE LOCATION BELOW SIGN.
22. INSTALL TS SIGN POST BASES AND FOUNDATIONS BEHIND BARRIER IN ACCORDANCE WITH STANDARD PLAN S-32.02. PLACE SIGNS TO MEET 3' MINIMUM TO EDGE OF SIGN AND 5' MINIMUM TO SIGN POST FROM FACE OF GUARDRAIL.
23. THE 4" MOUNTING AREA ON MILEPOST SIGNS (D10-200 SERIES) SHALL BE BARE ALUMINUM. THIS ELIMINATES THE OPTION OF INSTALLING GREEN REFLECTIVE SHEETING IN THIS AREA AS NOTED IN THE ASDS.
24. ADHESIVE TAPE IS NOT PERMITTED. THIS MODIFIES STANDARD PLAN S-00.12

FASTENER SPECIFICATION TABLE		
FASTENERS	STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

THESE SPECIFICATIONS APPLY TO ALL SIGN FASTENER HARDWARE ON THE PROJECT.

POST TYPE LEGEND:

PST = PERFORATED STEEL TUBE
TS = TUBE STEEL (SQUARE STRUCTURAL STEEL TUBING)
W_X_ = WIDE FLANGE

SIGN SUMMARY

STATE OF ALASKA 49TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587 Guardrail-SIGN SUMMARY Wed, Dec/07/22 01:07pm

NO.	DATE	REVISION

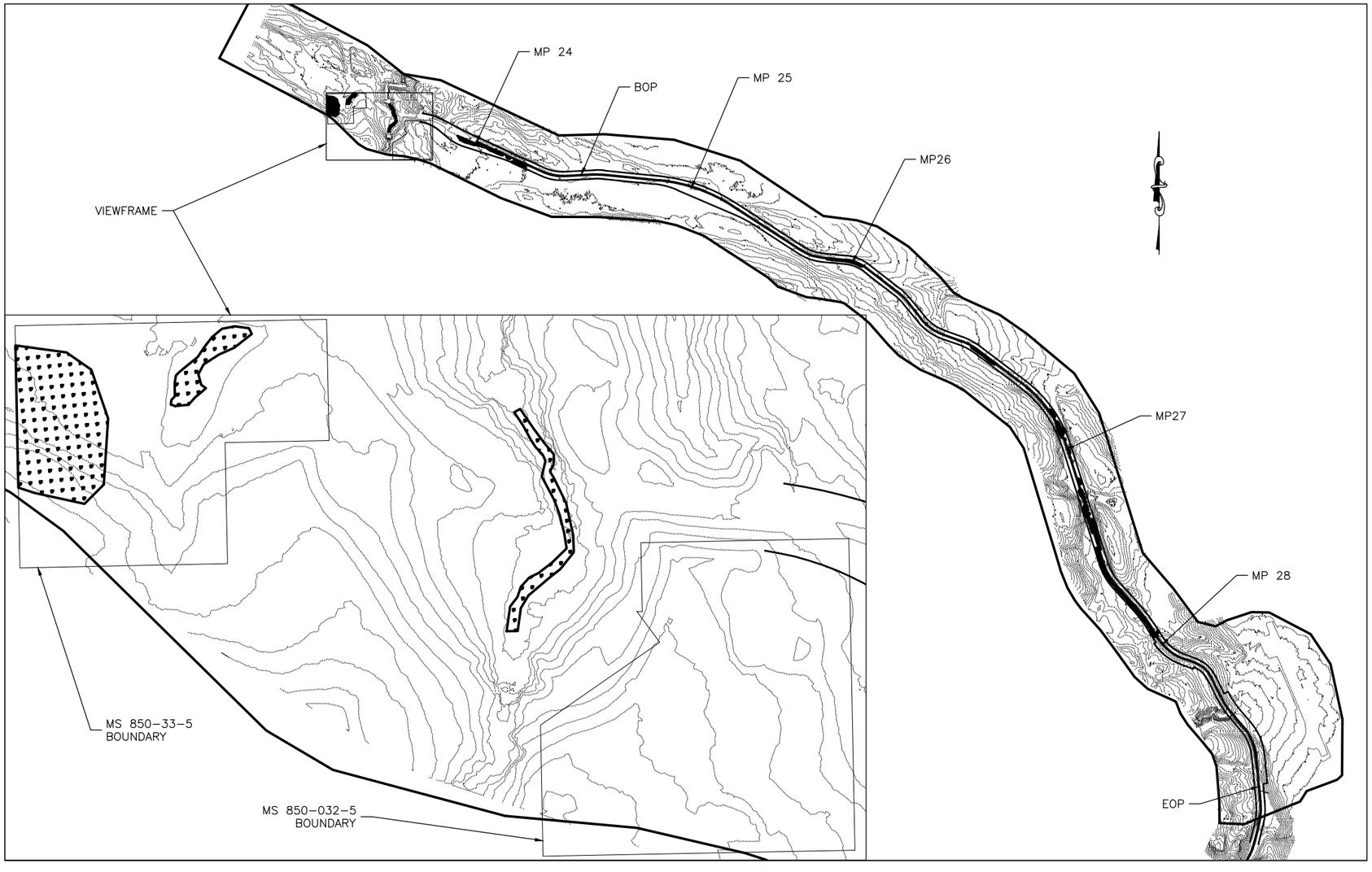
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	Q1	Q5

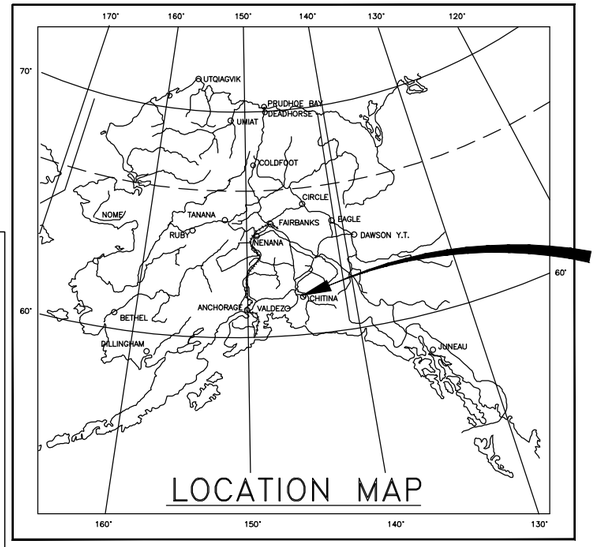
ESCP GENERAL NOTES:

1. THIS ESCP IS A GENERAL PLAN FOR GUIDING THE DEVELOPMENT OF THE CONTRACTOR'S SWPPP. THE CONTRACTOR IS EXPECTED TO PROVIDE ADDITIONAL DETAILS AND BMPS BASED ON THE CONTRACTORS ACTUAL SCHEDULE AND CONSTRUCTION METHODS, AS REQUIRED TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 641 OF THE PROJECT SPECIFICATIONS.
2. CONSTRUCTION ENTRANCE/EXIT MUST BE ESTABLISHED TO MINIMIZE OFF-SITE IMPACTS.
3. INSTALL PERIMETER CONTROL BMP WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25 FOOT VEGETATIVE BUFFER IS NOT RETAINED.
4. IF EXCAVATION DE-WATERING WILL OCCUR WITHIN 1,500FT OF AN ADEC IDENTIFIED CONTAMINATED SITE, THEN THE PROJECT MUST COMPLY WITH THE ADEC EXCAVATION DE-WATERING GENERAL PERMIT.
5. ALL IN-WATER WORK MUST BE ISOLATED FROM WATERS OF THE U.S. USING APPROPRIATE BMPS. ISOLATION METHODS MAY INCLUDE:
   - 5.1. SILT CURTAINS
   - 5.2. COFFERDAMS
   - 5.3. DIVERSIONS
   - 5.4. OTHER METHODS APPROVED BY THE ENGINEER
6. INLET / OUTLET PROTECTION REQUIRED FOR ALL CULVERTS, CROSSING CULVERT PROTECTION IS SHOWN ON THE ESCP SHEETS, DRIVEWAY CULVERTS ARE NOT SHOWN FOR VISUAL CLARIFICATION.
7. AREAS OF DISTURBANCE, TEMPORARY AND PERMANENT STABILIZATION, WILL BE MARKED AS WORK PROCEEDS AND ADDED TO THE LEGEND.
8. REFER TO APPENDIX A OF THE CONTRACT FOR ENVIRONMENTAL PERMIT INFORMATION.
9. REFER TO APPENDIX C OF THE CONTRACT FOR THE ESCP TEMPLATE.

ENVIRONMENTAL COMMITMENTS:

1. MECHANIZED VEGETATION/LAND CLEARING ACTIVITIES WILL BE AVOIDED DURING THE MIGRATORY BIRD NESTING SEASON (MAY 1 – JULY 15) UNLESS A MITIGATIVE WORK PLAN IS SUBMITTED BY THE CONTRACTOR AND APPROVED BY DOT&PF.





PROJECT LOCATION

LEGEND:

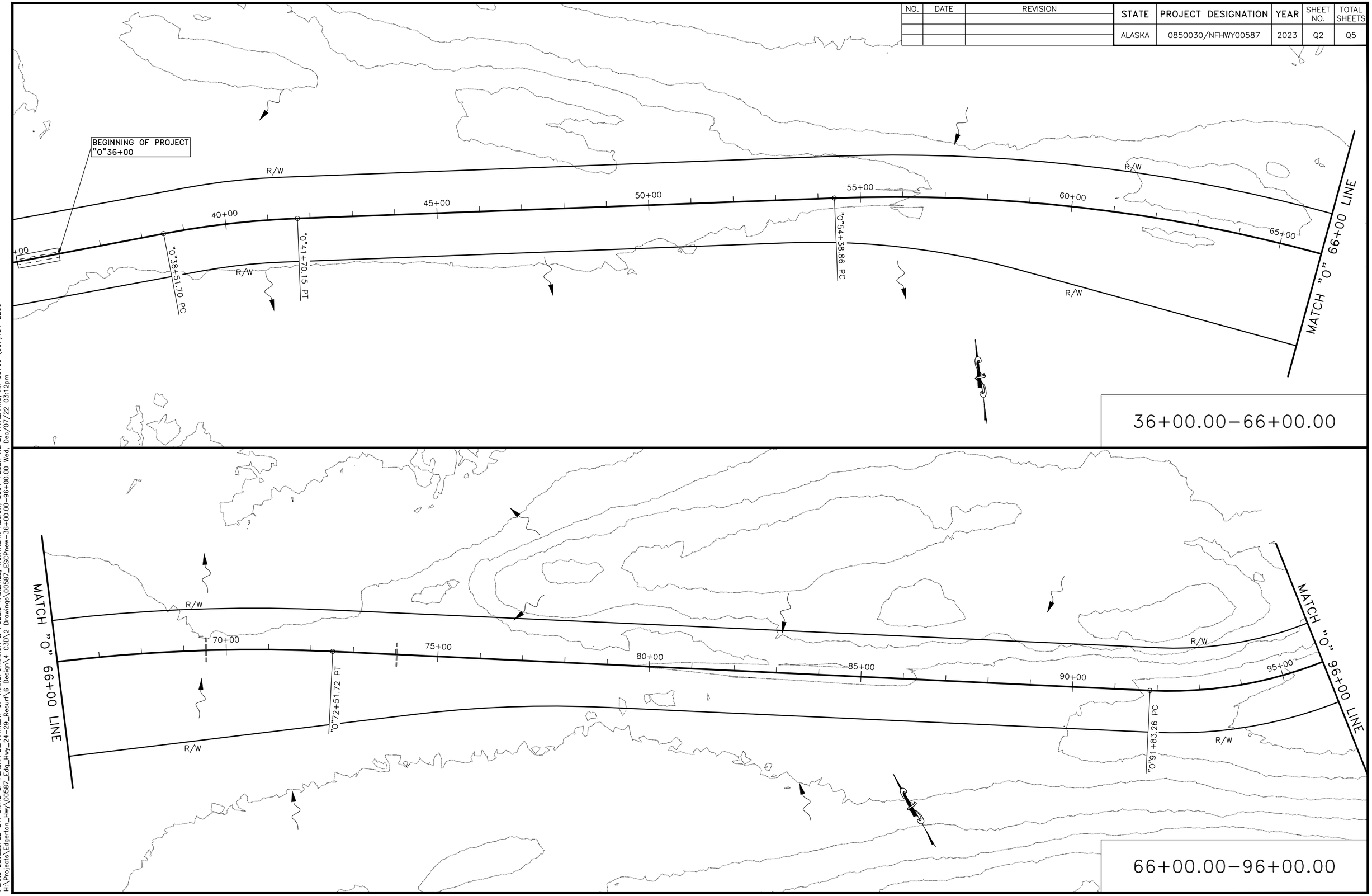
- WETLANDS
- APPROACH
- CULVERT
- RIPRAP
- REVEGETATIVE EFFORT
- PERIMETER CONTROL
- INLET PROTECTION
- OUTLET PROTECTION
- EXISTING SURFACE FLOW DIRECTION
- CHECK DAMS OR OTHER VELOCITY CONTROL BMPS
- CONSTRUCTION ENTRANCE AND EXIT

ESCP

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_ESCPnew-ESCP Wed, Dec/07/22 03:12pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	Q2	Q5



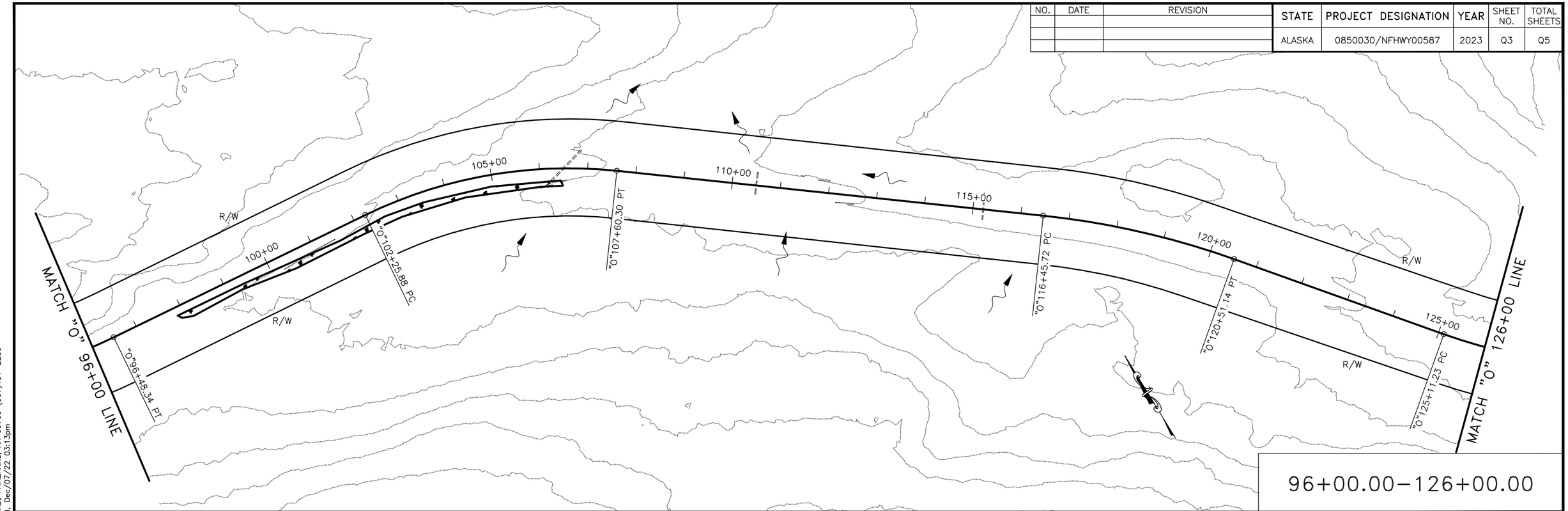
36+00.00–66+00.00

66+00.00–96+00.00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_ESCPnew-36+00.00-96+00.00 Wed, Dec/07/22 03:12pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	Q3	Q5



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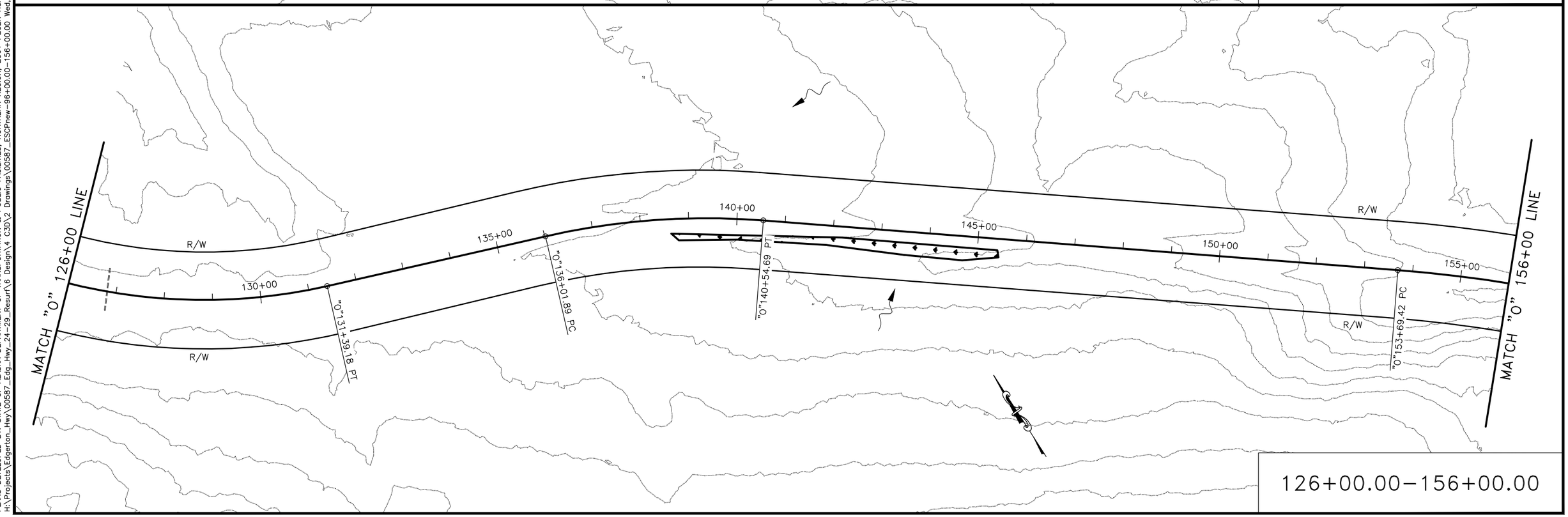

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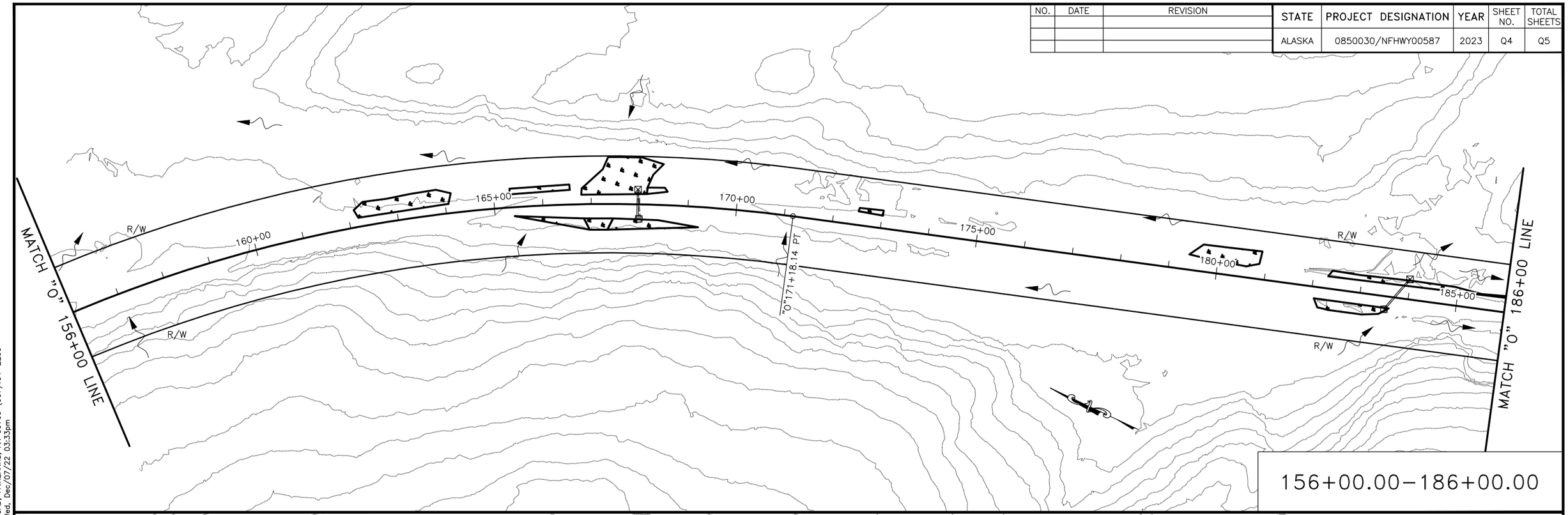
H:\Projects\Edgerton_Hwy\00587_Edg_Hwy_24-29_Resurf\6 Design\4 C3D\2 Drawings\00587_ESCPnew-96+00.00-156+00.00 Wed, Dec/07/22 03:13pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	Q4	Q5



