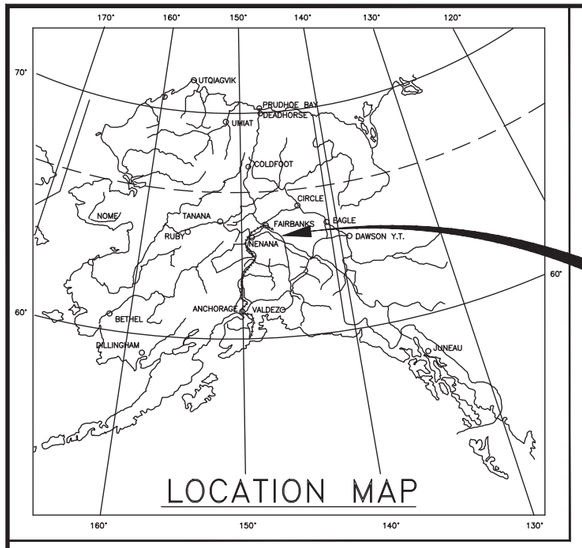
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	A1	102
ROUTE ID: 110000010000	MILEPOINT: 272.99 TO 338.46			



PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

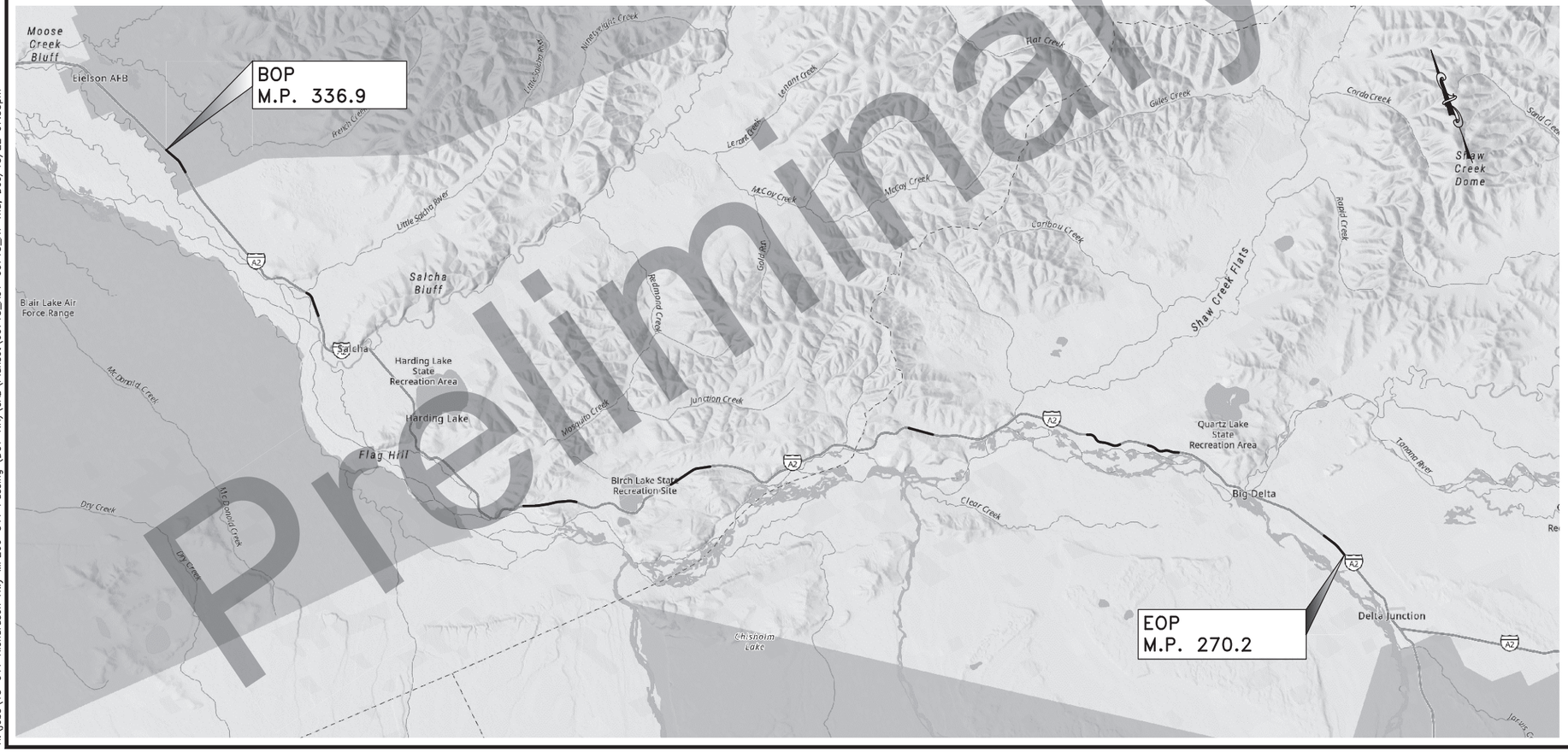
0A23(021)/Z607150000

RICHARDSON HIGHWAY MP 266–341 PASSING LANES

GRADING, DRAINAGE, GUARDRAIL, PAVING, SIGNING & STRIPING

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	LEGEND
A3–A9	SURVEY CONTROL
A10–A12	PROJECT LAYOUT
B1–B3	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES & GENERAL NOTES
D1–D2	SUMMARIES
E1–E9	CULVERT/DRAINAGE DETAILS & SUMMARY
E10–E14	MISCELLANEOUS DETAILS
F1–F43	PLAN & PROFILE
G1–G5	APPROACH SUMMARY & DETAILS
H1–H7	SIGNING & STRIPING
Q1–Q16	EROSION SEDIMENT CONTROL PLANS
T1	TRAFFIC CONTROL PLANS
V1–V16	STANDARD PLANS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
C–04.12, C–05.20, C–06.00
D–01.02, D–04.22, D–06.10
I–81.00
M–20.15, M–23.13
S–00.12, S–01.02, S–05.02, S–20.11
T–20.04, T–21.04, T–25.10



DESIGN DESIGNATIONS	
ADT (2019)	2,638
ADT (2050)	4,110
DHV (%)	13.6%
PERCENT TRUCKS (T)	16.5%
DIRECTIONAL SPLIT (D)	55/45
DESIGN SPEED (V)	70 MPH
DESIGN ESAL's (5 YEARS)	2,464,868

PROJECT SUMMARY	
WIDTH OF PAVEMENT	40 FT–64 FT
LENGTH OF GRADING	23 MILES
LENGTH OF PAVING	23 MILES
LENGTH OF PROJECT	66.7 MILES

CARL HEIM, P.E., PROJECT MANAGER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:

_____ DATE _____

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

ACCEPTED FOR CONSTRUCTION:

_____ DATE _____

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

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_A01-60715_A1 Thu, Dec/15/22 07:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	A2	A12

	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		

ABBREVIATIONS:

APPROX	APPROXIMATLY
℄	CENTERLINE
CY	CUBIC YARD
E	EAST, EASTING
ELE, ELEV	ELEVATION
FT. '	FOOT, FEET
H	HORIZONTAL
HW/D	HEADWATER TO DIAMETER RATIO
IE	INVERT ELEVATION
IN, "	INCH, INCHES
L	LENGTH OF CURVE
L.C.L	LEFT OF CENTERLINE
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH, NORTHING
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
PC	POINT OF CURVATURE
POT	POINT ON TANGENT
PST	PERFORATED STEEL TUBE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R.C.L	RIGHT OF CENTERLINE
RT	RIGHT
S	SOUTH
SQ. FT.	SQUARE FOOT
STA	STATION
SYM	SYMMETRICAL
T	TANGENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
TS	TUBE STEEL
TYP	TYPICAL
V	VERTICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST
WWR	WELDED WIRE REINFORCEMENT
Ø	DIAMETER

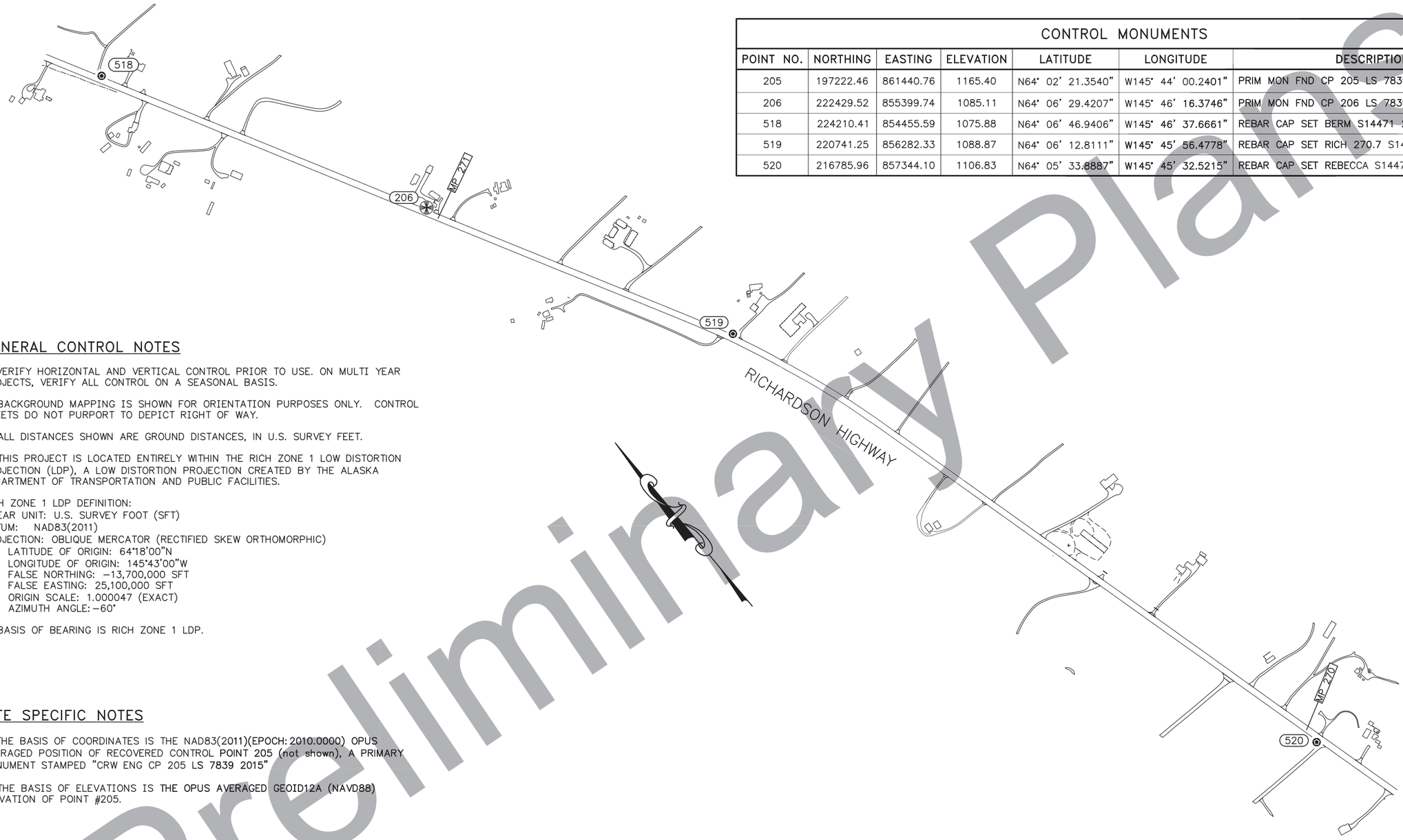
STATE OF ALASKA 49 TH — TREVOR D. STRAIT CE-14864 REGISTERED PROFESSIONAL ENGINEER

LEGEND

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (007-NR)\CAD\Planset\60715_A02-60715_A2 Thu, Dec/15/22 05:32pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z60715	2022	A3	XX



CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
205	197222.46	861440.76	1165.40	N64° 02' 21.3540"	W145° 44' 00.2401"	PRIM MON FND CP 205 LS 7839 2015 (not shown)
206	222429.52	855399.74	1085.11	N64° 06' 29.4207"	W145° 46' 16.3746"	PRIM MON FND CP 206 LS 7839 2015
518	224210.41	854455.59	1075.88	N64° 06' 46.9406"	W145° 46' 37.6661"	REBAR CAP SET BERM S14471 2022
519	220741.25	856282.33	1088.87	N64° 06' 12.8111"	W145° 45' 56.4778"	REBAR CAP SET RICH 270.7 S14471 2022
520	216785.96	857344.10	1106.83	N64° 05' 33.8887"	W145° 45' 32.5215"	REBAR CAP SET REBECCA S14471 2022

GENERAL CONTROL 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. CONTROL SHEETS DO 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 RICH ZONE 1 LOW DISTORTION PROJECTION (LDP), A LOW DISTORTION PROJECTION CREATED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.

RICH ZONE 1 LDP DEFINITION:
LINEAR UNIT: U.S. SURVEY FOOT (SFT)
DATUM: NAD83(2011)
PROJECTION: OBLIQUE MERCATOR (RECTIFIED SKEW ORTHOMORPHIC)
- LATITUDE OF ORIGIN: 64°18'00"N
- LONGITUDE OF ORIGIN: 145°43'00"W
- FALSE NORTHING: −13,700,000 SFT
- FALSE EASTING: 25,100,000 SFT
- ORIGIN SCALE: 1.000047 (EXACT)
- AZIMUTH ANGLE: −60°

5. BASIS OF BEARING IS RICH ZONE 1 LDP.

SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH: 2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 205 (not shown), A PRIMARY MONUMENT STAMPED "CRW ENG CP 205 LS 7839 2015"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #205.

LEGEND

- PRIMARY MONUMENT FOUND
- REBAR AND CAP SET

SURVEY CONTROL

STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 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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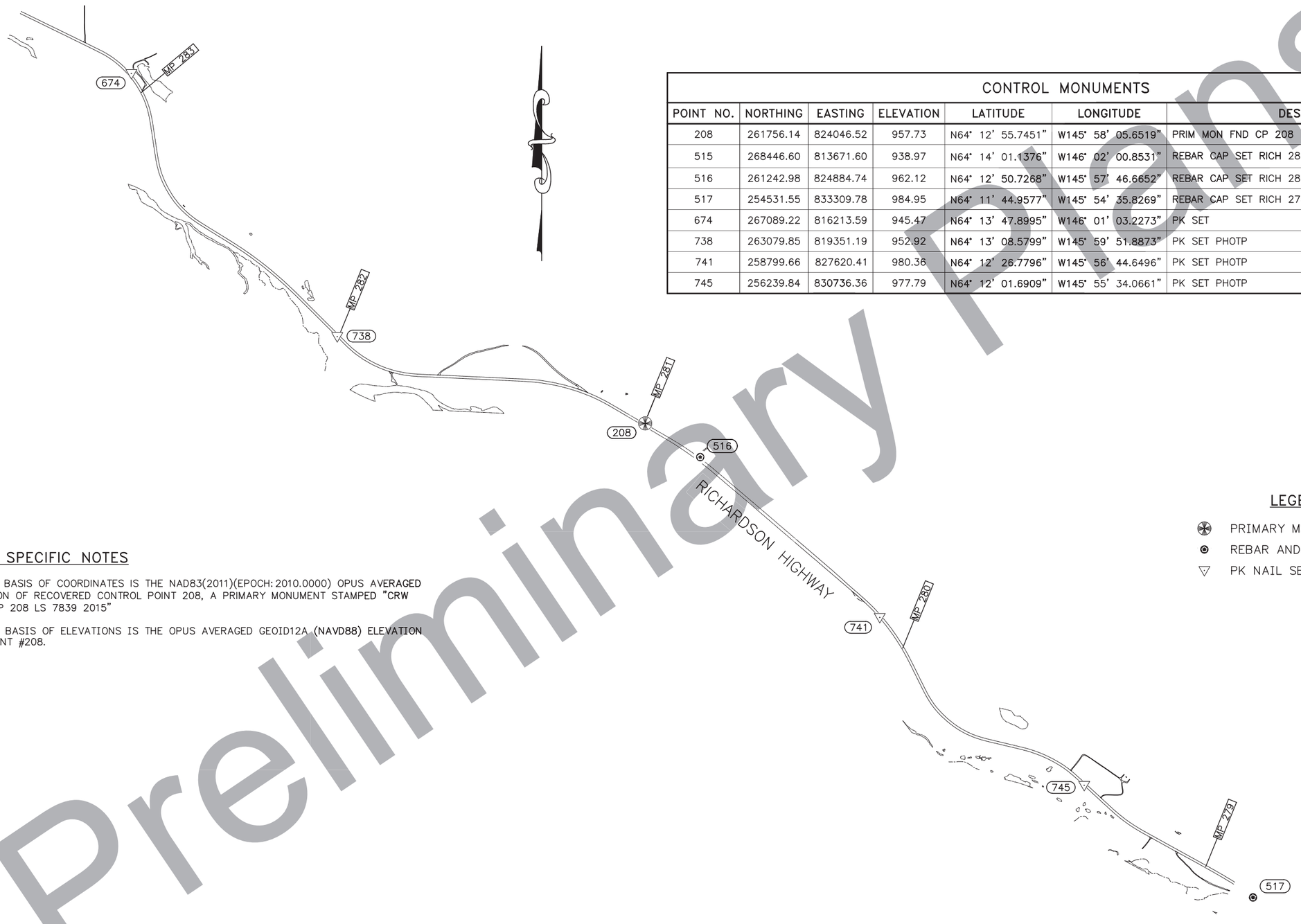
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z60715	2022	A4	XX



CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
208	261756.14	824046.52	957.73	N64° 12' 55.7451"	W145° 58' 05.6519"	PRIM MON FND CP 208 LS 7839 2015
515	268446.60	813671.60	938.97	N64° 14' 01.1376"	W146° 02' 00.8531"	REBAR CAP SET RICH 283.6 S14471 2022 (not shown)
516	261242.98	824884.74	962.12	N64° 12' 50.7268"	W145° 57' 46.6652"	REBAR CAP SET RICH 280.7 S14471 2022
517	254531.55	833309.78	984.95	N64° 11' 44.9577"	W145° 54' 35.8269"	REBAR CAP SET RICH 278.7 S14471 2022
674	267089.22	816213.59	945.47	N64° 13' 47.8995"	W146° 01' 03.2273"	PK SET
738	263079.85	819351.19	952.92	N64° 13' 08.5799"	W145° 59' 51.8873"	PK SET PHOTP
741	258799.66	827620.41	980.36	N64° 12' 26.7796"	W145° 56' 44.6496"	PK SET PHOTP
745	256239.84	830736.36	977.79	N64° 12' 01.6909"	W145° 55' 34.0661"	PK SET PHOTP

LEGEND

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

SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 208, A PRIMARY MONUMENT STAMPED "CRW ENG CP 208 LS 7839 2015"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #208.

SURVEY CONTROL

STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 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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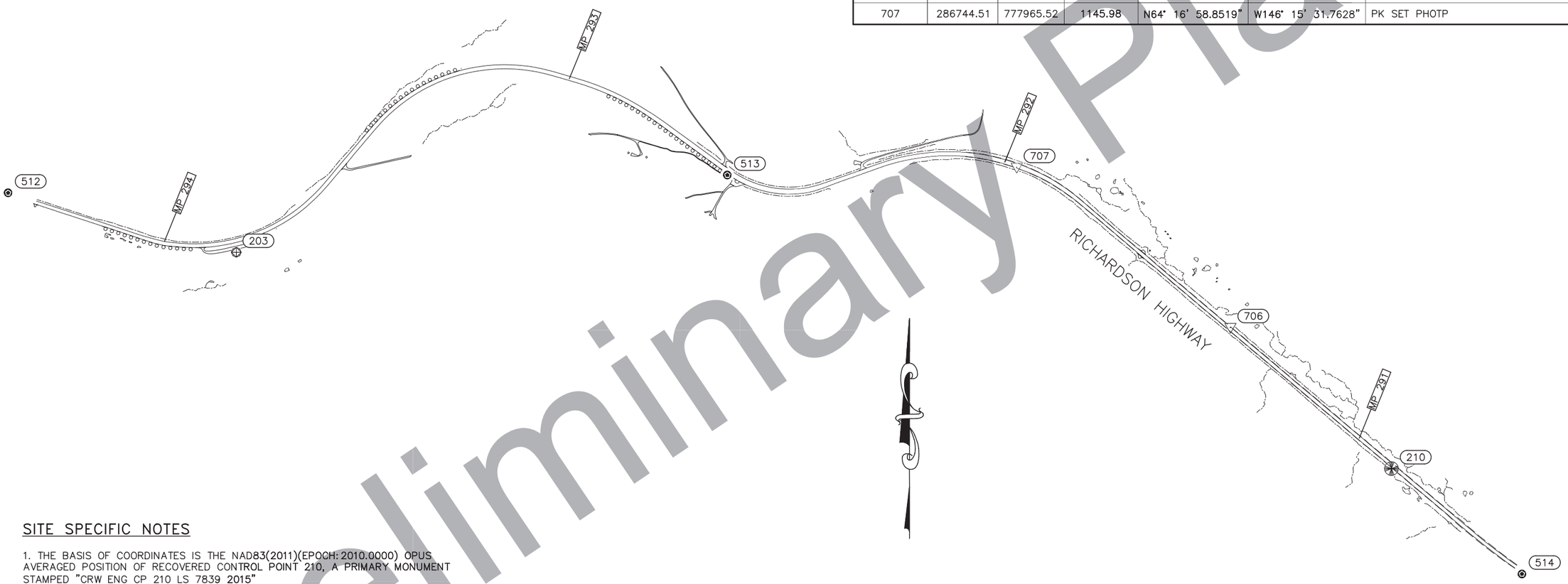
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z60715	2022	A5	XX

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
203	285798.14	769271.39	979.47	N64° 16' 48.7713"	W146° 18' 48.5014"	REBAR FND
210	283386.53	782141.39	1036.17	N64° 16' 26.1451"	W146° 13' 56.5528"	PRIM MON FND CP 210 LS7839 2015
512	286460.51	766728.90	914.62	N64° 16' 55.0521"	W146° 19' 46.2326"	REBAR CAP SET RICH 294.3 S14471 2022
513	286658.49	774741.85	1332.51	N64° 16' 57.7297"	W146° 16' 44.7688"	REBAR CAP SET RICH 292.5 S14471 2022
514	282212.46	783594.84	1024.04	N64° 16' 14.7051"	W146° 13' 23.4276"	REBAR CAP SET RICH 290.5 S14471 2022
706	284959.94	780346.56	1076.56	N64° 16' 41.4855"	W146° 14' 37.4916"	PK SET PHOTP
707	286744.51	777965.52	1145.98	N64° 16' 58.8519"	W146° 15' 31.7628"	PK SET PHOTP



SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 210, A PRIMARY MONUMENT STAMPED "CRW ENG CP 210 LS 7839 2015"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #210.

LEGEND

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

SURVEY CONTROL

STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 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	Z60715	2022	A6	XX

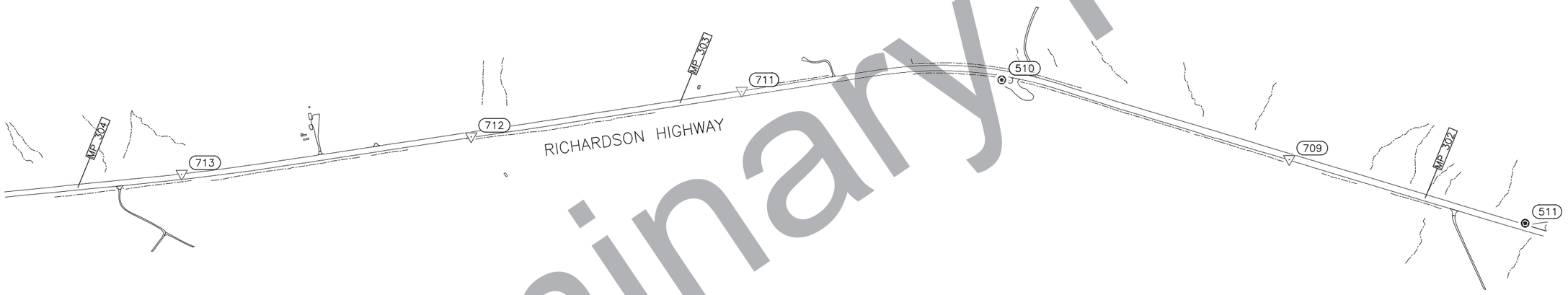
SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH: 2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 213 (not shown), A PRIMARY MONUMENT STAMPED "CRW ENG CP 213 LS 7839 2015"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #213.

LEGEND

- REBAR AND CAP SET
- PK NAIL SET



CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
212	295550.21	737953.85	1077.98	N64° 18' 21.3733"	W146° 30' 40.5737"	PRIM MON FND CP 212 LS 7839 2015 (not shown)
213	295379.07	713074.10	814.29	N64° 18' 16.3251"	W146° 40' 04.5215"	PRIM MON FND CP 213 LS 7839 2015 (not shown)
509	297733.06	722089.11	932.88	N64° 18' 40.7798"	W146° 36' 40.9172"	REBAR CAP SET RICH 304.2 S14471 2022
510	298614.86	730148.93	1104.31	N64° 18' 50.5432"	W146° 33' 38.4326"	REBAR CAP SET RICH 302.5 S14471 2022
511	297565.46	733982.36	1155.87	N64° 18' 40.7096"	W146° 32' 11.1965"	REBAR CAP SET RICH 301.8 S14471 2022
709	298030.75	732254.33	1182.32	N64° 18' 45.0678"	W146° 32' 50.5163"	PK SET PHOTP
711	298530.87	728245.06	1005.19	N64° 18' 49.4659"	W146° 34' 21.5798"	PK SET PHOTP
712	298197.52	726263.04	974.93	N64° 18' 45.9207"	W146° 35' 06.4211"	PK SET PHOTP
713	297923.14	724143.55	941.31	N64° 18' 42.9331"	W146° 35' 54.3945"	PK SET PHOTP

STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 2022
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

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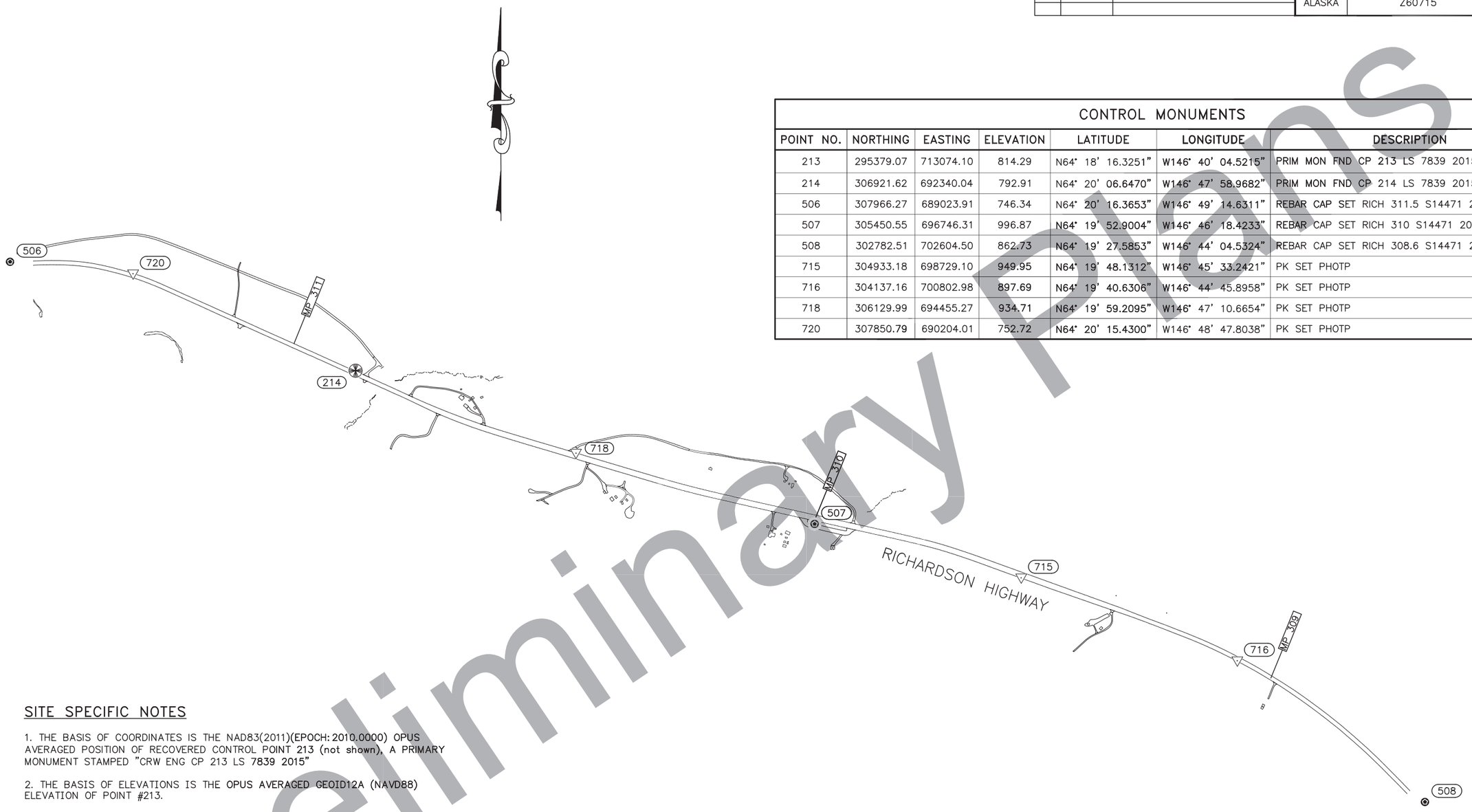
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z60715	2022	A7	XX



CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
213	295379.07	713074.10	814.29	N64° 18' 16.3251"	W146° 40' 04.5215"	PRIM MON FND CP 213 LS 7839 2015 (not shown)
214	306921.62	692340.04	792.91	N64° 20' 06.6470"	W146° 47' 58.9682"	PRIM MON FND CP 214 LS 7839 2015
506	307966.27	689023.91	746.34	N64° 20' 16.3653"	W146° 49' 14.6311"	REBAR CAP SET RICH 311.5 S14471 2022
507	305450.55	696746.31	996.87	N64° 19' 52.9004"	W146° 46' 18.4233"	REBAR CAP SET RICH 310 S14471 2022
508	302782.51	702604.50	862.73	N64° 19' 27.5853"	W146° 44' 04.5324"	REBAR CAP SET RICH 308.6 S14471 2022
715	304933.18	698729.10	949.95	N64° 19' 48.1312"	W146° 45' 33.2421"	PK SET PHOTP
716	304137.16	700802.98	897.69	N64° 19' 40.6306"	W146° 44' 45.8958"	PK SET PHOTP
718	306129.99	694455.27	934.71	N64° 19' 59.2095"	W146° 47' 10.6654"	PK SET PHOTP
720	307850.79	690204.01	752.72	N64° 20' 15.4300"	W146° 48' 47.8038"	PK SET PHOTP

SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 213 (not shown), A PRIMARY MONUMENT STAMPED "CRW ENG CP 213 LS 7839 2015"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #213.

LEGEND

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

SURVEY CONTROL

STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 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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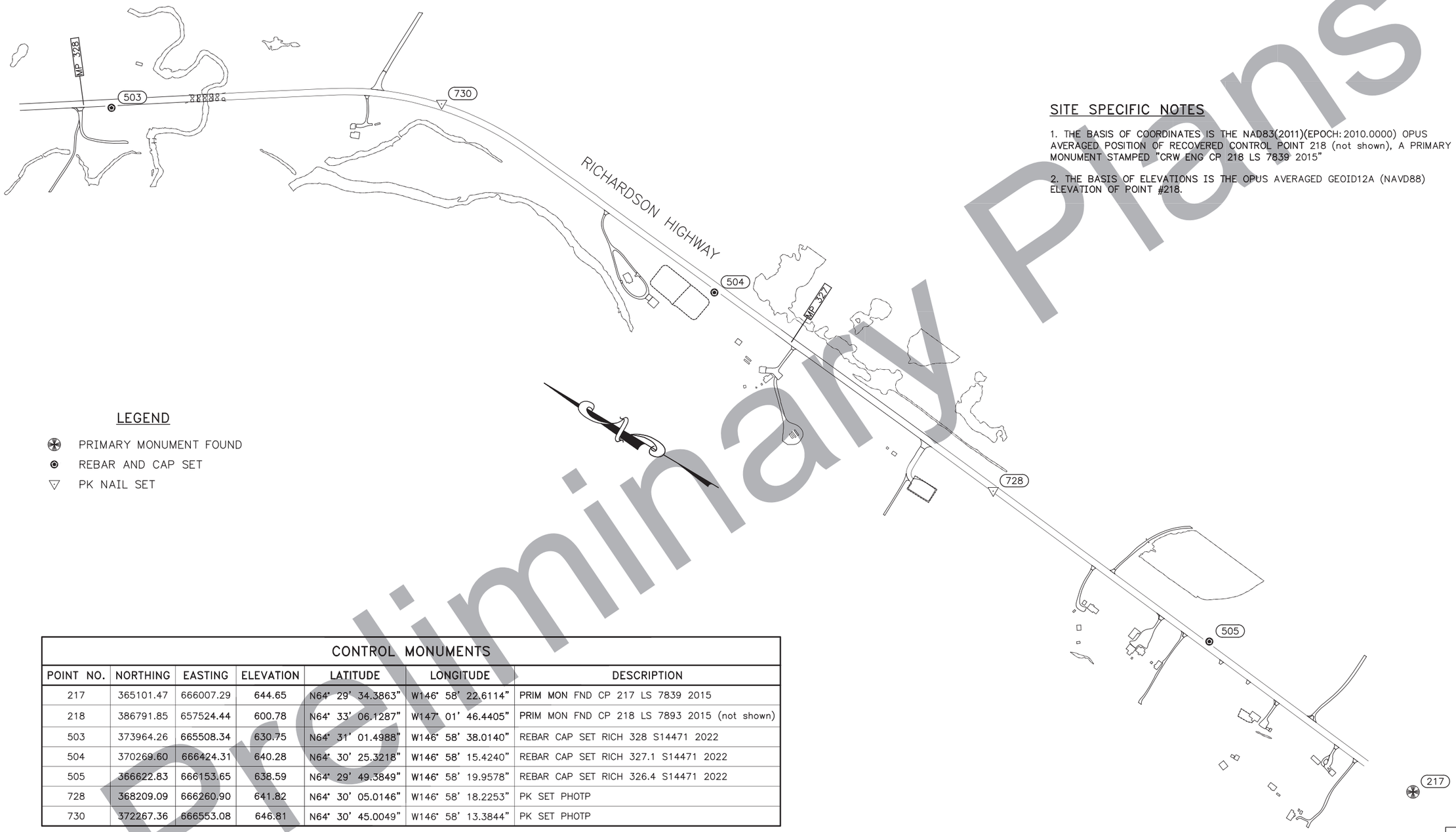
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z60715	2022	A8	XX



SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 218 (not shown), A PRIMARY MONUMENT STAMPED "CRW ENG CP 218 LS 7839 2015"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #218.

LEGEND

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

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
217	365101.47	666007.29	644.65	N64° 29' 34.3863"	W146° 58' 22.6114"	PRIM MON FND CP 217 LS 7839 2015
218	386791.85	657524.44	600.78	N64° 33' 06.1287"	W147° 01' 46.4405"	PRIM MON FND CP 218 LS 7893 2015 (not shown)
503	373964.26	665508.34	630.75	N64° 31' 01.4988"	W146° 58' 38.0140"	REBAR CAP SET RICH 328 S14471 2022
504	370269.60	666424.31	640.28	N64° 30' 25.3218"	W146° 58' 15.4240"	REBAR CAP SET RICH 327.1 S14471 2022
505	366622.83	666153.65	638.59	N64° 29' 49.3849"	W146° 58' 19.9578"	REBAR CAP SET RICH 326.4 S14471 2022
728	368209.09	666260.90	641.82	N64° 30' 05.0146"	W146° 58' 18.2253"	PK SET PHOTP
730	372267.36	666553.08	646.81	N64° 30' 45.0049"	W146° 58' 13.3844"	PK SET PHOTP

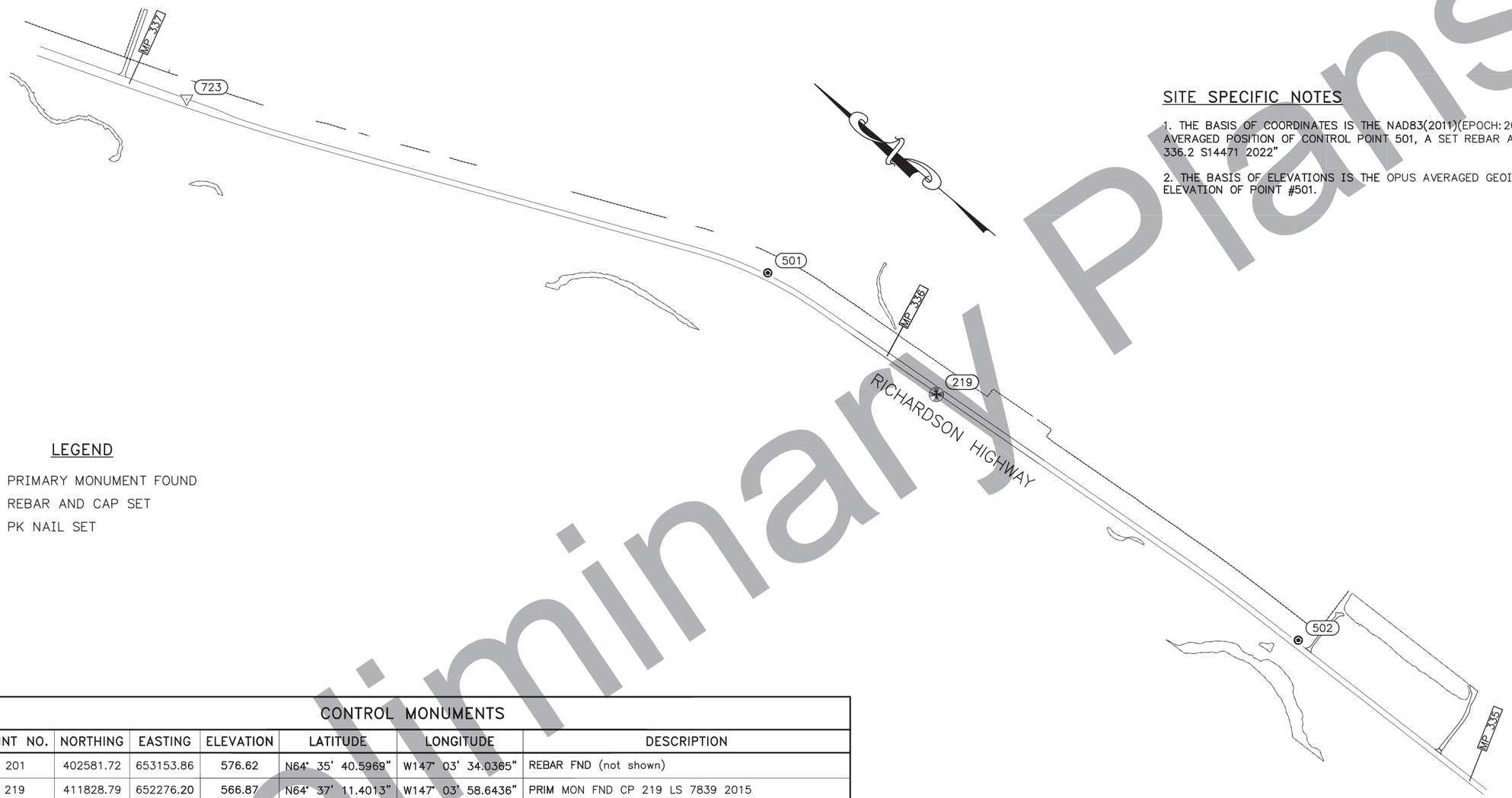
STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 2022
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
K:\22_Projects\Rich 266_341 Z60715\5-CAD Drawings\2-Control\Z60715000_Control-A8 mp326 Tue, Dec/06/22 02:04pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z60715	2022	A9	XX



SITE SPECIFIC NOTES

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH: 2010.0000) OPUS AVERAGED POSITION OF CONTROL POINT 501, A SET REBAR AND CAP STAMPED "RICH 336.2 S14471 2022"

2. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF POINT #501.

LEGEND

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

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
201	402581.72	653153.86	576.62	N64° 35' 40.5969"	W147° 03' 34.0365"	REBAR FND (not shown)
219	411828.79	652276.20	566.87	N64° 37' 11.4013"	W147° 03' 58.6436"	PRIM MON FND CP 219 LS 7839 2015
500	419639.19	649510.77	557.17	N64° 38' 27.6694"	W147° 05' 05.9081"	REBAR CAP SET RICH 337.4 S14471 2022 (not shown)
501	413266.19	652169.99	566.93	N64° 37' 25.5225"	W147° 04' 01.7797"	REBAR CAP SET RICH 336.2 S14471 2022
502	408811.07	652583.83	569.46	N64° 36' 41.7725"	W147° 03' 50.1218"	REBAR CAP SET RICH 335.3 S14471 2022
723	417126.18	650500.59	562.54	N64° 38' 03.1521"	W147° 04' 41.9593"	PK SET PHOTP

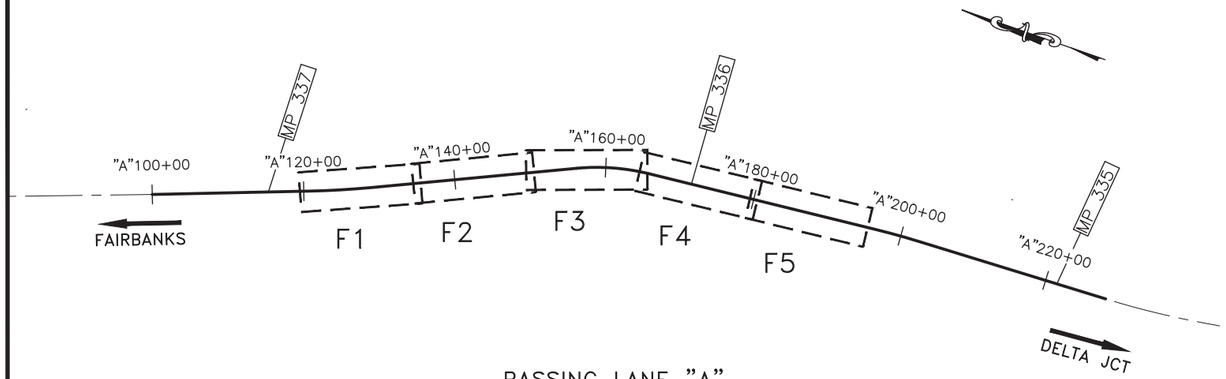
STATE OF ALASKA 49TH
TROY M. HICKS
Dec 06, 2022
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
K:\22_Projects\Rich 266_341 Z60715\5-CAD Drawings\2-Control\Z60715000_Control-A9 mp335 Tue, Dec/06/22 02:04pm

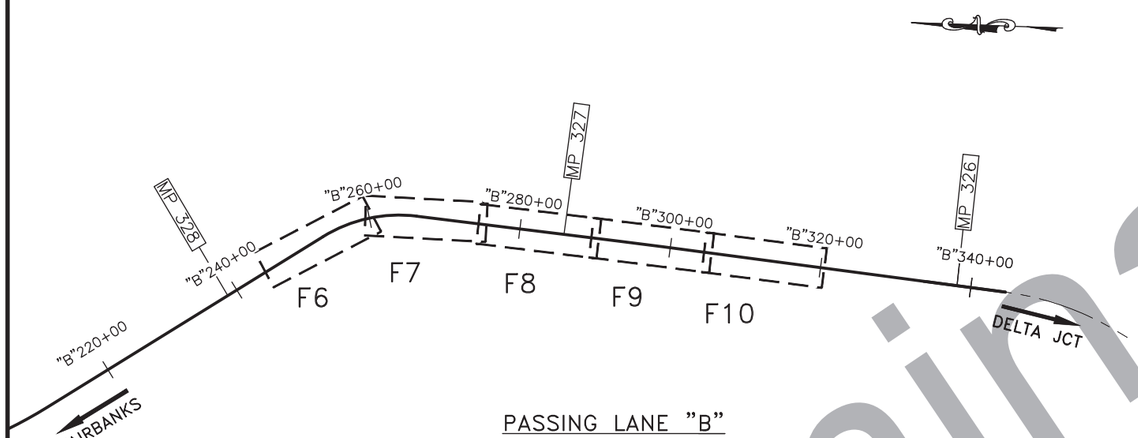
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	A10	A12



PASSING LANE "A"

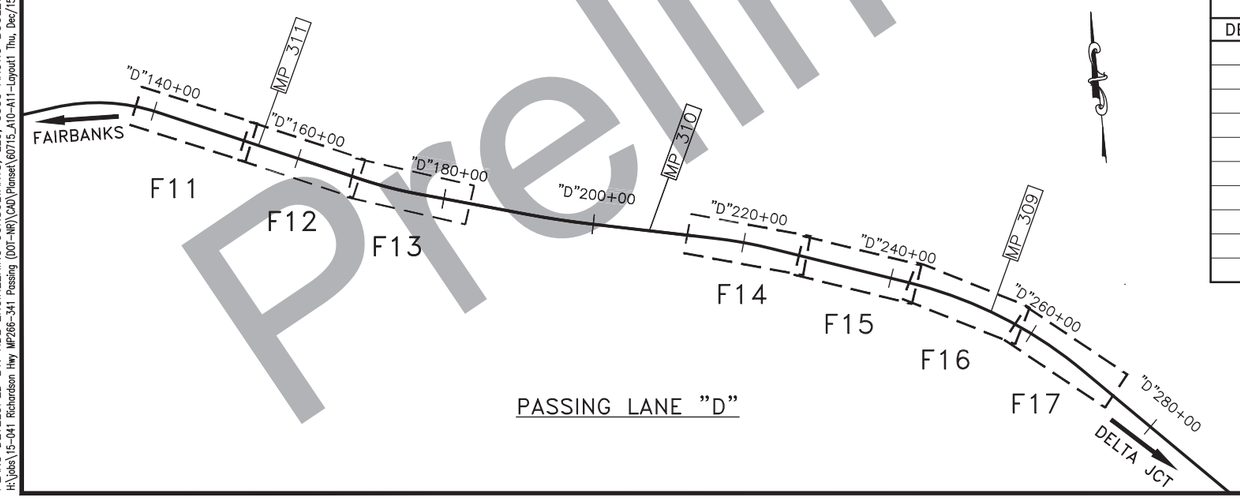
ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
POT	"A"100+00.00	418937.8217	649796.7081
PC	"A"120+63.89	417003.4739	650516.3890
PI	"A"124+77.47	416615.8542	650660.6043
PT	"A"128+90.69	416239.6393	650832.3875
PC	"A"156+13.08	413763.1907	651963.1571
PI	"A"160+96.65	413323.3150	652164.0085
PT	"A"165+71.58	412841.8837	652209.3480
PC	"A"196+17.58	409808.9040	652494.9833
PI	"A"199+47.55	409480.3789	652525.9226
PT	"A"202+77.35	409150.6179	652537.9059
POT	"A"228+29.09	406600.5613	652630.5732



PASSING LANE "B"

ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
POT	"B"100+00.00	384833.3833	658091.6292
PC	"B"104+40.68	384405.9314	658198.8080
PI	"B"110+35.09	383829.3745	658343.3732
PT	"B"116+28.43	383270.8693	658546.8159
PC	"B"123+01.15	382638.7796	658777.0626
PI	"B"126+75.77	382286.7838	658905.2816
PT	"B"130+41.00	381912.4338	658891.0269
PC	"B"135+71.49	381382.3230	658870.8411
PI	"B"139+47.31	381006.7790	658856.5410
PT	"B"142+97.79	380695.7067	659067.4245
PC	"B"151+85.51	379960.9209	659565.5540
PI	"B"157+49.86	379493.7926	659882.2319
PT	"B"162+60.71	379368.2083	660432.4339

ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
PC	"B"171+52.89	379169.6741	661302.2400
PI	"B"185+09.87	378867.7071	662625.1989
PT	"B"196+87.47	377652.7764	663229.6389
PC	"B"203+13.58	377092.2084	663508.5270
PI	"B"206+82.46	376761.9495	663672.8341
PT	"B"210+50.31	376455.4860	663878.1337
PC	"B"253+36.03	372894.8739	666263.3852
PI	"B"260+07.88	372336.6973	666637.3074
PT	"B"266+28.08	371667.3489	666579.4126
PC	"B"292+93.08	369012.2621	666349.7627
PI	"B"295+98.09	368708.3947	666323.4799
PT	"B"299+03.08	368404.7723	666294.5023
POT	"B"344+60.91	363867.5604	665861.4714



PASSING LANE "D"

ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
POT	"D"100+00.00	308768.5804	686724.2462
PC	"D"111+58.06	308080.9814	687656.0746
PI	"D"116+11.86	307811.5326	688021.2293
PT	"D"120+22.25	307865.1283	688471.8601
PC	"D"126+74.95	307942.2143	689119.9958
PI	"D"133+80.47	308025.5381	689820.5788
PT	"D"140+51.47	307736.4778	690464.1652
PC	"D"168+90.36	306573.3499	693053.8443
PI	"D"172+72.22	306416.8959	693402.1857
PT	"D"176+52.96	306308.0491	693768.2075

ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
PC	"D"191+38.35	305884.6510	695191.9786
PI	"D"195+33.61	305771.9853	695570.8421
PT	"D"199+28.56	305685.6907	695956.5678
PC	"D"216+31.13	305313.9811	697618.0617
PI	"D"219+95.54	305234.4205	697973.6874
PT	"D"223+58.98	305110.4489	698316.3689
PC	"D"242+52.11	304466.4204	700096.5882
PI	"D"255+68.82	304018.4869	701334.7633
PT	"D"268+40.59	303074.9817	702253.1968
POT	"D"297+32.00	301003.1091	704270.0135

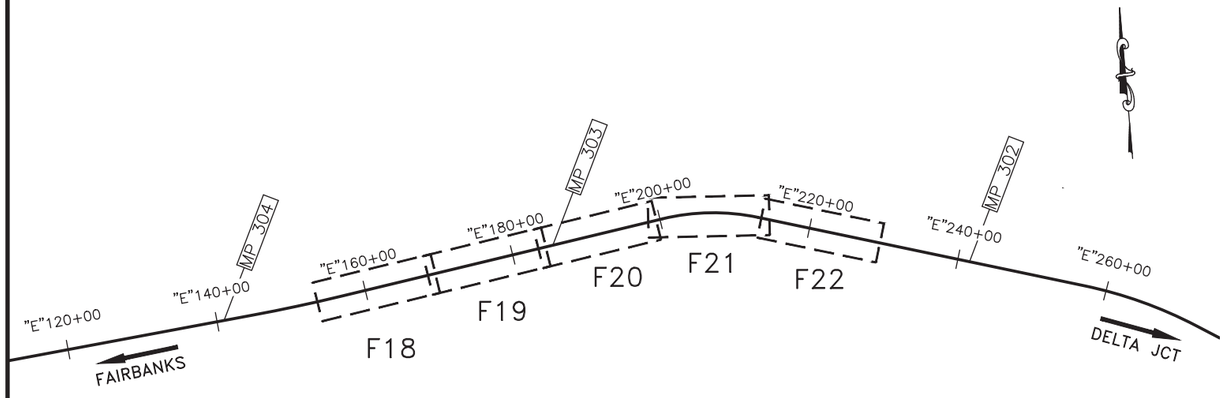
PROJECT LAYOUT

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansell\60715_A10-A11-Layout1 Thu, Dec/15/22 05:32pm

NO.	DATE	REVISION

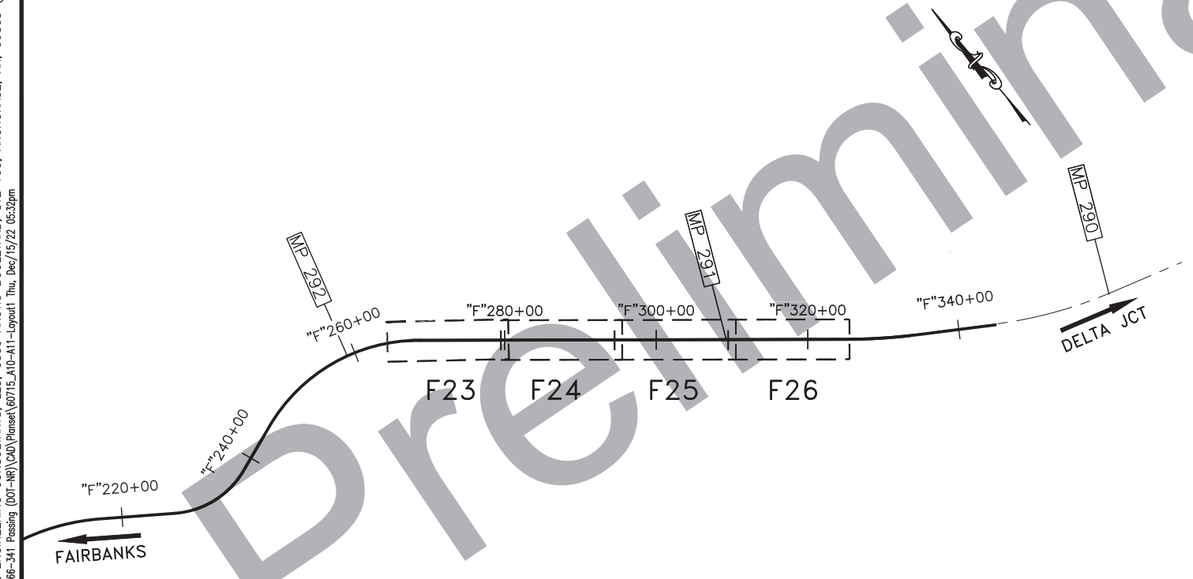
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	A11	A12



PASSING LANE "E"

ALIGNMENT COORDINATES

DESCRIPTION	STATION	NORTHING	EASTING
POT	"E"100+00.00	297429.0362	719311.1431
PC	"E"144+78.64	297868.9518	723768.1218
PI	"E"150+73.56	297927.3882	724360.1675
PT	"E"156+68.21	298016.4624	724948.3842
PC	"E"200+35.65	298670.3722	729266.5885
PI	"E"206+80.46	298766.9156	729904.1291
PT	"E"213+04.13	298580.9908	730521.5518
PC	"E"257+07.84	297311.2224	734738.2233
PI	"E"264+95.79	297084.0219	735492.7149
PT	"E"272+73.93	296661.5858	736157.8656
PC	"E"297+75.17	295320.6315	738269.2769
PI	"E"304+35.39	294966.6765	738826.5998
PT	"E"310+89.82	294495.2399	739288.8126
PC	"E"338+32.93	292536.4992	741209.2296
PI	"E"342+21.43	292259.0865	741481.2146
PT	"E"345+91.68	291882.2629	741575.7541
PC	"E"359+68.72	290546.6131	741910.8490
PI	"E"362+71.20	290253.2230	741984.4563
PT	"E"365+64.93	290014.6432	742170.4011
PC	"E"371+77.07	289531.8257	742546.7005
PI	"E"381+46.65	288767.0779	743142.7313
PT	"E"388+81.76	289036.2846	744074.1924
PC	"E"399+31.80	289327.8301	745082.9461
PI	"E"402+11.16	289405.3952	745351.3230
PT	"E"404+90.41	289469.7905	745623.1607
POT	"E"412+87.35	289653.4926	746398.6392



