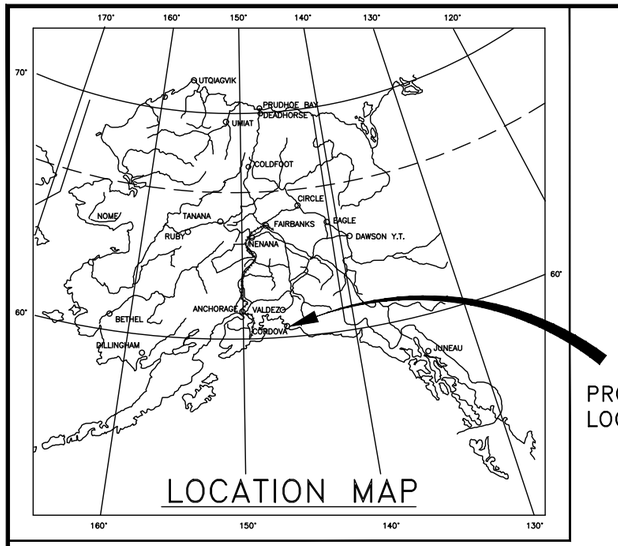
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	A1	80
CDS ROUTE: 211400	MILEPOINT: 0 TO 0.756			



PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

Preliminary PS&E
December 1, 2022
Northern Region

PROPOSED HIGHWAY PROJECT

0837004/NFHW00129

WHITSHED ROAD AND PEDESTRIAN IMPROVEMENTS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2–A3	LEGEND/ABBREVIATIONS & GENERAL NOTES
A4	SURVEY CONTROL
B1–B2	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1–D2	SUMMARY TABLES
E1–E8	MISCELLANEOUS DETAILS
F1–F8	PLAN & PROFILE (WHITESHED ROAD)
F9	PLAN & PROFILE (CORDOVA ROSE)
F10–F11	PLAN & PROFILE (RETAINING WALL)
F12–F15	PLAN & PROFILE (DRIVEWAYS/APPROACHES)
G1–G3	GRADING PLANS
G4	APPROACH SUMMARY & DETAILS
H1–H4	SIGNING & STRIPING (PLAN OVER PLAN)
H5–H7	SIGNING DETAILS
K1–K5	AUTOMATIC VEHICLE CLASSIFICATION DETAILS
Q1–Q3	EROSION & SEDIMENT CONTROL PLANS
U1–U2	UTILITY LEGEND, NOTES, AND DETAILS
U101–U108	UTILITY PLANS
V1–V19	STANDARD PLANS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
C–06.00
D–20.05, D–22.01, D–23.01, D–24.00, D–25.00, D–26.04
I–20.20
L–23.03
S–00.12, 01.02, S–05.02, S–20.11, S–30.05, S–31.02
T–21.04

DESIGN DESIGNATIONS

ADT (2015)	1260
ADT (2045)	1700
DHV (13.7%)	235
PERCENT TRUCKS (T)	6%
DIRECTIONAL SPLIT (D)	55/45
DESIGN SPEED (V)	40 MPH
DESIGN ESALS (YEARS)	156,220 (15)

PROJECT SUMMARY

WIDTH OF PAVEMENT	24
LENGTH OF GRADING	4,150
LENGTH OF PAVING	4,150
LENGTH OF PROJECT	4,150

RUSSELL JOHNSON, P.E., PROJECT MANAGER
CHRISTIANE NEWTON, DESIGN ENGINEER

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

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	A2	A4

	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, MW	
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		
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		

LEGEND

STATE OF ALASKA 49TH — Sammy Stamperton C.E. 99709 REGISTERED PROFESSIONAL ENGINEER

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	0837004/NFHW00129	2022	A3	A4

LIST OF ABBREVIATIONS

ABC	–	AGGREGATE BASE COURSE
AASHTO	–	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	–	ACRES
ACP	–	ASPHALT CONCRETE PAVEMENT
ACS	–	ALASKA COMMUNICATIONS SYSTEMS
ADA	–	AMERICANS WITH DISABILITIES ACT
ADEC	–	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADT	–	ANNUAL AVERAGE DAILY TRAFFIC
AH	–	AHEAD
AP	–	ANGLE POINT
AST	–	ASPHALT SURFACE TREATMENT
ATB	–	ASPHALT TREATED BASE
ATM	–	ALASKA TRAFFFIC MANUAL
BK	–	BACK
BLDG	–	BUILDING
BMP	–	BEST MANAGEMENT PRACTICES
BOP	–	BEGINNING OF PROJECT
BSWK	–	BACK OF SIDEWALK
CABC	–	CRUSHED ASPHALT BASE COURSE
CB	–	CATCH BASIN
CE OR CEC	–	CORDOVA ELECTRIC COOPERATIVE
CF	–	CUBIC FEET
CFS	–	CUBIC FEET PER SECOND
CGP	–	CONSTRUCTION GENERAL PERMIT
CL OR ℄	–	CENTERLINE
CLR	–	CLEAR DISTANCE/ZONE
CMP	–	CORRUGATED METAL PIPE
CO	–	CLEAN OUT
COM	–	COMMERCIAL
CONC	–	CONCRETE
CONT	–	CONTINUOUS
CPP	–	CORRUGATED POLYETHYLENE PIPE
CR	–	CURB RAMP
CSP	–	CORRUGATED STEEL PIPE
CT OR CTC	–	CORDOVA TELEPHONE COOPERATIVE
CY	–	CUBIC YARD
D	–	DEGREE OF CURVE
DEMO	–	DEMOLITION
DHV	–	DESIGN HOURLY VOLUME
DIA OR ø	–	DIAMETER
DIP	–	DUCTILE IRON PIPE
DOT&PF	–	DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DSC	–	DESCRIPTION
DTL	–	DETAIL
DWG	–	DRAWING
DWY	–	DRIVEWAY
EA	–	EACH
EG	–	EXISTING GROUND
EL OR ELEV	–	ELEVATION
EOP	–	END OF PROJECT
EOTW	–	EDGE OF TRAVELED WAY
EP	–	EDGE PAVEMENT
ESAL	–	EQUIVALENT SINGLE AXLE LOAD
FG	–	FINISHED GROUND
FO	–	FIBER OPTIC
FT OR ’	–	FOOT, FEET
GCI	–	GENERAL COMMUNICATION INC
GCP	–	GENERAL CONSTRUCTION PERMIT
GP	–	GRADE POINT
HDPE	–	HIGH DENSITY POLYETHELENE
HMA	–	HOT MIX ASPHALT
HP	–	HIGH POINT
HWY	–	HIGHWAY
IE	–	INVERT ELEVATION
L	–	LENGTH
LC	–	LOAD CENTER
LF	–	LINEAR FEET
LP	–	LOW POINT
LT	–	LEFT
MAX	–	MAXIMUM
MH	–	MANHOLE
MIN	–	MINIMUM
MP	–	MILEPOST
MTE	–	MATCH TO EXISTING
NFS	–	NON–FROST SUSCEPTIBLE
NO. OR #	–	NUMBER
NTS	–	NOT TO SCALE
N/A	–	NOT APPLICABLE
OFF	–	OFFSET
PC	–	POINT OF CURVATURE
PCC	–	POINT OF COMPOUND CURVATURE
PGP	–	PROFILE GRADE POINT
PI	–	POINT OF INTERSECTION
POC	–	POINT ON CURVE
PRC	–	POINT OF REVERSE CURVE
PST	–	PERFORATED STEEL TUBE
POT	–	POINT OF TANGENCY
PVMT	–	PAVEMENT
Q2	–	2 YEAR FLOOD
Q5	–	5 YEAR FLOOD
Q50	–	50 YEAR FLOOD
Q100	–	100 YEAR FLOOD
R	–	RADIUS
ROW OR R/W	–	RIGHT OF WAY
RP	–	RADIUS POINT
RT	–	RIGHT
RW OR RWALL	–	RETAINING WALL
S	–	SUPERELEVATION
SHLDR	–	SHOULDER
SS	–	SANITARY SEWER SERVICE
SIM	–	SIMILIAR
SPP	–	STRUCTURAL PIPE PLATE
SQ.IN. OR IN^2	–	SQUARE INCHES
SF OR FT^2	–	SQUARE FEET
SS	–	SANITARY SEWER SERVICE
ST	–	STREET
STA	–	STATION
STD	–	STANDARD
SWPPP	–	STORM WATER POLLUTION PREVENTION PLAN
SY OR YD^2	–	SQUARE YARD
SYM	–	SYMBOL
T	–	TANGENT LENGTH
TCE	–	TEMPORARY CONSTRUCTION EASEMENT
TCP	–	TEMPORARY CONSTRUCTION PERMIT
TRANS	–	TRANSITION
TYP	–	TYPICAL
VC	–	VERTICAL CURVE
VPC	–	VERTICAL POINT OF CURVATURE
VPI	–	VERTICAL POINT OF INTERSECTION
VPT	–	VERTICAL POINT OF TANGENCY
VOL	–	VOLUME
W/	–	WITH
W/O	–	WITHOUT

GENERAL NOTES:

1. GRADES, ALIGNMENTS, APPROACH LOCATIONS, LENGTHS AND LOCATIONS OF STORM DRAINS AND UTILITIES AND INSULATION SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.

2. UTILITIES (OVERHEAD AND BURIED), TO THE EXTENT THEY ARE KNOWN, ARE SHOWN ON THE PLANS. BEFORE CONDUCTING ANY GROUND–DISTURBING ACTIVITIES THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BY CONTACTING THE DIGLINE AT 1–800–478–3121 OR THE UTILITY COMPANY.

3. PRIOR TO ANY GROUND DISTURBING WORK, THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES WITHIN THE PROJECT LIMITS AND PROTECT THEM FROM DAMAGE FOR THE DURATION OF THE WORK. WHEN PROPOSED CULVERT OR RIPRAP IMPROVEMENTS ARE OVER OR WITHIN OR 2’ HORIZONTALLY FROM UNDERGROUND UTILITIES, HAND EXCAVATE (POT HOLE) AND EXPOSE UNDERGROUND UTILITIES TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION.

4. WITHIN PROJECT LIMITS, PROTECT ALL EXISTING FEATURES DESIGNATED TO REMAIN FROM DAMAGE, UNLESS OTHERWISE NOTED. ANY REPAIRS WILL BE AT THE CONTRACTOR’S EXPENSE.

5. UNLESS OTHERWISE NOTED ON PLANS, PRESERVE AND PROTECT ALL FEATURES ON PRIVATE PROPERTY. WHERE FEATURES CANNOT BE PROTECTED, REMOVE AND REPLACE ITEMS. CONTRACTOR TO RETURN ALL PRIVATE PROPERTY TO MATCH CONDITION PRIOR TO CONSTRUCTION. PAYMENT IS SUBSIDIARY TO PAY ITEMS RELATED TO THE WORK BEING PERFORMED.

6. CLEARING LIMITS SHALL NOT EXCEED ROW, TCE, OR TCP LIMITS.

7. WARP SLOPES AS NEEDED TO ENSURE CATCH LIMITS REMAIN INSIDE ROW BOUNDARY.

TEMPORARY CONSTRUCTION EASEMENT/PERMIT (TCE/TCP) REQUIREMENTS:

1. GENERAL: PRIOR TO FIELD WORK CONSTRUCTION ACTIVITIES AND IN COORDINATION WITH THE ENGINEER, THE CONTRACTOR MUST CONTACT ALL TCE AND TCP PROPERTY OWNERS TO COORDINATE AND MINIMIZE CONSTRUCTION IMPACTS TO THEM.

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES

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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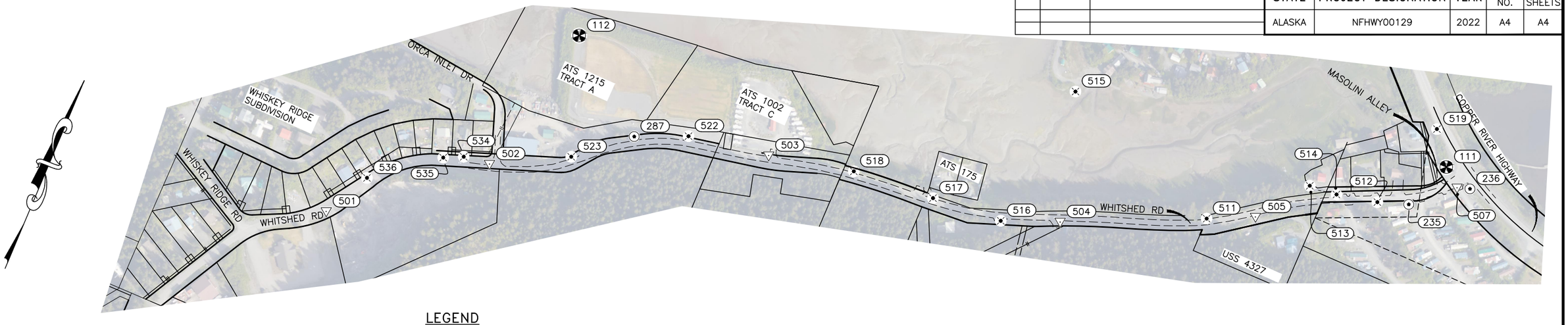
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00129	2022	A4	A4



LEGEND

- PRIMARY MONUMENT SET
- REBAR AND CAP FOUND
- PK
- SPIKE

GRAPHIC SCALE

0 200 400 600 800 1000

SCALE 1"=200'

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
111	114719.27	209339.02	43.52	N60° 32' 21.5417"	W145° 45' 12.3973"	PRIM MON SET WHITE 0.0
112	113854.11	205928.74	36.66	N60° 32' 12.7603"	W145° 46' 20.4320"	PRIM MON SET WHITE 0.7
235	114522.51	209258.48	53.88	N60° 32' 19.5980"	W145° 45' 13.9772"	REBAR CAP FND WS-2 705 S
236	114675.37	209460.65	45.30	N60° 32' 21.1186"	W145° 45' 09.9593"	REBAR CAP FND CP10 LS 4725
287	113566.53	206289.40	36.33	N60° 32' 09.9563"	W145° 46' 13.1775"	REBAR CAP FND CP 17 LS4725
501	112809.64	205267.10	27.41	N60° 32' 02.4227"	W145° 46' 33.4904"	PK SET PHOTO PNT 4.75X4.65
502	113239.11	205797.03	34.04	N60° 32' 06.6936"	W145° 46' 22.9670"	PK SET PHOTO PNT
503	113705.48	206815.90	42.66	N60° 32' 11.3656"	W145° 46' 02.6757"	PK SET PHOTO PNT 5.00X5.00
504	113914.15	207996.89	49.88	N60° 32' 13.5113"	W145° 45' 39.1018"	PK SET PHOTO PNT
505	114236.91	208711.10	60.32	N60° 32' 16.7441"	W145° 45' 24.8754"	PK SET PHOTO PNT 5.30X5.35
507	114659.01	209411.00	45.31	N60° 32' 20.9537"	W145° 45' 10.9494"	PK SET PHOTO PNT 5.1x5.1FT
511	114155.11	208533.14	56.73	N60° 32' 15.9251"	W145° 45' 28.4201"	SPIKE SET
512	114482.16	209138.70	53.54	N60° 32' 19.1917"	W145° 45' 16.3655"	SPIKE SET
513	114437.17	208863.42	49.06	N60° 32' 18.7278"	W145° 45' 21.8613"	SPIKE SET
514	114446.46	208975.63	55.73	N60° 32' 18.8277"	W145° 45' 19.6197"	SPIKE SET
515	114420.52	207850.47	12.27	N60° 32' 18.4867"	W145° 45' 42.1072"	SPIKE SET
516	113826.28	207775.42	46.63	N60° 32' 12.6291"	W145° 45' 43.5152"	SPIKE SET
517	113804.41	207489.55	40.26	N60° 32' 12.3917"	W145° 45' 49.2259"	SPIKE SET
518	113780.11	207155.25	41.96	N60° 32' 12.1268"	W145° 45' 55.9041"	SPIKE SET
519	114844.94	209245.20	43.63	N60° 32' 22.7722"	W145° 45' 14.2922"	SPIKE SET
522	113652.57	206489.38	40.45	N60° 32' 10.8192"	W145° 46' 09.1939"	SPIKE SET
523	113393.63	206087.83	34.74	N60° 32' 08.2380"	W145° 46' 17.1791"	SPIKE SET
534	113226.19	205690.46	31.52	N60° 32' 06.5581"	W145° 46' 25.0952"	SPIKE SET
535	113191.06	205615.98	29.16	N60° 32' 06.2063"	W145° 46' 26.5781"	SPIKE SET
536	112997.14	205365.56	27.25	N60° 32' 04.2769"	W145° 46' 31.5524"	SPIKE SET

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.

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

4. THIS PROJECT IS LOCATED ENTIRELY WITHIN THE CORDOVA LOW DISTORTION PROJECTION (LDP), A LOW DISTORTION PROJECTION CREATED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.

CORDOVA LDP DEFINITION:
LINEAR UNIT: U.S. SURVEY FOOT (SFT)
DATUM: NAD83(2011)
PROJECTION: LAMBERT CONFORMAL CONIC, (SINGLE PARALLEL)
STANDARD PARALLEL AND GRID ORIGIN: 60°30'00"N
CENTRAL MERIDIAN (GRID ORIGIN): 145°15'00"W
FALSE NORTHING: 100,000 SFT
FALSE EASTING: 300,000 SFT
STANDARD PARALLEL SCALE: 1.000004 (EXACT)

THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF "WHITSHED 0.7", POINT #112.

BASIS OF BEARING IS CORDOVA LDP.

THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF 36.66 FT AT "WHITSHED 0.7", POINT #112.

SURVEY FIELD WORK DONE BY DOT DURING SUMMER 2017.

SURVEY CONTROL

STATE OF ALASKA 49TH
TROY M. HICKS
Nov 21 , 2022
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

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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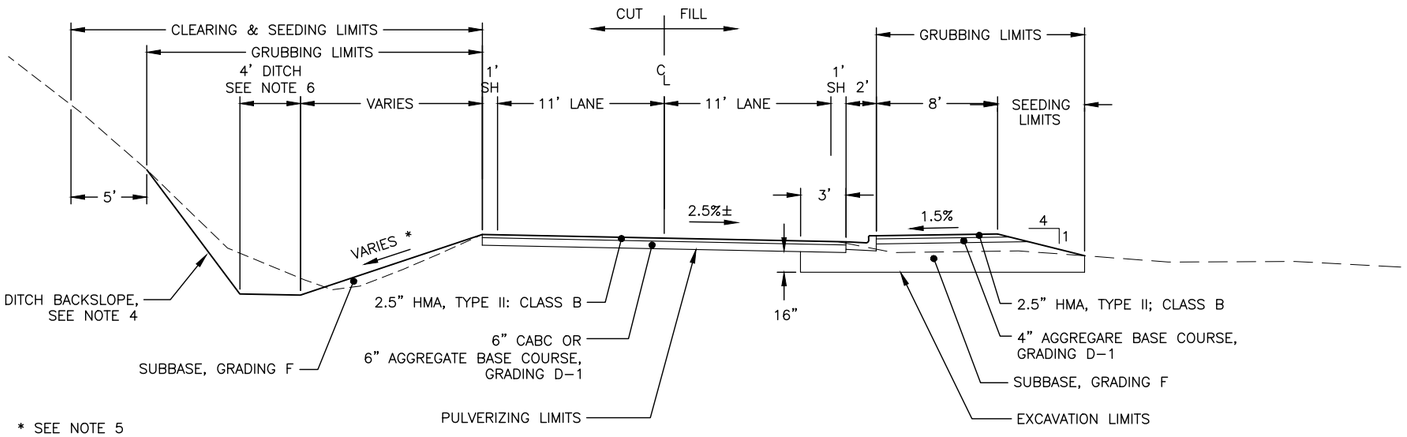
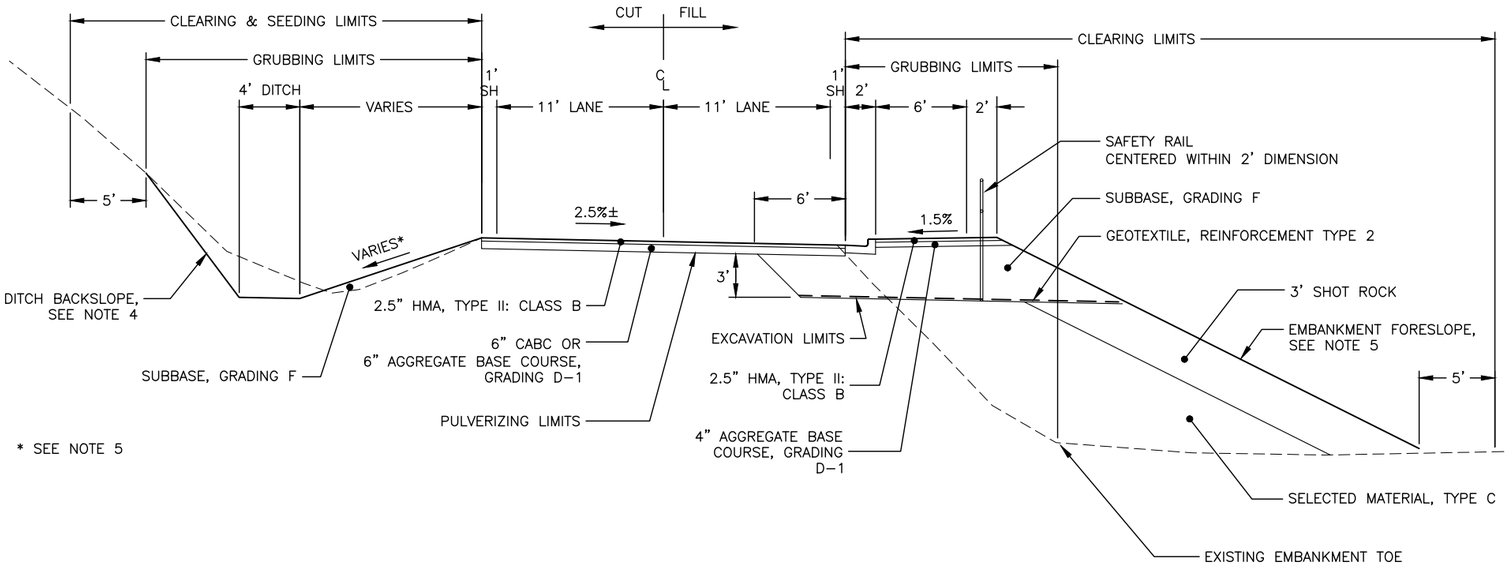
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	B1	B2



TYPICAL SECTION 1

STA 01+18 TO 06+30
STA 37+60 TO 41+50



TYPICAL SECTION 2

STA 06+30 TO 26+60

SHEET NOTES:

1. SEED ALL DISTURBED AREAS OR AS DIRECTED BY THE ENGINEER
2. REMOVE & INSTALL CULVERTS AFTER PULVERIZING THE EXISTING PAVEMENT
3. CONSTRUCT SUPERELEVATIONS AS SHOWN ON PLAN SHEETS F1–F8
4. DITCH BACKSLOPE VARIES, SEE DITCH BACKSLOPE TABLE ON THIS SHEET
5. EMBANKMENT FORESLOPE VARIES, SEE EMBANKMENT FORESLOPE TABLE ON THIS SHEET
6. NO DITCH CONSTRUCTION FROM BOP TO 06+30+00 OR 40+40+00 TO EOP

EMBANKMENT FORESLOPE TABLE

BEGIN STATION	END STATION	FORESLOPE (H:V)
01+18.60	06+30.00	4:1
06+30.00	08+10.00	1.5:1
08+10.00	17+80.00	2:1
17+80.00	26+60.00	1.5:1
26+60.00	41+50.00	4:1

DITCH BACKSLOPE TABLE

BEGIN STATION	END STATION	BACKSLOPE (H:V)
01+18.60	06+30.00	N/A – NO DITCH
06+30.00	09+60.00	MATCH EXISTING
09+60.00	10+00.00	N/A – APPROACH
10+00.00	16+80.00	1:1
16+80.00	18+20.00	4:1
18+20.00	19+80.00	2:1
19+80.00	20+60.00	N/A – APPROACH
20+60.00	23+20.00	MATCH EXISTING
23+20.00	40+40.00	0.75:1
40+40.00	41+50.00	N/A – NO DITCH

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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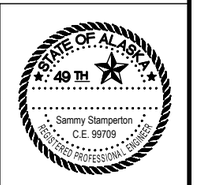
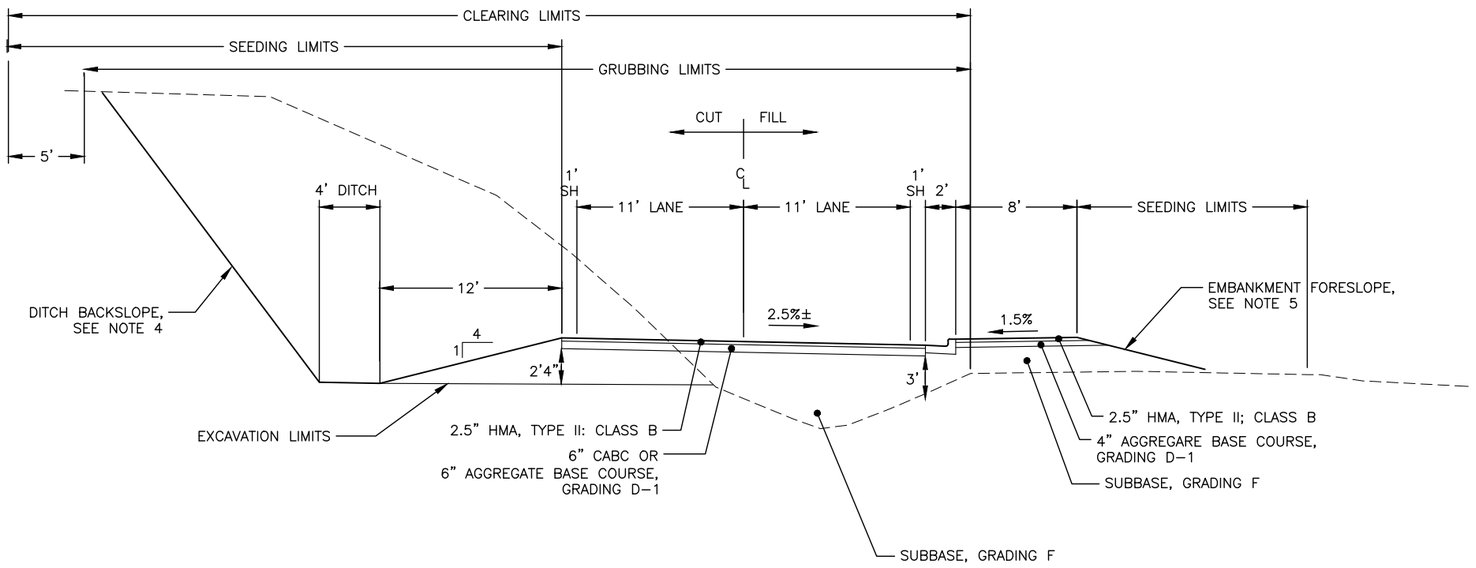


TYPICALS 1 & 2

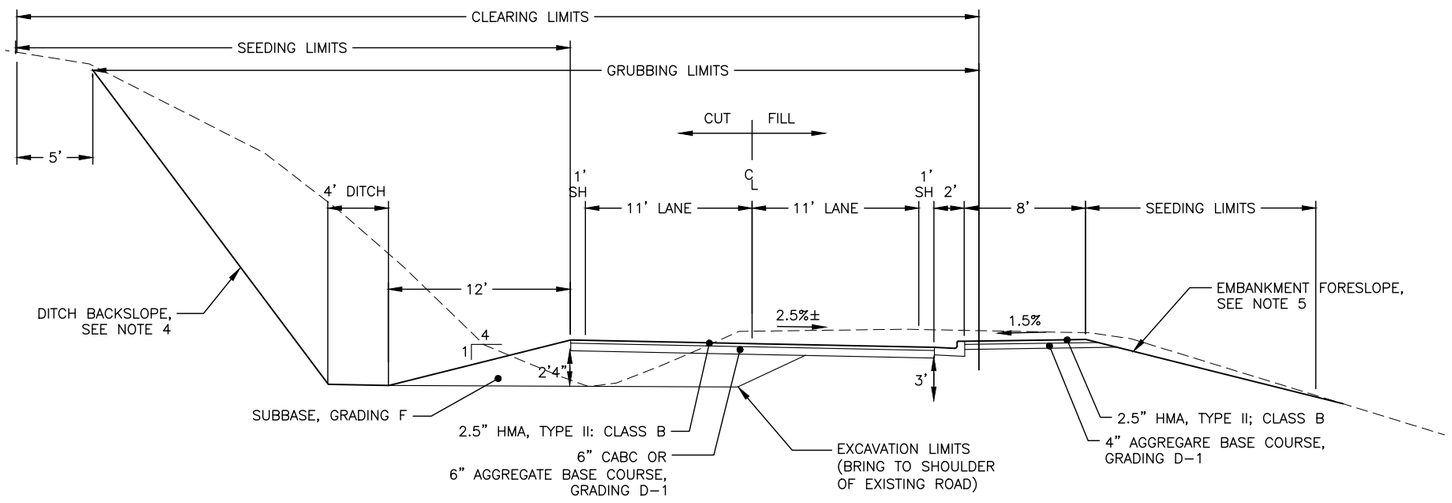
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	B2	B2



TYPICAL SECTION 3

STA 26+60 TO STA 37+60



TYPICAL SECTION 4

SHEET NOTES:

1. SEED ALL DISTURBED AREAS OR AS DIRECTED BY THE ENGINEER
2. REMOVE & INSTALL CULVERTS AFTER PULVERIZING THE EXISTING PAVEMENT
3. CONSTRUCT SUPERELEVATIONS AS SHOWN ON PLAN SHEETS F1-F8
4. DITCH BACKSLOPE VARIES, SEE DITCH BACKSLOPE TABLE ON SHEET B1
5. EMBANKMENT FORESLOPE VARIES, SEE EMBANKMENT FORESLOPE TABLE ON SHEET B1

TYPICALS 3 & 4

STATE OF ALASKA 49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\B1 typicals_PS&E_REVIEW-B2 TYPICALS 3 Mon, Nov/21/22 01:13pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	C1	C1

ESTIMATE OF QUANTITIES

ITEM NUMBER	PAY ITEM	PAY UNIT	PAY QUANTITY
201.0007.0000	CLEARING	LUMP SUM	ALL REQUIRED
201.0008.0000	GRUBBING	LUMP SUM	ALL REQUIRED
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS CORDOVA ROSE STRUCTURES	LUMP SUM	ALL REQUIRED
202.0017.0000	REMOVAL OF CULVERT PIPE	EACH	10
203.0002.0000	ROCK EXCAVATION	CUBIC YARD	28,215
203.0003.0000	UNCLASSIFIED EXCAVATION	CUBIC YARD	12,444
203.0006.0000	BORROW	TON	7,853
203.0017.0000	ROCKFALL MITIGATION – WIRE MESH	SQUARE YARD	4,605
204.0003.0000	STRUCTURE EXCAVATION	LUMP SUM	ALL REQUIRED
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D–1	TON	1,900
304.0001.000F	SUBBASE, GRADING F	TON	20,306
308.0004.0000	CRUSHED ASPHALT BASE COURSE	LUMP SUM	ALL REQUIRED
401.0001.002B	HMA, TYPE II; CLASS B	TON	1,754
401.0004.5228	ASPHALT BINDER, GRADE PG 52–28	TON	97
401.0008.002B	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CONTINGENT SUM	ALL REQUIRED
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
401.0013.0000	JOB MIX DESIGN	EACH	1
401.2010.0000	HMA, SIDEWALKS AND PATHS	TON	531
530.2005.0000	SEGMENTED BLOCK RETAINING WALL PRECAST	SQUARE FOOT	848
603.0001.0024	CSP 24 INCH	LINEAR FOOT	352
603.0001.0036	CSP 36 INCH	LINEAR FOOT	282
603.0001.0048	CSP 48 INCH	LINEAR FOOT	96
603.0001.0060	CSP 60 INCH	LINEAR FOOT	485
604.0001.0000	STORM SEWER MANHOLE	EACH	2
604.0003.0000	RECONSTRUCT EXISTING MANHOLE	EACH	5
604.0004.0000	ADJUST EXISTING MANHOLE	EACH	2
604.0005.000A	INLET, TYPE A	EACH	8
608.0006.0000	CURB RAMP	EACH	1
609.0002.0001	CURB AND GUTTER, TYPE 1	LINEAR FOOT	3,952
609.0003.0000	BACKING CURB	LINEAR FOOT	29
611.0001.0002	RIPRAP, CLASS II	CUBIC YARD	406
613.0002.0000	CULVERT MARKER POST	EACH	21
615.0001.0000	STANDARD SIGN	SQUARE FOOT	106
618.0002.0000	SEEDING	POUND	162
625.0001.0000	PIPE HAND RAIL	LINEAR FOOT	1,980
626.2013.0000	ADJUST SANITARY SEWER CLEANOUT	EACH	1
627.0001.0004	DUCTILE IRON WATER CONDUIT, 4 INCH, CLASS 350	LINEAR FOOT	82
627.0001.0012	DUCTILE IRON WATER CONDUIT, 12 INCH, CLASS 350	LINEAR FOOT	55
627.0010.0000	ADJUSTMENT OF VALVE BOX	EACH	6
630.0003.0002	GEOTEXTILE, REINFORCEMENT – TYPE 2	SQUARE YARD	1,051
631.0002.0001	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	1,132
639.2000.0000	APPROACH	EACH	7
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	LUMP SUM	ALL REQUIRED
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641.0003.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641.0004.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CONTINGENT SUM	ALL REQUIRED
641.0006.0000	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
641.0007.0000	SWPPP MANAGER	LUMP SUM	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642.0013.0000	THREE PERSON SURVEY PARTY	CONTINGENT SUM	ALL REQUIRED
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
644.0001.0000	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644.0002.0000	FIELD LABORATORY	LUMP SUM	ALL REQUIRED
644.0006.0000	VEHICLE	LUMP SUM	ALL REQUIRED
644.2002.0000	FIELD COMMUNICATIONS	CONTINGENT SUM	ALL REQUIRED
645.0001.0000	TRAINING PROGRAM, 1 TRAINEES / APPRENTICES	LABOR HOUR	1
646.0001.0000	CPM SCHEDULING	LUMP SUM	ALL REQUIRED
669.2007.0000	AUTOMATIC VEHICLE CLASSIFICATION	LUMP SUM	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQUIRED
680.2000.0000	TELECOMMUNICATIONS UTILITY RELOCATION CTC	LUMP SUM	ALL REQUIRED
680.2000.0000	TELECOMMUNICATIONS UTILITY RELOCATION GCI	LUMP SUM	ALL REQUIRED
687.2000.0000	POWER UTILITY RELOCATION CEC	LUMP SUM	ALL REQUIRED

ESTIMATE LUMP SUMS

ITEM NO.	DESCRIPTION	VALUE
201.0007.0000	CLEARING	7.59 ACRES
201.0008.0000	GRUBBING	6.03 ACRES
308.0004.0000	CRUSHED ASPHALT BASE COURSE	10,433 SY

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	VALUE
203.0006.0000	BORROW, ALL TYPES	2 TONS/CUBIC YARD
301.0003.00D1	AGGREGATE BASE COURSE, GRADING D–1	2 TONS/CUBIC YARD
304.0001.000F	SUBBASE, GRADING F	2 TONS/CUBIC YARD
401.0001.002B	ASPHALT CONCRETE, TYPE II; CLASS B	115 POUNDS/SQUARE YARD/INCH
401.0004.0000	ASPHALT BINDER, GRADE PG 52E–40	0.055 OF TOTAL MIX
401.0012.0000	HMA, DRIVEWAY, TYPE II; CLASS B	115 POUNDS/SQUARE YARD/INCH
611.0002.0002	RIPRAP, CLASS II	1.6 TONS/CUBIC YARD

ESTIMATE OF QUANTITIES

STATE OF ALASKA 49TH
Sammy Stamperton
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REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-C1 Estimate of Quantities Tue, Nov/29/22 02:02pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	D1	D2

SUPERELEVATION SUMMARY

CURVE P.I. (STATION)	BEGIN TRANSITION CROSS SLOPE (%)	BEGIN TRANSITION (STATION)	TRANSITION LENGTH (FEET)	BEGIN FULL SUPERELEVATION	SUPERELEVATION RATE (%)	END FULL SUPERELEVATION (STATION)	TRANSITION LENGTH (STATION)	END TRANSITION (STATION)	END TRANSITION CROSS SLOPE (%)	REMARKS
"02" 02+70.85	−2.5%	1+01.59	328.41	4+30.00	2.5%	4+30.00	0	4+30.00	−2.5%	NO SUPERELEVATION
"02" 08+08.50	−2.5%	5+87.61	105	6+92.61	−2.5%	9+20.18	68.97	9+89.15	0.0%	
"02" 12+22.52	0.0%	9+89.15	148.98	11+38.13	5.4%	13+13.64	60	13+73.64	−2.5%	
"02" 20+76.30	−2.5%	18+96.71	357.69	22+54.40	2.5%	22+54.40	0	22+54.40	−2.5%	NO SUPERELEVATION
"02" 26+65.67	−2.5%	24+31.41	105	25+36.41	−2.5%	25+36.41	0	25+36+41	2.5%	
"02" 34+40.14	2.5%	32+35.02	60	32+95.02	−5.4%	35+68.43	124.41	36+92.84	0.0%	
"02" 39+36.91	0.0%	36+92.84	124.4	38+17.24	−4.0%	40+40.00	100	41+40.00	−2.0%/+2%	MATCH EXISTING GROUND 41+40

ROCKFALL MITIGATION – WIRE MESH SUMMARY 203.0017.0000

BEGIN	END	OFFSET	QUANTITY (SY)	REMARKS
"02" 26+50	"02" 27+40	LT	479	
"02" 30+60	"02" 32+00	LT	703	
"02" 32+50	"02" 35+20	LT	1,663	
"02" 35+50	"02" 37+40	LT	1,511	
"02" 39+80	"02" 40+30	LT	250	
		TOTAL:	4,605	

SEGMENTED BLOCK RETAINING WALL SUMMARY 530.2005.0000

BEGIN	END	OFFSET	QUANTITY (EACH)	REMARKS
"02" 37+38.44	"02" 40+08.22	RT	108	
		TOTAL:	108	

PAINTED TRAFFIC MARKINGS SUMMARY 670.0001.0000

DESCRIPTION	LENGTH (FT)	REMARKS
4" WHITE	8,064	
4" DOUBLE YELLOW	4,080	
24" WHITE	56	STOP BARS

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H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-01 SUMMARY TABLES Mon, Nov/21/22 10:43am

SUMMARY TABLES

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	D2	D2

CURB RAMP SUMMARY 608.0006.0000

STATION	OFFSET	CORNER	CURB RAMP	TYPE	REMARKS
"02" 40+10	RT	NE	X	C	ORCA DRIVE
		TOTAL	1		

CURB CUT SUMMARY

STATION	OFFSET	WIDTH (FT)	CURB CUT	REMARKS
"02" 2+30.00	RT	79	X	MASOLINI ALLEY
"02" 4+11.00	RT	40	X	DRAGONFLY INN
"02" 5+02.00	RT	18	X	
"02" 5+95.00	RT	14	X	
"02" 6+26.00	RT	16	X	
"02" 18+88.00	RT	30	X	CORDOVA ROSE PROPOSED ACCESS
"02" 29+58.00	RT	28	X	ODIAK CAMPER PARK
"02" 31+75.00	RT	28	X	BALLPARK
"02" 33+89.00	RT	28	X	BALLPARK
"02" 35+90.00	RT	28	X	CORDOVA SHOP #1
"02" 37+10.00	RT	36	X	CORDOVA SHOP #2
	TOTAL	345	11	

CURB AND GUTTER SUMMARY 609.0002.0001

BEGIN	END	OFFSET	QUANTITY (LF)	REMARKS
"02" 01+20.85	"02" 01+50	RT	55	SPILL
"02" 01+50	"02" 03+12	RT	162	DEPRESSED
"02" 03+12	"02" 08+00	RT	488	SPILL
"02" 08+00	"02" 40+47.11	RT	3,247	STANDARD
		TOTAL:	3,952	

BACKING CURB SUMMARY 609.0003.0000

BEGIN	END	OFFSET	QUANTITY (LF)	REMARKS
40+17.67	40+47.11	RT	29	
		TOTAL:	29	

CURB RAMP AND CUT SUMMARY

STATE OF ALASKA
49 TH
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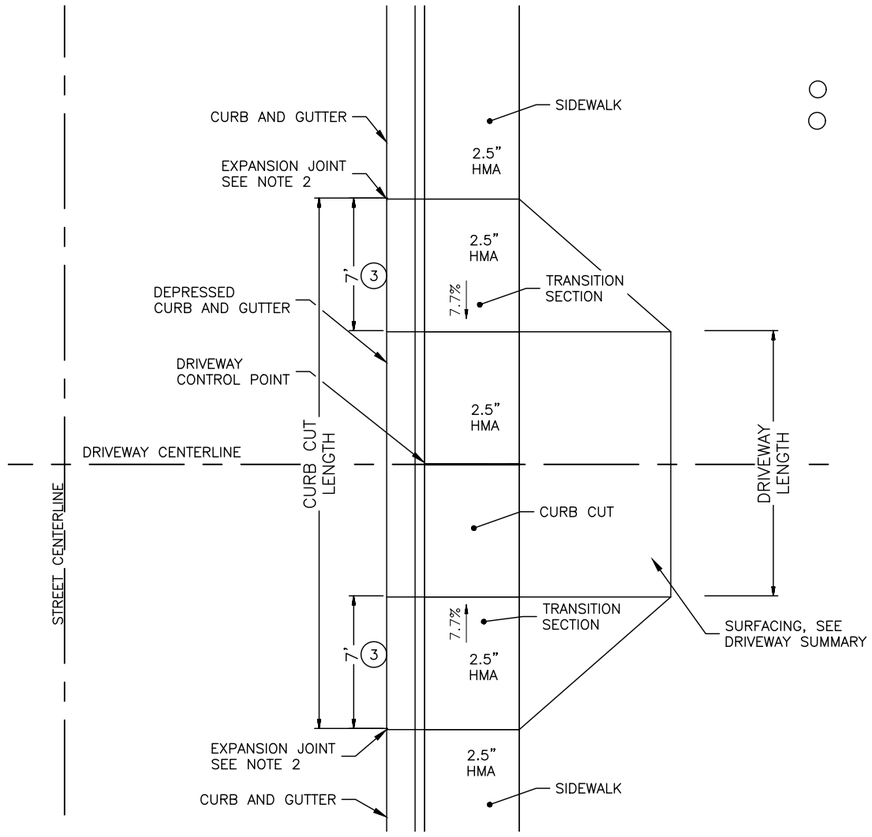
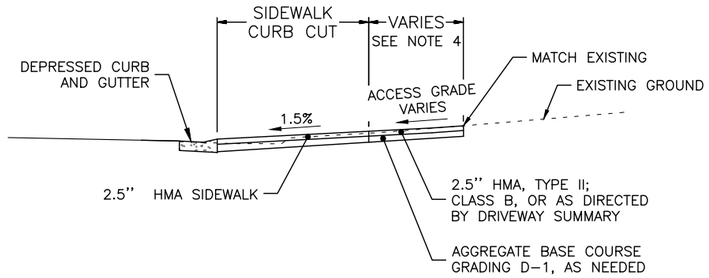
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E1	E8



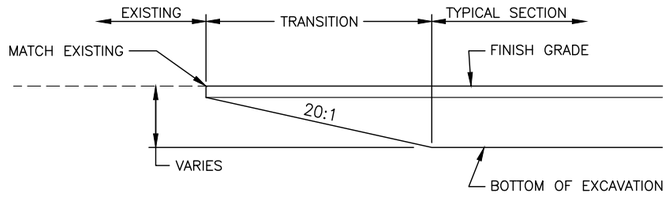
TYPICAL DRIVEWAY CURB CUT

NTS



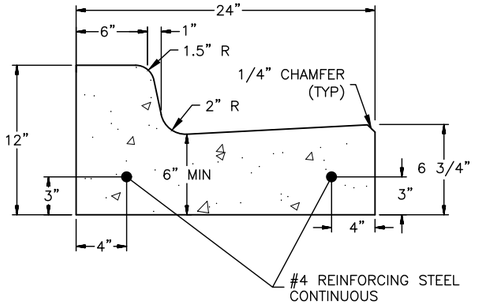
DRIVEWAY TYPICAL SECTION DETAIL

NTS



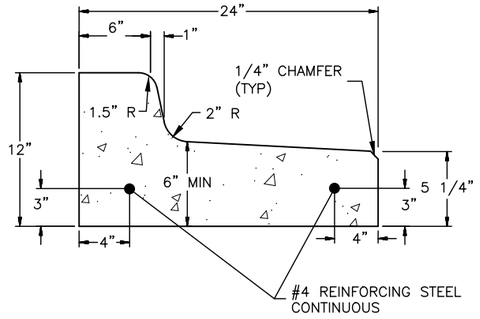
TYPICAL EXCAVATION TRANSITION DETAIL

N.T.S.



STANDARD CURB AND GUTTER

CATCH

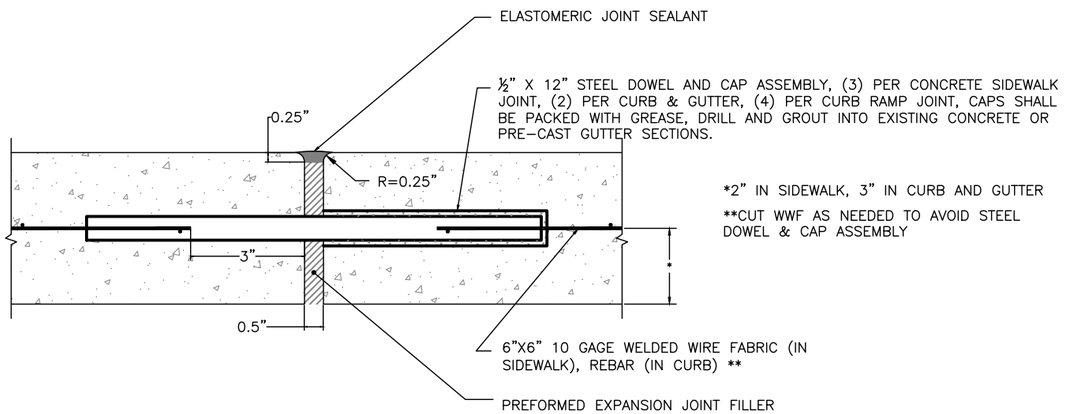


SPILL CURB AND GUTTER

SPILL

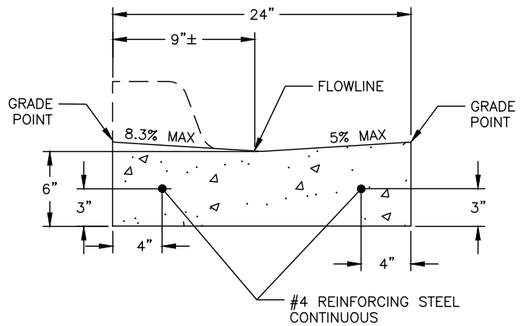
NOTES:

1. MATERIAL FOR CONSTRUCTION OF DRIVEWAY IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
2. CONSTRUCT EXPANSION JOINTS IN THE CURB & GUTTER SPACED EVERY 100' AND AT THE TOP OF ALL TRANSITIONS. CONSTRUCT CURB & GUTTER CONTRACTION JOINTS SPACED EVERY 10' BETWEEN EXPANSION JOINTS.
3. TRANSITION SECTION LENGTHS SHOWN IN PLANS ARE APPROXIMATE. CONSTRUCT TRANSITIONS AT A NOMINAL 7.7% GRADE OR FLATTER. IF APPROVED BY THE ENGINEER SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHERE SITE CONDITIONS WARRANT.
4. SEE DRIVEWAY PROFILES FOR DRIVEWAY LENGTH AND ACCESS GRADE (F SHEETS).



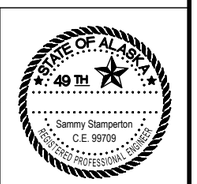
EXPANSION JOINT DETAIL

NTS



ADA CURB GUTTER DETAIL

MISC. DETAILS



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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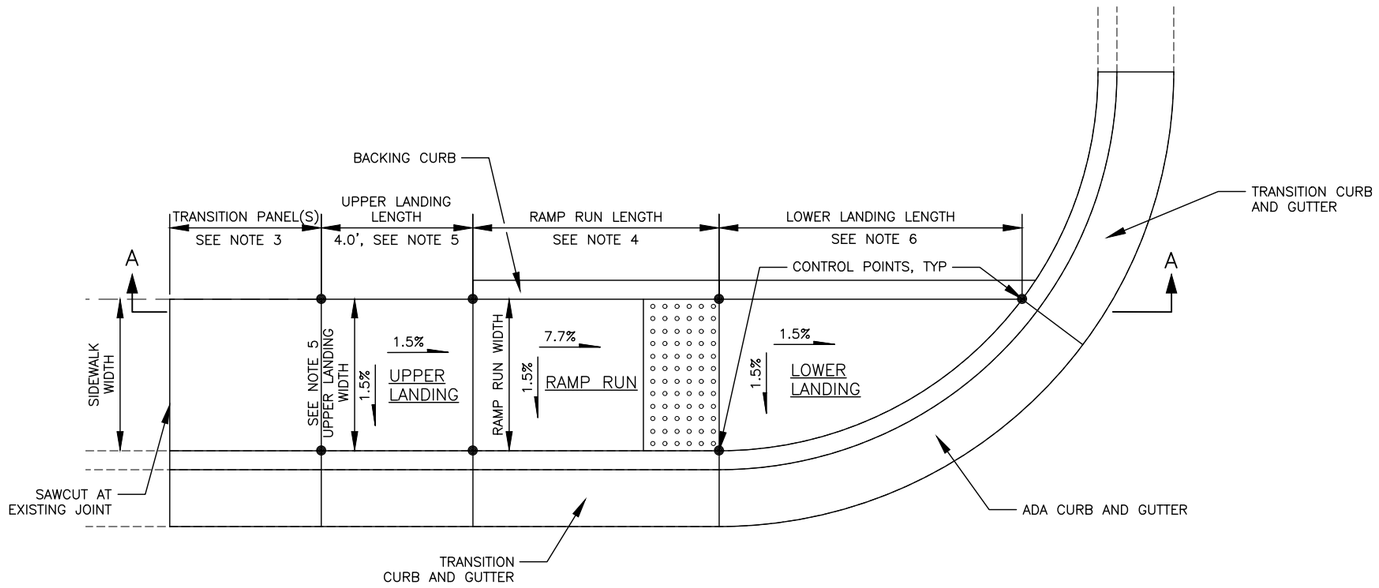
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E2	E8



PLAN VIEW

= DETECTABLE WARNING TILE SEE NOTE 7

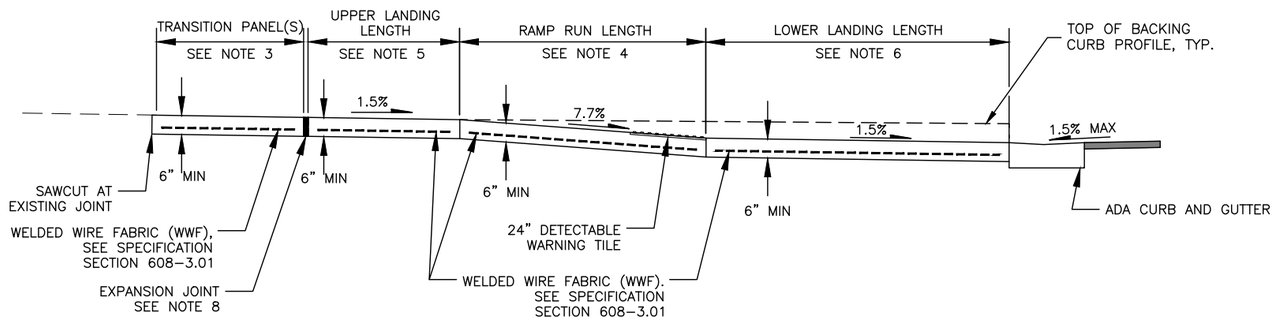
SLOPE DIRECTION KEY:

RUNNING SLOPE

CROSS SLOPE

SLOPES GUIDE

	PREFERRED	MINIMUM	MAXIMUM
UPPER LANDING RUNNING SLOPE	1.5%	1.0%	5.0%
UPPER LANDING CROSS SLOPE	1.5%	1.0%	2.0%
RAMP RUN RUNNING SLOPE	7.7%	N/A	8.3%
RAMP RUN CROSS SLOPE	1.5%	1.0%	2.0%
LOWER LANDING RUNNING SLOPE	1.5%	1.0%	2.0%
LOWER LANDING CROSS SLOPE	1.5%	1.0%	2.0%



PROFILE A-A

NOTES:

1. CONSTRUCT RAMP RUN AND BOTH UPPER AND LOWER LANDING OF 6" CONCRETE WITH COARSE BROOM FINISH IN THE DIRECTION OF THE CROSS SLOPE.
2. NOTIFY THE ENGINEER PRIOR TO CONCRETE PLACEMENT IF MAXIMUM OR MINIMUM GRADES CANNOT BE CONSTRUCTED. UNLESS PREVIOUSLY APPROVED BY THE ENGINEER, ANY FEATURE EXCEEDING MINIMUM OR MAXIMUM ALLOWABLE SLOPES WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
3. TRANSITION PANEL(S): WHEN CONNECTING INTO EXISTING SIDEWALK, REPLACE ADJACENT SIDEWALK PANEL(S) LABELED AS TRANSITION PANEL(S), AS REQUIRED FOR CROSS SLOPE TRANSITION FROM THE EXISTING SIDEWALK TO THE NEW UPPER LANDING TO ENSURE THE UPPER LANDING IS CONSTRUCTED WITH A COMPLIANT CROSS SLOPE.
4. RAMP RUN LENGTH: SURVEY PRIOR TO CONSTRUCTION TO VERIFY RAMP RUN LENGTH REQUIRED FOR COMPLIANT SLOPES. ADJUST THE RAMP RUN LENGTH AS NEEDED TO ENSURE COMPLIANT RAMP RUN RUNNING SLOPE. THIS SURVEY IS SUBSIDIARY TO 642 PAY ITEMS.
5. UPPER LANDING LENGTH: CONSTRUCT UPPER LANDING LENGTH TO 4.0 FEET. UPPER LANDING LENGTH MAY BE DECREASED TO 3 .0 FEET IF APPROVED BY THE ENGINEER.
   UPPER LANDING WIDTH: UPPER LANDING WIDTH SHALL MATCH OR EXCEED THE WIDTH OF THE RAMP RUN.
6. LOWER LANDING LENGTH: LENGTH OF LOWER LANDING DEPENDS ON RAMP RUN WIDTH AND CURB RADII.
7. DETECTABLE WARNING TILE: INSTALL 24" DETECTABLE WARNING TILES FOR THE FULL WIDTH OF THE RAMP RUN.
8. JOINTS: INSTALL CONTINUOUS FULL DEPTH 1/2" EXPANSION JOINT AT ALL LOCATIONS WHERE CONCRETE SIDEWALK, CURB RAMP, OR CURB AND GUTTER (ANY TYPE) MEET. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO SPECIFICATIONS 705-2.02 JOINT SEALANT. EXPANSION AND CONTRACTION JOINTS IN THE SIDEWALK AND CURB RAMP SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB AND GUTTER.
9. CONSTRUCT CONTRACTION JOINTS AT GRADE BREAKS BETWEEN THE UPPER LANDING, RAMP RUN AND LOWER LANDING.
10. INSTALL CONTINUOUS FULL DEPTH 1/8" CONSTRUCTION JOINT AT ALL LOCATIONS WHERE THE CURB & GUTTER AND CURB RAMP MEET.
11. EXPANSION AND CONTRACTION JOINTS IN THE CURB RAMP SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB & GUTTER.

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H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\Details_Curb and Ramp-E2 CURB RAMP DETAILS Mon, Nov/21/22 10:56am

CURB RAMP DETAILS

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E3	E8

CULVERT SUMMARY

STATION	MP	SKEW	NEW CULVERT 60" SPP 10GA (FEET)	NEW CULVERT 24" CSP 12 GA (FEET)	NEW CULVERT 36" CSP 10 GA (FEET)	NEW CULVERT 48" CSP 10 GA (FEET)	DEADMAN (EACH)	RIPRAP CLASS II (CU. YD)	MARKER POST (EACH)	616 (2) 1/2" THAW PIPE (EACH)	REMARKS	AS-BUILT CENTERLINE LOCATION (SEE NOTE 1) STATION	LATITUDE	LONGITUDE
07+15	0.1	65° RT AH	162					14.2	2					
14+12	0.3				69			8	2					
16+62	0.3				75			8	2					
18+45	0.3				70			8	2					
19+50	0.4	90° LT		31				3.6	2		LT APPROACH			
20+35	0.4	90° LT		46				3.6	2		LT APPROACH			
23+24	0.4					96		14.2	2					
25+89	0.5				68			8	2					
38+01	0.7	6° LT AH	317					14.2	2					
TOTAL			479	77	282	96	0	81.8	18	0				

REMOVAL OF CULVERT PIPE 202.0017.0000

STATION	MP	12" DI (FEET)	24" CSP (FEET)	36" CSP (FEET)	REMARKS
6+84	0.1			154	
11+38	0.2		51		
14+07	0.3		64		
17+37	0.3	39			WATER TREATMENT PLANT
17+65	0.3	42			WATER TREATMENT PLANT
18+43	0.4		59		
20+27	0.4		46		DRIVEWAY ACCESS
23+19	0.4			85	
25+89	0.5			48	
38+10	0.7			319	
TOTAL		81	220	606	

CULVERT NOTES:

1. THE CONTRACTOR SHALL ENTER AS-BUILT LOCATIONS FOR ALL "INSTALLED" OR "NEW" CULVERTS IN THE CULVERT SUMMARY TABLE. COORDINATES SHALL BE LOCATED AT THE INTERSECTION OF THE CULVERT AND ROAD CENTERLINE. USE WGS84 DATUM FORMATTED TO DEGREES, MINUTES, SECONDS TO A PRECISION OF 2 DECIMAL PLACES (DDD° MM' SS.SS"). THIS WORK IS SUBSIDIARY TO 642.0001.0000 PAY ITEM.
2. ALL CULVERTS AND STRUCTURAL PLATE PIPES SHALL BE GALVANIZED STEEL.
3. NO CULVERTS SHALL BE PLACED UNTIL THE BEDDING IT WILL LAY ON HAS BEEN APPROVED BY THE ENGINEER.