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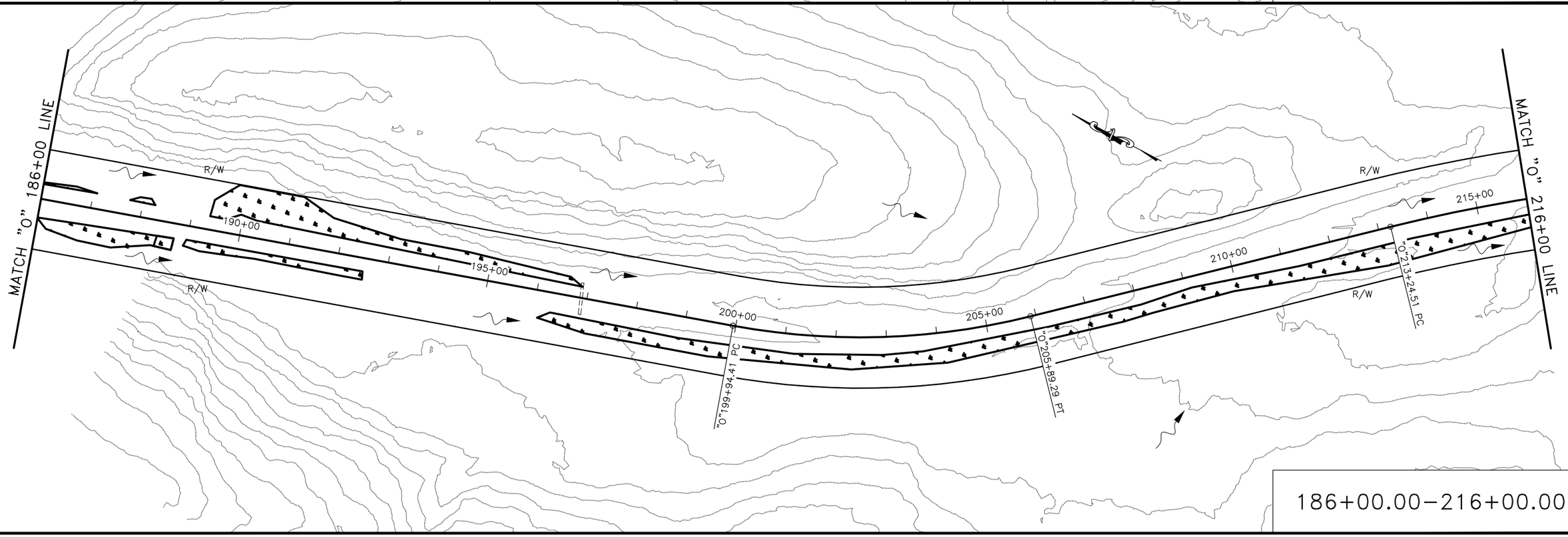

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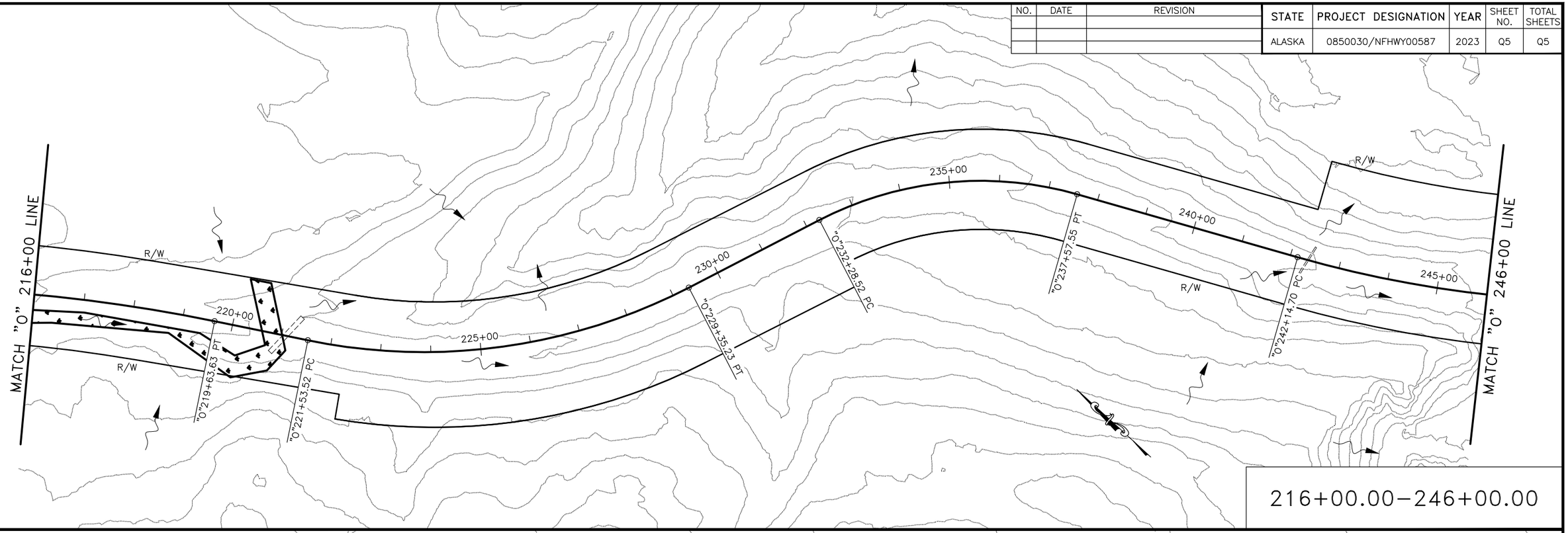
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	Q5	Q5



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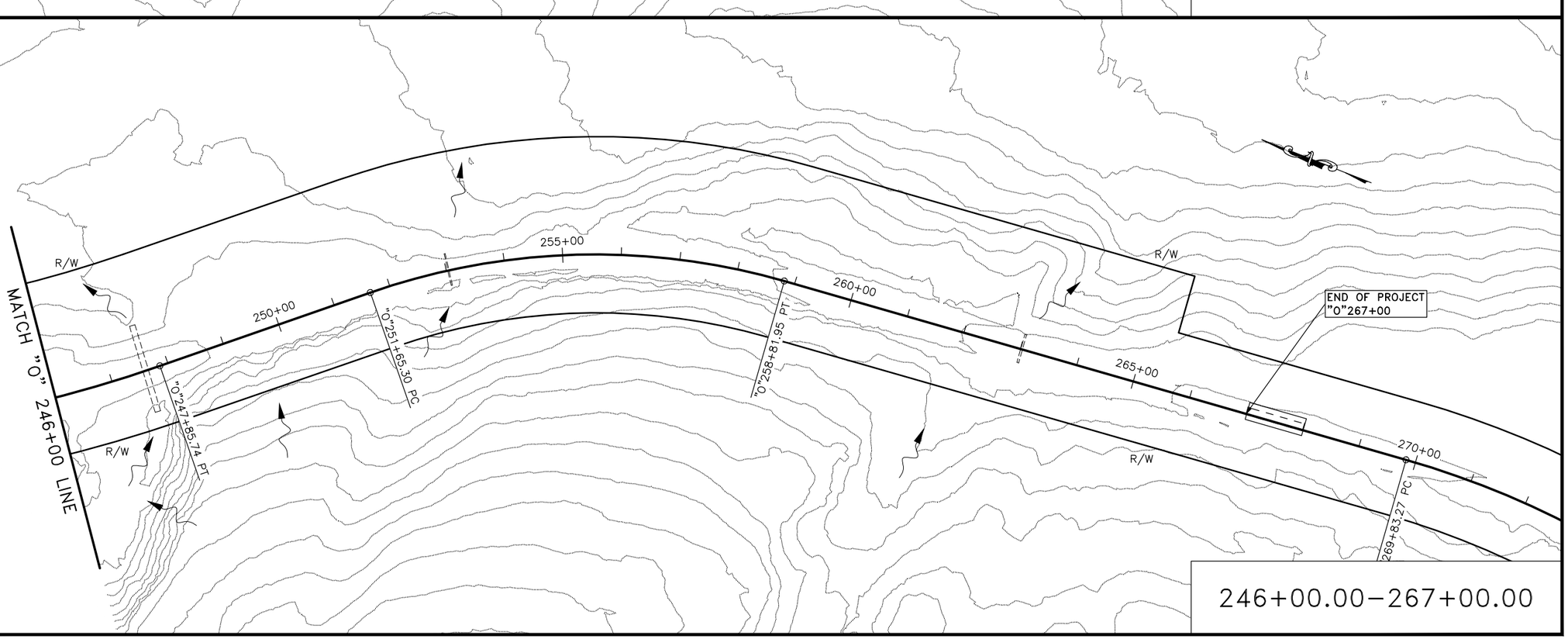

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PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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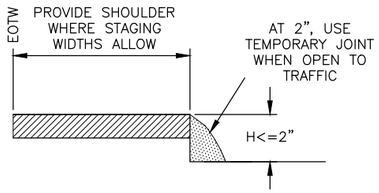
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	T1	T2

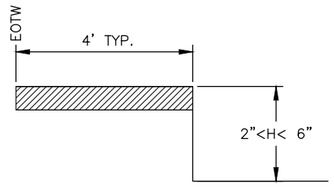
VERTICAL DROP–OFFS



CASE A

DROP–OFFS ≤2 INCHES
(PAVED SURFACES ONLY)

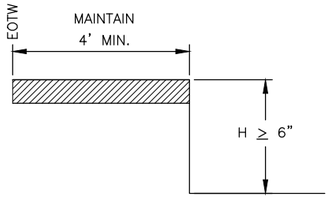
1. USE "UNEVEN LANES" (W8–11) SIGNS FOR ALL DROP–OFFS IN BETWEEN TRAFFIC LANES
2. LEAVE NO DROP–OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK



CASE B

2"< DROP–OFFS < 6"
(ALL ROADWAY SURFACES)

1. PLACE CONES OR CANDLES FOR DROP–OFFS ≥ 4 FEET AND ≤ 30 FEET FROM EOTW.
2. USE DRUMS OR TYPE II BARRICADES FOR DROP–OFFS < 4 FEET FROM THE EOTW.



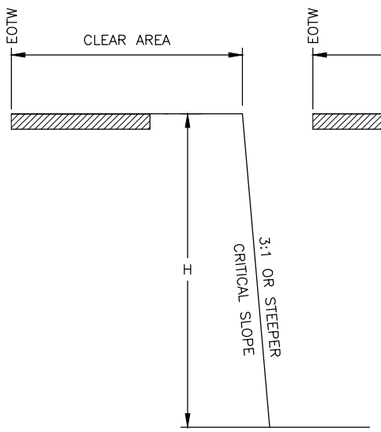
CASE C

DROP–OFFS ≥6"
(ALL ROADWAY SURFACES
AND ROADSIDE SLOPES)

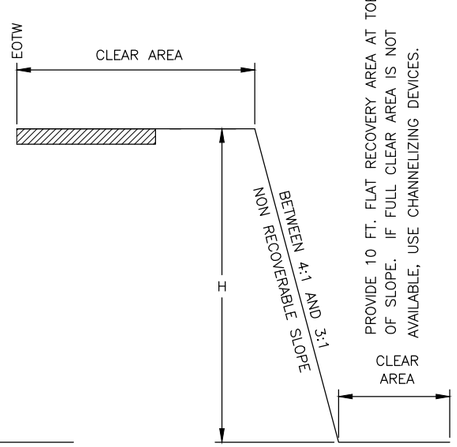
1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP–OFFS ≤ 24" WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIERS FOR DROP–OFFS > 24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

FILL SLOPES

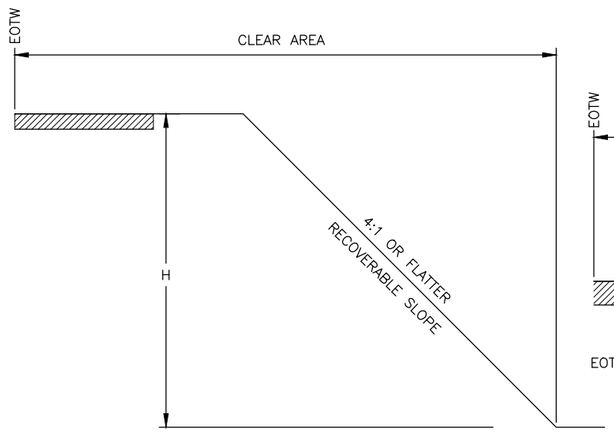
STEEPER THAN OR EQUAL TO 3:1



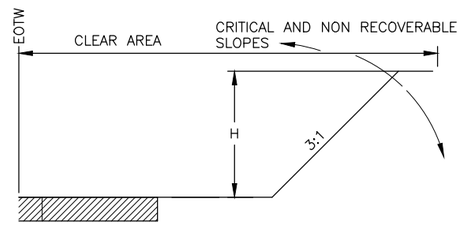
BETWEEN 4:1 AND 3:1



FLATTER THAN OR EQUAL TO 4:1



CUT SLOPES



EOTW = EDGE OF TRAVELED WAY

CLEAR AREA REQUIREMENTS

	LOW SPEED < = 35 MPH	INTERMEDIATE SPEED 40 MPH TO 45 MPH	HIGH SPEED ≥ = 50 MPH
RURAL	15'	24'	30'
URBAN	10' DITCH SECTIONS, OR 2' BEHIND CURB	15' DITCH CONDITIONS, OR 2' BEHIND CURB	15' DITCH CONDITIONS, OR 2' BEHIND CURB

CHANNELIZING DEVICE REQUIREMENTS FOR SLOPES 3:1 OR STEEPER WITHIN THE CLEAR AREA

	H <= 15'	H > 15'
< 2000 VPD LOW VOLUME	CANDLES OR CONES	TYPE II BARRICADES OR DRUMS
> 2000 VPD	TYPE II BARRICADE OR DRUMS	PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL

TRAFFIC CONTROL NOTES:

1. USE THE EXISTING CROSS–SECTION (PRIOR TO CONSTRUCTION) AS A BASIS FOR DETERMINING WHEN CHANNELIZING DEVICES ARE NEEDED.
2. INSTALL CHANNELIZING DEVICES WHEN THE HORIZONTAL OR VERTICAL CURVATURE IS MADE MORE SEVERE.
3. INSTALL FLEXIBLE DELINEATORS WHEN ALL VEGETATION OVER 4 FEET HIGH IS CLEARED FROM FILL SLOPES THAT ARE 3:1 OR STEEPER IN THE CLEAR AREA.
4. USE PORTABLE CONCRETE BARRIER FOR WARRANTING CONDITIONS WHICH LAST LONGER THAN 3 DAYS. FOR CONDITIONS LASTING LESS THAN 3 DAYS, OTHER CHANNELIZING DEVICES MAY BE INSTALLED.
5. TERMINATE RUNS OF PORTABLE CONCRETE BARRIER USING THE FOLLOWING METHODS:
   - A) CONNECT TO A PORTABLE CRASH CUSHION, OR
   - B) PROVIDE A CONCRETE BARRIER WITH THRIE BEAM TRANSITION TO W–BEAM GUARDRAIL, TREATED WITH A PARALLEL TERMINAL (SEE SECTION 710).
   - C) FLARE THE ENDS OF THE PORTABLE CONCRETE BARRIER AWAY FROM THE ROADWAY AT A RATE OF 7:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER, OUTSIDE OF THE CLEAR AREA. INSTALL A SLOPING PORTABLE CONCRETE BARRIER END TREATMENT, OR
   - D) BURY IN THE BACKSLOPE.
6. TERMINATE THE RUNS OF TEMPORARY W–BEAM GUARDRAIL USING THE FOLLOWING METHODS:
   - A) PROVIDE A PARALLEL TERMINAL (SEE SECTION 710)
   - B) FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 6:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER OUTSIDE OF THE CLEAR AREA, TERMINATE WITH A STANDARD W–BEAM END SECTION, OR
   - C) BURY IN THE BACKSLOPE.

EQUIPMENT NOTES:

1. WHEN THERE IS ACTIVE, NONMOBILE CONSTRUCTION EQUIPMENT WITHIN THE CLEAR AREA, DELINEATE THE ROADSIDE WITH TRAFFIC CONES.
2. SEPARATE PROCEDURES ARE REQUIRED FOR MOBILE WORK ZONE OPERATIONS AND SHORT DURATION WORK OF LESS THAN 12 HOURS.

WINTER SHUTDOWN NOTES:

1. WHEN REQUIRED, USE CHANNELIZING DEVICES WHICH CAN BE MAINTAINED OVER WINTER.
2. NO CHANNELIZING DEVICES ARE REQUIRED IF:
   - A) CONSTRUCTION SLOPES ARE RECOVERABLE, AND
   - B) SLOPES ARE SMOOTH AND COMPACTED, AND
   - C) REQUIRED CLEAR AREA IS PROVIDED

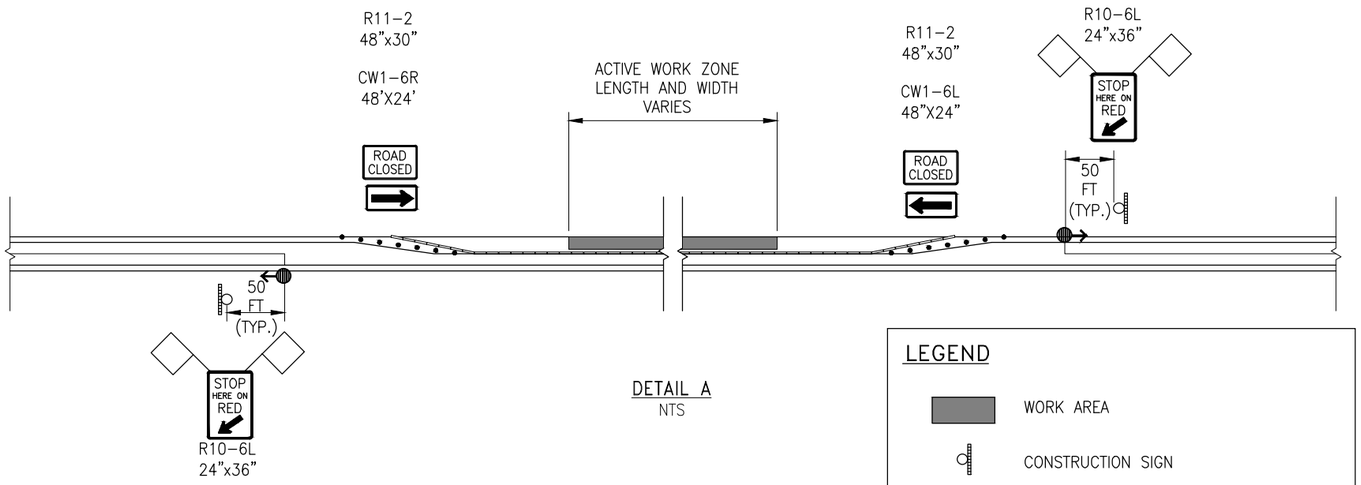
TRAFFIC CONTROL 1 OF 2

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0850030/NFHWY00587	2023	T2	T2

TRAFFIC CONTROL NOTES:

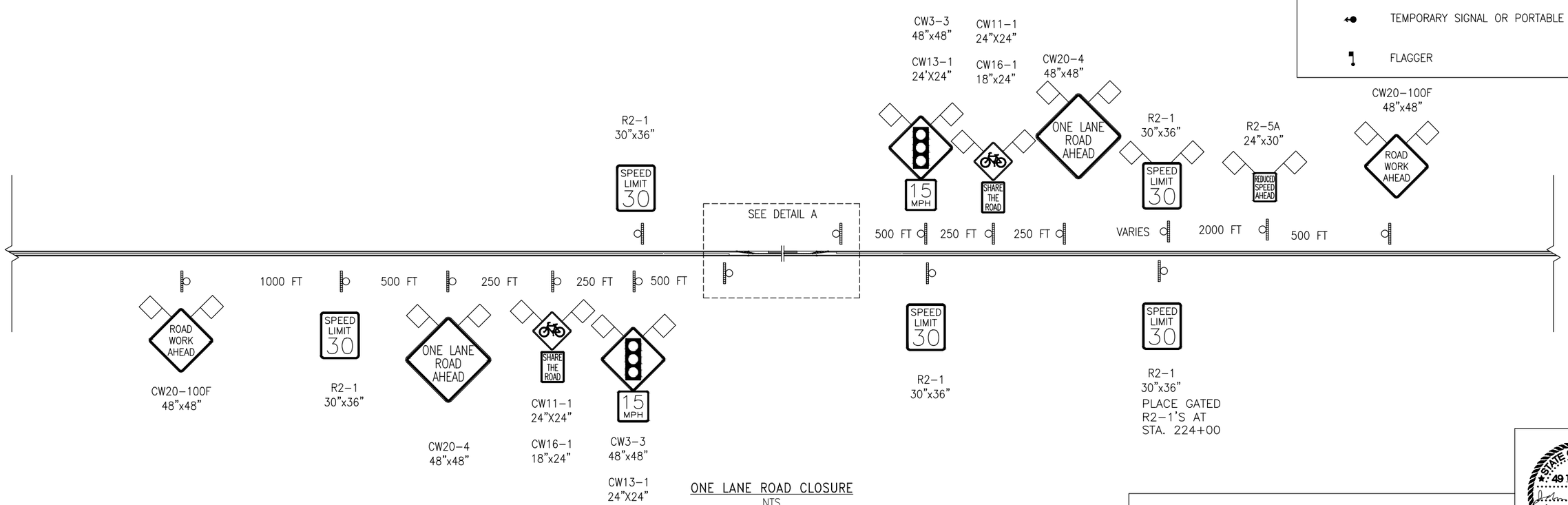
1. THIS TCP IS SCHEMATIC AND MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS. MODIFY AND ADJUST DISTANCES SHOWN ACCORDING TO SITE CONDITIONS.
2. DURING A SINGLE LANE CLOSURE MAINTAIN A MINIMUM OF 18 FEET OF TRAVELED WAY OPEN TO THE PUBLIC. PROVIDE EMERGENCY VEHICLES WITH ACCESS THROUGH THE PROJECT AT ALL TIMES. PROVIDE ACCESS FOR PERMITTED OVERSIZE VEHICLES. SEE SECTION 643.
3. MOUNT CONSTRUCTION SIGNS ON 4" X 4" WOOD POST IN ACCORDANCE WITH STANDARD DRAWINGS S-05.01 AND S-30.04 UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. ALL TEMPORARY TRAFFIC CONTROL SIGNS SHALL HAVE HIGH LEVEL WARNING DEVICES.
5. USE WARNING LIGHTS TO MARK BARRICADES AND OTHER CHANNELIZING DEVICES AT NIGHT. EQUIP THE FIRST DEVICE, FACING THE DIRECTION OF TRAFFIC WITH TYPE A FLASHING WARNING LIGHTS; EQUIP ALL OTHERS WITH STEADY-BURN WARNING LIGHTS.
6. CONCRETE BARRIER AND SIGNALS ARE NOT REQUIRED IF THE LANE CLOSURE IS ANTICIPATED TO BE LESS THAN FOUR DAYS. FLAGGERS ARE REQUIRED IF CONCRETE BARRIERS AND SIGNALS ARE NOT USED.
7. INSTALL OM-3R OBJECT MARKERS FOR TEMPORARY CULVERTS.