PASSING LANE "F"

ALIGNMENT COORDINATES

DESCRIPTION	STATION	NORTHING	EASTING
POT	"F"100+00.00	288554.7886	764013.4723
PC	"F"120+56.00	287001.9856	765361.0339
PI	"F"125+69.40	286614.2312	765697.5369
PT	"F"130+41.95	286528.5252	766203.7406
PC	"F"133+82.75	286471.6337	766539.7577
PI	"F"136+69.00	286423.8478	766821.9943
PT	"F"139+54.18	286334.5298	767093.9561
PC	"F"151+23.95	285969.5359	768205.3153
PI	"F"164+09.13	285568.5276	769426.3338
PT	"F"173+86.44	286548.6016	770257.6875
PC	"F"182+36.30	287196.7041	770807.4445
PI	"F"194+77.45	288143.1992	771610.3148
PT	"F"204+37.53	287793.9492	772801.3136
PC	"F"207+19.18	287714.6965	773071.5781
PI	"F"212+17.84	287574.3774	773550.0889
PT	"F"217+06.60	287280.6258	773953.0431
PC	"F"227+02.44	286693.9963	774757.7531
PI	"F"233+04.96	286339.0605	775244.6369
PT	"F"238+11.86	286538.9877	775813.0243

ALIGNMENT COORDINATES

DESCRIPTION	STATION	NORTHING	EASTING
PC	"F"244+82.66	286761.5716	776445.8239
PI	"F"257+95.63	287197.2366	777684.4067
PT	"F"268+67.31	286349.1223	778686.7009
PC	"F"325+07.12	282706.0822	782992.0144
PI	"F"329+80.71	282400.1620	783353.5482
PT	"F"334+53.10	282141.2383	783750.0988
POT	"F"344+85.97	281576.5520	784614.9351

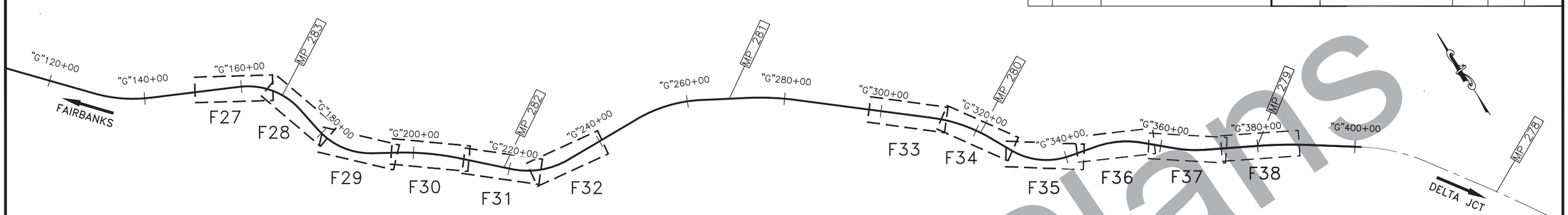
PROJECT LAYOUT

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_A10-A11-Layout1 Thu, Dec/15/22 05:32pm

NO.	DATE	REVISION

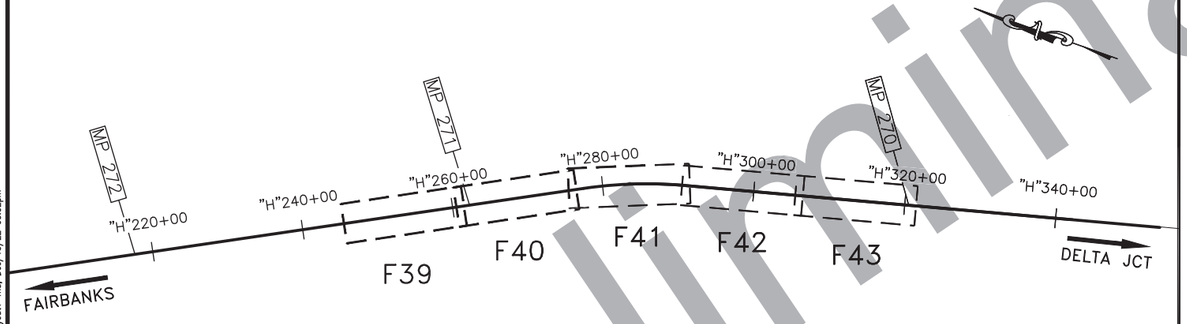
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	A12	A12



PASSING LANE "G"

ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
POT	"G"100+00.00	271175.6825	811215.9637
PC	"G"129+58.05	268943.0690	813156.4505
PI	"G"135+39.04	268504.5592	813537.5834
PT	"G"141+04.49	268249.1801	814059.4404
PC	"G"159+26.96	267448.0996	815696.4169
PI	"G"159+73.48	267427.6519	815738.2010
PCC	"G"160+19.99	267405.6409	815779.1831
PI	"G"167+34.19	267067.7107	816408.3739
PT	"G"173+44.71	266361.6835	816516.0936
PC	"G"179+08.15	265804.6889	816601.0752
PI	"G"185+70.94	265149.4794	816701.0415
PT	"G"191+49.69	264801.5641	817265.1759
PC	"G"196+54.64	264536.5024	817694.9655
PI	"G"203+16.22	264189.2219	818258.0705
PT	"G"209+71.97	263722.7499	818727.2133
PC	"G"220+47.19	262964.6235	819489.6804
PI	"G"226+81.05	262517.7026	819939.1600
PT	"G"232+56.70	262490.0045	820572.4080
PC	"G"248+92.43	262418.5265	822206.5744
PI	"G"256+05.09	262387.3848	822918.5504
PT	"G"262+89.39	262026.2950	823532.9556
PC	"G"272+27.42	261551.0132	824341.6621
PI	"G"277+34.47	261294.1007	824778.8066
PT	"G"282+38.88	260964.4104	825164.0386

ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
PC	"G"310+06.27	259165.0215	827266.5640
PI	"G"311+58.97	259065.7304	827382.5822
PCC	"G"313+11.56	258958.8388	827491.6378
PI	"G"313+52.27	258930.3423	827520.7111
PCC	"G"313+92.97	258900.5144	827548.4167
PI	"G"318+74.08	258548.0075	827875.8417
PT	"G"323+48.54	258117.0384	828089.6966
PC	"G"328+37.65	257678.8973	828307.1103
PI	"G"334+97.97	257087.3999	828600.6223
PT	"G"340+72.96	256933.4472	829242.7415
PC	"G"346+44.01	256800.3070	829798.0539
PI	"G"351+37.00	256685.3673	830277.4540
PT	"G"356+08.49	256350.9105	830639.6338
PC	"G"363+12.21	255873.4876	831156.6302
PI	"G"366+08.10	255672.7479	831374.0091
PT	"G"369+01.11	255529.8345	831633.0957
PC	"G"380+05.35	254996.4872	832599.9970
PI	"G"385+45.80	254735.4517	833073.2263
PT	"G"390+85.11	254423.0131	833514.2112
POT	"G"401+21.15	253824.0695	834359.5774



ALIGNMENT COORDINATES			
DESCRIPTION	STATION	NORTHING	EASTING
POT	"H"100+00.00	235871.6367	846688.4974
PC	"H"142+34.29	232823.5153	849627.5722
PI	"H"150+46.03	232239.1674	850191.0151
PT	"H"158+47.05	231521.3046	850569.9657
PC	"H"277+46.38	220998.1868	856124.9857
PI	"H"284+19.58	220402.8535	856439.2546
PT	"H"290+86.62	219750.8896	856606.9734
POT	"H"353+78.00	213657.8923	858174.4075

PASSING LANE "H"

PROJECT LAYOUT

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

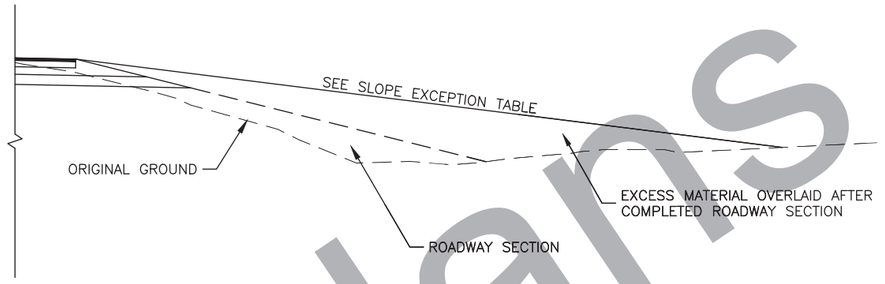
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_A10-A11-Layout1 Thu, Dec/15/22 05:32pm

NO.	DATE	REVISION

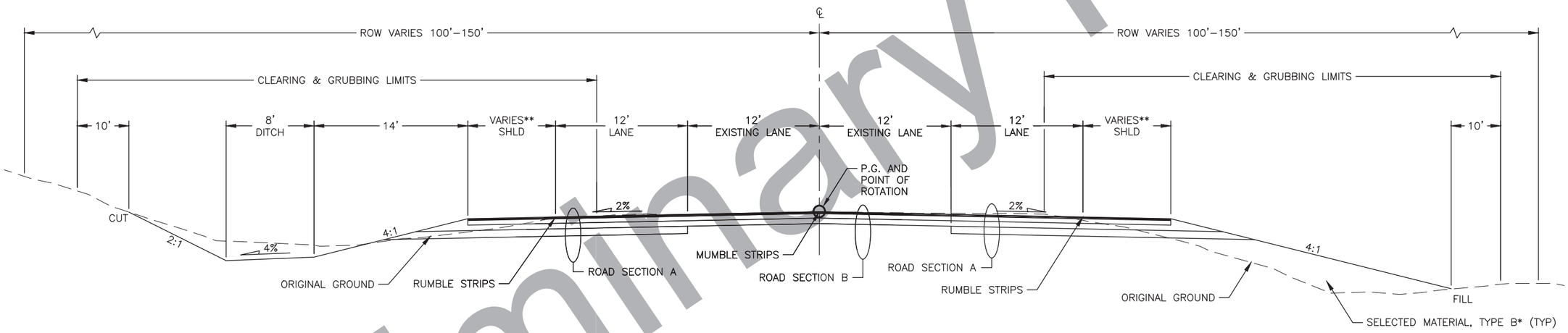
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	B1	B3

TABLE OF SLOPE EXCEPTIONS

STATION TO STATION	OFFSET	CUT/FILL	SLOPE	REMARKS
"A" 159+00 TO "A" 165+50	LT/RT	FILL	8:1	WASTE AREA
"A" 166+50 TO "A" 177+00	LT/RT	FILL	8:1	WASTE AREA
"D" 144+04 TO "D" 148+00	RT	FILL	6:1	WASTE AREA
"D" 240+00 TO "D" 241+80	LT	FILL	6:1	WASTE AREA
"D" 242+60 TO "D" 246+50	LT	FILL	6:1	WASTE AREA
"E" 160+00 TO "E" 162+00	LT	FILL	6:1	WASTE AREA
"E" 165+80 TO "E" 170+00	LT	FILL	6:1	WASTE AREA



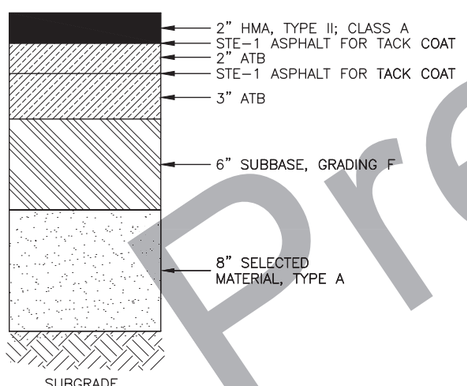
WASTE AREA



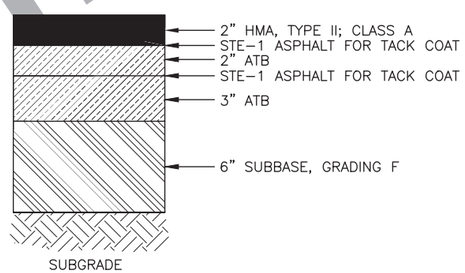
RICHARDSON HIGHWAY
TWO DIRECTION WIDENING
"A"128+25 TO "A"190+70
"D"153+20 TO "D"173+00
"D"221+76 TO "D"236+90

* USE EXCAVATED EXISTING EMBANKMENT MATERIAL WHERE IT MEETS THE REQUIREMENTS OF SELECTED MATERIAL, TYPE C OR BETTER.

** SEE TAPER CALLOUTS AS SHOWN ON PLANS.



ROAD SECTION A
NTS



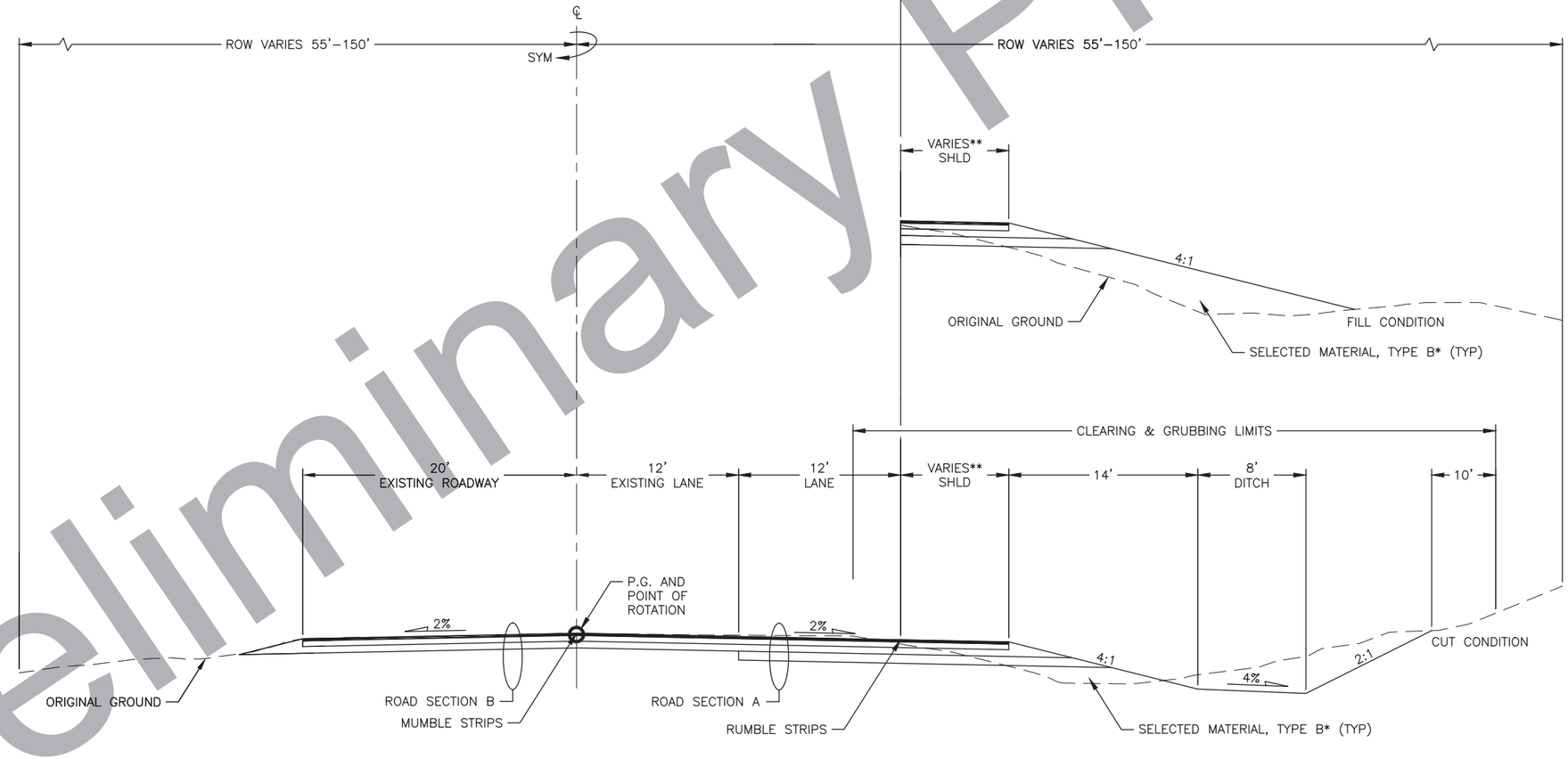
ROAD SECTION B
NTS

TYPICAL SECTIONS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NH)\CAD\Planset\60715_B01-B03-Hwy-Gen Thu, Dec/15/22 05:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	B2	B3



VEE DITCH

"H"248+44 TO "H"313+64 [LT]

RICHARDSON HIGHWAY ONE DIRECTION WIDENING

"B"248+00 TO "B"309+00 [LT]
"D"141+20 TO "D"153+20 [RT]
"D"236+90 TO "D"263+75 [LT]
"E"155+00 TO "E"218+50 [RT]
"F"265+25 TO "F"324+07 [LT]
"G"153+13 TO "G"237+33 [RT]
"G"304+60 TO "G"378+98 [LT]
"H"248+44 TO "H"313+64 [LT]

* USE EXCAVATED EXISTING EMBANKMENT MATERIAL WHERE IT MEETS THE REQUIREMENTS OF SELECTED MATERIAL, TYPE C OR BETTER.

** SEE TAPER CALLOUTS AS SHOWN ON PLANS.

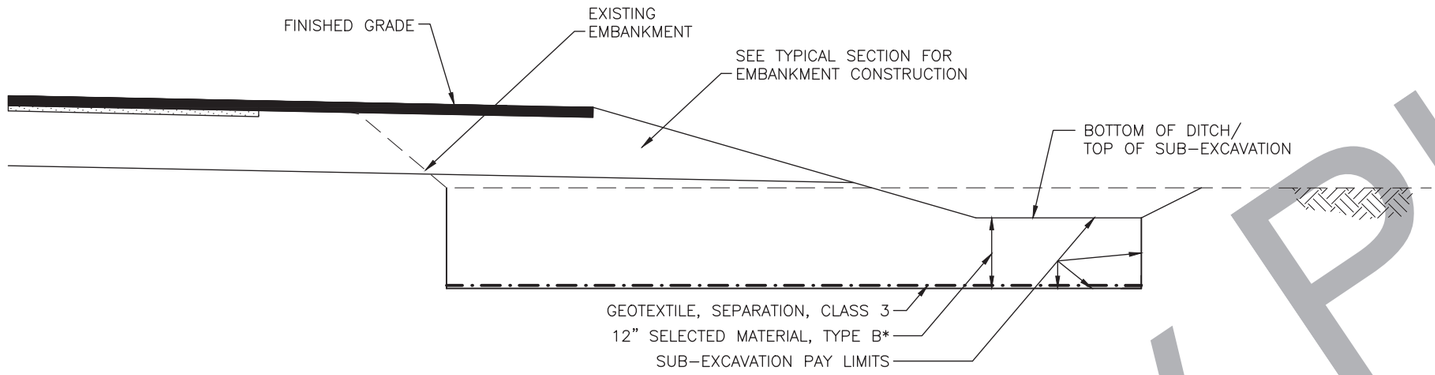
TYPICAL SECTIONS

STATE OF ALASKA 49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

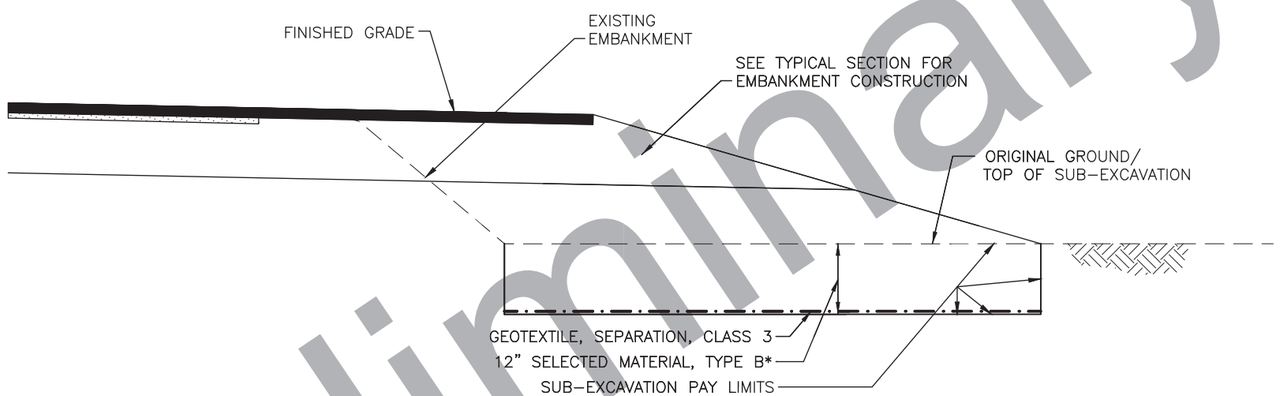
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK. 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NH)\CAD\Planset\60715_B01-B03-Hwy-Gen Thu, Dec/15/22 05:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	B3	B3



CUT CONDITION



FILL CONDITION

SUB-EXCAVATION TYPICAL SECTION – EMBANKMENT WIDENING

SUB-EXCAVATION TABLE

STATION TO STATION	OFFSET	EXPECTED PERCENTAGE OF PASSING LANE REQUIRING SUB-EXCAVATION
"A" 128+25 TO "A" 190+70	LT	30%
"A" 128+25 TO "A" 190+70	RT	30%
"B" 248+00 TO "B" 309+00	LT	50%
"D" 141+20 TO "D" 173+00	RT	5%
"D" 153+00 TO "D" 173+00	LT	5%
"D" 221+76 TO "D" 236+90	RT	5%
"D" 238+00 TO "D" 263+75	LT	5%
"E" 155+00 TO "E" 218+50	RT	20%
"F" 265+25 TO "F" 342+07	LT	50%
"G" 153+13 TO "G" 237+33	RT	75%
"G" 304+60 TO "G" 378+98	LT	10%
"H" 248+44 TO "H" 313+64	LT	10%

* USE EXCAVATED EXISTING EMBANKMENT MATERIAL WHERE IT MEETS THE REQUIREMENTS OF SELECTED MATERIAL, TYPE C OR BETTER.

GENERAL SUB-EXCAVATION NOTES:

1. SUB-EXCAVATION SHOULD BE PERFORMED IN LOCATIONS WHERE EXISTING GROUND IS FOUND TO BE SOFT, LOOSE, OR PUMPING, OR AS DIRECTED BY THE ENGINEER.
2. THE BACKFILL OPERATION SHALL PROCEED CONTINUOUSLY AND DIRECTLY BEHIND THE SUB-EXCAVATION.
3. USE A LONGITUDINAL 10:1 SLOPE TO TRANSITION INTO, OUT OF, AND BETWEEN SUB-EXCAVATION ZONES, OR AS DIRECTED BY THE ENGINEER.

TYPICAL SECTIONS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_B01-B03-Hwy-Gen Thu, Dec/15/22 05:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	C1	C1

ESTIMATE OF QUANTITIES

ITEM NO	DESCRIPTION	PAY UNIT	QUANTITY
201.0009.0000	CLEARING AND GRUBBING	LS	ALL REQ'D
202.0002.0000	REMOVAL OF PAVEMENT	SY	234,000
202.0004.0000	REMOVAL OF CULVERT PIPE	LF	2,950
202.0010.0000	SINGLE MAIL BOX INSTALLATION	EACH	7
202.0011.0000	MULTIPLE MAIL BOX INSTALLATION	EACH	4
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	175,200
203.0006.0000	BORROW	TON	139,200
205.0004.0000	POROUS BACKFILL MATERIAL	CY	244
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	770
304.0001.000F	SUBBASE, GRADING F	TON	160,300
306.0001.0000	ATB	TON	97,800
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	TON	5,184
401.0001.002A	HMA, TYPE II; CLASS A	TON	38,700
401.0004.5228	ASPHALT BINDER, GRADE PG 52-28	TON	2,180
401.0008.002A	HMA PRICE ADJUSTMENT, TYPE II, CLASS A	CS	ALL REQ'D
401.0012.002B	HMA, DRIVEWAY, TYPE II; CLASS B	TON	270
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CS	ALL REQ'D
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	TON	240
406.0008.0000	RUMBLE STRIPS, SHOULDERS	MILE	30
406.0012.0000	RUMBLE STRIPS, CENTERLINE MUMBLE STRIPS	MILE	15
406.2000.0000	SWEEPING AND DISPOSAL OF MILLINGS	LS	ALL REQ'D
603.0001.0018	CSP 18 INCH	LF	590
603.0001.0036	CSP 36 INCH	LF	3,250
610.0002.0000	DITCH LINING	TON	3,212
611.0002.0001	RIPRAP, CLASS I	TON	1,700
613.0002.0000	CULVERT MARKER POST	EACH	96
615.0001.0000	STANDARD SIGN	SF	610
615.0006.0000	SALVAGE SIGN	EACH	88
616.0001.0050	THAW PIPE 1/2 INCH DIAMETER	LF	3,840
618.0002.0000	SEEDING	POUND	2,540
620.0001.0000	TOPSOIL	SY	188,000
630.0001.0003	GEOTEXTILE, SEPARATION, CLASS 3	SY	225,900
631.0002.0001	GEOTEXTILE, EROSION CONTROL, CLASS 1	SY	1,315
639.0001.0000	DRIVEWAY	EACH	53
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	LS	ALL REQ'D
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQ'D
641.0005.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL BY DIRECTIVE	CS	ALL REQ'D
641.0006.0000	WITHHOLDING	CS	ALL REQ'D
641.0007.0000	SWPPP MANAGER	LS	ALL REQ'D
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D
642.0003.0000	THREE PERSON SURVEY PARTY	HR	120
642.2008.0000	PASSING SIGHT DISTANCE MEASUREMENT	STATION	1,781
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQ'D
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CS	ALL REQ'D
643.0025.0000	TRAFFIC CONTROL	CS	ALL REQ'D
643.0032.0000	FLAGGING	CS	ALL REQ'D
644.0001.0000	FIELD OFFICE	LS	ALL REQ'D
644.0002.0000	FIELD LABORATORY	LS	ALL REQ'D
644.0015.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	1
644.2002.0000	FIELD COMMUNICATIONS	CS	ALL REQ'D
644.2007.0000	VEHICLE (LT/SUV)	EACH	4
645.0001.0000	TRAINING PROGRAM, 4	LABOR HOUR	2,500
646.0001.0000	CPM SCHEDULING	LS	ALL REQ'D
654.2006.0000	CHANNEL REALIGNMENT	LS	ALL REQ'D
670.2001.0000	MMA PAVEMENT MARKINGS, SURFACE APPLIED	LS	ALL REQ'D

GENERAL NOTES:

1. CLEARING LIMITS SHALL EXTEND TO A POINT 10-FEET BEYOND CATCH SLOPE LIMITS OR TO ROW, WHICHEVER IS LESS, EXCEPT WHERE NOTED ON THE PLANS. CUT ALL TREES, BRUSH, AND STUMPS FLUSH WITH THE GROUND.
2. COMPLY WITH THE MIGRATORY BIRD ACT, IN PARTICULAR WHEN DEVELOPING THE TIMING FOR CLEARING. SEE THE ESCP FOR ADDITIONAL INFORMATION.
3. GRUBBING SHALL BE PERFORMED ON ALL EXISTING FORESLOPES AND UNDER EMBANKMENT BEFORE CONSTRUCTING WIDENED EMBANKMENT OR NEW EMBANKMENT.
4. FUEL STORAGE WILL NOT BE ALLOWED WITHIN 100 FEET OF WATER BODIES AND MUST HAVE SECONDARY CONTAINMENT.
5. SAW CUT ALL TRANSITION MATCH POINTS. APPLY STE-1 TACK COAT TO ALL SAW CUT FACES AND PRIOR TO PAVING. SAW CUTTING WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT IS SUBSIDIARY TO THE 401 PAY ITEMS.
6. SEED ALL DISTURBED GROUND NOT COVERED BY DITCH LINING, RIPRAP, PAVEMENT, OR CONCRETE. SEE SUBSECTION 618-2.01 FOR SPECIAL REQUIREMENTS FOR STEEP SLOPES.
7. LAYERS OF BURIED ASPHALT MAY BE ENCOUNTERED WITHIN THE EXCAVATION LIMITS. WHERE ENCOUNTERED, REMOVE AND DISPOSE OF IN ACCORDANCE WITH 202-3.05 PAYMENT. THIS WORK IS INCLUDED IN 203.0003.0000.
8. TO MEET PROVISIONS OF THE CGP, SEEDING MAY REQUIRE MULTIPLE MOBILIZATIONS. ALL MOBILIZATIONS REQUIRED TO MEET THE CGP ARE SUBSIDIARY TO PAY ITEM 641.0001.0000.
9. BURIED AND OVERHEAD UTILITIES EXIST THROUGHOUT THE PROJECT, AND ARE SHOWN ON THE PLAN SHEETS. LOCATE AND PROTECT FROM CONSTRUCTION DAMAGE ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS PRIOR TO BEGINNING ANY GROUND DISTURBING WORK OR CLEARING. CONTACT THE DIGLINE AT (1-800-478-3121) OR THE UTILITY COMPANIES FOR LOCATES. SEE SUBSECTION 105-1.06 OF THE SPECIAL PROVISIONS FOR UTILITY COMPANY CONTACT INFORMATION AND ADDITIONAL REQUIREMENTS.
10. ALL WIRE CROSSING ELEVATIONS SHOWN ON PROFILES ARE THE APPROXIMATE ELEVATIONS WHERE THE LOWEST WIRE CROSSES THE PROPOSED CENTERLINE OF ROADWAY.
11. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE RIGHT-OF-WAY OR TEMPORARY CONSTRUCTION PERMITS. NO EXCESS MATERIAL SHALL BE DISPOSED OF WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY CALLED FOR IN THE PLANS OR DIRECTED BY THE ENGINEER.
12. CONTRACTOR SHALL FLAG AND PROTECT FROM DAMAGE ALL NGS MONUMENTS AND PROPERTY BOUNDARY MARKERS (E.G. ROW MONUMENTS, PROPERTY CORNERS, SECTION LINE MONUMENTS, ETC.) IN THE PROJECT LIMITS. WORK AND MATERIALS ARE SUBSIDIARY TO 642.0001.0000 CONSTRUCTION SURVEYING.

TABLE OF ESTIMATING FACTORS

ITEM NO	DESCRIPTION	VALUE
203.0006.0000	BORROW	148 LBS/CF
301.0001.001D	AGGREGATE BASE COURSE, GRADING D-1	148 LBS/CF
304.0001.000F	SUBBASE, GRADING F	2 TONS/CY
306.0001.0000	ATB	151 LBS/CF
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	5.3% OF WEIGHT OF 306.0001.0000
401.0001.002A	HMA, TYPE II; CLASS A	151 LBS/CF
401.0004.5228	ASPHALT BINDER, GRADE PG 52-28	5.3% OF WEIGHT OF 401.0001.002A AND 401.0012.002B
401.0012.002B	HMA, DRIVEWAY, TYPE II; CLASS B	151 LBS/CF
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	0.000334 TON/SY
610.0002.0000	DITCH LINING	110 LBS/CF
611.0002.0001	RIPRAP, CLASS I	108 LBS/CF
618.0002.0000	SEEDING	1.5 LBS/1,000SF

TABLE OF LUMP SUM QUANTITIES

ITEM NO	DESCRIPTION	ESTIMATING UNIT	QUANTITY
201.0009.0000	CLEARING AND GRUBBING	ACRE	88
670.2001.0000	MMA PAVEMENT MARKINGS, SURFACE APPLIED	SEE SHEET H6	

ESTIMATE OF QUANTITIES

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_C01-Hwy-Gen Fri, Dec/16/22 09:25am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	D1	D2

REMOVAL OF PAVEMENT

SHEET	STATION	OFFSET	AREA (SQ YD)	REMARKS
F1	"A"128+25 TO "A"135+00	LT/RT	2,978	
F2	"A"135+00 TO "A"150+00	LT/RT	6,603	
F3	"A"150+00 TO "A"165+00	LT/RT	6,612	
F4	"A"165+00 TO "A"180+00	LT/RT	6,613	
F5	"A"180+00 TO "A"190+70	LT/RT	4,712	
F6	"B"248+00 TO "B"260+00	LT/RT	5,371	
F7	"B"260+00 TO "B"275+00	LT/RT	6,722	
F8	"B"275+00 TO "B"290+00	LT/RT	6,713	
F9	"B"290+00 TO "B"305+00	LT/RT	6,673	
F10	"B"305+00 TO "B"309+00	LT/RT	1,767	
F11	"D"141+20 TO "D"153+00	LT/RT	5,275	
F12	"D"153+00 TO "D"168+00	LT/RT	6,824	
F13	"D"168+00 TO "D"173+00	LT/RT	2,841	
F14	"D"221+76 TO "D"228+00	LT/RT	3,487	
F15	"D"228+00 TO "D"243+00	LT/RT	8,207	
F16	"D"243+00 TO "D"258+00	LT/RT	6,771	
F17	"D"258+00 TO "D"263+75	LT/RT	2,612	
F18	"E"155+00 TO "E"169+00	LT/RT	6,352	
F19	"E"169+00 TO "E"184+00	LT/RT	6,690	
F20	"E"184+00 TO "E"199+00	LT/RT	6,655	
F21	"E"199+00 TO "E"214+00	LT/RT	6,717	
F22	"E"214+00 TO "E"218+50	LT/RT	2,162	
		SUBTOTAL:	119,357	

REMOVAL OF PAVEMENT

SHEET	STATION	OFFSET	AREA (SQ YD)	REMARKS
F23	"F"265+25 TO "F"280+00	LT/RT	6,319	
F24	"F"280+00 TO "F"295+00	LT/RT	6,110	
F25	"F"295+00 TO "F"310+00	LT/RT	6,261	
F26	"F"310+00 TO "F"324+07	LT/RT	5,935	
F27	"G"153+13 TO "G"166+00	LT/RT	5,114	
F28	"G"166+00 TO "G"181+00	LT/RT	5,960	
F29	"G"181+00 TO "G"196+00	LT/RT	6,009	
F30	"G"196+00 TO "G"211+00	LT/RT	5,920	
F31	"G"211+00 TO "G"226+00	LT/RT	5,927	
F32	"G"226+00 TO "G"237+33	LT/RT	4,557	
F33	"G"304+60 TO "G"313+00	LT/RT	3,598	
F34	"G"313+00 TO "G"328+00	LT/RT	6,013	
F35	"G"328+00 TO "G"343+00	LT/RT	6,006	
F36	"G"343+00 TO "G"358+00	LT/RT	5,988	
F37	"G"358+00 TO "G"373+00	LT/RT	5,950	
F38	"G"373+00 TO "G"378+98	LT/RT	2,325	
F39	"H"248+44 TO "H"261+00	LT/RT	5,100	
F40	"H"261+00 TO "H"276+00	LT/RT	6,125	
F41	"H"276+00 TO "H"291+00	LT/RT	6,045	
F42	"H"291+00 TO "H"306+00	LT/RT	6,000	
F43	"H"306+00 TO "H"313+64	LT/RT	3,081	
		SUBTOTAL:	233,700	
	BID ITEM QUANTITY:		234,000	

SUMMARY TABLES

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NH)\CAD\Planset\60715_D01-002-Hwy-Gen Thu, Dec/15/22 05:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	D2	D2

202.0010.0000, 202.0011.0000 – SINGLE MAIL BOX INSTALLATION, MULTIPLE MAIL BOX INSTALLATION

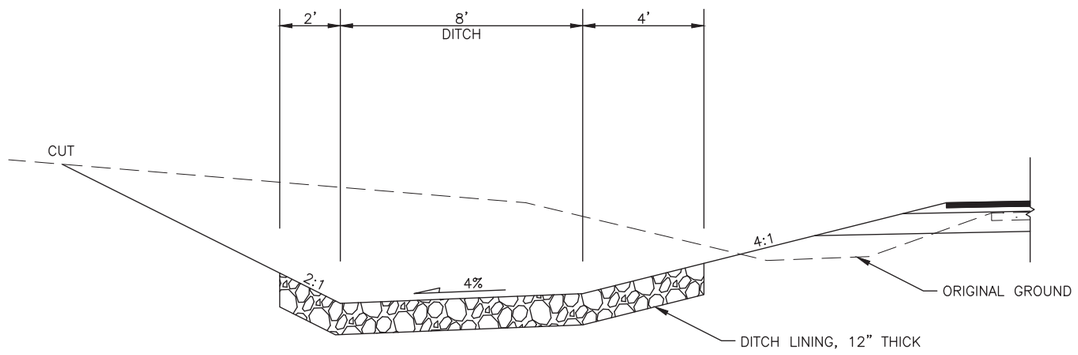
SHEET	202.0010.0000 SINGLE MAIL BOX INSTALLATION		202.0011.0000 MULTIPLE MAIL BOX INSTALLATION		REMARKS
	STATION	OFFSET	STATION	OFFSET	
F6	"B:255+98	RT			
F8	"B"286+00	RT			
F9	"B"295+63	RT			
F10	"B"308+80	RT			
F12			"D"161+37	RT	
			"D"161+40	RT	
			"D"161+43	RT	
F15	"D"237+64	RT			
F40	"H"262+17	LT			
	"H"262+92	RT			
F41			"H"291+92	RT	
	PAY ITEM QUANTITY (EA):	7		4	

SUMMARY TABLES

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_D01-D02-Hwy-Gen Thu, Dec/15/22 05:31pm

NO.	DATE	REVISION

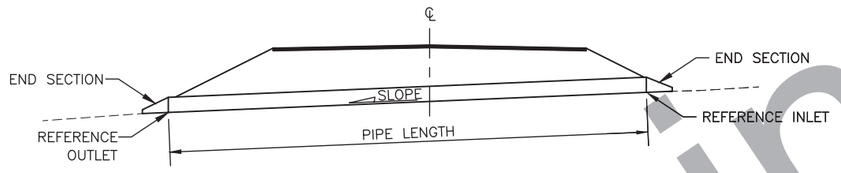
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E1	E14



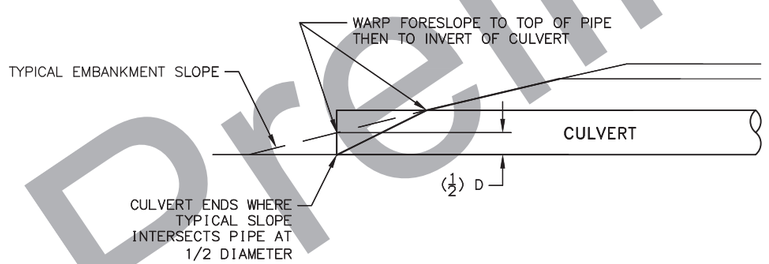
DITCH LINING

DITCH LINING

SHEET	STATION BEGIN	STATION END	OFFSET	DITCH LINING (CY)	REMARKS
F7	"B"262+49	"B"262+67	RT	216	
	"B"269+21	"B"269+33	RT	96	
F12	"D"166+87	"D"173+00	LT	227	
F14	"D"221+77	"D"236+90	RT	560	
F20	"E"188+00	"E"218+50	RT	1,130	



TYPICAL CULVERT SECTION



CULVERT SLOPE WARPING DETAILS
2:1 OR FLATTER FORESLOPES
N.T.S.

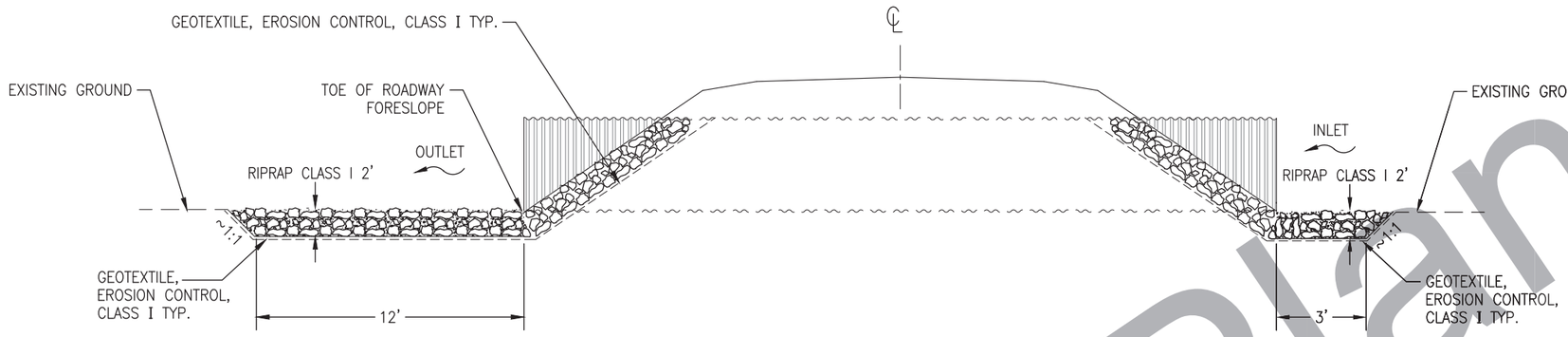
DRAINAGE DETAILS

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NH)\CAD\Planset\60715_E01_Drainage-DRAINAGE Thu, Dec/15/22 05:31pm

NO.	DATE	REVISION

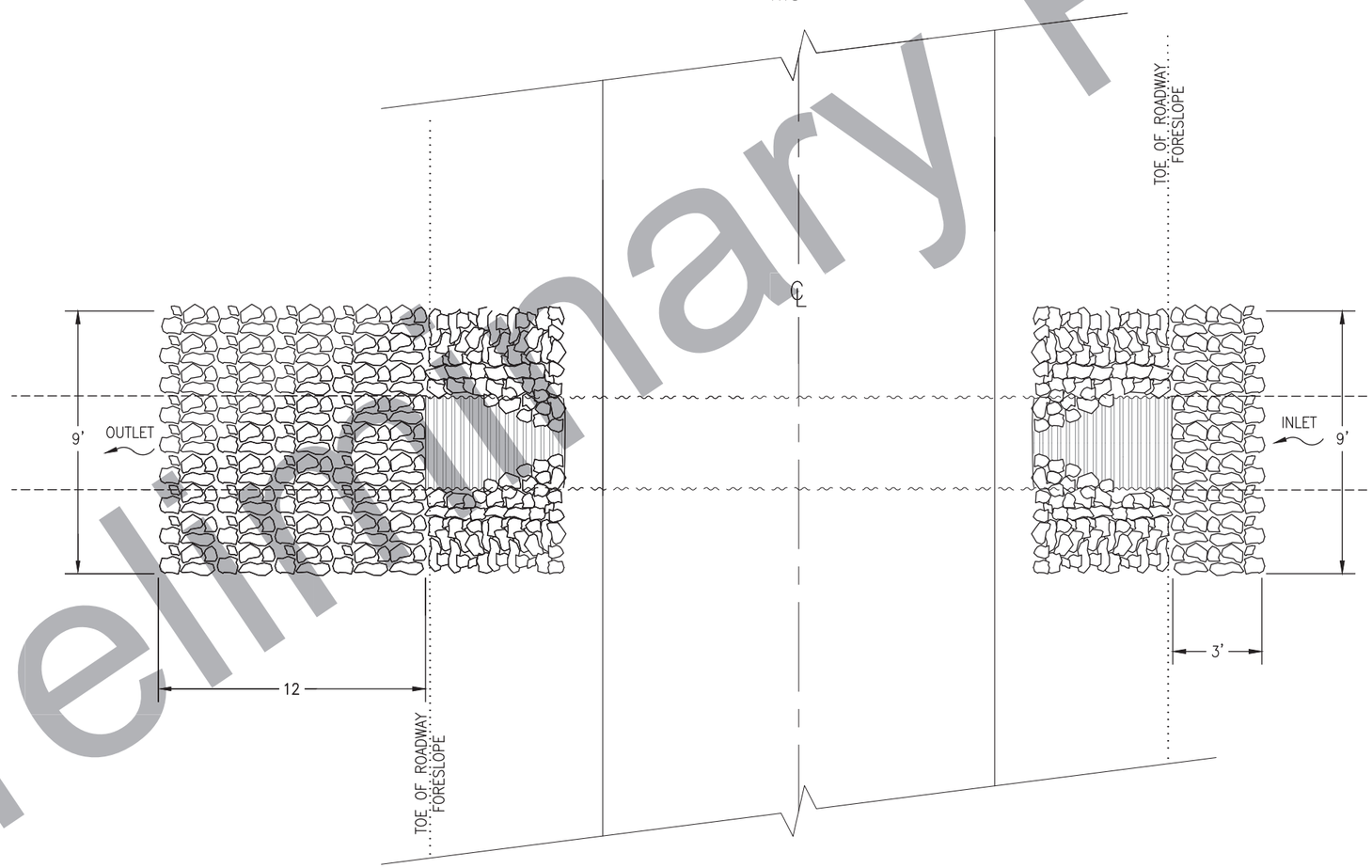
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E2	E14



CULVERT APRON PROFILE VIEW
NTS

NOTES:

1. EROSION CONTROL STRUCTURES ARE APPROXIMATE AND MAY BE FIELD ADJUSTED BY THE ENGINEER TO TAKE ADVANTAGE OF EXISTING CHANNEL FEATURES. SHAPE INLET AND OUTLET APRONS TO MATCH EXISTING CHANNEL CROSS SECTION.
2. ON THE INLET AND OUTLET FORESLOPE, THE RIPRAP SHALL EXTEND TO THE TOP OF THE PIPE.
3. INSTALL MINIMUM RIPRAP THICKNESS OF 2 FT FOR CLASS I RIPRAP APRONS.



CULVERT APRON PLAN VIEW
NTS

CULVERT RIPRAP APRON

STATE OF ALASKA 49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NH)\CAD\Planset\60715_E02_RiprapApron-CULVERT RIPRAP APRON Thu, Dec/15/22 05:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E3	E14

RIPRAP, CLASS I AND GEOTEXTILE EROSION CONTROL, CLASS 1

SHEET	STATION	OFFSET	WIDTH (FT)	RIPRAP, CLASS I (TON)	GEOTEXTILE EROSION CONTROL, CLASS 1 (SY)	REMARKS
F3	"A"151+98.97	LT	9	12	18	CULVERT APRON INLET
	"A"152+02.67	RT	9	20	27	CULVERT APRON OUTLET
F4	"A"166+02.77	LT	9	12	18	CULVERT APRON INLET
	"A"166+01.42	RT	9	20	27	CULVERT APRON OUTLET
F5	"A"187+22.02	RT	9	12	18	CULVERT APRON INLET
	"A"187+22.05	LT	9	20	27	CULVERT APRON OUTLET
F7	"B"262+48.99	LT	9	12	18	CULVERT APRON INLET
	"B"262+49.30	RT	9	20	27	CULVERT APRON OUTLET
	"B"269+17.16	LT	9	12	18	CULVERT APRON INLET
	"B"269+20.71	RT	9	20	27	CULVERT APRON OUTLET
F8	"B"285+08.29	LT	9	12	18	CULVERT APRON INLET
	"B"285+03.27	RT	9	20	27	CULVERT APRON OUTLET
F11	"D"142+15.74	LT	9	12	18	CULVERT APRON INLET
	"D"142+21.05	RT	9	20	27	CULVERT APRON OUTLET
	"D"149+93.32	LT	9	12	18	CULVERT APRON INLET
	"D"149+91.86	RT	9	20	27	CULVERT APRON OUTLET
F15	"D"228+37.78	RT	9	12	18	CULVERT APRON INLET
	"D"228+39.92	LT	9	20	27	CULVERT APRON OUTLET
	"D"233+33.51	RT	9	12	18	CULVERT APRON INLET
	"D"233+36.17	LT	9	20	27	CULVERT APRON OUTLET
	"D"236+34.00	RT	9	12	18	CULVERT APRON INLET
	"D"236+38.12	LT	9	20	27	CULVERT APRON OUTLET
F16	"D"248+14.98	RT	9	12	18	CULVERT APRON INLET
	"D"248+08.62	LT	9	20	27	CULVERT APRON OUTLET
	"D"251+64.91	RT	9	12	18	CULVERT APRON INLET
	"D"251+67.78	LT	9	20	27	CULVERT APRON OUTLET
	"D"254+26.10	RT	9	12	18	CULVERT APRON INLET
	"D"254+45.45	LT	9	20	27	CULVERT APRON OUTLET
F17	"D"260+57.08	RT	9	12	18	CULVERT APRON INLET
	"D"260+57.95	LT	9	20	27	CULVERT APRON OUTLET
F18	"E"156+64.68	RT	9	12	18	CULVERT APRON INLET
	"E"156+65.56	LT	9	20	27	CULVERT APRON OUTLET
	"E"162+54.07	RT	9	12	18	CULVERT APRON INLET
	"E"162+52.68	LT	9	20	27	CULVERT APRON OUTLET
	"E"165+46.16	RT	9	12	18	CULVERT APRON INLET
	"E"165+32.19	LT	9	20	27	CULVERT APRON OUTLET

RIPRAP, CLASS I AND GEOTEXTILE EROSION CONTROL, CLASS 1

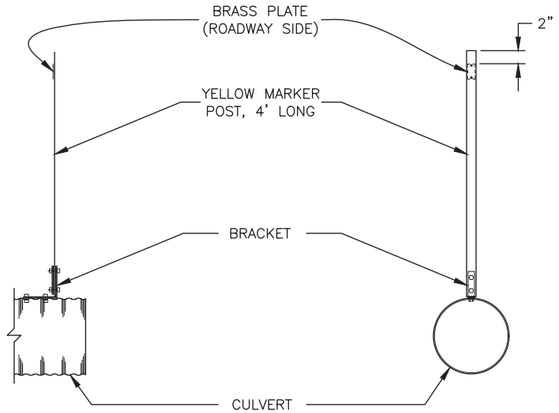
SHEET	STATION	OFFSET	WIDTH (FT)	RIPRAP, CLASS I (TON)	GEOTEXTILE EROSION CONTROL, CLASS 1 (SY)	REMARKS
F19	"E"175+64.35	RT	9	12	18	CULVERT APRON INLET
	"E"175+65.98	LT	9	20	27	CULVERT APRON OUTLET
F20	"E"185+66.28	RT	9	12	18	CULVERT APRON INLET
	"E"185+66.82	LT	9	20	27	CULVERT APRON OUTLET
F21	"E"202+66.18	RT	9	12	18	CULVERT APRON INLET
	"E"202+68.66	LT	9	20	27	CULVERT APRON OUTLET
	"E"210+64.89	RT	9	12	18	CULVERT APRON INLET
	"E"210+67.88	LT	9	20	27	CULVERT APRON OUTLET
F23	"F"278+54.82	RT	9	12	18	CULVERT APRON INLET
	"F"278+58.86	LT	9	20	27	CULVERT APRON OUTLET
F25	"F"298+74.67	LT	9	12	18	CULVERT APRON INLET
	"F"298+80.14	RT	9	20	27	CULVERT APRON OUTLET
	"F"309+15.17	RT	9	12	18	CULVERT APRON INLET
	"F"309+19.92	LT	9	20	27	CULVERT APRON OUTLET
F28	"G"171+61.44	LT	9	12	18	CULVERT APRON INLET
	"G"171+42.54	RT	9	20	27	CULVERT APRON OUTLET
F34	"G"314+37.73	RT	9	12	18	CULVERT APRON INLET
	"G"314+34.46	LT	9	20	27	CULVERT APRON OUTLET
F36	"G"346+01.23	LT	9	12	18	CULVERT APRON INLET
	"G"345+97.54	RT	9	20	27	CULVERT APRON OUTLET
	"G"351+68.38	LT	9	12	18	CULVERT APRON INLET
	"G"351+63.36	RT	9	20	27	CULVERT APRON OUTLET

DRAINAGE DETAILS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_E03_RiprapSum-DRAINAGE Thu, Dec/15/22 05:30pm

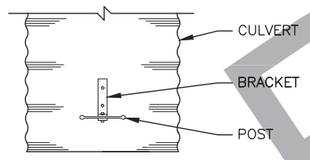
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E4	E14



SIDE VIEW

END VIEW

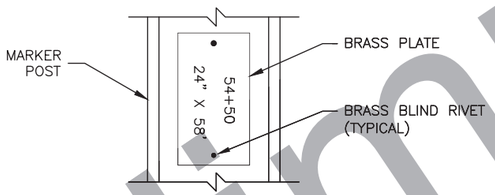


TOP VIEW

CULVERT MARKER POSTS NOTES:

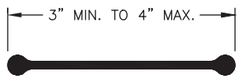
1. MARKER POSTS ARE TO BE INSTALLED ON CROSS CULVERTS ONLY.
2. IF CULVERTS ARE CLOSELY SPACED, MARK ONLY THE FIRST AND LAST CULVERT IN SERIES AS APPROVED BY THE ENGINEER.
3. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. GASKET MATERIAL SHALL BE PLACED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

CULVERT MARKER POST DETAIL

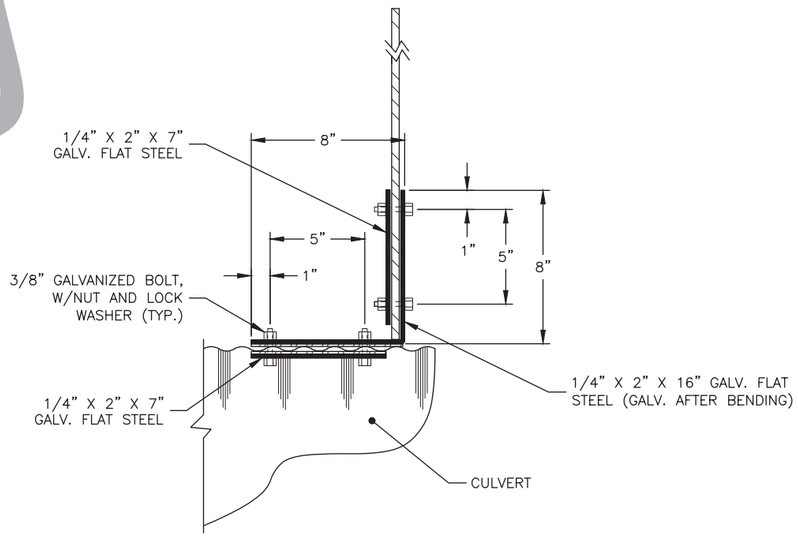


STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2"X4"X 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

BRASS PLATE DETAIL



POST DETAIL
CROSS-SECTIONAL VIEW



BRACKET DETAIL

CULVERT MARKER POST DETAILS

MARKER POST DETAILS

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

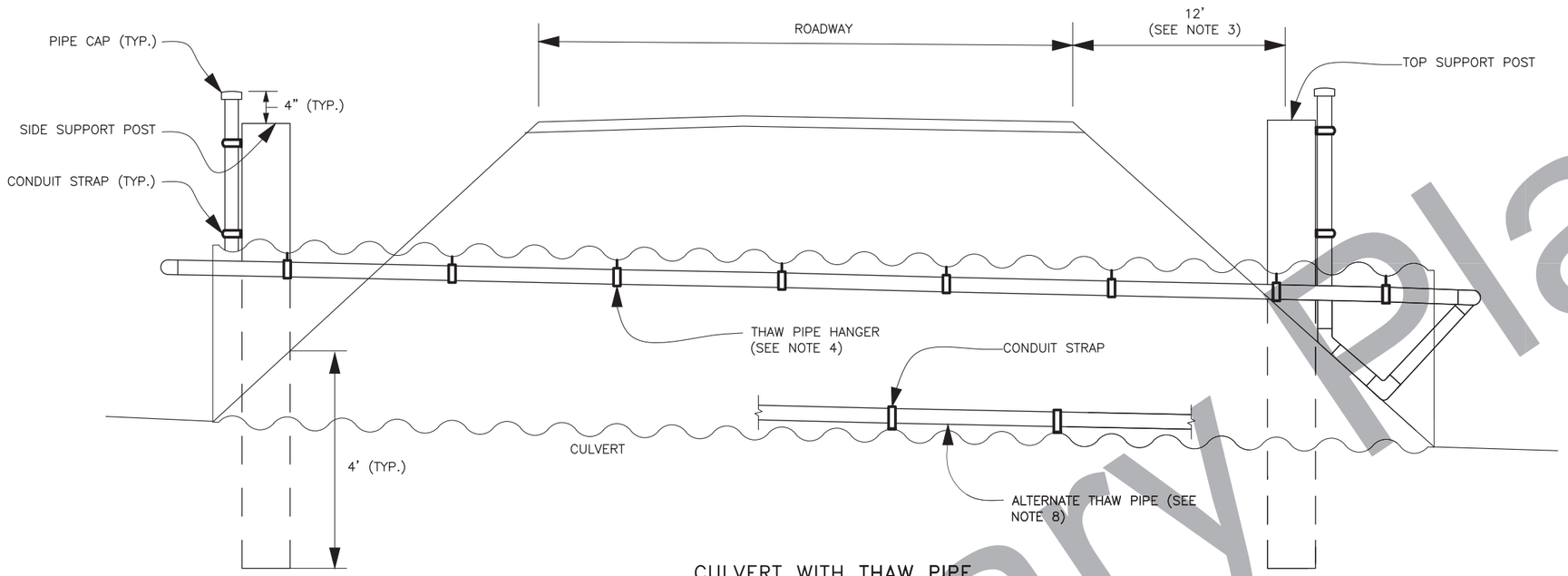
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK. 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_E04_CulvMarkers-CulvertMarkerPost Thu, Dec/15/22 05:30pm

LOW FILL CONDITION
SIDE SUPPORT POST–ALIGN TOP WITH EDGE OF SHOULDER OR TO A MAXIMUM HEIGHT OF 5', WHICH EVER IS LESS.