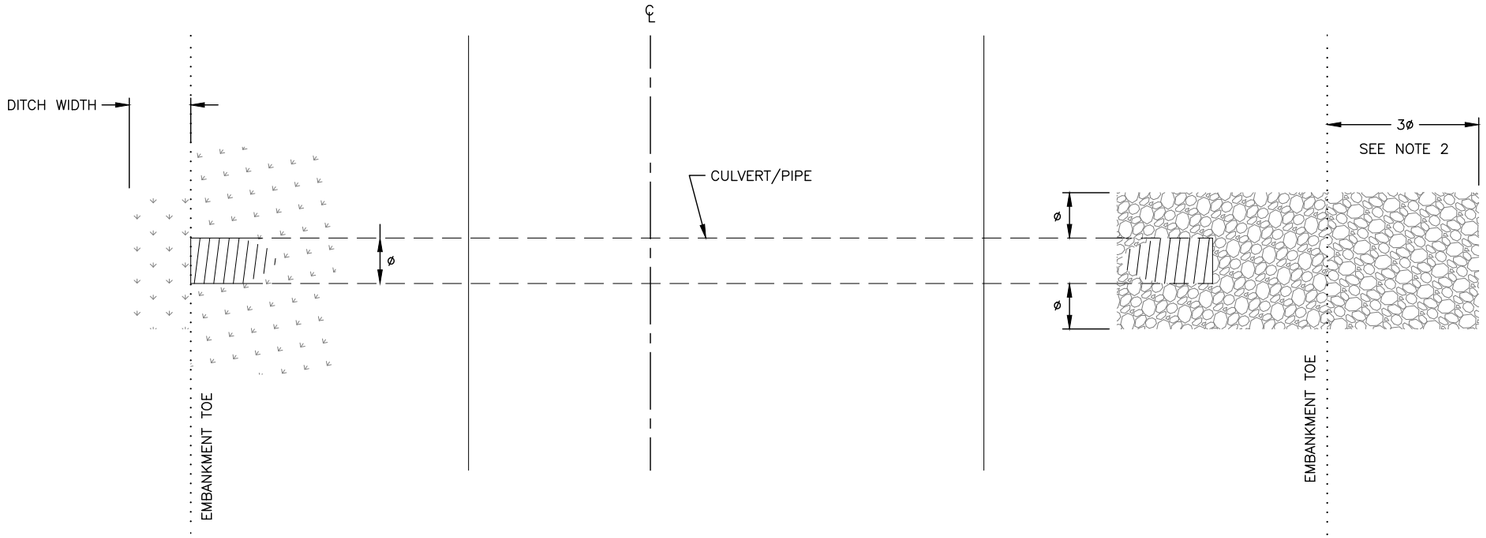
CULVERT SUMMARY

STATE OF ALASKA 49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

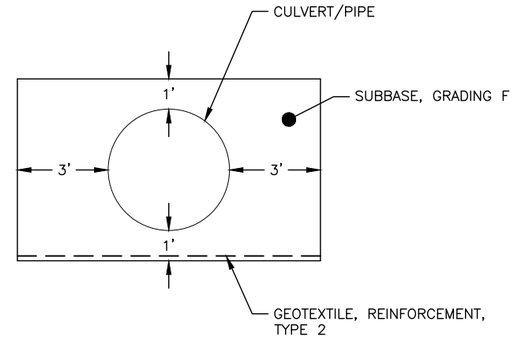
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-E3 CULVERT SUMMARY Mon, Nov/21/22 10:56am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E4	E8



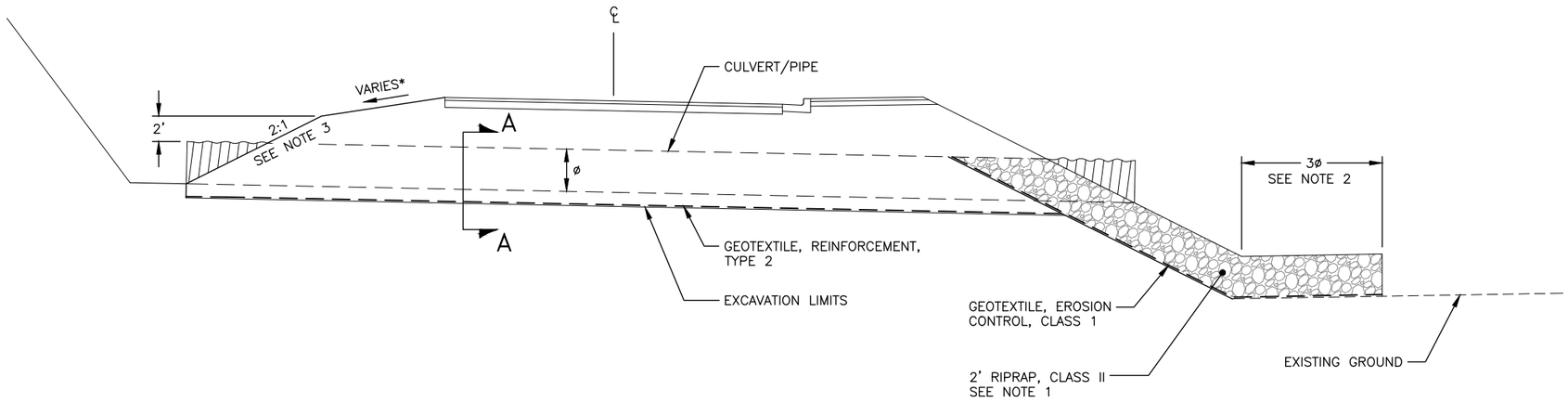
PLAN: CULVERT RIPRAP



SECTION A–A

SECTION A–A NOTES:

1. CULVERT EXCAVATION LIMITS ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCE & PROCEDURES OF CONSTRUCTION, SAFETY & QUALITY CONTROL.
2. THE WIDTH OF GEOTEXTILE, REINFORCEMENT, TYPE 2 MAY BE REDUCED TO 8.5' ON 36" CSP. THE 8.5' WIDTH MUST BE MADE USING ONE 8.5' WIDE STRIP OF GEOTEXTILE.



SECTION: CULVERT RIPRAP

SHEET NOTES:

1. COUNTERSINK RIPRAP INTO THE ROADWAY EMBANKMENT SLOPE.
2. RIPRAP EXTENTS NOT TO EXCEED ROW BOUNDARIES.
3. BEGIN/END TRANSITION OF FORESLOPES 20 FEET ON EITHER SIDE OF THE CULVERT.

CULVERT DETAILS

STATE OF ALASKA
49 TH
Sammy Stamperton
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H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129 culvert details_noRipRapatIntake-E4 CULVERT DETAILS Mon, Nov/21/22 10:56am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E5	E8

STORM DRAIN, CATCH BASIN, AND PIPE SUMMARY

STRUCTURE	STORM SEWER MANHOLE (EACH)	INLET TYPE A (EACH)	STATION	OFFSET	Top of Casing		PIPE IE INLET	PIPE IE OUTFALL	PIPE	24-INCH CSP (FT)	60-INCH CSP (FT)	MARKER POSTS (EACH)	REMARKS
					GRATE	LID							
CB1		X	01+65	16.69 RT	44.93		SD1 41.00	SD1 37.80	SD1	107		1	CROSSES COPPER RIVER HIGHWAY
CB2		X	12+40	12.71 RT	56.58		SD2 54.00	SD2 53.67	SD2	17			
CB3		X	15+40	12.70 RT	52.91		SD3 50.91	SD3 50.62	SD3	15			
CB4		X	18+20	12.70 RT	49.12		SD4 47.12	SD4 46.86	SD4	14			
CB5		X	21+00	12.70 RT	44.46		SD5 42.46	SD5 42.19	SD5	14			
CB6		X	24+00	12.70 RT	39.07		SD6 37.07	SD6 36.80	SD6	14			
CB7		X	38+08	12.71 RT	37.14		SD7 33.00	SD7 32.02	SD7	49		1	
CB8		X	40+00	12.7 RT	35.63		SD8 32.00	SD8 31.68	SD8	45		1	
MH1	X		06+40	23.19 LT		55.34	44.98	41.68	P-07+15		165	1	
MH2	X		38+13	43.72 LT		30.43	23.87	08.94	P-37+99		322	1	
TOTAL	2	8							TOTAL	275	487	5	

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STORM DRAIN SUMMARY

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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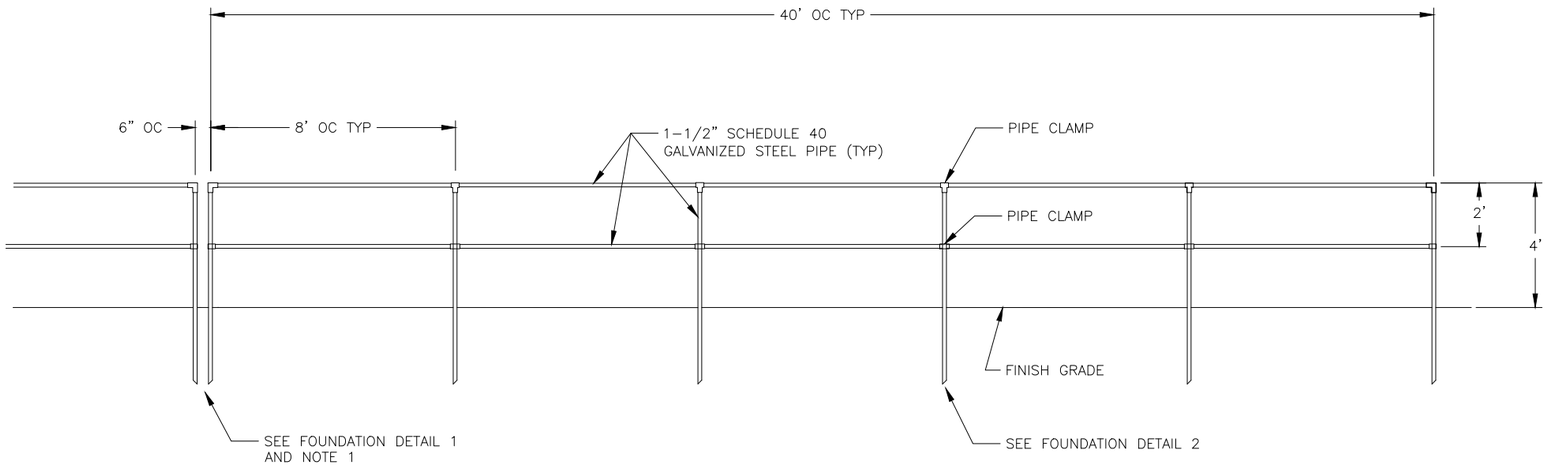
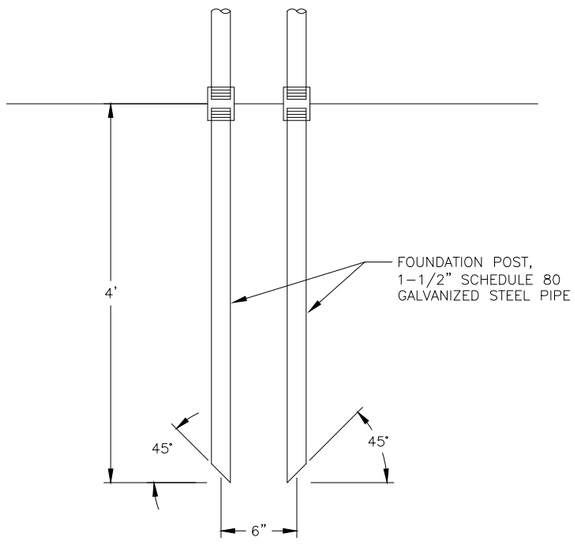


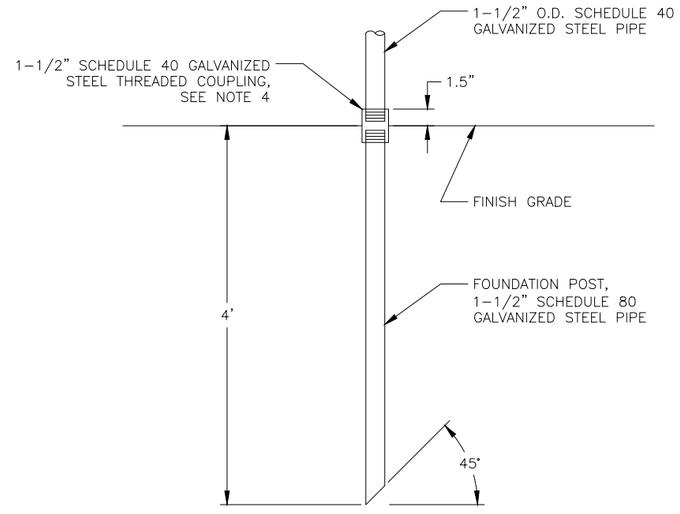
PIPE HAND RAIL DETAIL
N.T.S.

SAFETY RAIL NOTES:

1. FOUNDATION DETAIL 1 SHALL BE USED BETWEEN TWO ADJACENT SAFETY RAIL SECTIONS.
2. VERTICAL PIPE SHALL BE CONTINUOUS FROM THE BOTTOM OF THE DRIVEN PIPE TO THREADED COUPLING. AT EACH VERTICAL PIPE LOCATION, USE A CIRCULAR CORE SAW NO MORE THAN 1-INCH LARGER THAN THE OUTER DIAMETER OF THE PIPE COUPLING TO CUT AND REMOVE ASPHALT. AFTER COMPLETION OF VERTICAL PIPE INSTALLATION, FILL ANY REMAINING GAP BETWEEN THE ASPHALT AND THE PIPE COUPLING UNTIL FLUSH WITH SURROUNDING ASPHALT SURFACE AND SEAL WITH A SEALANT APPROVED BY THE ENGINEER. SEALANT SHALL BE BLACK, WATER-IMPERMEABLE (LATEX, BITUMINOUS, OR BUTYL RUBBER), AND RATED FOR SERVICE IN TEMPERATURES OF -10F TO 100F. FILL AND SEAL GAPS IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS OF APPROVED PRODUCT(S).
3. SAFETY RAIL SHALL BE CLAMP-TYPE CONSTRUCTION. SET SCREWS AND LIKE FASTENERS SHALL BE POSITIONED AWAY FROM PEDESTRIAN TRAFFIC.
4. TACK WELD COUPLING TO FOUNDATION POST AFTER DRIVING FOUNDATION POST. APPLY ANTI-SEIZE LUBRICANT ON COUPLING AND THREADS OF FENCE POST (PERMATEX 80071, ANTI-SEIZE TECHNOLOGY 3200 SERIES, MOLYKOTE 1000 OR APPROVED EQUAL). THIS WORK IS SUBSIDIARY TO THE SAFETY RAIL INSTALLATION.



FOUNDATION DETAIL 1
N.T.S.



FOUNDATION DETAIL 2
N.T.S.

PIPE HAND RAIL SUMMARY 625.0001.0000				
STATIONS		LENGTH (FT)	RT/LT	NOTES
BEGIN	END			
"02"6+50.00	"02"18+80.00	1,230	RT	
"02"19+10.00	"02"26+60.00	750	RT	
	TOTAL LENGTH:	1980		

PIPE HAND RAIL DETAILS

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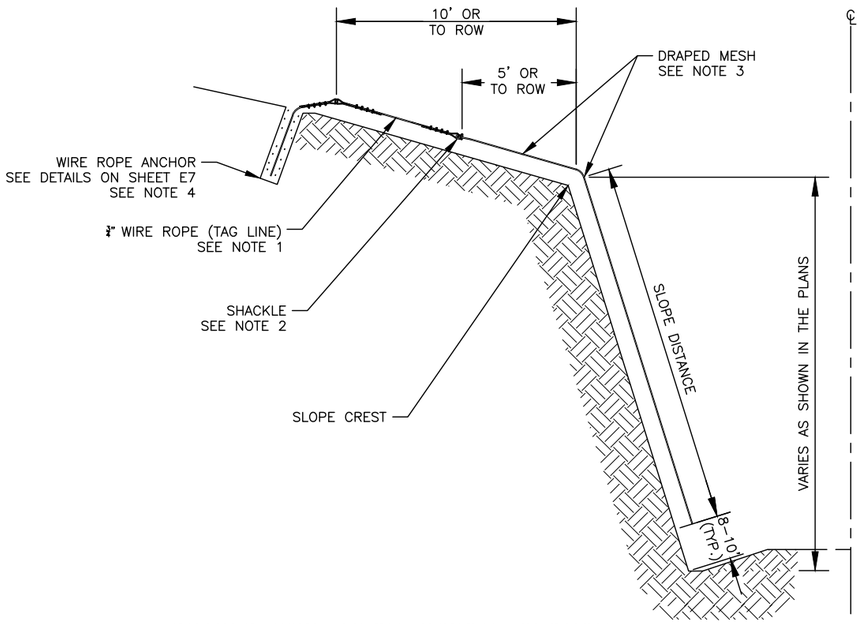
11/21/22 10:57am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E7	E8



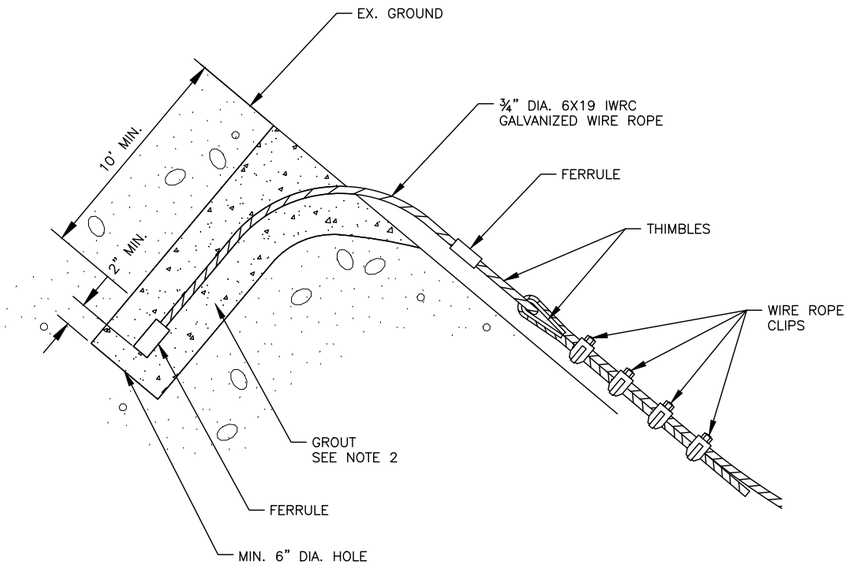
DRAPED WIRE MESH TYPICAL SECTION

TYPICAL SECTION NOTES:

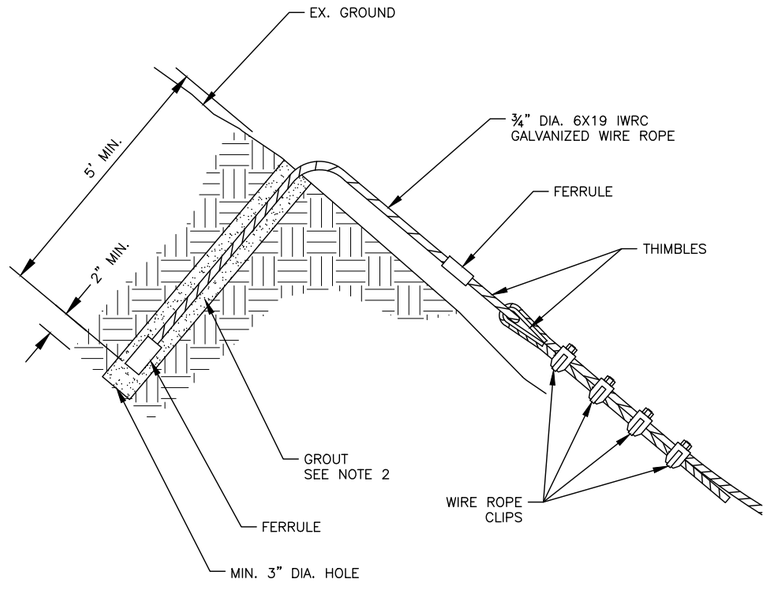
1. USE OF A TAG LINE MAY BE OMITTED WITH ENGINEER APPROVAL. SHACKLE MAY BE DIRECTLY CONNECTED TO WIRE ROPE ANCHOR.
2. PROVIDE A MIN. 1" SIZED SHACKLE WITH AN 8 TON MIN. WORKING LOAD LIMIT.
3. HIGH TENSILE STRENGTH MESH IS REQUIRED. INSTALL MESH TO CONFORM TO SLOPE IRREGULARITIES UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

WIRE MESH SUMMARY TABLE

STATION	AREA (SY)	REFERENCE SHEET
26+50 TO 27+40	479	F6
30+60 TO 32+00	703	F6–F7
32+50 TO 35+20	1663	F7
35+50 TO 37+40	1511	F7–F8
39+80 TO 40+30	250	F8
TOTAL	4606	



WIRE ROPE ANCHOR FOR SOIL



WIRE ROPE ANCHOR FOR ROCK

ANCHOR NOTES:

1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
2. FILL ANNULAR SPACE WITH GROUT, AS SHOWN IN THE PLANS AND REQUIRED IN THE SPECIAL PROVISIONS.
3. MINIMUM EMBEDMENTS WERE ESTIMATED ASSUMING A 6" DIA. HOLE IS ADVANCED IN SOIL AND A 3" DIA. DRILL HOLE IS ADVANCED IN ROCK.
4. CONDUCT PROOF TESTING AS DESCRIBED IN THE SPECIAL PROVISIONS TO VERIFY MINIMUM EMBEDMENT LENGTHS ARE SUFFICIENT FOR THE SPECIFIED ANCHOR LOADS.

DRAPED MESH DETAILS
1 OF 2

STATE OF ALASKA
49TH
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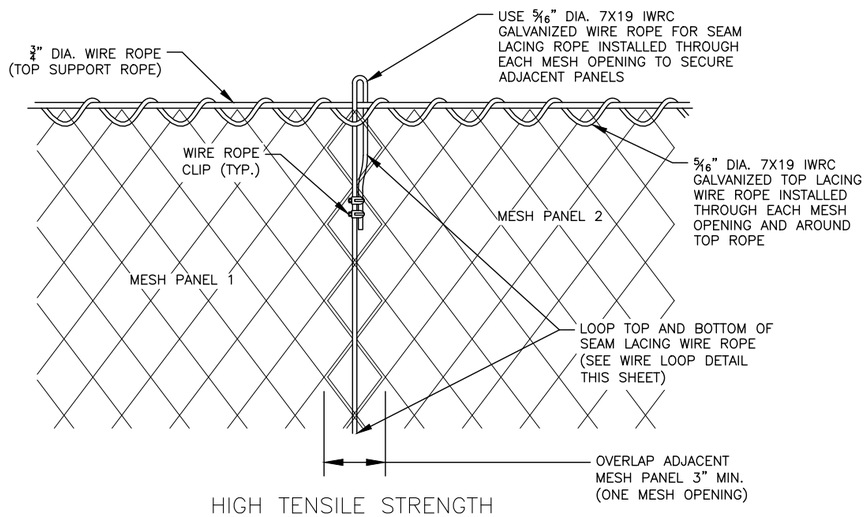
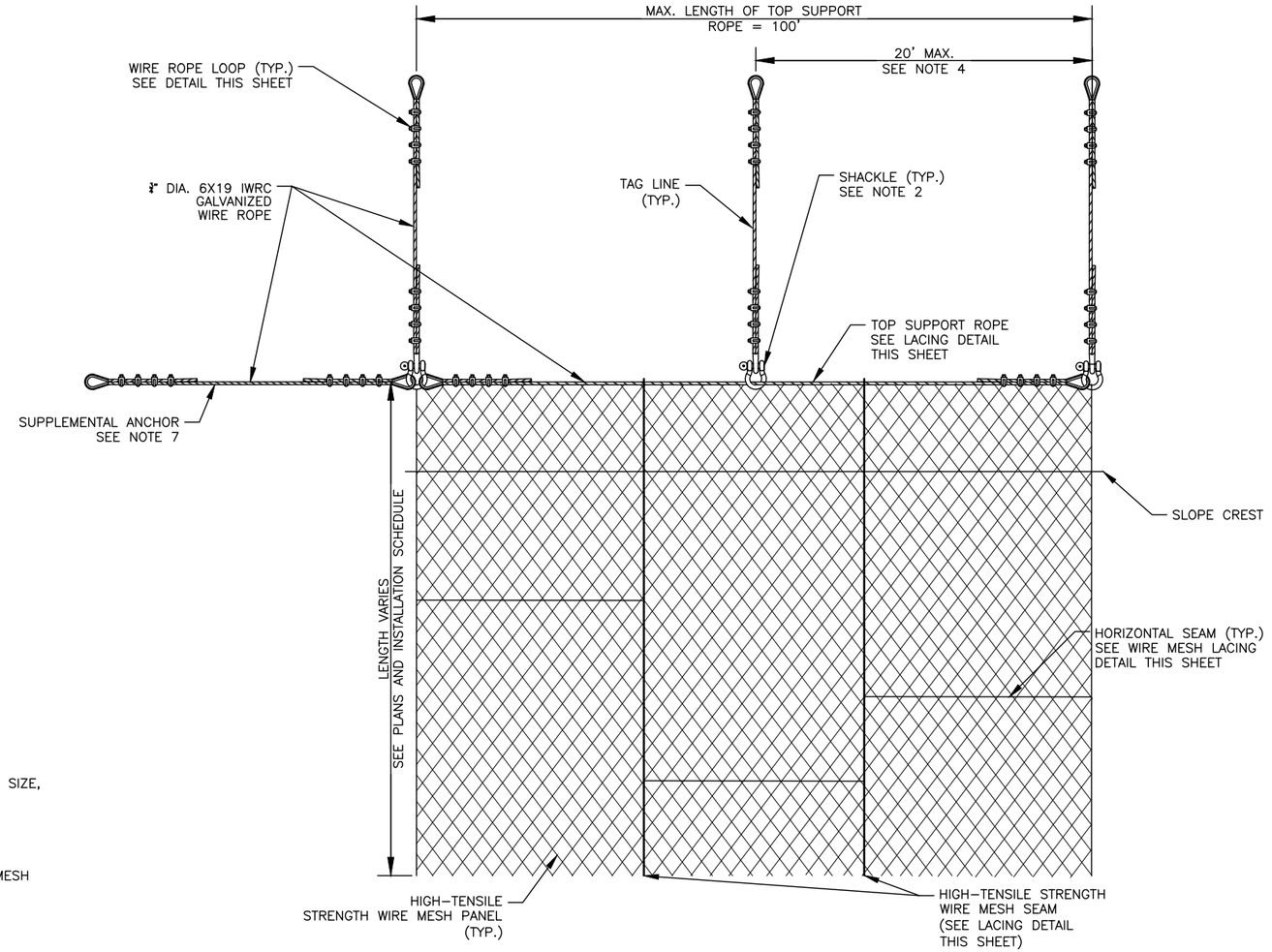
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	E8	E8



HIGH TENSILE STRENGTH
WIRE MESH LACING DETAIL

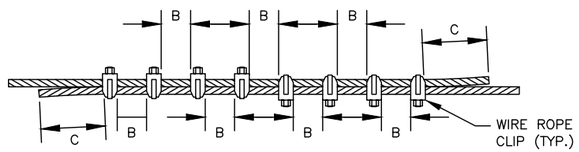
SEE NOTES 6 AND 7



HIGH-TENSILE STRENGTH
WIRE MESH DETAIL

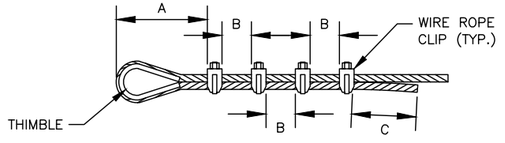
NOTES:

1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
2. PROVIDE A MIN. 1" SIZED SHACKLE WITH AN 8 TON MIN. WORKING LOAD LIMIT.
3. SHORTEN ANCHOR SPACING TO FACILITATE CHANGES IN SLOPE GEOMETRY AS NECESSARY. LOCATE ANCHORS TO ALLOW WIRE MESH TO CONFORM TO THE SLOPE.
4. COMPLY WITH MANUFACTURER'S SPECIFICATIONS (AS BASED ON ROPE SIZE/DIAMETER) FOR THIMBLE SELECTION, NUMBER OF CLIPS, CLIP SIZE, DISTANCE A, B, C, AND REQUIRED TORQUE.
5. HIGH-TENSILE STRENGTH MESH CAN BE LACED HORIZONTALLY USING THE SAME LACING METHOD AS SHOWN FOR VERTICAL SEAMS.
6. ALTERNATIVE LACING OR FASTENING TECHNIQUES MAY BE PROPOSED FOR REVIEW AND APPROVAL BY THE ENGINEER.
7. SUPPLEMENTAL ANCHORS TO BE INSTALLED AS NECESSARY. LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER TO ALLOW MESH TO CONFORM TO SLOPE AND PREVENT TOP ROPE SAGGING.



WIRE ROPE SPLICING DETAIL (TYP.)

SEE NOTE 4



WIRE ROPE LOOP DETAIL (TYP.)

SEE NOTE 4

DRAPED MESH DETAILS
2 OF 2

STATE OF ALASKA
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F1	F15

COPPER RIVER HIGHWAY

R/W

1+02

STA 1+01.59 BOP
1473455.40 NORTHING
2094349.21 EASTING

IE = 35.59

CB1
STA 1+65.03
OFFSET = 16.69' RT
GRATE ELEV: 44.93
IE = 37.83
112.2 LF 24" CSP S = -2%

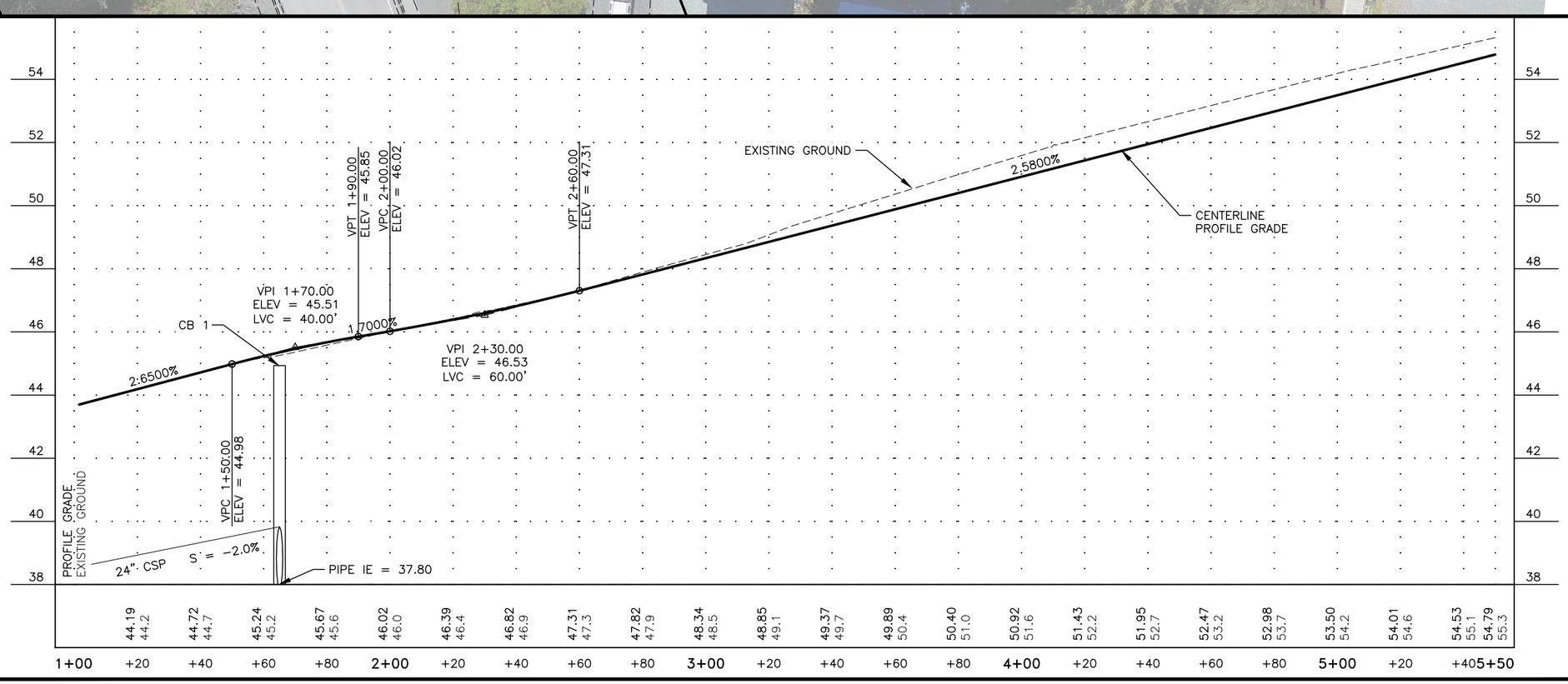
PAVING LIMITS

STA 2+70.85 PI
Δ = 34°12'42"
D = 10°25'03"
T = 169.26'
L = 328.41'
R = 550.00'
S = -2.5%

"02" 4+30.00 PT

S 65°51'19" W ~ 252.11'

MATCH "02" 5+50 LINE



STATE OF ALASKA
49TH
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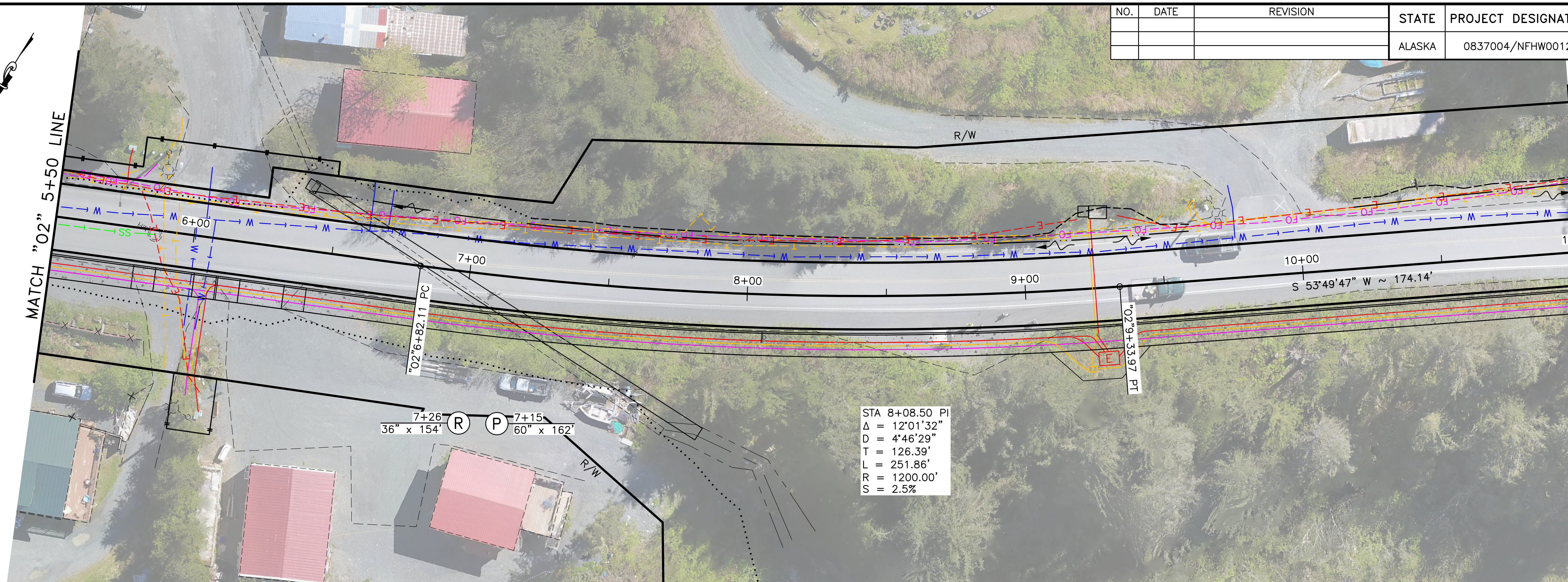
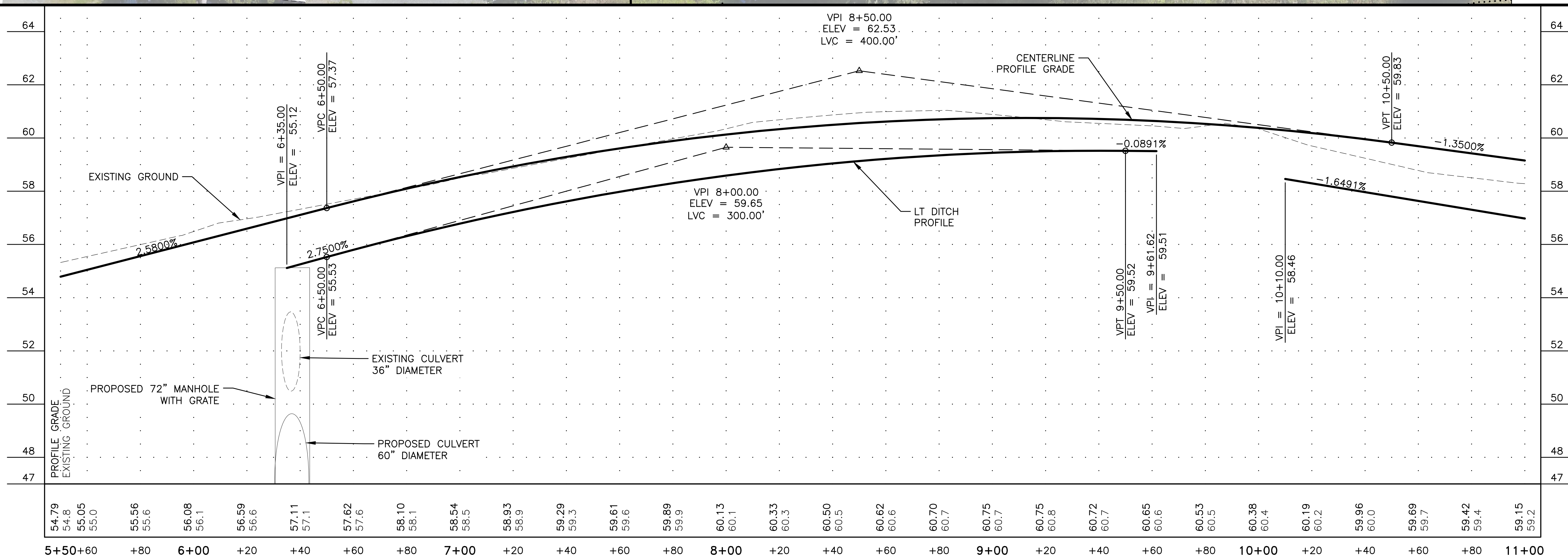
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F2	F15



STATE OF ALASKA 49TH Sammy Stamperton C.E. 99709 REGISTERED PROFESSIONAL ENGINEER



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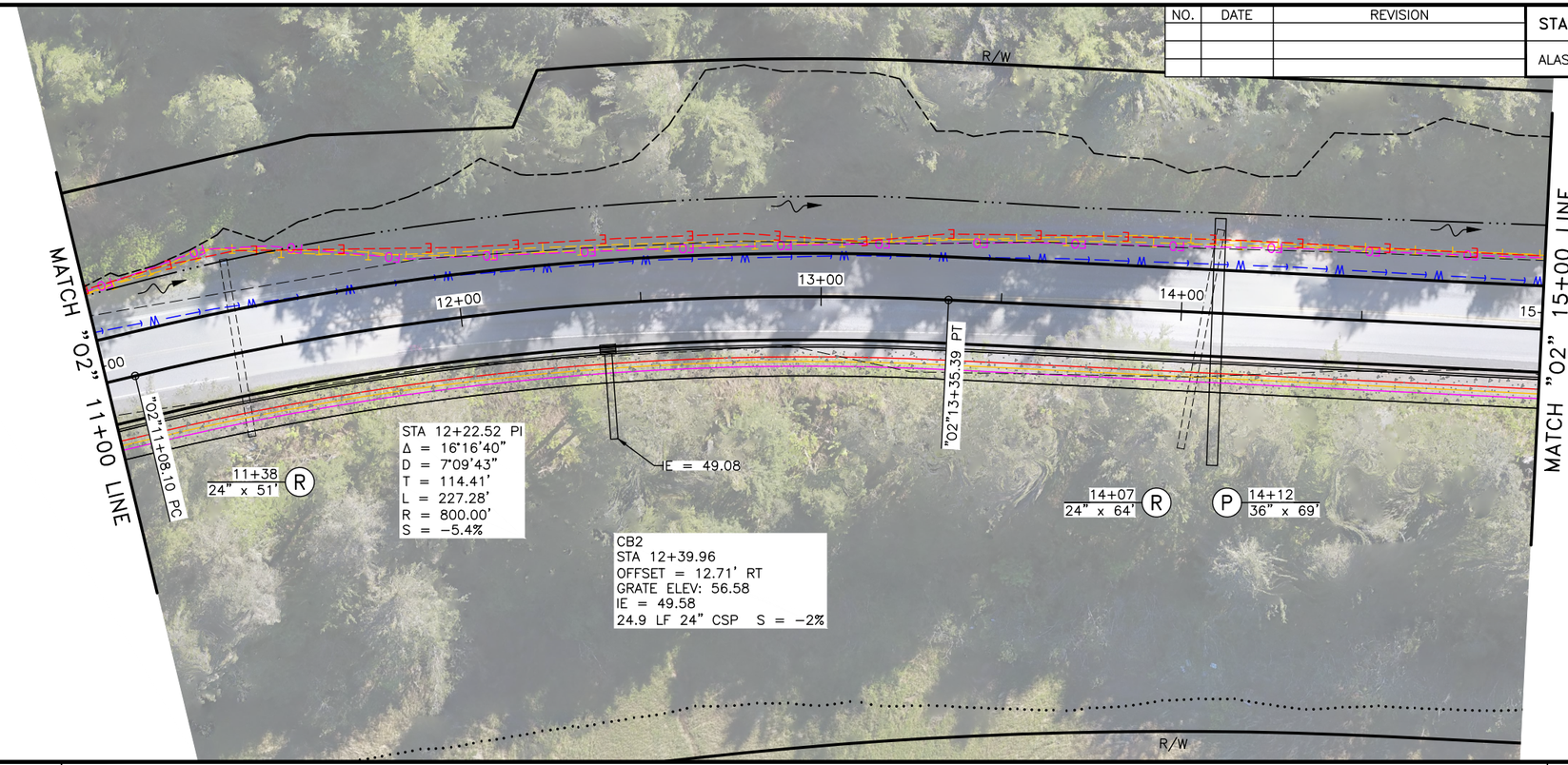
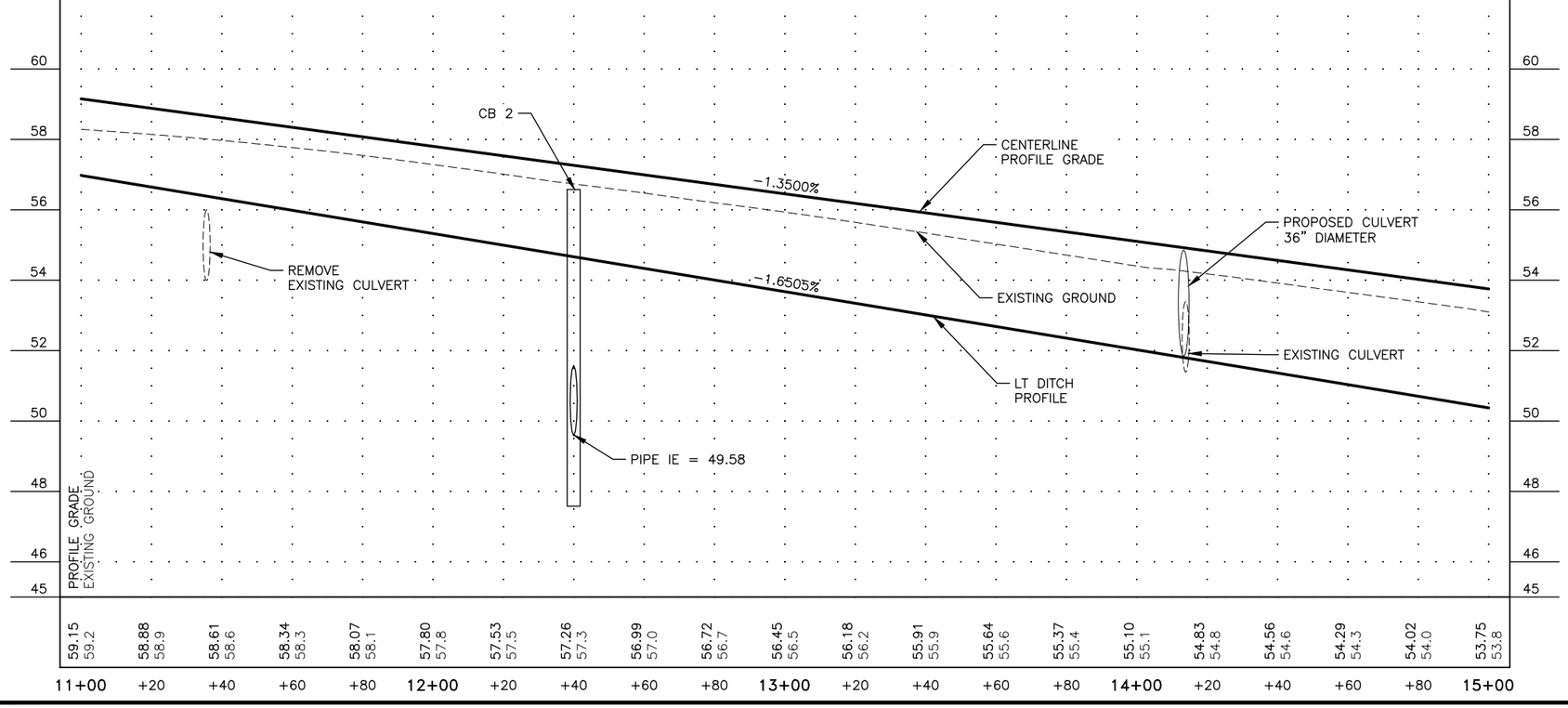
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F3	F15





STATE OF ALASKA 49TH
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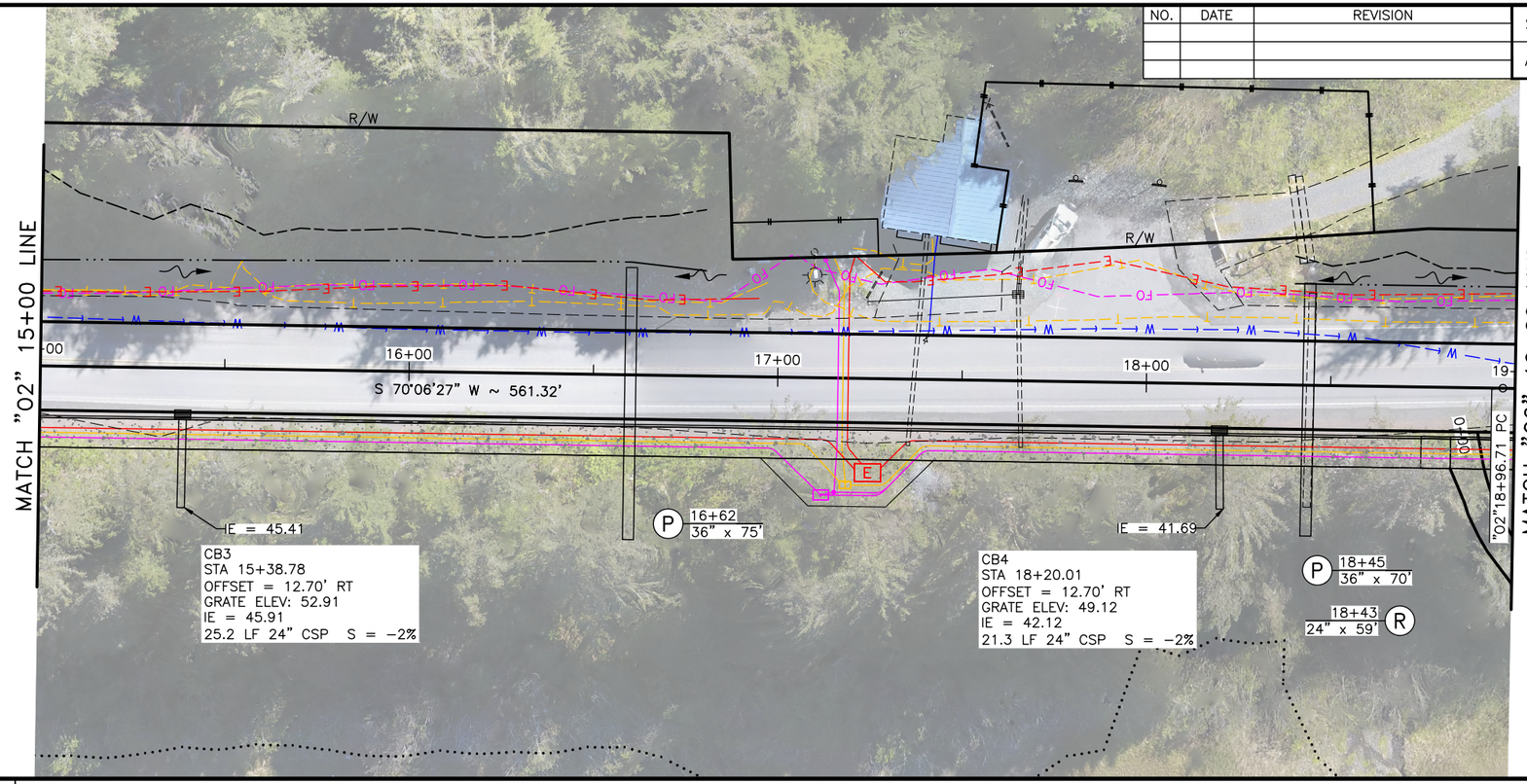
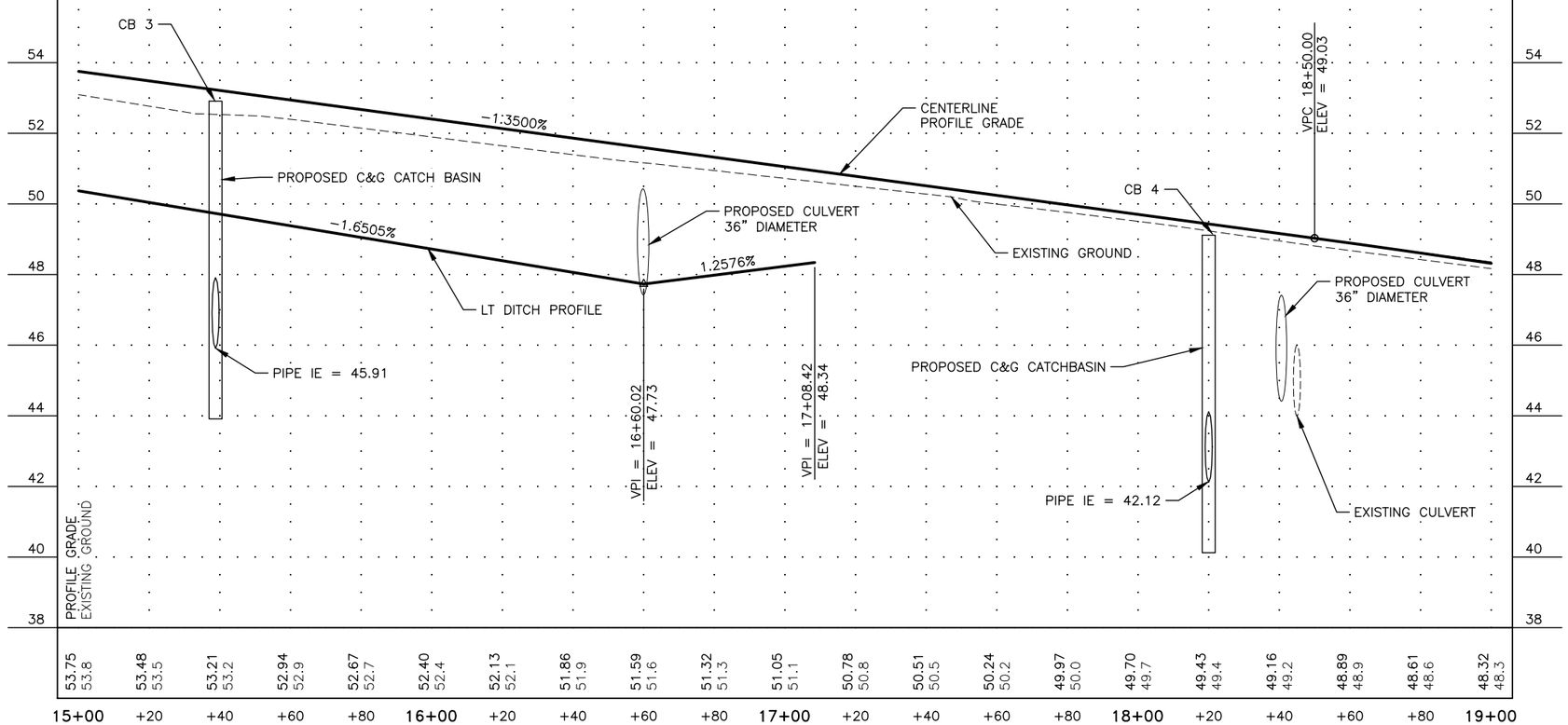
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F4	F15





STATE OF ALASKA 49TH
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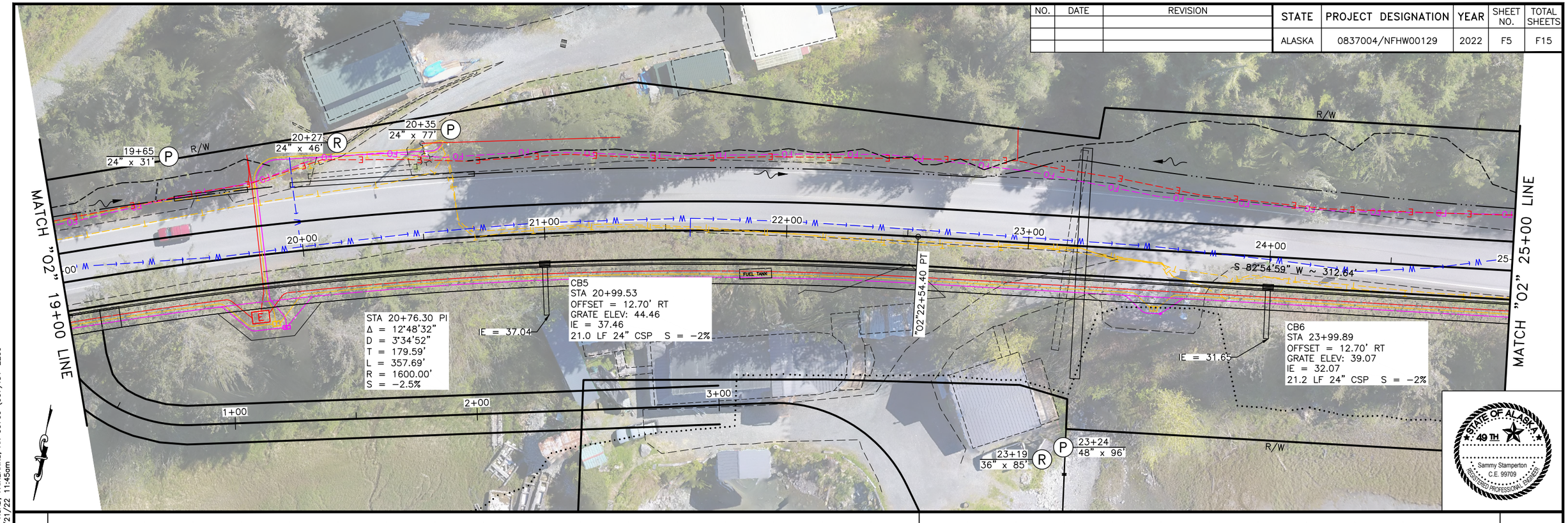
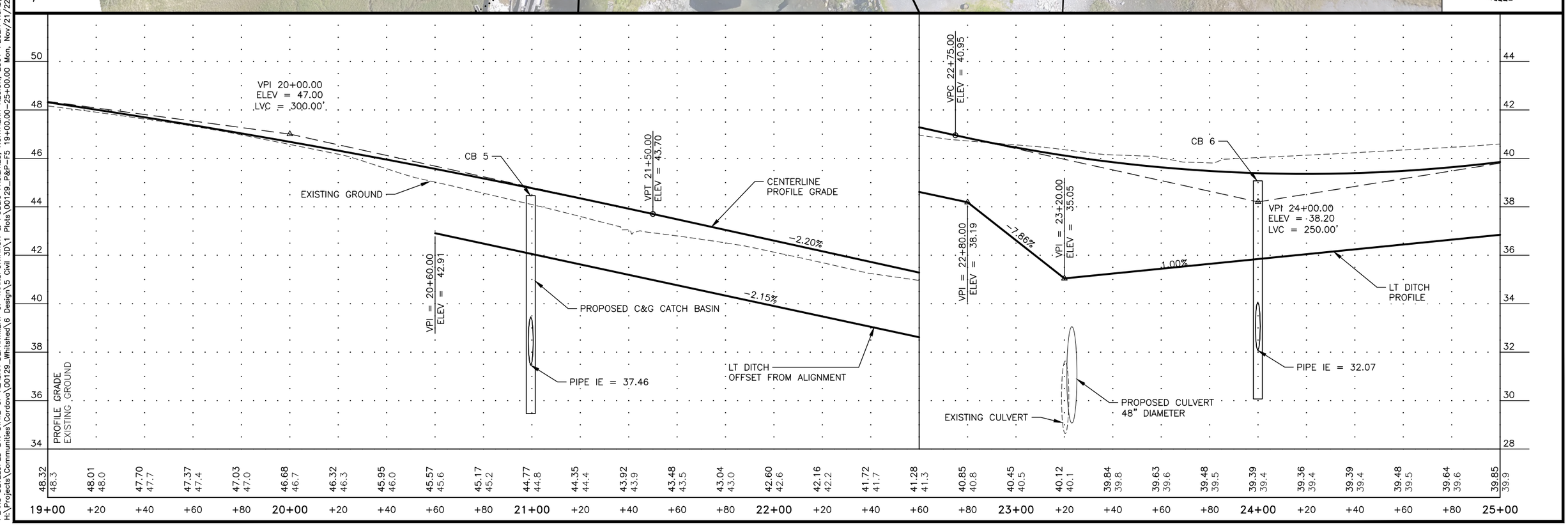
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F5	F15