DETAIL A
NTS

LEGEND

- WORK AREA
- CONSTRUCTION SIGN
- DRUM
- CANDLE
- PRECAST CONCRETE "F" SHAPE BARRIER
- TEMPORARY SIGNAL OR PORTABLE SIGN
- FLAGGER



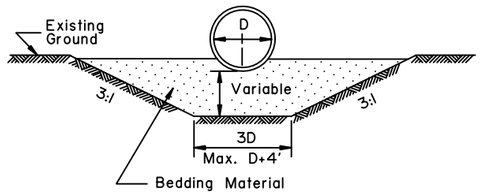
ONE LANE ROAD CLOSURE
NTS

TRAFFIC CONTROL 2 OF 2

STATE OF ALASKA
49 TH
John Jaro Netardus
CE 124494
REGISTERED PROFESSIONAL ENGINEER
12/7/22

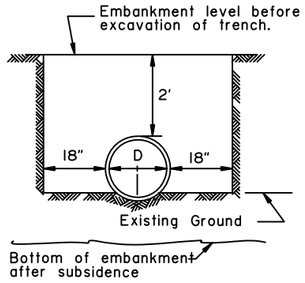
D-01.02

SHEET | of |

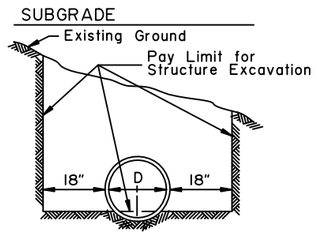


TYPE "A"
FOUNDATION STABILIZATION

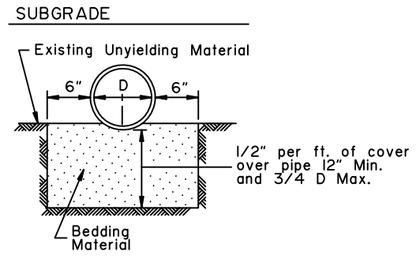
To be used in unstable areas as directed by the Engineer.



TYPE "B"



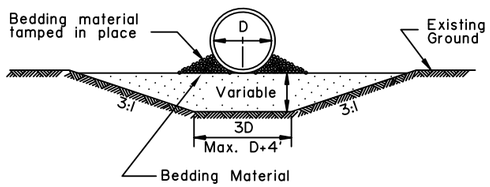
TYPE "C"



TYPE "D"
ROCK OR UNYIELDING MATERIAL

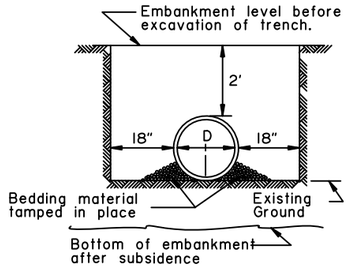
GENERAL NOTES:

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.

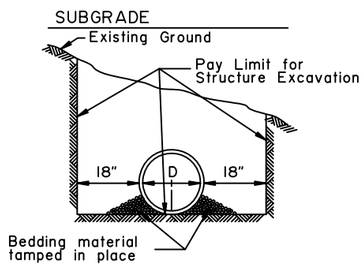


'ALTERNATE'
TYPE "A"
FOUNDATION STABILIZATION

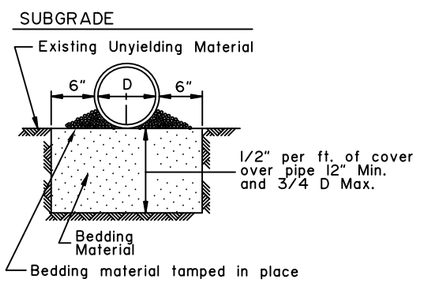
To be used in unstable areas as directed by the Engineer.



'ALTERNATE'
TYPE "B"

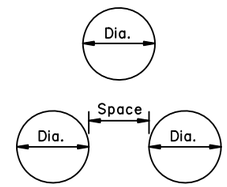


'ALTERNATE'
TYPE "C"



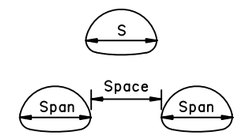
'ALTERNATE' TYPE "D"
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



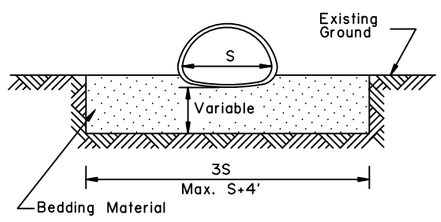
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span



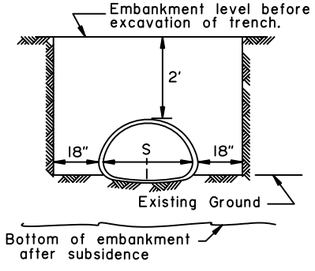
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

CULVERT PIPE

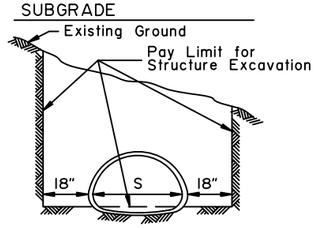


TYPE "A"
FOUNDATION STABILIZATION

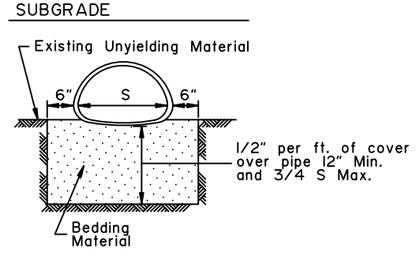
To be used in unstable areas as directed by the Engineer.



TYPE "B"



TYPE "C"



TYPE "D"
ROCK OR UNYIELDING MATERIAL

ARCH

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CULVERT PIPE & ARCH INSTALLATION DETAILS

Adopted as an Alaska Standard Plan by:

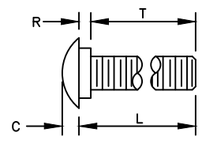
Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

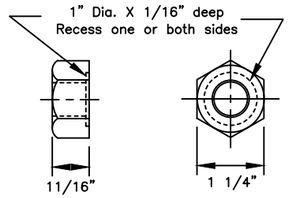
Next Code and Standards Review date: 02/08/2029

G-00.05 SHEET 1 of 5

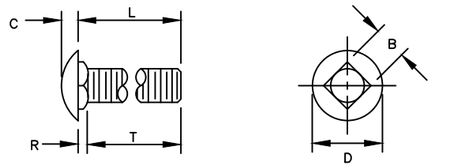


B	C	D	L (Length)	R	T (Thread Length)
15/16"	5/16"	1 5/16" or 1 7/16"	As Required	7/32"	As Required

5/8" BUTTONHEAD BOLT
(FBB01–05)

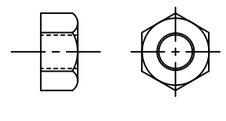


5/8" Dia. RECESSED HEX NUT
(FBB01–05)

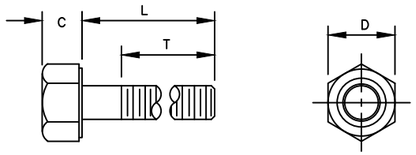


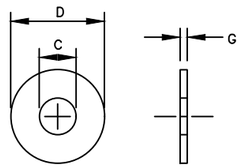
B	C	D	L (Length)	R	T (Thread Length)
5/8"	5/16"	1 5/16"	As Required	3/16"	As Required

5/8" Dia. CARRIAGE BOLT
(FBC10–20)



STANDARD HEX NUT





GENERAL NOTES:

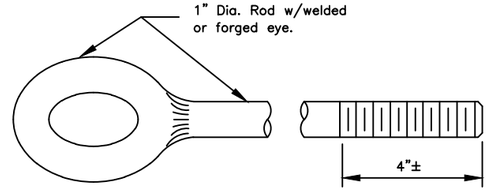
1. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.

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"–11	——	——	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"

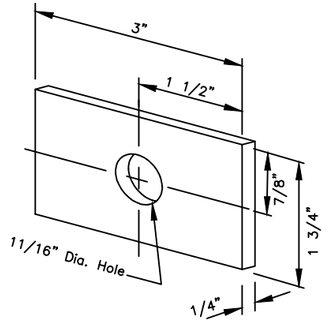
STANDARD HEX BOLTS

For Bolt ø	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"

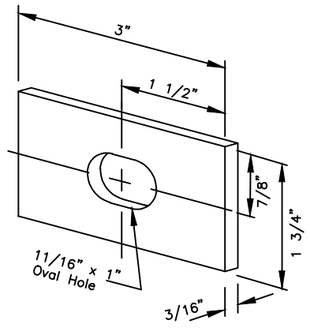
STANDARD STEEL WASHERS



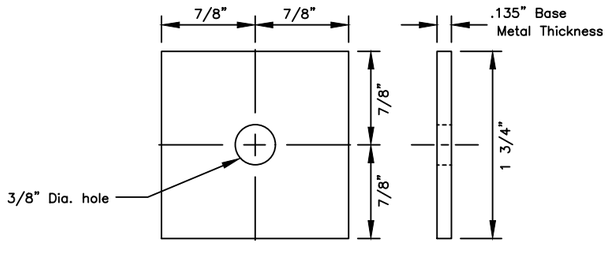
EYE BOLT



FLAT PLATE WASHER



RECTANGULAR POST BOLT WASHER
(FWR03)



SQUARE STEEL WASHER
(FWR01)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE
(NUTS, BOLTS & WASHERS)

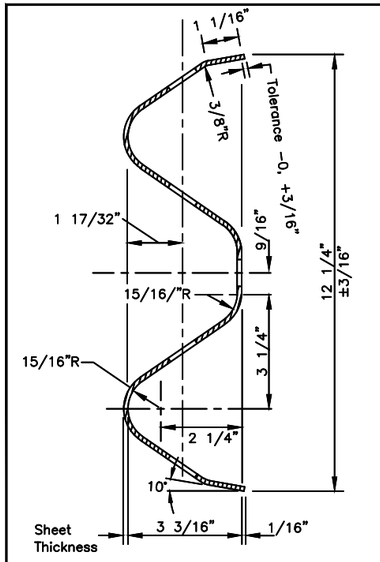
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

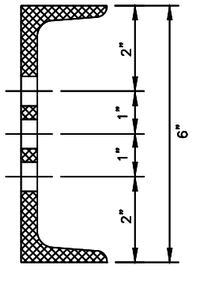
Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

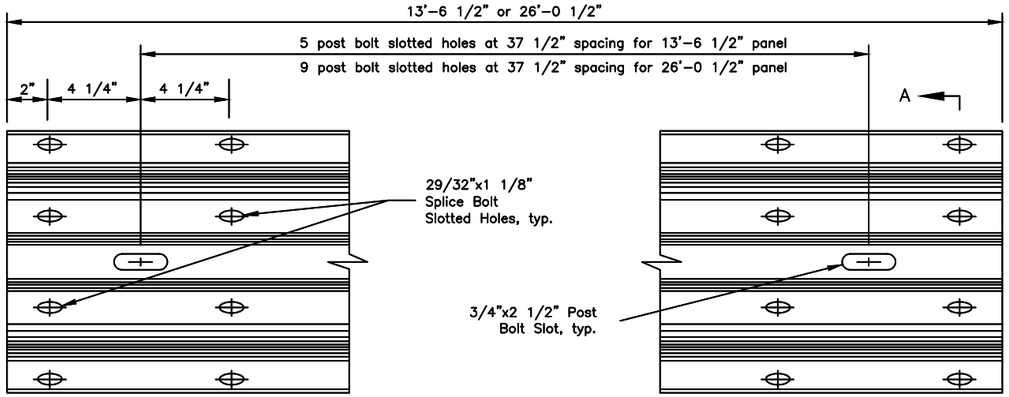
G–00.05



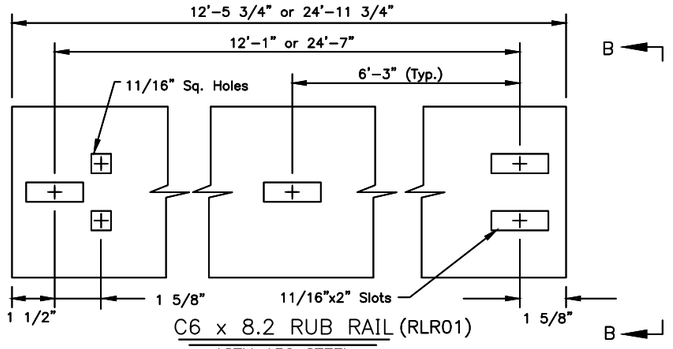
SECTION A–A
(cross section same as RWM02a–b)



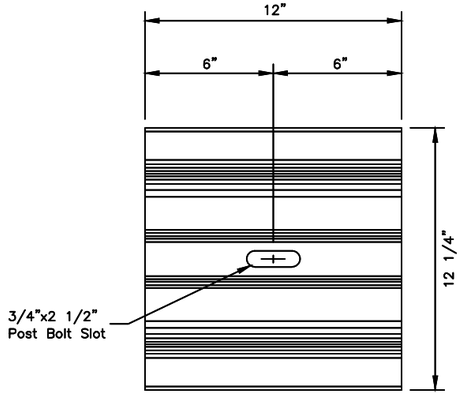
SECTION B–B



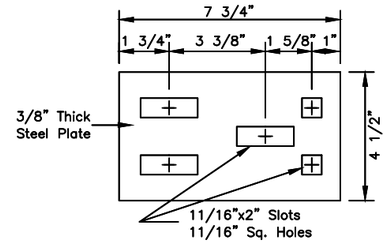
STANDARD W–BEAM PANEL (RWM04a–b)



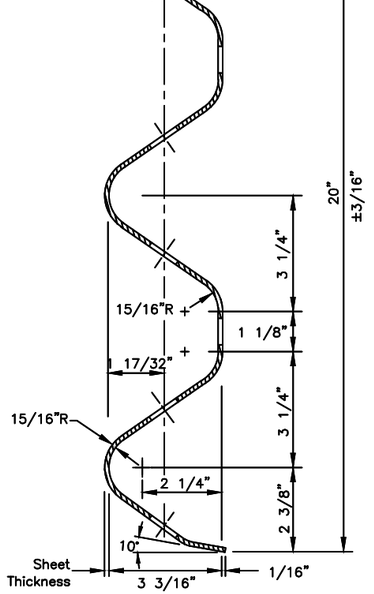
C6 x 8.2 RUB RAIL (RLR01)
ASTM A36 STEEL



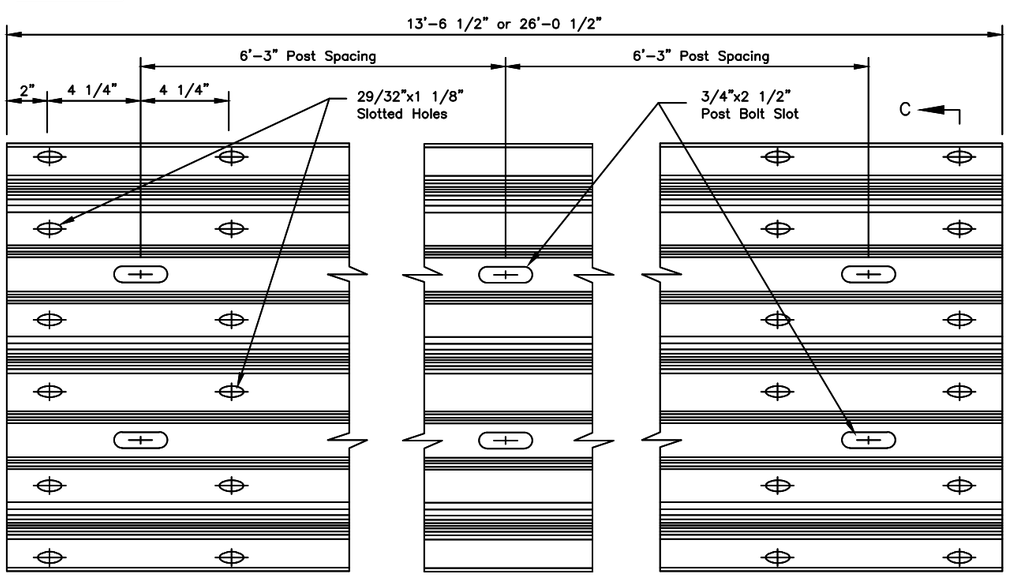
W–BEAM BACKUP PLATE
(RWB01a–b)



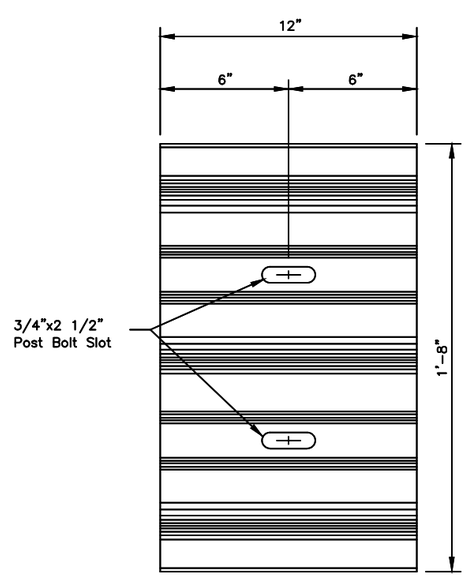
SPLICE PLATE (RLR01)
ASTM A36 STEEL



SECTION C–C
(RTM01a–02b)



STANDARD THRIE BEAM PANEL (RTM01a–02b)



THRIE BEAM BACKUP PLATE
(RTB01a–02b)

GENERAL NOTES:

1. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.
2. Install back–up plates between blockouts and w–beam or thrie–beam rail at intermediate (non–splice) posts when steel blockouts are used but not with wood, rubber, plastic, or other approved blockouts.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (RAILS AND SPLICES)

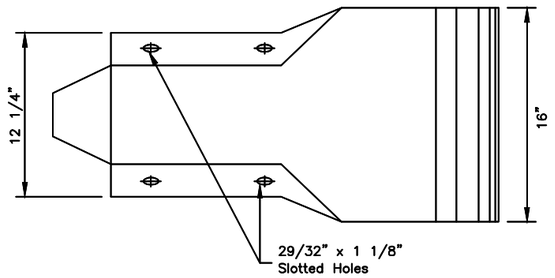
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

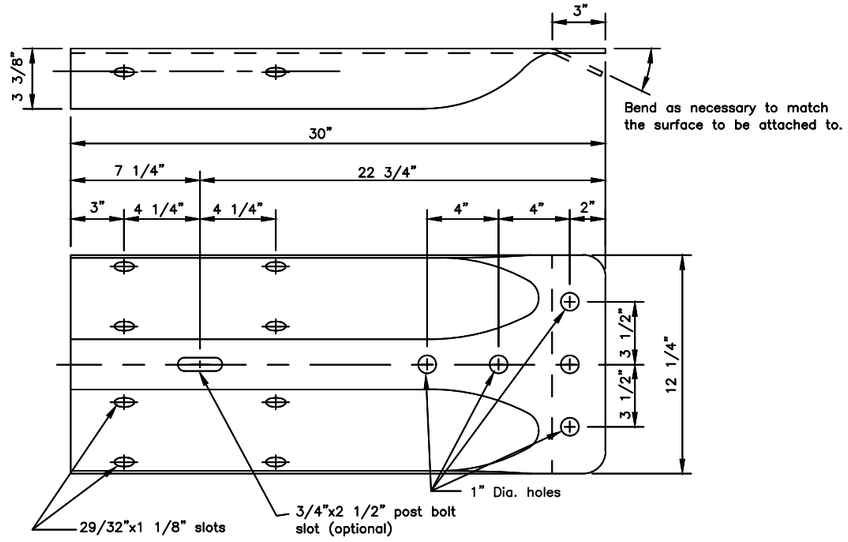
Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

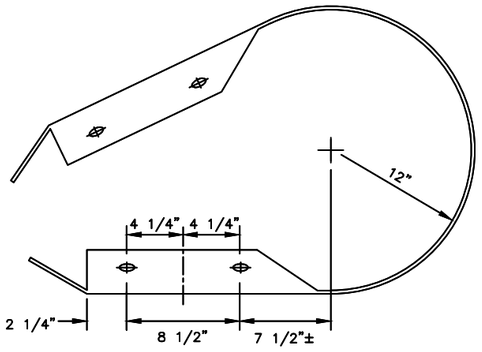
G-00.05 SHEET 3 of 5



PROFILE

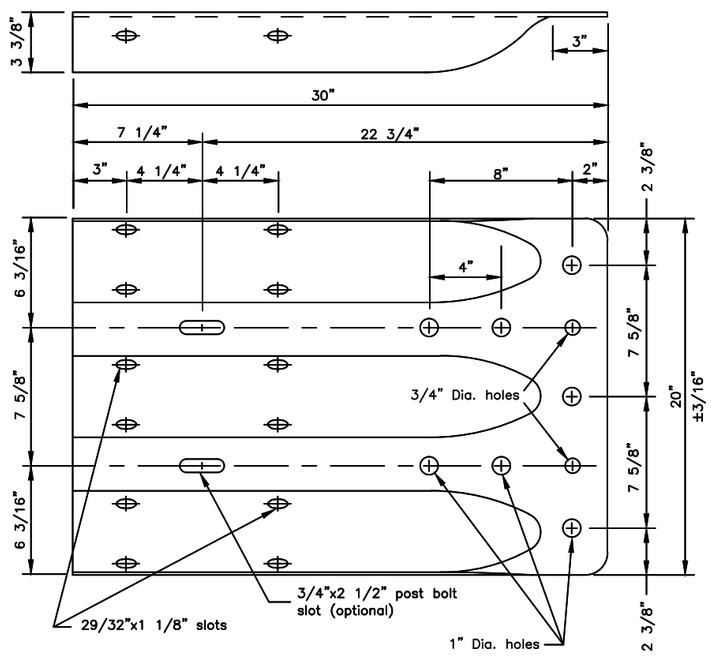


STANDARD W-BEAM TERMINAL CONNECTOR
(RWE02)



W-BEAM PLAN VIEW
*Radius to be specified on the plans

STANDARD W-BEAM END SECTION
(RWE06)