DEEP FILL CONDITION
TOP SUPPORT POST–ALIGN TOP WITH EDGE OF SHOULDER OR TO A MAXIMUM HEIGHT OF 5', WHICH EVER IS LESS.

NO.	DATE	REVISION

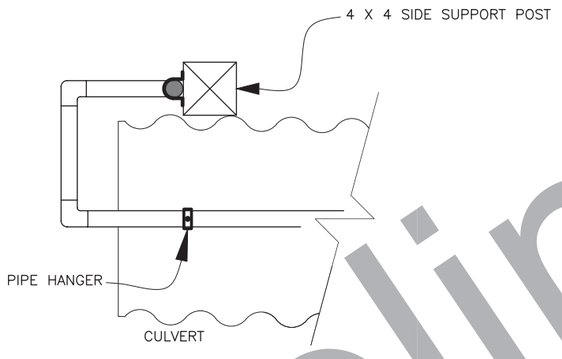
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E5	E14



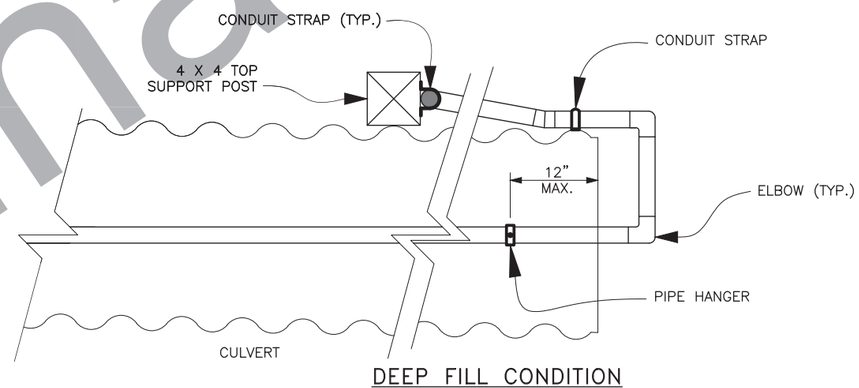
CULVERT WITH THAW PIPE
N.T.S.

GENERAL NOTES:

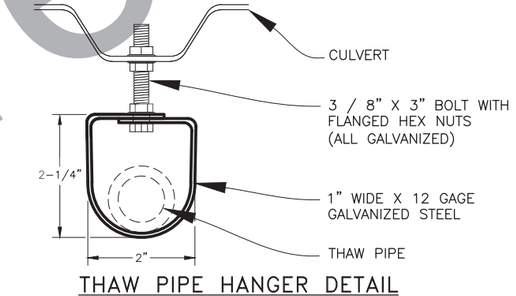
1. THESE THAW PIPES ARE INTENDED FOR USE IN STEAM THAWING.
2. USE ½" I.D. ASTM A53 GALVANIZED PIPE AND FITTINGS TO MATCH.
3. WHEN THE HEIGHT OF FILL EXCEEDS 5' LOCATE THE SUPPORT POST ON THE SIDE SLOPE 12' FROM THE SHOULDER.
4. FASTEN THE THAW PIPE TO THE TOP OF THE CULVERT WITH THAW PIPE HANGERS ON 4' CENTERS MAX. THE MAXIMUM DISTANCE FROM END OF CULVERT TO FIRST PIPE HANGER IS 12 INCHES.
5. USE PRESSURE TREATED SUPPORT POSTS OF HEM–FIR, NO. 2 OR BETTER. USE AMMONIACAL COPPER ZINC ARSENATE (ACZA) OR CHROMATED COPPER ARSENATE (CCA) PRESERVATIVES ON SUPPORT POSTS. PRESSURE TREAT IN ACCORDANCE WITH AASHTO M133.
6. FASTEN THAW PIPE TO SUPPORT POSTS WITH GALVANIZED RIGID CONDUIT STRAPS AND 3" LONG GALVANIZED LAG SCREWS AT MAX. 12" CENTERS, IF MORE THAN ONE IS REQUIRED.
7. FILL THAW PIPE WITH A MINUS 50° FAHRENHEIT MIX OF RV ANTIFREEZE AND WATER, THEN CAP.
8. PLACE THAW PIPES IN THE BOTTOM OF THE CULVERT, IF REQUIRED IN THE BID DOCUMENTS. ATTACH WITH GALVANIZED RIGID CONDUIT STRAPS USING SAME SPACING AS WITH HANGERS. ATTACH PIPES TO POSTS AS SHOWN.



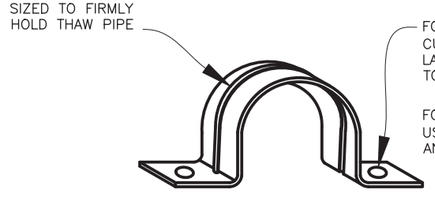
LOW FILL CONDITION
TOP VIEW (N.T.S.)



DEEP FILL CONDITION
TOP VIEW (N.T.S.)



THAW PIPE HANGER DETAIL



GALVANIZED RIGID CONDUIT
STRAP DETAIL

THAW PIPE DETAIL

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansset\60715_E05_ThawPipe-Layout1 Thu, Dec/15/22 05:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E6	E14

PIPE SUMMARY

SHEET	TYPE	SIZE (IN)	LENGTH (FT)	INLET			OUTLET			SLOPE (%)	END SECTIONS	THAW PIPE	AS-BUILT			REMARKS
				STATION	OFFSET	INVERT	STATION	OFFSET	INVERT				STATION	LATITUDE	LONGITUDE	
F3	CC	36	110	"A"151+98.97	53.92 LT	561.01	"A"152+02.67	51.17 RT	560.52	0.46		X				
F4	CC	36	110	"A"166+02.77	58.25 LT	562.19	"A"166+01.42	50.88 RT	562.04	0.14		X				
F5	CC	36	85	"A"187+22.02	40.46 RT	562.83	"A"187+22.05	42.53 LT	562.32	0.62		X				
F7	CC	36	135	"B"262+48.99	70.29 LT	636.65	"B"262+49.30	60.86 RT	633.25	2.59		X				
	CC	36	110	"B"269+17.16	55.58 LT	635.83	"B"269+20.71	50.97 RT	631.20	4.34		X				
F8	CC	36	120	"B"285+08.29	61.07 LT	635.68	"B"285+03.27	54.95 RT	631.29	3.78		X				
F11	CC	36	120	"D"142+15.74	57.07 LT	747.49	"D"142+21.05	61.00 RT	744.59	2.45		X				
	DC	12	45	"D"147+97.43	37.59 LT	761.56	"D"148+38.57	38.05 LT	762.14	1.40						EXISTING TO REMAIN
	CC	36	105	"D"149+93.32	46.52 LT	764.17	"D"149+91.86	58.20 RT	758.15	5.75		X				
F12	DC	18	50	"D"162+40.72	46.00 LT	–	"D"161+94.82	46.00 LT	–	–						
	CC	60	230	"D"164+80.98	90.71 LT	779.78	"D"163+68.59	106.82 RT	769.38	4.58		X				EXISTING TO REMAIN
	DC	18	40	"D"166+99.81	46.00 LT	–	"D"166+62.21	46.00 LT	–	–						
F13	DC	18	40	"D"170+04.22	53.34 RT	–	"D"169+68.02	51.67 RT	–	–						
F15	CC	36	120	"D"228+37.78	42.00 RT	944.37	"D"228+39.92	75.04 LT	939.73	3.96		X				
	CC	36	110	"D"233+33.51	37.65 RT	936.17	"D"233+36.17	72.01 LT	931.89	3.90		X				
	CC	36	100	"D"236+34.00	37.07 RT	930.85	"D"236+38.12	60.94 LT	928.14	2.76		X				
	DC	18	55	"D"237+09.59	35.69 RT	929.73	"D"237+59.61	34.76 RT	928.79	1.87						
	CC	36	120	"D"242+36.99	44.99 RT	914.58	"D"242+36.99	73.49 LT	909.75	4.08		X				EXISTING TO REMAIN
F16	CC	36	135	"D"248+14.98	47.50 RT	897.27	"D"248+08.62	82.92 LT	891.79	4.20		X				
	CC	36	115	"D"251+64.91	40.65 RT	889.69	"D"251+67.78	71.03 LT	884.05	5.05		X				
	CC	36	120	"D"254+26.10	44.54 RT	879.36	"D"254+45.45	69.98 LT	875.39	3.42		X				
F17	CC	36	110	"D"260+57.08	42.92 RT	865.59	"D"260+57.95	63.87 LT	862.04	3.32		X				
F18	CC	36	85	"E"156+64.68	44.57 RT	947.00	"E"156+65.56	36.83 LT	946.31	0.85		X				
	CC	36	100	"E"162+54.07	46.21 RT	960.40	"E"162+52.68	52.97 LT	955.09	5.35		X				
	CC	36	110	"E"165+46.16	47.19 RT	965.96	"E"165+32.19	58.25 LT	959.56	6.02		X				
F19	DC	18	45	"E"170+15.55	50.00 RT	–	"E"169+70.95	50.00 RT	–	–						
	CC	36	110	"E"175+64.35	59.72 RT	968.69	"E"175+65.98	45.31 LT	961.35	6.99		X				
F20	CC	36	120	"E"185+66.28	57.66 RT	993.07	"E"185+66.82	60.32 LT	985.66	6.28		X				
F21	CC	36	125	"E"202+66.18	46.09 RT	1060.39	"E"202+68.66	76.79 LT	1059.78	0.50		X				
	DC	18	60	"E"210+59.93	50.00 RT	–	"E"210+01.92	50.00 RT	–	–						
	CC	36	95	"E"210+64.89	47.91 RT	1106.02	"E"210+67.88	42.04 LT	1104.23	1.99		X				

PIPE SUMMARY LEGEND

CC = CROSSING CULVERT
DC = DRIVEWAY CULVERT

CULVERT NOTES:

1. CULVERT LENGTH, SKEW, AND LOCATION ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
2. CULVERT MARKER POSTS MUST BE INSTALLED ON NEW CROSSING CULVERTS SHOWN IN THE SUMMARY. IF EXISTING CROSSING CULVERTS SHOWN IN THE SUMMARY ARE MISSING CULVERT MARKERS, INSTALL THEM ON THE EXISTING CULVERT. REMOVAL OF EXISTING CULVERT MARKER POSTS AND HARDWARE WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT IS SUBSIDIARY TO 613.0002.0000 PAY ITEM.
3. THE CONTRACTOR SHALL ENTER AS-BUILT LOCATIONS FOR ALL CULVERTS IN THE CULVERT SUMMARY TABLE. COORDINATES SHALL BE LOCATED AT THE INTERSECTION OF THE CULVERT AND ROAD CENTERLINE. USE NAD 83 (2011) COORDINATE SYSTEM FORMATTED TO DECIMAL DEGREES TO A PRECISION OF 5 DECIMAL PLACES (DDD.DDDDD°). THIS WORK IS SUBSIDIARY TO 603 SERIES PAY ITEMS.

DRAINAGE SUMMARY

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_E06-E08_DrainageSum-E Thu, Dec/15/22 05:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E7	E14

PIPE SUMMARY

SHEET	TYPE	SIZE (IN)	LENGTH (FT)	INLET			OUTLET			SLOPE (%)	END SECTIONS	THAW PIPE	AS-BUILT			REMARKS
				STATION	OFFSET	INVERT	STATION	OFFSET	INVERT				STATION	LATITUDE	LONGITUDE	
F23	DC	18	45	"F"277+24.63	50.00 LT	–	"F"277+67.23	50.00 LT	–	–						
	CC	36	115	"F"278+54.82	49.38 RT	1087.44	"F"278+58.86	61.02 LT	1086.69	0.68		X				
F25	CC	36	95	"F"298+74.67	57.44 LT	1055.85	"F"298+80.14	37.19 RT	1054.42	1.51		X				
	CC	36	115	"F"309+15.17	46.52 RT	1038.07	"F"309+19.92	65.18 LT	1037.08	0.89		X				
F26	CC	24	130	"F"324+03.42	57.53 RT	1016.37	"F"324+29.90	65.43 LT	1007.72	6.87		X				EXISTING TO REMAIN
F28	CC	36	125	"G"171+61.44	57.95 LT	936.72	"G"171+42.54	61.07 RT	935.60	0.93		X				
F34	CC	36	125	"G"314+37.73	45.11 RT	972.65	"G"314+34.46	77.73 LT	970.70	1.59		X				
F36	CC	36	120	"G"346+01.23	64.50 LT	974.22	"G"345+97.54	54.68 RT	966.63	6.37		X				
	CC	36	125	"G"351+68.38	66.99 LT	973.23	"G"351+63.36	53.16 RT	968.00	4.35		X				
F39	DC	12	40	"H"248+87.55	45.15 RT	1069.57	"H"249+25.38	45.54 RT	1069.10	1.23						EXISTING TO REMAIN
	DC	18	40	"H"260+70.90	46.00 LT	–	"H"260+34.30	46.00 LT	–	–						
F40	DC	18	40	"H"262+17.86	46.00 LT	–	"H"261+81.26	46.00 LT	–	–						
	DC	18	35	"H"263+25.38	46.00 LT	–	"H"262+90.80	46.00 LT	–	–						
	DC	18	40	"H"274+11.80	50.00 LT	–	"H"273+74.20	50.00 LT	–	–						
F42	DC	18	45	"H"302+06.53	50.00 LT	–	"H"301+63.70	50.00 LT	–	–						
	DC	18	45	"H"304+04.53	50.00 LT	–	"H"303+61.70	50.00 LT	–	–						
F43	DC	18	40	"H"309+27.53	50.00 LT	–	"H"309+64.47	50.00 LT	–	–						

PIPE SUMMARY LEGEND

CC = CROSSING CULVERT
DC = DRIVEWAY CULVERT

DRAINAGE SUMMARY

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (007-NR)\CAD\Planset\60715_E06-E08_DrainageSum-E Thu, Dec/15/22 05:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E8	E14

REMOVAL OF CULVERT PIPE

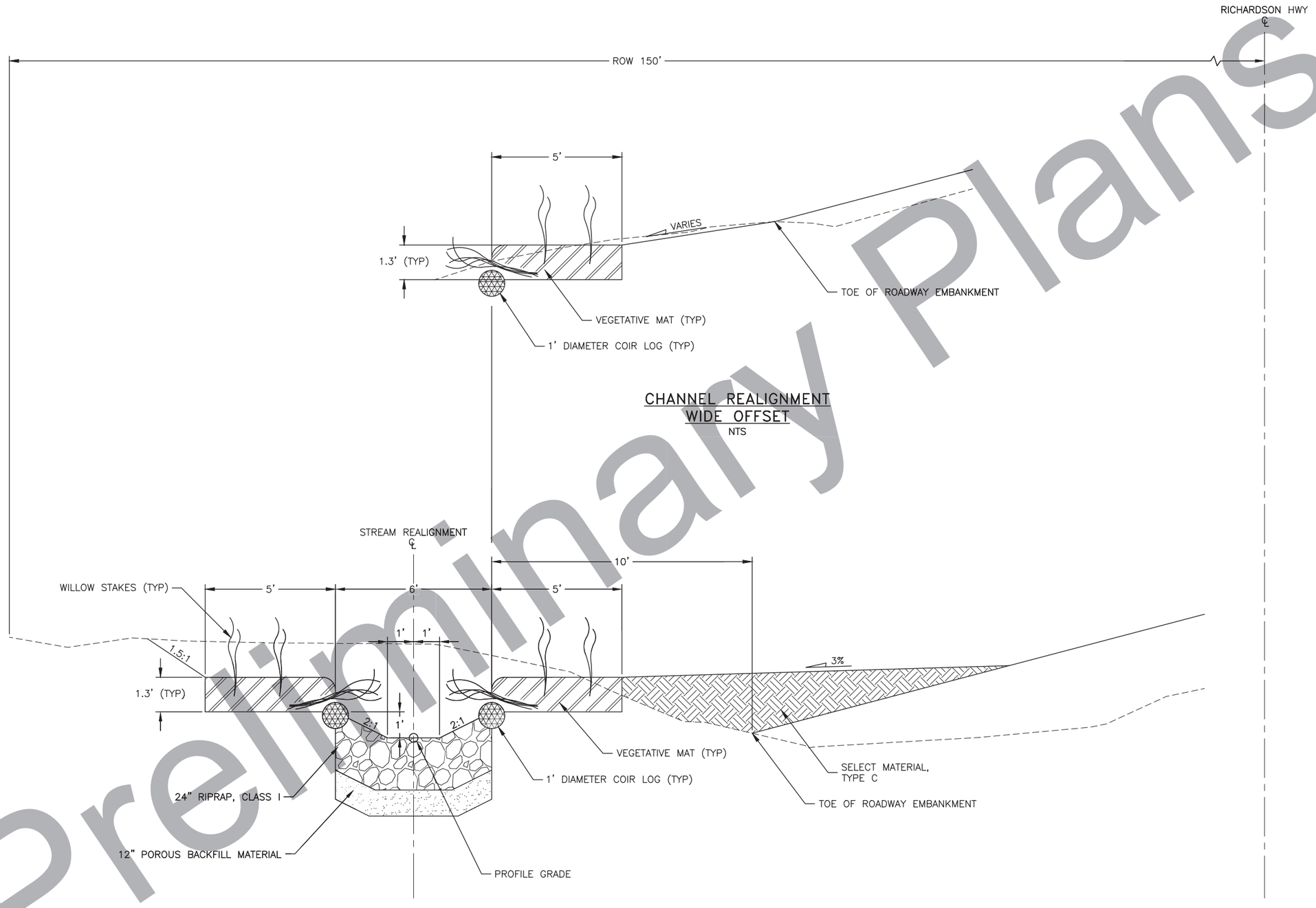
SHEET	STATION	OFFSET	LENGTH	REMARKS
F3	"A"152+01	4 RT	73	
F4	"A"166+02	2 LT	100	
F5	"A"187+22	1 LT	83	
F7	"B"262+49	1 RT	113	
	"B"269+19	1 RT	97	
F8	"B"285+06	0 RT	107	
F11	"D"142+18	1 RT	118	
	"D"149+93	11 RT	93	
F12	"D"166+77	40 LT	54	
F15	"D"228+39	6 LT	99	
	"D"233+34	8 LT	99	
	"D"236+36	5 LT	83	
	"D"242+37	5 LT	92	
F16	"D"248+12	10 LT	105	
	"D"251+67	12 LT	99	
	"D"254+36	13 LT	101	
F17	"D"260+57	5 LT	100	
F18	"E"156+65	0 RT	71	
	"E"162+53	2 RT	75	
	"E"165+39	9 LT	100	
F19	"E"175+65	3 RT	98	
F20	"E"185+67	6 LT	108	
F21	"E"202+67	1 LT	76	
	"E"210+67	4 LT	76	
F23	"F"278+57	1 RT	95	
F25	"F"298+78	4 LT	82	
	"F"309+17	5 LT	100	
F28	"G"171+53	4 LT	109	
F34	"G"314+36	4 LT	98	
F36	"G"345+99	0 RT	109	
	"G"351+66	3 RT	101	
TOTAL			2914	

DRAINAGE SUMMARY

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_E06-E08_DrainageSum-E Thu, Dec/15/22 05:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E9	E14



CHANNEL REALIGNMENT
WIDE OFFSET
NTS

CHANNEL REALIGNMENT
NTS

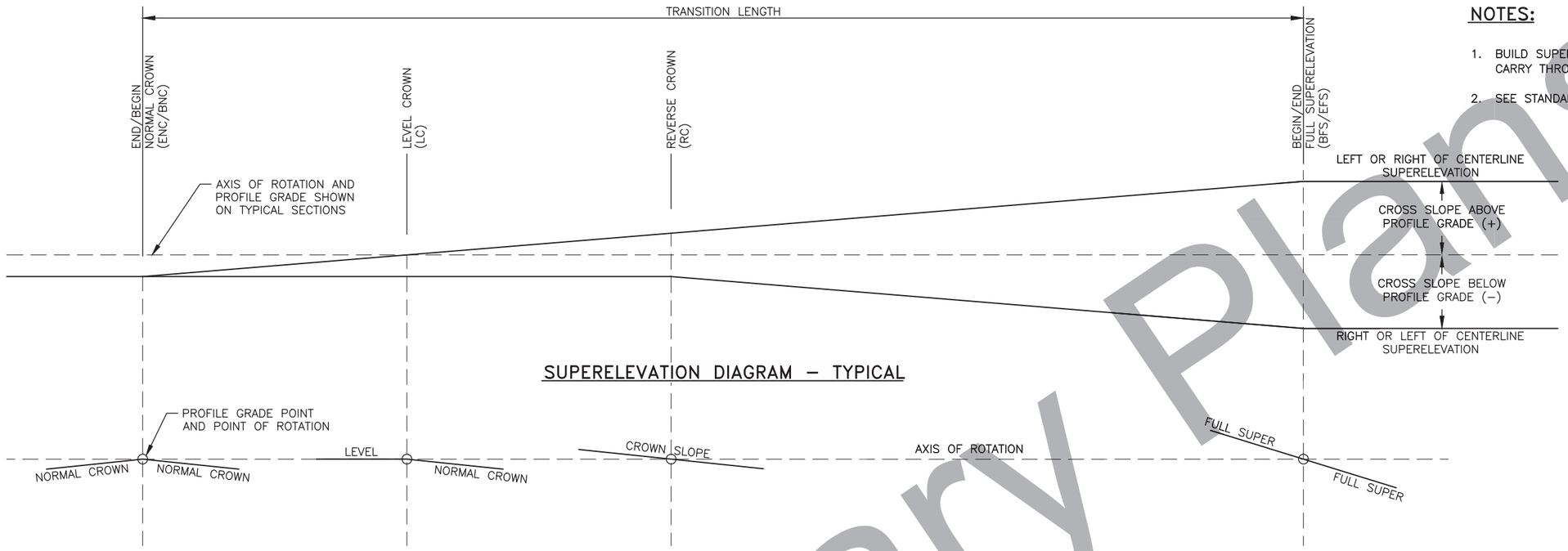
STREAM REALIGNMENT

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_E09-StreamTyp-Stream Thu, Dec/15/22 05:30pm

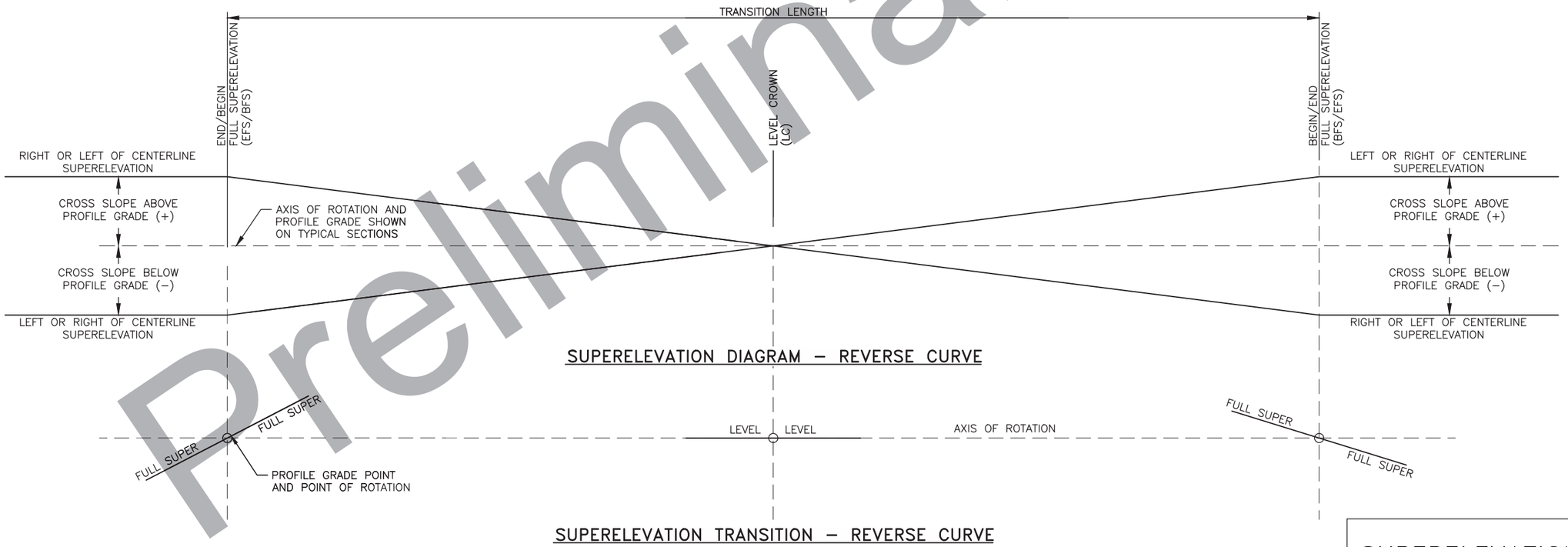
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E10	E14



SUPERELEVATION DIAGRAM – TYPICAL

SUPERELEVATION TRANSITION – TYPICAL



SUPERELEVATION DIAGRAM – REVERSE CURVE

SUPERELEVATION TRANSITION – REVERSE CURVE

SUPERELEVATION DETAILS

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

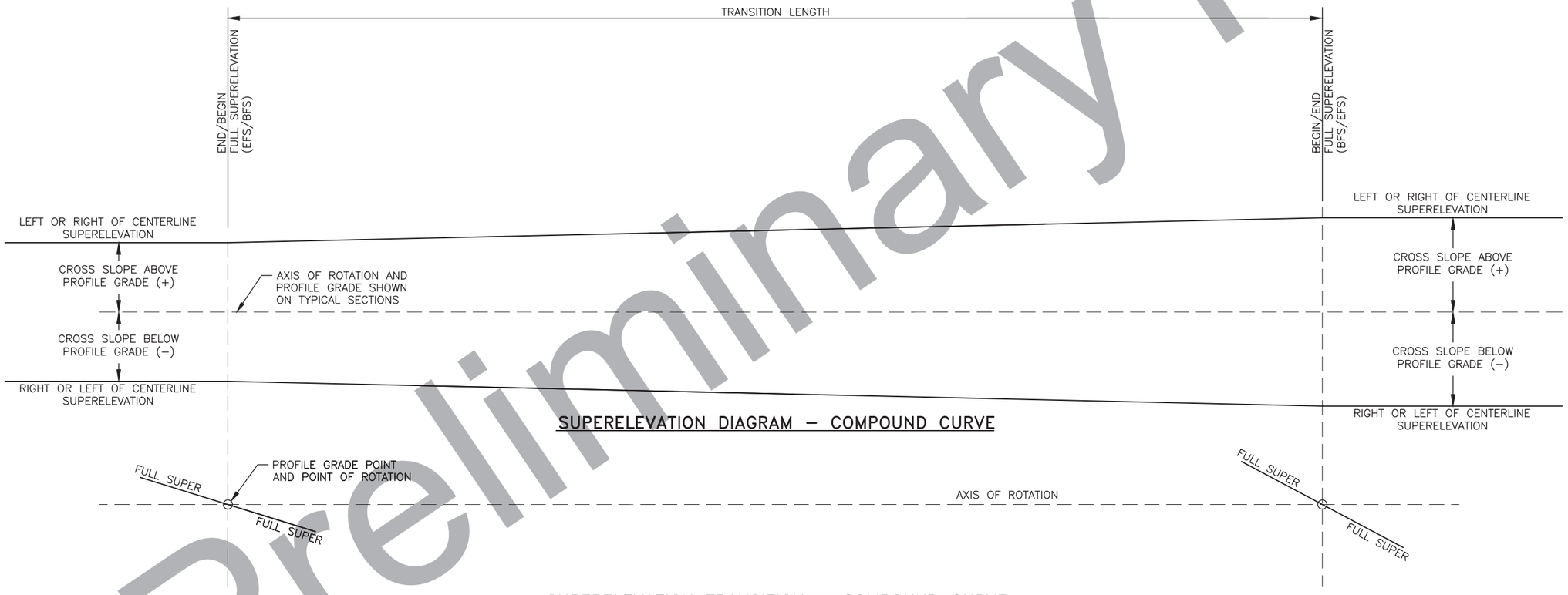
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_E10-E11_SuperDiag-Hwy-Cen Thu, Dec/15/22 05:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E11	E14

NOTES:

1. BUILD SUPERELEVATION INTO SUBGRADE AND CARRY THROUGH SHOULDERS.
2. SEE STANDARD PLAN 1-81.00.



SUPERELEVATION DIAGRAM – COMPOUND CURVE

SUPERELEVATION TRANSITION – COMPOUND CURVE

SUPERELEVATION DETAILS

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E12	E14

SUPERELEVATION SUMMARY

CURVE P.I.	RADIUS (FEET)	BEGIN TRANSITION	TRANSITION LENGTH(FEET)	CURVE P.C.	BEGIN FULL SUPERELEVATION	SUPERELEVATION RATE (%)	END FULL SUPERELEVATION	CURVE P.T.	TRANSITION LENGTH(FEET)	END TRANSITION	REMARKS
"A"124+77.47	11459.16	"A"119+63.09	112	"A"120+63.89	"A"120+75.09	2.00%	"A"128+79.49	"A"128+90.69	112	"A"129+91.49	
"A"160+96.65	2864.79	"A"154+45.08	196	"A"156+13.08	"A"156+41.08	5.00%	"A"165+43.18	"A"165+71.18	196	"A"167+39.18	
"A"199+47.55	11459.16	"A"195+16.78	112	"A"196+17.58	"A"196+28.78	2.00%	"A"202+66.15	"A"202+77.35	112	"A"203+78.15	
"B"260+07.88	1909.86	"B"251+65.00	205	"B"253+36.03	"B"253+70.00	5.60%	"B"266+00.00	"B"266+28.08	215	"B"268+05.00	
"D"133+80.47	2546.67	"D"125+00.00	210	"D"126+74.95	"D"127+10.00	5.40%	"D"140+25.00	"D"140+51.47	205	"D"142+30.00	
"D"172+72.22	5730.00	"D"167+70.00	140	"D"168+90.36	"D"169+10.00	3.00%	"D"176+40.00	"D"176+52.96	140	"D"177+80.00	
"D"219+95.54	5718.00	"D"215+10.00	140	"D"216+36.11	"D"216+50.00	3.00%	"D"223+45.00	"D"223+58.98	140	"D"224+85.00	
"D"255+68.82	5730.00	"D"241+30.00	140	"D"242+52.11	"D"242+70.00	3.00%	"D"268+25.00	"D"268+40.59	140	"D"269+65.00	
"E"206+80.46	1268.48	"E"200+35.65	180	"E"200+35.65	"E"200+65.00	4.60%	"E"212+80.00	"E"213+04.13	180	"E"214+05.00	
"F"257+95.63	2291.83	"F"243+20.00	195	"F"244+82.66	"F"245+15.00	5.20%	"F"268+40.00	"F"268+67.31	195	"F"270+35.00	
"F"329+80.71	7639.44	"F"324+10.00	110	"F"325+07.12	"F"325+20.00	2.20%	"F"334+45.00	"F"334+53.10	110	"F"335+55.00	
"G"159+73.48	2462.92	"G"157+55.00	205	"G"159+26.96	"G"159+60.00	5.40%	"G"159+90.00	"G"160+19.99	65		
"G"167+34.19	1429.79		65	"G"160+19.99	"G"160+55.00	6.00%	"G"173+15.00	"G"173+44.71	220	"G"175+35.00	
"G"185+28.92	1432.38	"G"177+20.00	225	"G"179+08.15	"G"179+45.00	6.00%	"G"191+20.00	"G"191+49.69	225	"G"193+40.00	
"G"203+13.30	5729.58	"G"195+35.00	140	"G"196+54.64	"G"196+75.00	3.00%	"G"209+60.00	"G"209+71.97	140	"G"211+00.00	
"G"226+51.95	1637.06	"G"218+60.00	225	"G"220+47.19	"G"220+85.00	6.00%	"G"232+25.00	"G"232+56.70	225	"G"234+50.00	
"G"311+58.97	4522.00	"G"308+70.00	160	"G"310+06.27	"G"310+30.00	3.80%	"G"312+95.00	"G"313+11.56	50		
"G"313+52.27	1736.00		50	"G"313+11.56	"G"313+45.00	6.00%	"G"313+60.00	"G"313+92.97	60		
"G"318+74.08	3319.00		60	"G"313+92.97	"G"314+20.00	4.60%	"G"323+25.00	"G"323+48.54	185	"G"325+10.00	
"G"334+55.01	1412.00	"G"326+50.00	225	"G"328+37.65	"G"328+75.00	6.00%	"G"340+40.00	"G"340+72.96	225	"G"342+65.00	
"G"351+26.25	1890.00	"G"344+55.00	225	"G"346+44.01	"G"346+80.00	6.00%	"G"355+80.00	"G"356+08.49	220	"G"358+00.00	
"G"366+06.66	2438.00	"G"361+40.00	205	"G"363+12.21	"G"363+45.00	5.40%	"G"368+75.00	"G"369+01.11	205	"G"370+80.00	
"G"385+45.23	9612.00	"G"379+05.00	115	"G"380+05.35	"G"380+20.00	2.00%	"G"390+75.00	"G"390+85.11	115	"G"391+90.00	
"H"284+19.58	5729.58	"H"276+35.00	130	"H"277+46.38	"H"277+65.00	2.80%	"H"290+75.00	"H"290+86.62	130	"H"292+05.00	

SUPERELEVATION SUMMARY

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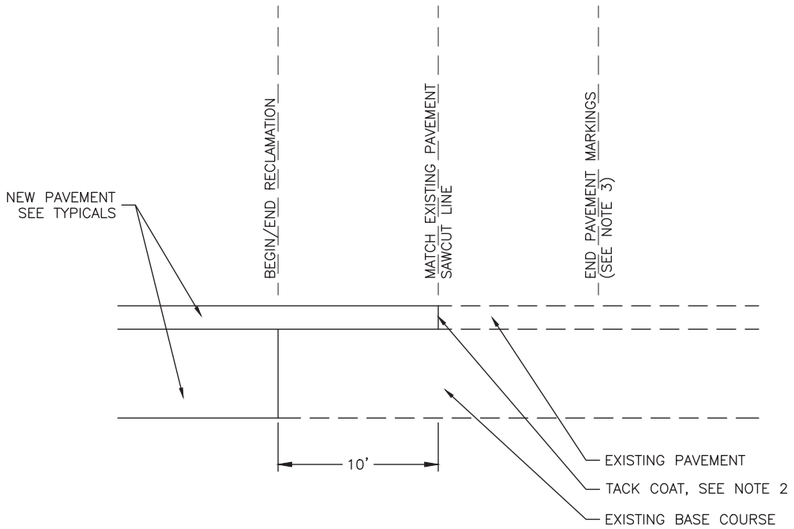
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_E12_SuperelevationSum-Hwy-Cen Thu, Dec/15/22 05:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E13	E14



PAVEMENT TRANSITION DETAIL

PAVEMENT TRANSITION NOTES:

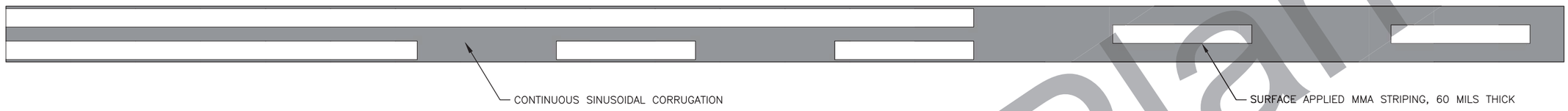
1. USE WHERE NEW CONSTRUCTION ABUTS EXISTING ASPHALT.
2. APPLY STE-1 ASPHALT FOR TACK COAT ON THE VERTICAL FACES OF ALL SAWCUTS.
3. EXTEND PAVEMENT MARKINGS 10' BEYOND THE SAW CUT. TRANSITION AND MATCH THE EXISTING STRIPING CONFIGURATION. PAVEMENT MARKING EXTENSIONS ARE NOT REQUIRED AT DRIVEWAYS OR APPROACHES.

PAVING DETAILS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_E13_Paving-Misc Thu, Dec/15/22 05:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	E14	E14

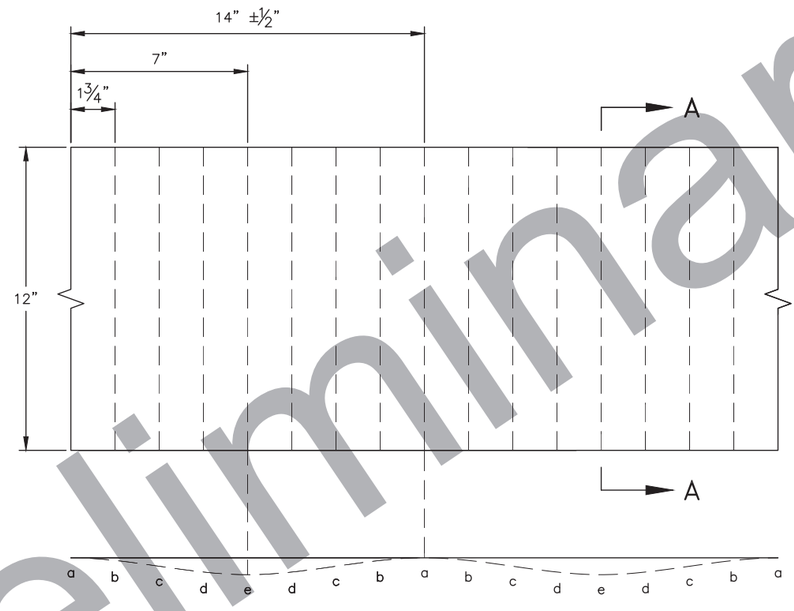


CENTERLINE MUMBLE STRIP PLAN VIEW

LOCATION	DEPTH AT EDGE	
	MILS	INCHES **
a	62.5	1/16
b	156	5/32
c	281	9/32
d	438	7/16
e	500	1/2

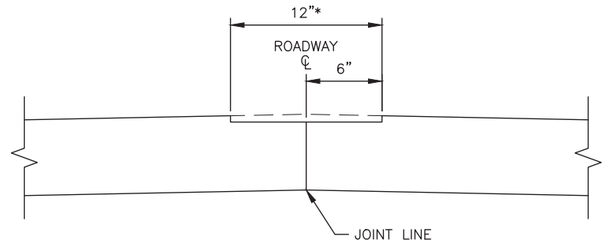
** +1/8"

PLAN VIEW



PROFILE VIEW

SINUSOIDAL CORRUGATION DETAIL



* LATERAL DEVIATION SHALL NOT EXCEED 1 INCH IN 100 FEET.

SECTION A–A

MUMBLE STRIP DETAILS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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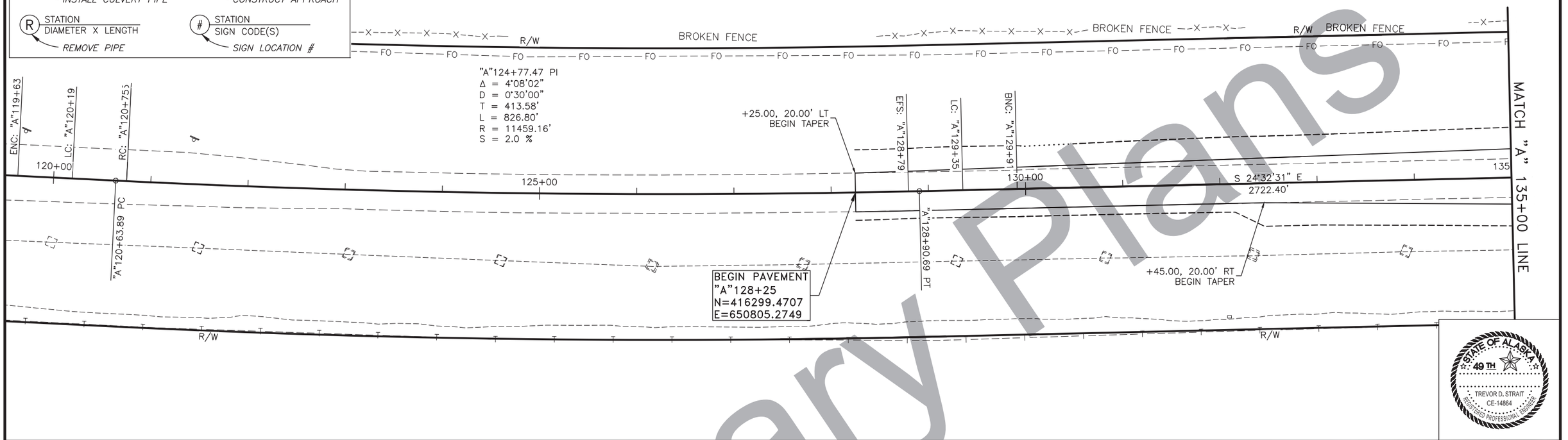
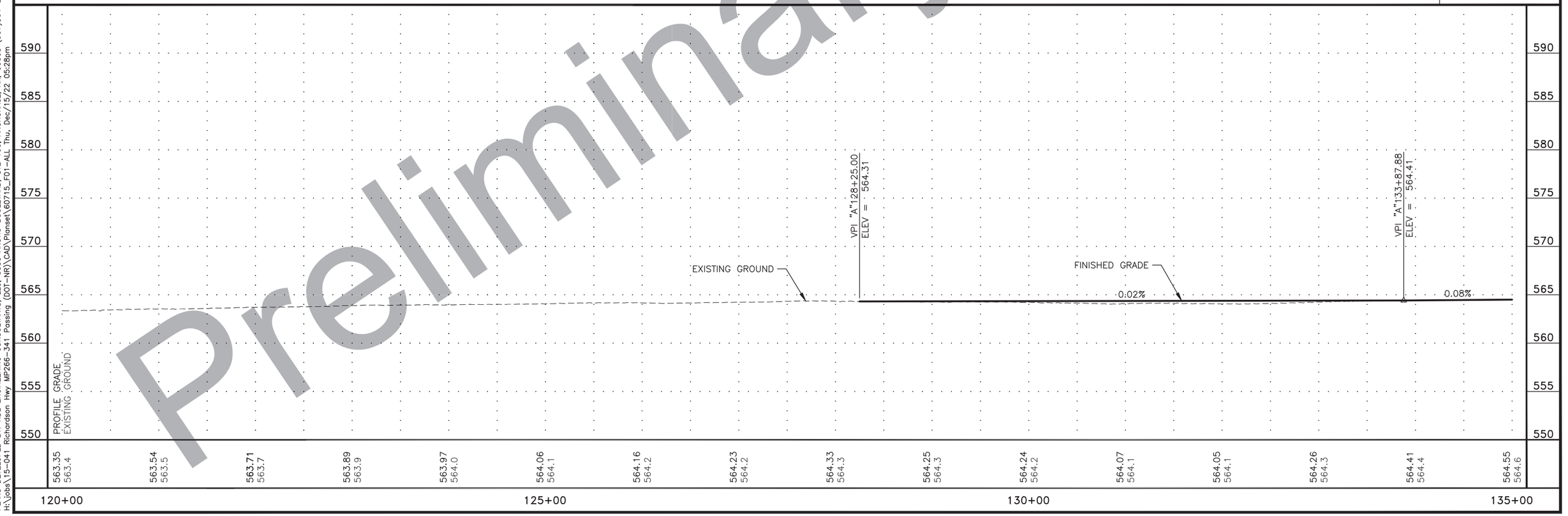
PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (#) STATION / SIGN CODE(S) — *SIGN LOCATION #*

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F1	F43



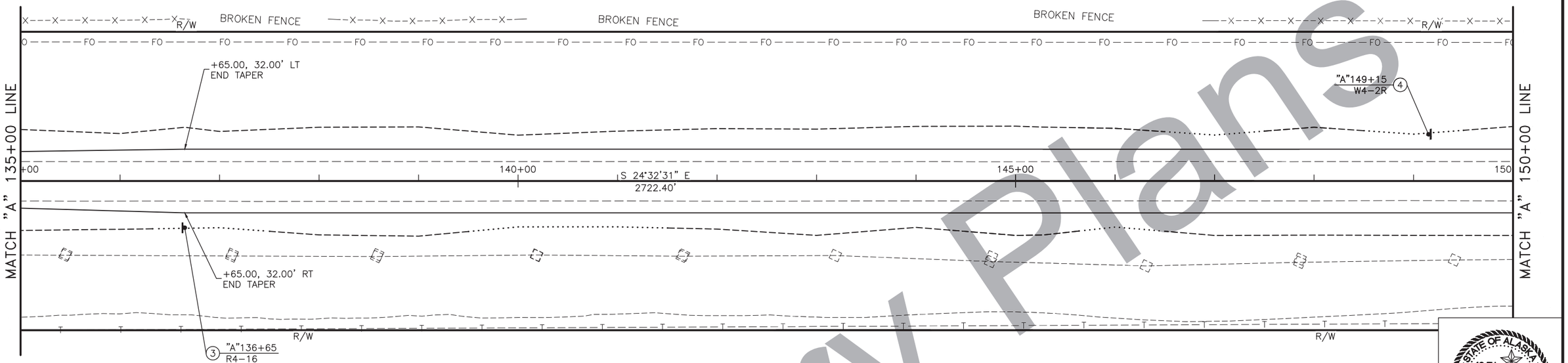


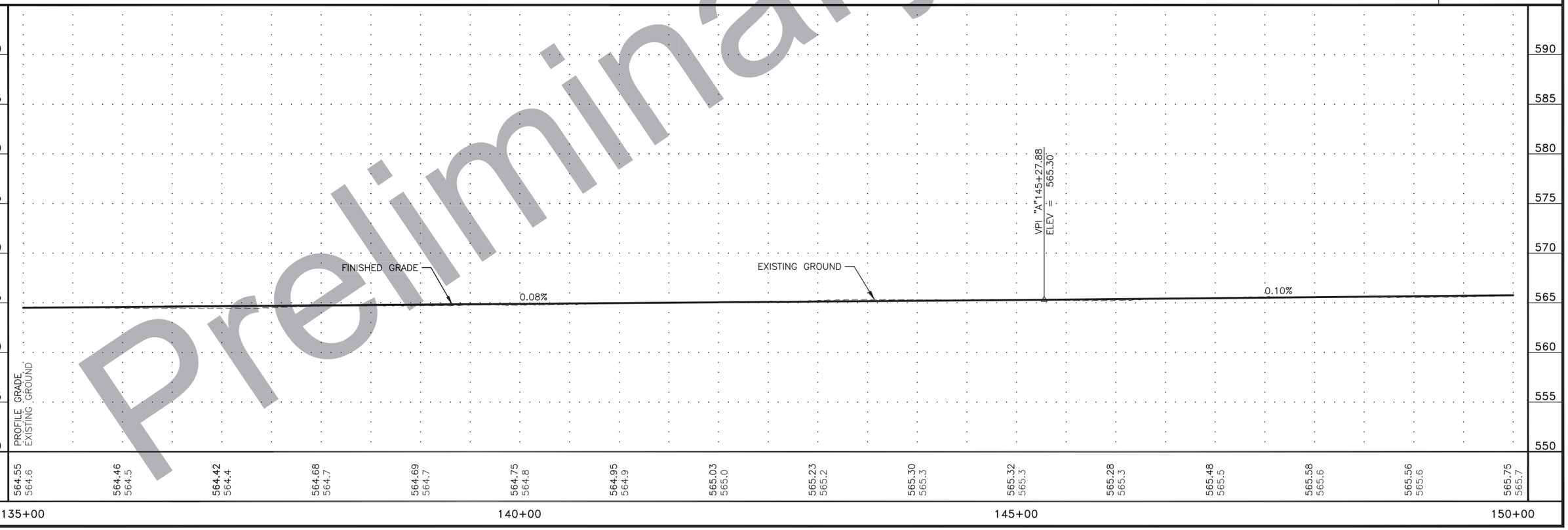
STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:28pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F2	F43





STATE OF ALASKA
49 TH
TREVOR D. STRAIT
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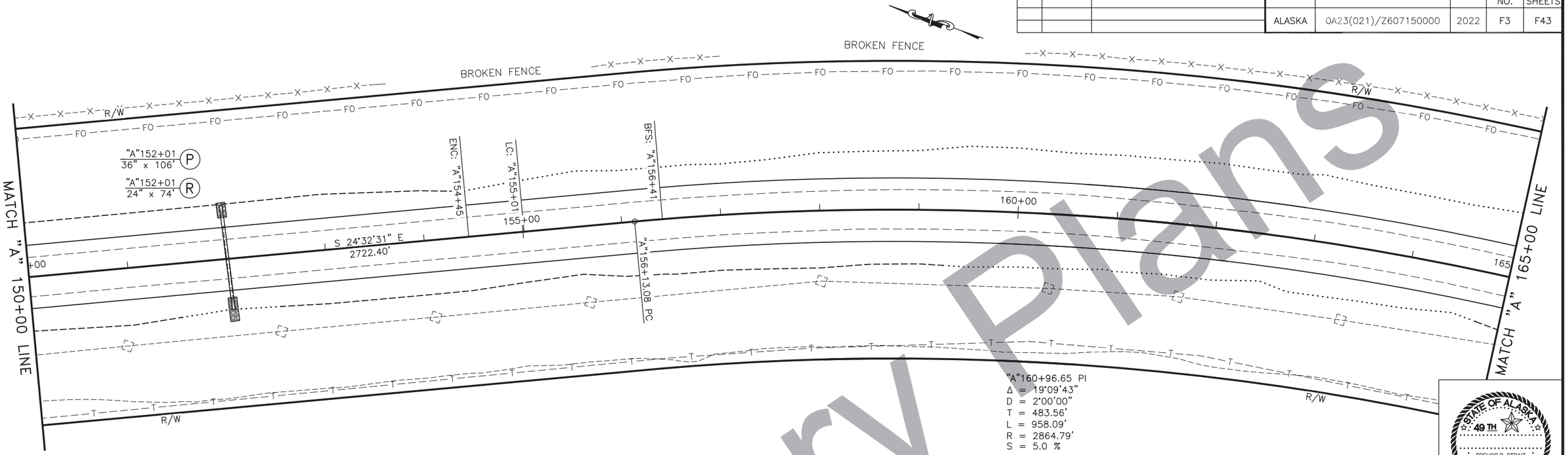
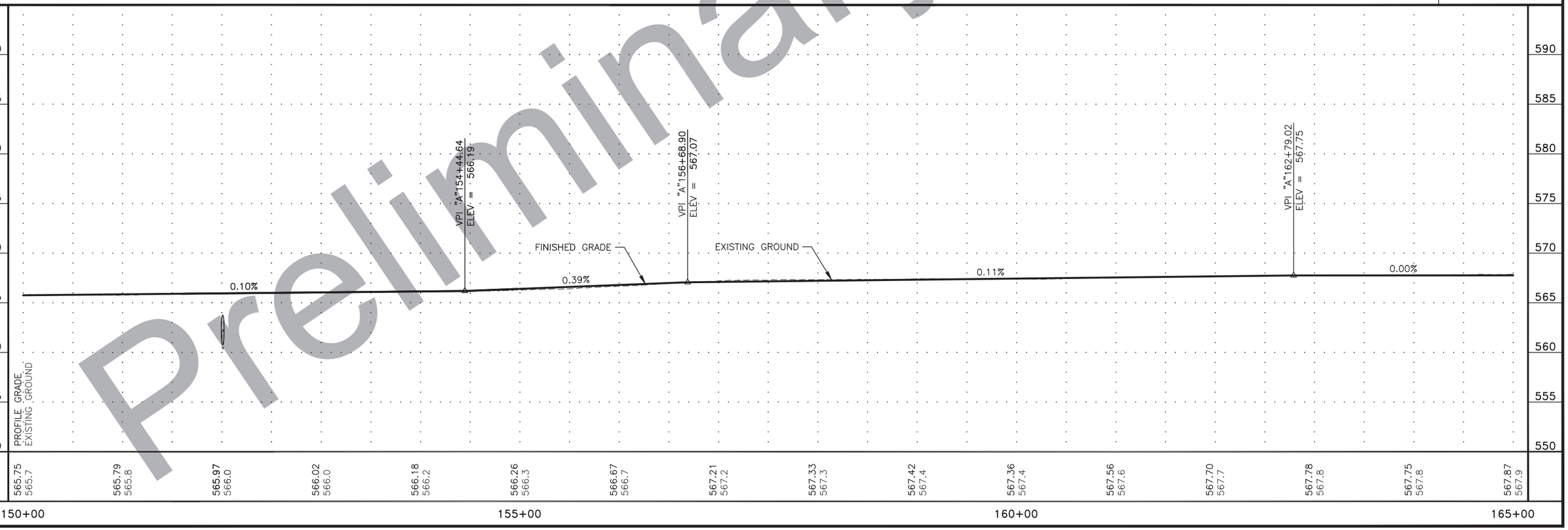
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F3	F43