STATE OF ALASKA
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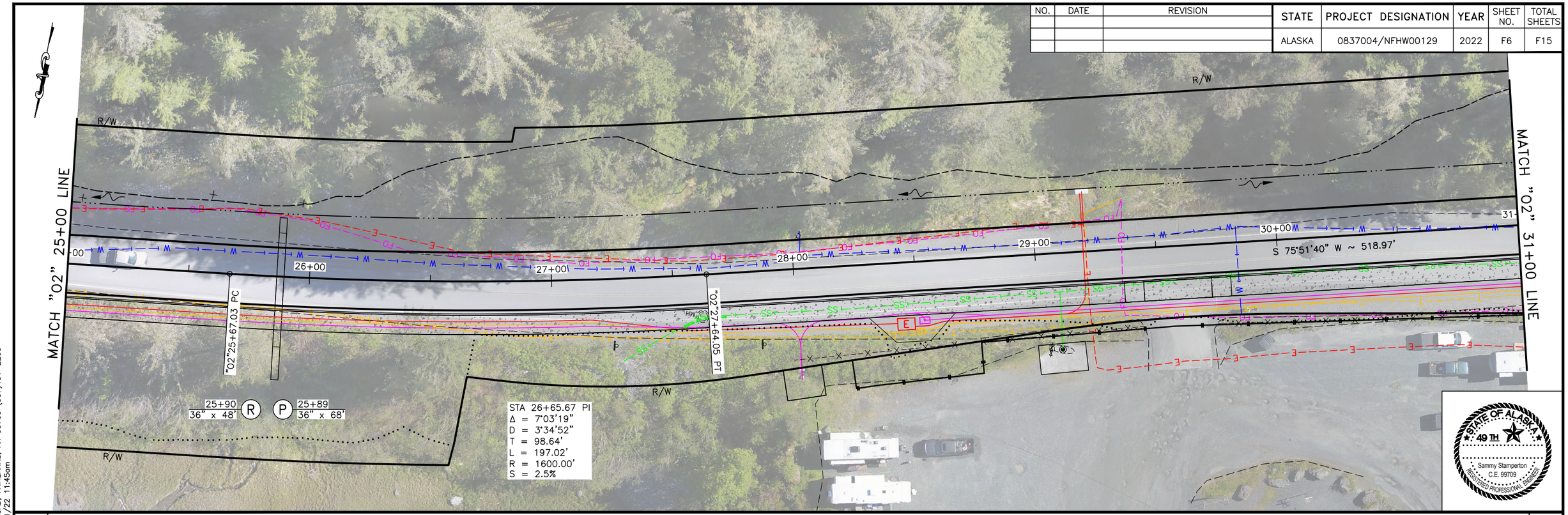
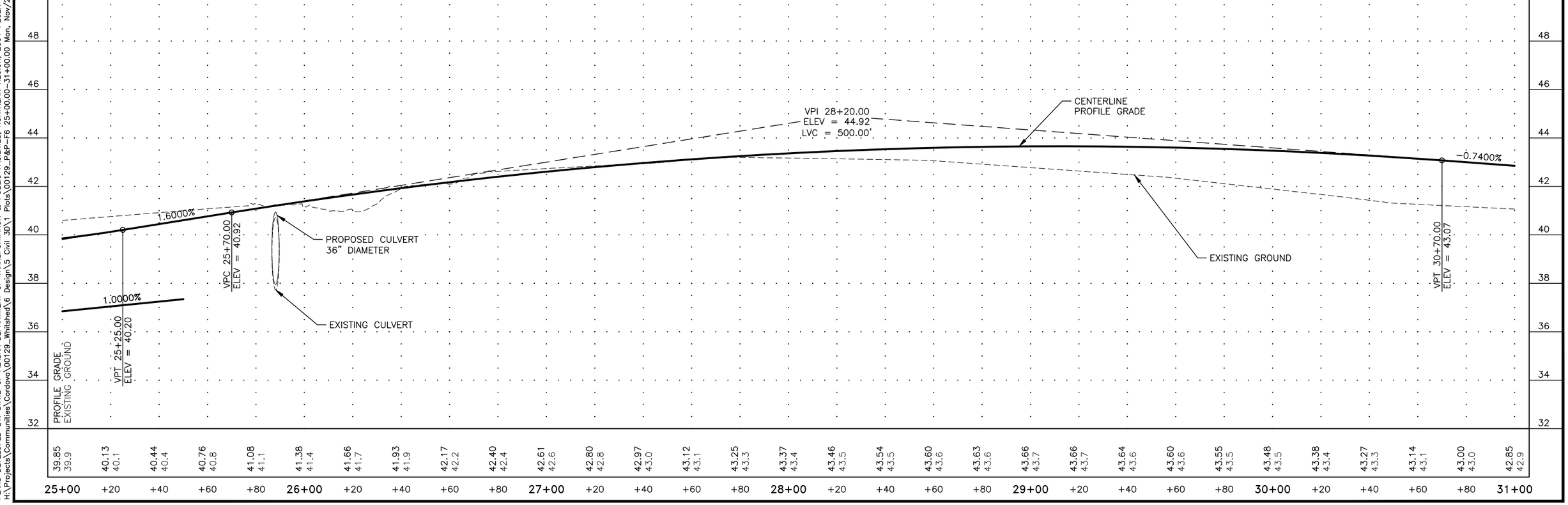
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F6	F15



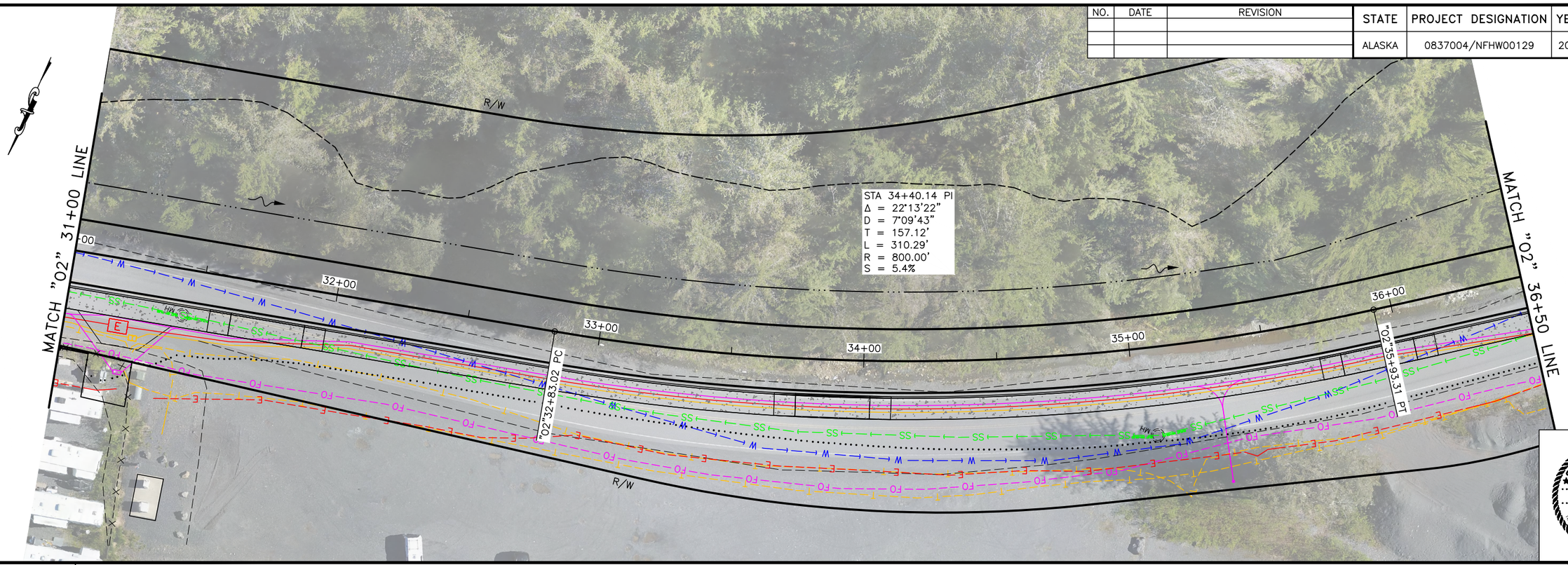


STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F6 25+00.00-31+00.00 Mon, Nov/21/22 11:45am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F7	F15



STATE OF ALASKA
49 TH
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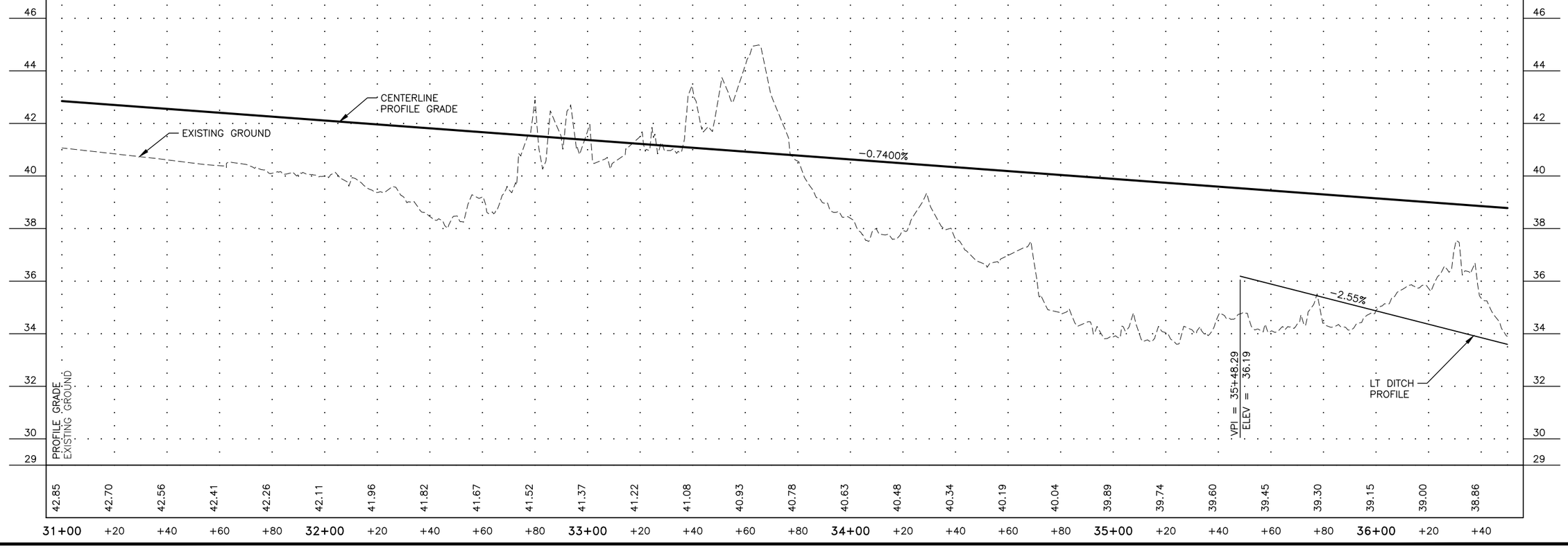
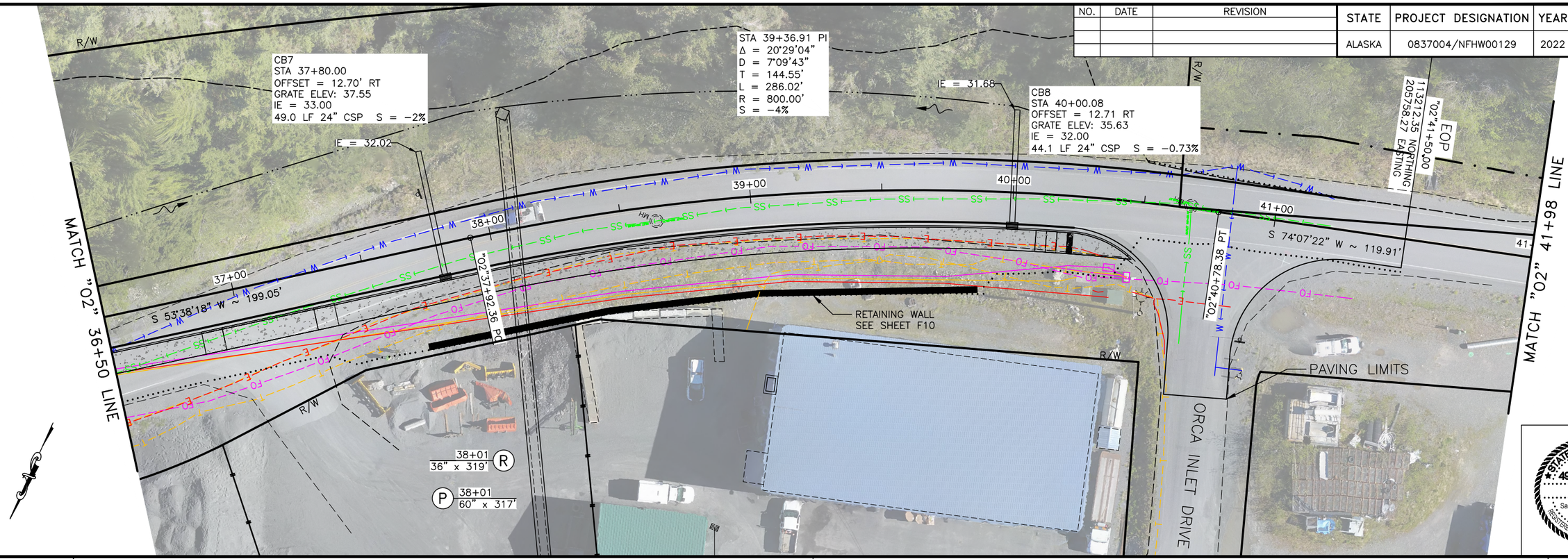
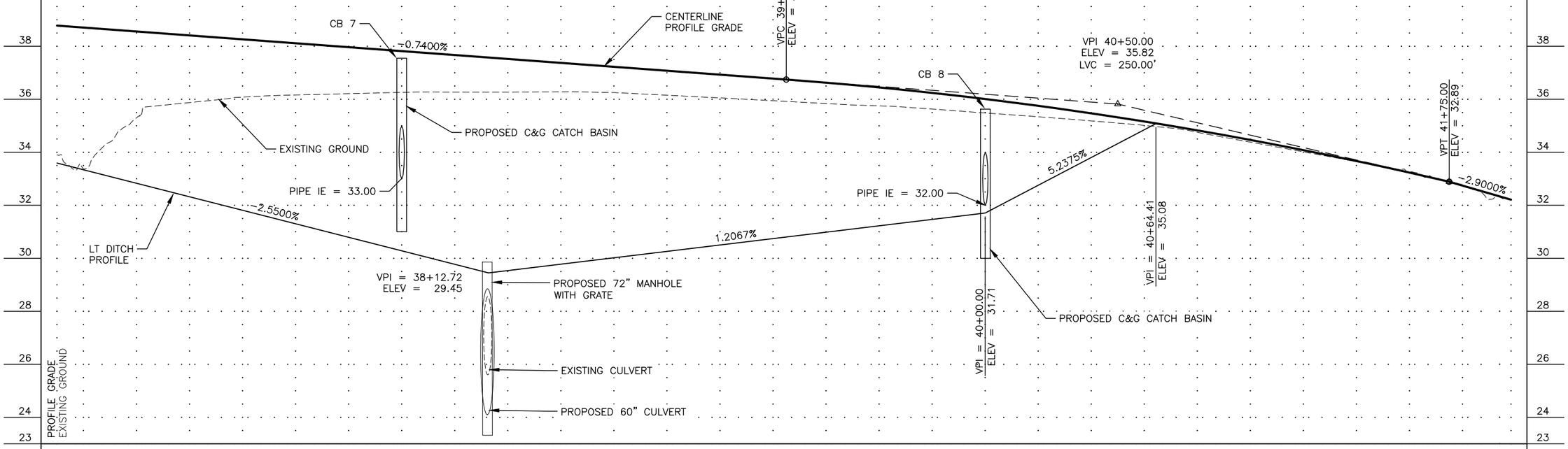


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F7 31+00.00-36+50.00 Mon, Nov/21/22 11:45am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F8	F15





STATE OF ALASKA 49TH
Sammy Stamperton
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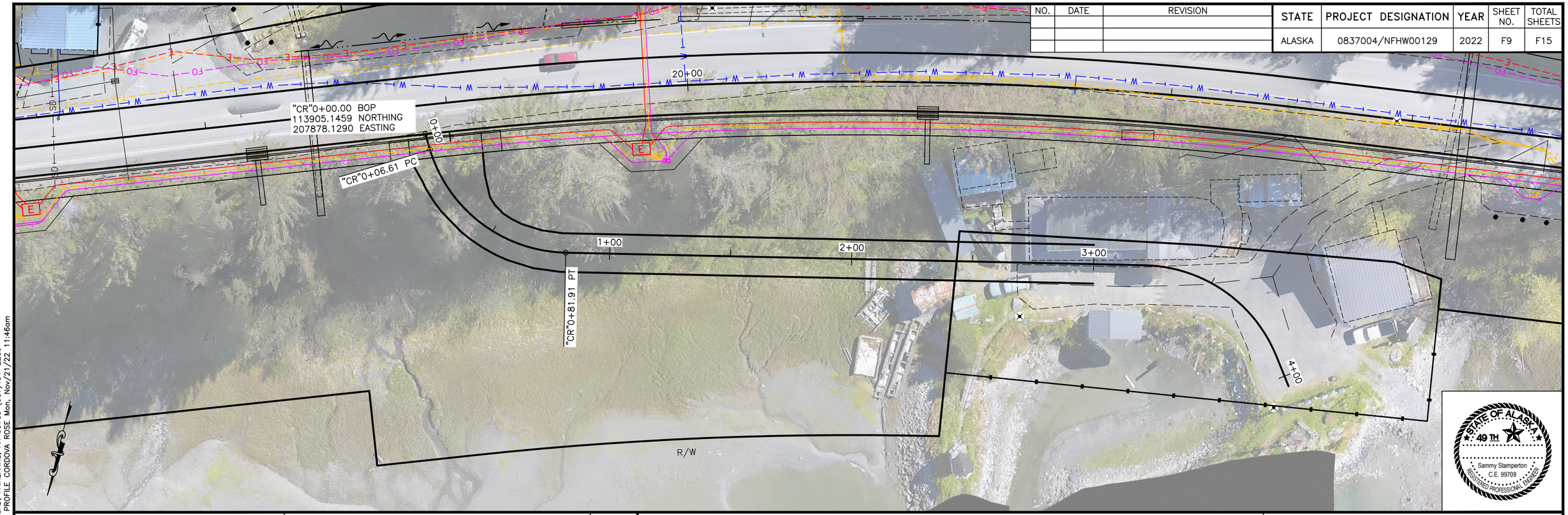
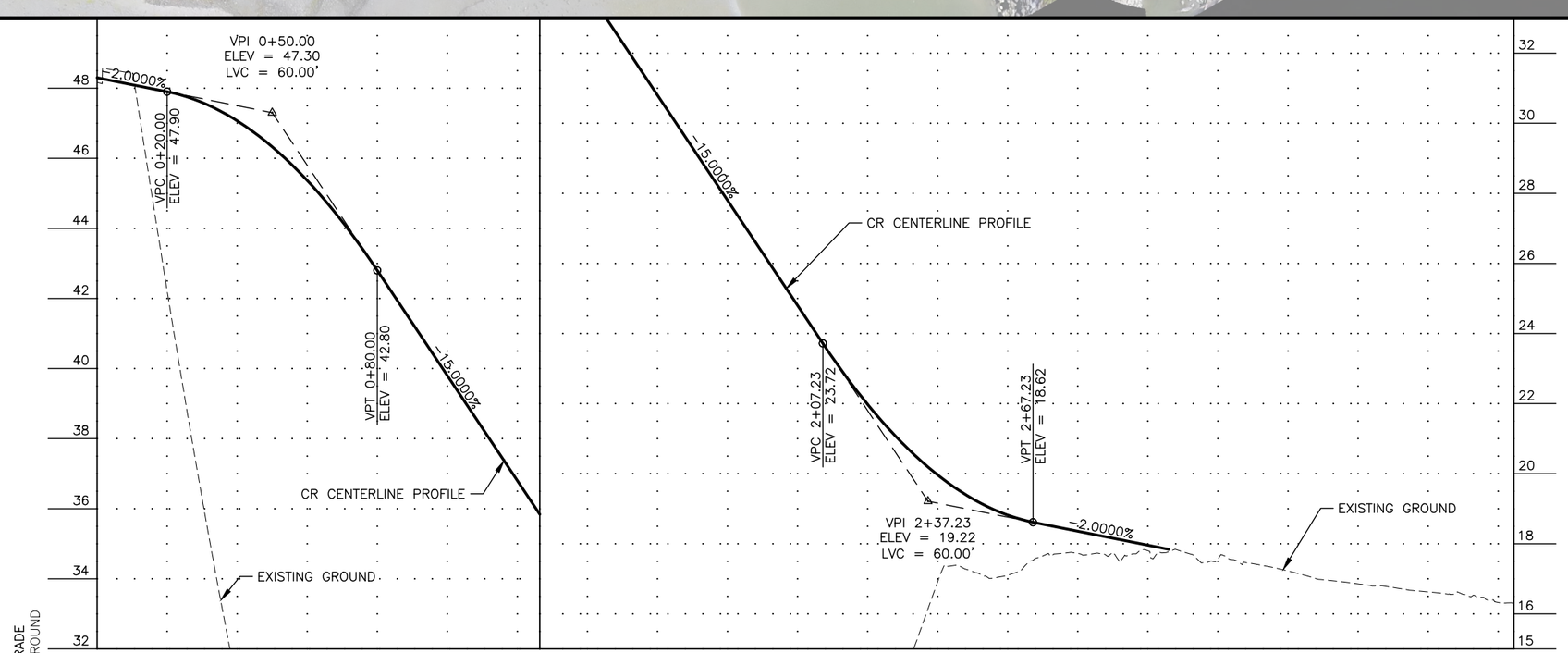
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F8 36+50.00-41+98.29 Mon, Nov/21/22 11:45am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F9	F15



STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER



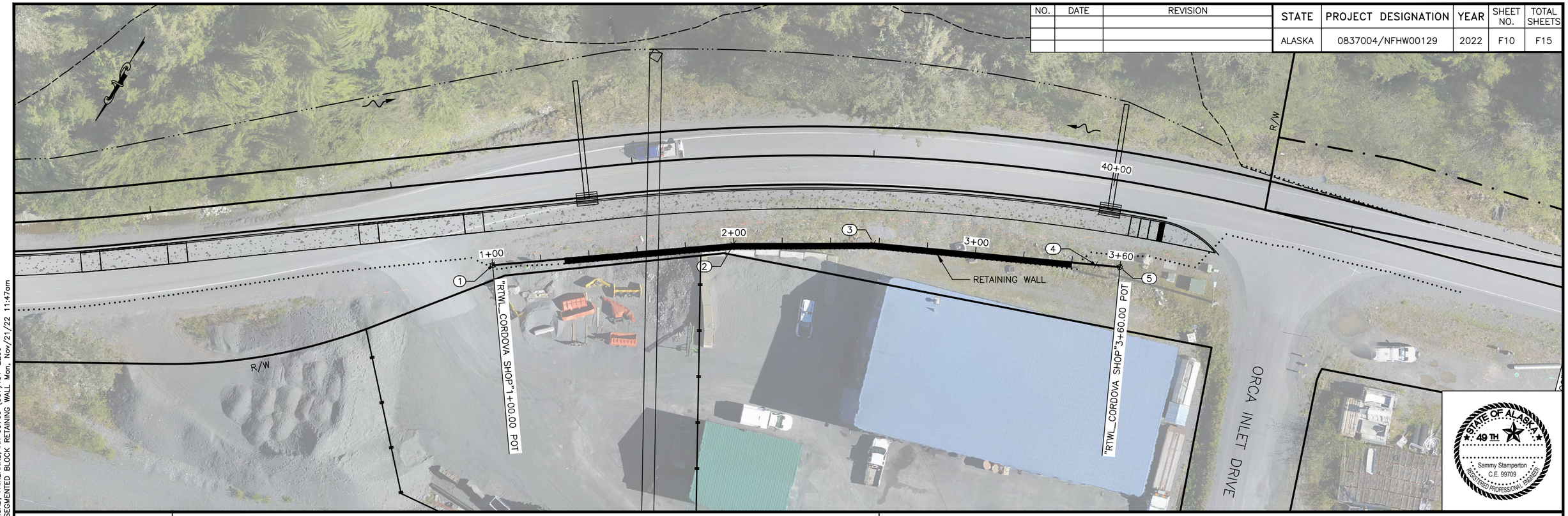
PROFILE GRADE	48.30	47.90	47.07	45.37	42.80	39.80	36.80	33.80	30.80	27.80	24.80	21.98	19.96	18.82	18.36	17.96					
EXISTING GROUND	48.3	47.9	47.1	45.4	42.8	39.8	36.8	33.8	30.8	27.8	24.8	22.0	20.0	18.8	18.4	18.0					
	0+00	+20	+40	+60	+80	1+00	+20	+40	+60	+80	2+00	+20	+40	+60	+80	3+00	+20	+40	+60	+80	4+00

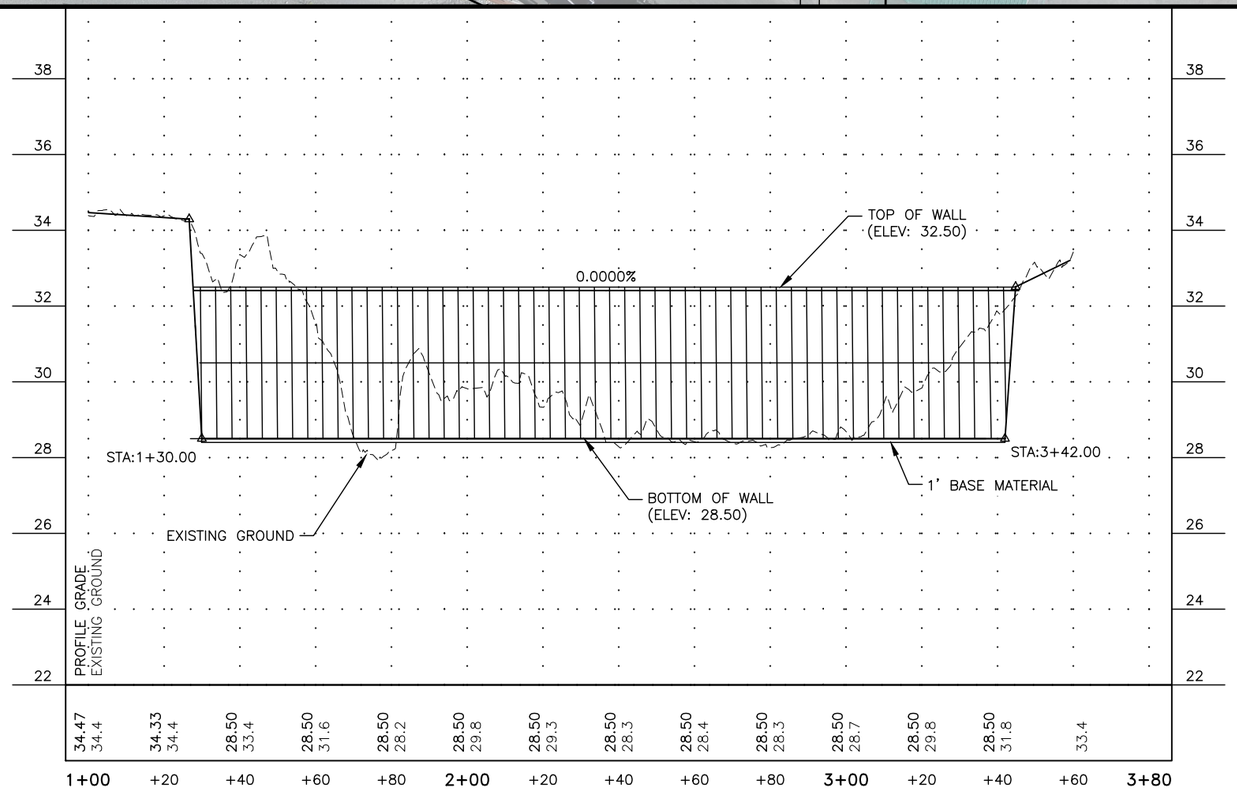
PLAN & PROFILE CORDOVA ROSE

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\Cordova Rose\00129_CROSE_P&P-F9 PLAN & PROFILE CORDOVA ROSE Mon, Nov/21/22 11:46am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F10	F15





POINT	STATION "02"	OFFSET	EASTING	NORTHING
1	37+38.44	36.00'R	206,104.6749'	113,418.1538'
2	38+40.63	36.00'R	206,023.3323'	113,359.9930'
3	39+01.19	36.00'R	205,973.6298'	113,330.4396'
4	39+97.78	36.00'R	205,890.1591'	113,291.3239'
5	40+08.22	35.33'R	205,881.1067'	113,287.0818'

STATE OF ALASKA
49TH
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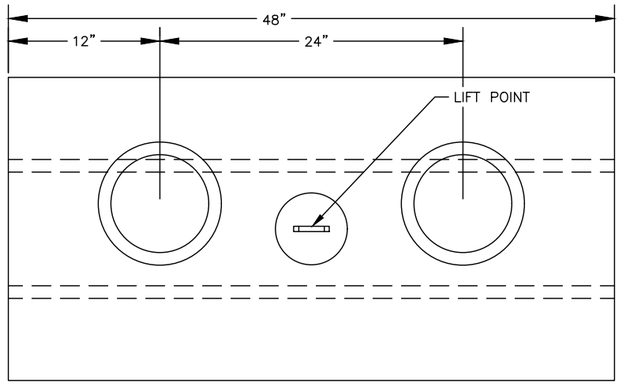
PLAN & PROFILE SEGMENTED BLOCK RETAINING WALL

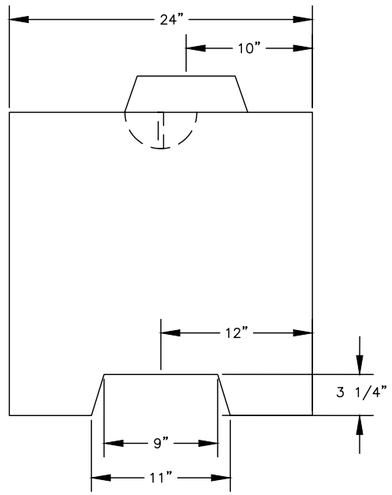
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Retaining_Walls-F10 PLAN & PROFILE SEGMENTED BLOCK RETAINING WALL Mon, Nov/21/22 11:47am

NO.	DATE	REVISION

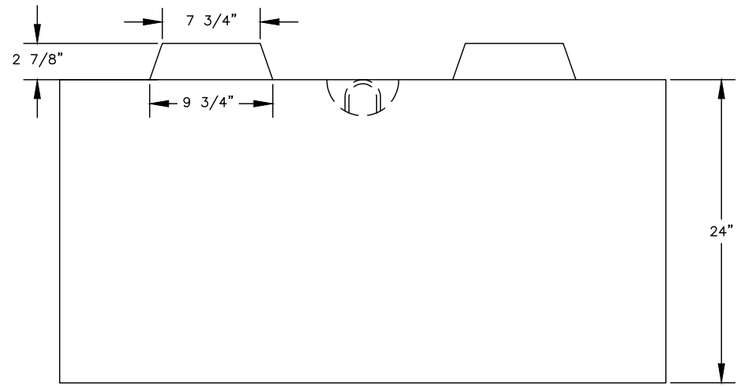
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F11	F15



TOP VIEW



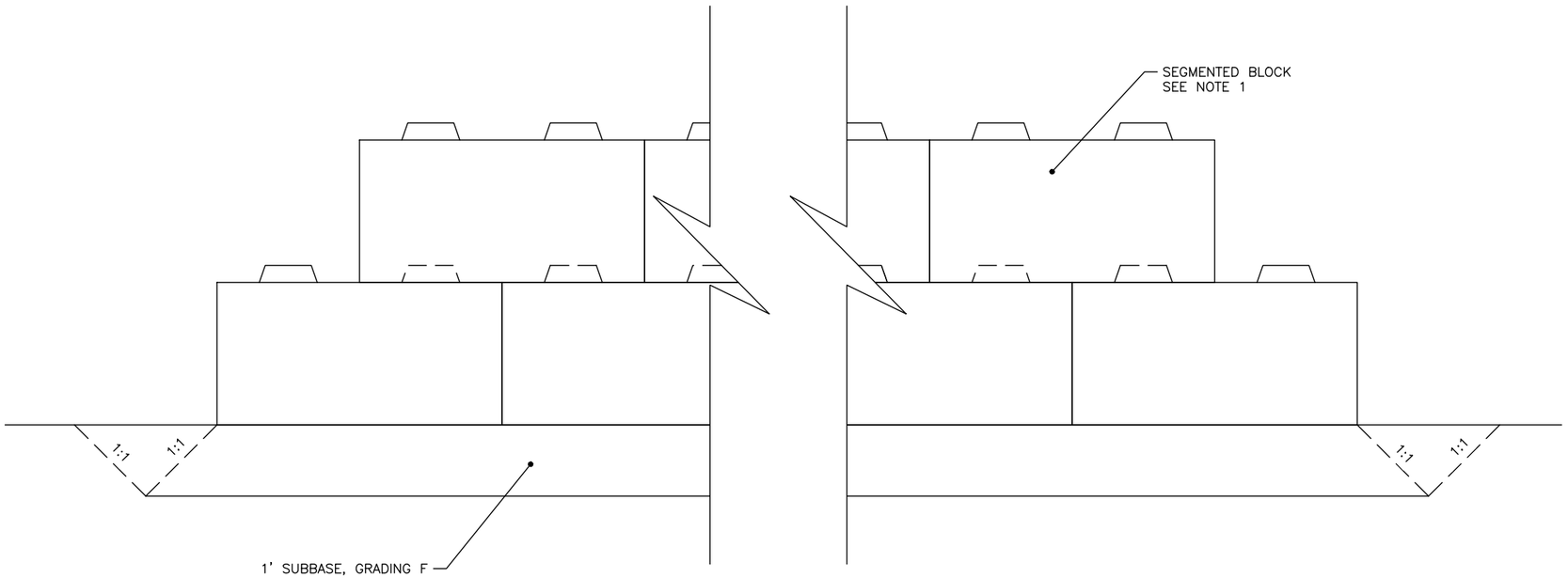
SIDE VIEW



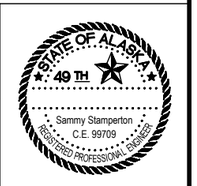
FRONT VIEW

NOTES:

1. PLACE BLOCKS IN STAGGERED CONFIGURATION AS SHOWN
2. PLACE AND COMPACT BACKFILL BEHIND EACH INDIVIDUAL COURSE OF BLOCKS PRIOR TO PLACING THE NEXT COURSE OF BLOCKS.



SEGMENTED BLOCK RETAINING WALL DETAILS



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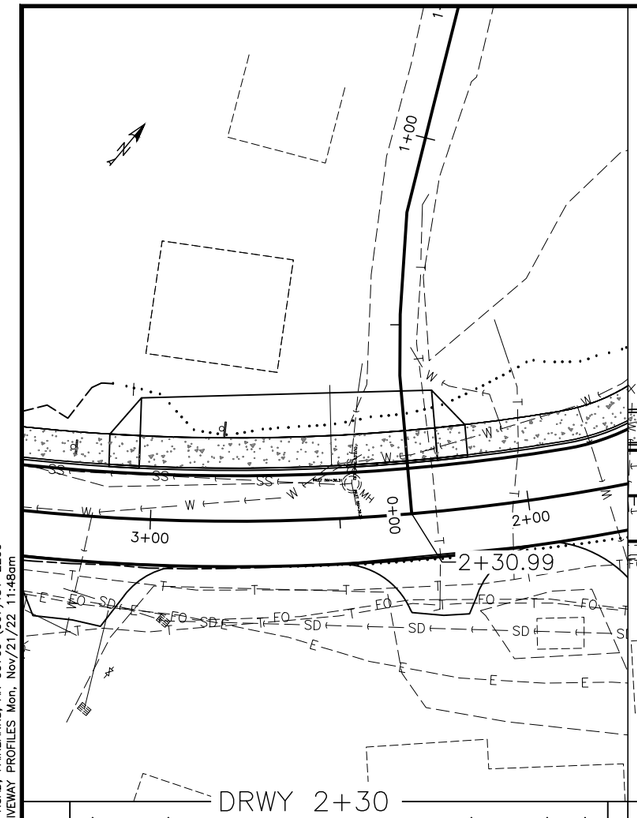
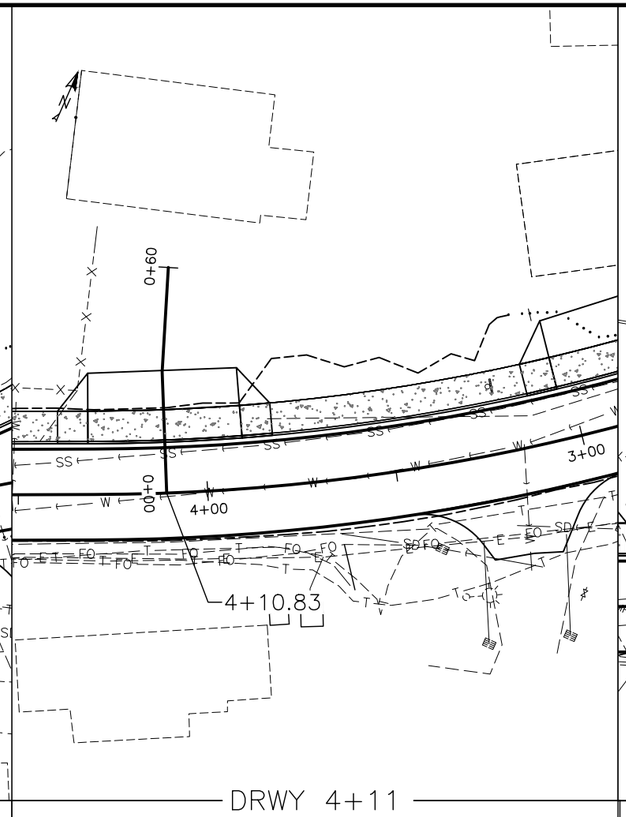
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Retaining_Walls-F11 RETAINING WALL DETAILS Mon, Nov/21/22 11:47am

NO.	DATE	REVISION

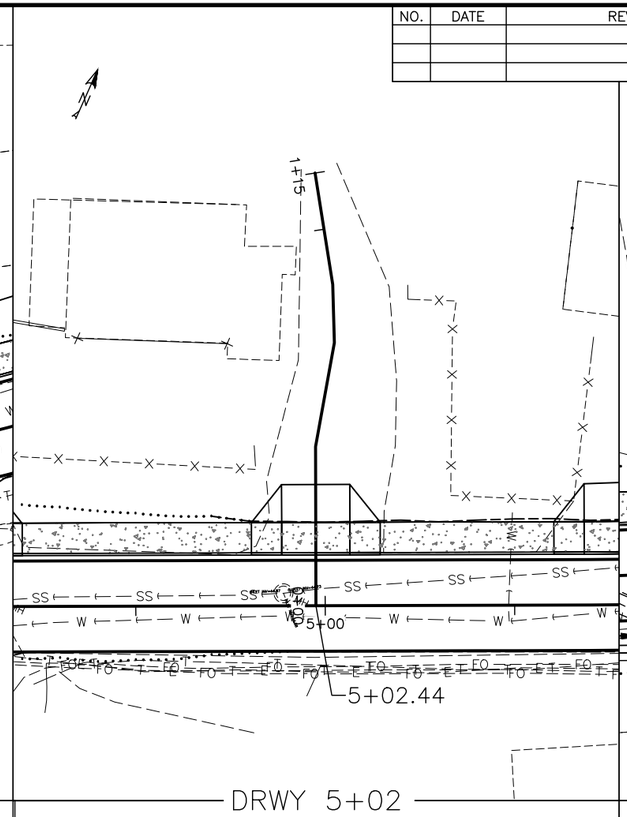
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F12	F15



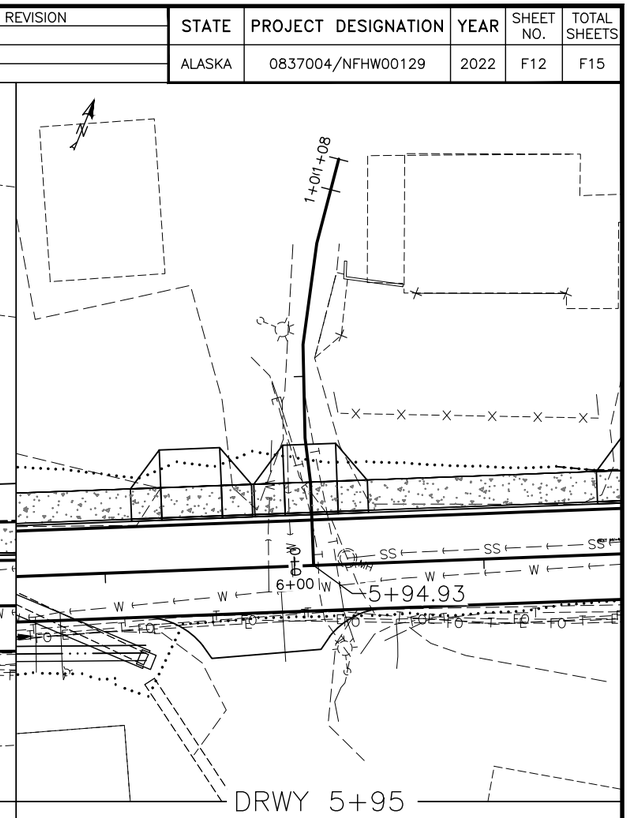
DRWY 2+30



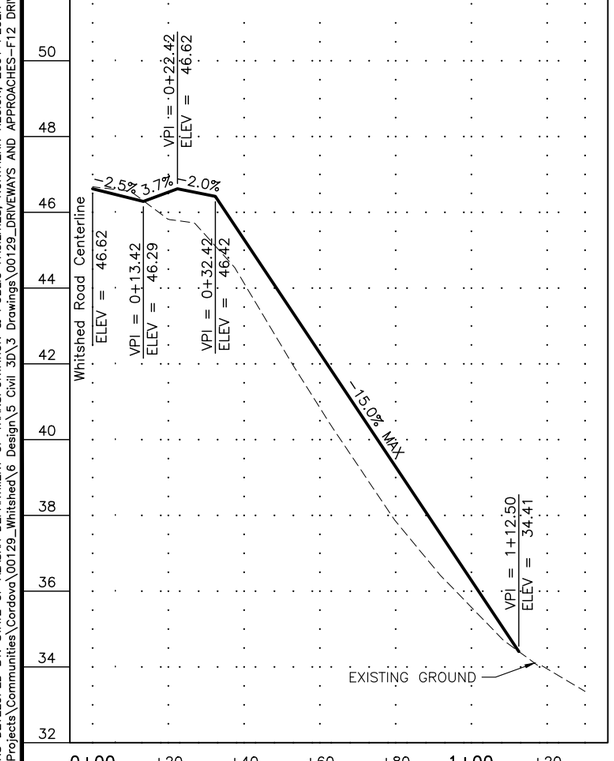
DRWY 4+11

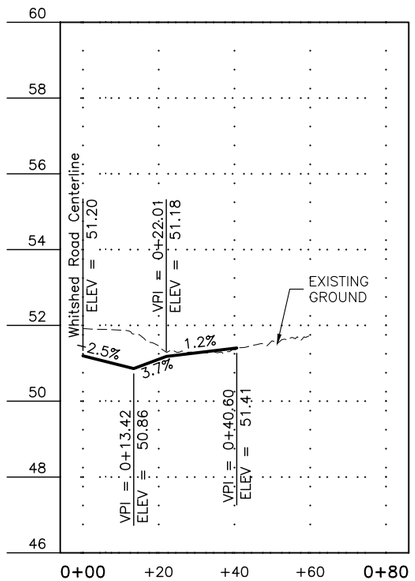


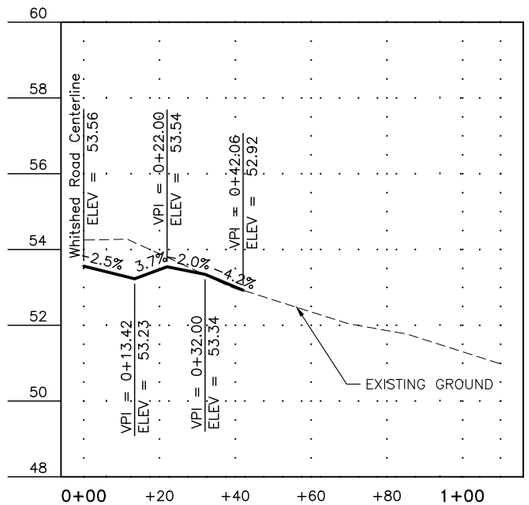
DRWY 5+02

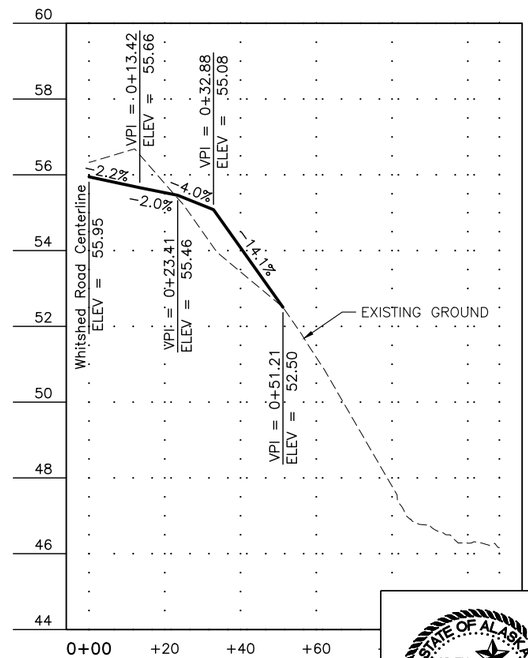


DRWY 5+95









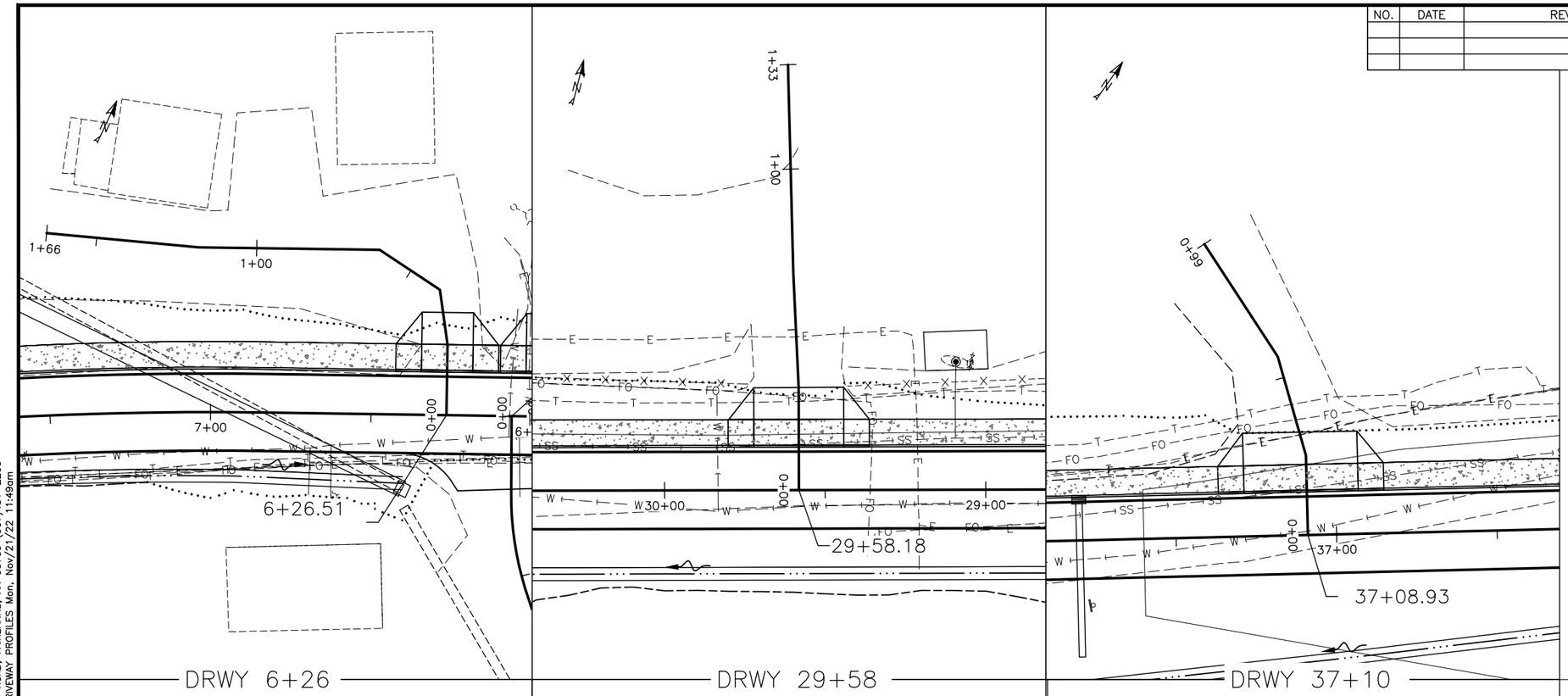
DRIVEWAY PROFILES

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F12 DRIVEWAY PROFILES Mon, Nov/21/22 11:48am

NO.	DATE	REVISION

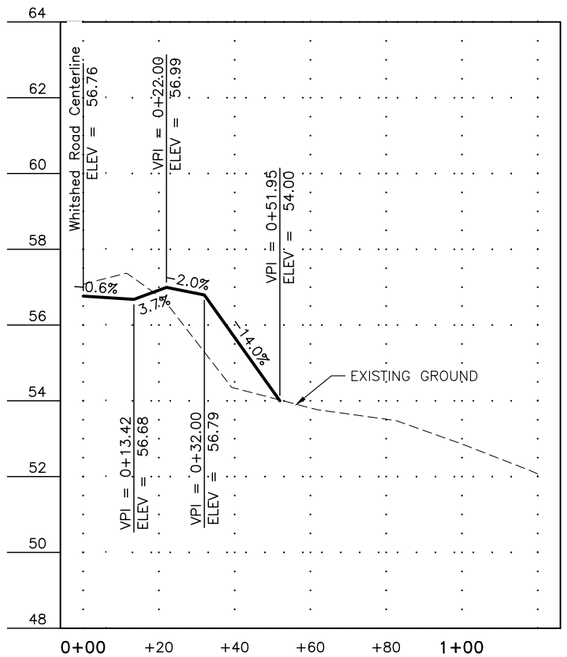
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F13	F15

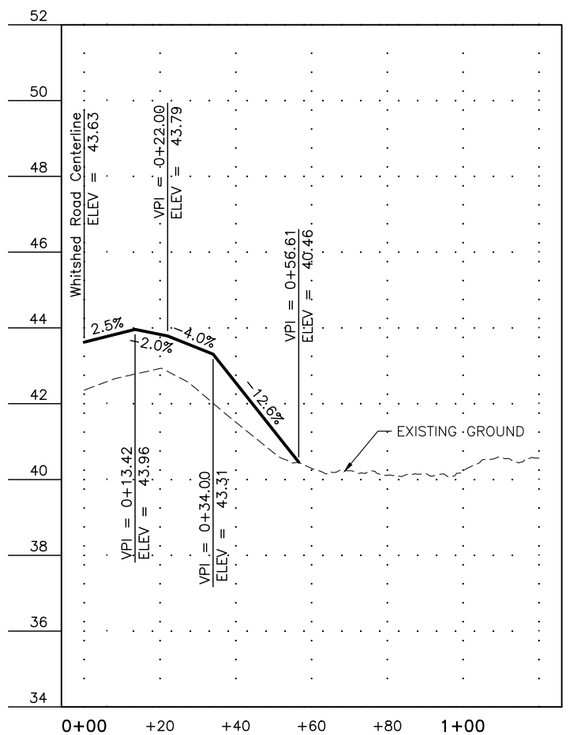


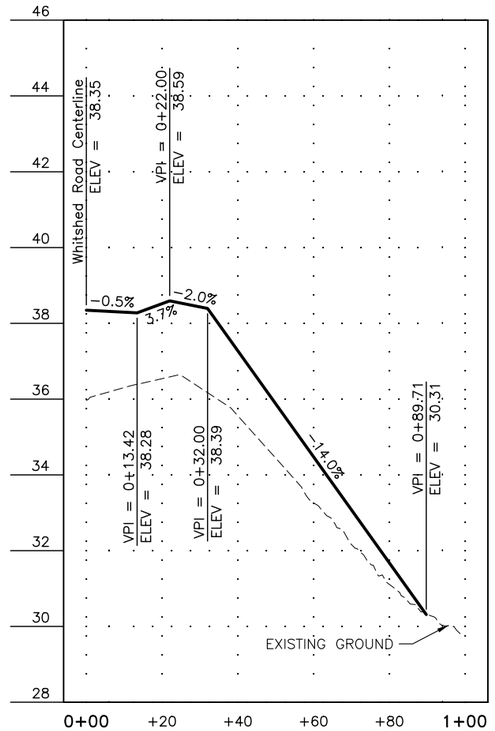
DRWY 6+26

DRWY 29+58

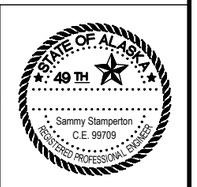
DRWY 37+10







DRIVEWAY PROFILES



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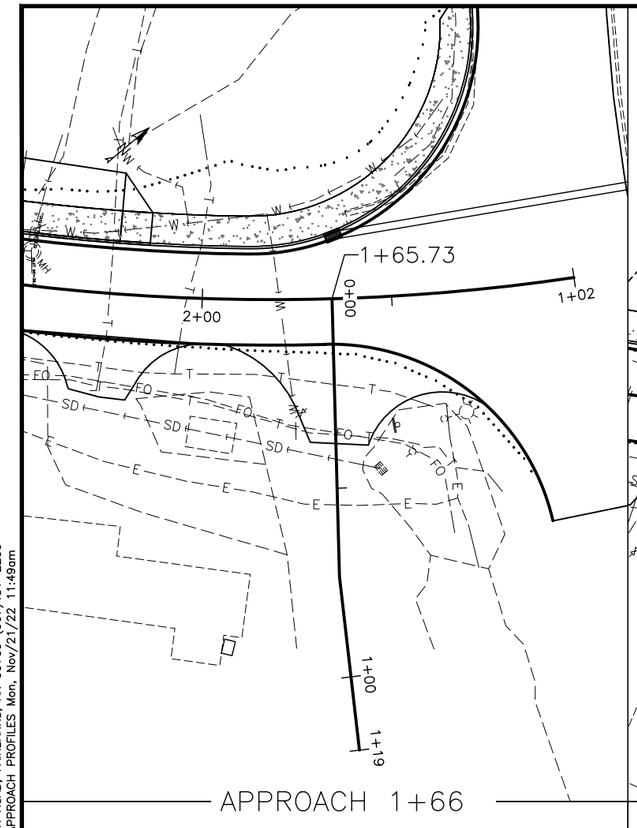
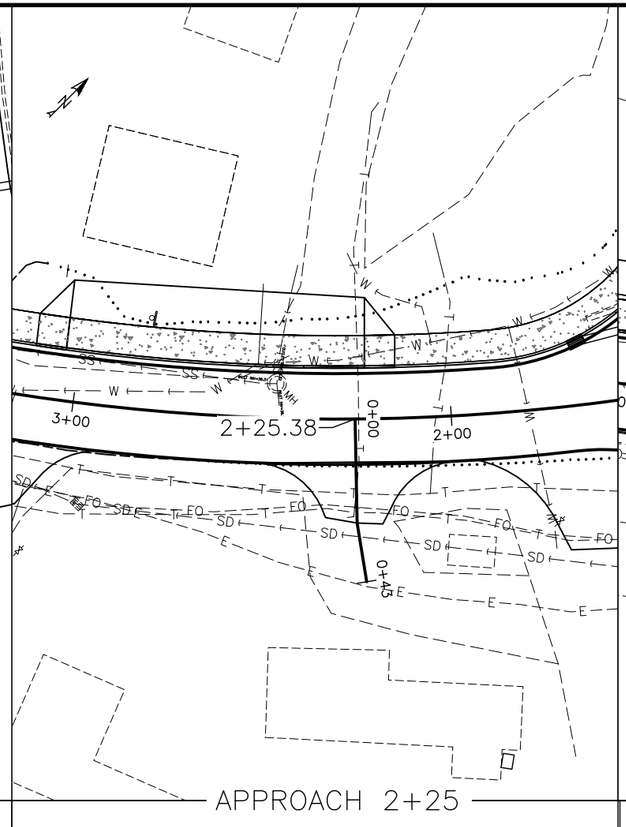
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F13 DRIVEWAY PROFILES Mon, Nov/21/22 11:49am