STANDARD THRIE BEAM TERMINAL CONNECTOR
(RTE01b)

GENERAL NOTES:

1. W-Beam and Thrie Beam Terminal Connectors shall conform to AASHTO M 180, Class B, Type II.
2. W-Beam end sections shall conform to AASHTO M 180, Class A, Type II.
3. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (TERMINAL CONNECTORS)

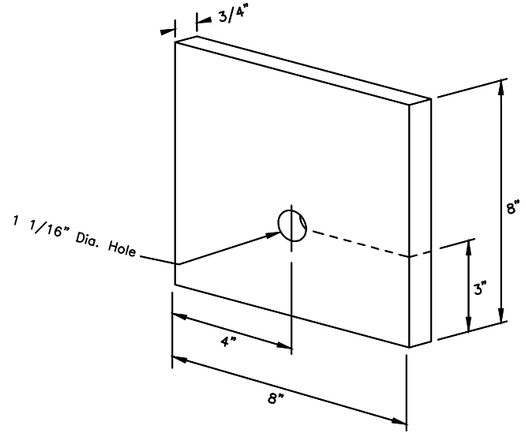
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

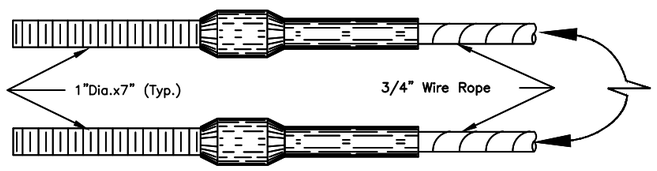
Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

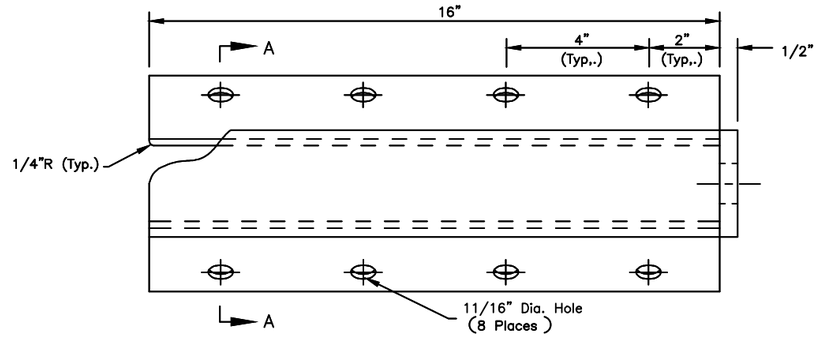
G-00.05



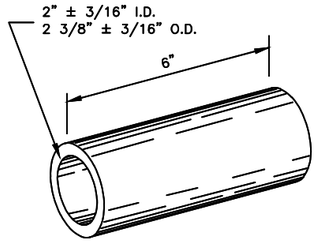
BEARING PLATE for CRT TERMINAL ANCHOR
(FPB01)



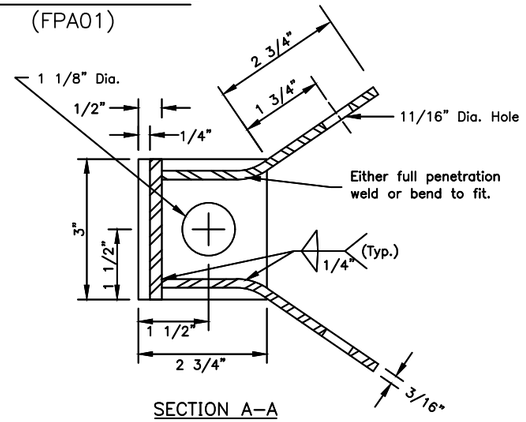
SWAGED FITTING DETAIL
(FCA01–02)



CABLE ANCHOR PLATE
(FPA01)



SLEEVE DETAIL
(FMM02)

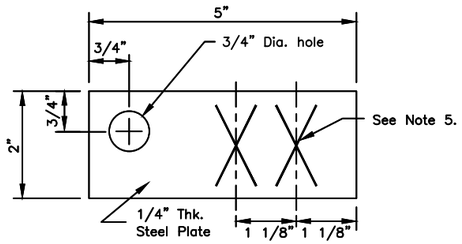


SECTION A–A

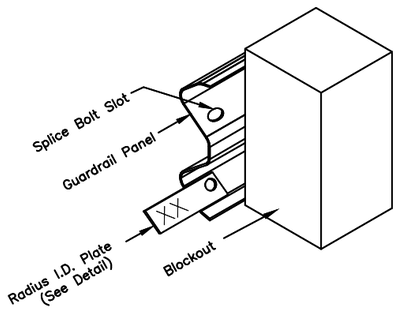
CONTROLLED RELEASE TERMINAL HARDWARE DETAILS

GENERAL NOTES:

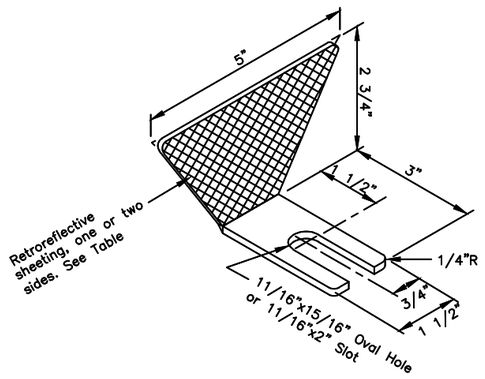
1. Cable Anchor Plate may be formed in single unit or welded fabrication.
2. Anchor Cable Assembly must conform to AASHTO M 30 with Type II Wire Rope.
3. Provide Sleeve for Wood Posts meeting the requirements of ASTM A53 and made of 2–inch galvanized standard pipe. Sleeve shall be a tight, pressed fit in post.
4. Attach radius ID plates to all shop–bent guardrail sections. Bolt the ID plates to the back side of the guardrail panel with the lower splice bolt nearest the P.C. of the radius.
5. Show the Rail bend radius, in feet, 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". Galvanize the plate after the digits are marked.
6. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.



RADIUS I.D. PLATE



RADIUS I.D. PLATE
MOUNTING DETAIL



GUARDRAIL REFLECTOR

Guardrail Reflector Table

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (MISCELLANEOUS)

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

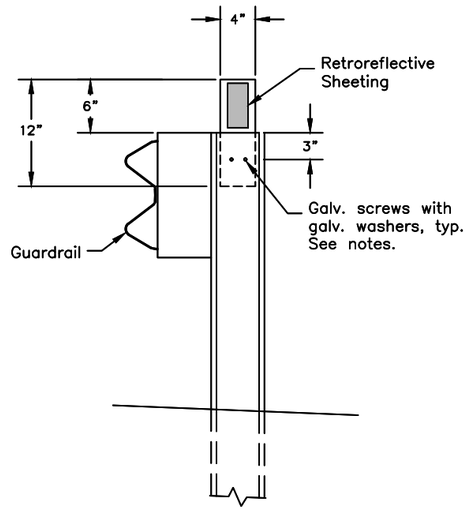
Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

G–00.05

G-00.05 SHEET 5 of 5



GUARDRAIL FLEXIBLE DELINEATOR DETAIL

(Steel post shown – similar for wood post)

CONSTRUCTION NOTES

1. Install guardrail flexible delineators where shown on the plans.
2. Install guardrail flexible delineators at 50 foot spacing, unless otherwise noted on the plans. Install not less than 2 delineators per guardrail run.
3. Use 3" x 5" white/yellow/red retroreflective sheeting as required per Standard Plan T–05. Install retroreflective sheeting on both sides of delineator on two–way roads.
4. Attach 4" x 12" flexible delineators to the top of new guardrail posts, on the trailing side of the posts relative to the adjacent lane's direction of travel.
5. Use 2 each 1/4" dia. x 1–1/2" long galvanized lag screws for attaching to wood posts and 2 each 1/4" dia. x 3/4" long galvanized self–drilling fasteners for steel posts. Install a galvanized washer between the fastener head and the flexible delineator.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (FLEXIBLE DELINEATORS)

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

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By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

G–00.05

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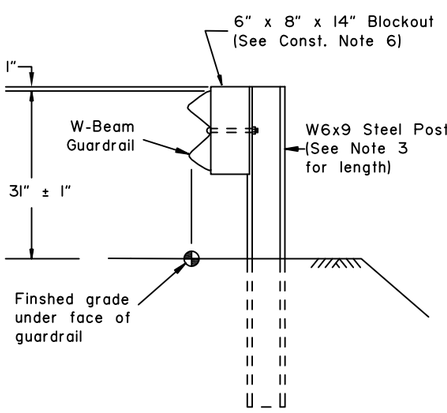
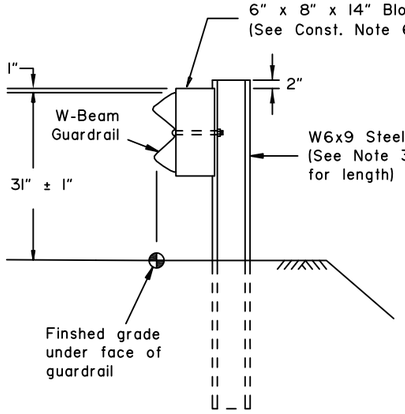
SHEET | of |

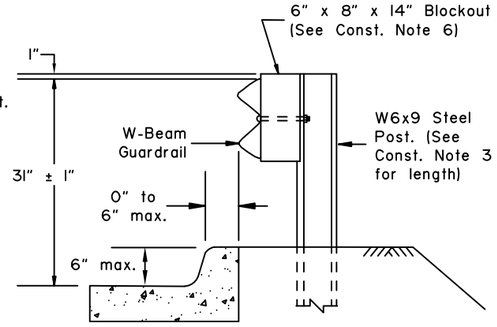


TYPE I POST INSTALLATION

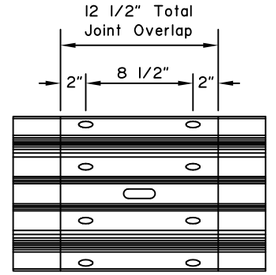


TYPE II POST INSTALLATION

(Facilitates raising rail for future overlays.)

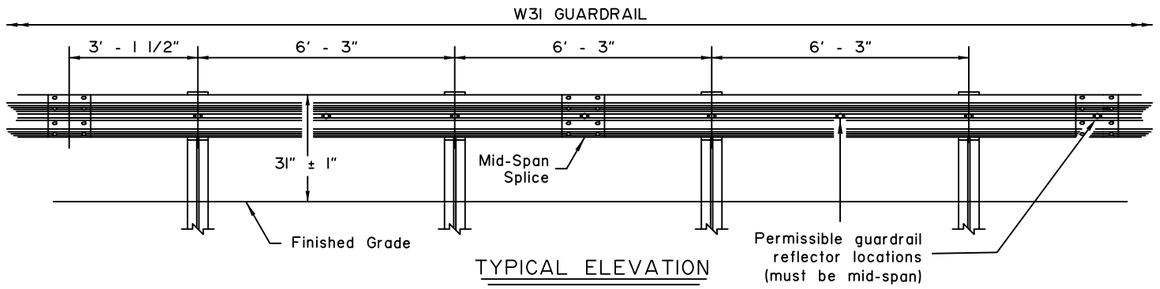


TYPE III POST INSTALLATION

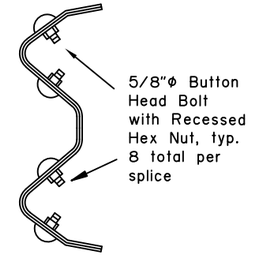


SPLICE DETAIL

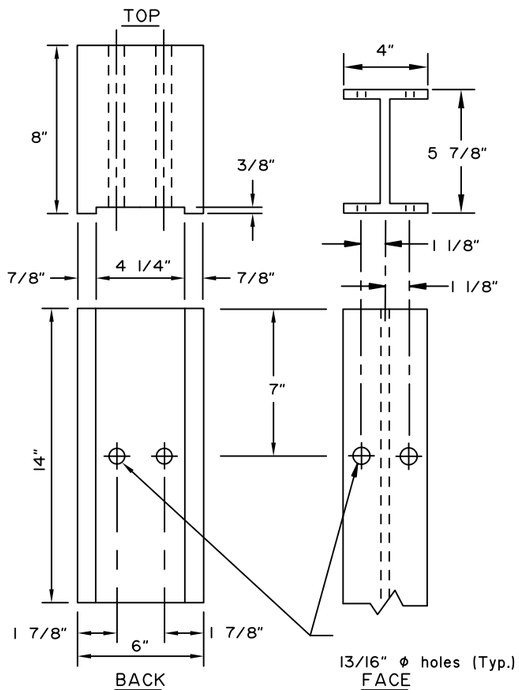
(At mid span between posts only.
Bolts not shown for clarity)



TYPICAL ELEVATION

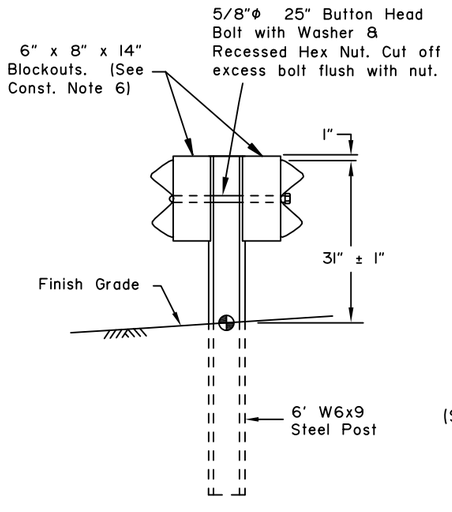


SPLICE
CROSS-SECTION



6" x 8"
BLOCKOUT

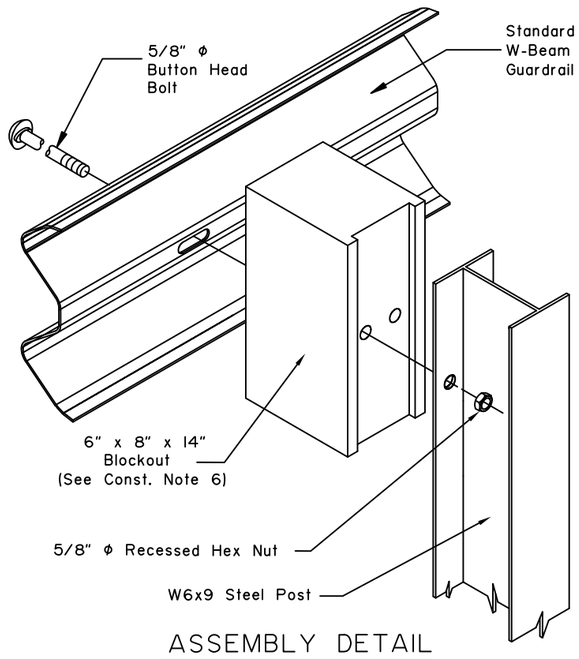
W6x9
STEEL POST



TYPE IV DOUBLE SIDED INSTALLATION

GUARDRAIL
REFLECTOR

(See Const. Note 5)



ASSEMBLY DETAIL

(Type I post shown)

CONSTRUCTION NOTES:

1. Provide hardware compliant with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware.
2. See Standard Plan G-00 for hardware details not shown on this drawing.
3. See Standard Plan G-10 for post lengths corresponding to different combinations of slope and behind-post embankment width.
4. Typical post spacing is 6'-3" center to center.
5. Attach guardrail reflector to guardrail using a 5/8" button head bolt with 5/8" recessed head hex nut and steel washer at location shown in the Typical Elevation. Install reflectors every 25' on tangents and every 12.5' on curves starting 100' before the P.C. and ending 100' after the P.T.
6. Use wood or synthetic blockouts designed, tested, and passed per MASH for use with steel posts. Either bolt hole on the blockout may be used for attachment.
7. Use a 25 linear foot transition to match differing height of existing or new rail elements and end treatments - see Standard Plan G-11.
8. W6x8.5 steel post may be substituted for W6x9 steel post.
9. Install flexible delineators on guardrail posts when called for in the contract. See Standard Plan G-00 for guardrail flexible delineator details.

DESIGN NOTES:

1. No fixed objects allowed within 36" of the back side of guardrail post.
2. This barrier is acceptable under MASH Tests 3-10 and 3-11.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STEEL POST W31 GUARDRAIL

Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*

Carolyn Morehouse, P.E.
Chief Engineer

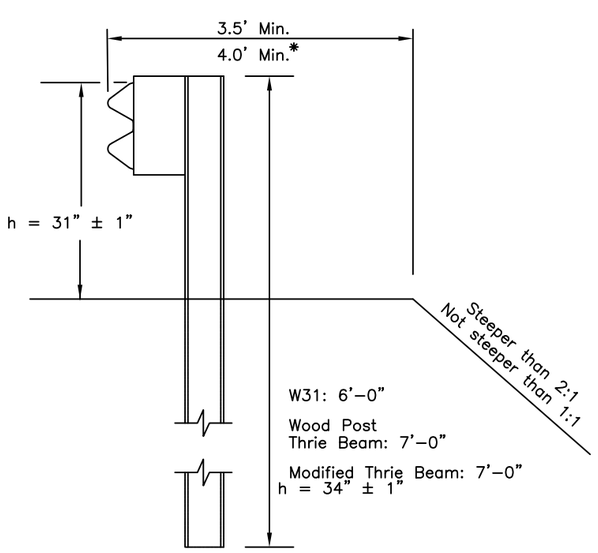
Adoption Date: 05/15/2019

Last Code and Stds. Review
By: LRG Date: 5/15/2019

Next Code and Standards Review date: 5/15/2029

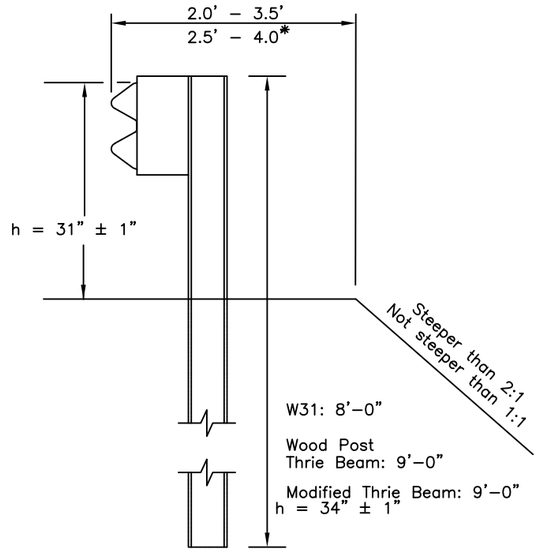
G-05.11S

G-10.21 SHEET 1 of 1



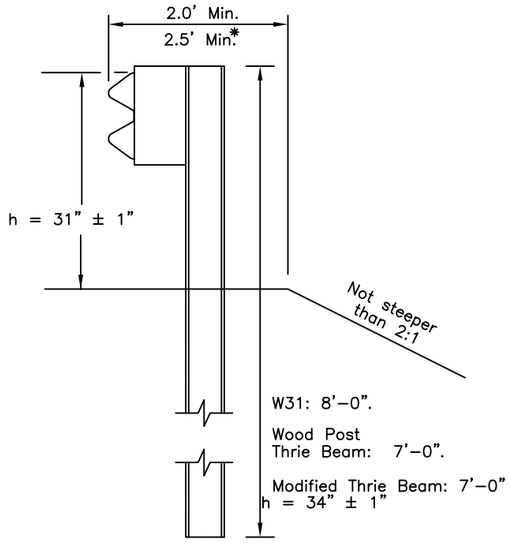
* with Modified Thrie Beam

CASE 1

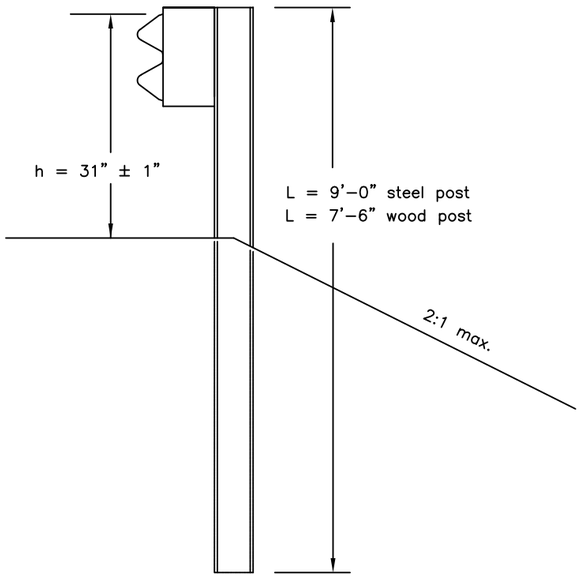


* with Modified Thrie Beam

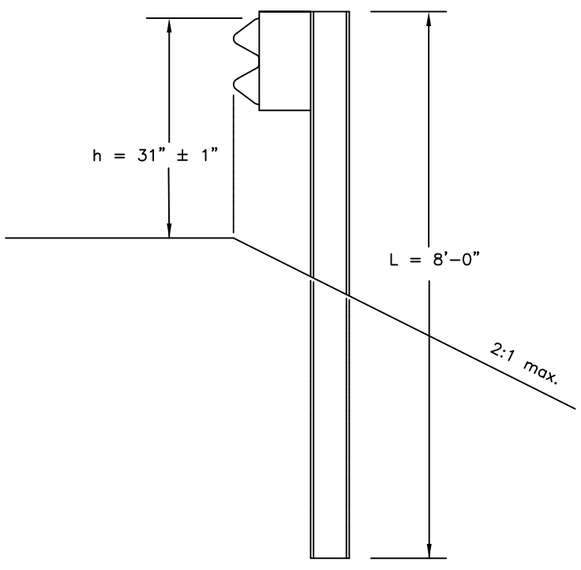
CASE 2



CASE 3



CASE 4
(See Note 5)



CASE 5
(See Note 5)

CONSTRUCTION NOTES:

1. This drawings is to be used for post length determination only. See Plans for slopes and behind–post embankment widths.
2. To determine post length, identify the case that matches site conditions and read the length corresponding to the pertinent guardrail type.
3. These dimensions apply to both curbed and uncurbed section.
4. Case 1, 2 and 3 are shown with steel posts. Wood posts may be substituted when allowed by specifications. Wood Post Thrie Beam installations must use wood posts only.
5. Case 4 and 5 apply to W31 guardrail only.