STATE OF ALASKA
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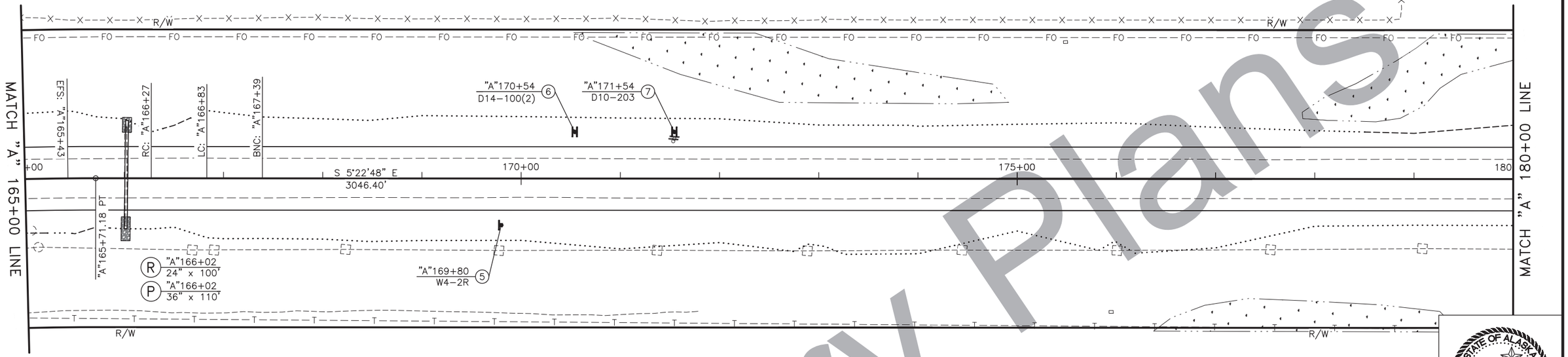
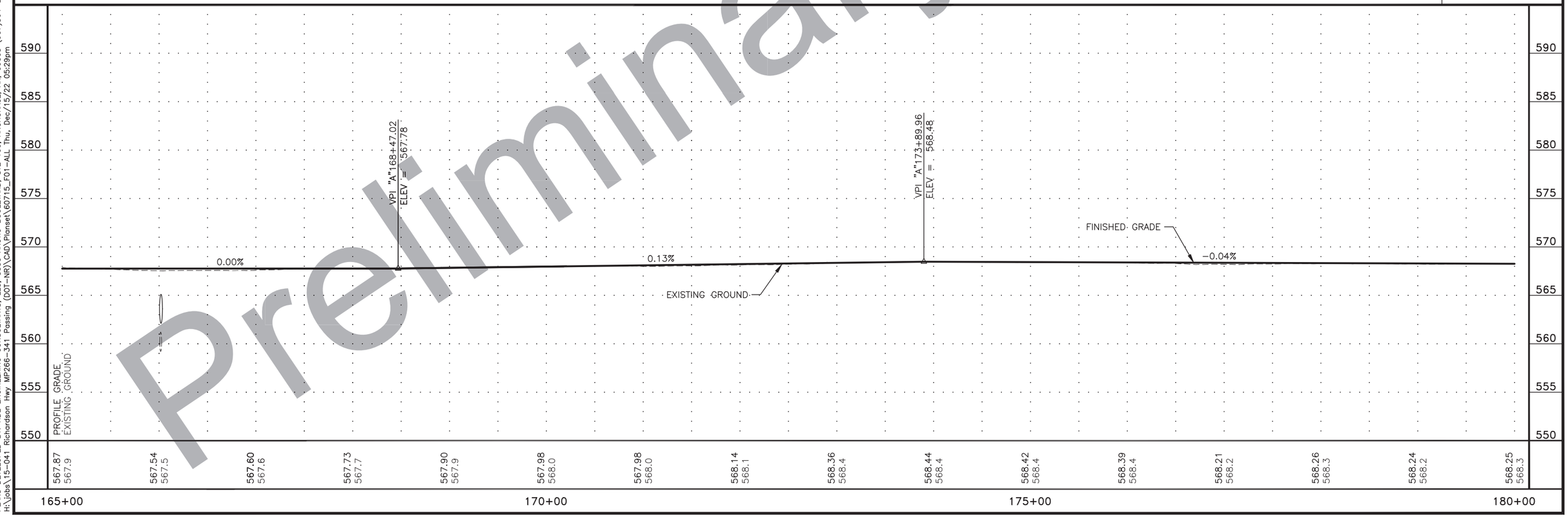
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F4	F43





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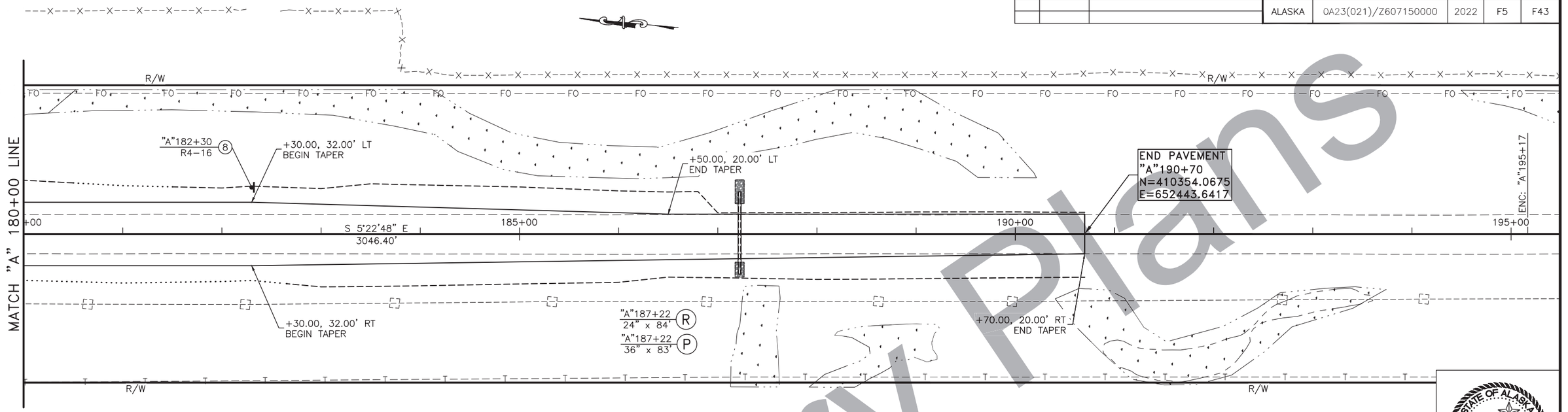
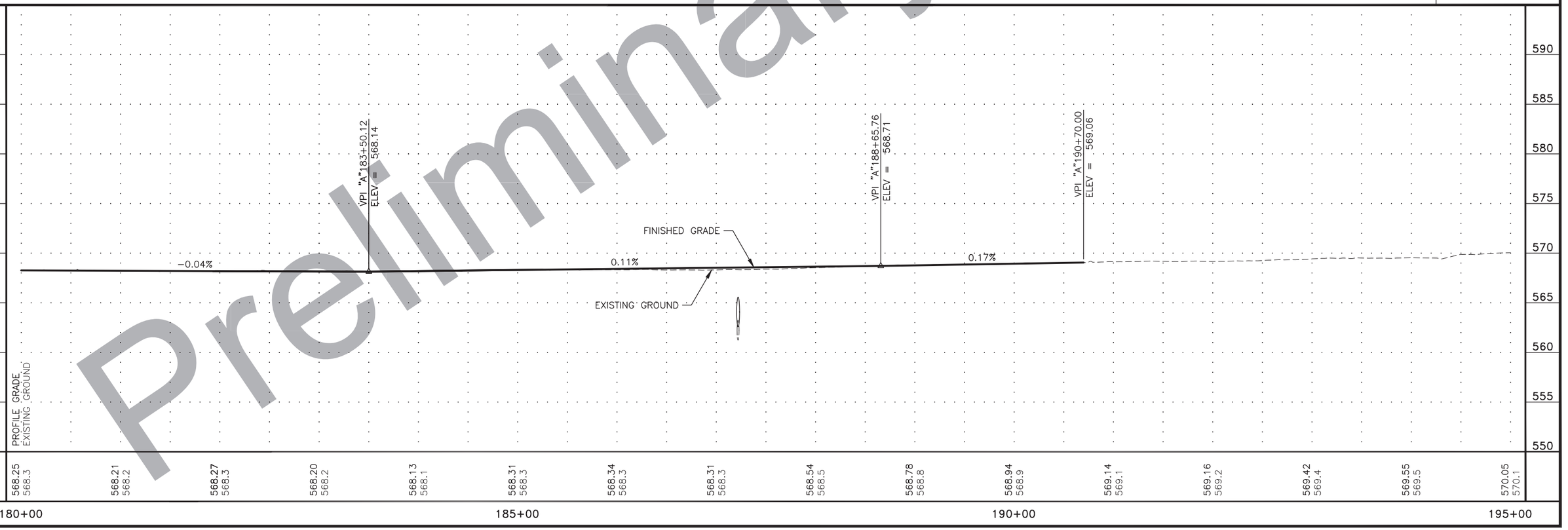
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:29pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F5	F43





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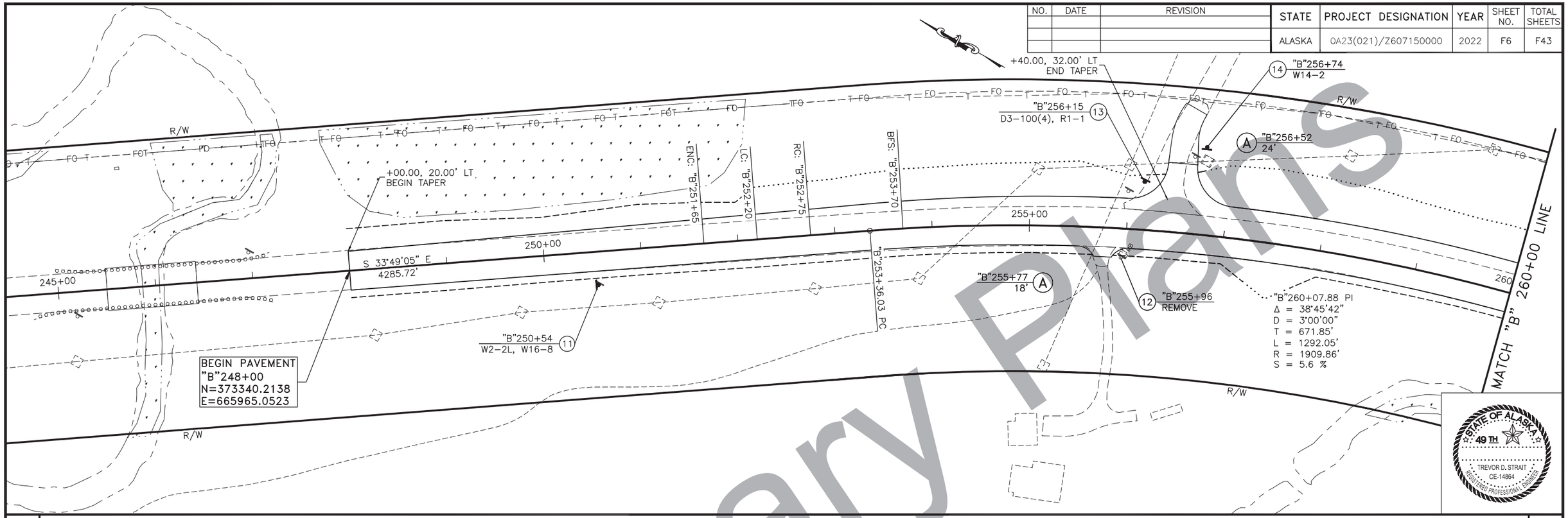
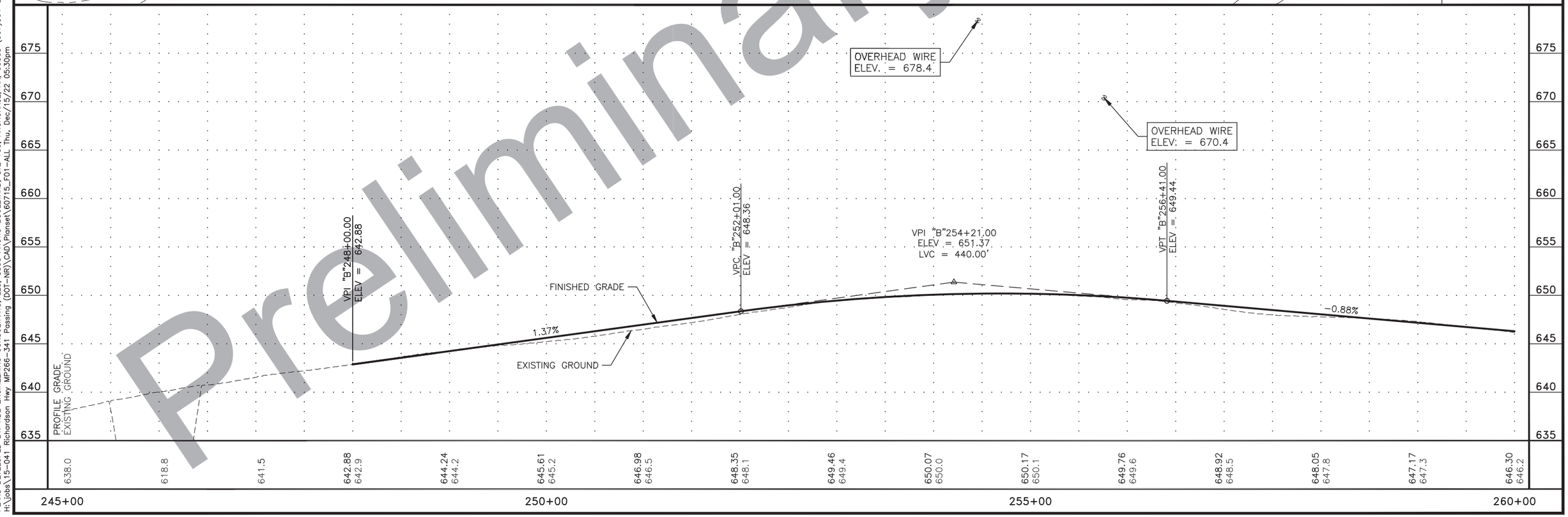
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F6	F43

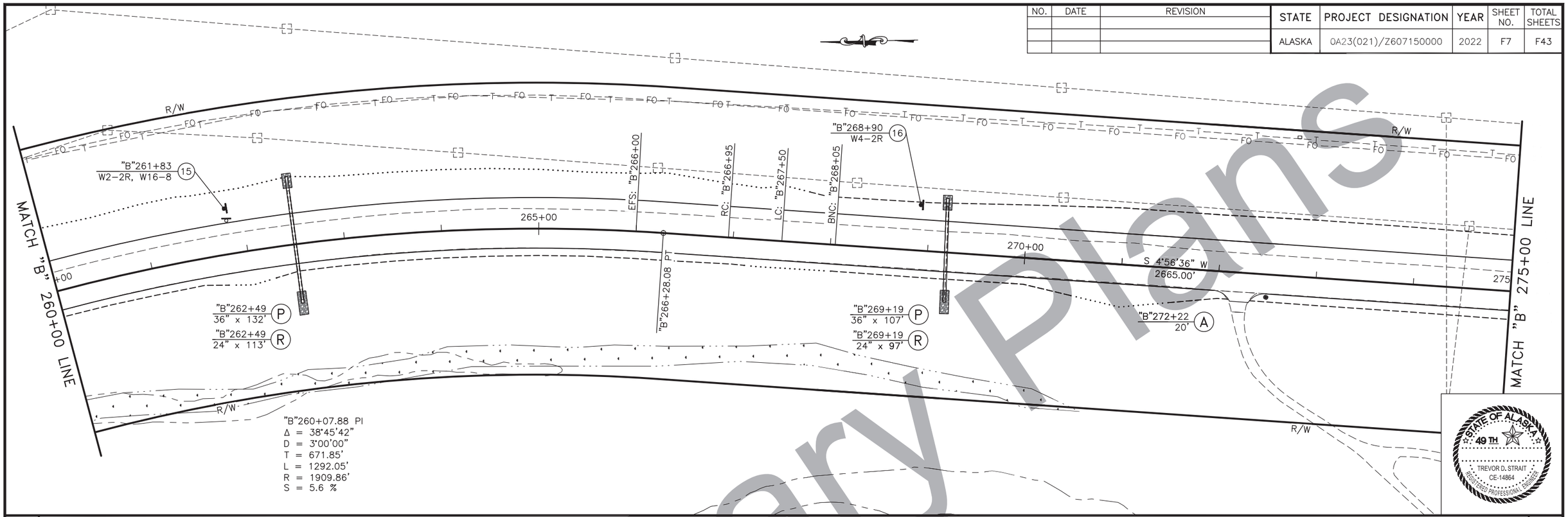


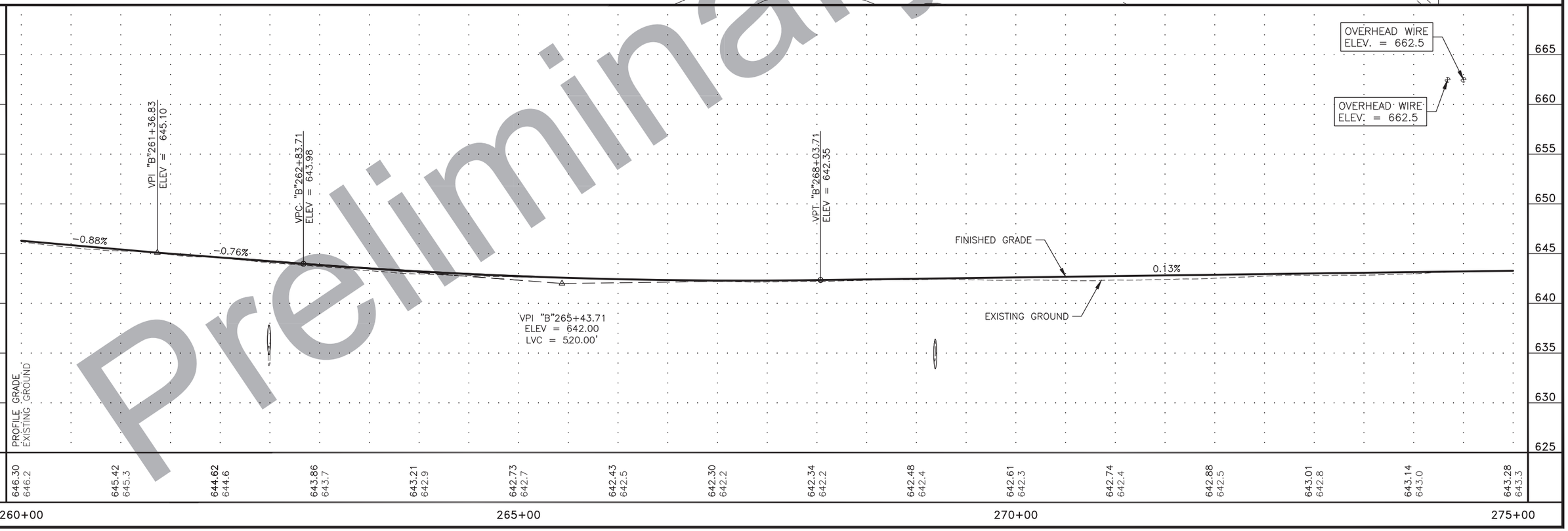


PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F7	F43





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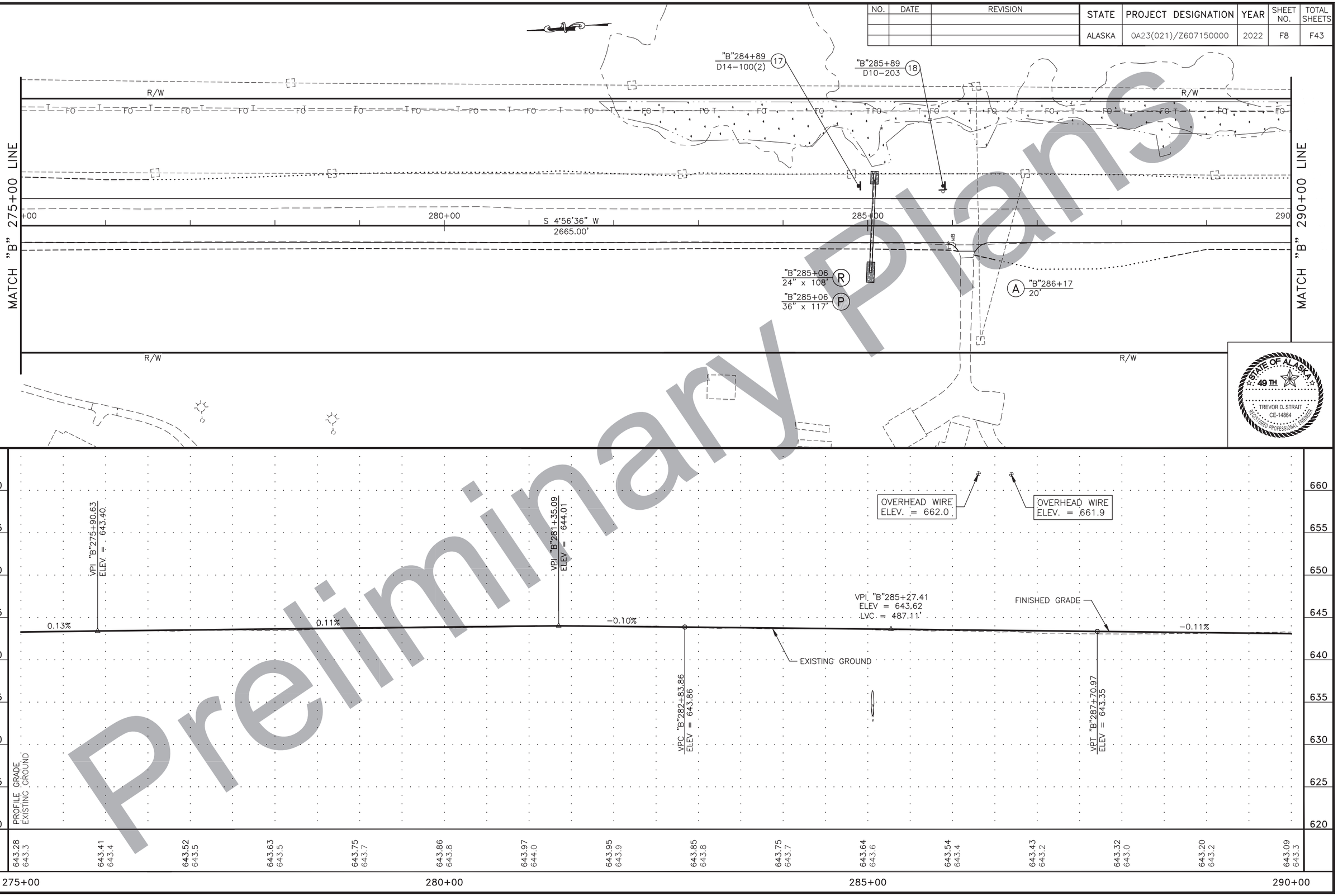
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F8	F43



STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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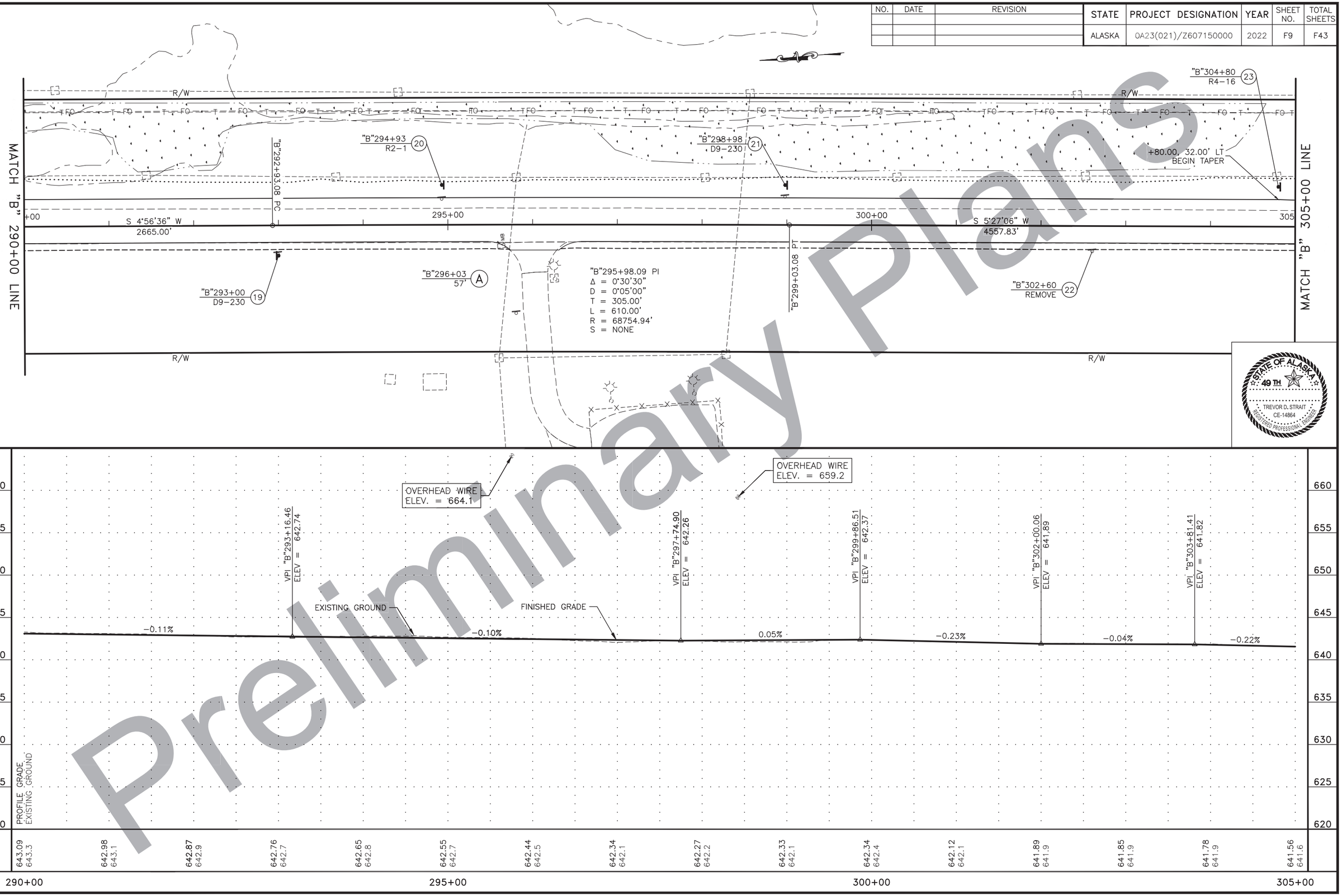
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F9	F43



STATE OF ALASKA
49 TH
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ALASKA	0A23(021)/Z607150000	2022	F10	F43

MATCH "B" 305+00 LINE

+00.00, 20.00' LT
END TAPER

R/W

+00 310+00 315+00 320+00

S 5°27'06" W
4557.83'

END PAVEMENT
"B"309+00
N=367412.3655
E=666199.7871

A "B"308+61
20'

BM

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
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OVERHEAD WIRE
ELEV. = 658.9

OVERHEAD WIRE
ELEV. = 660.5

VPI "B"309+00.00
ELEV = 640.68

FINISHED GRADE

−0.22%

EXISTING GROUND

660 655 650 645 640 635 630 625 620

PROFILE GRADE
EXISTING GROUND

641.56 641.6 | 641.34 641.3 | 641.12 641.0 | 640.90 640.8 | 640.68 640.7 | 640.7 | 640.7 | 640.6 | 640.6 | 640.5 | 640.6 | 640.7 | 640.9 | 640.9 | 641.1 | 641.5

305+00 310+00 315+00 320+00

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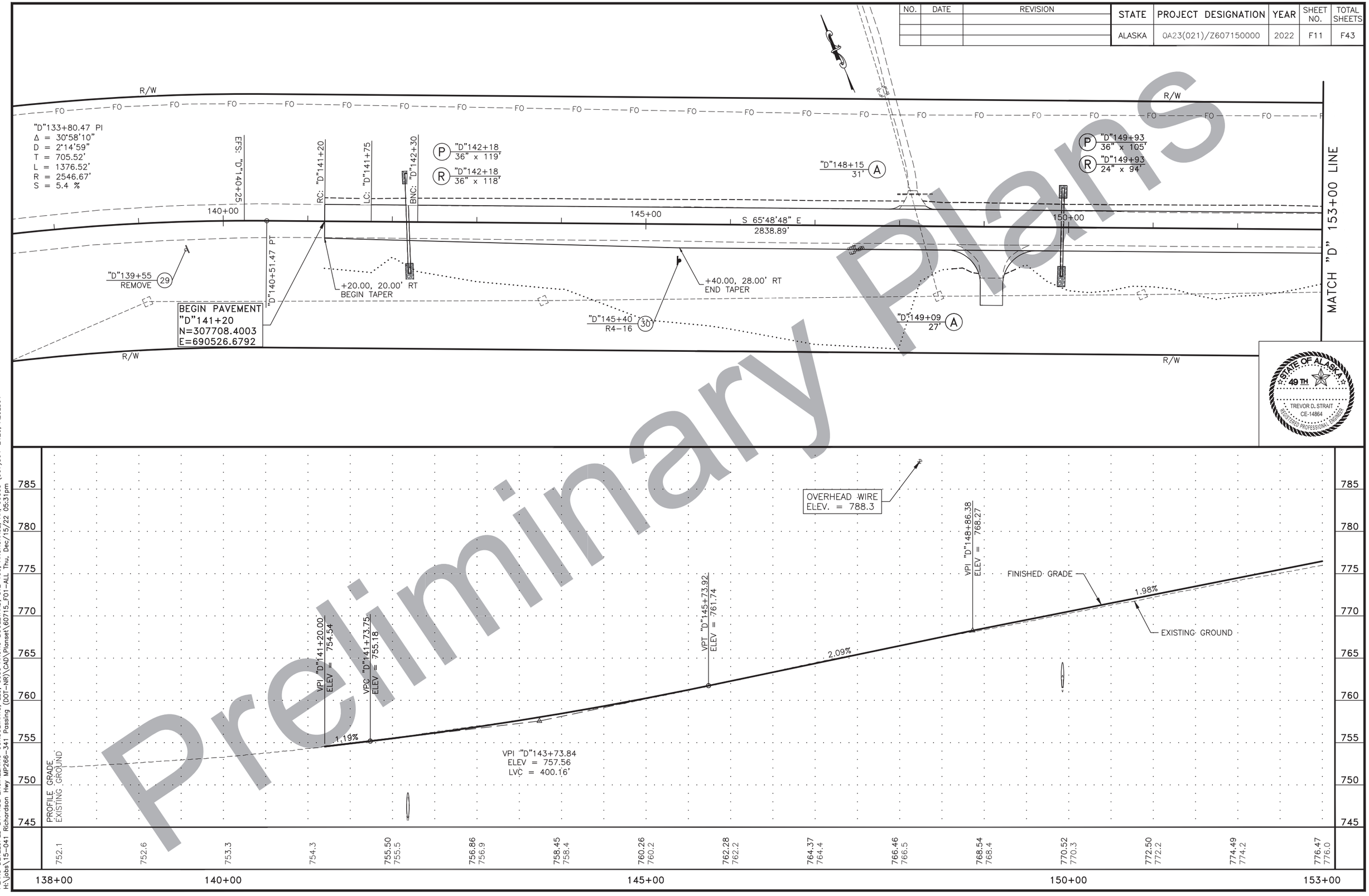
ALASKA	0A23(021)/Z607150000	2022	F11	F43



STATE OF ALASKA 49TH
TREVOR D. STRAIT
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REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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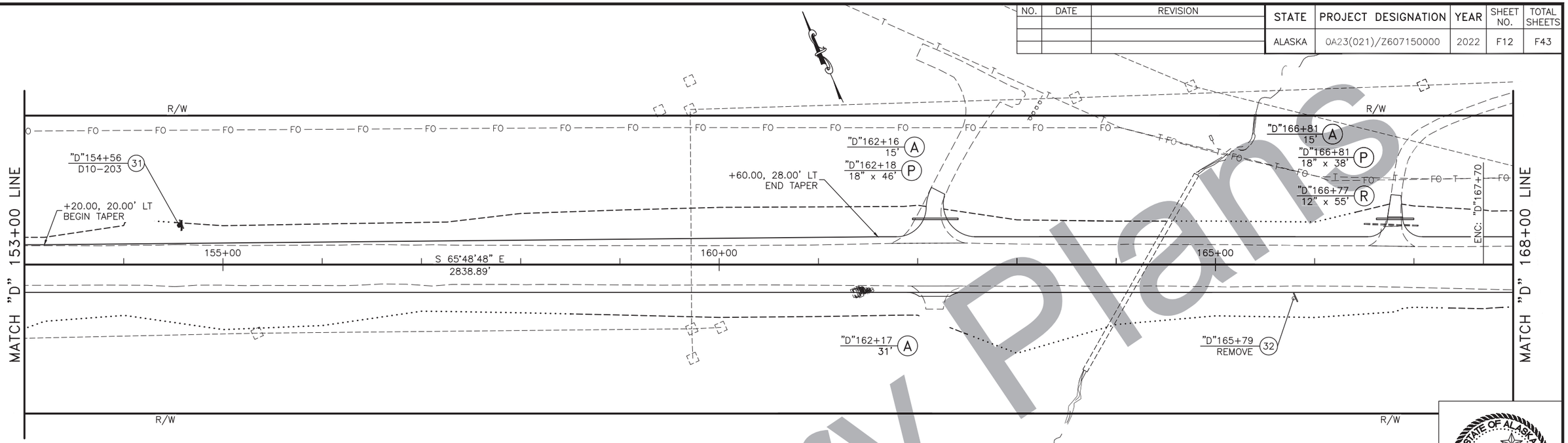
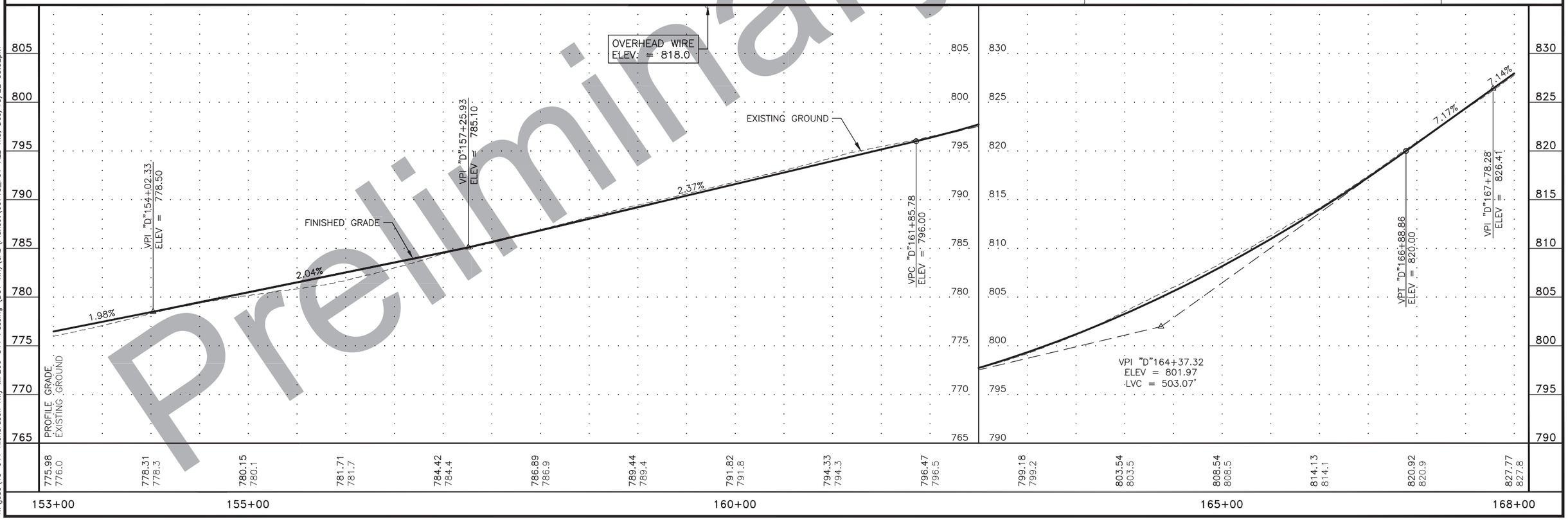
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F12	F43





STATE OF ALASKA
49 TH
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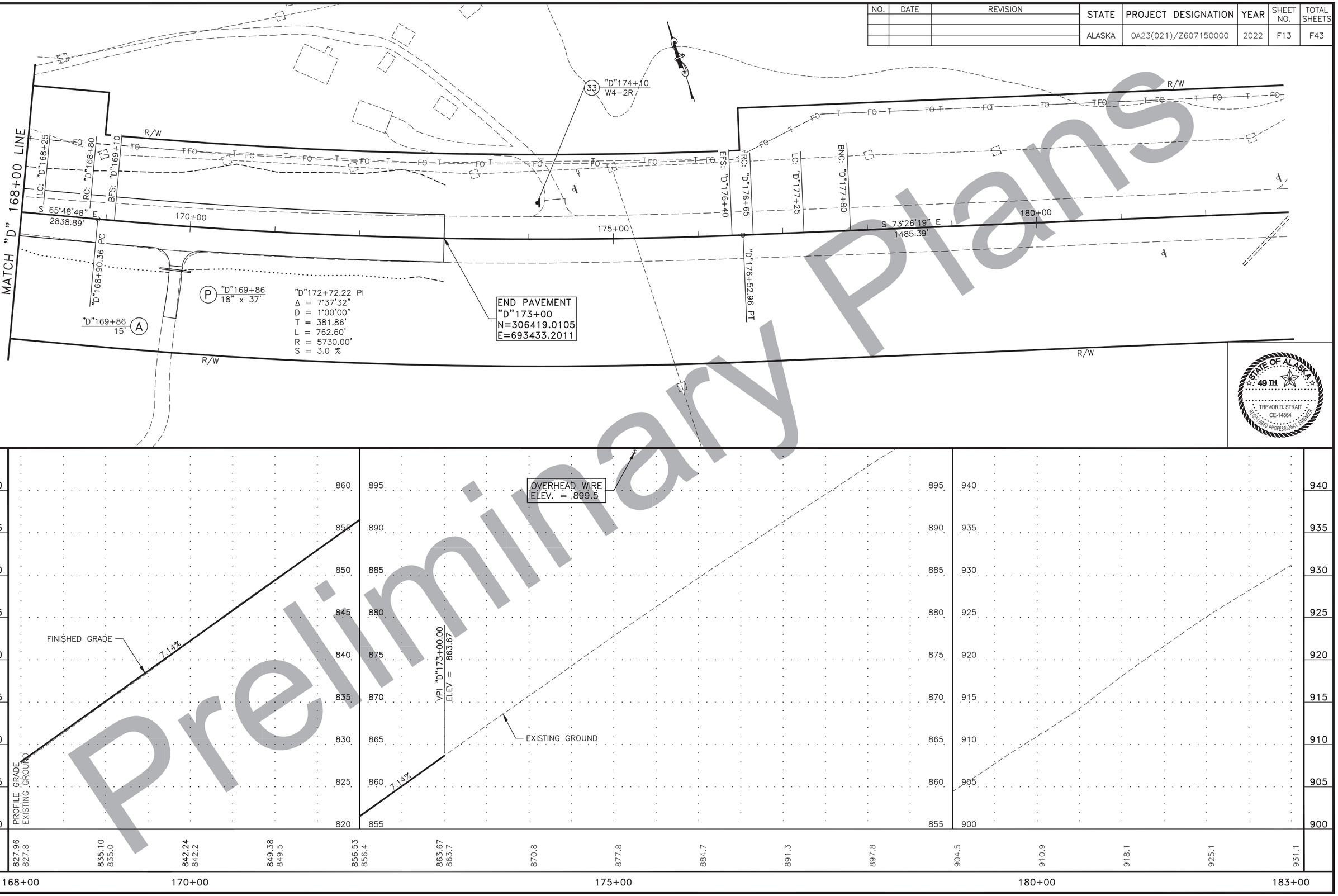
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F13	F43



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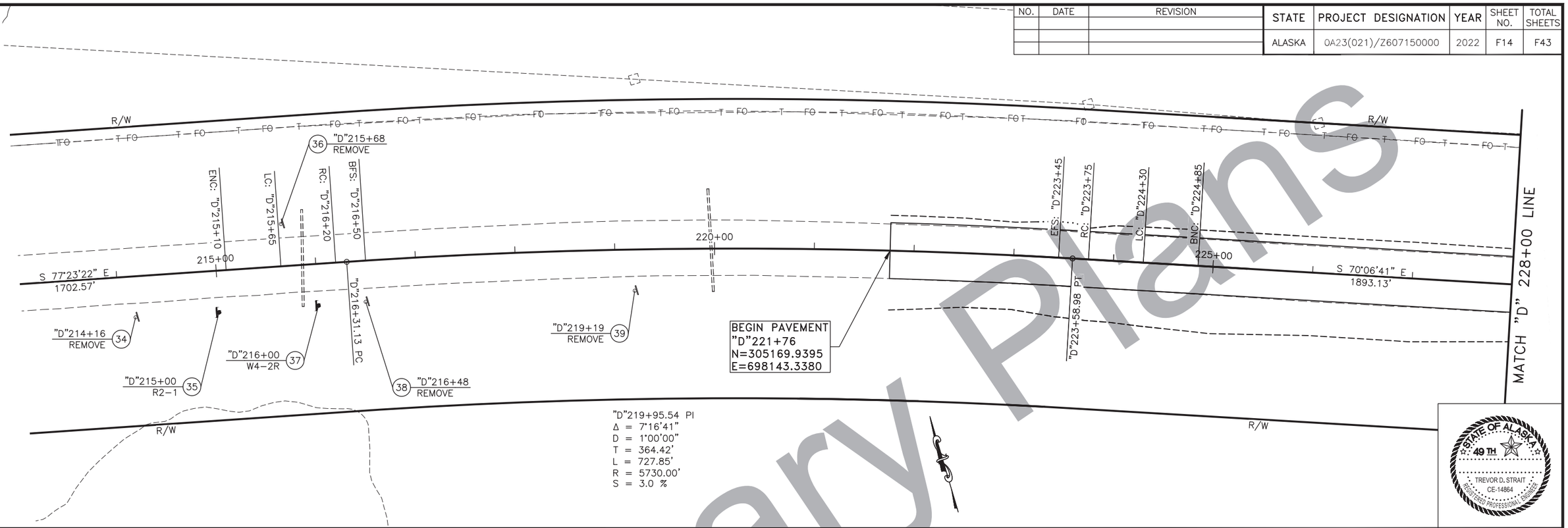
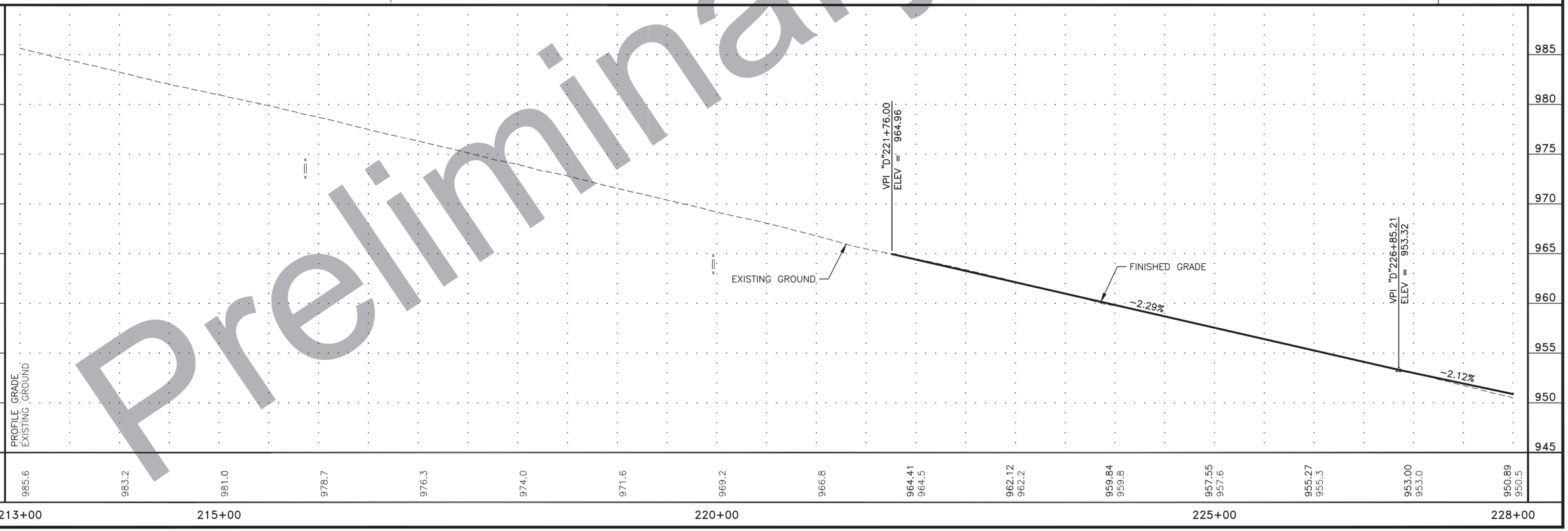
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F14	F43





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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F15	F43

MATCH "D" 228+00 LINE

MATCH "D" 243+00 LINE

R/W

R/W

"D"228+39
36" x 118'
(P)

"D"228+39
24" x 99'
(R)

"D"233+35
36" x 110'
(P)

"D"233+34
36" x 99'
(R)

"D"236+36
24" x 99'
(P)

"D"236+36
24" x 84'
(R)

"D"239+88
REMOVE
41

"D"242+10
REMOVE
42

ENC: "D"241+30

LC: "D"241+85

RC: "D"242+45

BFS: "D"242+70

230+00

S 70°06'41" E
1893.13'

235+00

240+00

+50.00, 28.00' RT
BEGIN TAPER

"D"234+34
REMOVE
40

+90.00, 20.00' RT
END TAPER

"D"237+38
36'
(A)

"D"242+37
18" x 92'
(R)

"D"242+37
36" x 119'
(P)

"D"242+52.11 PC

OVERHEAD WIRE
ELEV. = 965.5

FINISHED GRADE

EXISTING GROUND

-2.12%

-1.61%

-2.81%

VPI "D"230+90.66
ELEV = 944.73

VPC "D"234+92.40
ELEV = 938.28

VPI "D"237+69.26
ELEV = 933.83
LVC = 553.71'

VPT "D"240+46.11
ELEV = 926.07'

PROFILE GRADE
EXISTING GROUND

950
945
940
935
930
925
920
915
910

950.89 950.5
948.77 948.5
946.65 946.3
944.58 944.6
942.97 942.7
941.37 941.0
939.76 939.3
938.16 937.8
936.43 936.2
934.48 934.4
932.32 932.2
929.93 929.8
927.34 927.2
924.55 924.4
921.75 921.4
918.94 918.7

228+00
230+00
235+00
240+00
243+00

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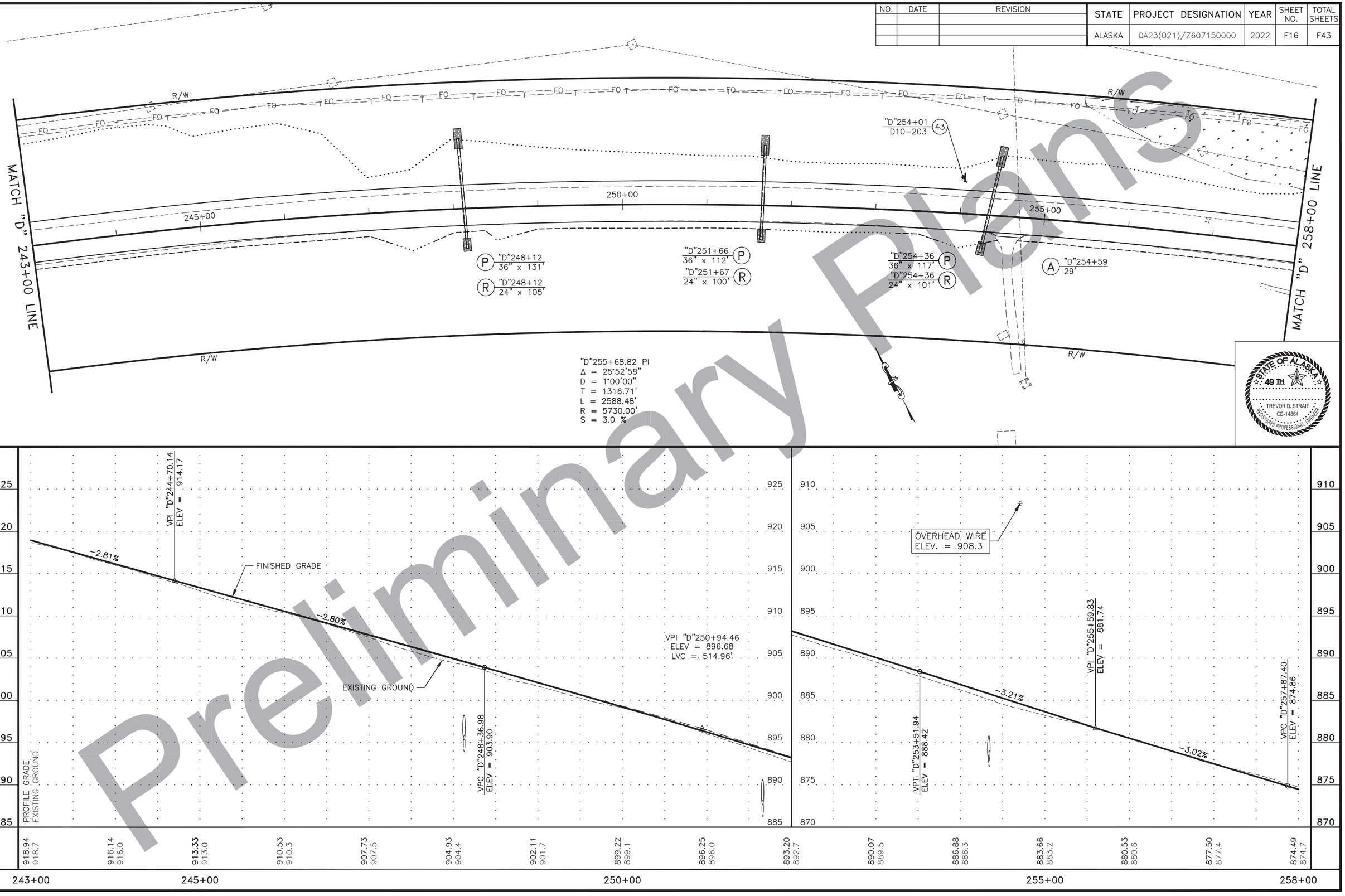
ALASKA	0A23(021)/Z607150000	2022	F16	F43



STATE OF ALASKA 49 TH
TREVOR D. STRAIT
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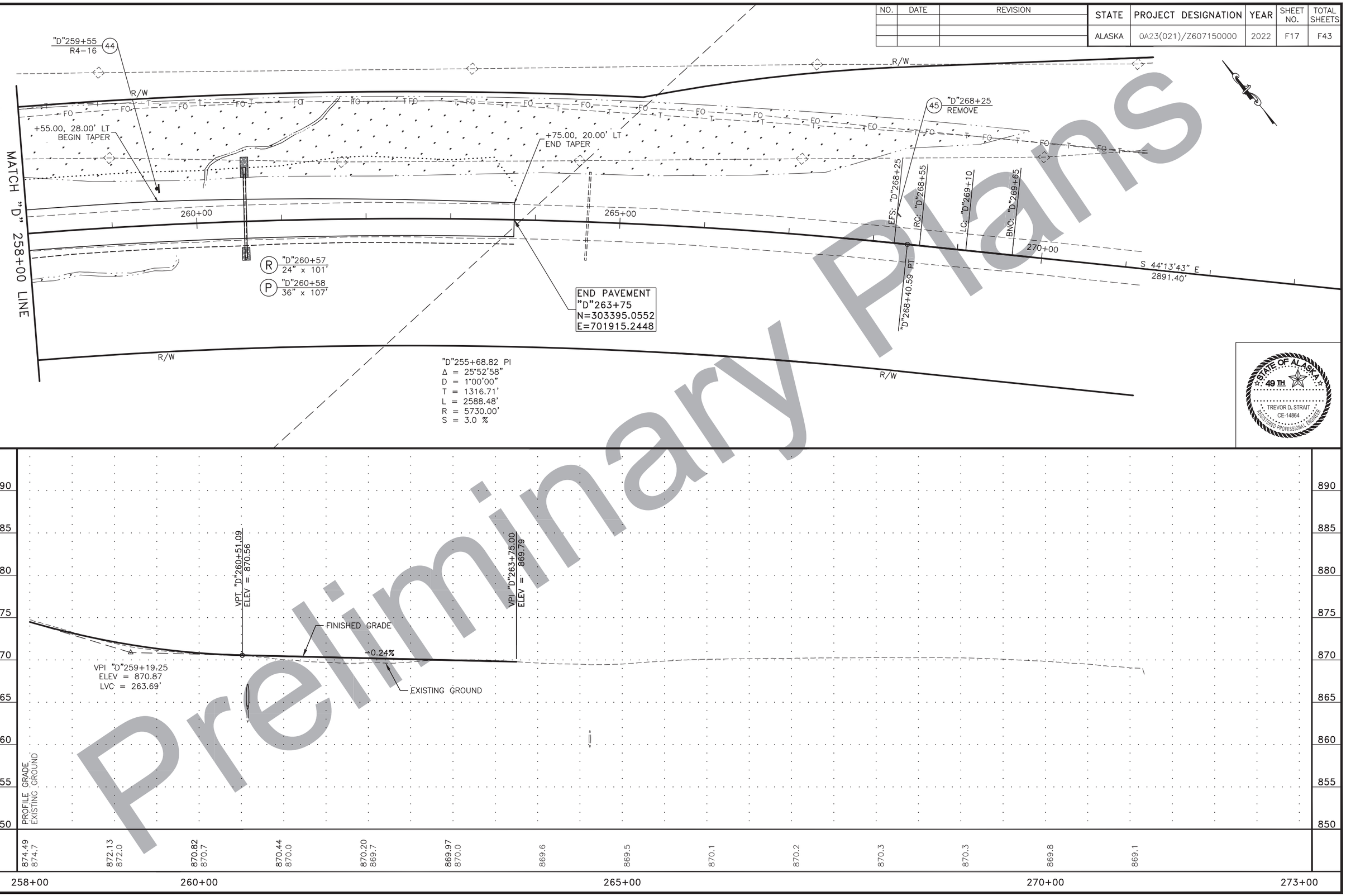
ALASKA	0A23(021)/Z607150000	2022	F17	F43



STATE OF ALASKA
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ALASKA	0A23(021)/Z607150000	2022	F18	F43

"E"150+73.56 PI
Δ = 2°58'26"
D = 0°15'00"
T = 594.92'
L = 1189.58'
R = 22918.31'
S = NONE

R/W

P "E"156+65 24" x 82'
R "E"156+65 24" x 72'
"E"158+85 20' A
"E"162+53 36" x 100' P
"E"162+53 24" x 76' R
A "E"162+99 20'
P "E"165+39 36" x 107'
R "E"165+39 24" x 100'

155+00 160+00 165+00

N 81°23'21" E
4367.43'

"E"156+68.21 PT

+00.00, 20.00' RT
BEGIN TAPER

"E"159+20 R4-16 (51)

+20.00, 32.00' RT
END TAPER

"E"161+83 REMOVE (52)

BEGIN PAVEMENT
"E"155+00
N=297991.8872
E=724781.9746

MATCH "E" 169+00 LINE

980 975 970 965 960 955 950 945 940

VPI "E"155+00.00
ELEV = 949.08

PROFILE GRADE
EXISTING GROUND

FINISHED GRADE

2.06%

EXISTING GROUND

VPI "E"167+49.58
ELEV = 974.79
LVC = 599.85'