NO.	DATE	REVISION

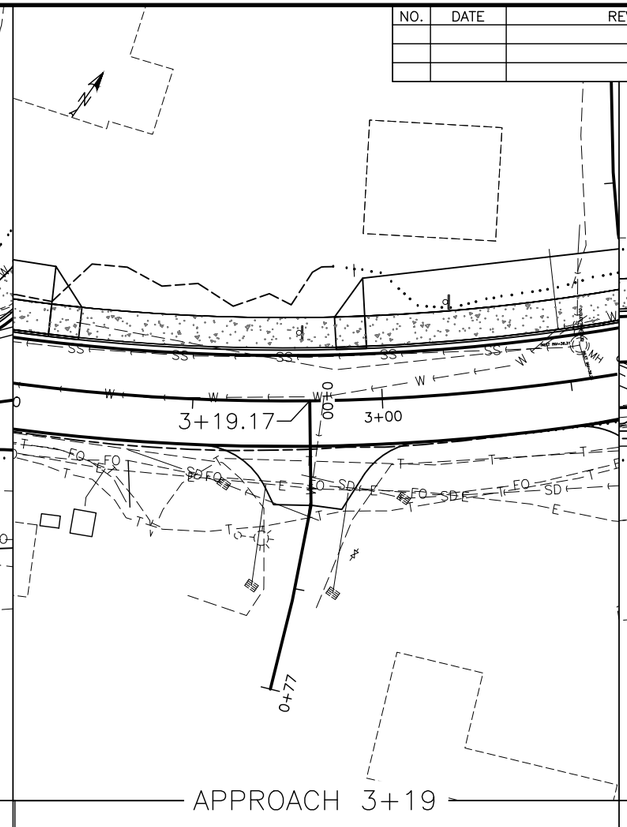
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F14	F15



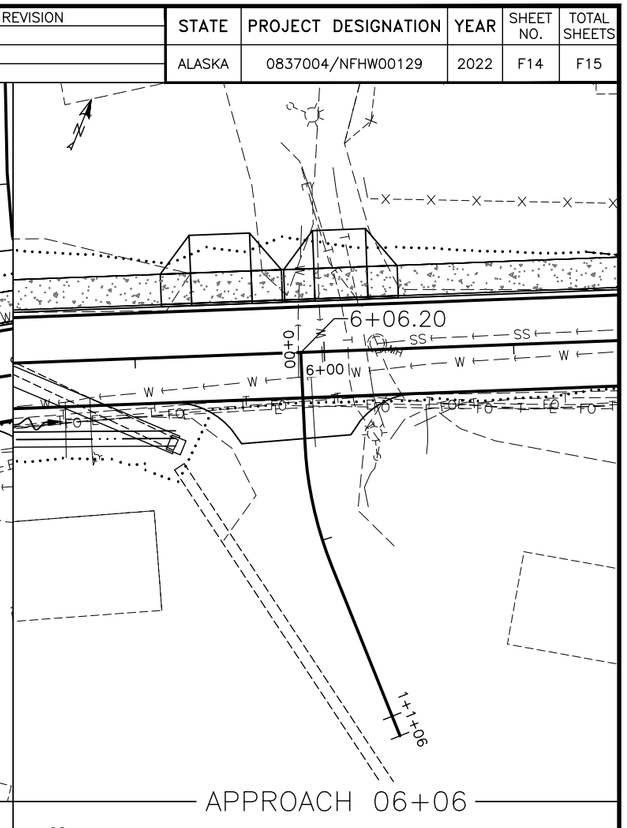
APPROACH 1+66



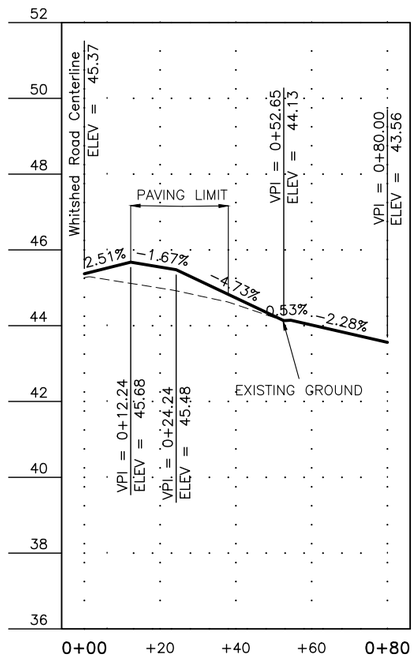
APPROACH 2+25

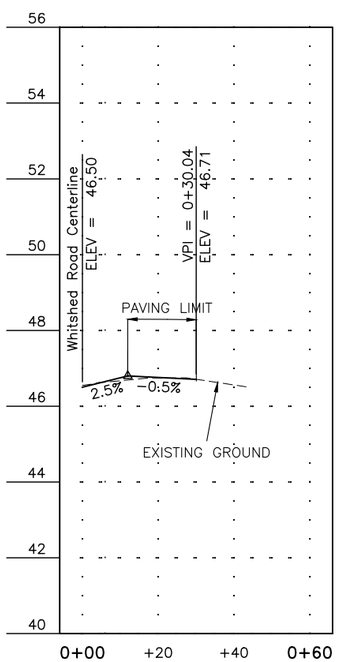


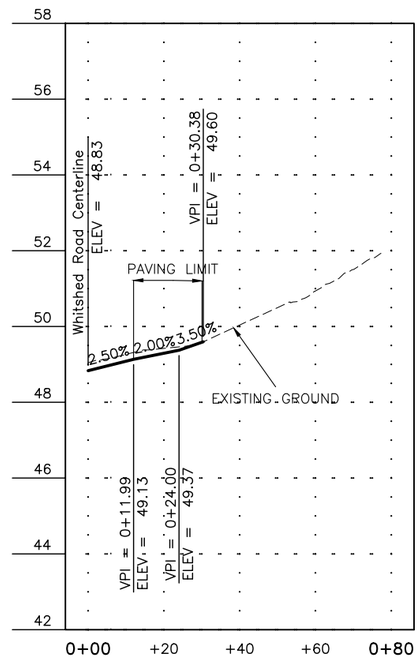
APPROACH 3+19

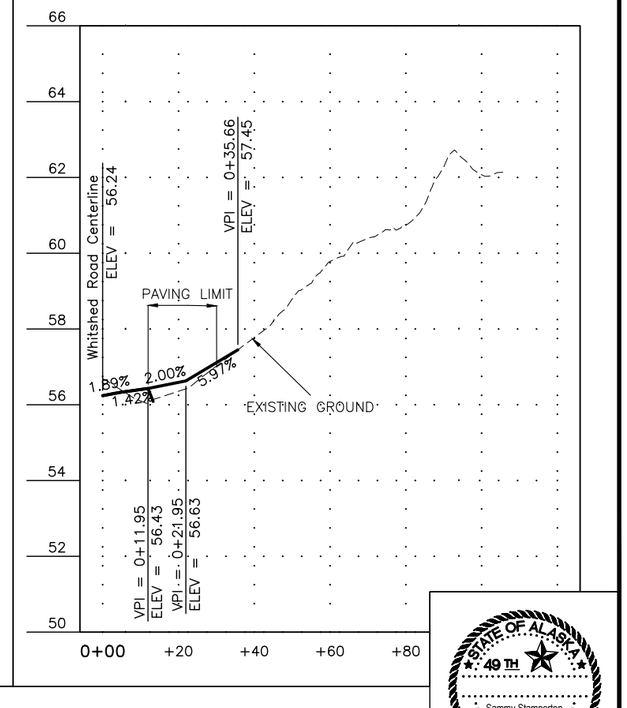


APPROACH 06+06









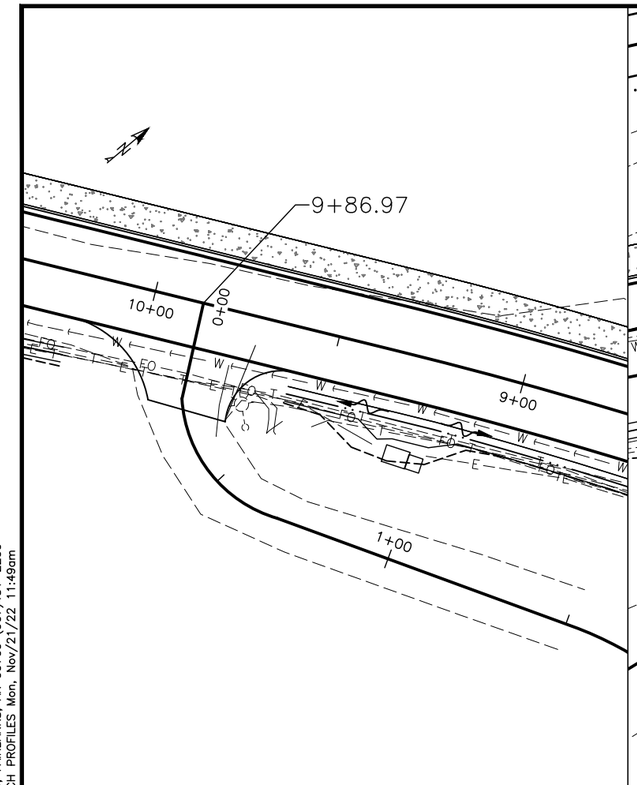
APPROACH PROFILES

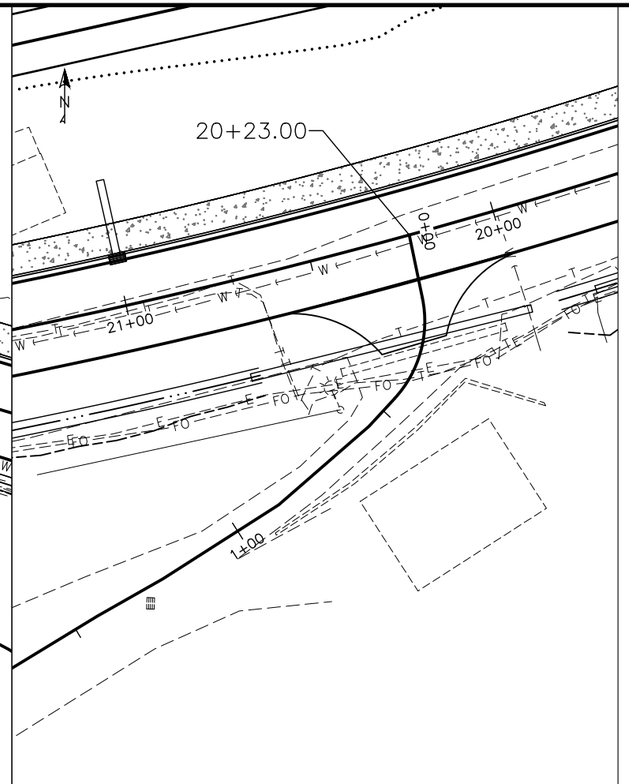
STATE OF ALASKA
49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F14 APPROACH PROFILES Mon, Nov/21/22 11:49am

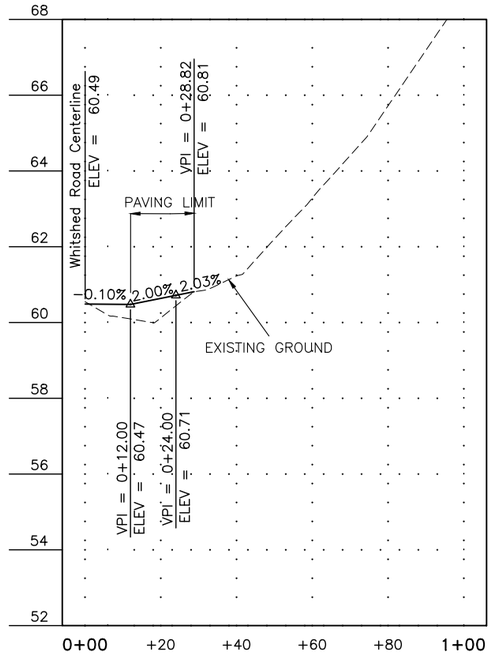
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	F15	F15

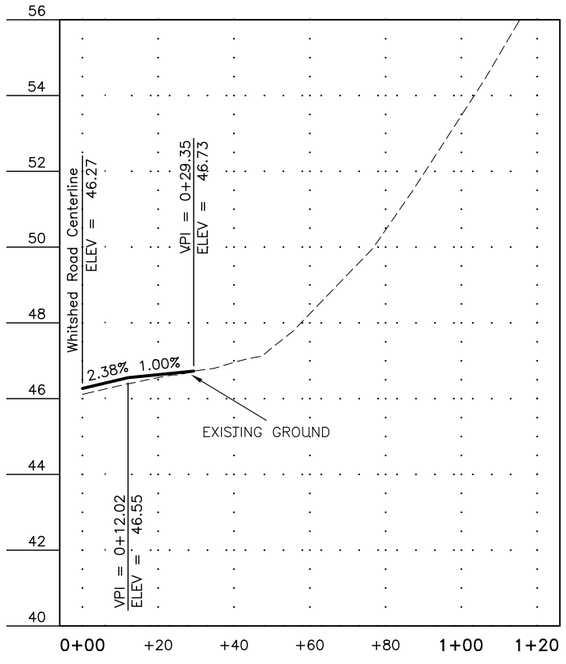




APPROACH 9+87



APPROACH 20+25



APPROACH PROFILES

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

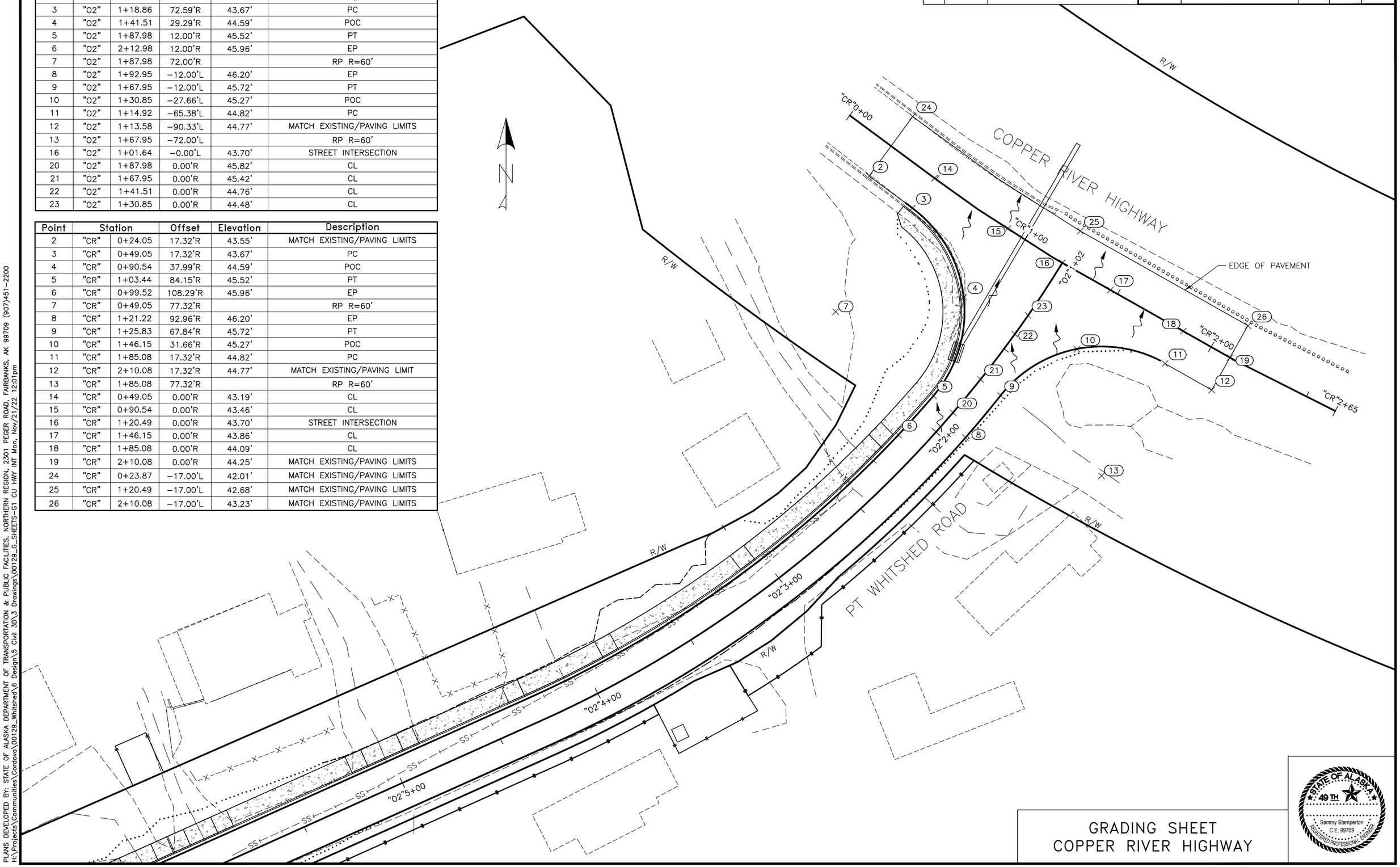
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F15 APPROACH PROFILES Mon, Nov/21/22 11:49am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	G1	G4

Point	Station		Offset	Elevation	Description
2	"02"	1+17.25	97.56'R	43.55'	MATCH EXISTING/PAVING LIMITS
3	"02"	1+18.86	72.59'R	43.67'	PC
4	"02"	1+41.51	29.29'R	44.59'	POC
5	"02"	1+87.98	12.00'R	45.52'	PT
6	"02"	2+12.98	12.00'R	45.96'	EP
7	"02"	1+87.98	72.00'R		RP R=60'
8	"02"	1+92.95	−12.00'L	46.20'	EP
9	"02"	1+67.95	−12.00'L	45.72'	PT
10	"02"	1+30.85	−27.66'L	45.27'	POC
11	"02"	1+14.92	−65.38'L	44.82'	PC
12	"02"	1+13.58	−90.33'L	44.77'	MATCH EXISTING/PAVING LIMITS
13	"02"	1+67.95	−72.00'L		RP R=60'
16	"02"	1+01.64	−0.00'L	43.70'	STREET INTERSECTION
20	"02"	1+87.98	0.00'R	45.82'	CL
21	"02"	1+67.95	0.00'R	45.42'	CL
22	"02"	1+41.51	0.00'R	44.76'	CL
23	"02"	1+30.85	0.00'R	44.48'	CL

Point	Station		Offset	Elevation	Description
2	"CR"	0+24.05	17.32'R	43.55'	MATCH EXISTING/PAVING LIMITS
3	"CR"	0+49.05	17.32'R	43.67'	PC
4	"CR"	0+90.54	37.99'R	44.59'	POC
5	"CR"	1+03.44	84.15'R	45.52'	PT
6	"CR"	0+99.52	108.29'R	45.96'	EP
7	"CR"	0+49.05	77.32'R		RP R=60'
8	"CR"	1+21.22	92.96'R	46.20'	EP
9	"CR"	1+25.83	67.84'R	45.72'	PT
10	"CR"	1+46.15	31.66'R	45.27'	POC
11	"CR"	1+85.08	17.32'R	44.82'	PC
12	"CR"	2+10.08	17.32'R	44.77'	MATCH EXISTING/PAVING LIMIT
13	"CR"	1+85.08	77.32'R		RP R=60'
14	"CR"	0+49.05	0.00'R	43.19'	CL
15	"CR"	0+90.54	0.00'R	43.46'	CL
16	"CR"	1+20.49	0.00'R	43.70'	STREET INTERSECTION
17	"CR"	1+46.15	0.00'R	43.86'	CL
18	"CR"	1+85.08	0.00'R	44.09'	CL
19	"CR"	2+10.08	0.00'R	44.25'	MATCH EXISTING/PAVING LIMITS
24	"CR"	0+23.87	−17.00'L	42.01'	MATCH EXISTING/PAVING LIMITS
25	"CR"	1+20.49	−17.00'L	42.68'	MATCH EXISTING/PAVING LIMITS
26	"CR"	2+10.08	−17.00'L	43.23'	MATCH EXISTING/PAVING LIMITS



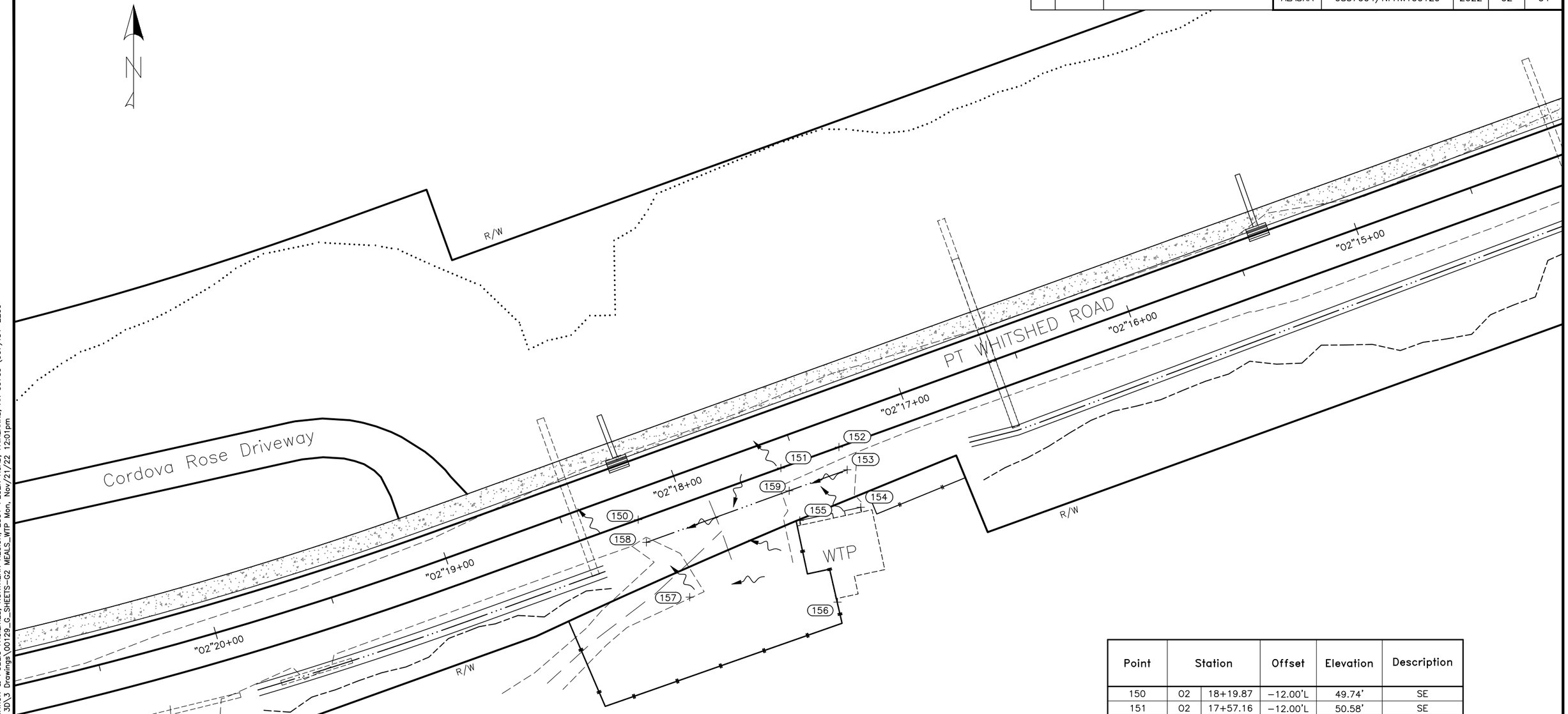
GRADING SHEET
COPPER RIVER HIGHWAY

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_G_SHEETS-G1 CU HWY INT Mon, Nov/21/22 12:01pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	G2	G4



Point	Station		Offset	Elevation	Description
150	02	18+19.87	−12.00'L	49.74'	SE
151	02	17+57.16	−12.00'L	50.58'	SE
152	02	17+31.67	−12.00'L	50.93'	EP
153	02	17+31.66	−22.00'L	50.73'	BL
154	02	17+31.68	−38.48'L	51.46'	EP
155	02	17+57.18	−35.04'L	51.20'	EP
156	02	17+54.01	−72.08'L	53.00'	EP
157	02	18+10.76	−49.36'L	50.26'	SE
158	02	18+19.87	−21.99'L	49.54'	BL
159	02	17+57.13	−22.01'L	50.38'	BP

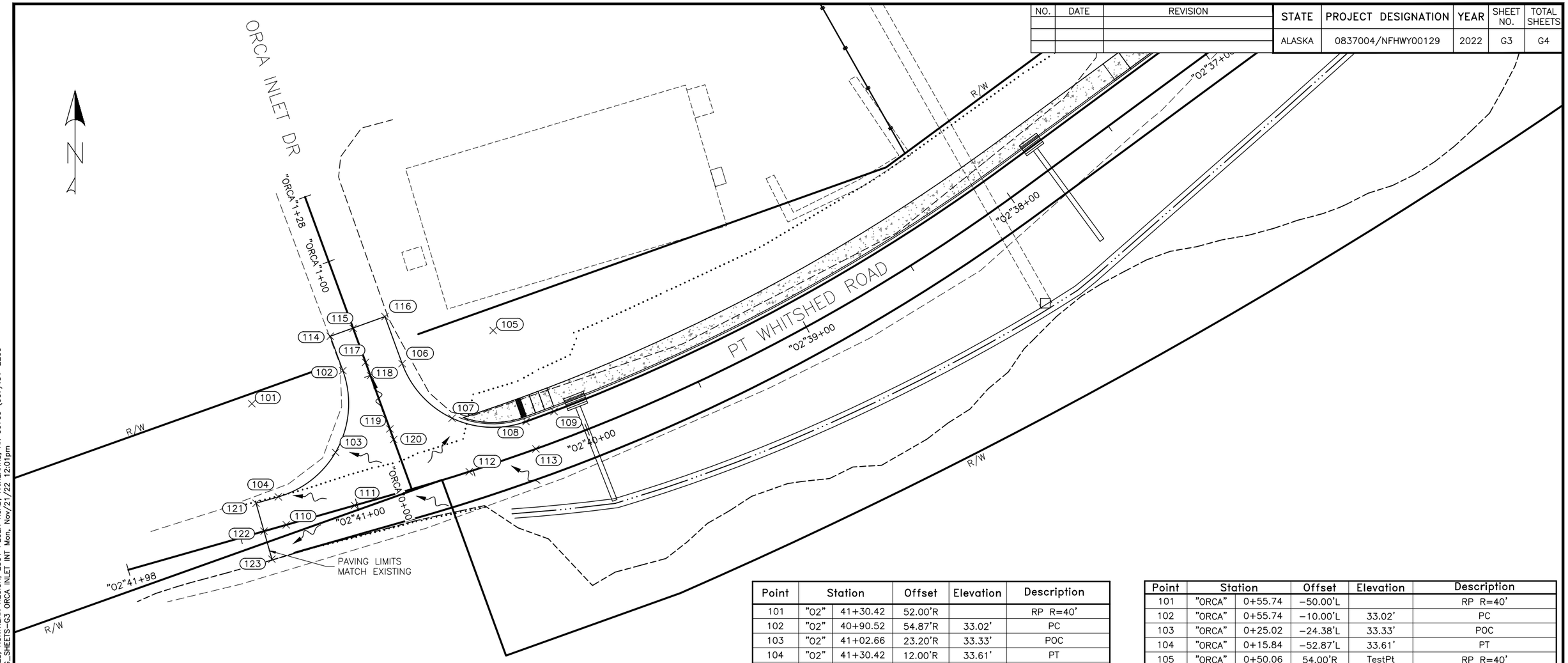
GRADING SHEET
WATER TREATMENT PLANT

STATE OF ALASKA
49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_G_SHEETS-G2 MEALS_WTP Mon, Nov/21/22 12:01pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	G3	G4



Point	Station		Offset	Elevation	Description
101	"02"	41+30.42	52.00'R		RP R=40'
102	"02"	40+90.52	54.87'R	33.02'	PC
103	"02"	41+02.66	23.20'R	33.33'	POC
104	"02"	41+30.42	12.00'R	33.61'	PT
105	"02"	40+22.61	52.00'R		RP R=40'
106	"02"	40+65.35	50.84'R	32.73'	PT
107	"02"	40+51.71	23.17'R	34.01'	POC
108	"02"	40+22.61	12.00'R	35.05'	PC
109	"02"	40+10.11	11.90'R	35.37'	EP
110	"02"	41+30.42	0.00'R	33.87'	CL
111	"02"	41+01.13	0.00'R	34.45'	CL
112	"02"	40+51.71	0.00'R	35.29'	CL
113	"02"	40+22.61	0.00'R	35.72'	CL
114	"02"	40+91.64	69.94'R	33.00'	MATCH EXISTING
115	"02"	40+81.65	70.51'R	33.34'	MATCH EXISTING
116	"02"	40+66.64	71.47'R	32.35'	MATCH EXISTING
117	"02"	40+80.55	55.59'R	33.39'	CL
118	"02"	40+80.13	49.77'R	33.54'	CL
119	"02"	40+78.44	26.39'R	34.18'	CL
120	"02"	40+78.10	21.76'R	34.30'	CL
121	"02"	41+40.00	12.00'R	33.43'	MATCH EXISTING
122	"02"	41+40.00	0.00'R	33.67'	MATCH EXISTING
123	"02"	41+40.00	−12.00'L	33.43'	MATCH EXISTING

Point	Station		Offset	Elevation	Description
101	"ORCA"	0+55.74	−50.00'L		RP R=40'
102	"ORCA"	0+55.74	−10.00'L	33.02'	PC
103	"ORCA"	0+25.02	−24.38'L	33.33'	POC
104	"ORCA"	0+15.84	−52.87'L	33.61'	PT
105	"ORCA"	0+50.06	54.00'R	TestPt	RP R=40'
106	"ORCA"	0+50.06	14.00'R	32.73'	PT
107	"ORCA"	0+21.81	25.68'R	34.01'	POC
108	"ORCA"	0+10.06	53.91'R	35.05'	PC
109	"ORCA"	0+10.04	66.22'R	35.37'	EP
110	"ORCA"	0+03.87	−53.74'L	33.87'	CL
111	"ORCA"	0+01.77	−24.53'L	34.45'	CL
114	"ORCA"	0+70.86	−10.00'L	33.00'	MATCH EXISTING
115	"ORCA"	0+70.69	0.00'R	33.34'	MATCH EXISTING
116	"ORCA"	0+70.69	14.00'R	32.35'	MATCH EXISTING
117	"ORCA"	0+55.74	0.00'R	33.39'	CL
118	"ORCA"	0+49.90	0.00'R	33.54'	CL
119	"ORCA"	0+26.45	0.00'R	34.18'	CL
120	"ORCA"	0+21.81	0.00'R	34.30'	CL
121	"ORCA"	0+16.53	−62.43'L	33.43'	MATCH EXISTING
122	"ORCA"	0+04.56	−63.30'L	33.67'	MATCH EXISTING

STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

GRADING SHEET
ORCA INLET DRIVE

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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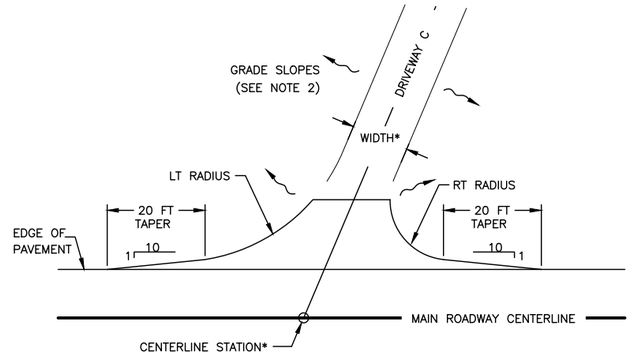
NO.	DATE	REVISION

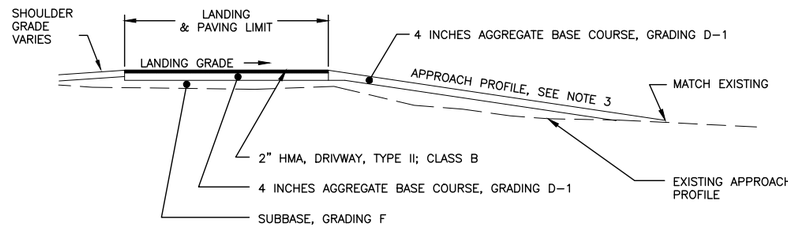
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	G4	G4

APPROACH SUMMARY

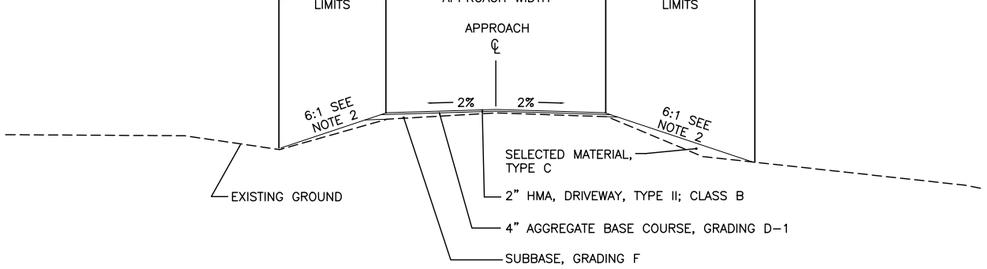
	CENTERLINE STATION	LT/RT	ANGLE (DEG)	WIDTH (FEET)	RADIUS LT (FEET)	RADIUS RT (FEET)	LANDING LENGTH (FEET)	TYPE	PAVED AREA (SY)	REMARKS
A1	01+66	LT	90°	15	20	30	12	RESIDENTIAL	96	TRAILER PARK ACCESS #1
A2	02+25	LT	90°	15	20	20	18	RESIDENTIAL	45	TRAILER PARK ACCESS #2
A3	03+19	LT	90°	18	20	20	12	RESIDENTIAL	54	TRAILER PARK ACCESS #3
A4	06+06	LT	90°	29	20	20	10	RESIDENTIAL	48	TRAILER PARK ACCESS #4
A5	09+87	LT	90°	20	25	15	12	RESIDENTIAL	57	
A7	20+25	LT	90°	20	30	30	17	RESIDENTIAL	60	
								TOTAL AREA	360	



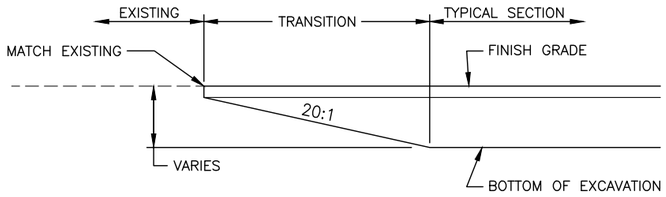
APPROACH PLAN VIEW



APPROACH PROFILE CROSS-SECTION TYPICAL



APPROACH TYPICAL SECTION



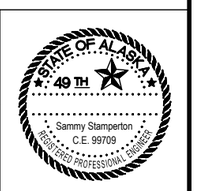
TYPICAL EXCAVATION TRANSITION DETAIL

N.T.S.

APPROACH DETAILS

APPROACH DETAIL NOTES:

1. REMOVAL OF EXISTING APPROACH EMBANKMENT WILL NOT BE MEASURED FOR PAYMENT SEE SPECIFICATION SECTION 639
2. APPROACH FILL SLOPES SHALL BE 6H:1V BETWEEN THE ROAD SHOULDER AND LANDING. BEYOND THE LANDING, WARP APPROACH EMBANKMENT SLOPES FROM 6:1 (H:V) TO MATCH EXISTING OVER 50 FT OR AS APPROVED BY THE ENGINEER. GRADING OF SLOPES IS SUBSIDIARY TO EMBANKMENT CONSTRUCTION
3. GRADE APPROACH PROFILE TO CREATE A SMOOTH TRANSITION BETWEEN THE LANDING AND THE EXISTING APPROACH PROFILE
4. APPROACH RADIUS BEGINS AT THE END OF THE TAPER
5. GRADE SURROUNDING AREA TO DRAIN AS NEEDED TO ENSURE POSITIVE DRAINAGE AWAY FROM THE ROADWAY AND APPROACH EMBANKMENTS
6. DRIVEWAY AND APPROACH TERMS ARE USED INTERCHANGEABLE

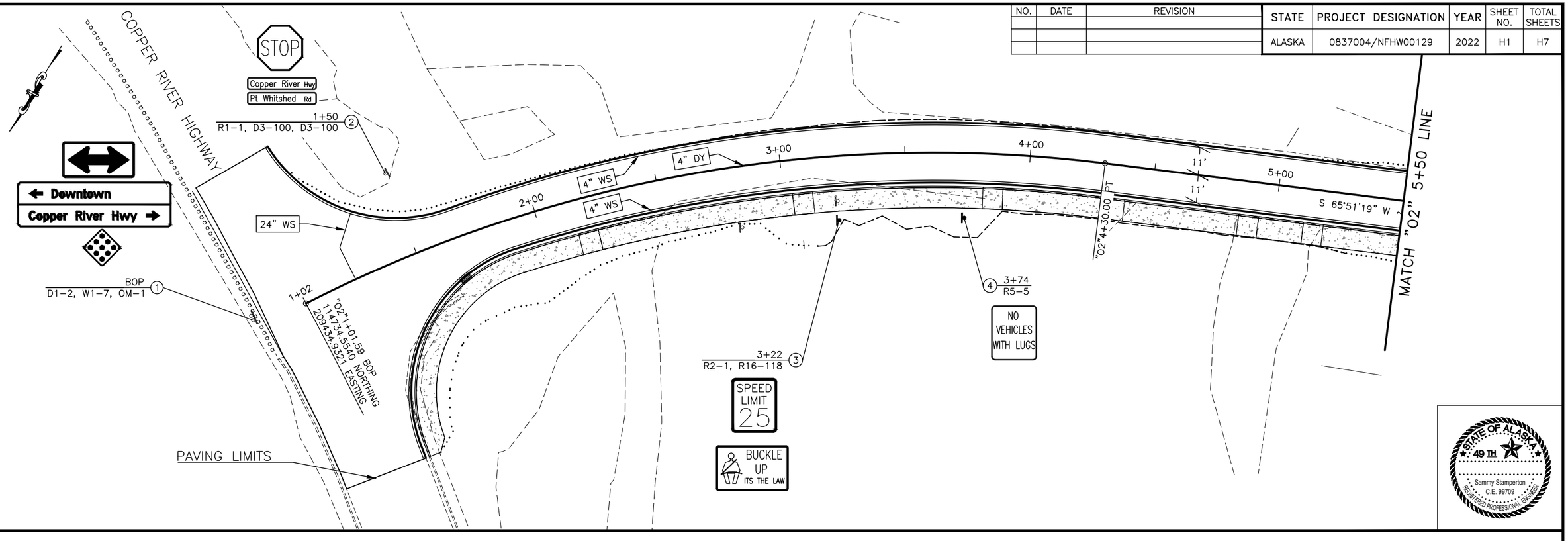


APPROACH SUMMARY & DETAILS

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-G4 APPROACH SUMMARY & DETAILS Mon, Nov/21/22 12:02pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H1	H7

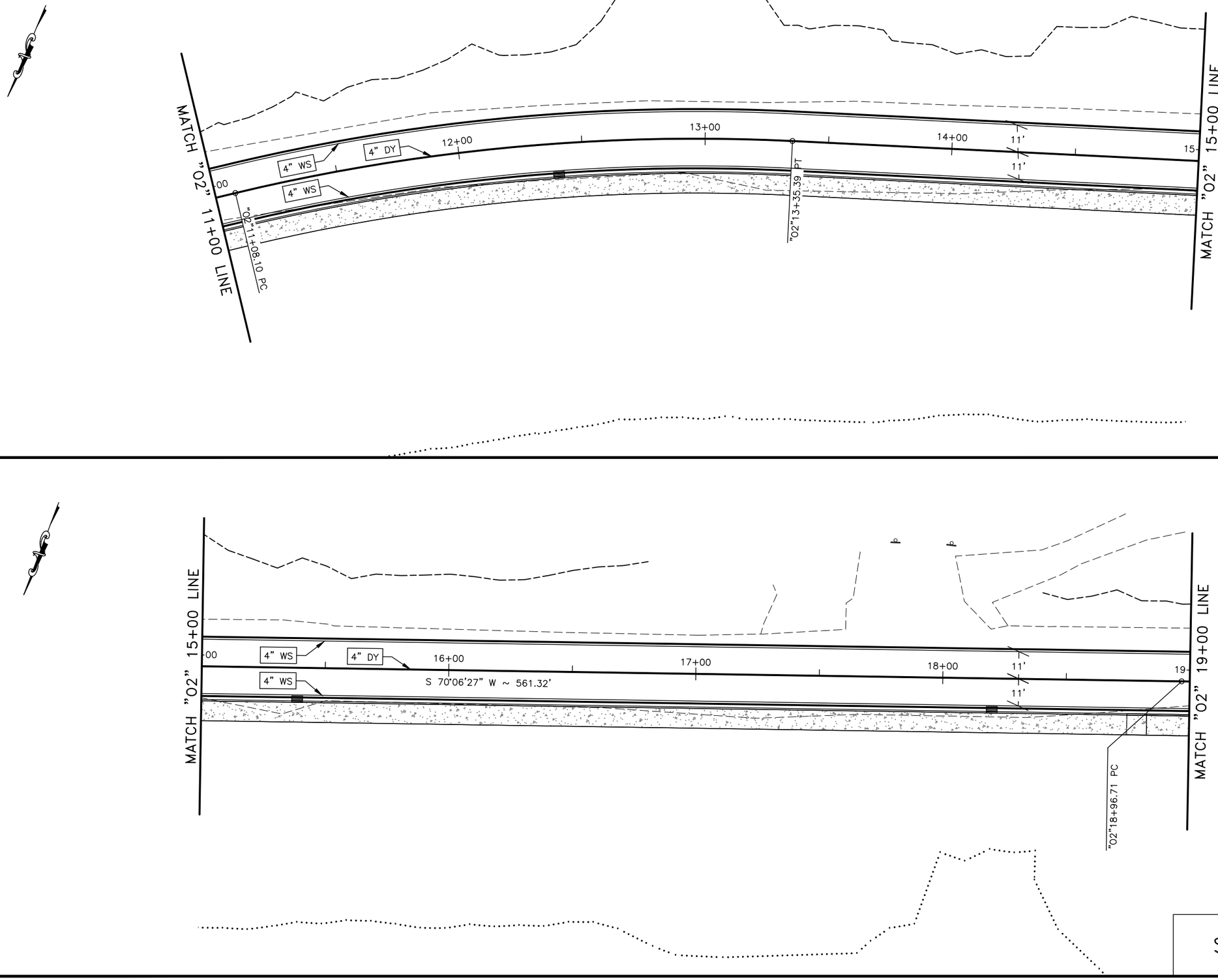


SIGNING & STRIPING

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P-OVER-P-H1 POP-1+00.00-11+00.00 Mon, Nov/21/22 11:07am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H2	H7



STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

SIGNING & STRIPING

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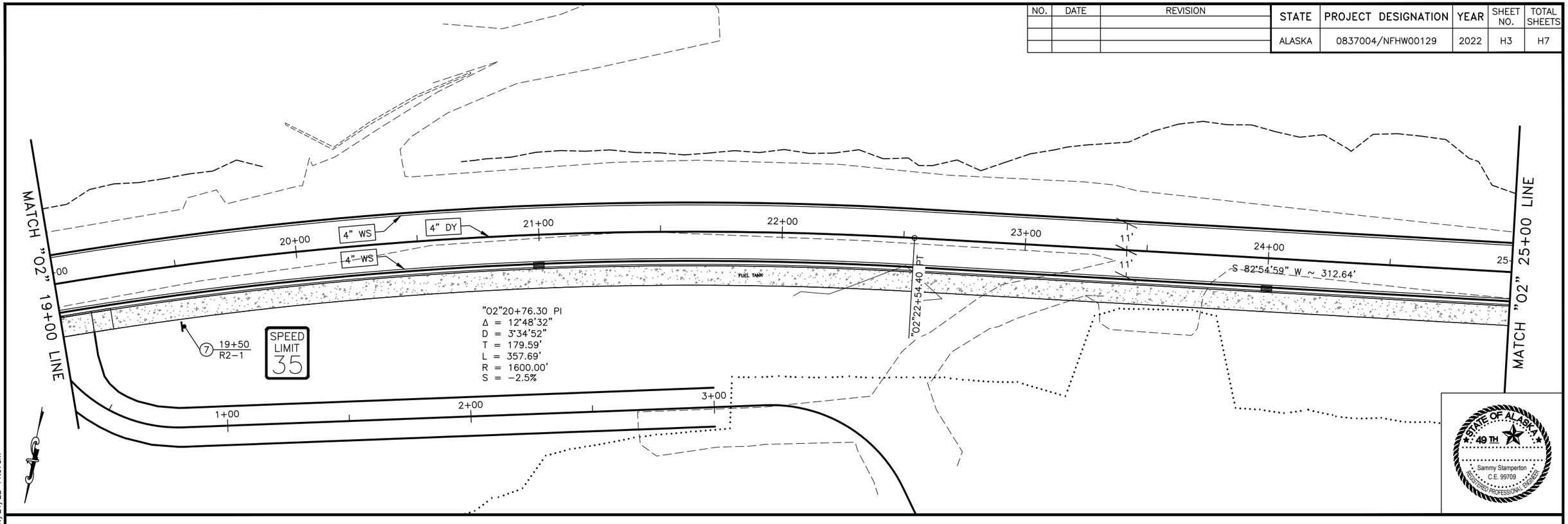
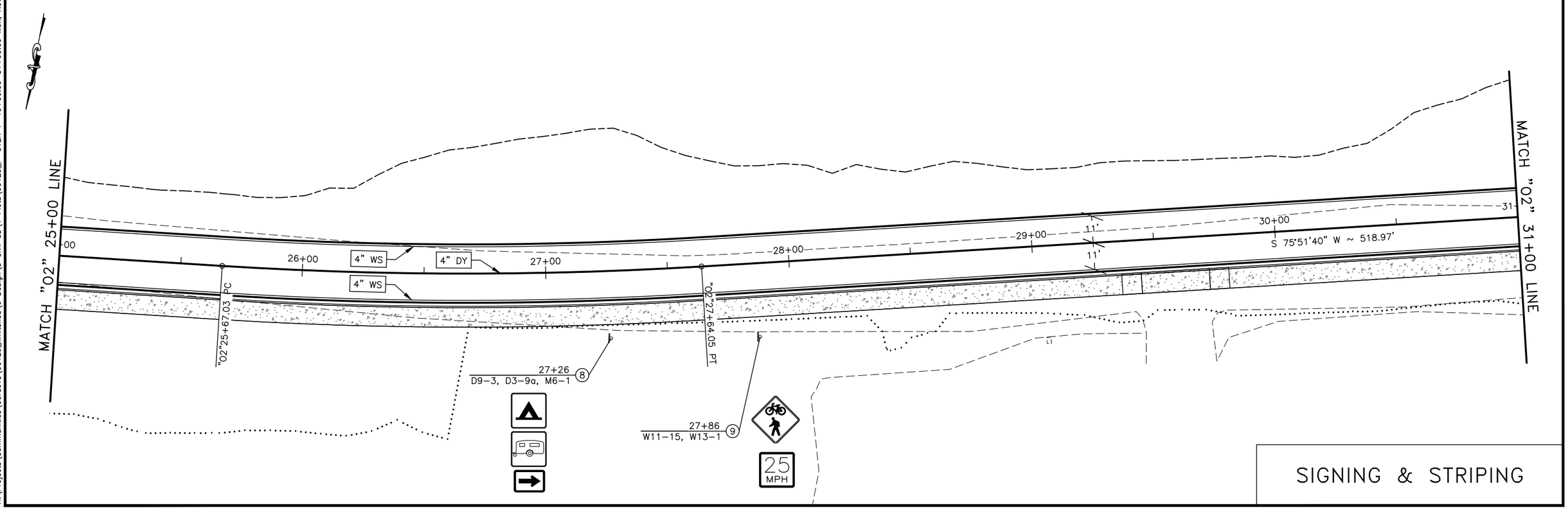
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H3	H7





SIGNING & STRIPING

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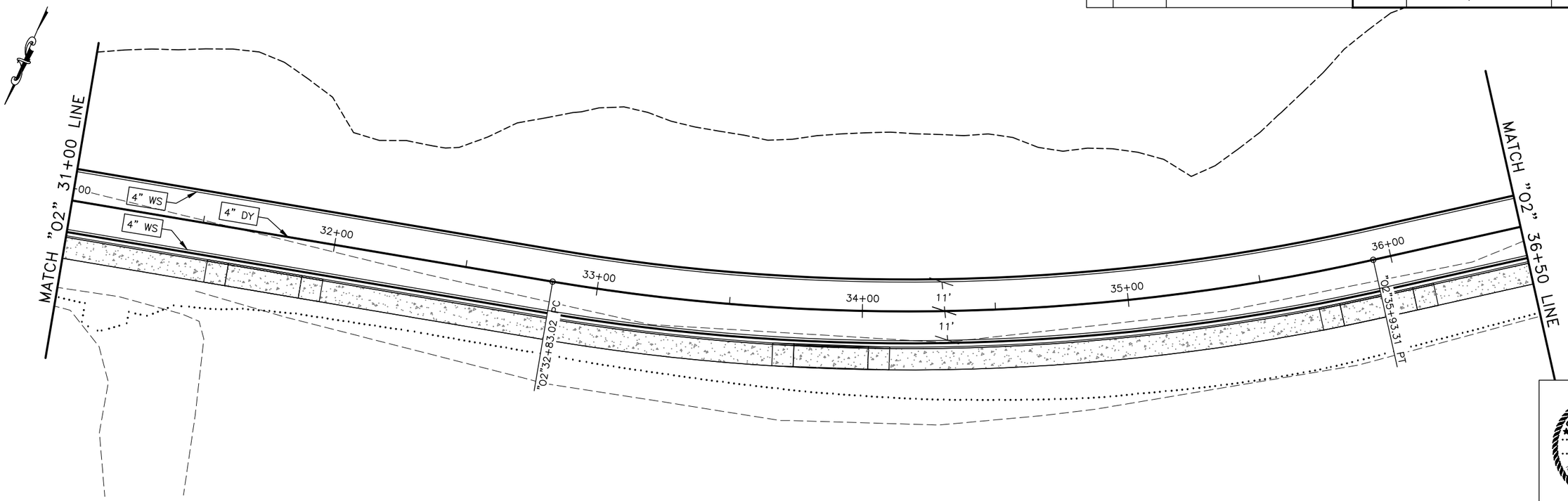
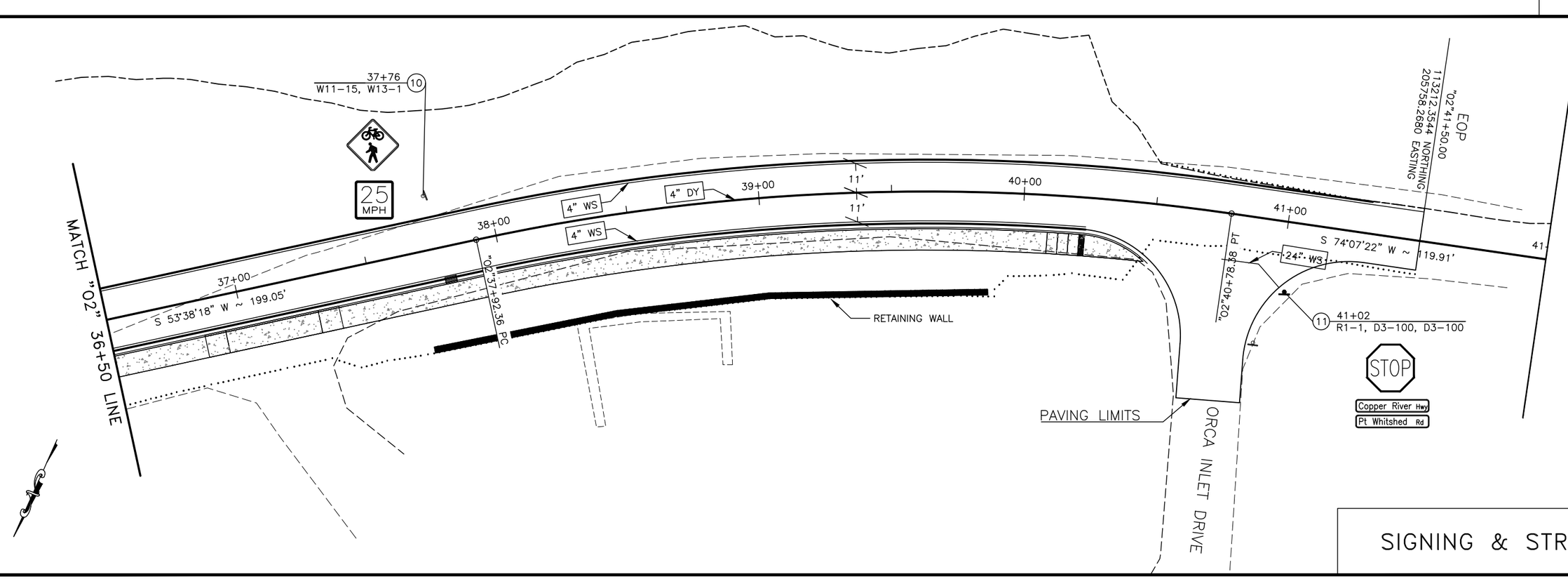
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H4	H7





STATE OF ALASKA
49 TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

SIGNING & STRIPING

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

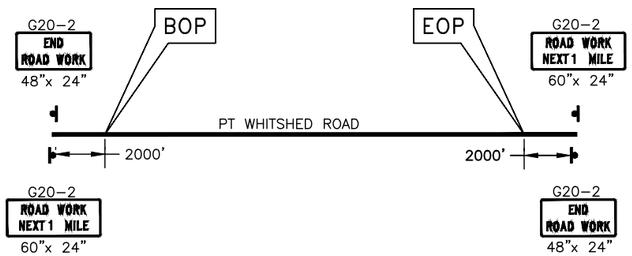
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H5	H7

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	BOP	X		D1-2	DOWNTOWN/COPPER RIVER HWY	102 X 30		X	21.25		SW	TS	3	2	BOP Copper River HWY/Whitshed Road Intersection SEE NOTE13
				W1-7	TWO DIRECTION LARGE ARROW	36 X 18	X		4.5		SW				
				OM-1	REFLECTIVE DIAMOND	18 X 18			2.25		SW				
2	01+50.39	X		R1-1	STOP	30 X 30	X		6.25		SW	PST	2.5	1	Copper River HWY/Whitshed Intersection
				D3-100	Copper River Hwy	42 X 8	X		2.33						
				D3-100	Pt Whitshed Rd	54 X 12	X		4.5						
3	02+81.33		X	R2-1	SPEED LIMIT 25	24 X 30			5		NE	PST	2.5	1	
				R16-118	BUCKLE UP IT'S THE LAW (Symbol)	48 X 30	X		10		NE				
4	03+21.87		X	R5-5	NO VEHICLES WITH LUGS	24 X 30			5		NE	PST	2.5	1	
5	08+06+57		X	R2-1	SPEED LIMIT 35	24 X 30			5		NE	PST	2.5	1	
6	10+42.09	X		R2-1	SPEED LIMIT 25	24 X 30			5		SW	PST	2.5	1	
7	19+00.88		X	R2-1	SPEED LIMIT 35	24 X 30			5		NE	PST	2.5	1	
8	27+25.92		X	D9-3	CAMPING	18 X 18			2.25		NE	PST	2.5	1	
				D9-3a	TRAILER CAMPING	18 X 18			2.25		NE				
				M6-1	Directional Arrow Auxiliary (symbol)	21 X 15			2.19		NE				
9	27+86.35		X	W11-15	BIKE AND PEDESTRIANS	24 X 24			4		NE	PST	2.5	1	Campground
				W13-1	25 MPH	18 X 18			2.25		NE				
10	37+76.27	X		W11-15	BIKE AND PEDESTRIANS	24 X 24			4		SW	PST	2.5	1	Campground
				W13-1	25 MPH	18 X 18			2.25		SW				
11	40+93.35		X	R1-1	STOP	30 X 30	X		6.25		NW	PST	2.5	1	Orca/Whitshed Intersection
				D3-100	Orca Inlet Dr	36 X 8	X		2						
				D3-100	Pt Whitshed Rd	36 X 8	X		2						
								SUBTOTAL =	105.52						

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. MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED.
3. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
4. INSTALL PST SIGN POSTS WITH SLEEVE TYPE SOIL EMBEDMENT 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.
5. INSTALL "TUBE POST SIGN BRACING" AS SHOWN ON STANDARD PLAN S-01.02 ON ALL SIGNS, EXCEPT D3-1 SERIES SIGNS, MOUNTED ON A SINGLE PST POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER. INSTEAD OF THE 5/8" GALVANIZED BOLTS AND NYLON LOCKING NUTS SHOWN ON STANDARD PLAN S-01.02, USE GALVANIZED 3/8" BOLTS, SPLIT LOCK WASHERS AND NUTS. STAINLESS STEEL FASTENER HARDWARE MAY BE USED INSTEAD OF GALVANIZED. 1/4" X 1 1/2" ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES.
6. 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.
7. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" SEE SPECIFICATION SECTION 615.
8. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
9. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
10. 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.
11. SALVAGE AND DELIVER ALL STOP SIGNS TO THE CORDOVA M&O SHOP
12. INSTALL WEATHER TIGHT CAPS ON ALL PIPE AND TUBE POSTS, EXCEPT PERFORATED STEEL TUBE.
13. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
14. SEE STANDARD PLAN S-00.12 FOR FRAMING DETAILS.