DESIGN NOTES:

1. No fixed objects allowed within 48" of the back of post for Cases 1, 2, 3, 4, and 5.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

GUARDRAIL POST INSTALLATION

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

Last Code and Stds. Review
By: LRG Date: 09/15/2022

Next Code and Standards Review date:09/15/2032

G-10.21

G-16.00

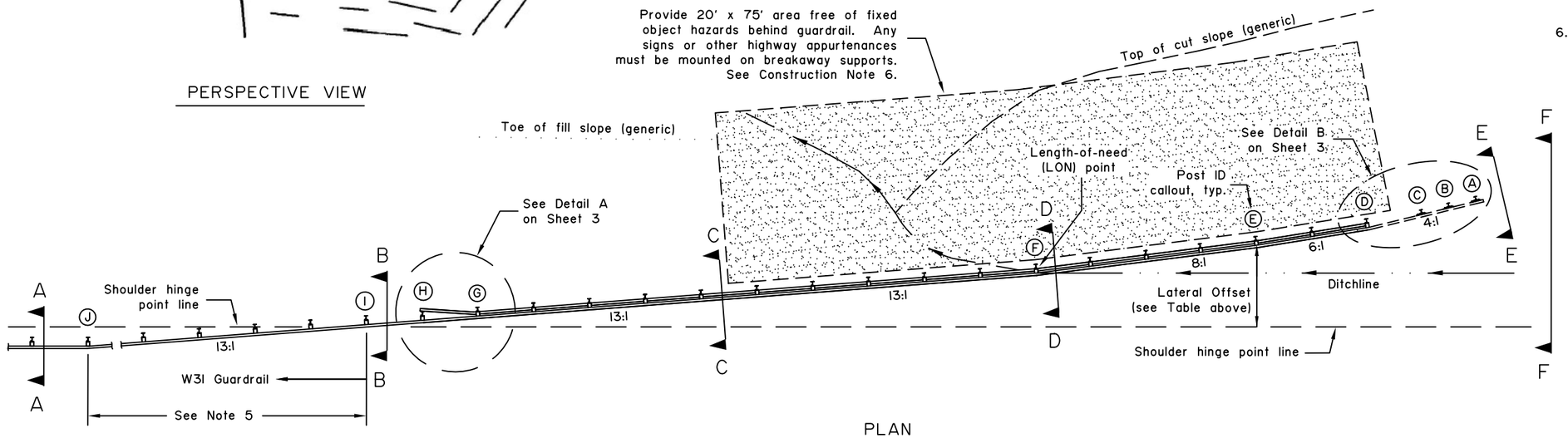
SHEET 1 of 4

PERSPECTIVE VIEW

LATERAL OFFSET TABLE	
Post No.	Offset*
A	14' 3"
D	11' 2-1/4"
E	9' 1-1/2"
F	6' 0-1/4"
I	3 -1/4"

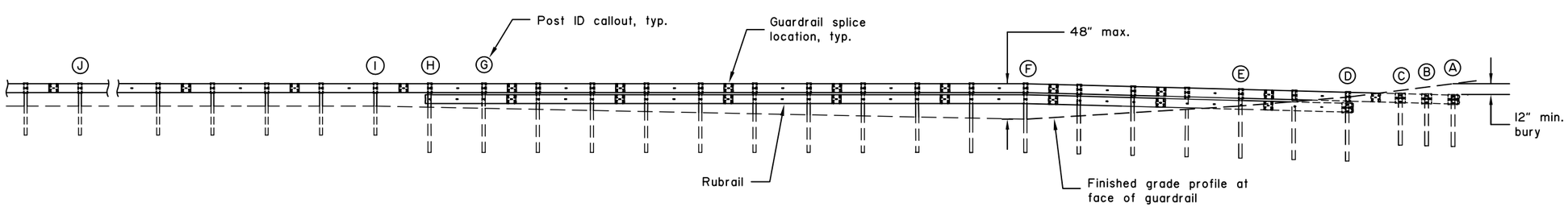
* Lateral offset is measured from the shoulder hinge point line to the back of guardrail. These offsets apply only for the foreslope and backslope conditions shown on the Sections on Sheet 2. For other foreslope or backslope conditions, these offsets need to be recomputed.

FLARE RATE TABLE	
Posts	Flare Rate
A - D	4 : 1
D - E	6 : 1
E - F	8 : 1
F - I	13 : 1
I - J	13:1 or flatter



PLAN

All sections in this plan view are shown on Sheet 2



ELEVATION

CONSTRUCTION NOTES:

1. W-beam, blockout, and post details not shown here shall conform to Std Dwg G-05S.
2. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication.
3. This terminal is MASH TL-3 tested.
4. Pay limits for Buired-in-Backslope Terminal are from Post A to Post I. Payment for Buried-in-Backslope Terminal includes excavation and backfill work associated with burial from Post A to Post I.
5. Extend the W31 guardrail at a 13:1, or flatter, flare rate from Post I to Post J, where the typicial guardrail run is parallel to the shoulder. Field bend w-beam rail element to transition from the 13:1 flare to parallel to the shoulder at Post J.
6. Provide a 20' x 75' object free area when backslopes are flatter than 2:1. When required, this work is subsidiary to the Buried-in-Backslope Terminal.

DESIGN NOTES:

1. The LON point shown on this sheet is for the conditions shown in the Sections on Sheet 2. For other foreslope conditions, especially those with wider foreslopes and deeper ditches, the LON point will be at a different location. In this case, the LON point is where the top of the rail height first reaches 48" with respect to the finished grade at the face of the guardrail

State of Alaska DOT&PF
ALASKA STANDARD PLAN

W31 GUARDRAIL BURIED-IN-BACKSLOPE TERMINAL

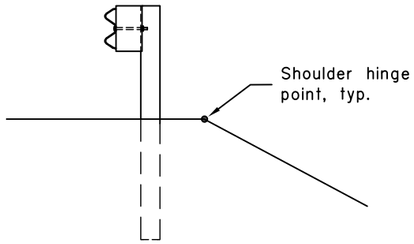
Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

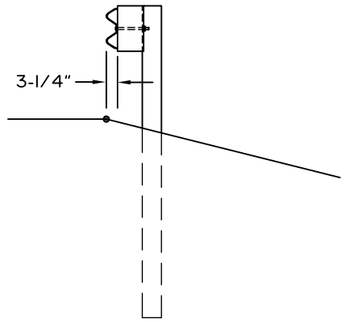
Next Code and Standards Review date: 02/08/2029

G-16.00 SHEET 2 of 4



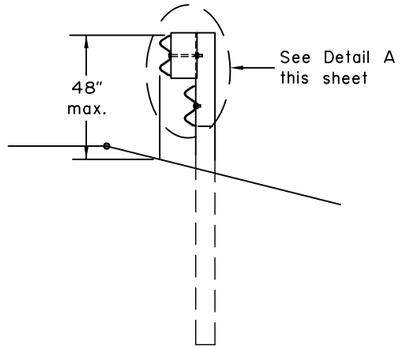
SECTION A-A

Typical Section of Guardrail Installation at shoulder



SECTION B-B

Typical Section at Post 1. Face of Guardrail flush with shoulder hinge point.

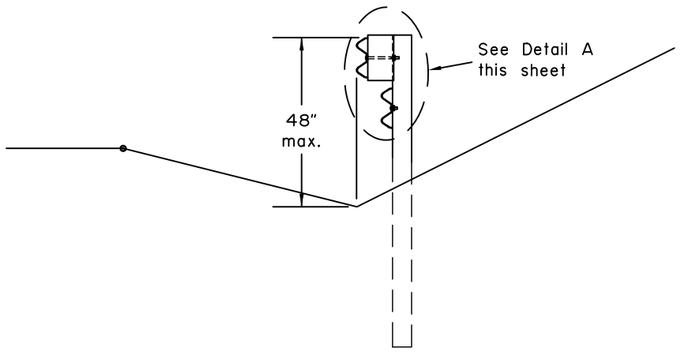


SECTION C-C

Guardrail on foreslope.

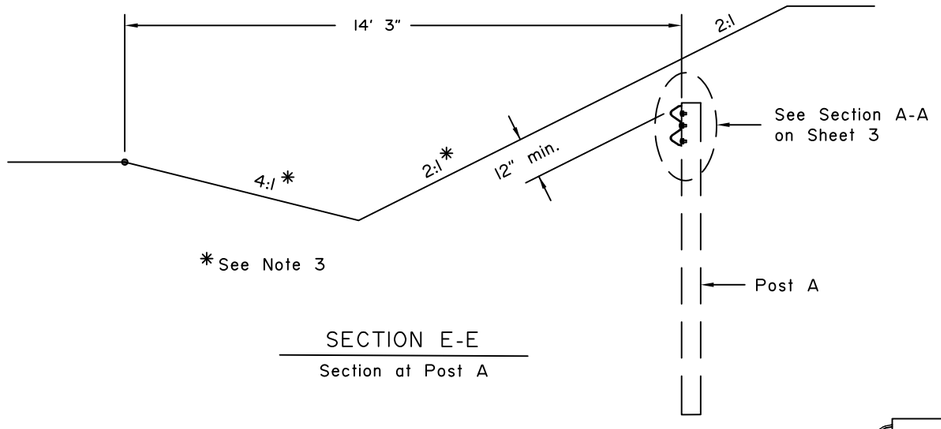
GENERAL NOTES:

1. W-beam, blockout, and post details not shown here shall conform to Std Dwg G-05S.
2. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication.
3. Foreslopes shall be 4:1 or flatter. Backslopes may be 1:1 maximum to 3:1 minimum. Lateral offsets shown on this sheet and Sheet 1 are based on the 4:1 foreslope, 2:1 backslope, and 18" ditch depth shown on this sheet. Other ditch depth, foreslope, or backslope conditions will require recomputation of lateral offsets and special grading of the top of guardrail to maintain the 48" maximum ground clearance to the top of guardrail and 12" minimum bury at Post A.



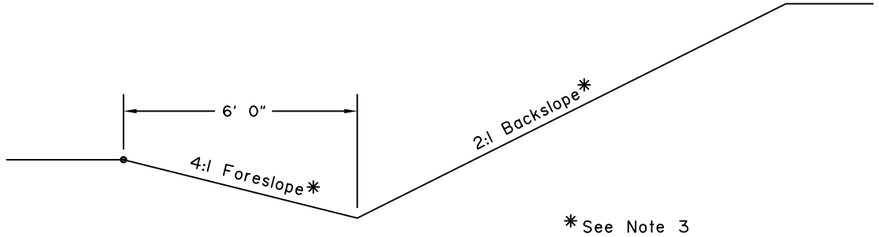
SECTION D-D

Section at Post F. Face of Guardrail aligned with center of ditch.



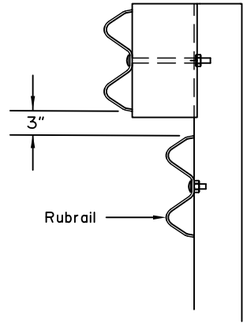
SECTION E-E

Section at Post A



SECTION F-F

Typical Ditch Section



DETAIL A

State of Alaska DOT&PF
ALASKA STANDARD PLAN

W31 GUARDRAIL BURIED-IN-BACKSLOPE TERMINAL

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E. Chief Engineer

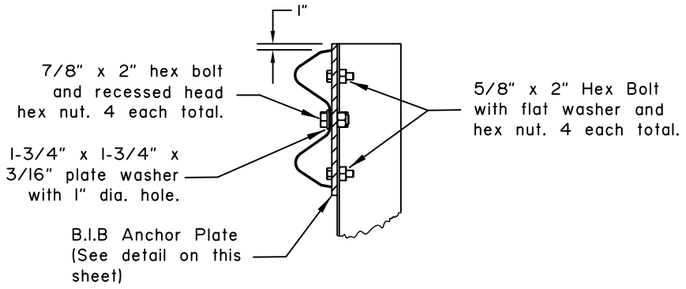
Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

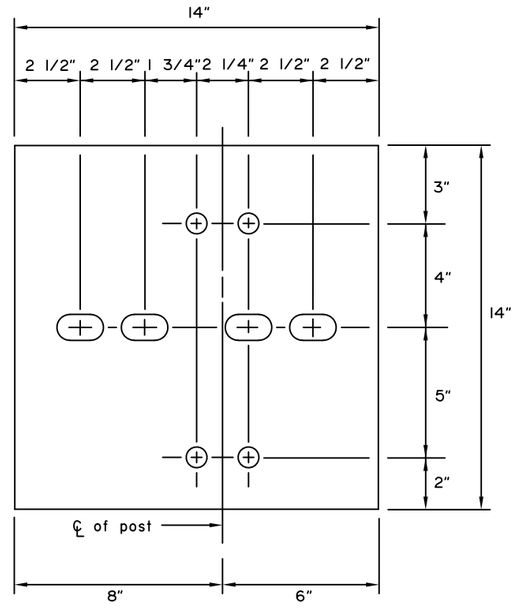
Next Code and Standards Review date: 02/08/2029

G-16.00

G-16.00 SHEET 3 of 4

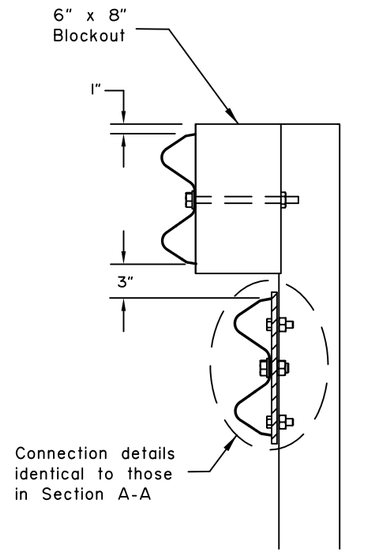


SECTION A-A
Typical for Posts A-C



B.I.B. ANCHOR PLATE

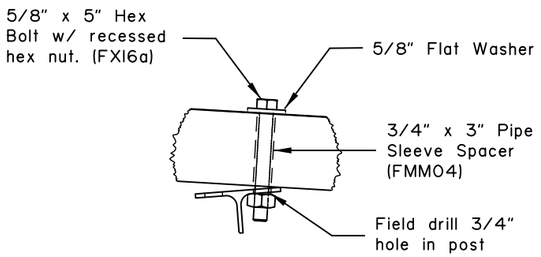
Plate Notes:
1. Plate is 1/2" galvanized ASTM A36 steel
2. All circular holes are 3/4" diameter
3. All slotted holes are 1" x 1-3/4"



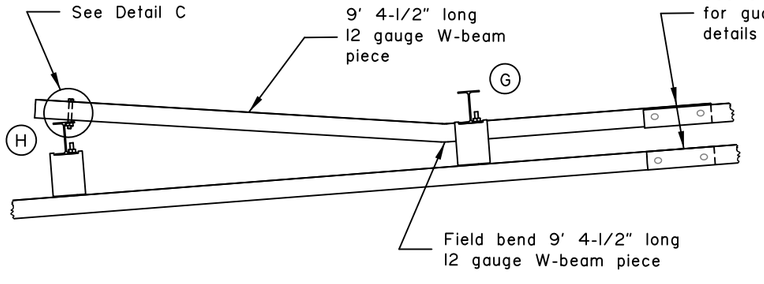
SECTION B-B
Post D only

GENERAL NOTES:

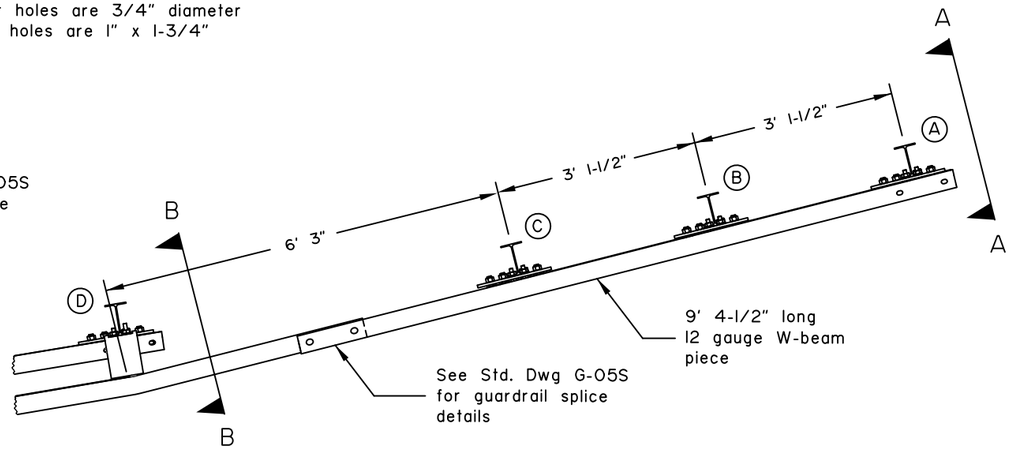
1. W-beam, blockout, and post details not shown here shall conform to Std Dwg G-05S.
2. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication.
3. Field drill 1" diameter holes in w-beam rail elements to make connections to the B.I.B. Anchor Plate.



DETAIL C



DETAIL A



DETAIL B

State of Alaska DOT&PF
ALASKA STANDARD PLAN

W31 GUARDRAIL BURIED-IN-BACKSLOPE TERMINAL

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E.
Chief Engineer

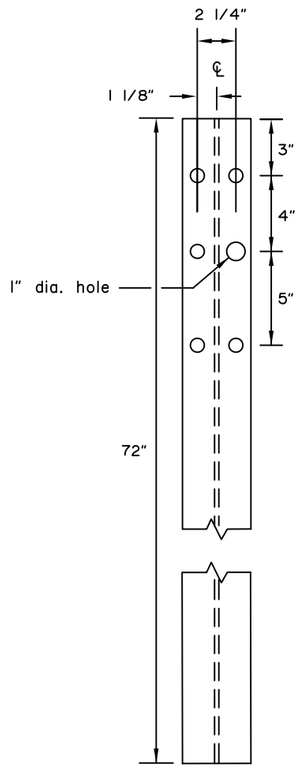
Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

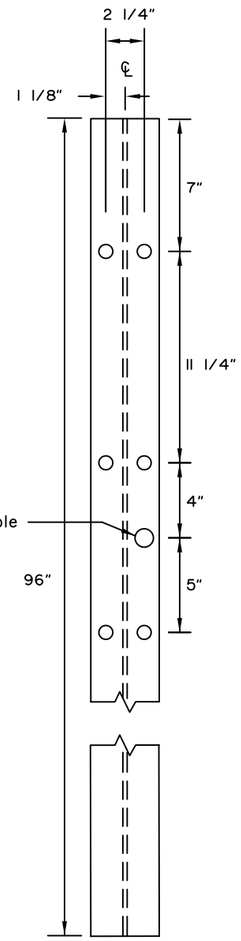
Next Code and Standards Review date: 02/08/2029

G-16.00

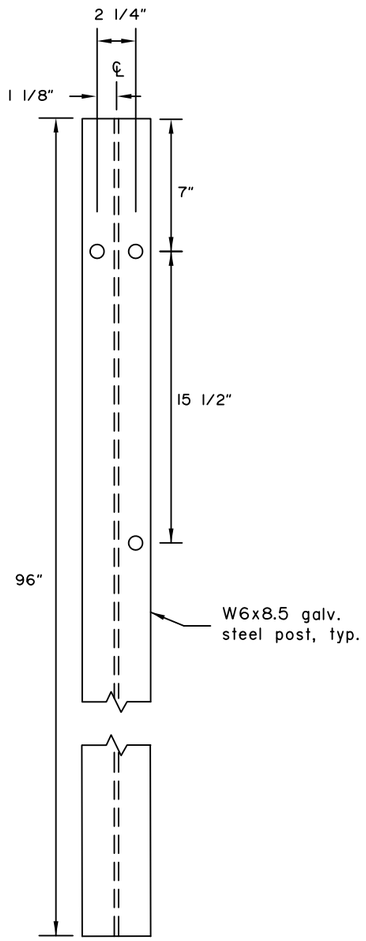
G-16.00 SHEET 4 of 4



POSTS A-C



POST D



FIRST POST AFTER D
TO POST H

GENERAL NOTES:

1. W-beam, blockout, and post details not shown here shall conform to Std Dwg G-05S.
2. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication.
3. All post holes are 3/4" diameter, except those shown as 1" diameter.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

W31 GUARDRAIL BURIED-IN-BACKSLOPE TERMINAL

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review
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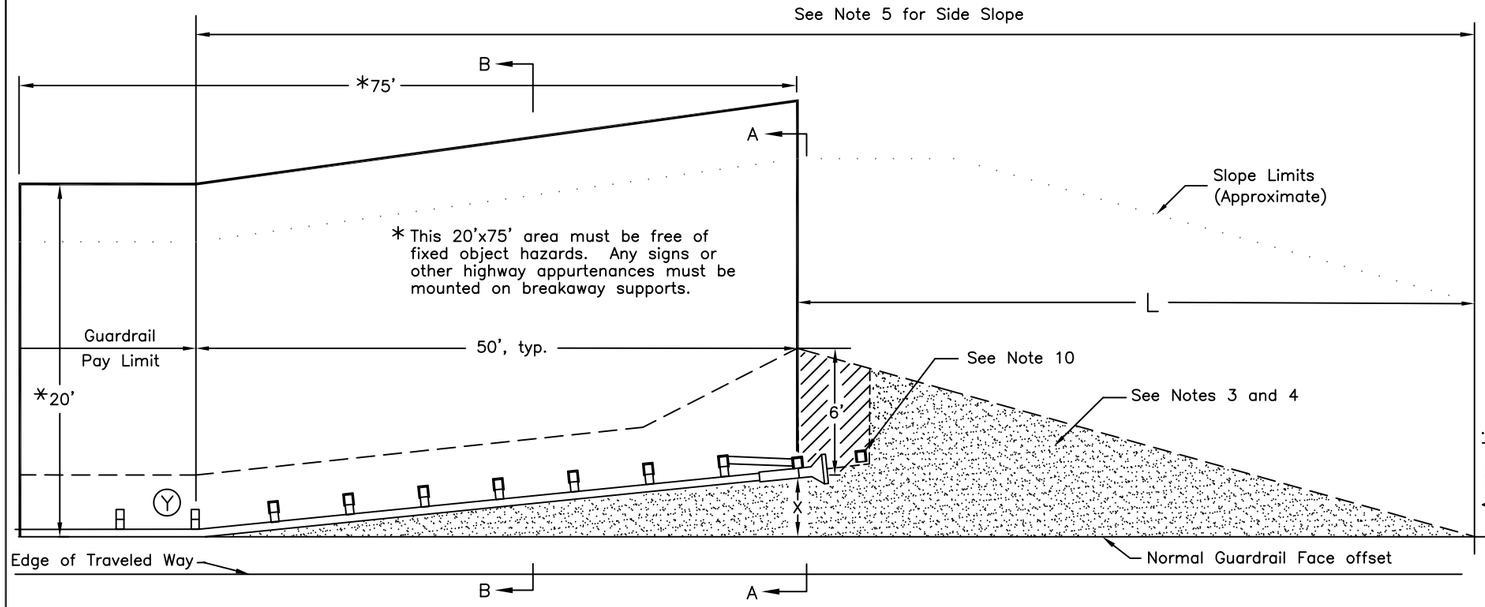
Next Code and Standards Review date: 02/08/2029