VPC "E"164+49.65
ELEV = 968.62

947.5
949.08 949.1
951.14 951.1
953.20 953.3
955.25 955.3
957.31 956.8
959.37 958.8
961.43 961.0
963.48 963.1
965.54 965.4
967.60 967.6
969.61 969.6
971.33 971.3
972.72 972.6
973.76 973.8
974.47 974.6

154+00 155+00 160+00 165+00 169+00

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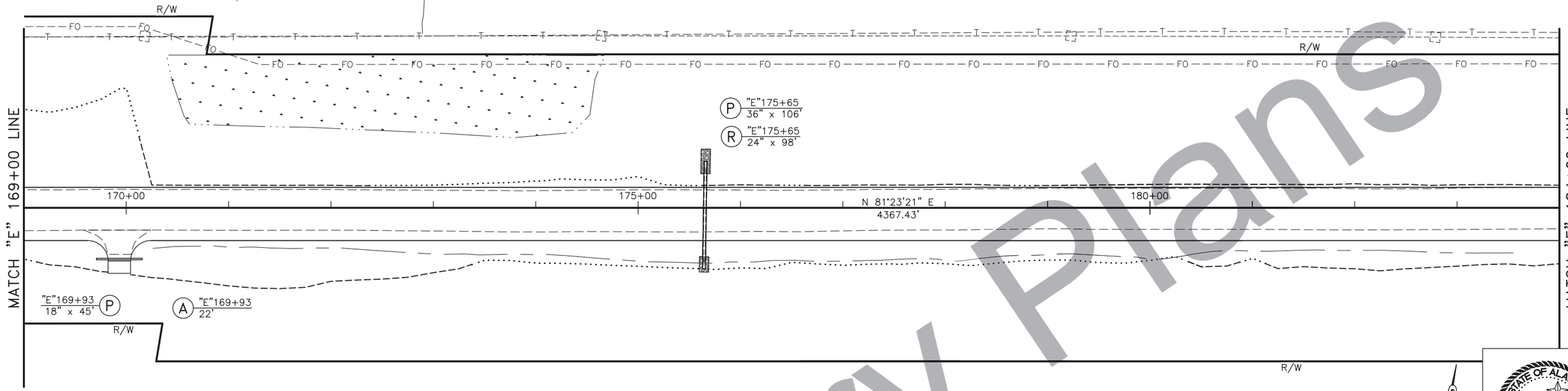
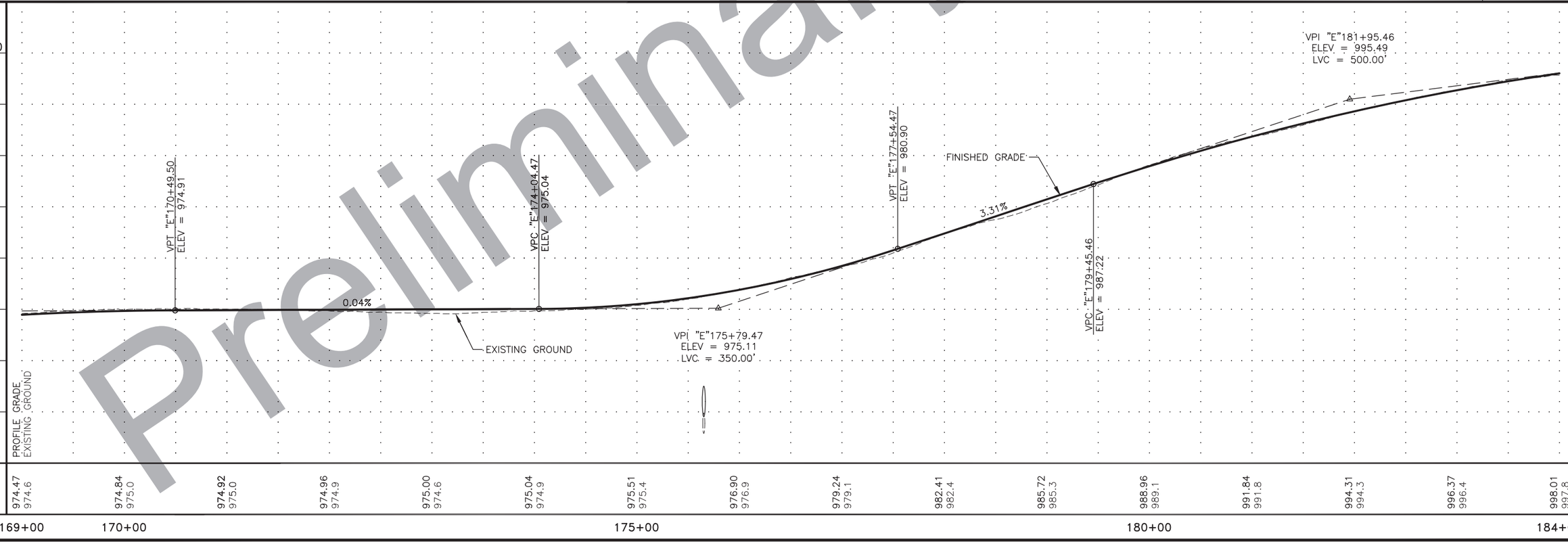
ALASKA	0A23(021)/Z607150000	2022	F19	F43





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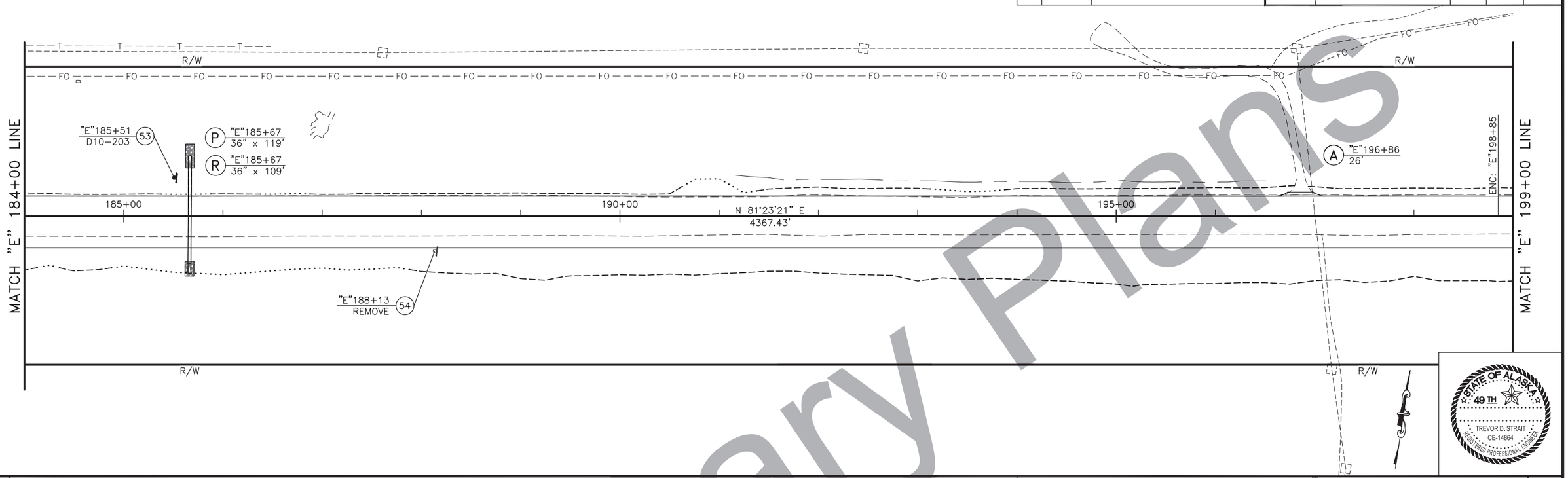
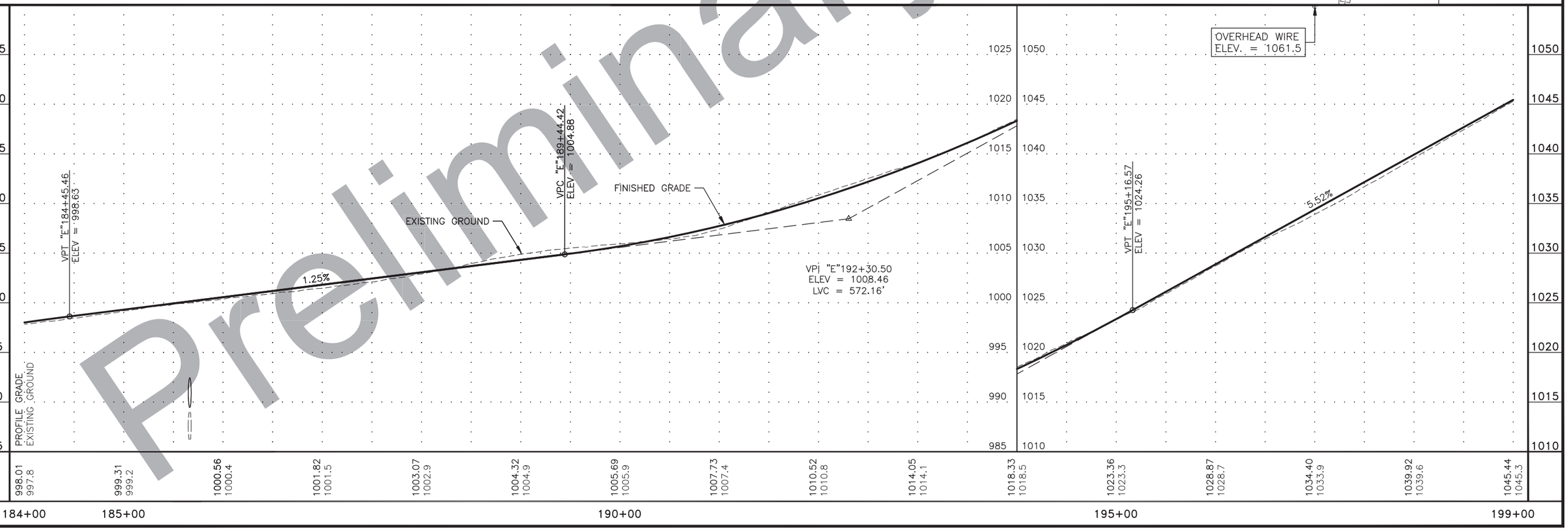
ALASKA	0A23(021)/Z607150000	2022	F20	F43





STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

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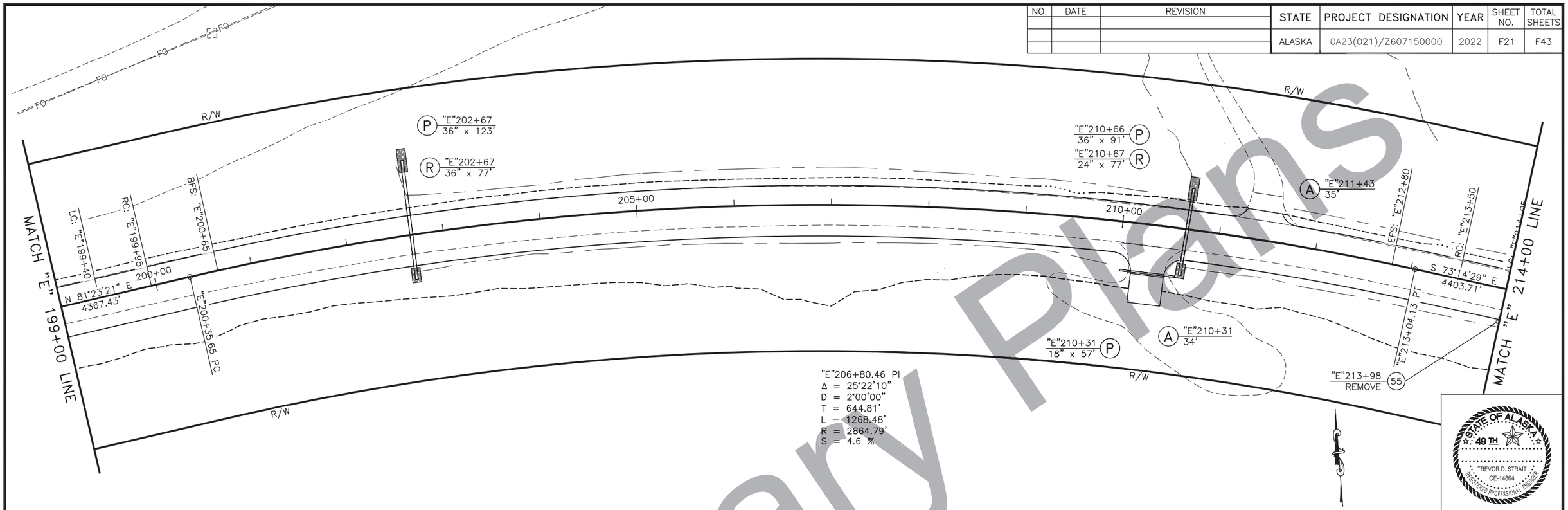
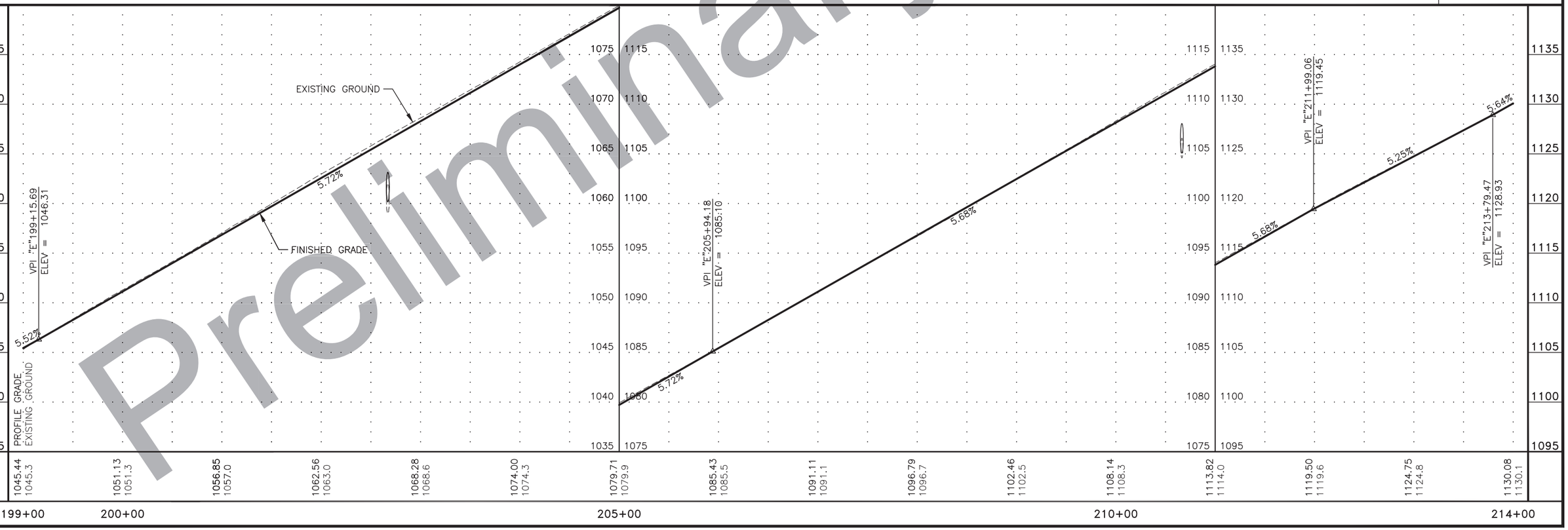
ALASKA	0A23(021)/Z607150000	2022	F21	F43





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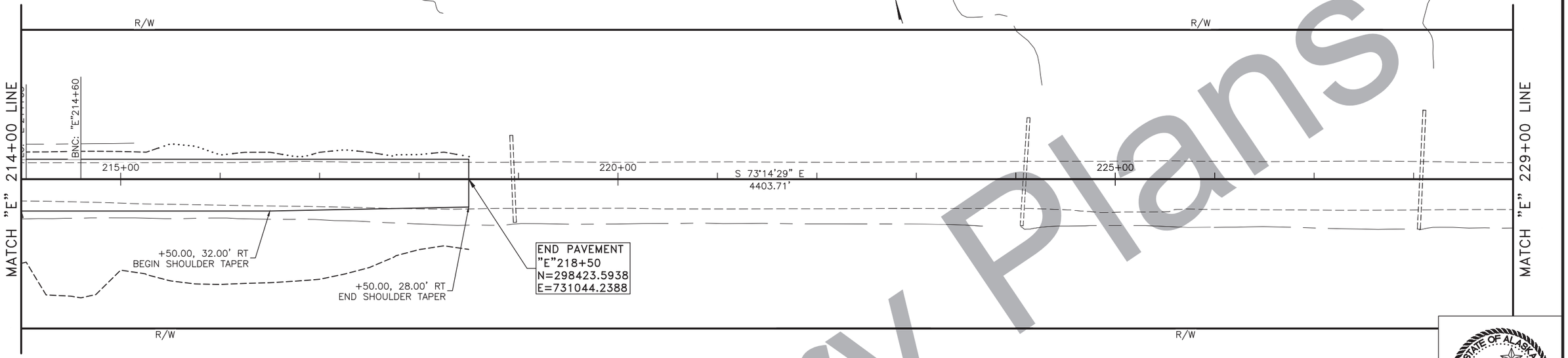

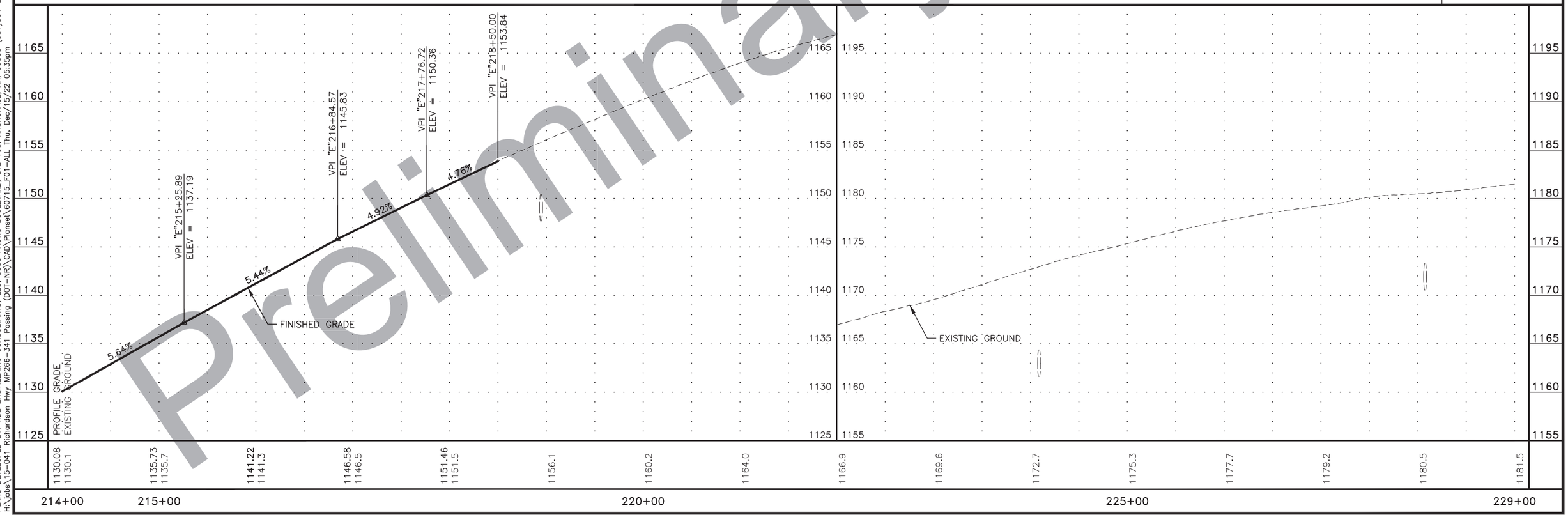

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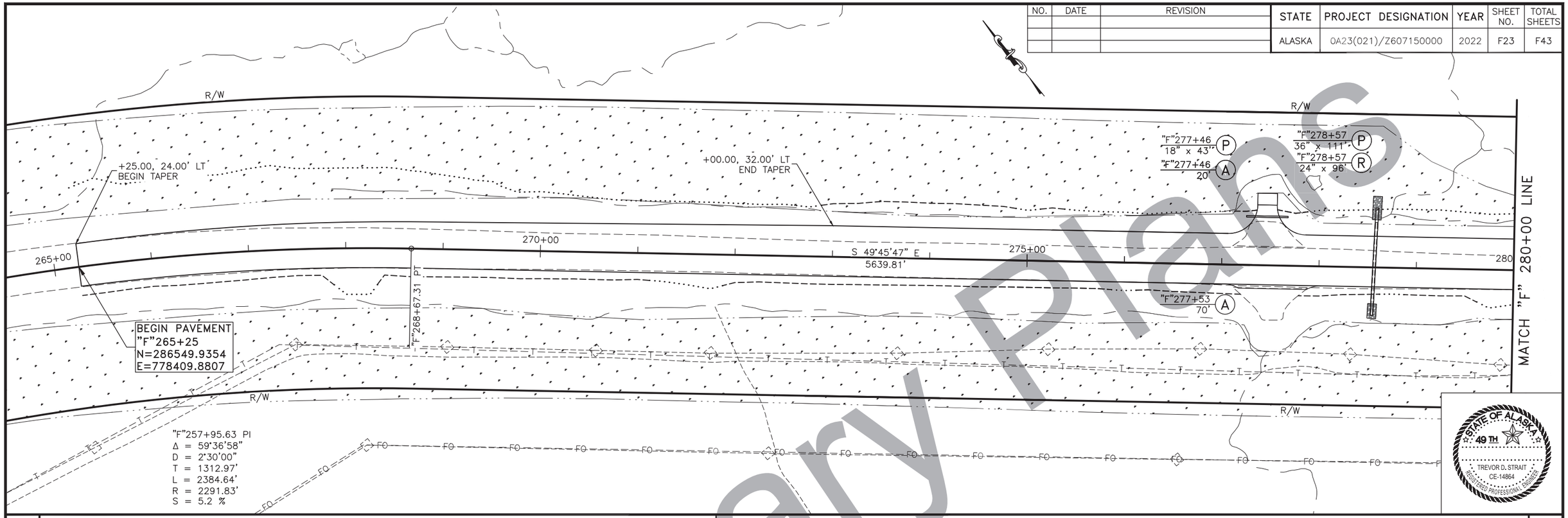
ALASKA	0A23(021)/Z607150000	2022	F23	F43



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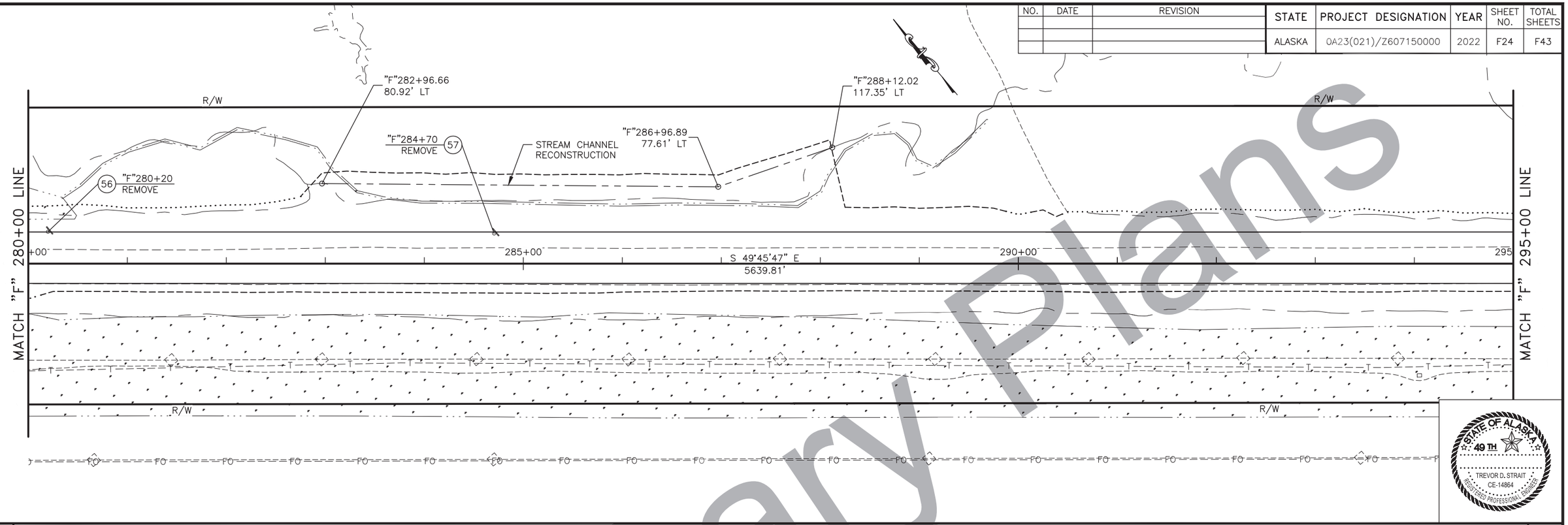
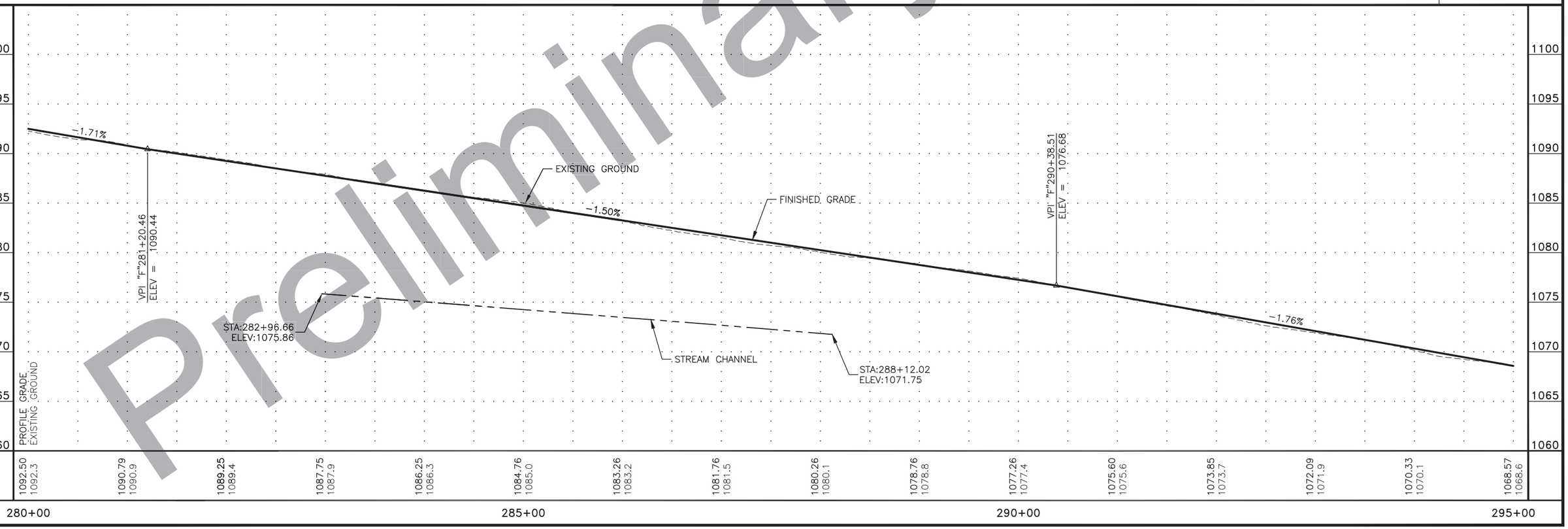
ALASKA	0A23(021)/Z607150000	2022	F24	F43





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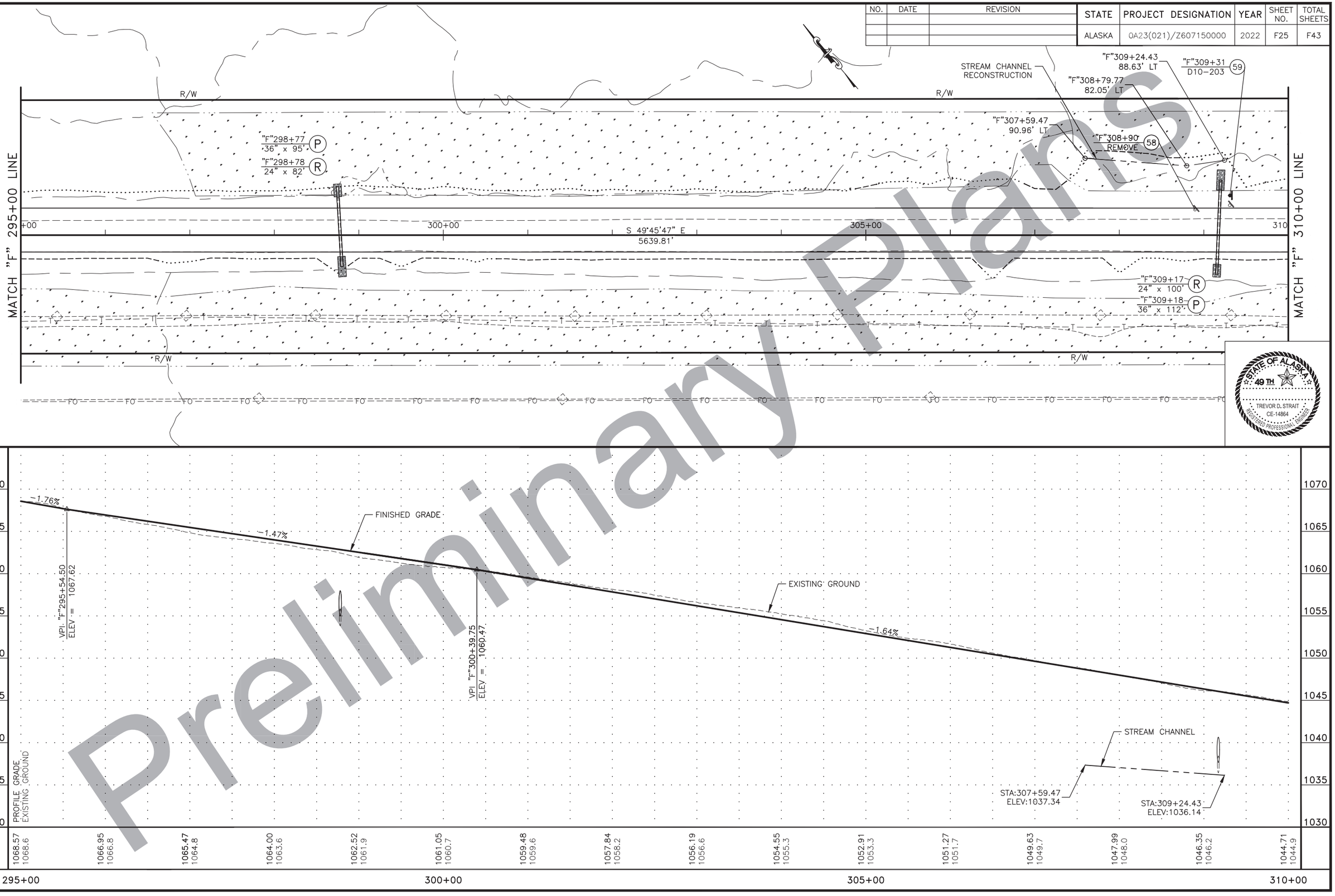
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F25	F43

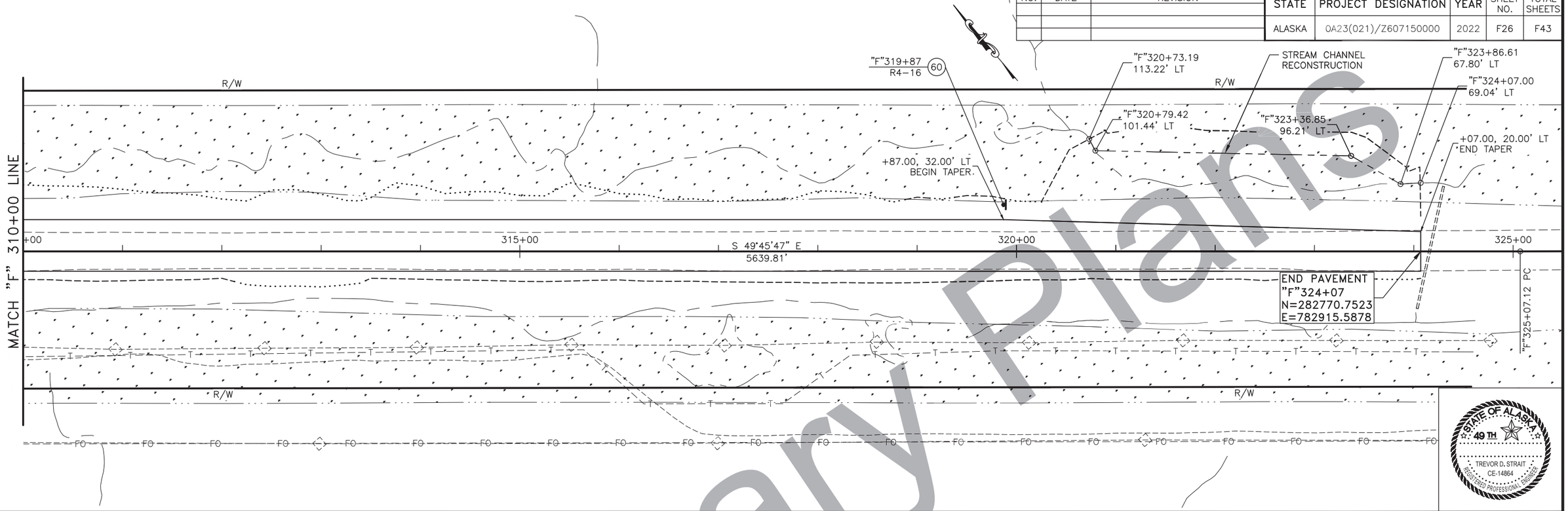


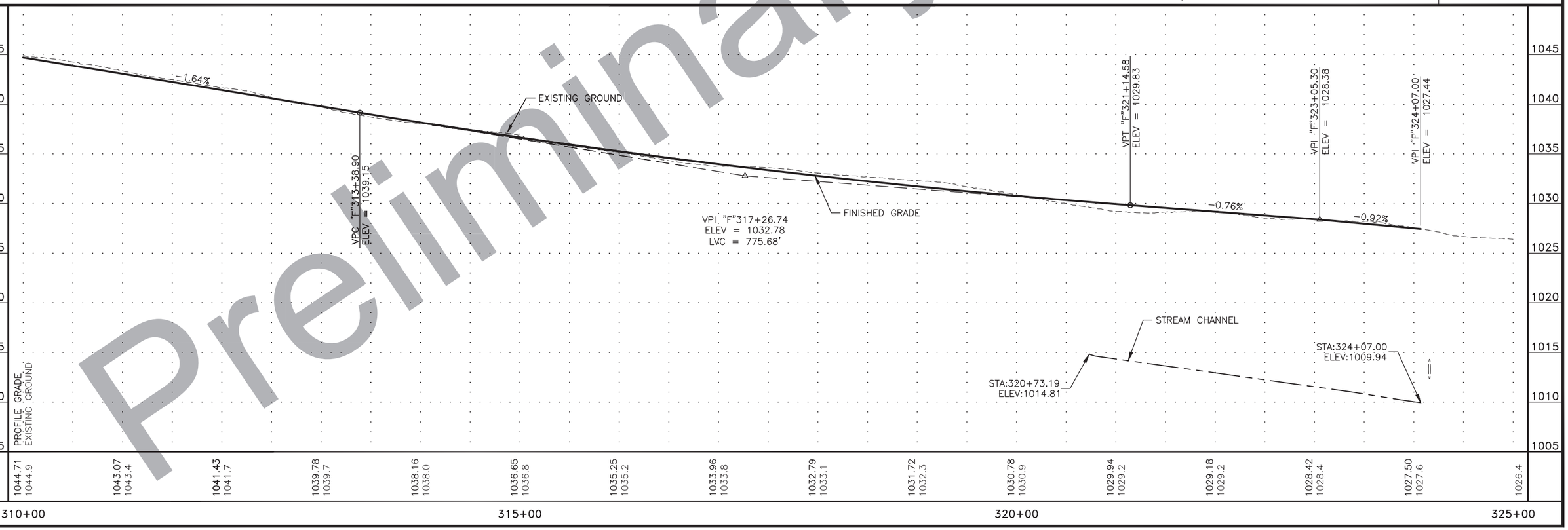
STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:36pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F26	F43



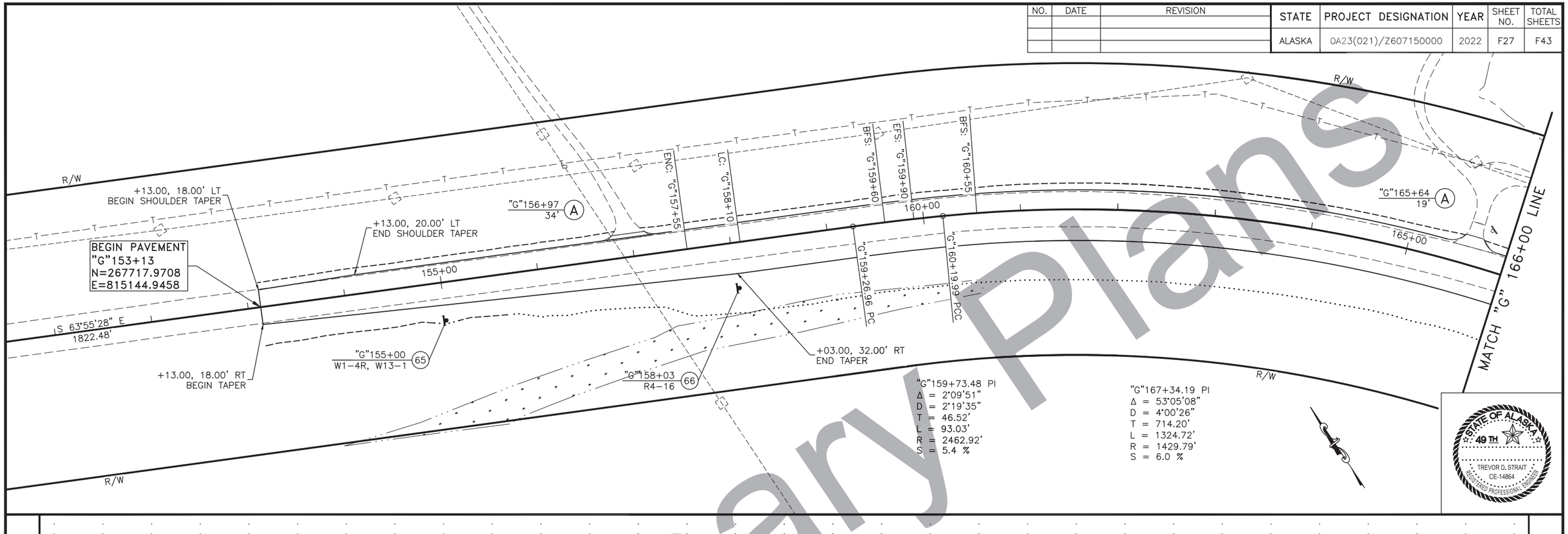


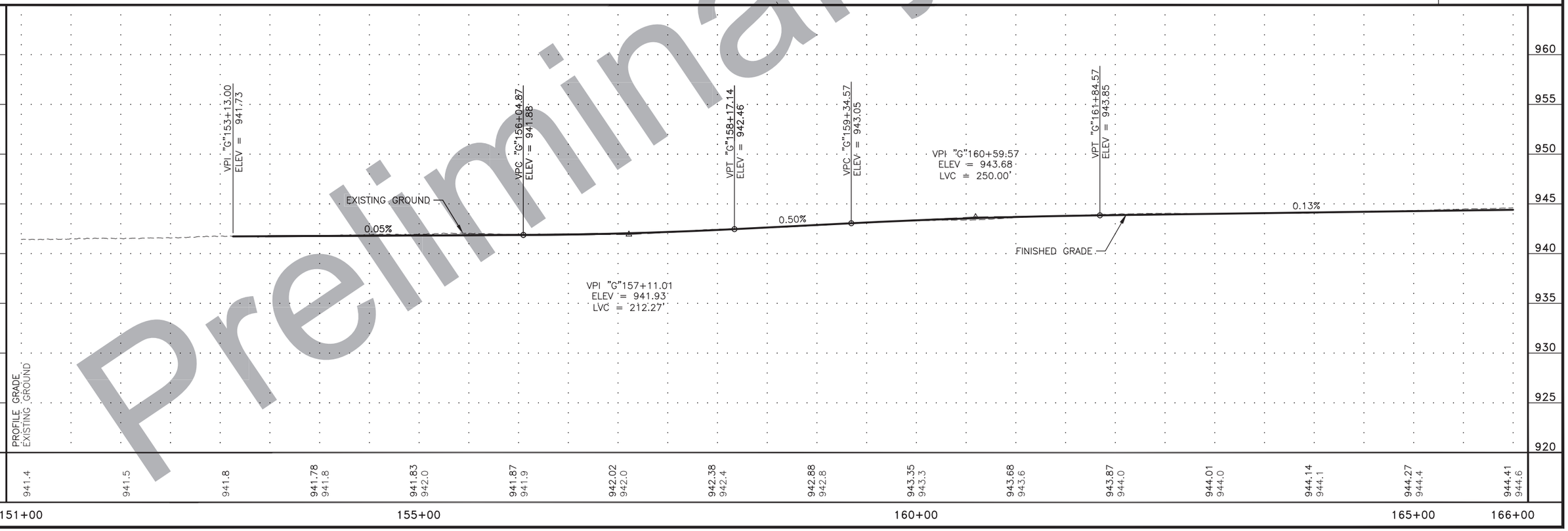
STATE OF ALASKA
49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:36pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F27	F43





PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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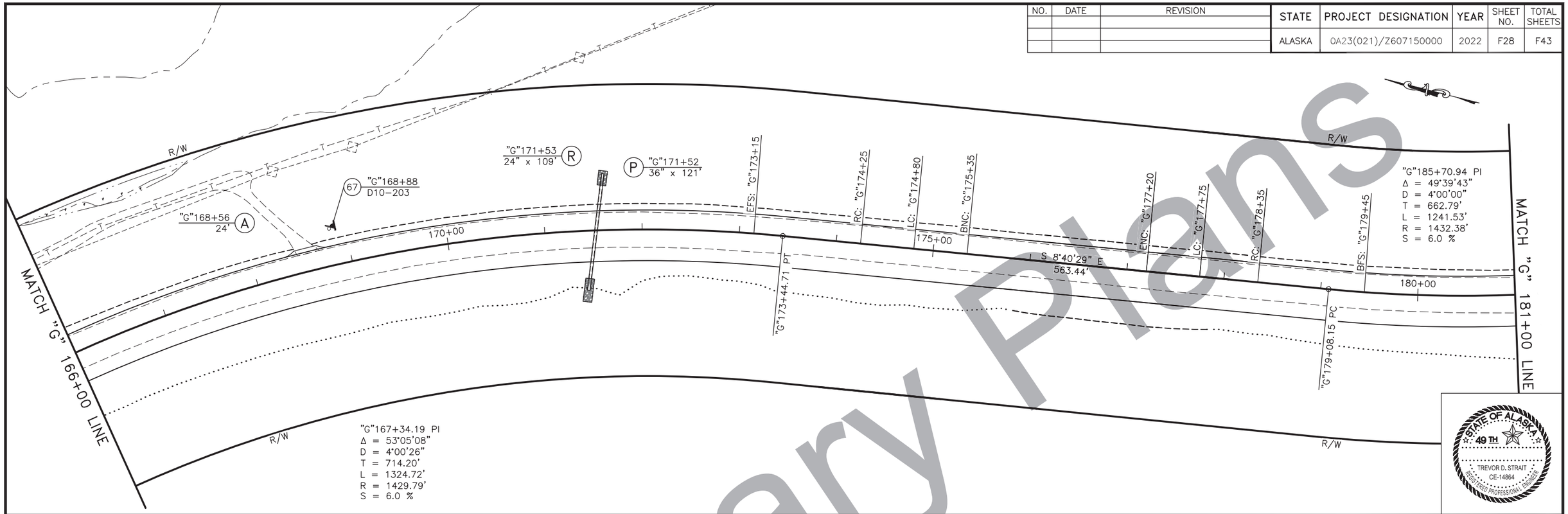
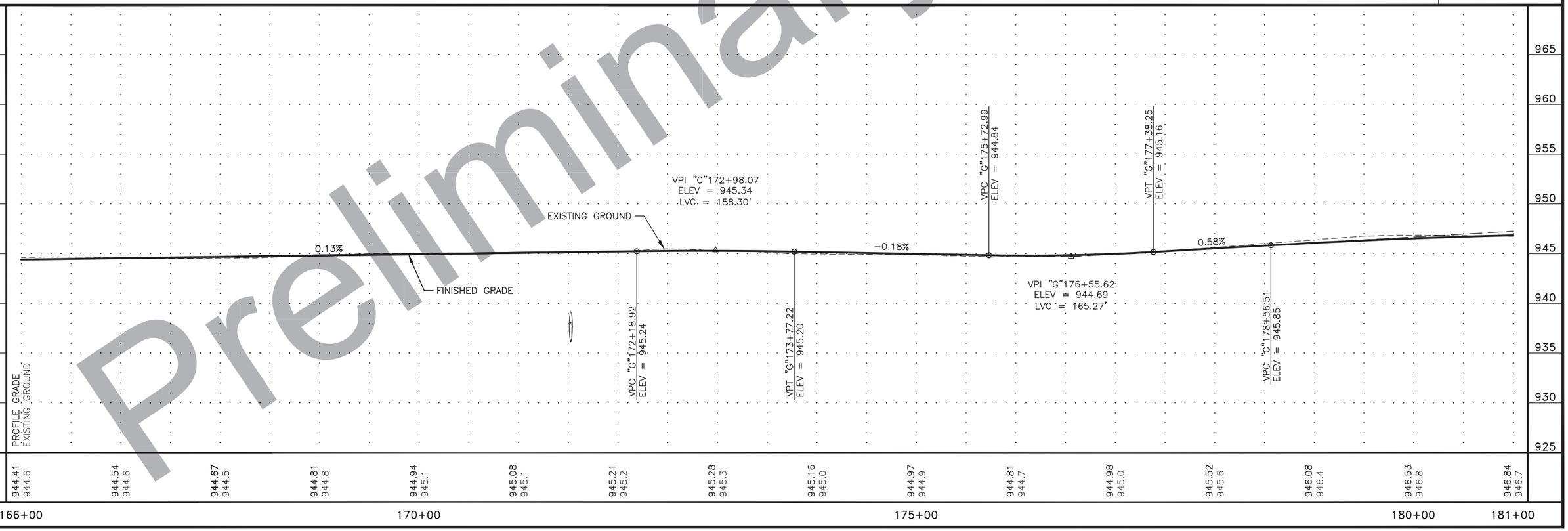
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F28	F43





STATE OF ALASKA 49TH
TREVOR D. STRAIT
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F29	F43

"G"185+70.94 PI
Δ = 49°39'43"
D = 4°00'00"
T = 662.79'
L = 1241.53'
R = 1432.38'
S = 6.0 %

MATCH "G" 181+00 LINE

MATCH "G" 196+00 LINE

R/W

185+00

190+00

195+00

EFS: "G"191+20

RC: "G"192+30

LC: "G"192+85

BNC: "G"193+40

ENC: "G"195+35

LC: "G"195+90

S 58°20'13" E
504.95'

"G"191+49.69 PT

FO

VPI "G"181+00.40
ELEV = 947.25
LVC = 487.77'

VPT "G"183+44.29
ELEV = 947.01

EXISTING GROUND

FINISHED GRADE

−0.10%

PROFILE GRADE
EXISTING GROUND

181+00	185+00	190+00	195+00	196+00
946.84 / 946.7	947.01 / 946.7	947.04 / 946.5	946.96 / 946.6	946.86 / 946.5
946.76 / 946.8	946.66 / 946.8	946.56 / 946.4	946.46 / 946.3	946.36 / 946.5
946.26 / 946.2	946.16 / 945.8	946.06 / 945.5	945.96 / 945.2	945.86 / 945.2
945.76 / 945.4				

965 960 955 950 945 940 935 930 925

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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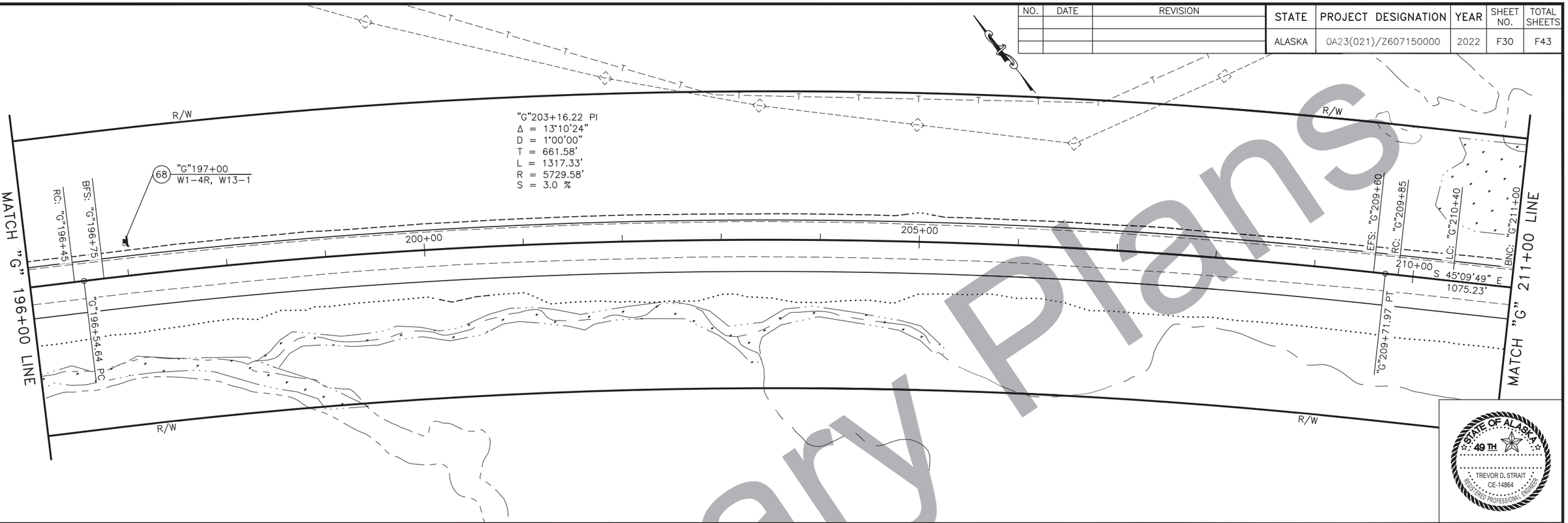
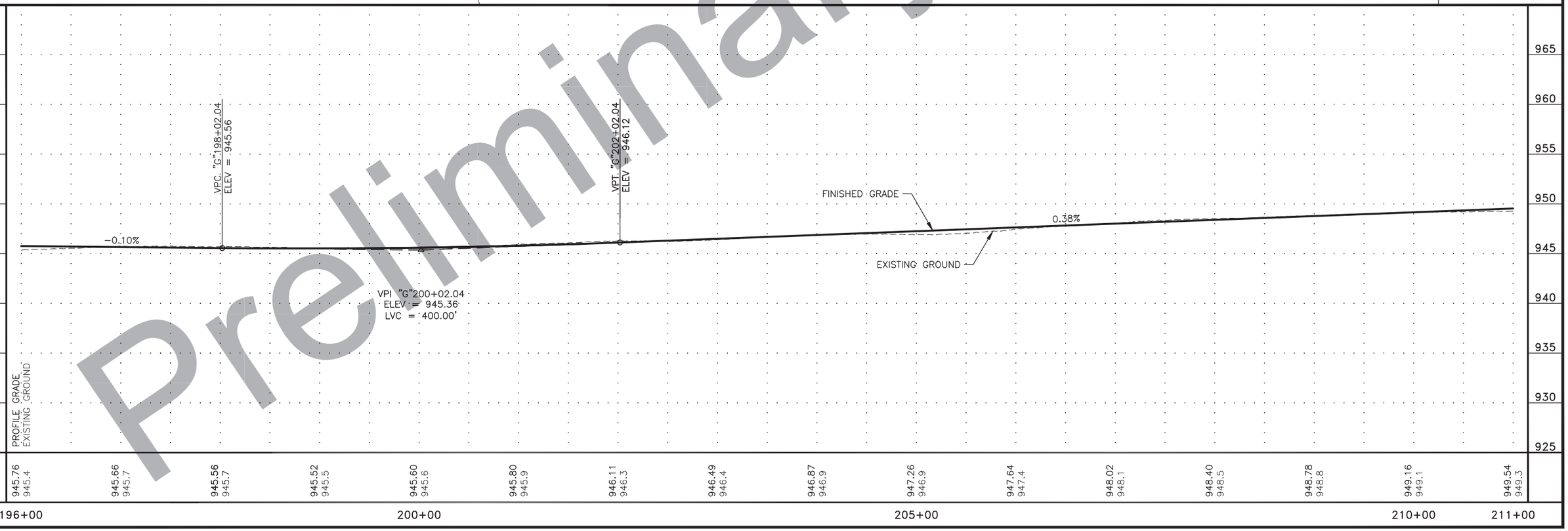
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F30	F43





STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

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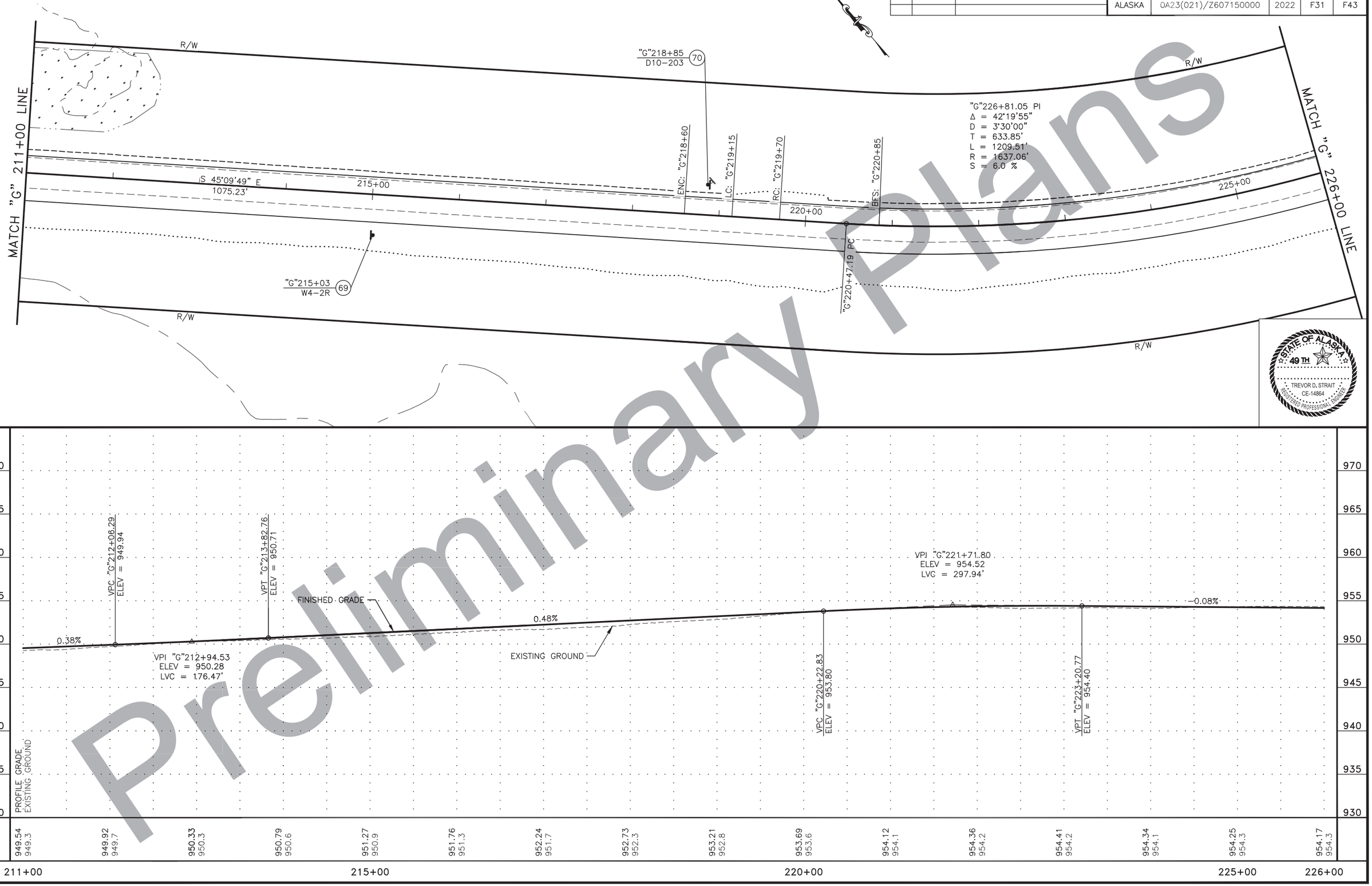
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F31	F43



STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F32	F43

"G"226+81.05 PI
Δ = 42°19'55"
D = 3°30'00"
T = 633.85'
L = 1209.51'
R = 1637.06'
S = 6.0 %

MATCH "G" 226+00 LINE

R/W

+53.00, 32.00' RT
BEGIN TAPER

"G"228+80
15'
A

EFS: "G"232+25

RC: "G"233+35

LC: "G"233+95

BNC: "G"234+50

"G"232+56.70 PT

230+00

235+00

240+00

A "G"235+90
25'

+33.00, 20.00' LT
BEGIN SHOULDER TAPER

+33.00, 18.00' LT
END SHOULDER TAPER

S 87°29'44" E
1635.73'

END PAVEMENT
"G"237+33
N=262469.1913
E=821048.2505

+33.00, 18.00' RT
END TAPER

FO

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
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980
975
970
965
960
955
950
945
940

PROFILE GRADE
EXISTING GROUND

VPC "G"226+55.86
ELEV = 954.12

-0.08%

VPI "G"230+22.72
ELEV = 953.82
LVC = 733.71'

EXISTING GROUND

VPT "G"233+89.57
ELEV = 958.79

FINISHED GRADE

1.35%

VPI "G"237+33.00
ELEV = 963.44

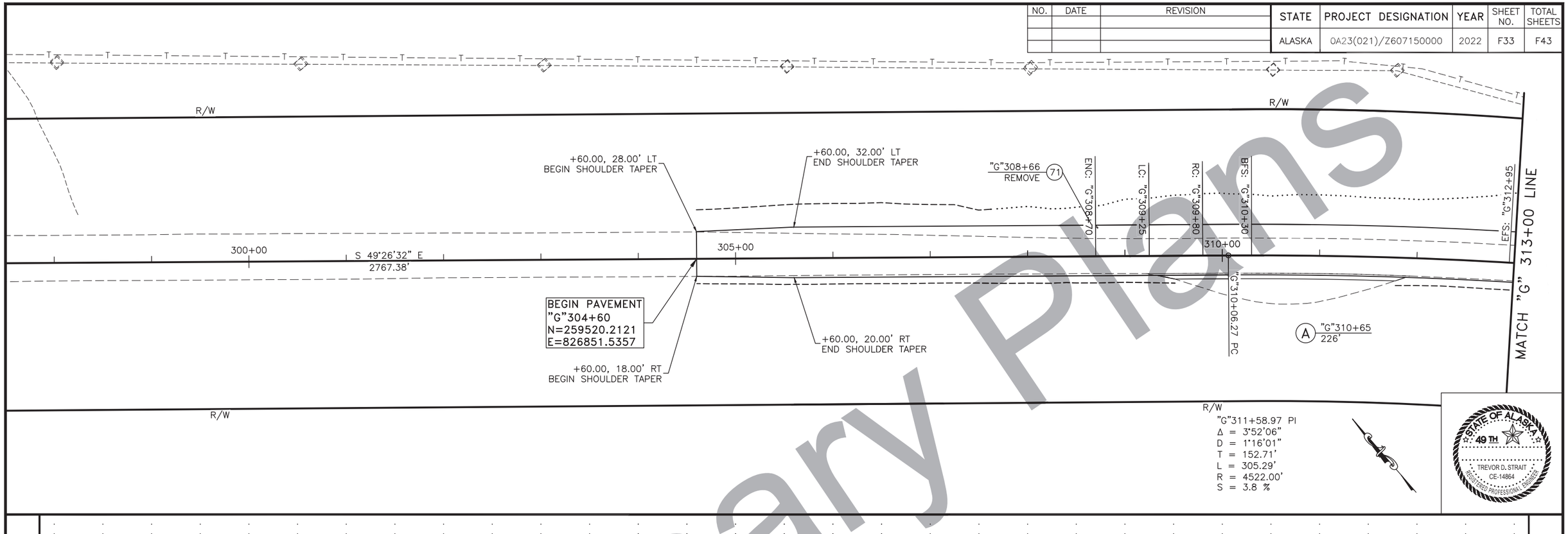
954.17 954.3
954.11 954.2
954.21 954.1
954.50 954.4
955.00 955.0
955.69 955.5
956.57 956.6
957.65 957.6
958.93 958.5
960.28 960.1
961.64 961.5
962.99 962.9
964.1
964.8
965.6
966.2

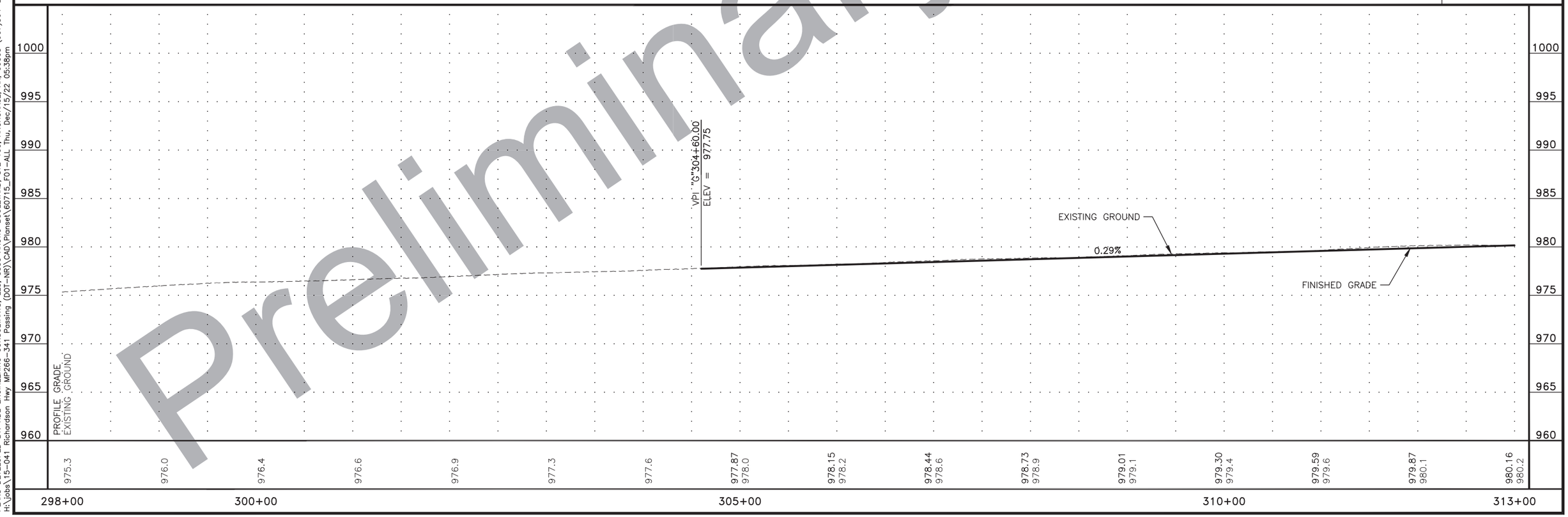
226+00
230+00
235+00
240+00
241+00

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:38pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F33	F43

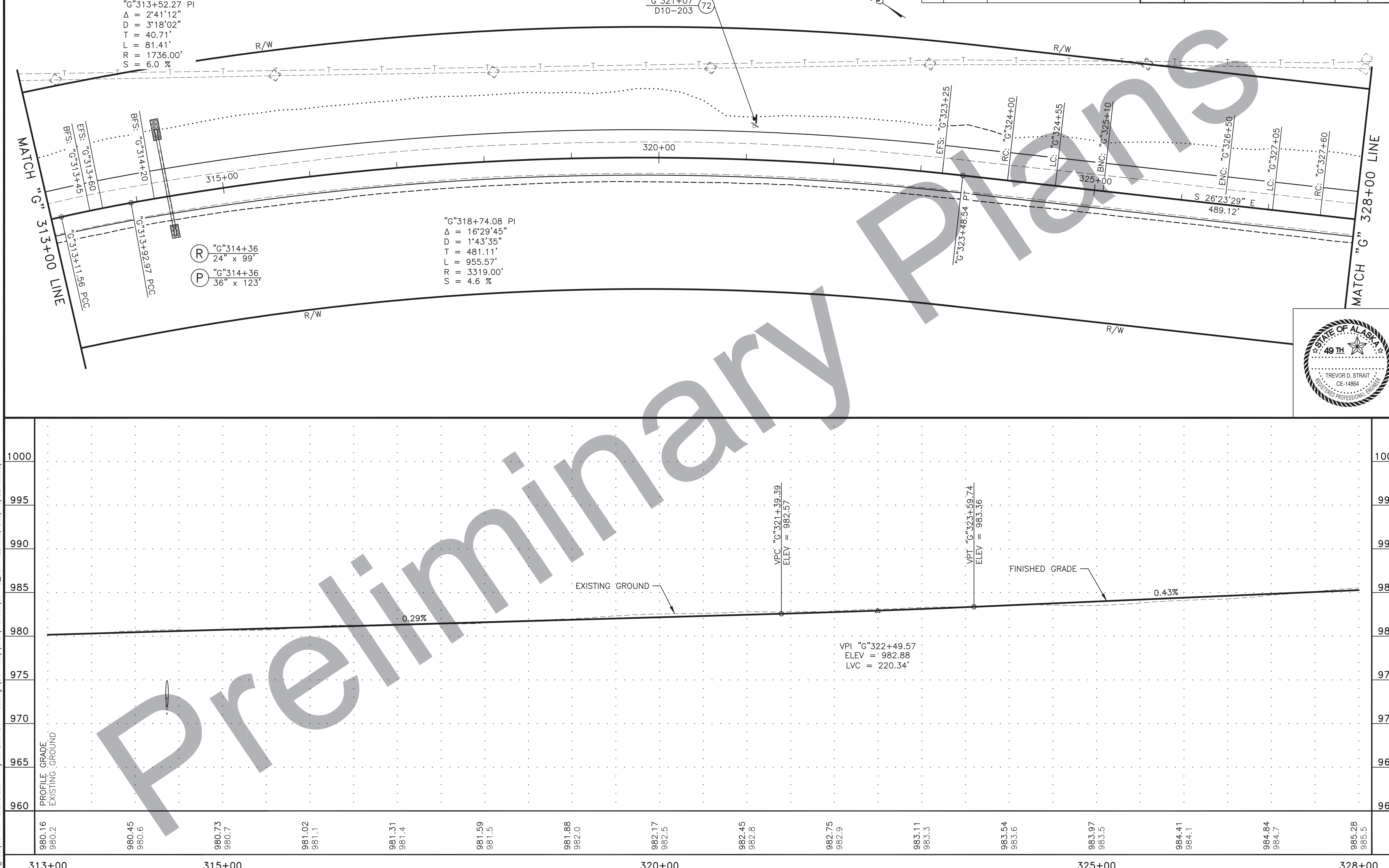




PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:38pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F34	F43

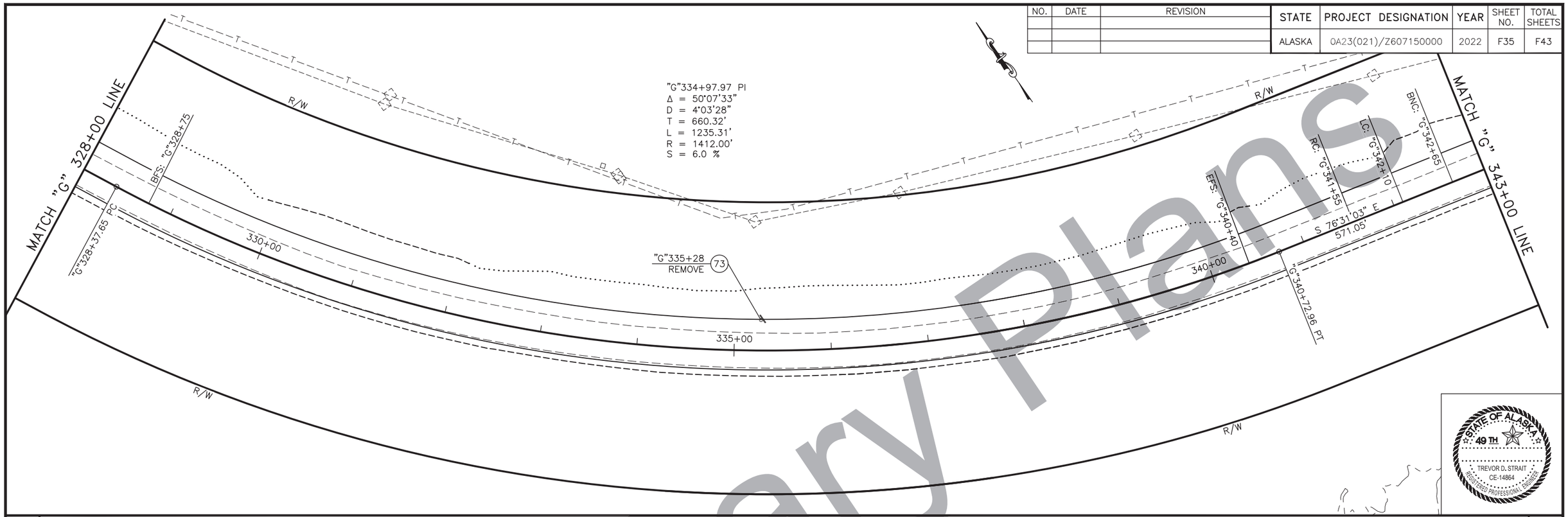


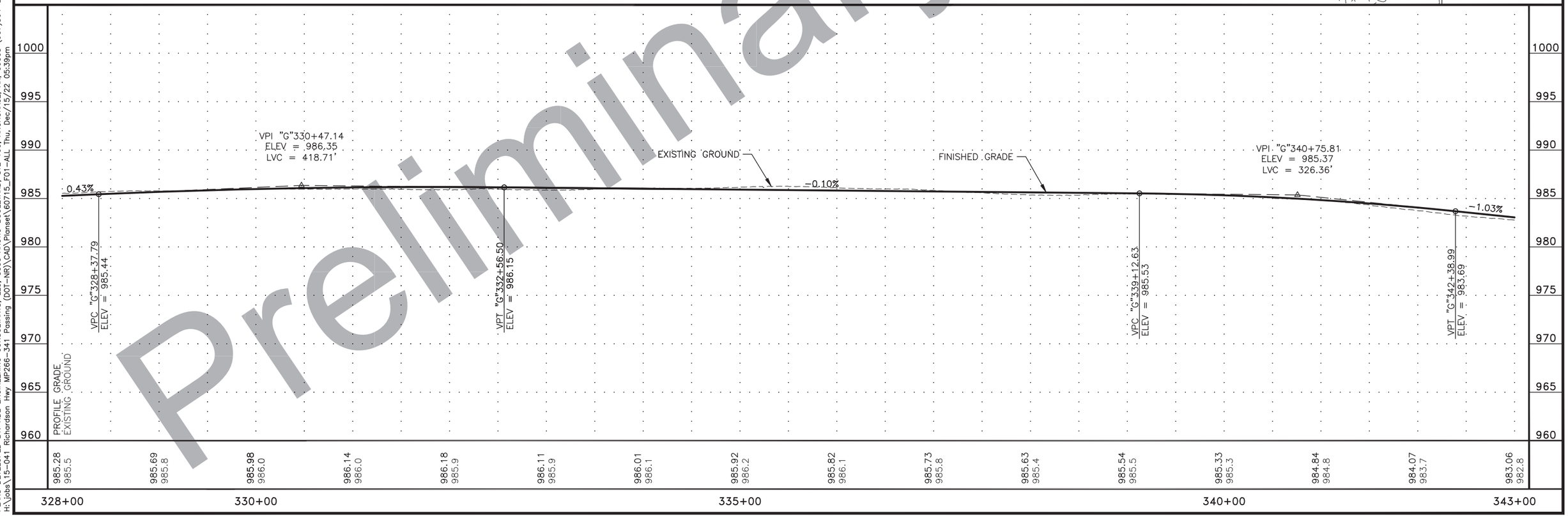
Preliminary Plans

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:38pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F35	F43





STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

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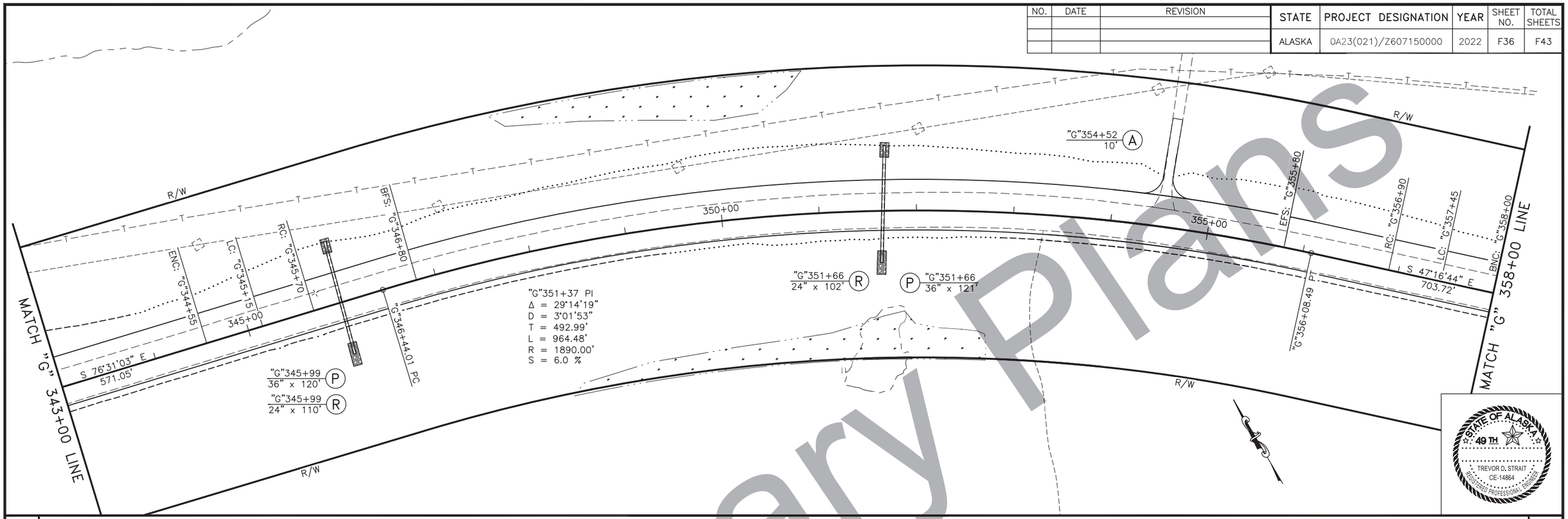
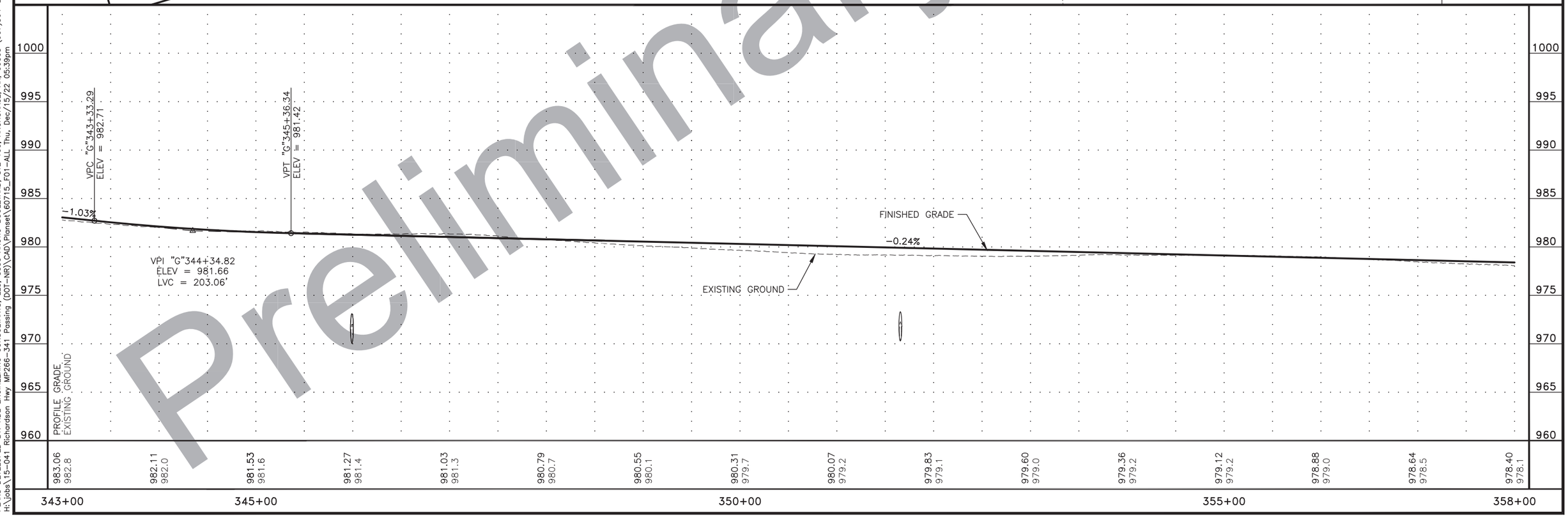
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F36	F43





STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F37	F43

"G"366+08.10 PI
Δ = 13°50'23"
D = 2°21'00"
T = 295.89'
L = 588.90'
R = 2438.00'
S = 5.4 %

R/W

MATCH "G" 358+00 LINE

"G"360+69
8'
A

74 "G"361+59
REMOVE

ENC: "G"361+40

LC: "G"361+95

RC: "G"362+50

BFS: "G"363+45

S 47°16'44" E
703.72'

360+00

365+00

"G"363+12.21 PC

EFS: "G"368+75

RC: "G"369+70

"G"369+01.11 PT

LC: "G"370+25

BNC: "G"370+80

370+00

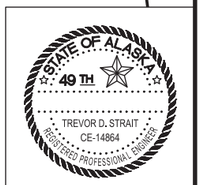
"G"370+47
26'
A

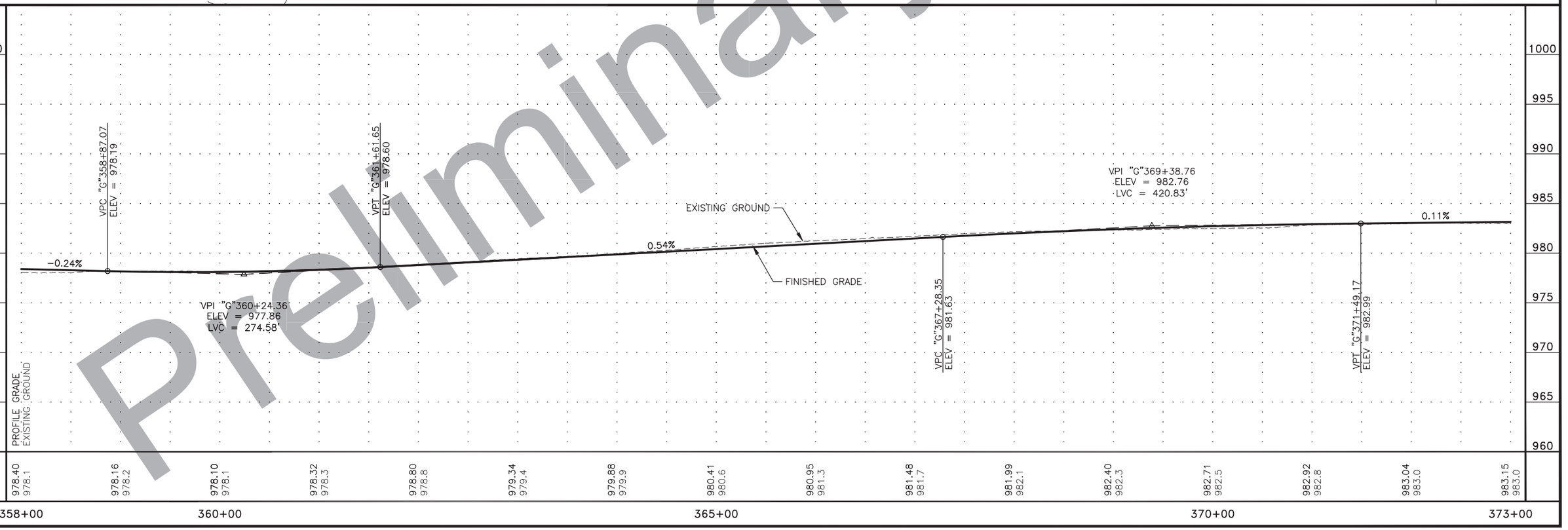
MATCH "G" 373+00 LINE

R/W

R/W

R/W





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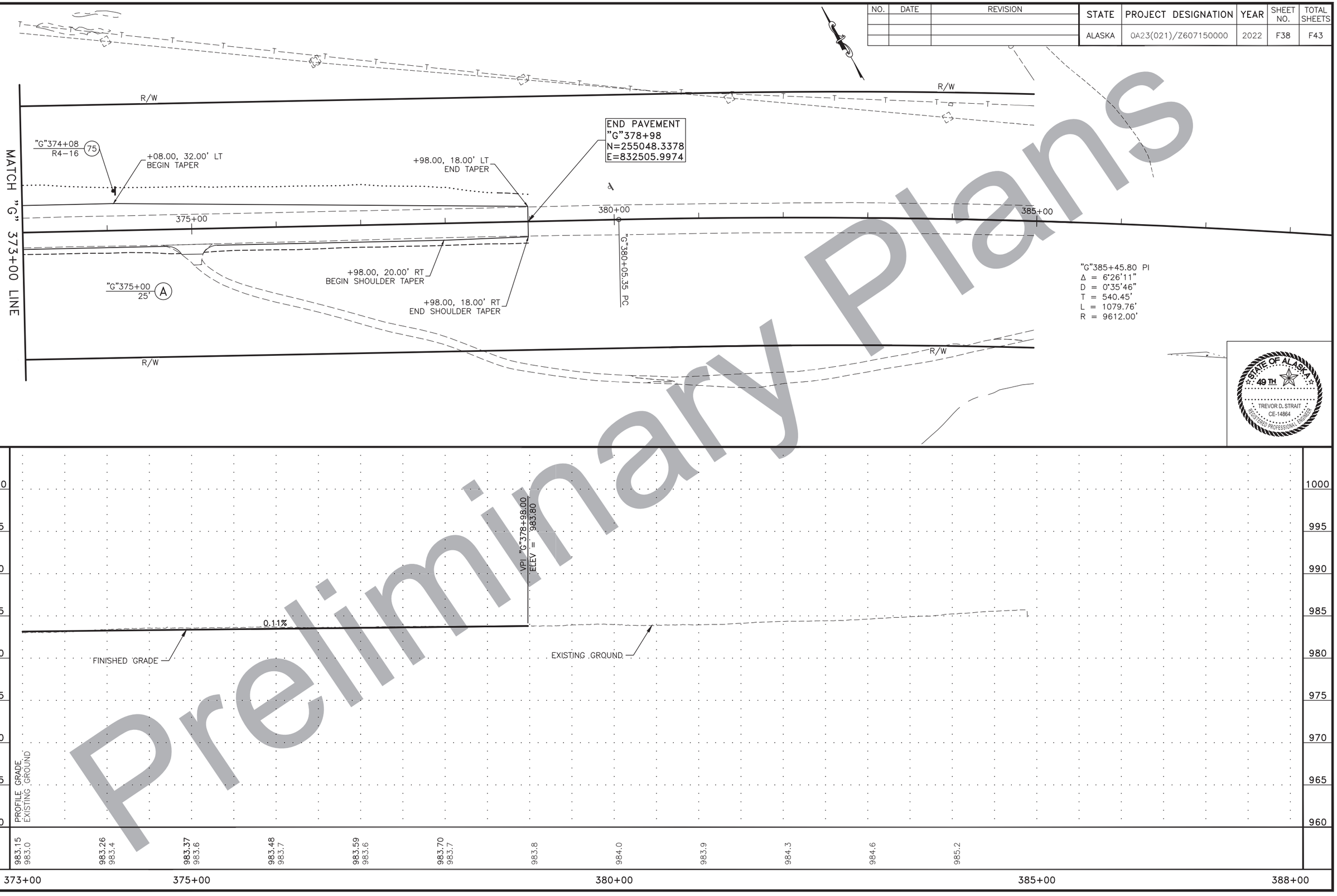
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F38	F43



STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
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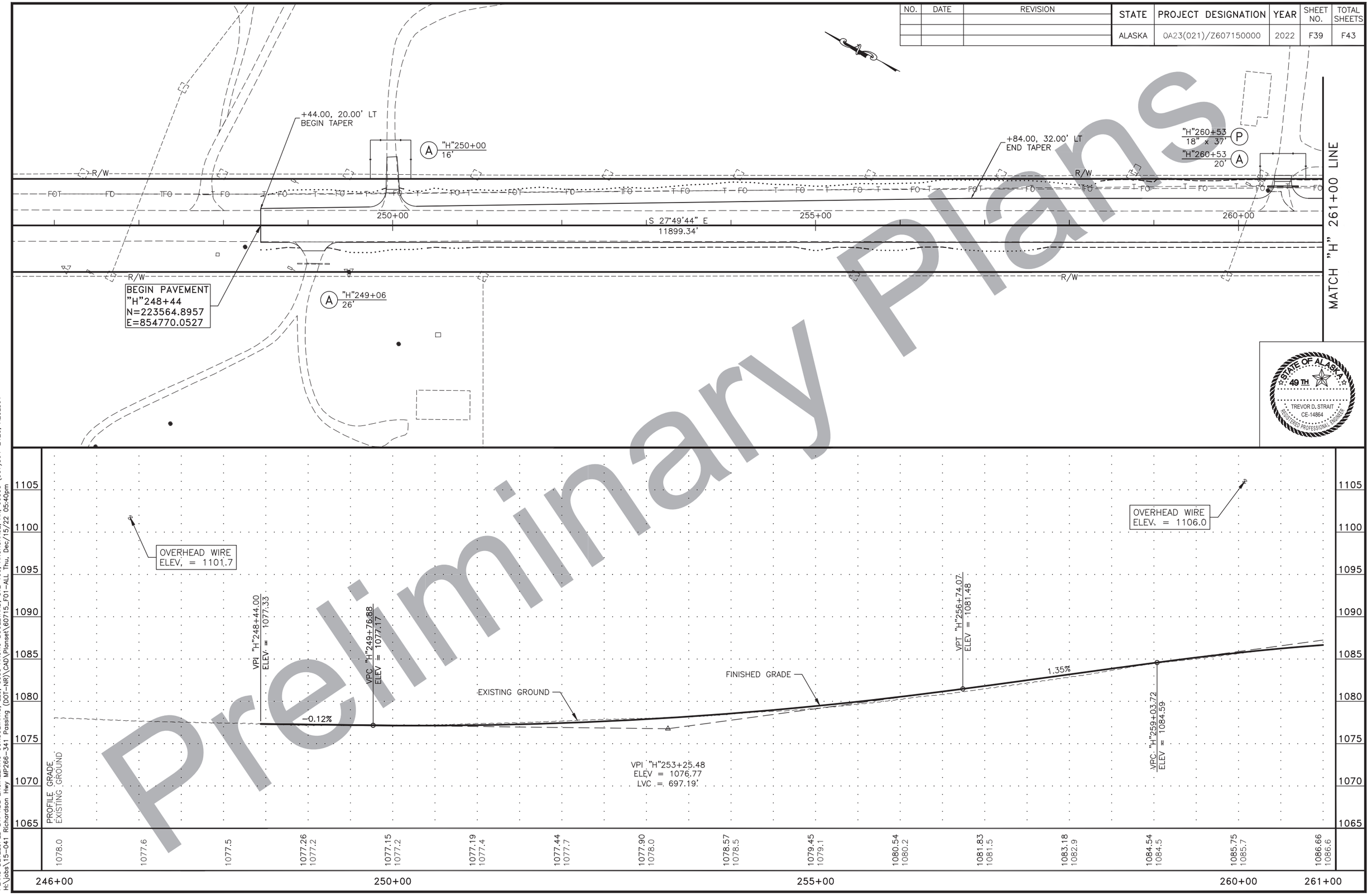
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:40pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F39	F43



STATE OF ALASKA
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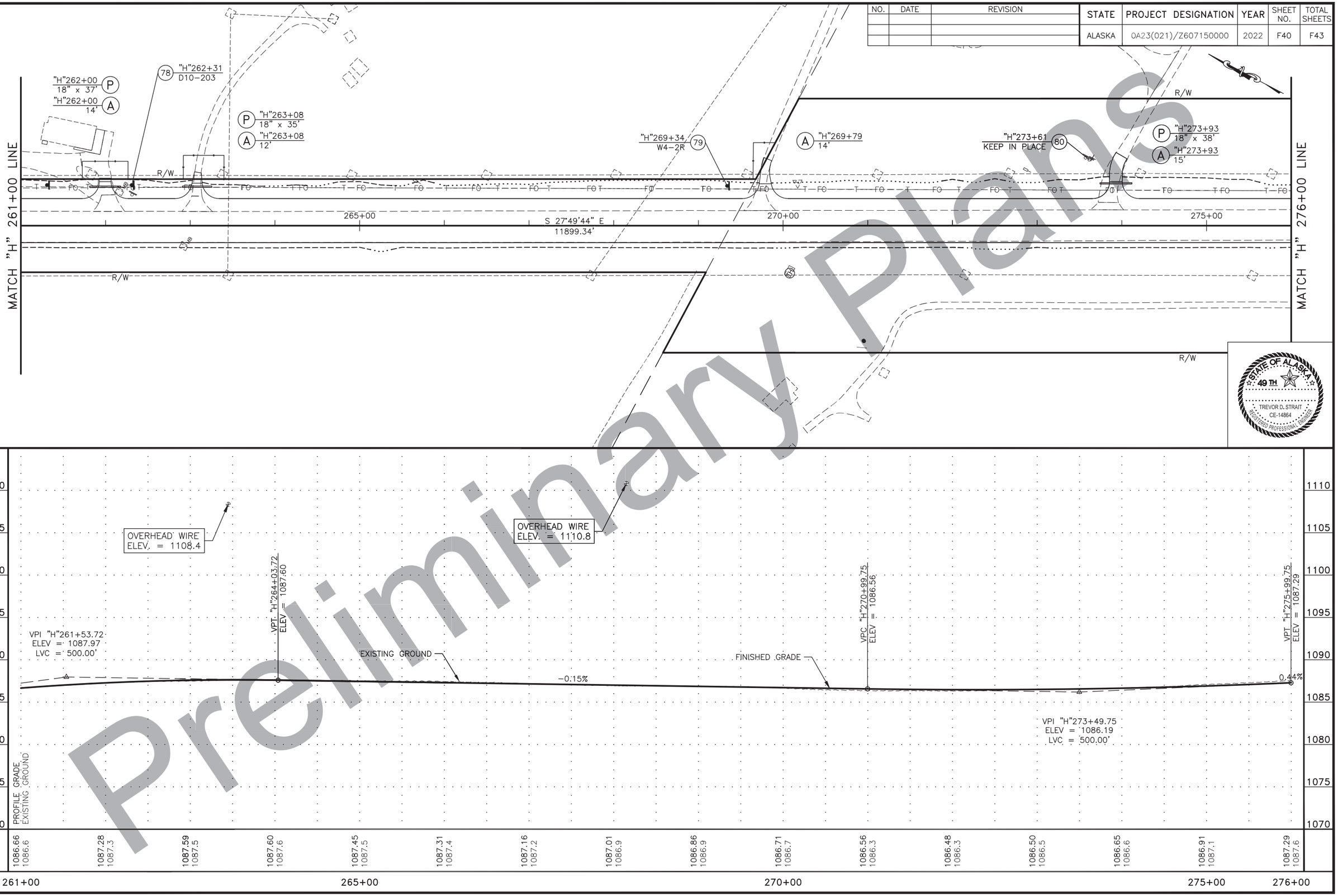
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F40	F43



STATE OF ALASKA
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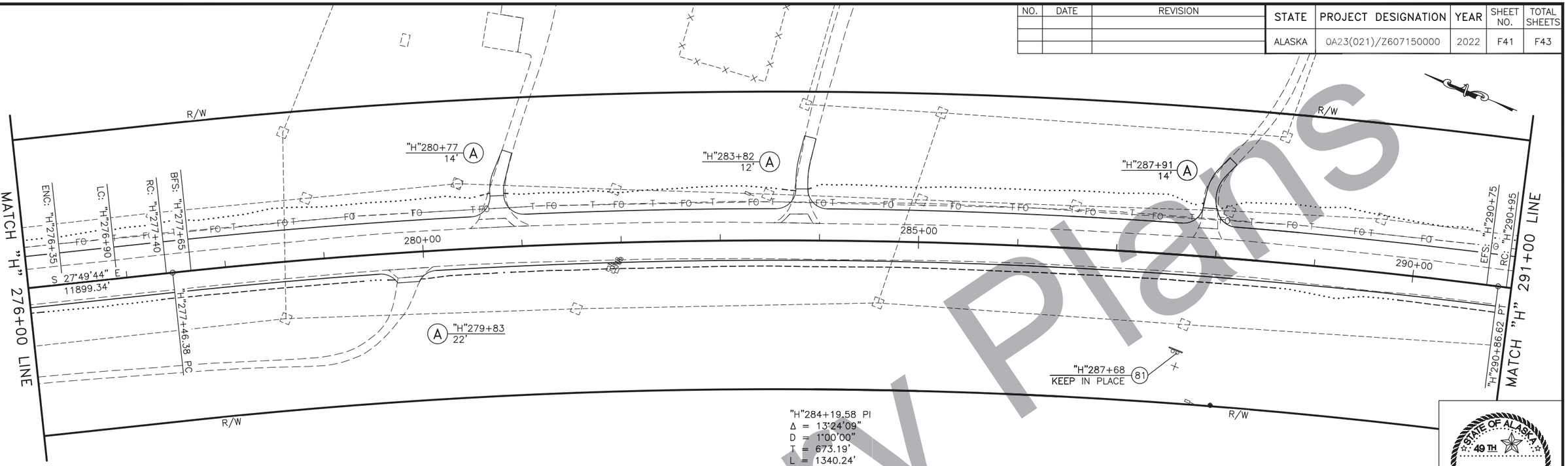
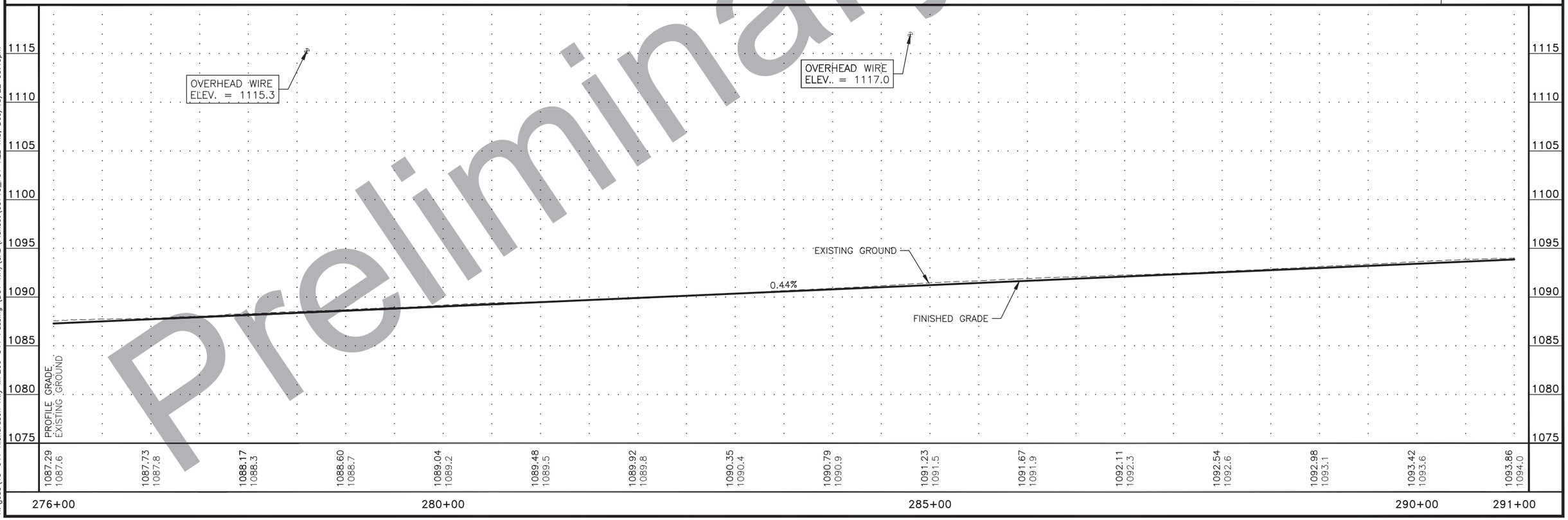
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F41	F43





STATE OF ALASKA 49TH
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F42	F43

MATCH "H" 291+00 LINE

MATCH "H" 306+00 LINE

R/W

R/W

R/W

R/W

(A) "H"291+41 14'

BNC: "H"292+05

LC: "H"291+50

(A) "H"295+17 15.4'

(A) "H"297+87 13.4'

(A) "H"298+27 14'

"H"301+85 (A) 14'

"H"302+87 D1-1 (82)

(P) "H"303+83 18" x 43'

(A) "H"303+83 20'

"H"305+84 (A) 14'

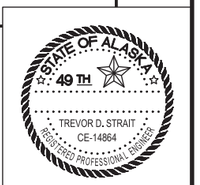
(A) "H"305+70 56'

295+00

300+00

305+00

S 14°25'36" E
6291.38'



OVERHEAD WIRE
ELEV. = 1118.5

OVERHEAD WIRE
ELEV. = 1125.1

VPI "H"294+50.10
ELEV = 1095.39

VPC "H"301+59.12
ELEV = 1098.84

VPI "H"305+09.12
ELEV = 1100.54
LVC = 700.00'

FINISHED GRADE

EXISTING GROUND

0.44%

0.49%

PROFILE GRADE
EXISTING GROUND

1120
1115
1110
1105
1100
1095
1090
1085
1080

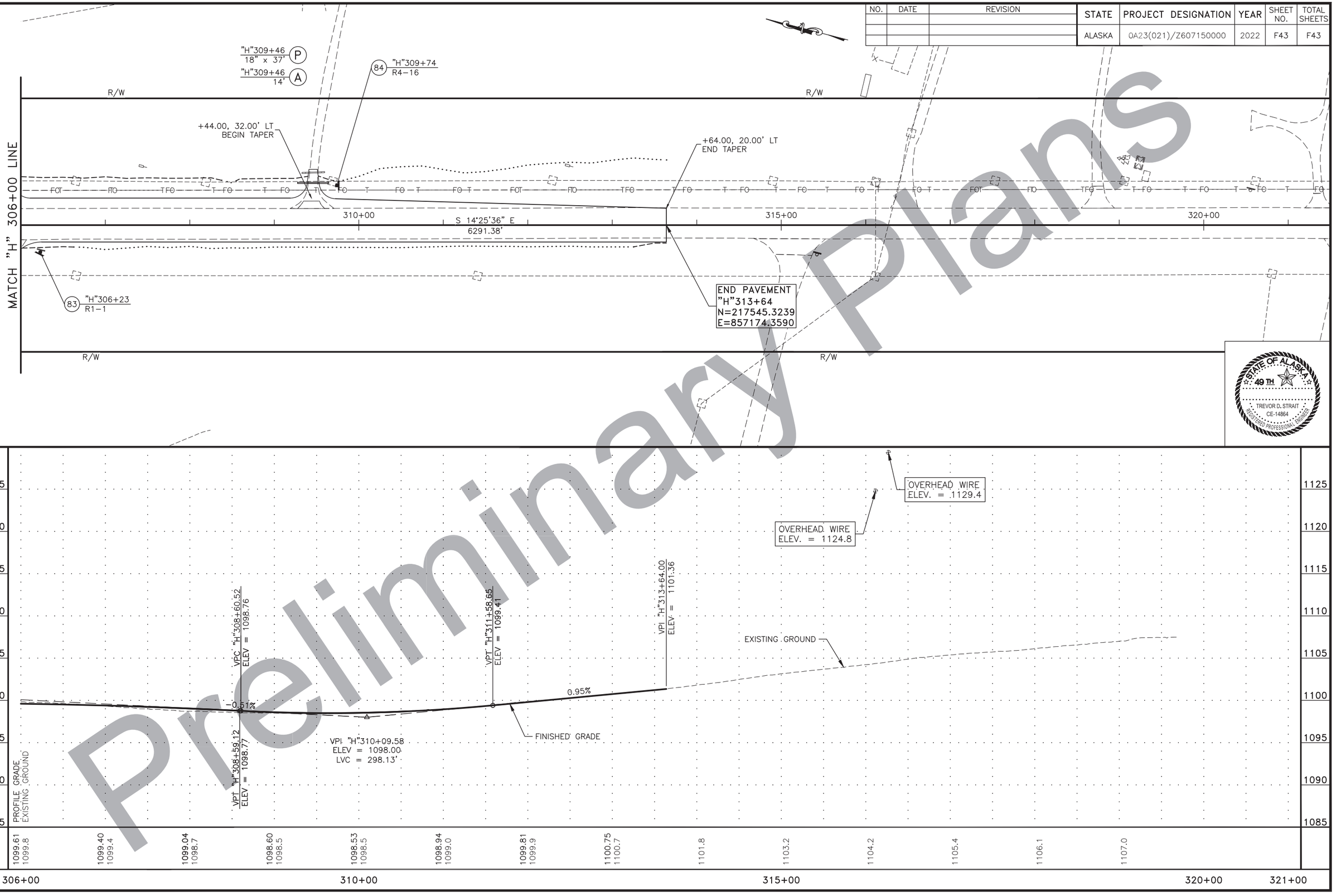
1093.86 1094.0
1094.30 1094.2
1094.73 1094.5
1095.17 1095.1
1095.63 1095.4
1096.12 1095.6
1096.61 1095.9
1097.09 1096.2
1097.58 1096.8
1098.07 1097.4
1098.55 1098.1
1099.03 1098.7
1099.38 1099.2
1099.60 1099.3
1099.67 1099.5
1099.61 1099.8

291+00 295+00 300+00 305+00 306+00

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:41pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	F43	F43



STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_F01-ALL Thu, Dec/15/22 05:41pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	G1	G5

639.2000.0000 APPROACH SUMMARY

SHEET	STATION	SIDE	WIDTH (FT)	LENGTH (FT)	RETURN RADIUS	SKEW ANGLE	TYPE	REMARKS
F6	"B"255+77	RT	18	10.0	20	–	COMMERCIAL	
	"B"256+52	LT	24	98.0	40	–	SIDESTREET	CANADAY RD
F7	"B"272+22	RT	20	10.0	20	–	COMMERCIAL	
F8	"B"286+17	RT	20	10.0	20	–	COMMERCIAL	
F9	"B"296+03	RT	57	10.0	40	–	COMMERCIAL	
F10	"B"308+61	RT	20	10.0	20	–	COMMERCIAL	
F11	"D"148+15	LT	31	4.0	20	–	COMMERCIAL	
	"D"149+09	RT	27	65.0	40	–	COMMERCIAL	
F12	"D"162+16	LT	15	47.0	30/33	–	RESIDENTIAL	
	"D"162+17	RT	31	4.0	20	–	COMMERCIAL	
	"D"166+81	LT	15	42.0	20	–	RESIDENTIAL	
F13	"D"169+86	RT	15	81.0	20	–	RESIDENTIAL	
F15	"D"237+38	RT	36	4.0	20	–	COMMERCIAL	
F16	"D"254+59	RT	29	4.0	20	–	COMMERCIAL	
F18	"E"158+85	LT	20	10.0	20	–	COMMERCIAL	
	"E"162+99	LT	20	10.0	20	–	COMMERCIAL	
F19	"E"169+93	RT	22	32.0	20	–	COMMERCIAL	
F20	"E"196+86	LT	26	4.0	20	–	COMMERCIAL	
F21	"E"210+31	RT	34	50.0	20	–	COMMERCIAL	
	"E"211+43	LT	35	10.0	20	–	COMMERCIAL	
F23	"F"277+46	LT	20	42.0	30	–	COMMERCIAL	
	"F"277+53	RT	70	4.0	30	–	COMMERCIAL	
F27	"G"156+97	LT	34	4.0	20	–	COMMERCIAL	
	"G"165+64	LT	19	10.0	20	–	COMMERCIAL	
F28	"G"168+56	LT	24	4.0	20	–	COMMERCIAL	
F32	"G"228+80	RT	15	80.0	20	–	RESIDENTIAL	
	"G"235+90	LT	25	10.0	20	–	COMMERCIAL	
F33	"G"310+65	RT	227	4.0	–	–	PULLOUT	
F36	"G"354+52	LT	10	80.0	20	1°48'	RESIDENTIAL	
F37	"G"360+69	LT	8	59.0	20	–	RESIDENTIAL	
	"G"370+47	RT	26	4.0	20	–	COMMERCIAL	
F38	"G"375+00	RT	25	10.0	20	–	COMMERCIAL	

639.2000.0000 APPROACH SUMMARY

SHEET	STATION	SIDE	WIDTH (FT)	LENGTH (FT)	RETURN RADIUS	SKEW ANGLE	TYPE	REMARKS
F39	"H"249+06	RT	26	10.0	20	–	COMMERCIAL	
	"H"250+00	LT	16	59.0	20	–	COMMERCIAL	
	"H"260+53	LT	14	20.0	20	–	RESIDENTIAL	
F40	"H"262+00	LT	14	24.0	20	–	RESIDENTIAL	
	"H"263+08	LT	12	31.0	20	–	RESIDENTIAL	
	"H"269+79	LT	14	47.0	20	–	RESIDENTIAL	
	"H"273+93	LT	15	52.0	20	–	RESIDENTIAL	
F41	"H"279+83	RT	22	10.0	20	–	COMMERCIAL	
	"H"280+77	LT	14	66.0	20	–	RESIDENTIAL	
	"H"283+82	LT	12	73.0	20	–	RESIDENTIAL	
	"H"287+91	LT	14	72.0	20	–	RESIDENTIAL	
F42	"H"291+41	LT	14	63.0	20	–	RESIDENTIAL	
	"H"295+17	RT	20	10.0	20	–	COMMERCIAL	
	"H"297+87	RT	20	10.0	20	–	COMMERCIAL	
	"H"298+27	LT	14	73.0	20	–	RESIDENTIAL	
	"H"301+85	LT	14	49.0	20	–	RESIDENTIAL	
	"H"303+83	LT	20	30.0	20	–	COMMERCIAL	
	"H"305+70	RT	56	10.0	40	–	COMMERCIAL	
	"H"305+84	LT	14	29.0	20	–	RESIDENTIAL	
F43	"H"309+46	LT	14	34.0	20	–	RESIDENTIAL	

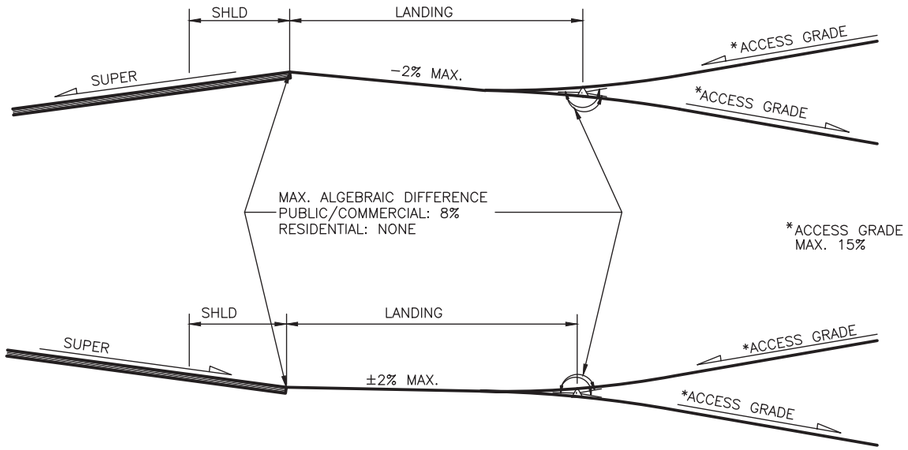
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_001_ApproachSum-Hwy-Cen Thu, Dec/15/22 04:22pm

APPROACH SUMMARY

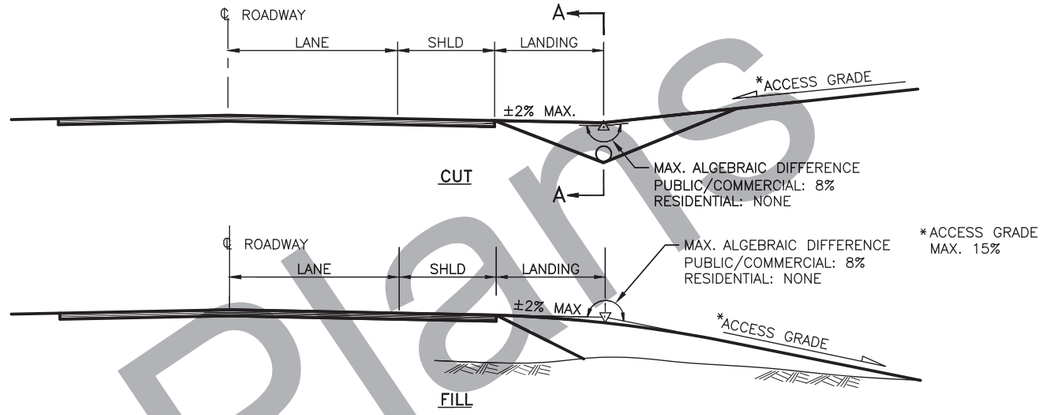
STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

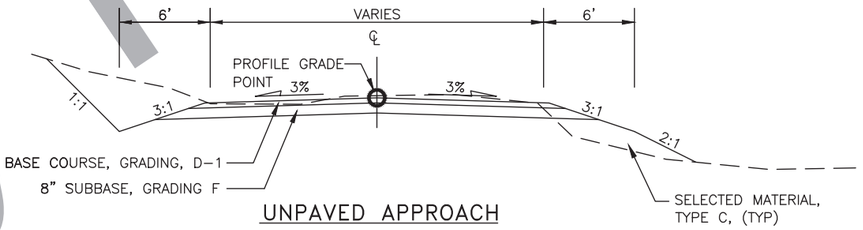
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	G2	G5



APPROACH PROFILES ON SUPERELEVATED ROADWAY

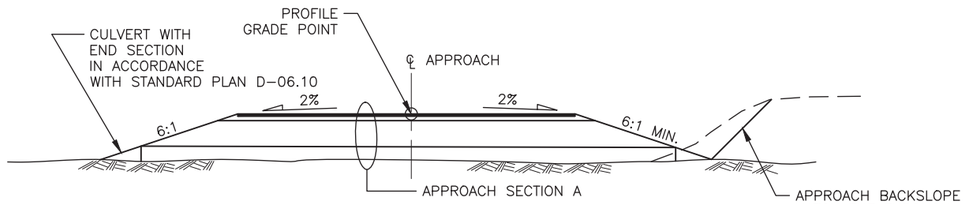


APPROACH PROFILES



UNPAVED APPROACH

FROM PAVED RETURN RADIUS POINT TO MATCH WITH EXISTING



PAVED APPROACH SECTION
SECTION A–A

APPROACH SECTION A
NTS

NOTES:

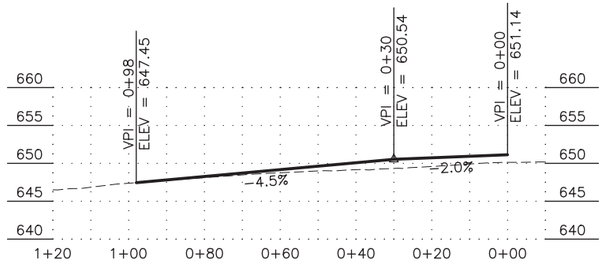
1. SEE APPROACH SUMMARY FOR APPROACH ROADWAY STATION, OFFSET, LENGTH, WIDTH, DESIGN RADIUS, AND SKEW ANGLE.
2. PAVE ALL APPROACHES TO THE RETURN RADIUS POINT. PAVE TO THE END OF THE RADIUS RETURN, UNLESS OTHERWISE INDICATED. SEE UNPAVED APPROACH SECTION FOR UNPAVED APPROACHES BEYOND THE RETURN RADIUS.
3. APPROACH VERTICAL CURVE REQUIREMENTS:
   CREST – 3 1/4" MAXIMUM IN A 12–FOOT CHORD
   SAG – 2" MAXIMUM IN A 12–FOOT CHORD
4. THE SKEW ANGLE IS THE ANGLE BETWEEN A LINE, PERPENDICULAR TO THE ROADWAY CENTERLINE, AND THE CENTERLINE OF THE APPROACH. POSITIVE FOR CLOCKWISE AND NEGATIVE FOR COUNTERCLOCKWISE ROTATION.
5. APPROACH SLOPES WILL BE 6:1. REGRADING OF SLOPES IS SUBSIDIARY TO PAY ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.
6. SEE CULVERT SUMMARY FOR APPROACH CULVERT LOCATIONS.
7. APPROACH DIMENSIONS, LOCATIONS, AND GRADING ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.