PERMANENT CONSTRUCTION SIGNS

NOTE: INSTALL ALL PERMANENT CONSTRUCTION SIGNS ON WOOD POSTS

POST TYPE LEGEND:

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

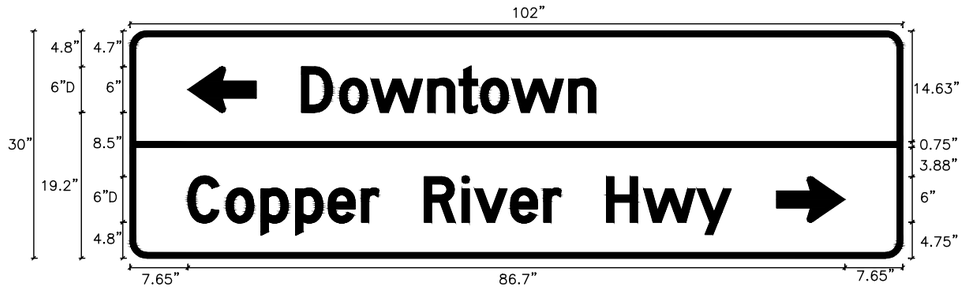
SIGNING SUM

STATE OF ALASKA 49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-H5 SIGNING SUM Mon, Nov/21/22 11:08am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H6	H7



BORDER
R=2.25"
TH=0.75"

COLORS:
BACKGROUND: GREEN
LEGEND: WHITE

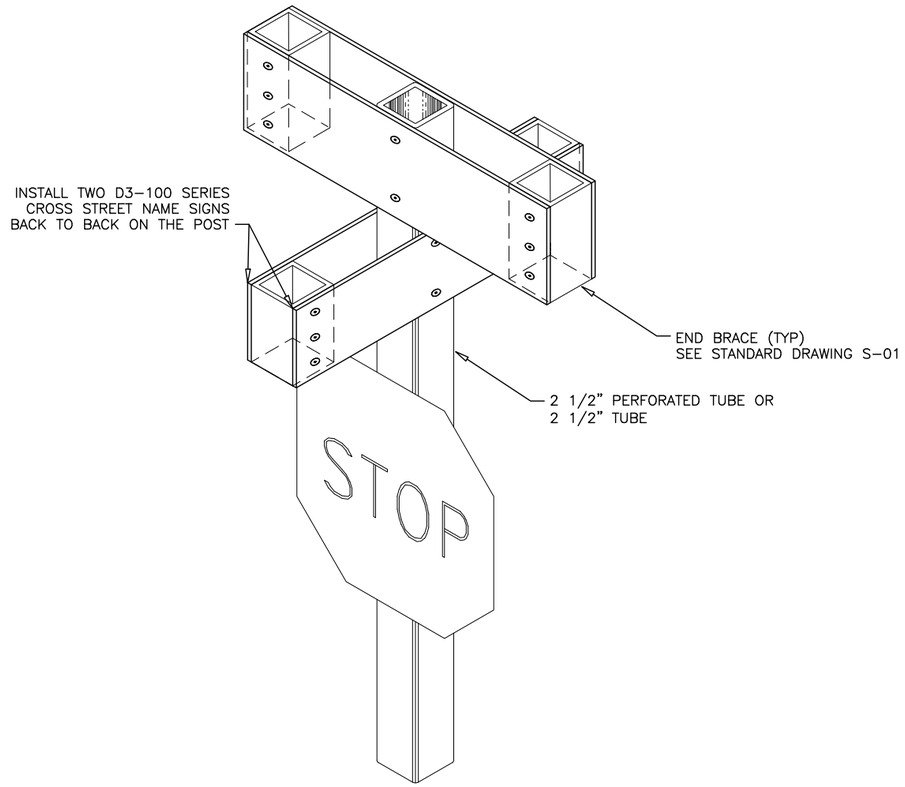
SIGN DETAILS

STATE OF ALASKA
49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

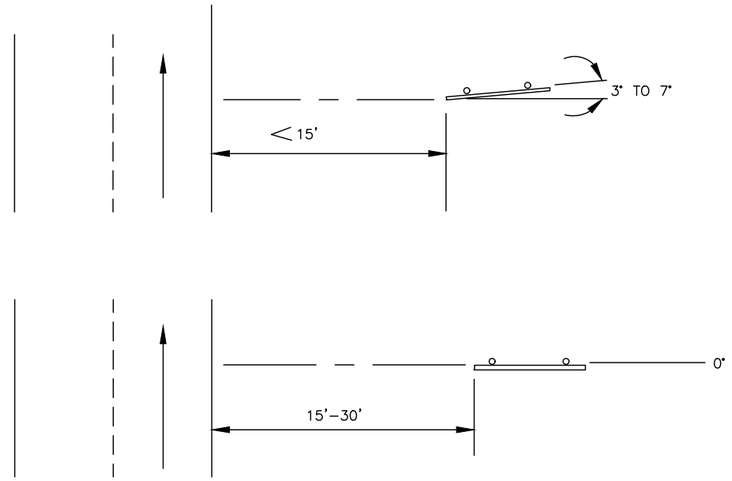
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_SIGN DETAILS-H6 SIGN DETAILS Mon, Nov/21/22 11:08am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	H7	H7



STREET NAME SIGN MOUNTING DETAIL



SIGN INSTALLATION ANGLES

STREET NAME SIGN NOTE:

VERTICALLY SEPARATE R1-1 (STOP) SIGN AND ALL OTHER SIGN ASSEMBLIES MOUNTED ON THE SAME POST BY 2 1/2 INCHES.

SIGN INSTALLATION DETAILS

STATE OF ALASKA 49TH
Sammy Stamperton
C.E. 99709
REGISTERED PROFESSIONAL ENGINEER

H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_SIGN DETAILS-H7 SIGN INSTALLATION DETAILS Mon, Nov/21/22 11:08am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	K1	K5

GENERAL NOTES:

1. PRESERVE AND PROTECT IN PLACE EXISTING TRAFFIC CABINET (CBA 2), RADAR SENSOR AND POLE ASSEMBLY, LOAD CENTER, UTILITY CONNECTION TO THE LOAD CENTER, AND FEEDER CIRCUIT CONDUIT AND WIRING TO THE TRAFFIC CABINET.
2. REMOVE EXISTING PIEZOELECTRIC SENSORS AND JUNCTION BOX BETWEEN THE EXISTING TRAFFIC CABINET AND PIEZOELECTRIC SENSORS.
3. EQUIPMENT IN THE EXISTING TRAFFIC CABINET INCLUDING DATA EQUIPMENT CABLES ARE SCHEDULED TO REMAIN AS EXISTING.
4. CONTRACTOR SHALL VERIFY THERE IS ADEQUATE NUMBER OF TERMINAL PIN NUMBERS IN THE TERMINAL BLOCK, REPLACE OR ADD ADDITIONAL TERMINAL BLOCK AS REQUIRED. THIS WORK IS SUBSIDIARY TO SECTION 669.
5. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS AND COORDINATE FINAL SITE INSTALLATION WITH THE ENGINEER. THE ENGINEER SHALL APPROVE ALL MODIFICATIONS TO THE INSTALLATION.
6. INSTALLATION OF EQUIPMENT AND MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRIC CODE, ALASKA DOT&PF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, THE PROJECT SPECIAL PROVISIONS, AND THE PLANS.
7. PROVIDE AS–BUILT PLANS, REFER TO SUBSECTION 669–1.04.

LAYOUT NOTES:

1. INSTALL 1/2 INCH PREFORMED BITUMINOUS JOINT MATERIAL BETWEEN JUNCTION BOX AND PAVEMENT WHEN JUNCTION BOXES ARE LOCATED IMMEDIATELY ADJACENT TO A SIDEWALK OR ROAD SURFACE.
2. INSTALL PLASTIC SLEEVED GROUNDING BUSHINGS ON ALL CONDUITS BEFORE PULLING ANY WIRE. GROUND WITH A MINIMUM #6 BARE COPPER.
3. INSTALL AND TEST ALL LOOP DETECTORS PRIOR TO OVERLAYING PAVEMENT.
4. THE MINIMUM CLEARANCE BETWEEN A DETECTION LOOP AND THE TAIL OF ANOTHER DETECTION LOOP OR PIEZOELECTRIC SENSOR SHALL NOT BE LESS THAN 12 INCHES. LOOP TAILS SHALL NOT CROSS EACH OTHER, BUT HAVE NO MINIMUM CLEARANCE.
5. JUNCTION BOX STATION AND OFFSETS ARE TO CENTER OF STRUCTURE.

AUTOMATIC VEHICLE CLASSIFICATION COUNTER ASSEMBLIES SCHEDULE

SITE NUMBER	STATION NUMBER	CABINET STATION	CABINET OFFSET	CONTROL CABINET	LOAD CENTER	NUMBER OF TYPE II JUNCTION BOXES	NUMBER OF LANES	NUMBER OF INDUCTIVE LOOPS	NUMBER OF PIEZOELECTRIC SENSORS	AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS
1	13601114	"02" 16+95.97	31.89' LT	EXISTING	EXISTING, EXISTING FEEDER CIRCUIT TO CONTROL CABINET	2	2	4	4	NO

TRAFFIC CABINET EQUIPMENT SCHEDULE

INSTALL AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS	FURNISH DATA LOGGER	INSTALL TELEPHONE SERVICE	INSTALL CELLULAR MODEM WITH EXTERNAL ANTENNA, INCLUDE TWO (2) 6–9–INCH DIPOLE ANTENNA AS SPARES	INSTALL REMOTELY CONTROLLABLE SERIAL SWITCH	INSTALL LOAD CENTER WITH TRANSIENT VOLTAGE SURGE PROTECTION	INSTALL RECEPTACLES AND PLUG STRIP RECEPTACLES	INSTALL INTERIOR LED LIGHT	INSTALL COOLING FAN	INSTALL HEATER	INSTALL THERMOSTAT	INSTALL INTERIOR POWER CIRCUITS	INSTALL TERMINAL BLOCK	INSTALL AVC COUNTER
NO	NO	NO	NO	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	SEE NOTE GENERAL NOTE 4 ON SHEET K1	EXISTING

LABELS:

1. ALL CABLES SHALL BE LABELED AT BOTH ENDS AND AT EVERY JUNCTION BOX THROUGH WHICH THE CABLES PASS, PER SUBSECTION 660–3.05.13.
2. ALL WIRE PAIRS SHALL BE LABELED AT THE TERMINAL BLOCK AND AT ANY LOOSE ENDS.
3. THE FOLLOWING CONVENTIONS SHALL APPLY TO DESIGNATING AND LABELING CABLES AND WIRE PAIRS:

   LANES: TRAFFIC LANES AND THEIR RESPECTIVE LOOPS AND SENSORS SHALL BE LABELED FROM OUTSIDE EDGE OF THE ROAD TOWARD THE CENTER AS FOLLOWS:

A	B		B	A
↓	↓		↑	↑

   FOUR LANE EXAMPLE

   TERMINAL BLOCKS: WIRES FROM SENSORS PLACED IN LANES WHICH ARE CLOSEST TO THE CONTROL BOX SHALL BE PLACED AT THE LEFT OR AT THE TOP OF THE TERMINAL BLOCK, DEPENDING ON ORIENTATION OF THE ROAD.
4. WIRES FOR INDUCTIVE LOOPS AND SENSORS ARE LABELED AS FOLLOWS:

   PnDLc

   WHERE:

   P IS THE PREFIX:
   - V TRAFFIC VOLUME LOOP
   - H VEHICLE CLASSIFICATION/SPEED LOOP
   - GL AUTOMATIC VEHICLE CLASSIFICATION (AVC) SENSOR
   - Ga AUTOMATIC VEHICLE CLASSIFICATION PIEZO

   n NUMBER SUFFIX FOR MULTIPLE LOOPS IN THE SAME LANE

   D DIRECTION (N, S, E, W, NE, SE, SW, NW)

   L IS THE PREFIX FOR ROAD DESIGNATION
   - L LANE*
   - R RAMP**
   - SR SPUR RAMP**
   - LP LOOP**
   - LP LOOP RAMP**
   - * ROADS AND HIGHWAYS
   - ** INTERCHANGES

   c IS THE SUFFIX FOR LANE DESIGNATION (A, B)

SYMBOL LEGEND AND ABBREVIATIONS:

RMC: RIGID METAL CONDUIT, GALVANIZED

(TG) GROUND TEMPERATURE PROBE

(TA) AMBIENT AIR TEMPERATURE SENSOR

(TP) IN–PAVEMENT TEMPERATURE SENSOR

⟨#⟩ CONDUIT REFERENCE NUMBER

[#] NOTE REFERENCE NUMBER

PIEZOELECTRIC SENSOR

H2SLA INDUCTIVE LOOP SENSOR

STATE OF ALASKA
PRELIMINARY
PS&E
CE 14683
REGISTERED PROFESSIONAL ENGINEER

AUTOMATIC VEHICLE CLASSIFICATION COUNTER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374–0275
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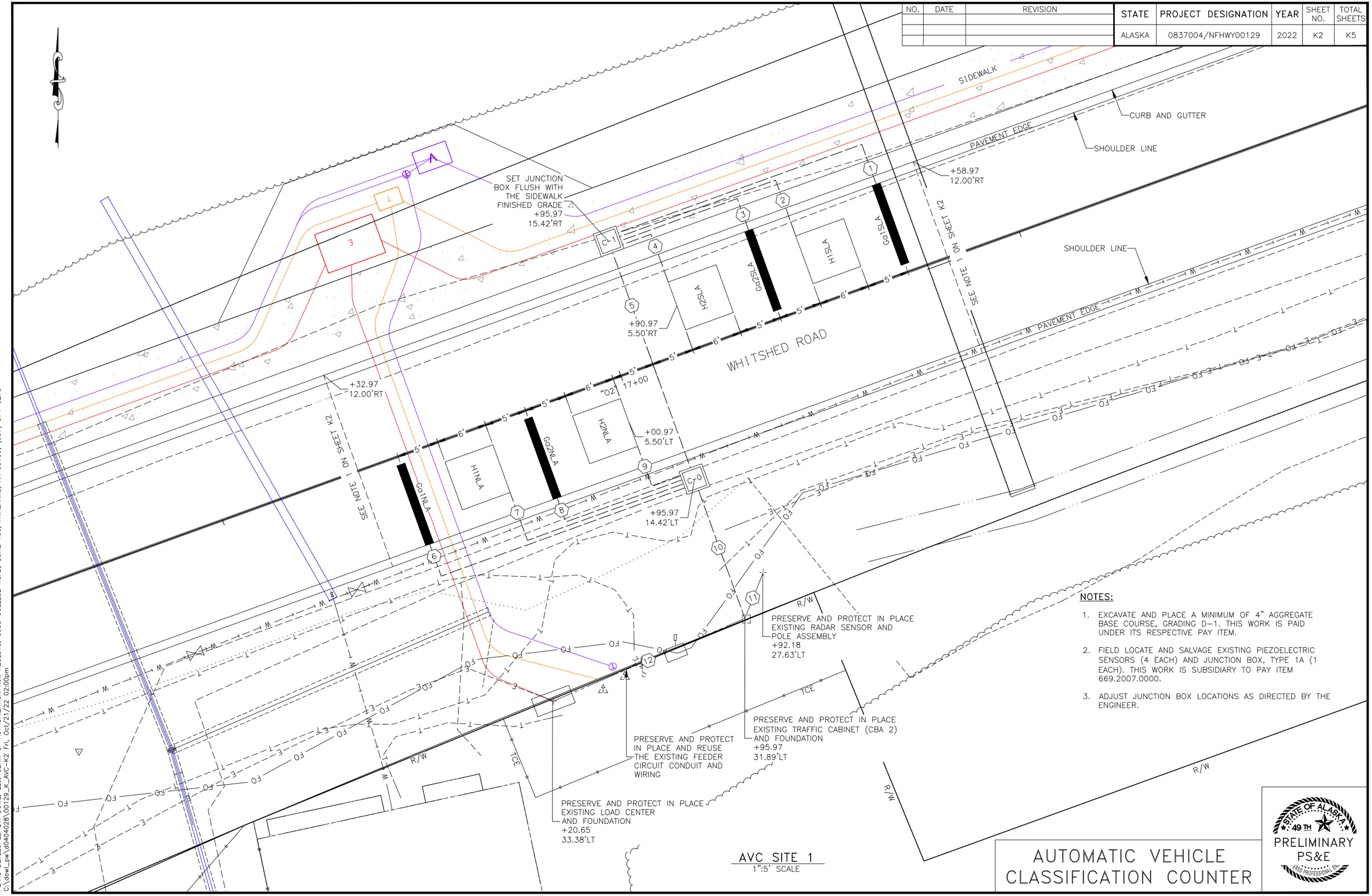
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	K2	K5



AVC SITE 1
1":5' SCALE

NOTES:

1. EXCAVATE AND PLACE A MINIMUM OF 4" AGGREGATE BASE COURSE, GRADING D-1. THIS WORK IS PAID UNDER ITS RESPECTIVE PAY ITEM.
2. FIELD LOCATE AND SALVAGE EXISTING PIEZOELECTRIC SENSORS (4 EACH) AND JUNCTION BOX, TYPE 1A (1 EACH). THIS WORK IS SUBSIDIARY TO PAY ITEM 669.2007.0000.
3. ADJUST JUNCTION BOX LOCATIONS AS DIRECTED BY THE ENGINEER.

AUTOMATIC VEHICLE CLASSIFICATION COUNTER

STATE OF ALASKA 49TH
PRELIMINARY PS&E
NOT FOR CONSTRUCTION

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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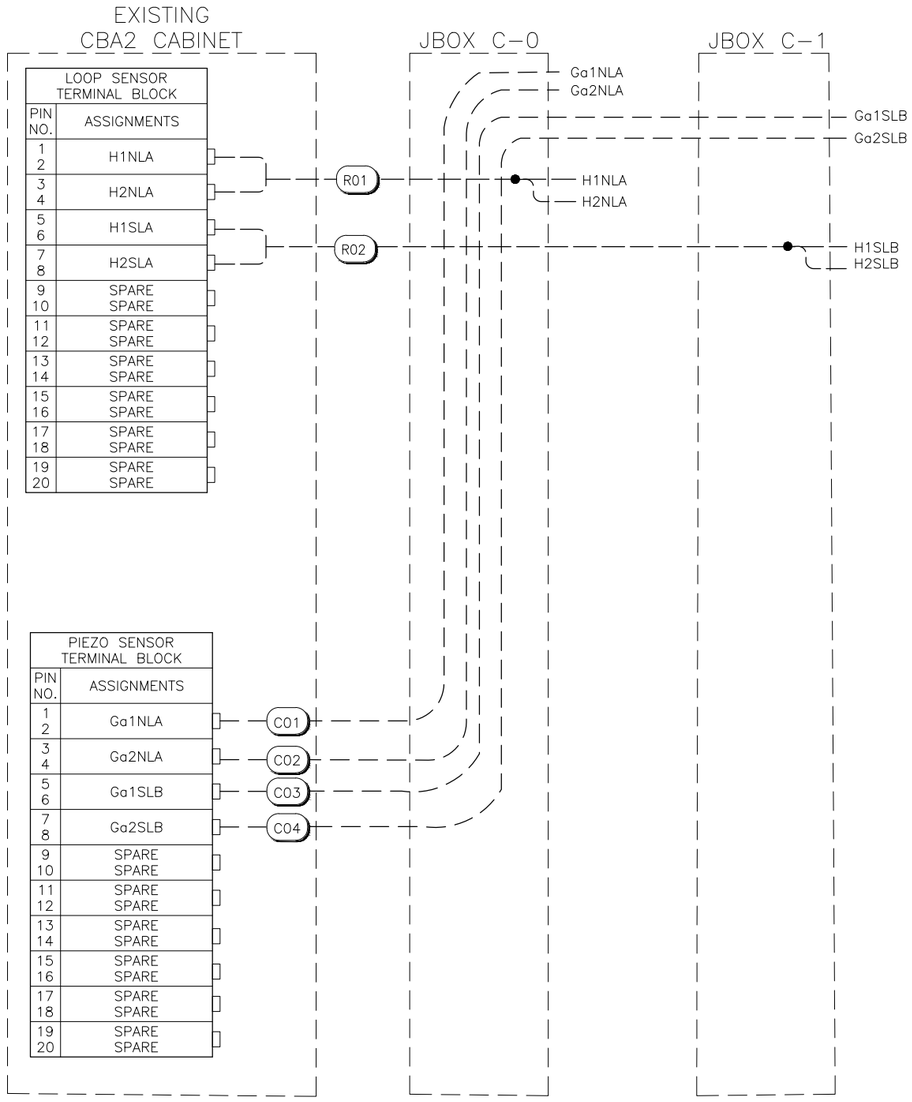
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	K3	K5

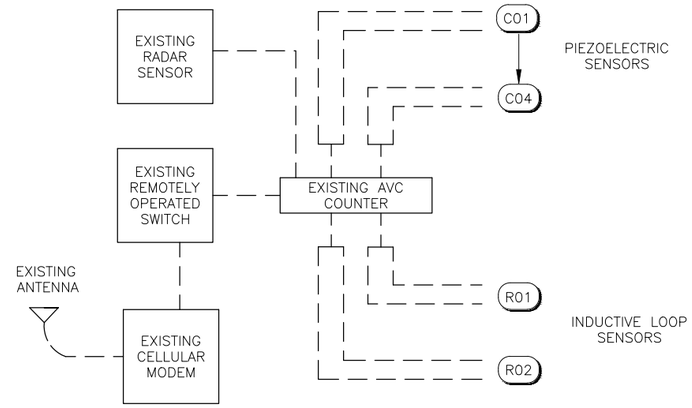


WIRING DIAGRAM
NTS

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT					CABLE		
Ⓐ	QTY	SIZE (INCHES)	FROM	TO	QTY	TYPE	NUMBER
1	1	1	JBOX C–1	Ga1SLA	1	RG58 COAX	CO3
2	1	1	JBOX C–1	H1SLA	1	1 PR#14	SPLICE TO RO2 IN JUNCTION BOX C–1
3	1	1	JBOX C–1	Ga2SLA	1	RG58 COAX	CO4
4	1	1	JBOX C–1	H2SLA	1	1 PR#14	SPLICE TO RO2 IN JUNCTION BOX C–1
5	1	2	JBOX C–1	JBOX C–0	2	RG58 COAX	CO3, CO4
					1	6 PR#18	RO2
	1	2			SPARE	SPARE	
6	1	1	JBOX C–0	Ga1NLA	1	RG58 COAX	CO1
7	1	1	JBOX C–0	H1NLA	1	1 PR#14	SPLICE TO RO1 IN JUNCTION BOX C–0
8	1	1	JBOX C–0	Ga2NLA	1	RG58 COAX	CO2
9	1	1	JBOX C–0	H2NLA	1	1 PR#14	SPLICE TO RO1 IN JUNCTION BOX C–0
10	1	2	CBA 2 (EXISTING)	JBOX C–0	4	RG58 COAX	CO1–CO4
					2	6 PR#18	RO1, RO2
	1	2			SPARE	SPARE	
11	1 (EXISTING)	2 (EXISTING)	CBA 2 (EXISTING)	RADAR SENSOR	1 (EXISTING)	RS–232 OR RS–485 (EXISTING)	
12	1 (EXISTING)	2 (EXISTING)	LOAD CENTER (EXISTING)	CBA 2 (EXISTING)	2 (EXISTING)	3C #6 CABLE & 1 #8 AWG BARE CU. GND (EXISTING)	

DESIGNER NOTE: EXISTING UNDERGROUND CONDUCTOR IS SMALLER THAN POWER CONDUCTOR. RECOMMEND UP–SIZING THE EXISTING THE GROUND CONDUCTOR



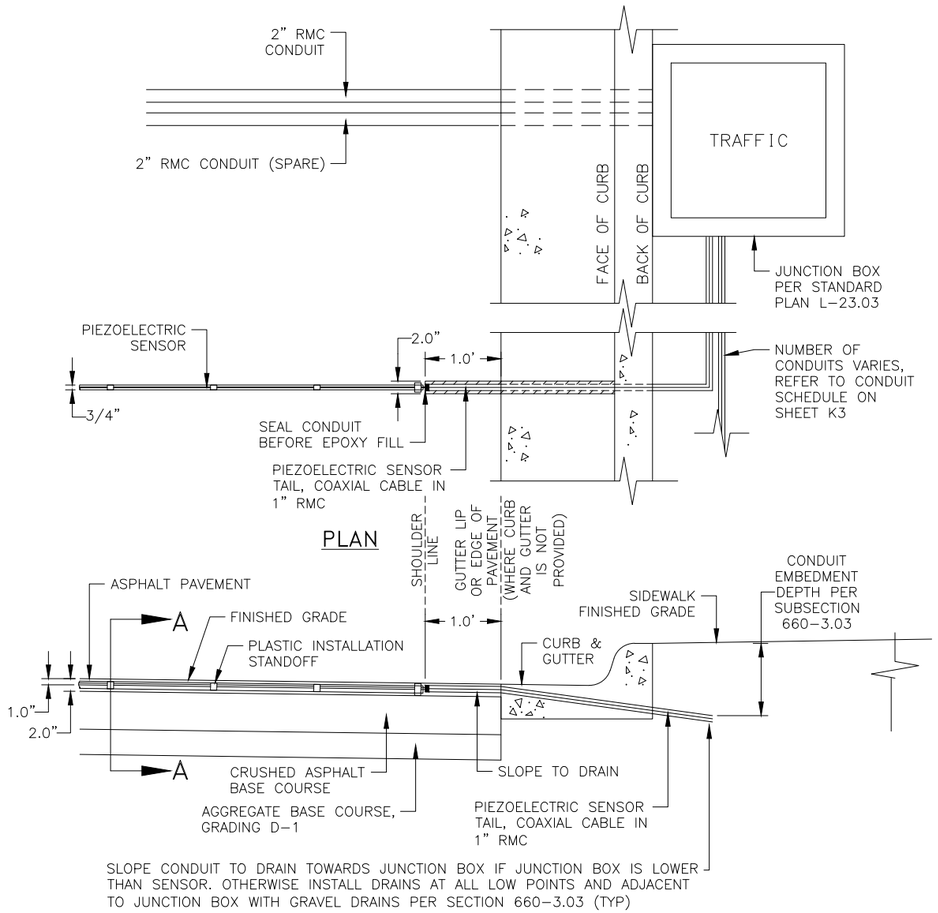
DATA/COMMUNICATION CIRCUITS
NTS

PRELIMINARY
PS&E
CE 14683
REGISTERED PROFESSIONAL ENGINEER
STATE OF ALASKA

WIRING DIAGRAM

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	K4	K5

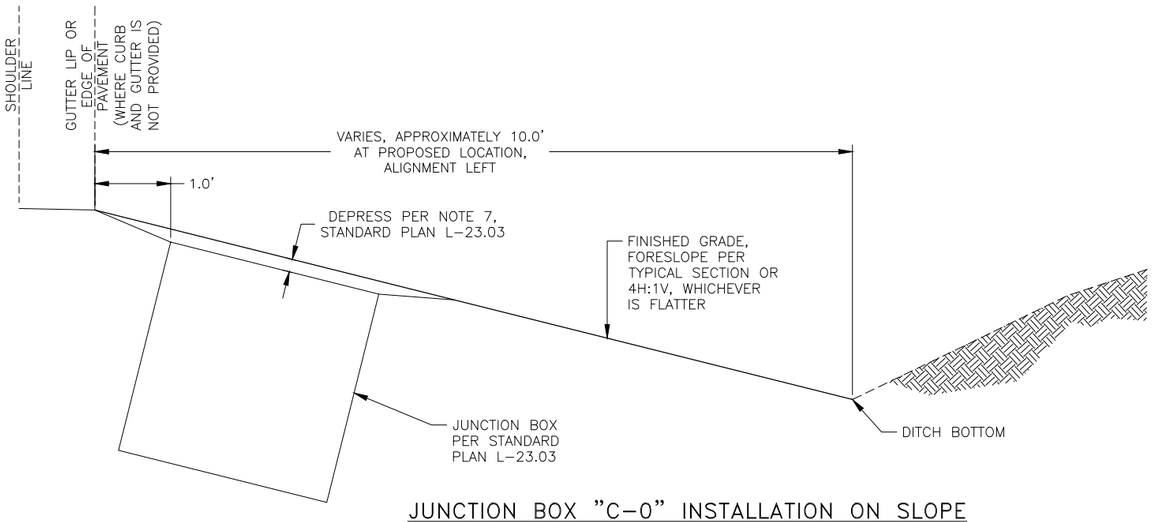


PLAN

PROFILE

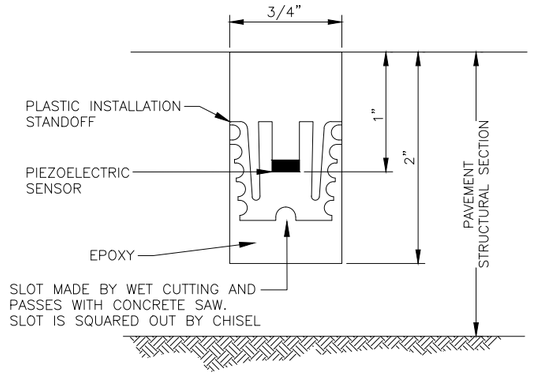
PIEZOELECTRIC SENSOR INSTALLATION DETAILS OPTION I – THROUGH CURB & GUTTER

NTS



JUNCTION BOX "C–0" INSTALLATION ON SLOPE

NTS

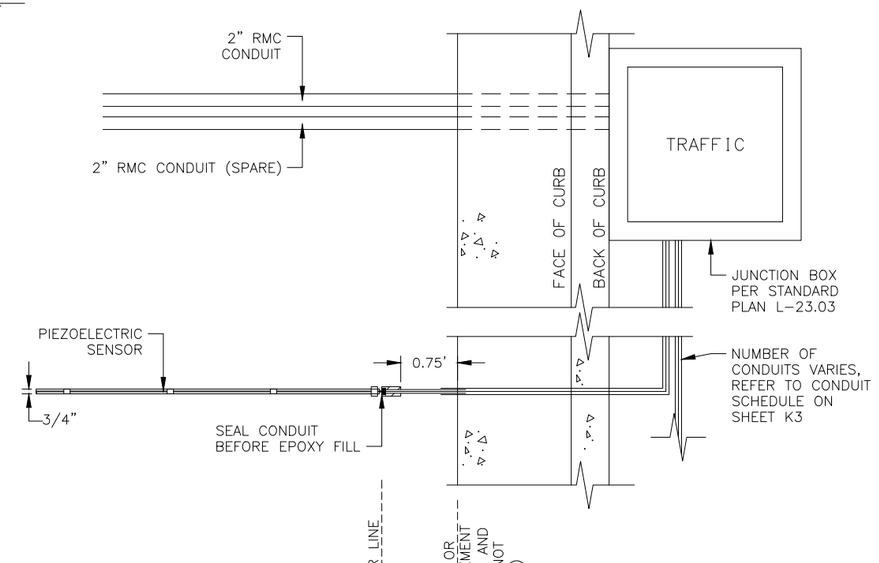


SECTION A–A

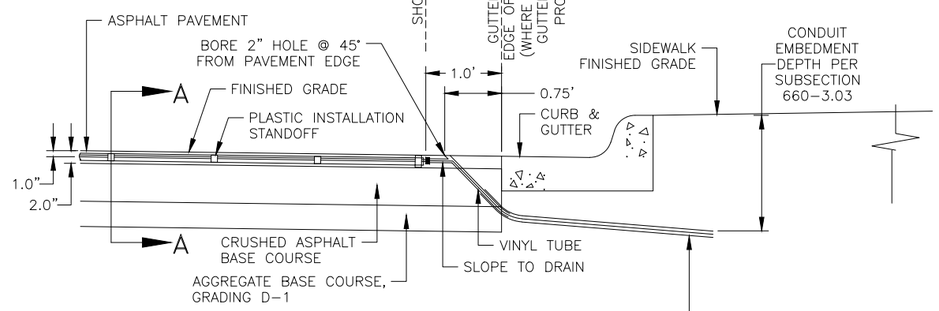
NTS

SENSOR LAYOUT NOTES:

1. PIEZOELECTRIC SENSORS: PLACE IN THE CENTER OF THE LANE WITH THE INSIDE END EXTENDED ONE FOOT FROM THE MIDDLE POINT OF CENTERLINE STRIPE AND OUTSIDE END EXTENDED TO THE SHOULDER LINE (FOG LINE).
2. COAX CABLE FOR PIEZOELECTRIC SENSORS SHALL BE RUN WITHOUT SPLICES TO "F" CONNECTOR AT THE TERMINAL BLOCK IN THE CABINET. TAIL LENGTH SHALL PROVIDE A MINIMUM OF 6–FOOT OF SLACK IN THE CABINET PRIOR TO THE TERMINAL BLOCK.



PLAN



PROFILE

PIEZOELECTRIC SENSOR INSTALLATION DETAILS OPTION II – UNDER CURB & GUTTER

NTS

STATE OF ALASKA
PRELIMINARY PS&E
CE 14683
REGISTERED PROFESSIONAL ENGINEER

PIEZOELECTRIC SENSOR DETAILS

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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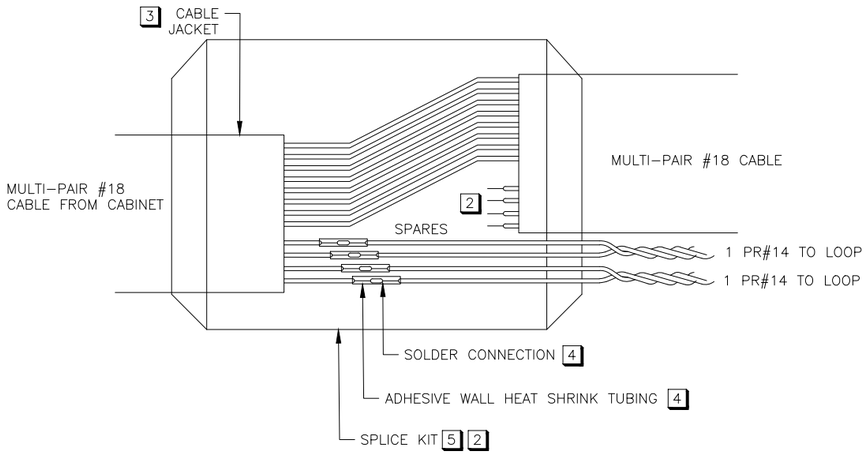
NO.	DATE	REVISION

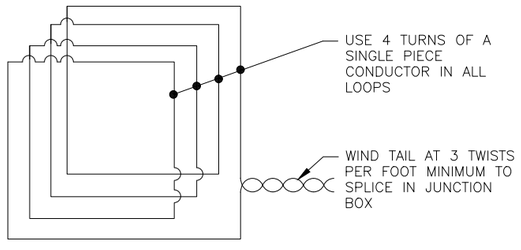
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	K5	K5

SPLICE NOTES:

1. SCHEMATIC SKETCH SHOWS AN EXAMPLE OF TWO PAIRS USED AND SPARES.
2. TERMINATE ALL SPARES WITHIN THE SPLICE BODY.
3. SPLICE BODY TO ENCLOSE ALL CABLE JACKETS.
4. STAGGER SPLICE POINTS. SOLDER CONNECTIONS, ENCLOSE EXPOSED CONDUCTORS IN ADHESIVE WALL HEAT SHRINK TUBING. DO NOT USE COMPRESSION CONNECTORS. WRAP CONDUCTOR OVER EACH OTHER BEFORE SOLDERING.
5. USE A NON–REENTERABLE, WET LOCATION, COMMERCIAL SPLICE KIT 3M TYPE 82–A1 OR A2 OR EQUIVALENT AS APPROVED BY THE ENGINEER.
6. COVER ALL EXPOSED CONDUCTORS WITH HEAT SHRINK TUBING, INCLUDING SPARES.



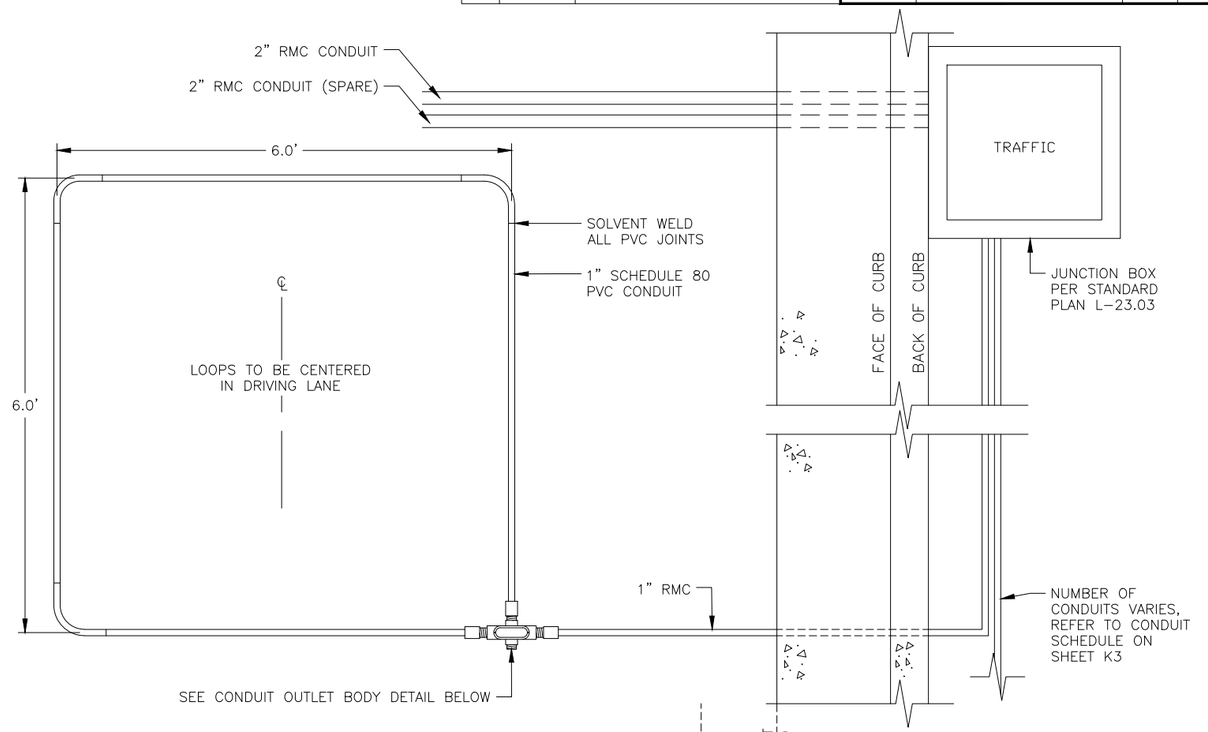
TYPICAL SPLICE DETAIL
NTS

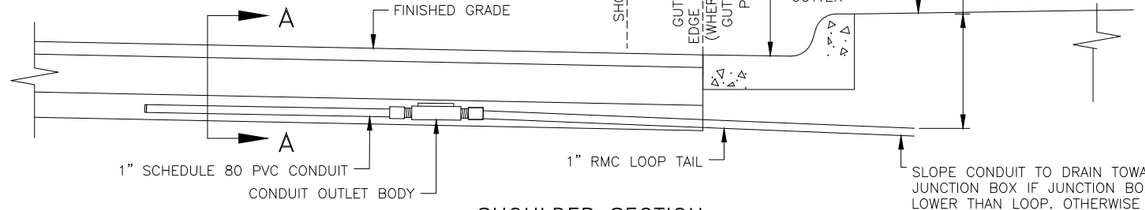


LOOP WIRING DETAIL
NTS

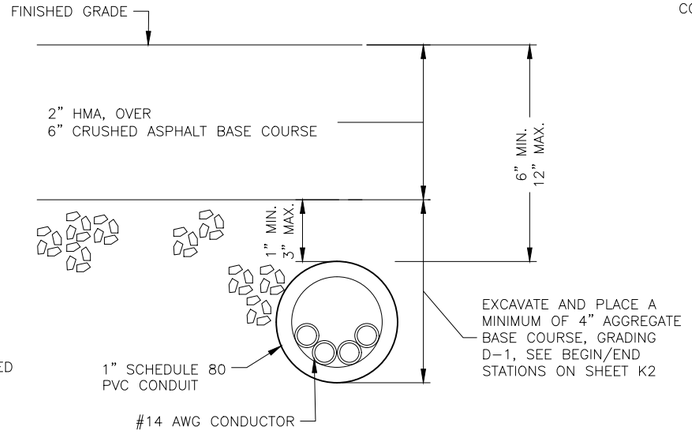
INDUCTIVE LOOP NOTES:

1. ALL INDUCTIVE LOOPS SHALL BE WOUND IN THE SAME DIRECTION WITH THE STARTING LEAD MARKED "S" PER SUBSECTION 660–3.05.13.
2. LEAD–IN WIRES FOR EACH LOOP SHALL BE IN SEPARATE CONDUITS TO THE FIRST JUNCTION BOX.
3. INDUCTIVE LOOPS SHALL BE INSTALLED IMMEDIATELY PRIOR TO PAVING THE SECTION OF ROADWAY. FINAL LIFT OF ASPHALT PAVEMENT SHALL BE SMOOTH OVER ALL INDUCTIVE LOOPS AND WITHOUT TRANSVERSE SEAMS, JOINTS, OR ROUGHNESS WITHIN 50 FEET OF THE LOOPS.

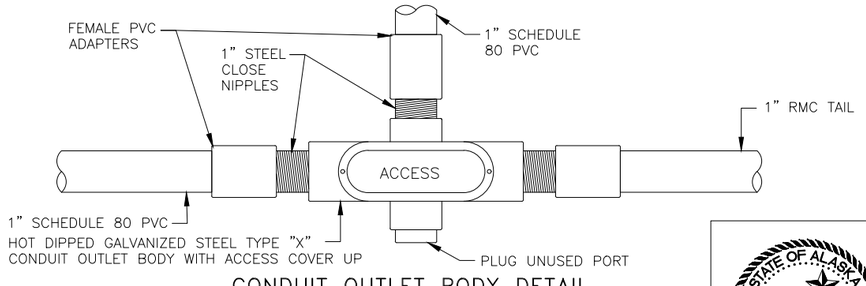




SHOULDER SECTION
NTS



SECTION A–A



CONDUIT OUTLET BODY DETAIL
NTS

STATE OF ALASKA
PRELIMINARY PS&E
REGISTERED PROFESSIONAL ENGINEER
CE 14683

SPLICE AND PRESENCE LOOP DETAILS

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374–0275
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NO.	DATE	REVISION

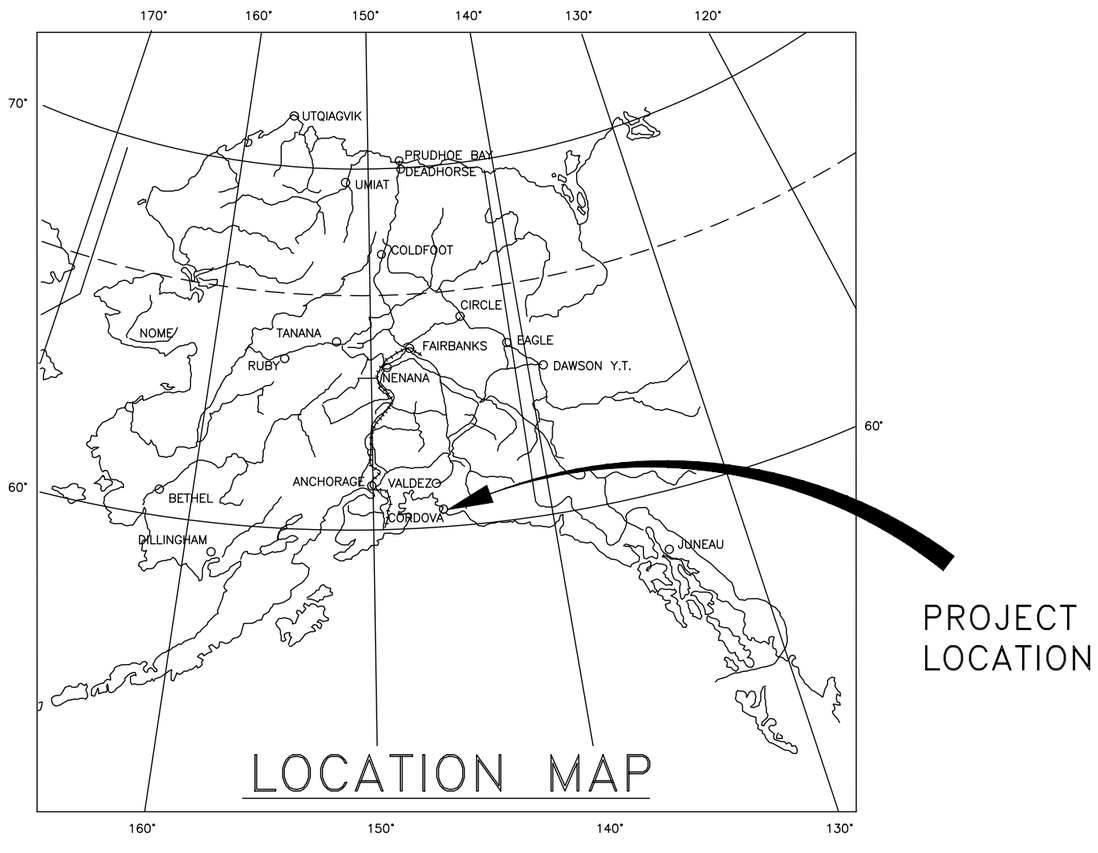
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	Q1	Q3

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 COMMITTMENTS:

1. MECHANIZED VEGETATION CLEARING WILL BE AVOIDED DURING THE RECOMMENDED MIGRATORY BIRD NESTING WINDOW FOR THE PROJECT (MAY 1 – JULY 15) UNLESS A MITIGATIVE BMP IS SUBMITTED BY THE CONTRACTOR AND APPROVED BY DOT&PF



LOCATION MAP

LEGEND:

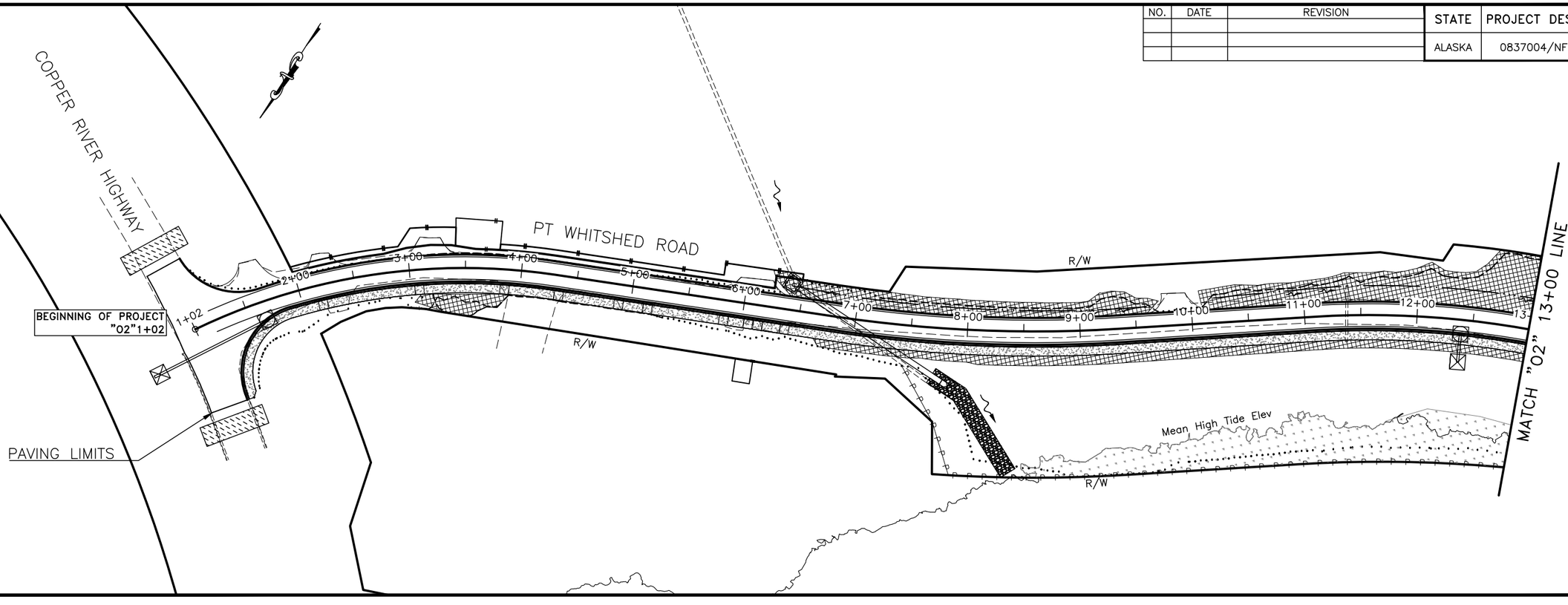
- WETLANDS
- APPROACH
- CULVERT
- RIPRAP
- REVEGETATIVE EFFORT
- PERIMETER CONTROL (P P P P P)
- INLET PROTECTION
- OUTLET PROTECTION
- EXISTING SURFACE FLOW DIRECTION
- CHECK DAMS OR OTHER VELOCITY CONTROL BMPS
- CONSTRUCTION ENTRANCE AND EXIT

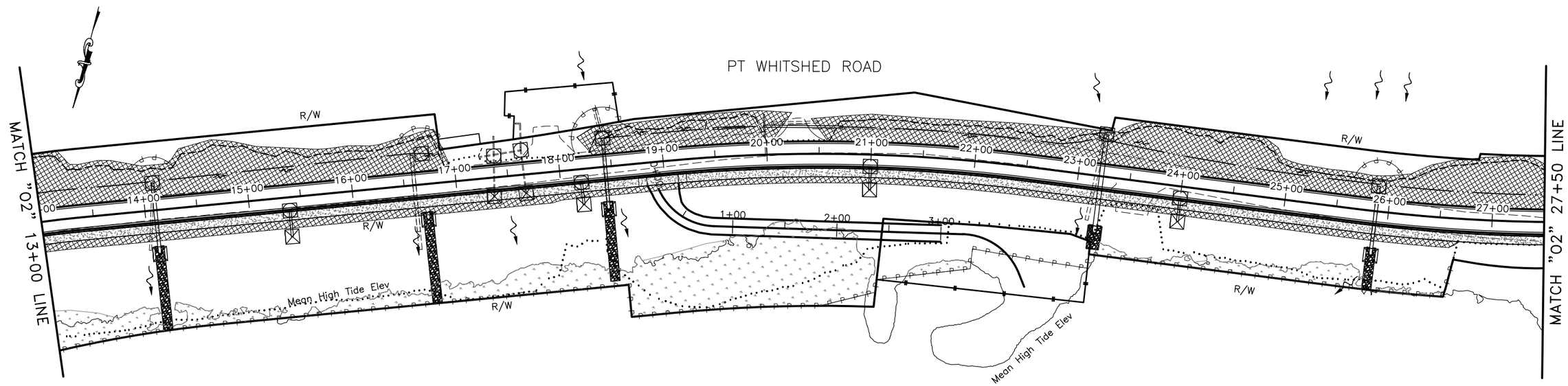
ESCP

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_Q SHEETS_P-OVER-P_ESCP-Q1 ESCP Mon, Nov/21/22 11:58am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2022	Q2	Q3





PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_Q SHEETS_P-OVER-P_ESCP-Q2 1+01.59-13+00.00 Mon, Nov/21/22 11:58am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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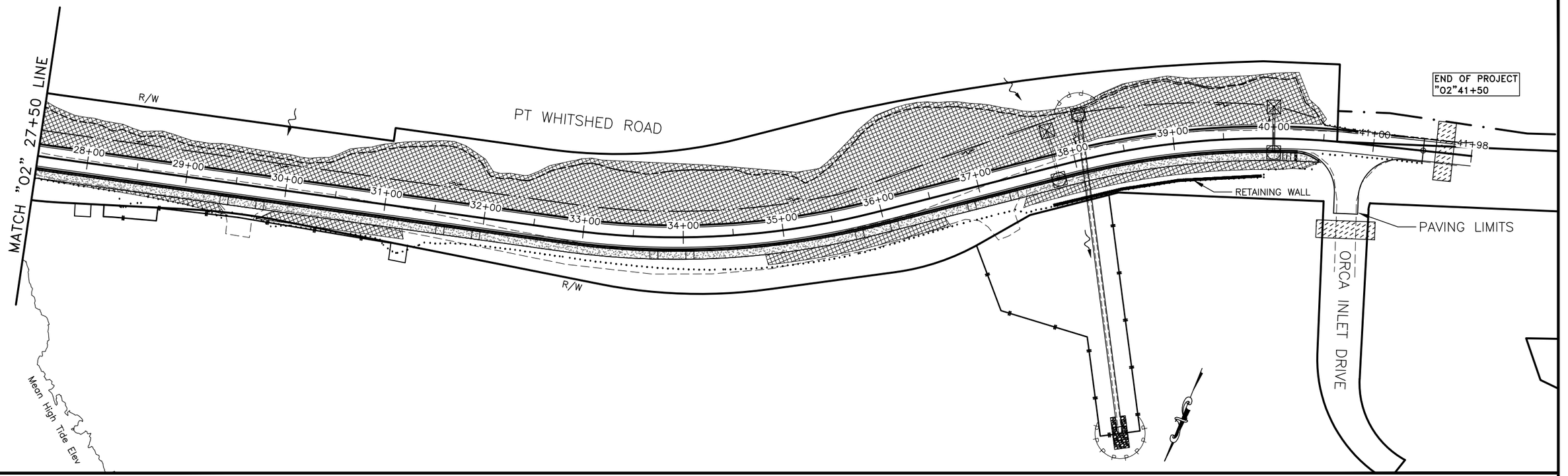

27+50.00–41+98.29

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_Q SHEETS_P-OVER-P_ESCP-Q3 27+50.00-41+98.29 Mon, Nov/21/22 11:58am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U1	U2

NOTES:

1. ALL EXISTING UNDERGROUND UTILITIES SHALL BE FIELD LOCATED BEFORE ANY CONDUIT TRENCHING OR OTHER EXCAVATION WORK BEGINS. ANY EXISTING UTILITIES TO REMAIN DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
2. GCI, CTC AND CEC WILL FURNISH AND INSTALL ALL CABLES, CONDUCTORS AND RECONNECTIONS.
3. GCI, CTC, AND CEC WILL PROVIDE ALL VAULTS AND PEDESTALS AT THEIR RESPECTIVE STORAGE YARDS IN CORDOVA. CONTRACTOR SHALL COORDINATE WITH EACH UTILITY ON THE LOCATION OF THEIR STORAGE YARD AND SHALL PICK UP, DELIVER TO THE PROJECT, AND INSTALL THE VAULTS AND PEDESTALS. THE CONTRACTOR SHALL PROVIDE SIGN-OFF UPON RECEIPT OF ALL ITEMS AT THE TIME OF PICK UP.
4. CONTRACTOR SHALL COORDINATE WITH EACH UTILITY ON THEIR REQUIREMENTS FOR INSTALLING NEW CONDUIT INTO THE NEW VAULTS AND PEDESTALS. SEE THE APPENDICES FOR PRODUCT INFORMATION ON THE VAULTS AND PEDESTALS THE UTILITIES WILL PROVIDE.
3. THE CONTRACTOR SHALL TERMINATE AND CAP THE CONDUIT RUNS AT EXISTING VAULTS AND PEDESTALS PER THE DETAIL PROVIDED ON THE PLANS.
4. IN GENERAL, THE LOCATIONS OF VAULT PADS AND VAULTS, ROUTING OF UTILITY CONDUITS, SWEEPS, AND CROSSINGS SHOWN IN THE PLAN ARE TO SCALE. CONTRACTOR TO VERIFY EXACT FIELD CONDITIONS AND LOCATIONS OF PROPOSED INFRASTRUCTURE BEFORE BEGINNING WORK.
5. CROSSING OF CONDUIT TO ACCOMPLISH THE INDICATED CONDUIT LAYOUT AND ROUTING SHALL BE FIELD DETERMINED BY THE CONTRACTOR.
6. MODIFY THE TRENCH ELEVATION AT CROSSINGS WITH EXISTING UTILITIES, PROPOSED CULVERTS, AND PROPOSED AVC AS REQUIRED FOR CLEARANCE. SEE PLANS.
7. MAINTAIN A MINIMUM OF 12-INCH SEPARATION BETWEEN ELECTRIC POWER AND TELECOMMUNICATION CONDUITS.
8. FOR CLARITY, EACH UTILITY IS REPRESENTED ON THE PLANS BY A SINGLE LINE THAT REPRESENTS NUMEROUS CONDUIT. REFER TO THE UTILITY TRENCH SECTIONS (A1, B2, ETC.) ON THESE PLANS AND THE UTILITY AGREEMENT DRAWINGS FOR ADDITIONAL INFORMATION ON CONDUIT NUMBER AND ROUTINGS.
9. FIELD VERIFY MANHOLE DIMENSIONS, RISER JOINT DEPTHS, CONE ROTATION AND FRAME SIZE BEFORE ORDERING MATERIALS TO RECONSTRUCT OR ADJUST MANHOLES OR CLEANOUTS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. NEW SANITARY SEWER MANHOLE RISERS AND CONES SHALL BE INSTALLED WITH RUNGS IN ALIGNMENT WITH EXISTING RUNGS.
11. DUCTILE IRON PIPE, SLEEVE, AND CLEANOUT FITTINGS REQUIRED FOR ADJUSTMENT OF CLEANOUT SHALL BE CONTRACTOR FURNISHED.
12. CEC, CTC, AND GCI HAVE DESIGNED THEIR RESPECTIVE UTILITY SYSTEMS, INCLUDING LAYOUT, MATERIALS, AND CONSTRUCTION REQUIREMENTS. THESE PLANS REFLECT THEIR DESIGN AND HAVE BEEN APPROVED BY THE UTILITIES. COMPLIANCE WITH THE NATIONAL ELECTRIC CODE REQUIREMENTS IS THE RESPONSIBILITY OF THE UTILITY. THESE PLANS REFLECT A DESIGN THAT COMPLIES WITH STANDARD ROAD DESIGN PRACTICE AND AVOIDS CONFLICTS WITH EXISTING INFRASTRUCTURE AND NEW IMPROVEMENTS AS PROVIDED BY THE PROJECT.