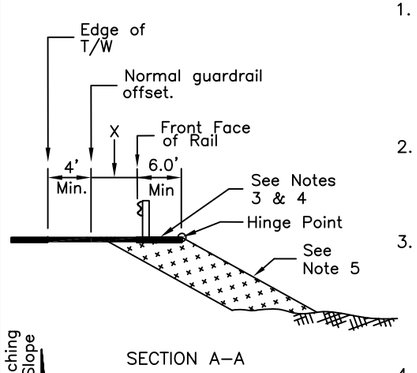
G-16.00

G-20.12

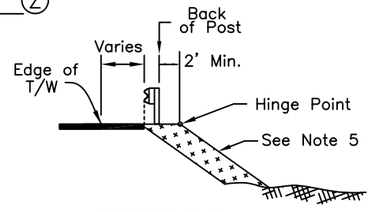
SHEET 1 of 1



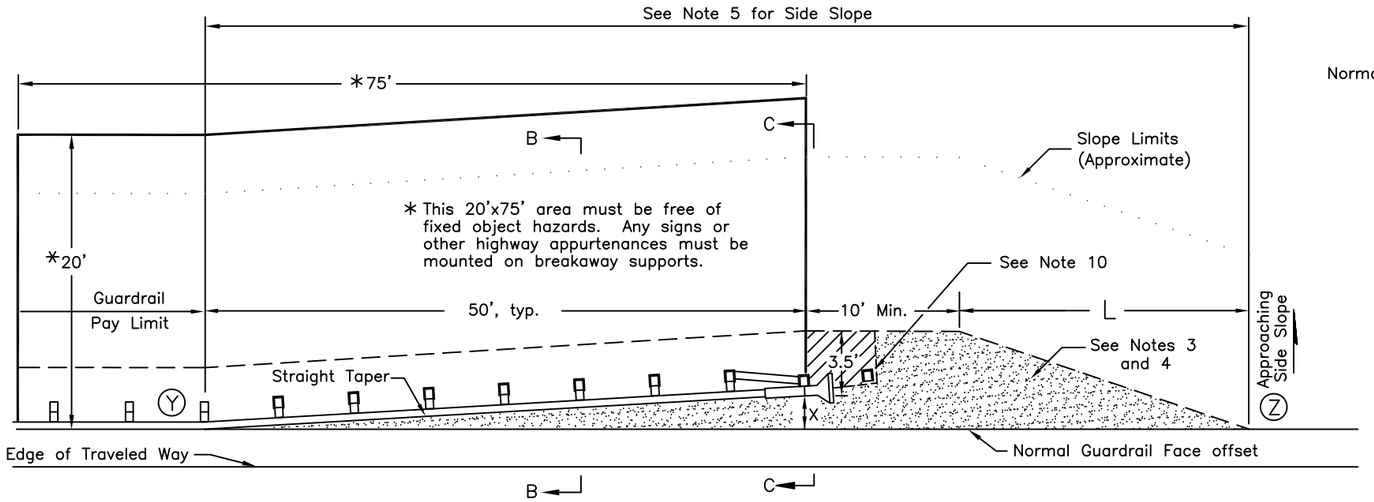
STANDARD GUARDRAIL TERMINAL WIDENING DETAIL



SECTION A–A

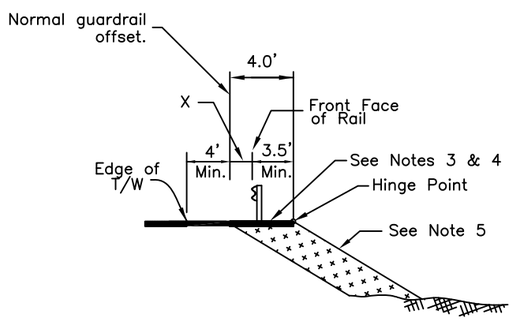


SECTION B–B
(Applies to both details)



ALTERNATE GUARDRAIL TERMINAL WIDENING DETAIL

(USE ONLY WHEN LIMITED RIGHT–OF–WAY OR LIMITING SITE CONDITIONS MAKE THE STANDARD DETAIL INFEASIBLE)



SECTION C–C

X= End offset. See manufacturer's information for the range of acceptable end offsets for each MASH compliant terminal.

Taper Lengths (L) for Common End Offsets (X)

End Offset	Standard Detail	Alternate Detail
0'	24.0'	13.0'
1'	26.0'	17.0'
1.5'	28.0'	19.0'
2'	30.0'	21.0'
2.5'	32.0'	22.0'
4'	37.0'	28.0'

Interpolate if the end offset falls between table values

GENERAL NOTES

1. This Std. Dwg. applies to all MASH approved guardrail end terminals (GETs). The alternate detail may only be used with parallel or tangent GETs. The terminal details shown are for illustration only – see manufacturer's drawings for actual post, rail, strut, etc. configuration and layout.
2. Use this Std. Widening Detail for all GETs except when limited right–of–way or limiting site conditions make the use of the Std. Widening Detail infeasible. In that case, the alternate detail is permissable.
3. Construct the shaded areas to match the slope of the adjacent shoulder. The slope may be increased to 10:1 if identified in the plans or when approved by the engineer. Match the slope when the shoulder slopes toward the road as well as away from the road.
4. On paved roads, the shaded areas shall be paved. On gravel roads, surface the shaded areas with the same materials used to surface the travel lanes.
5. From point Ⓨ to point Ⓩ make the side slope match the approaching side slope except where it is flatter than 4:1. In that case, the slope may be steepened to 4:1.
6. Attach a flexible marker at the beginning of each GET.
7. The max. allowable height for foundation tubes or other steel components of terminal post breakaway systems is 4" above the surrounding grade.
8. The details on this sheet do not apply to W31 Downstream End Anchors (Std Dwg G–14).
9. The details on this sheet apply to GETs on both the approach and downstream ends on two–way undivided roads and to any downstream MASH compliant GETs.
10. Some MASH GET systems have an additional post/anchor at the approximate location shown. If this post/anchor is present do not pave the diagonally hatched area. If not present, pave the diagonally hatched area also.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

WIDENING FOR GUARDRAIL END TERMINALS

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E. Chief Engineer

Adoption Date: 02/08/2019

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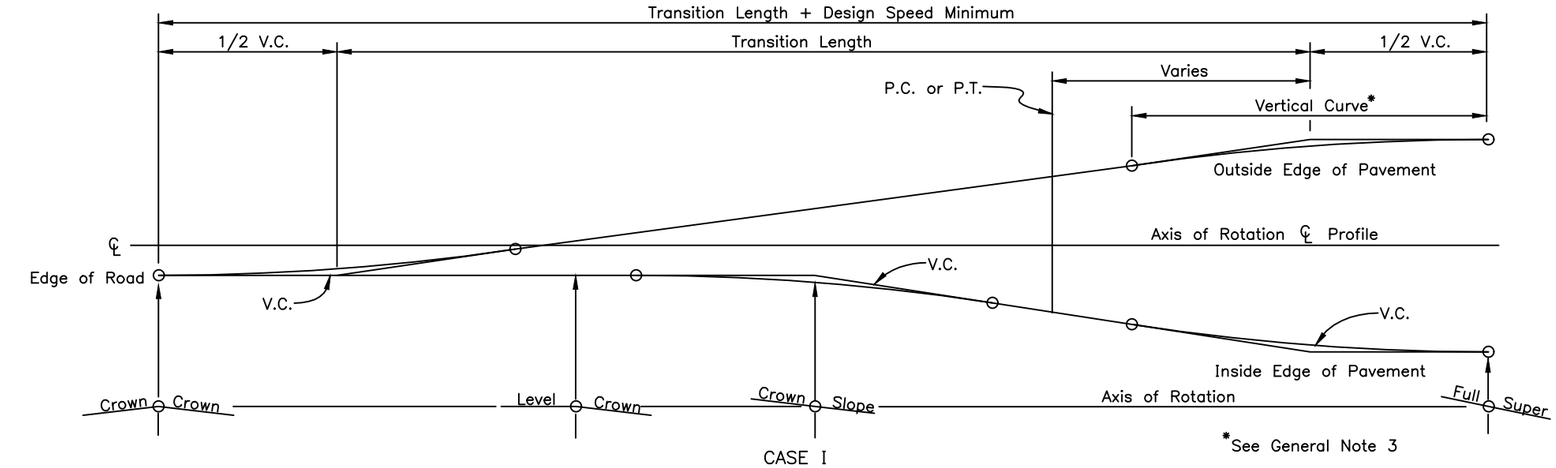
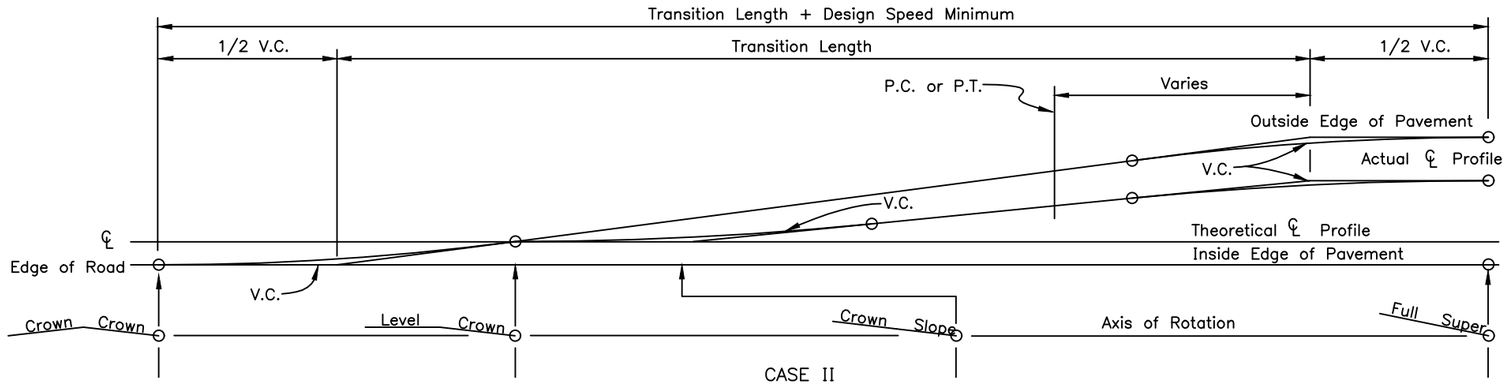
G–20.12

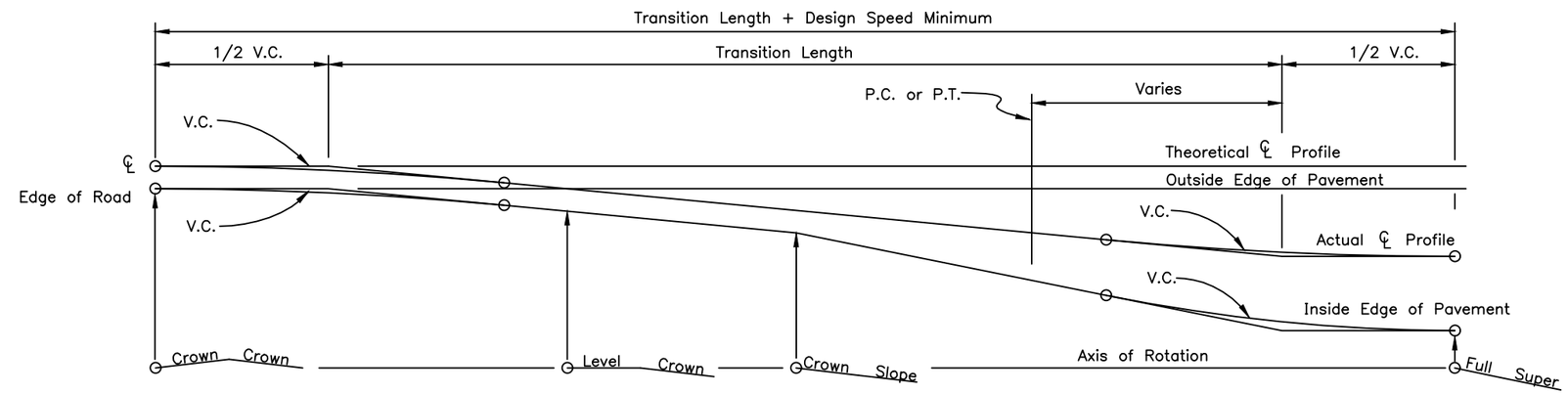


*See General Note 3

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

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.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SUPERELEVATION TRANSITION

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

I-81.00

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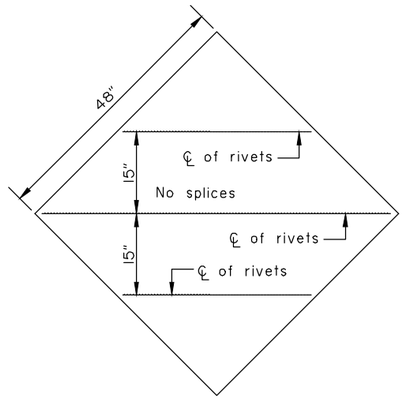
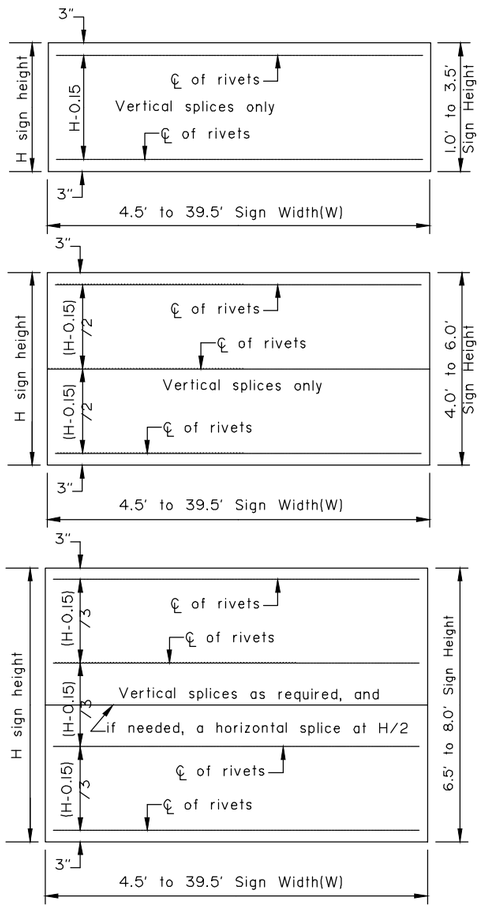
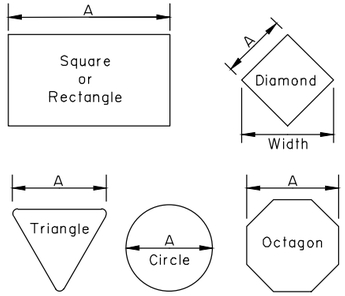




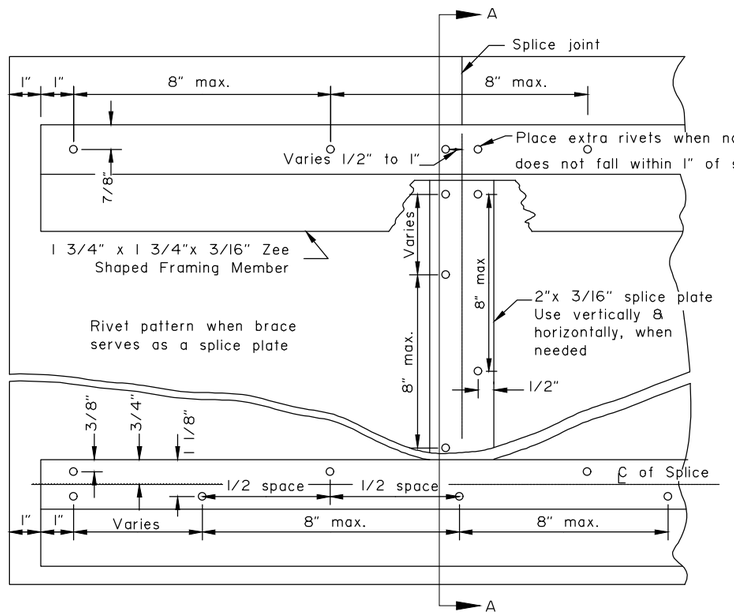
WIND FRAMING LOCATIONS



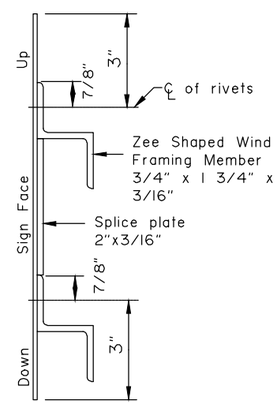
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

Install wind framing on all signs that exceed the dimensions listed.

LIGHT SIGNS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

Note: Drawing not to scale

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-T43 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.
9. Do not use round pipes for sign supports.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN FRAMING

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: WTH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

S-00.12

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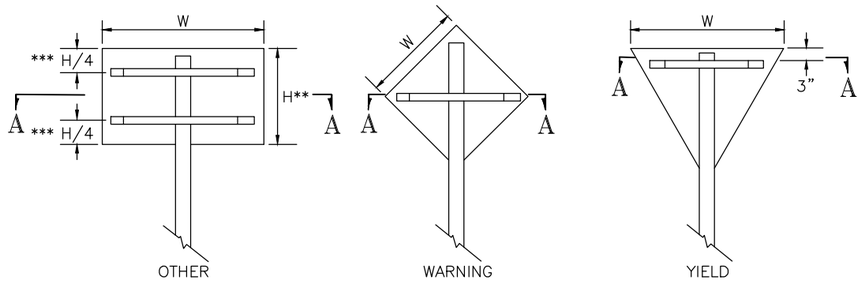
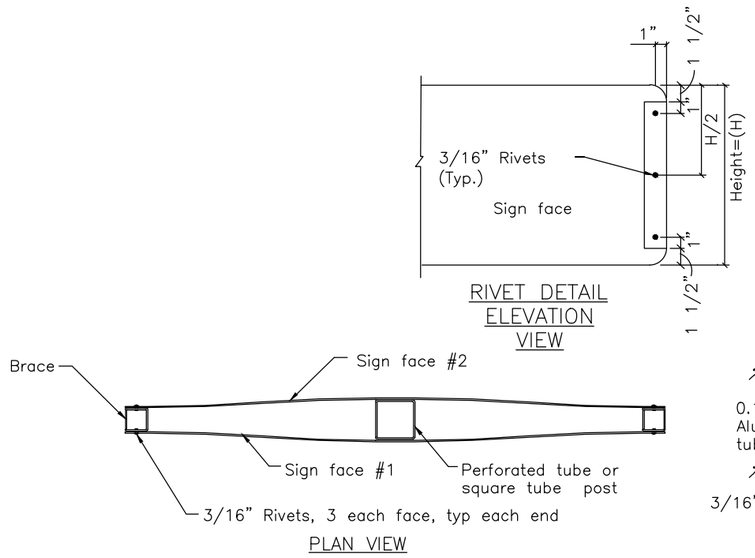


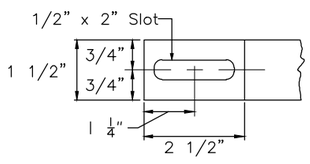
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

** Position of brace may be varied to match Predrilled mounting holes in panel

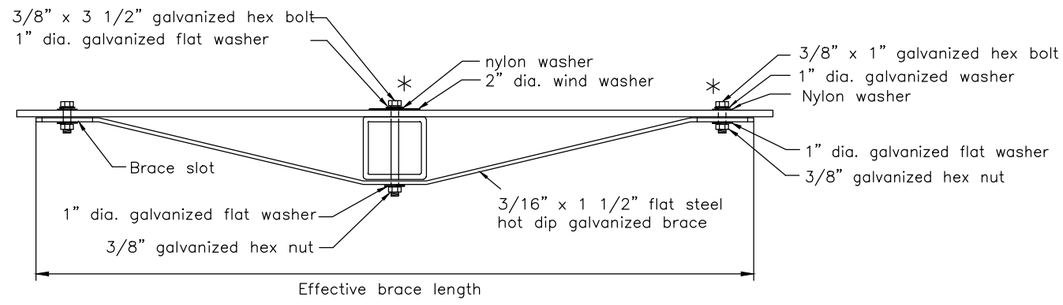
SIGN BRACING PLACEMENT



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



DETAIL OF BRACE SLOT
Elevation view



TUBE POST SIGN BRACING SECTION A-A
Plan view

* Adjust location of bracing so that bolts and washers will miss the sign legend

Sign Width(W)	Effective Brace Length		
	Warning	Yield	Other
30"	36"	24"	24"
36"	42"	30"	30"
42"	48"	–	36"
48"	Two posts	36"	42"