APPROACH DETAILS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP286-341 Passing (DOT-NH)\CAD\Planset\60715_G02_ApproachDtl-Hwy-Cen Thu, Dec/15/22 04:22pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	G3	G5



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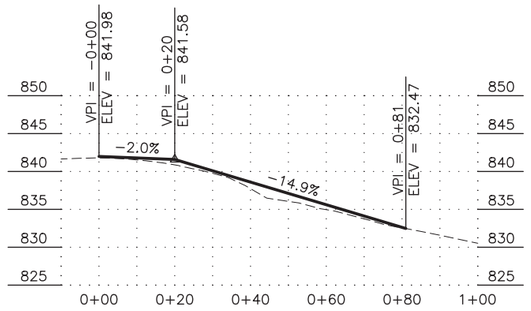
CANADAY RD



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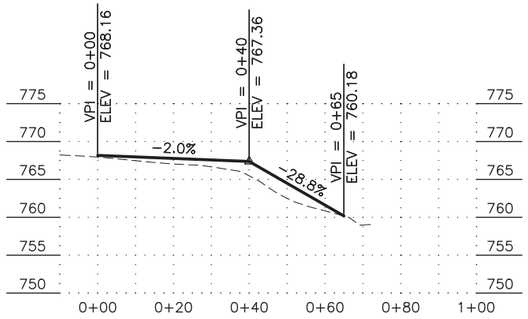

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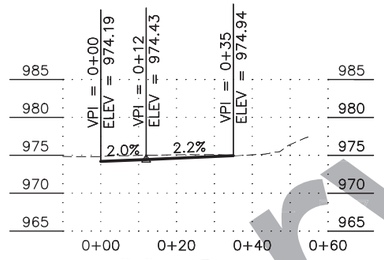

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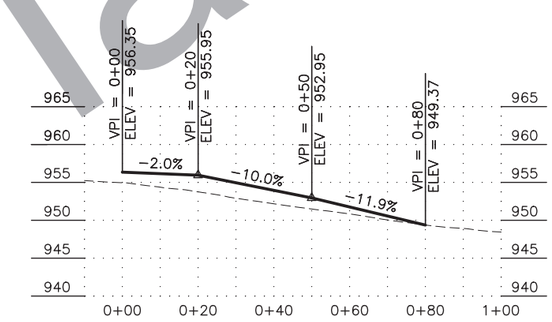
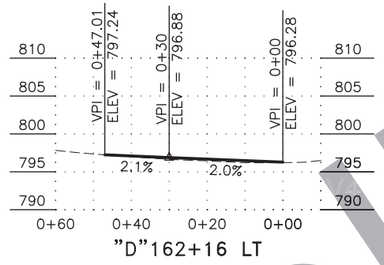
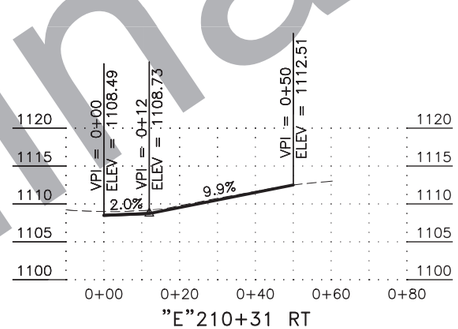


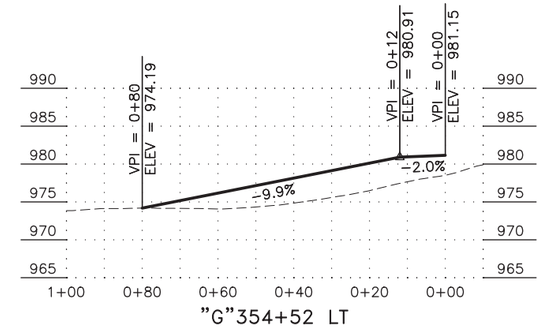
"G"228+80 RT



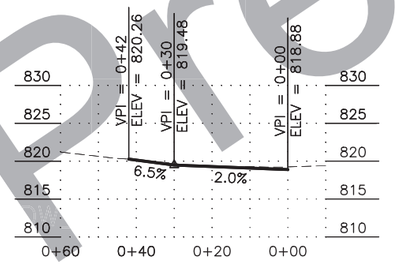
"D"162+16 LT



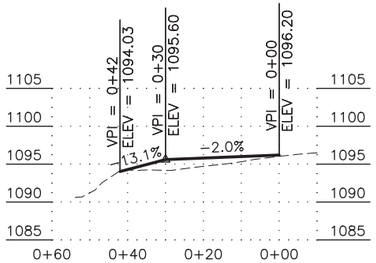
"E"210+31 RT



"G"354+52 LT



"D"166+81 LT



"F"277+46 LT

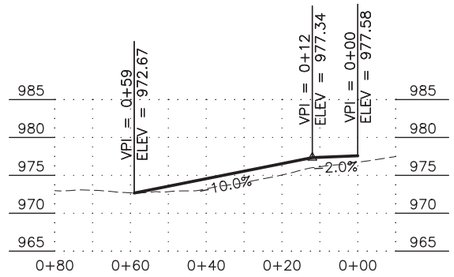
APPROACH PROFILES

STATE OF ALASKA
49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

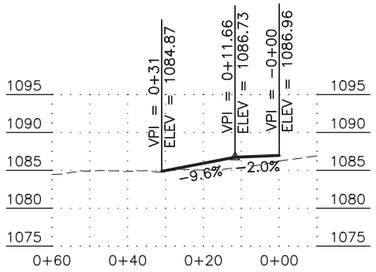
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_003-G05_ApproachPrf-Layout1 Thu, Dec/15/22 04:22pm

NO.	DATE	REVISION

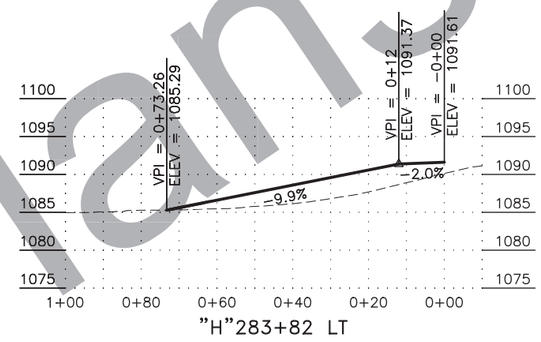
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	G4	G5



"G"360+69 LT



"H"263+08 LT



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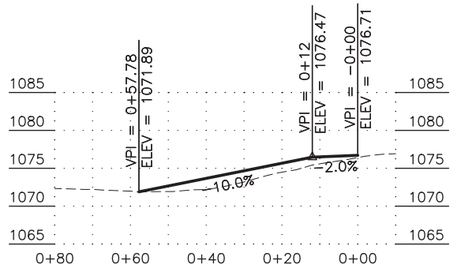

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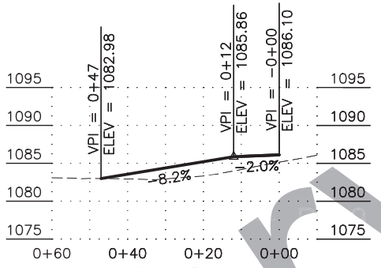

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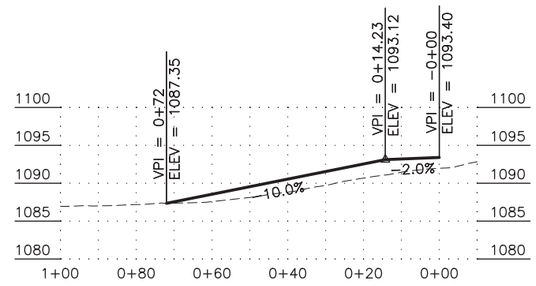

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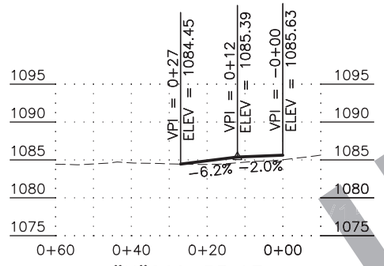

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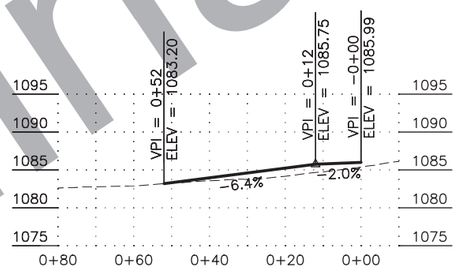

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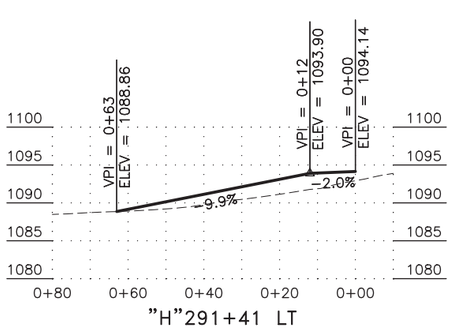

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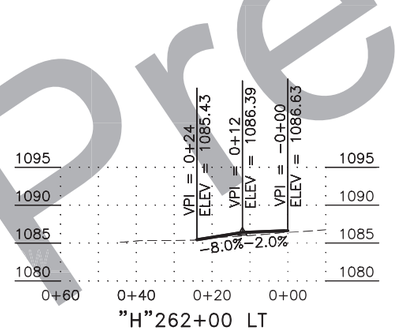
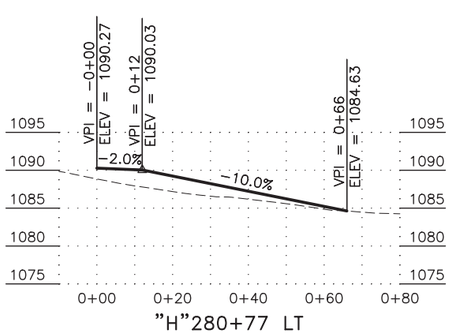


"H"262+00 LT



"H"280+77 LT

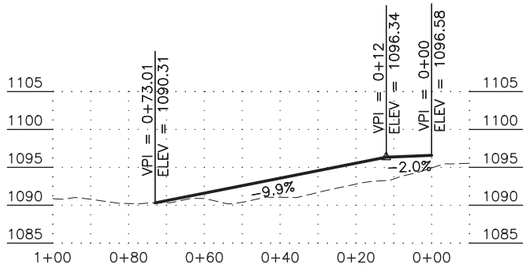
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_003-G05_ApproachPrf-Layout1 Thu, Dec/15/22 04:22pm

APPROACH PROFILES

STATE OF ALASKA 49 TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	G5	G5



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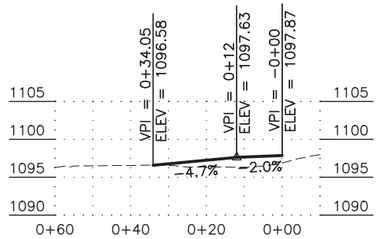

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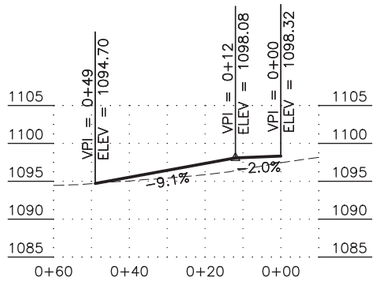

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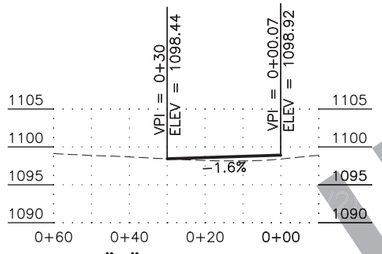

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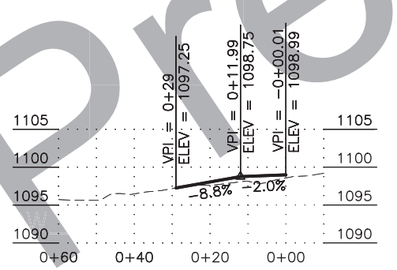

"H" 305+84 LT

APPROACH PROFILES

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H1	H7

SIGNING SUMMARY

LOC. NO.	STATION/ COORDINATES	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	N 64.656860 W147.099022		X	D17–2	PASSING LANE 2 MILES	42 X 42		X	12.25		N	TS	2.5	1	
2	N 64.636620 W147.081067		X	D17–2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		N	TS	2.5	1	
3	"A"136+65		X	R4–16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		N	TS	3.0	1	
4	"A"149+15	X		W4–2R	LANE ENDS (SYM)	36 X 36	X		9.00		S	PST	2.5	1	
5	"A"169+80		X	W4–2R	LANE ENDS (SYM)	36 X 36	X		9.00		N	PST	2.5	1	
6	"A"170+54	X		D14–100	ADOPT A HIGHWAY	30 X 24	X		5.00		S	PST	2.5	1	
				D14–100	354TH OPERATIONAL SUPPORT SQUADRON	30 X 12	X		2.50		S				
				D14–100	ADOPT A HIGHWAY	30 X 24	X		5.00		N				
				D14–100	372 TRS DETACHMENT 25	30 X 12	X		2.50		N				
7	"A"171+54	X		D10–203	MILE 336	14 X 36	X		3.50		N/S	PST	2.0	1	MESSAGE ON BOTH SIDES
				EXISTING	ADOPT A HIGHWAY SPONSOR NAME										REMOVE
				EXISTING	ADOPT A HIGHWAY SPONSOR NAME										REMOVE
8	"A"182+30	X		R4–16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		S	TS	3.0	1	
9	N 64.610754 W147.063803	X		D17–2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		S	TS	2.5	1	
10	N 64.589501 W147.055459	X		D17–2	PASSING LANE 2 MILES	42 X 42		X	12.25		S	TS	2.5	1	
11	"B"250+54		X	W2–2L	SIDE ROAD (SYM)	36 X 36	X		9.00		N	TS	2.5	1	
				W16–8	CANADAY RD	30 X 8	X		1.67		N				
12	"B"255+96		X	EXISTING	TWO DIRECTION LARGE ARROW (SYM)										REMOVE
				EXISTING	OBJECT MARKER										REMOVE
13	"B"256+15	X		D3–100	Richardson Hwy	42 X 8	X		2.33		E	PST	2.5	1	4C/3C LETTERING
				D3–100	Richardson Hwy	42 X 8	X		2.33		W				
				D3–100	Canaday Rd	42 X 12	X		3.50		N				6C/4.5C LETTERING
				D3–100	Canaday Rd	42 X 12	X		3.50		S				
				R1–1	STOP	30 X 30	X		6.25		E				
14	"B"256+74	X		W14–2	NO OUTLET	30 X 30	X		6.25		W	PST	2.5	1	
15	"B"261+83	X		W2–2R	SIDE ROAD (SYM)	36 X 36	X		9.00		S	TS	2.5	1	
				W16–8	CANADAY RD	30 X 8	X		1.67		S				
16	"B"268+90	X		W4–2R	LANE ENDS (SYM)	36 X 36	X		9.00		S	TS	2.5	1	
								SUBTOTAL =	164.00						

SIGNING SUMMARY

LOC. NO.	STATION/ COORDINATES	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
17	"B"284+89	X		D14–100	ADOPT A HIGHWAY	30 X 24	X		5.00		N	TS	2.5	1	
				D14–100	354TH MAINT. SQUADRON	30 X 12	X		2.50		N				
18	"B"285+89	X		D10–203	MILE 327	14 X 36	X		3.50		N/S	PST	2.0	1	MESSAGE ON BOTH SIDES
				EXISTING	ADOPT A HIGHWAY SPONSOR NAME										REMOVE
				EXISTING	ADOPT A HIGHWAY SPONSOR NAME										REMOVE
19	"B"293+00		X	D9–230	TRANSFER SITE RIGHT ARROW	24 X 36	X		6.00		N	PST	2.5	1	
20	"B"294+93	X		R2–1	SPEED LIMIT 65	36 X 48	X		12.00		S	TS	3.0	1	
21	"B"298+98	X		D9–230	TRANSFER SITE LEFT ARROW	24 X 36	X		6.00		S	PST	2.5	1	
22	"B"302+60		X	EXISTING	POST ONLY	X									REMOVE
23	"B"304+80	X		R4–16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		S	TS	3.0	1	
24	N 64.493072 W146.972870	X		D17–2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		S	TS	2.5	1	
25	N 64.473541 W146.970882	X		D17–2	PASSING LANE 2 MILES	42 X 42		X	12.25		S	TS	2.5	1	
26	N 64.341739 W146.866755	X		D17–2	PASSING LANE 2 MILES	42 X 42		X	12.25		N	TS	2.5	1	
27	N 64.337857 W146.828588	X		EXISTING	PASSING LANE 1 MILE										REMOVE SIGN AT ESTIMATED LOCATION
28	N 64.337452 W146.825157	X		D17–2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		W	TS	2.5	1	
29	"D"139+55		X	EXISTING	PASSING LANE 1/2 MILE										REMOVE
30	"D"145+40		X	R4–16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		W	TS	2.5	1	
31	"D"154+56	X		D10–203	MILE 311	14 X 36	X		3.50		E/W	PST	2.0	1	MESSAGE ON BOTH SIDES
32	"D"165+79		X	EXISTING	KEEP RIGHT EXCEPT TO PASS										REMOVE
33	"D"174+10	X		W4–2R	LANE ENDS (SYM)	36 X 36	X		9.00		E	TS	2.5	1	
34	"D"214+16		X	EXISTING	RIGHT LANE ENDS										REMOVE
								SUBTOTAL =	120.50						

POST TYPE LEGEND:

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

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_H01-H03_SIGNSUM-SIGNING SUM 2 Thu, Dec/15/22 05:28pm

SIGNING SUMMARY

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H2	H7

SIGNING SUMMARY

LOC. NO.	STATION/ COORDINATES	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
35	"D"215+00		X	R2-1	SPEED LIMIT 65	36 X 48	X		12.00		W	TS	3.0	1	
36	"D"215+68	X		EXISTING	KEEP RIGHT EXCEPT TO PASS										REMOVE
37	"D"216+00		X	W4-2R	LANE ENDS (SYM)	36 X 36	X		9.00		W	TS	2.5	1	
38	"D"216+48		X	EXISTING	SPEED LIMIT 65										REMOVE
39	"D"219+19		X	EXISTING	LANE ENDS MERGE LEFT										REMOVE
40	"D"234+34		X	EXISTING	SLIPPERY WHEN WET (SYM)										REMOVE
				EXISTING	SLIPPERY NEXT 1½ MI										REMOVE
41	"D"239+88	X		EXISTING	SLIPPERY WHEN WET (SYM)										REMOVE
				EXISTING	SLIPPERY NEXT 1½ MI										REMOVE
42	"D"242+10	X		EXISTING	KEEP RIGHT EXCEPT TO PASS										REMOVE
43	"D"254+01	X		D10-203	MILE 309	14 X 36	X		3.50		E/W	PST	2.0	1	MESSAGE ON BOTH SIDES
44	"D"259+55	X		R4-16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		E	TS	3.0	1	
45	"D"268+25	X		EXISTING	PASSING LANE 1/2 MILE										REMOVE
46	N 64.321741 W146.728709	X		D17-2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		E	TS	2.5	1	
47	N 64.320123 W146.724962	X		EXISTING	PASSING LANE 1 MILE										REMOVE SIGN AT ESTIMATED LOCATION
48	N 64.312628 W146.687252	X		D17-2	PASSING LANE 2 MILES	42 X 42		X	12.25		S	TS	2.5	1	
49	N 64.305887 W146.654451		X	D17-2	PASSING LANE 2 MILES	42 X 42		X	12.25		W	TS	2.5	1	
50	N 64.311292 W146.608468		X	D17-2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		W	TS	2.5	1	
51	"E"159+20		X	R4-16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		W	TS	3.0	1	
52	"E"161+83		X	EXISTING	PASSING LANE 1 MILE										REMOVE
53	"E"185+51	X		D10-203	MILE 303	14 X 36	X		3.50		E/W	PST	2.0	1	MESSAGE ON BOTH SIDES
54	"E"188+13		X	EXISTING	PASSING LANE 1/2 MILE										REMOVE
								SUBTOTAL =	101.00						

SIGNING SUMMARY

LOC. NO.	STATION/ COORDINATES	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
55	"E"213+98		X	EXISTING	KEEP RIGHT EXCEPT TO PASS										REMOVE
56	"F"280+20	X		EXISTING	TRUCKS USE RIGHT LANE										REMOVE
57	"F"284+70	X		EXISTING	TRUCK LANE 500 FT										REMOVE
58	"F"308+90	X		EXISTING	ADOPT A HIGHWAY										REMOVE
59	"F"309+31	X		D10-203	MILE 291	14 X 36	X		3.50		E/W	PST	2.0	1	MESSAGE ON BOTH SIDES
60	"F"319+87	X		R4-16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		E	TS	3.0	1	
61	N 64.268894 W146.215653	X		D17-2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		E	TS	2.5	1	
62	N 64.258106 W146.173000	X		D17-2	PASSING LANE 2 MILES	42 X 42		X	12.25		E	TS	2.5	1	
63	N 64.250833 W146.069789		X	D17-2	PASSING LANE 2 MILES	42 X 42		X	12.25		N	TS	2.5	1	
64	N 64.234722 W146.036539		X	D17-2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		N	TS	2.5	1	
65	"G"155+00		X	W1-4R	REVERSE CURVE (SYM)	36 X 36	X		9.00		W	TS	3.0	1	
				W13-1	55 MPH	24 X 24	X		4.00		W				
66	"G"158+03		X	R4-16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		W	TS	2.5	1	
67	"G"168+88	X		D10-203	MILE 283	14 X 36	X		3.50		N/S	PST	2.0	1	MESSAGE ON BOTH SIDES
68	"G"197+00	X		W1-4R	REVERSE CURVE (SYM)	36 X 36	X		9.00		E	TS	3.0	1	
				W13-1	55 MPH	24 X 24	X		4.00		E				
69	"G"215+03		X	W4-2R	LANE ENDS (SYM)	36 X 36	X		9.00		W	TS	2.5	1	
70	"G"218+85	X		D10-203	MILE 282	14 X 36	X		3.50		E/W	PST	2.0	1	MESSAGE ON BOTH SIDES
71	"G"308+66	X		EXISTING	KEEP RIGHT EXCEPT TO PASS										REMOVE
72	"G"321+07	X		D10-203	MILE 280	14 X 36	X		3.50		N/S	PST	2.0	1	MESSAGE ON BOTH SIDES
73	"G"335+28	X		EXISTING	PASSING LANE 1/2 MILE										REMOVE
74	"G"361+59	X		EXISTING	PASSING LANE 1 MILE										REMOVE
								SUBTOTAL =	122.00						

POST TYPE LEGEND:

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

SIGNING SUMMARY

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\z0715_H01-H03_SIGNSUM-SIGNING SUM 2 Thu, Dec/15/22 05:28pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H3	H7

SIGNING SUMMARY

LOC. NO.	STATION/ COORDINATES	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
75	"G"374+08	X		R4-16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		E	TS	3.0	1	
76	N 64.193926 W145.903071		X	D17-2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		E	TS	2.5	1	
77	N 64.175374 W145.878417		X	D17-2	PASSING LANE 2 MILES	42 X 42		X	12.25		S	TS	2.5	1	
78	"H"262+31	X		D10-203	MILE 271	14 X 36	X		3.50		N/S	PST	2.0	1	MESSAGE ON BOTH SIDES
				EXISTING	ADOPT A HIGHWAY SPONSOR NAME										REMOVE
79	"H"269+34	X		W4-2R	LANE ENDS (SYM)	36 X 36	X		9.00		S	TS	2.5	1	
80	"H"273+65	X		PRIVATE	BIRCH VALLEY DUPLEXES										REMAIN IN PLACE
81	"H"287+68		X	PRIVATE	WELCOME TO DELTA										REMAIN IN PLACE
82	"H"302+87		X	D1-1	Delta Jct	24 X 60		X	10.00		N	PST	2.5	2	8C LETTERING
83	"H"306+23		X	R1-1	STOP	30 X 30	X		6.25		W	PST	2.5	1	
84	"H"309+74	X		R4-16	KEEP RIGHT EXCEPT TO PASS	36 X 48	X		12.00		S	TS	3.0	1	
85	N 64.088890 W145.756374	X		D17-2	PASSING LANE 1/2 MILE	42 X 42		X	12.25		S	TS	2.5	1	
86	N 64.067942 W145.743967	X		D17-2	PASSING LANE 2 MILES	42 X 42		X	12.25		S	TS	2.5	1	
								SUBTOTAL =	101.75						
								PROJECT TOTAL =	640.75						

HIGHWAY SIGNING NOTES:

1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT THOSE DESIGNATED FOR REINSTALLATION, SALVAGE, OR OTHERWISE NOTED.
2. INSTALL MILEPOST SIGNS (D10 SERIES) IN ACCORDANCE WITH THE DETAIL ON SHEET H5.
3. MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED.
4. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
5. INSTALL PST SIGN POSTS WITH SLEEVE TYPE SOIL EMBEDMENT PER STANDARD PLAN S-30.05. EMBED PST IN SLEEVE 12". ATTACH THE SIGN POST TO THE SLEEVE USING GALVANIZED 3/8" BOLT, NUT, SPLIT LOCK WASHER, AND TWO FLAT WASHERS.
6. INSTALL GALVANIZED SPLIT LOCK WASHERS ON ALL 3/8" BOLTS. 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.
7. 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.
8. STOP (R1-1) AND YIELD (R1-2) SIGN LOCATIONS, ESPECIALLY THOSE AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. THE ENGINEER WILL APPROVE FINAL LOCATIONS.
9. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
10. ALL SIGNS NOTED FOR REMOVAL AND RELOCATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
11. LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO: PIPELINES, AND TELEPHONE AND ELECTRICAL CABLES, PRIOR TO INSTALLING SIGN POSTS. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.
12. CLEARING, AS DIRECTED BY THE ENGINEER, MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF THE SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
13. INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
14. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
15. HINGED JOINTS WITH FRANGIBLE FUSE PLATES ARE REQUIRED ON ALL MULTIPLE POST SIGNS WITH FRANGIBLE COUPLING SYSTEMS. THE HINGE LOCATION ON ALL POSTS SHALL BE THE SAME DISTANCE BELOW THE SIGN, INSTEAD OF THE 6" MINIMUM SHOWN ON STANDARD PLAN S-31.02. SEE MANUFACTURER'S SPECIFICATION FOR HINGE LOCATION BELOW SIGN.
16. THE 4" MOUNTING AREA ON MILEPOST SIGNS (D10-200 SERIES) SHALL BE BARE ALUMINUM. THIS ELIMINATES THE OPTION OF INSTALLING GREEN REFLECTIVE SHEETING IN THIS AREA AS NOTED IN THE ASDS.
17. ADHESIVE TAPE IS NOT PERMITTED. THIS MODIFIES STANDARD PLAN S-00.12.

POST TYPE LEGEND:

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

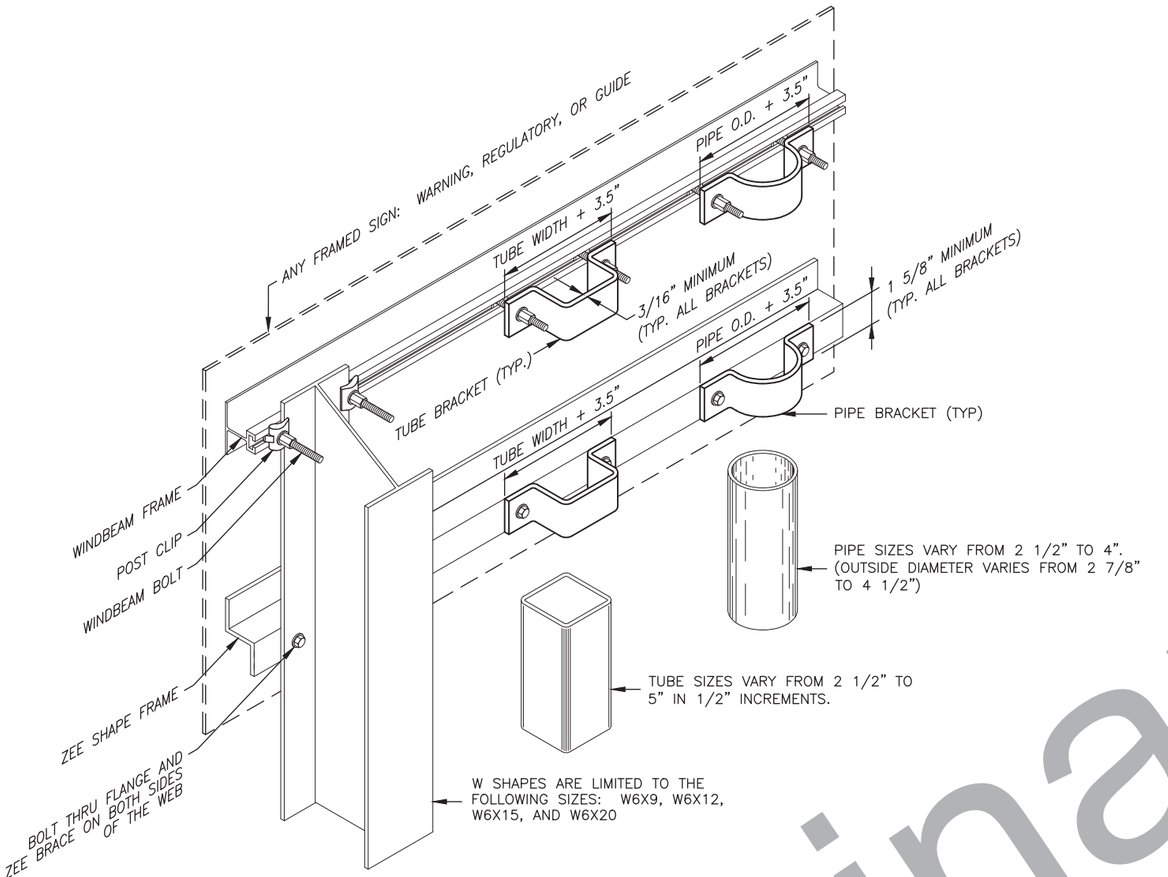
SIGNING SUMMARY

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

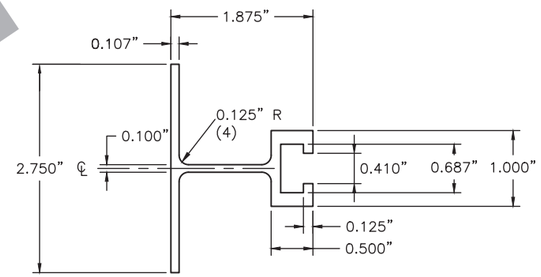
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_H01-H03_SGNSUM-SIGNING SUM 2 Thu, Dec/15/22 05:28pm

NO.	DATE	REVISION

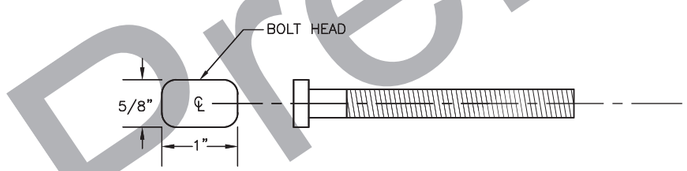
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H4	H7



FRAMED SIGN ATTACHMENT BRACKETS



EXTRUDED ALUMINUM WINDBEAM



3/8" WINDBEAM BOLT

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP268-341 Passing (DOT-NR)\CAD\Planset\60715_H04-H05-SGN ATT Thu, Dec/15/22 05:28pm

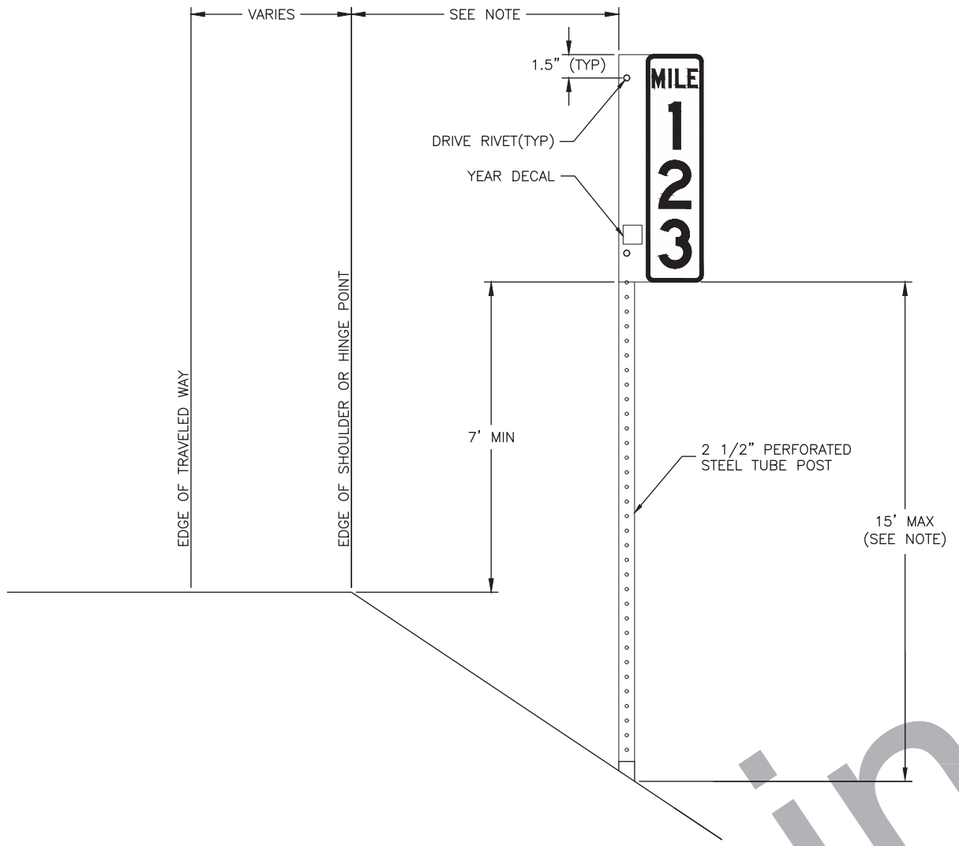
FRAMED SIGN ATTACHMENT DETAIL

NOTES:

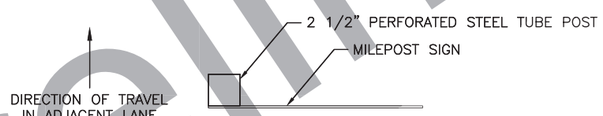
1. ATTACH FRAMED SIGNS TO POSTS WHEREVER THE FRAMES CROSS THE POSTS. AT EACH CROSSING, ATTACH THE SIGN USING TWO POST CLIPS ON W-SHAPE POSTS, A U-SHAPED BRACKET ON PIPES OR A BRACKET WITH SQUARE CORNERS ON TUBES.
2. THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
3. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
4. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR ZEE SHAPED FRAMING, EXTRUDED WINDBEAM, AND RIVETS.
5. ATTACH SIGNS TO WINDBEAM WITH 3/16" RIVETS AT 4" STAGGERED SPACING.
6. EACH FRAMING MEMBER SHALL BE ONE CONTINUOUS PIECE.

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H5	H7



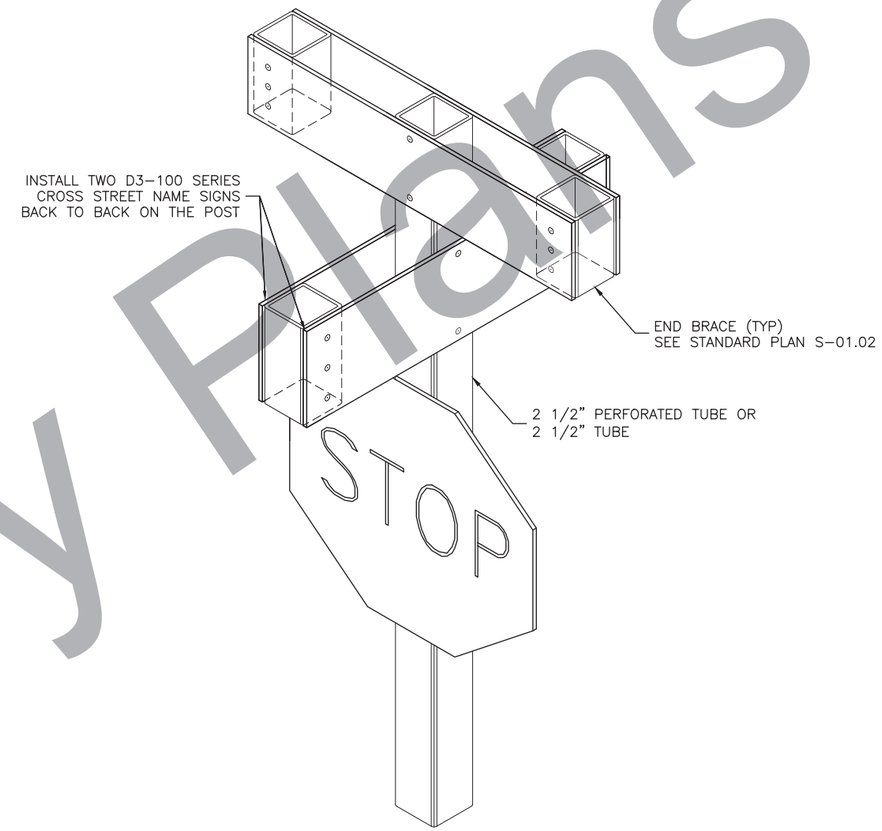
MILEPOST DETAIL
ALL ROADS EXCEPT DIVIDED ROADWAYS
(D10-201, D10-202, D10-203)



MILEPOST MOUNTING DETAIL

MILEPOST NOTES:

1. INSTALL MILEPOST SIGNS (D10 SERIES) WITH A 15 TO 30 FOOT OFFSET. REDUCE THE OFFSET AS NECESSARY SO THE BOTTOM OF THE SIGN IS NO MORE THAN 15 FEET ABOVE THE GROUND. THE SIGN OFFSET SHALL NOT BE LESS THAN THE OFFSETS SHOWN ON STANDARD PLAN S-05.02.



STREET NAME SIGN MOUNTING DETAIL

STREET NAME SIGN NOTES:

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

MISCELLANEOUS SIGN DETAILS

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NH)\CAD\Planset\60715_H04-H05-SGN ATT Thu, Dec/15/22 05:28pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H6	H7

670.2001.0000 MMA PAVEMENT MARKINGS, SURFACE APPLIED

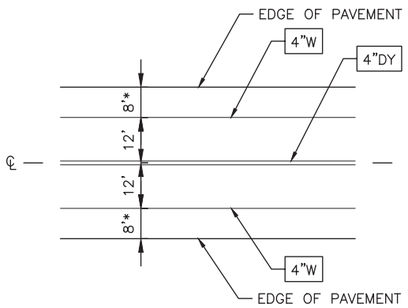
DESCRIPTION	TOTAL	REMARKS
4" WHITE	98,500 FT	
4" WHITE SKIP	12,700 FT	4" EQUIVALENT
4" YELLOW	82,900 FT	
4" YELLOW SKIP	4,700 FT	4" EQUIVALENT
SYMBOLS	24 EA	

TRAFFIC MARKING NOTES:

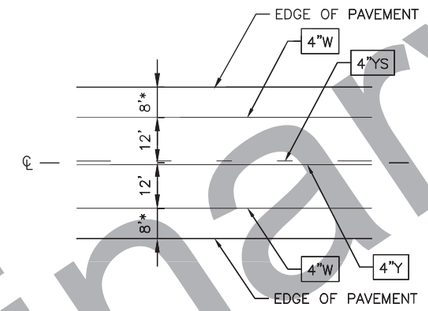
1. IF NEW AND EXISTING LONGITUDINAL MARKINGS ARE NOT ALIGNED AT THE MATCH LINE, TRANSITION BETWEEN THE TWO USING A 100:1 TAPER.
2. DIMENSION IS TO THE CENTER OF STRIPE OR STRIPE GROUP.
3. THE PASS/NO-PASS ZONES WILL BE VERIFIED IN THE FIELD BY THE CONTRACTOR ACCORDING TO SECTION 670.
4. TRAFFIC MARKINGS SHALL BE PLACED IN ACCORDANCE WITH STANDARD PLAN T-20.04, T-21.04, AND SECTION 670.
5. MMA PAVEMENT MARKINGS, SURFACE APPLIED SUMMARY IS FOR INFORMATION ONLY AND WILL NOT BE USED FOR MEASUREMENT OR PAYMENT PURPOSES.

TRAFFIC MARKING KEY

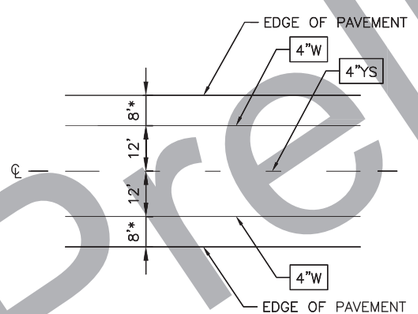
4"W	4" WHITE LINE
4"WS	4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"Y	4" YELLOW LINE
4"YS	4" YELLOW SKIP LINE (10' STRIPE/30' SKIP PATTERN)
4"DY	4" DOUBLE YELLOW LINE



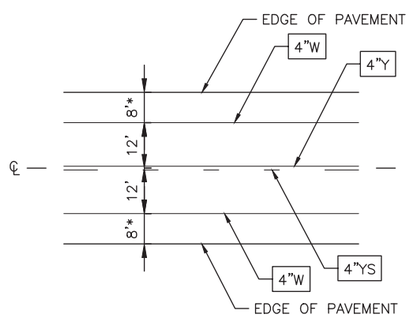
CASE I
PASSING PROHIBITED



CASE II
SOUTHBOUND PASSING PROHIBITED



CASE III
PASSING ALLOWED



CASE IV
NORTHBOUND PASSING PROHIBITED

CENTERLINE STRIPING SUMMARY

STATION TO STATION		CASE
"A"128+25	"A"190+70	I
"B"248+00	"B"262+55	I
"B"262+55	"B"309+00	IV
"D"141+20	"D"173+00	I
"D"221+76	"D"236+75	I
"E"155+00	"E"168+00	IV
"E"168+00	"E"190+79	I
"E"190+79	"E"206+38	IV
"E"206+38	"E"218+50	I
"F"265+25	"F"271+10	I
"F"271+10	"F"320+85	IV
"F"320+85	"F"324+07	I
"G"153+13	"G"161+31	II
"G"161+31	"G"237+33	I
"G"304+60	"G"378+98	I
"H"248+44	"H"260+25	IV
"H"260+25	"H"313+64	I

CENTERLINE STRIPING DETAILS
NTS

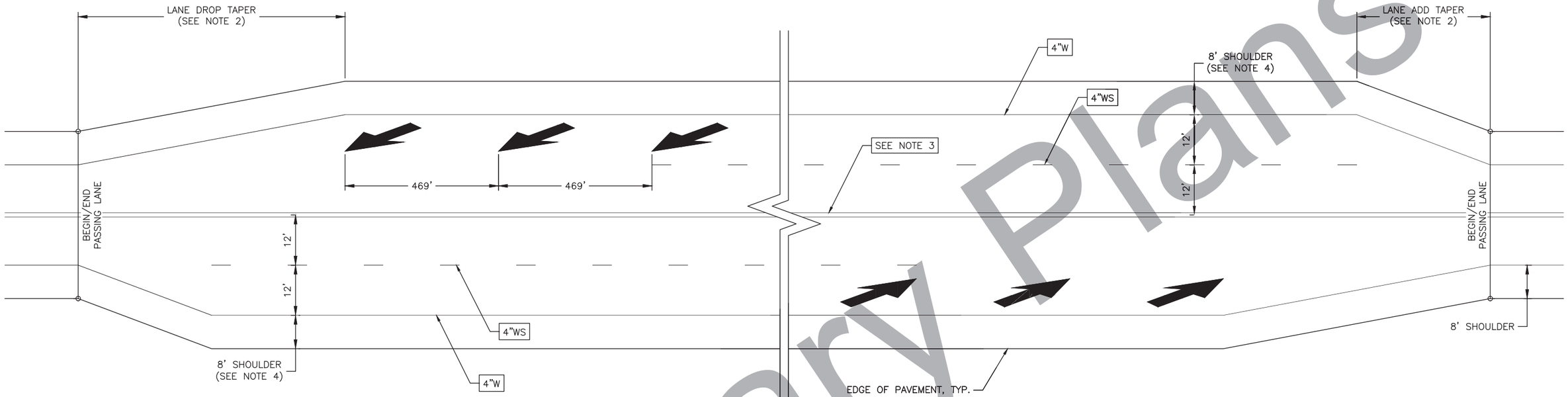
* SEE TYPICAL SECTIONS FOR SHOULDER WIDTHS.

STRIPING SUMMARY AND DETAILS

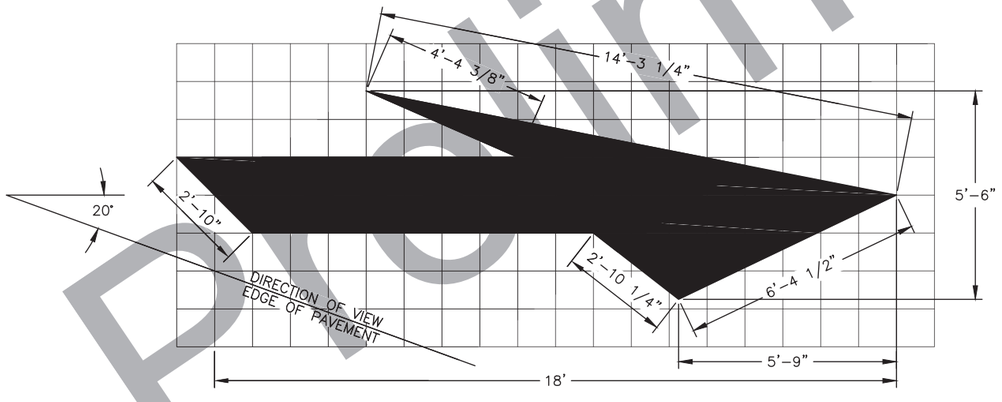
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_H06-H07_STRIPING-Hwy-Cen Thu, Dec/15/22 05:28pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	H7	H7



PASSING LANES STRIPING PLAN
NTS



LANE DROP ARROW
NTS

NOTES:

1. DETAIL DEPICTS CONCURRENT NORTH AND SOUGH BOUND PASSING LANES, BUT CAN BE USED FOR PASSING LANES IN ONE DIRECTION.
2. SEE F SHEETS FOR EDGE OF PAVEMENT TAPERS.
3. SEE SHEET H6 FOR CENTERLINE STRIPING LAYOUT.
4. SEE TYPICAL SECTIONS FOR PASSING LANE SHOULDER WIDTHS.

STRIPING DETAILS

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_H06-H07_STRIPING-Hwy-Gen Thu, Dec/15/22 05:53pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	Q1	Q16

PROJECT SITE-SPECIFIC CONDITIONS

ESCP GENERAL NOTES:

GENERAL

1. THIS ESCP IS A GENERAL PLAN FOR GUIDING THE DEVELOPMENT OF THE CONTRACTORS 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 2021 CONSTRUCTION GENERAL PERMIT AND SECTION 641 OF THE PROJECT SPECIFICATIONS.

2. REFER TO APPENDIX C OF THE CONTRACT FOR EROSION SEDIMENT CONTROL PLAN.

3. INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO EARTH DISTURBING ACTIVITIES.

4. RE-VEGETATE ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION FOR FINAL STABILIZATION. COVER ERODIBLE AREAS (NOT RE-VEGETATED) BY ROCK OR OTHER NON-ERODIBLE MATERIAL APPROVED BY ENGINEER. ATTAINMENT OF FINAL STABILIZATION WILL BE AS APPROVED BY THE ENGINEER.

5. INSTALL PERIMETER CONTROL BMP WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25-FOOT VEGETATIVE BUFFER IS NOT RETAINED.

6. CONSTRUCTION ENTRANCE/EXIT MUST BE ESTABLISHED TO MINIMIZE OFFSITE IMPACTS.

7. RECLAIM STOCKPILE AND STAGING AREAS TO THEIR ORIGINAL CONDITION AS APPROVED BY THE ENGINEER.

8. AREAS OF DISTURBANCE, TEMPORARY STABILIZATION, AND PERMANENT STABILIZATION WILL BE MARKED AS WORK PROCEEDS AND ADDED TO THE LEGEND.

9. REFER TO APPENDIX A OF THE CONTRACT FOR ENVIRONMENTAL PERMIT INFORMATION.

10. TEMPORARY BMPS WON'T BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.

PERIMETER CONTROL

11. VEGETATIVE BUFFER IS THE PREFERRED PERIMETER PROTECTION FOR THIS PROJECT WHERE UPLAND VEGETATIVE BUFFER IS RETAINED. USE FIBER ROLL OR SILT FENCE WHERE WORK IS WITHIN 25 FEET OF WETLANDS. SEE THE U.S. ARMY CORPS OF ENGINEERS PERMIT IN APPENDIX A FOR SPECIFIC REQUIREMENTS REGARDING WETLAND IMPACTS.

12. ALL WORK NEAR OHW MUST BE ISOLATED FROM FLOWING WATER. ISOLATION METHODS INCLUDE:
    - SILT CURTAINS
    - COFFERDAMS
    - OTHER METHODS APPROVED BY ENGINEER

HAULING

13. ENSURE LOADS ARE STABLE OR COVERED SO MATERIAL ESCAPEMENT DOESN'T OCCUR DURING HAULING ACTIVITIES.

14. SWEEP CLEAN STABILIZED CONSTRUCTION EXITS AND MATERIAL SITE ENTRANCES AND EXITS EACH SHIFT OR AS DIRECTED BY THE ENGINEER.

STOCKPILE PROTECTION

15. PROTECT ALL ERODIBLE STOCKPILES WITH EROSION AND SEDIMENT BMPS.

16. EROSION AND SEDIMENT CONTROL BMPS MAY REQUIRE REMOVAL AND REINSTALLATION EACH SHIFT.

IN WATER WORK

17. NO IN WATER WORK ANTICIPATED.

TIMING OF BMPS INSTALLATION

18. INSTALL TEMPORARY PERIMETER CONTROL BMPS BEFORE SOIL DISTURBANCE OCCURS.

19. COMPLETE PLACEMENT OF DITCH AND OTHER DISSIPATION MEASURES WITHIN 24 HOURS OF CULVERT INSTALLATION.

WINTER SHUTDOWN

20. IF FINAL STABILIZATION IS NOT ACHIEVED BEFORE WINTER SHUTDOWN, EXPOSED GROUND, INCLUDING BUT NOT LIMITED TO EMBANKMENT SLOPES AND STOCKPILES, MUST BE TEMPORARILY STABILIZED FOR SPRING BREAK-UP AND UNTIL PERMANENT STABILIZATION IS ACHIEVED NEXT SEASON. ALL STABILIZATION AND OTHER EROSION CONTROL MEASURES NECESSARY FOR WINTER SHUTDOWN ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.

WETLAND AREAS

21. PROTECTED WETLANDS: RESTRICTED USE AREA; REFER TO ENVIRONMENTAL PERMITS FOR ADDITIONAL INFORMATION REGARDING RESTRICTIONS AND REQUIREMENTS WHEN WORKING ADJACENT TO PROTECTED WETLAND AREAS. FOR THIS PROJECT, ALL WETLANDS BEYOND THE PERMITTED FILL SLOPES ARE PROTECTED WETLANDS.

22. TEMPORARY WETLAND IMPACT AREAS: LIMITED USE AREA; REFER TO ENVIRONMENTAL PERMITS FOR ADDITIONAL INFORMATION REGARDING TERMS OF USE, RESTRICTIONS AND REQUIREMENTS.

23. WETLAND MAPPING: WETLAND LOCATIONS ILLUSTRATED IN THE ESCP HAVE BEEN DETERMINED USING FIELD DELINEATION. THE WETLAND ILLUSTRATIONS ARE INTENDED FOR USE IN BIDDING AND SWPPP PREPARATION. THE CONTRACTOR SHALL FIELD CERTIFY WETLAND LOCATIONS PRIOR TO ANY EARTH DISTURBING AREAS. WETLAND MAPPING IS SUBSIDIARY TO SECTION 641.