SUPPLEMENTAL ABBREVIATIONS & LEGEND

ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AVC	AUTOMATIC VEHICLE CLASSIFICATION COUNTER
CTE	CONNECT TO EXISTING
GV	GATE VALVE
INV	INVERT
NEC	NATIONAL ELECTRIC CODE
O.C.	ON CENTER
PED	PEDISTAL
PVC	POLYVINYL CHLORIDE
S/W	SIDEWALK

PROPOSED GCI CONDUIT

PROPOSED CTC CONDUIT

PROPOSED CEC CONDUIT

CE-V#	CEC VAULT
CT-V#	CTC VAULT
GCI-AP#	GCI AMP PED
GCI-NP#	GCI NODE PED
GCI-TP#	GCI TAP PED
GCI-FV#	GCI FIBER VAULT

626.2013.0000 ADJUST SANITARY SEWER CLEANOUT

SHEET	ID	STATION	OFFSET	FG RIM	REMARKS
U102	SSCO 107-A-8	5+85.98	1.60 RT	55.58	ADJUST EXISTING CLEANOUT

627.0001.0004 DUCTILE IRON WATER CONDUIT, 4", CLASS 350

SHEET	FROM STATION	TO STATION	FROM OFFSET	TO OFFSET	REMARKS
U104	17+66.70	17+66.64	49.03 LT	32.11 RT	INSTALL 82LF 4" WATER DRAIN LINE, CONNECT TO EXISTING PIPE 2' FROM FACILITY FOUNDATION

627.0001.0012 DUCTILE IRON WATER CONDUIT, 12", CLASS 350

SHEET	FROM STATION	TO STATION	FROM OFFSET	TO OFFSET	REMARKS
U104	17+40.86	17+50.24	13.19 LT	40.37 RT	INSTALL 55LF 12" WATER DRAIN LINE, CONNECT TO EXISTING MAINLINE GATE VALVE

627.0010.0000 ADJUSTMENT OF VALVE BOX

SHEET	STATION	OFFSET	FG	REMARKS
U101	1+40	42 RT	44.2	LOCATE AND ADJUST EXISTING VALVE BOX
U101	3+20	27 LT	49.5	LOCATE AND ADJUST EXISTING VALVE BOX
U104	17+38	13 LT	50.0	LOCATE AND ADJUST EXISTING VALVE BOX
U104	17+40.75	11 LT	50.0	ADJUST EXISTING VALVE BOX
U104	17+58	13 LT	50.0	LOCATE AND ADJUST EXISTING VALVE BOX
U108	40+83	17 LT	34.1	LOCATE AND ADJUST EXISTING VALVE BOX

680.2000.0000 COMMUNICATION UTILITY RELOCATION, GCI (LUMP SUM)

CONDUIT LENGTH SUMMARY	
CONDUIT SIZE	TOTAL LENGTH
2" HDPE	13,400 LF
STRUCTURE SUMMARY	
STRUCTURE TYPE	QUANTITY
AMP PEDESTAL	2
NODE PEDESTAL	2
TAP PEDESTAL	4
FIBER VAULT	4

680.2000.0000 COMMUNICATION UTILITY RELOCATION, CTC (LUMP SUM)

CONDUIT LENGTH SUMMARY	
CONDUIT SIZE	TOTAL LENGTH
1-1/4" HDPE	8,950 LF
2" HDPE	550 LF
4" PVC	4,700 LF
STRUCTURE SUMMARY	
STRUCTURE TYPE	QUANTITY
TELEPHONE VAULT	8

604.0003.0000 RECONSTRUCT EXISTING MANHOLE

SHEET	STRUCTURE			CASTING		REMARKS
	ID	STATION	OFFSET	FG RIM	TYPE	
U106	MH 1	27+61.55	17.21 RT	43.85	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U107	MH 2	31+43.74	17.30 RT	43.25	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U107	MH 3	35+07.09	33.24 RT	38.07	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U108	MH 4	38+63.44	5.56 RT	37.04	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U108	MH 5	40+67.78	0.82 LT	35.05	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED

604.0004.0000 ADJUST EXISTING MANHOLE

SHEET	STRUCTURE			CASTING		REMARKS
	ID	STATION	OFFSET	FG RIM	TYPE	
U101	MH 107-A-7	2+46.32	9.12 RT	46.74	48" SSMH	ADJUST EXISTING MANHOLE
U101	MH 107-A-2A	5+11.02	3.31 RT	53.70	48" SSMH	ADJUST EXISTING MANHOLE

687.2000.0000 POWER UTILITY RELOCATION, CEC (LUMP SUM)

CONDUIT LENGTH SUMMARY	
CONDUIT SIZE	TOTAL LENGTH
2" PVC	5,100 LF
4" PVC	9,100 LF
6" PVC	4,400 LF
STRUCTURE SUMMARY	
STRUCTURE TYPE	QUANTITY
ELECTRIC VAULT	6

STATE OF ALASKA 49TH
PRELIMINARY
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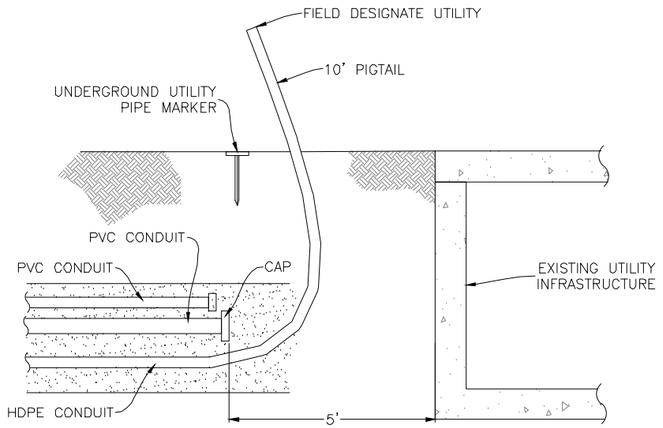
UTILITY LEGEND, NOTES AND SUMMARY TABLES

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0394762\00129_U_Details-U1 Fri, Oct/21/22 03:22pm

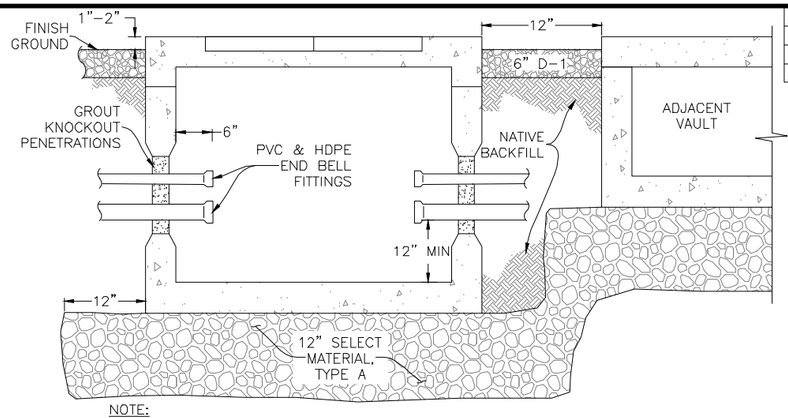
PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0394762\00129_U_Details-U2 Fri, Oct/21/22 03:01pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U2	U2

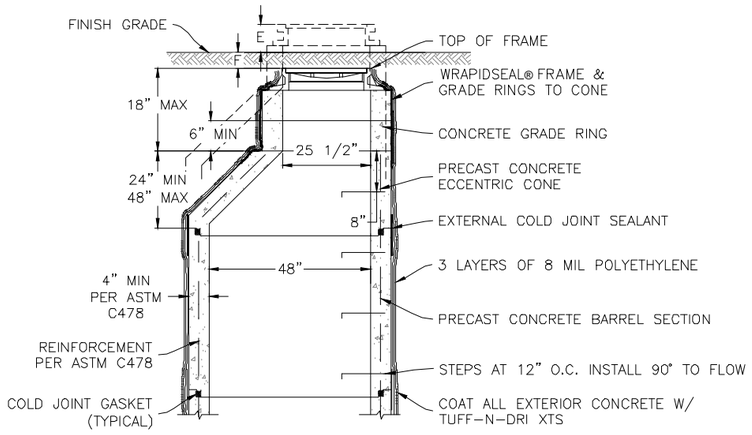


CONDUIT TERMINATION DETAIL
(NTS)



NOTE:
1. MAINTAIN 12" SEPARATION BETWEEN VAULTS AND BYPASSING CONDUIT.
2. BASE COURSE, GRADING D-1 SHALL EXTEND 3' BEYOND OUTERMOST VAULT.
3. EDGE OF VAULT ON ROADWAY SIDE SHALL BE 9' FROM BACK OF CURB.

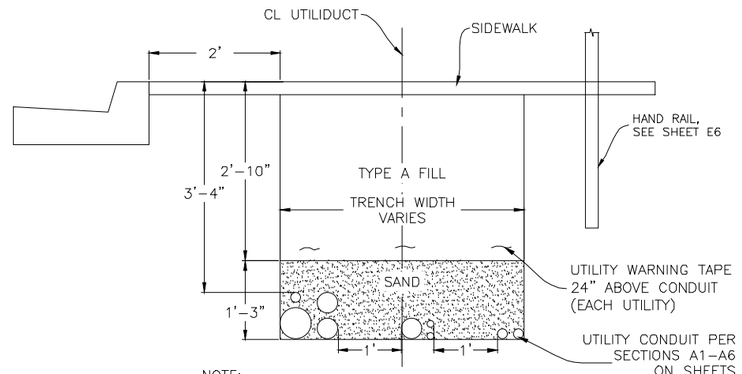
VAULT BEDDING AND BACKFILL
(NTS)



NOTE:
1. BACKFILL AROUND MANHOLE WITH NFS MATERIAL (3FT MIN).

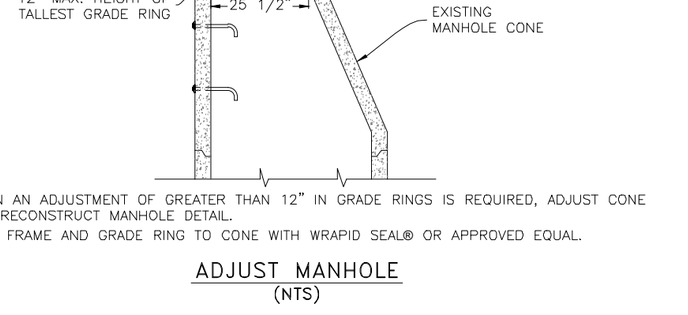
LOCATION	E-MIN	E-MAX	F-MIN	F-MAX
LANDSCAPED AREAS, GRAVEL STREETS, AND ALLEY AREAS WHERE TRAVELED.			0"	2"
UNDEVELOPED AND SWAMPY AREAS.	24"	36"		
HIGHWAY R.O.W.S OUTSIDE TRAFFIC AREAS.	6"	10"		
PAVED STREETS.			1/2"	1"

TYPICAL MANHOLE
(NTS)



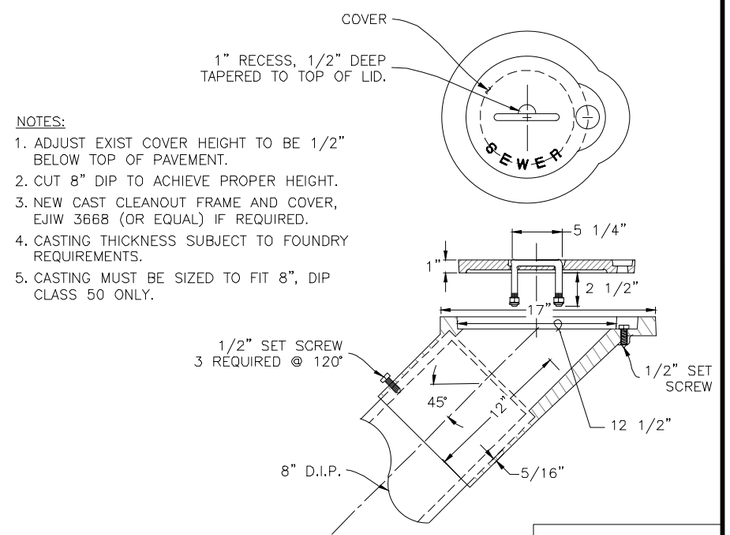
NOTE:
1. CEC AND CTC UTILITY CONDUIT TO BE SUPPORTED BY SNAP-LOC STYLE CONDUIT SUPPORTS LOCATED EVERY 10 FEET ALONG THE MAINLINE TRENCH.

MAINLINE TRENCHES
(NTS)



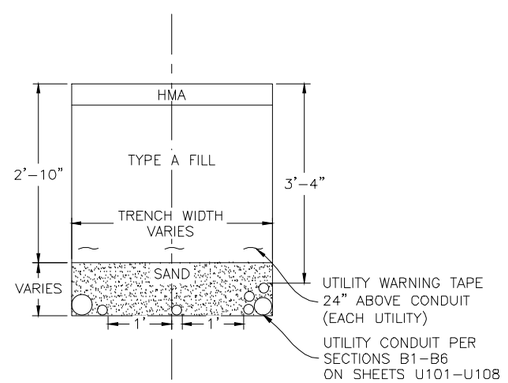
NOTES:
1. WHEN AN ADJUSTMENT OF GREATER THAN 12" IN GRADE RINGS IS REQUIRED, ADJUST CONE PER RECONSTRUCT MANHOLE DETAIL.
2. SEAL FRAME AND GRADE RING TO CONE WITH WRAPID SEAL® OR APPROVED EQUAL.

ADJUST MANHOLE
(NTS)



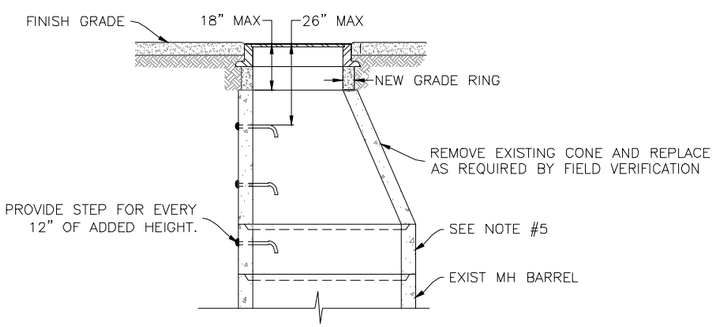
NOTES:
1. ADJUST EXIST COVER HEIGHT TO BE 1/2" BELOW TOP OF PAVEMENT.
2. CUT 8" DIP TO ACHIEVE PROPER HEIGHT.
3. NEW CAST CLEANOUT FRAME AND COVER, EJIW 3668 (OR EQUAL) IF REQUIRED.
4. CASTING THICKNESS SUBJECT TO FOUNDRY REQUIREMENTS.
5. CASTING MUST BE SIZED TO FIT 8", DIP CLASS 50 ONLY.

TYPICAL CLEANOUT
(NTS)



NOTE:
1. MAINTAIN 12" SEPARATION FROM WATERLINE AT CROSSINGS.
2. CEC AND CTC CONDUIT TO BE SUPPORTED BY SNAP-LOC STYLE CONDUIT SUPPORTS LOCATED EVERY 10 FEET ALONG CROSSING TRENCHES.

CROSSING TRENCHES
(NTS)



NOTES:
1. RESET CONE WITH COLD JOINT GASKET AND SEAL EXTERIOR JOINT WITH COLD JOINT SEALANT.
2. ADJUST FRAME TO PROPER DEPTH BELOW SURFACE OF PAVEMENT. FEATHER EDGE OF PAVEMENT TO SMOOTH TRANSITION, PER TYPICAL MANHOLE DETAIL.
3. SEAL FRAME,AND GRADE RINGS TO CONE WITH WRAPIDSEAL® OR APPROVED EQUAL.
4. WRAP CONES & BARREL SECTIONS WITH THREE (3) LAYERS OF 8-MIL THICK POLYETHYLENE ENCASEMENT MATERIAL AFTER INSTALLING THE WRAPIDSEAL®, PER TYPICAL MANHOLE DETAIL.
5. ADD OR REMOVE PRECAST RISER SECTIONS OR RADIAL CONCRETE MANHOLE.

RECONSTRUCT MANHOLE
(NTS)

STATE OF ALASKA 49TH
PRELIMINARY PS&E
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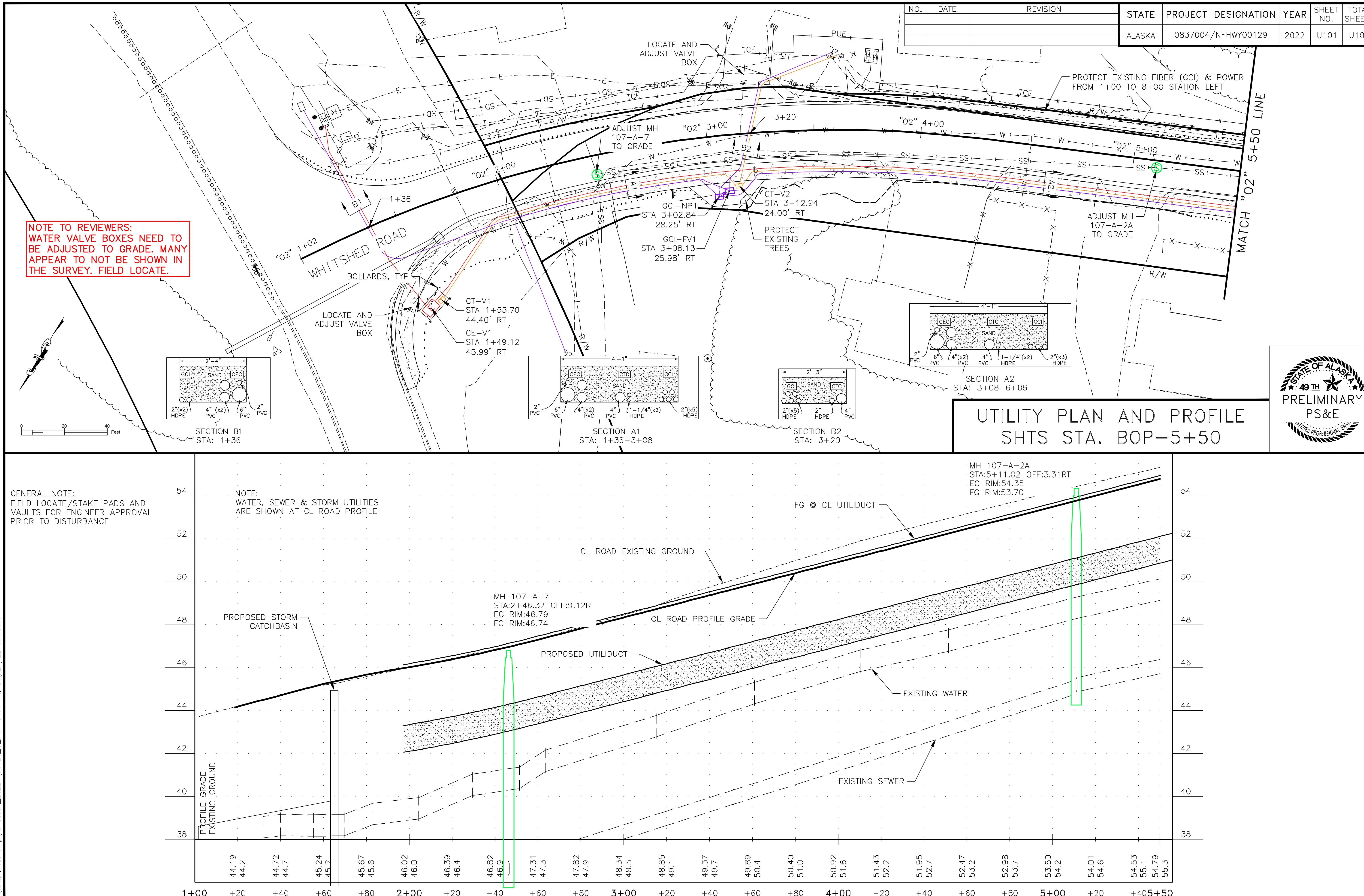
UTILITY DETAILS



PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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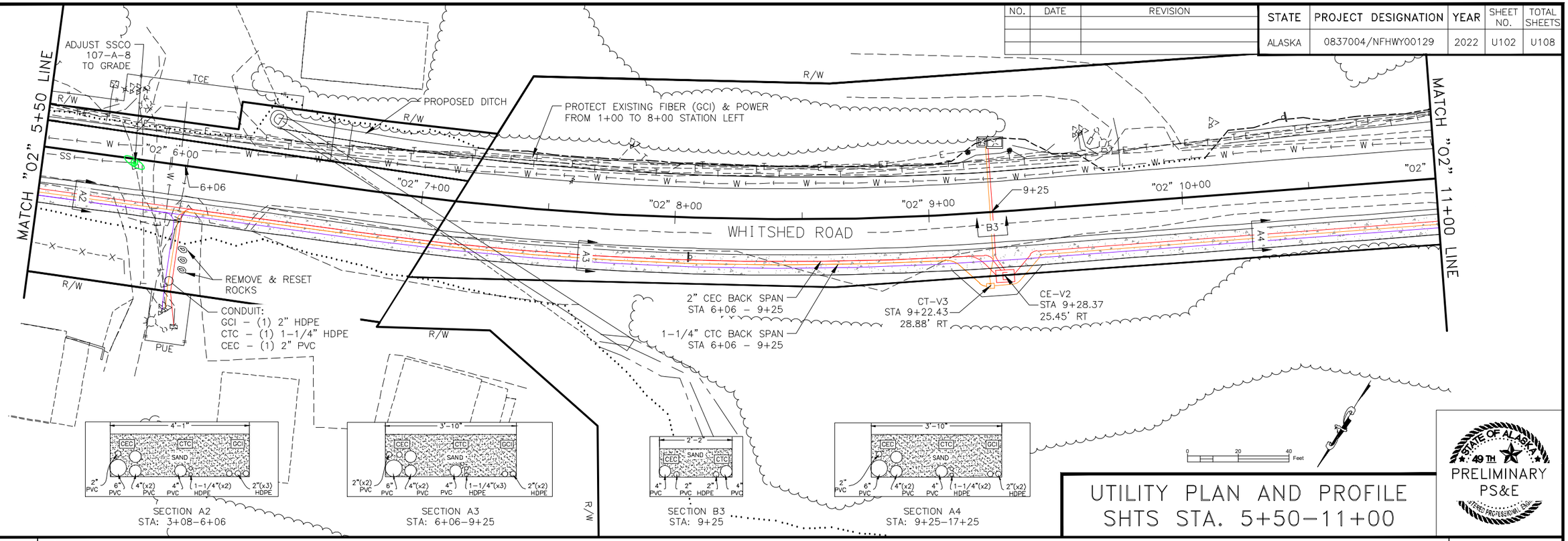
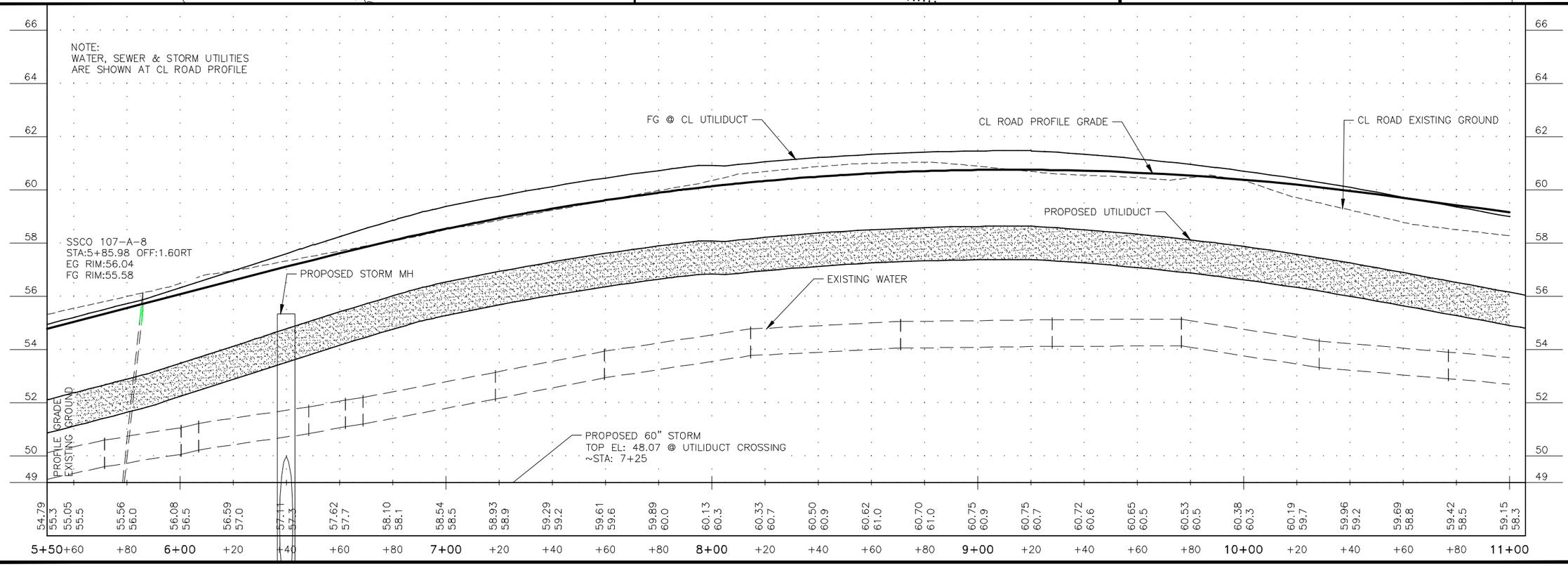
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U102	U108



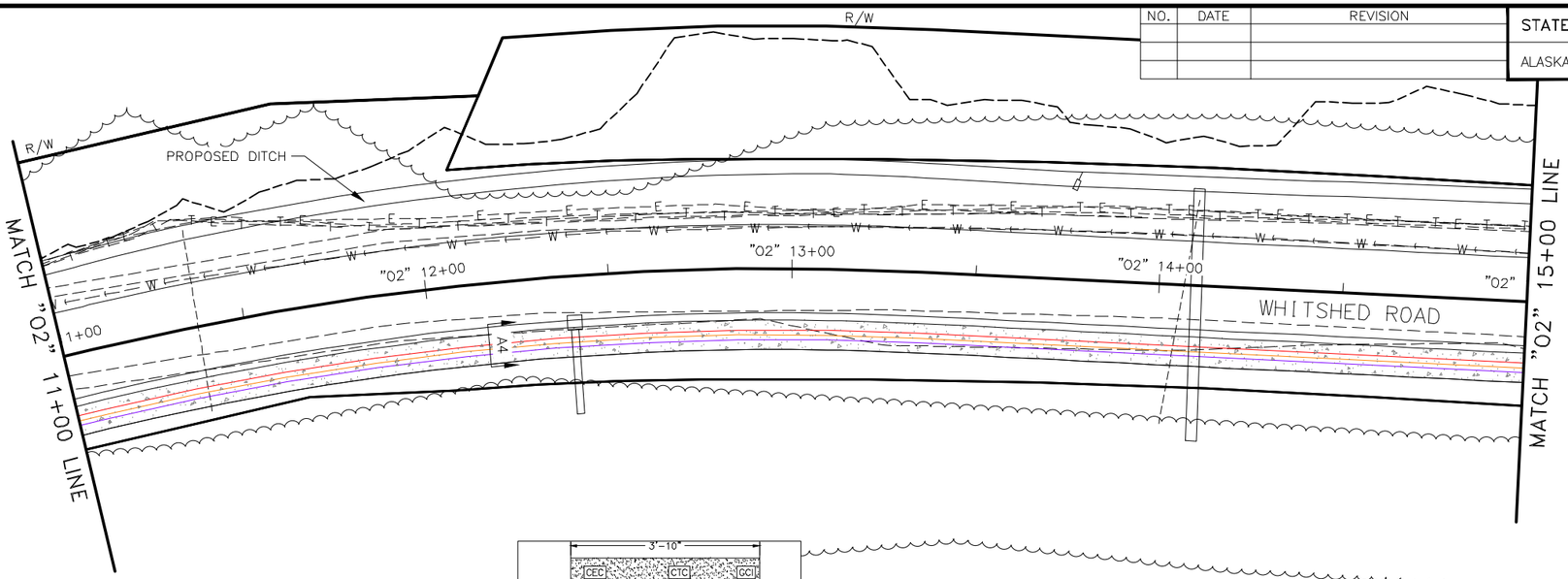
UTILITY PLAN AND PROFILE
SHTS STA. 5+50–11+00

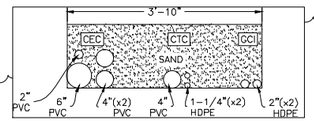
STATE OF ALASKA
49TH
PRELIMINARY
PS&E
NOT FOR CONSTRUCTION



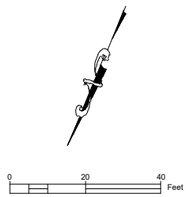
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U103	U108





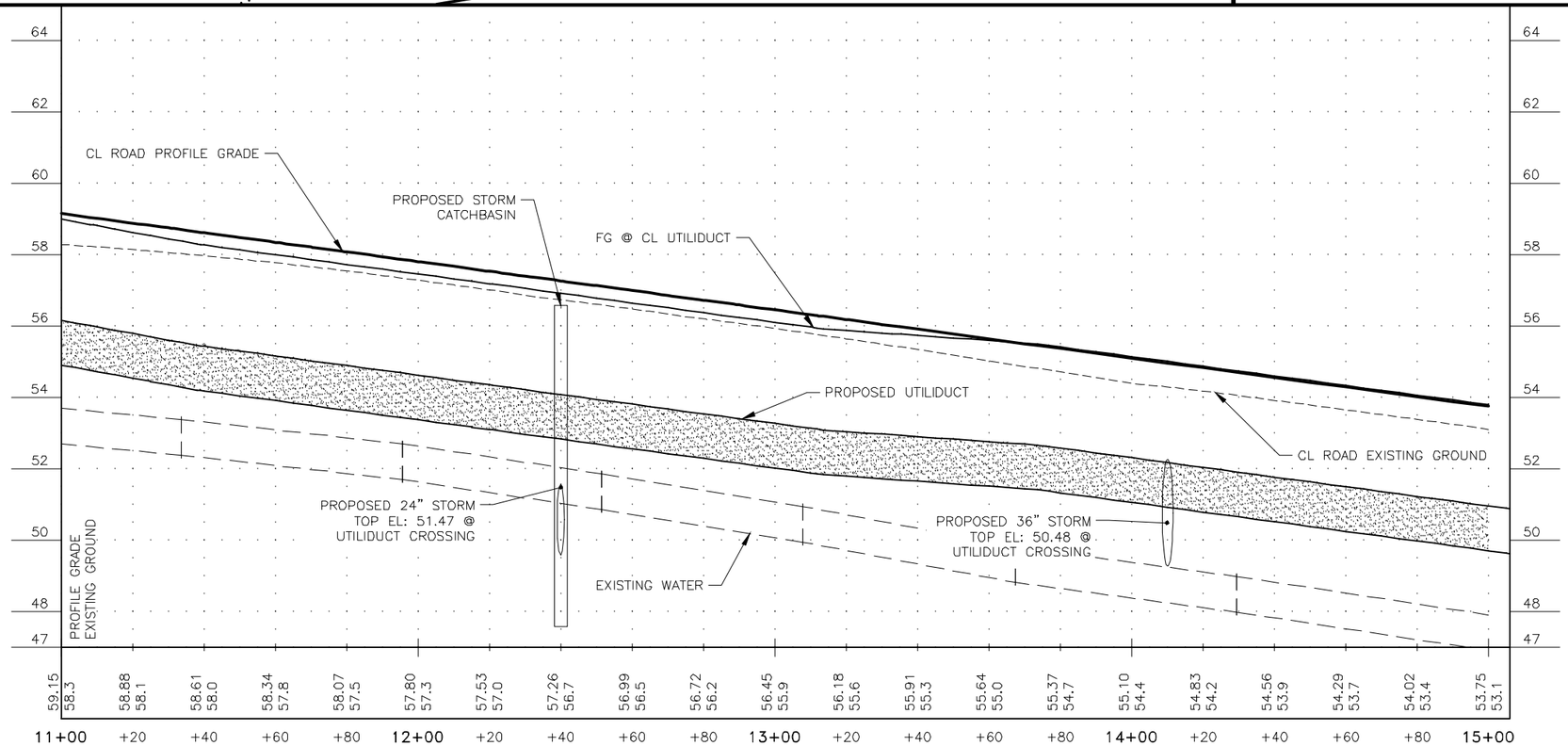
SECTION A4
STA: 9+25–17+25



UTILITY PLAN AND PROFILE
SHTS STA. 11+00–15+00

STATE OF ALASKA
49TH
PRELIMINARY
PS&E
NOT FOR CONSTRUCTION

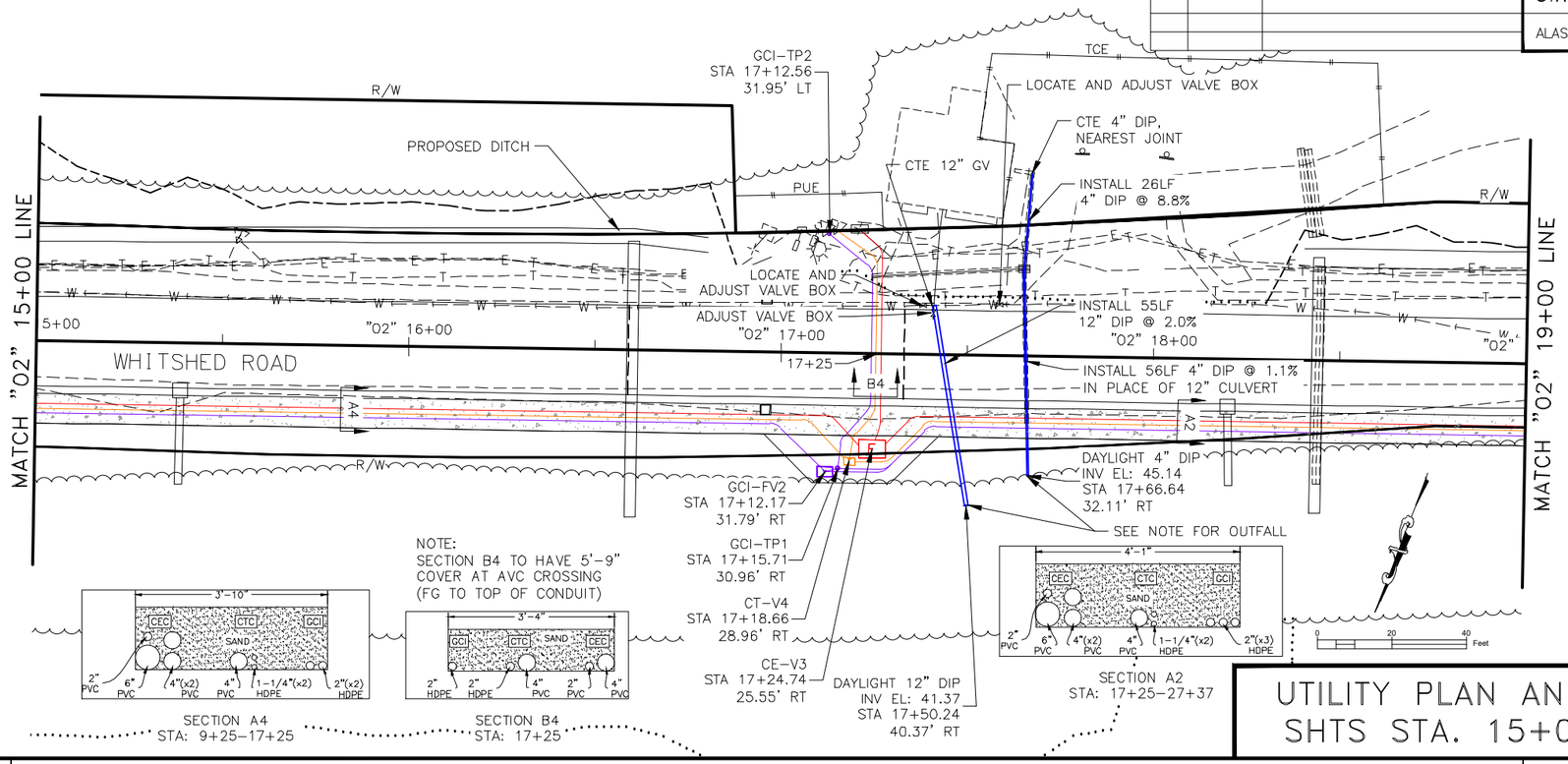
NOTE:
WATER, SEWER & STORM UTILITIES
ARE SHOWN AT CL ROAD PROFILE



NOTE:
PROVIDE RIPRAP AT OUTFALL PER CULVERT RIPRAP DETAIL, SEE SHEET E4.

NO.	DATE	REVISION

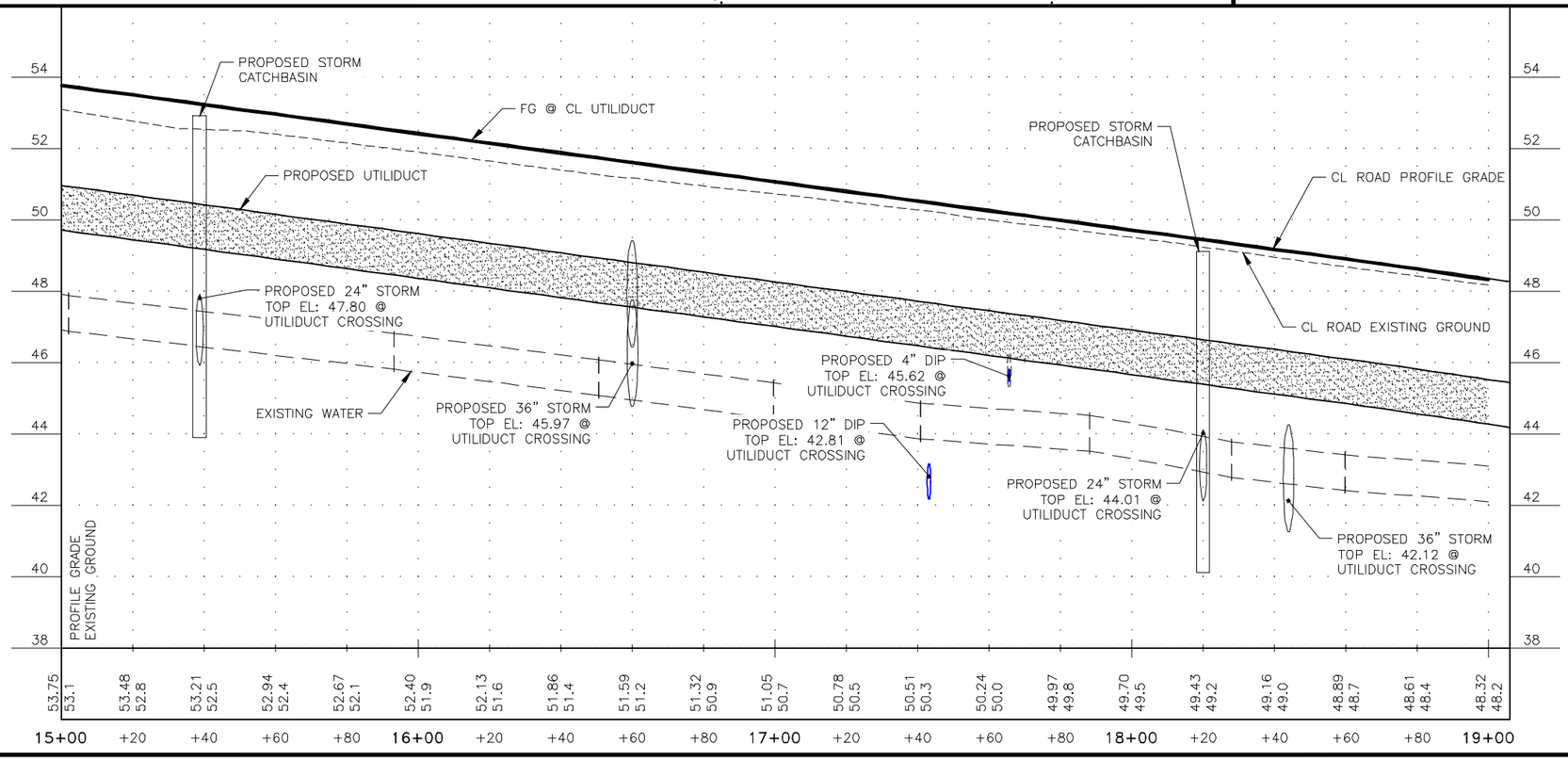
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U104	U108



UTILITY PLAN AND PROFILE SHTS STA. 15+00-19+00

STATE OF ALASKA 49TH
PRELIMINARY
PS&E
NOT FOR CONSTRUCTION

NOTE:
WATER, SEWER & STORM UTILITIES ARE SHOWN AT CL ROAD PROFILE



PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U105	U108

PROTECT RETAINING WALL

R/W

PROPOSED DITCH

MATCH "02" 19+00 LINE

MATCH "02" 25+00 LINE

"02" 20+00

"02" 21+00

"02" 22+00

"02" 23+00

"02" 24+00

"02"

19+83

9+00

WHITSHED ROAD

B5

A2

CE–V4
STA 19+79.46
25.48' RT

GCI–AP1
STA 19+89.74
30.88' RT

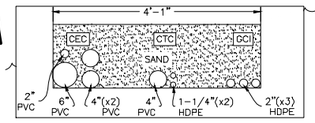
CT–V5
STA 19+85.65
28.89' RT

GCI–TP3
STA 23+56.08
26.12' RT

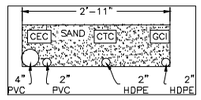
CT–V6
STA 23+53.14
24.11' RT

TCE

0 20 40 Feet



SECTION A2
STA: 17+25–27+37



SECTION B5
STA: 19+83

STATE OF ALASKA
49TH
PRELIMINARY
PS&E
NOT FOR CONSTRUCTION

UTILITY PLAN AND PROFILE
SHTS STA. 19+00–25+00

NOTE:
WATER, SEWER & STORM UTILITIES
ARE SHOWN AT CL ROAD PROFILE

PROPOSED STORM CATCHBASIN

CL ROAD EXISTING GROUND

PROPOSED UTILIDUCT

PROPOSED 24" STORM
TOP EL: 39.35 @
UTILIDUCT CROSSING

EXISTING WATER

PROPOSED 48" STORM
TOP EL: 27.28 @
UTILIDUCT CROSSING

PROPOSED STORM CATCHBASIN

FG @ CL UTILIDUCT

PROPOSED 24" STORM
TOP EL: 33.96 @
UTILIDUCT CROSSING

CL ROAD PROFILE GRADE

PROFILE GRADE
EXISTING GROUND

50 48 46 44 42 40 38 36 34 33

19+00	+20	+40	+60	+80	20+00	+20	+40	+60	+80	21+00	+20	+40	+60	+80	22+00	+20	+40	+60	+80	23+00	+20	+40	+60	+80	24+00	+20	+40	+60	+80	25+00
48.32	48.01	47.70	47.37	47.03	46.68	46.32	45.95	45.57	45.17	44.77	44.35	43.92	43.48	43.04	42.60	42.16	41.72	41.28	40.85	40.45	40.12	39.84	39.63	39.48	39.39	39.36	39.39	39.48	39.64	39.85
48.2	47.9	47.6	47.3	47.0	46.6	46.2	45.6	45.0	44.6	44.1	43.6	43.1	42.8	42.5	42.1	41.7	41.2	41.0	40.7	40.6	40.4	40.1	40.0	39.8	40.0	40.1	40.2	40.3	40.5	40.6

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\temp\AcadTemp\AcPublish_20224\00129_U_PnP-U105 Fri, Oct/21/22 03:08pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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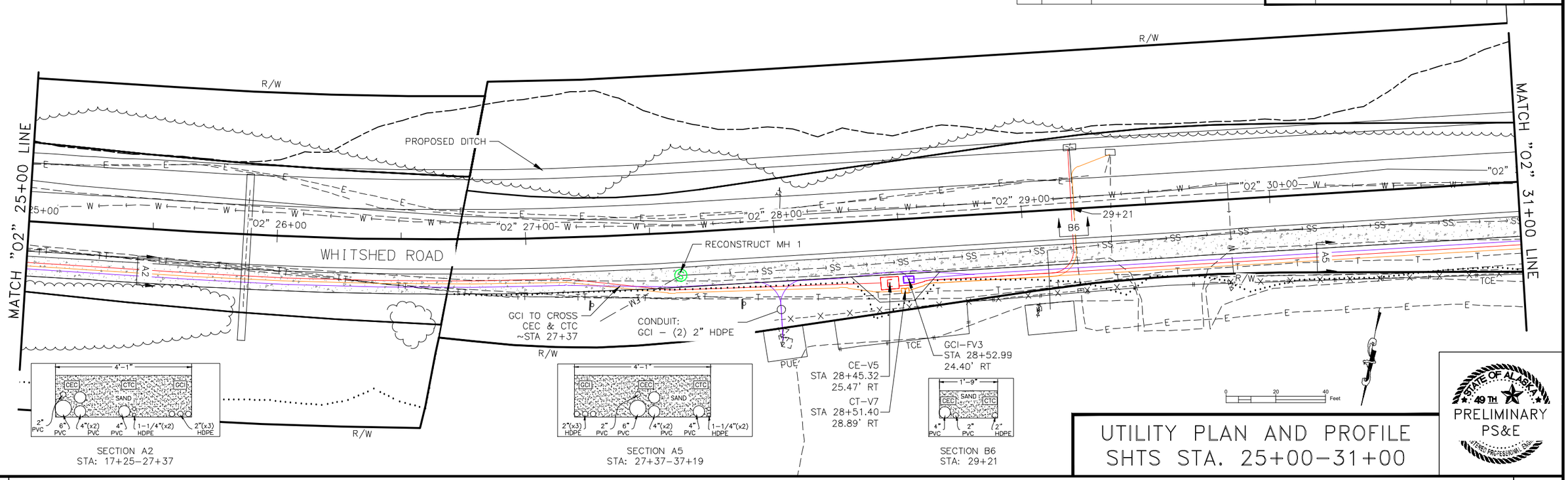
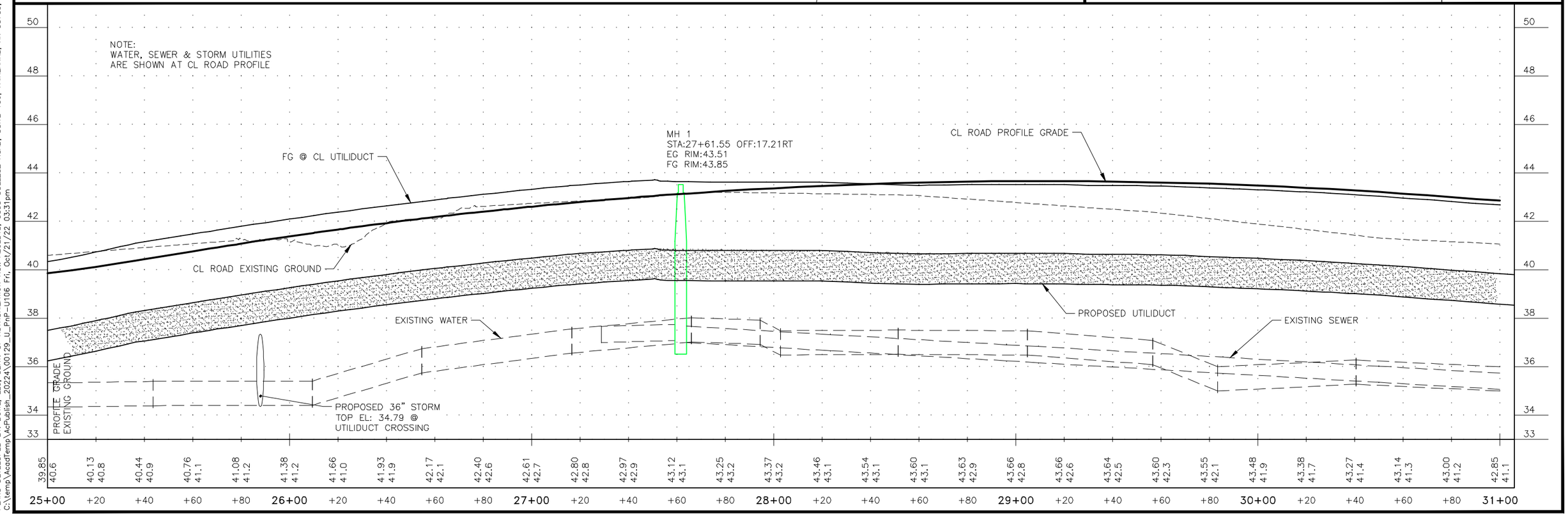


UTILITY PLAN AND PROFILE SHTS STA. 25+00–31+00

STATE OF ALASKA 49TH
PRELIMINARY PS&E
NOT FOR CONSTRUCTION



PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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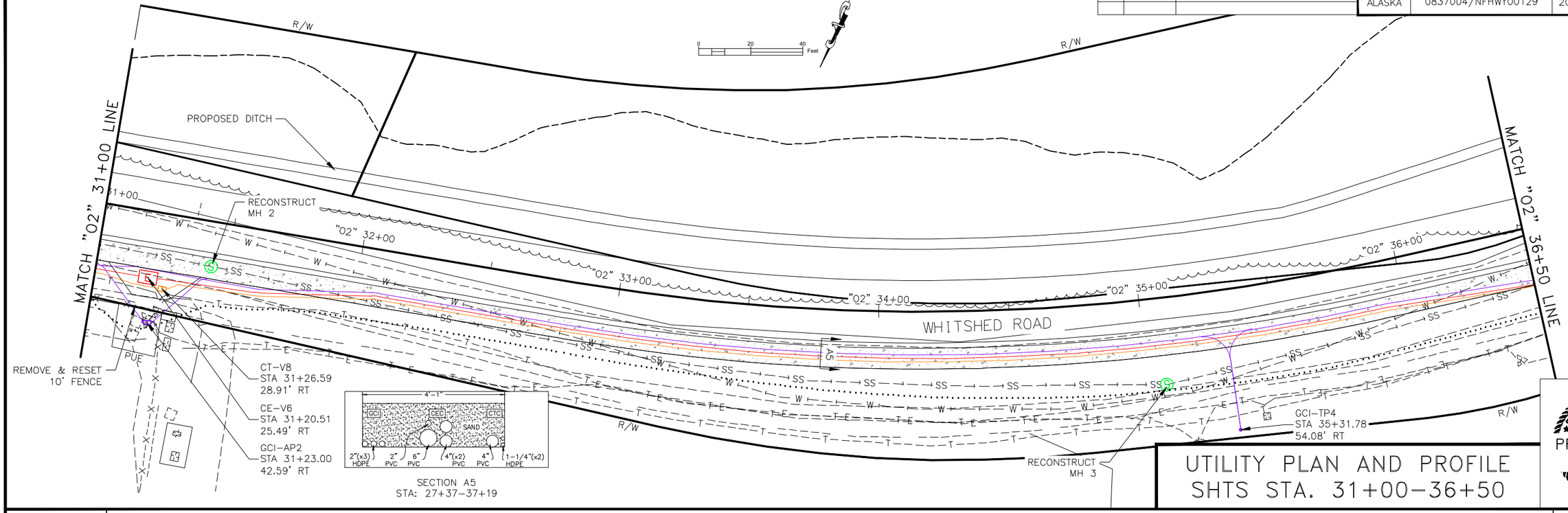
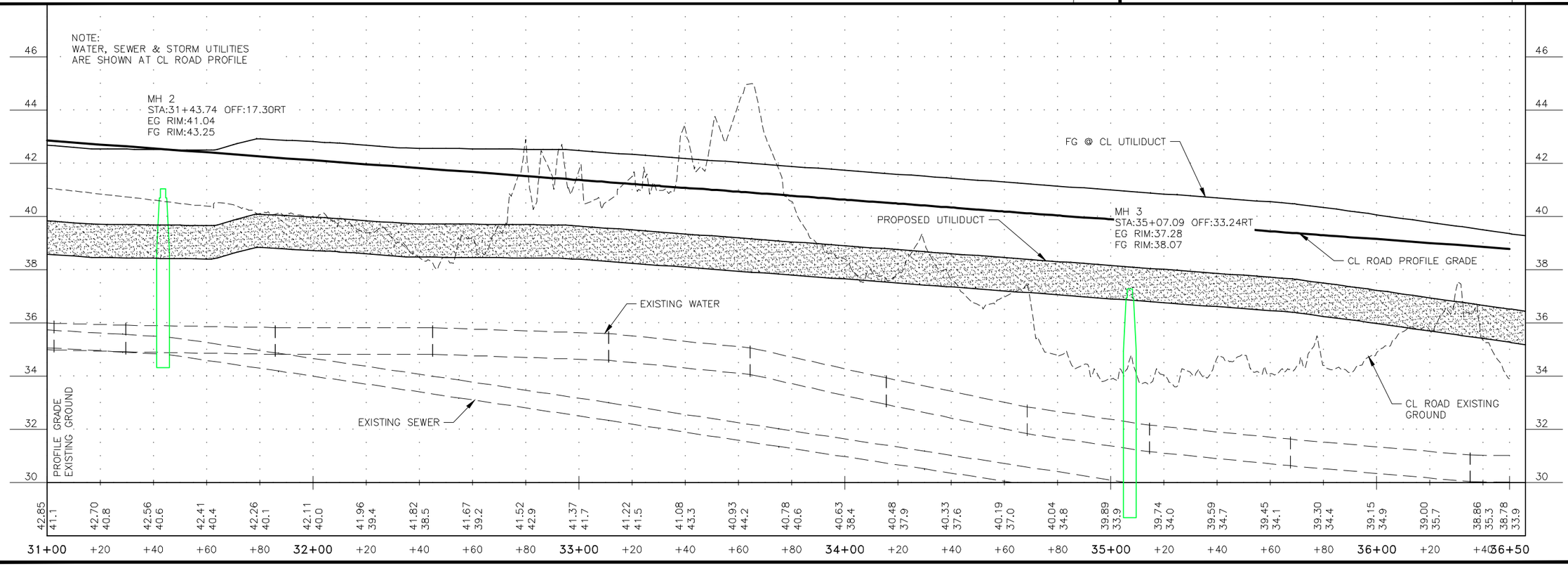


UTILITY PLAN AND PROFILE
SHTS STA. 31+00-36+50

STATE OF ALASKA 49TH
PRELIMINARY
PS&E
NOT FOR CONSTRUCTION



PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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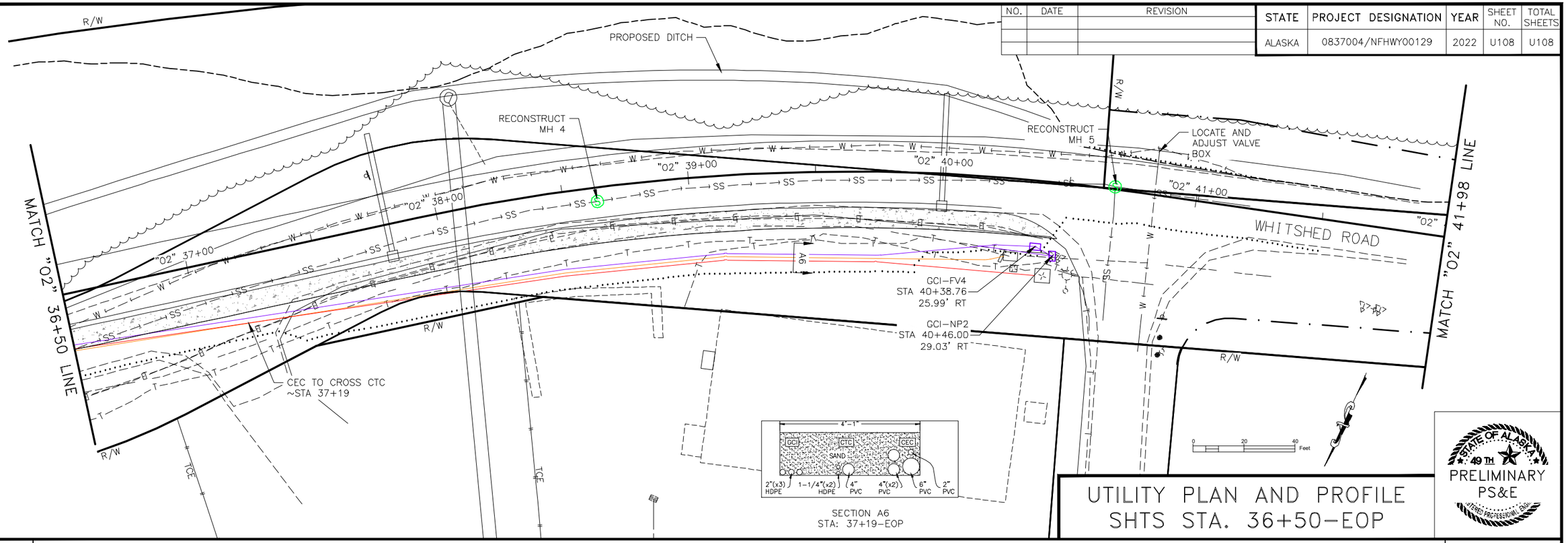
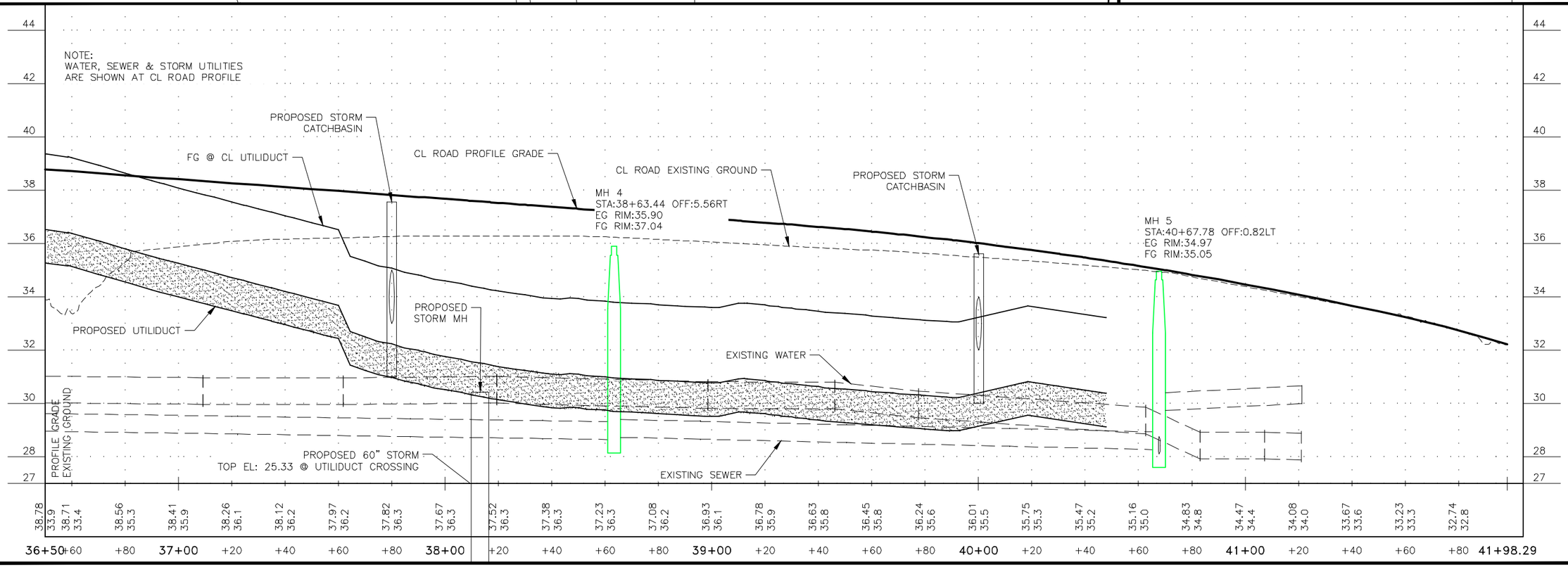
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2022	U108	U108





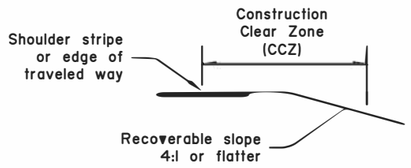


FIGURE 1

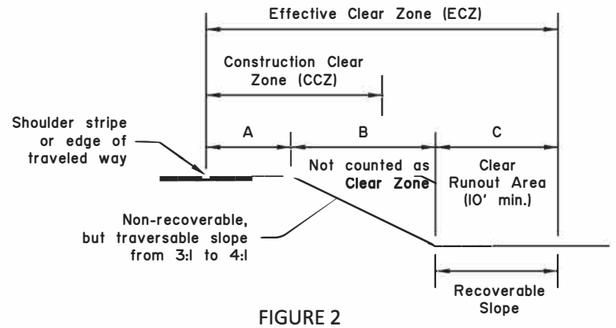


FIGURE 2

Table 1 - Width of Construction Clear Zone (feet)

Hazard	AADT	Posted Speed Limit (MPH)							
		<=30 MPH		35 to 40 MPH		45 to 55 MPH		>=60 MPH	
		6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1
Fill (Fore) & Cut (Back) Slopes	Under 750	5'	5'	6'	8'	8'	12'	12'	16'
	750 - 6,000	6'	10'	8'	12'	14'	18'	20'	26'
	Over 6,000	10'	10'	12'	14'	16'	20'	22'	28'
Fixed Objects	All	15'		30'					

Table 2 - Treatment for Hazards Within Construction Clear Zone

Roadside Condition to be Treated	Category	Treatment
Fill (Fore) Slopes, including trenches	Steeper than 3:1 or water 3 ft. or deeper	Use Table 5 to select from the following two options: 1. Install rigid barrier or guardrail if the condition warrants barrier, or 2. Use drums or Type II barricades if the condition does not warrant barrier.
	3 : 1 to 4 : 1	1. Use drums or Type II barricades if 10 ft. of runout at the bottom of the slope is not clear of obstructions. 2. No traffic control devices are required if 10 ft. of runout at the bottom of the slope is clear of obstructions. 3. If water 3 ft. or deeper is at bottom of slope, use Table 5.
	Flatter than 4 : 1	No traffic control devices are required, except when water 3 ft. or deeper is in construction clear zone use Table 5.
Fixed Objects	All	Install rigid barrier or guardrail if called for by the plans or specifications. Otherwise use SSHC Section 643-3.04.3 - Fixed Objects.