< 30" No bracing required and use square tube

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

BRACING FOR SIGNS MOUNTED ON SINGLE POST

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

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By: WTH Date: 7/8/2020

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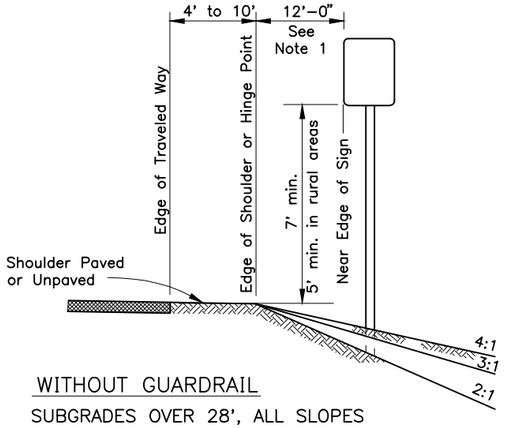
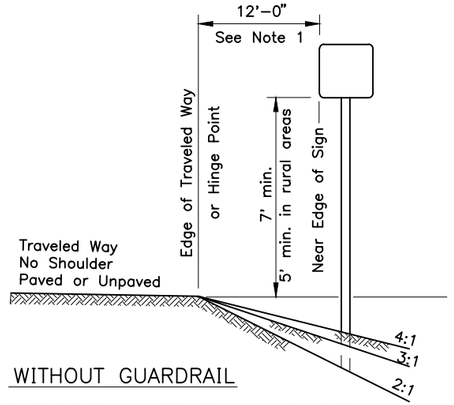
S-01.02

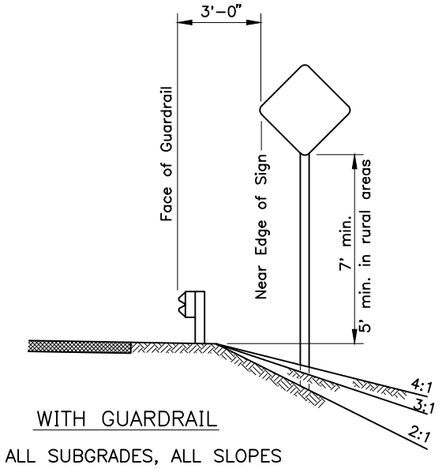
S-05.02 SHEET 1 of 1



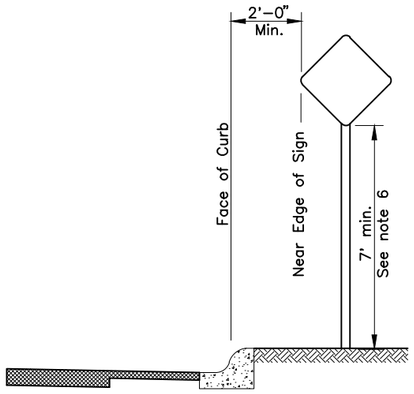
WITHOUT GUARDRAIL
SUBGRADES OVER 28', ALL SLOPES



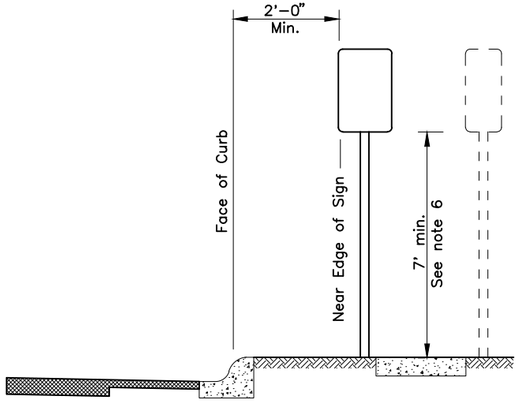
WITHOUT GUARDRAIL
SUBGRADES 24' TO 28', ALL SLOPES



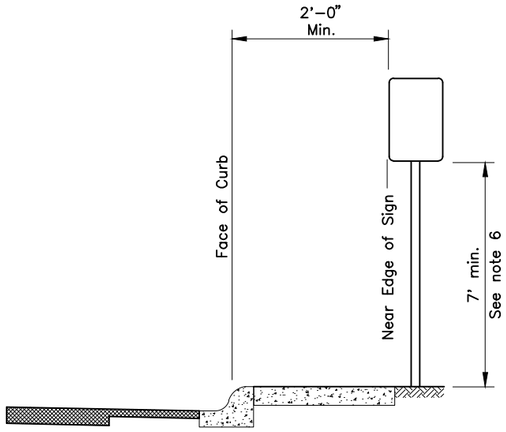
WITH GUARDRAIL
ALL SUBGRADES, ALL SLOPES



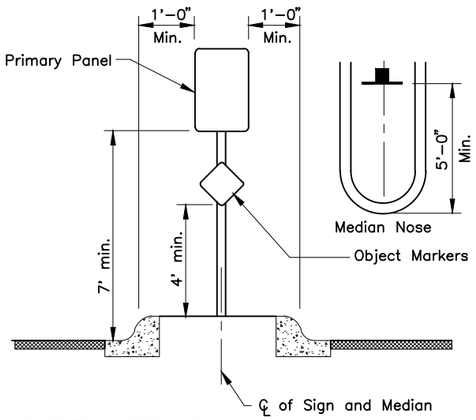
CURB WITHOUT SIDEWALK



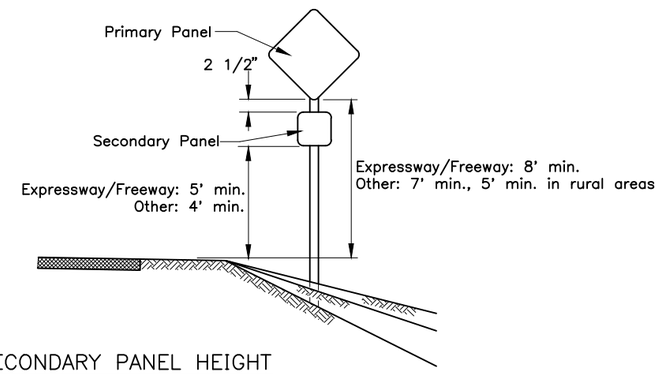
CURB WITH PARKWAY AND SIDEWALK
(If R/W width permits, signs should be placed behind sidewalk.)



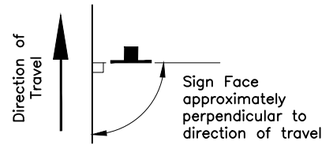
CURB WITH SIDEWALK WITHOUT PARKWAY



RAISED MEDIANS
Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT
ALL TWO PANEL MOUNTING



SIGN POSITIONING

GENERAL NOTES

1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6' where shoulder width is 6' or greater.
2. Add 6" to mounting height on unpaved roads.
3. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
4. When signs are placed 30' or more from the edge of traveled way, mount them with the bottom of the sign at least 5' above the road surface at the near edge of the road.
5. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.
6. Minimum mounting height is 7'-0" where parking or pedestrian movements are likely to occur, or where sings extend over sidewalks.
7. For construction signs in rural areas, mounting height shall be 7' minimum.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

POST MOUNTED SIGN
OFFSET AND HEIGHT

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

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By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

S-05.02

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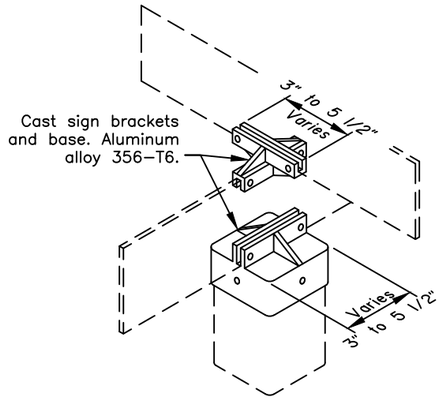
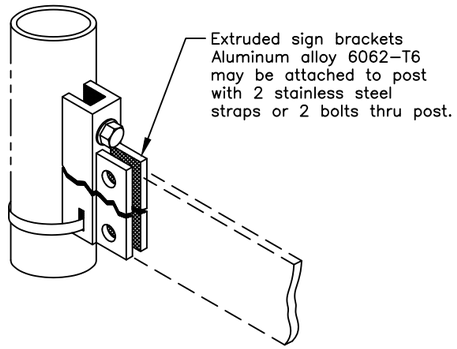
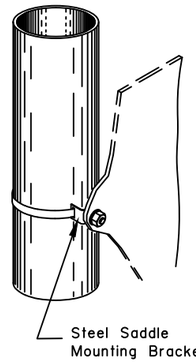
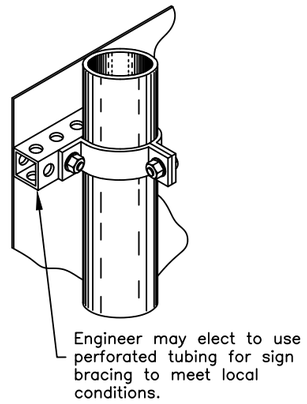
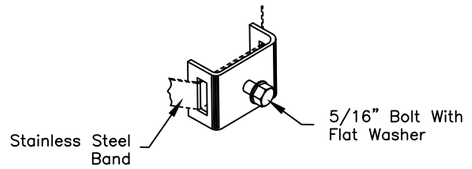


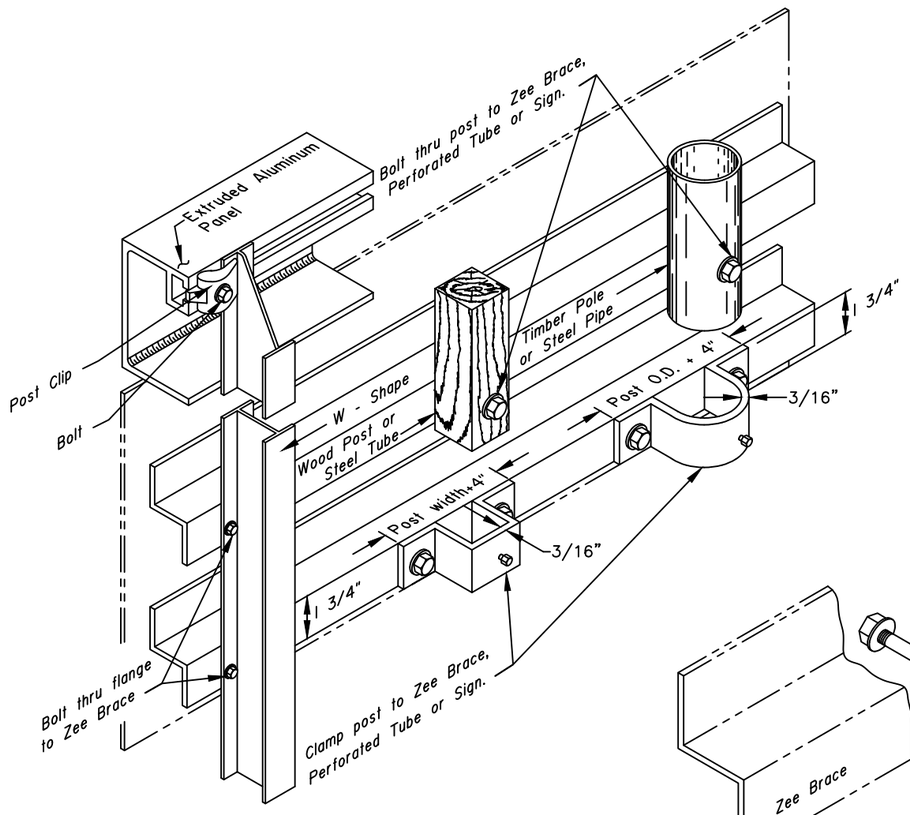


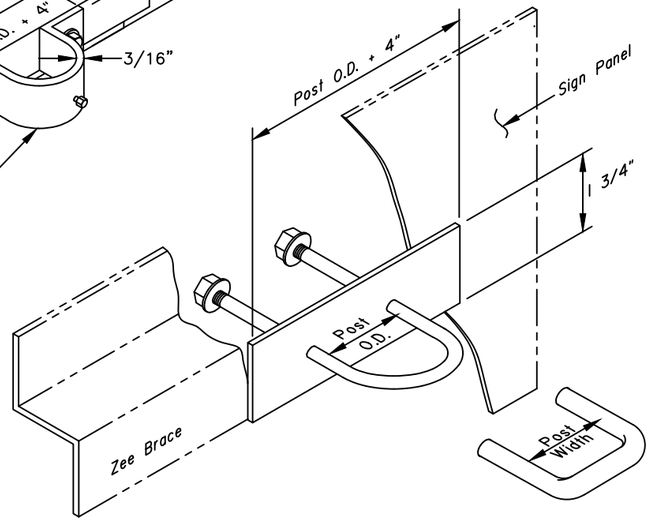


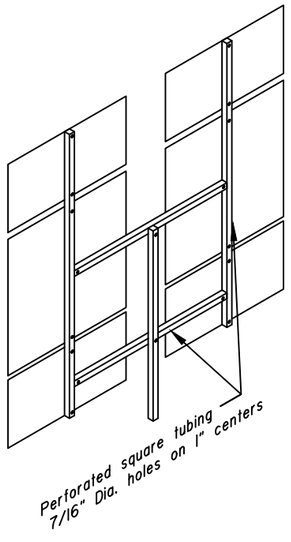




MOUNTING BRACKET DETAIL







CONSTRUCTION NOTES

1. Details shown indicate general design only. Dimensions and design may vary among manufacturers.
2. Install weather tight caps on all pipe and tube post (except perforated tubing).
3. Protect driven sign posts with drive caps during installation.
4. Bolt braces to posts at each point where they cross posts.
5. Install signs with top of post, mounting brackets, etc. with a minimum of 3" below top of sign.
6. Paint all sign mounting fasteners on sign face a color closely matching the sign face.
7. Attach all signs, zees and braces mounted to the posts with 5/16" bolts, nuts and washers.
8. Furnish all aluminum nuts, bolts and washers with anodized finish.

FASTENER SPECIFICATION TABLE
(ALL REFERENCES ARE TO ASTM)

FASTENERS		ALUMINUM	STEEL	STAINLESS STEEL
BOLTS	MACHINE	F468 2024-T4	A307	F593
	CARRIAGE "U"	F468 2024-T4	A307	A276 TYPE 304
NUTS	REGULAR	F467 6061-T6	A563	F594
	LOCKING	F467 2017-T4		
WASHERS		F468 2024-T4	F844	A480
POST CLIP		A356-T6	N/A	N/A

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN TO SIGN POST CONNECTION

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 07/30/2021

Last Code and Stds. Review By: LRG Date: 07/30/2021

Next Code and Standards Review date: 07/30/2031

S-20.11

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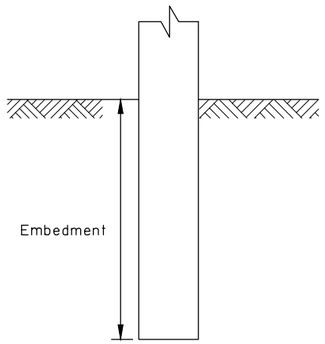
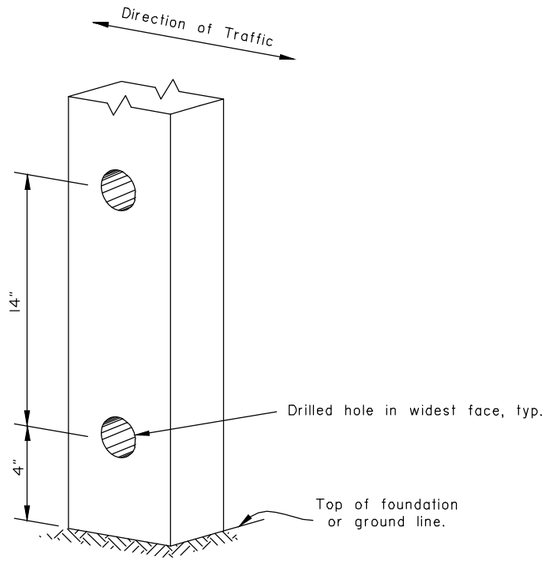
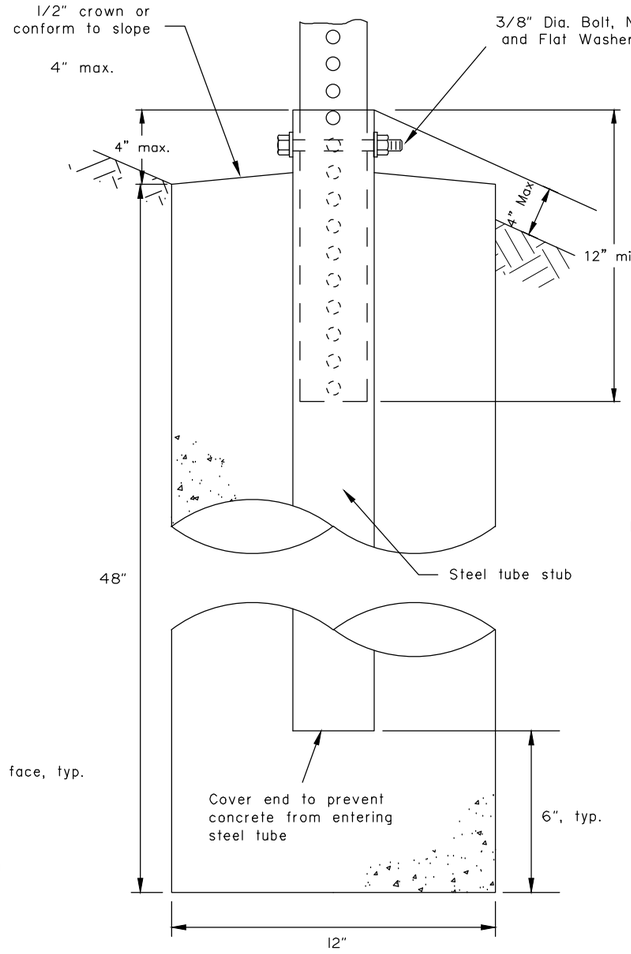
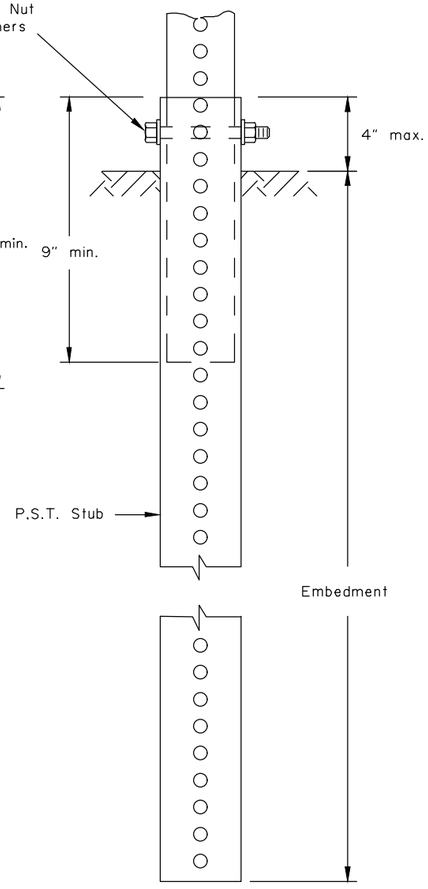






SLEEVE TYPE
CONCRETE FOUNDATION



SLEEVE TYPE*
SOIL EMBEDMENT

GENERAL NOTES:

1. Sign shall be placed symmetrically around posts and refer to Standard Plan S-00 for sign framing details.
2. See plans for type of post, size and embedment type.
3. To maintain crashworthiness, install no more than the number of P.S.T.s or wood posts specified in the tables within 7' of each other.
4. Concrete shall be class B.
5. Do not use the supports on this drawing for multiple support signs if supports are separated by more than 7 feet.
6. Treat all field cuts and field drilled holes in wood posts in accordance with Section 730-2.04 of the Standard Specifications.

SIGN POST SPACING NOTES:

1. Install sign support in accordance with the table below, unless otherwise required by plans or specifications.
2. Exceptions:
   a. Use one post for all E5-1 gore signs, regardless of width.
   b. Use one 2.5" P.S.T. for all STOP signs, with or without street name signs.
3. Supports placed within 7' of each other must be acceptable for that use. See tables below for the sizes of wood posts and P.S.T.s that may be used within 7'. See Manufacturer's documentation for breakaway couplings and tubes that may be used within 7'.
4. See Standard Plan S-31 for frangible couplings, hinges, and foundations for tube and W-shape sign supports.

WOOD SIGN POSTS			
SIZE	HOLE DIA.	EMBEDMENT*	NO. OF POSTS WITHIN 7 Ft. PATH
4"x4"	NONE	4'-1"	2
4"x6"	1 1/2"	5'-3"	2
6"x6"	1 1/2"	4'-9"	1
6"x8"	3"	4'-9"	1

* Embedment depth applies in both strong and weak soil.

WOOD POSTS

PERFORATED STEEL TUBES (P.S.T.)		
POST SIZE	Embedment Depth	No. of P.S.T.s permitted within 7 ft path
1 1/2" x 1 1/2"	4'-8"	2
1 3/4" x 1 3/4"	4'-6"	2
2" x 2"	4'-3"	2
2 1/4" x 2 1/4"	5'-0"	1
2 1/2" x 2 1/2"	4'-6"	1

* Use 3"x3"x3/16" Stub for 2 1/2"x2 1/2" PST Applications.