ENVIRONMENTAL INFORMATION

- STAKE PERMIT BOUNDARIES IN ACCORDANCE WITH SECTION 642 TO ENSURE ALL WORK IS WITHIN PERMIT BOUNDARIES.
- MIGRATORY BIRD TREATY: ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE MIGRATORY BIRD TREATY ACT. AVOID LAND DISTURBANCE, VEGETATION CLEARING, AND BRIDGE DEMOLITION BETWEEN MAY 1 AND JULY 15 TO COMPLY WITH USFWS MIGRATORY BIRD TREATY ACT TIMING RECOMMENDATIONS.
- REFER TO APPENDIX A FOR PROJECT SPECIFIC PERMIT INFORMATION AND ENVIRONMENTAL COMMITMENTS.
- CONTACT THE DOT PROJECT ENGINEER WITH ADDITIONAL QUESTIONS/CONCERNS REGARDING ENVIRONMENTAL ISSUES OR PERMIT INFORMATION.
- REFER TO THE AKDOT&PF ALASKA STORM WATER POLLUTION PREVENTION PLAN GUIDE FOR ADDITIONAL SWPPP GUIDANCE, INCLUDING BMPS AND CONDITIONS FOR THEIR USE.

ANTICIPATED CONSTRUCTION SEQUENCE

THIS ESCP ASSUMES THE FOLLOWING CONSTRUCTION SEQUENCE:

1. CLEARING ALONG ALIGNMENTS
2. INSTALL PERIMETER CONTROLS
3. EXCAVATE FOR CULVERT INSTALLATION
4. INSTALL CULVERTS AND BACKFILL
5. REMOVE EXISTING PAVEMENT TO PRODUCE ATB
6. FINISH GRADING MAIN LINE BEFORE PAVING
7. SEED ALL GROUND DISTURBANCE
8. PAVE LENGTH OF PROJECT AND APPROACHES AND STRIPE AND INSTALL RUMBLE/MUMBLE STRIPS

SITE DESCRIPTION

PROJECT INCLUDES CONSTRUCTION OF 10 PASSING LANES ALONG THE RICHARDSON HIGHWAY, INCLUDING REPLACEMENT OF CULVERTS AND FULL WIDTH ROADWAY RECONSTRUCTION TOTALING 14.6 MILES.
PROJECT AREA: 530 ACRES. MATERIAL SITES: 25 ACRES.

(1) AREAS TO BE DISTURBED: 71 ACRES OF DISTURBANCE TO EXISTING PAVEMENT, 53 ACRES DISTURBANCE TO ROADWAY SHOULDER AND EMBANKMENT SLOPES, AND 21 ACRES OF NEW DISTURBANCE.

(2) MEAN ANNUAL PRECIPITATION: 11.52 INCHES (NORTH POLE, AK WEATHER STATION).
PROBABLE MAXIMUM PRECIPITATION FOR 2-YEAR, 24-HOUR STORM=1.10 INCHES
(HTTP://HDSC.NWS.NOAA.GOV/HDSC/PFDS/PFDS_MAP_AK.HTML)

(3) RUNOFF COEFFICIENTS

TYPE OF SURFACE	RUNOFF COEFFICIENT (C)
PAVED	0.7 – 0.9
GRAVEL ROADWAYS OR SHOULDER	0.4 – 0.6
CUT, FILL SLOPES	0.5 – 0.7
GRASSED AREAS	0.1 – 0.7
RESIDENTIAL	0.3 – 0.7
WOODS	0.1 – 0.3
CULTIVATED	0.2 – 0.6

NOTE: FROM HYDRAULIC CIRCULAR #12, "DRAINAGE OF HIGHWAY PAVEMENTS", MARCH 1984, PAGE 12. FOR FLAT SLOPES AND/OR PERMEABLE SOILS, USE LOWER VALUE. FOR STEEP SLOPES AND/OR IMPERMEABLE SOILS, USE HIGHER VALUES.

(4) RECEIVING WATERS: THE TANANA RIVER AND ADJACENT WETLANDS ARE THE PRIMARY RECEIVING WATERS IN THE PROJECT AREA. THIS PROJECT PROPOSES ZERO IMPACTS TO ESSENTIAL FISH HABITAT (EFH).

(5) IMPAIRED WATERS: NONE OF THE RECEIVING WATERS ARE ON THE IMPAIRED WATER BODIES LIST.

ESCP KEY

- P — P — PERIMETER PROTECTION
- SILT FENCE
- WETLANDS
- NON-JURISDICTIONAL WATERS
- APPROXIMATE MATERIAL SITE BOUNDARIES
- INLET/OUTLET PROTECTION
- DIRECTION OF STORM WATER FLOW

ESCP

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H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_001-Hwy-Gen Thu, Dec/15/22 04:21pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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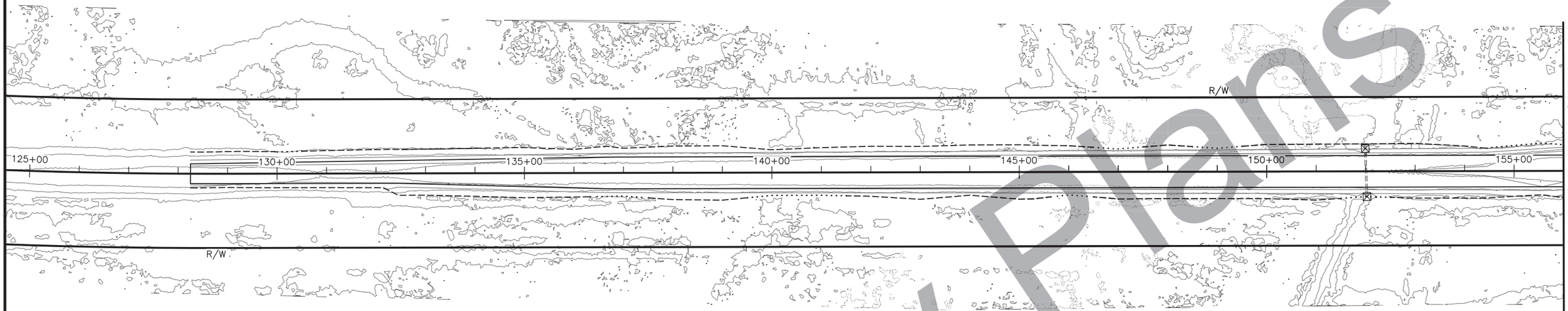
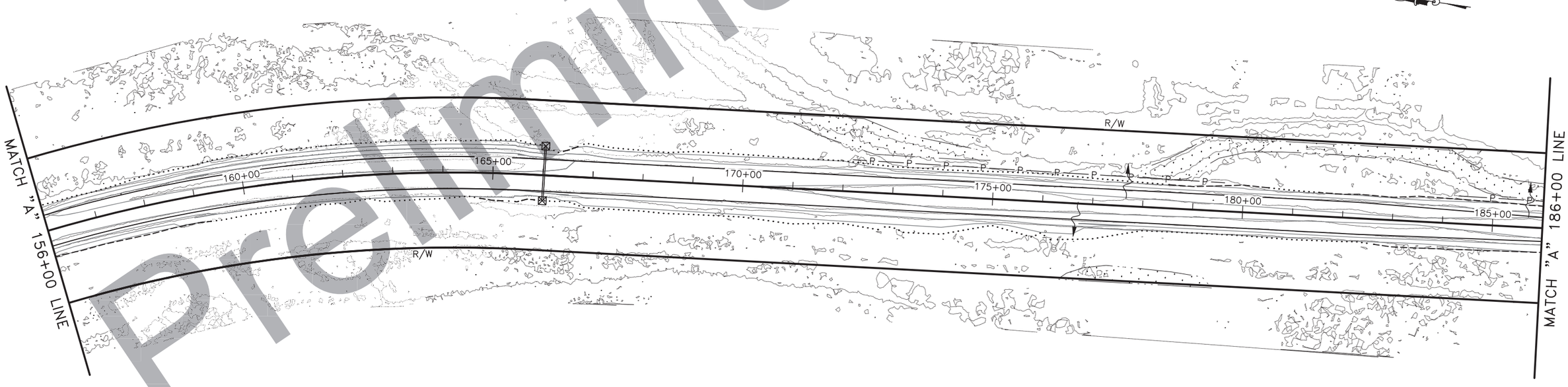


PASSING LANE "A"



PASSING LANE "A"

ESCP

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H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_002-012-Layout1 Thu, Dec/15/22 04:18pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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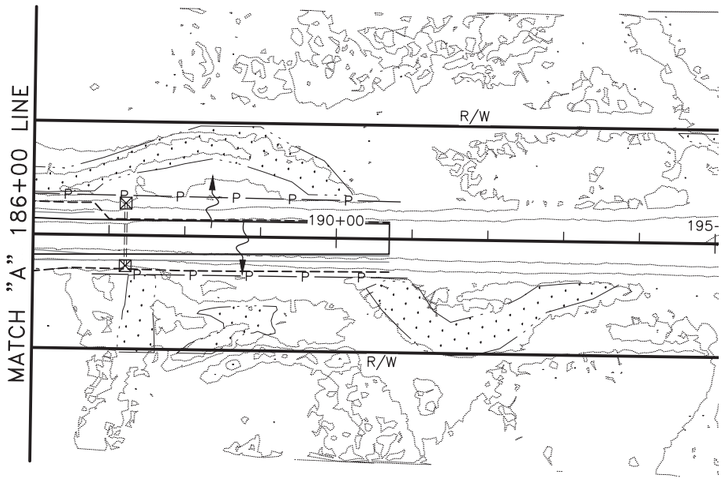

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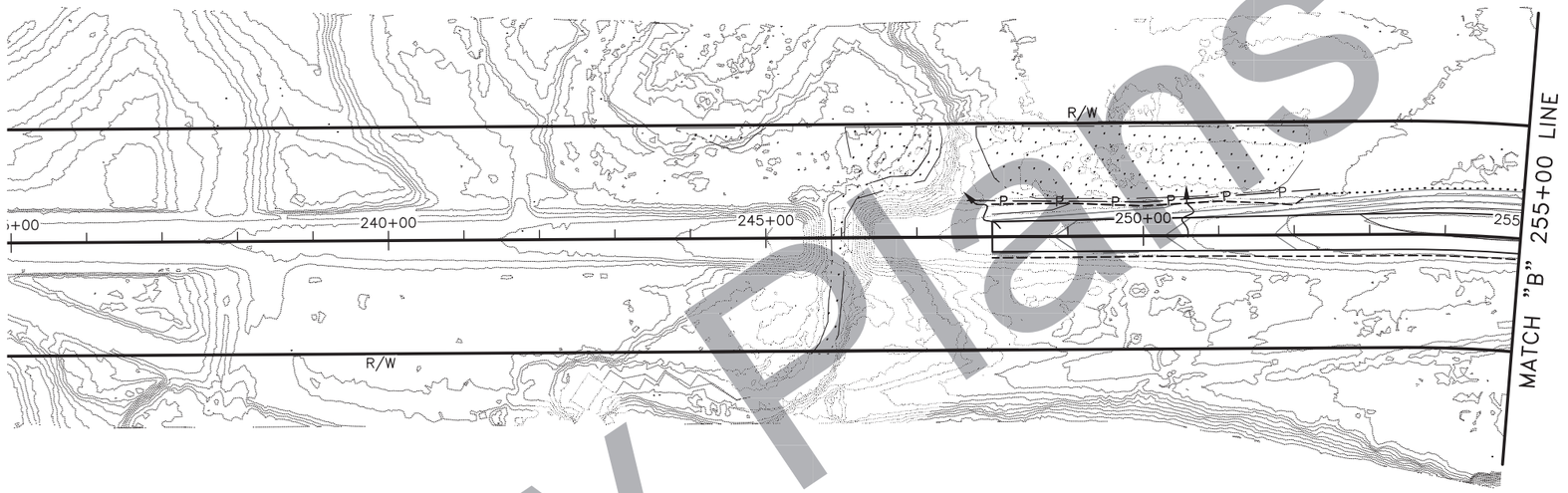

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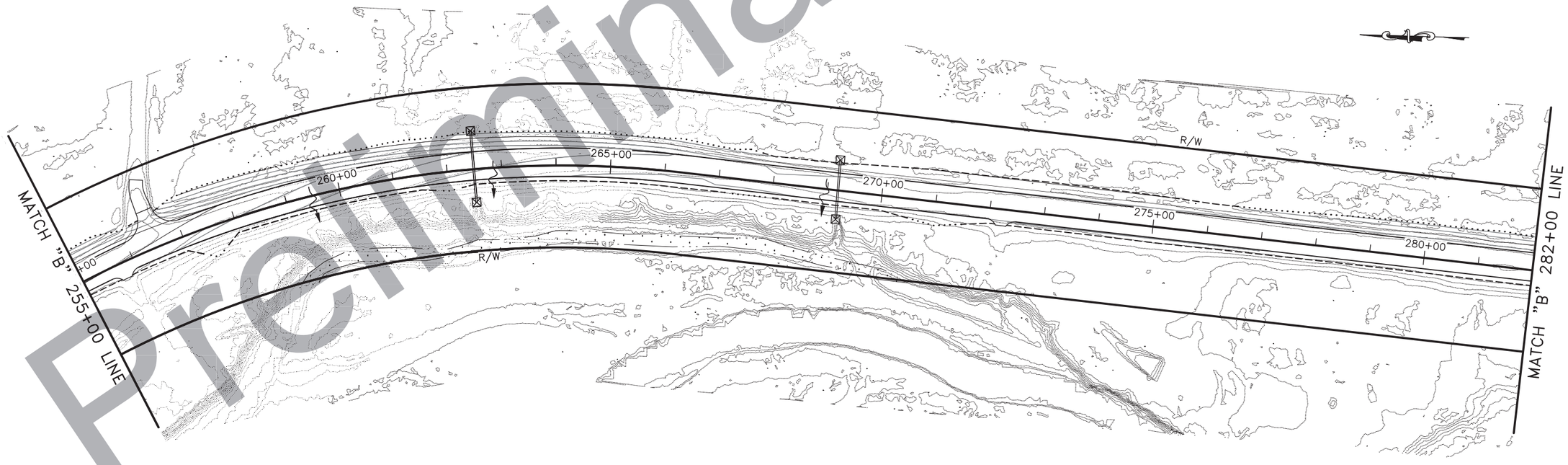

PASSING LANE "B"

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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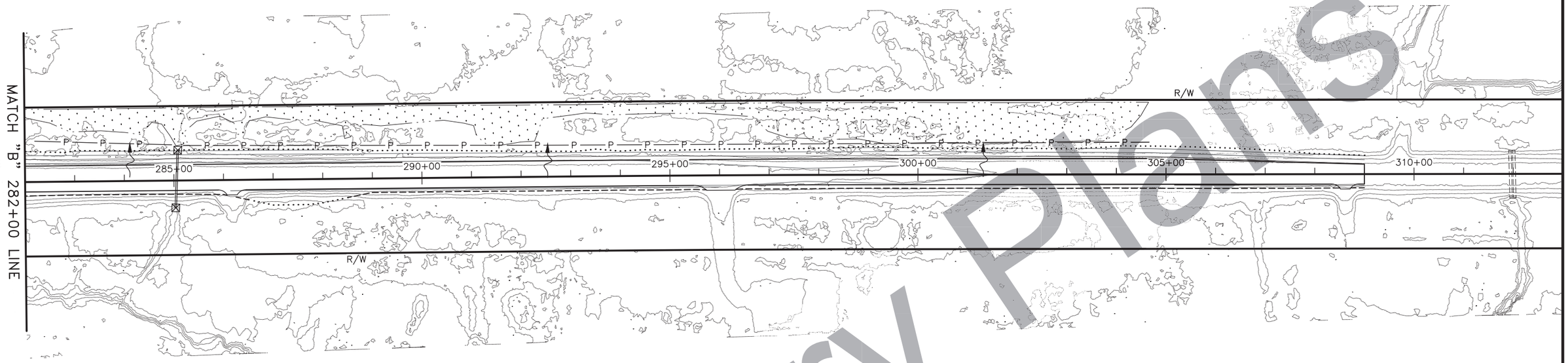

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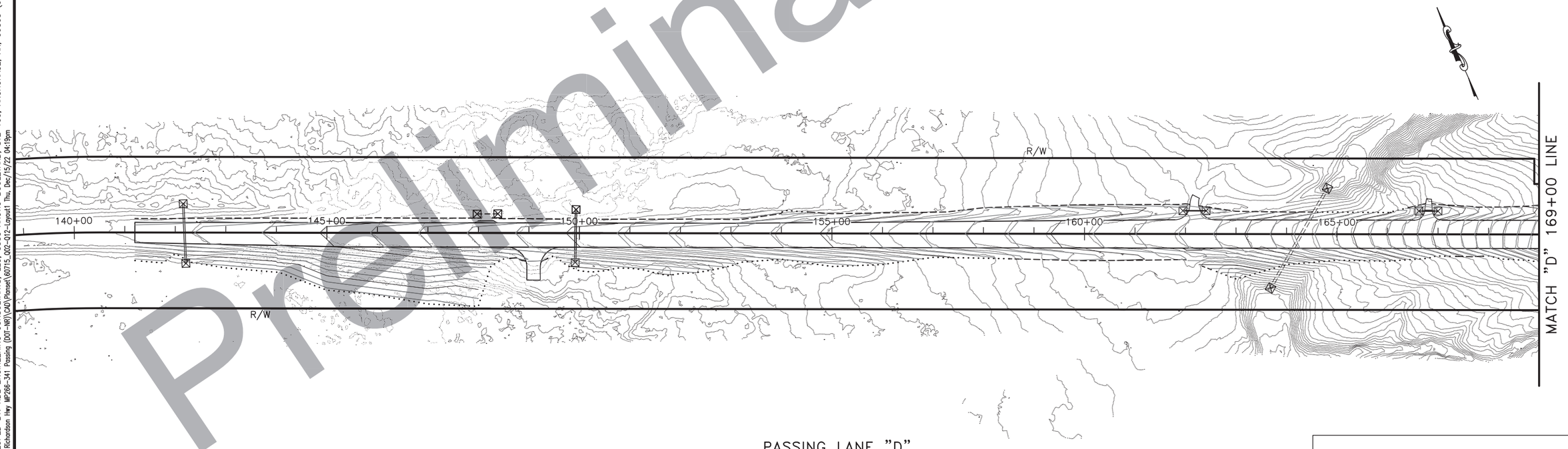

PASSING LANE "D"

ESCP

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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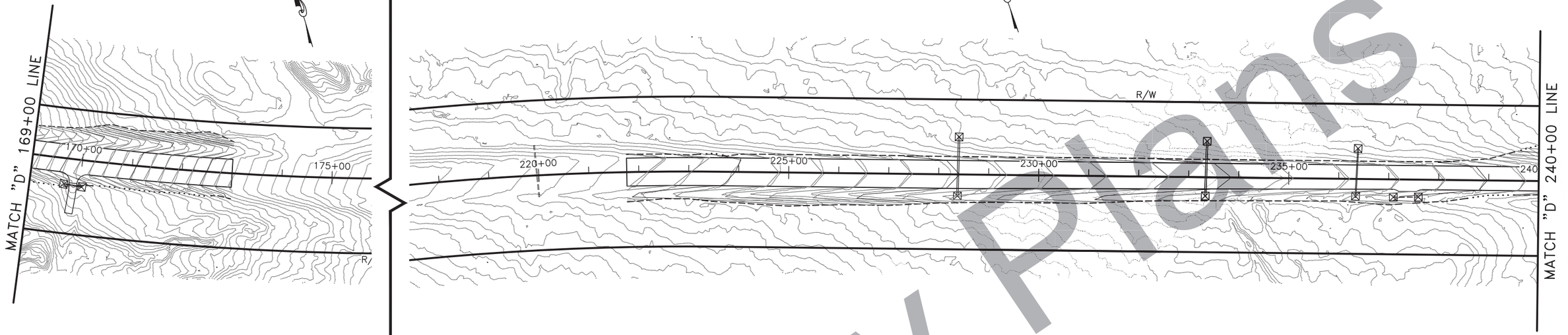

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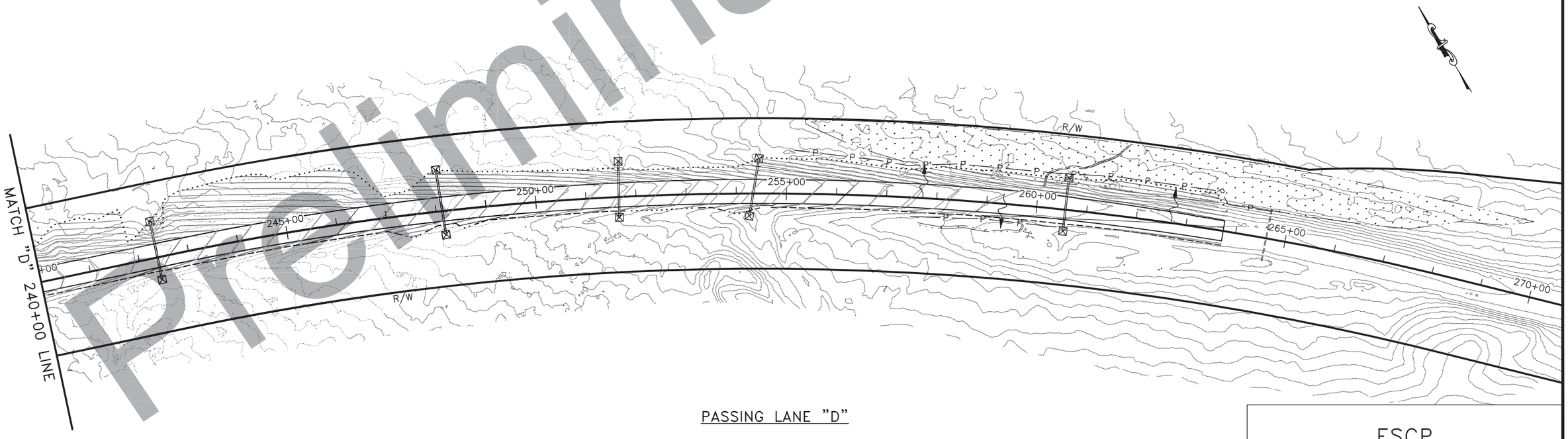

PASSING LANE "D"

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_002-Q12-Layout1 Thu, Dec/15/22 04:19pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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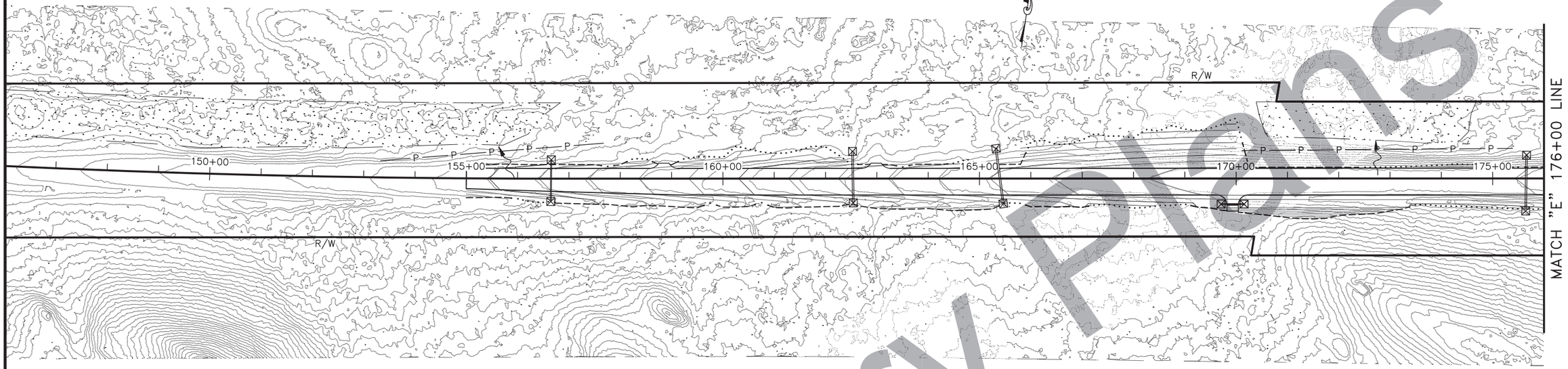

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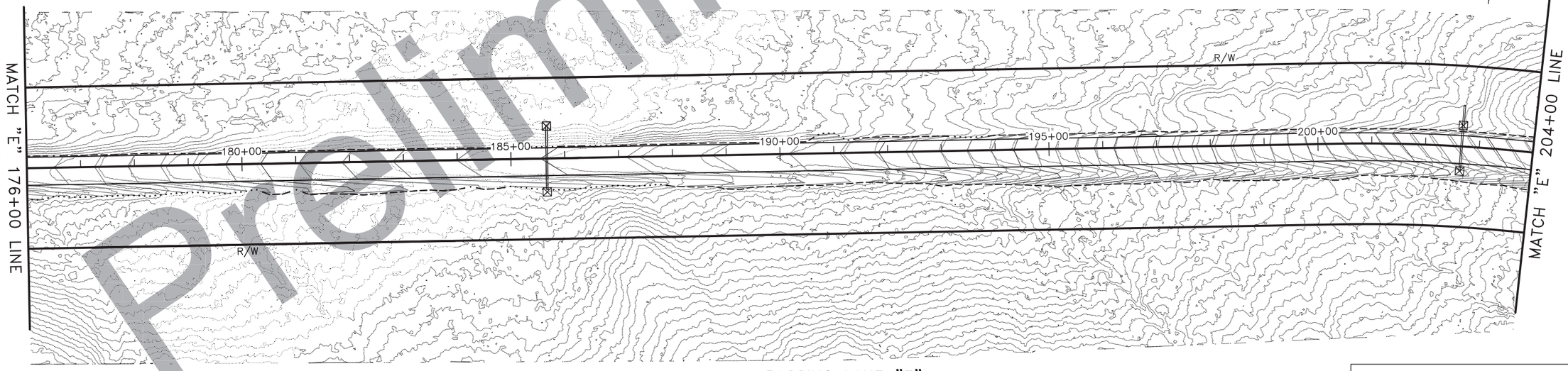

PASSING LANE "E"

ESCP

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H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_002-012-Layout1 Thu, Dec/15/22 04:19pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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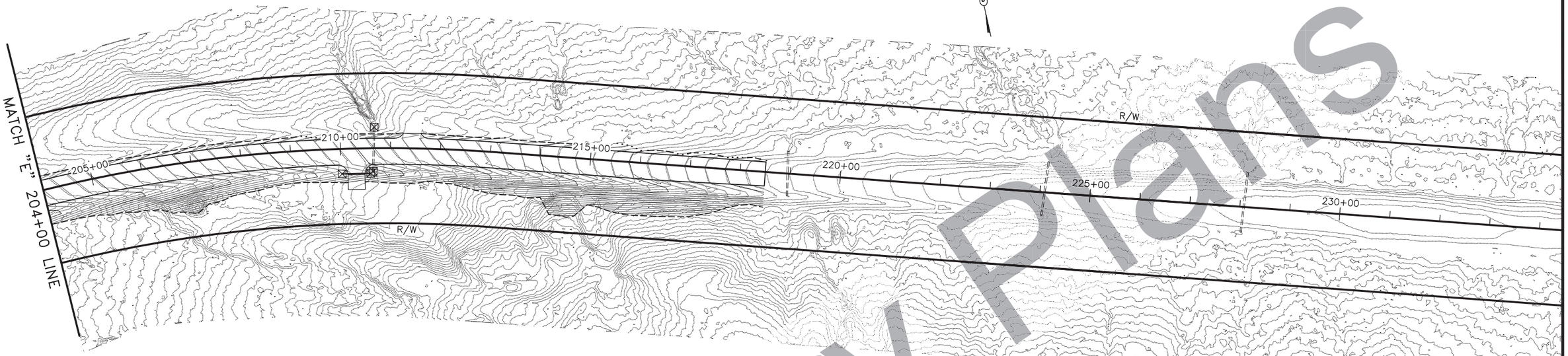

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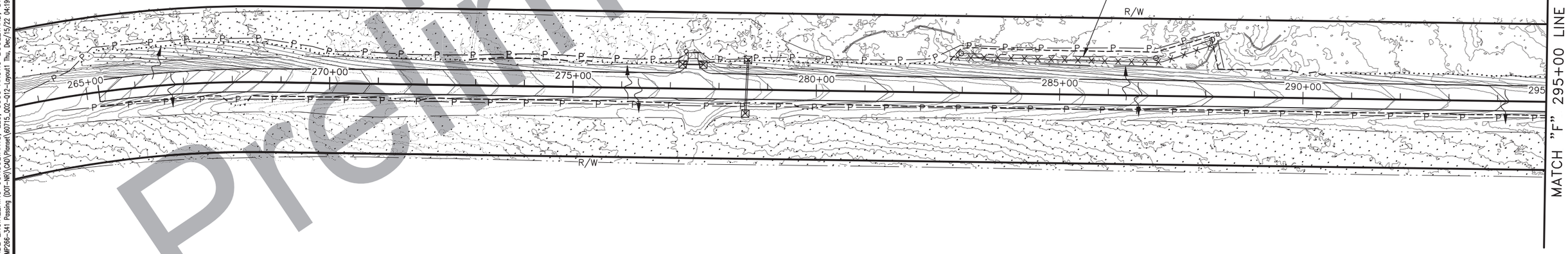

PASSING LANE "F"

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansell\60715_002-Q12-Layout1 Thu, Dec/15/22 04:19pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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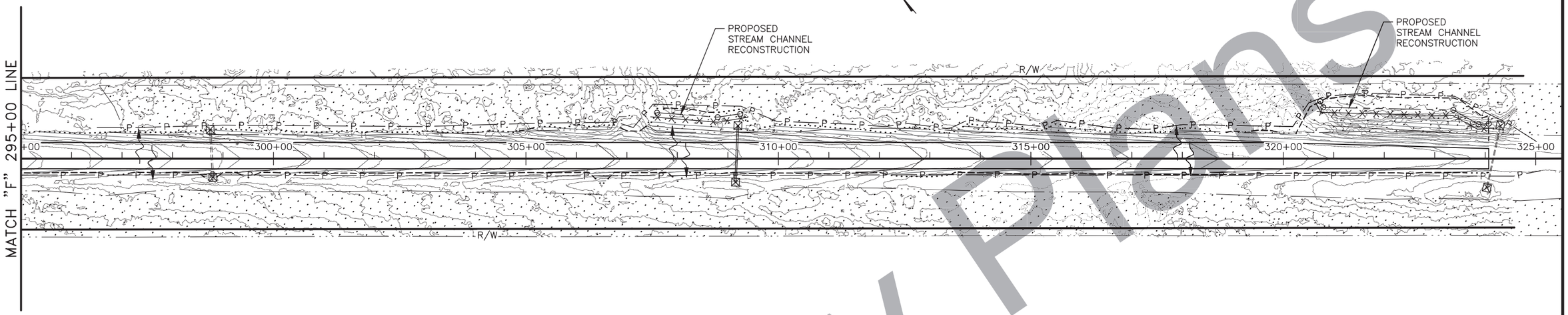

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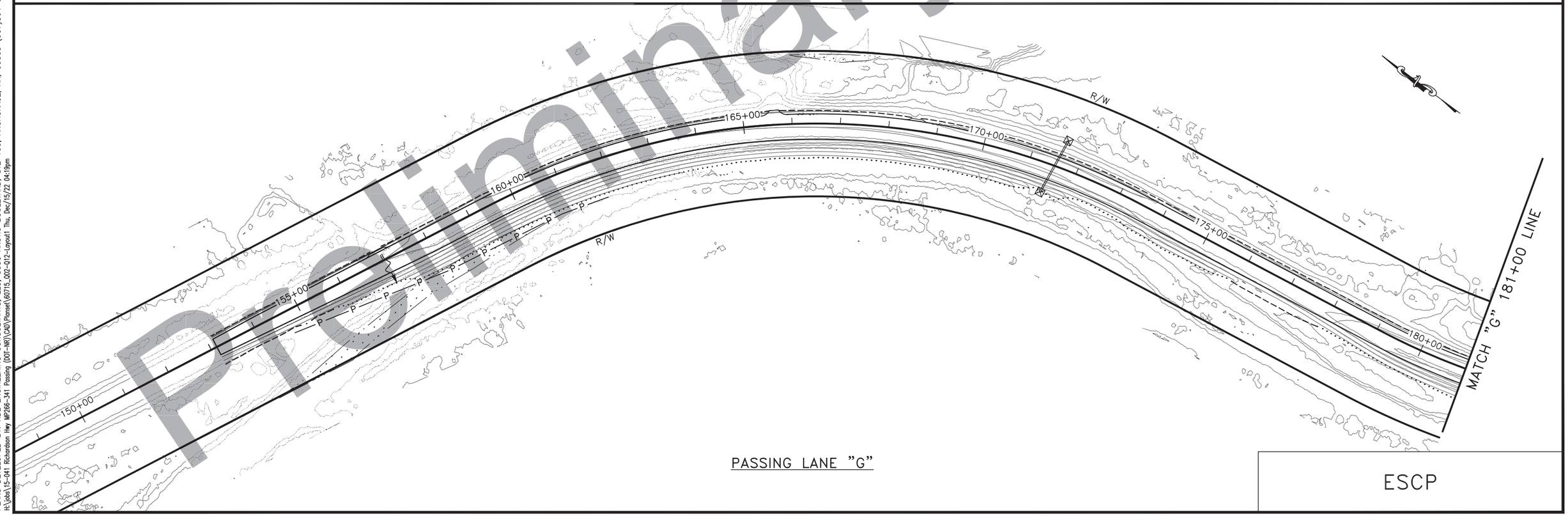

PASSING LANE "G"

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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NO.	DATE	REVISION

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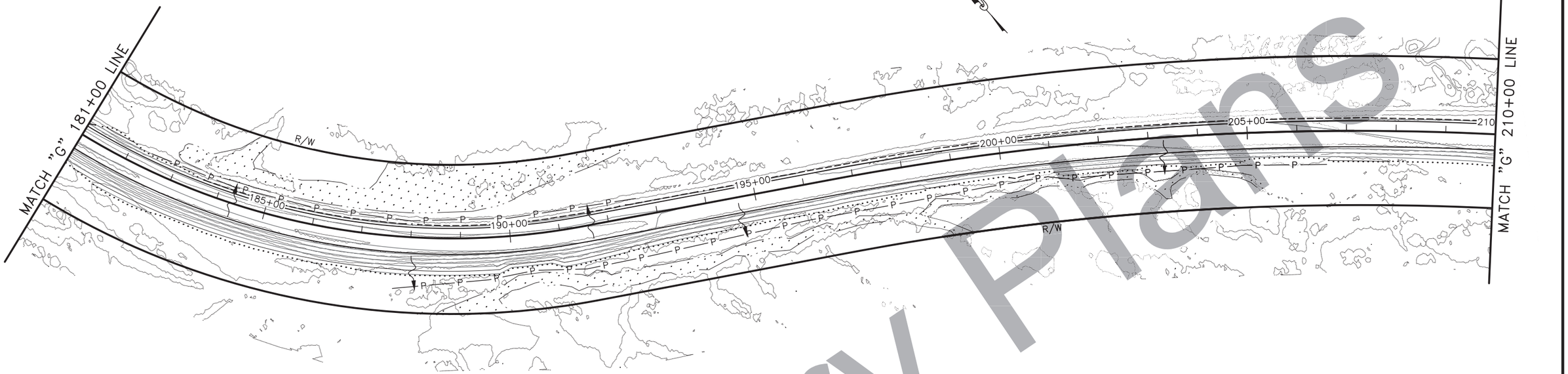

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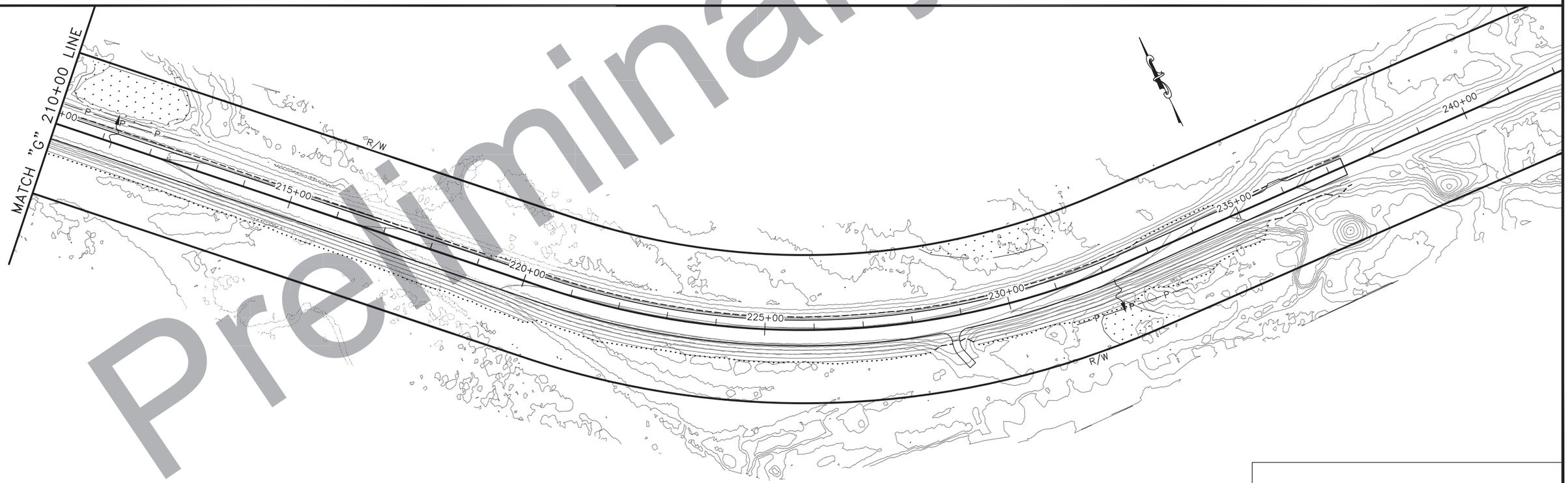


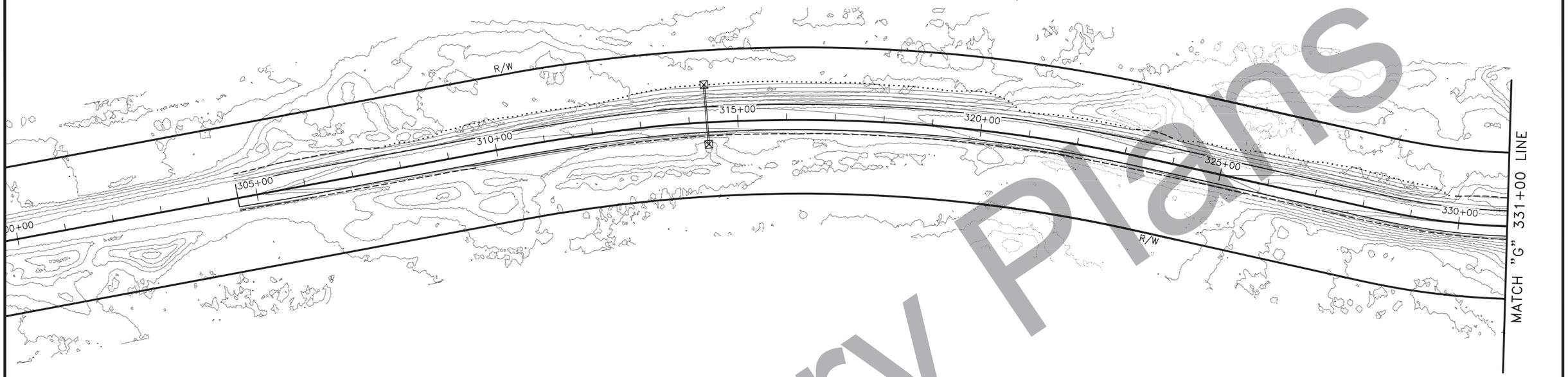
PASSING LANE "G"

ESCP

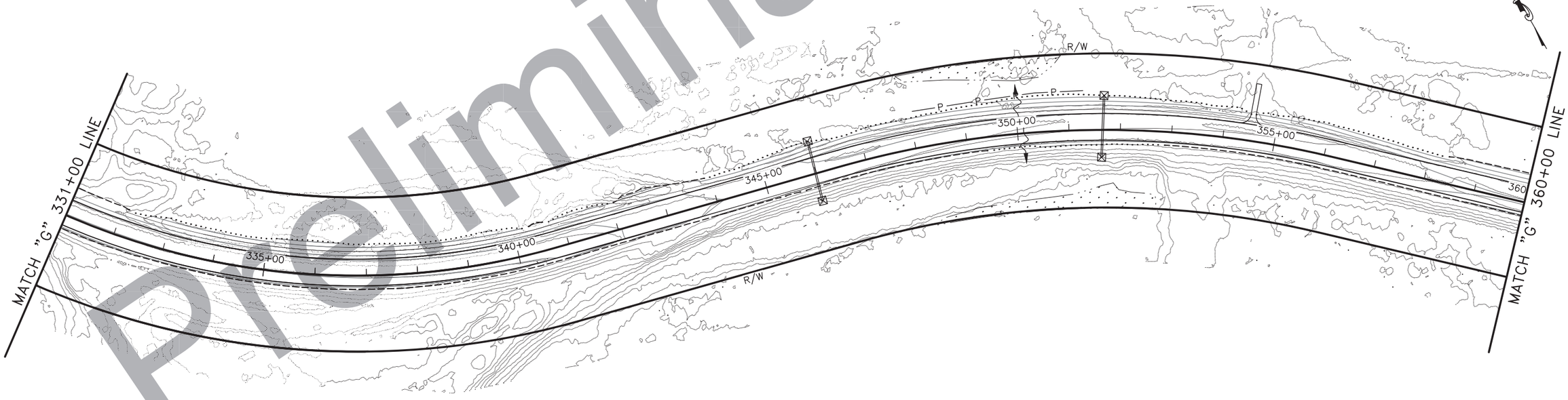
PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_Q02-Q12-Layout1 Thu, Dec/15/22 04:20pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	Q10	Q16



PASSING LANE "G"



PASSING LANE "G"

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_002-Q12-Layout1 Thu, Dec/15/22 04:20pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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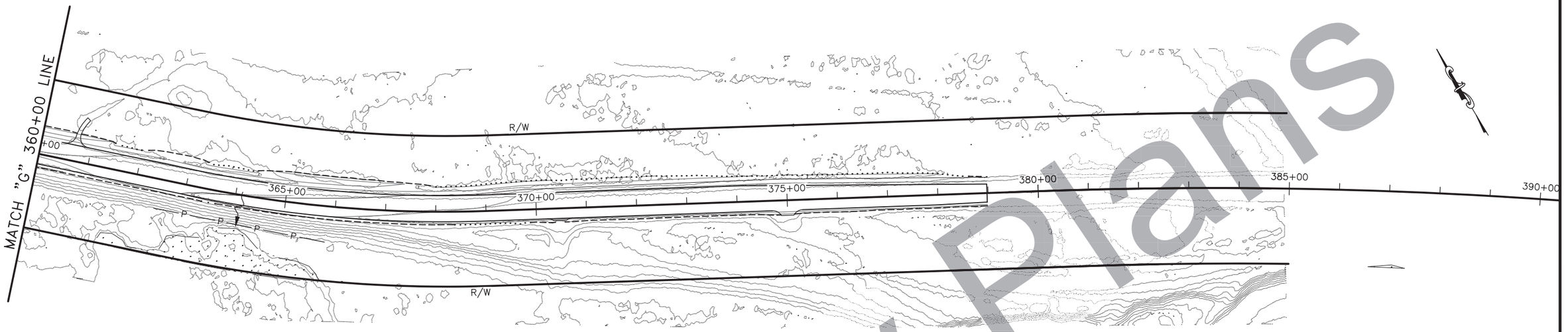
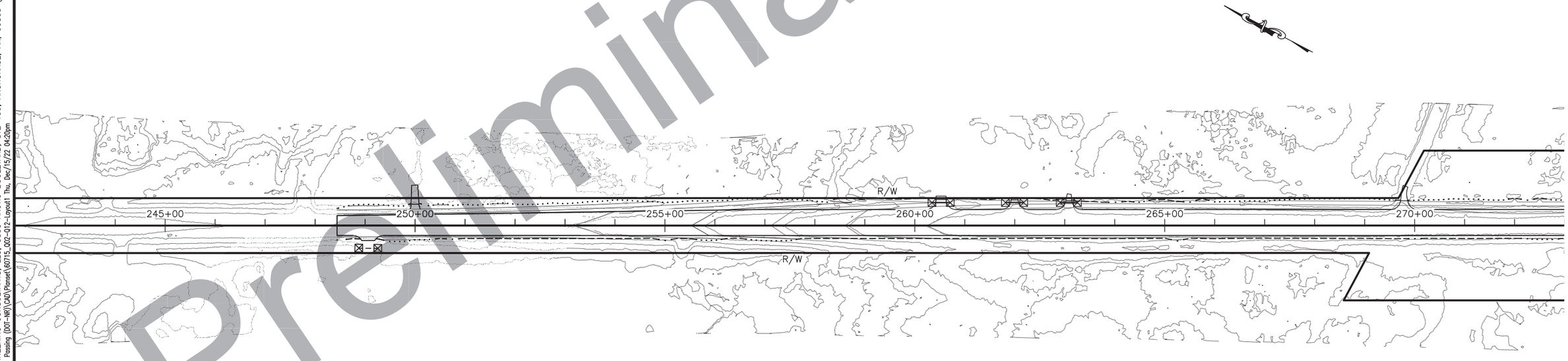


PASSING LANE "G"



PASSING LANE "H"

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_002-Q12-Layout1 Thu, Dec/15/22 04:20pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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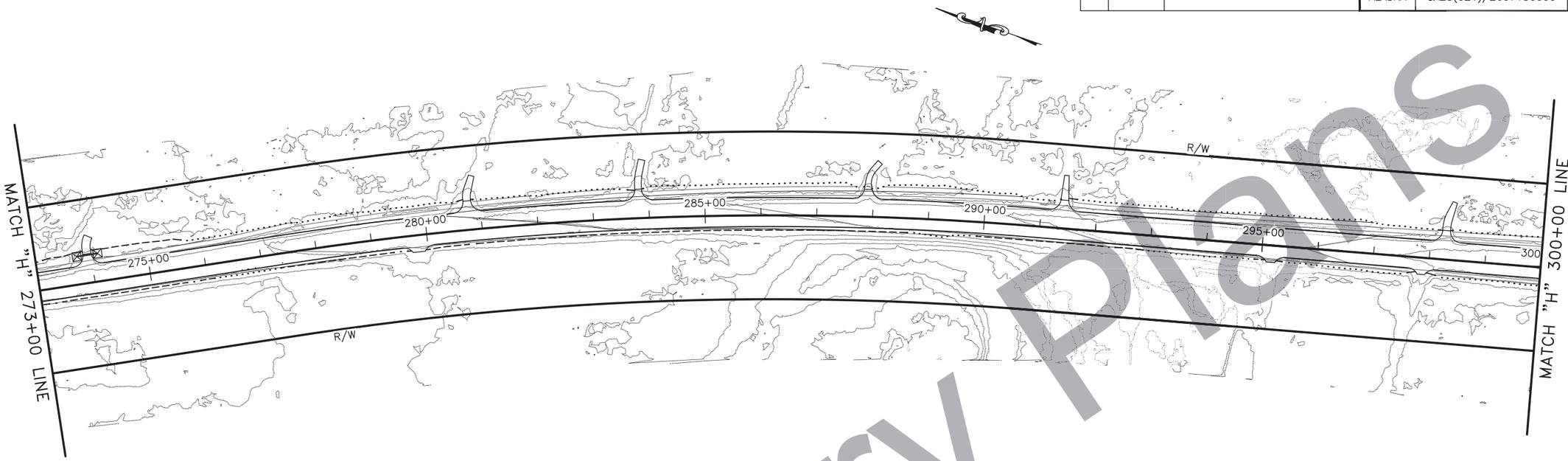

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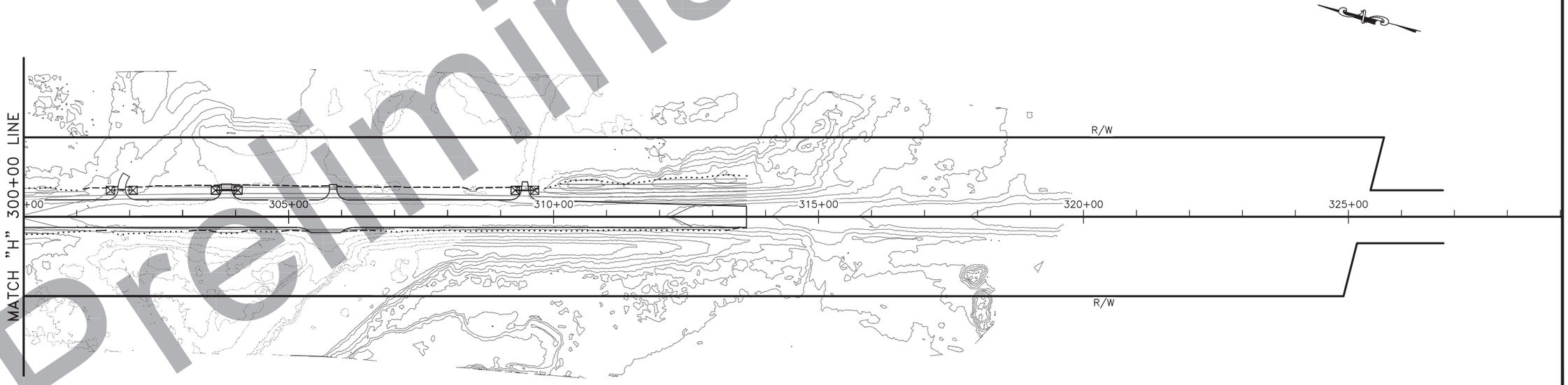

PASSING LANE "H"

ESCP

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H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Plansets\60715_002-Q12-Layout1 Thu, Dec/15/22 04:20pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	Q13	Q16

ESCP

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H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_Q13-Q16-Hwy-Cen Thu, Dec/15/22 04:17pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	Q14	Q16

ESCP

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H:\Jobs\15-041 Richardson Hwy MP266-341 Passing (DOT-NR)\CAD\Planset\60715_013-016-Hwy-Cen Thu, Dec/15/22 04:17pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	Q15	Q16

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
H:\Jobs\15-041 Richardson Hwy MP286-341 Passing (007-NR)\CAD\Planset\60715_013-016-Hwy-Gen Thu, Dec/15/22 04:18pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	Q16	Q16

ESCP

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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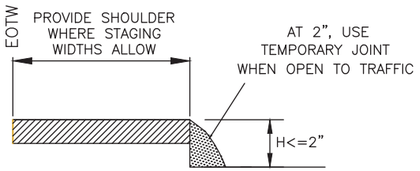
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0A23(021)/Z607150000	2022	T1	T1

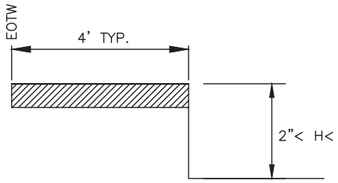
VERTICAL DROP-OFFS



CASE A

DROP-OFFS ≤2 INCHES
(PAVED SURFACES ONLY)

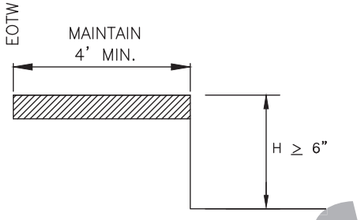
1. USE "UNEVEN LANES" (CW8-11) SIGNS FOR ALL DROP-OFFS IN BETWEEN TRAFFIC LANES.
2. LEAVE NO DROP-OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK.



CASE B

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

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



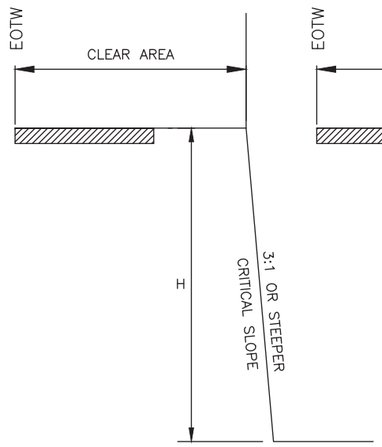
CASE C

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

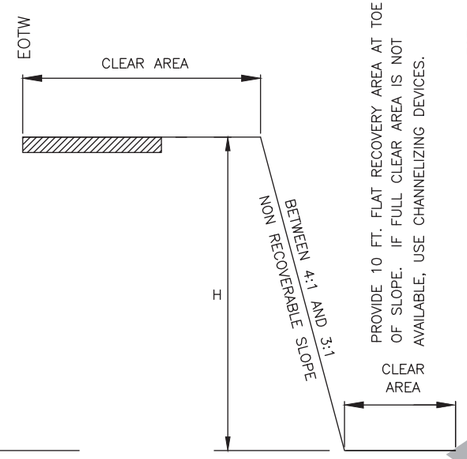
1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS ≤ 24" WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIER FOR DROP-OFFS >24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

FILL SLOPES

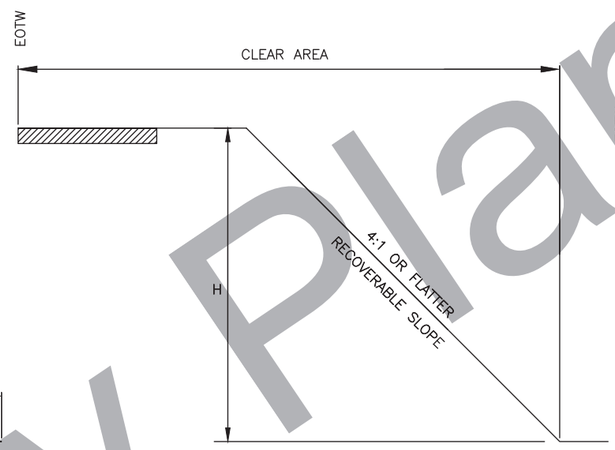
STEEPER THAN OR EQUAL TO 3:1



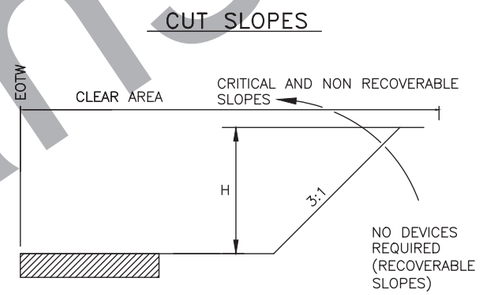
BETWEEN 4:1 AND 3:1



FLATTER THAN OR EQUAL TO 4:1



CUT SLOPES



EOTW = EDGE OF TRAVELED WAY

CLEAR AREA REQUIREMENTS

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

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

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

TRAFFIC CONTROL NOTES:

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

EQUIPMENT NOTES:

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

WINTER SHUTDOWN NOTES:

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

PLANS DEVELOPED BY: HDL ENGINEERING CONSULTANTS, LLC, 3335 ARCTIC BOULEVARD, STE 100, ANCHORAGE, AK, 99503 (907)564-2120, AECL861
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TRAFFIC CONTROL PLAN

STATE OF ALASKA 49TH
TREVOR D. STRAIT
CE-14864
REGISTERED PROFESSIONAL ENGINEER