GENERAL NOTES:

1. The "Construction Clear Zone" (CCZ) may be called "Work Zone Clear Zone" or "Clear Zone in Work Zones" in other publications.
2. In the case of conflicts, this Standard Plan has lesser precedence than Section 643 (Traffic Maintenance) of the Standard Specifications for Highway Construction (SSHC).
3. During seasonal shutdown or if construction activiy is scheduled for suspension for 45 days or more, treat hazards within a 30 foot CCZ width or within the permanent design clear zone (CZ) width.
4. These guidelines are not comprehensive and are not intended to limit the use of safety measures.
5. During pilot car operations, keep fixed objects and other hazards, 2 feet or farther, away from the edge of traveled way and delineate with channelizing devices as required by the Engineer.

INSTRUCTIONS FOR USING TABLES 1 THROUGH 5:

Use The following tables to determine how to treat roadside fixed object or slopes (including trenches, berms and moterial stockpiles) in construction clear zones.

TABLE 1: Use to determine whether the hazard in withing the CCZ

TABLE 2: Use to determine the appropriate treatment for hazards within the CCZ. No treatment is required for fixed objects or slopes outside the CCZ.

TABLES 3a and 3b: Use to determine appropriate treatment for pavement edge dropoffs.

TABLE 4: Use to determine barrier flare rates.

TABLE 5: Use to determine whether drums or Type II barricades, or temporary barrier or guardrail, are required on fill slopes or for water hazards.

TABLE 1 NOTES:

1. Measure CCZ from the shoulder stripe. If there is no shoulder stripe, measure from the edge of the traveled way. See Figure 1.
2. If CCZ include or ends on a slope of 3:1 to 4:1, use the Effective Clear Zone (ECZ) that extends beyond the bottom of the slope to proved a clear runout area of 10 foot minimum width. The ECZ width must equal or greater than the CCZ width from Table 1. See Figure 2 and verify that A+C ≥ CCA and C ≥ 10 feet.
3. If a CCZ includes or ends on a slope steeper than 3:1, the top of slope must be delineated by channelizing devices or protected by barrier.
4. The term "fixed objects" is defined in Section 643-1.02 of the SSHC.
5. AADT stands for Average Annual Daily Traffic. Use the higher of the as listed in the plans or the average of June/July/August ADT's, unless otherwise specified by the Engineer.

TABLE 2 NOTES:

1. Eliminate non-traversable slopes (those steeper than 3:1) and fixed objects (as defined in Section 643-1.02 of the SSHC) within the CCZ when practicable. They should only be left in place and treated as treated as shown in this table when elimination is not practicable.
2. Maintain a 2-foot minimum wide lateral buffer space between the edge of traveled way and work areas. This provides an area to install barriers or other delineation by channelizing devices.
3. If necessary to treat multiple hazards on the same road segment (slopes and fixed objects), choose treatments from Table 2 that satisfy the requirements for the most significant of the multiple hazards.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

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

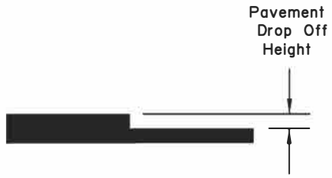


FIGURE 3
Pavement Drop-off Detail

FIGURE 4
Safety Edge Detail

Table 3a - Treatment for Pavement Edge Drop-offs for Posted Speeds > 30 MPH

Nominal Lift Thickness / Height of Pavement Edge Drop-off	Between Active Lanes of traffic moving in same direction	Between Active Lanes of traffic moving in opposing directions	Outside Pavement Edge (if within 3' of traveled way)	Outside Pavement Edge if more than 3' from traveled way and within the CCZ	Across Active Lane, and Entrance and Exit Ramps
0 to 1.0"	No Edge Treatment or Signage Required				
More than 1.0" to 2.0"	**UNEVEN LANE** Signs		**LOW SHOULDER** Signs		Taper Drop-off at slope of 15H:1V or flatter Use BUMP Sign
More than 2.0" to 3.0"	**UNEVEN LANES** Signs - Use Channelizing Devices or Safety Edge	**UNEVEN LANES** Signs - Use Channelizing Devices	**LOW SHOULDER** Signs - Use Channelizing Devices - Consider Safety Edge	**LOW SHOULDER** Signs	
More than 3.0" to 6.0"	**UNEVEN LANES** Signs - Use Channelizing Devices and Use Safety Edge	**UNEVEN LANES** Signs - Use Channelizing Devices	**SHOULDER DROP OFF** Signs - Use Channelizing Devices and Safety Edge; or Use Barrier	**SHOULDER DROP OFF** Signs - Use Channelizing Devices or Barrier	
More than 6"	Prohibited		**Barrier** - Installed on traffic side of drop-off	**Channelizing Devices** or **Barrier** according to Table 5	

Table 3b - Sign Numbers

Legend	Number	ATM * Ref.
UNEVEN LANES	W8-11	6F.45
LOW SHOULDER	W8-9	6F.44
SHOULDER DROP OFF (Symbol)	W8-17	6F.44
SHOULDER DROP OFF (Plaque)	W8-17P	6F.44
BUMP	W8-1	2C.28

* ATM = Alaska Traffic Manual

Table 4 - Barrier Flare Rates

Speed (mph)	Flare Rate	
	Rigid	Semi-Rigid
70	20:1	15:1
60	18:1	14:1
55	16:1	12:1
50	14:1	11:1
45	12:1	10:1
40	10:1	8:1
30	8:1	7:1

TABLE 3 NOTES:

1. This table applies to pavement edge drop-offs that are adjacent to traffic and left after the pavement shift ends and for posted speeds > 30 mph. Use engineering judgment for edge treatment for posted speeds ≤30 mph.
2. Use interim pavement markings and signs as required according to Standard Plan C-05 (for all conditions).
3. A Safety Edge is a formed pavement edge taper sloped at approximately 30°, but not more than 35° from horizontal.
4. Use a Safety Edge for longitudinal or diagonal pavement edge drop-offs more than 2 inches within a traveled lane. See Figure 3. Use a Safety Edge on longitudinal joints between lanes as required by Table 3a.
5. The "Across Active Lane, and Entrance and Exit Ramps" column applies to any location where motorists will cross pavement drop-offs (includes transverse construction joints) at an acute angle (45° or more). Taper may be reduced to 6:1 at posted speeds of 30 mph or less.
6. Signage applies to all posted speed for edge drop-offs as shown in Table 3a. For information on signs and locations, see SSHC Section 643-3.04 and the Alaska Traffic Manual (ATM). Signs should be place at the beginning and end points of each paved segment, and in locations between as specified. Also, see Table 3b.
7. "Channelizing Devices" means drums with steady-burn lights, candle, or cones.
8. Treatment for pavement edge drop-offs are in addition to Treatment for Hazards within Construction Clear Zones (CCZs) (i.e. fixed obstacle or slope protection may also be required).

BARRIER TERMINATION AND TABLE 4 NOTES:

1. Terminate portable rigid barrier (concrete or metal) with one of the following methods:
   a) An NCHRP 350 or MASH TL-3 approved end treatment or crash cushion.
   b) An NCHRP 350 or MASH TL-3 approved buried-in-backslope treatment
   c) A Thrie-Beam transition according to Std. Plan G-32 (except attached to a rigid barrier instead of a bridge rail) and terminated with a MASH TL-3 end treatment.
   d) Terminate outside the CCZ by flaring barriers away from the roadway at the rate shown in Table 4 for rigid barriers (maximum 10:1 cross slope in front of the barrier).
   e) Sloped ends may be used to terminate barriers within the CZ when the regulatory (black on white sign) speed limit is 30 mph or below. For speeds more than 30 mph, the Engineer may approve sloped ends if they determine NCHRP 350 or MASH compliant end treatments are impracticable. See Std. Plan G-46 for concrete barrier sloped ends.
2. Terminate temporary W-Beam guardrail with one of the following methods:
   a. With a MASH TL-3 approved end treatment
   b. By burying it in a backslope according to Std. Plan G-16
   c. By flaring the guardrail away from the road at the rate shown in Table 4 for semi-rigid barriers (maximum 10:1 cross slope in from of the guardrail).
   d. Terminate outside the CZ.

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Chief Engineer

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By: LRG Date: 09/15/2022

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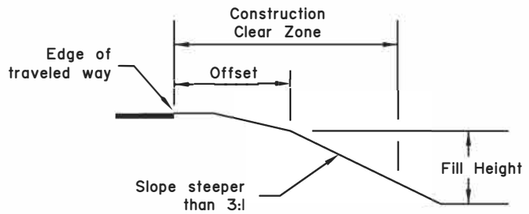

FIGURE 5

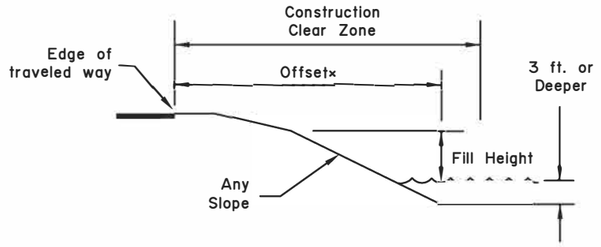

FIGURE 6

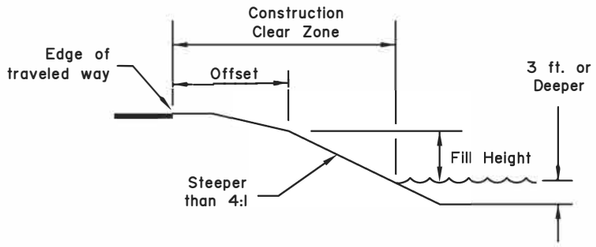

FIGURE 7

Table 5 - Minimum Fill Height at which Temporary Barrier Is Waranted

Posted WZ Speed Limit	Duration (# days)	Offset (ft)	Seasonal Traffic Volume - ADT: 0-750 All Slopes/ Water Condition	751-1500 slope 2.9:1 to 1.1:1	751-1500 slope 1:1 to Vert.	751-1500 Water	1501-6000 slope 2.9:1 to 2.1:1	1501-6000 slope 2:1-1.1:1	1501-6000 slope 1:1-Vert.	1501-6000 Water	6001-15000 slope 2.9:1 to 2.1:1	6001-15000 slope 2:1-1.1:1	6001-15000 slope 1:1-Vert.	6001-15000 Water	15001+ slope 2.9:1 to 2.1:1	15001+ slope 2:1-1.1:1	15001+ slope 1:1-Vert.	15001+ Water
30 MPH and lower	4-30	5-10											11'	11'			11'	11'
		3-5																
		0-3																
	31-100	5-10							11'	11'			11'	11'		35'	11'	11'
		3-5																
		0-3										35'				31'		
	101+	5-10							11'	11'			11'	11'		35'	11'	11'
		3-5										35'				29'		
		0-3			11'	11'						31'				17'	8'	8'
35 to 45 MPH	4-30	6-12											10'	10'		29'	10'	10'
		3-6																
		0-3																
	31-100	6-12							10'	10'			10'	10'		29'	10'	10'
		3-6										29'				19'	9'	9'
		0-3																
	101+	6-12							10'	10'		29'	10'	10'		27'	10'	10'
		3-6										28'				12'	7'	7'
		0-3			10'	10'		29'				18'	9'	9'		7'	6'	6'
45 to 55 MPH	4-30	9-18											8'	8'		13'	8'	8'
		3-9																
		0-3																
	31-100	9-18							8'	8'		13'	8'	8'		13'	8'	8'
		3-9															7'	7'
		0-3						13'								7'	6'	6'
	101+	9-18							8'	8'		13'	8'	8'		13'	7'	7'
		3-9										12'	7'	7'		6'	5'	5'
		0-3			8'	8'		13'				7'	6'	6'		5'	3'	3'
60 MPH and above	4-30	13-26											6'	6'		10'	6'	6'
		3-13																
		0-3										10'						
	31-100	13-26							6'	6'			6'	6'		10'	6'	6'
		3-13										10'				6'	5'	5'
		0-3						10'								40'		
	101+	13-26							6'	6'		10'	6'	6'		10'	6'	6'
		3-13														6'	4'	4'
		0-3			6'	6'		10'			34'	6'	5'	5'	10'	3'	1'	1'

TABLE 5 NOTES:

1. Use this table for fill slopes steeper than 3:1 or water hazards that start within the Construction Clear Zone (CCZ). See Figures 5, 6, and 7.
2. Near Lane AADT, as used in this table, means the higher of the AADT listed in the plans or the seasonal Average Daily Traffic (ADT) for June, July, and August in the lane nearest the slope or water hazard during the planned construction period. Assume an even distribution of traffic across lanes - i.e. if there is 6000 one-way AADT on three lanes, use 2000 AADT in each lane.
3. Duration is the estimated number of days traffic will be exposed to the fill (fore) slope or water hazard.
4. To use Table 5, fine the cell that corresponds to the speed limit, duration, offset, traffic volume, and the presence of a slope or water hazard.
   a. If the cell is unshaded, a Temporary Barrier is required when the fill height equals or exceeds the height (in feet) shown in the cell.
   b. If the cell is shaded or fill height is less than the height shown in the cell, use drums or Type II barricades.
5. A water hazard is defined as:
   a. Water 3 feet or deeper within the CCZ, or
   b. Where a slope steeper than 4:1 starts within the CCZ and leads to water 3 feet or deeper.
6. Consider water depth to be the highest level anticipated during the duration period.
7. If both a water hazard and a slope steeper than 3:1 are present, install Temporary Barrier if warranted for either condition.
8. Temporary Barrier is rigid barrier (concrete or metal) or guardrail meeting NCHRP or MASH TL-3, or higher.

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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

D-20.05

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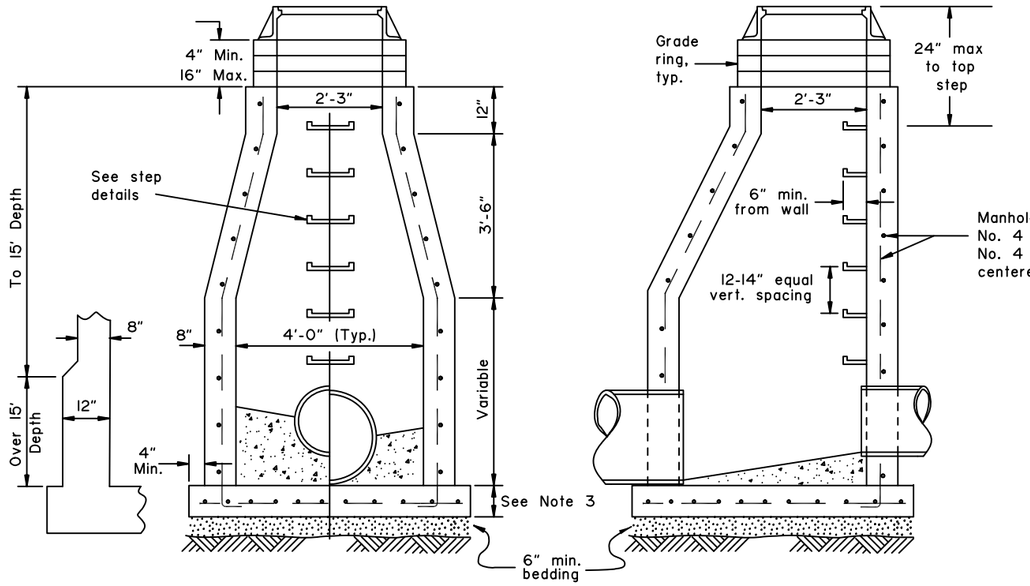
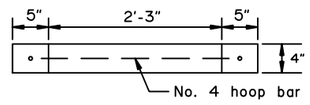


CAST-IN-PLACE MANHOLE



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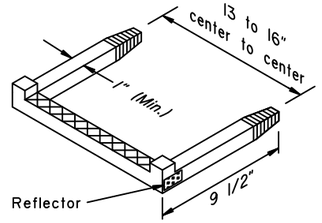
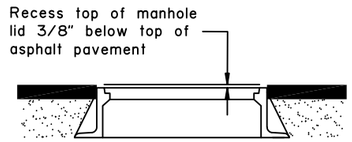
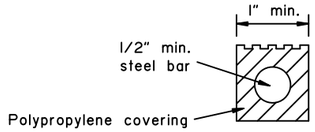


STEP DETAIL



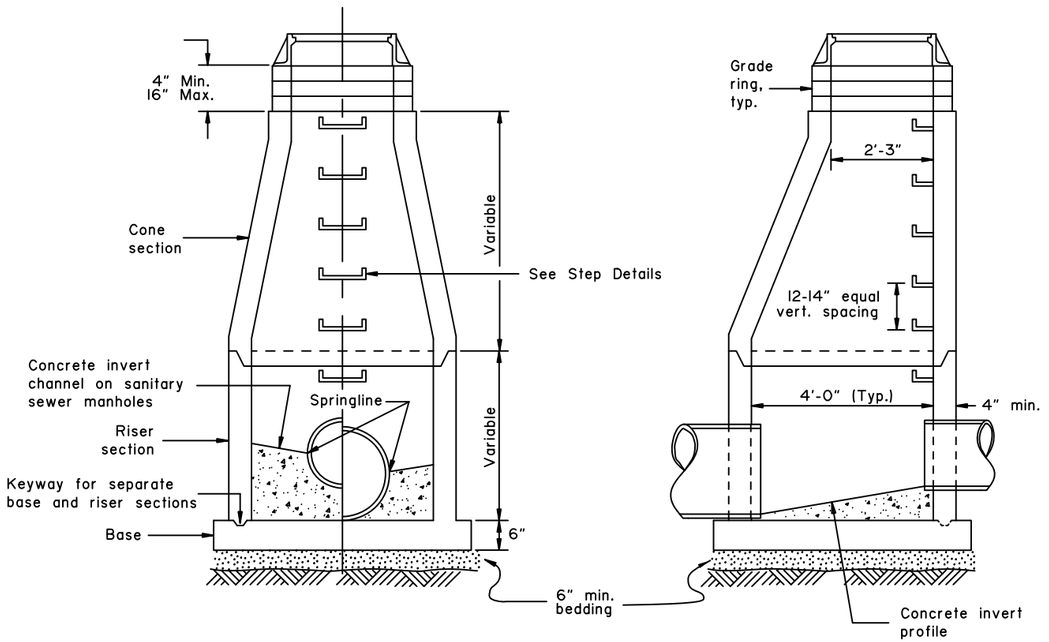
MANHOLE IN PAVEMENT



STEP CROSS SECTION

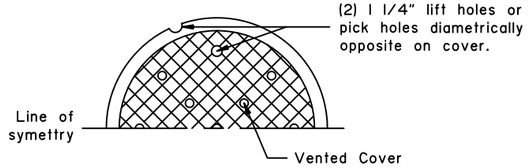
GENERAL NOTES:

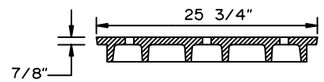
1. Either precast or cast-in-place manholes may be used.
2. Details for manhole frame, cover and step are generic in nature and may vary from shown depending on manufacturer
3. Use 8" thick cast-in-place concrete bases for depths less than 15' and 12" thick bases for depths 15' or greater.
4. Manhole frames shall have a depth of 6" unless otherwise indicated on the plans.
5. Step requirements:
   a. 18" max. vertical clearance to bottom of manhole or concrete invert.
   b. 3" minimum embedment.
   c. 1,500 lb. min. pullout force.
   d. ASTM A-615 grade 60 steel bar.
   e. Injection molded polypropylene covering meeting ASTM D-41010
   f. Slip resistant foot tread with "wings" to prevent feet from sliding off the edge.
   g. Reflectors at step corners
6. Reinforcement for precast manhole sections shall meet AASHTO M 199.



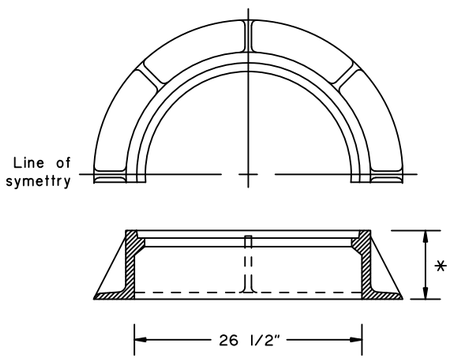
PRECAST CONCRETE MANHOLE

Reinforcement not shown for clarity
See Note 6





MANHOLE COVER



MANHOLE FRAME

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MANHOLES, FRAME AND COVER

Adopted as an Alaska Standard Plan by:

Kenneth J. Fisher, P.E.
Chief Engineer

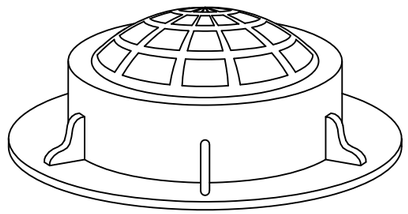
Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

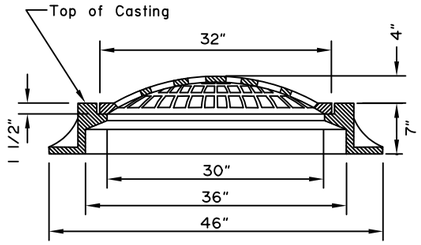
Next Code and Standards Review date: 02/08/2029

D-20.05

D-22.01 | SHEET | of |

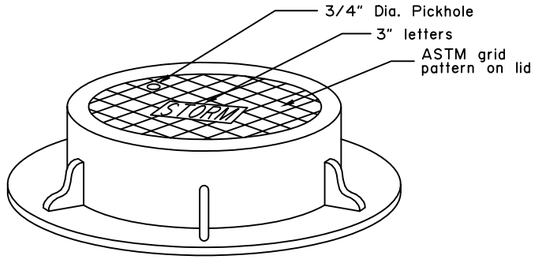


Surround field inlets with a 24" wide rock rubble collar 10" deep, 3" maximum size rock.



FIELD INLET FRAME & GRATE

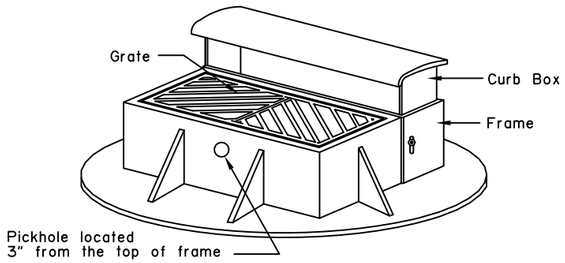
To be supplied for storm drain manholes where field inlets are specified. Field inlet frame and grate shall have a Minimum total weight of 525 lb.



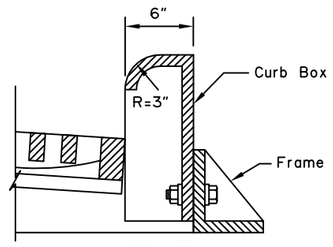
MANHOLE LID FRAME AND GRATE

NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers, except that inlet grate shall be within ¼"± of dimensions shown on this drawing.
2. Manhole lids shall be 32" in diameter and may be used with field inlet frames.
3. Type A field inlet frame inside dimensions shall be 24" x 36". Lugs will not protrude outside the concrete surface of the inlet box.
4. Grates shall be bicycle safe. Where high capacity grates are called for on the plans, they shall conform to Std. Dwg. D-25.
5. Frame and grate casting types are identified by the following abbreviations:
   C.I. = Curb Inlet
   F.I. = Field Inlet
   M.H. = Manhole
6. Flowline depression shall conform to Std. Dwg. D-23 for an on grade or sag point conditions.
7. These are the default frames and grates to be used unless shown otherwise on the drainage plans or drainage structure summary.

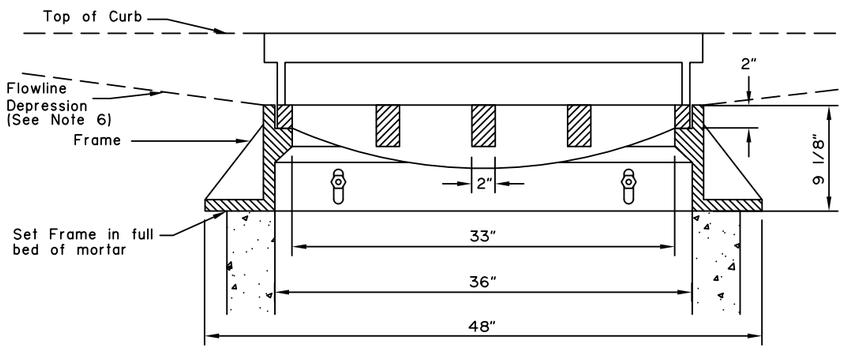


NOTE:
Curb Box, Grate and frame shall have a minimum total weight of 725 lb.

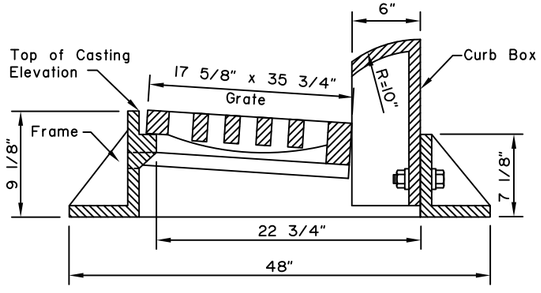


SIDE VIEW
MOUNTABLE CURB AND GUTTER

REQUIRED FRAME AND GRATES (See Note 7)			
STRUCTURE	INLET TYPE	CURB TYPE	TYPE FRAME AND GRATE
INLET BOX, TYPE A	Curb	Mountable	Standard Curb Inlet
	Curb	Expressway	Mountable Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
STORM DRAIN MANHOLES, TYPE I, II AND III	Curb	Mountable	Mountable Curb Inlet
	Curb	Expressway	Expressway Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
	Manhole Lids	------	Field Inlet Frame, Solid MH. Lid



FRONT VIEW



SIDE VIEW
EXPRESSWAY CURB AND GUTTER

CURB INLET FRAME AND GRATE

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

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STORMDRAIN MANHOLE FRAME AND GRATE DETAILS

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher
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

D-22.01

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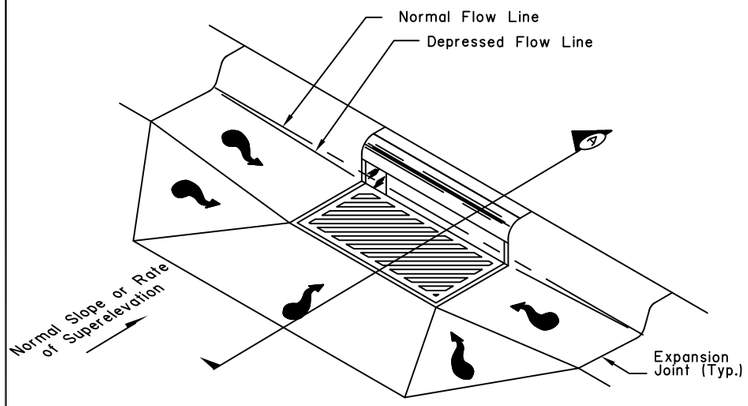
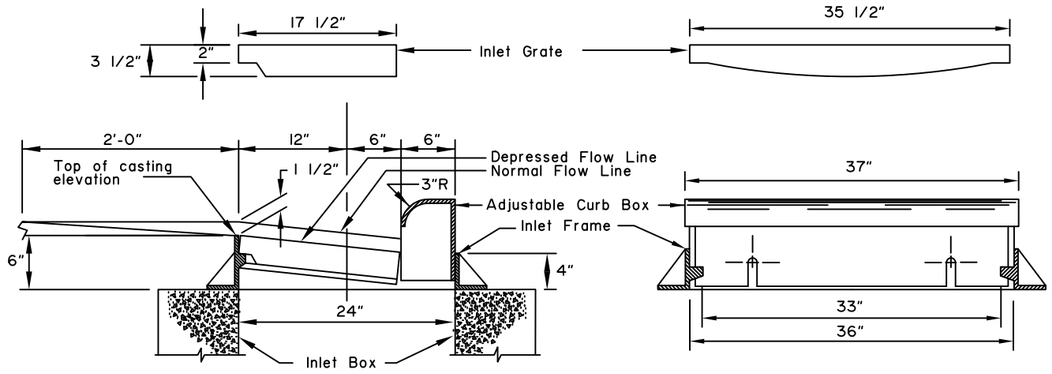


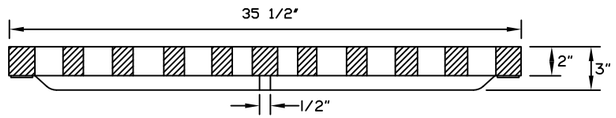
STANDARD CURB INLET INSTALLATION



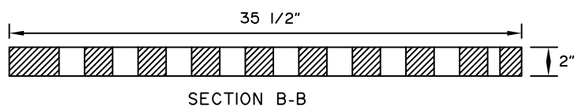
SECTION A

GENERAL NOTES:

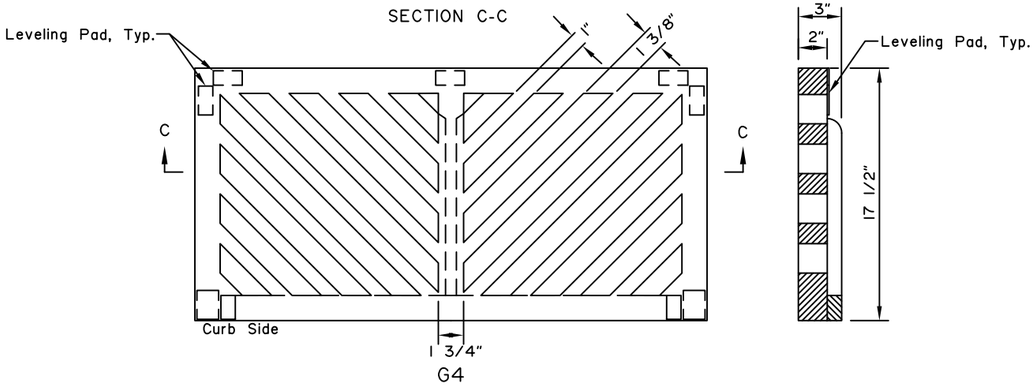
1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers.
2. Minimum casting weight shall be 330 lbs for Curb Inlet Frame with Curb Box and 200 lbs. for Inlet Grate.
3. The outside dimensions of Inlet Grate shall be 35 1/2" x 17 1/2" and all grates shall be inter-changeable.
4. Minimum drainage area of Inlet Grate shall be 255 square inches.
5. Inlet Grate type G-3R or G-3L shall be used in all cases except where drainage is from both directions, in which case type G-4 shall be used.



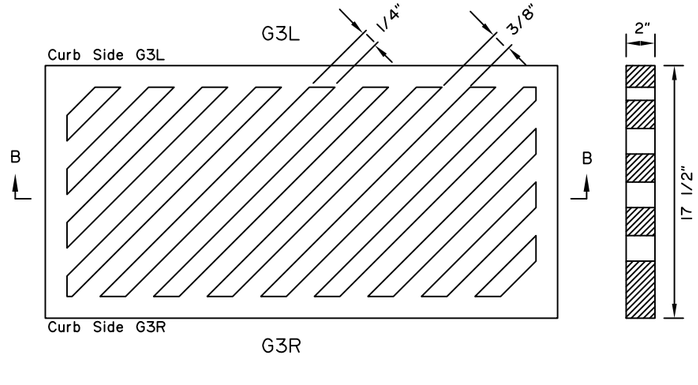
SECTION C-C



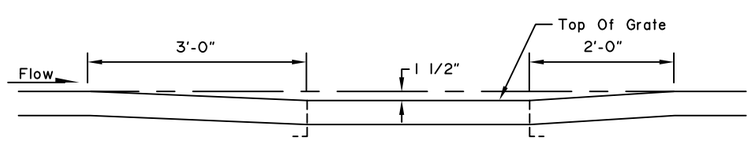
SECTION B-B



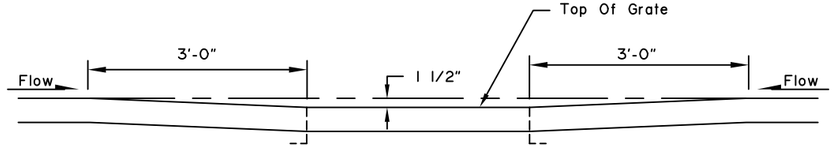
G4



G3R



ON GRADE



AT LOW POINT

DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CURB INLET BOX, FRAME & GRATE

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

D-23.01

D-24.00

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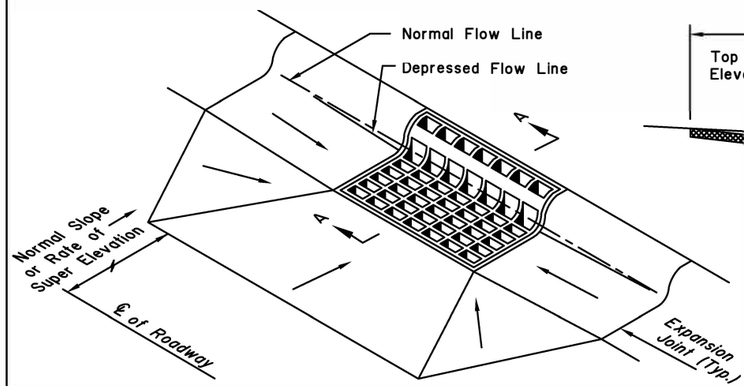
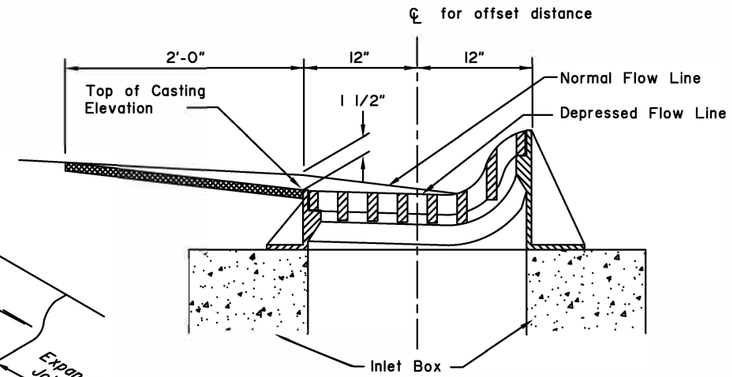
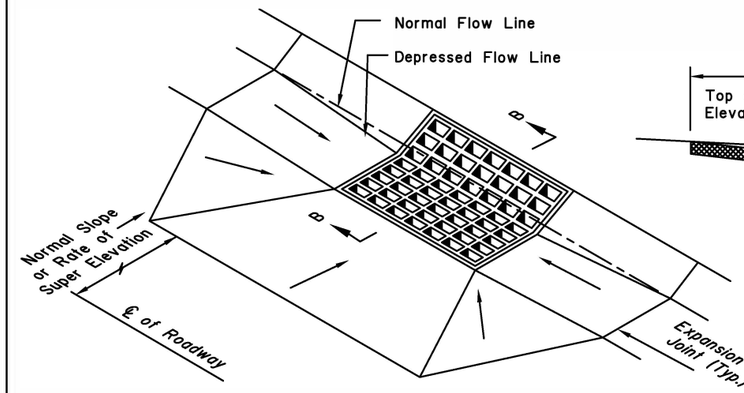


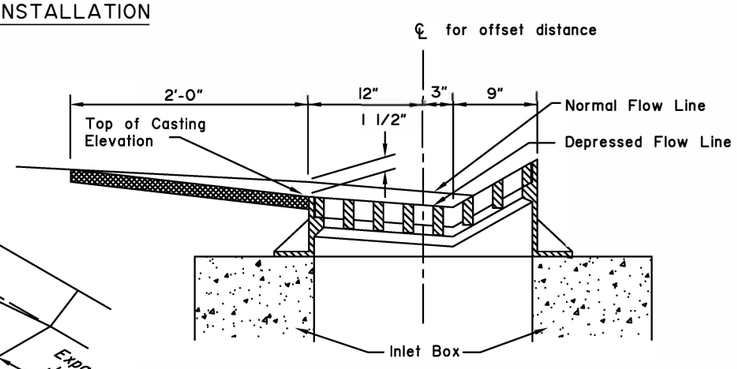
MOUNTABLE CURB INLET INSTALLATION



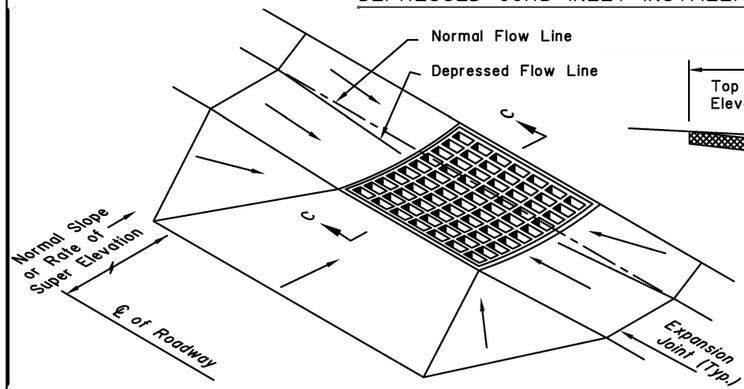
SECTION A-A



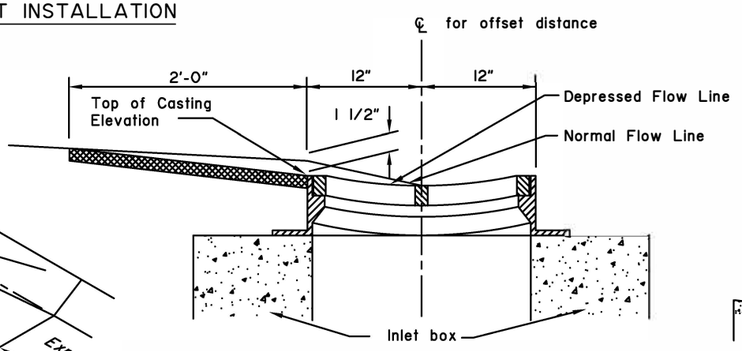
DEPRESSED CURB INLET INSTALLATION



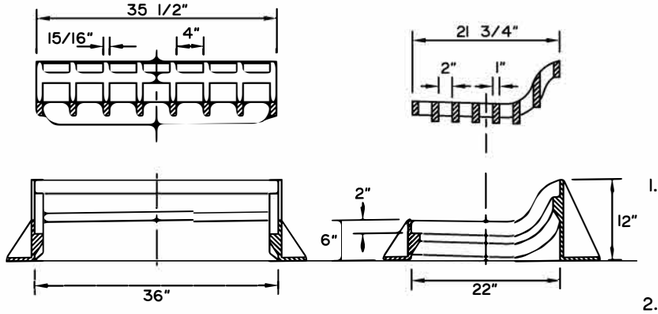
SECTION B-B



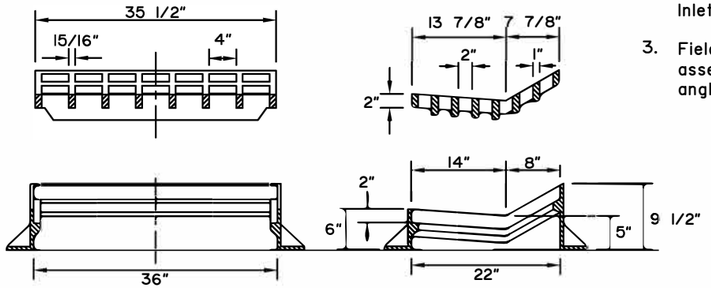
GUTTER INLET INSTALLATION



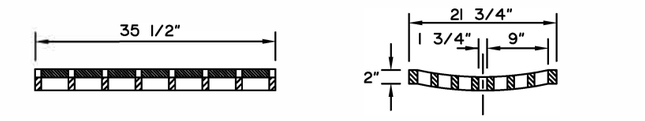
SECTION C-C



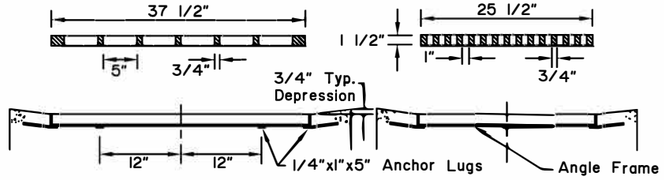
MOUNTABLE CURB INLET FRAME AND GRATE



DEPRESSED CURB INLET FRAME AND GRATE

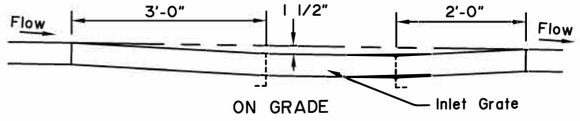


GUTTER INLET FRAME AND GRATE



NOTE: All Angle Frame shall have Anchor Lugs

FIELD INLET FRAME AND GRATE



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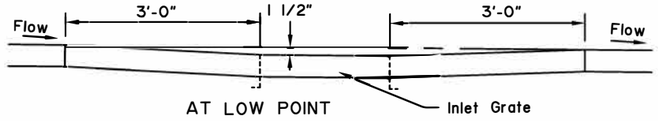


AT LOW POINT

DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

GENERAL NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

INLET FRAMES AND GRATES

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

Adoption Date: 02/08/2019

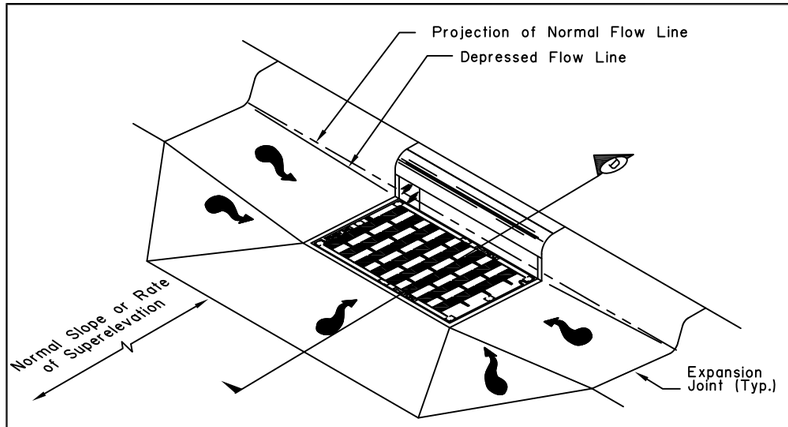
Last Code and Stds. Review By: Date:

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

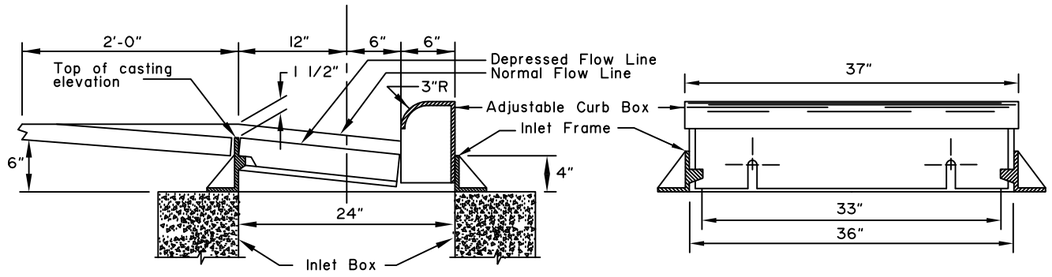
D-24.00

D-25.00

SHEET 1 of 2



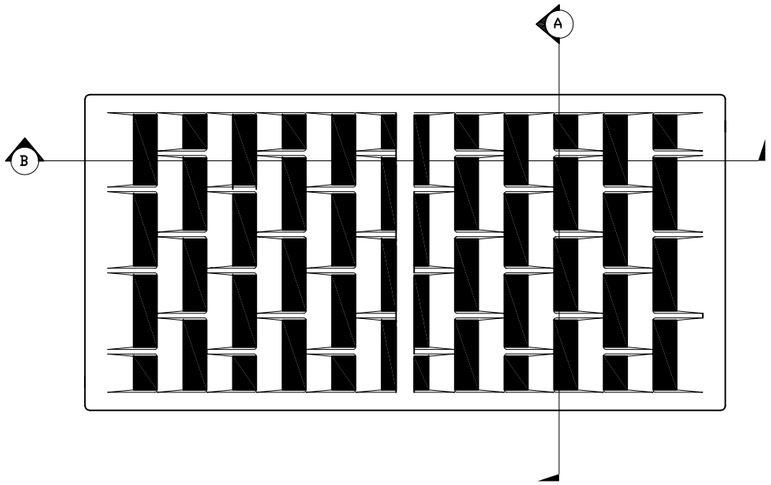
STANDARD CURB INLET INSTALLATION



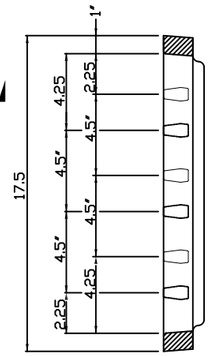
SECTION (D)

NOTES:

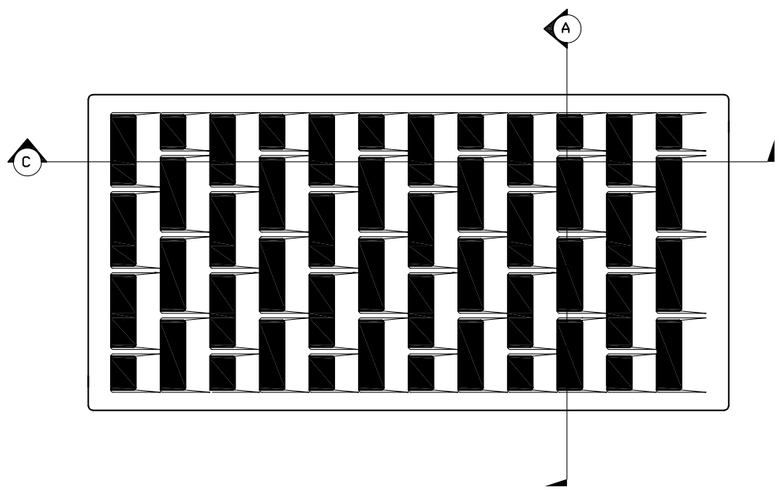
1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers.
2. Minimum casting weight shall be 330 lbs for Curb Inlet Frame with Curb Box and 150 lbs. for Inlet Grate.
3. The outside dimensions of Inlet Grate shall be 35 1/2" x 17 1/2" and all grates shall be inter-changeable.



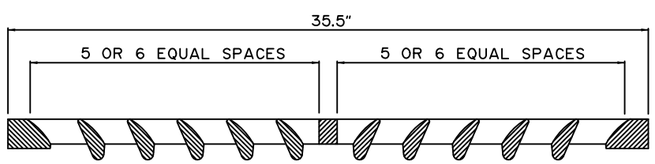
PLAN VIEW



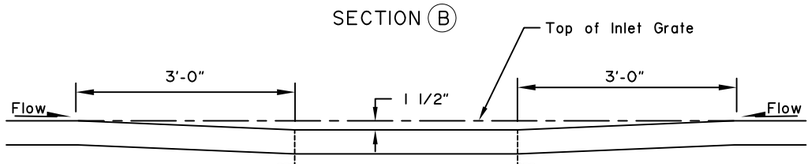
SECTION (A)



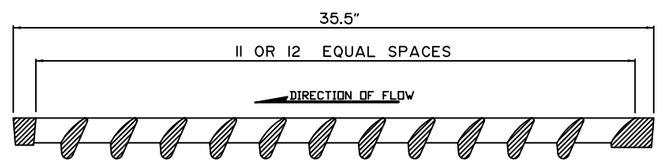
PLAN VIEW



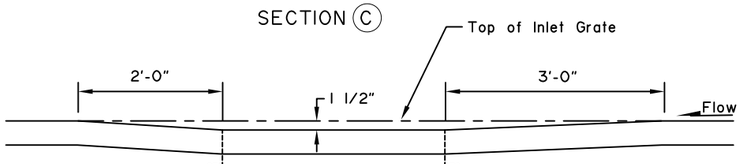
SECTION (B)



AT SAG POINT



SECTION (C)



ON GRADE

DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

HIGH CAPACITY CURB INLET BOX FRAME AND GRATE

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:

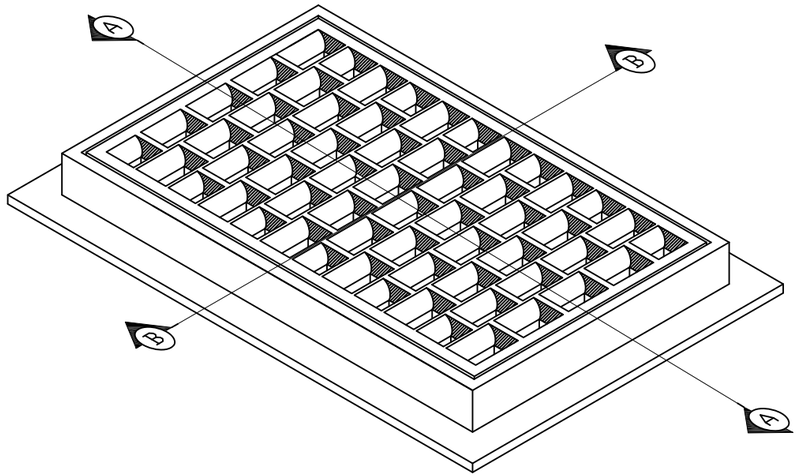
Next Code and Standards Review date: 02/08/2029

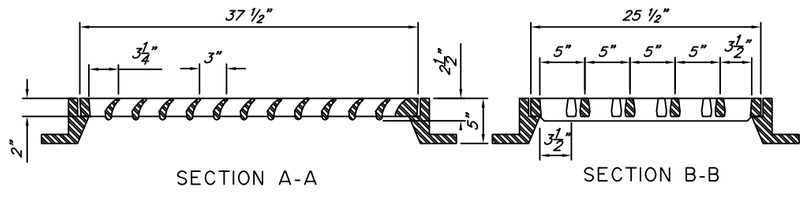
D-25.00

D-25.00 SHEET 2 of 2

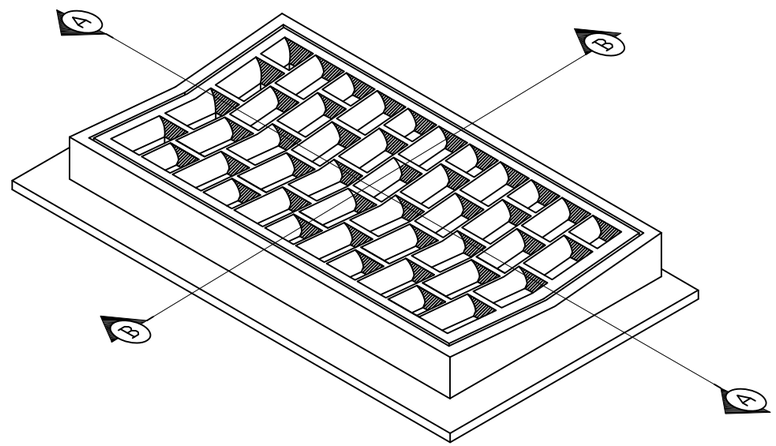
NOTES:

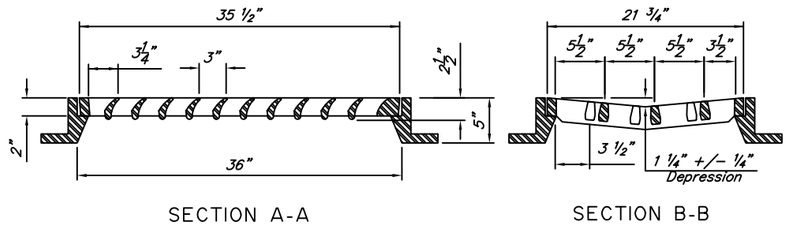
1. Details shown are to indicate general design only. Dimensions may vary between manufacturers. Tolerance for grate dimension shall be +/- 1", unless otherwise noted.





HIGH CAPACITY FIELD INLET FRAME AND GRATE





HIGH CAPACITY GUTTER INLET FRAME AND GRATE

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

HIGH CAPACITY CURB INLET BOX FRAME AND GRATE (FIELD AND GUTTER INLETS)

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

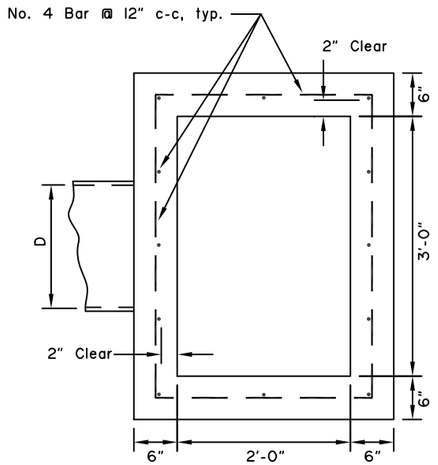
Adoption Date: 02/08/2019

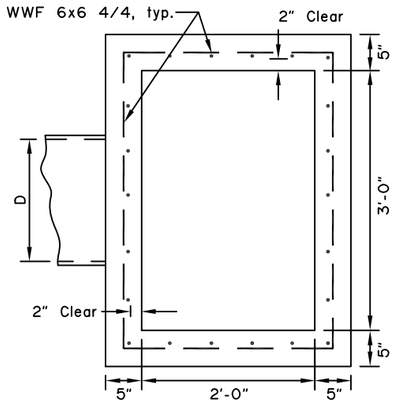
Last Code and Stds. Review
By: Date:

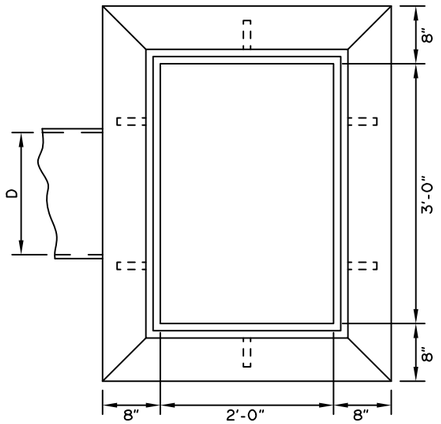
Next Code and Standards Review date: 02/08/2029

D-25.00

D-26.04 | SHEET | of |

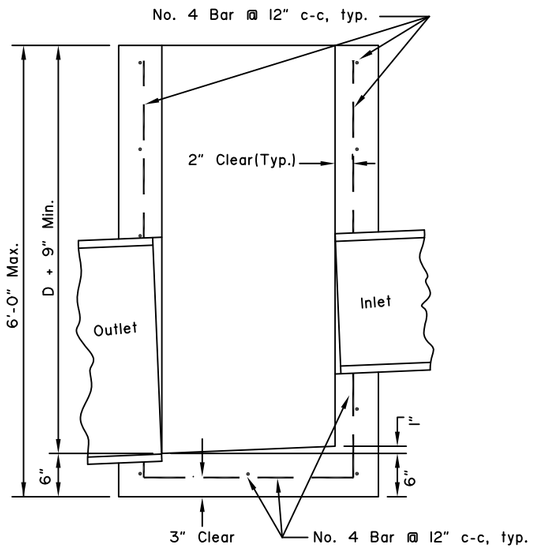




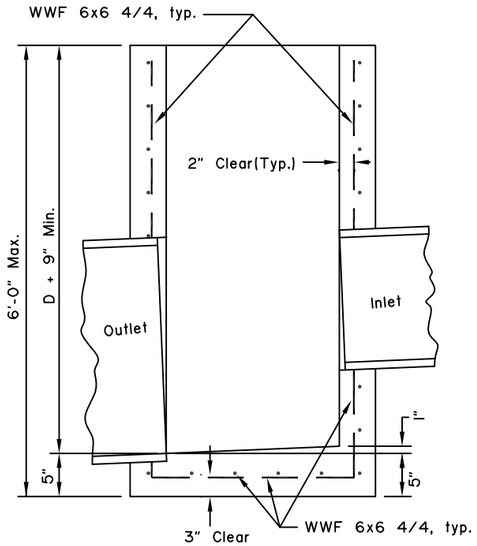


GENERAL NOTES:

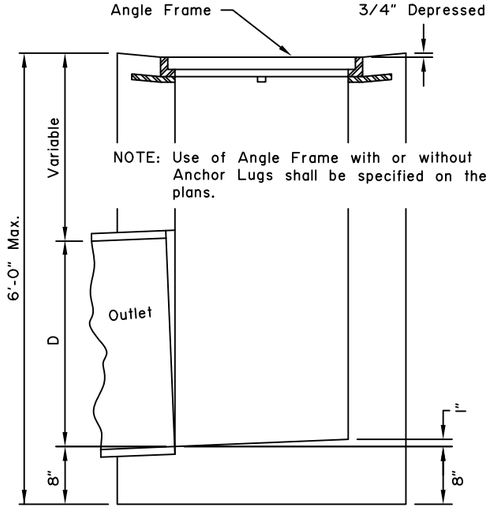
1. Install inlet boxes parallel to the curb line.
2. The plans will indicate which inlet boxes require a sump.
3. Shape floors to drain.
4. Use Grade 40 minimum reinforcing steel.
5. The plans will indicate which inlet boxes require sumps.