PERFORATED STEEL TUBE (PST) POSTS

TUBE SIGN POST SPACING								
Sign Width (feet)	No. of Posts	Distance Between Posts	Sign Overhang	Post Type				Notes
				P.S.T.	Wood	Steel Tube	W-Shape	
0.5 to 4.0	1	-	0.5W	X	X	X		See Note 2.
4.5 to 10.0	2	0.6W	0.2W	X	X	X		See Note 3.
10.5 to 11.0	2	6	Varies	X	X	X		See Note 3.
11.5 to 13.0	2	8	Varies				X	
13.5 to 20.0	2	0.6W	0.2W				X	
20.5 to 22.5	3	8	Varies				X	
23.0 to 29.5	3	0.35W	0.15W				X	
30.0 to 31.5	4	8	Varies				X	
32.0 to 40.0	4	0.25W	0.125W				X	

TUBE SIGN POST SPACING

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

LIGHT SIGN STRUCTURE
POST EMBEDMENT

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: WTH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

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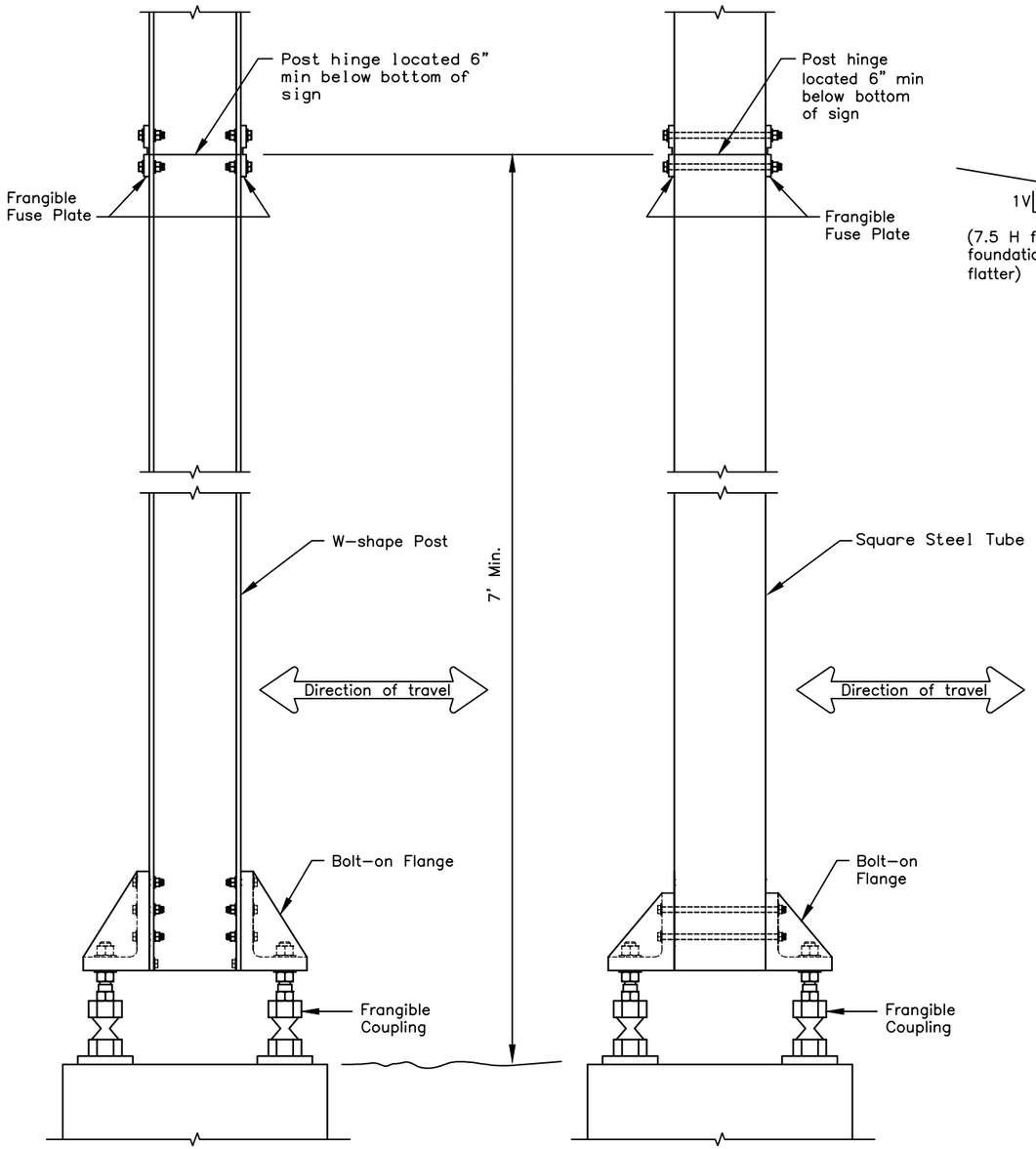
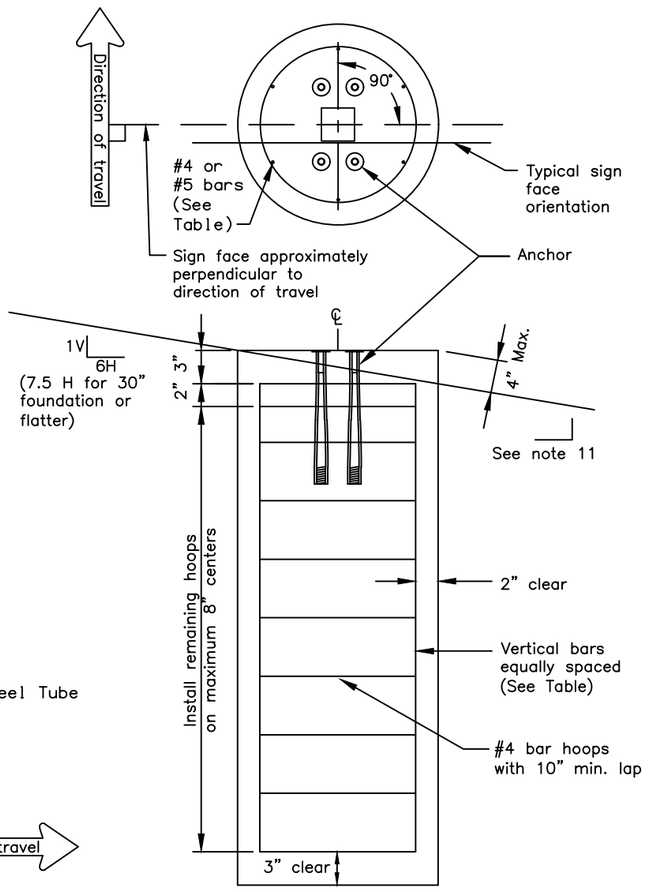
NOTE:
Install hinges when more than one post is used to support a sign. Do not install hinges on single post installations.



FRANGIBLE COUPLING SYSTEM FOR W–SHAPE POST

FRANGIBLE COUPLING SYSTEM FOR SQUARE STEEL TUBES



SIGN POST FOUNDATION
See Table for depth and diameter

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT					
	DIA.	MIN. DEPTH	CY^3 CONC.	VERTICAL BARS QTY.	VERTICAL BARS SIZE	VERTICAL BARS LGTH.	HOOPS QTY.	HOOPS SIZE	HOOPS DIA.
2 1/2" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
3" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
3 1/2" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
4" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
4 1/2" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
5" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 9	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 12	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 15	3'–0"	6'–6"	1.70	8	#11	6'–0"	12	#4	2'–8"
W6 x 30	3'–0"	7'–6"	1.96	8	#11	7'–0"	13	#4	2'–8"

FOUNDATION TABLE

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

GENERAL NOTES

1. Furnish sign posts with NCHRP 350 compliant frangible couplings designed to break away safely when struck from any direction. There is no MASH compliant device at this time. See SPDR report for more info.
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 as specified by the manufacturer and hinged joints when multiple posts are used to support a sign. Do not use round pipes.
5. Install the components of the breakaway system, including hinges, in accordance with the written instructions of the system manufacturer.
6. Use Class A, B or W concrete conforming to Sections 501 or 550 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.
11. Special grading detail and/or shielding may be required to maintain 4" maximum clear distance.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN POST BASE AND FOUNDATION

Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

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By: KLK, MJM Date: 7/8/2020

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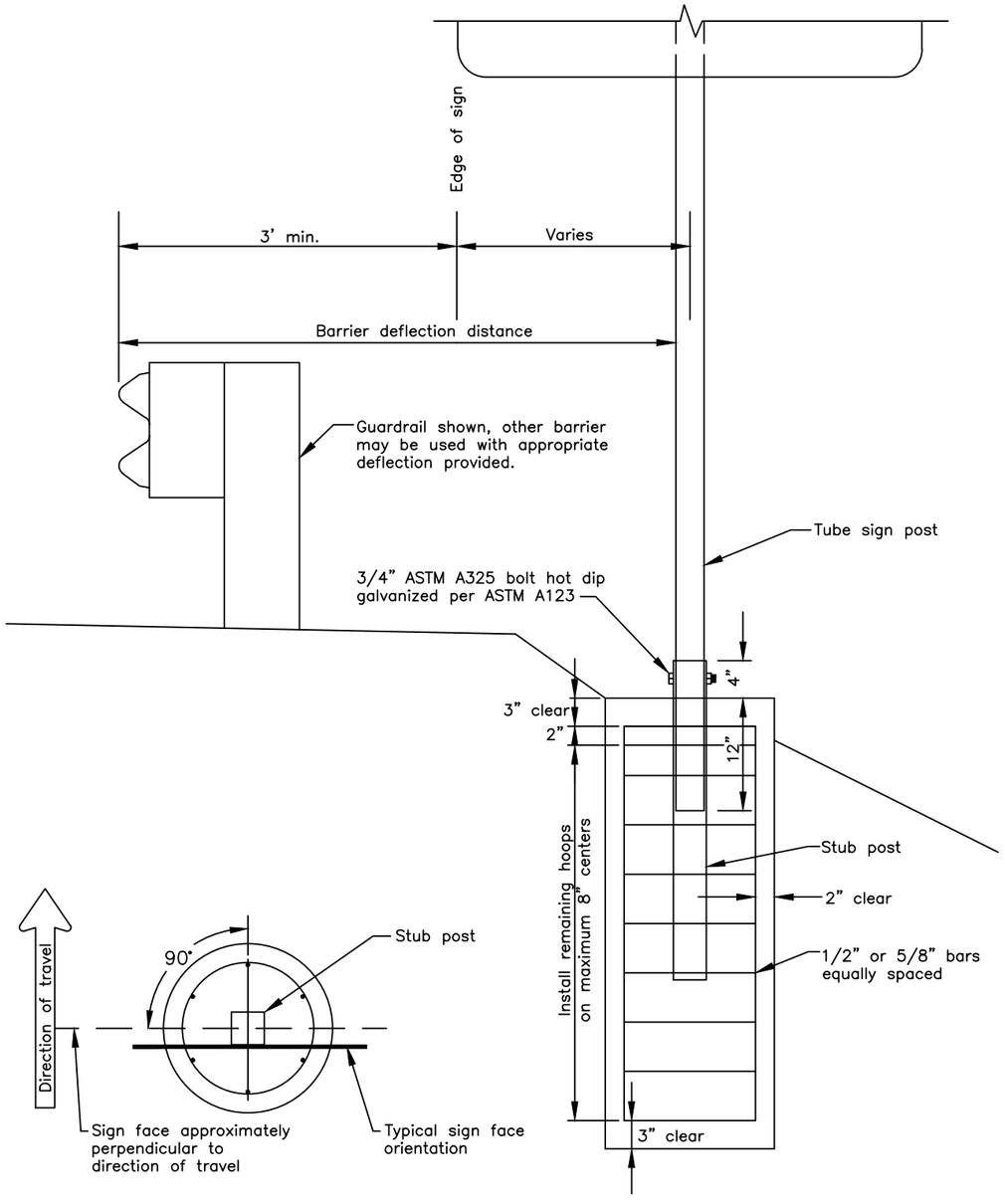

SIGN POST FOUNDATION
(Plan view)

SIGN POST FOUNDATION
See table for depth and diameter

GENERAL NOTES

1. This is a non–crashworthy sign support. It may only be used at locations shielded by a guardrail, barrier, or wall. It may not be used if the sign post is within 20' of the rail and is closer than 75' from the guardrail end post (measured along the rail). For this case use a breakaway sign support. See Standard Plan G–20.
2. Furnish steel tube sign post and stub post that conform to ASTM A500, grade B, and meet ASTM A123 for hot dip galvanizing.
3. Install tubes and stub post with a 0.1875" wall thickness.
4. For Perforated Tubes use Standard Plan S–30.
5. Spiral reinforcing steel may be substituted for hoops in concrete foundation. Spiral option shall consist of No. 3 plain spiral with 6" pitch with three flat turns at the top and one flat turn at the bottom.
6. Use Class A, B or W concrete.

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT					STUB POST	
	DIA.	MIN. DEPTH	C.Y. CONC.	VERTICAL BARS QTY.	VERTICAL BARS SIZE	VERTICAL BARS LGTH.	HOOPS SIZE	HOOPS DIA.	SLEEVE SIZE	SLEEVE LGTH.
2 1/2" TUBE	1'–0"	4'–6"	0.13	6	#4	4'–0"	#4	8"	3"	3'
3" TUBE	1'–6"	4'–0"	0.25	7	#5	3'–6"	#4	1'–2"	3 1/2"	3'
3 1/2" TUBE	1'–6"	4'–6"	0.27	7	#5	4'–0"	#4	1'–2"	4"	3'
4" TUBE	2'–6"	4'–0"	0.69	8	#8	3'–6"	#4	2'–2"	4 1/2"	3'
4 1/2" TUBE	2'–6"	4'–6"	0.78	8	#8	4'–0"	#4	2'–2"	5"	3'

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN POST BASE AND FOUNDATION BEHIND BARRIER

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

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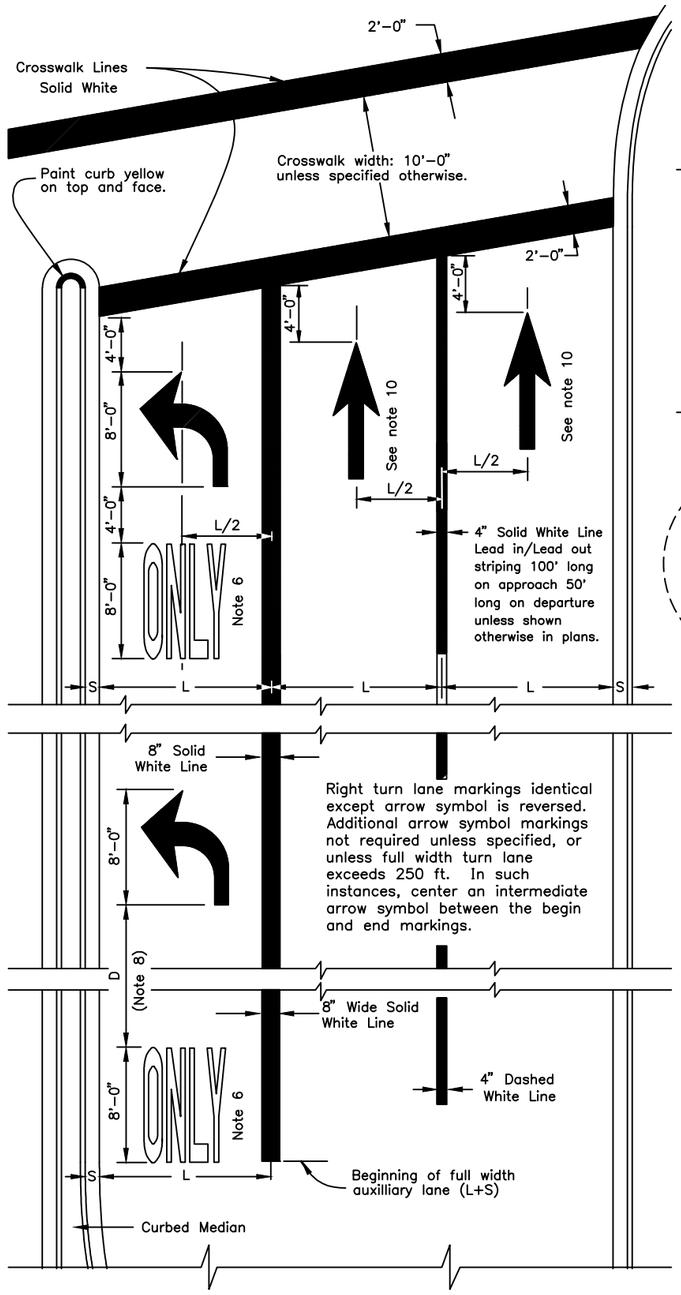
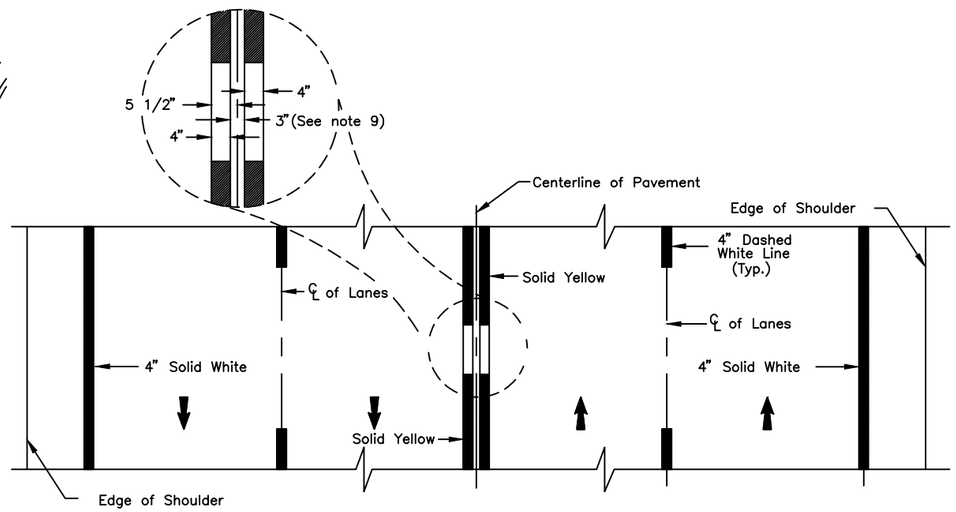
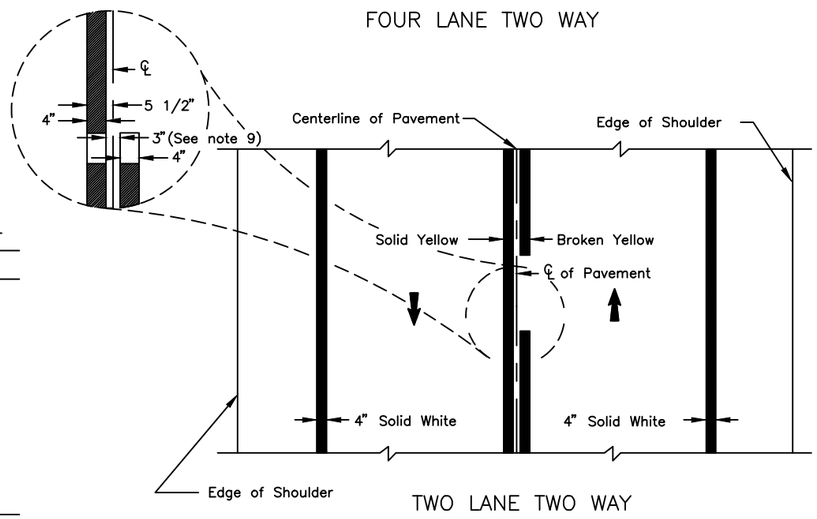


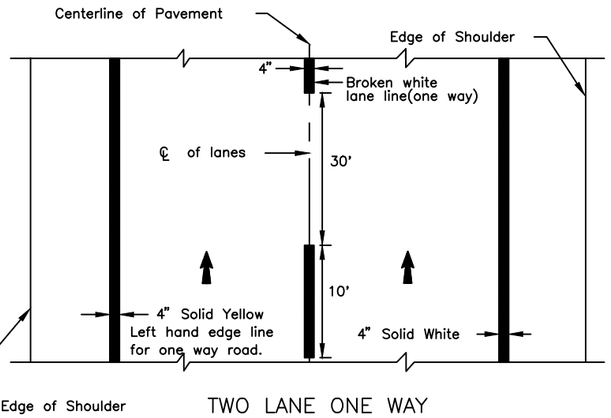
APPROACH TO INTERSECTION



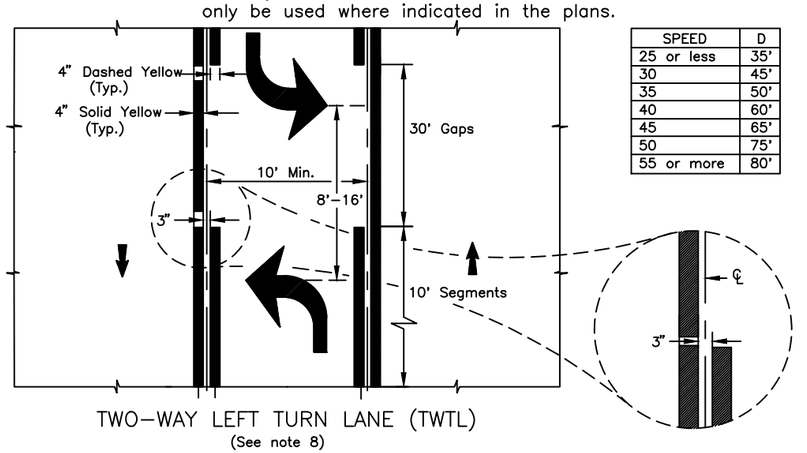
FOUR LANE TWO WAY



TWO LANE TWO WAY

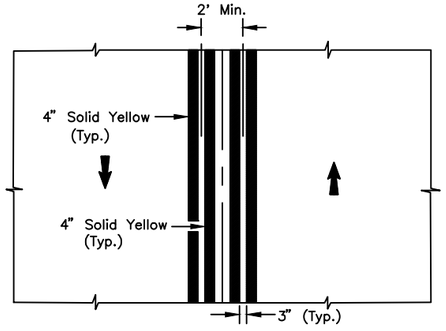


TWO LANE ONE WAY



TWO–WAY LEFT TURN LANE (TWTL)
(See note 8)

SPEED	D
25 or less	35'
30	45'
35	50'
40	60'
45	65'
50	75'
55 or more	80'



STRIPED MEDIAN

GENERAL NOTES:

1. All markings white unless indicated otherwise.
2. Lengths of stripe and gap for lane and center lines identical.
3. Lane lines for auxiliary lanes are unbroken solid lines.
4. "L" = driving lane width.
5. "S" = shy distance as shown on plans, otherwise 1 to 2 feet.
6. ONLY markings are required where through lanes change to turn lanes. In other cases, apply ONLY markings as indicated on plans.
7. See ALASKA TRAFFIC MANUAL for additional instruction on the use of TRAFFIC CONTROL DEVICES.
8. Adjust distance D between ONLY and Turn Arrow based on SPEED vs. D table. Table may be used for spacing between pairs of TWLT markings.
9. Adjust centerline spacing from 3" up to 5" where recessed pavement markers are required.
10. Arrows and symbols are used for through lanes only when the lane layout deviates from the normal intersection rules, and shall only be used where indicated in the plans.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PAVEMENT MARKING APPLICATIONS

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

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By:KLK Date: 7/8/2020

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