REINFORCED
CAST IN PLACE

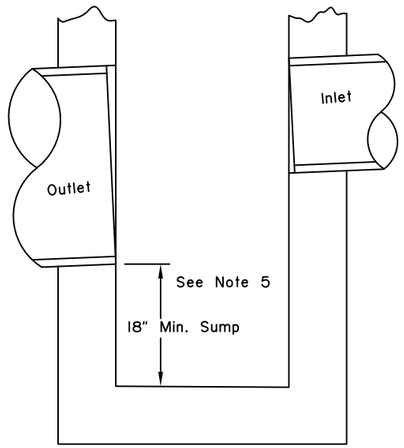


PRECAST



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

FIELD INLET BOX
CAST* IN PLACE



SUMP DETAIL

TYPE "A" CONCRETE INLET BOXES

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

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

**TYPE "A"
INLET BOX**

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

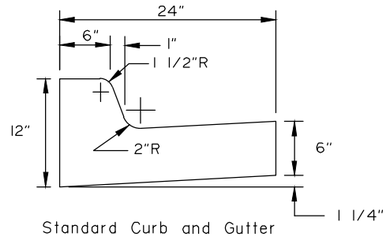
Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

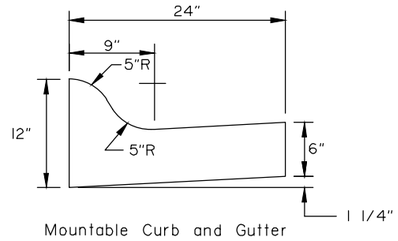
Next Code and Standards Review date: 02/08/2029

D-26.04

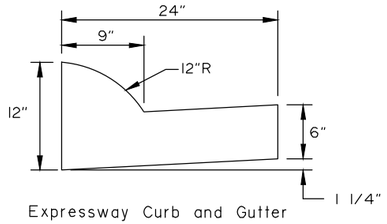
I-20.20 | SHEET | of |



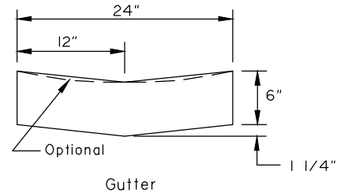
Standard Curb and Gutter



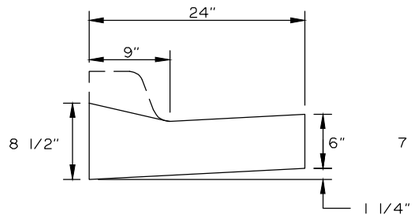
Mountable Curb and Gutter



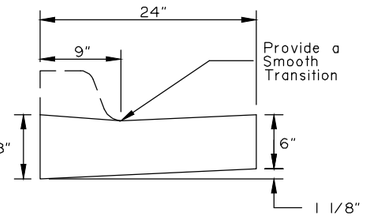
Expressway Curb and Gutter



Gutter

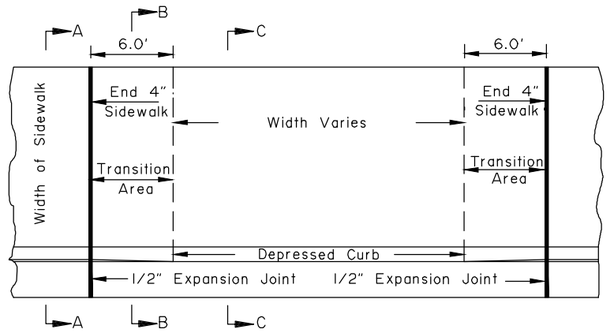


Depressed Curb and Gutter

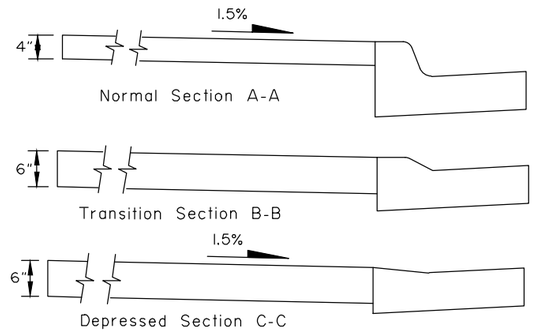


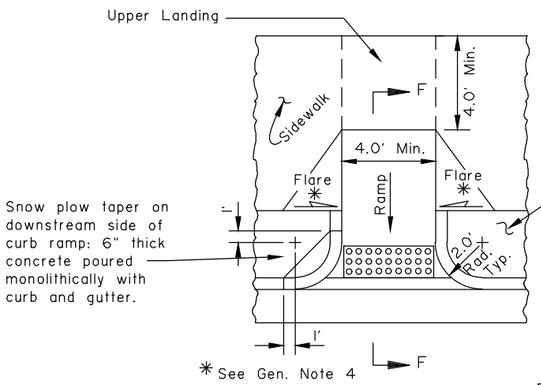
ADA Curb and Gutter

CURB and GUTTER DETAILS

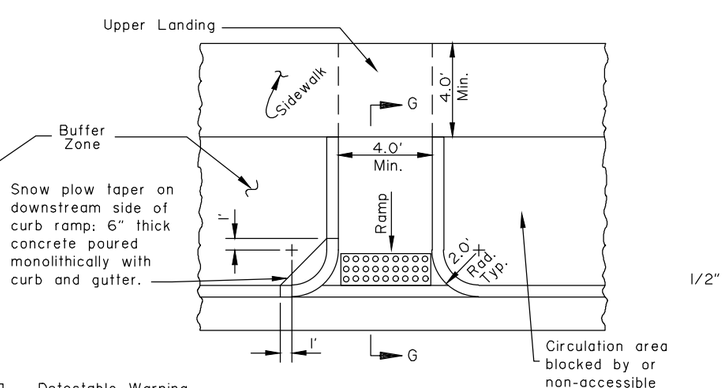


DRIVEWAY CURB CUT DETAILS



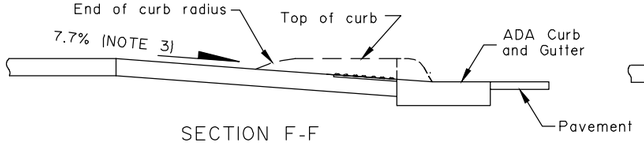


PLAN

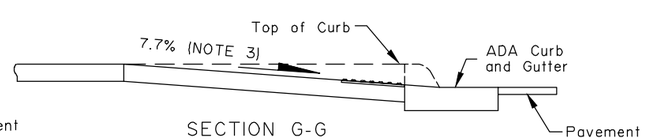


PLAN

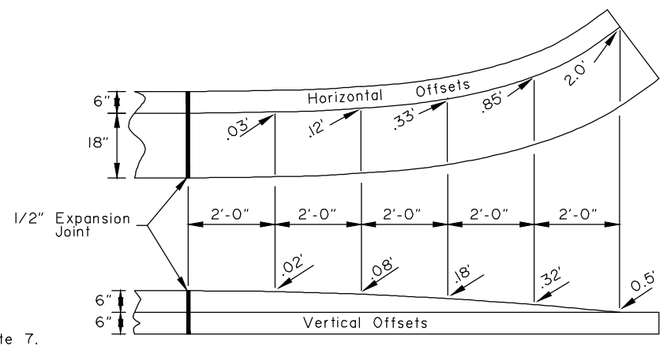
= Detectable Warning Tile (see Note 8)



SECTION F-F
Returned Curb Ramp with
Sidewalk for Pedestrians



SECTION G-G
Returned Curb Ramp
for Pedestrians



CURB and GUTTER
TERMINATION TRANSITIONS

Note: Drawing not to scale

CONSTRUCTION NOTES:

1. Use the type of curb and gutter shown on the plans.
2. Construct ramp runs and landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
3. Construct ramp slopes at a 7.7% nominal grade, or flatter. Ramp slopes may be increased to a maximum of 8.3% when site conditions warrant it. Ramp lengths should be increased to keep grades under the 8.3% maximum, but are not required to exceed 15.0 feet. The resulting ramp grade at a 15.0 foot ramp length is acceptable even if it exceeds 8.3%.
4. Construct flare slopes at 8.3% (measured paralllel to the curb line) or flatter, sidewalk cross slopes at 1.5% nominal (1.0% min. and 2.0% max), and ADA Curb and Gutter gutter pan slopes at 4.7% nominal. Construct grade breaks perpendicular to ramp runs.
5. Do not construct flare slopes steeper than 10.0%, sidewalk cross slopes steeper than 2.0% and ADA Curb and Gutter gutter pan slopes steeper than 5.0%. These are the steepest slopes allowed under the 2006 ADA Standards for Transportation Facilities.
6. Provide a coarse broomed finish on ramp runs perpendicular to the ramp slope.
7. When approved by the Engineer, curb returns may be replaced with flares at locations where access to the side of a ramp run is free of poles, utility boxes, other obstructions, or non-accessible surfaces such as a dirt planter strips. See Standard Plan I-22 for flare details.
8. Install 24" wide detectable warning tiles for the full width of the ramp. Provide tiles with truncated domes meeting Section 705.1 of the 2006 ADA Standards for Transportation Facilities. Align truncated dome pattern in the predominant direction of wheelchair travel to permit wheels to roll between domes.
9. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

**CURB CUT
CURB & GUTTER
AND CURB RAMP DETAILS**

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: KLH Date: 7/8/2020

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

I-20.20

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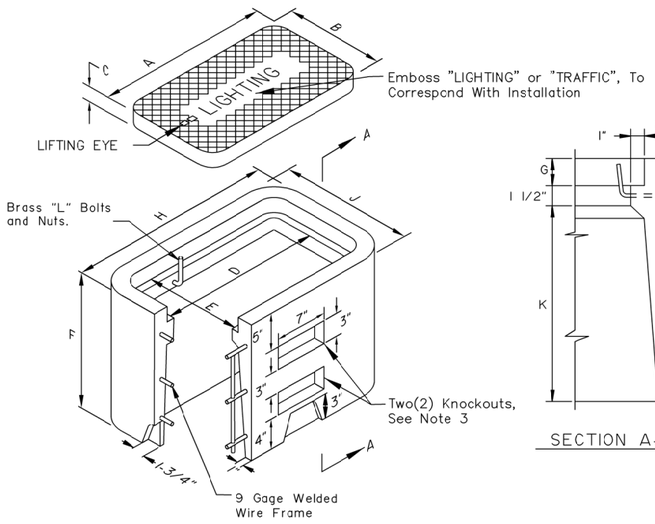
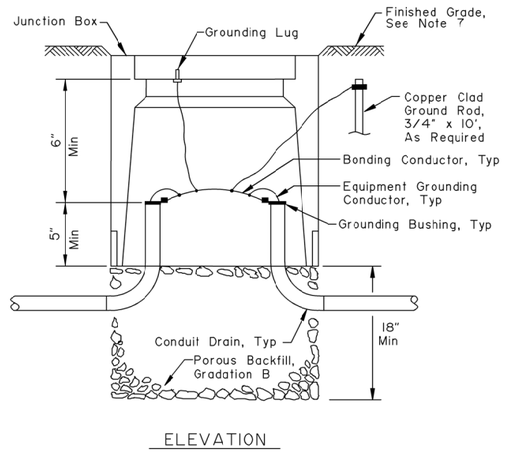
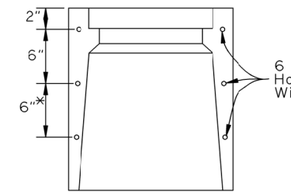






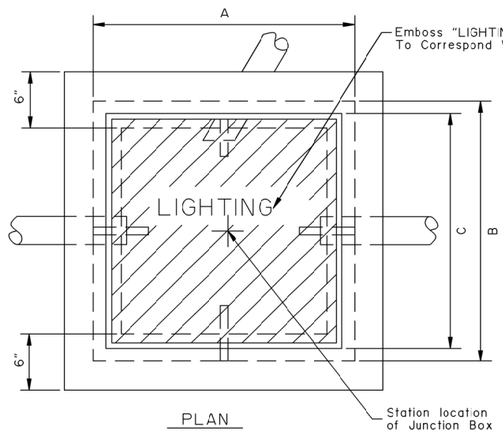
	DIMENSIONS (IN)	
	TYPE I	TYPE IA
A	15	22 3/4
B	10	13 1/4
C	1 3/4	2
D	13 1/2	21 1/4
E	8 1/2	11 3/4
F	12	18
G	1 3/4	2
H	19 1/2	27 1/4
J	14 1/2	17 3/4
K	8 3/4	14 1/2

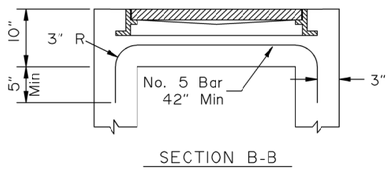
	DIMENSIONS (IN)		
	TYPE II	TYPE III	TYPE IV
A (Max)	30	30	30
B (Max)	30	30	36
C (Min)	22	22	30
D (Min)	22	22	24
E (Min)	24	24	30

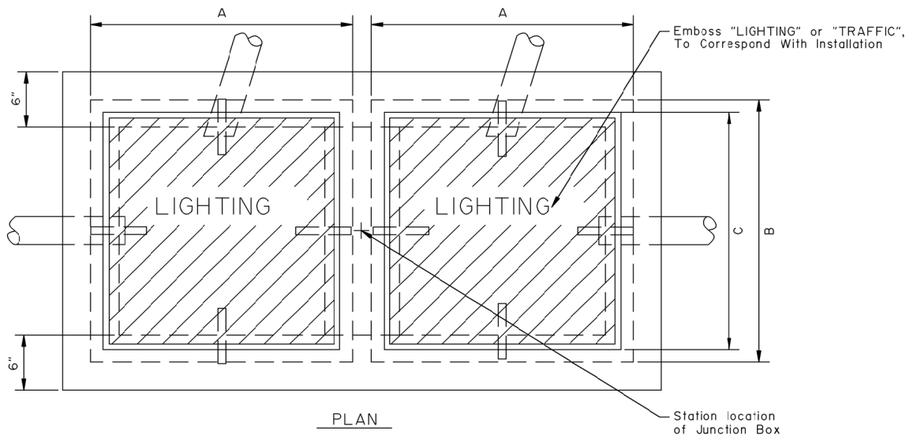
TYPE I & IA JUNCTION BOX

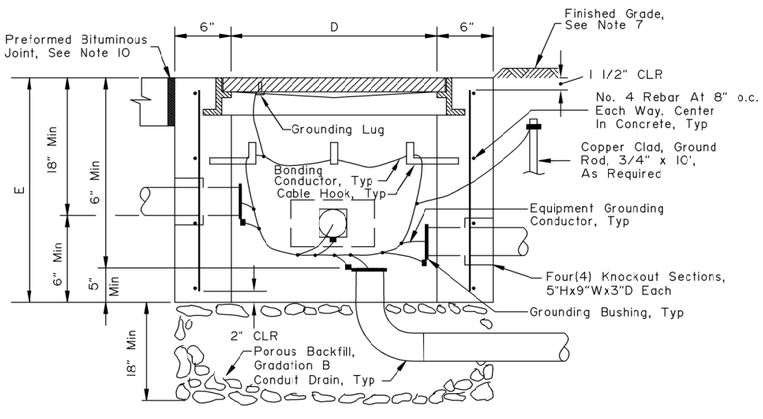
GENERAL NOTES:

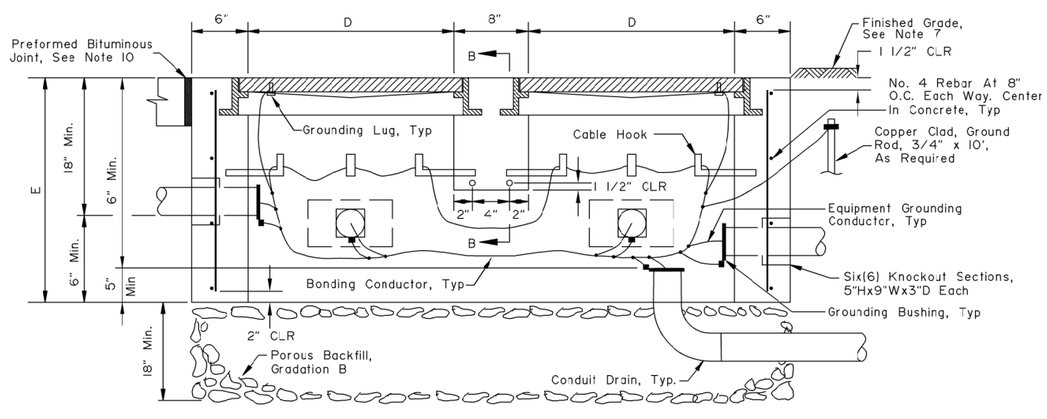
1. See the Standard Specificcations for Highway Construction (SSHC) for additional requirements.
2. See Section 660-2.01 of the SSHC for concrete and reinforcing steel requirements.
3. Provide knockouts indicated in Type IA junction box when installed for loop detection. Conduit for loop detectors to enter junction box through knockouts.
4. Covers for junction boxes shall be cast iron. Type I and IA shall be secured to junction box with a minimum of two bolts and be rated ANSI/SCTE 77, Tier 8, minimum. Type II, Type III and Type IV cover shall weigh over 100 pounds and be ANSI/SCTE77, AASHTO H-20 traffic rated.
5. The minimum required bearing capacity for Type I shall be 6,800psf, for Type IA shall be 5,100psf, for Type II shall be 3,500psf, for Type III shall be 2,300psf, and for Type IV shall be 2,000psf.
6. See section 703-2.10 of the SSHC for Porous Backfill material requirements.
7. See section 660-3.04 of the SSHC for top of junction box placement to finished grade requirements.
8. Provide conduits as required, size and quantity indicated in plans.
9. Provide grout around conduits in knockouts and for unused knockouts.
10. Provide a 1/2" thick preformed bituminous joint material around junction boxes installed in concrete walkways.
11. Metal conduits and junction box covers shall be bonded together to be electrically continuous using No. 8 AWG minimum copper bonding conductor. Cover shall be bonded using a tinned copper braided bonding jumper.











NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

JUNCTION BOXES FOR ELECTROLIER & TRAFFIC SIGNALS

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: CNH Date: 7/15/2020

Next Code and Standards Review date: 7/15/2030

L-23.03

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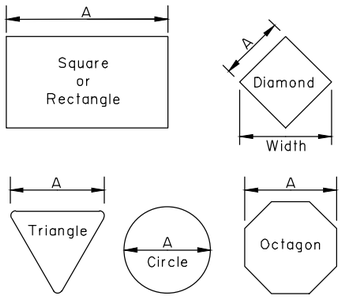
GENERAL NOTES

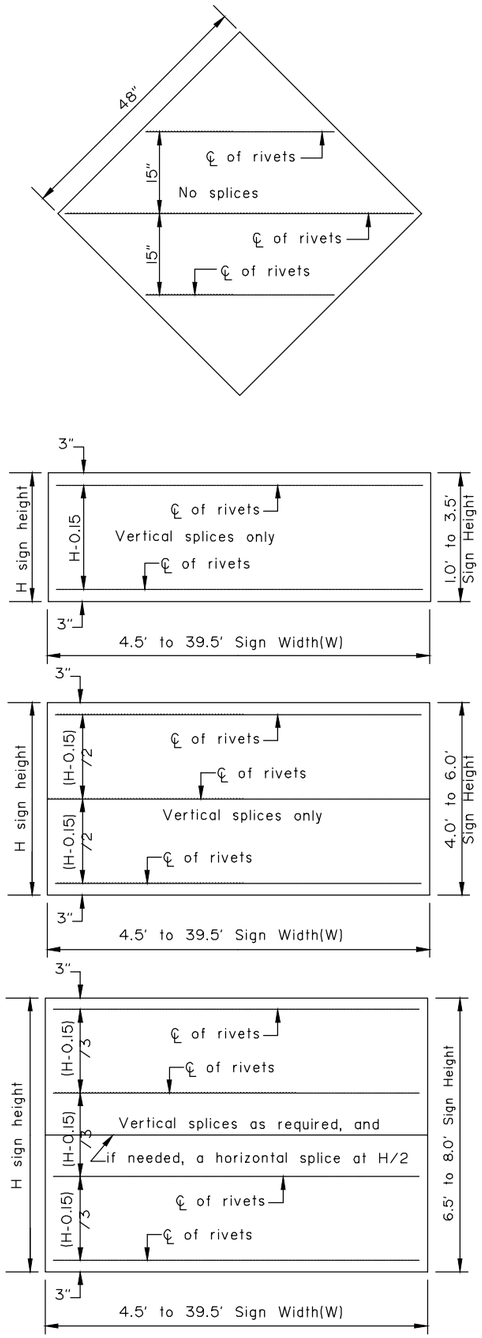
1. See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
2. Fabricate all signs from 0.125" thick aluminum sheeting.
3. Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer 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.



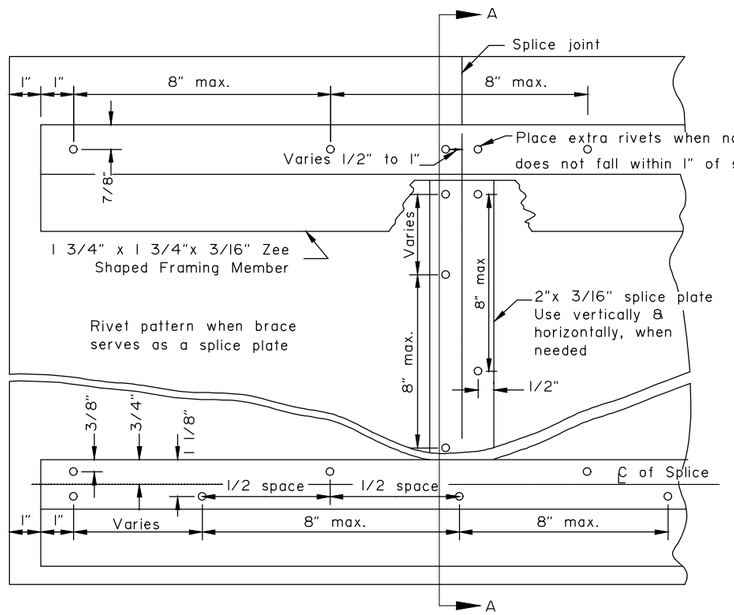
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

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

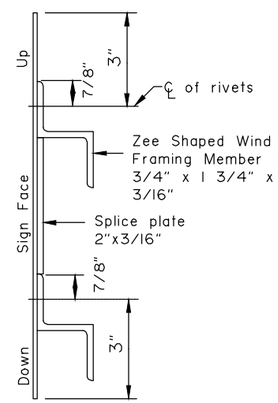
LIGHT SIGNS



WIND FRAMING LOCATIONS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

Note: Drawing not to scale

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

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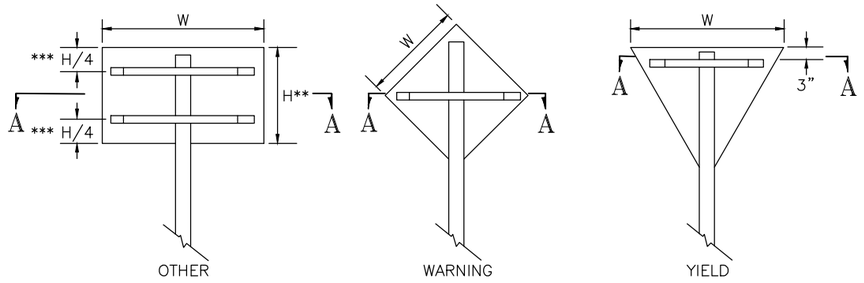
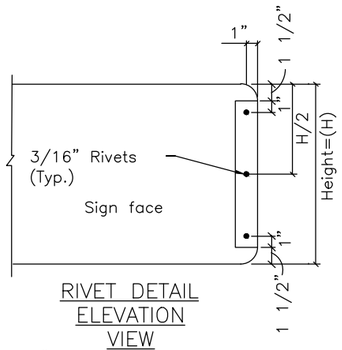


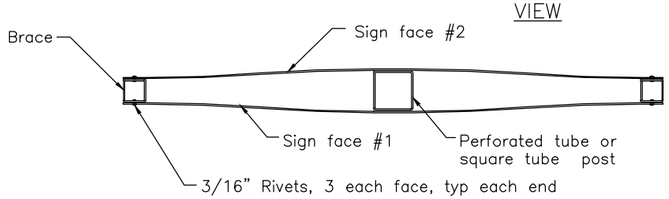
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

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

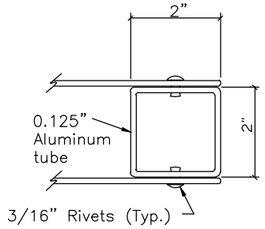
SIGN BRACING PLACEMENT



RIVET DETAIL ELEVATION VIEW

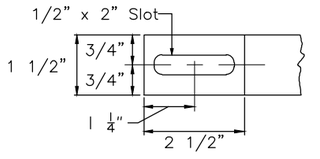


PLAN VIEW

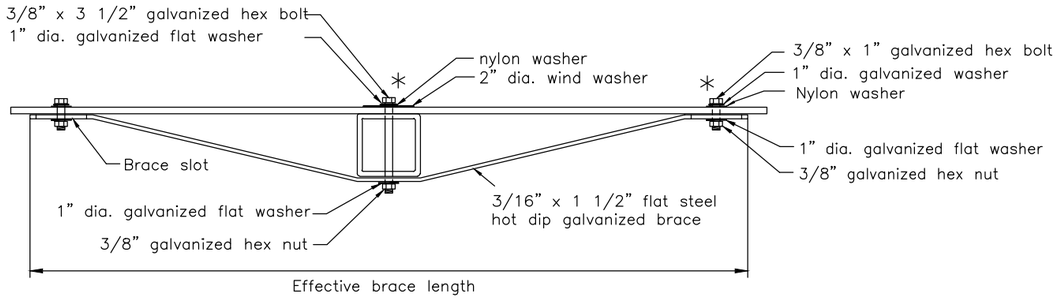


END BRACE DETAIL

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

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

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

S-01.02

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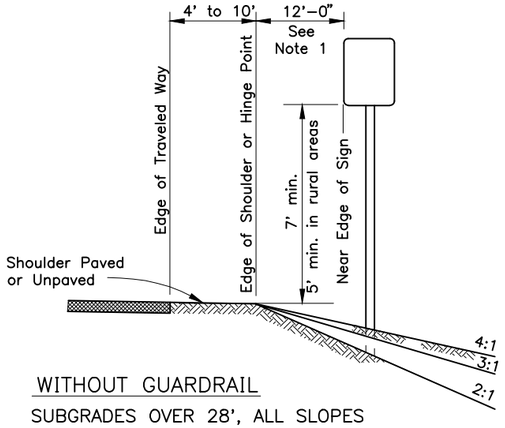
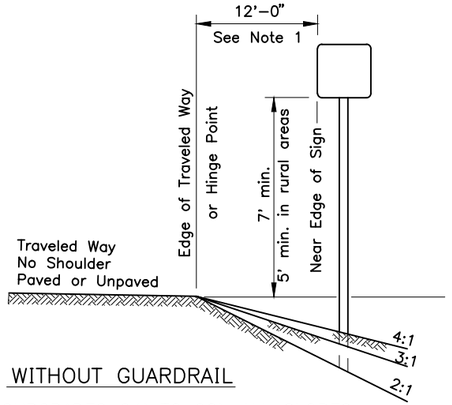
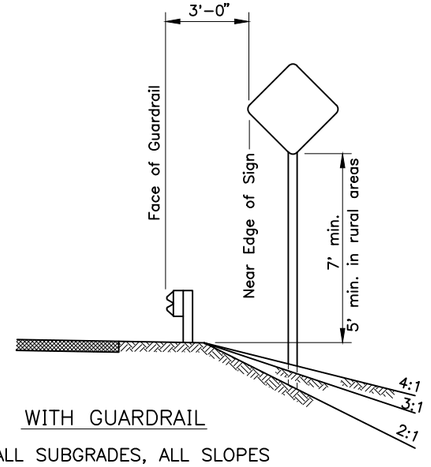


WITHOUT GUARDRAIL
SUBGRADES OVER 28', ALL SLOPES



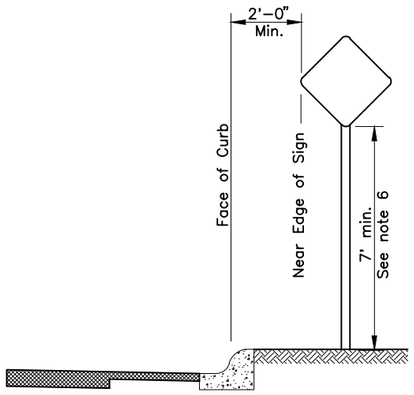
WITHOUT GUARDRAIL
SUBGRADES 24' TO 28', ALL SLOPES



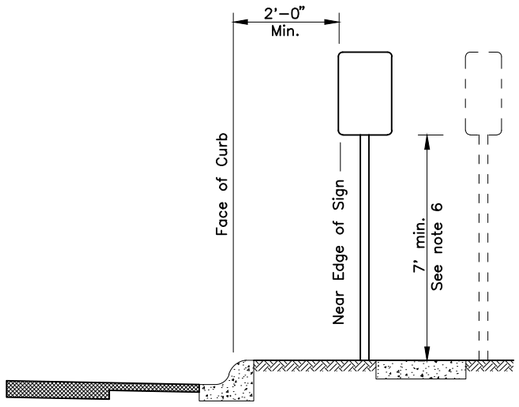
WITH GUARDRAIL
ALL SUBGRADES, ALL SLOPES

GENERAL NOTES

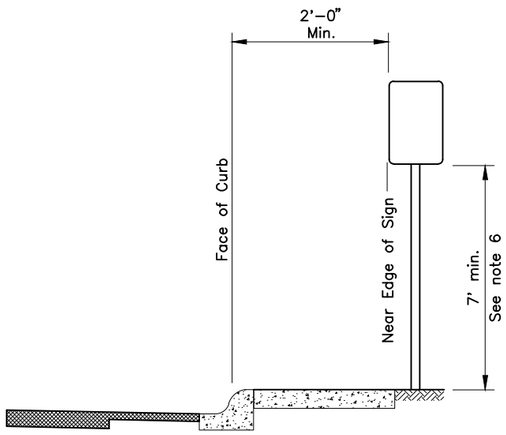
1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6' where shoulder width is 6' or greater.
2. Add 6" to mounting height on unpaved roads.
3. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
4. When signs are placed 30' or more from the edge 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.



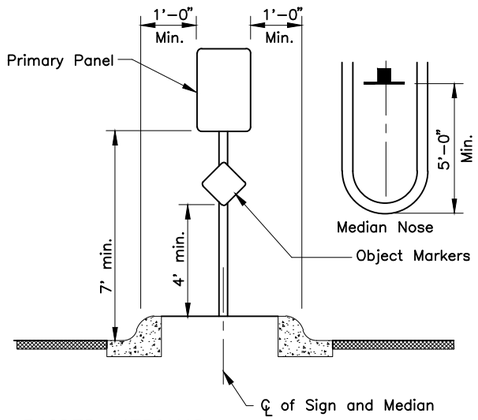
CURB WITHOUT SIDEWALK



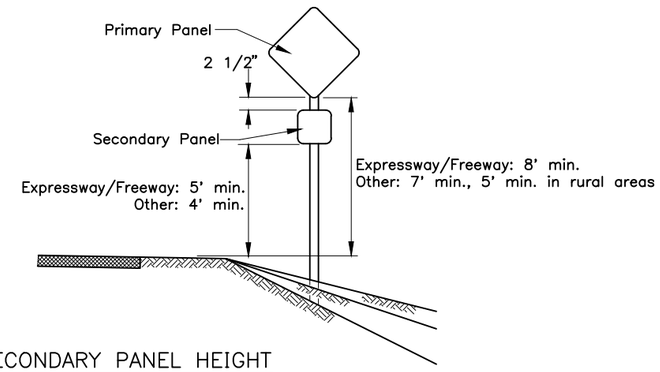
CURB WITH PARKWAY AND SIDEWALK
(If R/W width permits, signs should be placed behind sidewalk.)



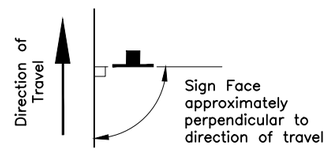
CURB WITH SIDEWALK WITHOUT PARKWAY



RAISED MEDIANS
Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT
ALL TWO PANEL MOUNTING



SIGN POSITIONING

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

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

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

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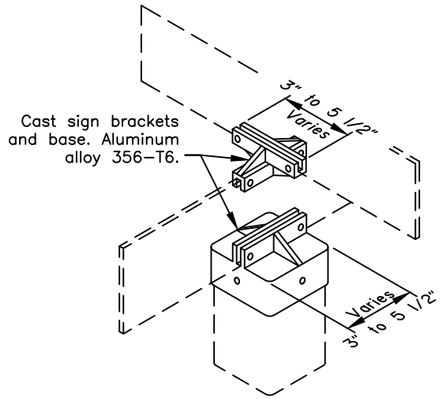
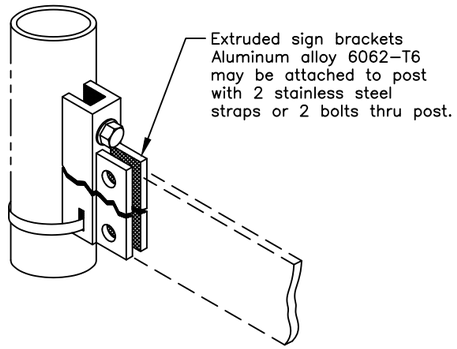
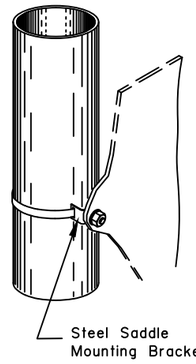
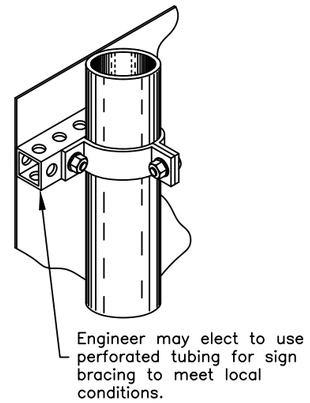
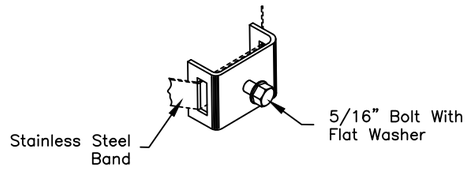


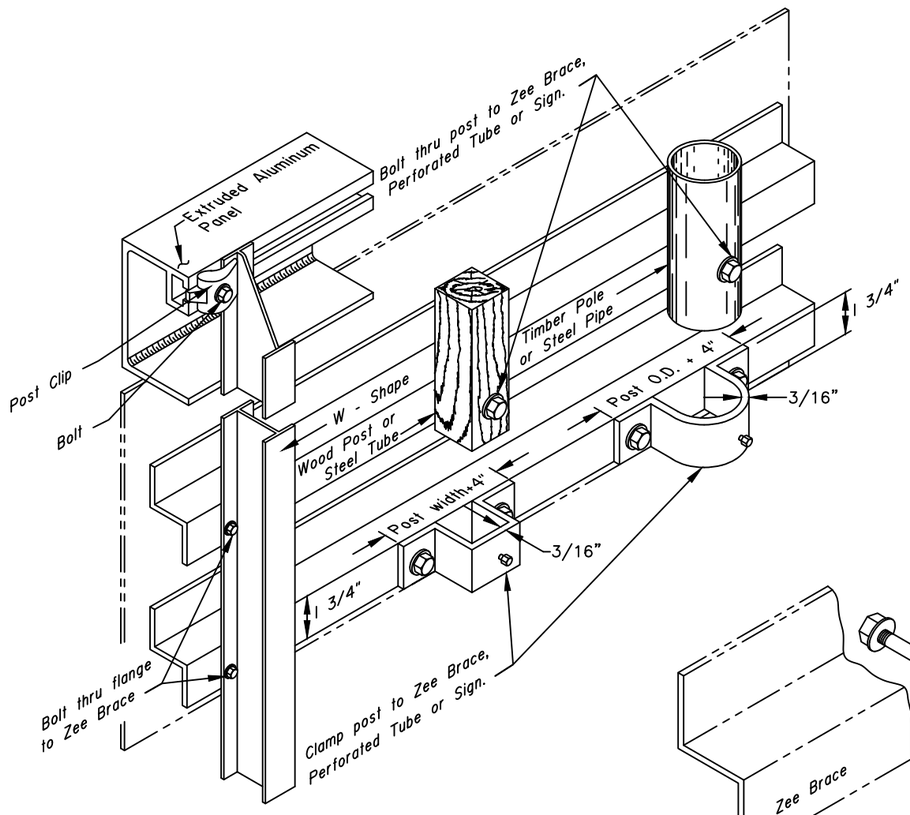


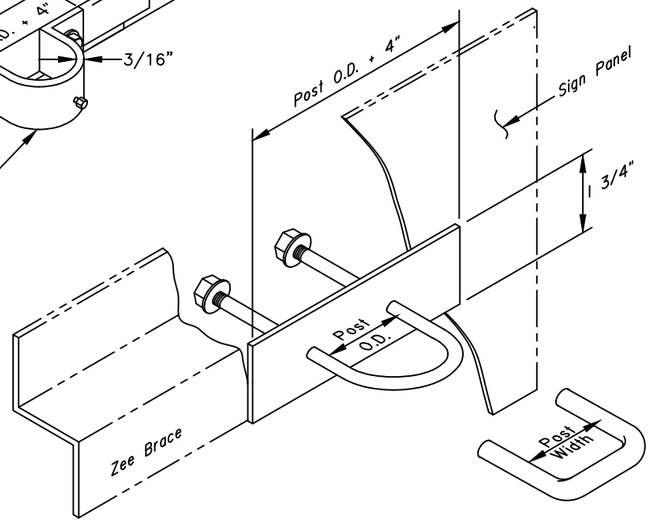


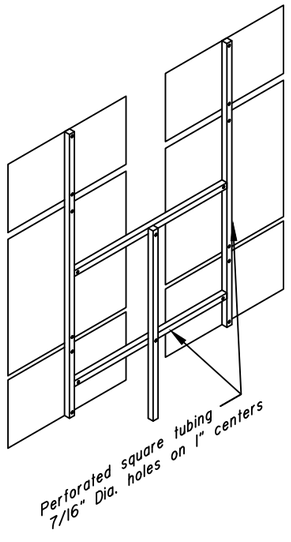




MOUNTING BRACKET DETAIL







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

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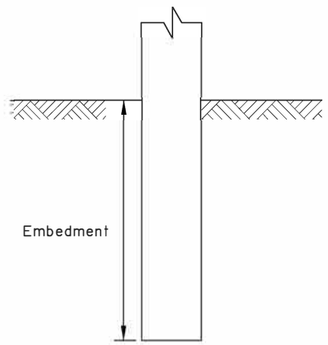
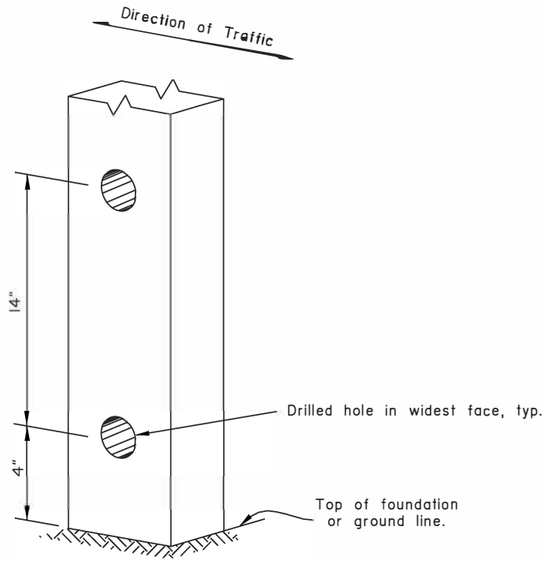
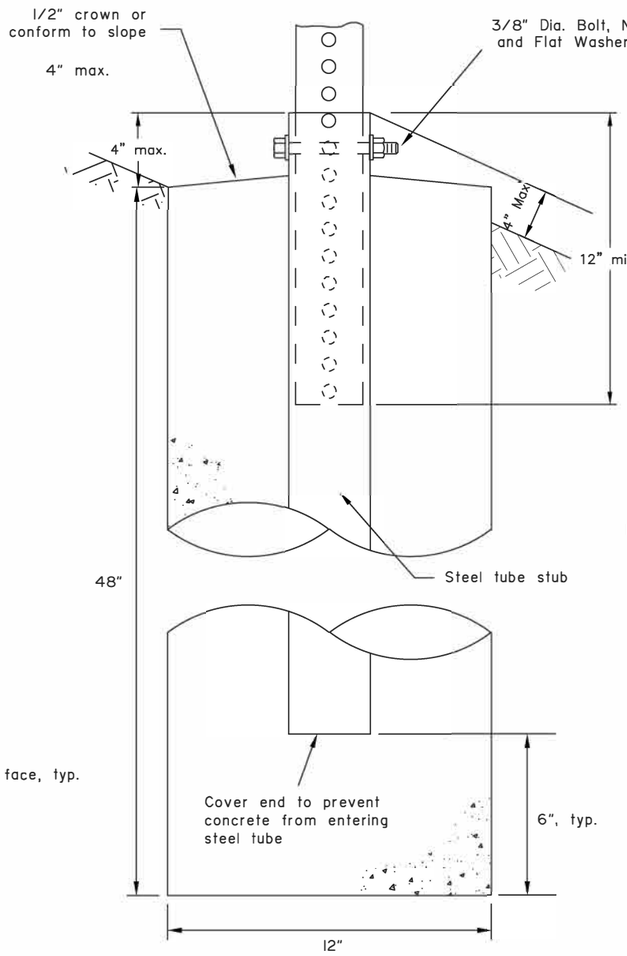
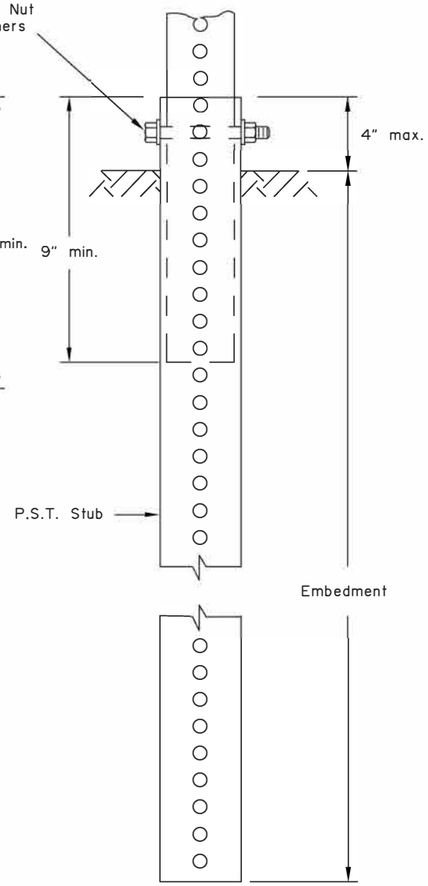






SLEEVE TYPE
CONCRETE FOUNDATION



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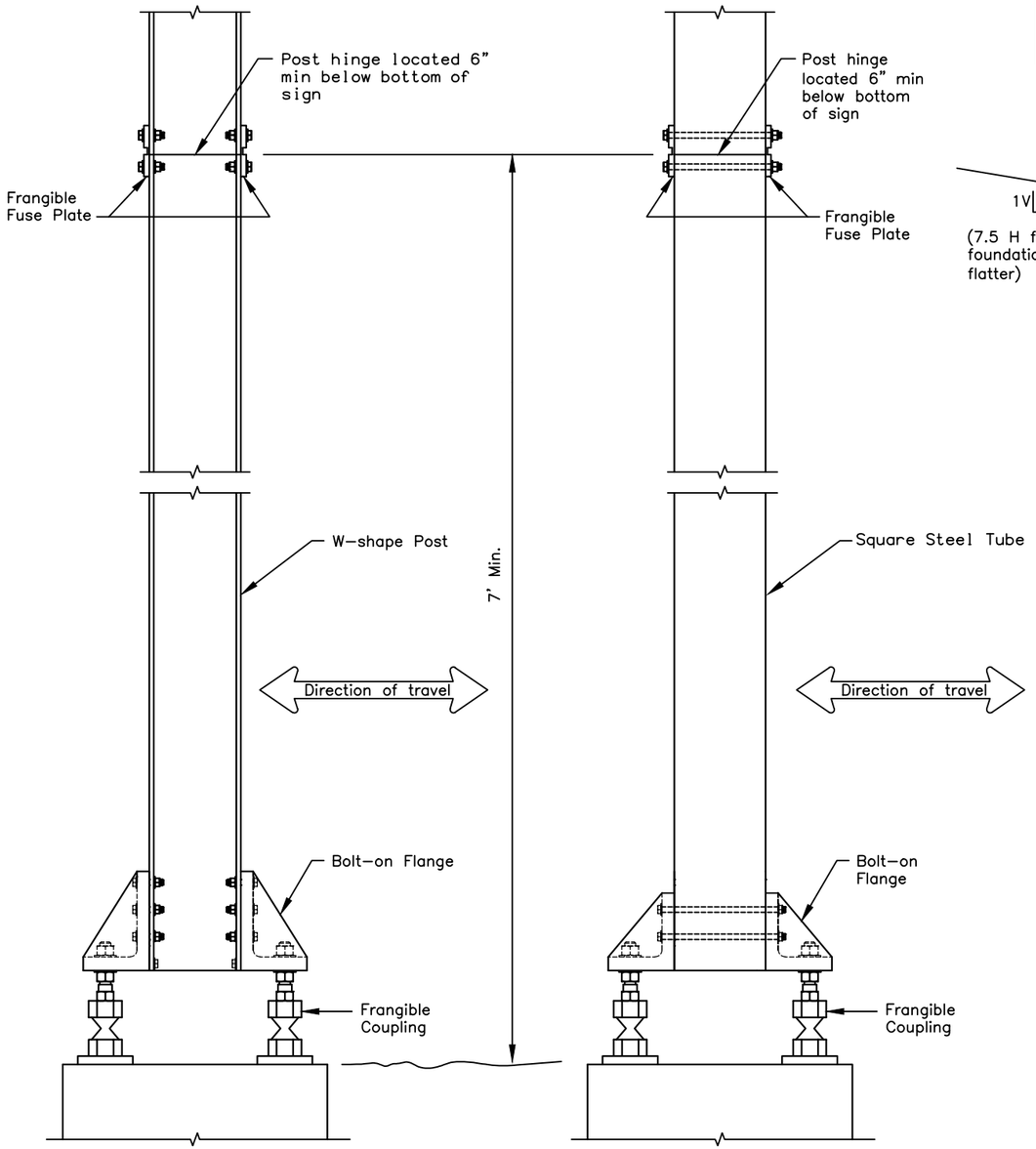
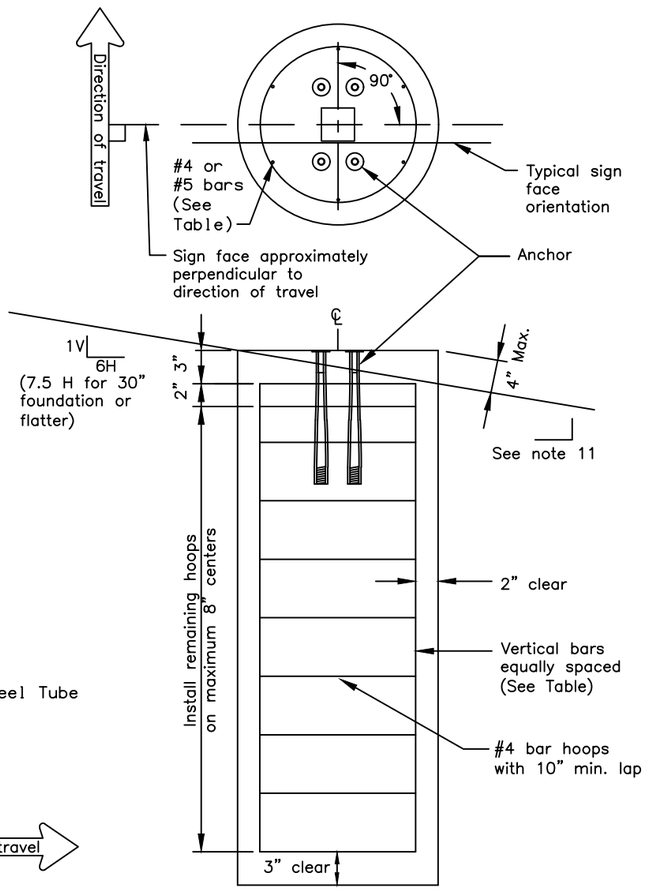
NOTE:
Install hinges when more than one post is used to support a sign. Do not install hinges on single post installations.



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

Adoption Date: 7/17/2020

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

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

S-31.02

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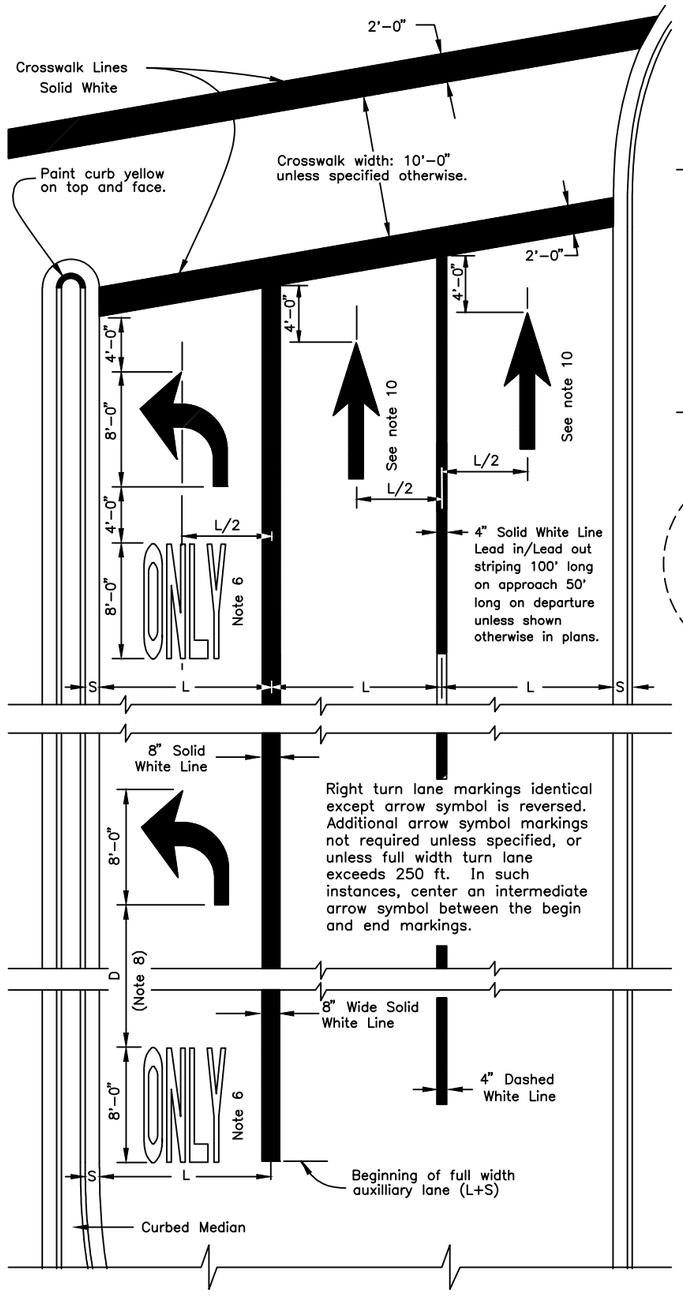
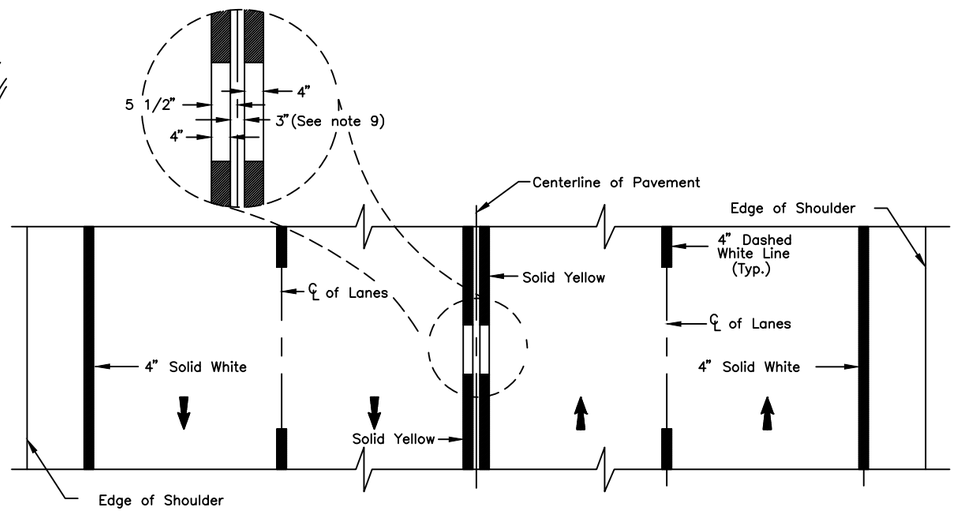
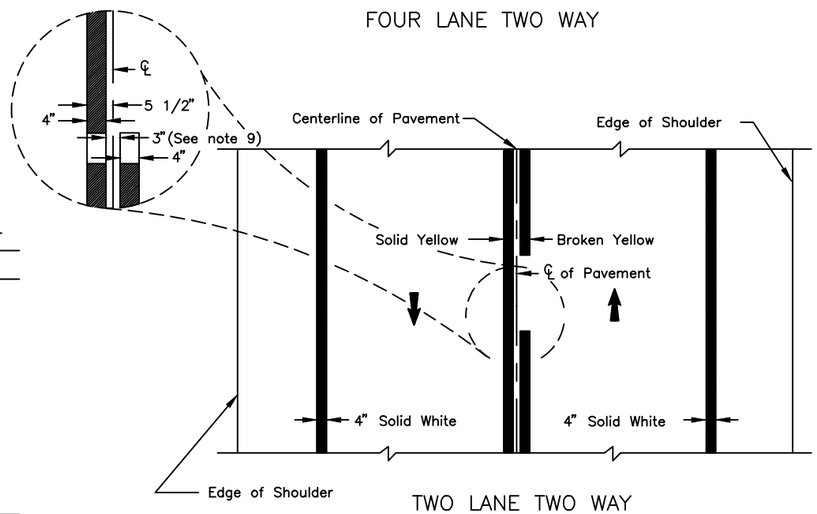


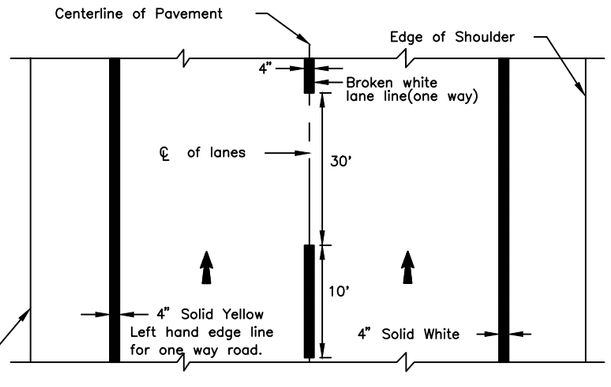
APPROACH TO INTERSECTION



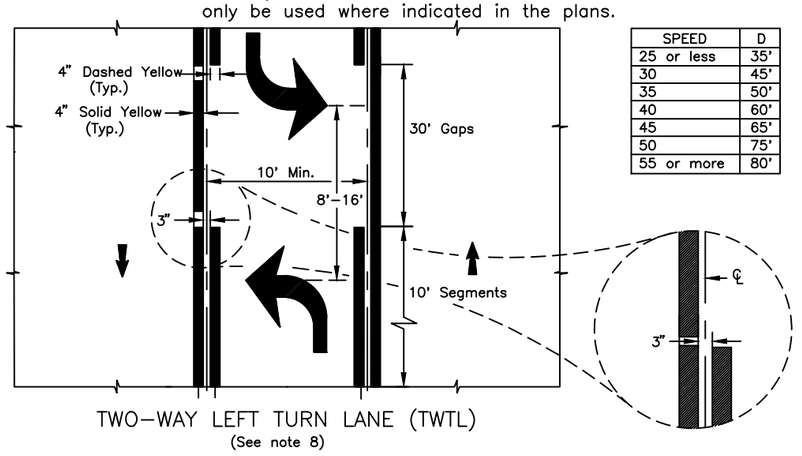
FOUR LANE TWO WAY



TWO LANE TWO WAY

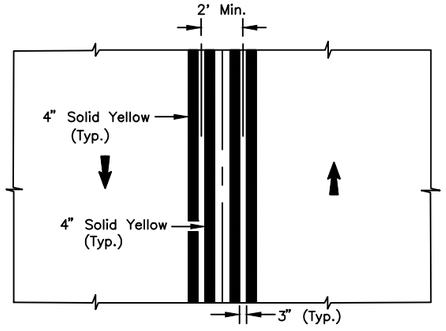


TWO LANE ONE WAY



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

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

T-21.04